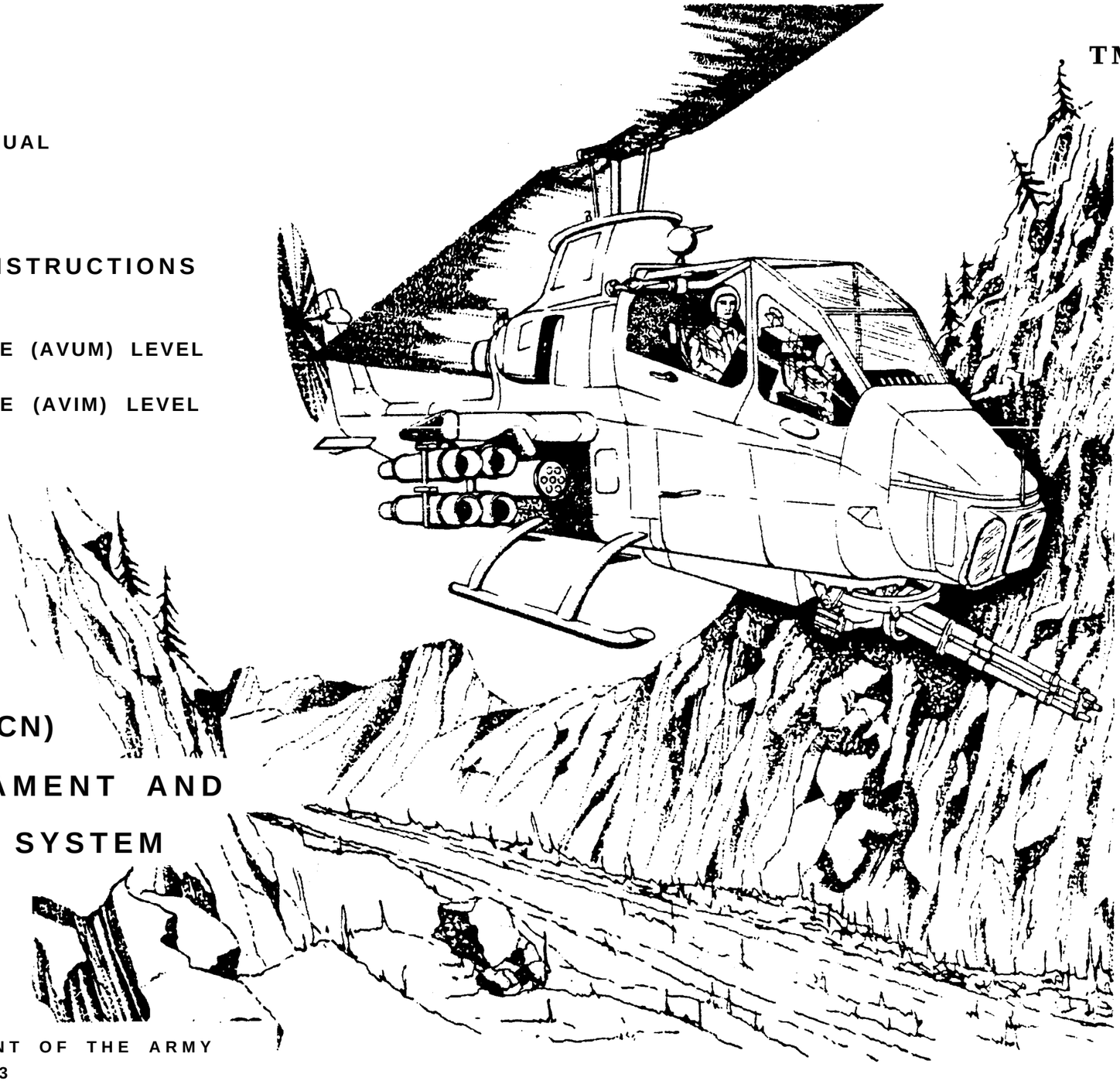
TM 55-1520-236-T-3

TECHNICAL MANUAL

# TROUBLESHOOTING INSTRUCTIONS

AVIATION UNIT MAINTENANCE (AVUM) LEVEL
AND
INTERMEDIATE MAINTENANCE (AVIM) LEVEL



## AH-1F (MC)
## AND AH-1F(MCN)

# INTEGRATED ARMAMENT AND FIRE CONTROL SYSTEM

HEADQUARTERS, DEPARTMENT OF THE ARMY
15 JUNE 1983

INTRODUCTION
HEAD UP DISPLAY SUBSYSTEM (HUBS)
FIRE CONTROL COMPUTER (FCC)
AIR DATA SUBSYSTEM (ADS)
ROCKET MANAGEMENT SUBSYSTEM (RMS)
UNIVERSAL TURRET SUBSYSTEM (UTS)
HELMET SIGHT SYSTEM (HSS)
TOW MISSILE SUBSYSTEM
ARMAMENT POWER
JETTISON

CHANGE

NO. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 31 August 1994

Technical Manual

Troubleshooting Instructions
Aviation Unit Maintenance (AVUM) Level
And
Intermediate Maintenance (AVIM) Level

# AH-1F (MC)
# AND AH-1F (MCN)
# INTEGRATED ARMAMENT AND FIRE CONTROL SYSTEM

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*Chief of Staff*

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MILTON H. HAMILTON
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CHANGE

NO. 2

TM 55-1520-236-T-3
C 2
HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 15 March 1993

Technical Manual

Troubleshooting Instructions

Aviation Unit Maintenance (AVUM) Level
and
Intermediate Maintenance (AVIM) Level

AH-1F

INTEGRATED ARMAMENT AND FIRE CONTROL SYSTEM

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| 8-131 and 8-132 | 8-131 and 8-132 |
| 8-133 and 8-134 | 8-133 and 8-134 |
| 8-139 and 8-140 | 8-139 and 8-140 |
| 8-141 and 8-142 | 8-141 and 8-142 |
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| 9-285 and 9-286 | 9-285 and 9-286 |
| 9-297 and 9-298 | 9-297/(9-298 blank) |
| 10-1 and 10-2 | 10-1 and 10-2 |

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*General, United States Army*
*Chief of Staff*

Official:

MILTON H. HAMILTON
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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 21 August 1990

CHANGE
NO. 1

Technical Manual

Troubleshooting Instructions

Aviation Unit Maintenance (AVUM) Level
and
Intermediate Maintenance (AVIM) Level

AH-1F

INTEGRATED ARMAMENT AND FIRE CONTROL SYSTEM

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8-123 through 8-176
8-176.1 and 8-176.2
8-177 and 8-178
8-178.1 through 8-178.4
8-179 through 8-376

3. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

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| 9-297 and 9-298 | 9-297 and 9-298 |
| 9-301 and 9-302 | 9-301 and 9-302 |

4. Retain this sheet in front of manual for reference purposes.

**By Order of the Secretaries of the Army and the Air Force:**

**CARL E. VUONO**
***General, United States Army***
***Chief of Staff***

**Official:**

**THOMAS F. SIKORA**
***Brigadier General, United States Army***
***The Adjutant General***

**LARRY D. WELCH, *General, USAF***
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**CHARLES C. McDONALD**
***General, USAF, Commander, Air Force***
***Logistics Command***

DISTRIBUTION:
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# WARNING




**The AIM-1/EXL laser beam is dangerous and can cause blindness if it enters the eye either directly or reflected from a shiny surface. Ensure that the laser protective cover is kept over the emitter and that AIM power switch is off at all times when the laser is not in use. The laser shall be used only in controlled areas by qualified personnel. Night goggles are required during operation.**

**The laser beam is dangerous and can cause blindness if it enters the eye either directly or reflected from a shiny surface. Laser light leakage due to improve mounting of the Telescopic Sight Unit (TSU) window cover may cause injury to the eye. For ground operation, ensure that both window covers are correctly mated to the TSU window prior to firing the laser with the laser switch on the Left Hand Grip (LHG).**

**12,500 VOLTS DC**
**IS USED IN THE OPERATION OF THIS EQUIPMENT**

**DEATH ON CONTACT**

**MAY RESULT IF PERSONNEL FALL TO OBSERVE SAFETY PRECAUTIONS. PERSONNEL MUST AT ALL TIMES OBSERVE ALL SAFETY REGULATIONS. BE CAREFUL NOT TO CONTACT AC HIGH-VOLTAGE CONNECTIONS WHEN INSTALLING OR OPERATING THIS EQUIPMENT. WHEN WORKING INSIDE THE EQUIPMENT, TURN OFF POWER AND GROUND POINTS OF HIGH POTENTIAL BEFORE TOUCHING THEM.**

## WARNINGS, CAUTIONS, AND NOTES.

Personnel performing troubleshooting procedures, and practices which are included or implied in this technical manual shall observe the following warnings.

**WARNING**

An operating procedure, practice, etc., which if not correctly followed, could result in personal injury or loss of life.

**CAUTION**

An operating procedure, practice, etc., which if not strictly observed, could result in darnage to or destruction of equipment.

**NOTE**

An operating procedure, condition, etc., which it is essential to highlight.

**WARNING**

Five SAFETY STEPS to follow if someone is the victim of electrical shock (FM 21-11).

1. Do not try to pull or grab the individual.
2. If possible, turn off electrical power.
3. If you cannot turn off the electrical power, push, pull, or lift the person to safety using a wooden pole, a rope, or some other insulating material.
4. Send for help as soon as possible.
5. After the injured person is free of contact with the source of electrical shock, move the person a short distance away and immediately start artificial resuscitation.



**WARNING**

The helicopter contains high voltage and should be electrically grounded when parked. Serious bums and electrical shock can result from contact with exposed electrical wires or connectors.

**WARNING**

The pitot tube assembly is very hot during and immediately after operation. Keep your hands and other parts of your body away from this area.

**WARNING**

The airspeed and direction sensor (AADS) is very hot during and immediately after operation. Keep your hands and other parts of your body away from this area.

**WARNING**

Corrosive Battery Electrolyte (Potassium Hydroxide) requires rubber gloves, apron, and face shield when handling leaking batteries. Potassium hydroxide spilled on clothing, or other material shall be washed immediately with clean water. If spilled on personnel, immediately start flushing the affected area with clean water until medical assistance arrives.

WARNINGS, CAUTIONS, AND NOTES (CONTINUED).

**WARNING**

**Self-luminous instrument dials contain radioactive materials. If glass is broken or case becomes unsealed, avoid personal contact. Forceps or gloves made of rubber or polyethylene shall be used to pick up contaminated material. Place material and gloves in a plastic bag, seal bag, and dispose of it as radioactive waste in accordance with AR 755-15 and TM 3-261 (TB 55-1500-314-25). Repair procedure shall conform to requirements in AR 700-52.**

**Prior to helicopter maintenance that requires external stores be removed, jettison cartridge shall be removed. Remove jettison cartridges from pylon stores ejection device prior to placing helicopter in a hanger. Insert safety pins.**

**WARNING**

**Ground safety pins must be installed in pilot and gunner arming/firing handles of canopy removal system whenever the helicopter is on the ground. Pins should be installed by ground crew.**

**WARNING**

**When working on, or near an armed helicopter, take all possible precautions to avoid accidental firing of armament. Personnel shall not occupy possible firing pattern in front of or up to 20 feet behind rocket pods. Munitions shall be handled by authorized personnel only. All weapons shall be dry-fired. Dummy ammunition shall not be used.**

**WARNING**

RADIATION HAZARD MCN
Thorium Fluoride

Some of the FLIR optics inside the C-NITE telescopic sight unit (TSU) have a coating that is slightly radioactive. Accidental inhaling or swallowing of this material is hazardous to health. If the C-NITE TSU has been ruptures (by Crash damage, etc.), dispose of broken optics in accordance with AR 385-11 and TB 750-237.

**Troubleshooting Instructions**
**Aviation Unit Maintenance (AVUM) Level And Intermediate Maintenance (AVIM) Level**

**AH-1F (MC) AND AH-1F (MCN)**
**INTEGRATED ARMAMENT AND FIRE CONTROL SYSTEM**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS.

You can help improve this manual. If you find any mistakes of if you know of a way to improve the procedures, please let us know. Mail your letter, or the DA Form 2028-2 located in the back of this manual direct to:

Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MP,
4300 Goodfellow Blvd., St. Louis, Mo. 63120-1798.

A reply will be fumished to you

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## HOW TO USE THIS MANUAL.

This troubleshooting manual is as easy to use as a road map. You must leave a given location (problem) and proceed along a desired route (troubleshooting) and arrive at your destination (solution).

Keep in mind that this manual assumes that "ONLY ONE PROBLEM EXISTS AT A TIME". However, a problem may appear in many ways. For example, a symbol is missing, out of shape, inverted, indicator pointer incorrect, lamp out, etc. Also, the problem may be discovered in several ways, such as pilot/gunner writeup, during maintenance, operational check, etc. In some cases there may be several symptom indications, for a single problem.

The technician must be able to quickly find the particular portion of the manual that contains the needed information.

The front cover, index, table of contents, Maintenance Action Precise Symptoms (MAPS) list, and text (highlighted with a box) provide information for major topic and subtopic breakdown and some locations.

Troubleshooting is designed to promote rapid fault isolation. This allows you to quickly remedy the problem and return the helicopter to operational status. Quick turnaround, with accurate solution, is the essence of troubleshooting.

The troubleshooting is test and fault-isolation oriented and the data will get you directly from the symptom to the proper solution using minimum information. It divides troubleshooting into three major steps:

1. Recreate or maintain the condition that led you or the operator to the problem.

2. Find needed information. by referring to the Maintenance Action Precise Systems (MAPS) list, table of contents, front cover,etc.

3. Accomplish troubleshooting using logic trees, wiring diagrams, reference data, etc.

If these troubleshooting procedures are not successful, references are provided that will allow the troubleshooting to be continued within the appropriate subsystem manual (see paragraph 1-1). The logic tree, when used with built-in-test (BIT) troubleshooting, will lead you to the faulty part or wiring with a high degree of certainty.

Entry into Logic Trees. Logic trees are designed to be entered directly from a specific location in the operational check. The operational check sets all switches, circuit breakers, etc. in the proper position for that logic tree. In some cases a logic tree is entered directly from another logic tree. A logic tree entered directly from another logic tree shall be considered a continuation of the first logic tree. In the block which sends the user to a referenced logic tree, all additional switches, circuit breakers, etc. must be pre-positioned to be compatible with the referenced logic tree. If the referenced logic tree is in another chapter, instructions are given to work the referenced logic tree (including the operational check called out in the referenced logic tree) and then perform the operational check of the originating logic tree chapter.

Example:

Set PLT ORIDE switch to PLT ORIDE.

Set MASTER ARM switch to OFF.

Accomplish paragraph 8-15.

Then go to paragraph 2-2.

Trouble Discovered by Operator. Read the problem statement (write-up), in the aircraft form, very carefully and whenever possible debrief the operator (flight crew) to get a general idea of the problem.

1. Determine which subsystem has a fault.

2. Find symptom description in the MAPS list which correlates the symptom to a precise troubleshooting procedure.

3. Perform the subsystem operational check to verify the fault.

Trouble Discovered by Technician. When the trouble is found during normal maintenance, your choices for finding the appropriate data are as follows:

1. Use the MAPS list (this manual) to find the required troubleshooting data and operational check.

2. Use troubleshooting procedures within the subsystem manual being used to perform the maintenance.

3. Use troubleshooting data in other subsystem manual (s).

**NOTE**

Some logic trees in this manual cannot be reached from the operational check. If a defined symptom does not appear during the operational check, refer directly to the MAPS and comply with the action specified for that symptom.

Logic Tree. The Logic Tree assumes that ONLY ONE PROBLEM EXISTS AT A TIME It is a programmed method that involves user-logic tree interaction. The user is given a particular instruction, then is asked a YES-NO question about the result of his or her action. Based on

**HOW TO USE THIS MANUAL (CONTINED).**

the answer, the user is directed to another block of instruction. Faults that occur on a rare or random basis are excluded and the technician may elect to refer to another troubleshooting aid such as a simplified circuit or wiring diagram.

Large Logic Trees. Large logic trees are broken into logical segments (parts). This isolates systems using common switches, circuit breakers, etc. and are identified as parts A, B, C, etc.

Each logic tree with its locator illustrations stand alone and are broken into smaller page size segments with single low arrows. A block “Go to paragraph_” directs the continuation of the logic.

Each continuation of the logic tree has locator illustrations on the facing page identifying items on that portion of the logic tree. Each continuation has the same format as a regular logic tree except that the initial setup, tools, personnel and references are not repeated.

A total electrical schematic for the MAPS problem is included with the starting logic tree. Each continuing subparagraph has only the portion of the total electrical schematic applicable to the logic tree in this paragraph.

Verification of Symptom. When a Particular symptom is found, reverify that the symptom is present before proceeding to the repair action procedure. This precludes unnecessary maintenance in the event an erroneous symptom occurs.

Verification of Repair. Under certain circumstances, a fault may be exhibited during the accomplishment of the Operational Check in one chapter and the troubleshooting and repair logic tree for that fault in another chapter. Also, some logic trees refer to another chapter or logic tree within another chapter for continuation of troubleshooting. After location and repair of the fault, rerun the operational check in which the fault appeared.

8-17. RETICLE IN TSU EYEPIECE WILL NOT LIGHT (CONTINUED).

Turn off electrical power per paragraph 8-3.

Disconnect 20A1P03.

Connect multimeter between 20A1P03-E and airframe ground.

Turn on electrical power per paragraph 8-3.

**NOTE** MCN

Verify TSU is operating in DAY mode.

On TCP (TOW control panel):

Rotate TSU RTCL control from OFF to BRT.

Does multimeter reading vary from 0 to 28 V dc as TSU RTCL control is rotated?

YES →

Turn off electrical power per paragraph 8-3.

Replace telescopic sight unit (TSU) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO ↓

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A1P03-E to 20A4P02-j.

Is continuity present?

YES →

Replace TOW control panel (TCP) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P03.

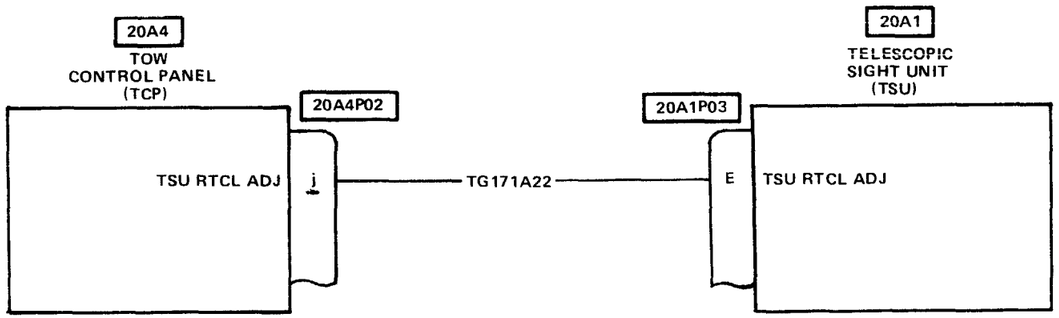
Then go to paragraph 8-2.

NO ↓

Repair wire TG171A22 between 20A1P03-E and 20A4P02-j.

Connect 20A1P03.

Then go to paragraph 8-2.



8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED.

INITIAL SETUP

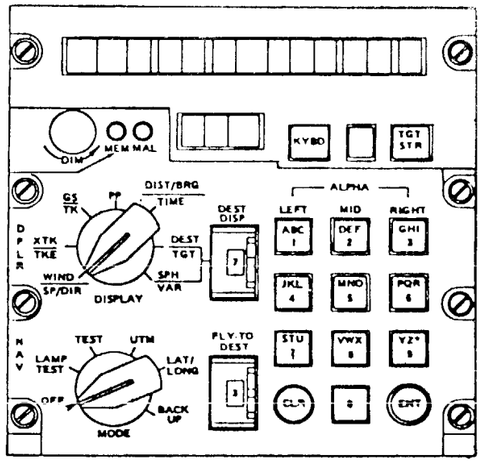
Applicable Configuration
AH-1S MC

Tools/Test and Support Equipment
Multimeter
Tool Set, A/C Armament Repairman

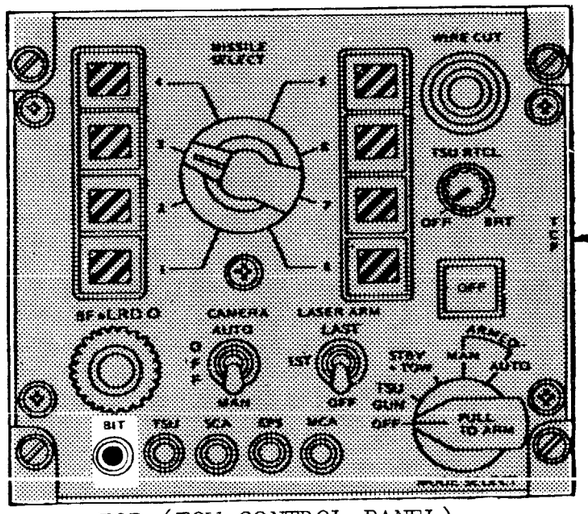
Personnel Required
68J (2)

References
TM 9-1425-473-20
TM 9-1425-473-34
TM 55-1520-236-23

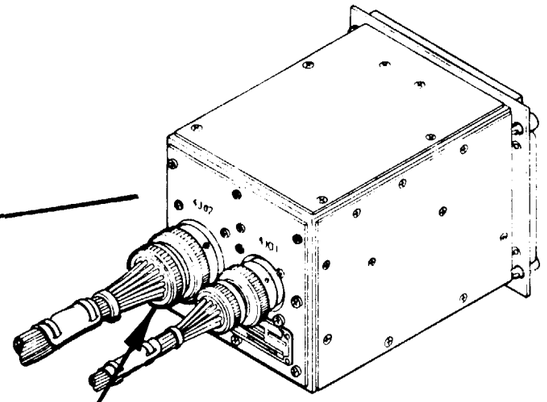
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Middle Electronics (Tailboom) - Removed
Battery Compartment - Removed
Forward Belly Armament and Lighting - Removed

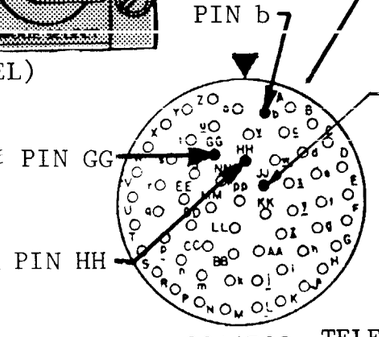


DPLR NAV CONTROL PANEL

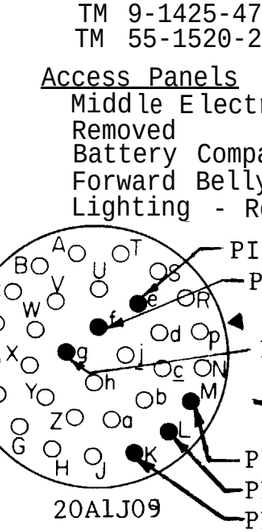


TCP (TOW CONTROL PANEL)

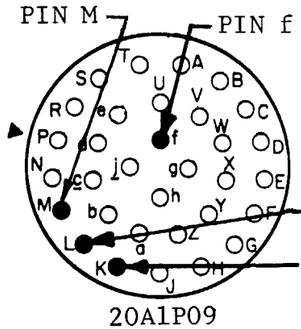

TCP (TOW CONTROL PANEL) (REAR VIEW)



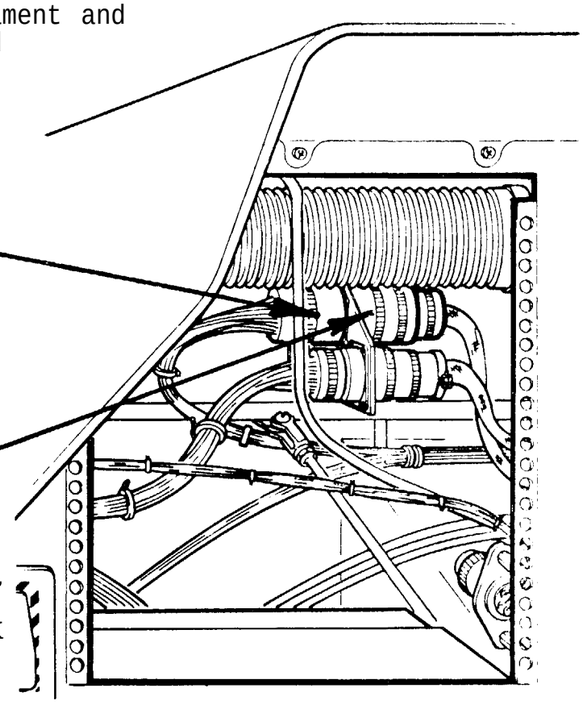
20A4P02

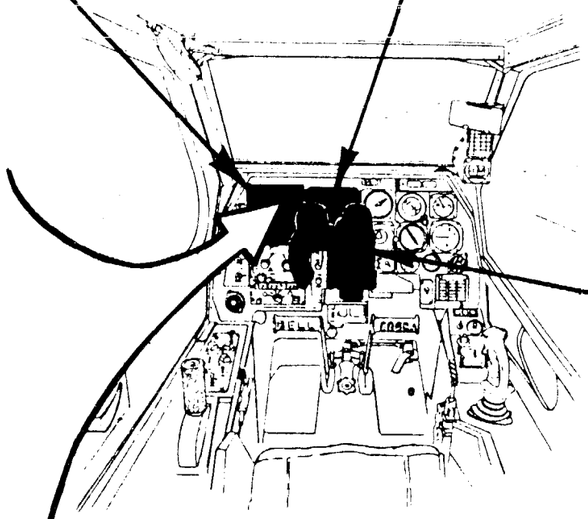


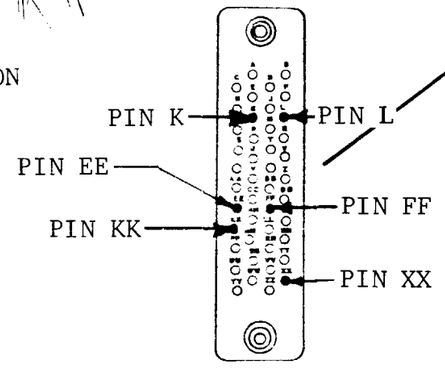
20A1J09



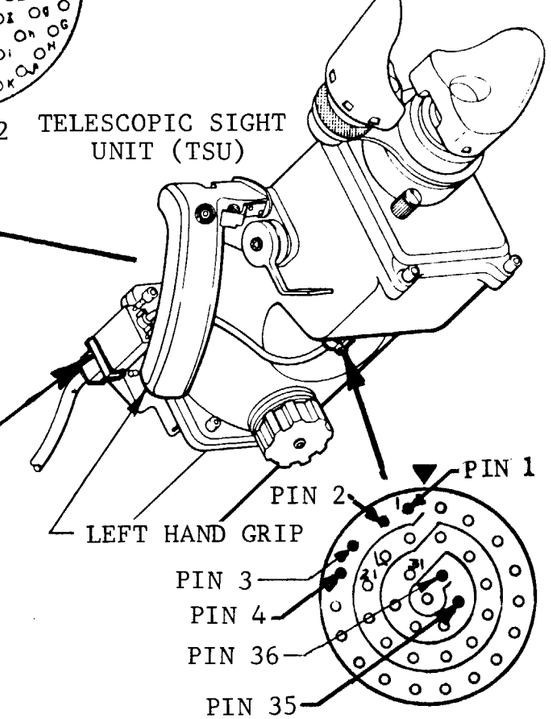
20A1P09




GUNNER STATION

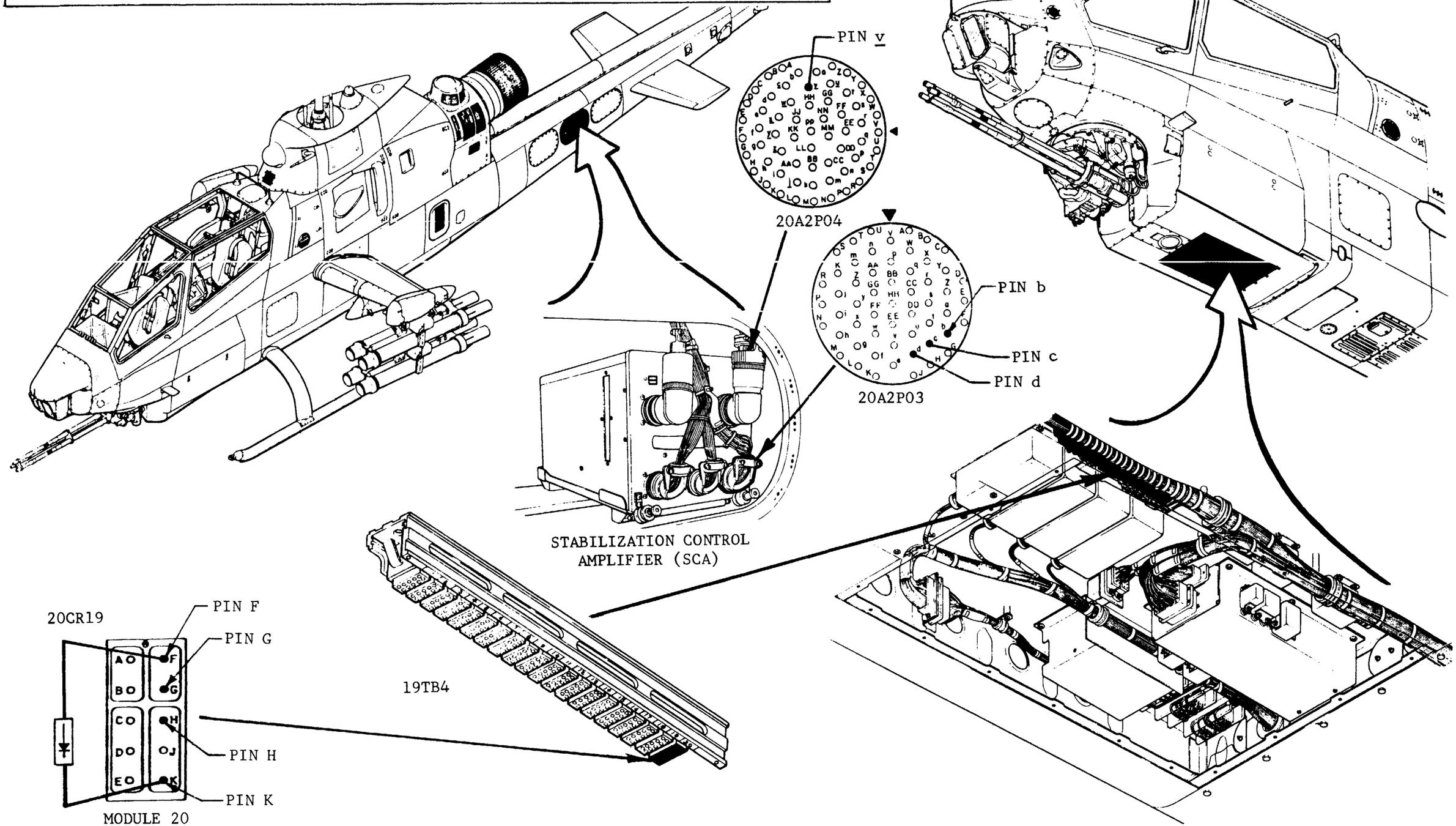


1J67

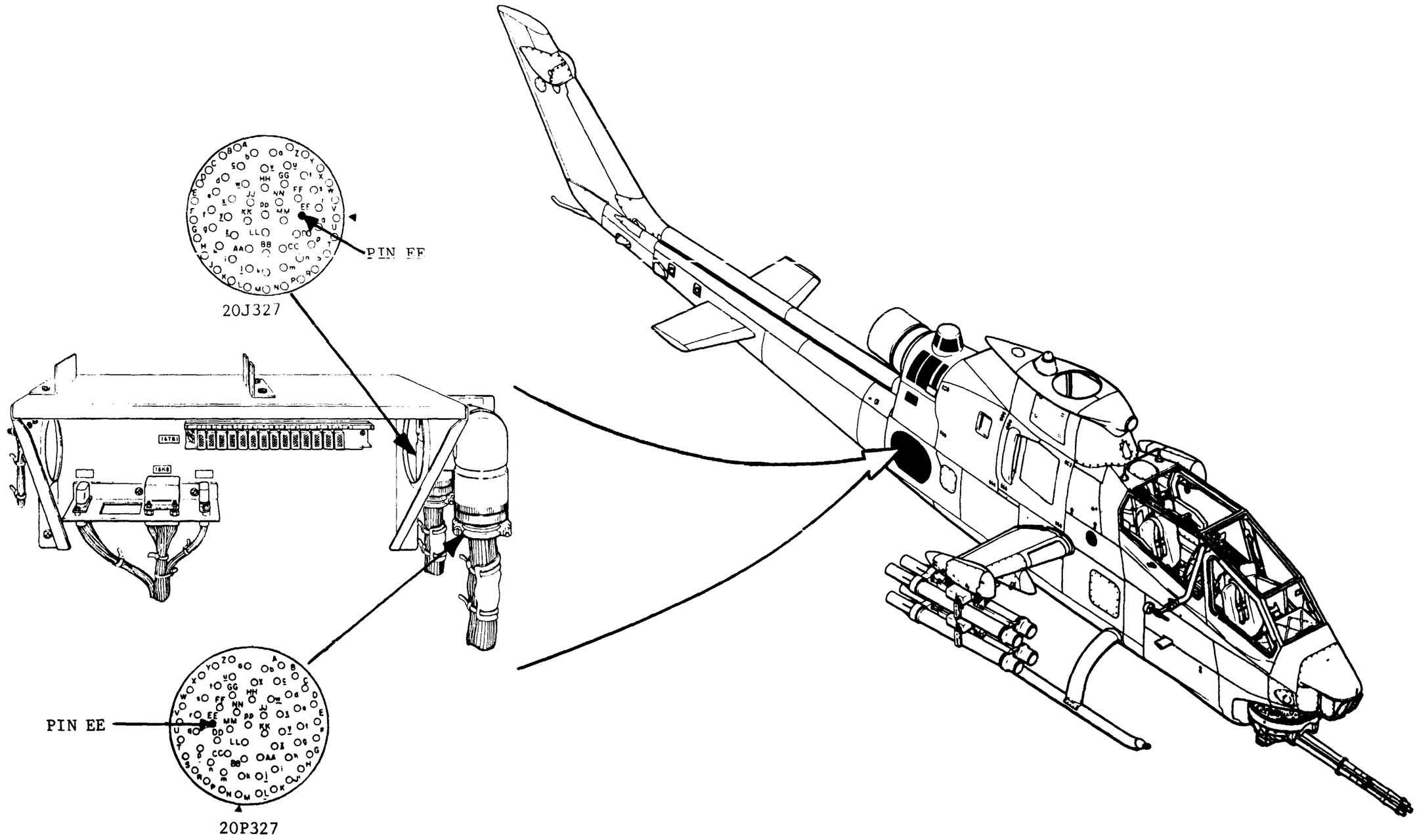


1P68

8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).



**8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).**



8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).

On TCP (TOW control panel):
Press and hold BIT switch.
DO any battle flags appear in telescopic sight unit (TSU)?

YES → on TCP (TOW control panel):
Press and hold BIT switch.
Does G (gun) flag appear in telescopic sight unit (TSU)?

YES → YES

NO

On TCP (TOW control panel):
Press and hold BIT switch.
check for 28 V dc at 20A2P04 - v.
Is 28 V dc present?

YES → Turn off electrical power per paragraph 8-3.
Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section II.
Then go to paragraph. 8-2.

NO

Turn off electrical power per paragraph 8-3.
Check for continuity from 20A2P04 - v to 20A4P02-b.
Is continuity present?

YES → Replace TCP (TOW control panel per TM 9-1425-473-20, Chapter 2, Section I.
Then go to paragraph 8-2.

NO

Check for continuity from 20A2P04-Y to 20J327-EE.
Is continuity present?

YES → Repair wire TG274A22 between 20P327-EE and 20A4P02-b.
Then go to paragraph 8-2.

NO

Repair wire TG274B22 between 20A2P04-Y to 20J327-EE.
Then go to paragraph 8-2.

On TCP (TOW control panel):
Press and hold BIT switch.
check for 28 v dc at 19TB4-20H.
Is 28 v dc present

YES → YES

NO

on TCP (TOW control panel):
Press and hold BIT switch.
Check for 28 V dc at 19TB4-20J.
Is 28 V dc present?

YES → Turn off electrical power per paragraph 8-3.
Replace diode (20CR19) between 19TB4-20F and 19TB4-20K per TM 55-1520-236-23, Chapter 9, Section I.
Then go to paragraph 8-2.

NO

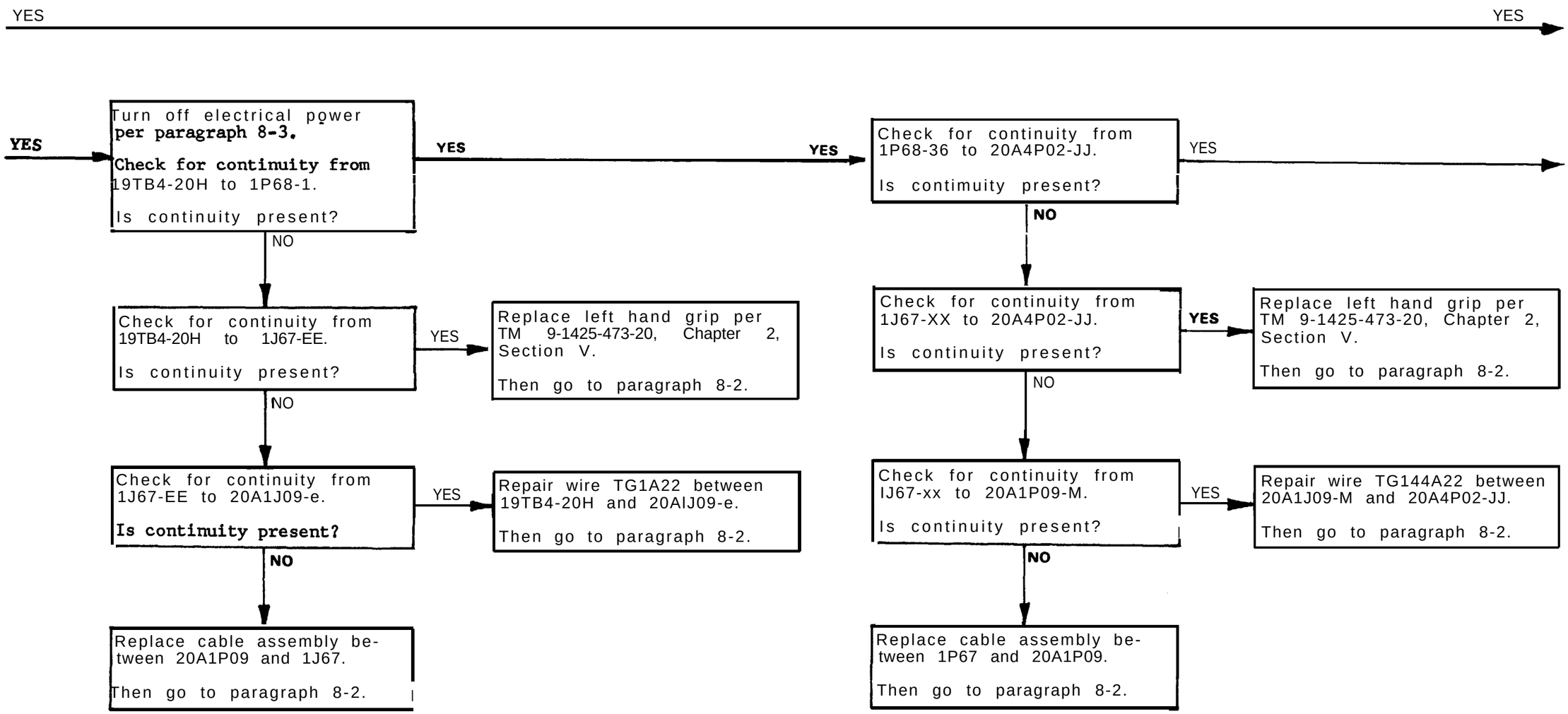
Turn off electrical power per paragraph 8-3.
Check for continuity from 19TB4-20J to 20A2P03-b.
Is continuity present?

YES → Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section 2.
Then go to paragraph 8-2.

NO

Repair wire TG7A22 between 19TB4-20J and 20A2P03-b.
Then go to paragraph 8-2.

8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).



**8-18.** ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED ( CONTINUED).

On TCP (TOW control panel):

Press and hold BIT switch,

Does R (ready) flag appear in telescopic sight unit (TSU)?

YES → YES

NO

Turn off electrical power per paragraph 8-3.

Turn on electrical power per paragraph 8-3.

On TCP (TOW control panel)

Press and hold BIT switch.

Check for 28 V dc at 1P68-2.

Is 28 V dc present?

YES → YES

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A2P03-c to 1P68-2.

Is continuity present?

YES → Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section II.

Then go to paragraph 8-2.

NO

Check for continuity from 20A2P03-c to 1J67-KK.

Is continuity present?

YES → Replace left hand grip per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Check for continuity from 1J67-KK to 20 A1J09-f.

Is continuity present?

YES → Repair wire TG2A22 between 20A2P03-c and 20A1J09-f.

Then go to paragraph 8-2.

NO

Replace cable assembly between 20A1P09 and 1J67.

Then go to paragraph 8-2.

YES

Install original TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section I.

Replace telescopic sight unit (TSU) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

YES

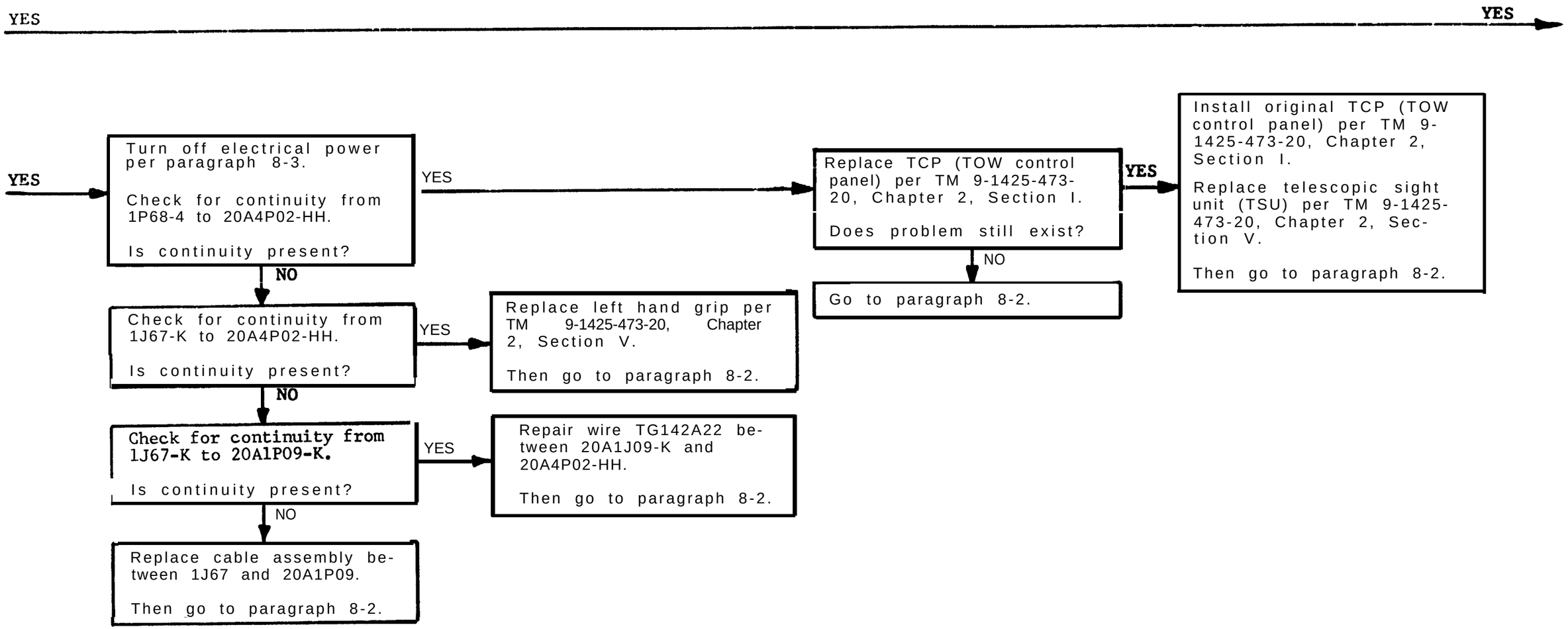
Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section I.

Does problem still exist?

NO

Go to paragraph 8-2.

8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).



8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED)

YES

On TCP (TOW control panel):

Press and hold BIT switch.

Check for 28 V dc at 1P68-3.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Check for continuity from 1P68-35 to 20A4P02-GG.

Is continuity present?

YES

→

No

Check for continuity from 1J67-L to 20A4P02-GG.

Is continuity present?

YES

Replace left hand grip per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Check for continuity from 1J67-L to 20A1P09-L.

Is continuity present?

YES

Repair wire TG143A22 between 20A1J09-L and 20A4P02-GG.

Then go to paragraph 8-2.

NO

Replace cable assemblv between 1J67 and 20A1P09.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A2P03-d to 1P68-3.

Is continuity present?

YES

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section II.

Then go to paragraph 8-2.

NO

Check for continuity from 20A2P03-d to 1J67-FF.

Is continuity present?

YES

Replace left hand grip per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Check for continuity from 1J67-FF to 20A1J09-g.

Is continuity present?

YES

Repair wire TG3A22 between 20A2P03-d and 20A1J09-g.

Then go to paragraph 8-2.

NO

Replace cable assembly between 20A1P09 and 1J67.

Then go to paragraph 8-2.

8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).

YES

Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section I.

Does problem still exist?

YES

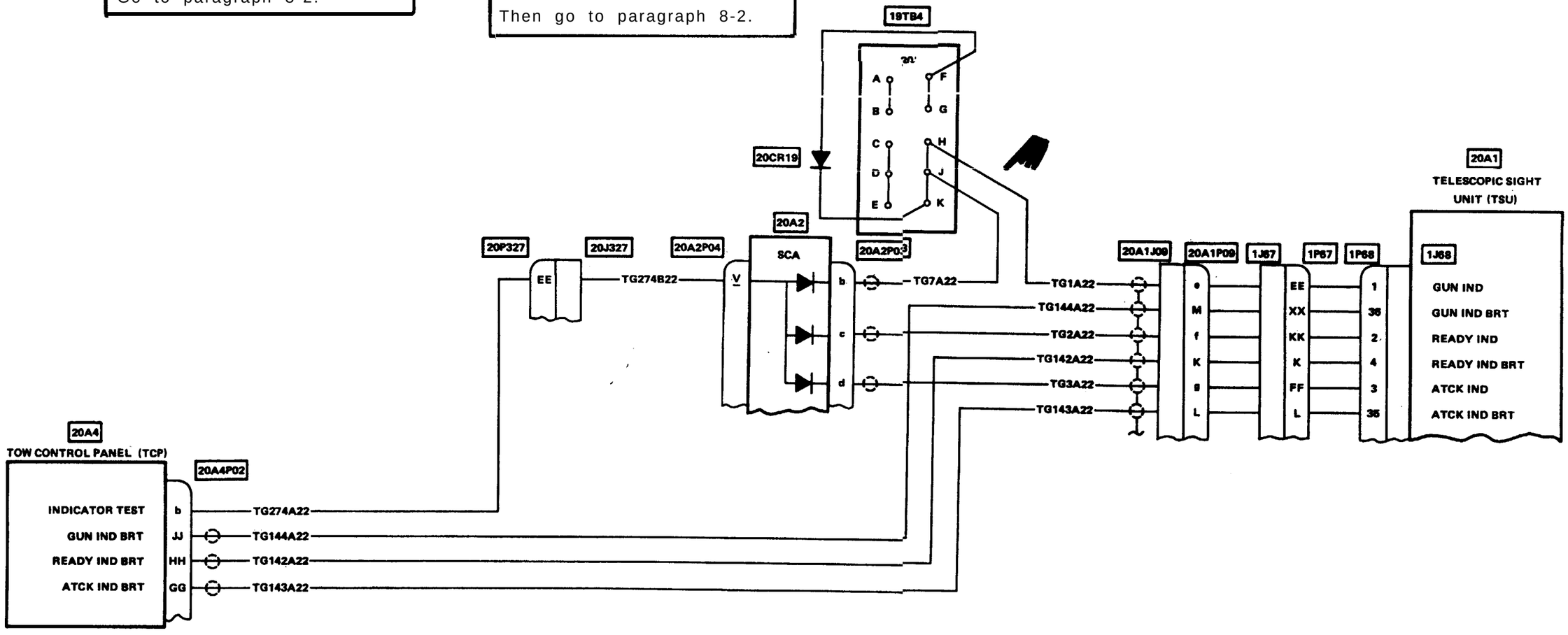
Install original TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section I.

Replace telescopic sight unit (TSU) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Go to paragraph 8-2.



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8-18.1. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED.

INITIAL SETUP

Applicable Configuration
A H - 1 MCN

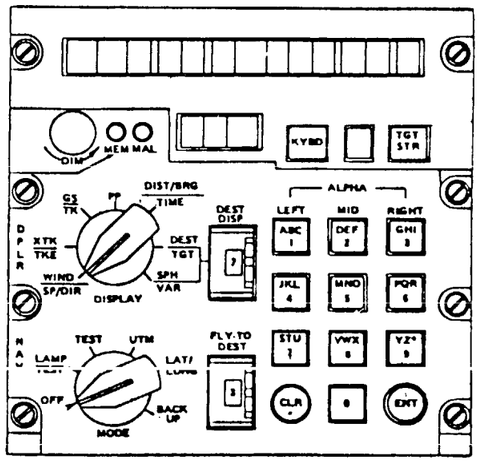
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

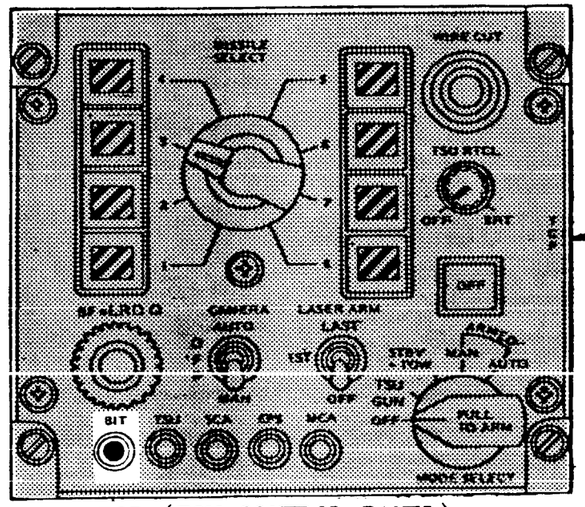
Personnel Required
68J (2)

References
TM 9-1425-473-20
TM9-1425-473-34
TM55-1520-236-23

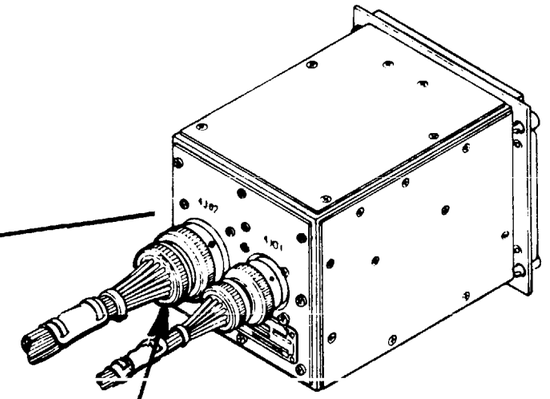
Access Panels
Middle Electronics (Tailboom) - Removed
Forward Electronics (Tailboom) - Removed
Battery Compartment - Removed
Forward Belly Armament and Lighting - Removed




DPLR NAV CONTROL PANEL

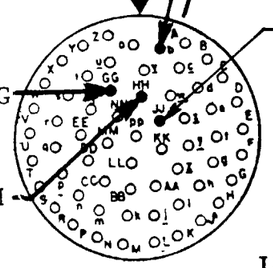



TCP (TOW CONTROL PANEL)

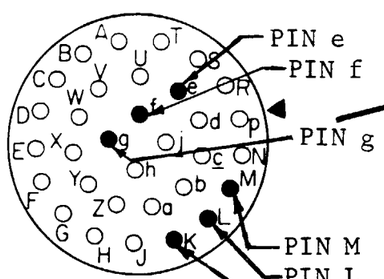


TCP (TOW CONTROL PANEL)
(REAR VIEW)

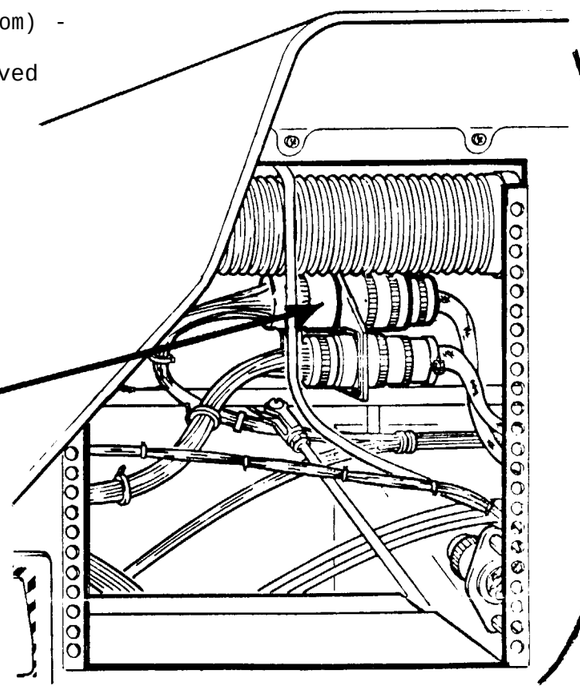
PIN b
PIN JJ
PIN GG
PIN HH

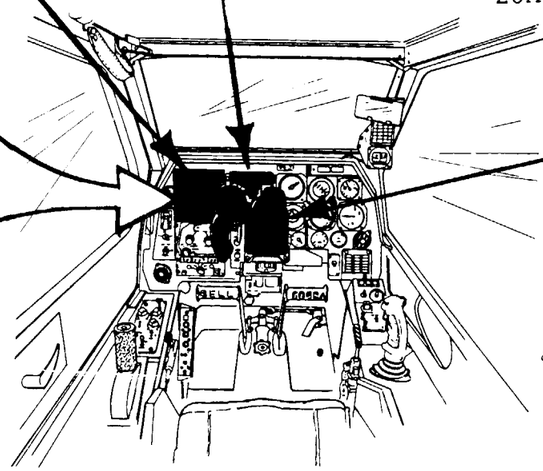


20A4P02

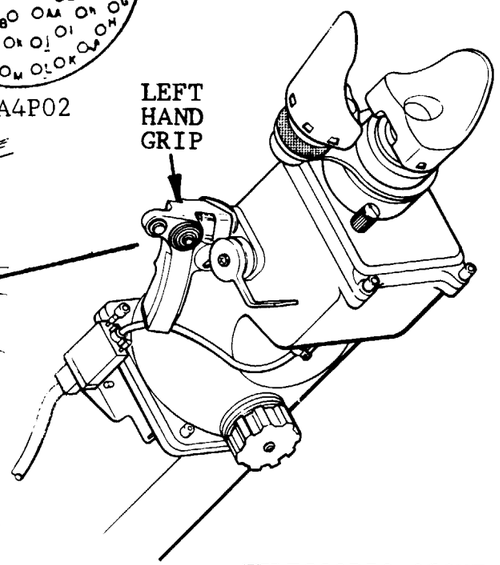



20A1J09



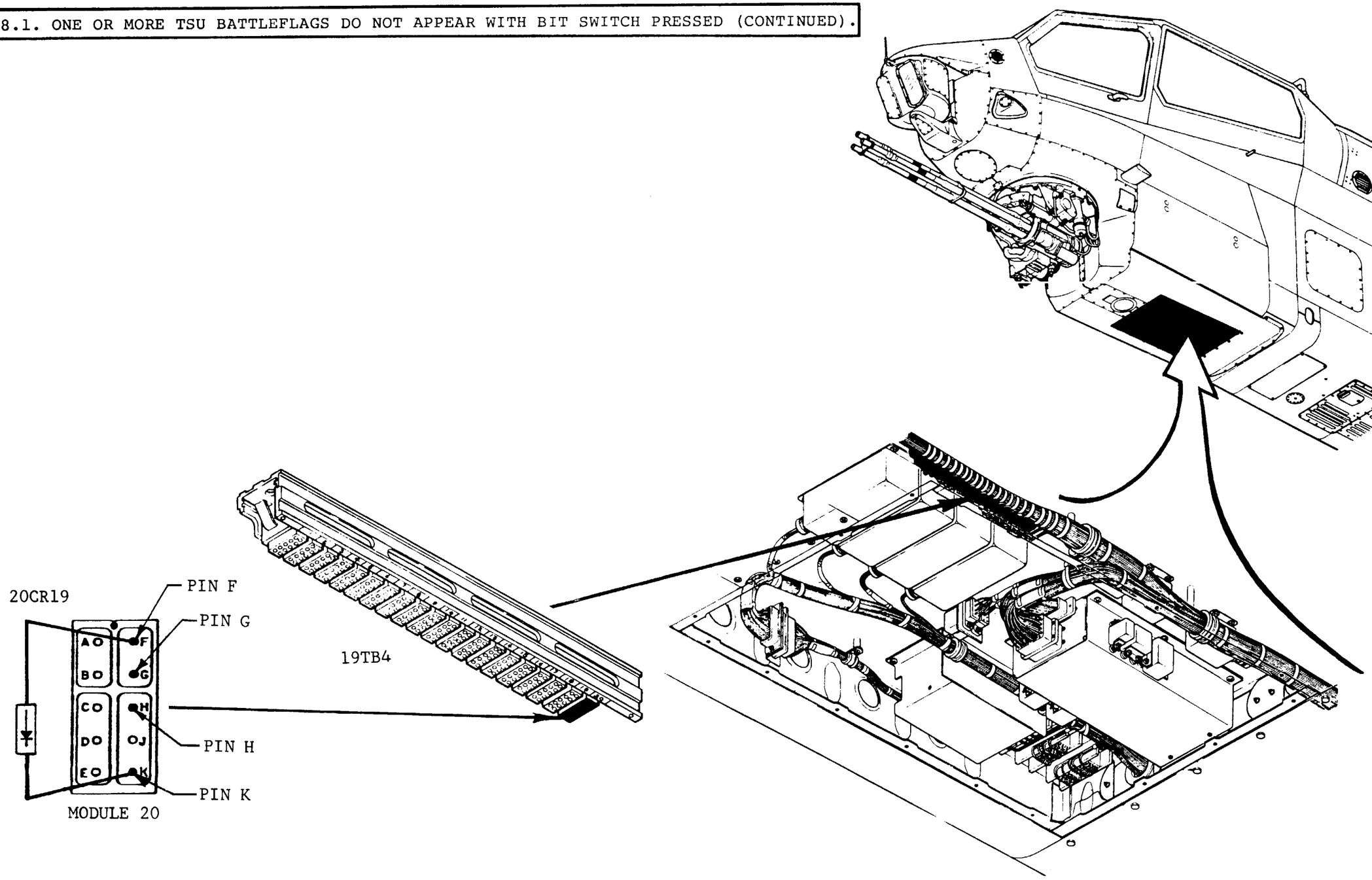


GUNNER STATION

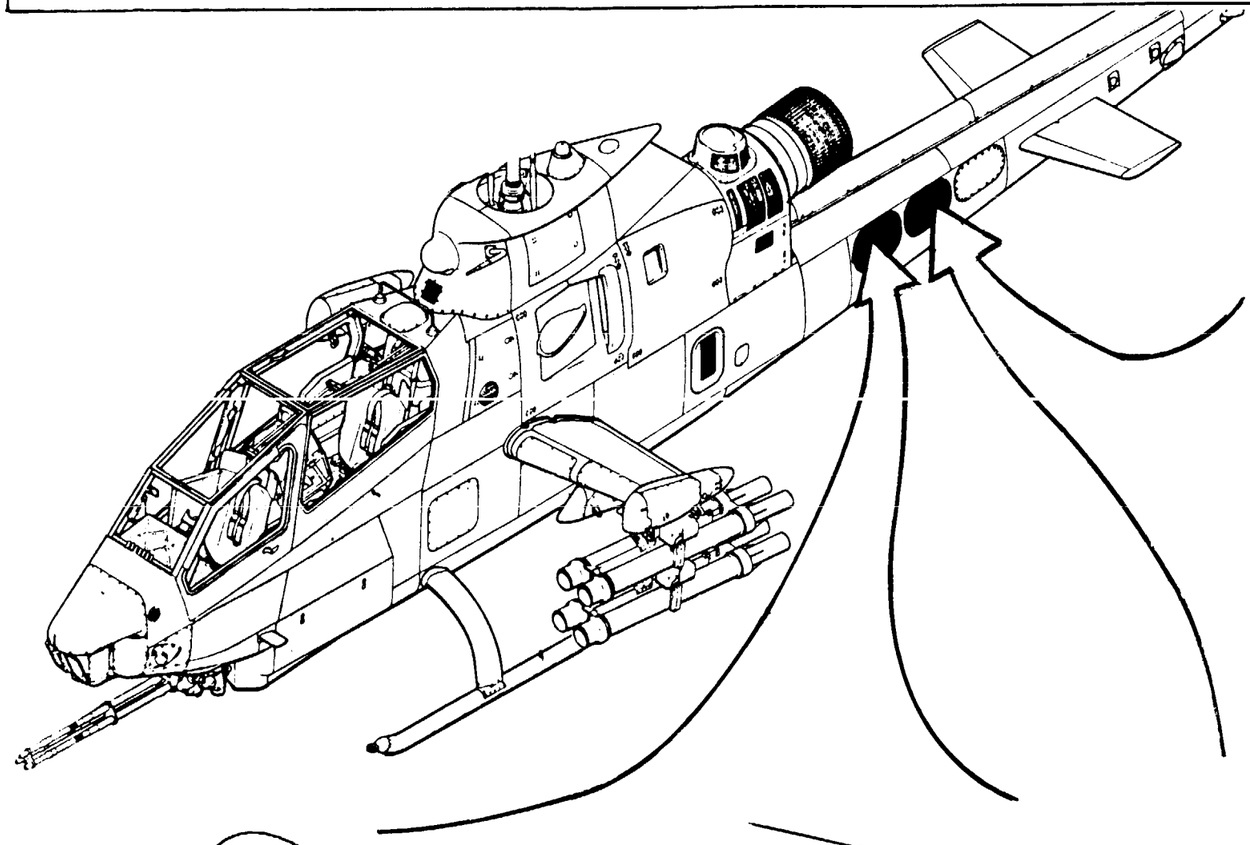


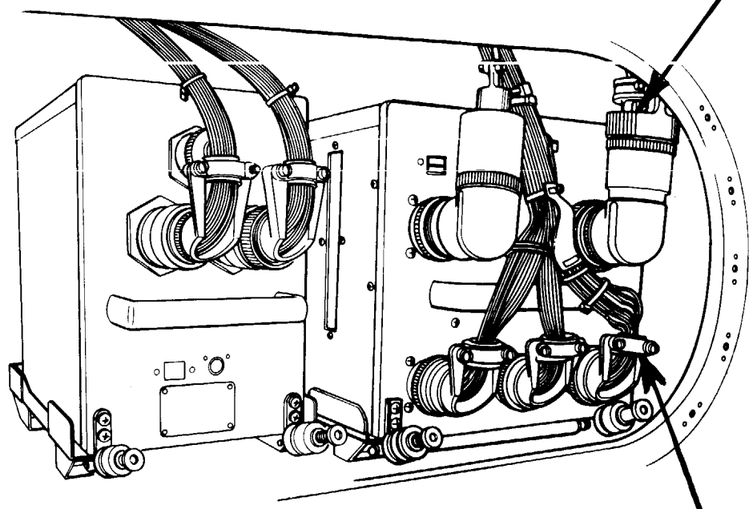

TELESCOPIC SIGHT UNIT (TSU)

8-18.1. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).



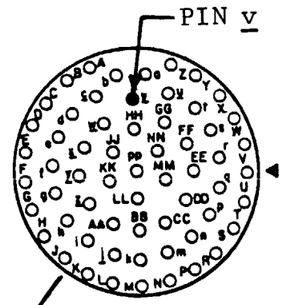
8-18.1. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).



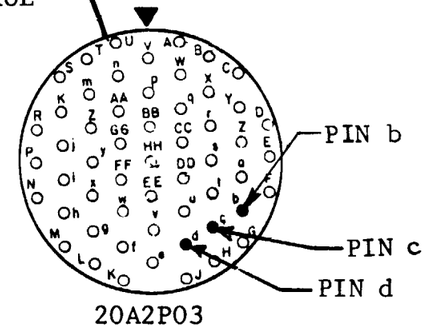


FLIR POWER SUPPLY (FPS)

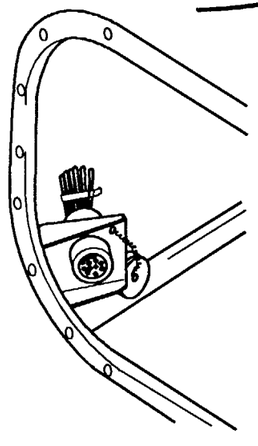
STABILIZATION CONTROL AMPLIFIER (SCA)



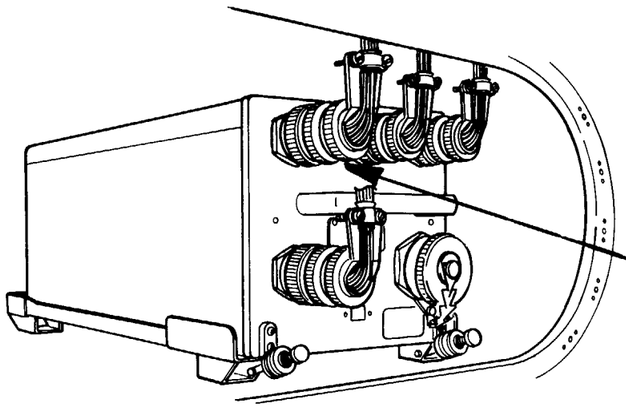

20A2P04



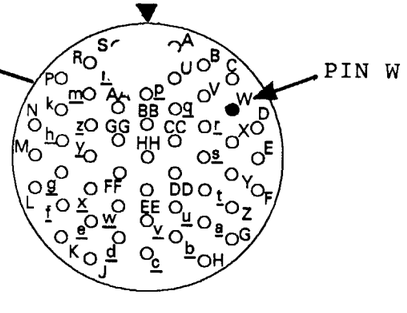

20A2P03



20A3J01BP

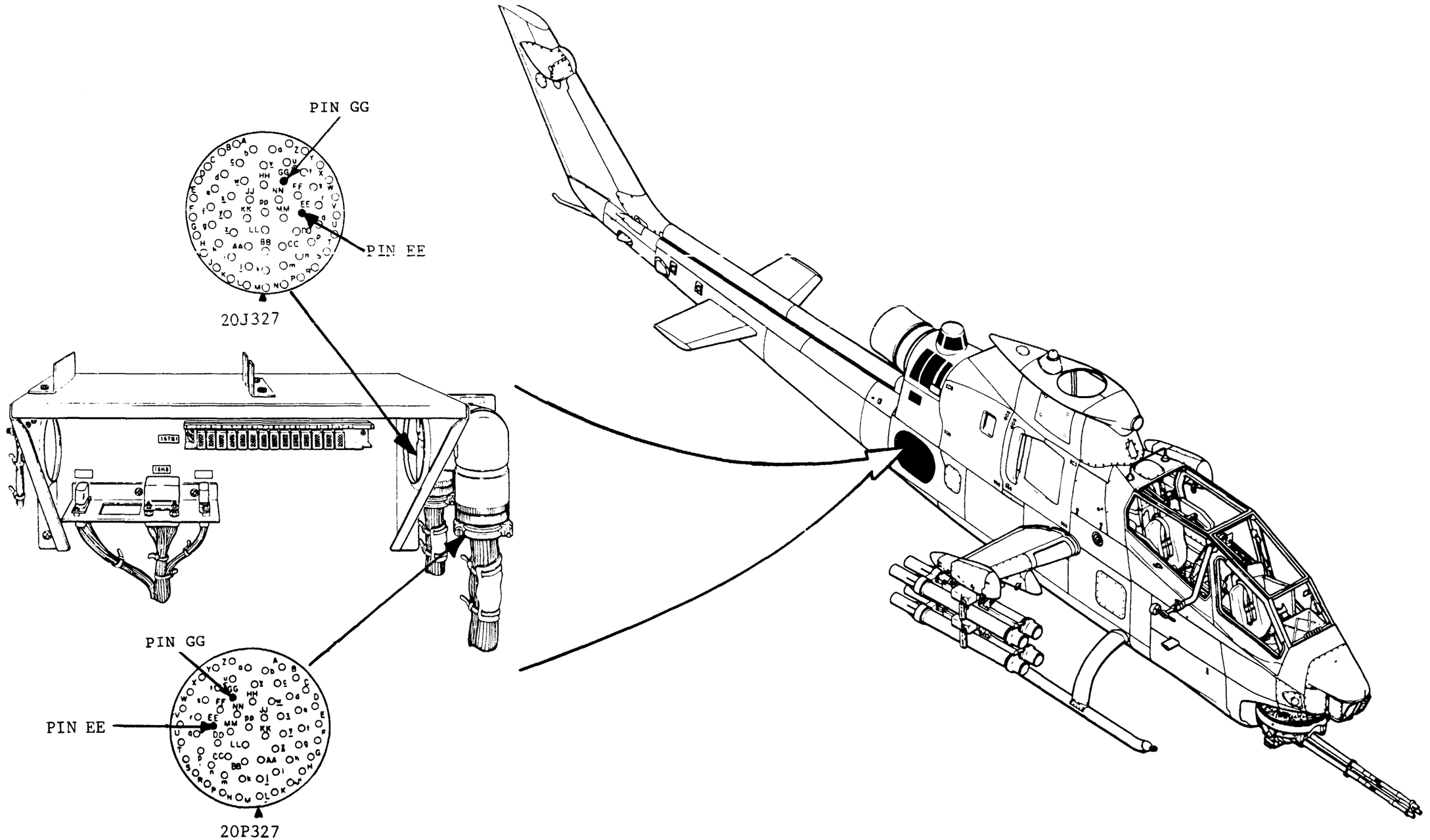


FLIR MISSILE TRACKER (FMT)




20A3P01

8-18.1. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).



8-18.1. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).

On TCP (TOW control panel):

Press and release BIT switch.

Did any battle flags appear in telescopic sight unit (TSU)?

YES → On TCP (TOW control panel):

Press and release BIT switch.

Did G (gun) flag appear in telescopic sight unit (TSU)?

YES → On TCP (TOW control panel):

Press and hold BIT switch.

Check for 28 V dc between 19TB4-G20 and airframe ground .

Release BIT switch.

Was 28 V dc present?

YES → On TCP (TOW control panel):

Press and hold BIT switch.

Check for 28 V dc between 19TB4-G20 and airframe ground.

Release BIT switch.

Was 28 V dc present?

YES → Turn off electrical power per paragraph 8-3.

Replace diode (20CR19) between 19TB4-F20 and 19TB4-K20 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 8-2.1.

NO → Turn off electrical power per paragraph 8-3.

Disconnect 20A2P03.

Check for continuity from 19TB4-G20 to 20A2P03-b.

Is continuity present?

YES → Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.1.

NO → Repair wire TG7A22 between 19TB4-G20 and 20A2P03-b.

Connect 20A2P03.

Then go to paragraph 8-2.1.

NO → Turn off electrical power per paragraph 8-3.

Disconnect 20A2P04.

Turn on electrical power per paragraph 8-3.

On TCP (TOW control panel):

Press and hold BIT switch,

Check for 28 V dc between 20A2P04-v and airframe ground.

Release BIT switch.

Was 28 V dc present?

YES → Turn off electrical power per paragraph 8-3.

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.1.

NO → Turn off electrical power per paragraph 8-3.

Disconnect 20A4P02.

Check for continuity from 20A2P04-v to 20A4P02-b.

Is continuity present?

YES → Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A2P04.

Then go to paragraph 8-2.1.

NO → Disconnect 20P327.

Check for continuity from 20A2P04-v to 20J327-EE.

Is continuity present?

YES → Repair wire TG274A22 between 20P327-EE and 20A4P02-b.

Connect 20P327, 20A2P04, and 20A4P02.

Then go to paragraph 8-2.1.

NO → Repair wire TG274B22 between 20A2P04-v and 20J327-EE.

Connect 20P327, 20A2P04, and 20A4P02.

Then go to paragraph 8-2.1.

8-18.1. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).

YES

YES

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20A1P09.

Check for continuity from 19TB4-H20 to 20AlJ09-e.

Is continuity present?

NO

Repair wire TG1A22 between 19TB4-H20 and 20AlJ09-e.

Connect 20A1P09.

Then go to paragraph 8-2.1.

YES

Disconnect 20A4P02.

Check for continuity from 20A1J09-M to 20A4P02-JJ.

Is continuity present?

NO

Repair wire TG144A22 between 20A1J09-M and 20A4P02-JJ.

Connect 20A1P09 and 20A4P02.

Then go to paragraph 8-2.1.

YES

Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P09.

Turn on electrical power per paragraph 8-3.

On TCP (TOW control panel) :

Press and release BIT switch.

Does problem still exist?

NO

Go to paragraph 8-2.1.

YES

Turn off electrical power per paragraph 8-3.

Install Qriginal TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, section V.

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Then go to paragraph 8-2.1.

8-18.1. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).

YES

On TCP (TOW control panel):

Press and release BIT switch.

Did R (ready) flag appear in telescopic sight unit (TSU)?

YES

YES

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A1P09.

Turn on electrical power per paragraph 8-3.

On TCP (TOW control panel):

Press and hold BIT switch.

Check for 28 V dc between 20A1J09–f and airframe ground.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20A4P02.

Check for continuity from 20AlJ09-K to 20A4P02-HH.

Is continuity present?

YES

NO

Repair wire TG142A22 between 20A1JO9-K and 20A4P02-HH.

Then go to paragraph 8-2.1.

Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P09.

Turn on electrical power per paragraph 8-3.

On TCP (Tow control panel):

Press and release BIT switch.

Does problem still exist?

YES

Turn off electrical power per paragraph 8-3.

Install original TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2 Section V.

Replace telescopic sight unit (TSU) per TM 9-473-34, Chapter 4, Section III.

Then go to paragraph 8-2.1.

NO

Go to paragraph 8-2.1.

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A2P03.

Check for continuity from 20A2P03-c to 20A1J09-f.

Is continuity present?

YES

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P09.

Then go to paragraph 8-2.1.

NC

Repair wire TG2A22 between 20A2P03-c and 20A1J09-f.

Connect 20A1P09 and 20A2P03.

Then go to paragraph 8-2.1.

8-18.1. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20A1P09.

Turn on electrical power per paragraph 8-3.

On TCP (TOW control panel):

Press and hold BIT switch.

Check for 28 V dc between 20A1J09–g and airframe ground.

Release BIT switch.

Was 28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20A4P02.

Check for continuity from 20A1J09-L to 20A4P02-GG.

NO

Repair wire TG3A22 between 20A1J09-L and 20A4P02-GG.

Connect 20A1P09 and 20A4P02.

Then go to paragraph 8-2.1.

YES

NO

Turn off electrical power per paragraph 8-3.

Connect 20A1P09.

Disconnect 20A3PO1.

Turn on electrical power per paragraph 8-3.

On TCP (TOW control panel):

Press and release BIT switch.

Was A (attack) flag illumi–nated in TSU eyepiece?

YES

Turn off electrical power per paragraph 8-3.

Replace FLIR missile tracker (FTM) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.1.

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A2P03 and 20A1P09.

Check for continuity from 20A2P03-d to 20A1J09-g.

Is continuity present?

YES

Replace stabilization con-trol amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P09 and 20A3P01.

Then go to paragraph 8-2.1.

NO

Disconnect 20P327.

Check for continuity from 20P327-GG to 20A1J09-g.

Is continuity present?

YES

NO

Repair wire TG3A22 between 20A1J09-g and 20P327-GG.

Connect 20A1P09, 20P327, 20A2P03, and 20A3P01.

Then go to paragraph 8-2.1.

8-18.1. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).

YES → Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P09.

Turn on electrical power per paragraph 8-3.

On TCP (TOW control panel):

Press and release BIT switch.

Does problem still exist?

YES → Turn off electrical power per paragraph 8-3.

Install original TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Then go to paragraph 8-2.1.

NO → Go to paragraph 8-2.1.

YES → Check for continuity from 20J327-GG to 20A3P01-W.

Is continuity present?

YES → Repair wire TG3C22 between 20A2P03-d and splice.

Connect 20A3P01, 20A2P03, 20P327, and 20A1P09.

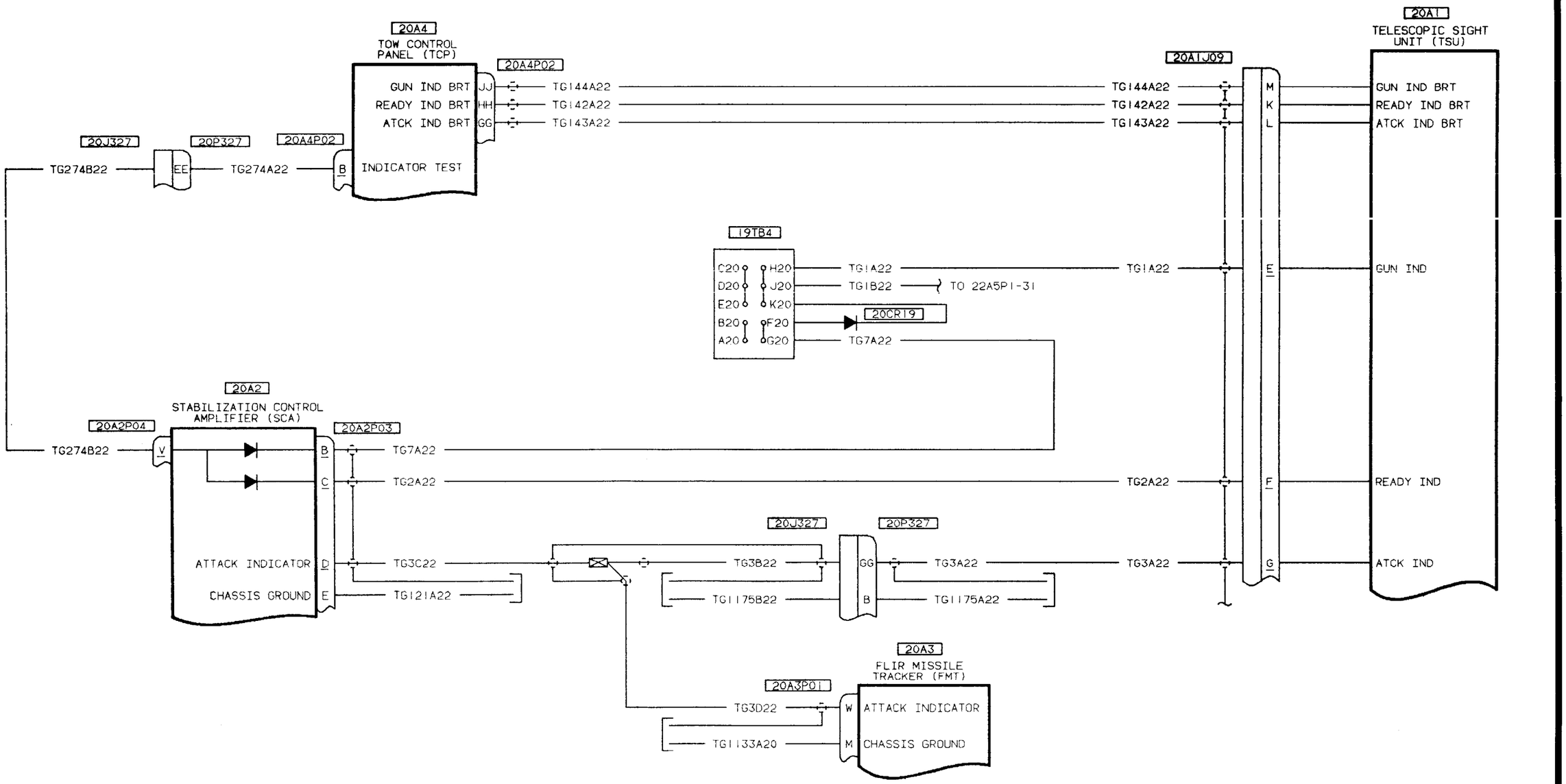
Then go to paragraph 8-2.1.

NO → Repair wire TG3B22 between 20J327-GG and splice or wire TG3D22 between 20A3P01-W and splice.

Connect 20P327, 20A3P01, 20A2P03, and 20A1P09.

Then go to paragraph 8-2.1.

8-18.1. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).




209575-106

## 8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References
TM 9-1090-206-20-1
TM 9-1425-473-20

Access Panels
Forward Belly Armament and Lighting - Removed

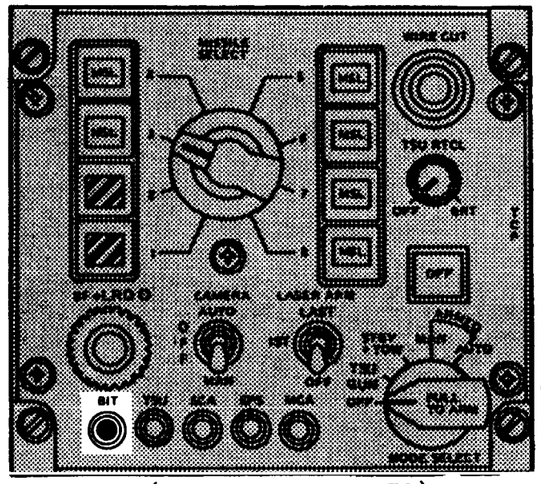
Interface Control Unit - Removed

Middle Electronics (Tailboom) - Removed

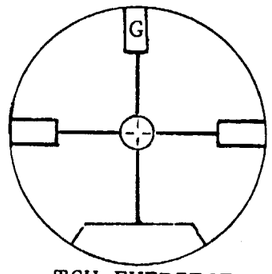
Aft Electronics (Tailboom) - Removed

Battery Compartment - Removed

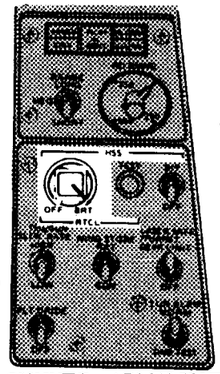
Right Forward Radar Warning Antenna - Removed

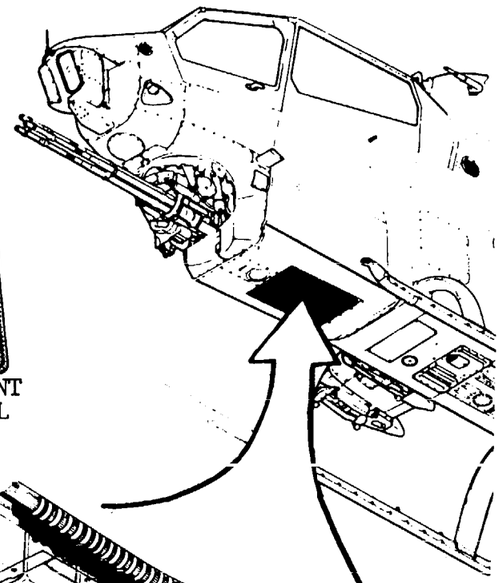


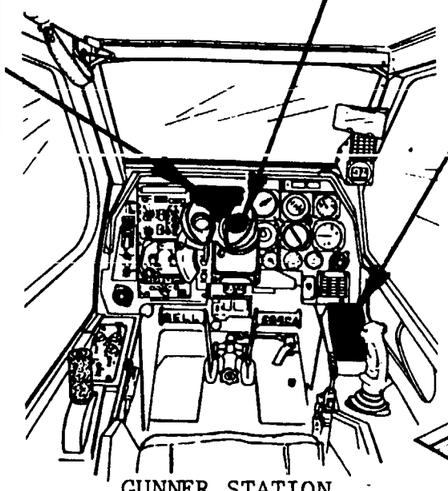
TCP (TOW CONTROL PANEL)

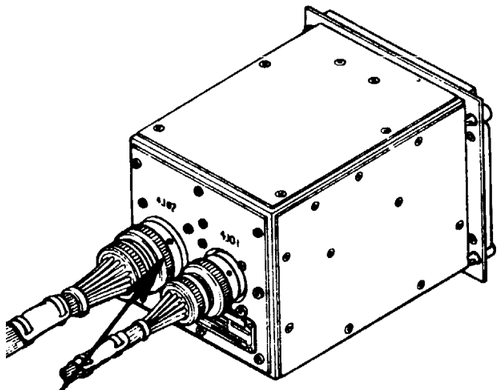


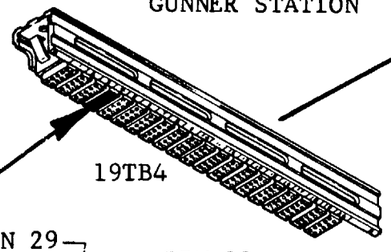
TSU EYEPIECE

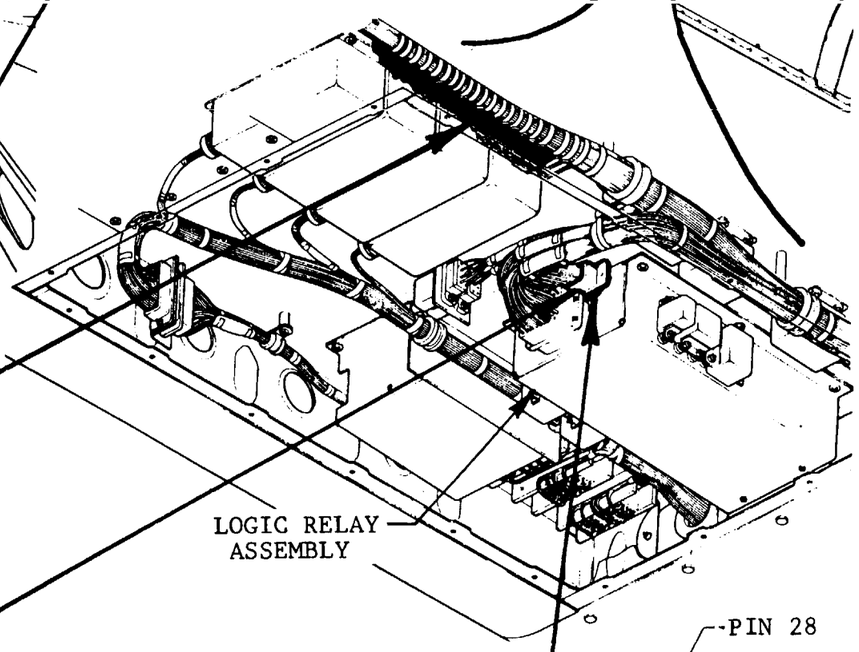

GUNNER ARMAMENT CONTROL PANEL

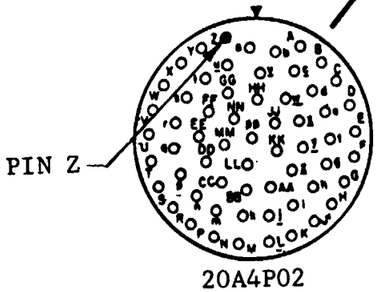



GUNNER STATION

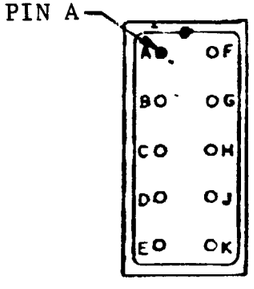

TCP(TOW CONTROL PANEL) (REAR VIEW)


19TB4

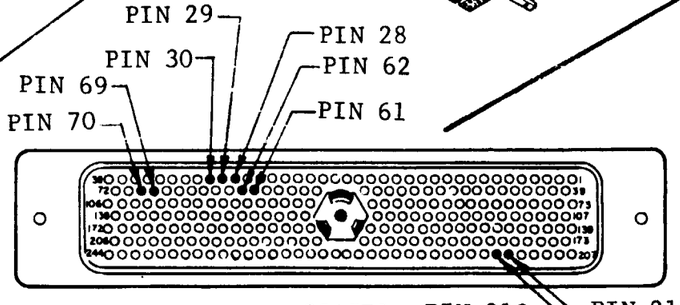

LOGIC RELAY ASSEMBLY



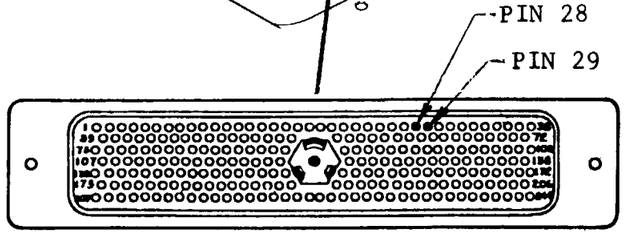
20A4P02



MODULE 4

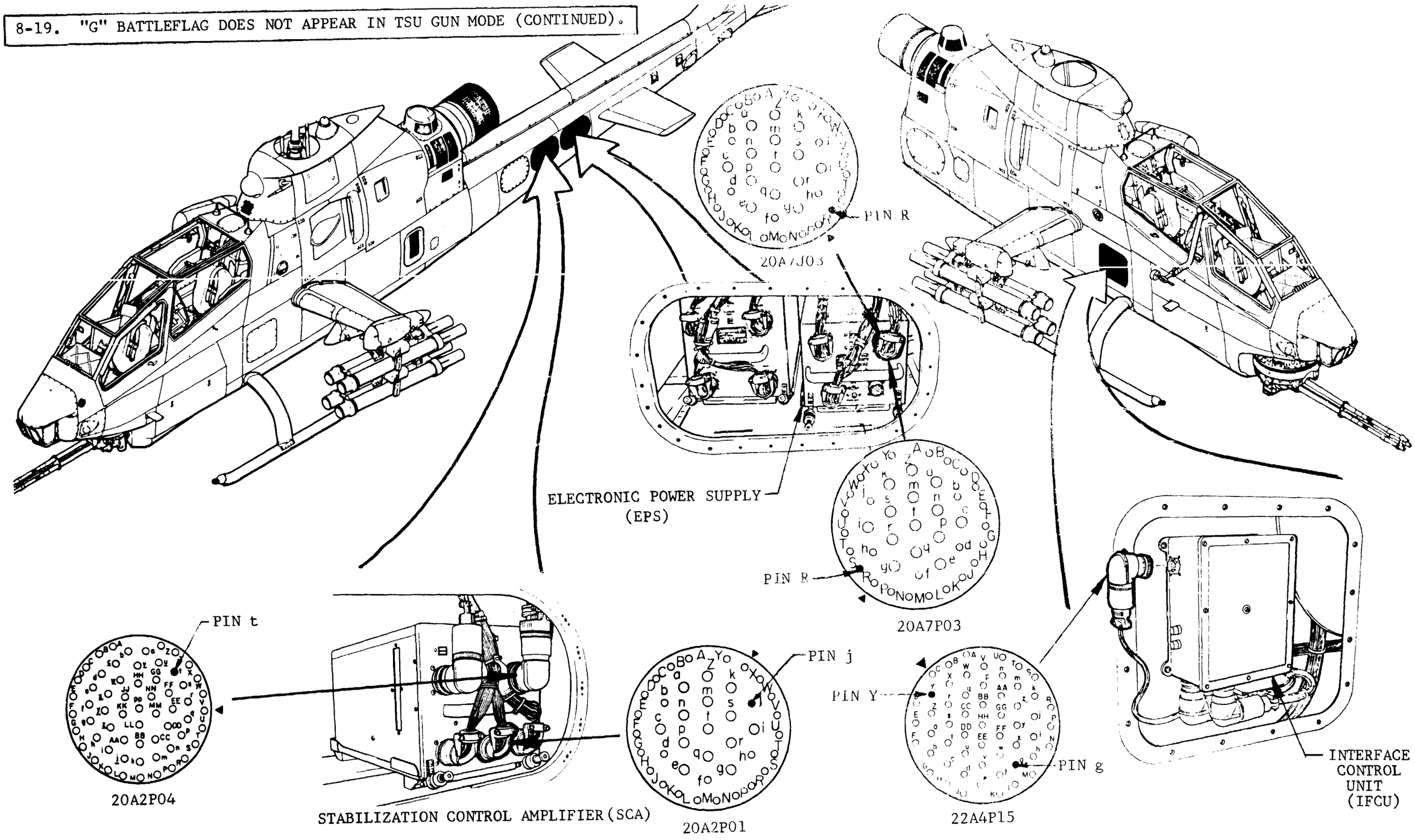


22A5P1 PIN 213 PIN 212

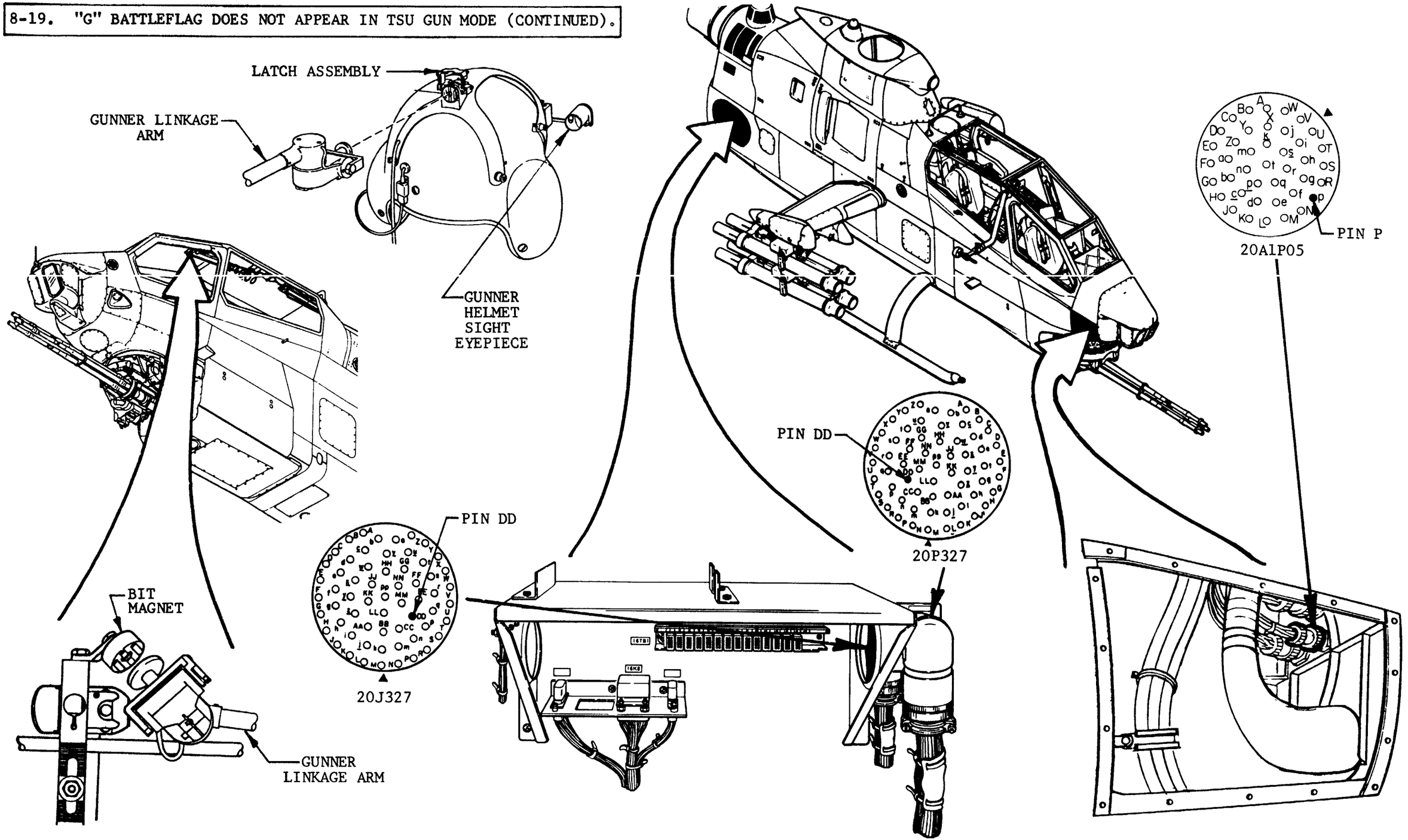


22A5J1

8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED).



8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED).



8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED).

On TCP (TOW control panel) :

Press and hold BIT switch.

In telescopic sight unit (TSU) eyepiece:

Look for "G" battleflag.

Is "G" battleflag lit?

NO

Go to paragraph 8-18.

YES

Remove gunner linkage arm from BIT magnet and attach to gunner helmet. Secure with latch.

Ensure helmet electrical Connectors are connected.

On gunner armament control panel:

Set HSS RTCL switch to BRT.

Is gunner eyepiece reticle lit

NO

Go to paragraph 7-15.

YES

Remove linkage arm from gunner helmet and attach to BIT magnet.

Turn off electrical power per paragraph 8-3.

Disconnect 20A2P01.

Turn on electrical power per paragraph 8-3.

Check for 28 V dc at 20A2P01-j .

Is 28 V dc present?

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A7P03.

Turn on electrical power per paragraph 8-3.

Check for 28 V dc at 20A7J03-R.

Is 28 V dc present?

NO

Turn off electrical power per paragraph 8-.3.

Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A2P01.

Then go to paragraph 8-2.

YES

Turn off electrical power per paragraph 8-3.

Connect 20A7P03

Turn on electrical power per paragraph 8-3.

Check for 28 V dc at 19TB4-4A.

Is 28 V dc present?

NO

Go to paragraph 9-33.

YES

YES

8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED).

YES

YES

YES

Turn off electrical power
er paragraph 8-3.

Check for continuity from
20A2P01-j to 22A5P1-69.

Is continuity present?

YES

YES

Check for continuity from
22A5P1-62 to 20A7P03-R.

Is continuity present?

YES

NO

Repair wire TG215A22 between
22A5P1-62 and 20A7P03-R.

Then go to paragraph 8-2.

NO

Check for continuity from
20A2P01-j to 22A5P1-30.

Is continuity present?

YES

Repair wire TG336B22 between
22A5P1-69 and splice.

Then go to paragraph 8-2.

NO

Repair wire TG210A22N between
22A5P1-61 and airframe ground

Then go to paragraph 8-2.

8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED).

YES

YES

YES

Check for continuity from 22A5P1-61 to airframe ground.

Is continuity present?

YES

Check for continuity from 22A5P1-70 to 22A5P1-212.

Is continuity present?

YES

Check for continuity from 22A4P15-g to 19TB4-4A.

Is continuity present?

YES

NO

Repair wire TG210A22N between 22A5P1-61 and airframe ground.

Then go to paragraph 8-2.

NO

Repair wire TG337A22 between 22A5P1-70 and 22A5P1-212.

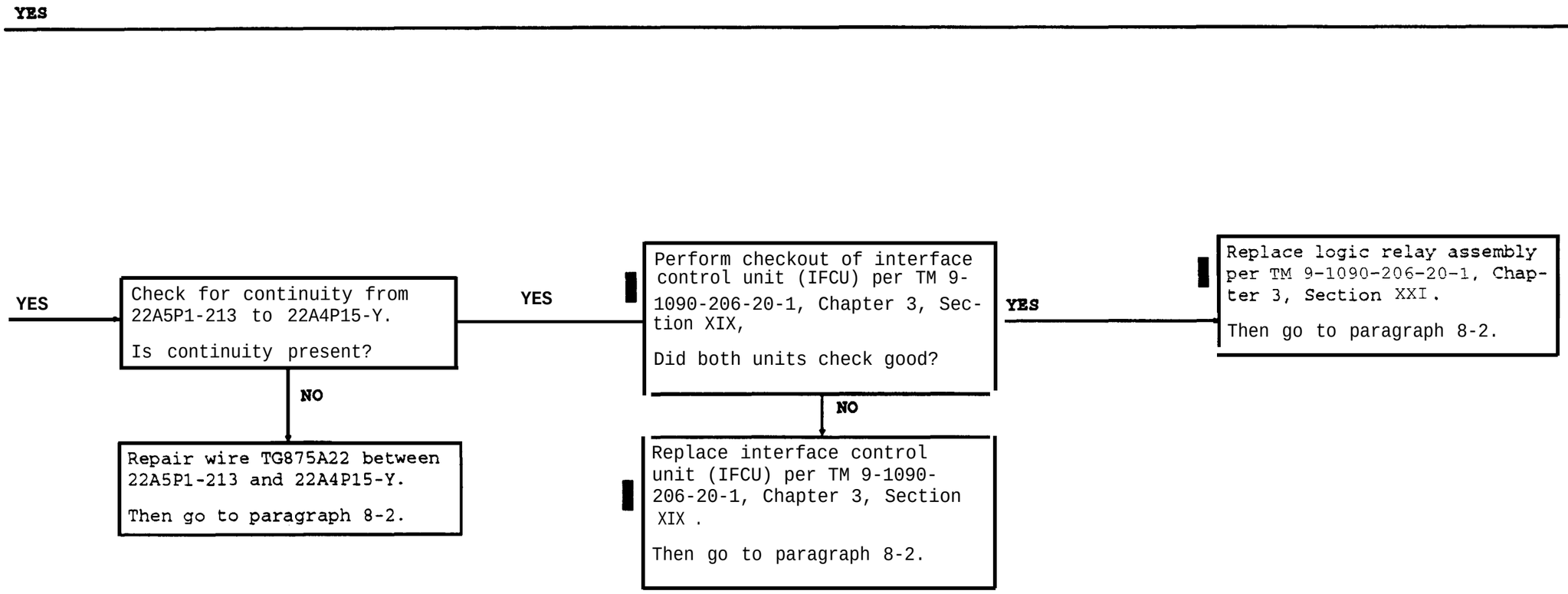
Then go to paragraph 8-2.

NO

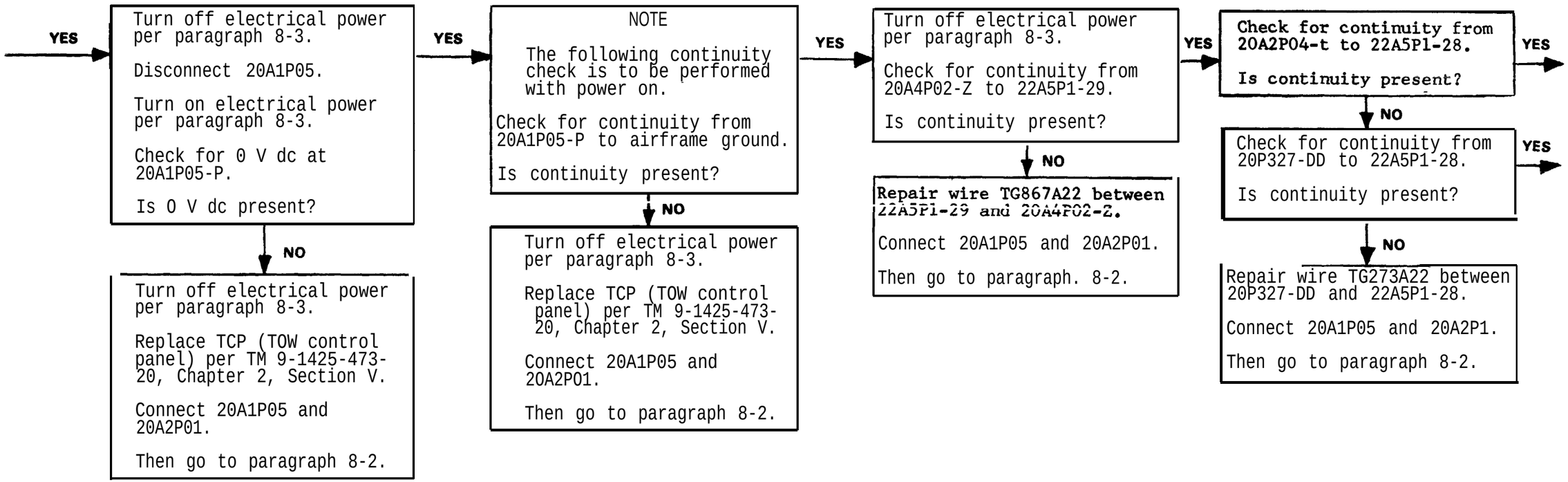
Repair wire A187R20 between 22A4P15-g and 19TB4-4A.

Then go to paragraph 8-2.

**8-19.** "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE ( CONTINUED) .



8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED).



## 8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED) .

YES

Check for continuity from 22A5J1-28 to 22A5J1-29.

Is continuity present?

YES

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P05.

Then go to paragraph 8-2.

NO

Replace logic relay assembly, per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Connect 20A1P05 and 20A2P01.

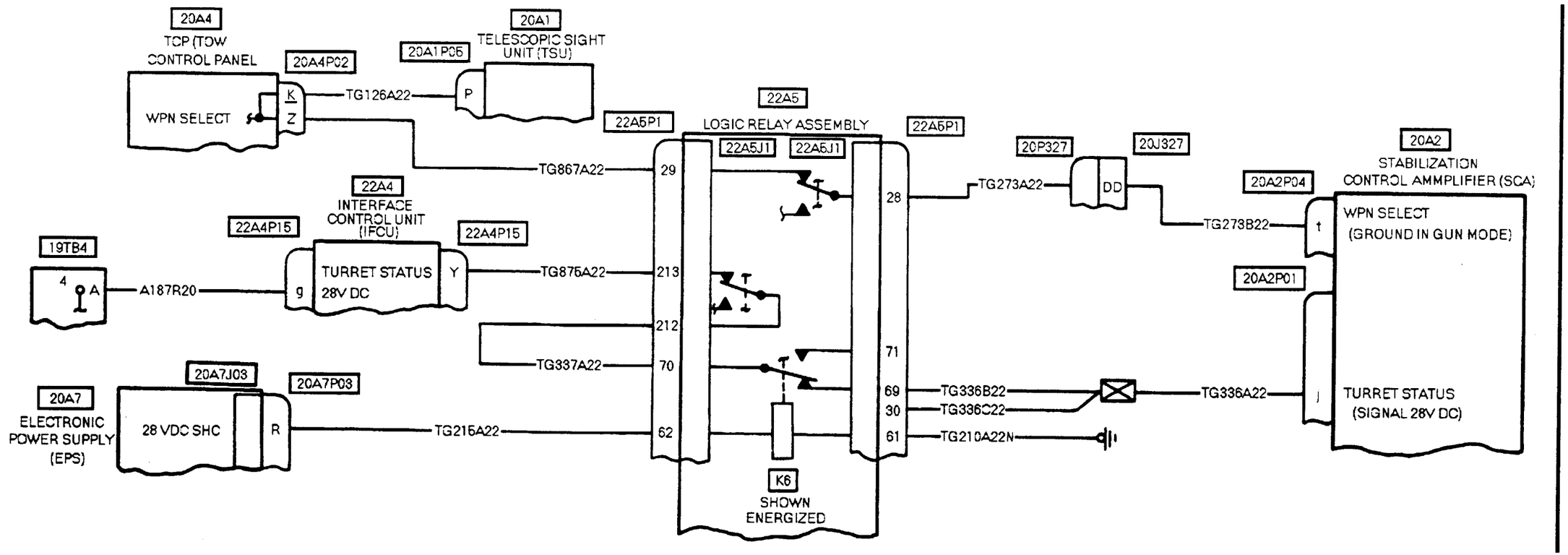
Then go to paragraph 8-2.

YES

Repair wire TG273B22 between 20J327-DD and 20A2P04-t.

Connect 20A1P05 and 20A2P01.

Then go to paragraph 8-2.



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8-20. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION.

INITIAL SETUP

Applicable Configuration
AH-1S MC

Tools/Test and Support Equipment
Multimeter

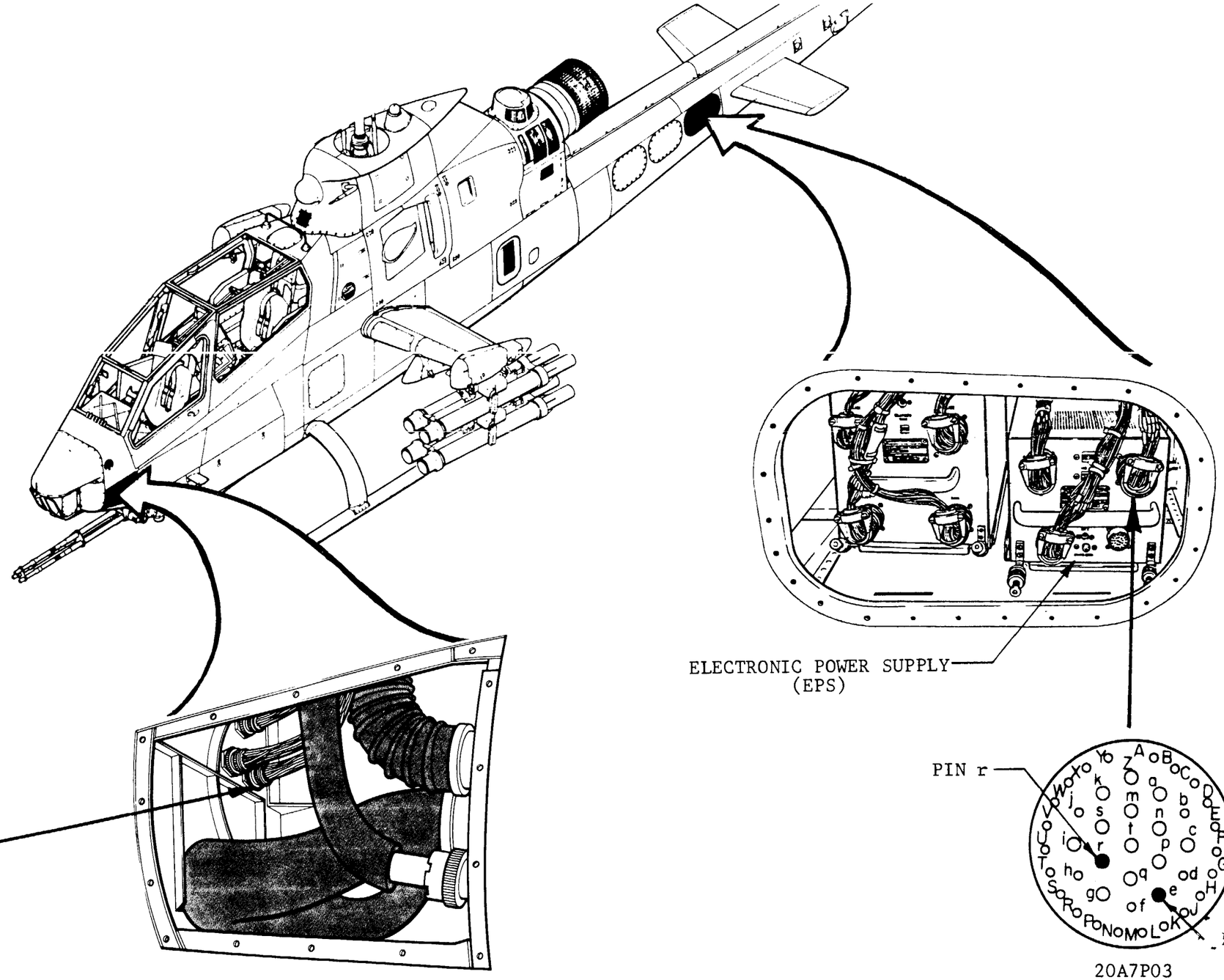
Tool Set, A/C Armament Repairman

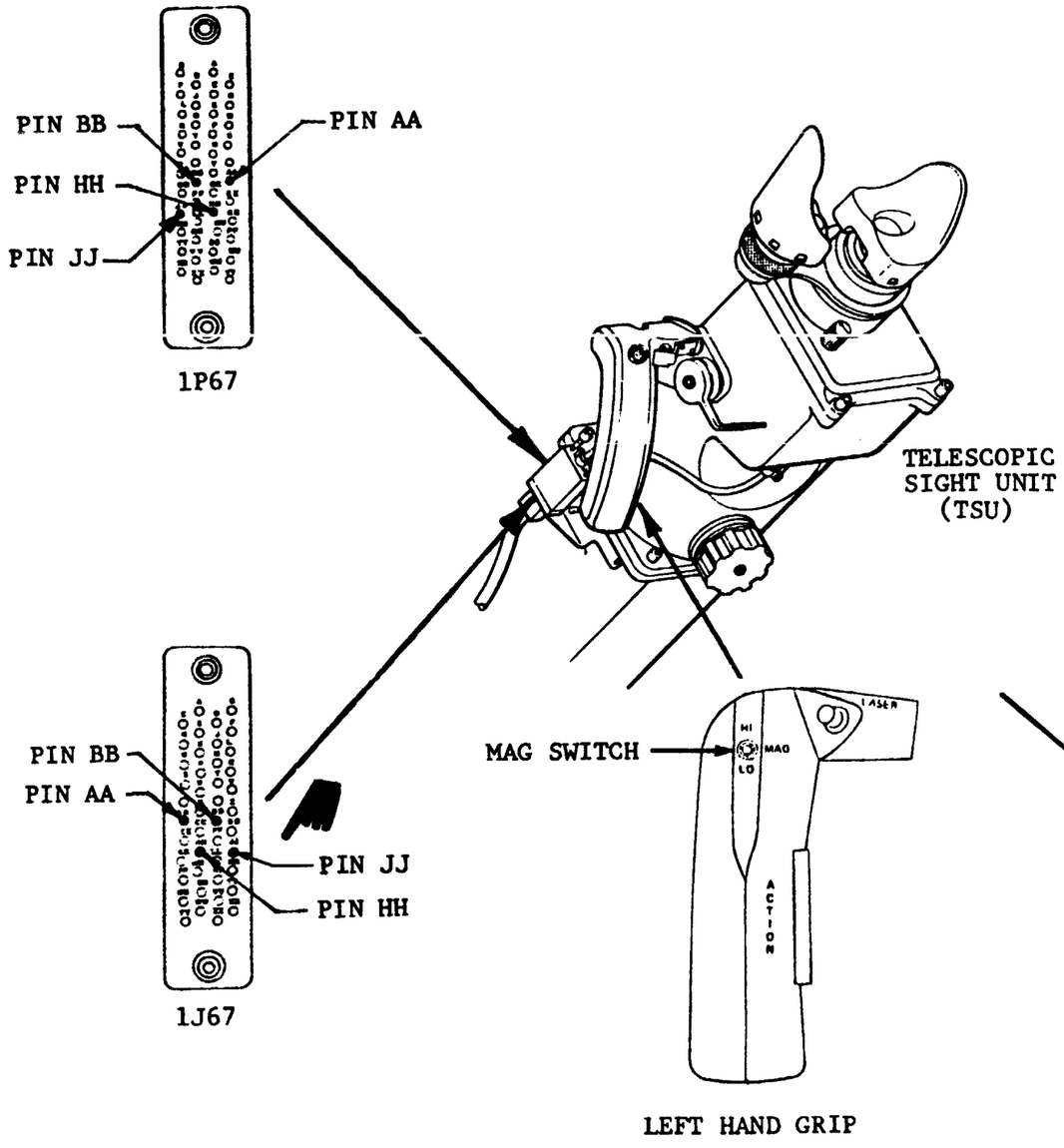
Personnel Required
68J (2)

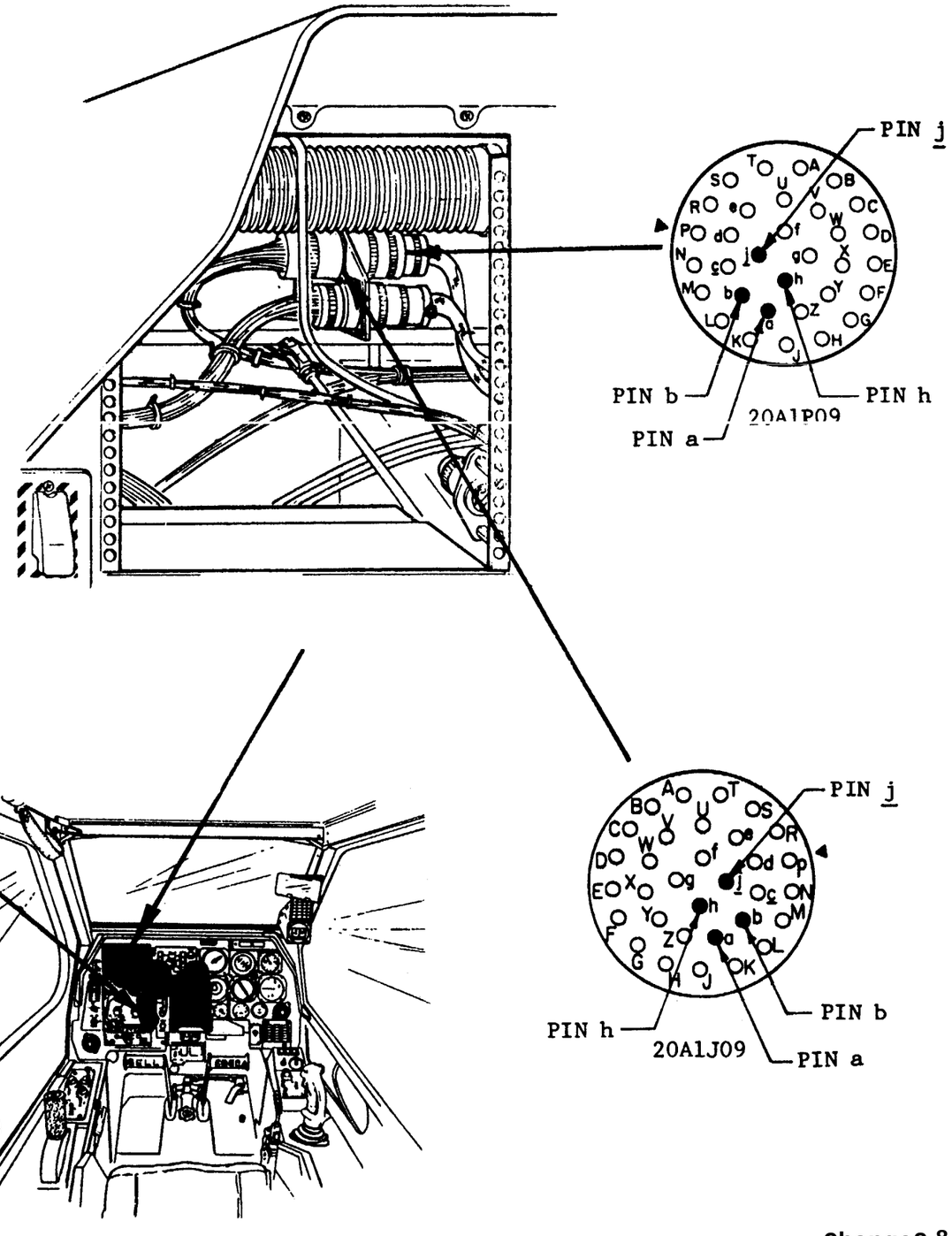
References
TM 9-1270-219-13
TM 9-1425-473-20
TM 9-1425-473-34

Access Panels
Aft elecctronics (Tail-boom) - Removed

Left Side Forward Radar Warning Antenna-Removed




PIN BB
PIN HH
PIN JJ
PIN AA
1P67
TELESCOPIC SIGHT UNIT (TSU)
PIN BB
PIN AA
PIN JJ
PIN HH
1J67
MAG SWITCH
HI
MAG
LO
LASER
ACTION
LEFT HAND GRIP


PIN j
PIN b
PIN a
PIN h
20A1P09
PIN j
PIN h
PIN b
PIN a
20A1J09

8-20. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION ( CONTINUED).

Turn off electrical power per paragraph 8-3.

Disconnect 1P67.

Connect multimeter to lJ67-HH(+) and 1J67-JJ(-).

Turn on electrical power per paragraph 8-3.

Check for 28 V dc from lJ67-HH to 1J67-JJ.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 8-3.

On left hand grip:

Press and hold MAG switch to LO.

Check for continuity from 1P67-HH to 1P67-BB and from 1P67-JJ to 1P67-AA.

Is continuity present in. both checks?

YES → Press and hold MAG switch to HI.

Check for continuity from 1P67-HH to 1P67-AA and from 1P67-JJ to 1P67-BB.

Is continuity present in both checks?

YES → Check for continuity from 1J67-AA to 20AlP03-A and from lJ67-BB to 20AlP03-X.

Is continuity present in both checks?

YES →

NO → Check for continuity from 1J67-AA to 20AlP09-a and from 1J67-BB to 20AlP09-b.

Is continuity present in. both checks?

YES →

NO → Replace cable assembly on telescopic sight unit (TSU) between 1P67 and 20A1P09.

Then go to paragraph 8-2.

NO → Replace left hand grip per TM 9-1425-473-34, Chapter 4, Section II.

Then go to paragraph 8-2。

NO → Replace left hand grip per TM 9-1425-473-34. Chapter 4, Section II.

Connect 1P67.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 1J67-HH to 20A7P03-r and from 1J67-JJ to 20A7P03-e.

Is continuity present in both checks?

YES → Replace electronic power supply (EPS) per TM 9-1270-219-13&P,Chapter 4, Section I.

Connect 1P67.

Then go to paragraph 8-2.

NO → Check for continuity from 20AlP09-h to 1J67-HH and from 20AlP09-j to 1J67-JJ.

Is continuity present in both checks?

YES → Check for continuity from 20AlJ09-h to 20A7P03-r.

Is continuity present?

YES → Repair wire TG160A22 (BLU) between 20AlJ09-j and 20A7P03-e.

Connect 1P67.

Then go to paragraph 8-2.

NO → Repair wire TG160A22 (WHT) between 20A1J09-h and 20A7P03-r.

Connect 1P67.

Then go to paragraph 8-2.

NO → Replace cable assembly on telescopic sight unit (TSU) between 1P67 and 20A1P09.

Then go to paragraph 8-2.

8-20. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION (CONTINUED)

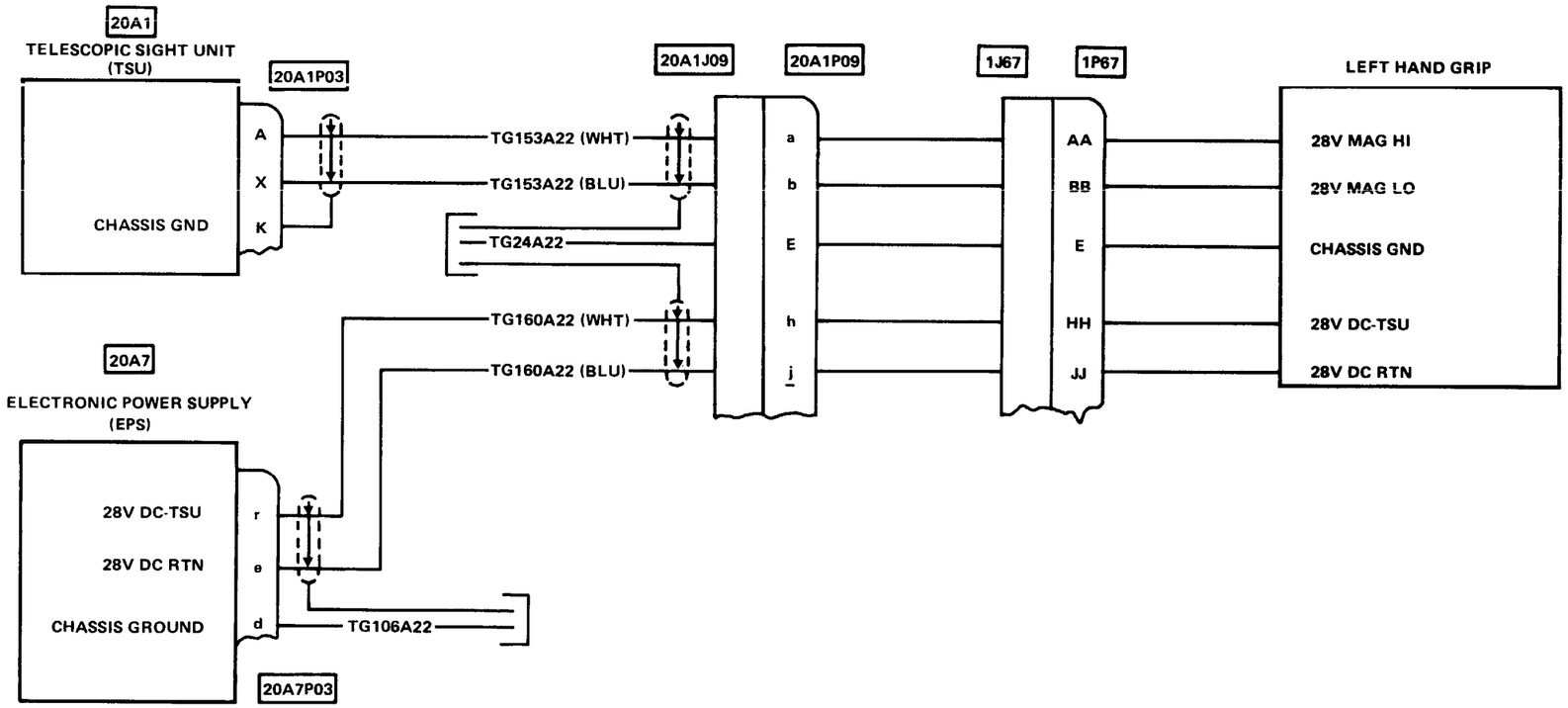
YES → Replace telescopic sight unit (TSU) per TM 9-1425-473-20, Chapter 4, Section III.

Then go to paragraph 8-2.

YES → Repair wire TG153A22 (WHT) between 20AlJ09-a and 20A1P03-A and/or Wire TG153A22 (BLU) between 20AlJ09-b and 20A1P03-X.

Connect 1P67.

Then go to paragraph 8-2.



8-20.1. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION.

INITIAL SETUP

Applicable Configuration
A H - 1 MCN

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

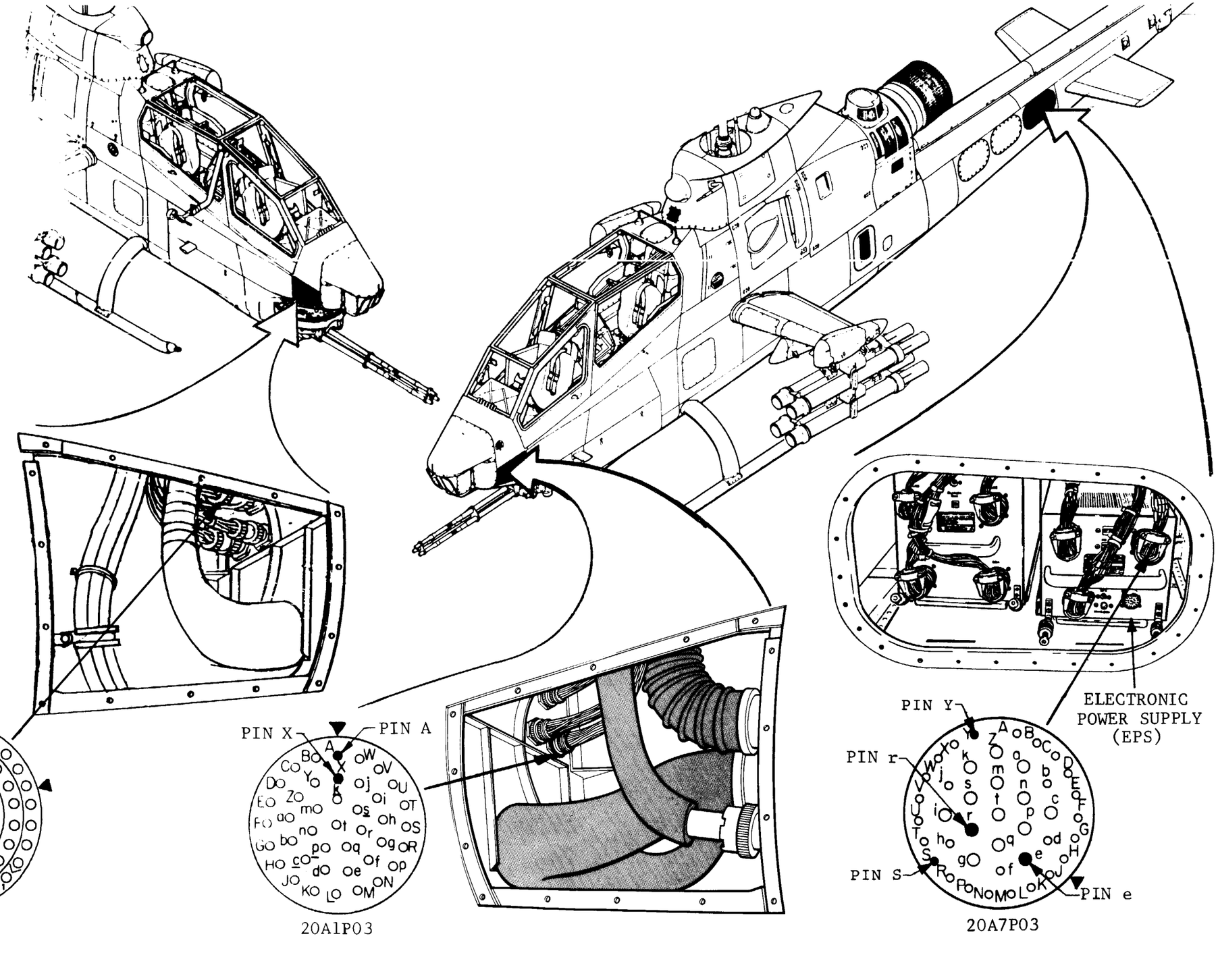
Personnel Required
68J (2)

References
TM 9-1270-219-13
TM 9-1425-473-20
TM 9-1425-473-34

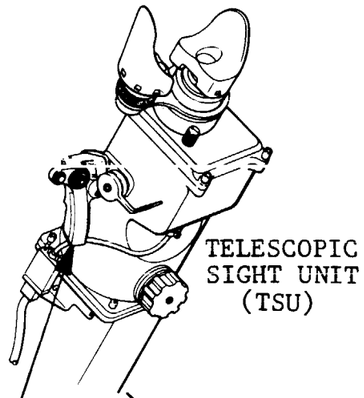
Access Panels
Aft Electronics (Tail-boom - Removed

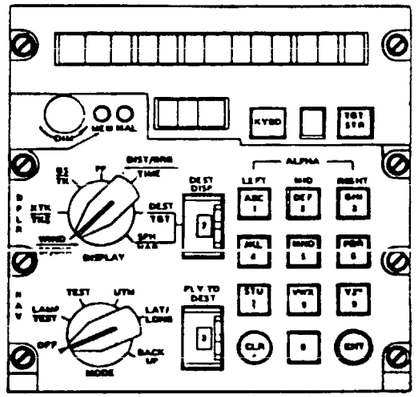
Left Side Forward Radar Warning Antenna - Removed

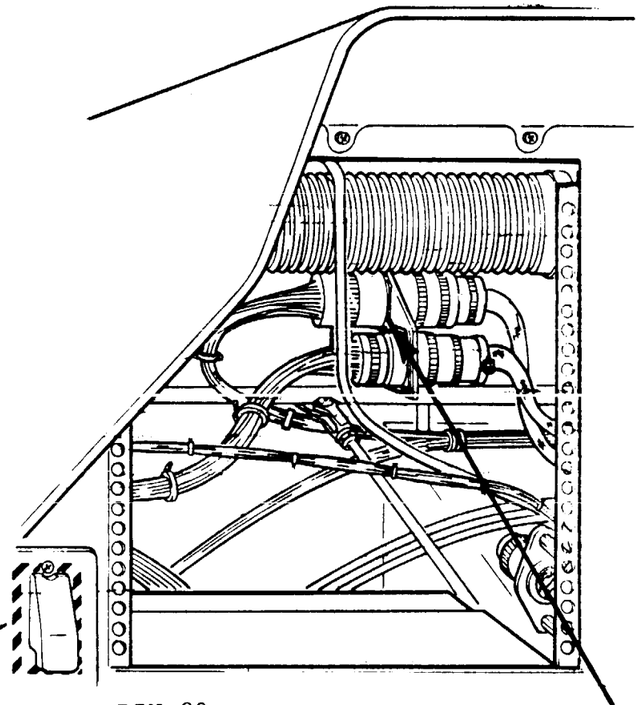
Right Side Forward Radar Warning Antenna - Removed

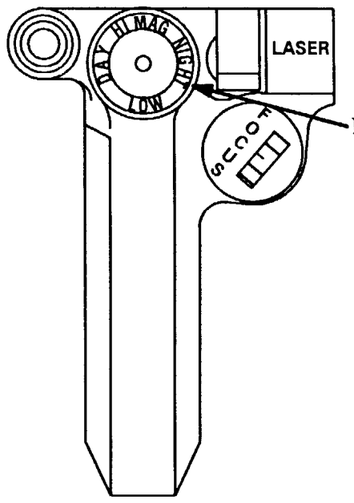


8-20.1. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION (CONTINUED).

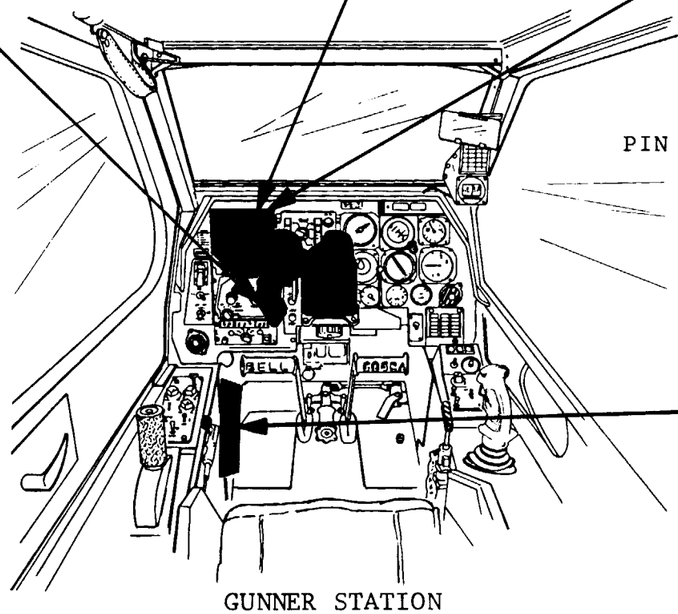


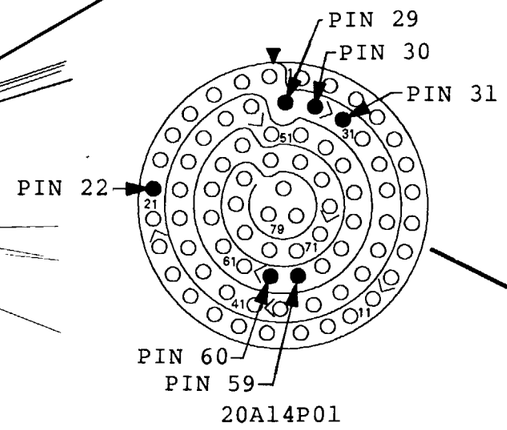


DPLR NAV CONTROL PANEL

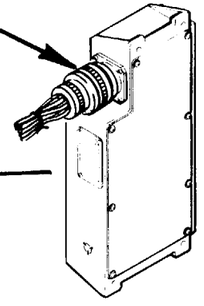


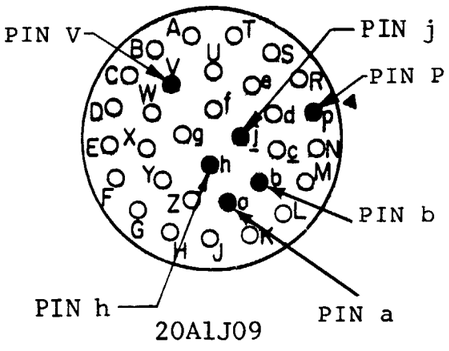


LEFT HAND GRIP


GUNNER STATION

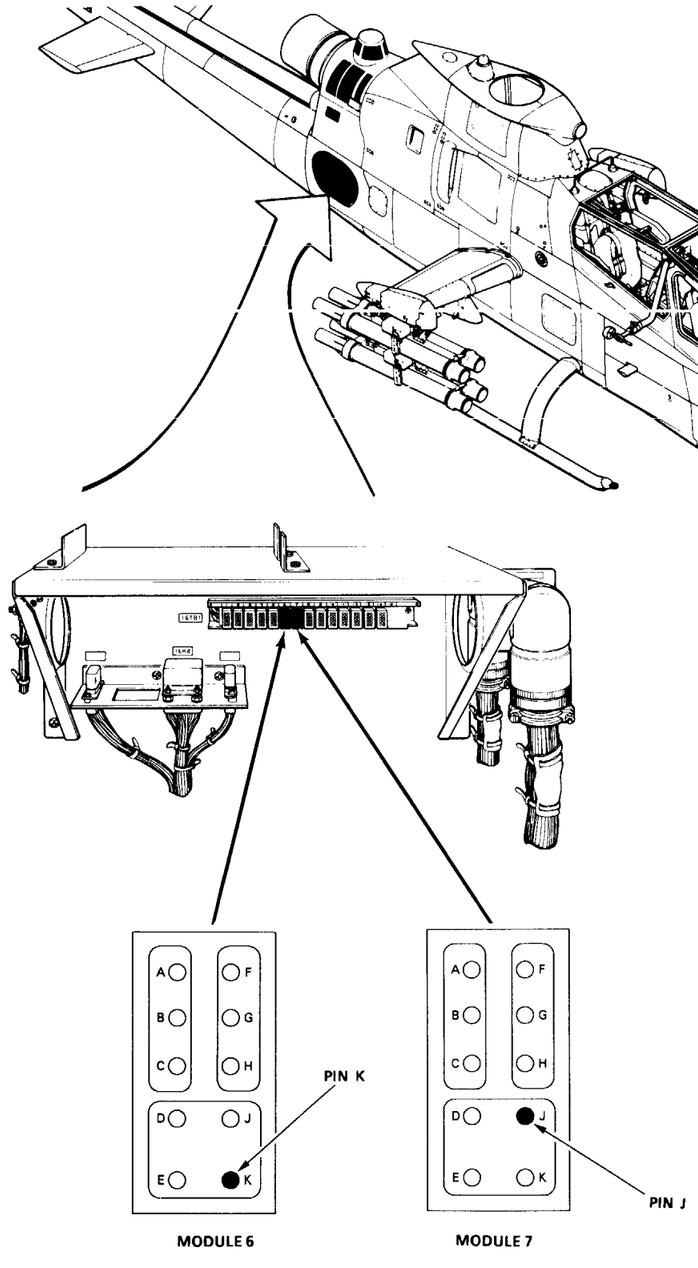





FCP (FLIR CONTROL PANEL)
(REAR VIEW)

8-20.1. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION (CONTINUED).



8-20.1. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION (CONTINUED).

Is fault present during both DAY (normal) and NIGHT (FLIR) operation?

YES

NO

Is fault present during normal operation only?

YES

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A1P08 and 20A1P09.

Check for continuity from 20A1P08-49 to 20A1J09-V and from 20A1P08-50 to 20A1J09-P.

Is continuity present in both checks?

YES

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Then go to paragraph 8-2.1.

NO

Check for continuity from 20AlJ09-V to 16TBl-K6 and from 20AlJ09-P to 16TBl-J7.

Is continuity present in both checks?

YES

Repair the following wire(s) as required.

| WIRE NO. | FROM | TO |
|---|---|---|
| TGl163C22 (WHT) | 20A1P08-49 | 16TB1-E6 |
| TG1163C22 (BLU) | 20A1P08-50 | 16TB1-K7 |

Connect 20A1P08 and 20A1P09.

Then go to paragraph 8-2.1.

NO

Repair the following wire(s) as required.

| WIRE NO. | FROM | TO |
|---|---|---|
| TG163A22 (WHT) | 20A1J09-V | 16TB1-K6 |
| TG163A22 (BLT) | 20AlJ09-P | 16TB1-J7 |

Connect 20AlP08 and 20A1P09.

Then go to paragraph 8-2.1.

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20A1P03.

Connect multimeter between ZOA1P03-X(+) and 20A1P03-A.

Turn on electrical power per paragraph 8-3.

On left hand grip:

Hold MAG switch to LO and check for +28 V dc.

Release MAG switch.

Turn off electrical power per paragraph 8-3.

Connect multimeter between 20A1P03-A(+) and 20A1P03-X.

Turn on electrical power per paragraph 8-3.

On left hand grip:

Hold MAG switch to LO and check for +28 V dc.

Relase MAG switch.

Was +28 V dc present for each check?

YES

Turn off electrical power per paragraph 8-3.

Replace telescopic sight unit (TSU per TM 9-1425-473-34, Chapter 4, Secction III.

Then go to paragraph 8-2.1.

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01 and 20A1P09.

Check the followinq wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG153A22 (WHT) | 20A1P03-A | 20AlJ09-a |
| TG153A22 (BLU) | 20A1P03-X | 20AlJ09-b |
| TG153B22 (BLU) and TG153A22 (BLU) | 20A14P01-22 | 20A1P03-X |
| TG153B22 (WHT) and TG153A22 (WHT) | 20A14P01-29 | 20A1P03-A |

Is continuity present for each wire?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A1P03, 20A1P09, and 20A14P01.

Then go to paragraph 8-2.1.

8-20.1. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION (CONTINUED).

YES

YES

Connect 20A1P03.

Connect multimeter between 20A14P01-60(+) and 20A14P01-59

Turn on electrical power per paragraph 8-3.

Check for +28 V dc.

Is +28 V dc present?

YES

YES

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A7P03.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1162A22 (WHT) | 20A14P01-60 | 20A7P03-S |
| TG1162A22 (BLU) | 20A14P01-59 | 20A7P03-Y |

Is continuity present for each wire?

NO

Repair wire(s) where continuity is not present.

Connect 20A14P01, 20A1P09, and 20A7P03.

Then go to paragraph 8-2.1.

Turn off electrical power per paragraph 8-3.

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TGl163A22 (BLU) and TG163A22 (BLU) | 20A14P!II-30 | 20A1J09-P |
| TG1163A22 (WHT) and TG163A22 (WHT) | 20A14P01-31 | 20A1J09-V |

Is continuity present for each wire?

NO

Repair wire(s) where continuity is not present.

Connect 20A1P09 and 20A14P01.

Then go to paragraph 8-2.1.

Replace FCP (FLIR control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P09.

Then go to paragraph 8-2.1.

Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A14P01 and 20A1P09.

Then go to paragraph 8-2.1.

8-20.1. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION (CONTINUED).

Turn off electrical power per paragraph 8-3.

Disconnect 20A1P09.

Connect multimeter between 20AlJ09-h(+) and 20AlJ09-j.

Turn on electrical power per paragraph 8-3.

Check for 28 V dc.

Is 28 V dc present?

YES →

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Then go to paragraph 8-2.1.

NO ↓

Turn off electrical power per paragraph 8-3.

Disconnect 20A7P03.

Check for continuity from 20AlJ09-h to 20A7P03-r and from 20AlJ09-j to 20A7P03-e.

Is continuity present in both checks?

YES →

Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20AlP09.

Then go to paragraph 8-2.1.

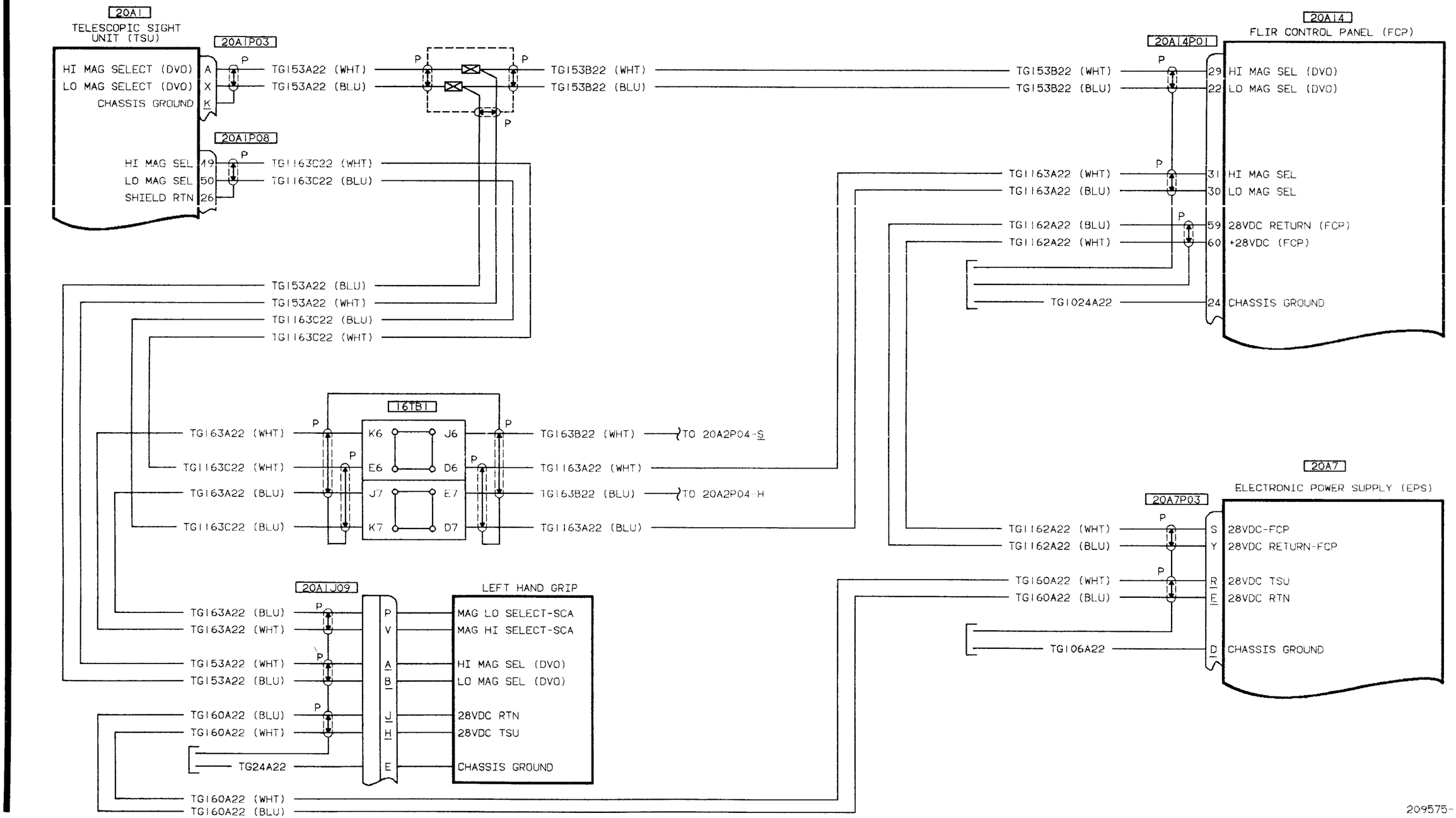
Repair the following wires as required:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG160A22 (WHT) | 20AlJ09-h | 20A7P03-r |
| TG160A22 (BLU) | 20AlJ09-j | 20A7P03-e |

Connect 20A7P03 and 20A1P09.

Then go to paragraph 8-2.1.

## 8-20.1. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION (CONTINUED).



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## 8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References
TM 9-1090-206-20-1
TM 9-1425-473-20

Access Panels
Interface Control Unit - Removed

Logic Control Unit - Removed

Forward Belly Armament and Lighting - Removed

Middle Electronics (Tail-boom) - Removed

Left Forward Radar Antenna - Removed

Battery Removed

DPLR NAV CONTROL PANEL

TELESCOPIC SIGHT UNIT (TSU)

PIN L

PIN K

PIN Z

20A6P01

SIGHT HAND CONTROL

PIN e

PIN c

PIN b

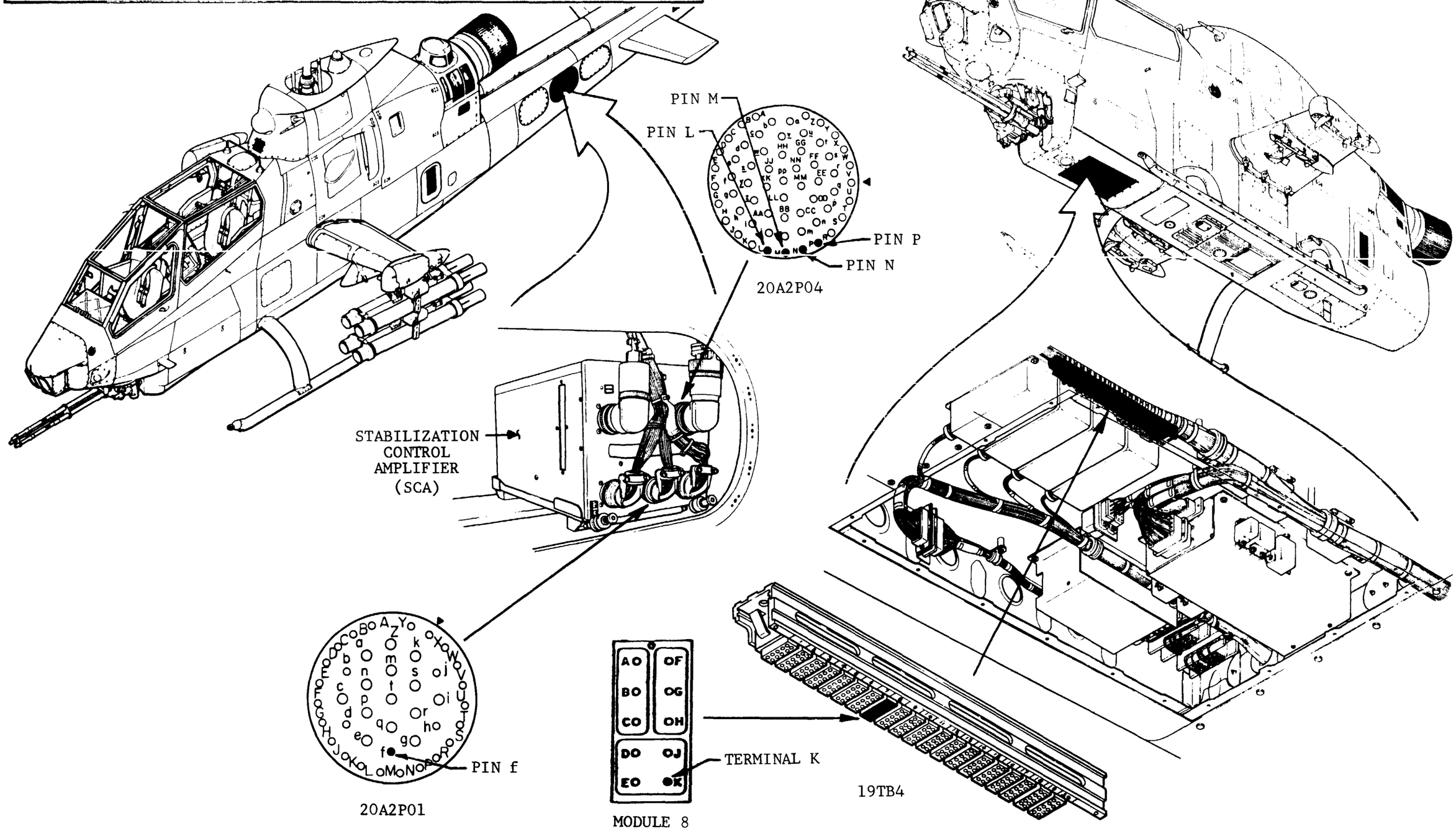
PIN h

5A1P1

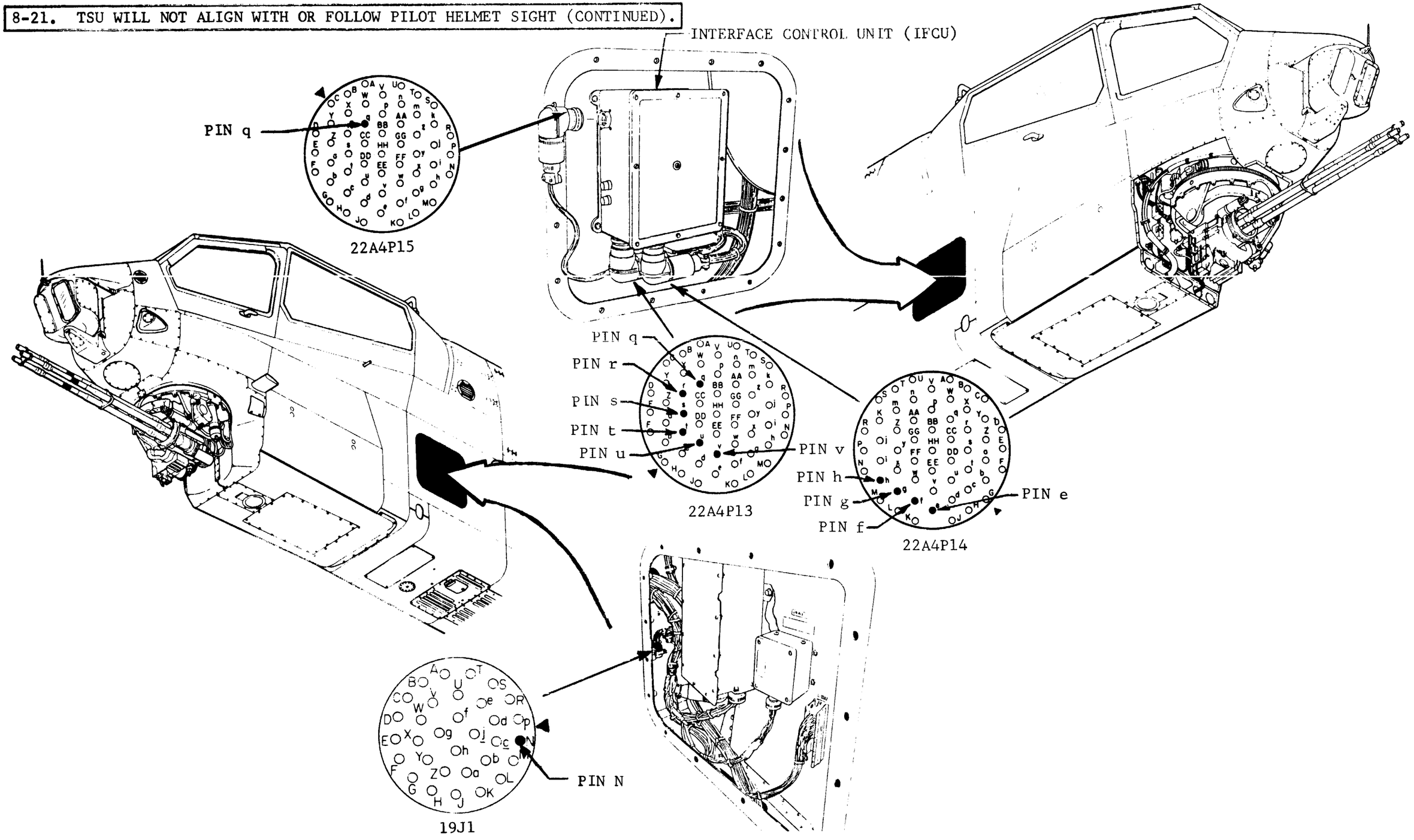
GUNNER STATION

ACQ SWITCH

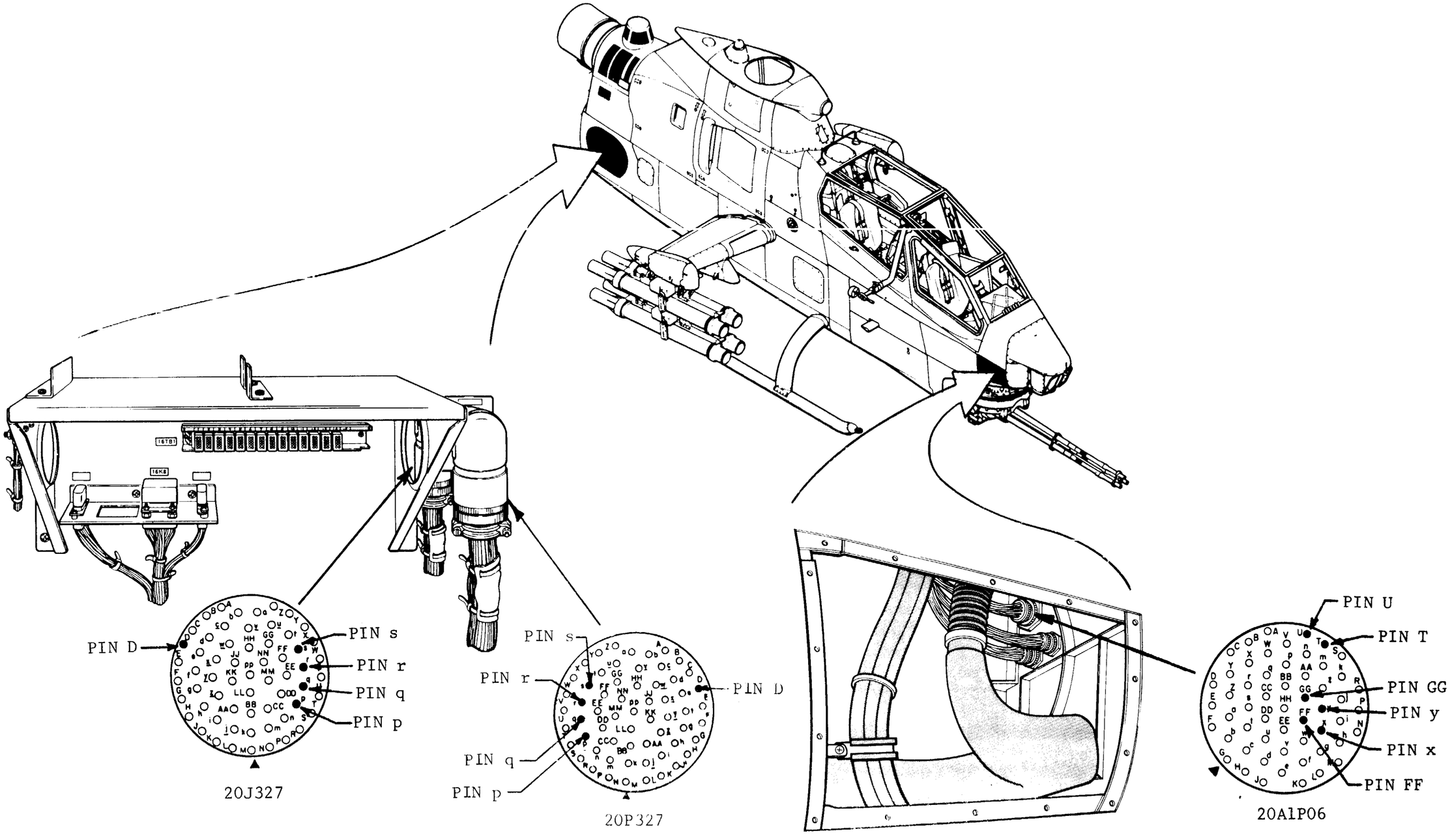
8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).



**8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).**



8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).



8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED) .

Perform helmet sight subsystem (HSS) operational check per paragraph 7-2 through step ai.

Did all operations pass the required test?

YES

On sight hand control:

set ACQ/TRK/STOW switch TRK.

On gunner instrument panel:

Press and hold ACQ switch in PHS.

Check for 28 V dc at 19J1-N.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20A2P01.

Turn on electrical power per paragraph 8-3.

On gunner instrument panel:

Press and hold ACQ switch in PHS.

Check for 28 V dc at 20A2P01-f.

Is 28 V dc present?

YES

Go to paragraph 8-22.

NO

On gunner instrument panel:

Press and hold ACQ switch in PHS.

Check for 28 V dc at 19TB4-8K.

Is 28 V dc present?

YES

Go to paragraph 8-22.

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 5A1P1-e to 19TB4-8K.

Is continuity present?

YES

Go to paragraph 8-22.

NO

Repair wire TG201D22 between 5A1P1-c and splice.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

On gunner instrument panel:

Press and hold ACQ switch in PHS.

Check for continuity from 20A6P01-K to 19J1-N.

Is continuity present?

YES

Replace sight hand control per TM 9-1425-473-20. Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Check for continuity from 20A6P01-K to 5A1P1-b.

Is continuity present?

YES

Check for continuity from 5A1P1-h to 19J1-N.

Is continuity present?

YES

Replace ACQ switch per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 8-2.

NO

Repair wire(s) TG212A22 between 5AlP1-h and splice and/or TG212C22 between 19J1-N and splice.

Then go to paragraph 8-2.

NO

Repair wire(s) TG200A22 between 20A6P01-K and 19TB4-10G and/or TG200D22 between 19TB4-10H and 5AlP1-b.

Then go to paragraph 8-2.

NO

Repair all faults discovered during operational check.

Perform helmet sight subsystem (HSS) operational check per paragraph 7-2.

Then go to paragraph 8-2.

## 8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).

YES

Turn off electrical power per paragraph 8-3.

Check for continuity from 19J1-N to 22A4P15-q.

Is continuity present?

NO

Repair wire TG212D22 between 22A4P15-q and splice.

Then go to paragraph 8-2.

YES

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG342D22 (WHT) | 20A2P04-L | 20J327-r |
| TG342D22 (BLU) | 20A2P04-M | 20J327-s |
| TG340D22 (WHT) | 20A2P04-N | 20J327-p |
| TG340D22(BLU) | 20A2P04-P | 20J327-q |

Is continuity present for each wire?

NO

Repair wire(s) where continuity is not present.

Then go to paragraph 8-2.

YES

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG342B22(WHT) and TG342A22(WHT) | 20P327-r | 22A4P14-f |
| TG342B22(BLU) and TG342A22(BLU) | 20P327-s | 22A4P14-e |
| *TG340B22* (WHT) and TG340A22 (WHT) | 20P327-p | 22A4P14-h |
| TG340B22(BLU) and TG340A22(BLU) | 20P327-q | 22A4P14-g |

Is continuity present for each wire?

NO

Repair wire(s) where continuity is not present.

Then go to paragraph 8-2.

YES

Turn off electrical power per paragraph 8-3.

Check for continuity from 5A1P1-c to 20A6P01-L.

Is continuity present?

NO

Repair wire TG201A22 between 20A6P01-L and splice.

Then go to paragraph 8-2.

YES

Check for continuity from 20A6P01-Z to 20A2P01-f.

Is continuity present?

NO

Check for continuity from 20A2P01-f to 20J327-D.

Is continuity present?

NO

Repair wire TG213B22 between 20A2P01-f and 20J327-D.

Then go to paragraph 8-2.

YES

Replace sight hand control per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

YES

Repair wire TG213A22 between 20A6P01 and 20P327-D.

Then go to paragraph 8-2.

YES

Replace ACQ switch per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 8-2.

**8-21.** TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).

YES

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG43A22(WHT) | 20A1P06-U | 20A4P13-r |
| TG43A22(BLU) | 20A1P06-T | 20A4P13-q |
| TG47A22(WHT) | 20A1P06-FF | 20A4P13-t |
| TG47A22(BLU) | 20A1P06-x | 20A4P13-s |

Is continuity present for each wire?

NO

Repair wire(s) where continuity is not present.

Then go to paragraph 8-2.

YES

Check the following wires for continuity to airframe ground:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG43A22 (WHT) | 20A1P06-U | 22A4P13-r |
| TG43A22 (BLU) | 20A1P06-T | 22A4P13-q |
| TG47A22 (WHT) | 20A1P06-FF | 22A4P13-t |
| TG47A22 (BLU) | 20A1P06-x | 22A4P13-s |
| TG43A22 (WHT) | 20A1P06-GG | 22A4P13-v |
| TG49A22 (BLU) | 20A1P06-Y | 22A4P13-u |

Is continuity present from any wire?

YES

Repair wire(s) where continuity is present.

Then go to paragraph 8-2.

NO

Test interface control unit (IFCU) per TM 9-1090-206–20-1, Chapter 3, Section XIX.

Does interface control unit (IFCU) pass test?

YES

Replace telescopic sight unit (TSU) per TM 9-1425-473-20, Chapter 2, Section V.

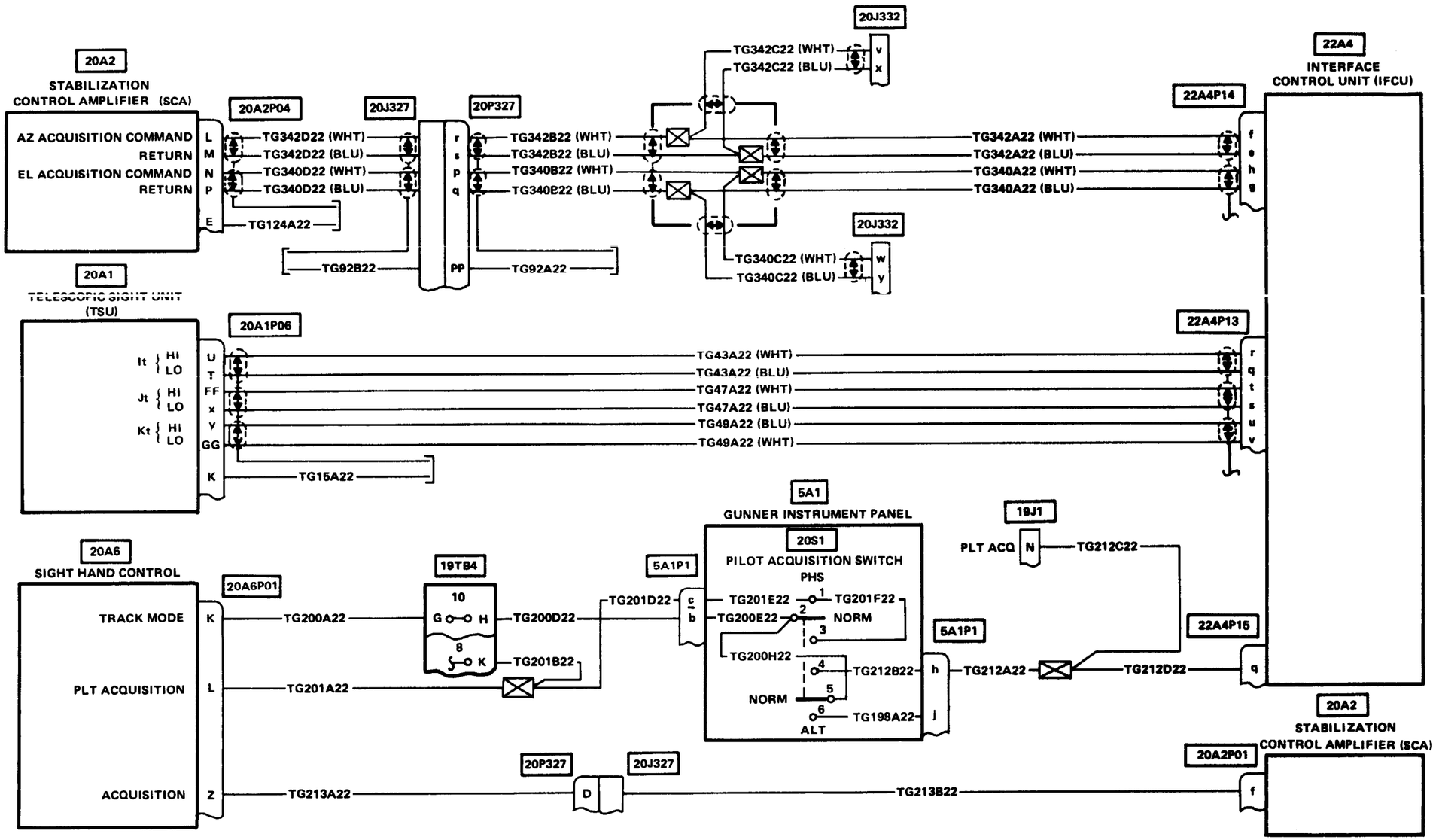
Then go to paragraph 8-2.

NO

Replace interface control unit (IFCU) per TM 9-1090-2O6-2O-1, Chapter 3, Section XIX.

Then go to paragraph 8-2.

## 8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).



## 8-22. TSU WILL NOT ALIGN TO TARGET SELECTED WITH GUNNER HELMET SIGHT.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

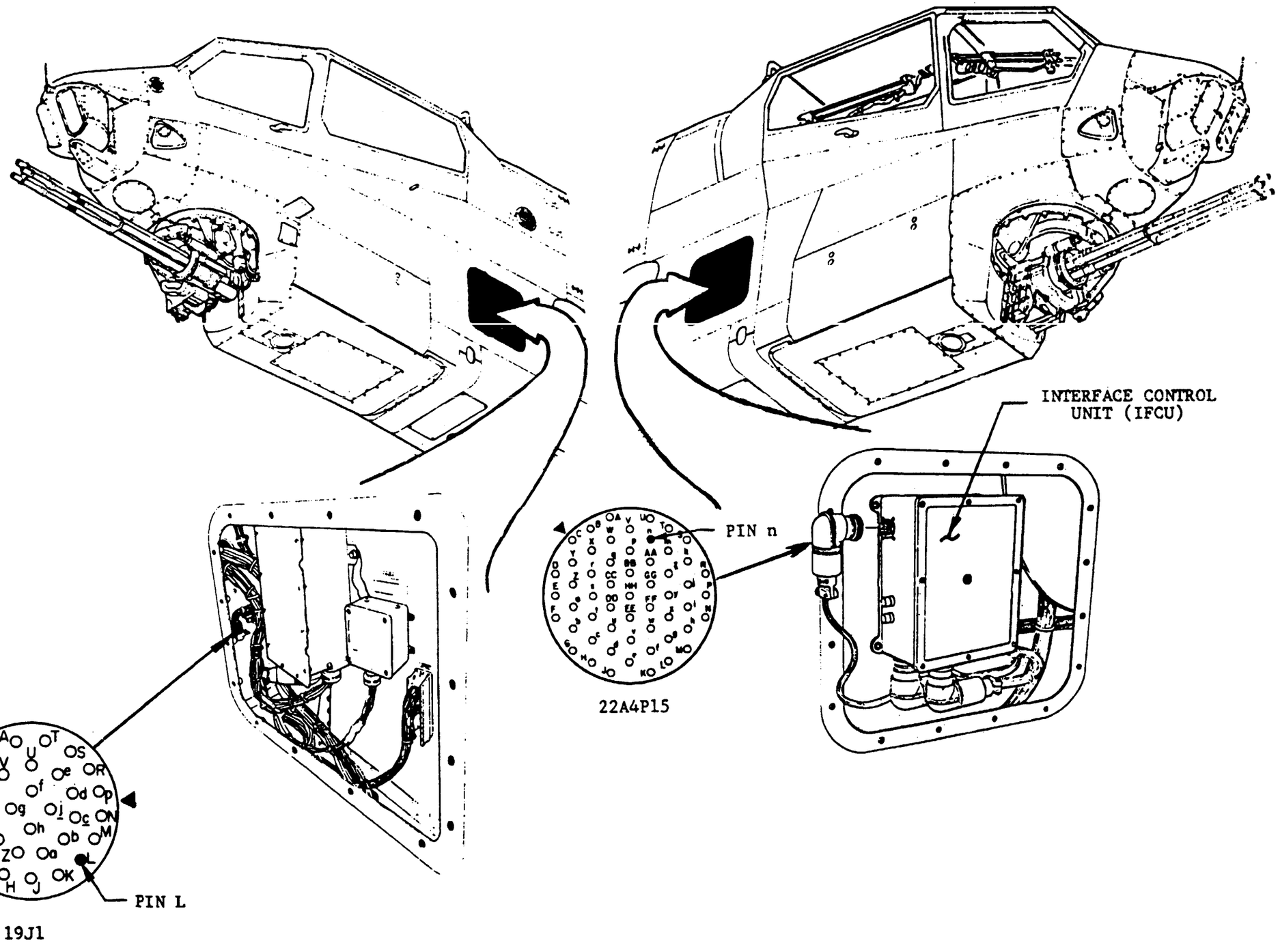
Personnel Required
68J (2)

References
TM 9-1090-206-20-1
TM 9-1425-472-20

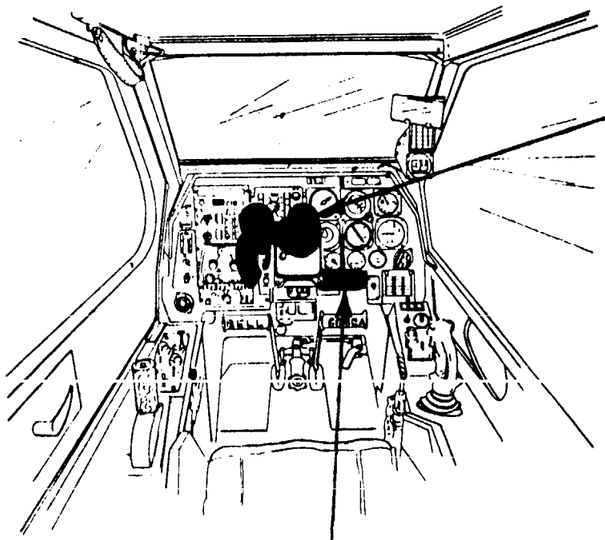
Interface Control Unit - Removed

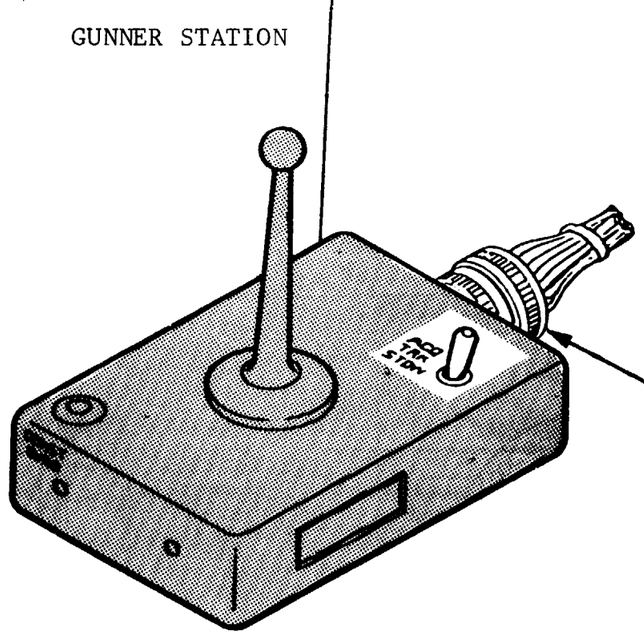
Forward Bell Armament and Lighting - Remove

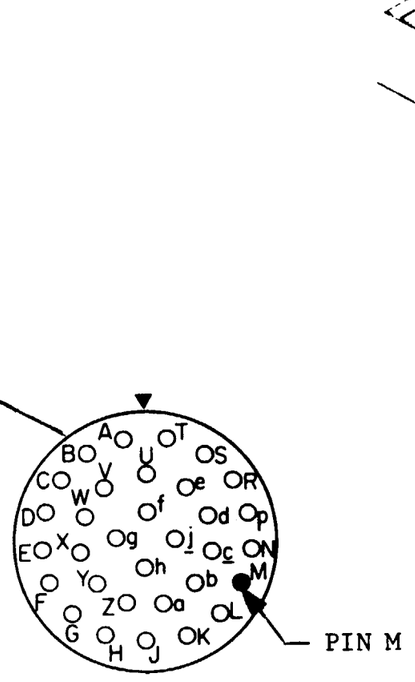
Logic Control Unit - Removed

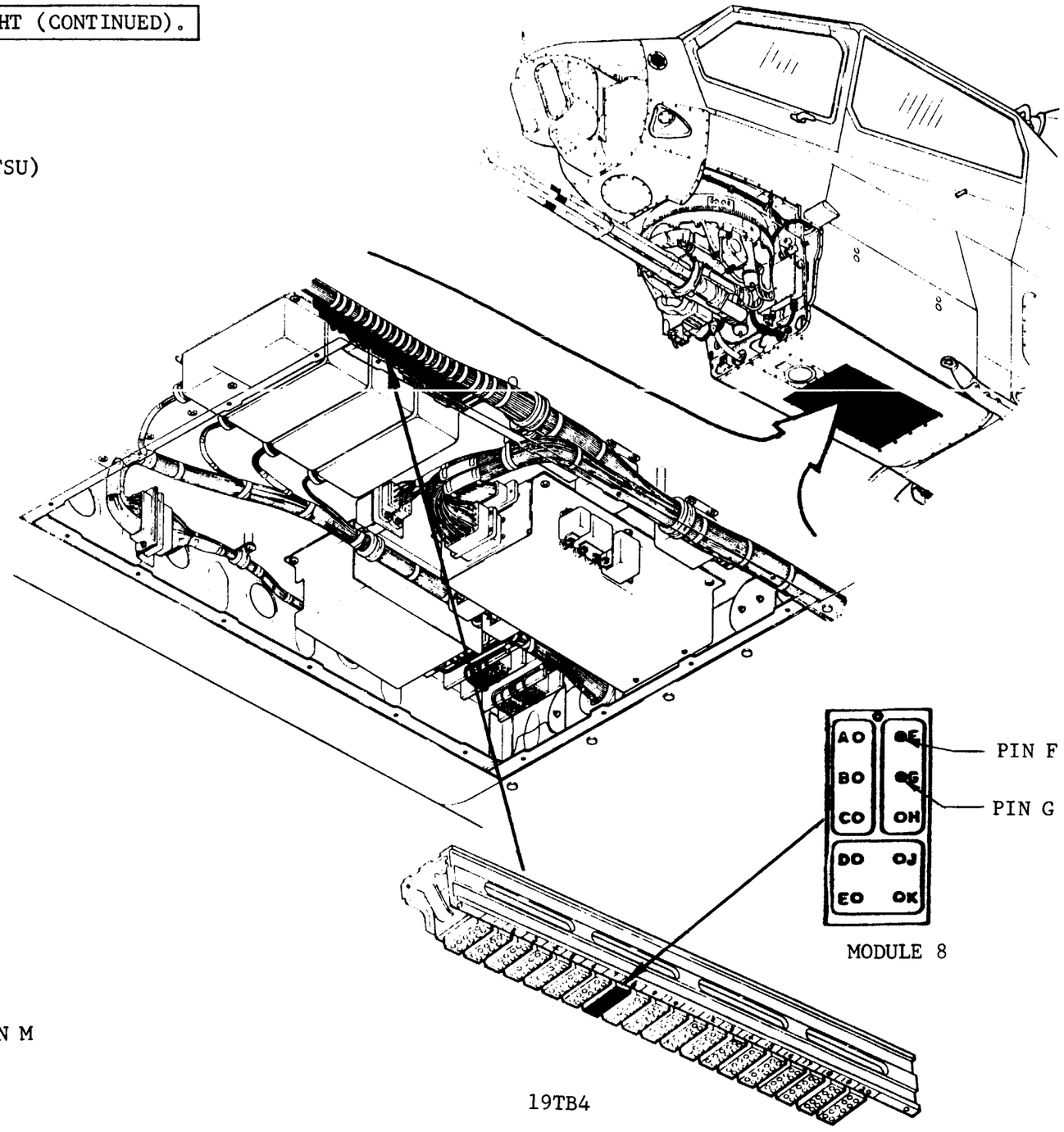


8-22. TSU WILL NOT ALIGN TO TARGET SELECTED WITH GUNNER HELMET SIGHT (CONTINUED).



## 8-22. TSU WILL NOT ALIGN TO TARGET SELECTED WITH GUNNER HELMET SIGHT ( CONTINUED).

Perform HSS Operational Check, paragraph 7-2, through step ai.

Did all operations pass the required tests?

YES

NO

Repair all faults discovered during operational check.

Perform HHS Operational Check, paragraph 7-2.

Then go to paragraph 8-2.

NOTE

This procedure assumes that TSU follows pilot helmet sight.

On sight hand control:

Set ACQ/TRK/STOW switch to ACQ and hold.

Check for 28 V dc at 19J1-L.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A6P01-M to 19J1-L.

Is continuity present?

YES

Replace sight hand control per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Check for continuity from 20A6P01-M to 19TB4-8G.

Is continuity present?

YES

Repair wire TG202C22 between 19TB4-8F and splice and/or wire TG202D22 between 19Jl-L and splice.

Then go to paragraph 8-2.

NO

Repair wire TG202B22 between 20A6P01-M and 19TB4-8G.

Then go to paragraph 8-2.

Turn off electrical power per paragraph 8-3.

Check for continuity from 19J1-L to 22A4P15-n.

Is continuity present?

YES

NO

Repair wire TG202A22 between 22A4P15-n and splice and/or wire TG202D22 between 19J1-L and splice.

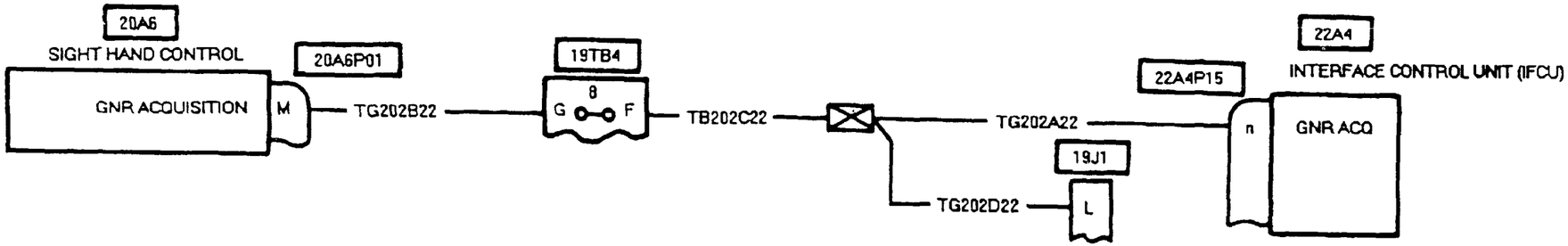
Then go to paragraph 8-2.

**8-22. TSU WILL NOT ALIGN TO TARGET SELECTED GUNNER HELMET SIGHT (CONTINUED).**

**YES**

Replace interface control unit (IFCU) per TM 9-1090-206-20-1, Chapter 3, Section XIX.

Then go to paragraph 8-2.



8-23. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH.

INITIAL SETUP

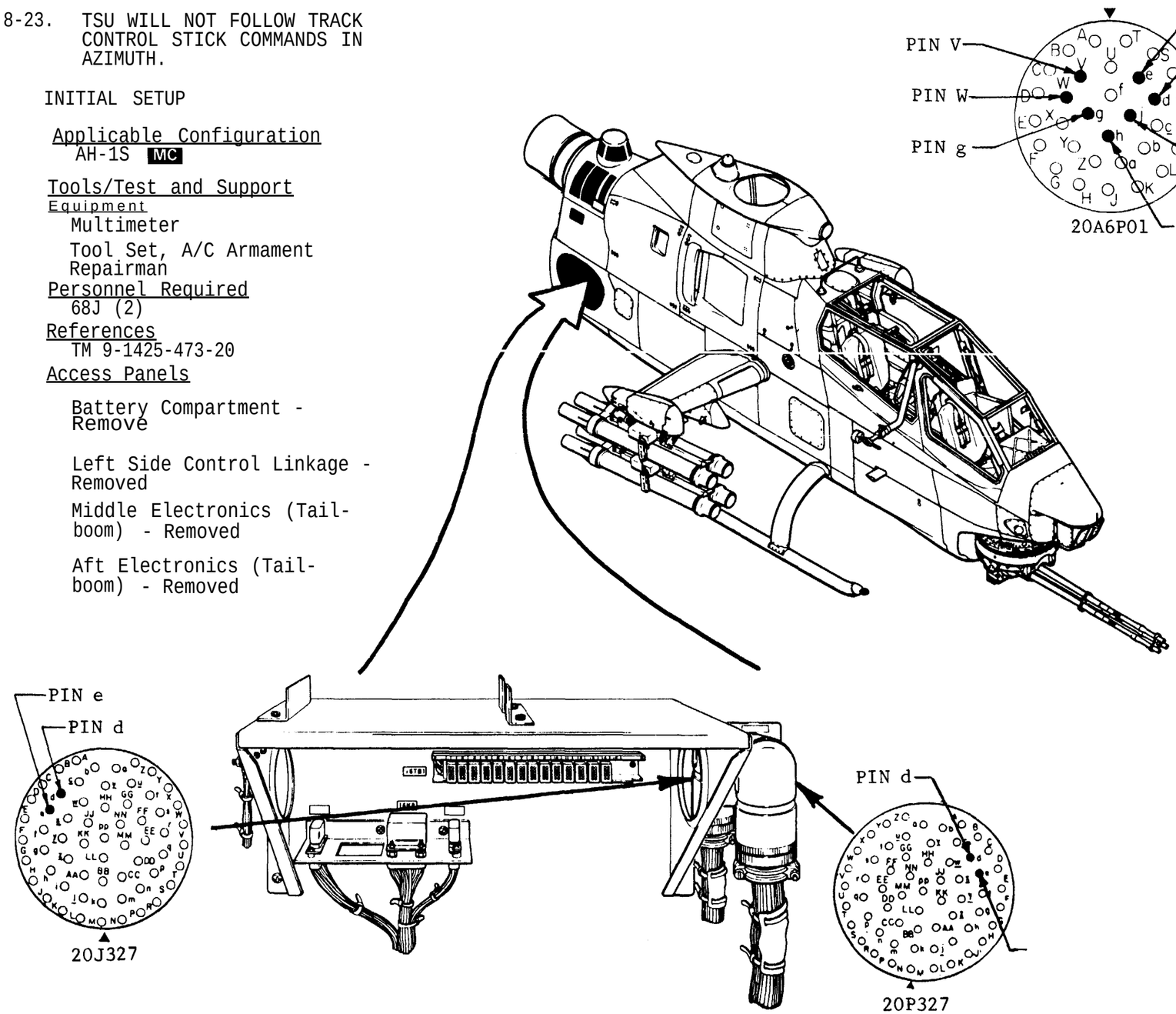
Applicable Configuration
AH-1S MC

Tools/Test and Support Equipment
Multimeter
Tool Set, A/C Armament Repairman

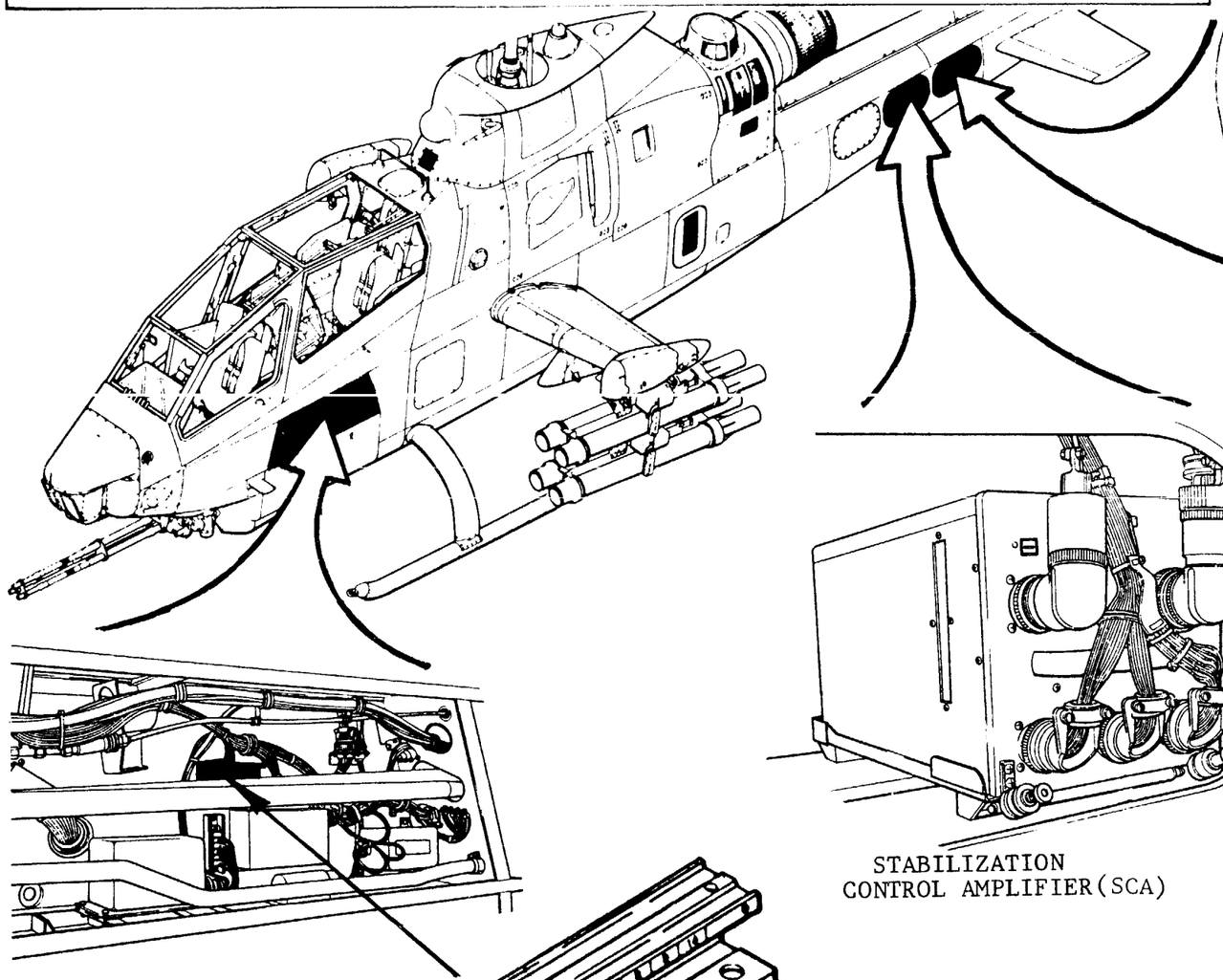
Personnel Required
68J (2)

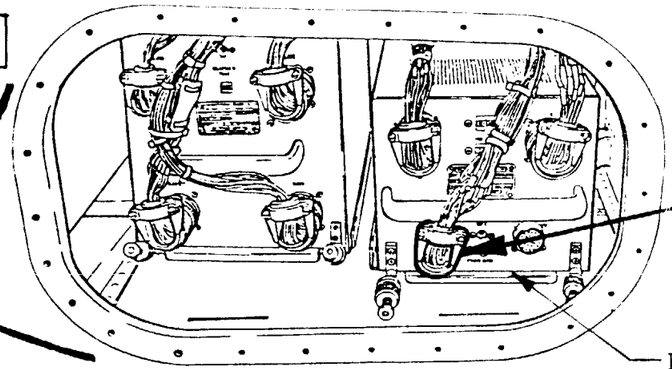
References
TM 9-1425-473-20

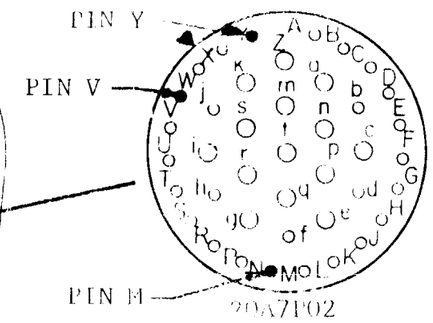
Access Panels
Battery Compartment - Remove
Left Side Control Linkage - Removed
Middle Electronics (Tailboom) - Removed
Aft Electronics (Tailboom) - Removed



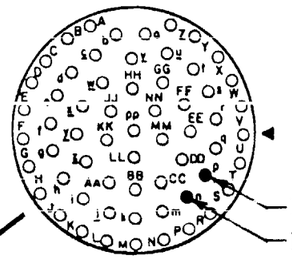
8-23. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).

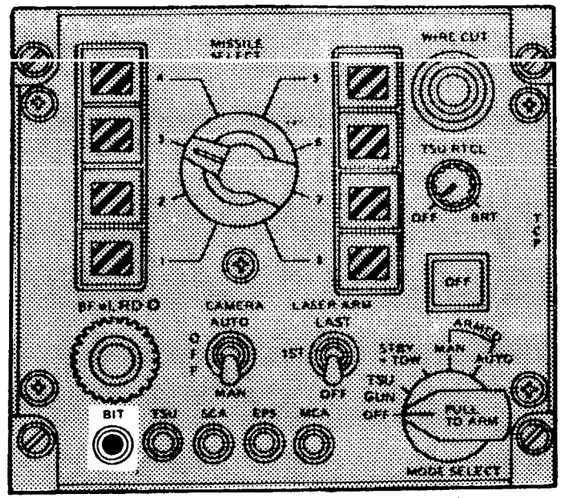




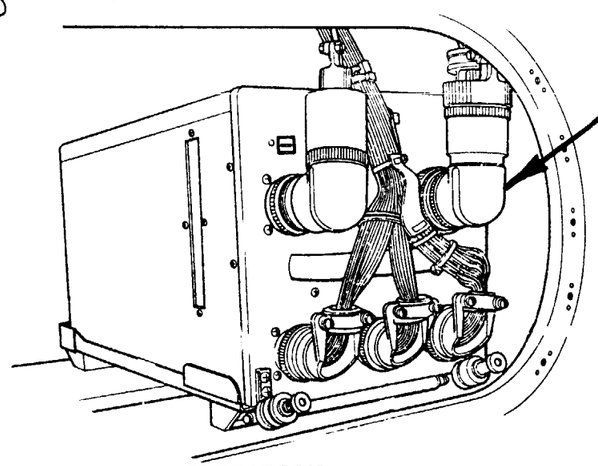



ELECTRONIC POWER SUPPLY (EPS)



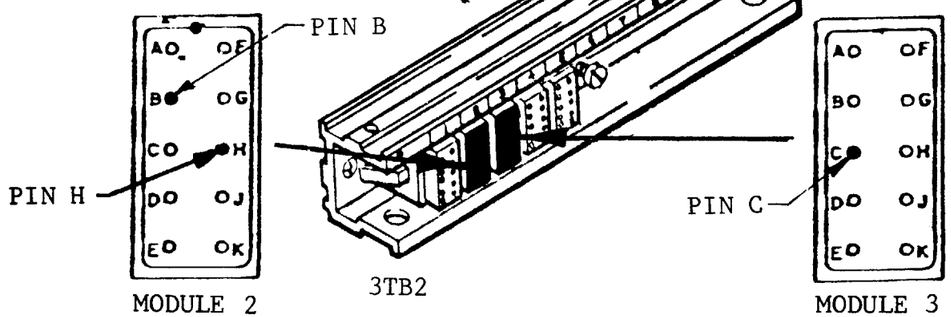




TCP (TOW CONTROL PANEL)



STABILIZATION CONTROL AMPLIFIER (SCA)

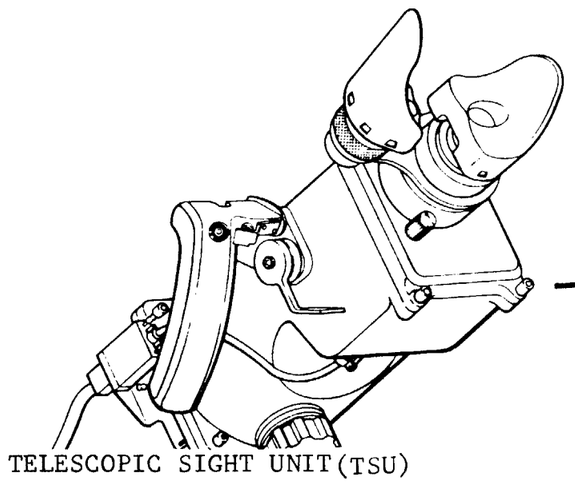




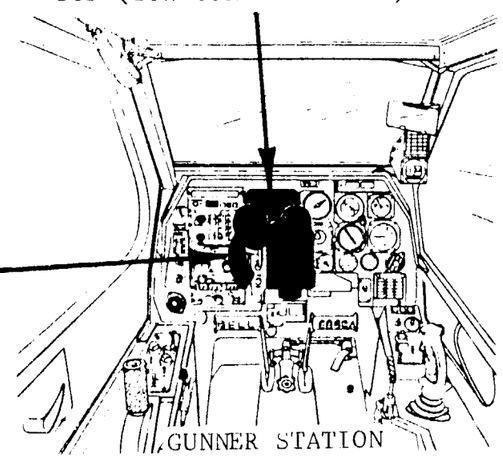

MODULE 2

3TB2

MODULE 3



TELESCOPIC SIGHT UNIT (TSU)



GUNNER STATION

8-23. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).

On sight hand control:

Set ACQ/TRK/STOW switch to STOW.

Does telescopic sight unit (TSU) go to stow position?

YES

NO

Go to paragraph 8-12.

On TCP (TOW control panel):

Press and release BIT switch.

Does TOW missile system (TMS) pass BIT test?

YES

NO

Turn off electrical power per paragraph 8-3.

Replace stabilization control amplifier (SCA) per TM 9-1425 473-20, Chapter 2, Section V.

Turn on electrical power per paragraph 8-3.

Does problem still exist?

NO

Go to paragraph 8-2.

YES

Turn off electrical power per paragraph 8-3.

Install original stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V, if removed.

Disconnect 20A6P01.

Turn on electrical power per paragraph 8-3.

Check for + 40 V dc from 20A6P01-g to airframe ground.

Is +40 V dc present?

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A6P01-g to 20A7P02-Y.

Is continuity present?

NO

Repair wire TG220A22 between 20A6P01-g and 20A7P02-Y.

Connect 20A6P01.

Then go to paragraph 8-2.

YES

Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A6P01,

Then go to paragraph 8-2.

YES

Check for - 40 V dc from 20A6P01- J to airframe ground.

Is voltage present?

YES

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A6P01 - j to 20A7P02-M.

Is continuity present

YES

NO

Repair wire TG222A22 between 20A6P01 - j and 20A7P02-M.

Connect 20A6P01.

Then go to paragraph 8-2.

8-23. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).

YES

YES

Turn off electrical power per paragraph 8-3.

Connect multimeter to 20A6P01-d and 20A6P01-e.

Turn on electrical power per paragraph 8-3.

Check for 26 V ac.

Is 26 V ac present?

YES

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A7P02-V to 20A6P01-h.

Is continuity present?

NO

Repair wire TG221A22 between 20A7P02-V and 20A6P01-h.

Connect 20A6P01

Then go to paragraph 8-2.

YES

Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A6P01.

Then go to paragraph 8-2.

N

Turn off electrical power per paragraph 8-3.

Check following wires for continuity

| WIRE NO. | FROM | TO |
|---|---|---|
| TG592B22 WHT | 20A6P01-d | 3TB2-2B |
| TG592B22 BLU | 20A6P01-e | 3TB2-3C |

Is continuity present for each wire?

YES

Check for continuity from 3TB2-2B to 3TB2-2H.

Is continuity present?

YES

Replace module 3 of 3TB2 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 20A6P01.

Then go to paragraph 8-2.

NO

Repair wire(s) where continuity is not present.

Connect 20A6P01.

Then go to paragraph 8-2.

NO

Replace module 2 of 3TB2 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 20A6P01.

Then go to paragraph 8-2.

8-23. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).

YES

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG209A22(WHT) and TG209B22(WHT) | 20A6P01-V | 20A2P04-n |
| TG209A22 (BLU) | 20A6P01-W | 20A2P04-p |
| TG209B22 (BLU) | | |

Is continuity present for each wire?

YES → Replace sight hand control (SHC) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A6P01.

Turn on electrical power per paragraph 8-3.

Does trouble still exist?

YES → Turn off electrical power per paragraph 8-3.

Install original sight hand control (SHC) per TM 9-1425-473-20, Chapter 2, Section V.

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Install original sight hand control (SHC) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG209B22 WHT | 20J327-d | 20A2P04-n |
| TG209B22 BLU | 20J327-e | 20A2P04-p |

Is continuity present for each wire?

YES → Repair wire TG209A22 (WHT) between 20A6P01-V and 20P327-d and/or wire TG209A22 (BLU) between 20A6P01-W and 20P327-e.

Connect 20A6P01.

Then go to paragraph 8-2.

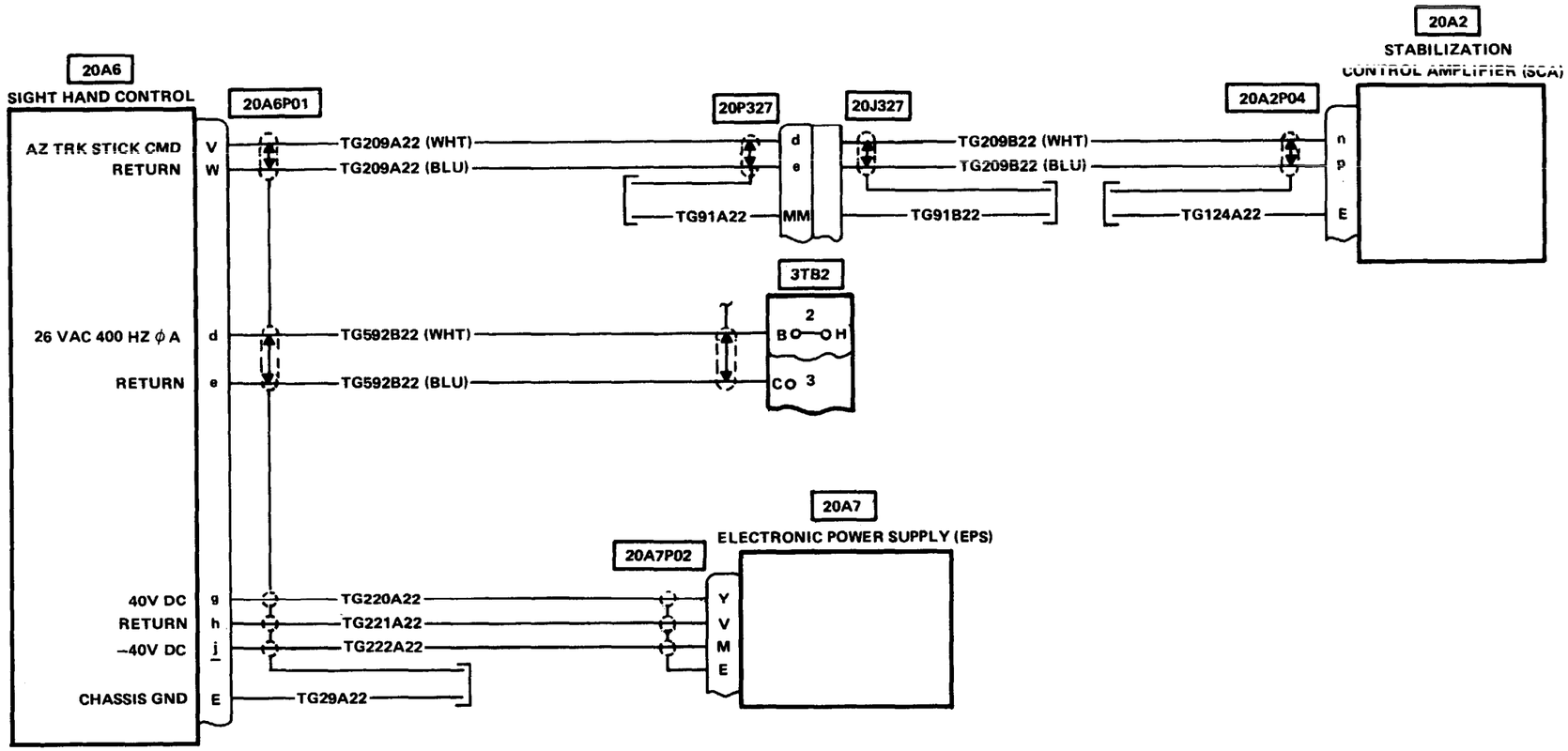
NO

Repair wire(s) where continuity is not present.

Connect 20A6P01.

Then go to paragraph 8-2.

8-23. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH ( CONTINUED).



8-23.1. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH.

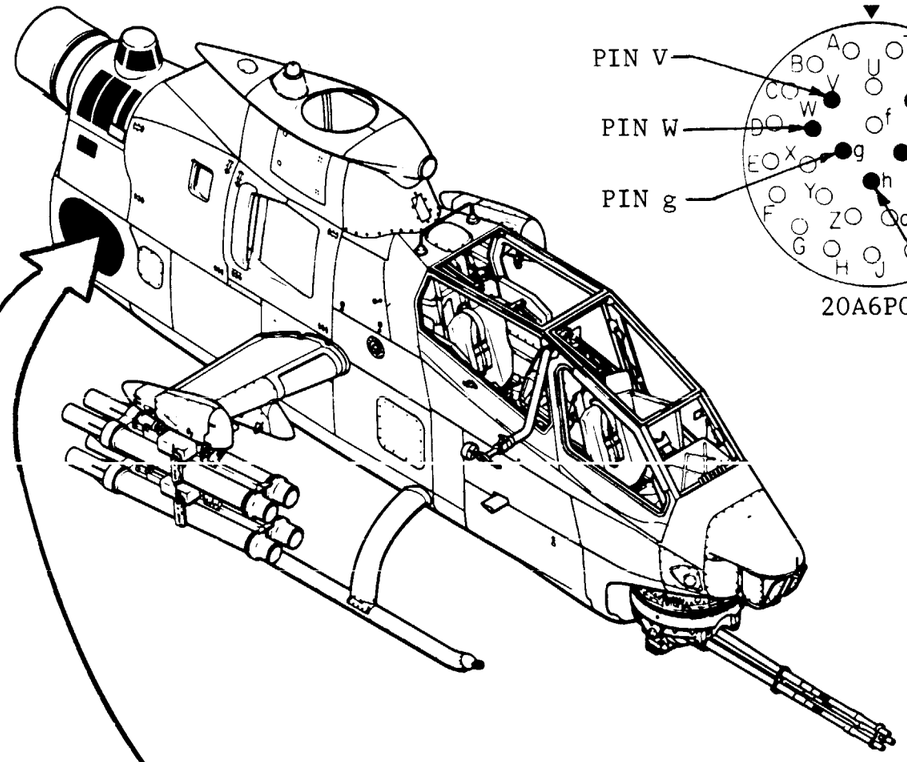
INITIAL SETUP

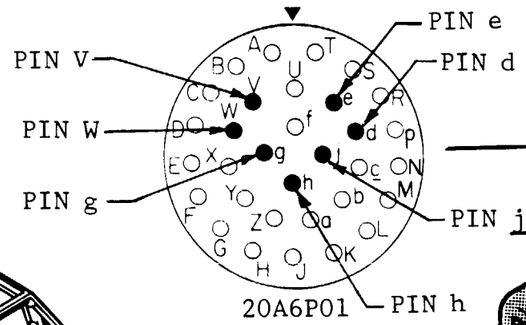
Applicable Configuration
A H - 1 MCN

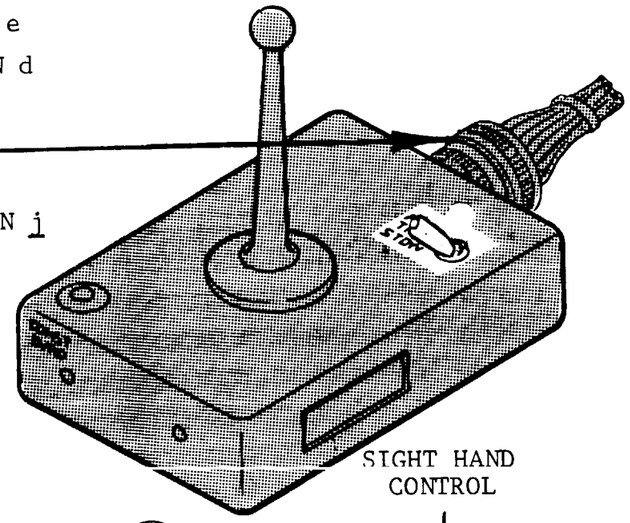
Tool/Test and Support Equipment
Multimeter
Tool Set, A/C Armament Repairman

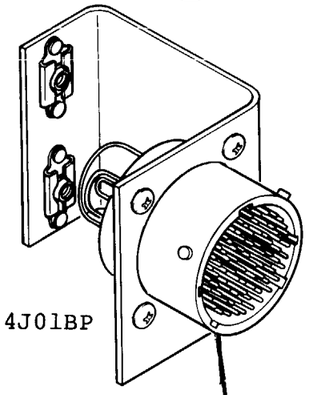
Personnel Required
68J (2)

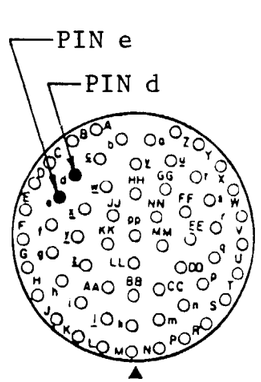
Access Panels
Battery Compartment - Removed
Left Side Control Linkage - Removed
Middle Electronics (Tailboom) - Removed
Aft Electronics (Tailboom) - Removed

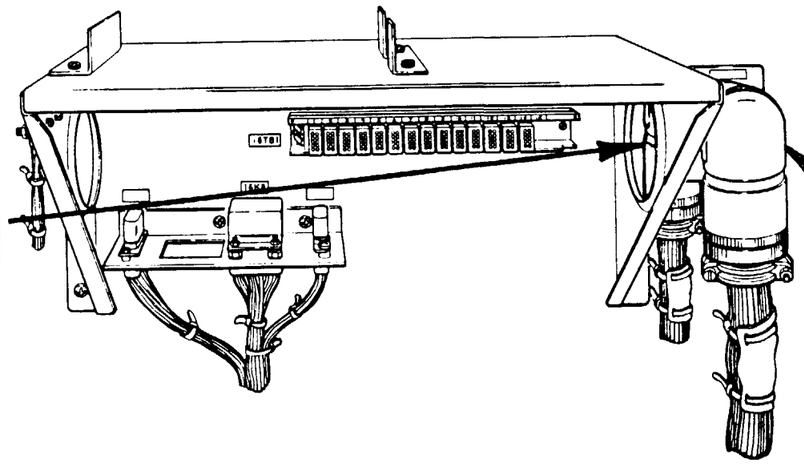


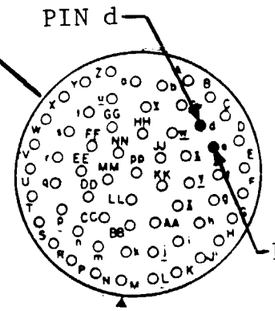


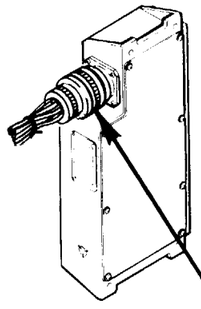



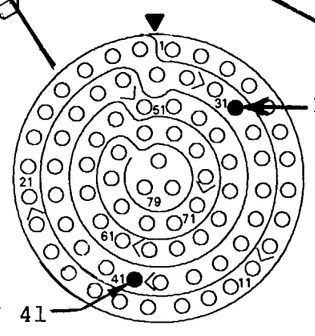



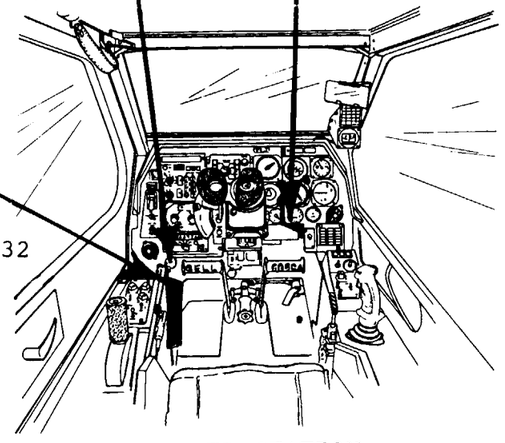



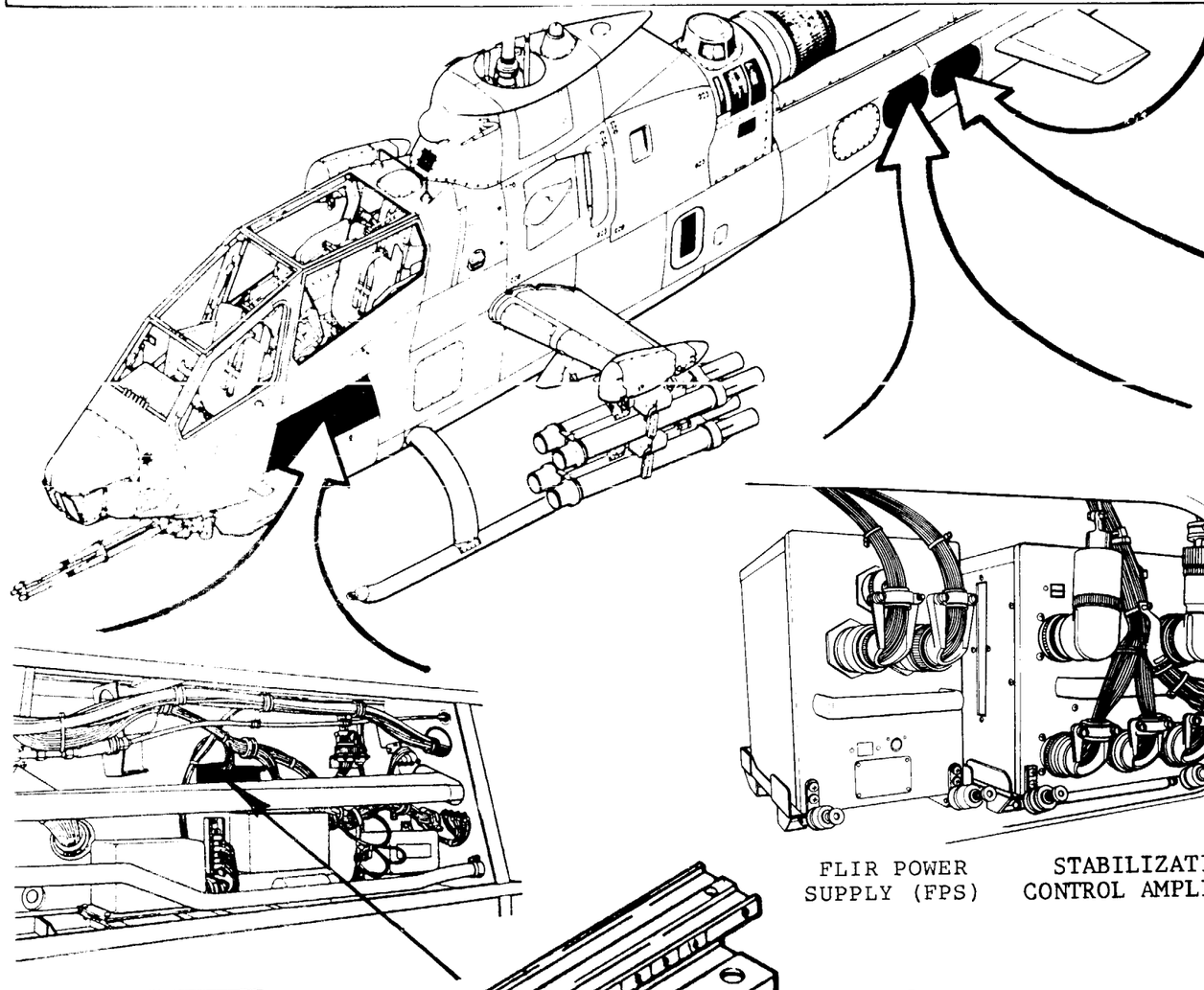


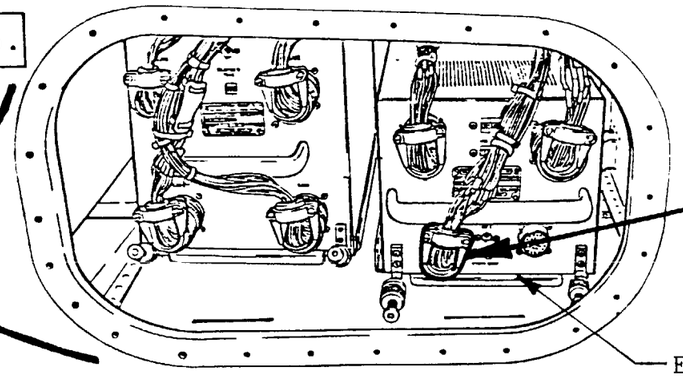



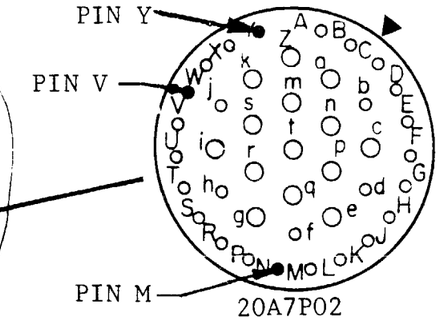



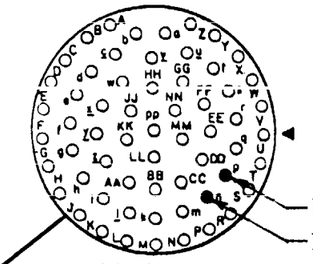
8-23.1. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).

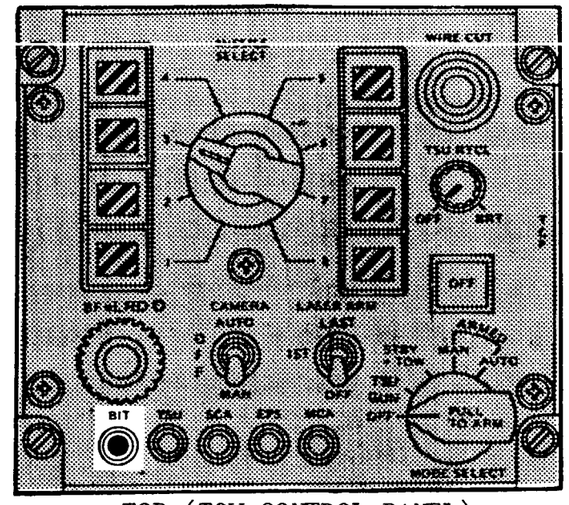




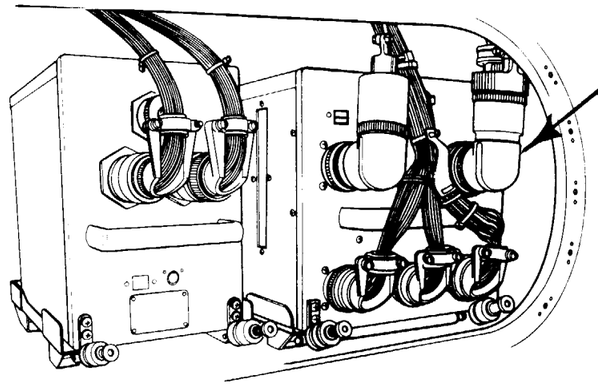



ELECTRONIC POWER SUPPLY (EPS)



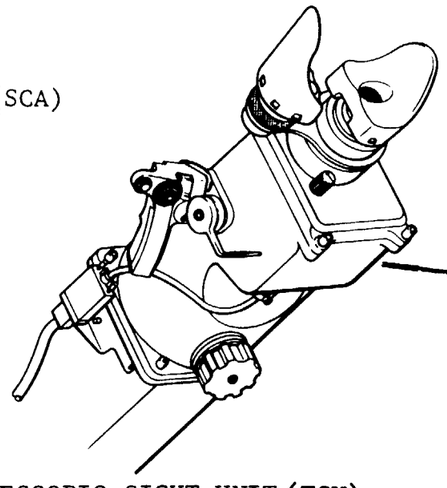




TCP (TOW CONTROL PANEL)

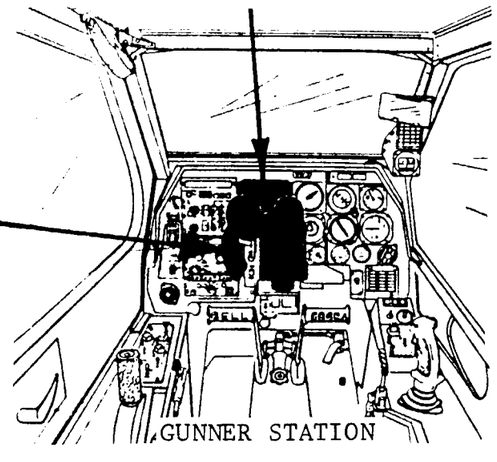


FLIR POWER SUPPLY (FPS)

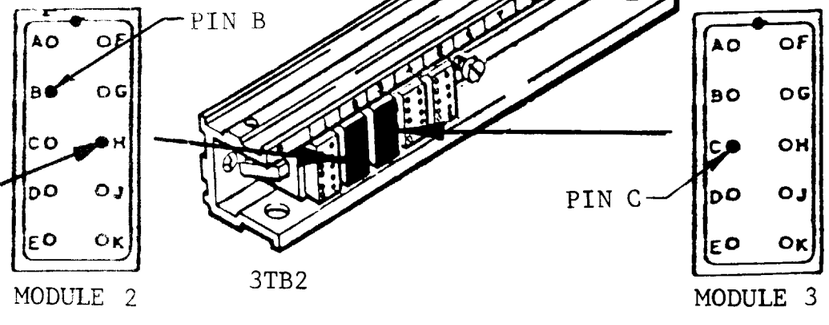
STABILIZATION CONTROL AMPLIFIER (SCA)



TELESCOPIC SIGHT UNIT (TSU)



GUNNER STATION



8-23.1. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).

On sight hand control:

Set ACQ/TRK/STOW switch to STOW.

Does telescopic sight unit (TSU) go to stow position?

YES

NO

Go to paragraph 8-12

On TCP (TOW control panel):

Press and release BIT switch.

Does TOW missile system (RMS) pass BIT test?

YES

NO

Turn off electrical power per paragraph 8-3.

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Turn on electrical power per paragraph 8-3.

Does problem still exist?

YES

NO

Go to paragraph 8-2.1.

Turn off electrical power per paragraph 8-3.

Install original stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V, if removed.

Disconnect 20A14P01.

Connect 20A14P01 to bypass Connector 20A14P01.

Turn on electrical power per paragraph 8-3.

Does problem still exist?

YES

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01 from bypass connector 20A14J01BP.

Replace FCP (FLIR control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.1.

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01 from bypass connector 20A14J01BP.

Connect 20A14P01 to FCP (FLIR control panel).

Disconnect 20A6P01.

Turn on electrical power per paragraph 8-3.

Check for +40 V dc between 20A6P01-g and airframe ground.

Is +40 V dc present?

YES

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A7P02.

Check for continuity from 20A6P01-g to 20A7P02-Y.

Is continuity present?

YES

NO

Repair wire TG220A22 between 20A6P01-g and 20A7P02-Y.

Connect 20A6P01 and 20A7P02.

Then go to paragraph 8-2.1.

Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A6P01.

Then go to paragraph 8-2.1.

8-23. 1.TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).

YES

Check for -40 V dc between 20A6P01-j and airframe ground.

Is -40 V dc present?

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A7P02.

Check for continuity from 20A6P01-j to 20A7P02-M.

Is continuity present?

YES

Replace electronic ower supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 2GA6F01.

Then go to paragraph 8-2.1.

NO

Repair wire TG222A22 between 20A6P01-j and 20A7P02-M.

Connect 20A6P01 and 20A7P02.

Then go to paragraph 8-2.1.

YES

Turn off electrical power per paragraph 8-3.

Connect multimeter between 20A6P01-d (+) and 20A6P01-e.

Turn on electrical power per paragraph 8-3.

Check for 26 V ac.

Is 26 V ac present?

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20A7P02.

Check for continuity from 20A7P02-V to 20A6P01-h.

Is continuity present?

NO

Repair wire TG221A22 between 20A7P02-V and 20A6P01-h

Connect 20A6P01 and 20A7P02.

Then go to paragraph 8-2.1.

YES

NO

Turn off electrical power per paragraph 8-3.

Check following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG592B22 (WHT) | 20A6P01-d | 3TB2-B2 |
| TG592B22 (BLU) | 20A6P01-e | 3TB2-C3 |

Is continuity present for each wire?

NO

Repair wire(s) where continuity is not present.

Connect 20A6P01.

Then go to paragraph 8-2.1.

YES

Check for continuity from 3TB2-B2 to 3TB2-H2.

Is continuity present?

YES

NO

Replace module 2 of 3TB2 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 20A6P01.

Thengo to paragraph 8-2.1.

8-23.1. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).

Disconnect 20A2P04 and 20A14P01.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG209A22 (WHT) and TG209A22 | 20A6P01-V | 20A14P01-32 |
| TG1174A22 and TG209B22 (WHT) | 20A14P01-41 | 20A2P04-n |
| TG209A22 (BLU) and TG209E22 (BLU) | 20A6P01-W | 20A2P04-p |

Is continuity present for each wire?

YES → Replace sight hand control (SHC) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A2P04 and 20A7P02.

Turn on electrical power per paragraph 8-3.

Does problem still exist?

YES → Turn off electrical power per paragraph 8-3.

Install original sight hand control (SHC) per TM 9-1425-473-20, Chapter 2, Section V.

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.1.

NO → Go to paragraph 8-2.1.

NO → Disconnect 20P327.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG209B22 (WHT) | 20J327-d | 20A2P04-n |
| TG209B22 (BLU) | 20J327-e | 20A2P04-p |
| TG209A22 (BLU) | 20P327-e | 20A6P01-W |

Is continuity present for each wire?

YES → Repair wire TG209A22 and/or TG209A22 (WHT) between 20A14P01-32 and 20A6P01-V, and/or wire TG209A22 (BLU) between 20A6P01-W and 20P327-e, and/or wire TG1174A22 between 20A14P01-41 and 20P327-d.

Connect 20P327, 20A6P01, 20A14P01, 20A7P02, and 20A2P04.

Then go to paragraph 8-2.1.

NO → Repair wire(s) where continuity is not present.

Connect 20A6P01, 20A14P01, 20A2P04, 20P327, and 20A7P02.

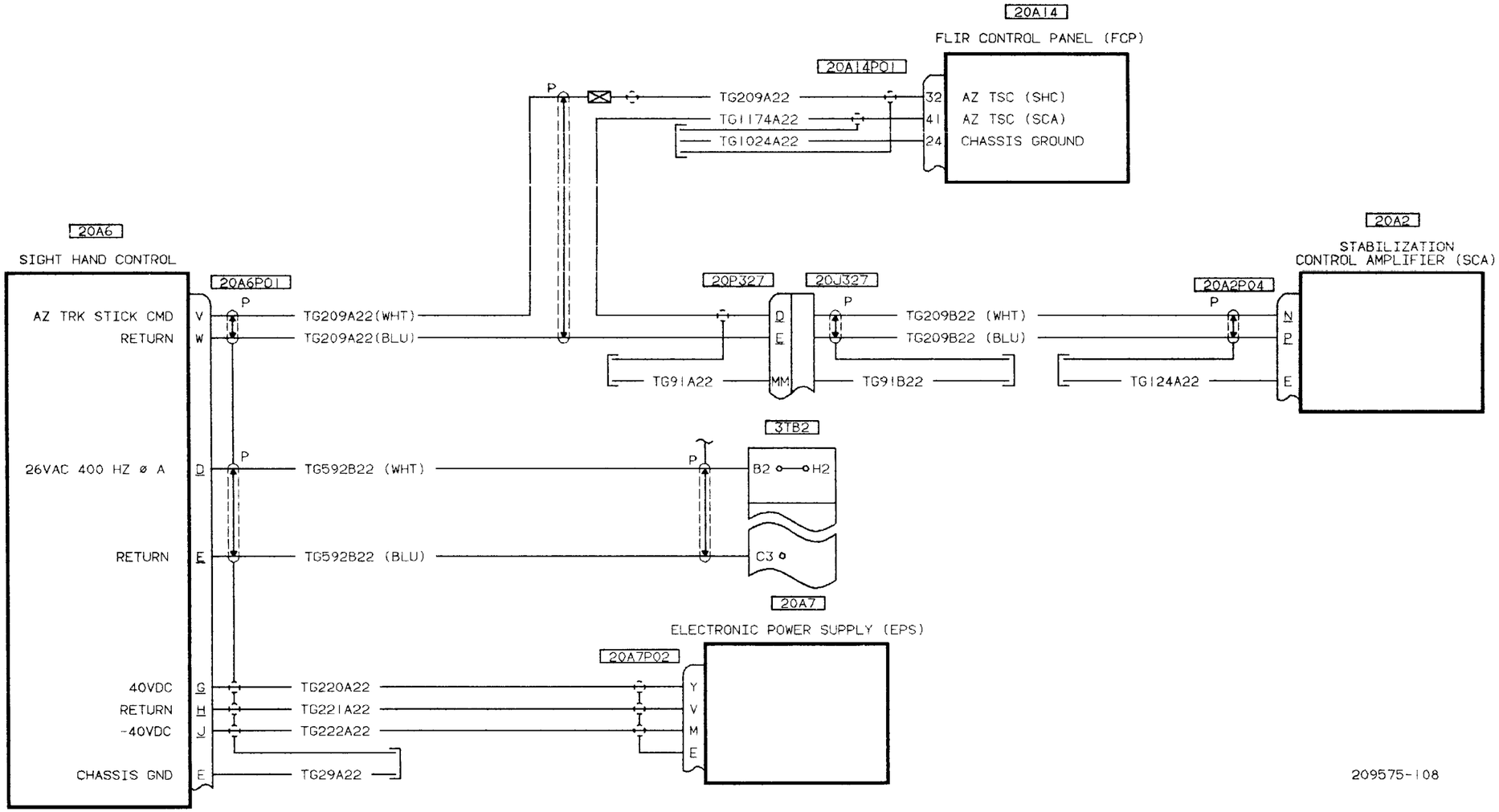
Then go to paragraph 8-2.1.

YES → Replace module 3 of 3TB2 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 20A6P01.

Then go to paragraph 8-2.1.

8-23.1. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).




209575-108

## 8-24. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN ELEVATION.

INITIAL SETUP

Applicable Configuration
AH-1S MC

Tools/Test and Support Equipment
Multimeter

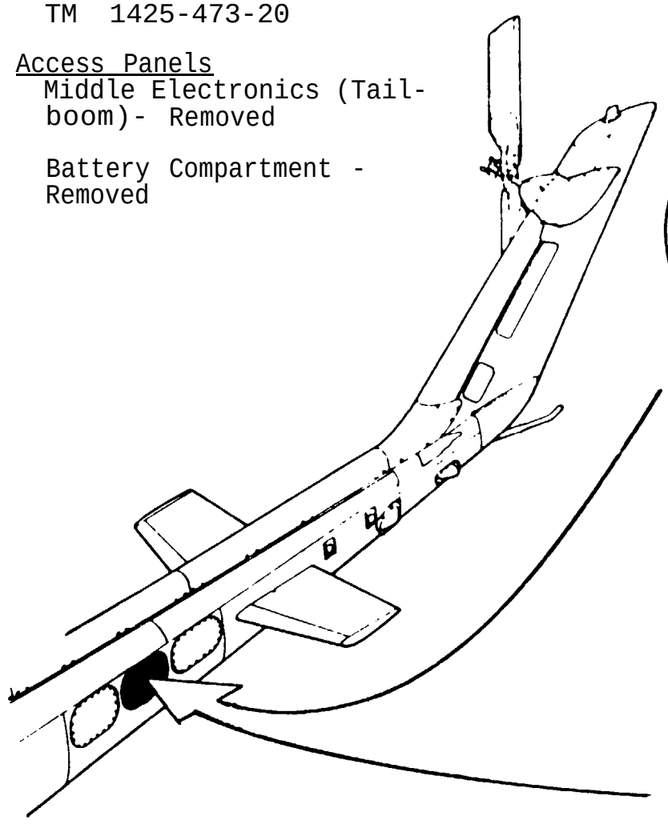
Tool Set, A/C Armament Repairman

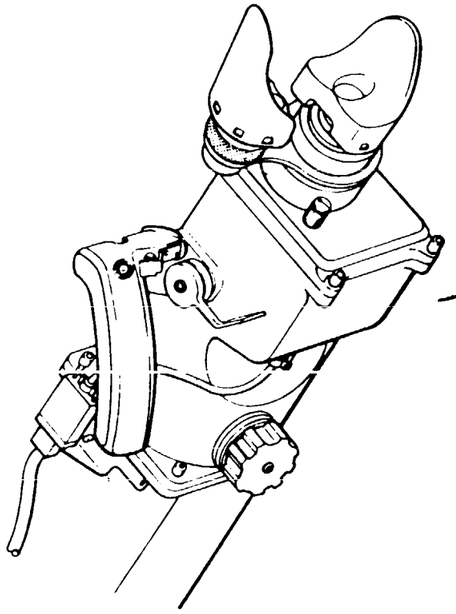
Personnel Required
68J (2)

References
TM 1425-473-20

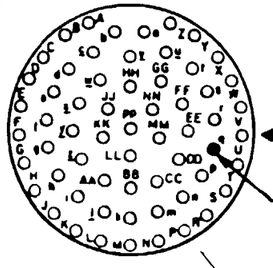
Access Panels
Middle Electronics (Tail-boom)- Removed

Battery Compartment - Removed

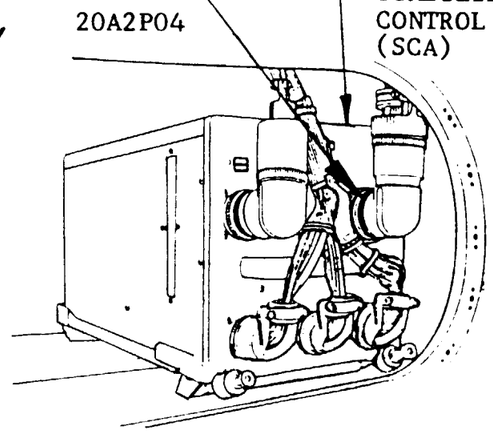


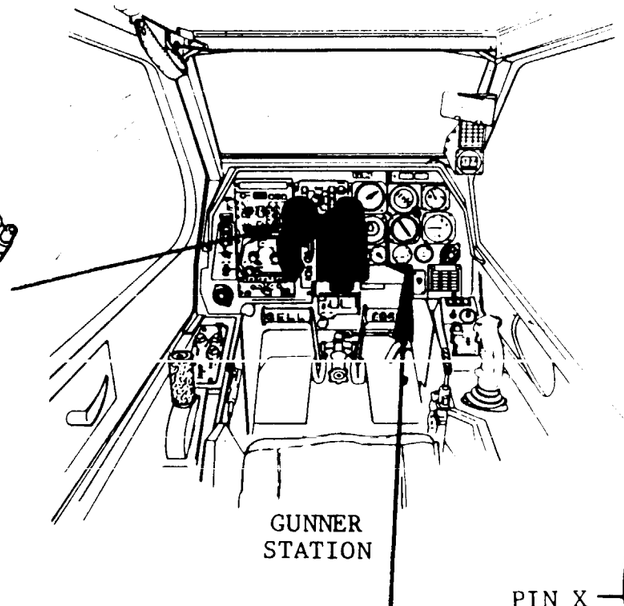


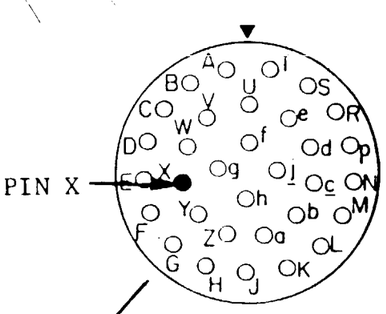
TELESCOPIC SIGHT UNIT (TSU)



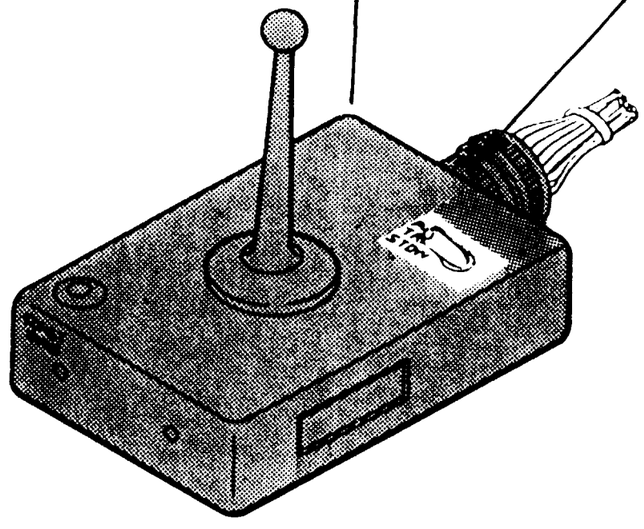

20A2P04



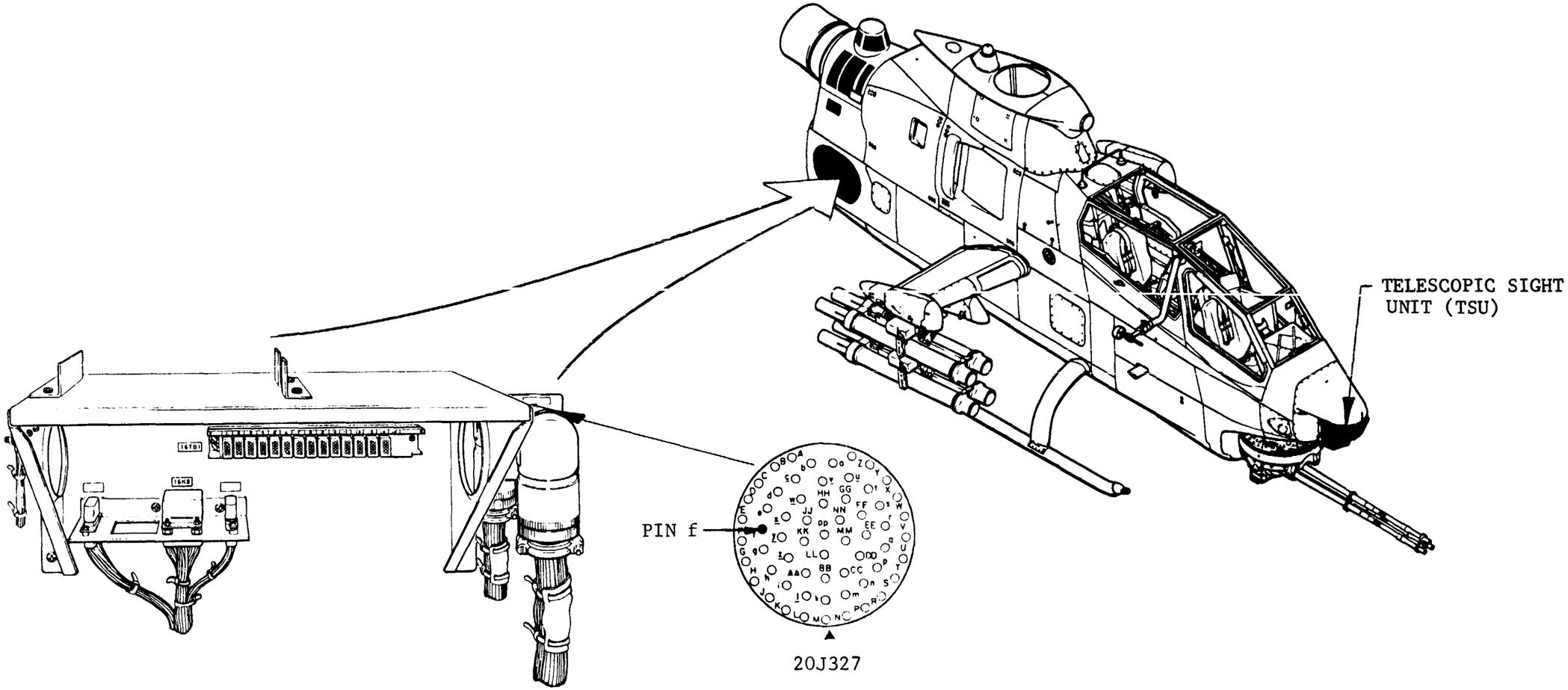




20A6P01

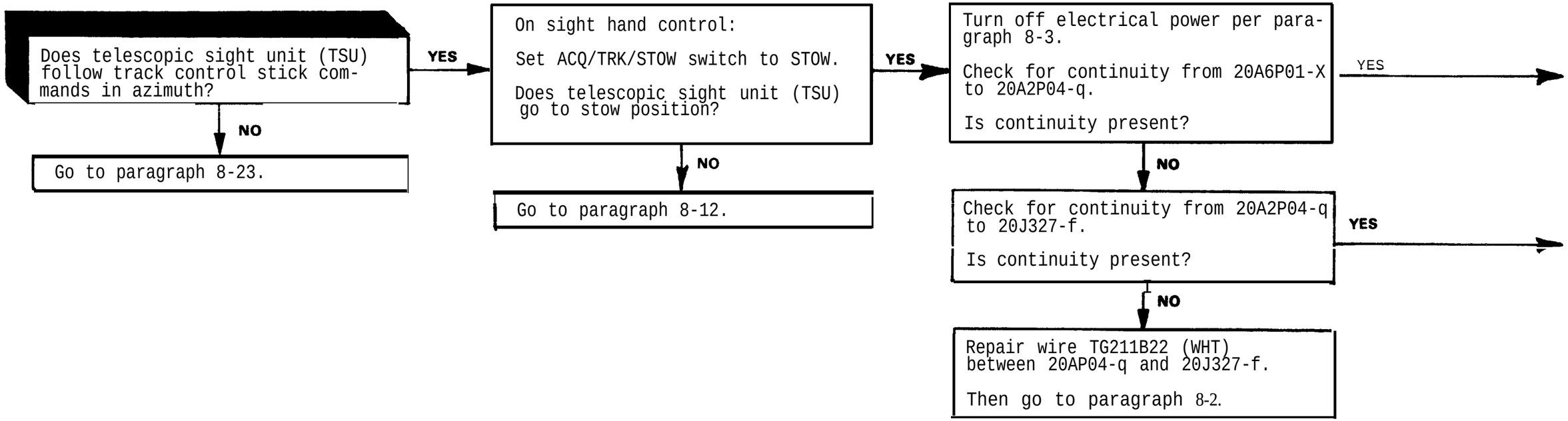


SIGHT HAND CONTROL

8-24. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS (CONTINUED).



8-24. TSUWILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN ELEVATION (CONTINUED).



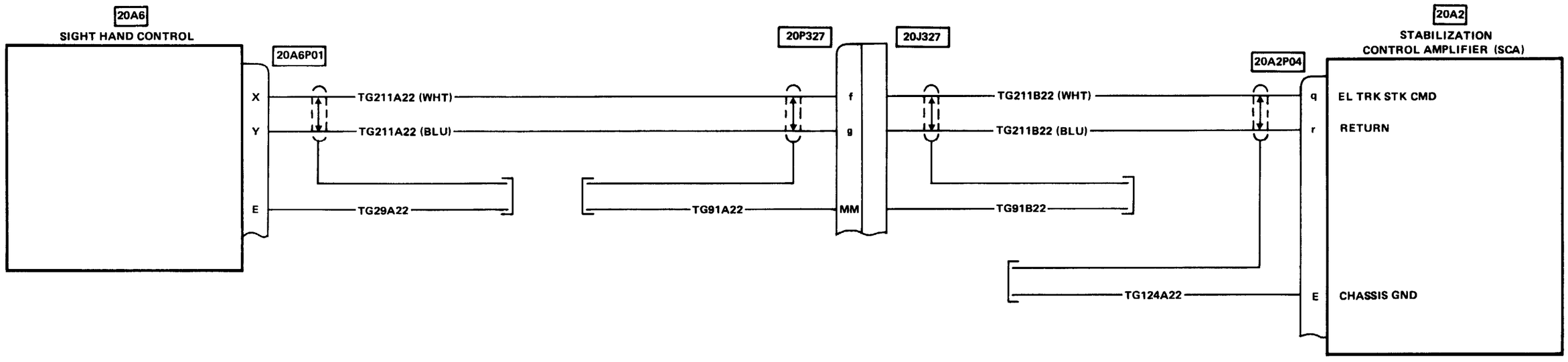
8-24. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN ELEVATION (CONTINUED).

YES → Replace sight hand control per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

YES → Repair wire TG211A22 (WHT) between 20P327-f and 20A6P01-X.

Then go to paragraph 8-2.



## 8-24.1. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN ELEVATION.

INITIAL SETUP

Applicable Configuration
AH-1S MCN

Tools/Test and Support Equipment
Multimeter

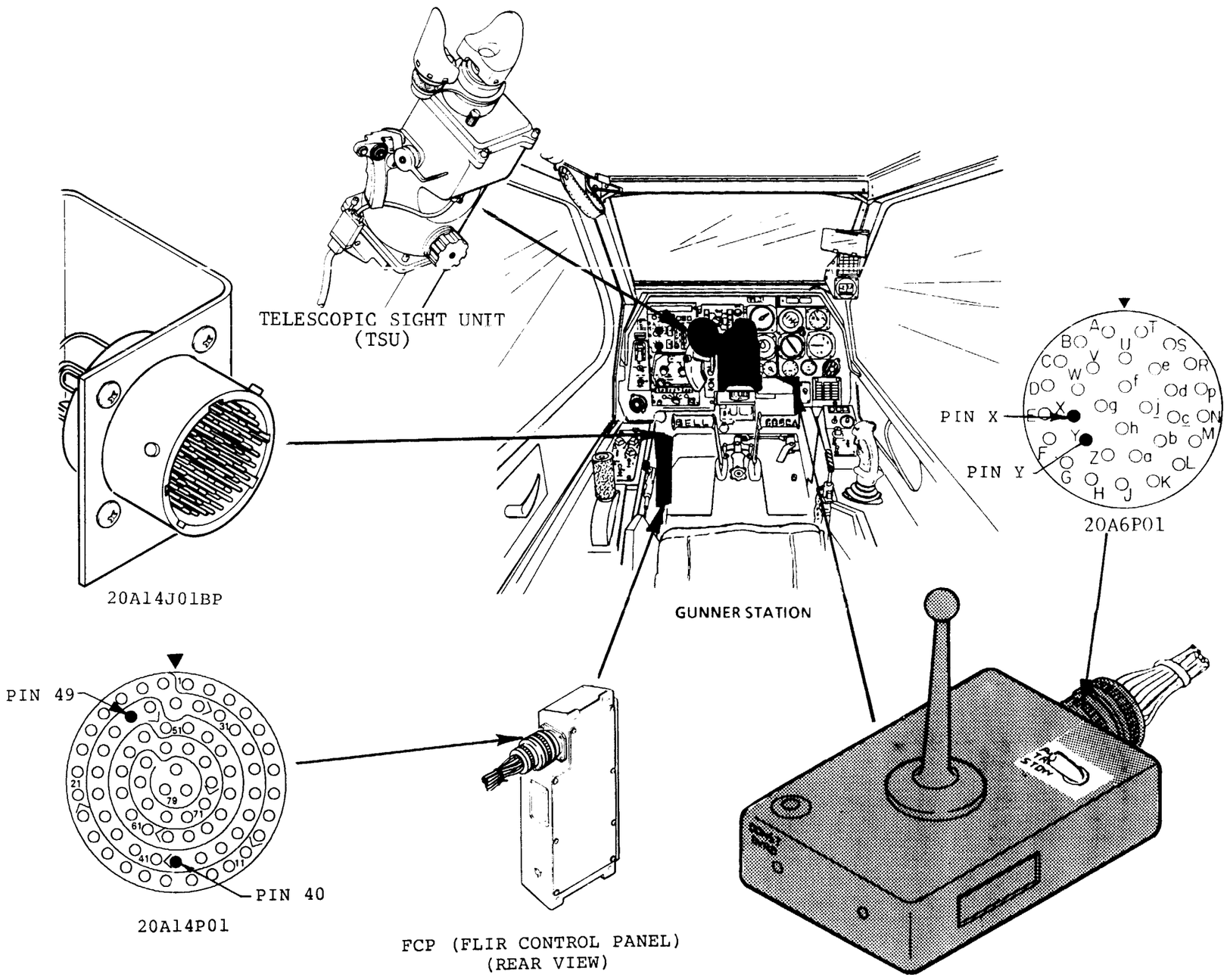
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

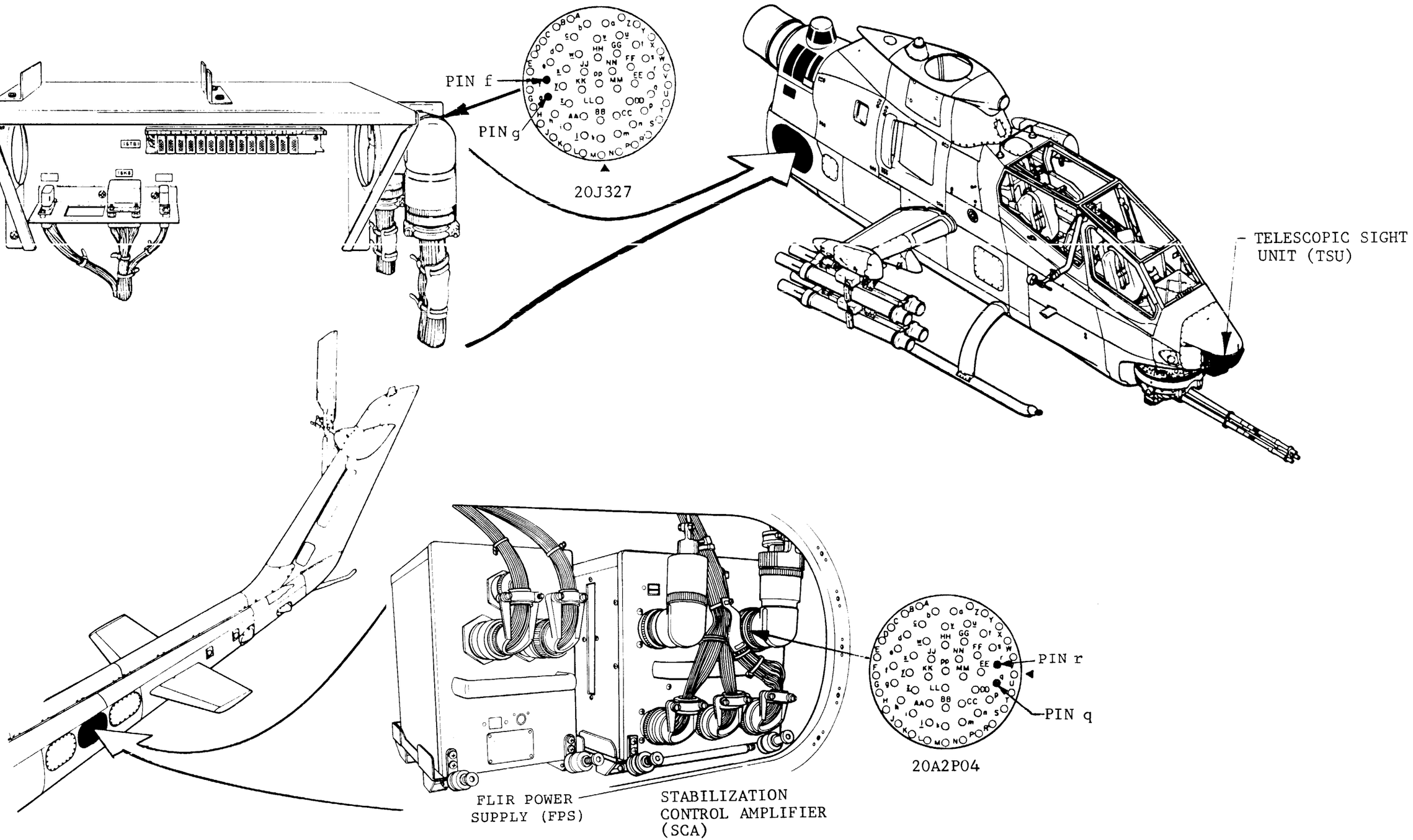
References
TM 9-1425-473-20

Access Panels
Middle Electronics (Tail-boom) - Removed.

Battery Compartment - Removed



8-24.1. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN ELEVATION (CONTINUED).



8-24.1. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN ELEVATION (CONTINUED).

Does telescopic sight unit (TSU) follow track- control stick commands in azimuth?

YES

NO

Go to paragraph 8-23.1.

On sight hand control:

Set ACQ/TRK/STOW switch to STOW.

Does telescopic sight unit (TSU) go to stow position?

YES

NO

Go to paragraph 8-12.

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01.

Connect 20A14PO1 to bypass connector 20A14J01BP.

Turn on electrical power per paragraph 8-3.

Does problem still exist?

YES

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01 from bypass connector 20A14J01BP.

Replace FCP (FLIR control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.1.

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01 from bypass connector 20A14J01BP.

Disconnect 20A6P01.

Check for continuity from 20A6P01-X to 20A14P01-49.

Is continuity present?

YES

NO

Repair wire TG211A22 (WHT) and/or TG211A22 between 20A6P01-X and 20A14P01-49.

Connect 20A6P01 and 20A14P01.

Then go to paragraph 8–2.1.

8-24.1. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN ELEVATION (CONTINUED).

YES

Disconnect 20A2P04.

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG1173A22 and TG211B22 (WHT) | 20A14P01-40 | 20A2P04-q |
| TG211A22 (BLU) and TG211B22 (BLU) | 20A6P01-Y | 20A2P04-r |

Is continuity present?

YES

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A6P01 and 20A14P01.

Turn on electrical power per paragraph 8-3.

Does problem still exist?

YES

Turn off electrical power per paragraph 8-3.

Install original stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Replace sight hand control (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paraqraph 8-2.1.

NO

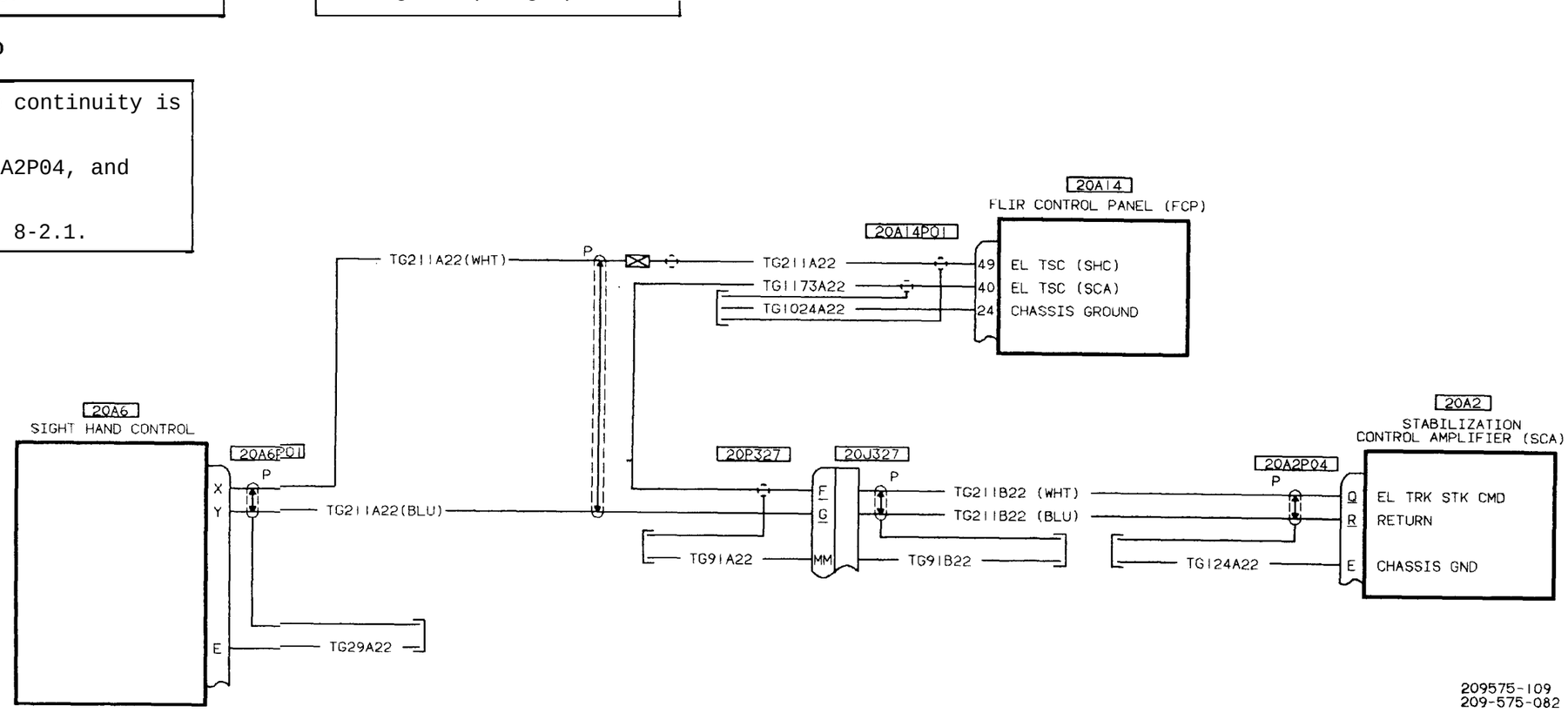
Then go to paragraph 8-2.1.

NO

Repair wire(s) where continuity is not present.

Connect 20A14P01, 20A2P04, and 20A6P01.

Then go to paragraph 8-2.1.



## 8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU).

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Euipment
Multimeter

Tool Set, A/C Armament Repairman

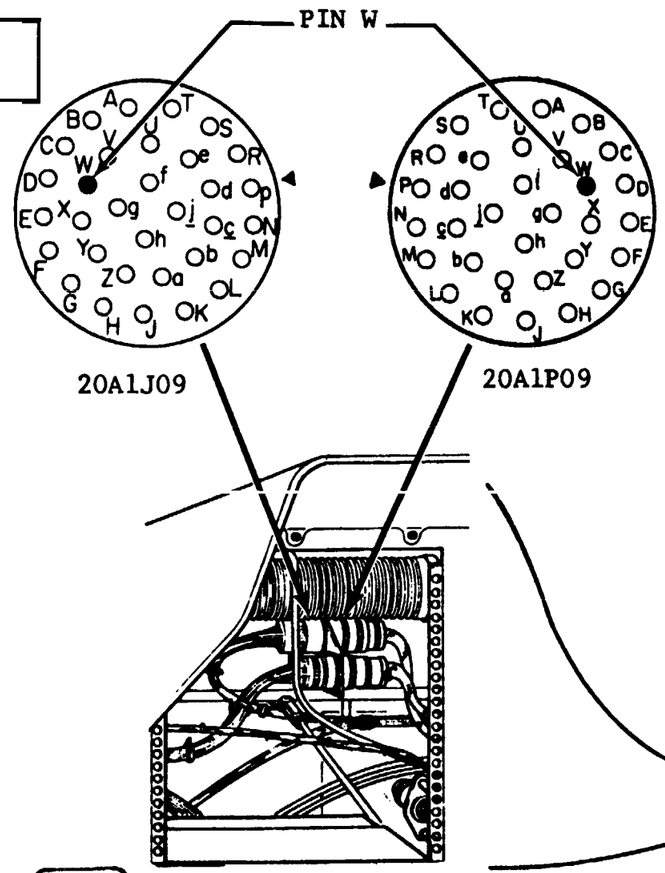
Personnel Required
68J (2)

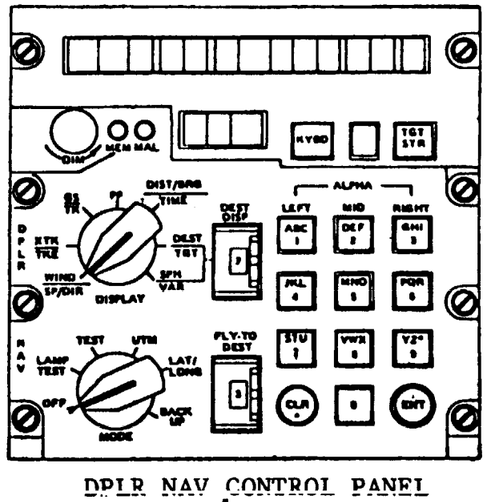
References
TM 9-1090-206-20-1
TM 9-1425-473-20
TM 9-1425-473-34
TM 55-1520-236-23

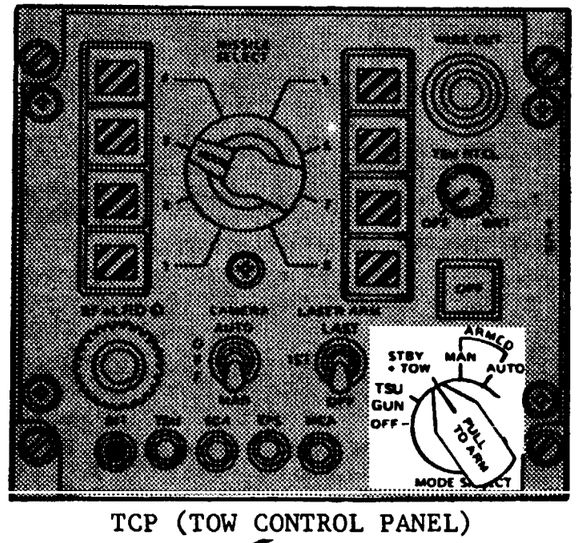
Access Panels
Forward Belly Armament and Lighting - Removed

Interface Control Unit - Removed

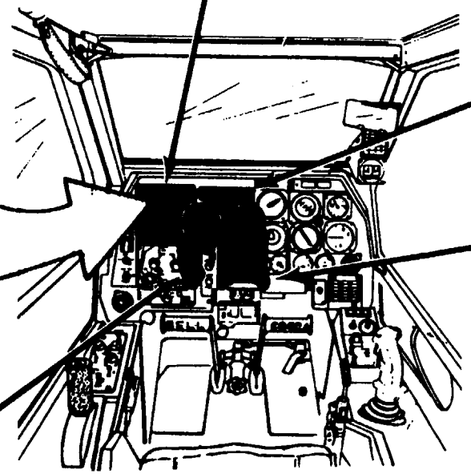
Right Forward Radar Warning Antenna - Removed

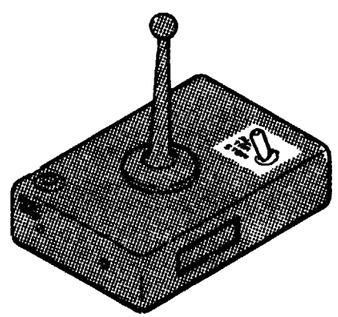


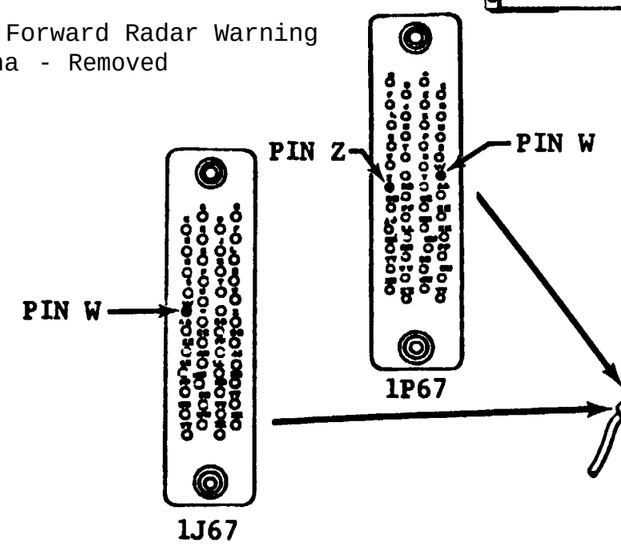



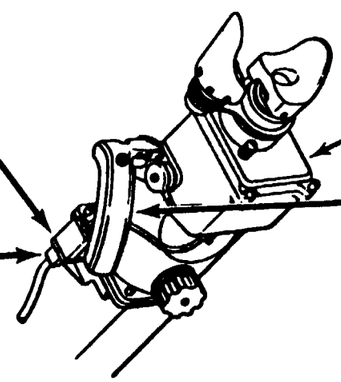



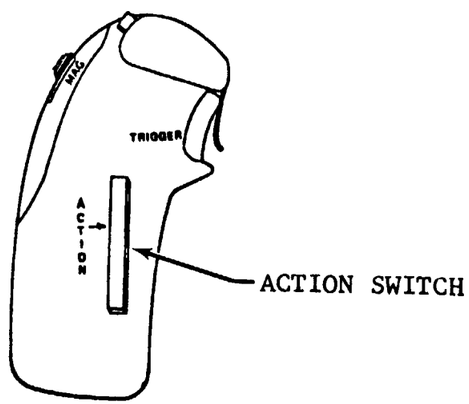


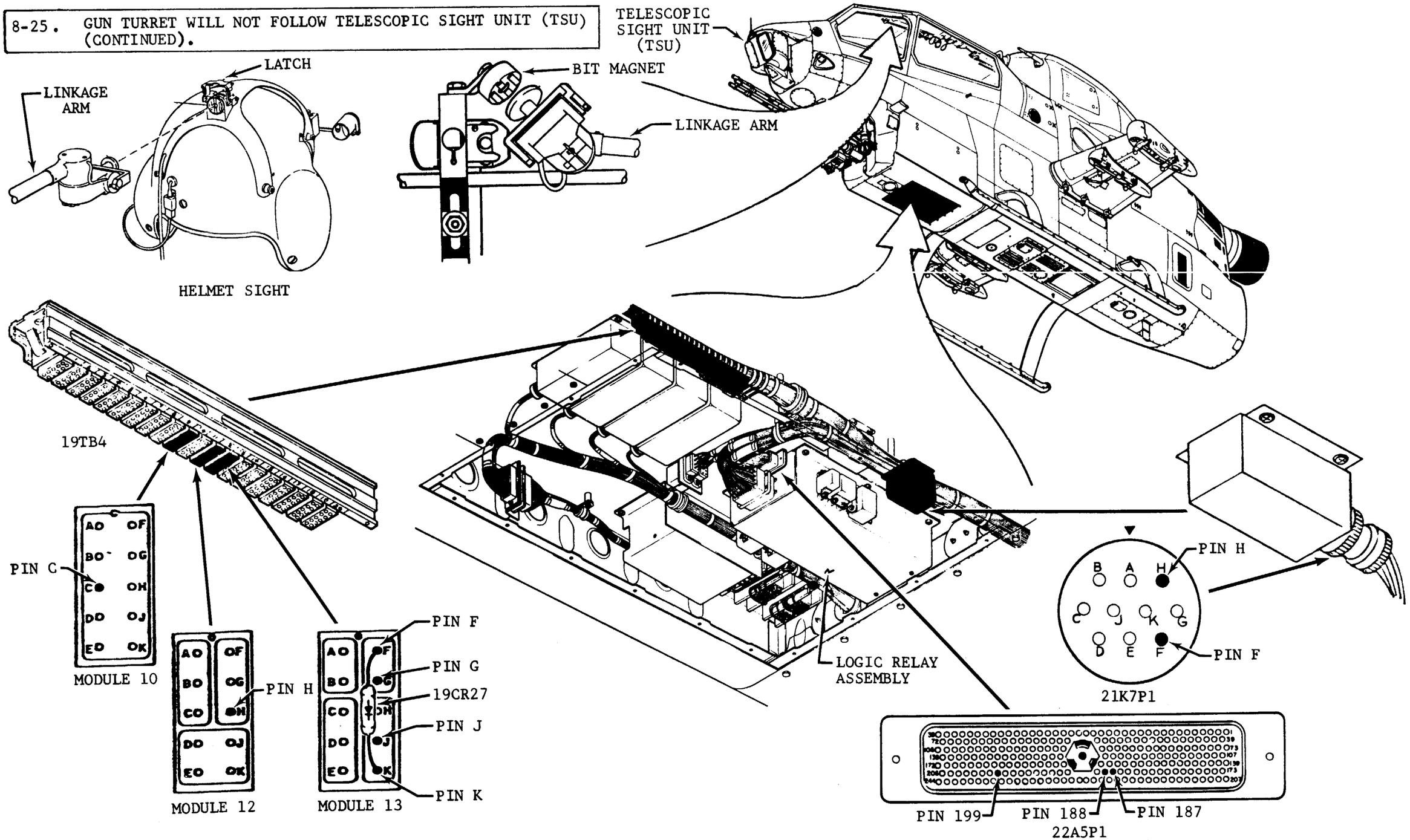



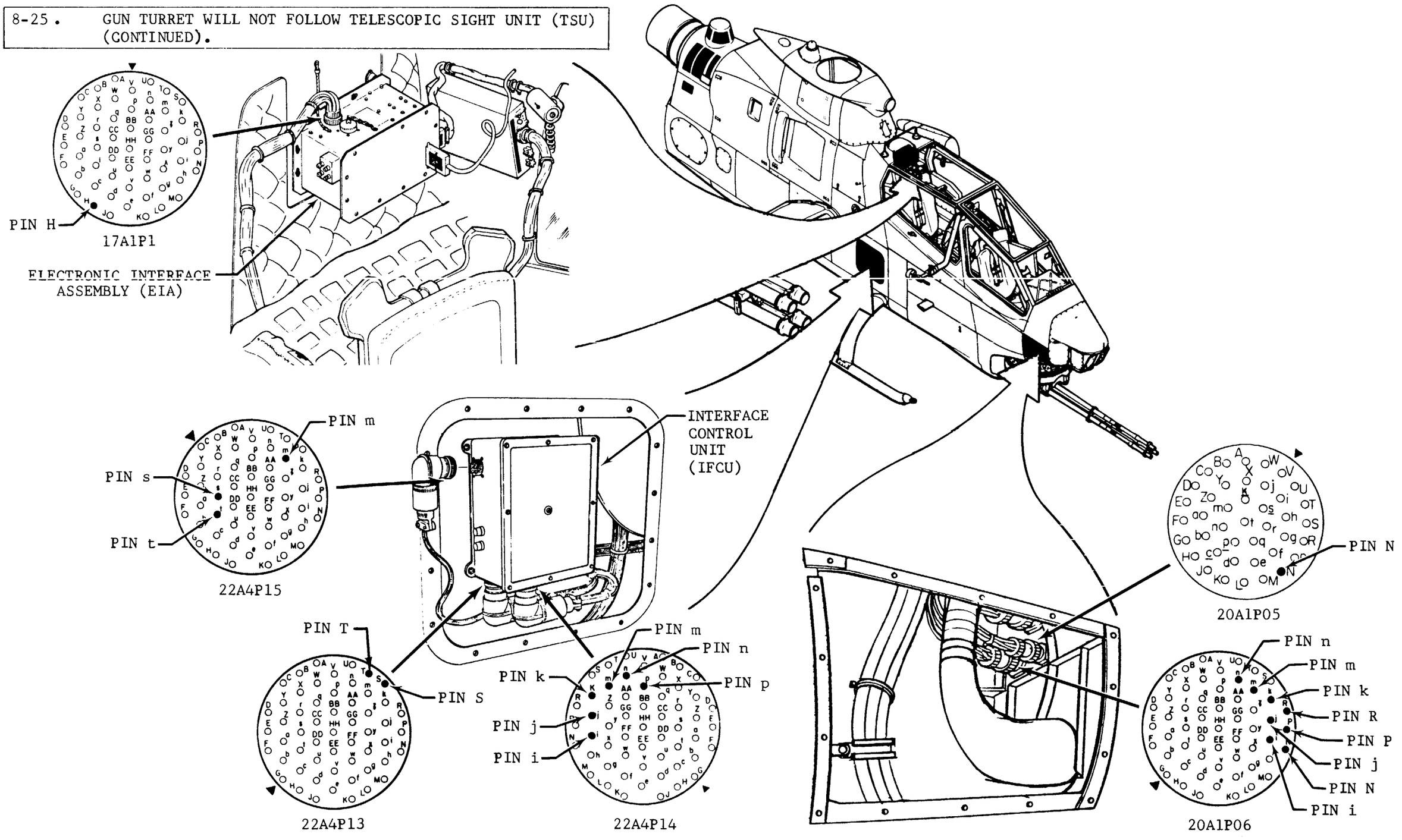



8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).



8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).



8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).

On TCP (TOW control panel):

Set MODE SELECT switch to STBY TOW.

On sight hand control:

Set ACQ/TRK/STOW switch to STOW.

Does gun turret go to fixed forward position?

YES

NO

Go to paragraph 6-2.

Turn off electrical power per paragraph 8-3.

Disconnect 21K7P1.

Turn on electrical power per paragraph 8-3.

On sight hand control:

Set ACQ/TRK/STOW switch to TRK.

On TCP (TOW control panel):

Set MODE SELECT Switch to TSU/GUN.

On left hand grip:

Press and hold ACTION switch.

Check for 28 V dc at 21K7P1-F.

Is 28 V dc present?

YES

NO

On left hand grip:

Press and hold ACTION switch.

Check for 28 V dc at 21K7P1-H.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 8-3.

Connect 21K7P1.

Then go to paragraph 6-4.

On left handgrip:

Press and hold ACTION switch.

Check for 28 V dc at 19TB4-13K.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 8-3.

Connect 21K7P1.

Check for continuity from 19TB4-13K to 22A5P1-188.

Is continuity present?

YES

NO

Check for continuity from 19TB4-13K to 19TB4-13J.

Is continuity present?

YES

Repair wire A280A22 between 19TB4-13J and 22A5P1-188.

Then go to paragraph 8-2.

NO

Replace module 13 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 8-2.

**8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).**

YES

YES

YES

YES

On left hand grip:

Press and hold ACTION switch.

Check for 28 V dc at 19TB4-13F.

Is 28 V dc present?

NO

YES

Check for continuity from 22A5P1-187 to 22A5P1-199.

Is continuity present?

YES

Replace logic relay assembly per TM 9-1090-206-20-1, chapter 3, section XXI,

Then go to paragraph 8-2.

NO

Check for continuity from 22A5P1-187 to 19TB4-12H.

Is continuity present?

YES

Replace module 12 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 8-2.

NO

Repair wire A326B22 between 22A5P1-187 and 19TB4-12H.

Then go to paragraph 8-2.

Turn off electrical power per paragraph 8-3.

Check for continuity from 19TB4-13F to airframe ground.

Is continuity present?

NO

Replace diode (19CR27) between 19TB4-13F and 19TB4-13K per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K7P1.

Then go to paragraph 8-2.

Disconnect 22A4P15.

Check for continuity from 19TB4-13F to airframe ground.

Is continuity present?

YES

NO

Replace interface control unit (IFCU) per TM 9-1090-206-20-1, Chapter 3, Section XIX

Connect 21K7P1.

Then go to paragraph 8-2.

| 8-25. | GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED). |
|---|---|

YES

YES

YES

On left hand grip:

Press and hold ACTION switch.

Check for 28 V dc at 19TB4-13G.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 8-3.

Replace module 13 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K7P1.

Then go to paragraph 8-2.

YES

Repair wire A280B22 between 19TB4-13G and 22A4P15-t to eliminate short.

Connect 21K7P1 and 22A4P15.

Then go to paragraph 8-2.

YES

Turn off electrical power per paragranh 8-3,

Check for continuity from 19TB4-13G to 22A4P15-t.

Is continuity present?

NO

Repair wire A280B22 between 19TB4-13G and 22A4P15-t.

Connect 21K7P1.

Then go to paragraph 8-2.

YES

Check for continuity from 22A4P15-s to 21K7P1-F.

Is continuity present?

NO

Check for continuity from 21K7P1-F to 17A1P1-H.

Is continuity present?

NO

Repair wire A279B22 between 21K7P1-F and splice.

Connect 21K7P1.

Then go to paragraph 8-2.

YES

Repair wire A279A22 between 22A4P15-s and splice.

Connect 21K7P1.

Then go to paragraph 8-2.

8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).

YES

YES

Disconnect 22A4P15.

Turn on electrical power per paragraph 8-3.

Check for 29 V dc at 22A4P15-m.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Replace interface control unit (IFCU) per TM 9-1090-206-20-1, Chapter 3, Section XIX.

Connect 21K7P1.

Then go to paragraph 8-2.

NO

Check for 28 V dc at 19TB4-10C.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Repair wire TG200C22 between 19TB4-1OC and 22A4P15-m.

Connect 21K7P1 and 22A4P15.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Replace module 10 of 19TB4 per TM 55-1520-236-23, Chapter 9, section I.

Connect 21K7P1 and 22A4P15.

Then go to paragraph 8-2.

On TCP (TOW control panel):

Set MODE SELECT switch to OFF.

Turn off electrical power per paragraph 8-3.

Connect 21K7P1.

Disconnect 20A1P05.

Turn on electrical power per paragraph 8-3.

On left. hand grip:

Press and hold ACTION switch.

check for 28 V dc at 20AlP05-N.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 8-2.

On left hand grip:

Press and hold ACTION switch.

Check for continuity from 1P67-Z to 1P67-W.

Is continuity present?

YES

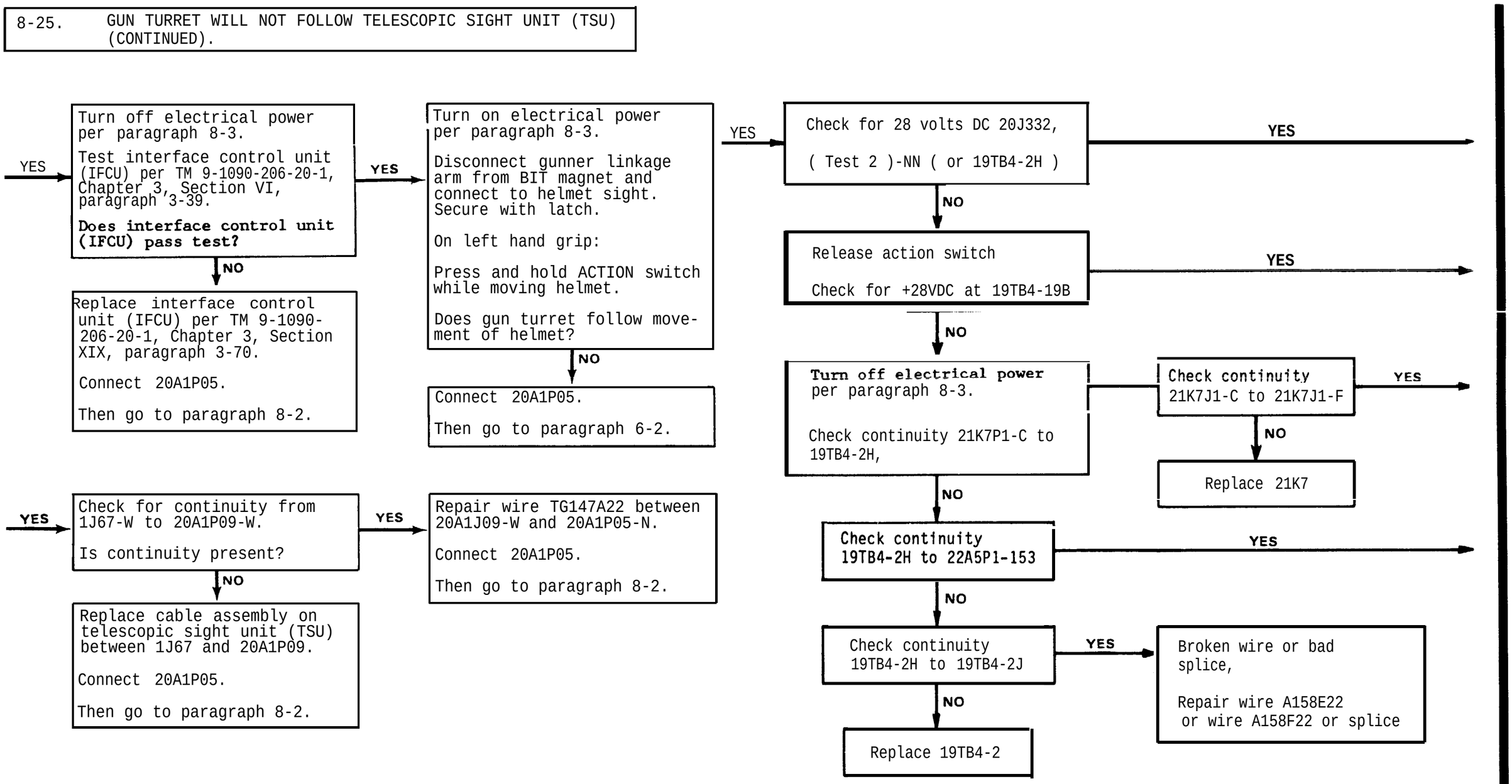
NO

Replace left hand grip per TM 9-1425-473-34, Chapter 4, Section III.

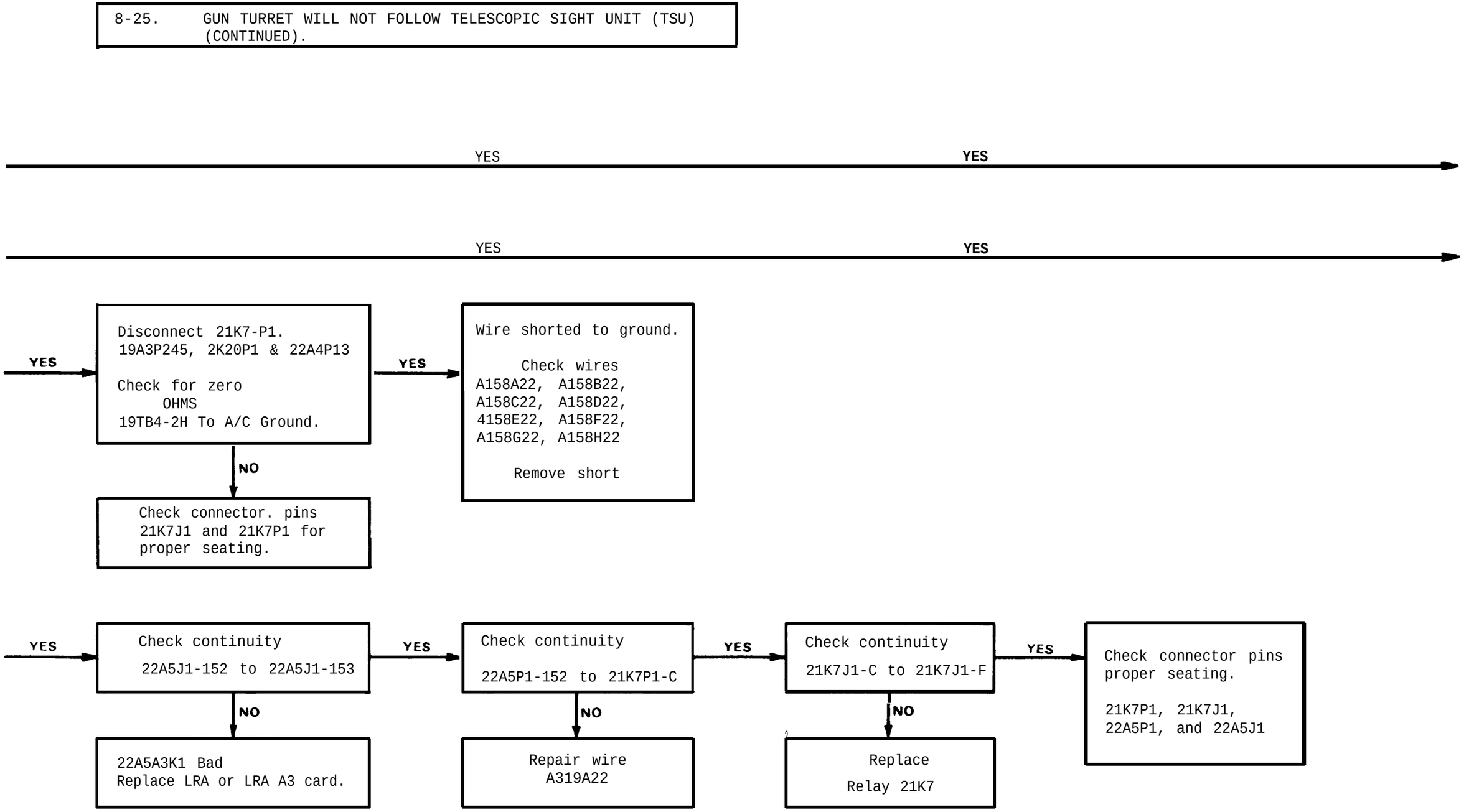
Connect 20A1P05.

Then go to paragraph 8-2.

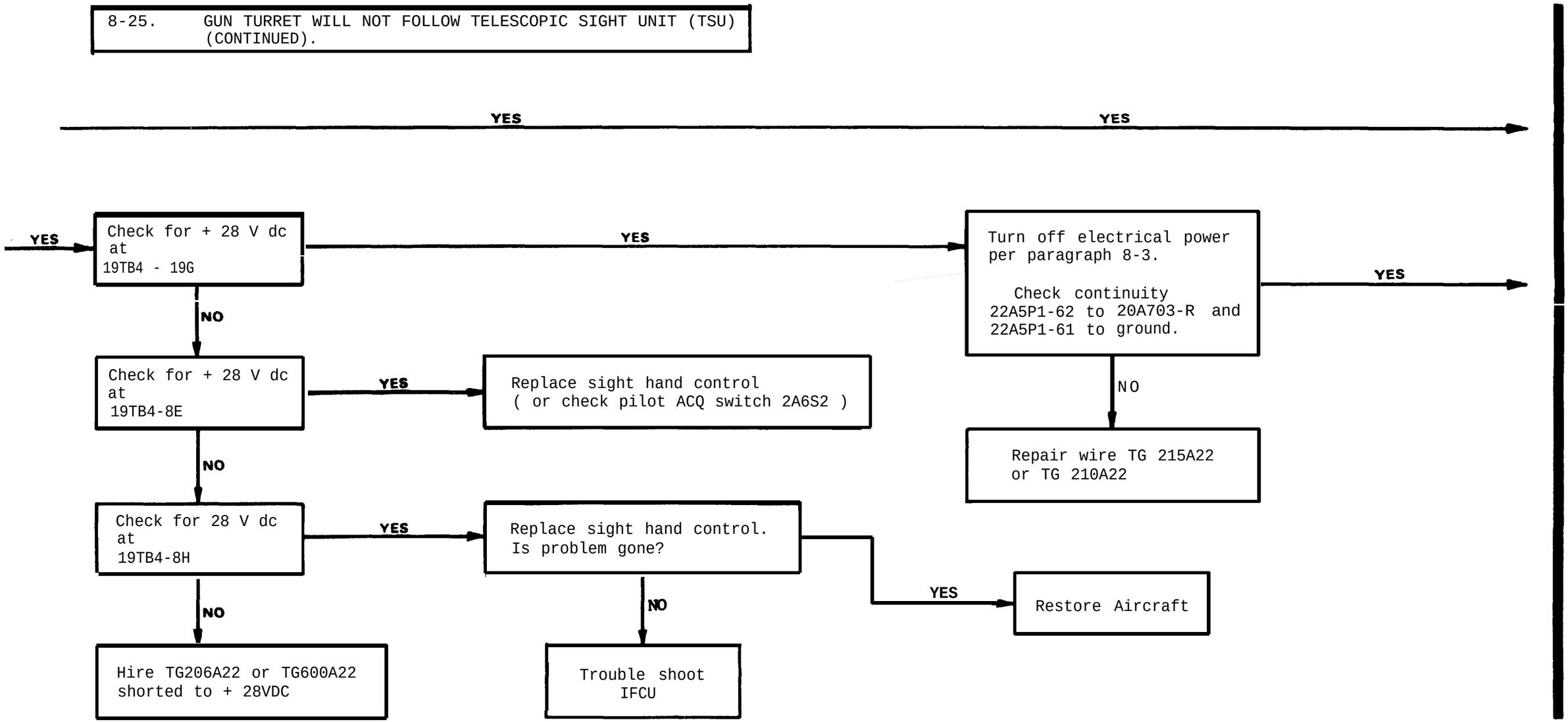
8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).



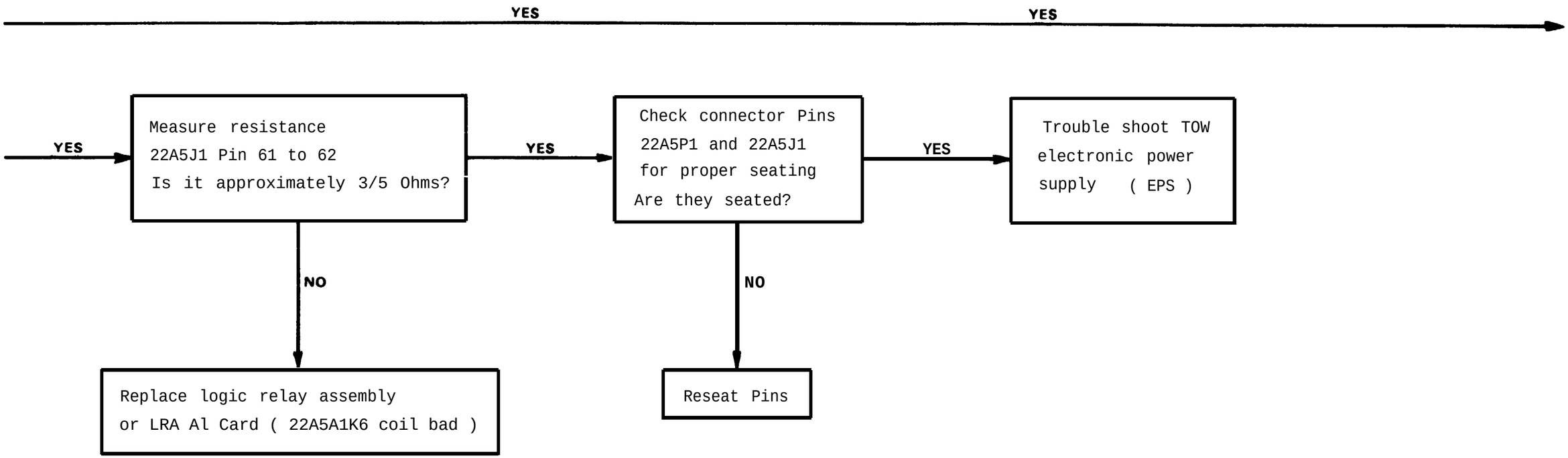
8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).



8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).



8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTUNUED):



8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).

YES

Turn off electrical power

Per paragraph 8-3

Disconnect 19A3P245 check continuity

19TB4-2H to 19A3P245-K

YES

NO

Check Continuity

19TB4-2H to 19J250LL

and

19P250-LL to 19A3P245-K

YES

Check continuity

19A3P245-K to ground

19J250-LL to ground

Is either reading zero Ohms?

YES

Remove short to ground wire

A158A22 or A158B22

NO

Repair wire

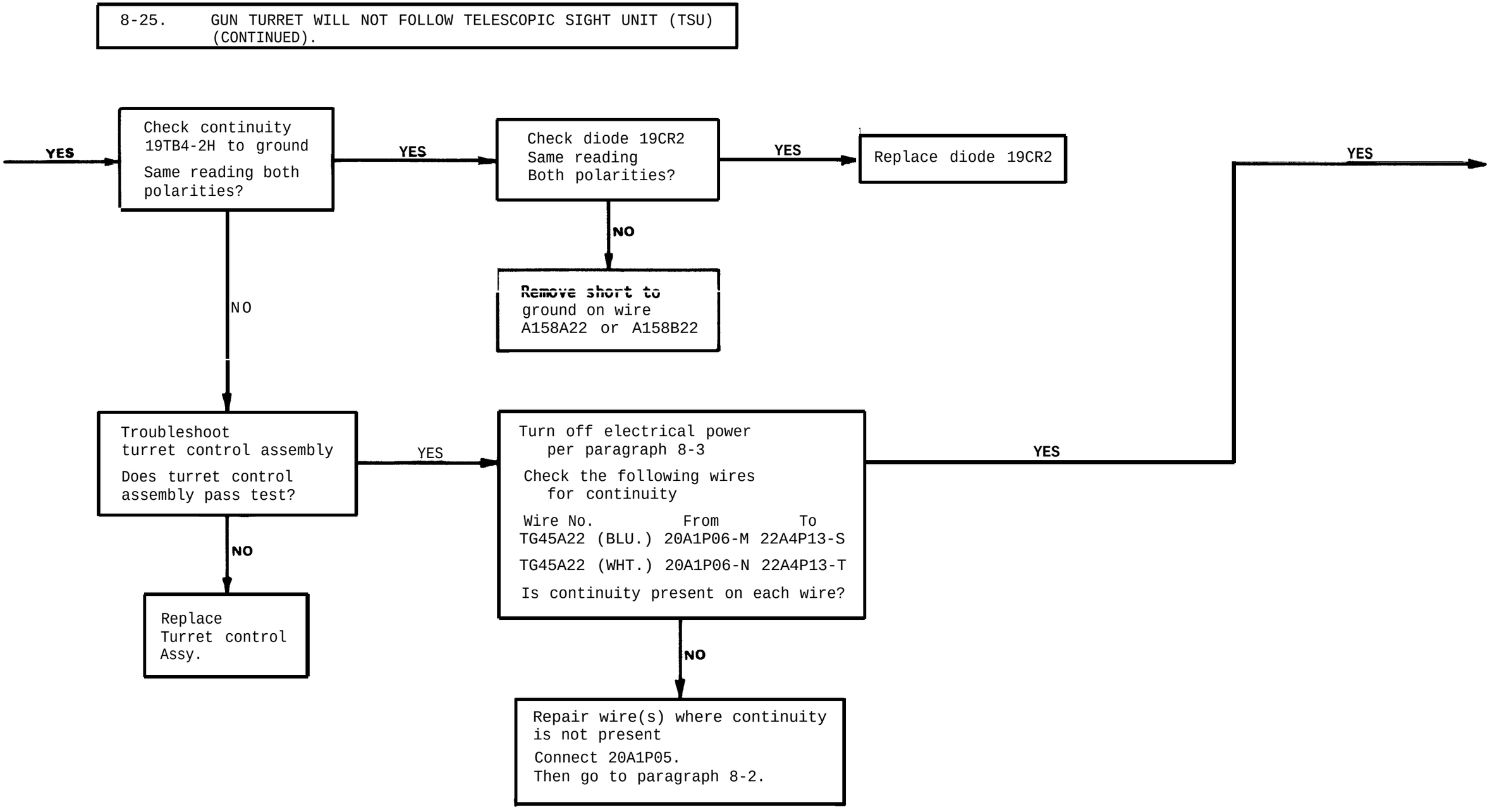
A158A22

A188B22

NO

Ensure connector pins 19A3P245,19A3J245, 19J250, and 19P250 are properly seated.

8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).



8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).

YES

Check for continuity from 20A1P06-m and 20A1P06-n to airframe ground.

Is continuity present?

YES

Repair wire(s) TG45A22 (BLU) and/or TG45A22 (WHT) to eliminate short.

Connect 20A1P05.

Then go to paragraph 8-2.

NO

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG40A22(BLU) and TG40B22 (BLU) | 20A1P06-R | 22A4P14-n |
| TG40A22 (WHT) and TG40B22 (WHT) | 20A1P06-k | 22A4P14-p |

Is continuity present for each wire?

YES

Check for continuity from 20A1P06-R and go to paragraph 8-2.

Is continuity present?

YES

Repair wire(s) TG40A22 (BLU) TG40B22(BLU), TG40C22 (BLU), and/or TG40A22 (WHT\ , TG40B22 (WHT), TG40C22 (WHT) to eliminate short.

Connect 20A1P05

Then go to paragraph 8-2.

NO

Repair wire(s) where continuity is not present.

Connect 20A1P05.

Then go to paragraph 8-2.

YES

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG36A22(BLU) and TG36B22 (BLU) | 20A1P06-N | 22A4P14-k |
| TG36A22 (WHT) and TG36B22(WHT) | 20AlP06-i | 22A4P14-m |

Is continuity present for each wire?

YES

Check for continuity from 20A1P06-N and 20AlP06-i to airframe ground.

Is continuity present?

YES

NO

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG38A22(BLU) and TG38B22 (BLU) | 20A1P06-P | 22A4P14-i |
| TG38A22 (WHT) and TG38A22(WHT) | 20AlP06-j | 22A4P14-j |

Is continuity present for each wire?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A1P05.

Then go to paragraph 8-2.

**8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).**

YES → Repair wire(s) TG36A22 (BLU) TG36B22 (BLU) . TG36C22 (BLU) and/or TG36A22 (WHT), TG36B22 (WHT), TG36C22 (WHT) to eliminate short.

Connect 20A1P05.

Then go to paragraph 8-2.

YES → Check for continuity from 20A1P06-P and 20A1P06-j to airframe ground.

Is continuity present?

YES → Re air wire(s) TG38A22 (BLU) TG38B22 (BLU), TG38C22 (BLU) and/or TG38A22 (WHT), TG38B22 (WHT), TG38C22 (WHT) to eliminate short.

Connect 20A1P05.

Then go to paragraph 8-2.

NO ↓

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III, paragraph 4-7.

Then go to paragraph 8-2.

8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED)..

YES →

Repair wire(s) TG36A22 (BLU) TG36B22 (BLU), TG36C22 (BLU) and/or TG36A22 (WHT), TG36B22 (WHT), TG36C22 (WHT) to eliminate short.

Connect 20A1P05.

Then go to paragraph 8-2.

YES →

Check for continuity from 20A1P06-P and 20AlP06-j to airframe ground.

Is continuity present?

YES →

Re air wire(s) TG38A22 (BLU) TG38B22 (BLU), TG38C22 (BLU) and/or TG38A22 (WHT), TG38B22 (WHT), TG38C22 (WHT) to eliminate short.

Connect 20A1P05.

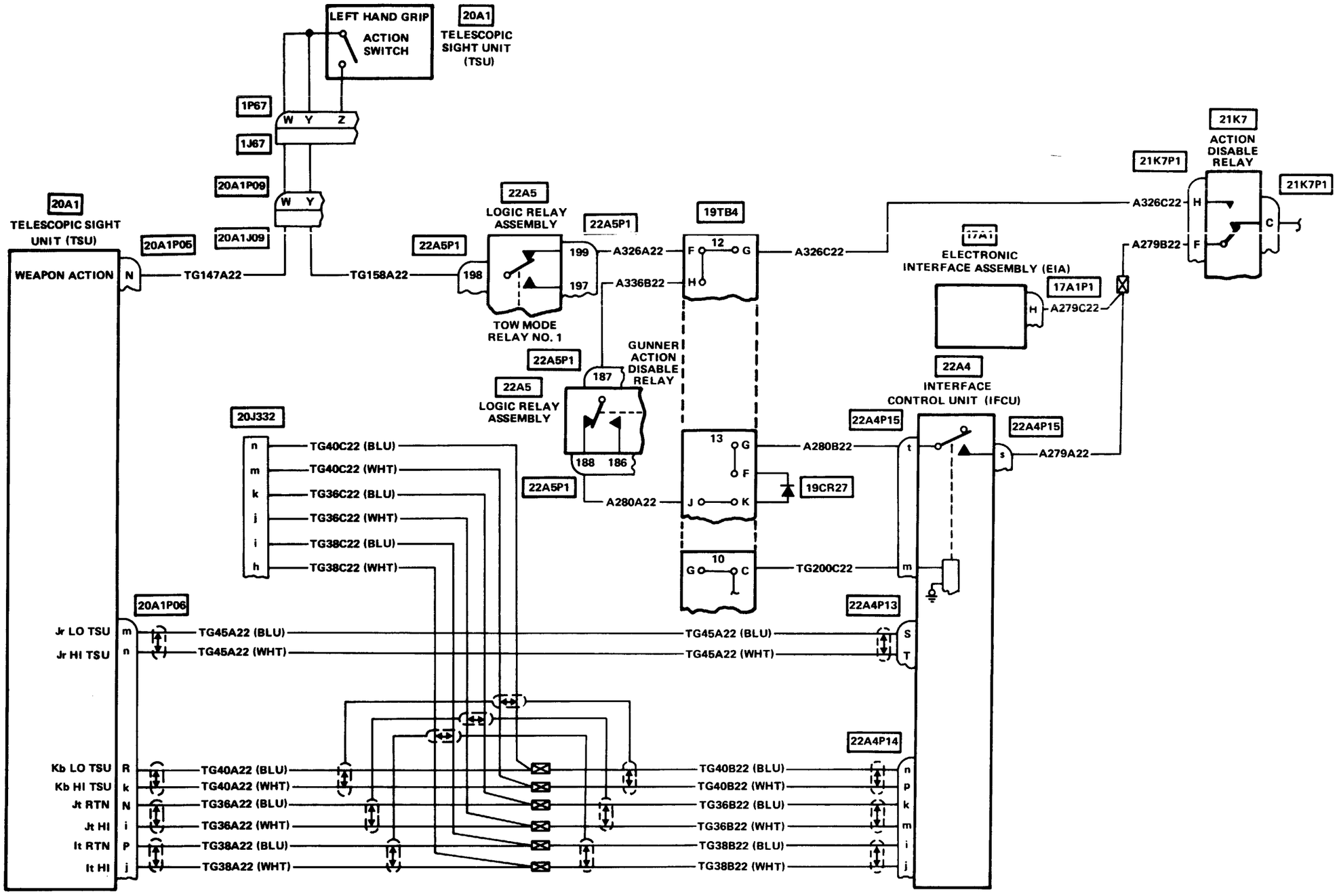
Then go to paragraph 8-2.

NO ↓

Replace telescopic sight unit (TSU) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).



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8-26. MSL PRESENT NOT INDICATED IN POSITION 1.

INITIAL SETUP

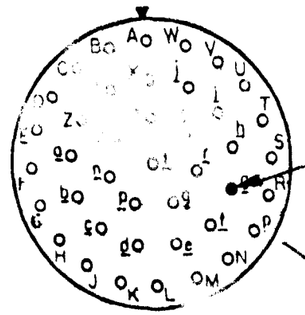
Applicable Configuration
All

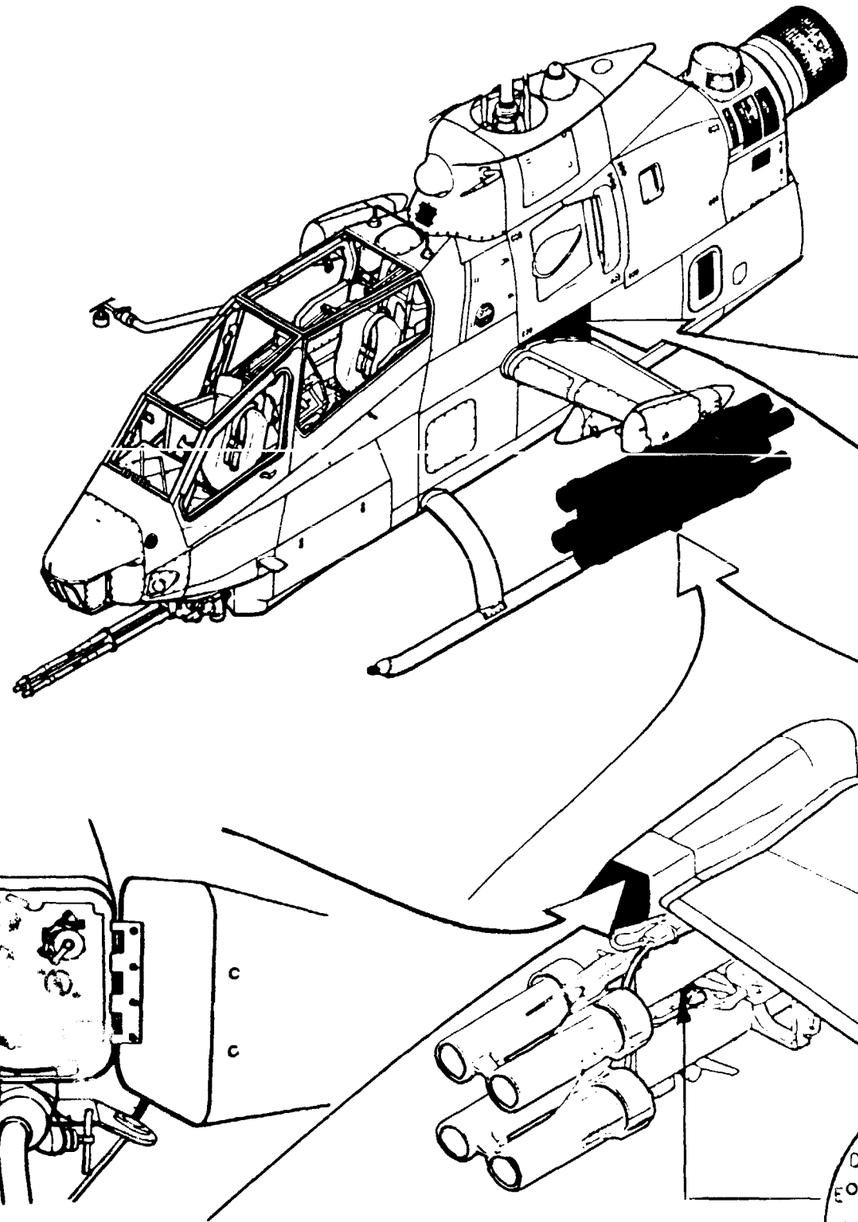
Tools/Test and Support Equipment
Multimeter

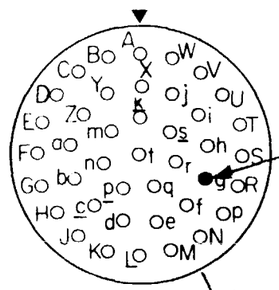
Tool Set, A/C Armament Repairman

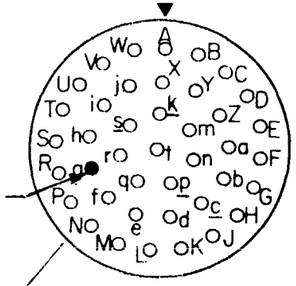
Personnel Required
68J (2)

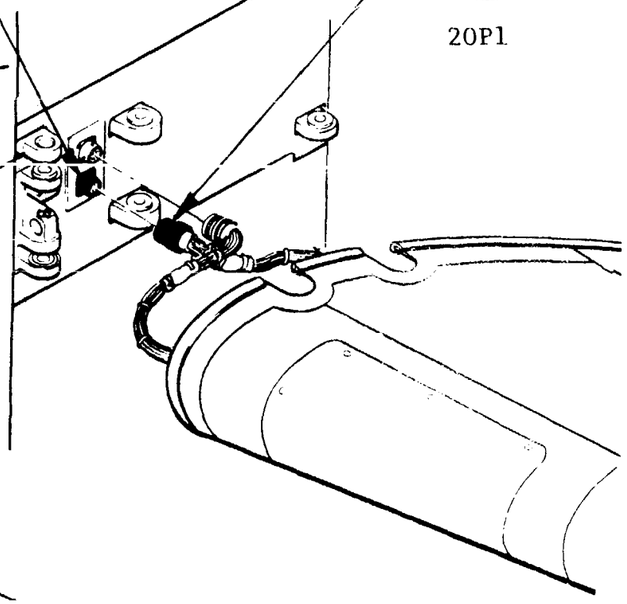
References
TM 55-1520-236-23
TM 9-1425-473-20

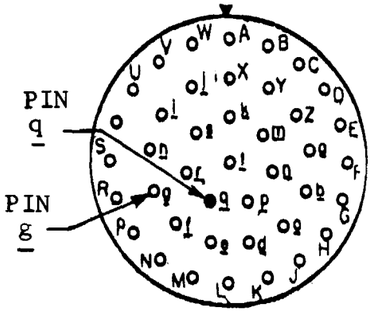


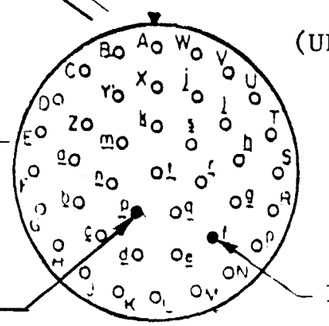





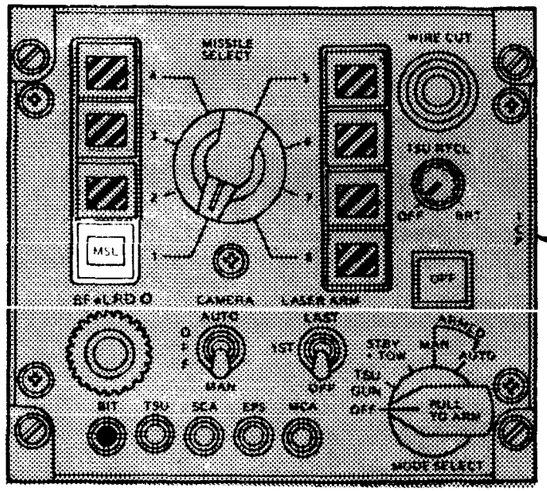



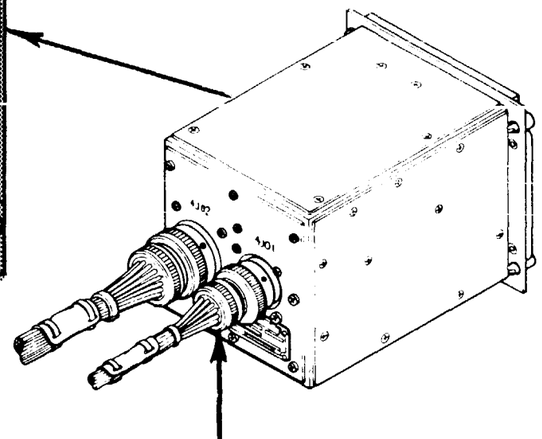



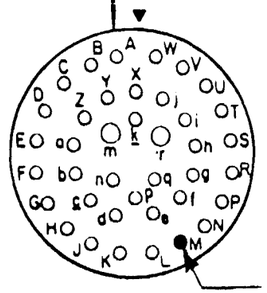
8-26. MSL PRESENT NOT INDICATED IN POSITION 1 (CONTINUED).



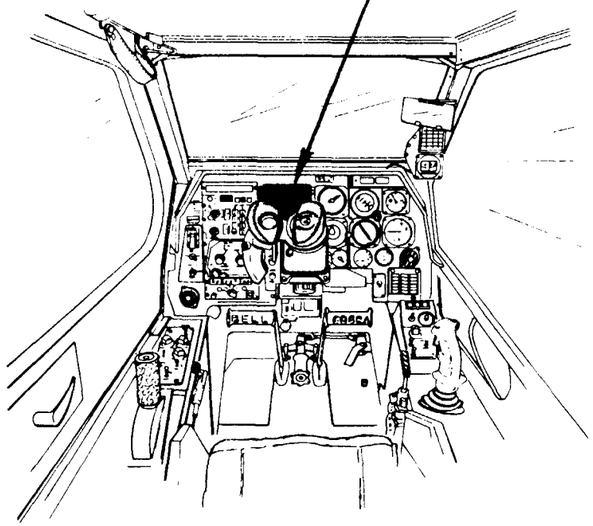

TCP (TOW CONTROL PANEL)

TCP (TOW CONTROL PANEL)
(REAR VIEW)






20A4P01



GUNNER STATION

NOTE

Verify that MSL PRES switch on TSEM is set to MSL PRES.

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A4P01-M to airframe ground.

Reverse multimeter leads and repeat test (diode in circuit).

Does either test show a low resistance (under 100 ohms)?

YES

NO

Check for continuity from 20A4P01-M to 20P8J01-g.

Is continuity present?

YES

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A4P01-M to 20J1-g.

Is continuity present?

YES

NO

Repair wire TG224A22 between 20A4P01-M and 20J1-g.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

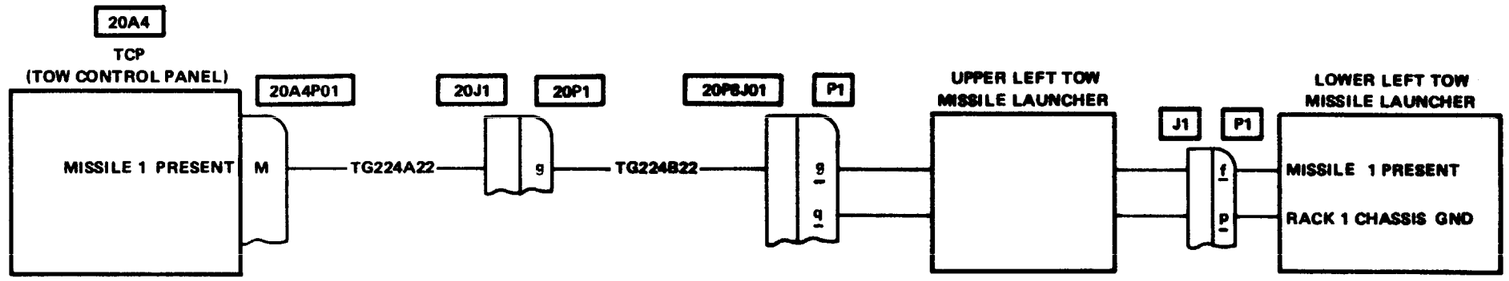
Then go to paragraph 8-2.

**8-26.** MSL PRESENT NOT INDICATED IN POSITION 1 (CONTINUED).

YES

Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Go toparagraph 8-2.




YES

On upper left TOW missile launcher:

Check for continuity from Pi-g to J1-f.

Check for continuity from Pi-q to J1-p.

Is continuity present in both tests?

YES

Replace lower left TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Replace upper left TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

YES

Repair wire TG224B22 between 20P1-g and 20P8J01-g.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.

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8-27. MSL PRESENT NOT INDICATED IN POSITION 2.

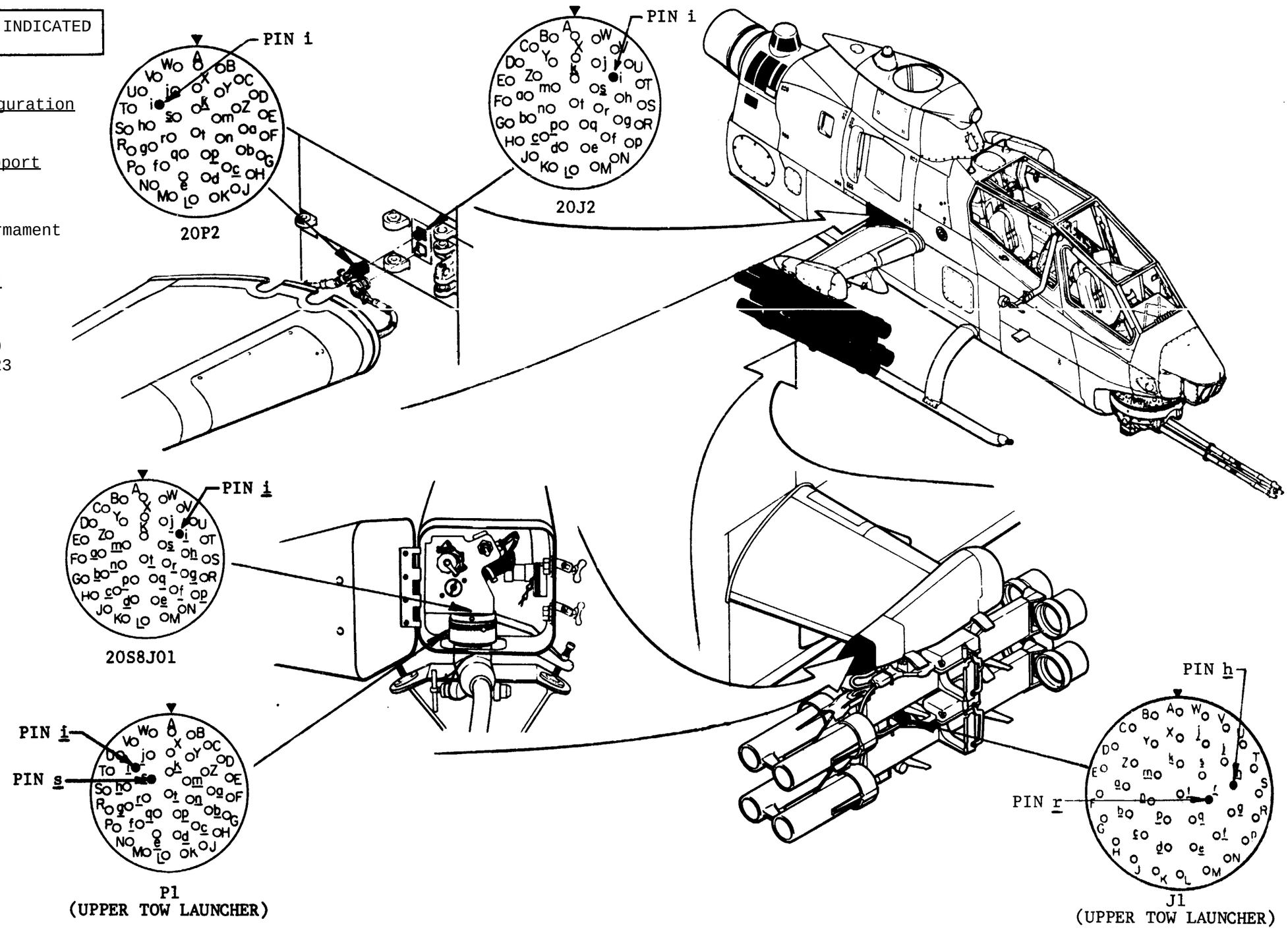
INITIAL SETUP

Applicable Configuration
All

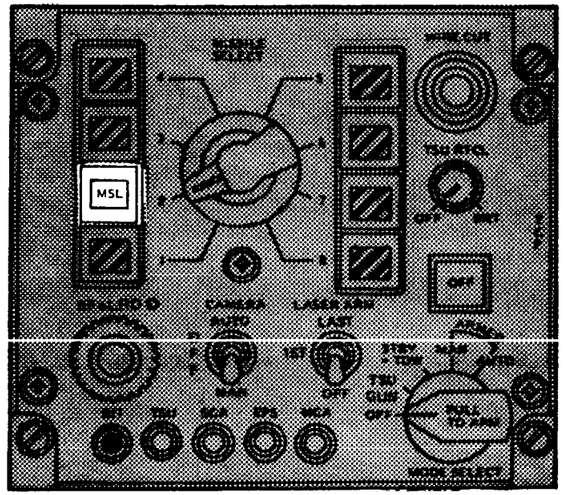
Tools/Test and Support Equipment
Multimeter
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

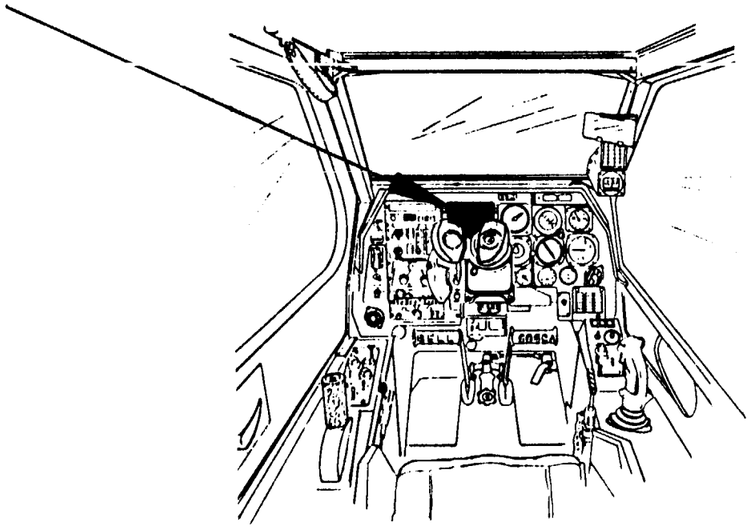
References
TM 9-1425-473-20
TM 55-1520-236-23



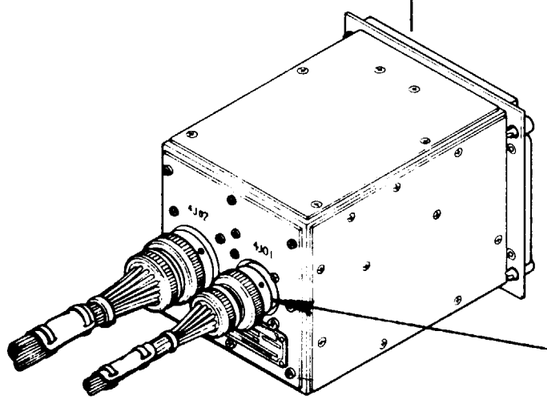
8-27. MSL PRESENT NOT INDICATED IN POSITION 2 (CONTINUED).



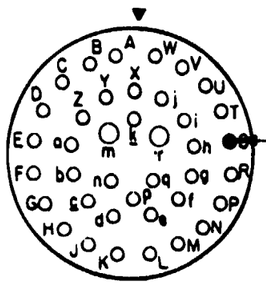

TCP (TOW CONTROL PANEL)



GUNNER STATION



TCP (TOW CONTROL PANEL)
(REAR VIEW)




20A4P01

8-27. MSL PRESENT NOT INDICAATED IN POSITION 2 CONTINUEID.

NOTE

Verify that MSL PRES switch on TSEM is set to MSL PRES.

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A4P01-S to airframe ground.

Reverse multimeter leads and repeat test (diode in circuit).

Does either test show a low resistance (under 100 ohms)?

YES → Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO → Check for continuity from 20A4P01-S to 20S8J01-i.

Is continuity present?

YES → On upper right TOW missile launcher:

Check for continuity from P1-i to J1-h.

Check for continuity from Pi-s to J1-r.

Is continuity present in both tests?

YES → Replace lower right TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO → Replace upper right TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO → Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A4P01-S to 20J2-i.

Is continuity present?

YES → Repair wire TG228B22 between 20P2-i and 20S8J01-i.

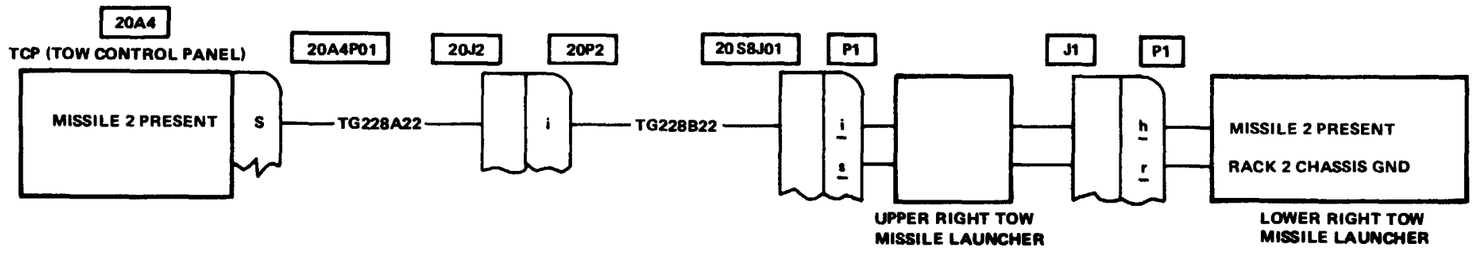
Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.

NO → Repair wire TG228A22 between 20A4P01-S and 20J2-i.

Install. right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.



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## 8-28. MSL PRESENT NOT INDICATED IN POSITION 3.

INITIAL SETUP

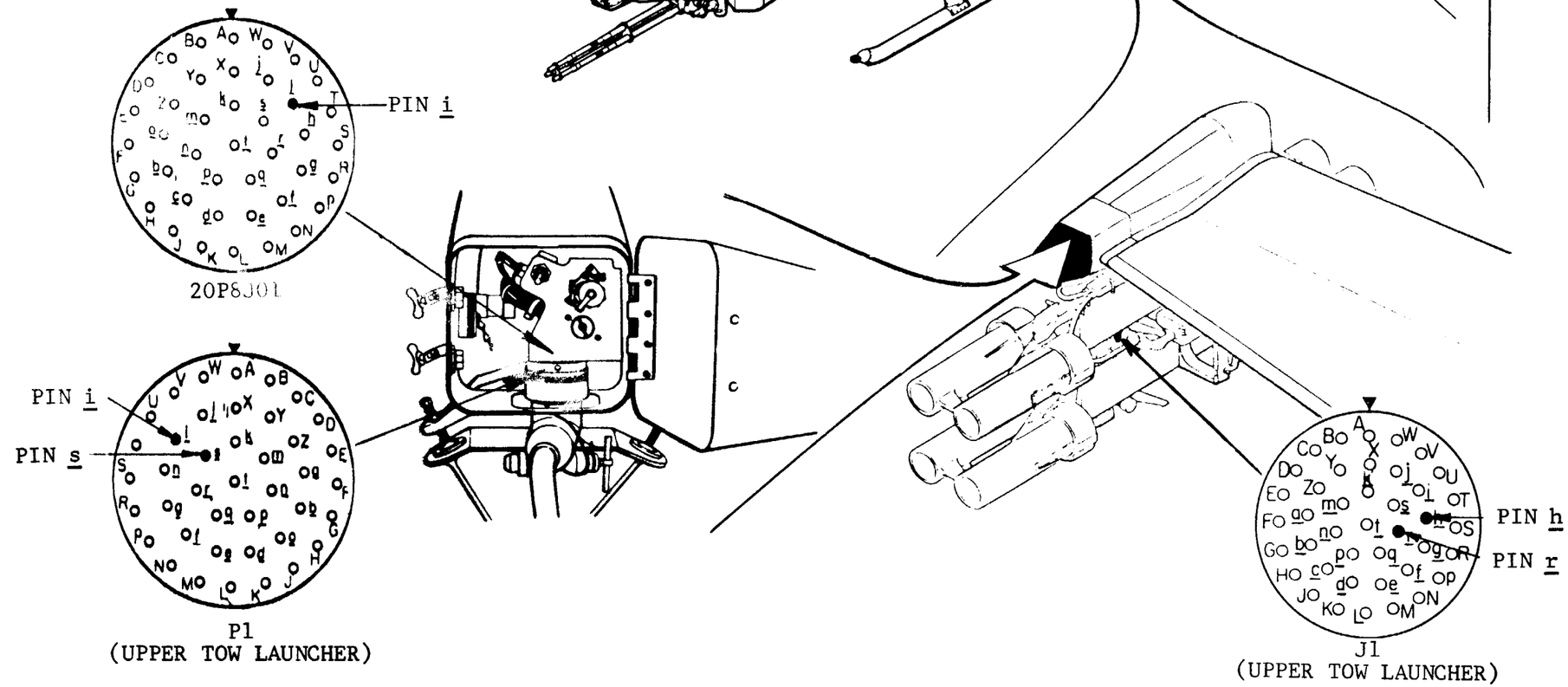
Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

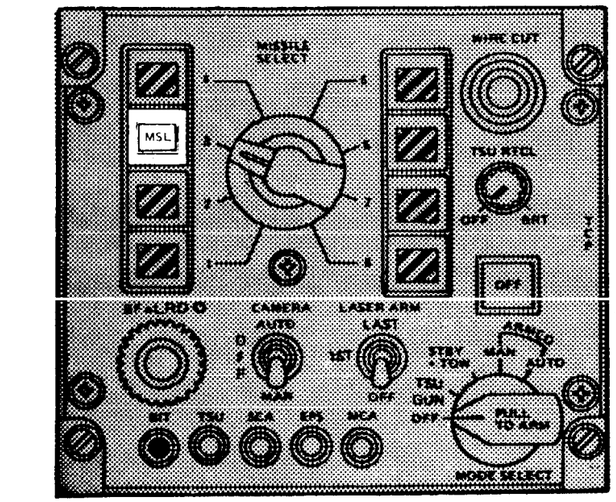
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

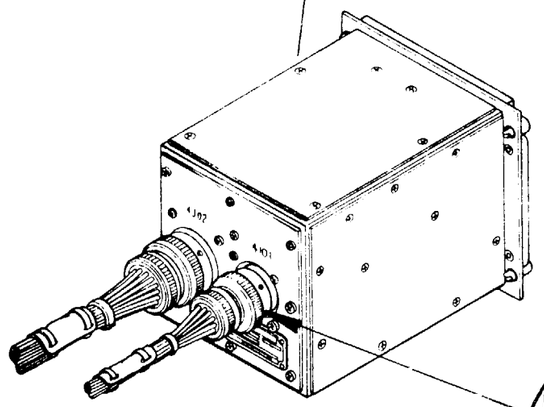
References
TM 55-1520-236-23
TM 9-1425-473-20
TM 9-1425-473-34



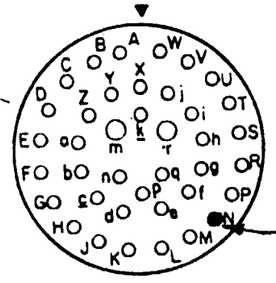
8-28. MSL PRESENT NOT INDICATED IN POSITION 3 (CONTINUED)



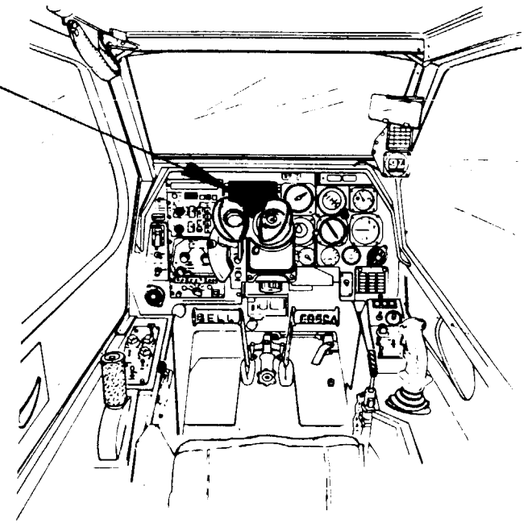

TCP (TOW CONTROL PANEL)



TCP (TOW CONTROL PANEL)
(REAR VIEW)




20A4P01



GUNNER STATION

8-28. MSL PRESENT NOT INDICATED IN POSITION 3 ( CONTINUED)

**Load TSEM in launcher position 3 per TM 9-1425-473-34, table 2-6.**

**Perform TMS Operational Check, paragraph 8-2 through step o (BIT test).**

**Did all operations pass the required tests?**

**YES** → Is MSL present indicated in position 3?

**YES** → Fault not found in helicopter.

Continue operational check beginning with step p.

**NO** → Repair all faults discovered during operational check.

Then go to paragraph 8-2.

**NO** → Turn off electrical power per paragraph 8-3.

Check for continuity from 20A4P01-N to airframe ground.

Reverse multimeter leads anti repeat test diode in circuit).

Does either test show a low resistance (under 100 Ohms 7

**YES** → Replace TCP (TOW control panel) per TM 9-1425-473-20. Chapter 2, Section V.

Then go to paragraph 8-2.

**NO** → Check for continuity from 20A4P01-N to 20P8J01-i

Is continuity present?

**YES** → On upper left TOW missile launcher:

Check for continuity from P1-i to J1-h

Check for continuity from P1-s to J1-r.

Is continuity present in both tests?

**YES** → Repair wire TG225B22 between 20P1-i and 20P8J01-i.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.

**NO** → Replace upper left TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

**NO** → Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A4P01-N to 20J1-i.

Is continuity present?

**YES** → Repair wire TG225B22 between 20P1-i and 20P8J01-i.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.

**NO** → Repair wire TG225A22 between 20A4P01-N and 20J1-i.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

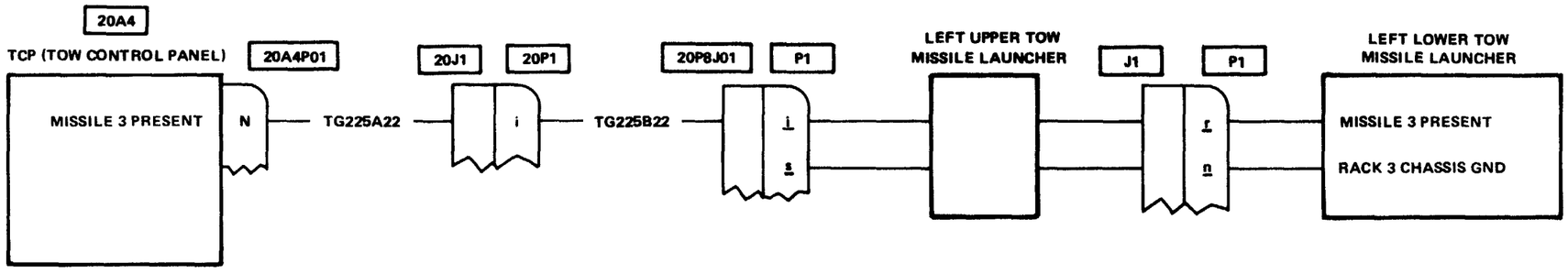
Then go to paragraph 8-2.

8-28. MSL PRESENT NOT INDICATED IN POSITION 3 ( CONTINUED).

YES

Replace lower left TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.



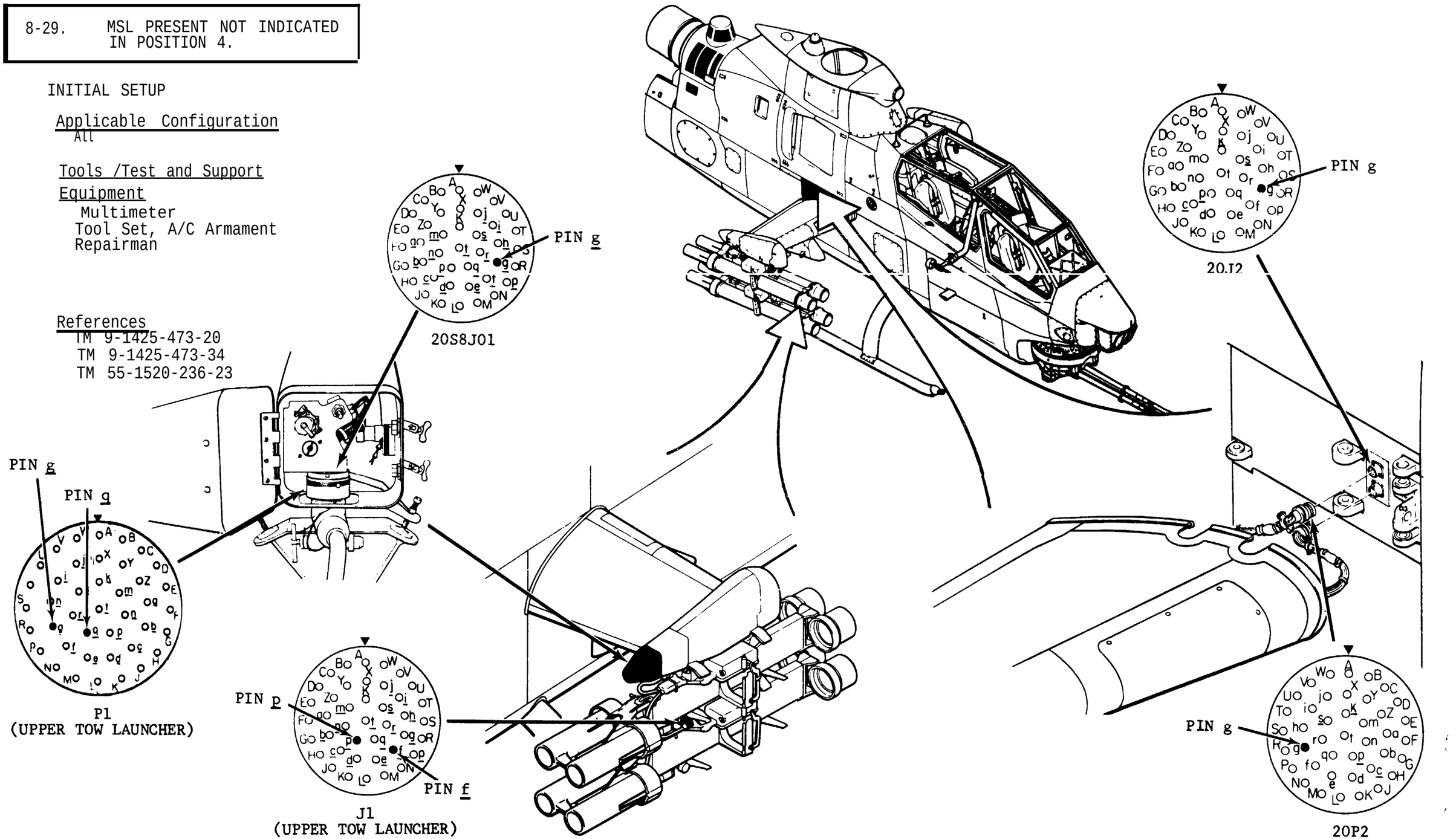
## 8-29. MSL PRESENT NOT INDICATED IN POSITION 4.

INITIAL SETUP

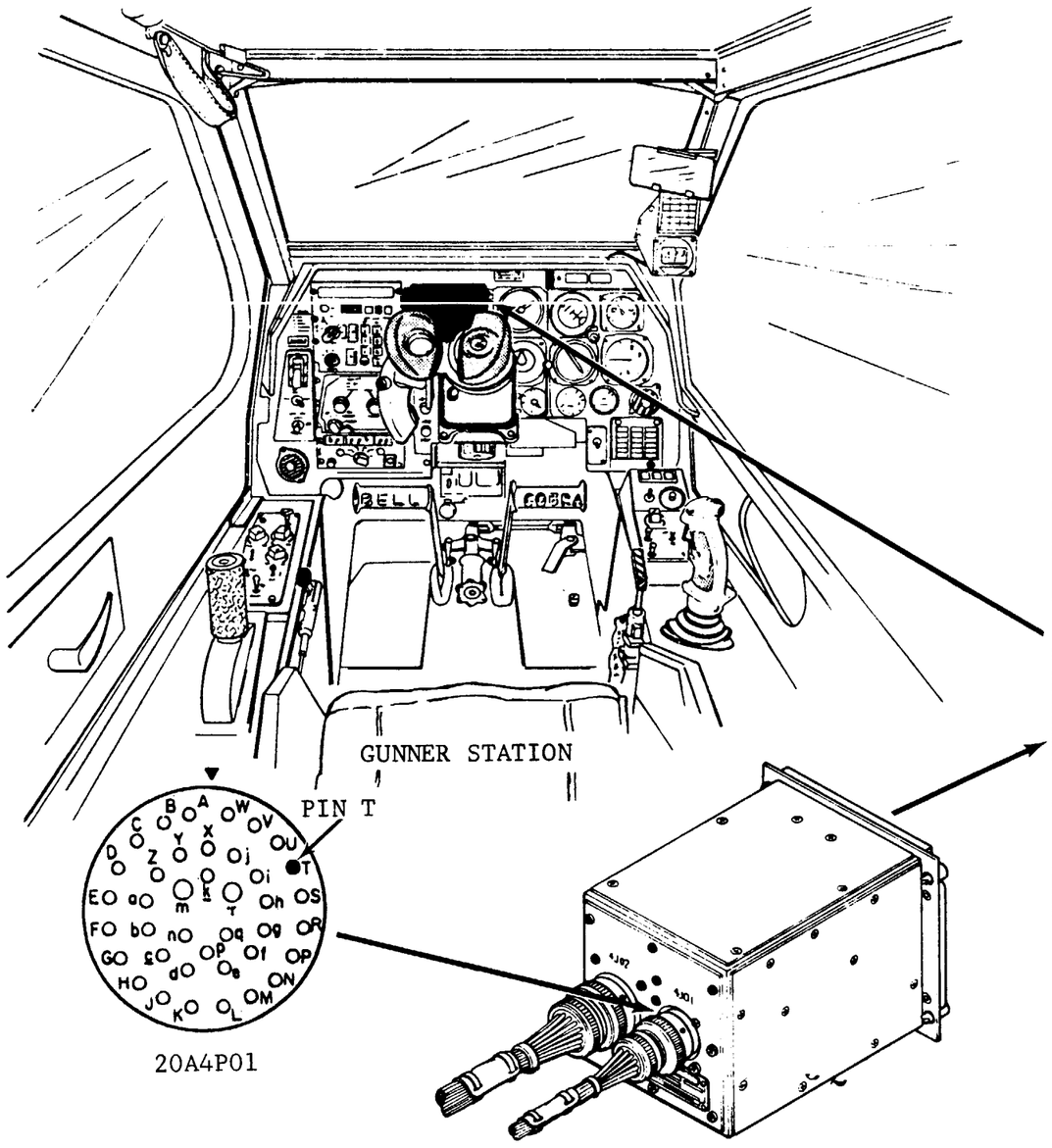
Applicable Configuration
All

Tools /Test and Support Equipment
Multimeter
Tool Set, A/C Armament Repairman

References
TM 9-1425-473-20
TM 9-1425-473-34
TM 55-1520-236-23

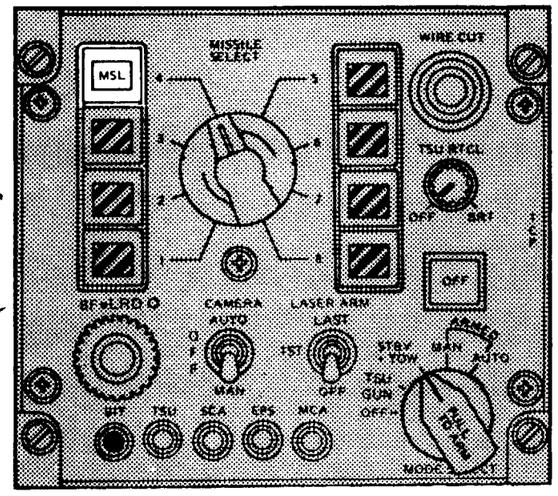


8-29. MSL PRESENT NOT INDICATED IN POSITION 4 (CONTINUED).






TCP (TOW CONTROL PANEL)
(REAR VIEW)




TCP (TOW CONTROL PANEL)

Load TSEM in launcher position 4 per TM 9-1425-473-34, Table 2-6.

Perform TMS Operational Check, paragraph 8-2 through step o (BIT test).

Did all operations pass the required tests?

YES

NO

Repair all faults discovered during the operational check.

Then go to paragraph 8-2.

8-29. MSL PRESENT NOT INDICATED IS POSITION 4 (CONTINUED).

Is MSL present indicated in position 4?

YES → Fault not found in helicopter.

Continue operational check beginning with step p.

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A4P01-T to airframe ground.

Reverse multimeter leads and repeat test (diode in circuit).

Does either test show a low resistance (under 100 ohms)?

YES → Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Check for continuit from 20A4P01-T to 20S8J01-g.

Is continuity present?

YES →

On upper right TOW missile launcher:

Check for continuity from P1 - g to J1 - f

Check for continuity from P1 - g to J1 - p.

Is continuity present in both tests?

YES → Replace lower right TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Replace upper right TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A4P01-T to 20J2-g.

Is continuity present?

YES → Repair wire TG229B22 between 20P2-g and 20S8J01-g.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

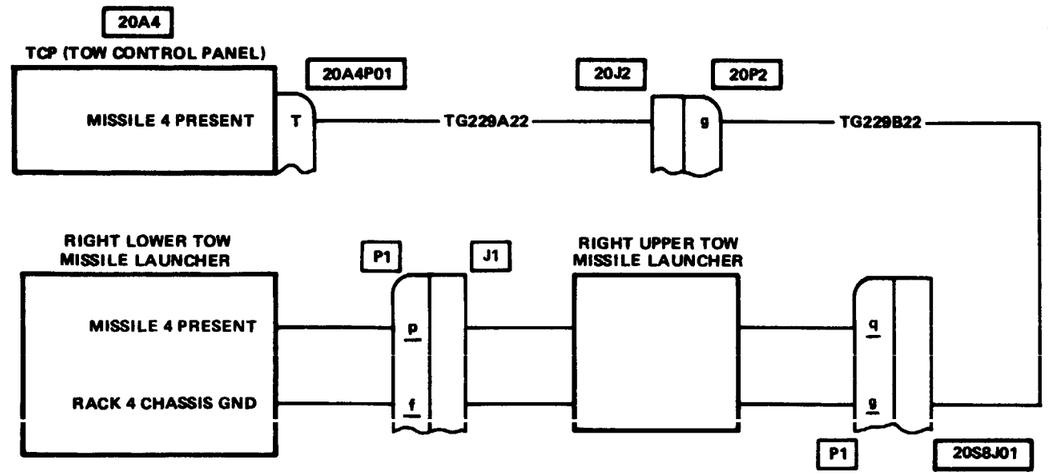
Then go to paragraph 8-2.

NO

Repair wire TG229A22 between 20A4P01-T and 20J2-g.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.



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## 8-30. MSL PRESENT NOT INDICATED IN POSITION 5.

INITIAL SETUP

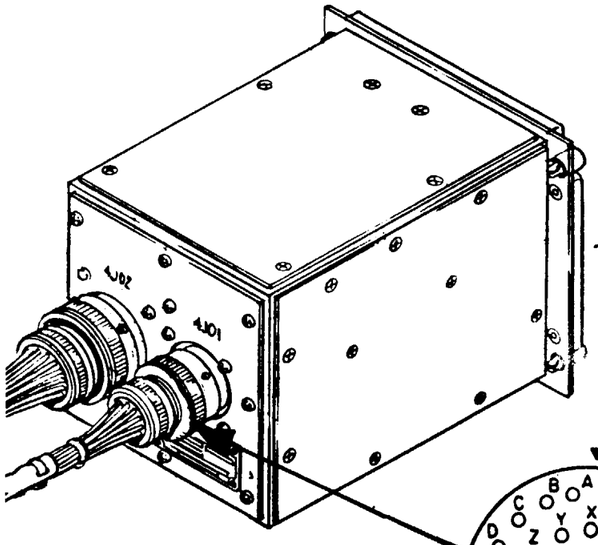
Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

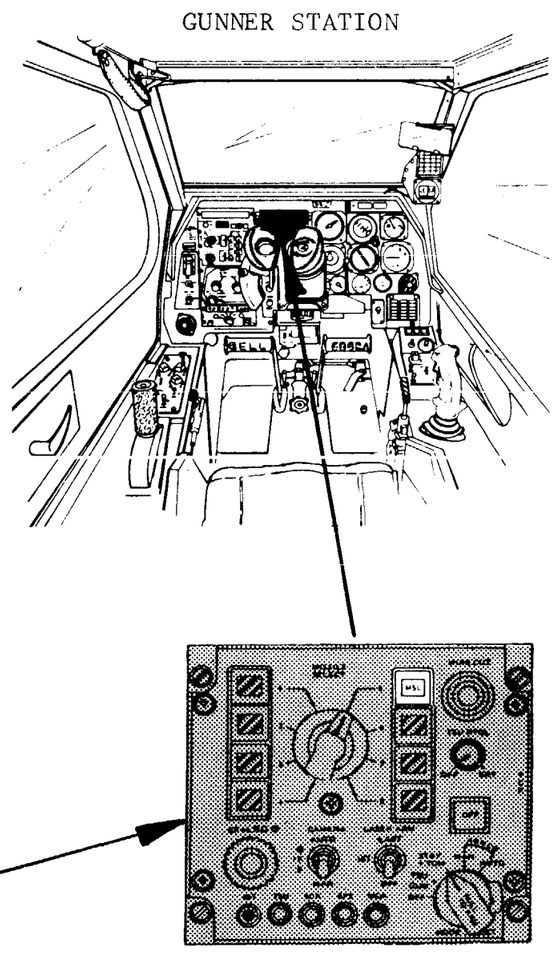
Tool Set, A/C Armament Repairman

Personnel Required
68J ( 2 )

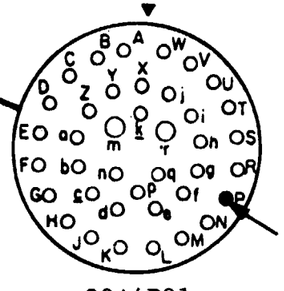
References
TM 55-1520-236-23
TM 9-1425-473-20
TM 9-1425-473-34



TCP (TOW CONTROL PANEL)
(REAR VIEW)

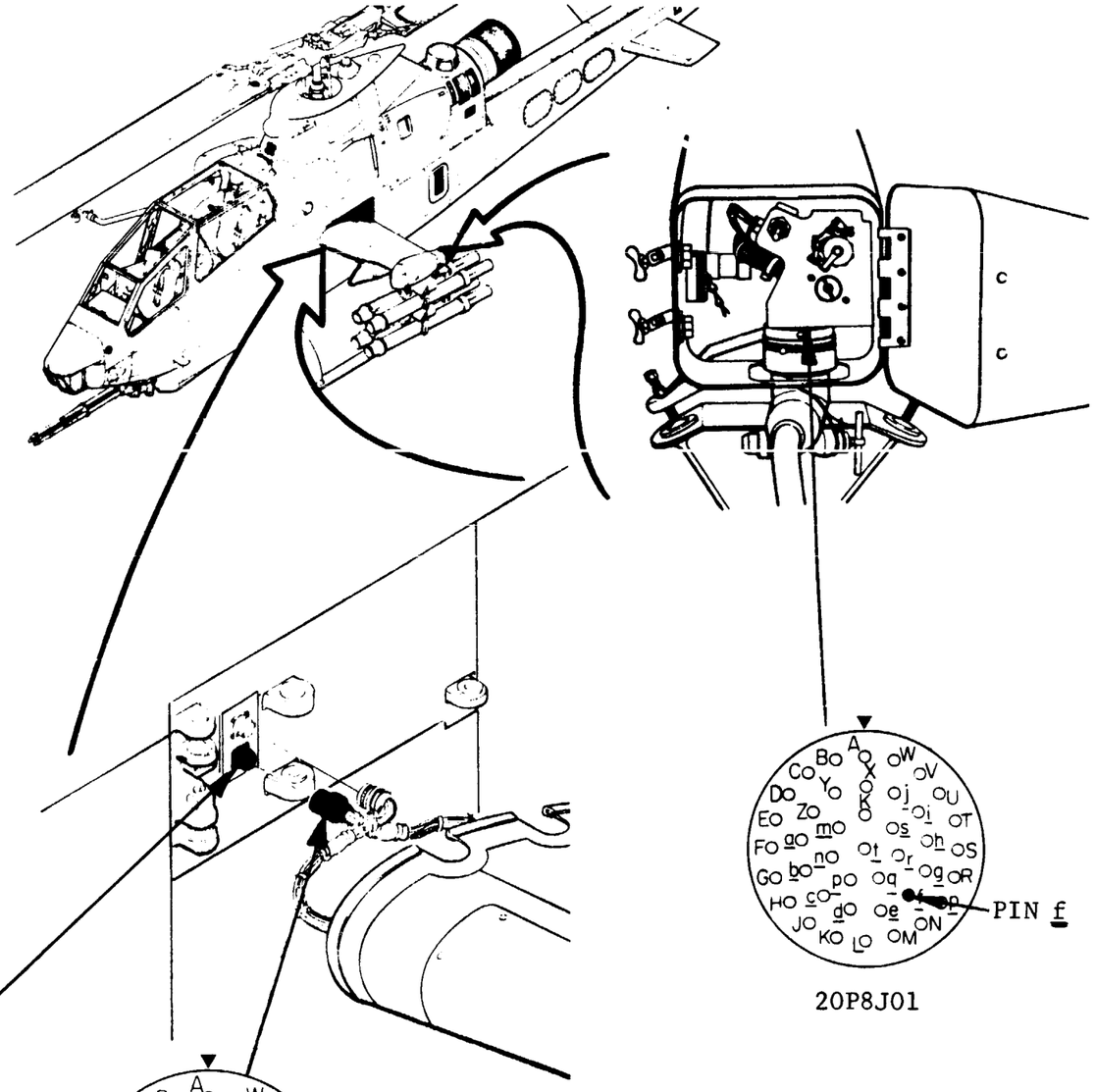


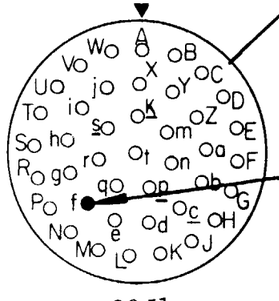

TCP (TOW CONTROL PANEL)



PIN P

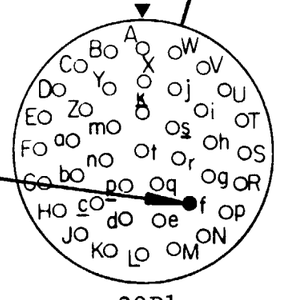
20A4P01





PIN f

20J1



20P1



PIN f

20P8J01

8-30. MSL PRESENT NOT INDICATED IN POSITION 5 (CONTINUED).

Load TSEM in launcher position 5 per TM 9-1425-473-34, table 2-6.

Perform TMS Operational Check, paragraph 8-2 through step o (BIT test).

Did all operations pass the required tests?

NO

Repair all faults discovered during operational check.

Then go to paragraph 8-2.

Is MSL present indicated in position 5?

YES

Fault not found in helicopter.

Continue operational check beginning with step p.

NO

Turn off electrical power per paragraph 8-3.

CheCK for continuity from 20A4P01-P to airframe ground..

Reverse multimeter leads and repeat test (diode in circuit).

Does either test show a low resistance (under 100 ohms)?

YES

Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Check for continuity from 20A4P01-P to 0P8J01-f.

Is continuity present?

YES

Replace upper left TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A4P01-P to 20J1-f.

Is continuity present?

YES

Repair wire TG226D22 between 20P1-f and 20P8J01-f.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.

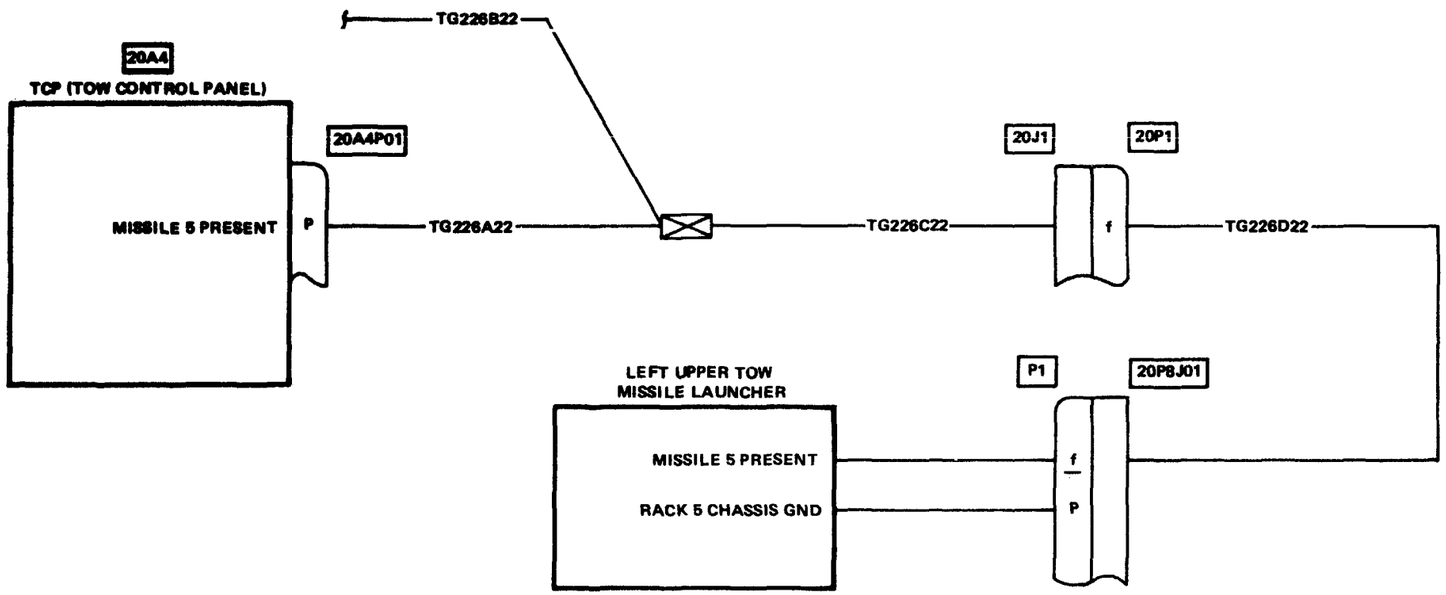
NO

Repair wire(s) TG226A22 and/or TG226C22 between 20A4P01-P and 20J1-f.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.

8-30. MSL PRESENT NOT INDICATED IN POSITION 5 (CONTINUED).



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## 8-31. MSL PRESENT NOT INDICATED IN POSITION 6.

INITIAL SETUP

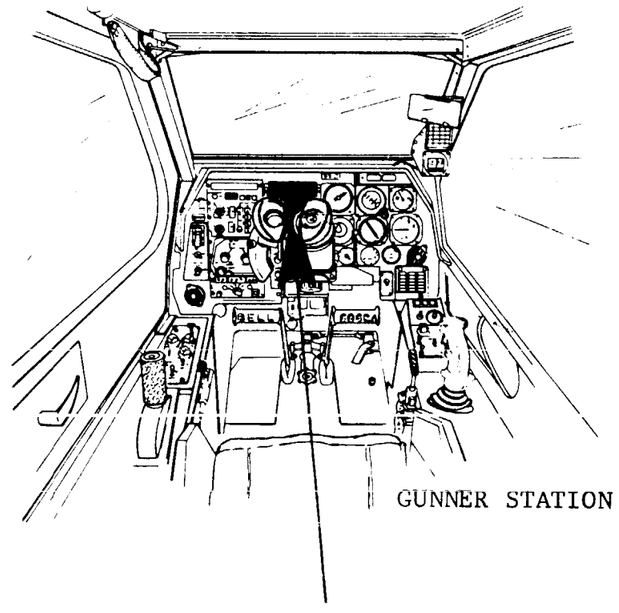
Applicable Configuration
All

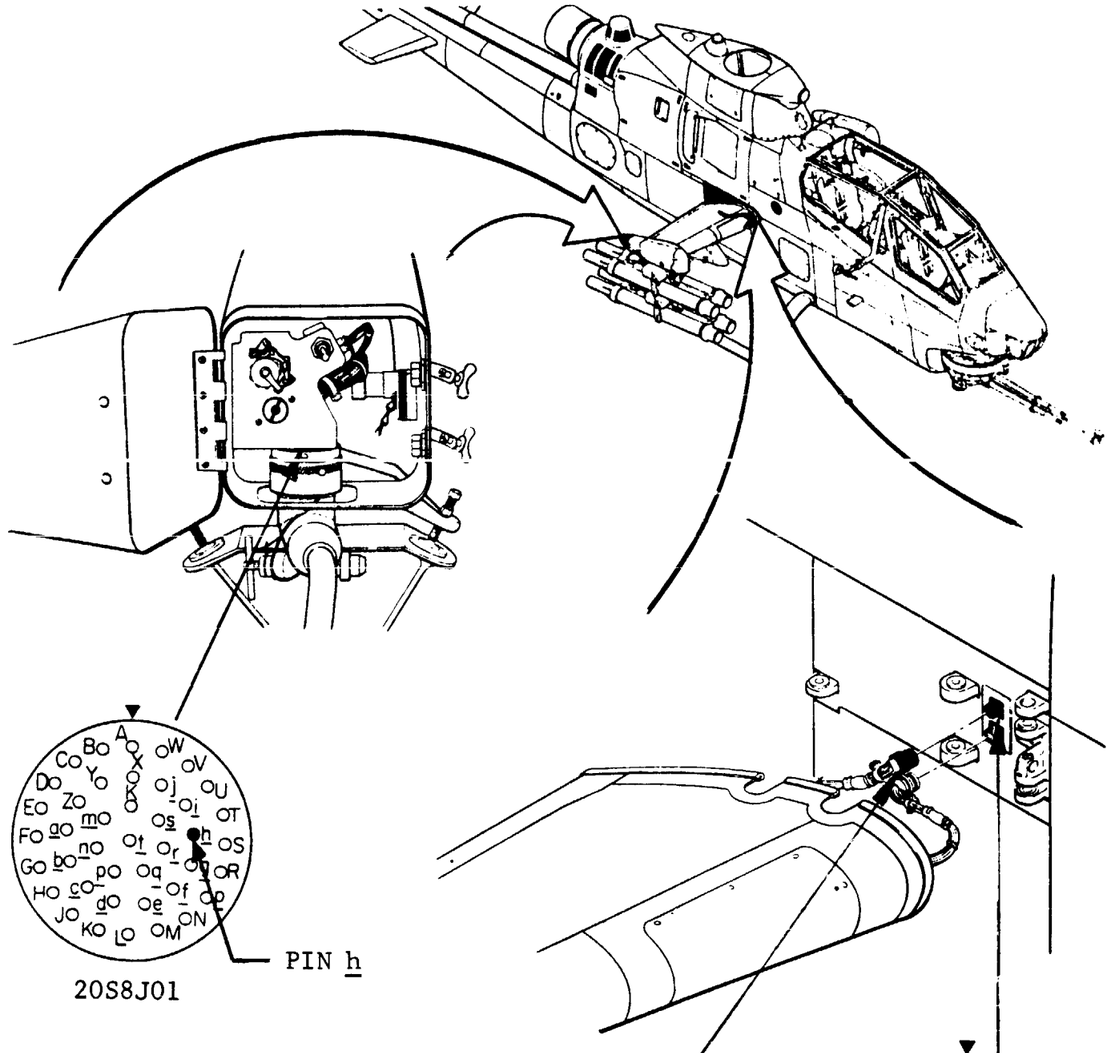
Tools/Test and Support Equipment
Multimeter

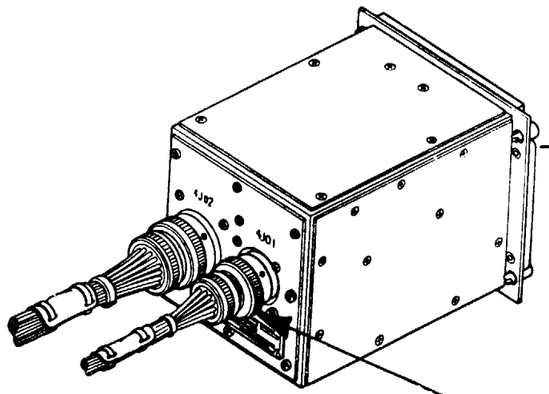
Tool Set, A/C Armament Repairman

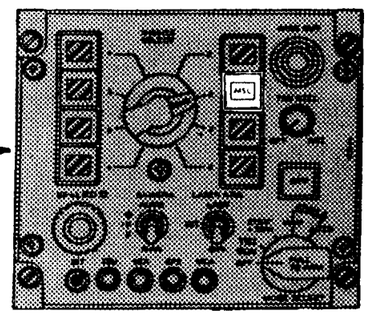
Personnel Required
68J (2)

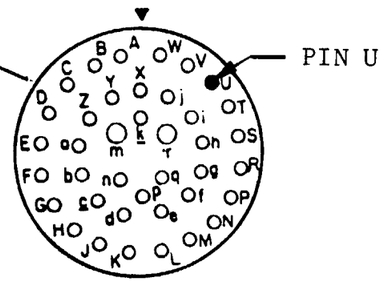
References
TM 9-425-473-20
TM 9-1425-473-34
TM 55-1520-236-23

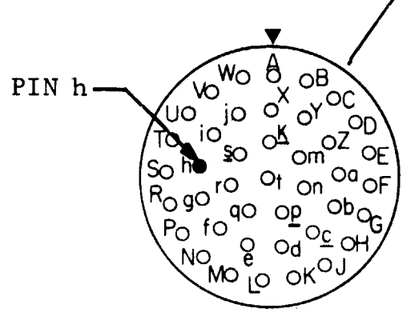


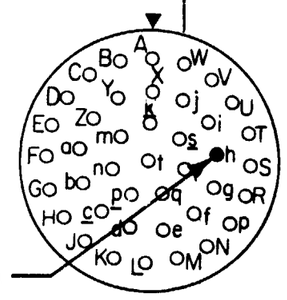



8-31. MSL PRESENT NOT INDICATED IN POSITION 6 (CONTINUED).

Load TSEM in launcher position 6 per TM 9-1425-473-34, Table 2-6.

Perform TMS Operational Check, paragraph 8-2 through step o (BIT test).

Did all operations pass the required tests?

NO

Repair all faults discovered during the operational check.

Then go to paragraph 8-2.

Is MSL present indicated in position 6.

YES

Fault not found in helicopter.

Continue operational check beginning with step p.

NO

Turn off electrical power per paragraph 8-3,

Check for continuity from 20AP01-U to airframe ground.

Reverse multimeter leads and repeat test (diode in circuit).

Does either test Show a low resistance (under 100 ohms)?

YES

Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Check for continuity from 20A4P01-U to 20S8J01-h.

Is continuity present?

YES

Replace upper right TOW launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A4P01-U to 20J2-h.

Is continuity present?

YES

Repair wire TG230B22 between 20P2-h and 20S8J01-h.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

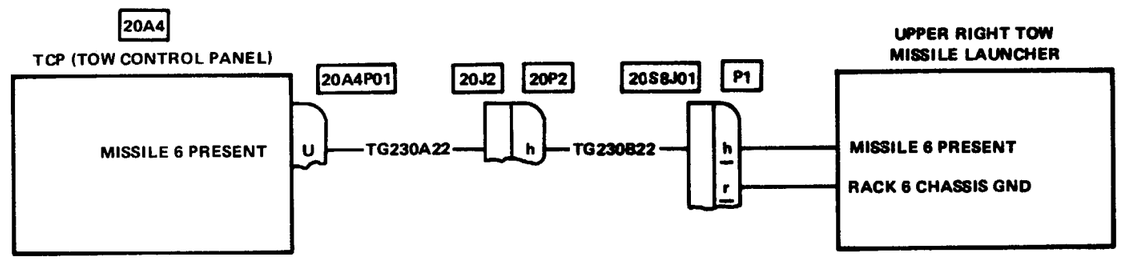
Then go to paragraph 8-2.

NO

Repair wire TG230A22 between 20A4P01-U and 20J2-h.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.



## 8-32. MSL PRESENT NOT INDICATED IN POSITION 7.

INITIAL SETUP

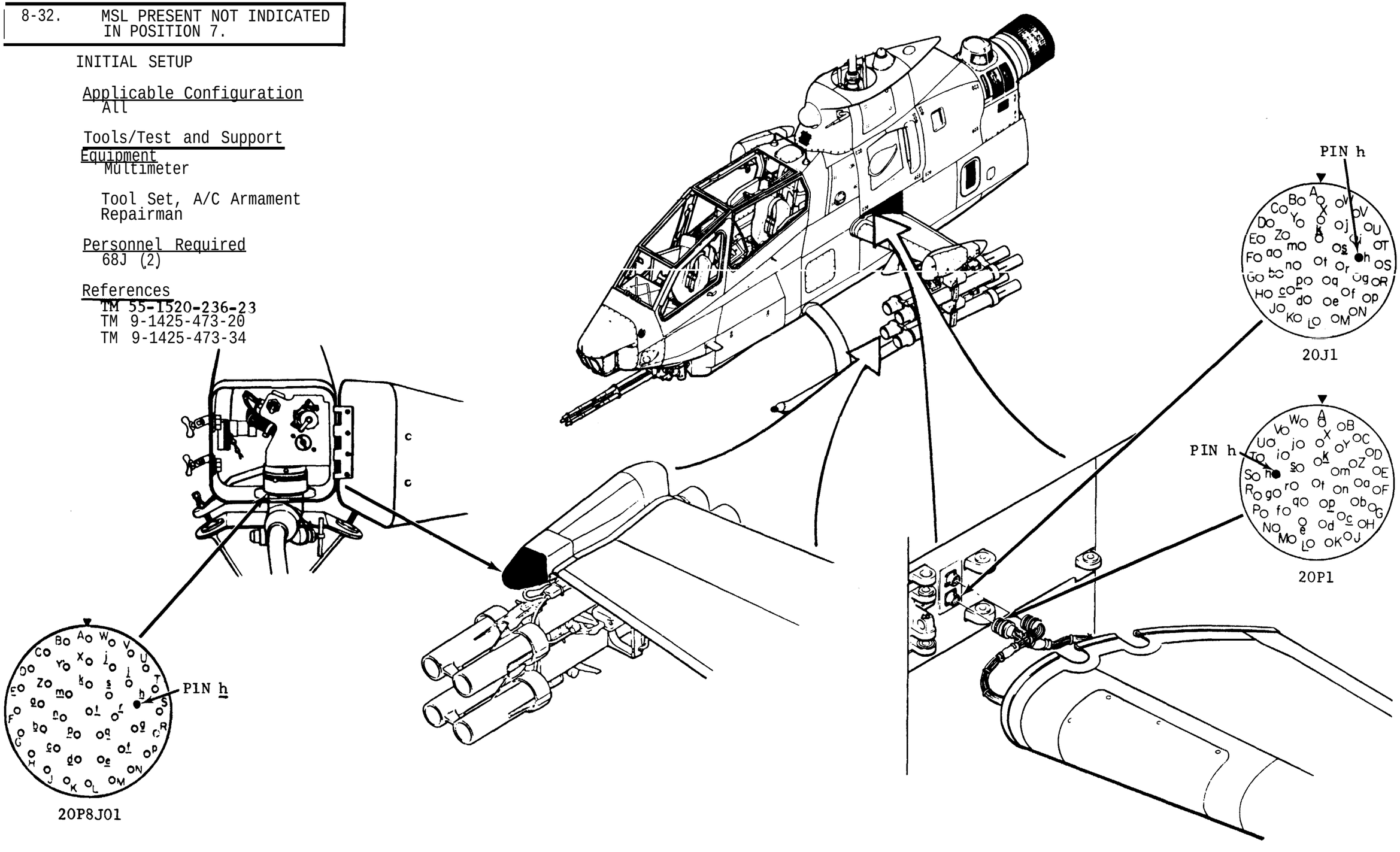
Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

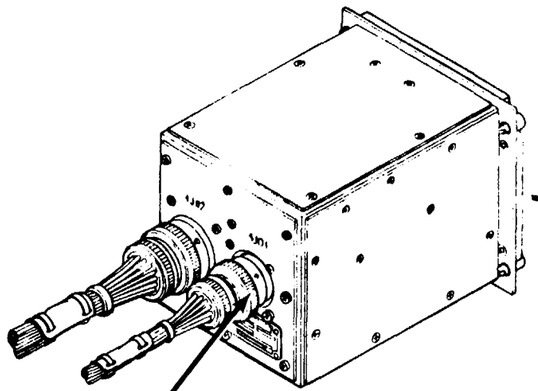
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

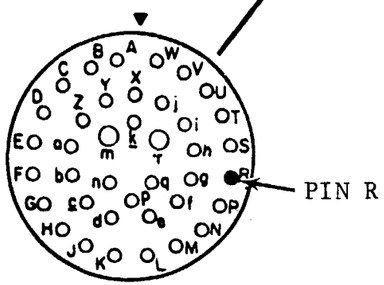
References
TM 55-1520-236-23
TM 9-1425-473-20
TM 9-1425-473-34



8-32. MSL PRESENT NOT INDICATED IN POSITION 7 (CONTINUED).



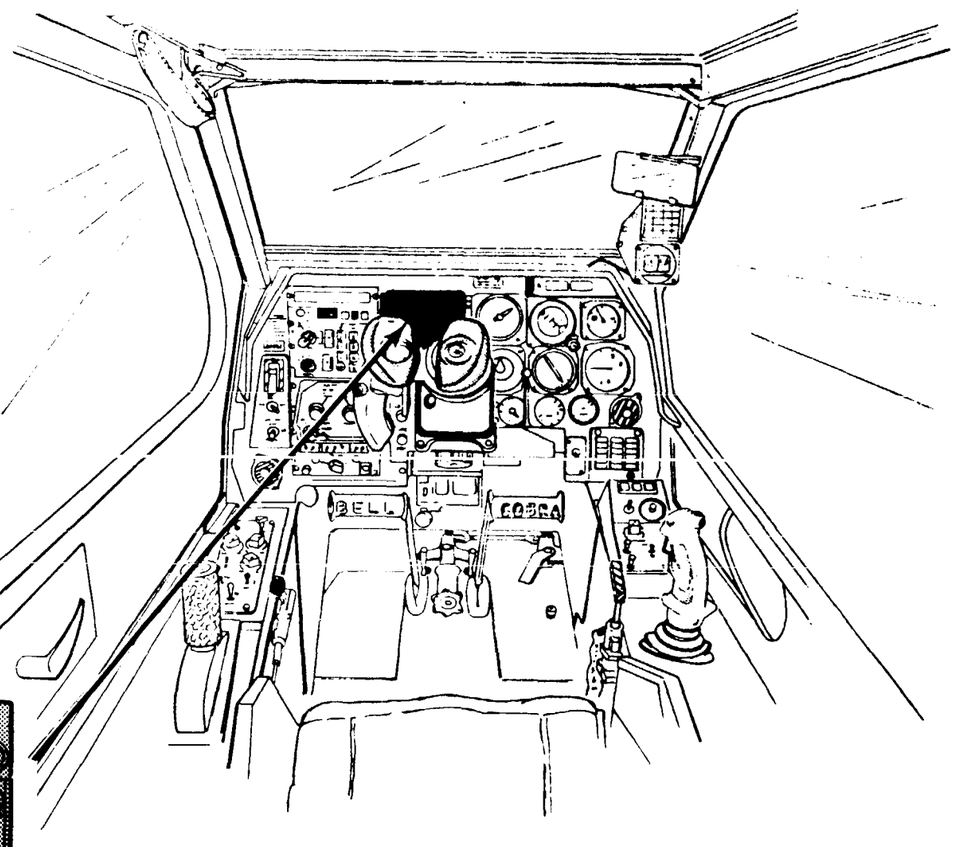
TCP (TOW CONTROL PANEL)
(REAR VIEW)




20A4P01




TCP (TOW CONTROL PANEL)




GUNNER STATION

## 8-32. MSL PRESENT NOT INDICATED IN POSITION 7 (CONTINUED).

Load TSEM in launcher position 7 per TM 9-1425-473-34, table 2-6.

Perform TMS Operational Check, paragraph 8-2 through step o (BIT test).

Did all operations pass the required tests?

YES → Is MSL present indicated in position 7.

NO → Repair all faults discovered during operational check.

Then go to paragraph 8-2.

Is MSL present indicated in position 7.

YES → Fault not found in helicopter.

Continue operational check beginning with step p.

NO → Turn off electrical power per paragraph 8-3.

Check for continuity from 20A4P0l-R to airframe ground.

Reverse multimeter leads and repeal test (diode in circuit).

Does either test show a low resistance (under 100 ohms)?

YES → Replace TCP (TOW control panel) per TM 9-1425-473-

Then go to paragraph 8-2.

NO → Check for continuity from 20A4P01-R to 20P8J01-h.

Is continuity present?

YES → Replace upper left TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO → Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A4P01-R to 20J1-h.

Is continuity present?

YES → Repair wire TG227B22 between 20P1-h and 20P8J01-h.

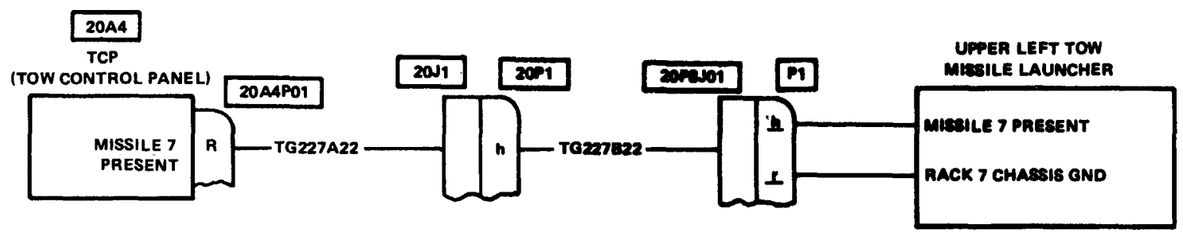
Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.

NO → Repair wire TG227A22 between 20A4P01-R and 20J1-h.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.



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## 8-33. MSL PRESENT NOT INDICATED IN POSITION 8.

INITIAL SETUP

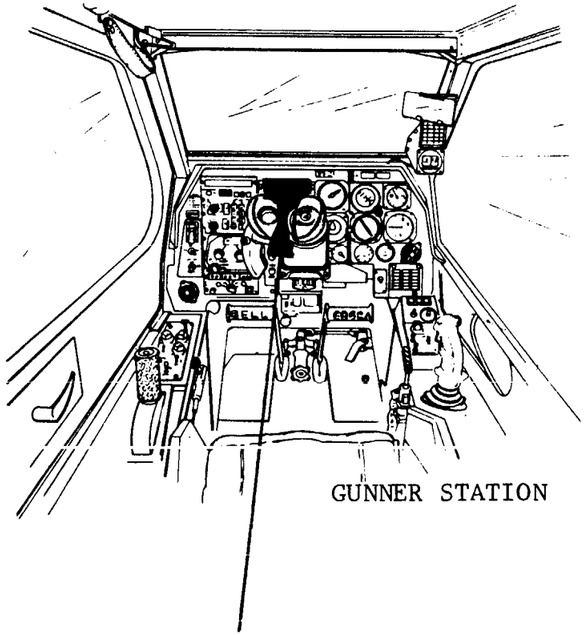
Applicable Configuration
All

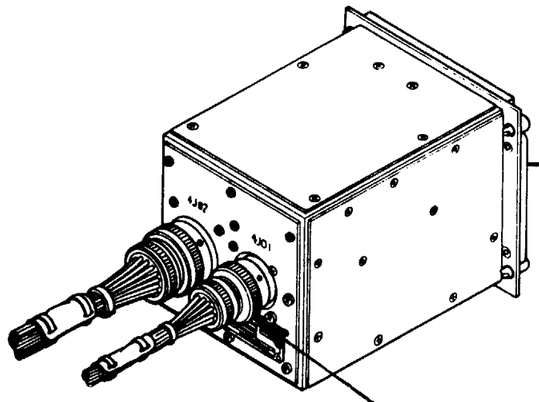
Tools Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

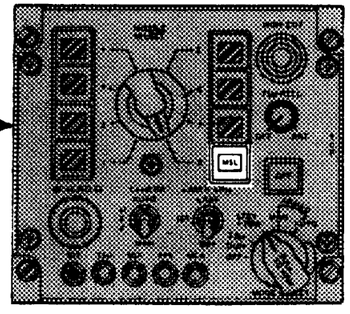
Personnel Required
68J (2)

References
TM 9-1425-473-20
TM 9-1425-473-34
TM 55-1520-236-23

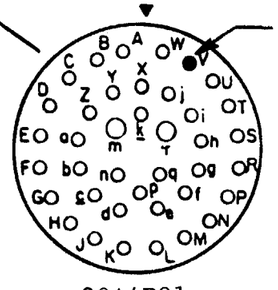


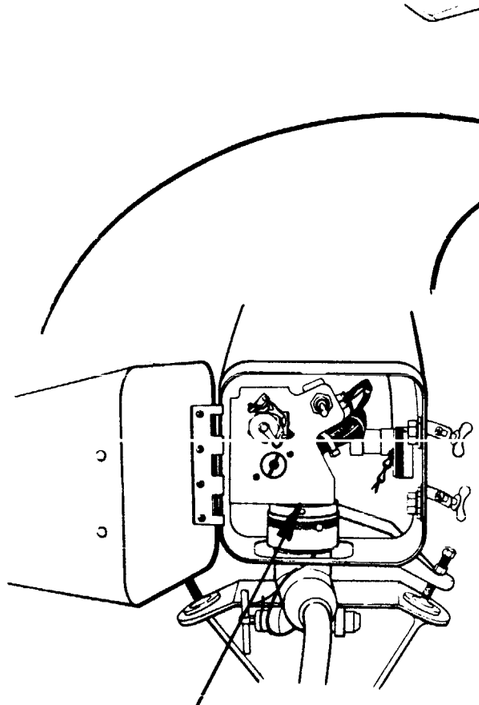
TCP (TOW CONTROL PANEL)

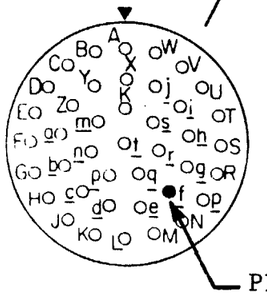


TCP (TOW CONTROL PANEL)
(REAR VIEW)

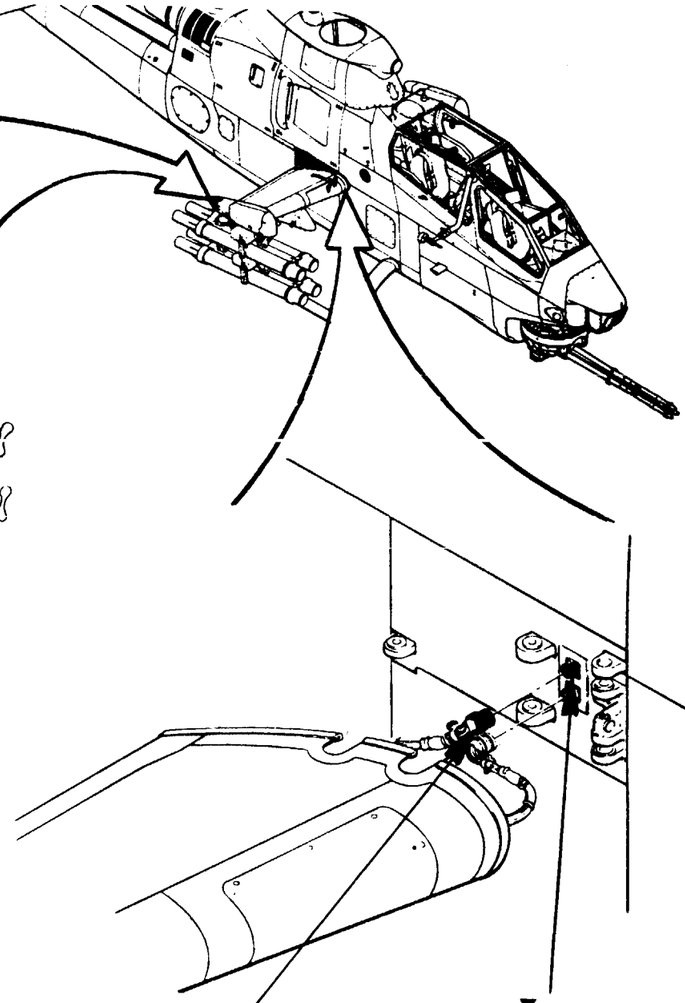


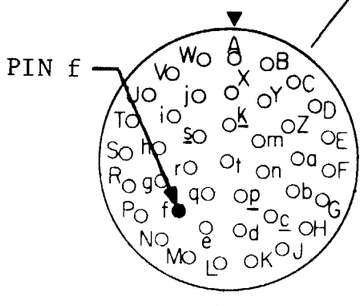

20A4P01



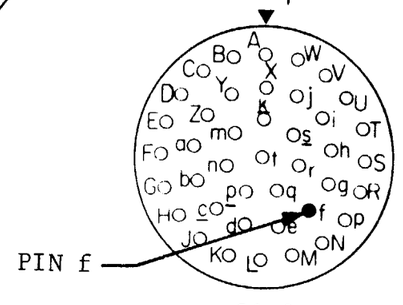



20S8J01






20P2




20J2

8-33. MSL PRESENT NOT INDICATED IN POSITION 8 (CONTINUED).

Load TSEM in launcher position 8 per TM 9-1425-473-34, Table 2-6.

Perform TMS Operational Check, paragraph 8-2 through step o (BIT test).

Did all operations pass the required tests?

YES → Is MSL present indicated in position 8?

YES → Fault not found in helicopter.

Continue operational check beginning with step p.

NO → Repair all faults discovered during the operational check.

Then go to paragraph 8-2.

NO → Turn off electrical power per paragraph 8-3.

Check for continuity from 20A4P01-V to airframe ground.

Reverse multimeter leads and repeat test (diode in-circuit).

Does either test show a low resistance (under 100 ohms)?

YES → Replace TCP (TOW control panel) per TM 9-1425-473-Chapter 2, Section V

Then go to paragraph 8-2.

NO → Check for continuity from 20A4P01-V to 20S8J01-f.

Is continuity present?

YES → Replace upper right TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO → Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A4P01-V to 20J2-f.

Is continuity present?

YES → Repair wire TG231B22 between 20P2-f and 20S8J01-f.

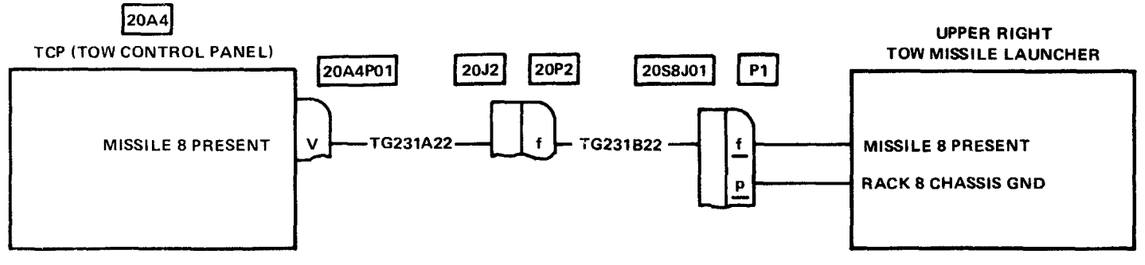
Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.

NO → Repair wire TG231A22 between 20A4P01-V and 20J2-f.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.



| 8-34. | LEFT LAUNCHER WILL NOT ALIGN WITH TSU. (TSU AT 0 DEGREES ELEVATION) |
|---|---|

INITIAL SETUP

Applicable Configuration
All

TooIs/Test and Support Equipment
Multimeter

Digital Voltmeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References
TM 9-1425-473-20
TM 9-1425-473-34
TM 55-1520-236-23

Access Panels

Battery Compartment - Removed

Radar Altimeter Antenna - Removed

Forward Belly Armament and Lighting - Removed

Left Ammo Compartment Door - Open

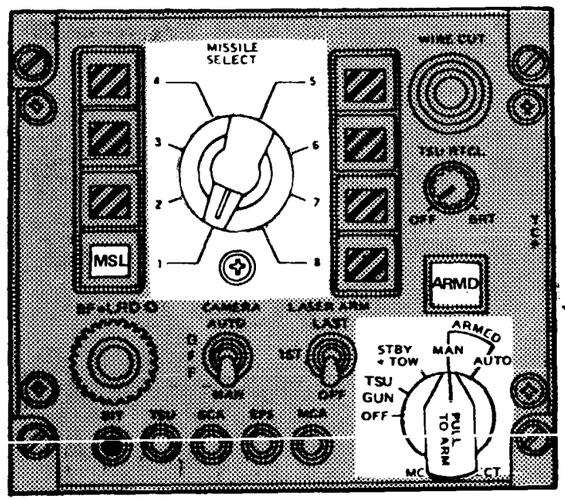
Servo Electronic Control Unit - Removed

Middle Electronics (Tailboom) - Removed

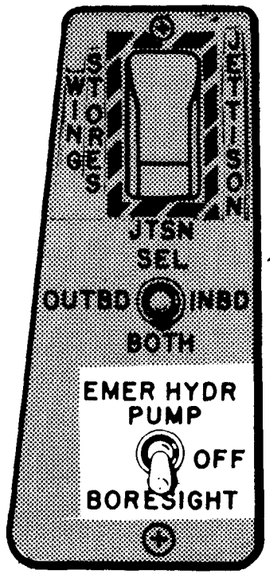
MCN Forward Electronics (Tailboom) - Removed

Left Outboard Pylon Fairing - Removed

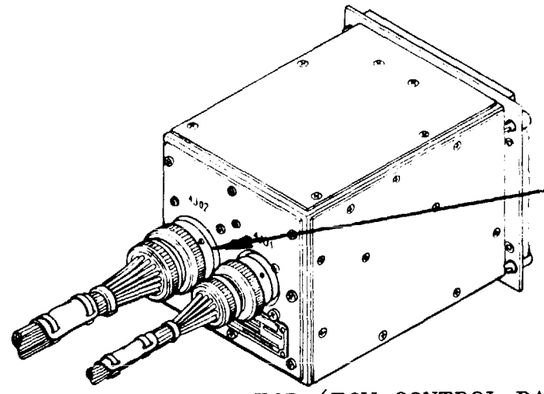
| A. | TROUBLESHOOTING LOGIC PART ONE. |
|---|---|



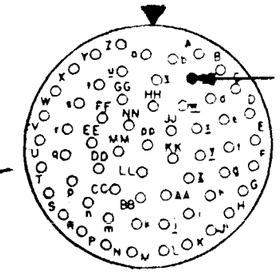

TCP (TOW CONTROL PANEL)



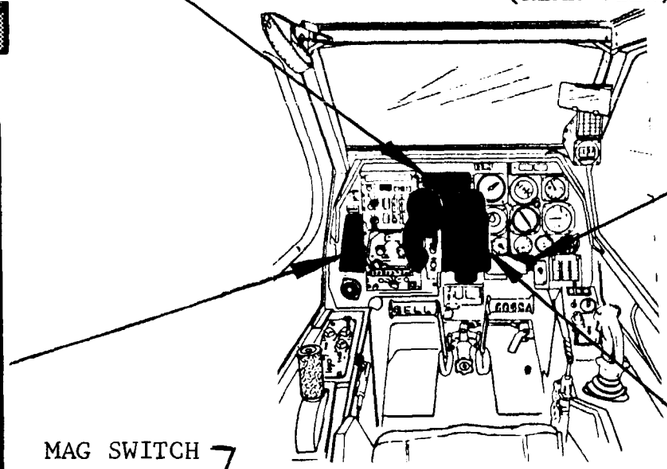

SWITCH PANEL



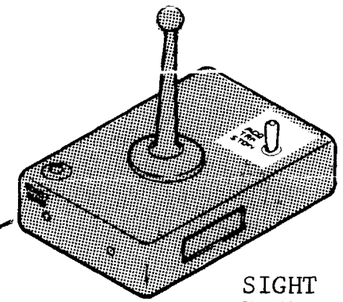
TCP (TOW CONTROL PANEL)
(REAR VIEW)



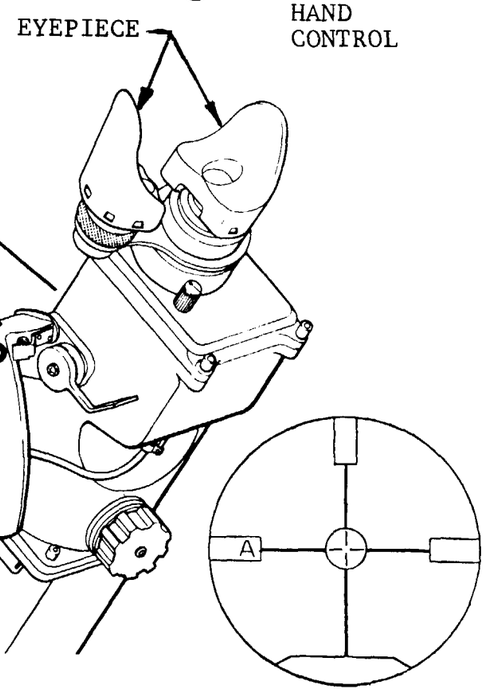

20A4P02

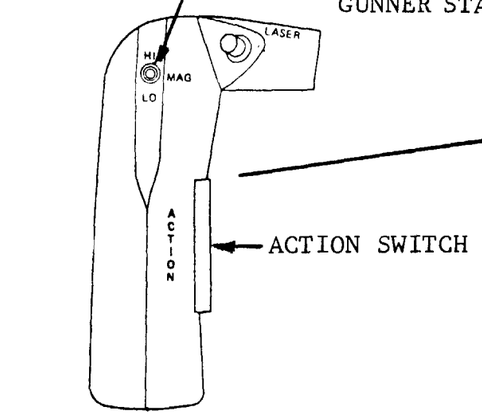


GUNNER STATION



SIGHT HAND CONTROL



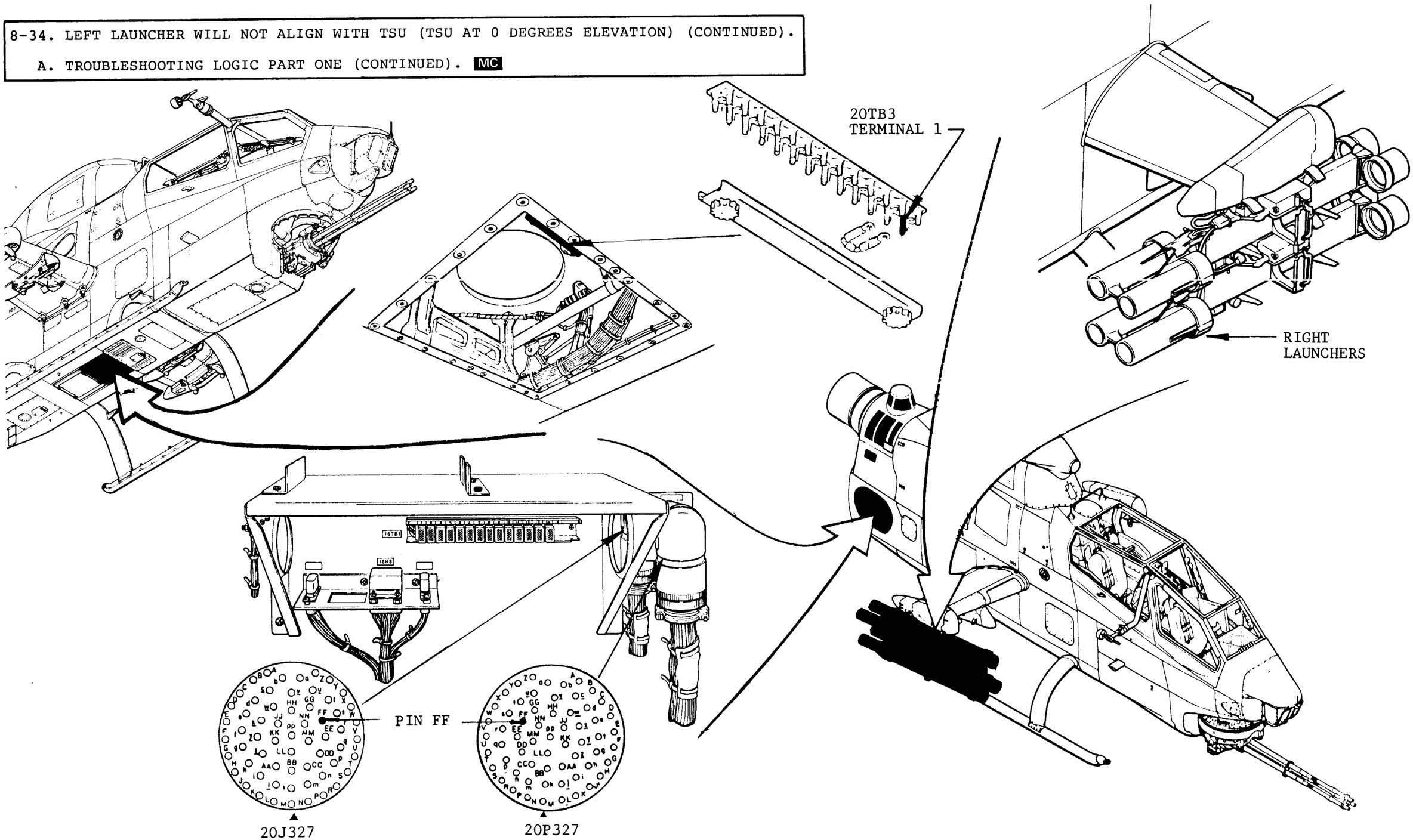

LEFT HAND GRIP




TSU EYEPIECE

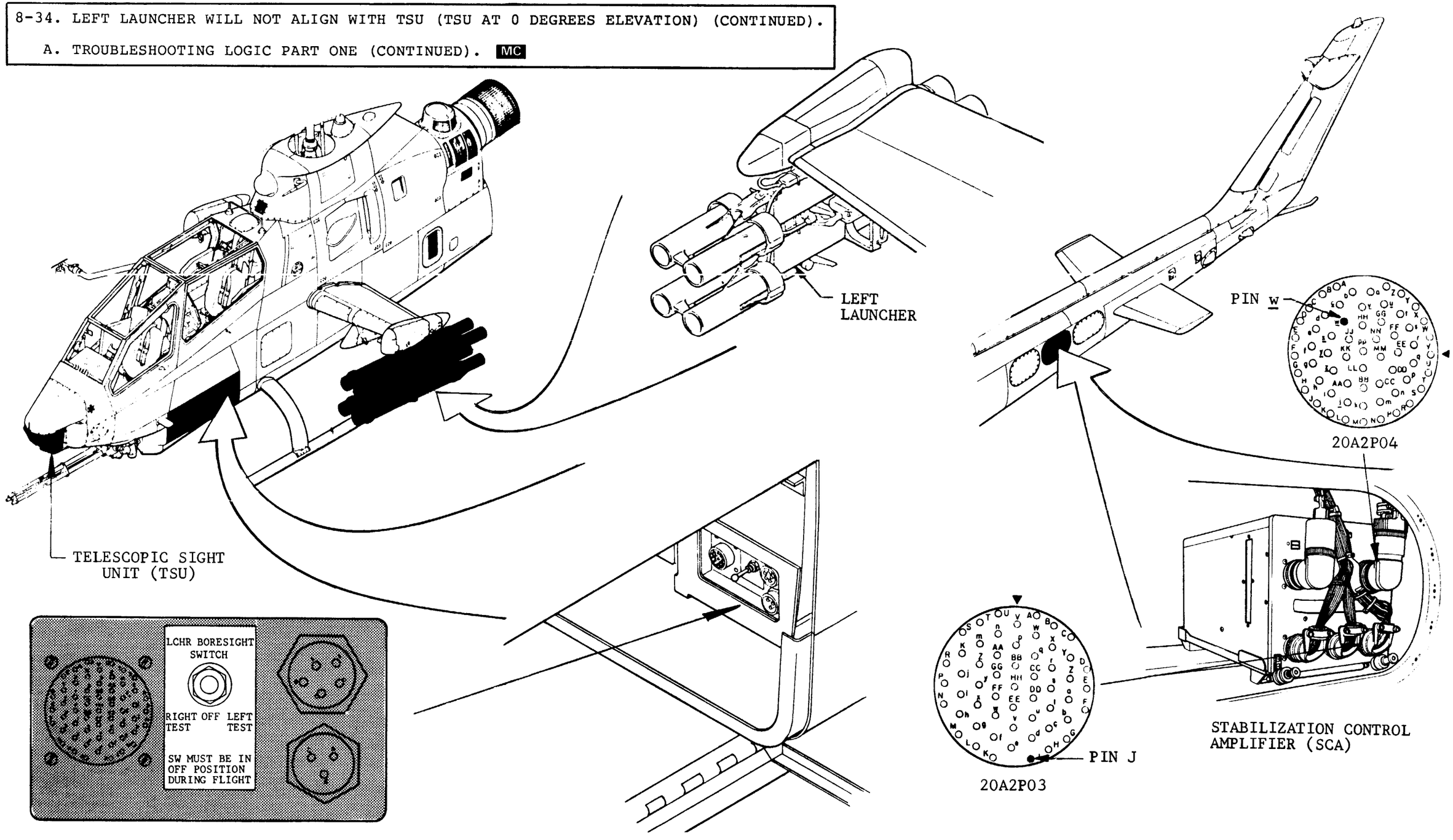
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MC



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MC



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MC

In telescopic sight unit (TSU) eyepiece:

Verify that HI magnification is present.

On TCP (TOW control panel):

Verify that mode indicator indicates ARMD.

Verify that MISSILE SELECT switch is set to 1.

Verify that MSL present is indicated in position 1.

On sight hand control:

Verify that ACQ/TRK/STOW switch is set to TRK.

On gunner instrument panel:

Verify that EMER HYDR PUMP/ BORESIGHT switch is set to BORESIGHT.

On left hand grip:

Press and hold ACTION switch.

Is "A" (attack) battleflag visible in telescopic sight unit (TSU) eyepiece?

YES

On sight hand control:

Set ACQ/TRK/STOW switch to STQW, then to TRK.

On left hand grip:

Press and hold ACTION switch.

Does the left launcher oscillate?

YES

Go to paragraph 8-35.

NO

On sight hand control:

Set ACQ/TRK/STOW switch to STOW.

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to LEFT TEST.

Does the left launcher line up with telescopic sight unit (TSU)?

YES

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A2P03-J to 20TB3-1.

Is continuity present?

YES

NO

Repair wire TG368E22 between 20A2P03-J and 20TB3-1.

Then go to paragraph 8-2.

NO

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to RIGHT TEST.

Does the right launcher line up with telescopic sight unit (TSU)?

YES

Go to Troubleshooting Logic Part Two (sub-paragraph B).

NO

NO

Refer to TM 9-1425-473-34, Table 3-7/3-11.

8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MC

Check for continuity from 20A2P04-w to 20A4P02-c.

Is continuity present?

YES → Check for continuity from 20A2P04-w to airframe ground.

Is continuity present?

YES → (continued)

NO → Check for continuity from 20P327-FF to 20A4P02-c.

Is continuity present?

YES → Requir wire TG275B22 between 20J327-FF and 20A2P04 - w.

Then go to paragraph 8-2.

NO → Repair wire TG275A22 between 20P327-FF and 20A4P02-c.

Then go to paragraph 8-2.

NO → Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to OFF.

Turn on electrical power per paragraph 8-3.

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to BORESIGHT.

Does the left launcher line up with the telescopic sight unit (TSU)?

YES → (continued)

NO → Turn off electrical power per paragraph 8-3.

Install original TCP (TOW control panel) per TM 9-1425 473-20, Chapter 2, Section V.

Replace servo control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO → On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

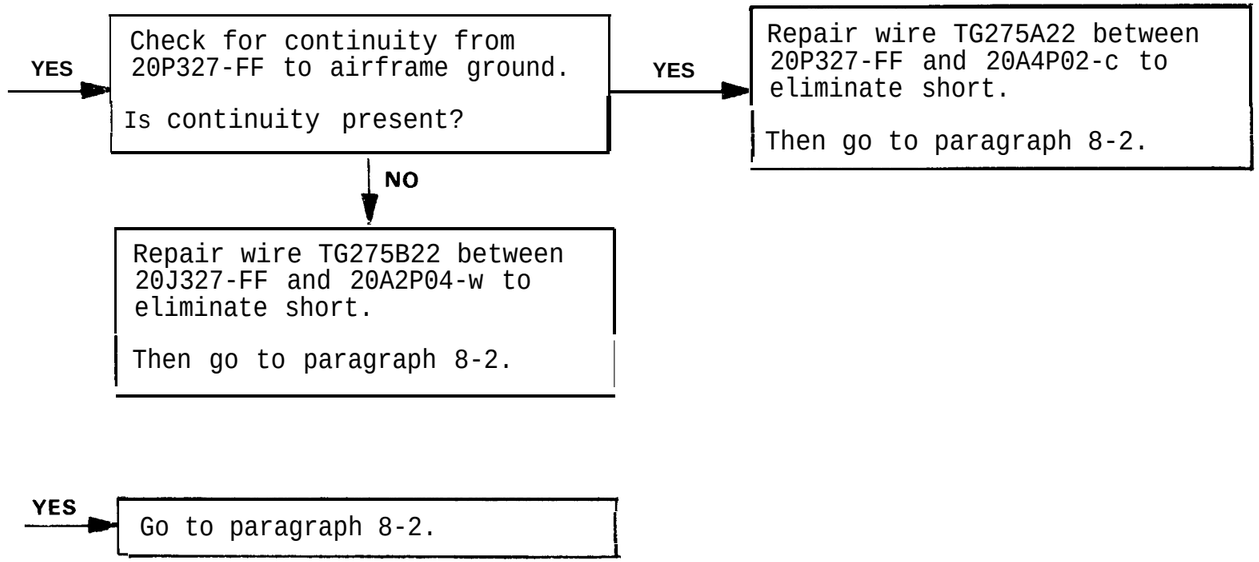
On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to OFF.

Then go to paragraph 8-36.

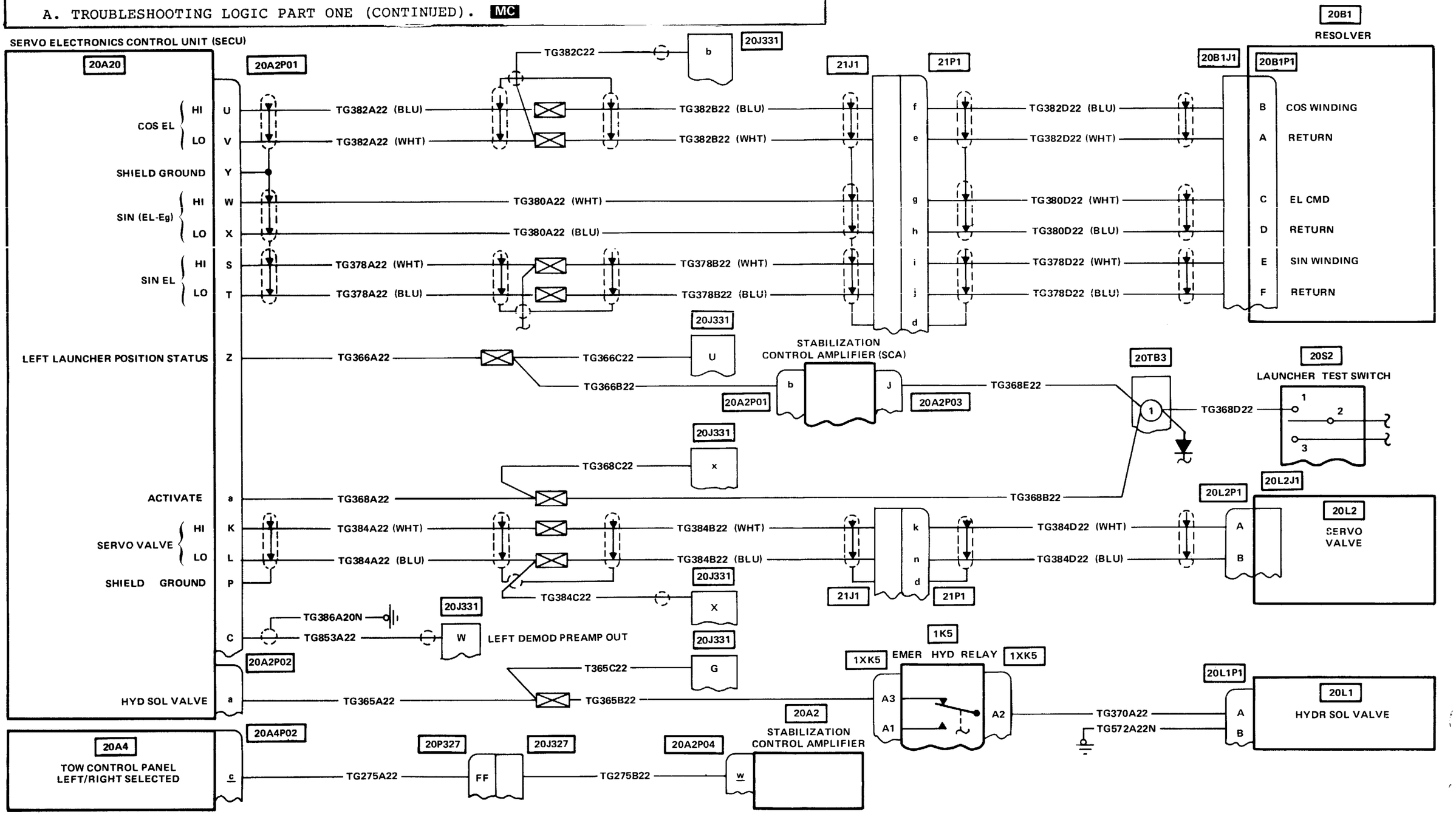
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MC



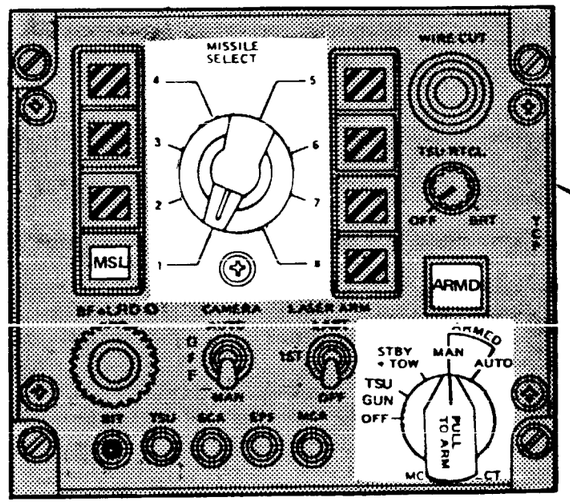
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MC

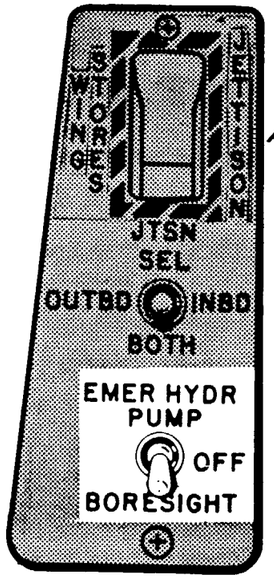


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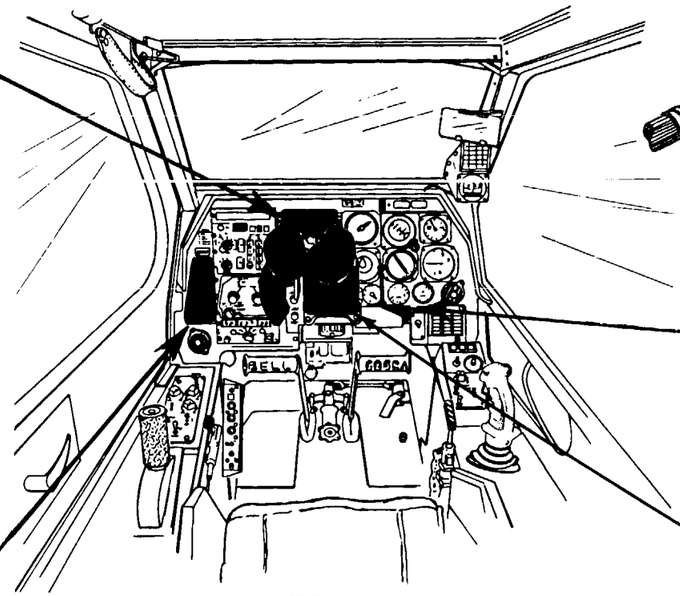
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
A.1. TROUBLESHOOTING LOGIC PART ONE. MCN



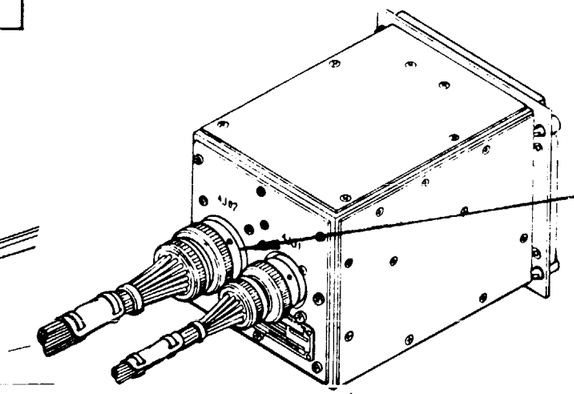

TCP (TOW CONTROL PANEL)



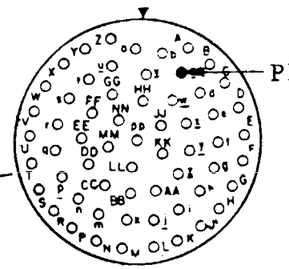

SWITCH PANEL



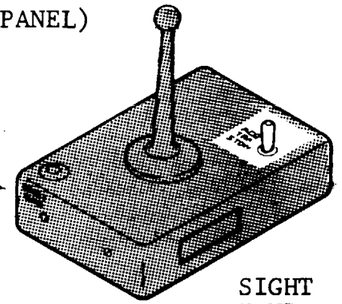
GUNNER STATION



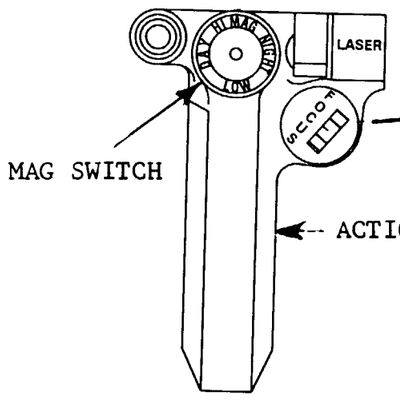
TCP (TOW CONTROL PANEL) (REAR VIEW)




20A4P02



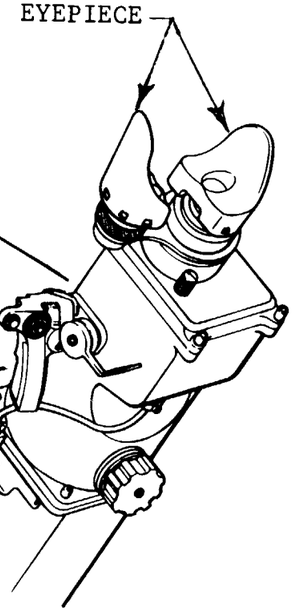
SIGHT HAND CONTROL



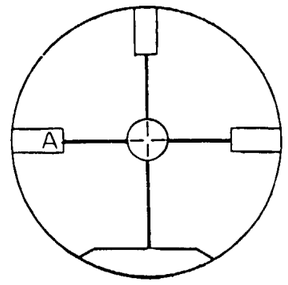

MAG SWITCH

ACTION SWITCH

LEFT HAND GRIP



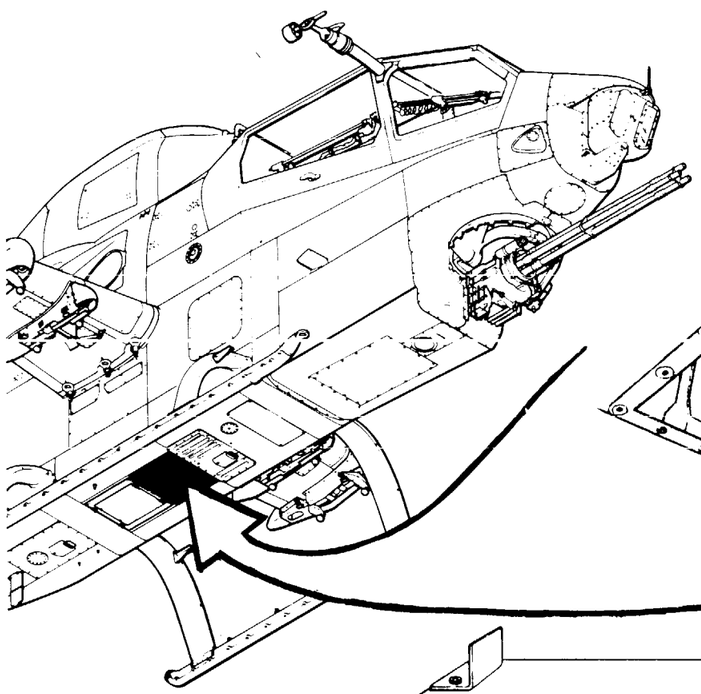

TELESCOPIC SIGHT UNIT (TSU)

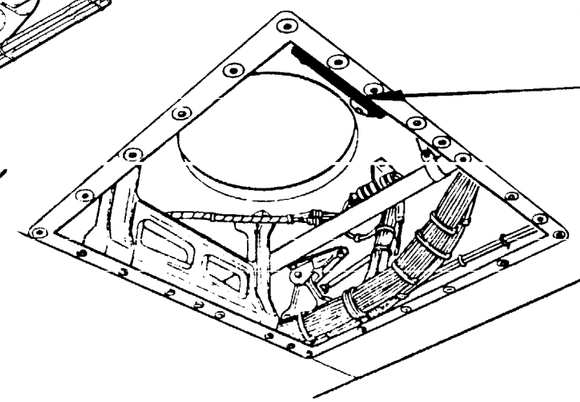


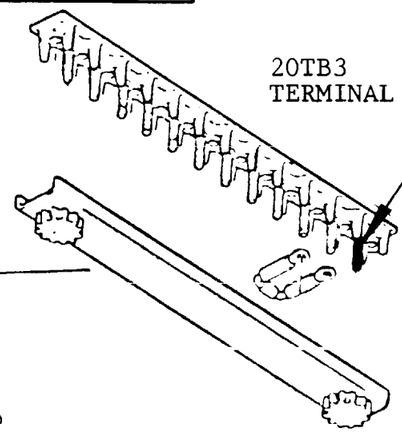

TSU EYEPIECE

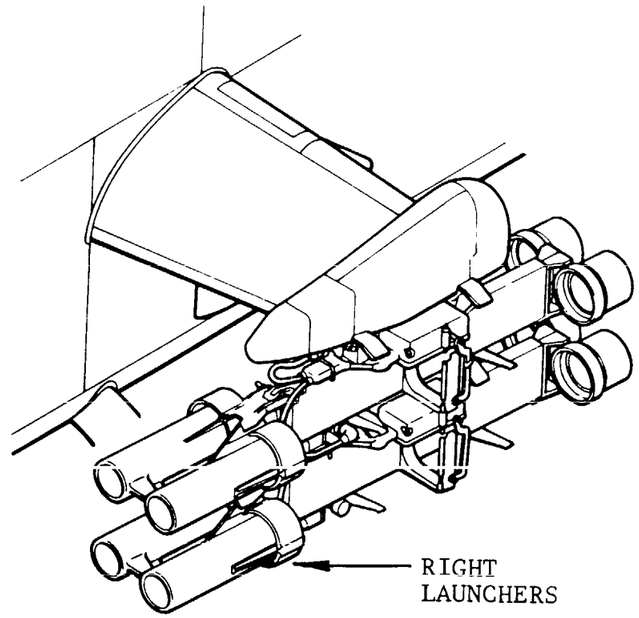
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

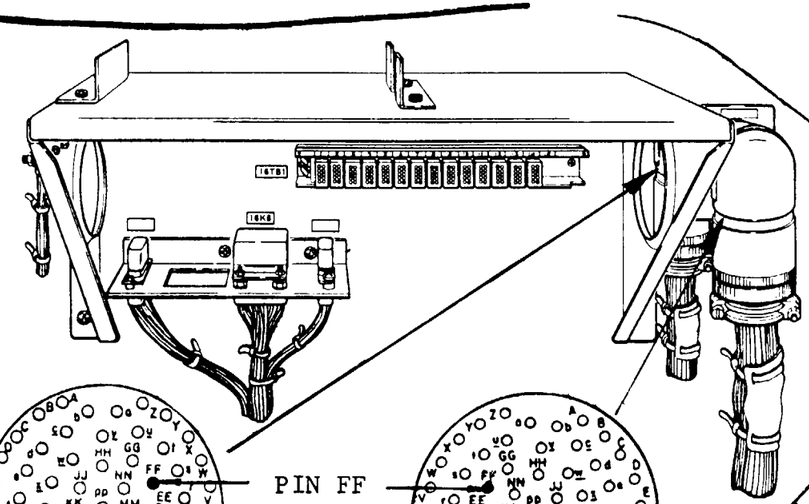
A.1. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MCN

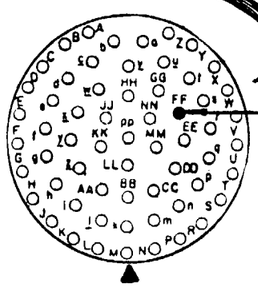




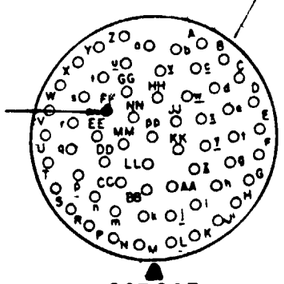


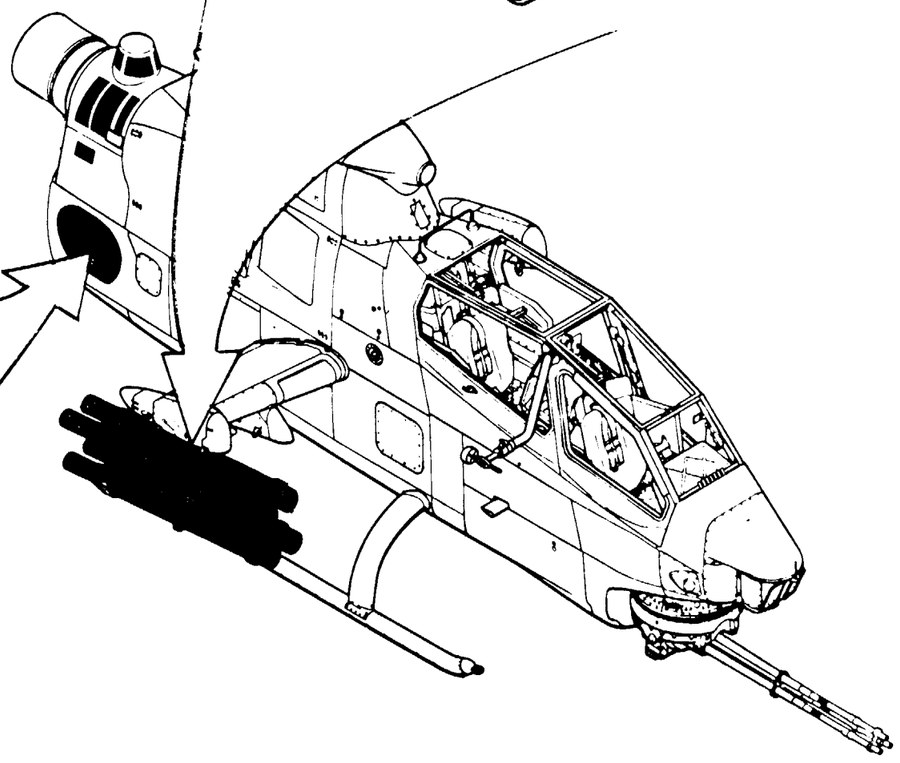



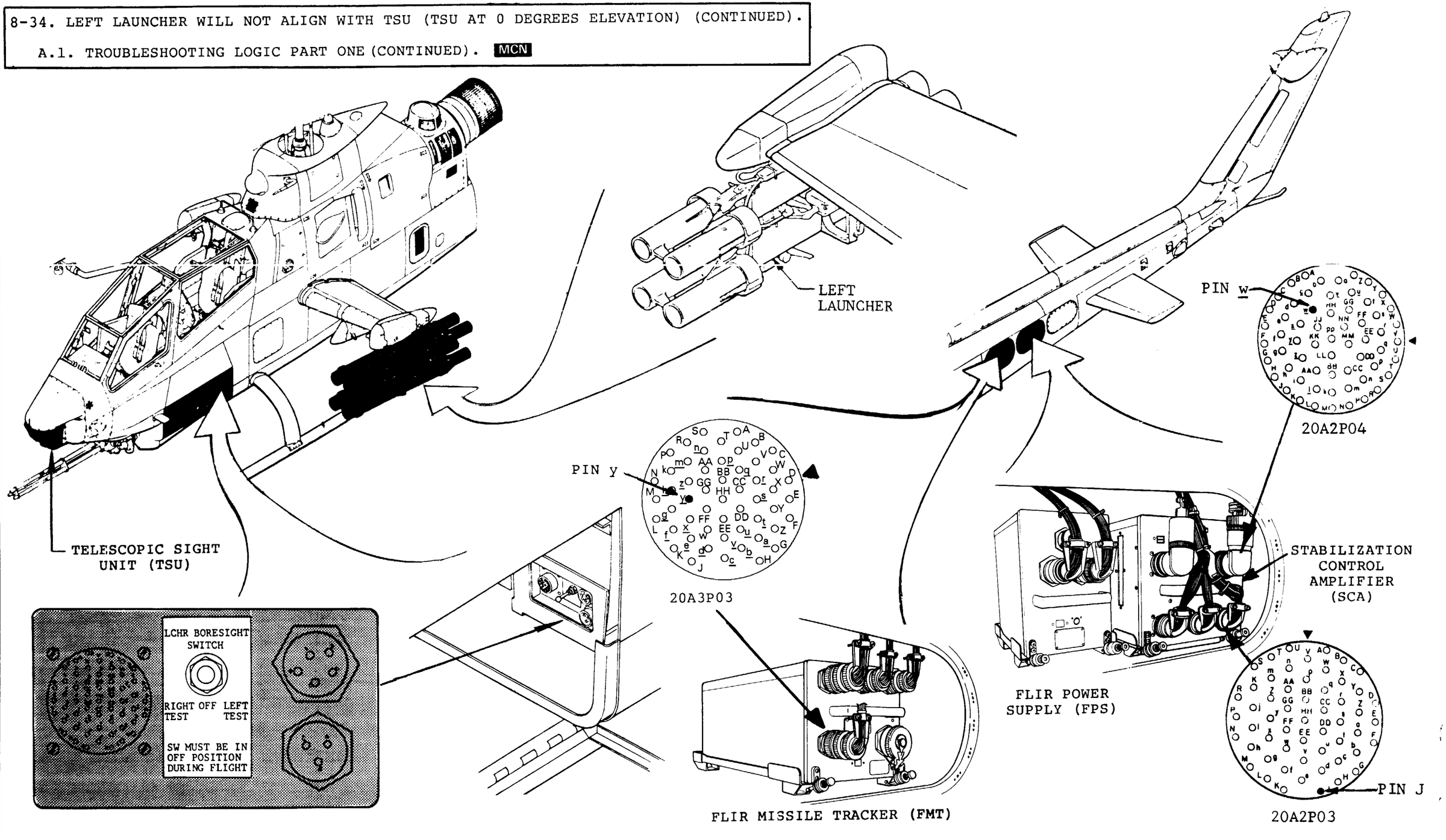

PIN FF



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A.1. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MCN



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A.l. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MCN

In telescopic sight unit (TSU) eyepiece:

Verify that HI magnification is present and TSU is operating in DAY mode.

On TCP (TOW control panel):

Verify that mode indicator indicates ARMD.

Verify that MISSILE SELECT switch is set to 1.

Verify that MSL present is indicated in position 1.

On sight hand control:

Verify that ACQ/TRK/STOW switch is set to TRK.

On gunner instrument panel:

Verify that EMER HYDR PUMP/ BORESIGHT switch is set to BORESIGHT.

On left hand grip:

Press and hold ACTION switch.

Is "A" (attack) battleflag visible in telescopic sight unit (TSU) eyepiece?

YES

On sight hand control:

Set ACQ/TRK/STOW switch to STOW, then to TRK.

On left hand grip:

Press and hold ACTION switch.

Does the left launcher oscillate?

YES

Go to paragraph 8-35.

NO

On sight hand control:

Set ACQ/TRK/STOW switch to STOW.

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to LEFT TEST.

Does the left launcher line up with telescopic sight unit (TSU)?

YES

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

Turn off electrical power per paragraph 8-3.

Disconnect 20A2P03.

Check for continuity from 20A2P03-J to 20TB3-1.

Is continuity present?

YES

NO

Repair wire TG368E22 between 20A2P03-J and 20TB3-1.

Connect 20A2P03.

Then go to paragraph 8-2.1.

NO

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to RIGHT TEST.

Does the right launcher line up with telescopic sight unit (TSU)?

YES

Go to Troubleshooting Logic Part Two (sub-paragraph B).

NO

NO

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Then go to paragraph 8-2.1.

8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A.1. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MCN

Disconnect 20A2P04 and 20A4P02.

Check for continuity from 20A2P04-w to 20A4P02-c.

Is continuity present?

YES

NO

Disconnect 20P327.

Check for continuity from 20P327-FF to 204P02-c.

Is continuity present?

YES

Repair wire TG275B22 between 20J327-FF and 20A2P04-w.

Connect 20A4P02, 20A2P04, 20A2P03, and 20P327.

Then go to paragraph 8-2.1.

NO

Repair wire TG275A22 between 20P327-FF and 20A4P02-c.

Connect 20A2P04, 20A2P03, 20A4P02, and 20P327.

Then go to paragraph 8-2.1.

YES

Check for continuity from 20A2P04-w to airframe ground.

Is continuity present?

YES

Disconnect 20A3P03.

Check for continuity from 20A2P04-w to airframe ground,

Is continuity present?

YES

NO

Replace FLIR missile tracker (FMT) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A2P03, 20A2P04, and 20A4P02.

Then go to paragraph 8-2.1.

NO

Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A2P03 and 20A2P04.

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to OFF.

Turn on electrical power per paragraph 8-3.

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to BORESIGHT.

Does the left launcher line up with the telescopic sight unit (TSU)?

YES

Go to paragraph 8-2.1.

NO

Turn off electrical power per paragraph 8-3.

Install original TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Turn on electrical power per paragraph 8-3.

Does left launcher line up with TSU?

NO

Turn off electrical power per paragraph 8-3.

Install original stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Replace FLIR missile tracker (FMT) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.1.

NO

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

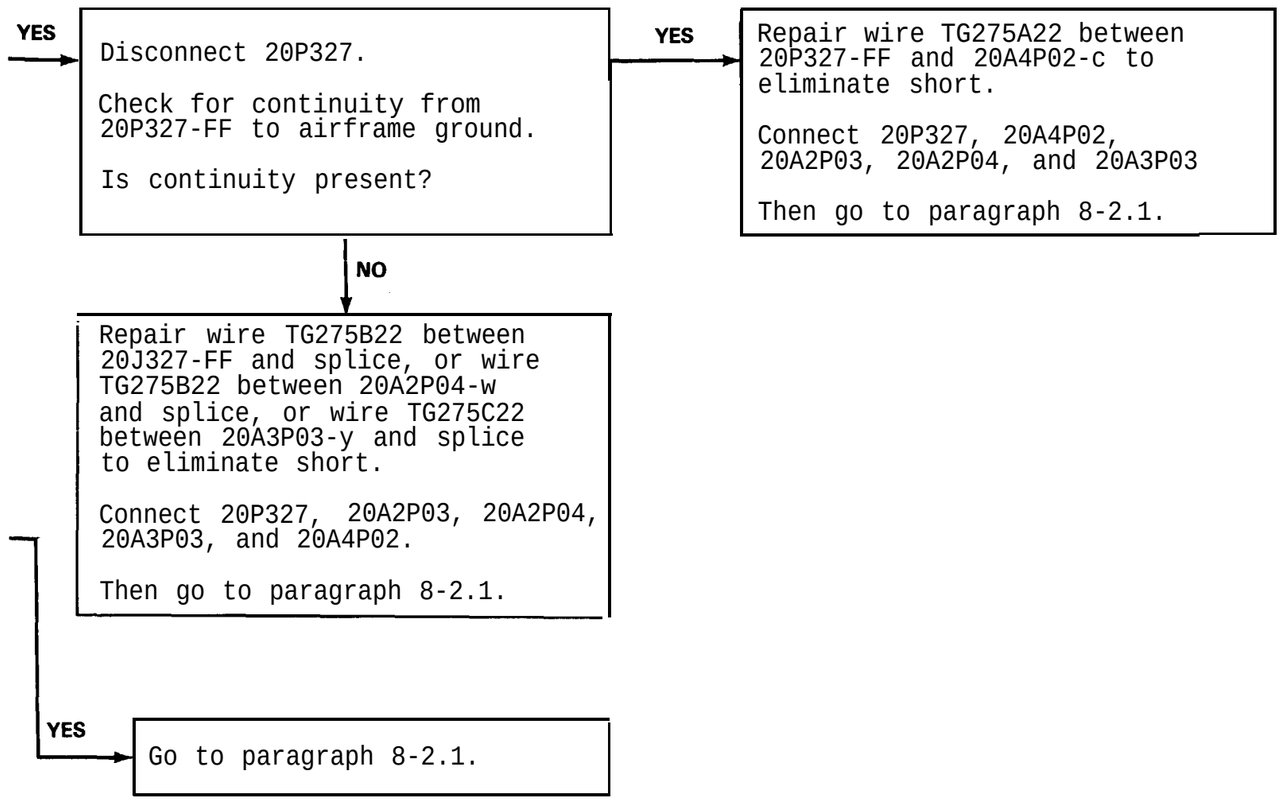
On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to OFF.

Then go to paragraph 8-36.

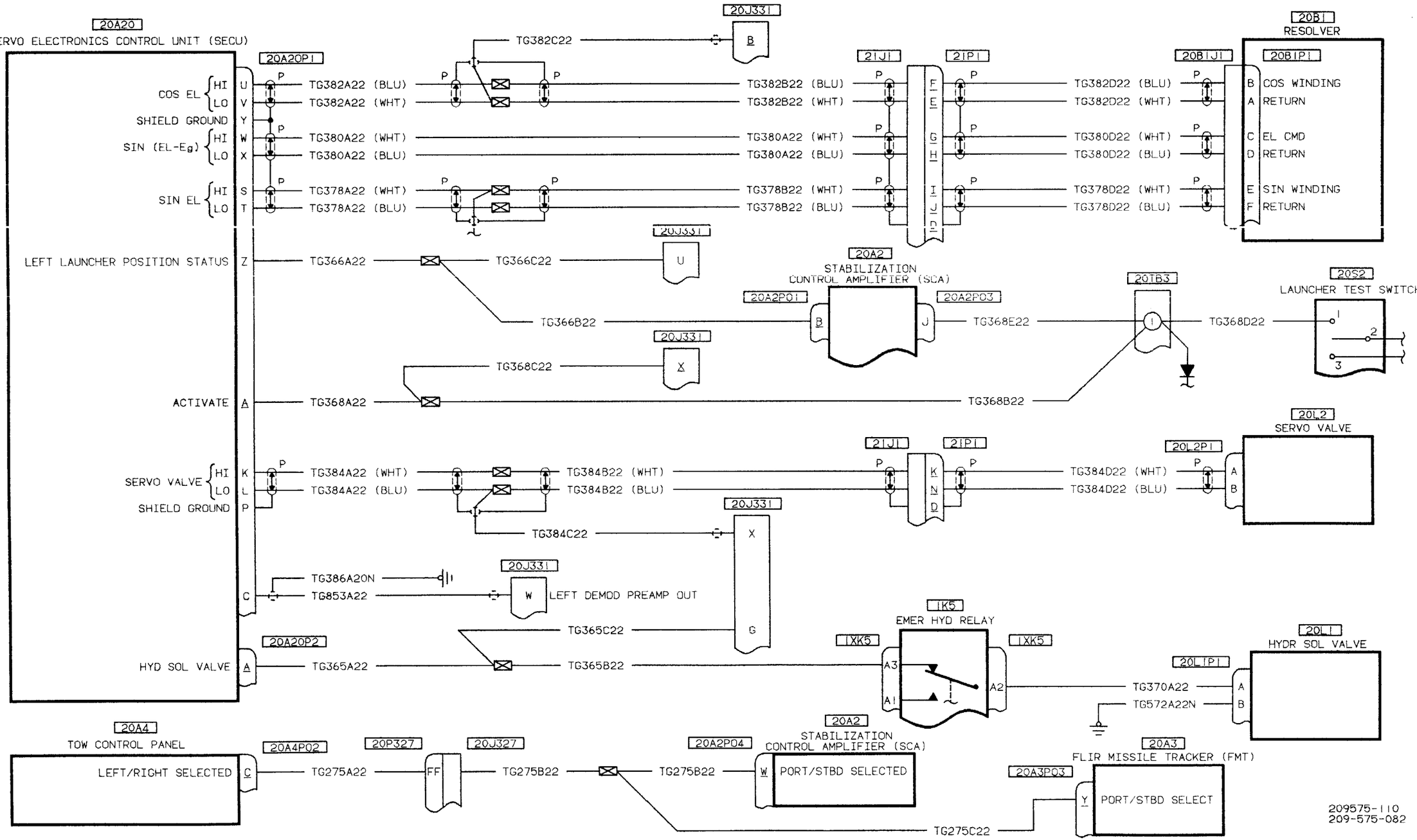
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A.1. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MCN



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

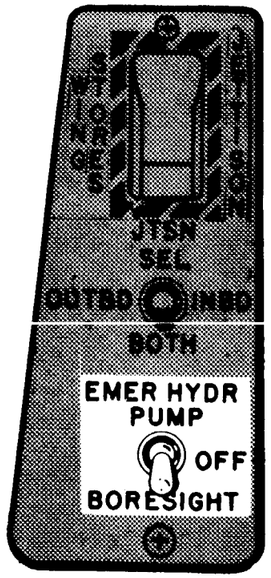
A.1. TROUBLESHOOTING LOGIC PART ONE (CONTINUED). MCN



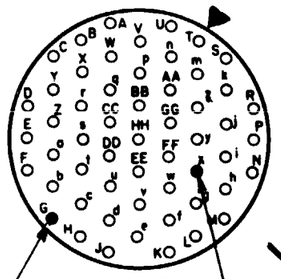
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8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION)(CONTINUED).

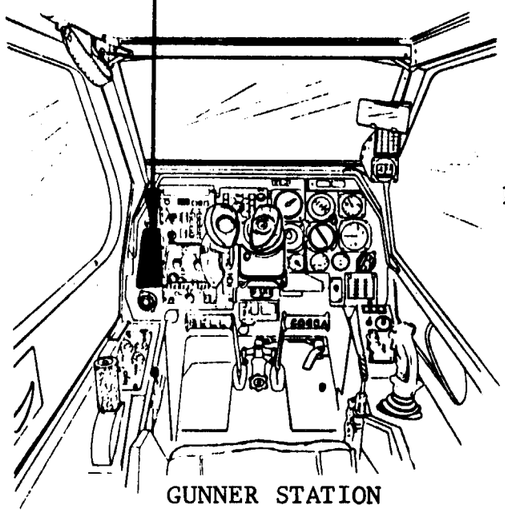
B. TROUBLESHOOTING LOGIC PART TWO.

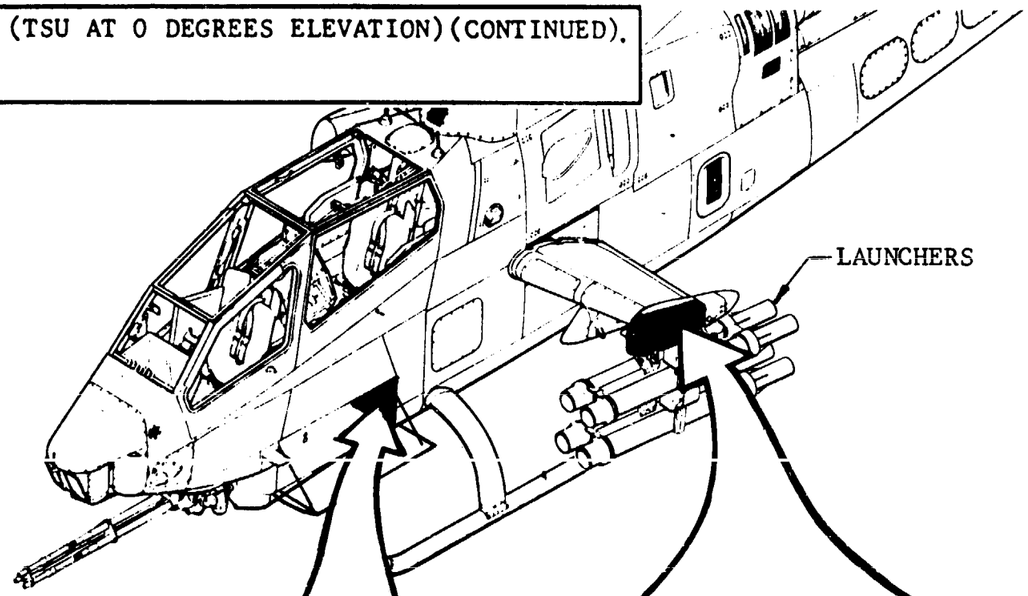


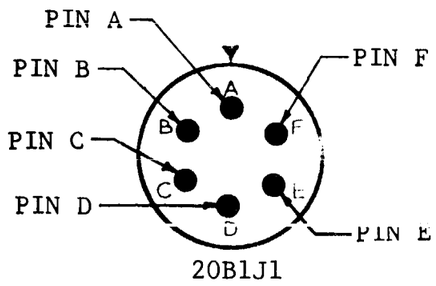
SWITCH PANEL


20J331

PIN G PIN x


GUNNER STATION

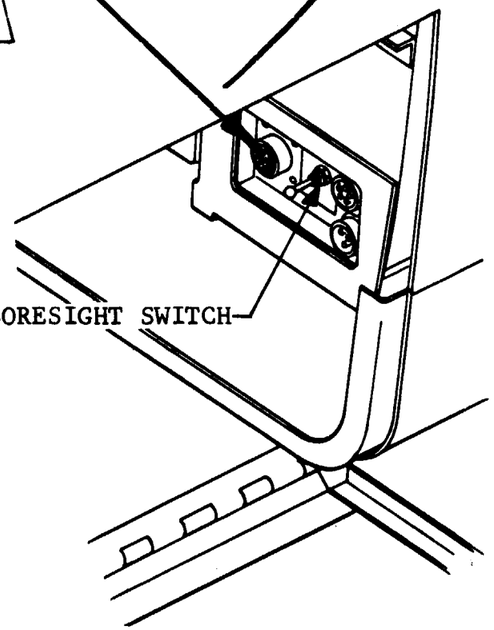

LAUNCHERS

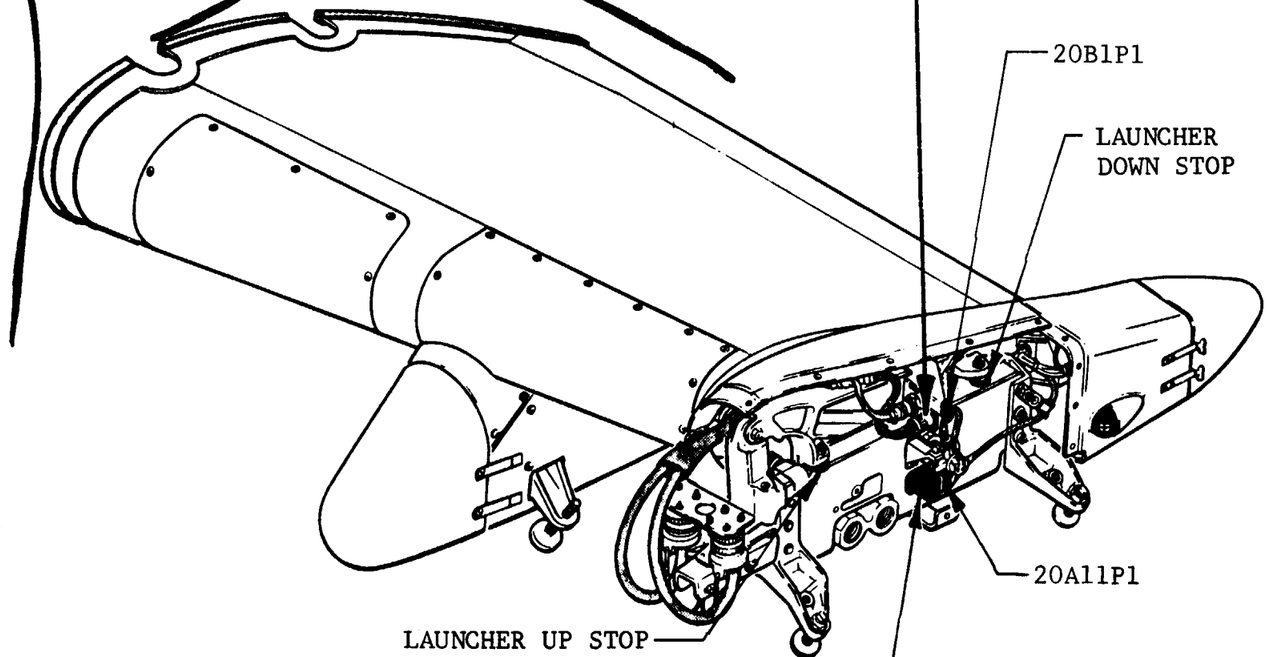


20B1J1

20B1P1

LAUNCHER DOWN STOP


LCHR BORESIGHT SWITCH

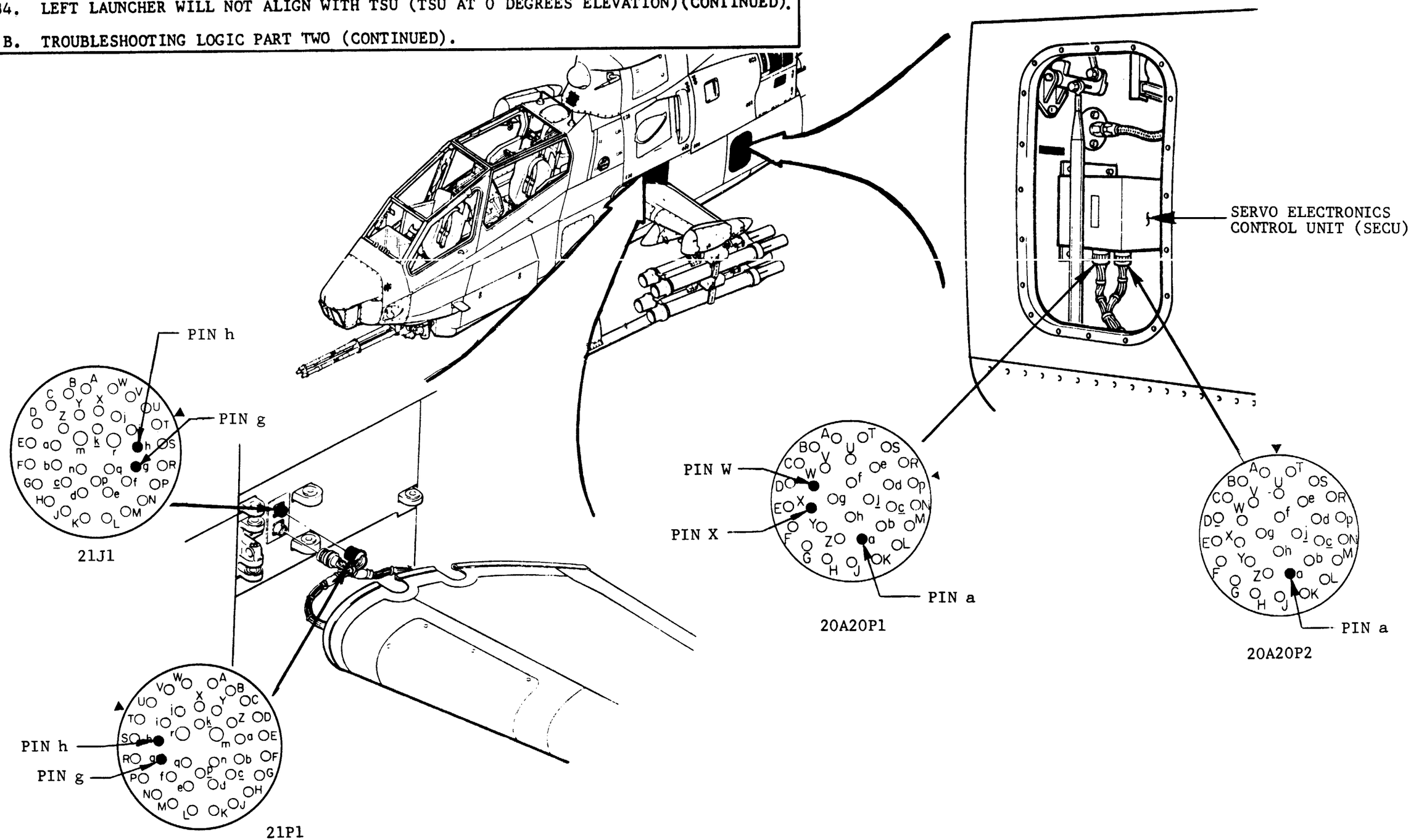

20A11P1

LAUNCHER UP STOP

ACCELEROMETER (20A11)

8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION)(CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to LEFT TEST.

Check for 28 V dc at 20J331-G.

Is 28 V dc present?

YES

NO

Check for 28 V dc at 20J331-x.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 20J331-x to 20A20P1-a.

Is continuity present?

YES

NO

Repair wire TG368C22 between 20J331-x and splice

Turn on electrical power per paragraph 8-3.

Continue troubleshooting.

Disconnect 20A20P1.

Turn on electrical power per paragraph 8-3.

Check for 28 V dc at 20J331-x.

Is 28 V dc present?

YES

NO

Go to Troubleshooting Logic Part Three (subparagraph C).

Turn off electrical power per paragraph 8-3.

Replace servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section 10.

Then go to paragraph 8-2.

YES

Turn off electrical power per paragraph 8-3.

Check for continuity from 20J331-x to 20A20P1-a.

Is continuity present?

YES

NO

Repair wire TG368A22 between 20A20P1-a and splice.

connect 20A20P1.

Then go to paragraph 8-2.

YES

Check for continuity from 20A20P2-a to 2GJ331-G.

Is continuity present?

YES

NO

Repair wire TG365C22 between 20J331-G and splice.

Connect 20A20P1.

Turn on electrical power per paragraph 8-3.

Then Continue troubleshooting.

**8-34.** LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

B. TROUBLESHOOT LOGIC PART TWO (CONTINUED).

YES → Turn off electrical power per paragraph 8-3.

Disconnect 20B1P1.

Connect multimeter between 20B1J1-B and 20B1J1-A.

Turn on electrical power per paragraph 8-3.

Check for 9 to 11 V ac from 20B1J1-B to 20B1J1-A

Is 9 to 11 V ac present?

YES → Check for less than 0.1 V ac from 20B1J1-E to 20BlJl-F with a digital voltmeter.

Is less than 0.1 V ac present?

YES → Replace servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section 10.

Then go to paragraph 8-2.

NO → Turn off electrical power per paragraph 8-3.

Replace Servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section 10.

Connect 20BlP1.

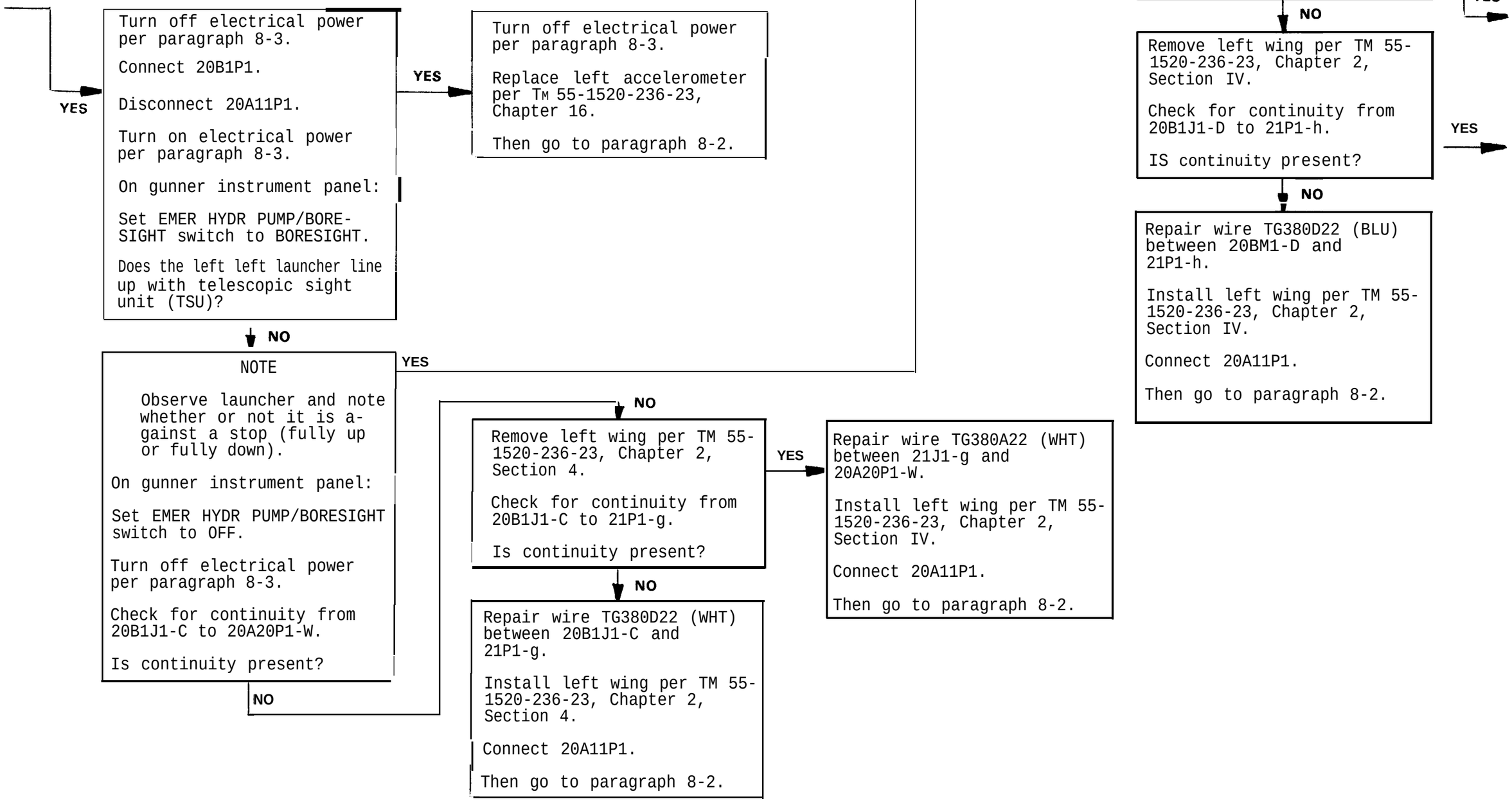
Then go to paragraph 8-2.

NO → Go to Troubleshooting Logic Part Four (subparagraph D).

YES →

8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) ( CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

YES

Disconnect 20B1P1.

Check for continuity from 20A20P1-W to airframe ground.

Is continuity present?

NO

Go to Troubleshooting Logic Part Five (subparagraph E) .

YES

Repair wire TG380A22 (BLU) between 21J1-h and 20A20PI-X.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A11P1.

Then go to paragraph 8-2.

YES

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

check for continuity from 20A20P1-W to airframe ground.

Is continuity present?

NO

Repair wire TG380D22 (WHT) between 2UB1J1-C and 21P1-g to eliminate short.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1 and 20AllP1.

Then go to paragraph 8-2.

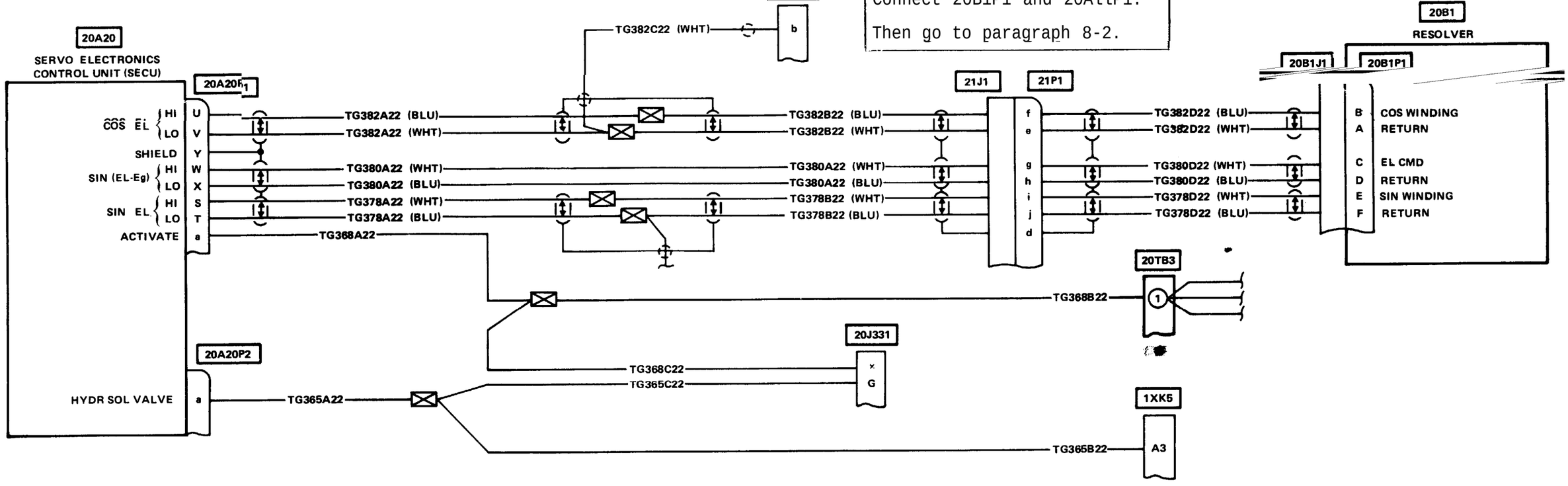
YES

Repair wire TG380A22 (WHT) between 20A20P1-W and 21J1-g to eliminate short.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

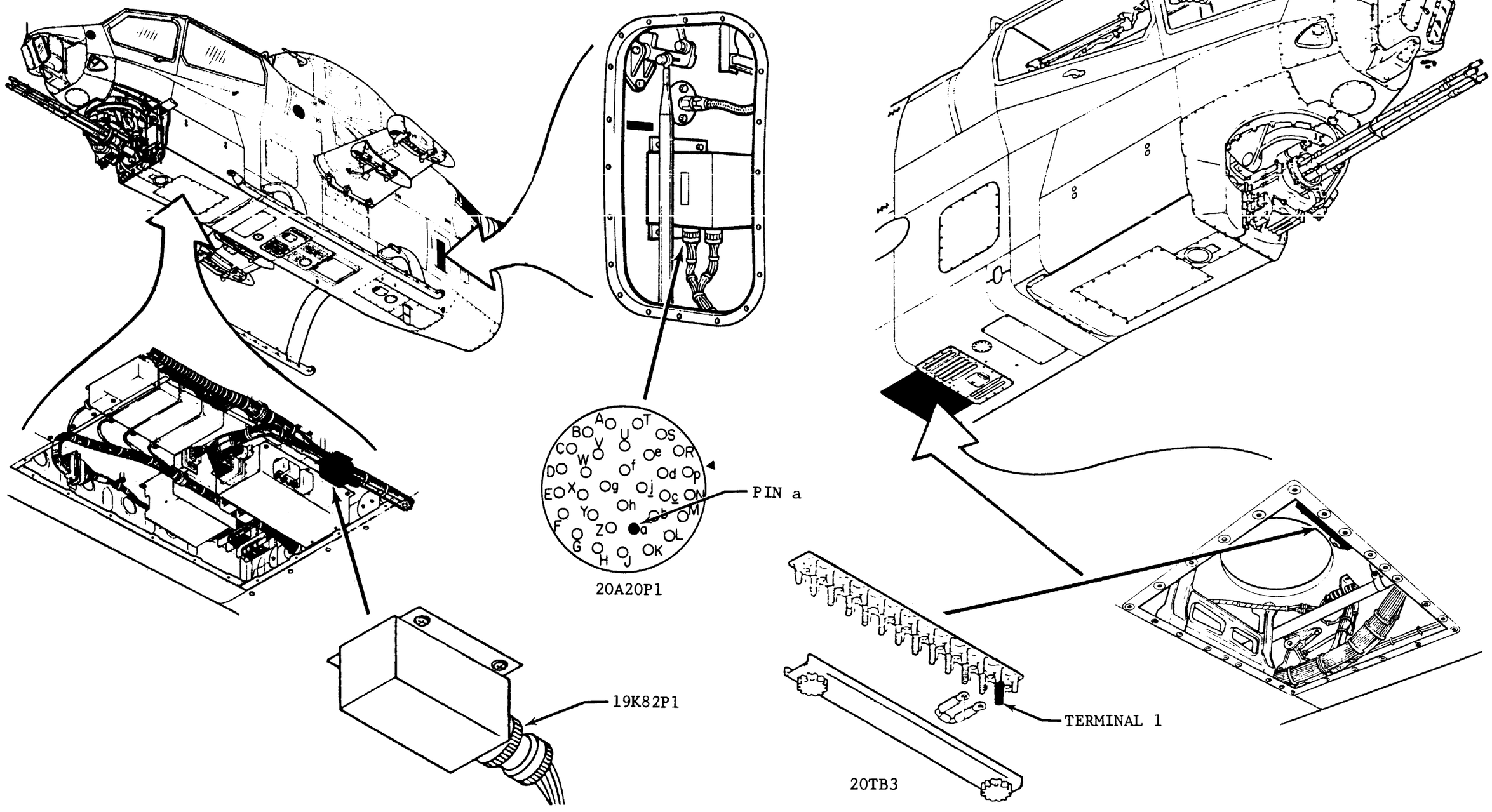
Connect 20B1P1 and 20A11P1.

Then go to paragraph 8-2.



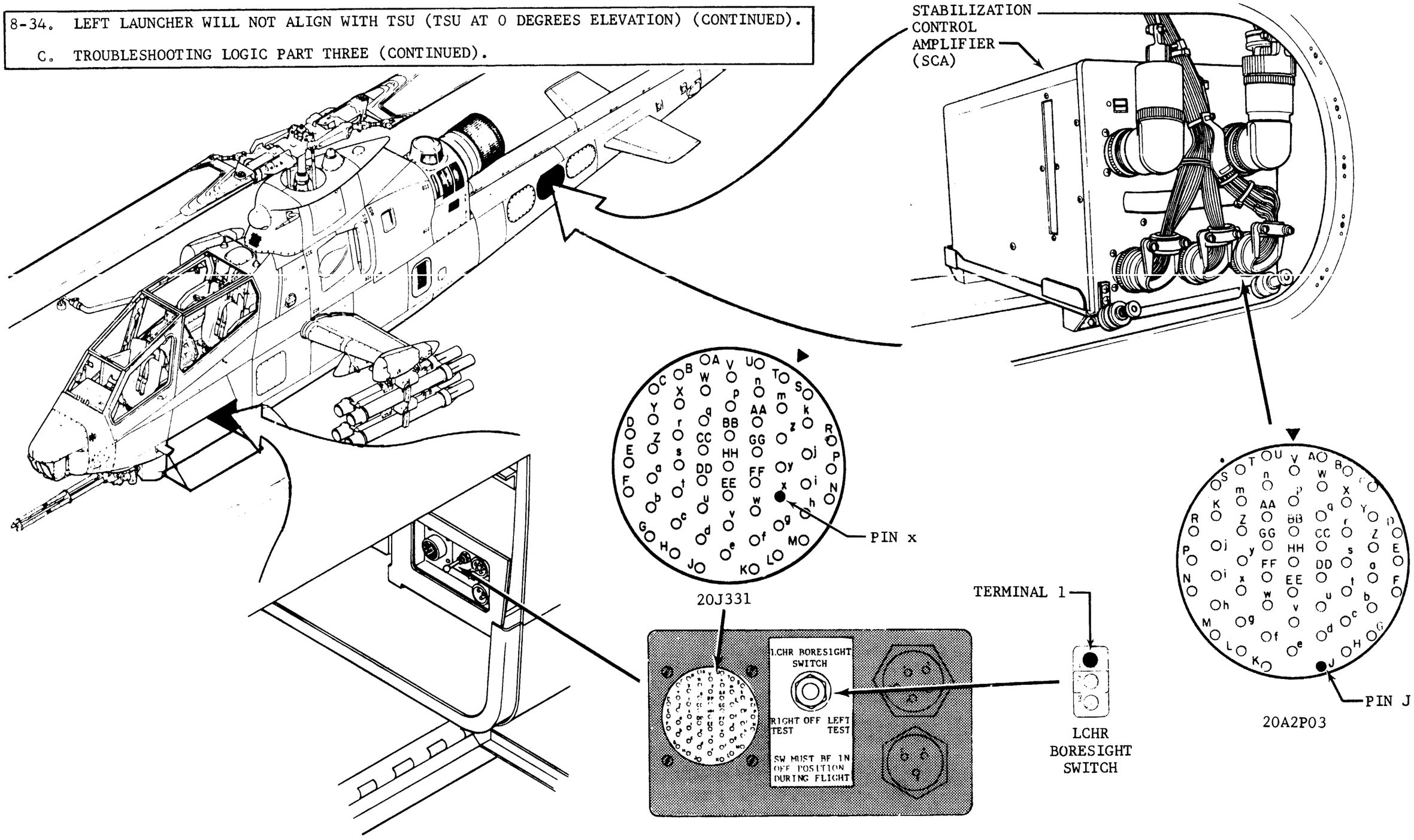
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE.



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

Turn off electrical power per paragraph 8-3.

Disconnect 19K82P1.

On aft bulkhead of ammo

Set LCHR BORESIGHT SWITCH to

Check for continuity from 20J331-x to airframe ground.

Is continuity present?

YES

Remove wire TG368B22 from 20TB3-1.

Check for continuity from 20J331-x to airframe ground.

Is continuity present?

YES

YES

NO

Remove wire TG383E22 from 20TB3-1 and check wire for continuity to airframe ground

Is continuity present?

YES

Disconnect 20A2P03.

Recheck for continuity from wire TG368E22 to airframe

YES

NO

NO

Repair wire TG368B22 between 20TB3-1 and splice.

Connect 20A20P1 and 19K82P1.

Then go to paragraph 8-2.

Remove wire TG368D22 from terminal 1 of LCHR BORESIGHT SWITCH and check wire for continuity to airframe ground.

Is continuity present?

YES

Repair wire TG368D22 between terminal 1 of LCHR BORESIGHT SWITCH and 20TB3-1 to eliminate short.

Connect wires TG368B22, TG368D22, and TG368E22 to 20TB3-1.

Connect 20A20P1 and 19K82P1.

Then go to paragraph 8-2.

NO

Replace LCHR BORESIGHT SWITCH per TM 55-1520-236-23, Chapter 9, Section I.

Connect wires TG368B22, TG368D22, and TG368E22 to 20TB3-1.

Connect 20A20P1 and 19K82P1.

Then go to paragraph 8-2.

NO

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Connect wires TG368B22 and TG368E22 to 20TB3-1.

Connect 20A20P1 and 19K82P1.

Then go to paragraph 8-2.

8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

YES

**Remove splice joining wires TG368A22, TG368B22 and TG368C22.**

Check for continuity from 20J331-x to airframe ground.

Is continuity present?

YES

Repair wire TG368C22 between 20J331-x and splice to eliminate short.

Install splice joining wires TG368A22, TG368B22, and TG368C22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect wire TG368B22 to 20TB3-1.

Connect 20A20P1 and 19K82P1.

Then go to paragraph 8-2.

NO

YES

Repair wire TG368E22 between 20A2P03-J and 20TB3-1 to eliminate short.

Connect wires TG368B22 and TG368E22 to 20TB3-1.

Connect 20A20P1 and 19K82P1.

Then go to paragraph 8-2.

Check for continuity from 20A20P1-a to airframe ground.

Is continuity present?

YES

Repair wire TG368A22 between 20A20P1-a and spice to eliminate short.

Install splice joining wires TG368A22, TG368B22, and TG368C22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect wire TG368B22 to 20TB3-1.

Connect 20A20P1 and 19K82P1.

Then go to paragraph 8-2.

NO

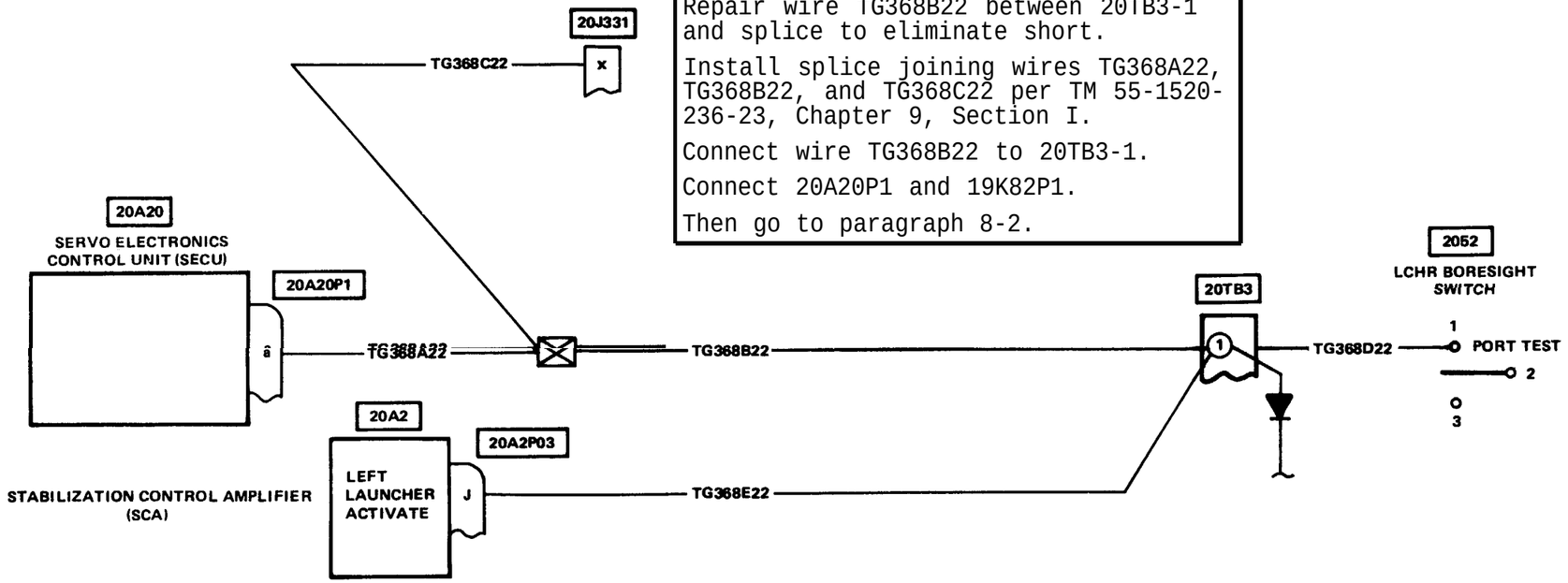
Repair wire TG368B22 between 20TB3-1 and splice to eliminate short.

Install splice joining wires TG368A22, TG368B22, and TG368C22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect wire TG368B22 to 20TB3-1.

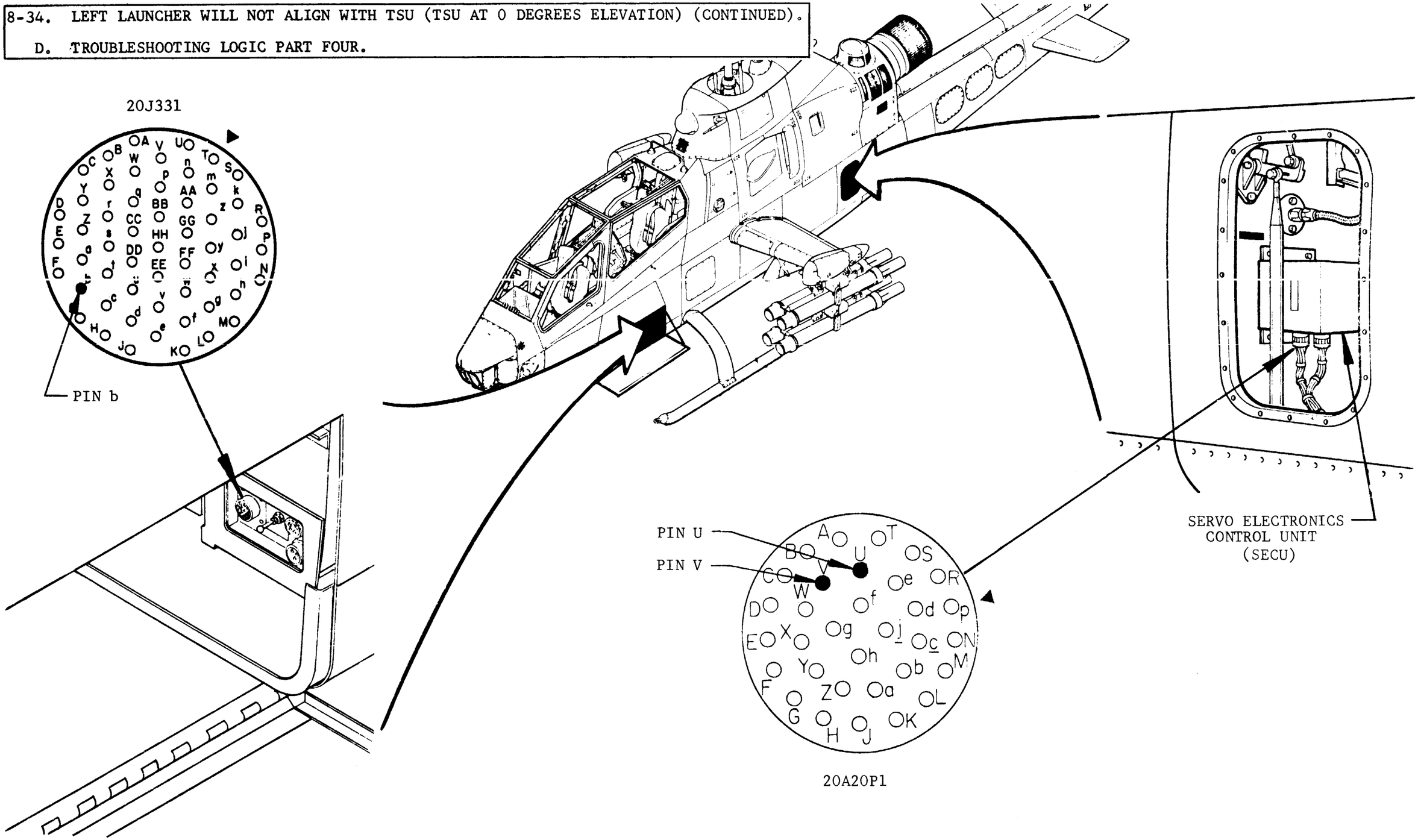
Connect 20A20P1 and 19K82P1.

Then go to paragraph 8-2.



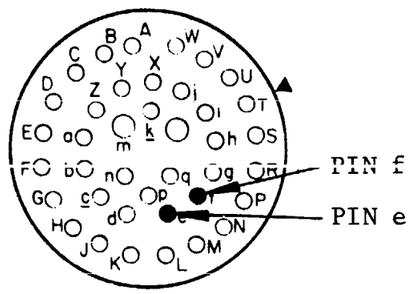
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR.



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

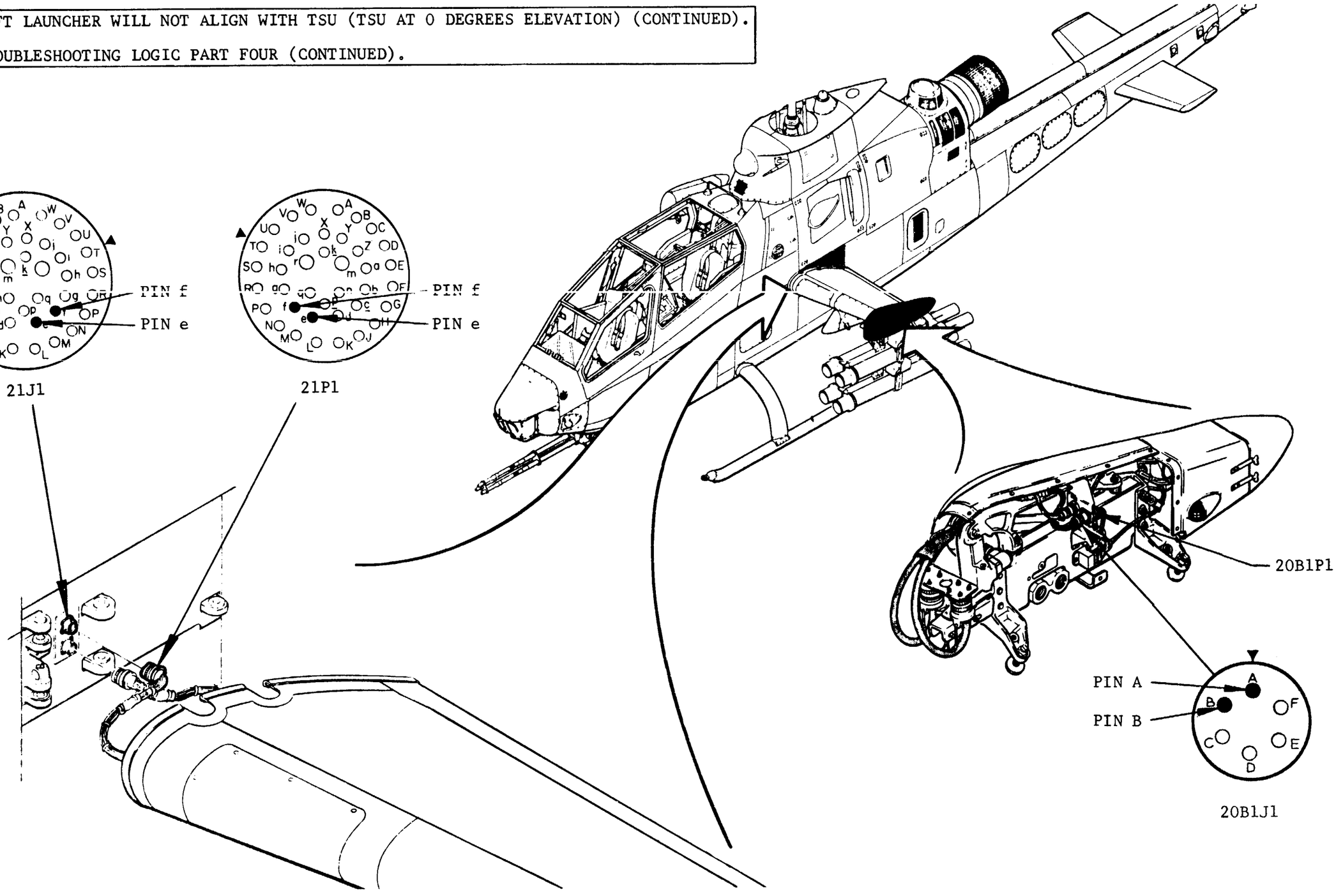
D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).




21J1




21P1





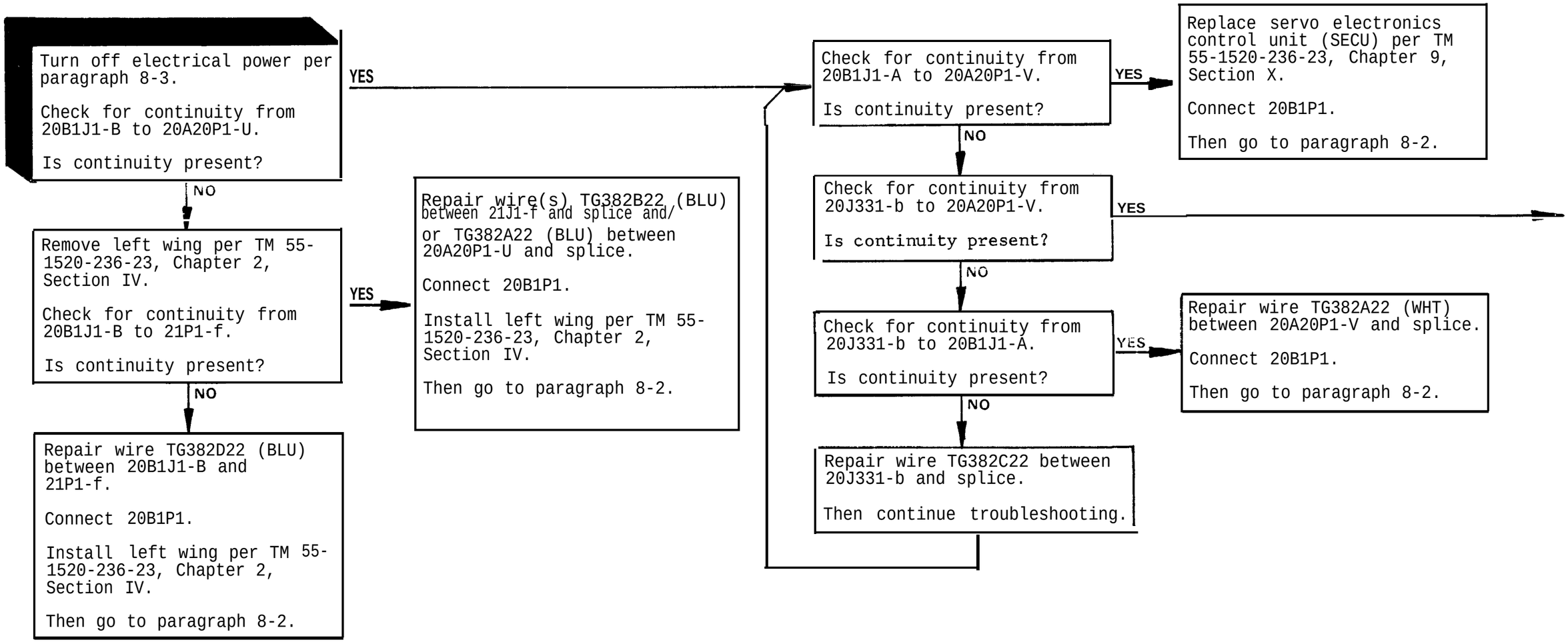




20B1J1

8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) ( CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).

YES

Remove left wing per TM 55-150-236-23, Chapter 2, Section IV.

check for Continuity from 20B1J1-A to 21P1-e.

Is continuity present?

YES

Repair wire TG382B22 (WHT) between 21J1-e and splice.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20BlP1.

Then go to paragraph 8-2.

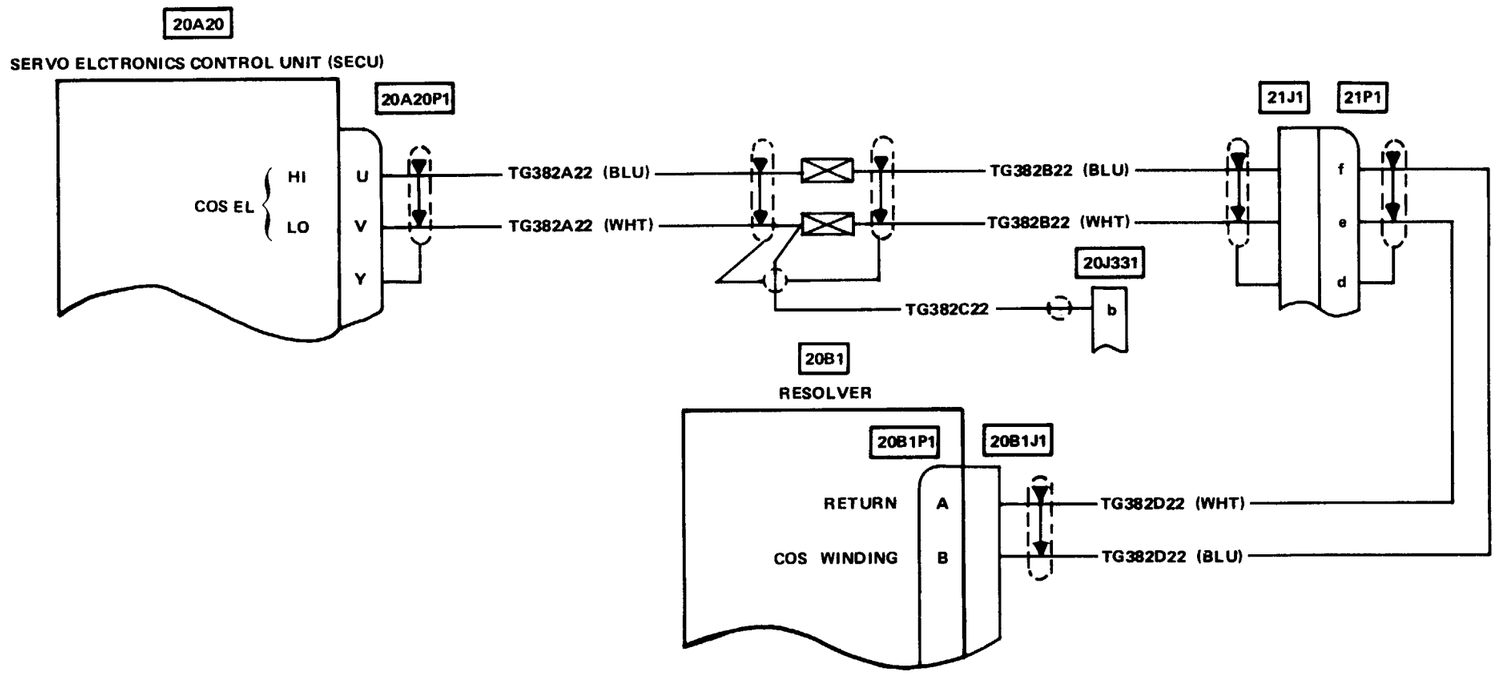
NO

Repair wire TG382D22 (WHT) between 20B1J1-A and 21P1-e.

Connect 20B1P1.

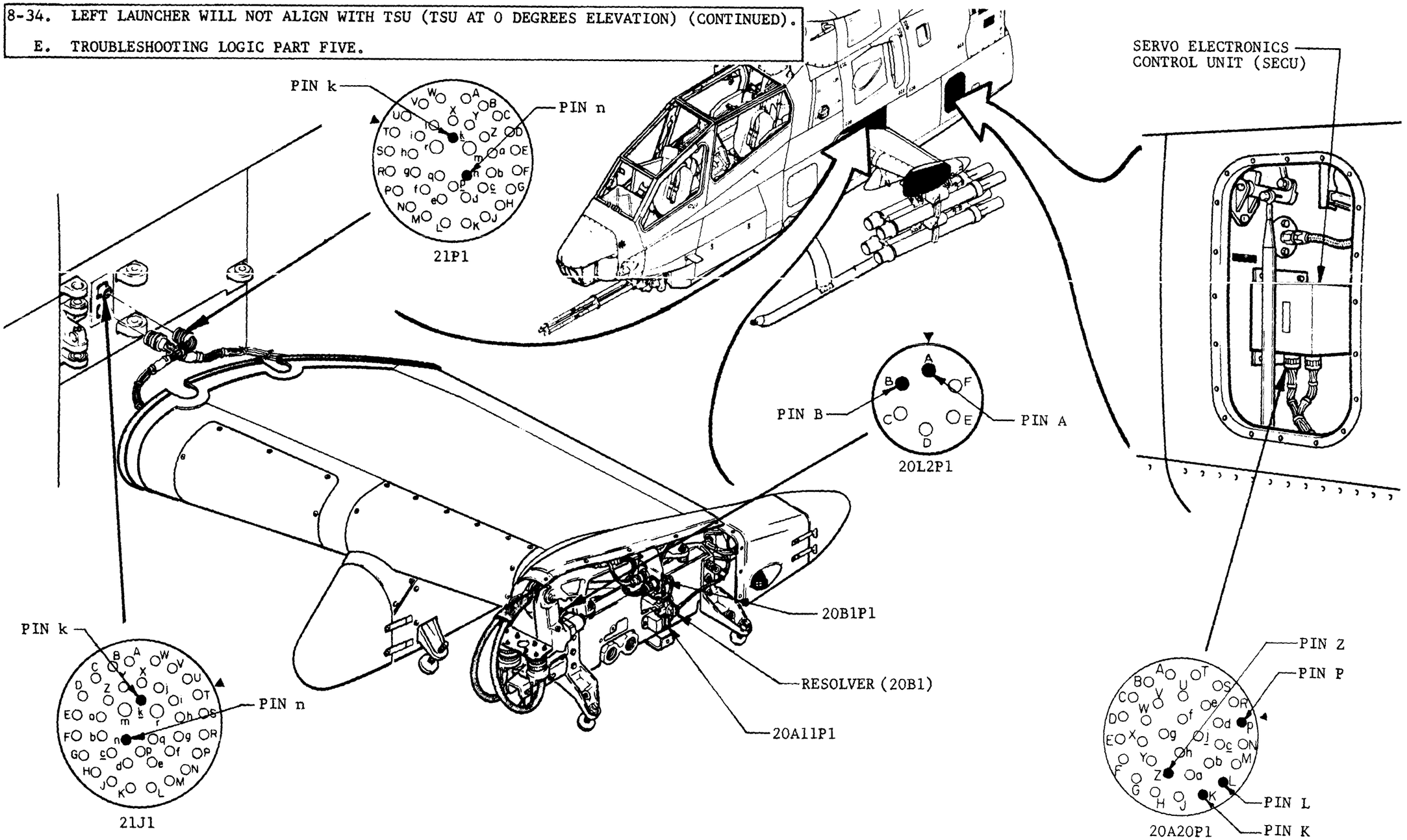
Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.



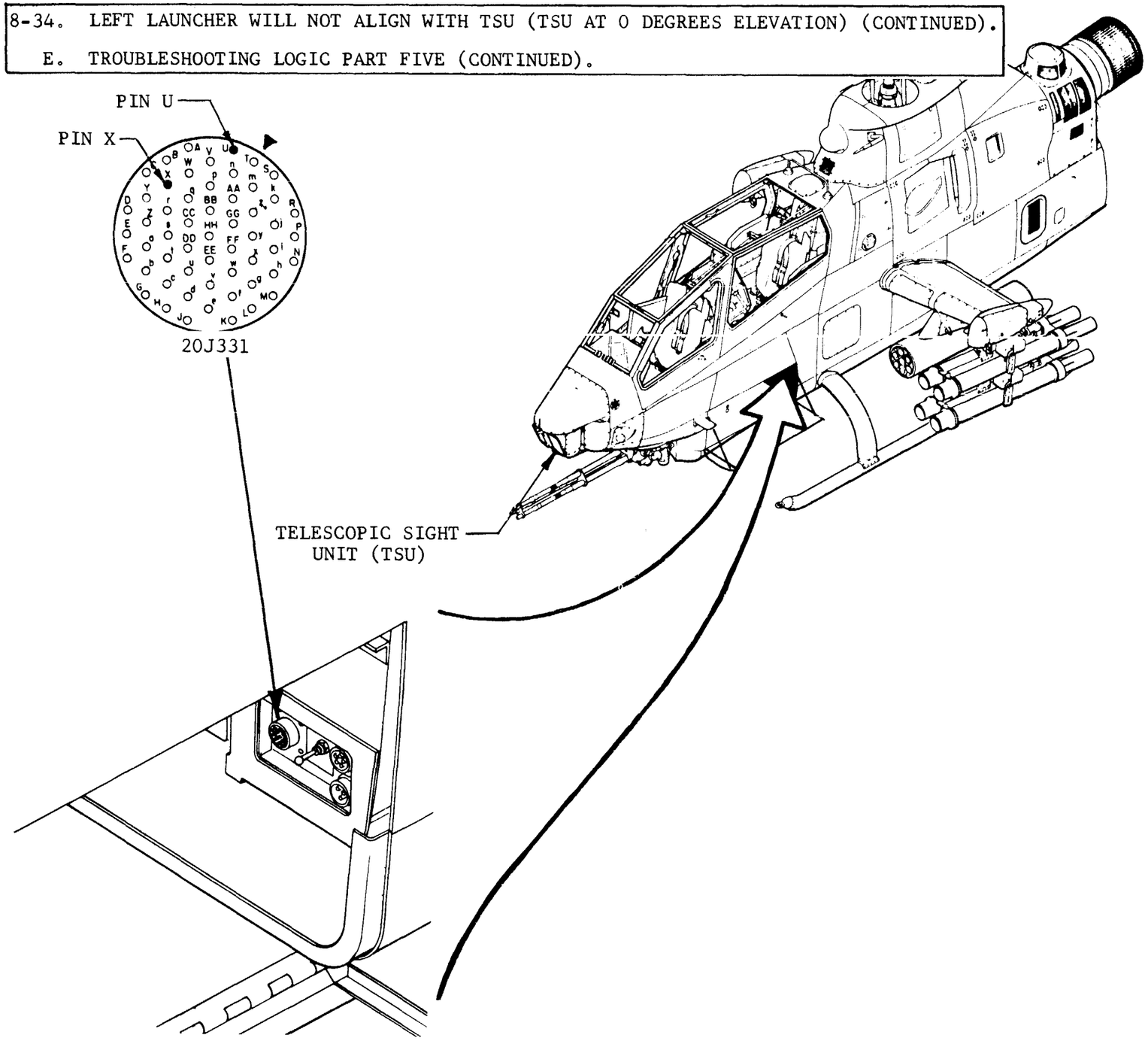
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

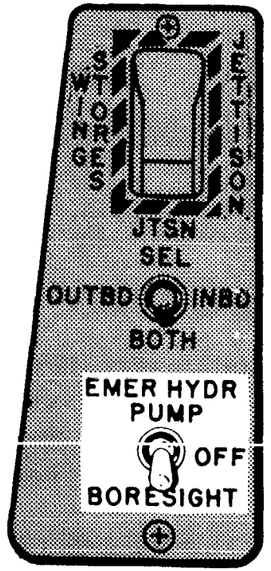
E. TROUBLESHOOTING LOGIC PART FIVE.



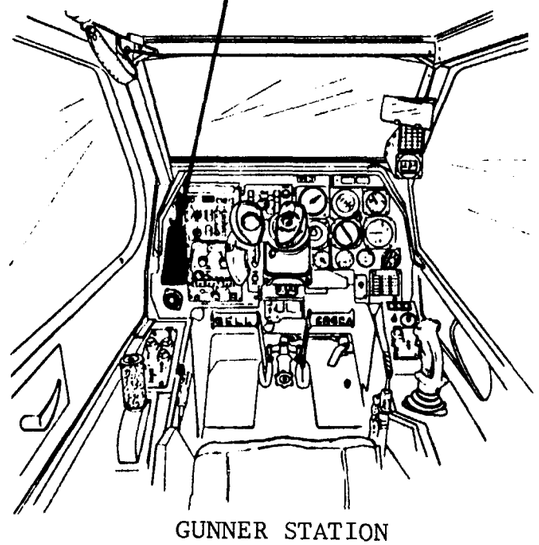
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



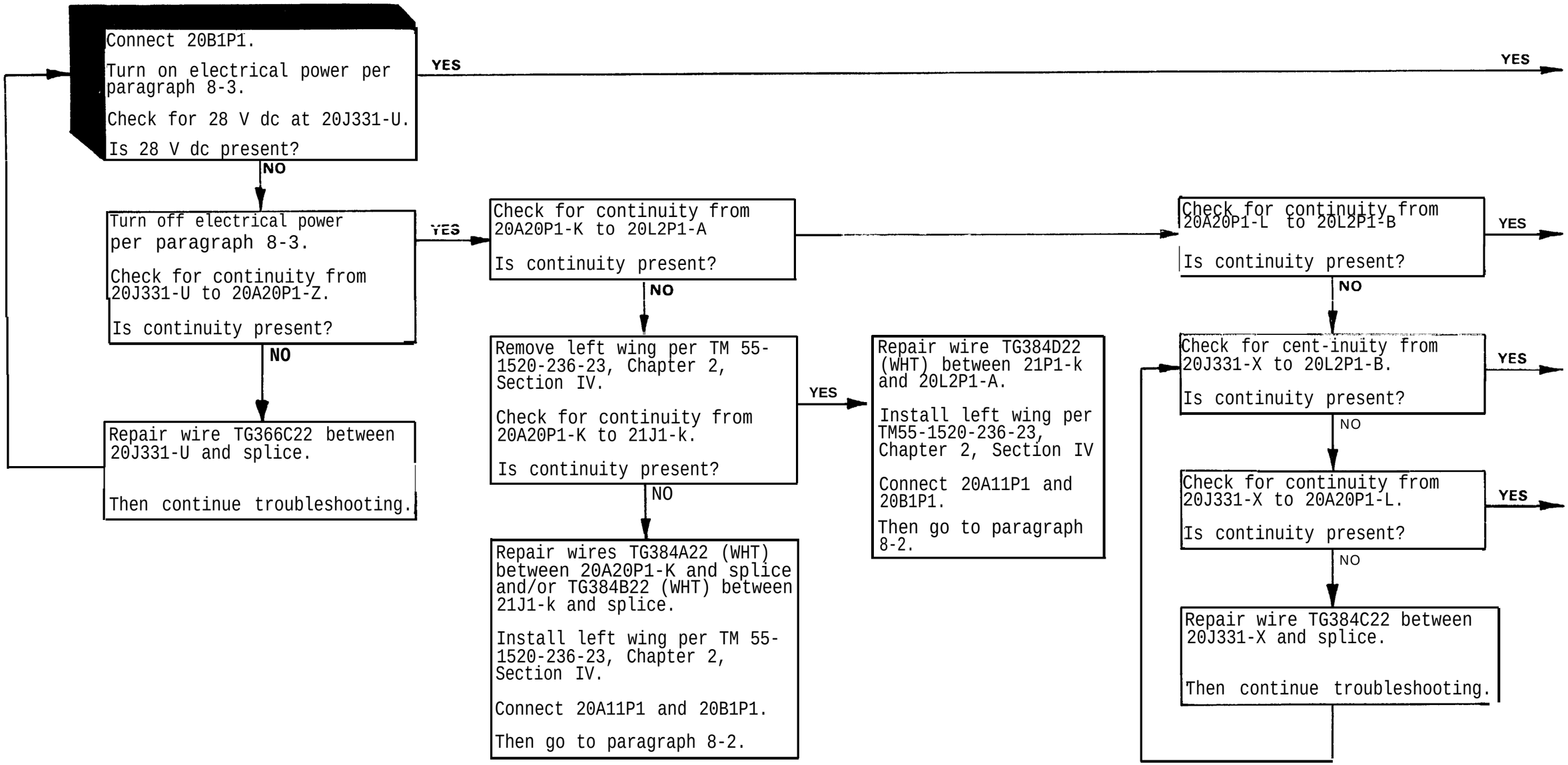

SWITCH PANEL



GUNNER STATION

LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

YES

YES

YES

YES

YES

**Disconnect 20L2P1.**

Check for continuity from 20A20P-K to 20A20P1-P, 20A20P1-L, and airframe ground

Is continuity present in any test?

YES

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A20P1-K to 20A20P1-P, 20A20P1-L, and airframe ground.

Is continuity present in any test?

YES

NO

Go to Troubleshooting Logic Part Six (subparagraph F ).

NO

Repair wire TG384D22 (WHT) between 21P1-k and 20L2P1-A to eliminate short.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A11P1, 20L2P1, and 20B1P1.

Then go to paragraph 8-2.

YES

Repair wire TG384A22 (BLU) between 20A20P1-L and splice.

Connect 20A11P1 and 20B1P1.

Then go to paragraph 8-2.

YES

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 21P1-n to 20L2P1-B.

Is continuity present?

YES

Repair wire TG384B22 (BLU) between 21J1-n and splice.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV

Connect 20A11P1 and 20B1P1.

Then go to paragraph 8-2.

NO

Repair wire TG384D22 (BLU) between 21P1-n and 20L2P1-B.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A11P1 and 20B1P1,

Then go to paragraph 8-2.

8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

YES

YES

Turn off electrical power per paragraph 8-3.

Replace servo electronic control unit (SECU) per TM 55-1520-236-23. Chapter 9, Section X.

Connect 20B1P1.

Turn on electrical power per paragraph 8-3.

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to BORESIGHT.

Does the left launcher line up with the telescopic sight unit (TSU)?

YES

Turn off electrical power per paragraph 8-3.

Connect 20A11P1.

Then go to paragraph 8-2.

YES

Repair wire(s) TG384A22 (WHT) between 20A20P1-K and splice and/or TG384B22 (WHT) between 21J1-k and splice to eliminate short.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20AllPl, 20L2P1, and 20B1P1.

Then go to paragraph 8-2.

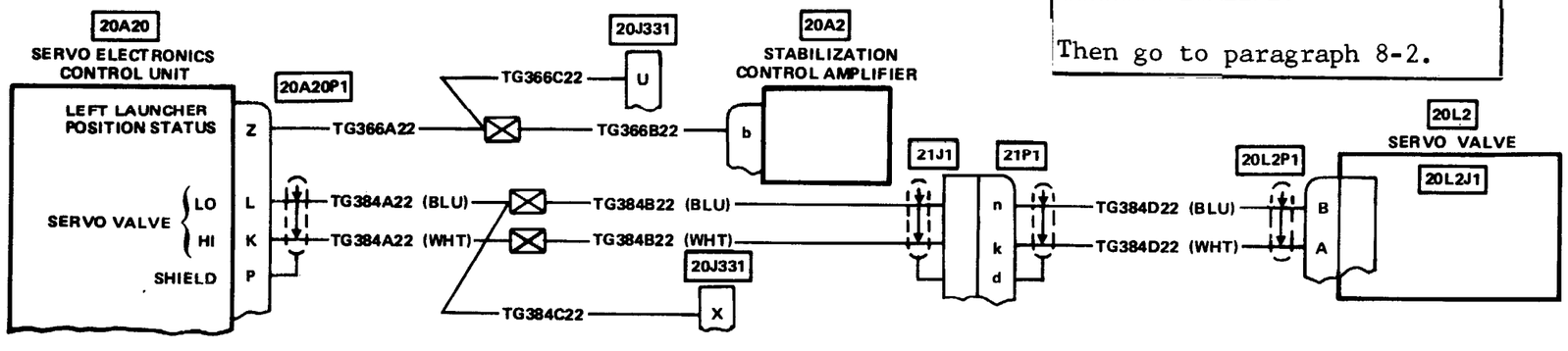
Turn off electrical power per paragraph 8-3.

Install original servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Replace left resolver (20B1) per TM 55-1520-236-23, Chapter 16.

Connect 20A11P1.

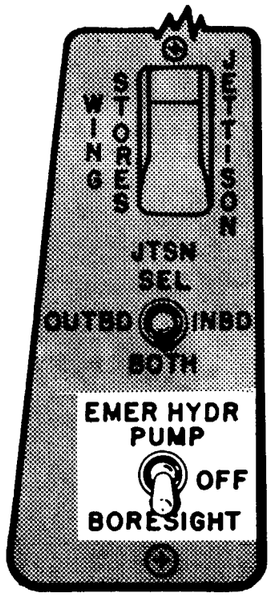
Then go to paragraph 8-2.



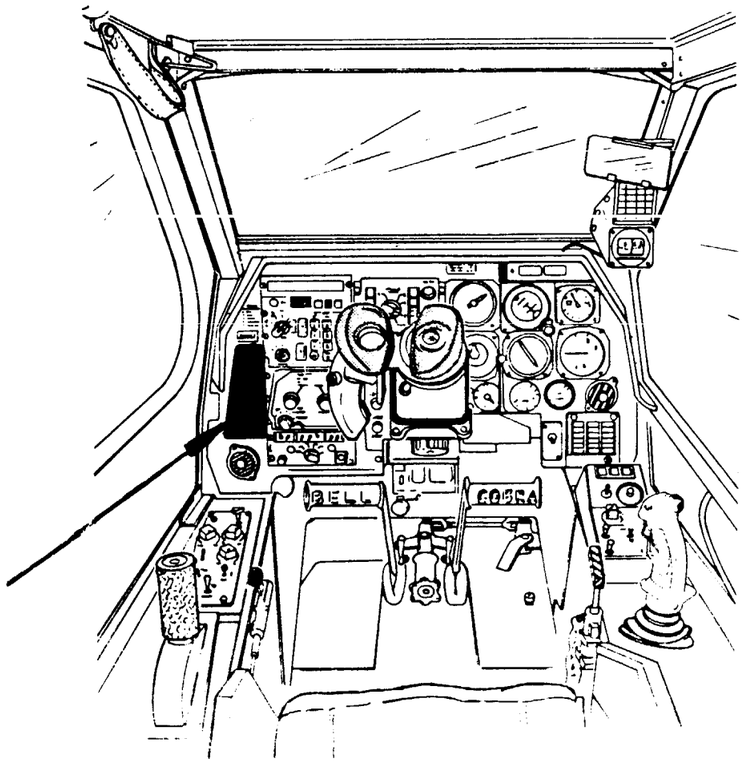
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8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

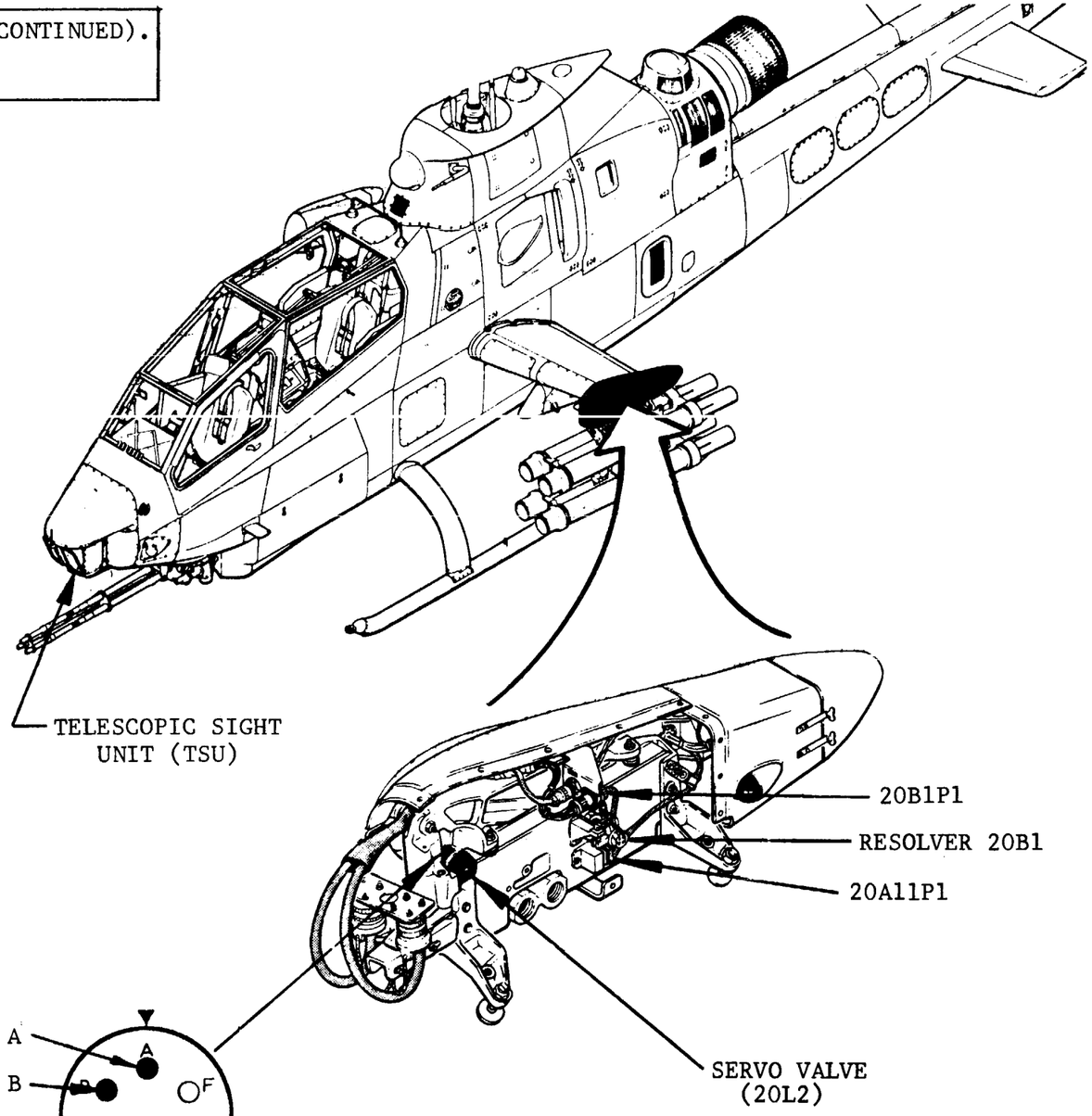
F. TROUBLESHOOTING LOGIC PART SIX.

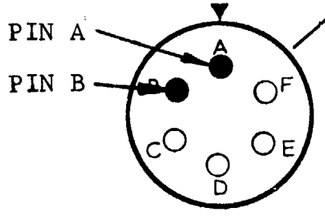



SWITCH PANEL




GUNNER STATION

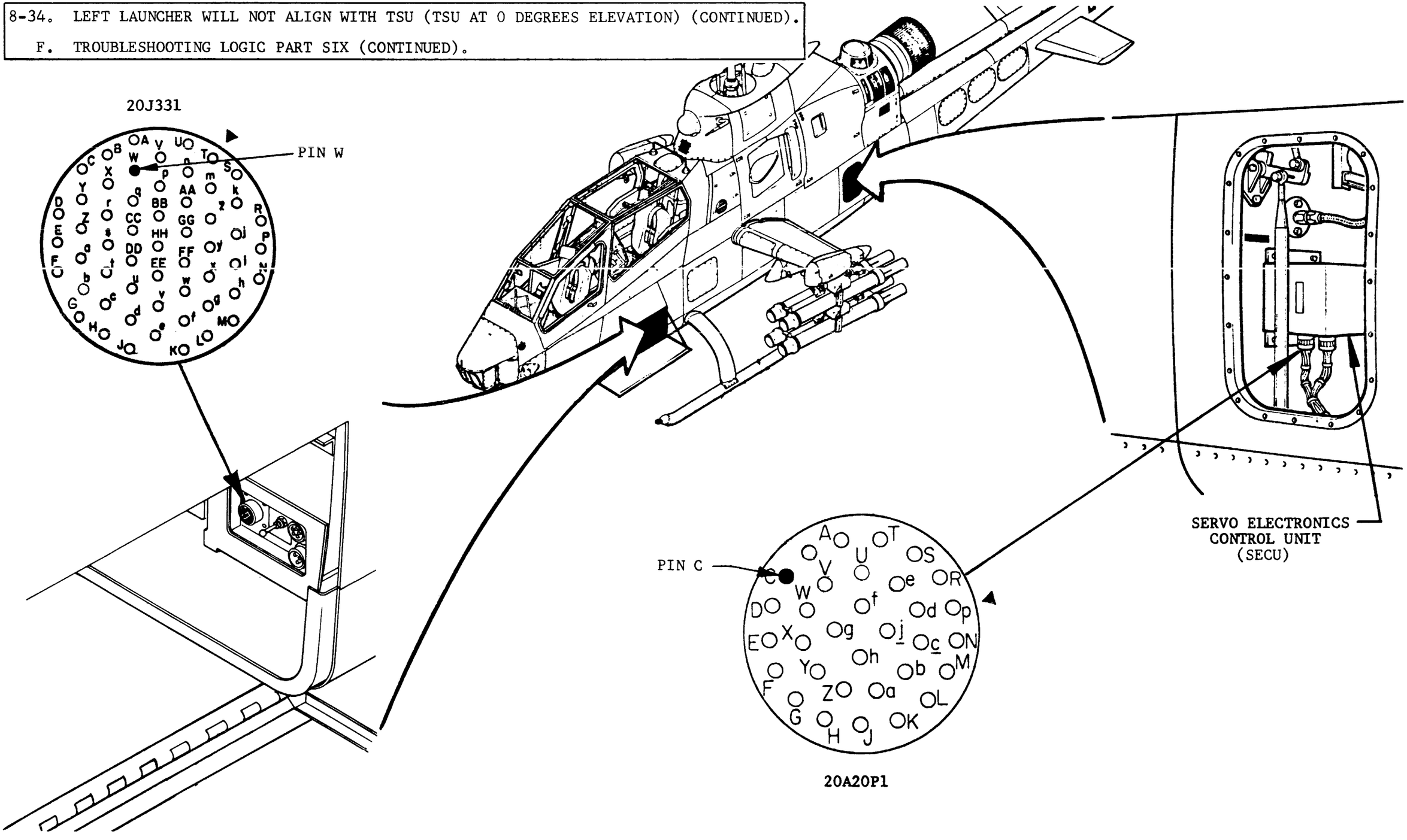



20L2P1

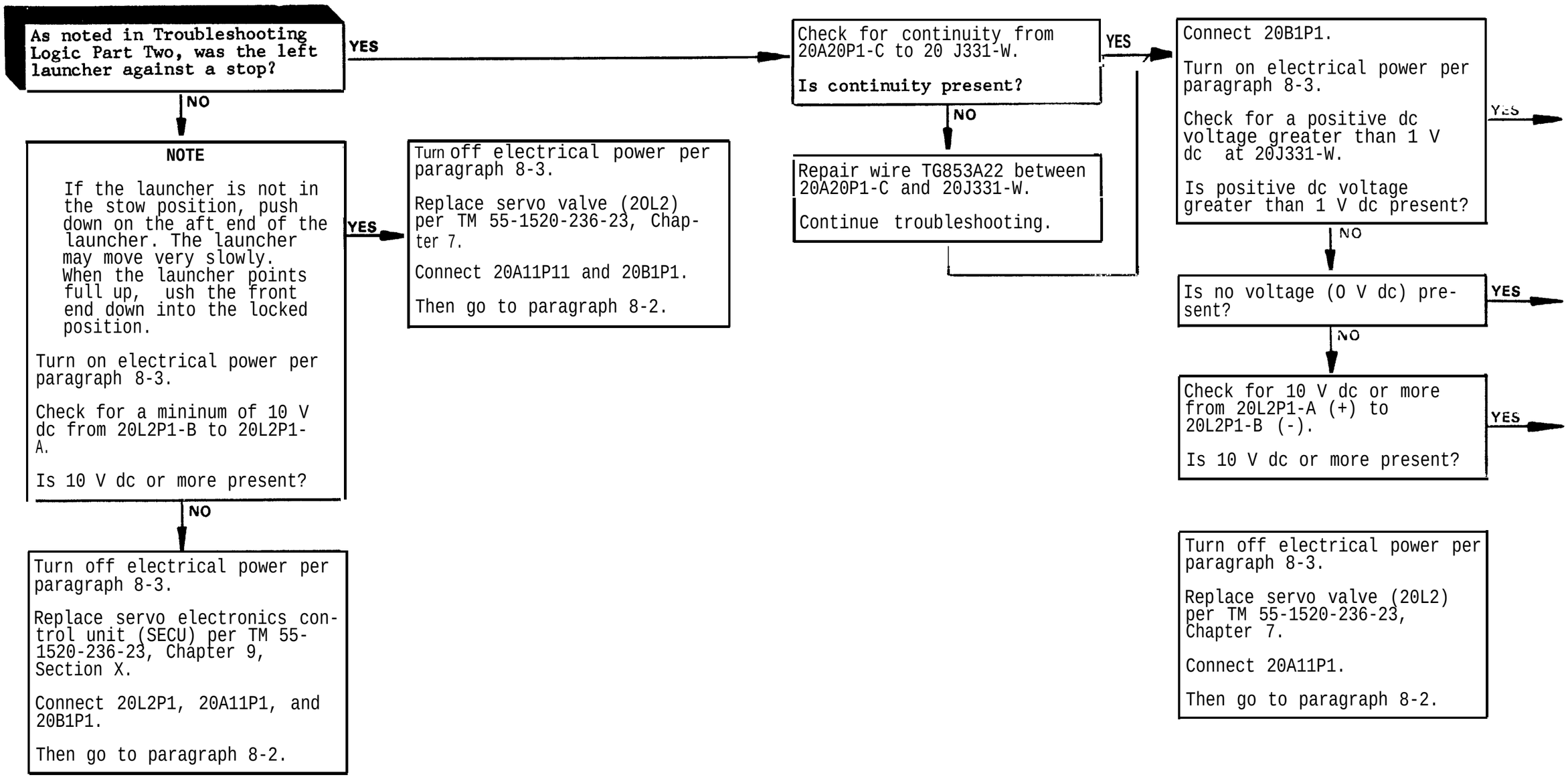
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

F. TROUBLESHOOTING LOGIC PART SIX (CONINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).

Check for 10 V dc or more from 20L2P1-B (+) to 20L2P1-A (-).

Is 10 V dc or more present?

YES

Turn off electrical power per paragraph 8-3.

Replace servo valve (20L2) per TM 55-1520-236-23, Chapter 7.

Connect 20A11P1.

Then go to paragraph 8-2.

NO

Replace servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Connect 20L2P1.

Turn on electrical power per paragraph 8-3.

On gunner instrument panel:

Set EMER HYDR PUMP/BORE-SIGHT switch to BORESIGHT.

Does the left launcher line up with the telescopic sight unit (TSU)?

YES

Turn off electrical power per paragraph 8-3.

Connect 20A11P1.

Then go to paragraph 8-2.

NO

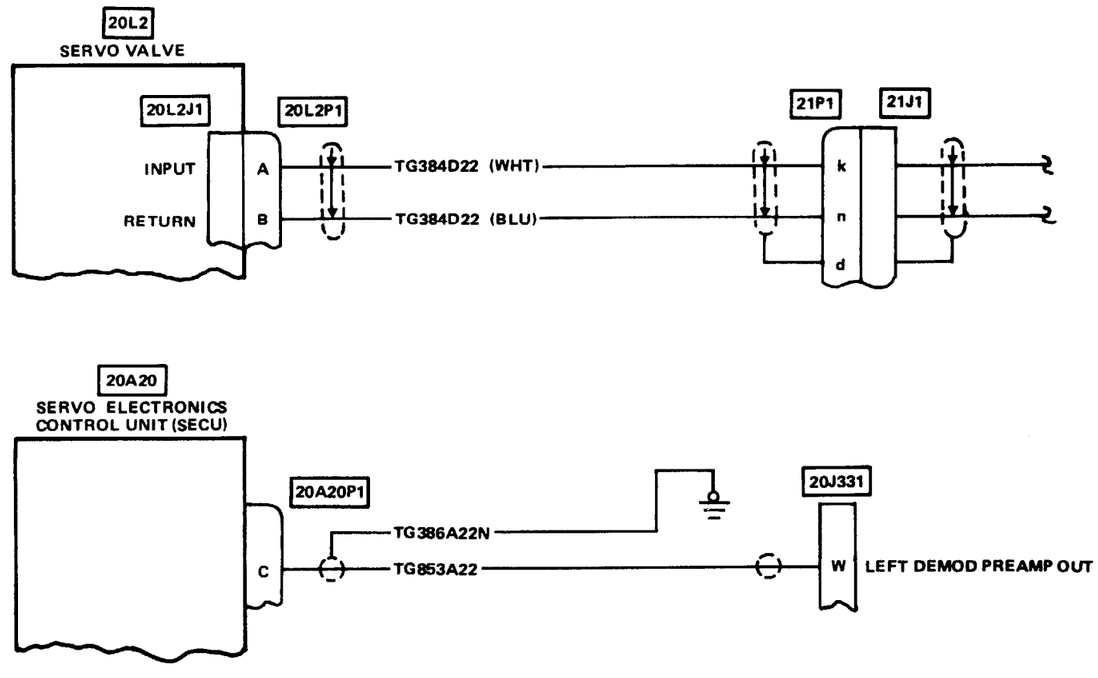
Turn off electrical power per paragraph 8-3.

Install origional servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Replace left resolver (20B1) per TM 55-1520-236-23, Chapter 16.

Connect 20A11P1.

Then go to paragraph 8-2.



## 8-35. LEFT LAUNCHER OSCILLATES VIOLENTLY.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

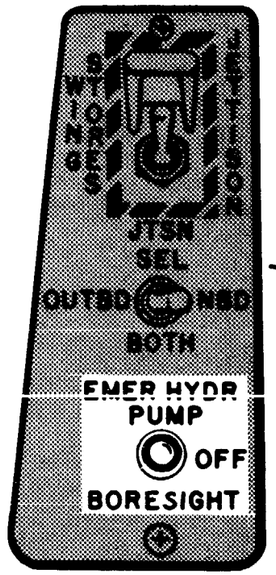
References
TM 55-1520-236-23

Access Panels
Servo Electronic Control Unit - Removed

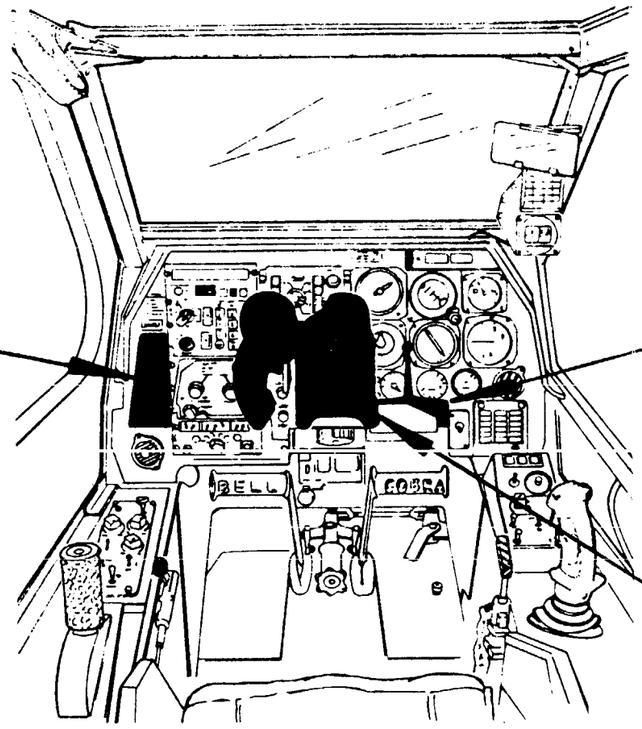
Right Outboard Pylon Fairing - Removed

Left Outboard Pylon Fairing - Removed

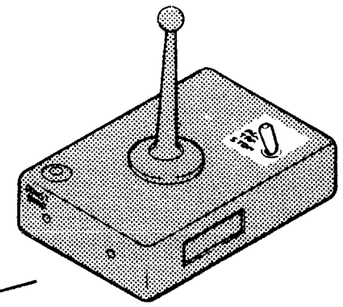
Left Ammo Compartment Door - Open

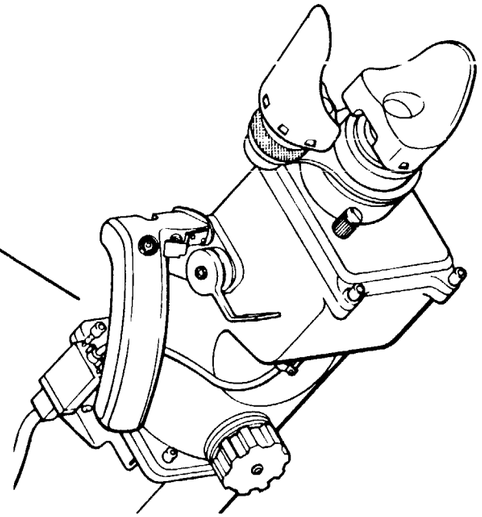


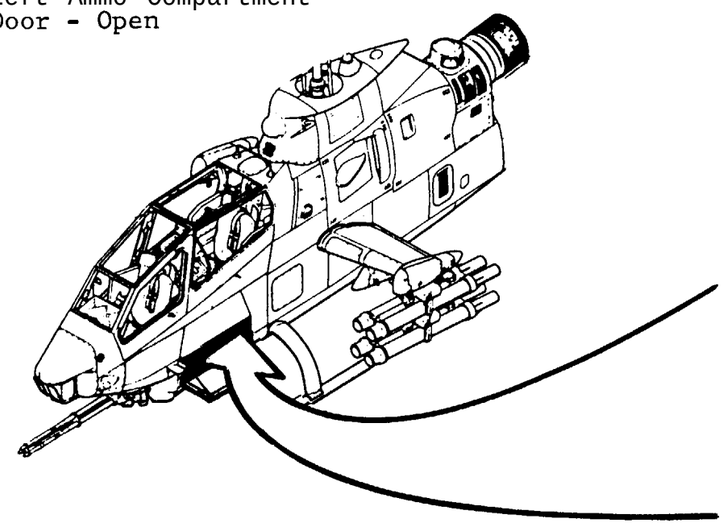
SWITCH PANEL

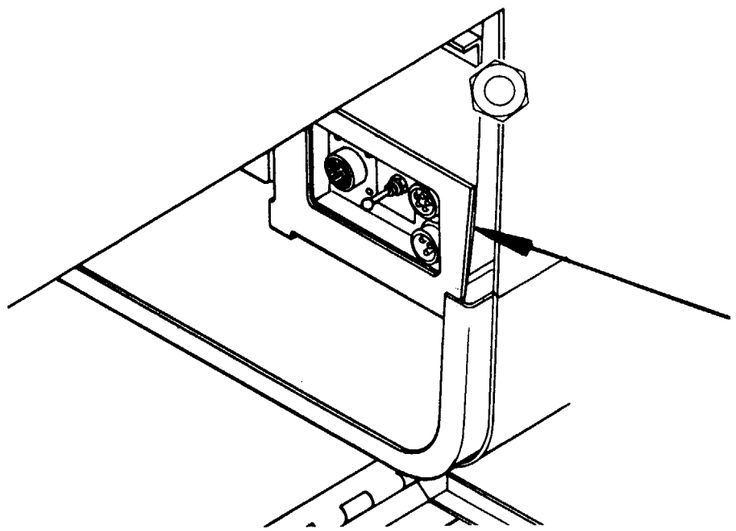


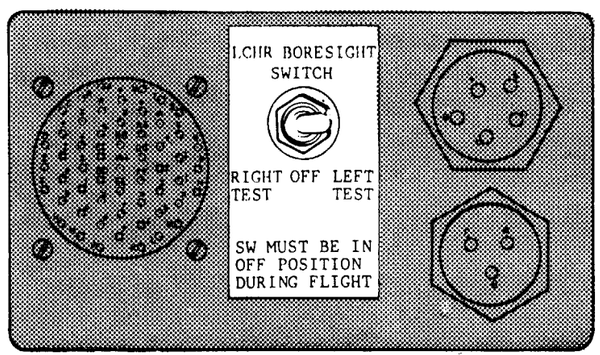
GUNNER STATION


SIGHT HAND CONTROL


TELESCOPIC SIGHT UNIT (TSU)

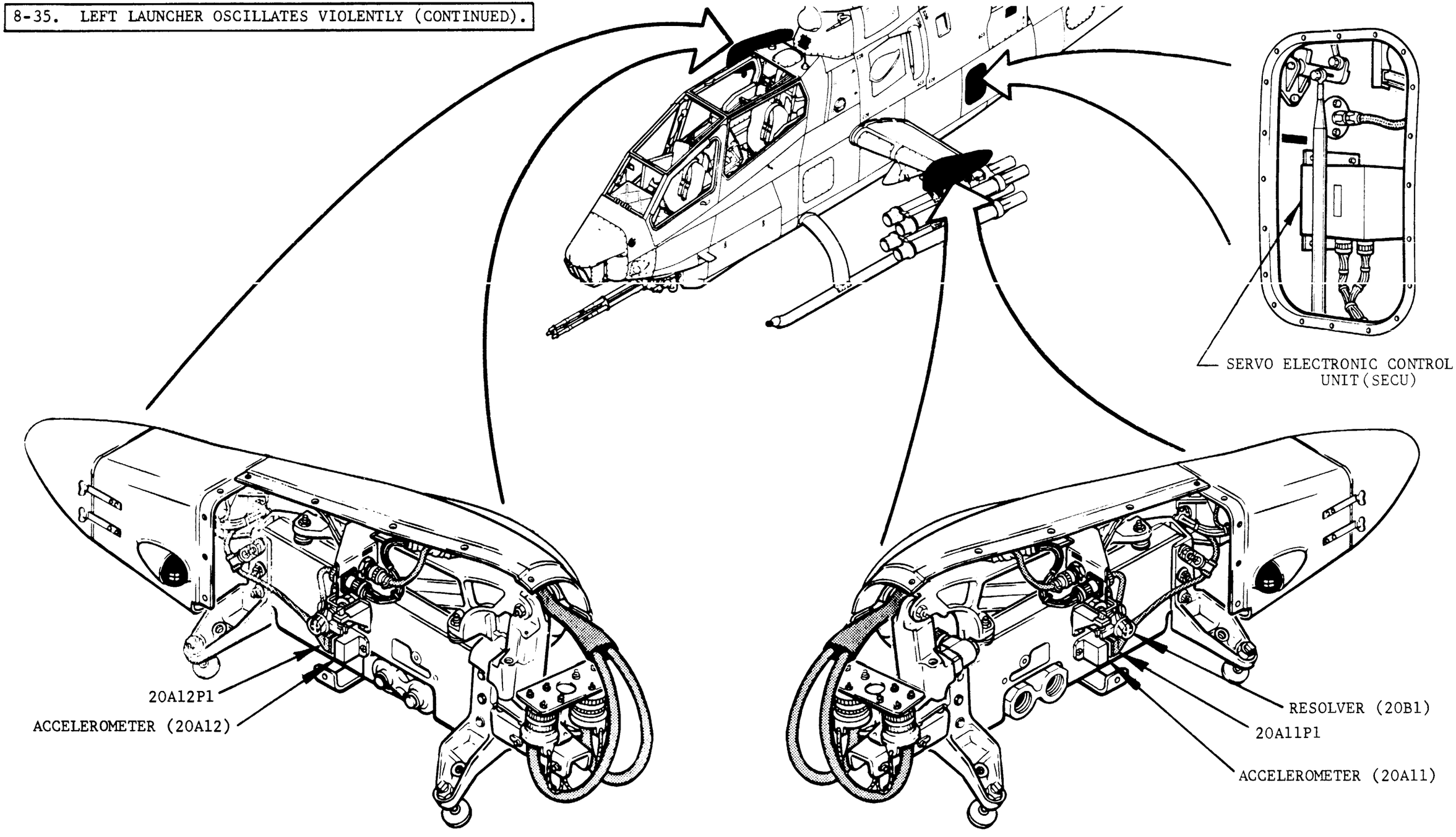






LCHR BORESIGHT SWITCH

8-35. LEFT LAUNCHER OSCILLATES VIOLENTLY (CONTINUED).



## 8-35. LEFT LAUNCHER OSCILLATES VIOLENTLY (CONTINUED)

On gunner instrument panel:

Set EMER HYDR PUMP BORESIGHT switch to OFF.

Look into telescopic sight unit (TSU) eyepiece.

Is the telescopic sight unit (TSU) oscillating?

YES → Go to paragraph 8-12.

NO ↓

On sight hand control:

Set ACQ/TRK/STOW switch to STOW.

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to LEFT TEST.

Turn off electrical power per paragraph 8-3.

Disconnect 20A11P1.

Turn on electrical power per paragraph 8-3.

Does left launcher oscillate?

YES → Turn off electrical power per paragraph 8-3.

Disconnect 20A12P1.

Turn on electrical power per paragraph 8-3.

Does left launcher oscillate?

YES → Turn off electrical power per paragraph 8-3.

Visually inspect left resolver (20B1) for loose shaft coupling or mounting.

Are couplings or mounting loose?

YES → Replace left resolver (20B1) per TM 55-1520-236-23, Chapter 16.

Connect 20A11P1 and 20A12P1.

Then go to paragraph 8-2.

NO ↓

Replace servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Connect 20A11P1 and 20A12P1.

Then go to paragraph 8-2.

NO ↓

Turn off electrical power per paragraph 8-3.

Replace right accelerometer (20A12) per TM 55-1520-236-23, Chapter 16.

Connect 20A11P1.

Then go to paragraph 8-2.

NO ↓

Turn off electrical power per paragraph 8-3.

Replace left accelerometer (20A11) per TM 55-1520-236-23, Chapter 16.

Then go to paragraph 8-2.

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## 8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION).

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Persnnnel Required
68J (2)

References
TM 55-1520-236-23
TM 9-1425-473-20

Access Panels
Servo Electronic Control Unit - Removed

Left Ammo Compartment Door - Opened

Left Side Control Linkage - Removed

Forward Left Side Control Linkage - Removed

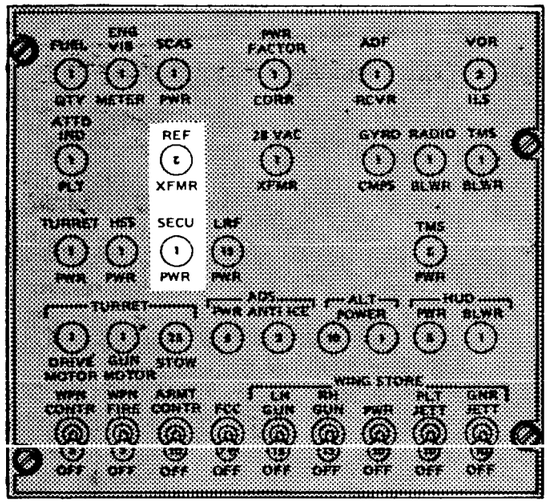
Lower Left Hydraulic System - Removed

Right Forward Control Linkage - Removed

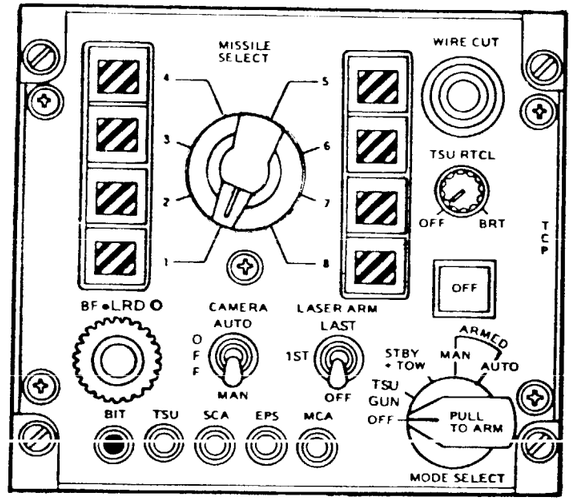
Right Outboard Pylon Fairing - Removed

Left Outboard Pylon Fairing - Removed

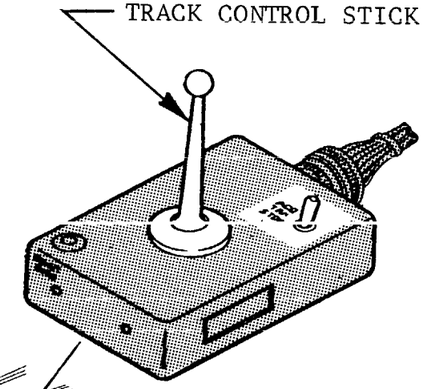
A. TROUBLE SHOOTING LOGIC PART ONE.



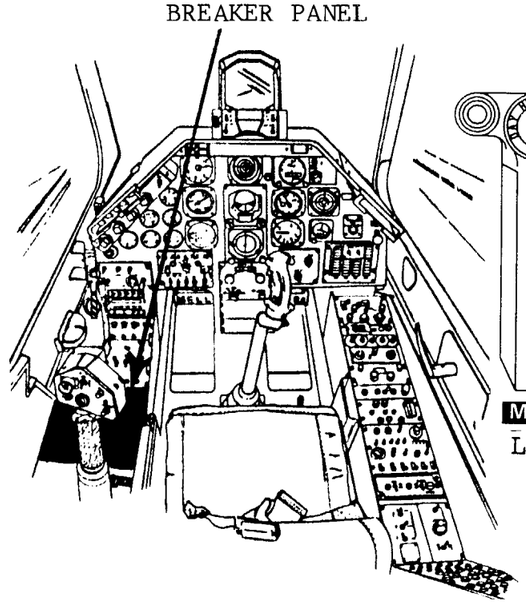

AC/ARMT CIRCUIT BREAKER PANEL



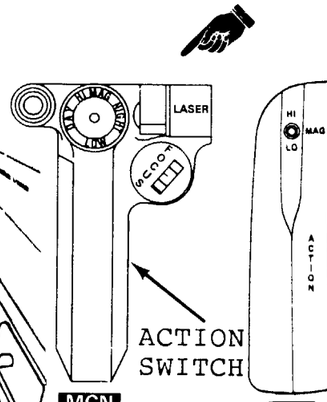

TCP (TOW CONTROL PANEL)




SIGHT HAND CONTROL

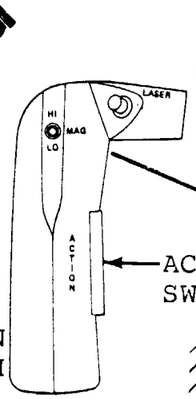


PILOT STATION

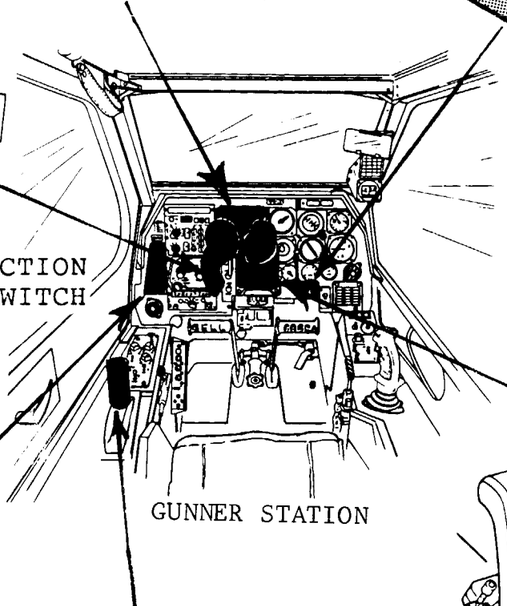



ACTION SWITCH

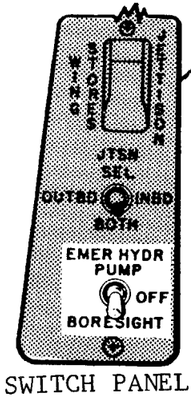
LEFT HAND GRIP




ACTION SWITCH

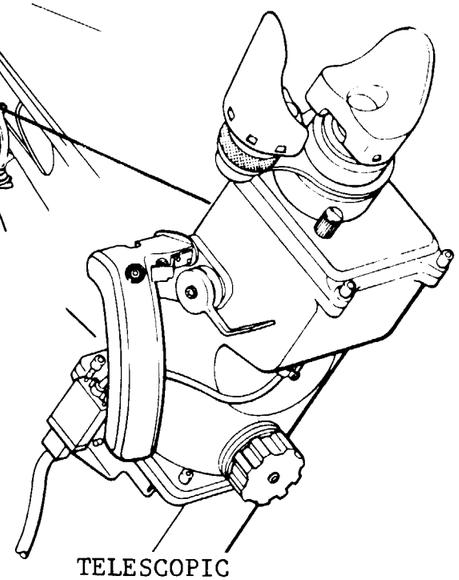



GUNNER STATION




SWITCH PANEL

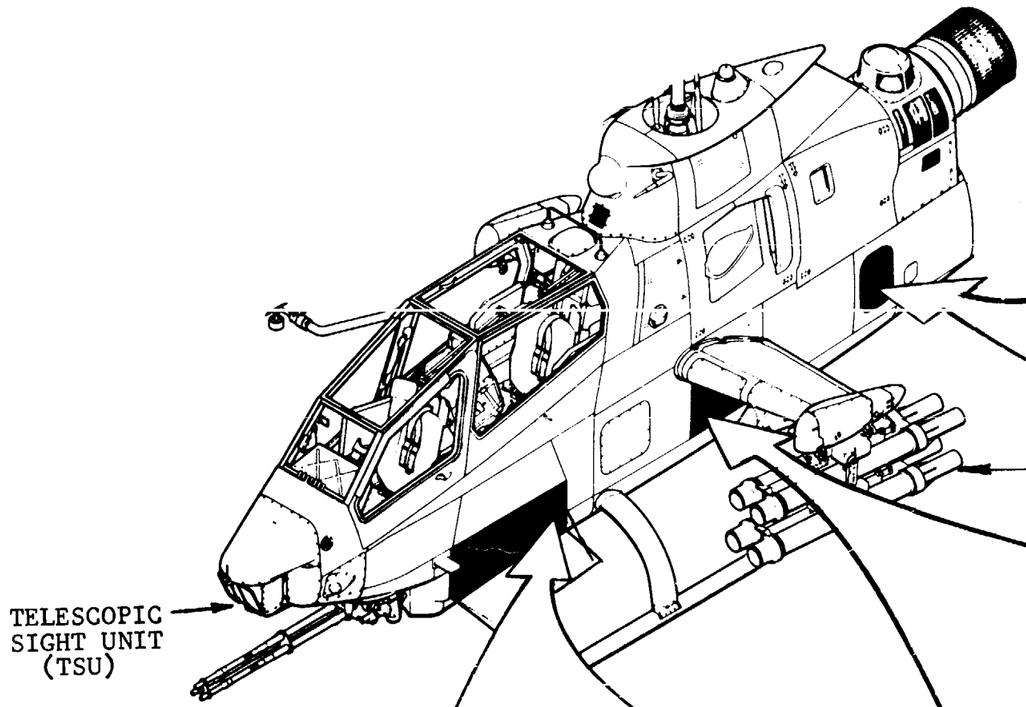
GUNNER COLLECTIVE STICK

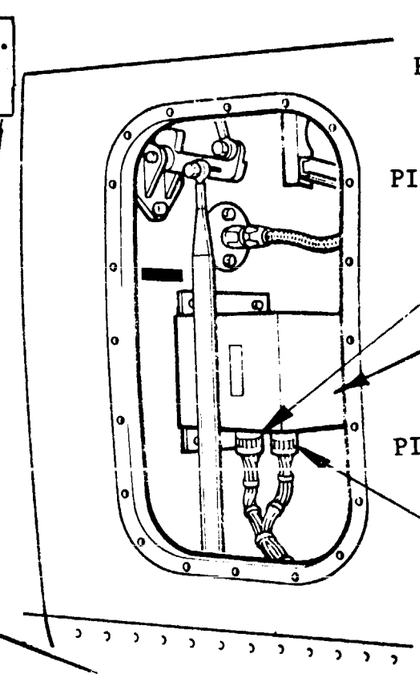


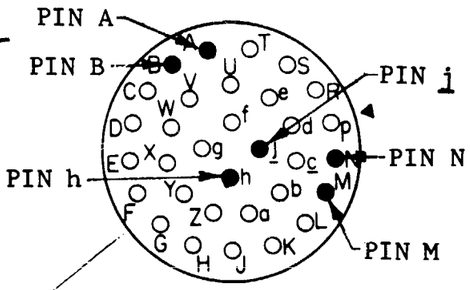
TELESCOPIC SIGHT UNIT (TSU)

8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

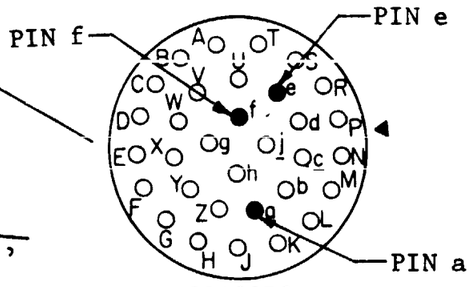


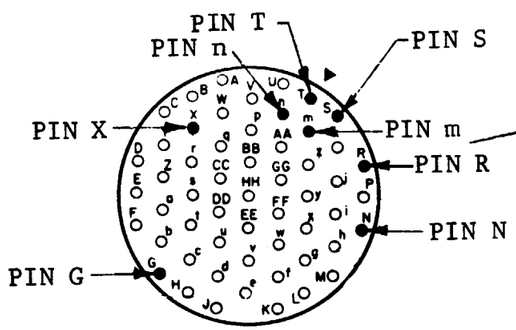



20A20P1

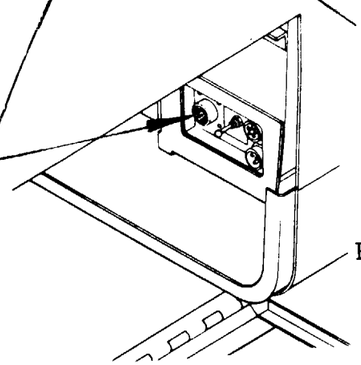
SERVO ELECTRONIC CONTROL UNIT (SECU)



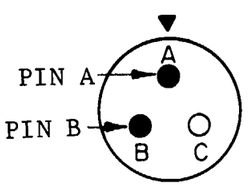

20A20P2



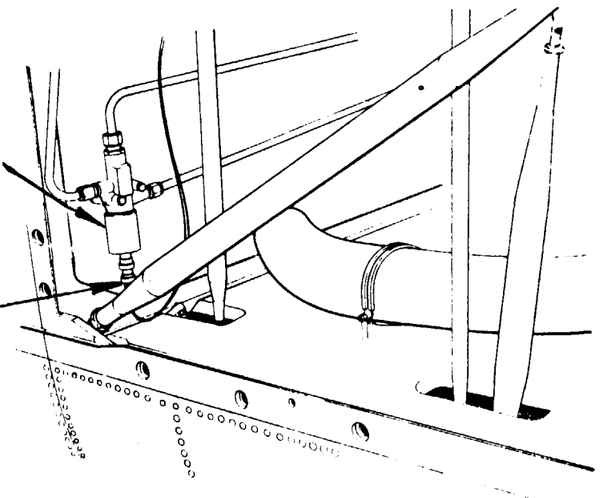

20J331



HYDRAULIC SOLENOID VALVE (20L1)

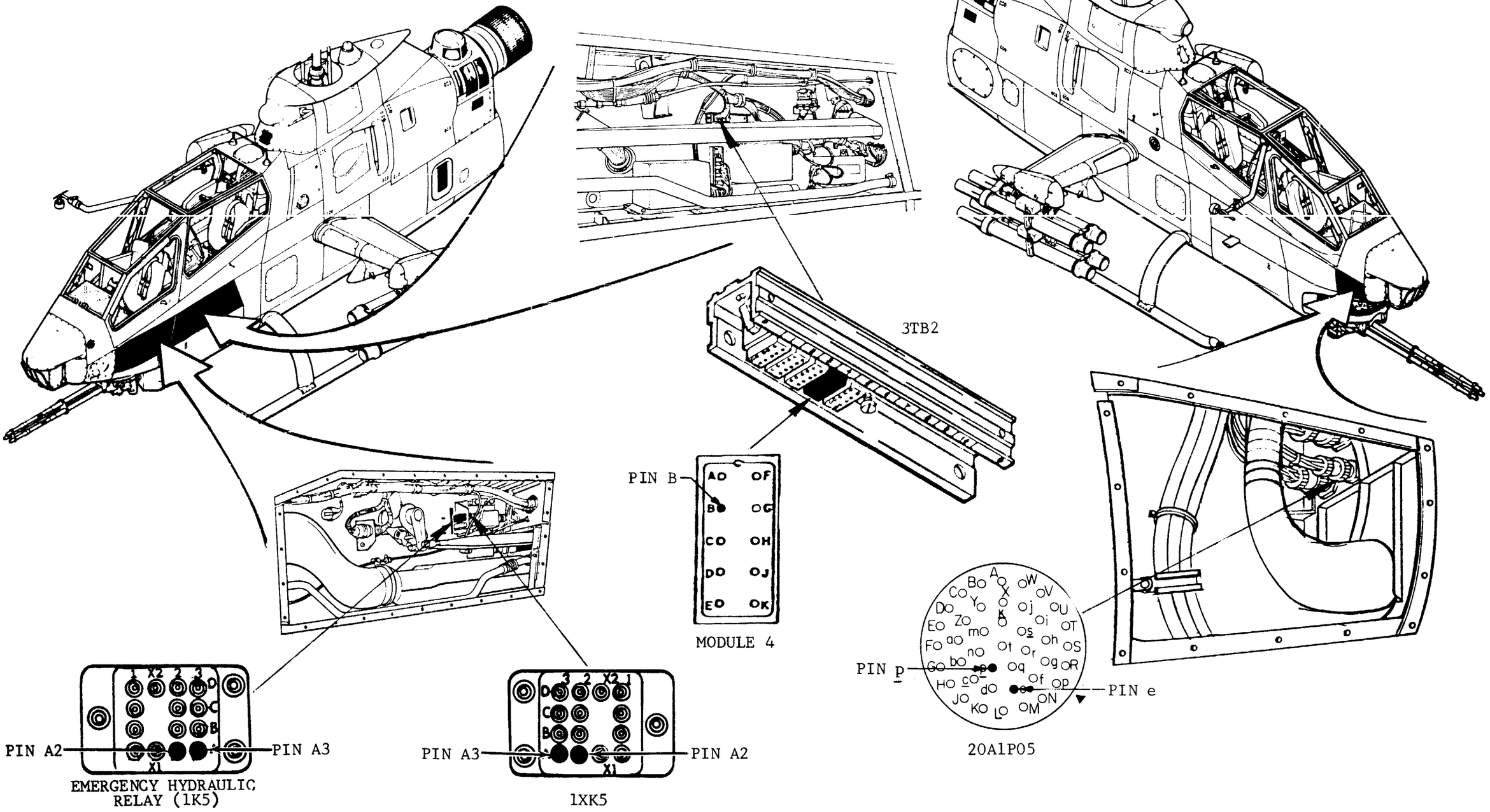



20L1P1



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

On AC/ARMT circuit breaker panel:
Is SECU PWR circuit breaker open?

YES → Go to paragraph 8-4.

NO ↓

On AC/ARMT circuit breaker panel:
Is REF XFMR circuit breaker open?

YES → Go to paragraph 9-6.

NO ↓

Check for listed voltages at pins of test jack 20J331:

| PIN | VOLTAGE REQUIRED |
|---|---|
| N | +18 V dc |
| S | +12 V dc |
| T | -12 V dc |
| R | -18 V dc |

Is voltage correct for each pin?

YES →

On sight hand control:
Set ACQ/TRK/STOW switch to TRK.

NOTE MCN

Verify TSU is operating in DAY mode.

While looking through telescopic sight unit (TSU) eyepiece, press track control stick on sight hand control forward and then pull backward.
Does telescopic sight unit (TSU) operate normally?

YES →

Turn off electrical power per paragraph 8-3.

Disconnect 20A20P1.
Connect multimeter between 20A20P1-h and 20A20P1-j.

Turn on electrical power per paragraph 8-3.

Check for 10 V ac from 20A20F1-h to 20A20P1-j.

Is 10 V ac present?

YES →

NO ↓

Turn off electrical power per paragraph 8-3.

Repair wire TG594F22 (WHT) between 3TB2-4B and 20A20P1-h.

Connect 20A20P1.

Then go to paragraph 8-2.

NO ↓

Is voltage incorrect for each pin?

YES → Go to Troubleshooting Logic Part 2 (subparagraph B).

NO ↓

Turn off electrical power per paragraph 8-3.
Check the following wires for continuity:

| WIRE N0. | FROM | TO |
|---|---|---|
| TG850A22 | 20J331-N | 20A2P1-A |
| TG373C22(WHT) | 20J331-S | 20A20P1-M |
| TG373C22(BLU) | 20J331-T | 20A20P1-N |
| TG851A22 | 20J331-R | 20A20P1-B |

Is continuity present on each wire?

YES → Go to Troubleshooting Logic Part 3 (subparagraph C).

NO ↓

Repair wire(s) where continuity is not present.
Then continue troubleshooting.

NO ↓

Go to paragraph 8-24 MC
or 8-24.1. MCN

8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

**On gunner instrument panel:**

**Set EMER HYDR PUMP/BORESIGHT switch to BORESIGHT.**

On TCP (TOW control panel):

Set MISSILE SELECT switch to 1.

On sight hand control:

Set ACQ/TRK/STOW switch to STOW momentarily, then set to TRK.

On left hand grip:

Press and hold ACTION switch.

On sight hand control:

Press track control stick forward and then pull backward while watching left launcher.

Does left launcher move?

**YES** → **Turn off electrical power per paragraph 8-3.**

Replace servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Then go to paragraph 8-2.

**NO**

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to EMER HYDR PUMP.

Can gunner collective stick be moved easily?

**YES** →

**NO**

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

Troubleshoot hydraulic system per TM 55-1520-236-23, Chapt-

Then go to paragraph 8-2.

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

On sight hand control:

Set ACO/TRK/STOW switch to S T O W .

In ammo compartment:

Set LCHR BORESIGHT SWITCH to RIGHT TEST.

Check for 28 V dc at 20J331-G.

Is 28 V dc present?

**YES** →

**NO**

Turn off electrical power per paragraph 8-3.

Check for continuity from 20J331-G to 20A20P2-a.

Is continuity present?

**YES** → Replace servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Then go to paragraph 8-2.

**NO**

Check for continuity from 20A20P2-a to 1XK5-A3.

Is continuity present?

**YES** → Repair wire TG365C22 between 20J331-G and splice.

Then continue troubleshooting.

**NO**

Repair wire TG365A22 between 20A20P2-a and splice.

Then go to paragraph 8-2.

8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED)

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED) .

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20L1P1.

Turn on electrical power per paragraph 8-3.

Check for 28 V dc at 20LlPl-A.

Is 28 Vdc present?

YES

Turn off electrical power per paragraph 8-3.

Check for continuity from 20L1P1-B to airframe ground.

Is continuity present?

YES

Connect 20L1P1.

Turn on electrical power per paragraph 8-3.

Check for 3 V dc or greater at 20J331-X.

Is 3 V dc or more present?

NO

Repair wire TG572A22N between 20L1P1-B and airframe ground.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A20P2.

Turn on electrical power per paragraph 8-3.

Check for 9 V ac or more from 20A20P2-e to 20A20P2-f.

Is 9 V ac or more present?

YES

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A20P2-e to 20AlP05-p and from 20A20P2-f to 20ATP05-e

Is continuity present in both checks?

YES

NO

Check for continuity from 20A20P2-e to 20J331-m and fron 20A20P2-f to 20J331-n.

Is continuity present in both checks ?

YES

NO

Repair wire(s) TG145A22 (WHT) between 20A20P2-e and splice and/or TG145A22(BLU) between 20A20P2-f and splice.

Connect 20A20P2.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

] emove emergency hydraulic relay (1K5) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 1K5-A2 to 1K5-A3.

Is continuity present?

YES

Turn on electrical power per paragraph 8-3.

Check for 28 V dc at 1XK5-A3.

Is 28 V dc present?

YES

Repair wire TG370A22 between 1XK5-A2 and 20LIP1-A.

Connect 20L1P1.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Repair wire TG365B22 between 1XK5-A3 and splice.

Connect 20L1P1.

Then go to paragraph 8-2.

NO

Replace emergency hydraulic relay (1K5) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 20L1P1.

Then go to paragraph 8-2.

8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

YES → Turn off electrical power per paragraph 8-3.

Replace hydraulic solenoid valve (20L1) per TM 55-1520-236-23, Chapter 7.

Then go to paragraph 8-2.

YES → Turn off electrical power per paragraph 8-3.

Replace servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Then go to paragraph 8-2.

YES → Repair wire TG145B22 (WHT) between 20AlP05- and splice and/or TG145B22 BLU) between 20AlP05-e and splice.

Connect 20A20P2.

Then go to paragraph 8-2.

YES → Replace telescopic sight unit (TSU) per TM 9-1425-473-20, Chapte 2, Section V.

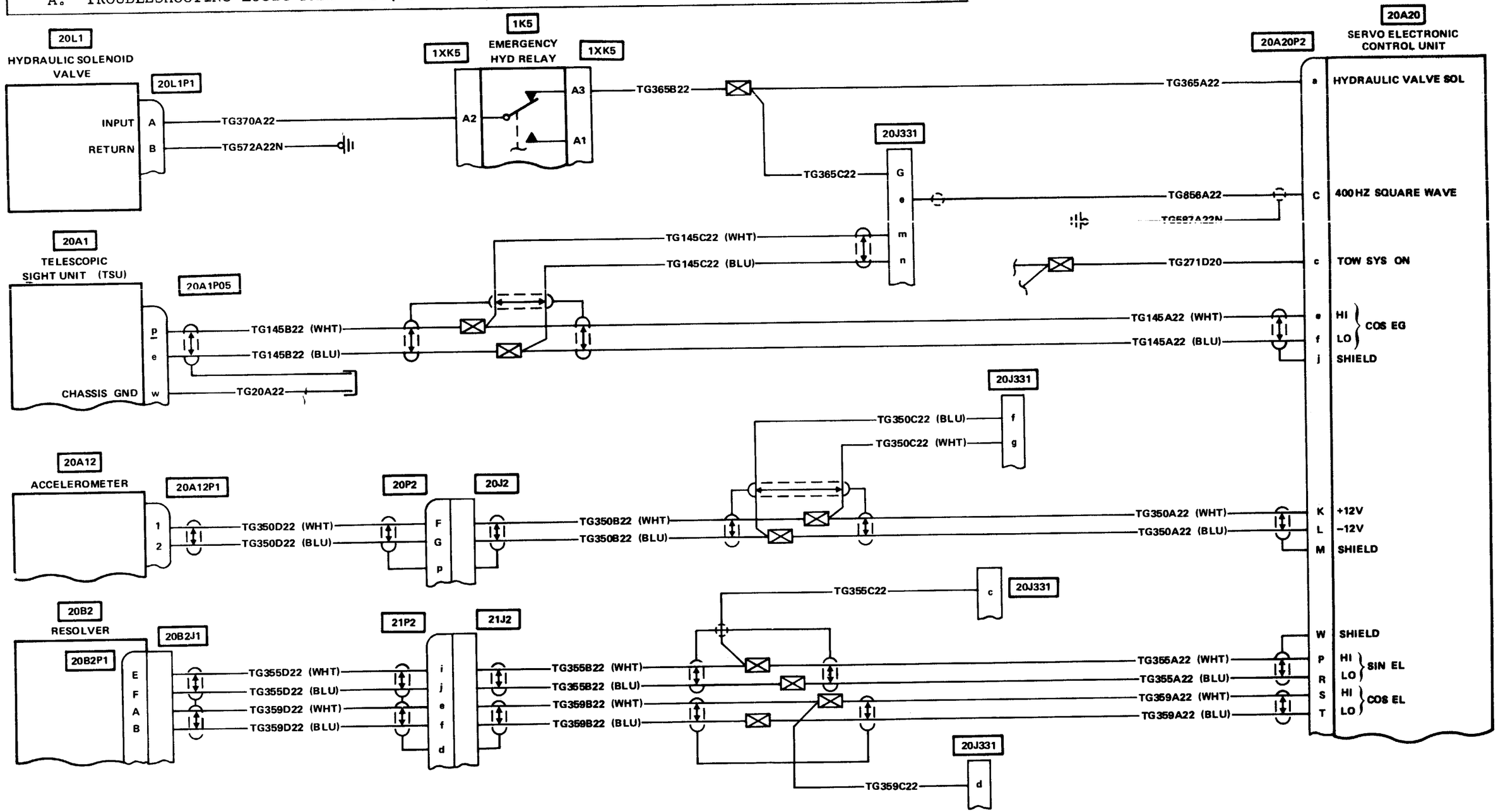
Connect 20A2P2.

Then go to paragraph 8-2.

YES

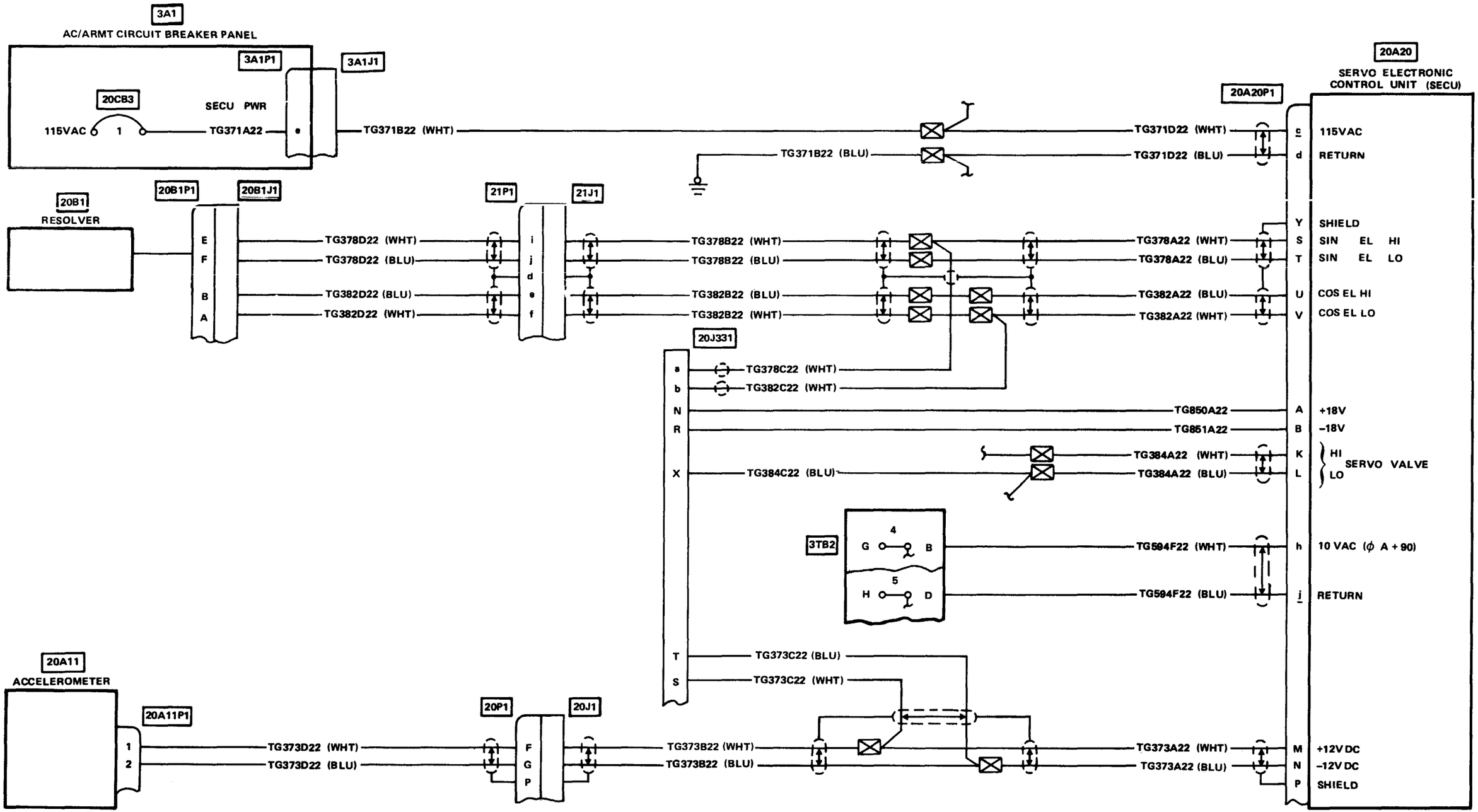
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

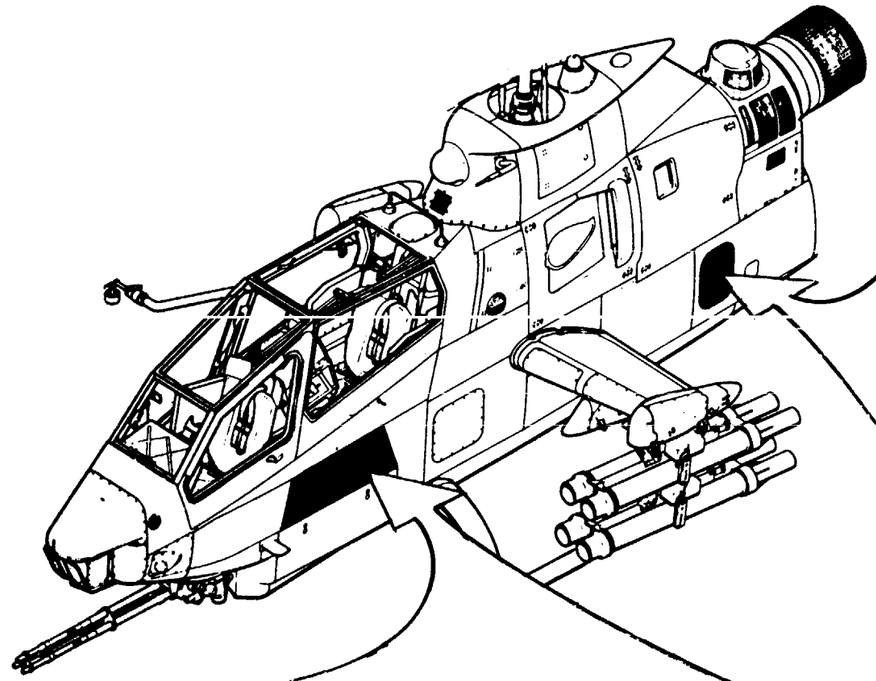
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

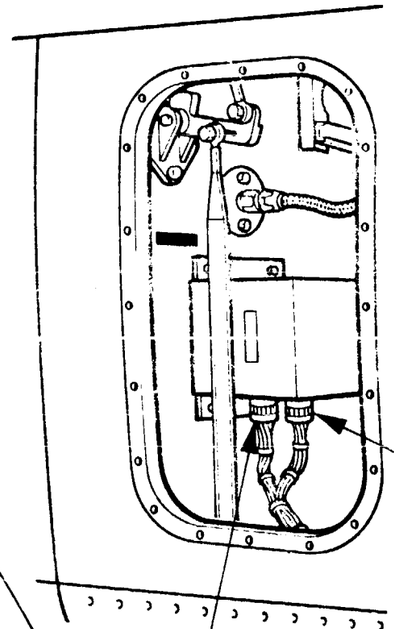


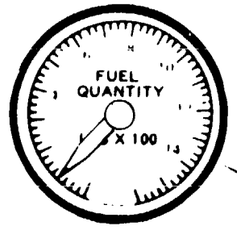
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8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

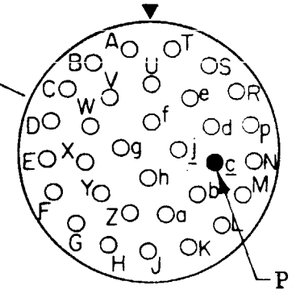
B. TROUBLESHOOTING LOGIC PART TWO.





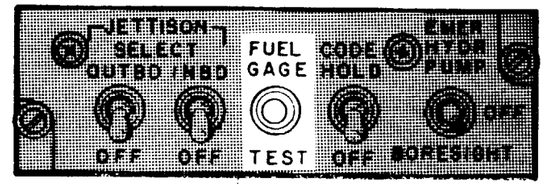



FUEL QUANTITY INDICATOR

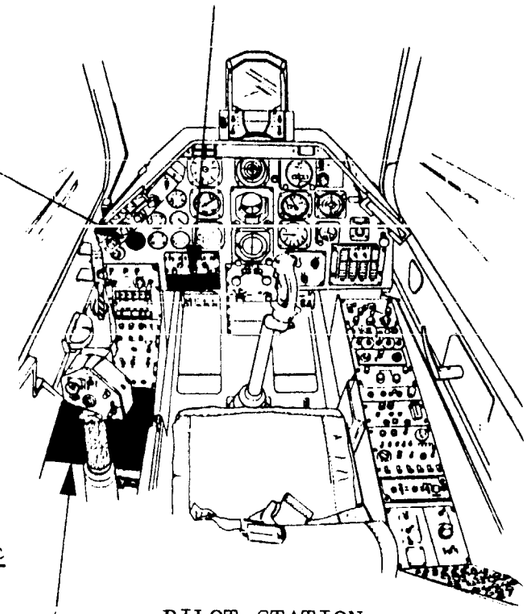


PIN c

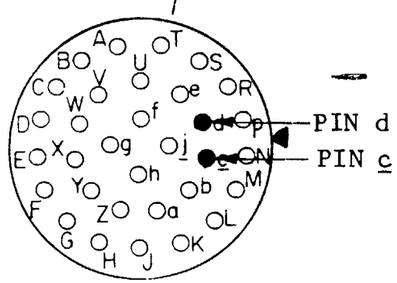
20A20P2




PILOT MISCELLANEOUS CONTROL PANEL



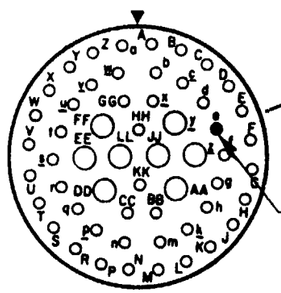
PILOT STATION



PIN d

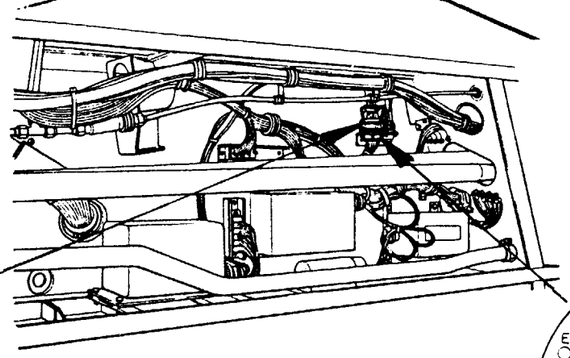
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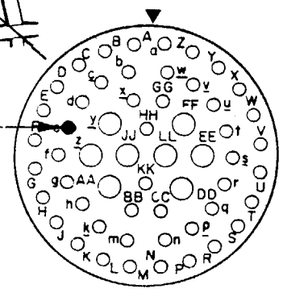
20A20P1



PIN e

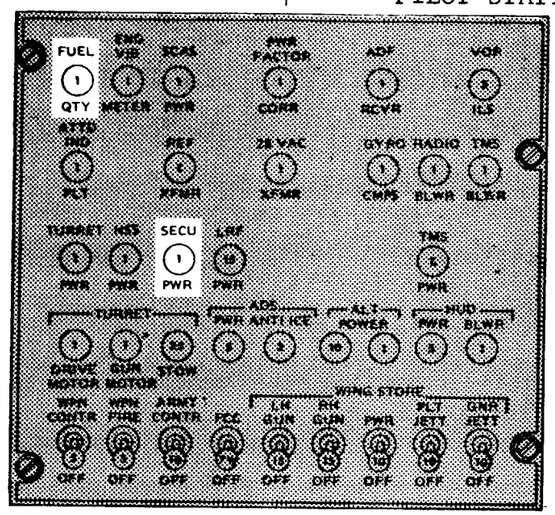
3A1P1





PIN e

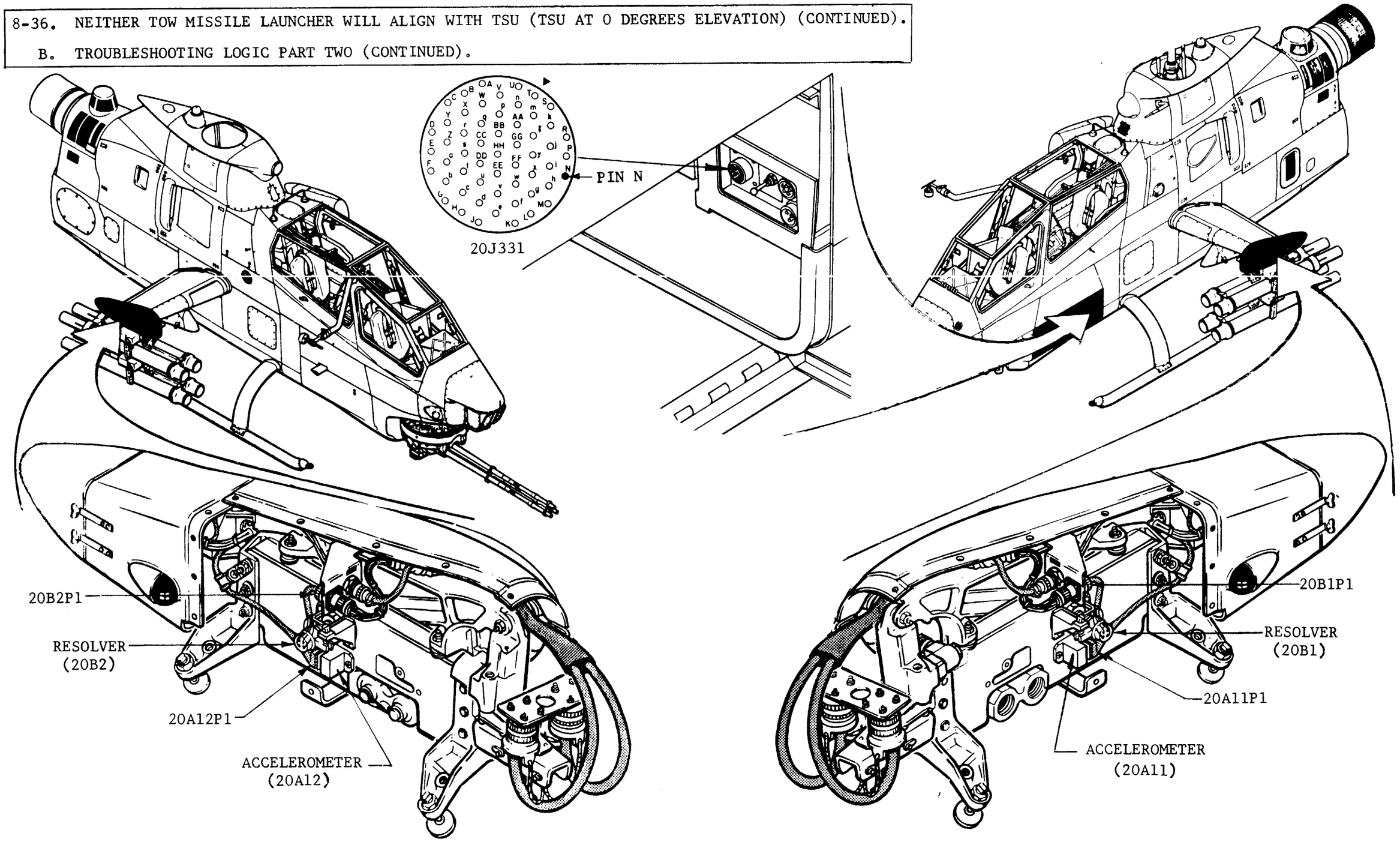
3A1J1




AC/ARMT CIRCUIT BREAKER PANEL

8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

On AC/ARMT circuit breaker panel:

Close FUEL QTY circuit breaker.

On pilot miscellaneous control panel:

Press and hold FUEL GAGE TEST switch.

Does fuel quantity indicator needle rotate downscale (counter clockwise)?

NO

Go to paragraph 9-10.

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20A20P1 and 20A20P2.

Connect multimeter between 20A20P1-c and 20A20P1-d.

Turn on electrical power per paragraph 8-3.

Is 115 V ac present?

NO

Turn off electrical power per paragraph 8-3.

Remove AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity across SECU PWR circuit breaker with circuit breaker closed

Is continuity present?

NO

Replace SECU PWR circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Connect 20A20P1 and 20A20P2.

Then go to paragraph 8-2.

YES

Check for 28 V dc at 20A20P2-c.

Is 28 Vdc present?

NO

Turn off electrical power per paragraph 8-3.

Repair wire TG271D20 between 20A20P2-c and splice.

Connect 20A20P1 and 20A20P2.

Then go to paragraph 8-2.

YES

(Check wire TG371A22 for continuity from SECU PWR circuit breaker to 3A1P1-e.

Is continuity present?

NO

Repair wire TG371A22, between SECU PWR circuit breaker and 3AlPl-e.

Connect 20A20P1 and 20A20P2.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 8-2.

YES

Repair wire TG371D22 (WHT) between 20A20P1-c and splice and/or wire TG371B22 (WHT) between 3AlJ1-e and splice.

Connect 20A20P1 and 20A20P2.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 8-2.

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20B1P1, 20A11P1, 20B2P1, and 20A12P1.

Connect 20A20P1 and 20A20P2.

Turn on electrical power per paragraph 8-3.

Check for +18 V dc at 20J331-N.

Is +18 V dc present?

NO

Turn off electrical power per paragraph

Go to Troubleshooting Logic Part Five (subparagraph E).

8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

YES

Turn off electrical power per paragraph 8-3.

Connect 20A11P1.

Turn on electrical power per paragraph 8-3.

Check for +18 V dc at 20J331-N.

Is +18 V dc present?

NO

Turn off electrical power per paragraph 8-3.

Replace left accelerometer (20A11) per TM 55-1520-236-23, Chapter 16.

Connect 20B1P1, 20B2P1 and 20A12P1.

Then go to paragraph 8-2.

YES

Turn off electrical power per paragraph 8-3.

Connect 20A12P1.

Turn on electrical power per paragraph 8-3.

Check for +18 V dc at 20J331-N.

Is +18 V dc present?

NO

Turn off electrical power per paragraph

Replace right accelerometer (20A12) per TM 55-1520-236-23, Chapter 16.

Connect 20B1P1 and 20B2P1.

Then go to paragraph 8-3.

YES

Turn off electrical power per paragraph 8-3.

Connect 20B1P1.

Turn on electrical power per paragraph 8-3.

Check for +18 V dc at 20J331-N.

Is +18 V dc present?

NO

Turn off electrical power per paragraph

Replace left resolver (20B1) perTM 55-1520-236-23, Chapter 16.

Connect 20B2P1.

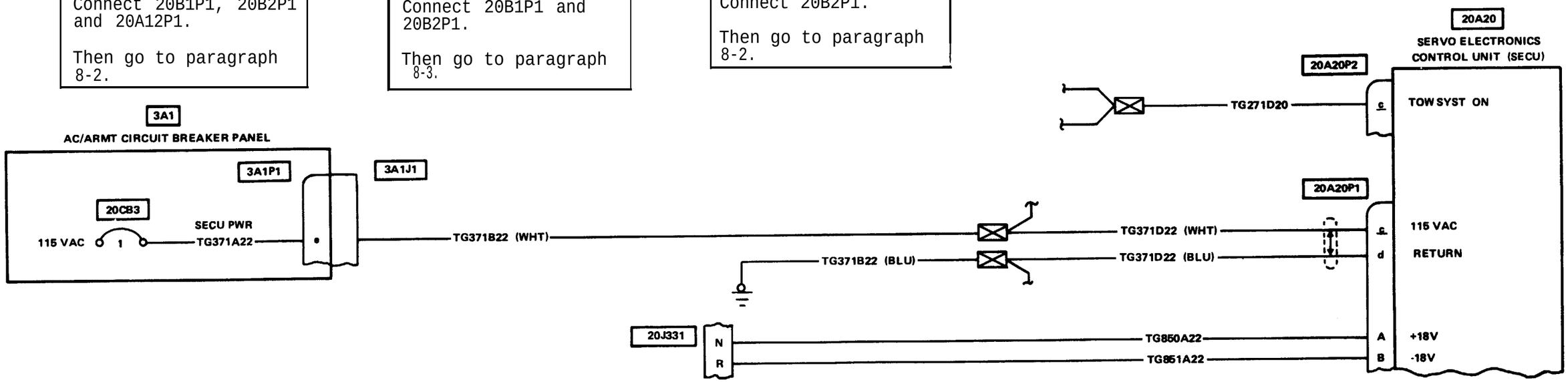
Then go to paragraph 8-2.

YES

Turn off electrical power per paragraph 8-3.

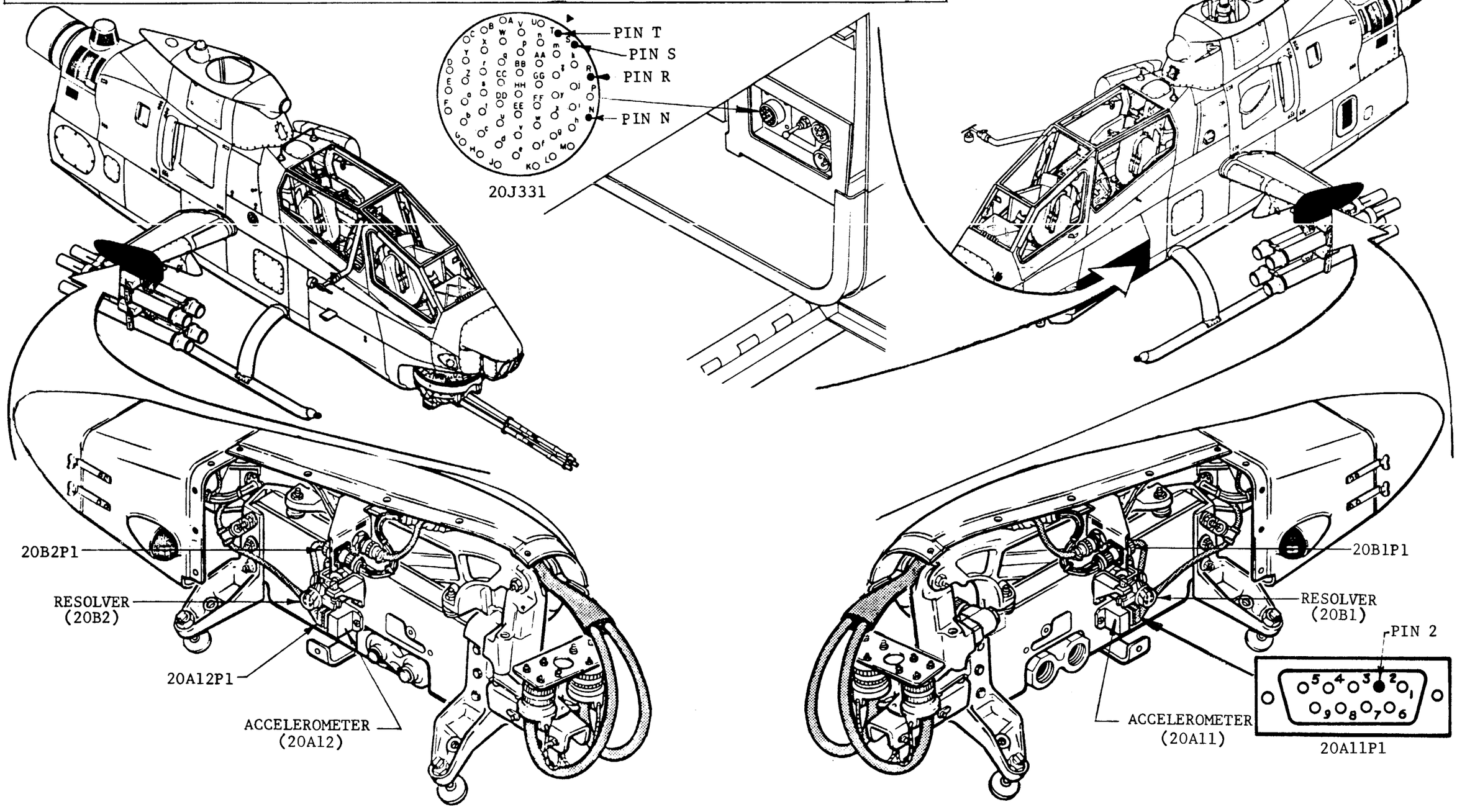
Replace right resolver (20B2) per TM 55-1520-236-23, Chapter 16.

Then go to paragraph 8-2.



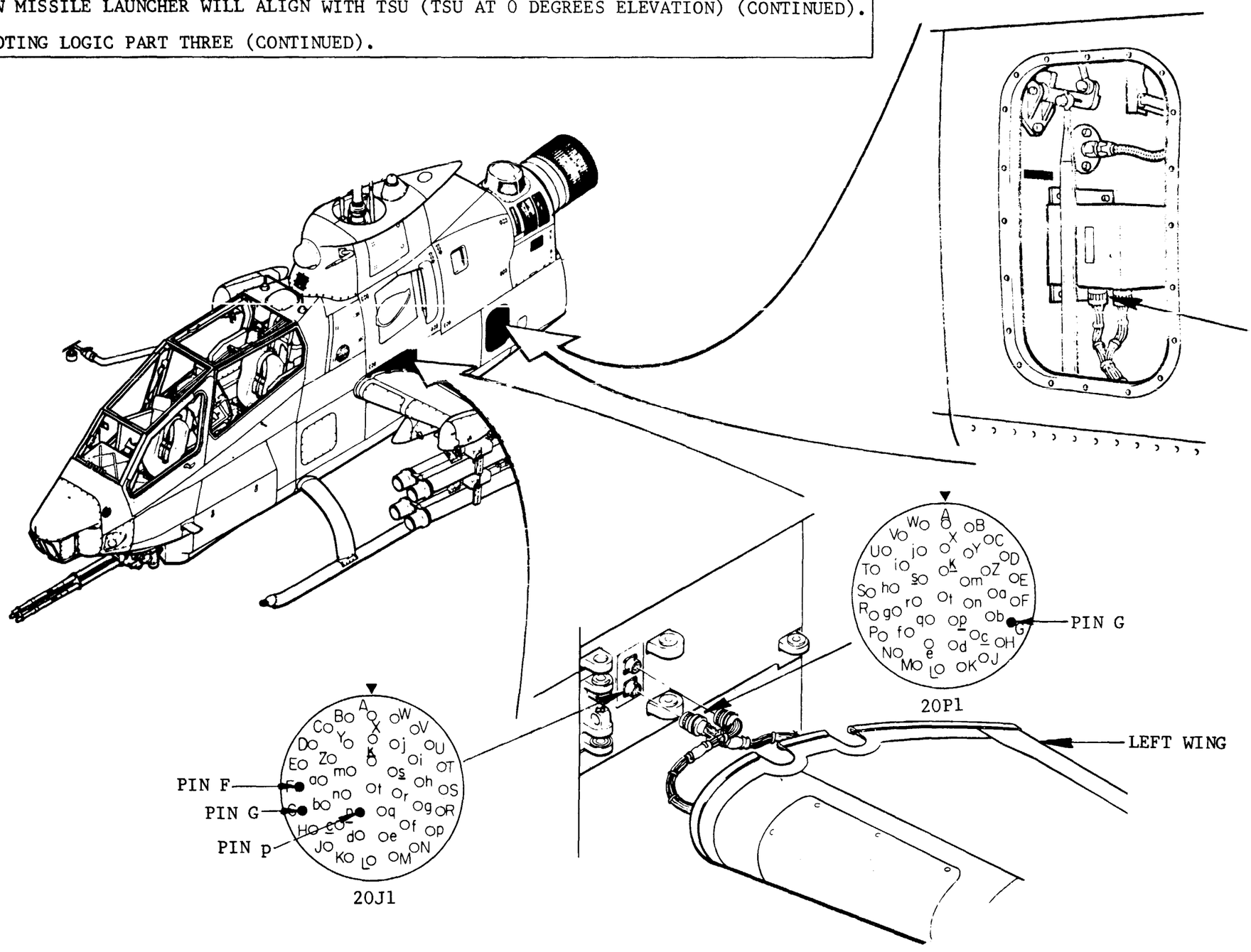
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE.



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



8-36 NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED) .

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

Disconnect 20A11P1 and 20A12P1.

Turn on electrical power per paragraph 8-3.

Check for listed voltage at pins of test jack 20J331:

| PIN | VOLTAGE REQUIRED |
|---|---|
| N | +18 V dc |
| S | +12 V dc |
| T | -12 V dc |
| R | -18 V dc |

Is voltage correct for each pin?

YES

Turn off electrical power per paragraph 8-3.

Connect 20A12P1.

Turn on electrical power per paragraph 8-3.

Check for listed voltage at pins of test jack 20J331:

| PIN | VOLTAGE REQUIRED |
|---|---|
| N | +18 V dc |
| S | +12 V dc |
| T | -12 V dc |
| R | -18 V dc |

Is voltage correct for each pin?

YES

Turn off electrical power per paragraph 8-3.

Replace left accelerometer (20A11) per TM 55-1520-236-23, Chapter 16.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A20P1-B to airframe ground.

Is continuity present?

YES

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A20P1-N to 20A20P1-P, to 20A20P1-M, and to airframe ground.

Is continuity present in any part of the check?

YES

Repair wire TG373D22 (BLU) between 20A11P1-2 and 20P1-G to eliminate short.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A11P1 and 20A12P1.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Replace right accelerometer (20A12) per TM 55-1520-236-23, Chapter 16.

Connect 20A11P1.

Then go to paragraph 8-2.

NO

Check for continuity from 20A20P1-N to 20A20P1-P, to 20A20P1-M, and to airframe ground.

Is continuity present in any part of the check?

YES

Repair wire TG851A22 between 20A20P1-B and 20J331-R to eliminate short.

Connect 20A11P1 and 20A12P1.

Then go to paragraph 8-2.

NO

Go to Troubleshooting Logic Part Four (subparagraph D).

8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

YES

Remove splice joining wires TG373A22 (BLU), TG373B22 (BLU), and TG373C22 (BLU).

Check for continuity from 20A20P1-N to 20A20P1-P, to 20A20P1-M, and to airframe ground.

Is continuity present in any part of the check?

YES

Repair wire TG373A22 (BLU) between 20A20P1-N and splice to eliminate short.

Install splice joining wires TG373A22 (BLU), TG373B22 (BLU), and TG373C22 (BLU) per TM 55-1520-236-23, Chapter 9, Section I.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A11P1 and 20A12P1.

Then go to paragraph 8-2.

NO

Check for continuity from 20J1-G to 20J1-p, to 20J1-F, and to airframe ground.

Is continuity present?

YES

Repair wire TG373B22 (BLU) between 20J1-G and splice to eliminate short.

Install splice joining wires TG373A22 (BLU), TG373B22 (BLU), and TG373C22 (BLU) per TM 55-1520-236-23, Chapter 9, Section I.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A11P1 and 20A12P1.

Then go to paragraph 8-2.

NO

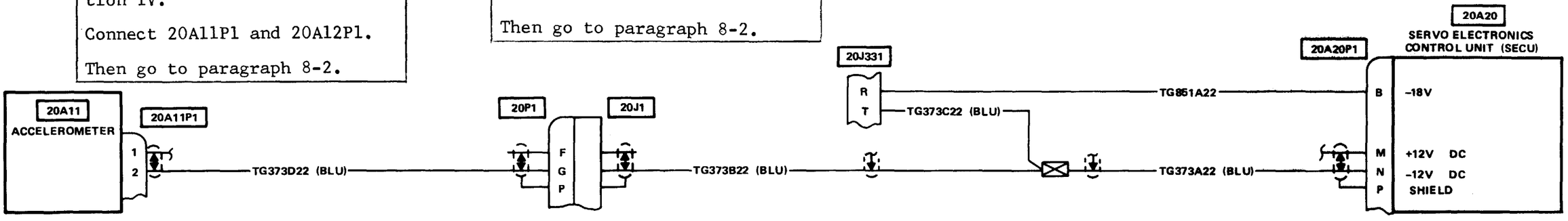
Repair wire TG373C22 (BLU) between 20J331-T and splice to eliminate short.

Install splice joining wires TG373A22 (BLU), TG373B22 (BLU), and TG373C22 (BLU) per TM 55-1520-236-23, Chapter 9, Section I.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

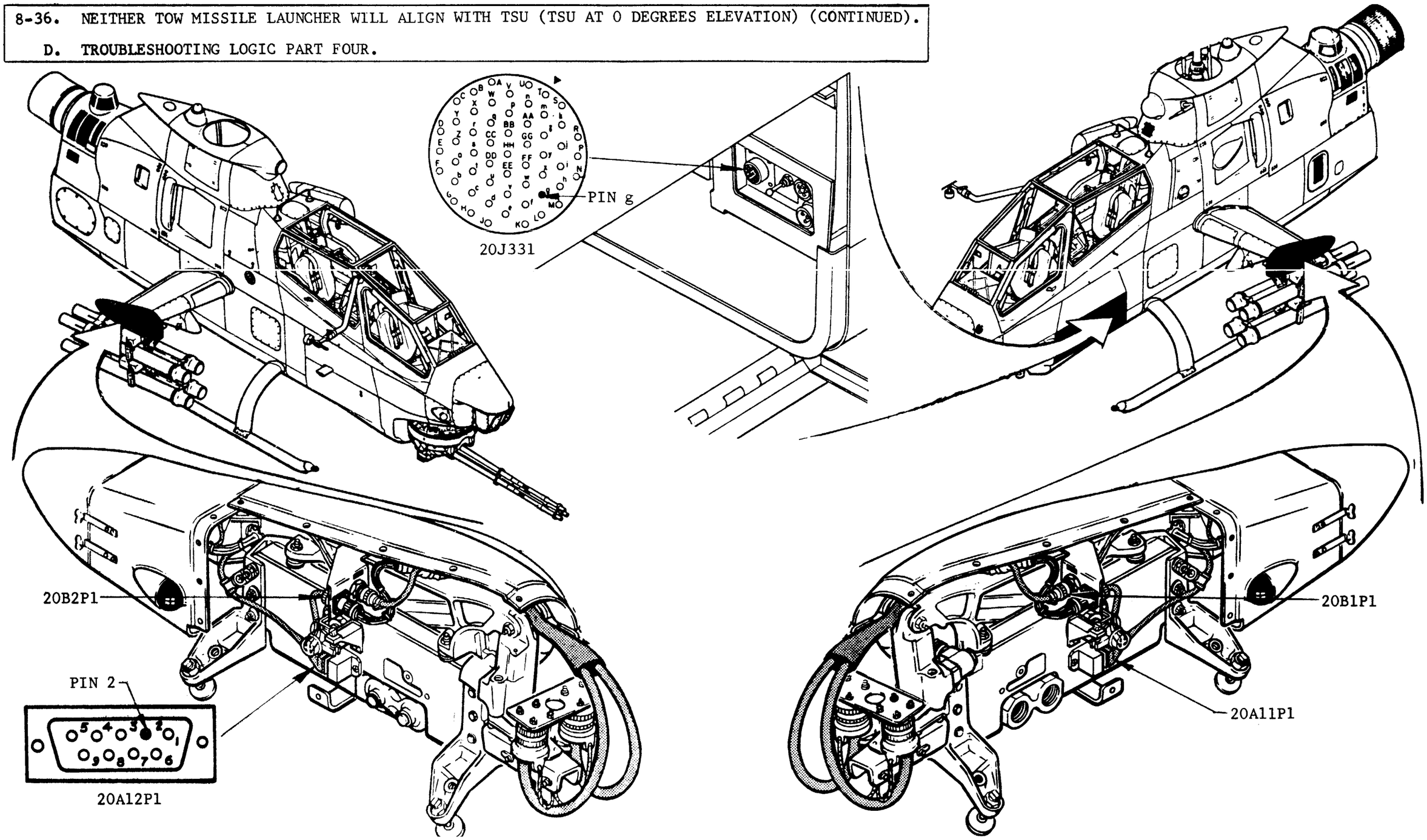
Connect 20A11P1 and 20A12P1.

Then go to paragraph 8-2.



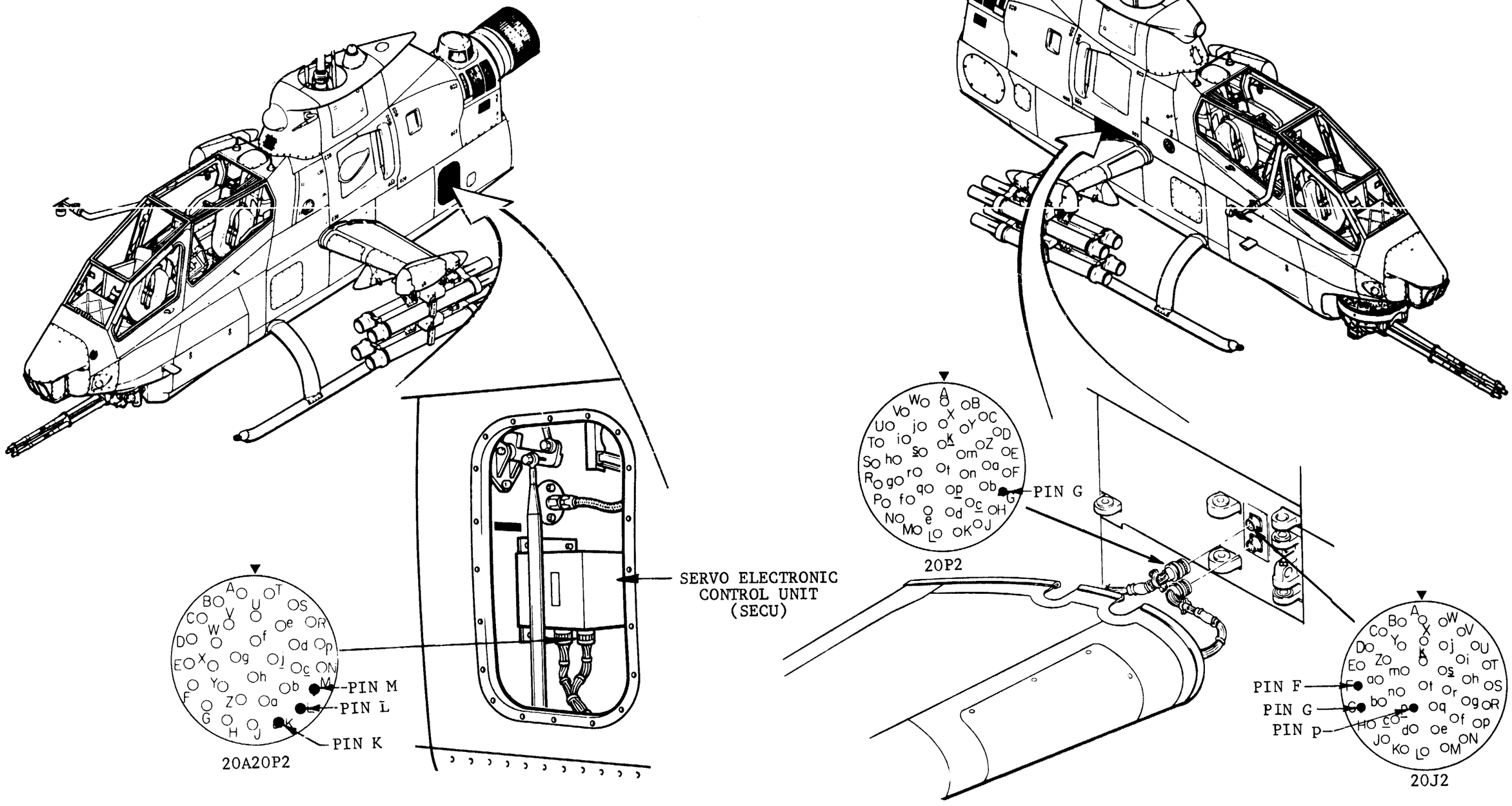
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR.



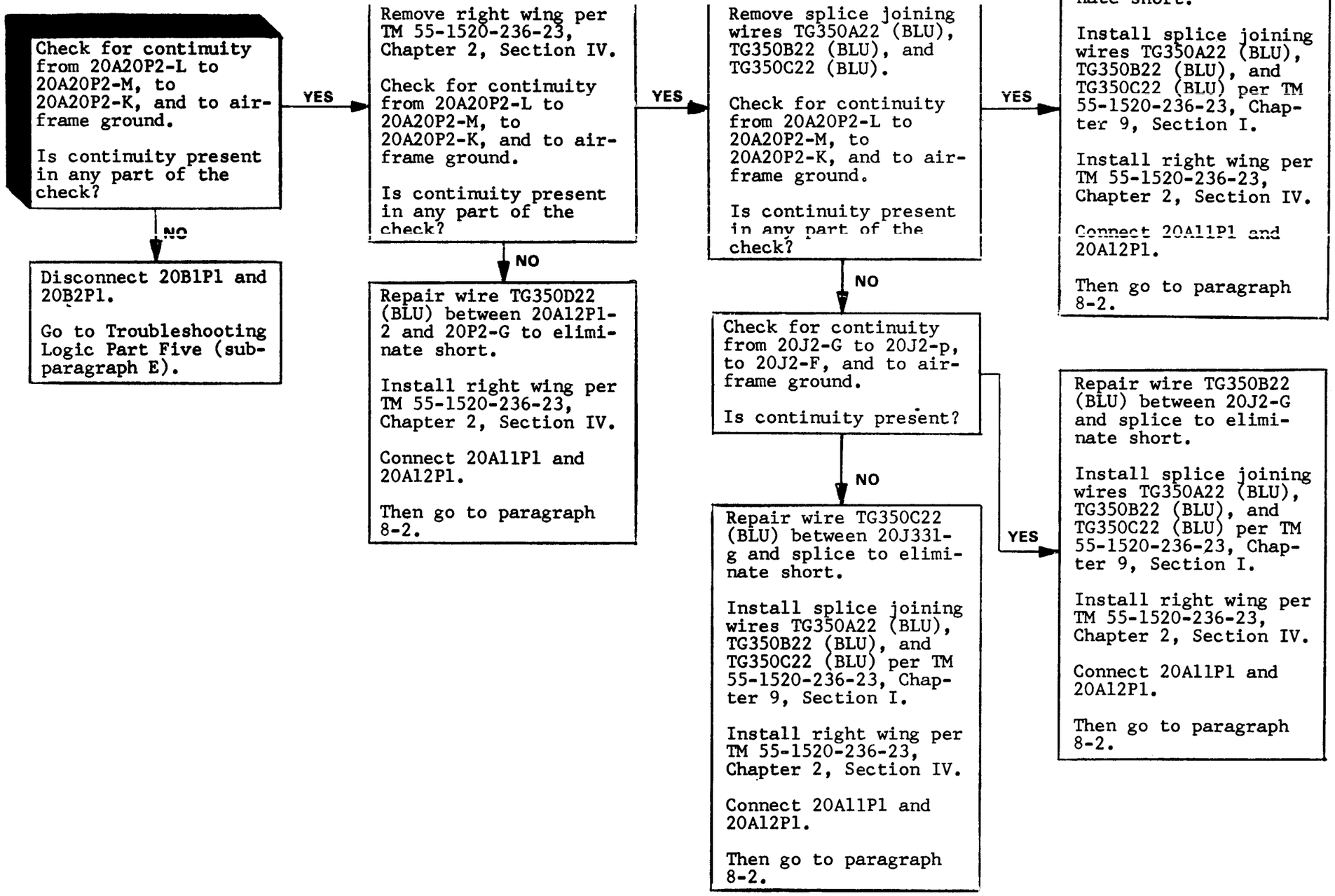
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



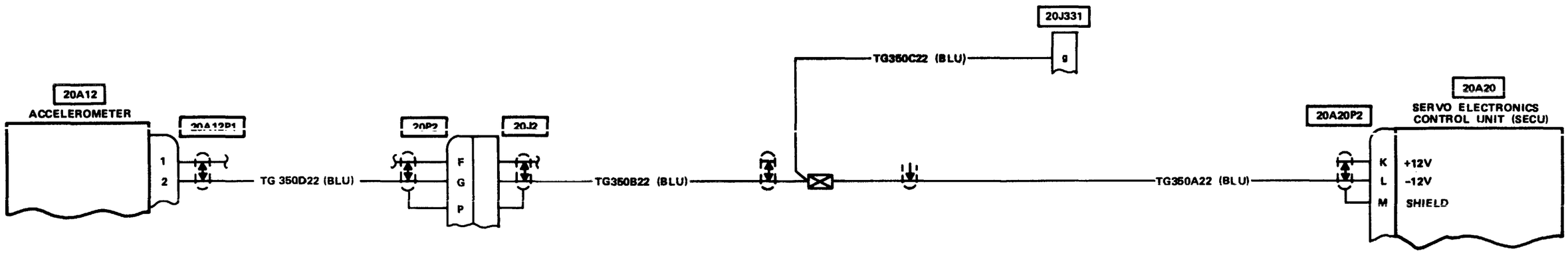
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) ( CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED) .



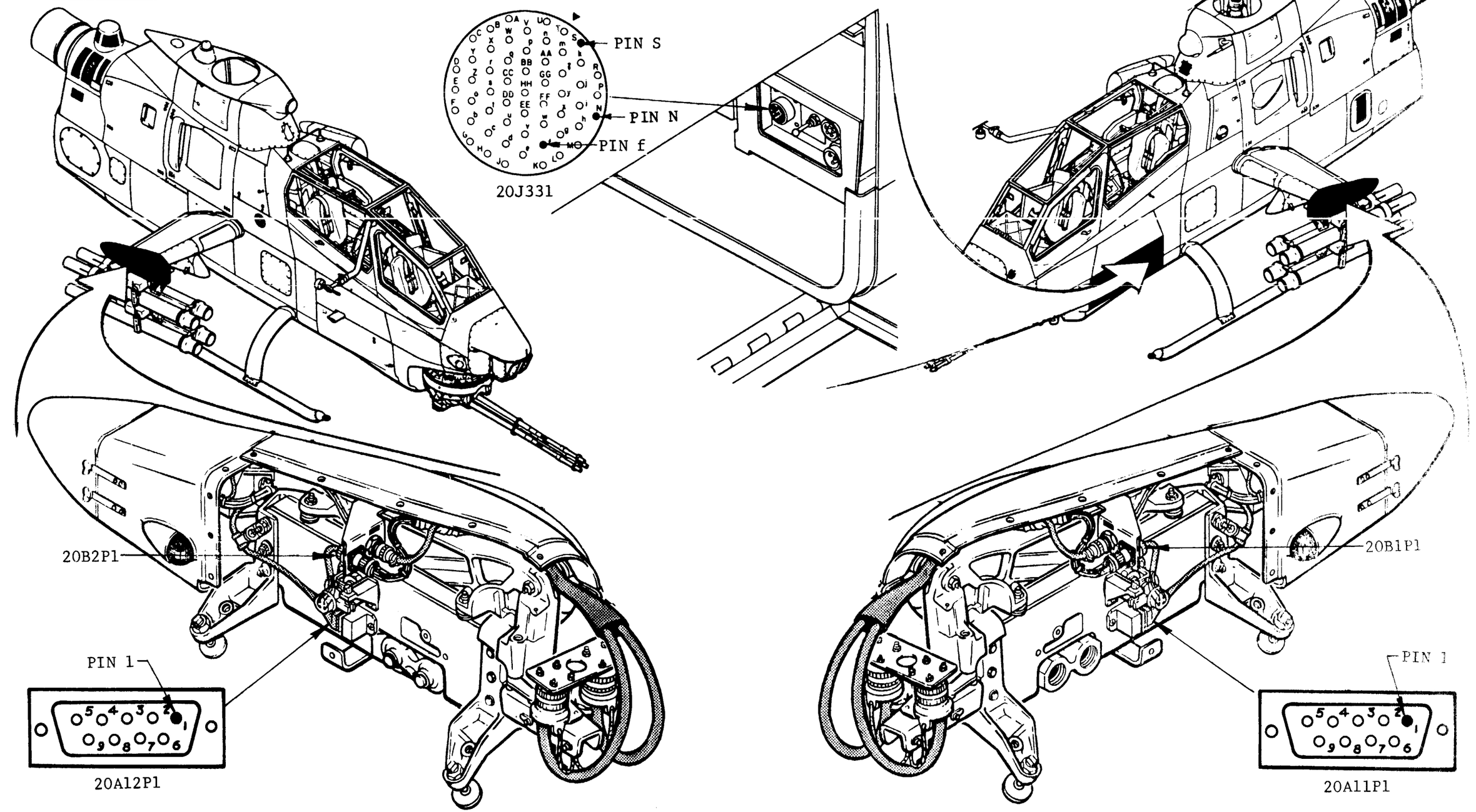
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



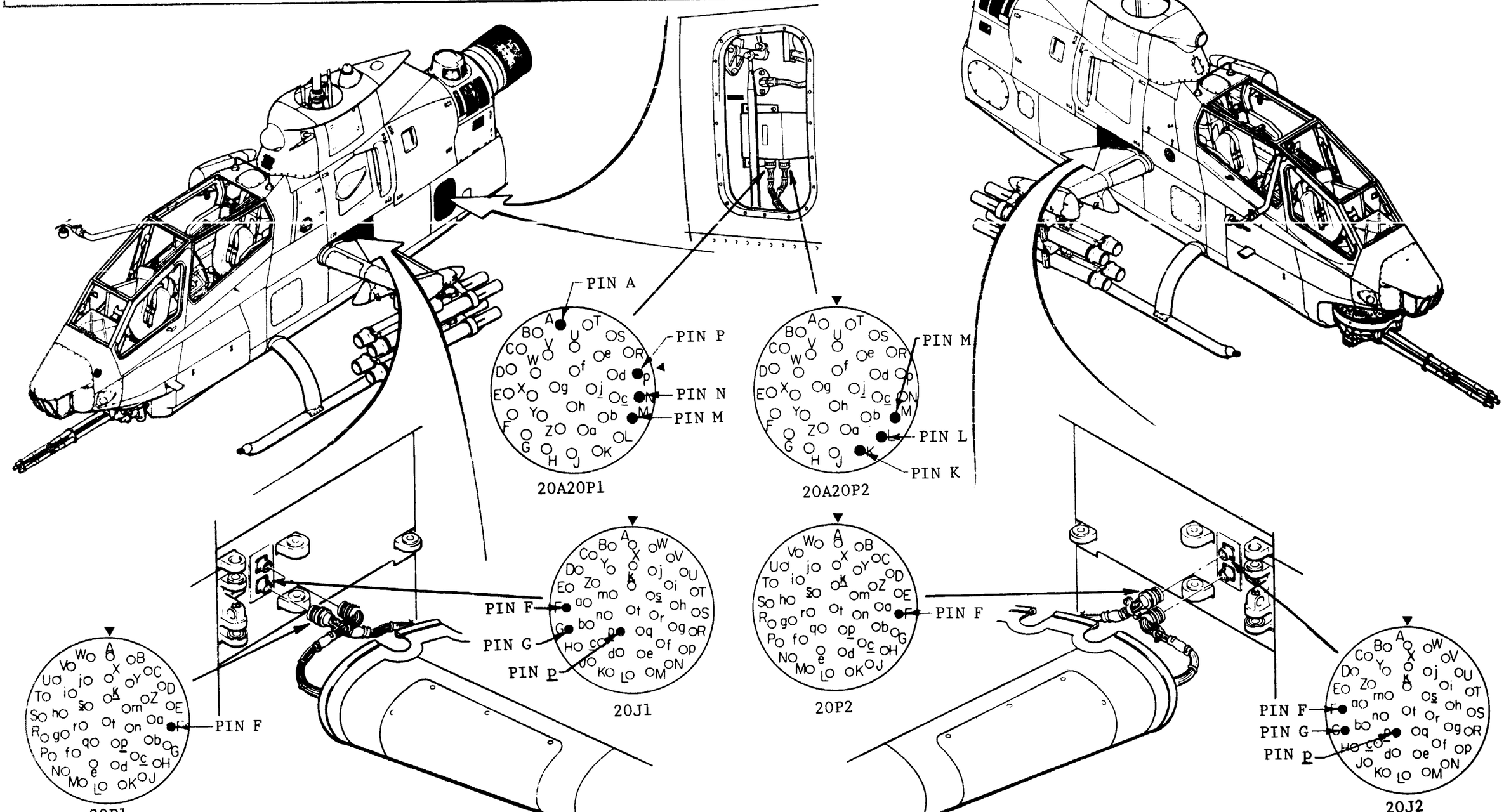
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE.



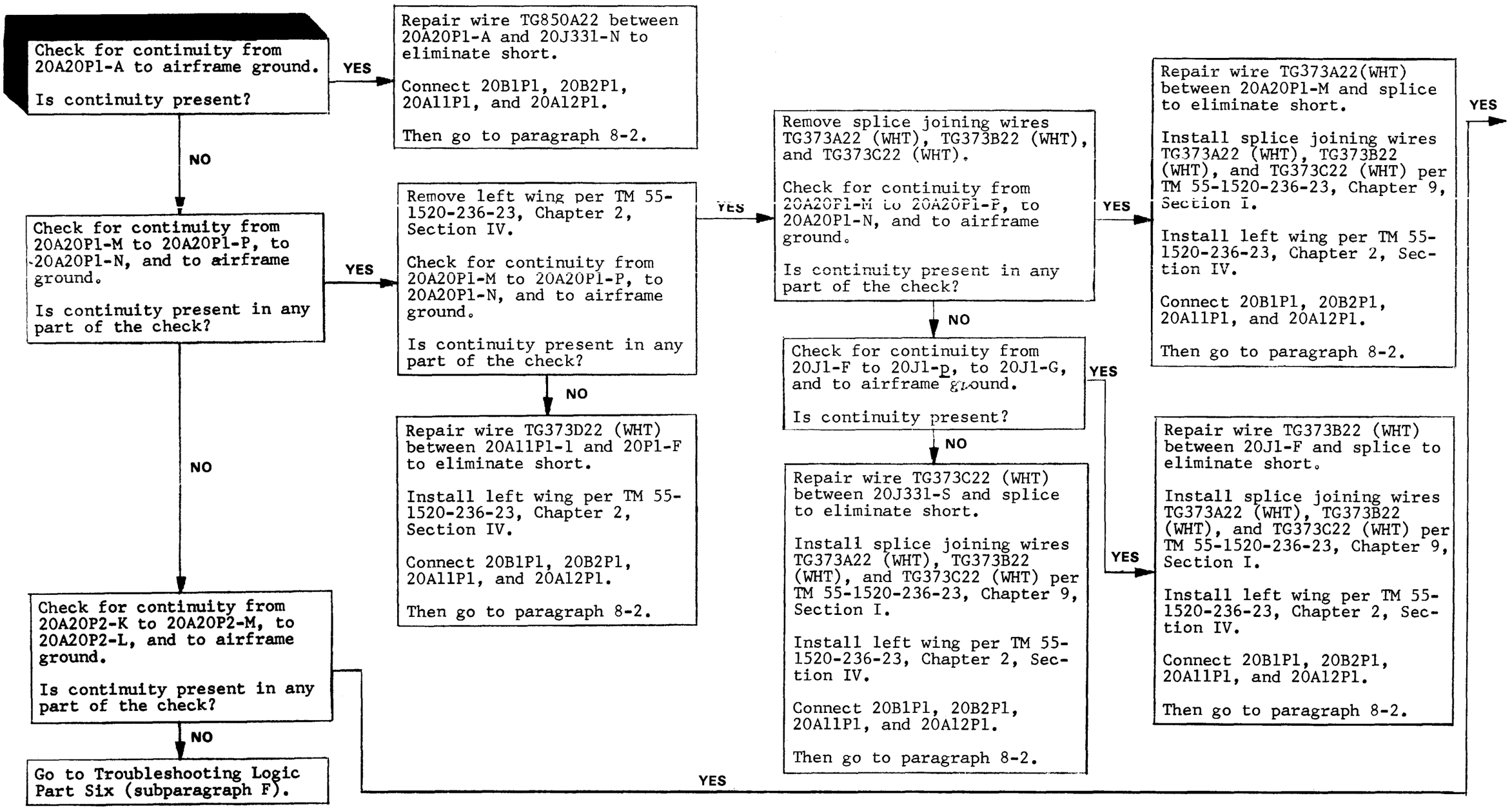
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



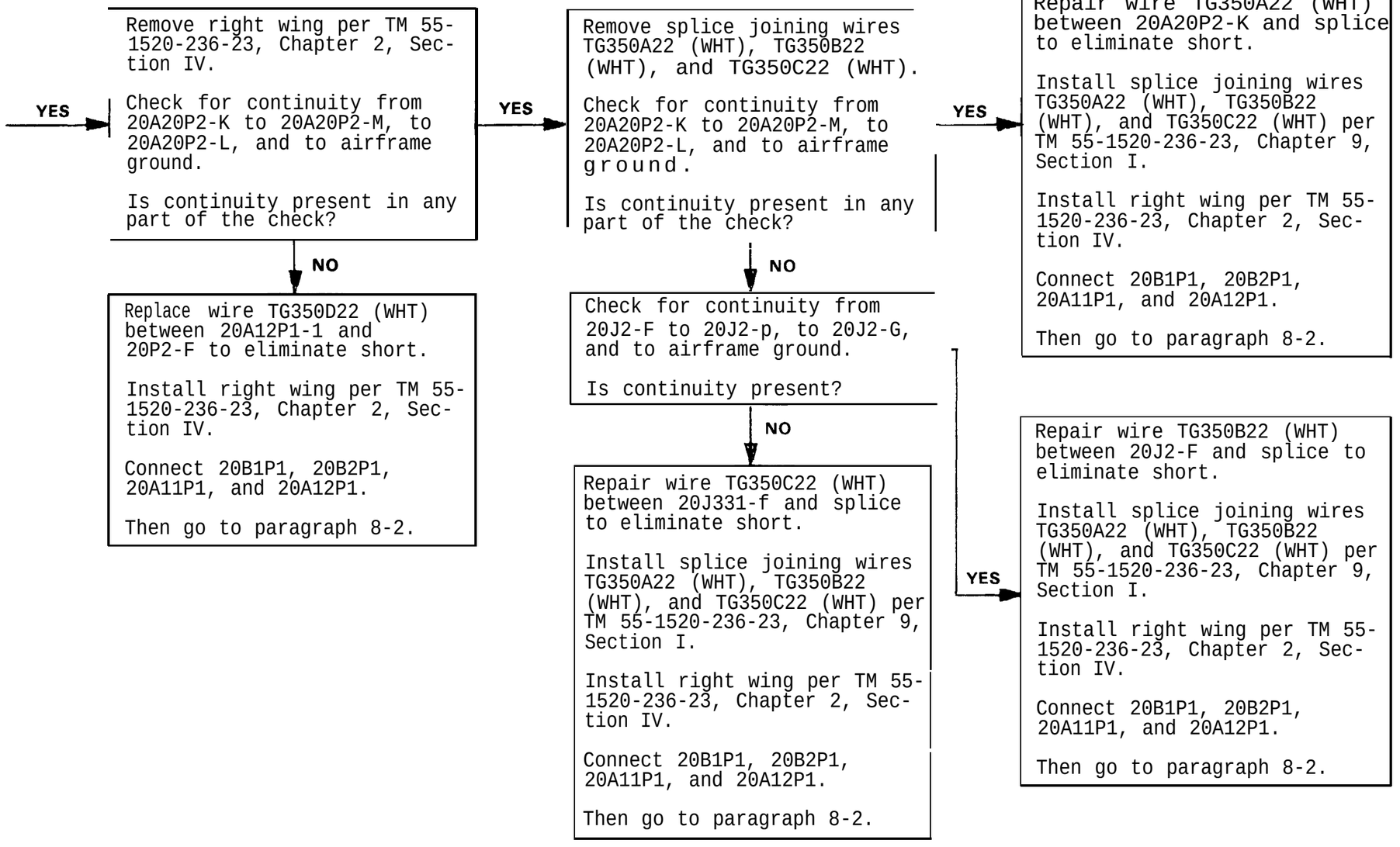
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



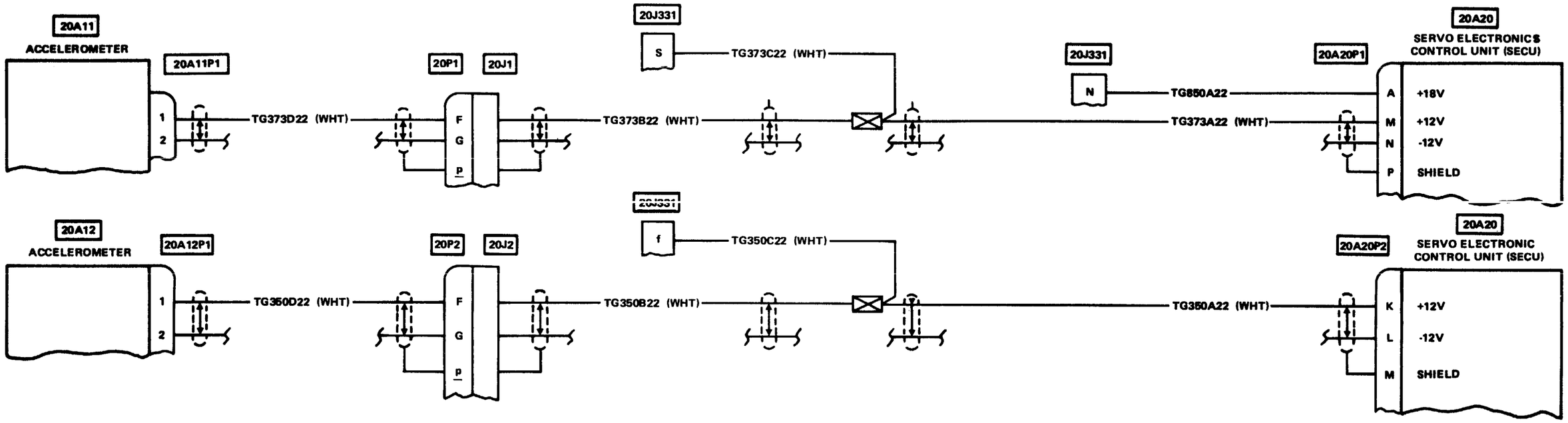
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED) .



8-36. NEITHER Tow MISSLE LAUNCCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

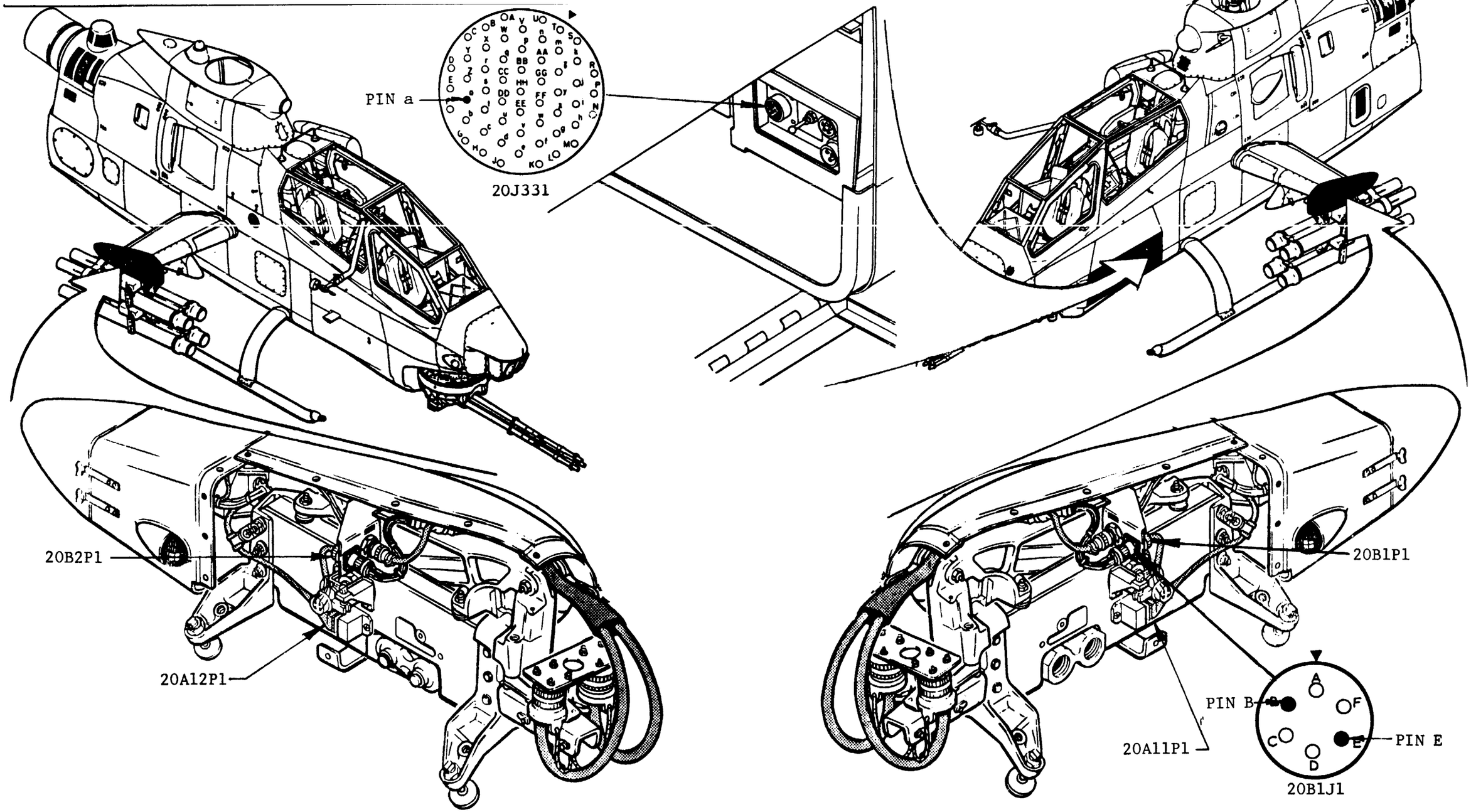
E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED) .



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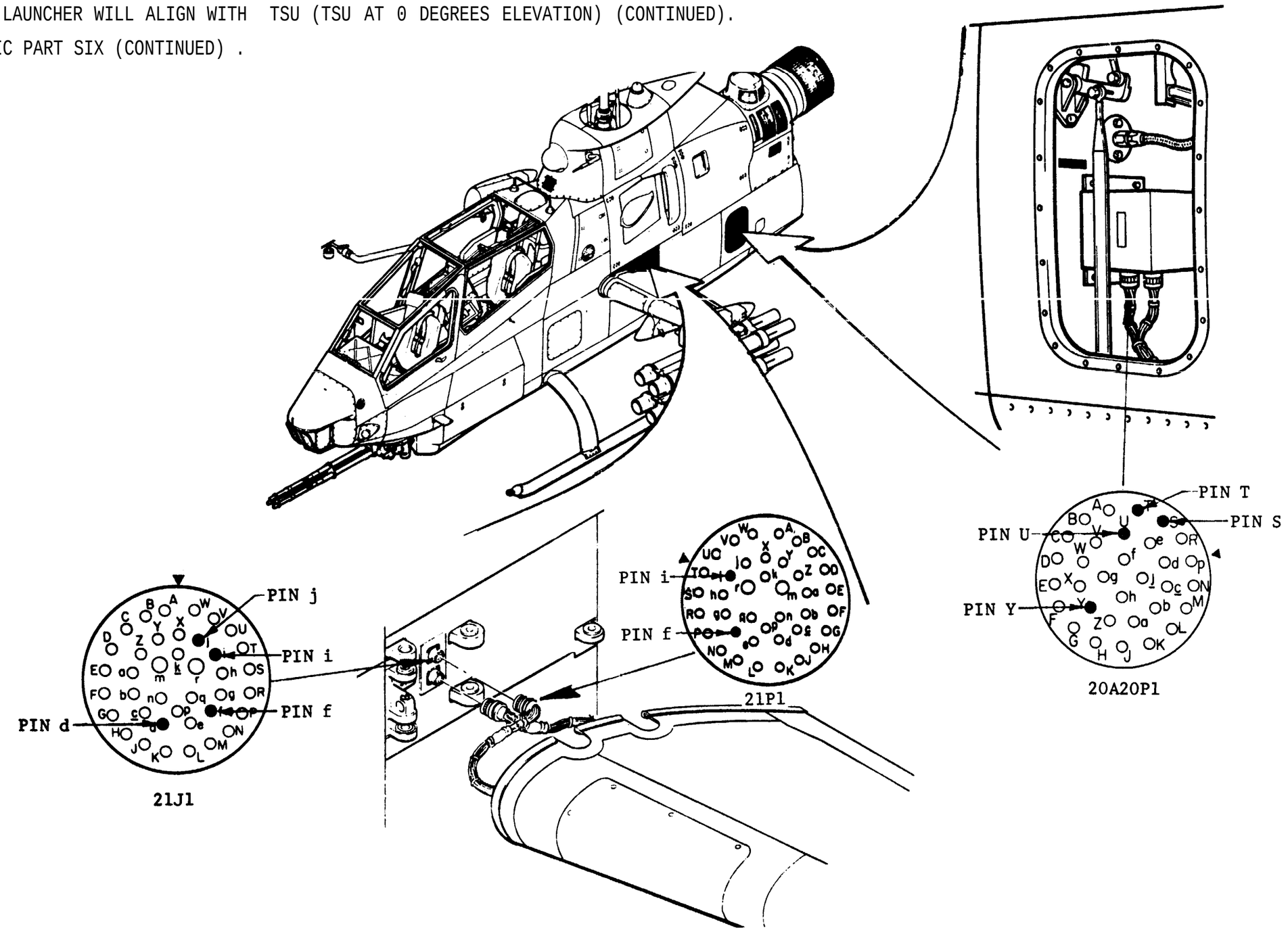
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

F. TROUBLESHOOTING LOGIC PART SIX.



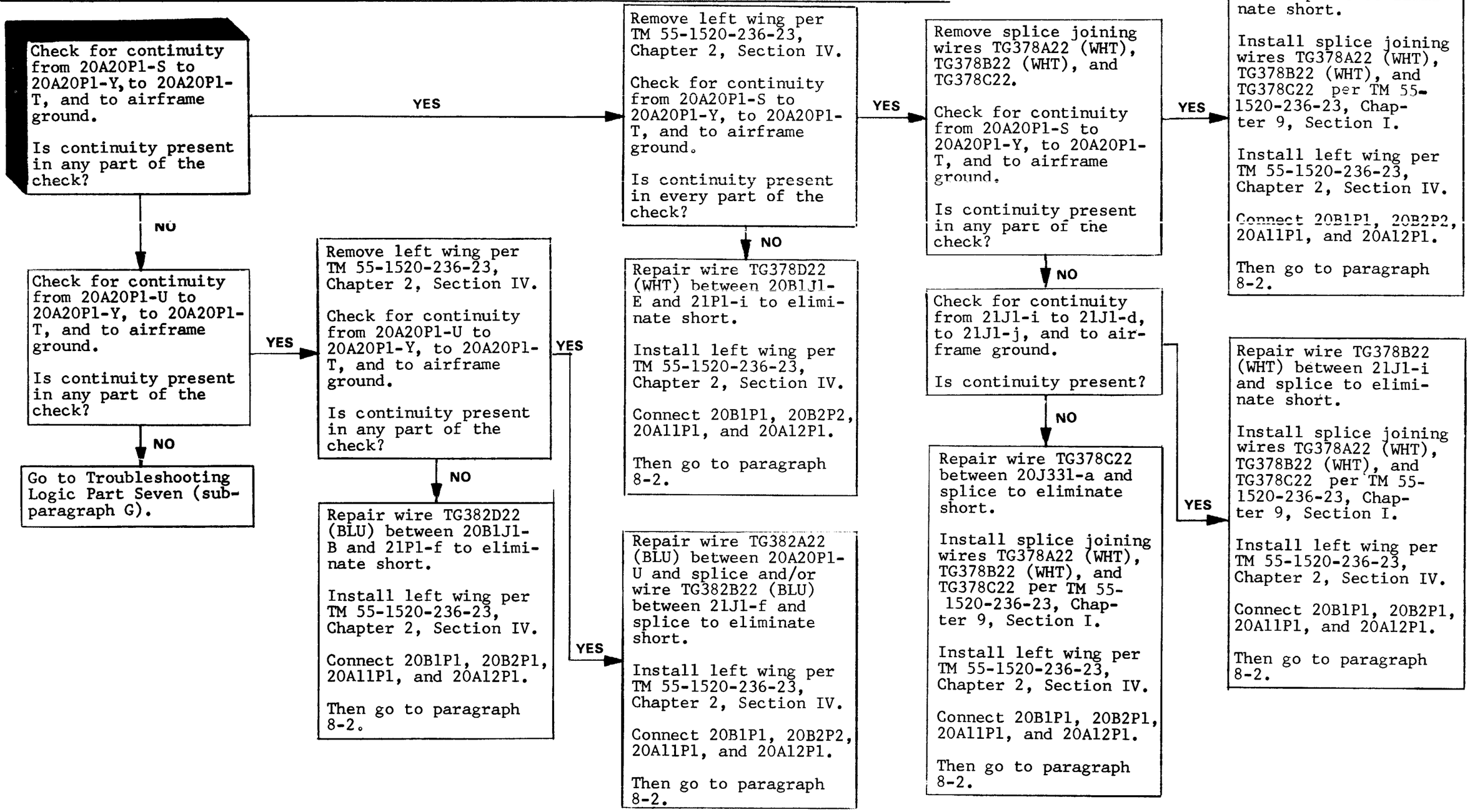
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED) .



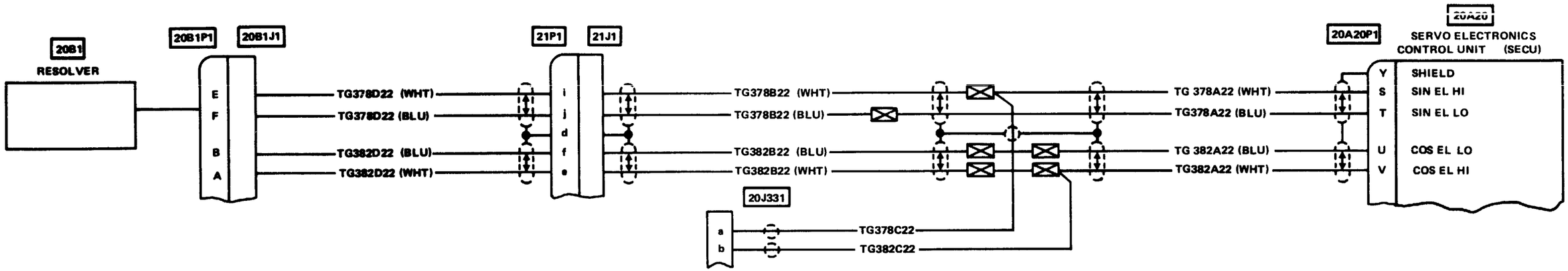
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).



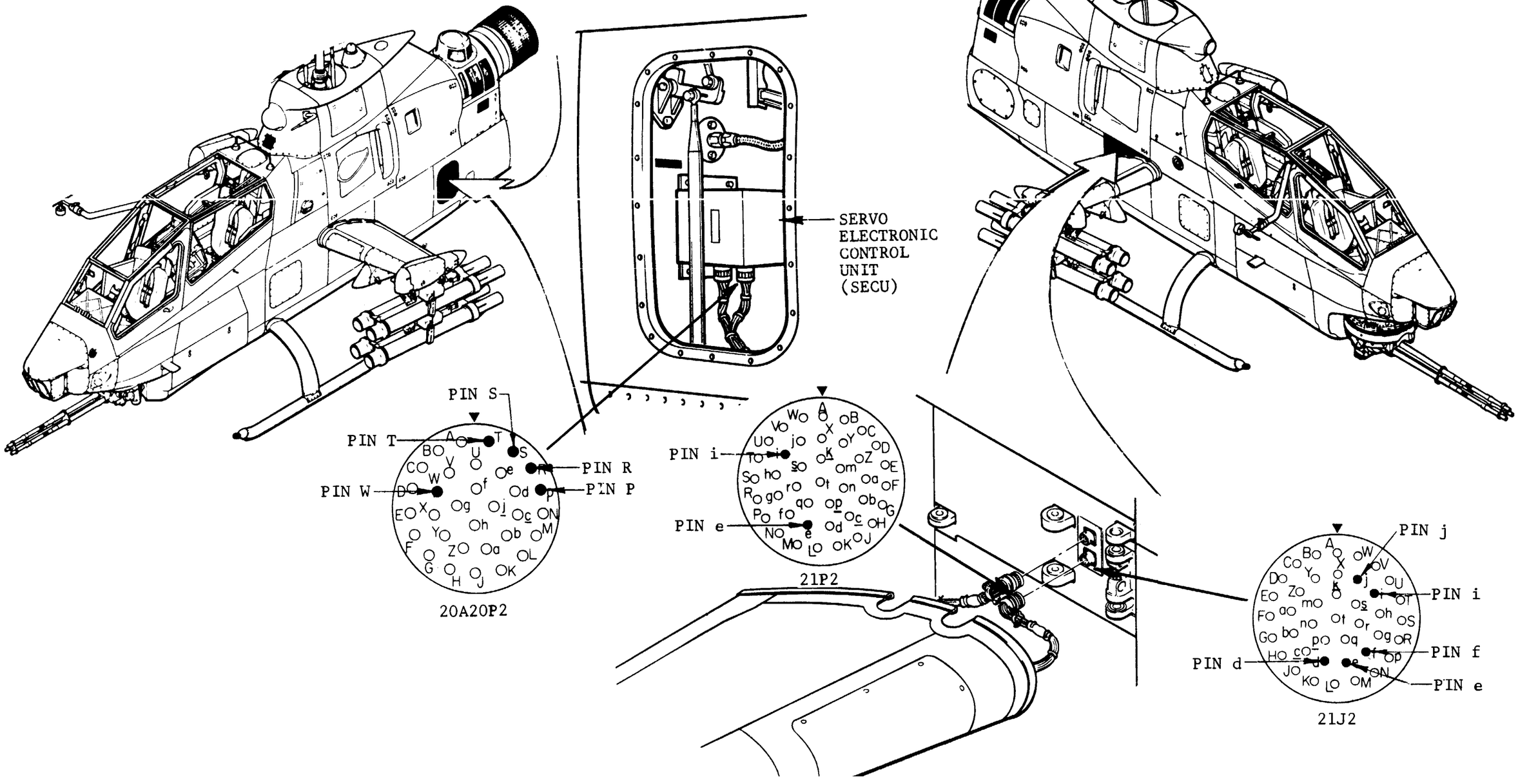
8-36. NEITHER TOW MISSILE LAUNCH WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

F. TROUBLESHOOTING LOGIC PART SIX(CONTINUED).



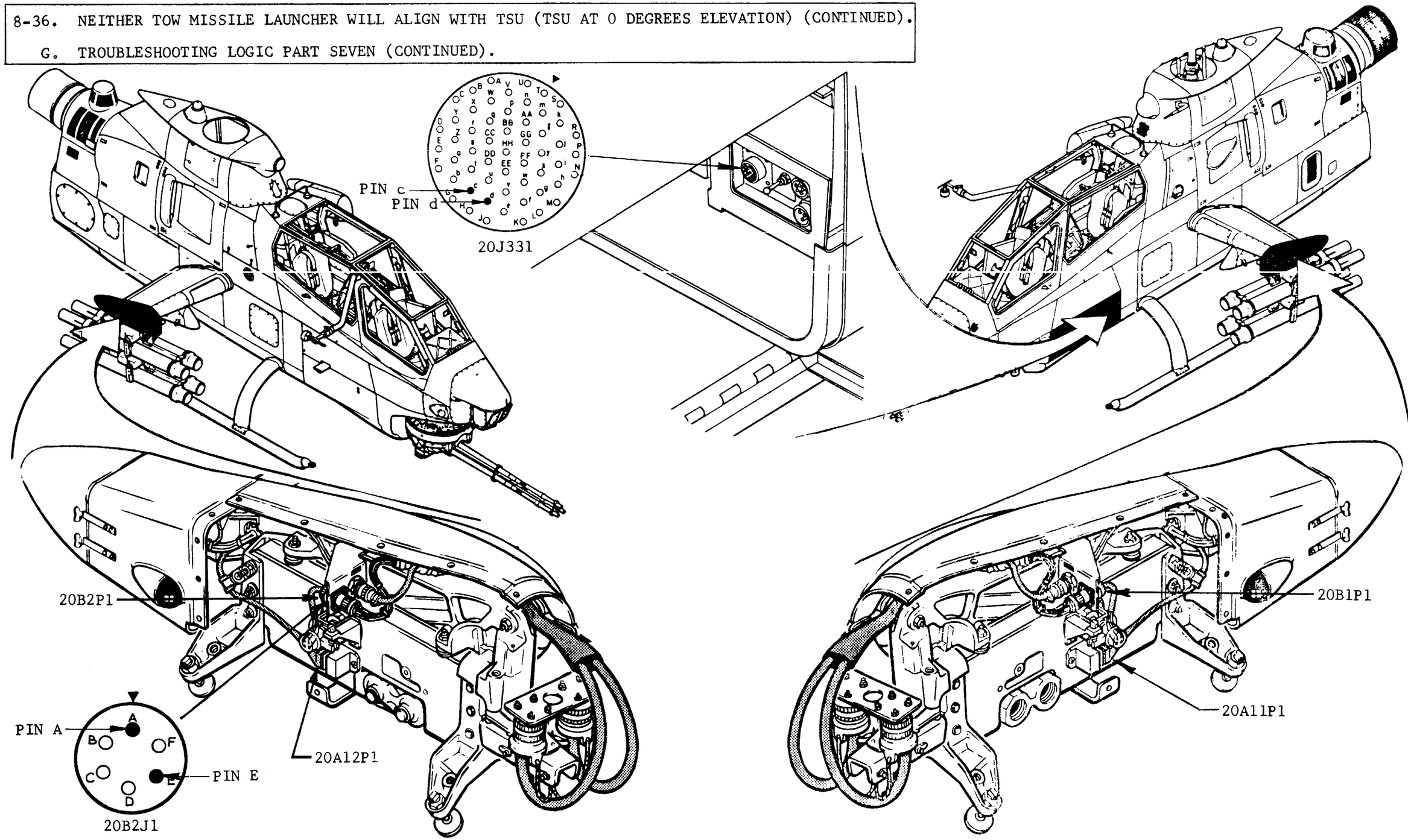
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

G. TROUBLESHOOTING LOGIC PART SEVEN.



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

G. TROUBLESHOOTING LOGIC PART SEVEN (CONTINUED).



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

G. TROUBLESHOOTING LOGIC PART SEVEN (CONTINUED).

Check for continuity from 20A20P2-P to 20A20P2-W, to 20A20P2-R, and to airframe ground.

Is continuity present for any test?

YES

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A20P2-P to 20A20P2-W, to 20A20P2-R, and to airframe ground.

Is continuity present for any test?

YES

Remove splice joining wires TG355A22 (WHT), TG355B22 (WHT), and TG355C22.

Check for continuity from 20A20P2-P to 20A20P2-W, to 20A20P2-R, and to airframe ground.

Is continuity present for any test?

YES

Repair wire TG355A22 (WHT) between 20A20P2-P and splice to eliminate short.

Install splice joining wires TG355A22 (WHT), TG355B22 (WHT), and TG355C22 per TM 55-1520-236-23, Chapter 9, Section I.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1, 20B2P1, 20A11P1, and 20A12P1.

Then go to paragraph 8-2.

YES

NO

Repair wire TG355D22 (WHT) between 20B2J1-E and 21P2-i to eliminate short.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1, 20B2P1, 20A11P1, and 20A12P1.

Then go to paragraph 8-2.

NO

Check for continuity from 21J2-i to 21J2-d, to 21J2-j, and to airframe ground.

Is continuity present?

YES

Repair wire TG355B22 (WHT) between 21J2-i and splice to eliminate short.

Install splice joining wires TG355A22 (WHT), TG355B22 (WHT), and TG355C22 per TM 55-1520-236-23, Chapter 9, Section I.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1, 20B2P1, 20A11P1, and 20A12P1.

Then go to paragraph 8-2.

NO

Repair wire TG355C22 between 20J331-c and splice to eliminate short.

Install splice joining wires TG355A22 (WHT), TG355B22 (WHT), and TG355C22 per TM 55-1520-236-23, Chapter 9, Section I.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1, 20B2P1, 20A11P1, and 20A12P1.

Then go to paragraph 8-2.

NO

Check for continuity from 20A20P2-S to 20A20P2-W, to 20A20P2-T, and to airframe ground.

Is continuity present for any test?

YES

NO

Replace servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Connect 20B1P1, 20B2P1, 20A11P1, and 20A12P1.

Then go to paragraph 8-2.

YES

8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

G. TROUBLESHOOTING LOGIC PART SEVEN (CONTINUED).

YES

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A20P2-S to 20A20P2-W, to 20A20P2-T, and to airframe ground.

Is continuity present for any test?

NO

Repair wire TG359D22 (WHT) between 20B2J1-A and 21P2-e to eliminate short.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1, 20B2P1, 20A11P1, and 20A12P1.

Then go to paragraph 8-2.

YES

Remove splice joining wires TG359A22 (WHT), TG359B22 (WHT), and TG359C22.

Check for continuity from 20A20P2-S to 20A20P2-W, to 20A20P2-T, and to airframe ground.

is continuity present in any part of the check?

NO

Check for continuity from 21J2-e to 21J2-d, to 21J2-f

NO

Repair wire TG359C22 between 20J331-d and splice to eliminate short.

Install s lice joining wires TG359A22 (WHT), TG359B22 (WHT) and TG359C22 per TM 55-1520-236-23, Chapter 9, Section I.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1, 20B2P1, 20A11P1, and 20A12P1.

Then go to paragraph 8-2.

YES

Repair wire TG359A22 (WHT) between 20A20P2-S and splice to eliminate short.

Install splice joining wires TG359A22 (WHT), TG359B22 (WHT), and TG359C22 per TM 55-1520-236-23, Chapter 9, Section I.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1, 20B2P1, 20A11P1, and 20A12P1.

Then go to paragraph 8-2.

YES

Repair wire TG359B22 (WHT) between 21J2-e and splice to eliminate short.

Install s lice joining wires TG359A22 (WHT), TG359B22 (WHT), and TG359C22 per TM 55-1520-236-23, Chapter 9, Section 1.

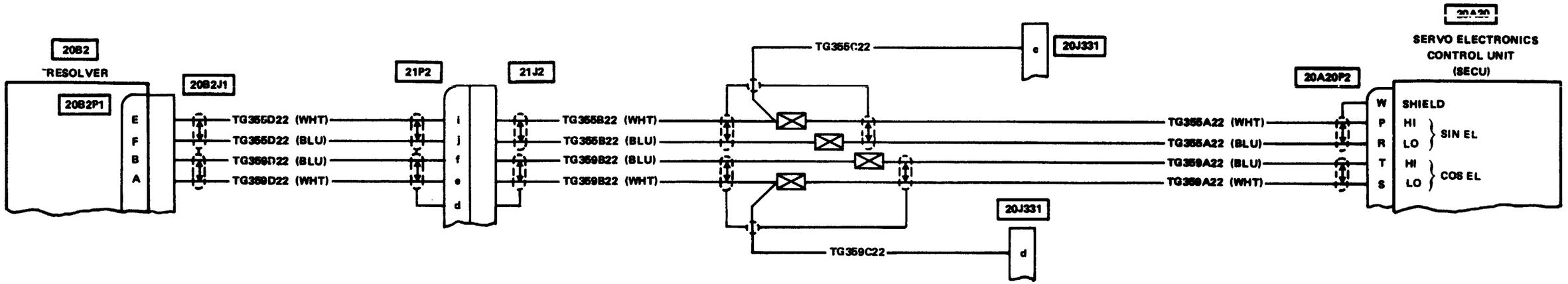
Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1, 20B2P1, 20A11P1, and 20A12P1.

Then go to paragraph 8-2.

8-36. NEITHER TOW MISSLE LAUNCHER WILL ALIGN WITH TSU (TU AT 0 DEGREES ELEVATION) (CONTINUED).

G. TROUBLESHOOTING LOGIC PART SEVEN (CONTINUED).



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## 8-37. LEFT LAUNCHER STAYS AT 0 DEGREES ELEVATION.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

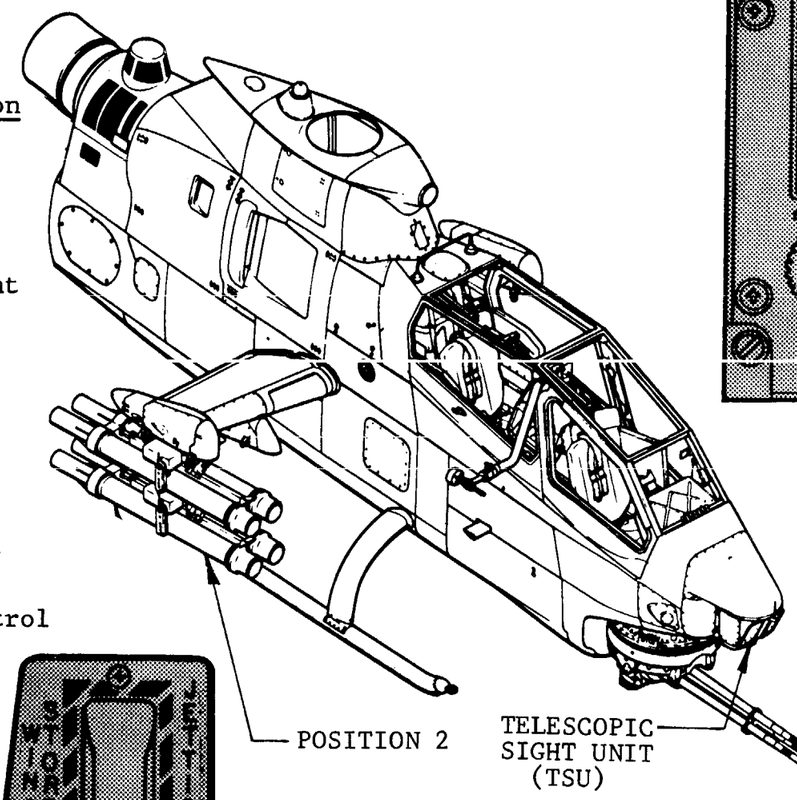
Personnel Required
68J (2)

References
TM 55-1520-236-23
TM 11-1520-236-23

Access Panels
Left Ammo Compartment Door - Open

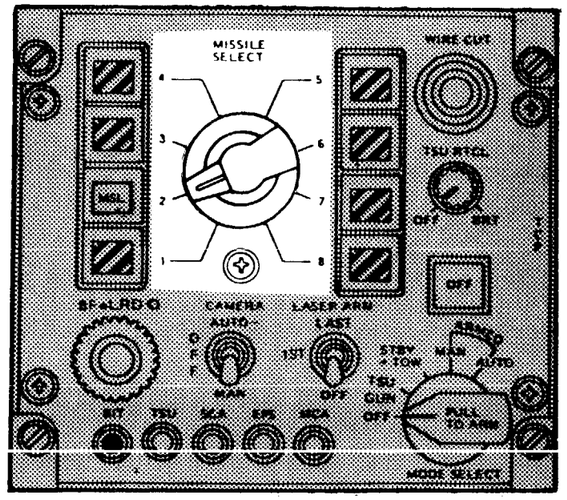
Servo Electronic Control Unit - Removed

Left Outboard Pylon Fairing- Removed

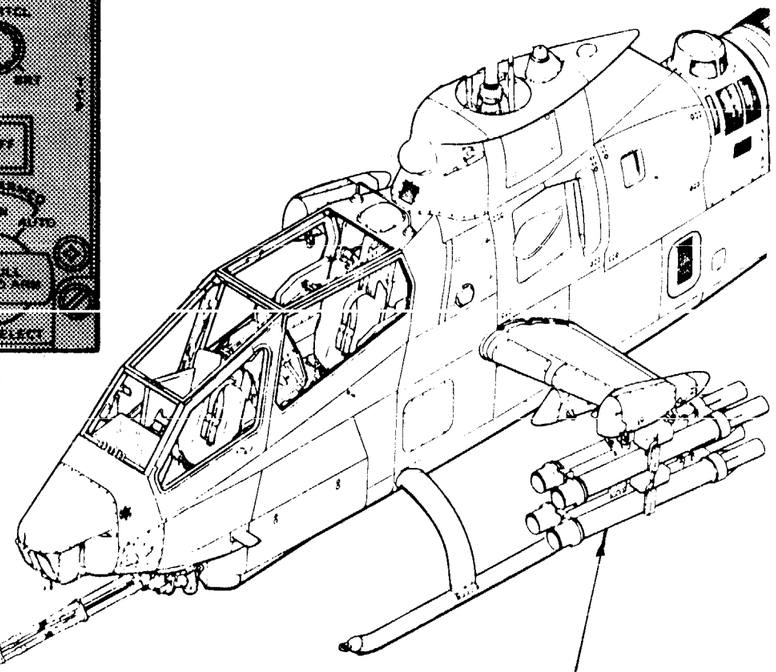


POSITION 2

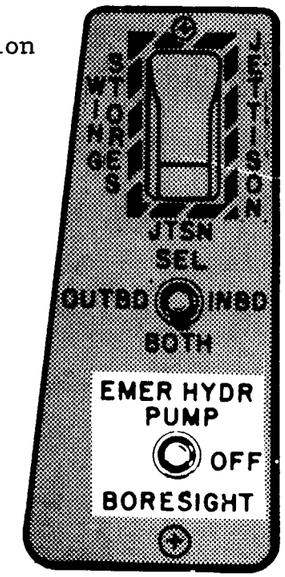
TELESCOPIC SIGHT UNIT (TSU)



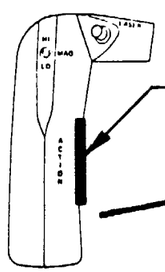

TCP (TOW CONTROL PANEL)



POSITION 1

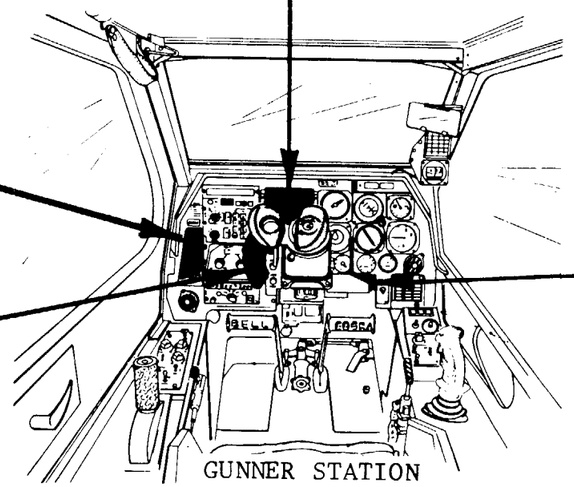



SWITCH PANEL



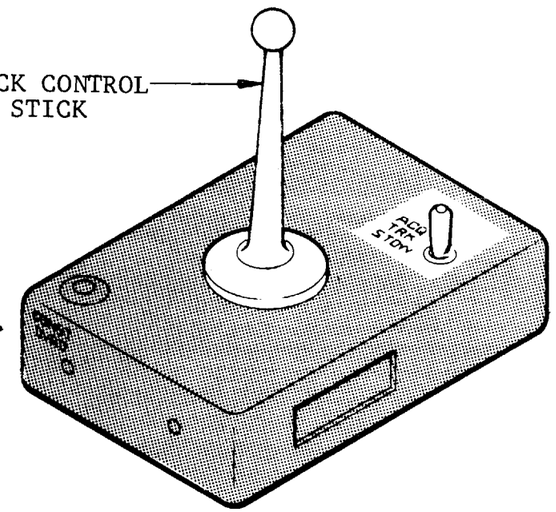
ACTION SWITCH

LEFT HAND GRIP



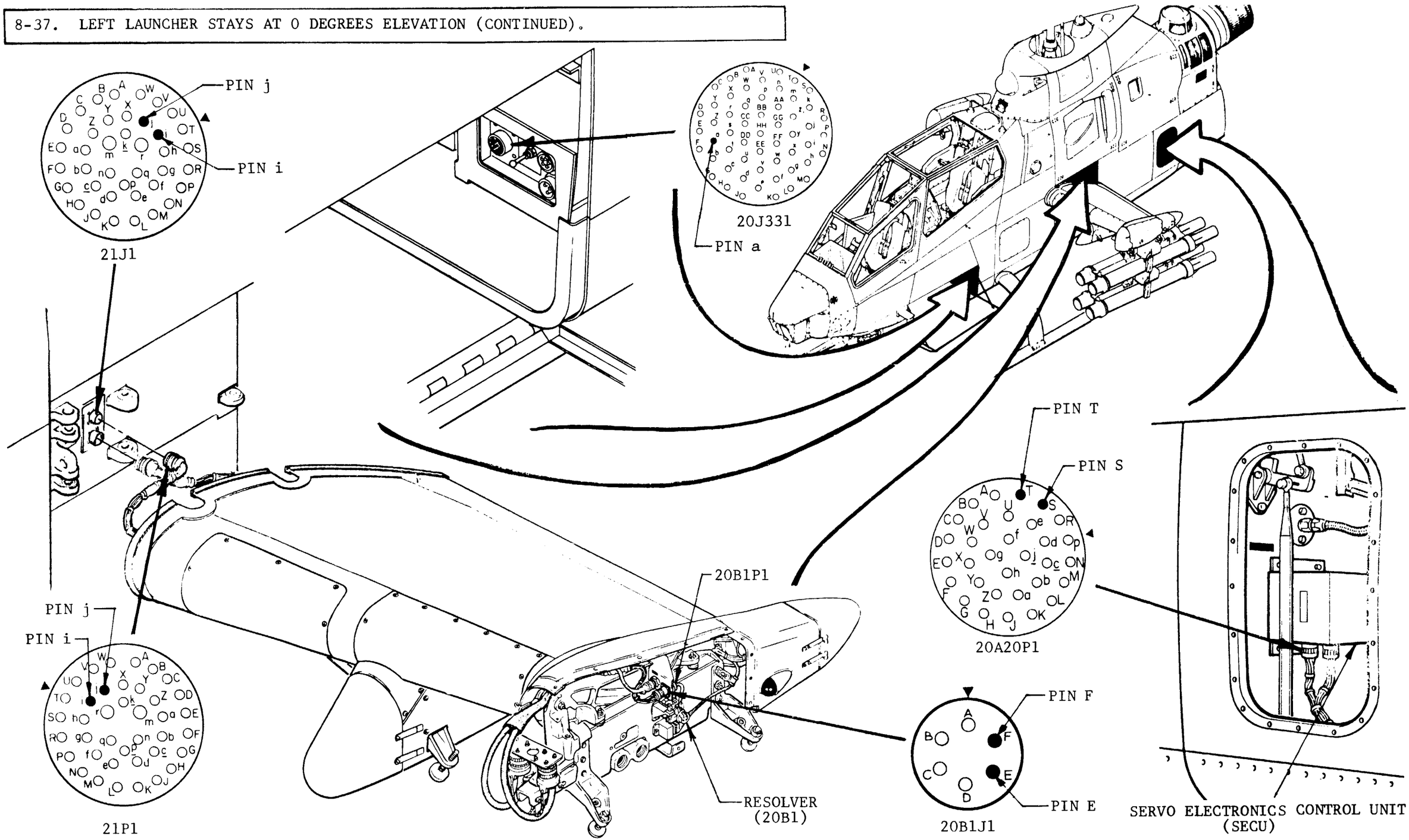
GUNNER STATION

TRACK CONTROL STICK



SIGHT HAND CONTROL

8-37. LEFT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



8-37. LEFT LAUNCHER STAYS AT 0 DEGREES ELEVATION ( CONTINUED).

Install TSEM in position 2 (right launcher).

On TCP (TOW control pane 1):

Set MISSILE SELECT switch to 2.

On sight hand control :

Set ACQ/TRK/STOW switch to STOW, then to TRK.

On left hand grip:

Press and hold ACTION switch.

Does the right side launcher line up with the telescopic sight unit (TSU)?

NO

Go to paragraph 8-41.

YES

On left hand grip:

Press and hold ACTION switch.

Press forward on track control stick on sight hand control, then pull back on track control stick.

Does the right side launcher follow commands?

NO

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

Then go to paragraph 8-38.

YES

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

Turn off electrical power per paragraph 8-3.

Install TSEM in position 1 (left launcher).

Disconnect 20B1P1.

Connect multimeter to 20B1J1-E and 20B1J1-F.

Turn on electrical power per paragraph 8-3.

On TCP (TOW control panel):

Set MISSILE SELECT switch to 1.

Press forward on the track control stick on sight hand control until telescopic sight unit (TSU) points downward as far as it will go.

With the TSU still pointing down:

Check for 7 V ac or more from 20B1J1 E to 20B1J1-F.

Is 7 V ac or more present?

NO

YES

Turn off electrical power per paragraph 8-3.

Replace left resolver (20B1) per TM 11-1520-236-23, Chapter 16.

Connect 20B1P1.

Then go to paragraph 8-2.

Turn off electrical power per paragraph 8-3.

Check for continuity from 20B1J1-E to 20A20P1-S.

Is continuity present?

NO

Check for continuity from 20J331-a to 20A20P1-S.

YES

Is continuity present?

NO

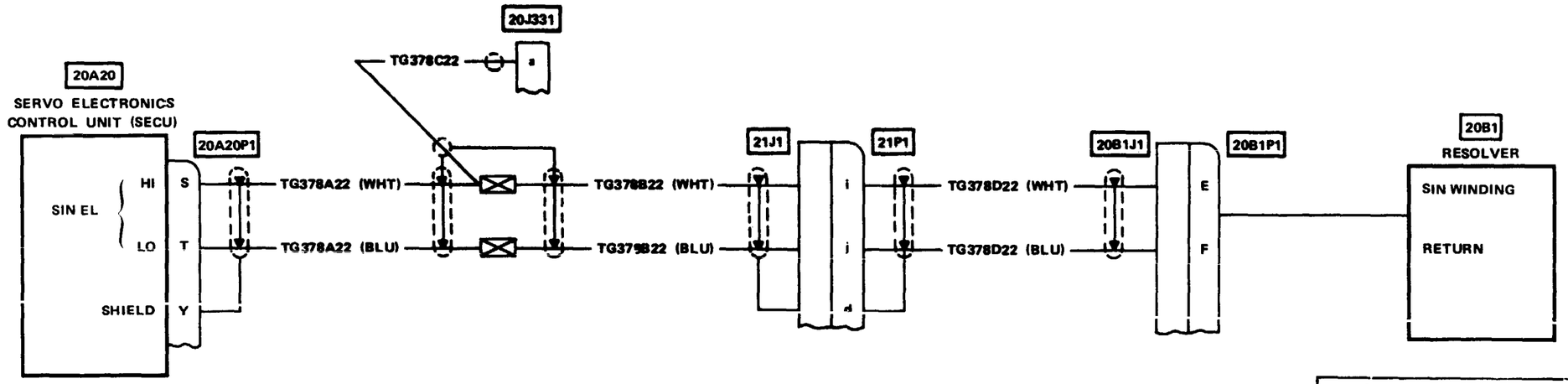
Repair wire TG378A22 (WHT) between 20A20P1-S and splice.

Connect 20B1P1.

Then go to paragraph 8-2.

YES

8-37. LEFT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).




YES

Check for continuity from 20B1J1-F to 20A20P1-T.

Is continuity present?

YES → Replace servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Connect 20B1P1.

Then go to paragraph 8-2.

NO

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20B1J1-F to 21P1-j.

Is continuity present?

YES → Repair the following wire(s) to obtain continuity between 21J1-j and 20A20P1-T:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG378A22(BLU) | 20A20P1-T | Splice |
| TG378B22(BLU) | 21J1-j | Splice |

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1.

Then go to paragraph 8-2.

NO

Repair wire TG378D22 (BLU) between 20B1J1-F and 21P1-j.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1.

Then go to paragraph 8-2.

YES

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20B1J1-E to 21P1-i.

Is continuity present?

YES → Repair wire TG378B22 (WHT) between 21J1-i and splice.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1.

Then go to paragraph 8-2.

NO

Repair wire TG378D22 (WHT) between 20B1J1-E and 21P1-i.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B1P1.

Then go to paragraph 8-2.

## 8-38. NEITHER LAUNCHER WILL MOVE FROM 0 DEGREES ELEVATION.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

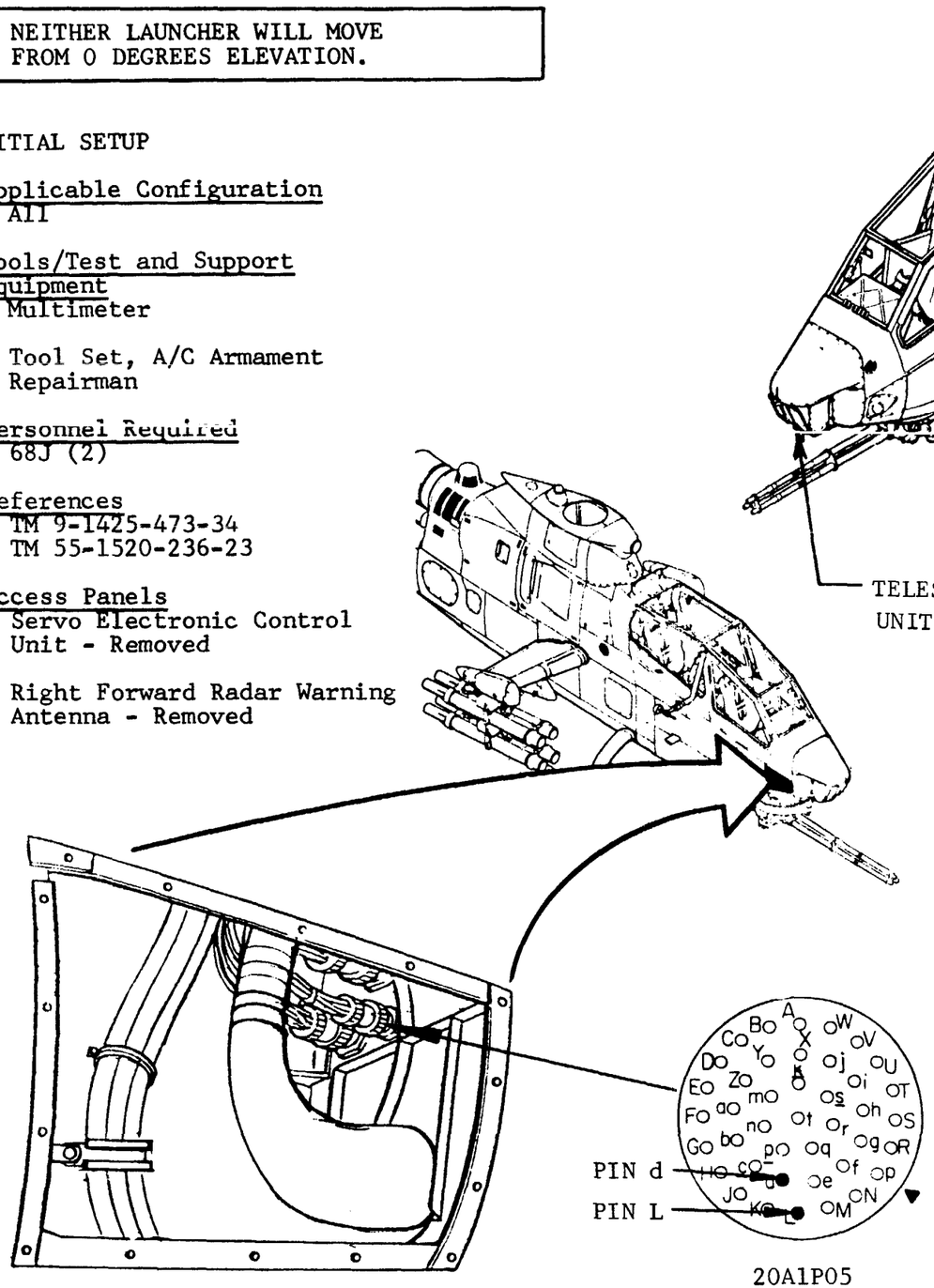
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

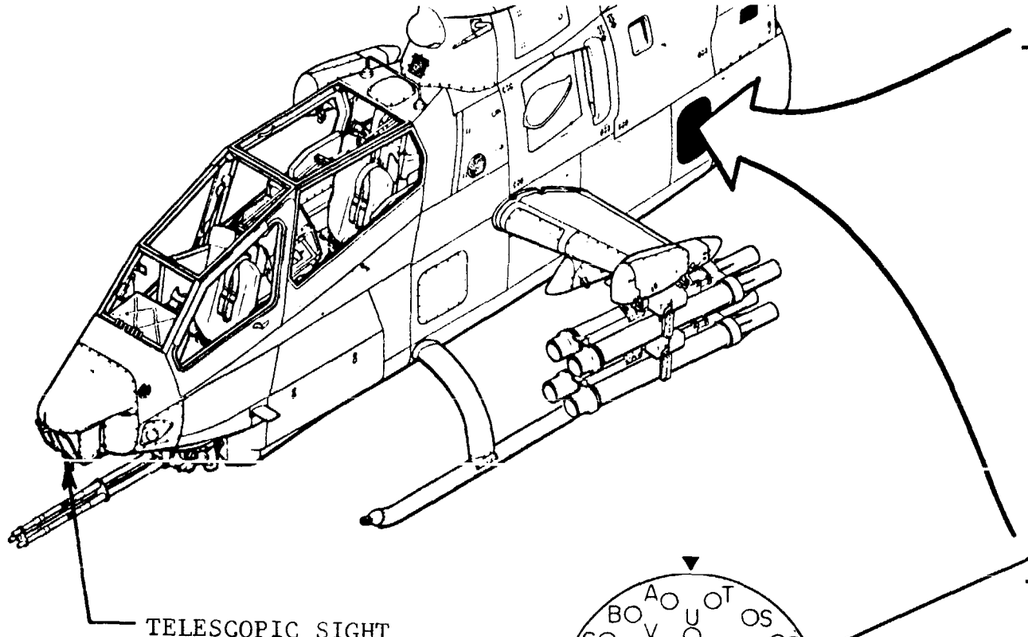
References
TM 9-1425-473-34
TM 55-1520-236-23

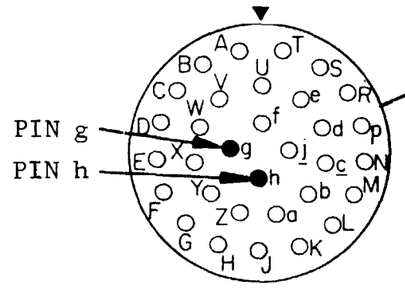
Access Panels
Servo Electronic Control Unit - Removed

Right Forward Radar Warning Antenna - Removed

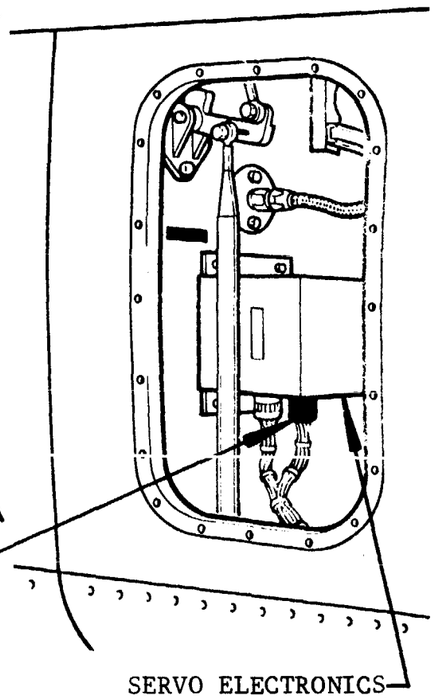


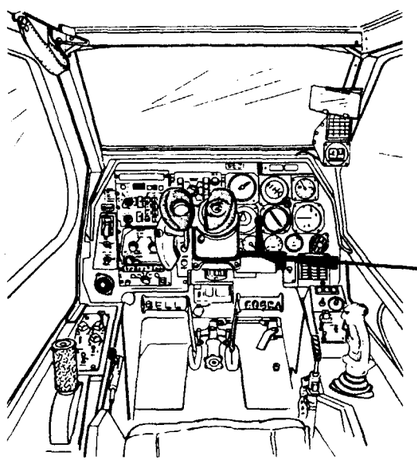

20A1P05



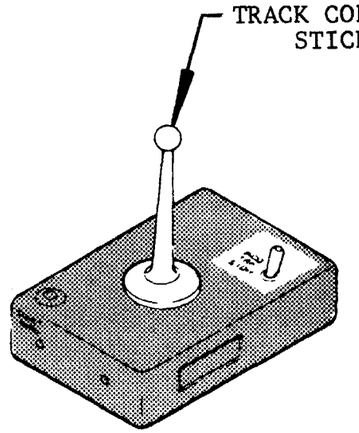




20A20P2



GUNNER STATION




SIGHT HAND CONTROL

## 8-38. NEITHER LAUNCHER WILL MOVE FROM 0 DEGREES ELEVATION (CONTINUED).

Turn off electrical power per paragraph 8-3.

Disconnect 20A20P2.

Turn on electrical power per paragraph 8-3.

Set ACQ/TRK/STOW switch on sight hand control to TRK.

Press forward on the track control stick until the telescopic sight unit (TSU) points downward as far as possible.

Check for 7 V ac or greater between. 20A20P2-g and 20A20P2-h.

Is 7 V ac or greater present?

YES → Turn off electrical power per paragraph 8-3.

Replace servo electronic control unit (SECU) per TM 55-1520-236-23 Chapter 9, Section X.

Then go to paragraph 8-2.

NO ↓

Turn off electrical power per paragraph 8-3.

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG141B22(WHT) and TG141A22(WHT) | 20AlP05-d | 20A20P2-g |
| TG141B22(BLU) and TG141A22(BLU) | 20A1P05-L | 20A20P2-h |

Is continuity present for all wires?

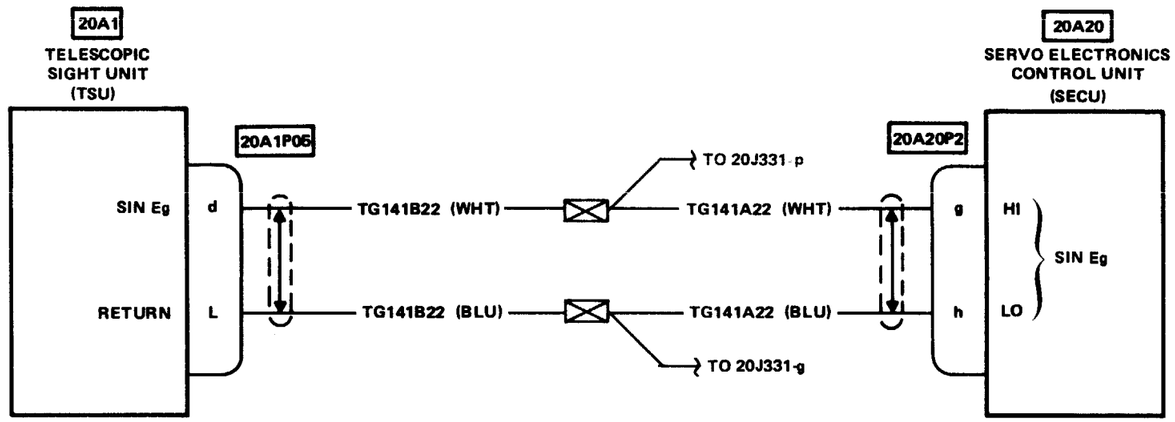
YES → Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Then go to paragraph 8-2.

NO ↓

Repair wire(s) where continuity is not present.

Then go to paragraph 8-2.



**8-39. "R" BATTLE FLAG DOES NOT GO OUT WHEN TELESCOPIC SIGHT UNIT (TSU) IS ABOVE OR BELOW LAUNCHER LIMITS.**

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

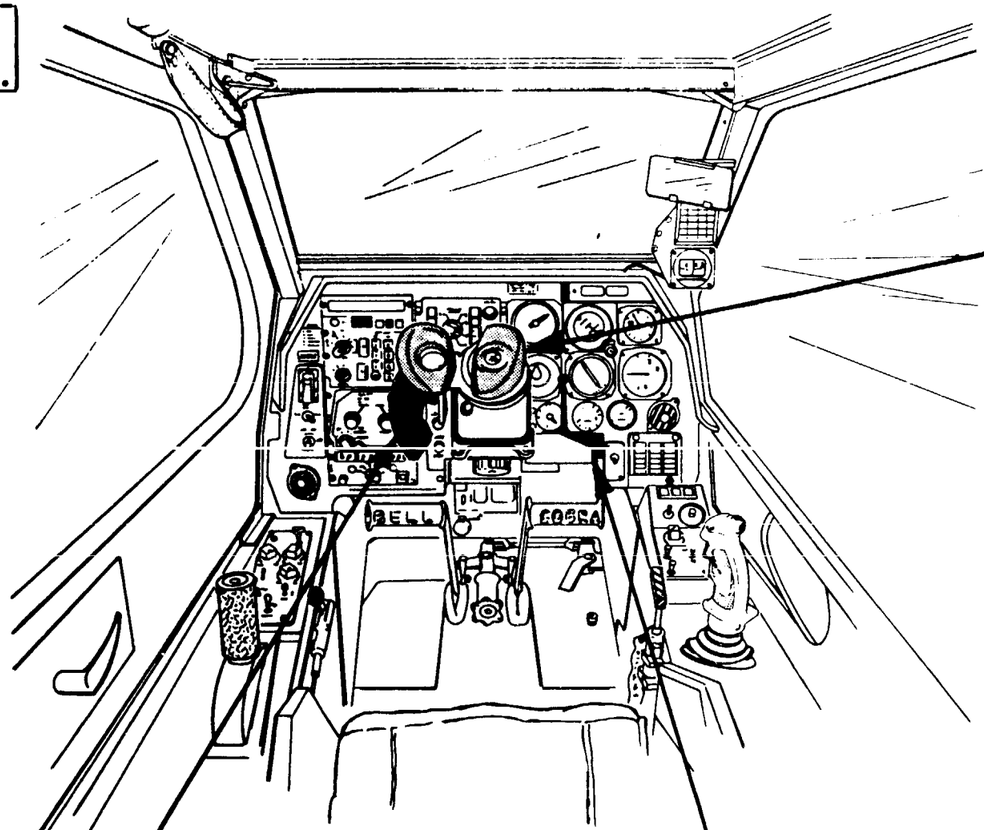
Personnel Required
68J (2)

References
TM 55-1520-236-23
TM 9-1425-473-20

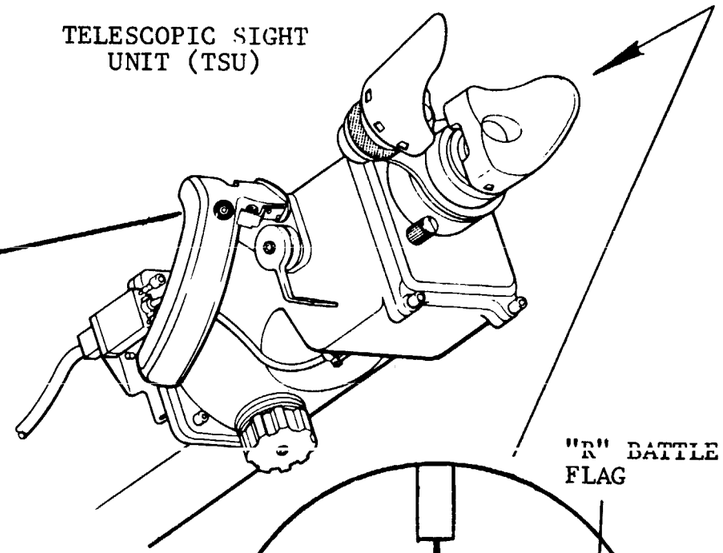
Access Panels
Ammo Compartment Left Door - Open

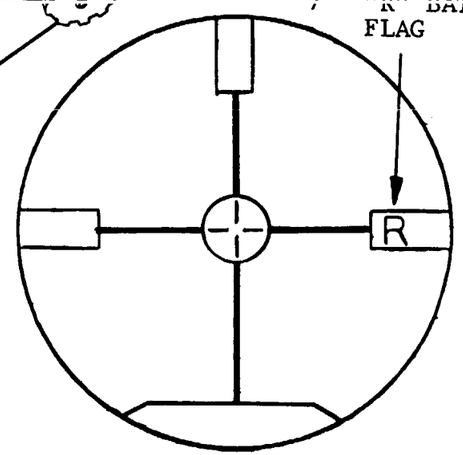
Servo Electronic Control Unit - Removed

Middle Electronics (Tail-boom) -Removed

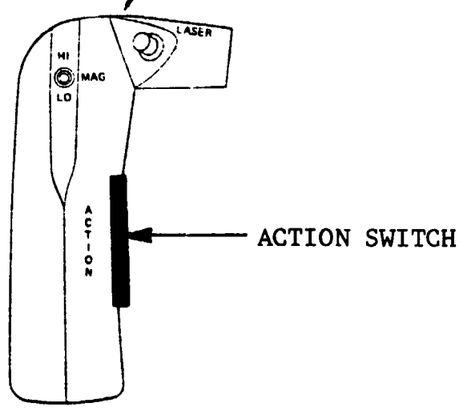



GUNNER STATION



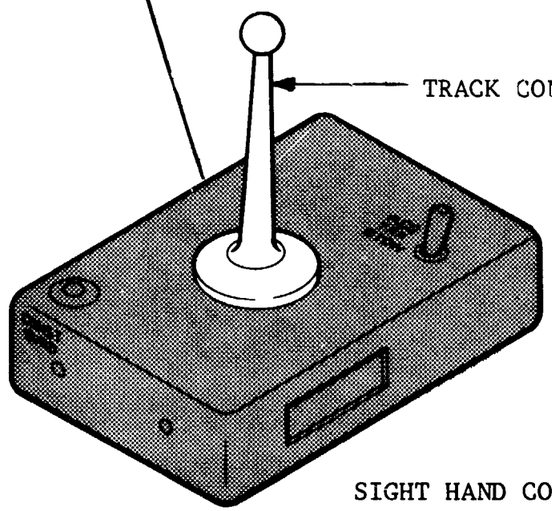

TSU EYEPIECE




ACTION SWITCH

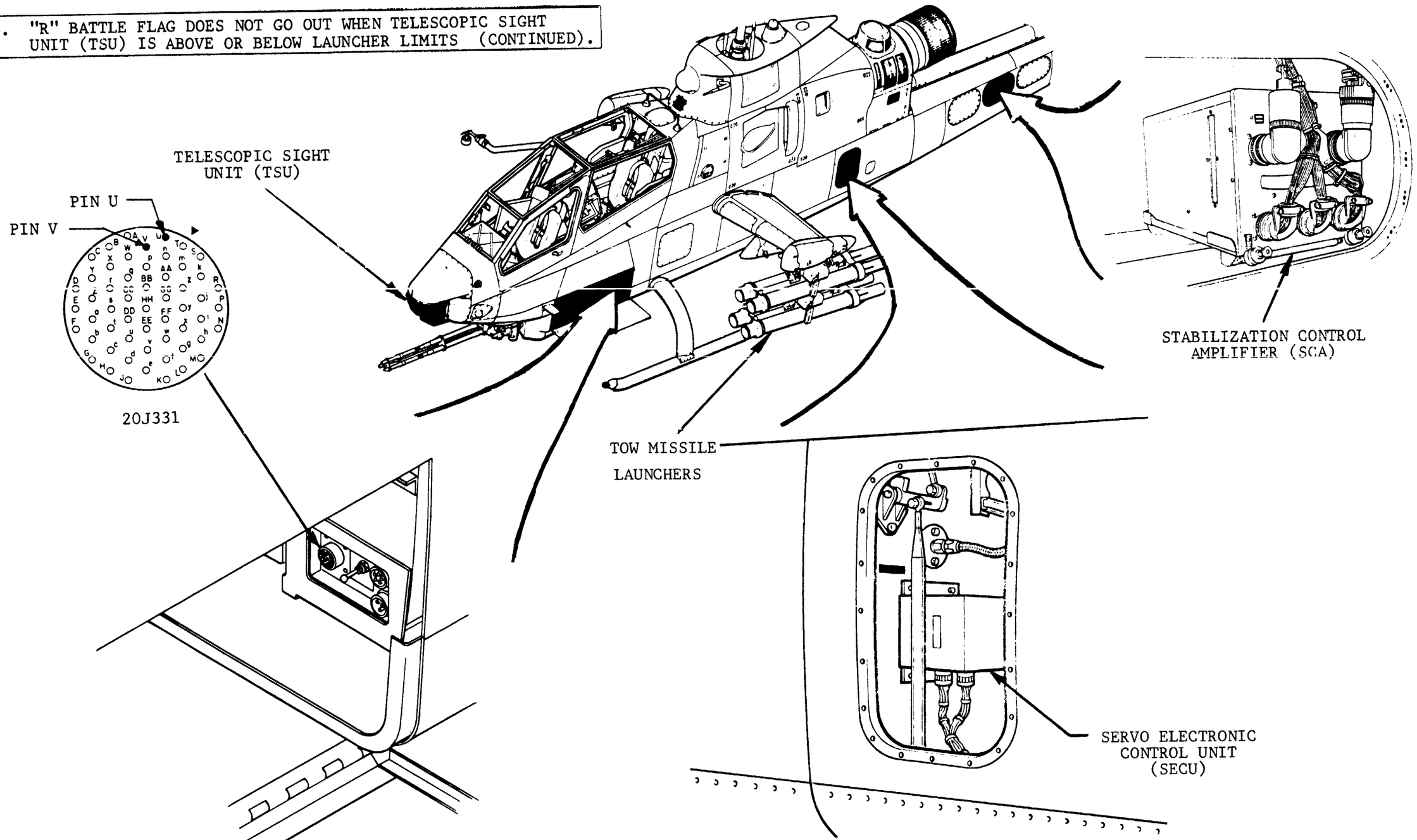
LEFT HAND GRIP

TRACK CONTROL STICK



SIGHT HAND CONTROL

8-39. "R" BATTLE FLAG DOES NOT GO OUT WHEN TELESCOPIC SIGHT UNIT (TSU) IS ABOVE OR BELOW LAUNCHER LIMITS (CONTINUED).



8-39. "R" BATTLE FLAG DOES NOT GO OUT WHEN TELESCOPIC SIGHT UNIT (TUS) IS ABOVE OR BELOW LAUNCHER LIMITS. (CONTINUED).

On left hand grip:

Press and hold ACTION switch.

On"' sight hand control:

Move track control stick forward until telescopic sight unit (TSU) points full down.

Observe if "R" battle flag is present.

Verify that forward end of TOW missile launcher is in full down position.

On sight hand control:

Move track control stick aft until telescopic sight unit (TSU) points full up.

Observe if "R" battle flag is present.

Verify that forward end of I TOW missile launcher is in full up position.

Is the "R" battle flag present when telescopic sight unit (TSU) is in both full up and full down position?

YES

On left hand grip:

Press and hold ACTION switch.

On sight hand control:

Move track control stick so that telescopic sight unit (TSU) move track control to full up or full down position.

Check for 28 V ac at 20J331-U and 20J331-V.

Is 28 V dc present at either pin?

YES

Turn off electrical power per paragraph 8-3.

Replace servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

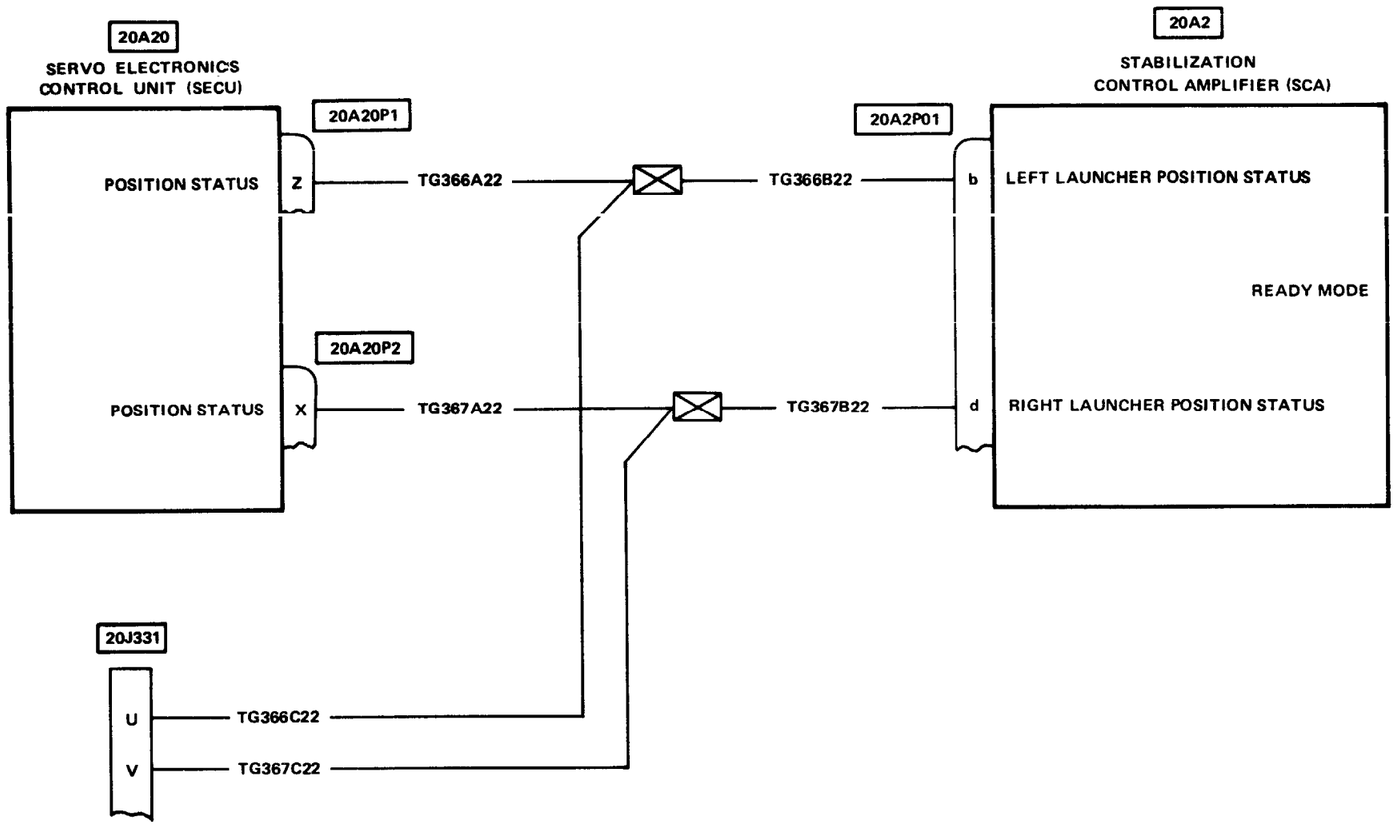
NO

Turn off electrical power per paragraph 8-3.

Replace servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Then go to paragraph 8-2.

8-39. "R" BATTLE FLAG DOES NOT GO OUT WHEN TELESCOPIC SIGHT UNIT (TSU) IS ABOVE OR BELOW LAUNCHER LIMITS. (CONTINUED).



## 8-40. LEFT TOW LAUNCHER WILL NOT STOW.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament
Repairman

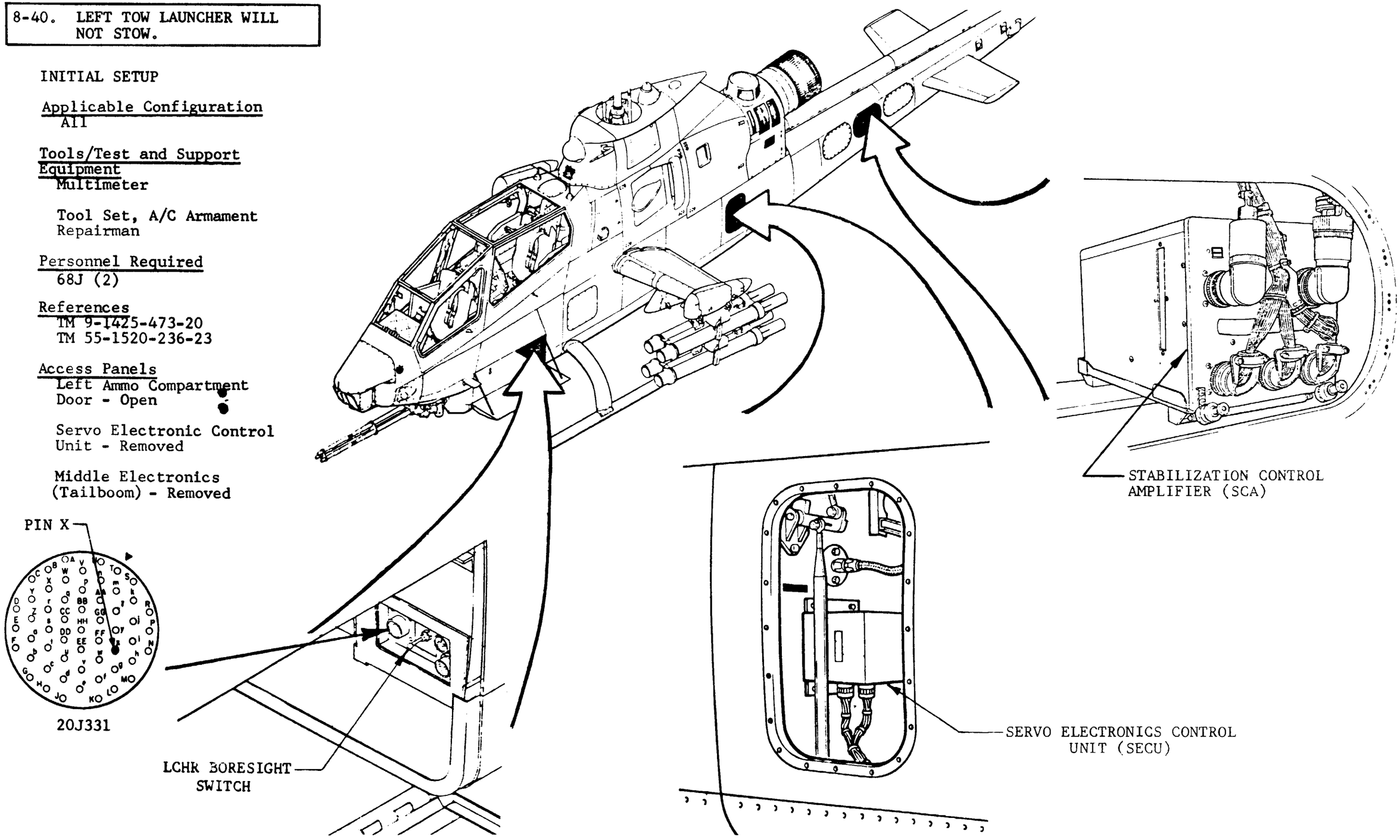
Personnel Required
68J (2)

References
TM 9-1425-473-20
TM 55-1520-236-23

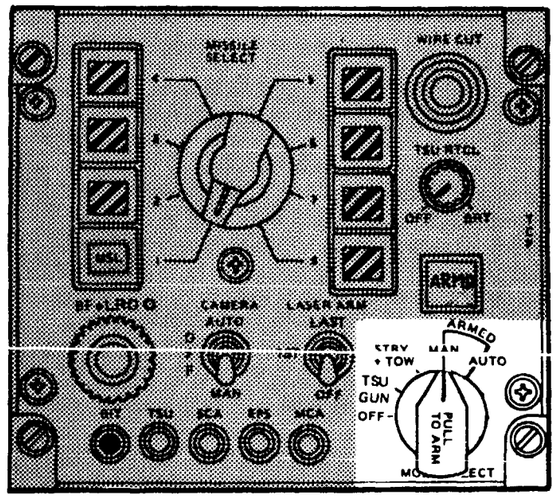
Access Panels
Left Ammo Compartment Door - Open

Servo Electronic Control Unit - Removed

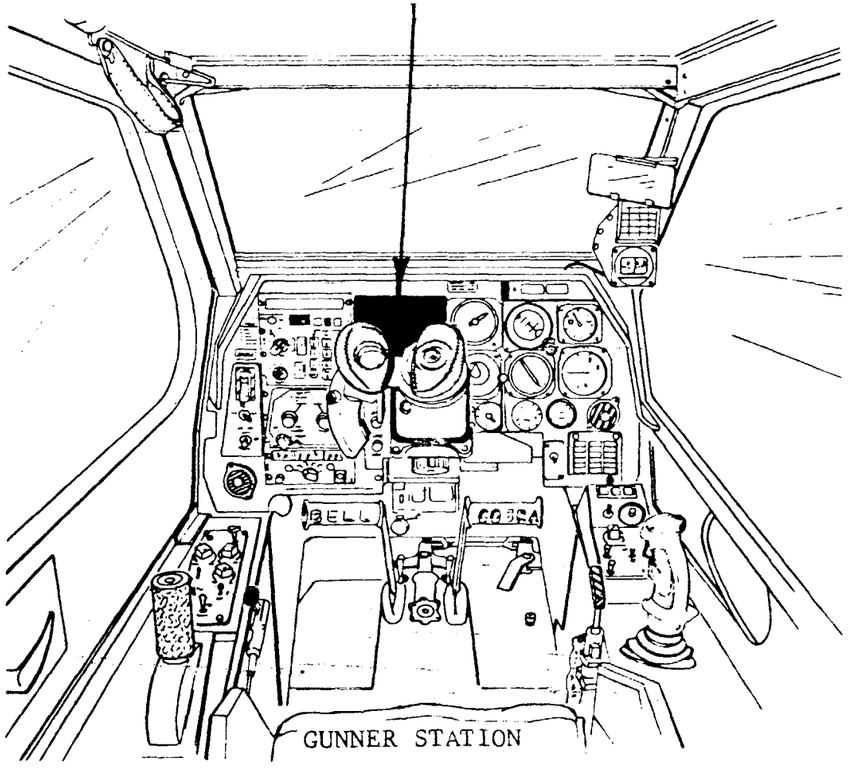
Middle Electronics (Tailboom) - Removed



8-40. LEFT TOW LAUNCHER WILL NOT STOW (CONTINUED).




TCP (TOW CONTROL PANEL)




On TCP (TOW control panel):

Verify MODE SELECT switch is set to ARMED MAN.

On aft bulkhead of ammo compartment:

Verify LCHR BORESIGHT SWITCH is set to OFF.

Check for 28 V dc at 20J331-X.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 8-3.

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

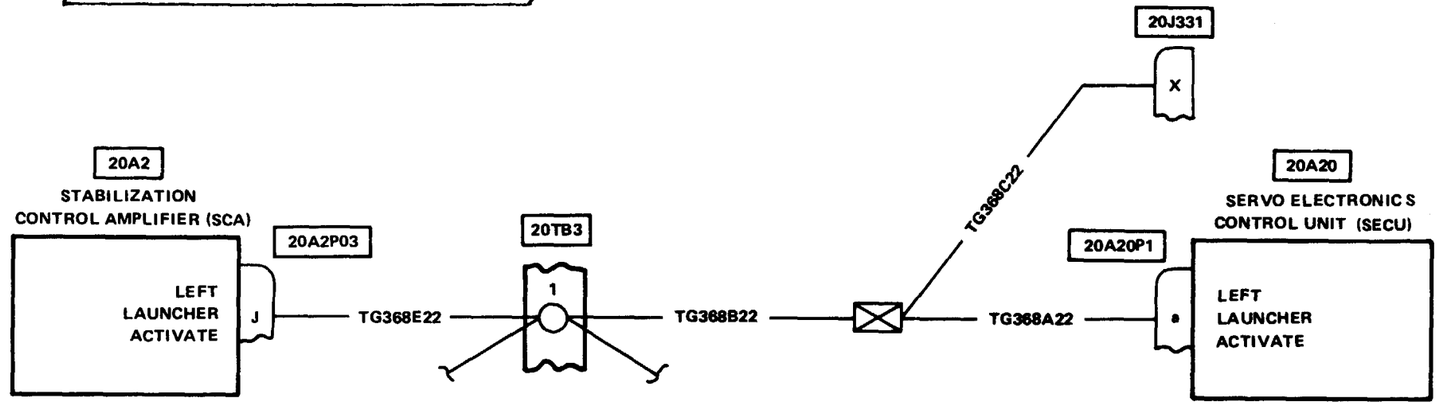
Then go to paragraph 8-2.

NO ↓

Turn off electrical power per paragraph 8-3.

Replace servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Then go to paragraph 8-2.



## 8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION).

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Digital Voltmeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References
TM 9-1425-473-20
TM 9-1425-473-34
TM 55-1520-236-23

Access Panels
Left Ammo Compartment Door - Open

Middle Electronics (Tailboom) - Removed

Battery Compartment - Removed

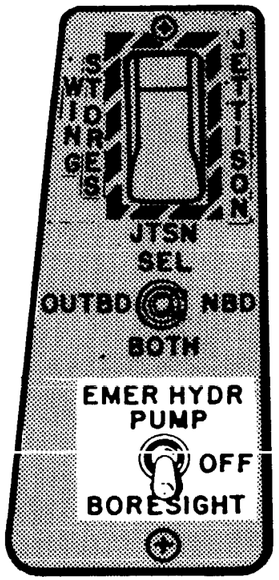
Servo Electronics Control Unit - Removed

Forward Belly Armament and Lighting - Removed

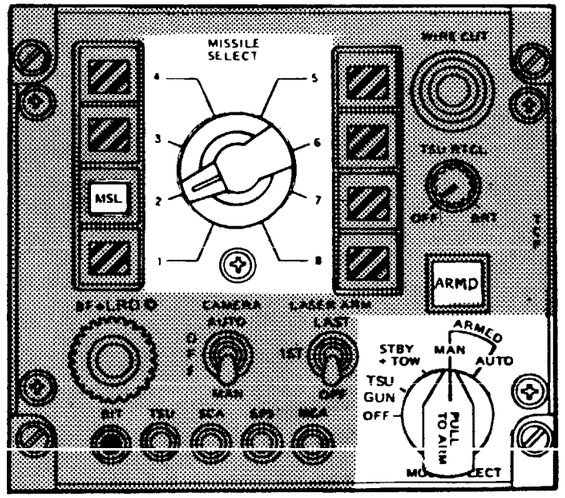
Radar Altimeter Antenna - Removed

Left Outboard Pylon Fairing - Removed

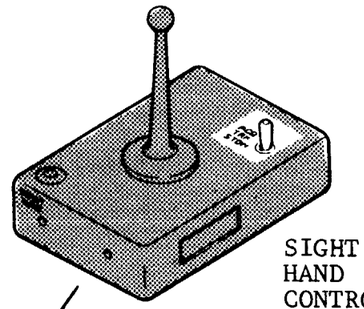
A. TROUBLESHOOTING LOGIC PART ONE.

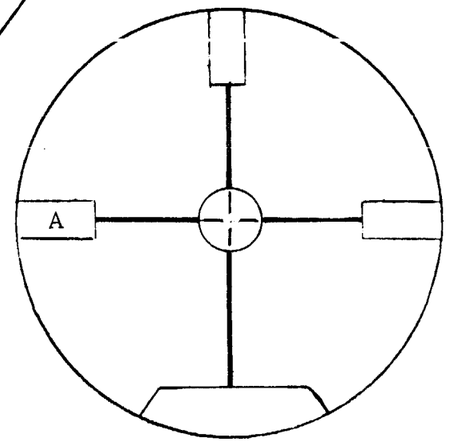


SWITCH PANEL

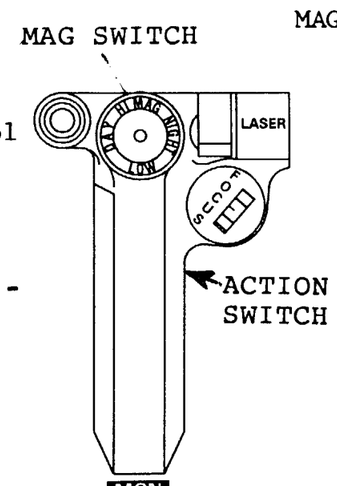


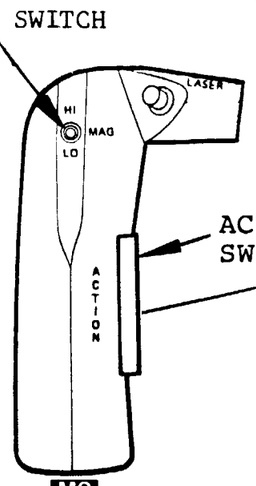
TCP (TOW CONTROL PANEL)


SIGHT HAND CONTROL

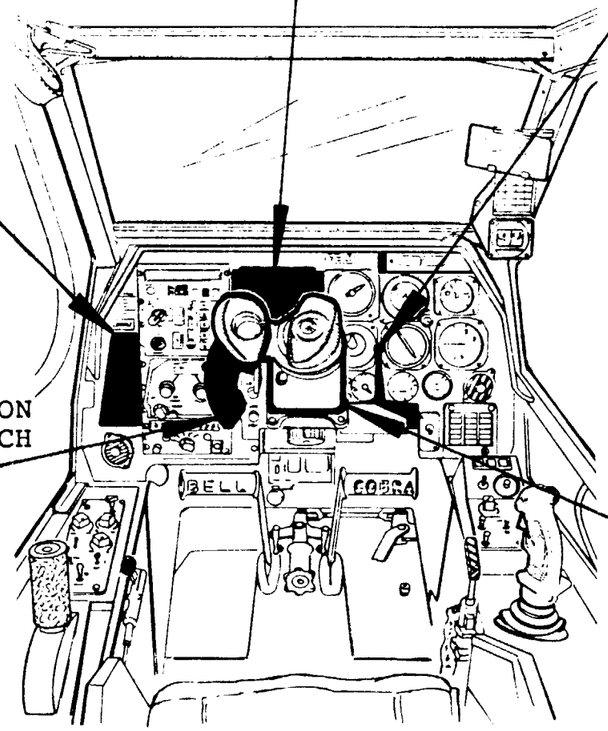


TSU EYEPIECE

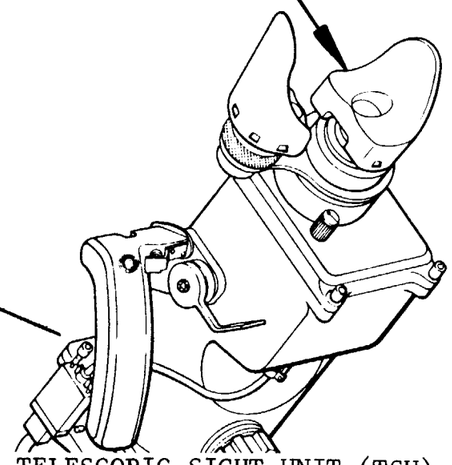


LEFT HAND GRIP

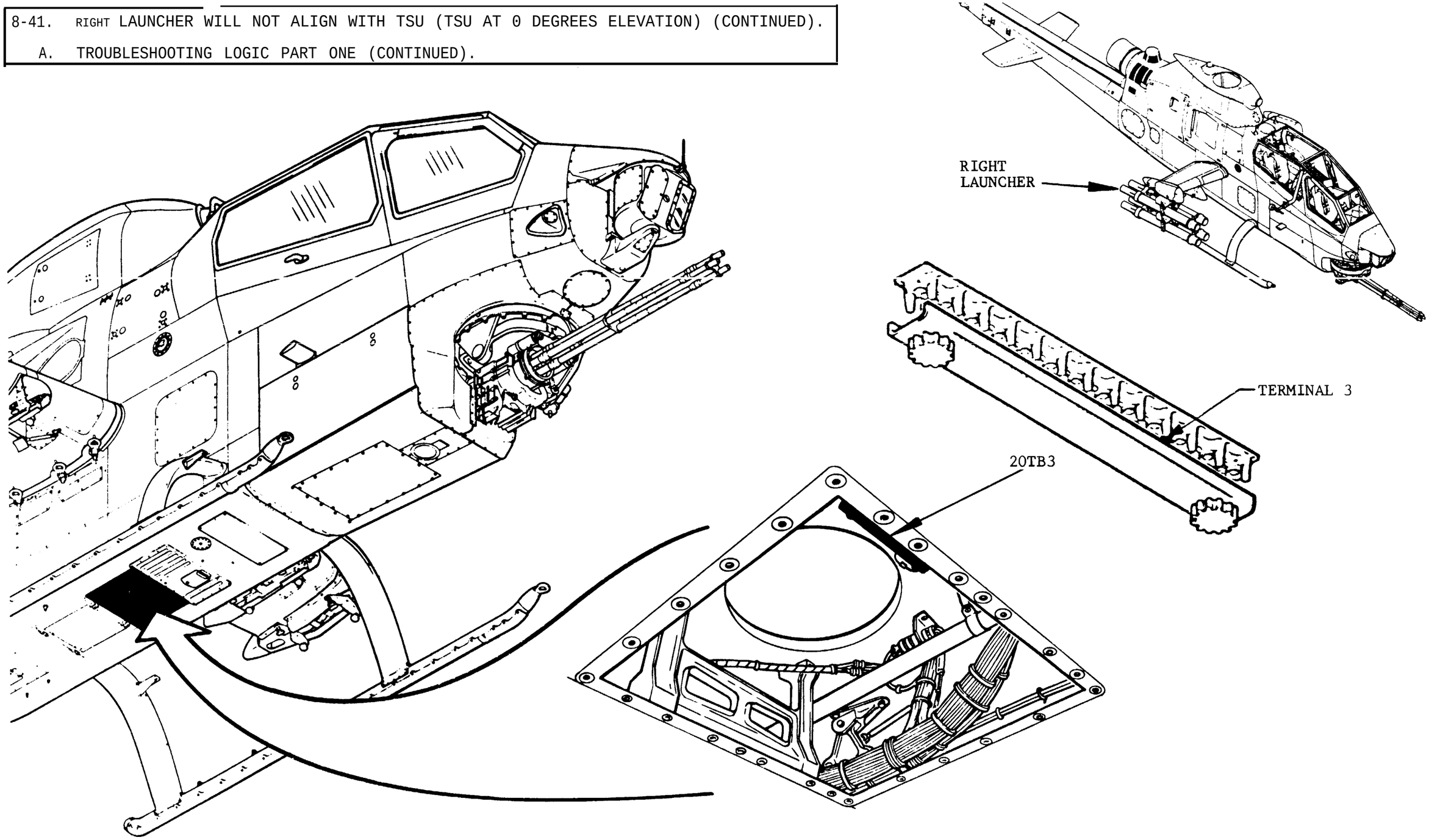


GUNNER STATION


TELESCOPIC SIGHT UNIT (TSU)

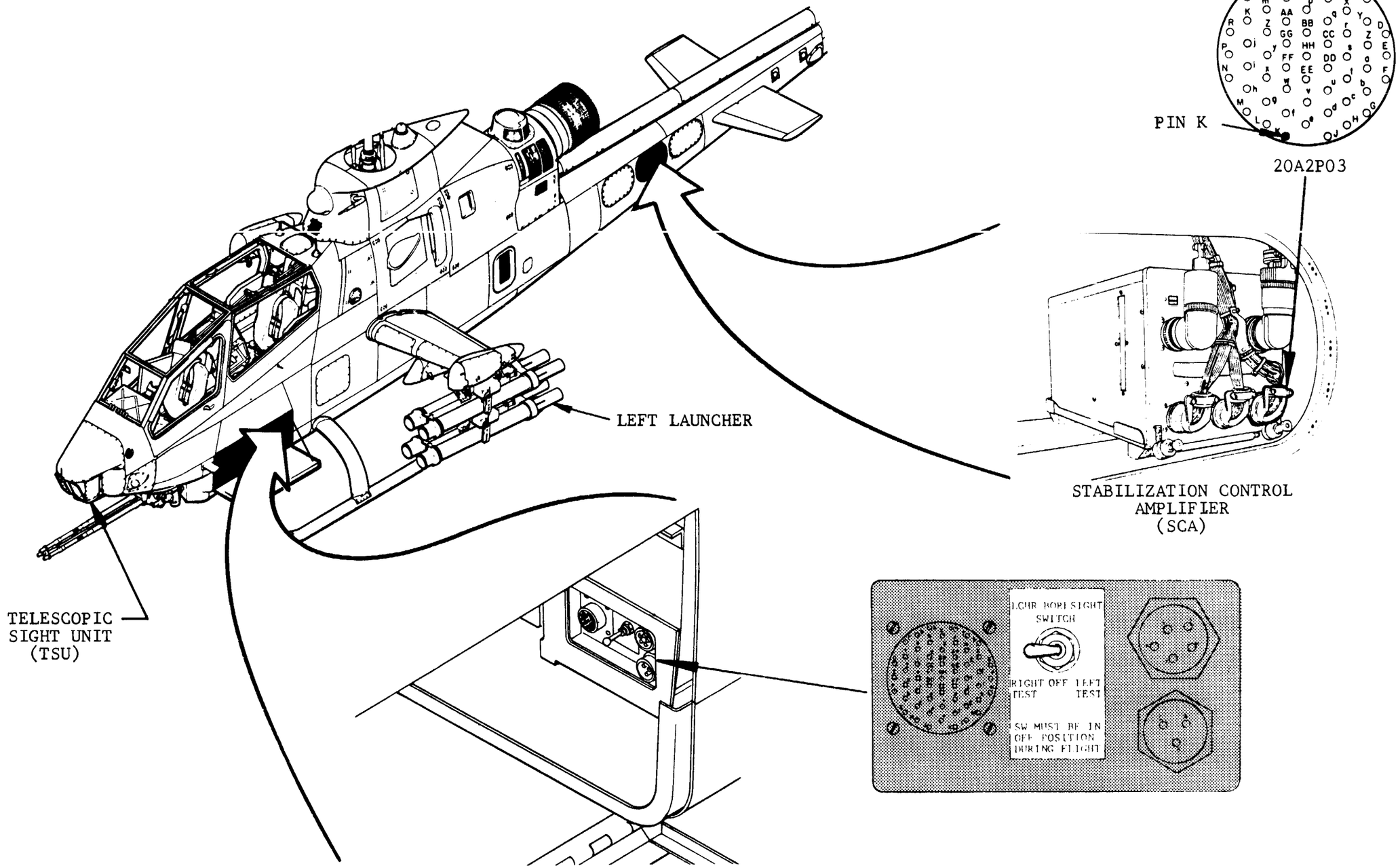
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED) .



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

In TSU eyepiece:

Verify high magnification image is present.

**NOTE** MCN

Verify TSU is operating in DAY mode.

On TCP (TOW control panel):

Verify mode indicator shows ARMD.

Verify MISSILE SELECT switch is set to 2 and MSL present is indicated in position 2.

On sight hand control:

Verify ACQ/TRK/STOW switch is set to TRK.

On gunner instrument panel:

Verify EMER HYDR PUMP/BORESIGHT switch is set to BORESIGHT.

On left hand grip:

Press and hold ACTION switch.

Is "A" (attack) battleflag visible in telescopic sight unit (TSU) eyepiece?

NO

Go to TM 9-1425-473-34, Tables 3-7/3-11.

YES

On sight hand control:

Set ACQ/TRK/STOW switch to STOW, then to TRK.

On left hand grip:

Press and hold ACTION switch.

Does the right launcher oscillate?

YES

Go to paragraph 8-42.

NO

On sight hand control:

Set ACQ/TRK/STOW switch to STOW.

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to RIGHT TEST.

Does the right launcher align with telescopic sight unit (TSU)?

YES

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

Turn off electrical power per paragraph 8-3.

Check for continuity from 20A2P03-K to 20TB3-3.

Is continuity present?

NO

Repair wire TG369E22 between 20A2P03-K and 20TB3-3.

Then go to paragraph 8-2.

YES

Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to OFF.

Turn on electrical power per paragraph 8-3.

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to BORESIGHT.

Does the left launcher align with the telescopic sight unit (TSU)?

NO

Turn off electrical power per paragraph 8-3.

Install original TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to LEFT TEST.

Does the left launcher align with telescopic sight unit (TSU)?

YES

Go to Troubleshooting Logic Part Two (sub-paragraph B).

NO

YES

8-41. RIGHT LAUNCHER WILL NOT ALIGN WTTH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A . TROUBLESHOOTING LOGIC PART ONE (CONTINUED) .

YES → Go to paragraph 8-2.

NO →

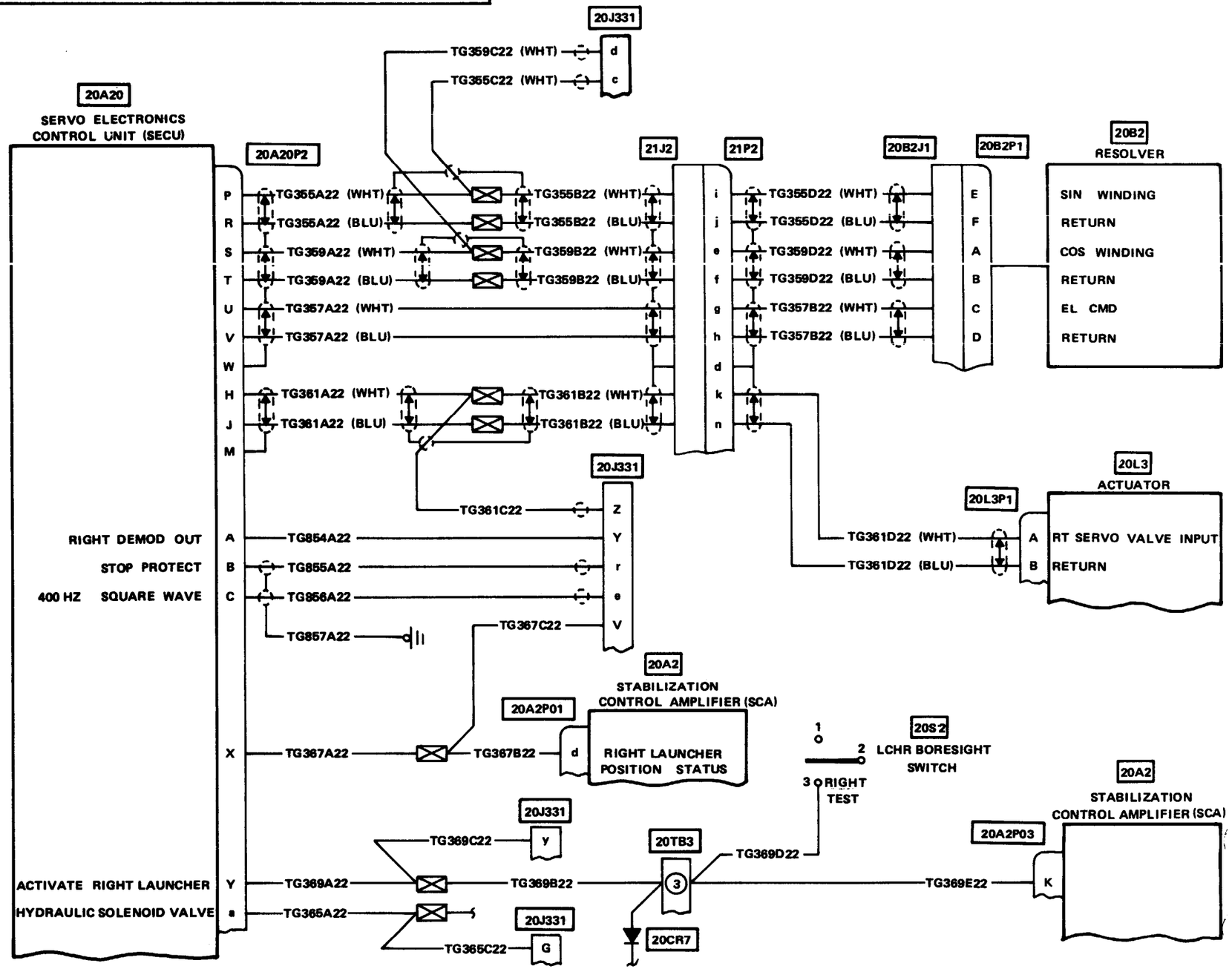
On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to OFF.

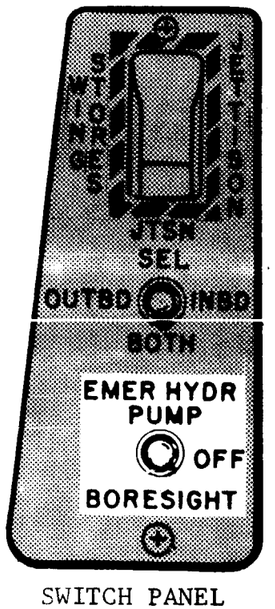
Then go to paragraph 8-36.



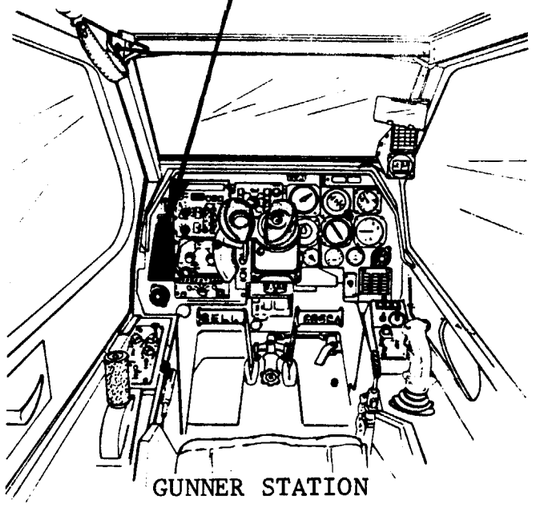
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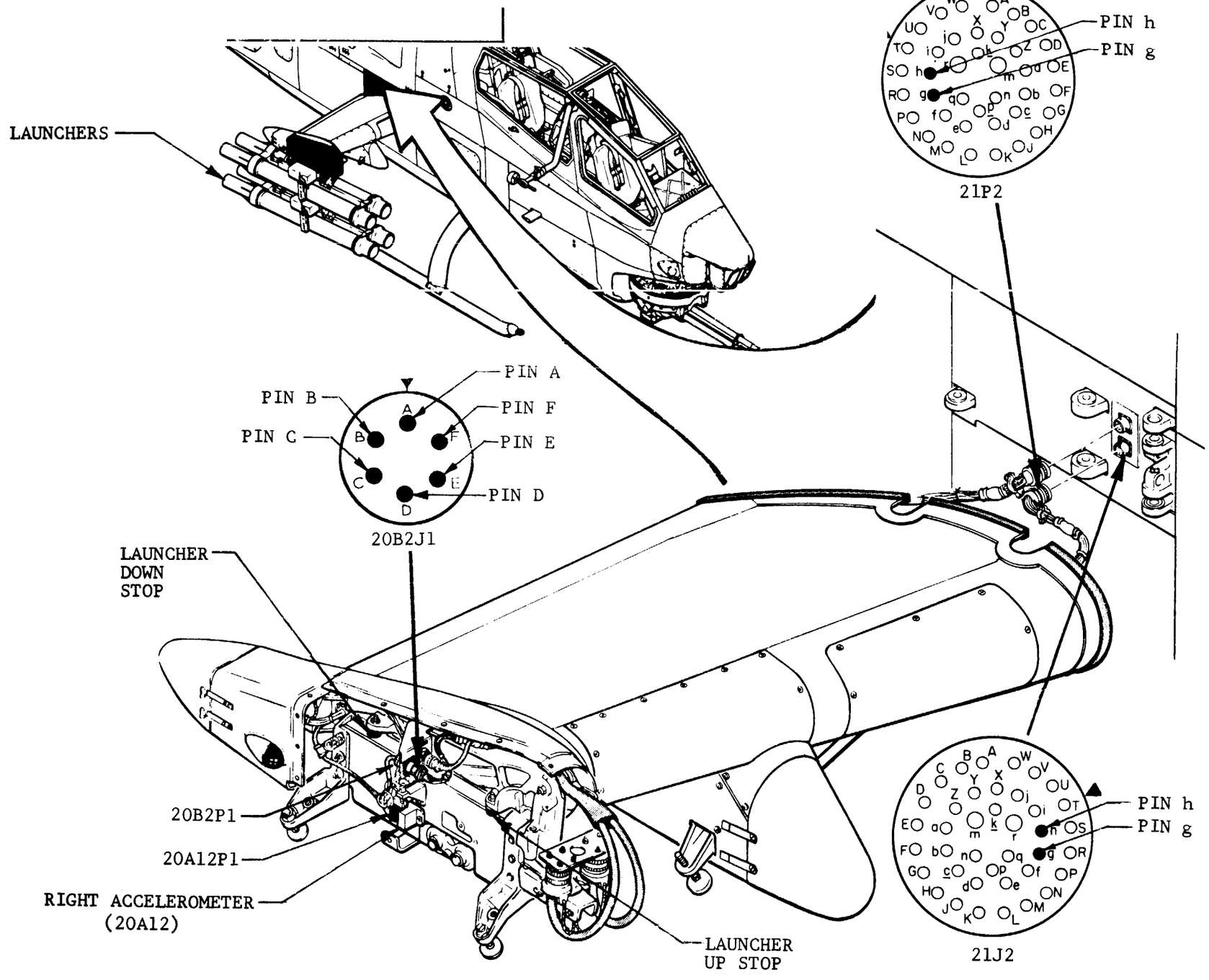
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) ( CONTINUED) .

B. TROUBLESHOOTING LOGIC PART Two。



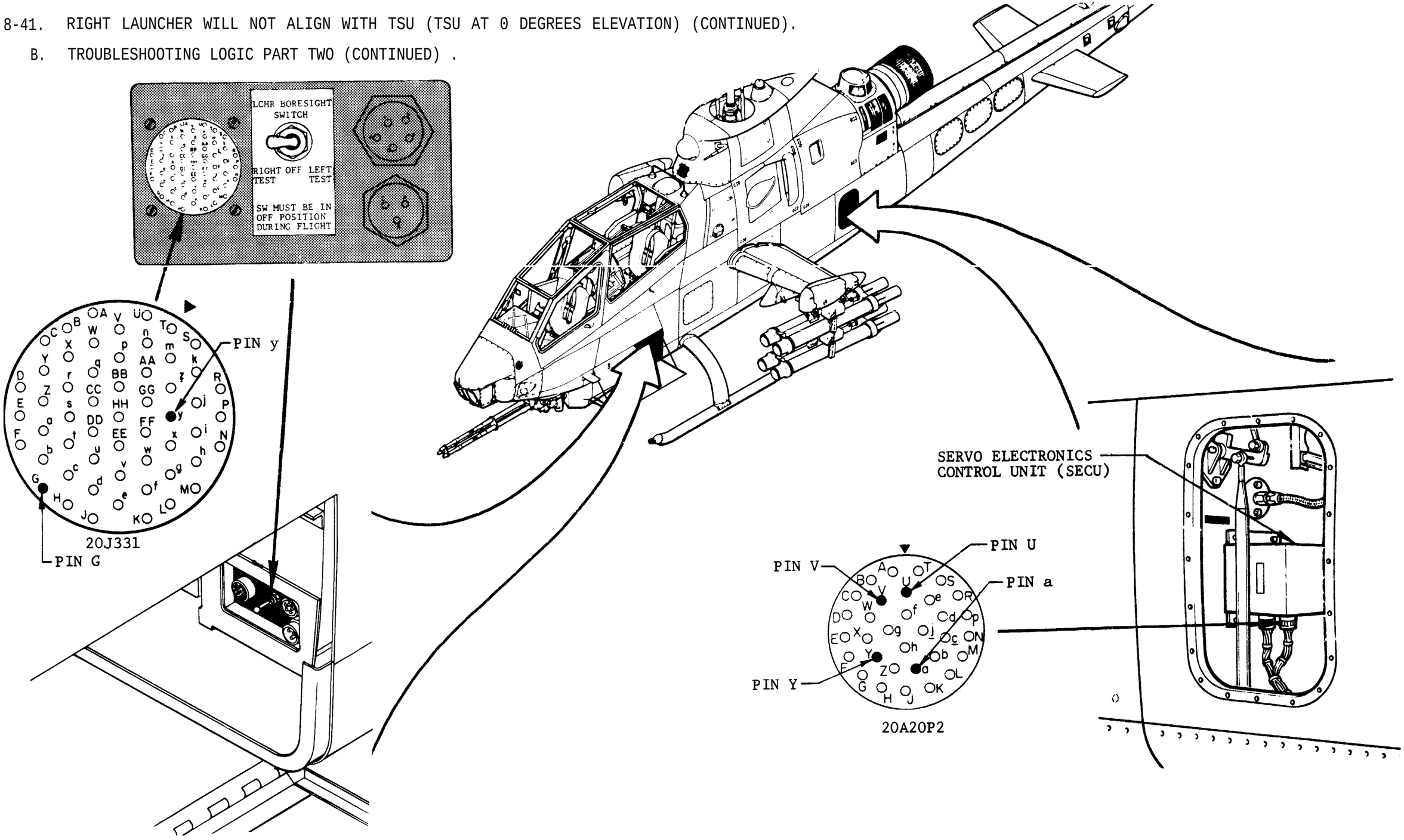

SWITCH PANEL



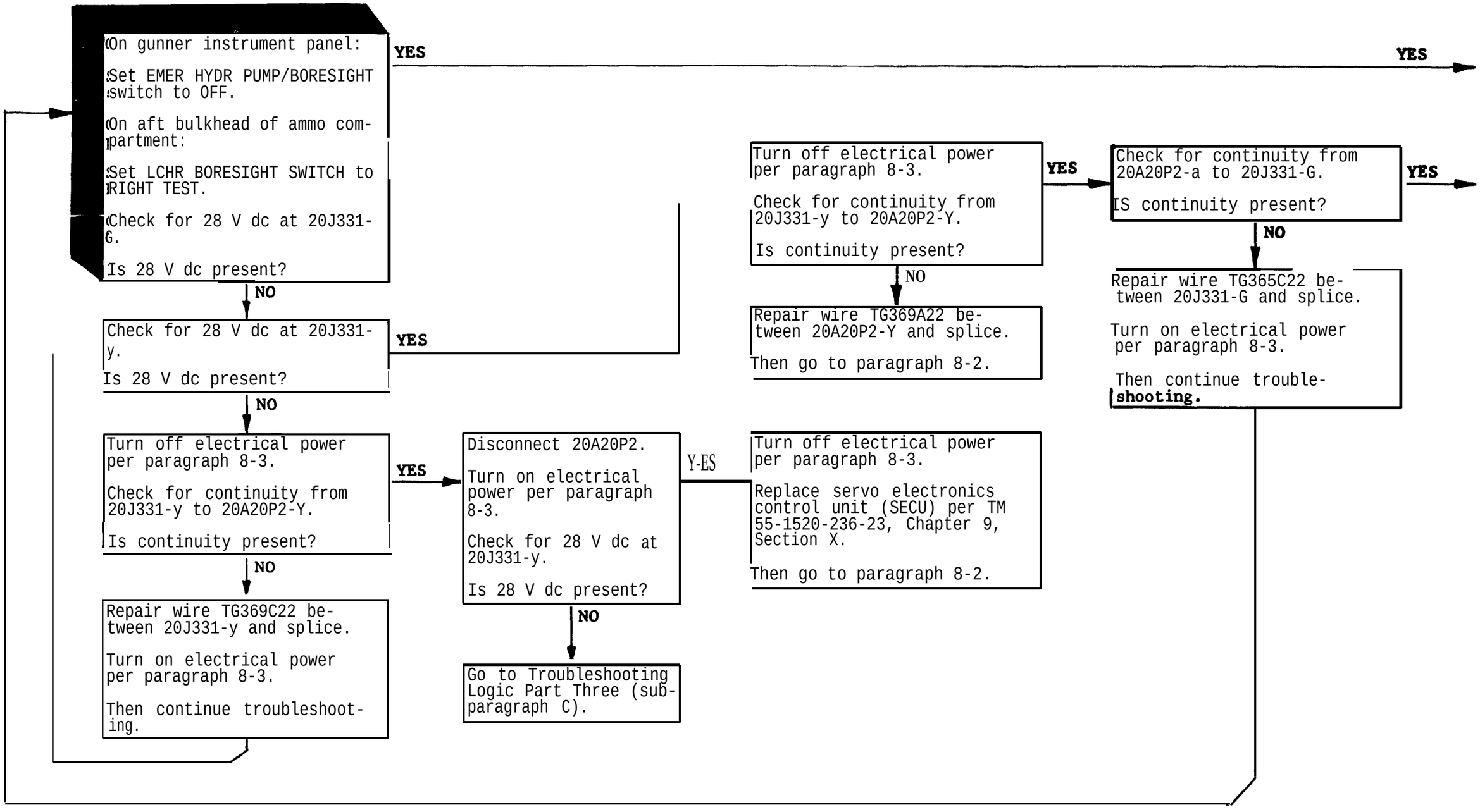
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED) .



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

YES

YES

Replace servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Then go to paragraph 8-2.

YES

Turn off electrical power per paragraph 8-3.

Disconnect 20B2P1.

Connect multimeter to 20B2J1-B and 20J32J1-A.

Turn on electrical power per paragraph 8-3.

Check for 9 to 11 V ac from 20B2J1-B to 20B2J1-A.

Is 9 to 11 V ac present?

NO

Go to Troubleshooting Logic Part Four ( subparagraph D).

YES

Turn off electrical power per paragraph 8-3.

Connect digital voltmeter to 20B2J1-E and 20B2J1-F.

Turn on electrical power per paragraph 8-3.

Check for less than 0.1 V ac from 20B2J1-E to 20B2Jl-F with a digital voltmeter.

Is less than 0.1 V ac present?

NO

Turn off electrical power per paragraph 8-3.

Replace servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Connect 20B2P1.

Then go to paragraph 8-2.

YES

Turn off electrical power per paragraph 8-3.

Connect 20B2P1.

Disconnect 20 A12P1.

Turn on electrical power per paragraph 8-3.

On gunner instrument panel:

Set EMER HYDR PUMP/BORE-SIGHT switch to BORE SIGHT.

Does the right launcher a-lign with telescopic sight unit (TSU)?

YES

NO

NOTE

Observe right launcher and note whether or not it is against a sto ( fully up or fully down ).

YES

On gunner instrument panel:

Set EMER HYDR PUMP/BORE SIGHT switch to OFF.

Turn off electrical power per paragraph 8-3.

Check for continuity from 20B2J1-C to 20A20P2-U.

Is continuity present?

NO

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20B2J1-C to 21P2-g.

Is continuity present?

YES

NO

8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU(TSU AT 0 DEGREES ELEVATION) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

YES → Turn off electrical power per paragraph 8-3.

Replace right accelerometer (20A12) per TM 55-1520-236-23, Chapter 16.

Then go to paragraph 8-2.

YES

YES → Check for continuity from 20B2J1-D to 20A20P2-V.

Is continuity Present?

YES → YES

NO

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20B2J1-D to 21P2-h.

Is continuity present?

YES → Repair wire TG357A22 (BLU) between 21J2-h and 20A20P2-V.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A12P1.

Then go to paragraph 8-2.

NO

Repair wire TG357B22 (BLU) between 20B2J1-D and 21P2-h.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A12P1.

Then go to paragraph 8-2.

NO

Repair wire TG357B22 (WHT) between 20B2J1-C and 21P2-g.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A12P1.

Then go to paragraph 8-2.

YES → Repair wire TG357A22 (WHT) between 21J2-g and 20A20P2-U.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

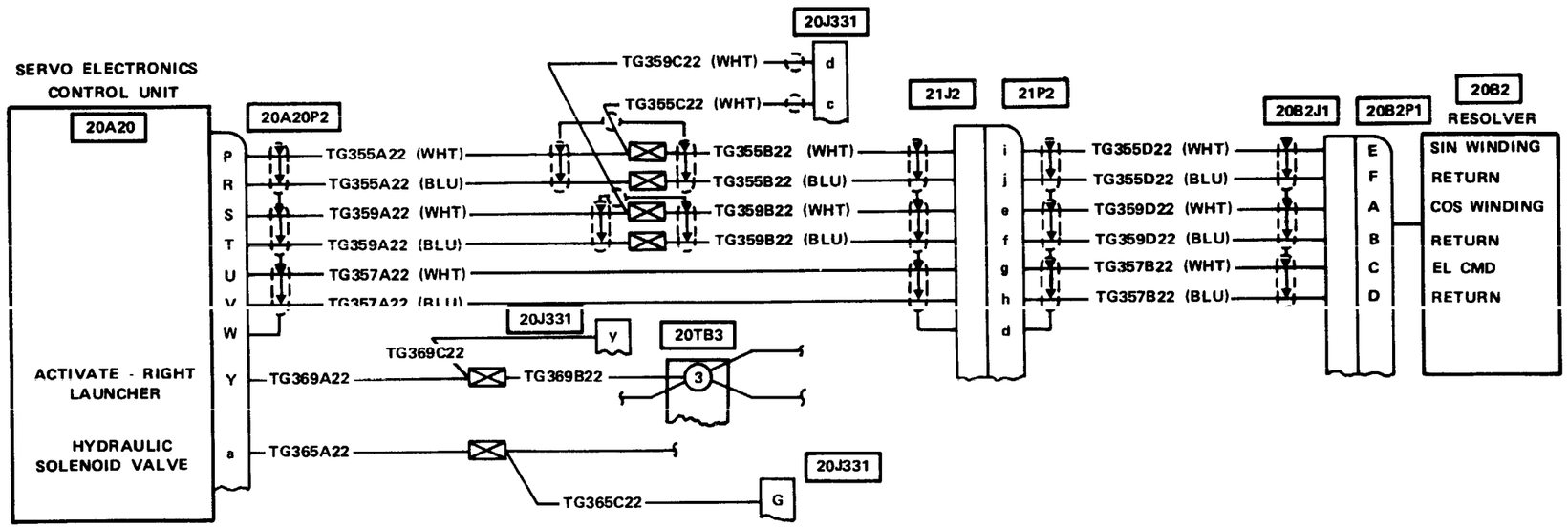
Connect 20A12P1.

Then go to paragraph 8-2.

NO

8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU(TSU AT 0 DEGREES ELEVATION)(CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).




**YES** →

Disconnect 20B2P1.

Check for continuity from 20A20P2-u to airframe ground.

Is continuity present?

**NO** ↓

Go to Troubleshooting Logic Part Five (subparagraph E).

**YES** →

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20A20P2-U to airframe ground.

Is continuity present?

**NO** ↓

Repair wire TG357B22 (WHT) between 20B2J1-C and 21P2-g to elimimte short.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B2P1 and 20A12Pl.

Then go to paragraph 8-2.

**YES** →

Repair wire TG357A22 (WHT) between 20A20P2-U and 21J2-g to eliminate short.

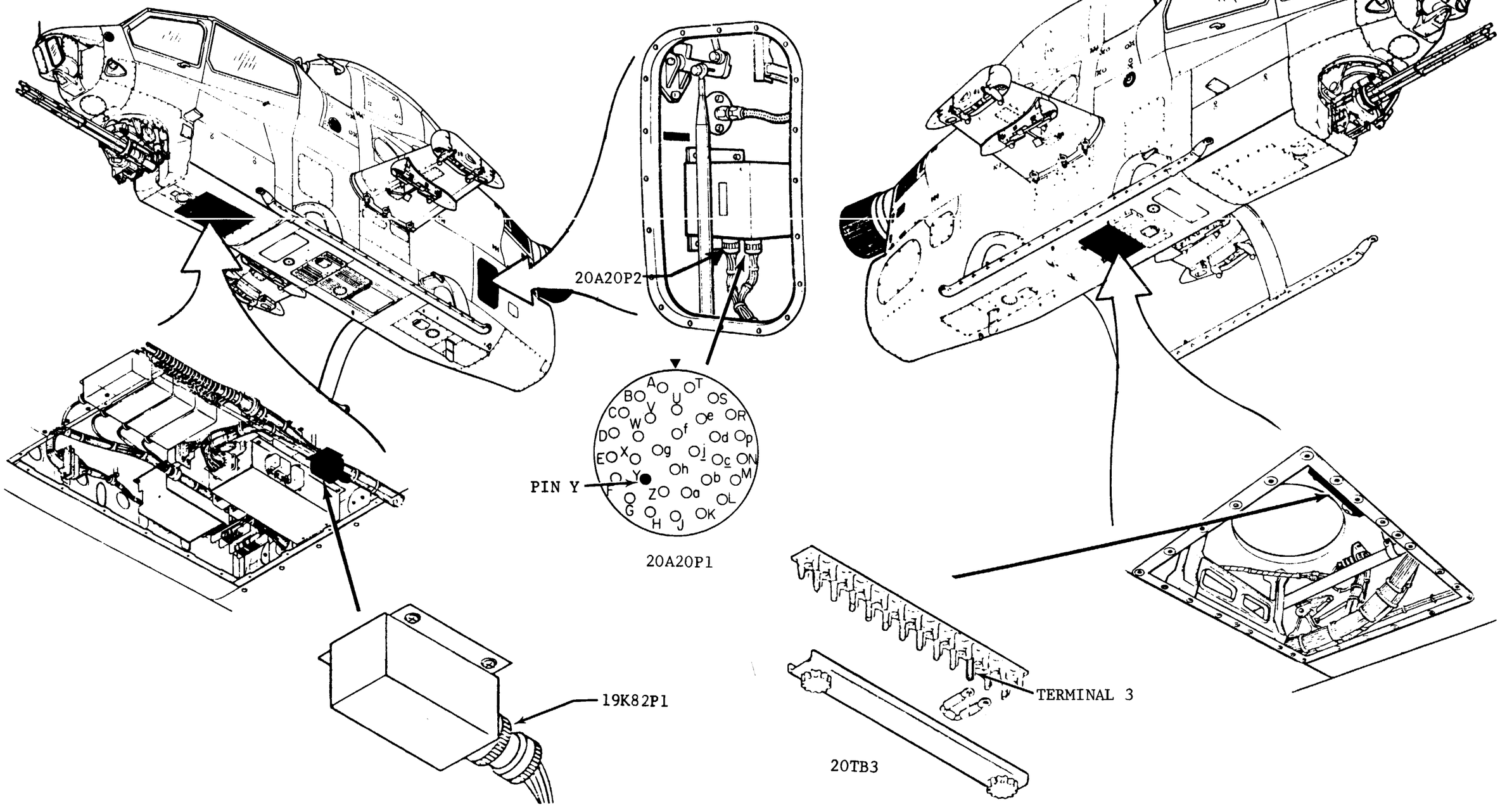
Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B2P1 and 20 A12P1.

Then go to paragraph 8-2.

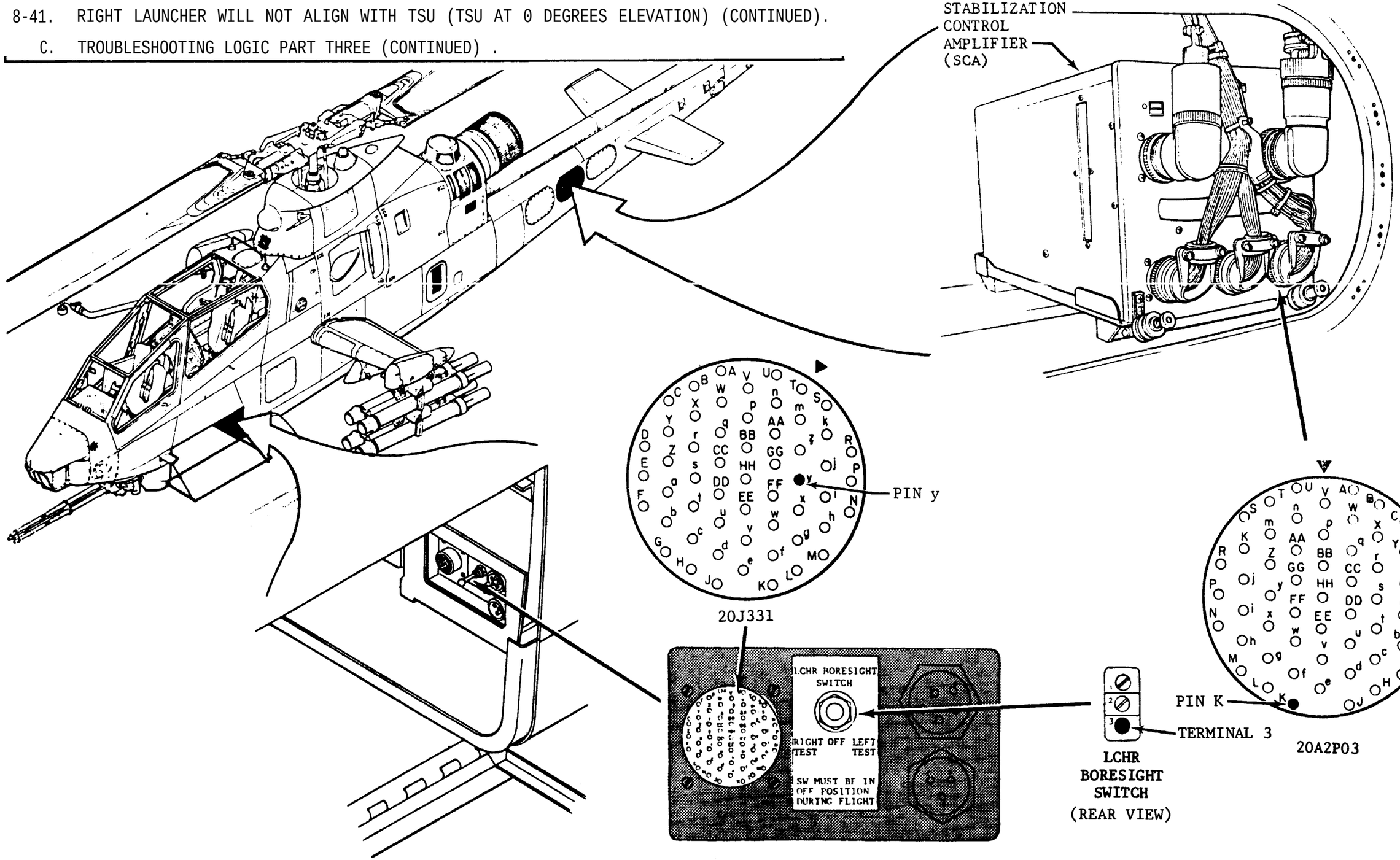
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE.



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED) .



8-41. RICHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

Turn off electrical power per paragraph 8-3.

Disconnect 19K82P1.

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITHC to OFF.

Check for continuity from 20J331-y to airframe ground.

Is continuity present?

YES

Remove wire TG369B22 from 20TB3-3.

Check for continuity from 20J331-y to airframe ground.

Is continuity present?

YES

YES

NO

Remove wire TG369E22 from 20TB3-3 and check wire for continuity to airframe ground.

Is continuity present?

YES

Disconnect 20A2P03.

Recheck for continuity from wire TG369E22 to airframe ground.

Is continuity present?

YES

NO

Repair wire TG369B22 between 20TB3-3 and splice.

Connect 20A20P2 and 19K82P1.

Then go to paragraph 8-2.

NO

Remove wire TG369D22 from terminal 3 of LCHR BORESIGHT SWITCH and check wire for continuity to airframe ground.

Is continuity present?

YES

Repair wire TG369D22 between terminal 3 of LCHR BORESIGHT SWITCH and 20TB3-3 to eliminate short.

Connect wires TG369B22, TG369D22, and TG369E22 to 20TB3-3.

Connect 20A20P2 and 19K82P1.

Then go to paragraph 8-2.

NO

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

Connect wires TG369B22 and TG369E22 to 20TB3-3.

Connect 20A20P2 and 19K82P1.

Then go to paragraph 8-2.

NO

Replace LCHR BORESIGHT SWITCH per TM 55-1520-236-23, Chapter 9, Section I.

Connect wires TG369B22, TG369D22, and TG369E22 to 20TB3-3.

Connect 20A20P1 and 19K82P1.

Then go to paragraph 8-2.

8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

YES

Remove splice joining wires TG369A22, TG369B22 and TG369C22.

Check for continuity from 20J331-y to airframe ground.

Is continuity present?

YES

Repair wire TG369C22 between 20J331-y and splice to eliminate short.

Install splice joining wires TG369A22, TG369B22, and TG369C22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect TG369B22 to 20TB3-3.

Connect 20A20P2 and 19K82P1.

Then go to paragraph 8-2.

NO

YES

Repair wire TG369E22 between 20A2P03-K and 20TB3-3 to eliminate short.

Connect wires TG369B22 and TG369E22 to 20TB3-3.

Connect 20A20P2 and 19K82P1.

Then go to paragraph 8-2.

Check for continuity from 20A20P1-Y to airframe ground.

Is continuity present?

YES

Repair wire TG369A22 between 20A20P1-Y and splice to eliminate short.

Install splice joining wires TG369A22, TG369B22, and TG369C22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect TG369B22 to 20TB3-3.

Connect 20A20P2 and 19K82P1.

Then go to paragraph 8-2.

NO

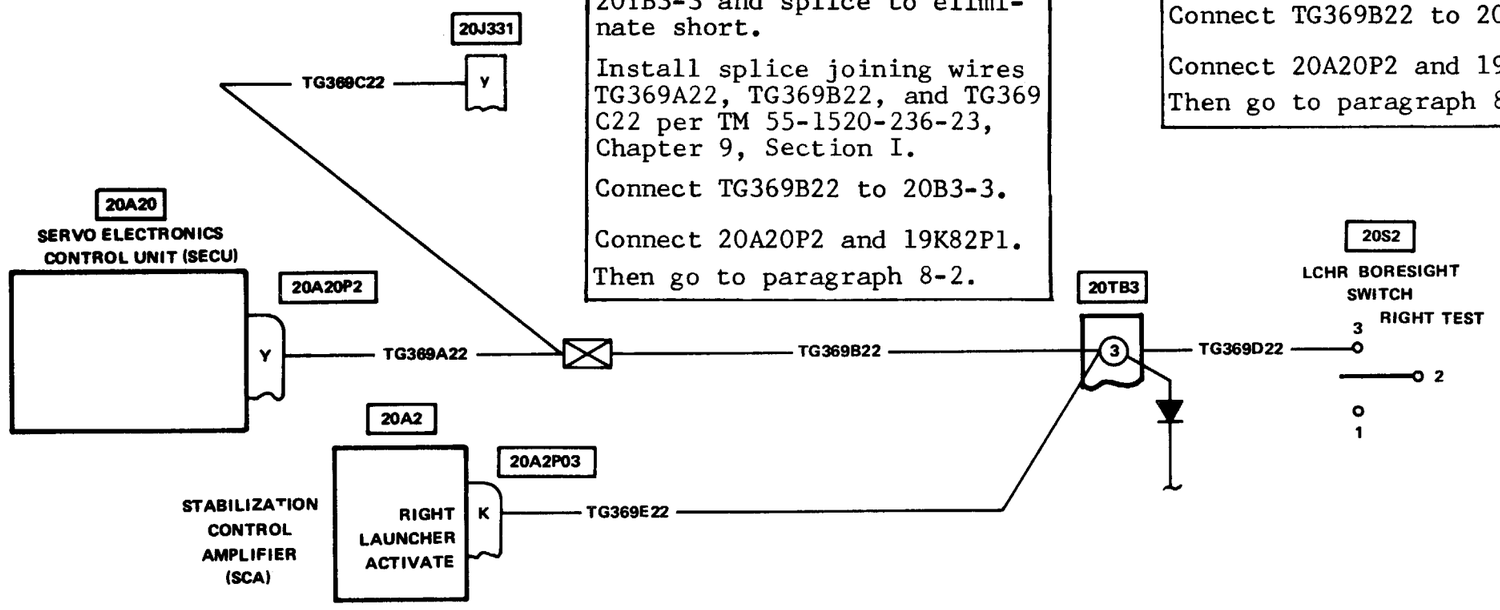
Repair wire TG369B22 between 20TB3-3 and splice to eliminate short.

Install splice joining wires TG369A22, TG369B22, and TG369C22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect TG369B22 to 20B3-3.

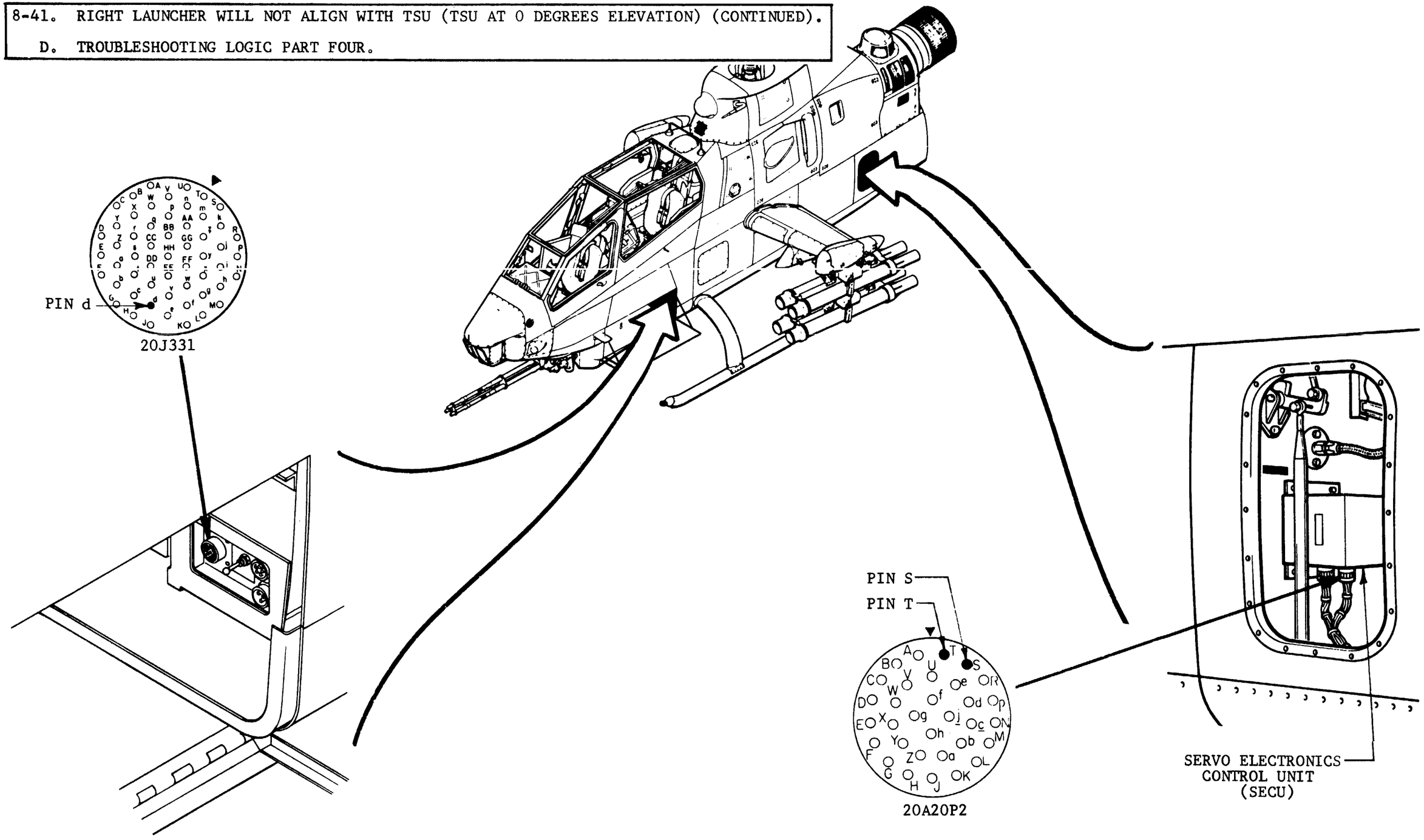
Connect 20A20P2 and 19K82P1.

Then go to paragraph 8-2.



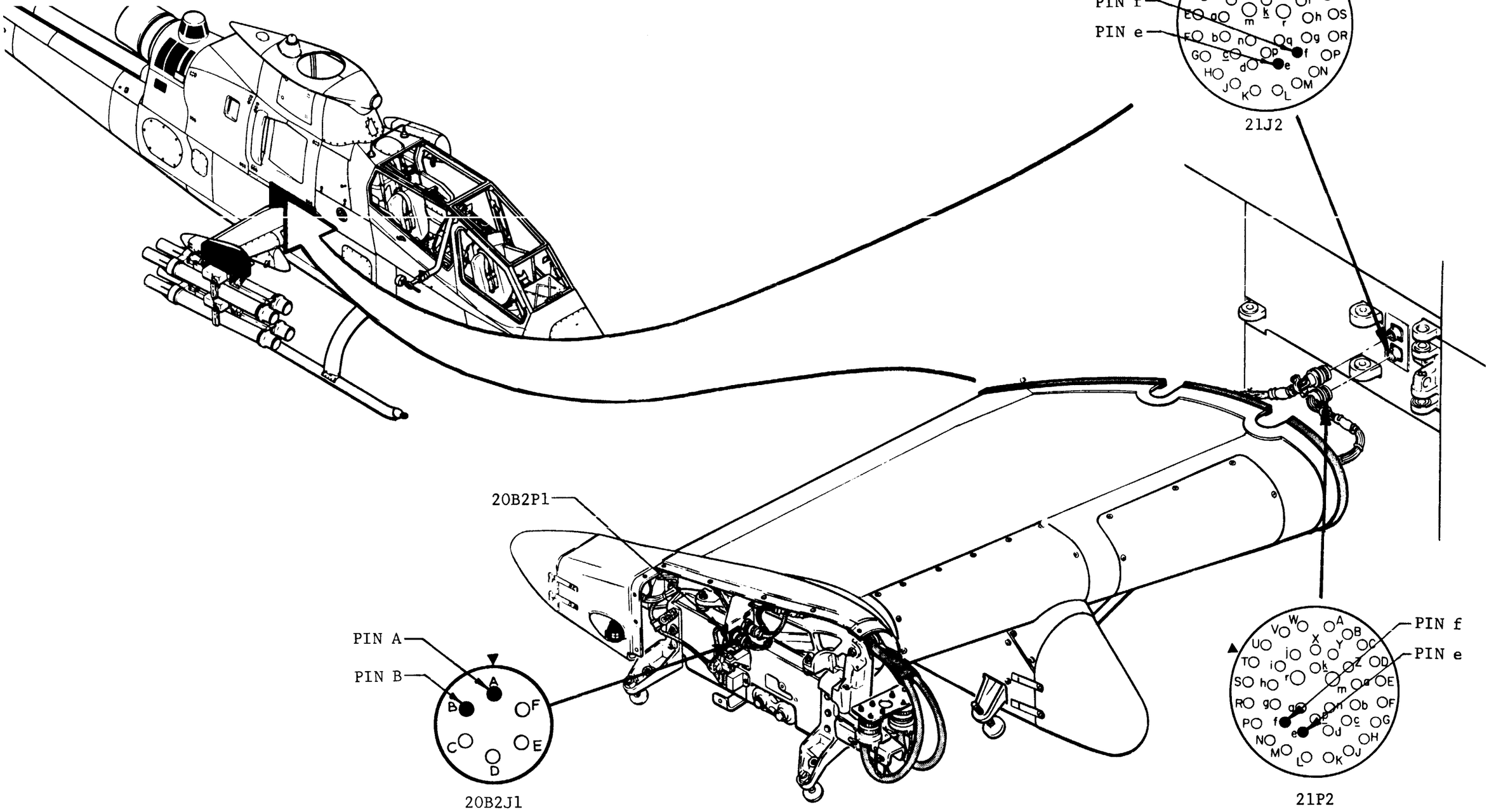
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR.



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELVATION) (CONTINUED)。

D. TROUBLESHOOTING LOGICV PART FOUR (CONTINUED) .



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELVATION) (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).

**Turn off electrical power per paragraph 8-3.**

**Check for continuity from 20B2J1-B to 20A20P2-T.**

**Is continuity present?**

**YES** → Check for continuity from 20B2J1-A to 20A20P2-S.

Is continuity present?

**YES** → Replace servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Connect 20B2P1.

Then go to paragraph 8-2.

**NO** → Check for continuity from 20J331-d to 20A20P2-S.

Is continuity present?

**YES** → Check for continuity from 20J331-d to 20B2J1-A.

Is continuity present?

**YES** → Repair wire TG359A22 (WHT) between 20A20P2-S and splice.

Connect 20B2P1.

Then go to paragraph 8-2.

**NO** → Repair wire TG359C22 between 20J331-d and splice.

Then continue trouble-shooting.

**NO** → Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20B2J1-B to 21P2-f.

Is continuity present?

**YES** → Repair wire(s) TG359B22 (BLU) between 21J2-f and slice and/or TG359A22 (BLU) between 20A20P2-T and splice.

Connect 20B2P1.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.

**NO** → Repair wire TG359D22 (BLU) between 20B2J1-B and 21P2-f.

Connect 20B2P1.

Install right wing per TM 55-1520-236-23. Chapter 2. Section IV.

Then go to paragraph 8-2.

**8-41.** RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED) .

Remove right wing per TM 55-1520-236-23, Chapter2, Section IV.

Check for continuity from 20B2J1-A to 20P2-e.

**Is continuity present?**

**YES** → Repair wire TG359B22 (WHT) between 21J2-e and splice.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B2P1.

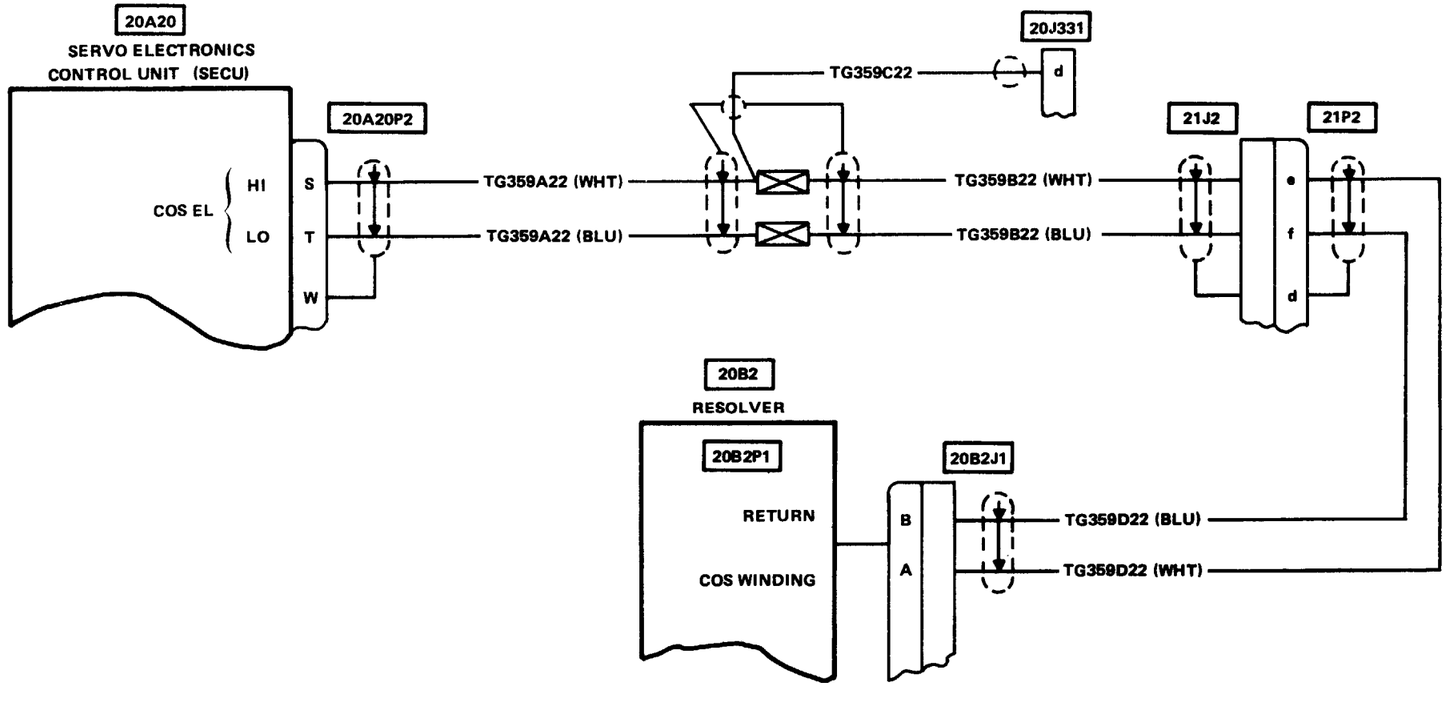
Then go to paragraph 8-2.

**NO** → Repair wire TG359D22 (WHT) between 20B2J1-A and 21P2-e.

Connect 20B2P1.

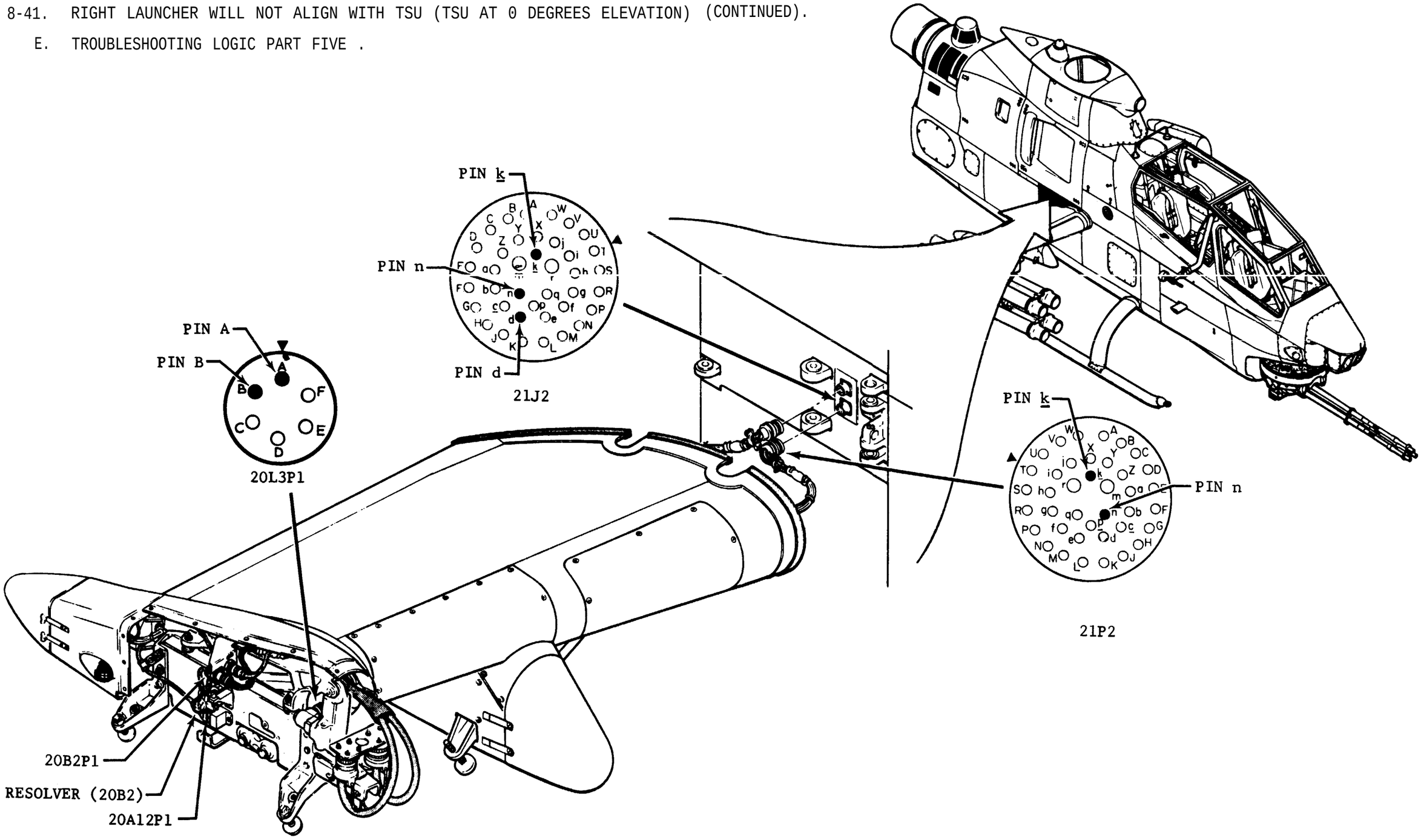
Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 8-2.



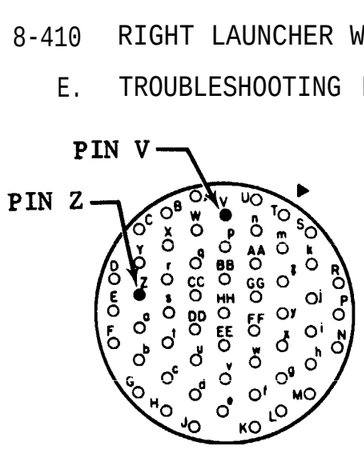
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE .

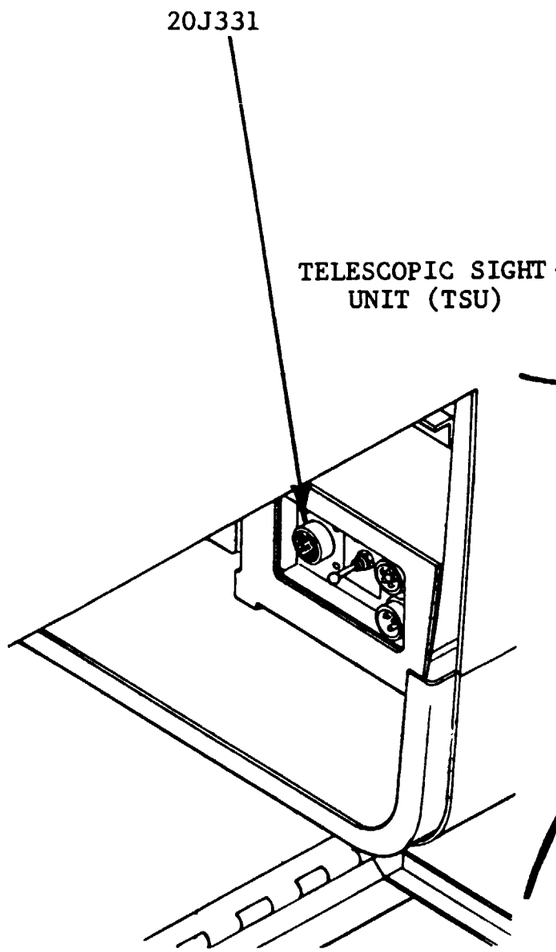


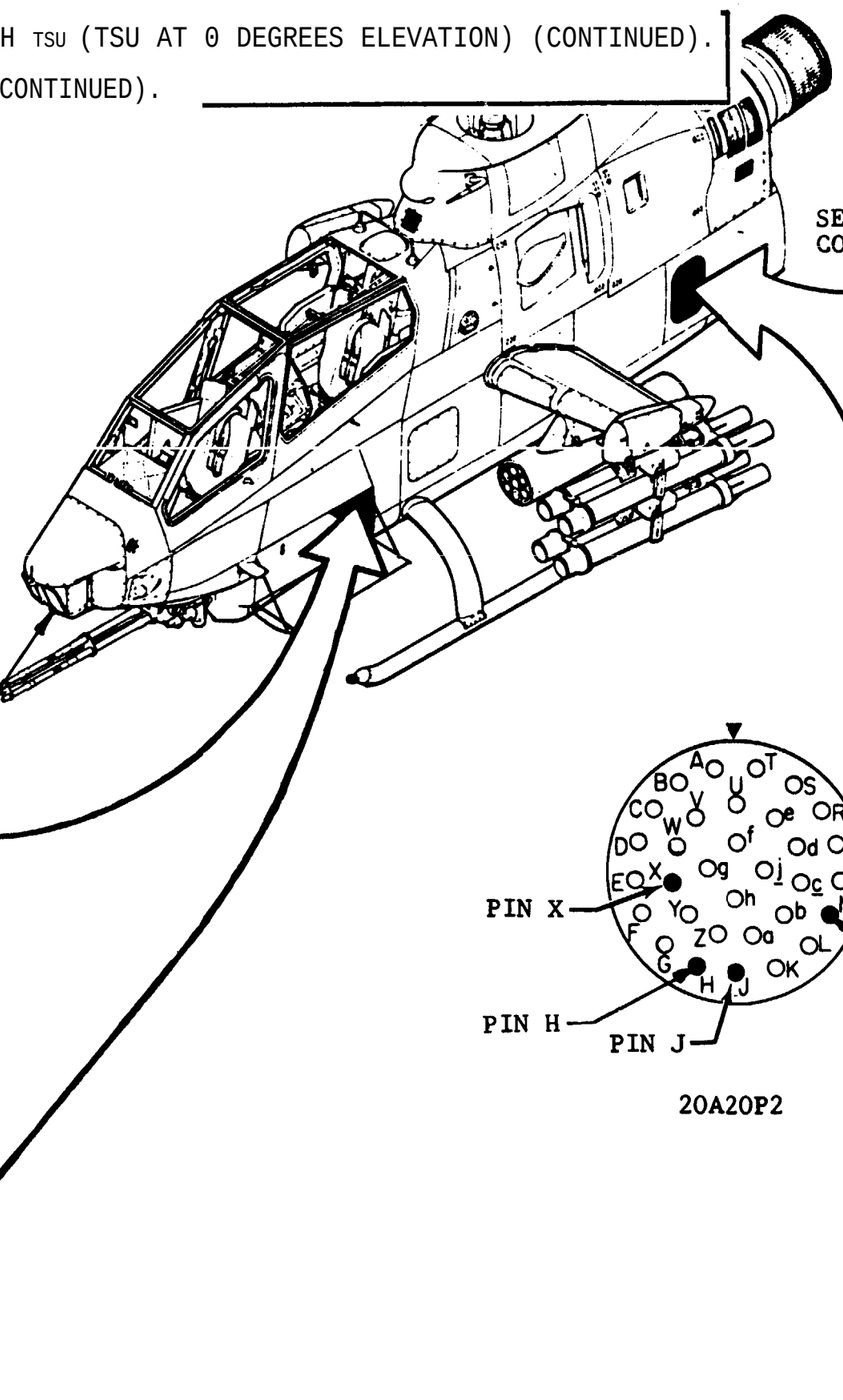
8-410 RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

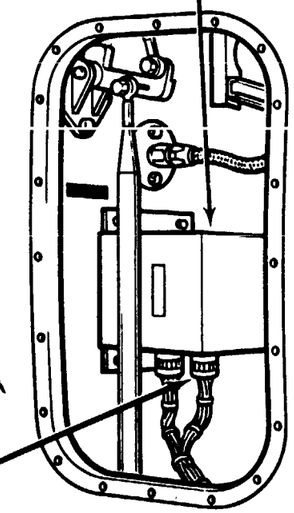
E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

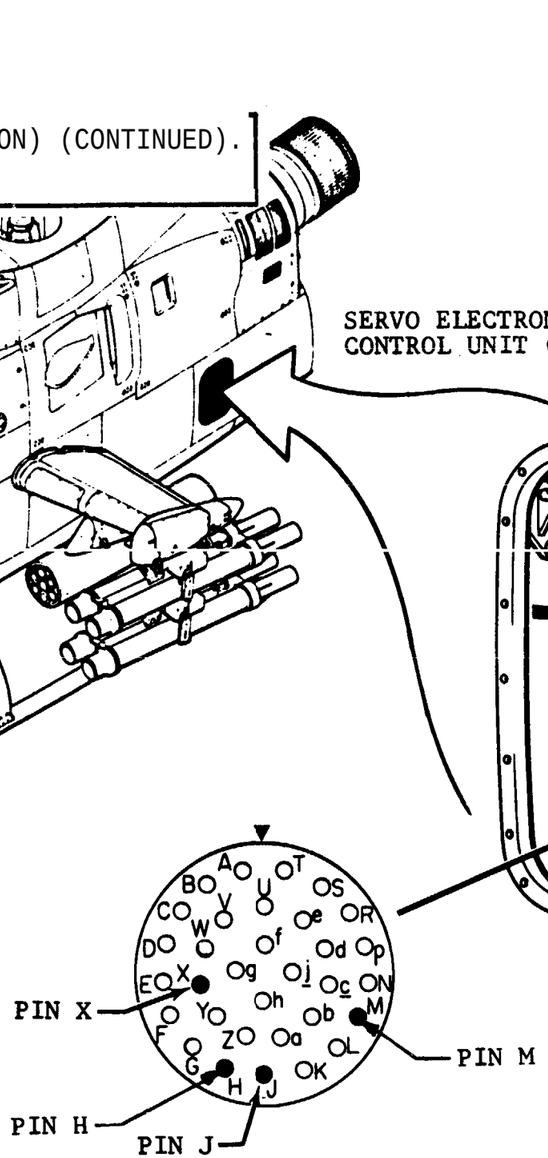



20J331

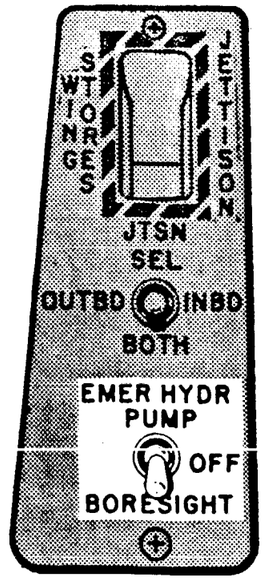


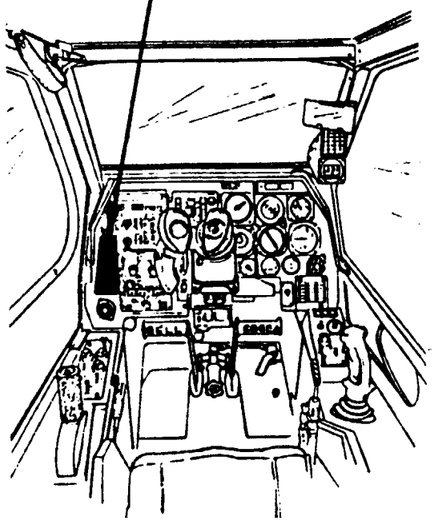



20A20P2



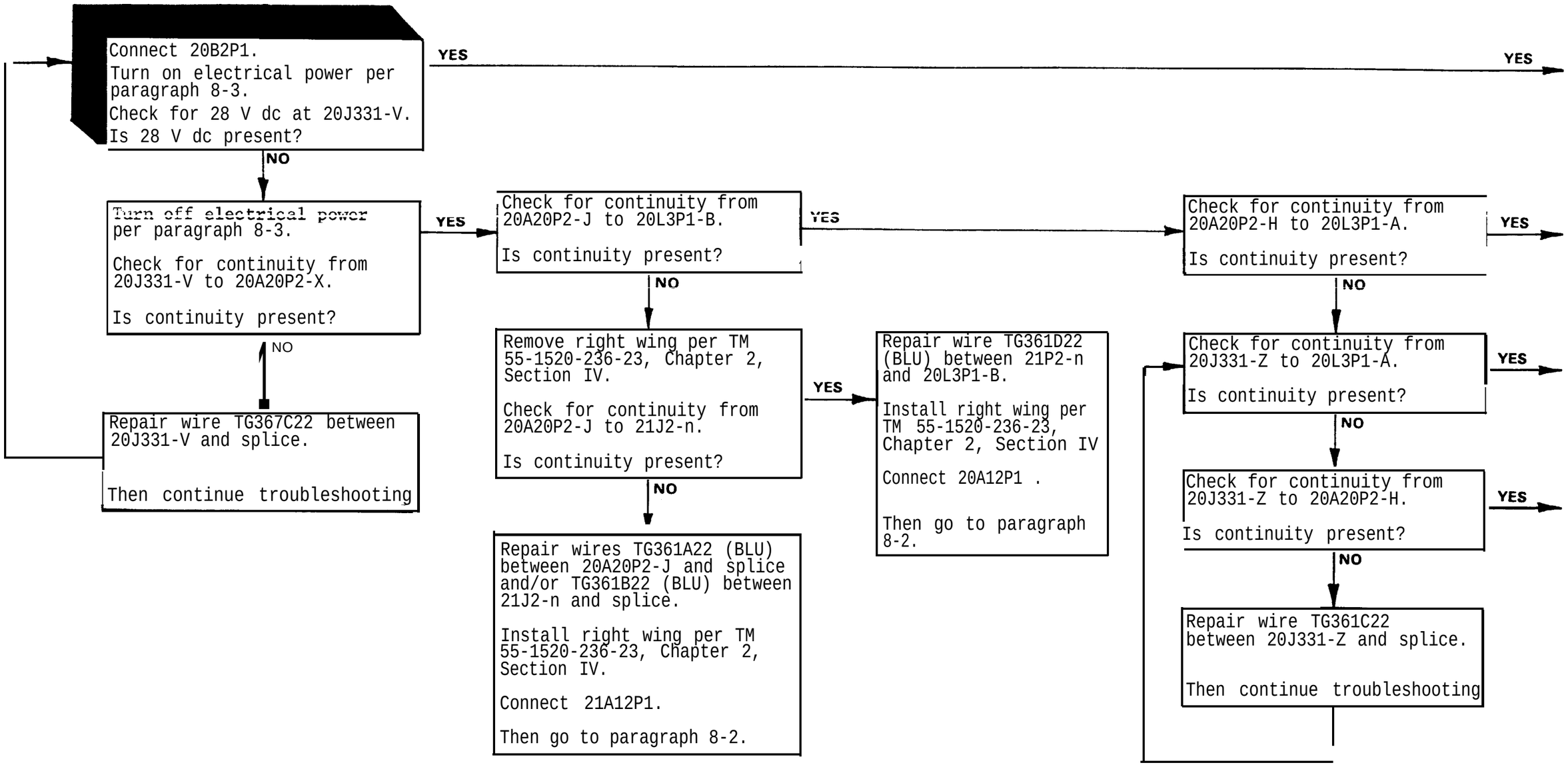

SWITCH PANEL



GUNNER STATION

8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION)(CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED) .

YES

YES

YES

Repair wire TG361A22 (WHT) between 20A20P2-H and splice.

Connect 20A12P1.

Then go to paragraph 8-2.

YES

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 21P2-k to 20L3P1-A.

Is continuity present?

YES

Repair wire TG361B22 (WHT) between 21J2-k and splice.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV,

Connect 20A12P1.

Then go to paragraph 8-2.

NO

Repair wire TG361D22 (WHT) between 21P2-k and 20L3P1-A.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A12P1.

Then go to paragraph 8-2.

YES

Disconnect 20L3PI.

Check for continuity:

| FROM | IO |
|---|---|
| 20A20P2-H | 20A20P2-M |
| 20A20P2-H | 20A20P2-J |
| 20A20P2-H | airframe ground |

Is continuity present in any test?

NO

Go to Troubleshooting Logic Part Six (subparagraph F).

YES

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

| FROM | TO |
|---|---|
| 20A20T2-H | 20A20P2-M |
| 20A20P2-H | 20A20P2-J |
| 20A20P2-H | airframe ground |

Is continuity present in any test?

YES

NO

Repair wire TG361D22 (WHT) between 21P2-k and 20L3P1-A to eliminate short.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A12Pl and 20L3P1.

Then go to paragraph 8-2.

8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU(TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

(Turn off electrical power per paragraph 8-3.

Replace servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Turn on electrical power per paragraph 8-3.

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to BORESIGHT.

Does the right launcher a- lign with the telescopic sight unit (TSU)?

YES →

NO ↓

Turn off electrical power per paragraph 8-3.

Install original servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Replace right resolver (20B2) per TM 55-1520-236-23, Chapter 16.

Connect 20A12P1.

Then go to ParagraPh 8-2.

YES →

Turn off electrical power per paragraph 8-3.

Connect 20A12P1.

Then go to paragraph 8-2.

YES →

Remove splice joining wires TG361A22 (WHT), TG361B22 (WHT), and TG361C22.

Check forcontinuity:

| FROM | IO |
|---|---|
| 20A20P2-H | 20A20P2-M |
| 20A20P2-H | 20A20P2-J |
| 20A20P2-H | airframe ground |

Is continuity present in any test?

YES →

Repair wire TG361A22 (WHT) between 20A20P2-H and splice to eliminate short.

Install s lice joining wires TG361A22 (WHT) TG361B22 (WHT), and TG361C22 per TM 55-1520-236-23, Chapter 9, Section I.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20A12P1, 20L3P1, and *20B2P1*

Then go to paragraph 8-2.

NO ↓

Check for continuity:

| FROM | TO |
|---|---|
| 21J2-k | 21J2-d |
| 21J2-k | 21J2-n |
| 21J2-k | airframe ground |

Is continuity present in any test?

YES →

Repair wire TG361B22 (WHT) between 21J2-k and splice to eliminate short.

Install s lice joining wires TG361A22(WHT), TG361B22 (WHT), and TG361C22 per TM 55-1520-236-23, Chapter 9, Section I.

Install right wing per TM 55-1520-236-23, Chapter 2, Sect- ion IV.

Connect 20A12P1 and 20L3P1.

Then go to paragraph 8-2.

NO ↓

Repair wire TG361C22 between 20J331-Z and splice to elimi- nate short.

Install s lice joining wires TG361A22 WHT), TG361B22 (WHT), and TG361C22 per TM 55-1520- 236-23, Chapter 9, Section I.

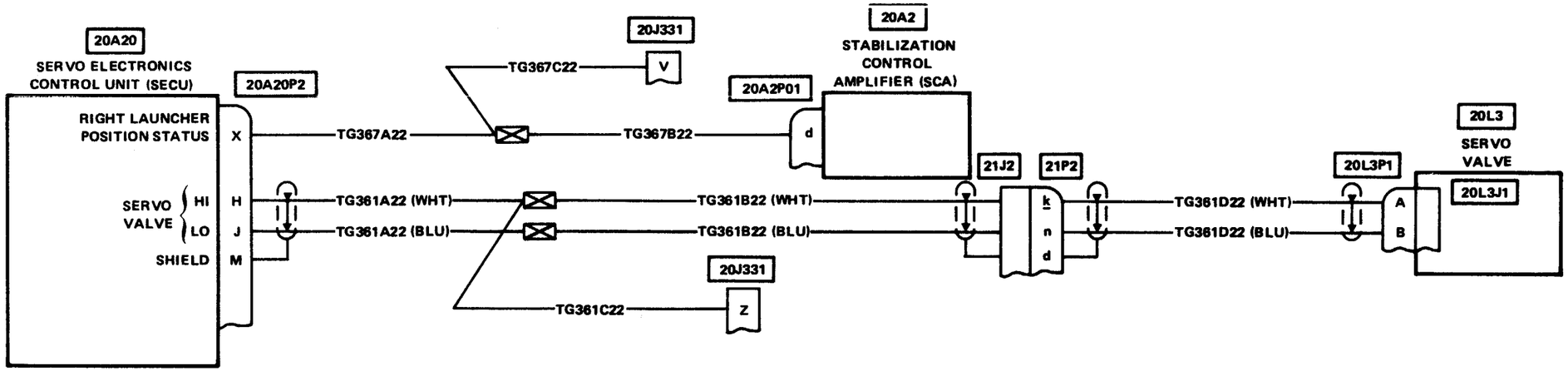
Install right wing per TM 55- 1520-236-23, Chapter 2, Section IV.

Connect 20A12P1 and 20L3PI.

Then go to paragraph 8-2.

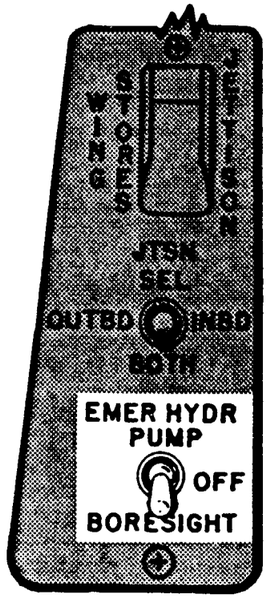
RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT O DEGREES ELEVATION) (CONTINUED) .

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED) .

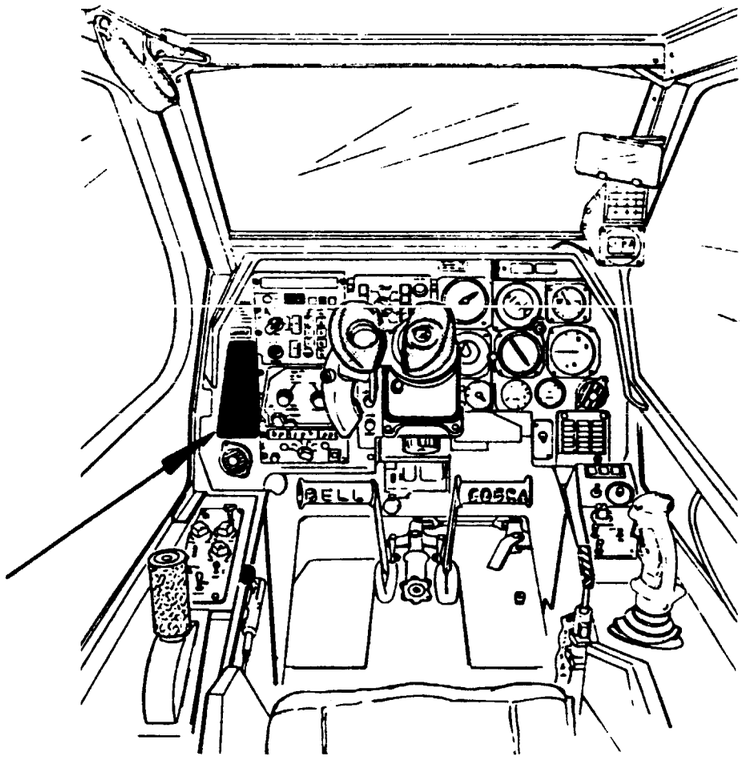


8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED) .

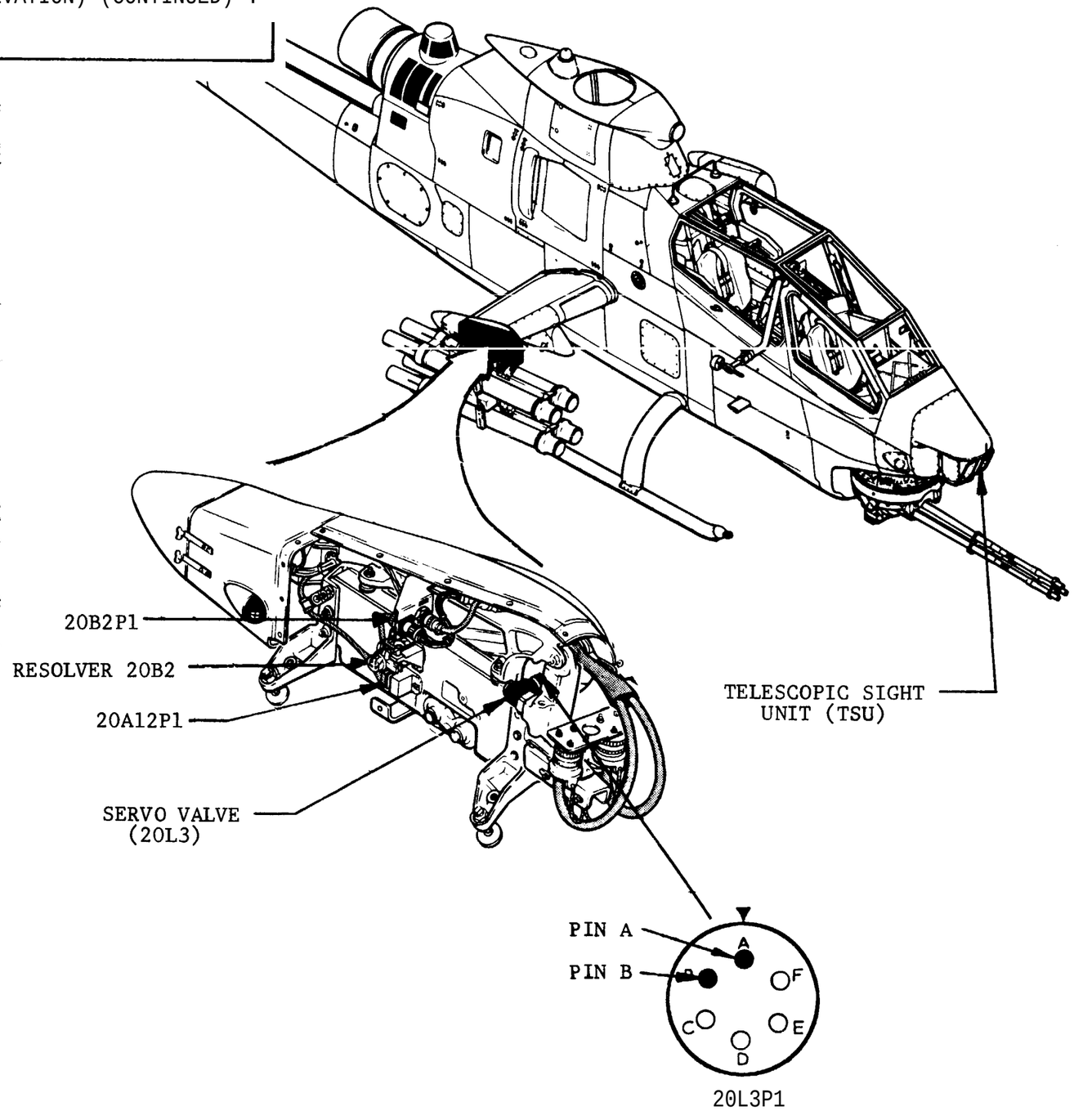
F. TROUBLESHOOTING LOGIC PART SIX.




SWITCH PANEL

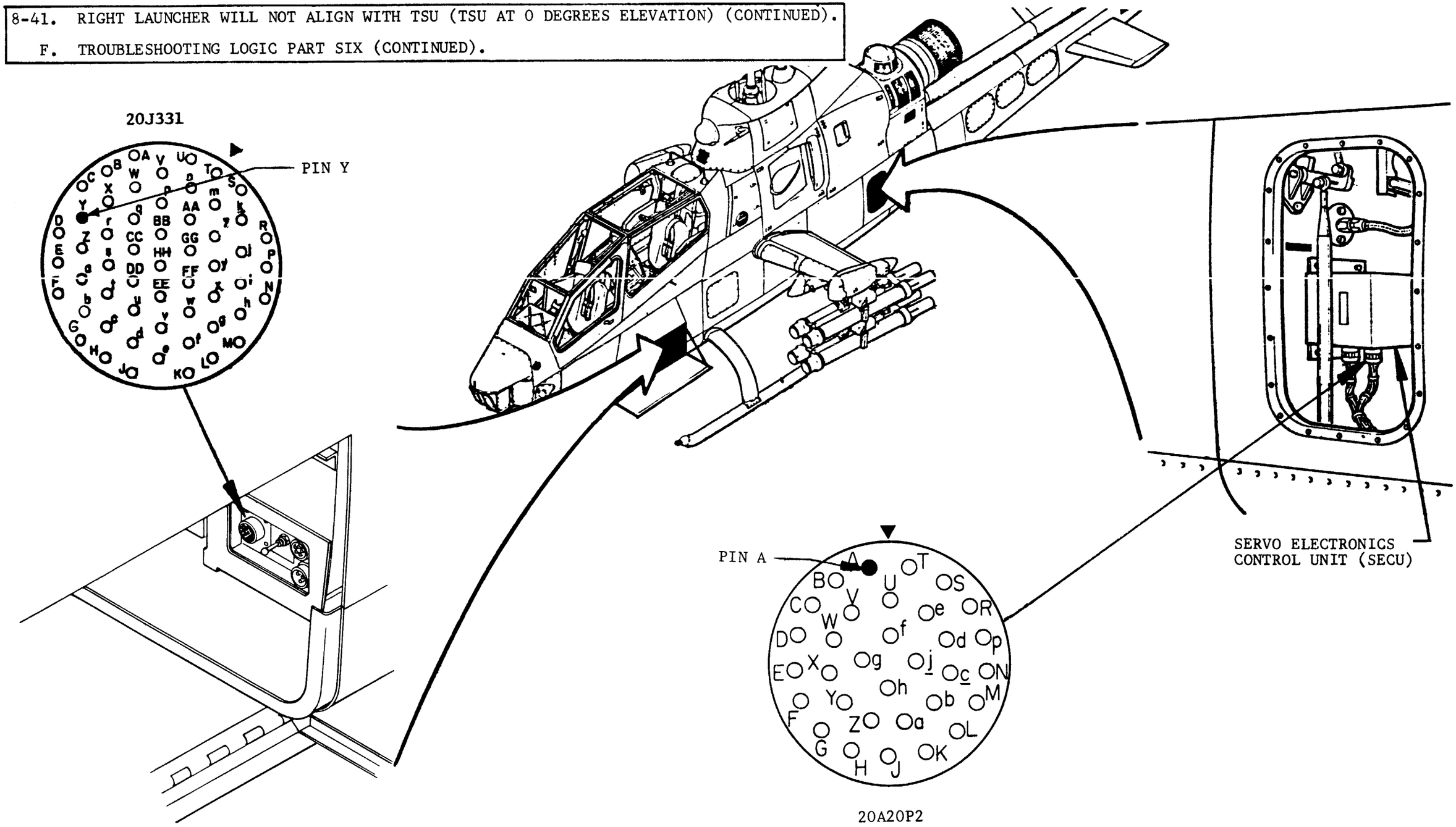



GUNNER STATION



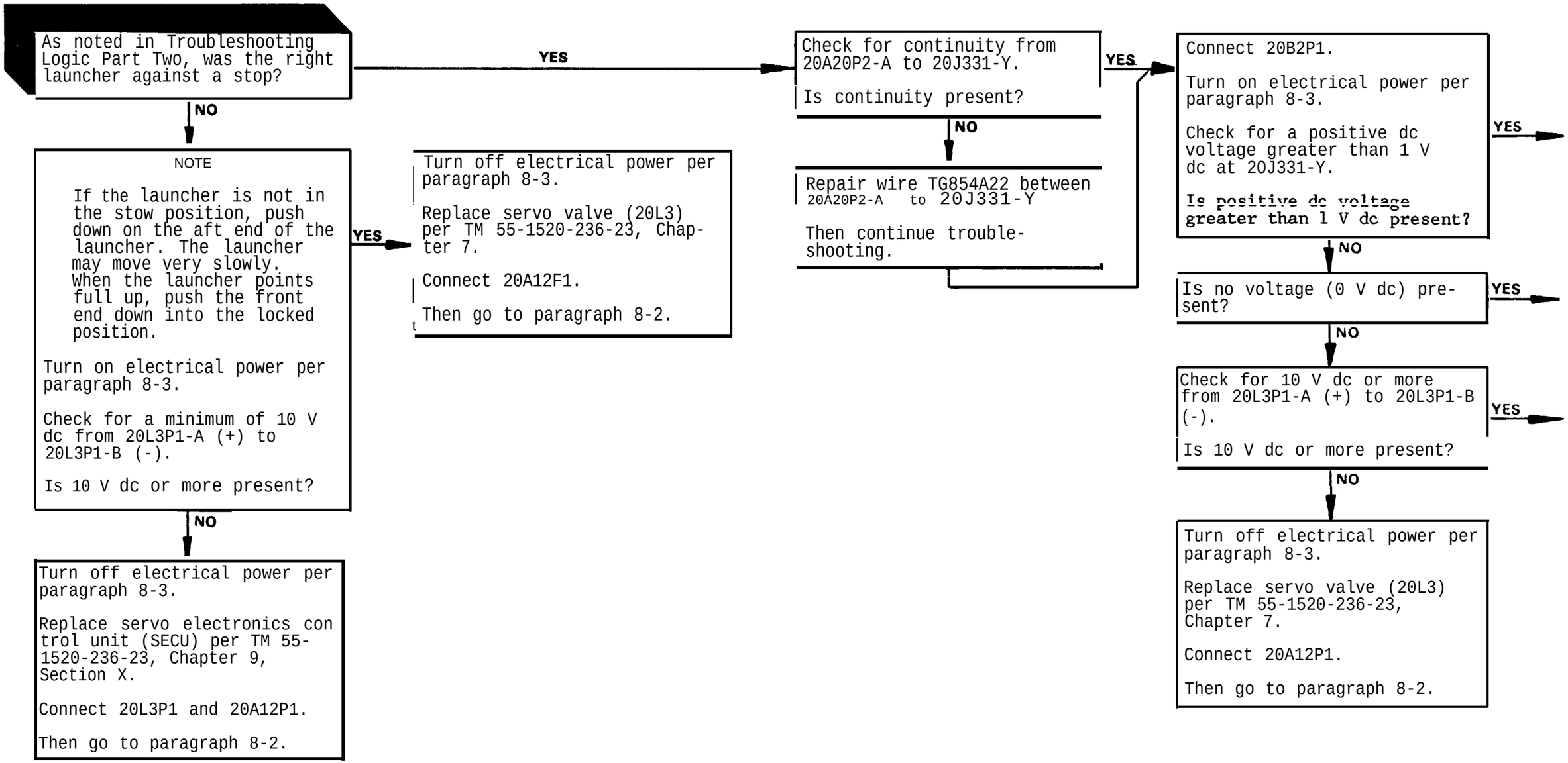
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).

Check for 10 V dc or more from 20L3P1-A (+) to 20L3P1-B (-).

Is 10 V dc or more present?

YES → Turn off electrical power per paragraph 8-3.

Replace servo valve (20L3) per TM 55-1520-236-23, Chapter 7.

Connect 20A12P1.

Then go to paragraph 8-2.

NO → Replace servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Connect 20L3P1.

Turn on electrical power per paragraph 8-3.

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to BORESIGHT.

Does the right launcher align with the telescopic sight unit (TSU)?

YES → Connect 20A12P1.

Then go to paragraph 8-2.

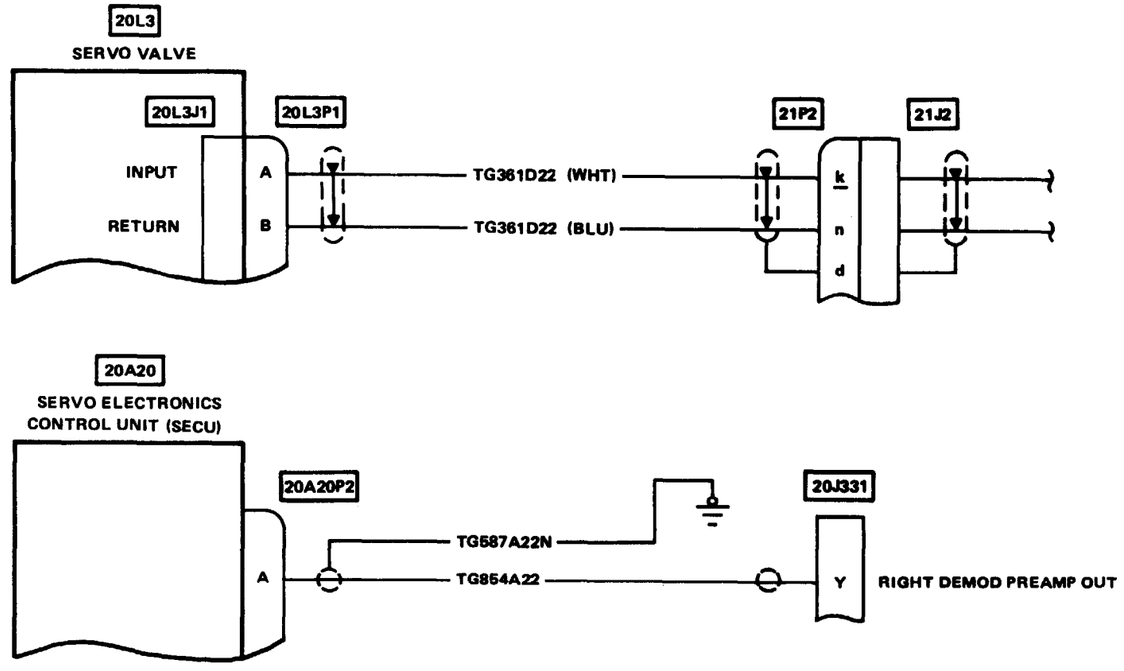
NO → Turn off electrical power per paragraph 8-3.

Reinstall original servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Replace right resolver (20B2) per TM 55-1520-236-23, Chapter 16.

Connect 20A12P1.

Then go to paragraph 8-2.



## 8-42. RIGHT LAUNCHER OSCILLATES VIOLENTLY.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

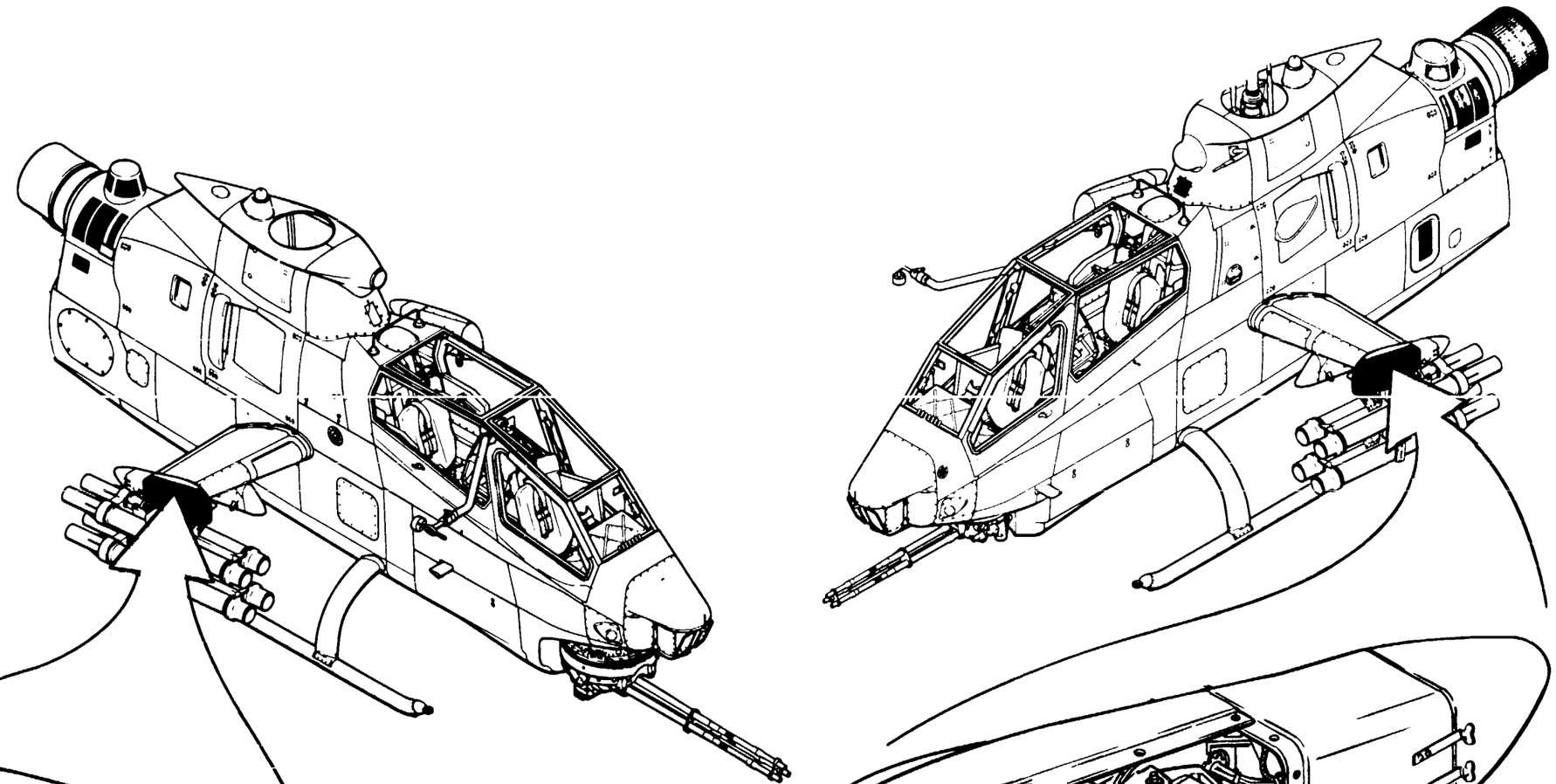
References
TM 55-1520-236-23

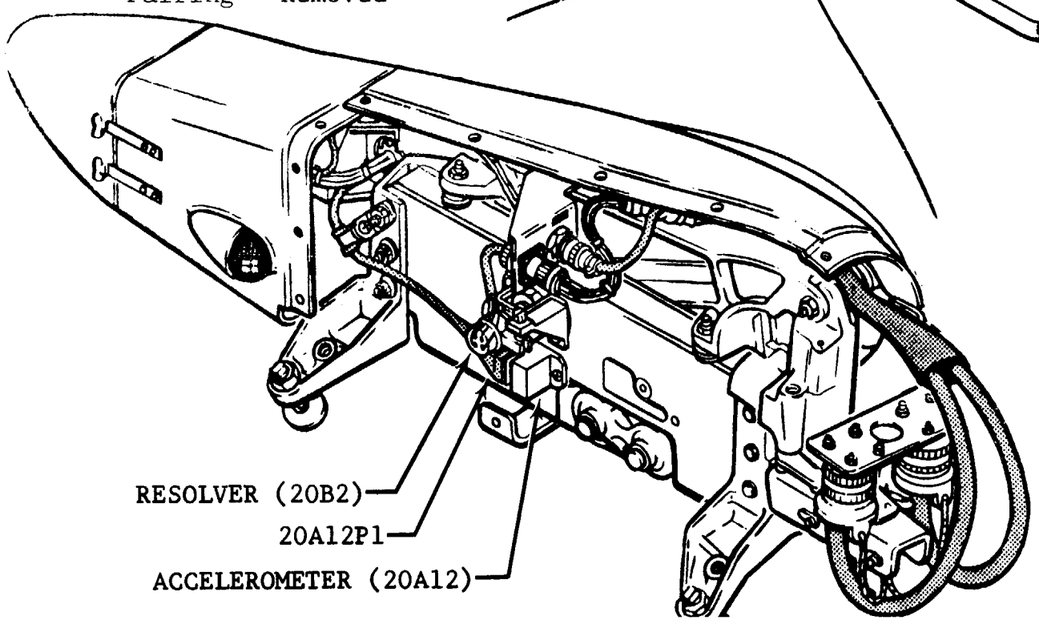
Access Panels
Servo Electronic Control Unit - Removed

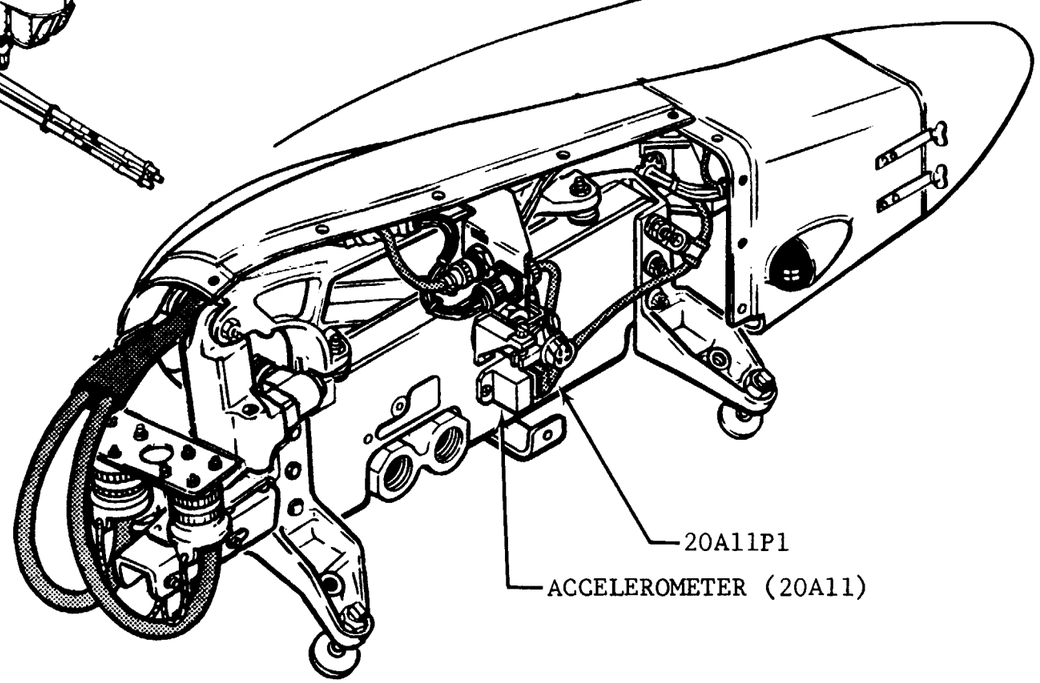
Left Ammo Compartment Door - Open

Right Outboard Pylon Fairing - Removed

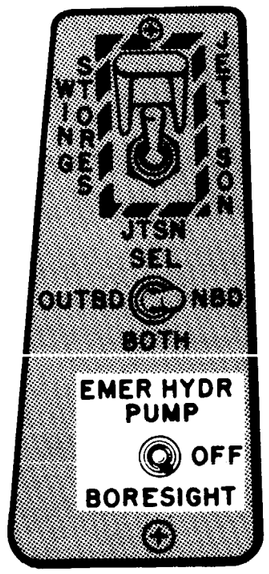
Left Outboard Pylon Fairing - Removed



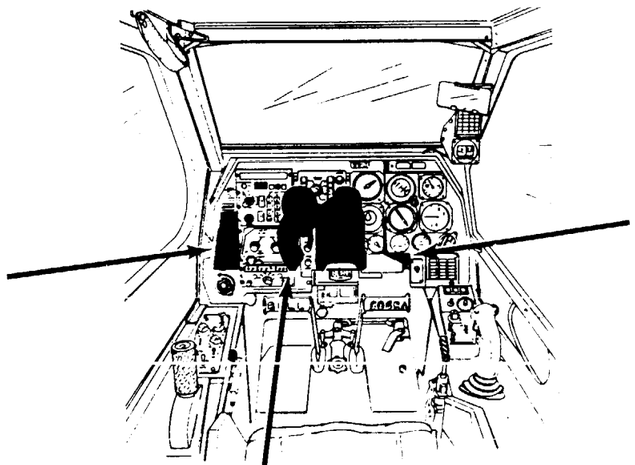


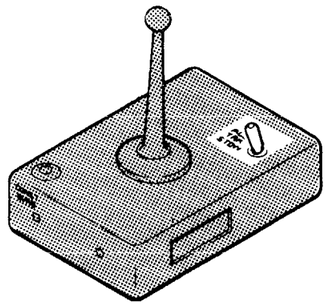
8-42. RIGHT LAUNCHER OSCILLATES VIOLENTLY (CONTINUED).



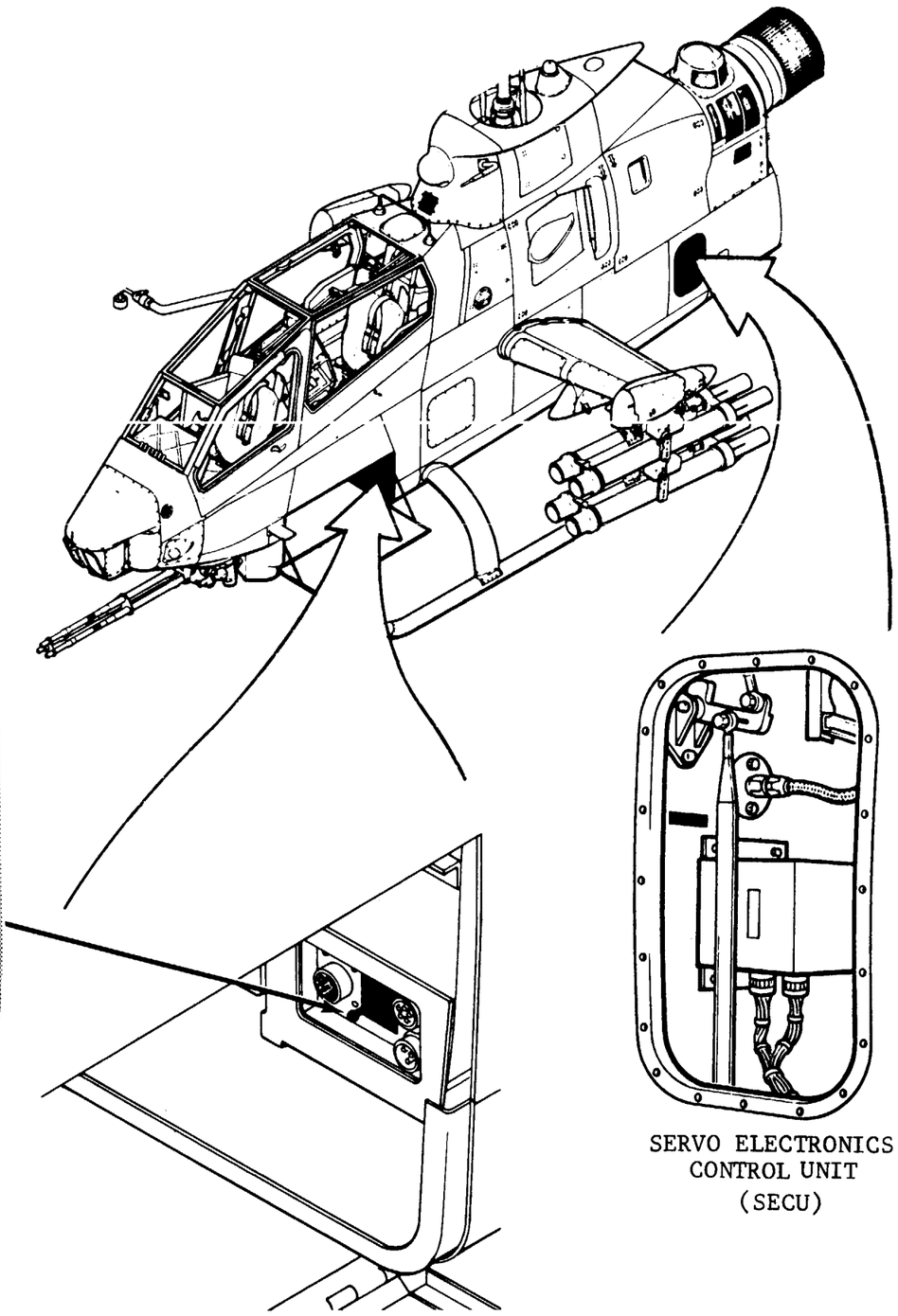

SWITCH PANEL

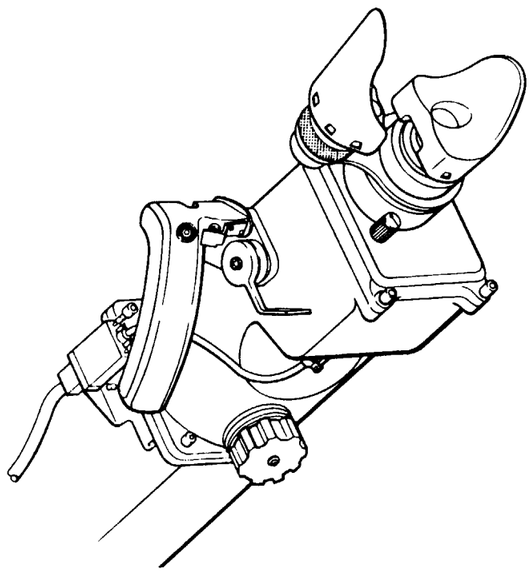


GUNNER STATION

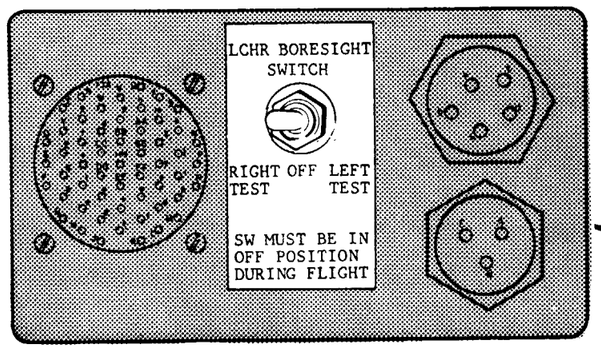


SIGHT HAND CONTROL





TELESCOPIC SIGHT UNIT (TSU)




LCHR BORESIGHT SWITCH



SERVO ELECTRONICS CONTROL UNIT (SECU)

8-42. RIGHT LAUNCHER OSCILLATES VIOLENTLY (CONTINUED).

On gunner instrument panel:

Set EMER HYDR PUMP/BORES IGHT switch to OFF.

Look into telescopic sight unit (TSU) eyepiece.

Is the telescopic sight unit (TSU) oscillating?

YES → Go to paragraph 8-12.

NO ↓

On sight hand control:

Set ACQ/TRK/STOW switch to STOW*

On aft bulkhead of ammo compartment:

Set LCHR BORESIGHT SWITCH to RIGHT TEST.

Turn off electrical power per paragraph 8-3.

Disconnect 20A12P1.

Turn on electrical power per paragraph 8-3.

On gunner instrument panel:

Set EMER HYDR PUMP/BORE-SIGHT switch to BORESIGHT.

Does right launcher oscillate

YES →

Turn off electrical power per paragraph 8-3.

Disconnect 20AllPl.

Turn on electrical power per paragraph 8-3.

Does right launcher oscillate?

YES →

Turn off electrical power per paragraph 8-3.

Visually inspect right resolver for loose shaft coupling or mounting.

Are coupling or mounting loose?

YES →

Replace right resolver (20B2) per TM 55-1520-236-23, Chapter 16.

Connect 20A11P1 and 20A12P1.

Then go to paragraph 8-2.

NO ↓

Replace servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Connect 20A11P1 and 20A12P1.

Then go to paragraph 8-2.

NO ↓

Turn off electrical power per paragraph 8-3.

Replace left accelerometer (20A11) per TM 55-1520-236-23 Chapter 16.

Connect 20A12P1.

Then go to paragraph 8-2.

NO ↓

Turn off electrical power per paragraph 8-3.

Replace right accelerometer (20A12) per TM 55-1520-236-23, Chapter 16.

Then go to paragraph 8-2,

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## 8-43. RIGHT LAUNCHER STAYS AT 0 DEGREES ELEVATION.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

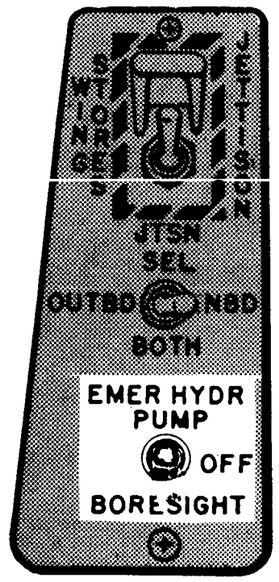
Personnel Required
68J (2)

References
TM 11-1520-236-23
TM 55-1520-236-23

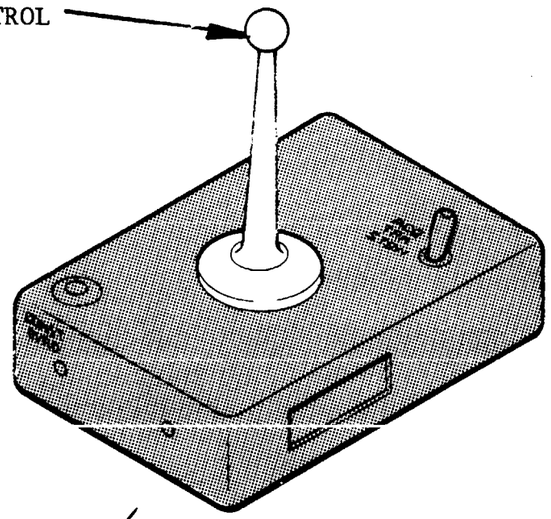
Access Panels
Ammo Compartment Left Door - Open

Servo Electronics Control Unit - Removed

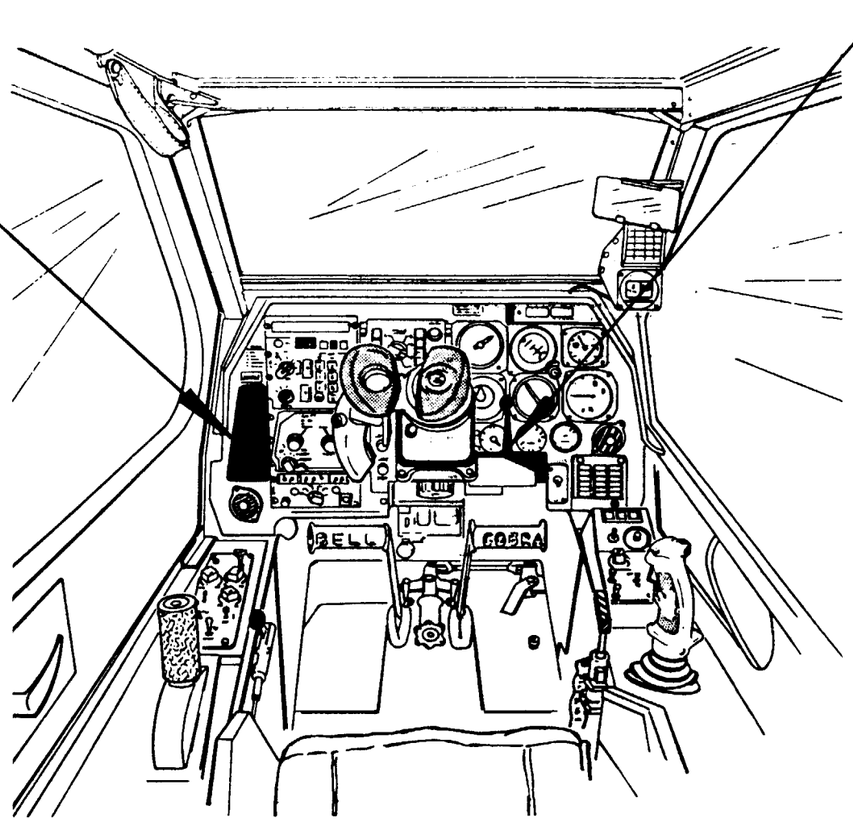
Right Outboard Pylon Fairing - Removed




SWITCH PANEL

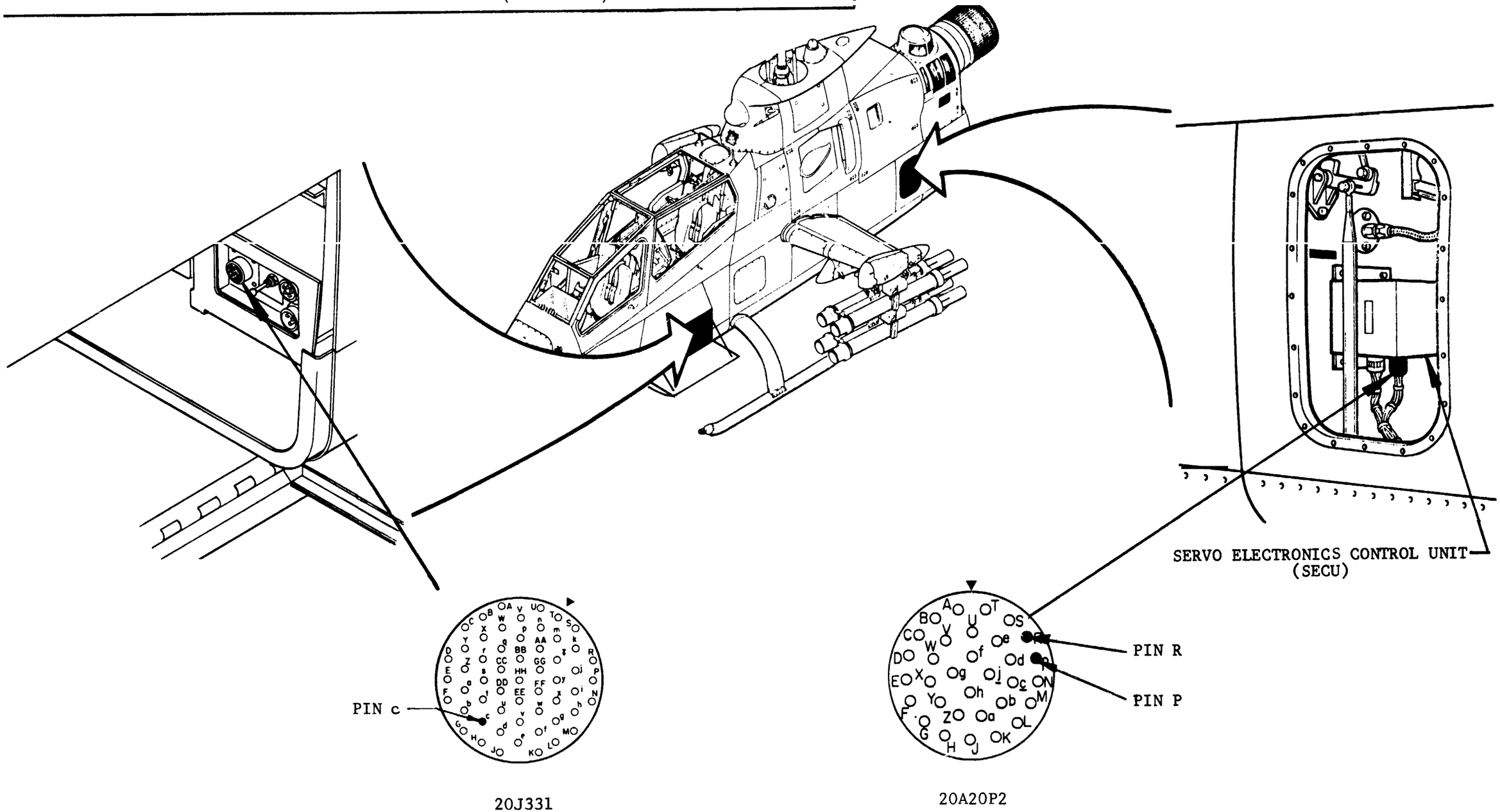



SIGHT HAND CONTROL

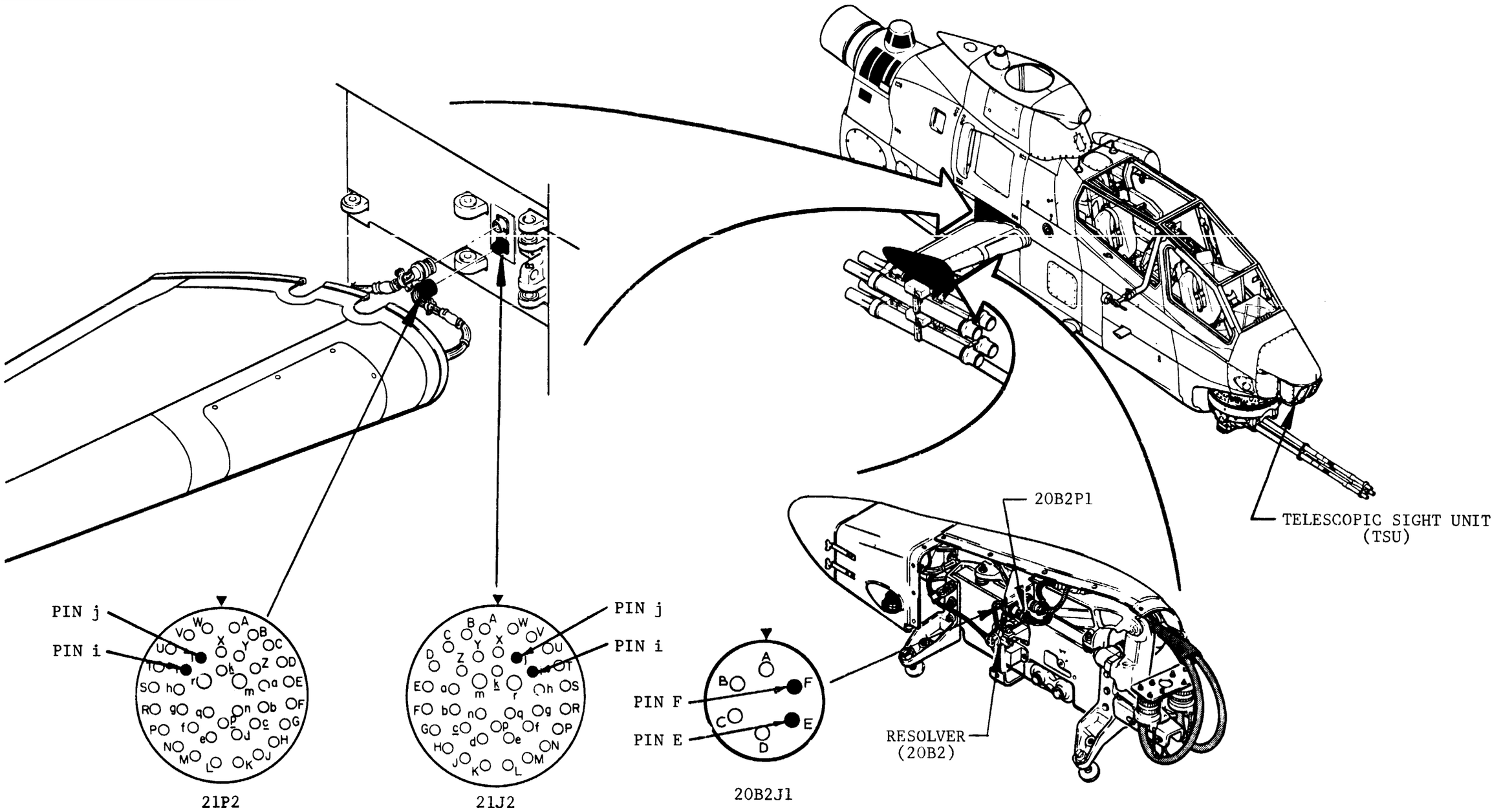



GUNNER STATION

8-43. RIGHT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



8-43. RIGHT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



8-43. RIGHT LAUNCHER STAYS AT 0 DEGREES ELEVATION ( CONTINUED).

On gunner instrument panel:

Set EMER HYDR PUMP/BORESIGHT switch to OFF.

Turn off electrical power per paragraph 8-3.

Disconnect 20B2P1.

Turn on electrical power per paragraph 8-3.

On sight hand control:

Press forward on track control stick until the telescopic sight unit (TSU) points downward as far as it will go.

With the TSU still pointing down:

Check for 7 V ac or more from 20B2J1-E to 20B2J1-F.

Is 7 V ac or more present?

YES → Turn off electrical power per paragraph 8-3.

Replace right resolver (20B2) per TM 55-1520-236-23, Chapter 16.

Connect 20B2P1.

Then go to paragraph 8-2.

NO → Turn off electrical power per paragraph 8-3.

Check for continuity from 20B2J1-E to 20A20P2-P.

Is continuity present?

YES → Remove fright wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 20B2J1-E to 21P2-i.

Is continuity present?

YES → Repair wire TG355B22 (WHT) between 21J2-i and splice.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 20B2P1.

Then go to paragraph 8-2.

NO → Repair wire TG355D22 (WHT) between 20B2J1-E and 2P2-i.

Install right wing per ‘ill 55-1520-236-23, Chapter 2, Section IV.

Connect 20B2P1.

Then go to paragraph 8-2.

NO → Check for continuity from 20J331-c to 20A20P2-P.

Is continuity present?

YES → Repair wire TG355A22 (WHT) between 20A20P2-P and splice.

Connect 20B2P1.

Then go to paragraph 8-2.

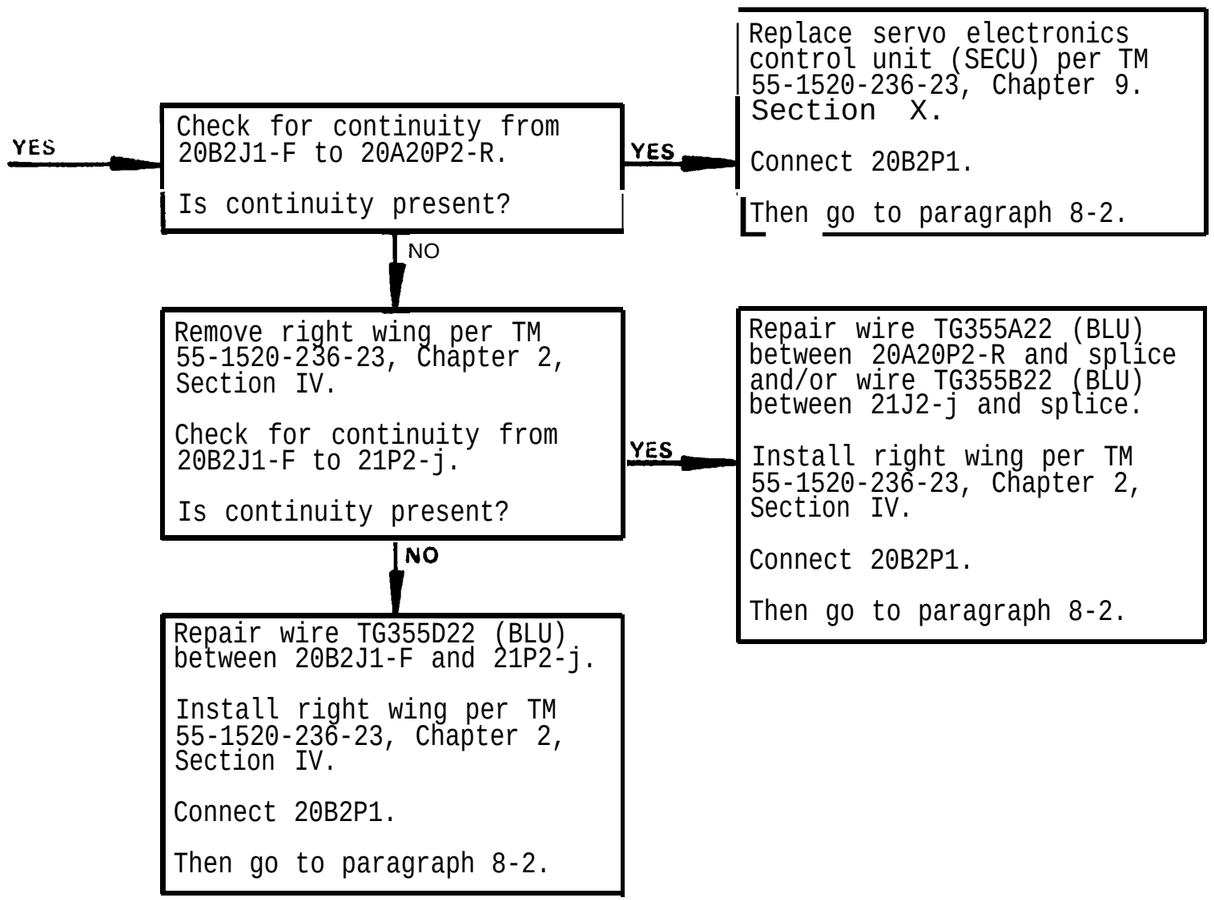
No → Turn off electrical power per paragraph 8-3.

Replace right resolver (20B2) per TM 55-1520-236-23, Chapter 16.

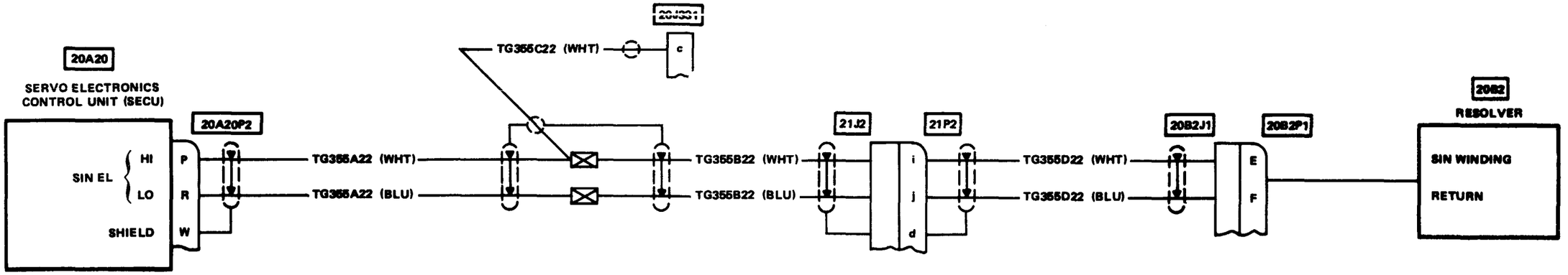
Connect 20B2P1.

Then go to paragraph 8-2.

8-43. RIGHT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



8-43. RIGHT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



## 8-44. RIGHT TOW LAUNCHER WILL NOT STOW.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

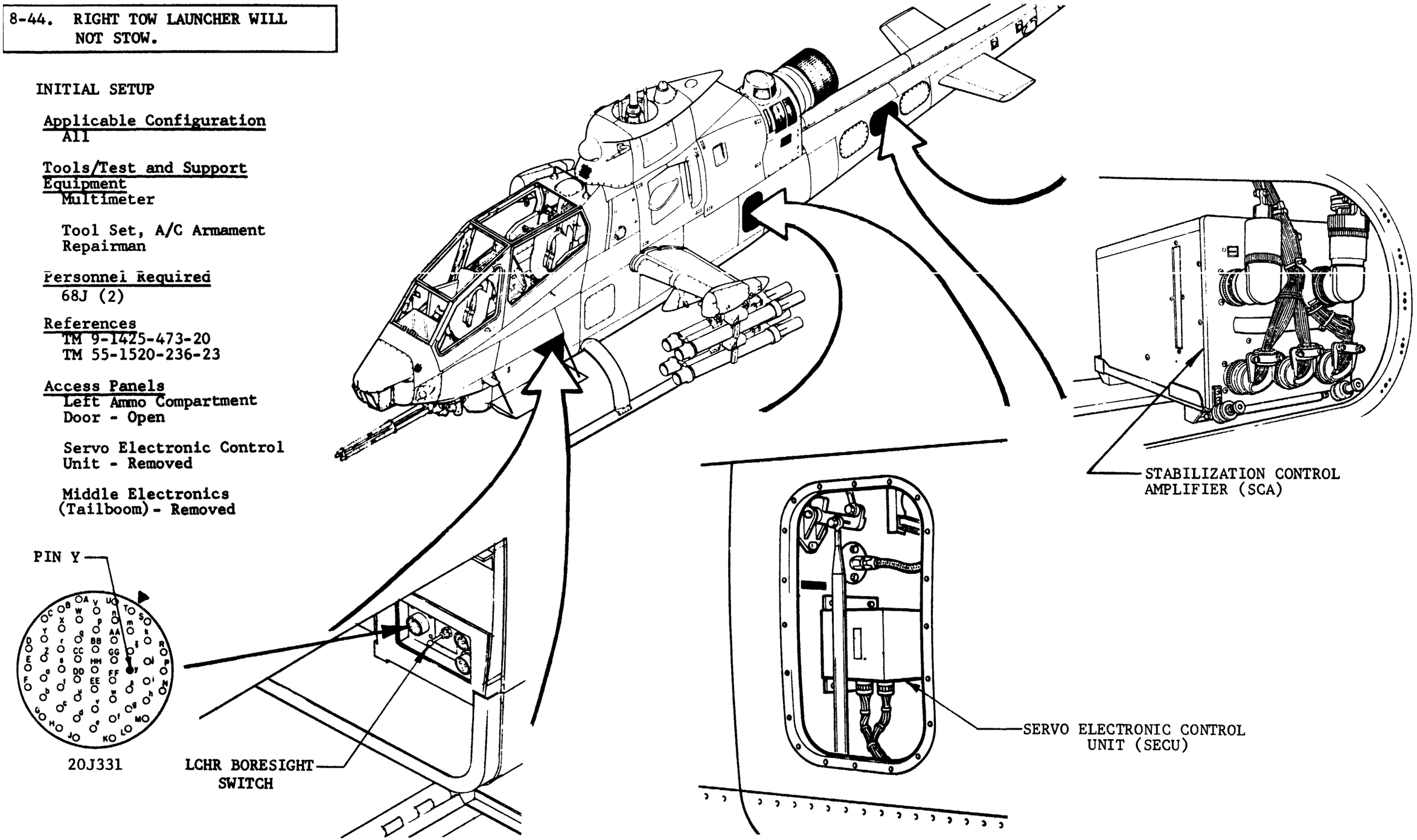
Personnel Required
68J (2)

References
TM 9-1425-473-20
TM 55-1520-236-23

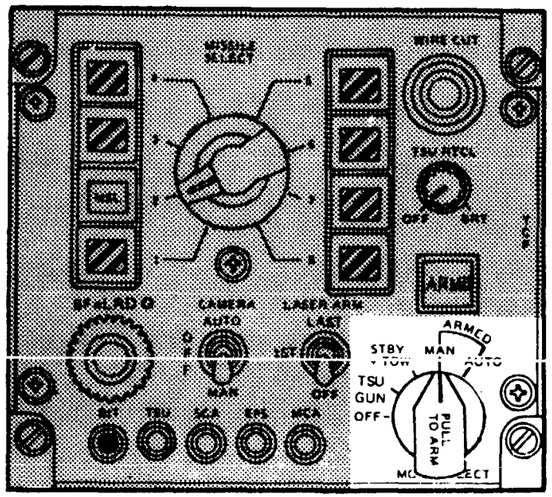
Access Panels
Left Ammo Compartment Door - Open

Servo Electronic Control Unit - Removed

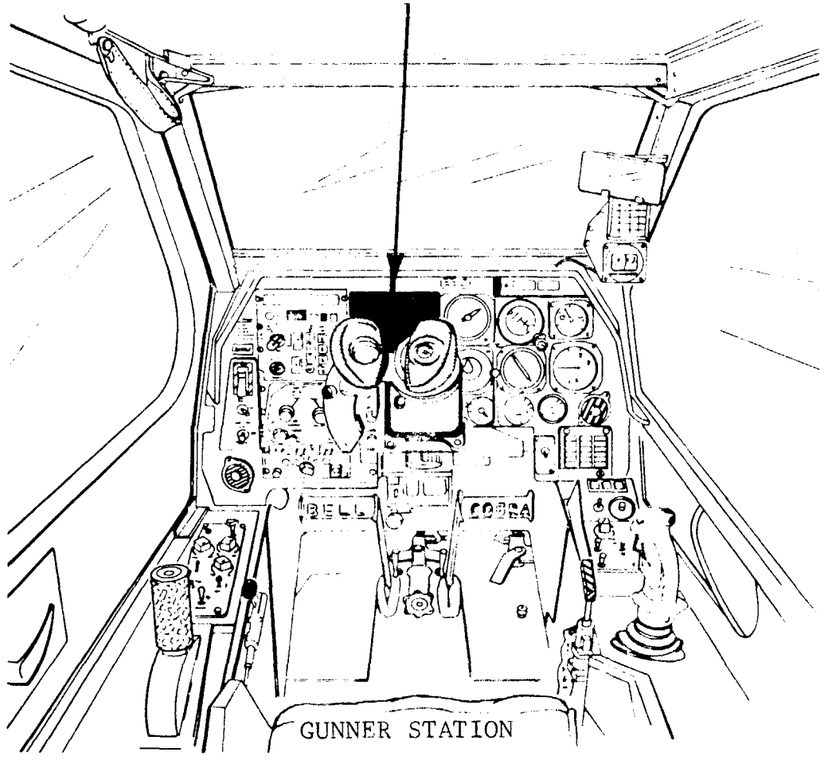
Middle Electronics (Tailboom) - Removed



8-44. RIGHT TOW LAUNCHER WILL NOT STOW (CONTINUED).




TCP (TOW CONTROL PANEL)




On TCP (TOW control panel):

Verify MODE SELECT switch is set to ARMED MAN.

On aft bulkhead of ammo compartment:

Verify LCHR BORESIGHT SWITCH is set to OFF.

Check for 28 V dc at 20J331-y.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Replace stabilization control amplifier (SCA) per TM 9-1425-473-20, Chapter 2, Section V.

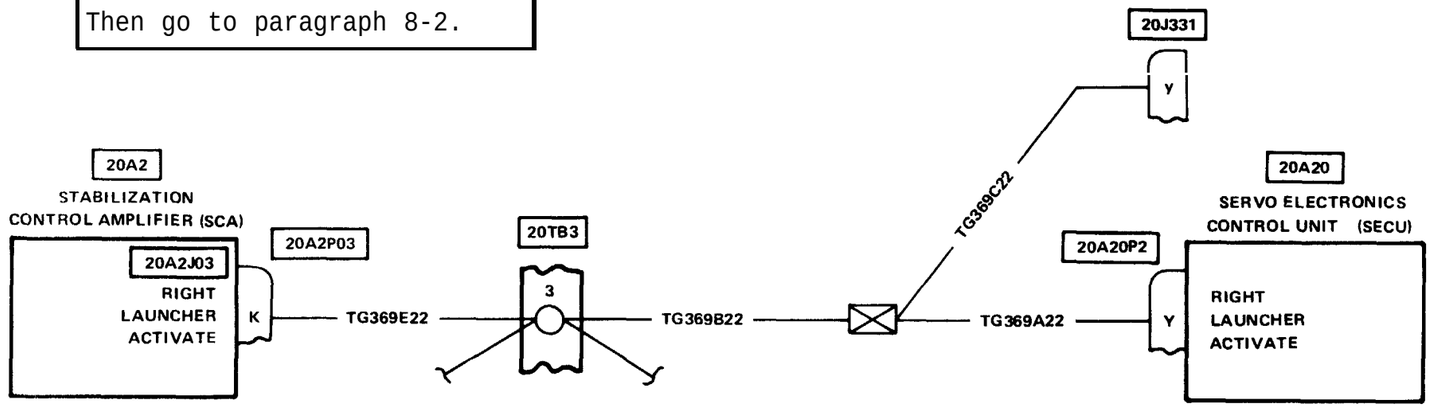
Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Replace servo electronic control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Then go to paragraph 8-2.



## 8-45. TWO OR MORE BIT INDICATORS ON TCP SHOW WHITE (FAILED).

INITIAL SETUP

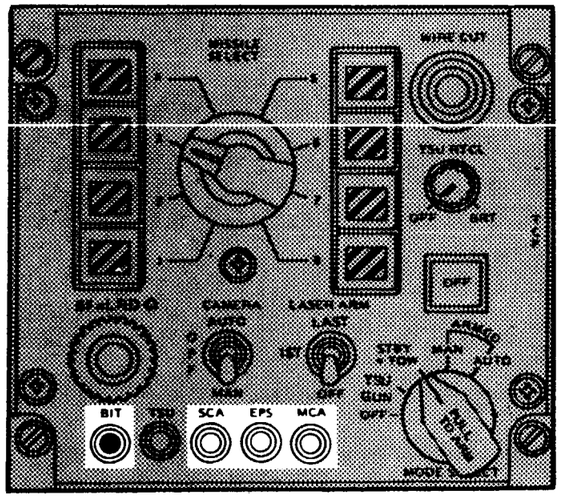
**Applicable Configuration**
**All**

Tools/Test and Support Equipment
**Multimeter**

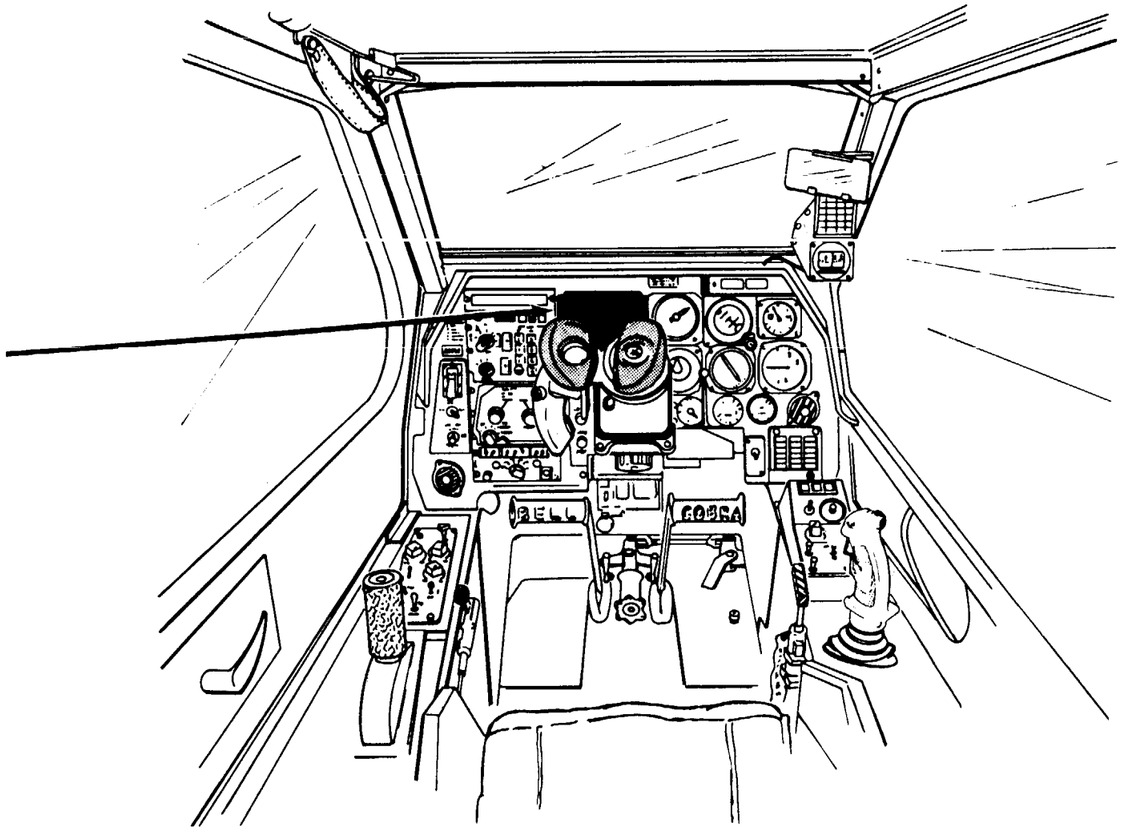
Tool Set, A/C Armament Repairman

Personnel Required
68J (1)

-References
TM 9-1425-473-20

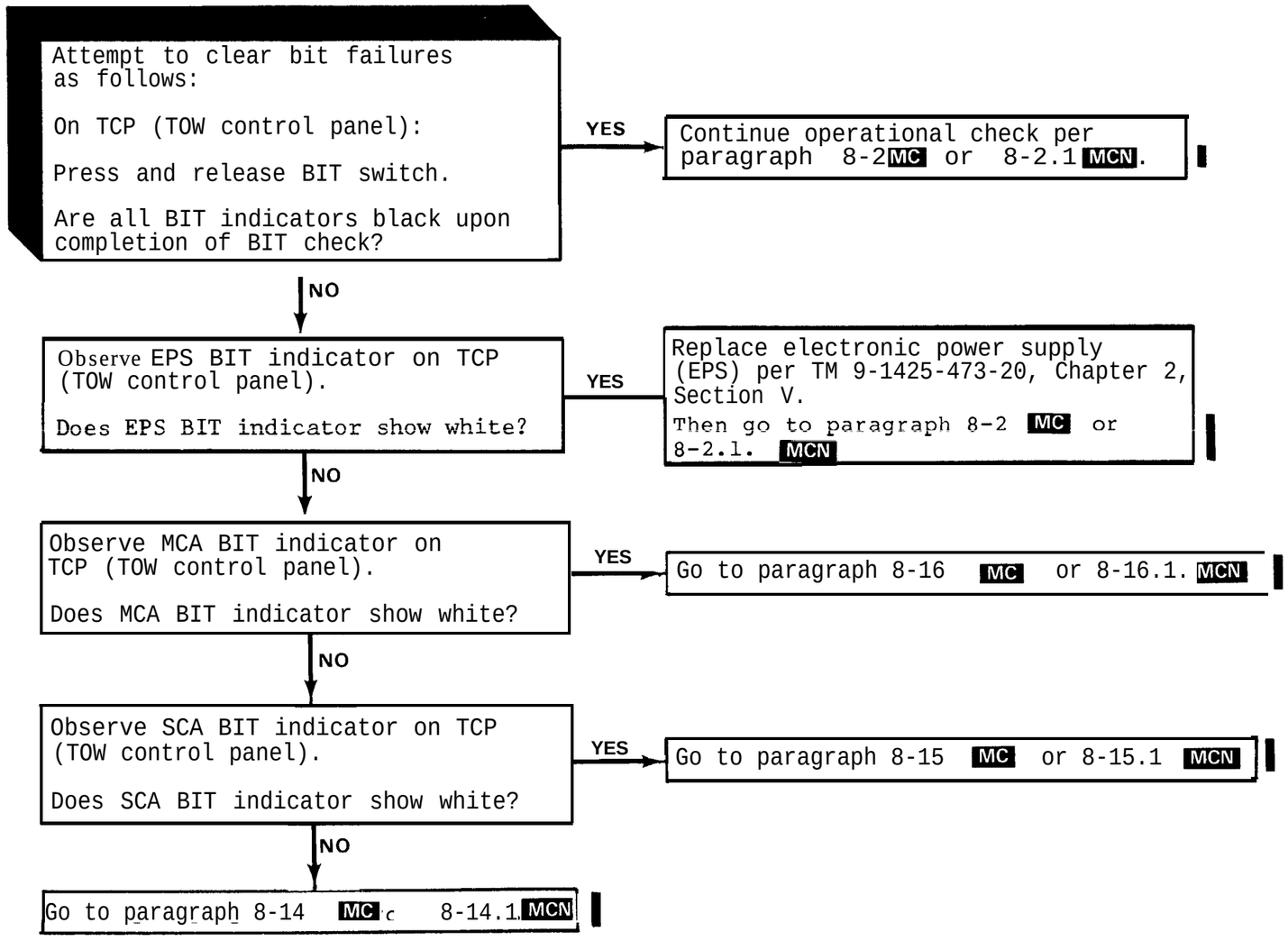



TCP (TOW CONTROL PANEL)




GUNNER STATION

8-45. TWO OR MORE BIT INDICATORS ON TCP SHOW WHITE (FAILED) (CONTINUED).



## 8-46. NO MISSILE WIRECUT FROM PILOT COLLECTIVE STICK.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

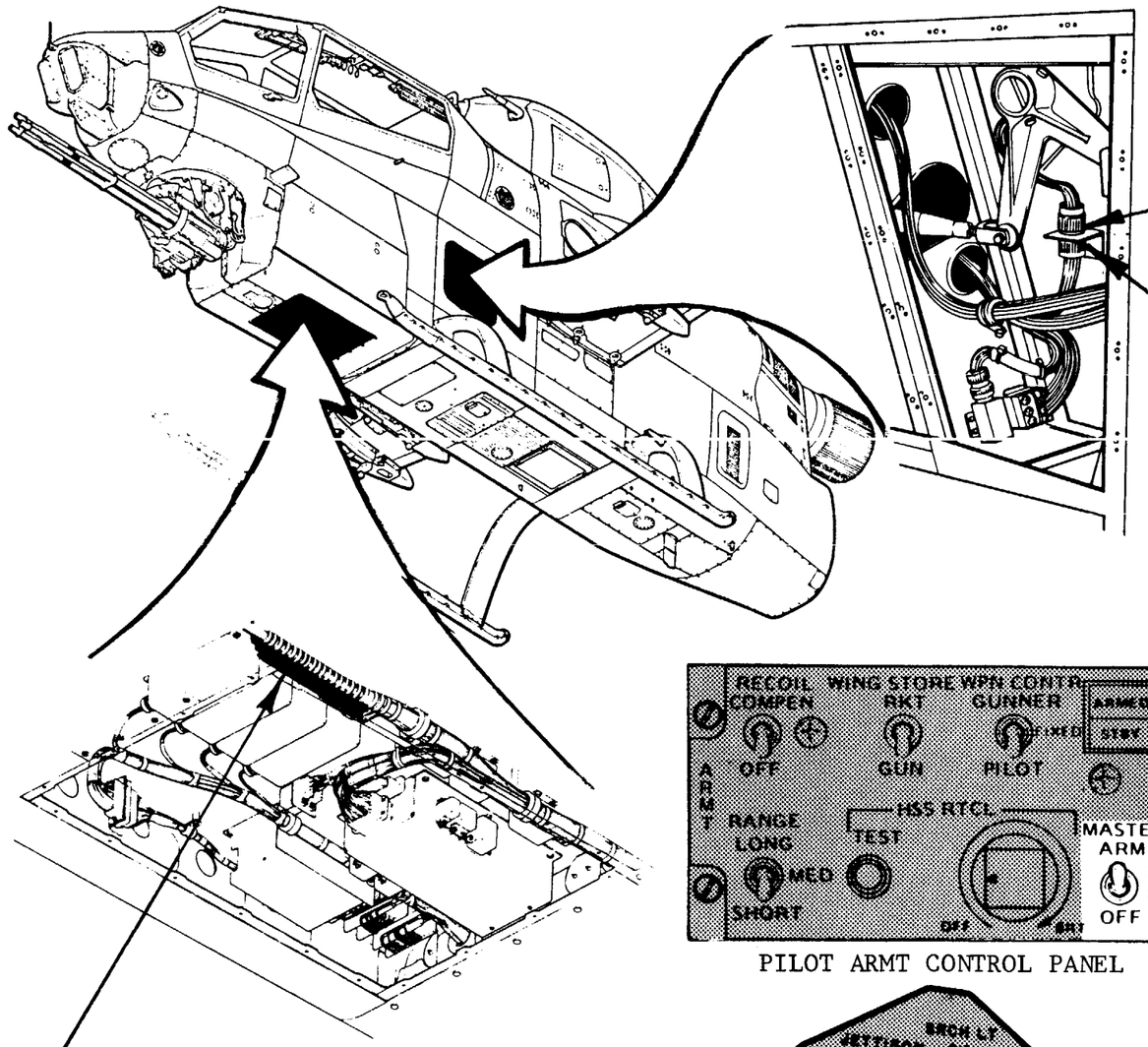
References
TM 9-1425-473-20
TM 55-1520-236-23

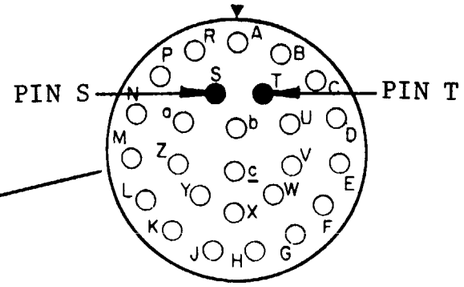
Access Panels
Forward Belly Armament and Lighting - Removed

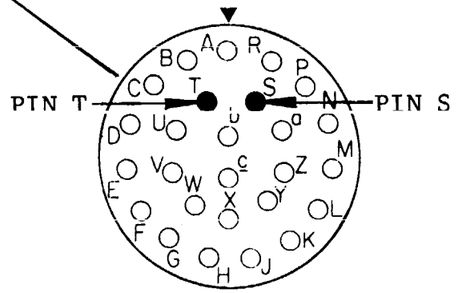
Aft Left Side Control Linkage - Removed

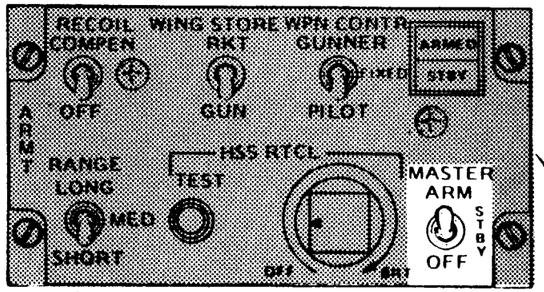
Left Wing Fairing Access Door - Open

Right Wing Fairing Access Door - Open

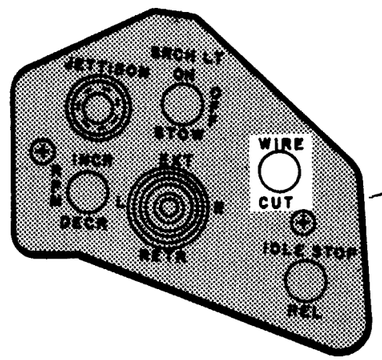




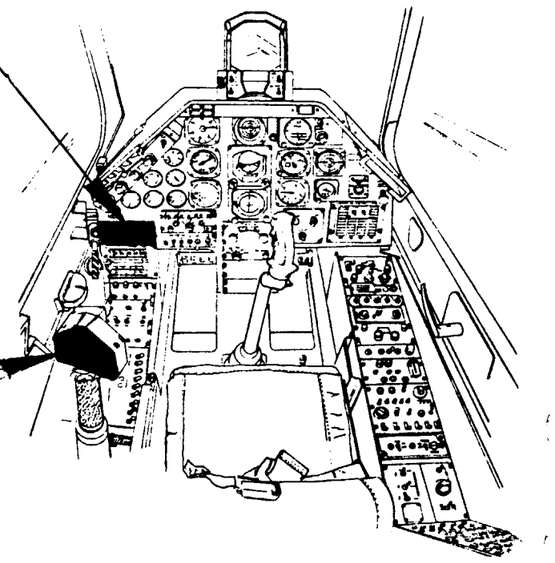



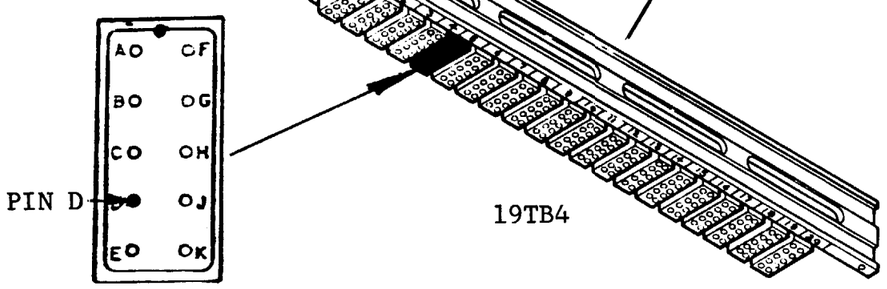

PILOT ARMT CONTROL PANEL




PILOT COLLECTIVE STICK

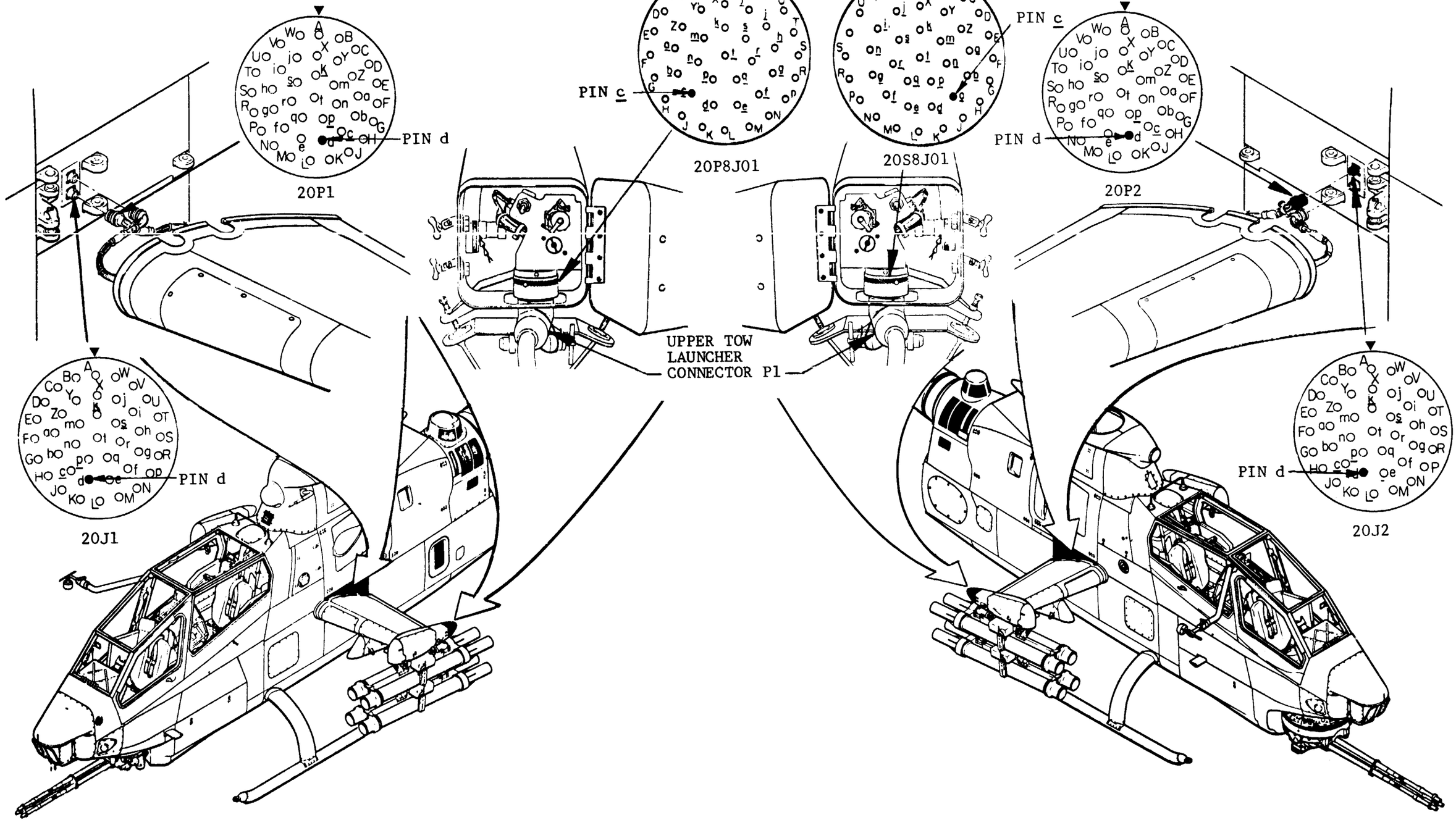


PILOT STATION




MODULE 5

8-46. NO MISSILE WIRECUT FROM PILOT COLLECTIVE STICK (CONTINUED).



8-46. NO MISSILE WIRECUT FROM PILOT COLLECTIVE STICK (CONTINUED).

Did wirecut failure occur on a missile fired from right side launcher?

YES

Turn off electrical power per paragraph 8-3.

Disconnect upper right TOW launcher connector P1 from 20S8J01.

Turn on electrical power per paragraph 8-3.

On pilot ARMT control panel:

Set MASTER ARM switch to ARM.

On pilot collective stick:

Press and hold WIRE CUT switch.

Check for 28 V dc between 20S8J01-c and airframe ground.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Replace right launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Turn off electrical power per paragraph 8-3.

Disconnect upper left TOW launcher connector P1 from 20P8J01.

Turn on electrical power per paragraph 8-3.

On pilot ARMT control panel:

Set MASTER ARM switch to ARM.

On pilot collective stick:

Press and hold WIRE CUT switch.

Check for 28 V dc between 20P8J01-c and airframe ground.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Replace left launcher per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.

NO

Check for 28 V dc between 19TB4-5D and airframe ground.

Is 28 V dc present?

YES

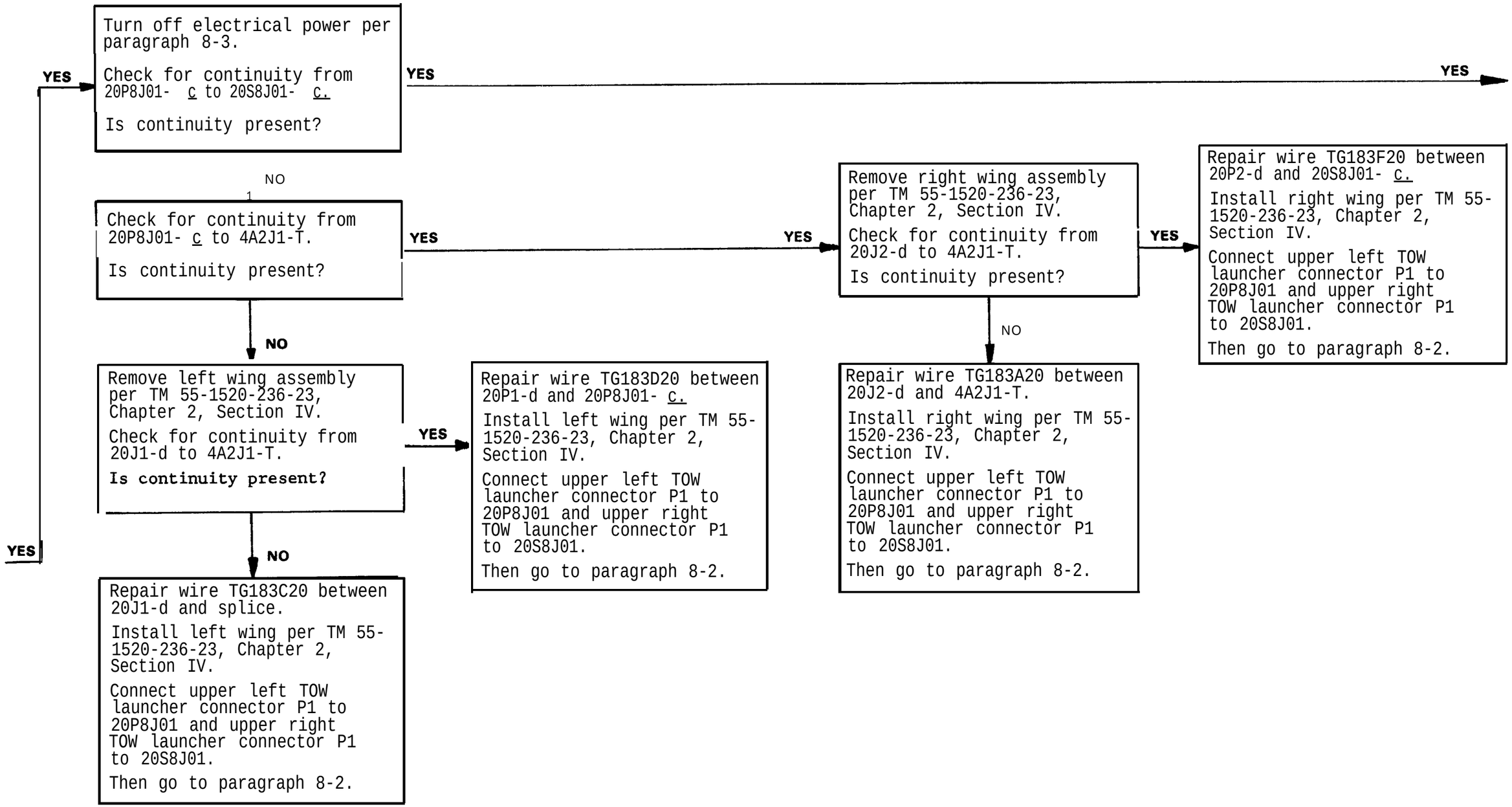
NO

Turn off electrical power per paragraph 8-3.

Connect left and right launcher connectors P1 to 20P8J01 and 20S8J01.

Then go to paragraph 9-32.

8-46. NO MISSILE WIRECUT FROM PILOT COLLECTIVE STICK (CONTINUED).



8-46. NO MISSILE WIRECUT FROM PILOT COLLECTIVE STICK (CONTINUED).

YES

Check for continuity from 20P8J01- C to 4A2J1-T.

Is continuity present?

NO

Repair wire TG183B20 between 4A2J1-T and splice.

Connect upper left TOW launcher connector P1 to 20P8J01.

Connect upper right TOW launcher connector P1 to 20S8J01.

Then go to paragraph 8-2.

YES

On pilot collective stick:

Press and hold WIRE CUT switch.

Check for continuity from 4A2P1-S to 4A2P1-T.

Is continuity present?

NO

Replace pilot collective stick per TM 55-1520-236-23, Chapter 2, Section 1.

Connect upper left TOW launcher connector P1 to 20P8J01.

Connect upper right TOW launcher connector P1 to 20S8J01.

Then go to paragraph 8-2.

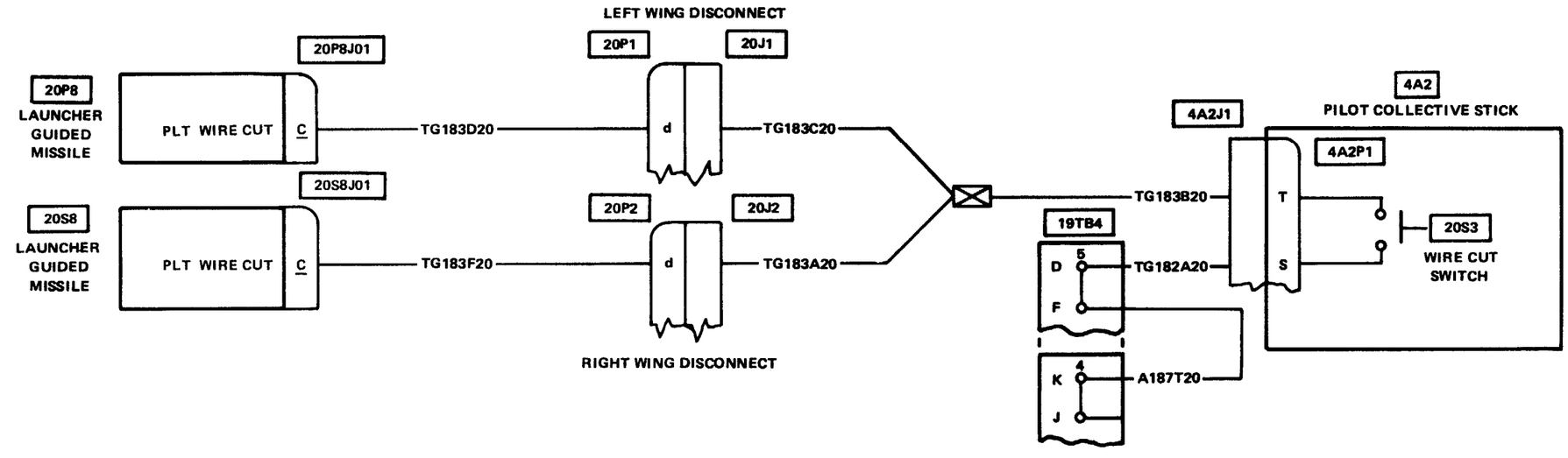
YES

Repair wire TG182A20 between 19TB4-5D and 4A2J1-S.

Connect upper left TOW launcher connector P1 to 20P8J01.

Connect upper right TOW launcher connector P1 to 20S8J01.

Then go to paragraph 8-2.



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## 8-47. TSU IMAGE WILL NOT CHANGE BETWEEN DAY AND NIGHT MODE.

INITIAL SETUP

Applicable Configuration
AH-1S MCN

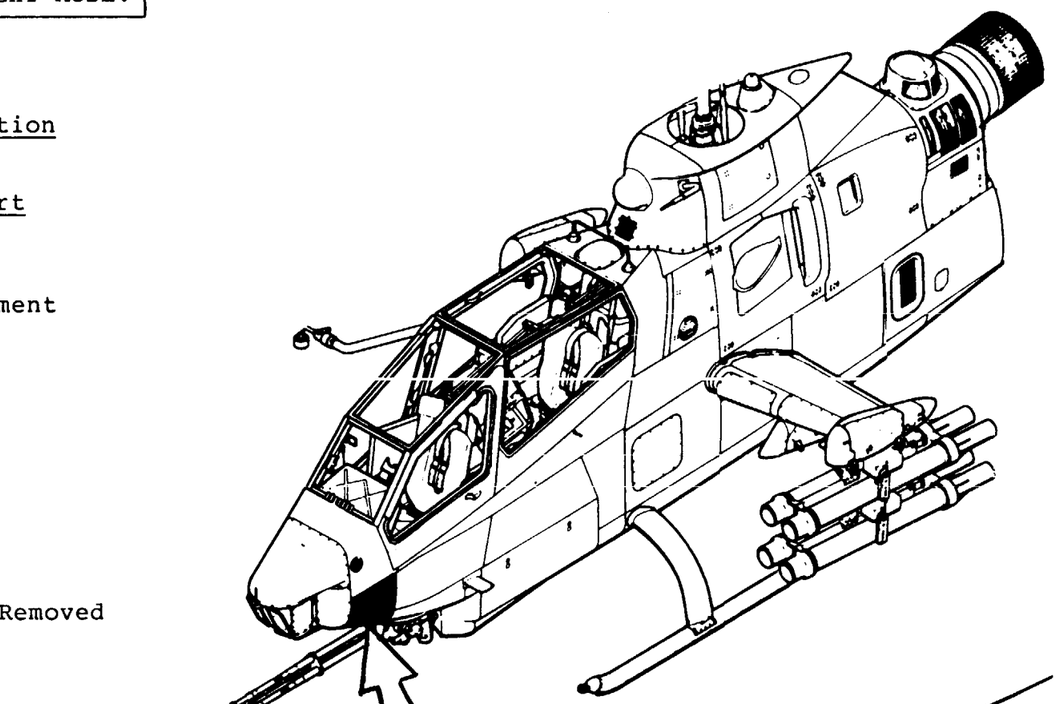
Tools/Test and Support Equipment
Multimeter

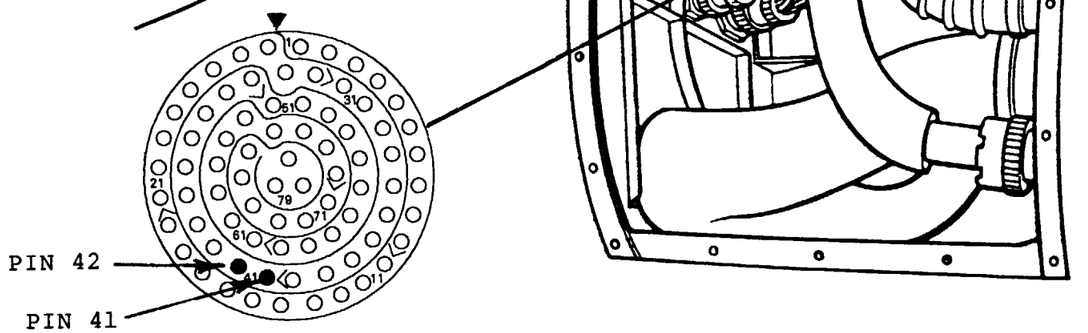
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

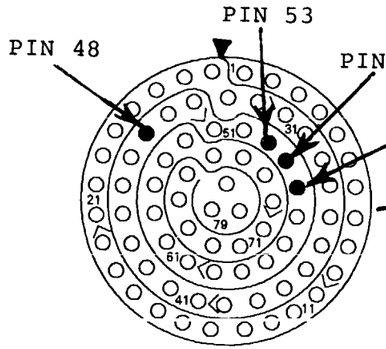
References
TM 9-1425-473-20
TM 9-1425-473-34

Access Panels
Left Forward Radar Warning Antenna - Removed

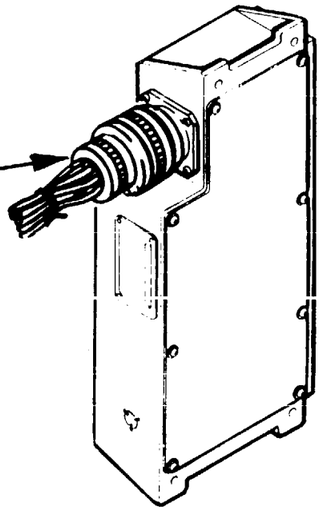




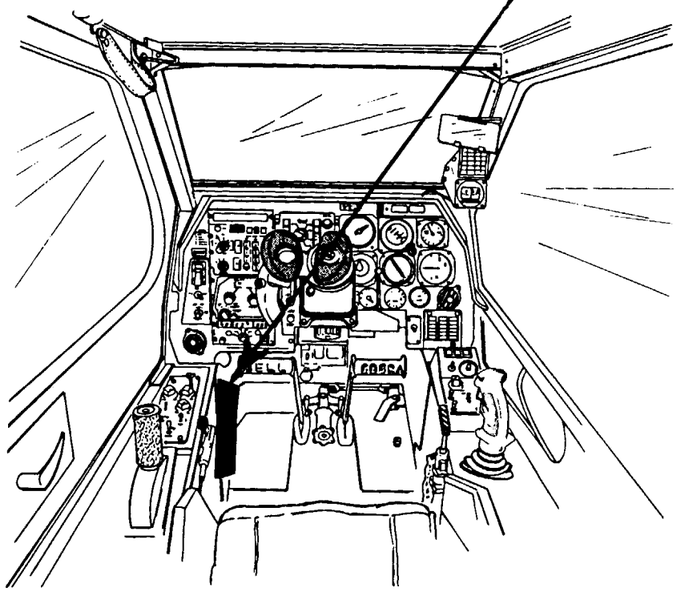

20A1P07




20A14P01

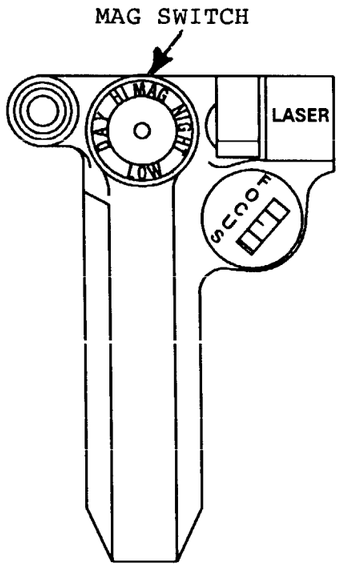


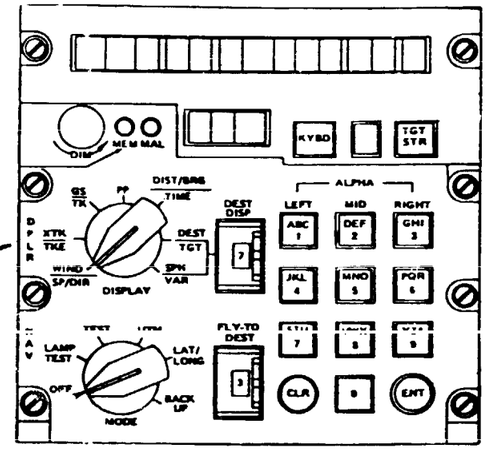
FCP (FLIR CONTROL PANEL) (REAR VIEW)



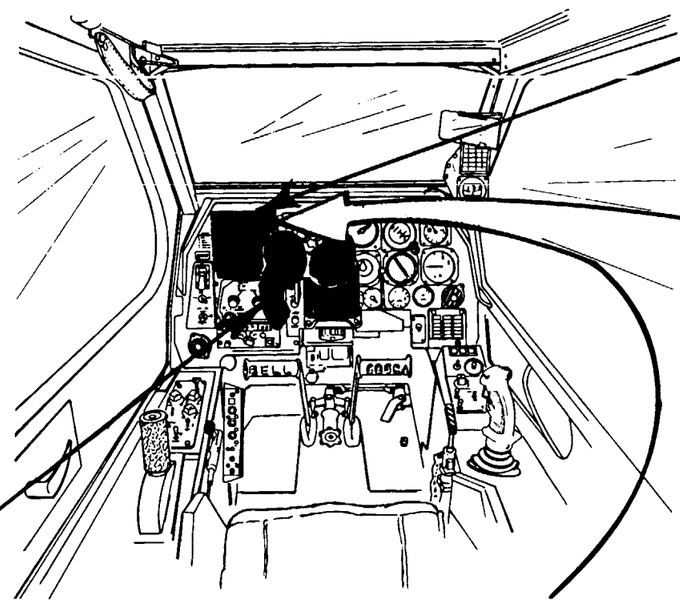
GUNNER STATION

8-47. TSU IMAGE WILL NOT CHANGE BETWEEN DAY AND NIGHT MODE (CONTINUED).



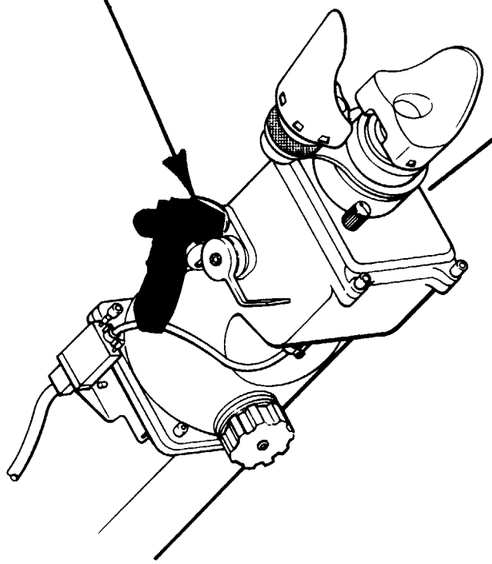




DPLR NAV CONTROL PANEL

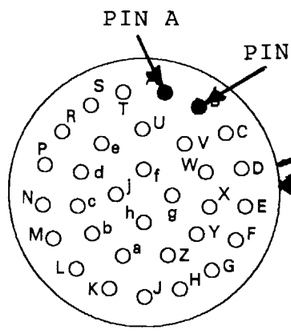


GUNNER STATION

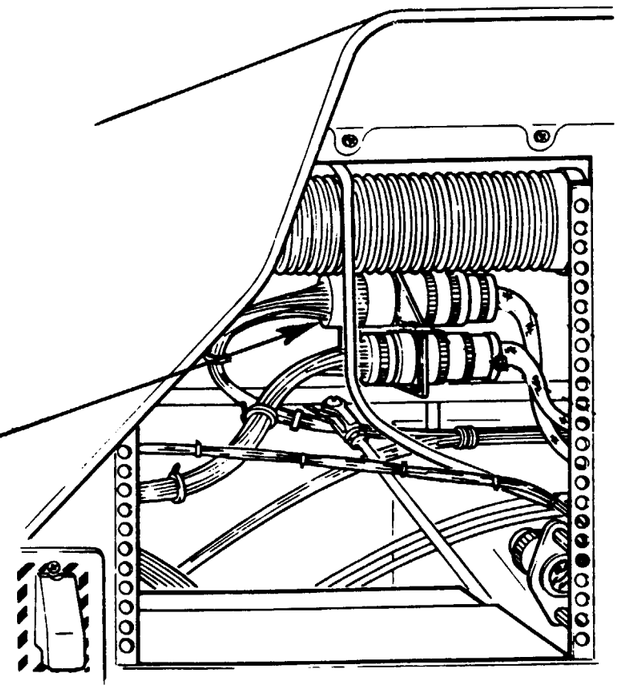
LEFT HAND GRIP



TELESCOPIC SIGHT UNIT (TSU)




20A1J09



8-47. TSU IMAGE WILL NOT CHANGE BETWEEN DAY AND NIGHT MODE (CONTINUED).

Turn off electrical power per paragraph 8-3.

Disconnect 20A1P07.

Connect multimeter between 20A1P07-42 (+) and 20A1P07-41.

Turn on electrical power per paragraph 8-3.

On left hand grip:

Hold MAG switch to DAY and check for +28 V dc.

Release MAG switch.

Was +28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Connect multimeter between 20A1P07-41 (+) and 20A1P07-42.

Turn on electrical power per paragraph 8-3.

On left hand grip:

Hold MAG switch to NIGHT and check for +28 V dc.

Release MAG switch.

Was +28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Then go to paragraph 8-2.1.

NO

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01.

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG1026A22 (BLU) | 20A14P01-55 | 20A1P07-41 |
| TG1026A22 (WHT) | 20A14P01-54 | 20A1P07-42 |
| and | | |
| TG1026C22 | | |

Is continuity present for each wire?

YES

Connect 20A1P07.

Connect multimeter between 20A14P01-53 (+) and 20A14P01-48.

Turn on electrical power per paragraph 8-3.

On left hand grip:

Hold MAG switch to DAY and check for +28 V dc.

Release MAG switch.

Was +28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Connect multimeter between 20A14P01-48 (+) and 20A14P01-53.

Turn on electrical power per paragraph 8-3.

On left hand grip:

Hold MAG switch to NIGHT and check for +28 V dc.

Release MAG switch.

Was +28 V dc present?

YES

Turn off electrical power per paragraph 8-3.

Replace FCP(FLIR control panel) per TM 9-1425-473-20,Chapter 2, Section V.

Then go to paragraph 8-2.1.

NO

NO

NO

NO

Repair wire(s) where continuity is not present.

Connect 20A1P07 and 20A14P01.

Then go to paragraph 8-2.1.

8-47. TSU IMAGE WILL NOT CHANGE BETWEEN DAy AND NIGHT MODE (CONTINUED).

NO

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A1P09.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1158A22 (BLU) | 20A14P01-53 | 20A1J09-A |
| TG1158A22 (WHT) | 20A14P01-48 | 20A1J09-B |

Is continuity present for each wire?

YES

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Connect 20A14P01.

Then go to paragraph 8-2.1.

NO

Repair wire(s) where continuity is not present.

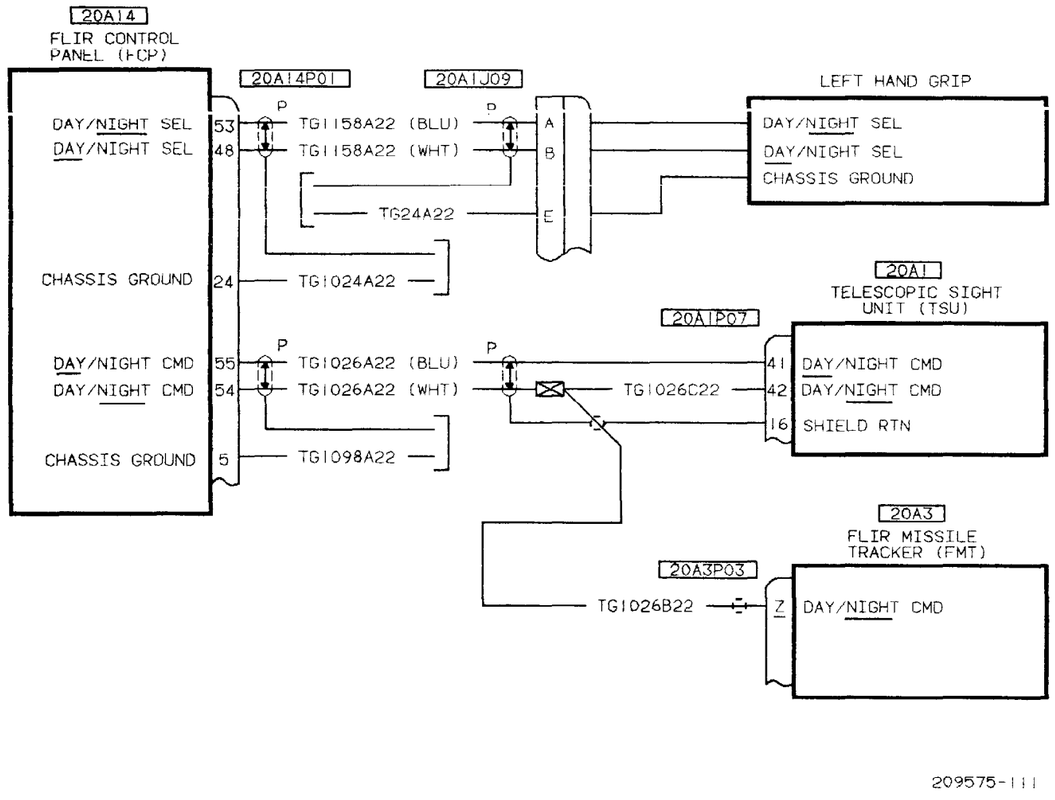
Connect 20A1P09 and 20A14P01.

Then go to paragraph 8-2.1.

NO

NO

8-47. TSU IMAGE WILL NOT CHANGE BETWEEN DAY AND NIGHT MODE (CONTINUED).




209575-111

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8-48. TEST NOT INDICATED ON FCP.

INITIAL SETUP

Applicable Configuration
AH-1S MCN

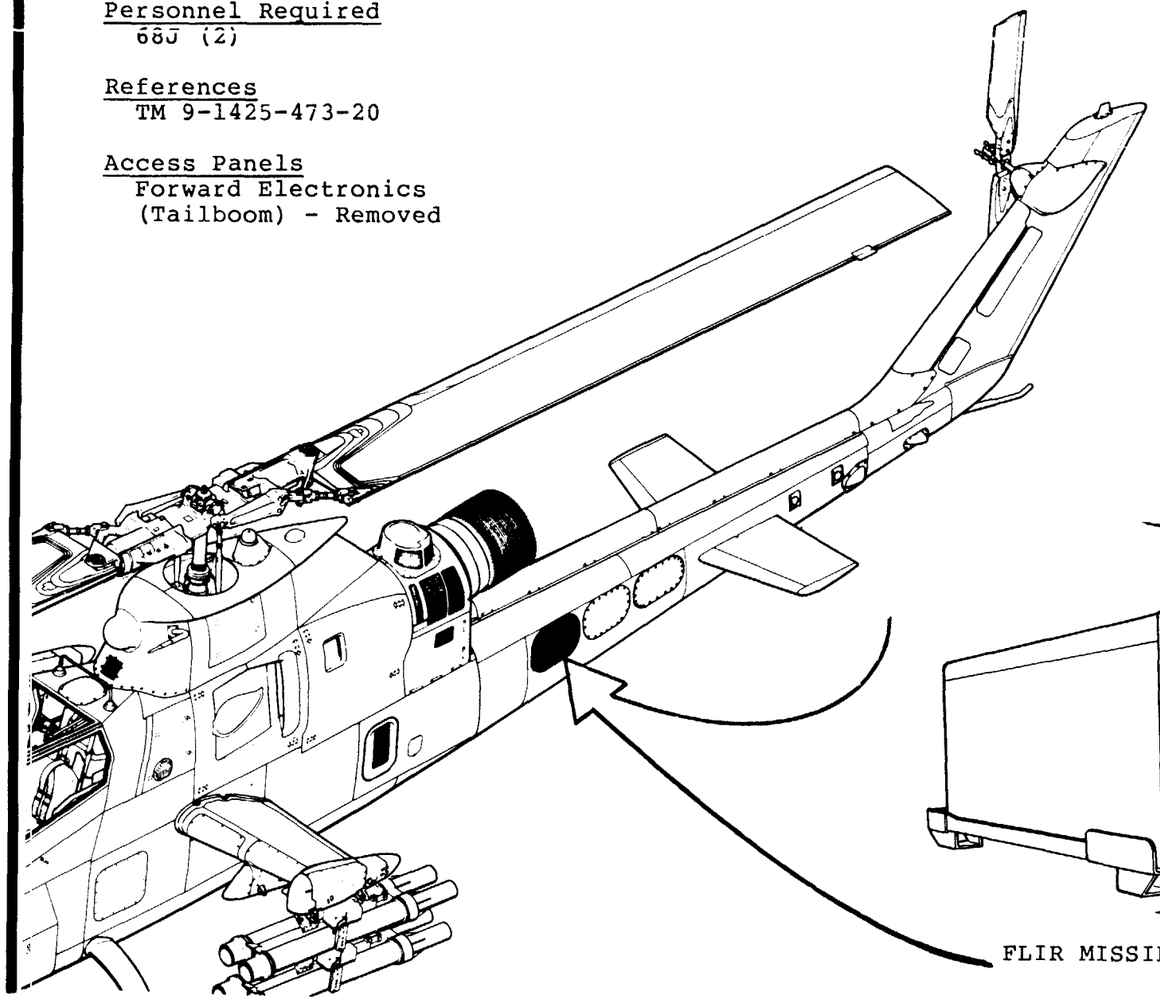
Tools/Test and Support Equipment
Multimeter

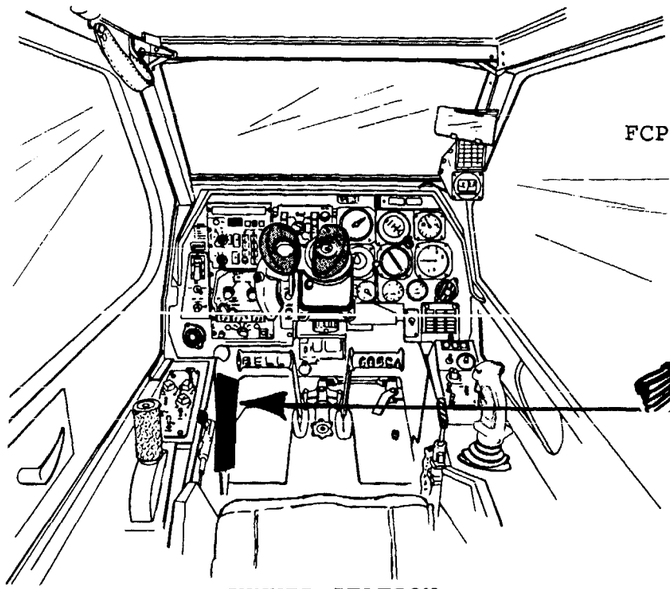
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

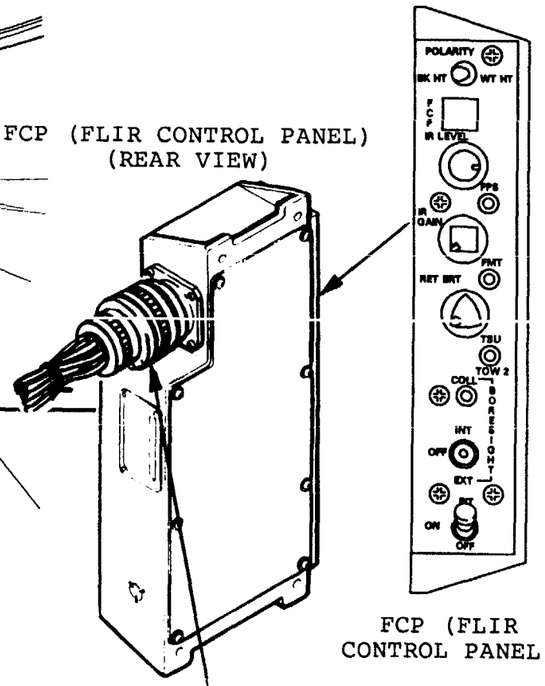
References
TM 9-1425-473-20

Access Panels
Forward Electronics (Tailboom) - Removed



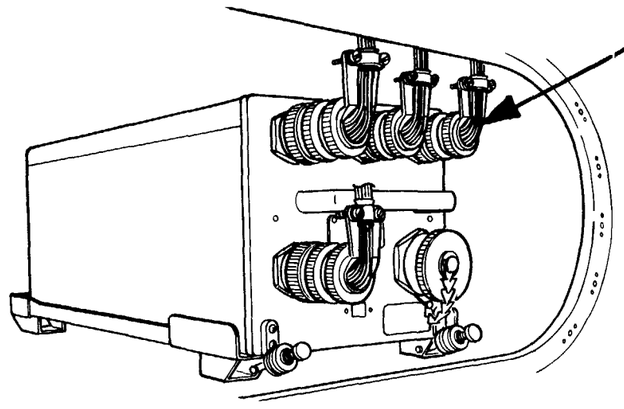


GUNNER STATION

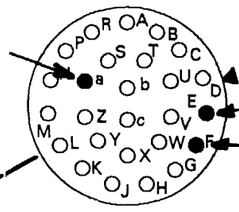



FCP (FLIR CONTROL PANEL) (REAR VIEW)

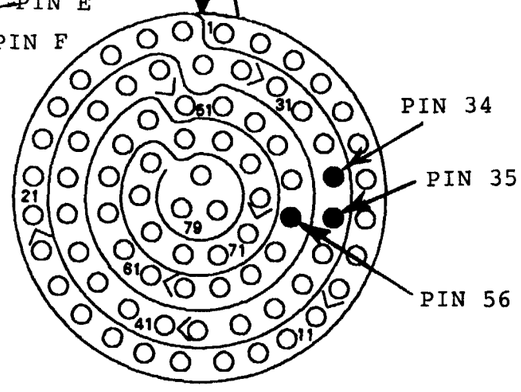
FCP (FLIR CONTROL PANEL)



FLIR MISSILE TRACKER (FMT)




20A3P02




20A14P01

8-48. TEST NOT INDICATED ON FCP (CONTINUED).

Turn off electrical power per paragraph 8-3.

Disconnect 20A3P02.

Turn on electrical power per paragraph 8-3.

On FCP (FLIR control panel):

Hold OFF/0N/BIT switch to BIT position.

Check for +28 V dc between 20A3P02-E and airframe ground.

Release OFF/ON/BIT switch.

Was +28 V dc present?

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01.

Check for continuity from 20A14P01-56 to 20A3P02-E.

Is continuity present?

YES

Replace FCP (FLIR control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A3P02.

Then go to paragraph 8-2.1.

NO

Repair wire TG1107A22 between 20A14P01-56 and 20A3P02-E.

Connect 20A3P02 and 20A14P01.

Then go to paragraph 8-2.1.

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1108C22 and TG1108A22 | 20A14P01-34 | 20A3P02-F |
| TG1110A22 | 20A14P01-35 | 20A3P02-a |

Is continuity present for each wire?

YES

Replace FLIR missile tracker (FMT) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A14P01.

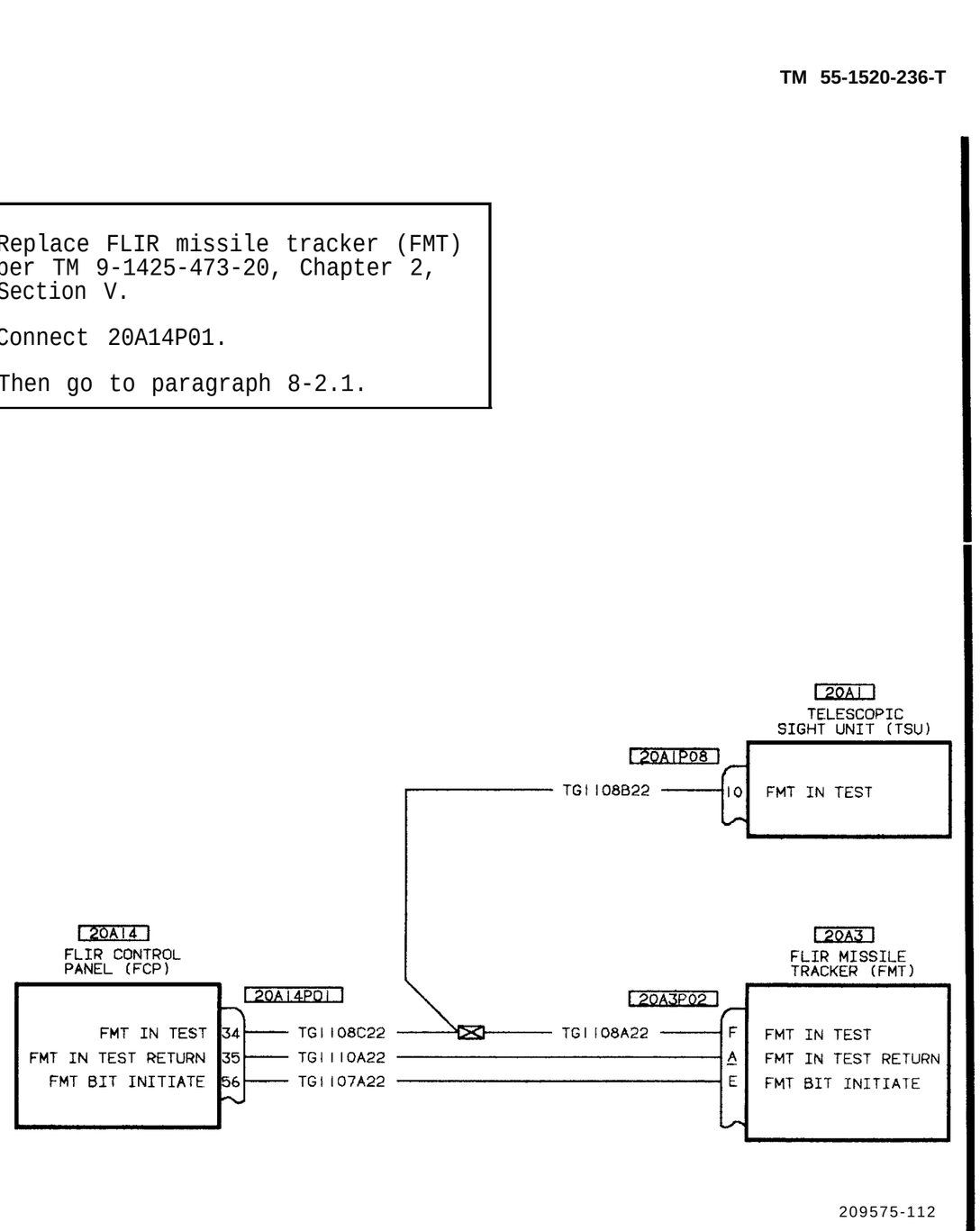
Then go to paragraph 8-2.1.

NO

Repair wire(s) where continuity 's not present.

Connect 20A3P02 and 20A14P01.

Then go to paragraph 8-2.1.




209575-112

8-49. FCP INDICATED DET HOT.

INITIAL SETUP

Applicable Configuration

AH-1S MCN

Tools/Test and Support Equipment

Multimeter

Tool Set, A/C Armament Repairman

Personnel Required

68J (2)

References

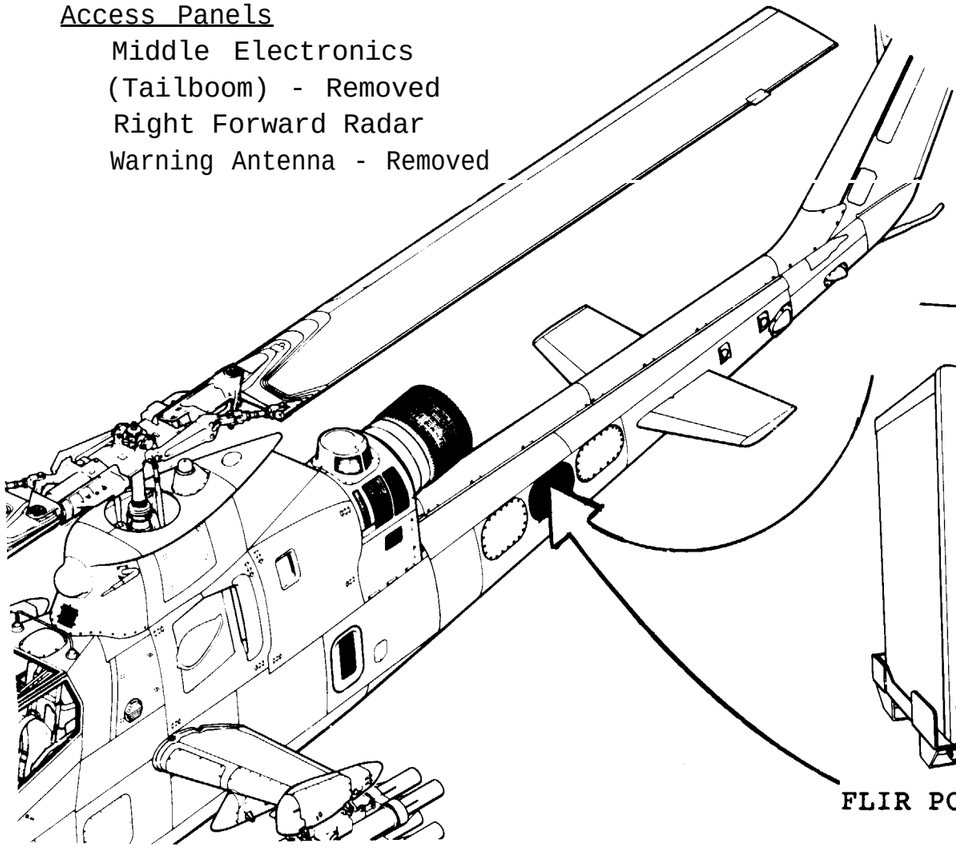
TM9-1425-473-20

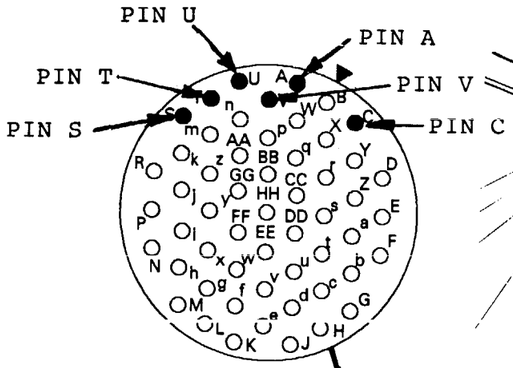
TM9-1425-473-34

Access Panels

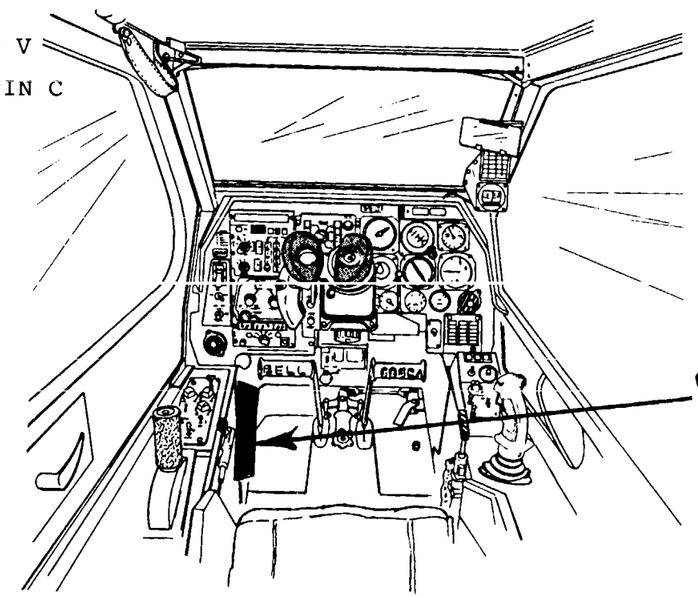
Middle Electronics (Tailboom) - Removed

Right Forward Radar Warning Antenna - Removed

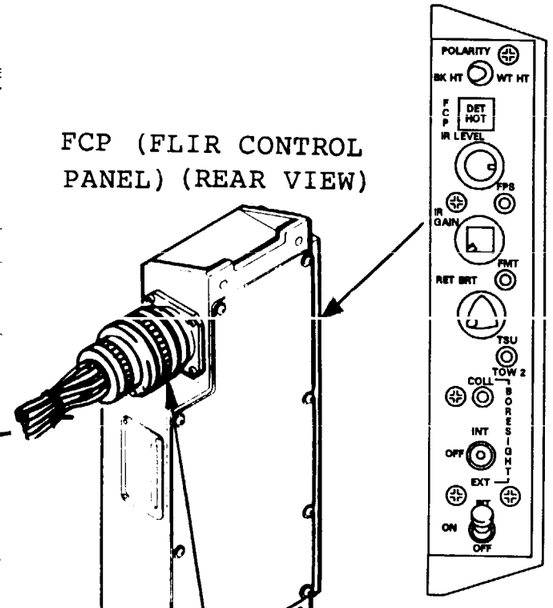





20A9P02

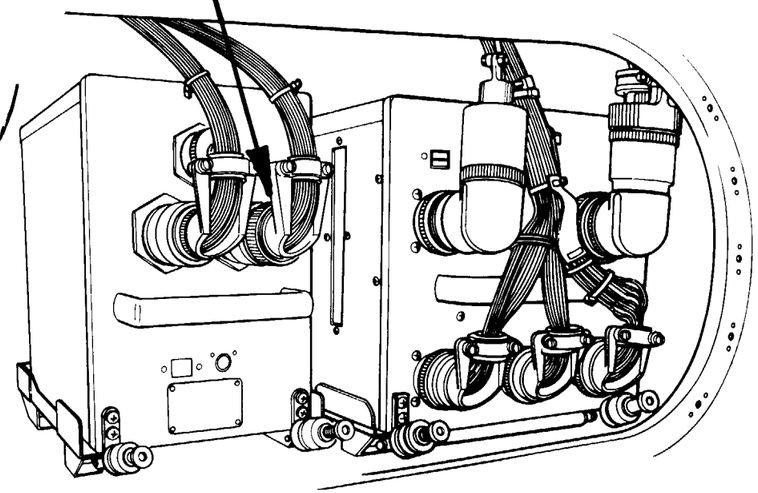


GUNNER STATION



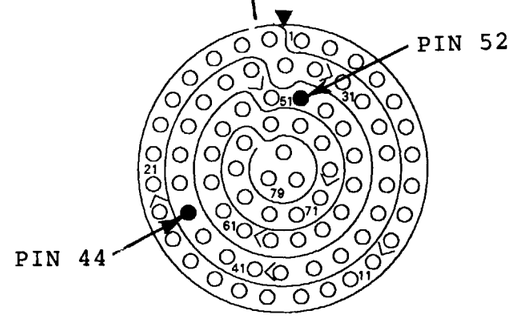

FCP (FLIR CONTROL PANEL) (REAR VIEW)

FCP (FLIR CONTROL PANEL)



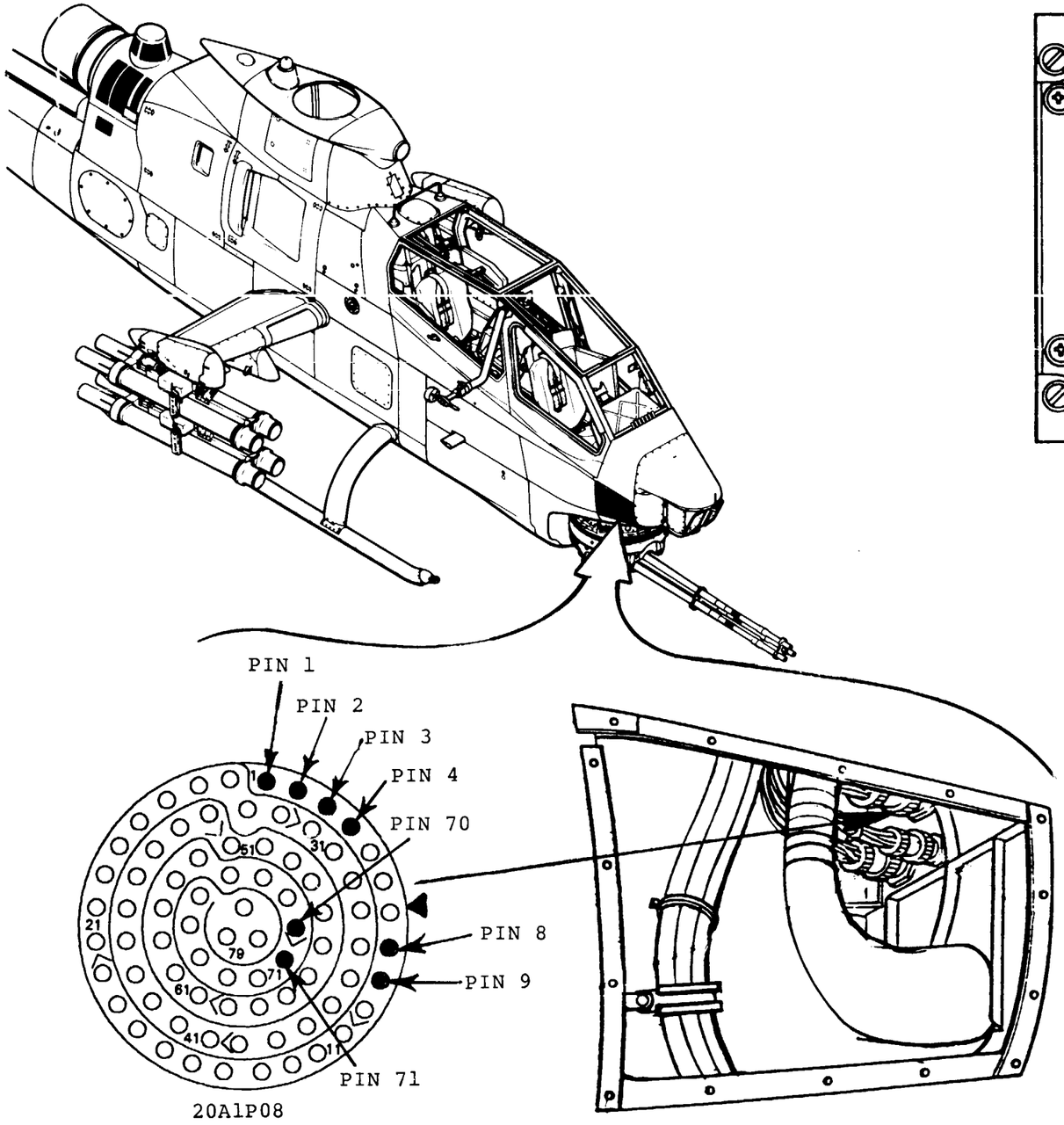
FLIR POWER SUPPLY (FPS)

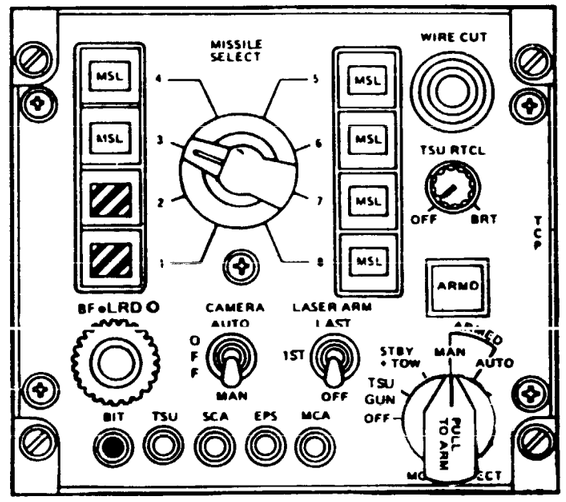
STABILIZATION CONTROL AMPLIFIER (SCA)



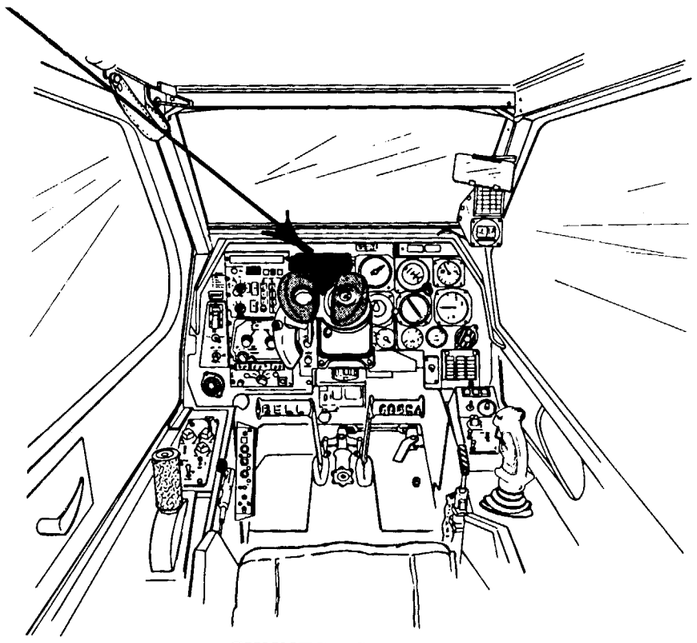

20A14P01

8-49. FCP INDICATES DET HOT (CONTINUED).




TCP (TOW CONTROL PANEL)



GUNNER STATION

8-49. FCP INDICATES DET HOT (CONTINUED).

Turn off electrical power per paragraph 8-3.
Disconnect 20A14P01.
Connect multimeter between 20A14P01-44 (+) and 20A14P01-52.
Turn on electrical power per paragraph 8-3.
On TCP (TOW control Panel): Set MODE SELECT switch to ARMED MAN.
Check for continuity from 20A14P01-44 to 20A14P01-52 within 30 seconds after power is turned on.
Is continuity present?

YES → Turn off electrical power per paragraph 8-3.
Replace FCP (FLIR control panel) per TM 9-1425-473-20, Chapter 2, Section V.
Then go to paragraph 8-2.1.

NO → Turn off electrical power per paragraph 8-3.
Disconnect 20A1P08.
Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1079A22 | 20A14P01-44 | 20A1P08-70 |
| TG108OA22 | 20A14P01-52 | 20A1P08-71 |

Is continuity present for each wire?

YES → Connect multimeter between 20A1P08-1 (+) and 20A1P08-2.
Turn on electrical power per paragraph 8-3.
Check for +28 V dc.
Is +28 V dc present?

NO → Turn off electrical power per paragraph 8-3.
Disconnect 20A9P02.
Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1149C22 (WHT), TG1149B16 (WHT), and TG1149A20 (WHT) | 20A1P08-1 | 20A9P02-A |
| TG1149C22 (BLU), TG1149B16 (BLU), and TG1149A20 (BLU) | 20A1P08-2 | 20A9P02-C |

Is continuity present for each wire?

NO → Repair wire(s) where continuity is not present.
Connect 20A1P08, 20A9P02, and 20A14P01.
Then go to paragraph 8-2.1.

YES → Turn off electrical power per paragraph 8-3.
Connect multimeter between 20A1P08-3 (+) and 20A1P08-4.
Turn on electrical power per paragraph 8-3.
Check for +28 V dc.
Is +28 V dc present?

YES → Turn off electrical power per paragraph 8-3.
Replace FLIR power supply (FPS) per TM 9-1425-473-20, Chapter 2, Section V.
Connect 20A1P08 and 20A14P01.
Then go to paragraph 8-2.1.

NO → Turn off electrical power per paragraph 8-3.
Disconnect 20A9P02.
Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TGl151c22 (WHT), TGl151B16 (WHT), and TGl151A20 (WHT) | 20A1P08-3 | 20A9P02-S |
| TGl151C22 (BLU), TG1151B16 (BLU), and TGl151A20 (BLU) | 20A1P08-4 | 20A9P02-T |

Is continuity present for each wire?

NO → Repair wire(s) where continuity is not present.
Connect 20A1P08, 20A9P02, and 20A14P01.
Then go to paragraph 8-2.1.

YES → Replace FLIR power supply (FPS) per TM 9-1425-473-20, Chapter 2, Section V.
Connect 20A1P08 and 20A14P01.
Then go to paragraph 8-2.1.

8-49. FCP INDICATES DET HOT (CONTINUED)..

YES

Turn off electrical power per paragraph 8-3.

Connect multimeter between 20A1P08-8 (+) and 20Alp08-9.

Turn on electrical power per paragraph 8-3.

Check for +115 V ac.

Is +115 V ac present?

YES

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Connect 20A14P01.

Then go to paragraph 8-2.1.

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A9P02.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1152A22 (WHT) | 20A1P08-8 | 20A9P02-U |
| TGl152A22 (BLU) | 20A1P08-9 | 20A9P02-V |

Is continuity present for each wire?

YES

Replace FLIR power supply (FPS) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P08 and 20A14P01.

Then go to paragraph 8-2.1.

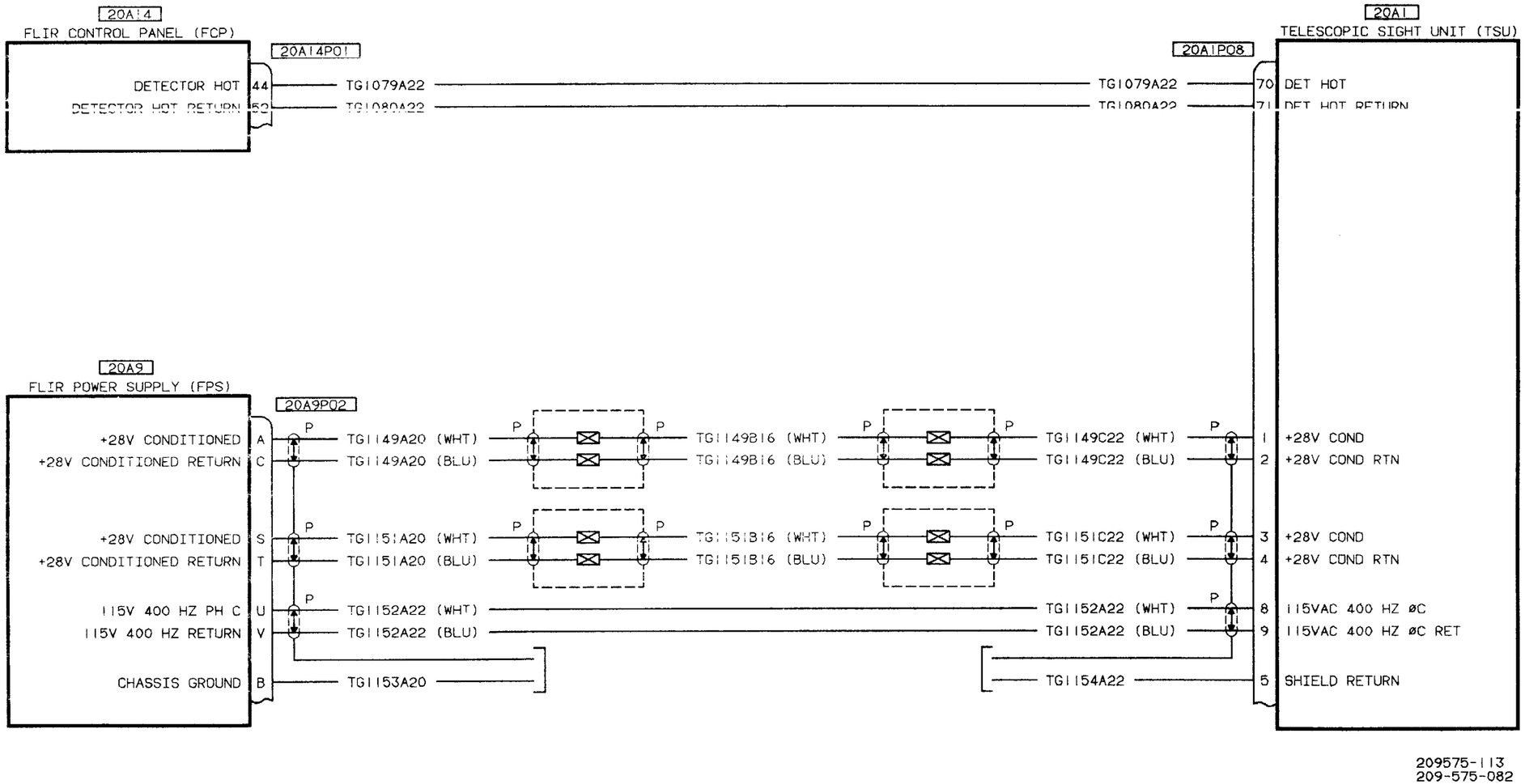
NO

Repair wire(s) where continuity is not present.

Connect 20A1P08, 20A9P02, and 20A14P01.

Then go to paragraph 8-2.1.

8-49. FCP INDICATES DET HOT (CONTINUED).




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## 8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE.

INITIAL SETUP

Applicable Configuration
AH-1S MCN

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References
TM 9-1425-473-20
TM 9-1425-473-34

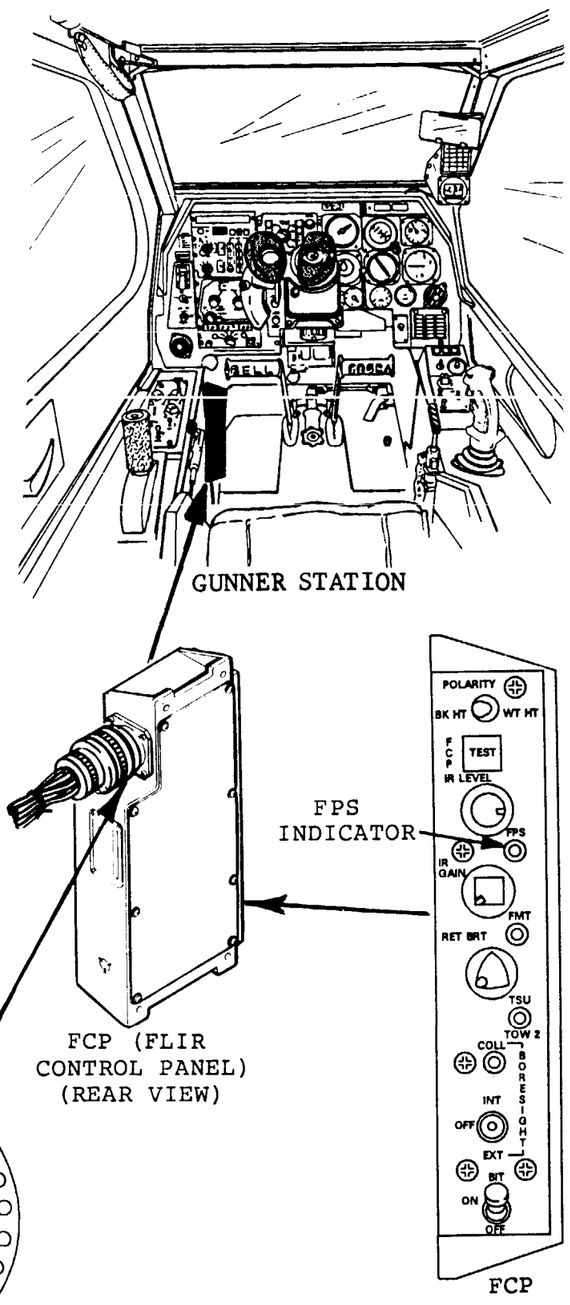
Access Panels
Middle Electronics (Tailboom) - Removed

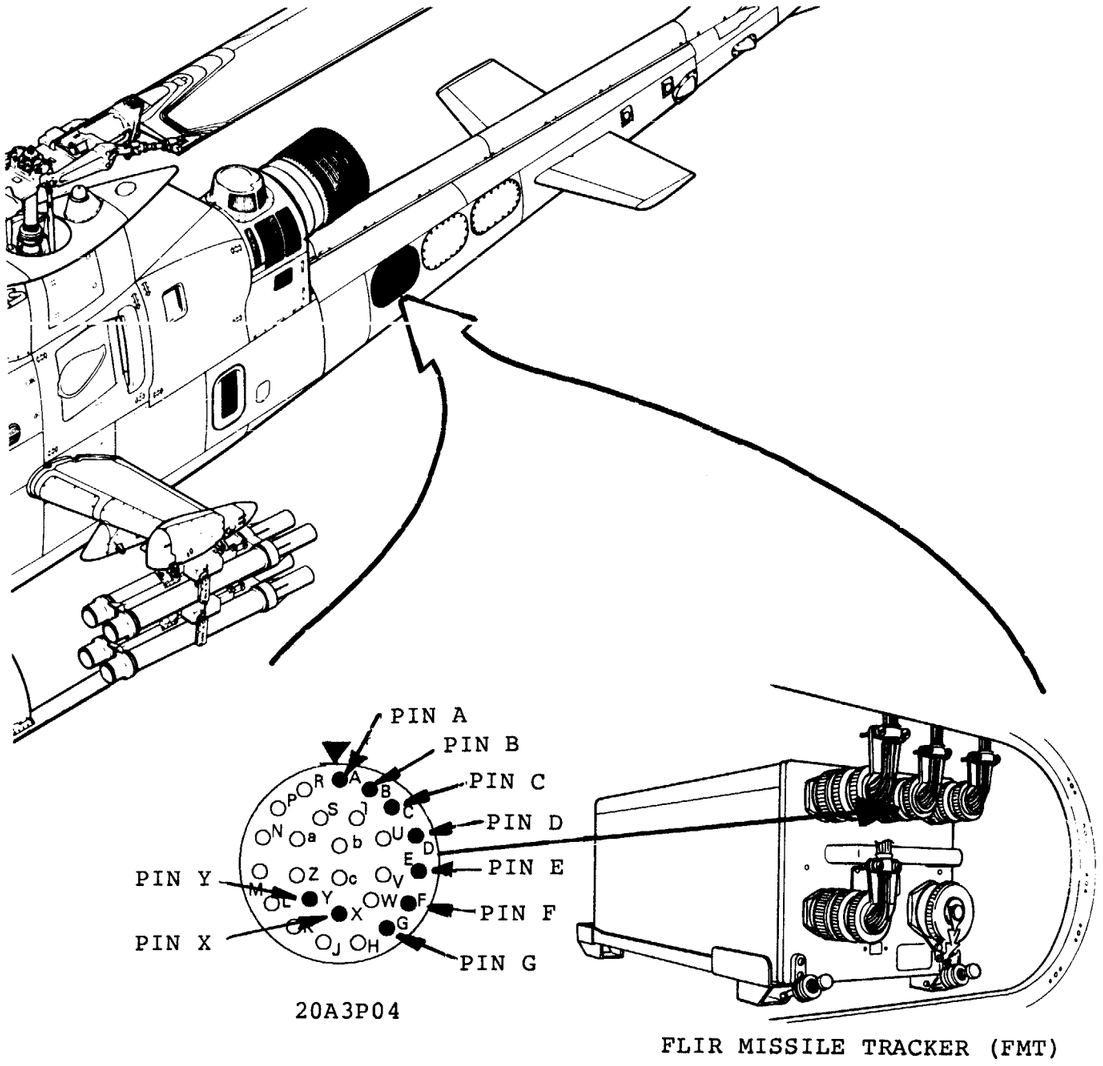
Aft Electronics (Tailboom) - Removed

Forward Electronics (Tailboom) - Removed

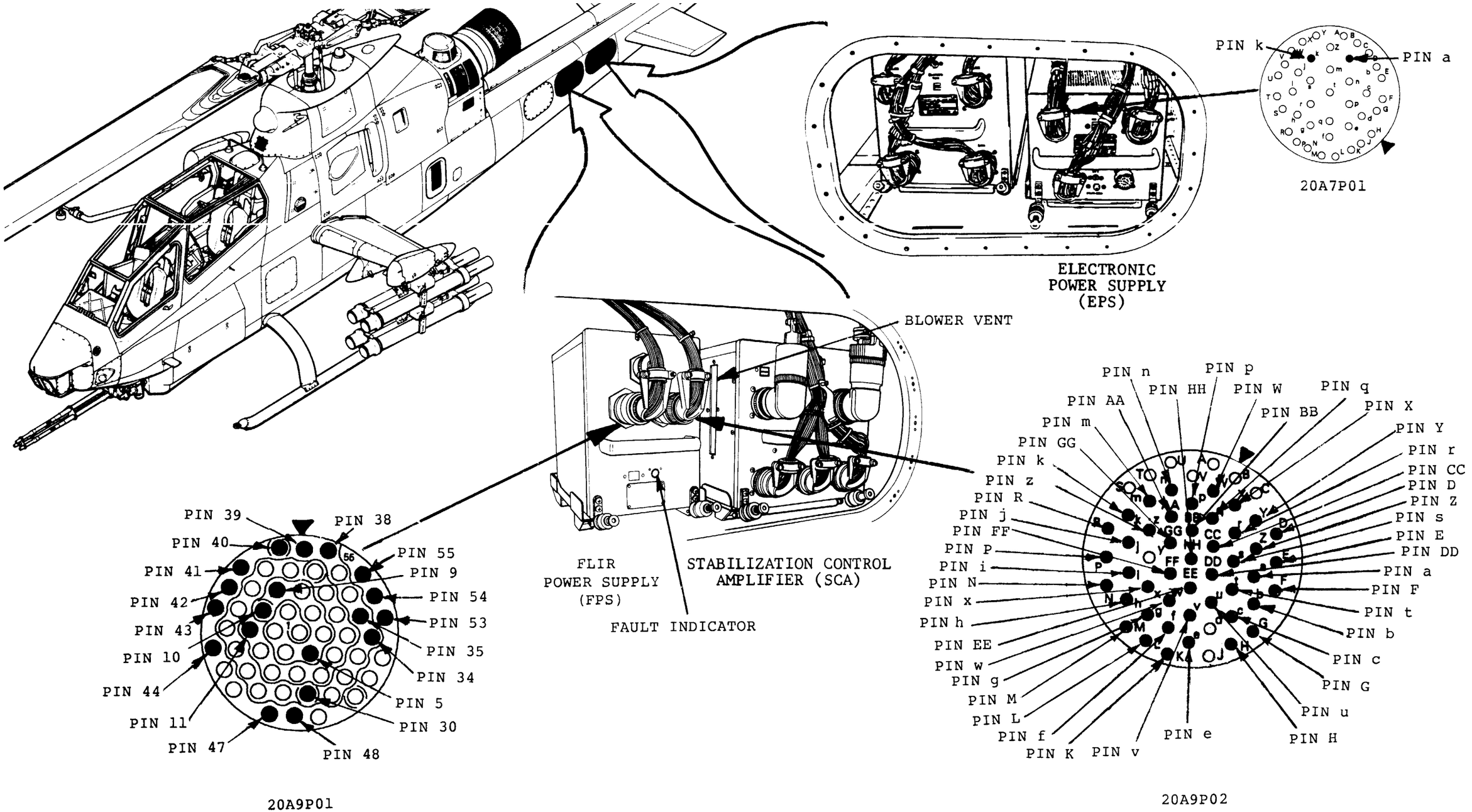
Left Forward Radar Warning Antenna - Removed

Right Forward Radar Warning Antenna - Removed

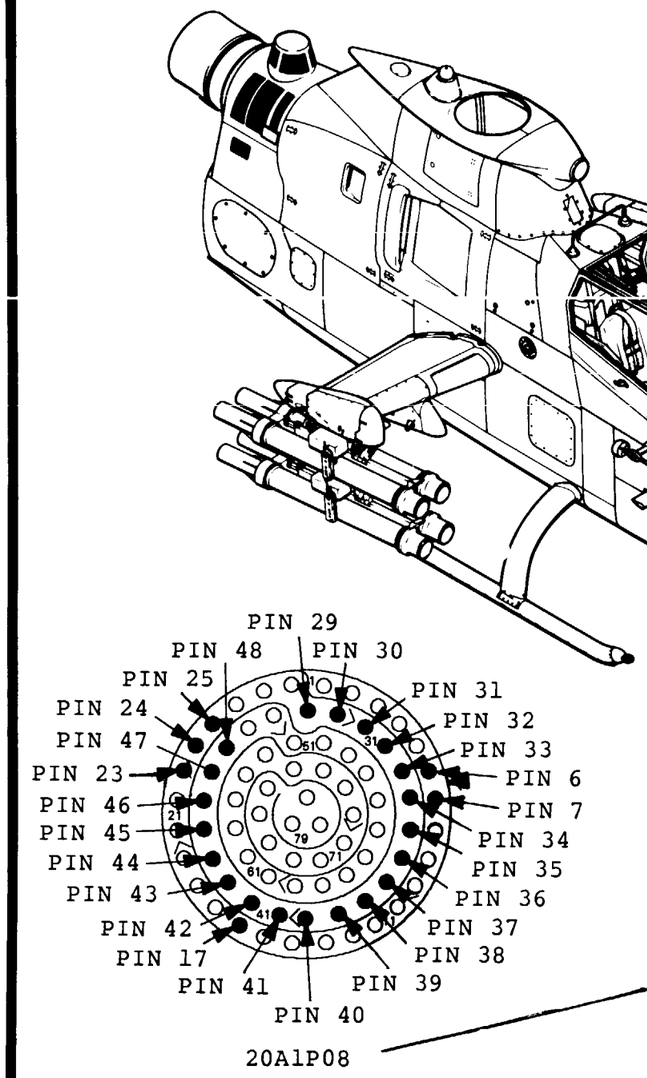


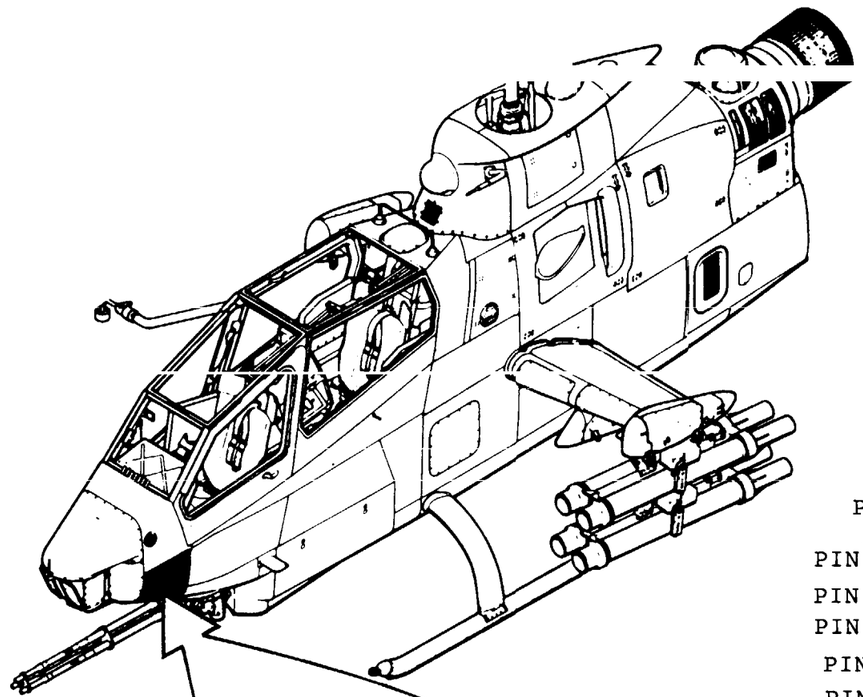



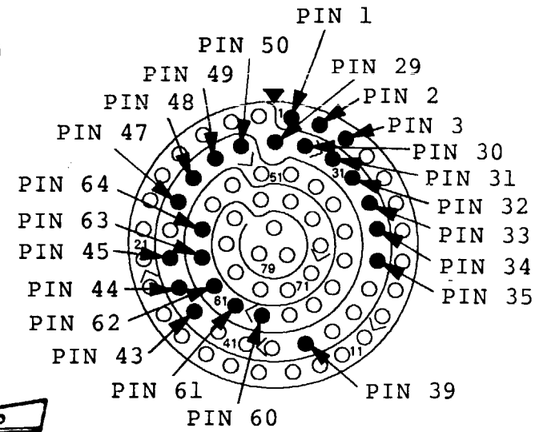
8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

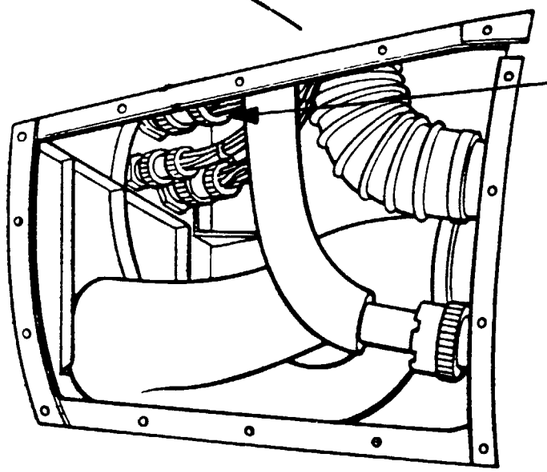


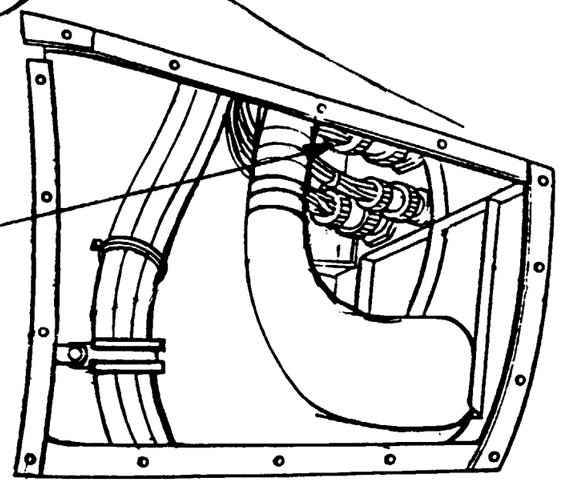
8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).





8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

Attempt to clear FPS BIT indicator failure as follows:

On FCP (FLIR control panel):

Press OFF/ON/BIT switch to BIT and release.

Does FPS BIT indicator show white at the completion of BIT test.

YES

NO

Go to paragraph 8-2.1.

Turn off electrical power per paragraph 8-3.

Replace FLIR power supply (FPS) per TM 9-1425-473-20, Chapter 2, Section V.

Turn on electrical power per paragraph 8-3.

On FCP (FLIR control panel):

Press OFF/ON/BIT switch to BIT and release.

Does FPS BIT inidicator on FCP (FLIR control panel) show white at the completion of BIT test?

YES

NO

Go to paragraph 8-2.1.

Turn off electrical power per paragraph 8-3.

Install original FLIR power supply (FPS) per TM 9-1425-473-20, Chapter 2, Section V.

Disconnect 20A7P01 and 20A9P01.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG429C22 (ORN) and TG429E22 (WHT) | 20A7P01-k | 20A9P01-47 |
| TG429C22 (BLU) and TG429E22 (BLU) | 20A7P01-a | 20A9P01-48 |

Is continuity present for each wire?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A7P01 and 20A9P01.

Then go to paragraph 8-2.1.

8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

Connect 20A7P01.

Connect multimeter between 20A9P01-55(+) and 20A9P01-38.

Turn on electrical power per paragraph 8-3.

Check for +28 V dc.

Is +28 V dc present?

YES

NO

Turn off electrical power per paragraph 8-3.

Repair wire(s) TG1169A20N and/or TG1169B16N between 20A9P01 -38 and airframe ground.

Connect 20A9P01.

Then go to paragraph 8-2.1.

YES

Turn off electrical power per paragraph 8-3.

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG1097B20 and TG1097C20 | 20A9P01-55 | 20A9P01-34 |
| TG1097B20 and TG1097D20 | 20A9P01-55 | 20A9P01-30 |
| TG1170A20N and TG1170B16N | 20A9P01-53 | airframe ground |
| TG1171A20N and TG1171B16N | 20A9P01-54 | airframe ground |

Is continuity present for each wire?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A9P01.

Then go to paragraph 8-2.1.

YES

Connect 20A9P01.

Disconnect 20A3P04.

Turn on electrical power per paragraph 8-3.

On FCP (FLIR control panel):

Press OFF,/ON,/BIT switch to BIT and release.

After 60 seconds, does FAULT indicator on FLIR power supply (FPS) show white?

YES

NO

Replace FLIR missile tracker (FMT) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.1.

8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

Turn off electrical power per paragraph 8-3.

Disconnect 20A9P01.

Check the following wires for continuity to 20A9P01-50 (chassis ground) and to airframe ground:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1087A22 (WHT) | 20A9P01-9 | 20A3P04-E |
| TG1087A22 (BLU) | 20A9P01-10 | 20A3P04-F |
| TG1087A22 (ORN) | 20A9P01-11 | 20A3P04-G |
| TG1085A20 (WHT), TG1085B16 (WHT), and TG1085C20 (WHT) | 20A9P01-41 | 20A3P04-A |
| TG1085A20 (BLU), TG1085B16 (BLU), and TG1085C20 (BLU) | 20A9P01-42 | 20A3P04-B |
| TG1086A20 (WHT), TG1086B16 (WHT), and TG1086C20 (WHT) | 20A9P01-43 | 20A3P04-C |
| TG1086A20 (BLU), TG1086B16 (BLU), and TG1086C20 (BLU) | 20A9P01-44 | 20A3P04-D |
| TG1093A22 (WHT) | 20A9P01-5 | 20A3P04-X |
| TG1093A22 (BLU) | 20A9P01-35 | 20A3P04-Y |

Is continuity present for any wire?

YES → Repair wire(s) where continuity exists to eliminate short.

Connect 20A9P01 and 20A3P04.

Then go to paragraph 8-2.1.

NO

Connect 20A9P01 and 20A3P04.

Disconnect 20A1P07 and 20A1P08.

Turn on electrical power per paragraph 8-3.

On FCP (FLIR control panel):

Press OFF/ON/BIT switch to BIT and release.

Does FPS BIT indicator on FCP (FLIR control panel) show white at the completion of BIT test?

YES → Turn off electrical power per paragraph 8-3.

Disconnect 20A9P02.

Turn on electrical power per paragraph 8-3.

On FCP (FLIR control panel):

Press OFF/ON/BIT switch to BIT and release.

Does FPS BIT indicator on FCP (FLIR control panel) show white at the completion of BIT test?

YES

NO

NO

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Then go to paragraph 8-2.1.

8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

Turn off electrical power per paragraph 8-3.

Check the following wires for continuity to 20A9P02-B (chassis ground; and air-frame ground.

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1033A20 (WHT), TG1033B16 (WHT), and TG1033C22 (WHT) | 20A9P02-K | 20A1P07-3 |
| TG1033A20 (BLU), TG1033B16 (BLU), and TG1033C22 (BLU) | 20A9P02-e | 20A1P07-2 |
| TG1033A20 (ORN), TG1033B16 (ORN), and TG1033C22 (ORN) | 20A9O02-f | 20A1P07-1 |
| TG1036A22 (BLU) | 20A9P02-L | 20A1P07-47 |
| TG1036A22 (WHT) | 20A9P02-CC | 20A1P07-48 |
| TG1041A2O (BLU), TG1041B16 (BLU), and TG1041C22 (BLU) | 20A9P02-FF | 20A1P07-31 |
| TG1041A2O (WHT), TG1041B16 (WHT), and TG1041C22 (WHT) | 20A9P02-M | 20A1P07-32 |
| TG1038A2O (WHT), TG1038B16 (WHT), and TG1038C22 (WHT) | 20A9P02-E | 20A1P07-43 |
| TG1038A2O (BLU), TG1038B16 (BLU), and TG1038C22 (BLU) | 20A9P02-F | 20A1P07-44 |
| TG1038A2O (ORN), TG1038B16 (ORN), and TG1038C22 (ORN) | 20A9P02-G | 20A1P07-45 |
| TG1037A20 (WHT), TG1037B16 (WHT), and TG1037C22 (WHT) | 20A9P02-X | 20A1P07-50 |
| TG1037A20 (BLU), TG1037B16 (BLU), and TG1037C22 (BLU) | 20A9P02-Y | 29A1P07-49 |
| TG1034A2O (WHT), TG1034B12 (WHT), and TG1038C22 (WHT) | 20A9P02-h | 20A1P07-63 |
| TG1034A2O (BLU), TG1034B12 (BLU), and TG1034C22 (BLU) | 20A9P02-z | 20A1P07-64 |
| TG104OA2O (WHT) and TG104OB22 (WHT) | 20A9P02-u | 20A1P07-60 |
| TG104OA2O (BLU) and TG104OB22 (BLU) | 20A9P02-k | 20A1P07-61 |
| TG104OA2O (0RN) and TG104OB22 (ORN) | 20A9P02-j | 20A1P07-62 |
| TG1035A2O (WHT), TG1035B12 (WHT), and TG1035C22 (WHT) | 20A9P02-q | 20A1P07-29 |
| TG1035A2O (BLU), TG1035B12 (BLU), and TG1035C22 (BLU) | 20A9P02-r | 20A1P07-30 |
| TG1035A2O (ORN), TG1035B12 (ORN), and TG1035C22 (ORN) | 20A9P02-EE | 20A1P07-39 |
| TG1039A2O (WHT), TG1039B16 (WHT), TG1039C22 (WHT), and TG1039D22 (WHT) | 20A9P02-N | 20A1P07-33 and 20A1P08-25 |
| TG1039A2O (BLU), TG1039B16 (BLU), TG1039C22 (BLU), and TG1039D22 (BLU) | 20A9P02-P | 20A1P07-34 and 20A1P08-24 |
| TG1039A2O (ORN), TG1039B16 (ORN), TG1039C22 (ORN), and TG1039D22 (ORN) | 20A9P02-R | 20A1P07-35 and 20A1P08-23 |

Is continuity present for any wire?

YES

NO

YES

NO

NO

8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

YES

Repair wire(s) where continuity exists to eliminate short.

Connect 20A1P07, 20A1P08, and 20A9P02.

Then go to paragraph 8-2.1.

NO

Check the following wires for continuity to 20A9P02-B (chassis ground) and airframe ground.

| WIRE NO. | FROM | TO |
|---|---|---|
| TG1150A20 (WHT), TG1150B16 (WHT), and TG1150C22 (WHT) | 20A9P02-H | 20A1P08-6 |
| TG1150A20 (BLU), TG1150B16 (BLU), and TG1150C22 (BLU) | 20A9P02-W | 20A1PO8-7 |
| TG1047A22 (WHT) | 20A9P02-s | 20A1P08-41 |
| TG1047A22 (BLU) | 20A9P02-t | 20A1P08-42 |
| TG1047A22 (ORN) | 20A9P02-Z | 20A1P08-43 |
| TG1046A22 (WHT) | 20A9P02-a | 20A1P08-44 |
| TG1046A22 (BLU) | 20A9P02-b | 20A1P08-45 |
| TG1046A22 (ORN) | 20A9P02-c | 20A1P08-46 |
| TG1042C2O (WHT), TG1042A16 (WHT), and TG1042B22 (WHT) | 20A9P02-v | 20A1P08-47 |
| TG1042C2O (BLU), TG1042A16 (BLU), and TG1042B22 (BLU) | 20A9P02-g | 20A1P08-48 |
| TG1052A20 (WHT), TG1052B16 (WHT), and TG1052C22 (WHT) | 20A9P02-x | 20A1P08-29 |
| TG1052A20 (BLU), TG1052B16 (BLU), and TG1052C22 (BLU) | 20A9P02-BB | 20A1P08-30 |
| TG1050A20 (BLU), TG1050B16 (BLU), and TG1050C22 (BLU) | 20A9P02-i | 20A1P08-32 |
| TG1050A20 (WHT), TG1050B16 (WHT), and TG1050C22 (WHT) | 20A9P02-D | 20A1P08-31 |
| TG1049A20 (WHT), TG1049B16 (WHT), and TG1049C22 (WHT) | 20A9P02-w | 20A1P08-33 |
| TG1049A20 (BLU), TG1049B16 (BLU), and TG1049C22 (BLU) | 20A9P02-DD | 20A1P08-34 |
| TG1051A20 (WHT) and TG1051B22 (WHT) | 20A9P02-AA | 20A1P08-38 |
| TG1051A20 (BLU) and TG1051B22 (BLU) | 20A9P02-HH | 20A1P08-39 |
| TG1051A20 (ORN) and TG1051B22 (ORN) | 20A9P02-GG | 20A1P08-40 |
| TG1048A20 (ORN), TG1048B22 (ORN), and TG1048C22 | 20A9P02-m | 20A1P08-35 and 20A1P08-11 |
| TG1048A20 (BLU) and TG1048B22 (BLU) | 20A9P02-p | 20A1P08-37 |
| TG1048A20 (WHT) and TG1048B22 (WHT) | 20A9P02-n | 20A1P08-36 |

Is continuity present for any wire?

YES

NO

NO

8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

YES

Turn off electrical power per paragraph 8-3.

Connect 20A1P07, 20A1P08, and 20A9P02.

Disconnect 20A9P01 and 20A14P01.

Check the following wires for continuity

| WIRE NO. | FROM | TO |
|---|---|---|
| TG1102A22 | 20A14P01-65 | 20A9P01-39 |
| TG1103A22 | 20A14P01-66 | 20A9P01-40 |

Is continuity present for either wire?

YES

Replace FCP (FLIR control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A9P01.

Then go to paragraph 8-2.1.

NO

Repair wire(s) where continuity is not present.

Connect 20A9P01 and 20A14P01.

Then go to paragraph 8-2.1.

YES

Repair wire(s) where continuity exists to eliminate short.

Connect 20A1P07, 20A1P08, and 20A9P02.

Then go to paragraph 8-2.1.

NO

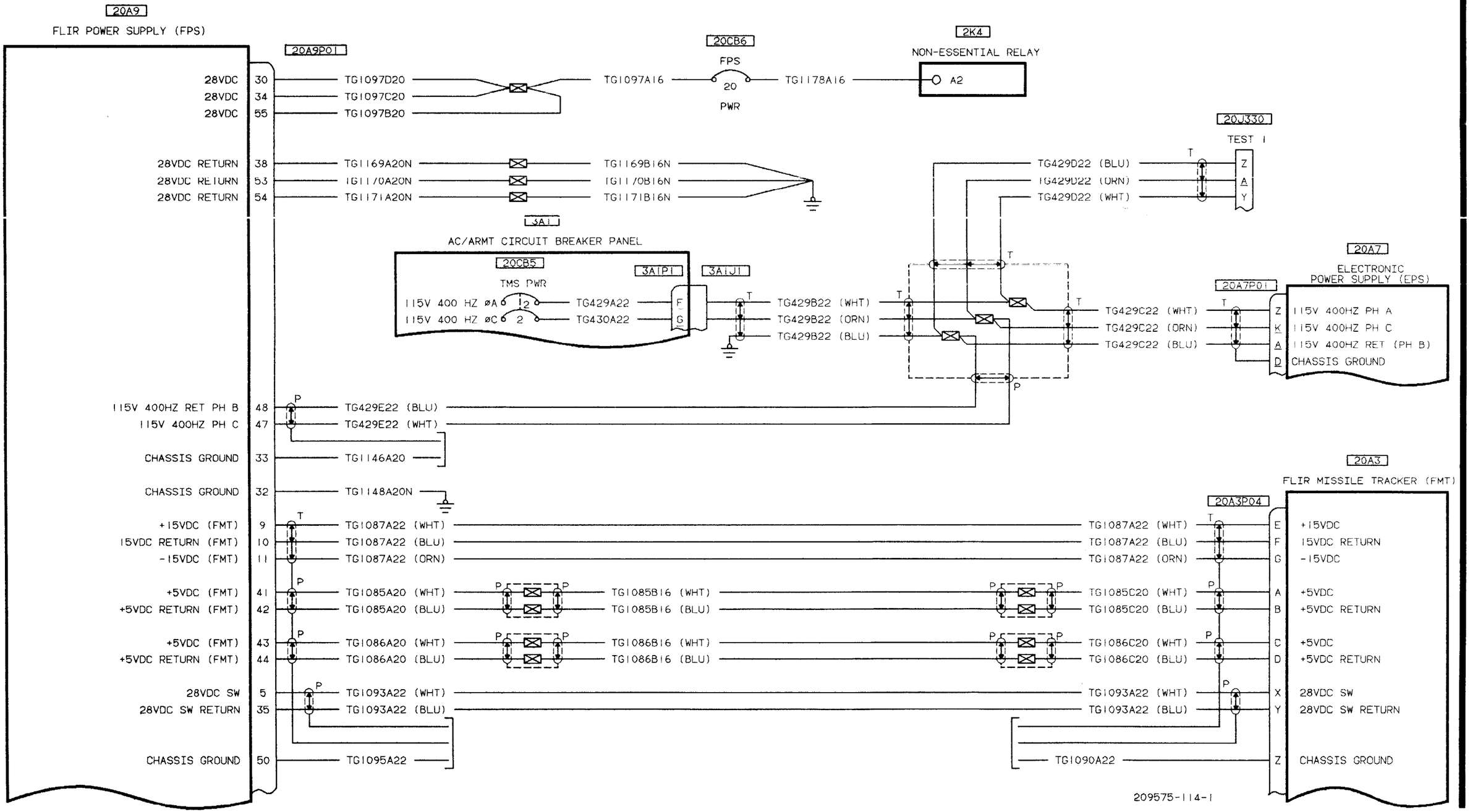
Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Connect 20A9P02.

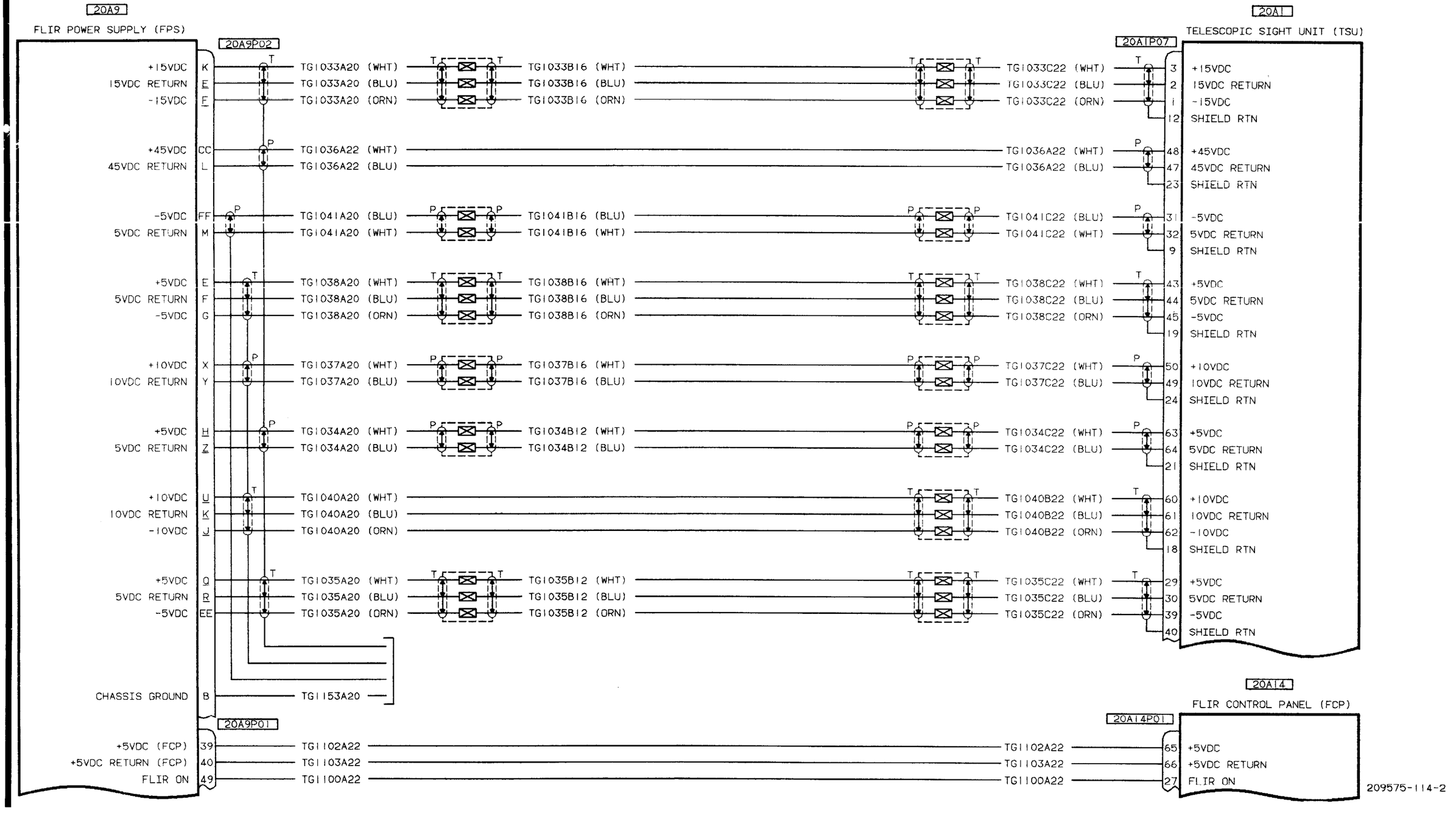
Then go to paragraph 8-2.1.

NO

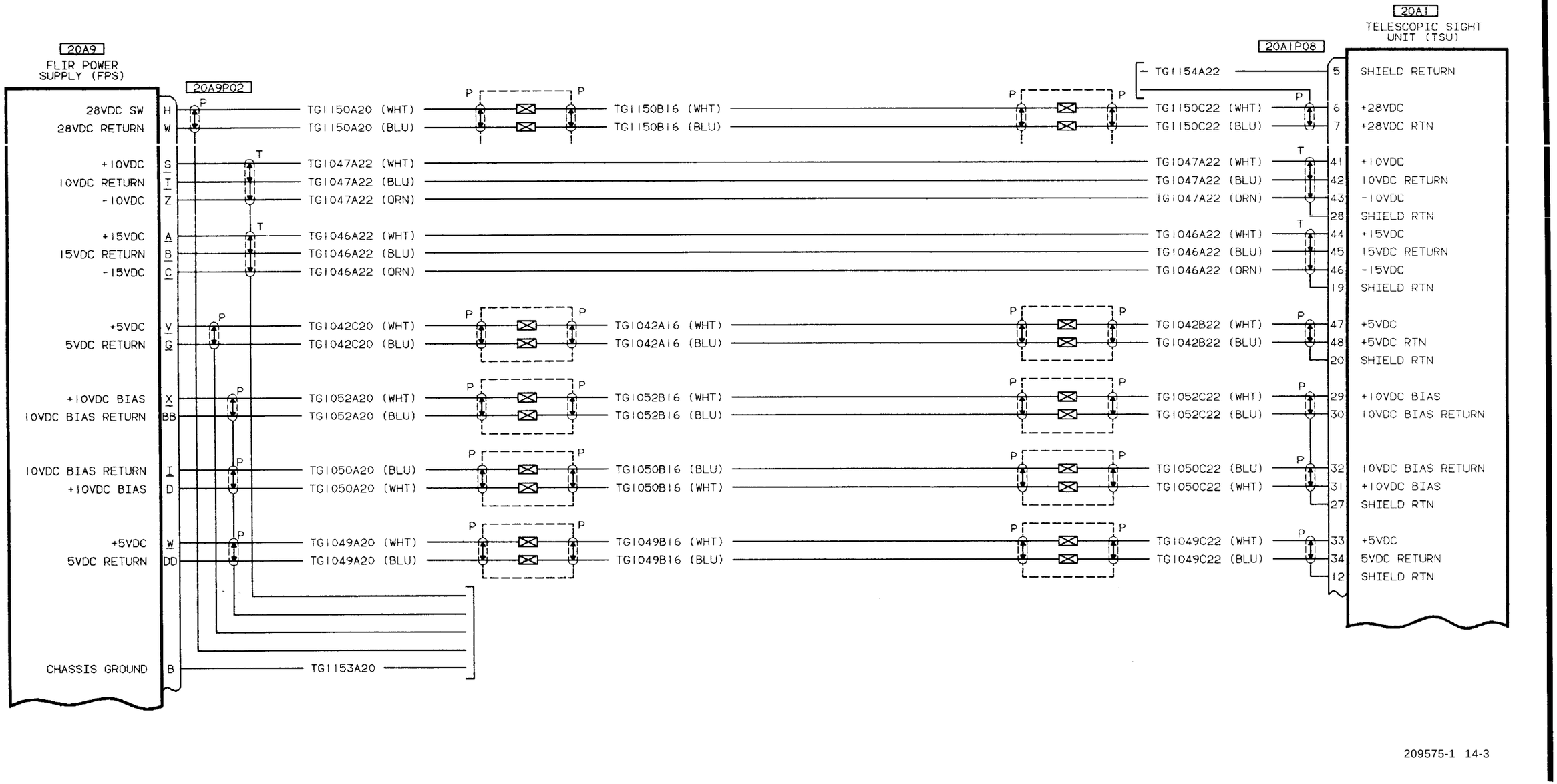
8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).



## 8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

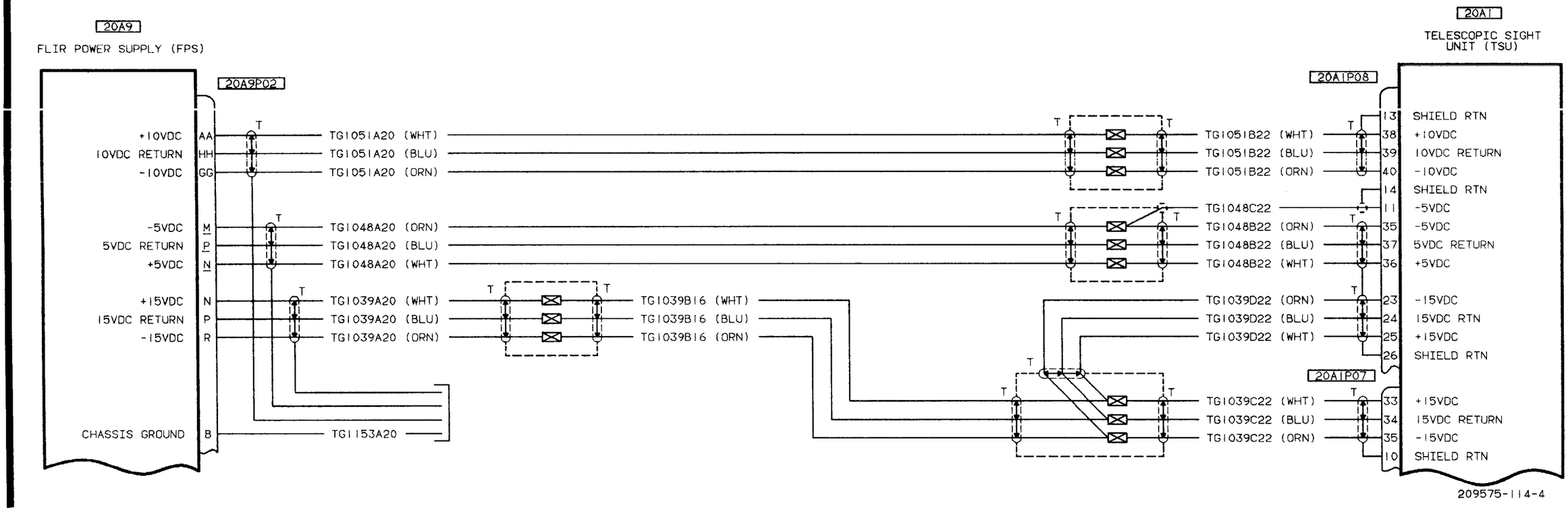


8-50. FPS BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).




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8-50. FPS BITS INDICATOR ON FCP SHOWS WHITE (CONTINUED).



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## 8-51. FMT BIT INDICATOR ON FCP SHOWS WHITE.

INITIAL SETUP

Applicable Configuration
AH-1S MCN

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

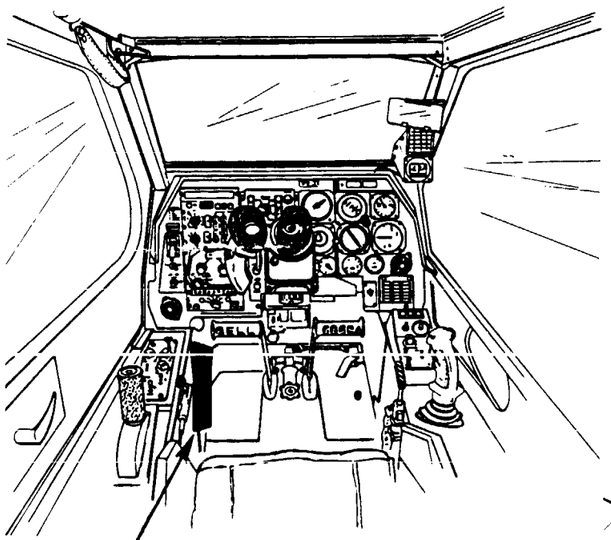
References
TM 9-1425-473-20
TM 9-1425-473-34

Access Panels
Middle Electronics (Tailboom) - Removed

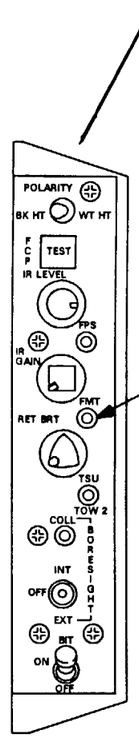
Forward Electronics (Tailboom) - Removed

Left Forward Radar Warning Antenna - Removed

Right Forward Radar Warning Antenna- Removed

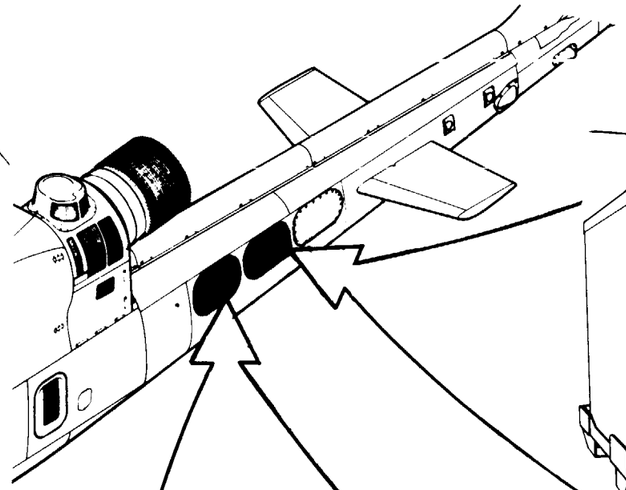


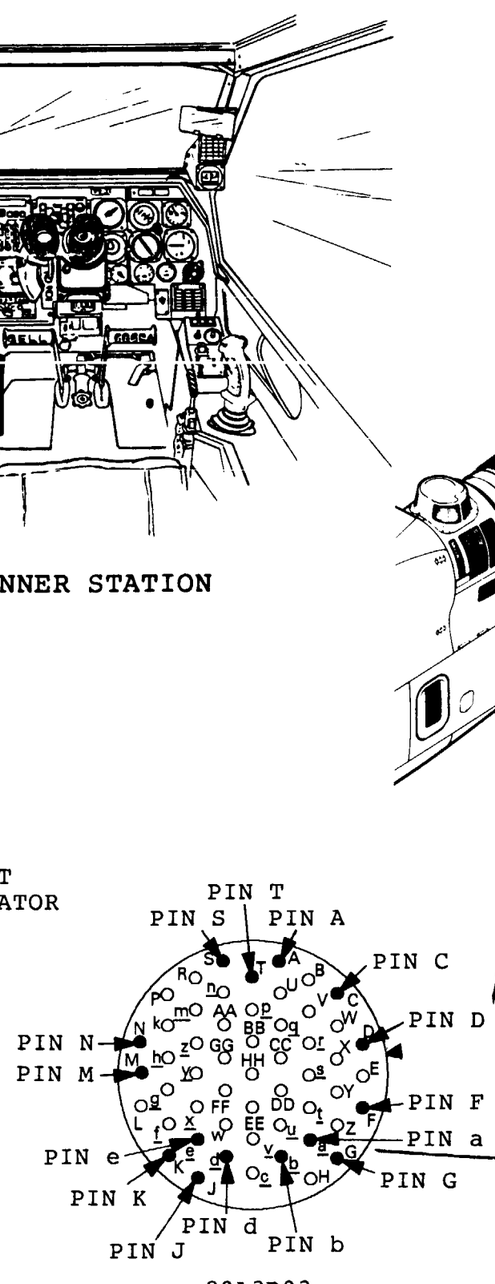
GUNNER STATION



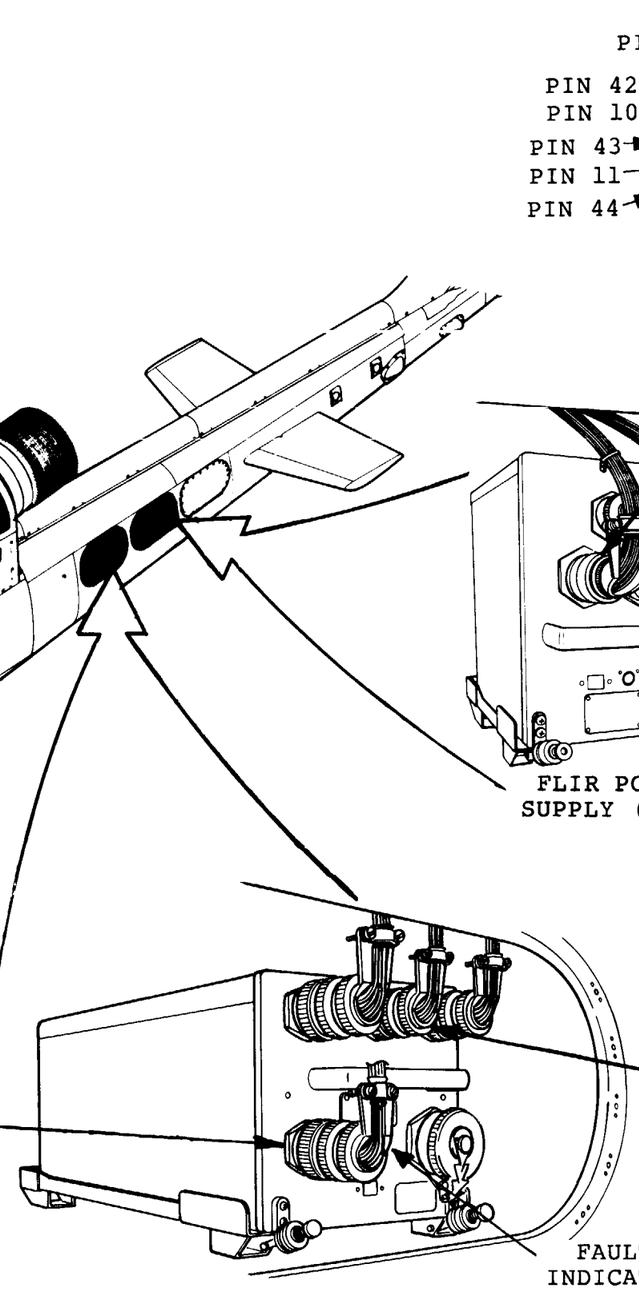

FMT INDICATOR

(FLIR CONTROL PANEL)



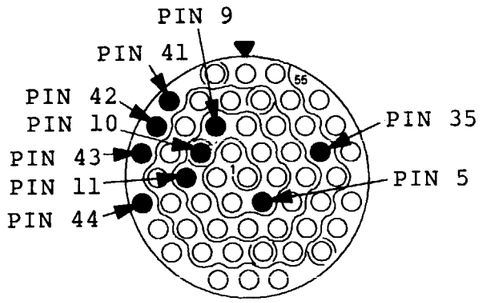



20A3P03

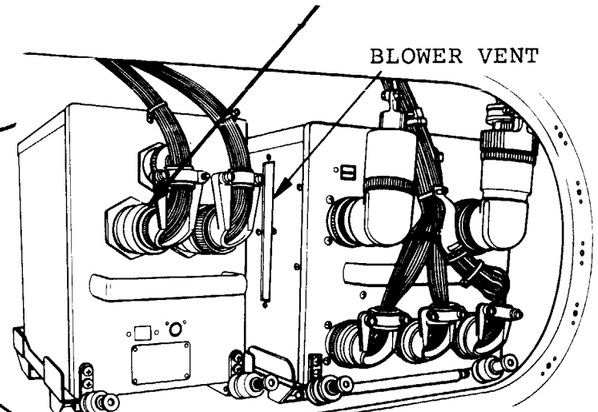


FAULT INDICATOR

FLIR MISSILE TRACKER (FMT)

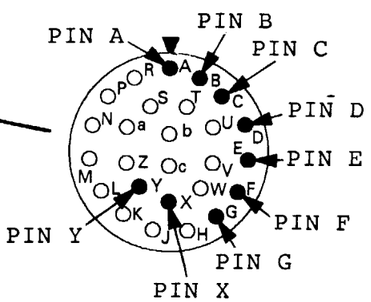



20A9P01



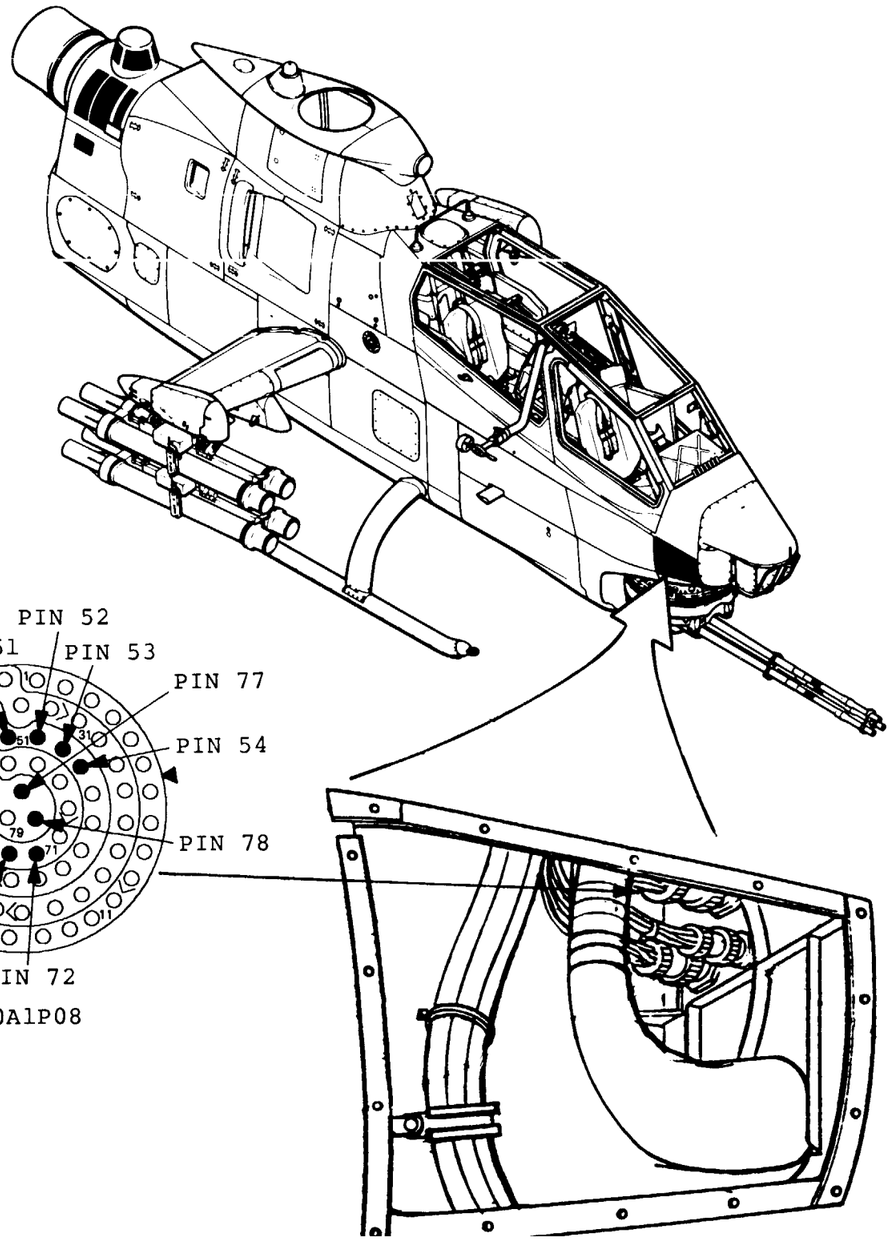

FLIR POWER SUPPLY (FPS)

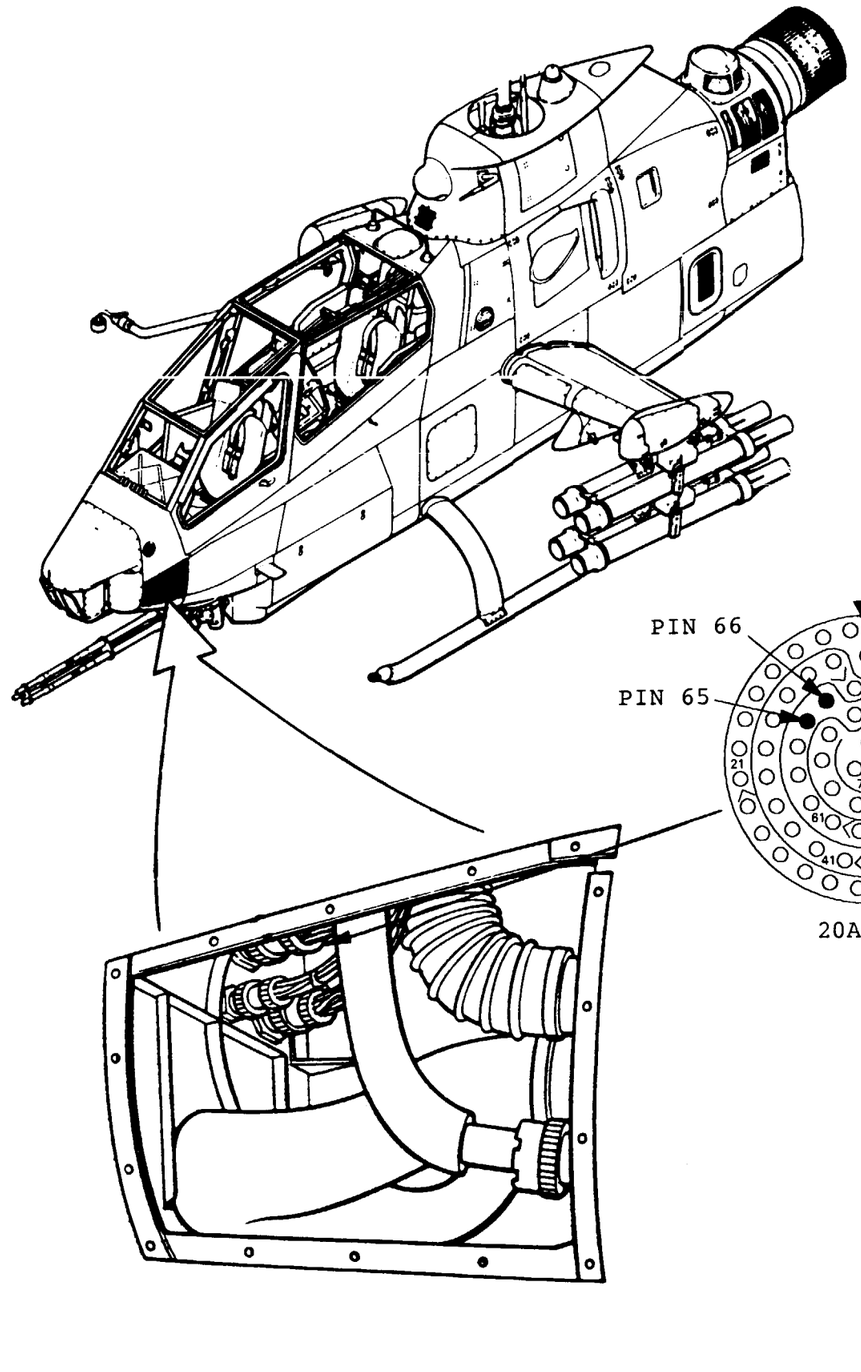
STABILIZATION CONTROL AMPLIFIER (SCA)




20A3P04

8-51. FMT BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).



8-51. FMT BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

Attempt to clear FMT BIT indicator failure as follows:

On FCP (FLIR control panel):

Press OFF/ON/BIT switch to BIT and release.

Does FMT BIT indicator show white at the completion of BIT test?

YES

Does fault indicator on FLIR missile tracker (FMT) front panel show white?

NO

Replace telescopic sight unit (TSU) per TM 9-1425-473-34 Chapter 4, Section III.

Then go to paragraph 8-2.1.

NO

Go to paragraph 8-2.1.

YES

Turn off electrical power per paragraph 8-3.

Replace FLIR missile tracker (FMT) per TM 9-1425-473-20, Chapter 2, Section V.

Turn on electrical power per paragraph 8-3.

On FCP (FLIR control panel):

Press OFF/ON/BIT switch to BIT and release.

Does FMT BIT indicator on FCP (FLIR control panel) show white at the completion of BIT test?

NO

Go to paragraph 8-2.1.

YES

Turn off electrical power per paragraph 8-3.

Install original FLIR missile tracker (FMT) per TM 9-1425-473-20, Chapter 2, Section V.

Disconnect 20A1P07 and 20A3P03.

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG1032A22 (WHT) | 20A3P03-a | 20A1P07-54 |
| TG1032A22 (BLU) | 20A3P03-b | 20A1P07-55 |
| TG1031A22 (BLU) | 20A3P03-e | 20A1P07-65 |
| TG1031A22 (WHT) | 20A3P03-d | 20A1P07-66 |

Is continuity present for each wire?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A3P03 and 20A1P07.

Then go to paragraph 8-2.1.

YES

## 8-51. FMT BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

Connect 20A1P07.

Disconnect 20A1P08.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1077A22 (WHT, | 20A3P03-S | 20A1P08-77 |
| TG1077A22 (BLU | 20A3P03-T | 20A1P08-78 |
| TG1066A (WHT) | 20A3P03-N | 20A1P08-72 |
| TG1061A (WHT) | 20A3P03-A | 20A1P08-73 |
| TG1062A (WHT) | 20A3P03-C | 20A1P08-74 |
| TG1063A (WHT) | 20A3P03-D | 20A1P08-75 |
| TG1065A (WHT) | 20A3P03-F | 20A1P08-76 |
| TG1058A (WHT) | 20A3P03-G | 20A1P08-51 |
| TG1059A (WHT) | 20A3P03-J | 20A1P08-52 |
| TG1060A (WHT) | 20A3P03-K | 20A1P08-53 |
| TG1064A (WHT) | 20A3P03-M | 20A1P08-54 |

Is continuity present for each wire?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A3P03 and 20A1P08.

Then go to paragraph 8-2.1.

YES

Disconnect 20A3P04.

Connect multimeter between 20A3P04-x (+) and 20A3P04-Y.

Turn on electrical power per paragraph 8-3.

Check for +28 V dc.

Is +28 V dc present?

YES

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A9P01.

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG1093A22 (WHT) | 20A3P04-X | 20A9P01-5 |
| TG1093A22 (BLU) | 20A3P04-Y | 20A9P01-35 |

Is continuity present for each wire?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A3P03, 20A3P04, 20A9P01, and 20A1P08.

Then go to paragraph 8-2.1.

YES

Turn off electrical power per paragraph 8-3.

Connect 20A3P03 and 20A1P08.

Disconnect 20A9P01.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1085C20 (WHT), TG1085B16 (WHT), and TG1085A20 (WHT) | 20A3P04-A | 20A9P01-41 |
| TG1085C20 (BLU), TG1085B16 (BLU), and TG1085A20 (BLU) | 20A3P04-B | 20A9P01-42 |
| TG1086C20 (WHT), TG1086B16 (WHT), and TG1086A20 (WHT) | 20A3P04-C | 20A9P01-43 |
| TG1086C20 (BLU), TG1086B16 (BLU), and TG1086A20 (BLU) | 20A3P04-D | 20A9P01-44 |
| TG1087A22 (WHT) | 20A3P04-E | 20A9P01-9 |
| TG1087A22 (BLU) | 20A3P04-F | 20A9P01-10 |
| TG1087A22 (ORN) | 20A3P04-G | 20A9P01-11 |

Is continuity present for each wire?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A3P04 and 20A9P01.

Then go to paragraph 8-2.1.

YES

Replace FLIR power supply (FPS) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A3P03, 20A3P04, and 20A1P08.

Then go to paragraph 8–2.1.

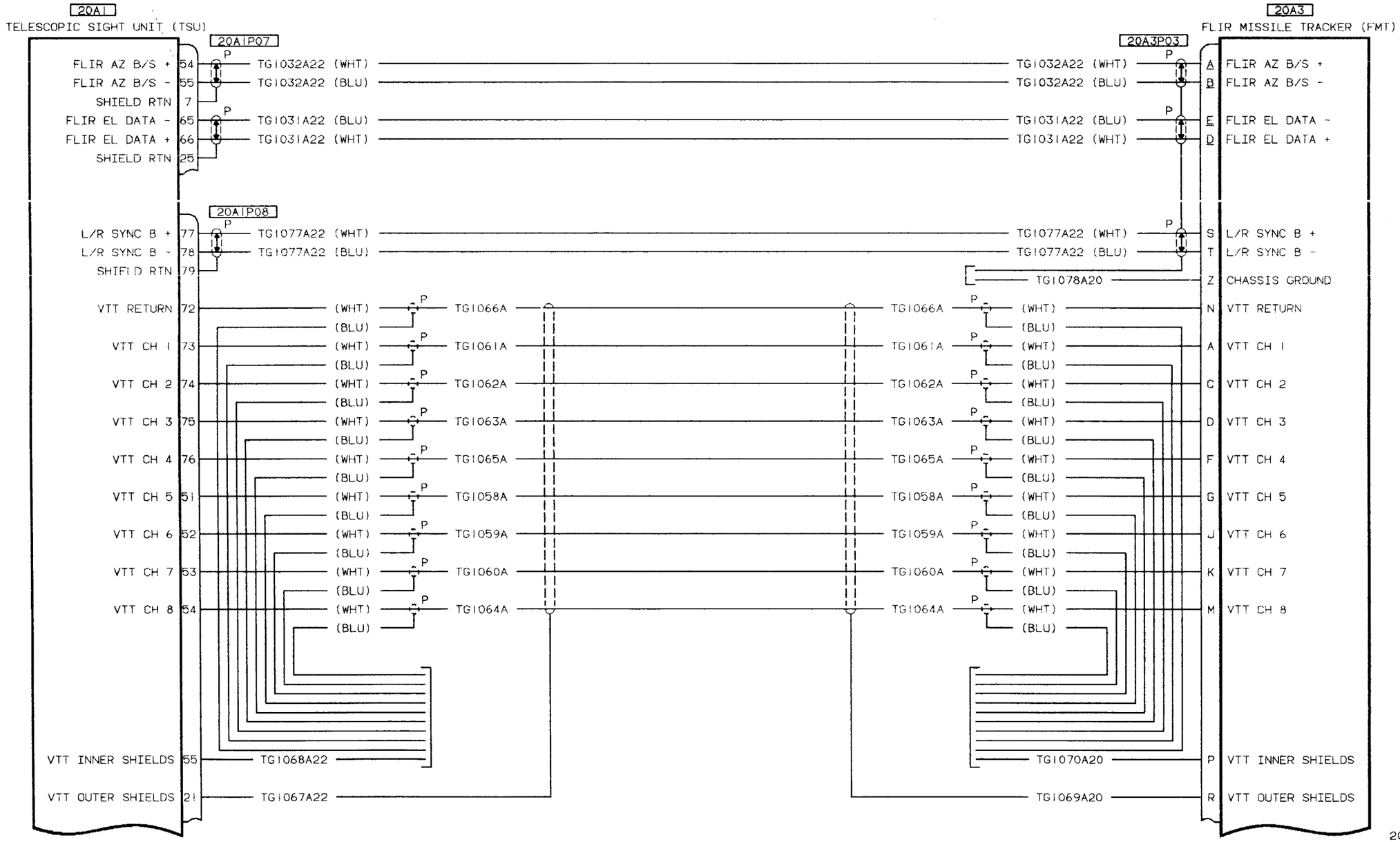
YES

Replace telescopic sight unit (TSU) per TM 9–1425-473-34, Chapter 4, Section III.

Connect 20A3P04 and 20A9P01.

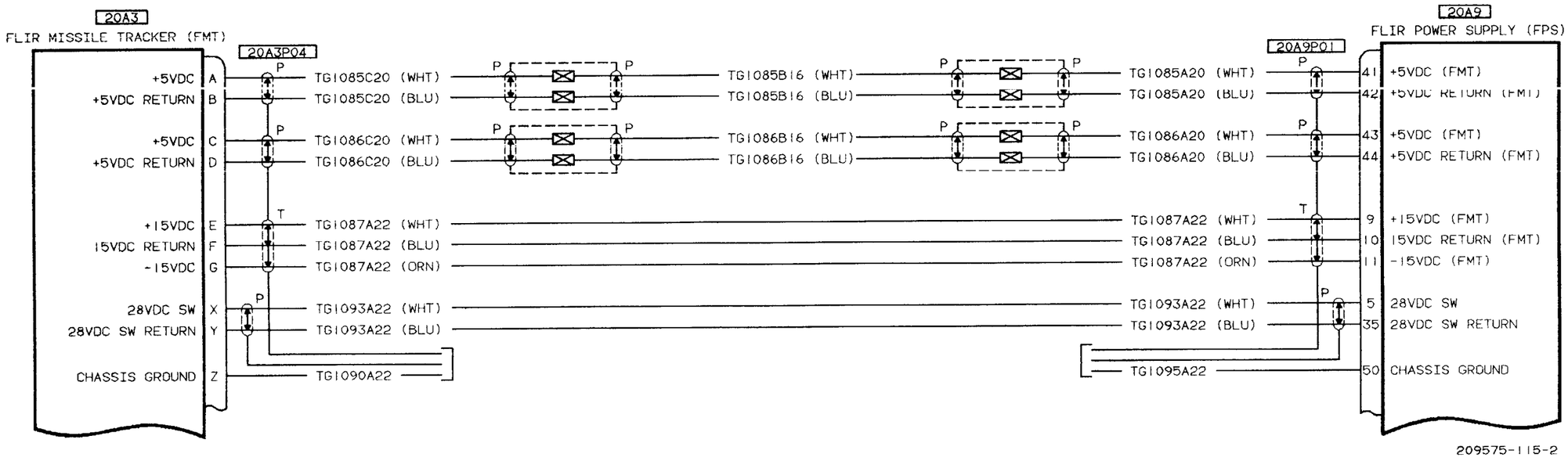
Then go to paragraph 8-2.1.

8-51. FMT BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).




209575-115-1

8-51. FMT BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).



8-52. TSU/TOW 2 BIT INDICATOR ON FCP SHOWS WHITE.

INITIAL SETUP

Applicable Configuration
AH-lS

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

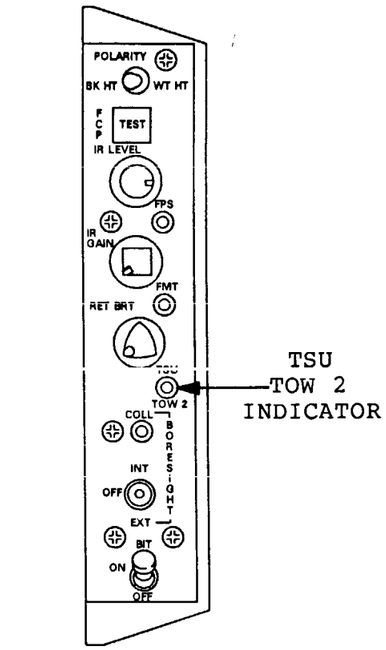
References
TM 9-1425-473-20
TM 9-1425-473-34

Access Panels
Middle Electronics (Tailboom) - Removed

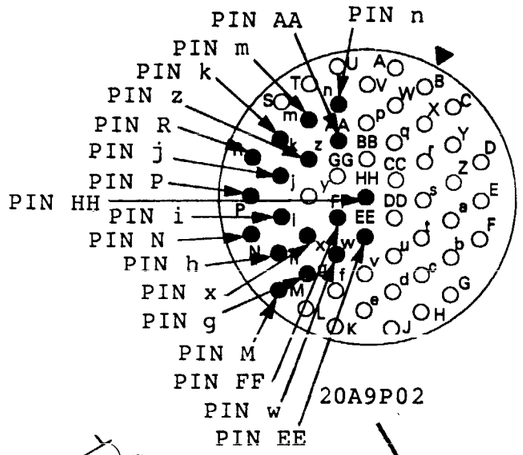
Forward Electronics (Tailboom) - Removed

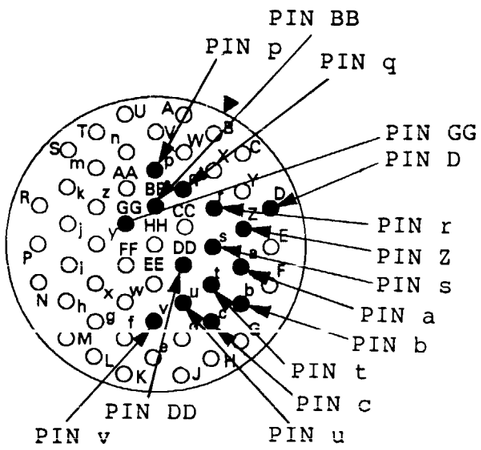
Left Forward Radar Warning Antenna - Removed

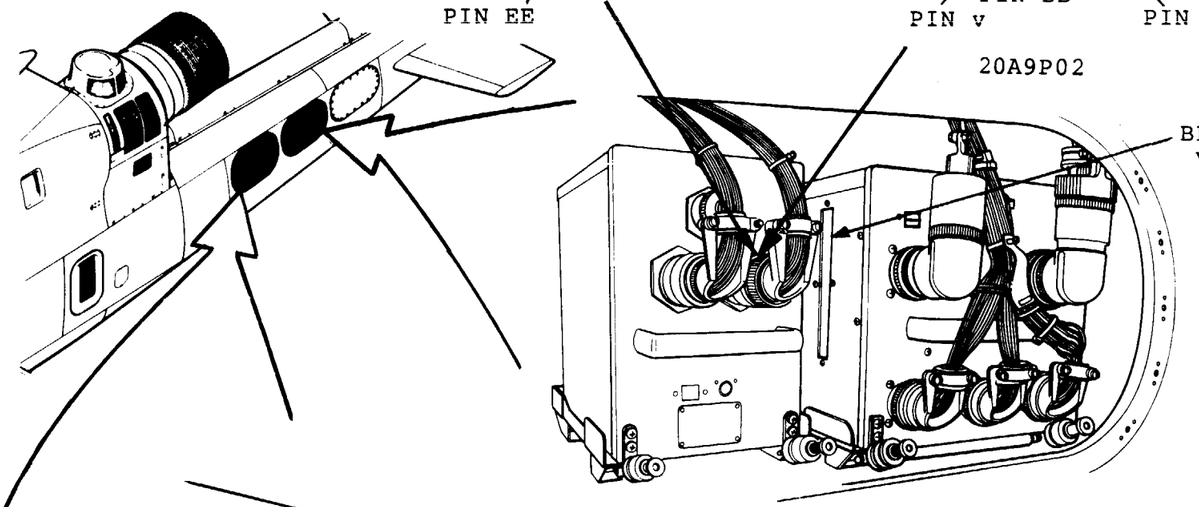
Right Forward Radar Warning Antenna - Removed




FCP (FLIR CONTROL PANEL)

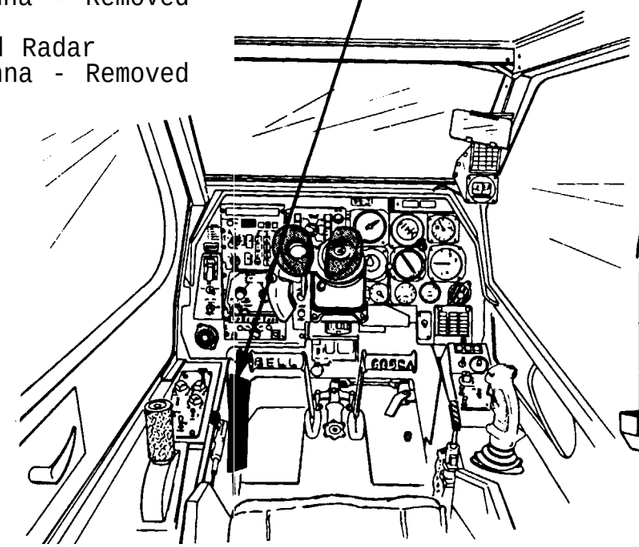


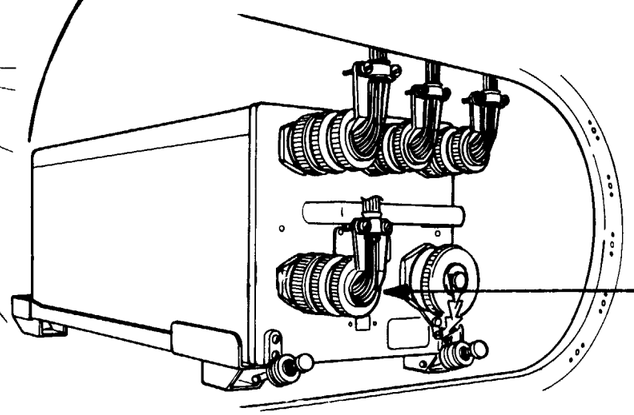




FLIR POWER SUPPLY (FPS)

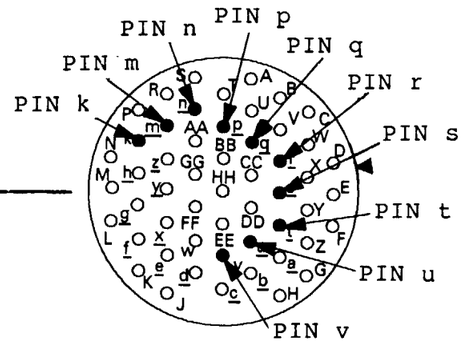
STABILIZATION CONTROL AMPLIFIER (SCA)



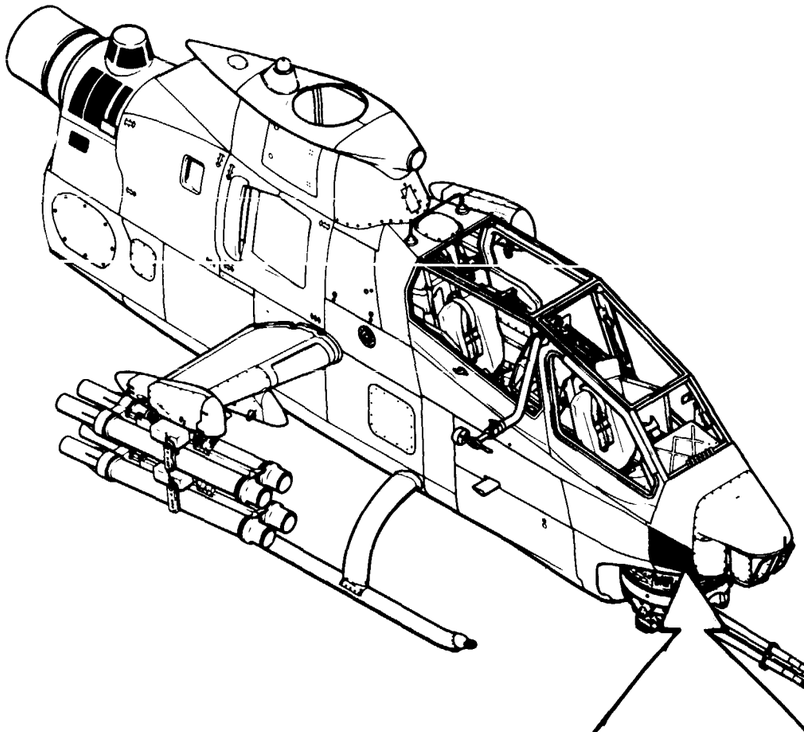
GUNNER STATION

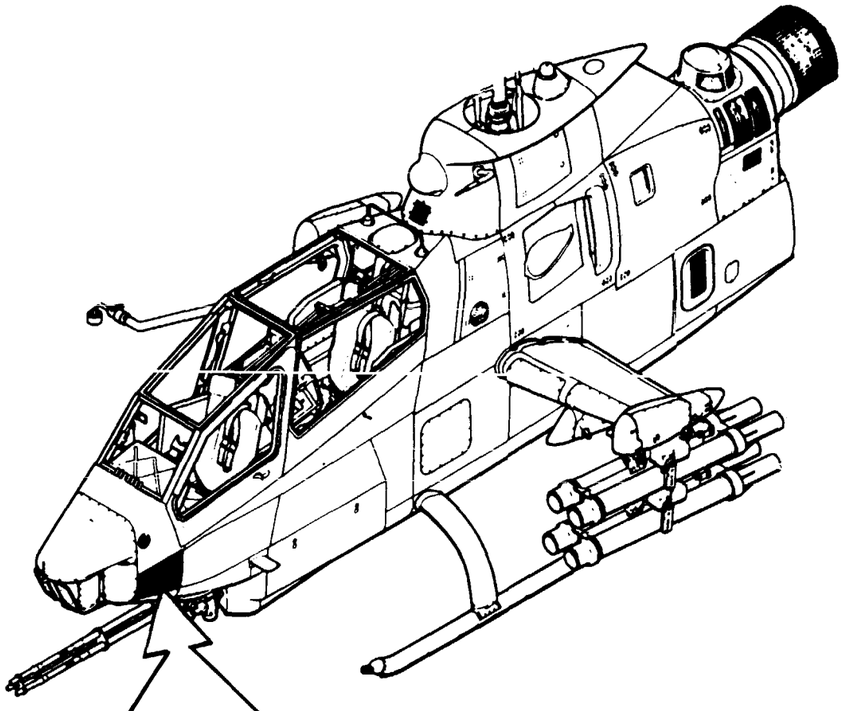


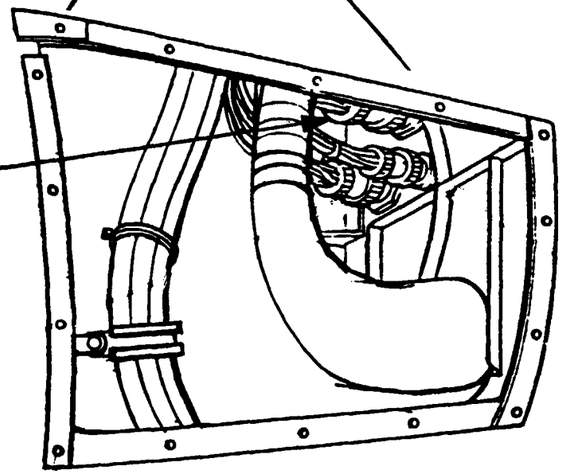
FLIR MISSILE TRACKER (FMT)

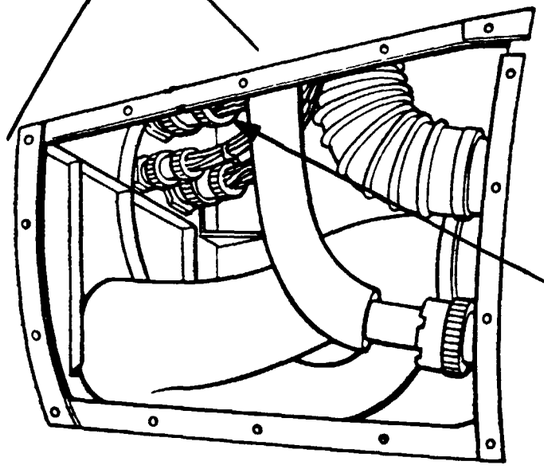


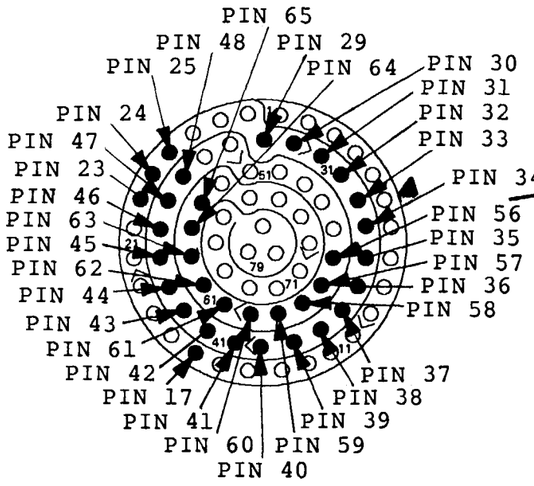
8-52. TSU/TOW 2 BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).



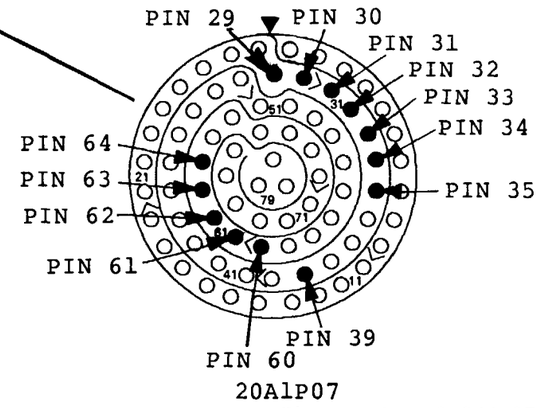









20A1P08




20A1P07

8-52. TSU/TOW 2 BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

Attempt to clear TSU/TOW 2 BIT failure indicator as follows:

On FCP (FLIR control panel):

Press OFF/GN/B1T switch to BIT and release.

Does TSU/TOW 2 BIT indicator show white at the completion of BIT test?

YES

Does telescope in TSU look down during FLIR BIT?

YES

NOTE

TSU/TOW 2 BIT failure can occur when TSU is facing a hot thermal scene.

Install TSU protective covers.

Does TSU/TOW 2 BIT pass when TSU protective covers are installed?

YES

Go to paragraph 8-2.1.

NO

Turn off electrical power per paragraph 8-3.

Disconnect 20A3P03 and 20A1P08.

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG1074A22 | 20A3P03-k | 20A1P08-60 |
| TG1072A22 | 20A3P03-m | 20A1P08-61 |
| TG1073A22 | 20A3P03-n | 20A1P08-62 |
| TG1075A22 | 20A3P03-p | 20A1P08-63 |
| TG1076A22 | 20A3P03-q | 20A1P08-64 |
| TG1071A22 | 20A3P03-r | 20A1P08-65 |
| TG1053A22 | 20A3P03-s | 20A1P08-56 |
| TG1054A22 | 20A3P03-t | 20A1P08-57 |
| TG1055A22 | 20A3P03-u | 20A1P08-58 |
| TG1056A22 | 20A3P03-v | 20A1P08-59 |

Is continuity present for each wire?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A3P03 and 20A1P08.

Then go to paragraph 8-2.1.

NO

Go to paragraph 8-2.1.

8-52. TSU/TOW 2 BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

Connect 20A3P03.

Disconnect 20A9P02 and 20A1P07.

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG1047A22 (WHT) | 20A9P02-s | 20A1P08-41 |
| TG1047A22 (BLU) | 20A9P02-t | 20A1P08-42 |
| TG1047A22 (ORN) | 20A9P02-Z | 20A1P08-43 |
| TG1046A22 (WHT) | 20A9P02-a | 20A1P08-44 |
| TG1046A22 (BLU) | 20A9P02-b | 20A1P08-45 |
| TG1046A22 (ORN) | 20A9P02-c | 20A1P08-46 |
| TG1042C20 (WHT), TG1042A16 (WHT), and TG1042B22 (WHT) | 20A9P02-v | 20A1P08-47 |
| TG1042C20 (BLU), TG1042A16 (BLU), and TG1042B22 (BLU) | 20A9P02-g | 20A1P08-48 |
| TG1049A20 (WHT), TG1049B16 (WHT), and TG1049C22 (WHT) | 20A9P02-w | 20A1P08-33 |
| TG1049A20 (BLU), TG1049B16 (BLU), and TG1049C22 (BLU) | 20A9P02-DD | 20A1P08-34 |
| TG1051A20 (WHT) and TG1051B22 (WHT) | 20A9P02-AA | 20A1P08-38 |
| TG1051A20 (BLU) and TG1051B22 (BLU) | 20A9P02-HH | 20A1P08-39 |
| TG1051A20 (ORN) and TG1051B22 (ORN) | 20A9P02-GG | 20A1P08-40 |
| TG1048A20 (WHT) and TG1048B22 (WHT) | 20A9P02-n | 20A1P08-36 |
| TG1048A20 (BLU) and TG1048B22 (BLU) | 20A9P02-p | 20A1P08-37 |
| TG1048A20 (ORN), TG1048B22 (ORN), and TG1048C22 | 20A9P02-m | 20A1P08-35 and 20A1P08-11 |
| TG1052A20 (WHT), TG1052B16 (WHT), and TG1052C22 (WHT) | 20A9P02-x | 20A1P08-29 |
| TG1052A20 (BLU), TG1052B16 (BLU), and TG1052C22 (BLU) | 20A9P02-BB | 20A1P08-30 |
| TG1050A20 (WHT), TG1050B16 (WHT), and TG1050C22 (WHT) | 20A9P02-D | 20A1P08-31 |
| TG1050A20 (BLU), TG1050B16 (BLU), and TG1050C22 (BLU) | 20A9P02-i | 20A1P08-32 |
| TG1039A20 (WHT), TG1039B16 (WHT), TG1039C22 (WHT), and TG1039D22 (WHT) | 20A9P02-N | 20A1P07-33 and 20A1P08-25 |
| TG1039A20 (BLU), TG1039B16 (BLU), TG1039C22 (BLU), and TG1039D22 (BLU) | 20A9P02-P | 20A1P07-34 and 20A1P08-24 |
| TG1039A20 (ORN), TG1039B16 (ORN), TG1039C22 (ORN), and TG1039D22 (ORN) | 20A9P02-R | 20A1P07-35 and 20A1P08-23 |

Is continuity present for each wire?

YES → YES

NO → NO

Repair wire(s) where continuity is not present.

Connect 20A9P02, 20A1P07, and 20A1P08.

Then go to paragraph 8-2.1.

8-52. TSU/TOW 2 BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).

Connect 20A1P08.

Check the following wires for continuity:

| WIRE NO. | FROM | TO |
|---|---|---|
| TG1041A20 (WHT), TG1041B16 (WHT), and T1041C22 (WHT) | 20A9P02-M | 20A1P07-32 |
| TG1041A20 (BLU), TG1041B16 (BLU), and TG1041C22 (BLU) | 20A9P02-FF | 20A1P07-31 |
| TG1034A20 (WHT), TG1034B12 (WHT), and TG1034C22 (WHT) | 20A9P02-h | 20A1P07-63 |
| TG1034A20 (BLU), TG1034B12 (BLU), and TG1034C22 (BLU) | 20A9P02-z | 20A1P07-64 |
| TG1040A20 (WHT) and TG1040B22 (WHT) | 20A9P02-u | 20A1P07-60 |
| TG104020 (BLU) and TG1040B22 (BLU) | 20A9P02-k | 20A1P07-61 |
| TG1040A20 (ORN) and TG1040B22 (ORN) | 20A9P02-j | 20A1P07-62 |
| TG1035A20 (WHT), TG1035B12 (WHT), and TG1035C22 (WHT) | 20A9P02-q | 20A1P07-29 |
| TG1035A20 (BLU TG1035B12 (BLU and TG1035C22 (BLU | 20A9P02-r | 20A1P07-30 |
| TG1035A20 (ORN TG1035B12 (ORN and TG1035C22 (ORN) | 20A9P02-EE | 20A1P07-39 |

Is continuity present for each wire?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A9P02 and 20A1P07.

Then go to paragraph 8-2.1.

YES

Replace FLIR missile tracker (FMT) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P07 and 20A9P02.

Turn on electrical power per paragraph 8-3.

On FCP (FLIR control panel):

Press OFF/ON/BIT switch to BIT and release.

Does TSU/TOW 2 BIT indicator on FCP (FLIR control panel) show white at the completion of BIT test?

YES

Turn off electrical power per paragraph 8-3.

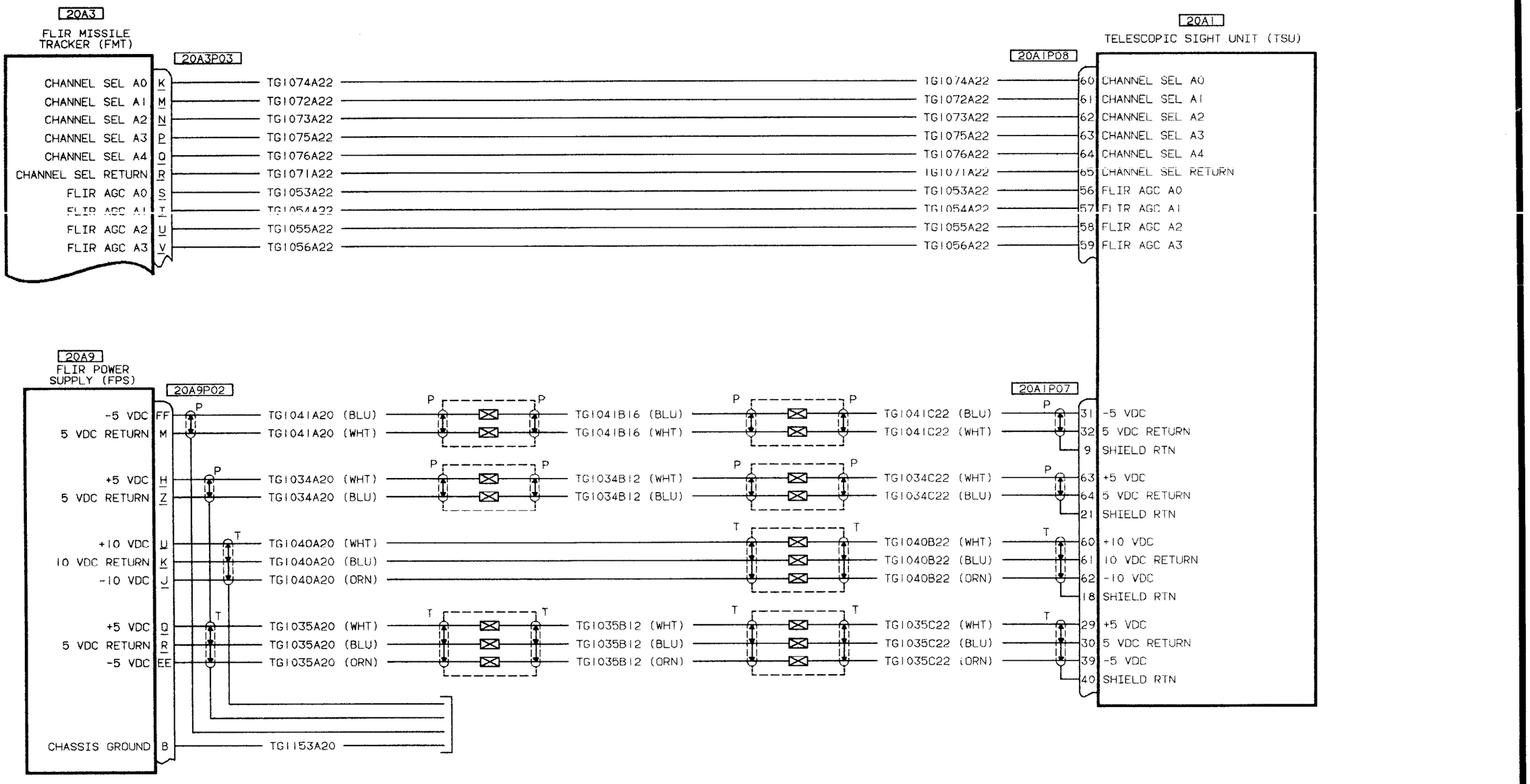
Install original FLIR missile tracker (FMT) per TM 9-1425-473-20, Chapter 2, Section V.

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

NO

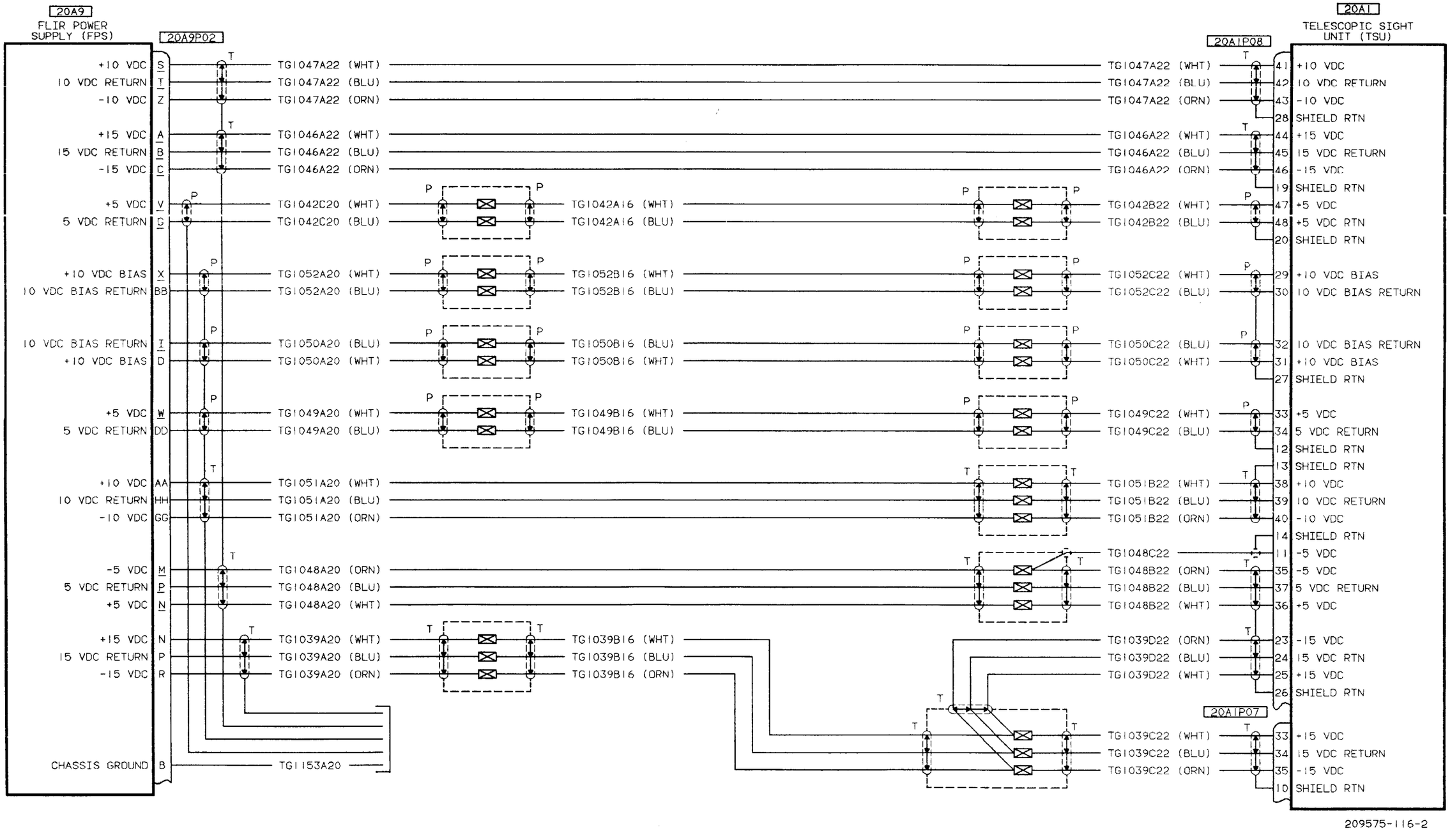
Go to paragraph 8-2.1.

8-52. TSU/TOW 2 BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).




209575-116-1

8-52. TSU/TOW 2 BIT INDICATOR ON FCP SHOWS WHITE (CONTINUED).




209575-116-2

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**8-53. VERTICAL BAR IS NOT DISPLAYED IN TSU EYEPIECE WHEN FCP OFF/ON/BIT SWITCH IS HELD IN BIT POSITION.**

INITIAL SETUP

Applicable Configuration
AH-1S MCN

Tools/Test and Support Equipment
Multimeter

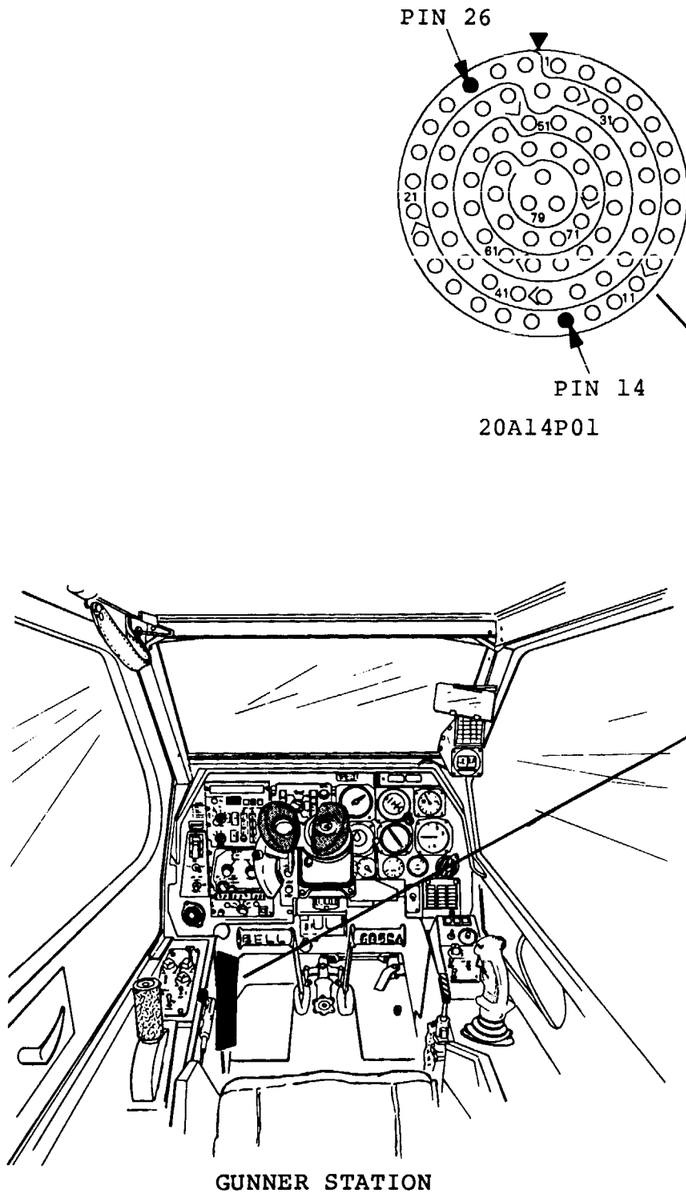
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

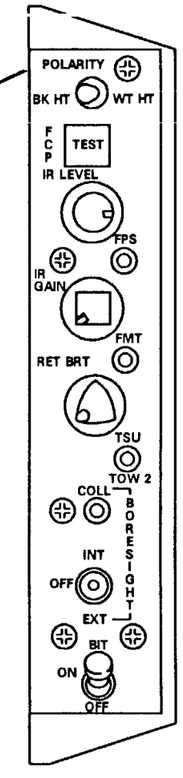
References
TM 9-1425-473-20
TM 9-1425-473-34

Access Panels
Middle Electronics (Tailboom) - Removed

Left Forward Radar Warning Antenna - Removed

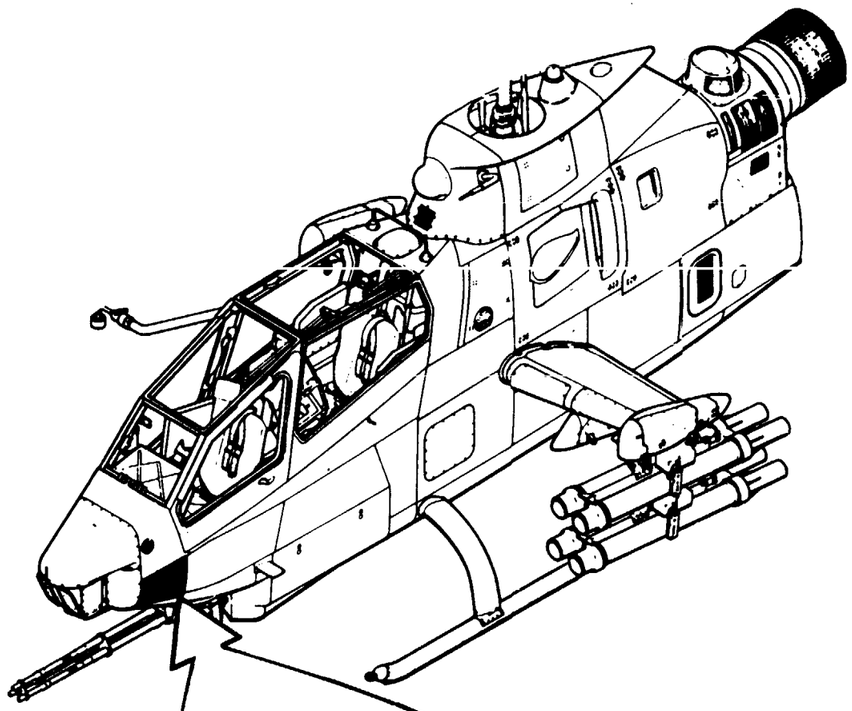


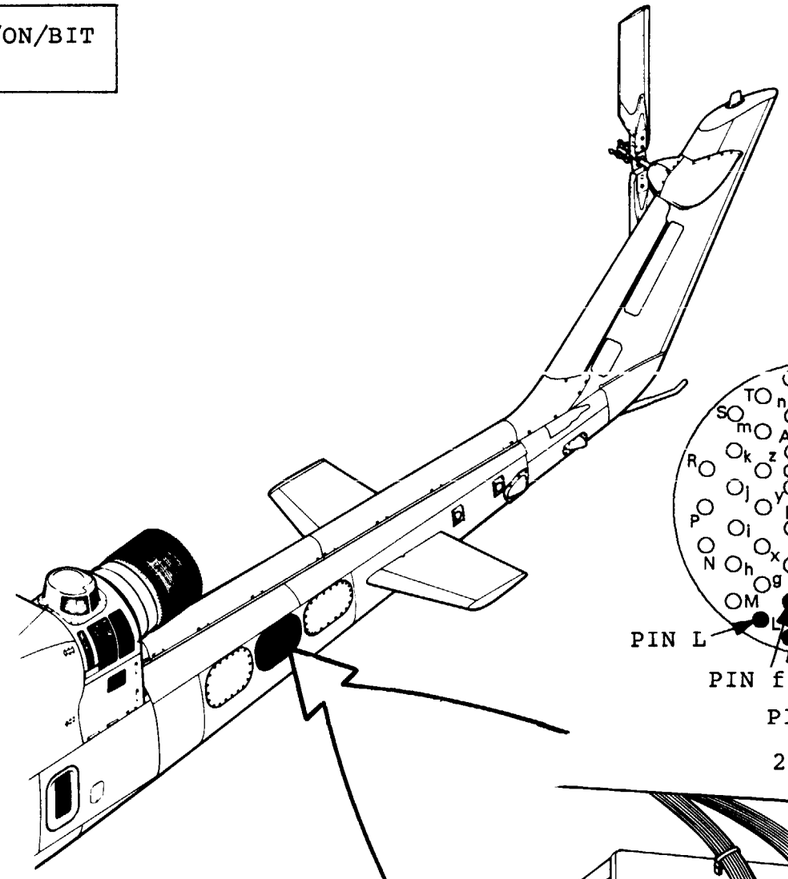

FCP (FLIR CONTROL PANEL) (REAR VIEW)

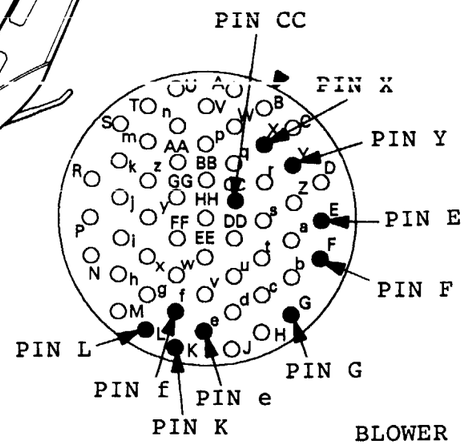


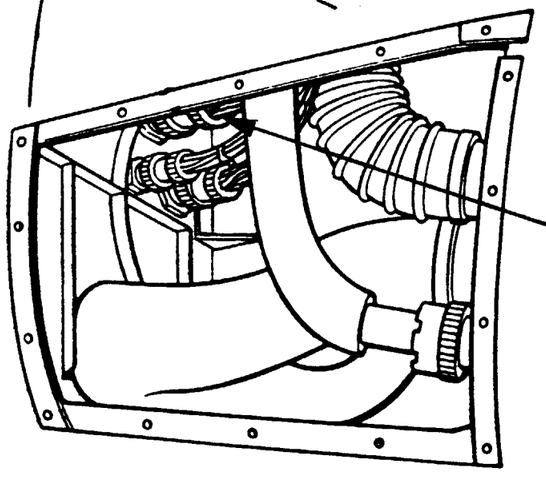

FCP (FLIR CONTROL PANEL)

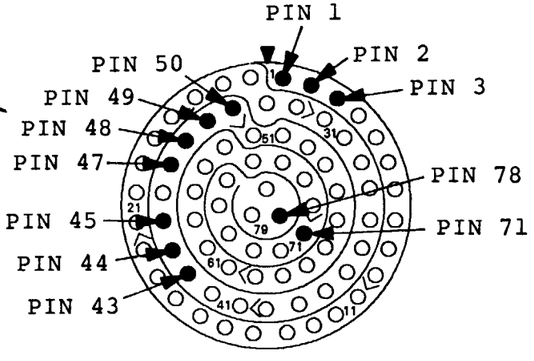
8-53. VERTICAL BAR IS NOT DISPLAYED IN TSU EYEPIECE WHEN FCP OFF/ON/BIT SWITCH IS HELD IN BIT POSITION (CONTINUED).

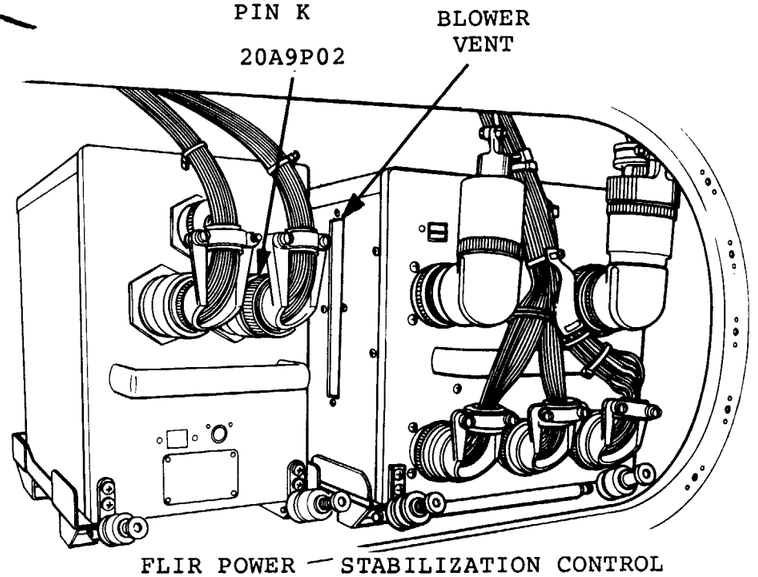








## 8-53. VERTICAL BAR IS NOT DISPLAYED IN TSU EYEPIECE WHEN FCP OFF/ON/BIT SWITCH IS HELD IN BIT POSITION (CONTINUED).

'rum off electrical power per paragraph 8-3.

Disconnect 20A1P07.

Connect multimeter between 20A1P07-71 (+) and 20A1P07-78.

Turn on electrical power per paragraph 8-3.

On FCP (FLIR control panel):

Hold OFF/ON/BIT switch to BIT position and check for continuity.

Release OFF/ON/BIT switch.

Was continuity Present?

YES →

Turn off electrical power per paragraph 8-3.

Disconnect 20A9P02.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG1033A20 (WHT), TG1033B16 (WHT), and TG1033C22 (WHT) | 20A9P02-K | 20A1P07-3 |
| TG1033A20 (BLU), TG1033B16 (BLU), and TG1033C22 (BLU) | 20A9P02-e | 20A1P07-2 |
| TG1033A20 (ORN) | 20A9P02-f | 20A1P07-1 |
| TG1033B16 (ORN), and TG1033C22 (ORN) | | |
| TG1036A22 (WHT) | 20A9P02-CC | 20A1P07-48 |
| TG1036A22 (BLU) | 20A9P02-L | 20A1P07-47 |
| TG1038A20 (WHT), TG1038B16 (WHT), and TG1038C22 (WHT) | 20A9P02-E | 20A1P07-43 |
| TG1038A20 (BLU), TG1038B16 (BLU), and TG1038C22 (BLU) | 20A9P02-F | 20A1P07-44 |
| TG1038A20 (ORN), TG1038B16 (ORN), and TG1038C22 (ORN) | 20A9P02-G | 20A1P07-45 |
| TG1037A20 (WHT), TG1037B16 (WHT), and TG1037C22 (WHT) | 20A9P02-X | 20A1P07-50 |
| TG1037A20 (BLU), TG1037B16 (BLU), and TG1037C22 (BLU) | 20A9P02-Y | 20A1P07-49 |

Is continuity present for each wire?

YES →

Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Connect 20A9P02.

Then go to paragraph 8-2.1.

NO ↓

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01.

Check for continuity from 20A14P01-26 to 20A1P07-71 and 20A1P07-69 and from 20A1P07-78 to 20A14P01-14.

Is continuity present for each wire?

YES →

Repair wire TG1030B22 between 20A1P07-71 and splice or wire TG1030C22 between 20A1P07-69 and splice or wire TG1030A22 between 20A14P01-26 and splice or wire TG1028A22 between 20A1P07-78 and 20A14P01-14.

Connect 20A1P07 and 20A14P01.

Then go to paragraph 8-2.1.

NO ↓

Replace FCP (FLIR control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A1P07.

Then go to paragraph 8-2.1.

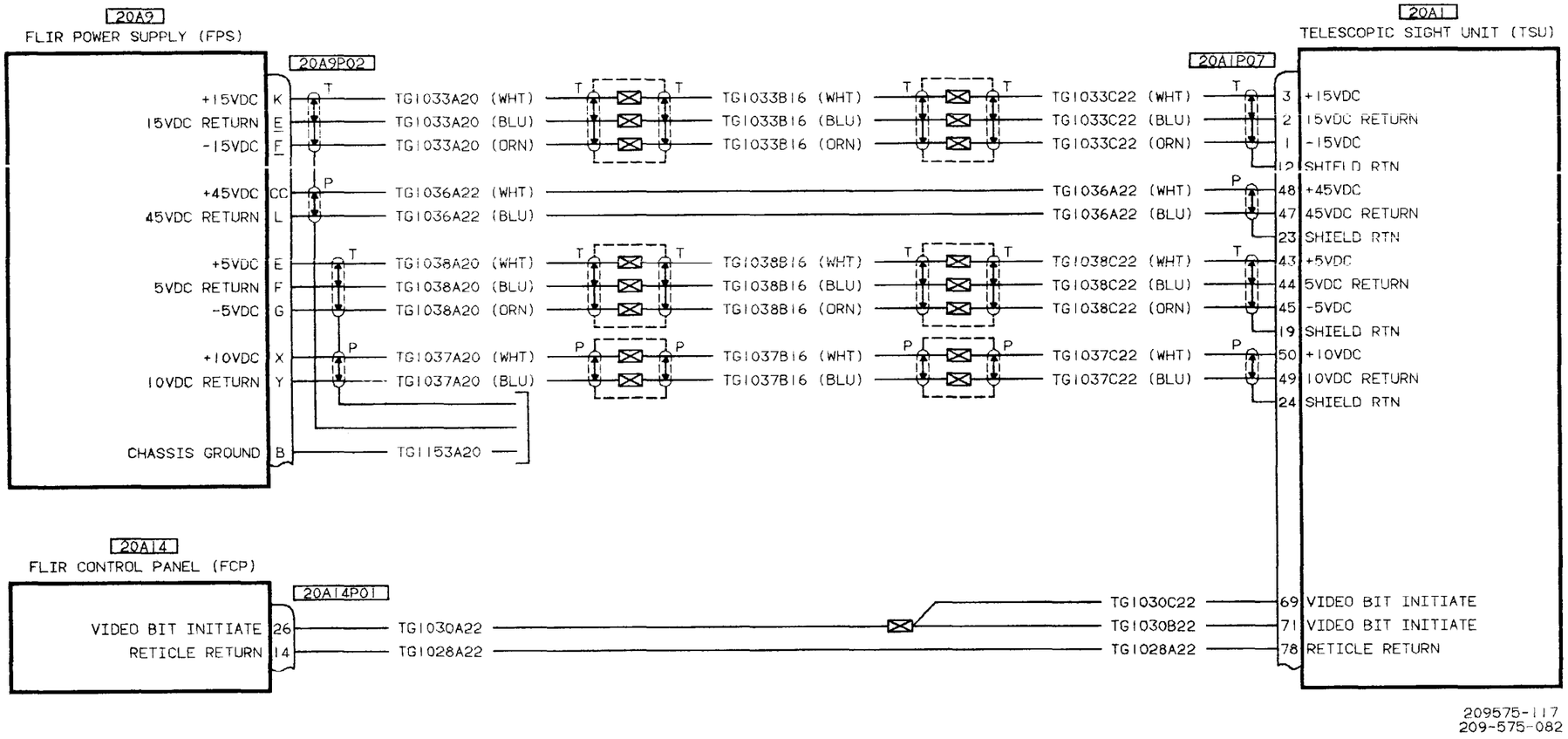
NO ↓

Repair wire(s) where continuity is not present.

Connect 20A1P07 and 20A9P02.

Then go to paragraph 8-2.1.

8-53. VERTICAL BAR IS NOT DISPLAYED IN TSU EYEPIECE WHEN FCP OFF/ON/BIT SWITCH IS HELD IN BIT POSITION (CONTINUED).



**8-54. TSU SYMBOLOGY GENERATOR UNIT (SGU) HEADING DISPLAY DOES NOT INDICATE SAME AS DIRECTIONAL GYRO ± 2° WITH TSU IN STOW.**

INITIAL SETUP

Applicable Configuration
AH-1S MCN

Tools/Test and Support Equipment
Multimeter
Tool Set, A/C Armament Repairman

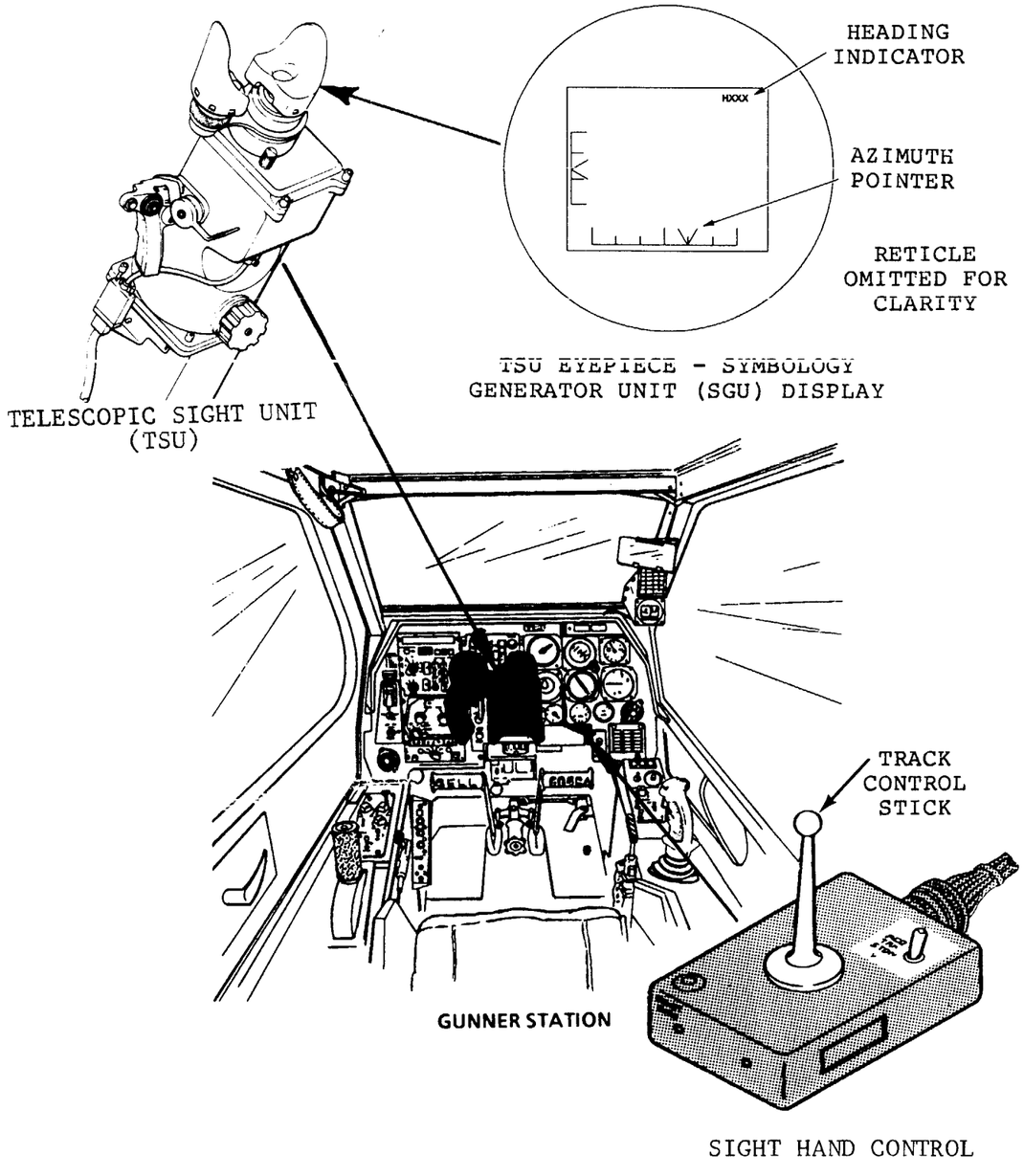
Personnel Required
68J (2)

References
TM 9-1425-473-34
TM 11-1520-236-23

Access Panels

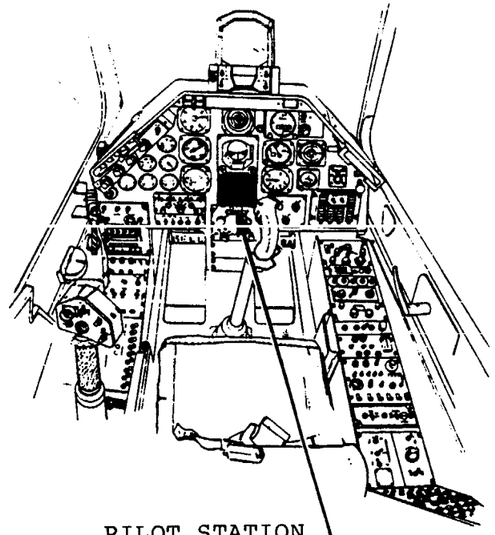
Right Side Control Linkage - Removed

Right Forward Radar Warning Antenna - Removed

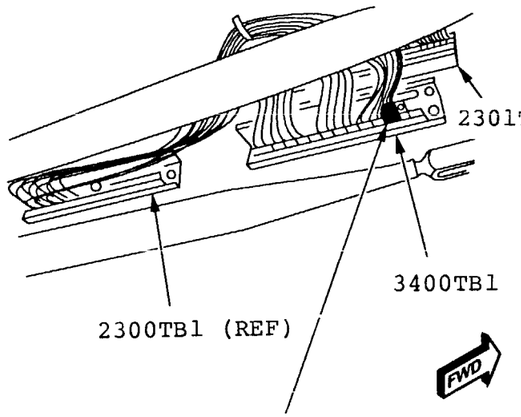


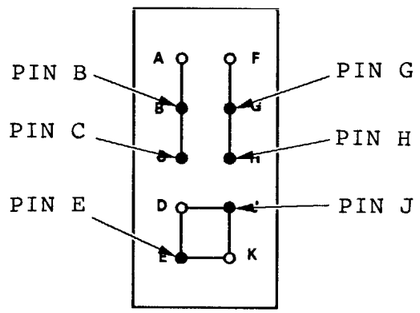

SIGHT HAND CONTROL

8-54. TSU SYMBOLOGY GENERATOR UNIT (SGU) HEADING DISPLAY DOES NOT INDICATE SAME AS DIRECTIONAL GYRO ± 2° WITH TSU IN STOW (CONTINUED).

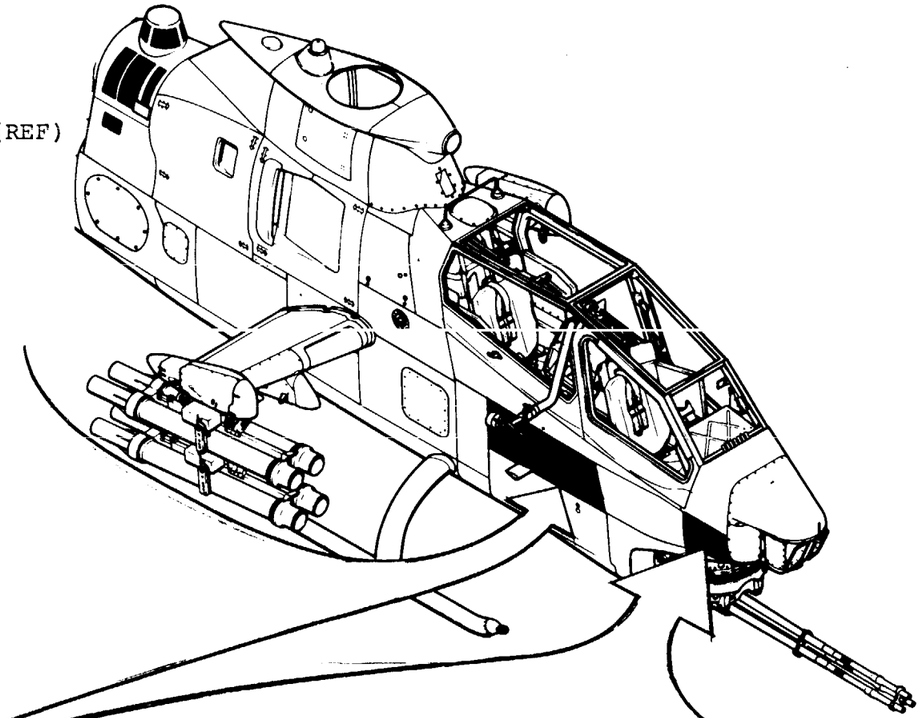


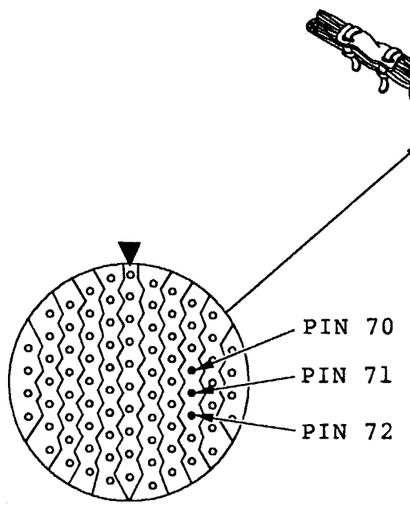
PILOT STATION



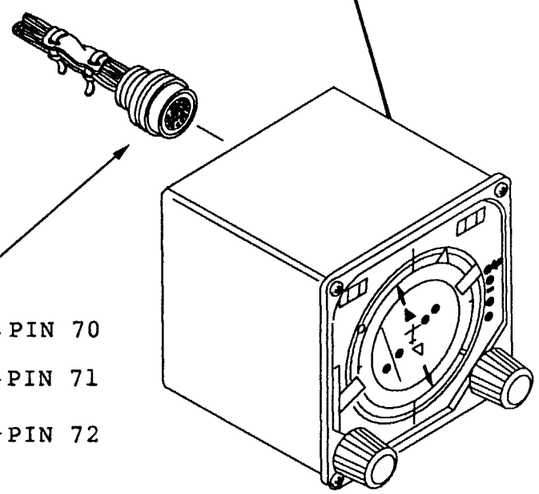




MODULE 12

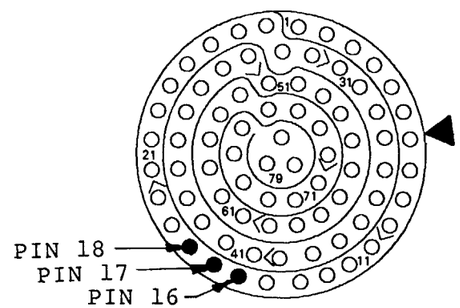




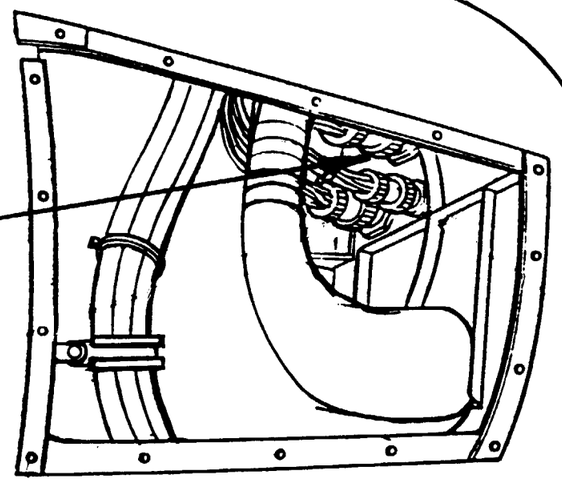

3400DS1P1



PILOT HORIZONTAL SITUATION INDICATOR (HSI)




20A1P08



8-54. TSU SYMBOLOGY GENERATOR UNIT (SGU) HEADING DISPLAY DOES NOT INDICATE SAME AS DIRECTIONAL GYRO ± 2° WITH TSU IN STOW (CONTINUED).

Press and hold OFF/ON/BIT switch on FCP (FLIR control panel) to BIT position.

Set ACQ/TRK/STOW switch on sight hand control to TRK.

Push track control stick on sight hand control to right, moving azimuth pointer in TSU eyepiece to first mark right of center.

Does symbology generator unit (SGU) heading indicator in TSU eyepiece indicate H030 ± 2°?

YES → Turn off electrical power per paragraph 8-3.

Disconnect 20A1P08 and 3400DS1P1.

Check for continuity from 20A1P08-16 to 3400DS1P1-71, from 20A1P08-17 to 3400DS1P1-72, and from 20A1P08-18 to 3400DS1P1-70.

Is continuity present in each check?

YES → Connect 20A1P08.

Troubleshoot gyromagnetic compass set per TM 11-1520-236-23, Chapter 7, Section III.

Then go to paragraph 8-2.1.

NO → Check for continuity from 20A1P08-16 to 3400TB1-C12, from 20A1P08-17 to 3400TB1-H12, and from 20A1P08-18 to 3400TB1-J12.

Is continuity present in each check?

YES → Repair the following wire(s) as required.

| WIRE NO. | FROM | TO |
|---|---|---|
| ASN128-1D22 (BLU) | 3400DS1P1-71 | 3400TB1-B12 |
| ASN128-1D22 (ORN) | 3400DS1P1-72 | 3400TB1-G12 |
| ASN128-1D22 (WHT) | 3400DS1P1-70 | 3400TB1-E12 |

Connect 20A1P08 and 3400DS1P1.

Then go to paragrap 8-2.1.

NO → Repair the following wire(s) as required.

| WIRE NO. | FROM | TO |
|---|---|---|
| ASN128-1E22 (BLU) | 20A1P08-18 | 3400TB1-C12 |
| ASN128-1E22 (ORN) | 20A1P08-17 | 3400TB1-H12 |
| ASN128-1E22 (WHT) | 20A1P08-16 | 3400TB1-J12 |

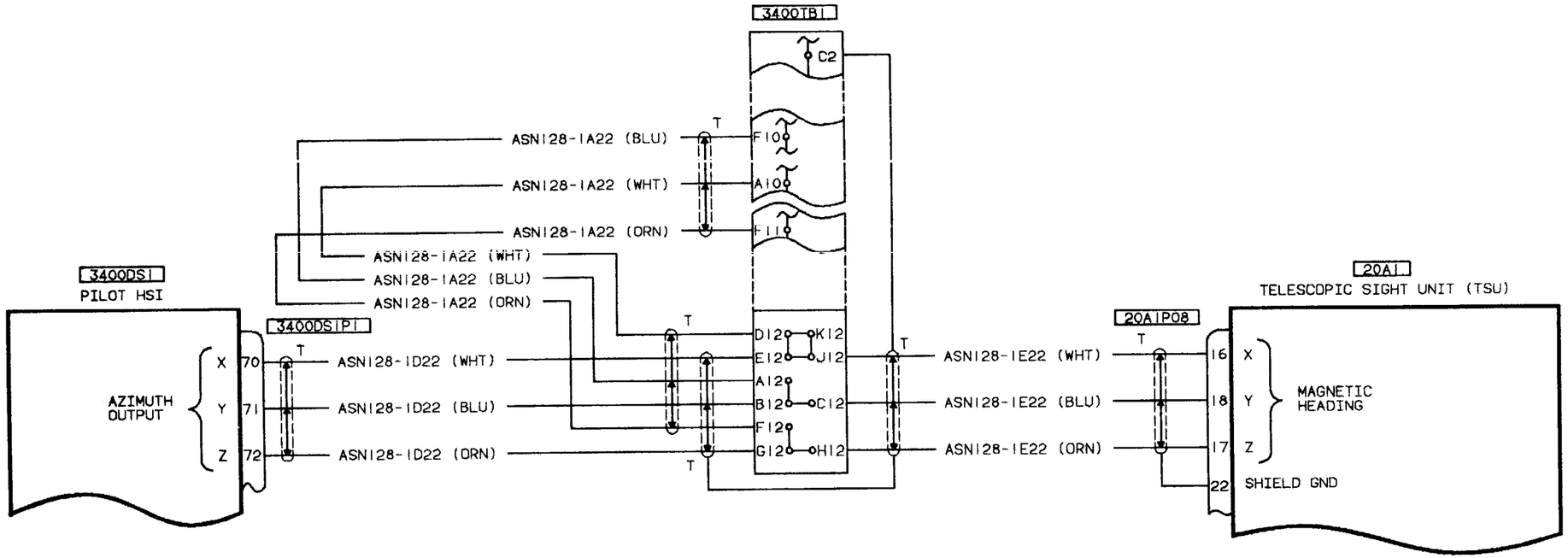
Connect 20A1P08 and 3400DS1P1.

Then go to paragraph 8-2.1.

NO → Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

Then go to paragraph 8-2.1.

8-54. TSU SYMBOLOGY GENERATOR UNIT (SGU) HEADING DISPLAY DOES NOT INDICATE SAME AS DIRECTIONAL GYRO ± 2° WITH TSU IN STOW (CONTINUED).




209575-128

8-55. FLIR BIT IS NOT INTERRUPTED WHEN TCP (TOW CONTROL PANEL) MODE SELECT SWITCH IS SET TO ARMED MAN.

INITIAL SETUP

Applicable Configuration
AH-1S MCN

Tools/Test and Support Equipment
Multimeter

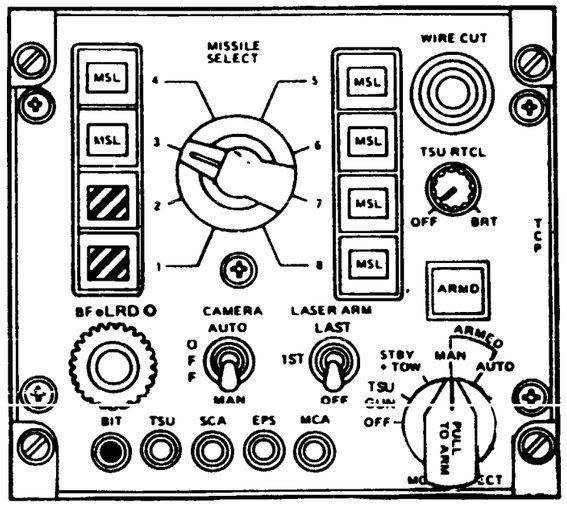
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

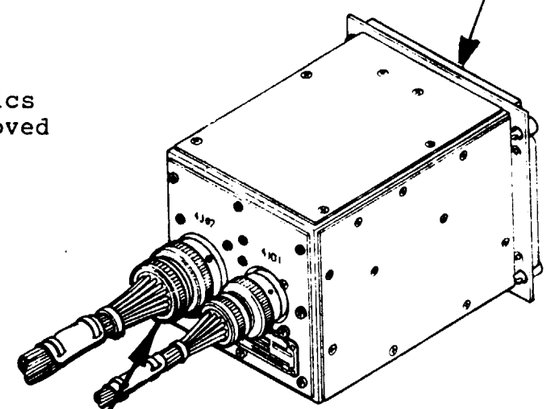
References
TM 9-1425-473-20

Access Panels

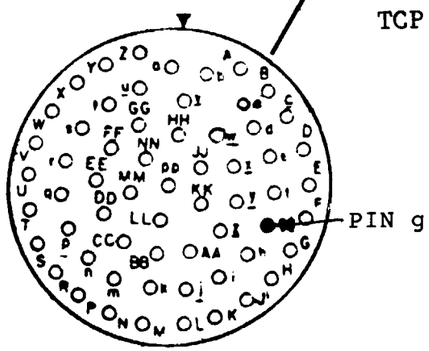
Forward Electronics (Tailboom) - Removed



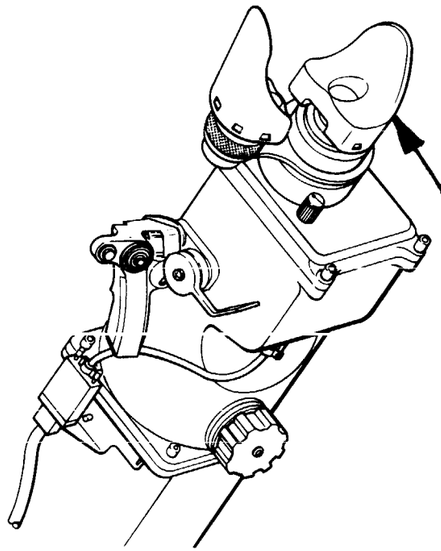

TCP (TOW CONTROL PANEL)



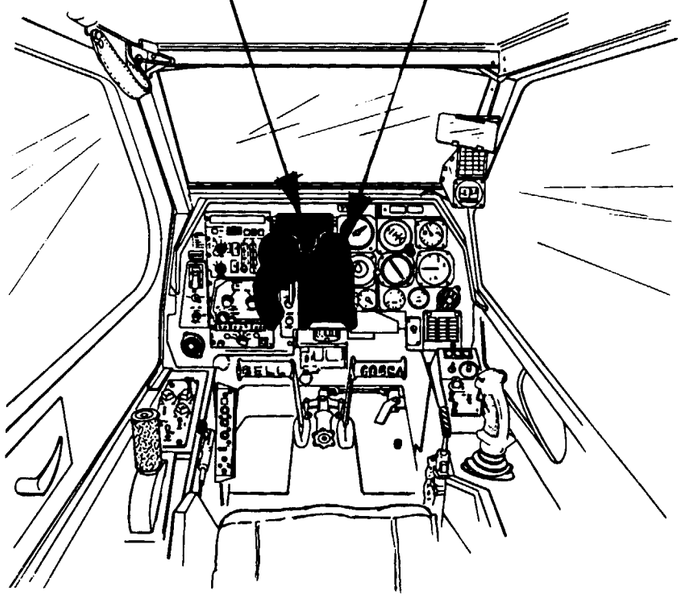
TCP (TOW CONTROL PANEL) (REAR VIEW)



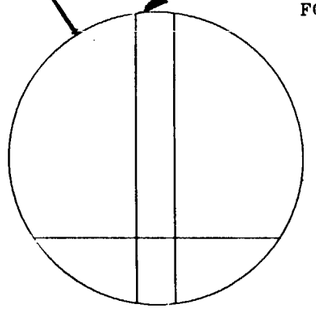

20A4P02



TELESCOPIC SIGHT UNIT (TSU)

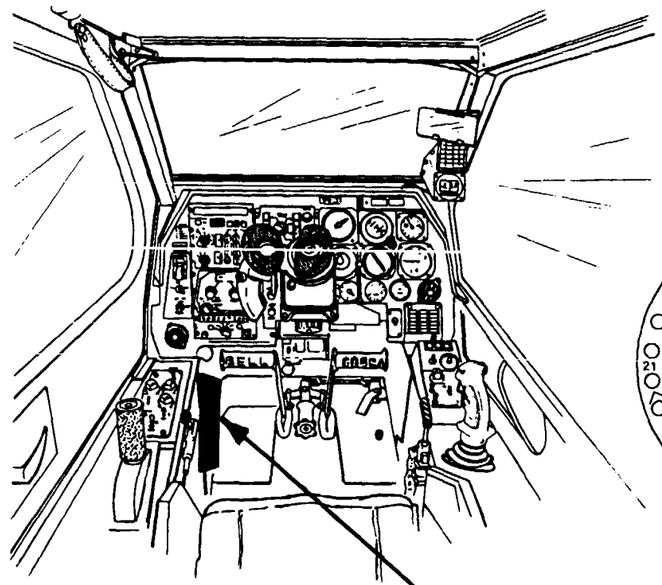


GUNNER STATION

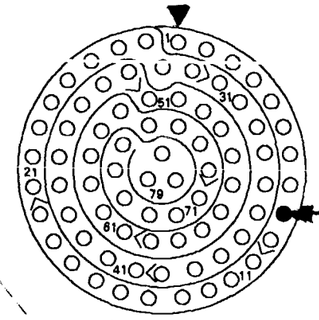


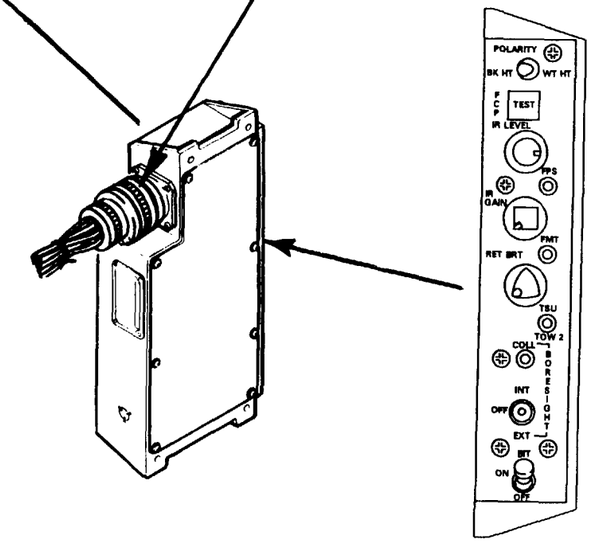

TSU EYEPIECE - VERTICAL BAR (VIDEO BIT DISPLAY)

8-55. FLIR BIT IS NOT INTERRUPTED WHEN TCP (TOW CONTROL PANEL) MODE SELECT SWITCH IS SET TO ARMED MAN (CONTINUED).



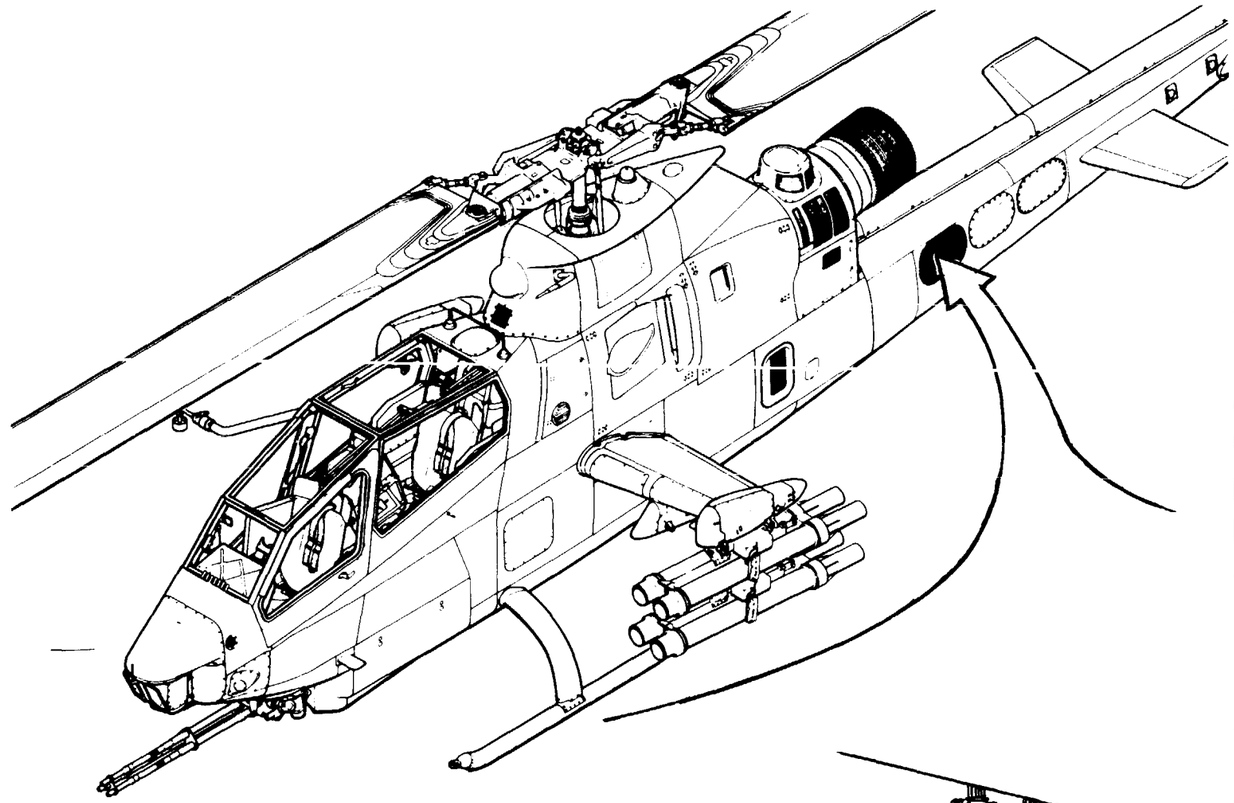
GUNNER STATION

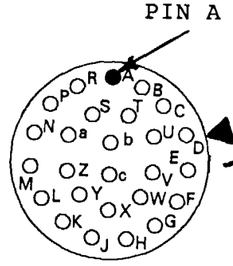


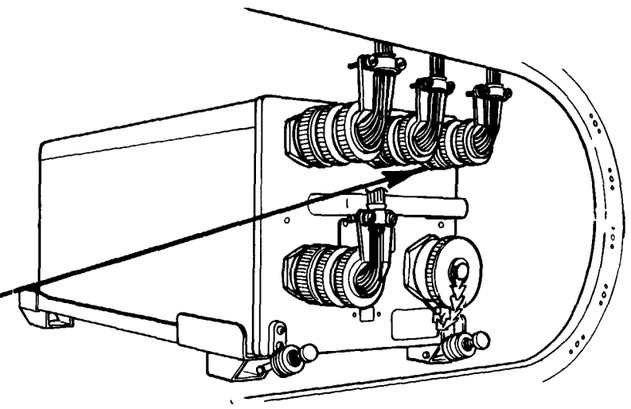

FCP (FLIR CONTROL PANEL) (REAR VIEW)

(FLIR CONTROL PANEL)






20A3P02



FLIR MISSILE TRACKER (FMT)

8-55. FLIR BIT IS NOT INTERRUPTEDWHEN TCP (TOW CONTROL PANEL) MODE SELECT SWITCH IS SET TO ARMED MAN (CONTINUED).

Turn off electrical power per paragraph 8-3.

Disconnect 20A14P01, 20A3P02, and 20A4P02.

Check the following wires for continuity:

| WIRE NO. | FROM | IO |
|---|---|---|
| TG279B20 and TG279A20 | 20A3P02-A | 20A4P02-g |
| TG279C22 and TG279A22 | 20A14P01-9 | 20A4P02-g |

Is continuity present for each wire?

NO

Repair wire(s) where continuity is not present.

Connect 20A4P02, 20A3P02, and 20A14P01.

Then go to paragraph 8-2.1.

YES

Replace FCP (FLIR control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Connect 20A4P02 and 20A3F02.

Turn on electrical power per paragraph 8-3.

Set TCP (TOW control panel) MODE SELECT switch to STBY TOW.

NOTE

The MODE SELECT switch should be set to ARMED MAN within 5 seconds of the appearance of vertical bar in TSU eyepiece.

On FCP (FLIR control panel):

Press OFF/ON/BIT switch to BIT position and release when vertical bar is displayed in TSU eyepiece.

On TCP (TOW control panel):

Set MODE SELECT switch to ARMED MAN.

Does mode indicator on FCP (FLIR control panel) indicate PWR ON?

YES

Go to paragraph 8-2.1.

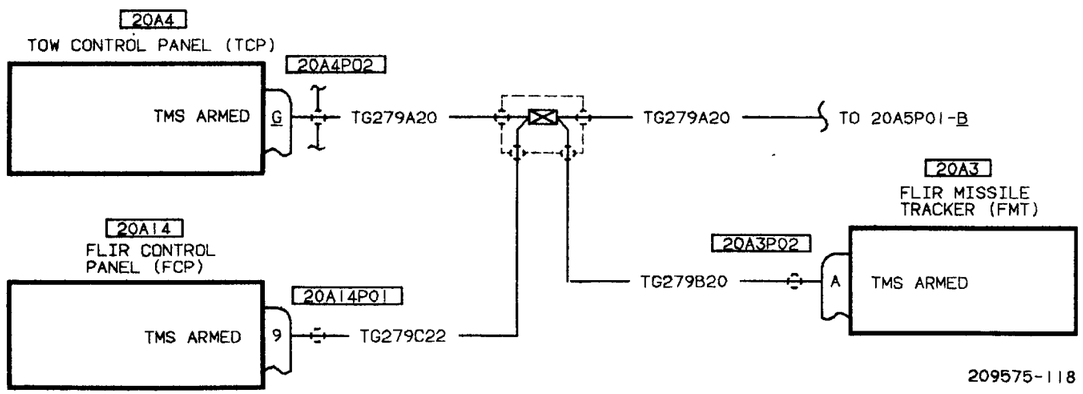
NO

Turn off electrical power per paragraph 8-3.

Install original FCP (FLIR control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Replace FLIR missile tracker (FMT) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.1.



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## 8-56. TWO OR MORE BIT INDICATORS ON FCP SHOW WHITE.

INITIAL SETUP

Applicable Configuration
AH-1S MCN

Personnel Required
68J (1)

Attempt to clear BIT failures as follows:

On FCP (FLIR control panel):

Press OFF/ON/BIT switch to BIT position and release when vertical bar is displayed in TSU eyepiece.

Are all BIT indicators black upon completion of BIT check?

YES → Go to paragraph 8-2.1.

NO ↓

Observe COLL BIT indicator on FCP (FLIR control panel).

Does COLL BIT indicator show white?

YES → Set BORESIGHT switch on FCP (FLIR control panel) to OFF.

Does COLL BIT indicator show white?

YES → Replace FCP (FLIR control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Then go to paragraph 8-2.1.

NO ↓

NO ↓

Observe FPS BIT indicator on FCP (FLIR control panel).

Does FPS BIT indicator show white?

YES → Go to paragraph 8-50.

NO ↓

Observe FMT BIT indicator on FCP (FLIR control panel).

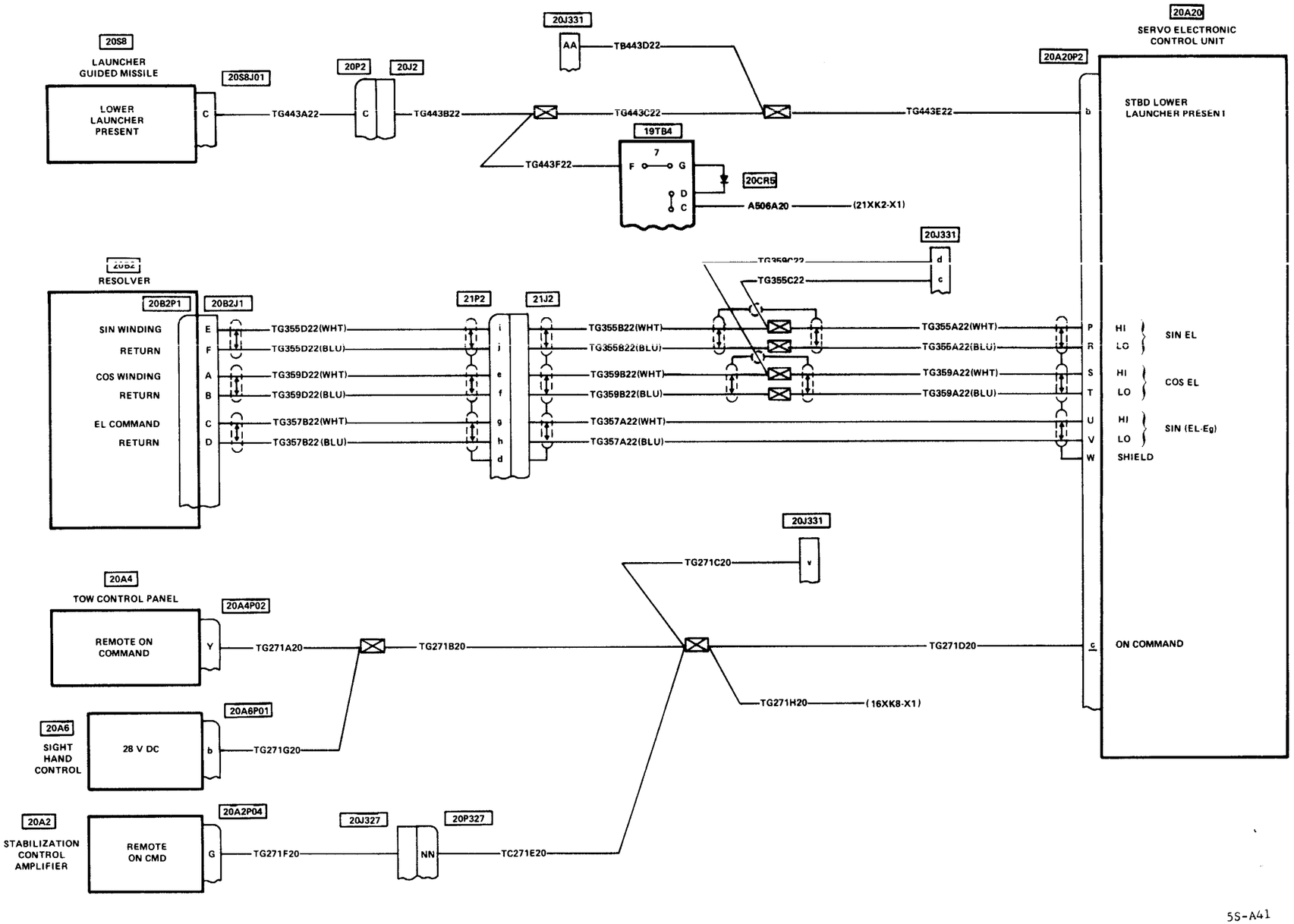
Does FMT BIT indicator show white?

YES → Go to paragraph 8-51.

NO ↓

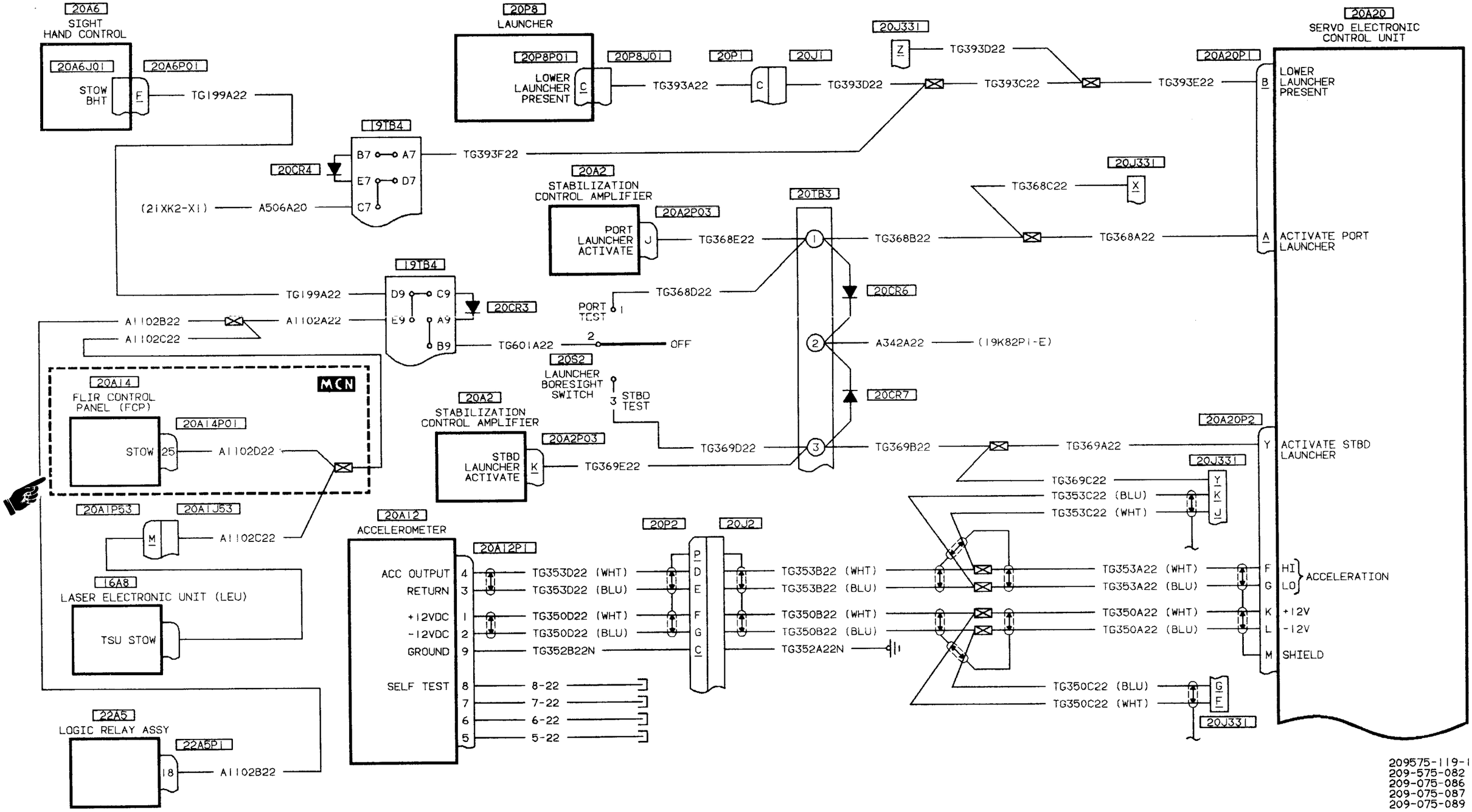
Go to paragraph 8-52.

## LAUNCHER ARTICULATION (SECU) (Sheet 1 of 8)



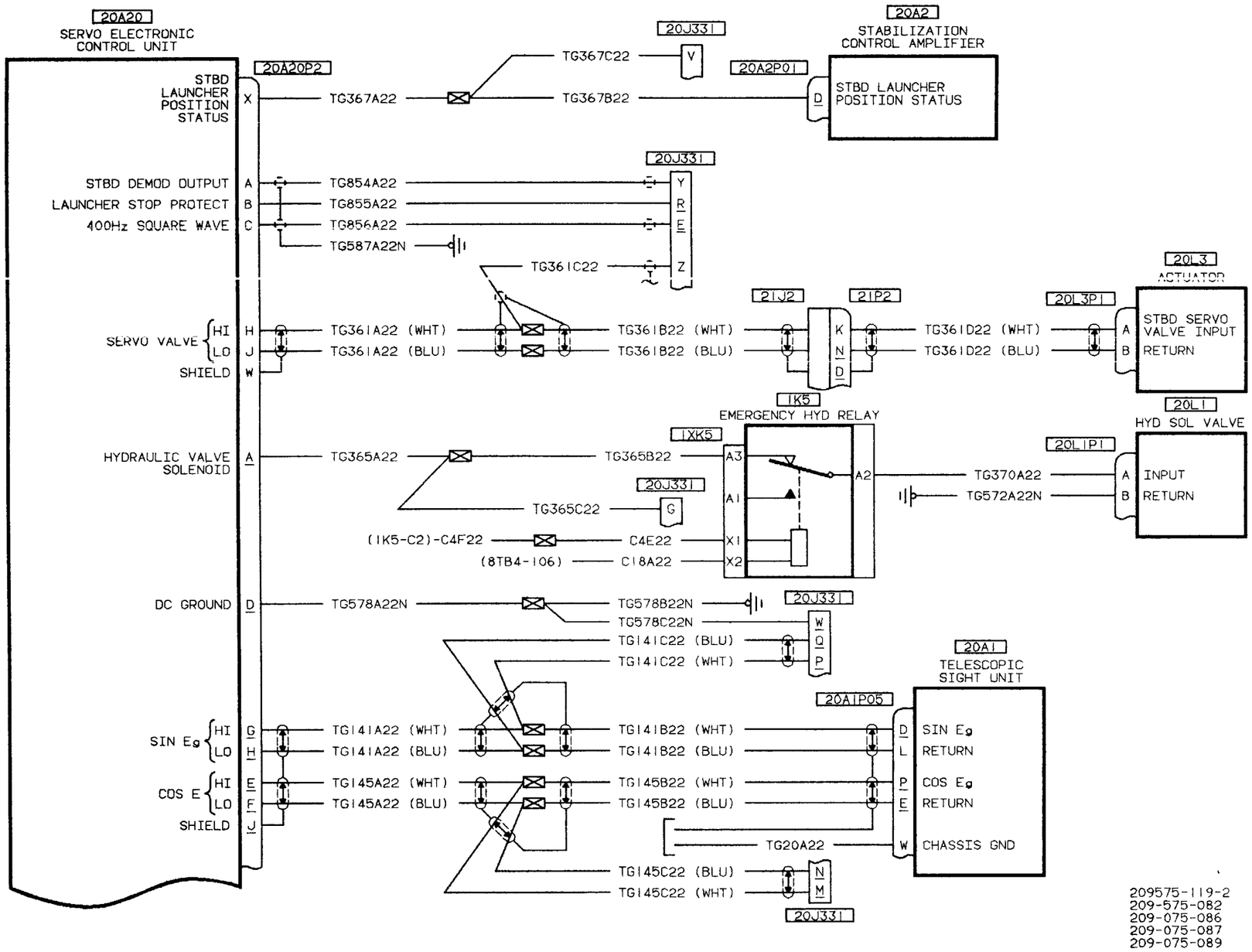

5S-A41

## LAUNCHER ARTICULATION (SECU) (Sheet 2 of 8)



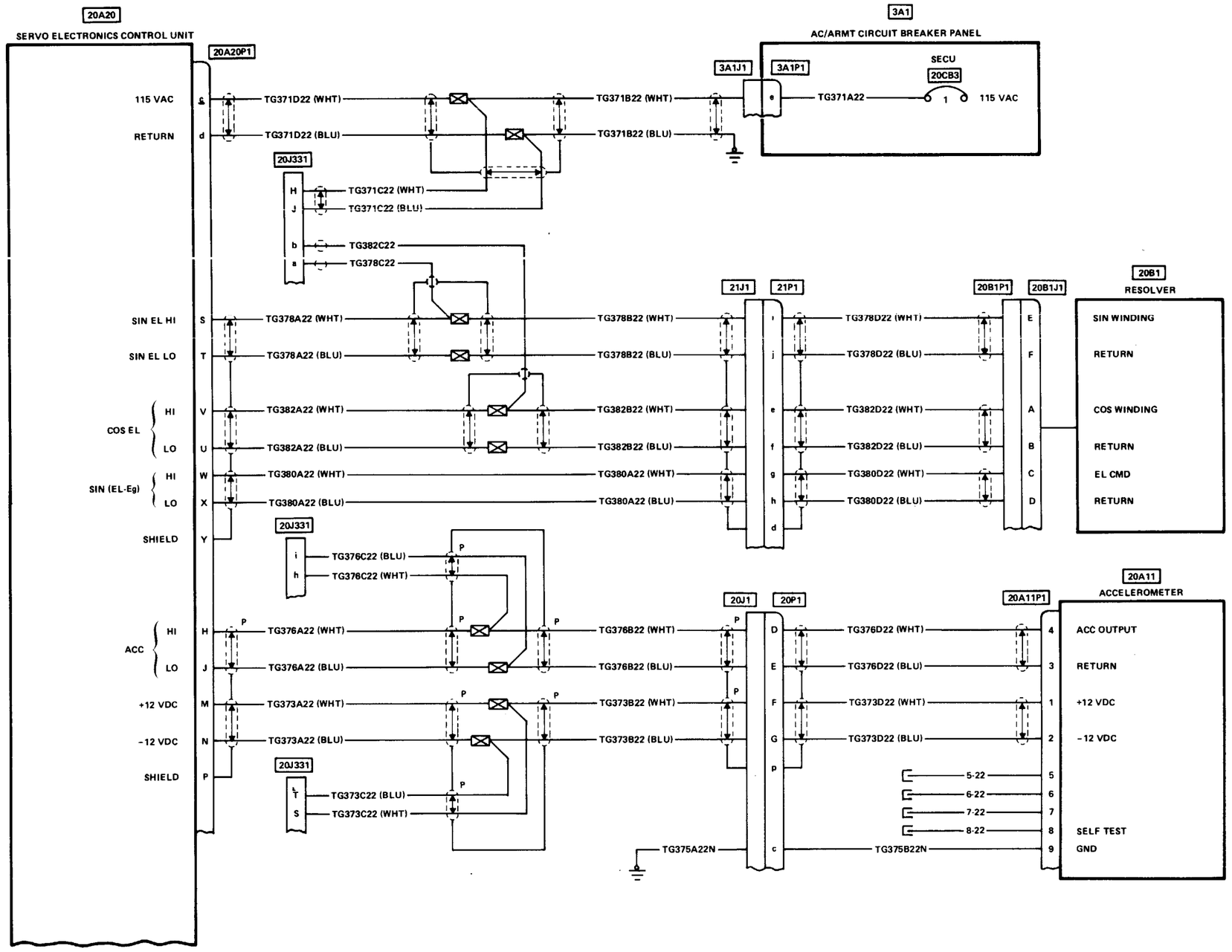

209575-119-1
209-575-082
209-075-086
209-075-087
209-075-089

## LAUNCHER ARTICULATION (SECU) (Sheet 3 of 8)



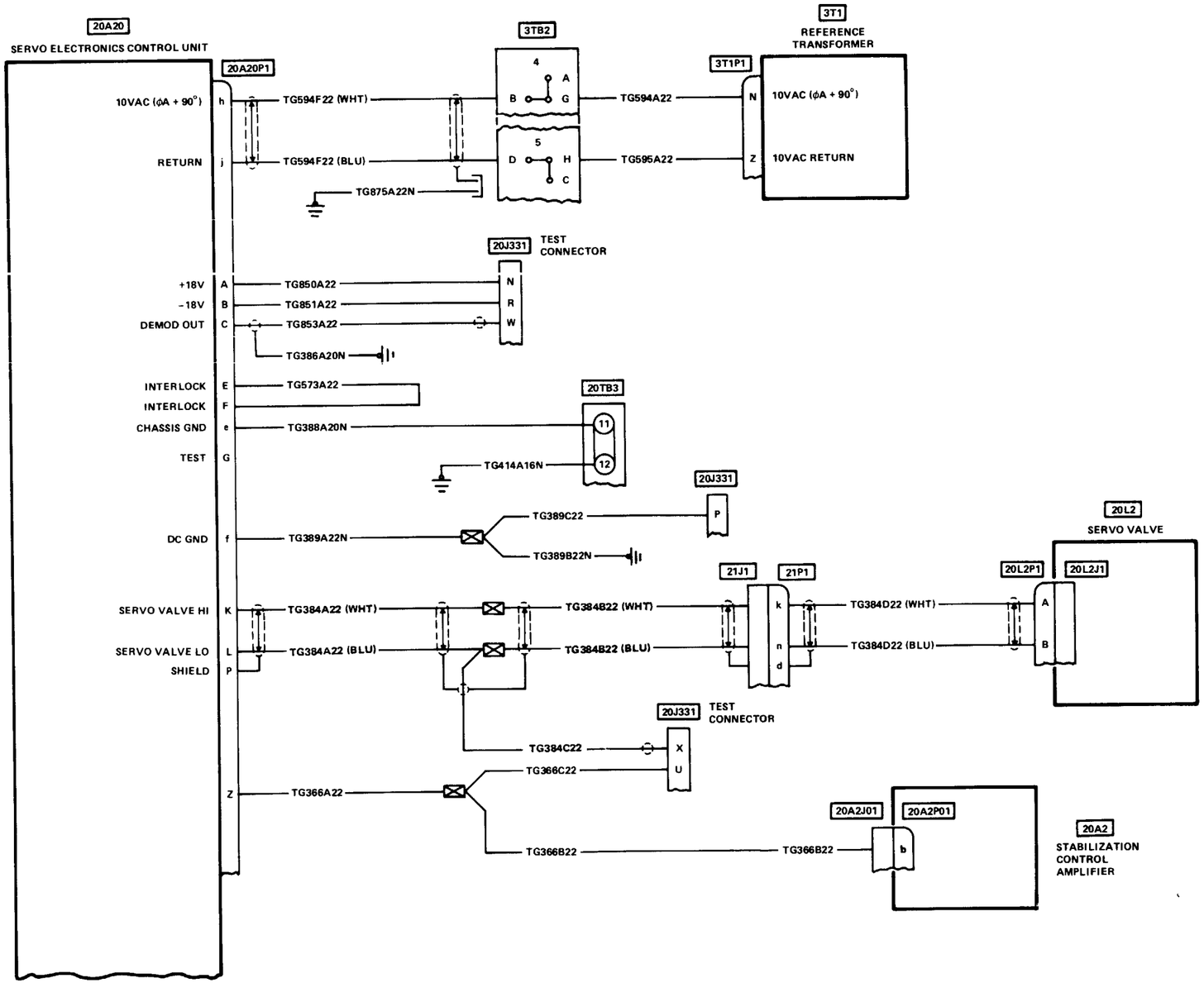

209575-119-2
209-575-082
209-075-086
209-075-087
209-075-089

## LAUNCHER ARTICULATION (SECU) (Sheet 4 of 8)



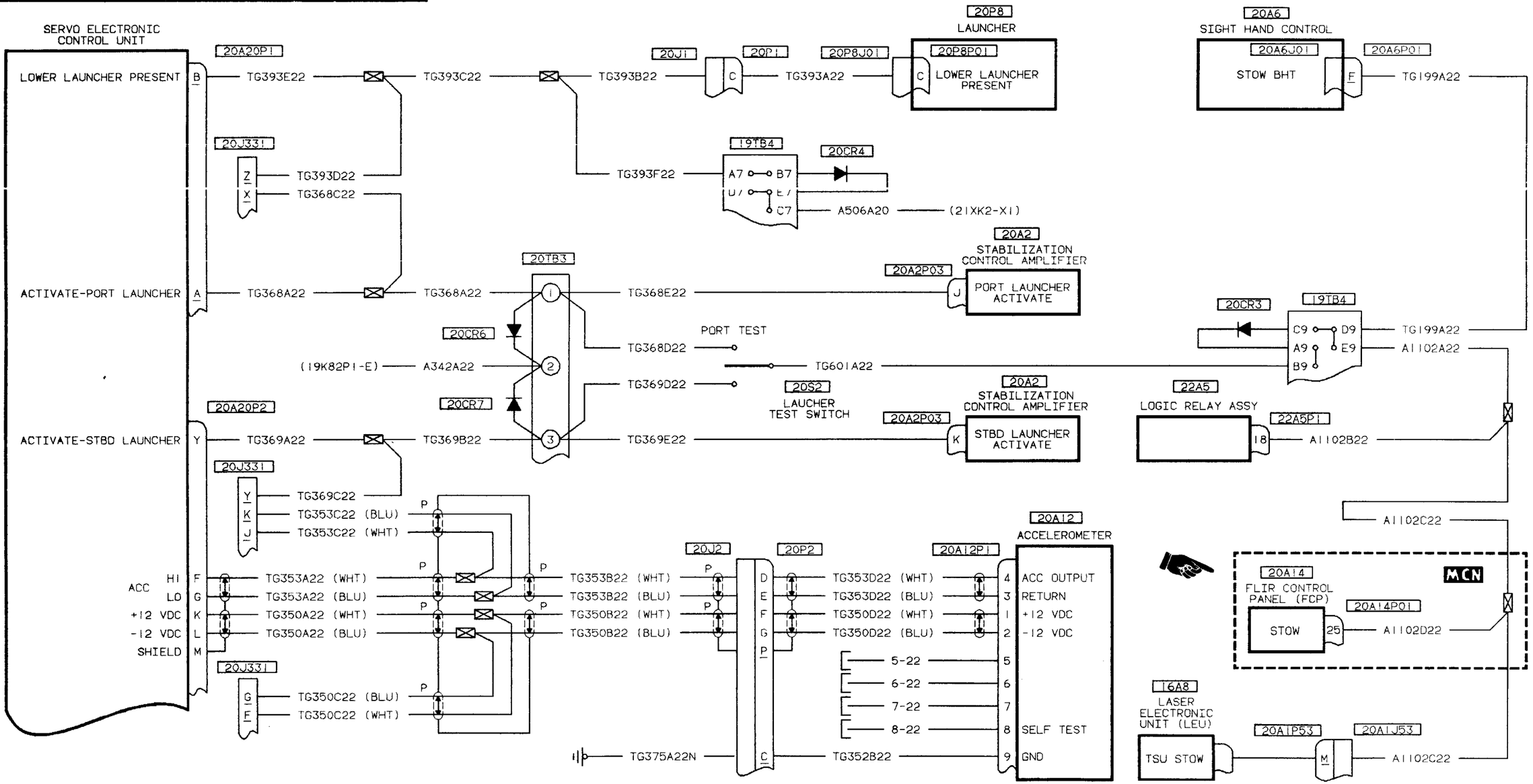

TOW-SECU SHT. 1

LAUNCHER ARTICULATION (SECU) (Sheet 5 of 8)



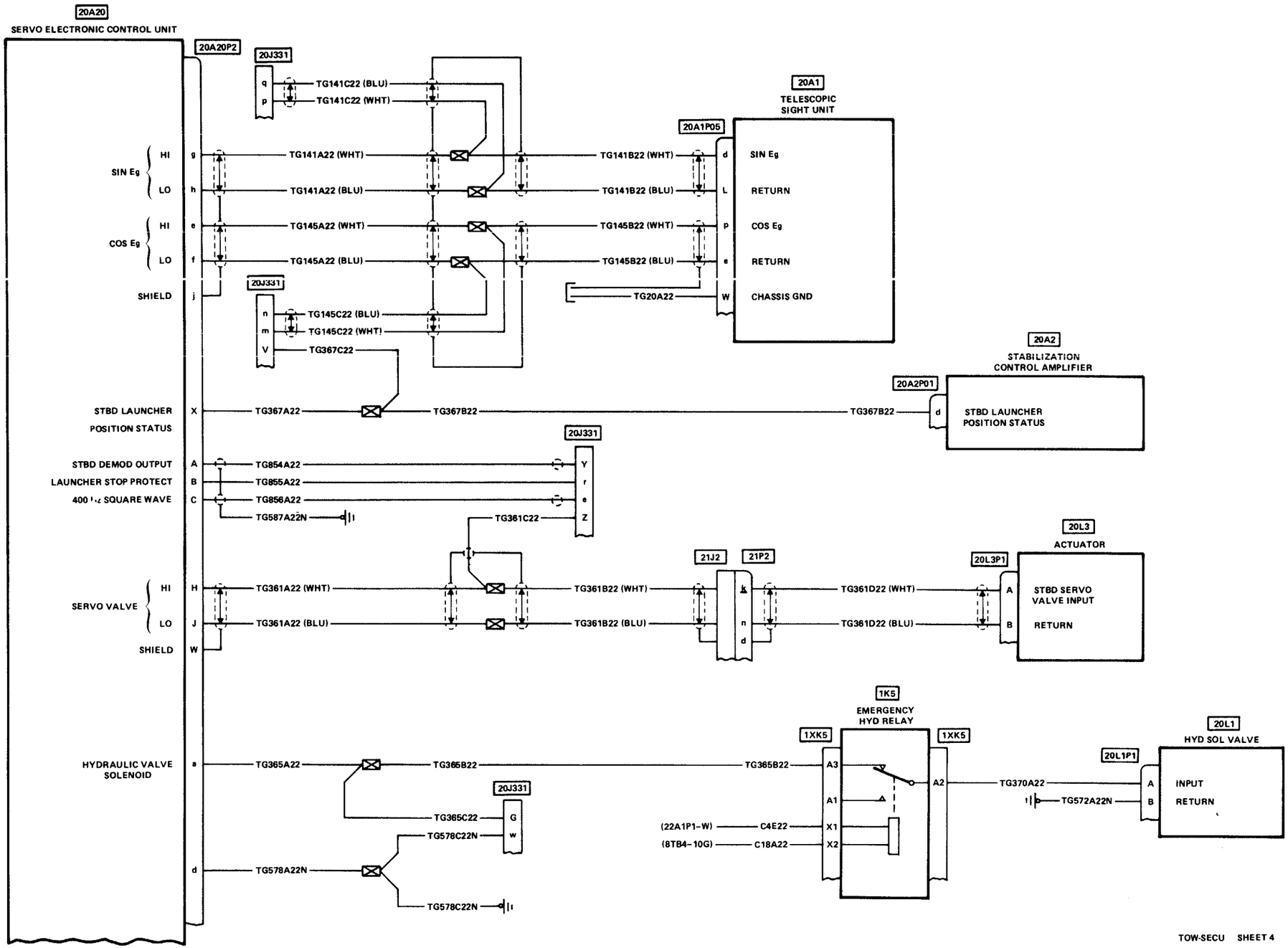

TOW-SECU SHT. 2

## LAUNCHER ARTICULATION (SECU) (Sheet 6 of 8)

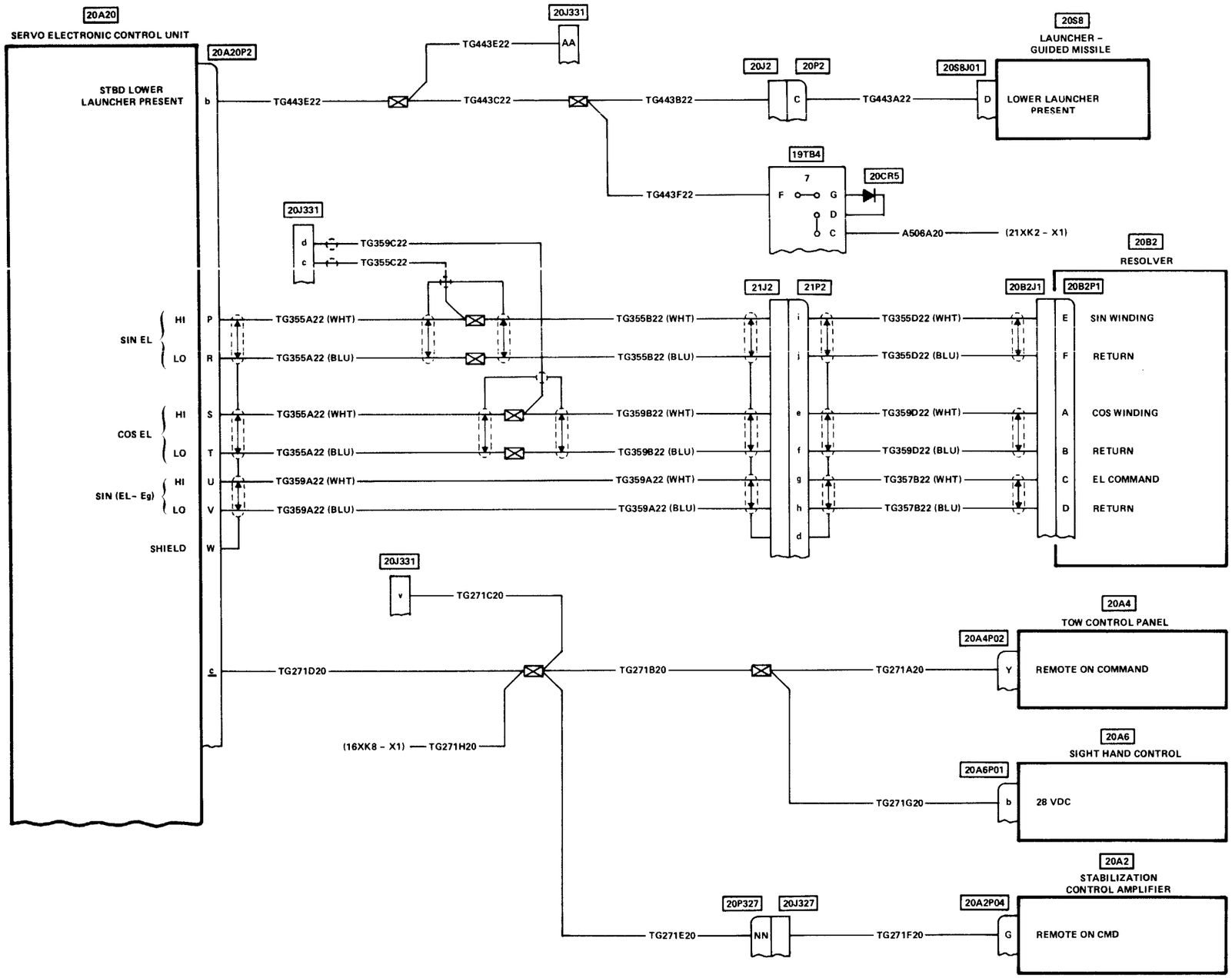



209575-120

## LAUNCHER ARTICULATION (SECU) (Sheet 7 of 8)

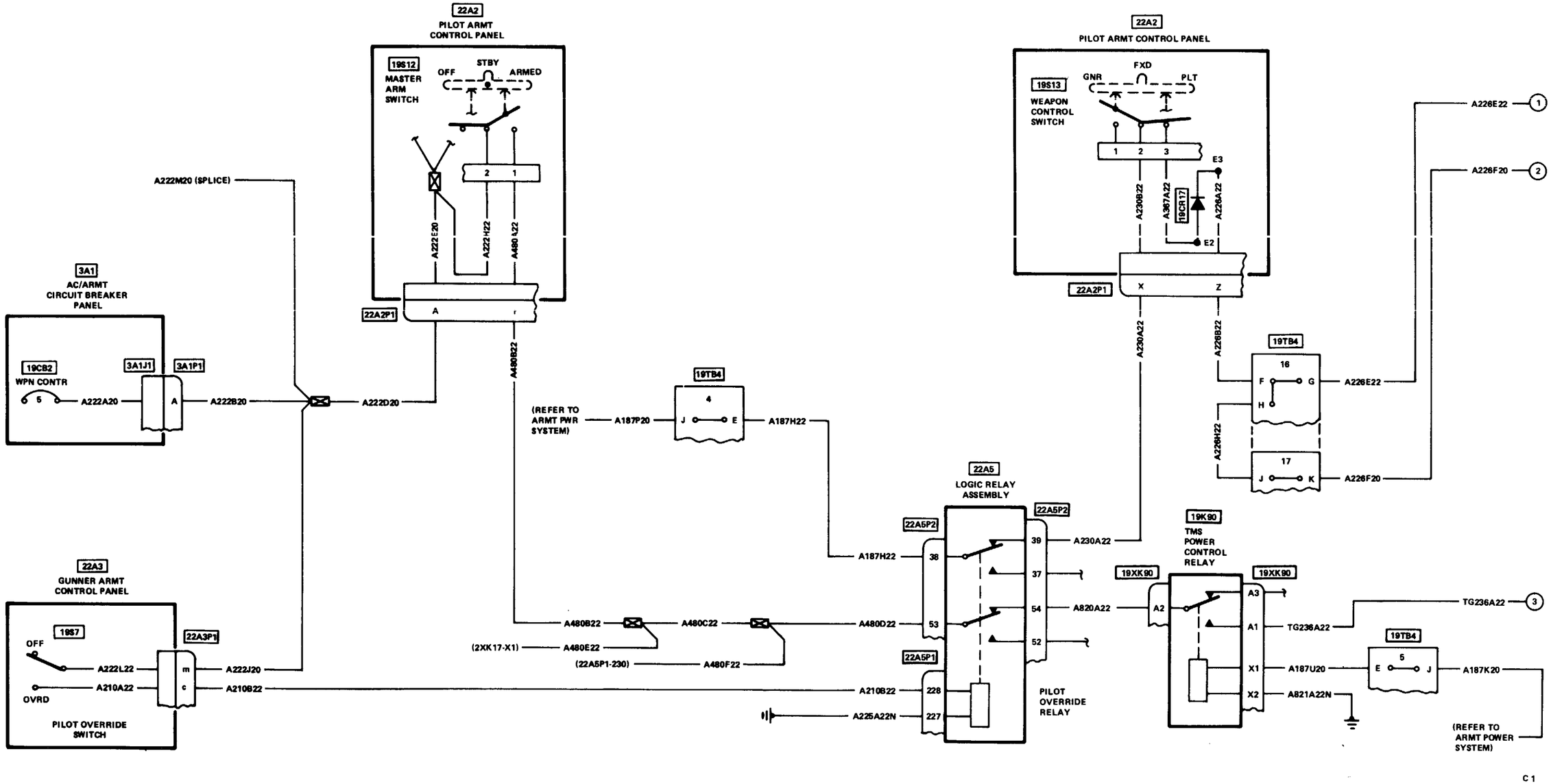


## LAUNCHER ARTICULATION (SECU) (Sheet 8 of 8)

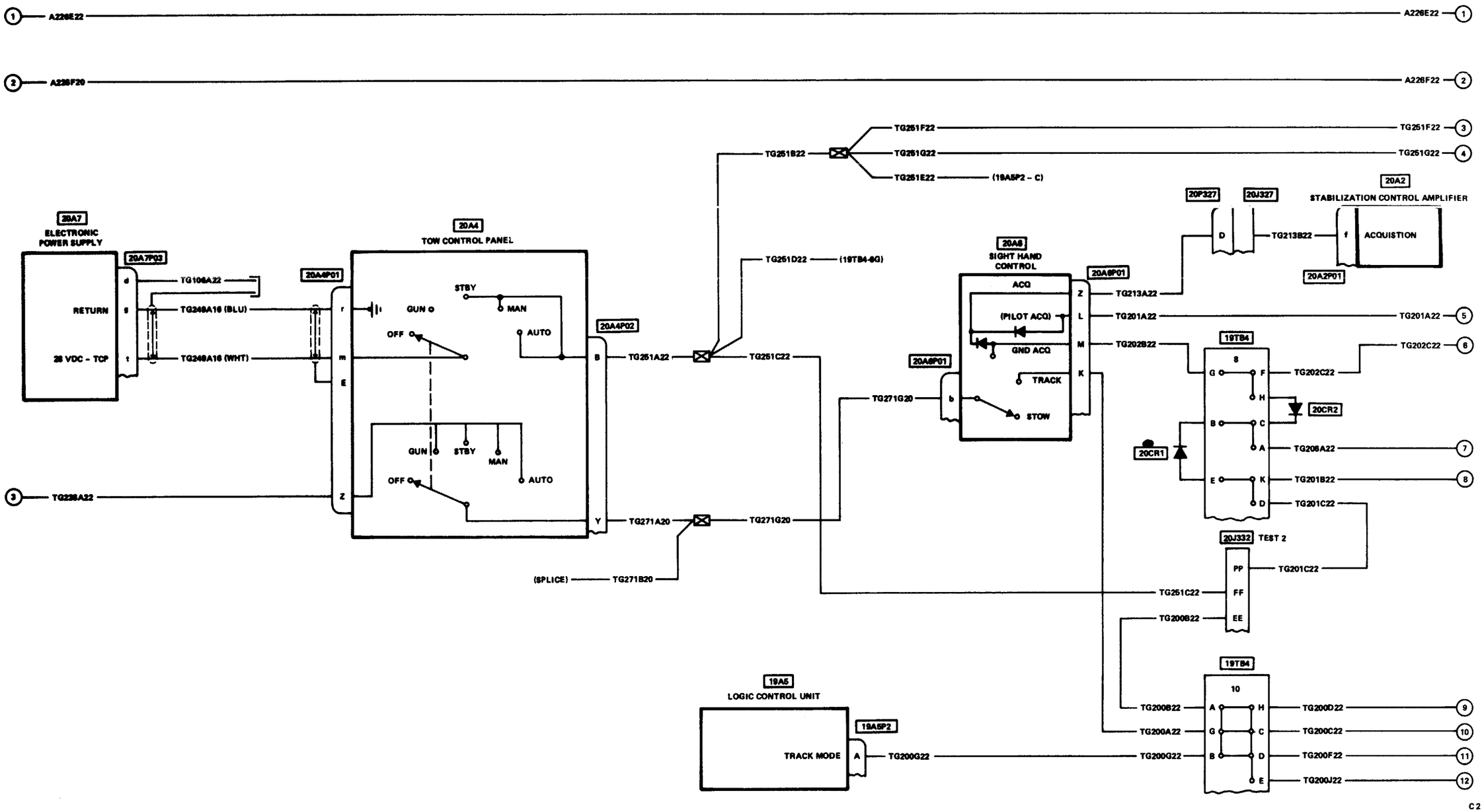



TOW SECU SHEET 5

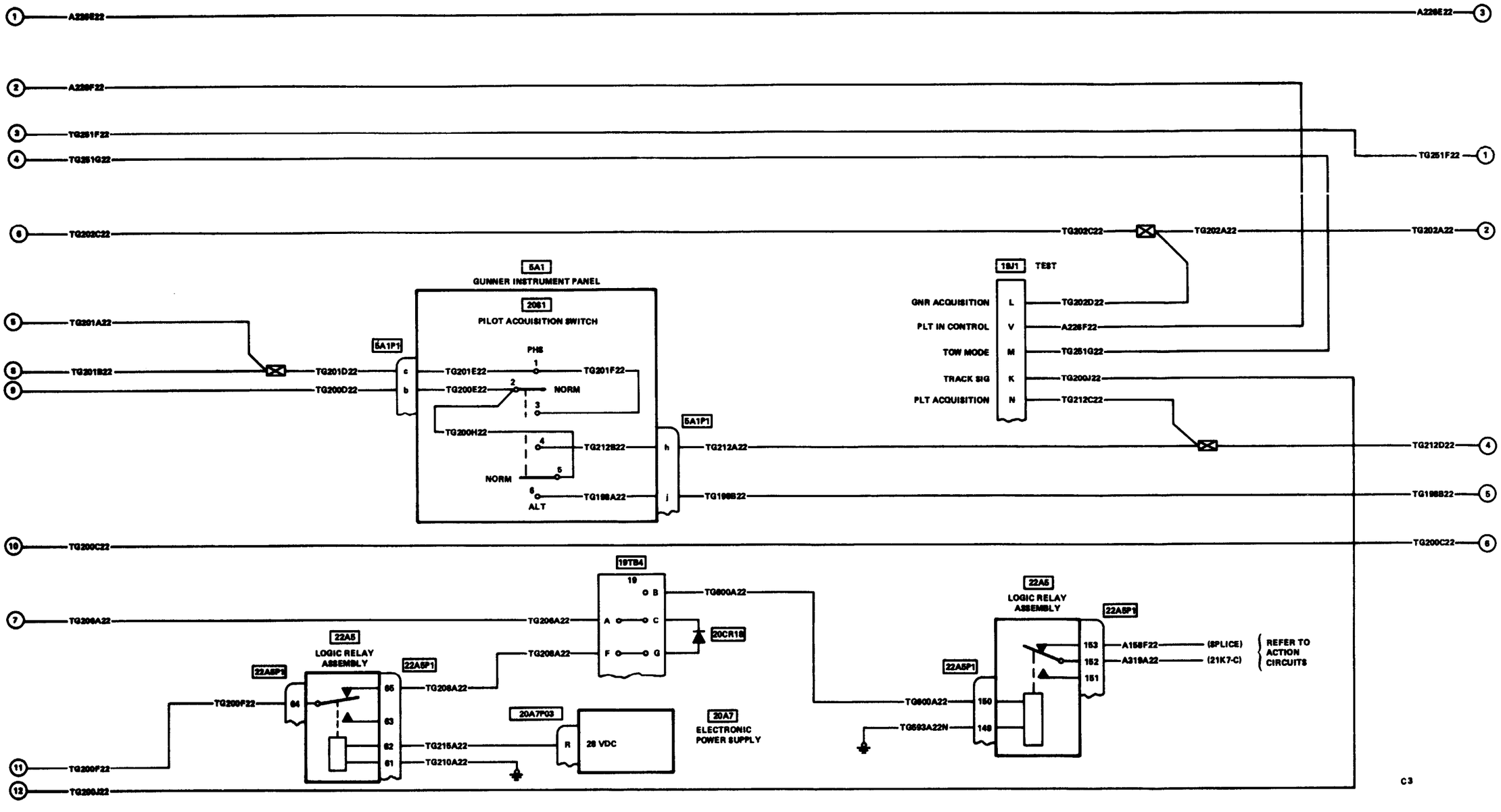
## ACQUISITION CONTROL (Sheet 1 of 4)



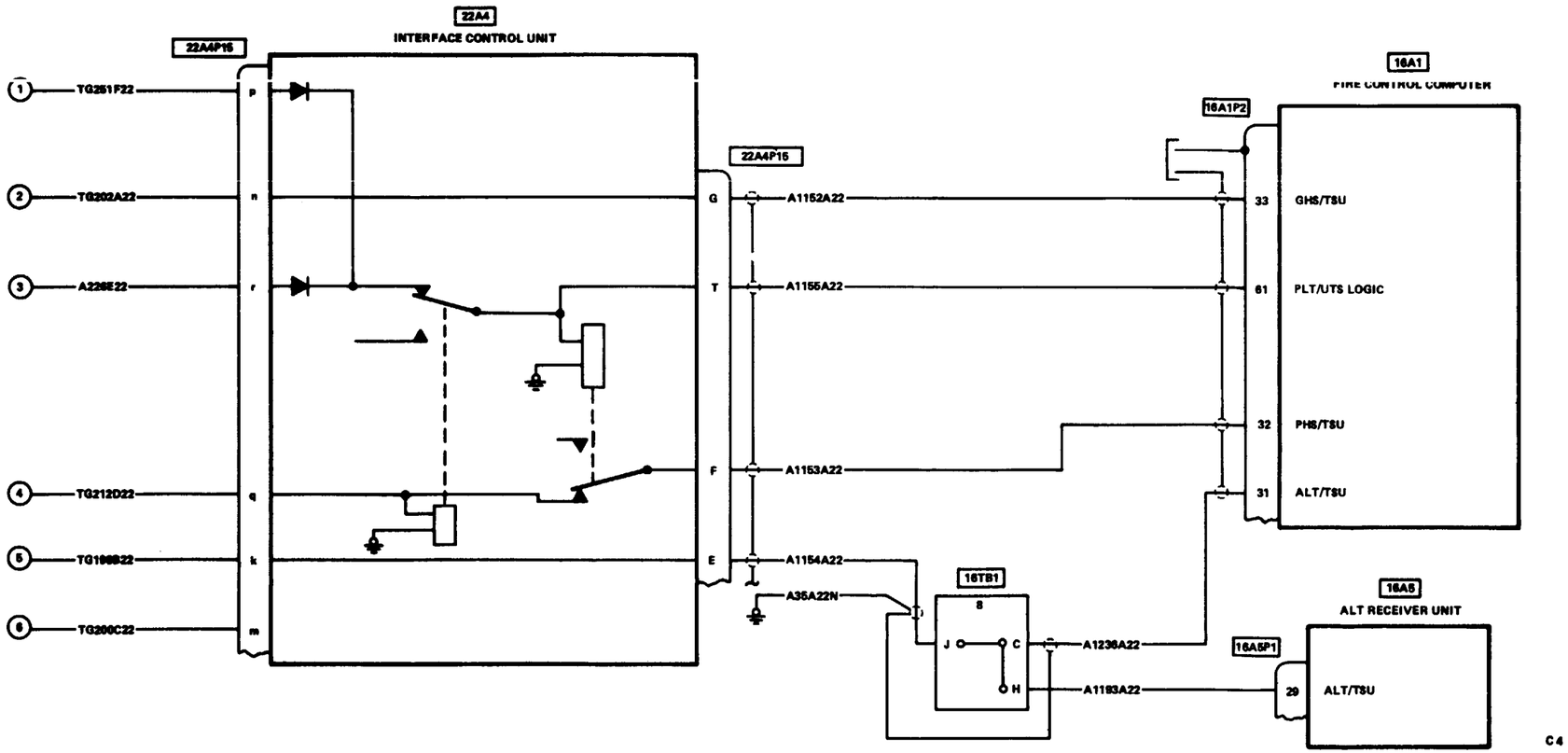
# ACQUISITION CONTROL (Sheet 2 of 4)



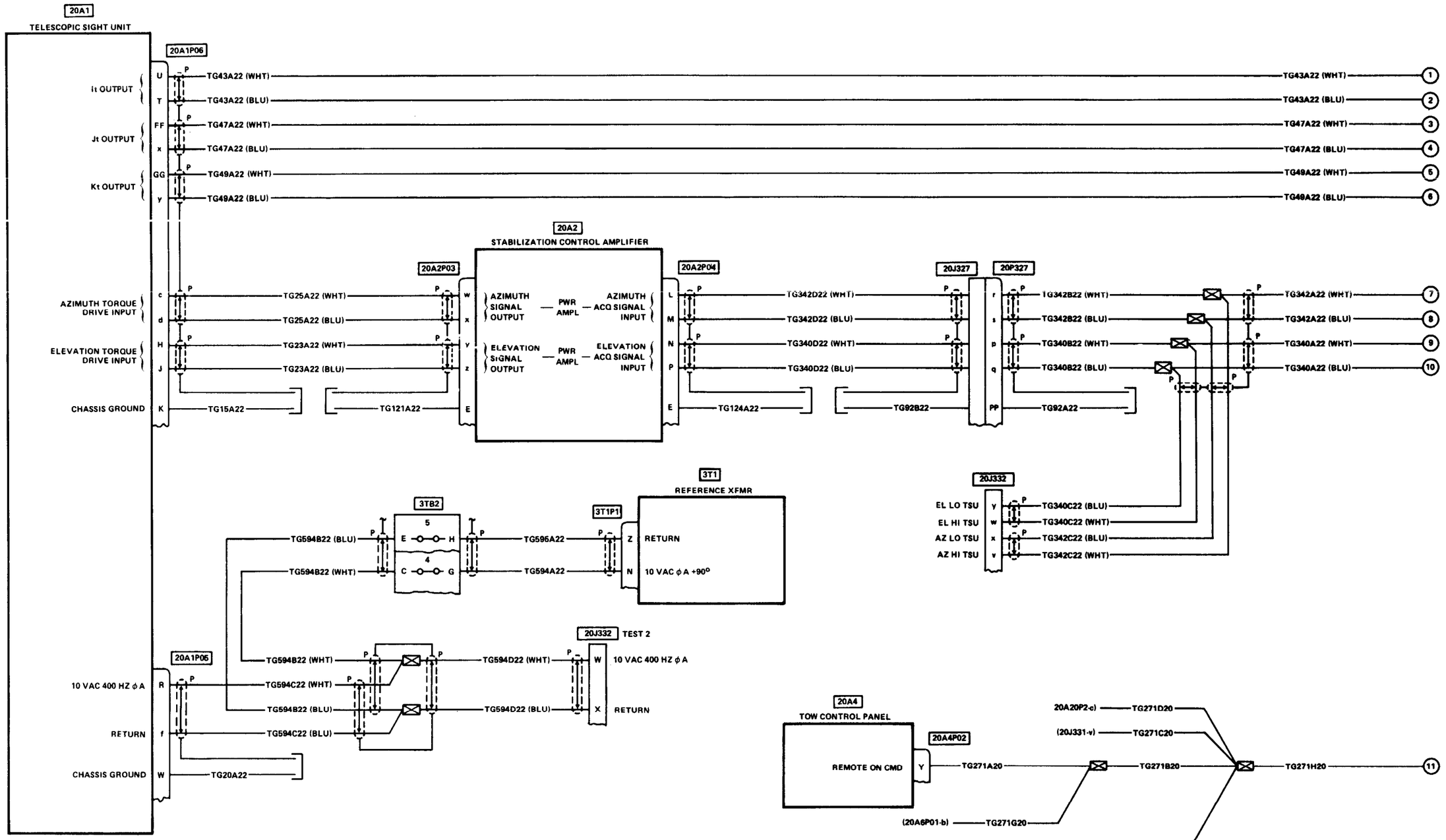
## ACQUISITION CONTROL (Sheet 3 of 4)



ACQUISITION CONTROL (Sheet 4 of 4)

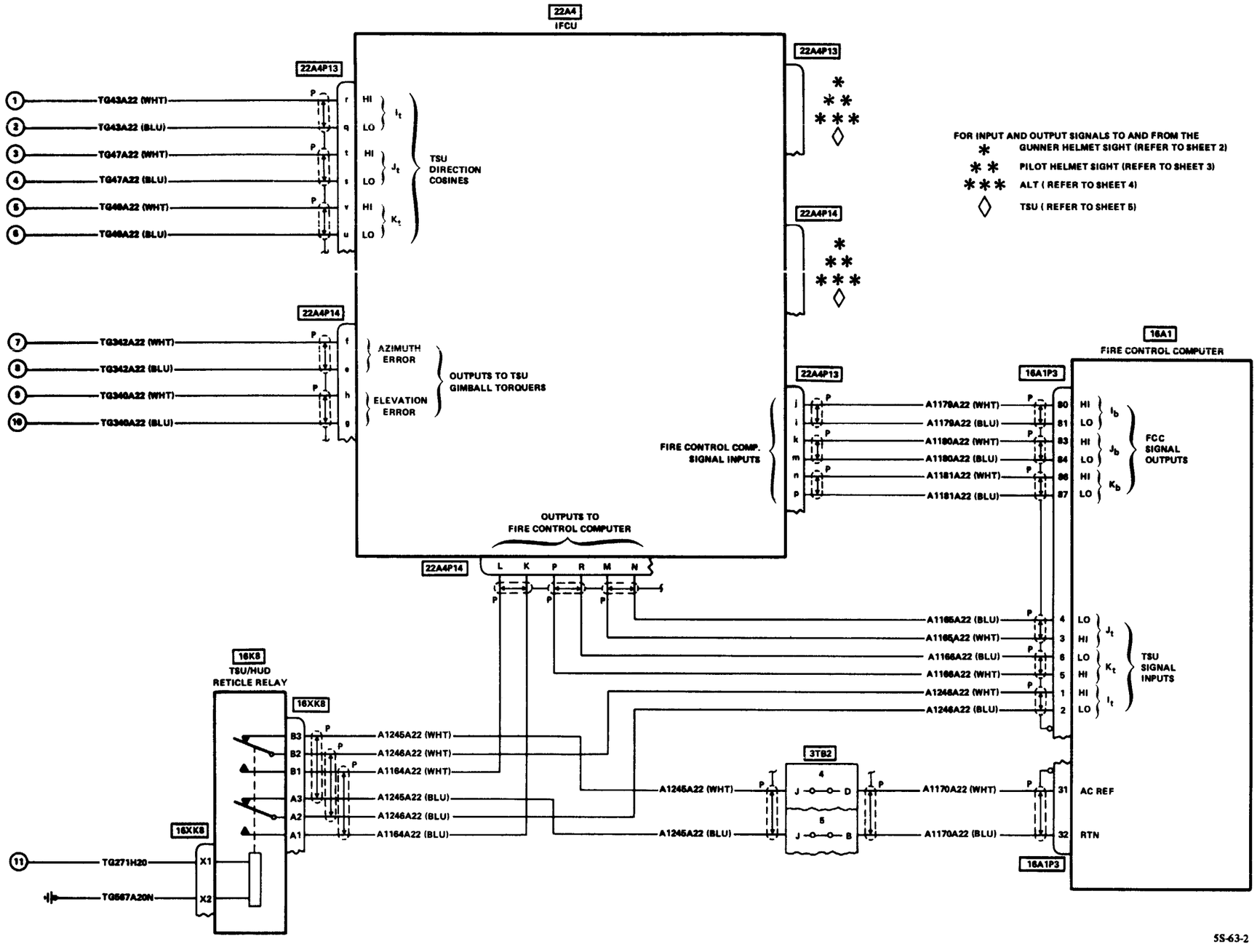


## ACQUISITION DRIVE SIGNALS (Sheet 1 of 5)



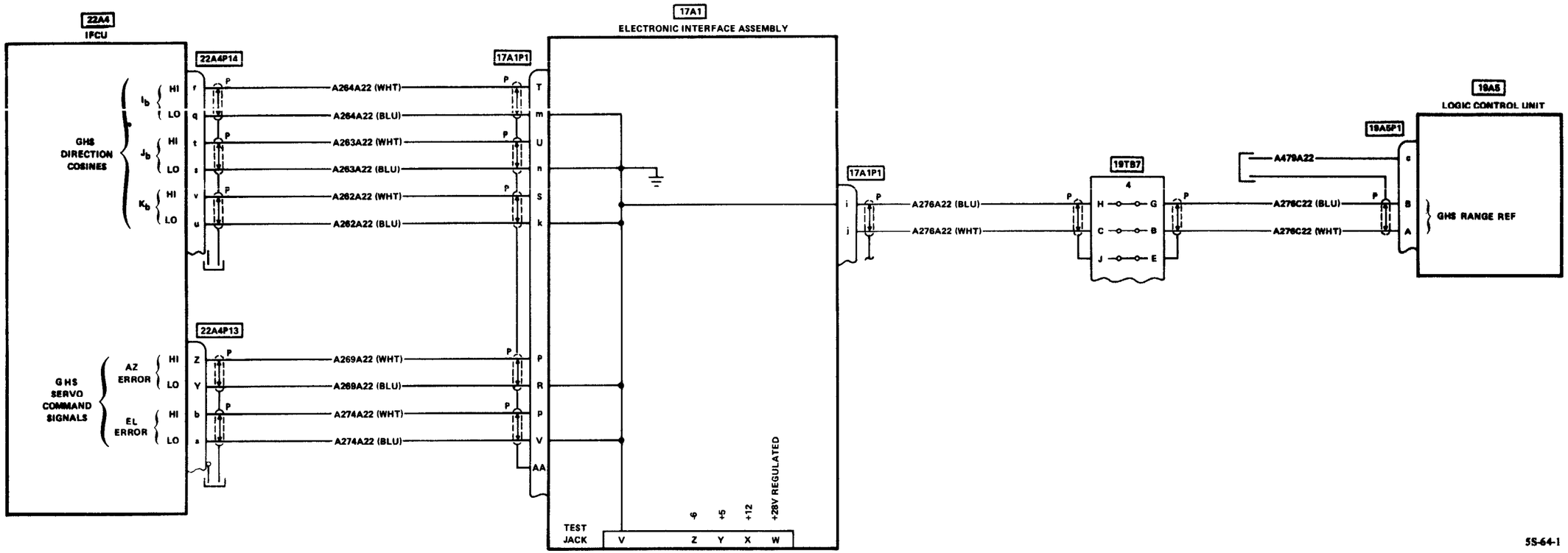

5S-63-1

# ACQUISITION DRIVE SIGNALS (Sheet 2 of 5)



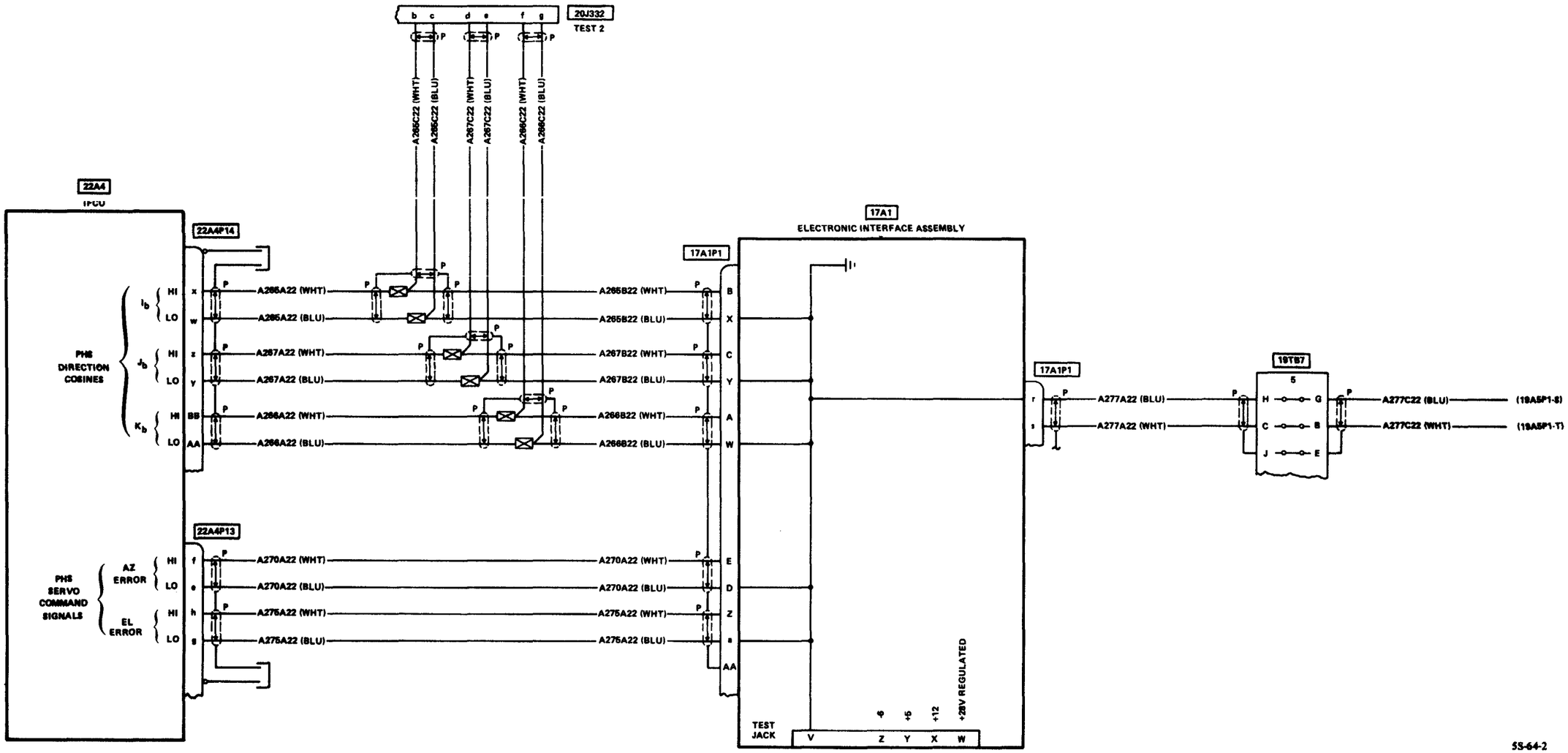

5S-63-2

ACQUISITION DRIVE SIGNALS (Sheet 3 of 5)

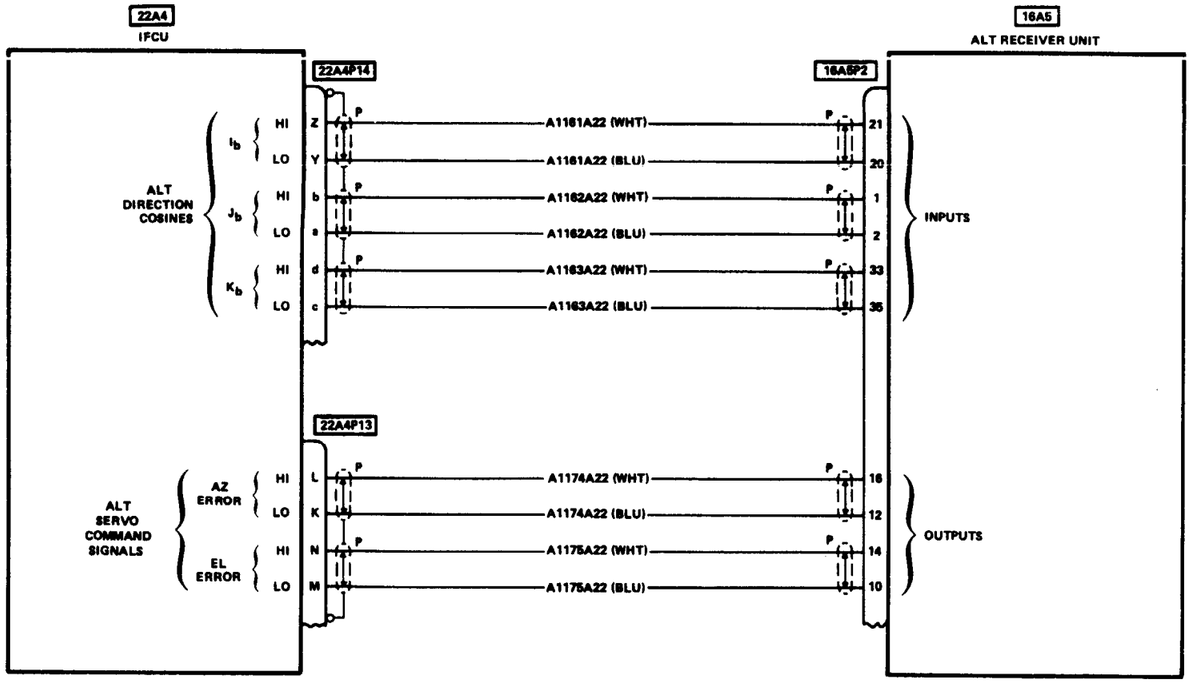



5S-64-1

ACQUISITION DRIVE SIGNALS (Sheet 4 of 5)

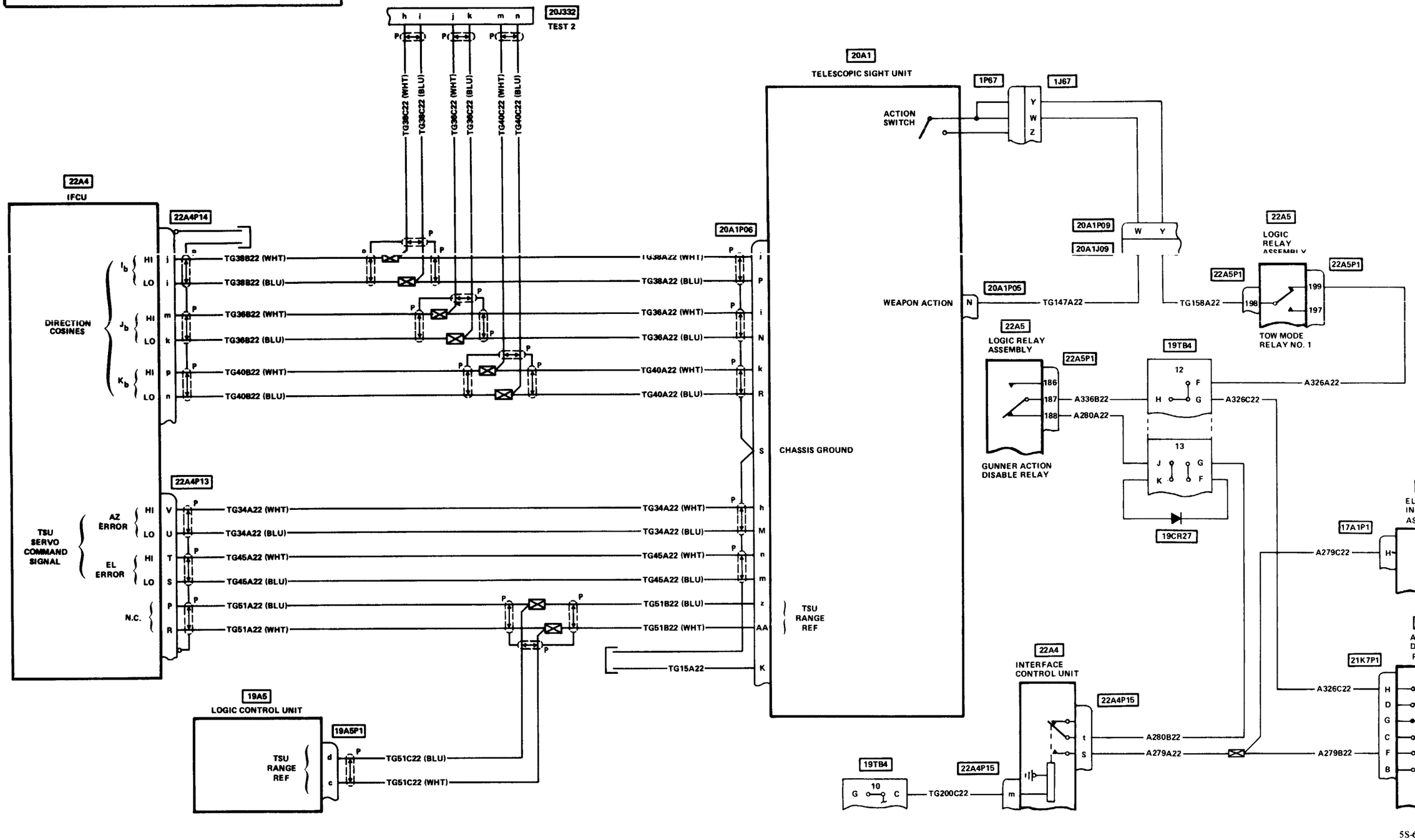


ACQUISITION DRIVE SIGNALS (Sheet 5 of 5)



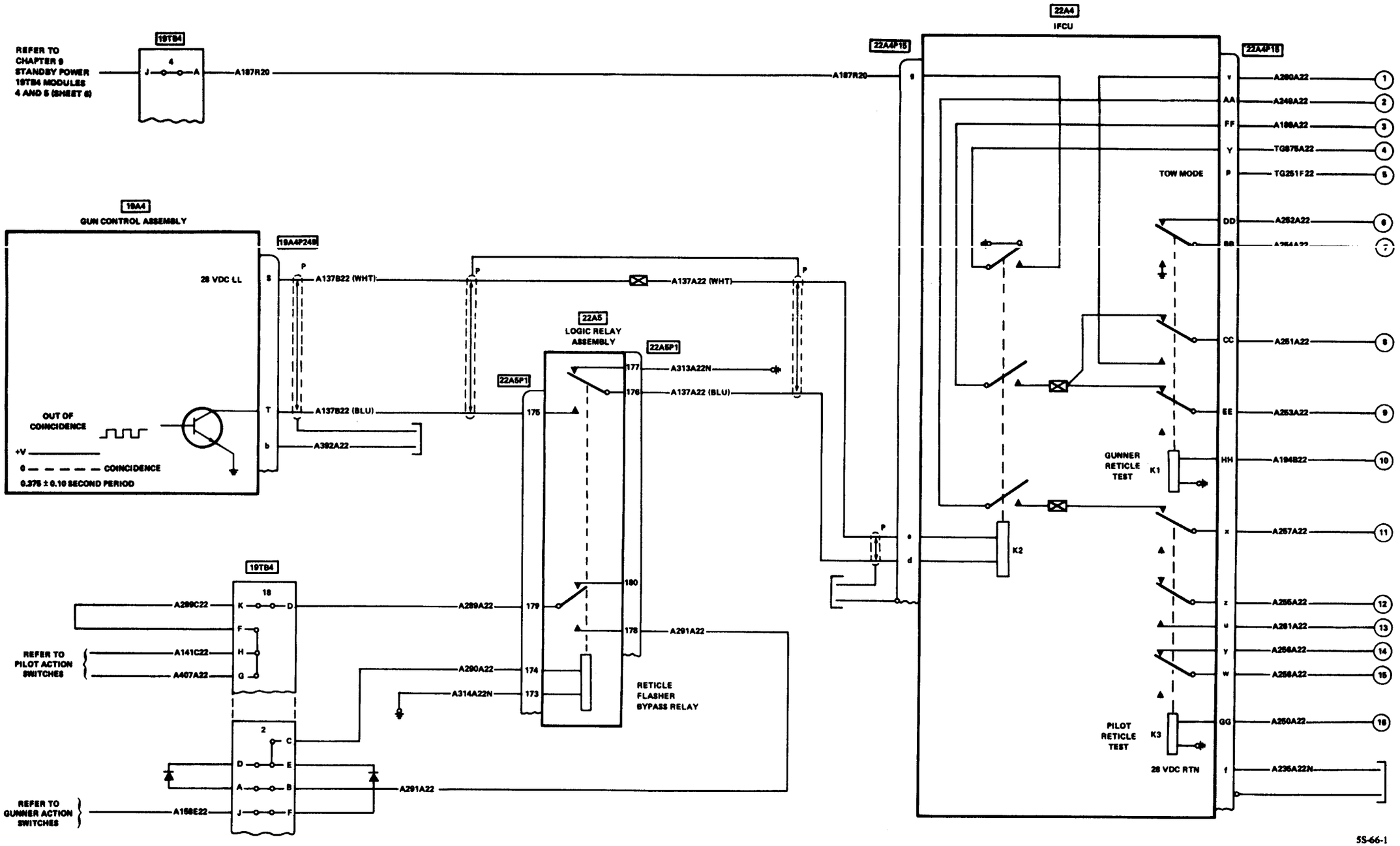

5S-64-3

# TURRET DRIVE SIGNALS (TSU TO IFCU)



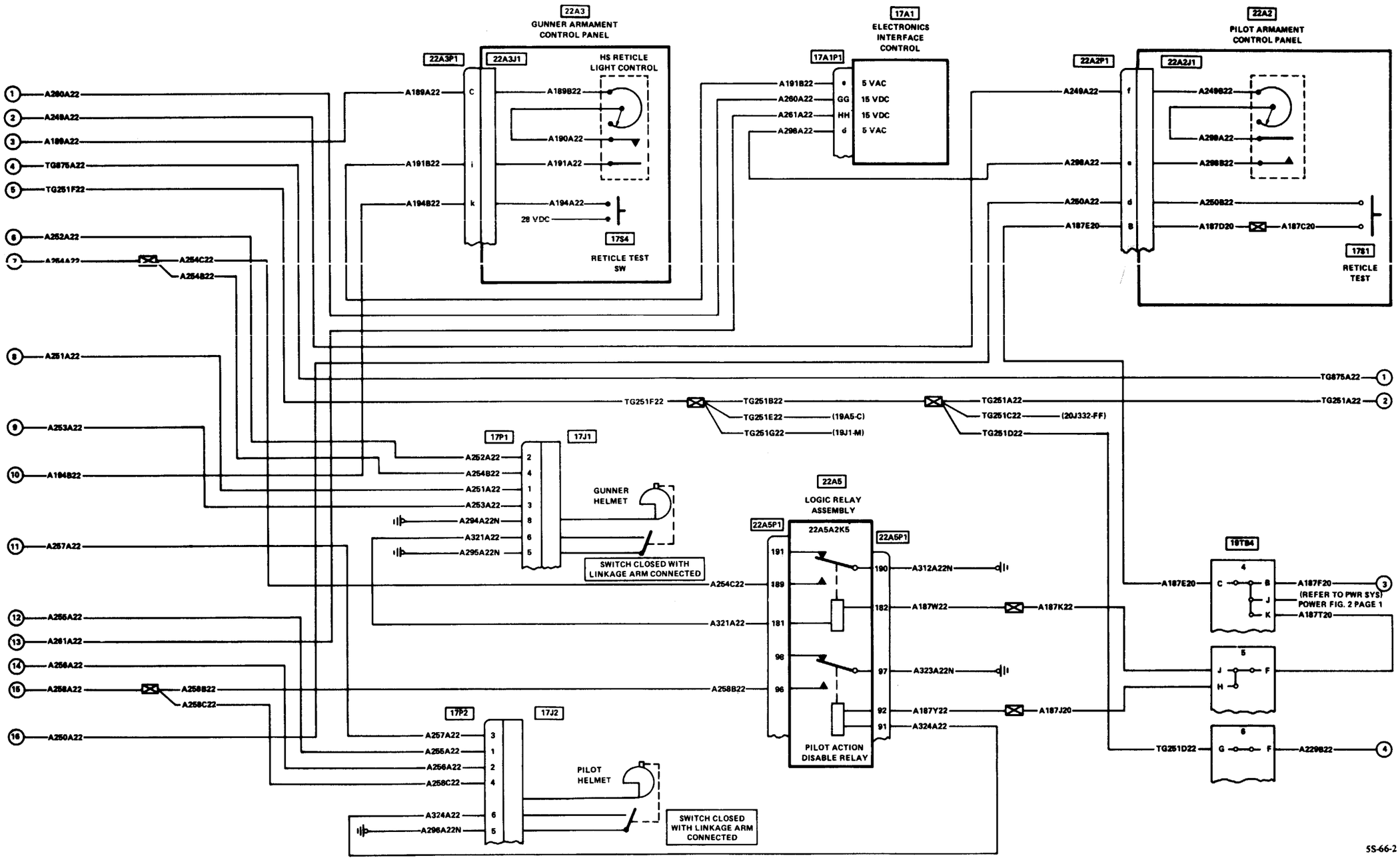

5S-65

"G" BATTLE FLAG (Sheet 1 of 3)

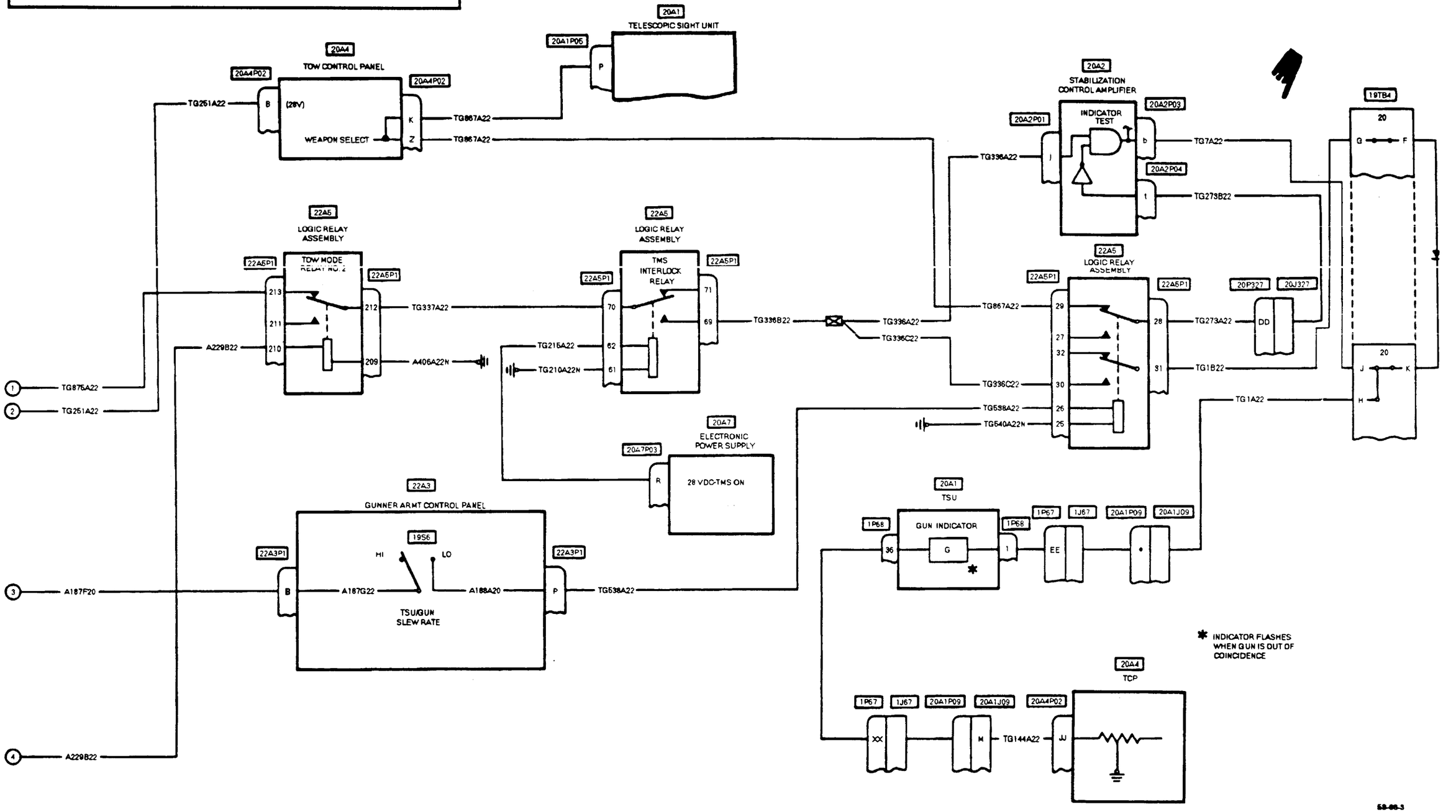



5S-66-1

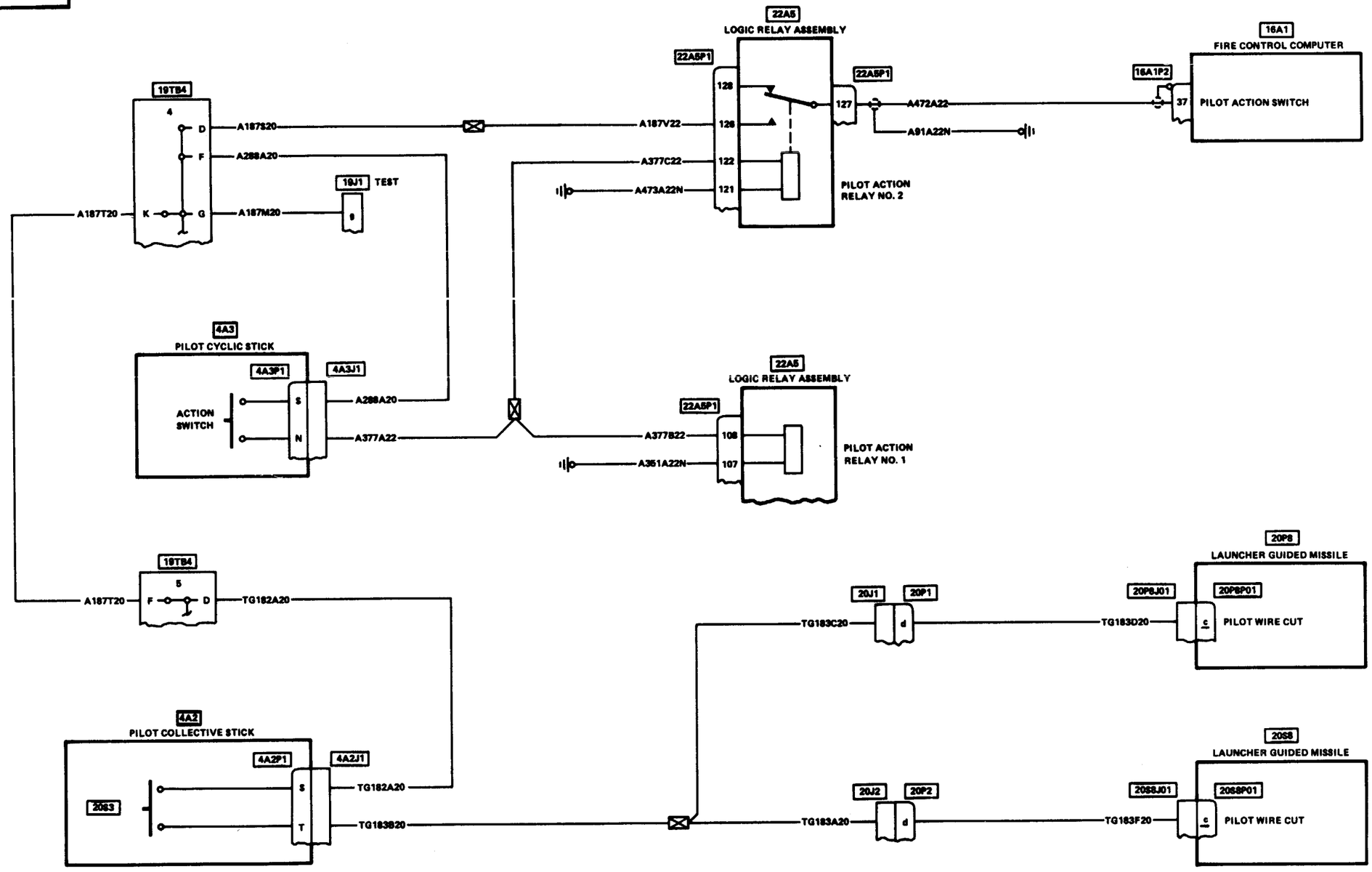
"G" BATTLE FLAG (Sheet 2 of 3)



## "G" BATTLE FLAG (Sheet 3 of 3)

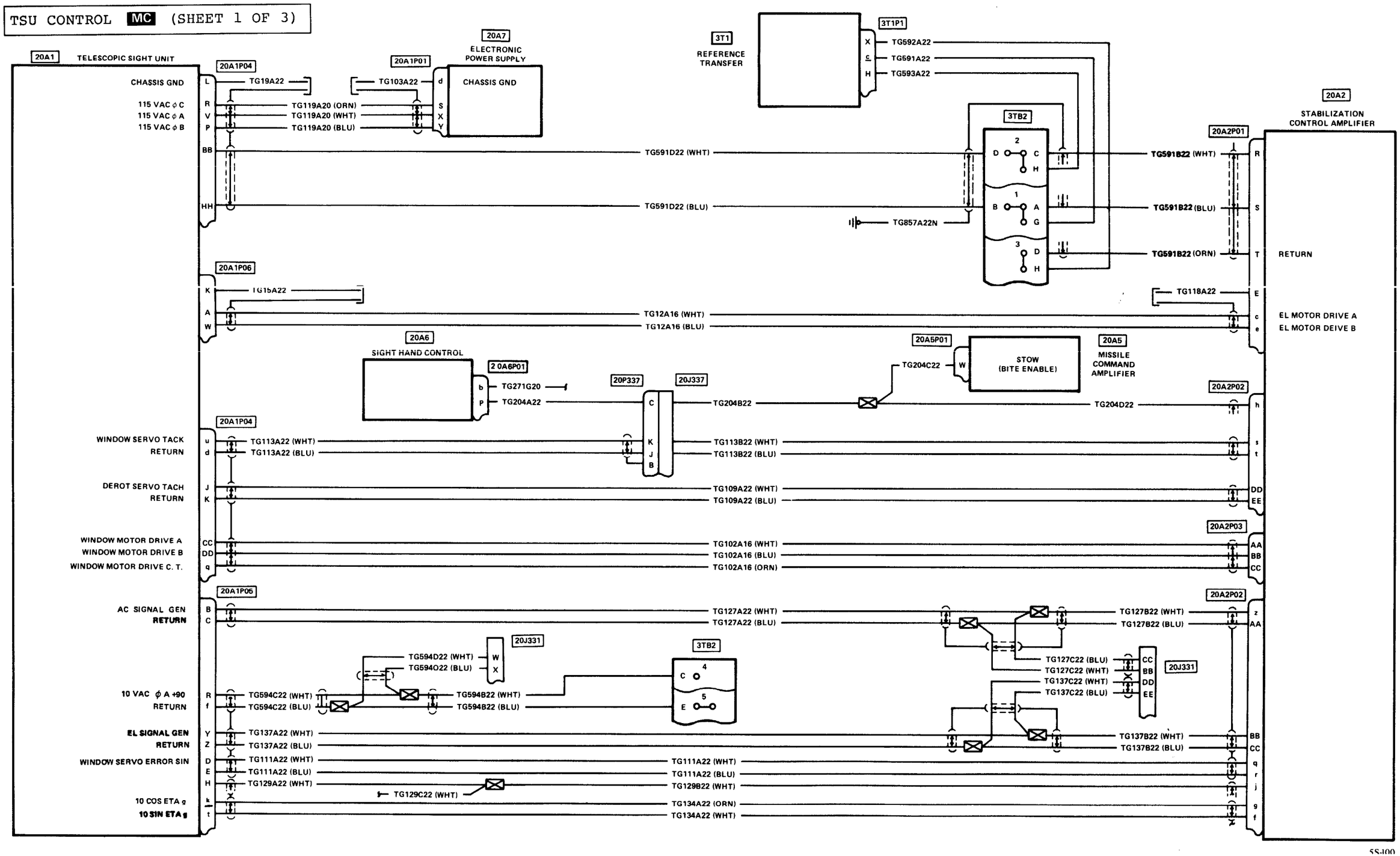


PILOT WIRE CUT



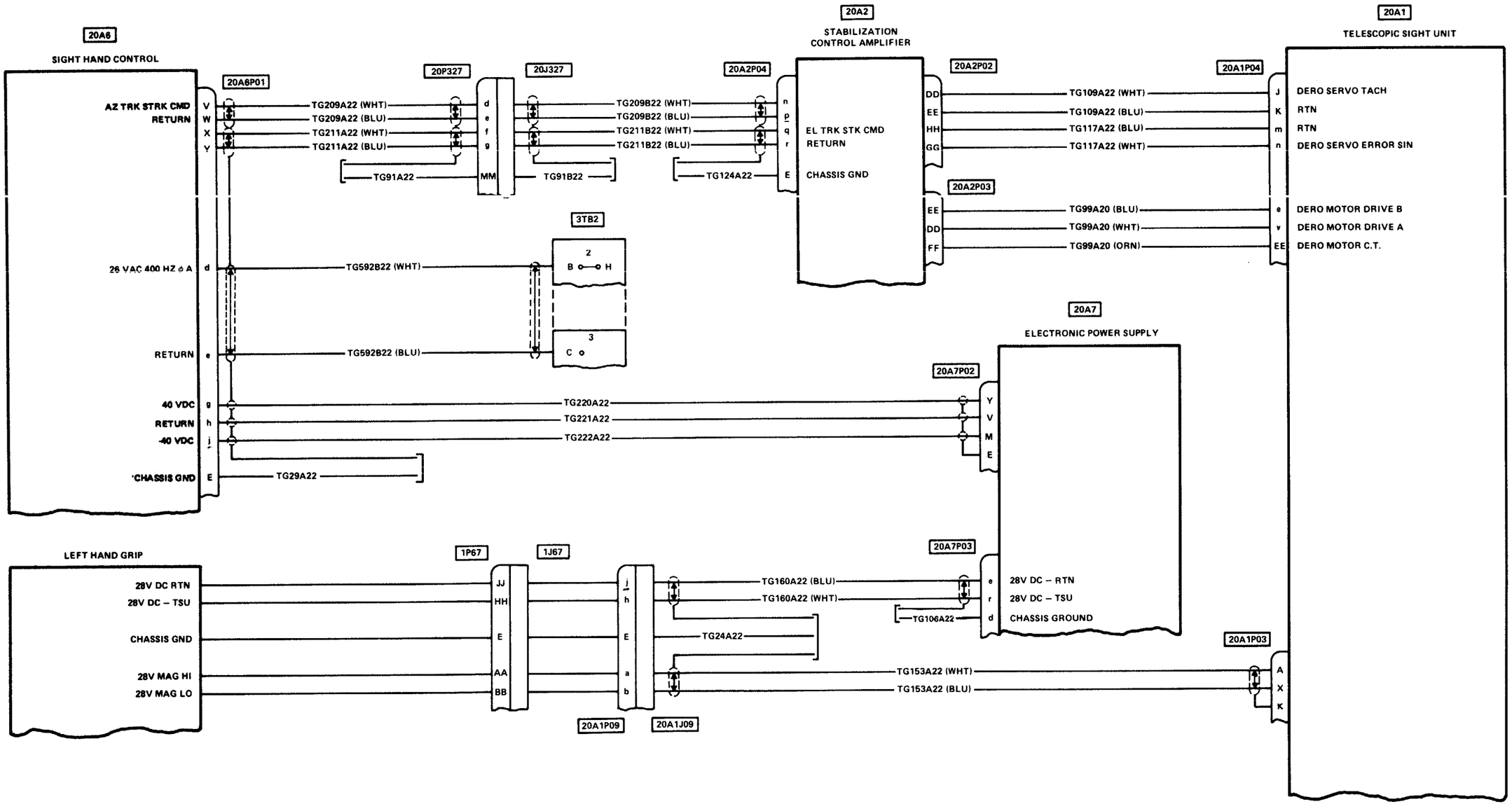

5S-78

TSU CONTROL MC (SHEET 1 OF 3)



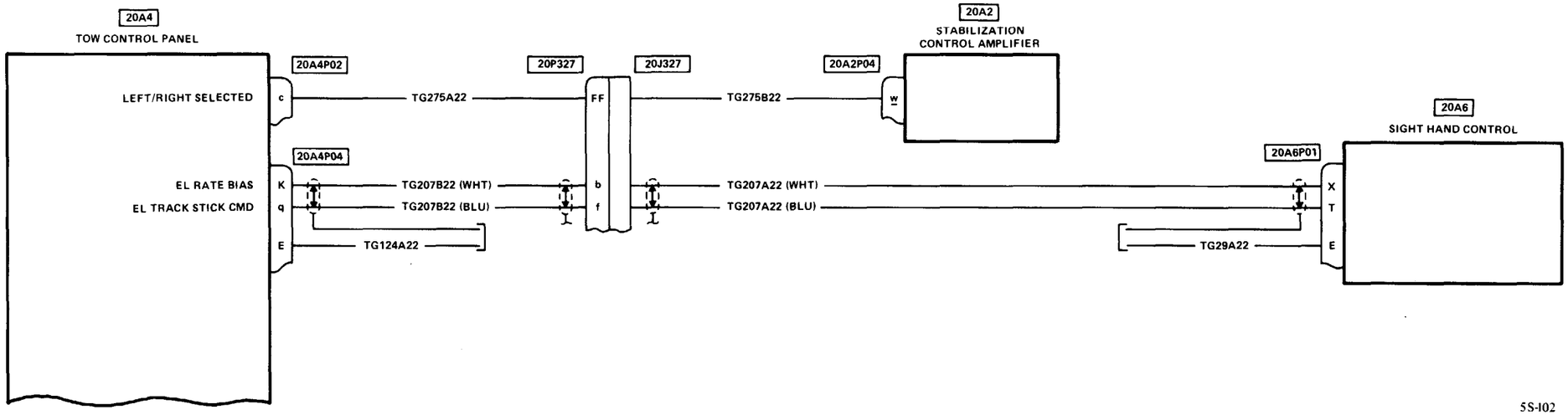

55-100

TSU CONTROL MC (SHEET 2 OF 3)




5S-101

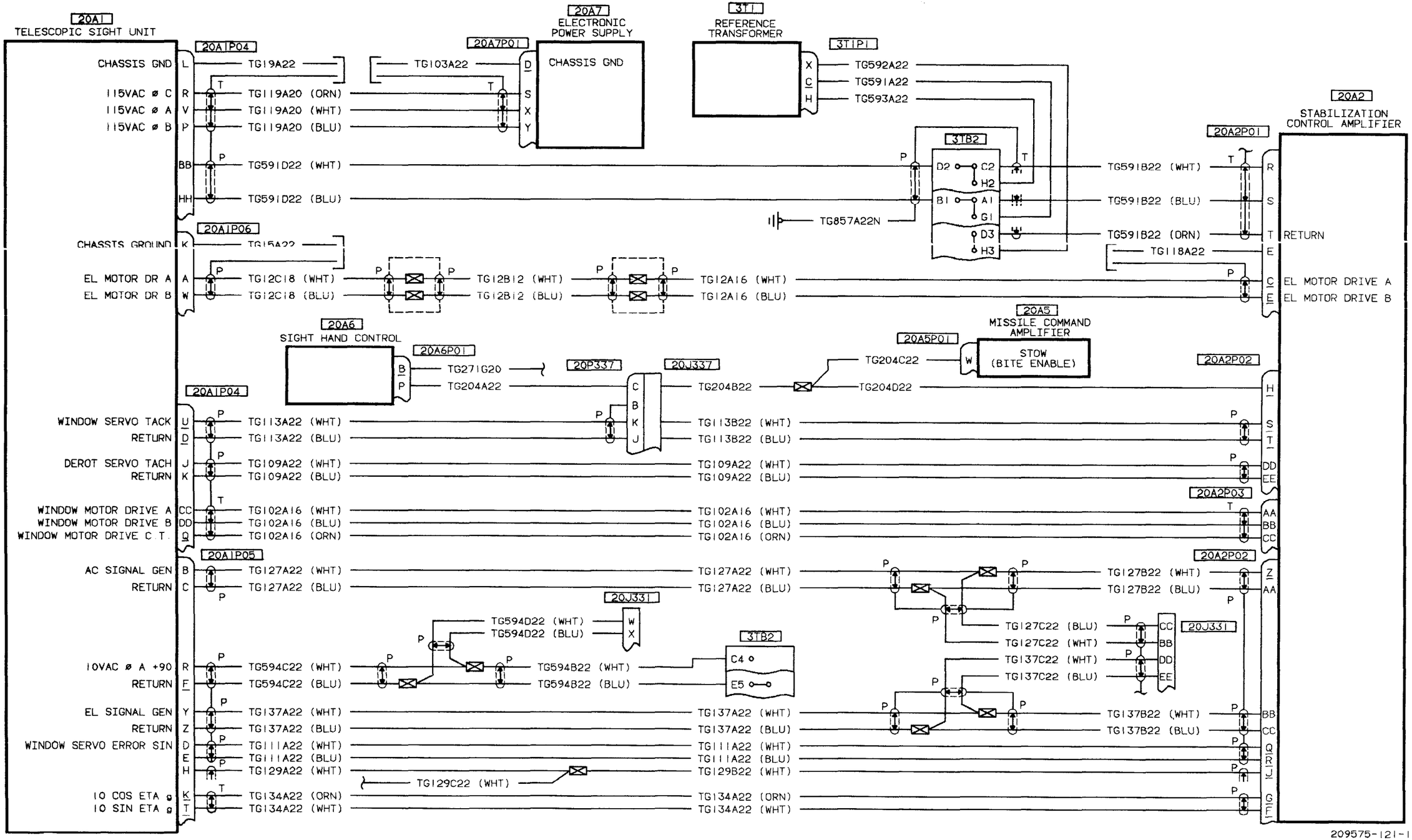
TSU CONTROL MC (SHEET 3 OF 3)




5S-102

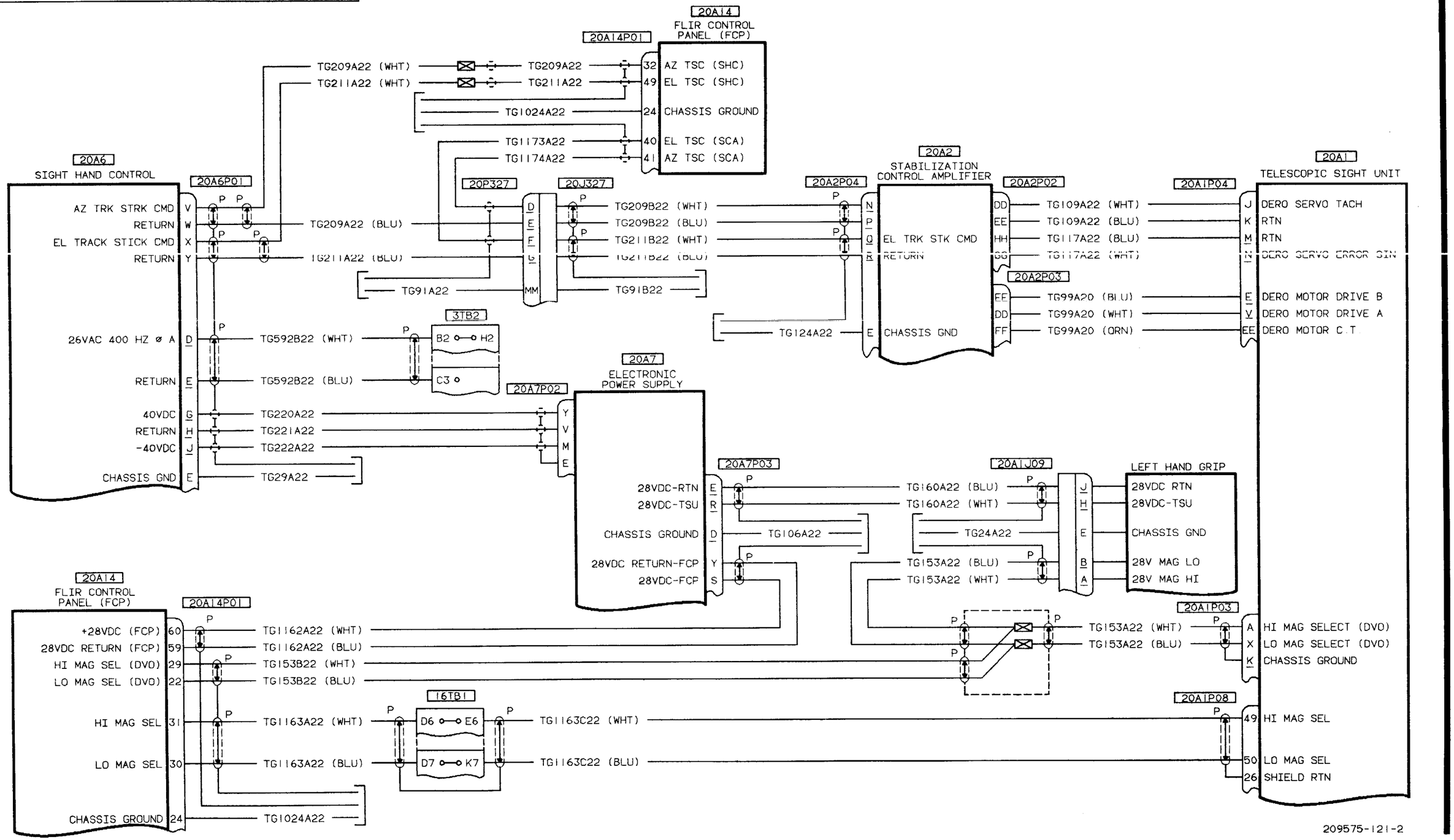
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TSU CONTROL MCN (SHEET 1 OF 4)

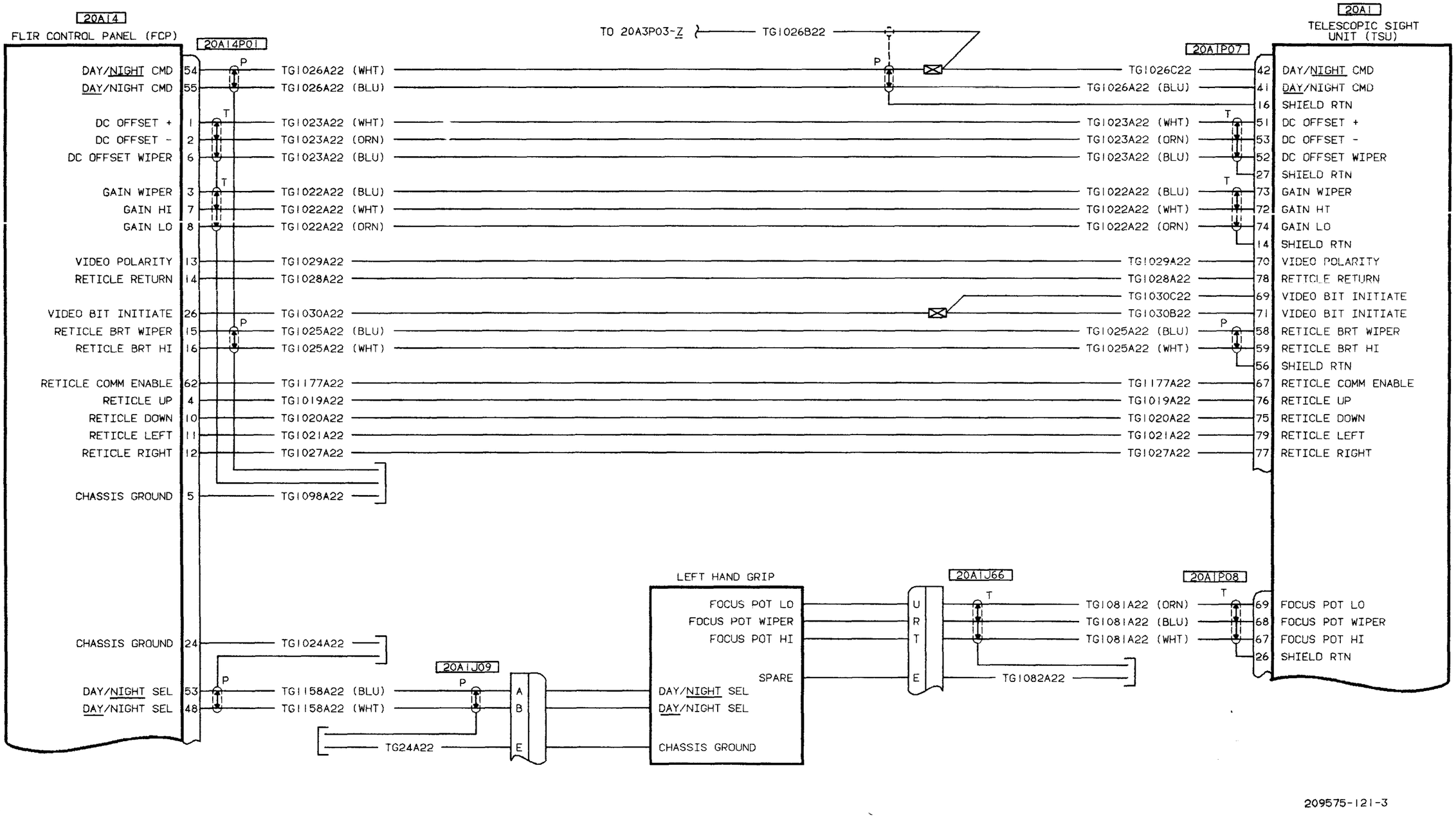



209575-121-1

TSU CONTROL **MCN** (SHEET 2 OF 4)

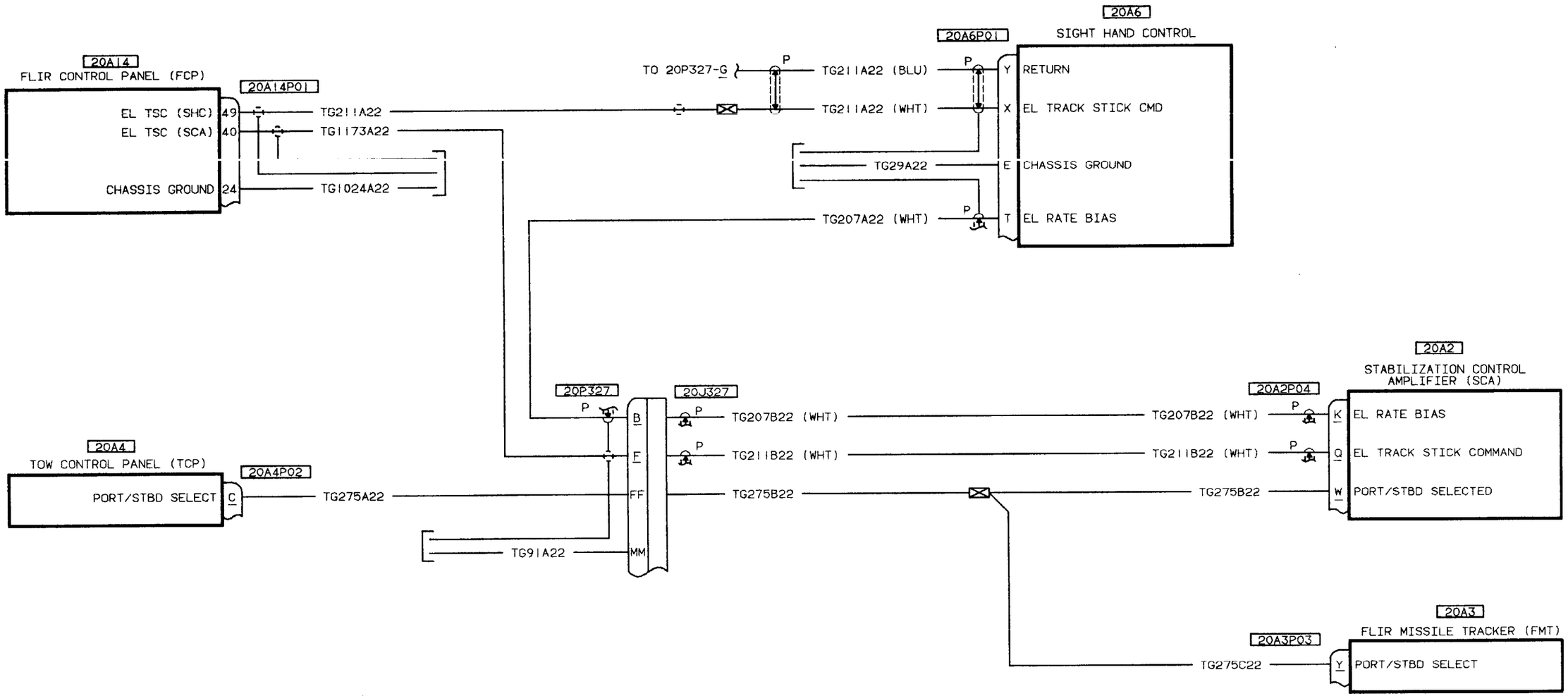


TSU CONTROL MCN (SHEET 3 OF 4)



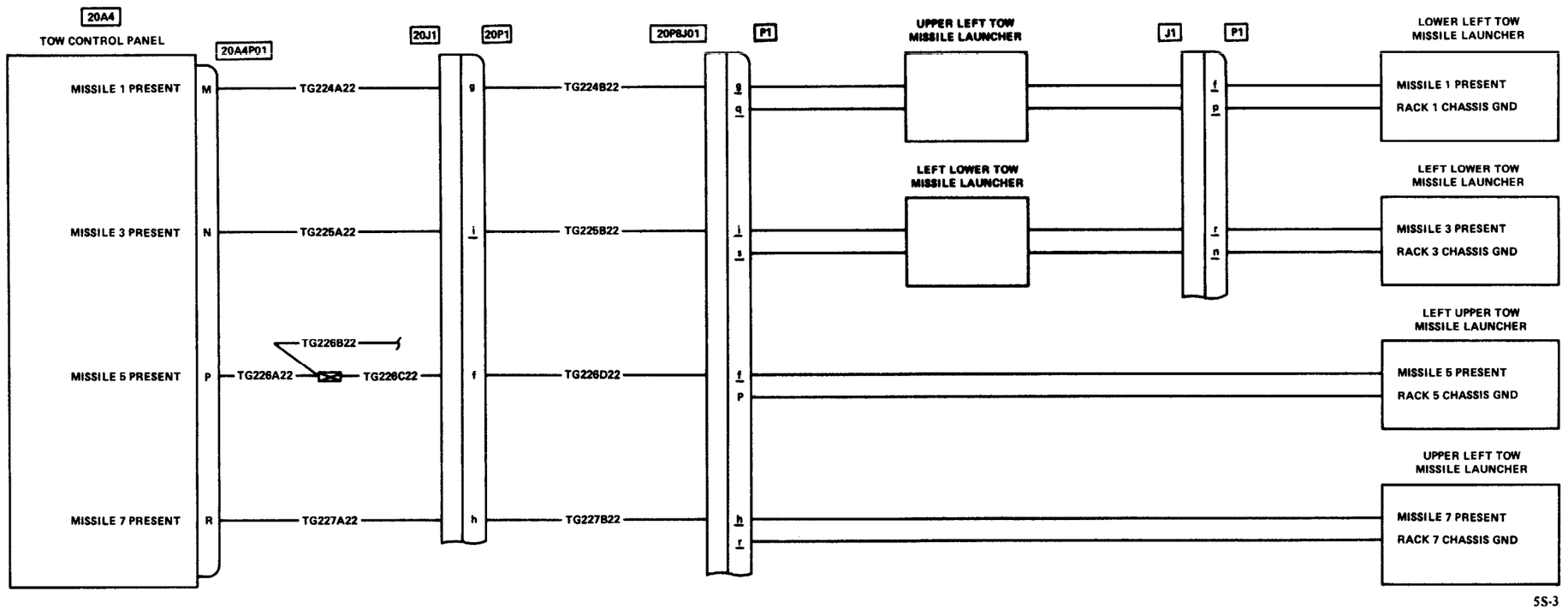

209575-121-3

TSU CONTROL MCN (SHEET 4 OF 4)



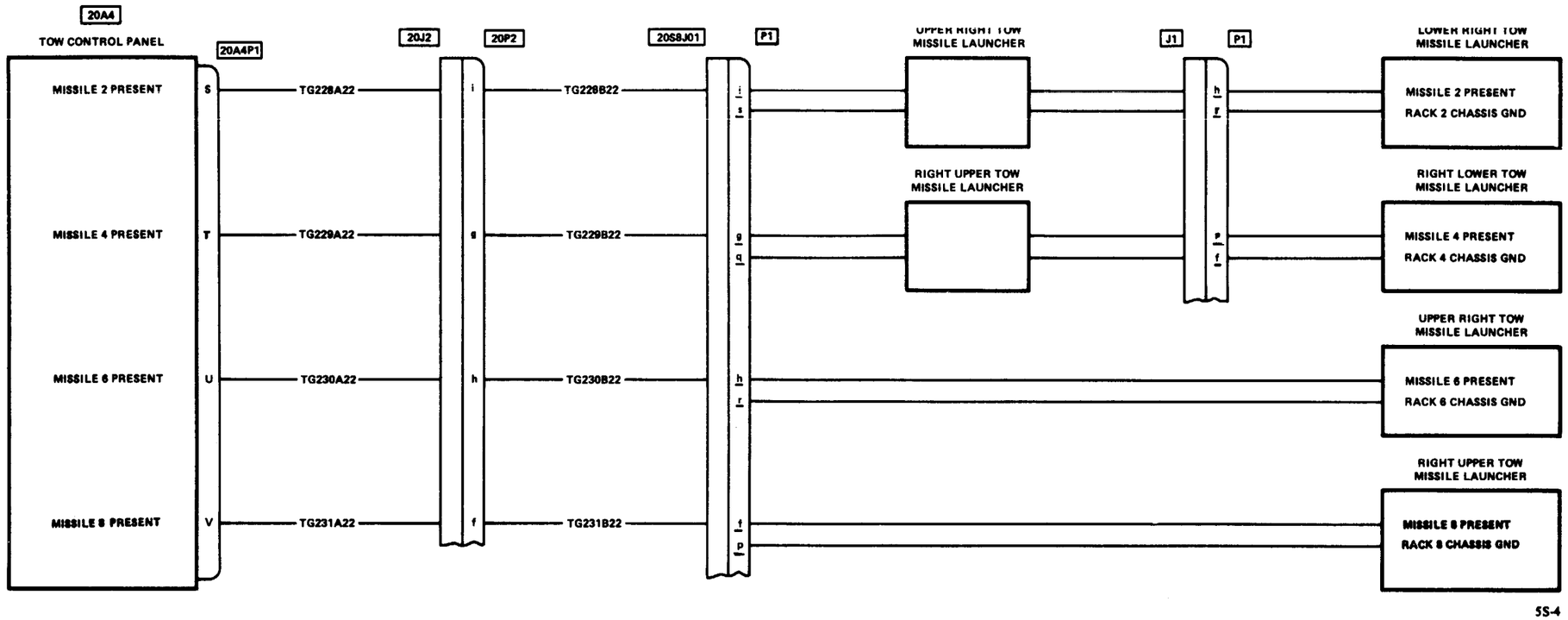

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MISSILE PRESENT (SHEET 1 OF 2)

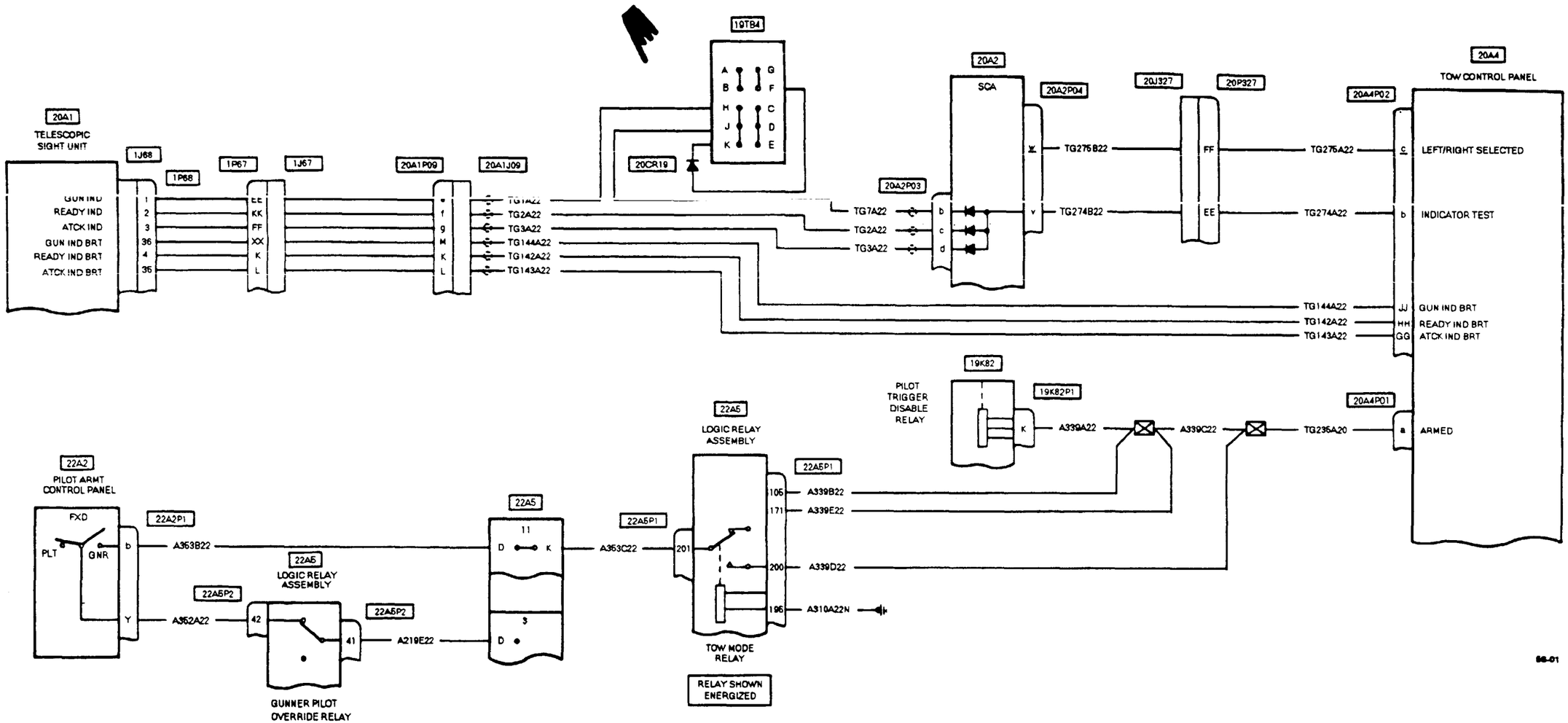



5S-3

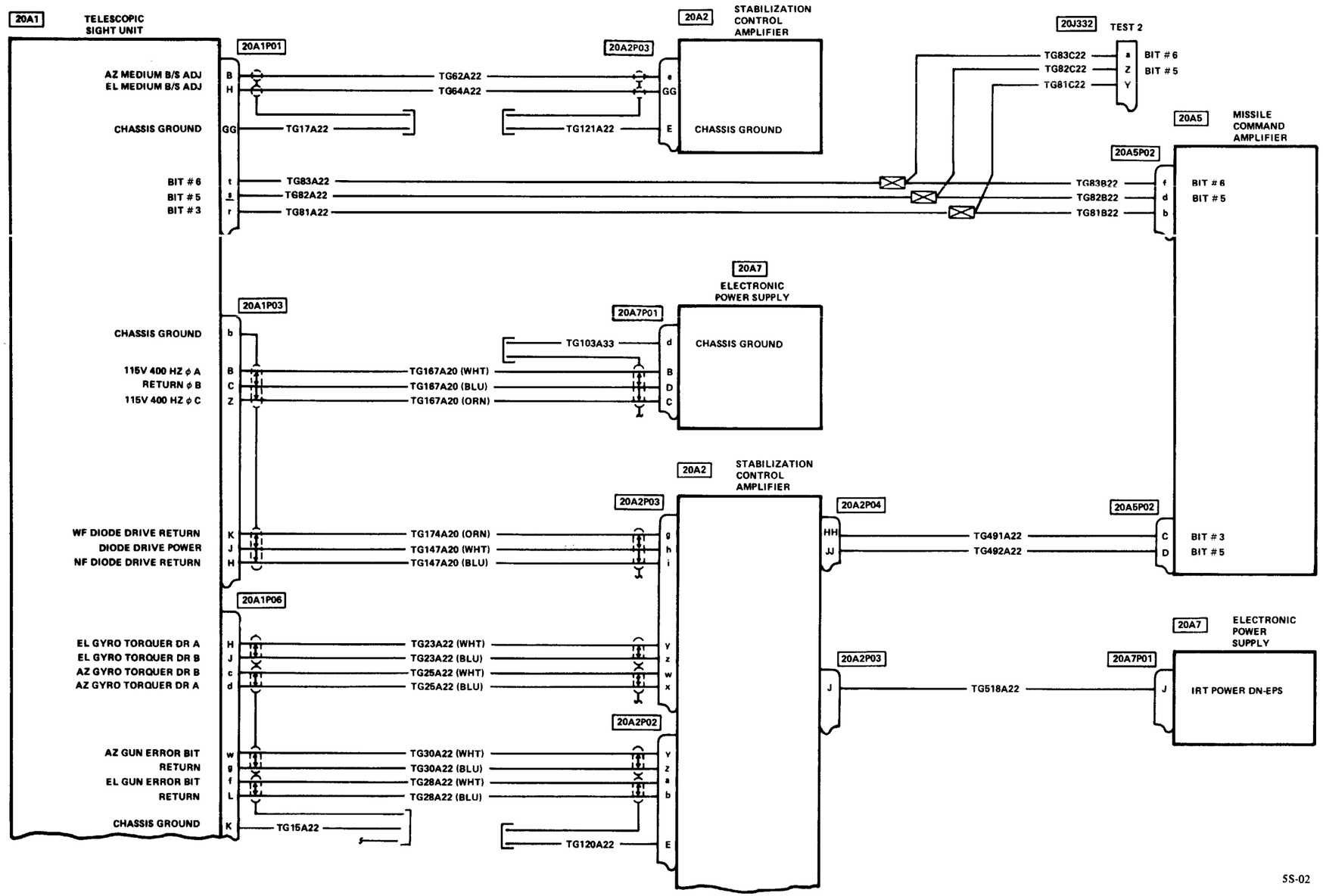
MISSILE PRESENT (SHEET 2 OF 2)



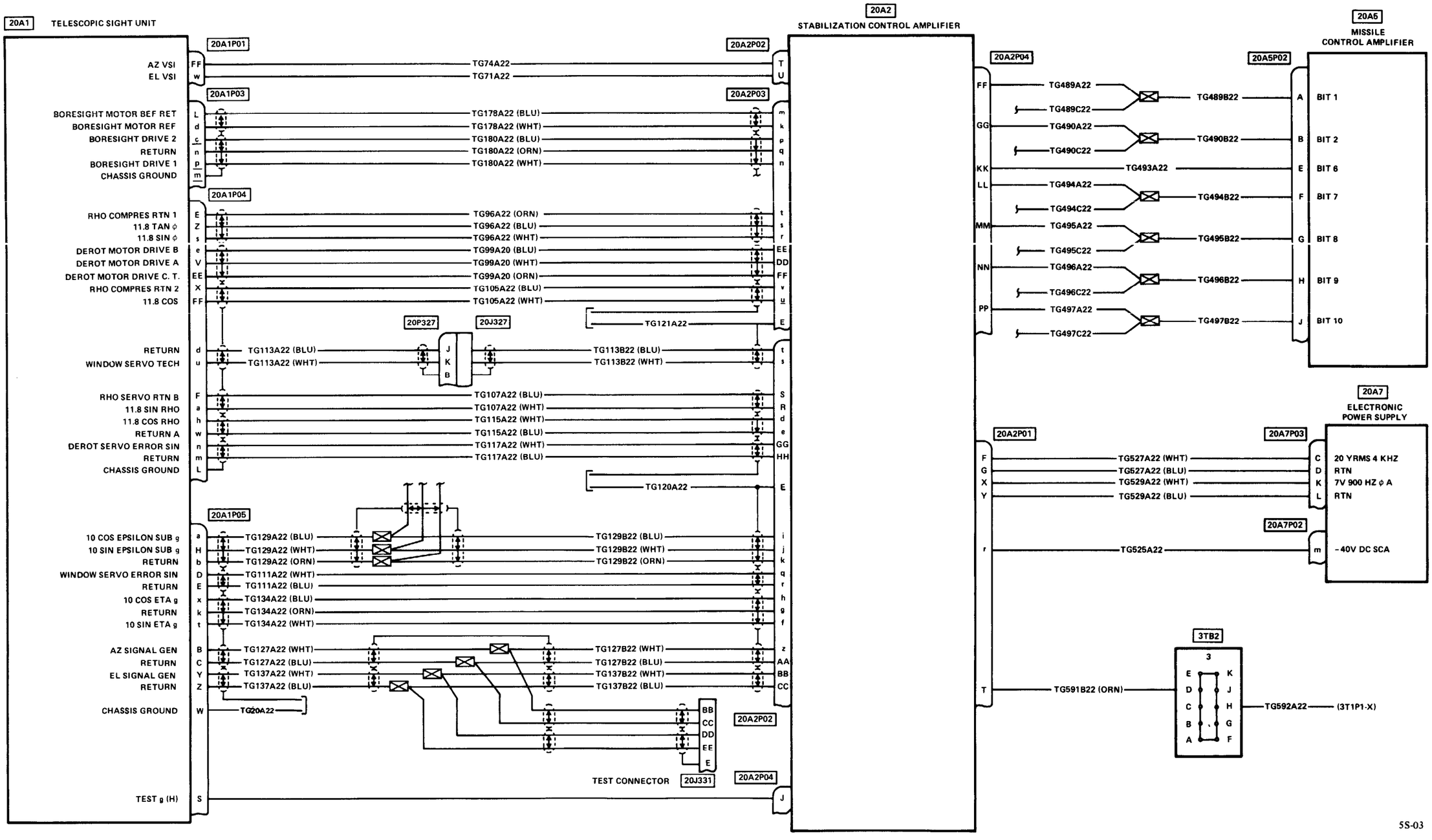
**TCP BIT AND INDICATION (SHEET 1 OF 4)**



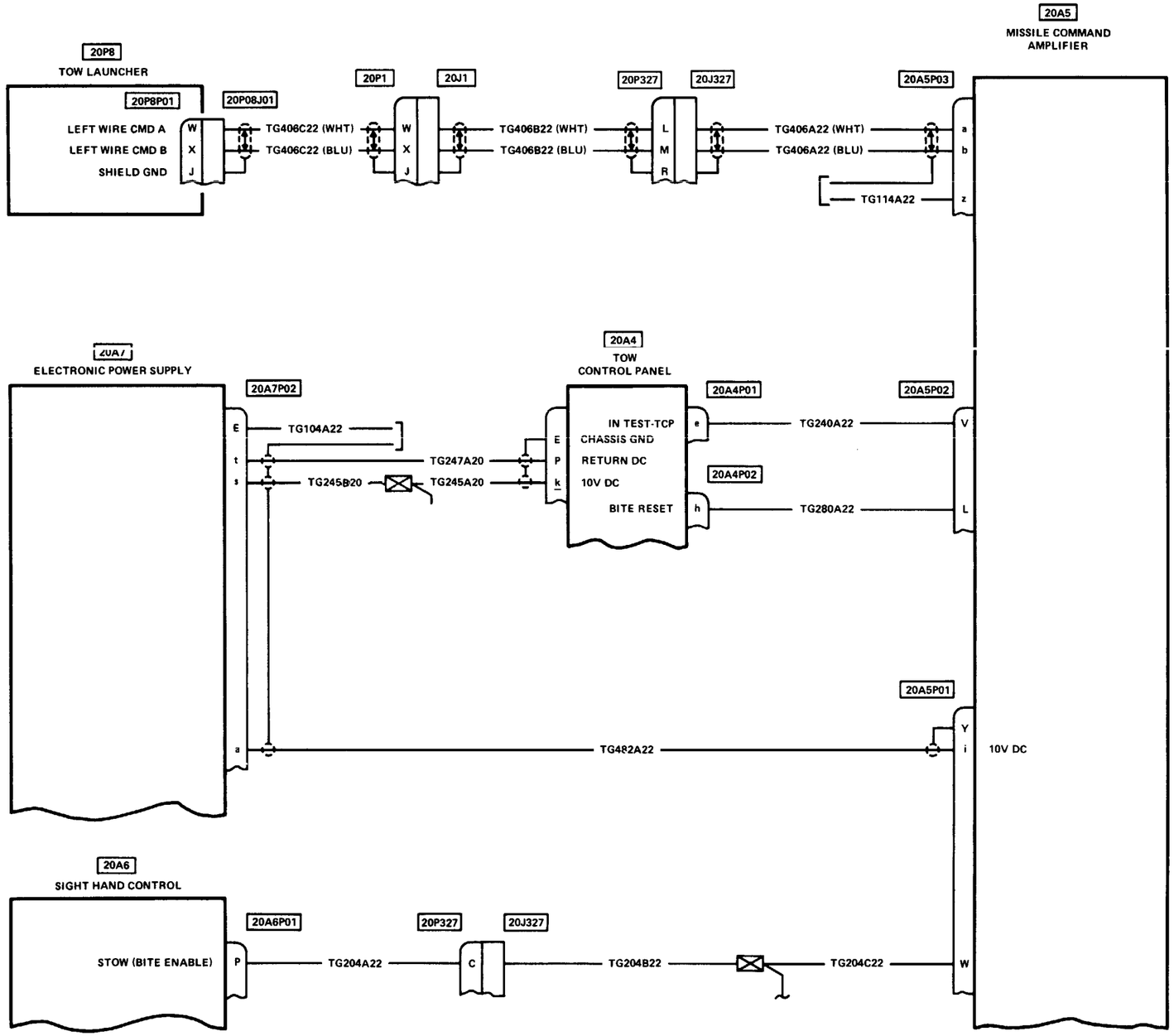
## TCP BIT AND INDICATION (SHEET 2 OF 4)



TCP BIT AND INDICATION MC (SHEET 3 OF 4)

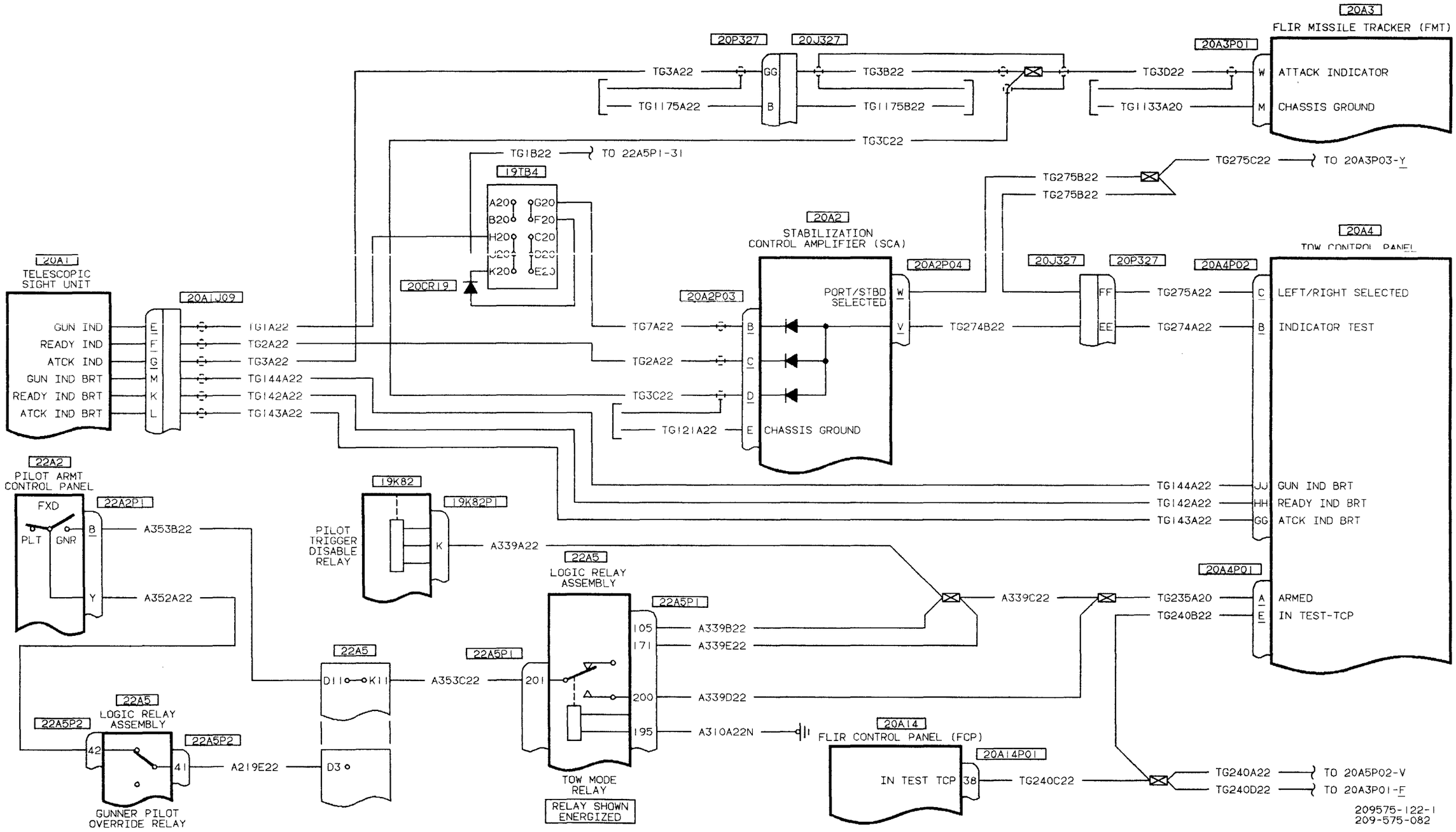


TCP BIT AND INDICATION **MC** (SHEET 4 OF 4)

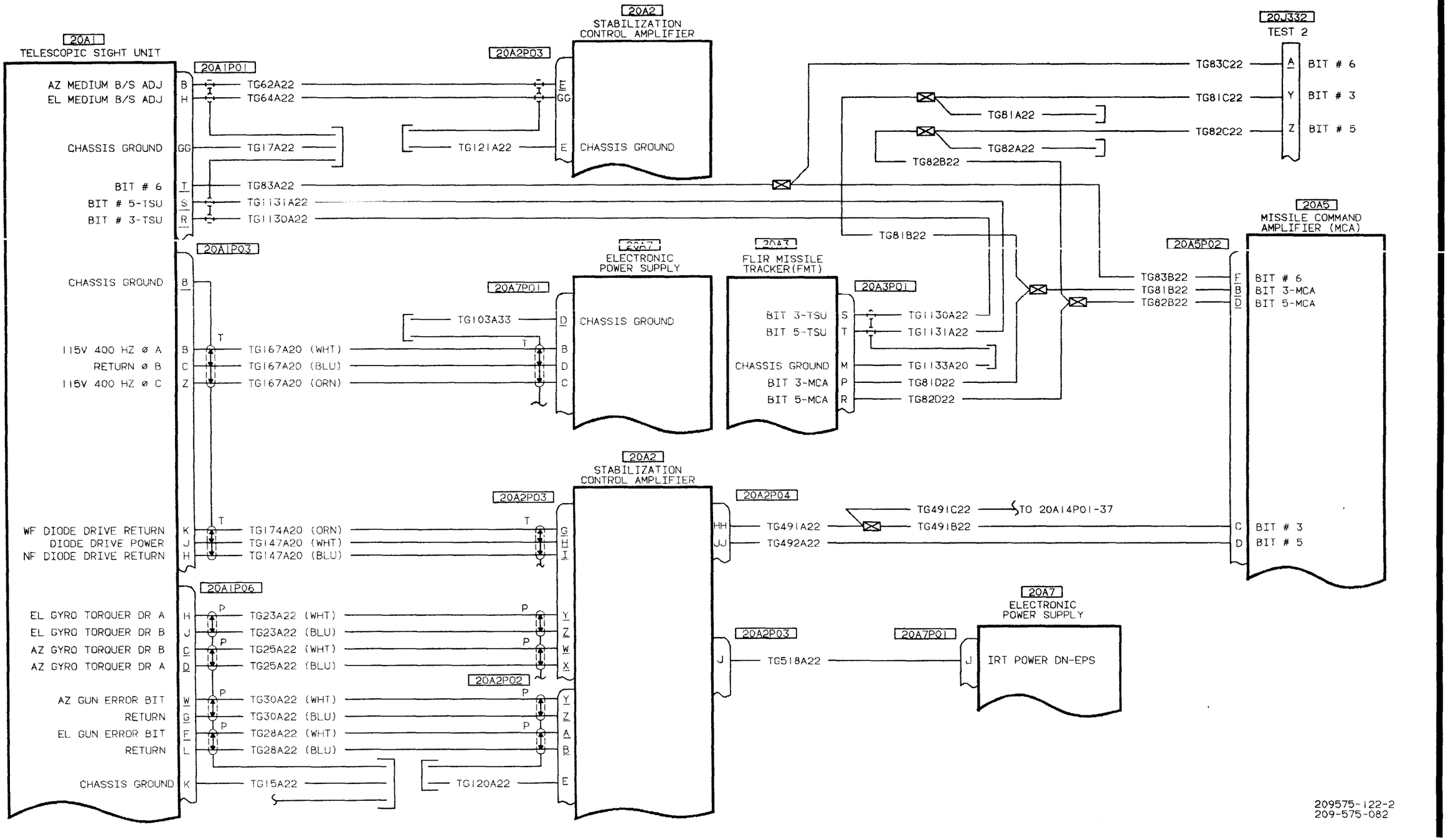


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TCP BIT AND INDICATION MCN (SHEET 1 OF 4)

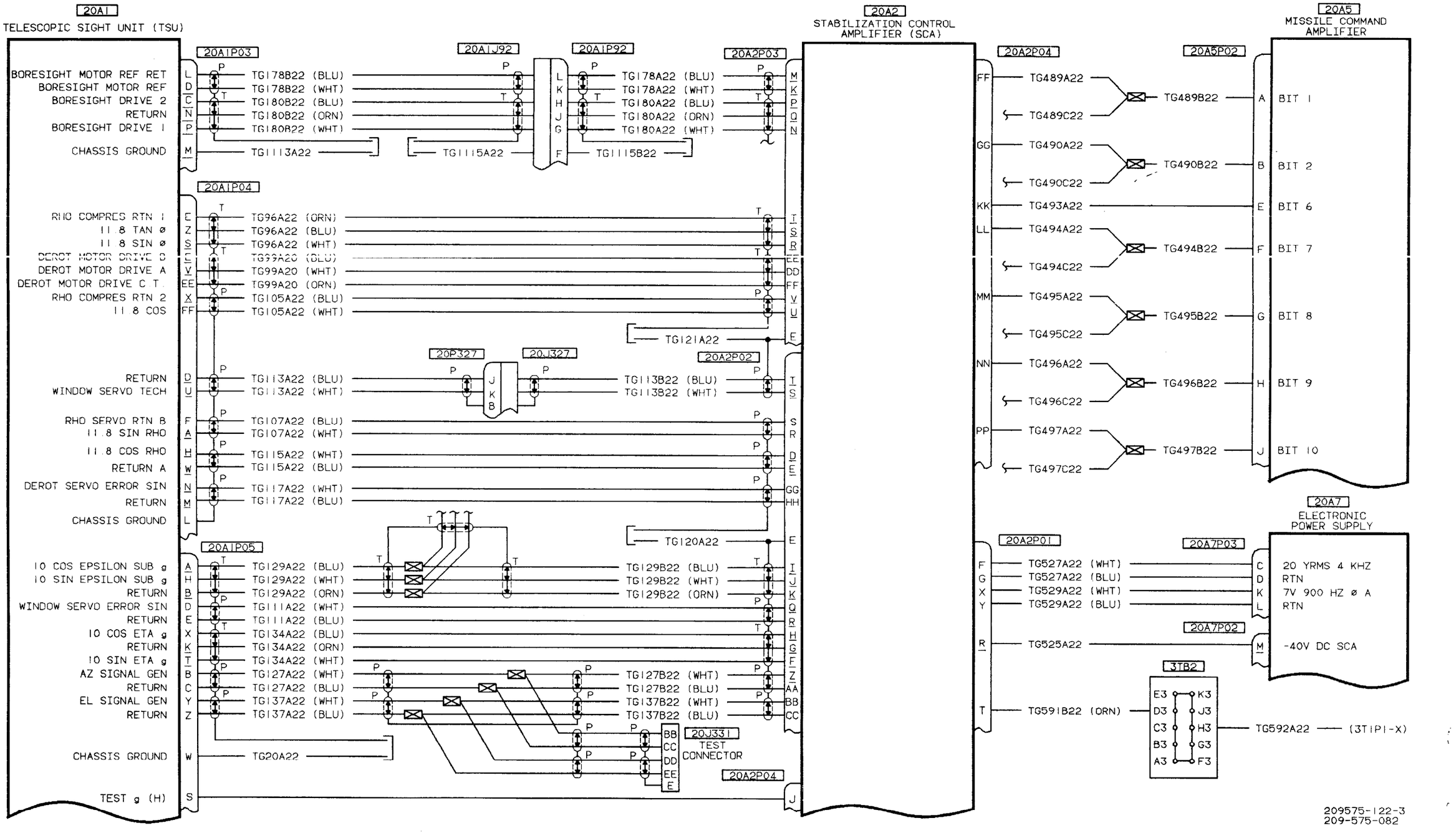


TCP BIT AND INDICATION **MCN** (SHEET 2 OF 4)

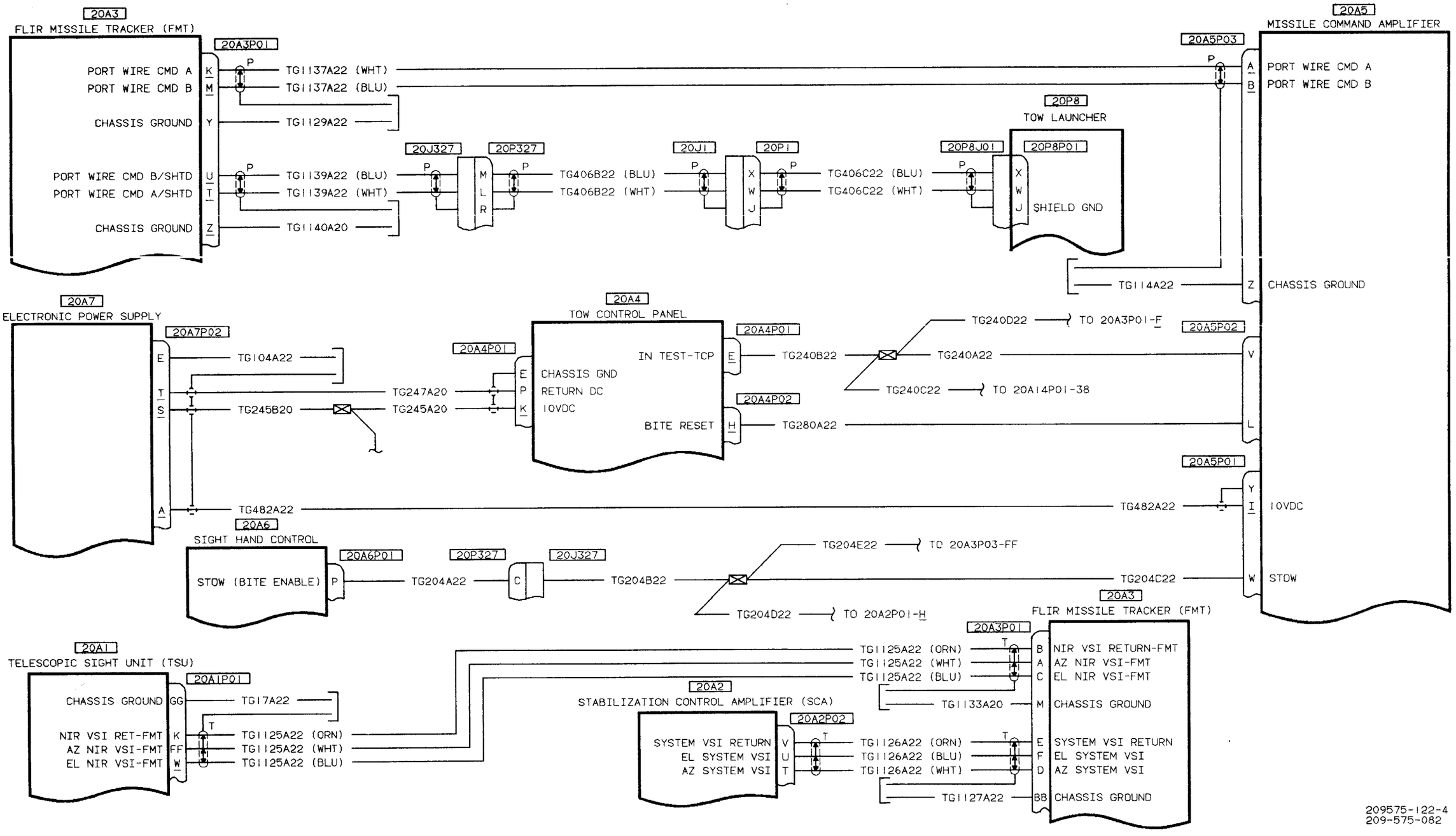



209575-122-2
209-575-082

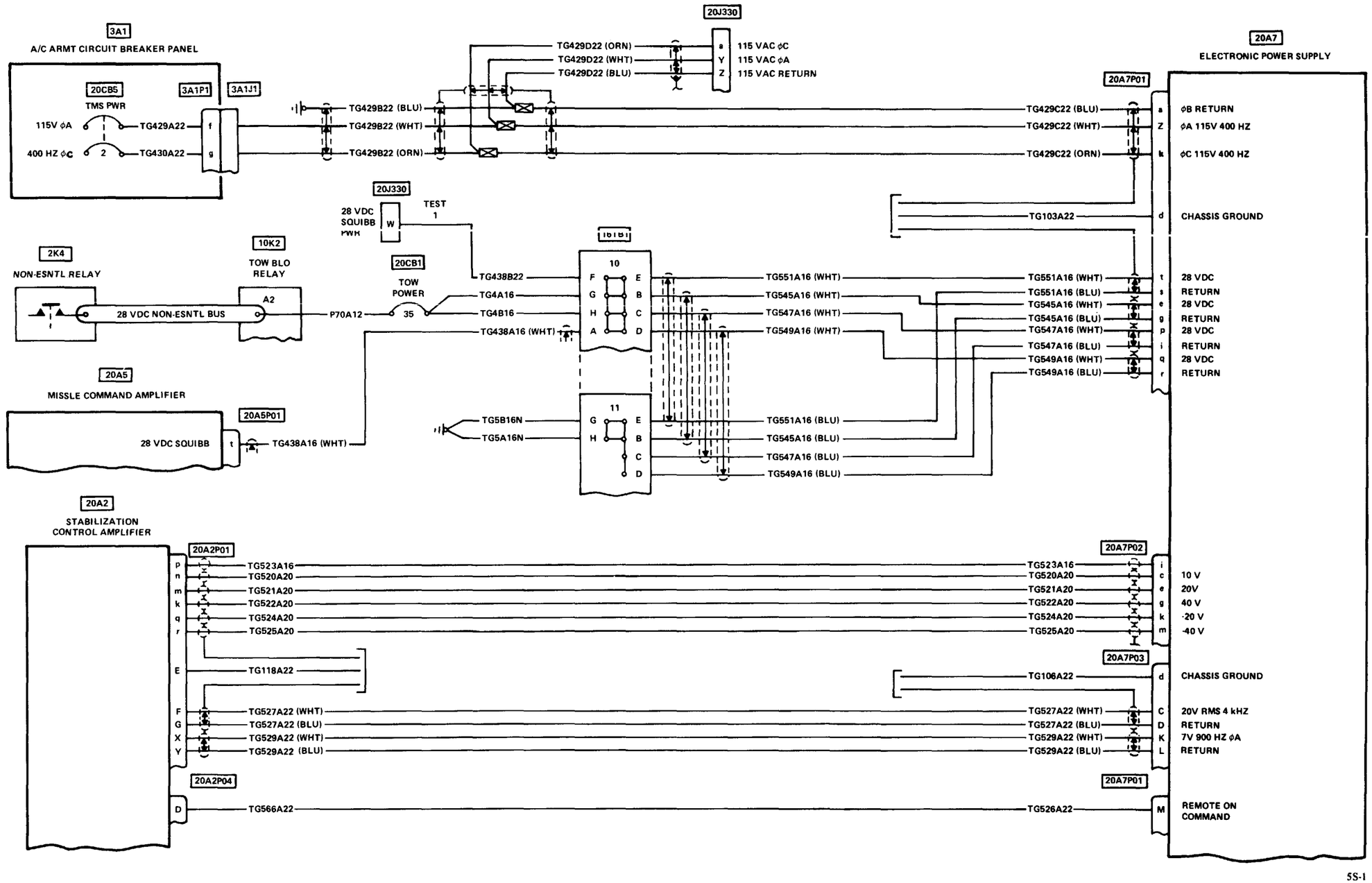
TCP BIT AND INDICATION **MCN** (SHEET 3 OF 4)



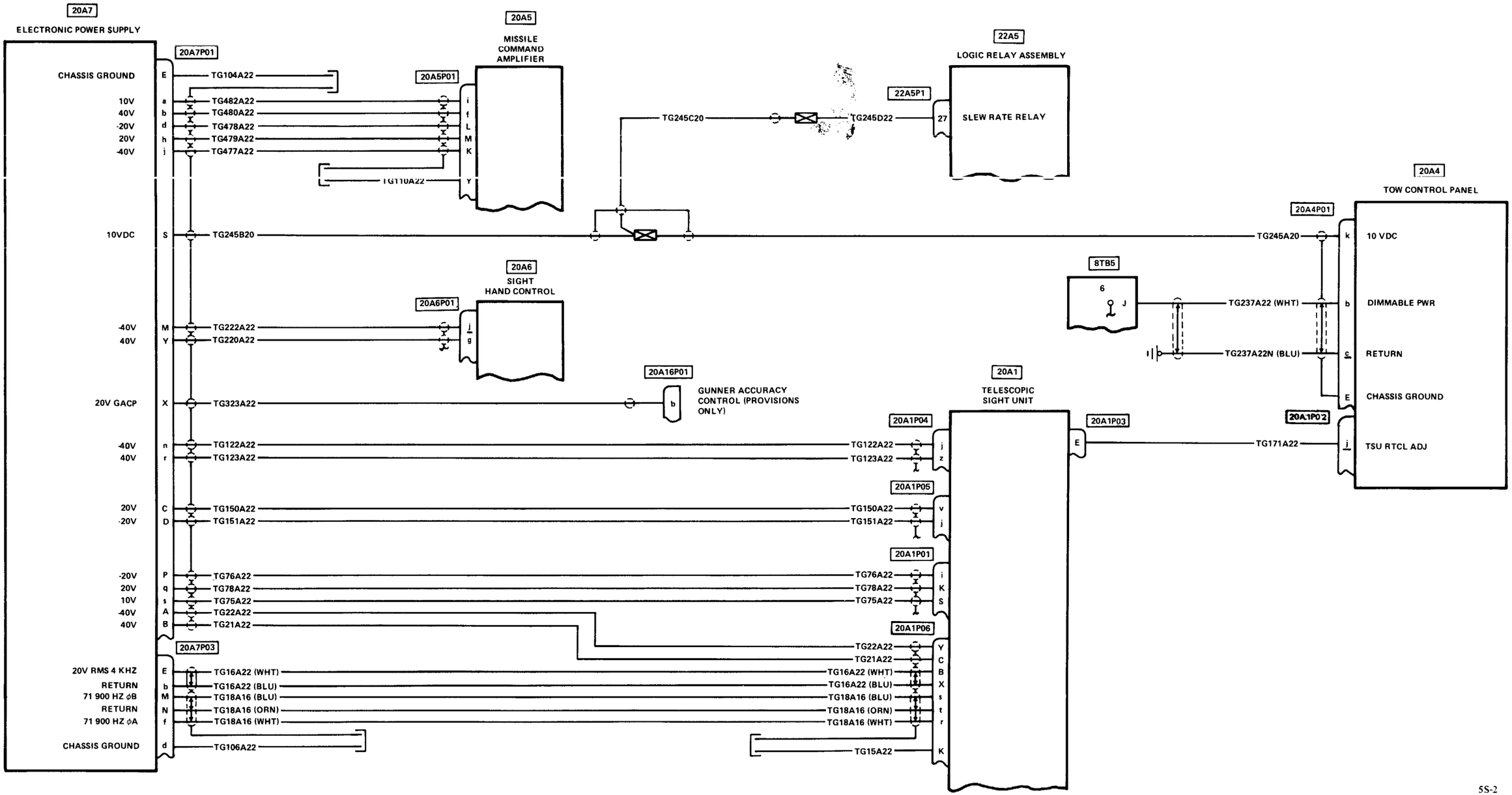
## TCP BIT AND INDICATION MCN (SHEET 4 OF 4)



ELECTRONIC POWER SUPPLY AND LIGHTING MC (SHEET 1 OF 2)

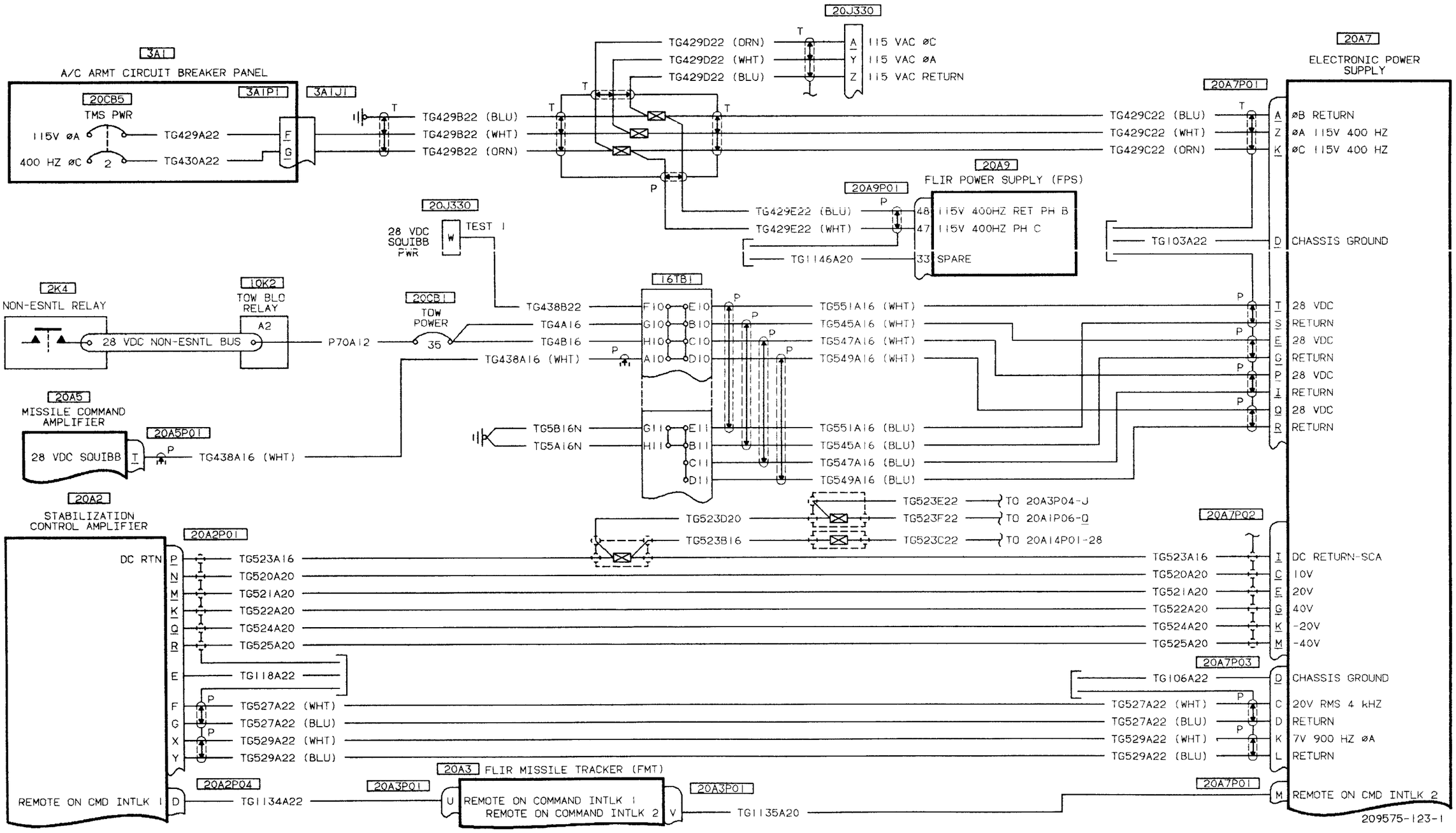


ELECTRONIC POWER SUPPLY AND LIGHTING MC (SHEET 2 OF 2)

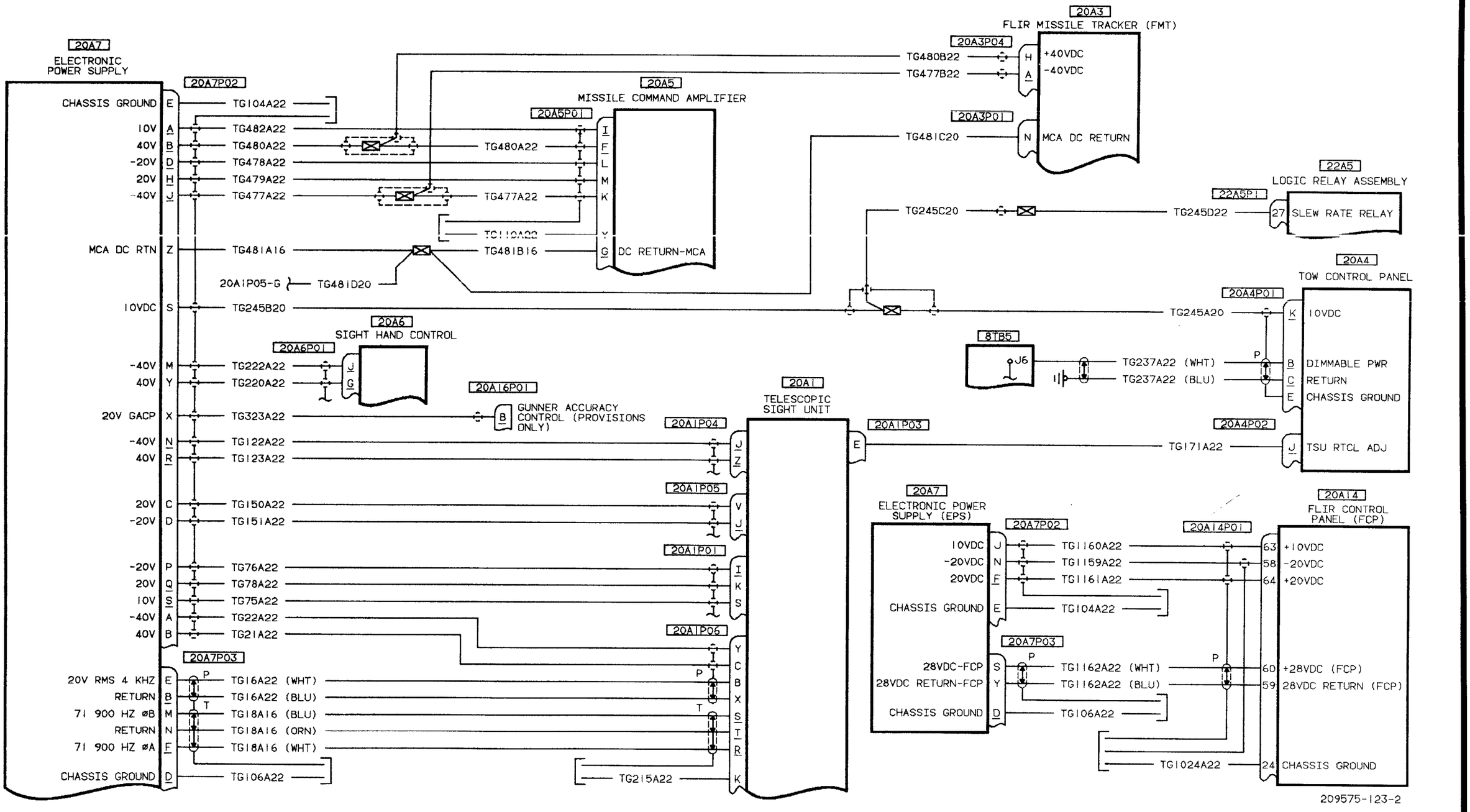


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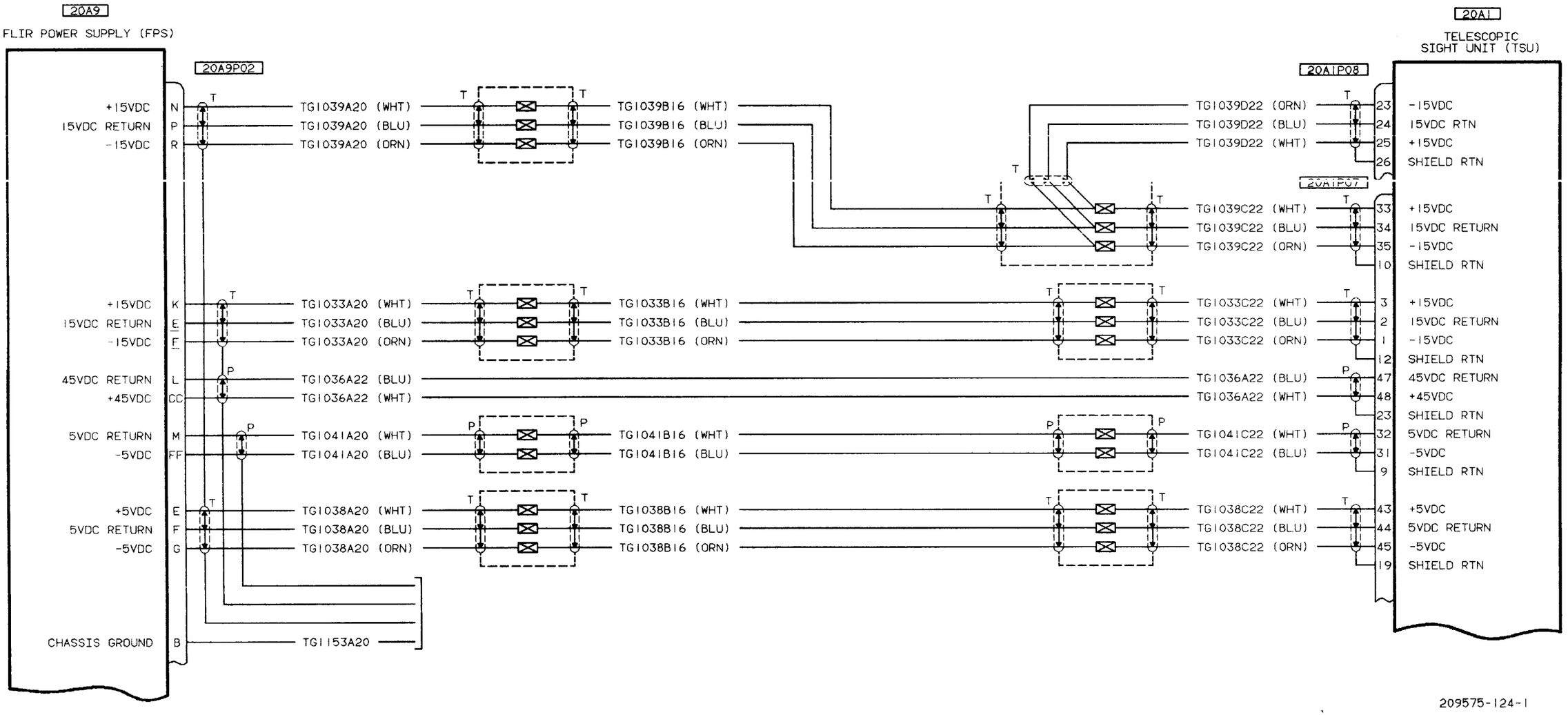
## ELECTRONIC POWER SUPPLY AND LIGHTING MCN (SHEET 1 OF 2)



# ELECTRONIC POWER SUPPLY AND LIGHTING MCN (SHEET 2 OF 2)

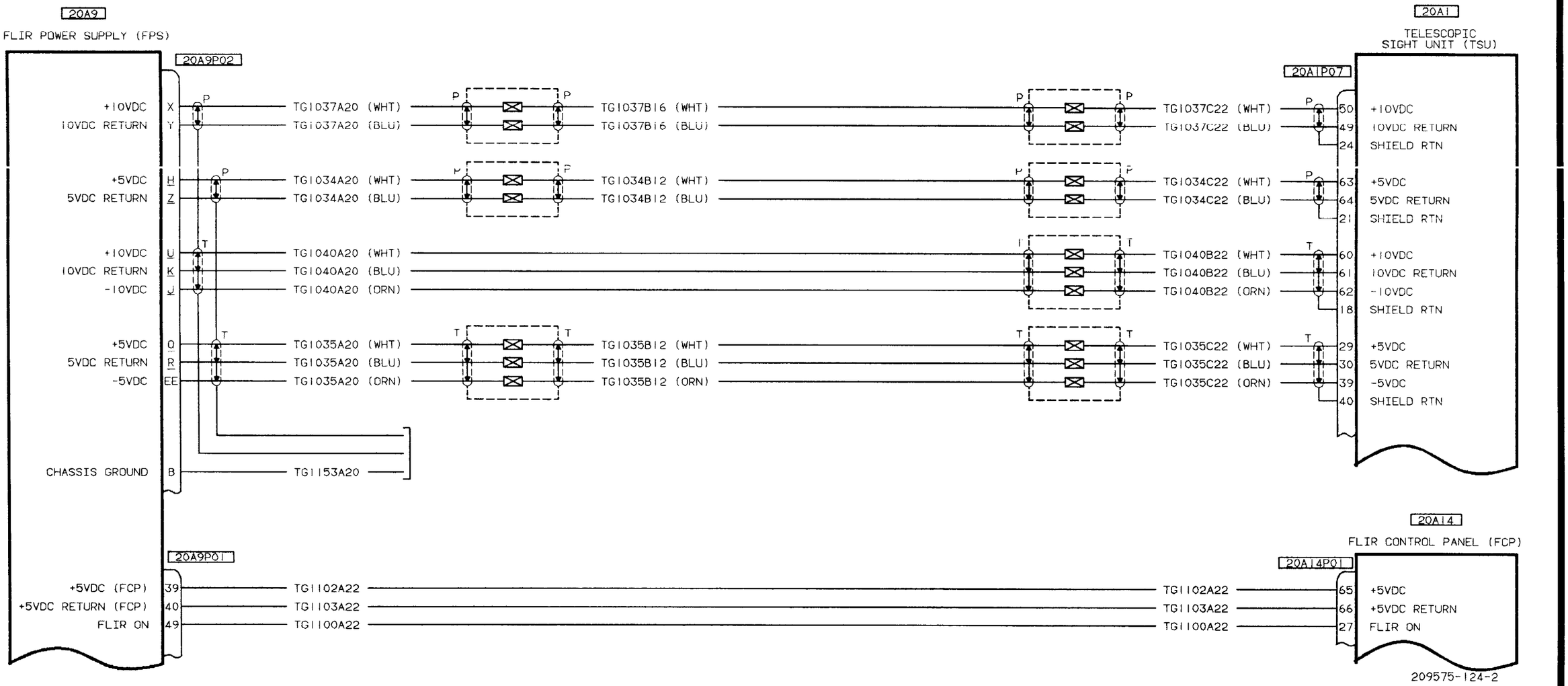


## FLIR POWER SUPPLY MCN (SHEET 1 OF 5)

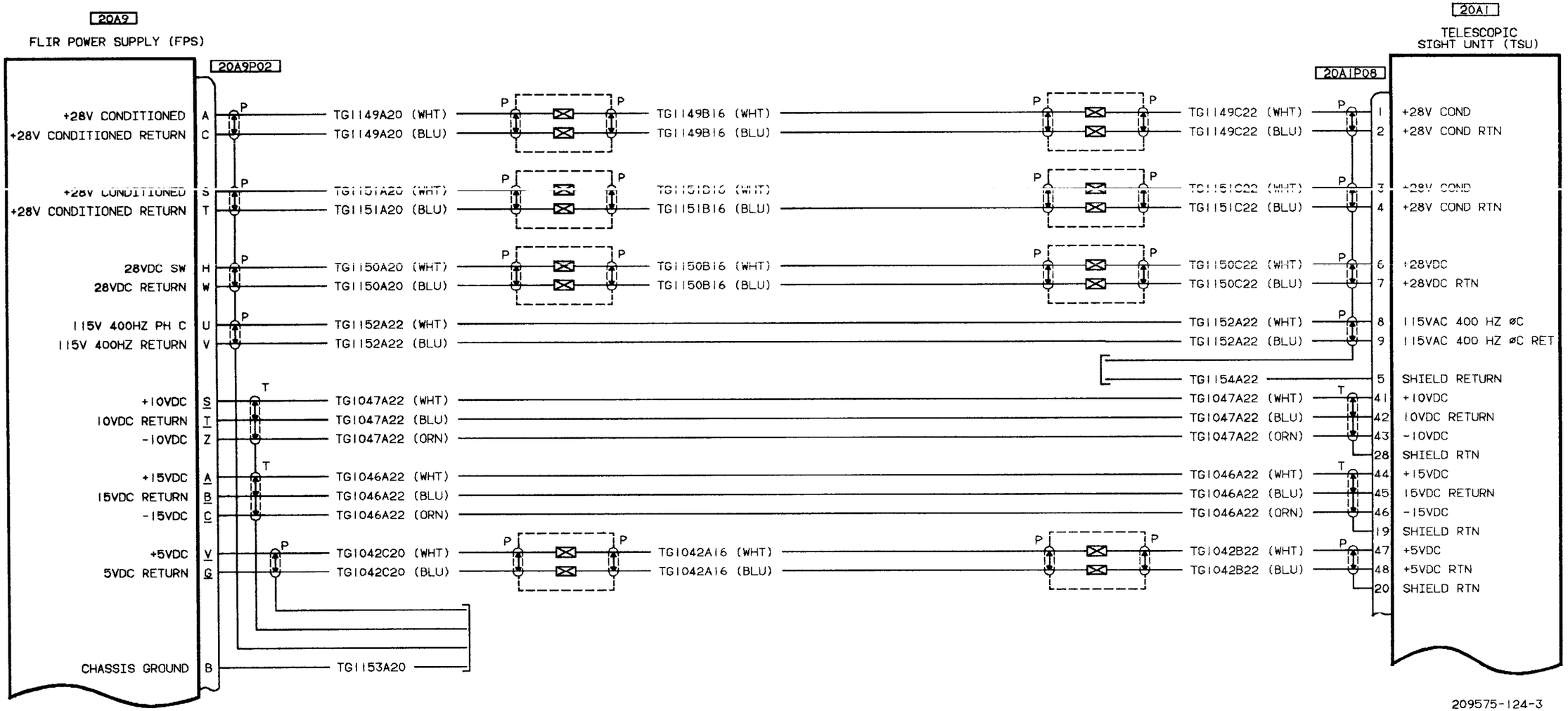



209575-124-1

FLIR POWER SUPPLY MCN (SHEET 2 OF 5)

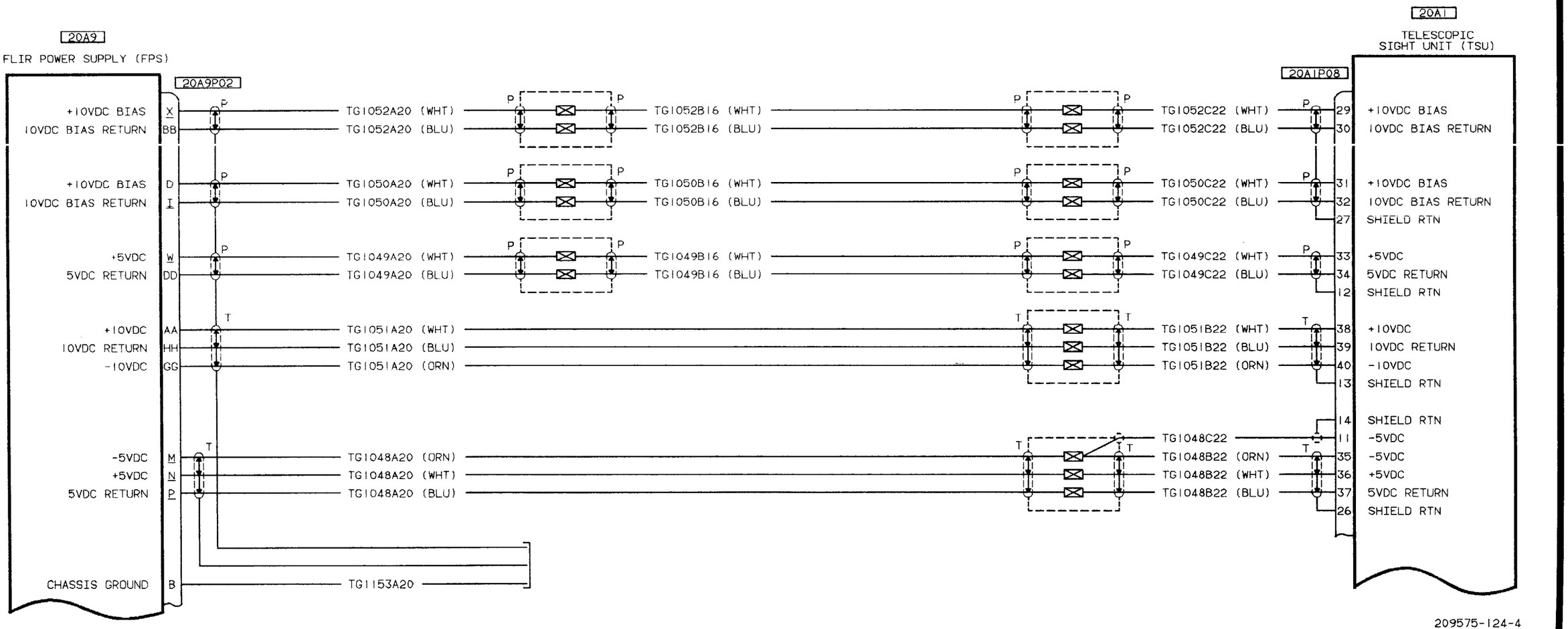


FLIR POWER SUPPLY MCN (SHEET 3 OF 5)



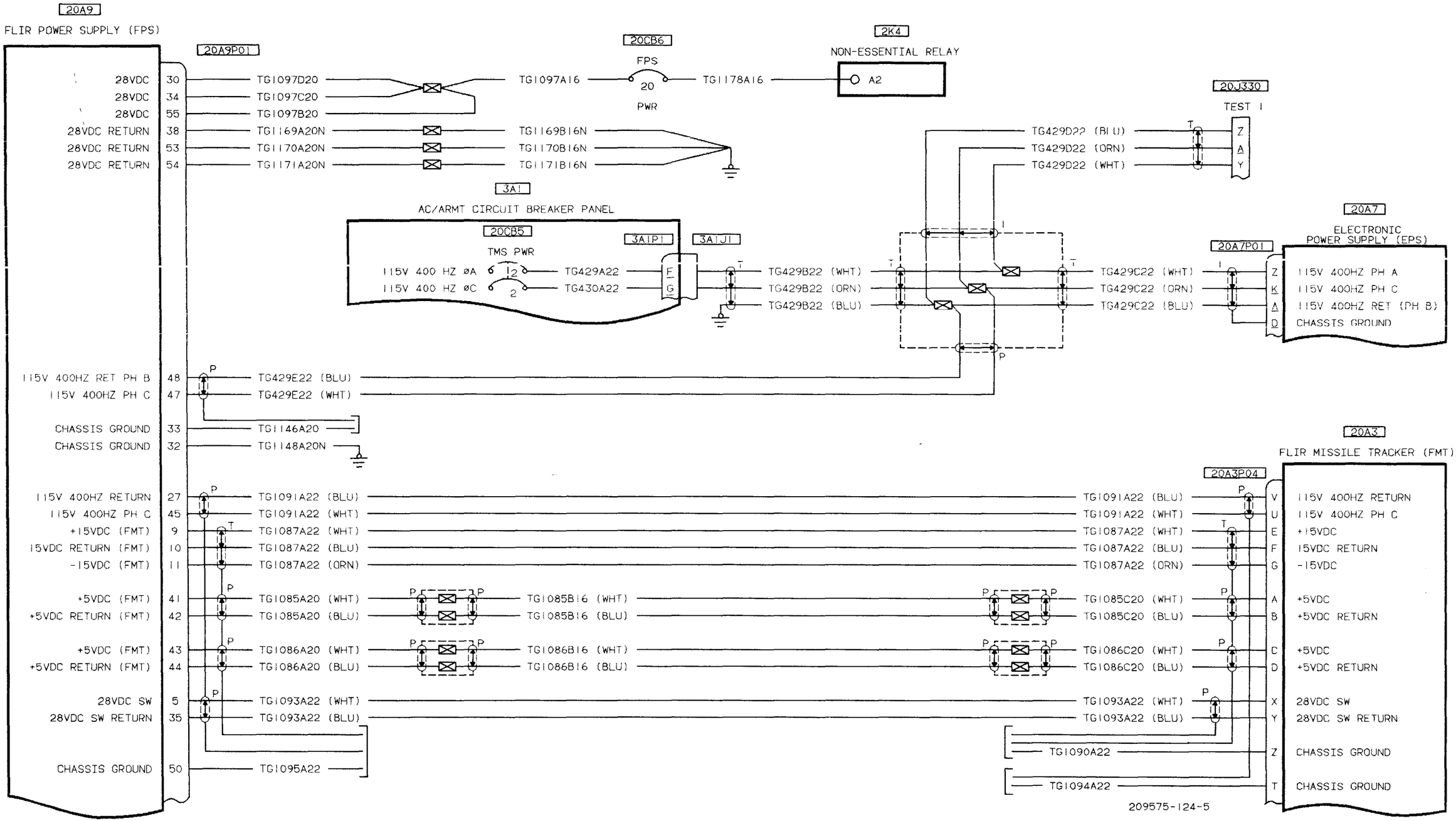

209575-124-3

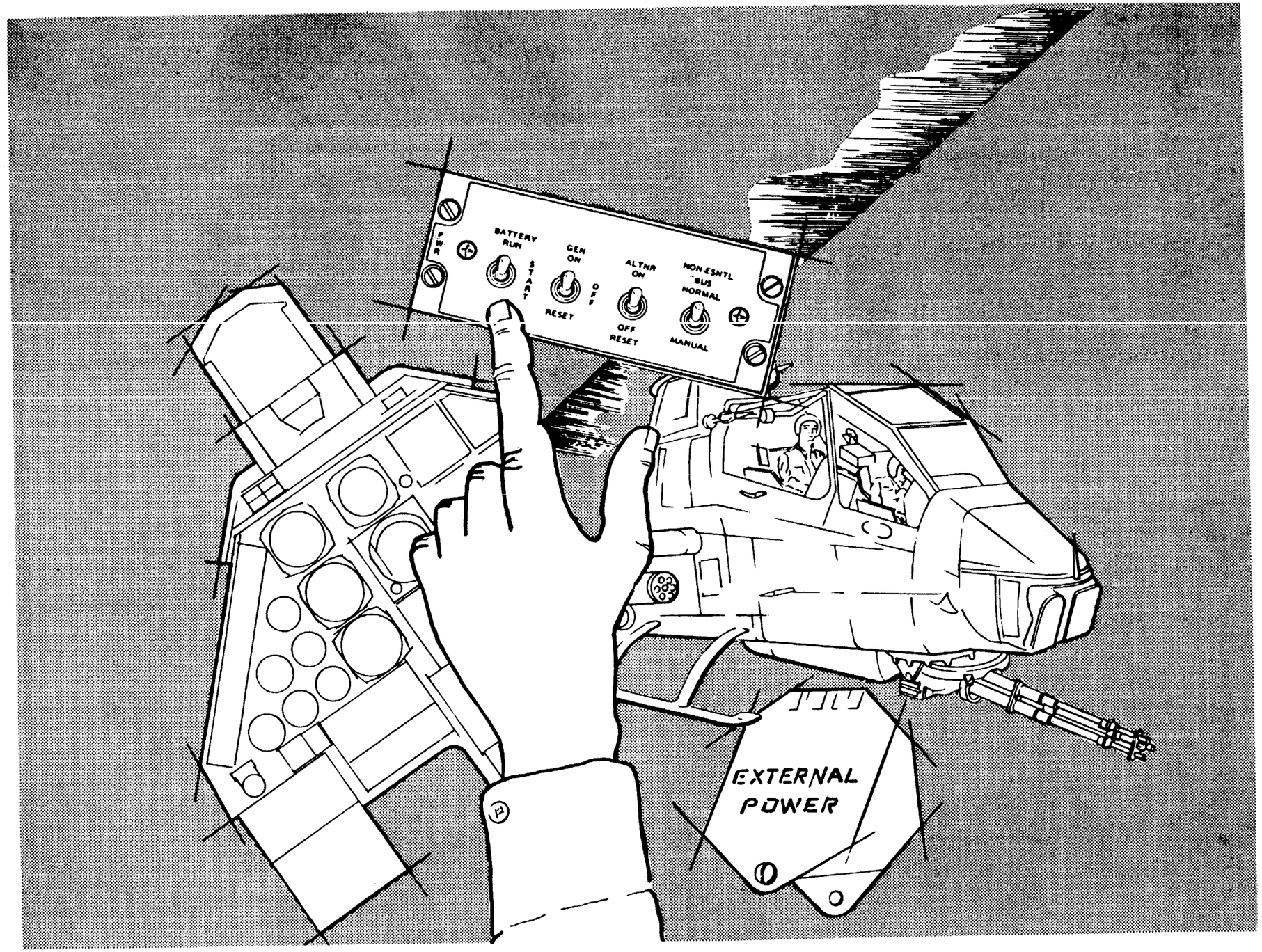
FLIR POWER SUPPLY MCN (SHEET 4 OF 5)




209575-124-4

## FLIR POWER SUPPLY MCN (SHEET 5 OF 5)






# CHAPTER 9

# ARMAMENT POWER TROUBLESHOOTING

## OVERVIEW

This chapter contains the armament power operational check and logic tree troubleshooting procedures.

If a fault occurs during the operational check, stop the check, leave switches and circuit breakers in position, and refer to MAPS in Chapter 1 for that symptom. The MAPS will refer to MAPS in Chapter 1 for ing or repair procedure for that fault.

**WARNING**

Turn off all electrical power when removing equipment or disconnecting electrical connectors unless otherwise noted in the procedures.

## 9-1. ARMAMENT POWER PRE-OPERATIONAL CHECK SETUP .

INITIAL SETUP

Applicable Configuration
All

Personnel Required
68F (2)

Equipment Condition
All ordnance removed from helicopter

a. Open (OFF) all circuit brekers on AC/ARMT circuit breaker panel.

b. Open all circuit breakers on DC circuit breaker panel.

c. Set pilot ARMT control panel switches:

(1) MASTER ARM to OFF.

(2) WING STORE to RKT.

(3) WPN CONTR to GUNNER.

(4) RANGE to MED.

d. Set NON-ESNTL BUS switch on pilot electrical PWR control panel to NORMAL.

e. Set HUD switches:

(1) PWR to OFF.

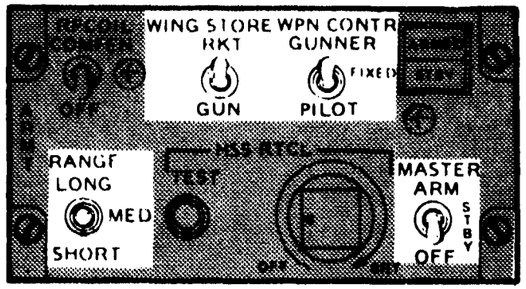
(2) MODE to NORM.

(3) RKT to DIR.

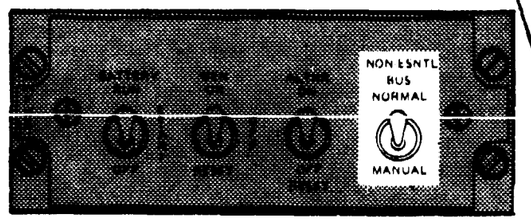
(4) AUTO BRT to OFF.

(5) NIGHT FILTER control fully clockwise.

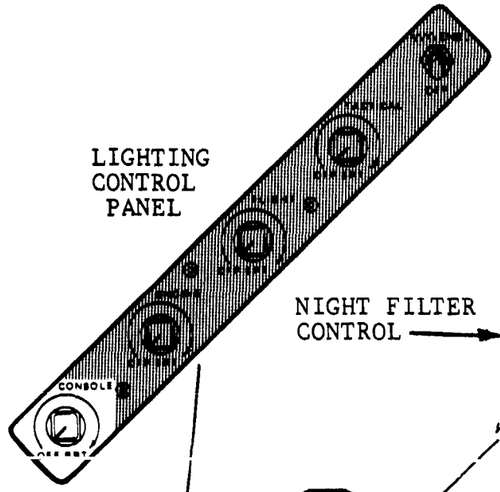
f. Set CONSOLE light control on lighting control panel to OFF.

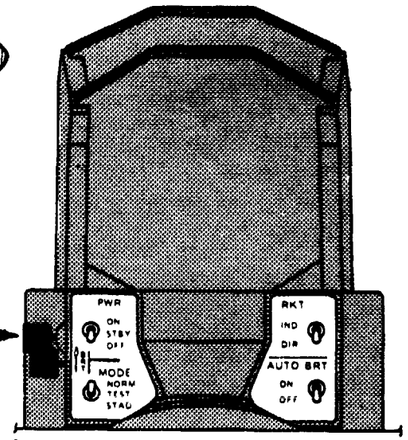


PILOT ARMT CONTROL PANEL



ELECTRICAL PWR CONTROL PANEL

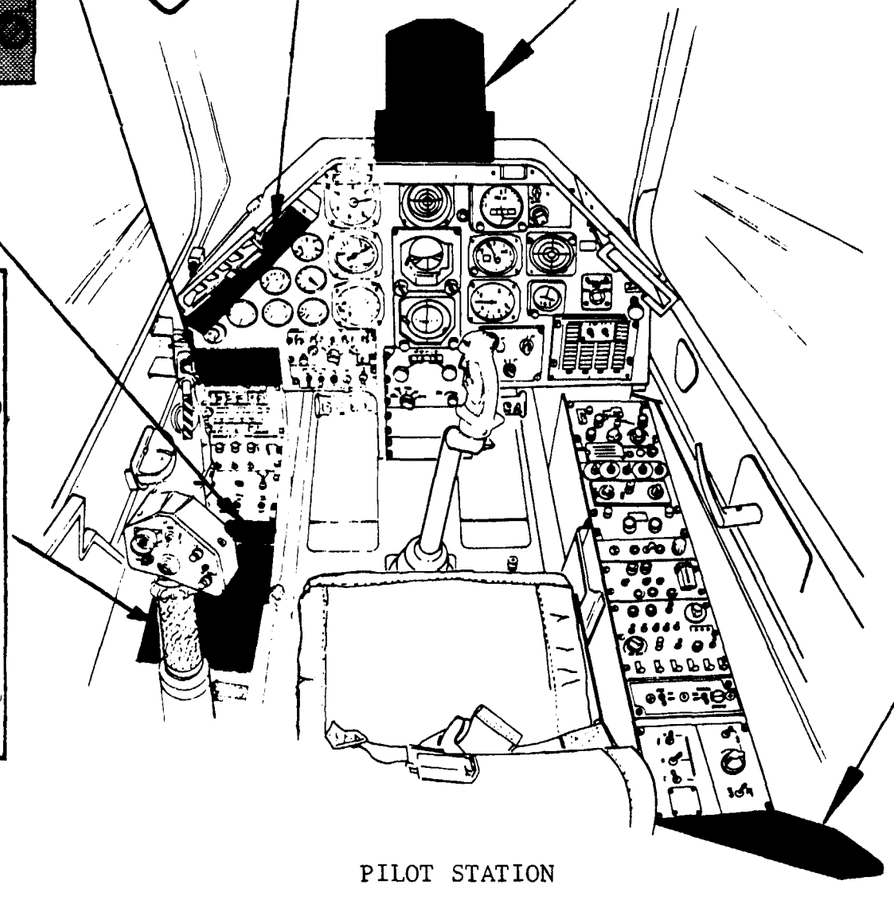


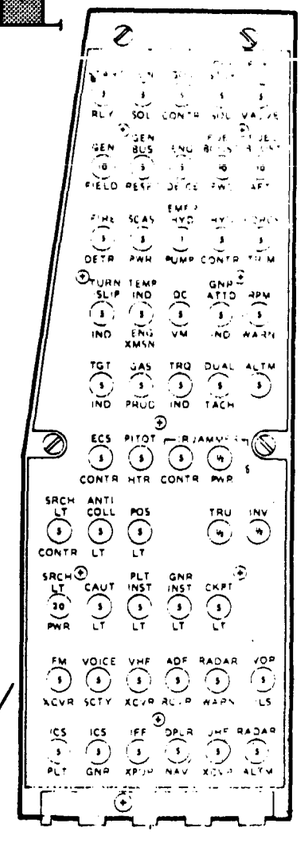



HUD



AC/ARMT CIRCUIT BREAKER PANEL


PILOT STATION


DC CIRCUIT BREAKER PANEL

9-1. ARMAMENT POWER PRE-OPERATIONAL CHECK SETUP (CONTINUED).

**CAUTION**

Do not exceed 30 V dc output on ground power unit.

g. Set gunner miscellaneous control panel switches:

(1) ELEC PWR/EMERG OFF to ELEC PWR.

(2) Rotate the following controls fully counter-clockwise to OFF.

(a) CSL LTS

(b) INST LTS

(c) ARMT LTS

(3) LTS switch to NORMAL

h. Set LTS switch on gunner cyclic stick to NORM.

i. Set gunner armament control panel switches:

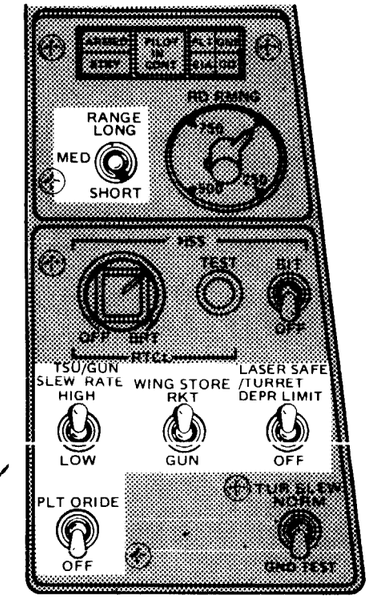
(1) RANGE to MED

(2) TSU/GUN SLEW RATE to HIGH

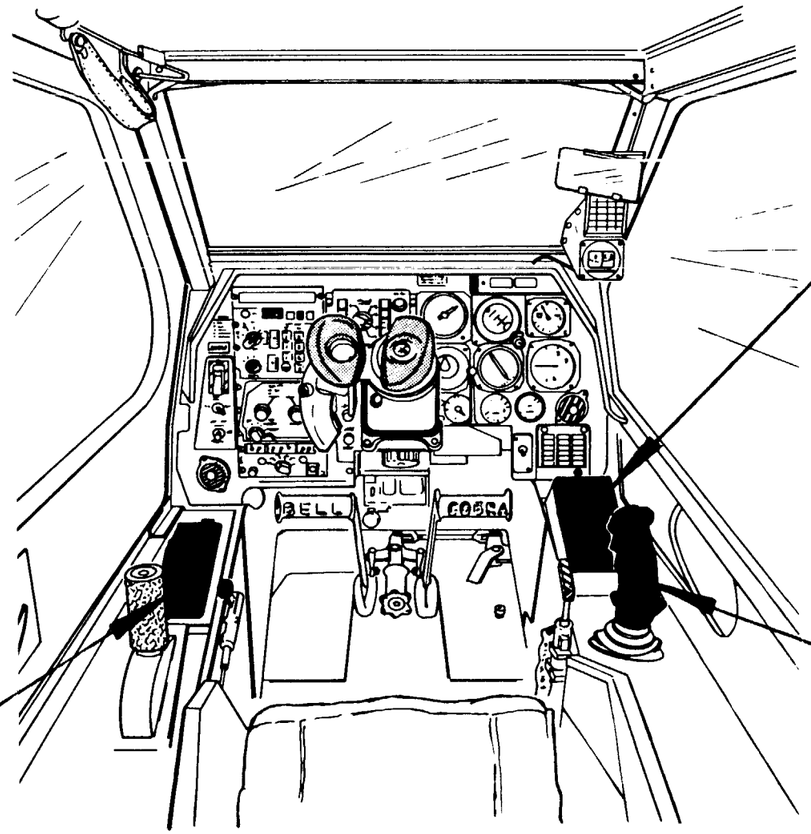
(3) WING STORE to RKT

(4) LASER SAFE/TURRET DEPR LIMIT to TURRET DEPR LIMIT

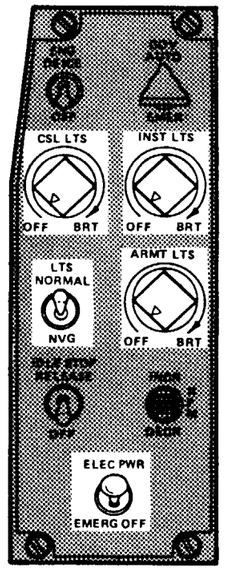
(5) PLT ORIDE to OFF



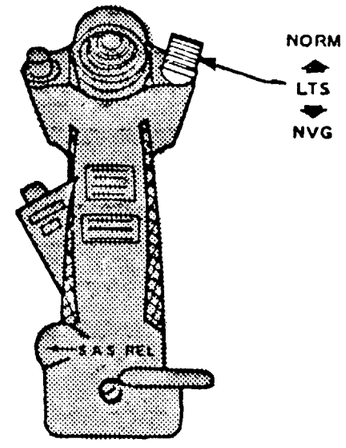

GUNNER ARMAMENT CONTROL PANEL




GUNNER STATION




GUNNER MISCELLANEOUS CONTROL PANEL




GUNNER CYCLIC STICK

## 9-2. ARMAMENT POWER OPERATIONAL CHECK (GROUND POWER UNIT & BATTERY).

NOTE

Complete ELECTRICAL POWER PRE-OPERATIONAL CHECK SET-UP, paragraph 9-1, before continuing with operational check.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

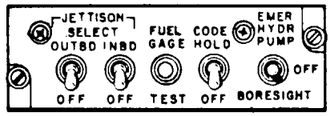
Ground Power Unit

Personnel Required
68F (2)

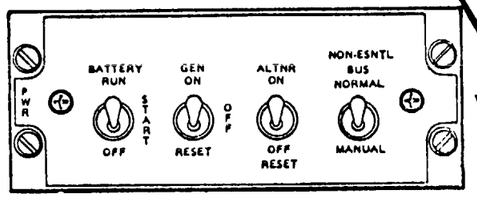
References
TM 55-1520-236-23

Access Panels
Battery Compartment - Removed

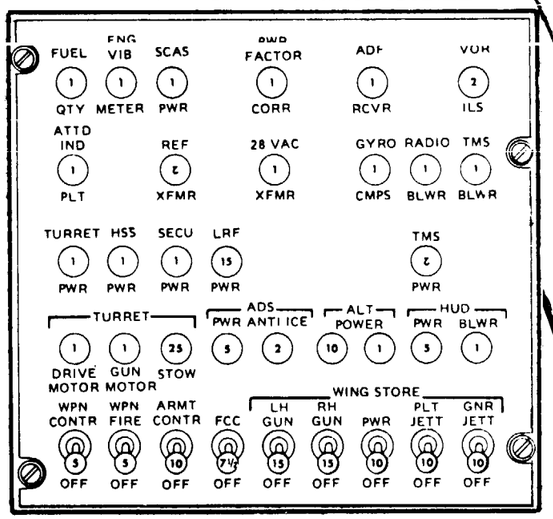
External Power Door - Open



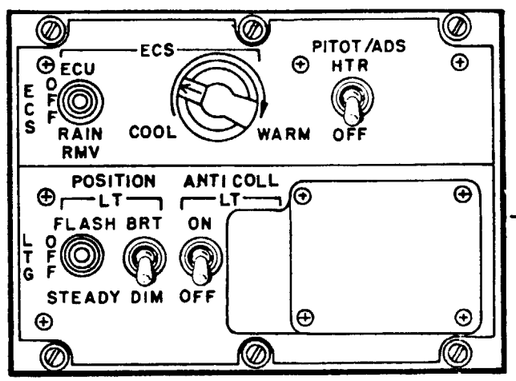
ILOT MISCELLANEOUS CONTROL PANEL



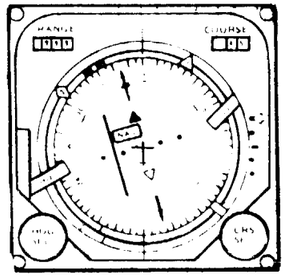
ELECTRICAL PWR CONTROL PANEL



AC/ARMT CIRCUIT BREAKER PANEL

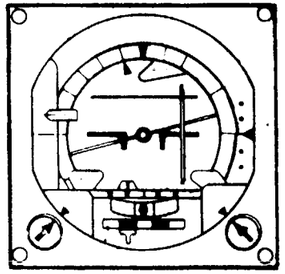


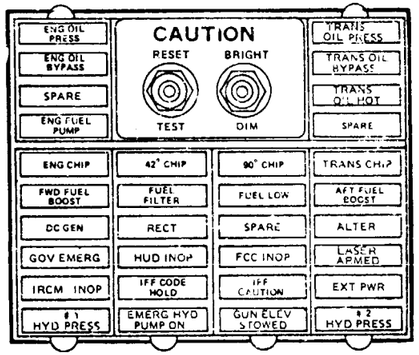
LTG ECS CONTROL PANEL



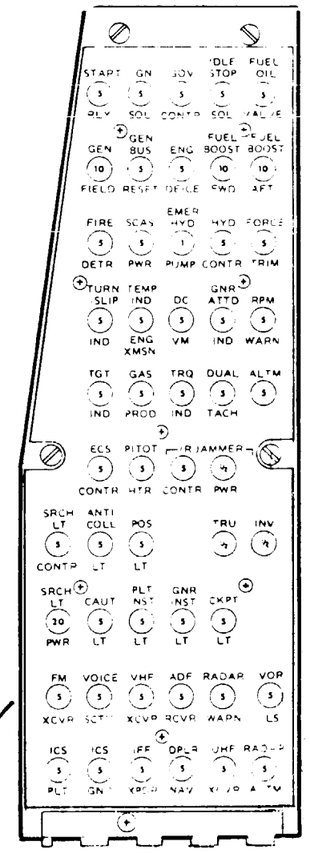
DC VOLTMETER


HORIZONTAL SITUATION INDICATOR

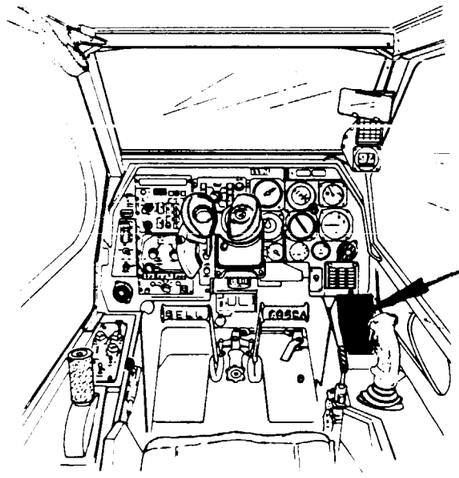

ATTITUDE DIRECTION INDICATOR



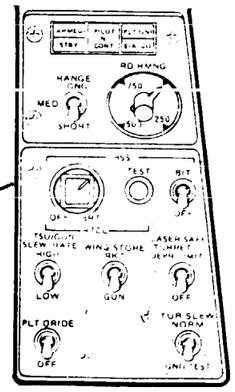
PILOT CAUTION PANEL


DC CIRCUIT BREAKER PANEL

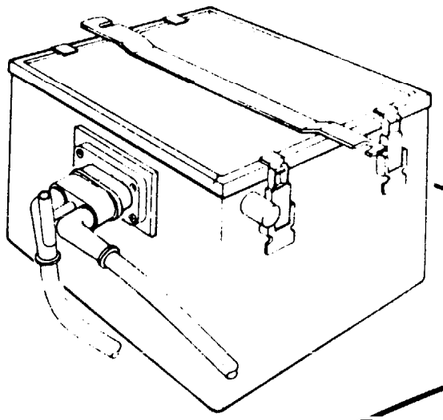
9-2. ARMAMENT POWER OPERATIONAL CHECK (GROUND POWER UNIT & BATTERY) (CONTINUED).



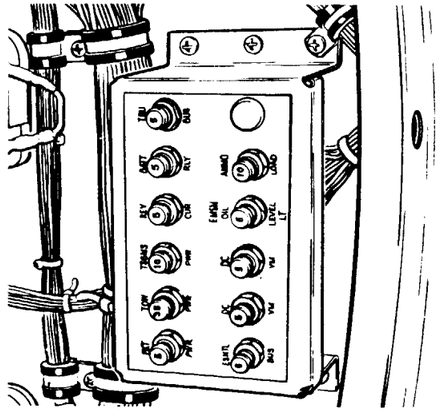
GUNNER STATION



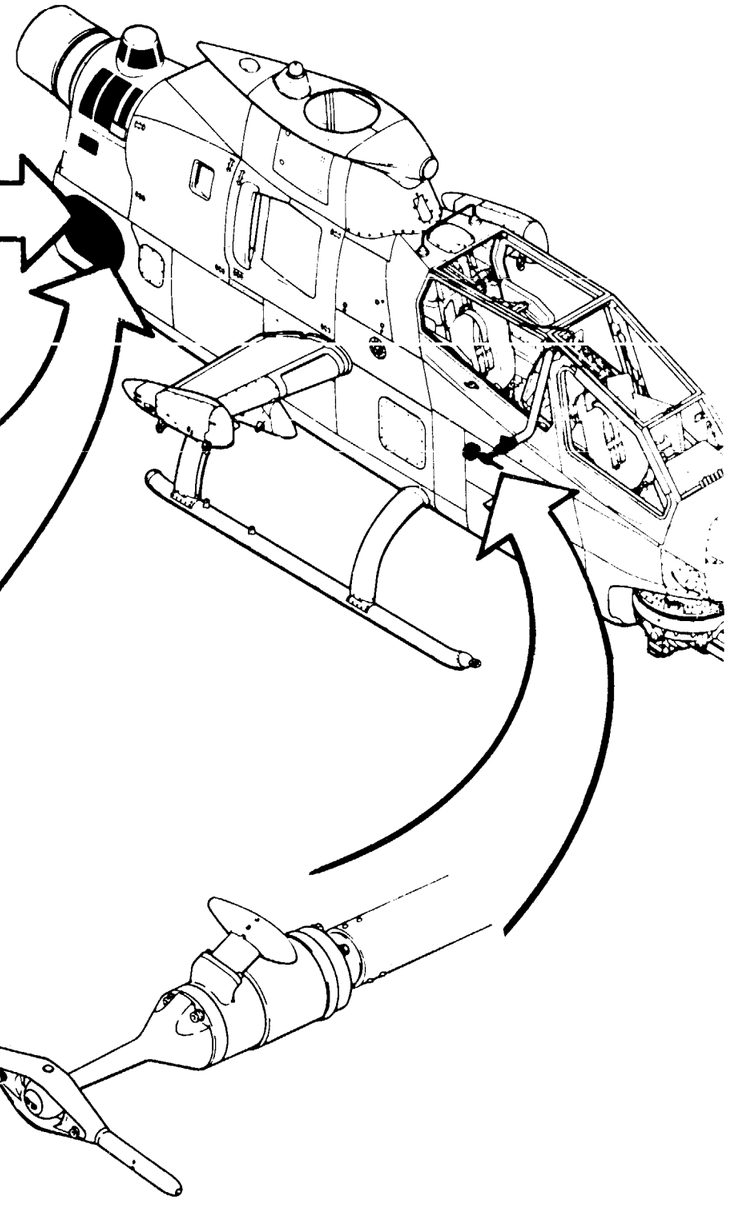
GUNNER ARMAMENT CONTROL PANEL

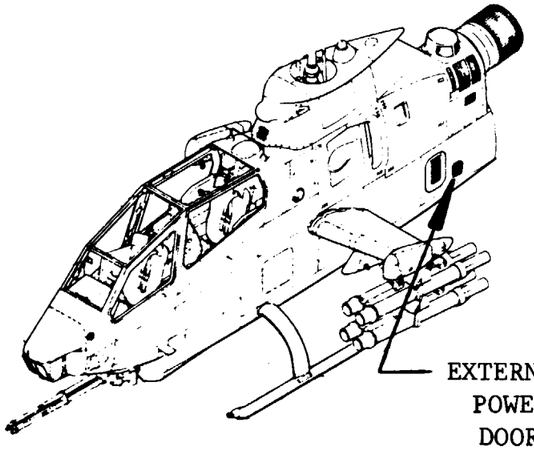


BATTERY



CIRCUIT BREAKER PANEL





EXTERNAL POWER DOOR

9-2. ARMAMENT POWER OPERATIONAL CHECK (GROUND POWER UNIT & BATTERY) (CONTINUED).

APPLYING ELECTRICAL POWER

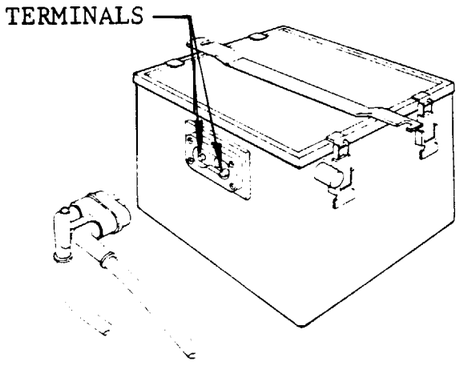
**WARNING**

Warn people working on or near helicopter before you apply electrical power.

**CAUTION**

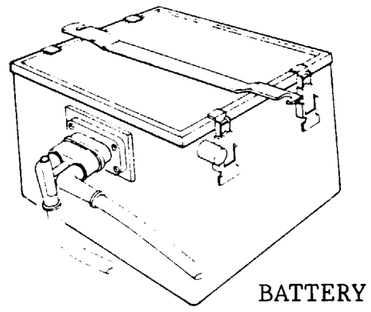
Minimum acceptable battery voltage is 22 V dc. Low battery voltage may result in excessive battery overheating (thermal runaway) after external power is applied.

Check battery voltage. Battery voltage shall be 22 to 24 V dc measured at battery terminals.



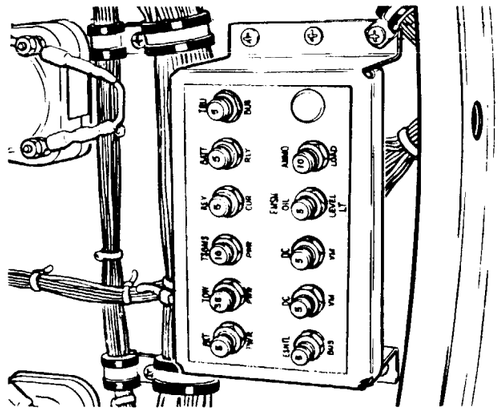

BATTERY

b. Connect battery.



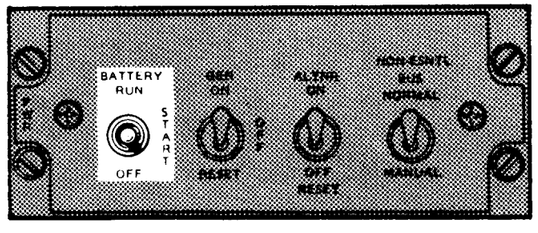
BATTERY

c. Close all circuit breakers on circuit breaker panel in battery compartment.



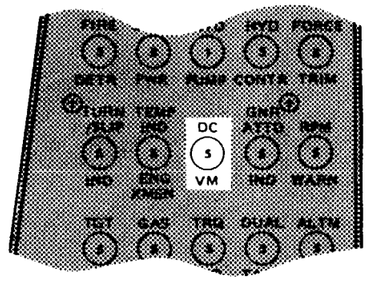
CIRCUIT BREAKER PANEL

d. Set BATTERY switch on electrical PWR control panel to START and observe that the ESNTL BUS circuit breaker remains closed.




ELECTRICAL PWR CONTROL PANEL

e. Close DC VM circuit breaker on DC circuit breaker panel.

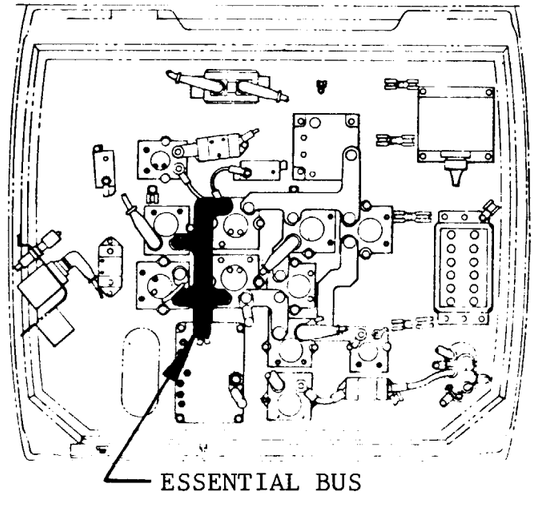



DC CIRCUIT BREAKER PANEL

**CAUTION**

Do not exceed 30 V dc output on ground power unit.

f. Apply external power to helicopter. (Refer to TM 55-1520-236-23, Chapter 1, Section III) . Adjust ground power unit to provide 28 to 30 V dc measured at the essential bus with a multimeter. Observe that ESNTL BUS and EXT PWR circuit breakers remain closed.




FORWARD BULKHEAD OF BATTERY COMPARTMENT

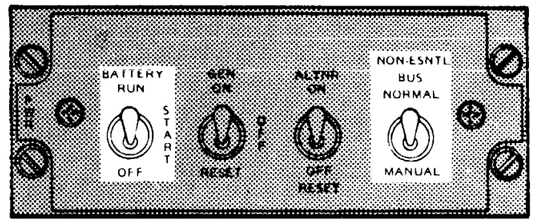
**NOTE**

28 to 30 V dc is required for the following operational checks. The DC voltmeter can be observed to assure correct voltage is present.

g. Set electrical PWR control panel switches:

(1) BATTERY to RUN.

(2) NON-ESNTL BUS to NORMAL .




ELECTRICAL PWR CONTROL PANEL

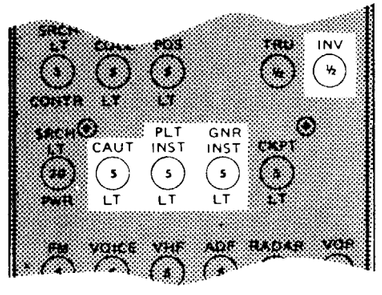
h. Close the following circuit breakers on the DC circuit breaker panel:

(1) INV

(2) CAUT LT

(3) PLT INST LT

(4) GNR INST LT




DC CIRCUIT BREAKER PANEL

## 9-2. ARMAMENT POWER OPERATIONAL CHECK (GROUND POWER UNIT & BATTERY) (CONTINUED).

i. Check that the following segments illuminate on the pilot MASTER CAUTION panel.

(1) ENG OIL PRESS

(2) ENG FUEL PUMP

(3) FWD FUEL BOOST

(4) DC GEN

(5) #1 HYD PRESS

(6) RECT

(7) HUD INOP

(8) TRANS OIL PRESS

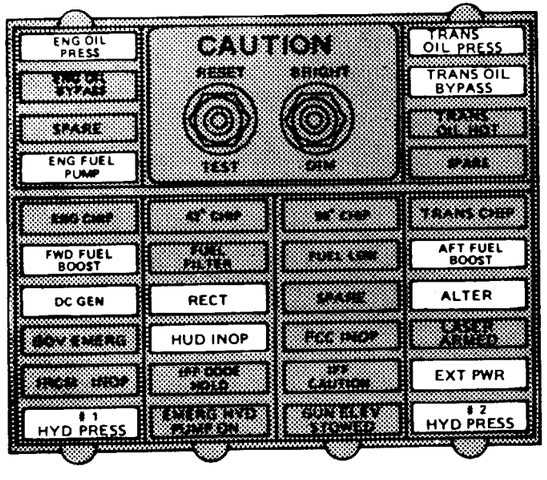
(9) TRANS OIL BYPASS

(10 ) AFT FUEL BOOST

( 11) ALTER

(12) EXT PWR

(13) #2 HYD PRESS




PILOT CAUTION PANEL

j. Close the following circuit breakers on the AC/ARMT circuit breaker panel.

(1) FUEL QTY

(2) ATTD IND PLT

(3) GYRO CMPS

(4) TURRET STOW

(5) ADS ANTI ICE

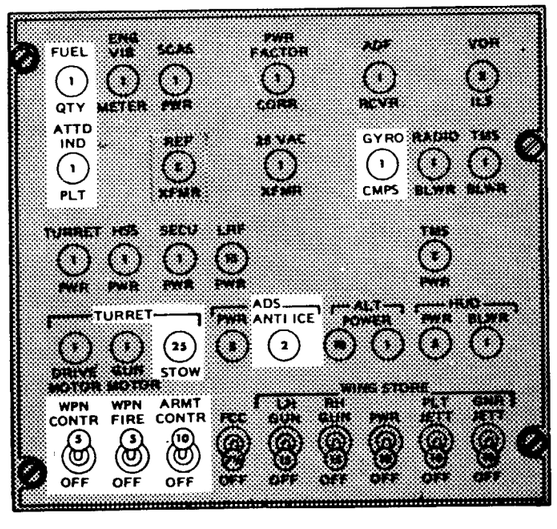
(6) WPN CONTR

(7) WPN FIRE

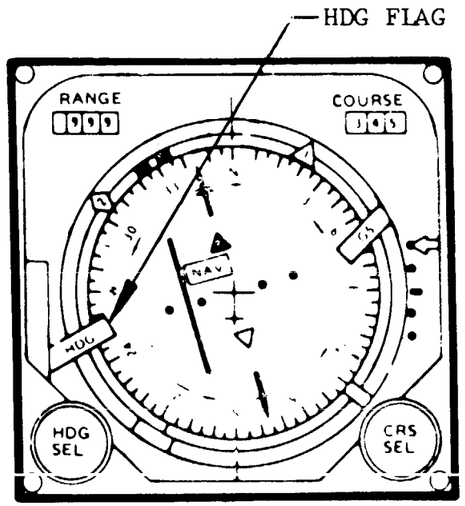
(8) ARMT CONTR

NOTE

Observe that the HDG flag on the horizontal situation indicator has retracted from view.

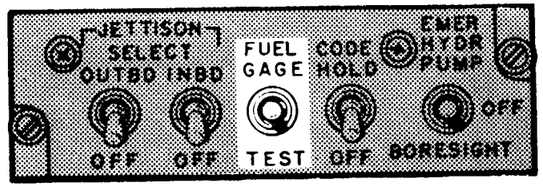



A/C ARMT CIRCUIT BREAKER PANEL

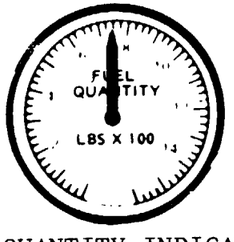



HORIZONTAL SITUATION INDICATOR

k. Press and hold FUEL GAGE TEST switch on pilot MISCELLANEOUS control panel. Observe that fuel quantity indicator needle rotates. Release FUEL GAGE TEST switch.




PILOT MISCELLANEOUS CONTROL PANEL



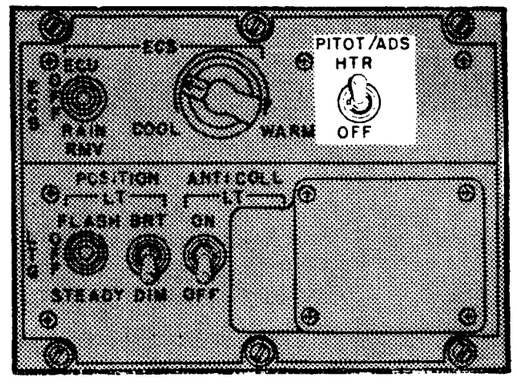

FUEL QUANTITY INDICATOR

**WARNING**

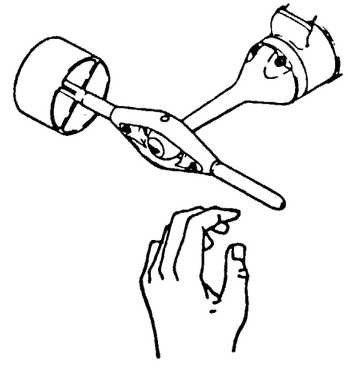
Do not touch AADS probe. AADS probe can become extremely hot. Care must be taken when working on or near heated probe.

i. Check AADS probe as follows:

(1) Set PITOT/ADS switch on LTG ECS control panel to HTR. Observe that head of probe heats up.



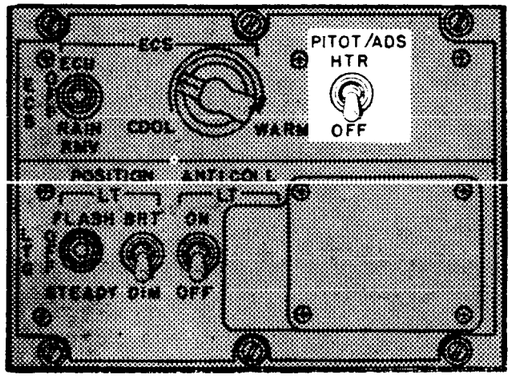

LTG ECS CONTROL PANEL



AADS PROBE

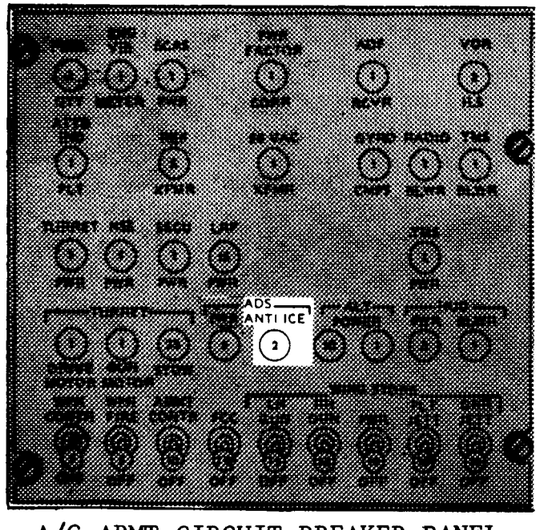
9-2. ARMAMENT POWER OPERATIONAL CHECK (GROUND POWER UNIT & BATTERY) (CONTINUED)

(2) Set PITOT/ADS switch to OFF as soon as probe feels warm.



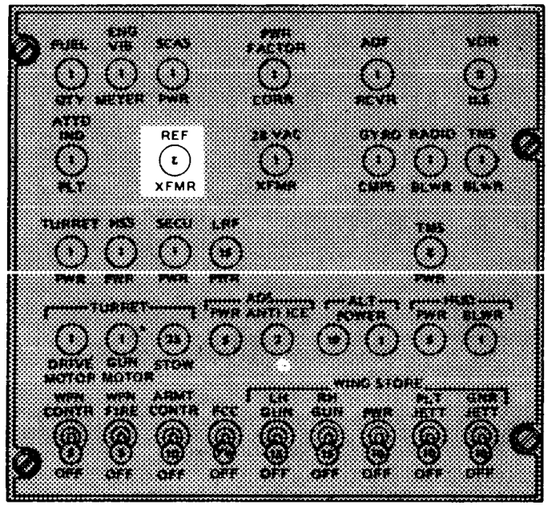

LTG/ECS CONTROL PANEL

(3) Open ADS ANTI ICE circuit breaker on AC/ARMT circuit breaker panel.



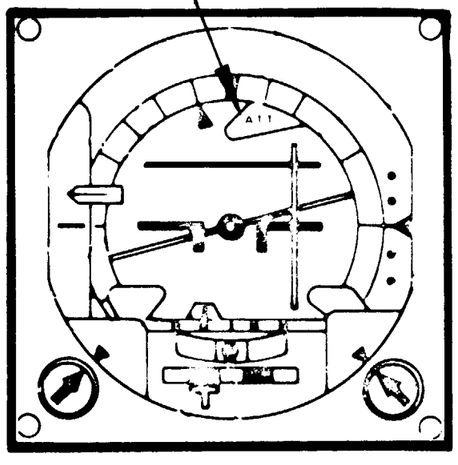

A/C ARMT CIRCUIT BREAKER PANEL

Close REF XFMR circuit breker on the A/C ARMT circuit breaker panel and observe that the ATT flag retracts from view in approximately 1 minute.




A/C ARMT CIRCUIT BREAKER PANEL

ATT FLAG




ATTITUDE DIRECTION INDICATOR

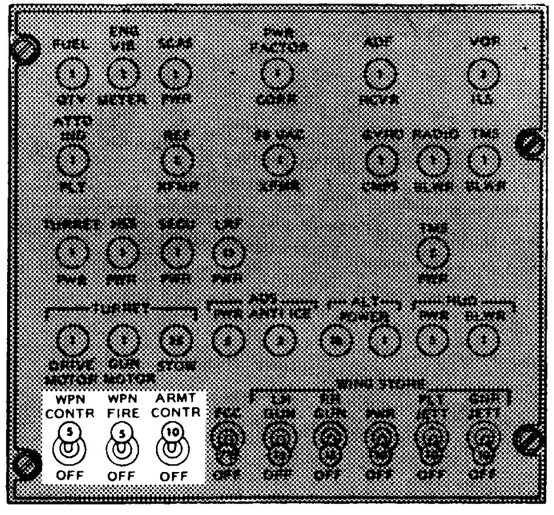
n. Set MASTER ARM switch on pilot ARMT control panel to STBY. Observe the following:

(1) On AC/ARMT circuit breaker panel:

(a) ARMT CONTR circuit breaker remains closed.

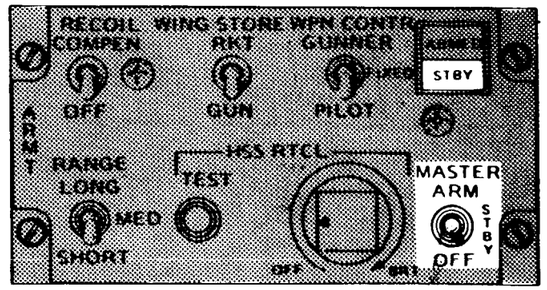
(b) WPNCONTR circuit breaker remains closed.

(c) WPN FIRE circuit breaker remains closed.



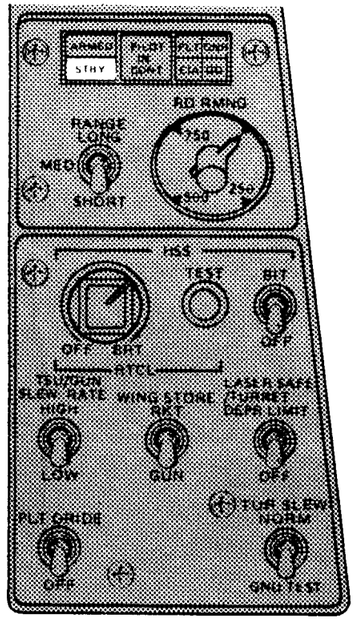

AC/ARMT CIRCUIT BREAKER PANEL

(2) STBY (green) indicator on pilot ARMT control panel lights.




PILOT ARMT CONTROL PANEL

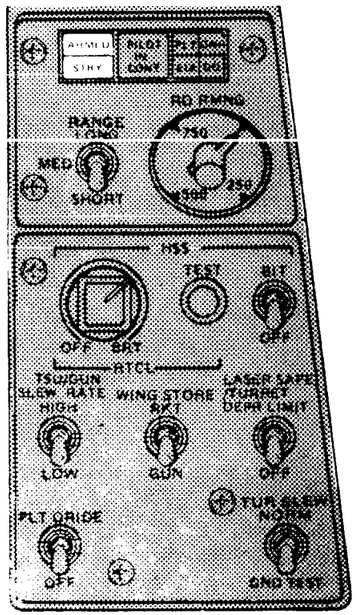
(3) STBY (green) indicator on gunner ARMT control panel lights.




GUNNER ARMAMENT CONTROL PANEL

9-2. ARMAMENT POWER OPERATIONAL CHECK (GROUND POWER UNIT & BATTERY) (CONTINUED).

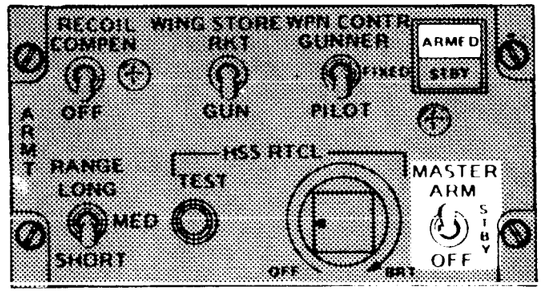
o. Press STBY-ARMED indicator on gunner armament control panel and check that both STBY (green) and ARMED (red) indicators light.




GUNNER ARMT CONTROL PANEL

p. Set MASTER ARM switch on pilot ARMT control panel to ARM. Observe the following:

(1) ARMED (red) indicator on pilot ARMT control panel lights.



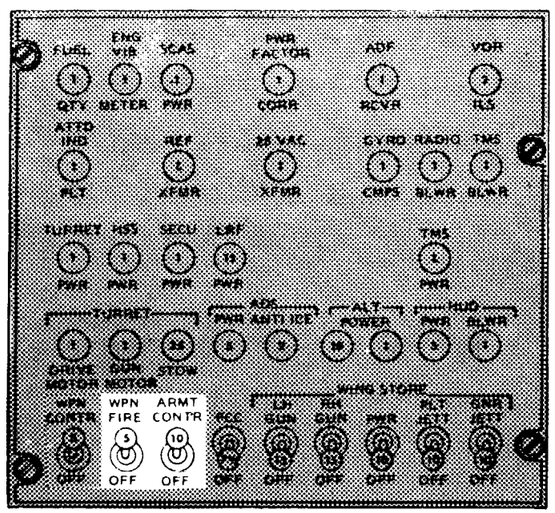

PILOT ARMT CONTROL PANEL

(2) ARMED (red) indicator on gunner ARMT control panel lights.

(3) On AC/ARMT circuit breaker panel:

(a) ARMT CONTR circuit breaker remains closed.

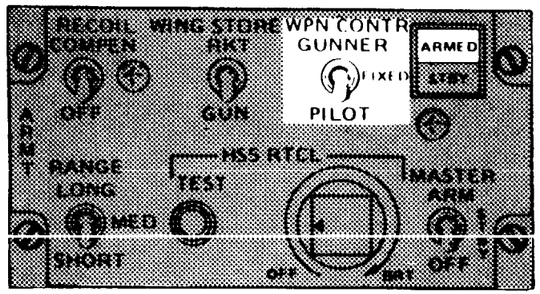
(b) WPN FIRE circuit breaker remains closed.




AC/ARMT CIRCUIT BREAKER PANEL

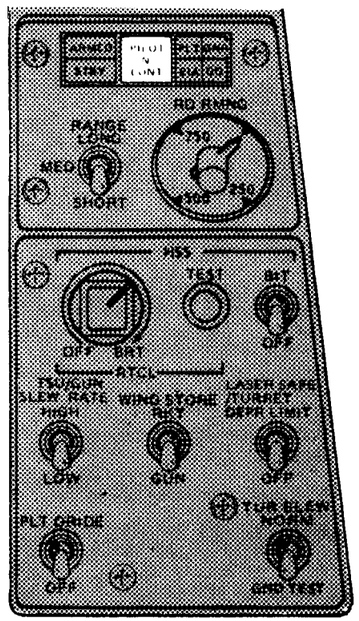
q. Set WPN CONTR switch on pilot ARMT control panel to PILOT. Observe the following:

(1) ARMED (red) indicator on pilot ARMT control panel remains lighted.



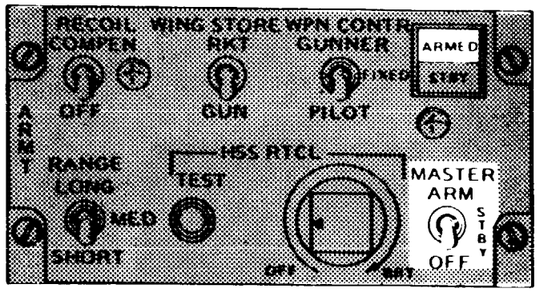

PILOT ARMT CONTROL PANEL

(2) PILOT IN CONT indicator on gunner ARMT control panel lights.



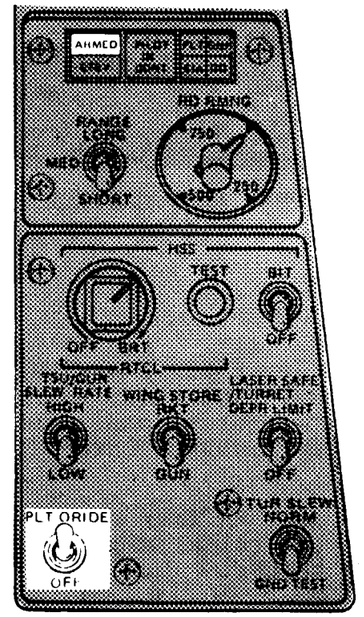

GUNNER ARMAMENT CONTROL PANEL

r. Set MASTER ARM switch on pilot ARMT control panel to OFF. Both pilot and gunner ARMED indicators shall go out.




PILOT ARMT CONTROL PANEL

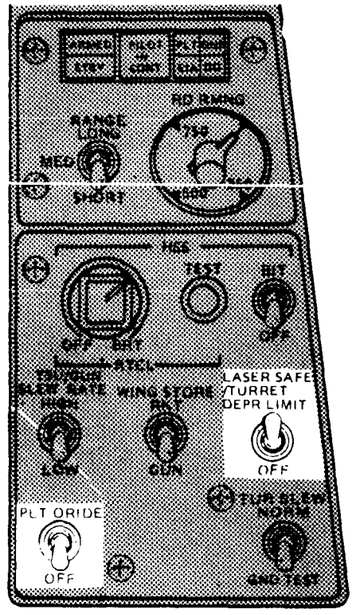
s. Set PLT ORIDE switch on gunner armament control panel to PLT ORIDE. Check that both pilot and gunner ARMED indicators light.



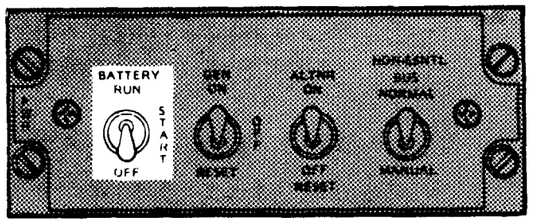

GUNNER ARMAMENT CONTROL PANEL

9-2. ARMAMENT POWER OPERATIONAL CHECK (GROUND POWER UNIT & BATTERY) (CONTINUED).

t. Set PLT ORIDE switch on gunner armament control panel to OFF.

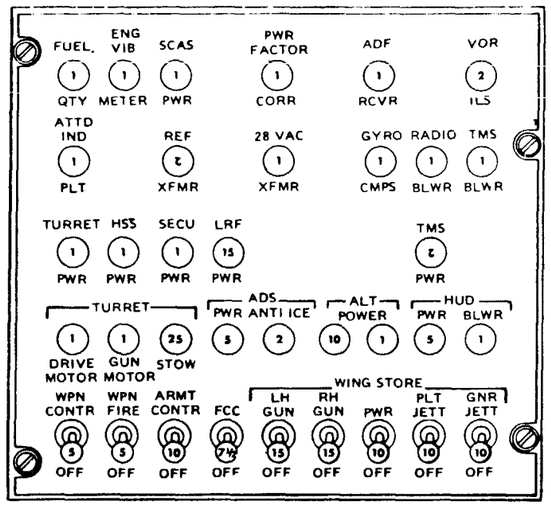



GUNNER ARMT CONTROL PANEL



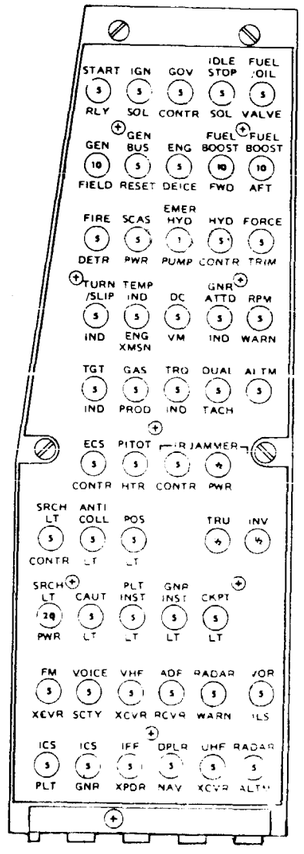

ELECTRICAL PWR CONTROL PANEL

w. Open (0FF) all circuit breakers on AC/ARMT circuit breaker panel.




AC/ARMT CIRCUIT BREAKER PANEL

x. Open all circuit breakers on DC circuit breaker panel.




DC CIRCUIT BREAKER PANEL

u. Set LASER SAFE/TURRET DEPR LIMIT switch on gunner armament control panel to LASER SAFE/TURRET DEPR LIMIT.

v. Set BATTERY switch on pilot electrical PWR control panel to OFF.

y. Turn off and disconnect ground power unit.

z. Open all circuit breakers in battery compartment.

aa. Disconnect battery.

## 9-3. ELECTRICAL POWER OPERATIONAL CHECK (GROUND RUNUP).

INITIAL SET-UP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

Personnel Required

References
TM 55-1520-236-10
TM 55-1520-236-23

Access Panels
Battery Compartment - Removed

**WARNING**

All ordance must be removed from the helicopter prior to performing the following check.

ENGINE START AND RUNUP

**NOTE**

The following tests require aircraft generated electrical power. Control knob, switch and circuit breaker positions called out in text are for Electrical System Ground Tests only.

**NOTE**

To accomplish the following tasks, the helicopter must be operating at 6600 RPM.

a. Check for 27 to 28.5 volts on the essential bus. Adjust voltage, if required, per TM 55-1520-236-23, Chapter 9, Section II.

b. Verify the following circuit breakers on the DC circuit breaker panel are closed.

(1) GEN FIELD

(2) DCVM

(3) TRU

(4) INV

(5) CAUTLT

c. Ensure pilot ARMT control panel switches are set:

(1) RECOIL COMPEN to OFF.

(2) WING STORE to RKT.

(3) WPN CONTR to GUNNER.

(4) RANGE toMED.

(5) MASTER ARM to OFF.

d. Verify the following switches on the AC/ARMT circuit breaker panel are closed. are closed.

(1) FUEL QTY

(2) ATTD IND PLT

(3) REF XFMR

(4) GYRO CMPS

(5) TURRET STOW

(6) WPN CONTR

(7) WPN FIRE

(8) ARMT CONTR

e. Ensure gunner miscellaneous control panel switches are set:

(1) ELEC PWR/EMERG OFF to ELEC PWR.

(2) Rotate the following controls fully counterclockwise to OFF.

(a) CSL LTS

(b) INST LTS

(c) ARMTLTS

(3) LTS NORMAL/NVG to NORMAL.

f. Ensure LTS switch on gunner cyclic stick is setto NORM.

g. Ensure gunner armament control panel switches are set:

(1) RANGE to MED.

(2) TSU/GUN SLEW RATE to HIGH.

(3) WING STORE to RKT.

(4) LASER SAFE/TURRET DEPR LIMIT to OFF.

(5) PLT ORIDE to OFF.

h. Observe that all circuit breakers on the circuit breaker panel in the battery compartment are closed.

i. Verify the following segments on pilot CAUTION panel are not illuminated:

(1) DC GEN

(2) RECT

(3) ALTER

j. Observe that ATT flag on pilot attitude direction indicator (ADI) and HDG flag on horizontal situations indicator (HSI) have retracted from view.

9-3. ELECTRICAL POWER OPERATIONAL CHECK (GROUND RUNUP) (CONTINUED).

k. Using a multimeter, check for 28 V dc on the following buses.

(1) ESSENTIAL

(2) PWR XFR BUS

(3) NON ESSENTIAL BUS

(4) TRU BUS

l. Set ALTNR switch on pilot ELECTRICAL PWR control panel to OFF. Observe pilot and gunner MASTER CAUTION AND ALTER segments light.

m. Press and release RESET switch on PILOT CAUTION panel. Verify that MASTER CAUTION light goes out.

n. Using a multimeter, check for 28 V dc at the non-essential bus.

o. Open INV circuit breaker on the DC circuit breaker panel. Observe that ATT flag on pilot attitude direction indicator and HDG flag on horizontal situation indicator appears.

p. Set ALTNR switch on pilot electrical PWR control panel to ON. The ALTER segment on both pilot and gunner CAUTION panels will go out.

q. Close INV circuit breaker on the DC circuit breaker panel.

r. Set MASTER ARM switch on pilot ARMT control panel to STBY. Observe that both pilot and gunner STBY indicators light.

s. Set GEN switch on pilot electrical PWR control panel to OFF. The DC GEN segment on both pilot and gunner CAUTION panels will light. Observe that STBY indicators on both pilot ARMT and gunner ARMAMENT control panel remains lit.

t. Check for 28 V dc at the ARMT and TRU buses using a multimeter.

u. Open TRU circuit breaker on the DC circuit breaker panel. Observe that pilot and gunner STBY indicators go out.

v. Verify that RECT segment on pilot and gunner CAUTION panels light.

w. Close TRU circuit breaker on the DC circuit breaker panel.

x. Set GEN switch on pilot electrical PWR control panel to ON. Observe that the following caution segments on pilot CAUTION panel go out :

(1) DC GEN

(2) RECT

(3) ALTER

y. Set MASTER ARM switch on pilot ARMT control panel to ARM. Verify that pilot and gunner ARMED indicators light

z. Set MASTER ARM switch on pilot ARMT control panel to OFF. Pilot and gunner STBY-ARMED indicators go out.

aa. Set PLT ORIDE switch on gunner armament control panel to PLT ORIDE. Verify that pilot and gunner ARMED indicators light.

ab. Set PLT ORIDE switch on gunner armament control panel to OFF.

ac. Set LASER SAFE/TURRET DEPR LIMIT switch on gunner armament control panel to LASER SAFE/TURRET DEPR LIMIT.

ad. This completes Power Ground Run checks.

## 9-4. POWER OFF/POWER ON PROCEDURES.

INITIAL SETUP

Applicable Configuration
All

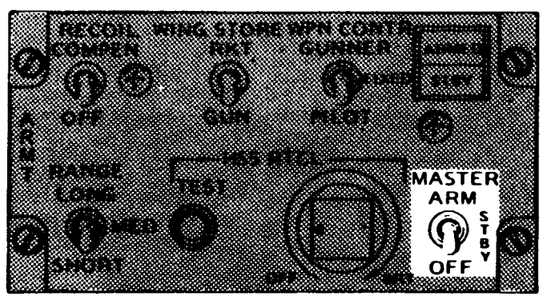
Personnel Required
68F (1)

a. Turn off electrical power when specified in trouble-shooting procedure as follows:

NOTE

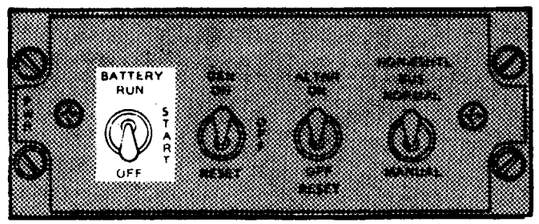
Note the position that the MASTER ARM switch is in. The MASTER ARM switch must be set to the same position during the Power On Procedure.

(1) Set MASTER ARM switch on pilot ARMT control panel to OFF.




PILOT ARMT CONTROL PANEL

(2) Set BATTERY switch on electrical PWR control panel to OFF.




ELECTRICAL PWR CONTROL PANEL

(3) Turn off ground power unit.

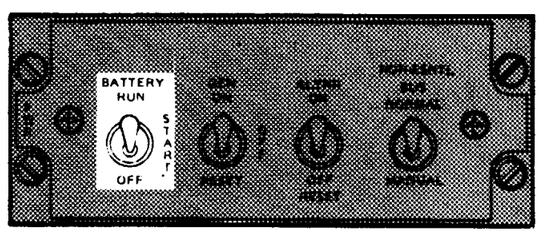
(4) Disconnect battery.

b. Turn on electrical power when specified in troubleshooting procedure as follows:

(1) Connect battery.

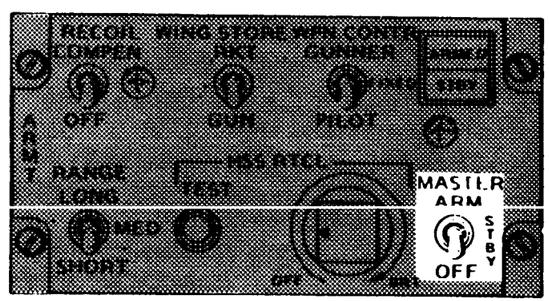
(2) Turn on ground power unit.

(3) Set BATTERY switch on electrical PWR control panel to RUN .




ELECTRICAL PWR CONTROL PANEL

(4) Set MASTER ARM switch on pilot ARMT control panel to the same position the switch was in prior to Power Off Procedure.




PILOT ARMT CONTROL PANEL

## 9-5. NO 28 V DC AT THE ESSENTIAL BUS.

INITIAL SETUP

Applicable Configuration
All

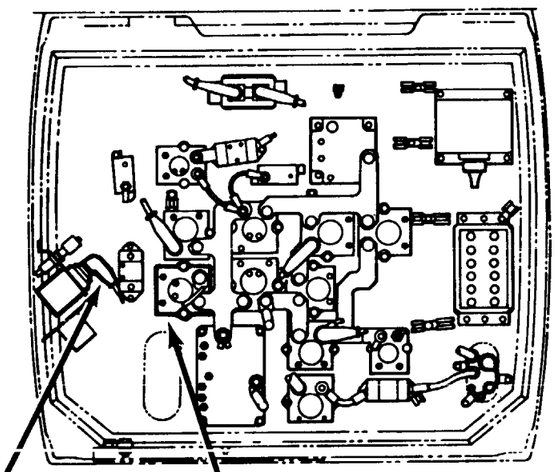
Tools/Test and Support Equipment
Multimeter

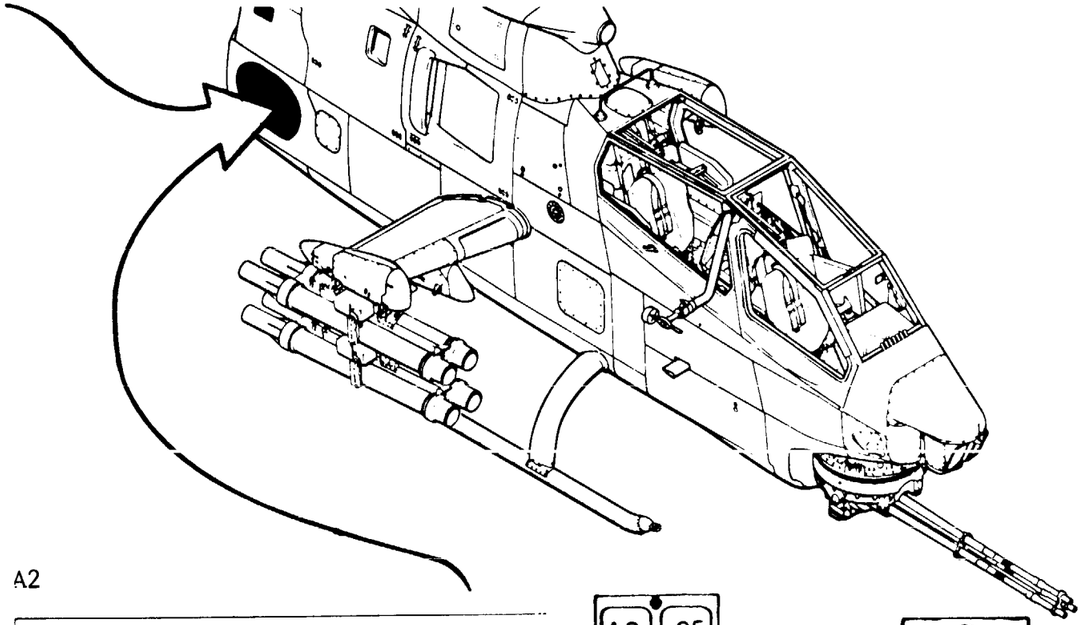
Tool Kit, A/C Electrician

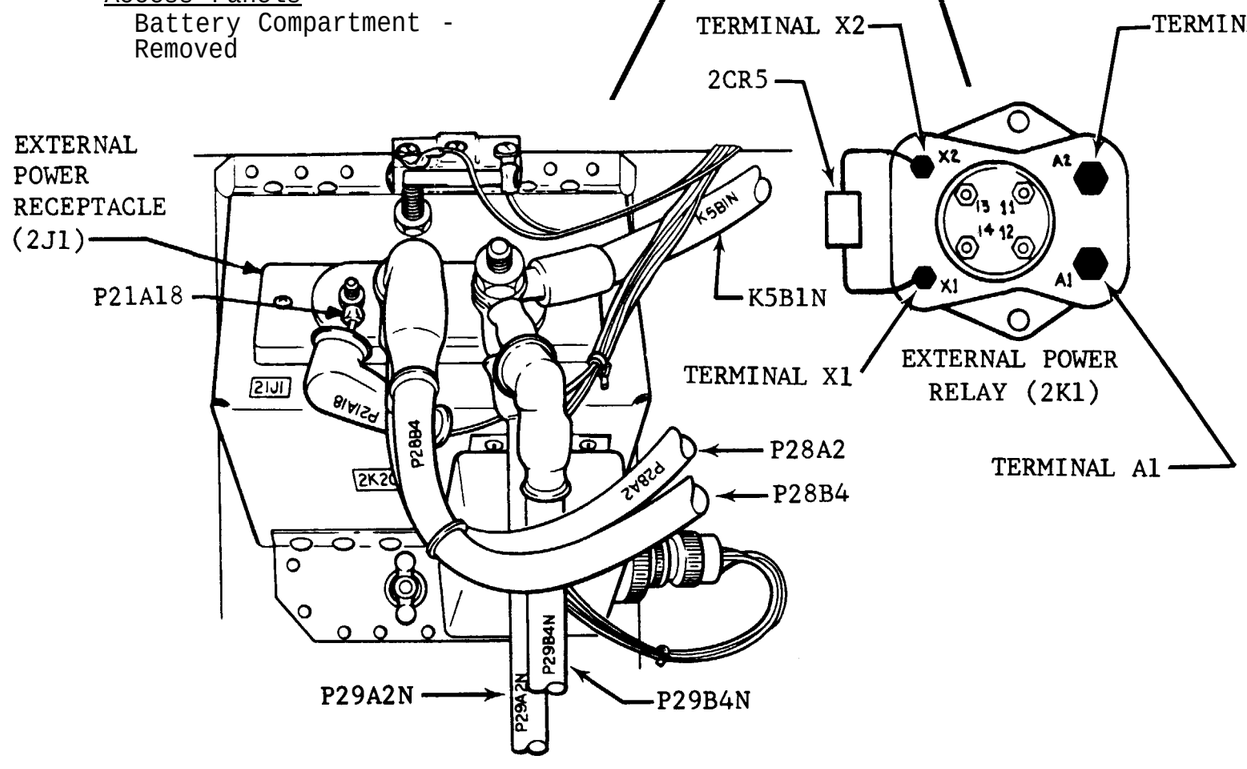
Personnel Required
68F (2)

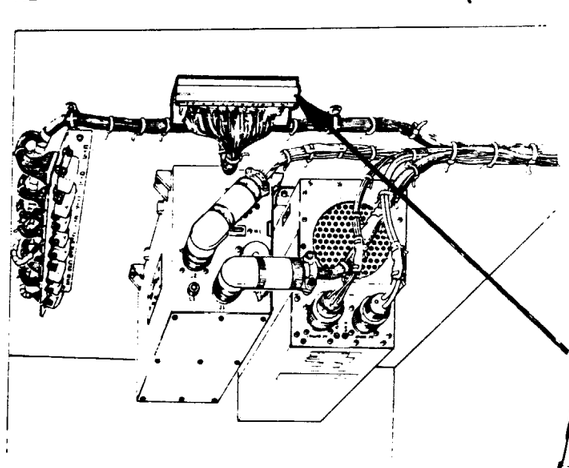
References
TM 55-1520-236-23

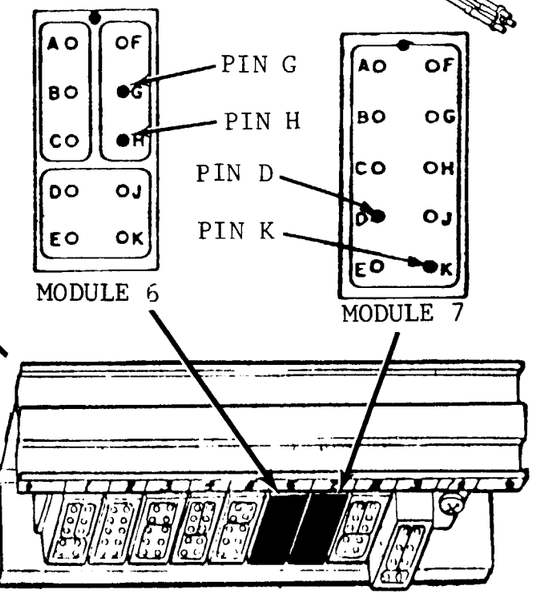
Access Panels
Battery Compartment - Removed



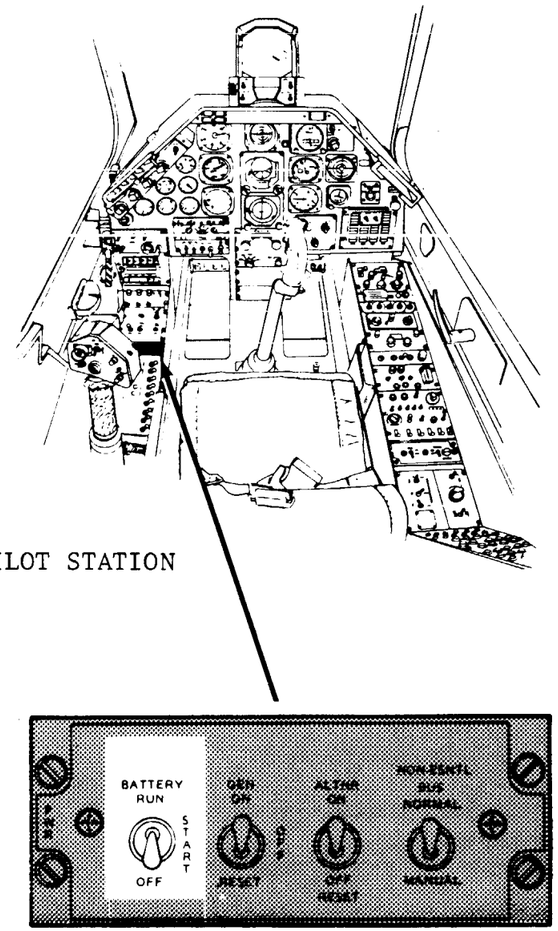







9-5. NO 28 V DC AT THE ESSENTIAL BUS (CONTINUED).




ELECTRICAL PWR CONTROL PANEL

Can the ground power unit be adjusted to less than 30 V dc measured at 2K1-A1 (external power relay).

YES

On electrical PWR control panel:

Set BATTERY switch to OFF.

Check for 28 V dc at 2K1-A2.

Is 28 V dc present?

YES

NO

Replace ground power unit.

Then go to paragraph 9-2.

NO

Check for 28 V dc at ground power receptacle (2J1) middle terminal, where wires P28A2 and P28B4 connect.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 9-4.

Check for continuity from ground power receptacle (2J1) forward terminal, where wires P29A2N, P29B4N and K5B1N connect, to airframe ground.

Is continuity present?

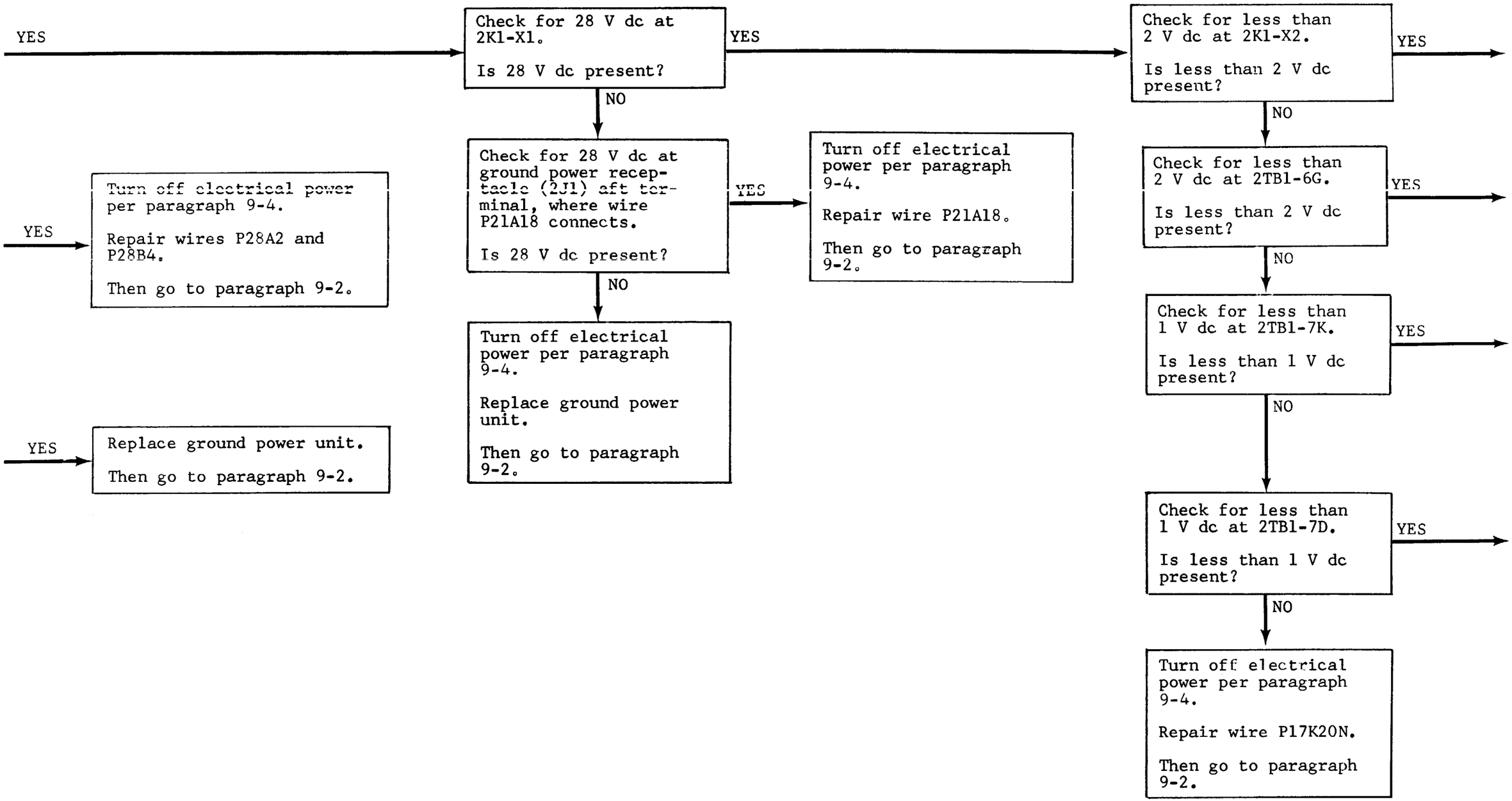
YES

NO

Repair wires P29A2N, P29B4N, and K5B1N.

Then go to paragraph 9-2.

9-5. NO 28 V DC AT THE ESSENTIAL BUS (CONTINUED) .



9-5. NO 28 V DC AT THE ESSENTIAL BUS (CONTINUED) .

Turn off electrical power per paragraph 9-4.

YES → Replace external power relay (2K1) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES →

Check for less than 2 V dc at 2TB1-6H.

Is less than 2 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Repair wire P30A22.

Then go to paragraph 9-2.

NO ↓

Turn off electrical power per paragraph 9-4.

Replace module 6 of 2TB1 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES → Turn off electrical power per paragraph 9-4.

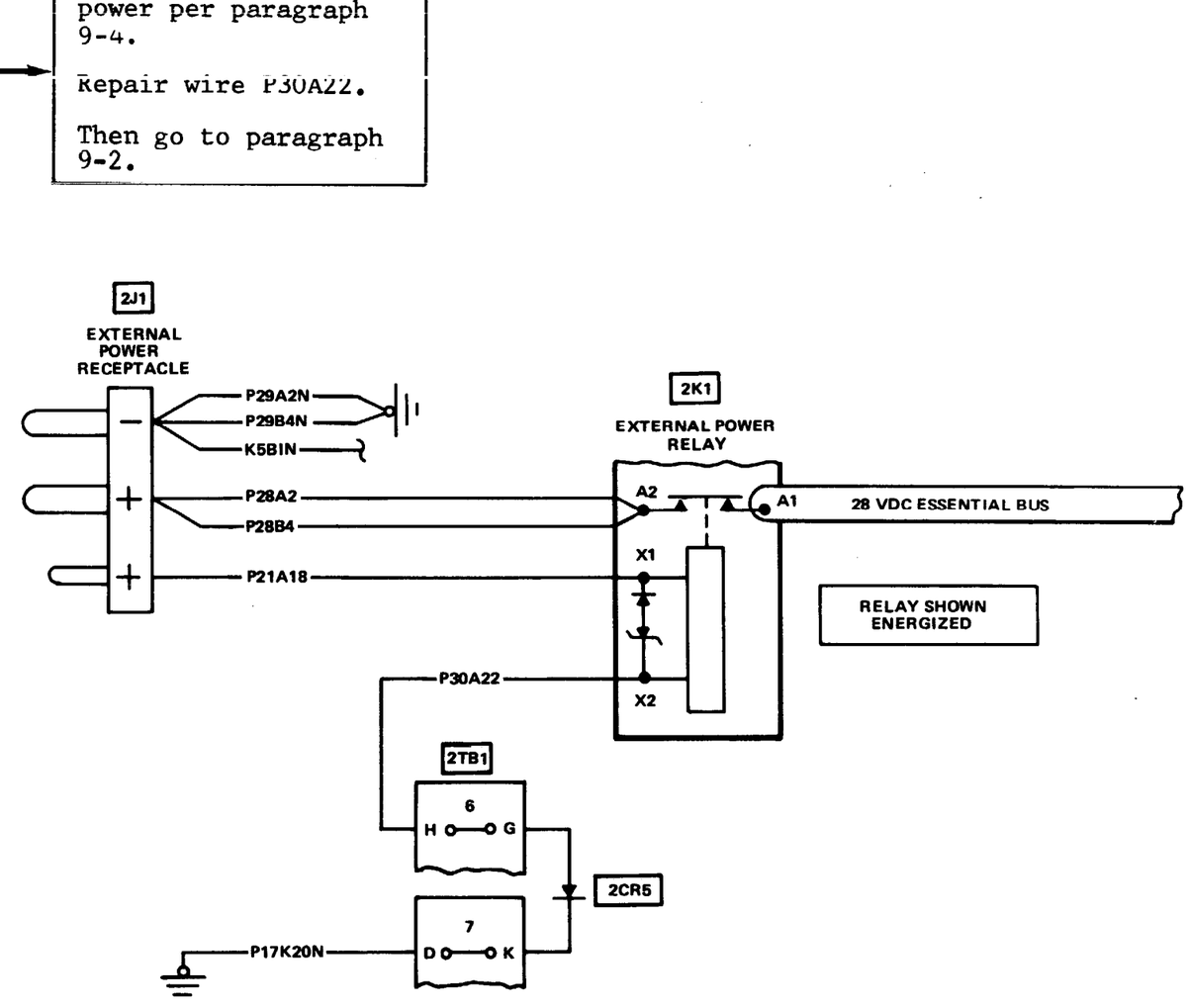
Replace diode (2CR5) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES → Turn off electrical power per paragraph 9-4.

Replace module 7 of 2TB1 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.



9-6. REF XFMR CIRCUIT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED.

INITIAL SETUP

Applicable Configuration
All

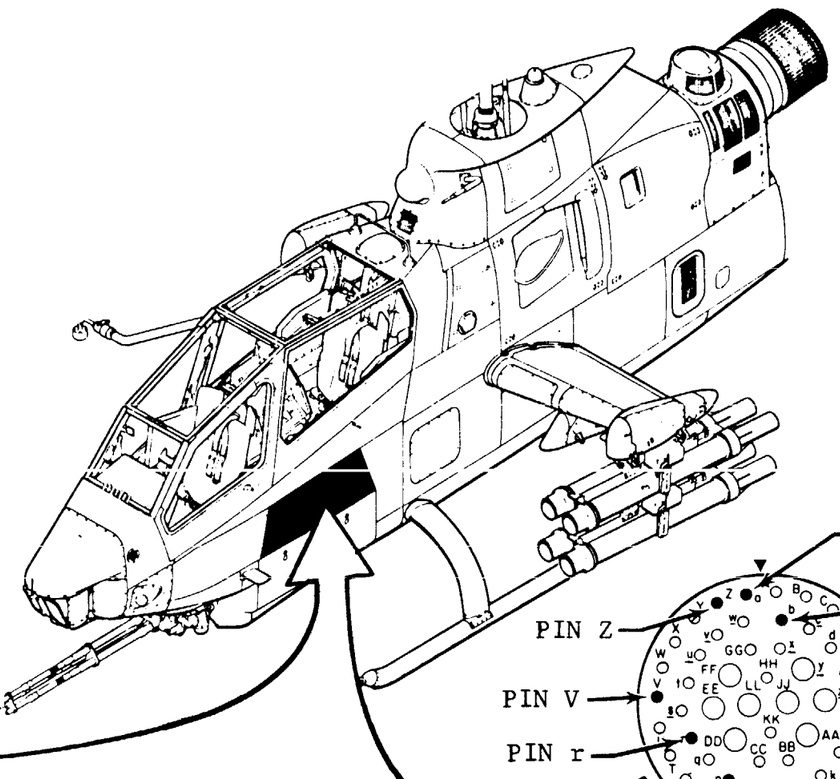
Tools/Test and Support

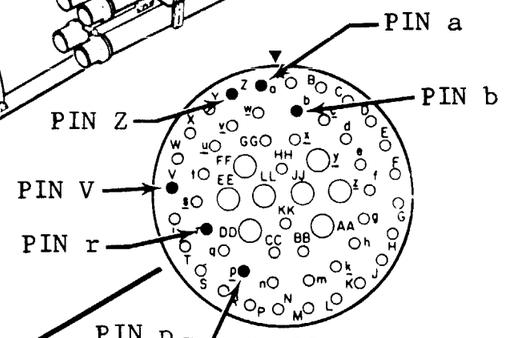
Tool Kit, A/C
Electrician

Personnel Required
68F (1)

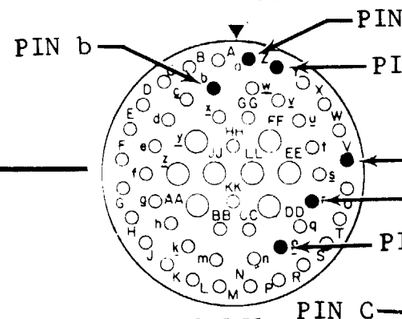
References
TM 55-1520-236-23

Access Panel
Left Side Control
Linkage - Removed

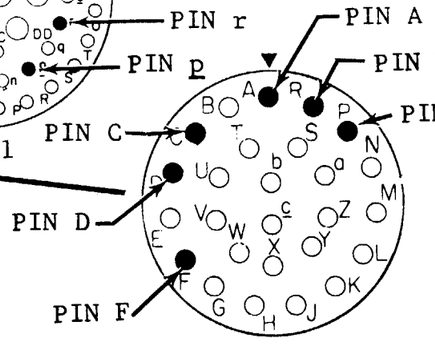




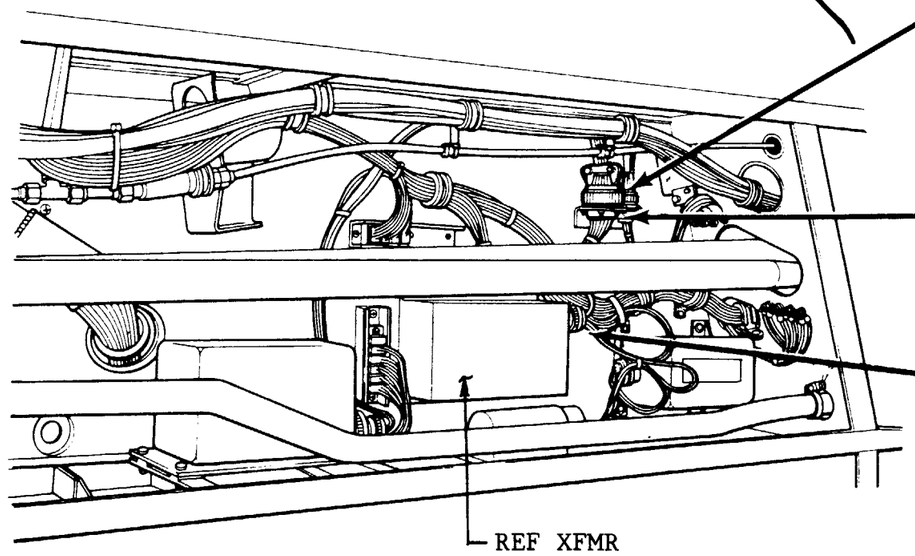

3A1P1

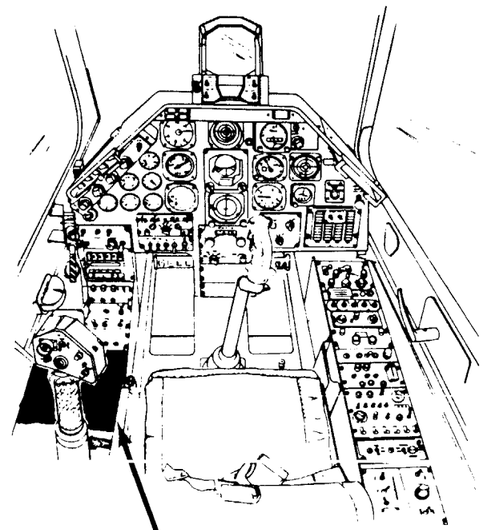


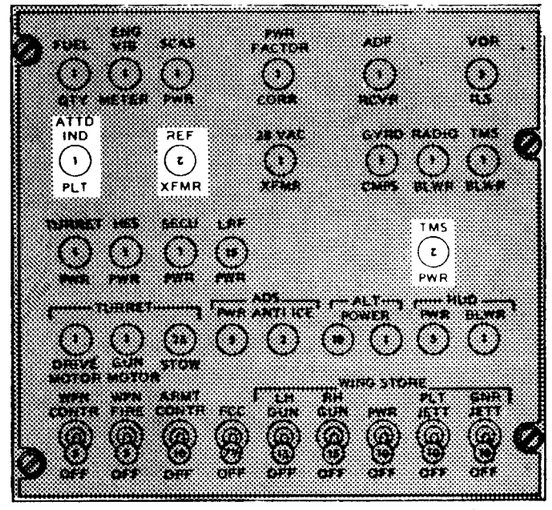

3A1J1




3T1P1

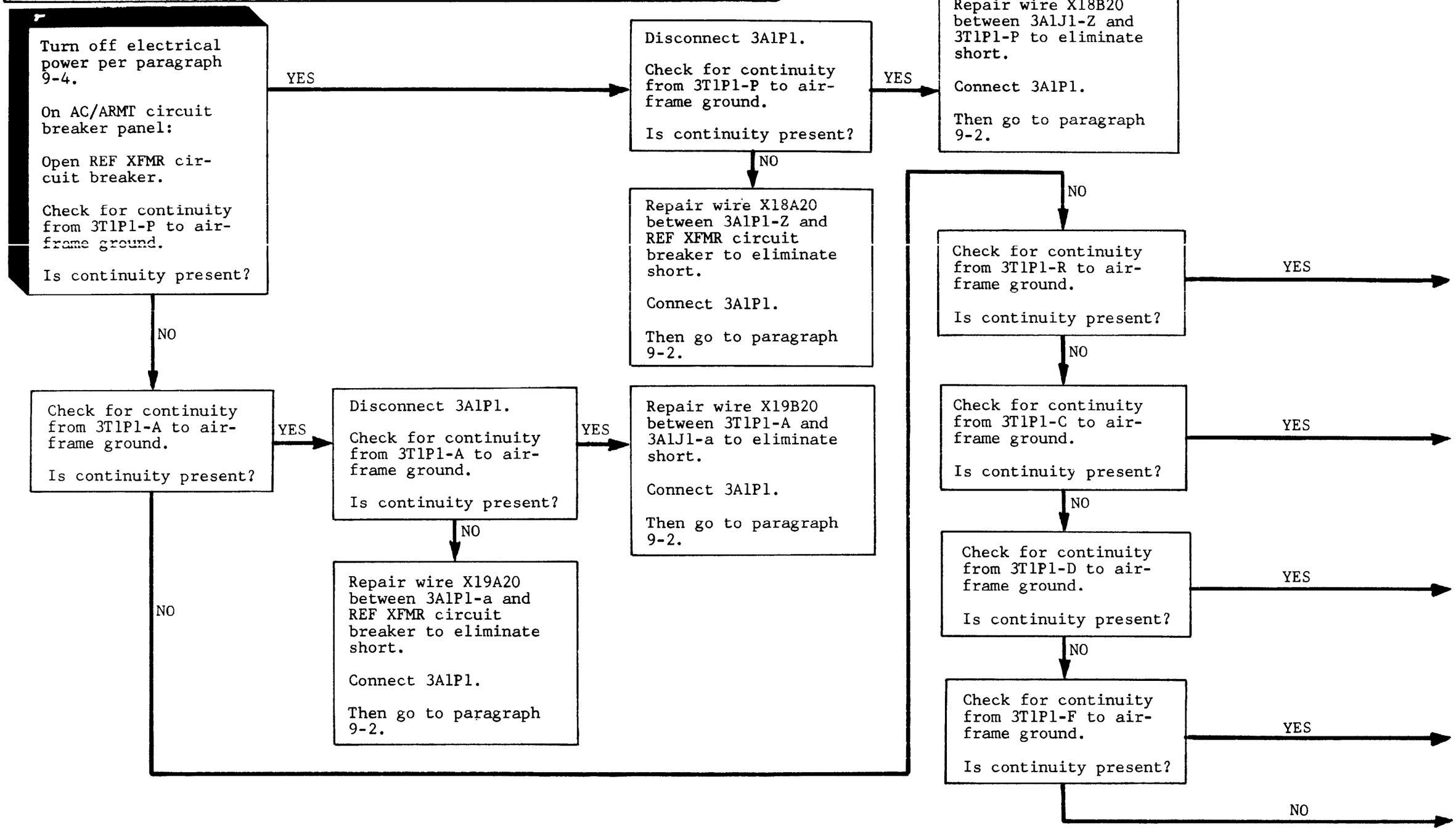



AC/ARMT CIRCUIT BREAKER PANEL

9-6. REF XFMR CIRCUIT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED (CONTINUED).



9-6. REF XFMR CIRCUIT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED (CONTINUED)

Disconnect 3A1P1.

Check for continuity from 3T1P1-R to airframe ground.

Is continuity present?

YES → Repair wire X20B20 between 3T1P1-R and 3A1J1-b to eliminate short.

Connect 3A1P1.

Then go to paragraph 9-2.

NO → Repair wire X20A20 between 3A1P1-b and REF XFMR circuit breaker to eliminate short.

Connect 3A1P1.

Then go to paragraph 9-2.

YES

Disconnect 3A1P1.

Check for continuity from 3T1P1-C to airframe ground.

Is continuity present?

YES → Repair wire X22A22 between 3T1P1-C and 3A1J1-p to eliminate short.

Connect 3A1P1.

Then go to paragraph 9-2.

NO → Repair wire X22B22 between 3A1P1-p and TMS PWR circuit breaker.

Connect 3A1P1.

Then go to paragraph 9-2.

YES

Disconnect 3A1P1.

Check for continuity from 3T1P1-D to airframe ground.

Is continuity present?

YES → Repair wire X23A22 between 3T1P1-D and 3A1J1-r to eliminate short.

Connect 3A1P1.

Then go to paragraph 9-2.

NO → Repair wire X23B22 between 3A1P1-r and TMS PWR circuit breaker to eliminate short.

Connect 3A1P1.

Then go to paragraph 9-2.

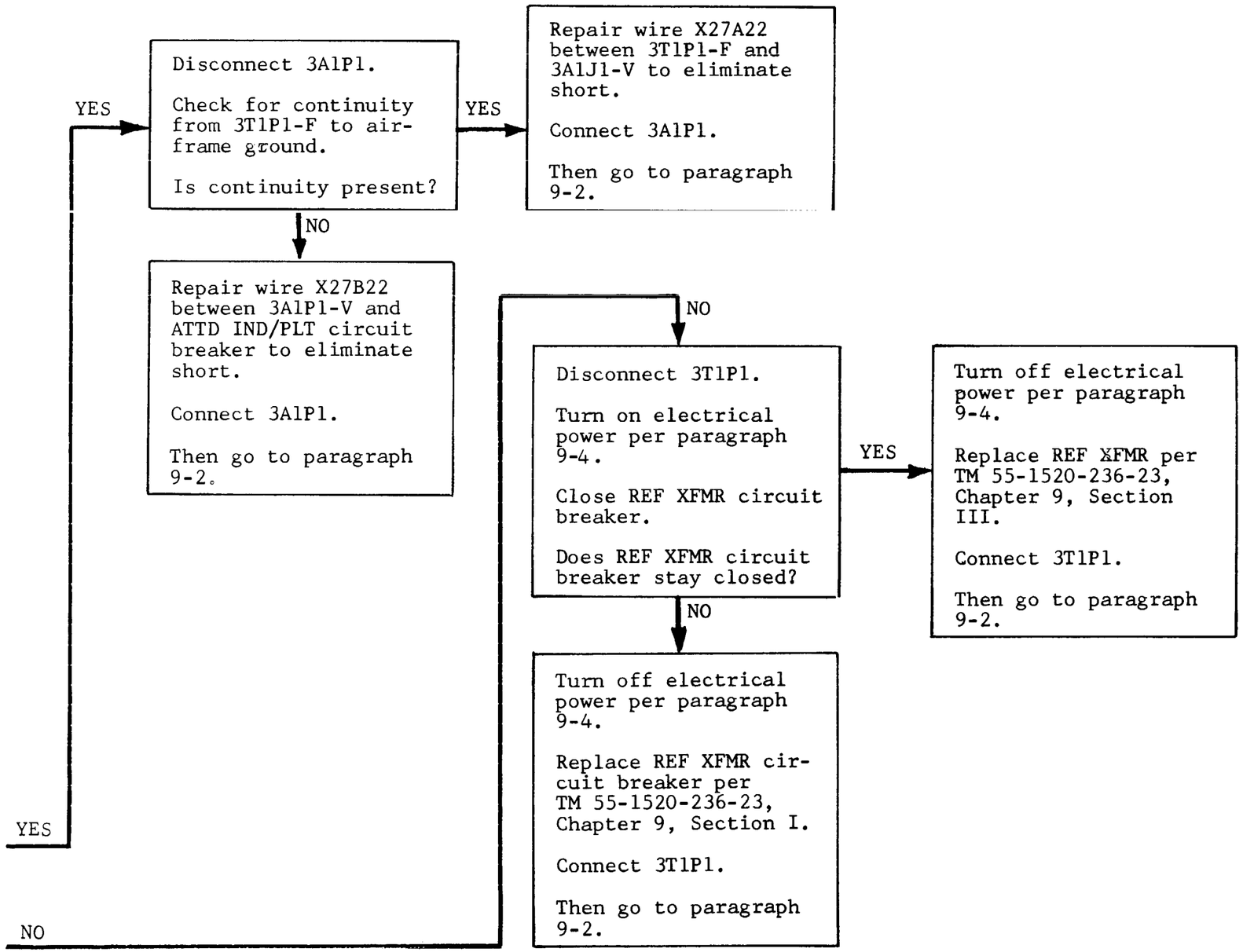
YES

YES

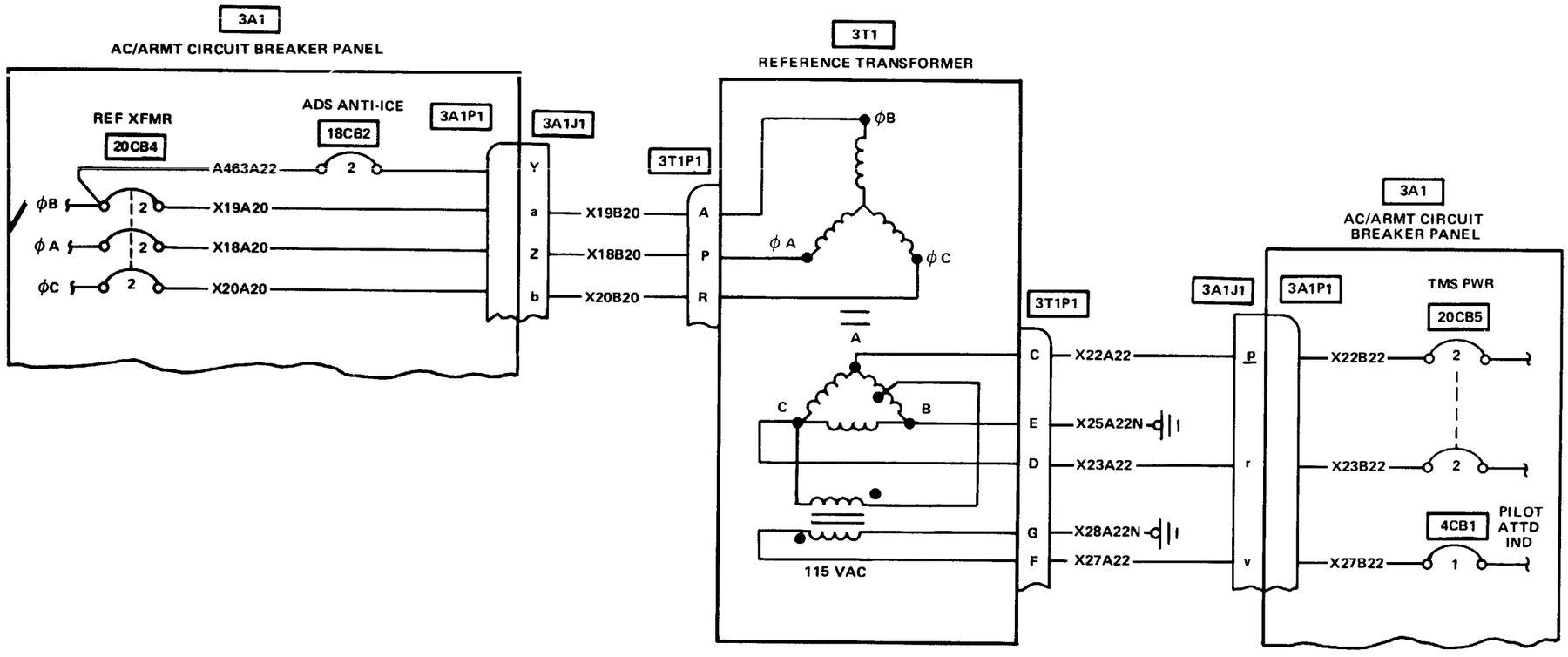
NO

NO

9-6. REF XFMR CORCIOT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED (CONTINUED).



9-6. REF XFMR CIRCUIT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED (CONTINUED).



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## 9-7. ATTITUDE (ATT) FLAG ON PILOT ATTITUDE DIRECTION INDICATOR (ADI) DOES NOT DISAPPEAR.

INITIAL SETUP

Applicable Configuration
All

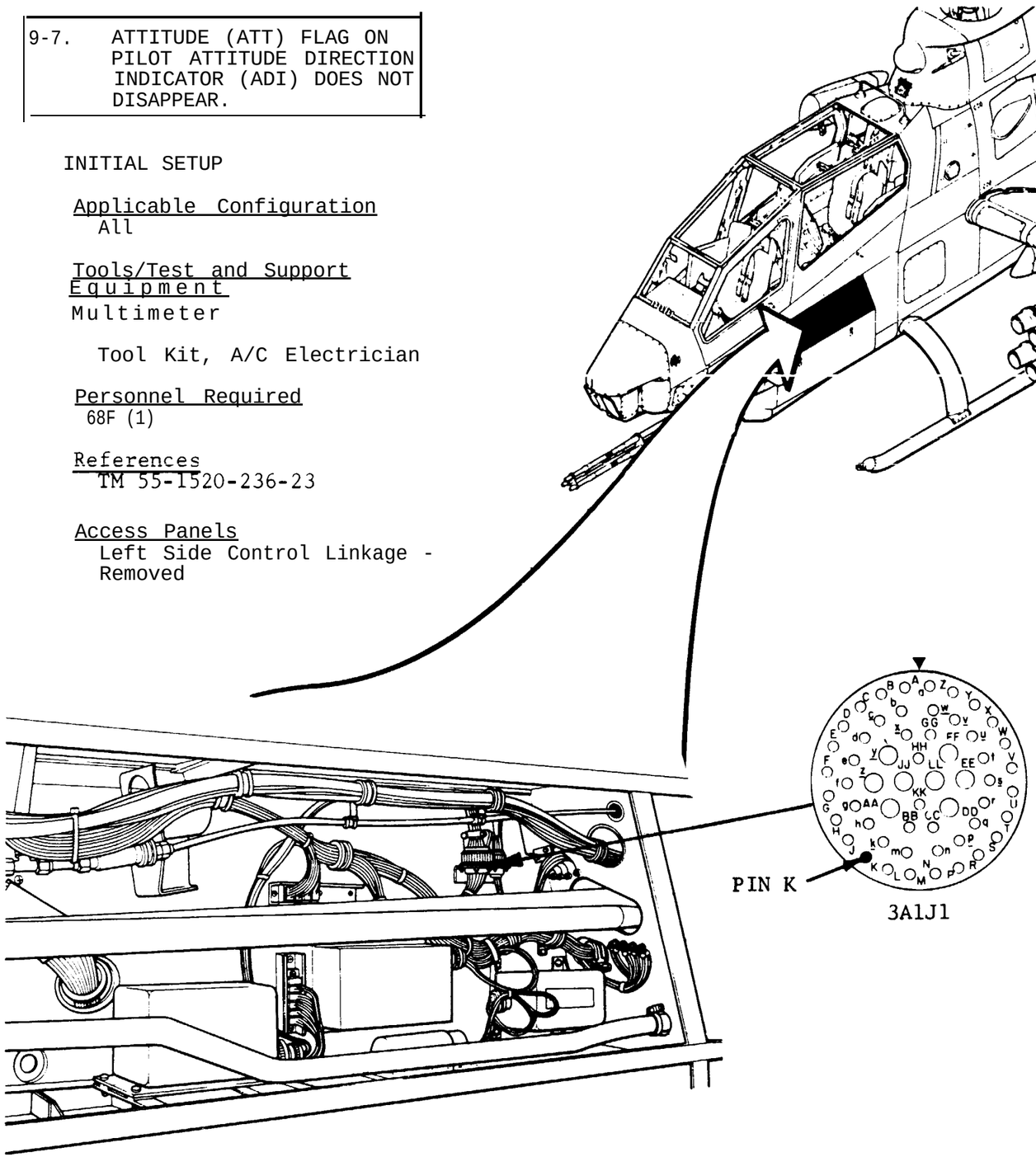
Tools/Test and Support Equipment
Multimeter

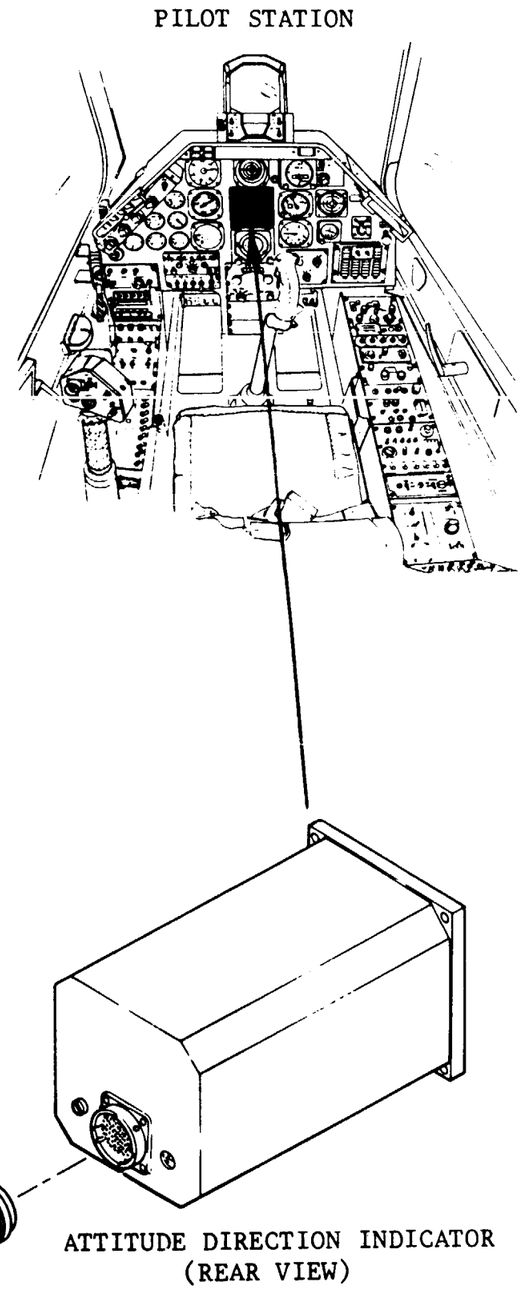
Tool Kit, A/C Electrician

Personnel Required
68F (1)

References
TM 55-1520-236-23

Access Panels
Left Side Control Linkage - Removed



9-7. ATTITUDE (ATT) FLAG ON PILOT ATTITUDE DIRECTION INDICATOR (ADI) DOES NOT DISAPPEAR (CONTINUED).

Turn off electrical power per paragraph 9-4.

Disconnect 4M1P1.

Turn on electrical power per paragraph 9-4.

Check for 115 V ac at 4M1P1-B.

Is 115 V ac present?

YES → Troubleshoot and repair attitude indicating system per TM 55-1520-236-23, Chapter 8, Section III.

Then go to paragraph 9-2.

NO ↓

Turn off electrical power per paragraph 9-4.

Check for continuity from 4M1P1-B to 3A1J1-K.

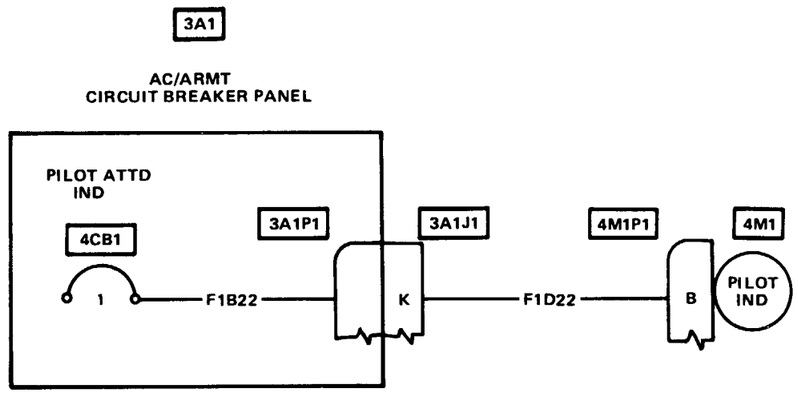
Is continuity present?

YES → Go to TM 55-1520-236-23, Chapter 8, Section III.

NO ↓

Repair wire F1D22 between 4M1P1-B and 3A1J1-K.

Then go to paragraph 9-2.



| 9-8. | HEADING (HDG) FLAG ON HORIZONTAL SITUATION INDICATOR (HSI) DOES NOT DISAPPEAR. |
|---|---|

INITIAL SETUP

Applicable Configuration
All

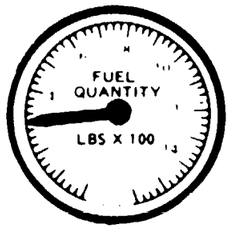
Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C
Electrician

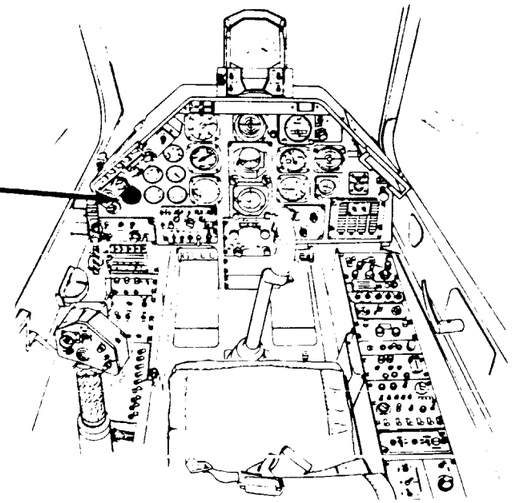
Personnel Required
68F (1)

References
TM 55-1520-236-23
TM 11-1520-236-34

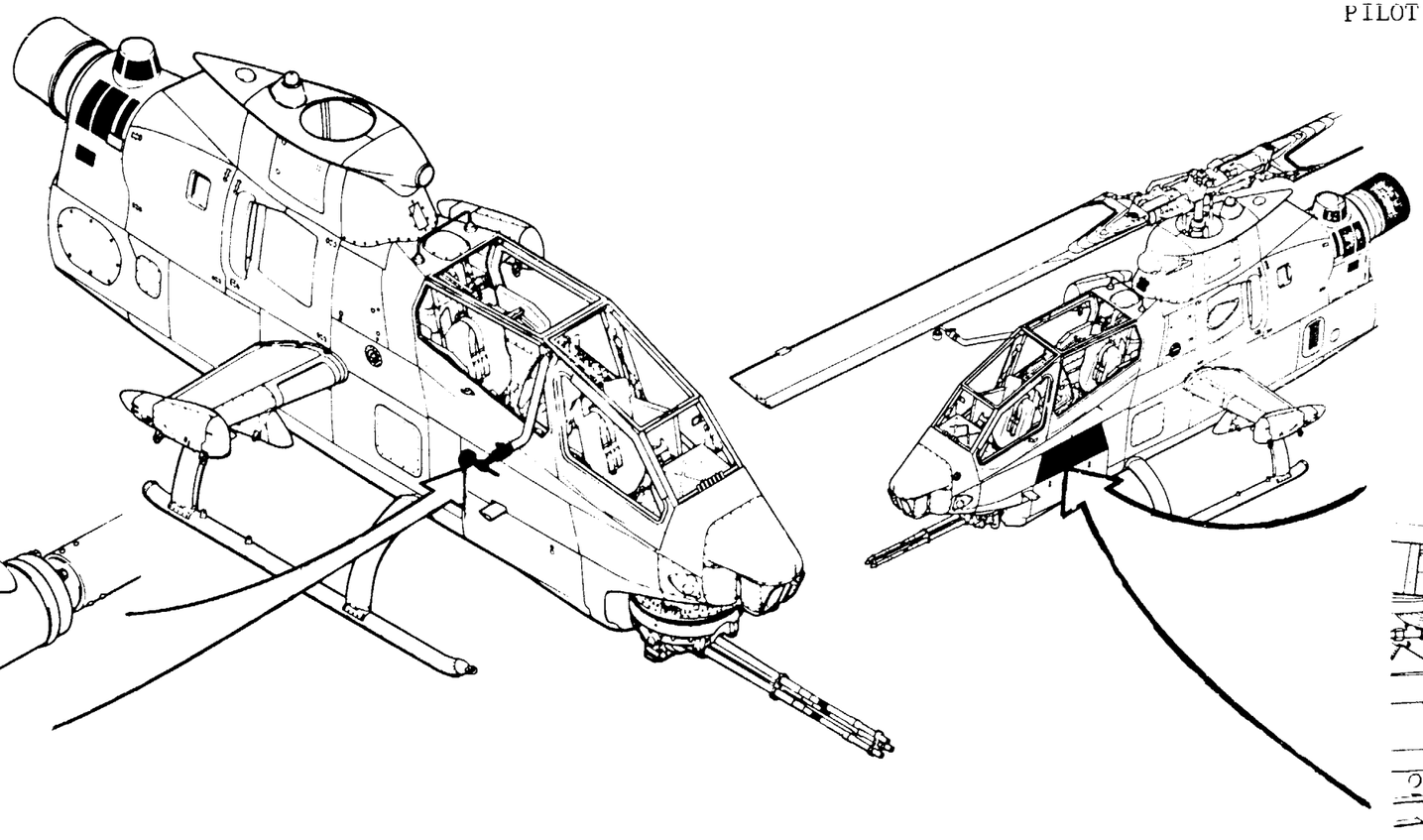
Access Panels
Left Side Control
Linkage - Removed




FUEL QUANTITY INDICATOR

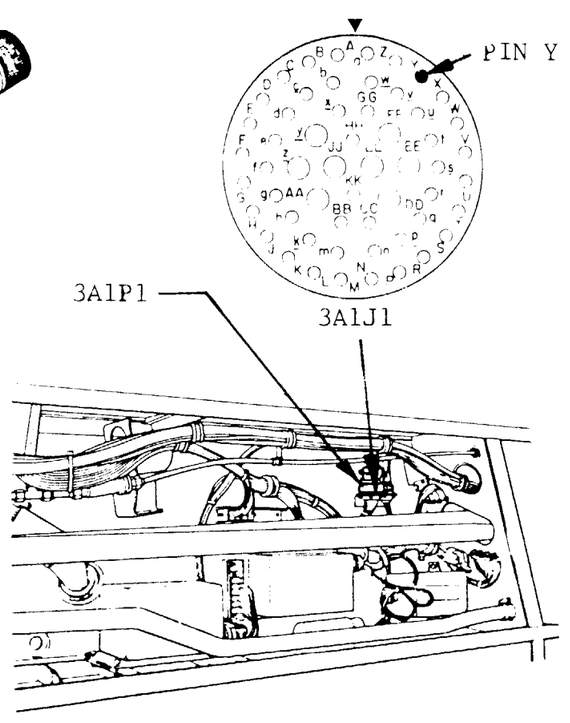


PILOT STATION



AADS PROBE





9-8. HEADING (HDG) FLAG ON HORIZONTAL SITUATION INDICATOR (HSI) DOES NOT DISAPPEAR (CONTINUED).

Perform operational check through paragraph 9-2, k. (Fuel Gage test).

Does fuel quantity indicator pointer rotate down scale (counterclockwise)?

YES → Continue operational check through paragraph 9-2, l. (AADS probe test).

Is AADS probe hot?

YES → Turn off electrical power per paragraph 9-4.

Disconnect 3A1P1

Turn on electrical power per paragraph 9-4.

Check for 115 V ac at 3A1J1-Y.

Is 115 V ac present?

YES → Troubleshoot and repair gyro compass per TM 11-1520-236-34, Chapter 3.

Then go to paragraph 9-2.

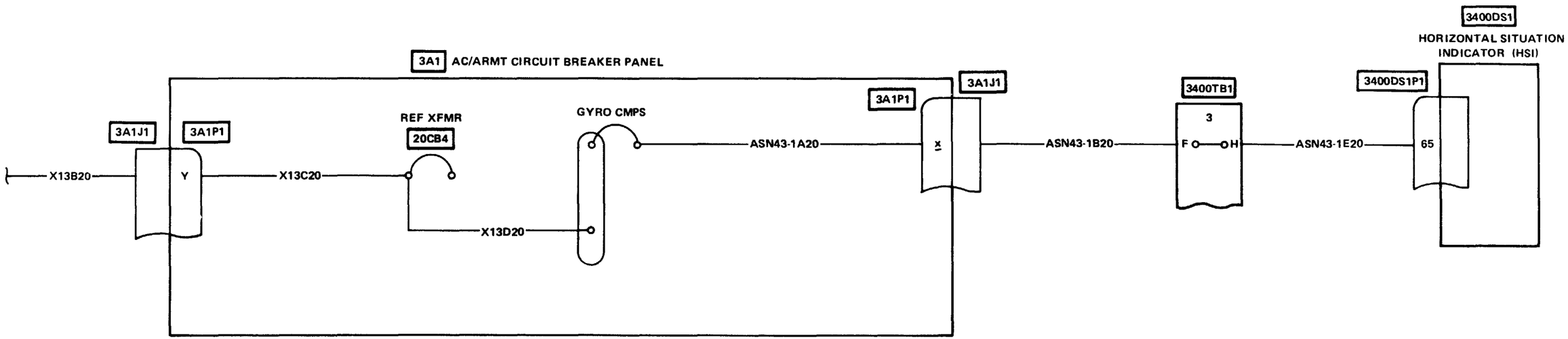
NO → Turn off electrical power per paragraph 9-4.

Connect 3A1P1.

Go to paragraph 9-37.

NO → Go to paragraph 9-37.

NO → Go to paragraph 9-37.



## 9-9. AIRSPEED AND DIRECTION SENSOR (AADS) PROBE DOES NOT GET HOT .

INITIAL SETUP

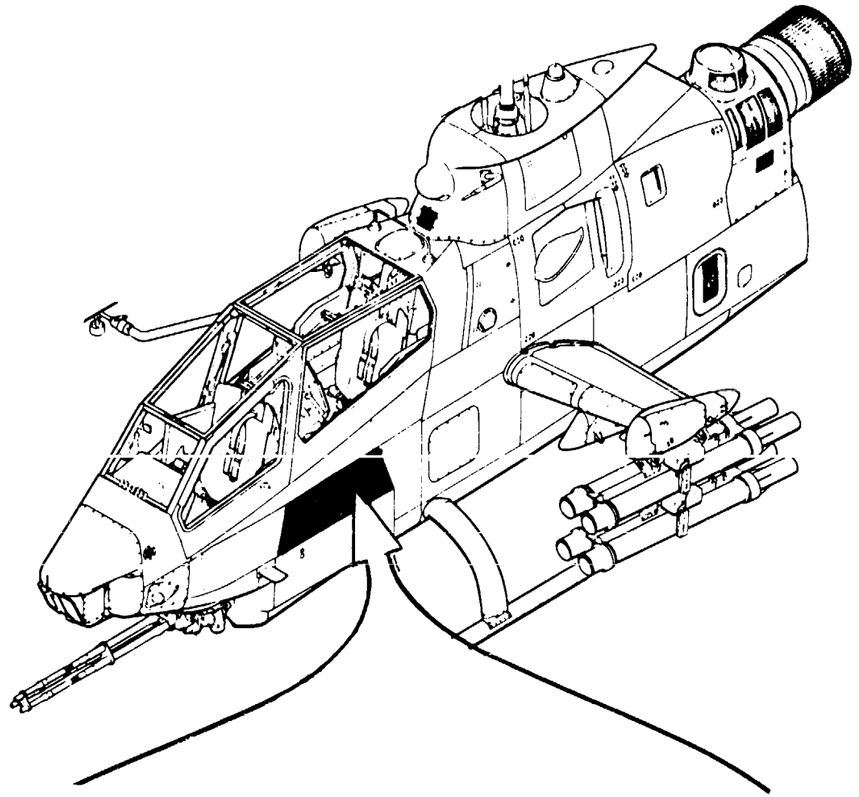
Applicable Configuration
All

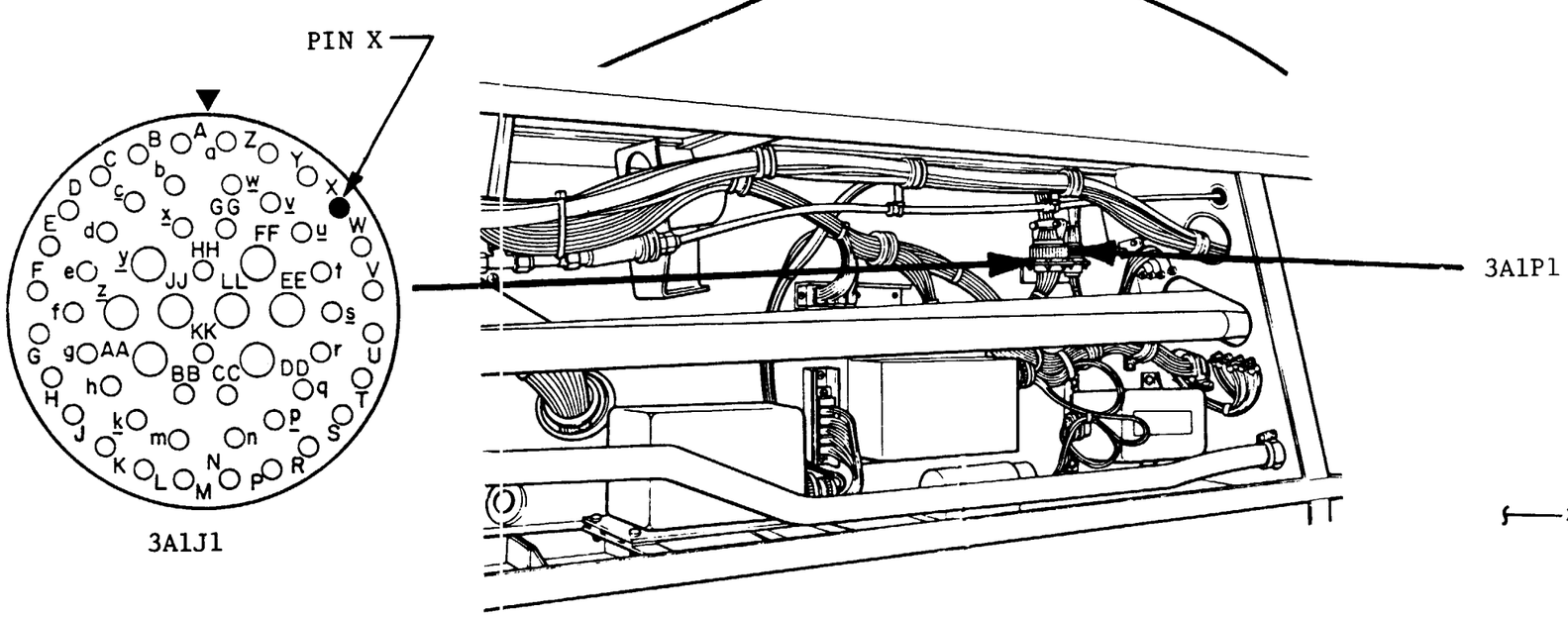
Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C
Electrician

Personnel Required
68F (1)

Access Panels
Left Side Control Linkage - Removed






Turn off electrical power per paragraph 9-4.

Disconnect 3A1P1.

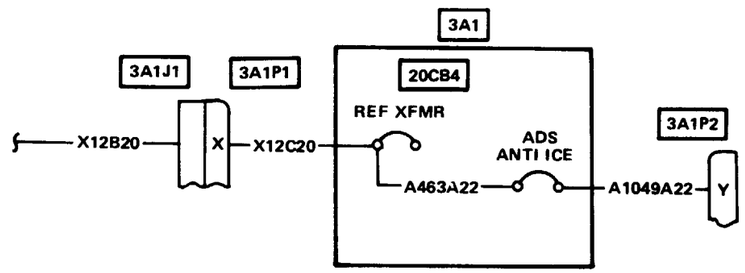
Turn on electrical power per paragraph 9-4.

Check for 115 V ac at 3A1J1-X.

Is 115 V ac present?

YES → Go to paragraph 4-13. Then go to paragraph 9-2.

NO → Turn off electrical power per paragraph 9-4. Connect 3A1P1. Go to paragraph 9-37.



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## 9-10. FUEL QUANTITY POINTER DOES NOT ROTATE .

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Mulimeter

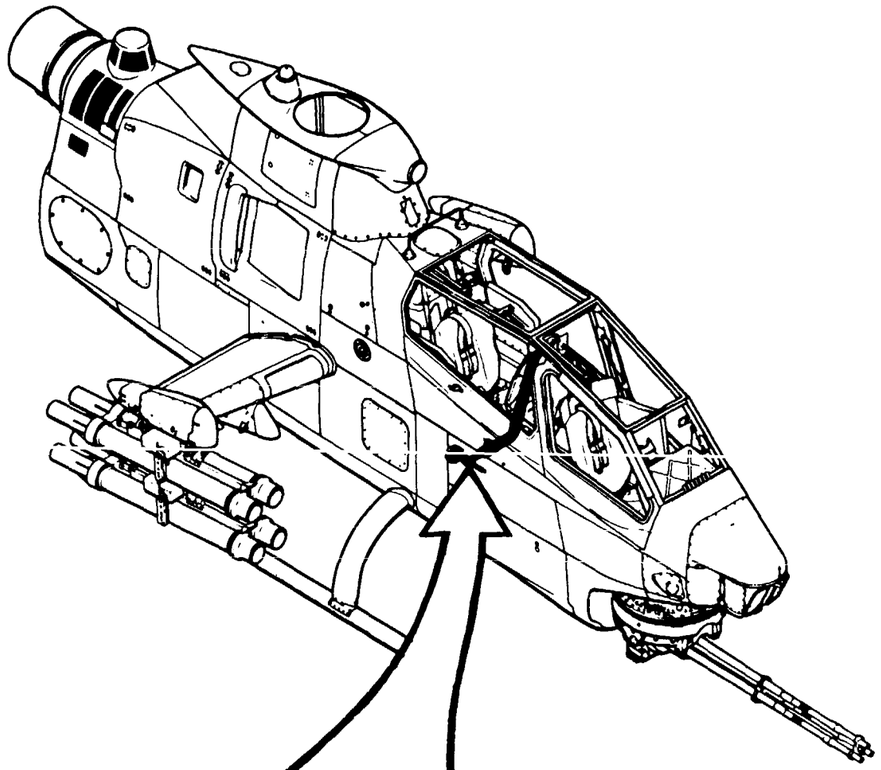
Tool Kit, A/C
Electrician

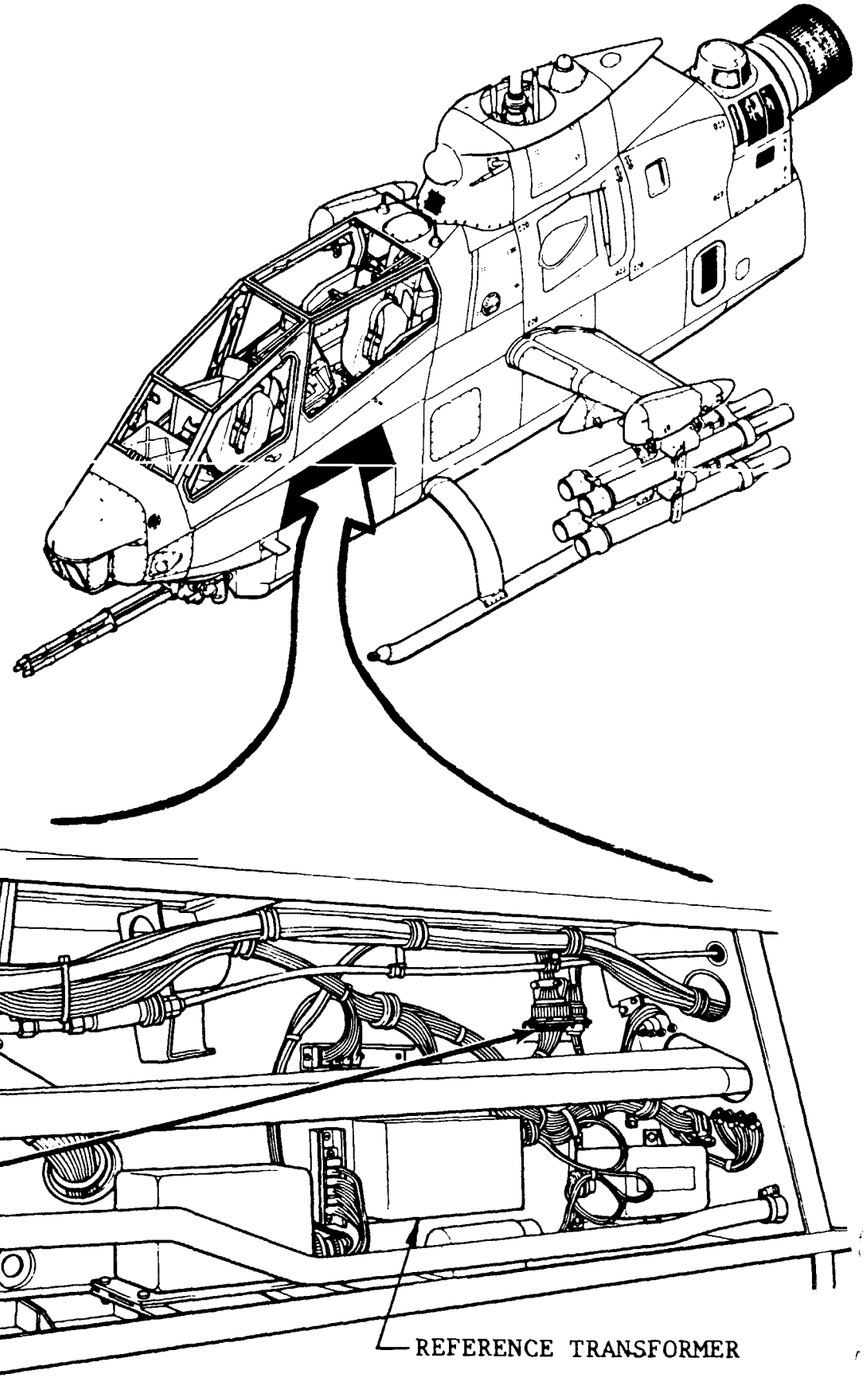
Personnel Required
68F (1)

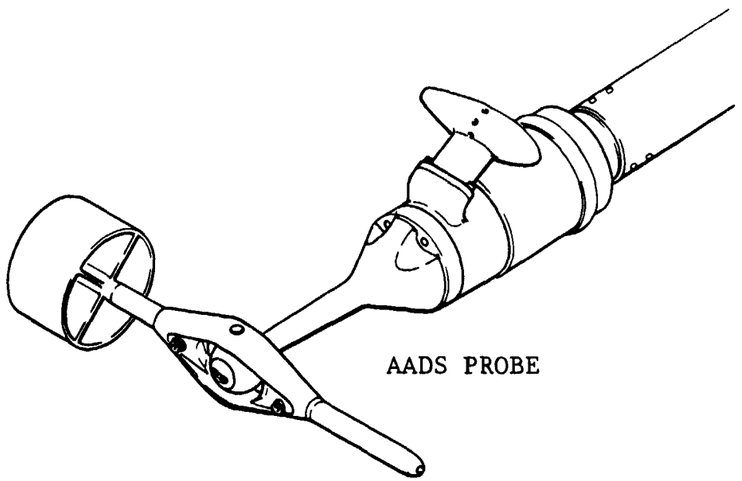
References
TM 55-1520-236-23

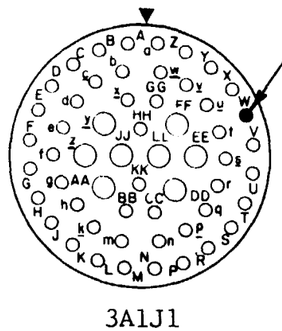
Access Panels
Left Side Control

Linkage - Removed







9-10. FUEL QUANTITY POINTER DOES NOT ROTATE (CONTINUED).

Perform operational check through paragraph 9-2.,1. (AADS probe test).

Did AADS probe become hot?

YES

Turn off electrical power per paragraph 9-4.

Disconnect 3A1P1.

Turn on electrical power per paragraph 9-4.

Check for 115 V ac at 3A1J1-W.

Is 115 V ac present?

YES

Troubleshoot and repair fuel quantity system per TM 55-1520-236-23, Chapter 8, Section V.

Then go to paragraph 9-2.

NO

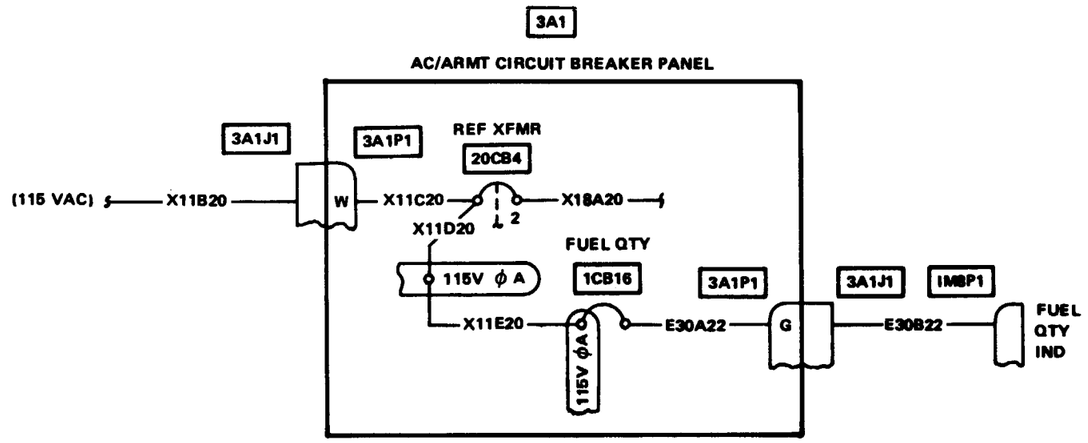
Go to paragraph 9-37.

NO

Turn off electrical power per paragraph 9-4.

Connect 3A1P1.

Go to paragraph 9-37.



## 9-11. WPN CONTR CIRCUIT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C
Electrician

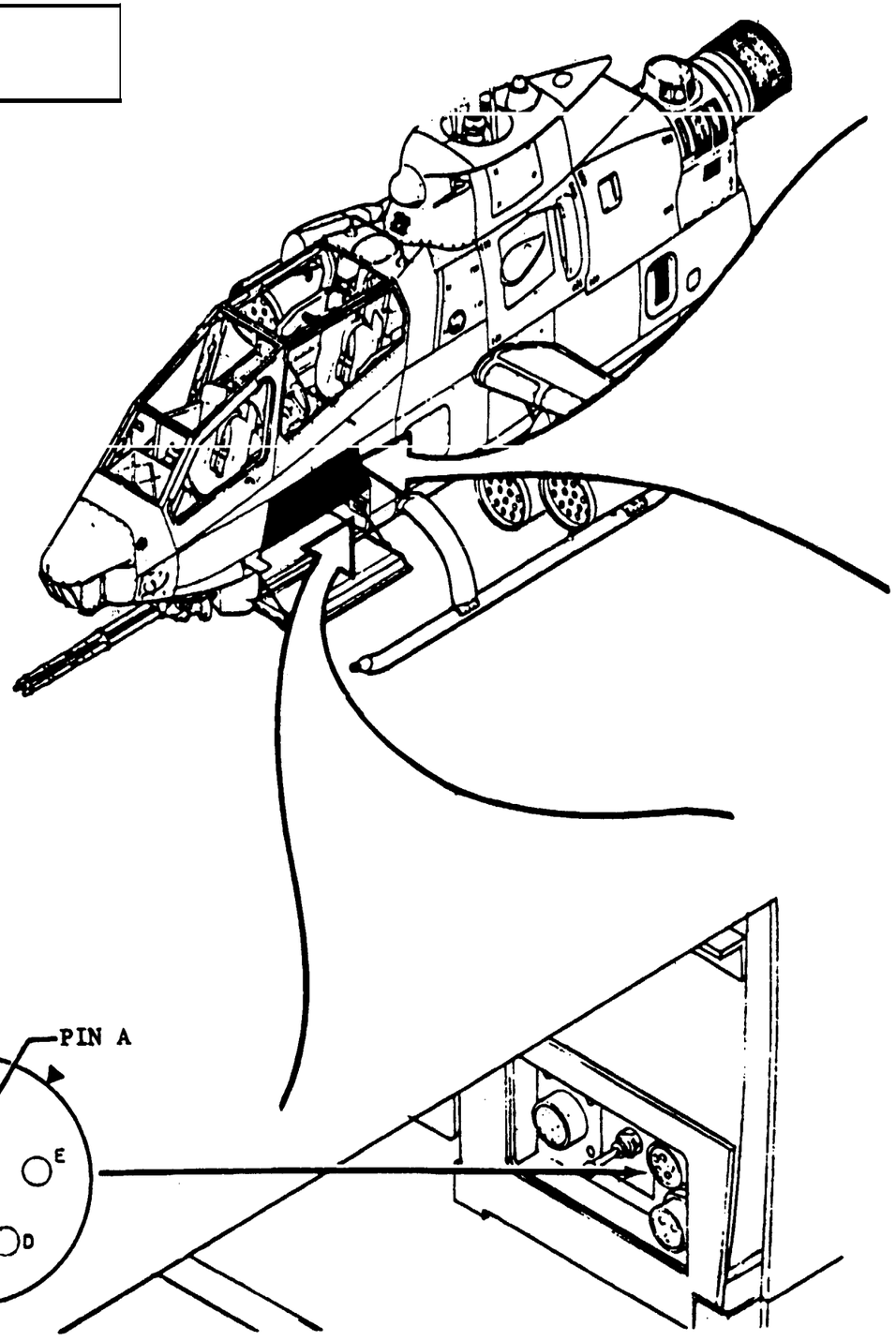
Personnel Required
68F (2)

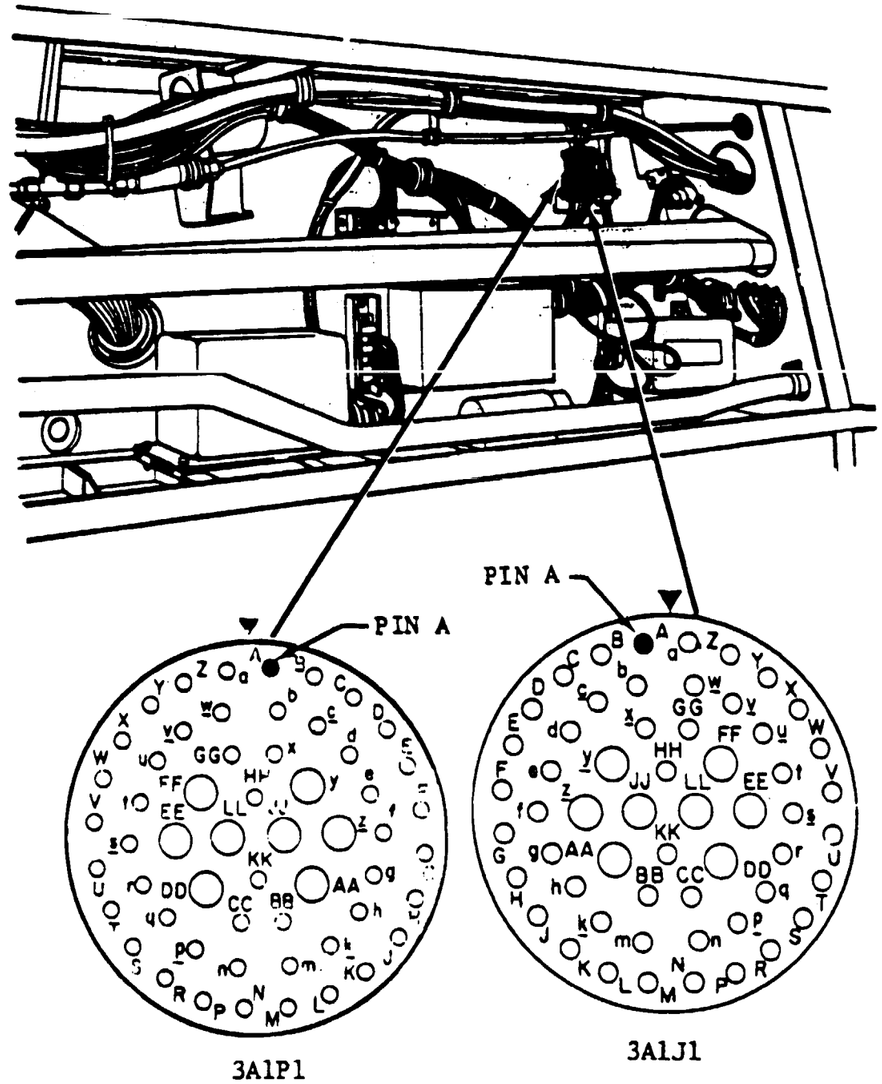
References
TM 9-1090-206-20-1
TM 55-1520-236-23

Access Panels
Forward Belly Armament and Lighting - Removed

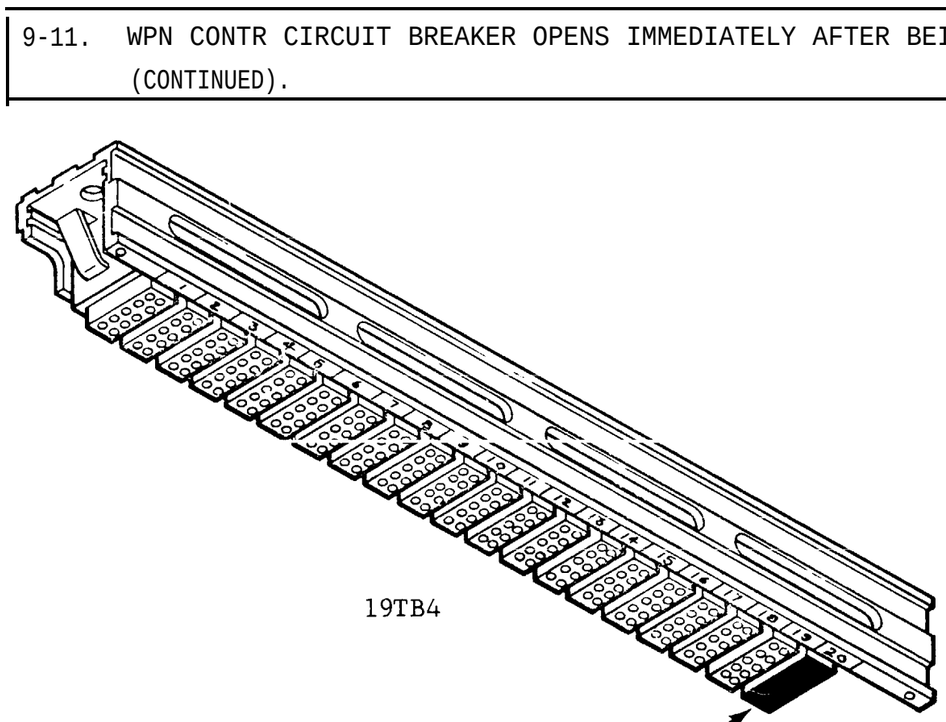
Left Side Control Linkage - Removed

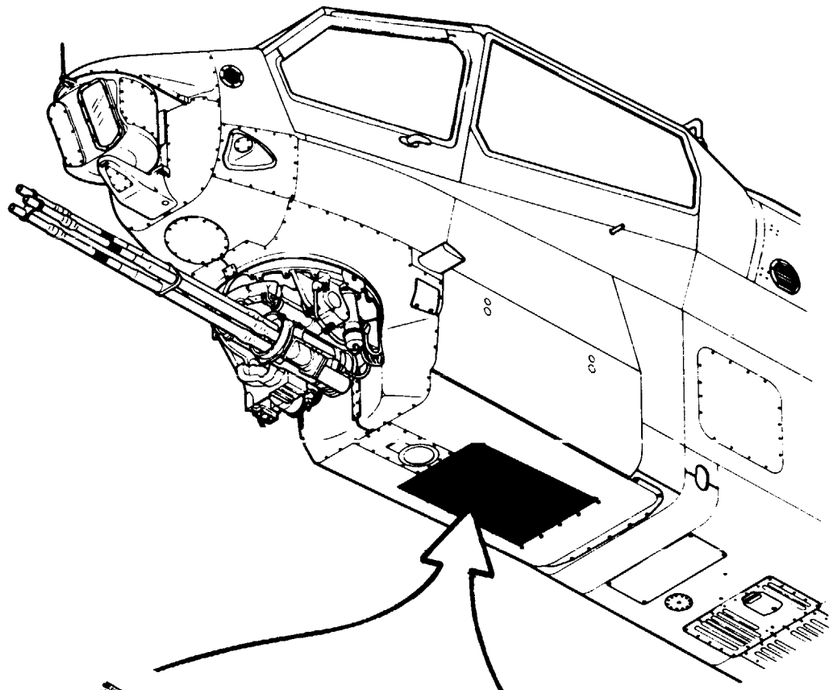
Left Ammo Compartment Door - Open

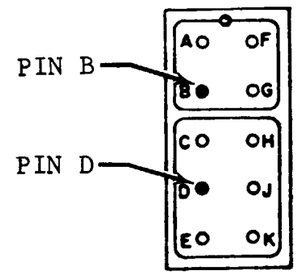


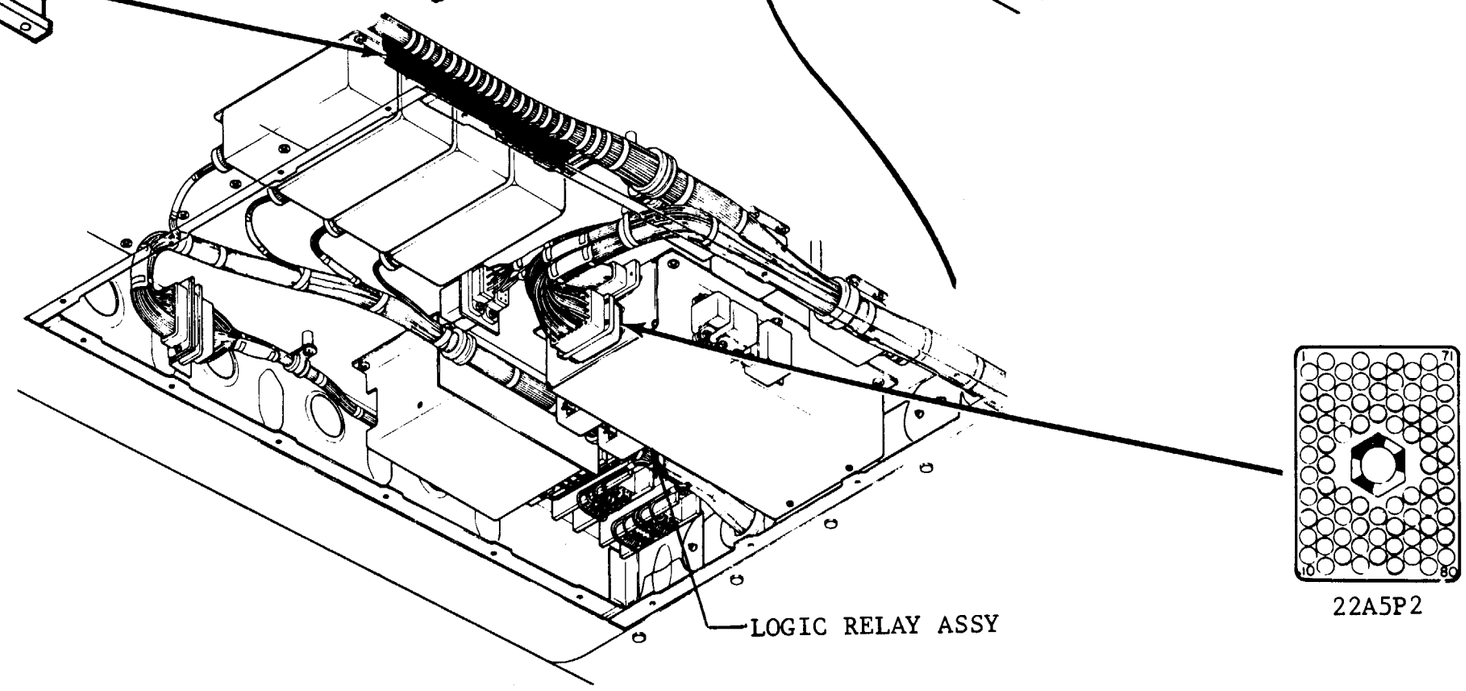
9-11. WPN CONTR CIRCUIT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED (CONTINUED).





MODULE 20



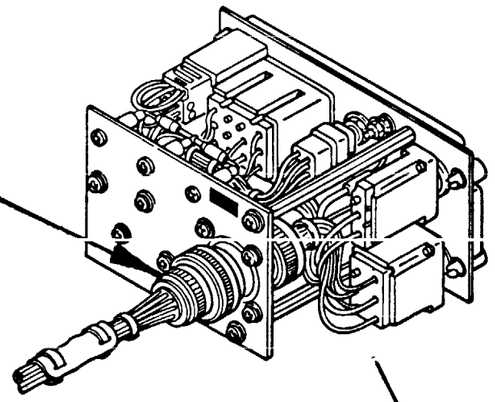



22A5P2

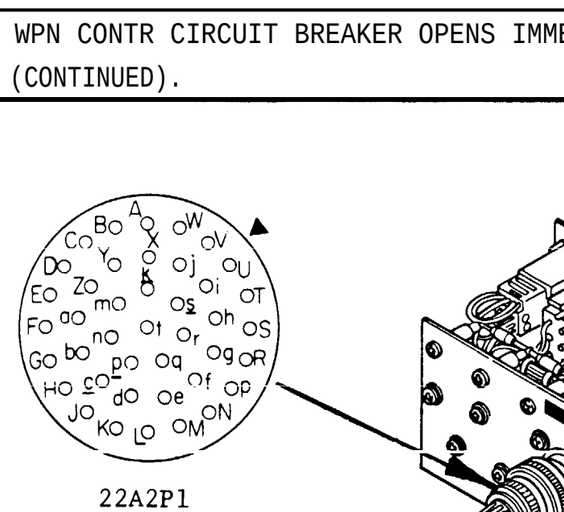
9-11. WPN CONTR CIRCUIT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED (CONTINUED).



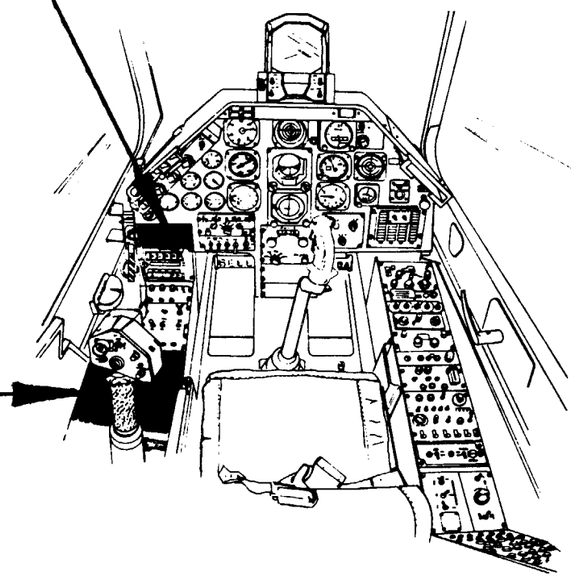
22A2P1



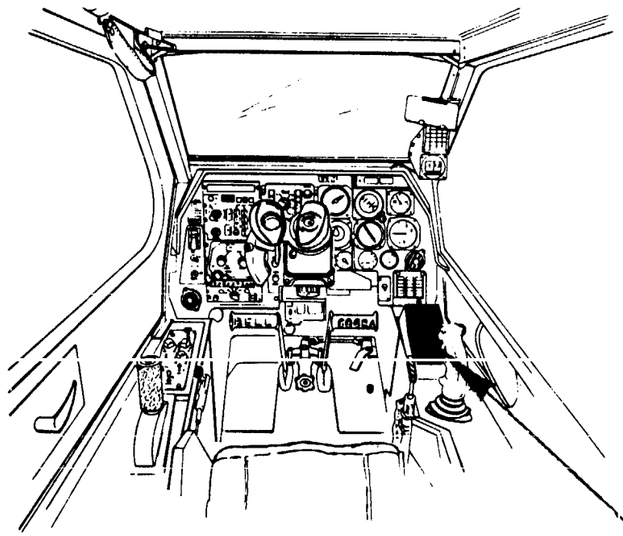
PILOT ARMT CONTROL PANEL
(REAR VIEW)




AC/ARMT CIRCUIT BREAKER PANEL

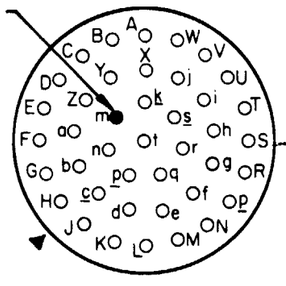


PILOT STATION

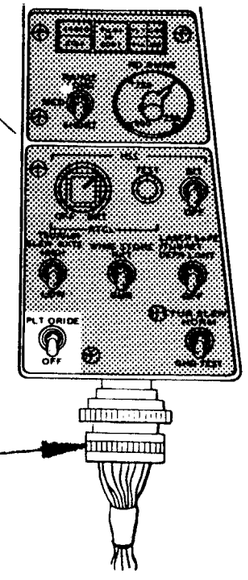


GUNNER STATION

PIN m



22A3P1



GUNNER ARMAMENT
CONTROL PANEL

## 9-11. WPN CONTR CIRCUIT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED (CONTINUED).

Turn off electrical power per paragraph 9-4.

Disconnect 22A3P1.

Turn on electrical power per paragraph 9-4.

Does WPN CONTR circuit breaker stay closed?

NO

Turn off electrical power per paragraph 9-4.

Disconnect 22A2P1.

Turn on electrical power per paragraph 9-4.

Does WPN CONTR circuit breaker stay closed?

NO

Turn off electrical power per paragraph 9-4.

Disconnect 22A5P2.

Turn on electrical power per paragraph 9-4.

Does WPN CONTR circuit breaker stay closed?

NO

YES

Turn off electrical power per paragraph 9-4.

Replace gunner armament control panel per TM 9-1090-206-20-1, Chapter 3, Section XVII.

Then go to paragraph 9-2.

YES

Turn off electrical power per paragraph 9-4.

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Connect 22A3P1.

Then go to paragraph 9-2.

YES

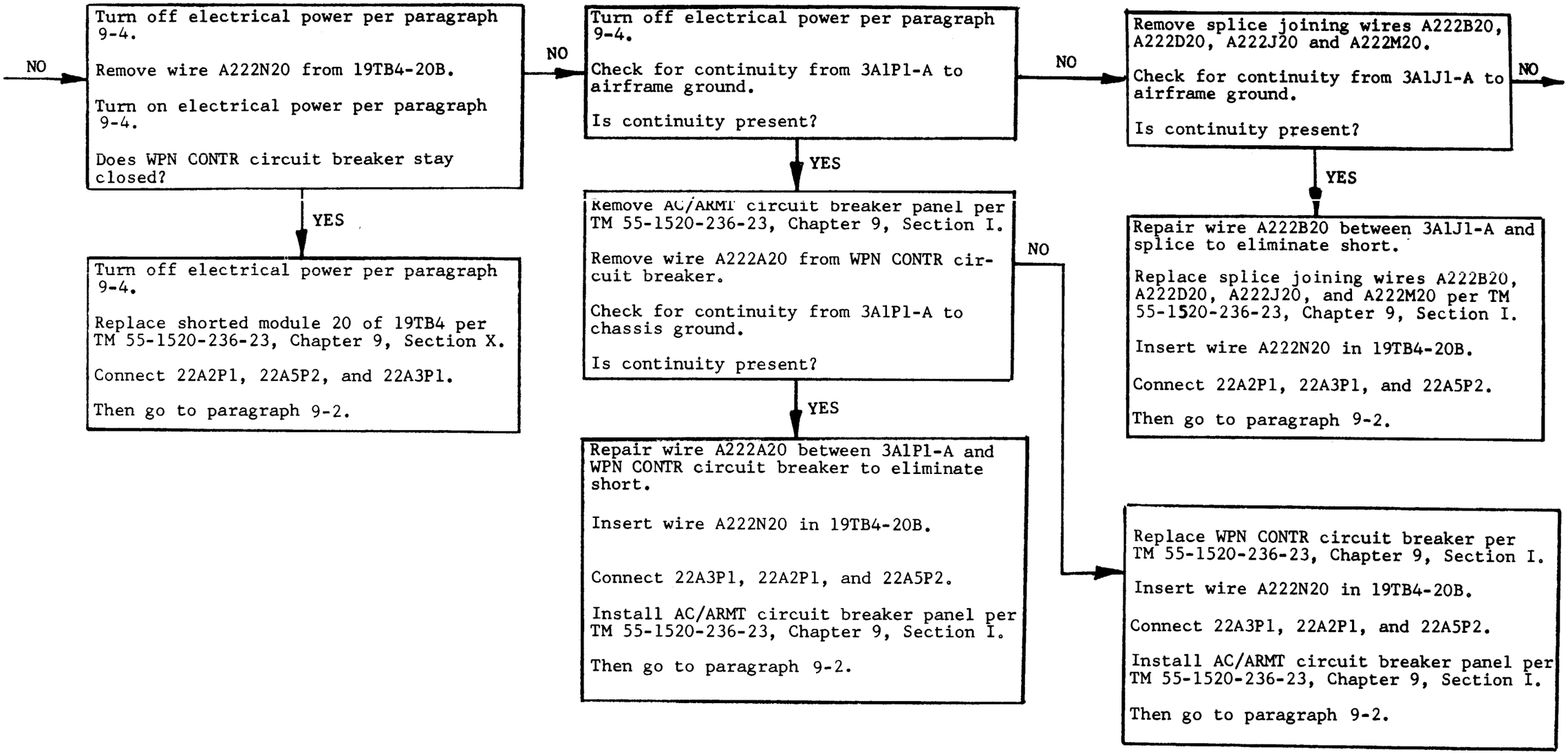
Turn off electrical power per paragraph 9-4.

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Connect 22A3P1 and 22A2P1.

Then go to paragraph 9-2.

9-11. WPN CONTR CIRCUIT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED (CONTINUED).



**9-11. WPN CONTR CIRCUIT BREAKER OPENS IMMEDIATELY AFTER BEING CLOSED (CONTINUED).**

NO

Check for continuity from 22A3P1-m to airframe ground.

Is continuity present?

YES

Repair wire A222J20 between 22A3P1-m and splice to eliminate short.

Replace splice joining wires A222B20, A222D20, A222J20, and A222M20 per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire A222N20 in 19TB4-20B.

Connect 22A2P1, 22A3P1, and 22A5P2.

Then go to paragraph 9-2.

NO

Remove splice joining wires A222N20, A222C20, A222R20 and A222M20.

Check for continuity from end of wires A222M20, A222C20 and A222N20 to airframe ground.

Is continuity present?

YES

Repair wire A222C20, A222M20, or A222N20 to eliminate short.

Replace splice joining wires A222B20, A222D20, A222J20, and A222M20 per TM 55-1520-236-23, Chapter 9, Section I.

Replace splice joining wires A222N20, A222C20, A222R20, and A222M20 per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire A222N20 in 19TB4-20B.

Connect 22A2P1, 22A3P1, and 22A5P2.

Then go to paragraph 9-2.

NO

Repair wire A222R20 between 19J2-A and splice to eliminate short.

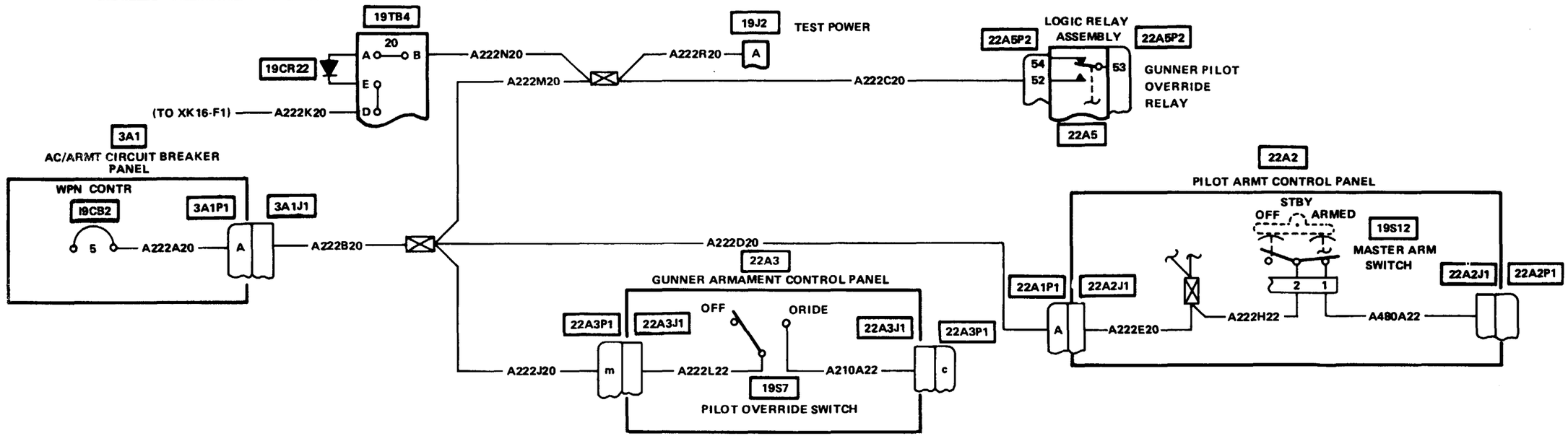
Replace splice joining wires A222B20, A222D20, A222J20, and A222M20 per TM 55-1520-236-23, Chapter 9, Section I.

Replace splice joining wires A222N20, A222C20, A222R20, and A222M20 per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire A222N20 in 19TB4-20B.

Connect 22A2P1, 22A3P1, and 22A5P2.

Then go to paragraph 9-2.



**9-12. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS SET TO STBY.**

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

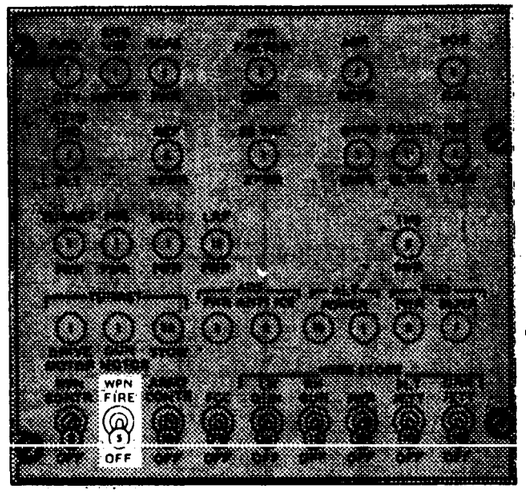
Tool Kit, A/C
Electrician

Personnel Required
68F (1)

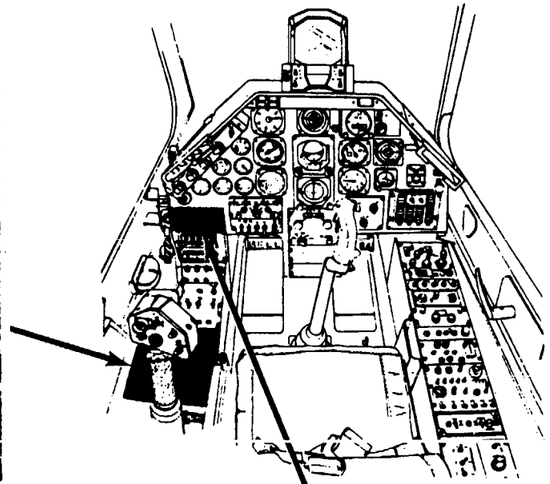
References
TM 55-1520-236-23
TM 9-1090-206-20-1

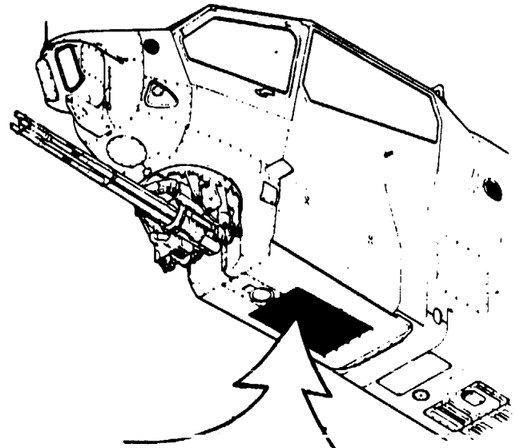
Access Panels
Left Side Control Linkage - Removed

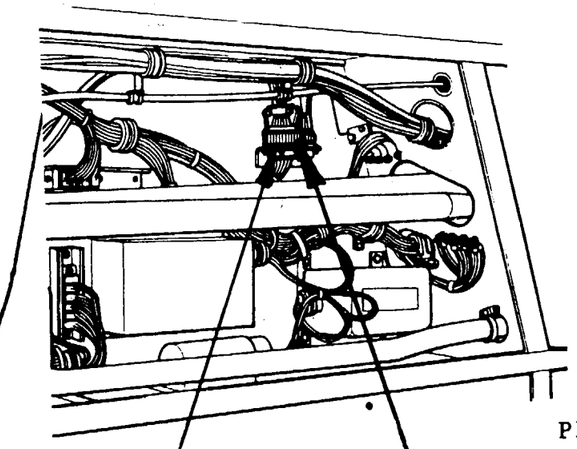
Forward Belly Armament and Lighting - Removed

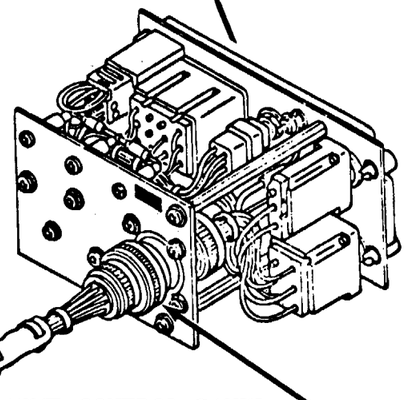


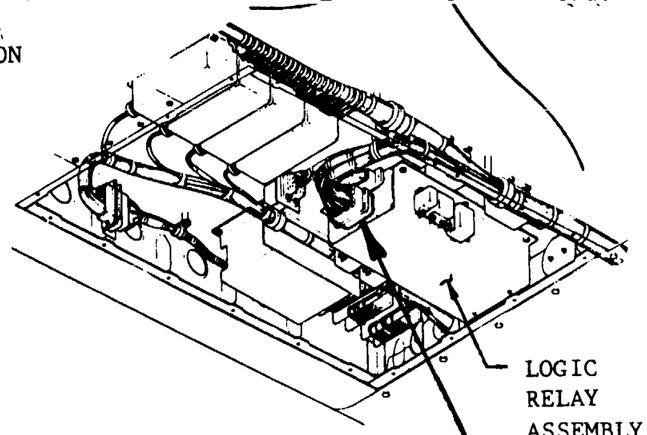
AC/ARMT CIRCUIT BREAKER PANEL

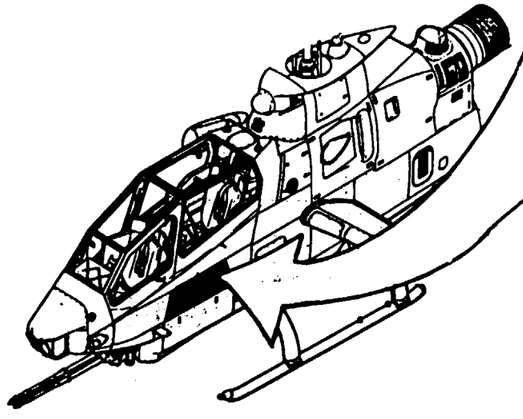

PILOT STATION

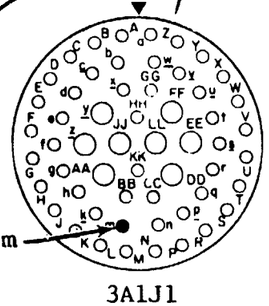




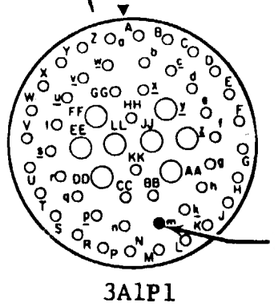



LOGIC RELAY ASSEMBLY



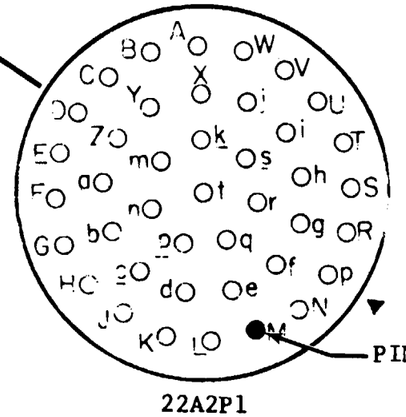


3A1J1

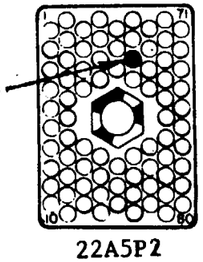


3A1P1

PILOT ARMT CONTROL PANEL (REAR VIEW)



22A2P1



22A5P2

9-12. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS SET TO STBY (CONTINUED).

Turn off electrical power per paragraph 9-4.

Check for continuity from 3A1J1-m to airframe ground.

Is continuity present?

YES → Disconnect 22A2P1.

Check for continuity from 3A1J1-m to airframe ground.

Is continuity present?

YES → Disconnect 22A5P2.

Check for continuity from 3A1J1-m to airframe ground.

Is continuity present?

YES → Remove splice joining wires A211B22, A211C22, and A211D22.

Check for continuity from 3A1J1-m to airframe ground.

Is continuity present?

YES → Repair wire A211B22 between 3A1J1-m and splice to eliminate short.

Replace splice joining wires A211B22, A211C22, and A211D22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1 and 22A5P2.

Then go to paragraph 9-2.

NO → On AC/ARMT circuit breaker panel:

Open WPN FIRE circuit breaker.

Check for continuity from 3A1P1-m to airframe ground.

Is continuity present?

NO → Replace WPN FIRE circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES → Repair wire A211A22 between 3A1P1-m and WPN FIRE circuit breaker to eliminate short.

Then go to paragraph 9-2.

NO → Replace pilot ARMT control panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Replace logic relay assembly per TM 9-1090-206-12, Chapter 3, Section XXIII.

Connect 22A2P1.

Then go to paragraph 9-2.

NO → Check for continuity from 22A2P1-M to airframe ground.

Is continuity present?

YES → Repair wire A211D22 between 22A2P1-M and splice to eliminate short.

Replace splice joining wires A211B22, A211C22, and A211D22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1 and 22A5P2.

Then go to paragraph 9-2.

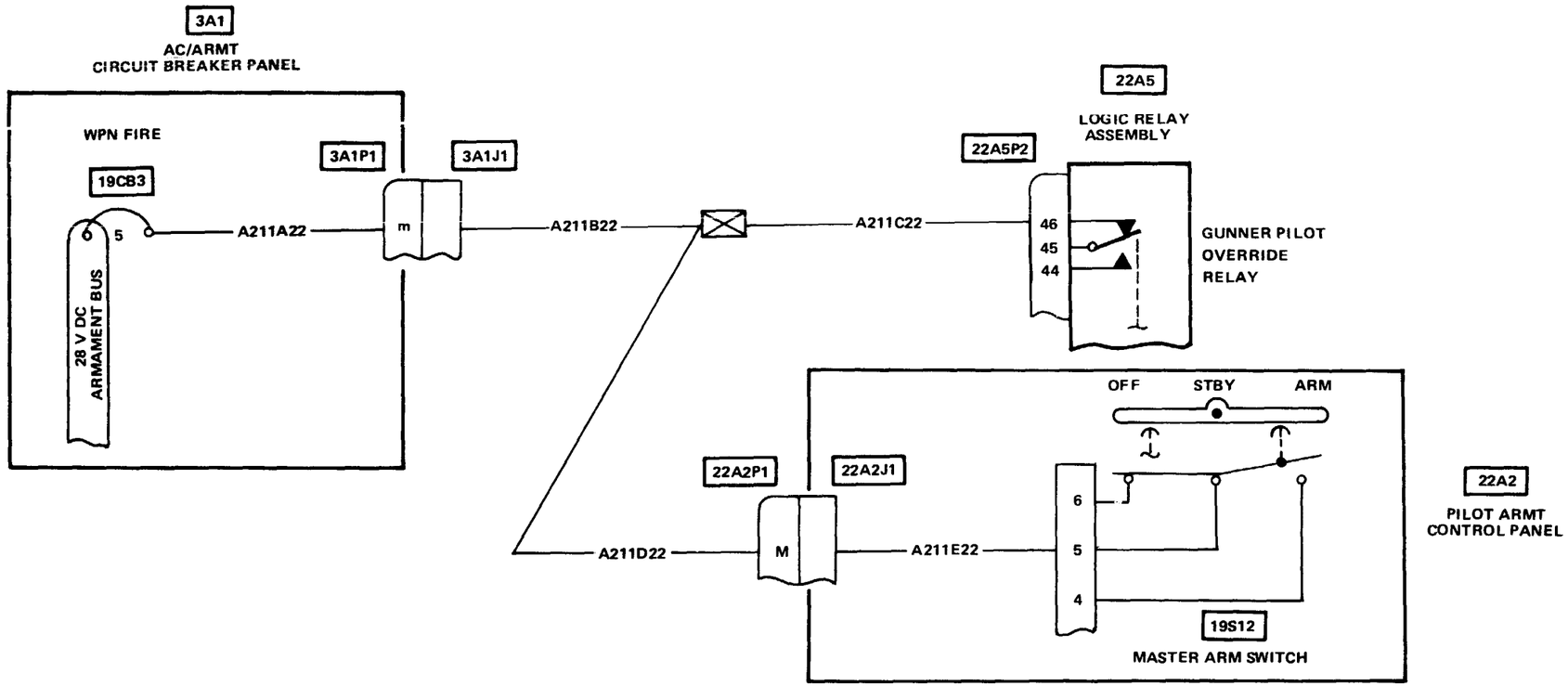
NO → Repair wire A211C22 between 22A5P2-46 and splice to eliminate short.

Replace splice joining wires A211B22, A211C22, and A211D22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1 and 22A5P2.

Then go to paragraph 9-2.

9-12. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS SET TO STBY (CONTINUED).



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## 9-13. ARMY CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS SET TO STBY.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

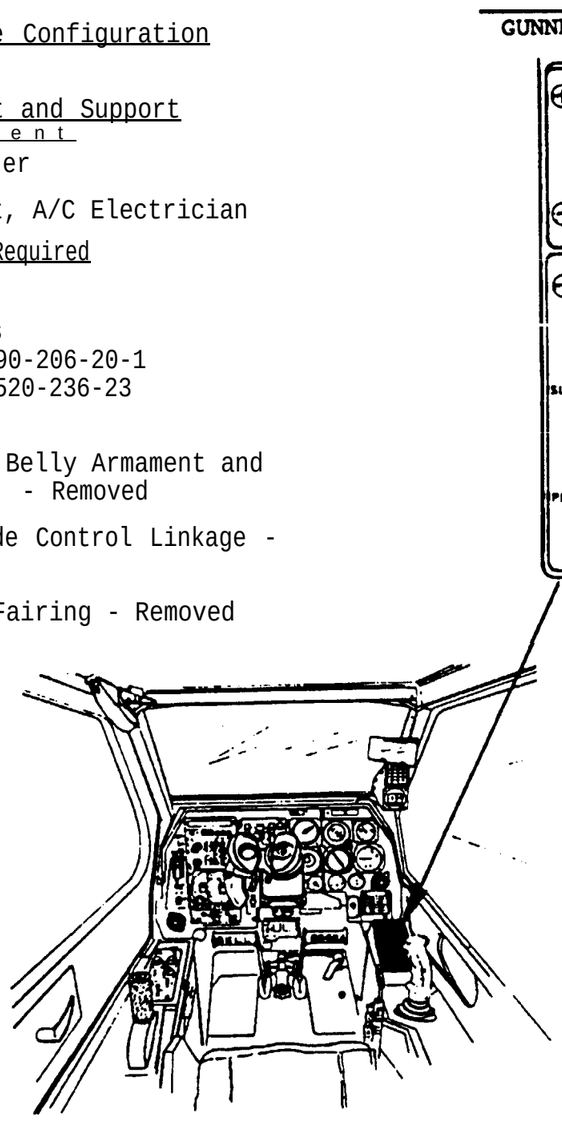
Personnel Required
68F (2)

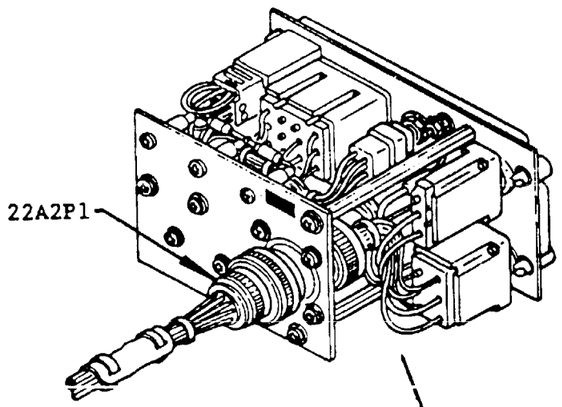
References
TM 9-1090-206-20-1
TM 55-1520-236-23

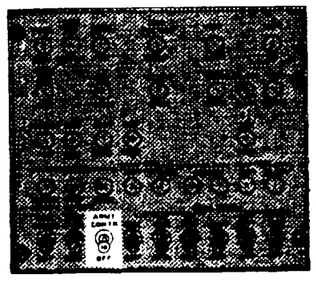
Forward Belly Armament and Lighting - Removed

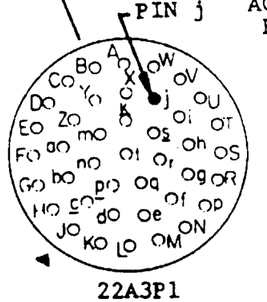
Left Side Control Linkage - Removed

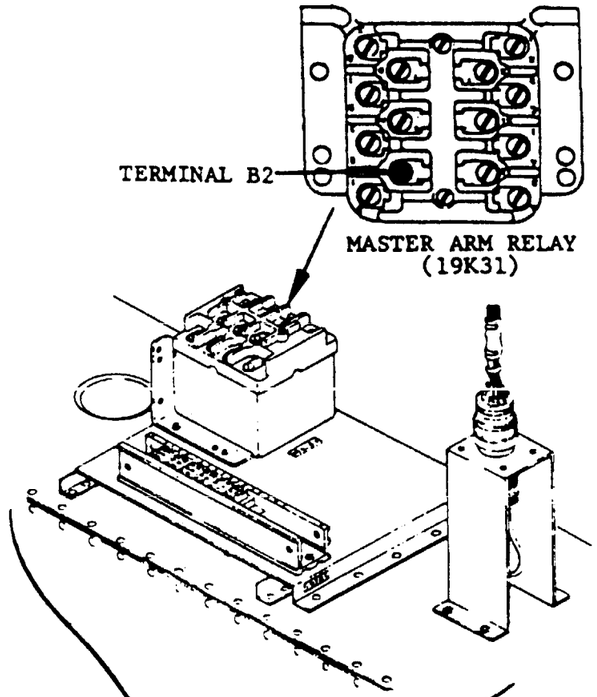
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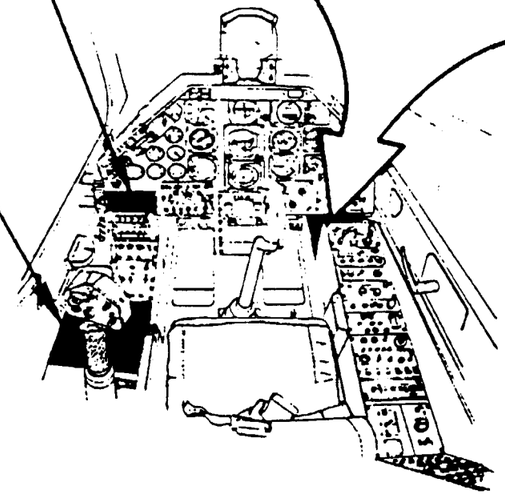


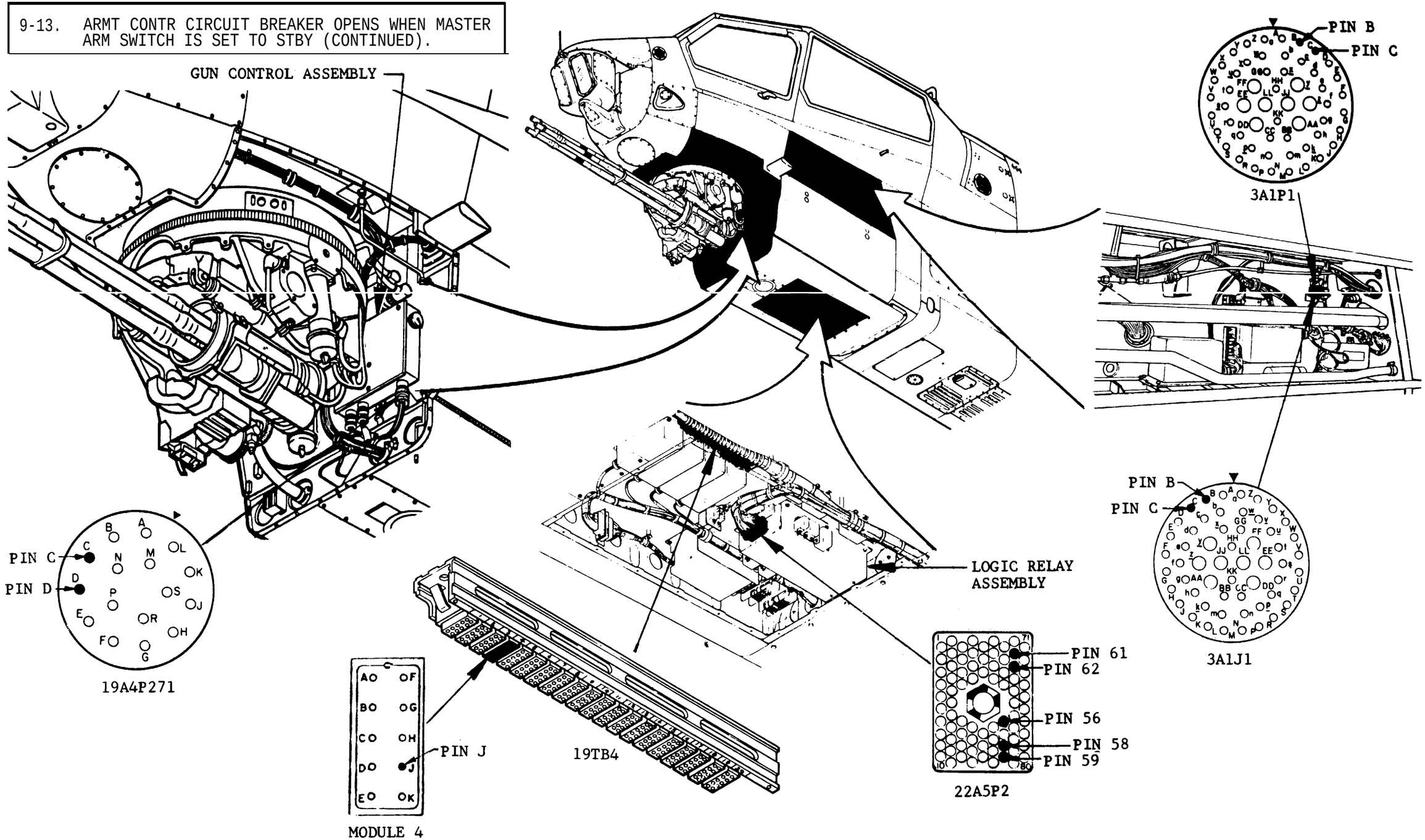



9-13. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS SET TO STBY (CONTINUED).



## 9-13. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS SET TO STBY (CONTINUED).

Turn off electrical power per paragraph 9-4.

Check for continuity from 3A1P1-B to airframe ground.

Is continuity present?

YES → Repair wires A220A20 and A220B20 between 3A1P1 (pins B and C) and ARMT CONTR circuit breaker on AC/ARMT circuit breaker panel.

Then go to paragraph 9-2.

NO

Check for continuity from 3A1J1-B to airframe ground.

Is continuity present?

YES → Disconnect 22A5P2.

Check for continuity from 3A1J1-B to airframe ground.

Is continuity present?

YES

NO → Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Then go to paragraph 9-2.

NO

Disconnect 22A2P1.

Check for continuity from 22A3P1-j to airframe ground.

Is continuity present?

YES → Connect 22A2P1.

Go to paragraph 9-14.

NO

Connect 22A2P1.

Check for continuity from 19A4P271-C to airframe ground

Is continuity present?

YES

NO

Check gun control assembly per TM 9-1090-206-20-1.

Does gun control assembly fail?

YES → Turn off electrical power per paragraph 9-4.

Replace gun control assembly per TM 9-1090-206-20-1, Chapter 3, Section XV.

Then go to paragraph 9-2.

NO

Turn off electrical power per paragraph 9-4.

Remove wire A187P20 from 19TB4-4J.

Check for continuity from end of wire A187P20 to airframe ground.

Is continuity present?

YES → Check for continuity from 22A5P2-61 to airframe ground.

Is continuity present?

YES

NO → Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Insert wire A187P20 into 19TB4-4J.

Then go to paragraph 9-2.

NO

Insert wire A187P20 into 19TB4-4J.

Go to paragraph 9-33.

**9-13. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS SET TO STBY (CONTINUED).**

Remove splice joining wires A138A20, A138B20 and A138C20.

Check for continuity from 19A4P271-C to airframe ground.

Is continuity present?

YES → Repair wire A138A20 between 19A4P271-C and splice to eliminate short.

Replace splice joining wires A138A20, A138B20, and A138C20 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Check for continuity from 19A4P271-D to airframe ground.

Is continuity present?

YES → Repair wire A138B20 between 19A4P271-D and splice to eliminate short.

Replace splice joining wires A138A20, A138B20, and A138C20 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Check for continuity from 22A5P2-58 to airframe ground.

Is continuity present?

YES → Repair wire A138C20 between 22A5P2-58 and splice to eliminate short.

Replace splice joining wires A138A20, A138B20, and A138C20 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Replace splice joining wires A138A20, A138B20, and A138C20 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Repair wire A187P20 between 22A5P2-61 and 19TB4-4J to eliminate short.

Insert wire A187P20 into 19TB4-4J.

Then go to paragraph 9-2.

YES

YES

YES

Disconnect wire A220F20 from 19K31-B2.

Check for continuity from 22A5P2-59 to airframe ground.

Is continuity present?

YES

NO

Connect wire A220F20 to 19K31-B2.

Disconnect wire A220G20 from 19K31-B2.

Check for continuity from 22A5P2-56 to airframe ground.

Is continuity present?

YES

NO

Connect wire A220G20 to 19K31-B2.

Remove splice joining wires A220C20, A220D20, A220E20, and A220H20.

Check for continuity from 22A5P2-62 to airframe ground.

Is continuity present?

YES

NO

Check for continuity from 3A1J1-B to airframe ground.

Is continuity present?

YES

NO

Check for continuity from 3A1J1-C to airframe ground.

Is continuity present?

YES

NO

NO

**9-13. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS SET TO STBY (CONTINUED).**

YES → Repair wire A220F20 between 19K31-B2 and 22A5P2-59 to eliminate short.

Connect wire A220F20 to 19K31-B2.

Connect 22A5P2.

Then go to paragraph 9-2.

YES → Repair wire A220G20 between 19K31-B2 and 22A5P2-56 to eliminate short.

Connect wire A220G20 to 19K31-B2.

Connect 22A5P2.

Then go to paragraph 9-2.

YES → Repair wire A220H20 between 22A5P2-62 and splice to eliminate short.

Replace splice joining wires A220C20, A220D20, A220E20, and A220H20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P2.

Then go to paragraph 9-2.

YES → Repair wire A220C20 between 3A1J1-B and splice to eliminate short.

Replace splice joining wires A220C20, A220D20, A220E20, and A220H20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P2.

Then go to paragraph 9-2.

YES → Repair wire A220D20 between 3A1J1-C and splice to eliminate short.

Replace splice joining wires A220C20, A220D20, A220E20, and A220H20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P2.

Then go to paragraph 9-2.

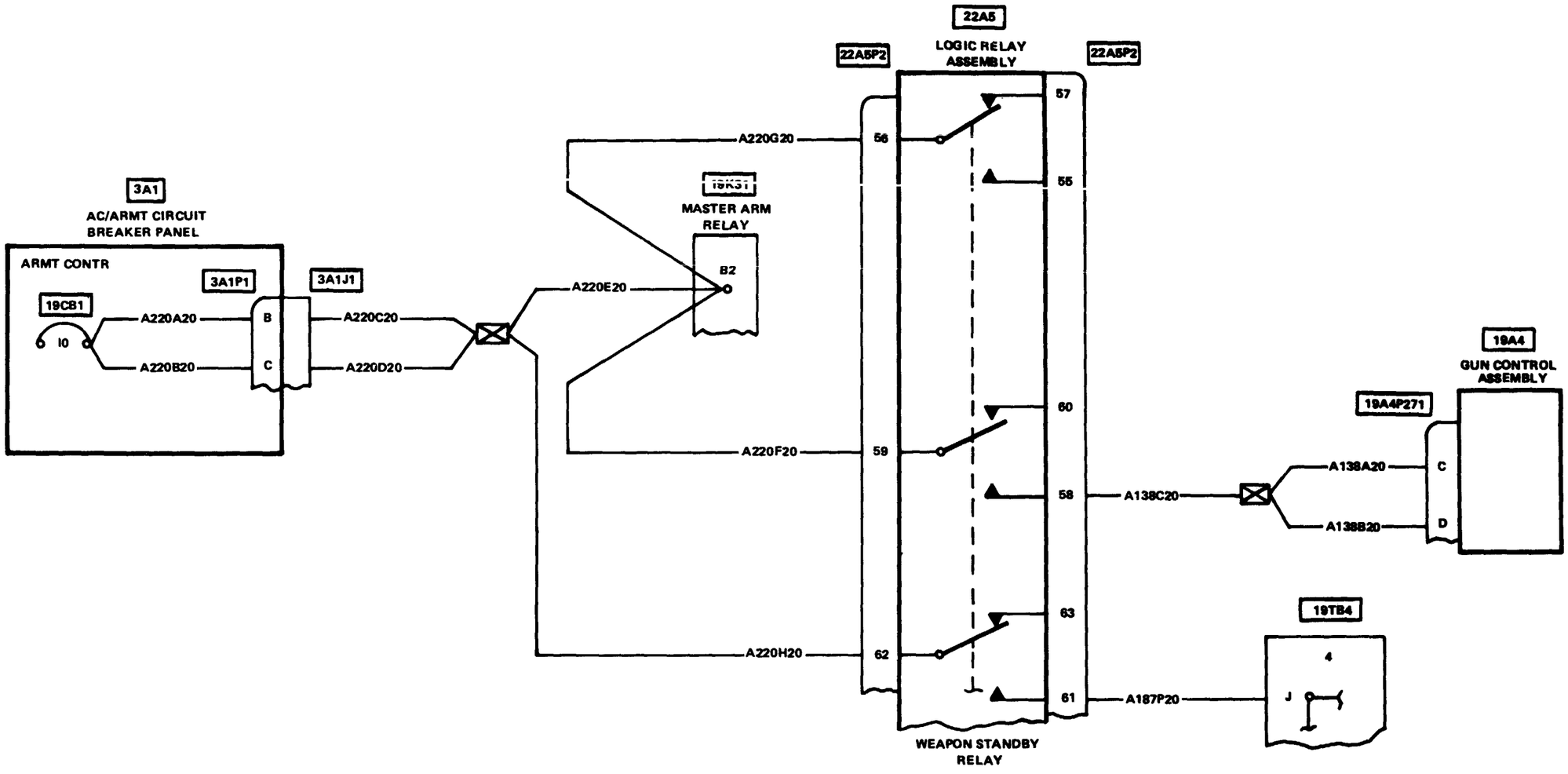
NO → Repair wire A220E20 between 19K31-B2 and splice to eliminate short.

Replace splice joining wires A220C20, A220D20, A220E20, and A220H20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P2.

Then go to paragraph 9-2.

9-13. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS SET TO STBY (CONTINUED).



## 9-14. SHORT ON 22A3P1-j.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

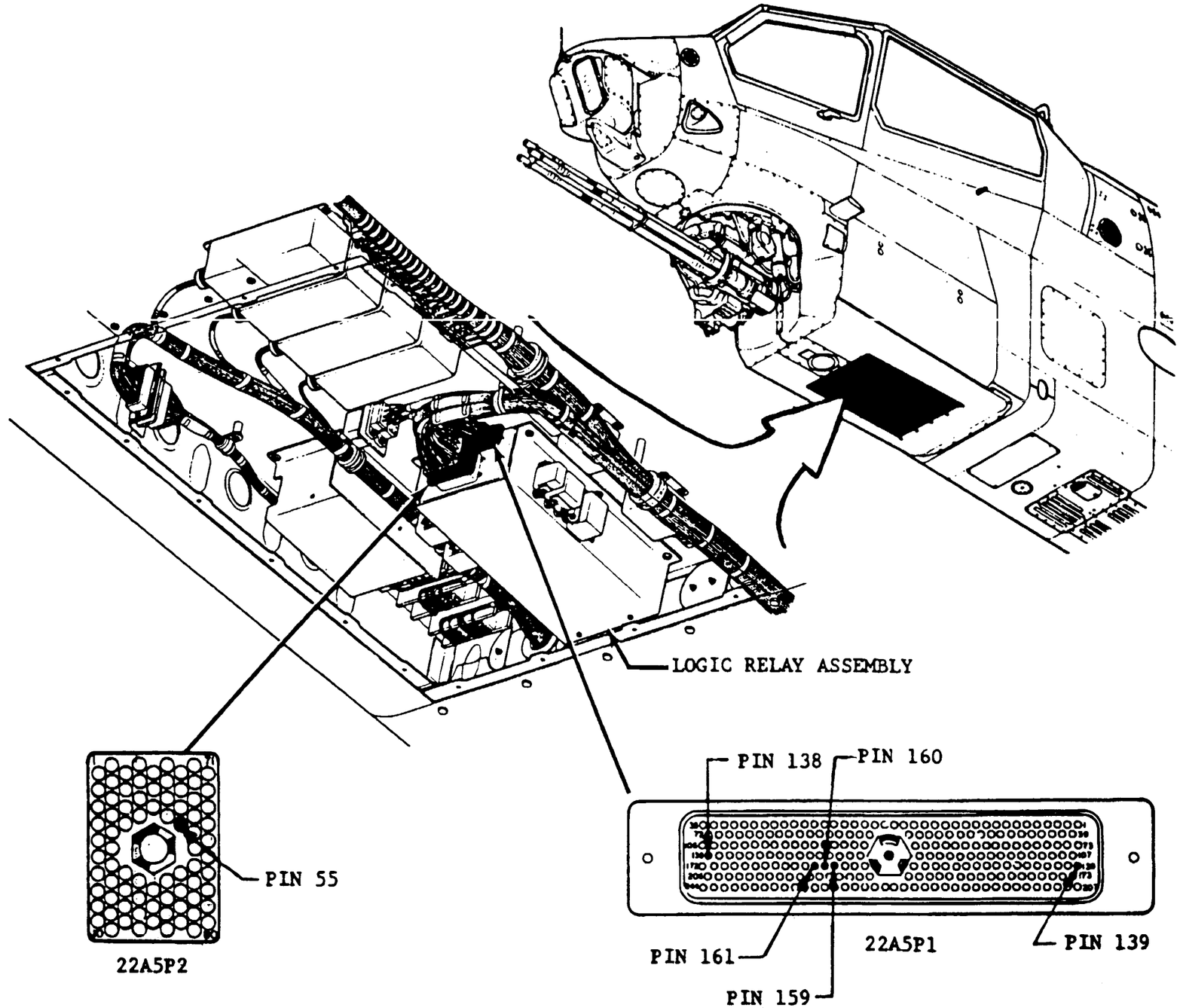
Tool Kit, A/C Electrician

Personal Required
68F (2)

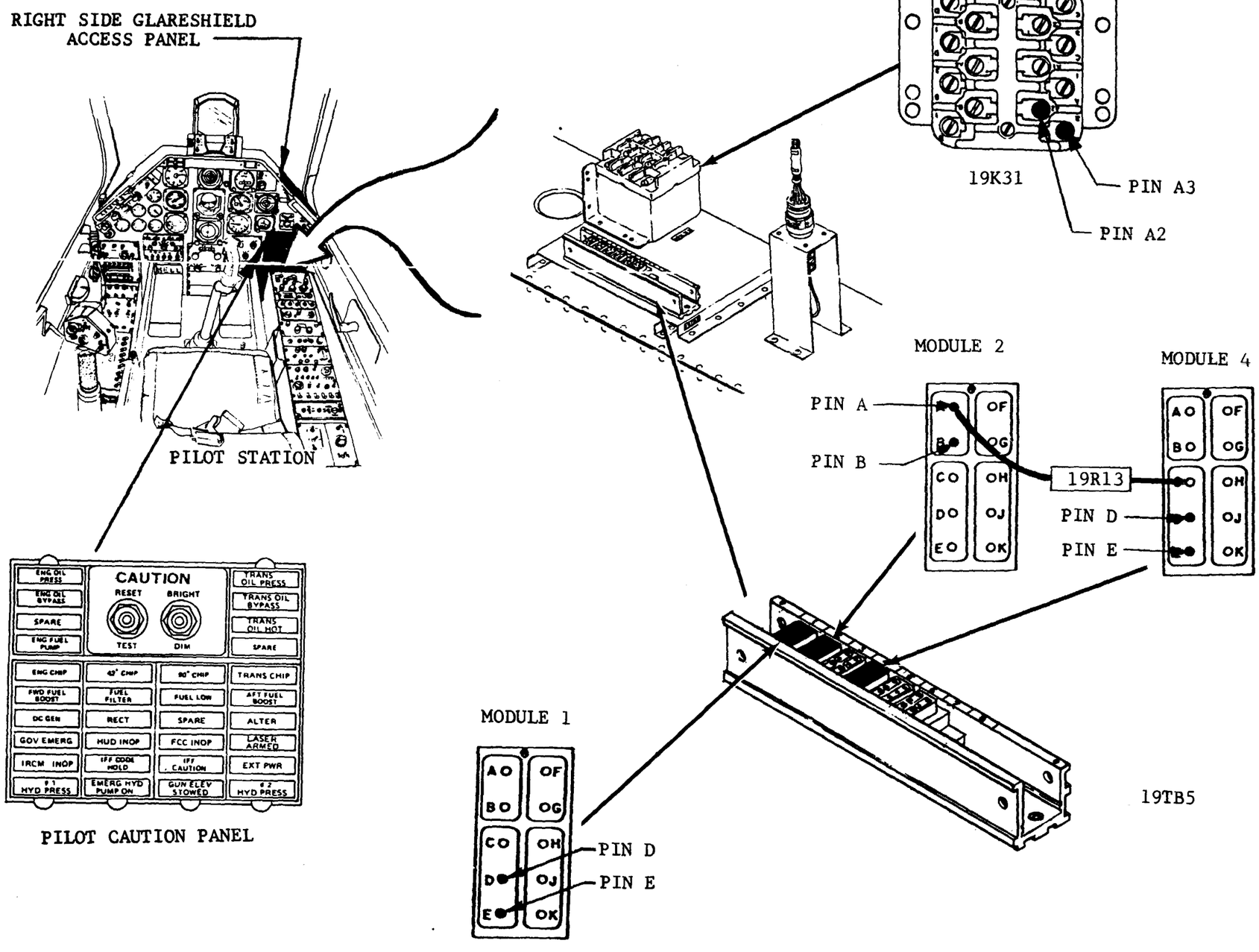
References
TM 9-1090-206-20-1
TM 9-1270-212-14

Access Panels
Forward Belly Armament and Lighting - Removed

Right Side Glareshield - Removed

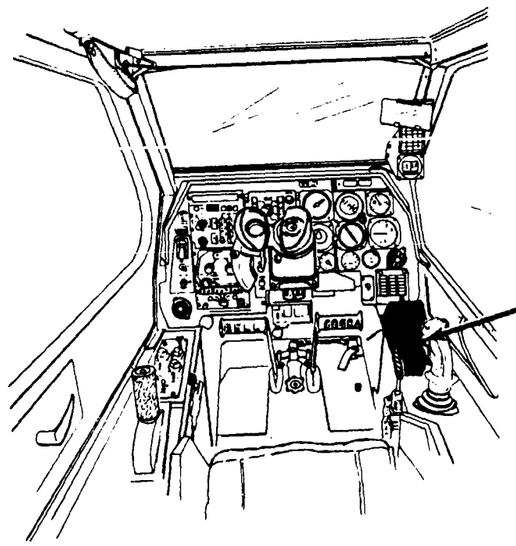


9-14. SHORT ON 22A3P1-j (CONTINUED).

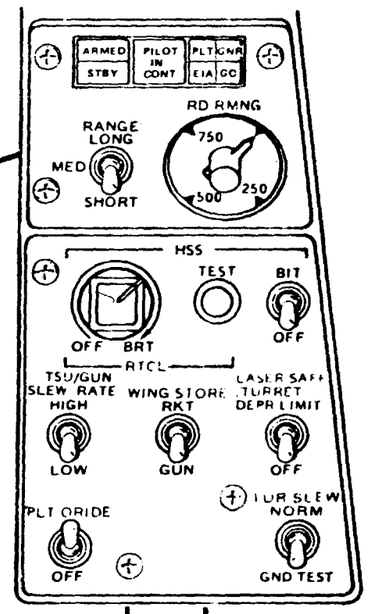



PILOT CAUTION PANEL

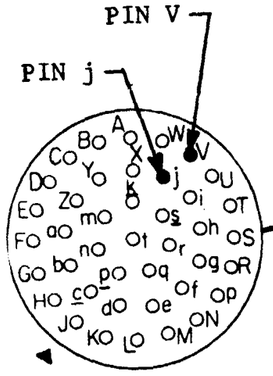
9-14. SHORT ON 22A3P1-j (CONTINUED).



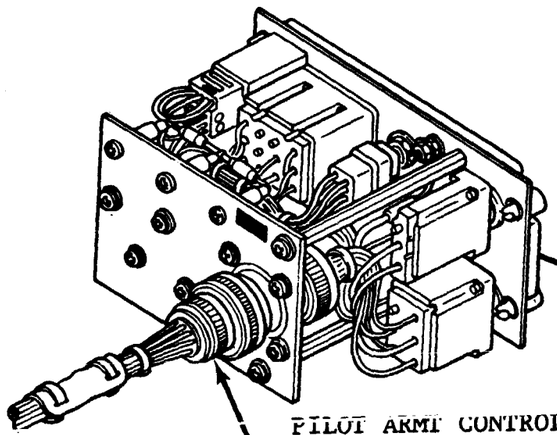
GUNNER STATION



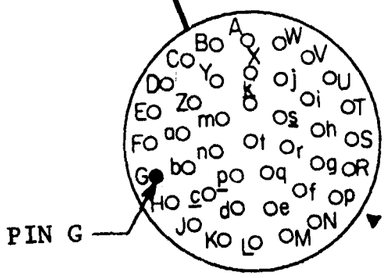

GUNNER ARMAMENT CONTROL PANEL



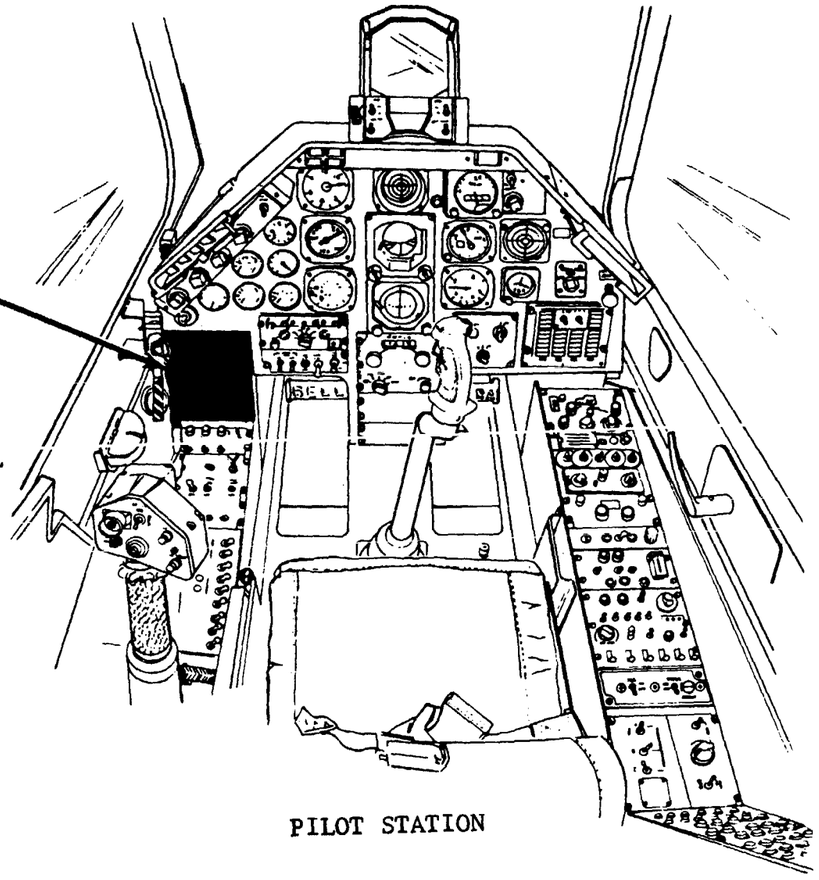

22A3P1



PILOT ARMT CONTROL PANEL (REAR VIEW)

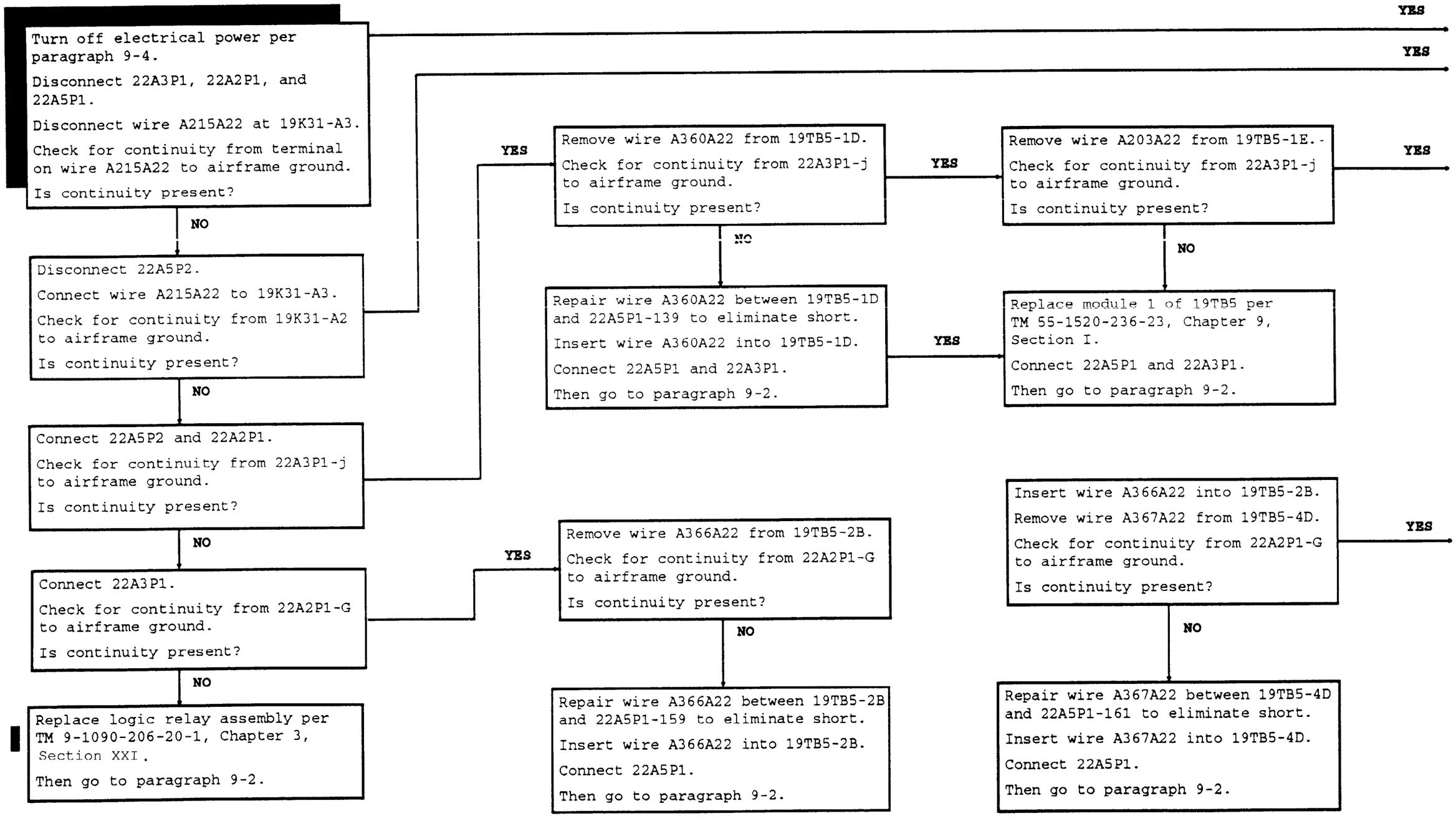



22A2P1



PILOT STATION

**9-14. SHORT ON 22A3P1-j (CONTINUED).**



9-14. SHORT ON 22A3P1-j (CONTINUED).

YES

YES

YES

Repair wire A203A22 between 19TB5-1E and 22A3P1-j to eliminate short.

Insert wire A203A22 into 19TB5-1E.

Connect 22A5P1 and 22A3P1.

Then go to paragraph 9-2.

YES

Remove wire A186C22 from 19K31-A2.

Check for continuity from terminal of wire A186C22 to airframe ground.

Is continuity present?

YES

NO

Replace master arm relay (19K31) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1, 22A3P1, 22A5P1, and 22A5P2.

Then go to paragraph 9-2.

YES

Insert wire A367A22 into 19TB5-4D.

Remove 19R13 from 19TB5-2A.

Check for continuity from 22A2P1-G to airframe ground.

Is continuity present?

YES

NO

Replace module 2 of 19TB5 per TM 55-1520-236-23, Chapter 9, Section I.

Insert 19R13 into 19TB5-2A.

Connect 22A5P1.

Then go to paragraph 9-2.

YES

Insert 19R13 into 19TB5-2A.

Remove wire A372A22 from 19TB5-4E.

Check for continuity from 22A2P1-G to airframe ground.

Is continuity present?

YES

NO

Replace module 4 of 19TB5 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1.

Then go to paragraph 9-2.

YES

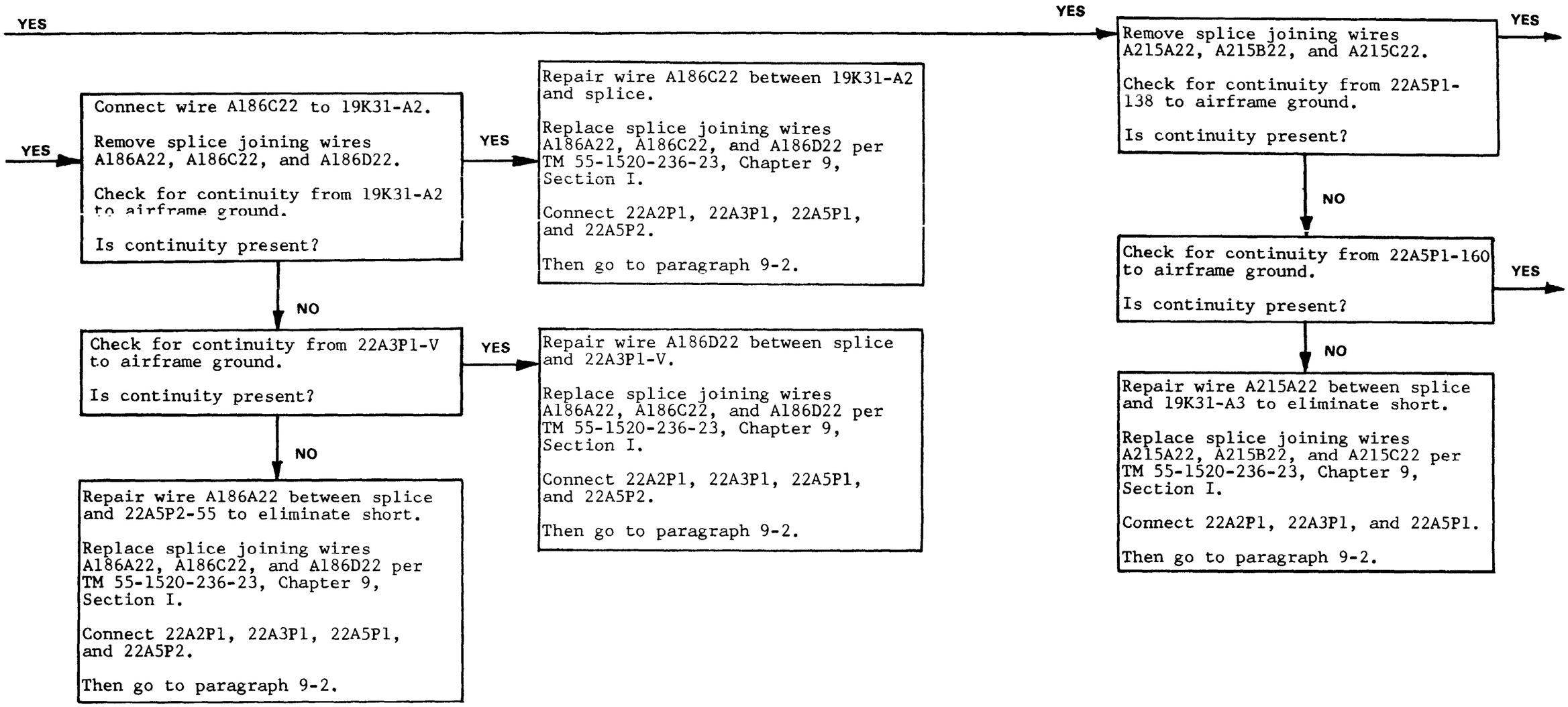
Repair wire A372A22 between 19TB5-4E and 22A2P1-G to eliminate short.

Insert wire A372A22 into 19TB5-4E.

Connect 22A5P1.

Then go to paragraph 9-2.

9-14. SHORT ON 22A3P1-j (CONTINUED).



9-14. SHORT ON 22A3P1-j (CONTINUED).

YES → Repair wire A215B22 between splice and 22A5P1-138.

Replace splice joining wires A215A22, A215B22, and A215C22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect wire A215A22 to 19K31-A3.

Connect 22A2P1, 22A3P1, and 22A5P1.

Then go to paragraph 9-2.

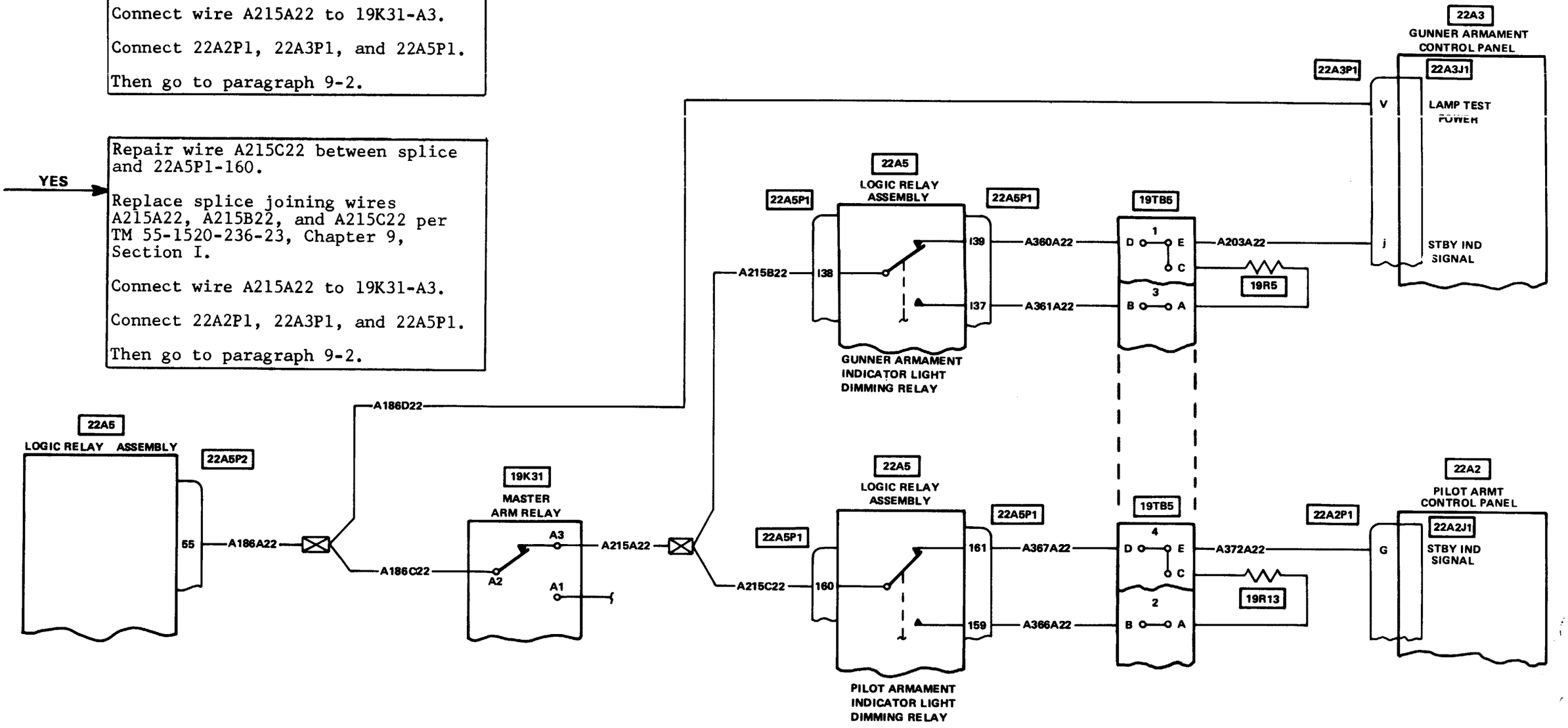
YES → Repair wire A215C22 between splice and 22A5P1-160.

Replace splice joining wires A215A22, A215B22, and A215C22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect wire A215A22 to 19K31-A3.

Connect 22A2P1, 22A3P1, and 22A5P1.

Then go to paragraph 9-2.



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## 9-15. WPN CONTR CIRCUIT BREAKER OPENS WITH MASTER ARM SWITCH SET TO STBY.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

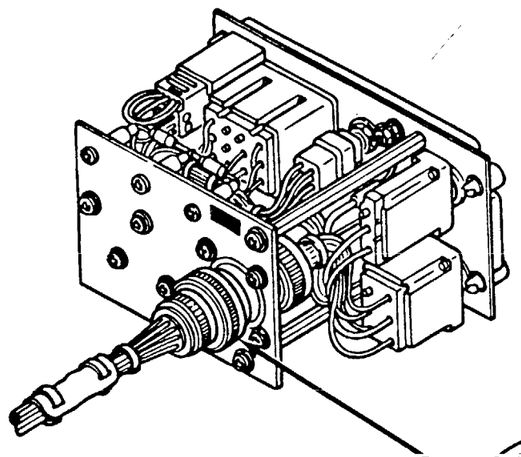
Tool Kit, A/C Electrician

Personnel Required
68F (2)

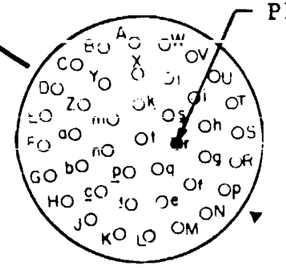
References
TM 9-1090-206-20-1
TM 9-1425-473-20
TM 55-1520-236-23

Access Panels
Battery Compartment - Removed.

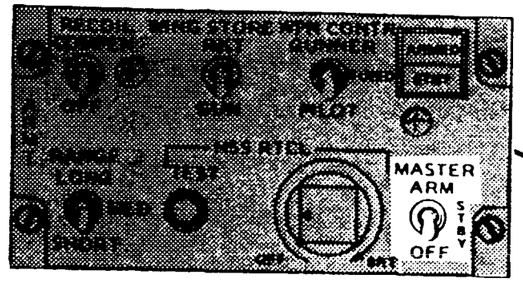
Forward Belly Armament and Lighting - Removed



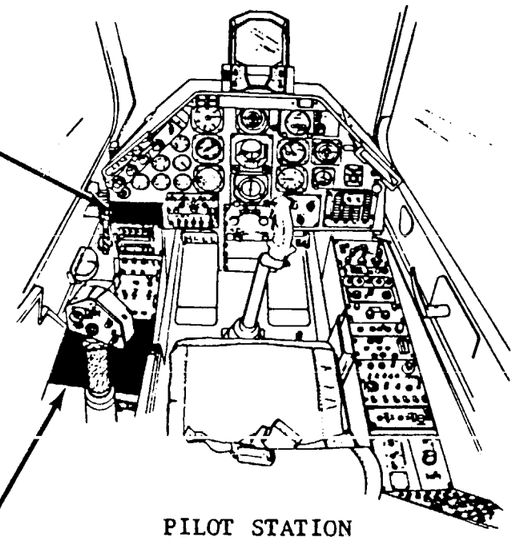
PILOT ARMT CONTROL PANEL (REAR VIEW)



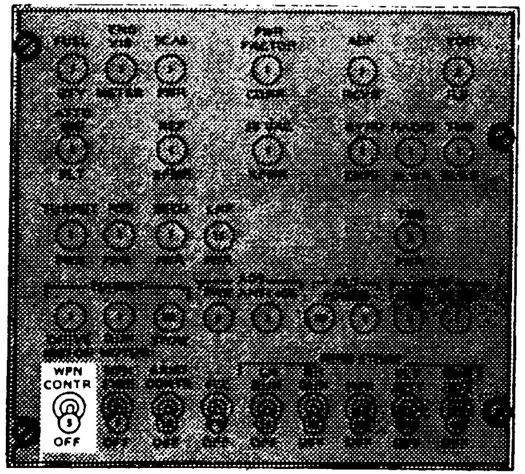

22A2P1



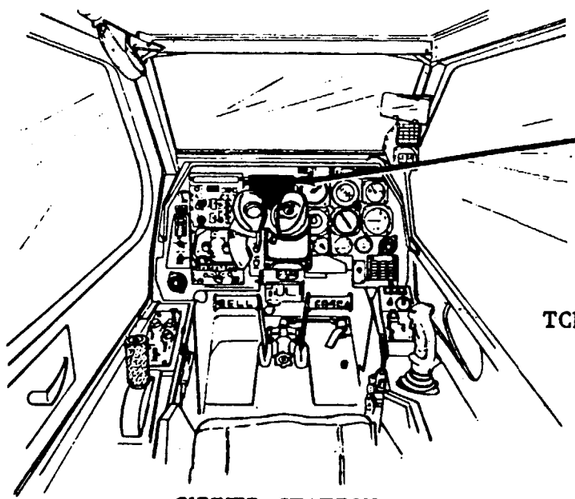

PILOT ARMT CONTROL PANEL



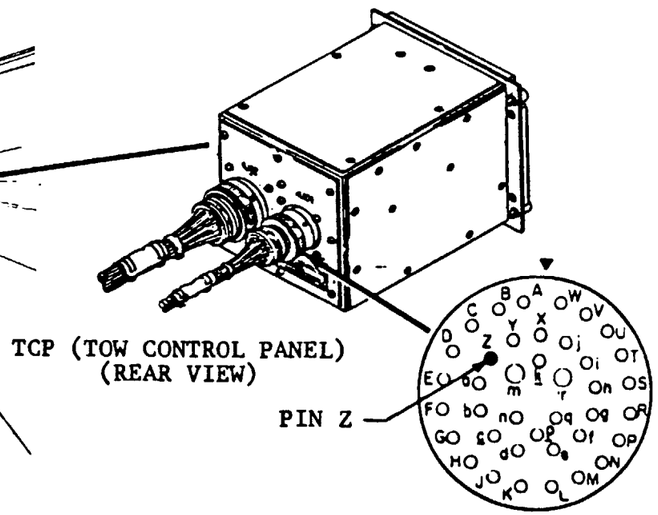
PILOT STATION




AC/ARMT CIRCUIT BREAKER PANEL



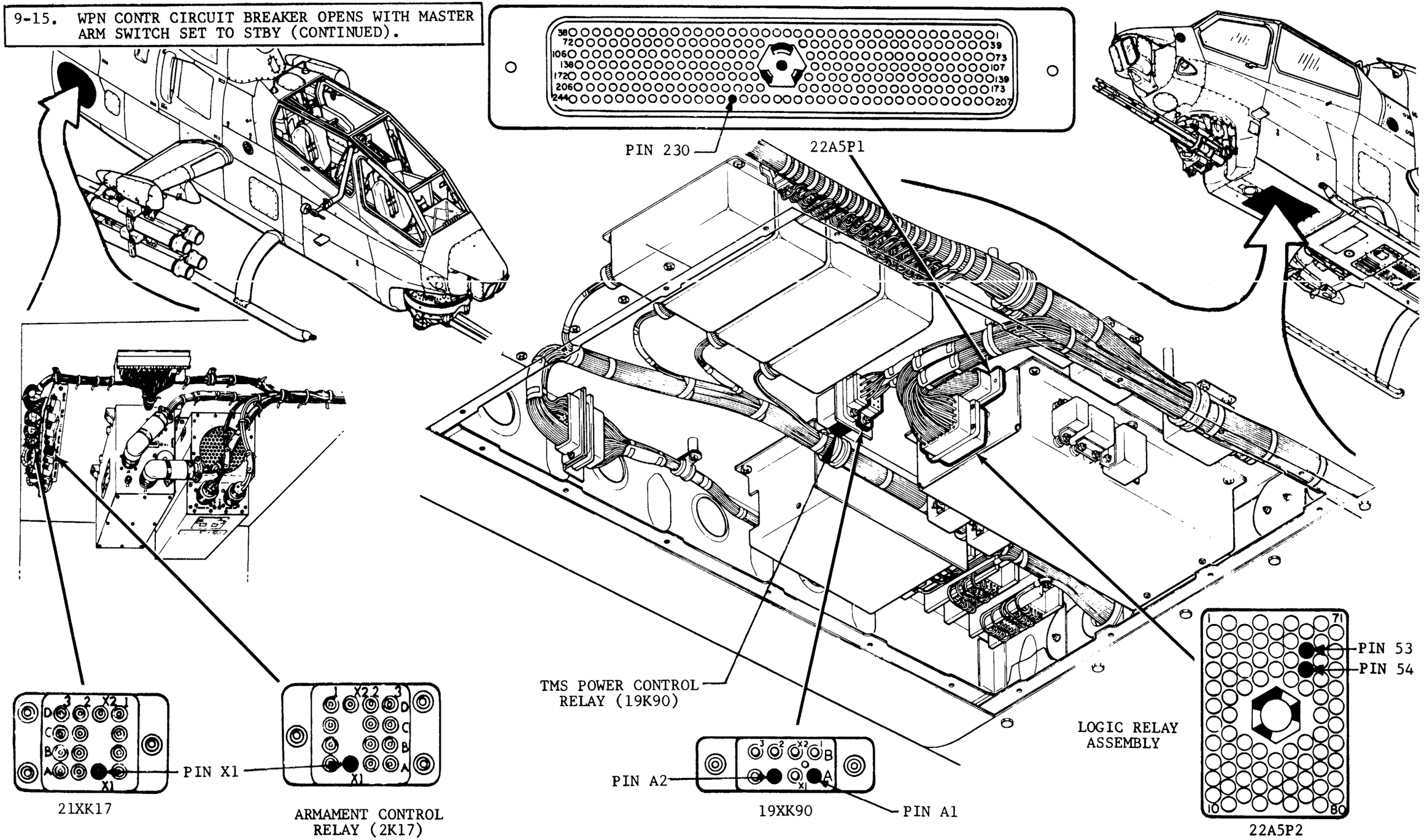
GUNNER STATION




TCP (TOW CONTROL PANEL) (REAR VIEW)

20A4P01

9-15. WPN CONTR CIRCUIT BREAKER OPENS WITH MASTER ARM SWITCH SET TO STBY (CONTINUED).



## 9-15. WPN CONTR CIRCUIT BREAKER OPENS WITH MASTER ARM SWITCH SET TO STBY (CONTINUED).

Turn off electrical power per paragraph 9-4.

On pilot ARMT control panel:

Set MASTER ARM switch to OFF.

Disconnect 22A5P1.

Remove armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK17-X1 to airframe ground.

Is continuity present?

YES → Disconnect 22A2P1.

Check for continuity from 2XK17-X1 to airframe ground.

Is continuity present?

YES → Check for continuity from 22A5P2-53 to airframe ground.

Is continuity present?

YES →

NO → Install armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 22A5P2-54 to airframe ground.

Is continuity present?

YES →

NO → Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Connect 22A2P1.

Then go to paragraph 9-2.

NO → Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Connect 22A5P1.

Install Armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Check for continuity from 2K17-X1 to relay case.

Is continuity present?

YES → Replace armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1.

Then go to paragraph 9-2.

NO → Install armament control relay (2K17) per TM-55-1520-236-23, Chapter 9, Section I.

Remove TMS power control relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 19XK90-A1 to airframe ground.

Is continuity present?

YES → Disconnect 20A4P01.

Check for continuity from 19XK90-A1 to airframe ground.

Is continuity present?

YES →

NO → Replace TCP (TOW control panel) per TM 9-1425-473-20, Chapter 2, Section V.

Install TMS power control relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1 and 20A4P01.

Then go to paragraph 9-2.

NO → Connect 22A5P1.

Turn on electrical power per paragraph 9-4.

On AC/ARMT circuit breaker panel:

Close WPN CONTR circuit breaker.

Does WPN CONTR circuit breaker open?

YES → Turn off electrical power per paragraph 9-4.

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Install TMS power control relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Turn off electrical power per paragraph 9-4.

Replace TMS power control relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

9-15. WPN CONTR CIRCUIT BREAKER OPENS WITH MASTER ARM SWITCH SET TO STBY (CONTINUED).

YES

Remove TMS power control relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 22A5P2-54 to airframe ground.

Is continuity present?

YES

Repair wire A820A22 between 22A5P2-54 and 19XK90-A2 to eliminate short.

Connect 22A5P1 and 22A2P1.

Install TMS power control relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Replace TMS power control relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1 and 22A5P1.

Then go to paragraph 9-2.

YES

Repair wire TG236A22 between 19XK90-A1 and 20A4P01-Z to eliminate short.

Install TMS power control relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1 and 20A4P01.

Then go to paragraph 9-2.

YES

Remove splice joining wires A480B22, A480C22, and A480E22.

Check for continuity from 2XK17-X1 to airframe ground.

Is continuity present?

YES

NO

Install armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 22A2P1-r to airframe ground.

Is continuity present?

YES

NO

Replace splice joining wires A480B22, A480C22, and A480E22 per TM 55-1520-236-23, Chapter 9, Section I.

Remove splice joining wires A480C22, A480D22, and A480F22.

Check for continuity from 22A5P1-230 to airframe ground.

Is continuity present?

YES

NO

Check for continuity from 22A5P2-53 to airframe ground.

Is continuity present?

YES

NO

Repair wire A480C22 between splice with wires A480B22 and A480E22 and splice with wires A480D22 and A480F22 to eliminate short.

Replace splice joining wires A480C22, A480D22, and A480F22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1 and 22A2P1.

Then go to paragraph 9-2.

## 9-15. WPN CONTR CIRCUIT BREAKER OPENS WITH MASTER ARM SWITCH SET TO STBY (CONTINUED).

YES → Repair wire A480E22 between 2XK17-X1 and splice.

Install armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Replace splice joining wires A480B22, A480C22, and A480E22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1 and 22A2P1.

Then go to paragraph 9-2.

YES → Repair wire A480B22 between 22A2P1-r and splice to eliminate short.

Replace splice joining wires A480B22, A480C22 and A480E22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1 and 22A2P1.

Then go to paragraph 9-2.

YES → Repair wire A480F22 between 22A5P1-230 and splice to eliminate short.

Replace splice joining wires A480C22, A480D22, and A480F22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1 and 22A2P1.

Then go to paragraph 9-2.

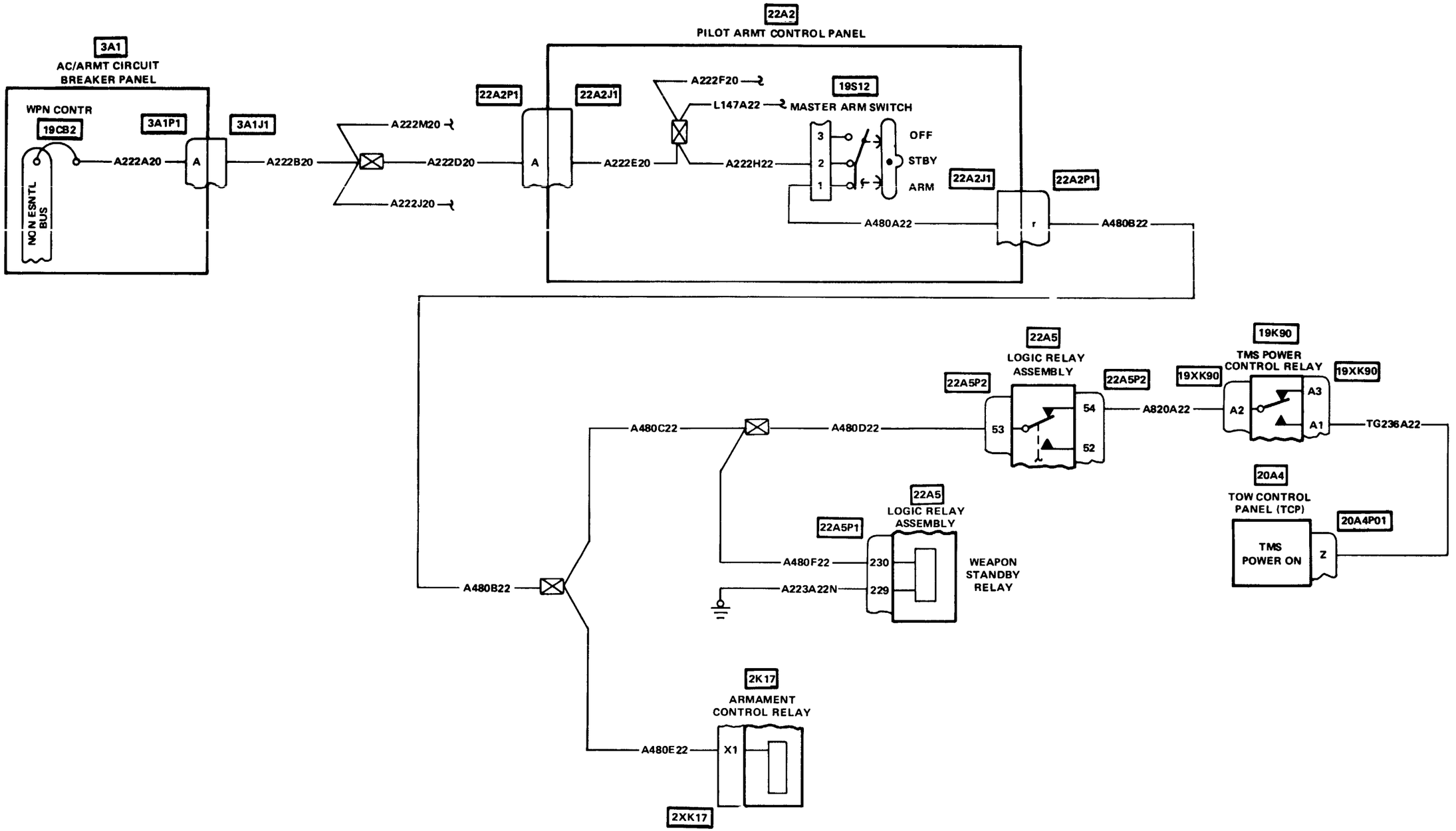
YES → Repair wire A480D22 between 22A5P2-53 and splice to eliminate short.

Replace splice joining wires A480C22, A480D22, and A480F22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1 and 22A2P1.

Then go to paragraph 9-2.

9-15. WPN CONTR CIRCUIT BREAKER OPENS WITH MASTER ARM SWITCH SET TO STBY (CONTINUED).



**9-16. PILOT STBY (GREEN) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY.**

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C
Electrician

Personnel Required
68F (2)

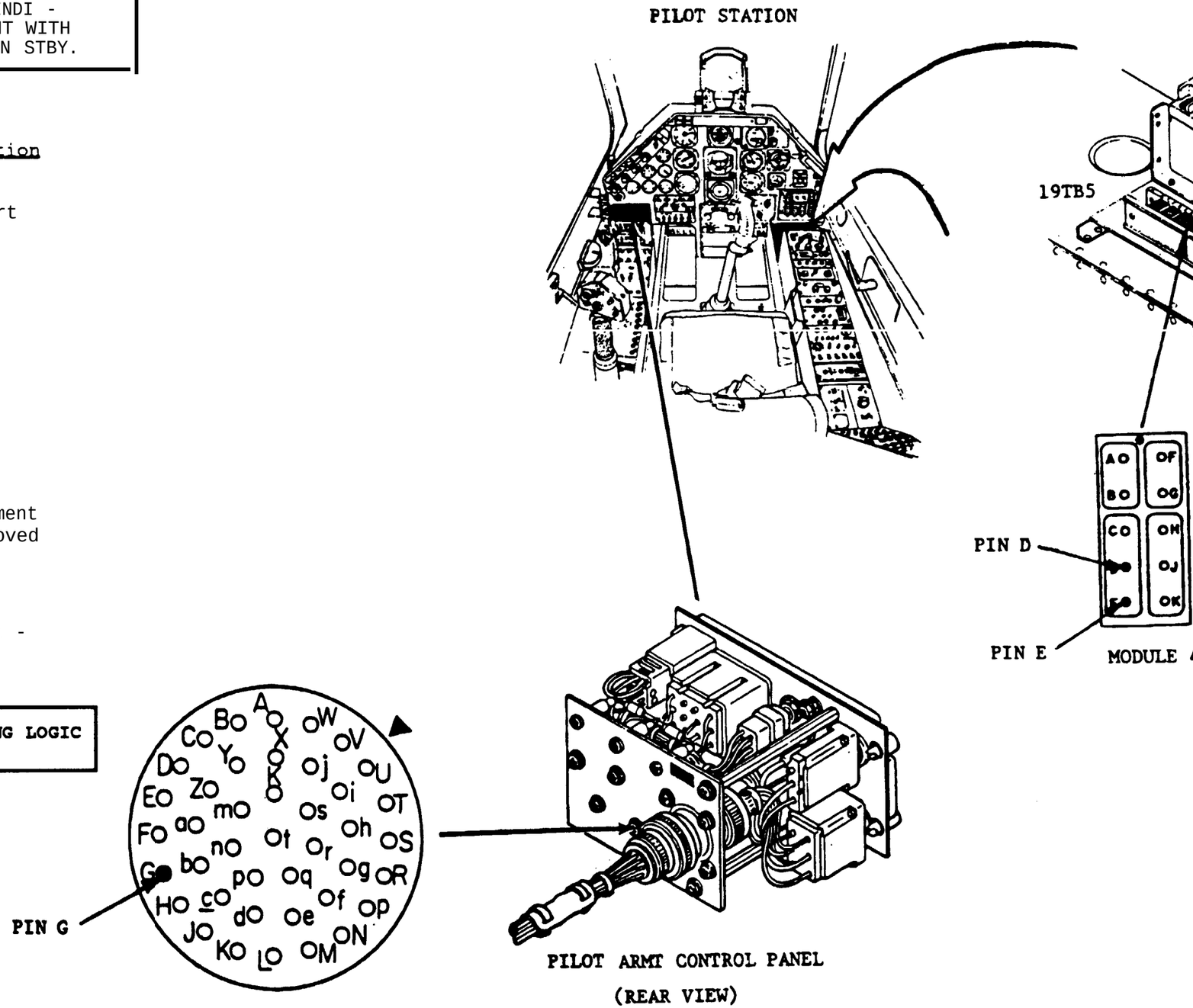
References
TM 9-1090-206-20-1
TM 55-1520-236-23

Access Panels
Forward Belly Armament and Lighting - Removed

Left Side Control Linkage - Removed

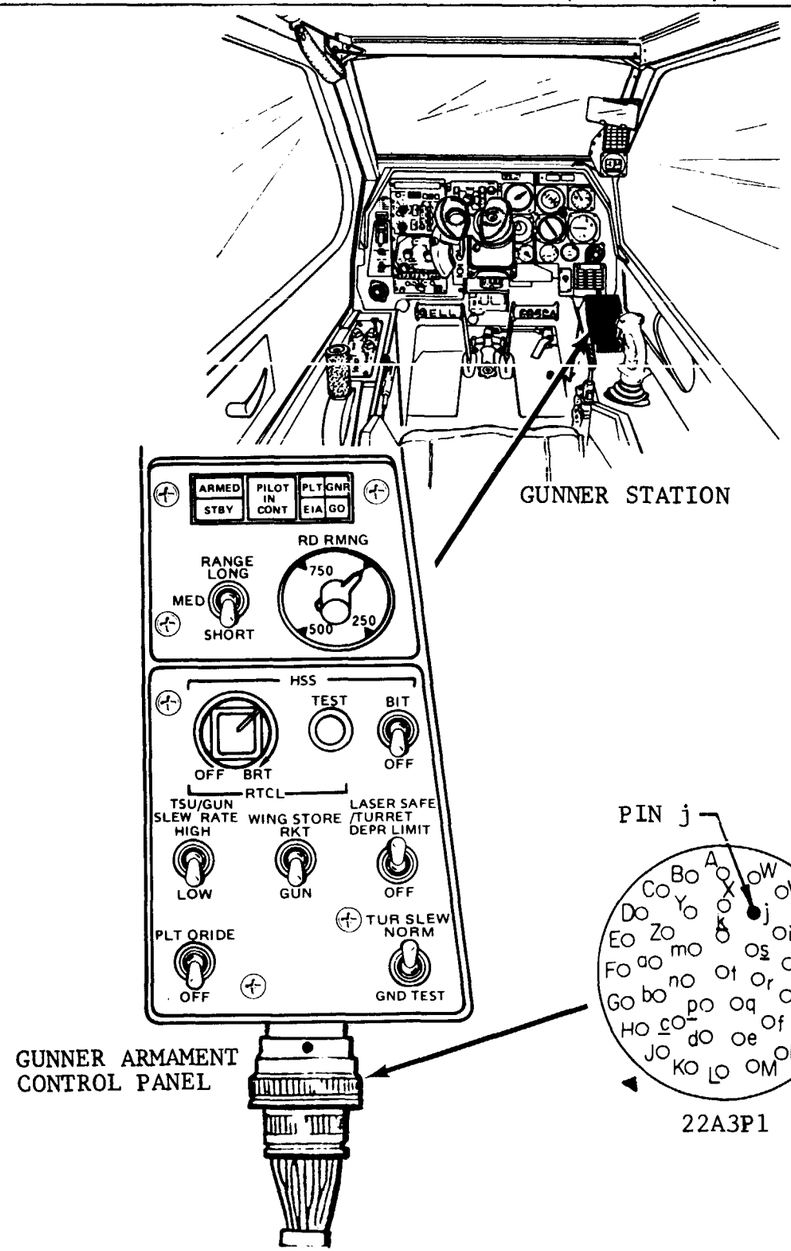
Battery Compartment - Removed

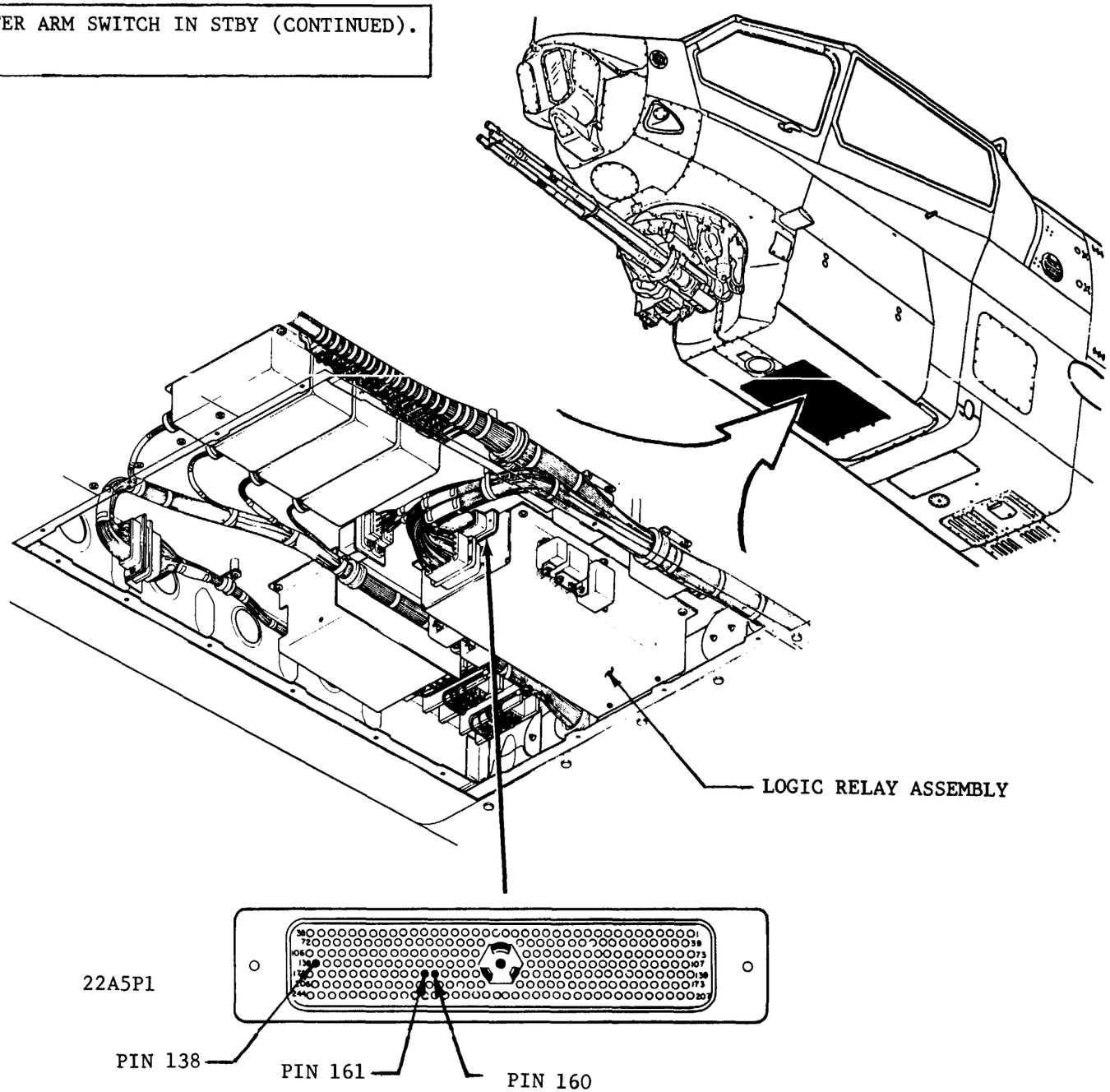
**A. TROUBLESHOOTING LOGIC PART ONE.**



9-16. PILOT STBY (GREEN) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



**9-16. PILOT STBY (GREEN) INDICATOR WILL NOT LIGHT WHEN MASTER ARM SWITCH IS SET TO STBY (CONTINUED).**

**A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).**

Turn off electrical power per paragraph 9-4.

Disconnect 22A2P1.

Disconnect 22A3P1.

Check for continuity from 22A3P1-j to airframe ground.

Is continuity present?

**YES** → Go to paragraph 9-14.

**NO**

Connect 22A2P1.

Connect 22A3P1.

Turn on electrical power per paragraph 9-4.

On gunner armament control panel:

Is STBY indicator lit?

**YES** → Check for 28 V dc at 19TB5-4D.

Is 28 V dc present?

**YES** → Check for 28 V dc at 19TB5-4E.

Is 28 V dc present?

**YES**

**NO**

Turn off electrical power per paragraph 9-4.

Replace module 4 of 19TB5 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

**NO**

Turn off electrical power per paragraph 9-4.

Check for continuity from 22A5P1-160 to 22A5P1-138.

Is continuity present?

**YES** → Check for continuity from 22A5P1-161 to 19TB5-4D.

Is continuity present?

**YES** → Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Then go to paragraph 9-2.

**NO**

Repair wire A367A22 between 22A5P1-161 and 19TB5-4D.

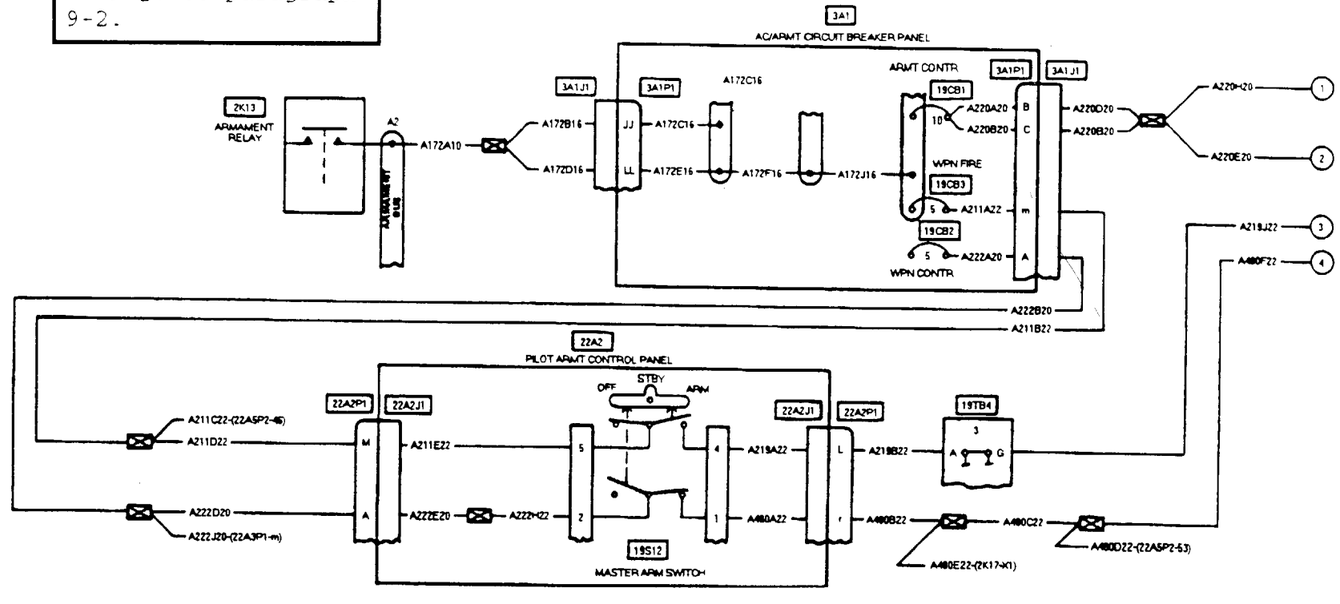
Then go to paragraph 9-2.

**NO**

Repair wire A215C22 between 22A5P1-160 and splice.

Then go to paragraph 9-2.

Go to Troubleshooting Logic Part Two (sub-paragraph B).



**9-16. PILOT STBY (GREEN) INDICATOR WILL NOT LIGHT WHEN MASTER ARM SWITCH IS SET TO STBY (CONTINUED).**
**A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).**

**YES**

Turn off electrical power per paragraph 9-4.

Check for continuity from 19TB5-4E to 22A2P1-G.

Is continuity present?

**YES**

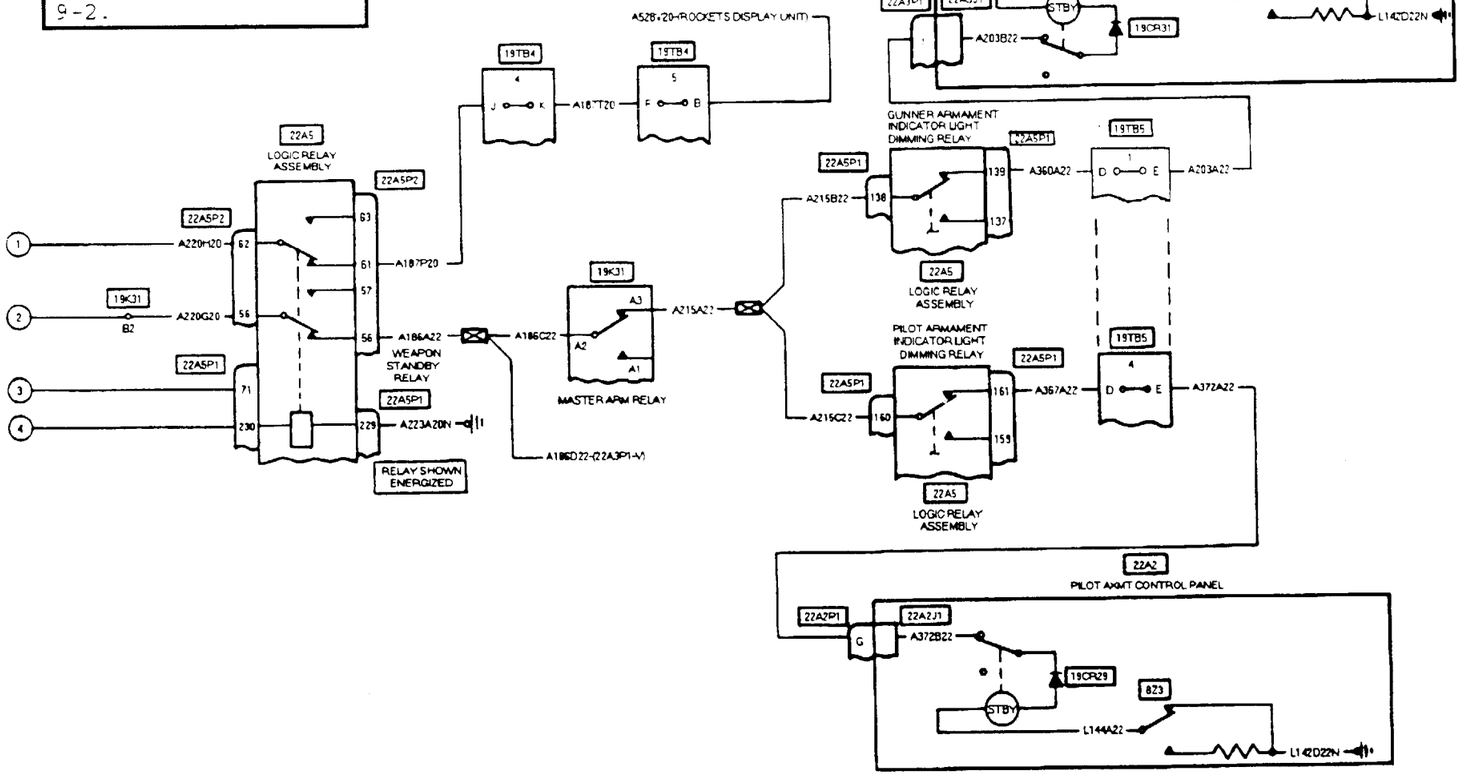
Replace pilot ARMT control panel per TM 9-1090-206-20-1 Chapter 3, Section XVIII.

Then go to paragraph 9-2.

**NO**

Repair wire A372A22 between 19TB5-4E and 22A2P1-G.

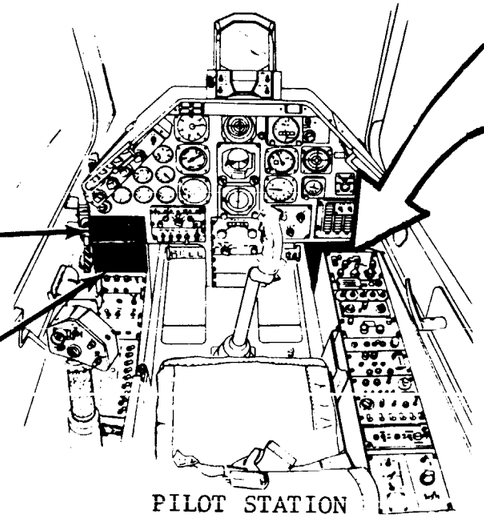
Then go to paragraph 9-2.



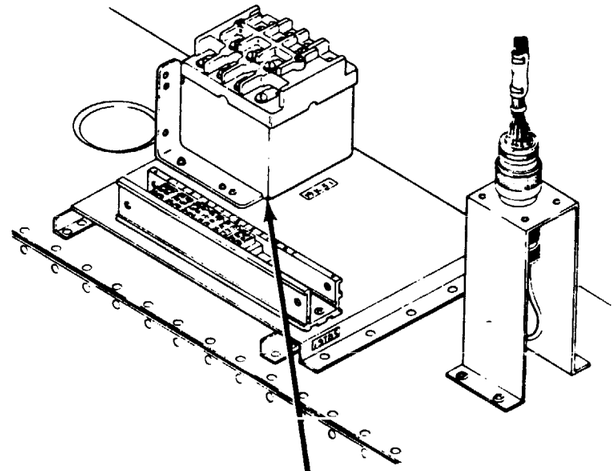
| 9-16. PILOT STBY (GREEN) INDICATOR WILL NOT LIGHT WHEN MASTER ARM SWITCH IS SET TO STBY (CONTINUED). |
|---|
| B. TROUBLESHOOTING LOGIC PART TWO. |

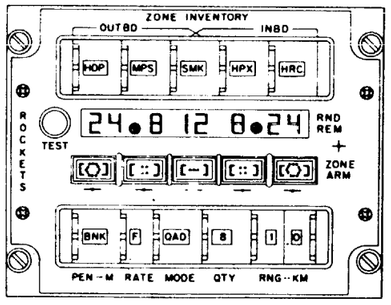



PILOT ARMT CONTROL PANEL

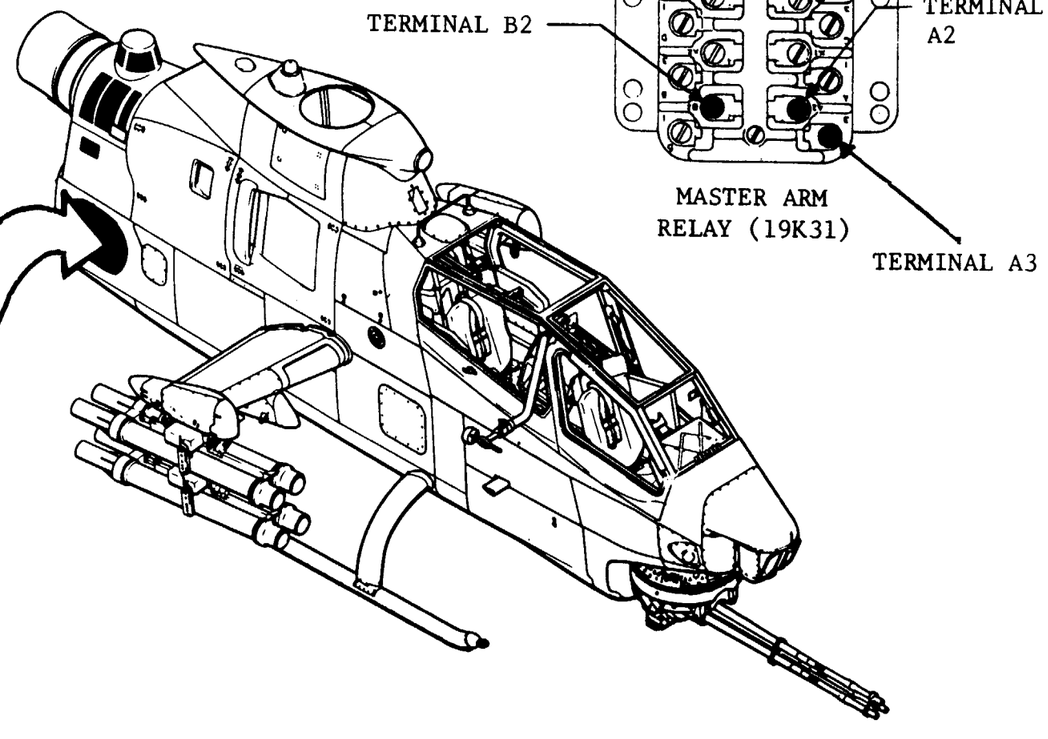


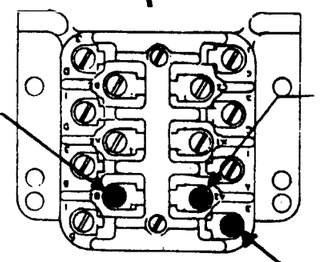
PILOT STATION






ROCKETS DISPLAY UNIT





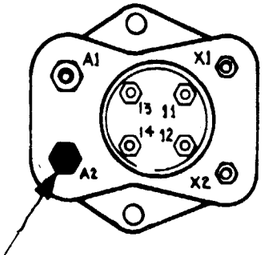
TERMINAL B2

TERMINAL A2

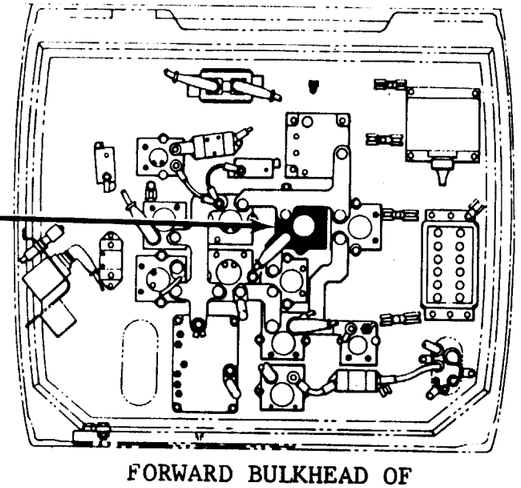
MASTER ARM RELAY (19K31)

TERMINAL A3

ARMAMENT RELAY (2K13)



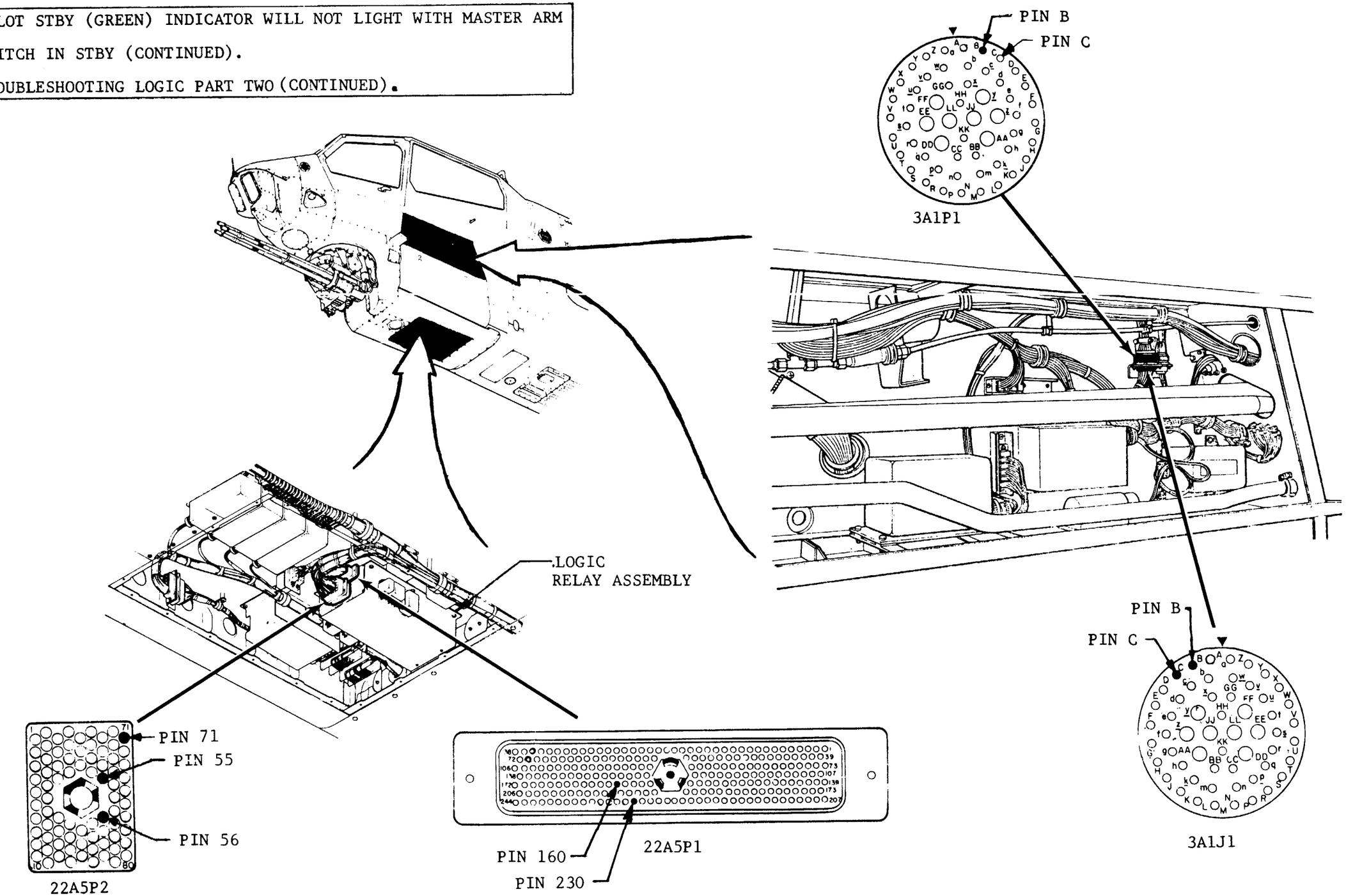

TERMINAL A2



FORWARD BULKHEAD OF BATTERY COMPARTMENT

9-16. PILOT STBY (GREEN) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



9-16. PILOT STBY (GREEN) INDICATION WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

On ROCKETS display unit:

Is display unit lit?

YES

NO

Check for 28 V dc at 2K13-A2 (armament relay).

Is 28 V dc present?

YES

NO

Go to paragraph 9-20.

Turn off electrical power per paragraph 9-4.

Disconnect 22A5P2.

Turn on electrical power per paragraph 9-4.

On pilot ARMT control panel:

Set MASTER ARM switch to MASTER ARM.

Check for 28 V dc at 22A5P2-71.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 9-4.

Connect 22A5P2.

Turn on electrical power per paragraph 9-4.

On pilot ARMT control panel:

Set MASTER ARM switch to STBY.

Then go to paragraph 9-18.

Turn off electrical power per paragraph 9-4.

Disconnect 22A5P1.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 22A5P1-230.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 9-4.

Repair wires A480C22 and A480F22 between splices and 22A5P1-230.

Connect 22A5P2 and 22A5P1.

Then go to paragraph 9-2.

Turn off electrical power per paragraph 9-4.

Disconnect 22A5P2.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 22A5P2-56.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 9-4.

Connect 22A5P2 and 22A5P1.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 19K31-B2.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 9-4.

Check for continuity from 3A1P1-B to 3A1P1-C.

Is continuity present?

YES

NO

Repair wires A220A20 and A220B20 between 3A1P1-B and 3A1P1-C and ARMT CONTR circuit breaker.

Then go to paragraph 9-2.

Turn off electrical power per paragraph 9-4.

Repair wire A220G20 between 19K31-B2 and 22A5P2-56.

Then go to paragraph 9-2.

Check for continuity from 3A1J1-B to 3A1J1-C.

Is continuity present?

YES

NO

Repair wires A220C20 and A220D20 between 3A1J1-B and 3A1J1-C and splice.

Then go to paragraph 9-2.

**9-16. PILOT STBY (GREEN INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY (CONTINUED).**
**B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).**

YES → Turn off electrical power per paragraph 9-4.
Connect 22A5P2 and 22A5P1.
Turn on electrical power per paragraph 9-4.
Check for 28 V dc at 19K31-A2.
Is voltage present?

YES → Turn off electrical power per paragraph 9-4.
Check for continuity from 19K31-A3 to 22A5P1-160.
Is continuity present?

YES → Replace master arm relay (19K31) per TM 55-1520-236-23, Chapter 9, Section I.
then go to paragraph 9-2.

NO → Repair wire A215A22 between 19K31-A3 and splice.
Then go to paragraph 9-2.

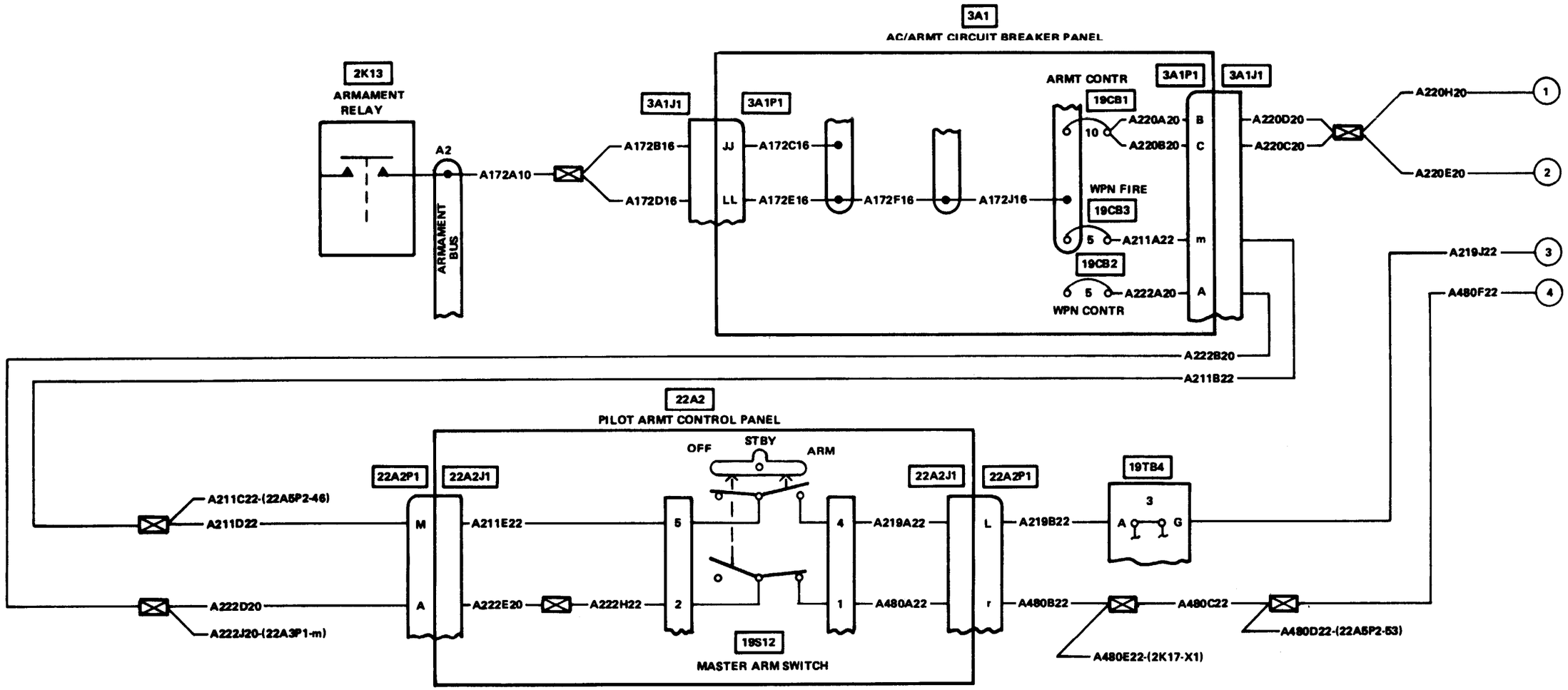
NO → Turn off electrical power per paragraph 9-4.
Check for continuity from 22A5P2-55 to 19K31-A2.
Is continuity present?

YES → Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.
Then go to paragraph 9-2.

NO → Repair wires A186A22 and A186C22 between 22A5P2-55 and 19K31-A2.
Then go to paragraph 9-2.

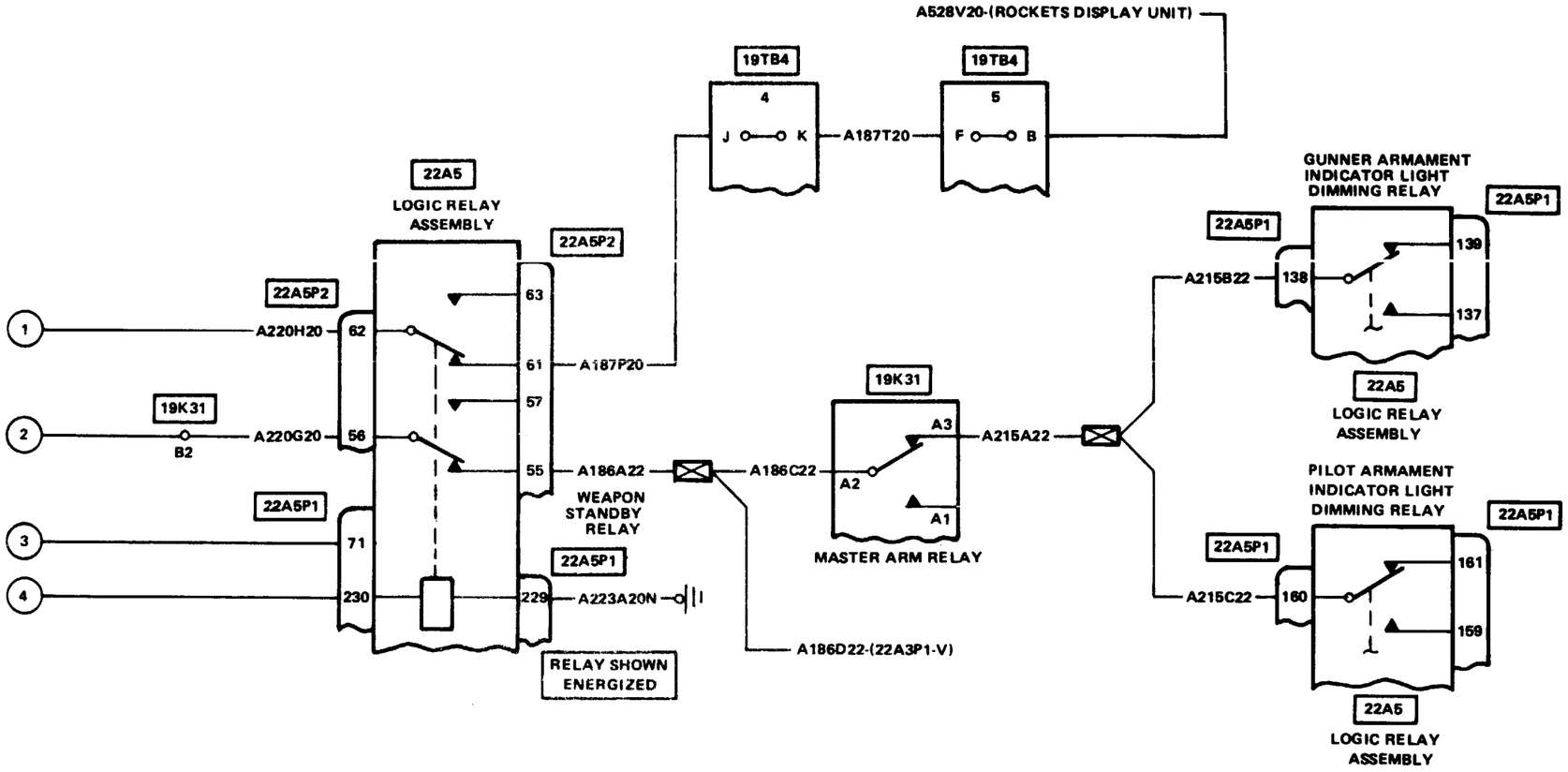
YES → Repair wire A220E20 between 19K31-B2 and splice.
Then go to paragraph 9-2.

| 9-16. PILOT STBY (GREEN) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY (CONTINUED). |
|---|
| B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED). |



9-16. PILOT STBY (GREEN) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



**9-17. GUNNER STBY (GREEN) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY.**

INITIAL SETUP

Applicable Configuration
All

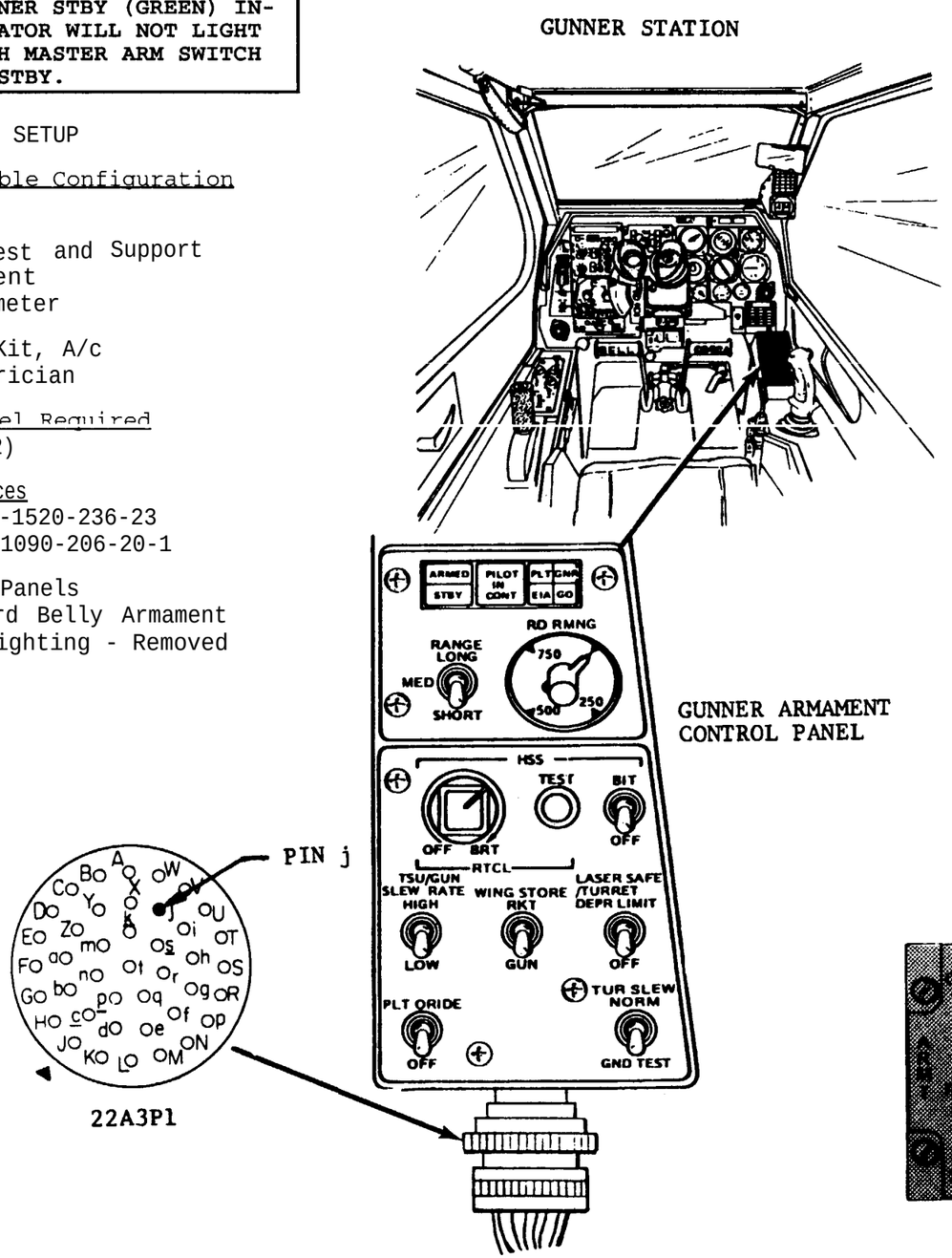
Tools/Test and Support Equipment
Multimeter

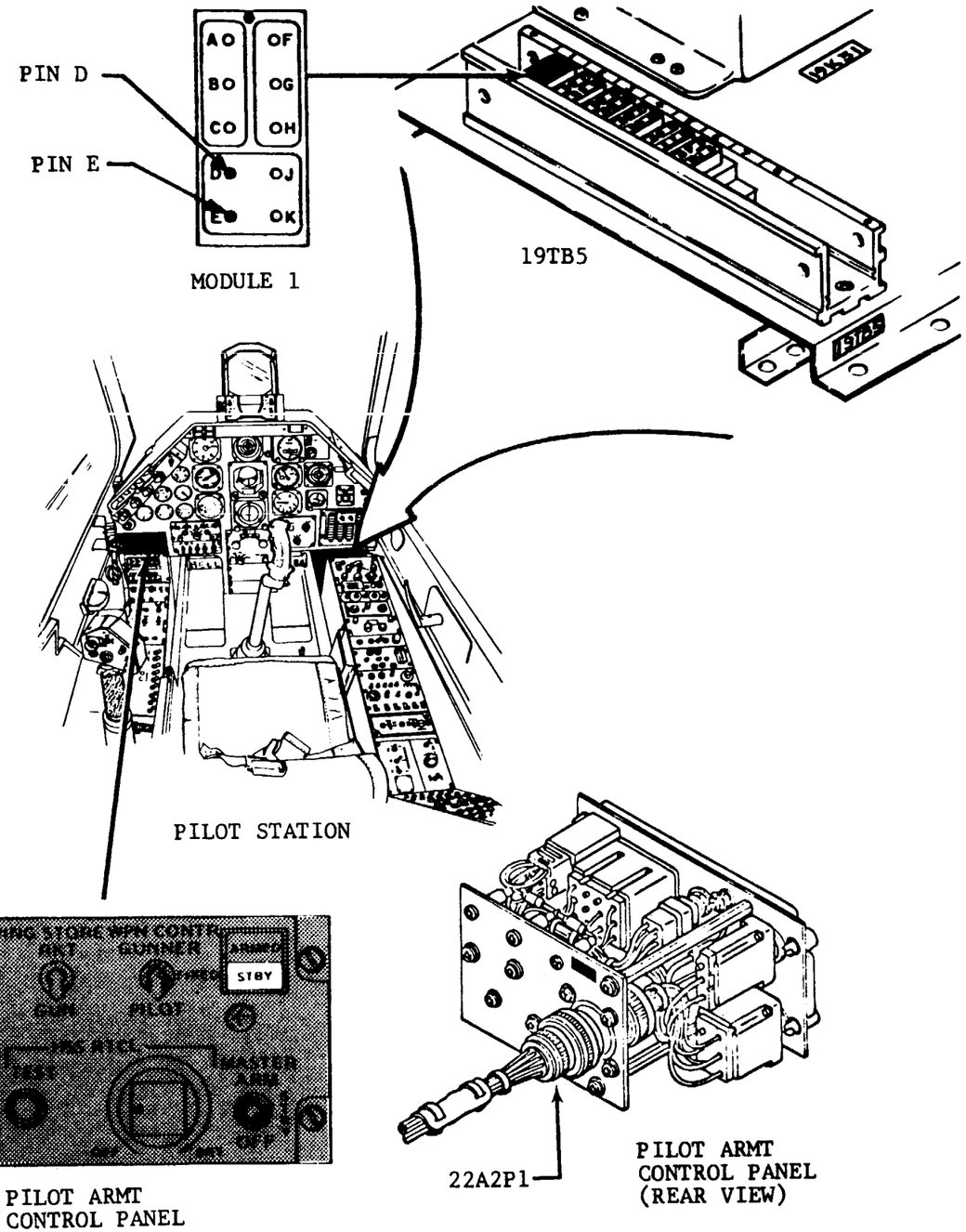
Tool Kit, A/c
Electrician

Personnel Required
68F (2)

References
TM 55-1520-236-23
TM 9-1090-206-20-1

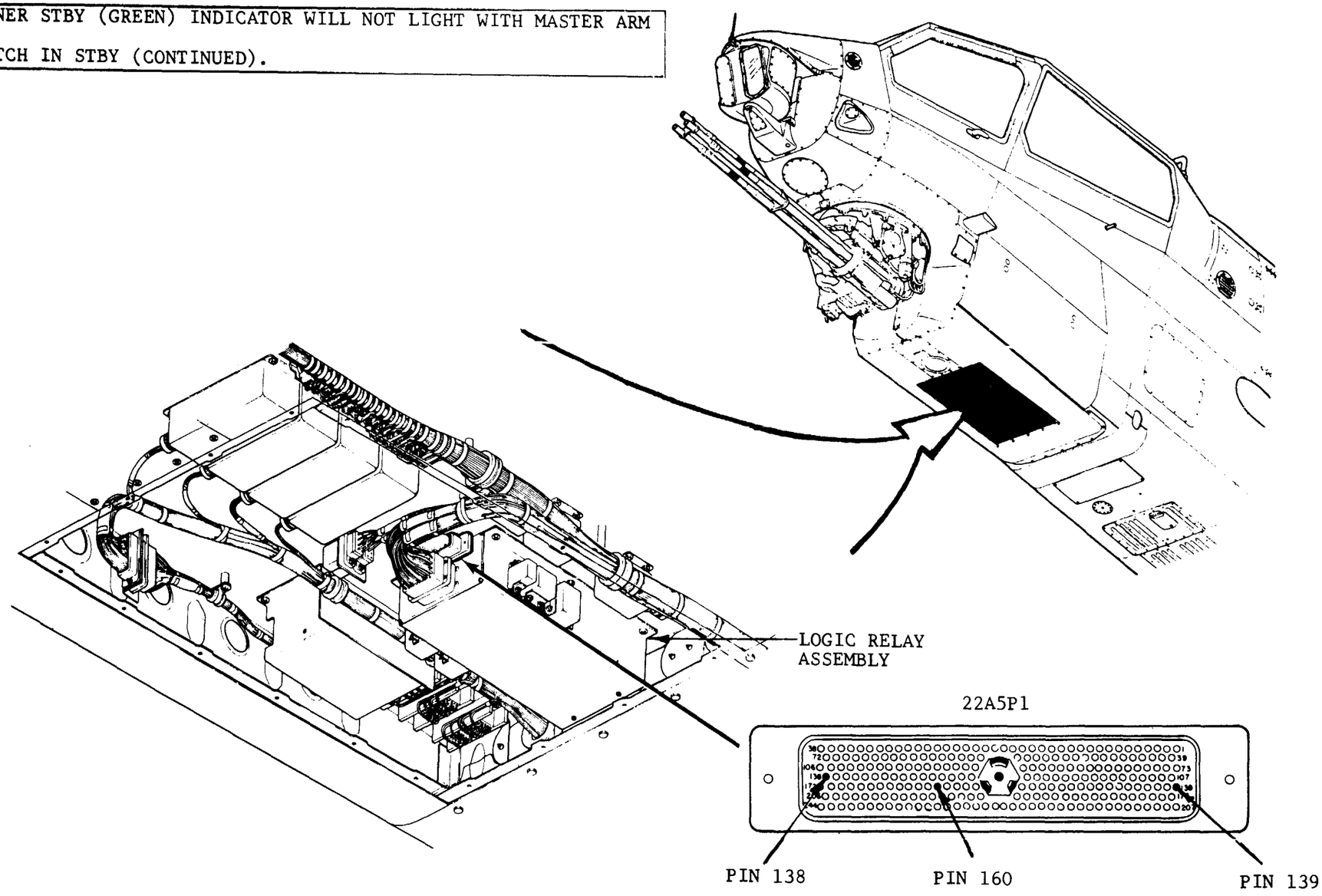
Access Panels
Forward Belly Armament and Lighting - Removed






| 9-17. GUNNER STBY (GREEN) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY (CONTINUED). |
|---|



**9-17. GUNNER STBY (GREEN) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY (CONTINUED).**

Turn off electrical power per paragraph 9-4.

Disconnect 22A2P1.

Check for continuity from 22A3P1-j to airframe ground.

Is continuity present?

YES → Go to paragraph 9-14.

NO ↓

Connect 22A2P1.

Turn on electrical power per paragraph 9-4.

On pilot ARMT control panel:

Is STBY indicator illuminated?

YES → Turn off electrical power per paragraph 9-4.

Disconnect 22A3P1.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 22A3P1-j.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Replace gunner armament control panel per TM 9-1090-206-20-1, Chapter 3, Section XVII.

Then go to paragraph 9-2.

NO ↓

Check for 28 V dc at 19TB5-1D.

Is 28 V dc present

YES →

NO ↓

Turn off electrical power per paragraph 9-4.

Check for continuity from 22A5P1-138 to 22A5P1-160.

Is continuity present?

YES → Check for continuity from 22A5P1-139 to 19TB5-1D.

Is continuity present?

YES → Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Connect 22A3P1.

Then go to paragraph 9-2.

NO ↓

Repair wire A215B22 between 22A5P1-138 and splice.

Connect 22A3P1.

Then go to paragraph 9-2.

NO ↓

Repair wire A360A22 between 22A5P1-139 and 19TB5-1D.

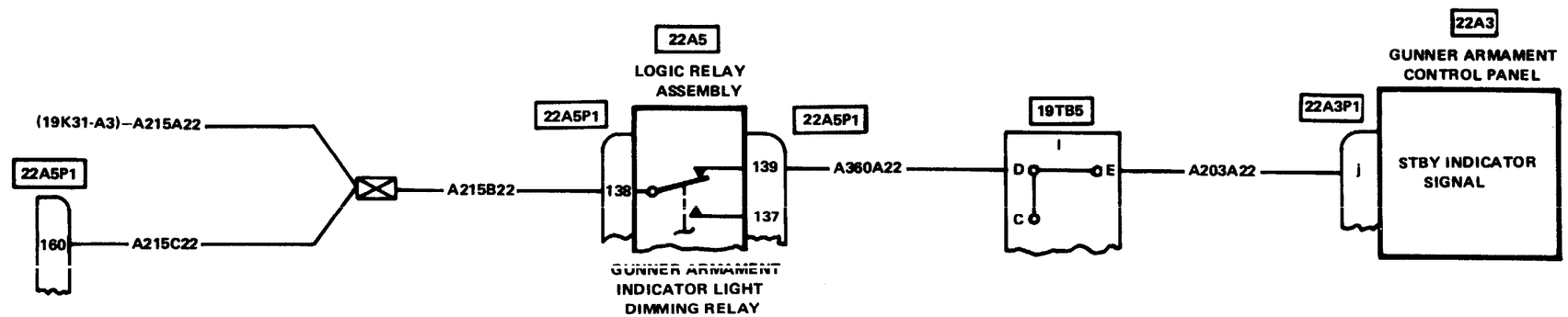
Connect 22A3P1.

Then go to paragraph 9-2.

NO ↓

Go to paragraph 9-16.

9-17. GUNNER STBY (GREEN) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN STBY (CONTINUED).




YES

Check for 28 V dc at 19TB5-1E.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 9-4.

Repair wire A203A22 between 19TB5-1E and 22A3P1-j.

Connect 22A3P1.

Then go to paragraph 9-2.

NO

Turn off electrical power per paragraph 9-4.

Replace module 1 of 19TB5 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A3P1.

Then go to paragraph 9-2.

## 9-18. NO 28 V DC ON ARMAMENT BUS IN AC/ARMT CIRCUIT BREAKER PANEL.

INITIAL SETUP

Applicable Configuration
All

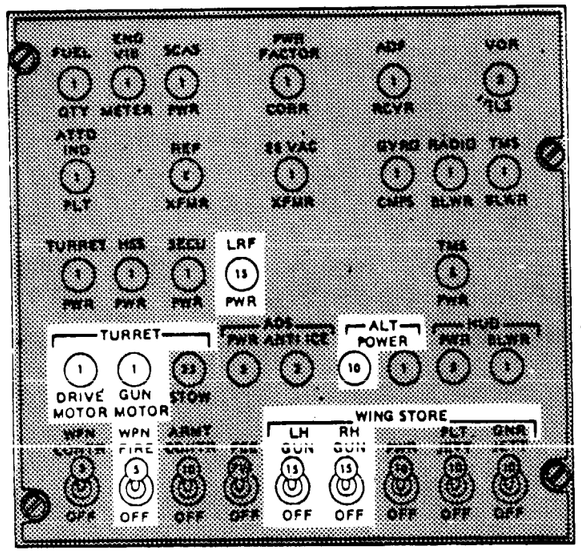
Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C
Electrician

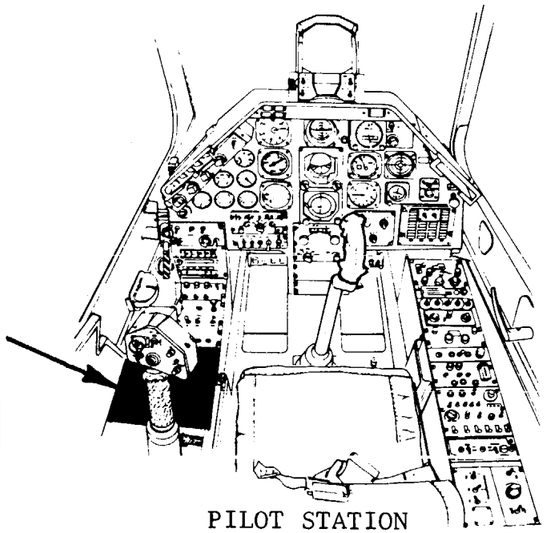
Personnel Required
68F (2)

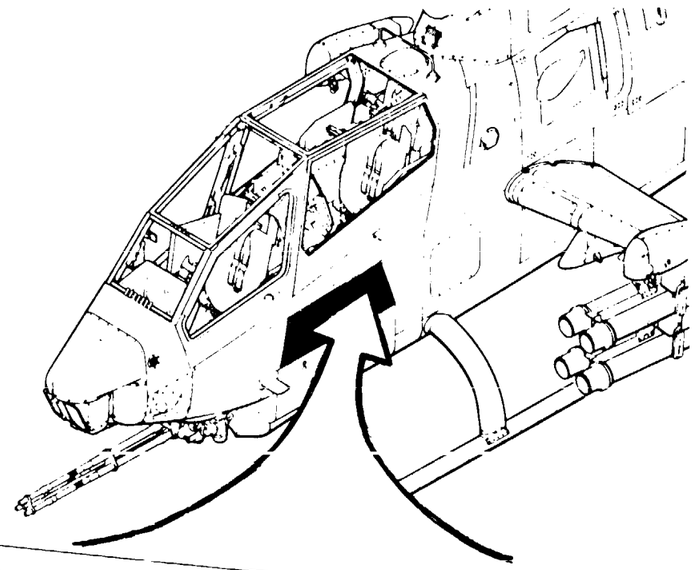
Access Panels
Left- Side Control Linkage - Removed

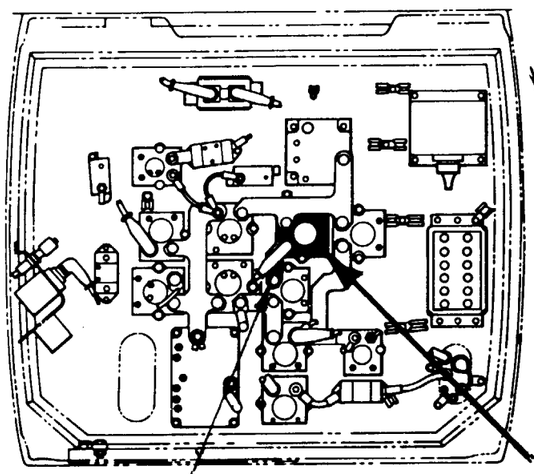
Battery Compartment - Removed

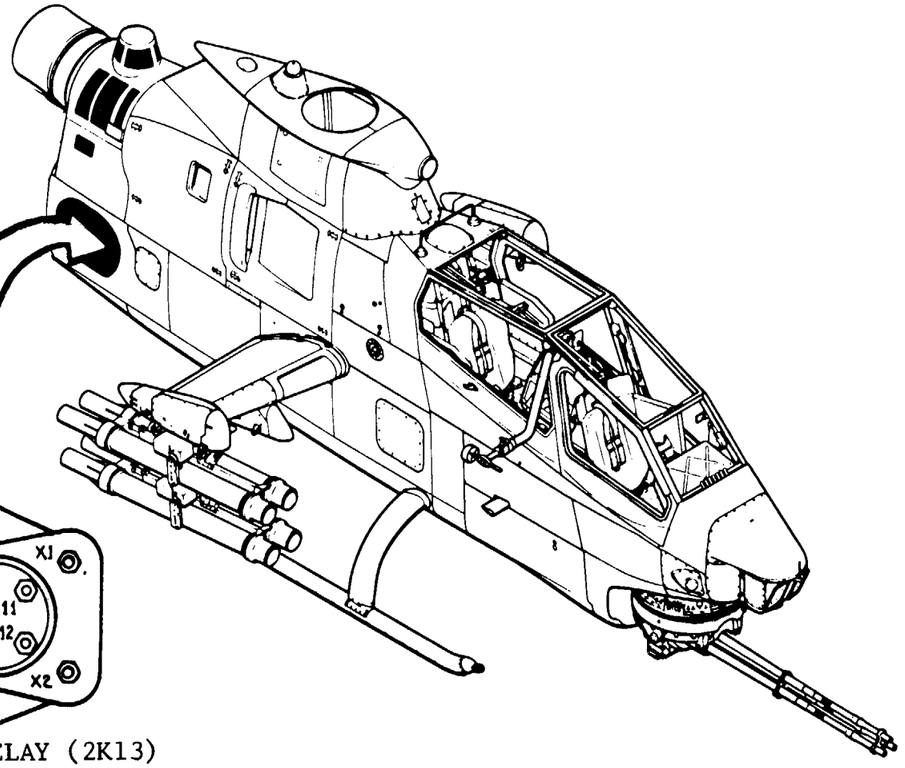


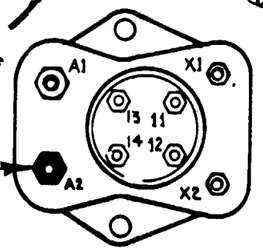
AC/ARMT CIRCUIT BREAKER PANEL


PILOT STATION

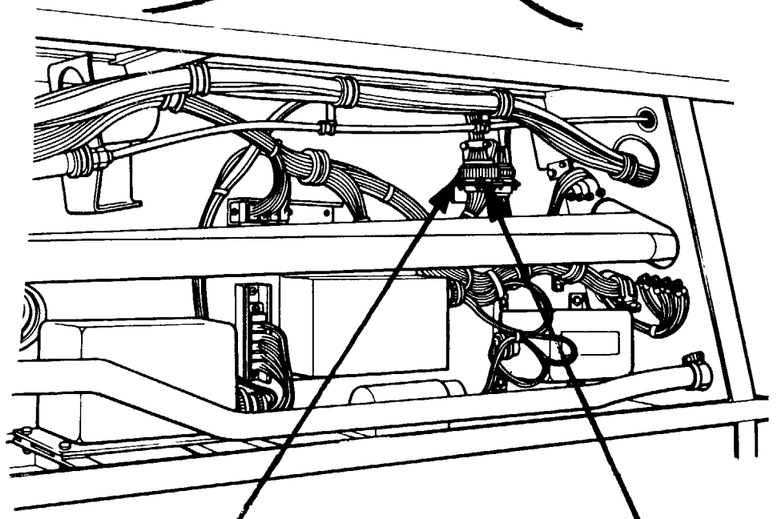


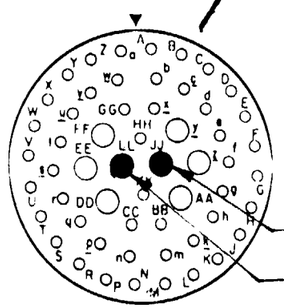

ARMAMENT BUS

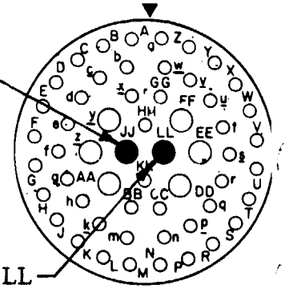




ARMAMENT RELAY (2K13)

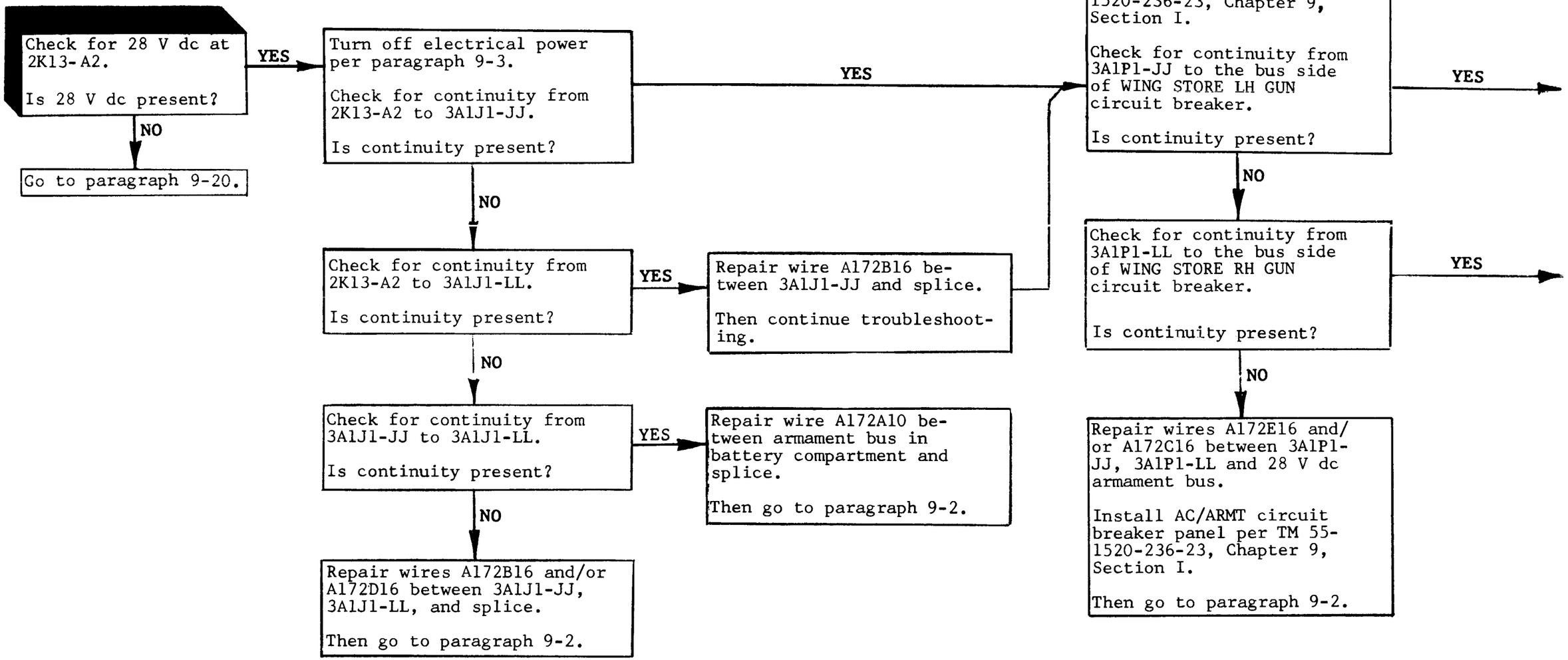



3A1P1



3A1J1

9-18. NO 28 V DC ON ARMAMENT BUS IN AC/ARMT CIRCUIT BREAKER PANEL (CONTINUED).



9-18. NO 28 V DC ON ARMAMENT BUS IN AC/ARMT CIRCUIT BREAKER PANEL (CONTINUED).

YES

YES

Repair wire A172C16 between 3A1P1-JJ and 28 V dc armament bus.

Then continue troubleshooting.

Check for continuity from the bus side of WING STORE LH GUN circuit breaker to the bus side of TURRET GUN MOTOR circuit breaker.

Is continuity present?

NO

Repair wire A172F16 between WING STORE LH GUN circuit breaker and TURRET GUN motor circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Check for continuity from TURRET DRIVE MOTOR circuit breaker to the WPN FIRE circuit breaker.

Is continuity present?

NO

Repair wire A172J16 between TURRET DRIVE MOTOR circuit breaker and WPN FIRE circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Check for continuity from TURRET GUN MOTOR circuit breaker to the ALT POWER circuit breaker.

Is continuity present?

NO

Repair wire A172G16 between TURRET GUN MOTOR circuit breaker and ALT POWER circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

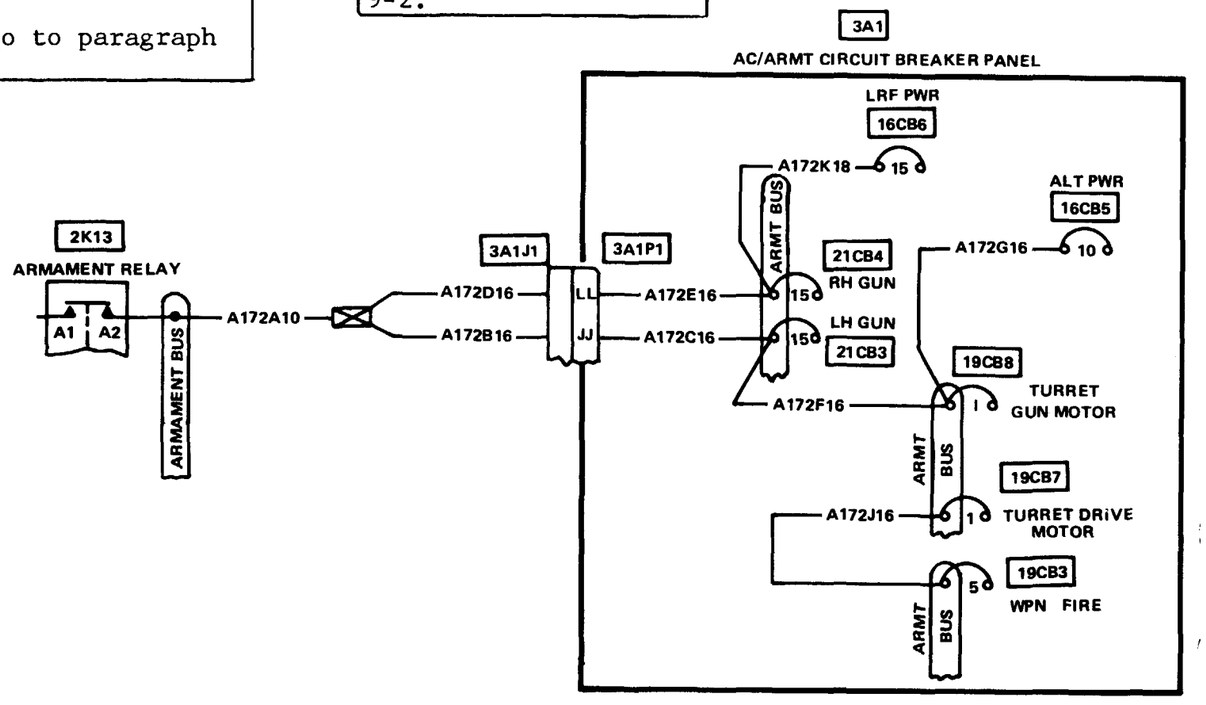
Then go to paragraph 9-2.

YES

Repair wire A172K18 between WING STORE RH GUN circuit breaker and LRF PWR circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.



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## 9-19 . NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT.

INITIAL SETUP

Applicable Configuration
All

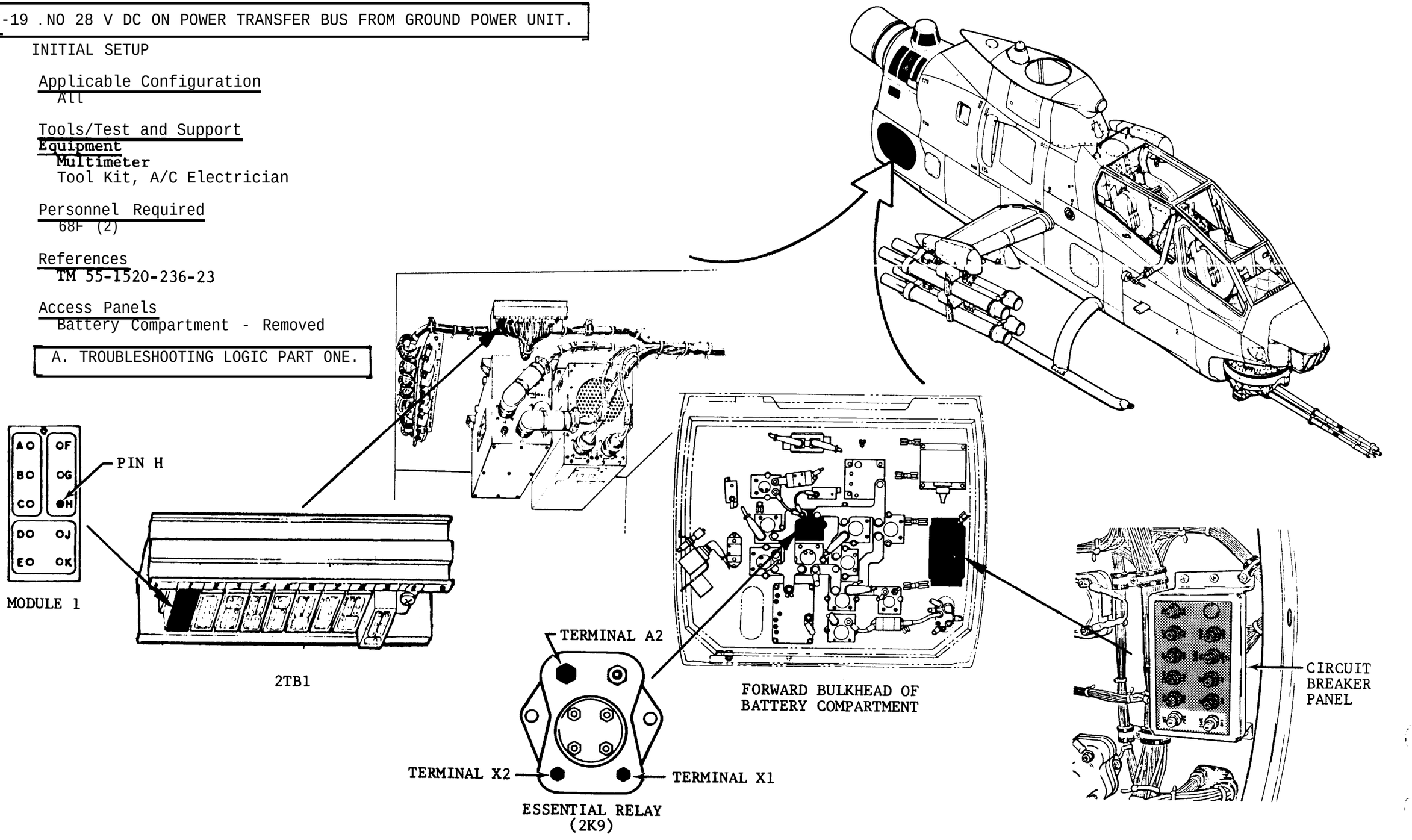
Tools/Test and Support Equipment
Multimeter
Tool Kit, A/C Electrician

Personnel Required
68F (2)

References
TM 55-1520-236-23

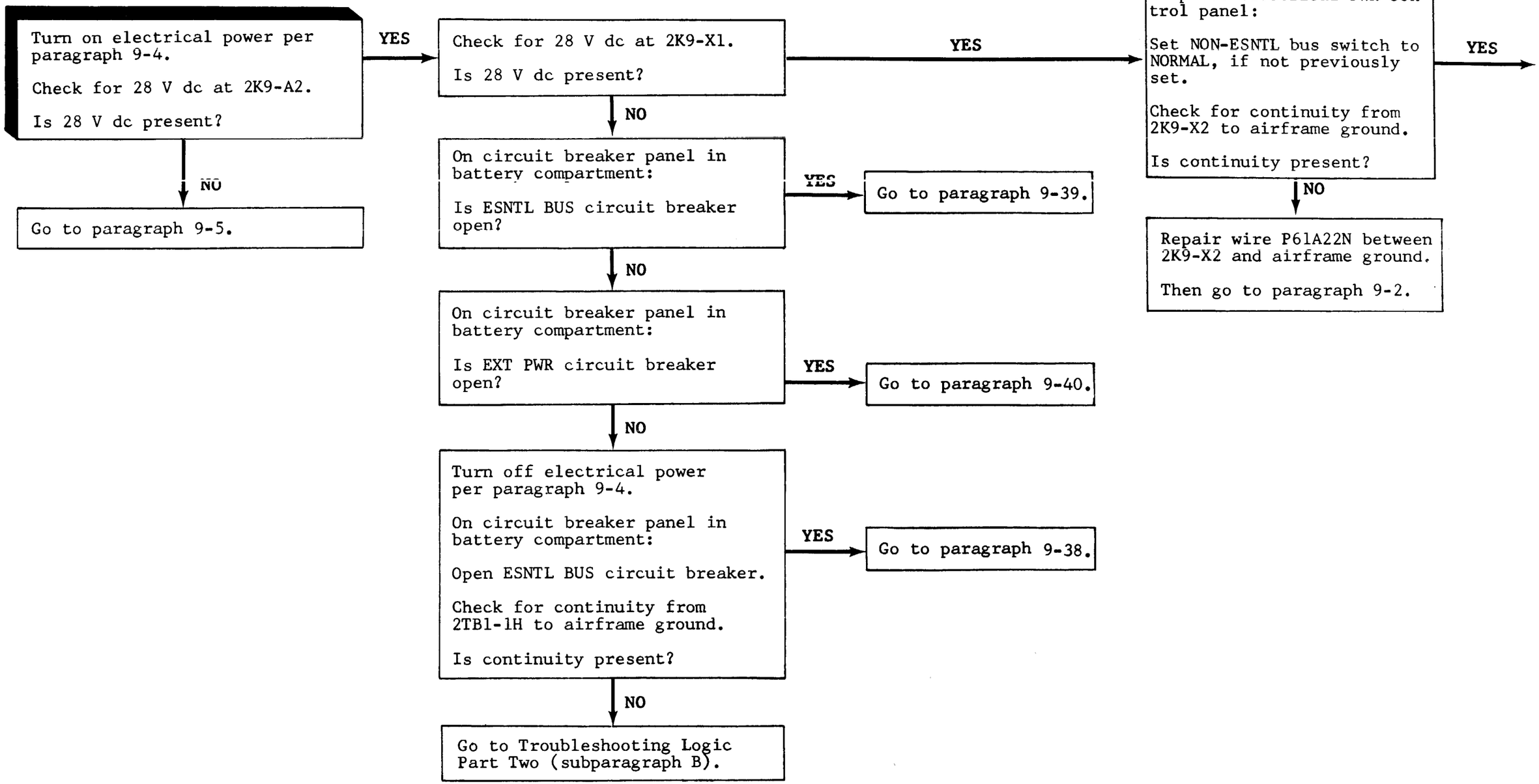
Access Panels
Battery Compartment - Removed

A. TROUBLESHOOTING LOGIC PART ONE.



9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED)..

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



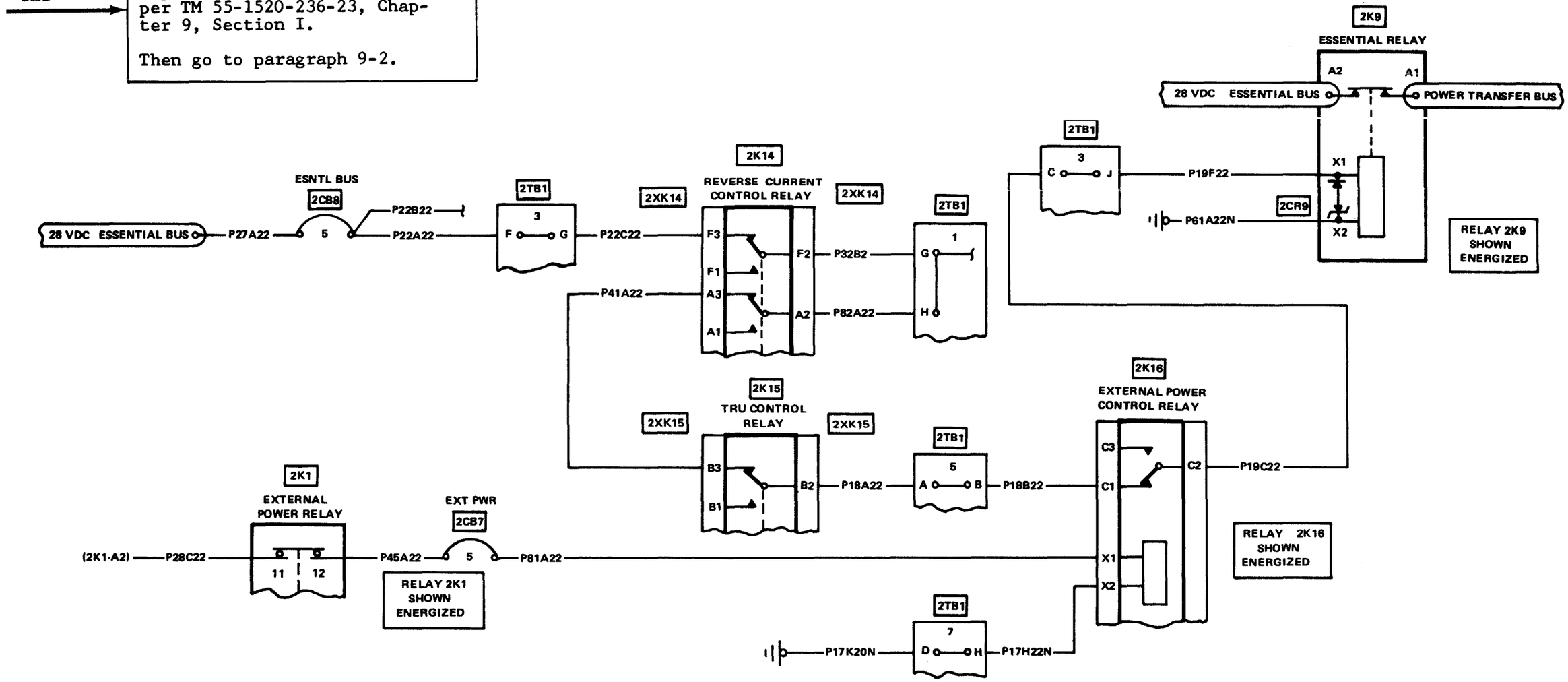
9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

**YES** →

Replace essential relay (2K9) per TM 55-1520-236-23, Chapter 9, Section I.

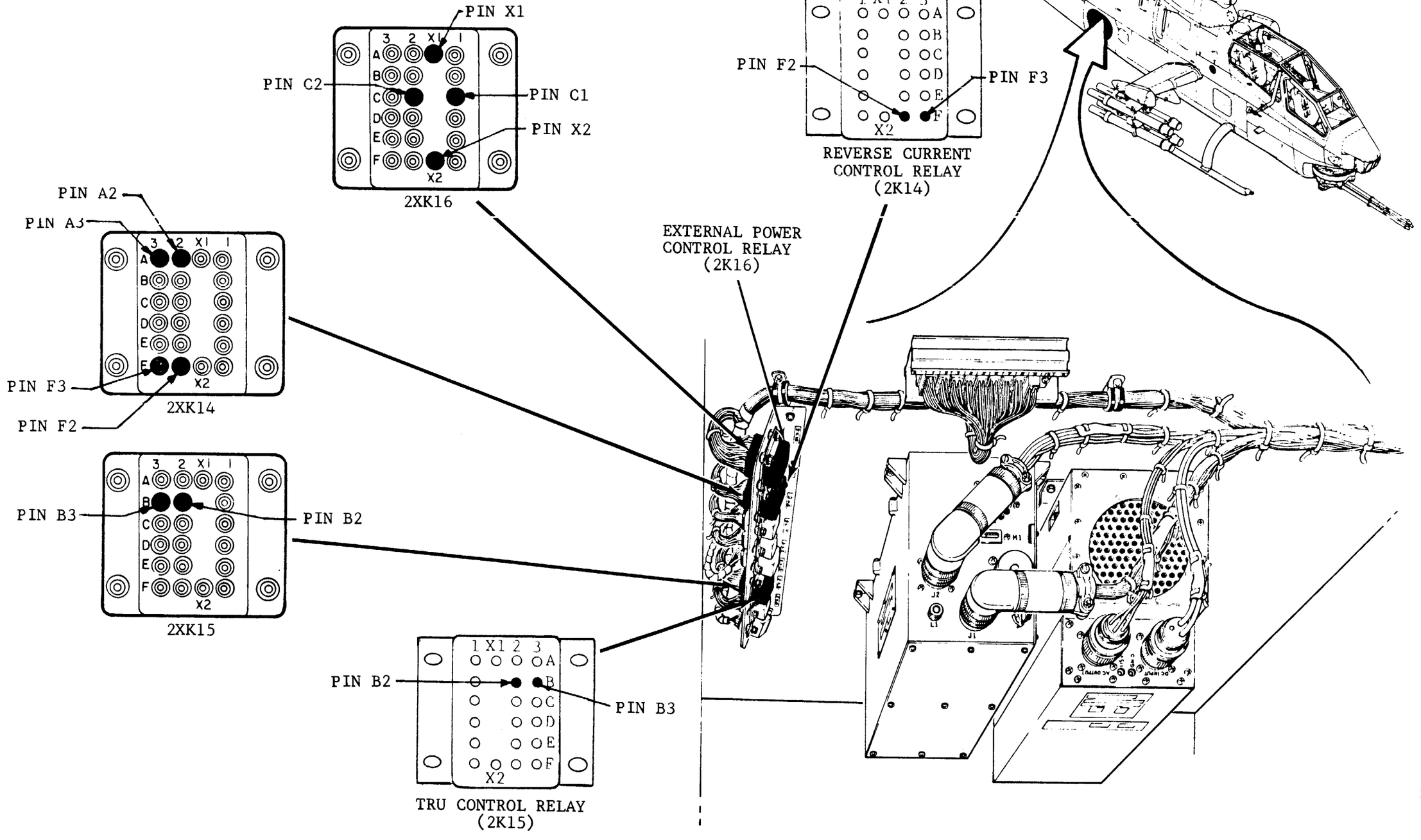
Then go to paragraph 9-2.



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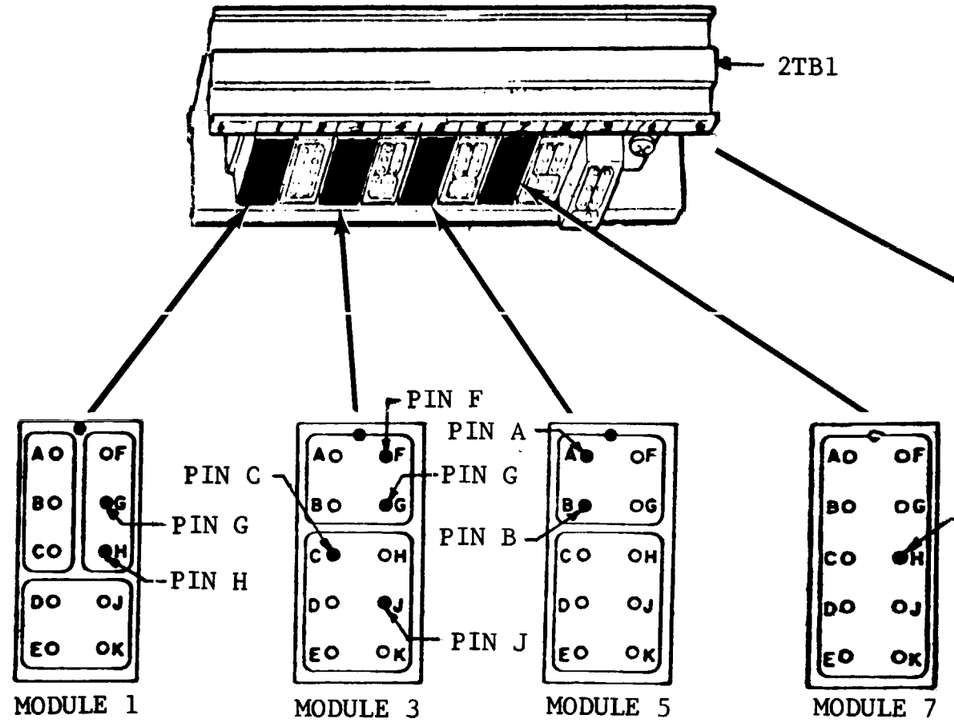
9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).

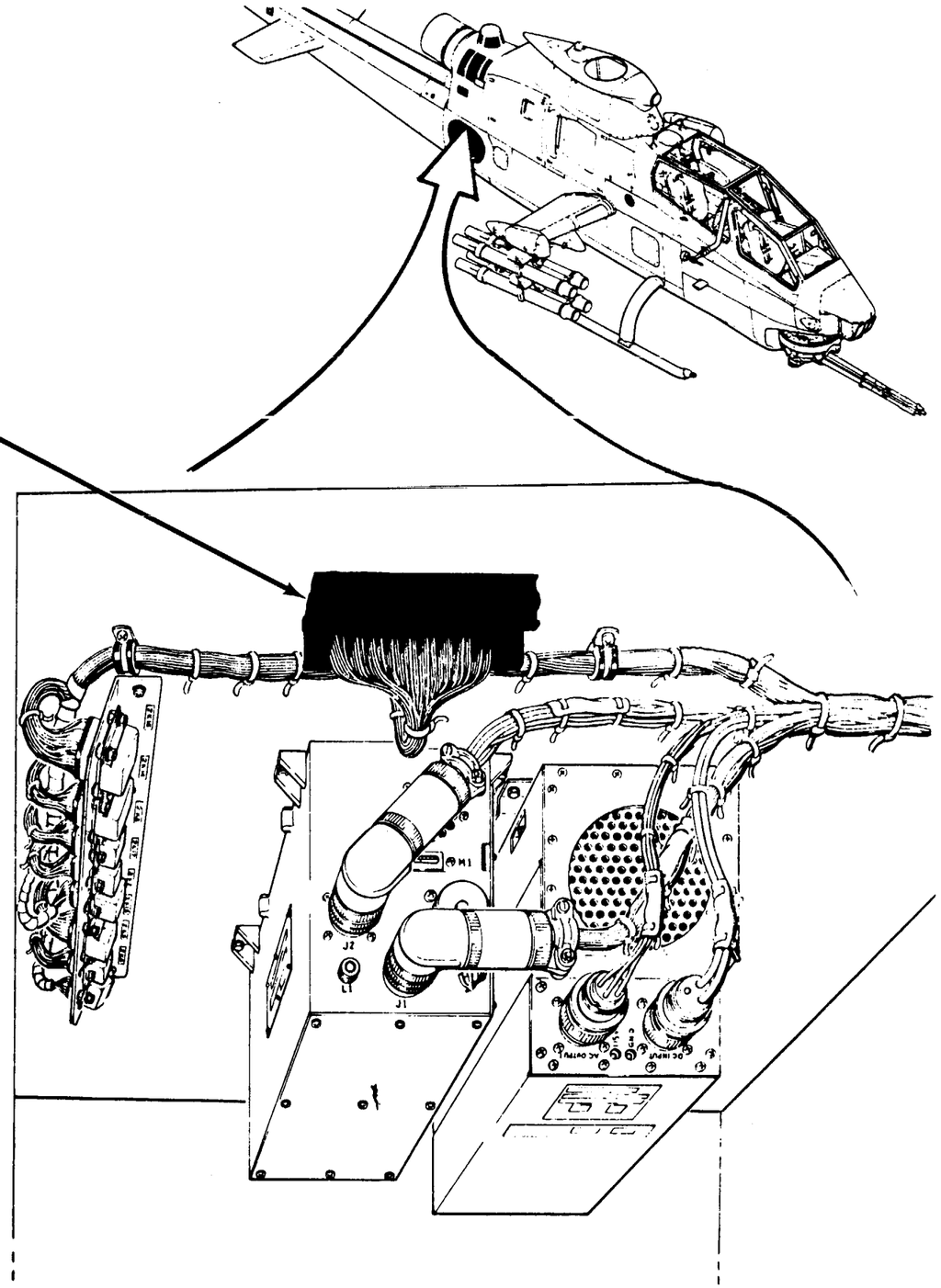
B. TROUBLESHOOTING LOGIC PART TWO.



9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).

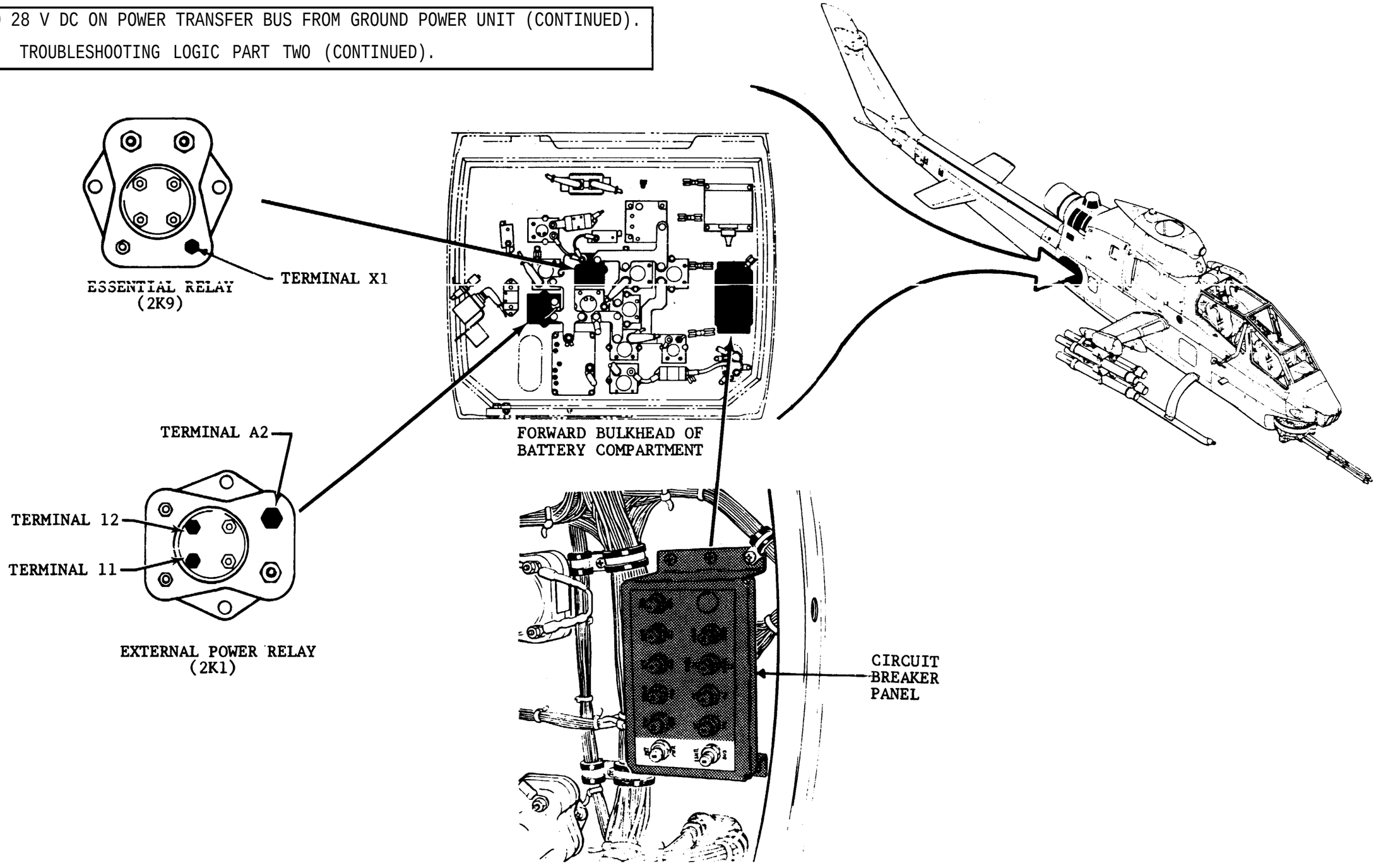
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

On circuit breaker panel in battery compartment:

Close ESNTL BUS circuit breaker.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 2TB1-1H.

Is 28 V dc present?

YES → YES

NO

Check for 28 V dc at 2TB1-3G.

Is 28 V dc present?

YES → YES

NO

Check for 28 V dc at 2TB1-3F.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Replace module 3 of 2TB1 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Turn off electrical power per paragraph 9-4.

Remove circuit breaker panel from bulkhead of battery compartment.

Check wire P22A22 for continuity from 2TB1-3F to ESNTL BUS circuit breaker.

Is continuity present?

YES → Check for continuity across ESNTL BUS circuit breaker.

Is continuity present?

YES → Repair wire P27A22 between ESNTL BUS circuit breaker and 28 V dc essential bus.

Install circuit breaker panel on bulkhead of battery compartment.

Then go to paragraph 9-2.

NO

Replace ESNTL bus circuit breaker on circuit breaker panel in battery compartment per TM 55-1520-236-23, Chapter 9, Section I.

Install circuit breaker panel on bulkhead of battery compartment.

Then go to paragraph 9-2.

NO

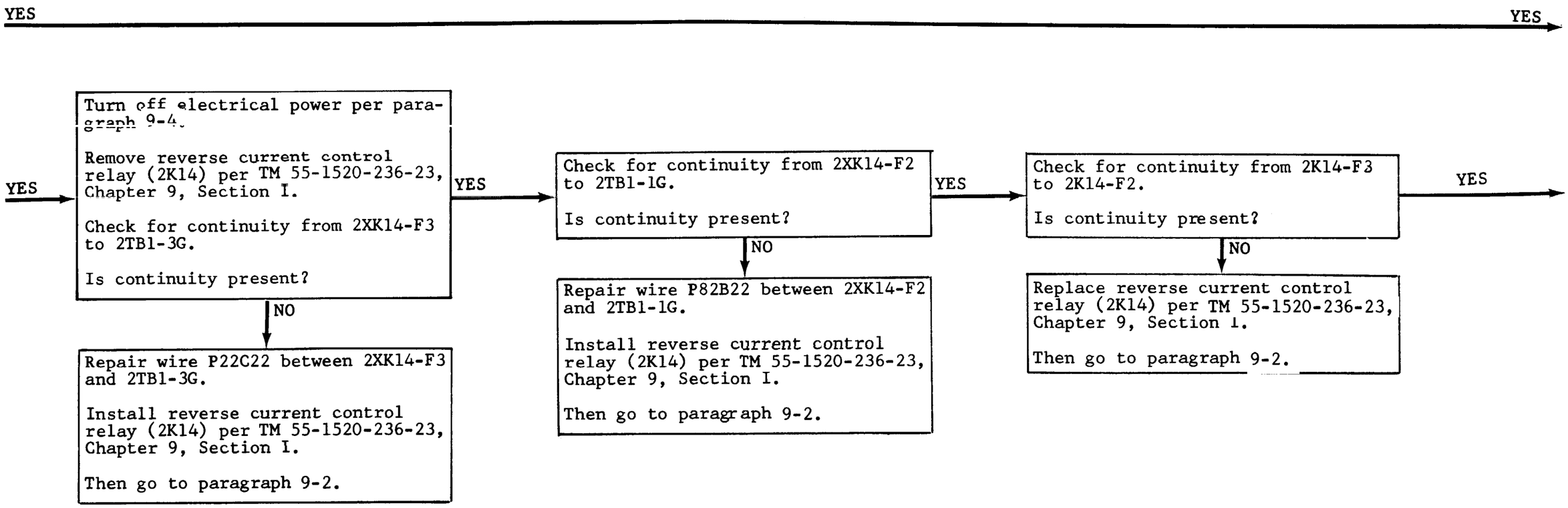
Repair wire P22A22 between 2TB1-3F and ESNTL BUS circuit breaker.

Install circuit breaker panel on bulkhead of battery compartment.

Then go to paragraph 9-2.

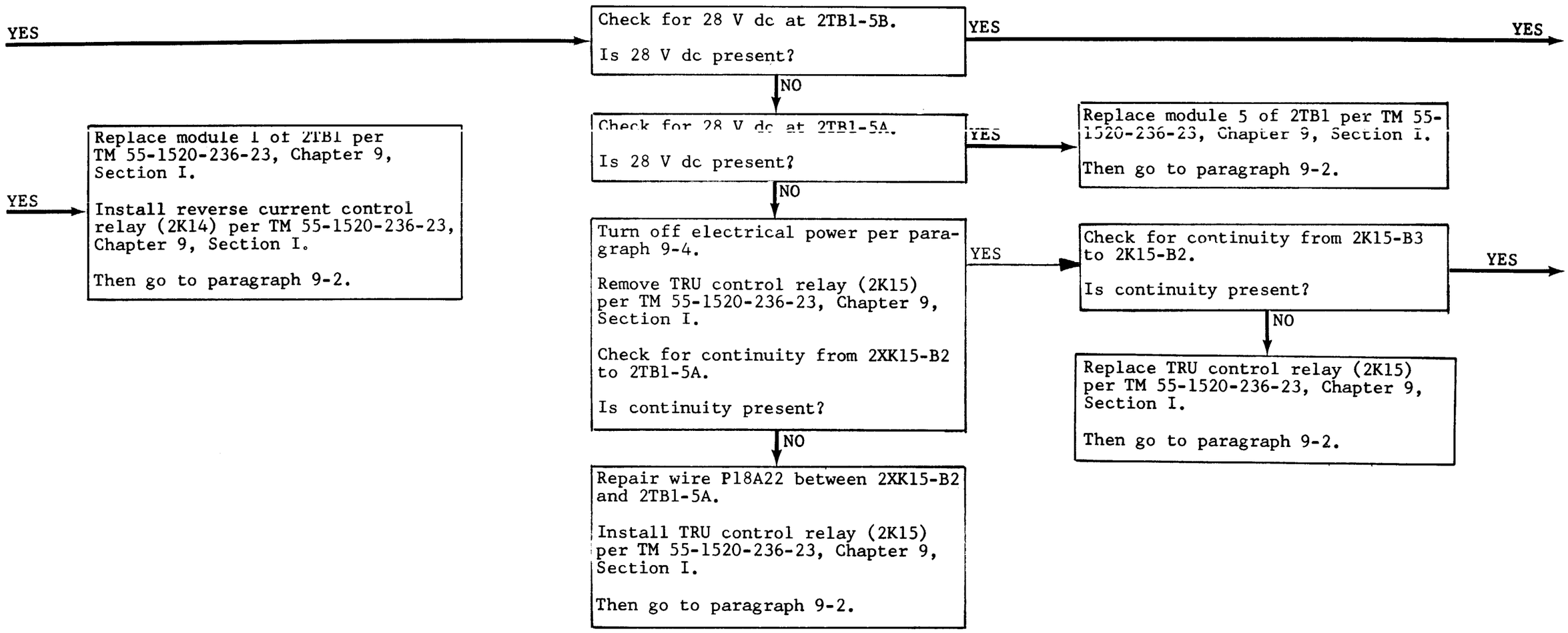
9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO(CONTINUED).



9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT ( CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

YES

YES

YES

Remove reverse current control relay (2K14) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK14-A3 to 2XK15-B3.

Is continuity present?

YES

NO

Repair wire P41A22 between 2XK14-A3 and 2XK15-B3.

Install reverse current control relay (2K14) and TRU control relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

Check for continuity from 2TB1-1H to 2XK14-A2.

Is continuity present?

YES

NO

Repair wire P82A22 between 2TB1-1H and 2XK14-A2.

Install reverse current control relay (2K14) and TRU control relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

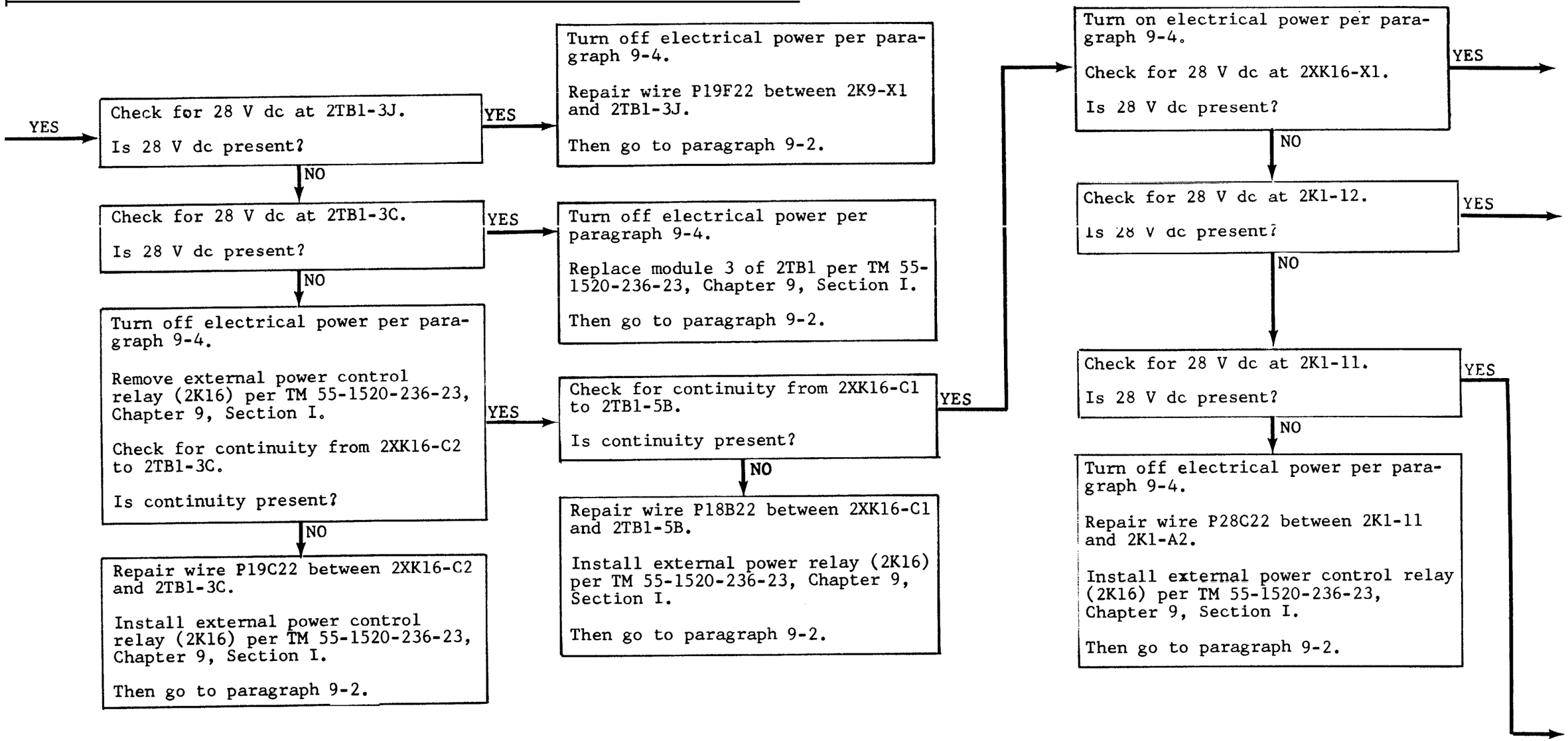
Replace reverse current control relay (2K14) per TM 55-1520-236-23, Chapter 9, Section I.

Install TRU control relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

YES

YES

Turn off electrical power per paragraph 9-4.

Remove circuit breaker panel from bulkhead of battery compartment.

Check wire P45A22 for continuity from EXT PWR circuit breaker to 2K1-12.

Is continuity present?

NO

Repair wire P45A22 between EXT PWR circuit breaker and 2K1-12.

Install circuit breaker panel on bulkhead of battery compartment.

Install external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Check wire P81A22 for continuity from EXT PWR circuit breaker to 2XK16-X1.

Is continuity present?

NO

Repair wire P81A22 between EXT PWR circuit breaker and 2XK16-X1.

Install circuit breaker panel on bulkhead of battery compartment.

Install external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Replace EXT PWR circuit breaker on circuit breaker panel in battery compartment per TM 55-1520-236-23, Chapter 9, Section I.

Install circuit breaker panel on bulkhead of battery compartment.

Install external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Turn off electrical power per paragraph 9-4.

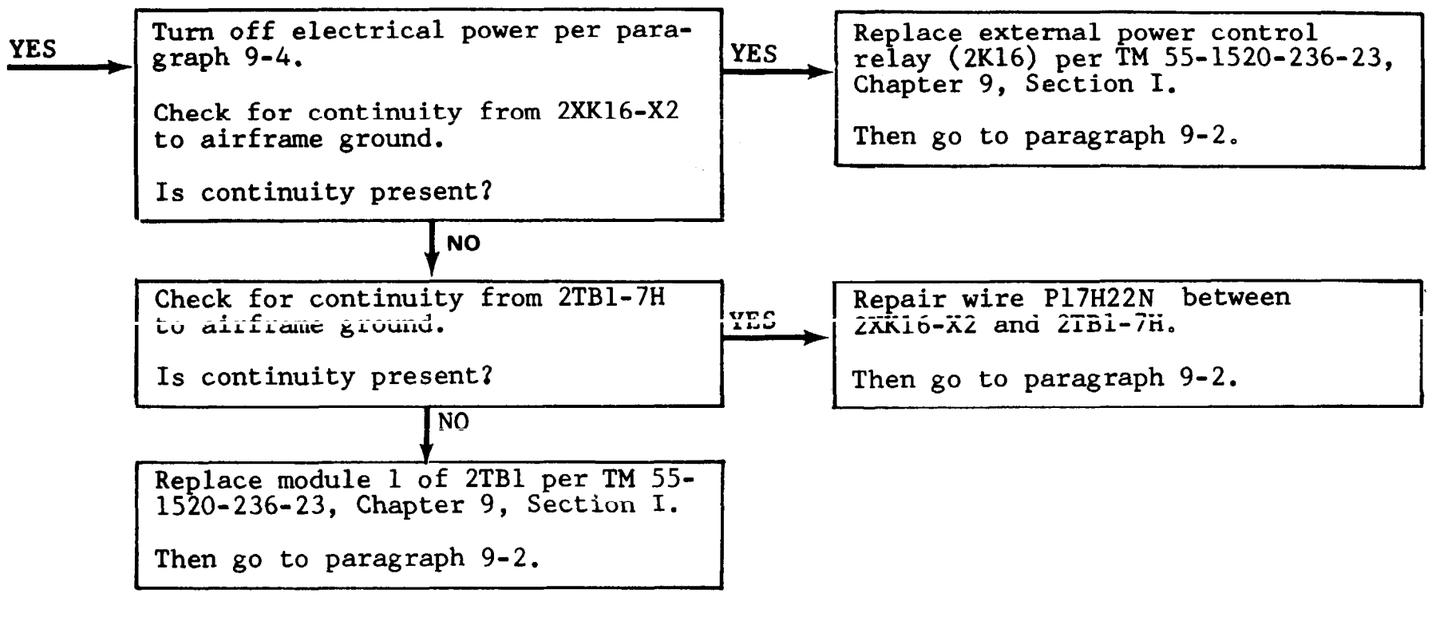
Replace external power relay (2K1) per TM 55-1520-236-23, Chapter 9, Section I.

Install external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

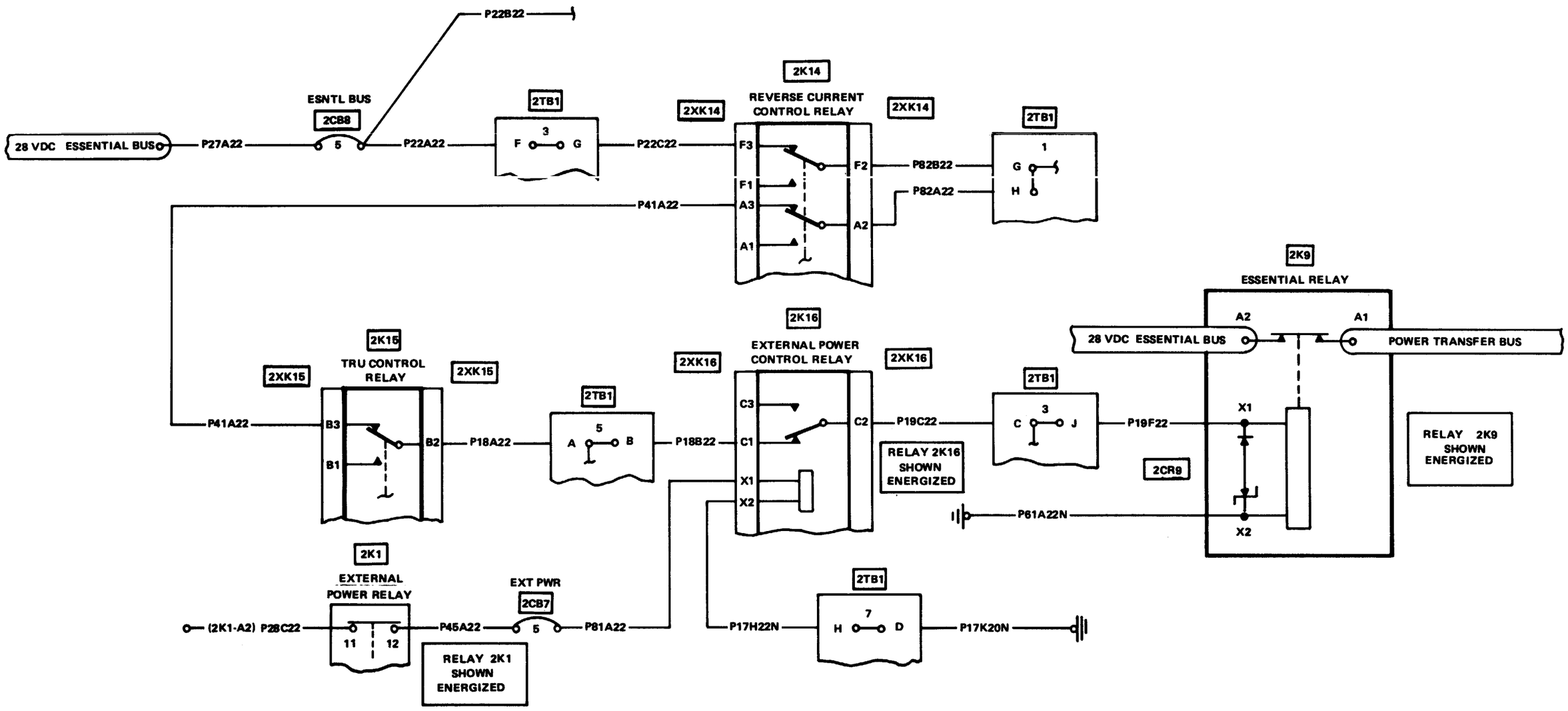
Then go to paragraph 9-2.

9-19. NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



9-190 NO 28 V DC ON POWER TRANSFER BUS FROM GROUND POWER UNIT (CONTINUED).
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED) .



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## 9-20. NO 28 V DC ON ARMAMENT BUS.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

Personnel Required
68F (1)

References
TM 55-1520-236-23
TM 9-1090-206-20-1

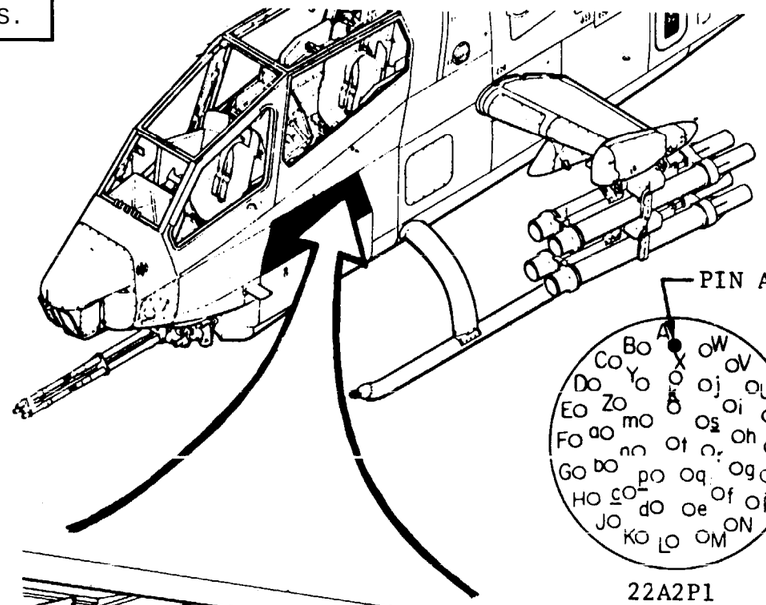
Access Panels
Battery Compartment Removed

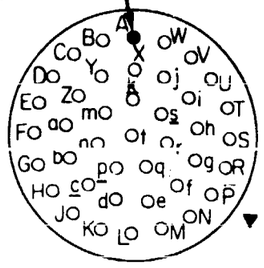
Left Side Control Linkage - Removed

Aft Right Side Control Linkaqe - Removed

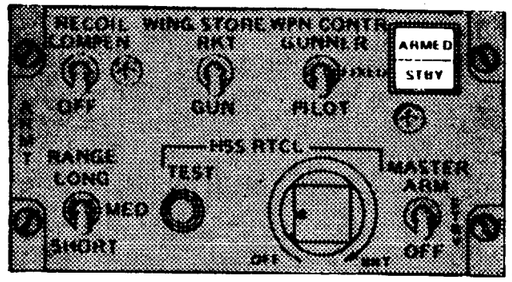
Forward Belly Armament and Liqhting - Removed

A. TROUBLESHOOTING LOGIC PART ONE.

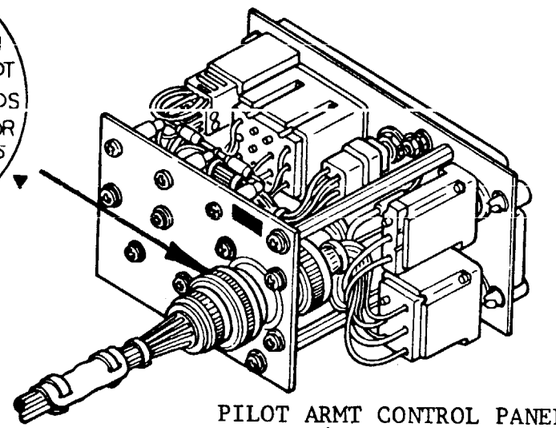


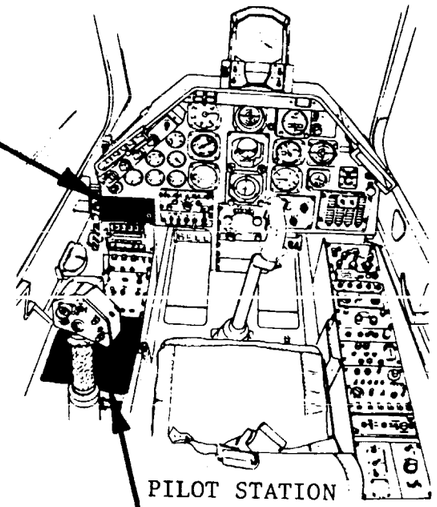


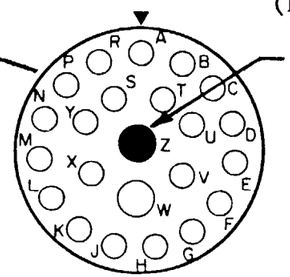
22A2P1



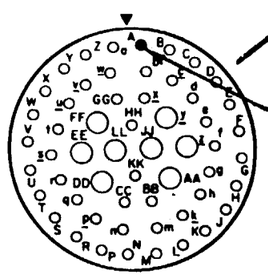
PILOT ARMT CONTROL PANEL


PILOT ARMT CONTROL PANEL (REAR VIEW)

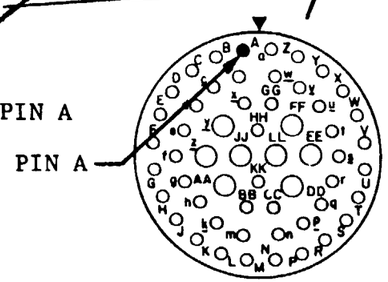

PILOT STATION



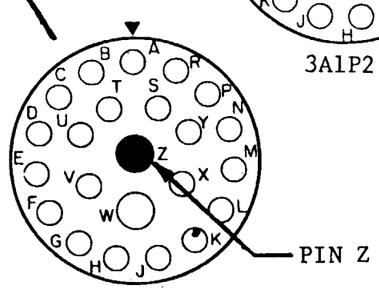
3A1P2



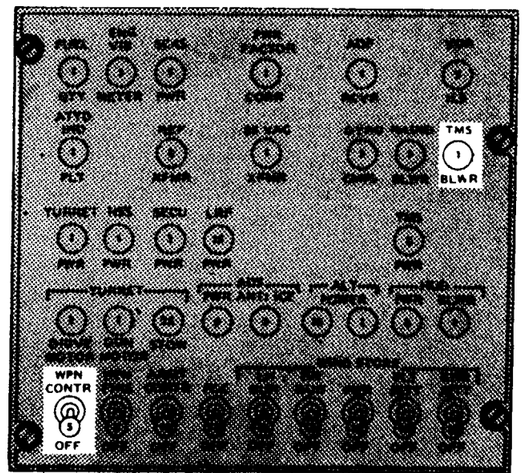
3A1P1



3A1J1



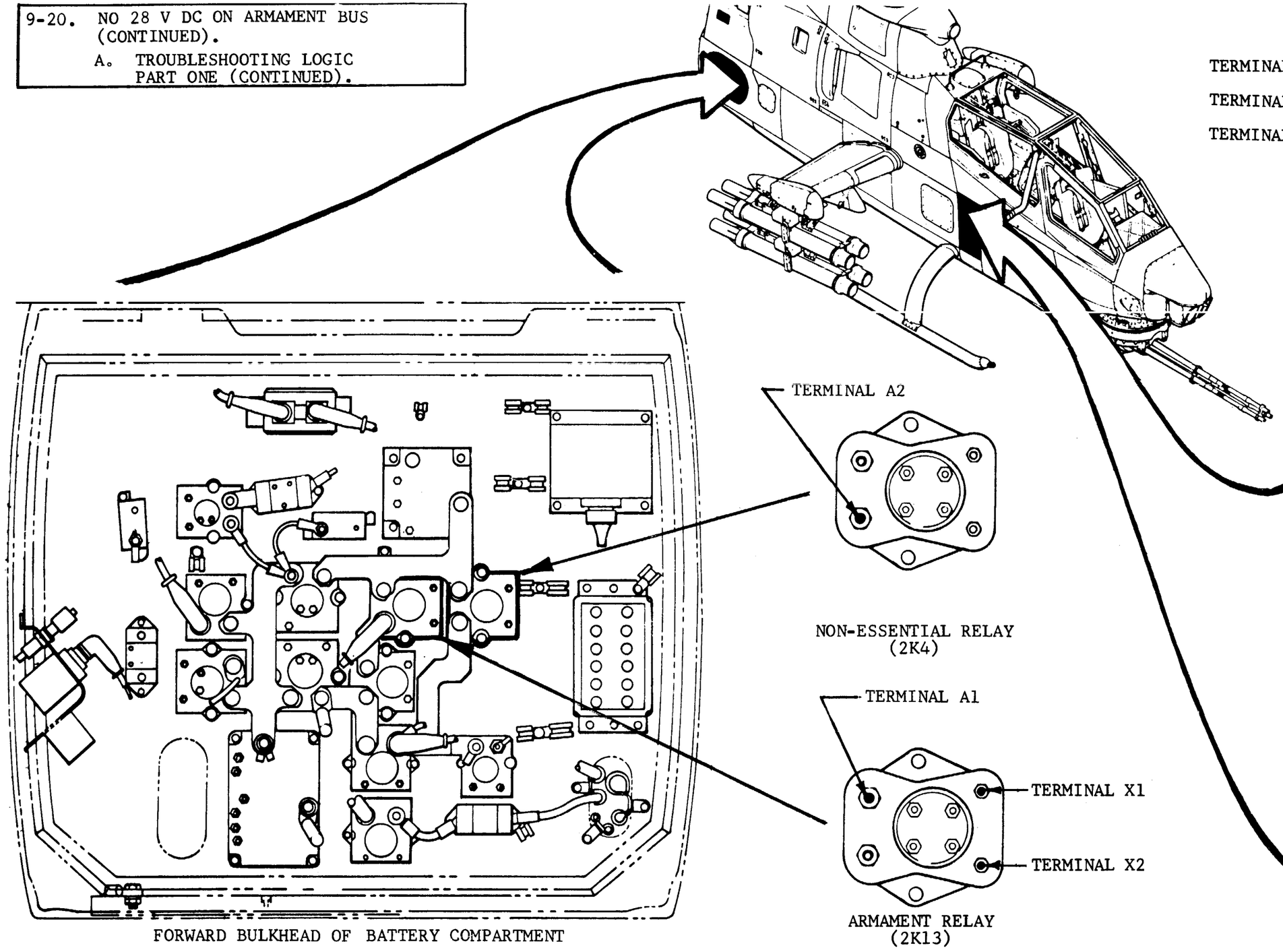
3A1J2



A/C ARMAMENT CIRCUIT BREAKER PANEL

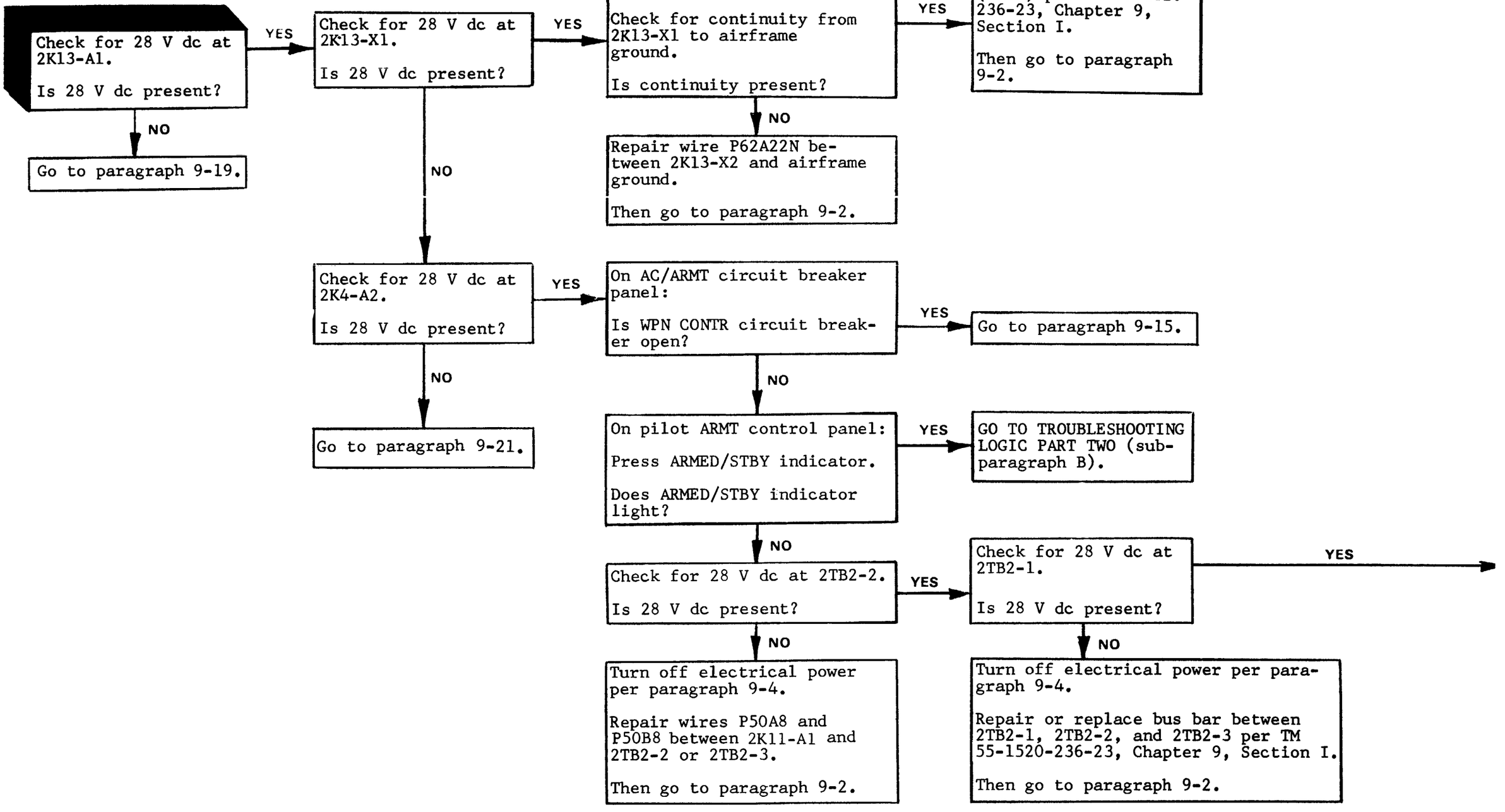
9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



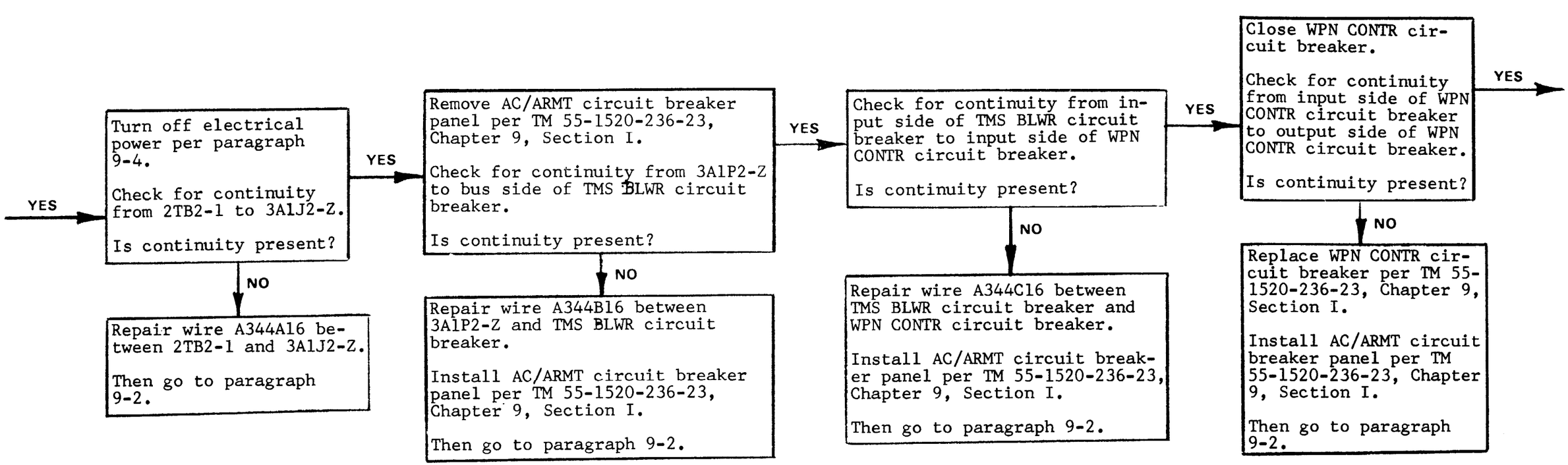
9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



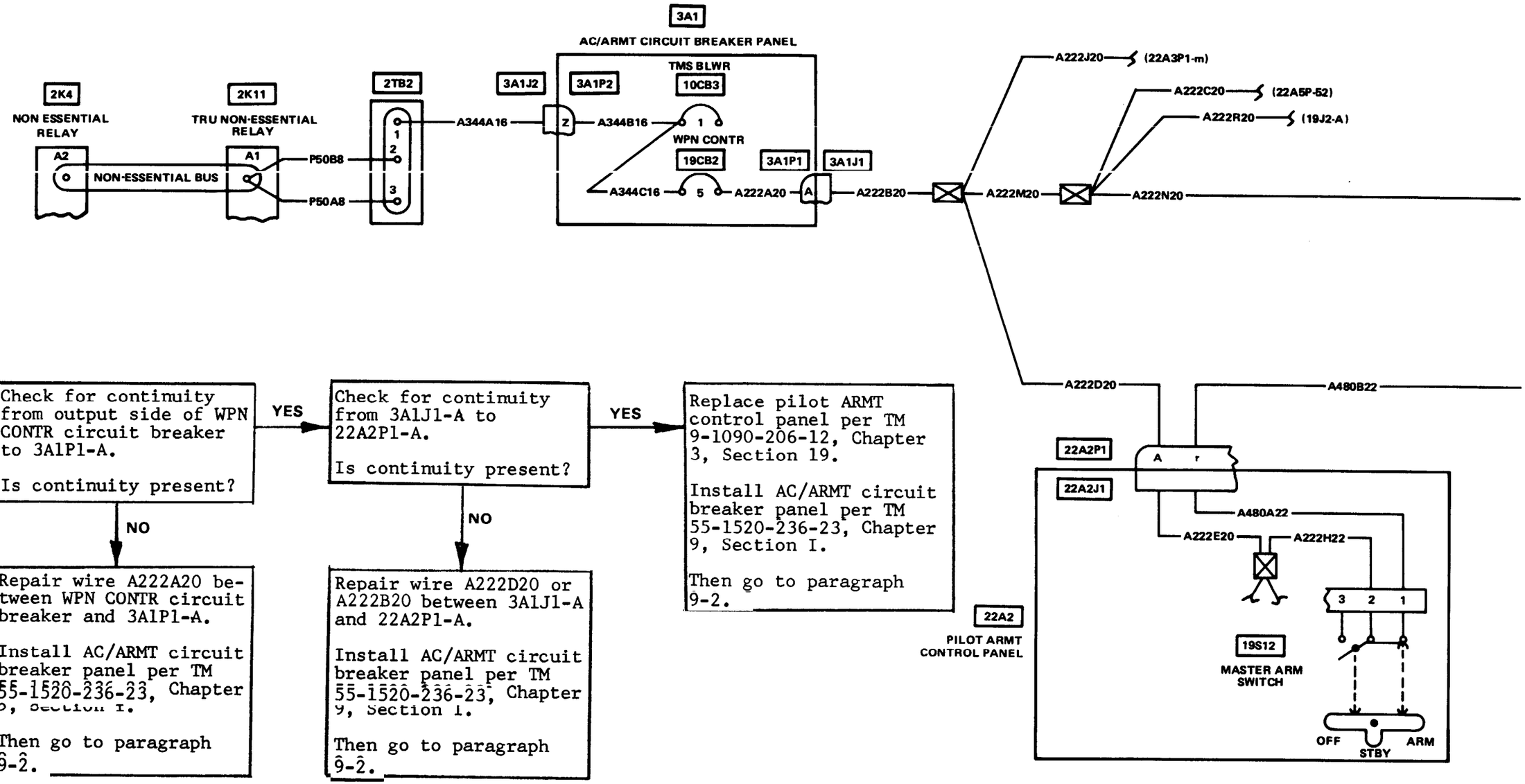
9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED) .



9-20 NO 28 VDC ON ARMAMENT BUS (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).




YES

Check for continuity from output side of WPN CONTR circuit breaker to 3A1P1-A.

Is continuity present?

NO

Repair wire A222A20 between WPN CONTR circuit breaker and 3A1P1-A.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Check for continuity from 3A1J1-A to 22A2P1-A.

Is continuity present?

NO

Repair wire A222D20 or A222B20 between 3A1J1-A and 22A2P1-A.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

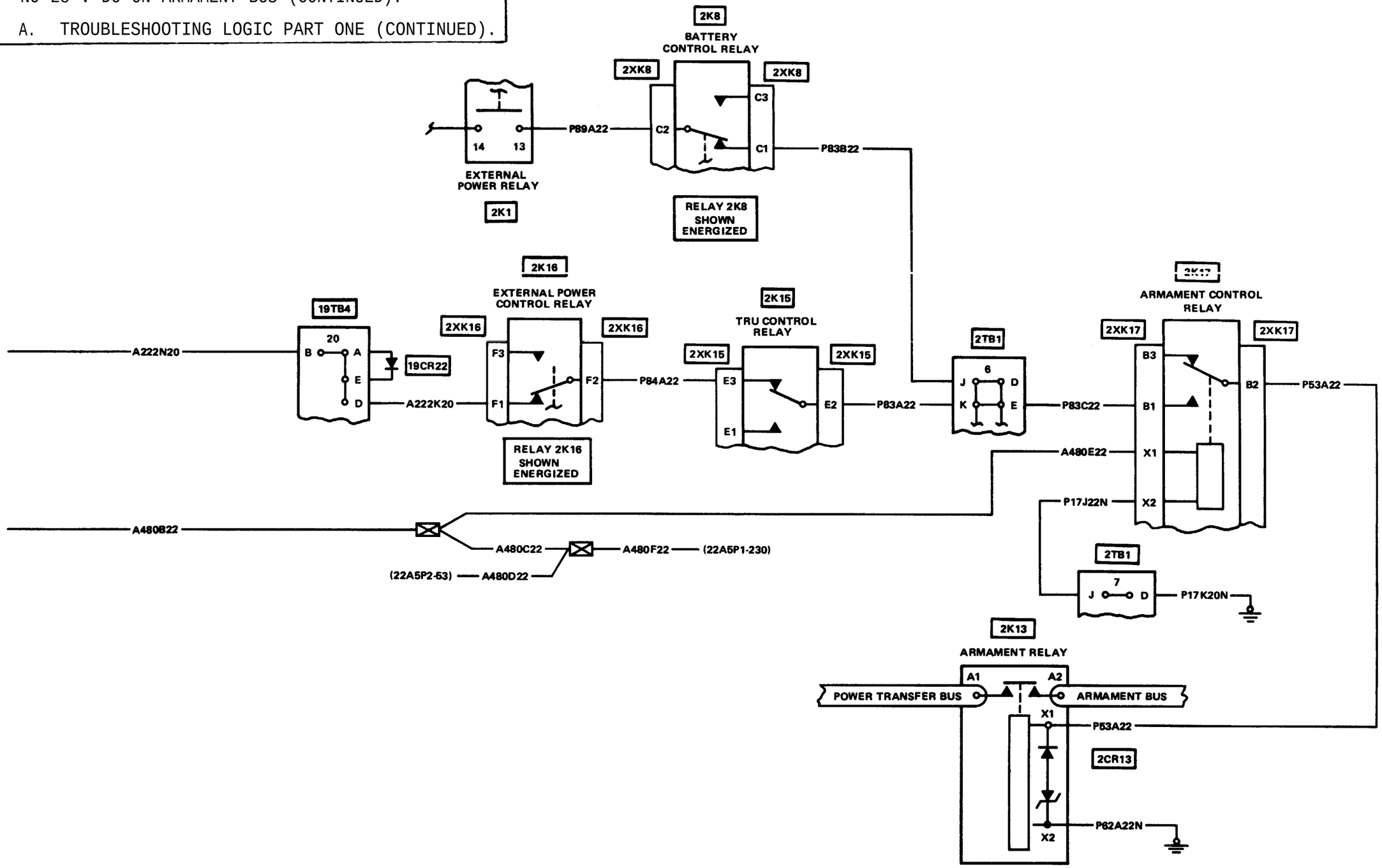
Replace pilot ARMT control panel per TM 9-1090-206-12, Chapter 3, Section 19.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

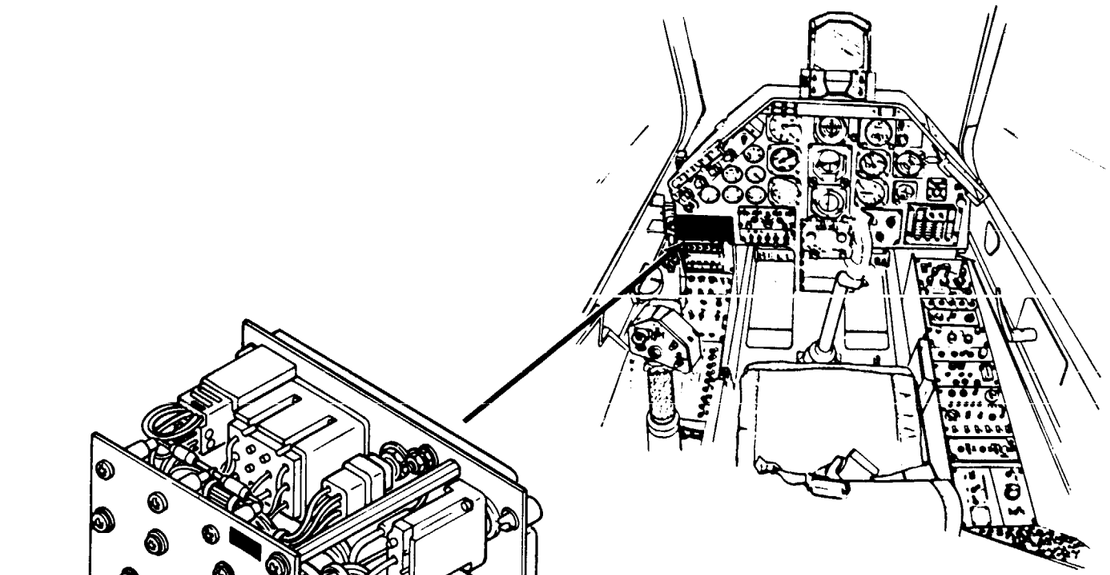
9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

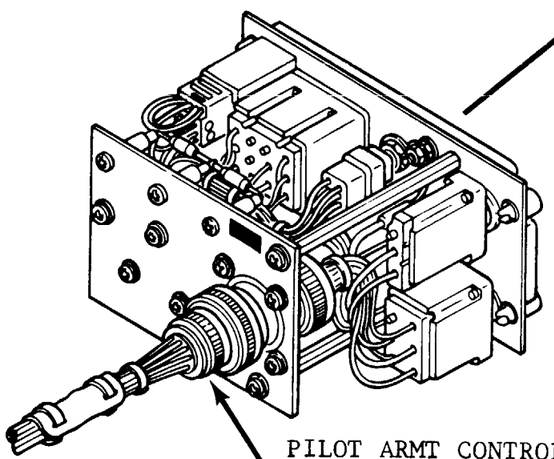


9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

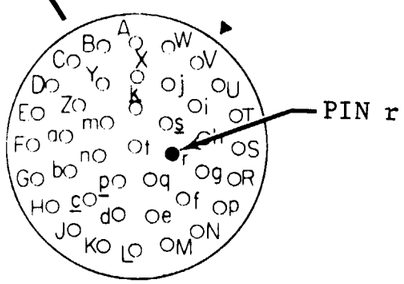
B. TROUBLESHOOTING LOGIC PART TWO.



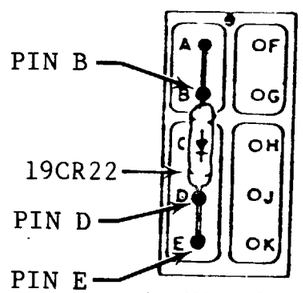
PILOT STATION



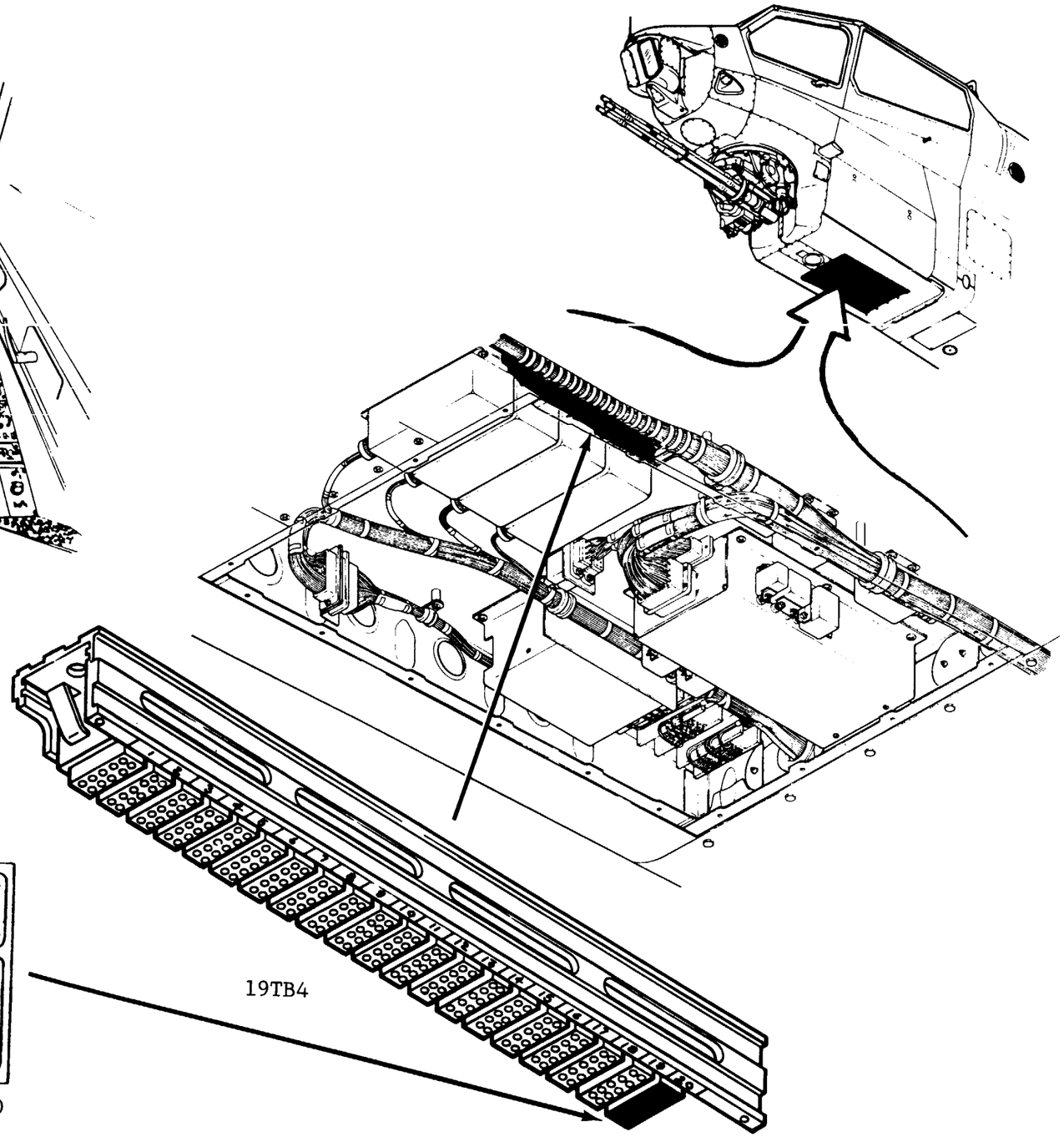
PILOT ARMT CONTROL PANEL
(REAR VIEW)




22A2P1

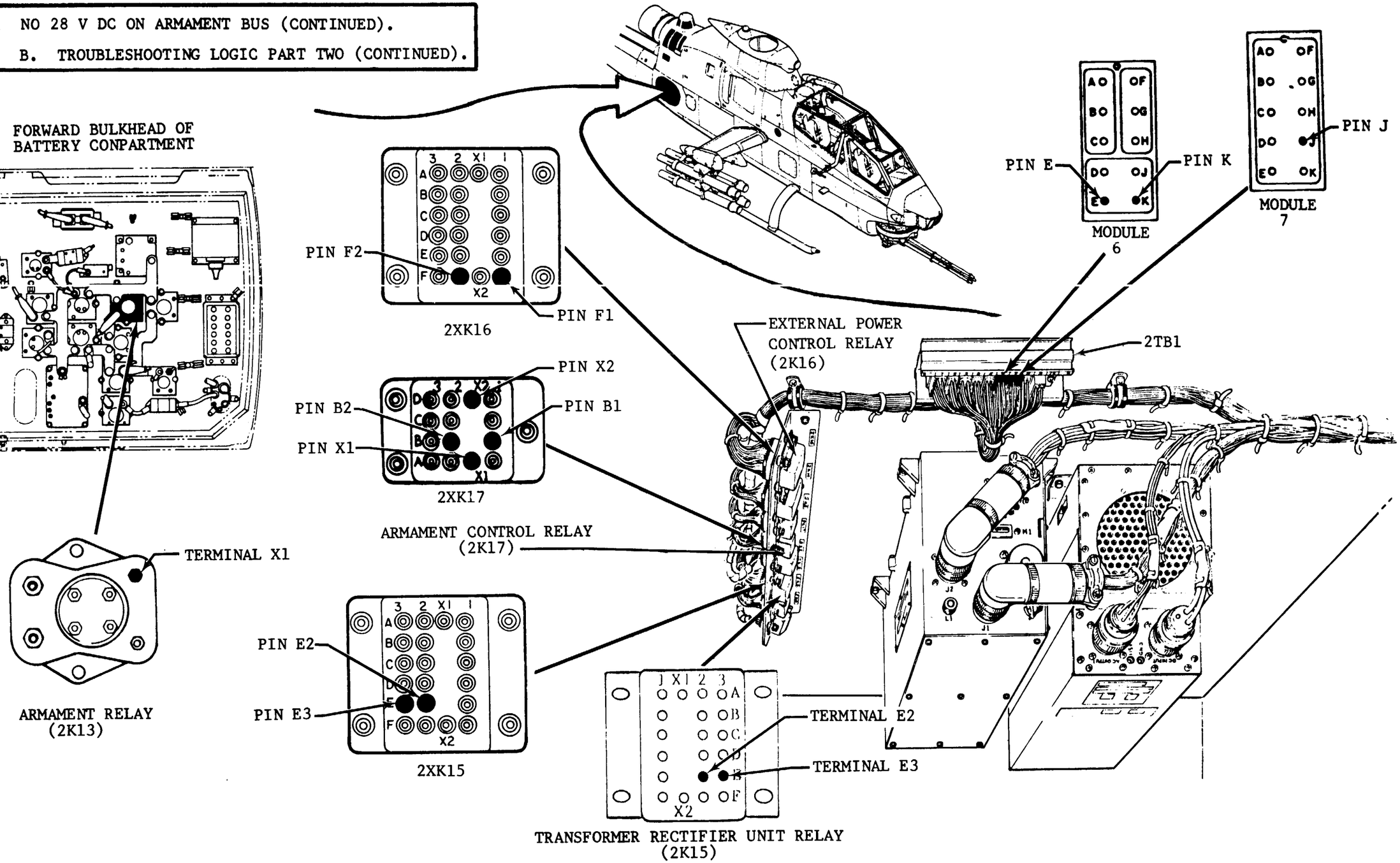



MODULE 20



9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

Turn off electrical power per paragraph 9-4.

Remove armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 2XK17-X1.

Is 28 V dc present?

YES

Check for 28 V dc at 2XK17-B1.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 9-4.

Check for continuity from 2XK17-X2 to airframe ground.

Is continuity present?

YES

NO

Check for continuity from 2TB1-7J to airframe ground.

Is continuity present?

YES

NO

Replace module 7 of 2TB1 per TM 55-1520-236-23, Chapter 9, Section I.

Install armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Check for 28 V dc at 2TB1-6K.

Is 28 V dc present?

YES

NO

Check for 28 V dc at 19TB4-20B.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 9-4.

Repair wires A222N20 or A222M20 between 19TB4-20B and splice joining wires A222B20, A222J20, and A222D20.

Install armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Check for 28 V dc at 2TB1-6E.

Is 28 V dc present?

YES

NO

NO

YES

Turn off electrical power per paragraph 9-4.

Check for continuity from 2XK17-X1 to 22A2P1-r.

Is continuity present?

YES

NO

Replace gunner armament control panel per TM 9-1090-206-20-1, Chapter 3, Section XVII.

Install armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

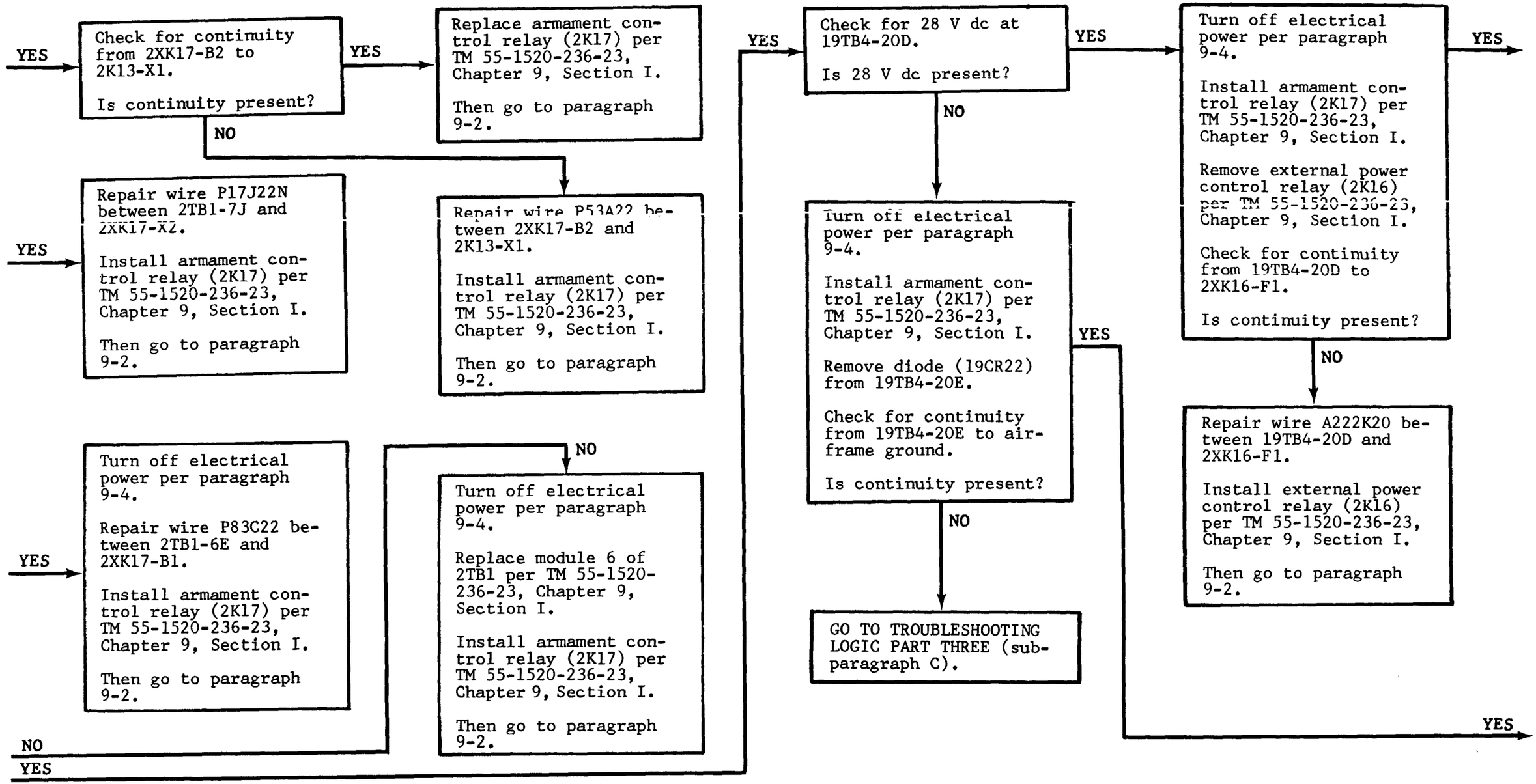
Repair wires A480B22 or A480E22 between 2XK17-X1 and 22A2P1-r.

Install armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

9-20. NOo 28 V DC ON ARMAMENT BUS (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED) .



9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED) .

YES

Remove transformer rectifier unit relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK16-F2 to 2XK15-E3.

Is continuity present?

NO

Repair wire P84A22 between 2XK16-F2 and 2XK15-E3.

Install transformer rectifier unit relay (2K15) and external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Check for continuity from 2XK15-E2 to 2TB1-6K.

Is continuity present?

NO

Repair wire P83A22 between 2XK15-E2 and 2TB1-6K.

Install transformer rectifier unit relay (2K15) and external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Check for continuity on transformer rectifier unit relay (2K15) from pin E2 to pin E3.

Is continuity present?

NO

Replace transformer rectifier unit relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Install external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Replace external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Install transformer rectifier unit relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

YES

9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

Remove external power control relay (2K16).

Check for continuity from 19TB4-20D to airframe ground.

Is continuity present?

YES

Repair wire A222K20 between 19TB4-20D and 2K16-F1 to eliminate short.

Replace diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Install external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

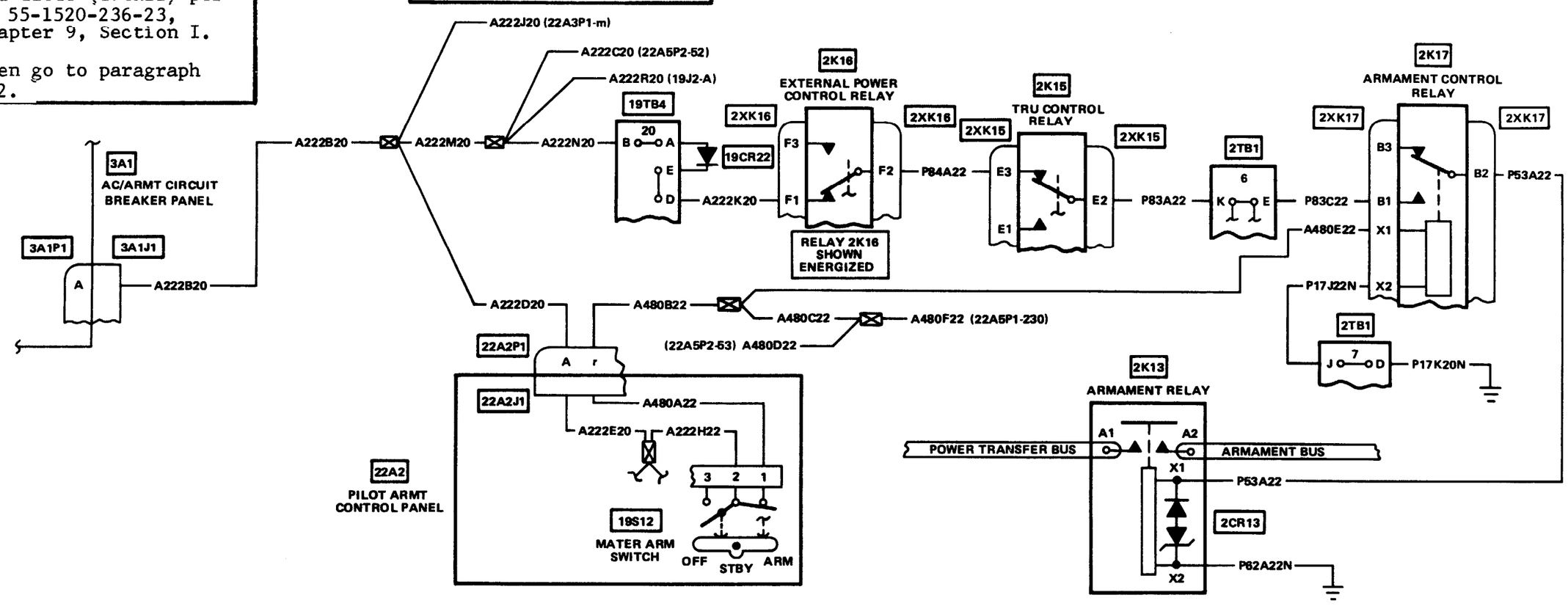
NO

Replace external power control relay (2K16) and diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

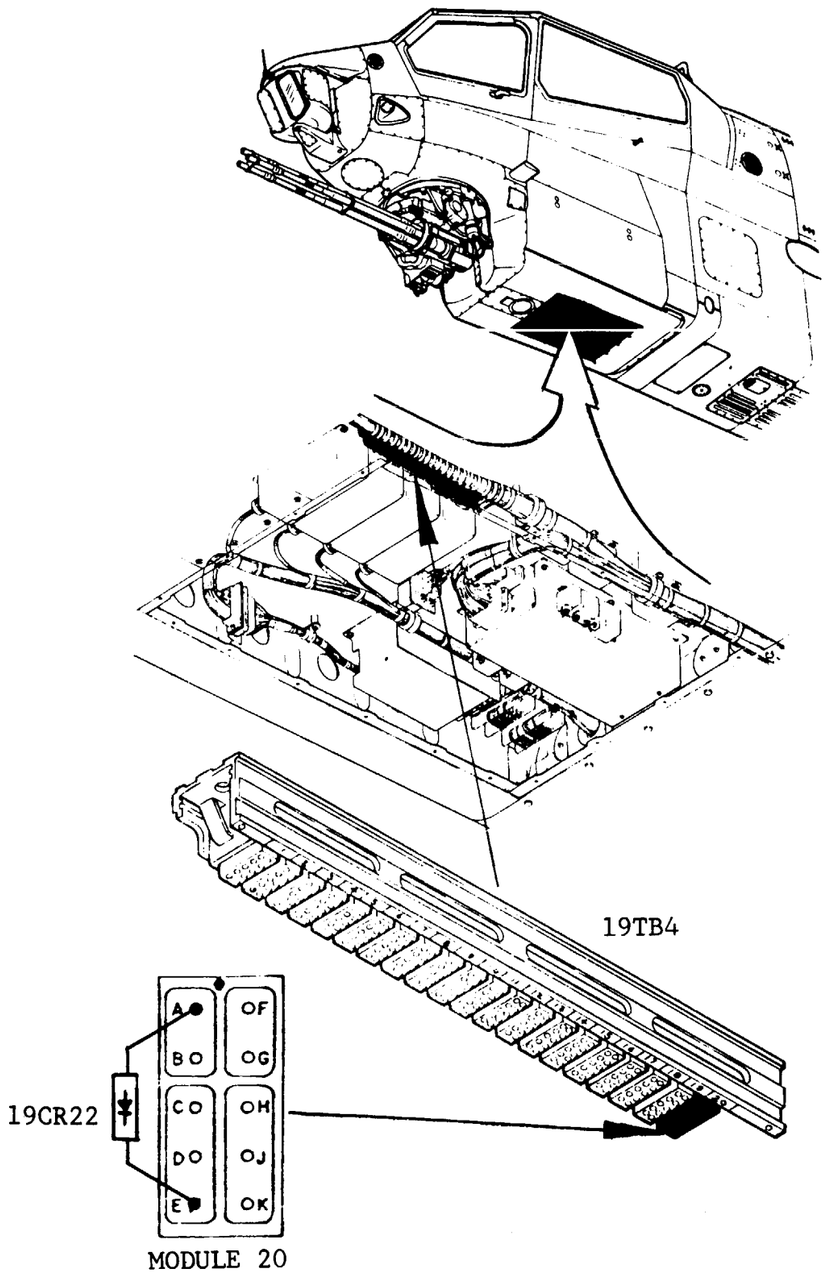
YES

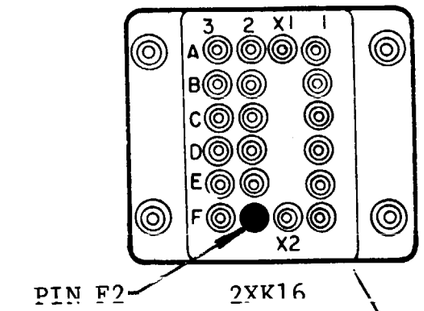
YES

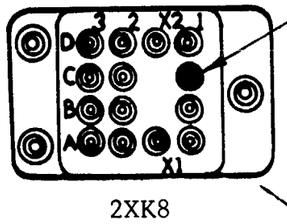


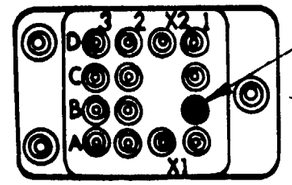
9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

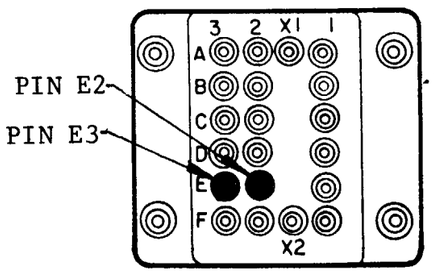
C. TROUBLESHOOTING LOGIC PART THREE.

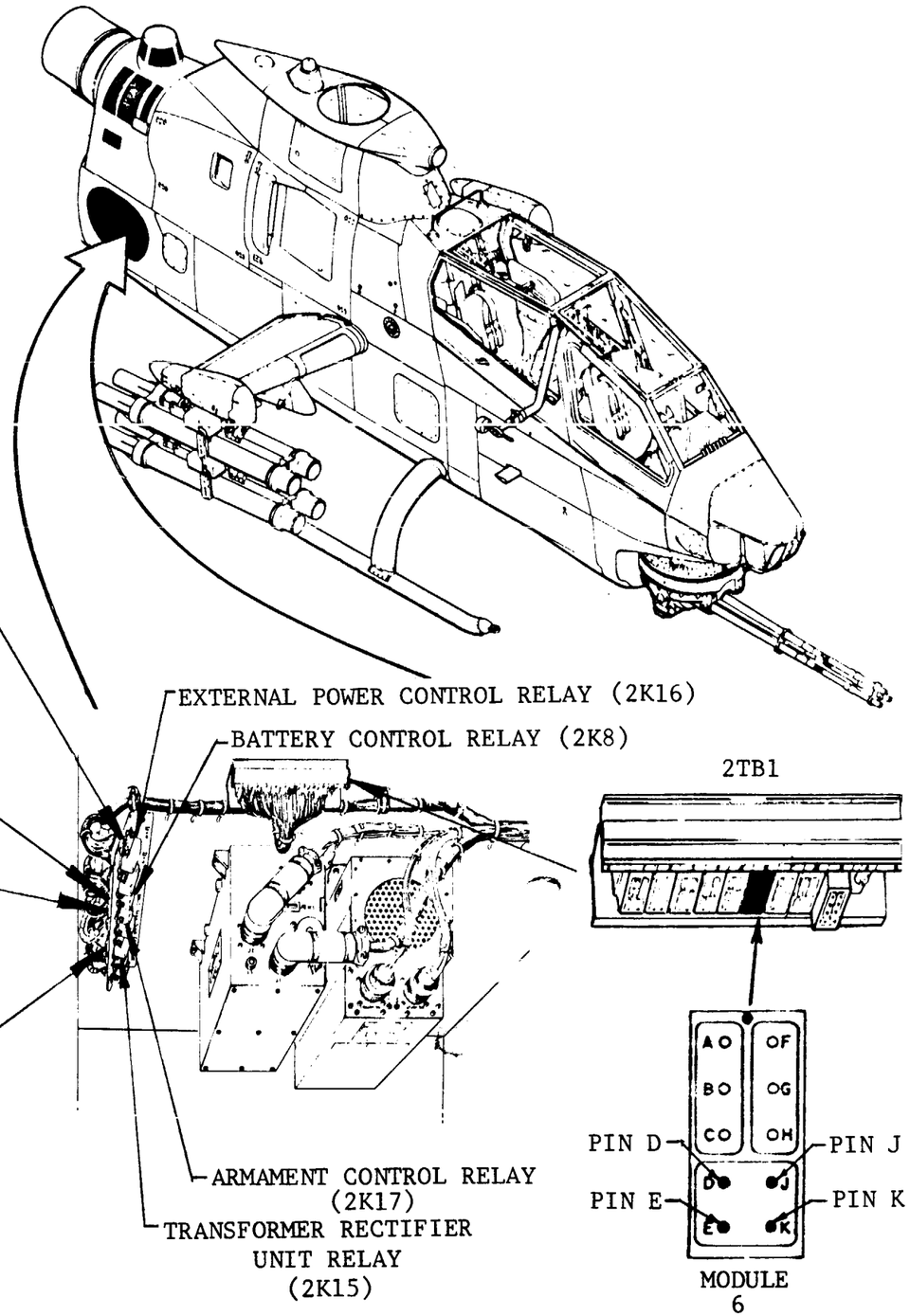


9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).
C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED) .

Check for continuity from 2TB1-6D to airframe ground.

Is continuity present?

NO

Go to Troubleshooting Logic Part Four (Subparagraph D).

YES

Remove wire P83A22 from 2TB1-6K.

Check for continuity from 2TB1-6D to airframe ground.

Is continuity present?

NO

Remove external power control relay (2K16).

Check for continuity from 2XK16-F2 to airframe ground.

Is continuity present?

NO

Replace external power control relay(2K16) and diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire P83A22 into 2TB1-6K.

Then go to paragraph 9-2.

YES

Remove wire P83C22 from 2TB1-6E.

Check for continuity from 2TB1-6D to airframe ground.

Is continuity present?

NO

Remove armament conrol relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK17-B1 to airframe ground.

Is continuity present?

NO

Replace armament control relay (2K17) and diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wires P83C22 into 2TB1-6E and P83A22 into 2TB1-6K.

Then go to paragraph 9-2.

YES

Remove battery control relay (2K8).

Check for continuity from 2TB1-6D to airframe ground.

Is continuity present?

NO

Replace battery control relay (2K8) and diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wires P83C22 into 2TB1-6E and P83A22 into 2TB1-6K.

Then go to paragraph 9-2.

YES

Repair wire P83C22 between 2XK17-B1 and 2TB1-6E to eliminate short.

Replace diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Install armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wires P83C22 into 2TB1-6E and P83A22 into 2TB1-6K.

Then go to paragraph 9-2.

YES

Repair wire P83B22 between 2XK8-C1 and 2TB1-6J to eliminate short.

Replace diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Install battery control relay (2K8) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wires P83C22 into 2TB1-6E and P83A22 into 2TB1-6K.

Then go to paragraph 9-2.

9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

YES

Remove transformer rectifier unit relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK15-E3 to airframe ground.

Is continuity present?

YES

Repair wire P84A22 between 2XK15-E3 and 2XK16-F2 to eliminate short.

Replace diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Install transformer rectifier unit relay (2K15) and external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire P83A22 into 2TB1-6K.

Then go to paragraph 9-2.

NO

Check for continuity from 2XK15-E2 to airframe ground.

Is continuity present?

YES

Repair wire P83A22 between 2XK15-E2 and 2TB1-6K to eliminate short.

Insert wire P83A22 into 2TB1-6K.

Replace diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Install transformer rectifier unit relay (2K15) and external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

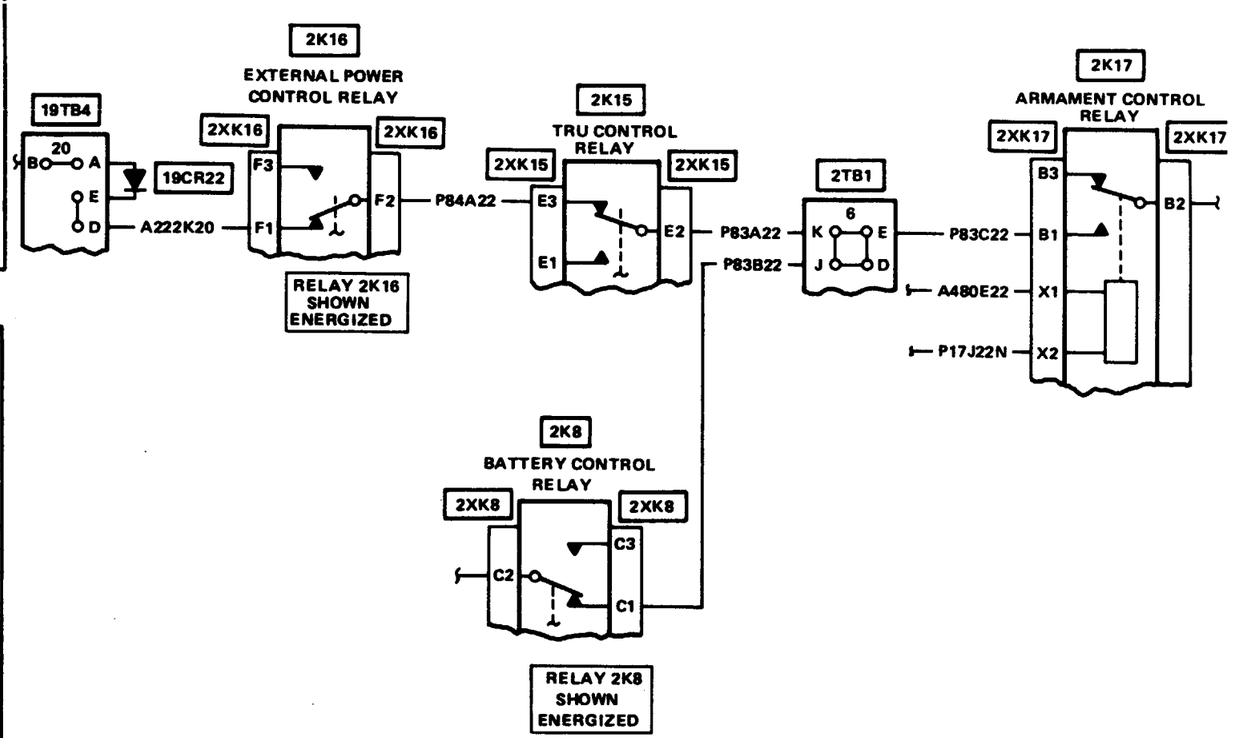
Replace transformer rectifier unit relay (2K15) and diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Install external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire P83A22 into 2TB1-6K.

Then go to paragraph 9-2.

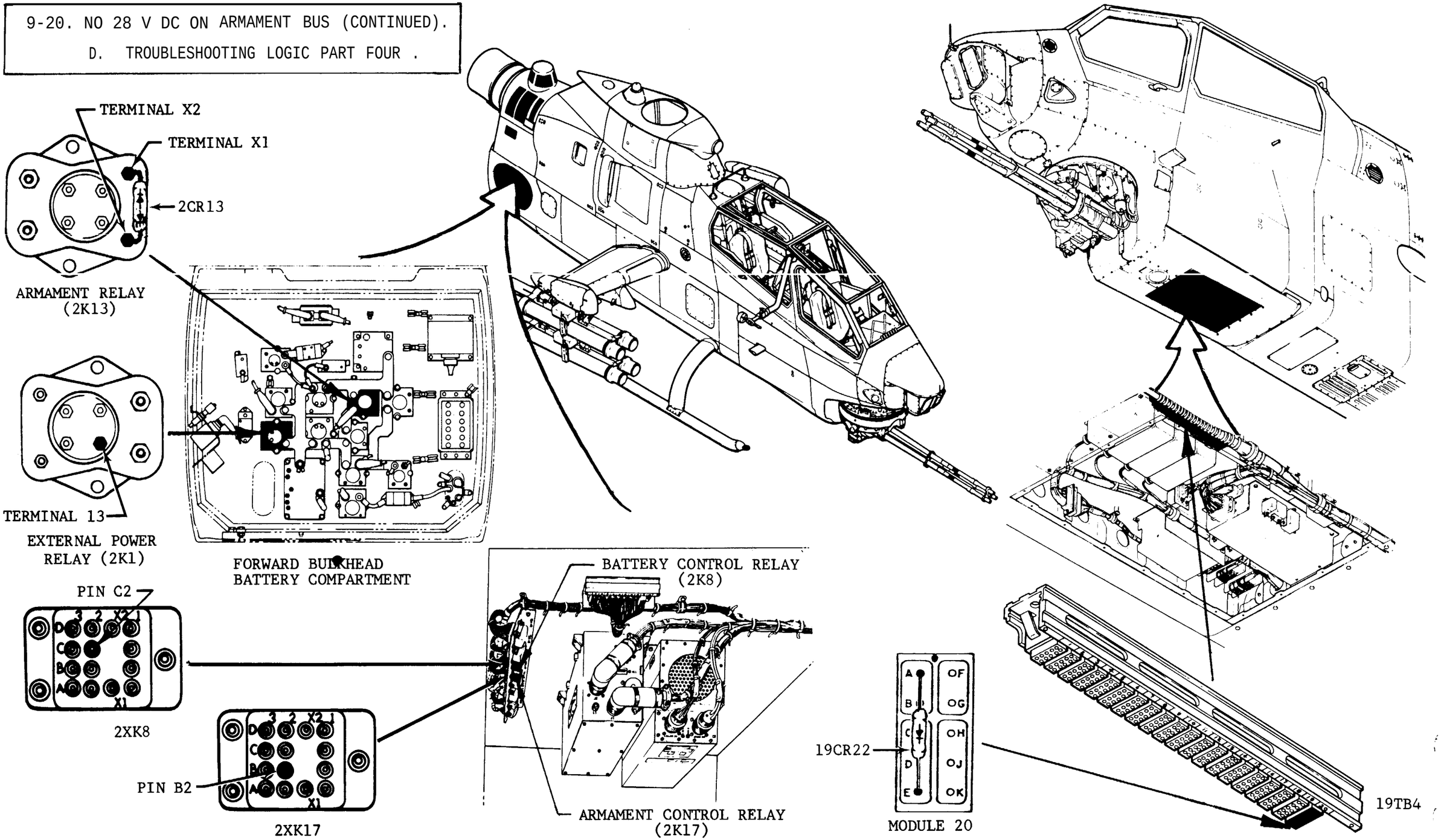
YES



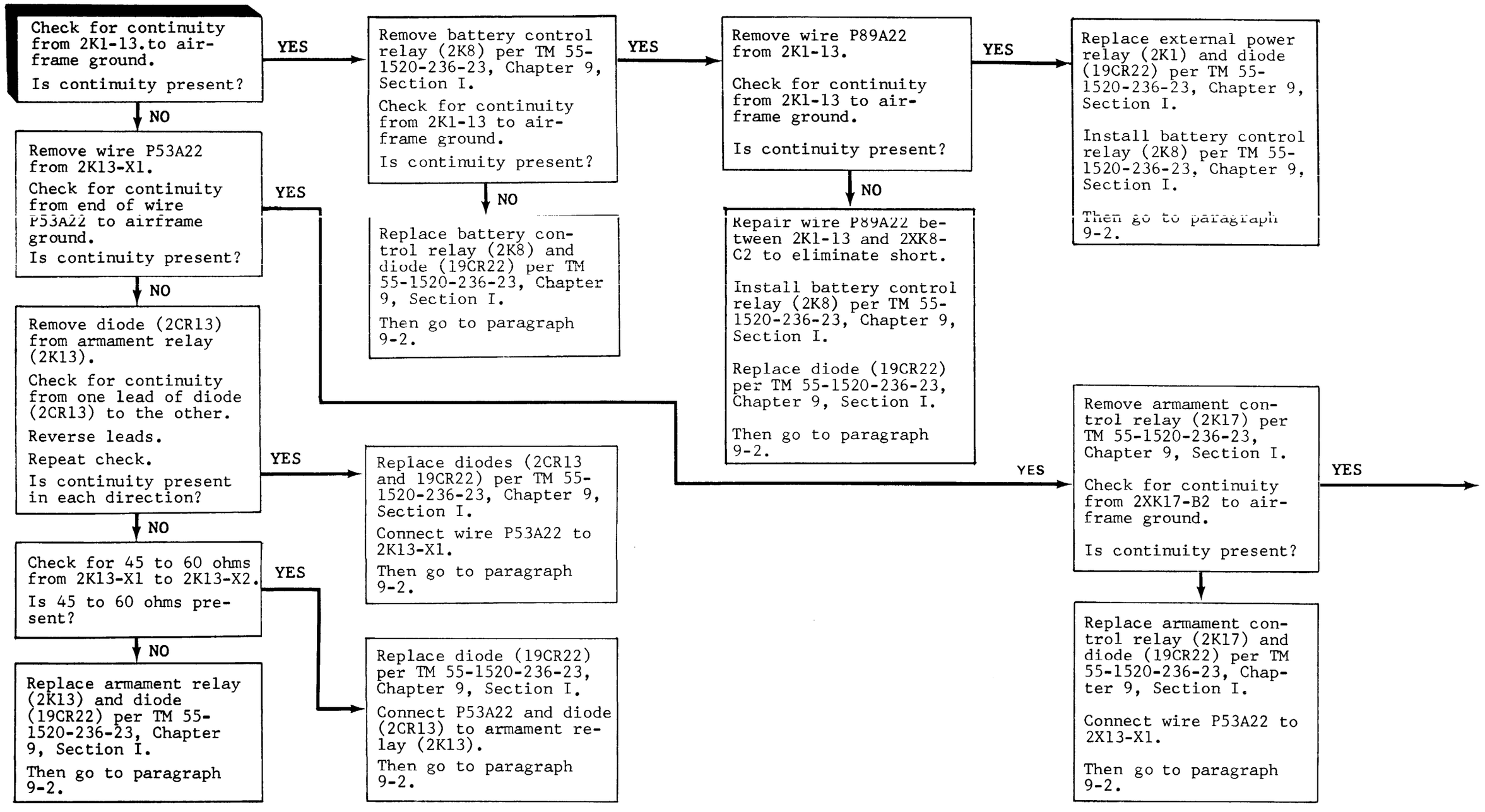
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9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR .



9-20. NO 28 V DC ON ARMAMENT BUS (CONTINUED).
D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



9-20. NO 28 V DC ON ARMAMENT BUS ( CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR ( CONTINUED).

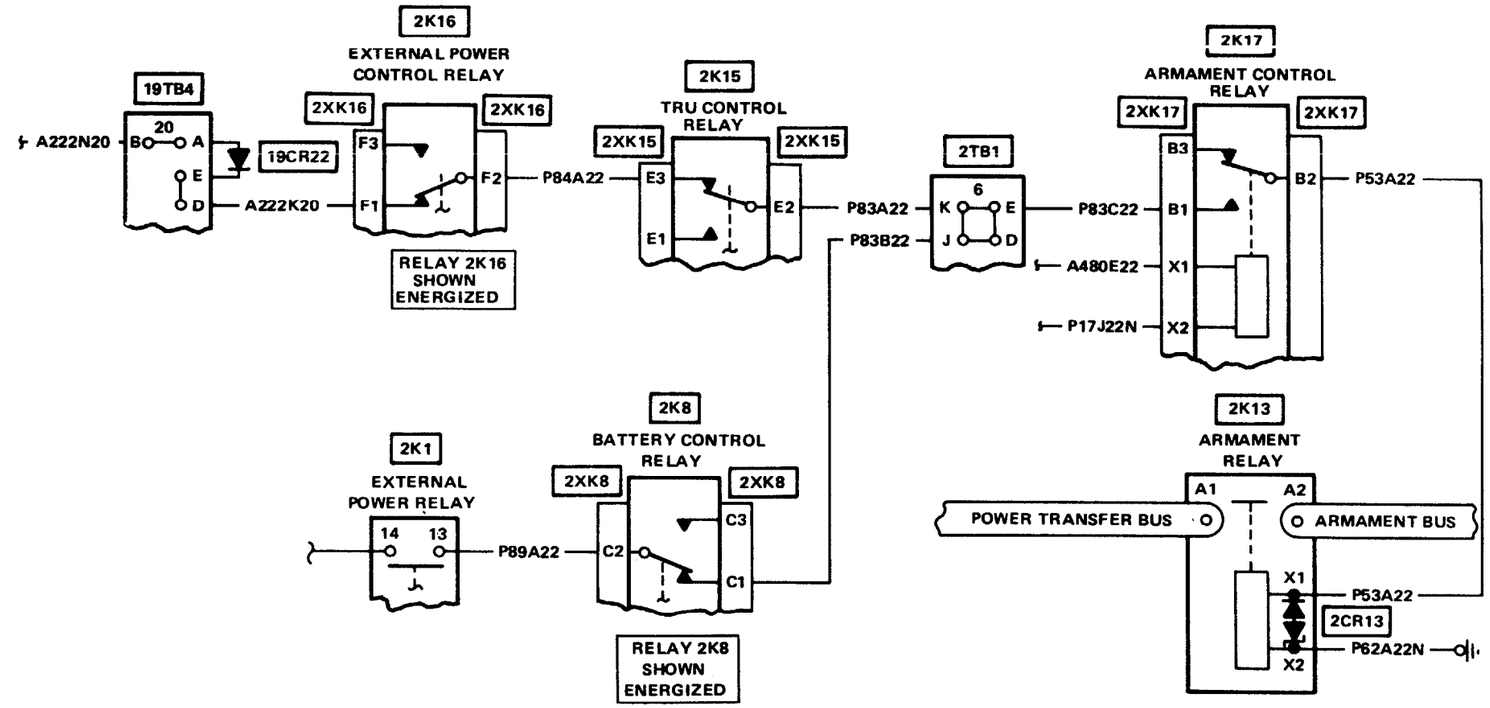
YES →

Repair wire P53A22 between 2XK17-B2 and 2K13-X1 to eliminate short.

Replace diode (19CR22) per TM 55-1520-236-23, Chapter 9, Section I.

Install armament control relay (2K17) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.



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## 9-21. NO 28 V DC ON THE NON ESSENTIAL BUS.

INITIAL SETUP

Applicable Configuration
All

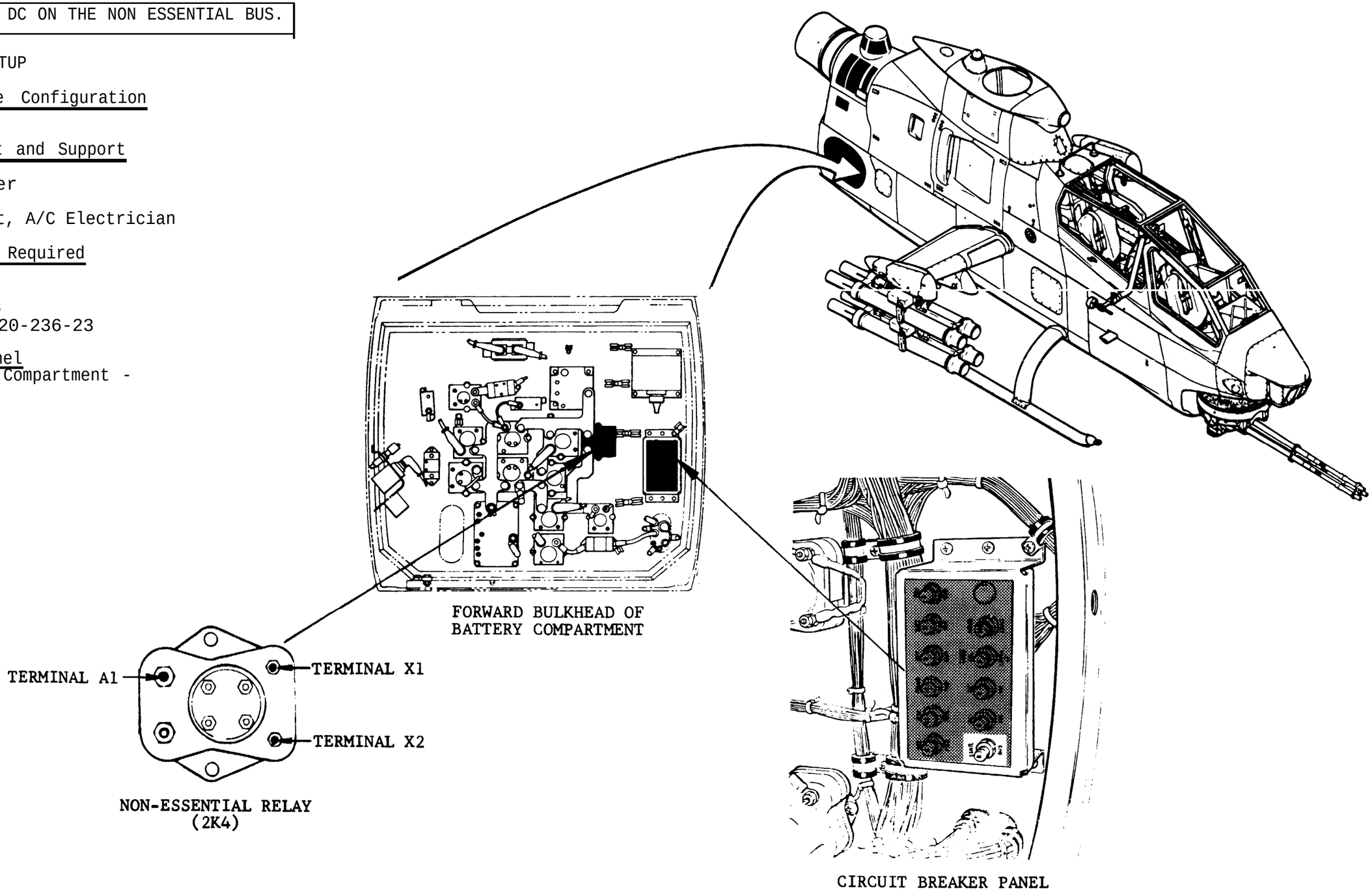
Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

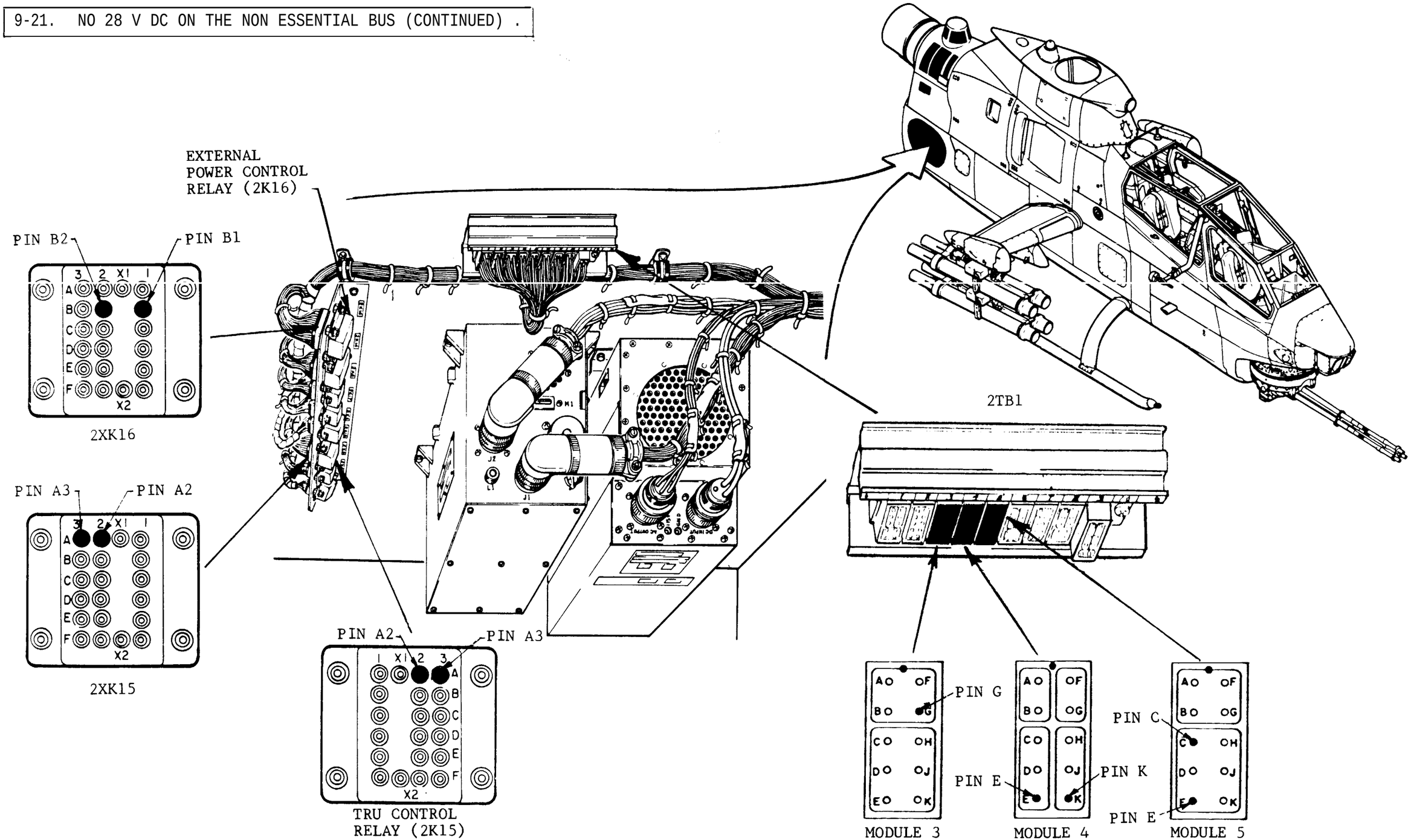
Personnel Required
68F (2)

References
TM 55-1520-236-23

Access Panel
Battery Compartment - Removed



9-21. NO 28 V DC ON THE NON ESSENTIAL BUS (CONTINUED) .



9-21. NO 28 V DC ON THE NON ESSENTIAL BUS (CONTINUED).

Check for 28 V dc at 2K4-A1.

Is 28 V dc present?

NO → Go to paragraph 9-19.

YES → Check for 28 V dc at 2K4-X1.

Is 28 V dc present?

NO → On circuit breaker panel in battery compartment:

Check ESNTL BUS circuit breaker.

Is circuit breaker open?

YES → Go to paragraph 9-39.

NO → On circuit breaker panel in battery compartment:

Open ESNTL BUS circuit breaker.

Turn off electrical power per paragraph 9-4.

Check for continuity from 2TB1-3G to airframe ground.

Is continuity present?

YES → Go to paragraph 9-38.

NO →

YES → Check for less than 1 V dc at 2K4-X2.

Is less than 1 V dc present?

NO → Turn off electrical power per paragraph 9-4.

Repair wire P67A22N between 2K4-X2 and airframe ground.

Then go to paragraph 9-2.

YES → Turn off electrical power per paragraph 9-4.

Replace non-essential relay (2K4) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

9-21. NO 28 V DC ON THE NON ESSENTIAL BUS (CONTINUED).

NO

Turn on electrical power per paragraph 9-4.

On circuit breaker panel in battery compartment:

Close ESNTL BUS circuit breaker.

Check for 28 V dc at 2TB1-5E.

Is 28 V dc present?

YES → Check for 28 V dc at 2TB1-4K.

Is 28 V dc present?

YES

NO → Check for 28 V dc at 2TB1-4E.

Is 28 V dc present?

YES

NO → Turn off electrical power per paragraph 9-4.

Check for continuity from 2XK16-B2 to 2TB1-4E.

Is continuity present?

YES

NO → Turn off electrical power per paragraph 9-4.

Repair wire P12D22 between 2TB1-4E and 2XK16-B2.

Then go to paragraph 9-2.

NO → Check for 28 V dc at 2TB1-5C.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Replace module 5 of 2TB1 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Turn off electrical power per paragraph 9-4.

Remove TRU control relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2K15-A2 to 2K15-A3.

Is continuity present?

YES → Check for continuity from 2TB1-5C to 2XK15-A2.

Is continuity present?

YES → Repair wire P22B22 between ESNTL BUS circuit breaker on circuit breaker panel in battery compartment and 2XK15-A3.

Install TRU control relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Repair wire P13E22 between 2TB1-5C and 2XK15-A2.

Install TRU control relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Replace TRU control relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

**9-21. NO 28 V DC ON THE NON ESSENTIAL BUS (CONTINUED).**

YES → Turn off electrical power per paragraph 9-4.

Repair wire P12C22 between 2TB1-4K and 2K4-X1.

Then go to paragraph 9-2.

YES → Turn off electrical power per paragraph 9-4.

Replace module 4 of 2TB1 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES → Check for continuity from 2XK16-B1 to 2TB1-5E.

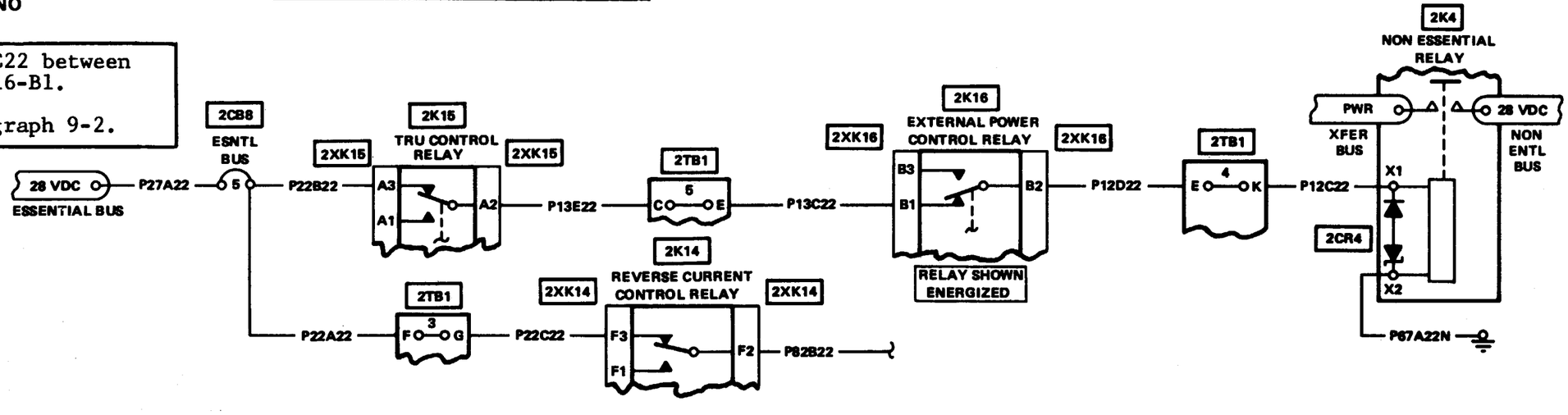
Is continuity present?

YES → Replace external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Repair wire P13C22 between 2TB1-5E and 2XK16-B1.

Then go to paragraph 9-2.



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## 9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

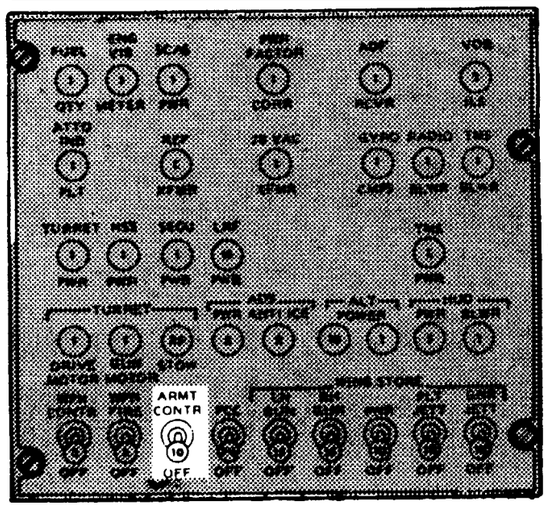
Personnel Required
68F (2)

References
TM 9-1090-206-20-1
TM 55-1520-236-23

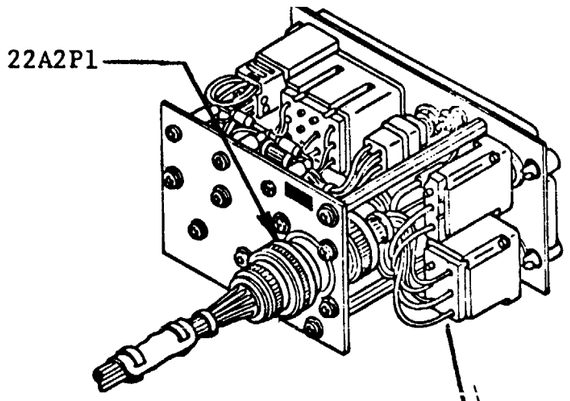
Access Panels
Forward Belly Armament and Lighting - Removed

Right Side Glareshield Access Panel - Removed

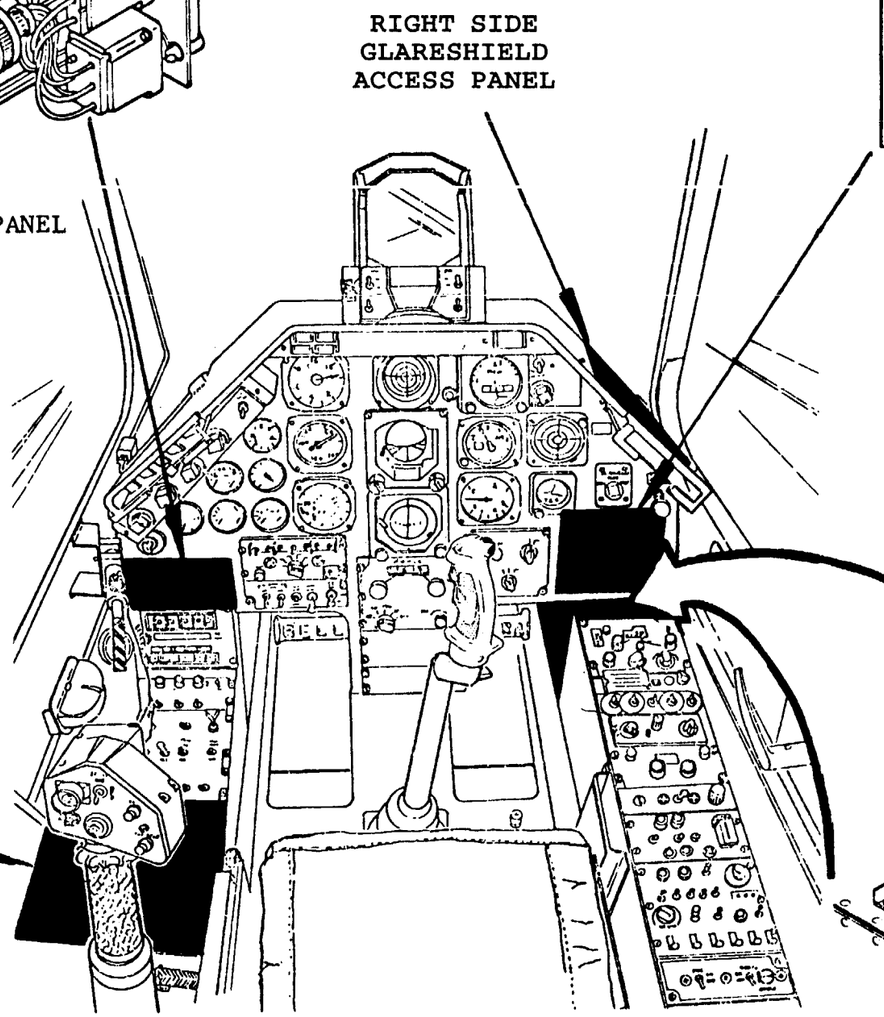
**A. TROUBLESHOOTING LOGIC PART ONE.**



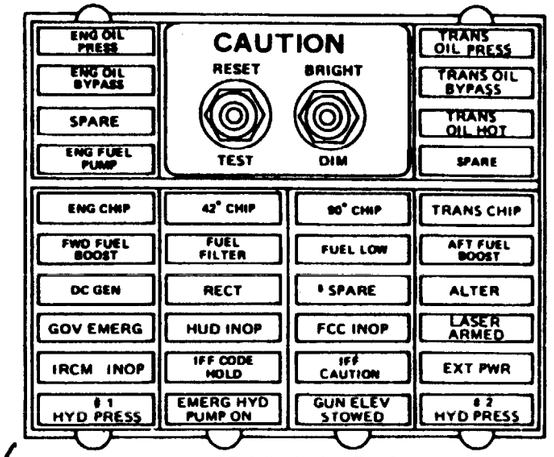

AC/ARMT CIRCUIT BREAKER PANEL



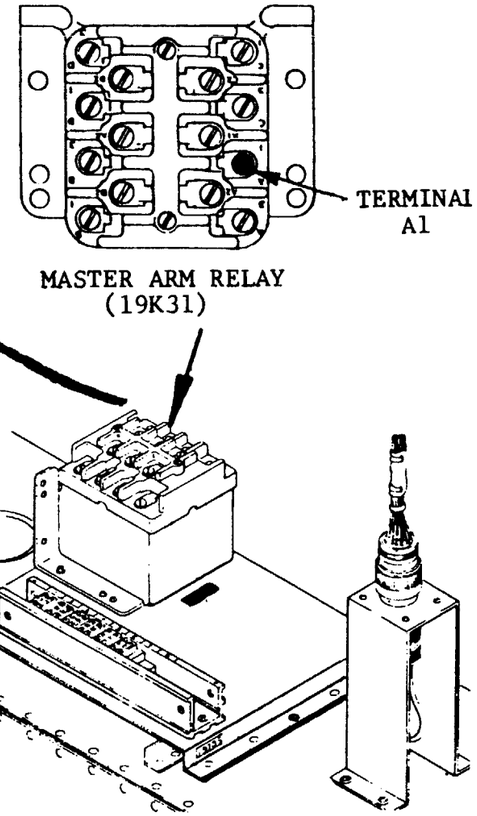

PILOT ARMT CONTROL PANEL (REAR VIEW)




PILOT STATION



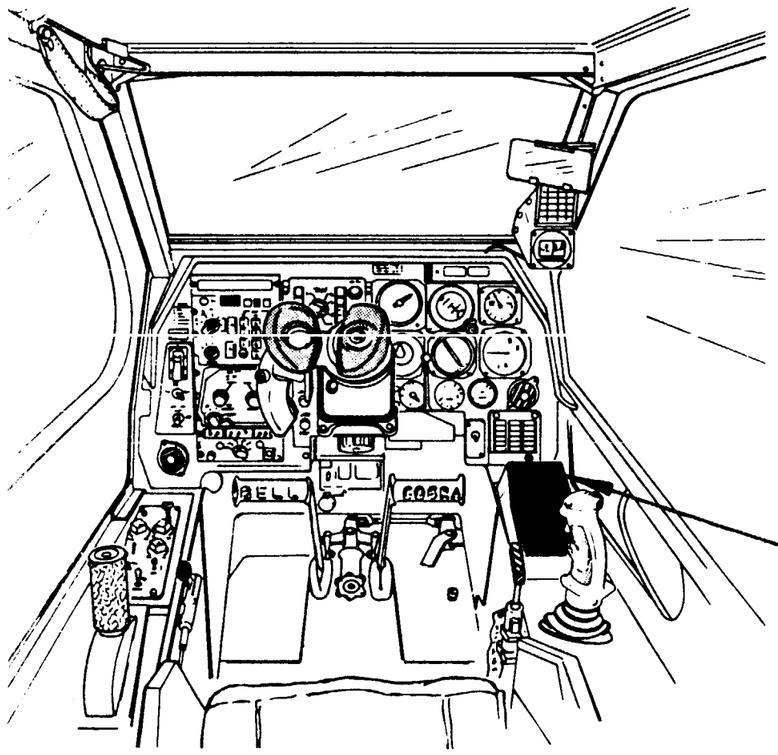

PILOT CAUTION PANEL



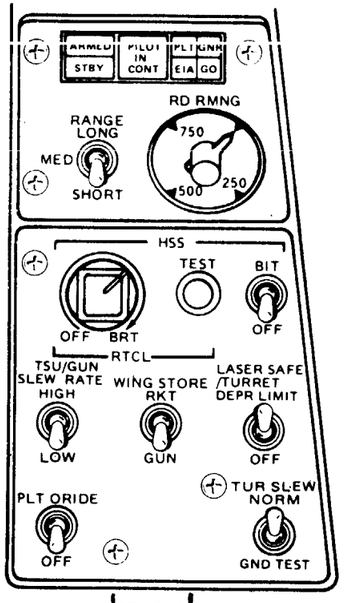

MASTER ARM RELAY (19K31)

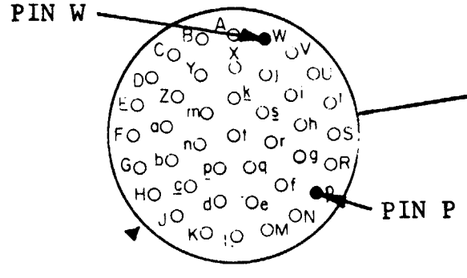
9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



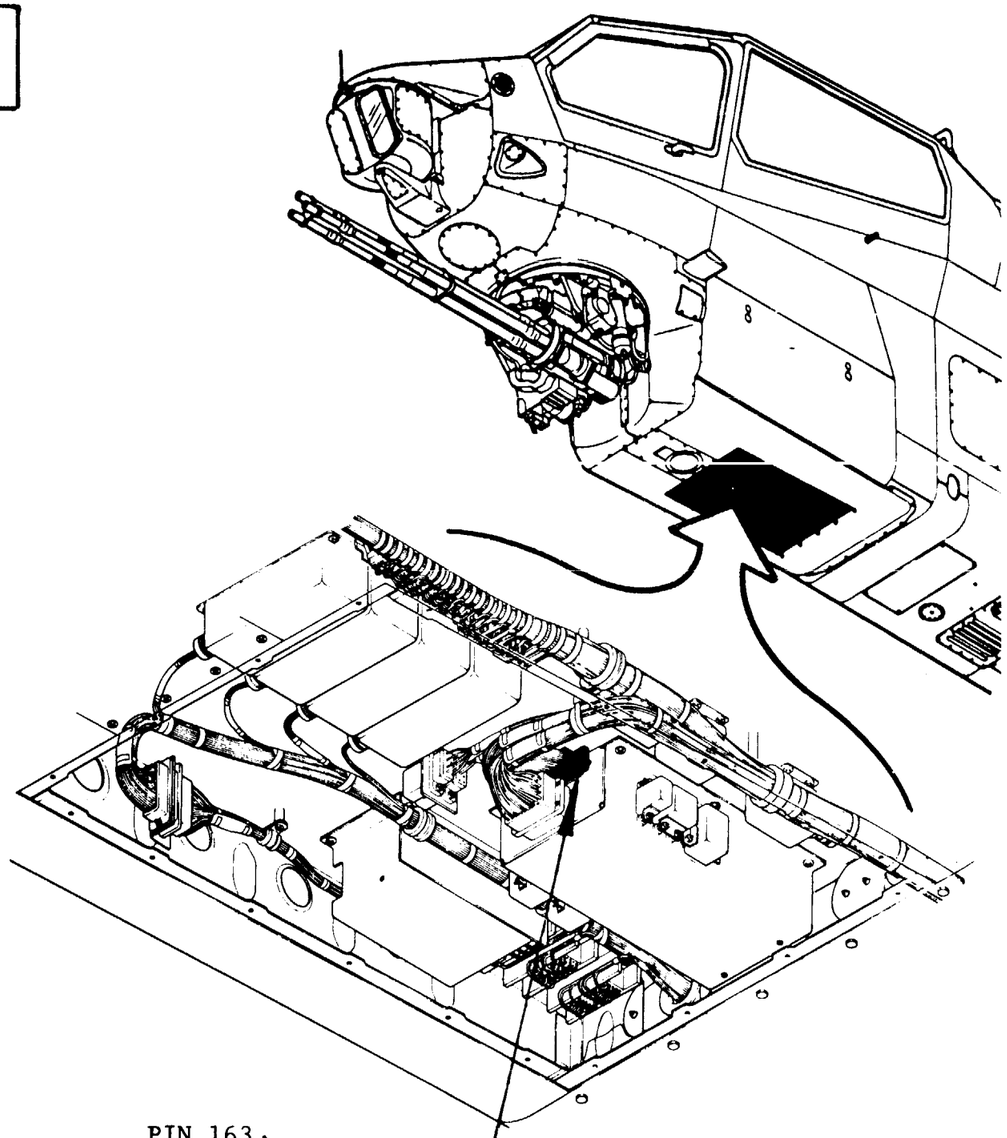

GUNNER STATION




22A3P1

GUNNER ARMAMENT CONTROL PANEL




22A5P1

9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

Turn off electrical power per paragraph 9-4.

Disconnect 22A2P1 and 22A3P1.

Check for continuity from 22A3P1-W to airframe ground.

Is continuity present?

YES

Check for continuity from 22A5P1-141 to airframe ground.

Is continuity present?

YES

Remove wire A207A22 from 19K31-A1.

Check for continuity from 19K31-A1 to airframe ground.

Is continuity present?

YES

Replace master arm relay (19K31) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1 and 22A3P1.

Then go to paragraph 9-2.

NO

Go to Troubleshooting Logic Part Two (subparagraph B).

NO

Remove splice joining wires A207A22, A207E22, A207D22, and A207E22.

Check for continuity from 22A3P1-P to airframe ground.

Is continuity present?

YES

Repair wire A207D22 between 22A5P1-141 and splice to eliminate short.

Replace splice joining wires A207A22, A207B22, A207D22, and A207E22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1 and 22A3P1.

Then go to paragraph 9-2.

NO

Check for continuity from 22A5P1-141 to airframe ground.

Is continuity present?

YES

NO

Check for continuity from 22A5P1-163 to airframe ground.

Is continuity present?

YES

NO

Repair wire A207A22 between 19K31-A1 and splice to eliminate short.

Replace splice joining wires A207A22, A207B22, A207D22, and A207E22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1 and 22A3P1.

Then go to paragraph 9-2.

Connect 22A2P1.

On AC/ARMT circuit breaker panel:

Reset ARMT CONTR circuit breaker.

Turn on electrical power per paragraph 9-4.

Does ARMT CONTR circuit breaker open?

YES

Turn off electrical power per paragraph 9-4.

Replace gunner armament control panel per TM 9-1090-206-20-1, Chapter 3, Section XVII.

Then go to paragraph 9-2.

NO

Turn off electrical power per paragraph 9-4.

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Connect 22A3P1.

Then go to paragraph 9-2.

9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

YES →

Repair wire A207B22 between 22A3P1-P and splice to eliminate short.

Replace splice joining wires A207A22, A207B22, A207D22, and A207E22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1 and 22A3P1.

Then go to paragraph 9-2.

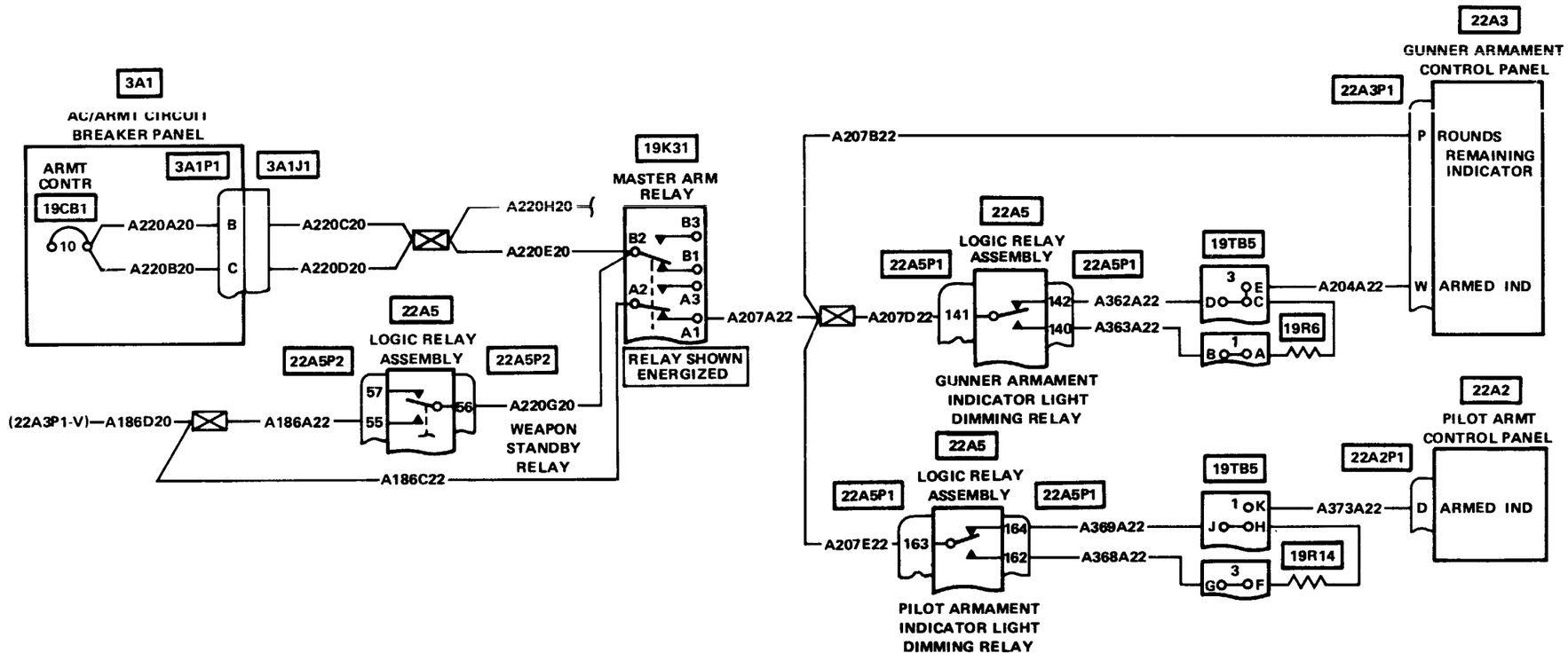
YES →

Repair wire A207E22 between 22A5P1-163 and splice to eliminate short.

Replace splice joining wires A207A22, A207B22, A207D22, and A207E22 per TM 55-1520-236-23, Chapter 9, Section I.

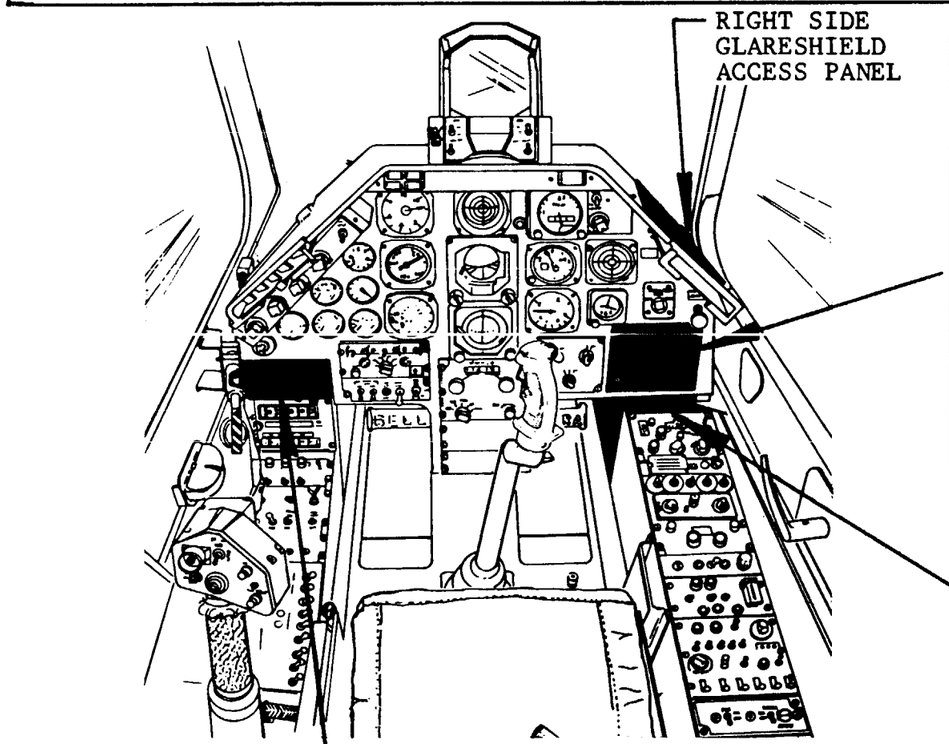
Connect 22A2P1 and 22A3P1.

Then go to paragraph 9-2.

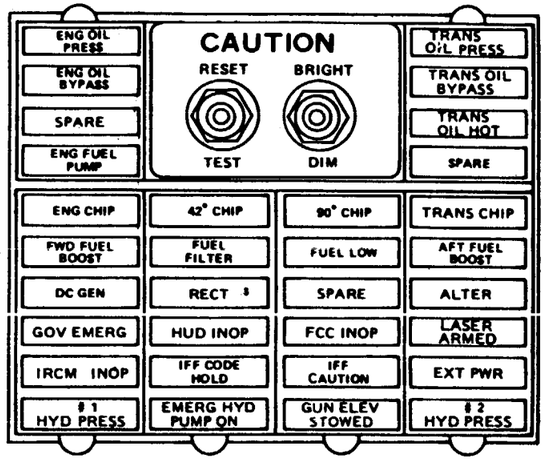


9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).

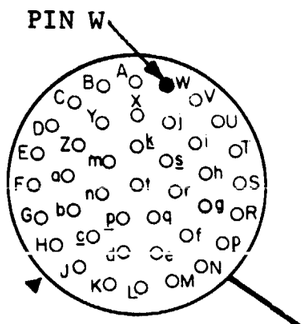
B. TROUBLESHOOTING LOGIC PART TWO .



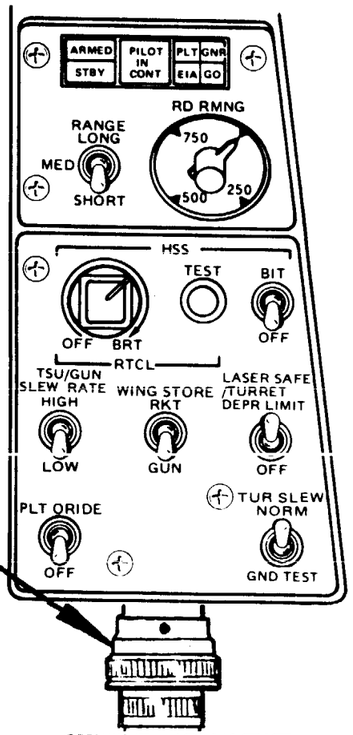

PILOT STATION



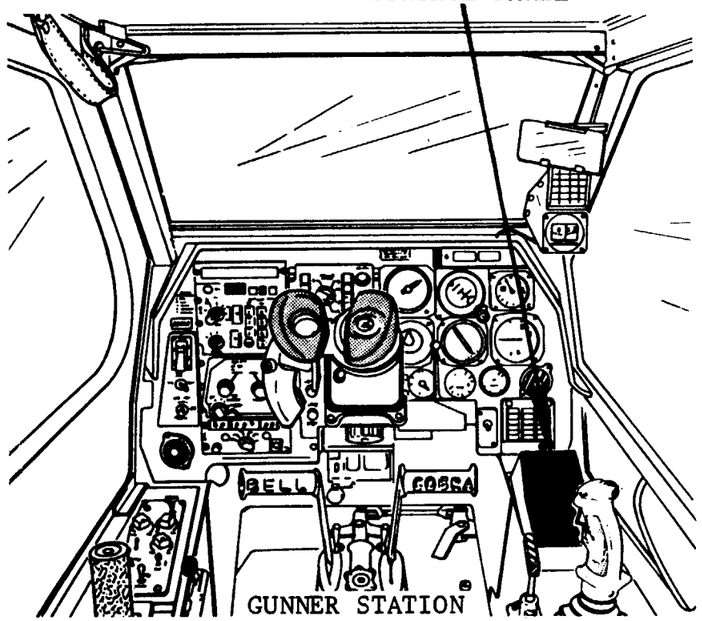

PILOT CAUTION PANEL



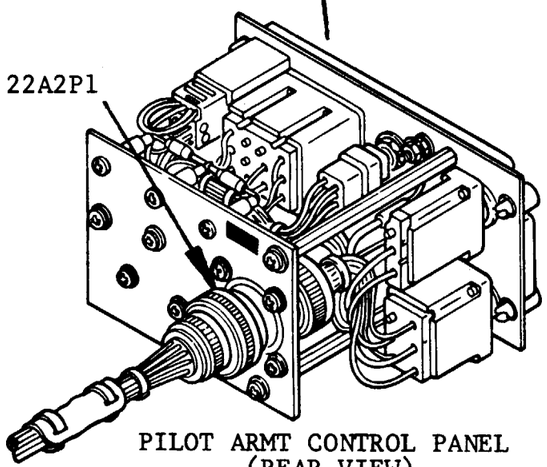

22A3P1



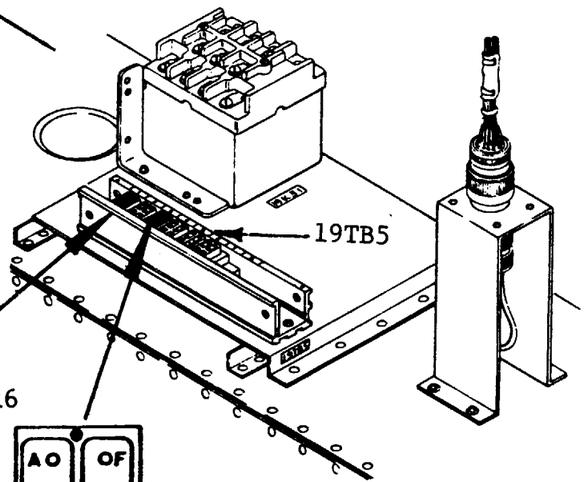

GUNNER ARMAMENT CONTROL PANEL

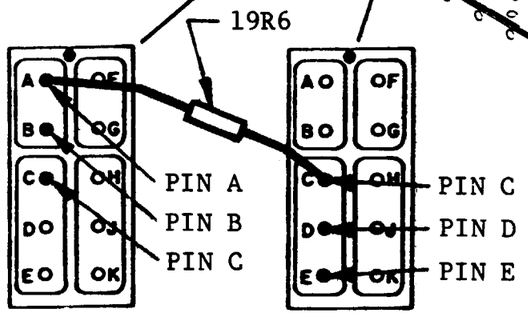



GUNNER STATION




PILOT ARMT CONTROL PANEL (REAR VIEW)



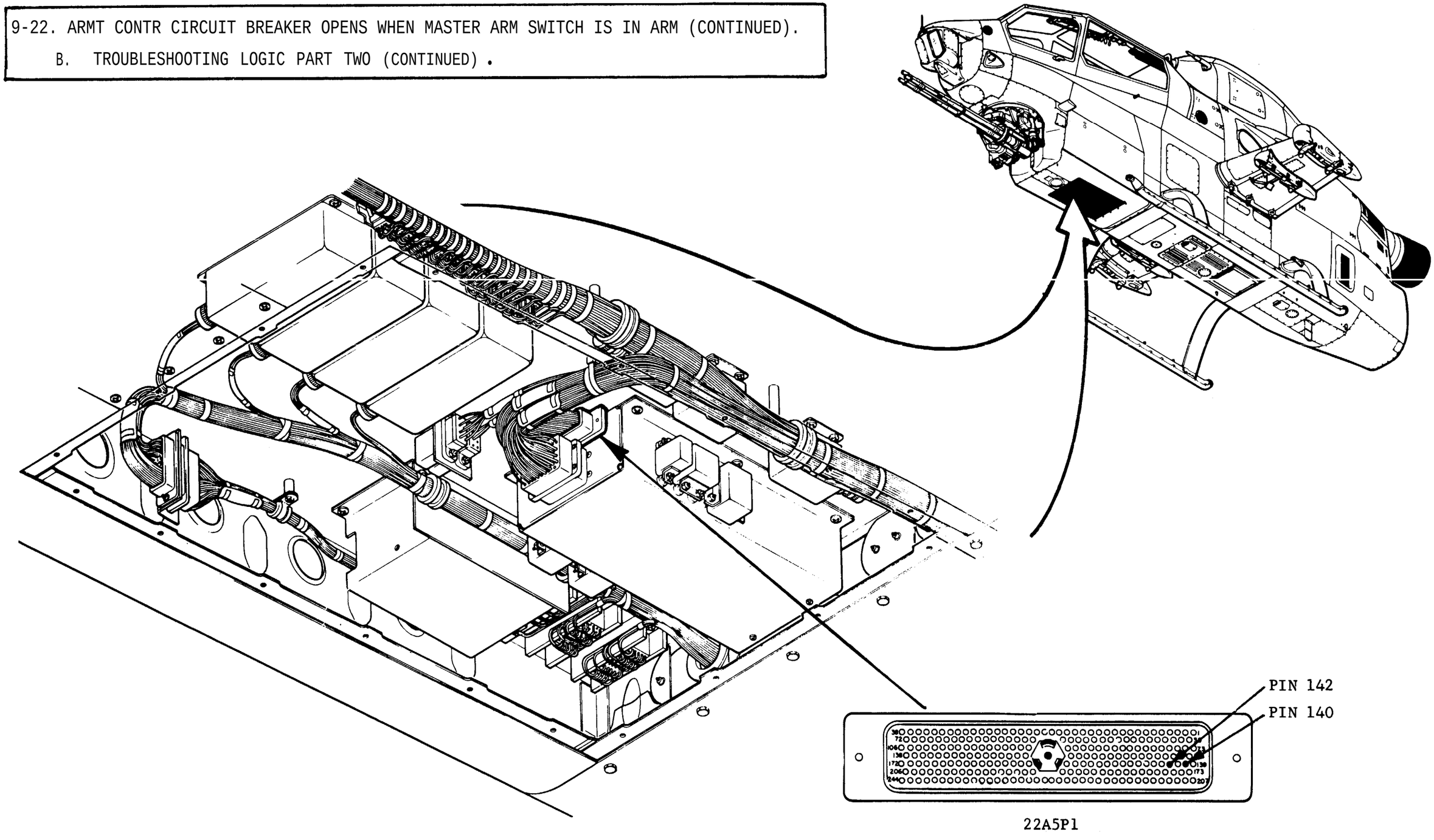

MODULE 1




MODULE 3

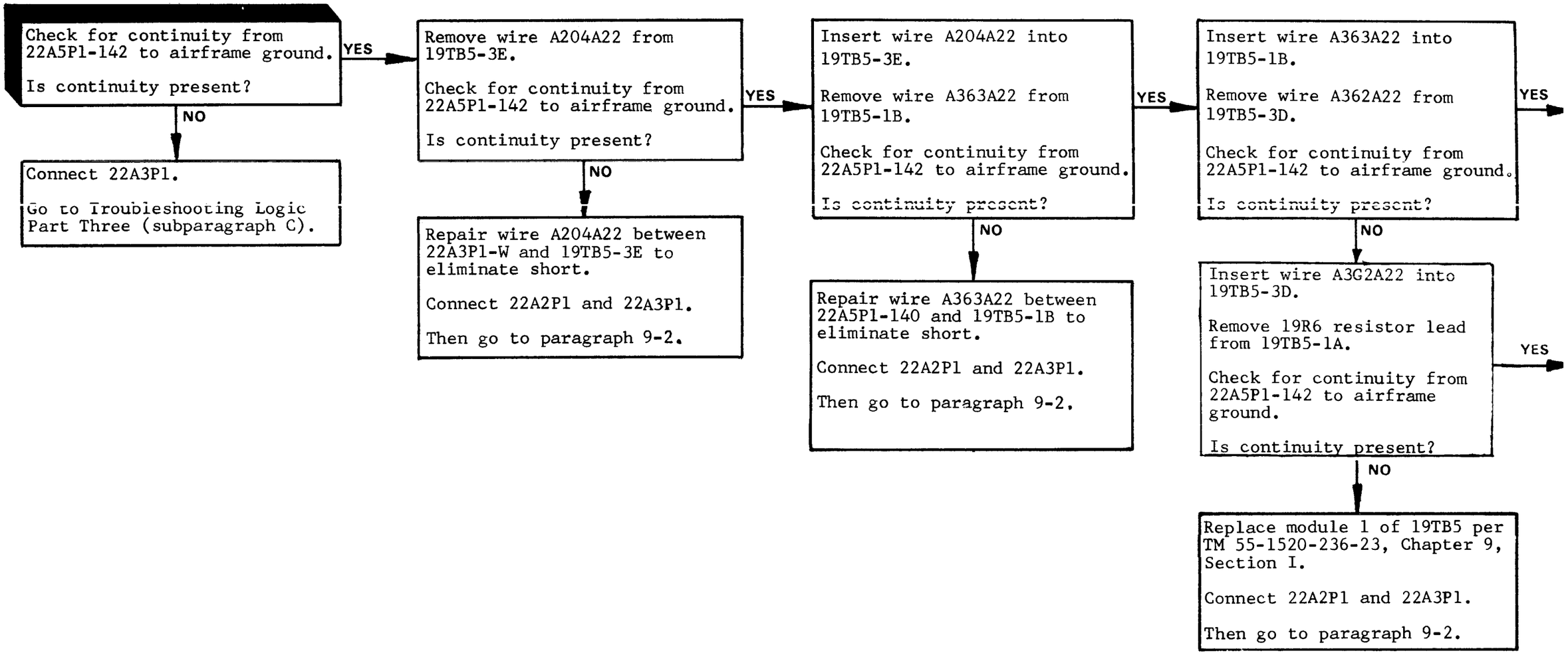
9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED) .



9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN ARM SWITCH IS IN ARM (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED) .



9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED) .

Repair wire A362A22 between 22A5P1-142 and 19TB5-3D to eliminate short.

Connect 22A2P1 and 22A3P1.

Then go to paragraph 9-2.

YES

Remove 19R6 from 19TB5-3C.

Check for continuity from 19TB5-3C to airframe ground.

Is continuity present?

YES

NO

Replace module 3 of 19TB5.

Connect 22A2P1 and 22A3P1.

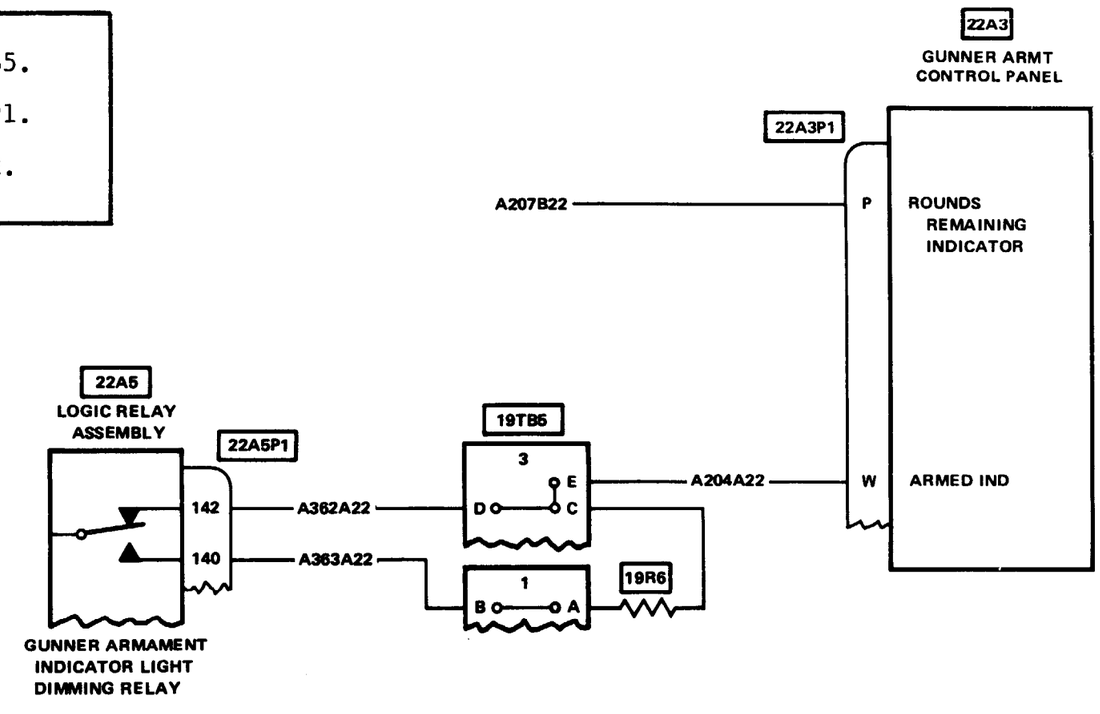
Then go to paragraph 9-2.

YES

Replace resistor 19R6.

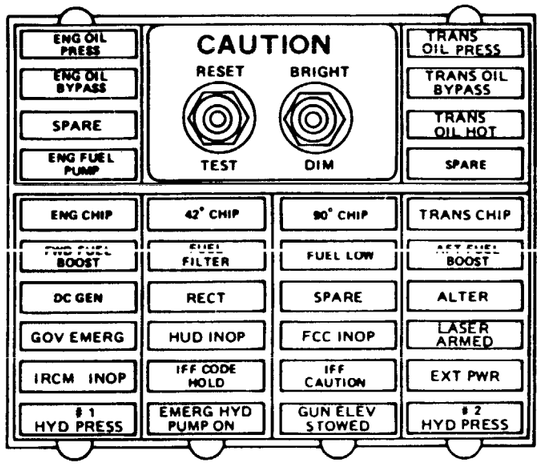
Connect 22A2P1 and 22A3P1.

Then go to paragraph 9-2.

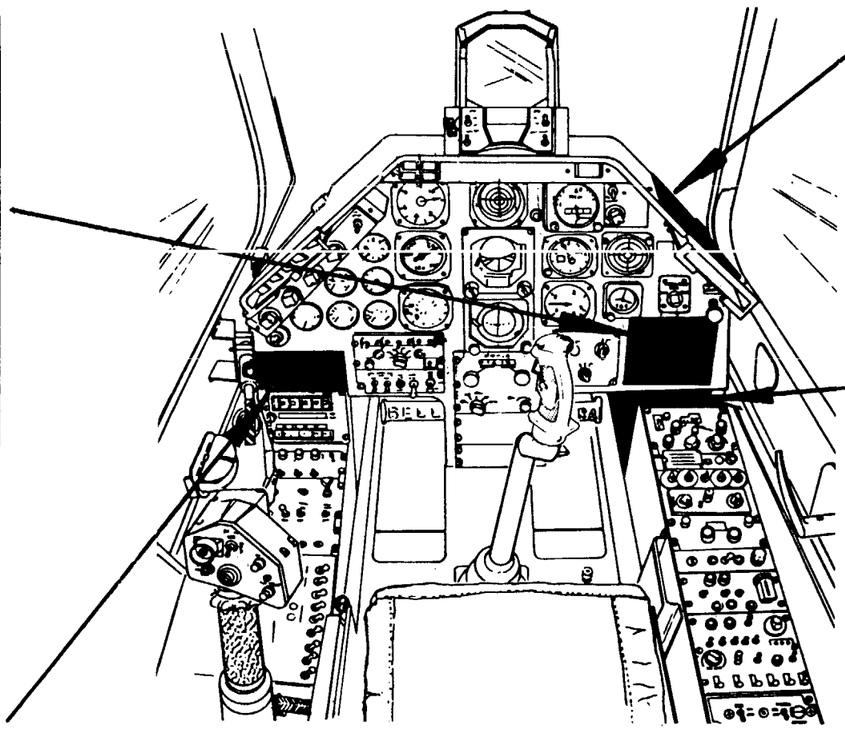


9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).

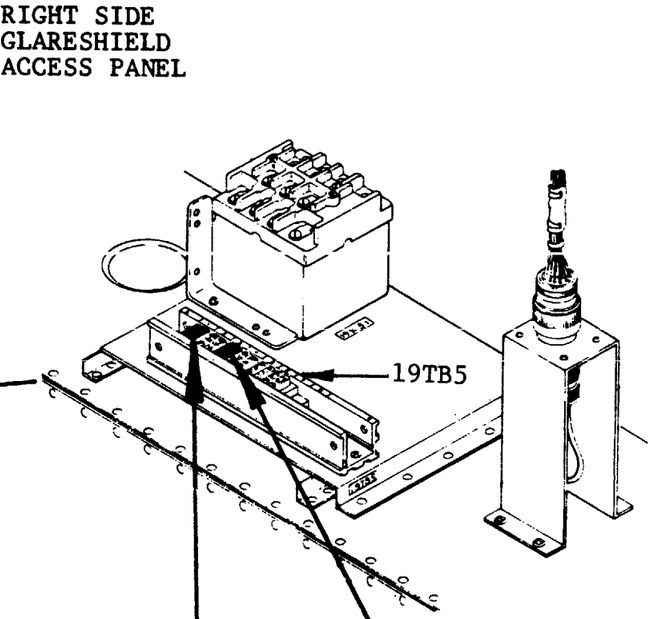
C. TROUBLESHOOTING LOGIC PART THREE.

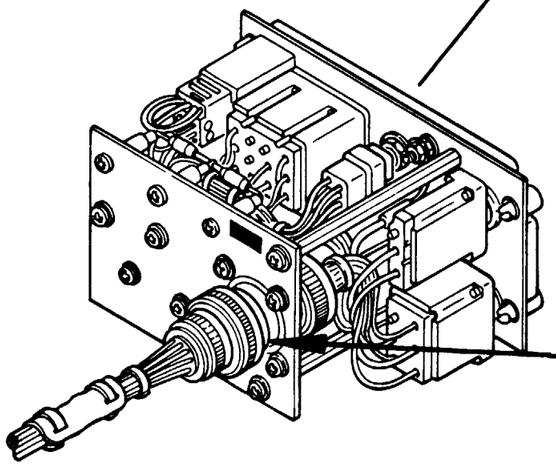



PILOT CAUTION PANEL

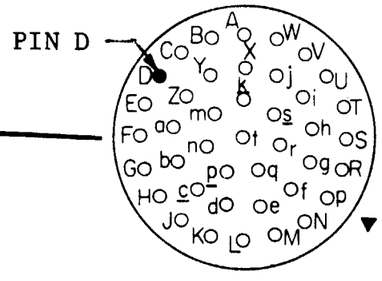


PILOT STATION

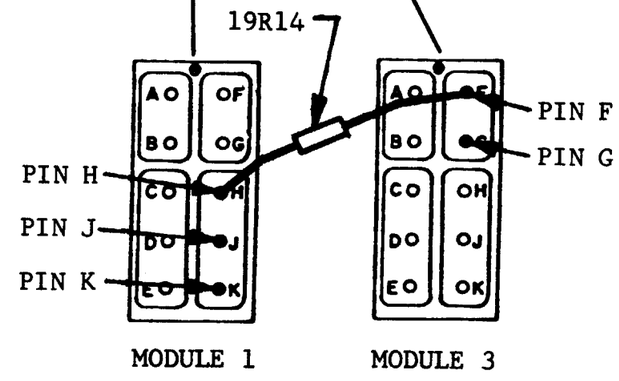


PILOT ARMT CONTROL PANEL (REAR VIEW)

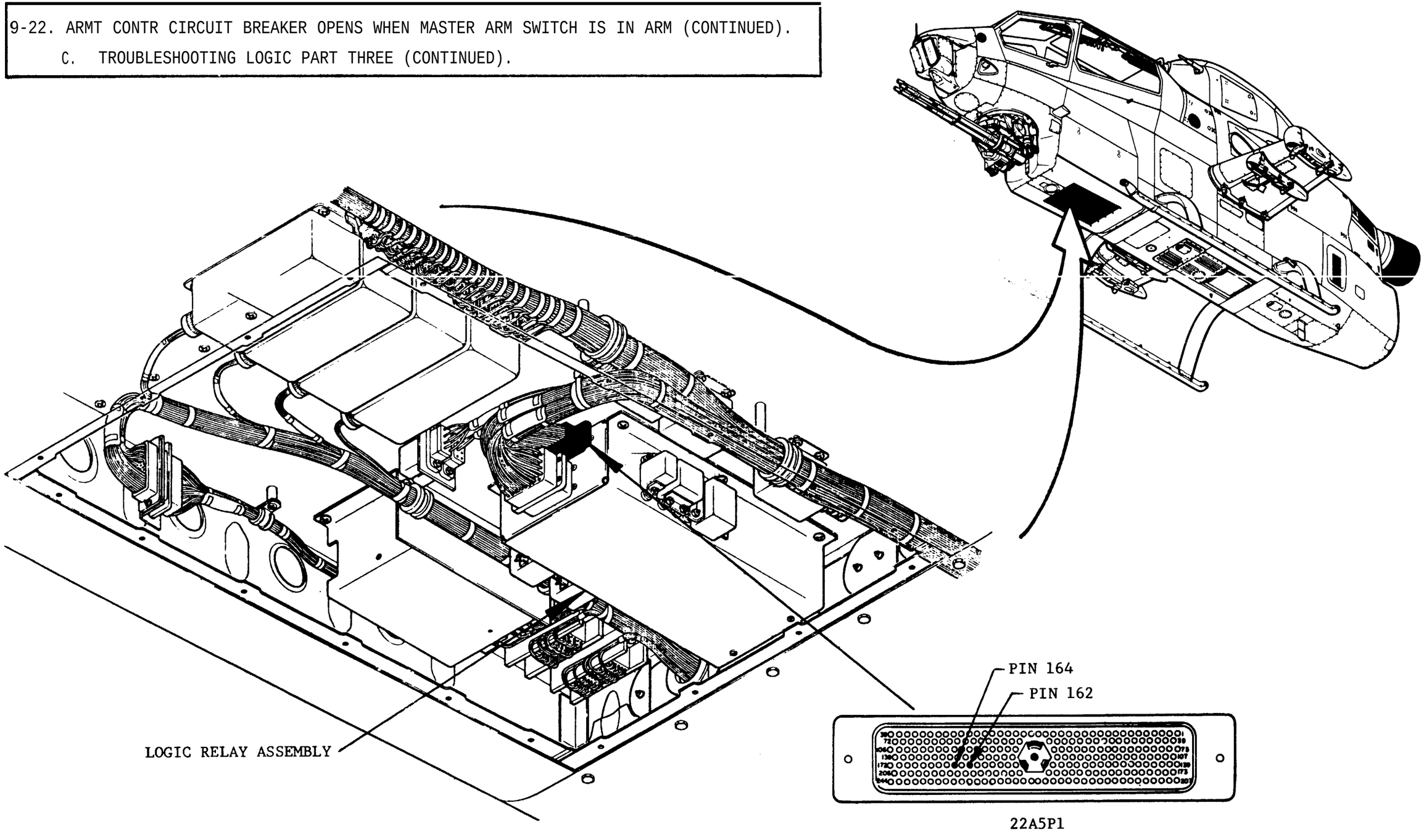



22A2P1

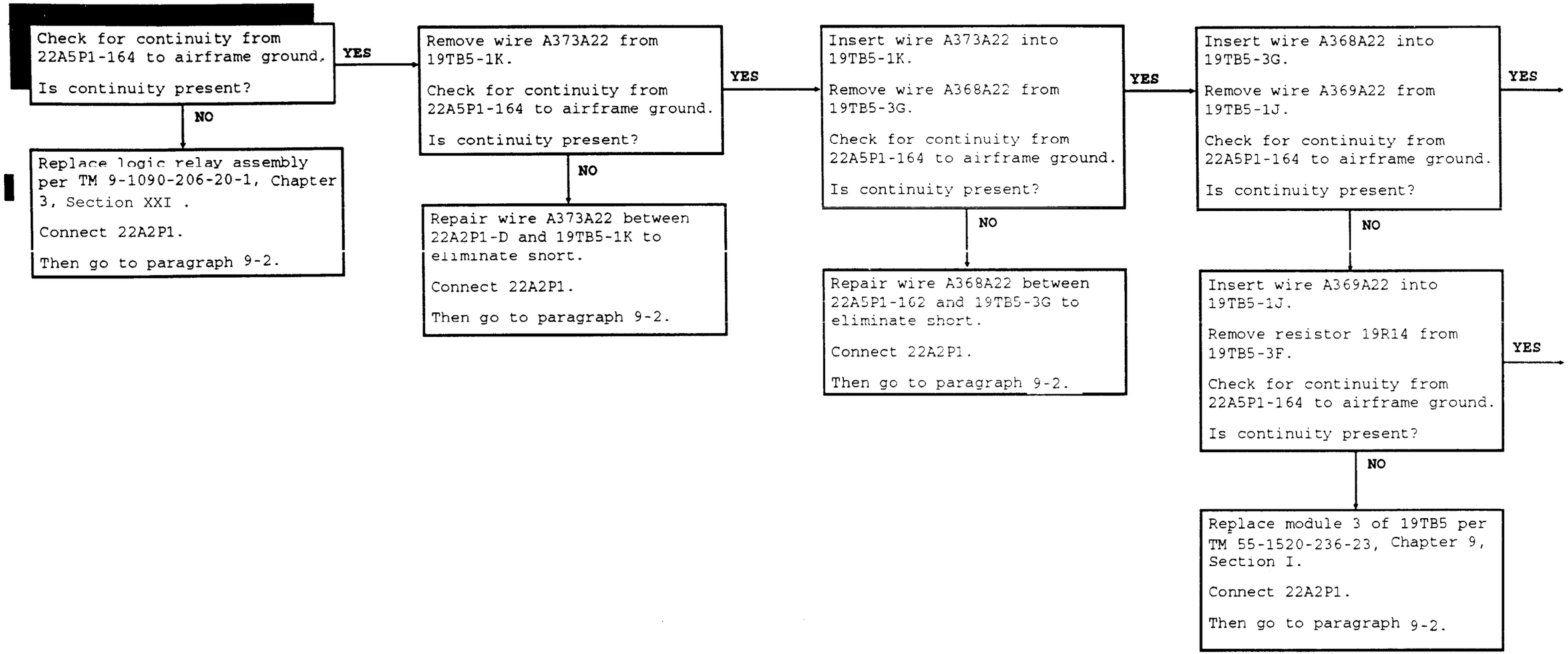


9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).
C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



9-22. ARMT CONTR CIRCUIT BREAKER OPENS WHEN MASTER SWITCH IS IN ARM (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

YES → Repair wire A369A22 between 22A5P1-164 and 19TB5-1J to eliminate short.

Connect 22A2P1.

Then go to paragraph 9-2.

YES → Remove 19R14 resistor lead from 19TB5-1H.

Check for continuity from 22A5P1-164 to airframe ground.

Is continuity present?

YES → Replace module 1 of 19TB5 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1.

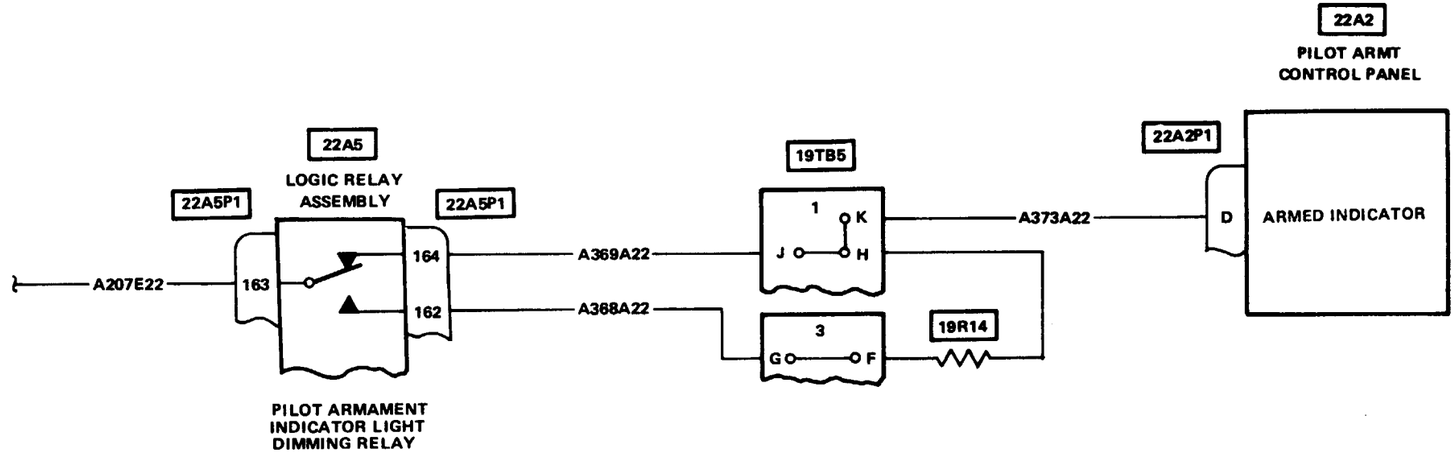
Then go to paragraph 9-2.

NO

Replace resistor 19R14.

Connect 22A2P1.

Then go to paragraph 9-2.



## 9-23. GUNNER STBY AND ARMED INDICATORS DO NOT LIGHT DURING PUSH-TO-TEST WHILE IN STBY.

INITIAL SETUP

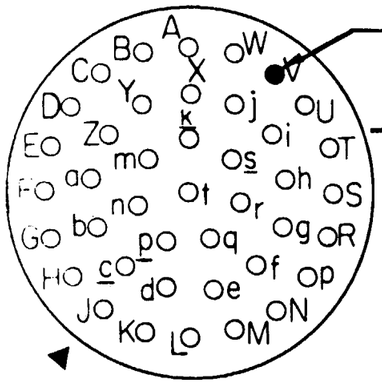
Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C
Electrician

Personnel Required
68F (1)

References
TM 9-1090-206-20-1




22A3P1




GUNNER ARMAMENT CONTROL PANEL

On gunner armament control panel:

Is STBY indicator lit when not in push-to-test?

YES

Turn off electrical power per paragraph 9-4.

Disconnect 22A3P1.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 22A3P1-V.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 9-4.

Replace gunner armament control panel per TM 9-1090-206-20-1, Chapter 3, Section XVII.

Then go to paragraph 9-2.

NO

Turn off electrical power per paragraph 9-4.

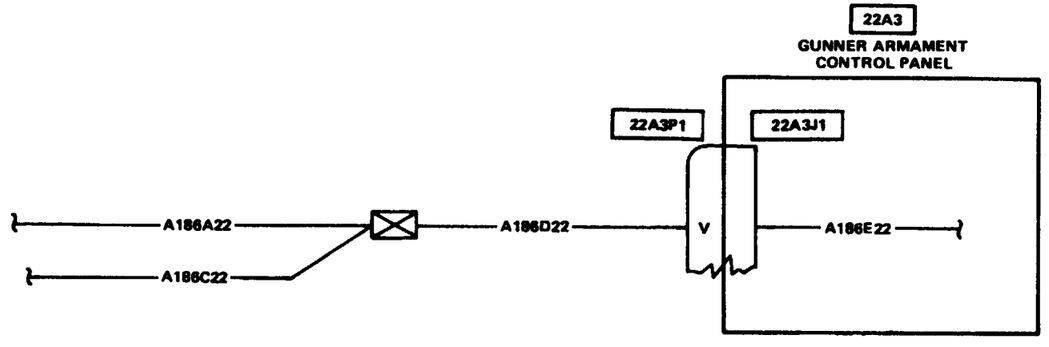
Repair wire A186D22 between 22A3P1-V and splice.

Connect 22A3P1.

Then go to paragraph 9-2.

NO

Go to paragraph 9-17.



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## 9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM.

INITIAL SETUP

Applicable Configuration
All

TOOLS/TEST AND SUPPORT

Equipment
Multimeter

Tool Kit, A/C Electrician

Personnel Reauired
68F (2)

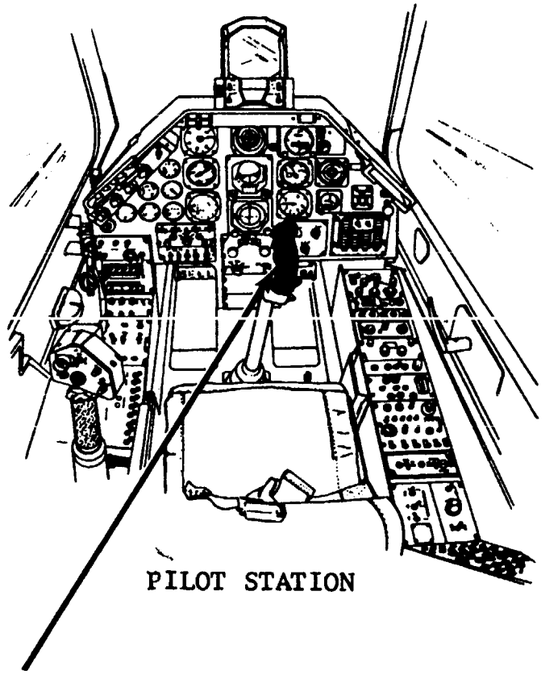
References
TM 9-1425-473-34
TM 55-1520-236-23
TM 9-1090-206-20-1

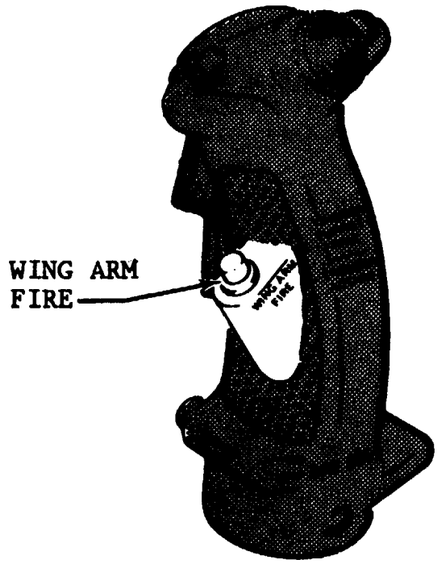
Access Panels
Forward Belly Armament and Lighting – Removed

Forward Right Side Control Linkage - Removed

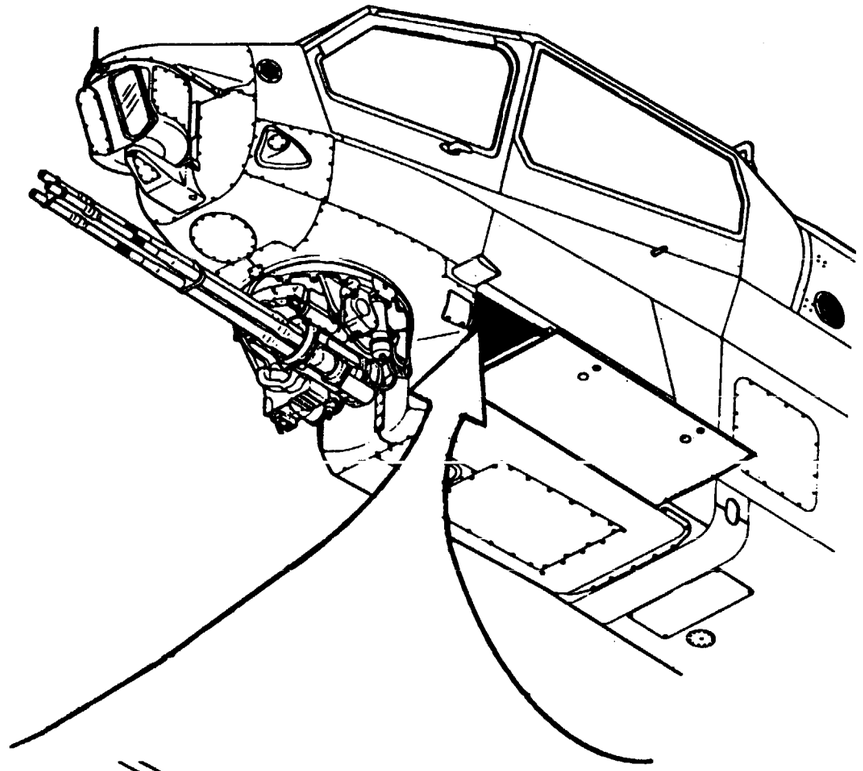
Logic Control Unit - Removed

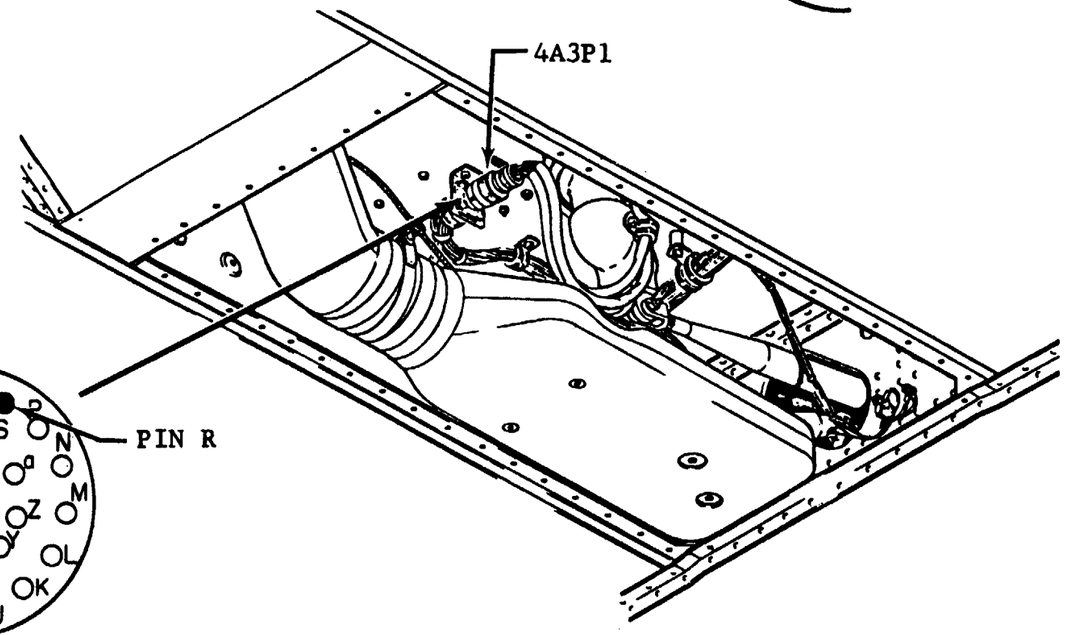
Right Side Glareshield - Removed

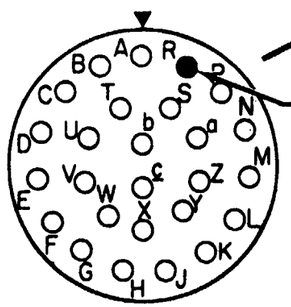



PILOT CYCLIC STICK

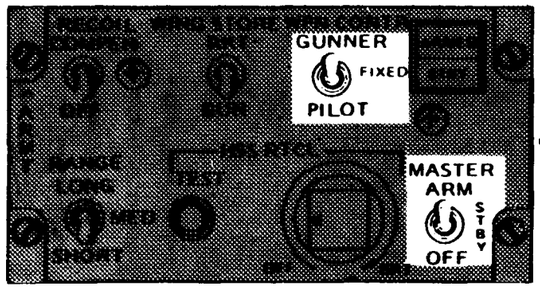




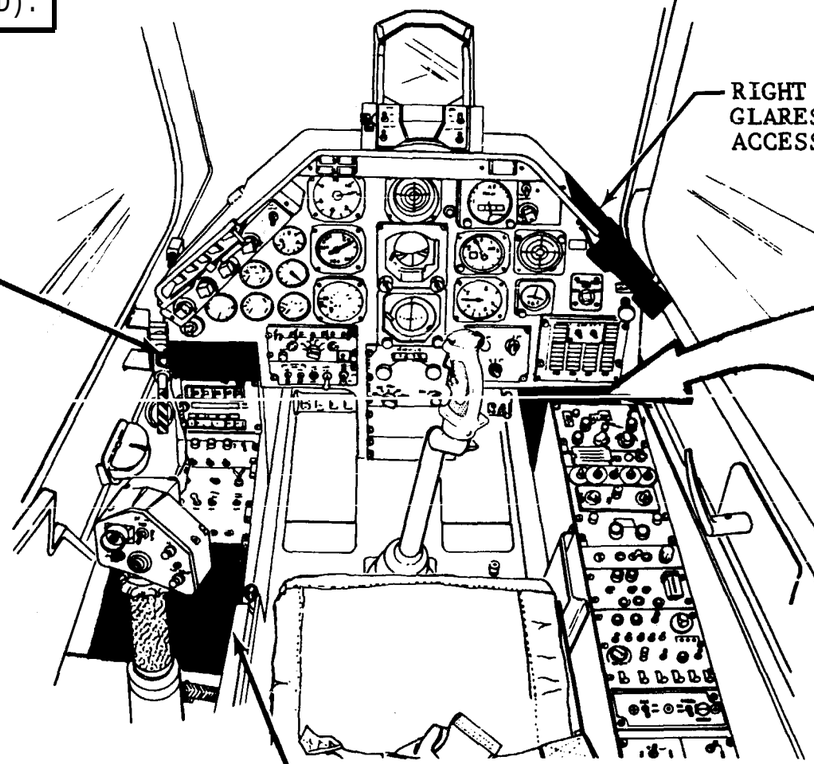



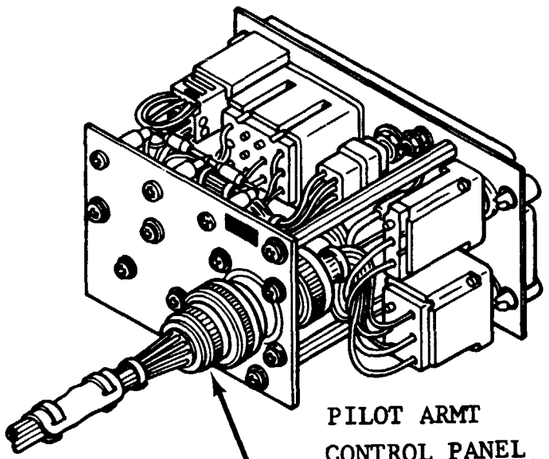

4A3J1

9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).

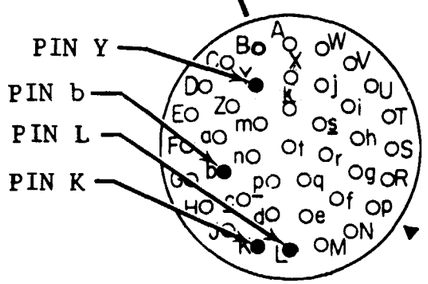



PILOT ARMT CONTROL PANEL

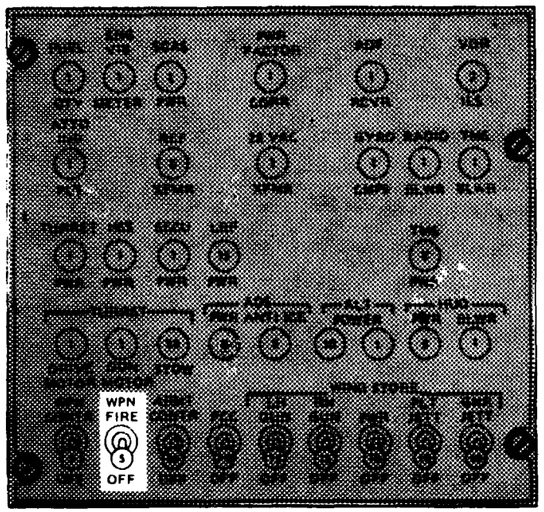


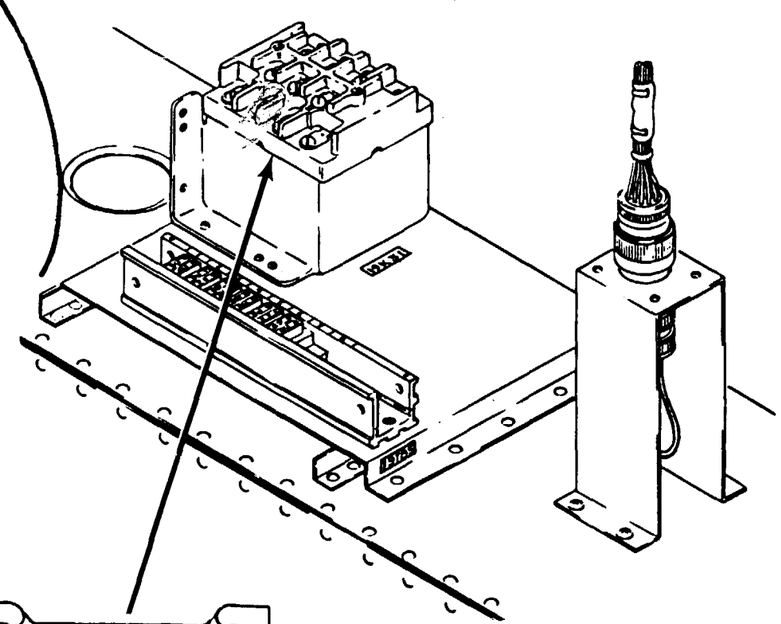
PILOT ARMT CONTROL PANEL (REAR VIEW)

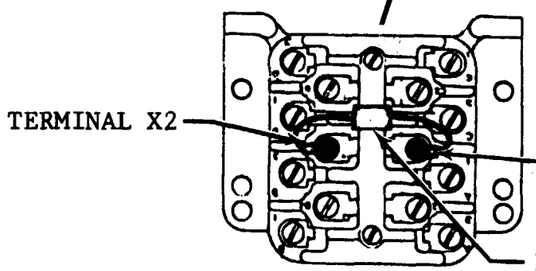



22A2P1



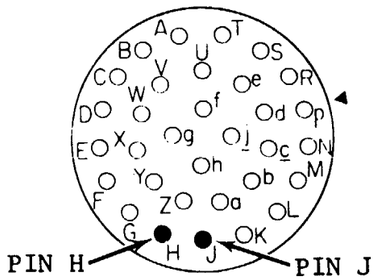

AC/ARMT CIRCUIT BREAKER PANEL

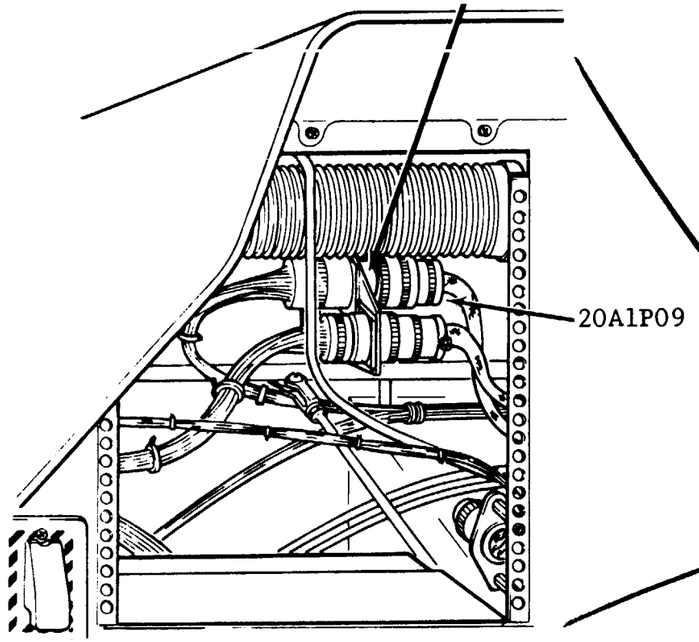


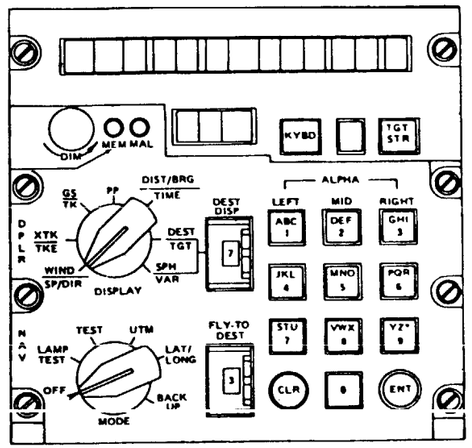



19K31

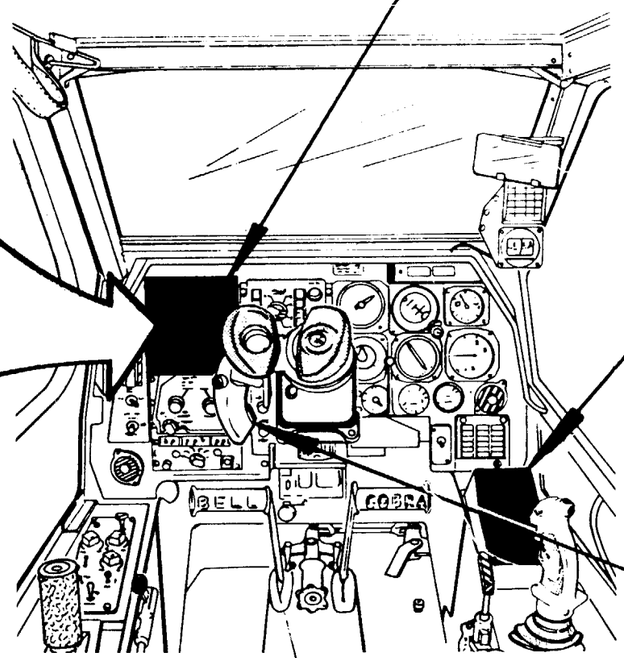
9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER SWITCH IS IN ARM (CONTINUED).



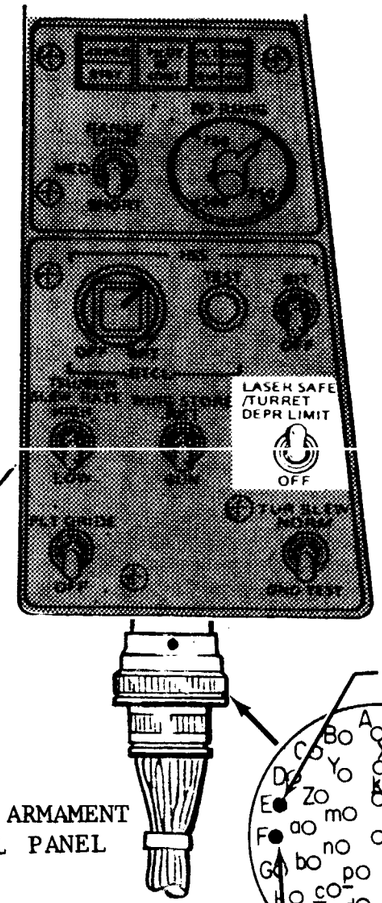



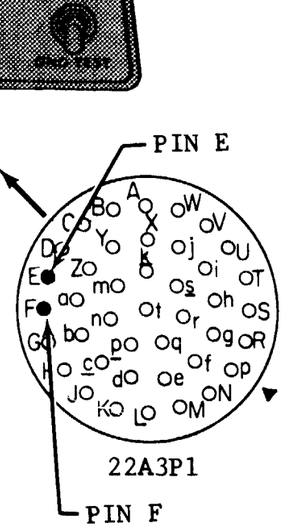

DPLR NAV CONTROL PANEL

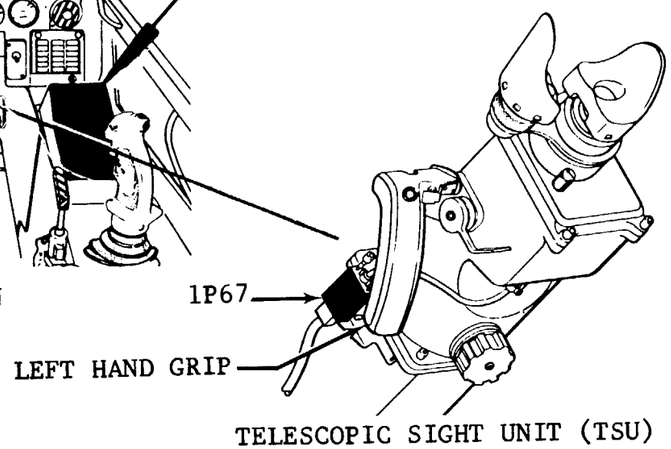



GUNNER STATION



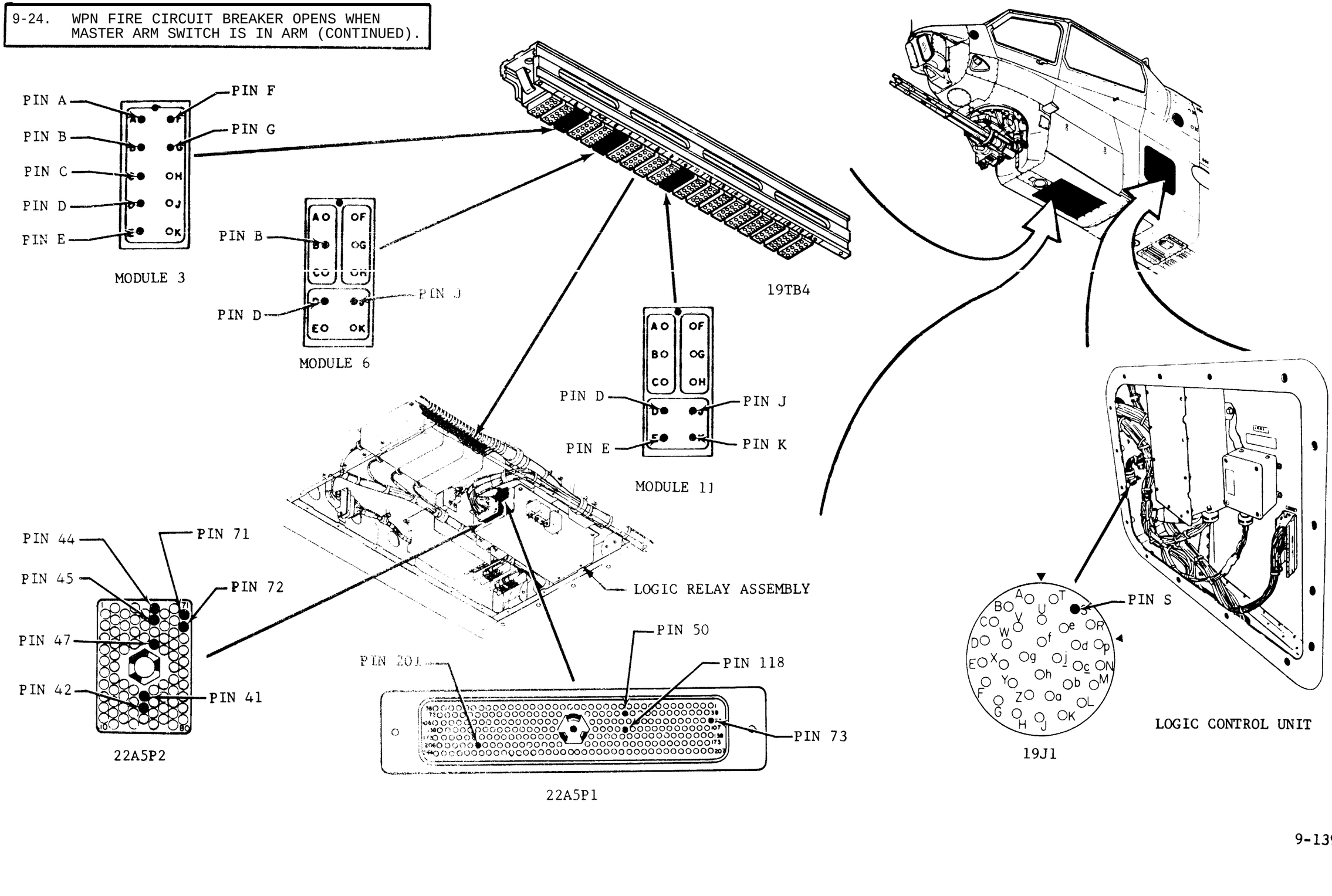

GUNNER ARMAMENT CONTROL PANEL




TELESCOPIC SIGHT UNIT (TSU)

9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).



**9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED) .**

Turn off electrical power per paragraph 9-4.

Remove wire A219C22 from 19TB4-3B and wire A317A22 from 19TB4-6B.

Check for continuity from 19TB4-3B to airframe ground.

Is continuity present?

**YES** →

On gunner armament control panel:

Set LASER SAFE/TURRET DEPR LIMIT switch to LASER SAFE/TURRET DEPR LIMIT.

Check for continuity from 19TB4-3B to airframe ground.

Is continuity present?

**YES** →

Disconnect 22A5P1.

Check for continuity from 22A3P1-F to airframe ground.

Is Continuity present?

**YES** →

**NO**

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI .

Insert wire A219C22 into 19TB4-3B and wire A317A22 into 19TB4-6B.

Then go to paragraph 9-2.

**NO**

Check for continuity from 22A3P1-F to airframe ground.

Is continuity present?

**YES** →

**NO**

**NO**

**NO**

Turn on electrical power per paragraph 9-4.

On pilot ARMT control panel:

Set MASTER ARM switch to ARM.

On pilot cyclic stick:

Press and hold WING ARM FIRE switch.

Does WPN FIRE circuit breaker open?

**YES** →

Turn off electrical power per paragraph 9-4.

Replace WPN FIRE circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire A219C22 into 19TB4-3B and wire A317A22 into 19TB4-6B.

Then go to paragraph 9-2.

**NO**

Remove diode assembly (19CR16) from X1 and X2 of relay 19K31.

Check diode assembly for continuity.

Reverse multimeter leads and check for continuity in the opposite direction.

Is continuity present in either direction?

**YES** →

**NO**

Turn off electrical power per paragraph 9-4.

Remove wire A219C22 from 19K31-X1 and check wire for continuity to air frame ground.

Is continuity present?

**YES** →

Repair wire A219C22 between 19K31-X1 and 19TB4-3B.

Insert wire A219C22 into 19TB4-3B and wire A317A22 into 19TB4-6B.

Connect wire A219C22 to 19K31-X1.

Then go to paragraph 9-2.

**NO**

Replace master arm relay (19K31) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire A219C22 into 19TB4-3B and wire A317A22 into 19TB4-6B.

Then go to paragraph 9-2.

## 9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).

YES

Repair wire A1100A22 between 22A5P1-73 and 22A3P1-F to eliminate short.

Connect 22A5P1.

Insert wire A219C22 into 19TB4-3B and wire A317A22 into 19TB4-6B.

Then go to paragraph 9-2.

NO

Replace gunner armament control panel per TM 9-1090-206-20-1, Chapter 3, Section XVII.

Insert wire A219C22 into 19TB4-3B and wire A317A22 into 19TB4-6B.

Then go to paragraph 9-2.

YES

Replace diode assembly (19CR16) per TM 55-1520-236-23, Chapter 9, Section I.

Connect wire A219C22 to 19K31-X1.

Insert wire A219C22 into 19TB4-3B and wire A317A22 into 19TB4-6B.

Then go to paragraph 9-2.

YES

Disconnect 22A5P2.

Check for continuity from 19TB4-3B to airframe ground.

Is continuity present?

NO

Insert wire A219C22 into 19TB4-3B and wire A317A22 into 19TB4-6B.

Check for continuity from 22A5P2-42 to airframe ground.

Is continuity present?

NO

Check for continuity from 22A5P2-72 to airframe ground.

Is continuity present?

NO

Check for continuity from 22A5P2-45 to airframe ground.

Is continuity present?

NO

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Then go to paragraph 9-2.

YES

Insert wire A317A22 into 19TB4-6B.

Remove wire A219D22 from 19TB4-3C.

Check for continuity from 19TB4-3B to airframe ground.

Is continuity present?

NO

YES

Repair wire A409A22 between 22A5P2-72 and 22A5P2-44 to eliminate short.

Connect 22A5P2.

Then go to paragraph 9-2.

YES

Disconnect 4A3P1.

Check for continuity from 22A5P2-45 to airframe ground.

Is continuity present?

NO

Replace pilot cyclic stick per TM 55-1520-236-23, Chapter 11, Section I.

Connect 22A5P2.

Then go to paragraph 9-2.

YES

**9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED) .**

YES

Insert wire A219D22 into 19TB4-3C.

Remove wire A219E22 from 19TB4-3D.

Check for continuity from 19TB4-3B to airframe ground.

Is continuity present?

YES

Insert wire A219E22 into 19TB4-3D.

Remove wire A219F22 from 19TB4-3E.

Check for continuity from 19TB4-3B to airframe ground.

Is continuity present?

YES

NO

Check for continuity from 22A3P1-E to airframe ground.

Is continuity present?

NO

Repair wire A219E22 between 19TB4-3D and 22A5P2-41 to eliminate short.

Insert wire A219C22 into 19TB4-3B and wire A219E22 into 19TB4-3D.

Connect 22A5P2.

Then go to paragraph 9-2.

NO

Repair wire A219F22 between 19TB4-3E and 22A5P2-47 to eliminate short.

Insert wire A219C22 into 19TB4-3B and wire A219F22 into 19TB4-3E.

Connect 22A5P2.

Then go to paragraph 9-2.

NO

YES

Insert wire A219D22 into 19TB4-3C and wire A219C22 into 19TB4-3B.

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Connect 22A5P2.

Then go to paragraph 9-2.

YES

Repair wire A219D22 between 22A3P1-E and 19TB4-3C to eliminate short.

Insert wire A219C22 into 19TB4-3B and wire A219D22 into 19TB4-3C.

Connect 22A5P2.

Then go to paragraph 9-2.

YES

YES

Repair wire A502A20 between 22A5P2-45 and 4A3J1-R to eliminate short.

Connect 4A3P1 and 22A5P2.

Then go to paragraph 9-2.

YES

Disconnect 22A5P1.

Check for continuity from 22A5P2-42 to airframe ground.

Is continuity present?

YES

NO

NO

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI

Then go to paragraph 9-2.

**9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).**

YES

Disconnect 22A2P1.

Check for continuity from 22A5P2-42 to airframe ground.

Is continuity present?

YES → Repair wire A352A22 between 22A5P2-42 and 22A2P1-Y to eliminate short.

Connect 22A5P1, 22A5P2 and 22A2P1.

Then go to paragraph 9-2.

NO

On pilot ARMT control panel:

Is WPN CONTR switch set to Gunner?

YES → Check for continuity from 22A2P1-b to airframe ground.

Is continuity present?

YES → Disconnect 1P67.

Check for continuity from 22A2P1-b to airframe ground.

Is continuity present?

YES → Insert wire A219F22 into 19TB4-3E.

Remove wire A219G22 from 19TB4-3F.

Check for continuity from 19TB4-3B to airframe ground.

Is continuity present?

YES → YES

NO

Repair wire A219G22 between 19TB4-3F and 19J1-S to eliminate short.

Insert wire A219C22 into 19TB4-3B and wire A219G22 into 19TB4-3F.

Connect 22A5P2.

Then go to paragraph 9-2.

NO

Replace TSU left hand grip per TM 9-1425-473-34.

Connect 22A2P1, 22A5P1, and 22A5P2.

Then go to paragraph 9-2.

NO

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Connect 22A5P1 and 22A5P2.

Then go to paragraph 9-2.

NO

Check for continuity from 22A5P1-118 to airframe ground.

Is continuity present?

YES → YES

NO

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Connect 22A5P1 and 22A5P2.

Then go to paragraph 9-2.

YES

**9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).**

YES

Insert wire A219G22 into 19TB4-3F.

Remove wire A219J22 from 19TB4-3G.

Check for continuity from 19TB4-3B to airframe ground.

Is continuity present?

NO

Repair wire A219J22 between 19TB4-3G and 22A5P2-71 to eliminate short.

Insert wire A219C22 into 19TB4-3B and wire A219J22 into 19TB4-3G.

Connect 22A5P2.

Then go to paragraph 9-2.

YES

Insert wire A219C22 into 19TB4-3B and wire A219J22 into 19TB4-3G.

Check for continuity from 22A2P1-L to airframe ground.

Is continuity present?

NO

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Connect 22A5P2.

Then go to paragraph 9-2.

YES

Remove wire A219B22 from 19TB4-3A.

Check for continuity from 22A2P1-L to airframe ground.

Is continuity present?

NO

Replace module 3 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P2.

Then go to paragraph 9-2.

YES

YES

Remove wire A465A22 from 19TB4-6D.

Check for continuity from 22A5P1-118 to airframe ground.

Is continuity present?

NO

Repair wire A465A22 between 22A2P1-K and 19TB4-6D to eliminate short.

Insert wire A465A22 into 19TB4-6D.

Connect 22A5P1, 22A5P2, and 22A2P1.

Then go to paragraph 9-2.

YES

Insert wire A465A22 into 19TB4-6D.

Remove wire A465B22 from 19TB4-6J.

Check for continuity from 22A5P1-118 to airframe ground.

Is continuity present?

NO

Replace module 6 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1, 22A5P2, and 22A2P1.

Then go to paragraph 9-2.

YES

Repair wire A465B22 between 19TB4-6J and 22A5P1-118 to eliminate short.

Insert wire A465B22 into 19TB4-6J.

Connect 22A5P1, 22A5P2, and 22A2P1.

Then go to paragraph 9-2.

**9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).**

Repair wire A219B22 between 22A2P1-L and 19TB4-3A to eliminate short.

Insert wire A219B22 into 19TB4-3A.

Connect 22A5P2.

Then go to paragraph 9-2.

YES

Remove wire A353D22 from 19TB4-11J and check from wire end to airframe ground for continuity.

Is continuity present?

YES

NO

Insert wire A353D22 into 19TB4-11J.

Remove wires listed below from 19TB4, one at a time, and check wire for continuity to airframe ground. Re-insert wire into 19TB4 before proceeding to the next wire.

| WIRE NO. | FROM | TO |
|---|---|---|
| A353B22 | 19TB4-11D | 22A2P1-b |
| A353G22 | 19TB4-11E | 22A5P1-50 |
| A353C22 | 19TB4-11K | 22A5P1-201 |

Is continuity present on any wire?

YES

Repair defective wire(s) to eliminate short.

Connect 22A2P1, 22A5P1, 22A5P2, and 1P67.

Then go to paragraph 9-2.

NO

Replace module 11 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1, 22A5P1, 22A5P2, and 1P67.

Then go to paragraph 9-2.

Disconnect 20A1P09.

Check for continuity from end of wire A353D22 to airframe ground.

Is continuity present?

YES

Repair wires A353D22, A353E22 and A353F22 between 19TB4-11J and 20A1J09-H and 20A1J09-J to eliminate short.

Connect 22A2P1, 22A5P1, 22A5P2, 1P67 and 20A1P09.

Then go to paragraph 9-2.

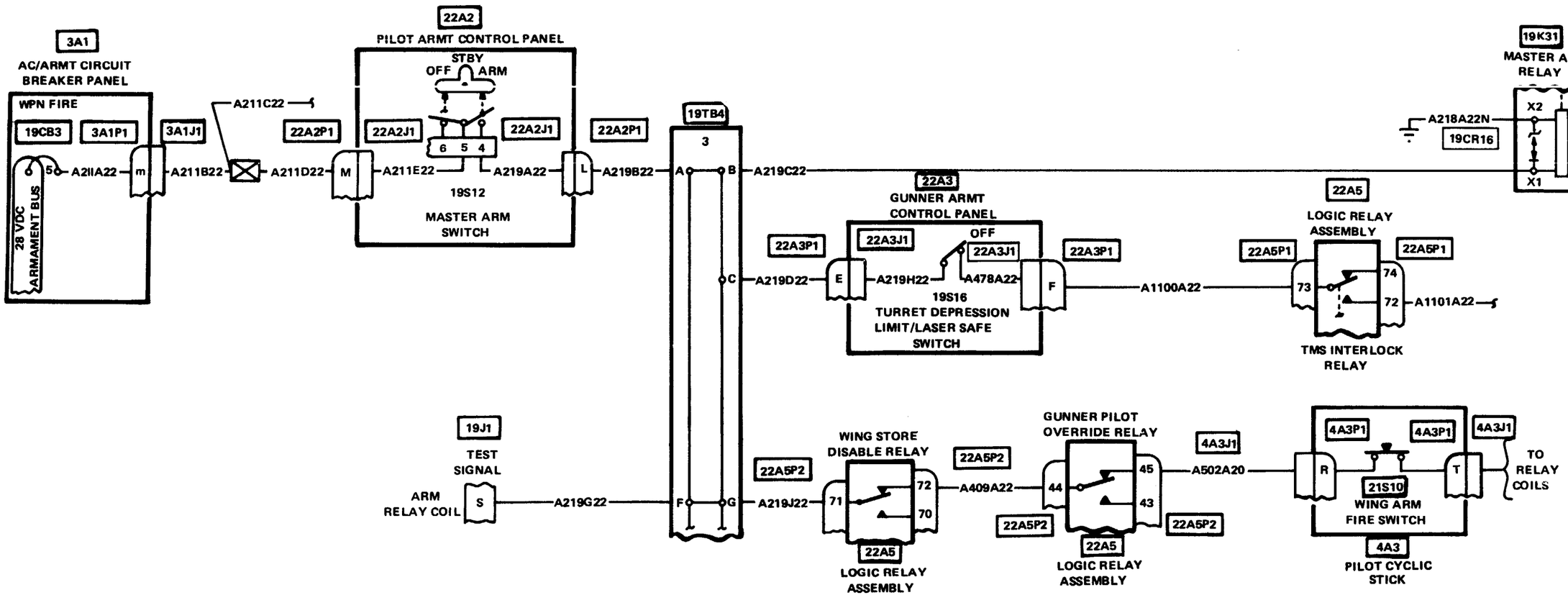
NO

Replace TSU cable between 20A1P09 and 1J67 per TM 9-1425-473-34.

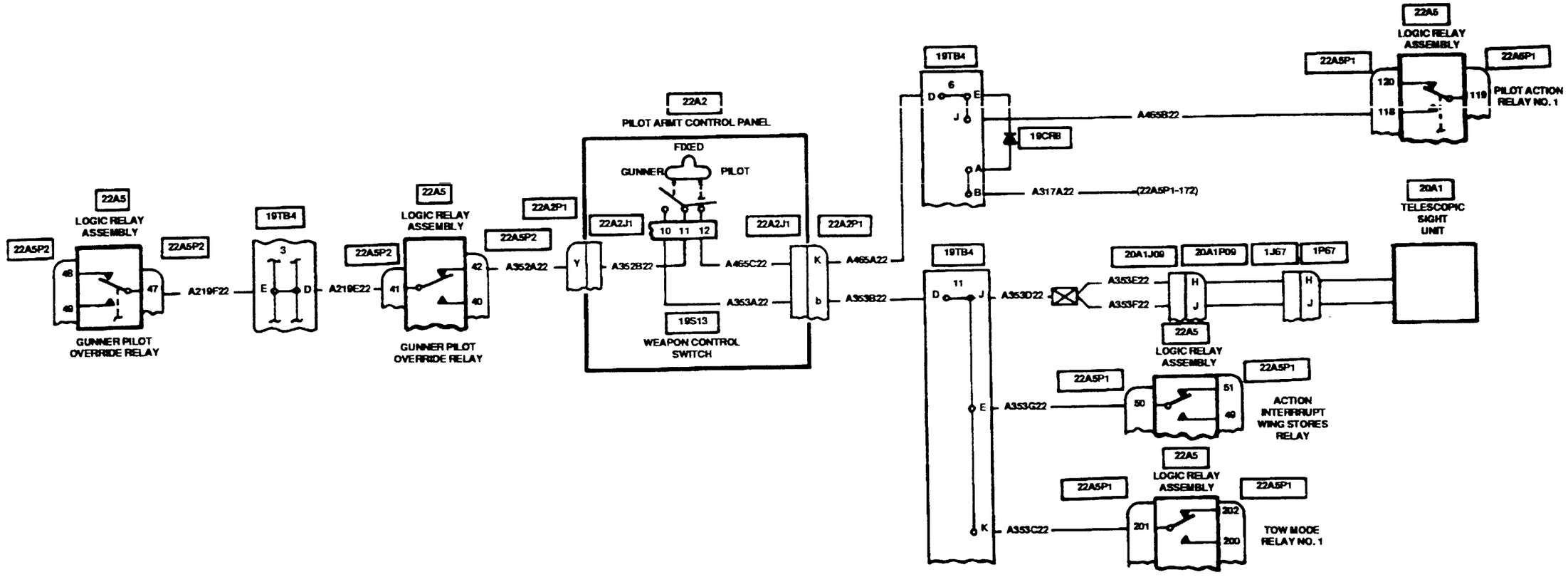
Connect 22A2P1, 22A5P1, and 22A5P2.

Then go to paragraph 9-2.

9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).



**9-24. WPN FIRE CIRCUIT BREAKER OPENS WHEN MASTER ARM SWITCH IS IN ARM (CONTINUED).**



9-25. PILOT ARMED RED) lNDl-
CATOR WILL NOT LIGHT
WITH MASTER ARM SWITCH
IN ARM.

INITIAL SETUP

Applied Configuration
all

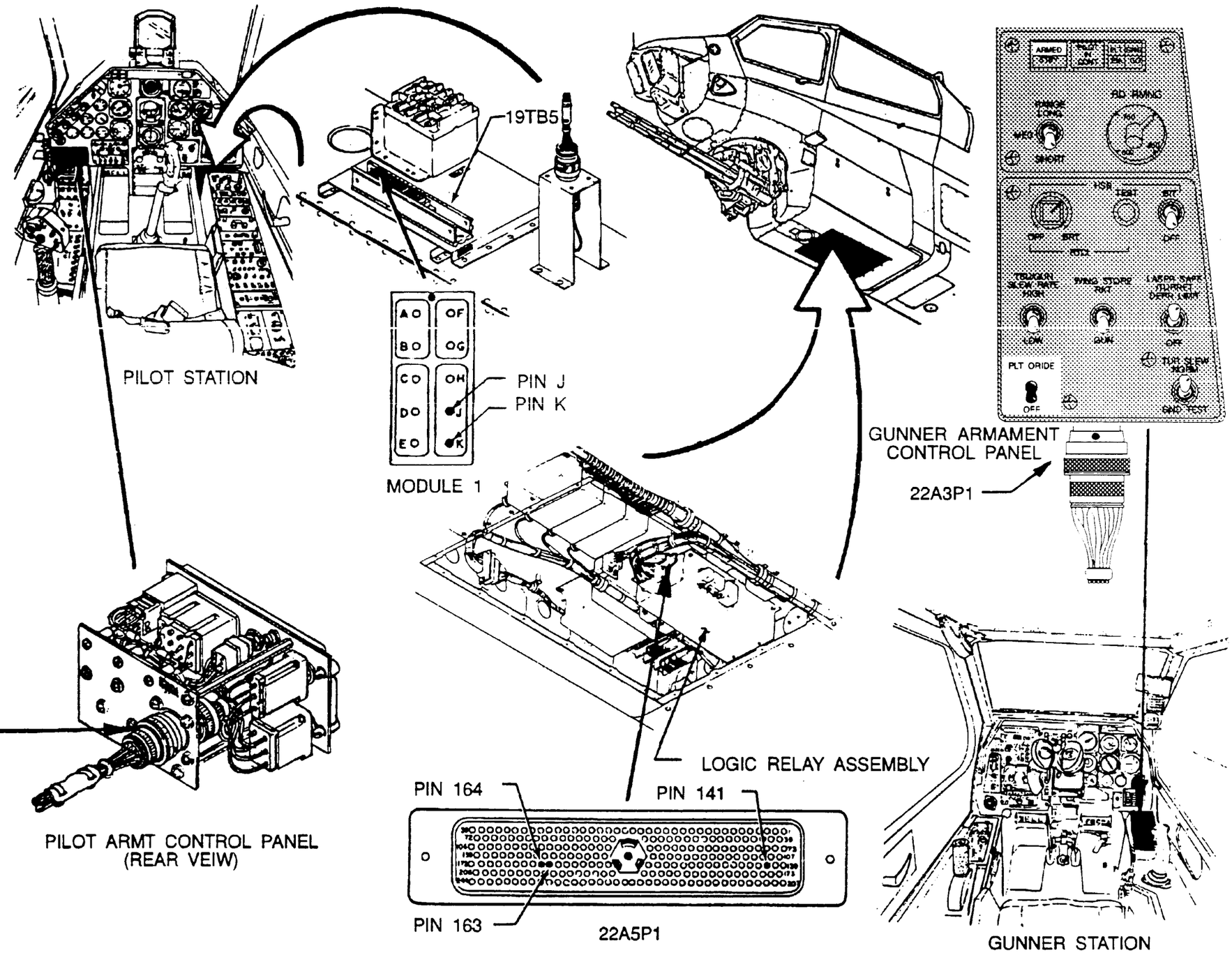
Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C
Electrician

Personnel Required
68F (2)

References
TM 55-1520-236-23
TM 9-1090-206-20-1

Access Panels
Forward Belly Armament
and Lighting - Removed



**9-25. PILOT ARMED (RED) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN ARM (CONTINUED).**

On gunner armament control panel:

Is gunner ARMED indicator lit?

YES

Turn off electrical power per paragraph 9-4.

Disconnect 22A2P1.

Turn on electrical power per paragraph 9-4.

On gunner armament control panel:

Set PLT ORIDE switch to PLT ORIDE.

Check for 28 V dc at 22A2P1-D.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 9-4.

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Then go to paragraph 9-2.

NO

Go to paragraph 9-41.

NO

Turn off electrical power per paragraph 9-4.

On gunner armament control panel:

Set PLT ORIDE switch to OFF.

Disconnect 22A3P1.

Check for continuity from 22A2P1-D to airframe ground.

Is continuity present

YES

Go to paragraph 9-22.

NO

Connect 22A2P1 and 22A3P1.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 19TB5-1J.

Is 28 V dc present?

YES

Check for 28 V dc at 19TB5-1K.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 9-4.

Repair wire A373A22 between 19TB5-1K and 22A2P1-D

Then go to paragraph 9-2.

NO

Turn off electrical power per paragraph 9-4.

Replace module 1 of 19TB5 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Turn off electrical power per paragraph 9-4.

Check for continuity from 22A5P1-163 to 22A5P1-141.

Is continuity present?

YES

Check for continuity from 22A5P1-164 to 19TB5-1J.

Is continuity present?

YES

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI .

Then go to paragraph 9-2.

NO

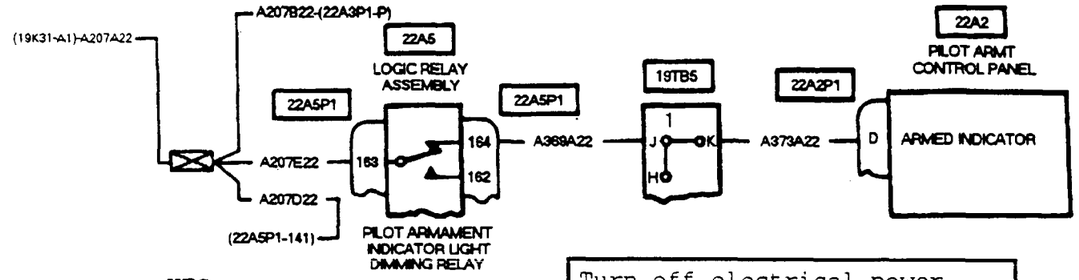
Repair wire A207E22 between 22A5P1-163 and splice.

Then go to paragraph 9-2.

NO

Repair wire A369A22 between 22A5P1-164 and 19TB5-1J.

Then go to paragraph 9-2.



## 9-26. GUNNER ARMED (RED) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN ARM.

INITIAL SETUP

Applicable Configuration
All

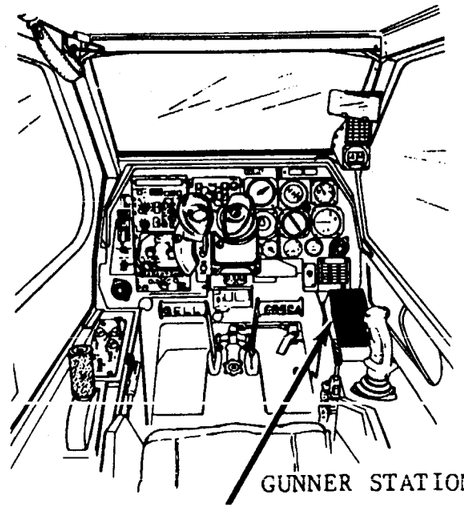
Tools/Test and Support Equipment
Multimeter

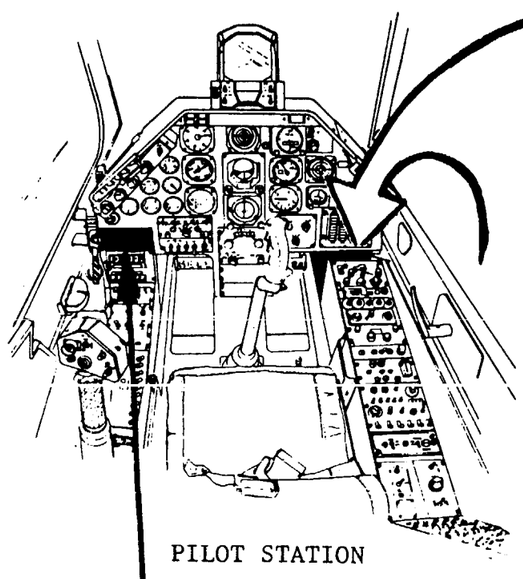
Tool Kit, A/C
Electrician

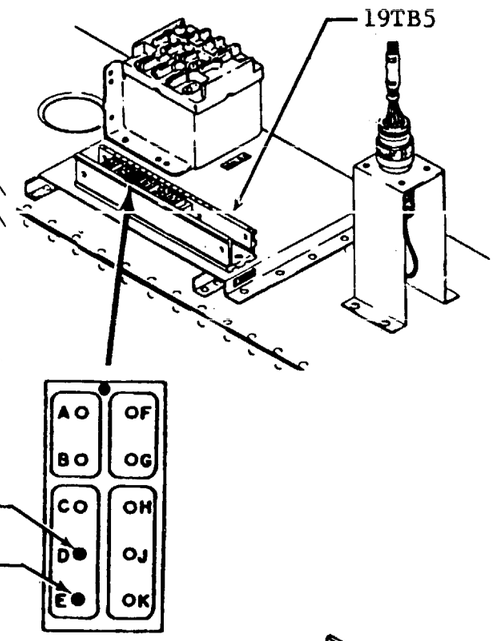
Personnel Required
68F (2)

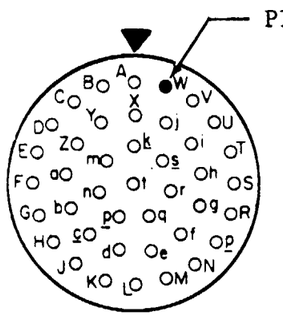
References
TM 55-1520-236-23
TM 9-1090-206-20-1

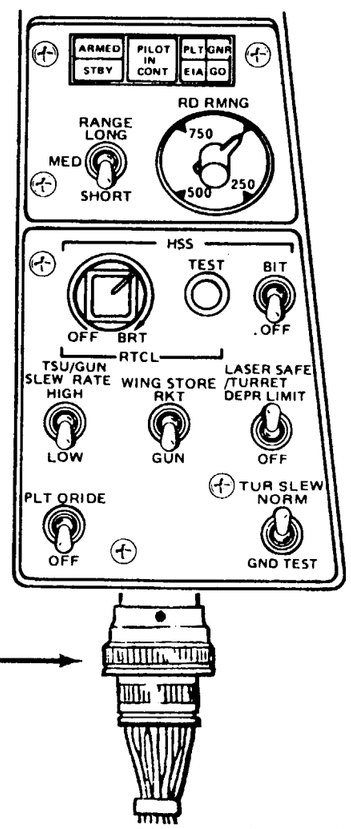
Access Panels
Forward Belly Armament and Lighting - Removed



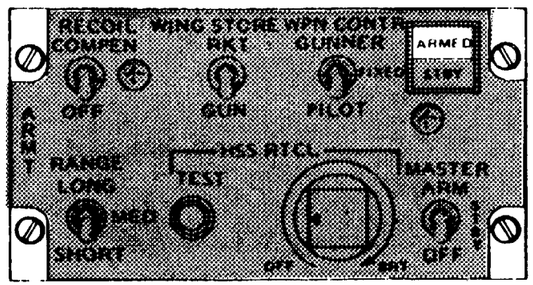



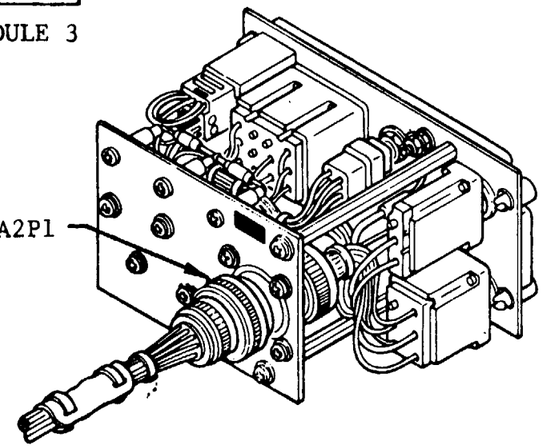




GUNNER ARMAMENT CONTROL PANEL

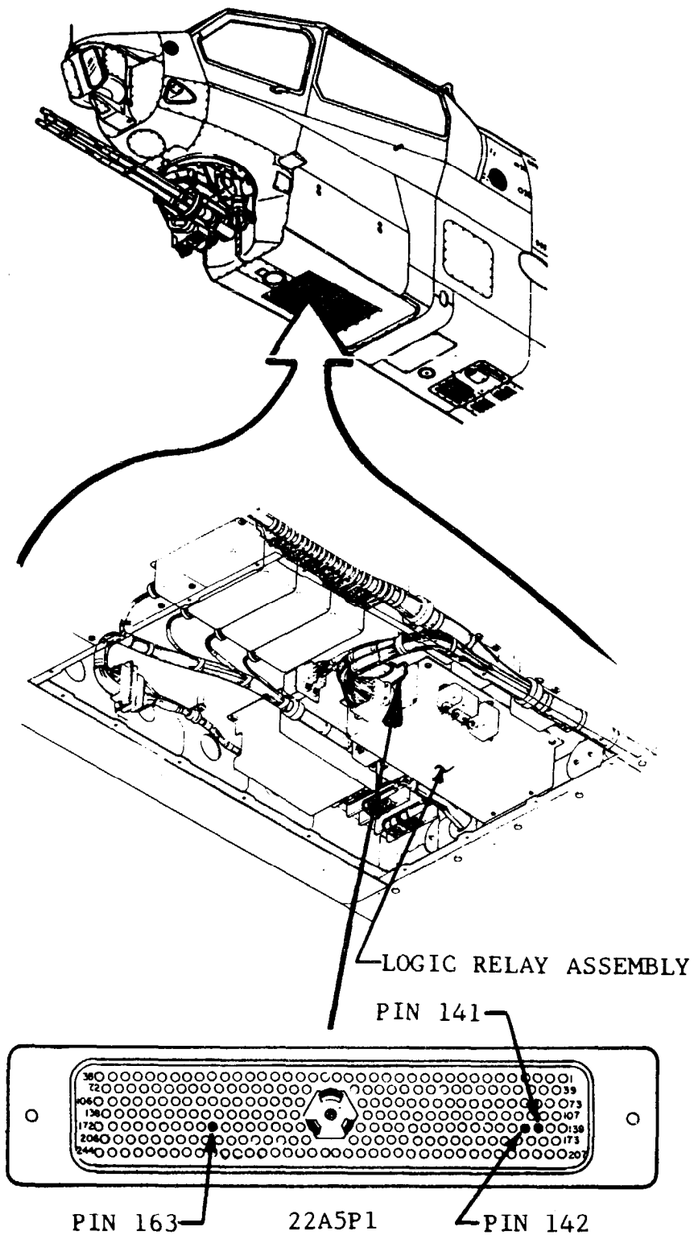



PILOT ARMT CONTROL PANEL




PILOT ARMT CONTROL PANEL (REAR VIEW)

9-26. GUNNER ARMED (RED) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN ARM (CONTINUED).




On pilot ARMT control panel:

Is pilot ARMED indicator lit?

YES → Turn off electrical power per paragraph 9-4.

Disconnect 22A3P1.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 22A3P1-W.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Disconnect 22A2P1.

Check for continuity from 22A3P1-W to airframe ground.

Is continuity present?

YES → Connect 22A2P1 and 22A3P1.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 19TB5-3D.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Check for continuity from 22A5P1-141 to 22A5P1-163.

Is continuity present?

NO → Repair wire A207D22 between 22A5P1-141 and splice to obtain continuity.

Then go to paragraph 9-2.

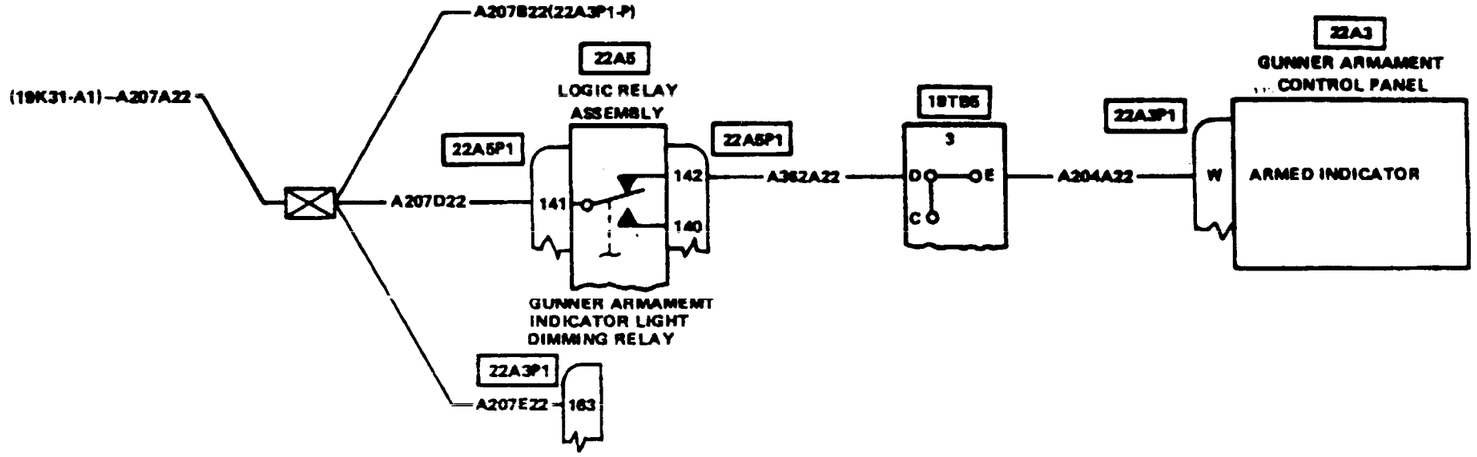
NO → Go to paragraph 9-41.

## 9-26. GUNNER ARMED (RED) INDICATOR WILL NOT LIGHT WITH MASTER ARM SWITCH IN ARM (CONTINUED).

Turn off electrical power per paragraph 9-4.

YES → Replace gunner armament control panel per TM 9-1090-206-20-1, Chapter 3, Section XVII .

Then go to paragraph 9-2.




YES → Go to paragraph 9-22.

YES → Check for 28 V dc at 19TB5-3E.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Repair wire A204A22 between 19TB5-3E and 22A3P1-W to obtain continuity.

Then go to paragraph 9-2.

NO → Turn off electrical power per paragraph 9-4.

Replace 19TB5 module 3 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES → Check for continuity from 22A5P1-142 to 19TB5-3D.

Is continuity present?

YES → Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI .

Then go to paragraph 9-2.

NO → Repair wire A362A22 between 22A5P1-142 and 19TB5-3D.

Then go to paragraph 9-2.

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9-27. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL **DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED.**

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter
Tool Kit, A/C Electrician
XM137 Test Set

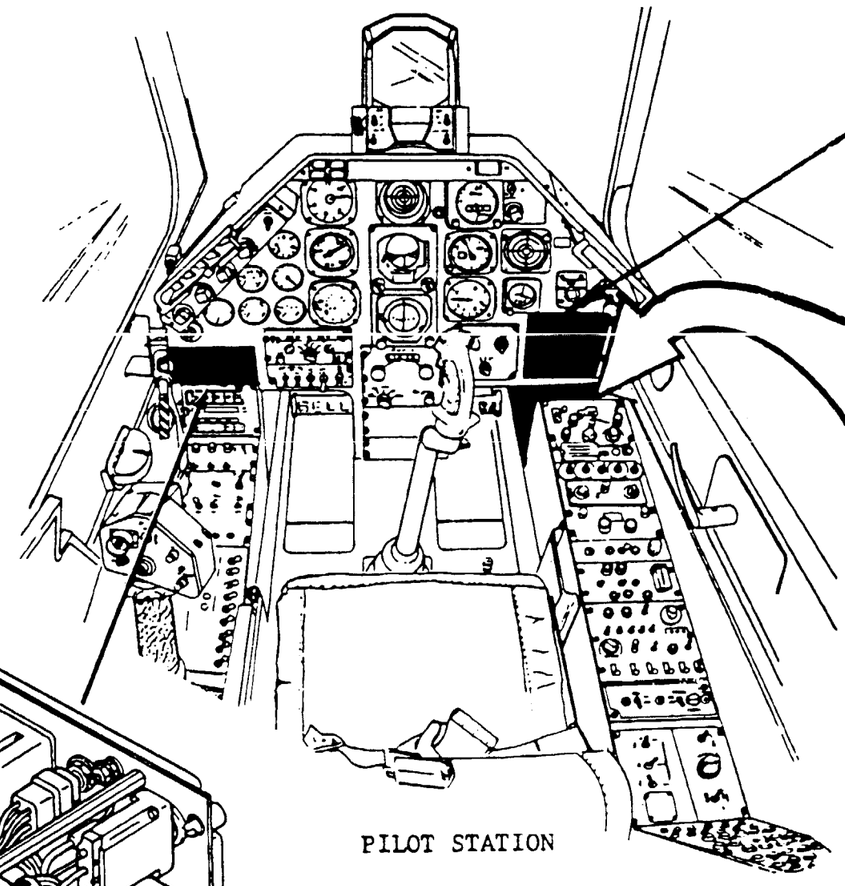
Personnel Required
68F (1)

References
TM 55-1520-236-23
TM 9-1050-206-20-1

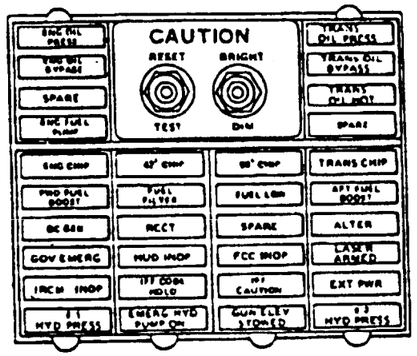
Access Panels
Forward Belly Armament and Lighting - Removed

Interface Control Unit Removed

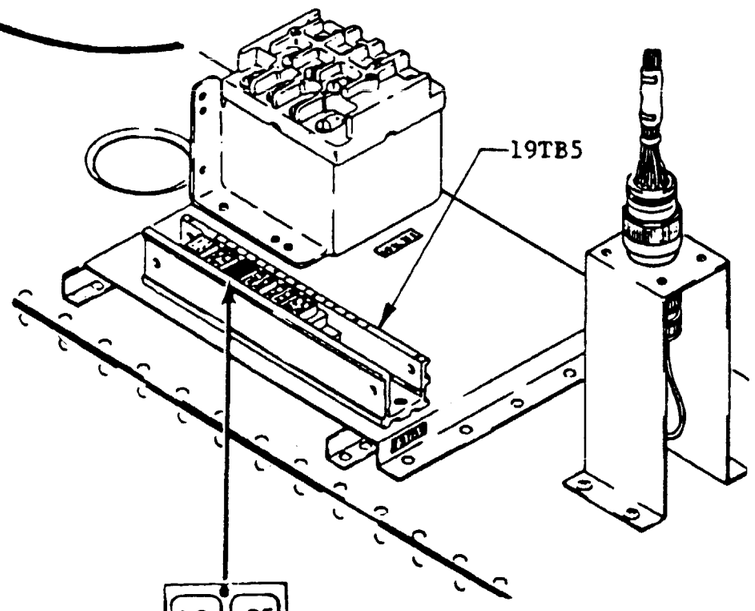
Logic Control Unit - Removed



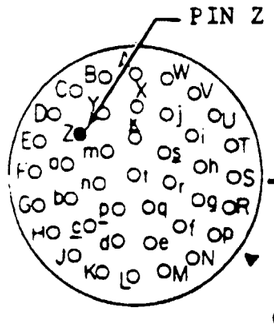
PILOT STATION



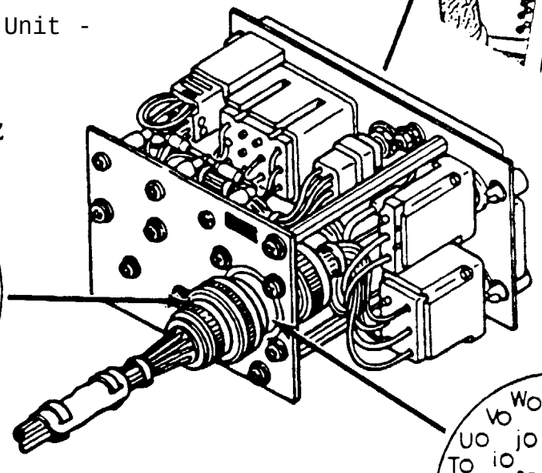

PILOT CAUTION PANEL



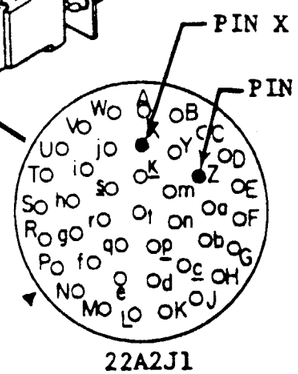

MODULE 3




22A2P1

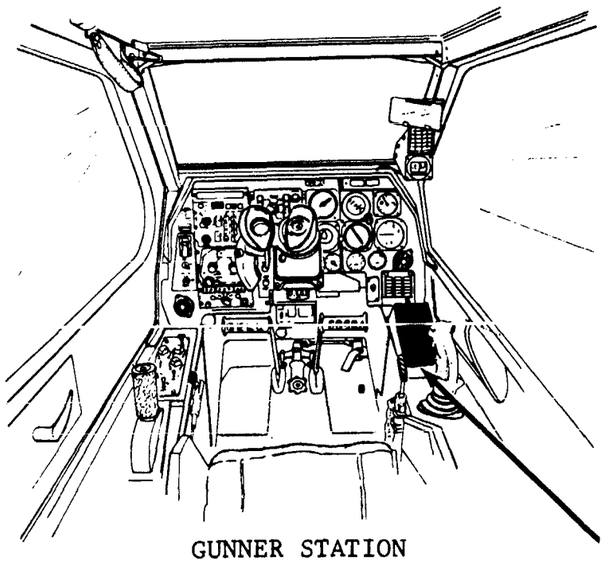


PILOT ARMT CONTROL PANEL (REAR VIEW)

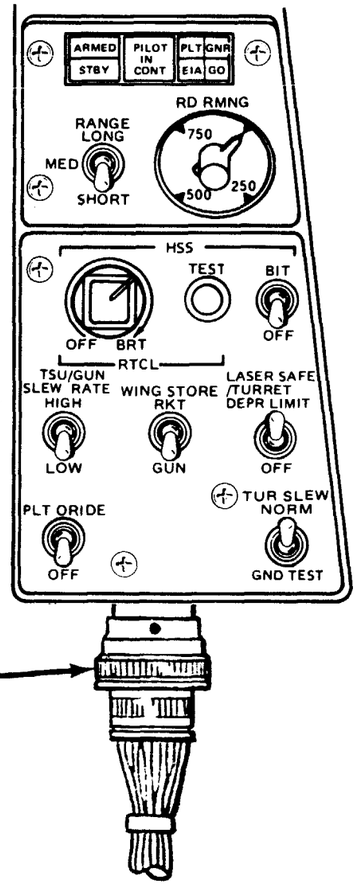



22A2J1

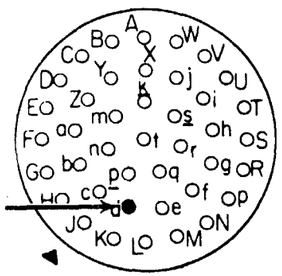
9-27. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).



GUNNER STATION

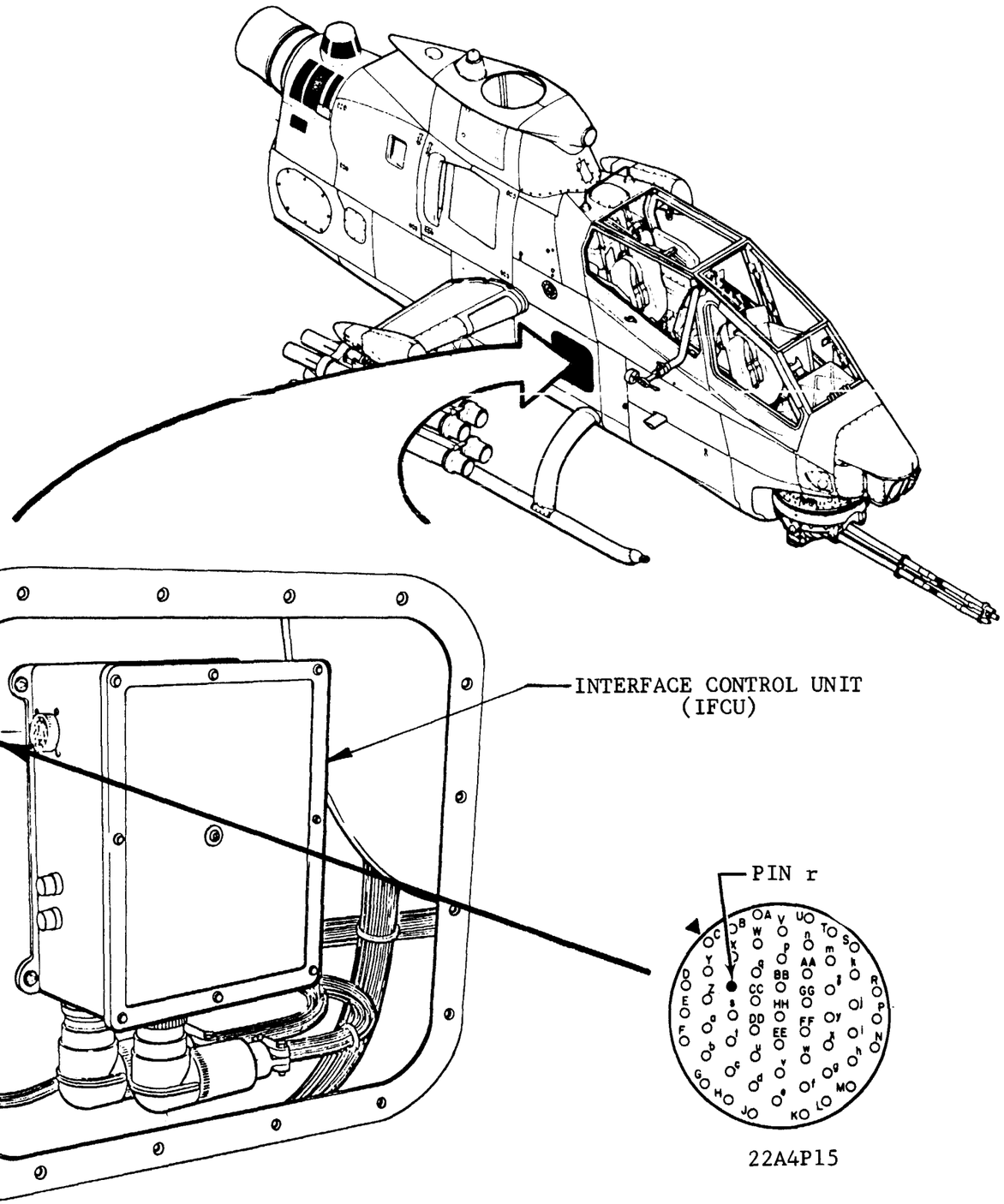



GUNNER ARMAMENT CONTROL PANEL



PIN d

22A3P1



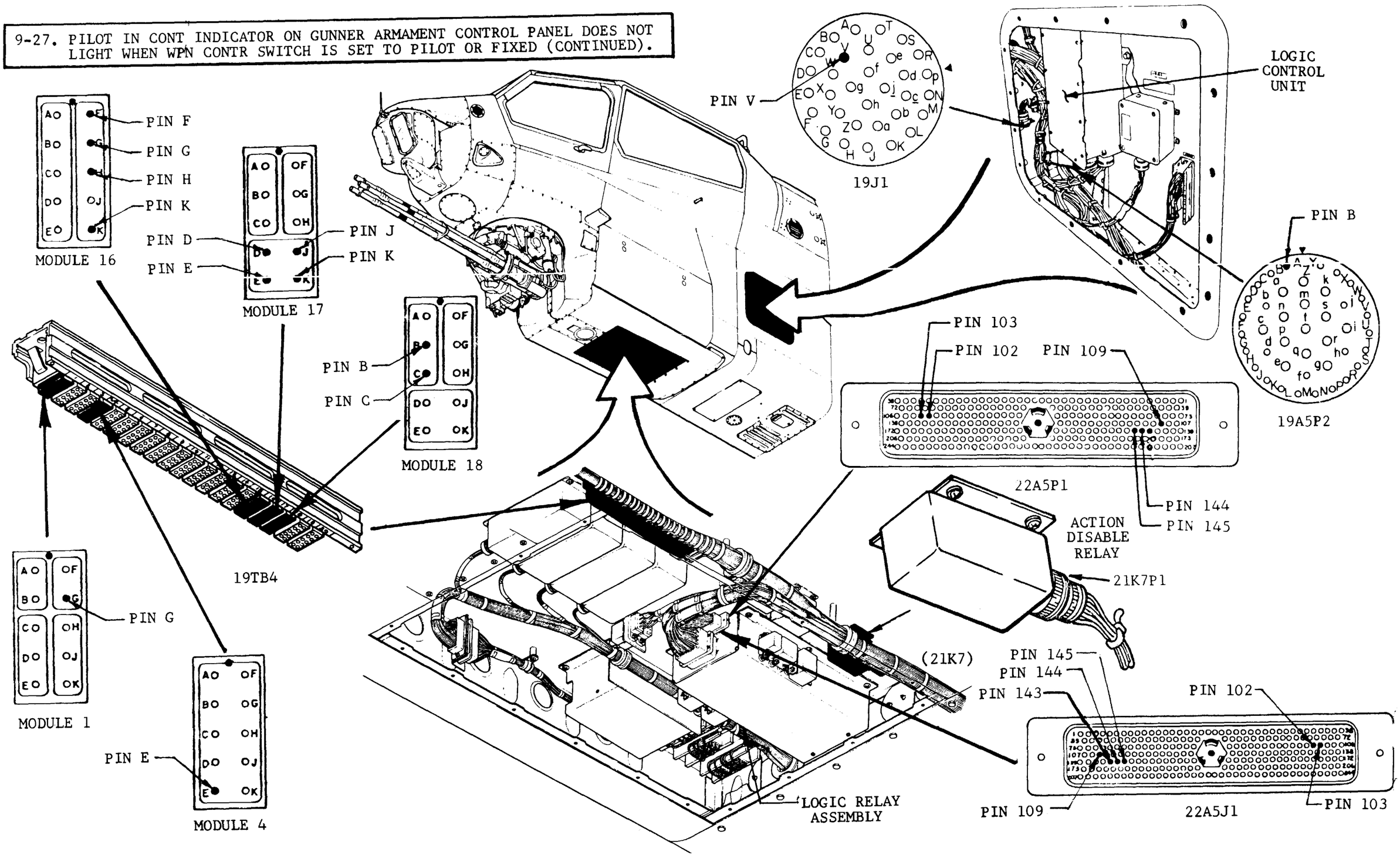
INTERFACE CONTROL UNIT (IFCU)



PIN r

22A4P15

9-27. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).



**9-27. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).**

Turn off electrical Power per paragraph 9-4.

Check for continuity from 22A2J1-X to 22A2J1-Z.

Reverse multimeter leads and repeat check.

Is continuity present in either check?

YES → Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 19TB4-4E.

Is 28 V dc present?

YES → Go to paragraph 6-2.

NO → Go to paragraph 9-33.

NO → Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Then continue troubleshooting.

NO → Disconnect 21K7P1.

Disconnect 22A5P1, 22A4P15, and 19A5P2.

Check for continuity from 22A2P1-Z to airframe ground.

Is continuity present?

YES → Remove wire A226D22 from 19TB4-17E.

Check for continuity from 22A2P1-Z to airframe ground.

Is continuity present?

YES → (to top)

NO → Repair wire A226D22 between 19TB4-17E and 22A5P1-103 to eliminate short.

Insert wire A226D22 into 19TB4-17E.

Connect 21K7P1, 22A5P1, 22A4P15 and 19A5P2.

Then go to paragraph 9-2.

NO → Connect 21K7P1.

Check for continuity from 22A5P1-102 to airframe ground.

Is continuity present?

YES → Remove wire A239A22 from 19TB4-1G.

Check for continuity from 22A5P1-102 to airframe ground.

Is continuity present?

YES → Repair wire A239A22 between 22A5P1-102 and 19TB4-1G to eliminate short.

Insert wire A239A22 into 19TB4-1G.

Connect 22A5P1, 22A4P15 and 19A5P2.

Then go to paragraph 9-2.

NO → Replace module 1 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1, 22A4P15, and 19A5P2.

Then go to paragraph 9-2.

NO

9-27. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).

YES

Insert wire A226D22 into 19TB4-17E.

Remove wire A226J22 from 19TB4-17D.

Check for continuity from 22A2P1-Z to airframe ground.

Is continuity present?

NO

Repair wire A226J22 between 19TB4-17D and 19A5P2-B to eliminate short.

Insert wire A226J22 into 19TB4-17D.

Connect 21K7P1, 22A5P1, 22A4 P15 and 19A5P2.

Then go to paragraph 9-2.

YES

Insert A226J22 into 19TB4-17D.

Remove wire A226F22 from 19TB4-17K.

Check for continuity from 22A2P1-Z to airframe ground.

Is continuity present?

NO

Repair wire A226F22 between 19TB4-17K and 19J1-V to eliminate short.

Insert wire A226F22 into 19TB4-17K.

Connect 21K7P1, 22A5P1, 22A4 P15 and 19A5P2.

Then go to paragraph 9-2.

YES

Insert wire A226F22 into 19TB4-17K.

Remove wire A226H22 from 19TB4-17J.

Check for continuity from 22A2P1-Z to airframe ground.

Is continuity present?

NO

Replace module 17 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K7P1, 22A5P1, 22A4 P15 and 19A5P2.

Then go to paragraph 9-2.

YES

Connect 19A5P2.

Insert wire A226H22 into 19TB4-17J.

Remove wire A226H22 from 19TB4-16H.

Check for continuity from 22A2P1-Z to airframe ground.

Is continuity present?

NO

Repair wire A226H22 between 19TB4-16H and 19TB4-17J to eliminate short.

Insert wire A226H22 into 19TB4-16H.

Connect 21K7P1, 22A5P1 and 22A4P15.

Then go to paragraph 9-2.

YES

NO

NO

**9-27. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).**

YES

Remove wire A226E22 from 19TB4-16G.

Check for continuity from 22A2P1-Z to airframe ground.

Is continuity present?

YES

Insert wire A226E22 into 19TB4-16G.

Remove wire A226K22 from 19TB4-16K.

Check for continuity from 22A2P1-Z to airframe ground.

Is continuity present?

YES

NO

Repair wire A226E22 between 19TB4-16G and 22A4P15-r to eliminate short.

Insert wire A226E22 into 19TB4-16G.

Connect 22A5P1 and 22A4P15.

Then go to paragraph 9-2.

NO

Insert wire A226H22 into 19TB4-16H and A226K22 into 19TB4-16K.

Connect 22A4P15.

Remove wire A226C22 from 19TB4-18C and check wire for continuity to airframe ground.

Is continuity present?

YES

Repair wire A226C22 between 19TB4-18C and 22A5P1-109 to eliminate short.

Insert wire A226C22 into 19TB4-18C.

Connect 22A5P1.

Then go to paragraph 9-2.

NO

Insert wire A226C22 into 19TB4-18C.

Remove splice joining wires A226G22, A226K22, and A226L22.

Check for continuity from 22A5P1-144 to airframe ground.

Is continuity present?

YES

Repair wire A226L22 between 22A5P1-144 and splice to eliminate short.

Connect 22A5P1.

Then go to paragraph 9-2.

NO

NO

NO

**9-27. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).**

YES

Insert wire A226H22 into 19TB4-16H, and wire A226K22 into 19TB4-16K.

Connect 21K7P1, 22A5P1 and 22A4P15.

Remove wire 226B22 from 19TB4-16F.

Check for continuity from 22A2P1-Z to airframe ground.

Is continuity present?

YES → Repair wire A226B22 between 22A2P1-Z and 19TB4-16F to eliminate short.

Insert wire A226B22 into 19TB4-16F.

Then go to paragraph 9-2.

NO → Replace defective module 16 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Check for continuity from 19TB4-18B to airframe ground.

Is continuity present?

YES → Repair wire A226G22 between 19TB4-18B and splice to eliminate short.

Replace splice joining wires A226G22, A226K22 and A226L22.

Connect 21K7P1 and 22A5P1.

Then go to paragraph 9-2.

NO → Repair wire A226K22 between 19TB4-16K and splice to eliminate short.

Replace splice joining wires A226G22, A226K22, and A226L22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K7P1 and 22A5P1.

Then go to paragraph 9-2.

NO

NO → Check for continuity from 22A3P1-d to airframe ground.

Is continuity present?

YES

NO → Check the following pins on logic relay assembly for continuity to airframe ground:

22A5J1-109
22A5J1-144
22A5J1-143
22A5J1-145
22A5J1-102
22A5J1-103

Is continuity present?

YES

NO → Functionally test interface control unit, logic control unit, and gunner armament control panel using XM137 test set per TM 9-1090-206-20-1.

Does each unit pass functional test?

YES

NO → Replace unit(s) not passing functional test per TM 9-1090-206-20-1.

Connect 22A4P15, 22A5P1, and 19A5P2.

Then go to paragraph 9-2.

**9-27. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).**

YES → Remove wire A375A22 from 19TB5-3J.
Check for continuity from 22A3P1-d to airframe ground.
Is continuity present?

YES → Repair wire A375A22 between 19TB5-3J and 22A5P1-145 to eliminate short.
Connect 22A5P1, 22A4P15, and 19A5P2.
Then go to paragraph 9-2.

NO → Insert wire A375A22 into 19TB5-3J.
Remove wire A206A22 from 19TB5-3K.
Check for continuity from 22A3P1-d to airframe ground.
Is continuity present?

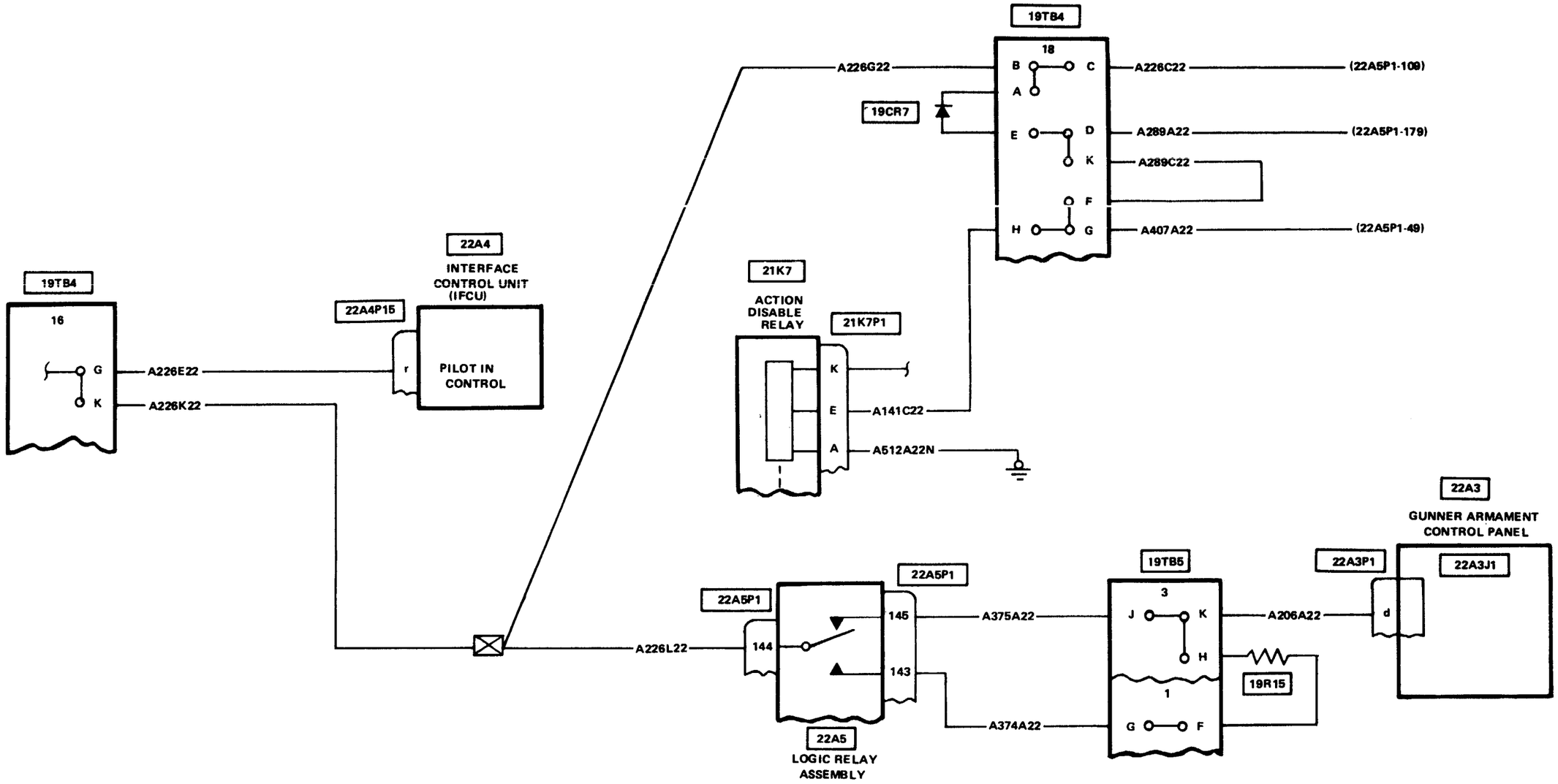
YES → Repair wire A206A22 between 19TB5-3K and 22A3P1-d to eliminate short.
Insert wire A206A22 into 19TB5-3K.
Connect 22A5P1, 22A4P15, and 19A5P2.
Then go to paragraph 9-2.

NO → Replace module 3 of 19TB5 per TM 55-1520-236-23, Chapter 9, Section I.
Connect 22A5P1, 22A4P15, and 19A5P2.
Then go to paragraph 9-2.

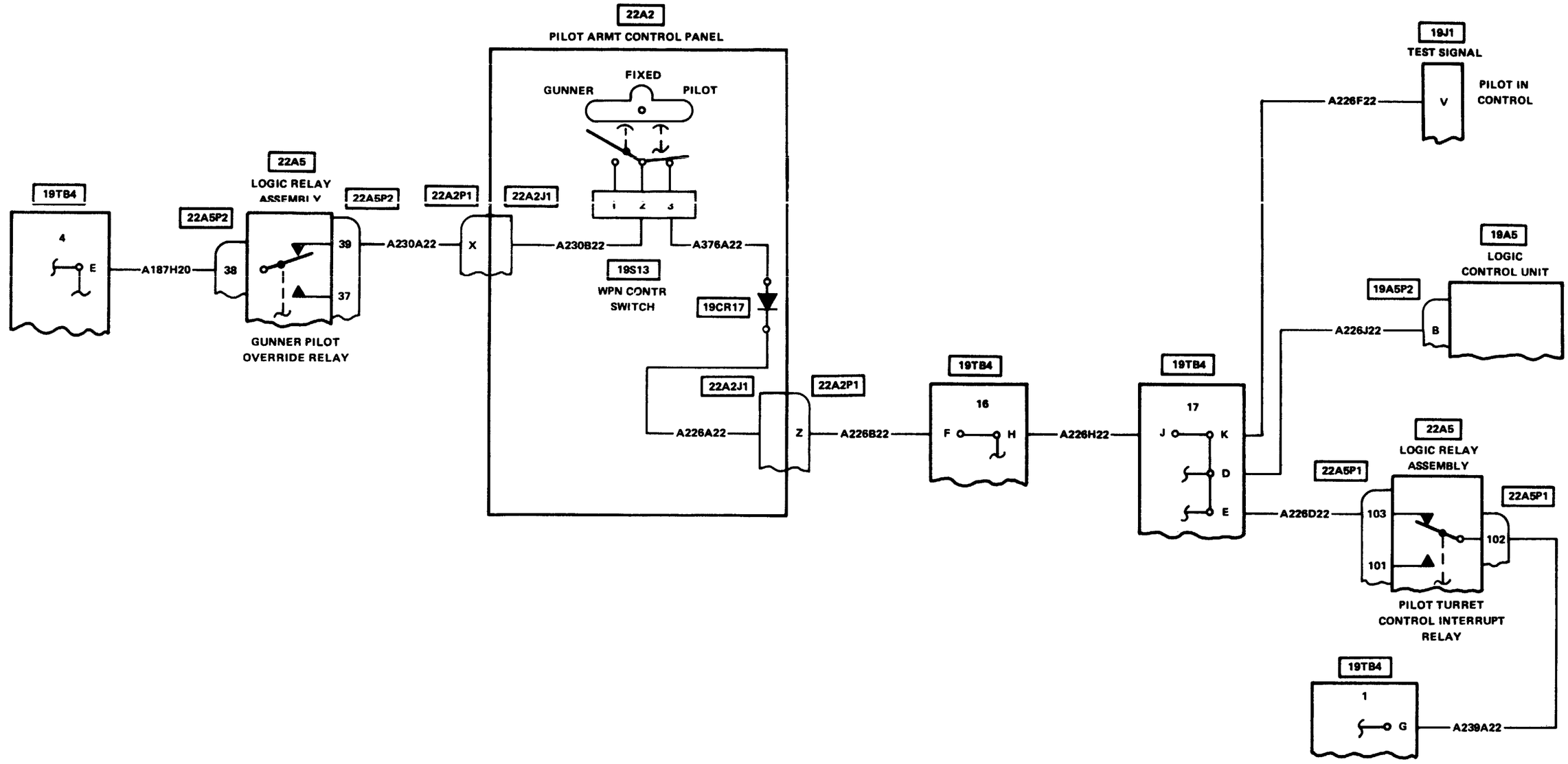
YES → Replace defective logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI .
Connect, 22A5P1, 22A4P15, 19A5P2, and 22A3P1.
Then go to paragraph 9-2.

YES → Connect 22A4P15, 22A5P1, and 19A5P2.
Then go to paragraph 9-2.

9-27. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).



9-27. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).



**9-28. ARMED (RED) INDICATOR ON PILOT ARMT CONTROL PANEL GOES OUT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED.**

INITIAL SETUP

Applicable Configuration
All

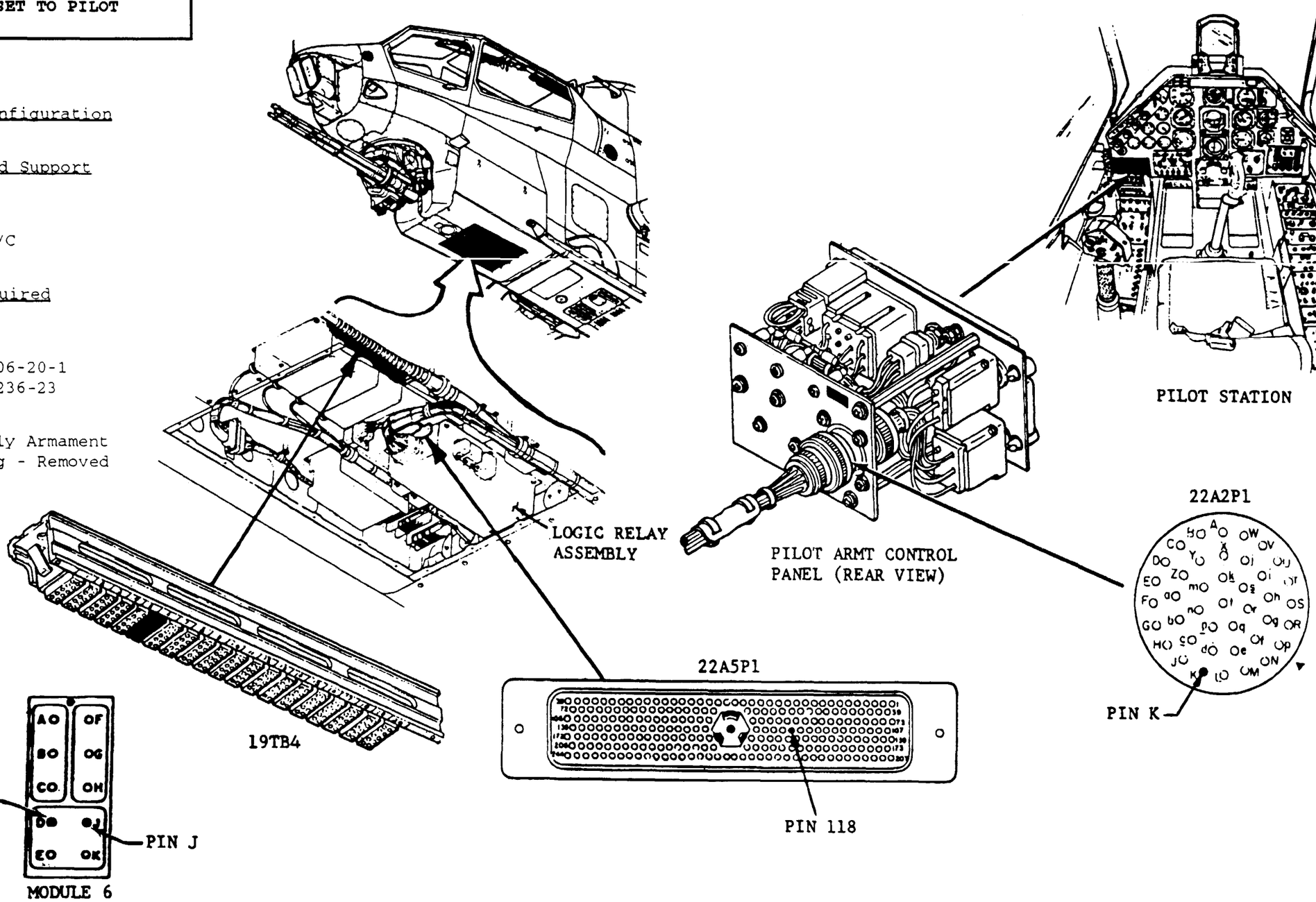
Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C
Electrician

Personnel Required
68F (2)

References
TM 9-1090-206-20-1
TM 55-1520-236-23

Access Panels
Forward Belly Armament and Lighting - Removed



**9-28. ARMED (RED) INDICATOR ON PILOT ARMT CONTROL PANEL GOES OUT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).**

Turn off electrical power per paragraph 9-3.

Check for continuity from 22A2P1-K to airframe ground.

Reverse multimeter leads and repeat check.

Is continuity present in both tests?

NO → Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Then go to paragraph 9-2.

YES ↓

Disconnect 22A5P1.

Check for continuity from 22A2P1-K to airframe ground.

Is continuity present?

NO → Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XVI .

Then go to paragraph 9-2.

YES ↓

Remove wire A465B22 from 19TB4-6J.

Check for continuity from 22A2P1-K to airframe ground.

Is continuity present?

NO → Repair wire A465B22 between 19TB4-6J and 22A5P1-118 to eliminate short?

Then go to paragraph 9-2.

YES ↓

Insert wire A465B22 from 19TB4-6J.

Remove wire A465A22 from 19TB4-6D

Check for continuity from 22A2P1-K to airframe ground.

Is continuity present?

NO → Replace module 6 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A5P1.

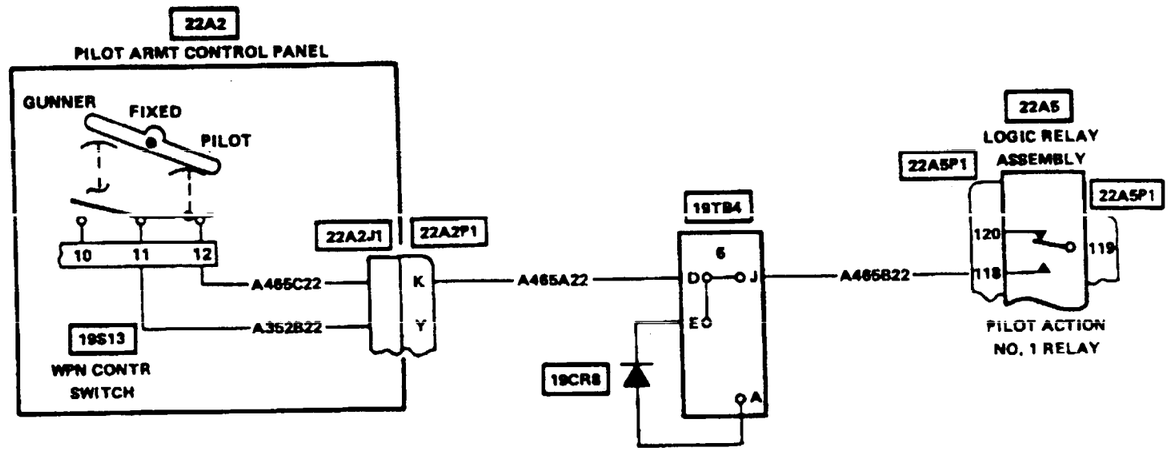
Then go to paragraph 9-2.

YES ↓

Repair wire A465A22 between 19TB4-6D and 22A2P1-K to eliminate short.

Connect 22A5P1.

Then to paragraph 9-2.



**9-29. WPN CONTR CIRCUIT BREAKER WILL NOT STAY CLOSED WITH PLT ORIDE SWITCH IN PLT ORIDE.**

INITIAL SETUP

Applicable Configuration
All

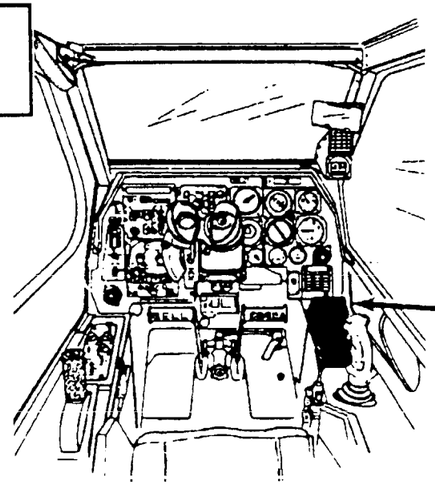
Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C
Electrician

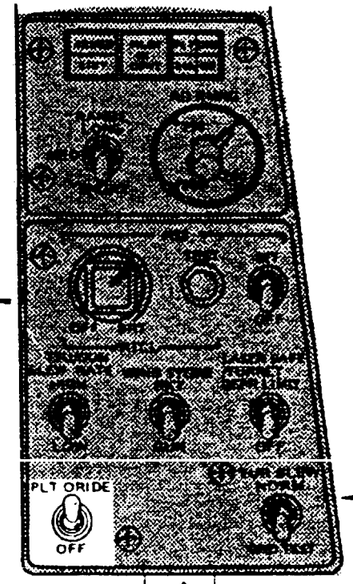
Personnel Required
68F (1)

References
TM 9-1090-206-20-1

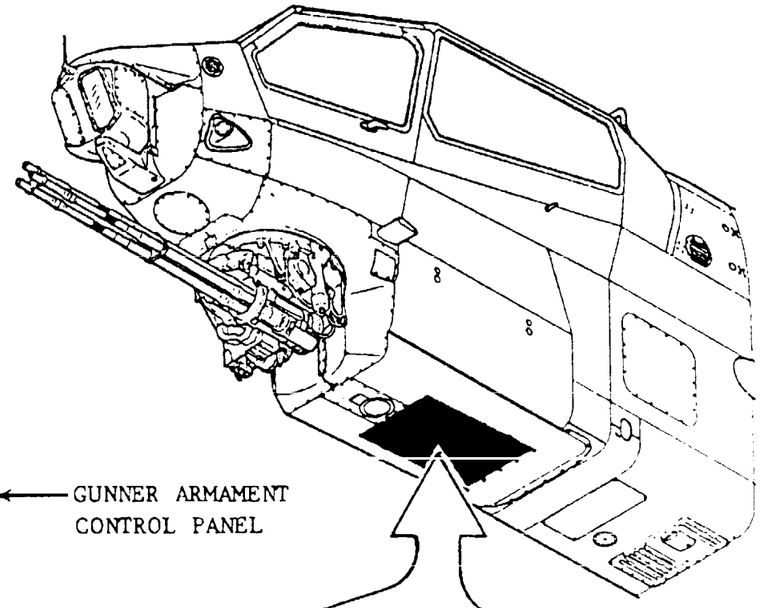
Access Panels
Forward Belly Armament and Lighting - Removed

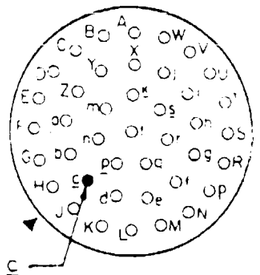


GUNNER STATION

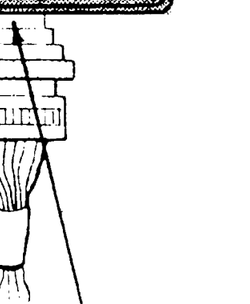


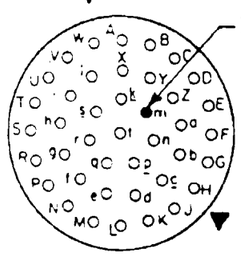

GUNNER ARMAMENT CONTROL PANEL



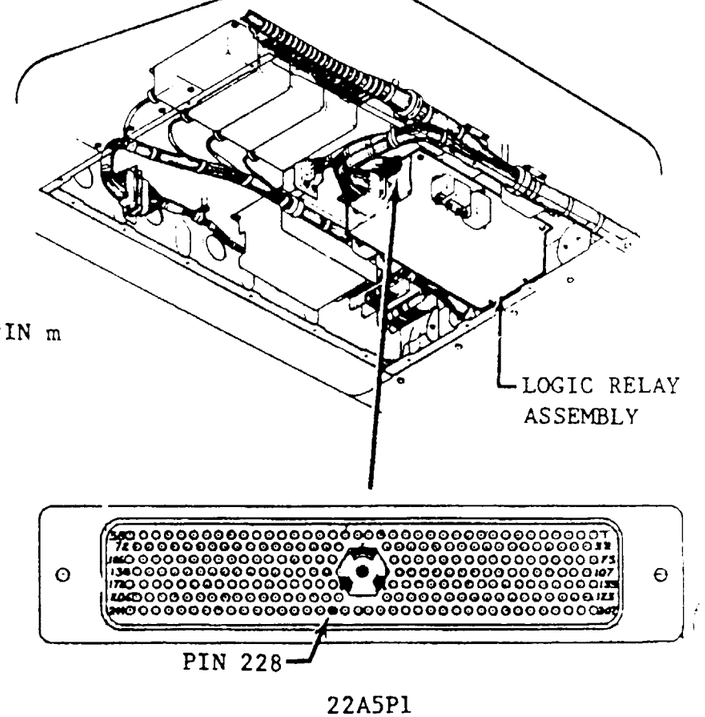



22A3P1






22A3J1




22A5P1

**9-29. WPN CNTR CIRCUIT BREAKER WILL NOT STAY CLOSED WITH PLT ORIDE SWITCH IN PLT ORIDE (CONTINUED).**

Turn off electrical power per paragraph 9-4.

On gunner armament control panel:

Set PLT ORIDE switch to ORIDE.

Check for continuity from 22A3J1-m to airframe ground.

Is continuity present?

YES → Replace gunner armament control panel per TM 9-1090-206-20-1 Chapter 3, Section XVII.

Then go to paragraph 9-2.

NO → Disconnect 22A5P1.

Check for continuity from 22A3P1-c to airframe ground.

Is continuity present?

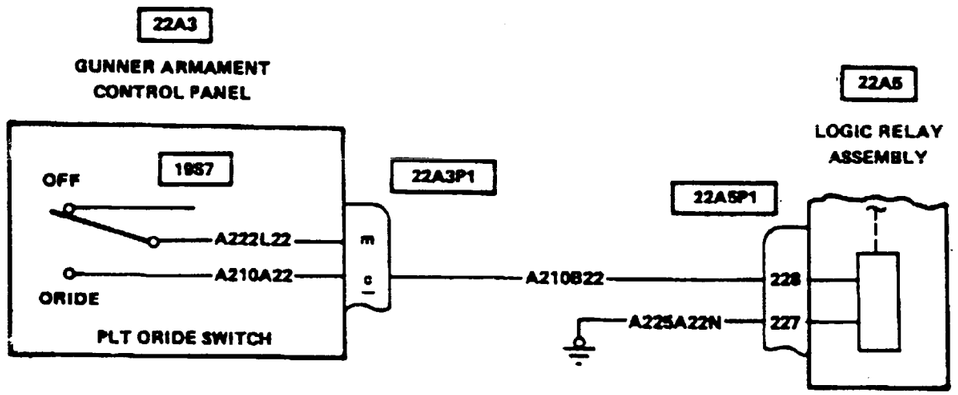
YES → Repair wire A210B22 between 22A3P1-c and 22A5P1-228 to eliminate short.

Connect 22A5P1.

Then go to paragraph 9-2.

NO → Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI.

Then go to paragraph 9-2.



| 9-30. | NO 28 V DC PRESENT AT ONE OR MORE OF THE FOLLOWING CIRCUIT BREAKERS: TMS BLWR, ADS PWR, HUD PWR, WPN CONTR, OR FCC. |
|---|---|

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

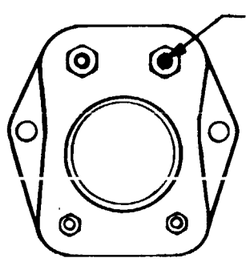
Personnel Required
68F (2)

References
TM 55-1520-236-23

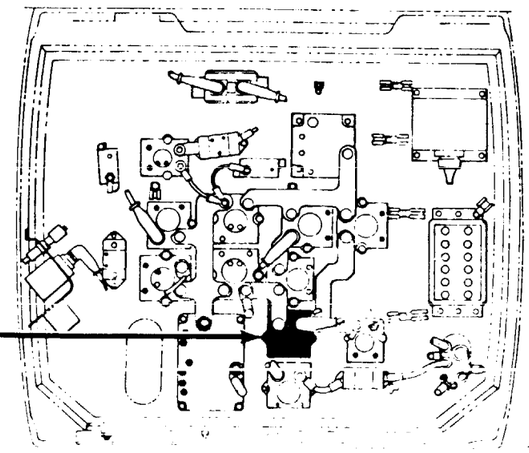
Access Panels
Left Side Control Linkage - Removed

Aft Right Side Control Linkage - Removed

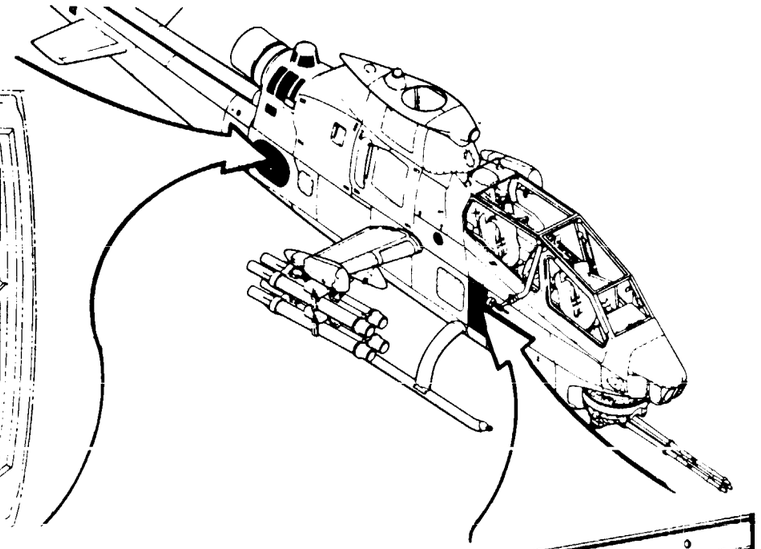
Battery Compartment - Removed

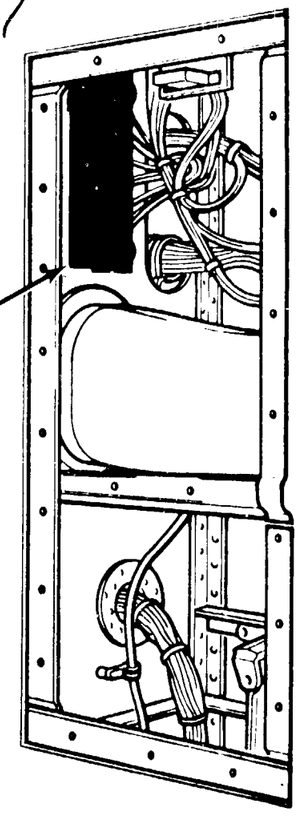


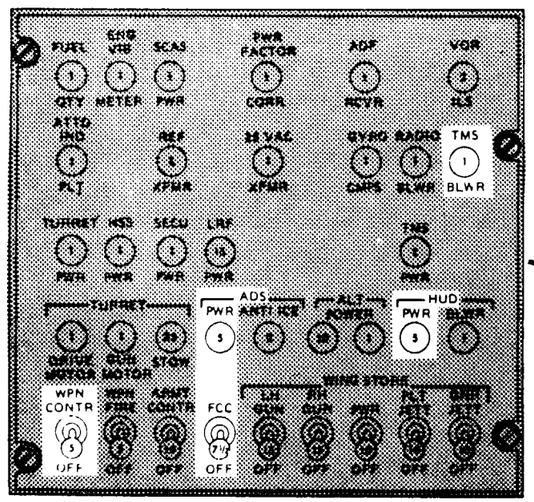

TRU NON-FSSENTIAL RELAY (2K11)



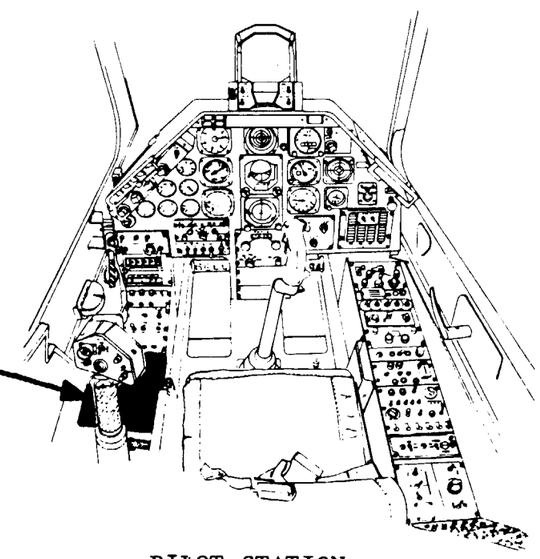
FORWARD BULKHEAD OF BATTERY COMPARTMENT



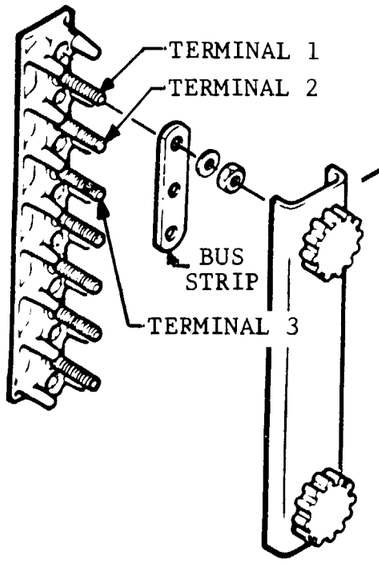





AC/ARMT CIRCUIT BREAKER PANEL

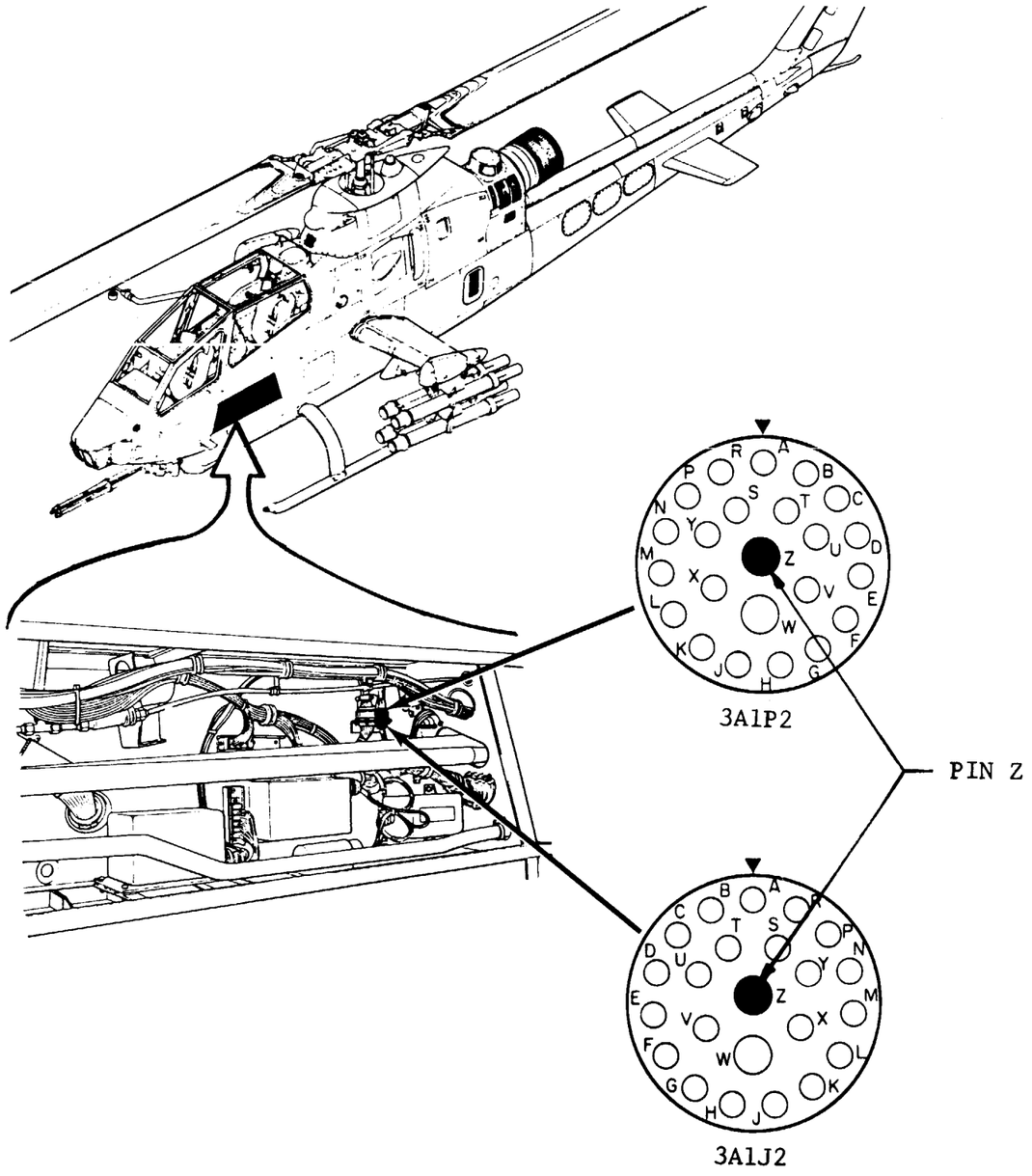


PILOT STATION




2TB2

9-30. NO 28 V DC PRESENT AT ONE OR MORE OF THE FOLLOWING CIRCUIT BREAKERS: TMS BLWR, ADS PWR, HUD PWR, WPN CONTR, OR FCC(CONTINUED).




Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 2TB2-1.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Check for continuity from 3A1J2-Z to 2TB2-1.

Is continuity present?

YES →

NO → Repair wire A344A16 between 3A1J2-Z and 2TB2-1.

Then go to paragraph 9-2.

NO

Check for 28 V dc at 2K11-A1.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Disconnect wire P50A8 from 2TB2-3.

Check for continuity from end of wire P50A8 to 2K11-A1.

Is continuity present?

YES →

NO → Repair wire P50A8 between 2TB2-3 and 2K11-A1.

Then continue troubleshooting.

NO

Go to paragraph 9-21.

9-30. NO 28 V DC PRESENT AT ONE OR MORE OF THE FOLLOWING CIRCUIT BREAKERS: TMS BLWR, ADS PWR, HUD PWR, WPN CONTR, OR FCC(CONTINUED).

YES

Remove A/C ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Open TMS BLWR circuit breaker.

Check wire A344B16 for continuity from 3A1P2-Z to TMS BLWR circuit breaker.

Is continuity present?

NO

Repair wire A344B16 between 3A1P2-Z and TMS BLWR circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Open WPN CONTR circuit breaker.

Check for continuity from TMS BLWR circuit breaker to WPN CONTR circuit breaker.

Is continuity present?

NO

Repair wire A344C16 between TMS BLWR circuit breaker and WPN CONTR circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Open FCC circuit breaker.

Check for continuity from WPN CONTR circuit breaker to FCC circuit breaker.

Is continuity present?

NO

Repair wire A344D16 between WPN CONTR circuit breaker and FCC circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

YES

Connect wire P50A8 to 2TB2-3.

Disconnect wire P50B8 from 2TB2-2.

Check for continuity from end of wire P50B8 to 2K11-A1.

Is continuity present?

NO

Repair wire P50B8 between 2TB2-2 and 2K11-A1.

Then continue troubleshooting.

YES

Repair or replace bus strip between 2TB2-1 and 2TB2-3 per TM 55-1520-236-23, Chapter 9, Section I.

Connect wire P50B8 to 2TB2-2.

Then go to paragraph 9-2.

9-30. NO 28 V DC PRESENT AT ONE OR MORE OF THE FOLLOWING CIRCUIT BREAKERS: TMS BLWR, ADS PWR, HUD PWR, WPN CONTR, OR FCC(CONTINUED).

YES → Open HUD PWR circuit breaker.

Check for continuity from HUD PWR circuit breaker to FCC circuit breaker.

Is continuity present?

YES → Repair wire A344F16 between HUD PWR circuit breaker and ADS PWR circuit breaker.

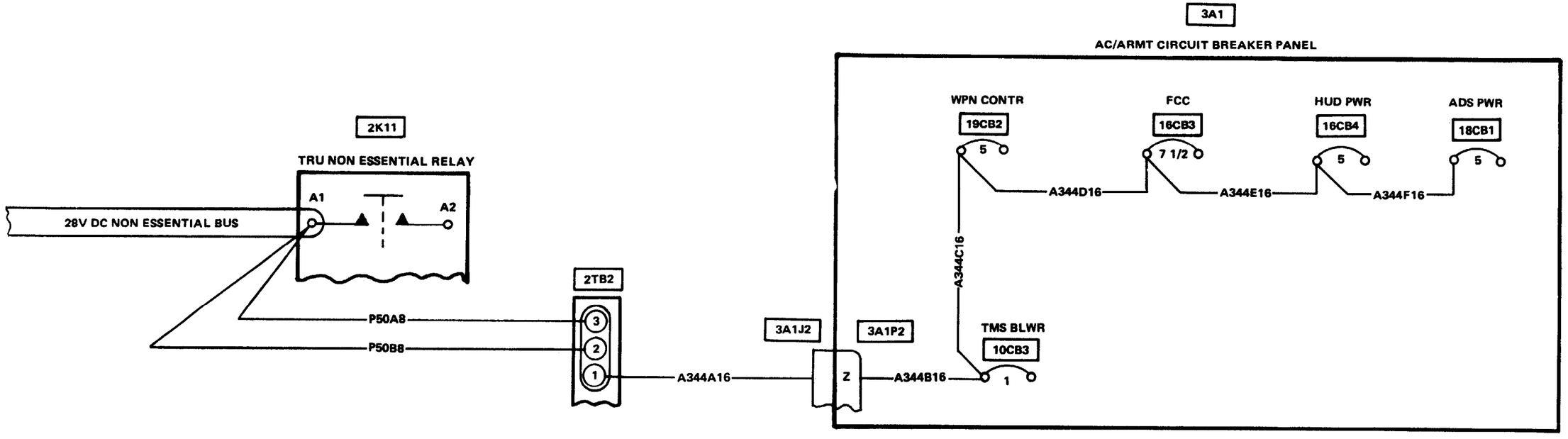
Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Repair wire A344E16 between HUD PWR circuit breaker and FCC circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.



**9-31. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING CIRCUIT BREAKERS: TURRET STOW, WING STORE PLT JETT, WING STORE GNR JETT.**

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Took Kit, A/C Electrician

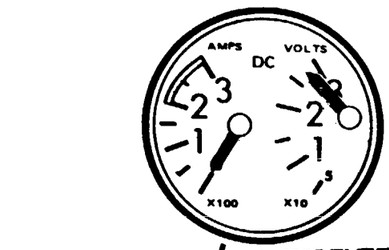
Personnel Required
68F (2)

References
TM 55-1520-236-23

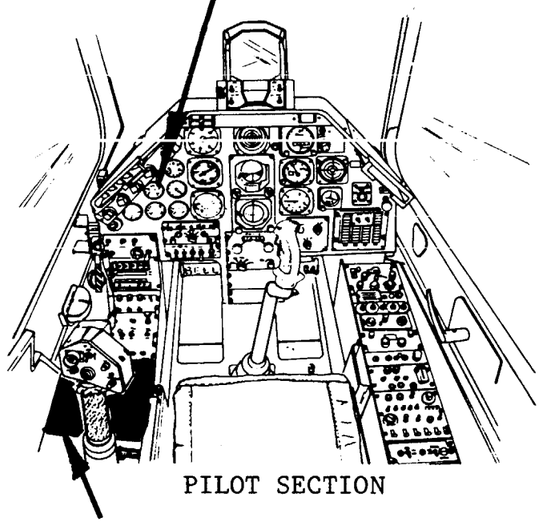
Access Panels
Left Side Control Linkage - Removed

Battery Compartment - Removed

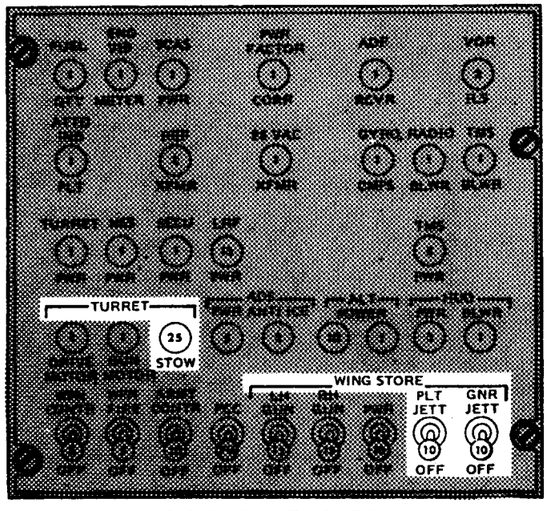
Right Side Aft Control Linkage - Removed



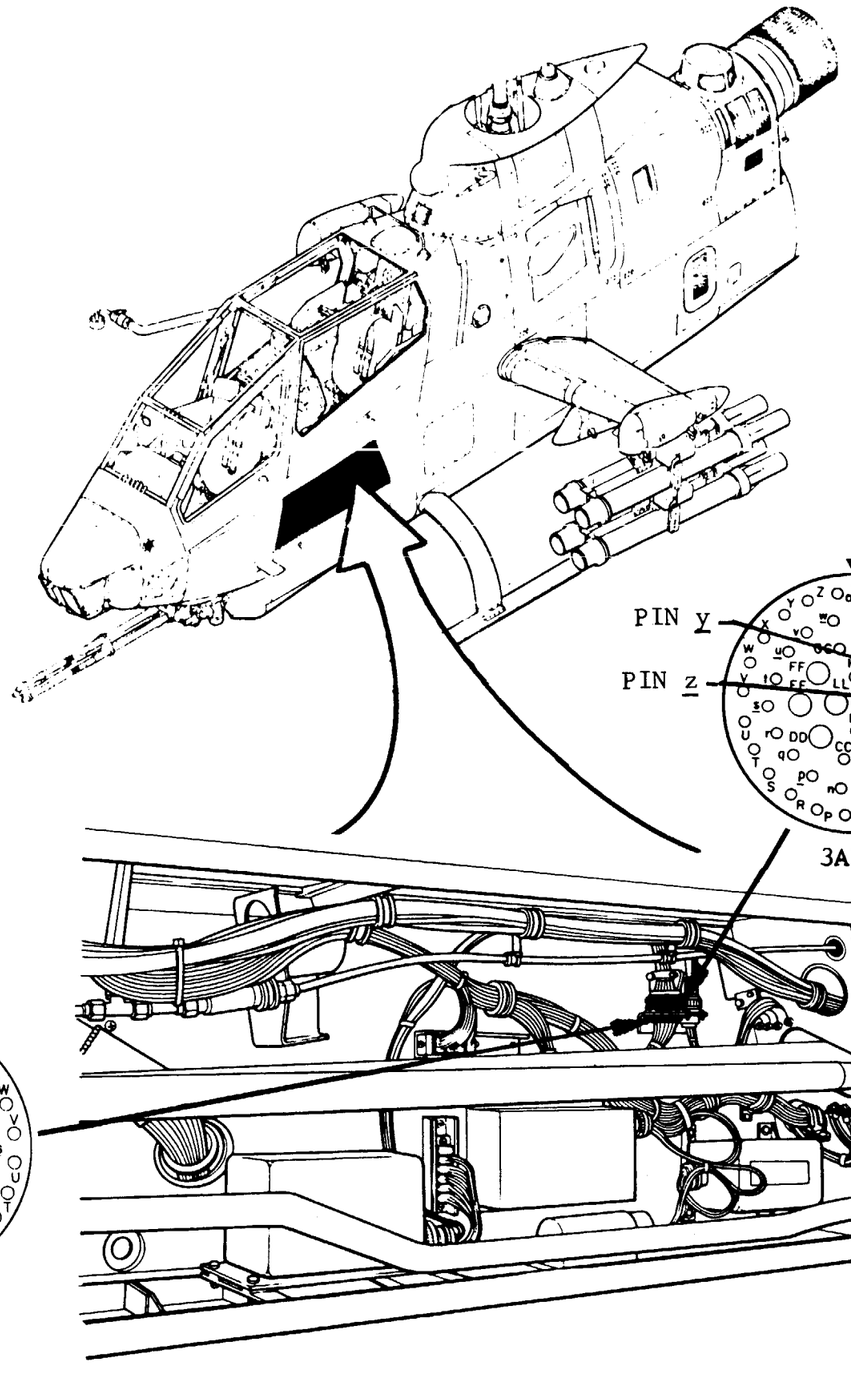

DC VOLTMETER



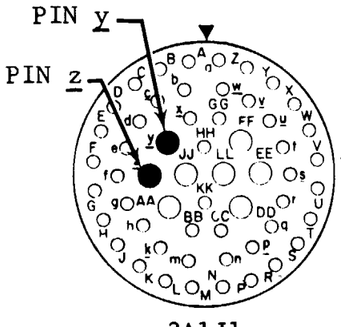
PILOT SECTION




AC/ARMT CIRCUIT BREAKER PANEL

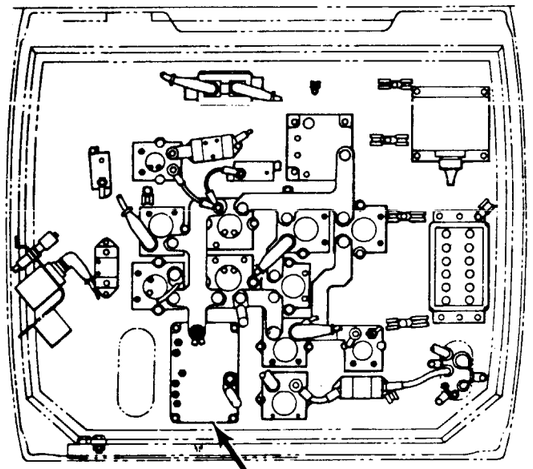


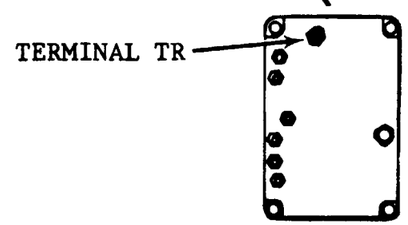

3A1P1



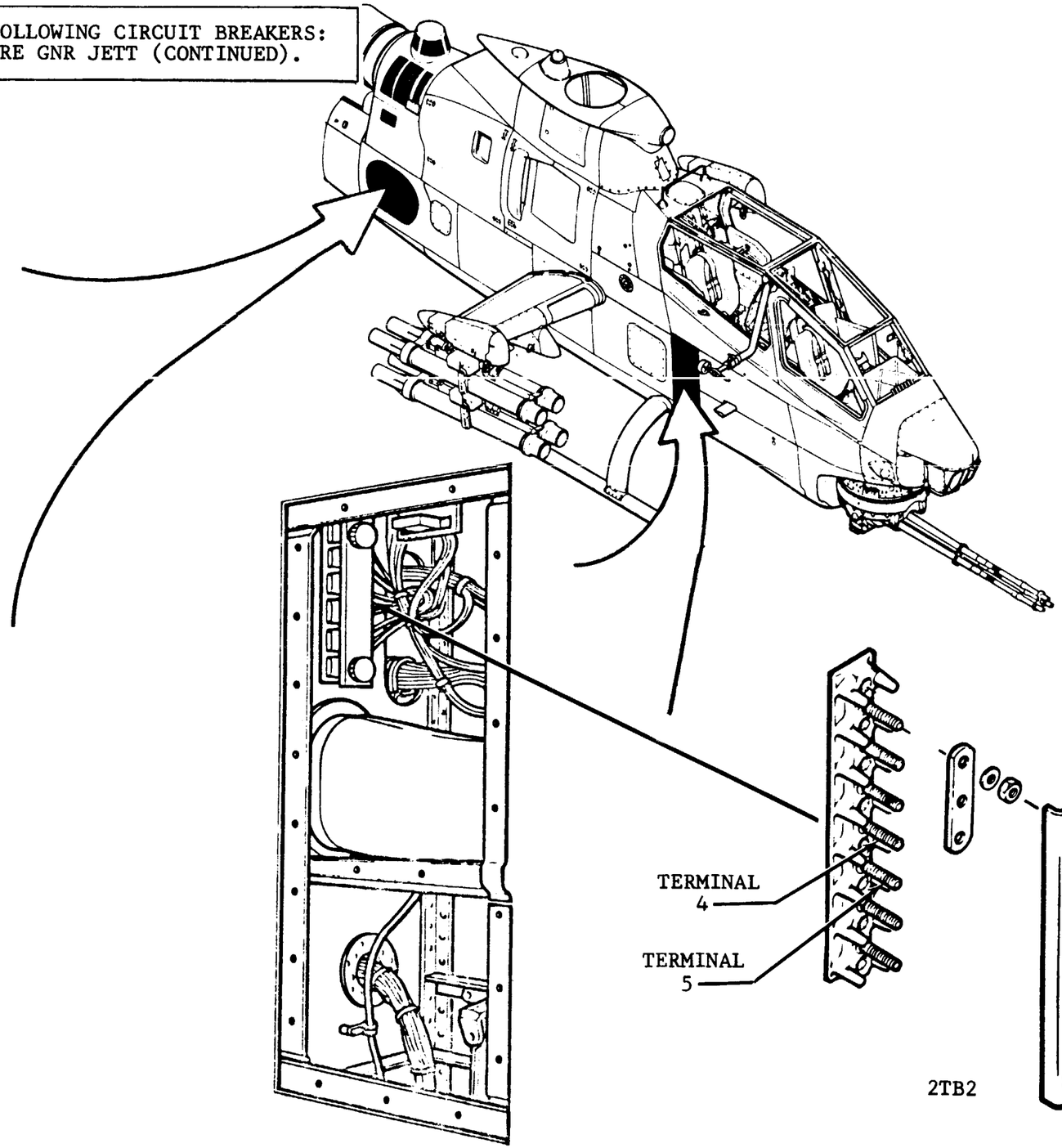

3A1J1

9-31. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING CIRCUIT BREAKERS: TURRET STOW, WING STORE PLT JETT, WING STORE GNR JETT (CONTINUED).






BATTERY RELAY
(2K2)



**9-31. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING CIRCUIT BREAKERS: TURRET STOW, WING STORE PLT JETT, WING STORE GNR JETT (CONTINUED).**

On pilot instrument panel:

Does DC voltmeter indicate 28 volts?

YES → Check for 28 V dc at 2K2-TR.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Remove AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Check wire A346C16 for continuity from TURRET STOW circuit breaker to WING STORE GNR JETT circuit breaker.

Is continuity present?

YES →

NO → Repair wire A346C16 between TURRET STOW circuit breaker and WING STORE GNR JETT circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Go to paragraph 9-5.

NO → Go to TM 55-1526-236-23, Chapter 9, Section II.

9-31. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING CIRCUIT BREAKERS: TURRET STOW, WING STORE PLT JETT, WING STORE GNR JETT (CONTINUED).

YES

Check wire A346B16 for continuity from 3A1P1-y to TURRET STOW circuit breaker.

Is continuity present?

YES

Check wire A345B16 for continuity from 3A1P1-z to TURRET STOW circuit breaker.

Is continuity present?

YES

Repair wire A345A16 between 3A1J1-z and 2TB2-4.

Repair wire A346A16 between 3A1J1-y and 2TB2-5.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Repair wire A345B16 between 3A1P1-z and TURRET STOW circuit breaker.

Repair wire A346A16 between 3A1J1-y and 2TB2-5.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Check wire A345B16 for continuity from 3A1P1-z to TURRET STOW circuit breaker.

Is continuity present?

YES

Repair wire A345A16 between 3A1J1-z and 2TB2-4.

Repair wire A346B16 between 3A1P1-y and TURRET STOW circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

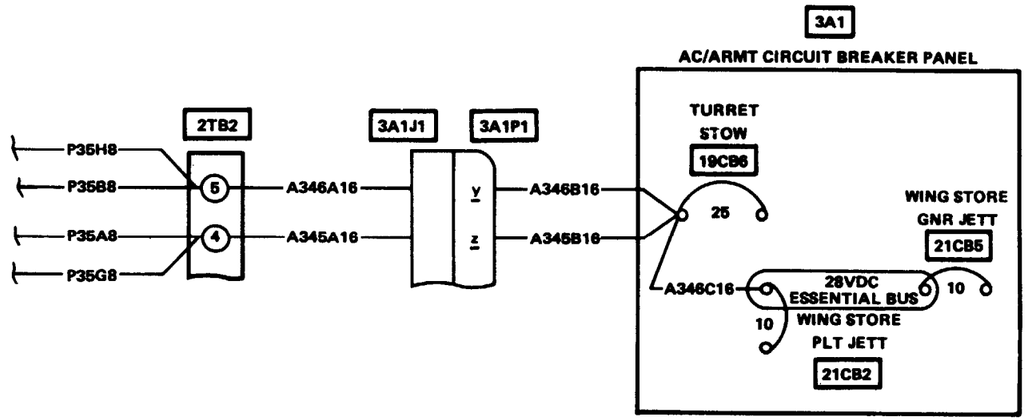
NO

Repair wire A345B16 from 3A1P1-z to TURRET STOW circuit breaker.

Repair wire A346B16 from 3A1P1-y to TURRET STOW circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.



**9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K.**

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

Personal Required
68F (2)

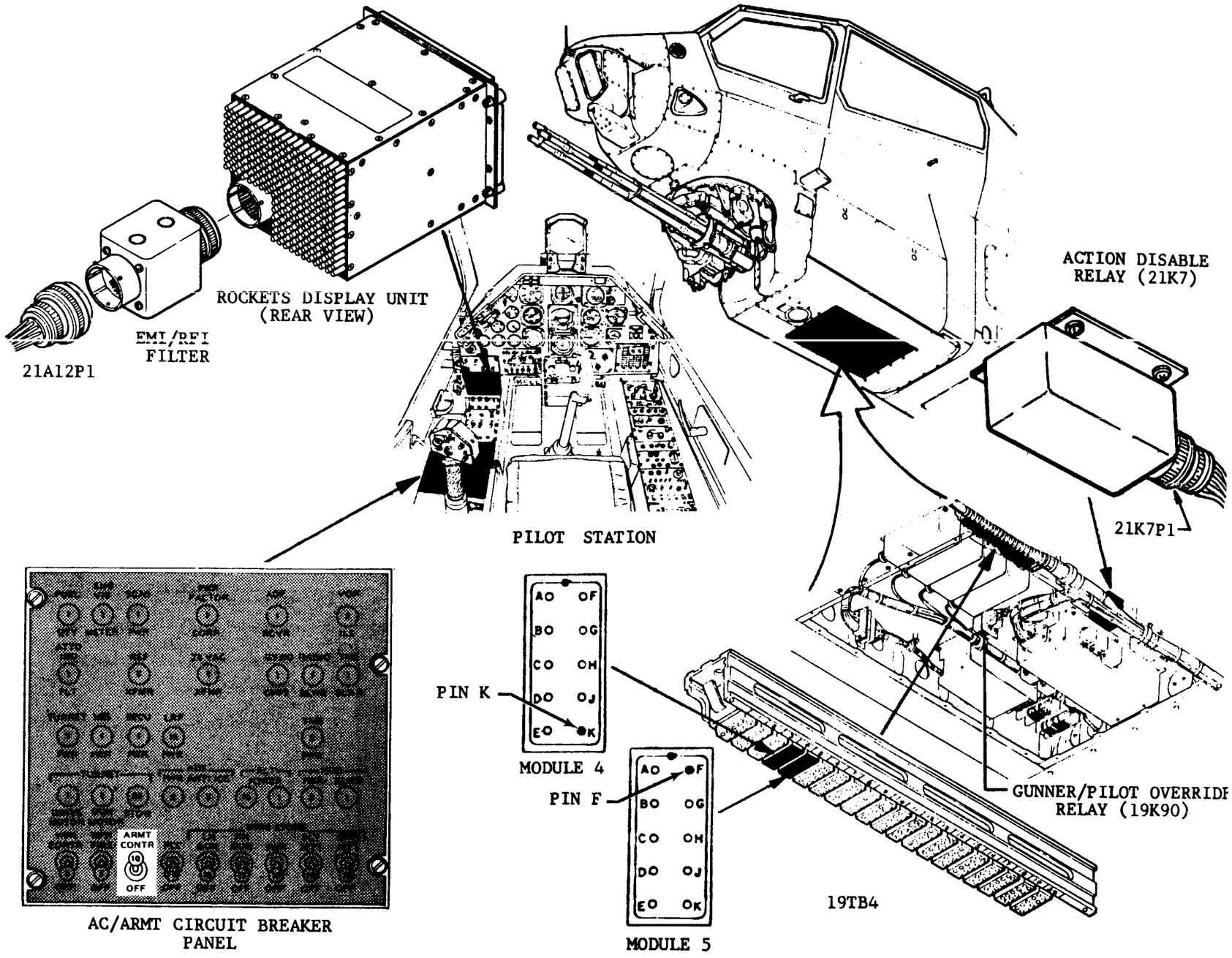
References
TM 9-1090-206-20-1
TM 9-1090-207-13&P
TM 9-1090-218-13&P
TM 9-1270-212-14&P
TM 55-1520-236-23

Access Panels
Battery Compartment - Removed

Aft Left Side Control Linkage - Removed

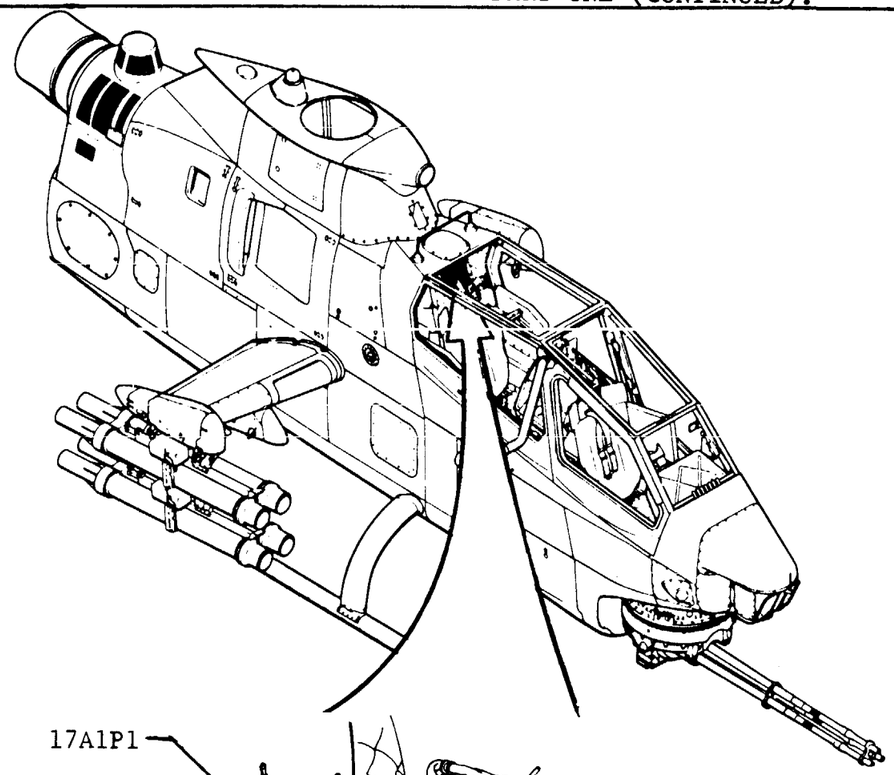
Forward Belly Armament and Lighting – Removed

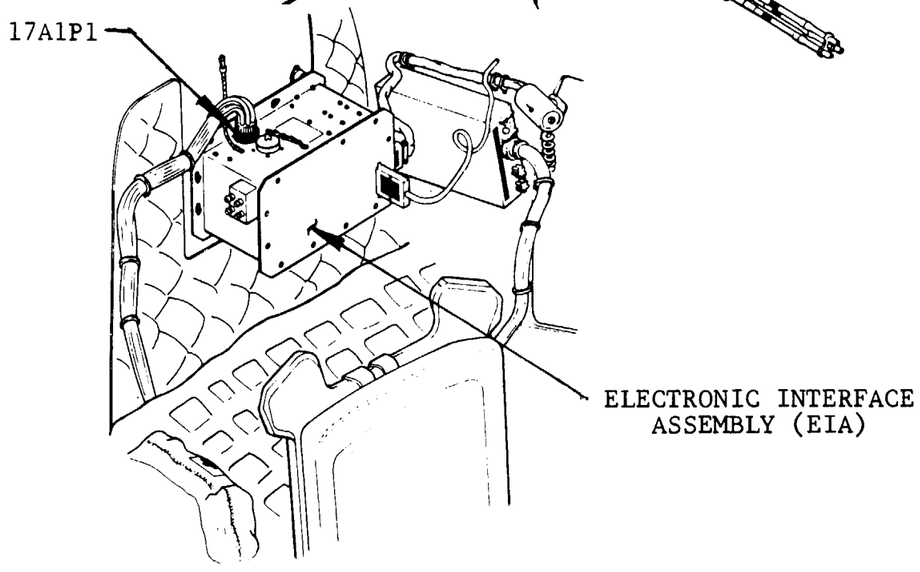
**A. TROUBLESHOOTING LOGIC PART ONE**



9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).






Check for 28 V dc at 19TB4-5F.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Replace module 5 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO ↓

Turn off electrical power per paragraph 9-4.

Remove wire A187T20 from 19TB4-5F.

Turn on electrical power per paragraph 9-4.

On AC/ARMT circuit breaker panel:

Close ARMT CONTR circuit breaker.

Check for 28 V dc at wire A187T20.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Insert wire A187T20 into 19TB4-5F.

Disconnect 17A1P1 and 21K7P1.

Remove ROCKETS display unit per TM 9-1090-207-13, Chapter 4, Section IV.

Disconnect 21A12P1 from EMI/RFI filter.

Remove gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Turn on electrical power per paragraph 9-4.

On AC/ARMT circuit breaker panel:

Close ARMT CONTR circuit breaker.

Check for 28 V dc at 19TB4-5F.

Is 28 V dc present?

YES →

NO ↓

Go to Troubleshooting Logic Part Two (subparagraph B).

NO ↓

Check for 28 V dc at 19TB4-4K.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Repair wire A187T20 between 19TB4-5F and 19TB4-4K.

Insert wire A187T20 into 19TB4-4K.

Then go to paragraph 9-2.

NO ↓

Turn off electrical power per paragraph 9-4.

Insert wire A187T20 into 19TB4-5F.

Turn on electrical power per paragraph 9-4.

Then go to paragraph 9-33.

9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

Turn off electrical power per paragraph 9-4.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13, Chapter 4, Section IV.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 19TB4-5F.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 9-4.

Remove ROCKETS display unit per TM 9-1090-207-13, Chapter 4, Section IV.

Disconnect 21A12P1 from EMI/RFI filter and connect directly to ROCKETS display unit.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 19TB4-5F.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 9-4.

Replace EMI/RFI filter.

Connect 17A1P1 and 21K7P1.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

YES

Turn off electrical power per paragraph 9-4.

Connect 17A1P1.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 19TB4-5F.

Is 28 V dc present?

NO

Turn off electrical power per paragraph 9-4.

Replace electronic interface assembly (EIA) per TM 9-1270-212-14, Chapter 3, Section VIII.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Connect 21K7P1.

Then go to paragraph 9-2.

YES

Turn off electrical power per paragraph 9-4.

Connect 21K7P1.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 19TB4-5F.

Is 28 V dc present?

NO

Turn off electrical power per paragraph 9-4.

Replace action disable relay (21K7) per TM 55-1520-236-23, Chapter 9, Section I.

Install relay (19K90).

Then go to paragraph 9-2.

YES

NO

9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

YES →

Turn off electrical power per paragraph 9-4.

Replace gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO ↓

Turn off electrical power per paragraph 9-4.

Connect 21A12P1 to EMI/RFI filter.

Replace ROCKETS display unit per TM 9-1090-207-13, Chapter 4, Section IV.

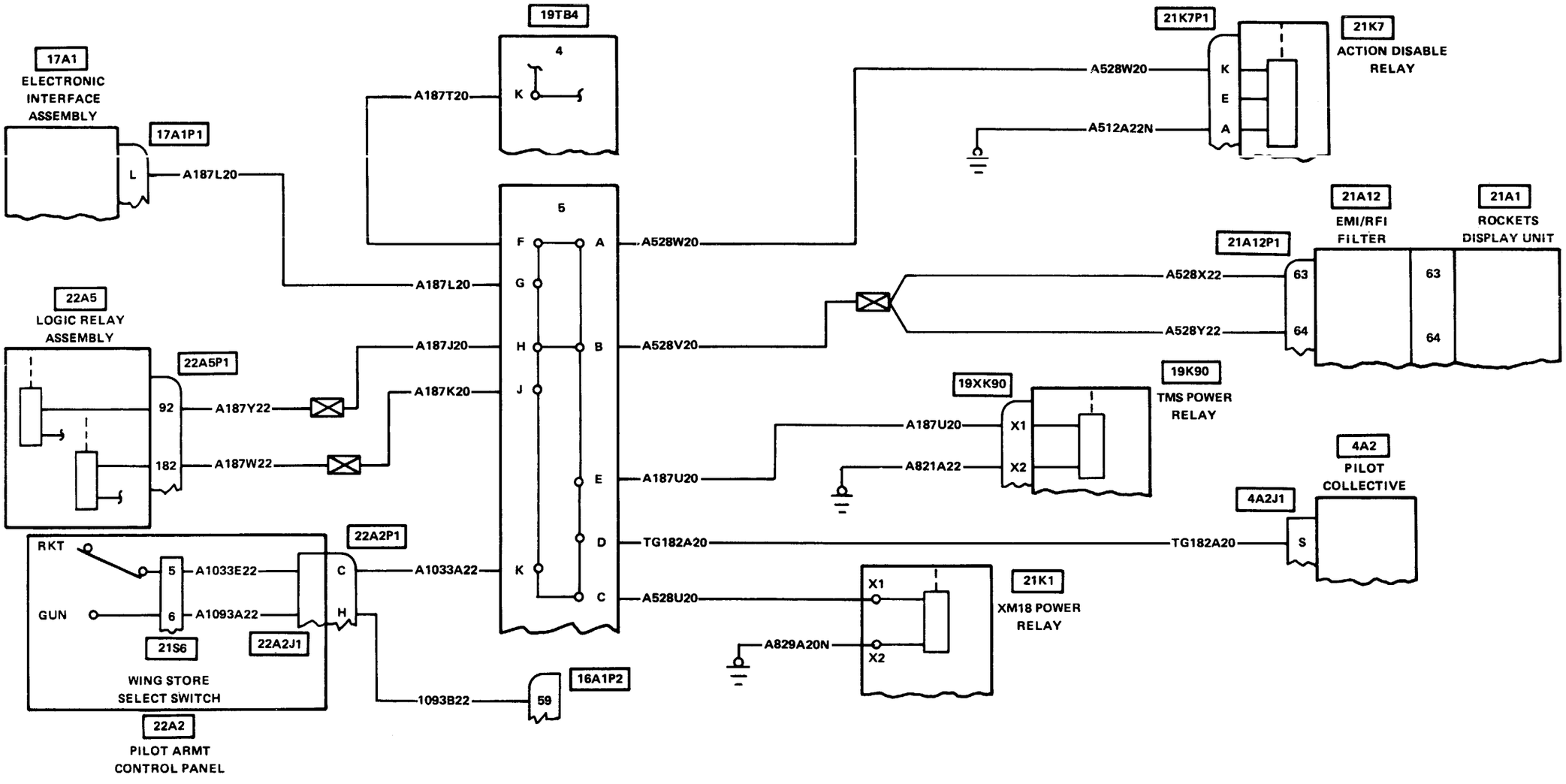
Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 17A1P1 and 21K7P1.

Then go to paragraph 9-2.

9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

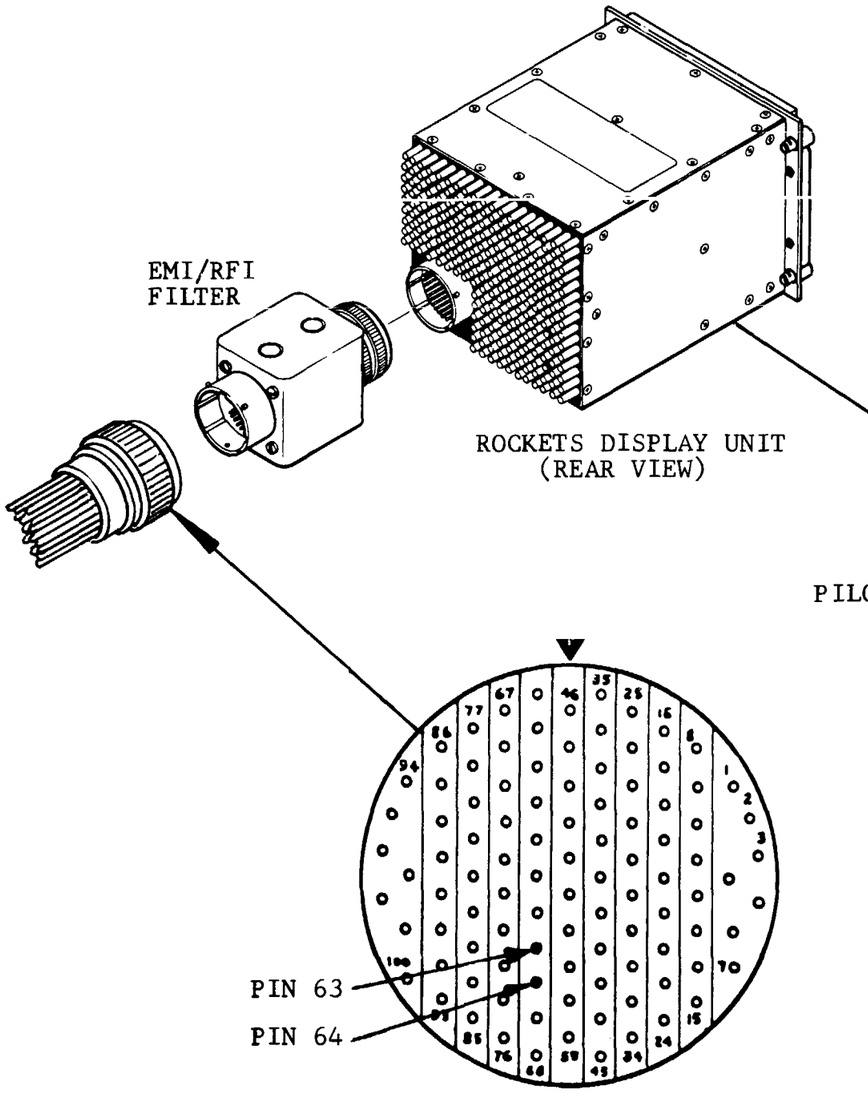
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



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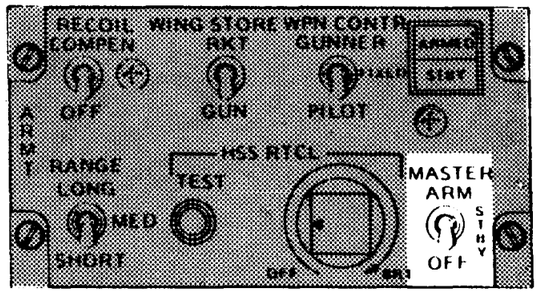
9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO.

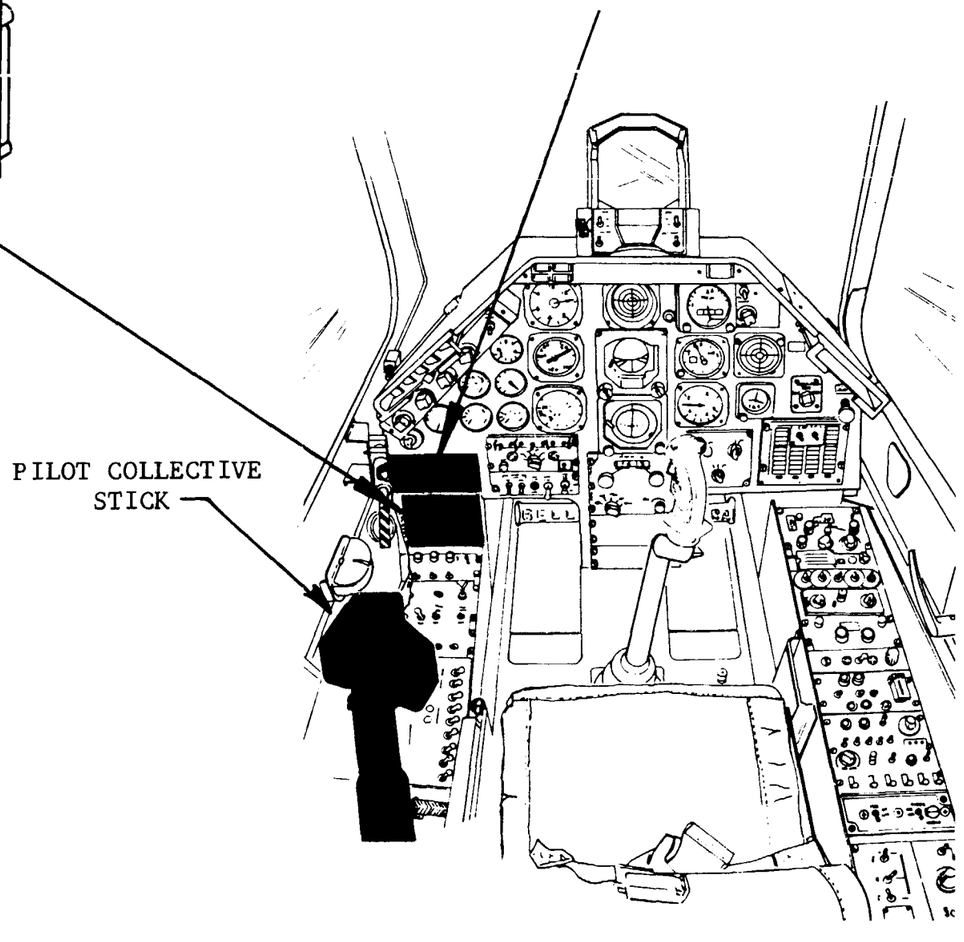



ROCKETS DISPLAY UNIT
(REAR VIEW)

21A12P1



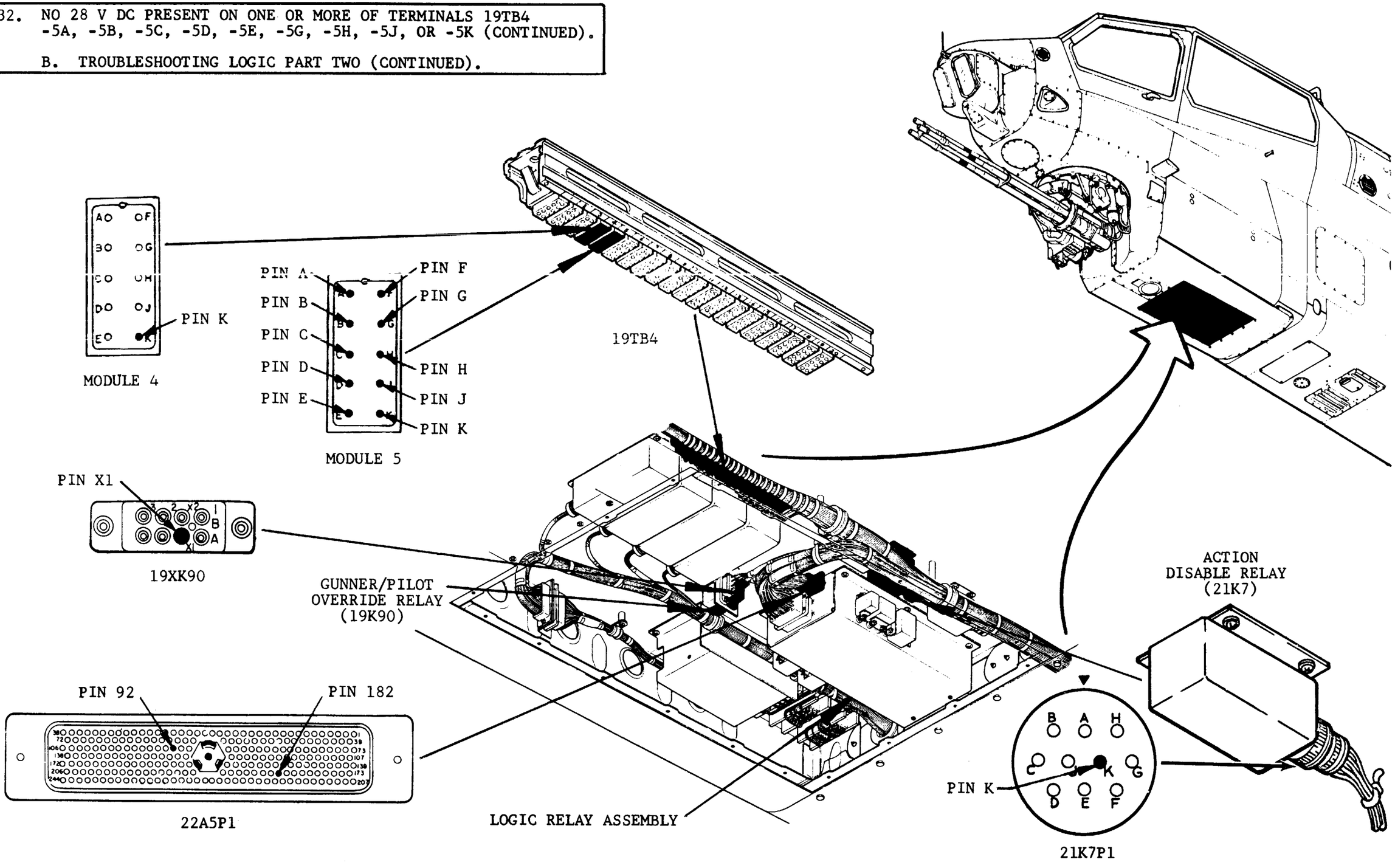

PILOT ARMT CONTROL PANEL




PILOT STATION

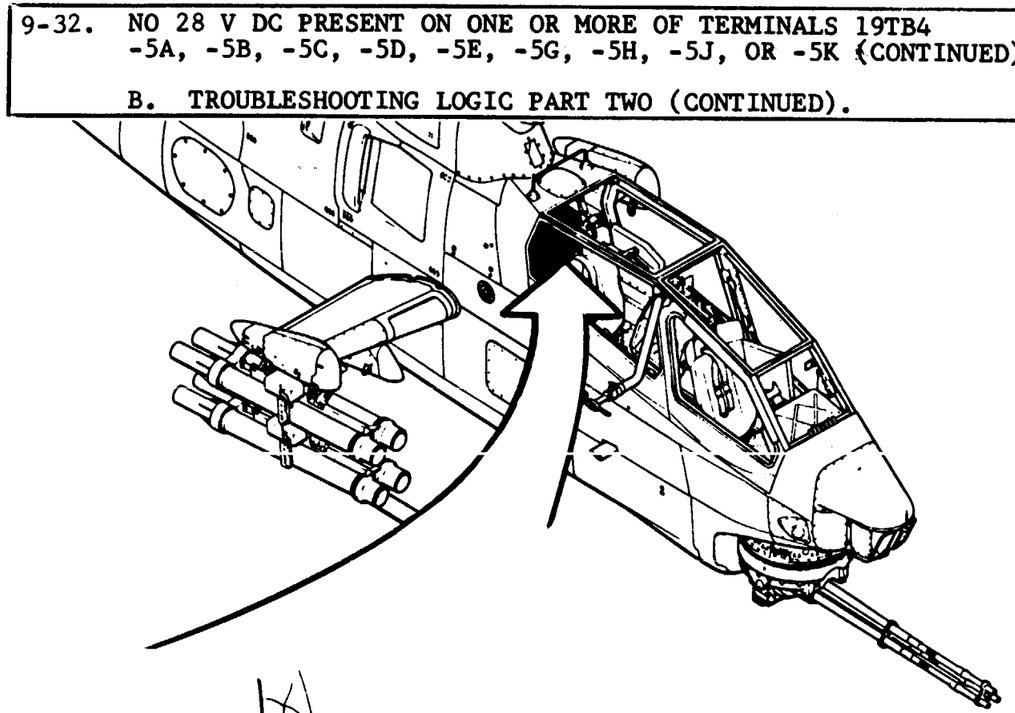
9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

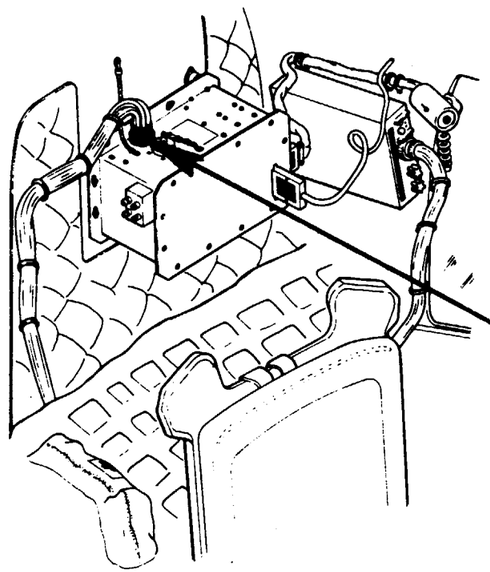
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

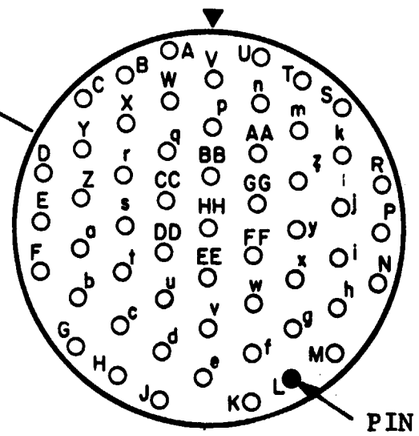


9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

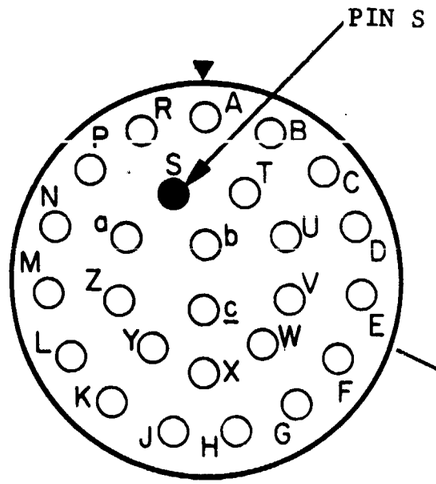
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



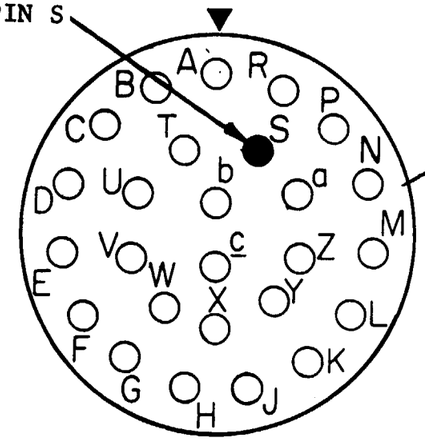




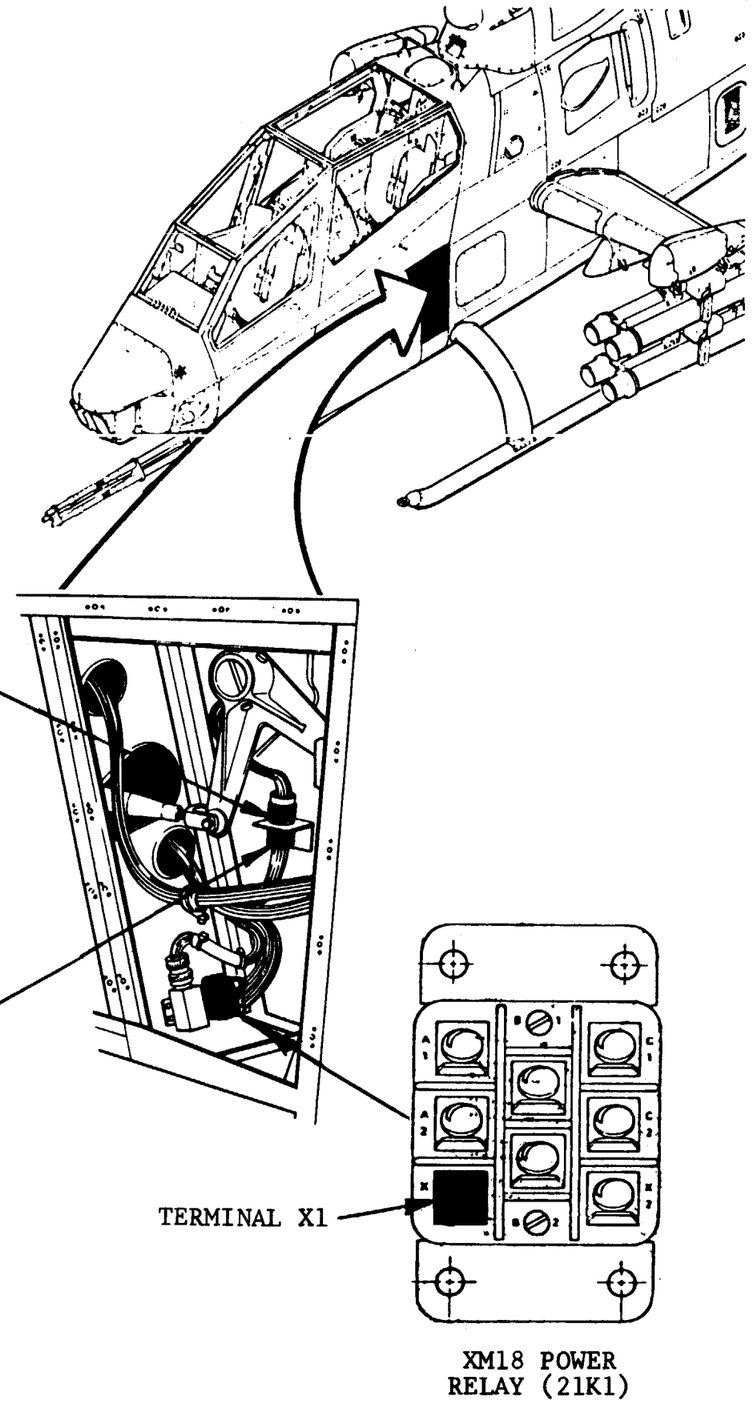

17A1P1




4A2P1




4A2J1




XM18 POWER RELAY (21K1)

9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

On pilot ARMT control panel:
Set MASTER ARM switch to OFF.
Remove wire A528U20 from 19TB4-5C.
Set MASTER ARM switch to STBY.
On AC/ARMT circuit breaker panel:
Close ARMT CONTR circuit breaker.
Check for 28 V dc at 19TB4-5F.
Is 28 V dc present?

YES

NO

Set MASTER ARM switch to OFF.
Remove wire A187J20 from 19TB4-5H.
Set MASTER ARM switch to STBY.
On AC/ARMT circuit breaker panel:
Close ARMT CONTR circuit breaker.
Check for 28 V dc at 19TB4-5F.
Is 28 V dc present?

YES

NO

Set MASTER ARM switch to OFF
Remove wire A187K20 from 19TB4-5J.
Set MASTER ARM switch to STBY.
On AC/ARMT circuit breaker panel:
Close ARMT CONTR circuit breaker.
Check for 28 V dc at 19TB4-5F.
Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 9-4.

Remove wire A1033A22 from 19TB4-5K.

Remove wire A187T20 from 19TB4-4K and check for continuity from end of wire to airframe ground.

Is continuity present?

YES

NO

Go to Troubleshooting Logic Part Three (subparagraph C).

On pilot ARMT control panel:
Set WING STORE switch to RKT.
Insert wire A1033A22 into 19TB4-5K.
Remove wire A528W20 from 19TB4-5A.
Check for continuity from wire A187T20 to airframe ground.
Is continuity present?

YES

NO

Repair wire A528W20 between 19TB4-5A and 21K7P1-K to eliminate short.

Insert the following wires:

A528W20 into 19TB4-5A.
A187K20 into 19TB4-5J.
A187J20 into 19TB4-5H.
A528U20 into 19TB4-5C.
A187T20 into 19TB4-4K.

Connect 17A1P1 and 21K7P1.

Connect 22A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

YES

Insert wire A528W20 into 19TB4-5A.

Remove wire A528V20 from 19TB4-5B.

Check for continuity from wire A187T20 to airframe ground.

Is continuity present?

NO

Repair wires A528V20, A528X20, and A528Y20 between 19TB4-5B and 21A12P1-63 and -64 to eliminate short.

Insert the following wires:

A528V20 into 19TB4-5B.
A187K20 into 19TB4-5J.
A187J20 into 19TB4-5H.
A528U20 into 19TB4-5C.
A187T20 into 19TB4-4K.

Connect 17A1P1 and 21K7P1.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

YES

Insert wire A528V20 into 19TB4-5B.

Remove wire TG182A20 from 19TB4-5D.

Check for continuity from wire A187T20 to airframe ground.

Is continuity present?

NO

Check for continuity from 4A2P1-S to airframe ground.

Is continuity present?

NO

Repair wire TG182A20 between 4A2J1-S and 19TB4-5D to eliminate short.

Insert the following wires:

TG182A20 into 19TB4-5D.
A187K20 into 19TB4-5J.
A187J20 into 19TB4-5H.
A528U20 into 19TB4-5C.
A187T20 into 19TB4-4K.

Connect 17A1P1 and 21K7P1.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

YES

Insert wire TG182A20 into 19TB4-5D.

Remove wire A187U20 from 19TB4-5E.

Check for continuity from wire A187T20 to airframe ground.

Is continuity present.

NO

Repair wire A187U20 between 19TB4-5E and 19XK90-X1 to eliminate short.

Insert the following wires:

A187U20 into 19TB4-5E.
A187K20 into 19TB4-5J.
A187J20 into 19TB4-5H.
A528U20 into 19TB4-5C.
A187T20 into 19TB4-4K.

Connect 17A1P1 and 21K7P1.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

YES

YES

YES

YES

YES

YES

YES

**9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).**

**B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).**

YES

YES

YES

YES

YES

YES

YES

YES

Repair wire A187L20 between 19TB4-5G and 17A1P1-L to eliminate short.

Insert the following wires:

A187U20 into 19TB4-5E.
A187K20 into 19TB4-5J.
A187J20 into 19TB4-5H.
A528U20 into 19TB4-5C.
A187T20 into 19TB4-4K.

Connect 17A1P1.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

Turn off electrical power per paragraph 9-4.

Check for continuity from 22A5P1-182 to airframe ground.

Is continuity present?

NO

Replace relay logic assembly per TM 9-1090-206-20-1, Chapter 3, Section XXIII.

Insert the following wires:

A187K20 into 19TB4-5J.
A187J20 into 19TB4-5H.
A528U20 into 19TB4-5C.

Connect 17A1P1 and 21K7P1.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

YES

Replace pilot collective stick per TM 55-1520-236-23, Chapter 11 Section I.

Insert the following wires:

TG182A20 into 19TB4-5D.
A187K20 into 19TB4-5J.
A187J20 into 19TB4-5H.
A528U20 into 19TB4-5C
A187T20 into 19TB4-4K.

Connect 17A1P1 and 21K7P1.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

YES

YES

YES

Repair wires A187K20 and A187W22 between 19TB4-5J and 22A5P1-182.

Insert the following wires:

A187K20 into 19TB4-5J.
A187J20 into 19TB4-5H.
A528U20 into 19TB4-5C.

Connect 17A1P1 and 21K7P1.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

YES

Turn off electrical power per paragraph 9-4.

Check for continuity from 22A5P1-92 to airframe ground.

Is continuity present?

NO

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI .

Insert wire A187J20 into 19TB4-5H and wire A528U20 into 19TB4-5C.

Connect 17A1P1 and 21K7P1.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

YES

Repair wires A187J20 and A187Y22 between 19TB4-5H and 22A5P1-92.

Insert wire A187J20 into 19TB4-5H and wire A528U20 into 19TB4-5C.

Connect 17A1P1 and 21K7P1.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

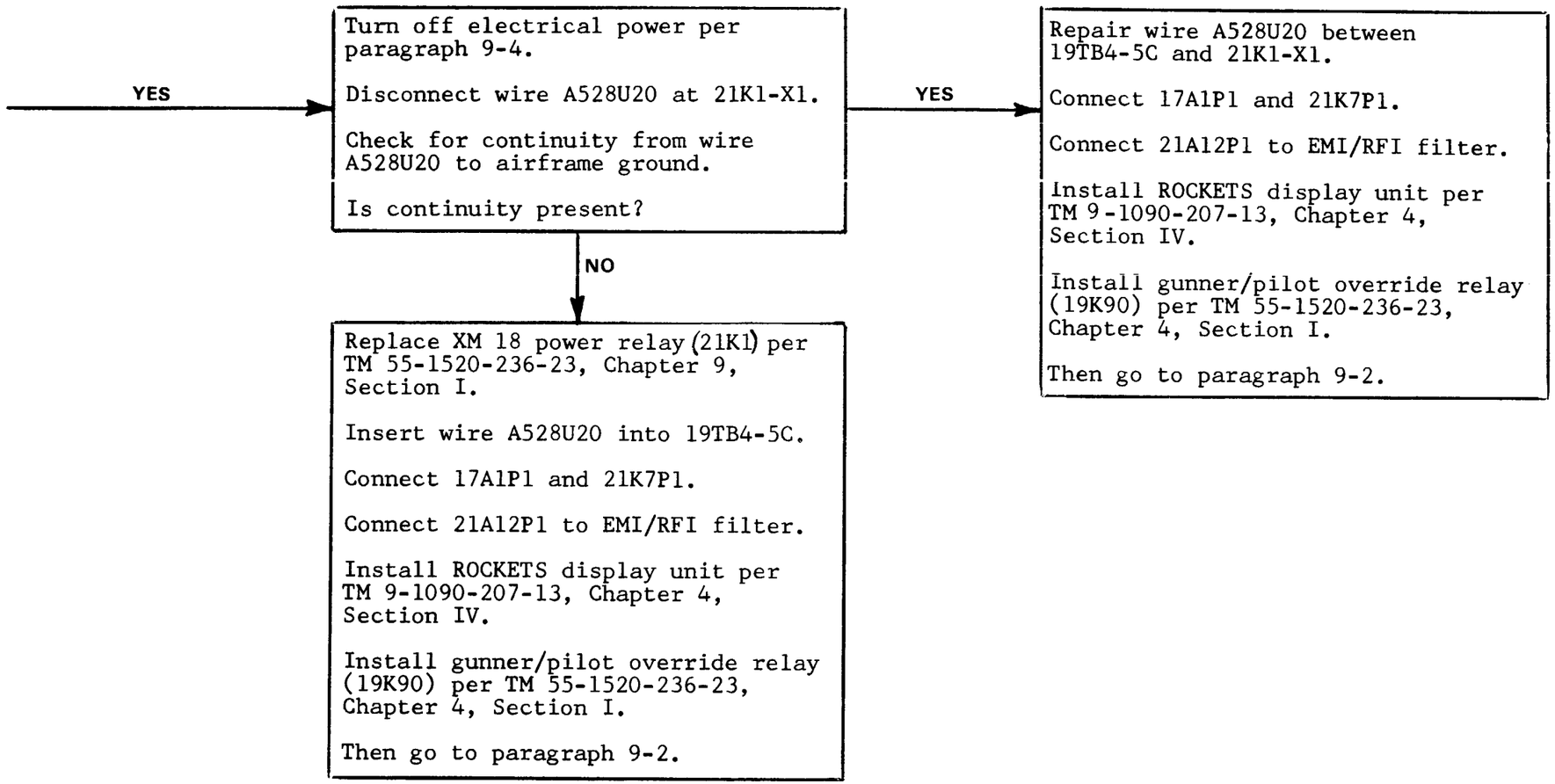
Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

YES

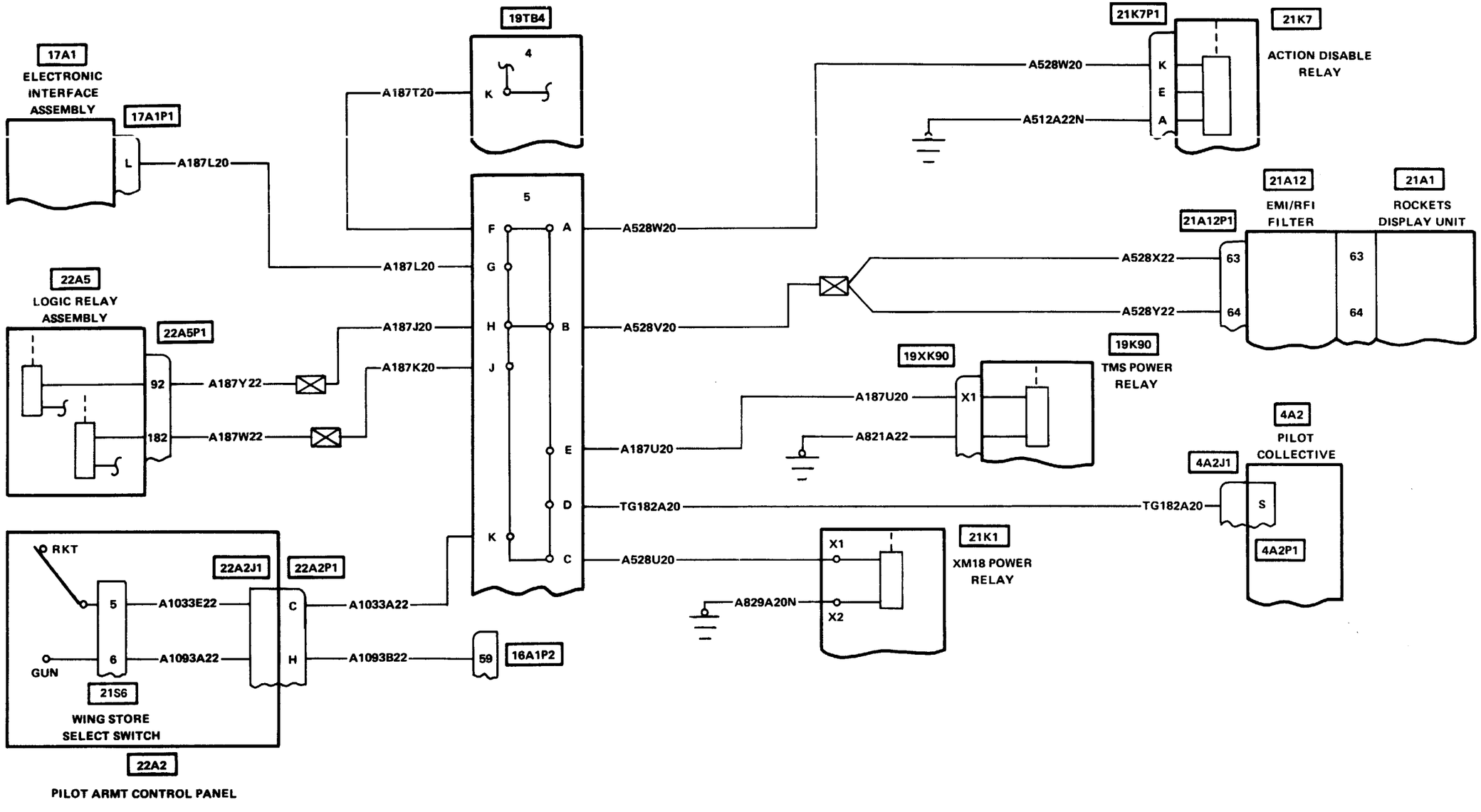
9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

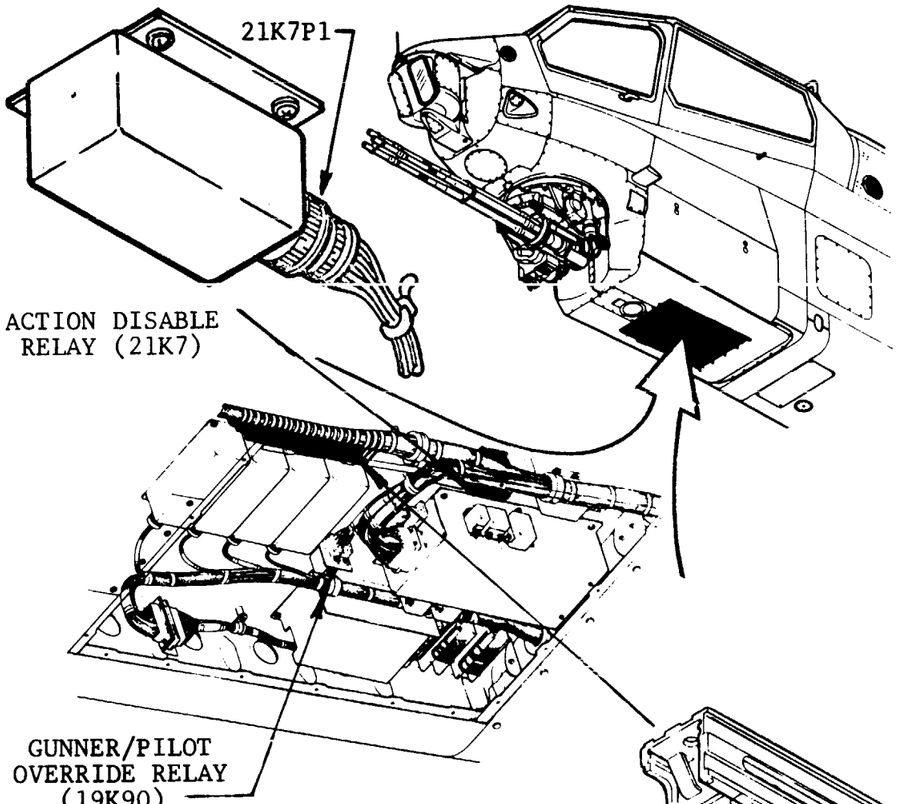
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

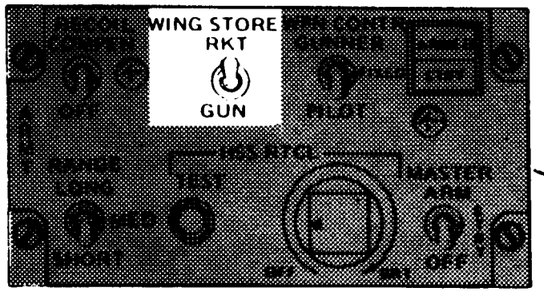


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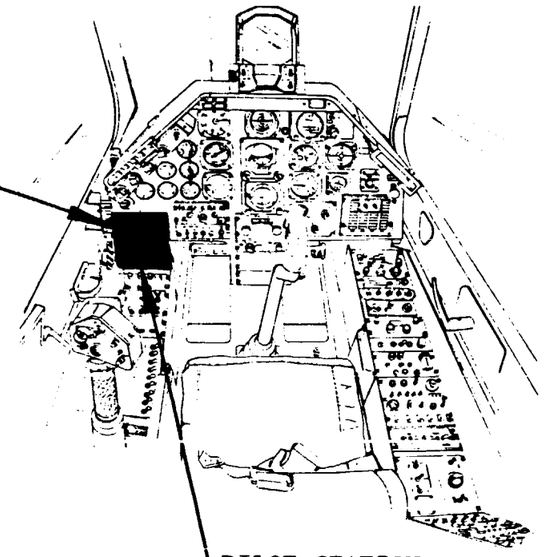
9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE.

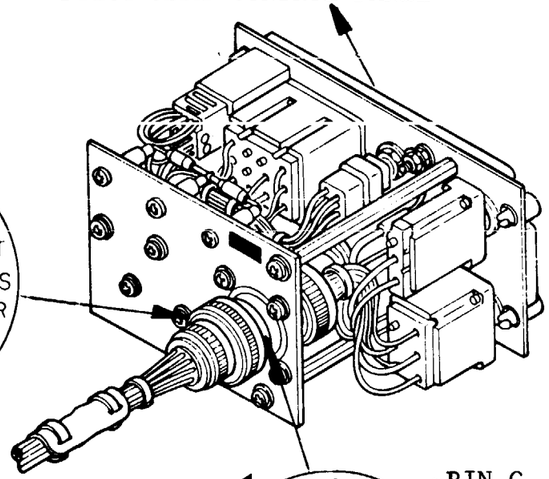


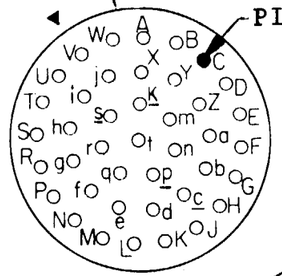

PILOT ARMT CONTROL PANEL

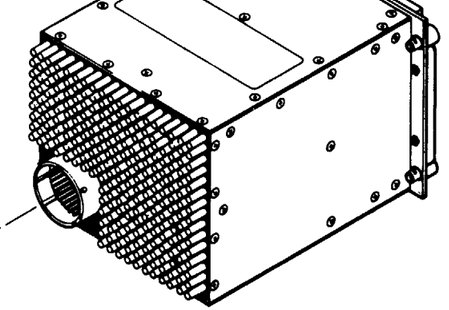


PILOT STATION

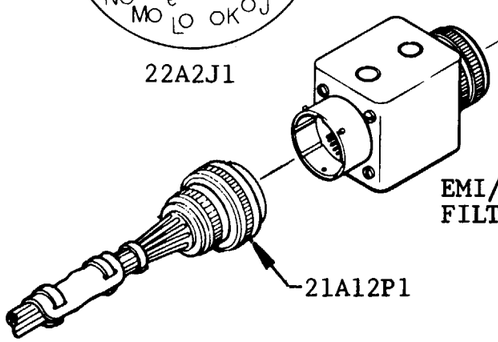


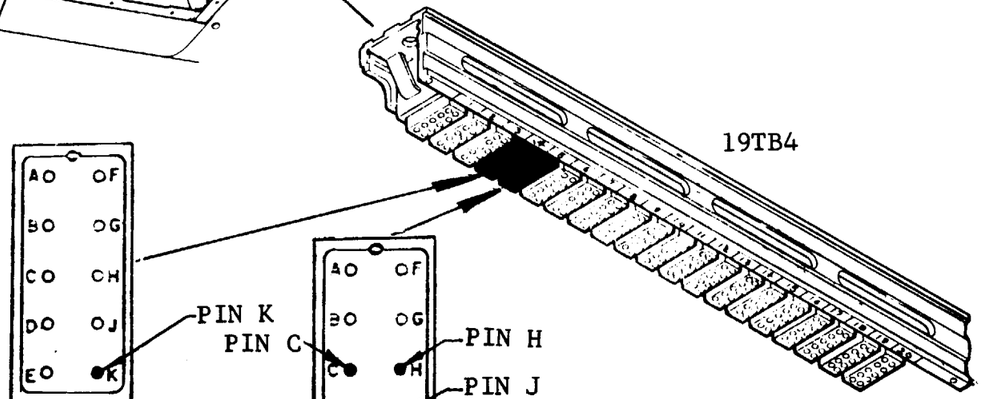

PILOT ARMT CONTROL PANEL (REAR VIEW)



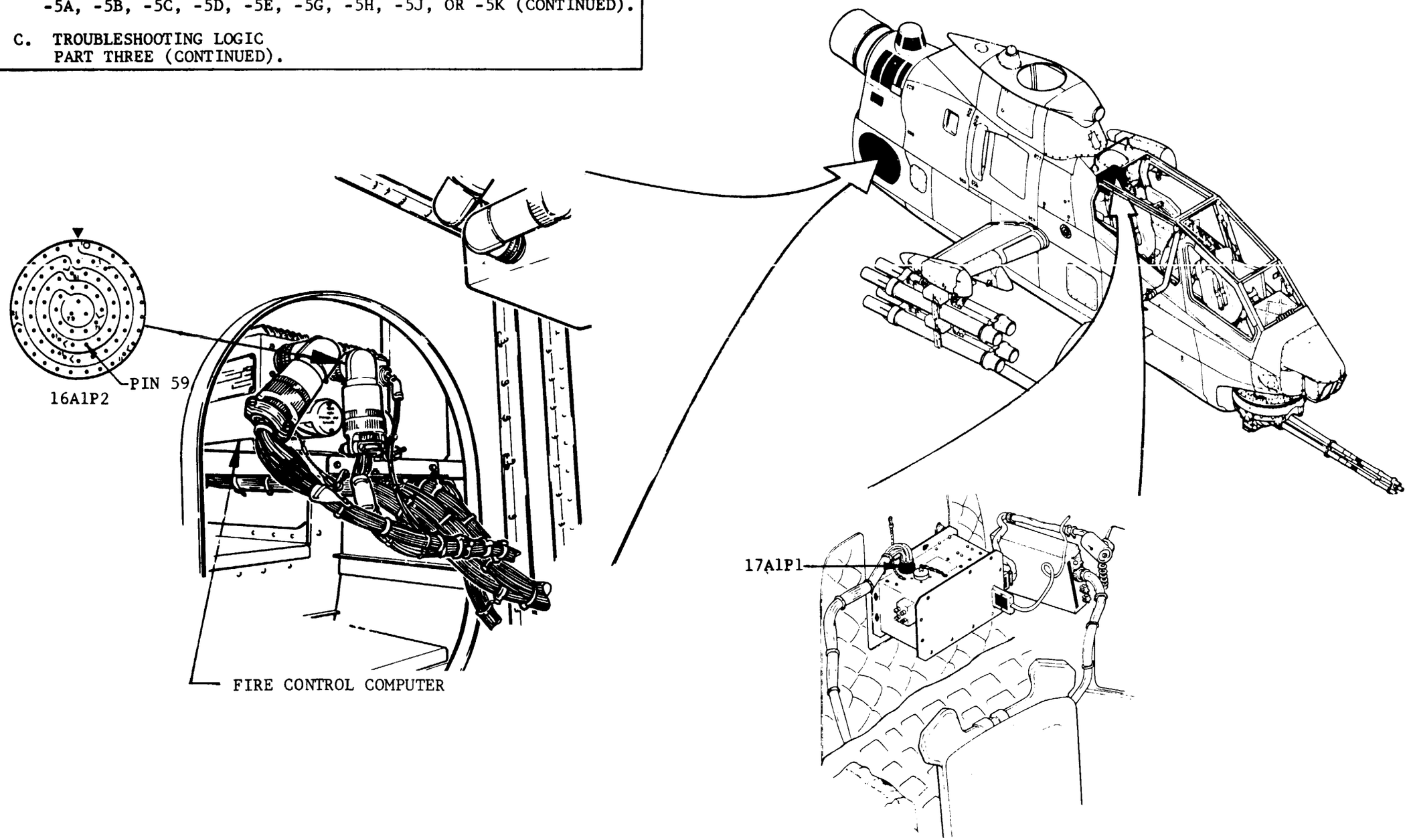
ROCKETS DISPLAY UNIT (REAR VIEW)



9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).

C. TROUBLESHOOTING LOGIC
PART THREE (CONTINUED).



**9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).**

**C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).**

Disconnect 22A2P1.

Check for continuity from 22A2P1-C to airframe ground.

Is continuity present?

**YES**

Repair wire A1033A22 between 22A2P1-C and 19TB4-5K to eliminate short.

Connect 22A2P1, 17A1P1, and 21K7P1.

Insert the following wires:

A528U20 into 19TB4-5C.
A187J20 into 19TB4-5H.
A187K20 into 19TB4-5J.
A1033A22 into 19TB4-5K.
A187T20 into 19TB4-4K.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

**NO**

On pilot ARMT control panel:

Is WING STORE switch set to RKT?

**YES**

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Connect 17A1P1 and 21K7P1.

Insert the following wires:

A528U20 into 19TB4-5C.
A187J20 into 19TB4-5H.
A187K20 into 19TB4-5J.
A1033A22 into 19TB4-5K.
A187T20 into 19TB4-4K.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

**NO**

Disconnect 16A1P2.

Check for continuity from 16A1P2-59 to airframe ground.

Is continuity present?

**YES**

**YES**

**NO**

**NO**

**9-32. NO 28 V DC PRESENT ON ONE OR MORE OF TERMINALS 19TB4 -5A, -5B, -5C, -5D, -5E, -5G, -5H, -5J, OR -5K (CONTINUED).**

**C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).**

Check for continuity from 22A2J1-C to airframe ground.

Is continuity present?

**YES**

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII.

Connect 16A1P2, 17A1P1, and 21K7P1.

Insert the following wires:

A528U20 into 19TB4-5C.
A187J20 into 19TB4-5H.
A187K20 into 19TB4-5J.
A1033A22 into 19TB4-5K.
A187T20 into 19TB4-4K.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

**NO**

Replace fire control computer per TM 9-1270-218-13&P, Chapter 4, Section IV.

Connect 22A2P1, 17A1P1, and 21K7P1.

Insert the following wires:

A528U20 into 19TB4-5C.
A187J20 into 19TB4-5H.
A187K20 into 19TB4-5J.
A1033A22 into 19TB4-5K.
A187T20 into 19TB4-4K.

Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

**YES**

Repair wire A1093B22 between 22A2P1-H and 16A1P2-59 to eliminate short.

Connect 22A2P1, 16A1P2, 17A1P1, and 21K7P1.

Insert the following wires:

A528U20 into 19TB4-5C.
A187J20 into 19TB4-5H.
A187K20 into 19TB4-5J.
A1033A22 into 19TB4-5K.
A187T20 into 19TB4-4K.

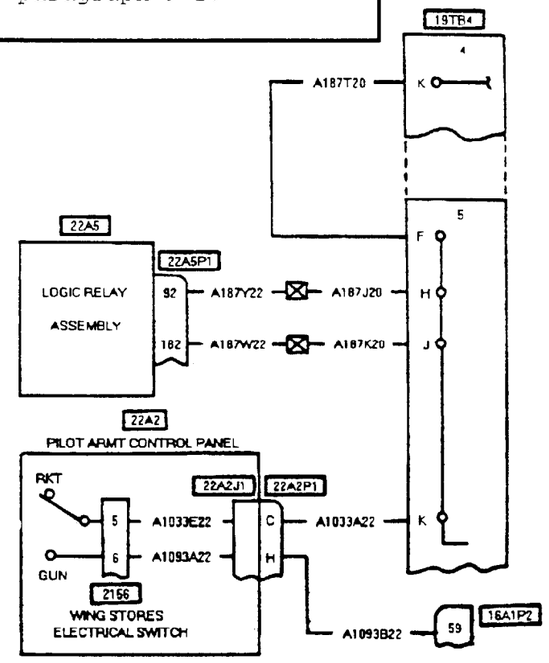
Connect 21A12P1 to EMI/RFI filter.

Install ROCKETS display unit per TM 9-1090-207-13&P, Chapter 4, Section IV.

Install gunner/pilot override relay (19K90) per TM 55-1520-236-23, Chapter 4, Section I.

Then go to paragraph 9-2.

**NO**



9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

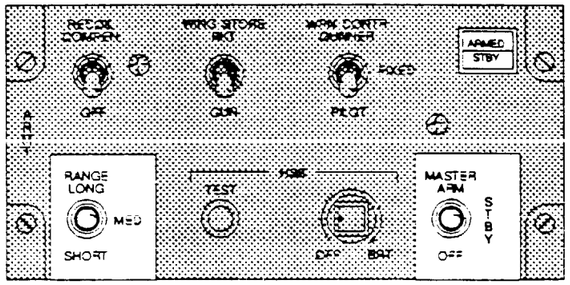
Tool Kit, A/C Electrician

Personnel Required
68F (2)

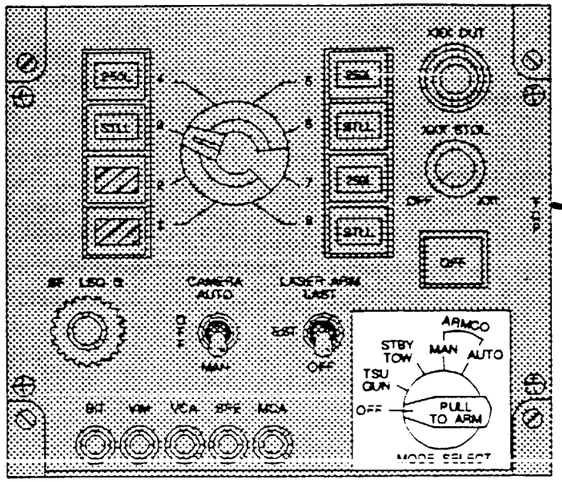
References
TM 55-1520-236-23
TM 9-1090-206-20-1
TM 9-1425-473-34

Access Panels
Forward Belly Armament and Lighting - Removed

Interface Control Unit - Removed

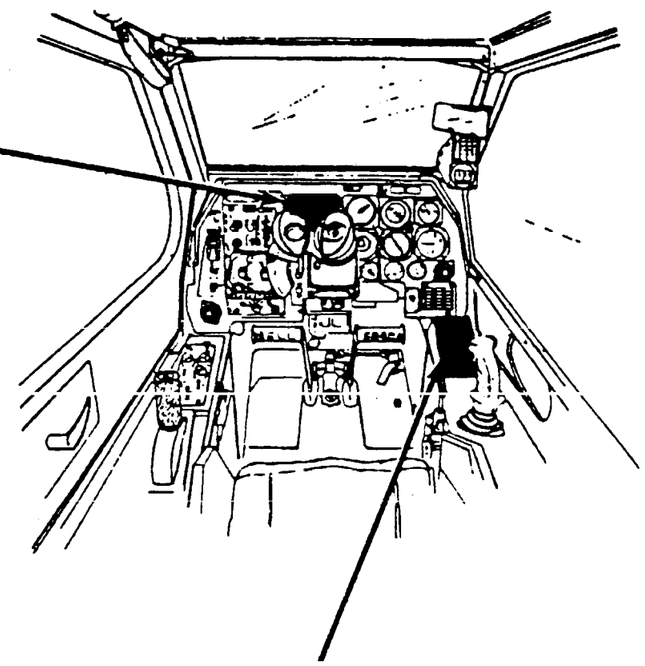



PILOT ARMT CONTROL PANEL

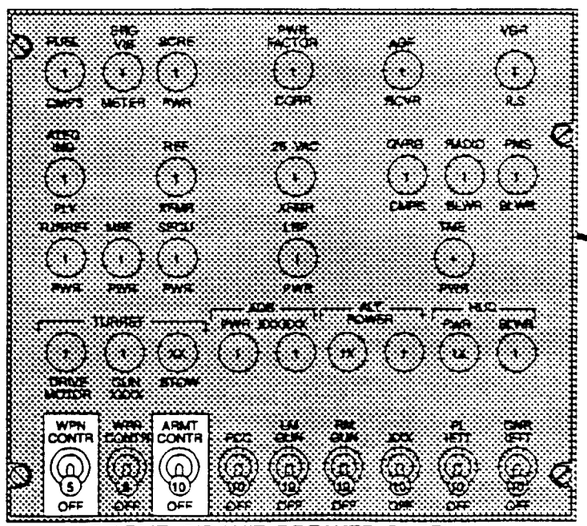



TCP (TOW CONTROL PANEL)

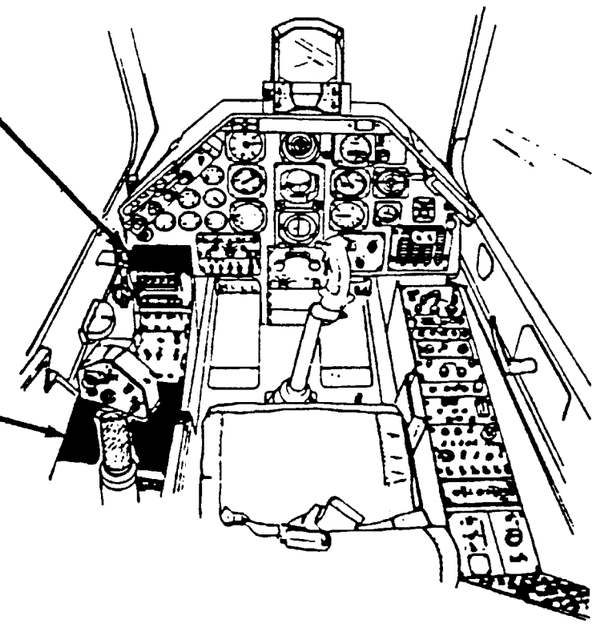
GUNNER STATION



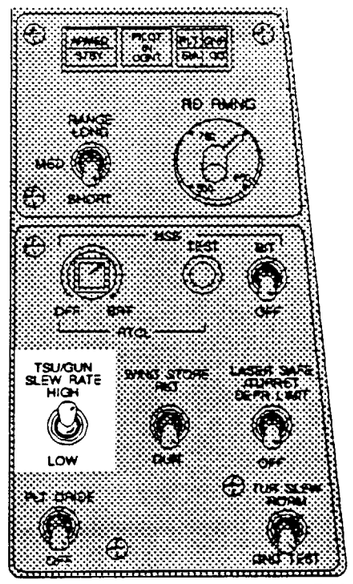
A. TROUBLESHOOTING LOGIC PART ONE




AC/ARMT CIRCUIT BREAKER PANEL



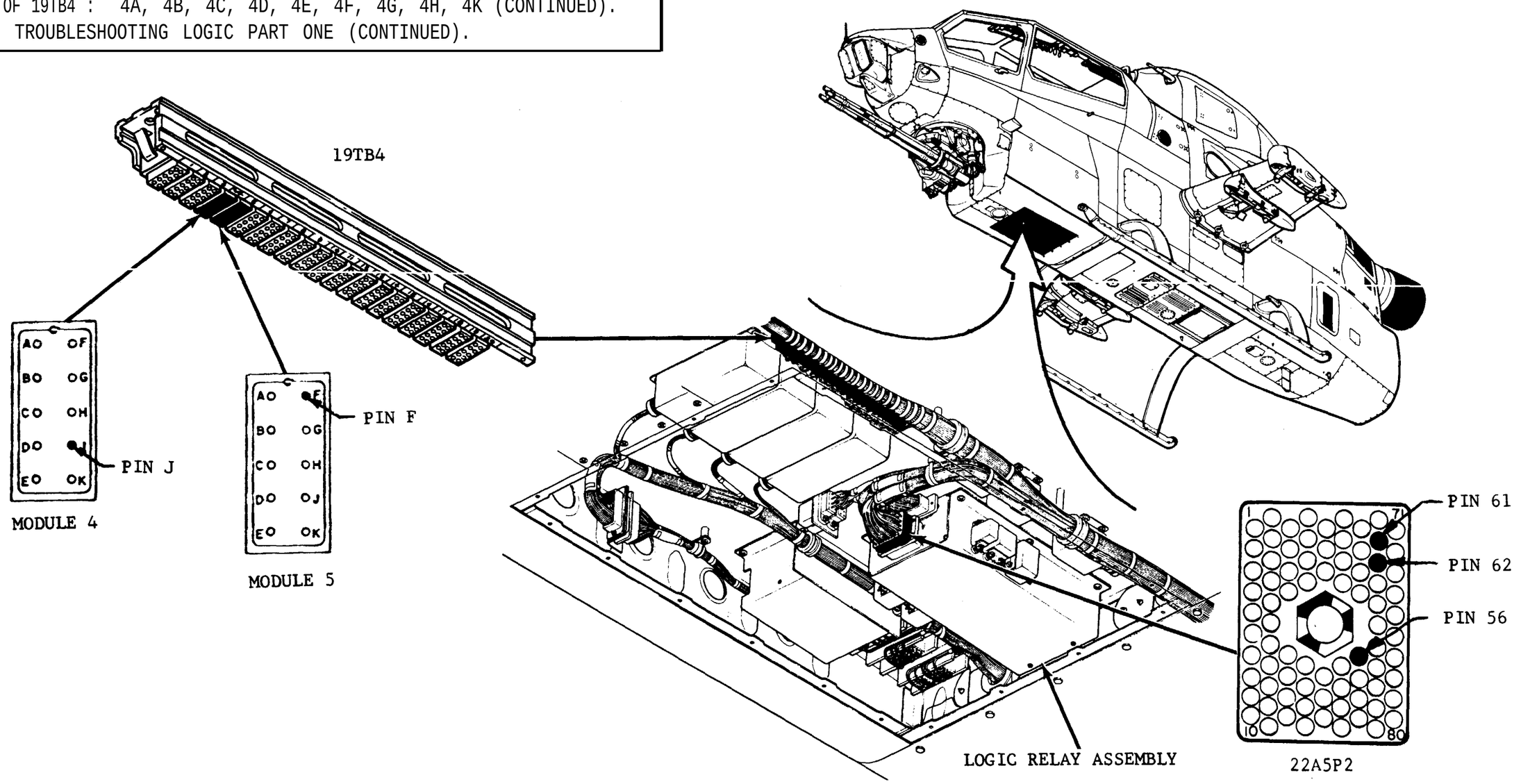
PILOT STATION




GUNNER ARMAMENT CONTROL PANEL

9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4 : 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

NOTE
Check that TSU/GUN SLEW RATE switch on gunner armament control panel is set to HIGH, TOW MODE SELECT switch on TCP (TOW control panel) is set to OFF, and RANGE switch is set to MED and MASTER ARM switch is set to STBY or ARM on pilot ARMT control panel.

Check for 28 V dc at 19TB4-4J.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Replace module 4 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

At 19TB4-4J:

Is zero V dc present?

YES → On AC/ARMT circuit breaker panel:

Is ARMT CONTR circuit breaker open?

YES → YES

NO

On AC/ARMT circuit breaker panel:

Is WPN CONTR circuit breaker open?

YES → Go to paragraph 9-15.

NO

On pilot ARMT control panel:

Are either the STBY or ARMED lights lit?

YES → Turn off electrical power per paragraph 9-4.

Check for continuity from 22A5P2-61 to 19TB4-4J.

Is continuity present?

YES → YES

NO

Repair wire A187P20 between 22A5P2-61 and 19TB4-4J.

Then go to paragraph 9-2.

NO

On pilot ARMT control panel:

Is MASTER ARM switch set to STBY?

YES → Go to paragraph 9-16.

NO

Go to paragraph 9-41.

NO

Turn off electrical power per paragraph 9-4.

Remove wire A187P20 from 19TB4-4J.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at end of wire A187P20.

Is 28 V dc present?

YES → YES

NO

Turn off electrical power per paragraph 9-4.

Insert wire A187P20 into 19TB4-4J.

Go to paragraph 9-13.

**9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).**

**A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).**

Turn off electrical power per paragraph 9-4.

Remove wire A187P20 from 19TB4-4J.

On AC/ARMT circuit breaker panel:

Close ARMT CONTR circuit breaker.

Turn on electrical power per paragraph 9-4.

Does ARMT CONTR circuit breaker open?

YES → On pilot ARMT control panel:

Is MASTER ARM switch set to STBY?

YES → (to YES)

NO → Go to paragraph 9-22.

NO → On pilot ARMT control panel:

Set MASTER ARM switch to OFF.

Insert wire A187P20 into 19TB4-4J.

Remove wire A187T20 from 19TB4-5F.

Set MASTER ARM switch to STBY.

Check for 28 V dc at end of wire A187T20.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Insert wire A187T20 into 19TB4-5F.

Turn go to paragraph 9-32.

NO → Go to Troubleshooting Logic Part Two (subparagraph B).

YES → Check for continuity from 22A5P2-62 to 22A5P2-56.

Is continuity present?

YES → Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI .

Then go to paragraph 9-2.

NO → Repair wire A220H20 between 22A5P2-62 and splice.

Then go to paragraph 9-2.

YES

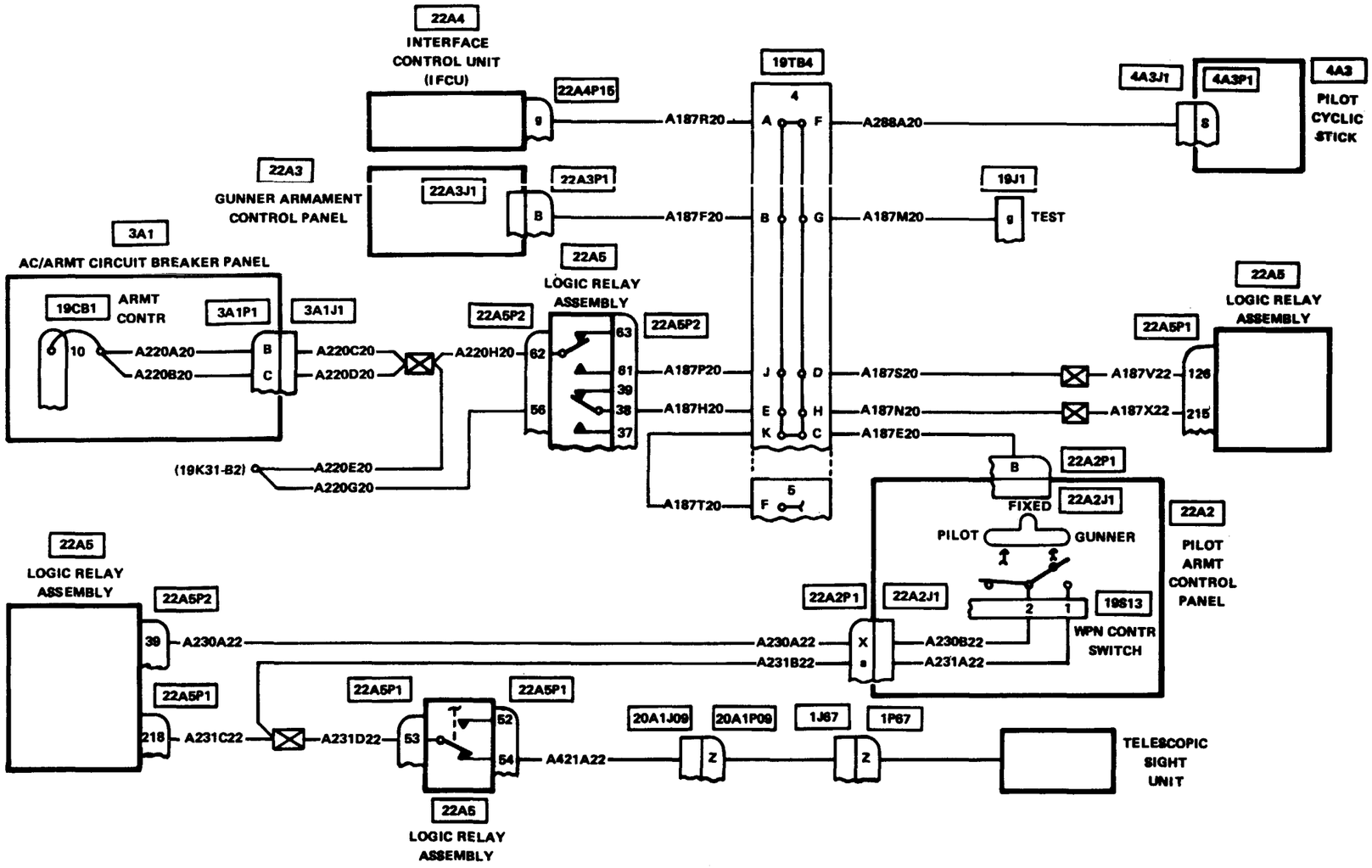
YES

YES

9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

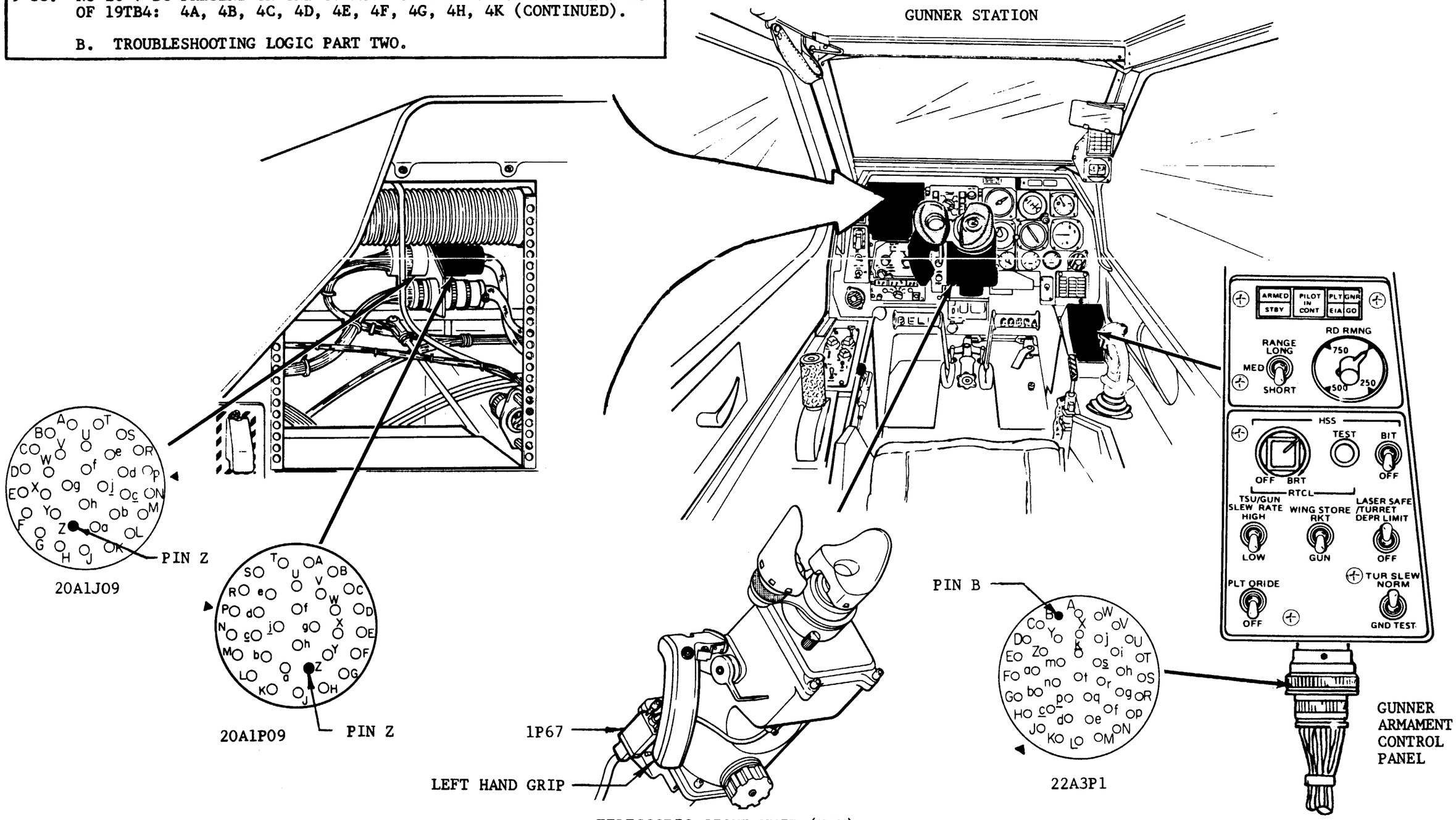
Go to paragraph 9-13.



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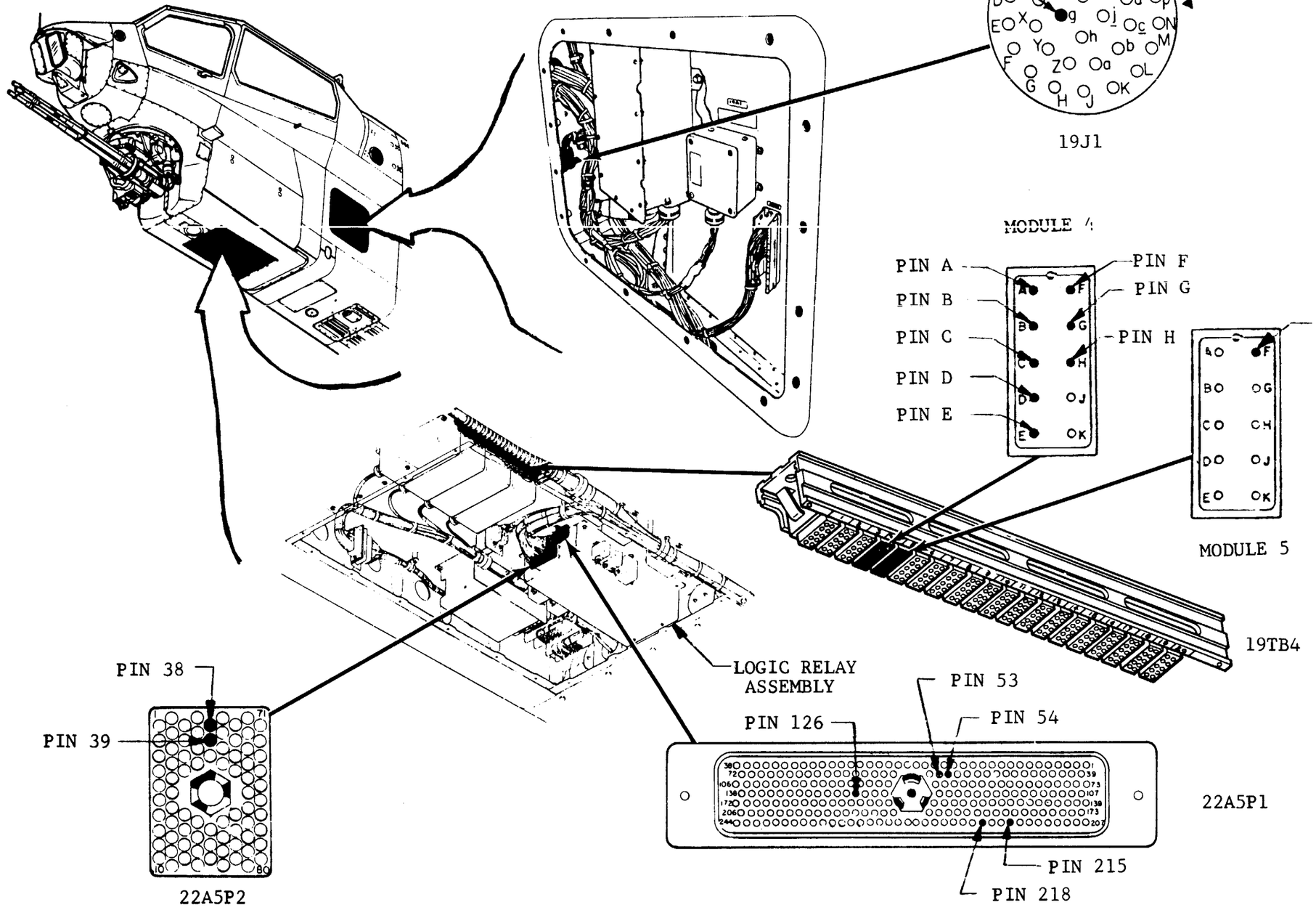
9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO.



9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).

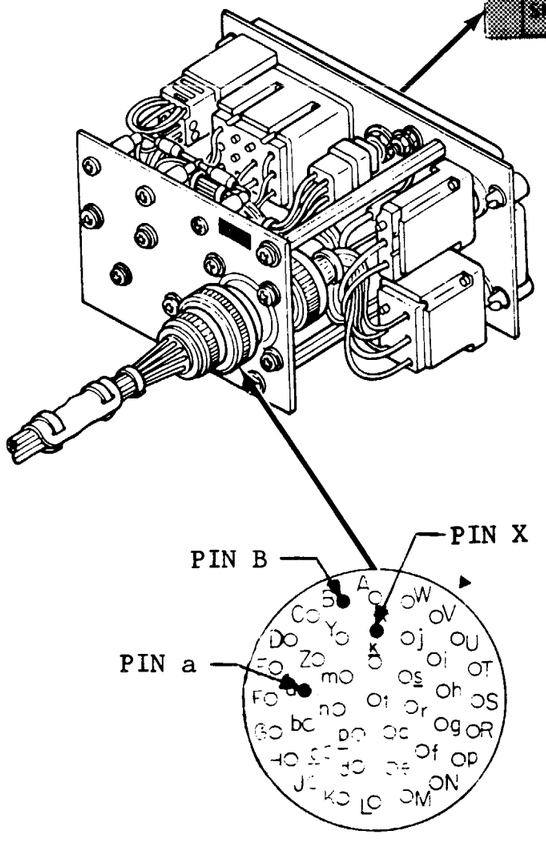
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



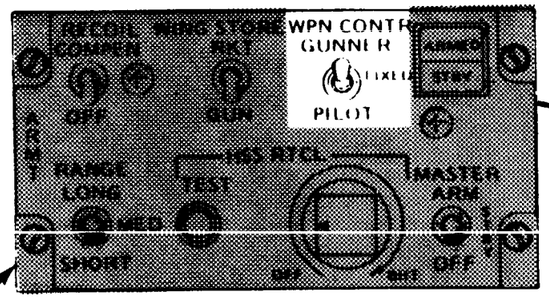
9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

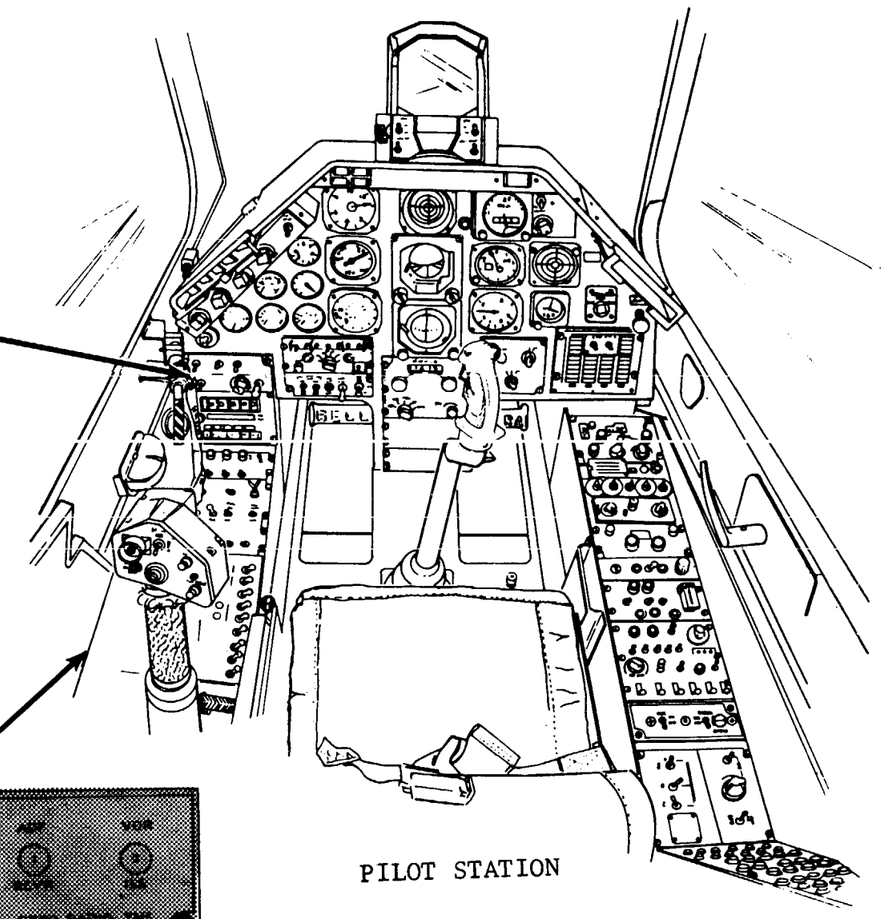
PILOT ARMT CONTROL PANEL (REAR VIEW)



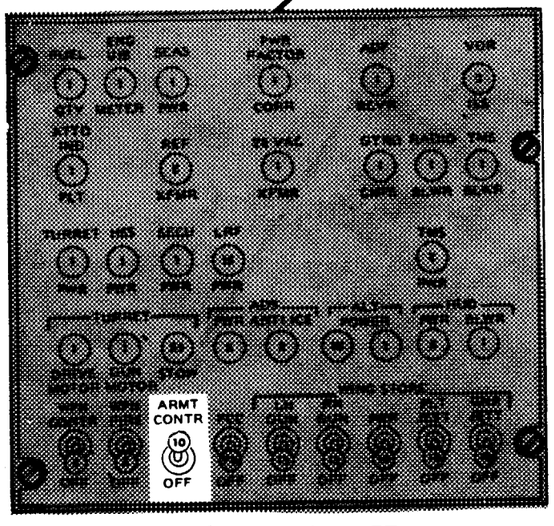

22A2P1




PILOT ARMT CONTROL PANEL



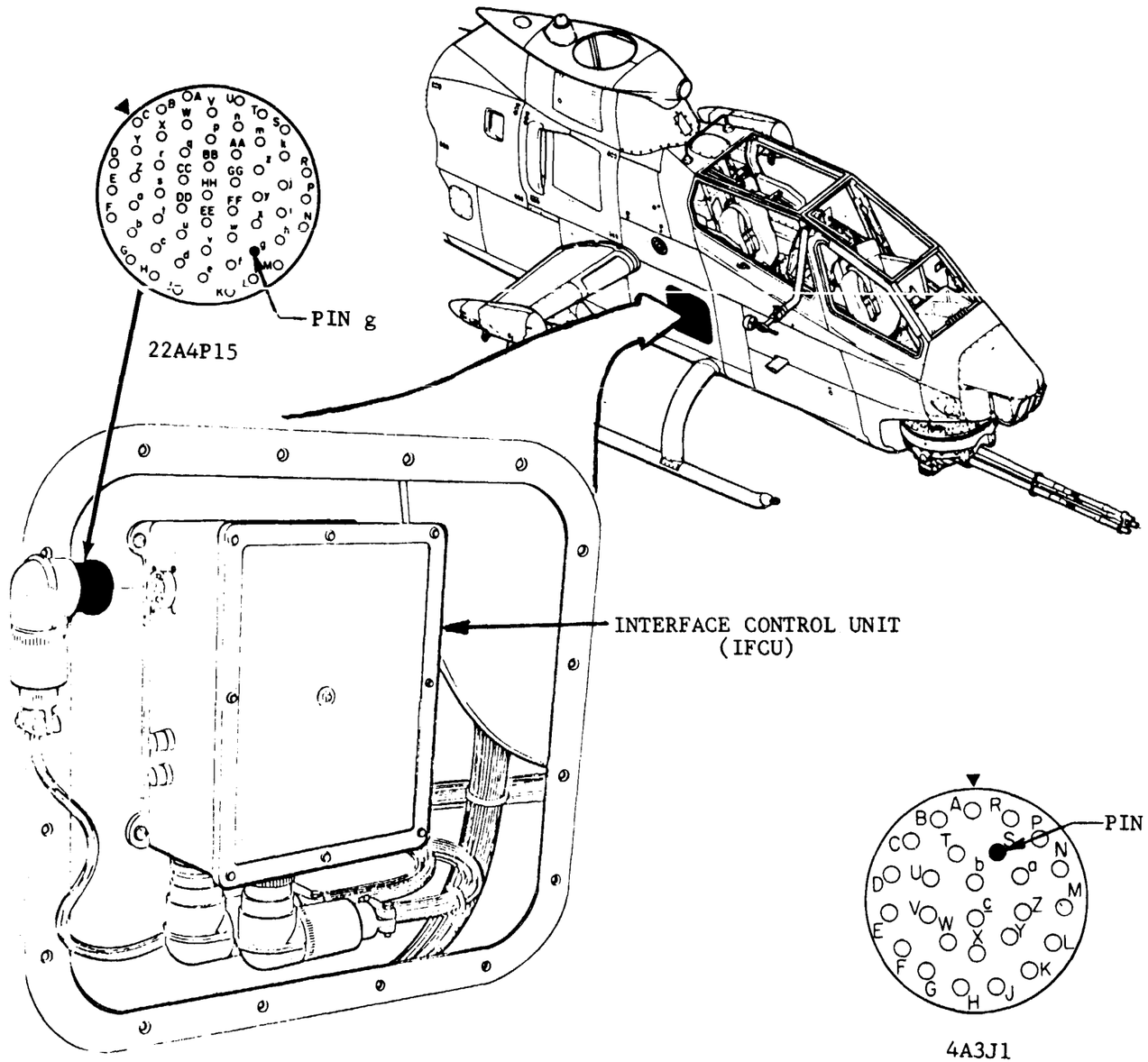
PILOT STATION

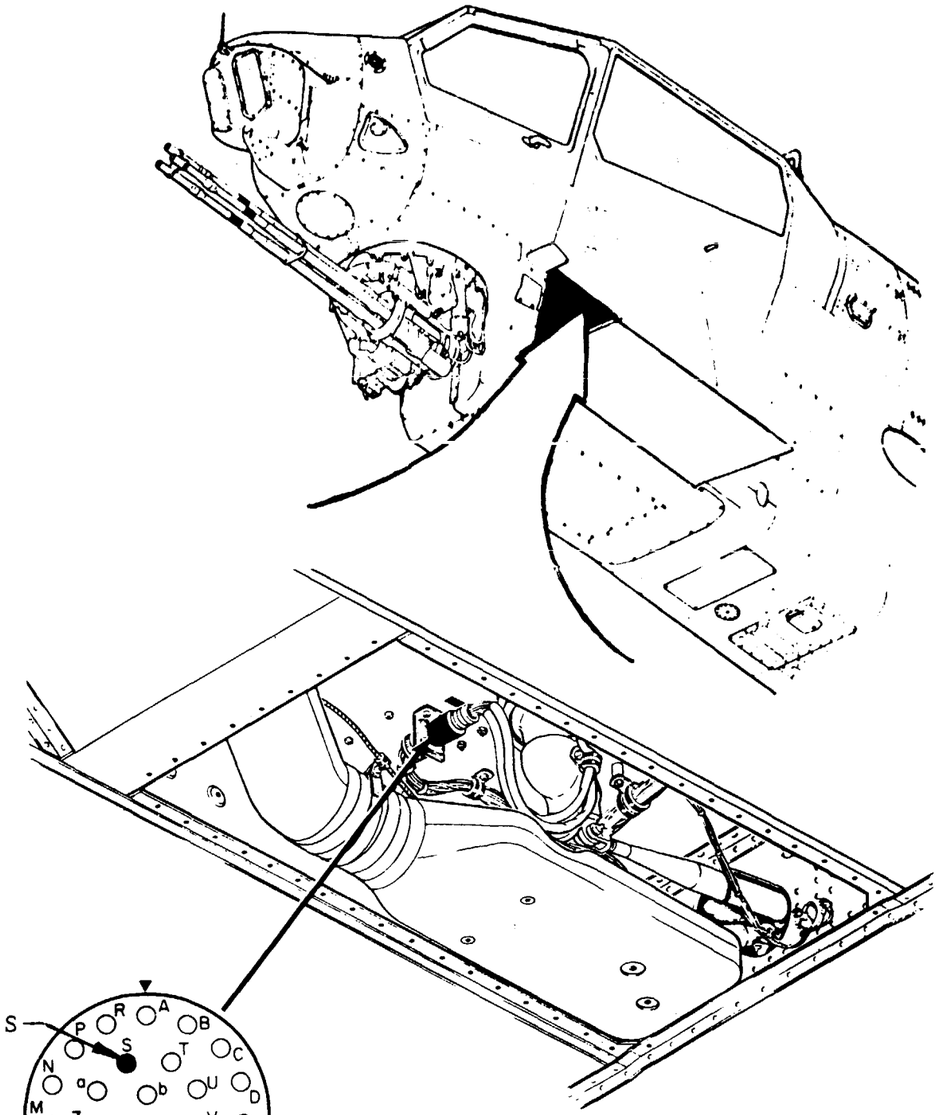



AC/ARMT CIRCUIT BREAKER PANEL

9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



**9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).**

**B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).**

Set WPN CONTR switch to GUNNER, if not already set.

Close ARMT CONTR circuit breaker if open.

Check for 28 V dc on end of wire A187T20.

Is 28 V dc present?

**YES**

Turn off electrical power per paragraph 9-4.

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII .

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

**NO**

Turn off electrical power per paragraph 9-4.

Disconnect 22A4P15.

Check for continuity from end of wire A187T20 to airframe ground.

Is continuity present?

**YES**

Disconnect 22A3P1.

Check for continuity from end of wire A187T20 to airframe ground.

Is continuity present?

**YES**

Disconnect 22A5P1.

Check for continuity from end of wire A187T20 to airframe ground.

Is continuity present?

**YES**

**NO**

Check for continuity from 22A5P1-54 to airframe ground.

Is continuity present?

**YES**

**NO**

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI .

Connect 22A3P1 and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2

**NO**

Replace gunner armament control panel per TM 9-1090-206-20-1, Chapter 3, Section XVII.

Connect 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

**NO**

Replace interface control unit (IFCU) per TM 9-1090-206-20-1, Chapter 3, Section XIX.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

YES

YES

YES

Disconnect 1P67.

Check for continuity from 22A5P1-54 to airframe ground.

Is continuity present?

NO

Replace left hand grip (LHG) per TM 9-1425-473-34, Chapter 4, Section II.

Connect 22A5P1, 22A3P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

YES

Disconnect 20A1P09.

Check for continuity from 20A1P09-Z to airframe ground.

Is continuity present?

NO

Repair wire A421A22 between 22A5P1-54 and 20A1J09-Z to eliminate short.

Connect 1P67, 22A3P1, 22A5P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

YES

Replace cable on telescopic sight unit (TSU) between 20A1P09 and 1J67 to eliminate short.

Connect 22A5P1, 22A3P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

**9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).**

**B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).**

Disconnect 22A2P1.

Check for continuity from end of wire A187T20 to airframe ground.

Is continuity present?

YES → YES → YES

NO

Check for continuity from 22A2P1-a to airframe ground.

Is continuity present?

YES

Remove splice joining wires A231B22, A231C22, and A231D22.

Check for continuity from 22A2P1-a to air frame ground.

Is continuity present?

YES

Repair wire A231B22 between 22A2P1-a and splice to eliminate short.

Replace splice joining wires A231B22, A231C22, and A231D22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A3P1 and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

NO

Replace pilot ARMT control panel per TM 9-1090-206-20-1, Chapter 3, Section XVIII .

Connect 22A5P1, 22A3P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

NO

Check for continuity from 22A5P1-53 to airframe ground.

Is continuity present?

YES

Repair wire A231D22 between 22A5P1-53 and splice to eliminate short.

Replace splice joining wires A231B22, A231C22, and A231D22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1, 22A3P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

NO

Repair wire A231C22 between 22A5P1-218 and splice to eliminate short.

Replace splice joining wires A231B22, A231C22, and A231D22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 22A2P1, 22A3P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

**9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).**

**B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).**

YES

Disconnect 22A5P2.

Check for continuity from end of wire A187T20 to airframe ground.

Is continuity present?

YES

For each of the following wires:

Remove wire from 19TB4 module 4.

Check for continuity from end of wire A187T20 to airframe ground.

If continuity is present, insert wire back into module and repeat procedure for next wire.

If continuity is not present, proceed on the NO path to the next block.

| 19TB4 PIN NO. | Wire NUMBER | GOES TO |
|---|---|---|
| -4A | A187R20 | 22A4P15-g |
| -4B | A187F20 | 22A3P1-B |
| -4C | A187E20 | 22A2P1-B |
| -4D | A187S20 | Splice with A187V22 which goes to 22A5P1-126 |
| -4E | A187H20 | 22A5P2-38 |
| -4G | A187M20 | 19J1-g |
| -4H | A187N20 | Splice with A187X22 which goes to 22A5P1-215 |

Is continuity present in all tests?

YES

NO

Check for continuity from 22A5P2-39 to airframe ground.

Is continuity present?

YES

Repair wire A230A22 between 22A5P2-39 and 22A2P1-X to eliminate short.

Connect 22A3P1, 22A5P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

NO

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI .

Connect 22A2P1, 22A3P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

NO

Eliminate short by repairing the wire that was removed when continuity disappeared.

Connect 22A5P2, 22A5P1, 22A3P1, 22A2P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

9-33. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS OF 19TB4: 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4K (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

NO

Check for continuity from 4A3P1-S to airframe ground.

Is continuity present?

YES

Replace pilot cyclic stick per TM 55-1520-236-23, Chapter 11, Section I.

Connect 22A5P2, 22A5P1, 22A3P1, 22A2P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.

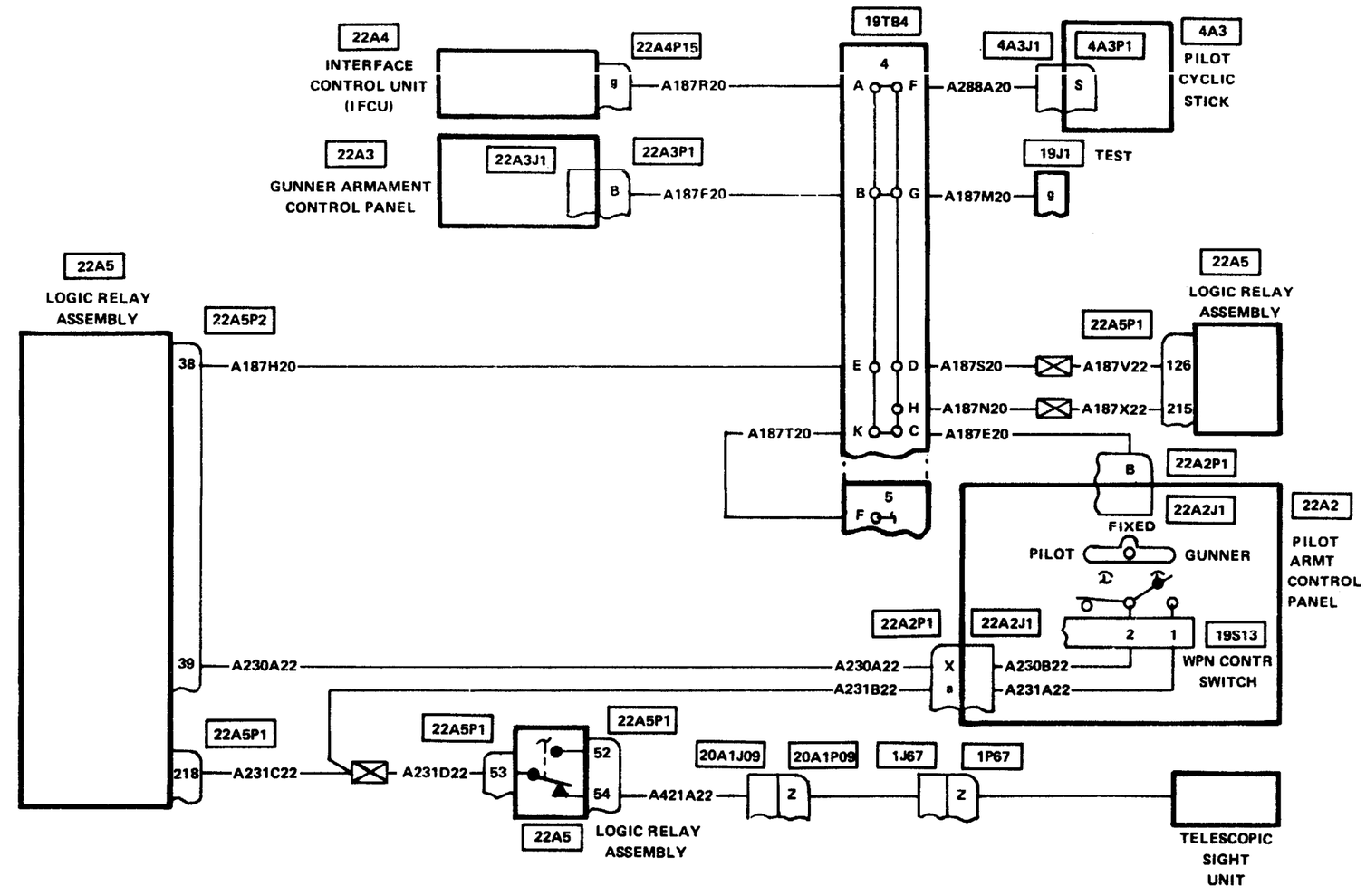
NO

Repair wire A288A20 between 19TB4-4F and 4A3J1-S to eliminate short.

Connect 22A5P2, 22A5P1, 22A3P1, 22A2P1, and 22A4P15.

Insert wire A187T20 into 19TB4-5F.

Then go to paragraph 9-2.



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| 9-34. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS : 19TB4-3B, -3C, -3D, -3F, and -3G. |
|---|

INITIAL SETUP

Applicable Configuration
All

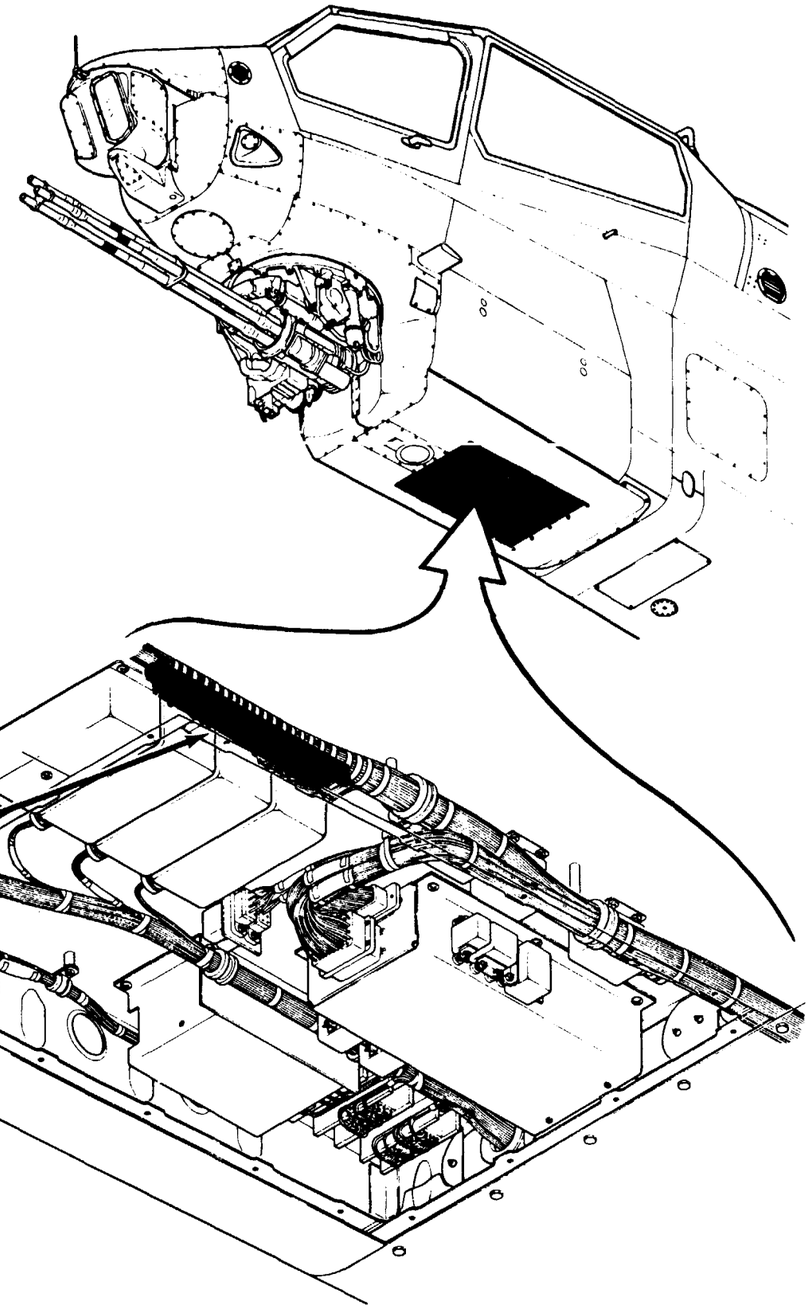
Tools/Test and Support Equipment
Multimeter

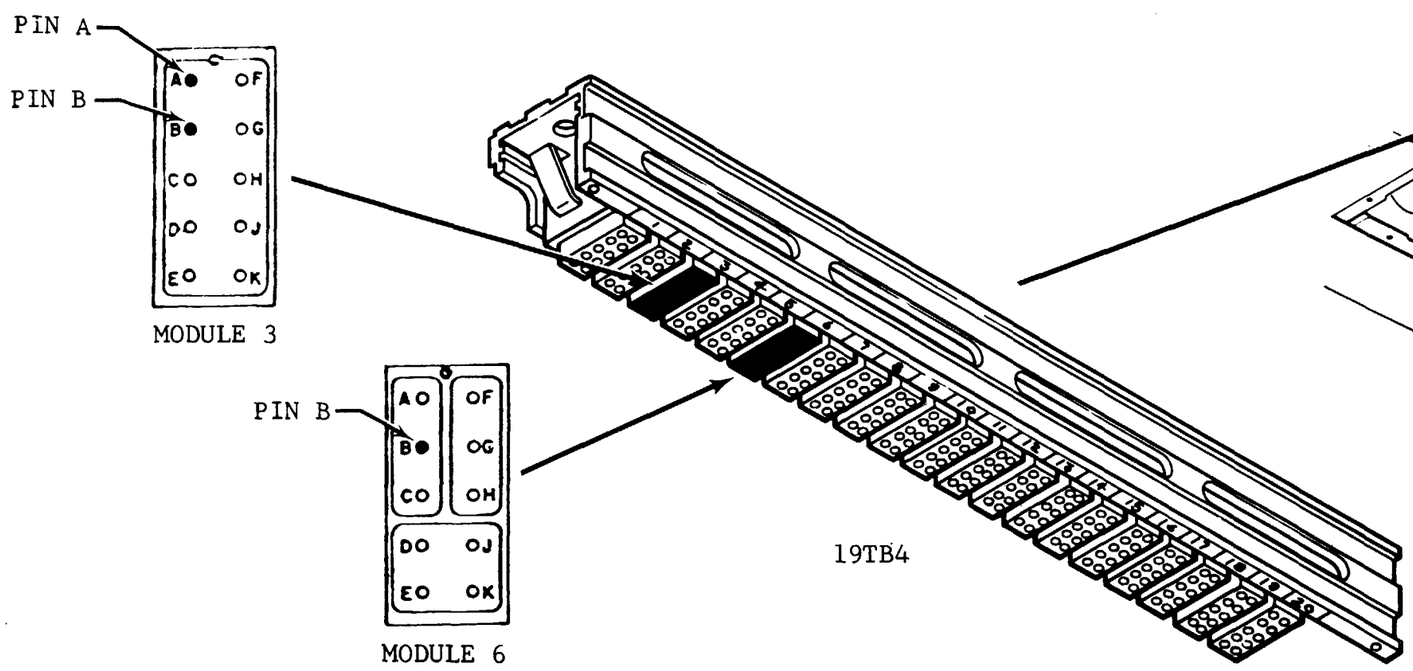
Tool Kit, A/C Electrician

Personnel Required
68F (1)

References
TM 55-1520-236-23

Access Panels
Forward Belly Armament and Lighting - Removed





9-34. NO 28 V DC PRESENT ON ONE OR MORE OF THE FOLLOWING TERMINALS: 19TB4-3B, -3C, -3D, -3F, and -3G(CONTINUED).

Check for 28 V dc at 19TB4-3A.

Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.

Replace module 3 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO ↓

Turn off electrical power per paragraph 9-4.

Remove wire A219C22 from 19TB4-3B and wire A317A22 from 19TB4-6B.

Check for continuity from 19TB4-3B to airframe ground.

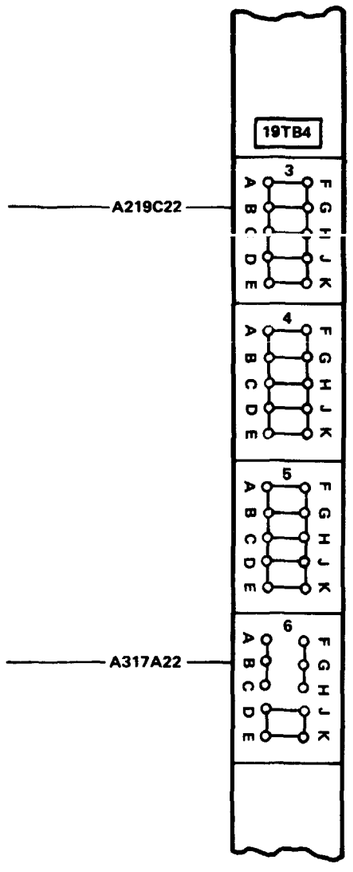
Is continuity present?

YES → Go to paragraph 9-24.

NO ↓

Insert wire A219C22 into 19TB4-3B and wire A317A22 into 19TB4-6B.

Then go to paragraph 9-41.



## 9-35. 28 V DC NOT PRESENT AT TMS POWER CONTROL RELAY 19XK90-A2 .

INITIAL SETUP

Applicable Configuration
All

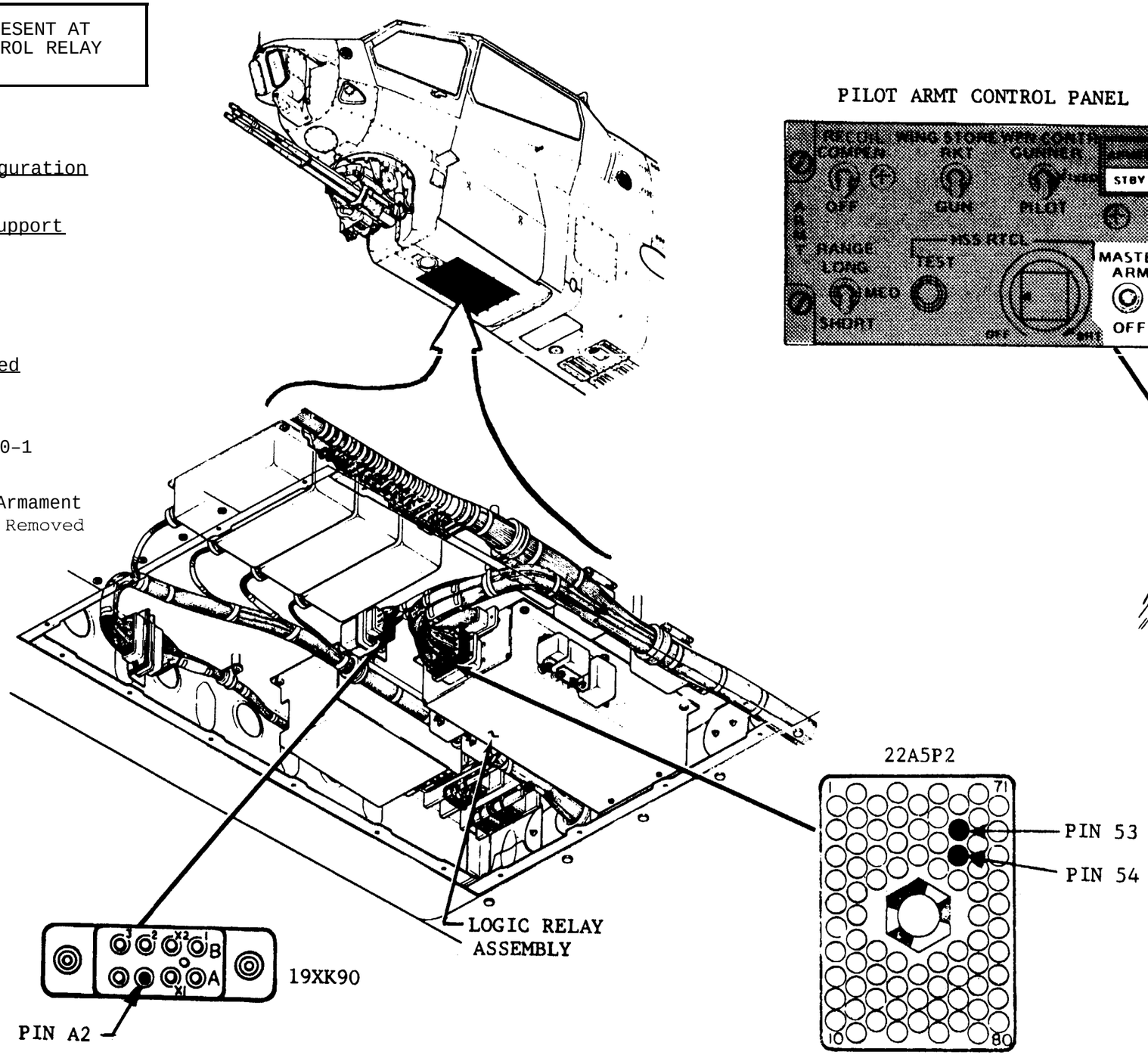
Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C
Electrician

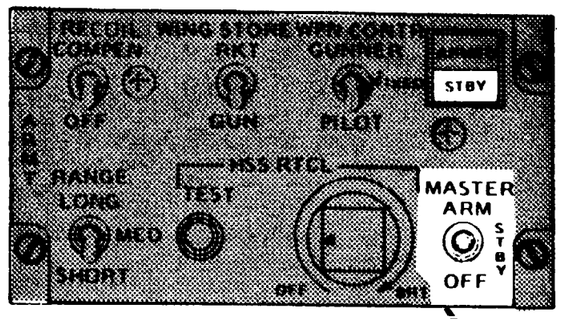
Personnel Required
68F (1)

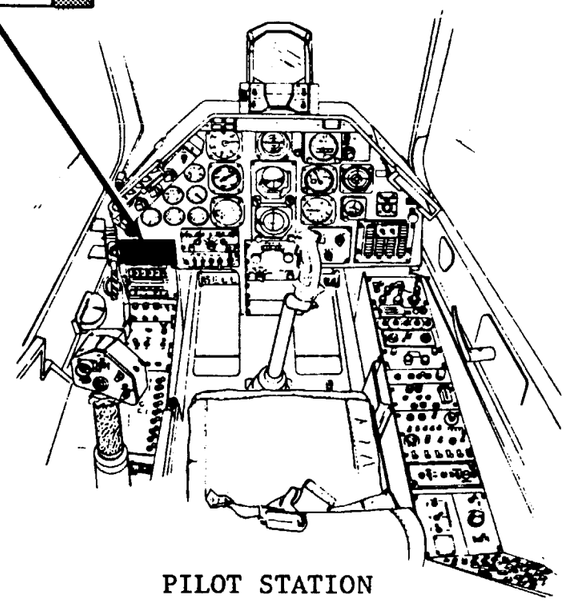
References
TM 9-1090-206-20-1

Access Panels
Forward Belly Armament and Lighting - Removed




PILOT ARMT CONTROL PANEL



PILOT STATION

**9-35. 28 V DC NOT PRESENT AT TMS POWER CONTROL RELAY 19XK90-A2 (CONTINUED).**

Turn on electrical power per paragraph 9-4.

On pilot ARMT control panel:

Set MASTER ARM switch to STBY.

Is STBY indicator lit?

**YES** → Turn off electrical power per paragraph 9-4.

Check for continuity from 22A5P2-54 to 19XK90-A2.

Is continuity present?

**YES** → Disconnect 22A5P2.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 22A5P2-53.

Is 28 V dc present?

**YES** → Turn off electrical power per paragraph 9-4.

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI .

Then go to paragraph 9-2.

**NO** → Turn off electrical power per paragraph 9-4.

Repair wire A480D22 between 22A5P2-53 and splice.

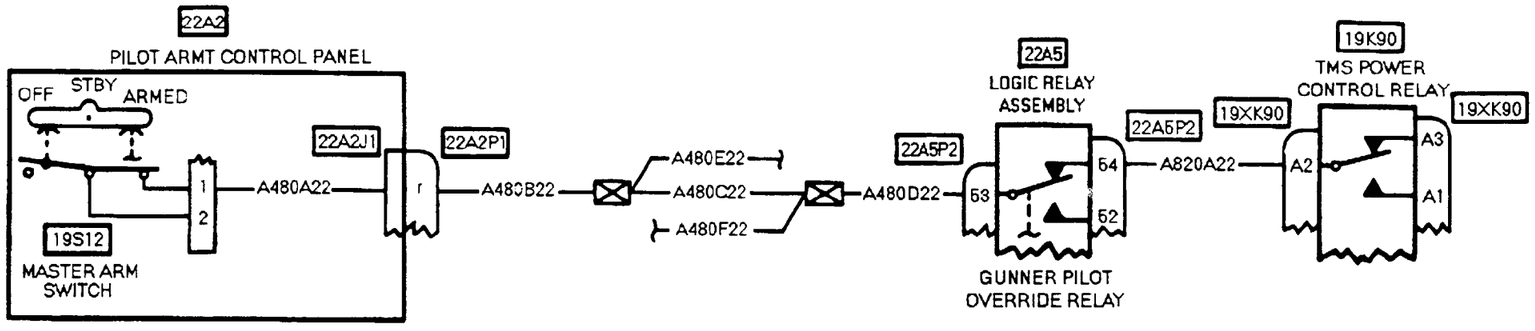
Connect 22A5P2.

Then go to paragraph 9-2.

**NO** → Repair wire A820A22 between 22A5P2-54 and 19XK90-A2.

Then go to paragraph 9-2.

**NO** → Go to paragraph 9-16.



## 9-36. GEN LIGHT FLICKERS MOMENTARILY WHEN TURRET IS SLEWED.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

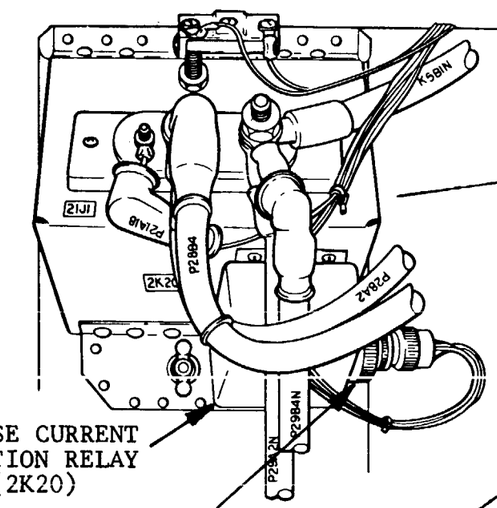
Tool Kit, A/C Electrician

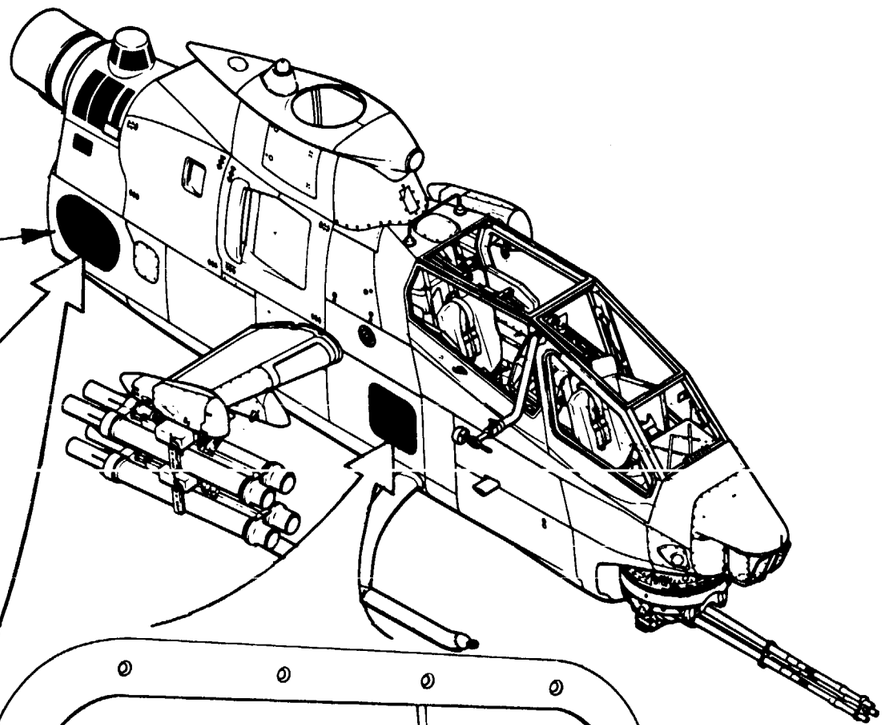
Personnel Required
68F (2)

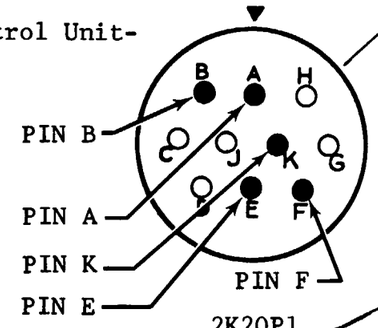
References
TM 55-1520-236-23

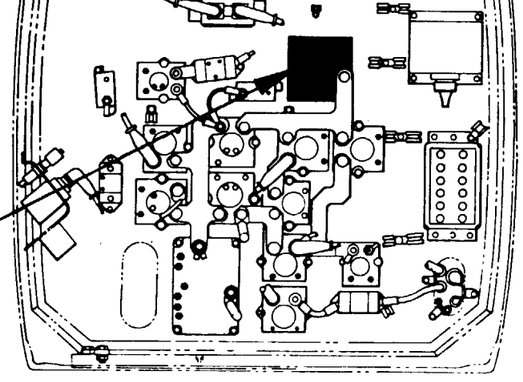
Access Panels
Battery Compartment - Removed

Interface Control Unit-Removed

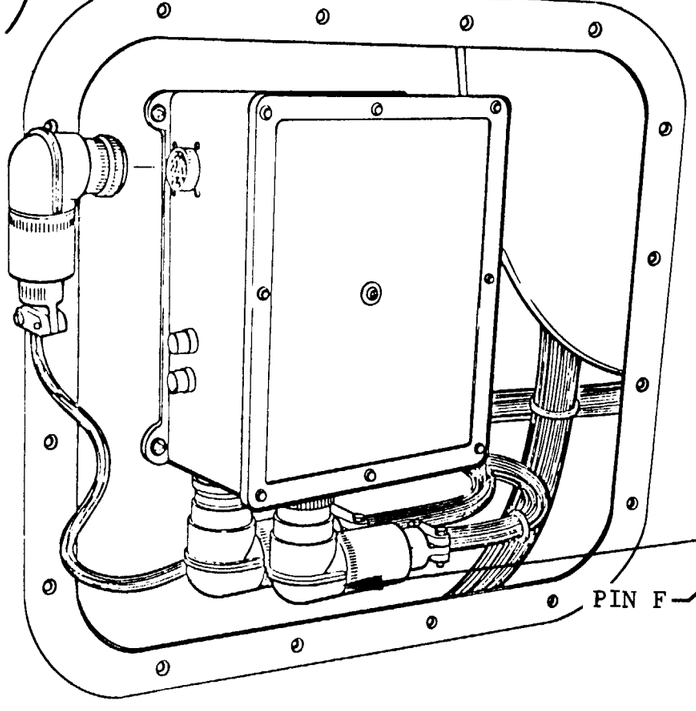


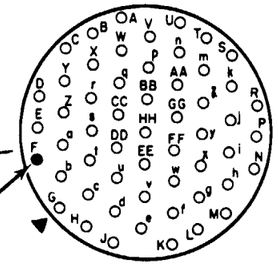



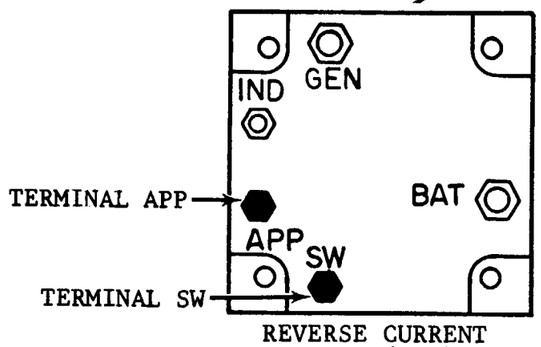


FORWARD BULKHEAD OF BATTERY COMPARTMENT

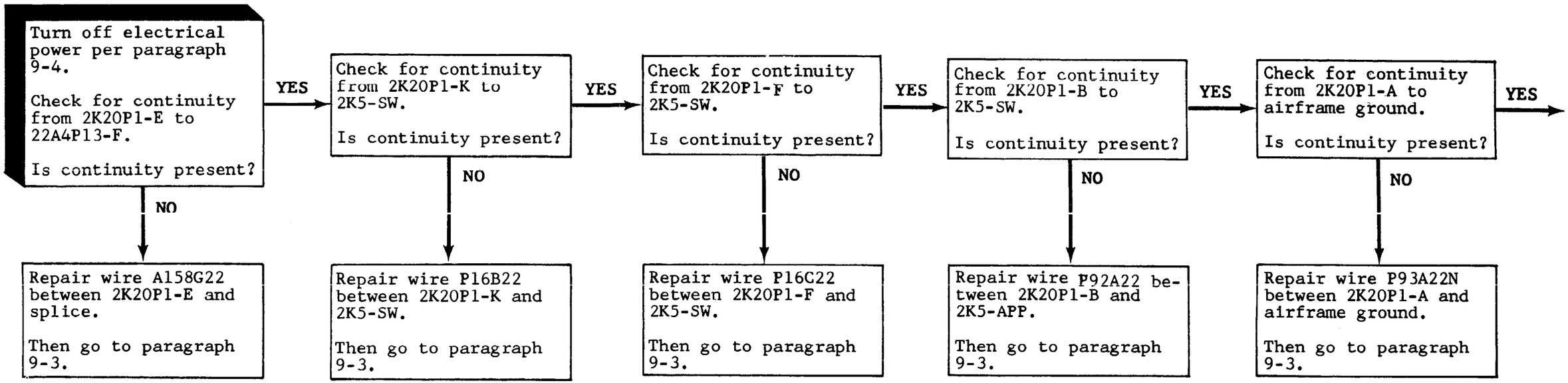



REVERSE CURRENT RELAY (2K5)

9-36. GEN LIGHT FLICKERS MOMENTARILY WHEN TURRET IS SLEWED (CONTINUED).

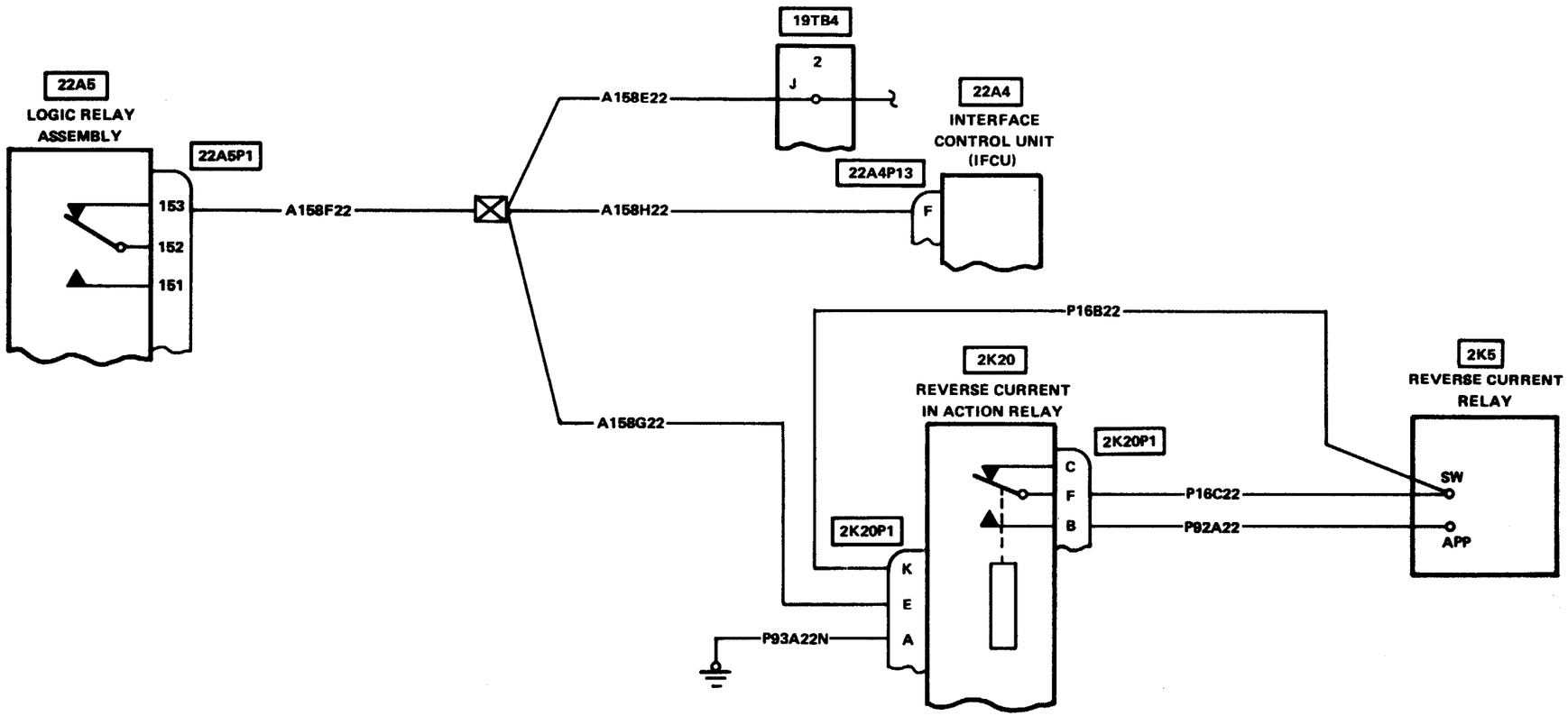


**9-36. GEN LIGHT FLICKERS MOMENTARILY WHEN TURRET IS SLEWED (CONTINUED).**

**YES** →

Replace reverse current in action relay (2K20) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-3.



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9-37. NO AC POWER.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter.

Tool Kit,A/C Electrician

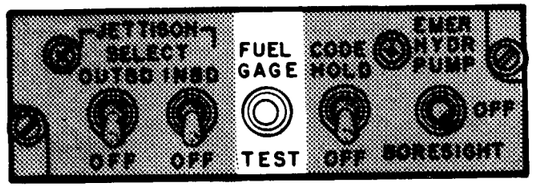
Personnel Required
68F (2)

References
TM 55-1520-236-23

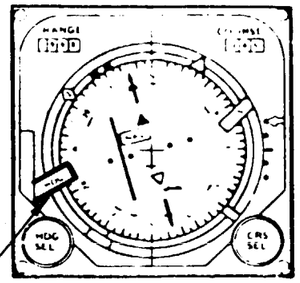
Access Panels
Battery Compartment - Removed

Left Side Control Linkage - Removed

A. TROUBLESHOOTING LOGIC PART ONE.

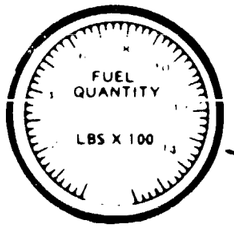



PILOT MISCELLANEOUS CONTROL PANEL

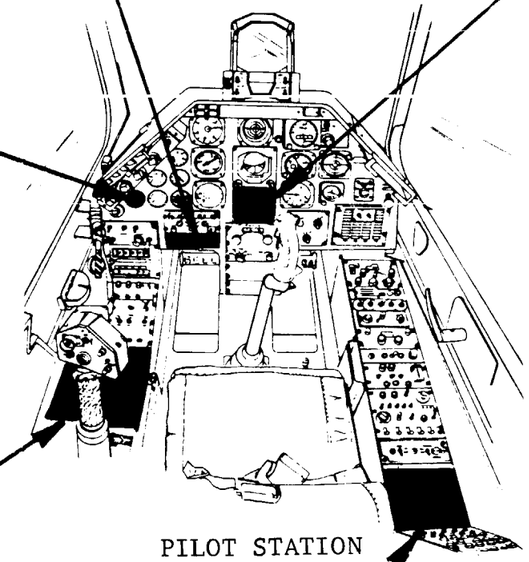


HDG FLAG

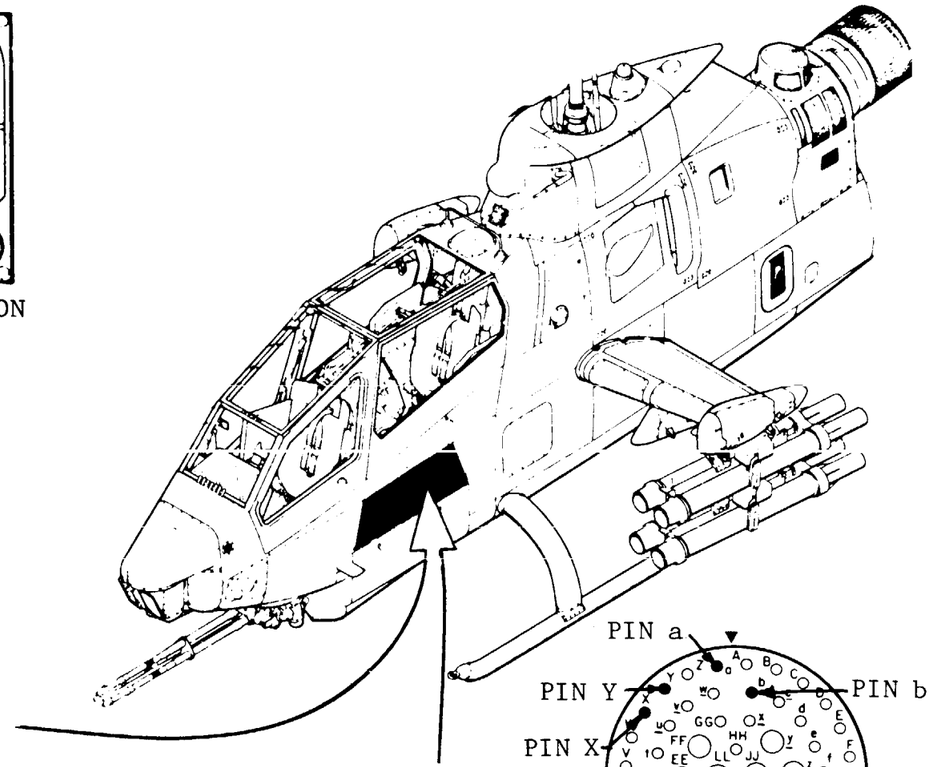
HORIZONTAL SITUATION INDICATOR (HSI)

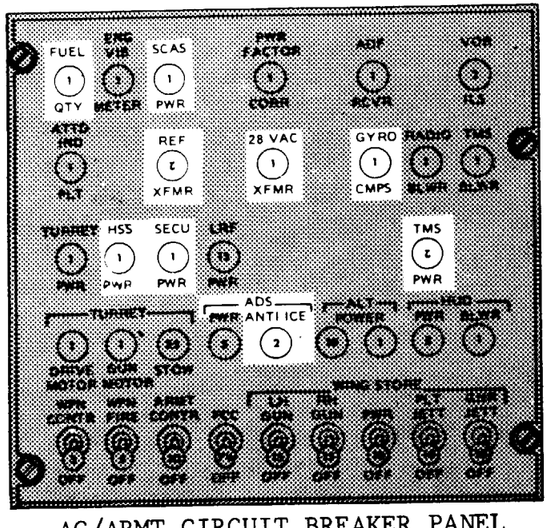



FUEL QUANTITY INDICATOR

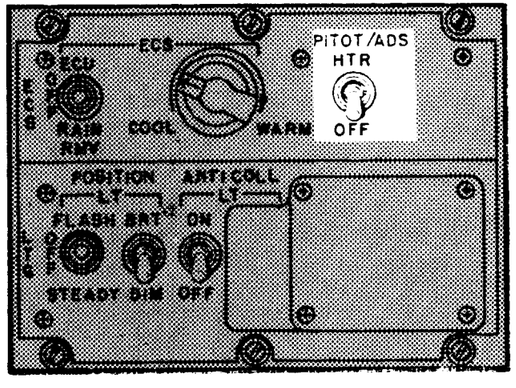


PILOT STATION

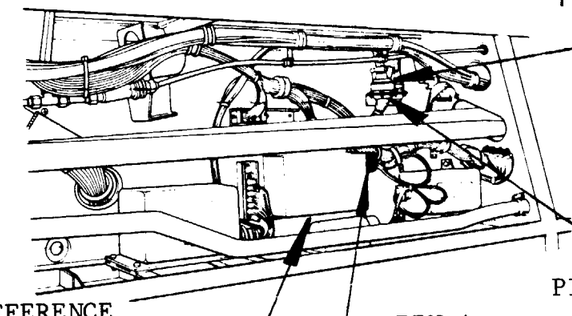




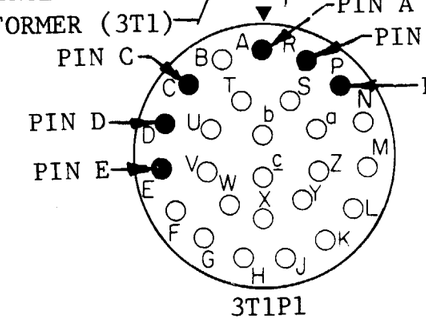

AC/ARMT CIRCUIT BREAKER PANEL



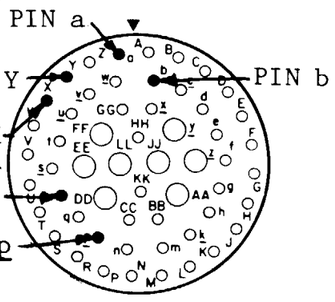

LTG ECS CONTROL PANEL



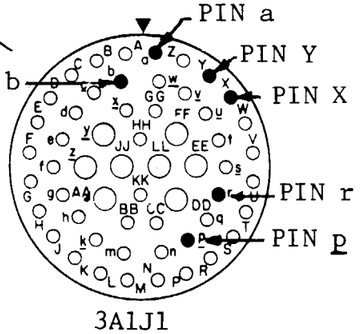
REFERENCE TRANSFORMER (3T1)




3T1P1



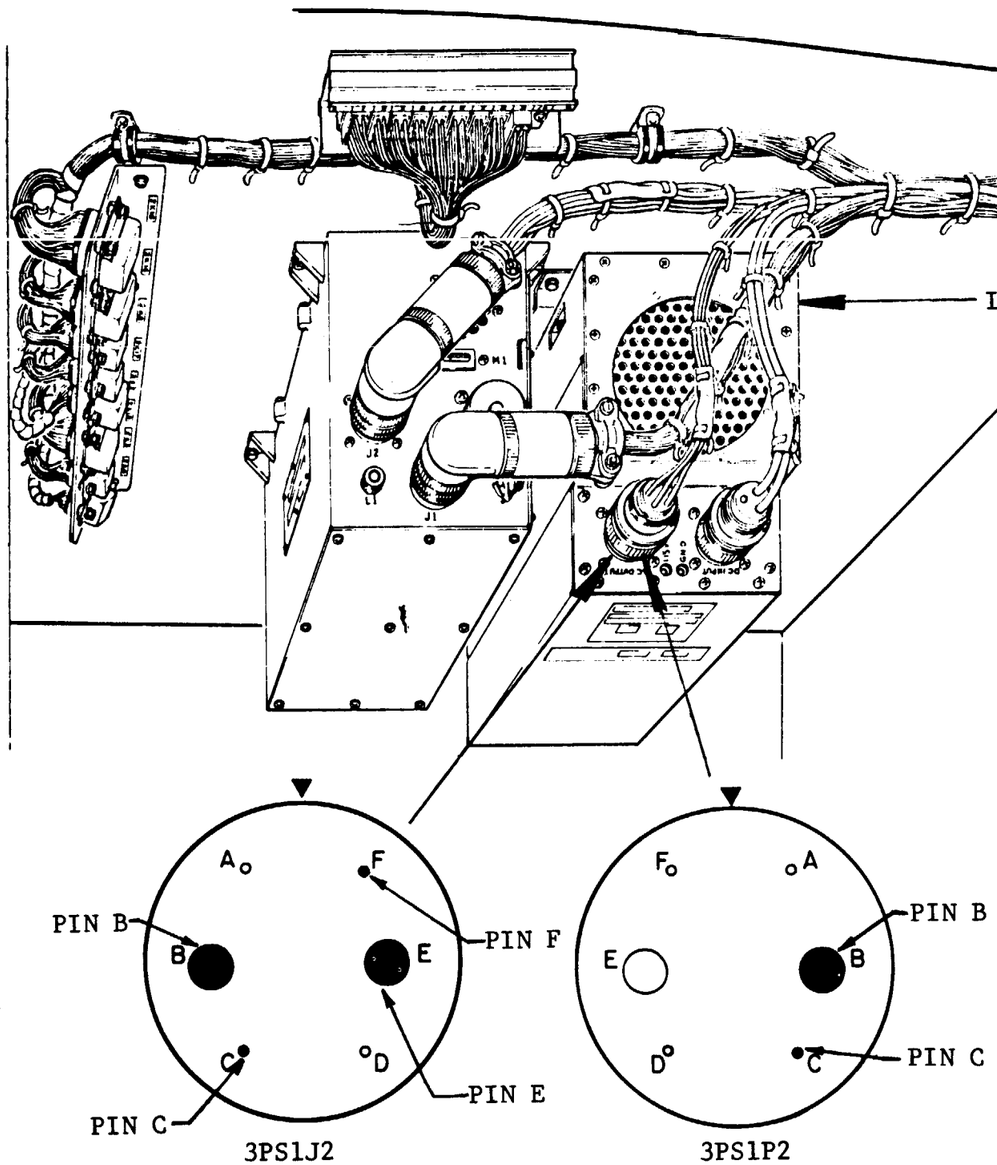

3A1P1

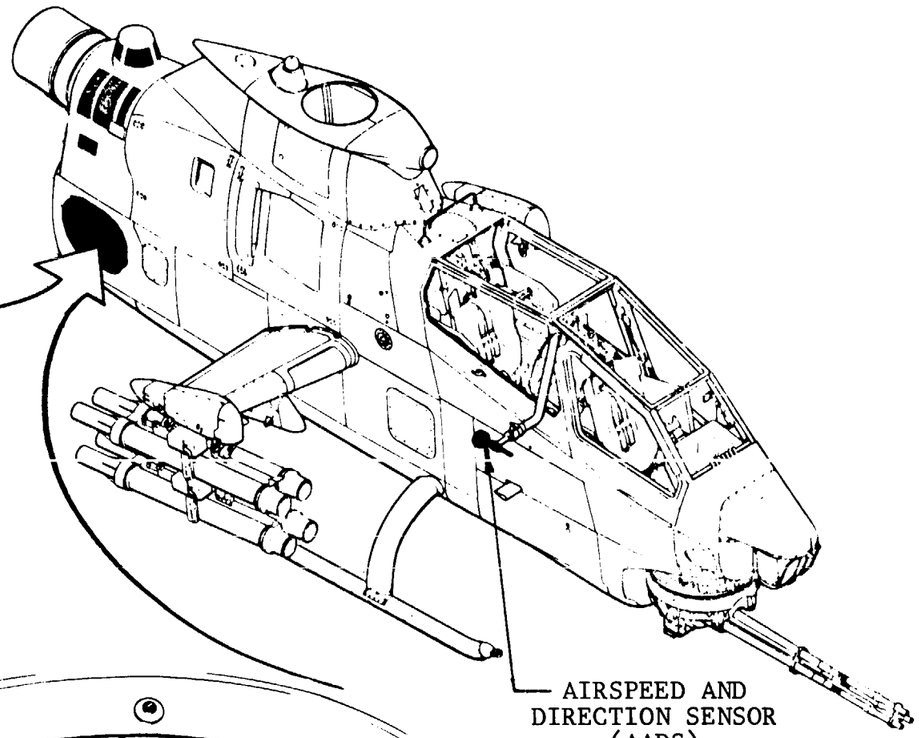


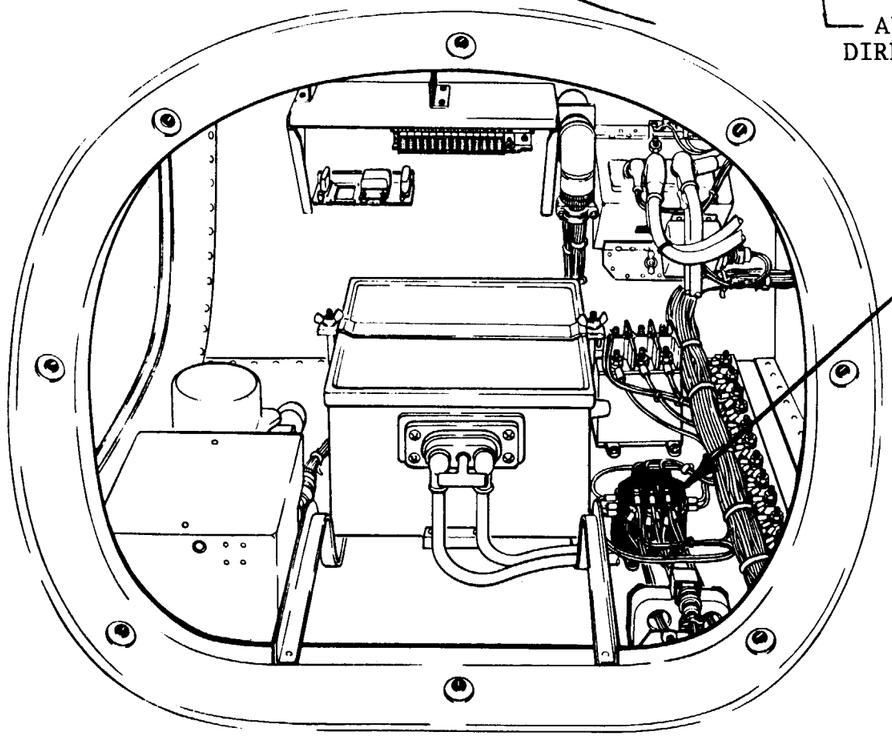

3A1J1

9-37. NO AC POWER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



9-37. NO AC POWER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

Turn off electrical power per paragraph 9-4.

Disconnect 3T1P1.

Turn on electrical power per paragraph 9-4.

On AC/ARMT circuit breaker panel:

Close REF XFMR circuit breaker.

Check for 115 V ac at 3T1P1-P.

Is 115 V ac present?

YES

Check for 115 V ac at 3T1P1-A.

Is 115 V ac present?

YES

Check for 115 V ac at 3T1P1-R.

Is 115 V ac present?

YES

NO

Turn off electrical power per paragraph 9-4.

Disconnect 3PS1P2.

Turn on electrical power per paragraph 9-4.

Check for 115 V ac from 3PS1J2-C to 3PS1J2-F.

Is 115 V ac present?

YES

NO

Turn off electrical power per paragraph 9-4.

Replace inverter (3PS1) per TM 55-1520-236-23, Chapter 9, Section III.

Connect 3T1P1.

Then go to paragraph 9-2.

NO

Go to Troubleshooting Logic Part Two (Subparagraph B).

NO

Turn off electrical power per paragraph 9-4.

Disconnect 3PS1P2.

Turn on electrical power per paragraph 9-4.

Check for 115 V ac from 3PS1J2-B to 3PS1J2-E.

Is 115 V ac present?

YES

Turn off electrical power per paragraph 9-4.

Connect 3PS1P2.

Turn on electrical power per paragraph 9-4.

Check for 115 V ac at 3K1-B3.

Is 115 V ac present?

YES

NO

Turn off electrical power per paragraph 9-4.

Replace inverter (3PS1) per TM 55-1520-236-23, Chapter 9, Section III.

Connect 3T1P1.

Then go to paragraph 9-2.

NO

Turn off electrical power per paragraph 9-4.

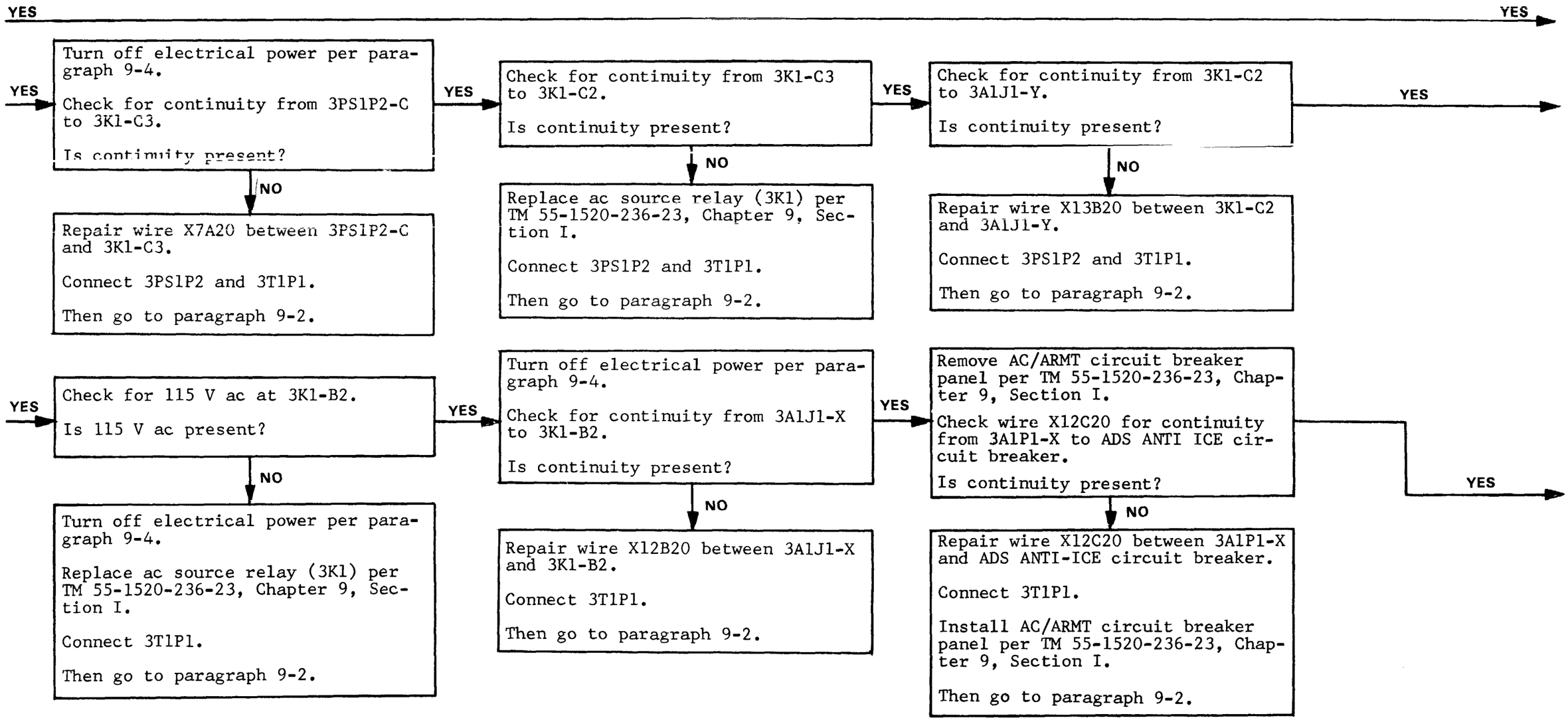
Repair wire X6A20 between 3PS1P2-B and 3K1-B3.

Connect 3T1P1.

Then go to paragraph 9-2.

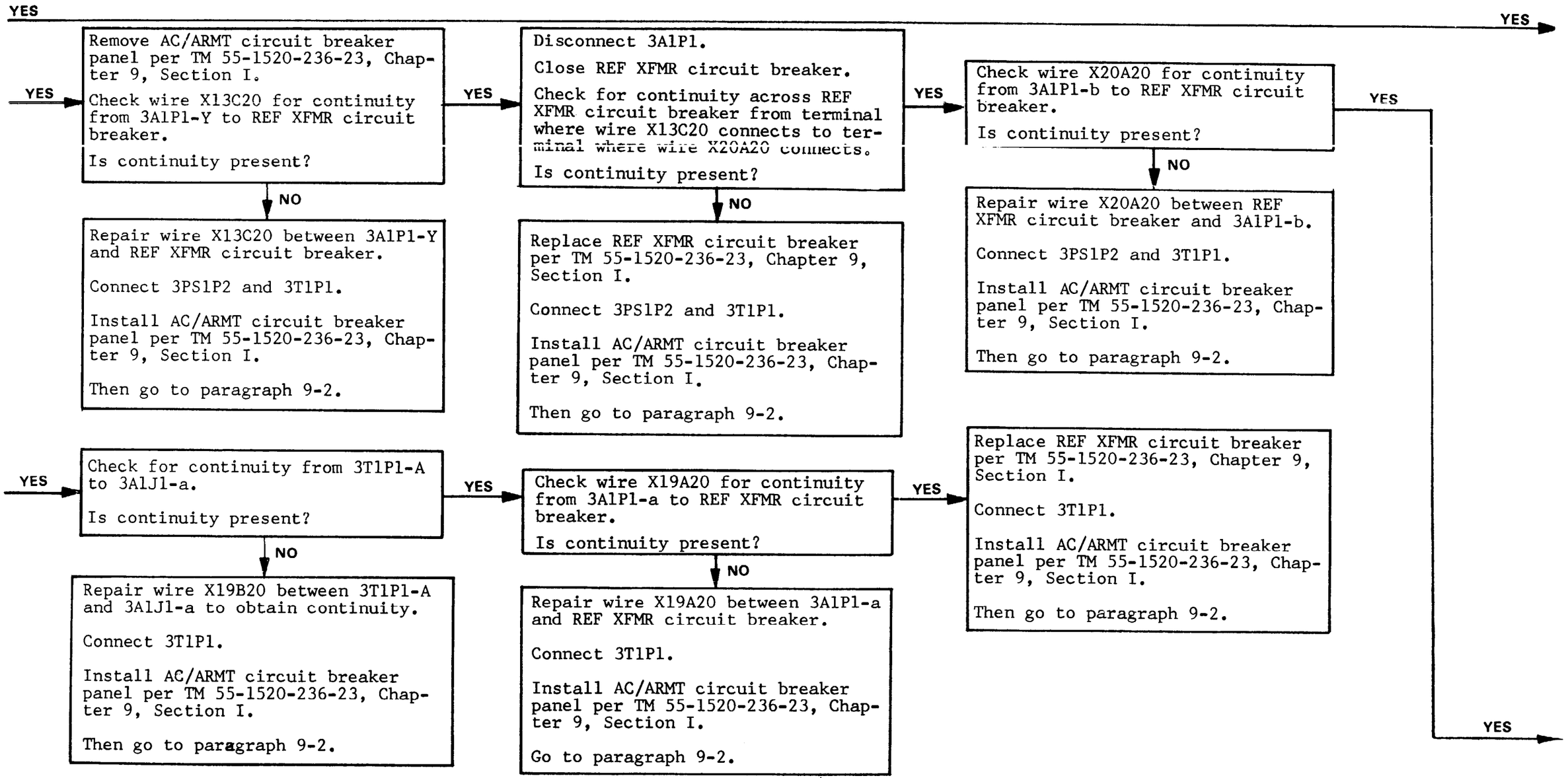
9-37. NO AC POWER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



9-37. NO AC POWER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



9-37. NO AC POWER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

YES

On AC/ARMT circuit breaker panel:

Close FUEL QTY circuit breaker.

On pilot miscellaneous control panel:

Press FUEL GAGE TEST switch.

Does pointer on fuel quantity indicator rotate downscale (counterclockwise)?

YES

On pilot instrument panel:

Is HDG flag visible on horizontal situation indicator (HSI)?

NO

Turn off electrical power per paragraph 9-4.

Repair wire X13D20 between 28 V ac XFMR circuit breaker and REF XFMR circuit breaker.

Connect 3T1P1.

Then go to paragraph 9-2.

YES

Does airspeed and direction sensor (AADS) heat up when PITOT/ADS HTR switch on LTG ECS control panel is set to PITOT/ADS HTR? (reference paragraph 9-2, step 1).

NO

Turn off electrical power per paragraph 9-4.

Repair wire A463A22 between ADS ANTI ICE circuit breaker and REF XFMR circuit breaker.

Connect 3T1P1.

Then go to paragraph 9-2.

YES

NO

Turn off electrical power per paragraph 9-4.

Remove AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Check wire X11D20 for continuity from REF XFMR circuit breaker to bus side of SECU PWR circuit breaker.

Is continuity present?

YES

Repair wire X11E20 between HSS PWR circuit breaker and SCAS PWR circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Connect 3T1P1.

Then go to paragraph 9-2.

NO

Repair wire X11D20 between REF XFMR circuit breaker and bus side of SECU PWR circuit breaker.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Connect 3T1P1.

Then go to paragraph 9-2.

YES

Repair wire X20B20 between 3A1J1-b and 3T1P1-R.

Connect 3PS1P2 and 3T1P1.

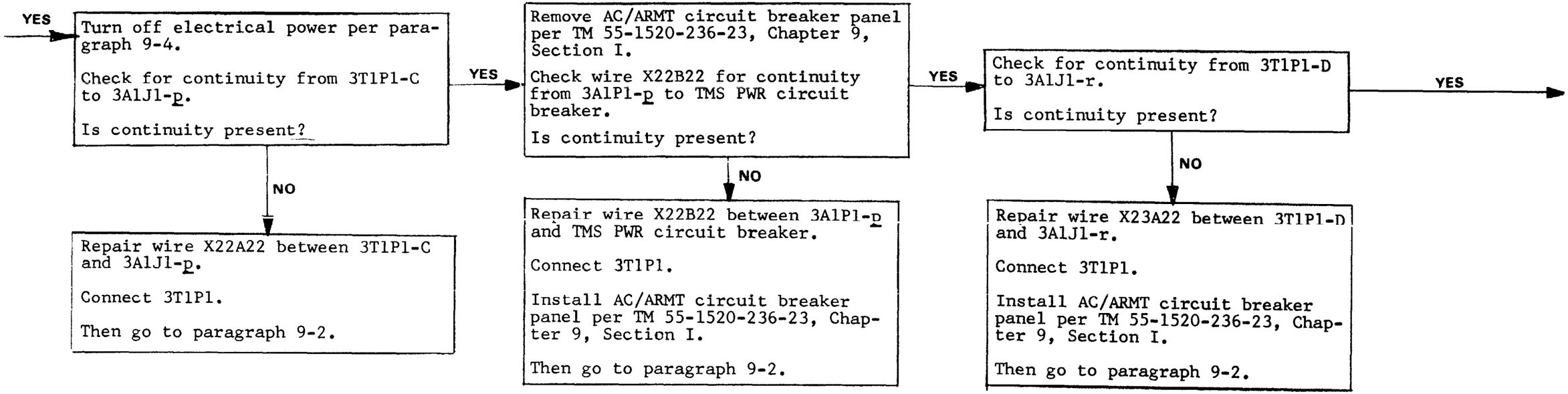
Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

9-37. NO AC POWER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



9-37. NO AC POWER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

YES

Check wire X23B22 for continuity from 3A1P1-r to TMS PWR circuit breaker.
Is continuity present?

NO

Repair wire X23B22 between 3A1P1-r and TMS PWR circuit breaker.

Connect 3T1P1.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Check for continuity from 3T1P1-E to airgrame ground.

Is continuity present?

NO

Repair wire X25A22N between 3T1P1-E and airframe ground.

Connect 3T1P1.

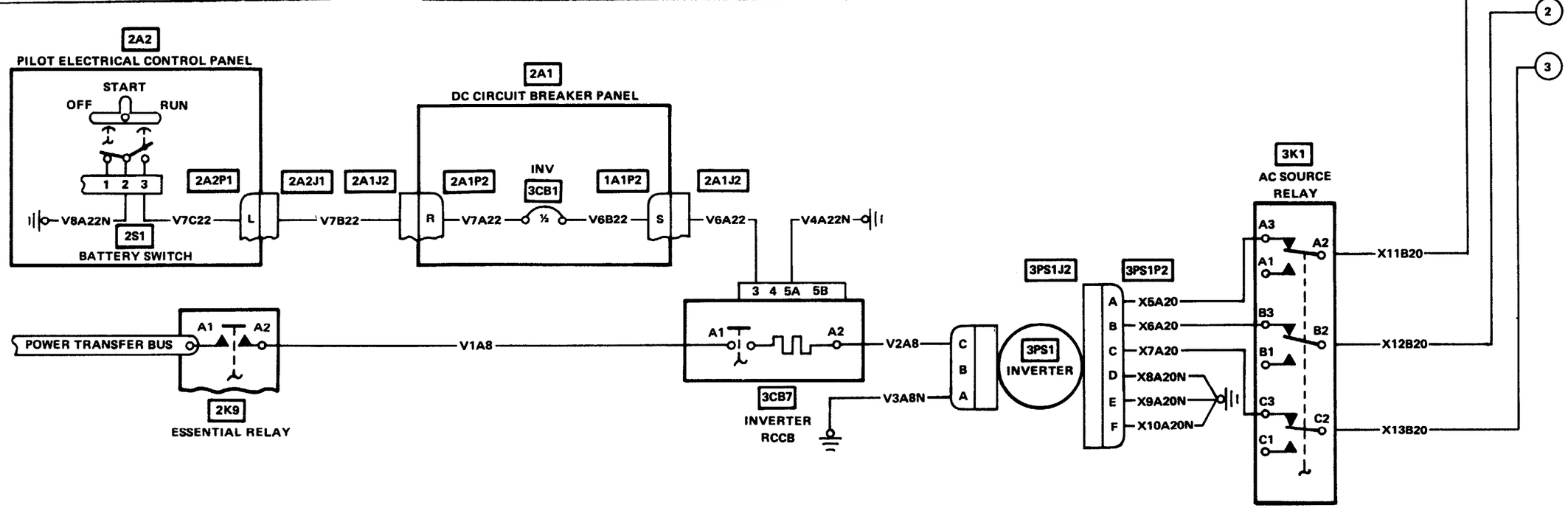
Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

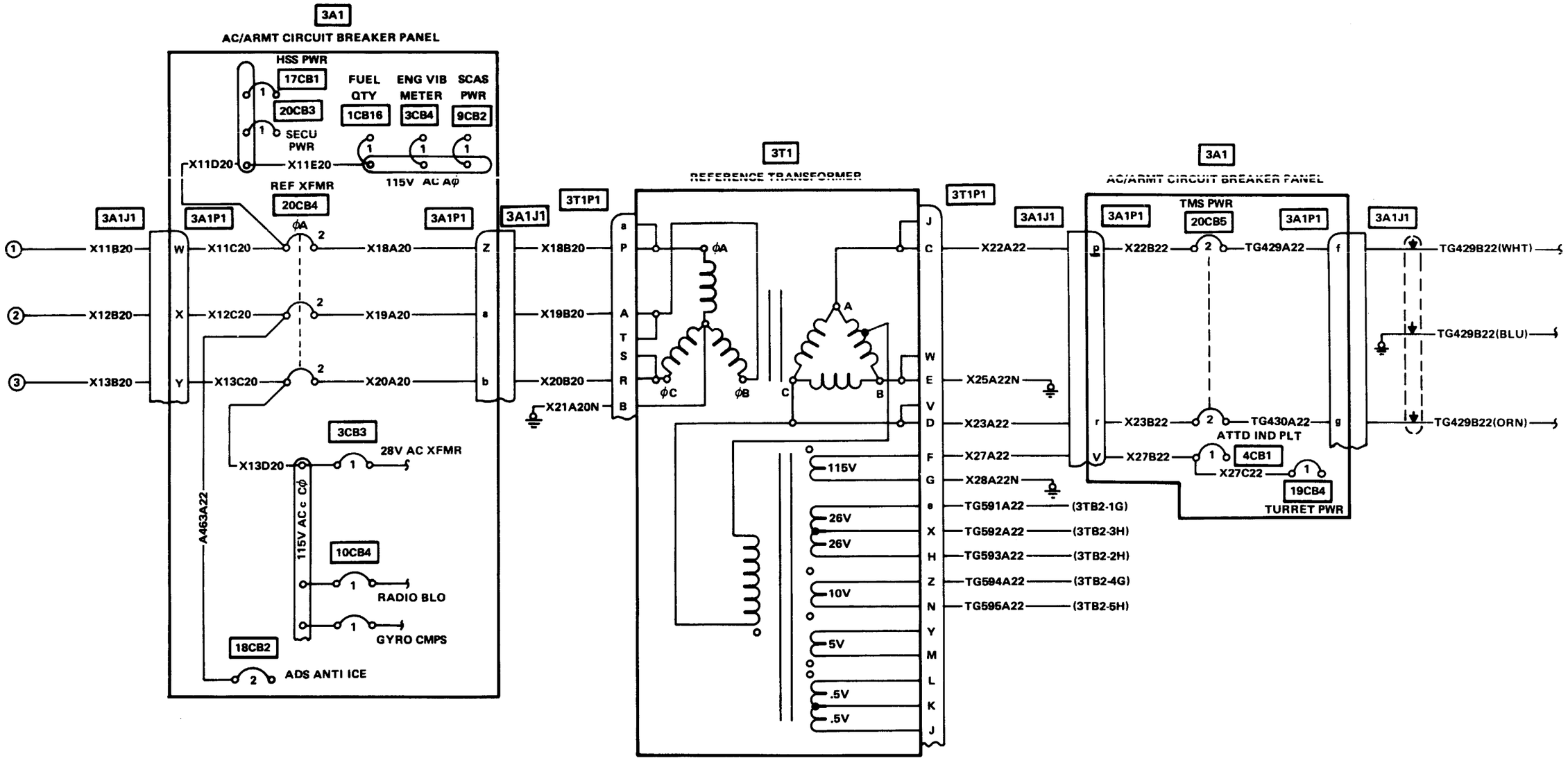
Replace reference transformer per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.



9-37. NO AC POWER (CONTINUED).

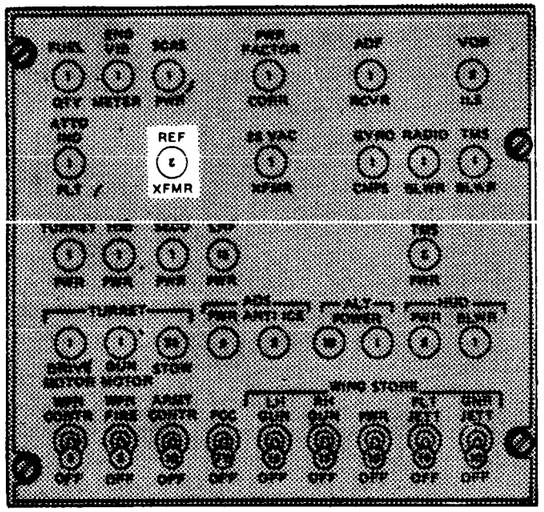
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



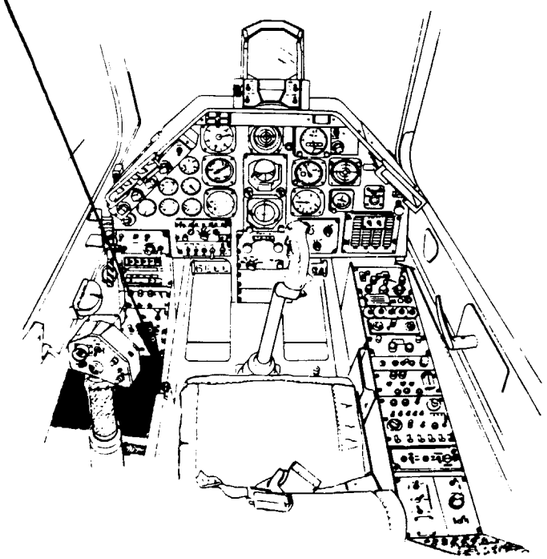
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9-37. NO AC POWER (CONTINUED).

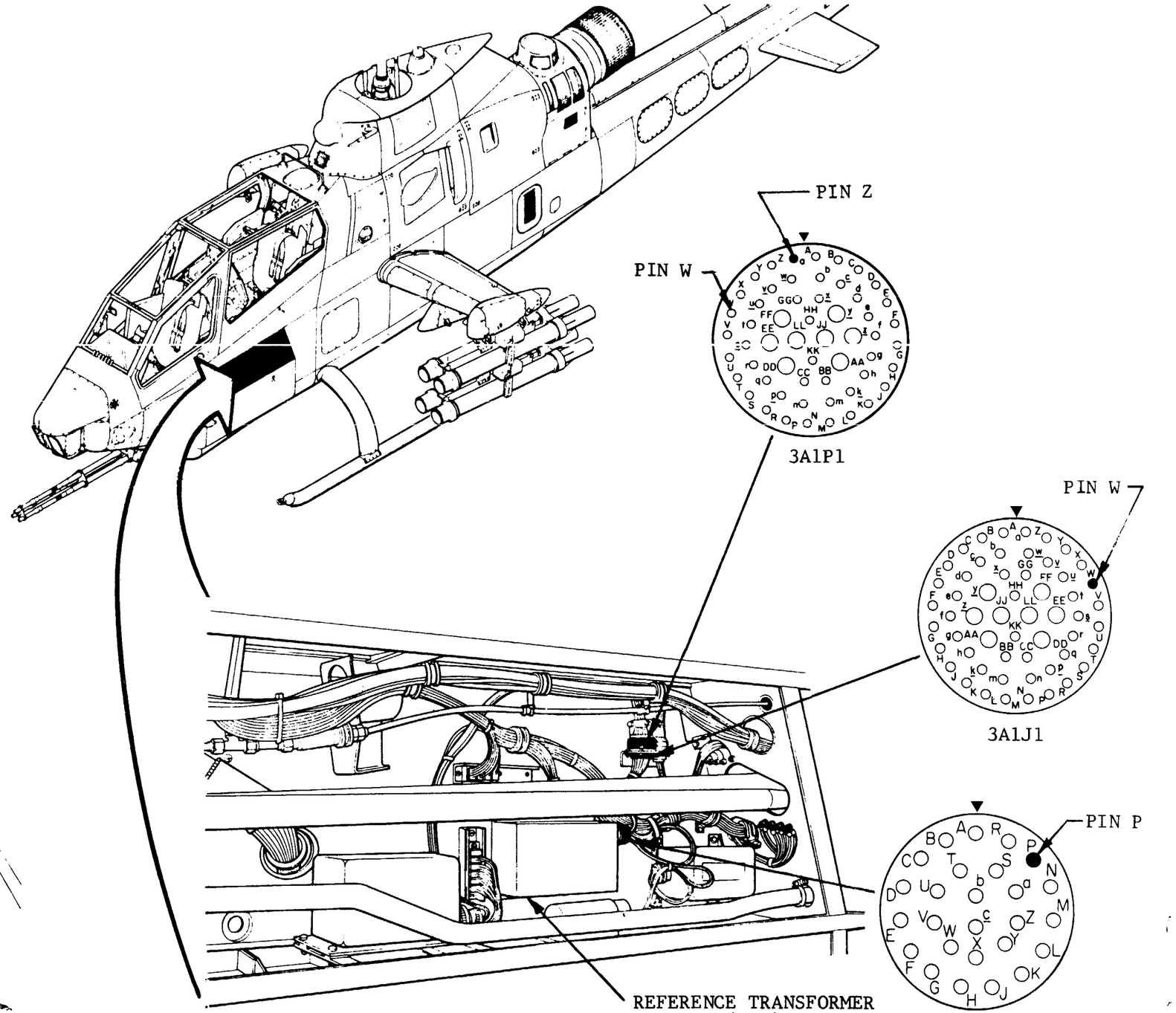
B. TROUBLESHOOTING LOGIC PART TWO.




AC/ARMT CIRCUIT BREAKER PANEL

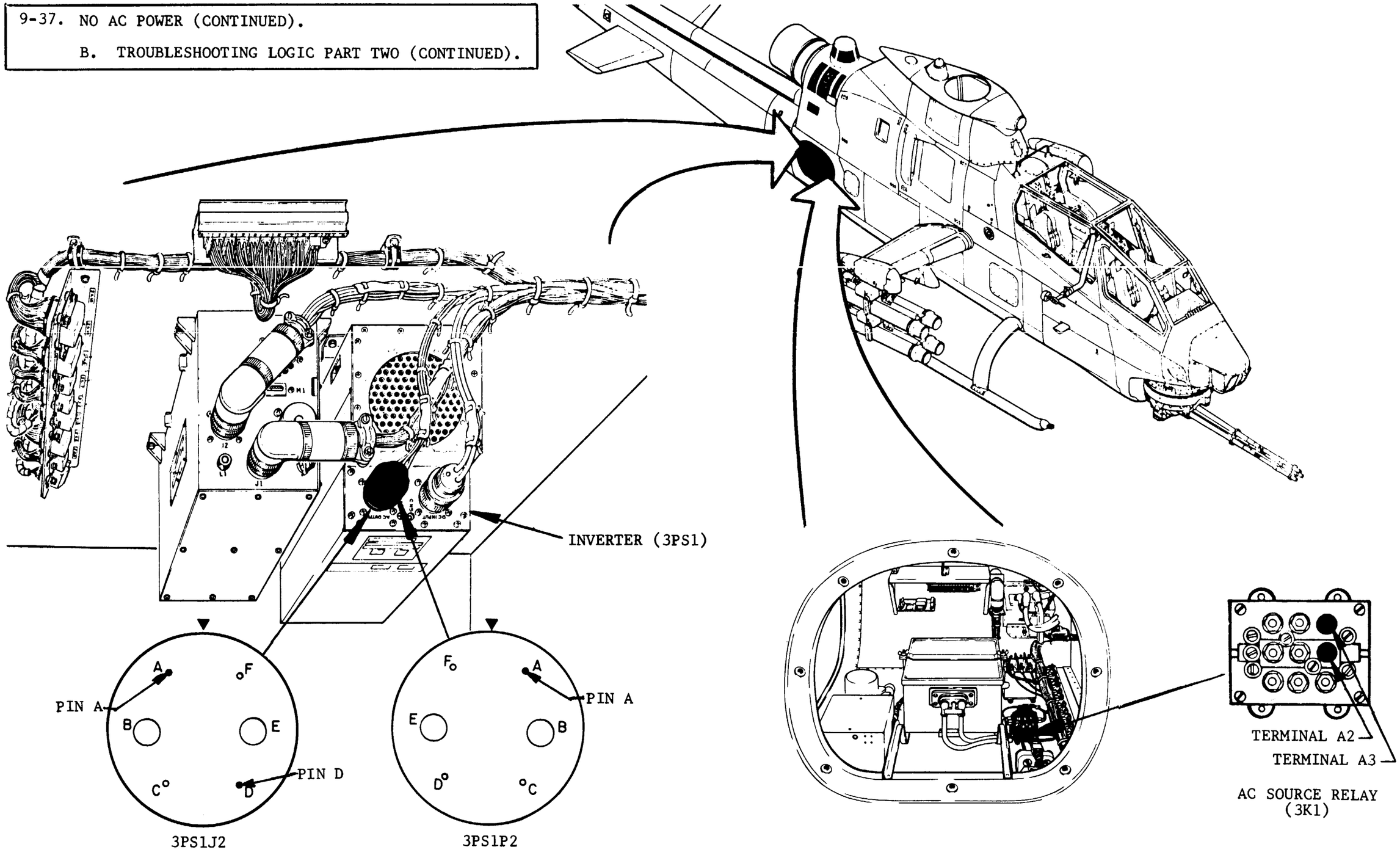


PILOT STATION



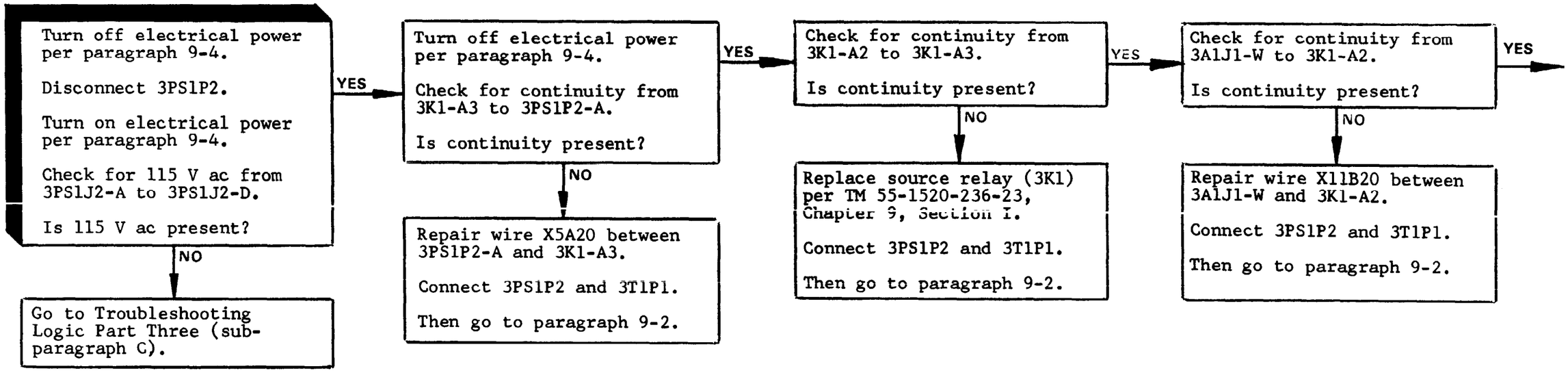
9-37. NO AC POWER (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



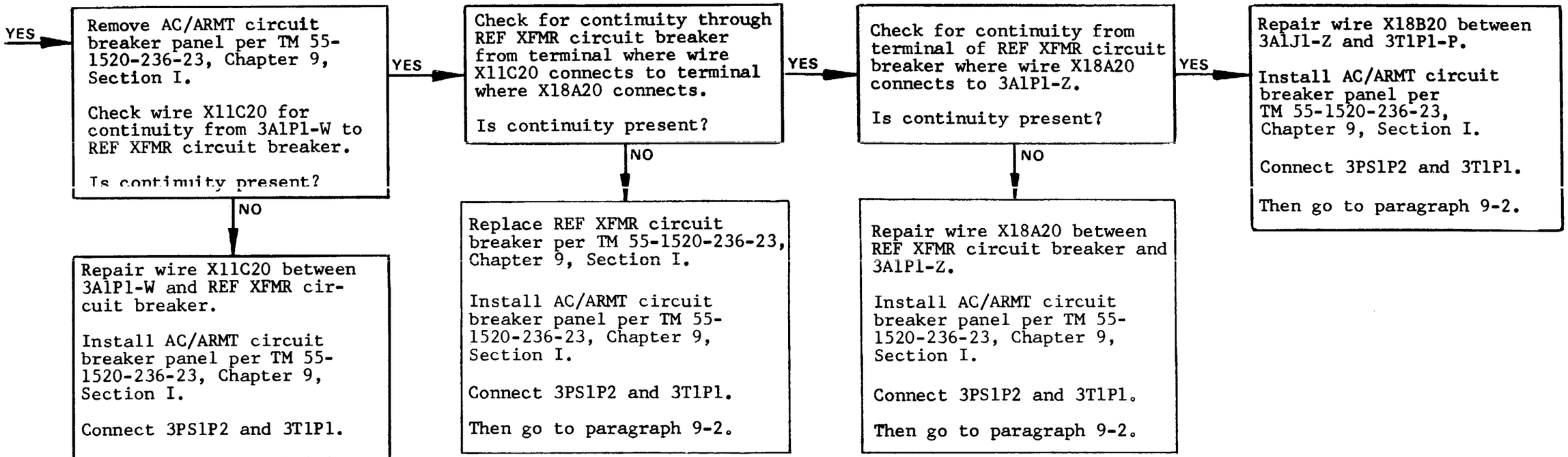
9-37. NO AC POWER (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



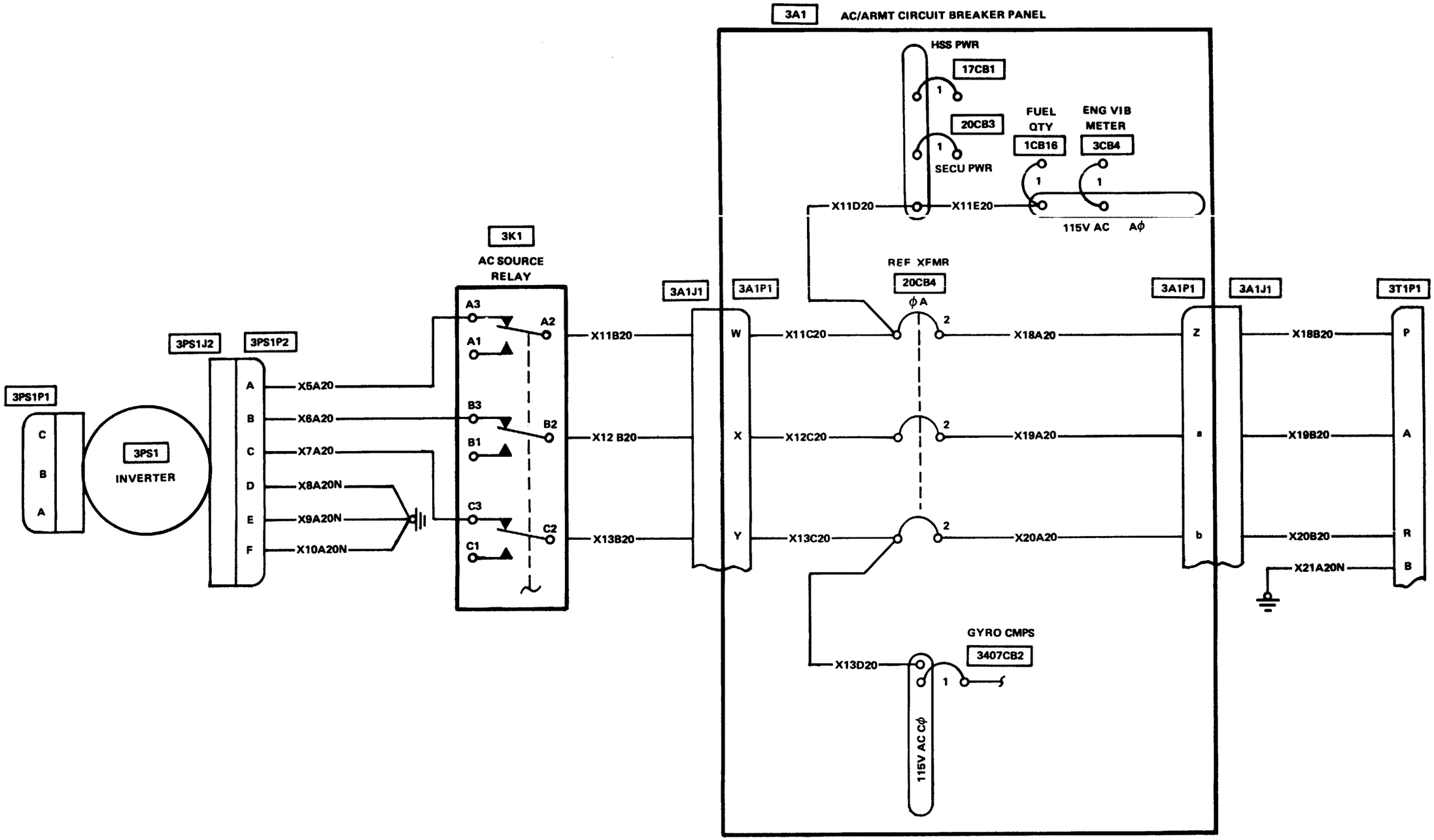
9-37. NO AC POWER (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



9-37. NO AC POWER (CONTINUED).

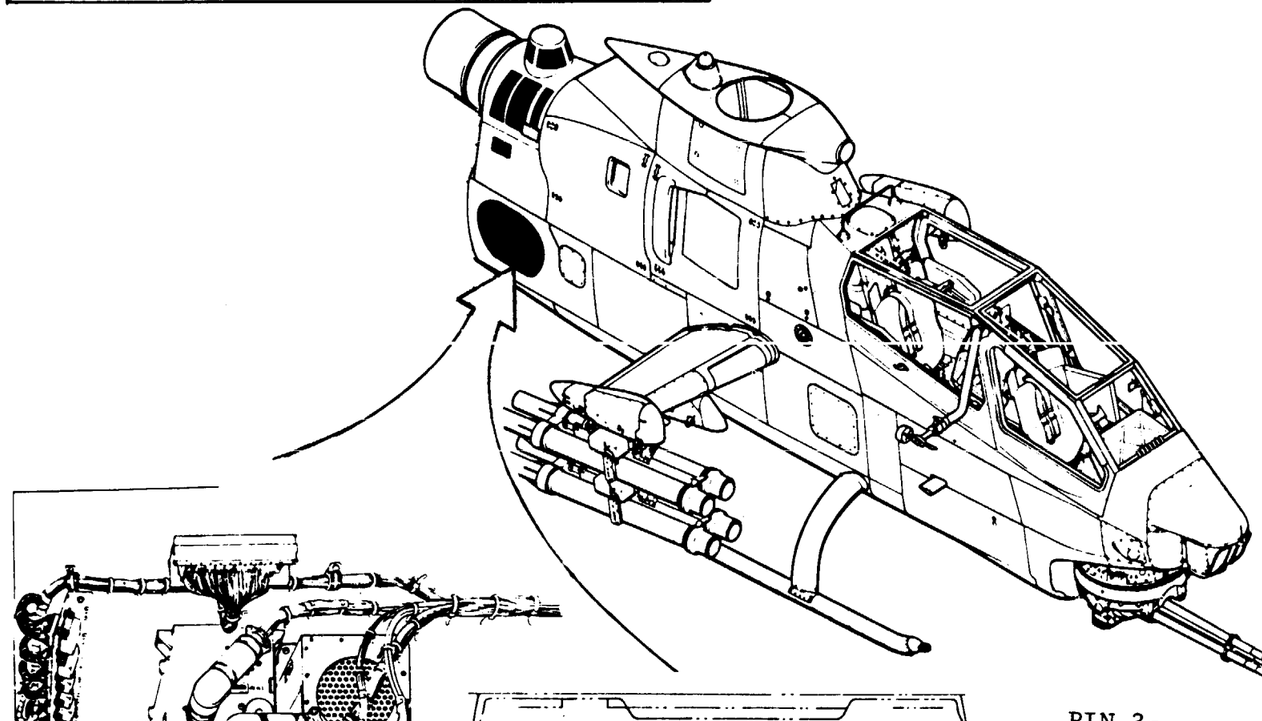
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

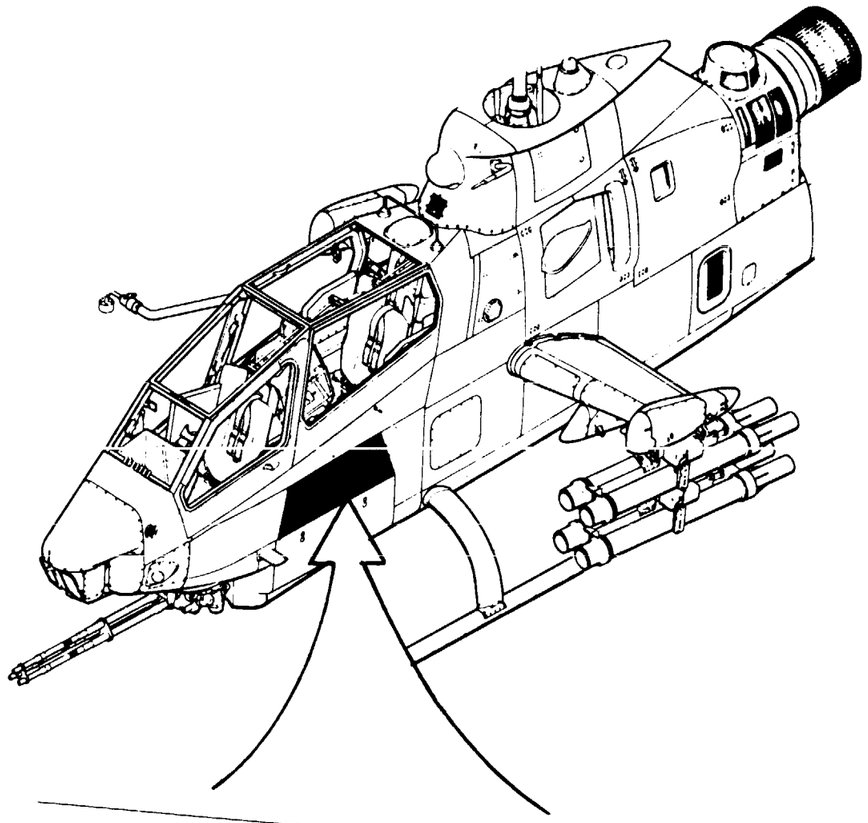


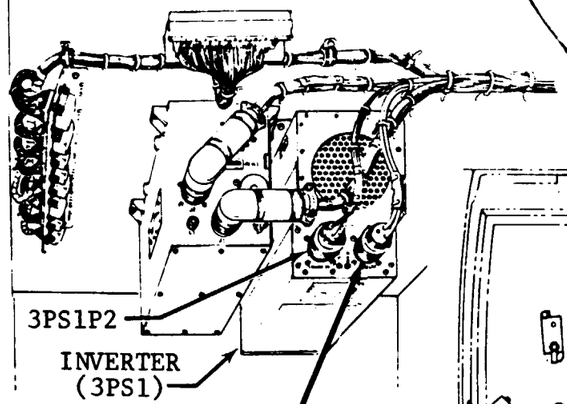
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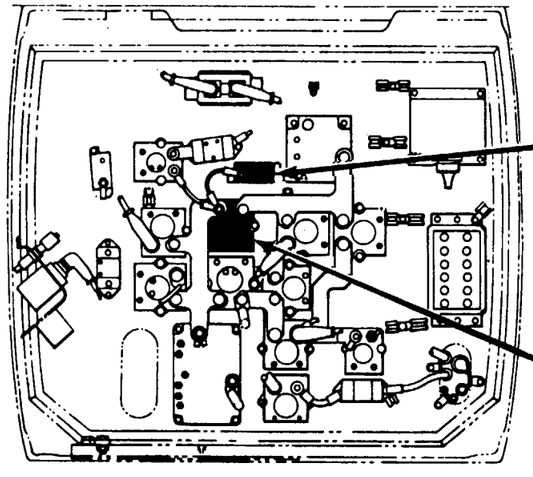
9-37. NO AC POWER (CONTINUED).

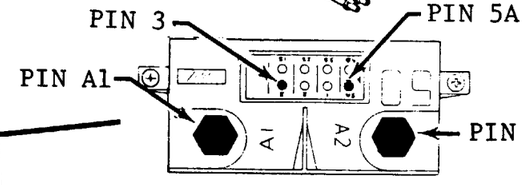
C. TROUBLESHOOTING LOGIC PART THREE.



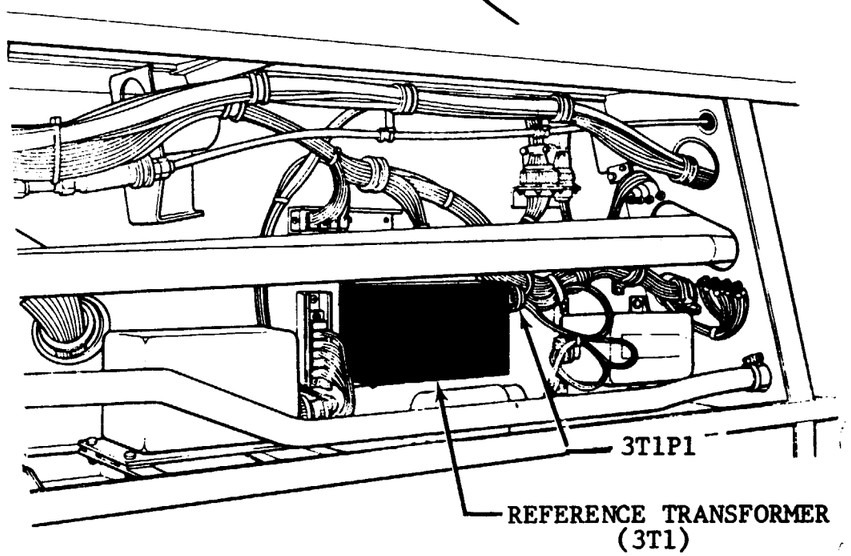


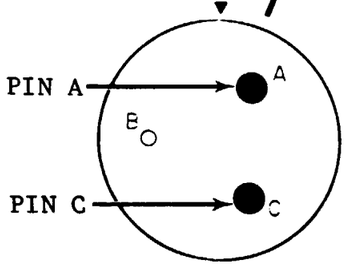


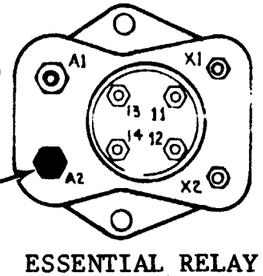



INVERTER REMOTE CONTROL
CIRCUIT BREAKER (3CB7)




3PS1P1

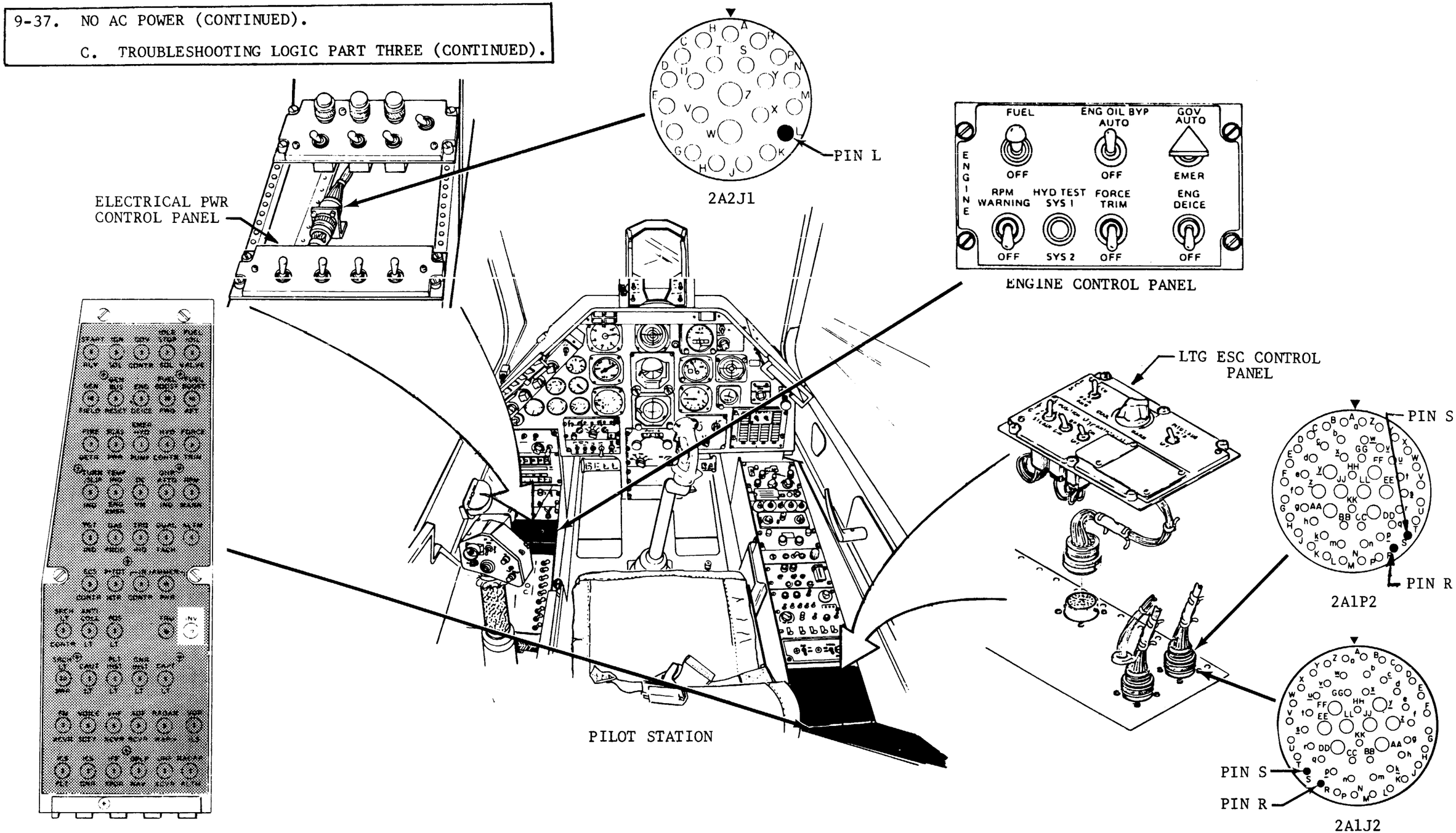



PIN A2

ESSENTIAL RELAY
(2K9)

9-37. NO AC POWER (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



9-37. NO AC POWER(CONTINUED).
C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

Turn off electrical power per paragraph 9-4.
Disconnect 3PS1P1.
Turn on electrical power per paragraph 9-4.
Check for 28 V dc at 3PS1P1-C.
Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-2.
Check for continuity from 3PS1P1-A to airframe ground.
Is continuity present?

YES → Replace inverter (3PS1) per TM 55-1520-236-23, Chapter 9, Section III.
Connect 3T1P1.
Then go to paragraph 9-2.

NO → Repair wire V3A8N between 3PS1P1-A and airframe ground.
Connect 3T1P1, 3PS1P1, and 3PS1P2.
Then go to paragraph 9-2.

NO → Check for 28 V dc at terminal A2 of inverter remote control circuit breaker (3CB7).
Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.
Repair wire V2A8 between 3PS1P1-C and 3CB7-A2.
Connect 3T1P1, 3PS1P1, and 3PS1P2.
Then go to paragraph 9-2.

NO → Check for 28 V dc at 3CB7-A1.
Is 28 V dc present?

YES → Turn off electrical power per paragraph 9-4.
Check for continuity from 3CB7-5A to airframe ground.
Is continuity present?

YES → On DC circuit breaker panel:
Close INV circuit breaker.
Check for continuity from 3CB7-3 to airframe ground.
Is continuity present?

YES → Check for continuity from 3CB7-3 to 2A1J2-S.
Is continuity present?

YES → Go to paragraph 9-5.

NO → Repair wire V6A22 between 3CB7-3 and 2A1J2-S.
Connect 3T1P1, 3PS1P1, and 3PS1P2.
Then go to paragraph 9-2.

NO → Repair wire V4A22N between 3CB7-5A and airframe ground.
Connect 3T1P1, 3PS1P1, and 3PS1P2.
Then go to paragraph 9-2.

NO → Turn off electrical power per paragraph 9-4.
Check for continuity from 3CB7-A1 to 2K9-A2.
Is continuity present?

NO → Repair wire V1A8 between 3CB7-A1 and 2K9-A2.
Connect 3T1P1, 3PS1P1, and 3PS1P2.
Then go to paragraph 9-2.

9-37. NO AC POWER (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE. (CONTINUED).

Replace inverter remote control circuit breaker (3CB7) per TM 55-1520-236-23, Chapter 9, Section III.

Connect 3T1P1, 3PS1P1, and 3PS1P2.

Then go to paragraph 9-2.

YES

Open DC circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2A1P2-S to INV circuit breaker.

Is continuity present?

YES

Repair wire V6B22 between 2A1P2-S and INV circuit breaker.

Connect 3T1P1, 3PS1P1, and 3PS1P2.

Close DC circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

On DC circuit breaker panel:

Close INV circuit breaker.

Check for continuity across terminals of INV circuit breaker.

Is continuity present?

NO

Replace INV circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Connect 3T1P1, 3PS1P1, and 3PS1P2.

Close DC circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Check for continuity from INV circuit breaker to 2A1P2-R.

Is continuity present?

NO

Repair wire V7A22 between INV circuit breaker and 2A1P2-R.

Connect 3T1P1, 3PS1P1, and 3PS1P2.

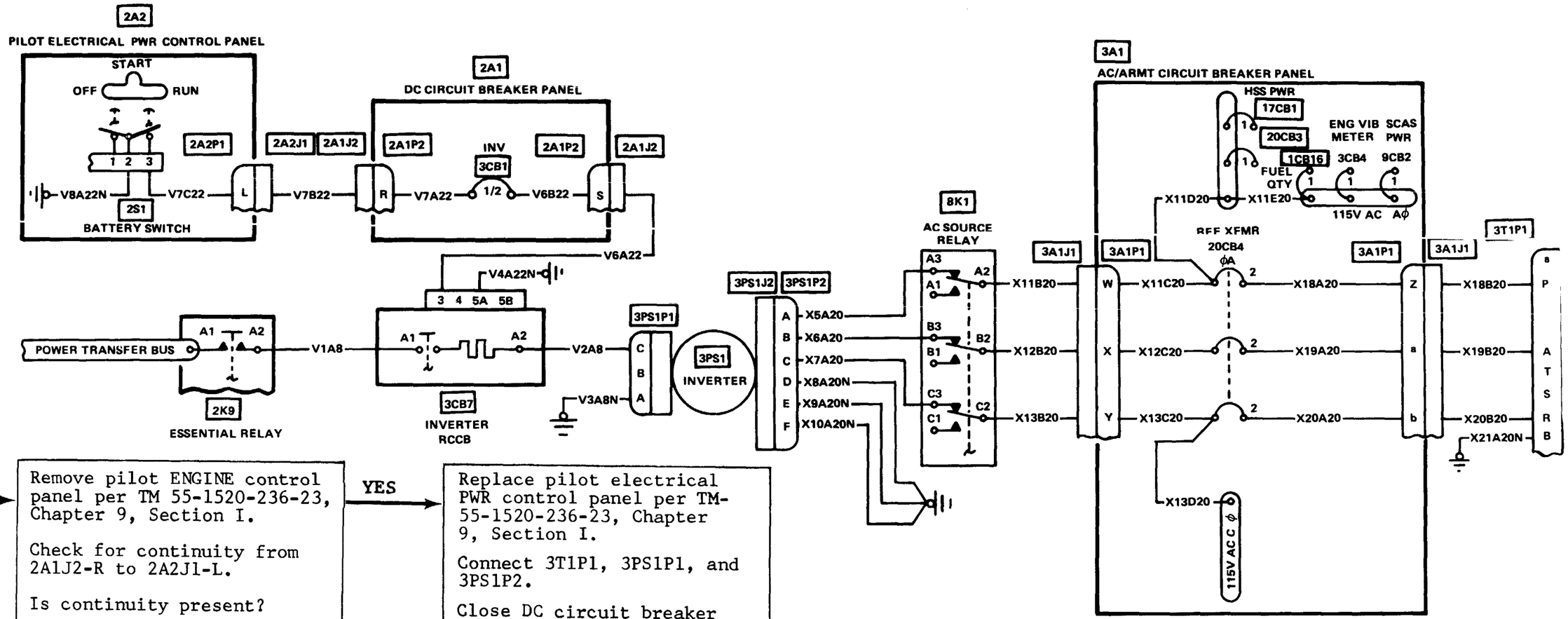
Close DC circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

9-37. NO AC POWER ( CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE ( CONTINUED).




YES

Remove pilot ENGINE control panel per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2A1J2-R to 2A2J1-L.

Is continuity present?

YES

Replace pilot electrical PWR control panel per TM-55-1520-236-23, Chapter 9, Section I.

Connect 3T1P1, 3PS1P1, and 3PS1P2.

Close DC circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Repair wire V7B22 between 2A1J2-R and 2A2J1-L.

Connect 3T1P1, 3PS1P1, and 3PS1P2.

Close DC circuit breaker panel per TM55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

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**9-38. ESNTL BUS CIRCUIT BREAKER WILL NOT STAY CLOSED WITH BATTERY ON AND GROUND POWER UNIT OFF.**

INITIAL SETUP

Applicable Configuration
All

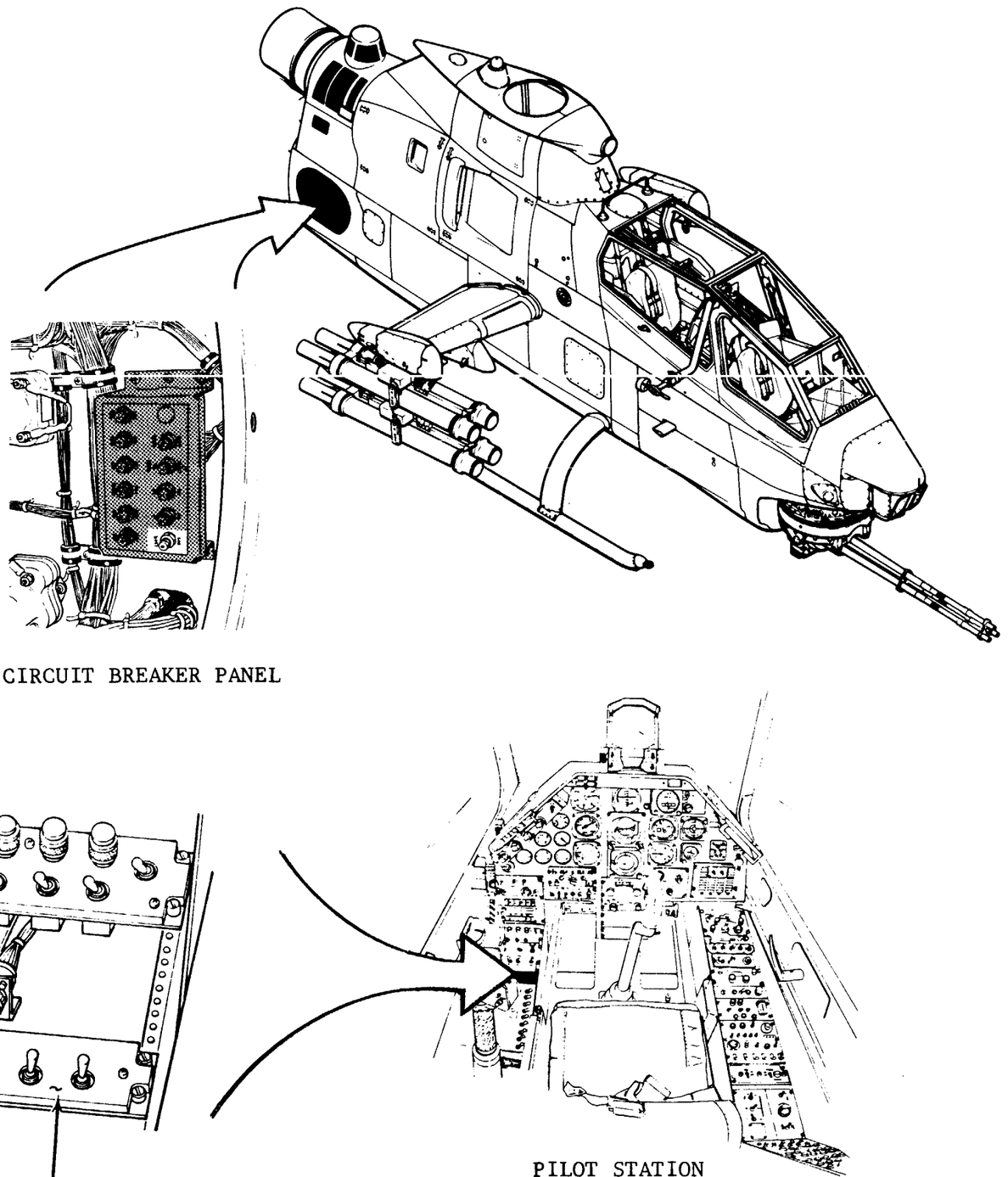
Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

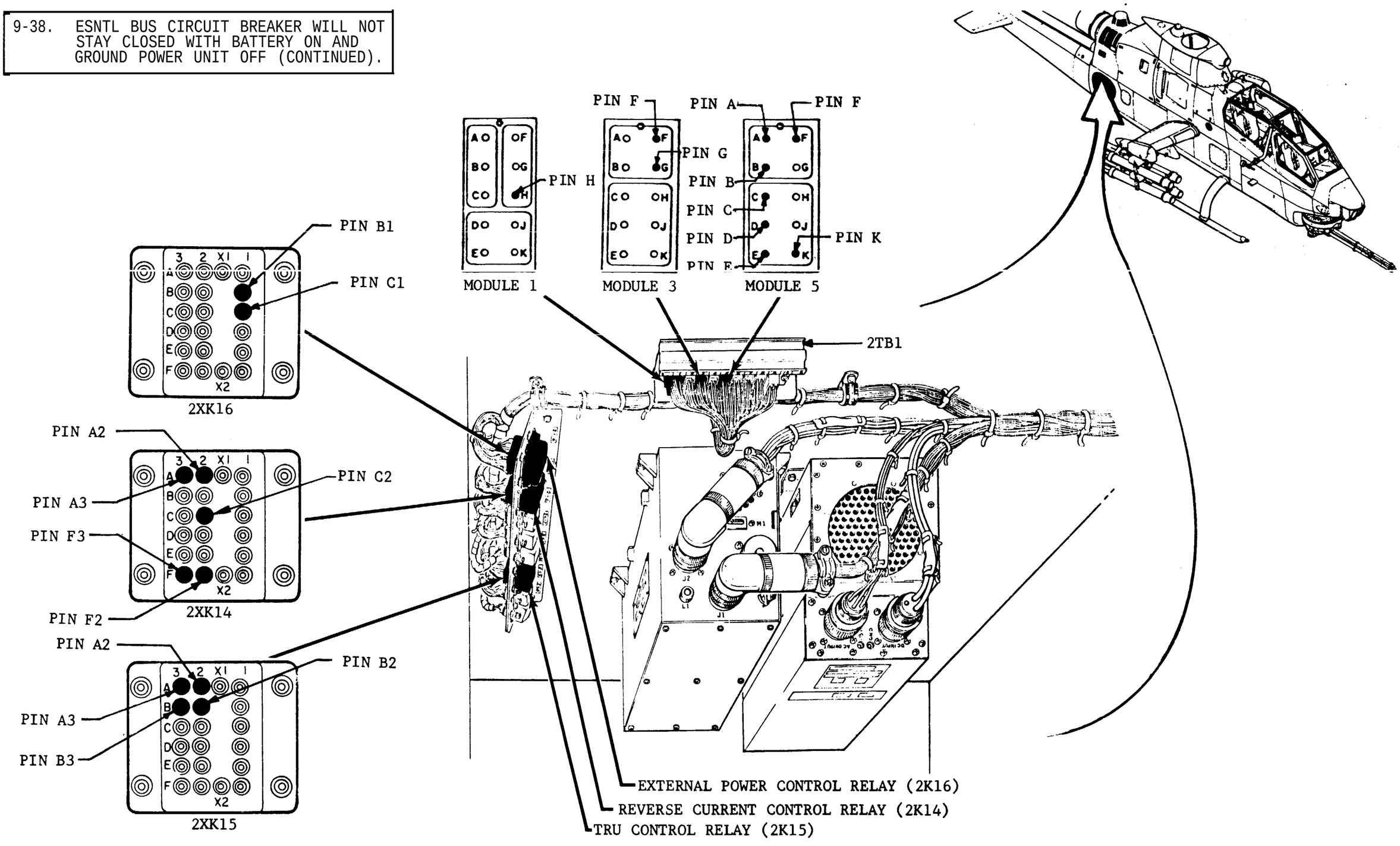
Personnel Required
68F (2)

References
TM 55-1520-236-23

Access Panels
Battery Compartment - Removed



9-38. ESNTL BUS CIRCUIT BREAKER WILL NOT STAY CLOSED WITH BATTERY ON AND GROUND POWER UNIT OFF (CONTINUED).



9-38. ESNTL BUS CIRCUIT BREAKER WILL NOT STAY CLOSED WITH BATTERY ON AND GROUND POWER UNIT OFF (CONTINUED).

On circuit breaker panel in battery compartment:

Open ESNTL BUS circuit breaker, if closed.

Turn off electrical power per paragraph 9-4.

Check for continuity from 2TB1-3C to airframe ground.

Is continuity present?

YES

NO

Replace ESNTL BUS circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

Remove wire P22A22 from 2TB1-3F.

Check for continuity from 2TB1-3G to airframe ground.

Is continuity present?

YES

YES

NO

Insert wire P22A22 into 2TB1-3F.

Remove wire P13E22 from 2TB1-5C.

Check for continuity from 2TB1-5K to airframe ground.

Is continuity present?

YES

YES

NO

Insert wire P13E22 into 2TB1-5C.

Remove TRU control relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK15-A3 to airframe ground.

Is continuity present?

YES

NO

Check for continuity from 2XK15-A2 to airframe ground.

Is continuity present?

YES

NO

Repair wire P13E22 between 2XK15-A2 and 2TB1-5C to eliminate short.

Install relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

Replace relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

Remove wire P22B22 from terminal on ESNTL BUS circuit breaker.

Check for continuity from end of wire P22B22 to airframe ground.

Is continuity present?

YES

NO

Repair wire P22A22 between ESNTL BUS circuit breaker and 2TB1-3F to eliminate short.

Connect wire P22B22 to ESNTL BUS circuit breaker.

Install relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

9-38. ESNTL BUS CIRCUIT BREAKER WILL NOT STAY CLOSED WITH BATTERY ON AND GROUND POWER UNIT OFF (CONTINUED).

YES

YES

YES

Insert wire P13E22 into 2TB1-5C.

Remove wire P13C22 from 2TB1-5E.

Check for continuity from 2TB1-5K to airframe ground.

Is continuity present?

YES

Insert wire P13C22 into 2TB1-5E.

Remove wire P13D22 from 2TB1-5D.

Check for continuity from 2TB1-5K to airframe ground.

Is continuity present?

YES

NO

Insert wire P13D22 into 2TB1-5D.

Remove reverse current control relay (2K14).per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK14-C2 to airframe ground.

Is continuity present?

YES

NO

Replace relay (2K14) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Repair wire P22B22 between ESNTL BUS circuit breaker and 2XK15-A3 to eliminate short.

Install relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

Remove external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK16-B1 to airframe ground.

Is continuity present?

YES

Repair wire P13C22 between 2TB1-5E and 2XK16-B1 to eliminate short.

Install relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Replace relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire P13C22 into 2TB1-5E.

Then go to paragraph 9-2.

9-38. ESNTL BUS CIRCUIT BREAKER WILL NOT STAY CLOSED WITH BATTERY ON AND GROUND POWER UNIT OFF(CONTINUED).

YES

Insert wire P22A22 into 2TB1-3F.

Remove wire P18A22 from 2TB1-5A.

Check for continuity from 2TB1-3G to airframe ground.

Is continuity present?

YES

NO

YES

Insert wire P13D22 into 2TB1-5D.

Disconnect 2A2P1.

Check for continuity from 2TB1-5K to airframe ground.

Is continuity present?

YES

Repair wire P13B22 between 2A2J1-E and 2TB1-5K to eliminate short.

Connect 22A2P1.

Then go to paragraph 9-2.

NO

Insert wire P18A22 into 2TB1-5A.

Remove wire P18B22 from 2TB1-5B.

Check for continuity from 2TB1-5F to airframe ground.

Is continuity present?

YES

NO

YES

Repair wire P13D22 between 2XK14-C2 and 2TB1-5D to eliminate short.

Install relay (2K14) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

Replace pilot electrical PWR control panel per TM 55-1520-236-23, Chapter 9, Section 1.

Then go to paragraph 9-2.

Insert wire P18B22 into 2TB1-5B.

Remove external power control relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK16-C1 to airframe ground.

Is continuity present?

YES

NO

Replace relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

9-38. ESNTL BUS CIRCUIT BREAKER WILL NOT STAY CLOSED WITH BATTERY ON AND GROUND POWER UNIT OFF (CONTINUED).

YES

Insert wire P18A22 into 2TB1-5A.

Remove wire P82A22 from 2TB1-1H.

Check for continuity from 2TB1-3G to airframe ground.

Is continuity present?

YES

NO

YES

Insert wire P18B22 into 2TB1-5B.

Disconnect 2A2P1.

Check for continuity from 2TB1-5F to airframe ground.

Is continuity present?

YES

Repair wire P18C22 between 2TB1-5F and 2A2J1-V to eliminate short.

Connect 2A2P1.

Then go to paragraph 9-2.

NO

Replace pilot electrical PWR control panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Repair wire P18B22 between 2XK16-C1 and 2TB1-5B.

Install relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

Insert wire P82A22 into 2TB1-1H.

Remove TRU control relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK15-B3 to airframe ground.

Is continuity present?

YES

NO

Check for continuity from 2XK15-B2 to airframe ground.

Is continuity present?

YES

NO

Replace relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

9-38. ESNTL BUS CIRCUIT BREAKER WILL NOT STAY CLOSED WITH BATTERY ON AND GROUND POWER UNIT OFF (CONTINUED).

YES

YES → Insert wire P82A22 into 2TB1-1H.

Remove reverse current control relay (2K14) per TM 55-1530-236-23, Chapter 9, Section I.

Check for continuity from 2TB1-3G to airframe ground.

Is continuity present?

YES → Check for continuity from 2XK14-F2 to airframe ground.

Is continuity present?

NO → Replace relay (2K14) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES → Repair wire P82A22 between 2XK14-A2 and 2TB1-1H.

Install relays (2K14) and (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO → Check for continuity from 2XK14-A2 to airframe ground.

Is continuity present?

NO → Replace relay (2K14) and install relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES → Repair wire P41A22 between 2XK15-3B and 2XK14-A3 to eliminate short.

Install relays (2K14) and (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES → Remove reverse current control relay (2K14) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 2XK15-B3 to airframe ground.

Is continuity present?

NO → Check for continuity from 2XK15-B3 to airframe ground.

Is continuity present?

YES → Repair wire P18A22 between 2XK15-B2 and 2TB1-5A to eliminate short.

Install relay (2K15) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

9-38. ESNTL BUS CIRCUIT BREAKER WILL NOT STAY CLOSED WITH BATTERY ON AND GROUND POWER UNIT OFF(CONTINUED)

YES →

Repair wire P22C22 between 2TB1-3G and 2XK14-F3 to eliminate short.

Install relay (2K14) per TM 55-1520-236-23, Chapter 9, Section I.

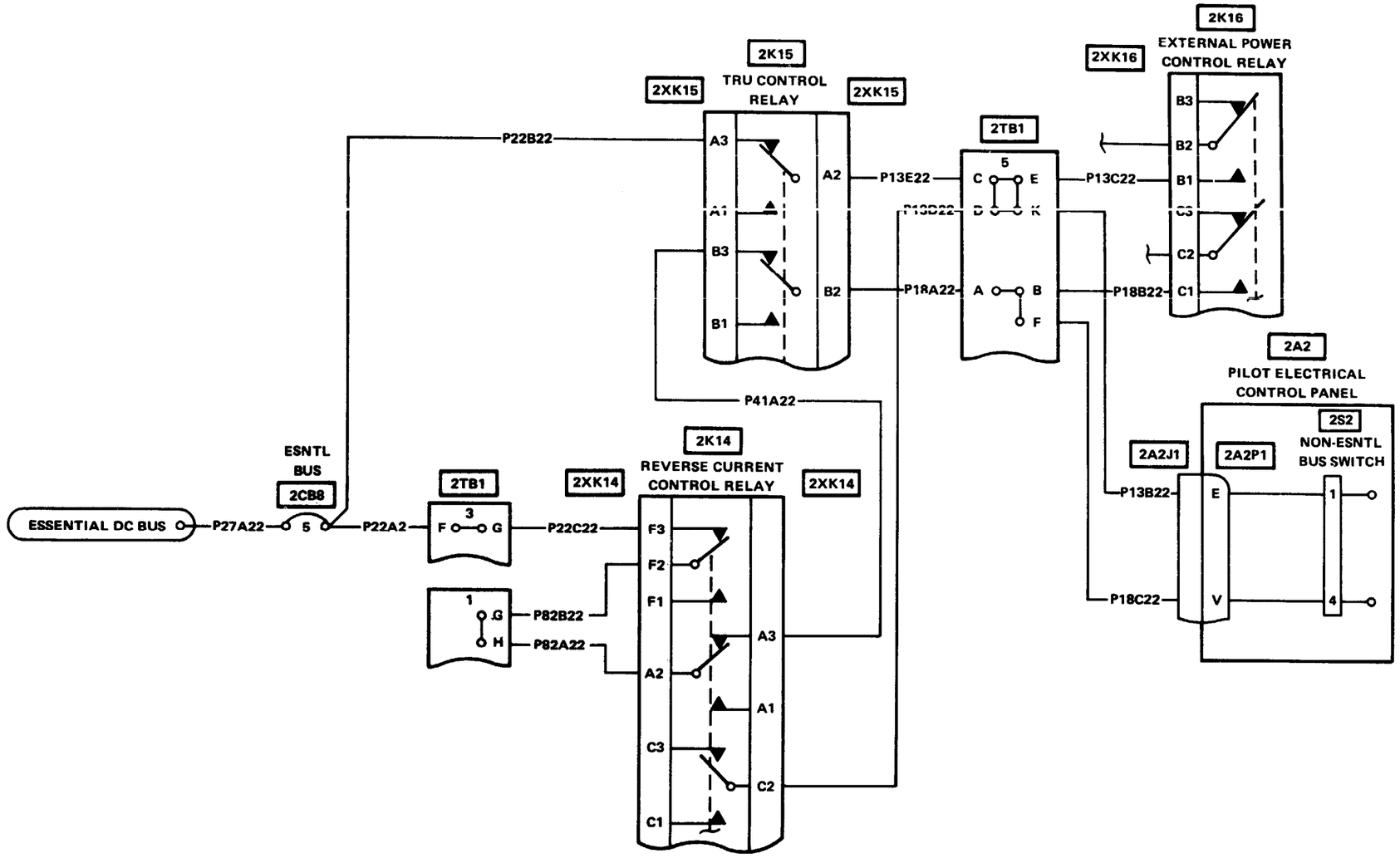
Then go to paragraph 9-2.

YES →

Repair wire P82B22 between 2XK14-F2 and 2TB1-1G to eliminate short.

Install relay (2K14) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.



## 9-39. ESNTL BUS CIRCUIT BREAKER OPENS WHEN GROUND POWER UNIT IS CONNECTED.

INITIAL SETUP

Applicable Configuration
All

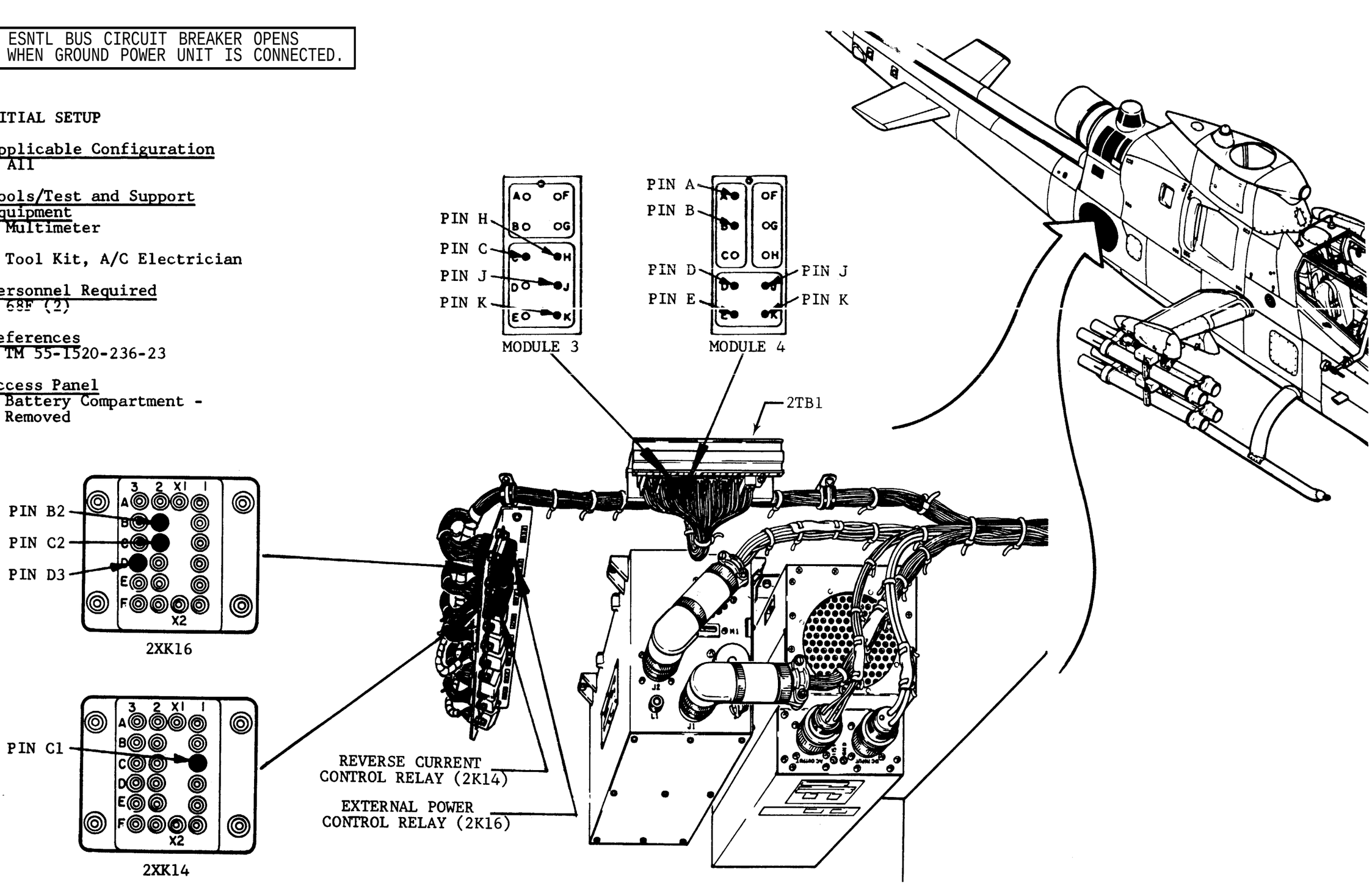
Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

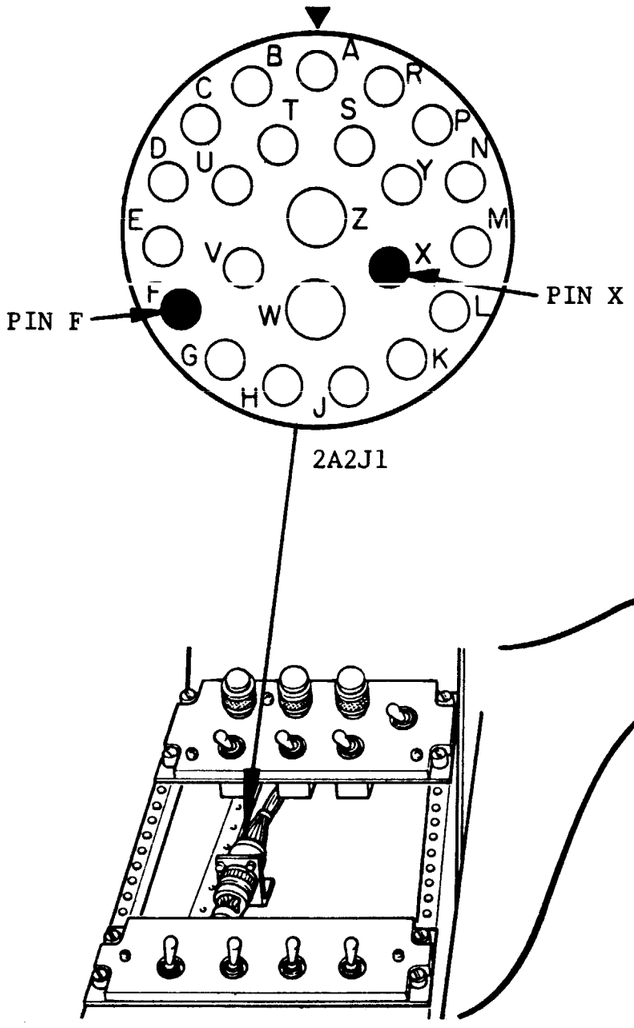
Personnel Required
68F (2)

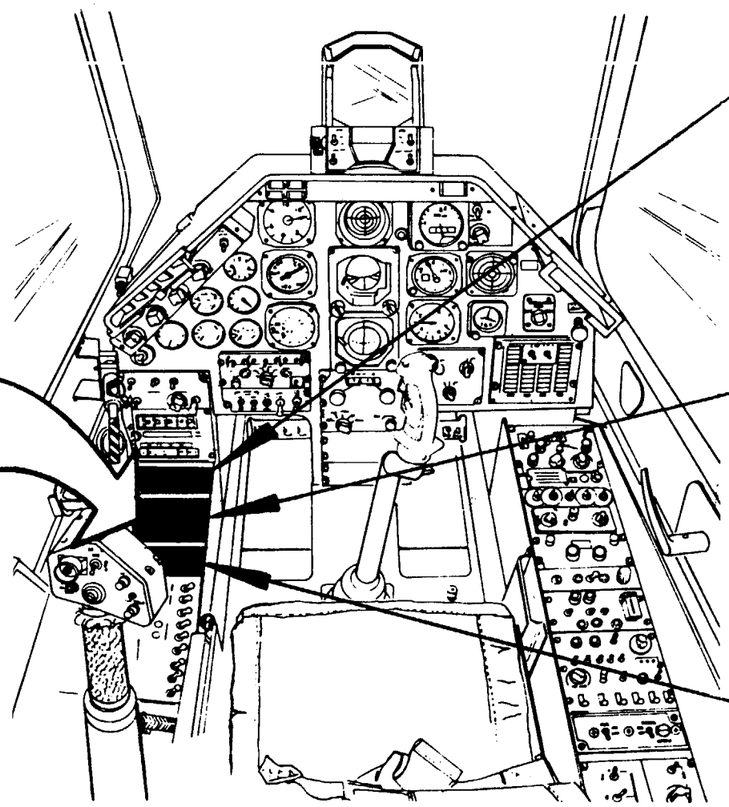
References
TM 55-1520-236-23

Access Panel
Battery Compartment - Removed

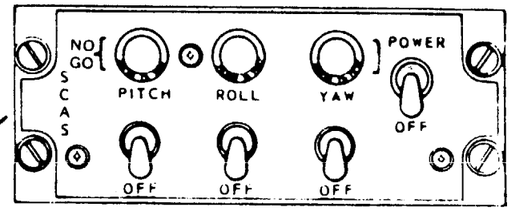


9-39. ESNTL Bus CIRCUIT BREAKER OPENS WHEN GROUND POWER UNIT IS CONNECTED(CONTINUED).

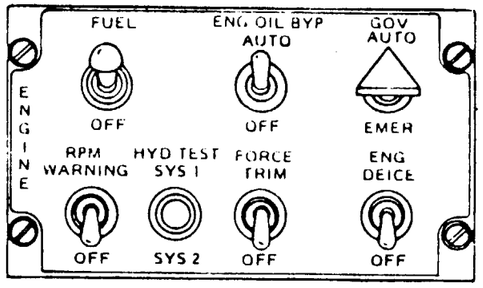


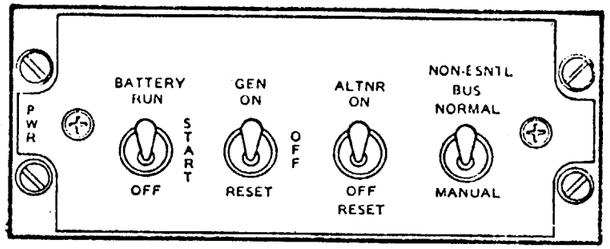
PILOT STATION




SCAS CONTROL PANEL

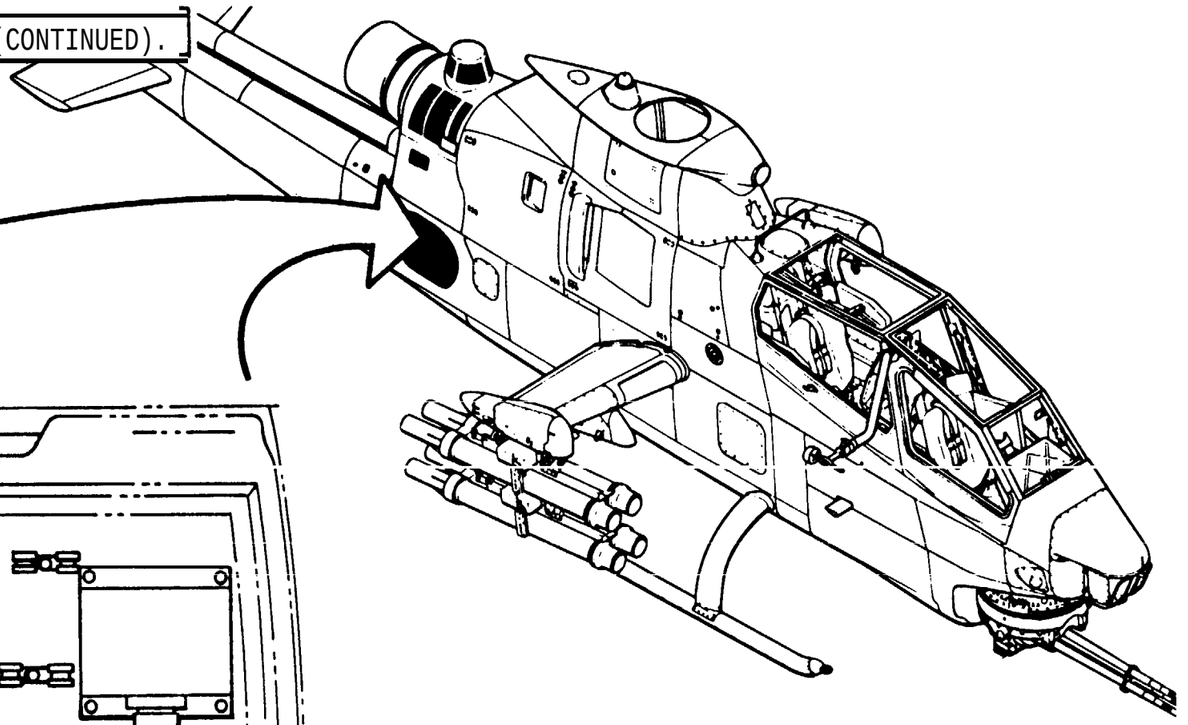


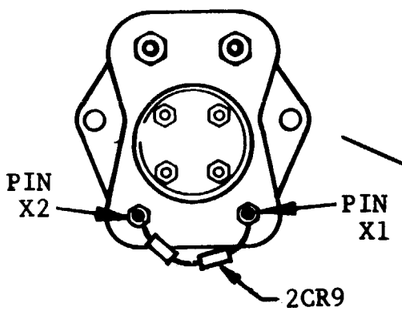

ENGINE CONTROL PANEL



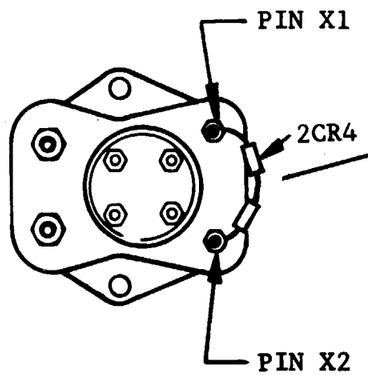

ELECTRICAL PWR CONTROL PANEL

9-39. ESNTL BUS CIRCUIT BREAKER OPENS WHEN GROUND POWER UNIT IS CONNECTED (CONTINUED).

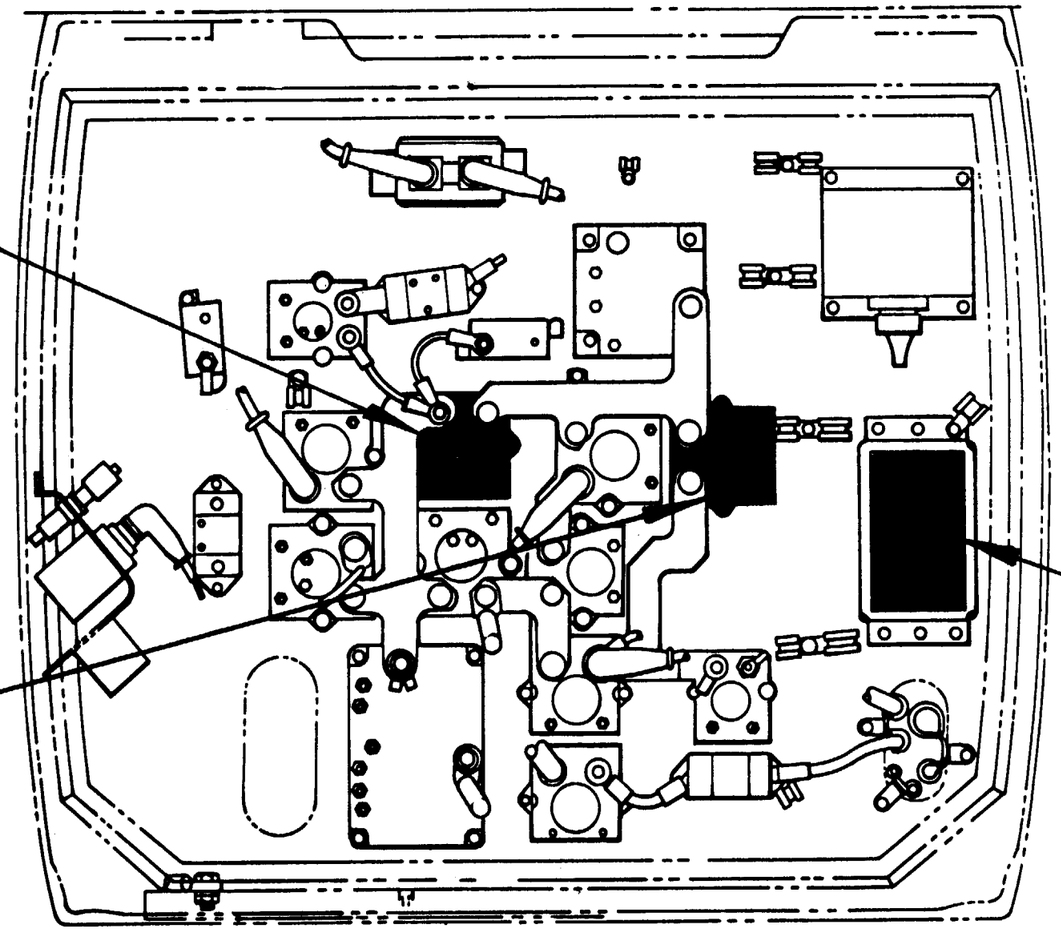





ESSENTIAL RELAY (2K9)




NON-ESSENTIAL RELAY (2K4)



FORWARD BULKHEAD OF BATTERY COMPARTMENT

9-39. ESNTL BUS CIRCUIT BREAKER OPENS WHEN GROUND POWER UNIT IS CONNECTED (CONTINUED).

Turn off electrical power per paragraph 9-4.

Check for less than 45 ohms between 2K9-X1 and airframe ground.

Is less than 45 ohms present?

YES

NO

Check for less than 45 ohms between 2K4-X1 and airframe ground.

Is less than 45 ohms present?

YES

NO

Replace ESNTL BUS circuit breaker on circuit breaker panel in battery compartment per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

Remove wire P12C22 from 2TB1-4K.

Check for less than 45 ohms between 2K4-X1 and airframe ground.

Is less than 45 ohms present?

YES

NO

Remove external power control relay (2K16).

Check for continuity from 2XK16-B2 to airframe ground.

Is continuity present?

YES

NO

Replace relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire P12C22 into 2TB1-4K.

Then go to paragraph 9-2.

Remove wire P12E22 from 2TB1-4D.

Check for continuity from 2XK16-B2 to airframe ground.

Is continuity present?

YES

NO

Remove reverse current control relay (2K14).

Check for continuity from 2XK14-C1 to airframe ground.

Is continuity present?

YES

NO

Replace relay (2K14) per TM 55-1520-236-23, Chapter 9, Section I.

Install relay (2K16).

Insert wire P12C22 into 2TB1-4K.

Insert wire P12E22 into 2TB1-4D.

Then go to paragraph 9-2.

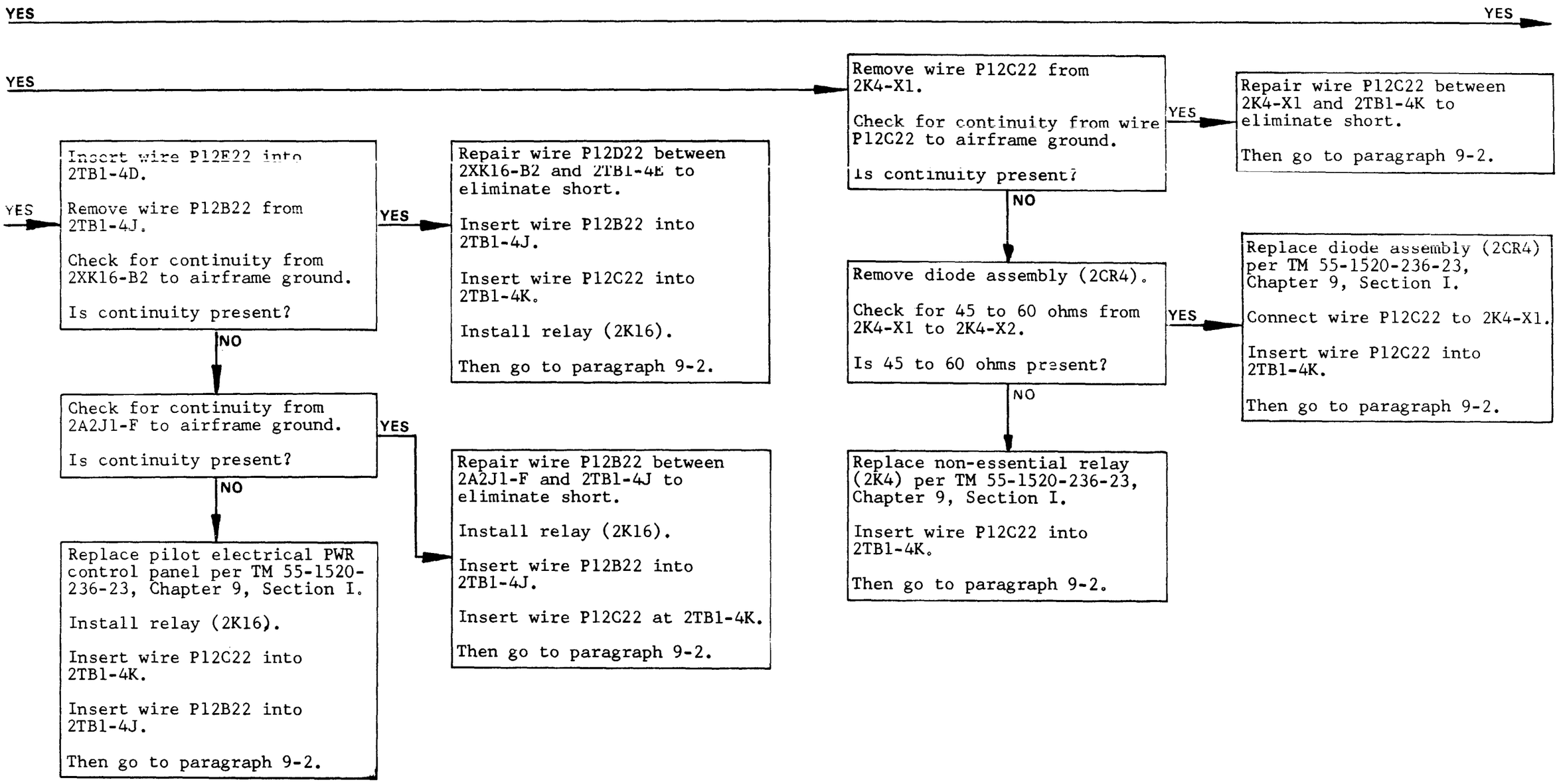
Repair wire P12E22 between 2XK14-C1 and 2TB1-4D to eliminate short.

Install relays (2K14 and 2K16).

Insert wire P12C22 into 2TB1-4K.

Then go to paragraph 9-2.

9-39. ESNTL BUS CIRCUIT BREAKER OPENS WHEN GROUND POWER UNIT IS CONNECTED (CONTINUED).



9-39. ESNTL BUS CIRCUIT BREAKER OPENS WHEN GROUND POWER UNIT IS CONNECTED (CONTINUED).

YES

Remove wire P19F22 from 2TB1-3J.

Check for less than 45 ohms between 2K9-X1 and airframe ground.

Is less than 45 ohms present?

YES → YES

NO

Remove external power control relay (2K16).

Check for continuity from 2XK16-C2 to airframe ground.

Is continuity present?

YES

Remove wire P24D22 from 2TB1-3H.

Check for continuity from 2XK16-C2 to airframe ground.

Is continuity present?

YES → YES

NO

Replace relay (2K16) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire P19F22 into 2TB1-3J.

Then go to paragraph 9-2.

NO

Remove wire P24D22 from 2TB1-4A.

Check for continuity from 2XK16-D3 to airframe ground.

Is continuity present?

YES

Repair wire P24A22 between 2XK16-D3 and 2TB1-4B.

Insert wire P24D22 into 2TB1-3H.

Insert wire P19F22 into 2TB1-3J.

Install relay (2K16).

Then go to paragraph 9-2.

NO

Repair wire P24D22 between 2TB1-4A and 2TB1-3H.

Insert wire P19F22 into 2TB1-3J.

Install relay (2K16).

Then go to paragraph 9-2.

9-39. ESNTL BUS CIRCUIT BREAKER OPENS WHEN GROUND POWER UNIT IS CONNECTED (CONTINUED).

YES

Disconnect wire P19F22 at 2K9-X1.

Check for continuity from wire P19F22 to airframe ground.

Is continuity present?

YES → Repair wire P19F22 between 2K9-X1 and 2TB1-3J.

Then go to paragraph 9-2.

NO

Disconnect diode assembly (2CR9) at 2K9-X1.

Check for 45 to 60 ohms between 2K9-X1 and 2K9-X2.

Is 45 to 60 ohms present?

YES → Replace diode assembly (2CR9) per TM 55-1520-236-23, Chapter 9, Section I.

Connect P19F22 at 2K9-X1.

Insert wire P19F22 into 2TB1-3J.

Then go to paragraph 9-2.

NO

Replace essential relay (2K9) per TM 55-1520-236-23, Chapter 9, Section I.

Connect diode (2CR9).

Insert wire P19F22 into 2TB1-3J.

Then go ro paragraph 9-2.

YES

Insert wire P24D22 into 2TB1-3H.

Remove wire P19B22 from 2TB1-3K.

Check for continuity from 2XK16-C2 to airframe ground.

Is continuity present?

YES → Repair wire P19C22 between 2XK16-C2 and 2TB1-3C.

Insert wire P19B22 into 2TB1-3K.

Insert wire P19F22 into 2TB1-3J.

Install relay (2K16).

Then go to paragraph 9-2.

NO

Check for continuity from 2A2J1-X to airframe ground.

Is continuity present?

YES → Repair wire P19B22 between 2A2J1-X and 2TB1-3K.

Insert wire P19B22 into 2TB1-3K.

Insert wire P19F22 into 2TB1-3J.

Install relay (2K16).

Then go to paragraph 9-2.

NO

Replace pilot electrical PWR control panel per TM 55-1520-236-23, Chapter 9, Section I.

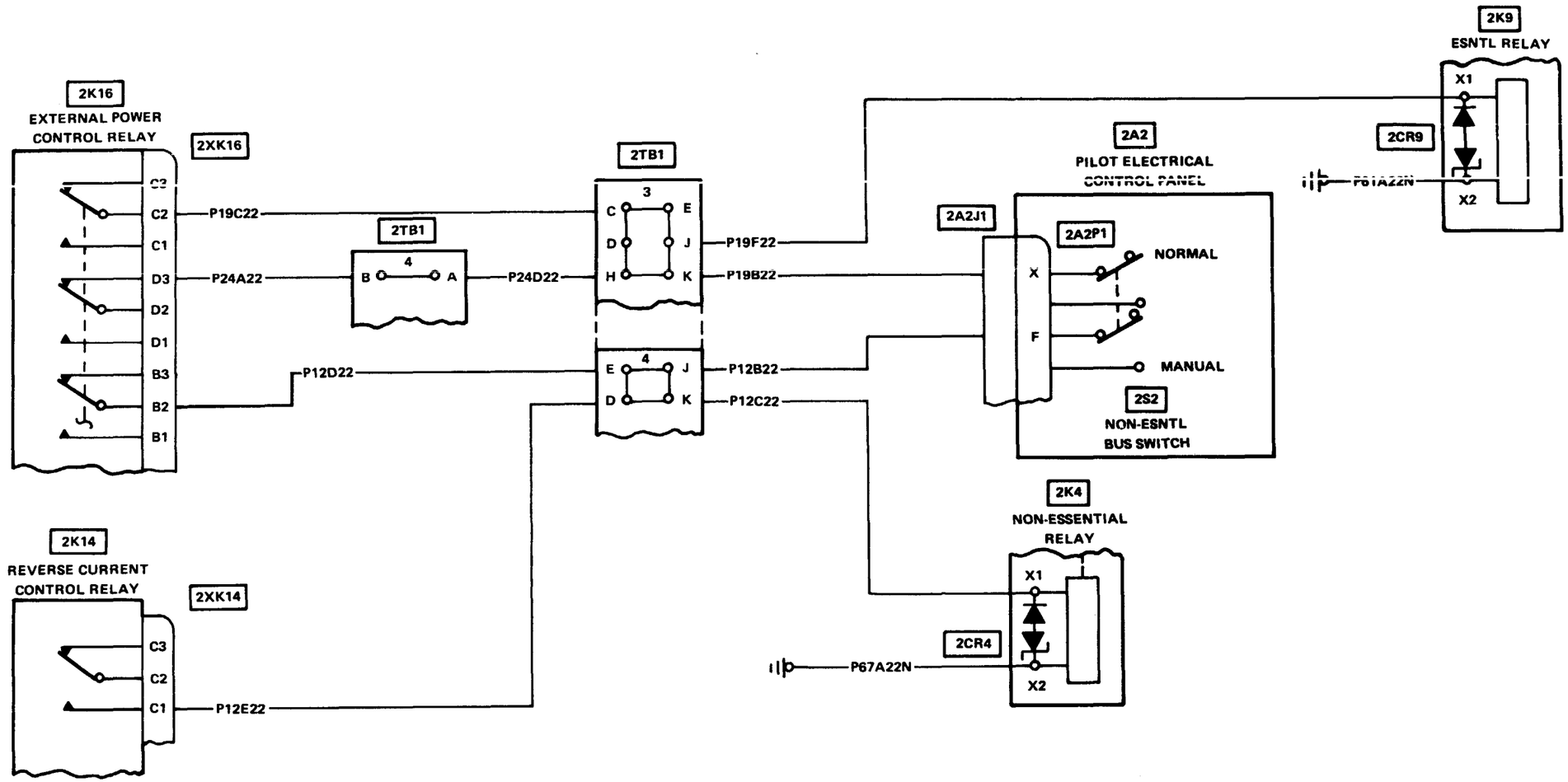
Insert wire P19B22 into 2TB1-3K.

Insert wire P19F22 into 2TB1-3J.

Install relay (2K16).

Then go to paragraph 9-2.

9-39. ESNTL BUS CIRCUIT BREAKER OPENS WHEN GROUND POWER IS CONNECETED(CONTINUED).



## 9-40. EXT PWR CIRCUIT BREAKER OPENS WHEN GROUND POWER UNIT IS CONNECTED.

INITIAL SETUP

Applicable Configuration
All

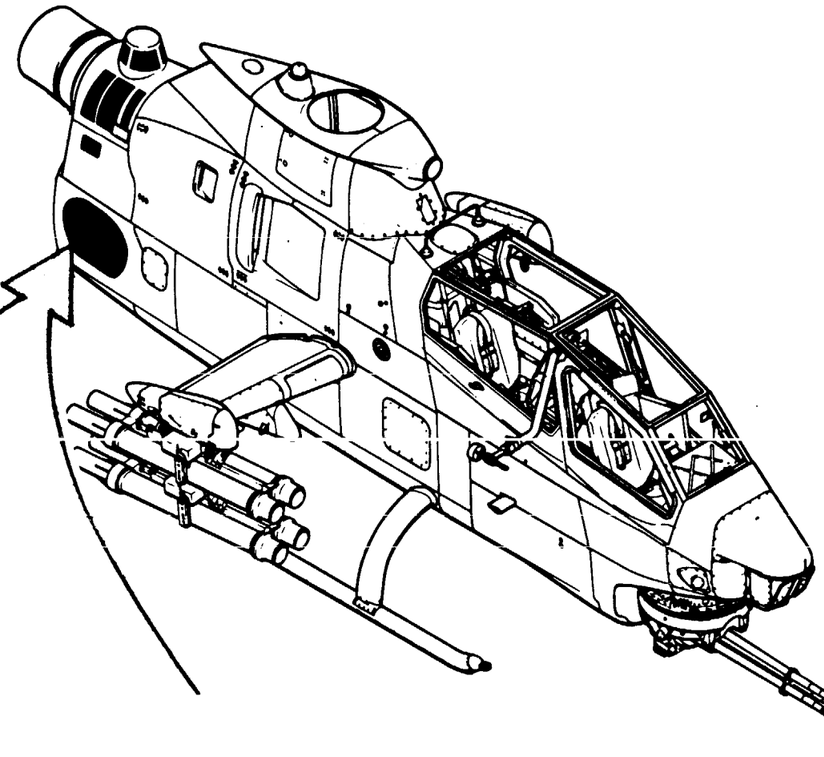
Tools/Test and Support Equipment
Multimeter

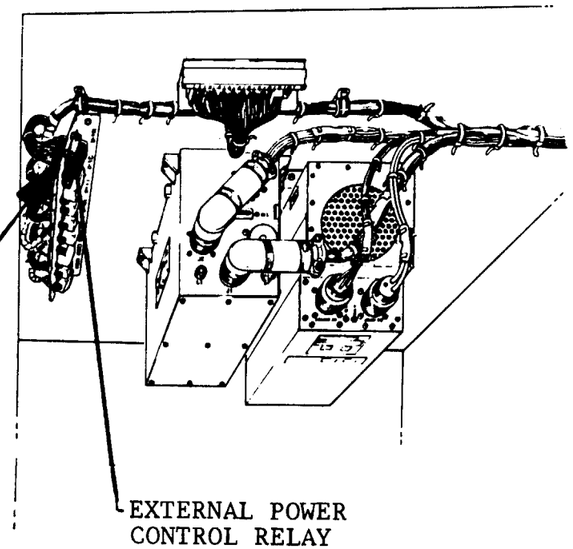
Tool Kit, A/C Electrician

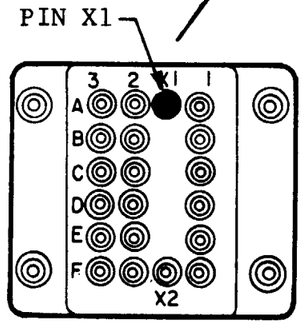
Personnel Required
68F (1)

References
TM 55-1520-236-23

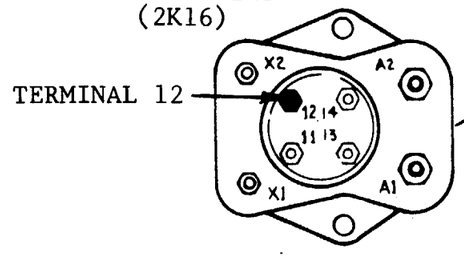
Access Panels
Battery Compartment - Removed



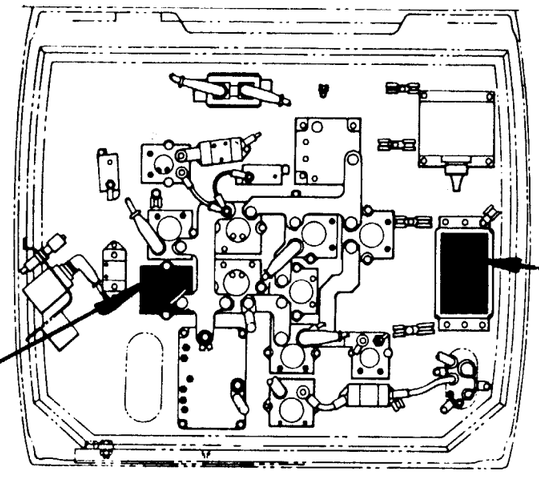


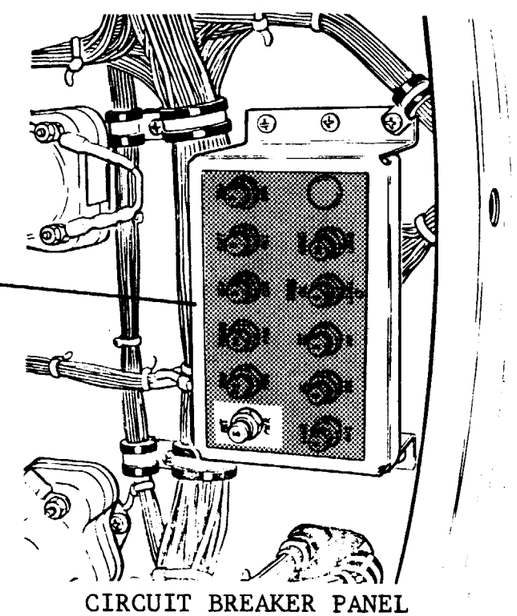

2XK16




EXTERNAL POWER RELAY (2K1)



FORWARD BULKHEAD OF BATTERY COMPARTMENT



CIRCUIT BREAKER PANEL

9-40. EXT PWR CIRCUIT BREAKER OPENS WHEN GROUND POWER UNIT IS CONNECTED (CONTINUED).

Turn off electrical power per paragraph 9-4.

On circuit breaker panel in battery compartment:

Close EXT PWR circuit breaker.

Remove external power control relay (2K16).

Check for continuity from 2K1-12 to airframe ground.

Is continuity present?

NO

Replace external power control relay (2K16).

Then go to paragraph 9-2.

YES

Disconnect wire P81A22 at EXT PWR circuit breaker.

Check for continuity from wire P81A22 to airframe ground.

Is continuity present?

NO

Replace EXT PWR circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Install external power control relay (2K16).

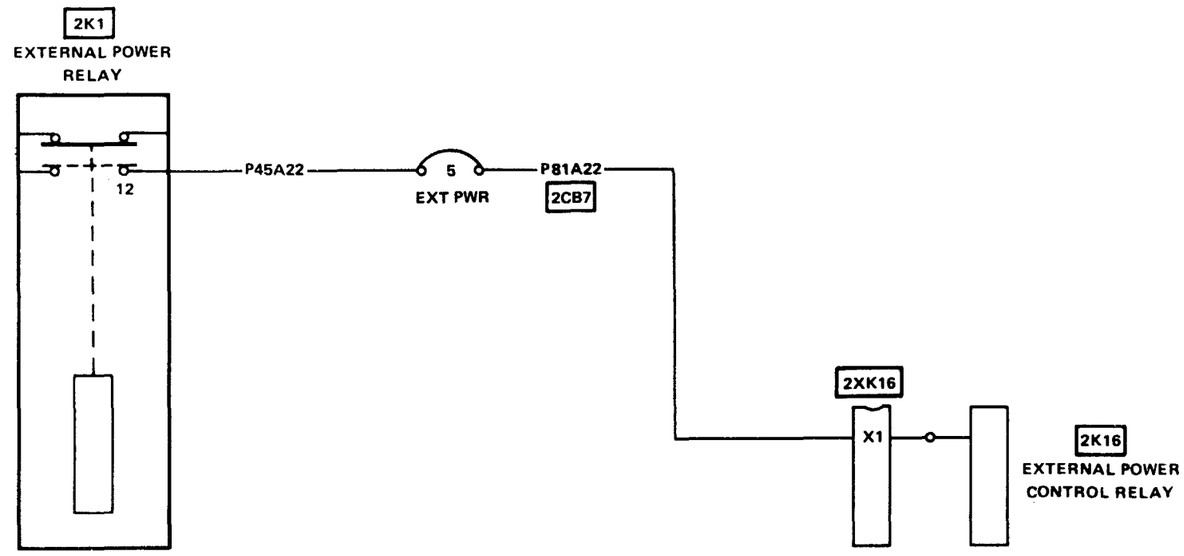
Then go to paragraph 9-2.

YES

Repair wire P81A22 between EXT PWR circuit breaker and 2XK16-X1 to eliminate short.

Install external power control relay (2K16).

Then go to paragraph 9-2.



## 9-41. PILOT AND GUNNER ARMED INDICATORS WILL NOT LIGHT WITH MASTER ARM SWITCH IN ARM

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter
Tool Kit, A/C Electrician

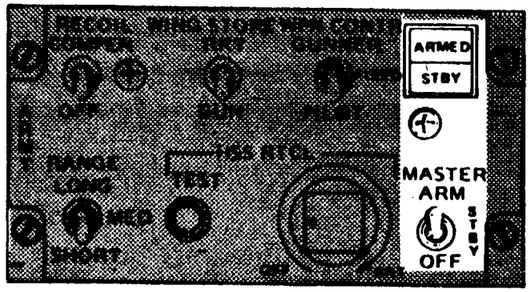
Personnel Required
68F (2)

References
TM 9-1090-206-20-1
TM 55-1520-236-23

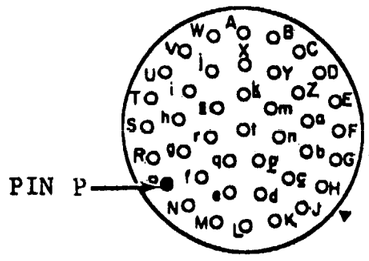
Access panel
Forward Belly Armament and Lighting - Removed.

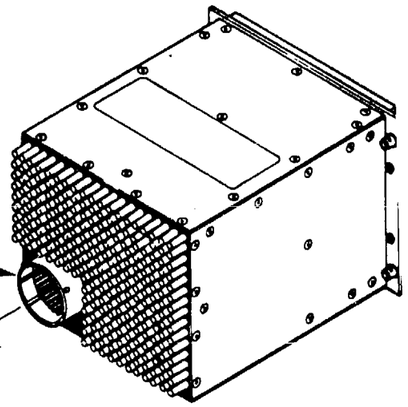
Left Side Control Linkage - Removed

Right Side Glareshield - Removed




PILOT ARMT CONTROL PANEL

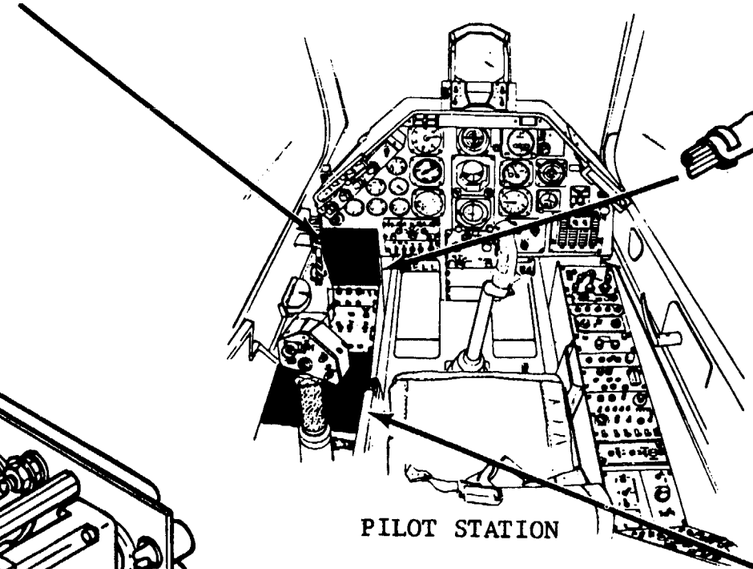


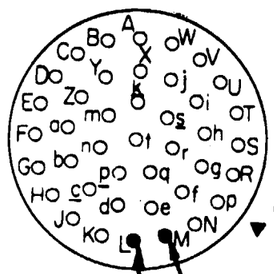
ROCKETS DISPLAY UNIT (REAR VIEW)

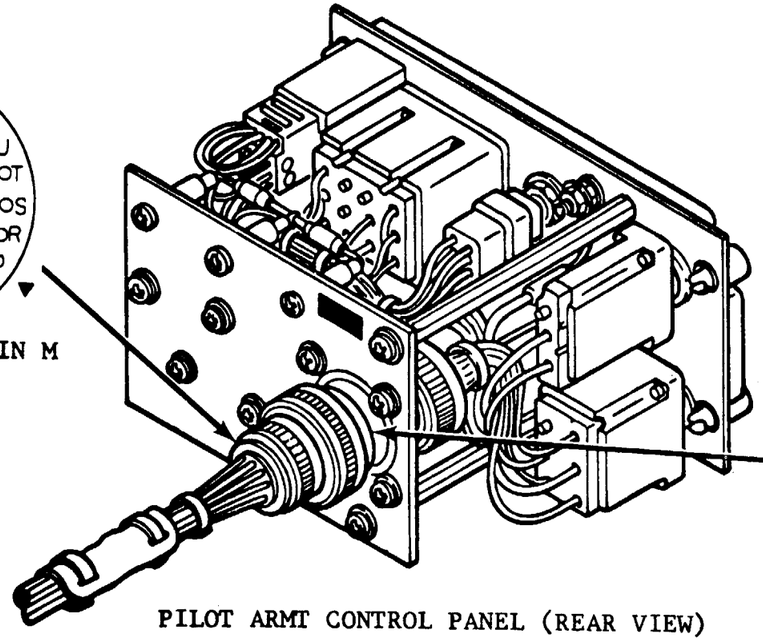
EMI/RFI FILTER

22A3P1

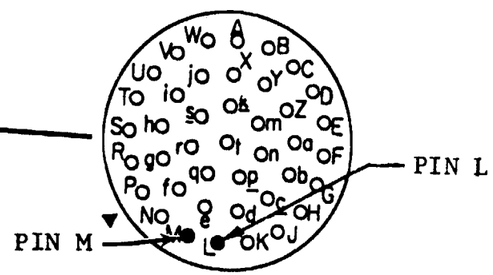


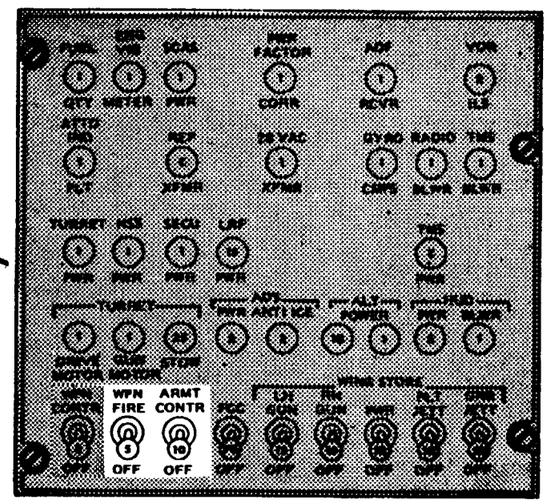
PILOT STATION



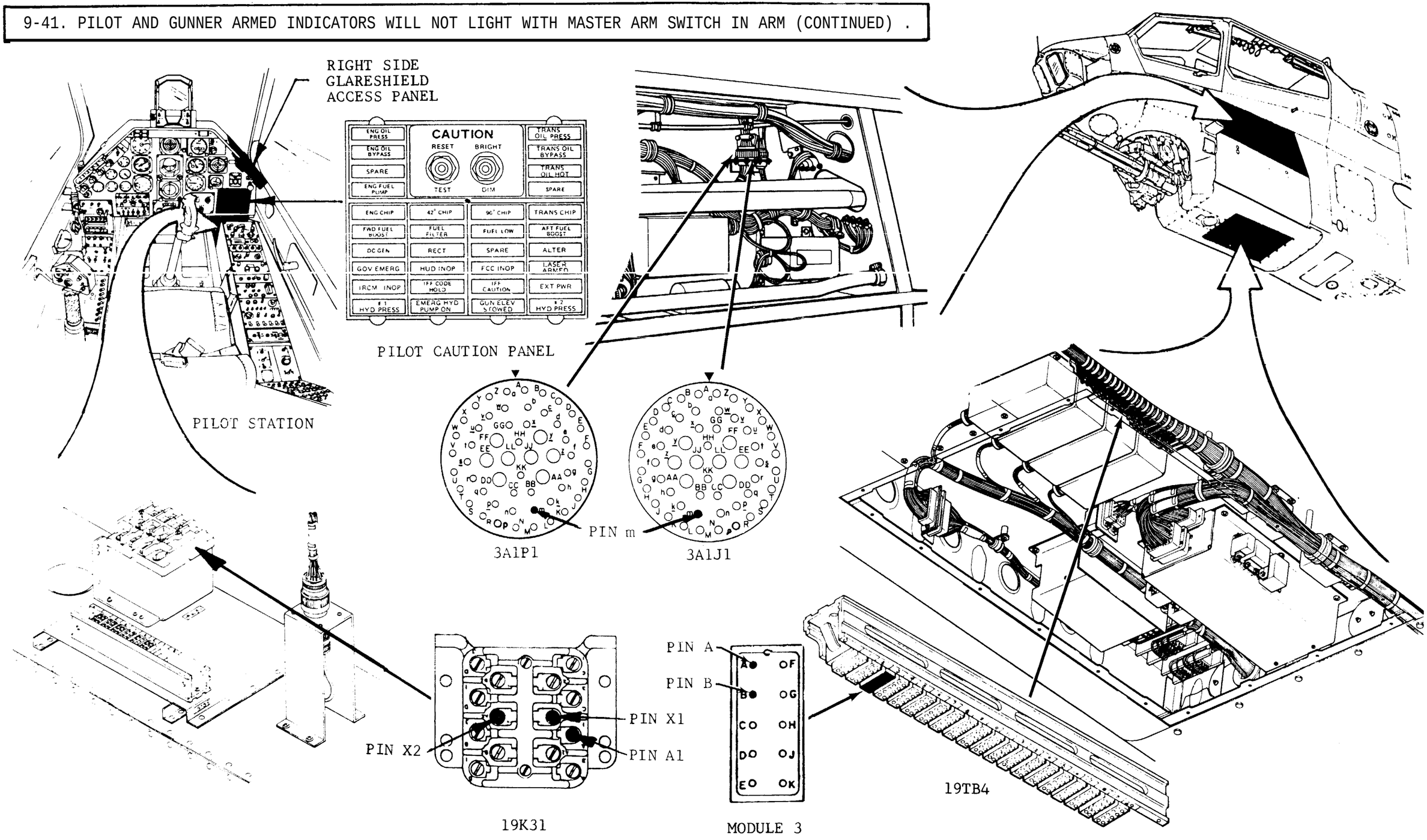
PILOT ARMT CONTROL PANEL (REAR VIEW)



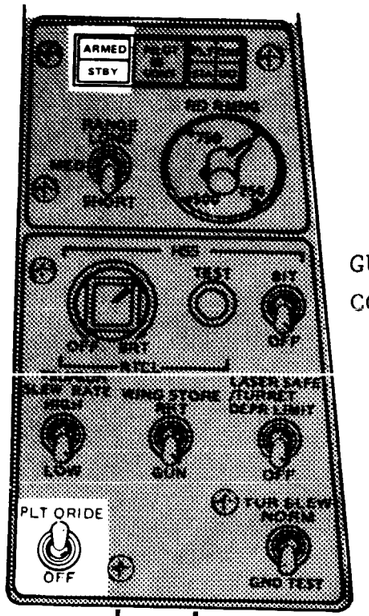




AC/ARMT CIRCUIT BREAKER PANEL

9-41. PILOT AND GUNNER ARMED INDICATORS WILL NOT LIGHT WITH MASTER ARM SWITCH IN ARM (CONTINUED) .



## 9-41. PILOT AND GUNNER ARMED INDICATORS WILL NOT LIGHT WITH MASTER ARM SWITCH IN ARM (CONTINUED).




GUNNER ARMAMENT CONTROL PANEL



GUNNER STATION

With MASTER ARM switch on pilot ARMT control panel set to ARM:

Is either pilot or gunner STBY indicator lit?

YES → YES

NO

On AC/ARMT circuit breaker panel:

Does ARMT CONTR circuit breaker open?

YES → Go to paragraph 9-22.

NO

On pilot ARMT control panel:
Set MASTER ARM switch to STBY.
Does either STBY indicator light?

YES → Turn off electrical power per paragraph 9-4.

Disconnect 22A2P1 and 22A3P1.

Check for continuity from 19K31-A1 to airframe ground.

Is continuity present? → YES

NO

Check for continuity from 22A3J1-P to airframe ground.

Is continuity present? → YES

NO

Connect 22A2P1 and 22A3P1.

Go to paragraph 6-24.

NO

Go to paragraph 5-27.

**9-41. PILOT AND GUNNER ARMED INDICATORS WILL NOT LIGHT WITH MASTER ARM SWITCH IN ARM (CONTINUED).**

YES

On AC/ARMT circuit breaker panel:
Is WPN FIRE circuit breaker open?

YES → Go to paragraph 9-24.

NO

On gunner armament control panel:
Set PLT ORIDE switch to PLT ORIDE.
Does either pilot or gunner ARMED indicator light.

YES

NO

YES → Go to paragraph 9-22.

Check for 28 V dc at 19K31-X1.
Is 28 V dc present?

YES

NO

YES → Replace gunner armament control panel per TM 9-1090-206-20-1, Chapter 3, Section XVII.
Then go to paragraph 9-2.

Turn off electrical power per paragraph 9-4.
Disconnect 22A2P1.
Turn on electrical power per paragraph 9-4.
Check for 28 V dc at 22A2P1-M.
Is 28 V dc present?

YES

NO

NO

Turn off electrical power per paragraph 9-4.
Connect 22A2P1.
Remove AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.
Check for continuity from bus side to output terminal of WPN FIRE circuit breaker.
Is continuity present?

YES

NO

Replace WPN FIRE circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.
Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.
Then go to paragraph 9-2.

9-41. PILOT AND GUNNER ARMED INDICATORS WILL NOT LIGHT WITH MASTER ARM SWITCH IN ARM (CONTINUED).

YES

Turn off electrical power per paragraph 9-4.

Disconnect 22A2P1.

Turn on electrical power per paragraph 9-3.

Check for 28 V dc at 22A2P1-M.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 9-4.

Check for continuity from 22A2J1-M to 22A2J1-L.

Is continuity present?

YES

Repair wire A219B22 between 22A2P1-L and 19TB4-3A.

Connect 22A2P1.

Then go to paragraph 9-2.

NO

Replace pilot ARMT control panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Turn off electrical power per paragraph 9-4.

Repair wire A211D22 between 22A2P1-M and splice.

Connect 22A2P1.

Then go to paragraph 9-2.

YES

YES

YES

YES

YES

Check for continuity from output terminal of WPN FIRE circuit breaker to 3A1P1-m.

Is continuity present?

YES

Repair wire A211B22 between 3A1J1-m and splice.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

NO

Repair wire A211A22 between WPN FIRE circuit breaker and 3A1P1-m.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

YES

Turn off electrical power per paragraph 9-4.

Open WPN FIRE circuit breaker.

Remove wire A219C22 from 19TB4-3B.

Check for continuity from 19TB4-3B to airframe ground.

Is continuity present?

YES

NO

Repair wire A219C22 between 19TB4-3B and 19K31-X1.

Connect 22A2P1.

Then go to paragraph 9-2.

9-41. PILOT AND GUNNER ARMED INDICATORS WILL NOT LIGHT WITH MASTER ARM SWITCH IN ARM (CONTINUED).

Turn off electrical power per paragraph 9-4.

Check for continuity from 19K31-X2 to airframe ground.

Is continuity present?

YES → Replace master arm relay (19K31) per TM 55-1520-236-23, Chapter 9, Section I.

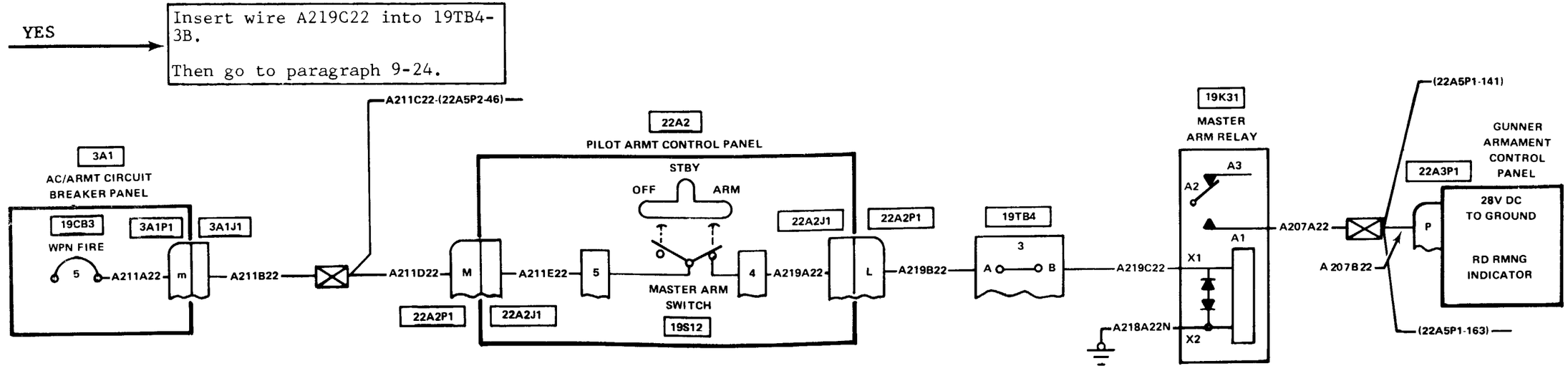
Then go to paragraph 9-2.

NO → Repair wire A218A22N between 19K31-X2 and airframe ground.

Then go to paragraph 9-2.

YES → Insert wire A219C22 into 19TB4-3B.

Then go to paragraph 9-24.



## 9-42. PILOT AND GUNNER ARMED INDICATOR DOES NOT LIGHT WITH PLT ORIDE SWITCH IN ORIDE.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A/C Electrician

Personnel Required
68F (2)

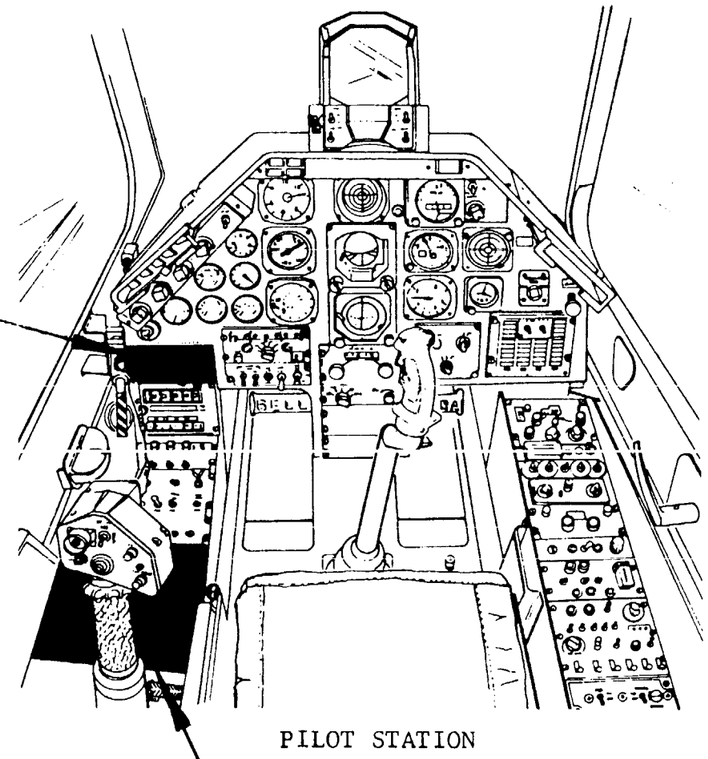
References
TM 9-1090-206-20-1

Access Panels
Forward Belly Armament and Lighting - Removed

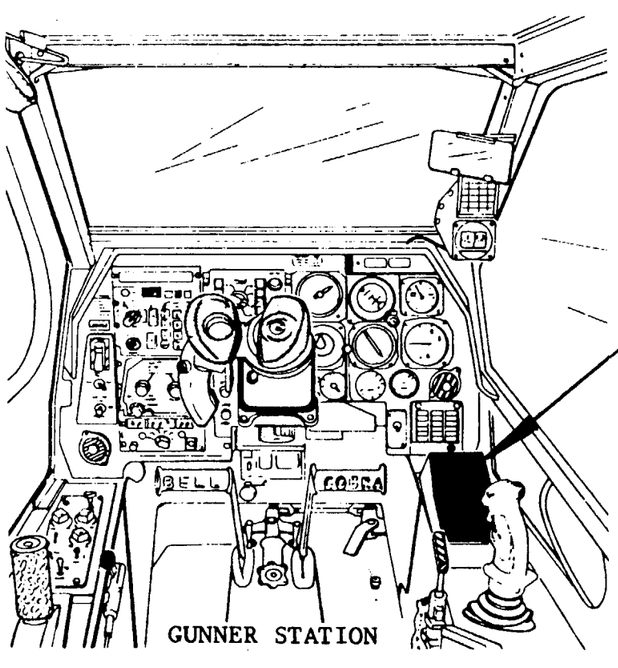
Left Side Control Linkage - Removed



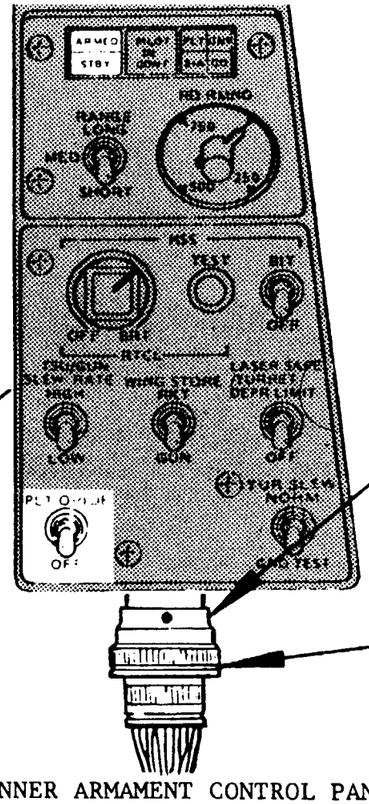

PILOT ARMT CONTROL PANEL



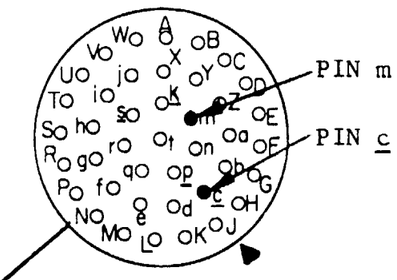
PILOT STATION



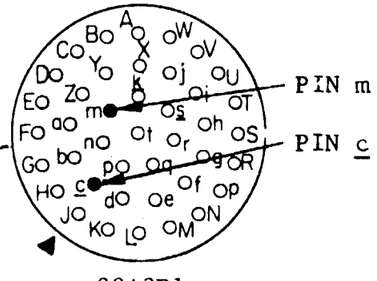

GUNNER STATION



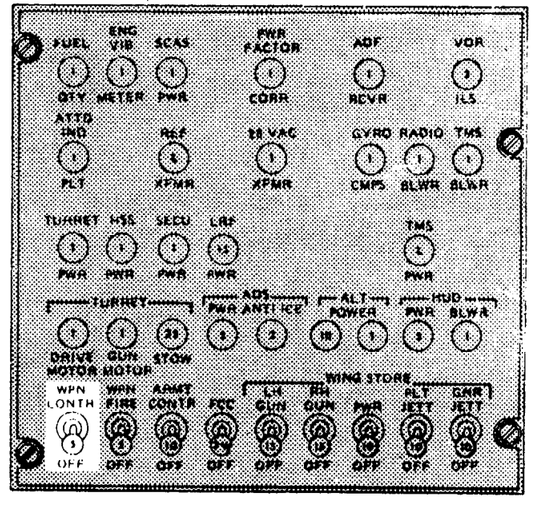

GUNNER ARMAMENT CONTROL PANEL




22A3J1

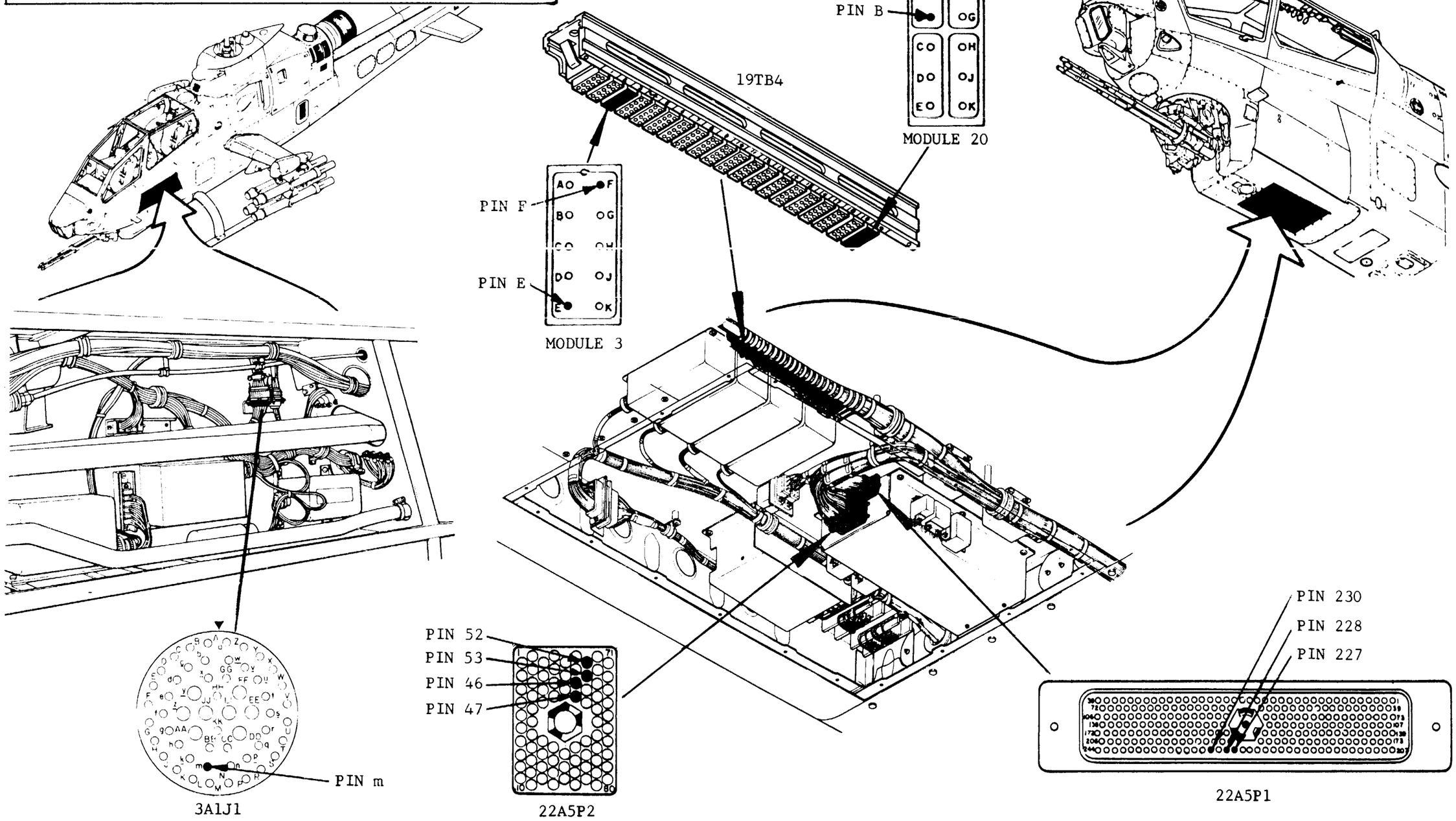



22A3P1




AC/ARMT CIRCUIT BREAKER PANEL

9-42. PILOT AND GUNNER ARMED INDICATOR DOES NOT LIGHT WITH PLT ORIDE SWITCH IN ORIDE (CONTINUED).



**9-42. PILOT AND GUNNER ARMED INDICATOR DOES NOT LIGHT WITH PLT ORIDE SWITCH IN ORIDE (CONTINUED).**

On AC/ARMT circuit breaker panel:

Does WPN CONTR circuit breaker stay closed?

YES

On pilot ARMT control panel:

Place MASTER ARM switch in ARM.

Is pilot or gunner ARMED indicator lit?

YES

Place MASTER ARM switch in OFF.

Is pilot or gunner STBY indicator lit?

YES

NO

Turn off electrical power per paragraph 9-4.

Disconnect 22A5P1.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 22A5P1-228.

Is 28 V dc present?

YES

Turn off electrical power per paragraph 9-4.

Check for continuity from 22A5P1-227 to airframe ground.

Is continuity present?

YES

NO

Repair wire A225A22N between 22A5P1-227 and airframe ground.

Connect 22A5P1.

Then go to paragraph 9-2.

NO

Turn off electrical power per paragraph 9-4.

On gunner armament control panel:

Set PLT ORIDE switch to OFF.

Check for continuity from 22A5P1-228 to airframe ground.

Is continuity present?

YES

Connect 22A5P1.

Then go to paragraph 9-29.

NO

Check for continuity from 22A5P1-228 to 22A3P1-C.

Is continuity present?

YES

On gunner armament control panel:

Set PLT ORIDE switch to PLT ORIDE.

Check for continuity from 22A3J1-m to 22A3J1-C.

Is continuity present?

YES

NO

Repair wire A210B22 between 22A5P1-228 and 22A3P1-C.

Connect 22A5P1.

Then go to paragraph 9-2.

NO

Replace gunner armament control panel per TM 9-1090-206-20-1, Chapter 3, Section XVII .

Connect 22A5P1.

Then go to paragraph 9-2.

NO

Go to paragraph 9-29.

Then go to paragraph 9-2.

NO

Go to paragraph 9-25.

**9-42. PILOT AND GUNNER ARMED INDICATOR DOES NOT LIGHT WITH PLT ORIDE SWITCH IN ORIDE (CONTINUED).**

**YES** →

**YES** →

Disconnect 22A5P2.

Turn on electrical power per paragraph 9-4.

Check for 28 V dc at 22A5P2-52.

Is 28 V dc present?

**YES** →

Turn off electrical power per paragraph 9-4.

Check for continuity from 22A5P2-53 to 22A5P1-230.

Is continuity present?

**YES** →

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXI .

Then go to paragraph 9-2.

**NO** ↓

Check for 28 V dc at 19TB4-20B.

Is 28 V dc present?

**YES** →

Turn off electrical power per paragraph 9-4.

Repair wire A222C20 between 22A5P2-52 and splice.

Connect 22A5P1 and 22A5P2.

Then go to paragraph 9-2.

**NO** ↓

Turn off electrical power per paragraph 9-4.

Repair wire A222M20 between splice joining wires A222N20, A222C20, and A222R20 and splice joining wires A222D20, A222J20, and A222B20.

Connect 22A5P1 and 22A5P2.

Then go to paragraph 9-2.

**YES** →

Repair wire A222J20 between 22A3P1-m and splice.

Connect 22A5P1.

Then go to paragraph 9-2.

**NO** ↓

Repair wire A480D22 between 22A5P2-53 and splice.

Connect 22A5P1 and 22A5P2.

Then go to paragraph 9-2.

## 9-42. PILOT AND GUNNER ARMED INDICATOR DOES NOT LIGHT WITH PLT ORIDE SWITCH IN ORIDE (CONTINUED) .

**YES**

Turn off electrical power per paragraph 9-4.

Disconnect 22A5P2.

Check for continuity from 3A1J1-m to 22A5P2-46.

Is continuity present?

**NO**

Repair wire A211C22 between 22A5P2-46 and splice.

Connect 22A5P2.

Then go to paragraph 9-2.

**YES**

Check for continuity from 22A5P2-47 to 19TB4-3F.

Is continuity present?

**NO**

Repair wire A219F22 between 22A5P2-47 and 19TB4-3E.

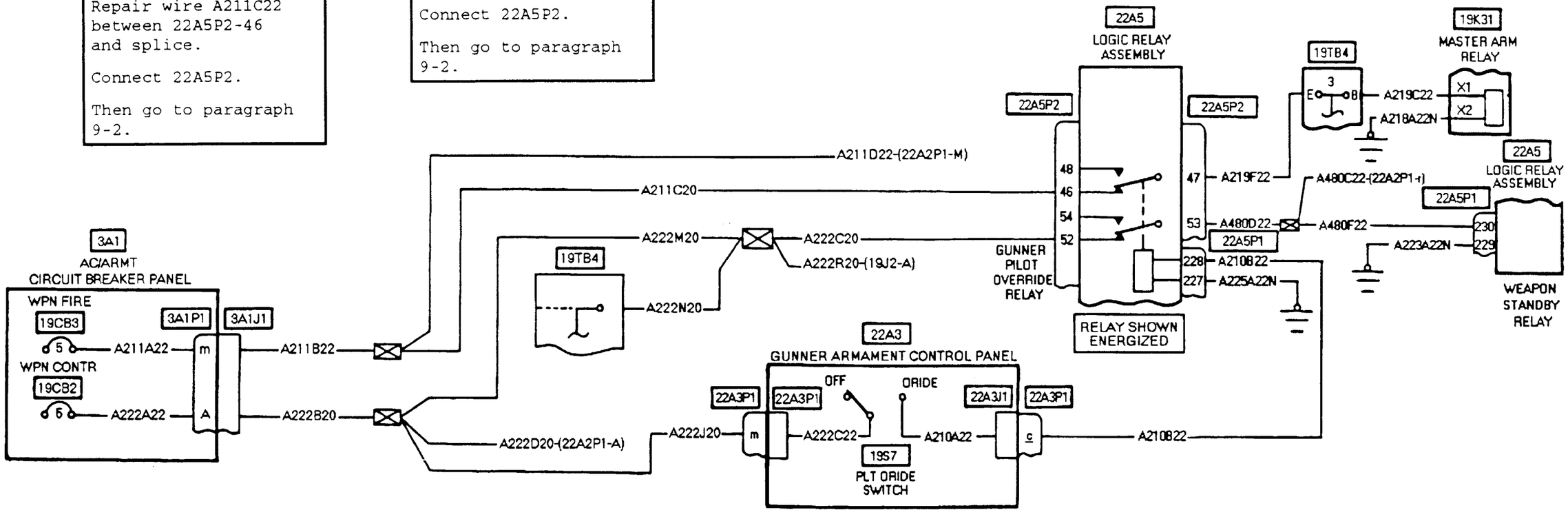
Connect 22A5P2.

Then go to paragraph 9-2.

**YES**

Replace logic relay assembly per T 9-1090-206-20-1, Chapter 3, Section XXI .

Then go to paragraph 9-2.



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**9-43. ATT FLAG ON ADI OR HDG FLAG ON HSI WILL NOT MOVE FROM VIEW.**

INITIAL SETUP

Applicable Configuration
All

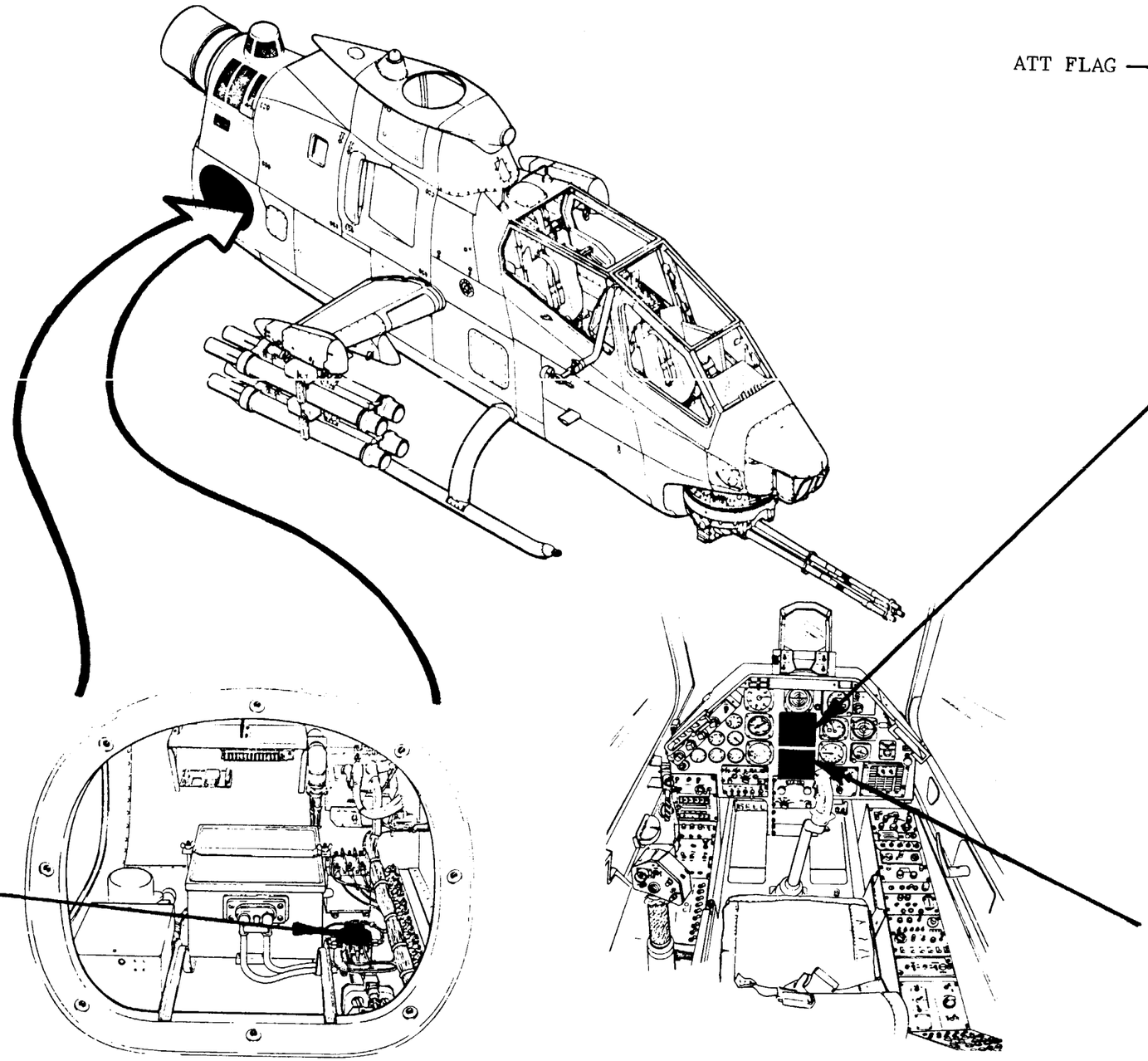
Tools/Test and Support Equipment
Multimeter

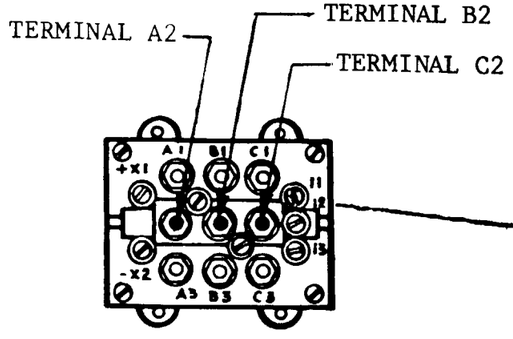
Tool Kit, A/C Electrician

Personnel Required
68F (1)

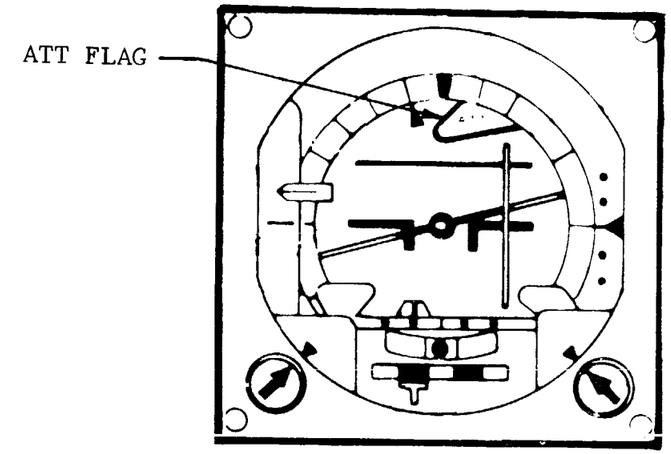
References
TM 11-1520-236-34
TM 55-1520-236-23

Access Panels
Battery Compartment - Removed





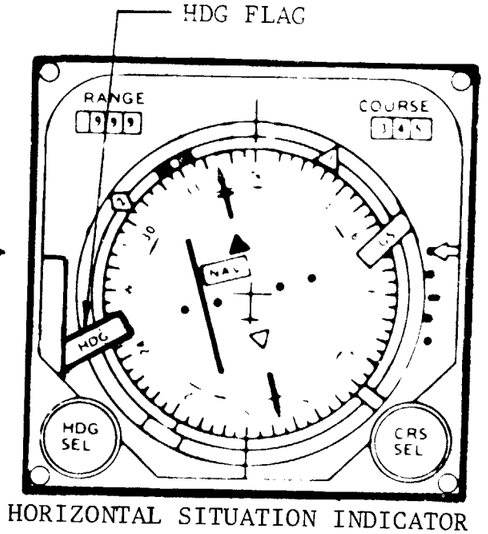

AC SOURCE RELAY (3K1).




ATTITUDE DIRECTION INDICATOR (ADI)

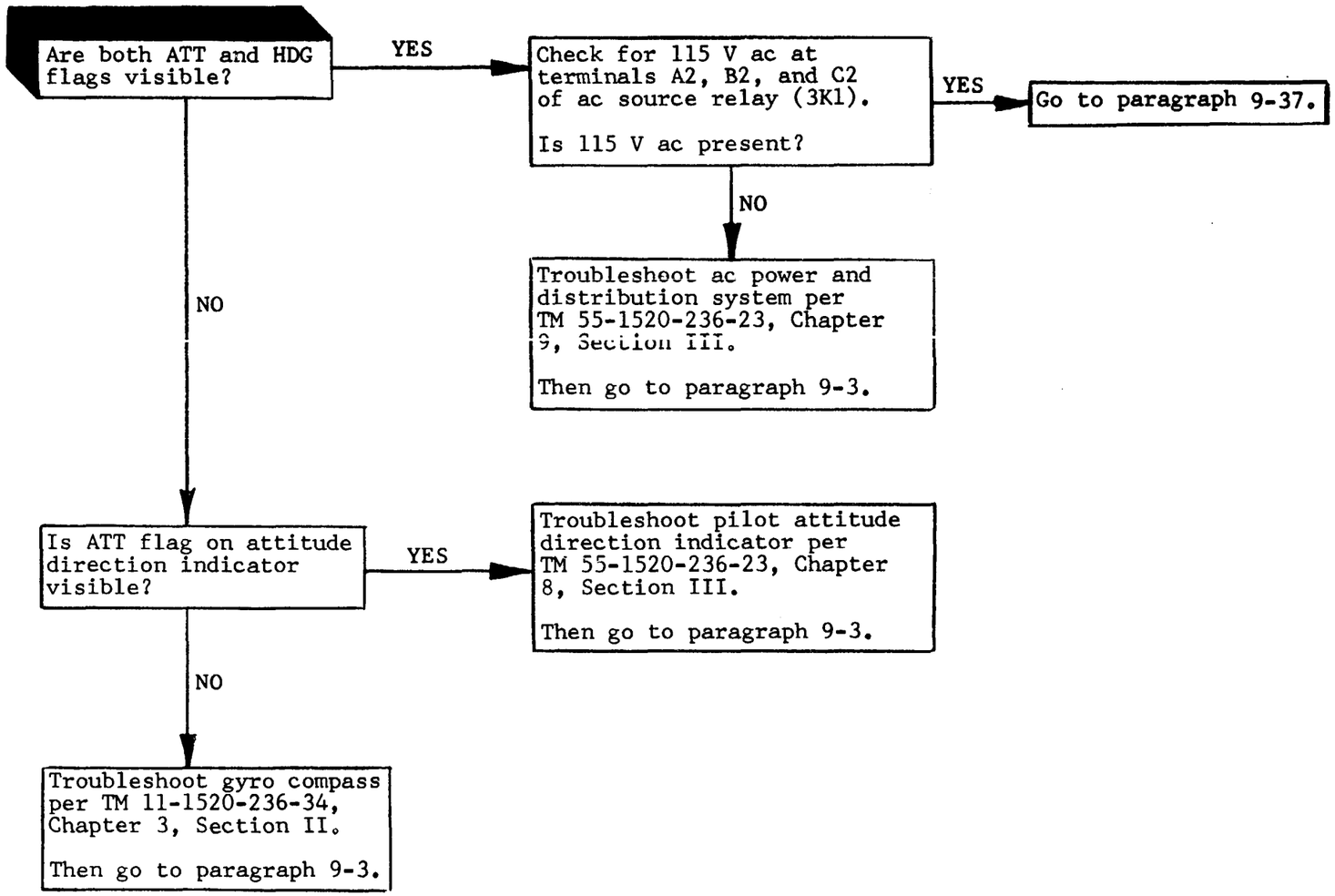


PILOT STATION




HORIZONTAL SITUATION INDICATOR (HSI)

9-43. ATT FLAG ON ADI OR HDG FLAG ON HSI WILL NOT MOVE FROM VIEW (CONTINUED).



## 9-44. NO 10 V AC POWER.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Kit, A·C Electrician

Personnel Required
68F (2)

References
TM 9-1090-206-20-1
TM 9-1270-218-13&P
TM 9-1425-473-20
TM 55-1520-236-23

Access Panels
Left Side Control Linkage - Removed

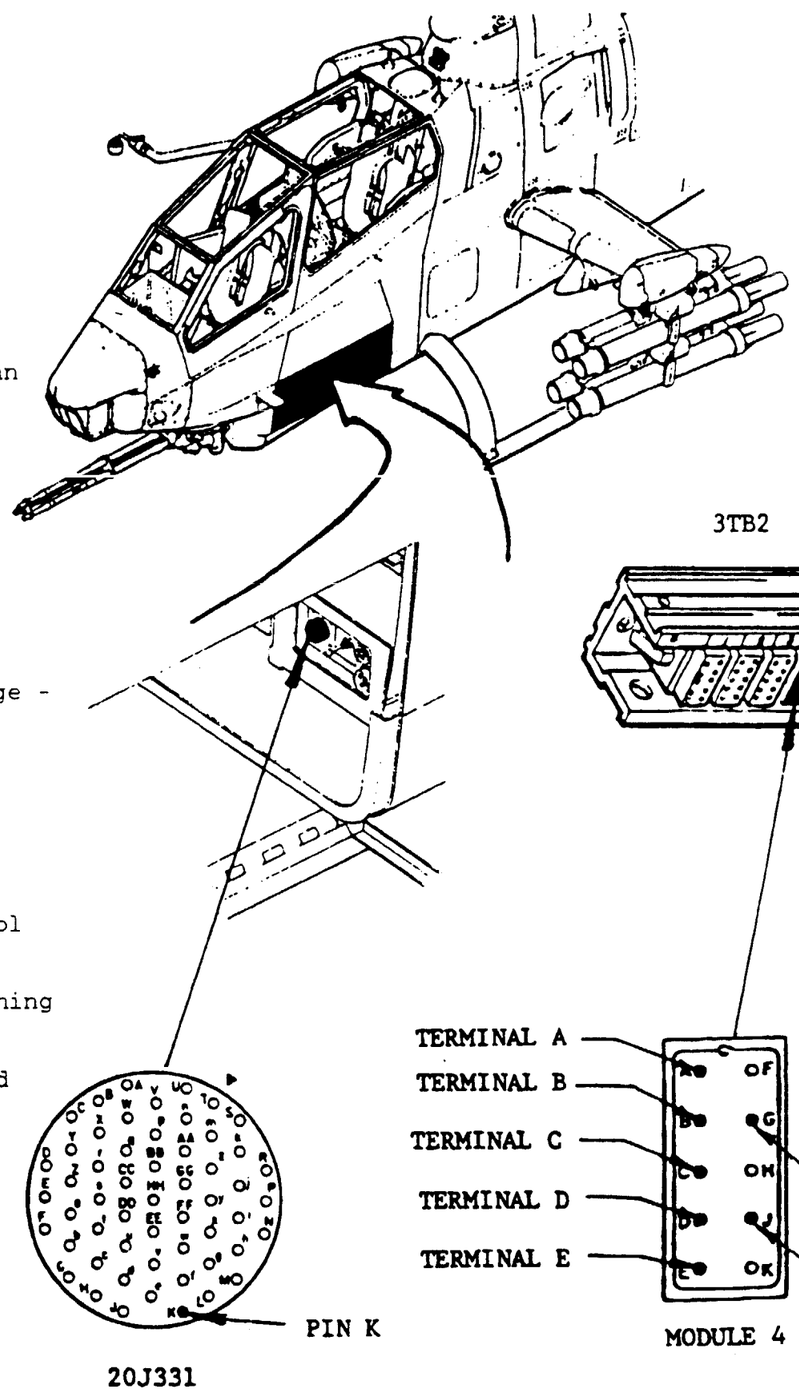
Left Ammo Compartment Door - Open

Battery Compartment - Open

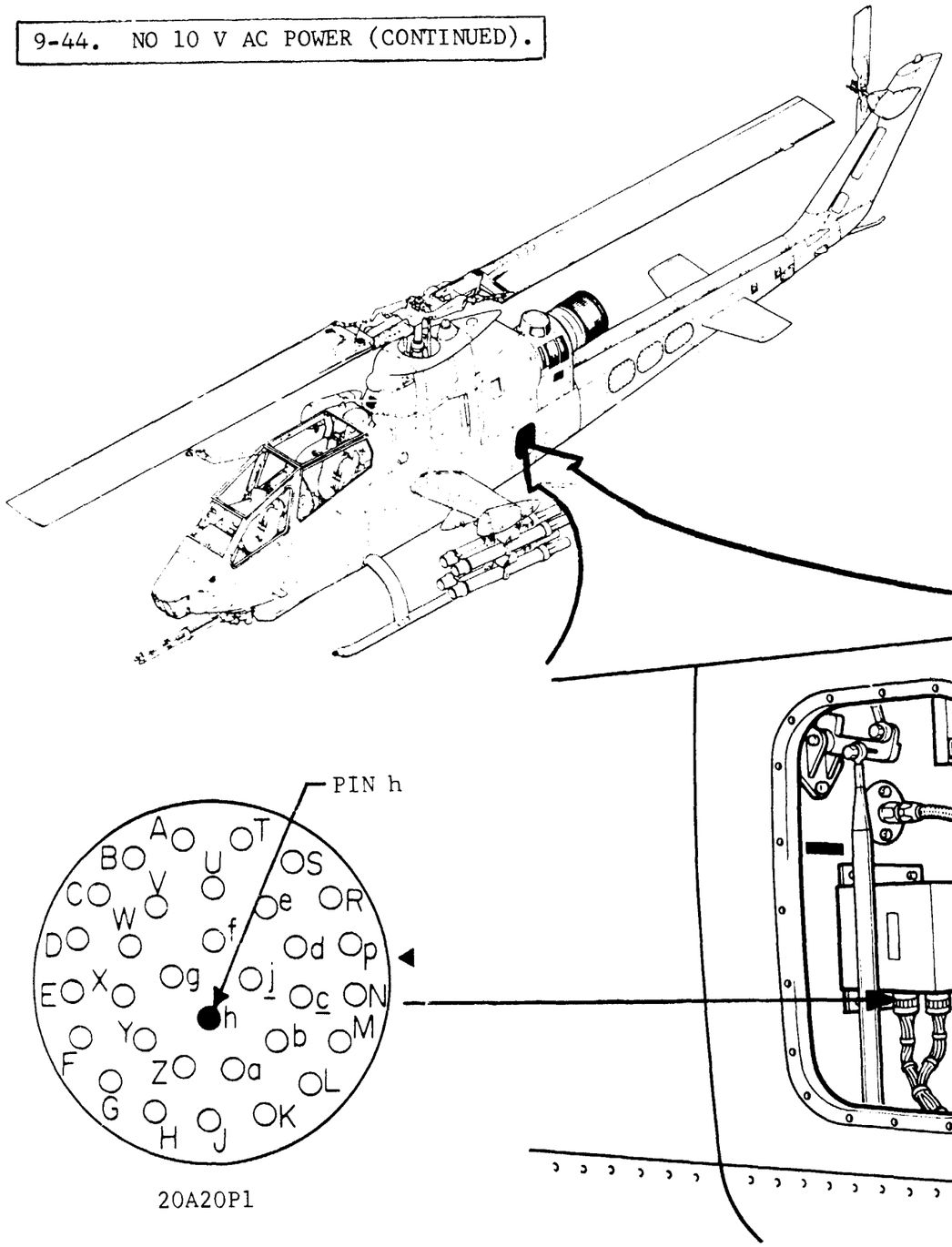
Servo Electronics Control Unit - Removed

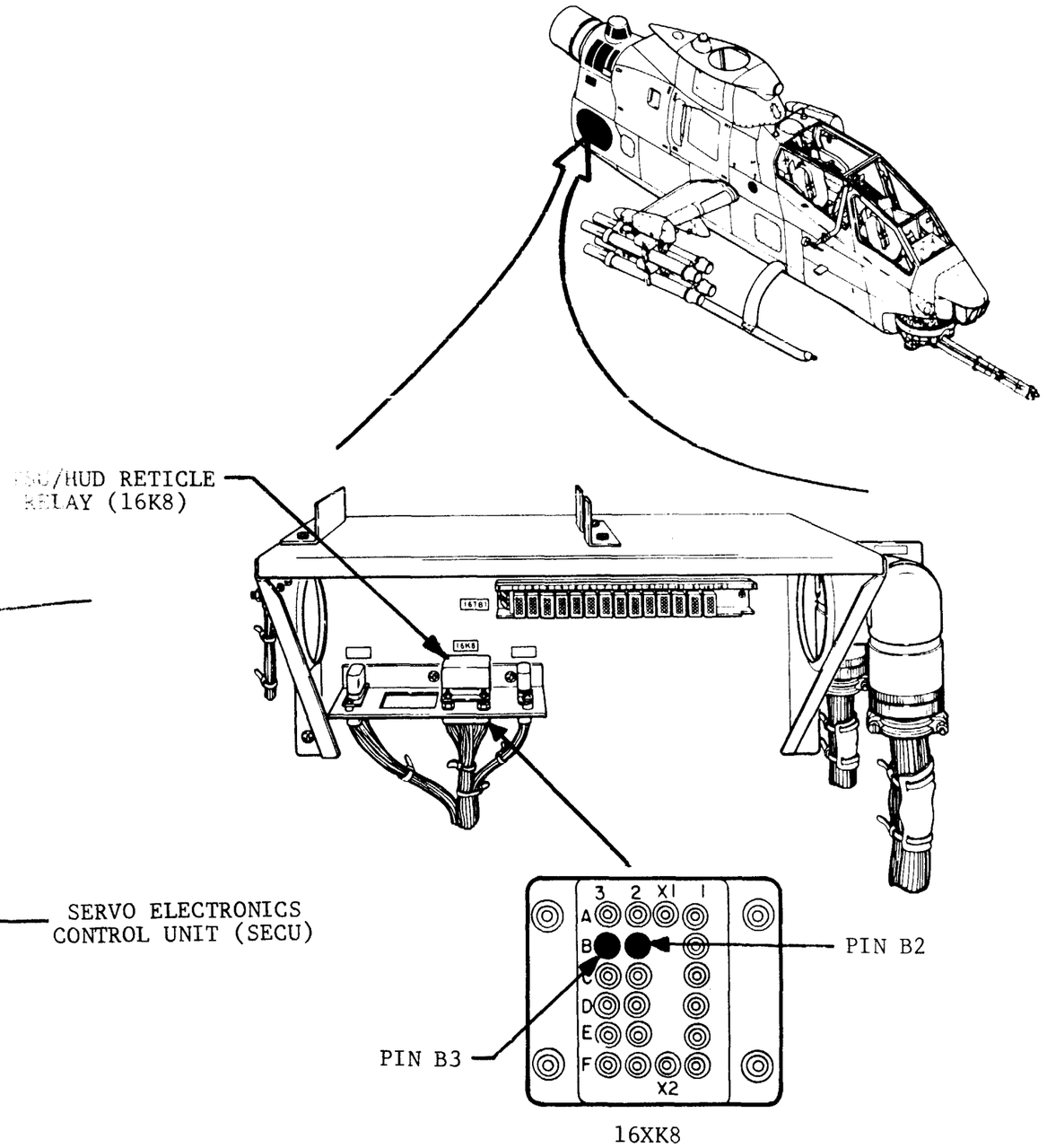
Right Forward Radar Warning Antenna - Removed

Turret Fairing - Removed

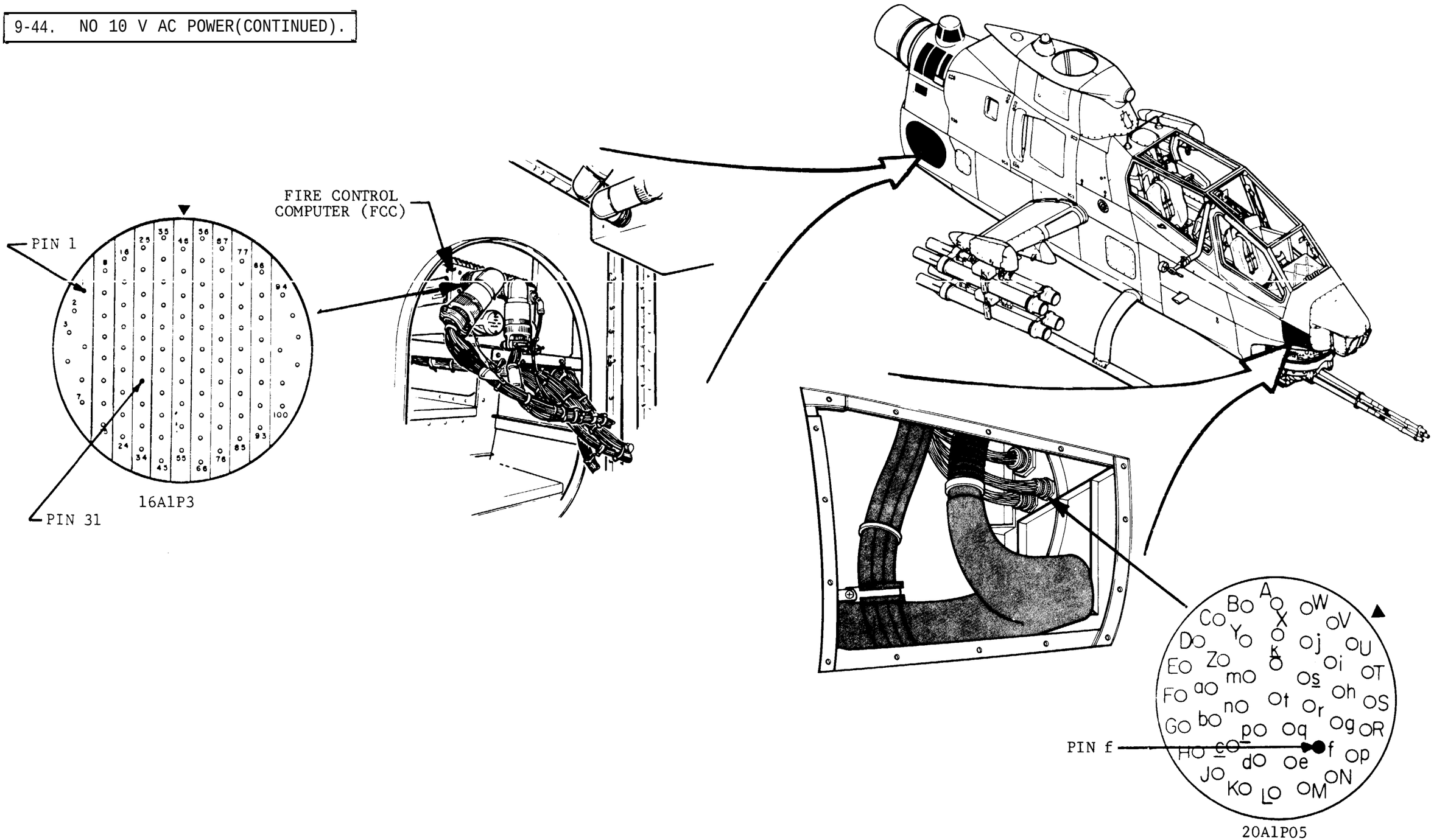


9-44. NO 10 V AC POWER (CONTINUED).

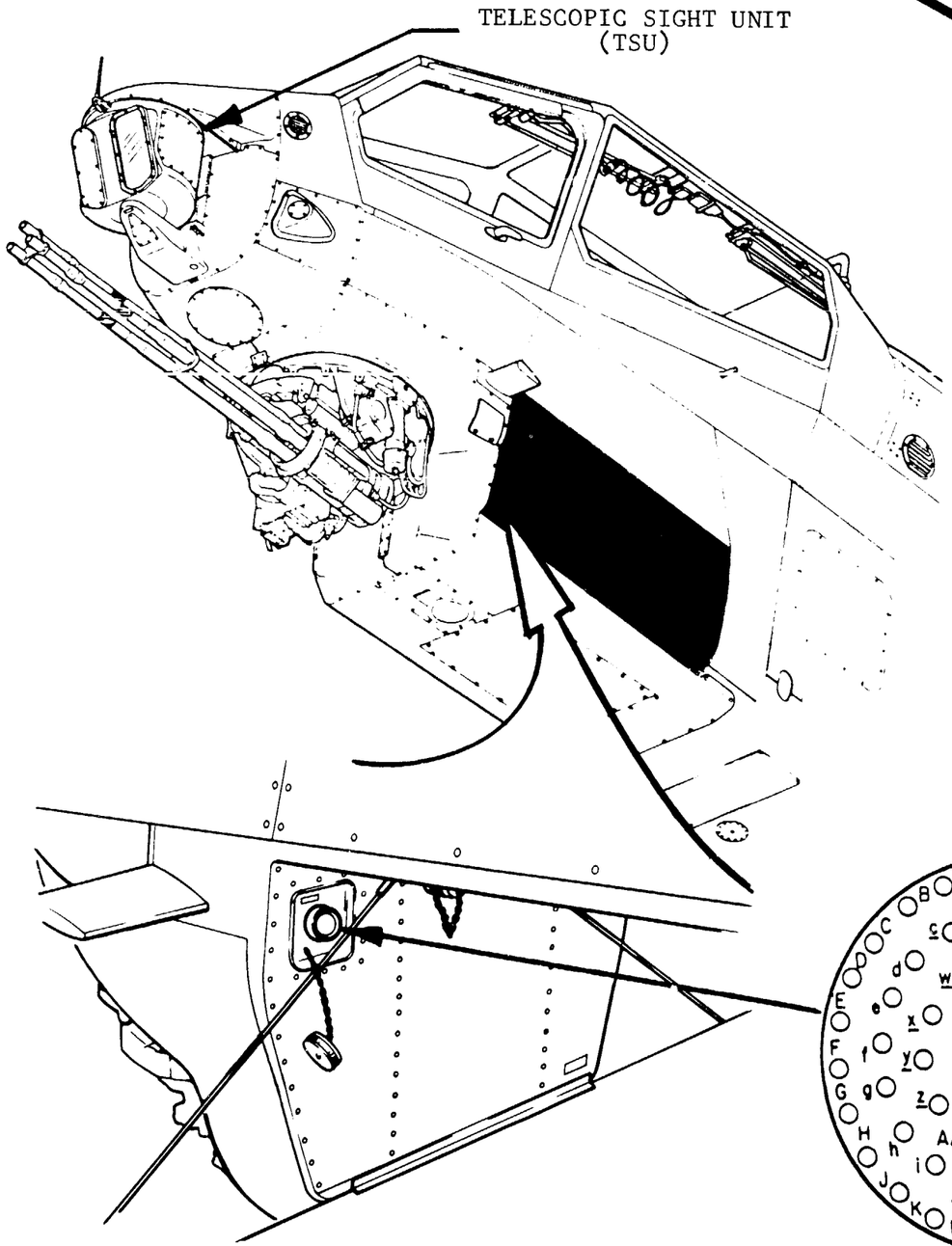


9-44. NO 10 V AC POWER(CONTINUED).



9-44. NO 10 V AC POWER (CONTINUED).



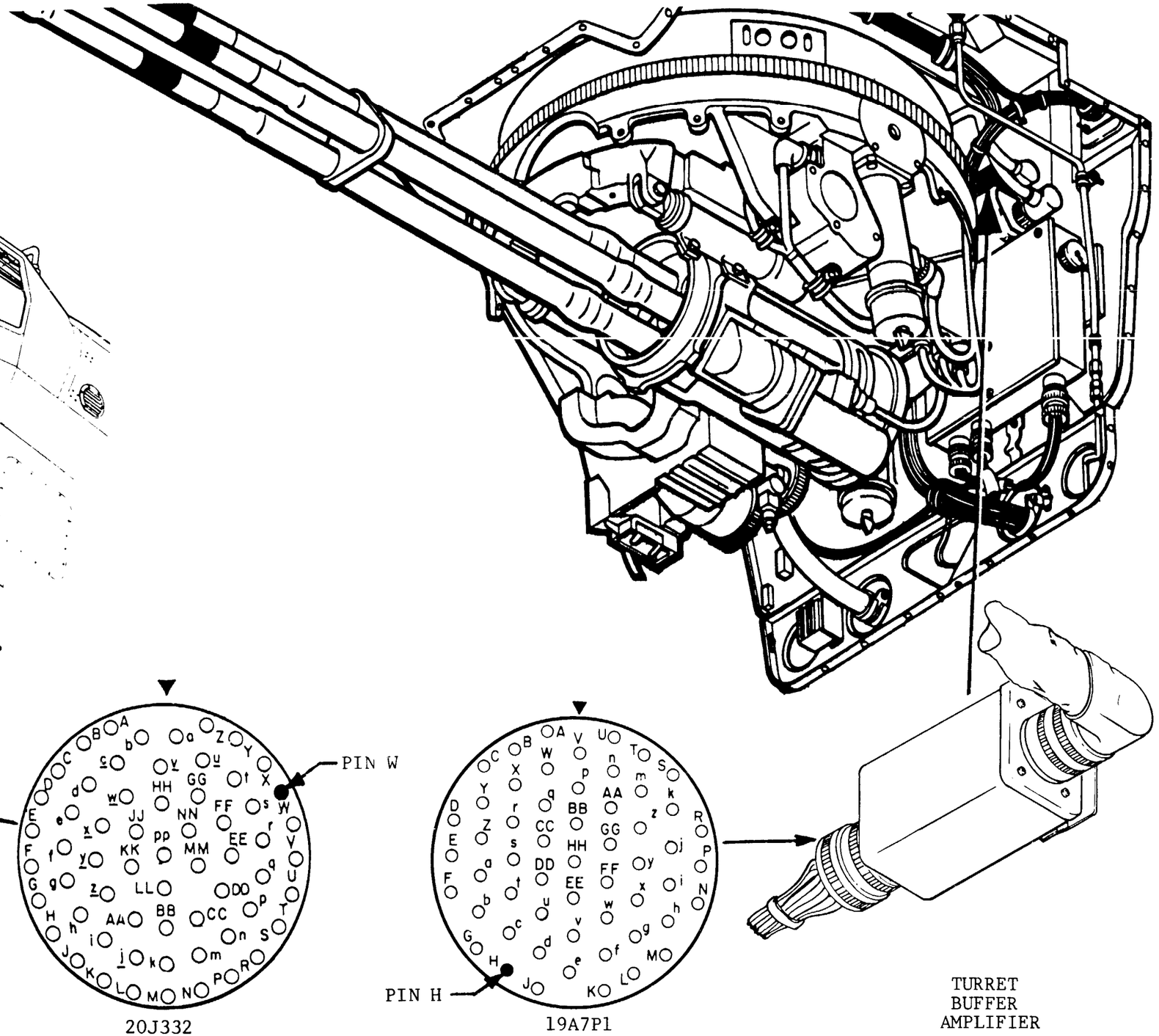




20J332




19A7P1



9-44. NO 10 V AC POWER (CONTINUED).

9-44. NO 10 V AC POWER (CONTINUED).

Insert wire TG594A22 into 3TB2-4G.

Remove wire TG594E22 (WHT) from 3TB2-4A.

Check for continuity from end of wire TG594E22 (WHT) to airframe ground.

Is continuity present?

YES → Repair wire TG594E22 (WHT) between 3TB2-4A and 20J331-K to eliminate short.

Then go to paragraph 9-2.

NO → Insert wire TG594E22 (WHT) into 3TB2-4A.

Remove wire TG594F22 (WHT) from 3TB2-4B.

Check for continuity from end of wire TG594F22 (WHT) to airframe ground.

Is continuity present?

YES → Insert wire TG594F22 (WHT) into 3TB2-4B.

Remove wire TG594B22 (WHT) from 3TB2-4C.

Check for continuity from end of wire TG594B22 (WHT) to airframe ground.

Is continuity present?

YES → Insert wire TG594B22 (WHT) into 3TB2-4C.

Remove wire A1170A22 (WHT) from 3TB2-4D.

Check for continuity from end of wire A1170A22 (WHT) to airframe ground.

Is continuity present?

YES → Insert wire A1170A22 (WHT) into 3TB2-4D.

Remove wire A802A22 (WHT) from 3TB2-4E.

Check for continuity from end of wire A802A22 (WHT) to airframe ground.

Is continuity present?

YES → Insert wire A802A22 (WHT) into 3TB2-4E.

Remove wire A1245A22 (WHT) from 3TB2-4J.

Check for continuity from end of wire A802A22 (WHT) to airframe ground.

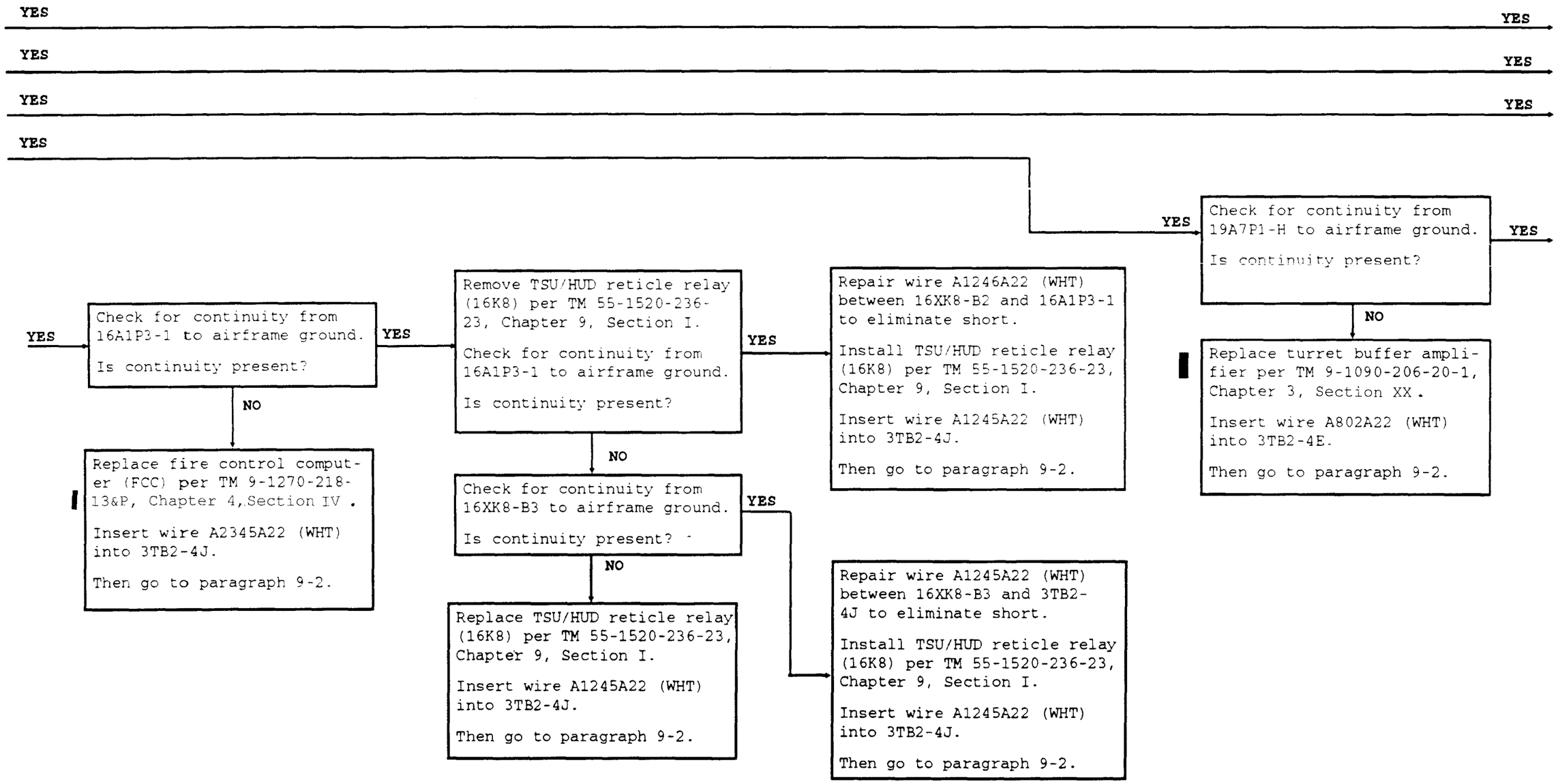
Is continuity present?

YES → Go to paragraph 9-2.

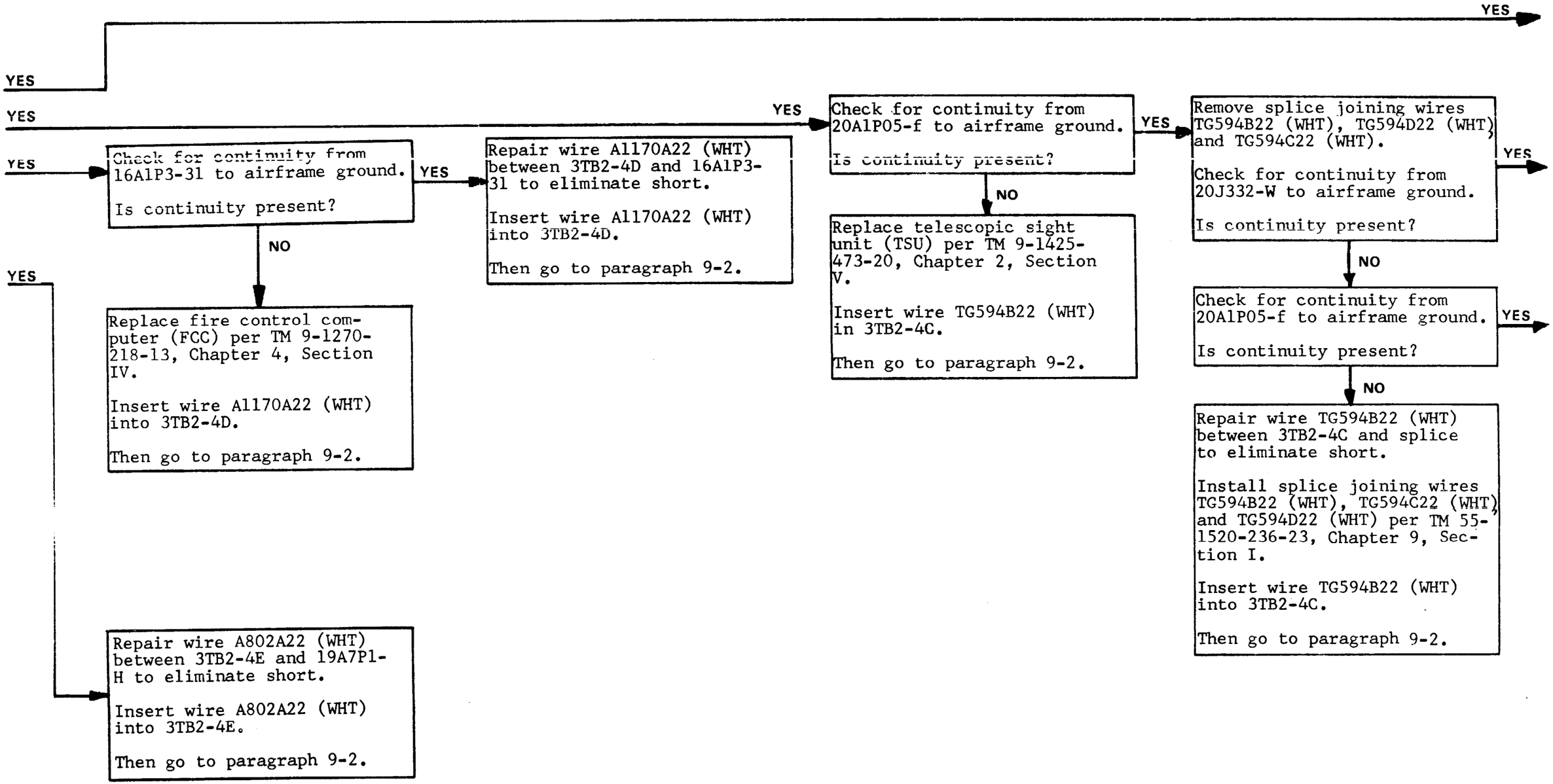
NO → Replace module 4 of 3TB2 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 9-2.

9-44. NO 10 V AC POWR (CONTINUED) .



9-44. NO 10 V AC POWER (CONTINUED).



9-44. NO 10 V AC POWER (CONTINUED).

YES

Check for continuity from 20A20P1-h to airframe ground.

Is continuity present?

YES

Repair wire TG594F22 (WHT) between 3TB2-4B and 20A20P1-h to eliminate short.

Insert wire TG594F22 (WHT) into 3TB2-4B.

Then go to paragraph 9-2.

NO

Replace servo electronics control unit (SECU) per TM 55-1520-236-23, Chapter 9, Section X.

Insert wire TG594F22 (WHT) into 3TB2-4B.

Then go to paragraph 9-2.

YES

Repair wire TG594D22 (WHT) between 20J332-W and splice to eliminate short.

Install splice joining wires TG594B22 (WHT), TG594C22 (WHT), and TG594D22 (WHT) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire TG594B22 (WHT) into 3TB2-4C.

Then go to paragraph 9-2.

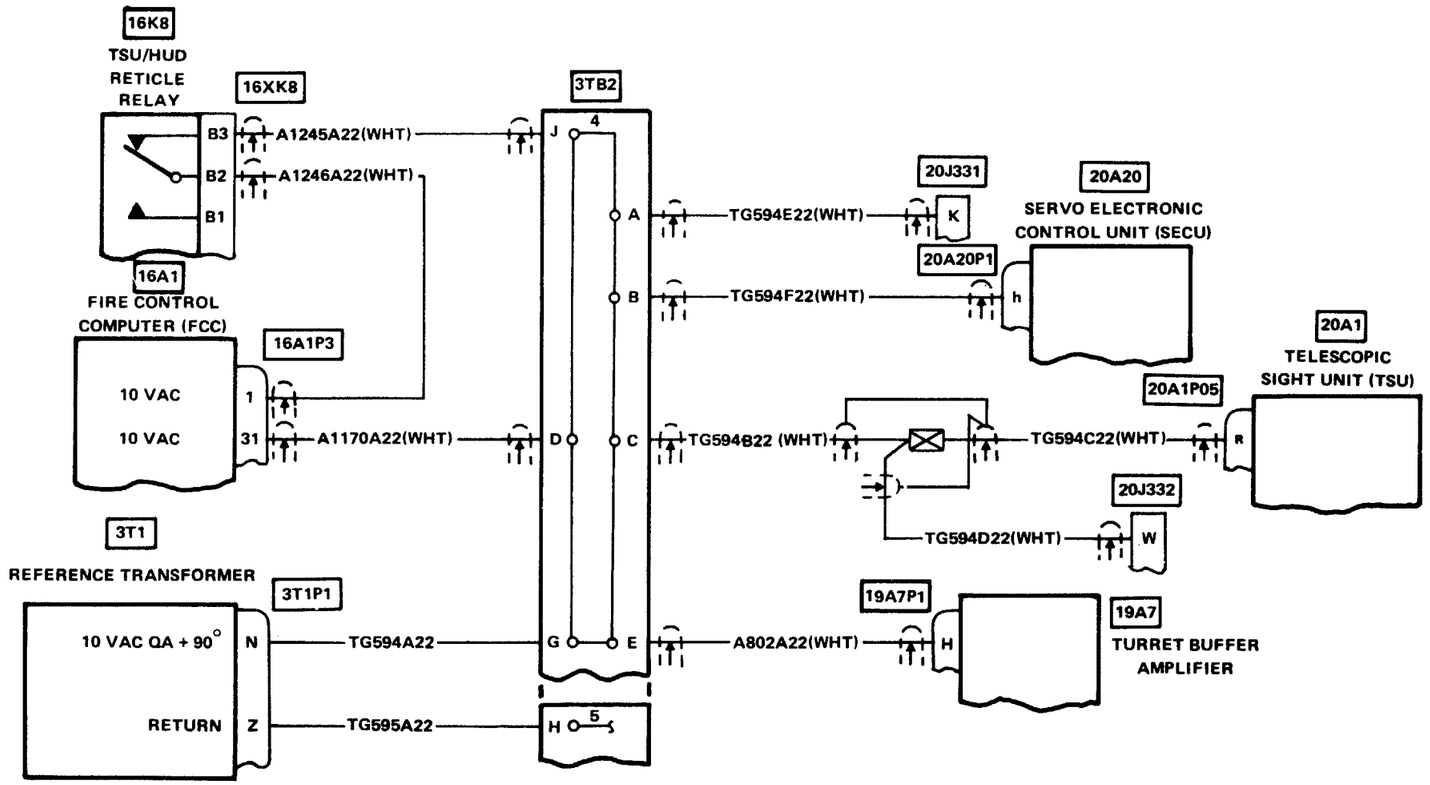
YES

Repair wire TG594C22 (WHT) between 20A1P05-R and splice to eliminate short.

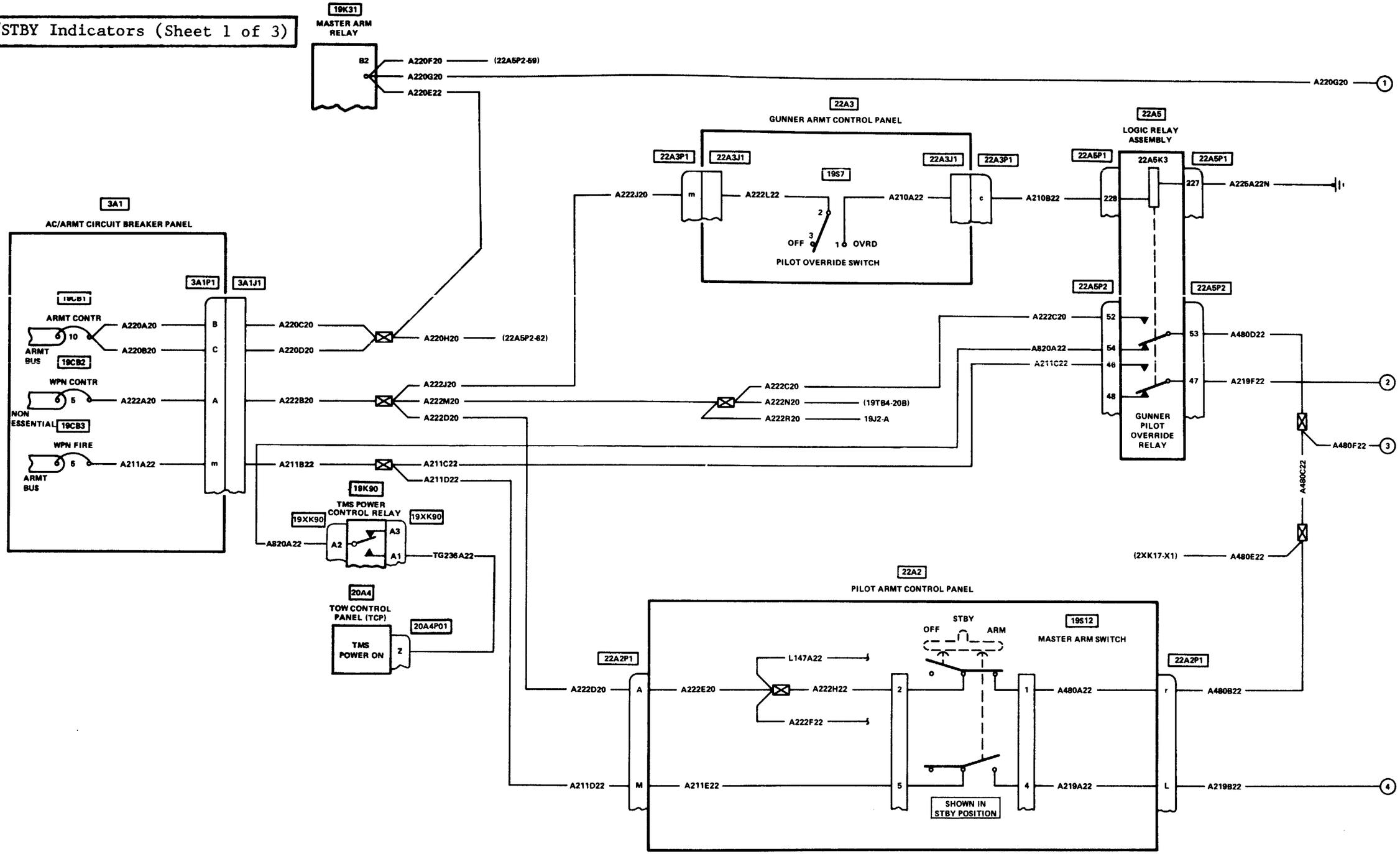
Install splice joining wires TG594B22 (WHT), TG594C22 (WHT), and TG594D22 (WHT) per TM 55-1520-236-23, Chapter 9, Section I.

Insert wire TG594B22 (WHT) into 3TB2-4C.

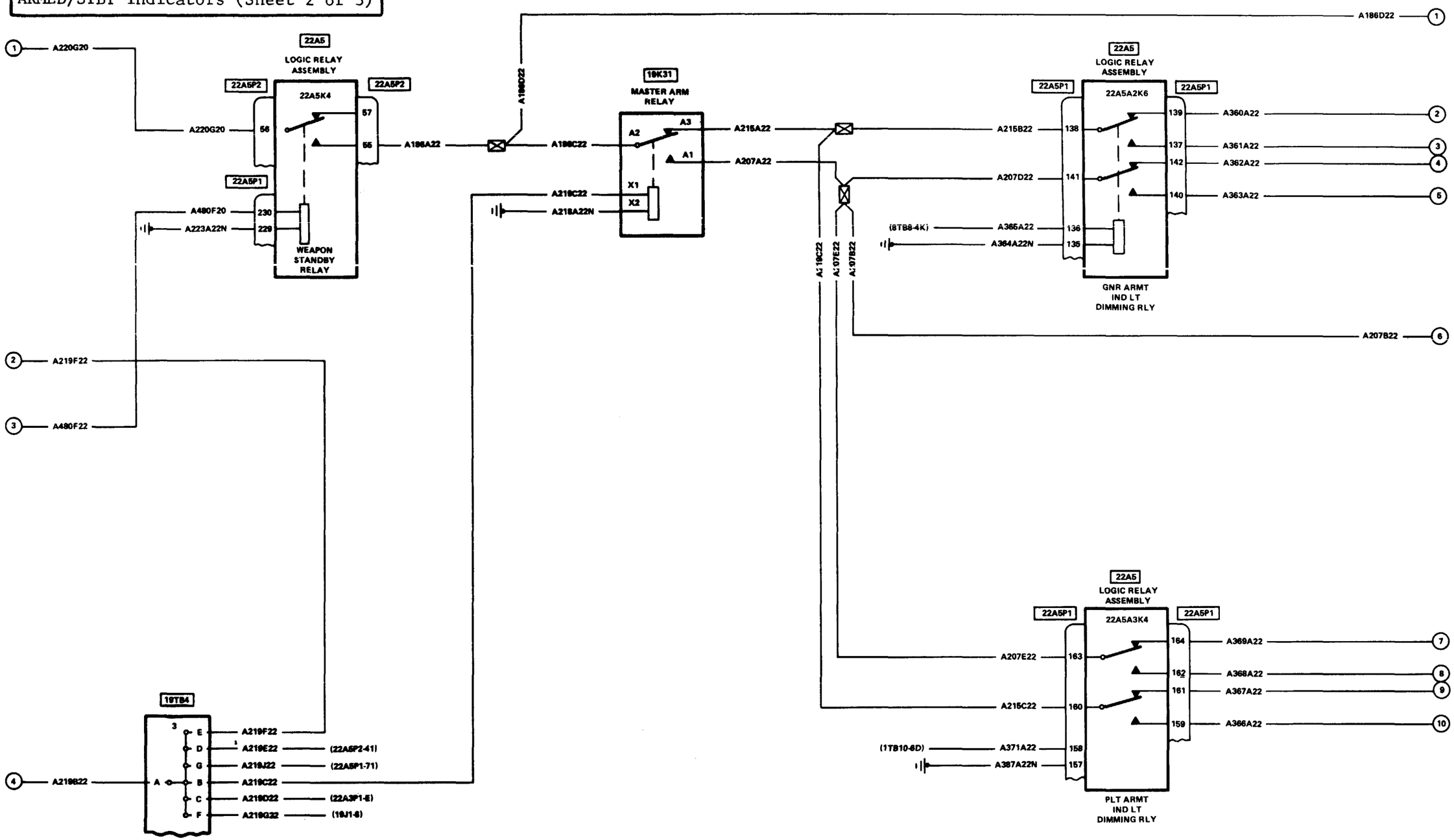
Then go to paragraph 9-2.



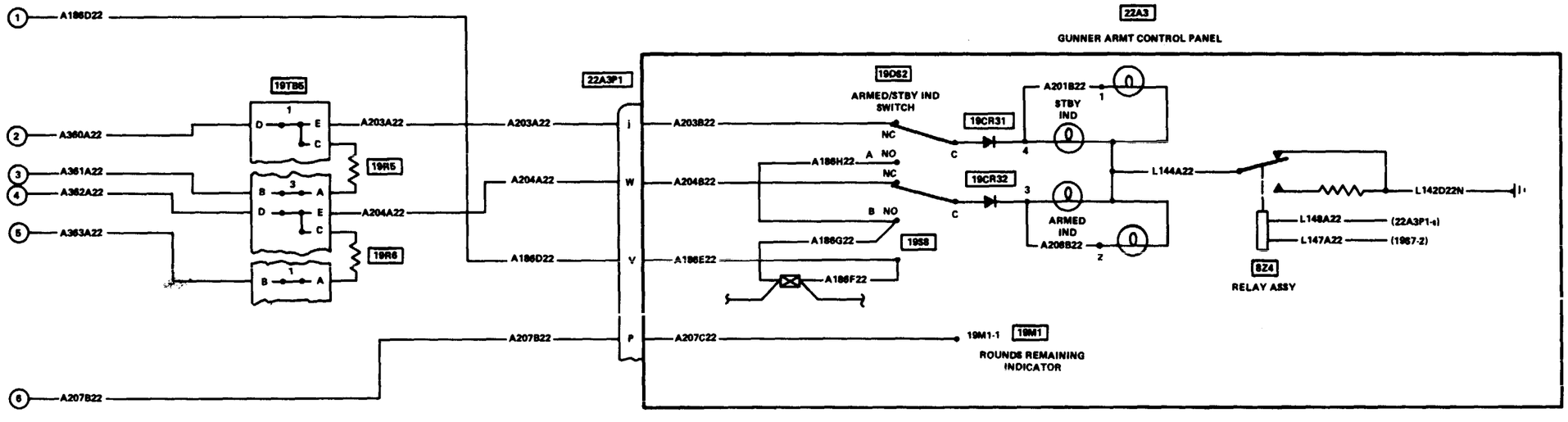
# ARMED/STBY Indicators (Sheet 1 of 3)

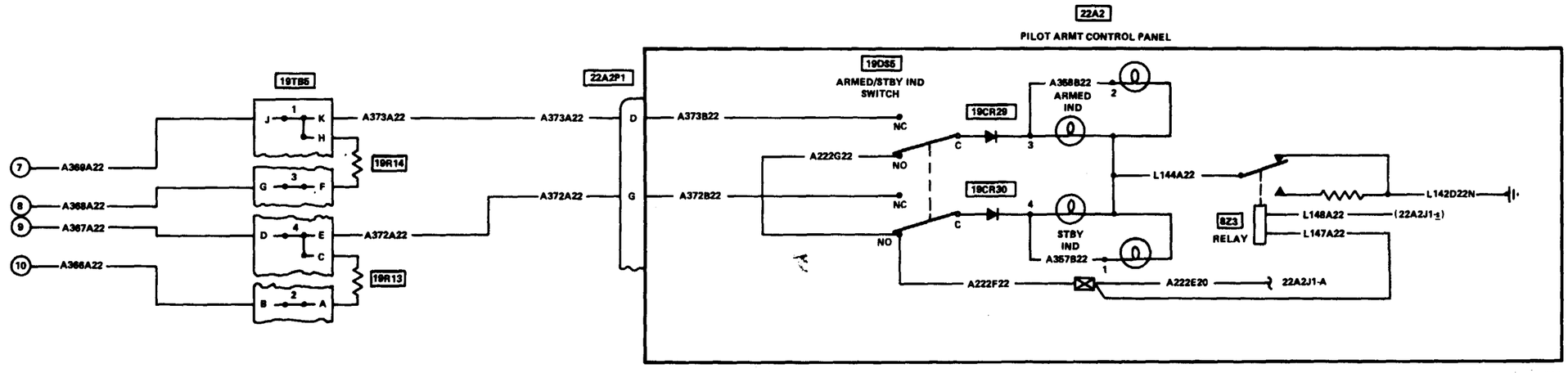


## ARMED/STBY Indicators (Sheet 2 of 3)

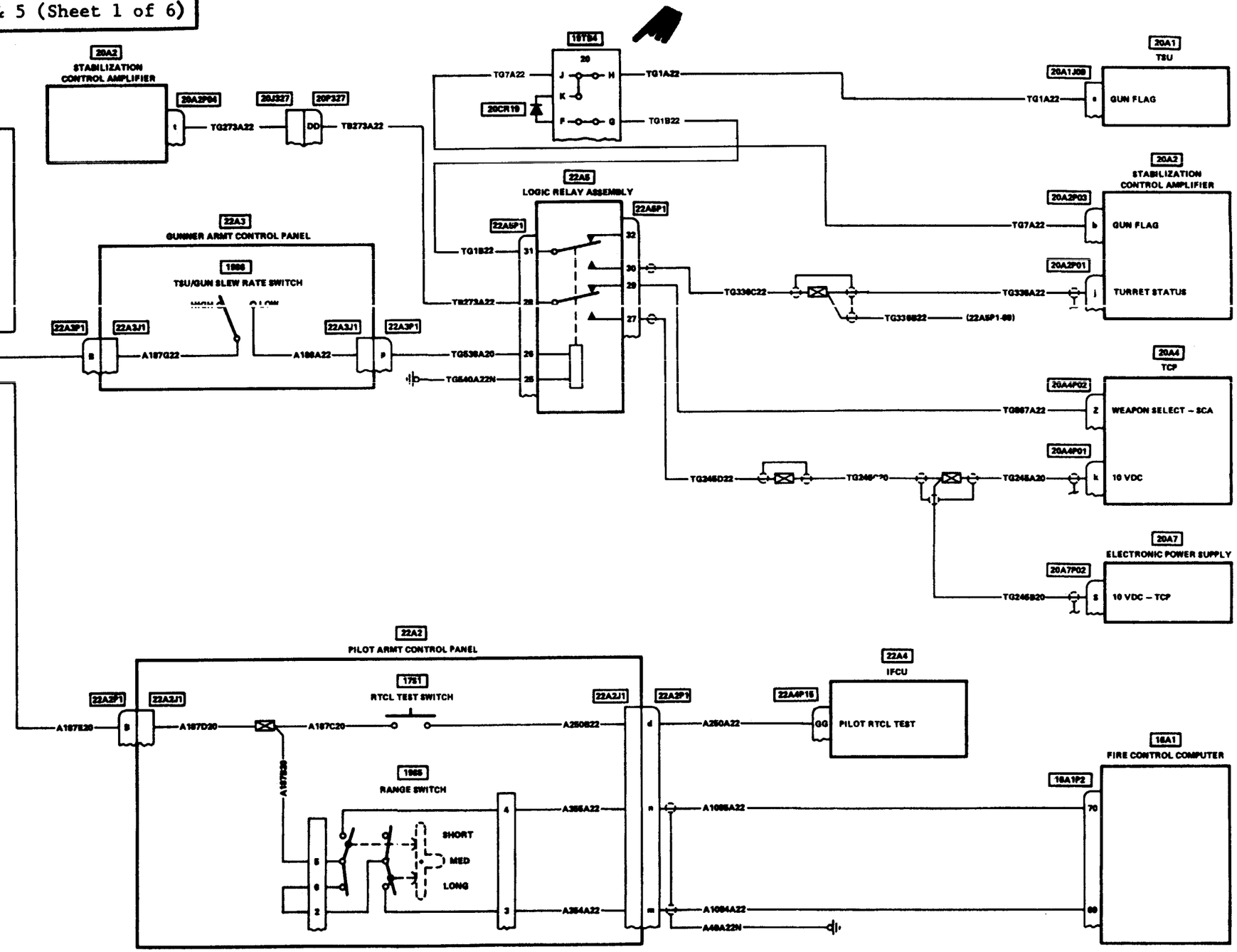


## ARMED/STBY Indicators (Sheet 3 of 3)

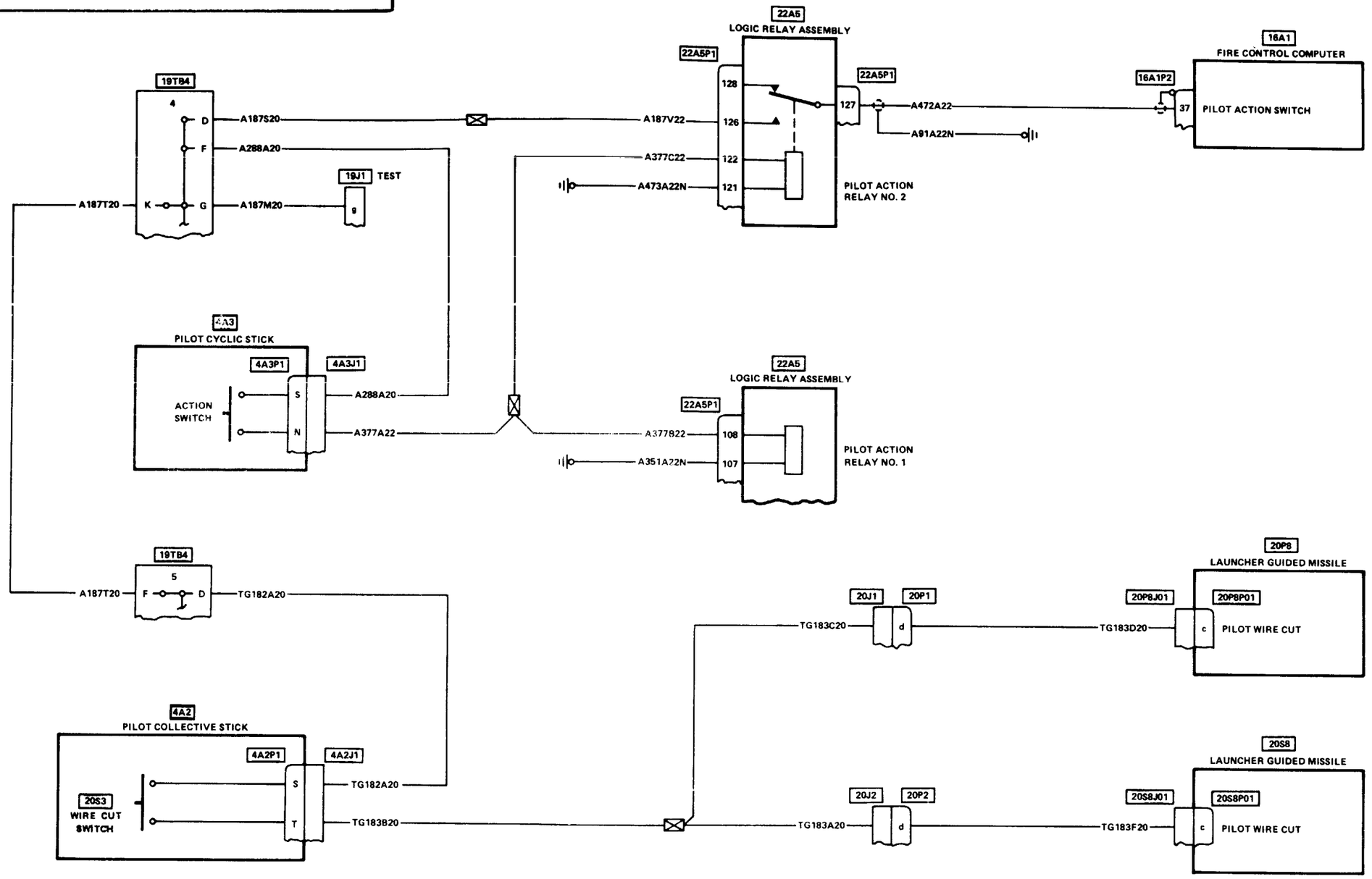


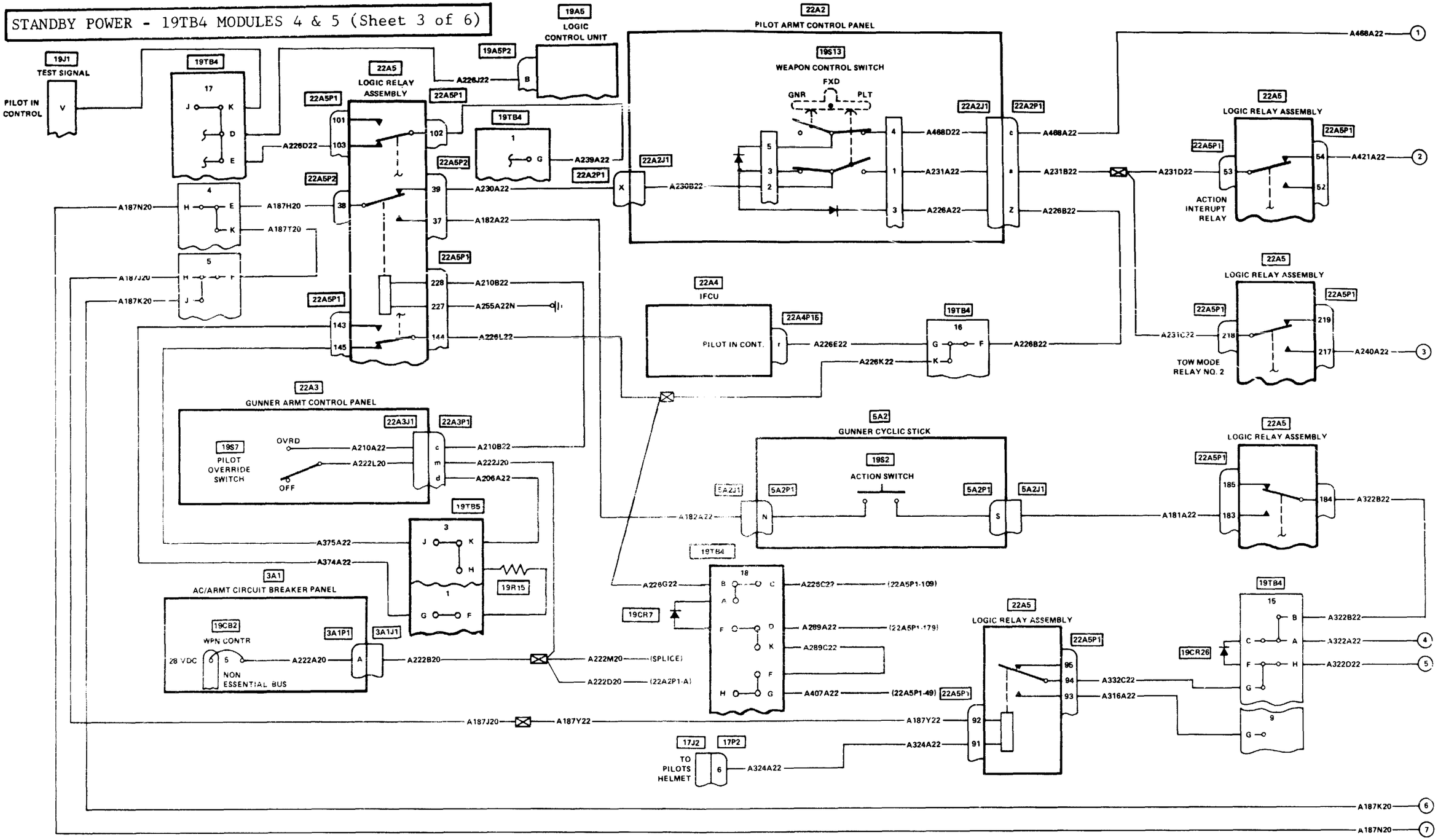
## STANDBY POWER - 19TB4 MODULES 4 & 5 (Sheet 1 of 6)



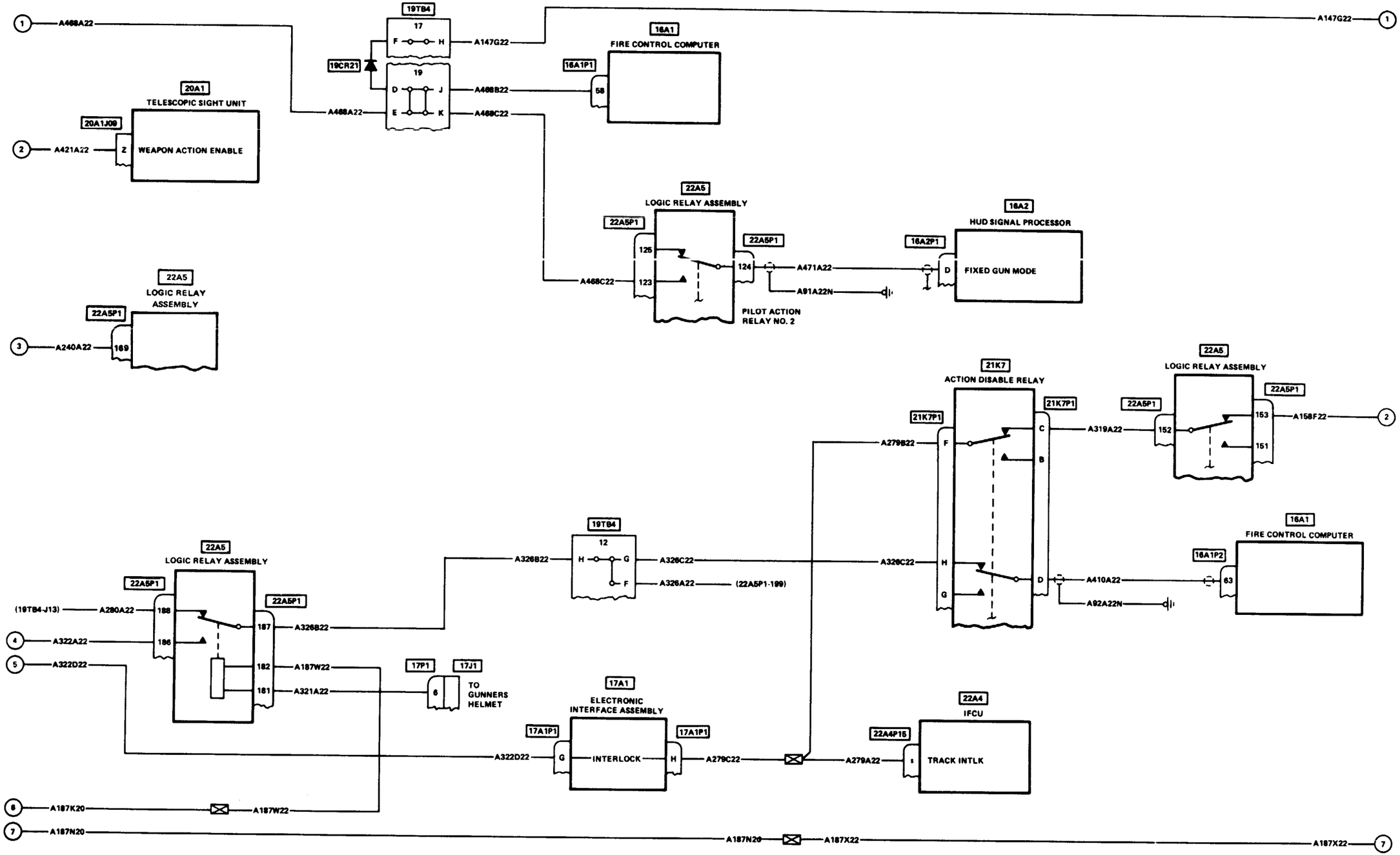
STANDBY POWER - 19TB4 MODULES 4 & 5 (Sheet 2 of 6)



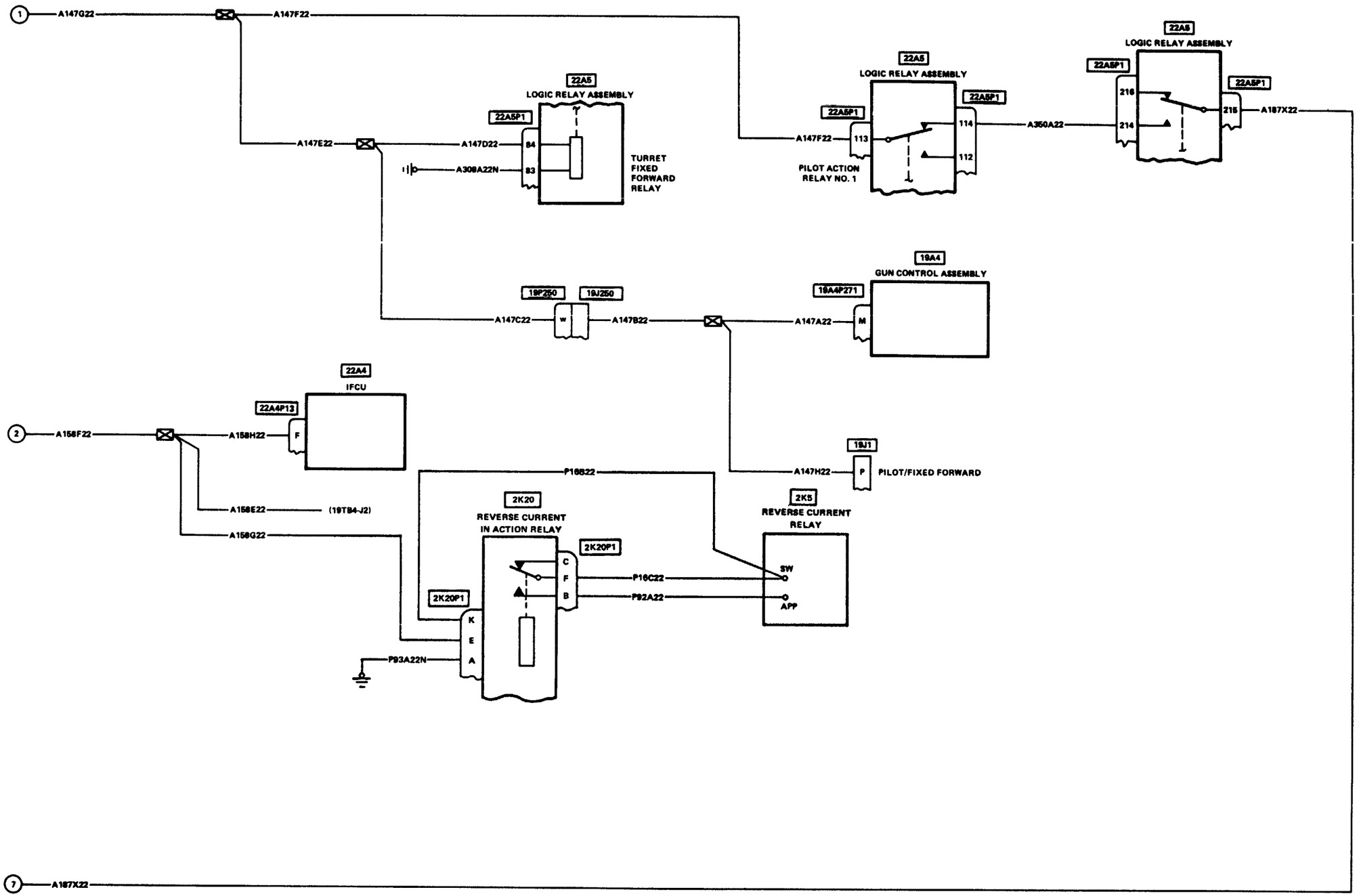
## STANDBY POWER - 19TB4 MODULES 4 & 5 (Sheet 3 of 6)



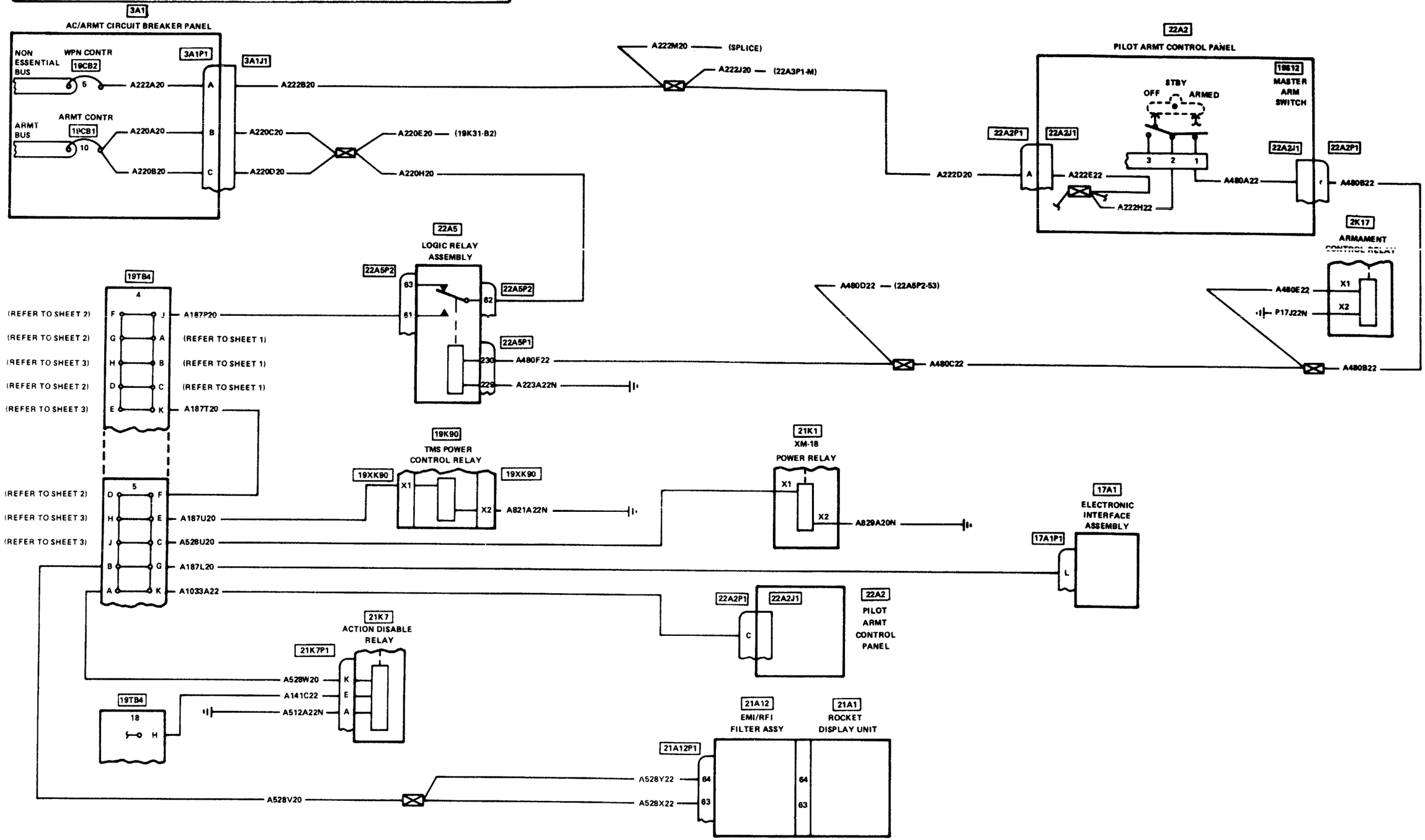
# STANDBY POWER - 19TB4 MODULES 4 & 5 (Sheet 4 of 6)



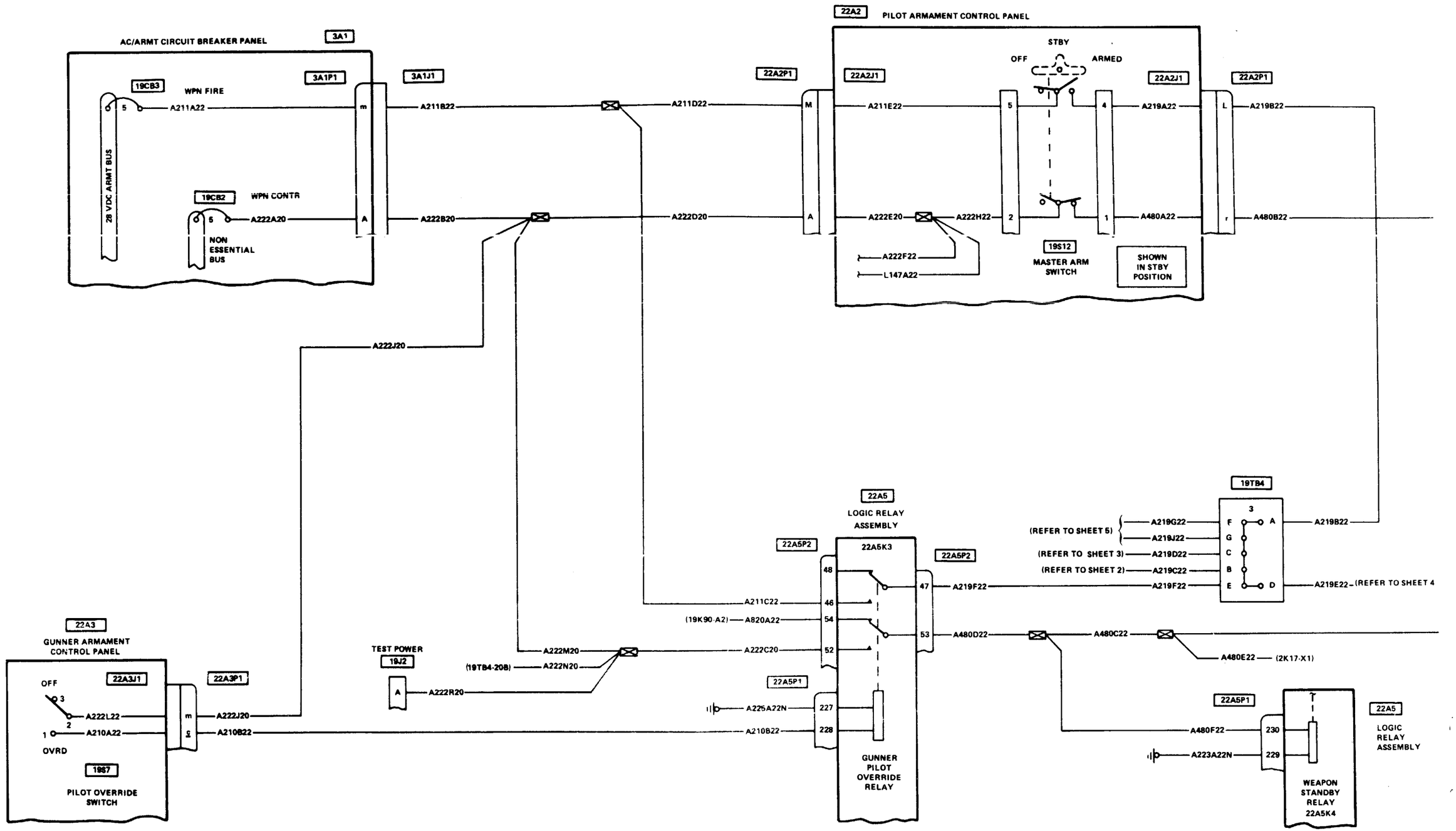
STANDBY POWER - 19TB4 MODULES 4 & 5 (Sheet 5 of 6)



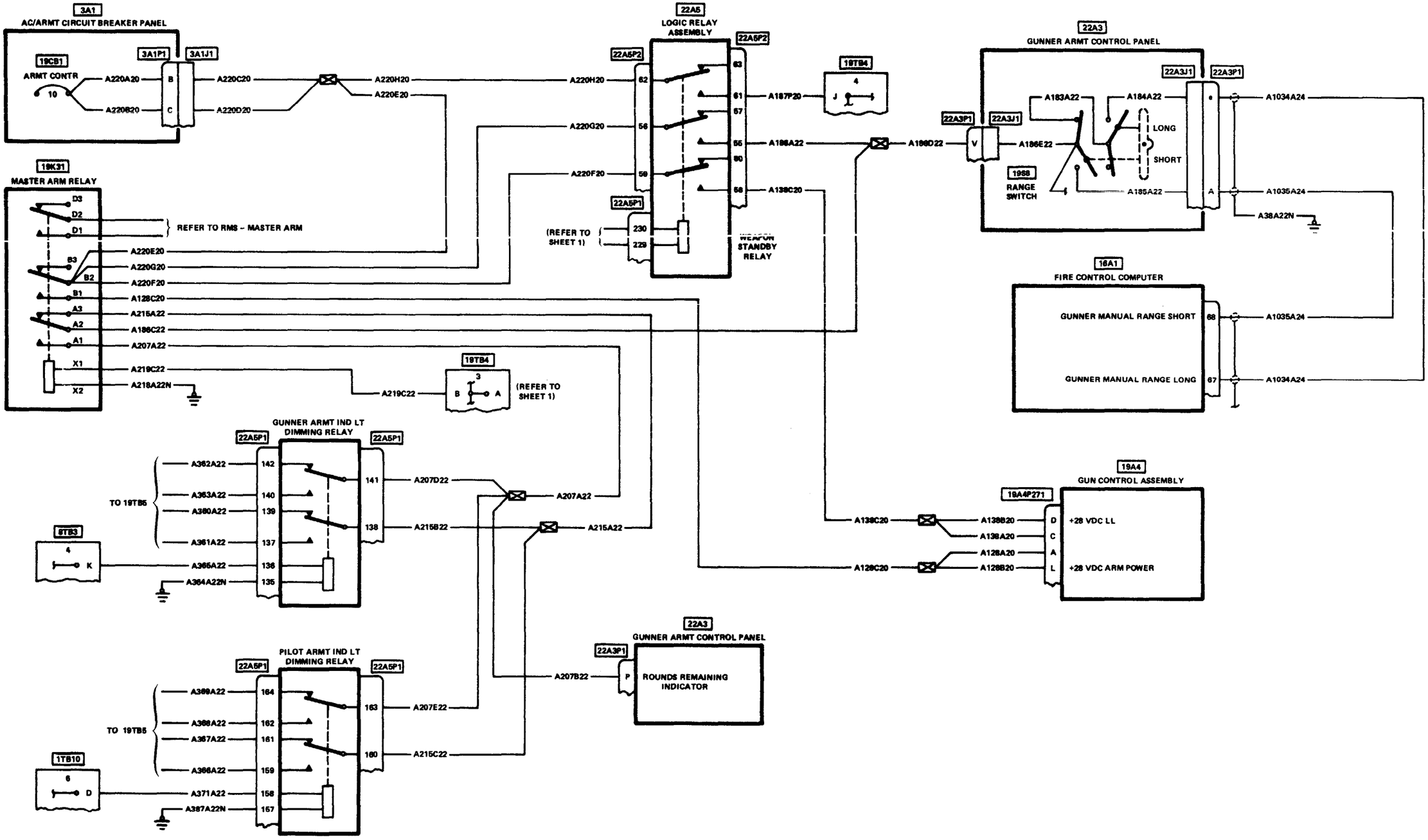
# STANDBY POWER - 19TB4 MODULES 4 & 5 (Sheet 6 of 6)



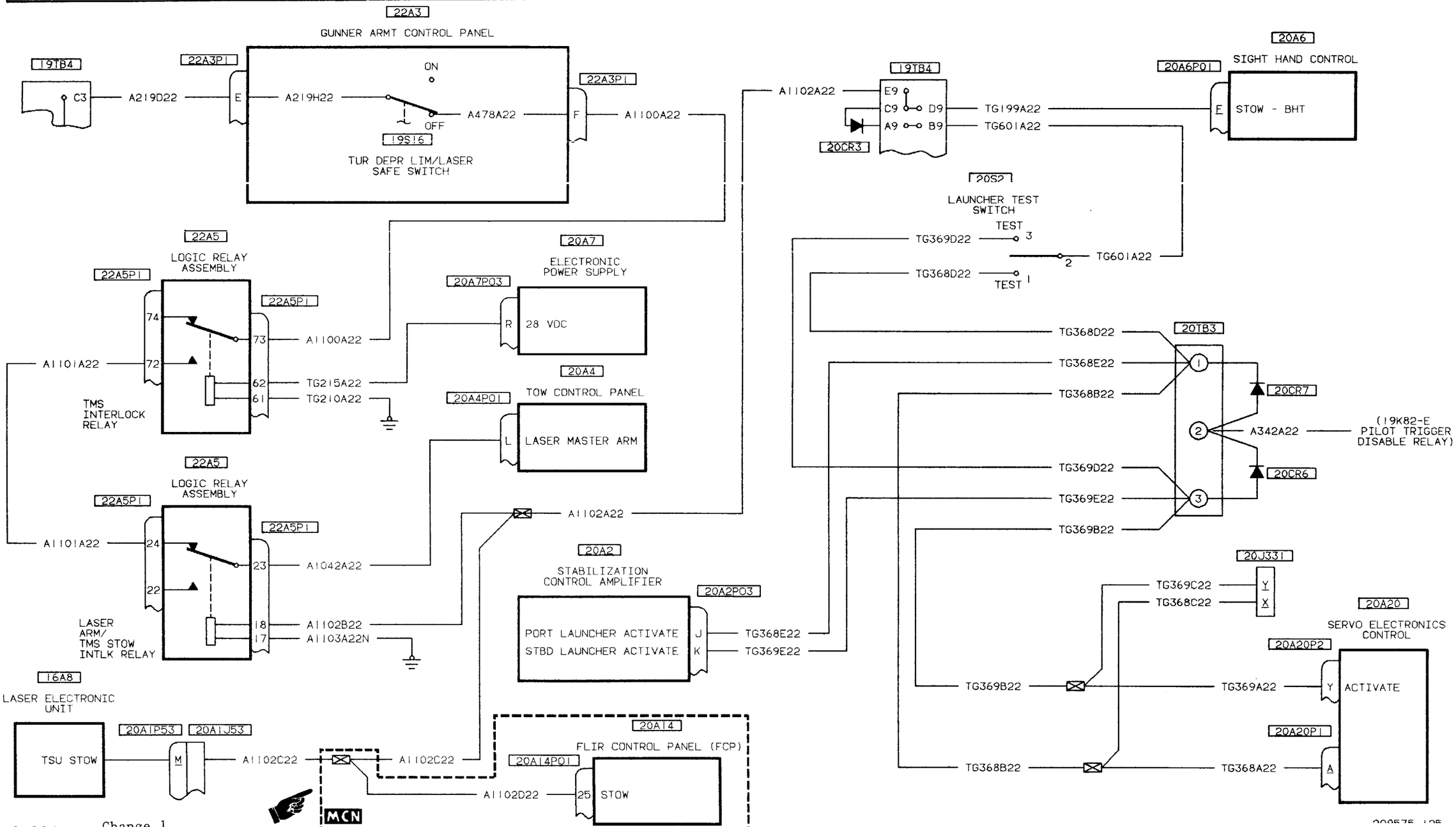
# MASTER ARM SIGNAL - 19TB4 MODULE 3 (Sheet 1 of 6)



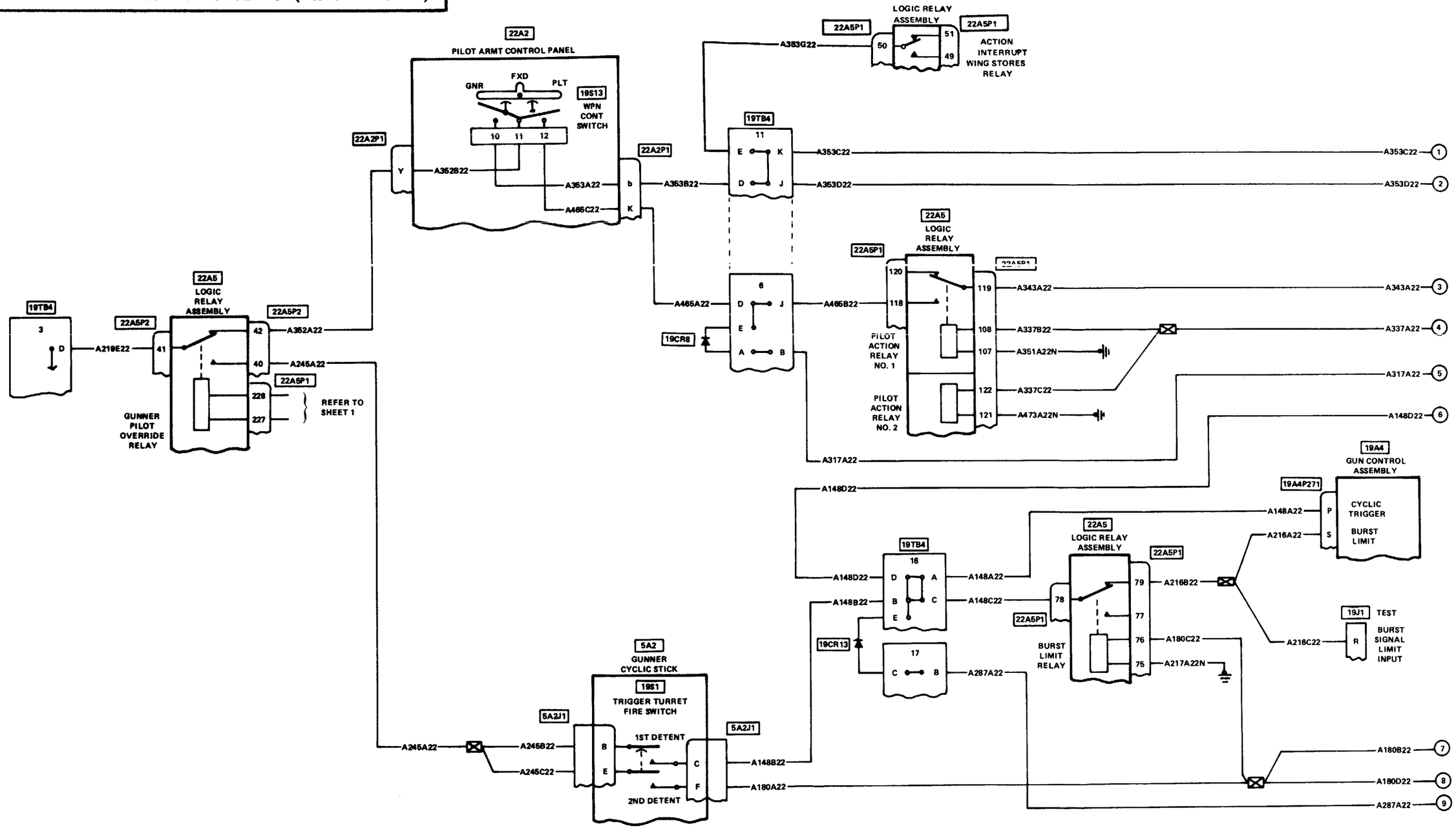
# MASTER ARM SIGNAL - 19TB4 MODULE 3 (Sheet 2 of 6)



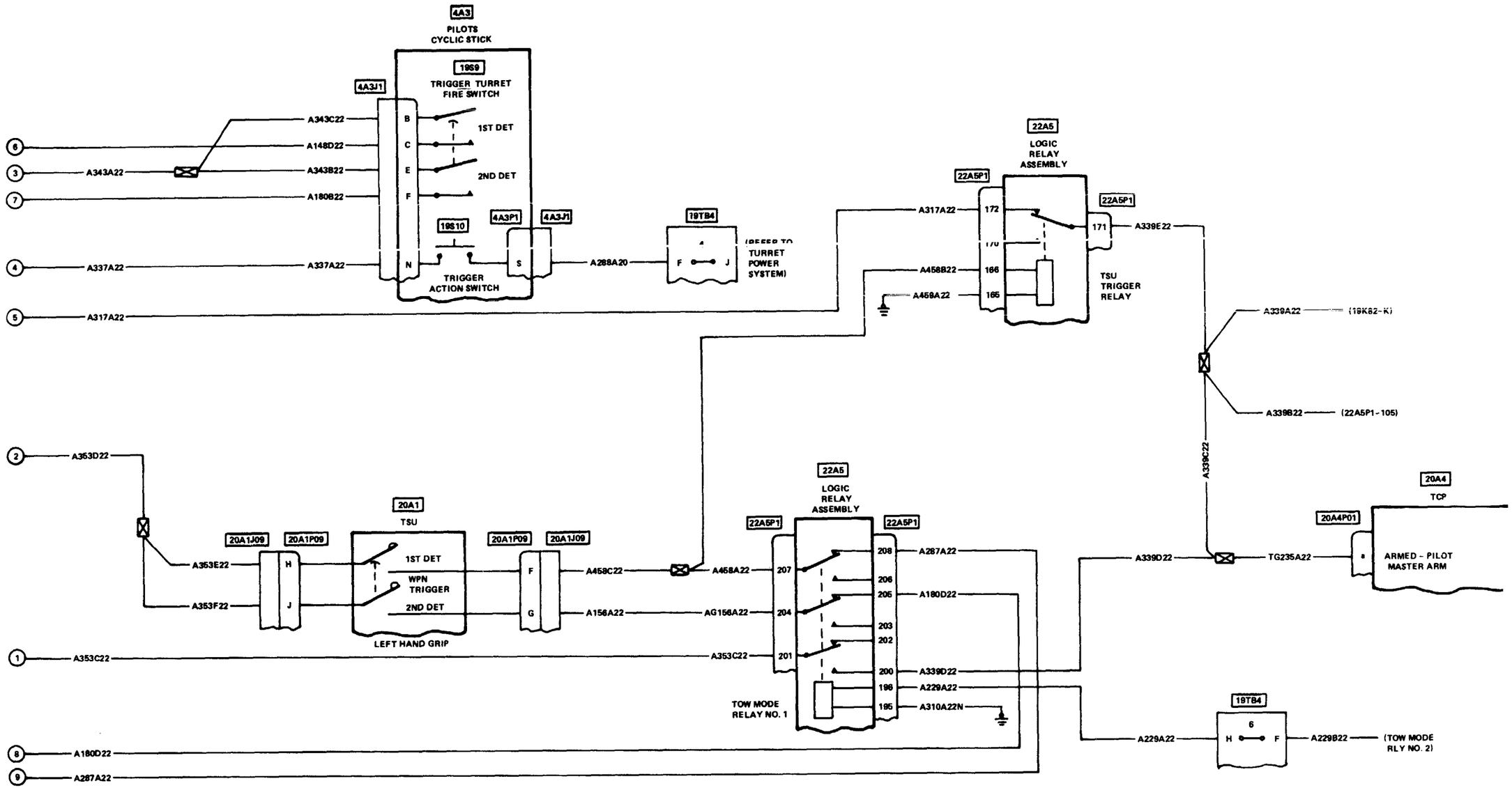
## MASTER ARM SIGNAL - 19TB4 MODULE 3 (Sheet 3 of 6)



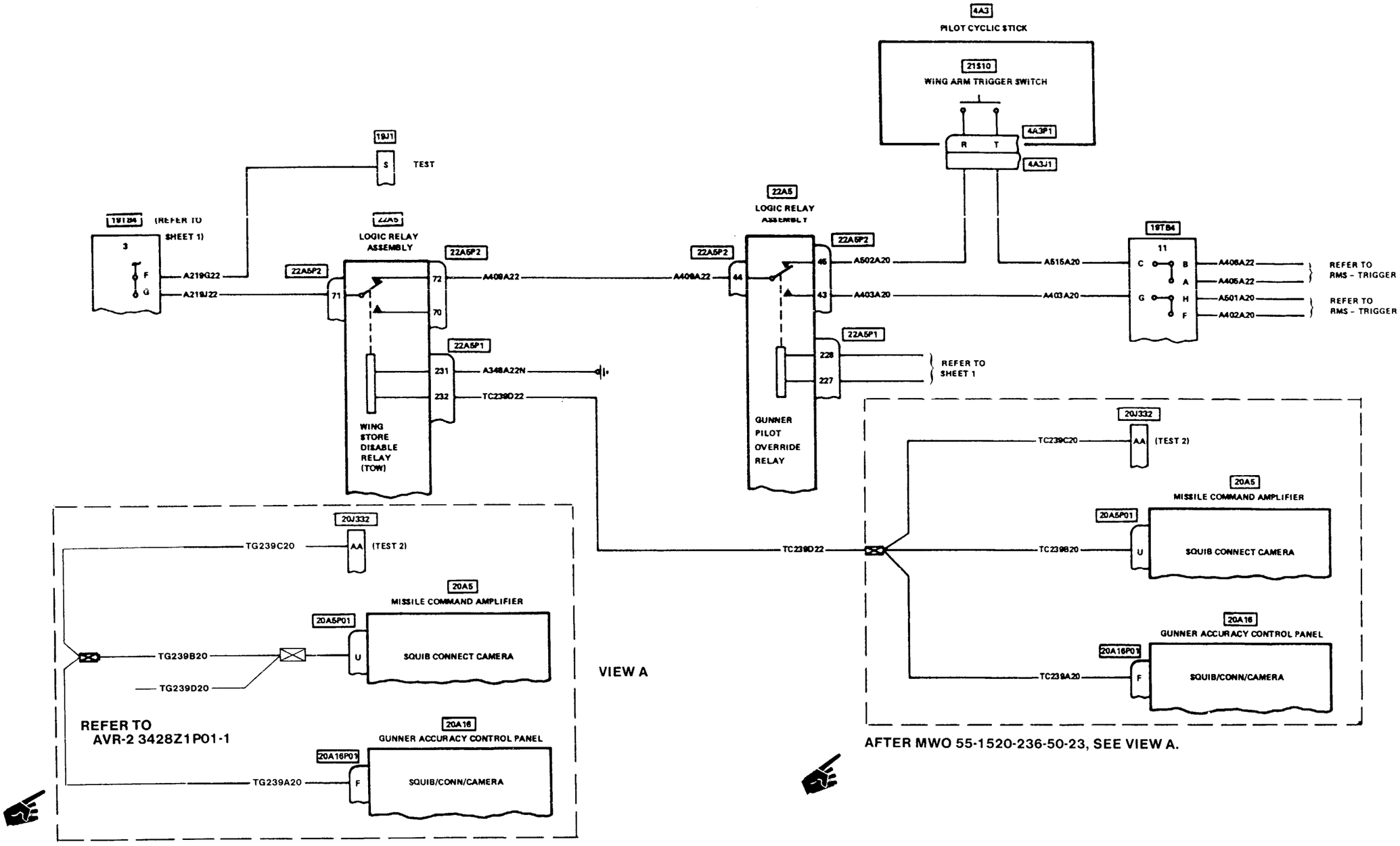
# MASTER ARM SIGNAL - 19TB4 MODULE 3 (Sheet 4 of 6)



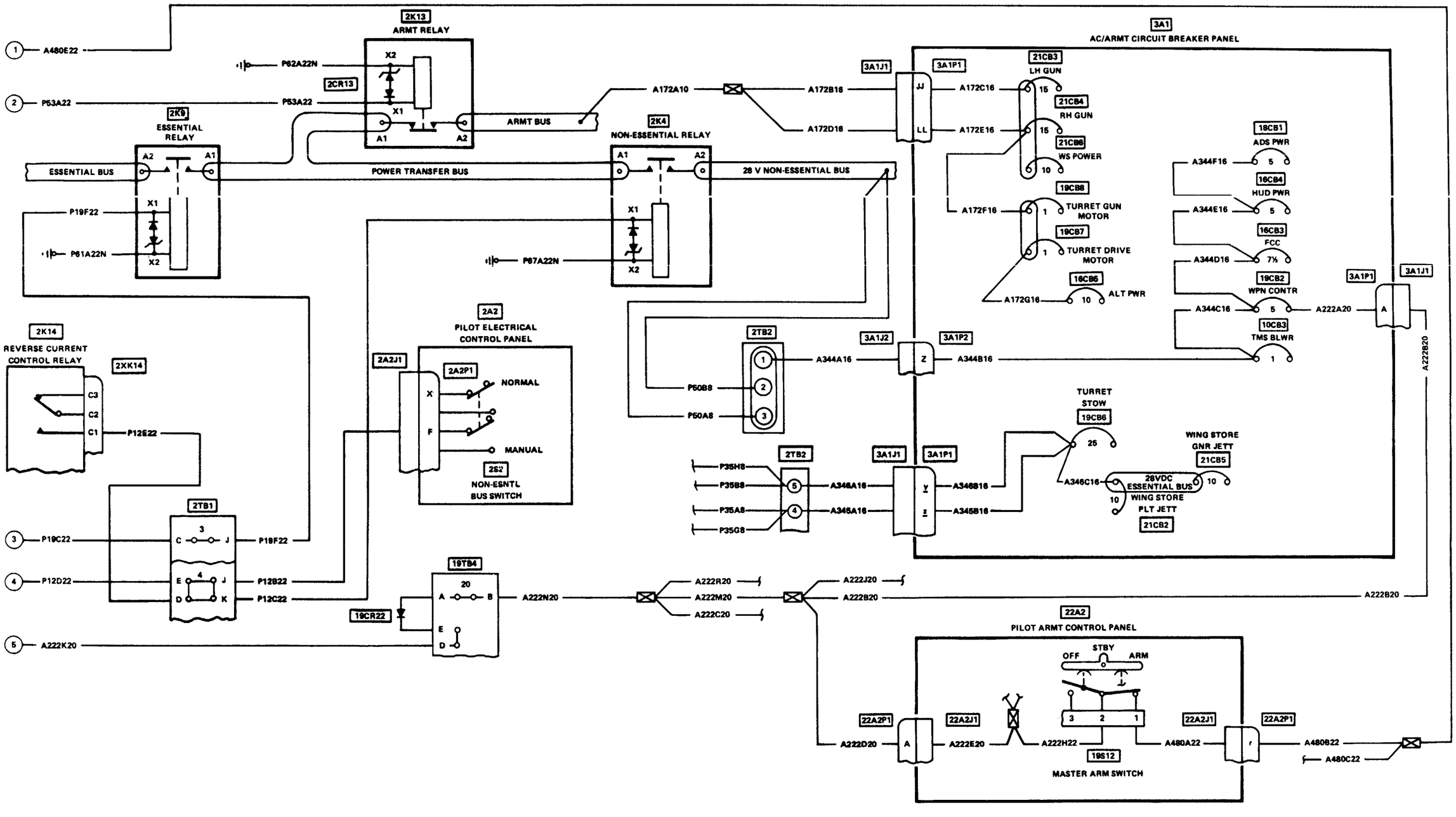
## MASTER ARM SIGNAL - 19TB4 MODULE 3 (Sheet 5 of 6)



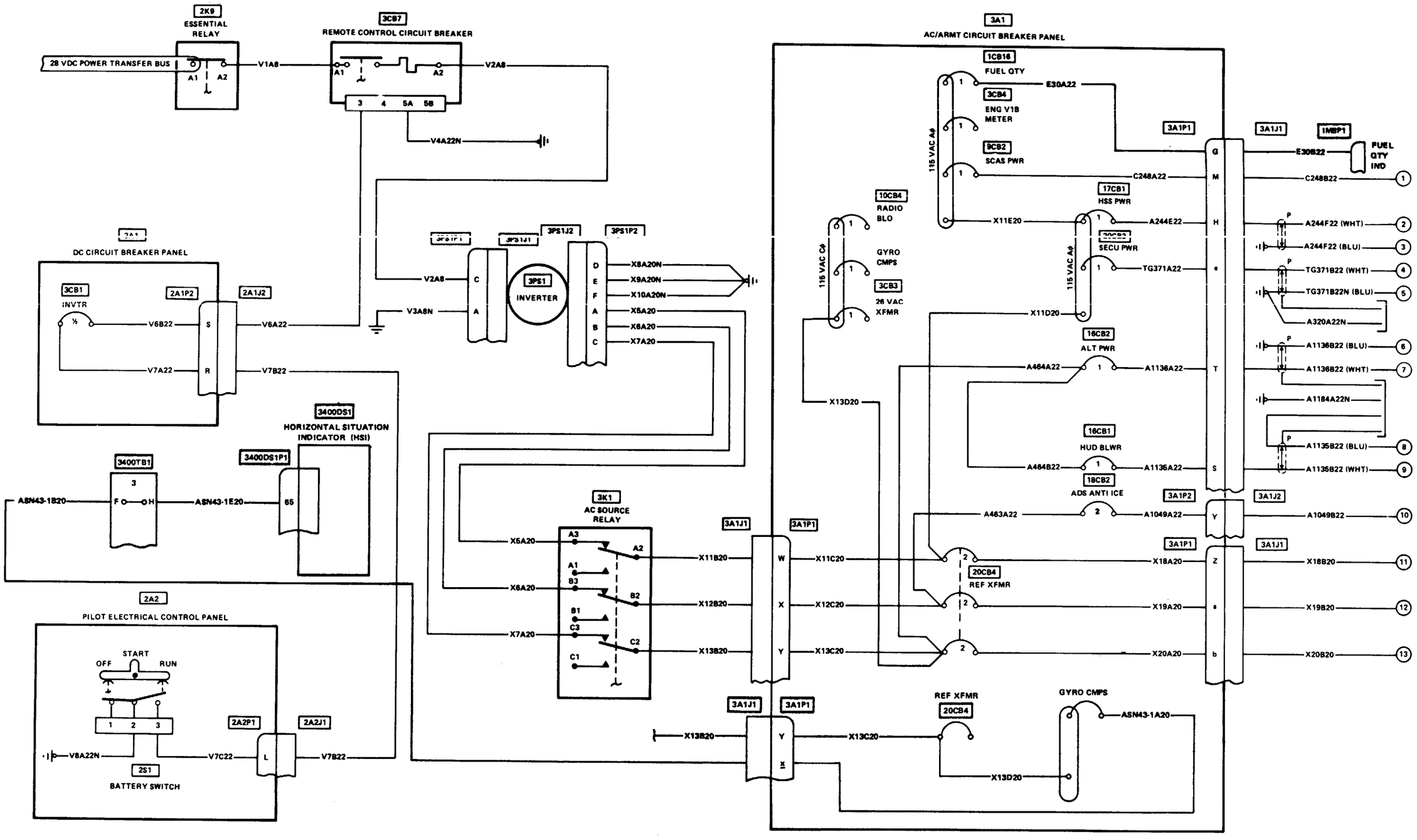
MASTER ARM SIGNAL - 19TB4 MODULE 3 (Sheet 6 of 6)



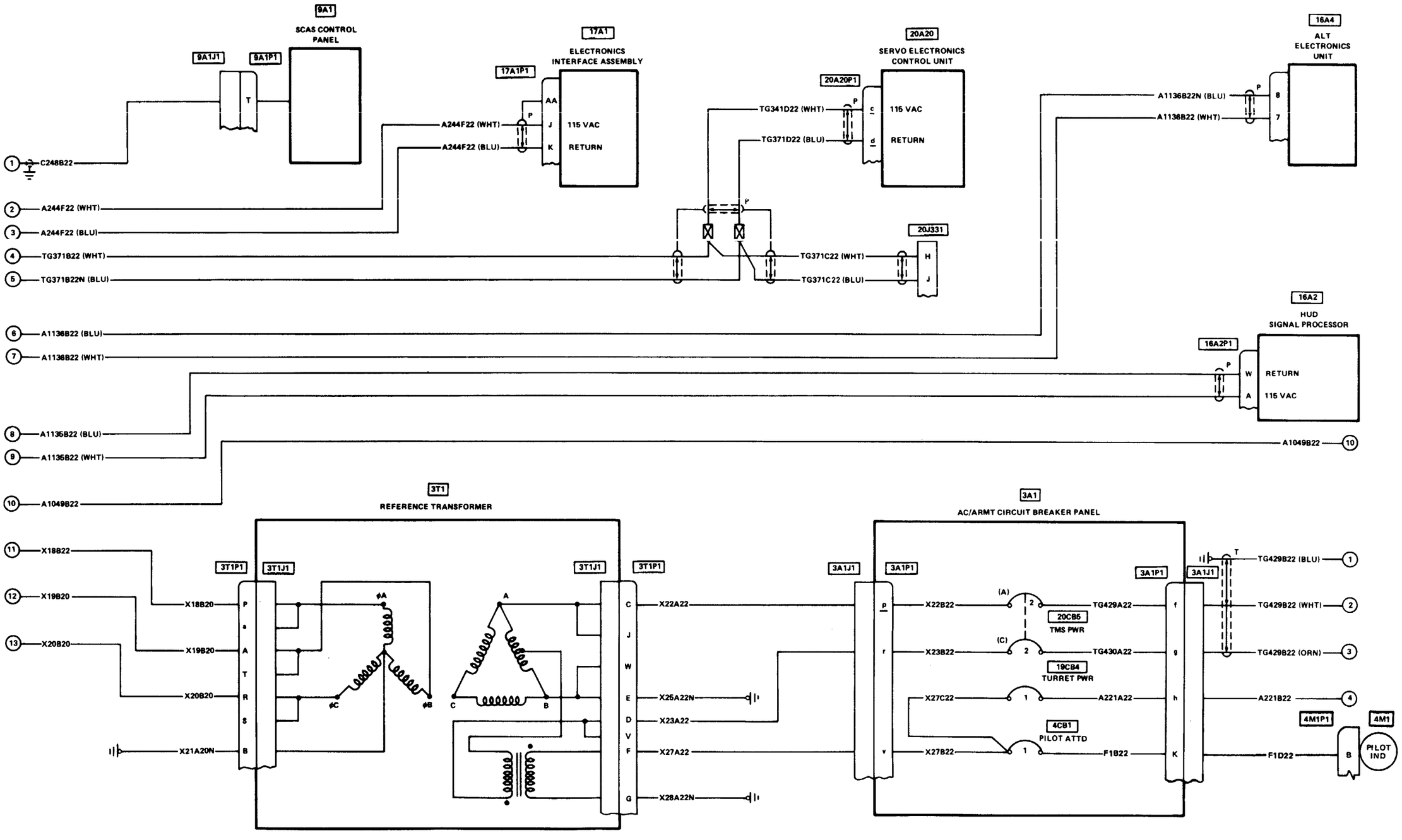
# 28 VDC BUSES - External Power Applied (Sheet 2 of 2)



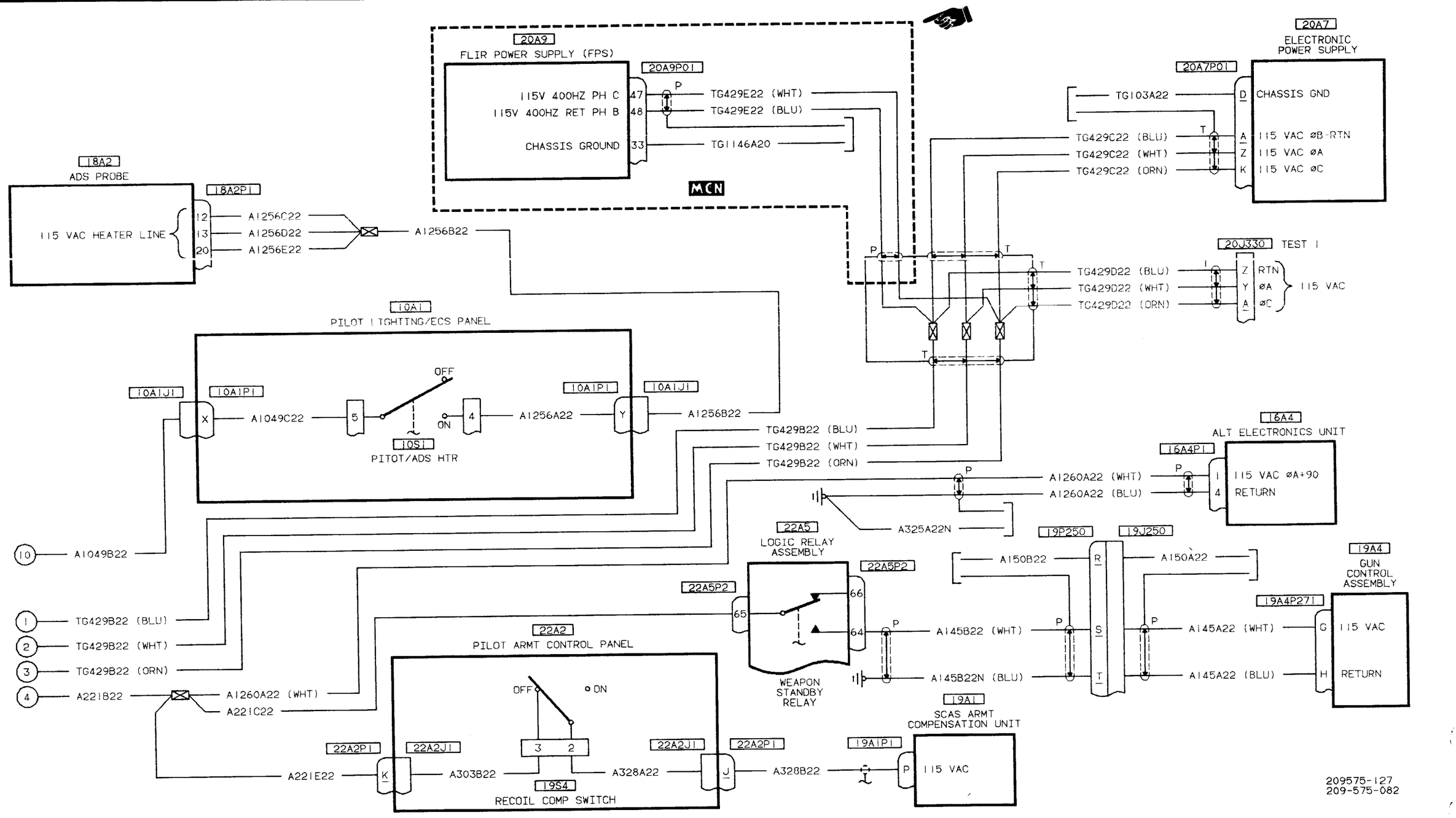
# 115 VAC POWER DISTRIBUTION (Sheet 1 of 3)



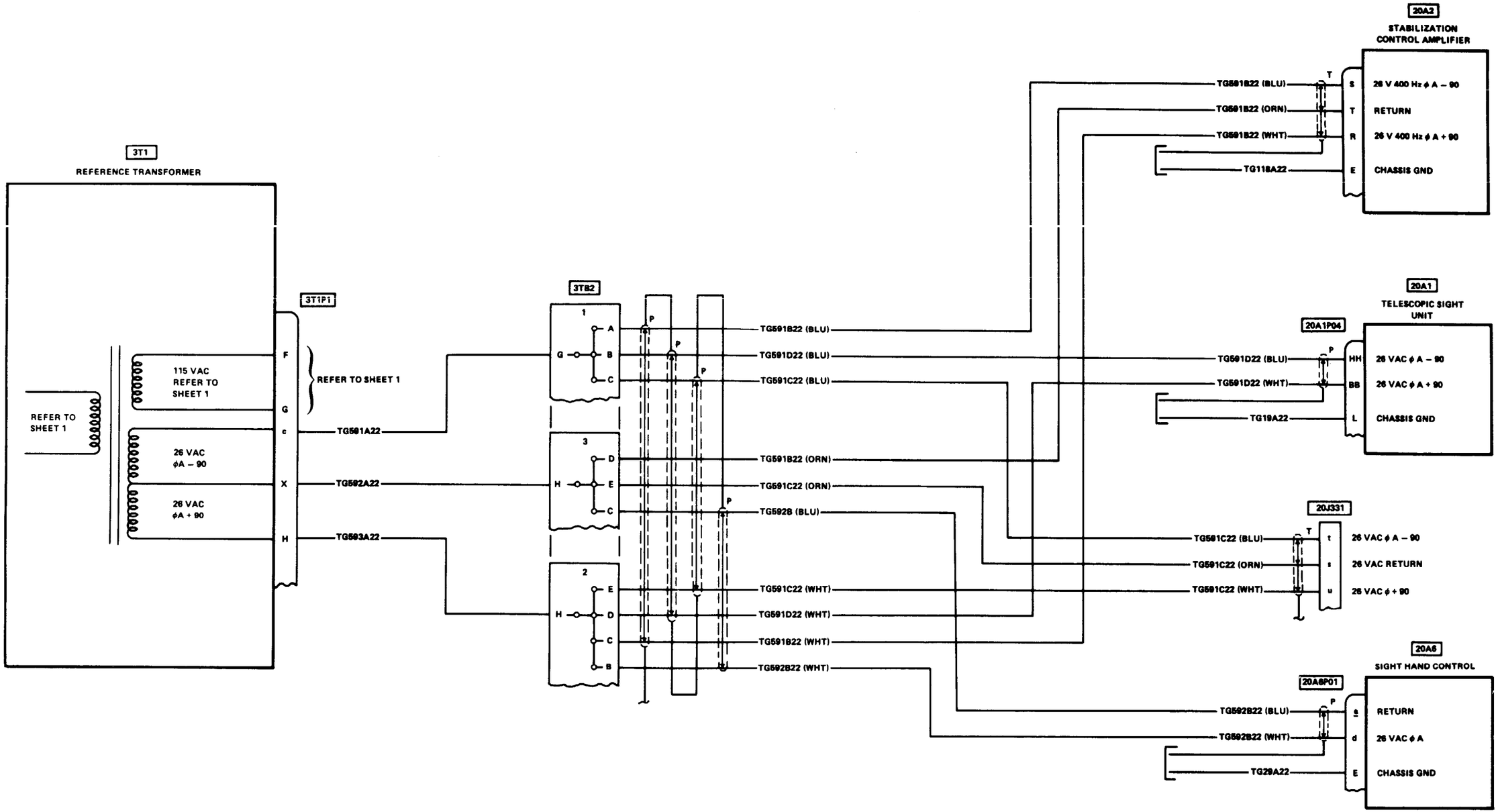
# 115 VAC POWER DISTRIBUTION (Sheet 2 of 3)



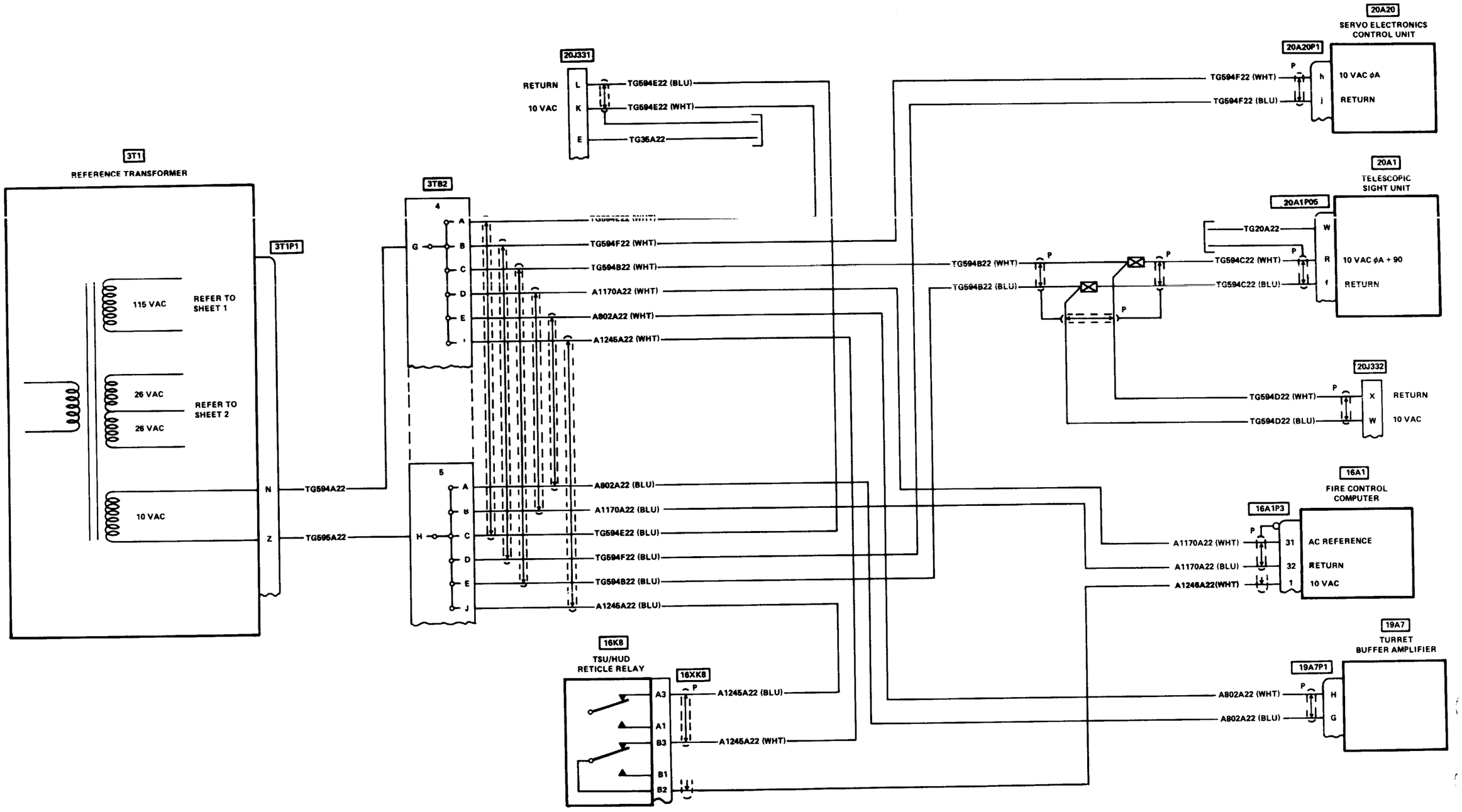
# 115 VAC POWER DISTRIBUTION (Sheet 3 of 3)



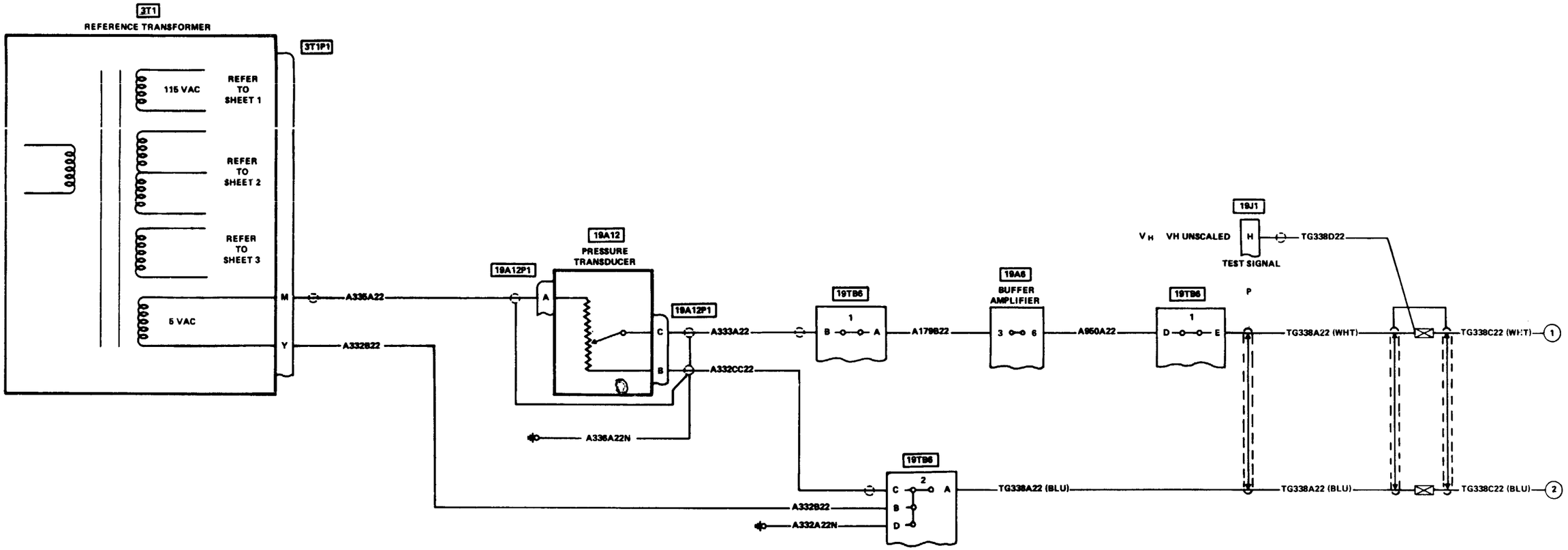
# 26 VAC - REFERENCE TRANSFORMER OUTPUT ( Sheet 1 of 1)



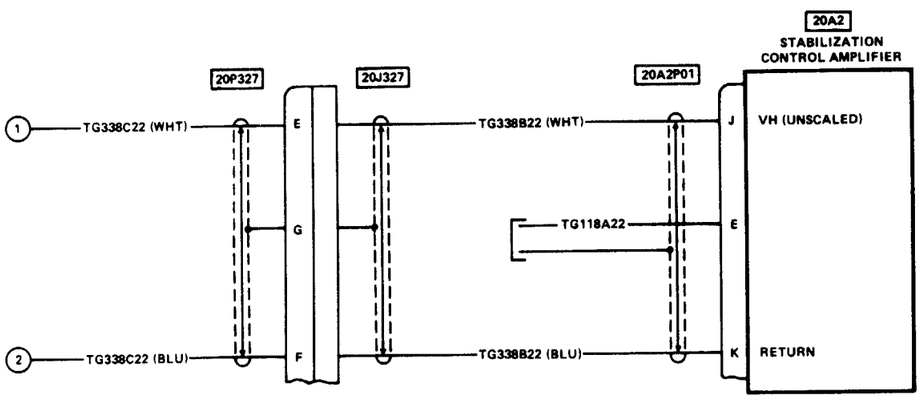
# 10 VAC - REFERENCE TRANSFORMER OUTPUT (Sheet 1 of 1)



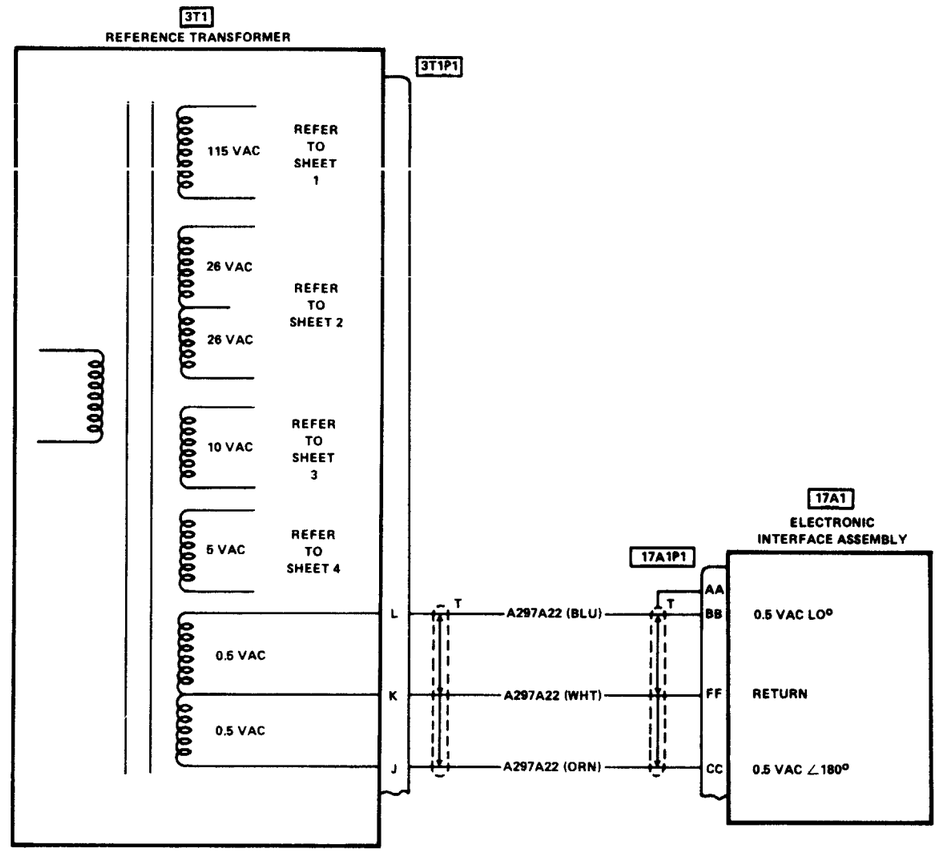
15 VAC - REFERENCE TRANSFORMER OUTPUT ( Sheet 1 of 2)



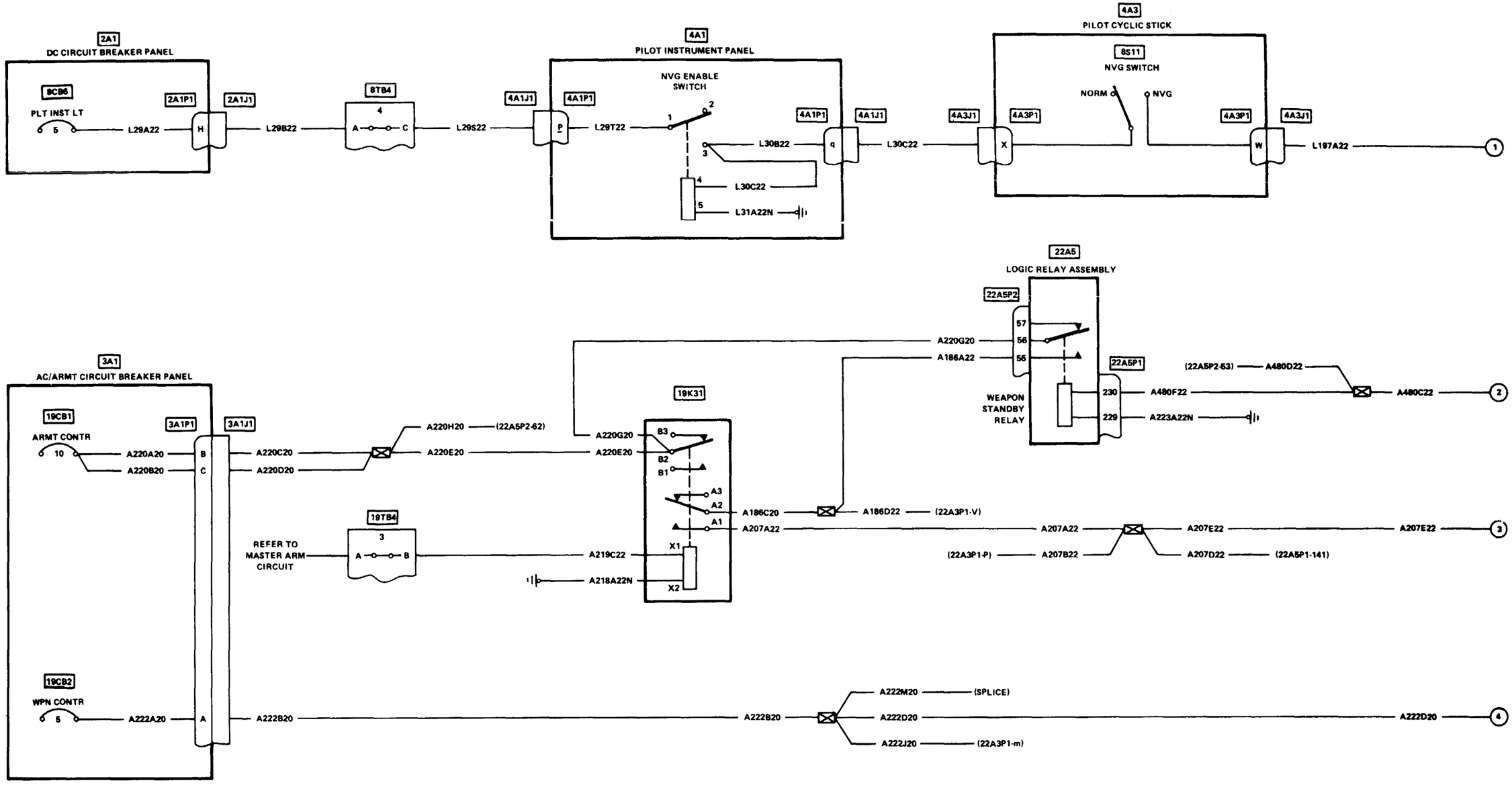
## 5 VAC - REFERENCE TRANSFORMER OUTPUT (Sheet 2 of 2)



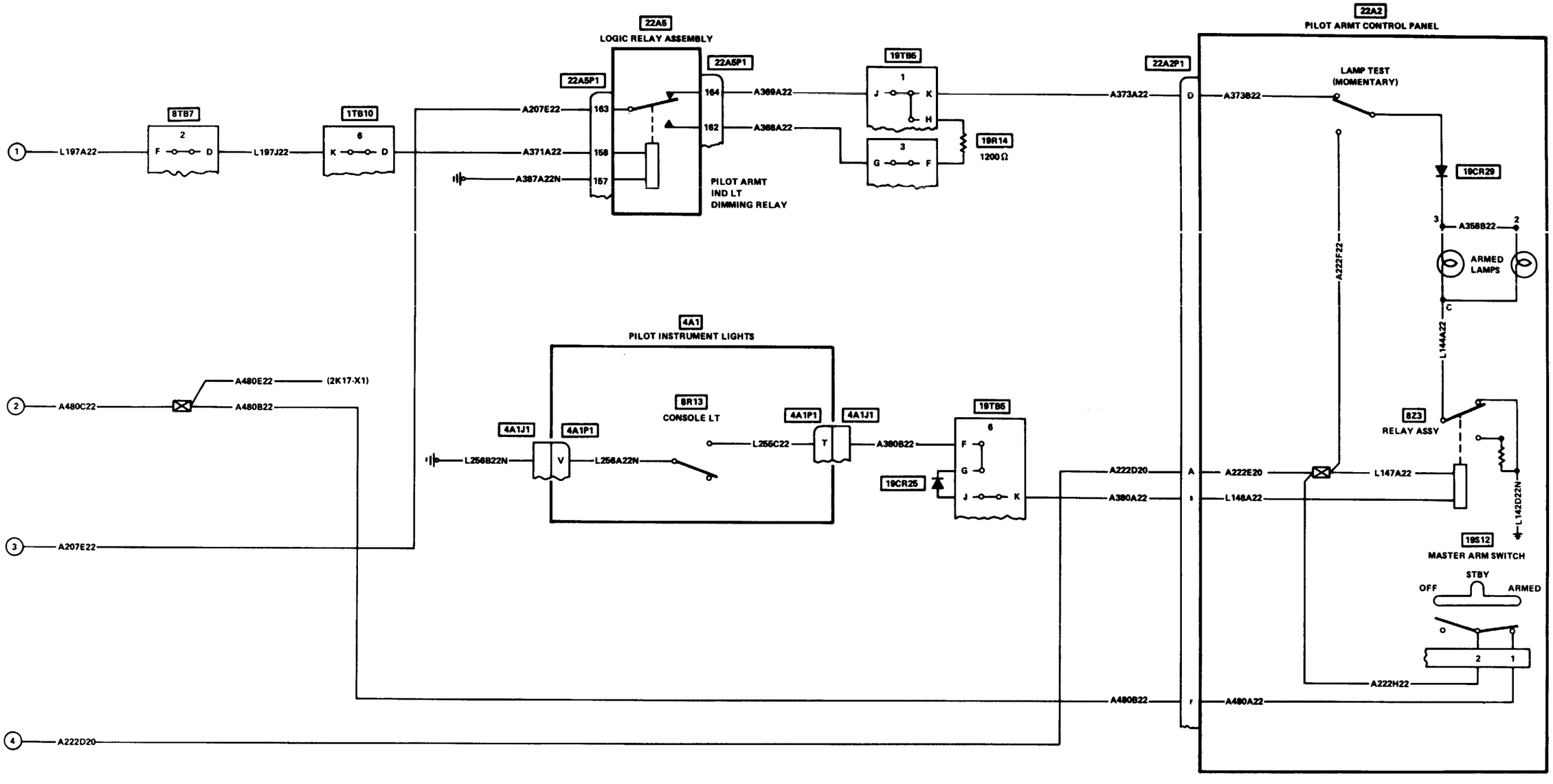
# 0.5 VAC - REFERENCE TRANSFORMER OUTPUT ( Sheet 1 of 1)



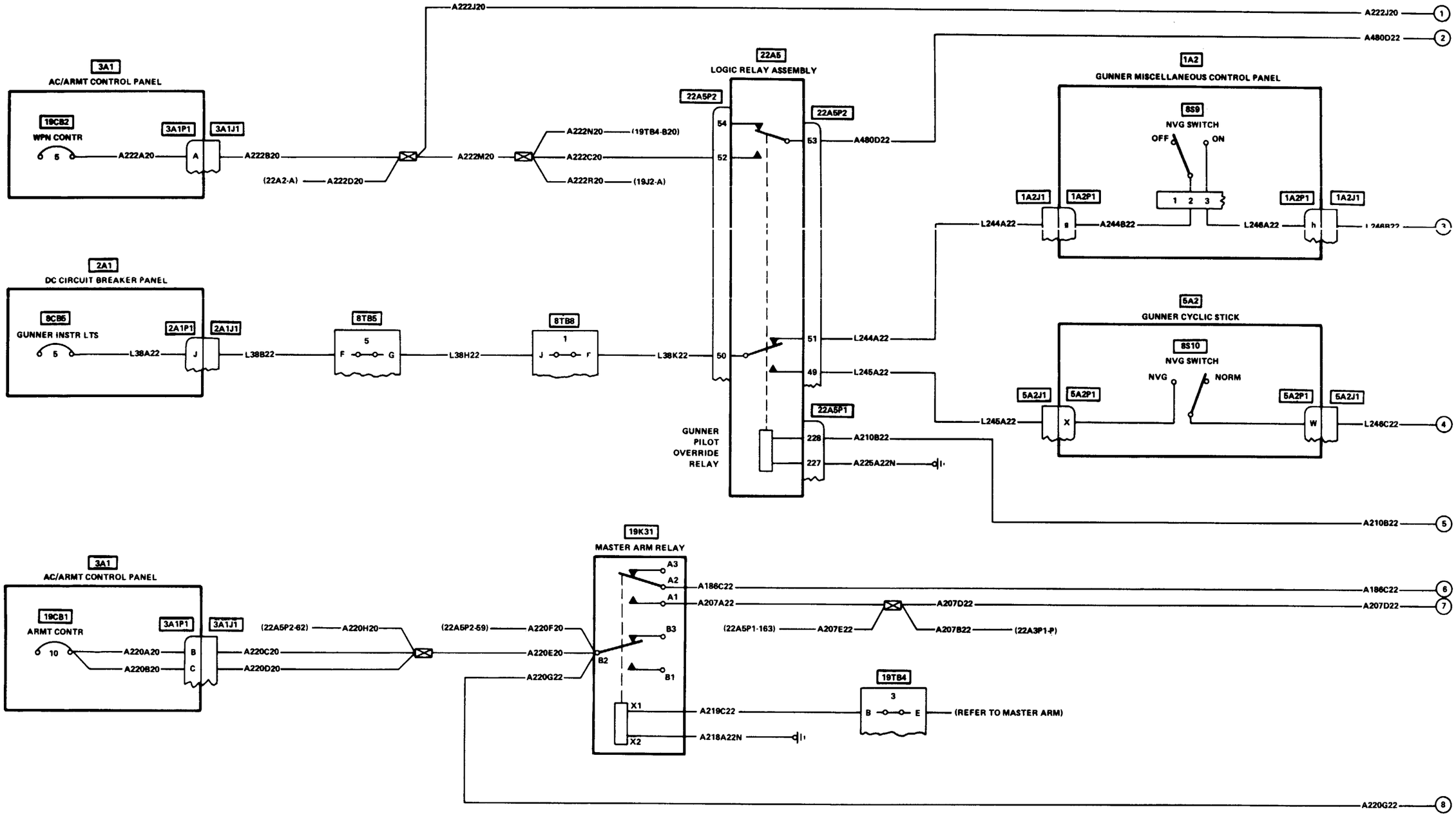
# Pilot Lamp Dimming - Night and NVG (Sheet 1 of 2)



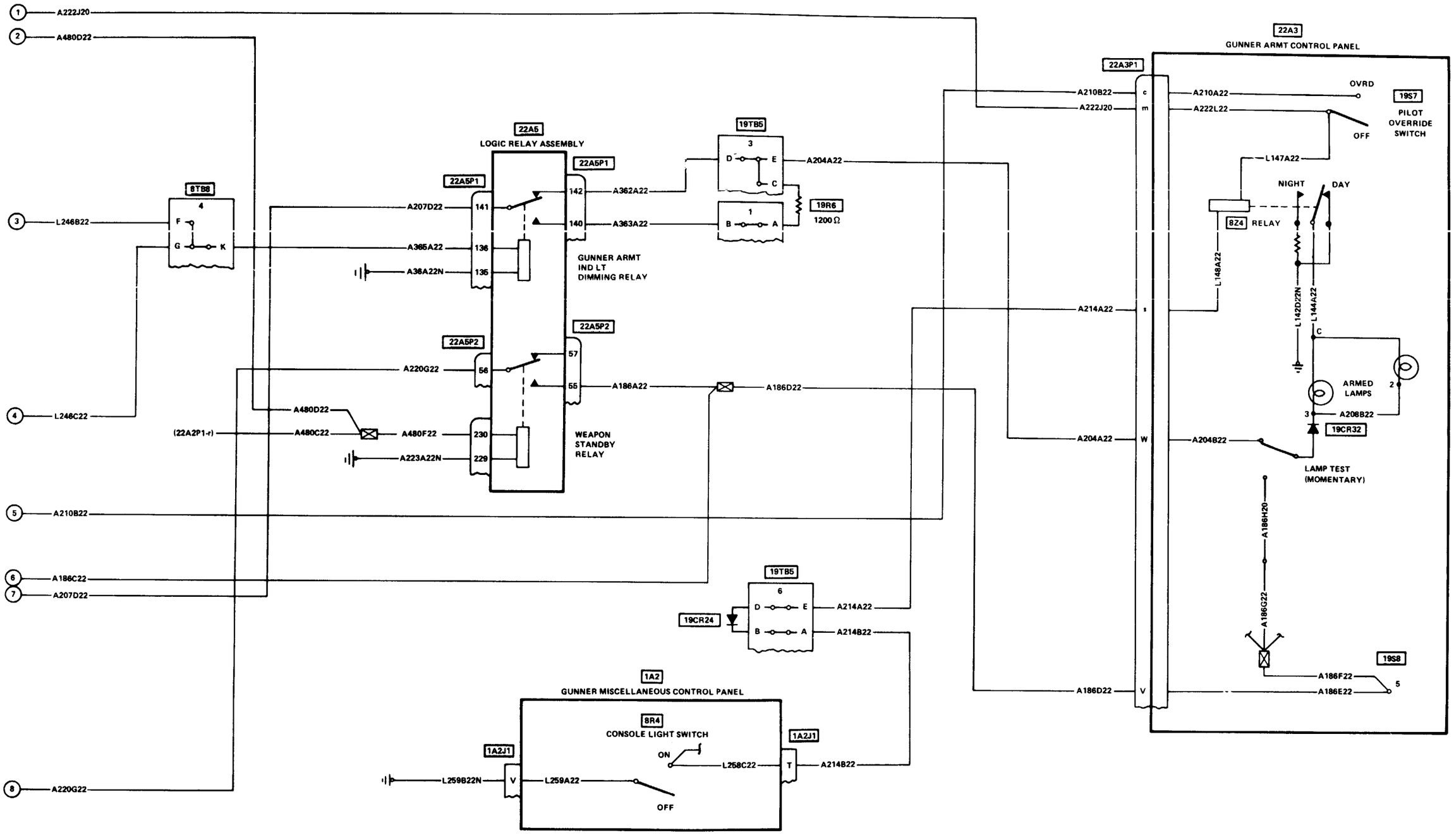
# Pilot Lamp Dimming - Night and NVG (Sheet 2 of 2)

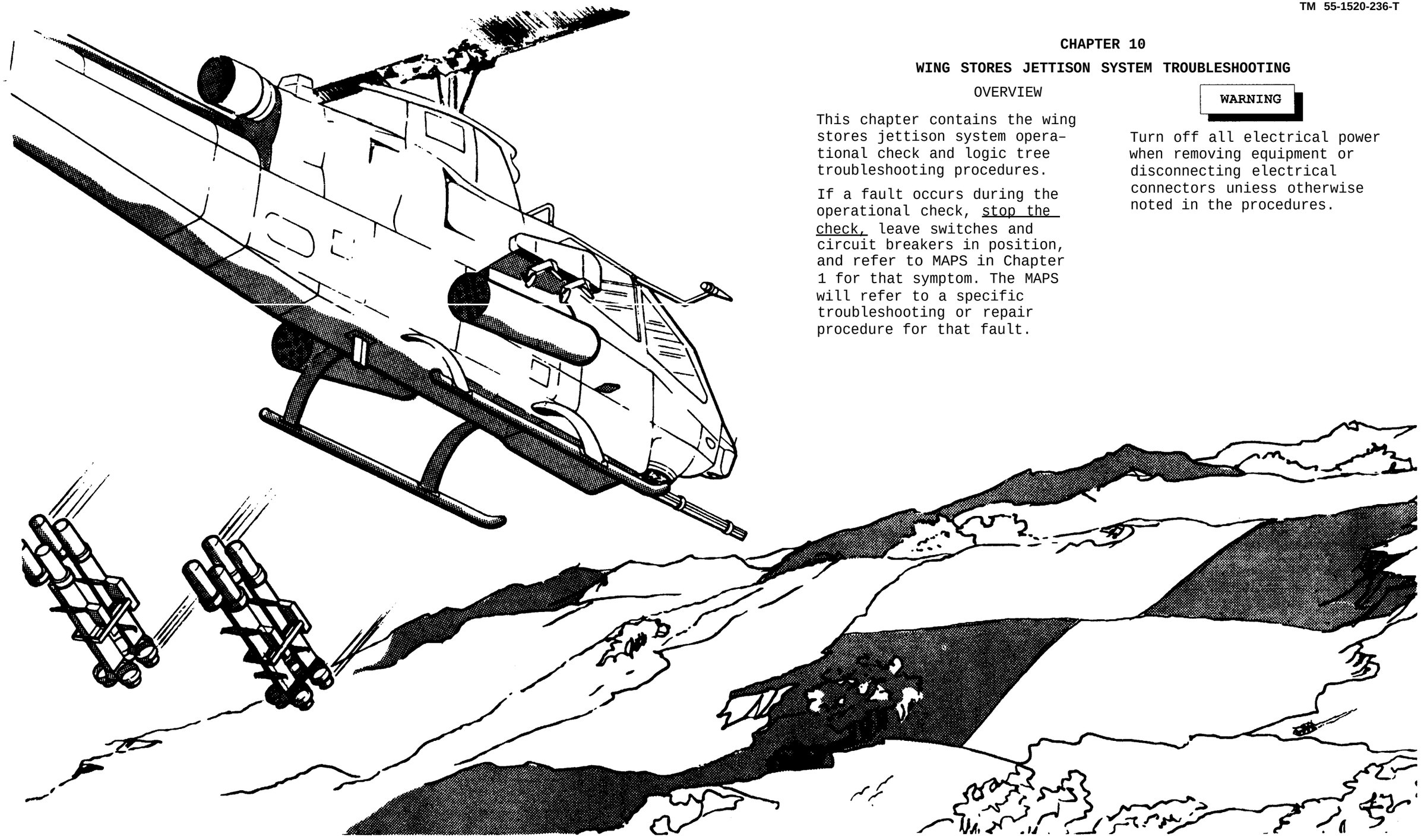


Gunner Lamp Dimming - Night and NVG (Sheet 1 of 2)



# Gunner Lamp Dimming - Night and NVG (Sheet 2 of 2)





# CHAPTER 10

## WING STORES JETTISON SYSTEM TROUBLESHOOTING

### OVERVIEW

This chapter contains the wing stores jettison system operational check and logic tree troubleshooting procedures.

If a fault occurs during the operational check, stop the check, leave switches and circuit breakers in position, and refer to MAPS in Chapter 1 for that symptom. The MAPS will refer to a specific troubleshooting or repair procedure for that fault.

**WARNING**

Turn off all electrical power when removing equipment or disconnecting electrical connectors uniess otherwise noted in the procedures.

## 10-1. WING STORES JETTISON PRE-OPERATIONAL CHECK SETUP.

INITIAL SETUP

Applicable Configuration
All

Personnel Required
68J (2)

Equipment Condition
All ordnance removed from helicopter.

a. Open (OFF) all circuit breakers on AC/ARMT circuit breaker panel,

b. Open all circuit breakers on DC circuit breaker panel,

c. Set pilot miscellaneous control panel switches:

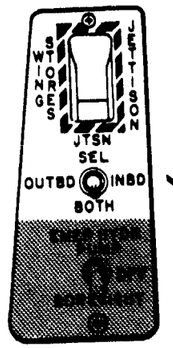
(1) JETTISON SELECT OUTBD to OFF.

(2) JETTISON SELECT INBD to OFF.

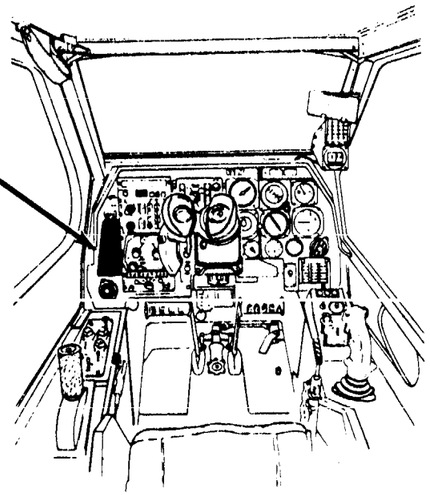
d. Set jettison switches on gunner instrument panel:

(1) JTSN SEL to BOTH.

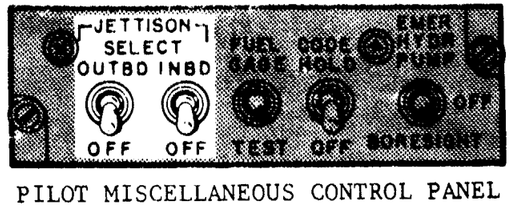
(2) WING STORES JETTISON to OFF (down position).



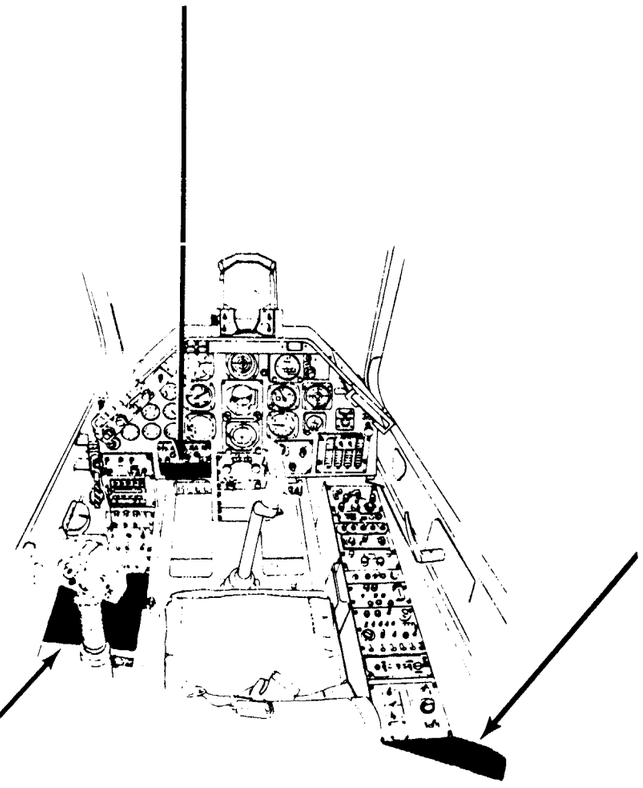

SWITCH PANEL



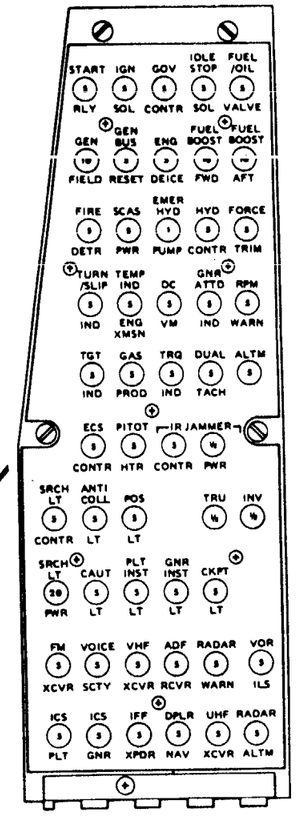
GUNNER STATION



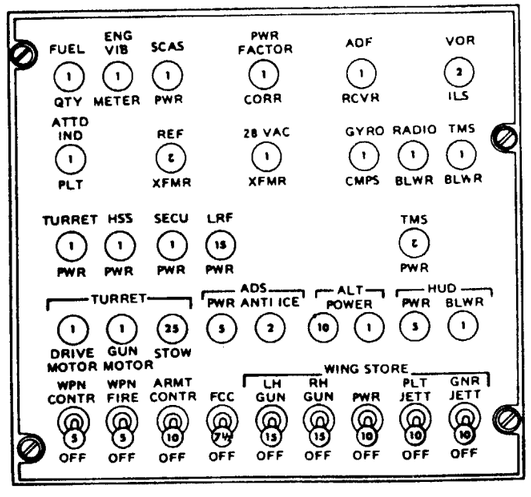

PILOT MISCELLANEOUS CONTROL PANEL



PILOT STATION




DC CIRCUIT BREAKER PANEL




AC/ARMT CIRCUIT BREAKER PANEL

## 10-2. WING STORES JETTISON OPERATIONAL CHECK .

NOTE

Complete WING STORES JETTISON PRE-OPERATIONAL CHECK SET-UP, paragraph 10-1, before continuing with operational check.

**WARNING**

Prior to perfoming the following procedures, observe safing precautions and ensure that rockets are unloaded in accordance with TM 9-1055-460-13. Ensure that jettison ejector cartridges are removed from and ground safety pins installed in ejector racks in accordance with TM 55-1520-236-23.

INITIAL SET UP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

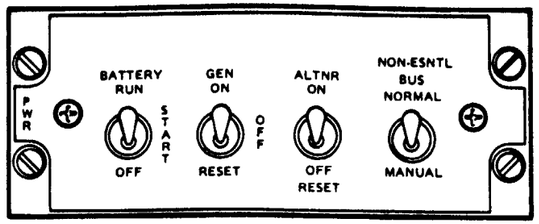
Jettison Circuitry Test Set

Ground Power Unit

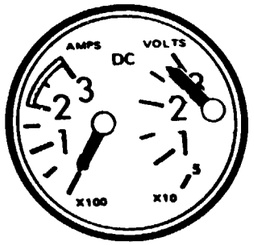
TOW Missile Present Simulator

Personnel Required
68J (2)

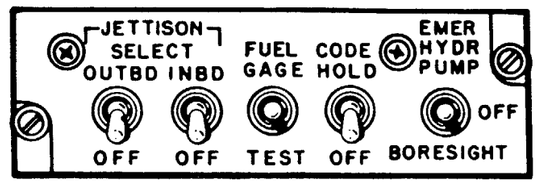
References
TM 9-1090-207-13
TM 55-1520-236-10
TM 55-1520-236-23



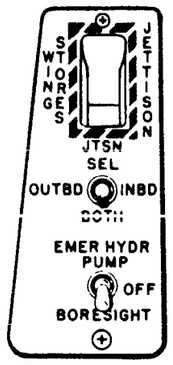
PILOT ELECTRICAL PWR CONTROL PANEL



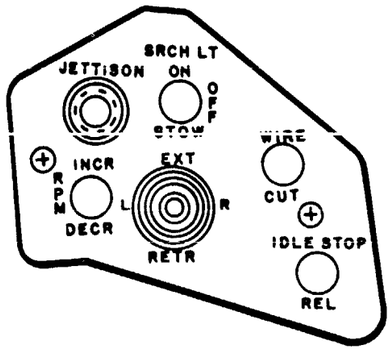
DC VOLTMETER



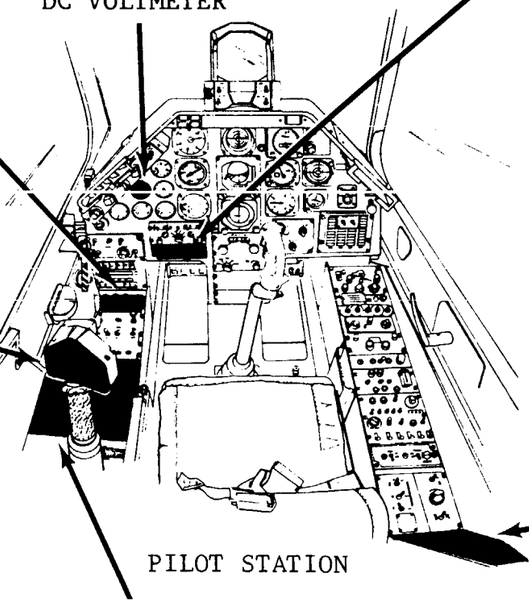
PILOT MISCELLANEOUS CONTROL PANEL

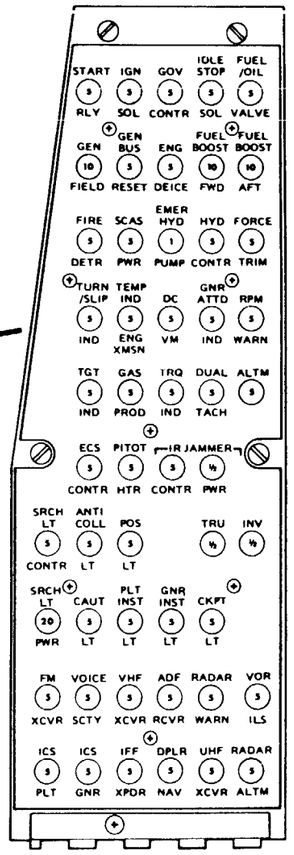


SWITCH PANEL

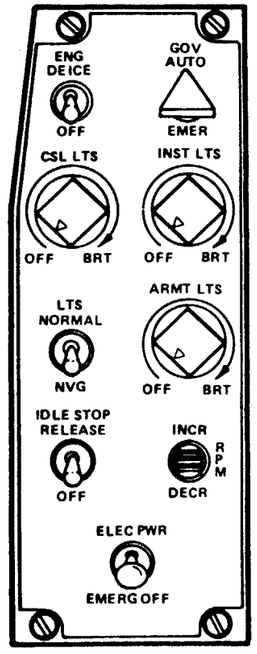


PILOT COLLECTIVE STICK

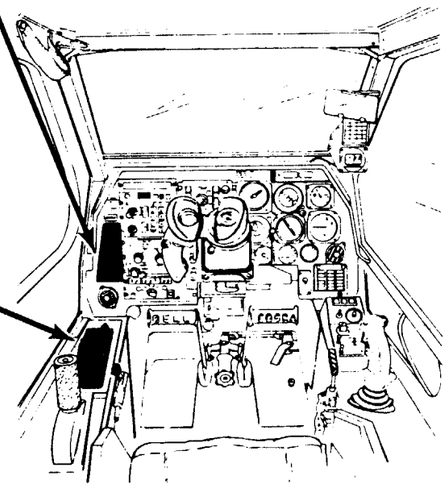

PILOT STATION

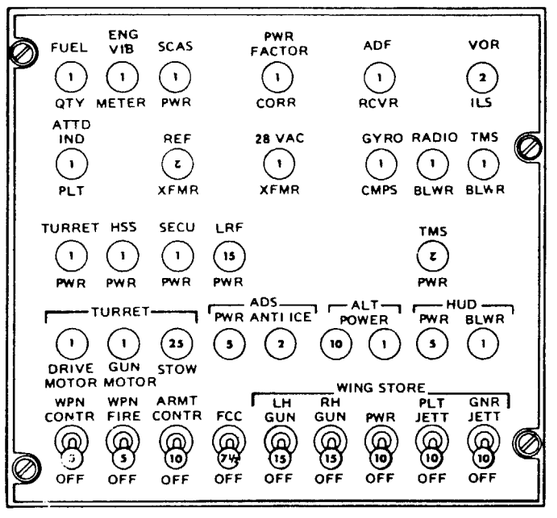


DC CIRCUIT BREAKER PANEL



GUNNER MISCELLANEOUS CONTROL PANEL


GUNNER STATION



AC/ARMT CIRCUIT BREAKER PANEL

10-2. WING STORES JETTISON OPERATIONAL CHECK (CONTINUED).

Access Panels
Right Wing Outboard Pylon Fairing - Removed

Nose Fairing Right Wing Outboard Pylon - Removed

Right Wing Outboard Leading Edge Cover - Removed

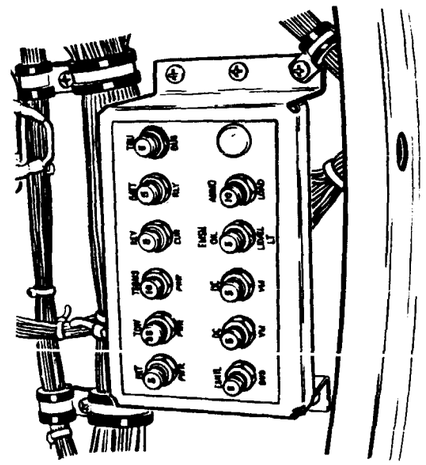
Left Wing Outboard Leading Edge Cover - Removed

Nose Fairing Left Wing Outboard Pylon - Removed

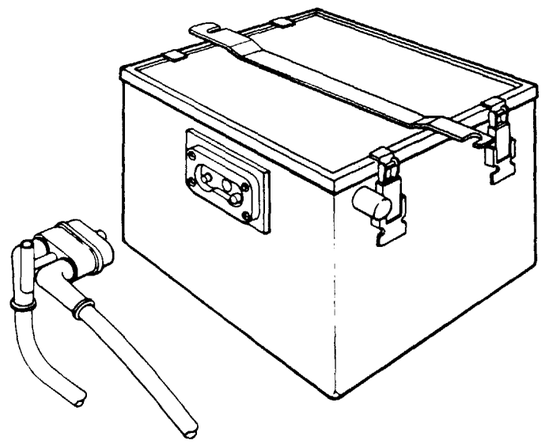
Left Wing Outboard Pylon Fairing - Removed

Battery Compartment - Removed

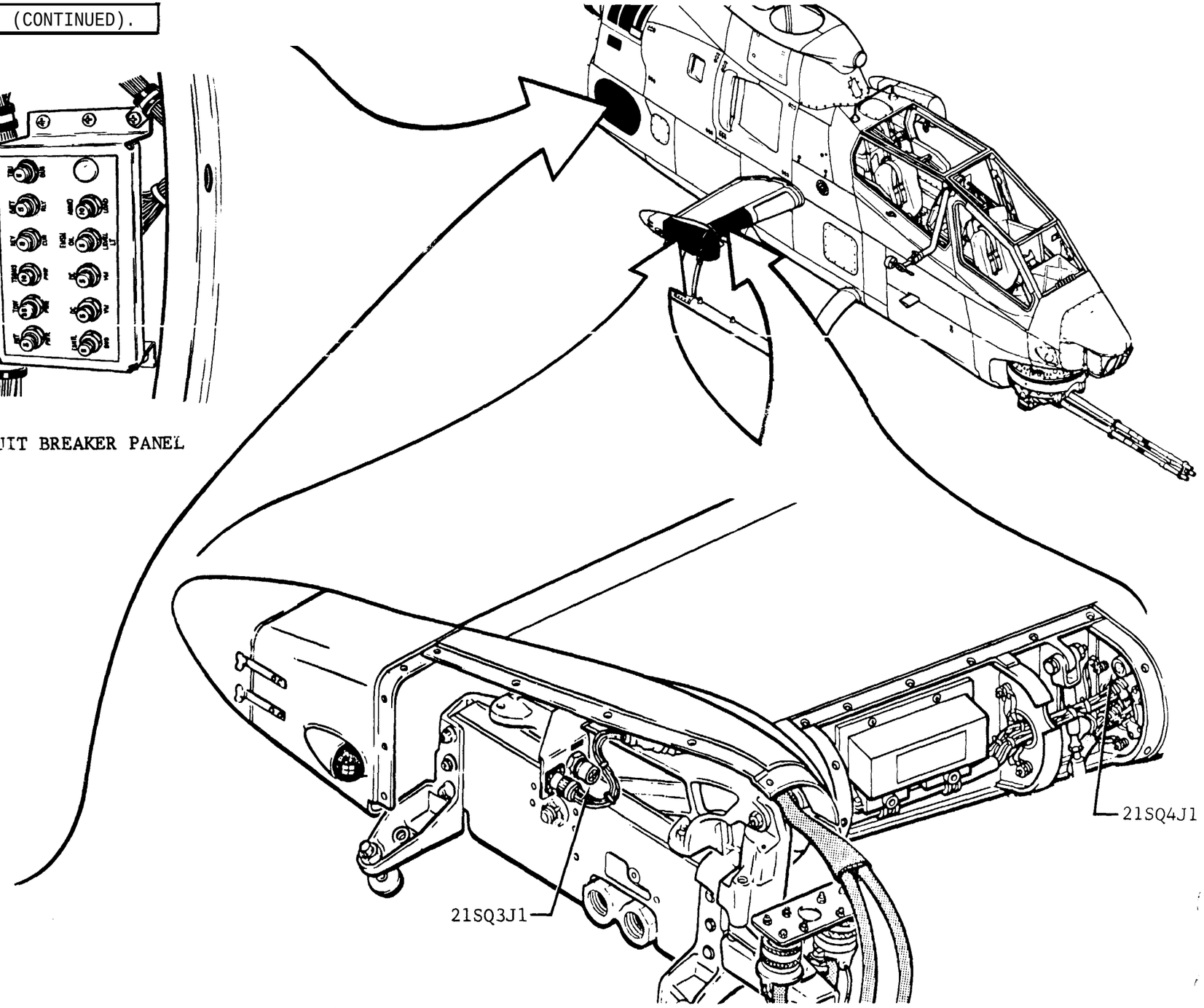
External Power Door - Open



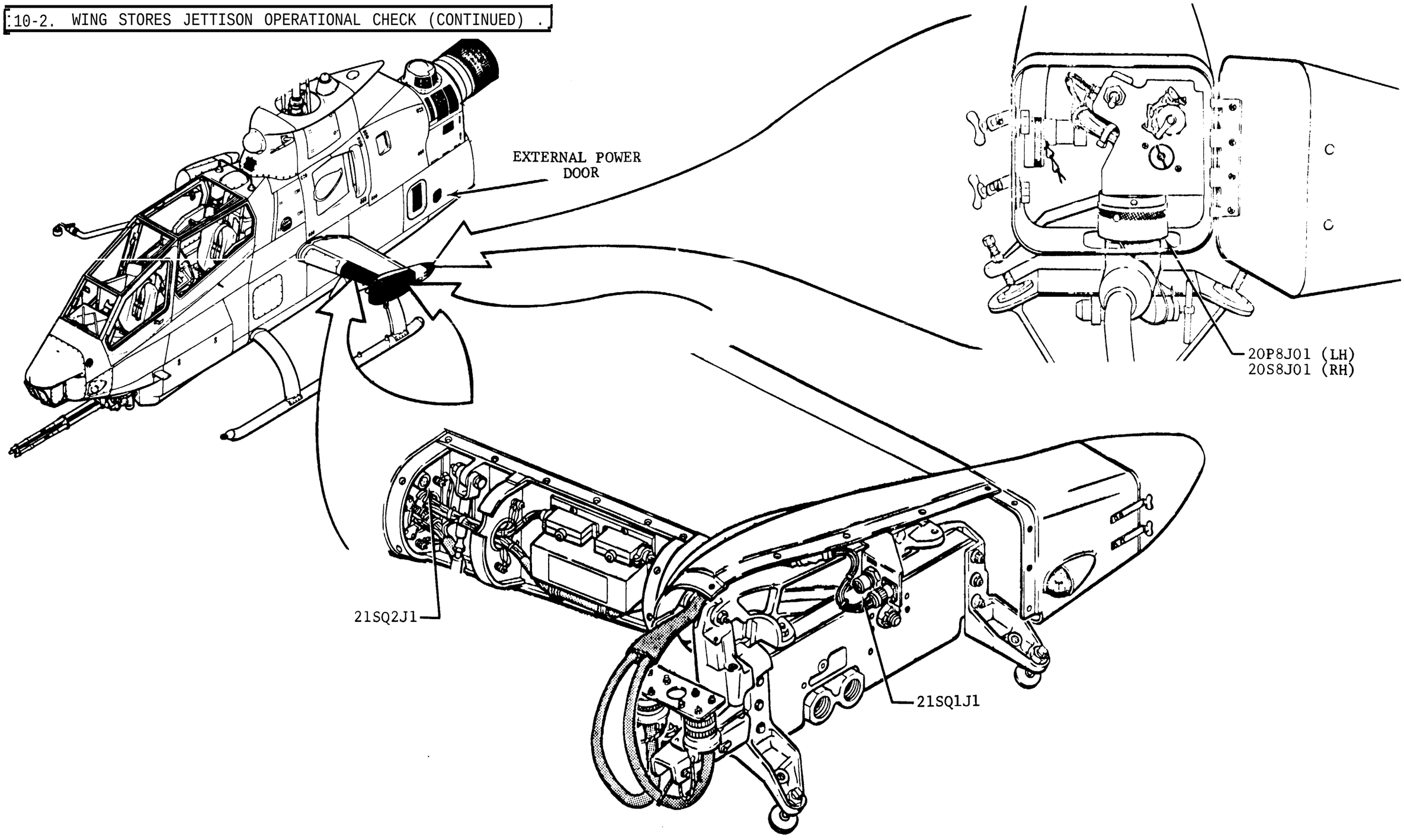
CIRCUIT BREAKER PANEL



BATTERY



10-2. WING STORES JETTISON OPERATIONAL CHECK (CONTINUED) .



## 10-2. WING STORES JETTISON OPERATIONAL CHECK (CONTINUED).

APPLYING ELECTRICAL POWER

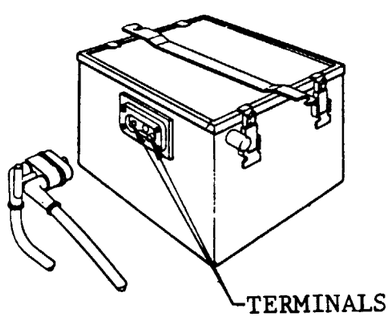
**WARNING**

Warn people working on or near helicopter before you apply electrical power.

**CAUTION**

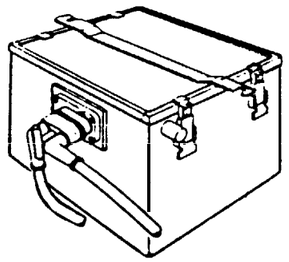
Minimum acceptable battery voltage is 22 V dc. Low battery voltage may result in excessive battery overheating (thermal runaway) after external power is applied.

a. Check battery voltage. Minimum battery voltage shall be 22 V dc measured at battery terminals.



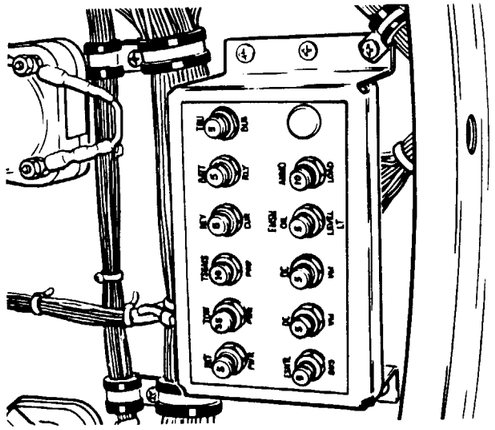

BATTERY

b. Connect battery.



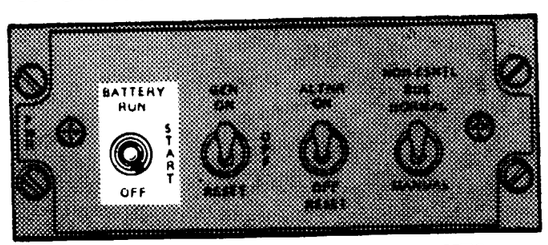
BATTERY

c. Close all circuit breakers on circuit breaker panel in battery compartment.



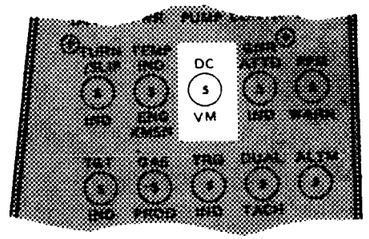
CIRCUIT BREAKER PANEL

d. Set BATTERY switch on electrical PWR control panel to START.




ELECTRICAL PWR CONTROL PANEL

Close DC VM circuit breaker on DC circuit breaker panel.

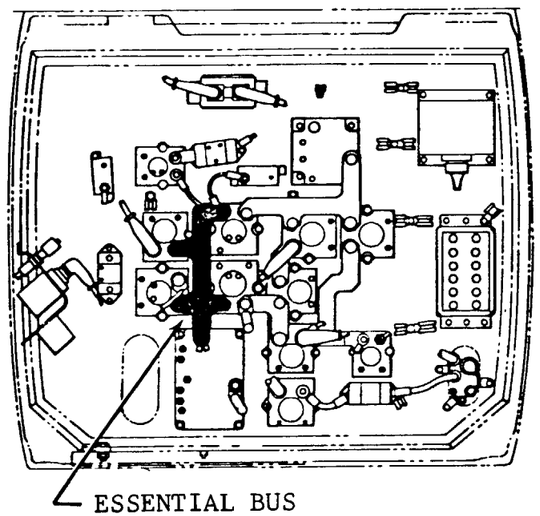



DC CIRCUIT BREAKER PANEL

**CAUTION**

Do not exceed 30 V dc output on ground power unit.

f. Apply external power to helicopter. (Refer to TM 55-1520-236-23, Chapter 1, Section 111.) Adjust ground power unit to provide 28.0 to 30.0 V dc measured at the essential bus with a multimeter.

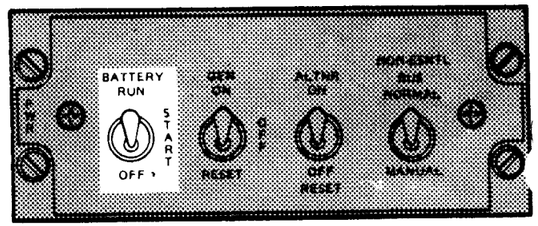



FORWARD BULKHEAD OF BATTERY COMPARTMENT

NOTE

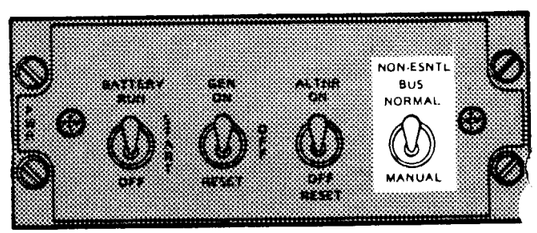
28 to 30 V dc is required for the following operational checks. The DC voltmeter can be observed to assure correct voltage is present.

g. Set BATTERY switch on electrical PWR control panel to RUN.




ELECTRICAL PWR CONTROL PANEL

h. Set pilot electrical PWR control panel NON ESNTL BUS switch to NORMAL.



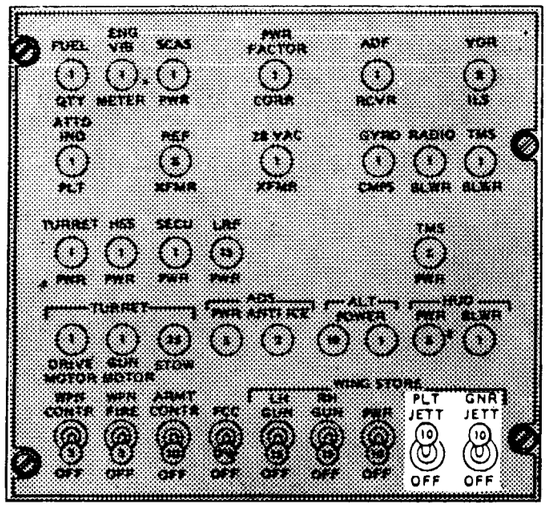

ELECTRICAL PWR CONTROL PANEL

10-2. WING STORES JETTISON OPERATIONAL CHECK (CONTINUED).

i. Close the following circuit breakers on AC/ARMT circuit breaker panel:

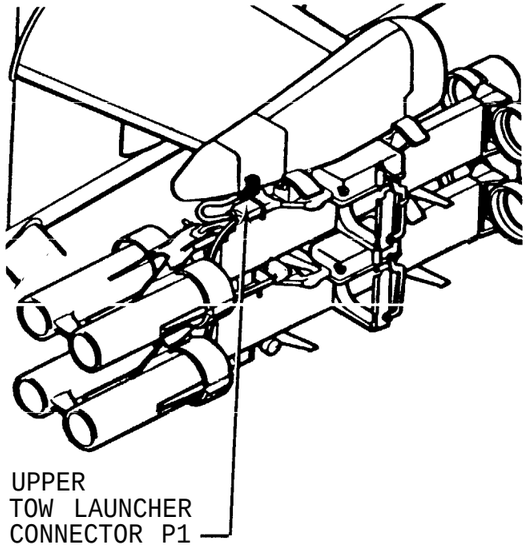
(1) PLT JETT

(2) GNR JETT



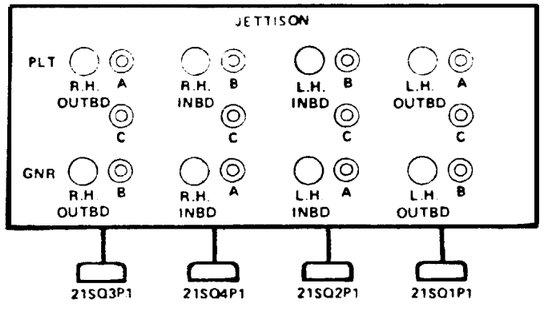

AC/ARMT CIRCUIT BREAKER PANEL

j. Disconnect upper TOW missile launcher connectors P1 from 20S8J01 on right wing outboard pylon and 20P8J01 on left wing outboard pylon.

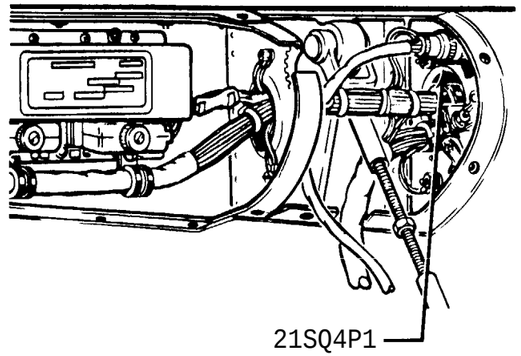


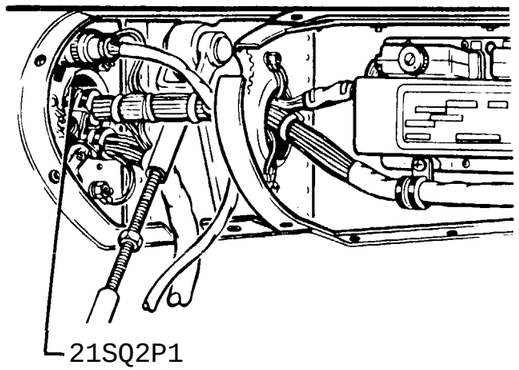

RIGHT WING TOW MISSILE LAUNCHER

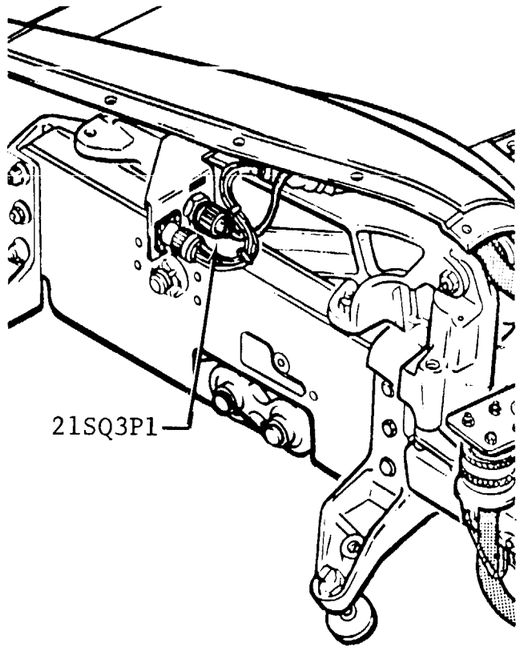
k. Connect Jettison Circuitry Test Set (TM 55-1520-236-23, Chapter 9, Section X) to 21SQ1J1, 21SQ2J1, 21SQ3J1, and 21SQ4J1. Indicators on the Jettison Circuitry Test Set should not light.



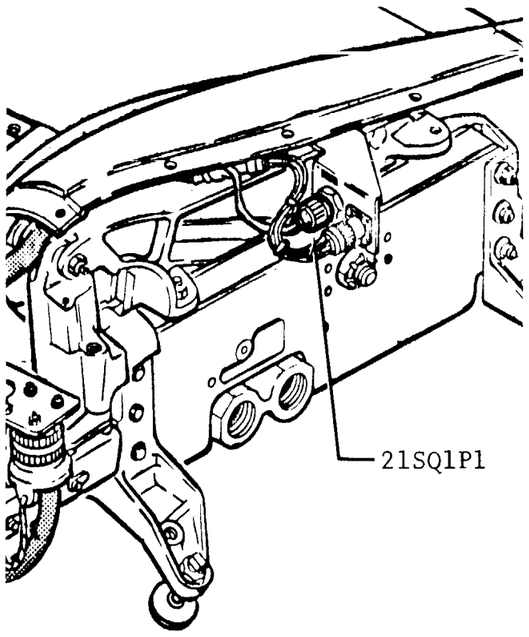

JETTISON CIRCUITRY TEST SET




RIGHT WING



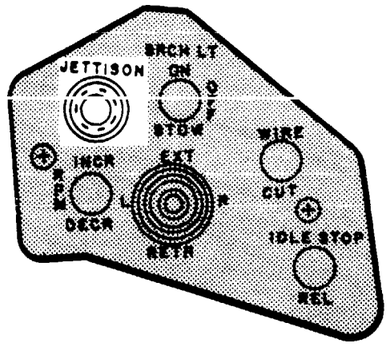

LEFT WING

NOTE

The Jettison Circuitry Test Set will not check ejector racks. Refer to TM 55-1520-236-23, Chapter 16, for ejector rack check out procedure.

## 10-2. WING STORES JETTISON OPERATIONAL CHECK (CONTINUED).

1. Press and hold JETTISON switch on pilot collective stick. Indicators on the Jettison Circuitry Test Set should not light. Verify PLT JETT circuit breaker remains closed. Release JETTISON switch.

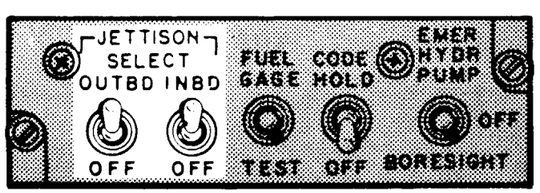



PILOT COLLECTIVE STICK

NOTE

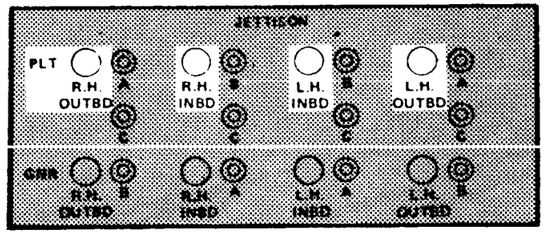
The above test cannot be conducted from the gunner station.

m. Set JETTISON SELECT switches on pilot miscellaneous control panel to OUTBD and INBD.




PILOT MISCELLANEOUS CONTROL PANEL

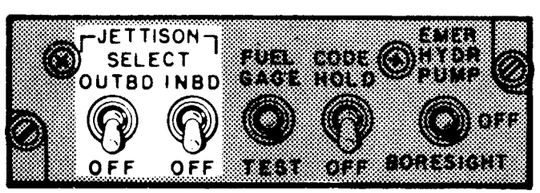
n. Press and hold pilot JETTISON switch on pilot collective stick. Observe that PLT JETT circuit breaker remains closed and that pilot OUTBD and INBD indicators on Jettison Circuitry Test Set light. Both OUTBD indicators will light .5 seconds before the INBD indicators light.




JETTISON CIRCUITRY TEST SET

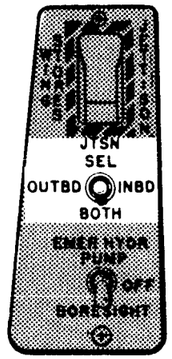
o. Release JETTISON switch. Check that pilot indicators on Jettison Circuitry Test Set remain lighted for approximately one second after switch is released.

p. Set JETTISON SELECT OUTBD and INBD switches on pilot miscellaneous control panel to OFF.




PILOT MISCELLANEOUS CONTROL PANEL

q. Set JTSN SE. switch on gunner instrument panel to BOTH.




SWITCH PANEL

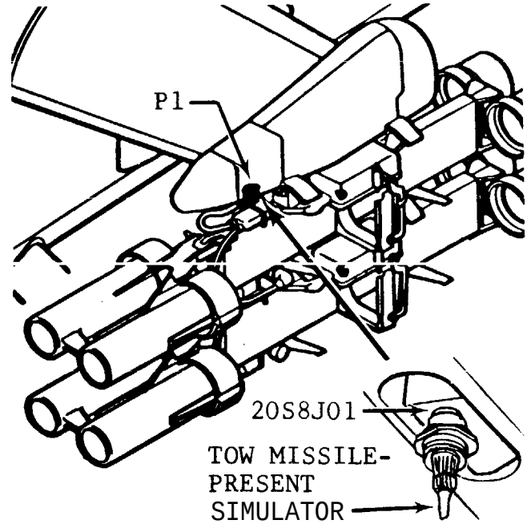
r. Remove copper shear wire, (if installed), raise cover and set WING STORES JETTISON switch on gunners instrument panel to the up position. Observe that GNR JETT circuit breaker remains closed and that gunner INBD and OUTBD indicators on Jettison Circuitry Test Set light. Both OUTBD indicators will light .5 seconds before the INBD indicators light.



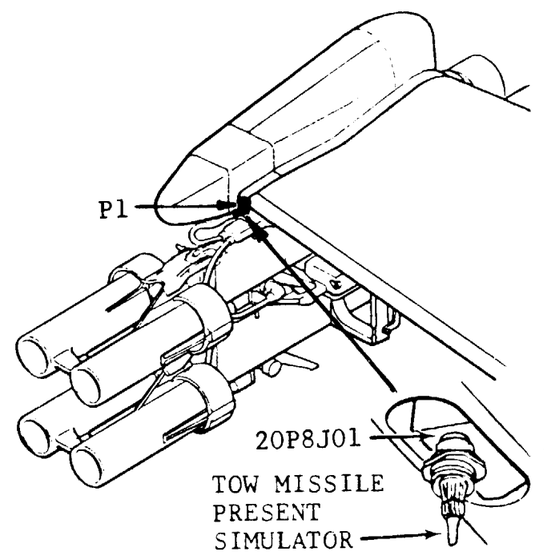

SWITCH PANEL

s. Set WING STORES JETTISON switch to the down position.

t. Connect upper TOW missile launcher connectors P1 and/or TOW missile present simulators to 20S8J01 and 20P8J01.



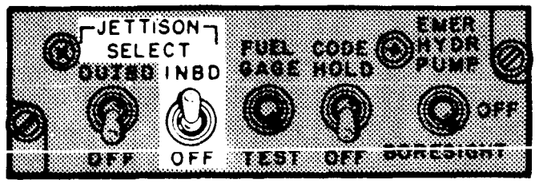

RIGHT WING TOW MISSILE LAUNCHER




LEFT WING TOW MISSILE LAUNCHER

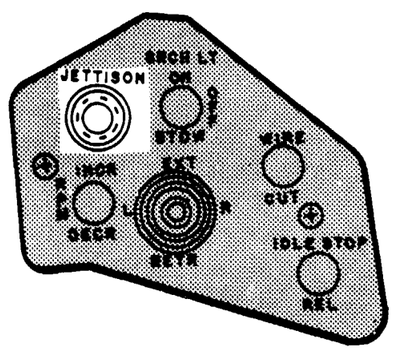
10-2. WING STORES JETTISON OPERATIONAL CHECK (CONTINUED).

u. Set JETTISON SELECT switch on pilot miscellaneous control panel to INBD.

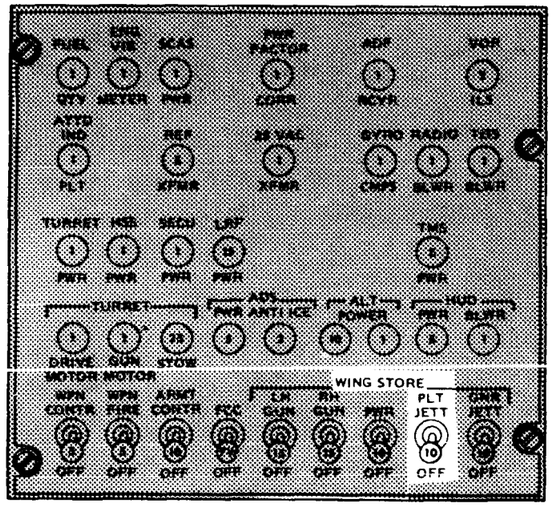



PILOT MISCELLANEOUS CONTROL PANEL

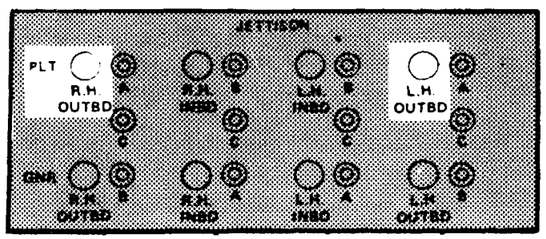
v. Press and hold JETTISON switch on pilot collective stick. Check that WING STORE PLT JETT circuit breaker on AC/ARMT circuit breaker panel remains closed. Pilot OUTBD indicators on Jettison Circuitry Test Set will light. Pilot INBD indicators will not light.




PILOT COLLECTIVE STICK

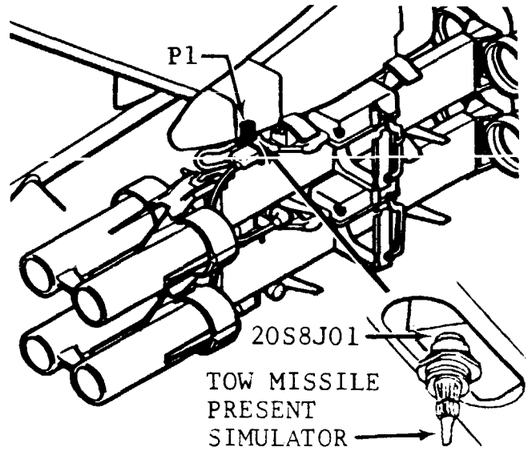



AC/ARMT CIRCUIT BREAKER PANEL

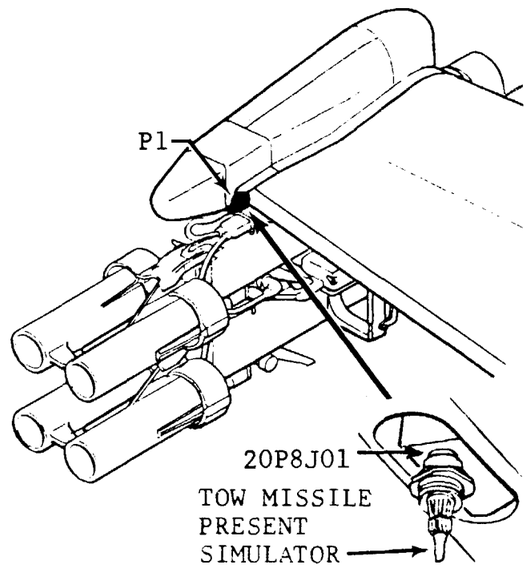



JETTISON CIRCUITRY TEST SET

w. Continue to hold JETTISON switch and disconnect electrical connectors P1 on both upper TOW launchers or remove both TOW missile present simulators. Pilot OUTBD indicators on Jettison Circuitry Test Set will go out. Pilot INBD indicators will light .5 seconds after second simulator is removed. Release JETTISON switch.

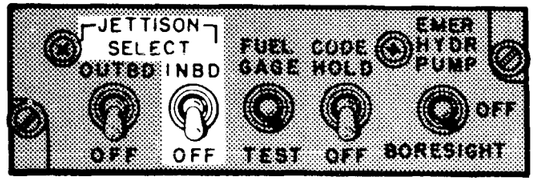



RIGHT WING TOW MISSILE LAUNCHER




LEFT WING TOW MISSILE LAUNCHER

x. Set JETTISON SELECT INBD switch on pilot miscellaneous control panel to OFF.

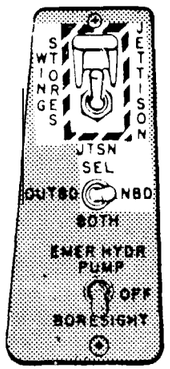



PILOT MISCELLANEOUS CONTROL PANEL

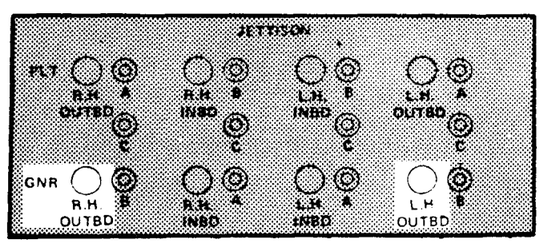
y. Connect electrical connectors P1 on TOW launchers or install TOW missile present simulators.

z. Set JTSN SEL switch on gunner instrument panel to INBD. Observe that GNR JETT circuit breaker remains closed.

aa. Set WING STORES JETTISON switch on gunner instrument panel to the up position. Gunner OUTBD indicators on Jettison Circuitry Test Set will light. Gunner INBD indicators will not light.




SWITCH PANEL




JETTISON CIRCUITRY TEST SET

## 10-2. WING STORES JETTISON OPERATIONAL CHECK (CONTINUED).

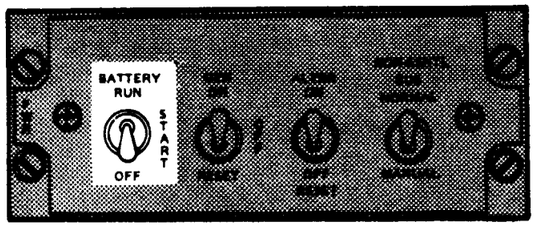
ab. Disconnect electrical connectors P1 on both upper TOW missile launchers or remove both TOW missile present simulators. Gunner OUTBD indicators on Jettison Circuitry Test Set will go out after second similator is removed Gunner INBD indicators will light .5 seconds later.

ac. Set WING STORES JETTISON switch on gunner instrument panel to down position. Install copper shear wire.



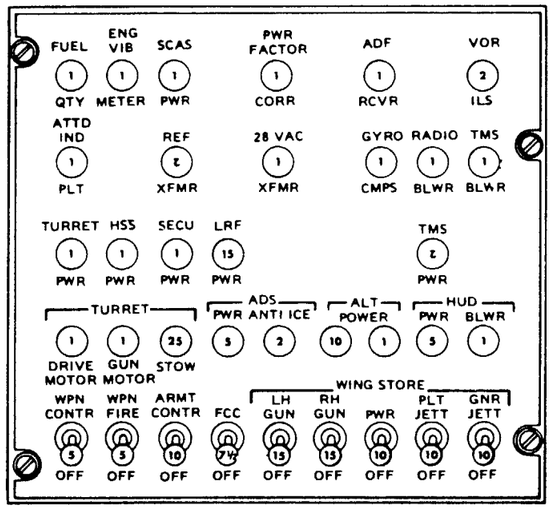

SWITCH PANEL

ad. Set BATTERY switch on electrical PWR control panel to OFF.



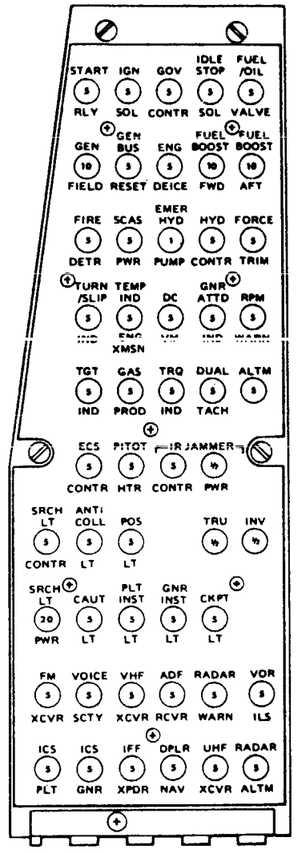

ELECTRICAL PWR CONTROL PANEL

ae. Open (OFF) all circuit breakers on AC/ARMT circuit breaker panel.




AC/ARMT CIRCUIT BREAKER PANEL

af. Open all circuit breakers on DC circuit breaker panel.

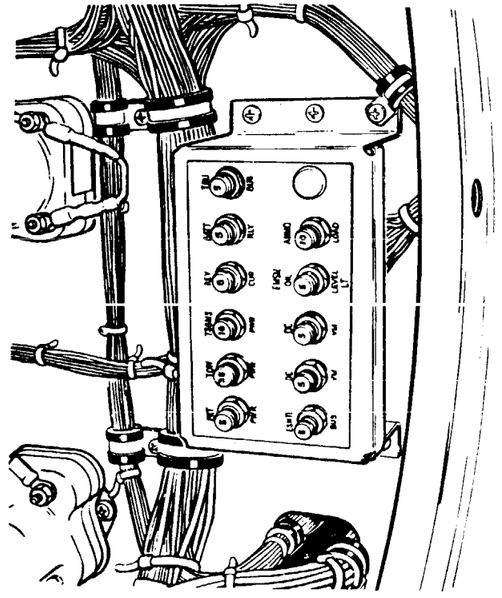



DC CIRCUIT BREAKER PANEL

ag. Turn off and disconnect ground power unit.

ah. Disconnect battery.

ai. Open all circuit breakers on circuit breaker panel in battery compartment.



CIRCUIT BREAKER PANEL

aj. Connect upper TOW missile launcher connectors P1 to 20S8J01 and 20P8J01.

ak. Disconnect Jettison Circuitry Test Set.

al. Connect 20SQ1P1, 20SQ2P1, 20SQ3P1, and 20SQ4P1.

## 10-3. POWER OFF/POWER ON PROCEDURES.

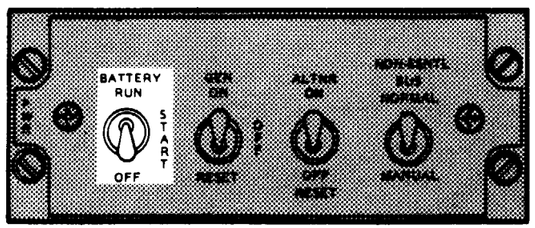
INITIAL SETUP

Applicable Configuration
All

Personnel Required
68J (1)

a. Turn off electrical power when specified in trouble-shooting procedures as follows:

(1) Set BATTERY switch on pilot electrical PWR control panel to OFF.




ELECTRICAL PWR CONTROL PANEL

(2) Turn off ground power unit.

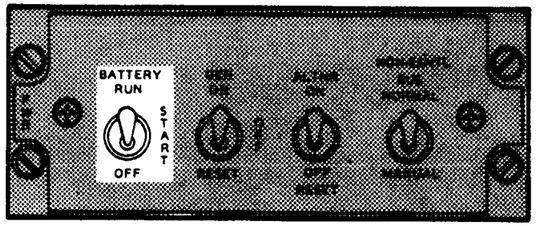
(3) Disconnect battery.

b. Turn on electrical power when specified in trouble-shooting procedure as follows:

(1) Connect battery.

(2) Turn on ground power unit.

(3) Set BATTERY switch on pilot electrical PWR control panel to RUN.




ELECTRICAL PWR CONTROL PANEL

## 10-4. WING STORE PLT JETT CIRCUIT BREAKER WILL NOT STAY CLOSED.

INITIAL SETUP

Applicable Configuration
all

Tools/Test and Support Equipment
Multimeter

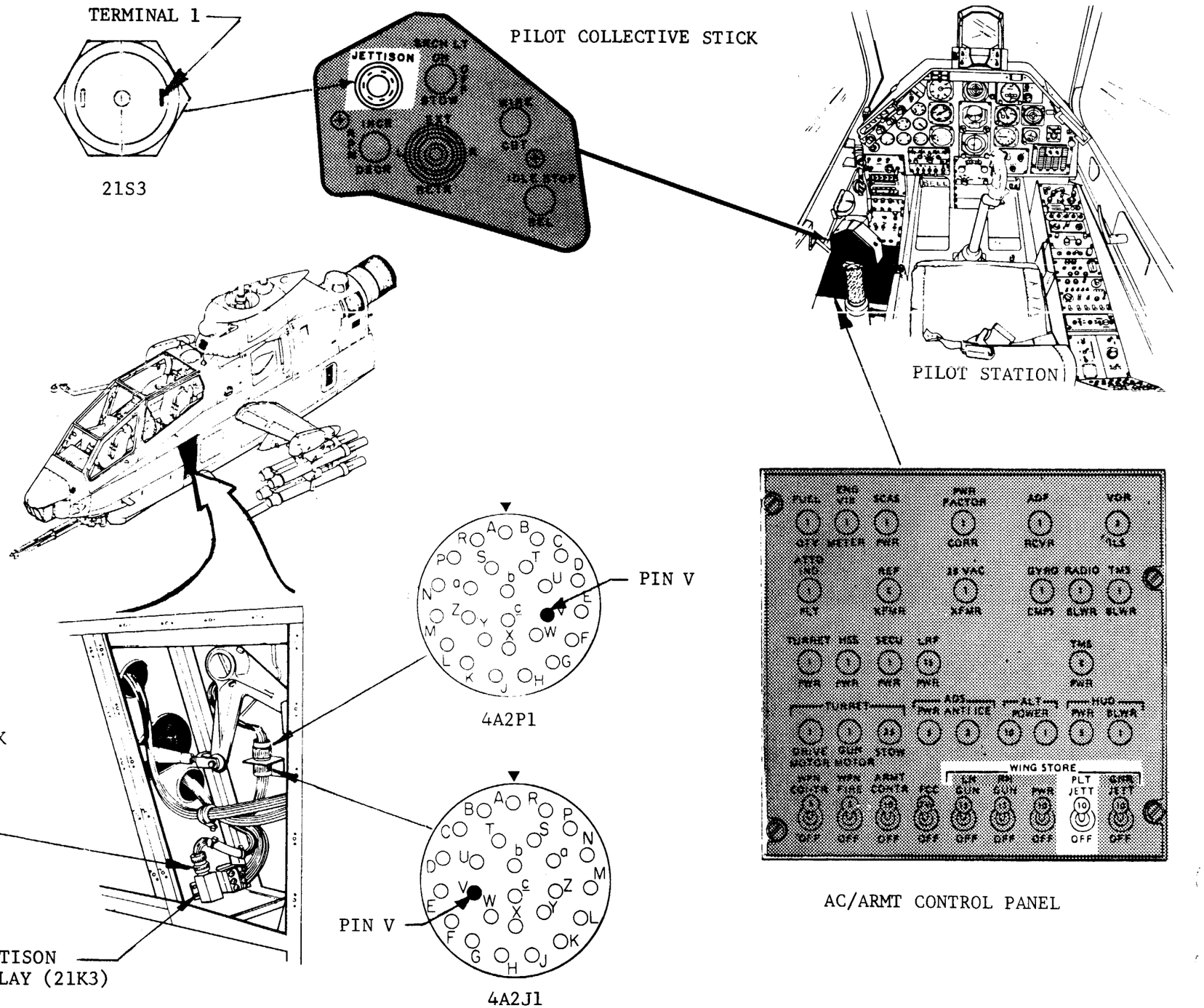
Tool Set, A/C Armament Repairman

Personnel quipKequired
68J (2)

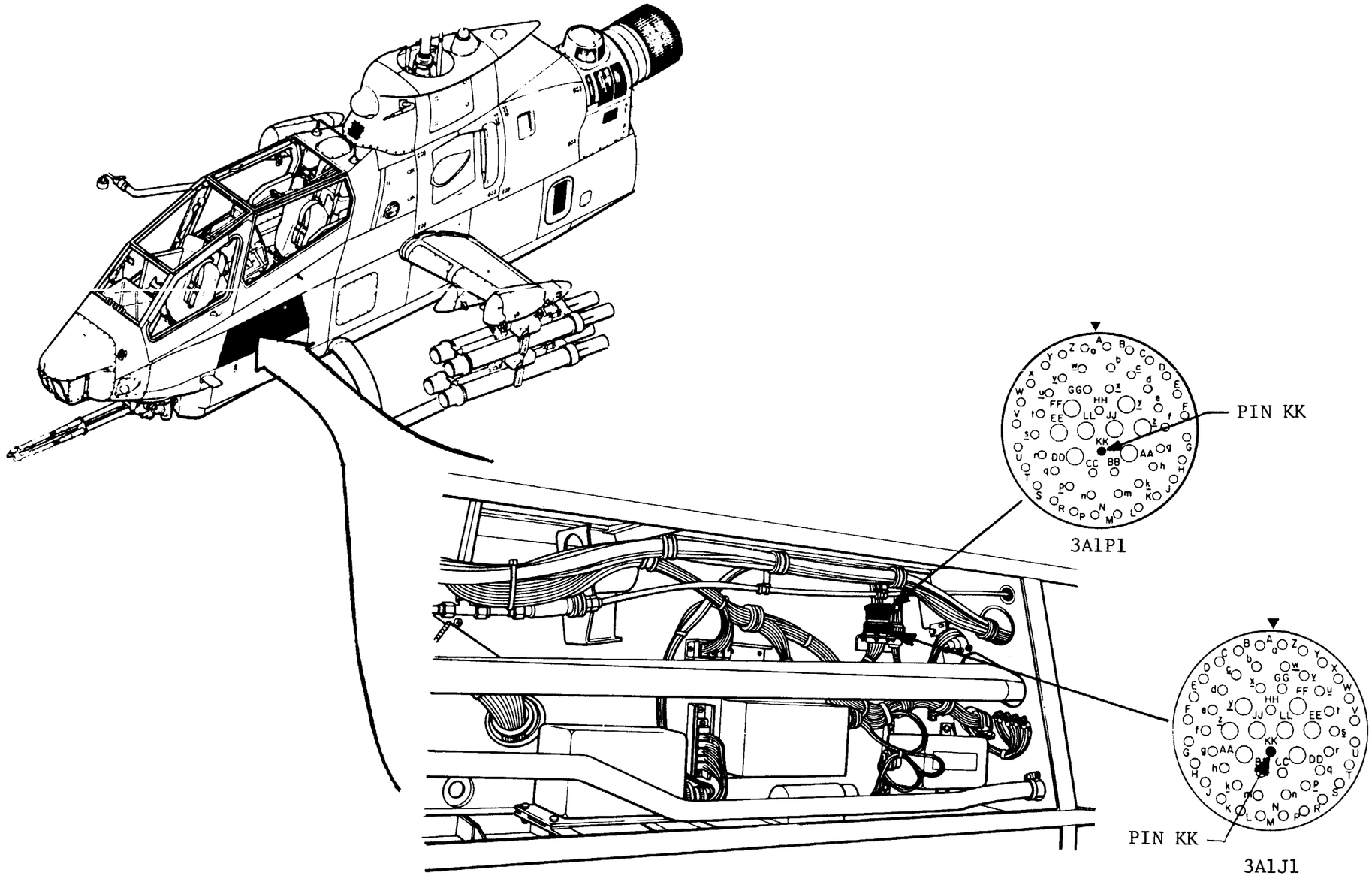
References
TM 33-1320-236-23

Access Panels
Control Linkage - Removed

Pilot Collective Control Linkage - Removed



10-4. WING STORE PLT JETT CIRCUIT BREAKER WILL NOT STAY CLOSED (CONTINUED).



10-4. WING STORE PLT JETT CIRCUIT BREAKER WILL NOT STAY CLOSED (CONTINUED).

Turn off electrical power per paragraph 10-3.

Disconnect 21K3P1.

Turn on electrical power per paragraph 10-3.

On AC/ARMT circuit breaker panel.

Does WING STORE/PLT JETT circuit breaker stay closed?

NO

Turn off electrical power per paragraph 10-3.

Disconnect 4A2P1.

Turn on electrical power per paragraph 10-3.

Does WING STORE/PLT JETT circuit breaker stay closed?

NO

Turn off electrical power per paragraph 10-3.

Disconnect 3A1P1.

Check for continuity from 21K3P1-K to airframe ground.

Is continuity present?

NO

YES

Remove splice joining wires A76B20, A76C20, A76D20, and A76F20.

Check for continuity from 21K3P1-K to airframe ground.

Is continuity present?

NO

YES

Repair wire A76C20 between 21K3P1-K and splice to eliminate short.

Install splice joining wires A76B20, A76C20, A76D20, and A76F20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 3A1P1, 4A2P1, and 21K3P1.

Then go to paragraph 10-2.

YES

Turn off electrical power per paragraph 10-3.

Replace pilot jettison switch relay (21K3) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

YES

Turn off electrical power per paragraph 10-3.

On pilot collective stick:

Disconnect wire A76E20 from terminal 1 of JETTISON switch (21S3).

Check for continuity from 4A2P1-V to airframe ground.

Is continuity present?

NO

Replace JETTISON switch (21S3) perTM 55-1520-236-23, Chapter 9, Section 1.

Connect 21K3P1 and 4A2P1.

Then go to paragraph 10-2.

YES

Repair wire A76E20 between 4A2P1-V and terminal 1 of JETTISON switch (21S3) to eliminate short.

Connect 21K3P1 and 4A2P1.

Then go to paragraph 10-2.

10-4. WING STORE PLT JETT CIRCUIT BREAKER WILL NOT STAY CLOSED (CONTINUED).

On A/C ARMAMENT control panel:

Open (OFF) WING STORE/PLT JETT circuit breaker.

Check for continuity from 3A1P1-KK to airframe ground.

Is continuity present?

NO → Replace WING STORE/PLT JETT circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Connect 3A1P1, 4A2P1, and 21K3P1.

Then go to paragraph 10-2.

YES ↓

Repair wire A76A20 between 3A1P1-KK and WING STORE/PLT JETT circuit breaker to eliminate short.

Connect 3A1P1, 4A2P1, and 21K3P1.

Then go to paragraph 10-2.

NO → Check for continuity from 21K3P1-D to airframe ground.

Is continuity present?

NO → Check for continuity from 3A1J1-KK to airframe ground.

Is continuity present?

NO → Repair wire A76D20 between 4A2J1-V and splice to eliminate short.

Install splice joining wires A76B20, A76C20, A76D20 and A76F20 per TM55-1520-236-23, Chapter 9, Section I.

Connect 3A1P1, 4A2P1, and 21K3P1.

Then go to paragraph 10-2.

YES ↓

Repair wire A76B20 between 3A1J1-KK and splice to eliminate short.

Install splice joining wires A76B20, A76C20, A76D20, and A76F20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 3A1P1, 4A2P1, and 21K3P1.

Then go to paragraph 10-2.

YES ↓

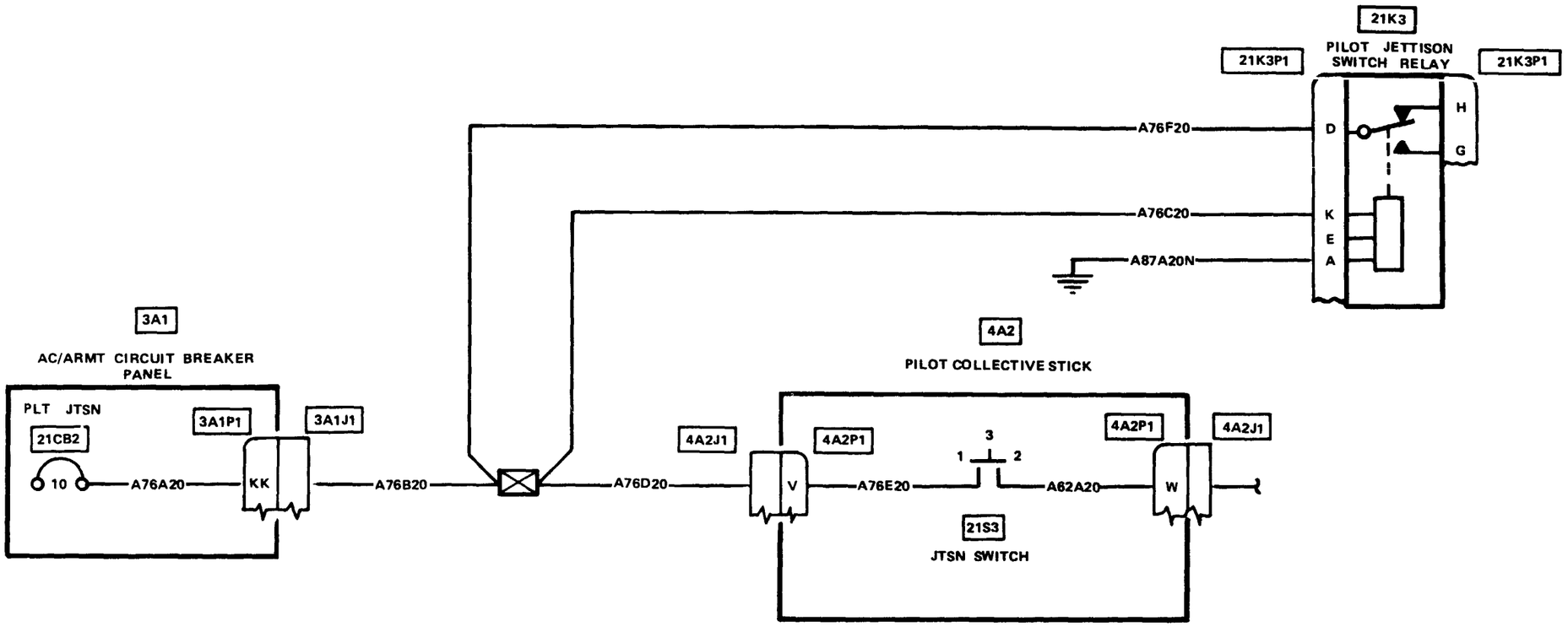
Repair wire A76F20 between 21K3P1-D and splice to eliminate short.

install splice joining wires A76B20, A76C20, A76D20, and A76F20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 3A1P1, 4A2P1, and 21K3P1.

Then go to paragraph 10-2.

10-4. WING STORE PLT JETT CIRCUIT BREAKER WILL NOT STAY CLOSED (CONTINUED).



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## 10-5. WING STORE GNR JETT CIRCUIT BREAKER WILL NOT STAY CLOSED.

INITIAL SETUP

Applicable Configuration
All

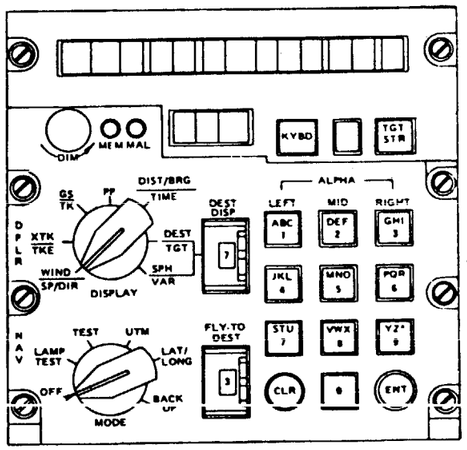
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

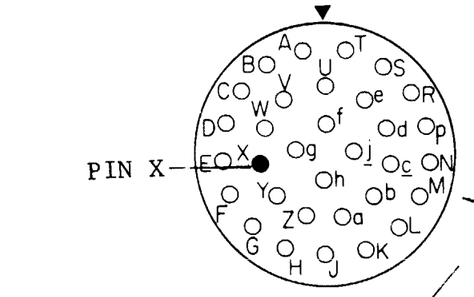
Personnel Required
68J (1)

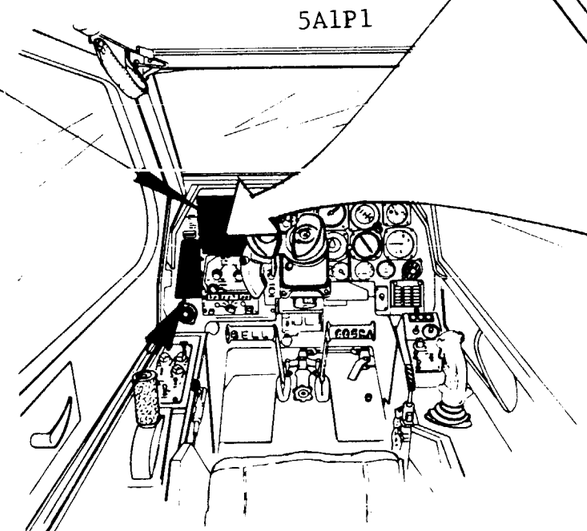
References
TM 55-1520-236-23

Access Panel
Left Side Control Linkage - Removed

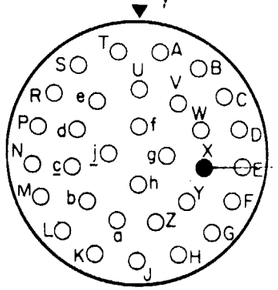


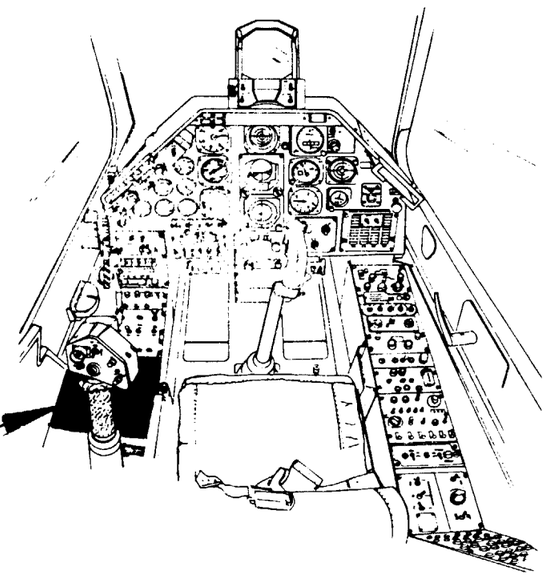

DPLR NAV CONTROL PANEL



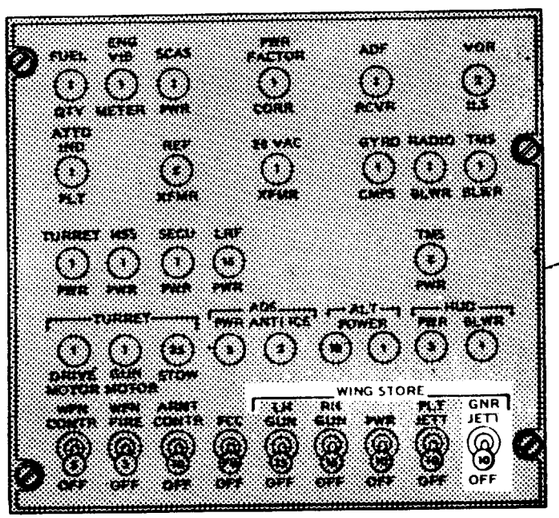



GUNNER STATION

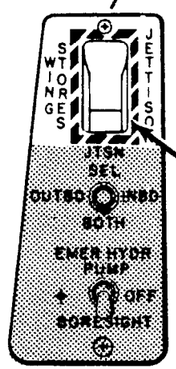


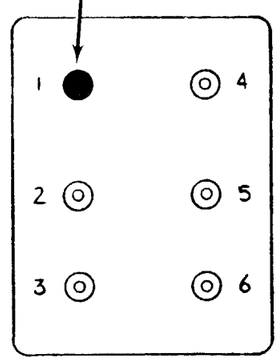



PILOT STATION



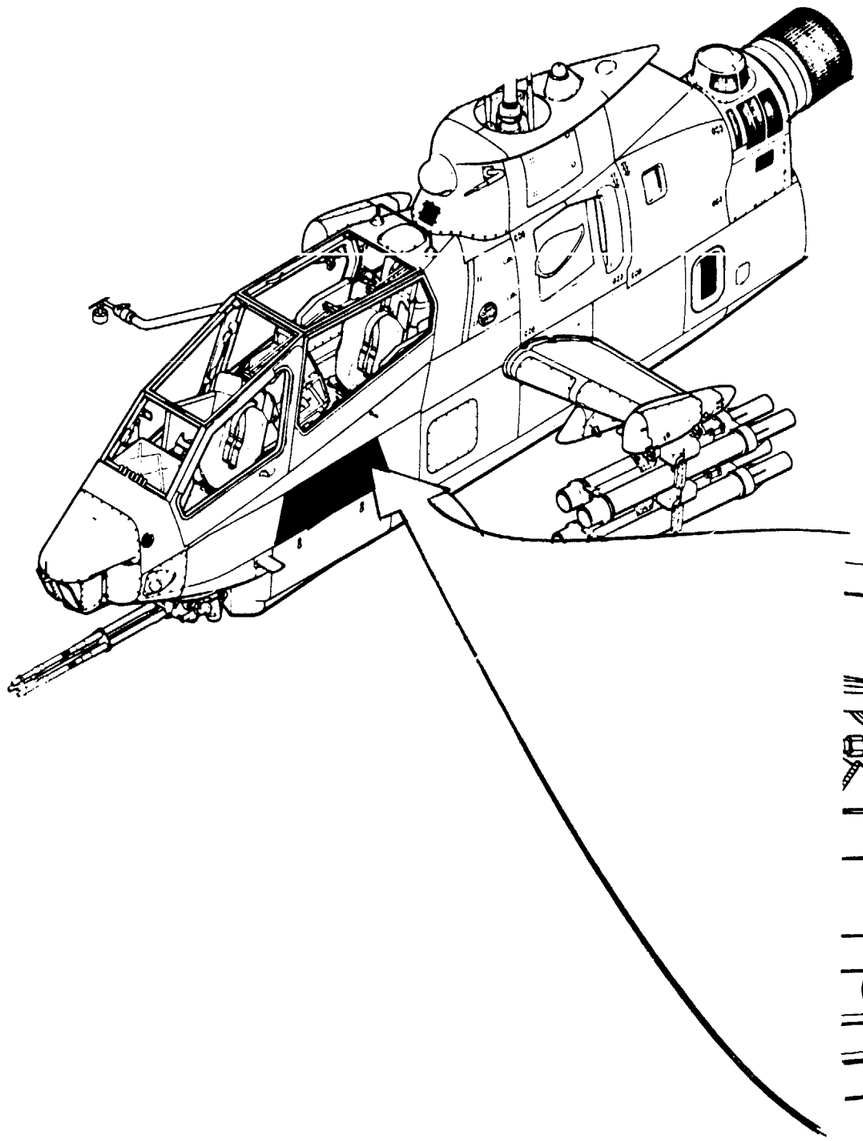

AC/ARMAMENT PANEL

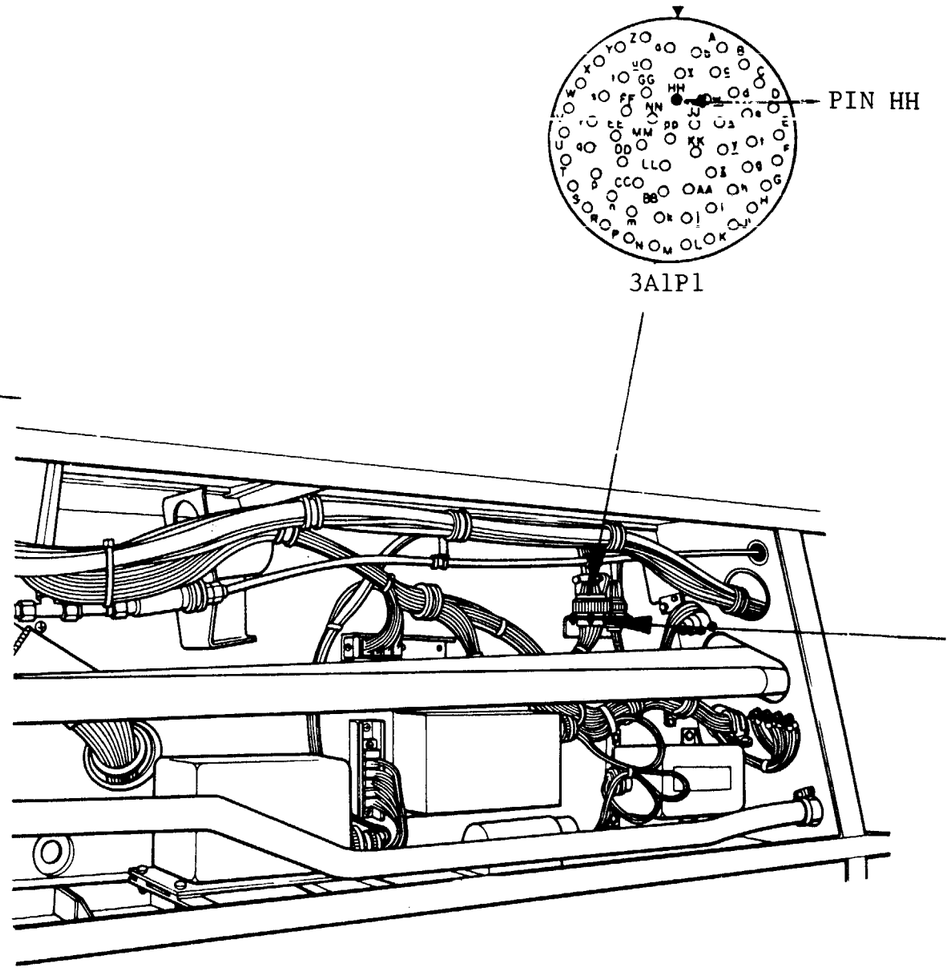


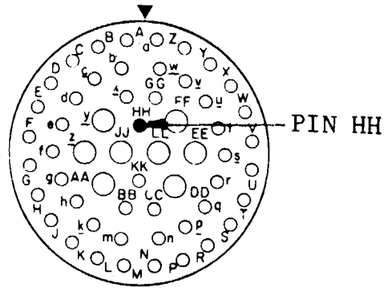

21S1

10-5. WING STORE GNR JETT CIRCUIT BREAKER WILL NOT STAY CLOSED (CONTINUED)







10-5. WING STORE GNR JETT CIRCUIT BREAKER WILL NOT STAY CLOSED (CONTINUED).

Turn off electrical power per paragraph 10-3.

Disconnect 5A1P1.

Turn on electrical power per paragraph 10-3.

On AC/ARMAMENT panel:

Close WING STORE GNR JETT circuit breaker.

Does WING STORE/GNR JETT circuit breaker stay closed?

YES

Turn off electrical power per paragraph 10-3.

Disconnect wire A271C20 at terminal 1 of WING STORES JETTISON switch (21S1).

Check for continuity from 5A1J1-X to airframe ground.

Is continuity present?

YES

Repair wire A271C20 between 5A1J1-X and terminal 1 of WING STORES JETTISON switch (21S1) to eliminate short.

Connect 5A1P1.

Then go to paragraph 10-2.

NO

Replace WING STORES JETTISON switch per TM 55-1520-236-23 Chapter 9, Section I.

Then go to paragraph 10-2.

NO

Turn off electrical power per paragraph 10-3.

Check for continuity from 3A1J1-HH to airframe ground.

Is continuity present?

YES

Repair wire A271B20 between 5A1P1-X and 3A1J1-HH to eliminate short.

Then go to paragraph 10-2.

NO

Open (OFF) WING STORE/GNR JETT circuit breaker.

Check for continuity from 3A1P1-HH to airframe ground.

Is continuity present?

YES

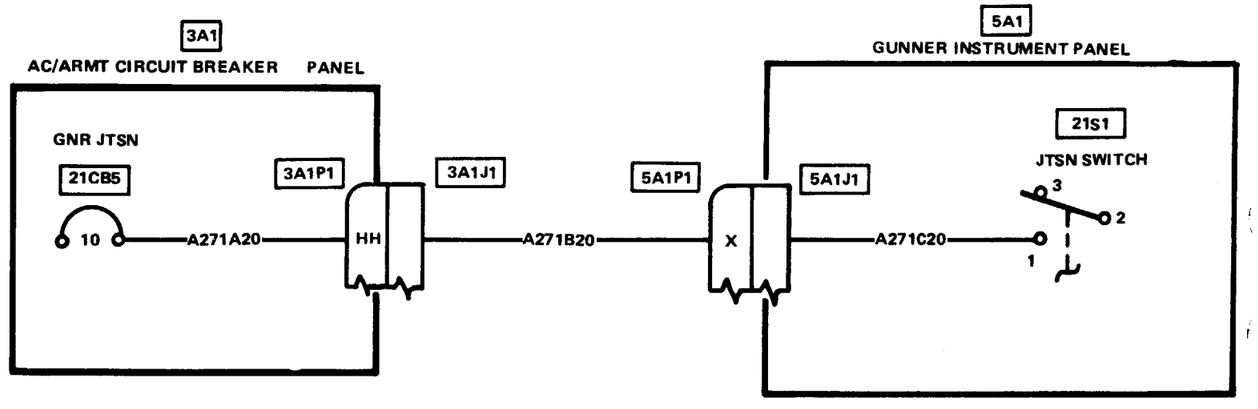
Repair wire A271A20 between 3A1P1-HH and WING STORE/GNR JETT circuit breaker to eliminate short.

Then go to paragraph 10-2.

NO

Replace WING STORE/GNR JETT circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.



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## 10-6. PILOT CANNOT JETTISON LEFT OUTBOARD WING STORES ONLY.

INITIAL SETUP

Applicable Configuration
All

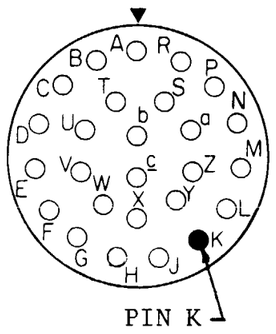
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

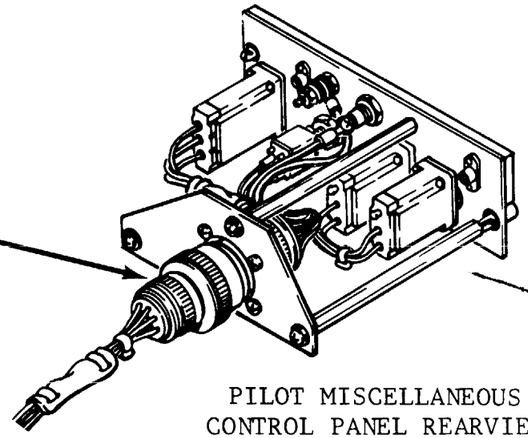
Personnel Required
68J (1)

References
TM 55-1520-236-23

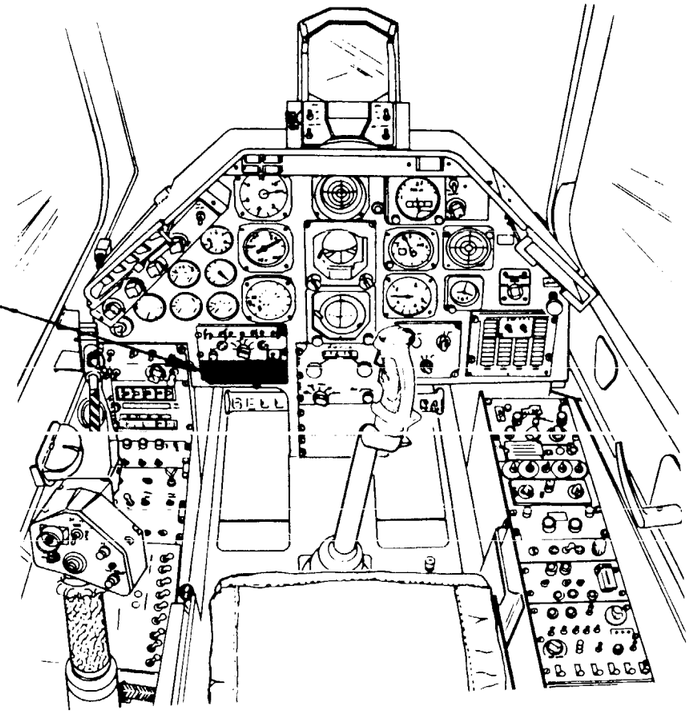
Access Panels
Left Outboard Wing Stores Pylon Fairings - Removed



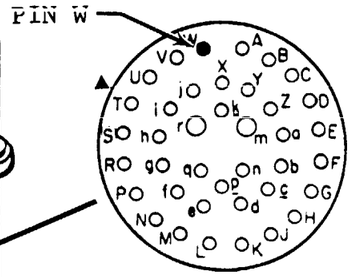

22A1P1



PILOT MISCELLANEOUS CONTROL PANEL REARVIEW



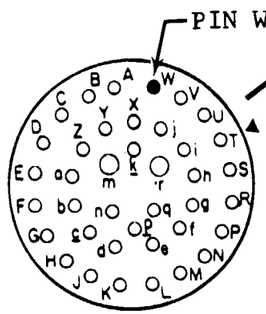
PILOT STATION



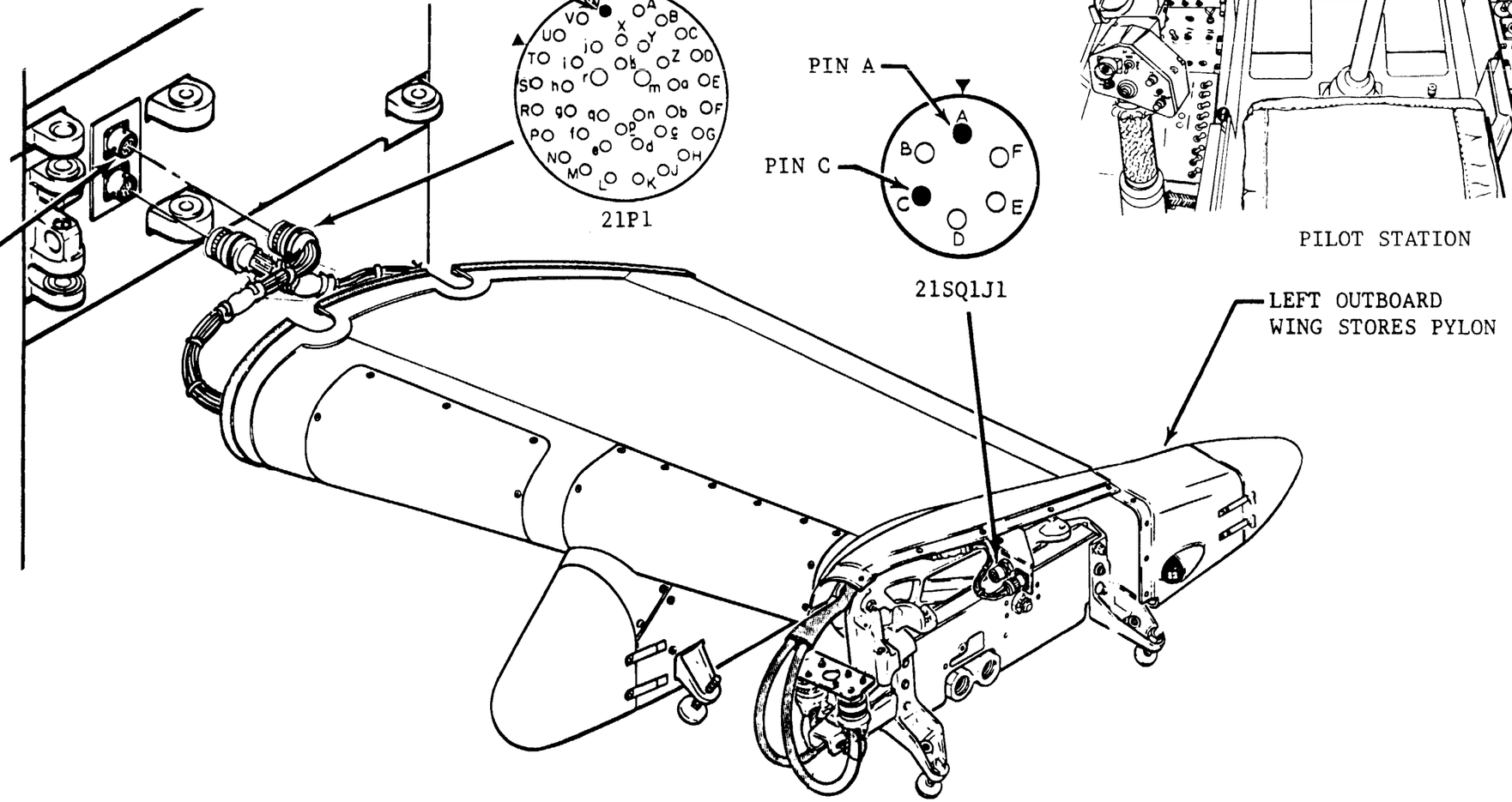

21P1




21SQ1J1




21J1



10-6. PILOT CANNOT JETTISON LEFT OUTBOARD WING STORES ONLY (CONTINUED).

Turn off electrical power per paragraph 10-3.

Check for continuity from 22AlP1-K to 21SQ1J1-A.

Is continuity present?

YES

Check for continuity from 21SQ1J1-C to airframe ground.

Is continuity present?

YES

Replace pilot miscellaneous control panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO

Repair wire A59A20N between 21SQ1J1-C and airframe ground.

Continue troubleshooting.

NO

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 22AlP1-K to 21J1-W.

Is continuity present?

YES

NO

Repair wire A58B20, A58D20, or A58F20, between 21J1-W and 22A1P1-K.

Connect 22A1P1.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

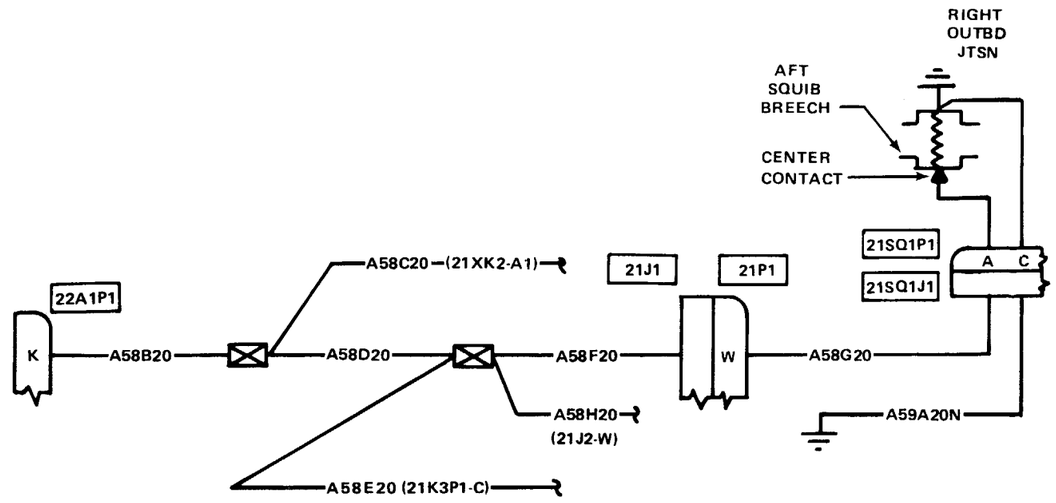
Then go to paragraph 10-2.

Repair wire A58G20 between 21P1-W and 21SQ1J1-A.

Connect 22A1P1.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.



## 10-7. PILOT CANNOT JETTISON RIGH OUTBOARD WING STORES ONLY.

INITIAL SETUP

Applicable Configuration
All

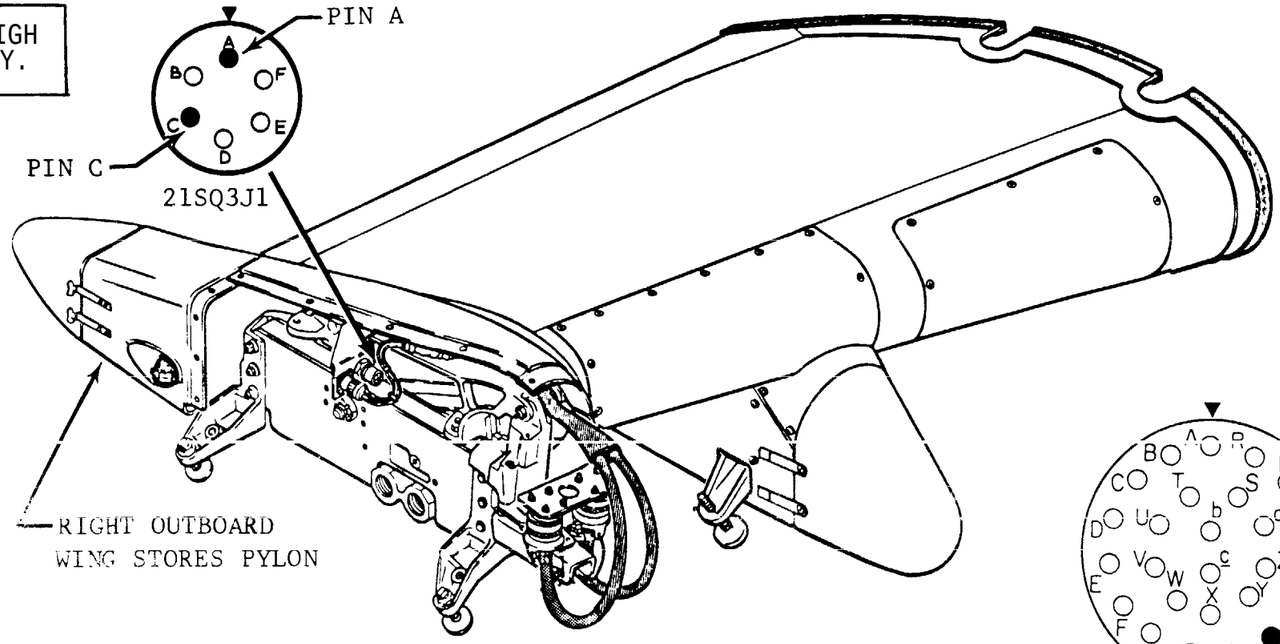
Tools/Test and Support Equipment
Multimeter

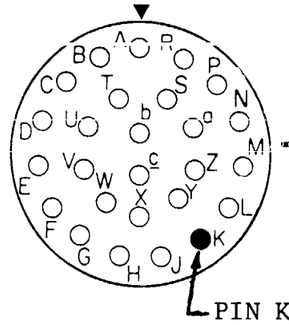
Tool Set, A/C Armament Repairman

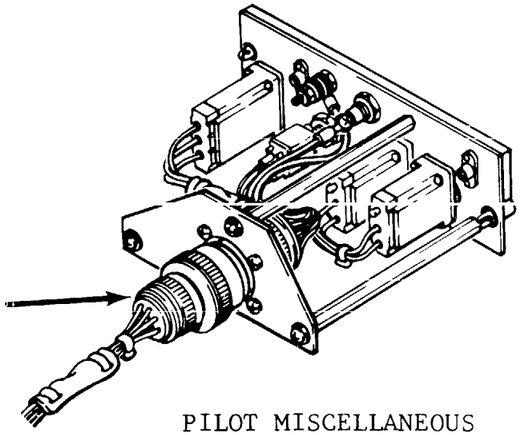
Personnel Required
68J (1)

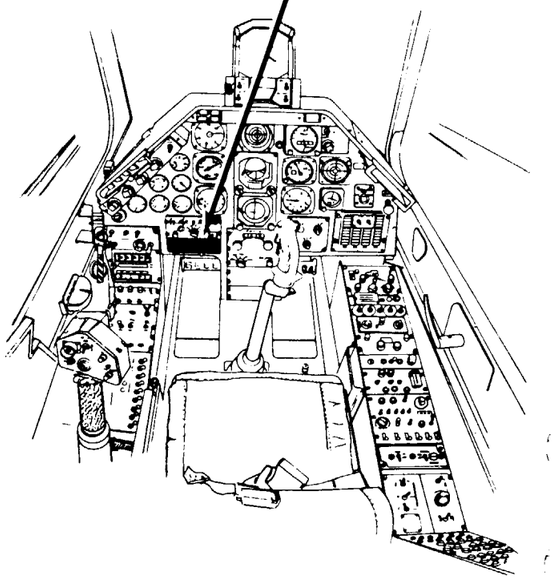
References
TM 55-1520-236-23

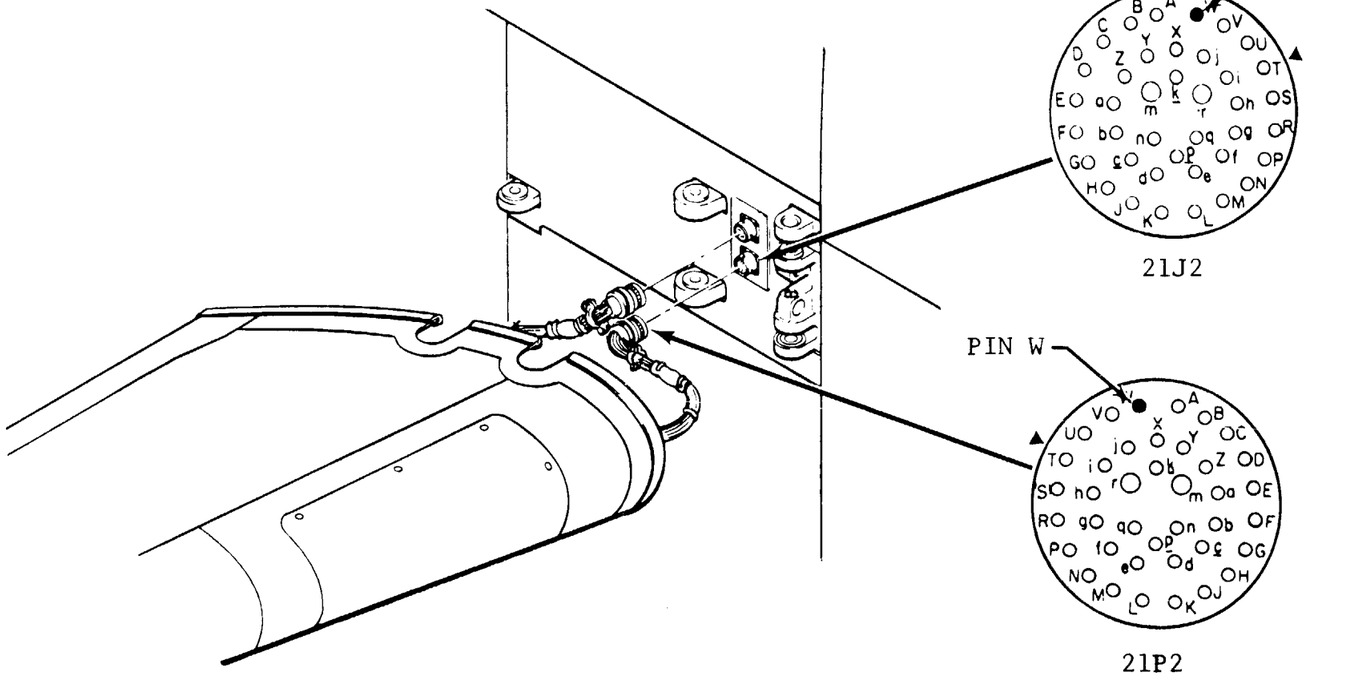
Access Panels
Right Outboard Wing Stores
Pylon Fairings - Removed



10-7. PILOT CANNOT JETTISON RIGHT OUTBOARD WING STORES ONLY (CONTINUED).

Turn off electrical power per paragraph 10-3.

Check for continuity from 22A1P1-K to 21SQ3J1-A.

Is continuity present?

YES

Check for continuity from 21SQ3J1-C to airframe ground.

Is continuity present?

YES

Replace pilot miscellaneous control panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-20

NO

Repair wire A53A20N between 21SQ3J1-C and airframe ground.

Continue troubleshooting.

NO

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 22A1P1-K to 21J2-W.

Is continuity present?

YES

Repair wire A58J20 between 21P2-W and 21SQ3J1-A.

Connect 22A1P1.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.

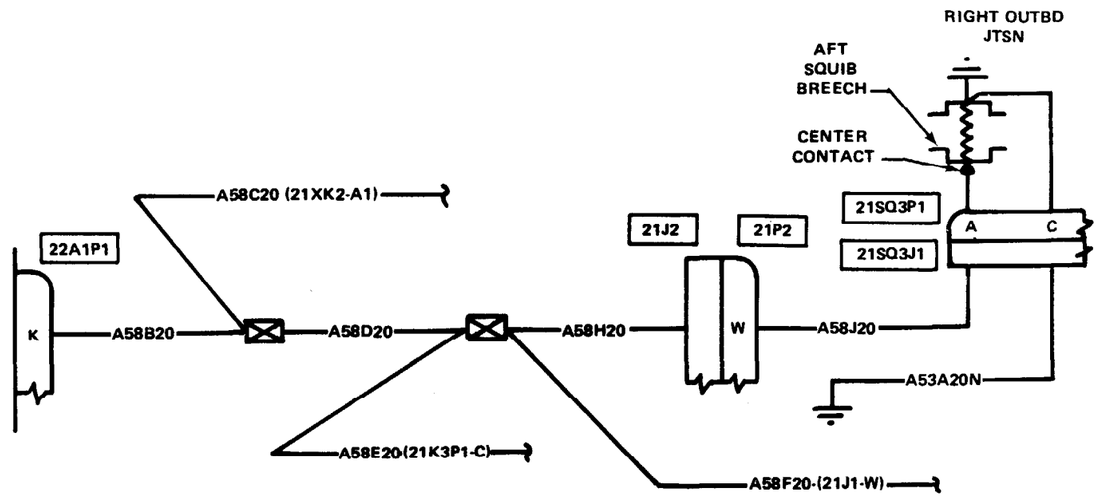
NO

Repair wire A58B20, A58D20, or A58H20, between 21J2-W and 22A1P1-K.

Connect 22A1P1.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.



## 10-8. PILOT CANNOT JETTISON INBOARD STORES.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

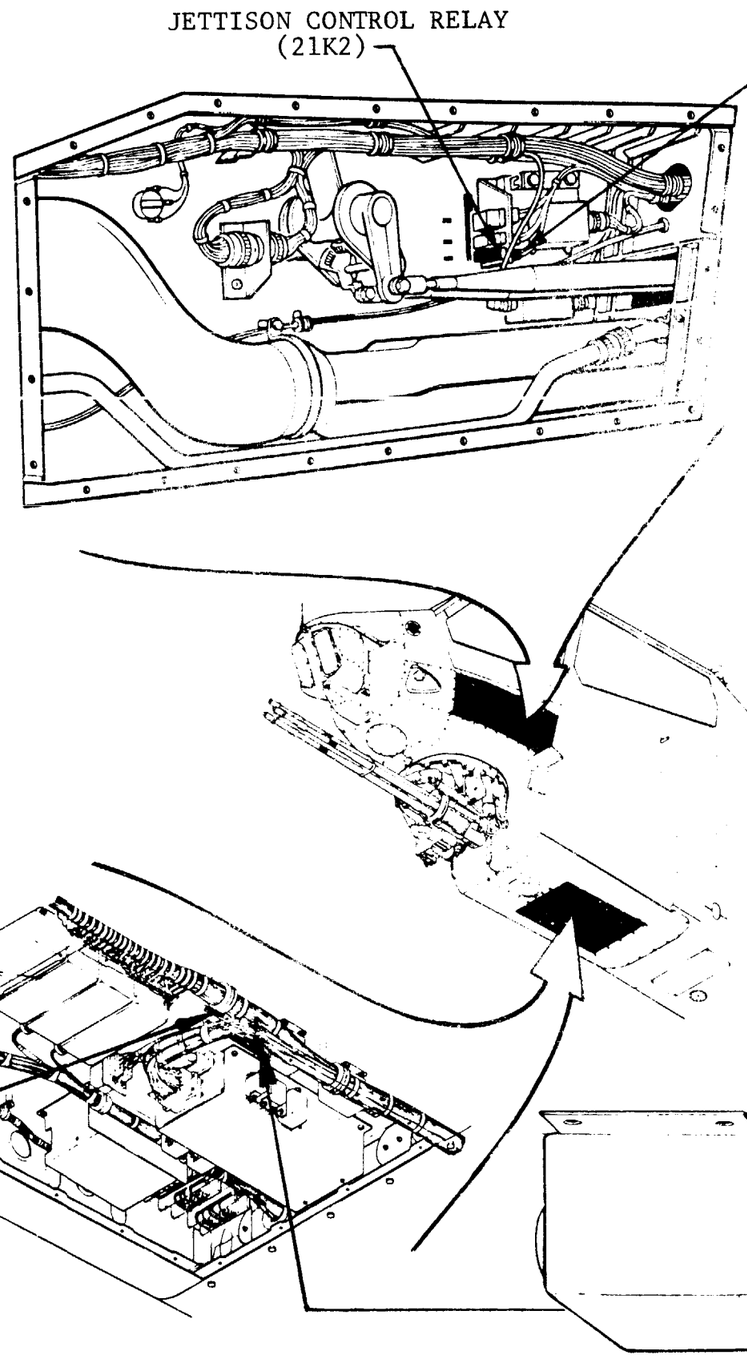
References
TM 55-1520-236-23

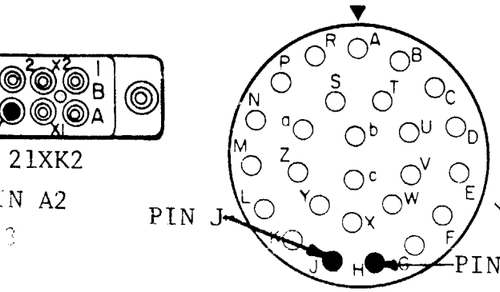
Access Panels
Left Wing Outboard Leading Edge Cover - Removed

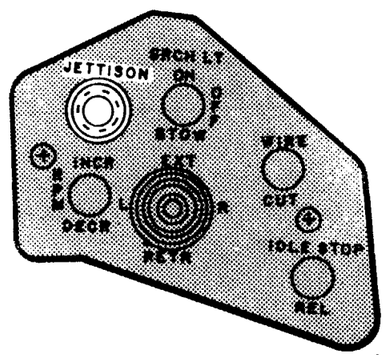
Right Wing Outboard Leading Edge Cover - Removed

Left Side Control Linkage - Removed

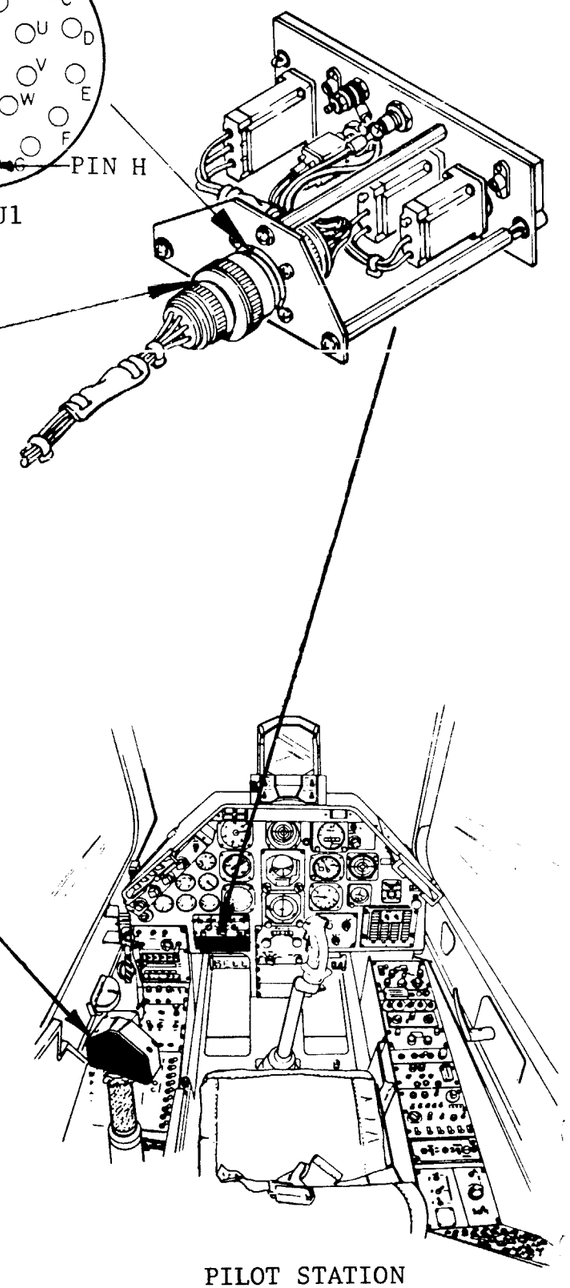
Forward Belly Armament and Lighting - Removed



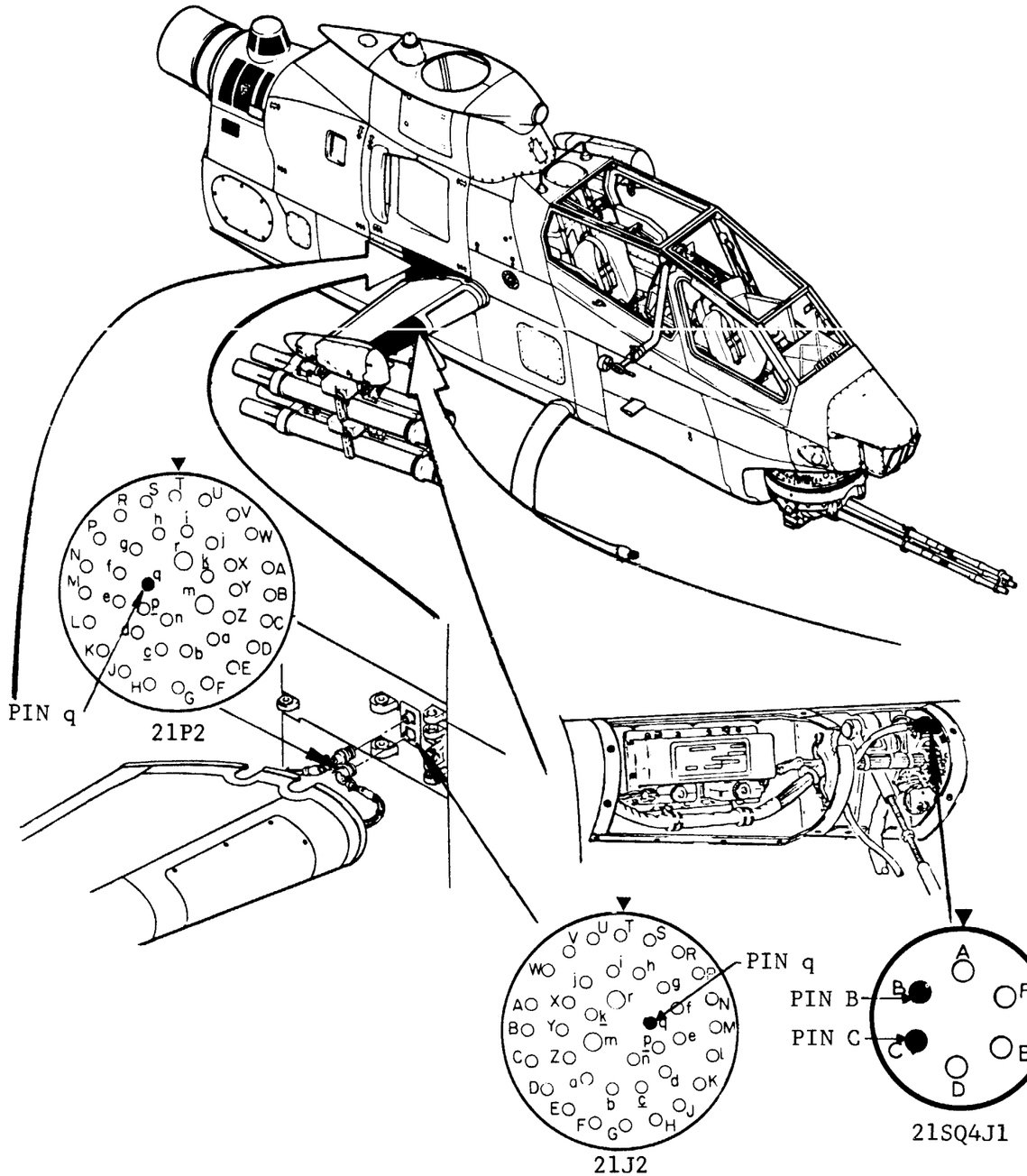




COLLECTIVE STICK



10-8. PILOT CANNOT JETTISON INBOARD STORES (CONTINUED).



10-80 PILOT CANNOT JETTISON INBOARD STORES (CONTINUED).

Turn off electrical power per paragraph 10-3.

Disconnect 22A1P1.

Turn on electrical power per paragraph 10-3.

On pilot collective stick:

Press and hold JETTISON switch.

Check for 28 V dc at 22A1P1-H.

Is 28 V dc present?

Release JETTISON switch.

NO

Go to paragraph 10-9.

YES

Turn off electrical power per paragraph 10-3.

Check for continuity from 22A1J1-H to 22A1J1-J

Is continuity present?

NO

Replace pilot miscellaneous control panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

YES

NOTE

Verify that TOW missile launchers are not connected on either outboard stations and TOW missile present simulators are not connected.

Continue troubleshooting.

YES

Check for continuity from 21SQ2J1-B to 21SQ4J1-B.

Is continuity present?

YES

NO

Remove left wing per TM 55-520-236-23, Chapter 2, Section TV.

Check for continuity from 21SQ4J1-B to 21J1-q.

Is continuity present?

YES

NO

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 21J2-q to 21J1-q.

Is continuity present?

YES

NO

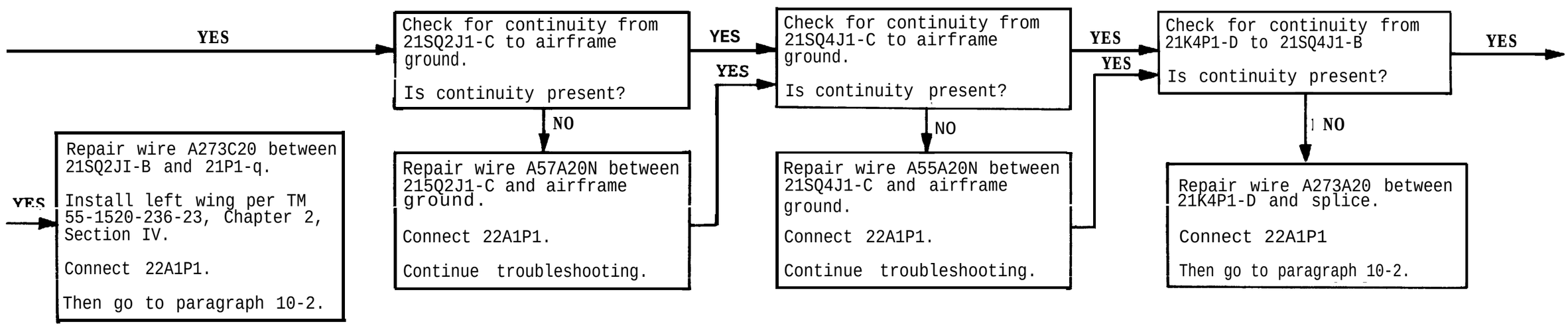
Repair wire A273B20 or A273D20 between 21J1-q and 21J2-q.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 22A1P1.

Then go to paragraph 10-2.

10-8. PILOT CANNOT JETTISON INBOARD STORES (CONTINUED).



10-8. PILOT CANNOT JETTISON INBOARD STORES (CONTINUED).

YES

Check for continuity from 21K4P1-A to airframe ground.

Is continuity present?

NO

Repair wire A510A20N between 21K4P1-A and airframe ground.

Connect 22A1P1.

Then go to paragraph 10-2.

YES

Connect 22A1P1.
Turn on electrical power per paragraph 10-3.
On pilot collective stick:
Press and hold JETTISON switch.
Check for 28 V dc at 21K4P1-G.
Is 28 V dc present?

YES

NO

Check for 28 V dc at 21K4P1-K.

Is 28 V dc present?

YES

Release JETTISON switch.

Turn off electrical power per paragraph 10-3.

Repair wire A508B20 between 21K4P1-G and splice.

Connect 21K4P1.

Then go to paragraph 10-2.

NO

Release JETTISON switch.
Turn off electrical power per paragraph 10-3.
Remove jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.
Turn on electrical power per paragraph 10-3.
On pilot collective stick:
Press and hold JETTISON switch.
Check for 28 V dc at 21XK2-A2.
Is 28 V dc present?

YES

Release JETTISON switch.

Turn off electrical power per paragraph 10-3.

Check for continuity from 21XK2-A3 to 21K4P1-G.

Is continuity present?

YES

NO

Release JETTISON switch.

Turn off electrical power per paragraph 10-3.

Repair wire A504B20 between 22A1P1-J and 21XK2-A2.

Connect 21K4P1.

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO

Repair wire A508A20 between 21XK2-A3 and splice.

Connect 21K4P1.

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

10-8. PILOT CANNOT JETTISON INBOARD STORES (CONTINUED).

YES

Check for 28 V dc at 21K4P1-K.

Is 28 V dc present?

YES

Release JETTISON switch.

Turn off electrical power per paragraph 10-3.

Replace pilot jettison control relay (21K4) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K4P1.

Then go to paragraph 10-2.

NO

Release JETTISON switch

Turn off electrical power per paragragh 10-3.

Repair wire A508C20 between 21K4P1-K and splice.

Connect 21K4P1.

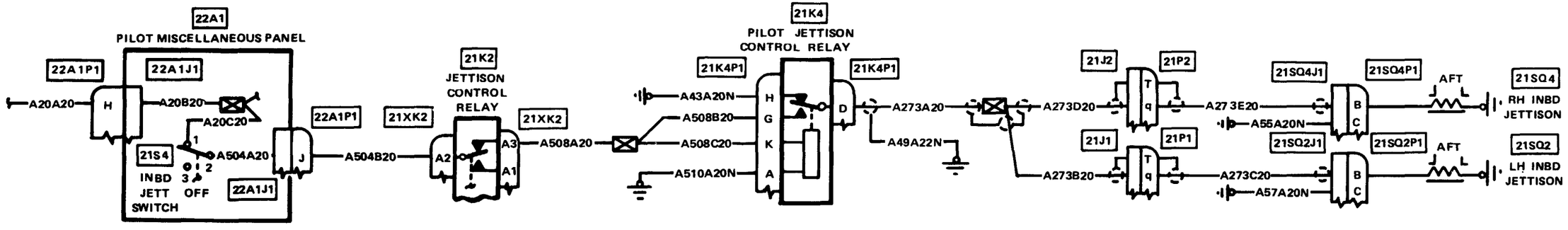
Then go to paragraph 10-2.

YES

Replace jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K4P1.

Then go to paragraph 10-2.



## 10-9. PILOT CANNOT JETTISON INBOARD OR OUTBOARD STORES .

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

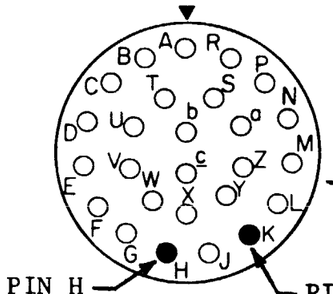
Personnel Required
68J (2)

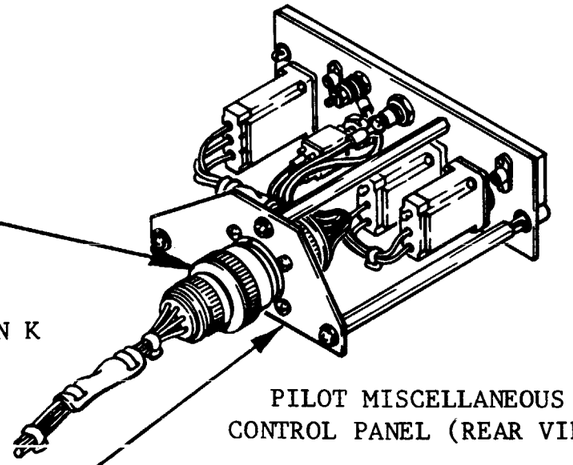
References
TM 55-1520-236-23

Access Panels
Left Side Control Linkage - Removed

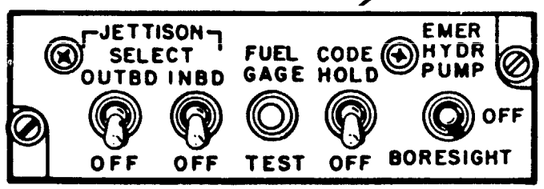
Pilot Collective Linkage - Removed

Left Forward Control Linkage - Removed

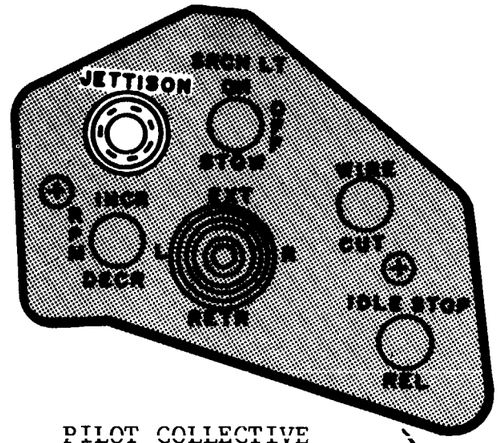


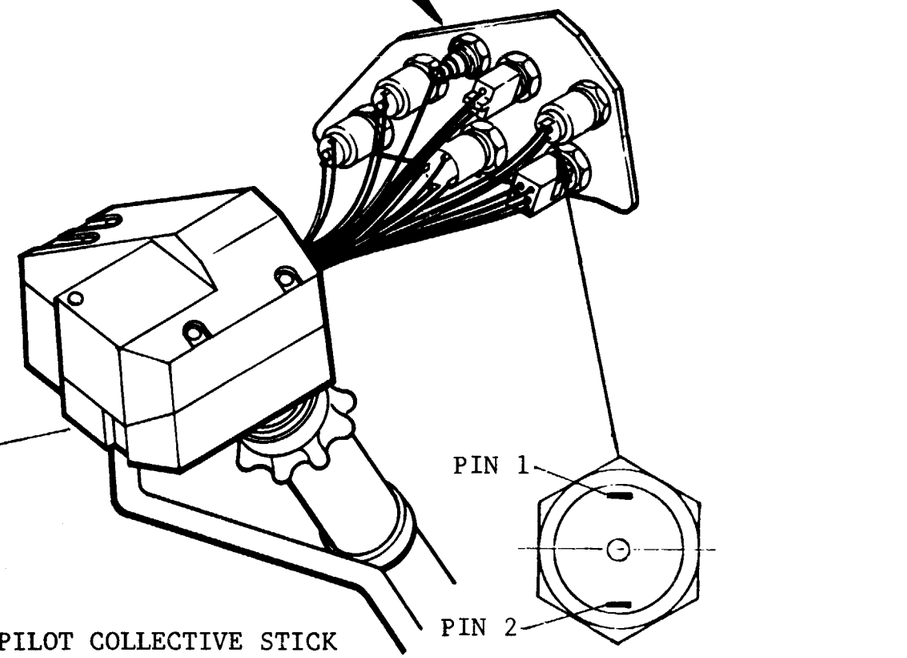
PILOT MISCELLANEOUS CONTROL PANEL (REAR VIEW)




PILOT MISCELLANEOUS CONTROL PANEL

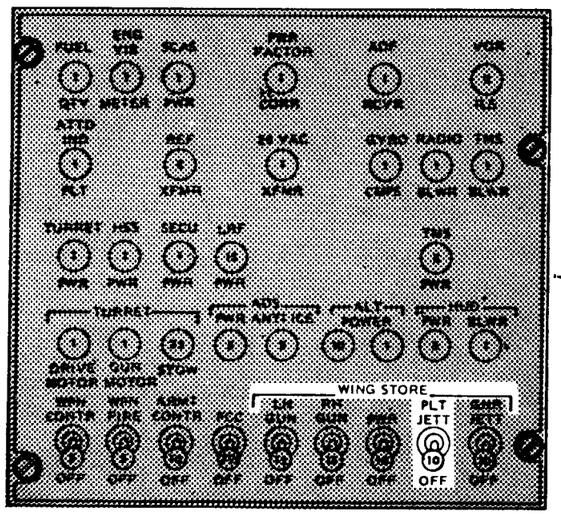



PILOT COLLECTIVE STICK

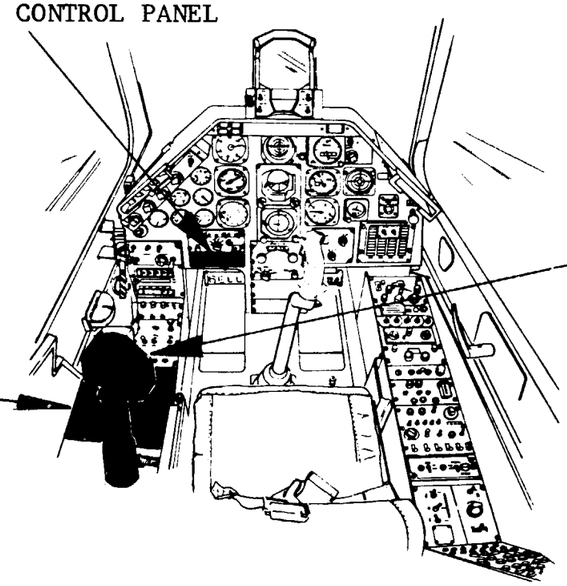



PILOT COLLECTIVE STICK (REAR VIEW)

PILOT JETTISON SWITCH (21S3)

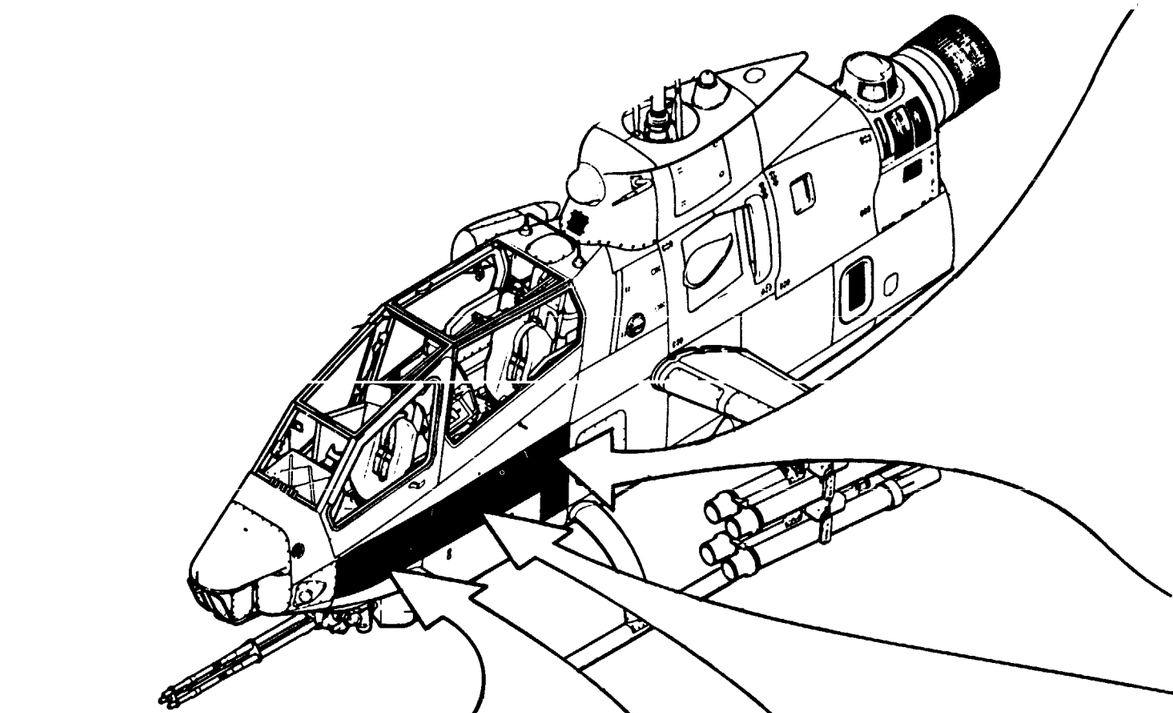


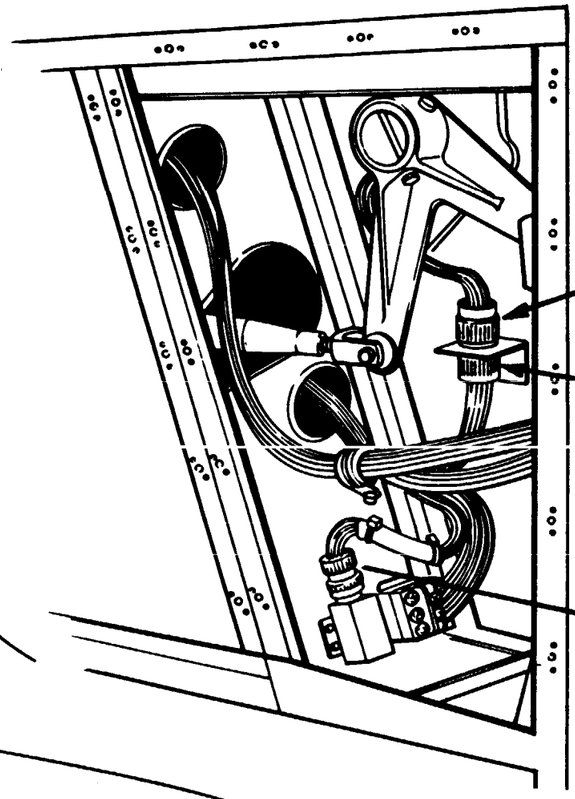

AC/ARMT CIRCUIT BREAKER PANEL

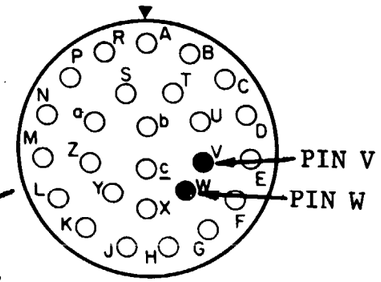


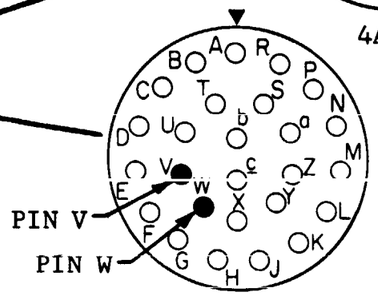
PILOT STATION

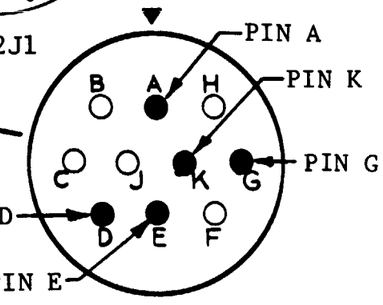
10-9. PILOT CANNOT JETTISON INBOARD OR OUTBOARD STORES (CONTINUED).

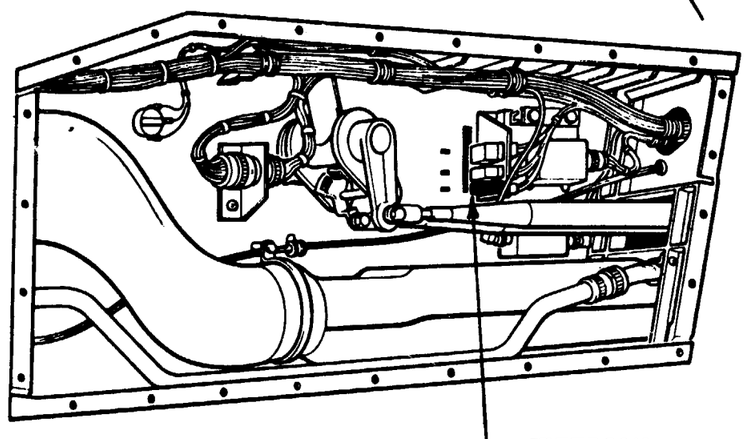


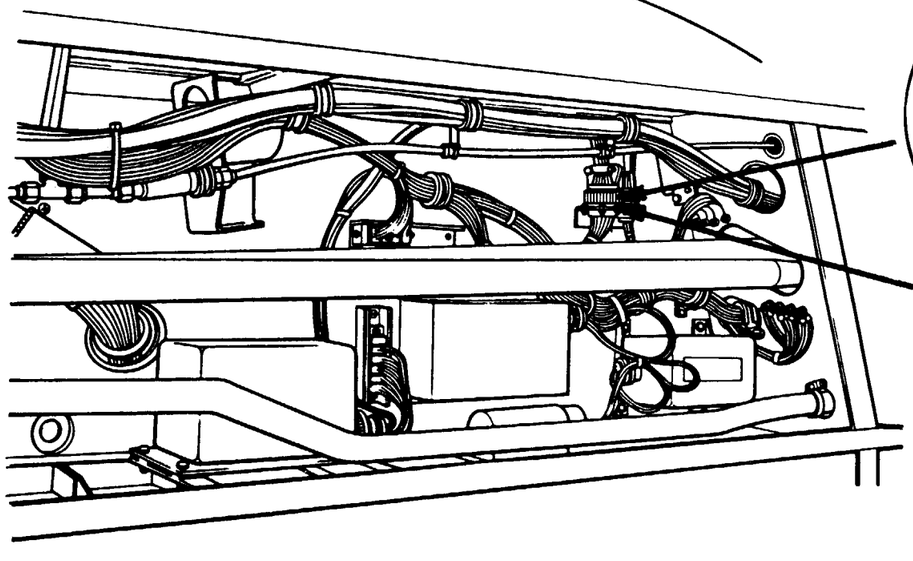


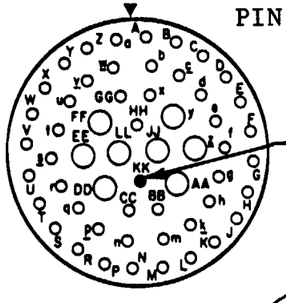


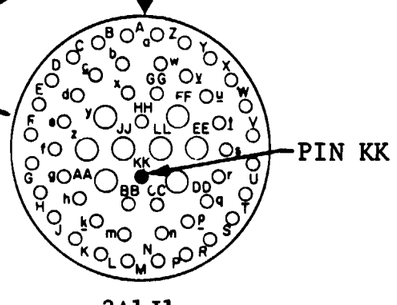



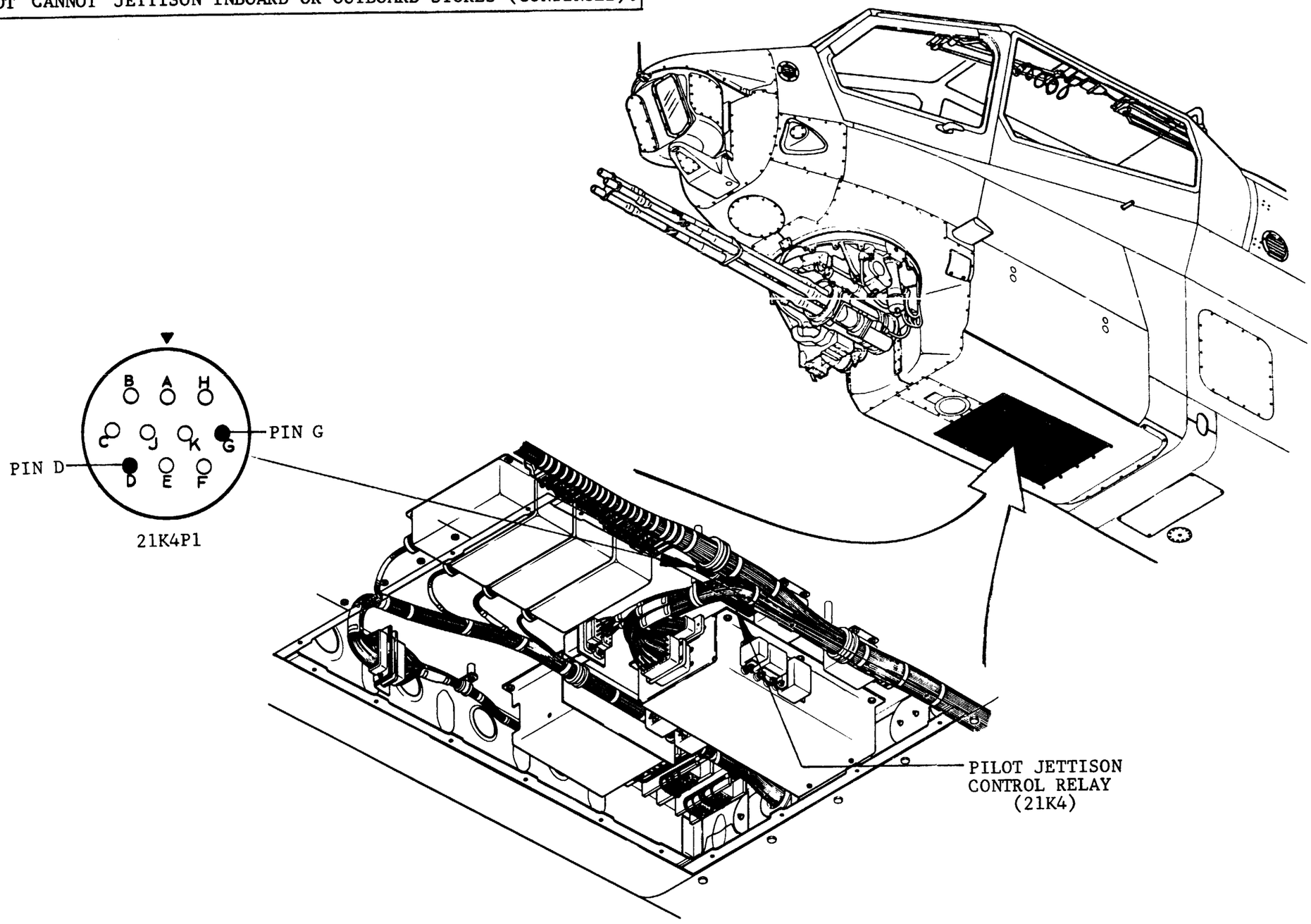





10-9. PILOT CANNOT JETTISON INBOARD OR OUTBOARD STORES (CONTINUED).



10-9. PILOT CANNOT JETTISON INBOARD OR OUTBOARD STORES (CONTINUED).

Turn off electrical power per paragraph 10-3.

Disconnect 22AlP1.

Turn on electrical power per paragraph 10-3.

On pilot collective stick:

Press and hold JETTISON switch

Check for 28 V dc at 22A1P1-H.

Is 28 V dc present?

Release JETTISON switch.

YES → Turn off electrical power per paragraph 10-3.

Replace pilot miscellaneous panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO

Turn off electrical power per paragraph 10-3.

Remove jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 22A1P1-H to airframe ground.

Is continuity present?

YES → Go to paragraph 10-13.

NO

Check for continuity from 21K3P1-E to airframe ground.

Is continuity present?

YES → Go to paragraph 10-13.

NO

NO

Disconnect 21K3P1.

Disconnect jettison circuitry test set.

Check for continuity from 22A1P1-K to airframe ground.

Is continuity present?

YES → Go to paragraph 10-19.

NO

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I

Connect 21K3P1.

Check for continuity from 21K4P1-D to airframe ground.

Is continuity present?

YES → Go to paragraph 10-20.

NO

Check for continuity from 21K4P1-G to airframe ground.

Is continuity present?

YES → Go to paragraph 10-20.

NO

10-9. PILOT CANNOT JETTISON INBOARD OR OUTBOARD STORES (CONTINUED).

NO

Connect 22A1P1.

Disconnect 21K3P1.

Turn on electrical power per paragraph 10-3.

Check for 28 V dc at 21K3P1-D.

Is 28 v dc present?

YES

Check for 28 V dc at 21K3P1-K.

Is 28 V dc present?

NO

Turn off electrical power per paragraph 10-3.

Repair wire A76C20 between 21K3P1-K and splice.

Connect 21K3P1.

Then go to paragraph 10-2.

YES

Turn off electrical power per paragraph 10-3.

Disconnect 4A2P1.

Turn on electrical power per paragraph 10-3.

Check for 28 V dc at 4A2J1-V.

Is 28 V dc present?

NO

Turn off electrical power per paragraph 10-3.

Repair wire A76D20 between 4A2J1-V and splice.

Connect 21K3P1 and 4A2P1.

Then go to paragraph 10-2.

YES

Turn off electrical power per paragraph 10-3.

On pilot collective stick:

Press and hold JETTISON switch.

Check for continuity from 4A2P1-V to 4A2P1-W.

Is continuity present?

YES

NO

Connect 21K3P1.

Check for continuity from 4A2P1-V to 21S3-1.

Is continuity present?

YES

NO

Repair wire A76E20 between 4A2P1-V and 21S3-1.

Connect 4A2P1.

Then go to paragraph 10-2.

NO

Turn off electrical power per paragraph 10-3.

Check for continuity from 3A1J1-KK to 21K3P1-D.

Is continuity present?

YES

Connect 21K3P1.

Check for continuity from 3A1P1-KK to WING STORE PLT JETT circuit breaker.

Is continuity present?

YES

NO

Repair wire A76A20 between 3A1P1-KK and WING STORE PLT JETT circuit breaker.

Then go to paragraph 10-2.

Check for continuity across WING STORE PLT JETT circuit breaker.

Is continuity present?

YES

Go to paragraph 9-31.

NO

Replace WING STORE PLT JETTISON circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K3P1.

Then go to paragraph 10-2.

NO

Repair wire A76B20 or A76F20 between 3A1J1-KK and 21K3P1-D.

Connect 21K3P1.

Then go to paragraph 10-2.

10-9. PILOT CANNOT JETTISON INBOARD OR OUTBOARD STORES (CONTINUED).

YES → Check for continuity from 4A2J1-W to 21K3P1-E.

Is continuity present?

NO → Repair wire A62B20 between 4A2J1-W and 21K3P1-E.

Connect 4A2P1

Then go to paragraph 10-2.

YES → Check for continuity from 21K3P1-A to airframe ground.

Is continuity present?

NO → Repair wire A87A20N between 21K3P1-A and airframe ground.

Connect 21K3P1 and 4A2P1

Then go to paragraph 10-2.

YES → Check for continuity from 21K3P1-G to 22A1P1-H.

Is continuity present?

NO → Repair wire A20A20 between 21K3P1-G and 22A1P1-H.

Connect 21K3P1 and 4A2P1.

Then go to paragraph 10-2.

YES → Replace pilot jettison switch relay (21K3) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 4A2P1.

Then go to paragraph 10-2.

YES → Check for continuity from 4A2P1-W to 21S3-2.

Is continuity present?

NO → Repair wire A62A20 between 4A2P1-W and 21S3-2.

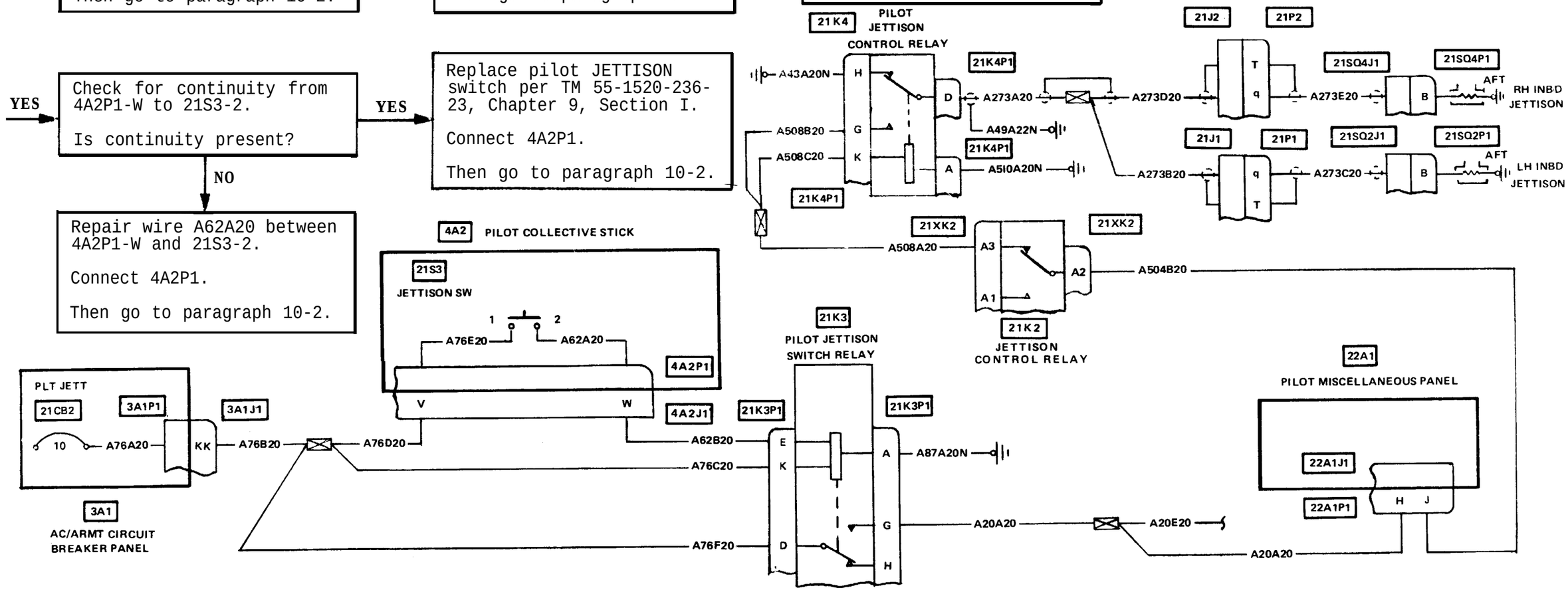
Connect 4A2P1.

Then go to paragraph 10-2.

YES → Replace pilot JETTISON switch per TM 55-1520-236-23, Chapter 9, Section I.

Connect 4A2P1.

Then go to paragraph 10-2.



## 10-10. GUNNER CANNOT JETTISON EITHER OUTBOARD STORES .

INITIAL SETUP

Applicable Configuration
All

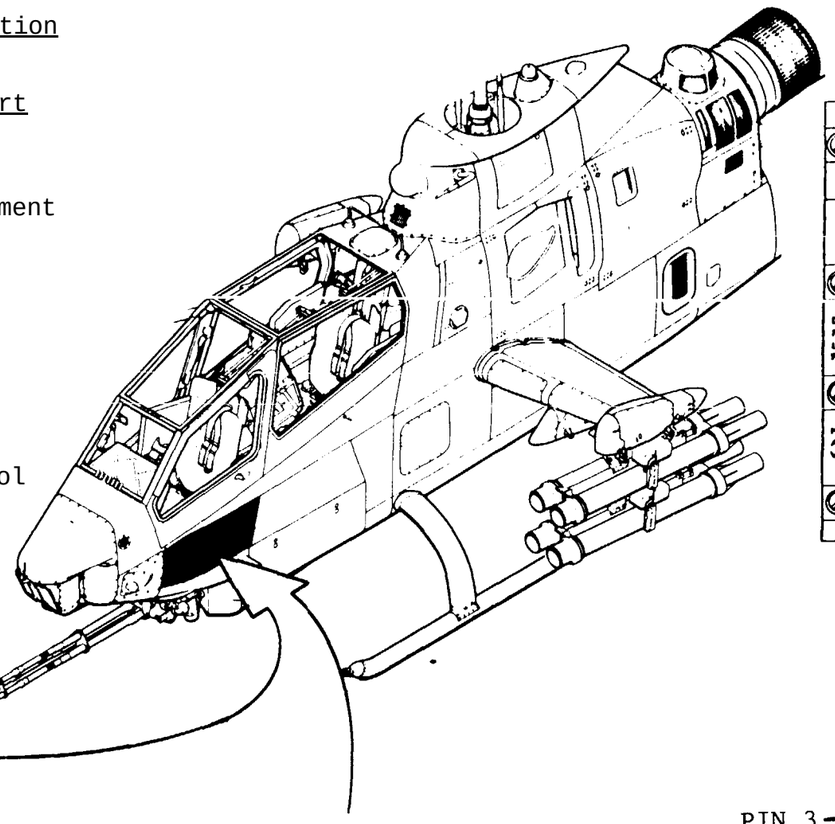
Tools/Test and Support Equipment
Multimeter

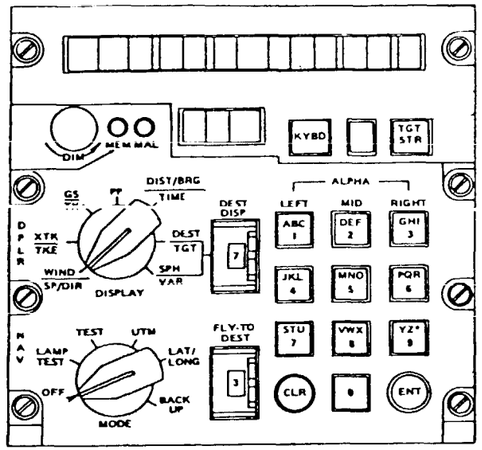
Tool Set, A/C Armament Repairman

Personnel Required
68J (1)

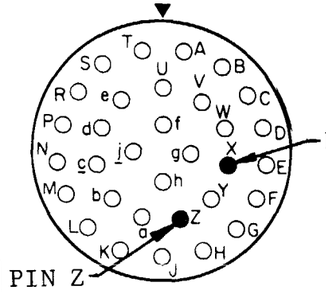
References
TM 55-1520-236-23

Access Panels
Left Forward Control Linkage - Removed

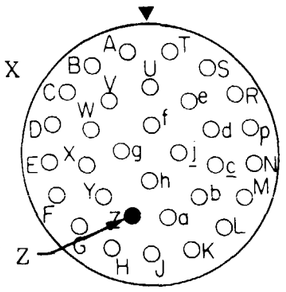




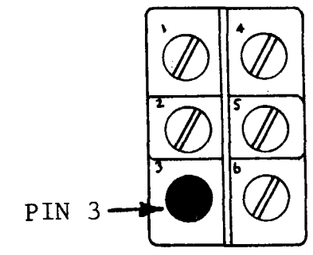
DPLR NAV CONTROL PANEL



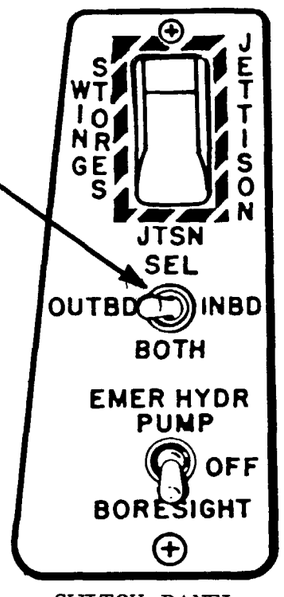
5A1J1



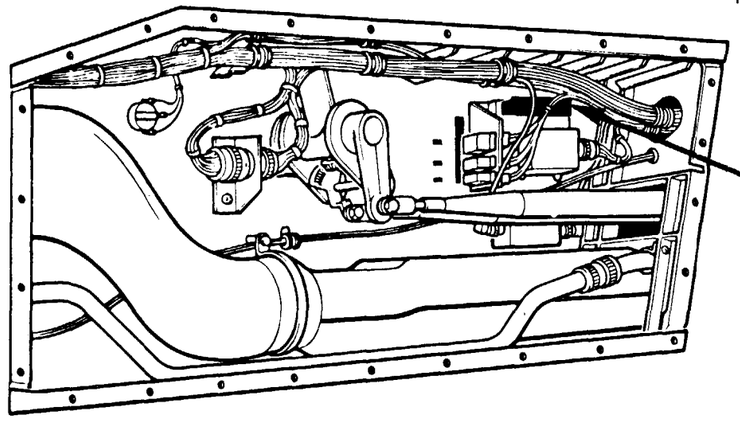
5A1P1

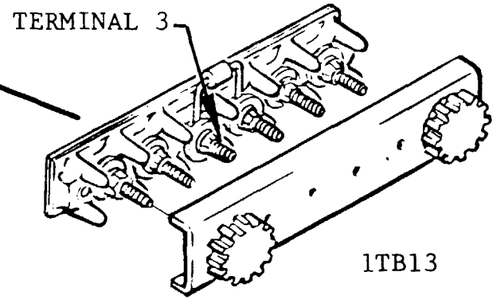


21S2

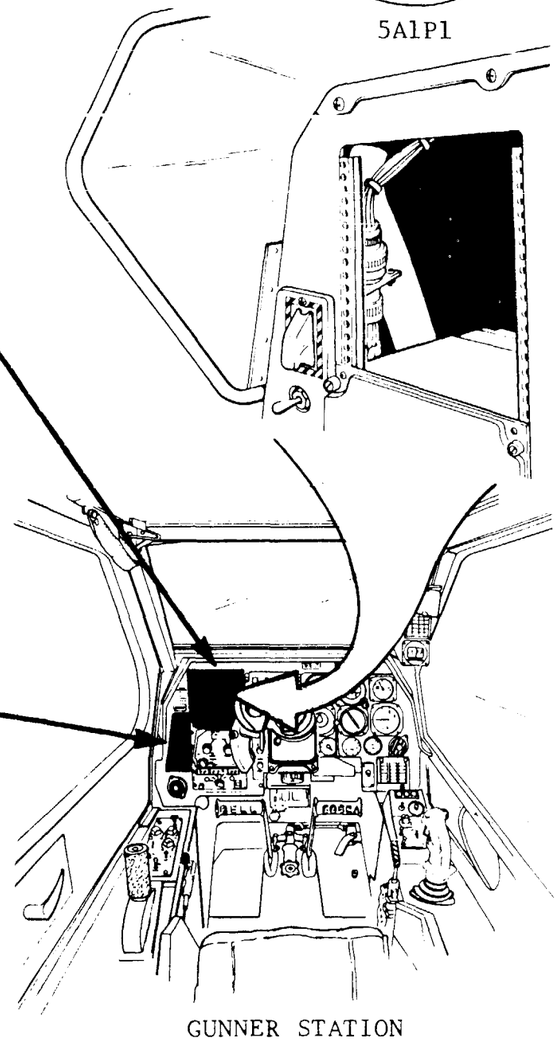


SWITCH PANEL





1TB13


GUNNER STATION

10-10. GUNNER CANNOT JETTISON EITHER OUTBOARD STORES (CONTINUED).

On gunner instrument panel:

Set JTSN SEL switch to OUTBD.

Raise guard over gunner WING STORES JETTISON switch and set switch to up position.

Check for 28 V dc at 1TB13-3.

**Is 28 V dc present?**

**YES** → Turn off electrical power per paragraph 10-3.

Check for continuity from 5A1J1-Z to 5A1J1-X.

Is continuity present?

YES → Repair wire A272B20 between 5A1P1-Z and splice.

'Then go to paragraph 10-2.

**NO** → Check for continuity from 21S2-3 to 5A1J1-Z.

Is continuity present?

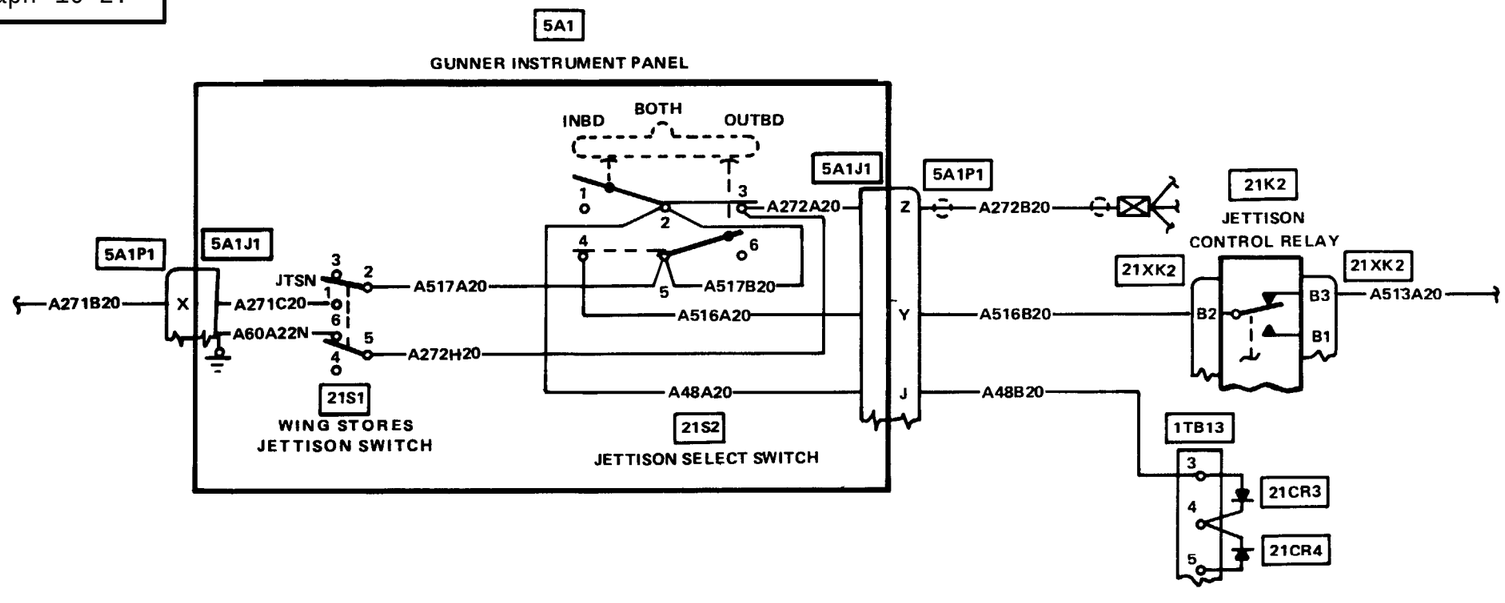
**YES** → Replace JTSN SEL switch per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

**NO** → Repair wire A272A20 between 21S2-3 and 5A1J1-Z.

Then go to paragraph 10-2.

**NO** → Go to paragraph 10-12.



## 10-11. GUNNER CANNOT JETTISON EITHER INBOARD STORES.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

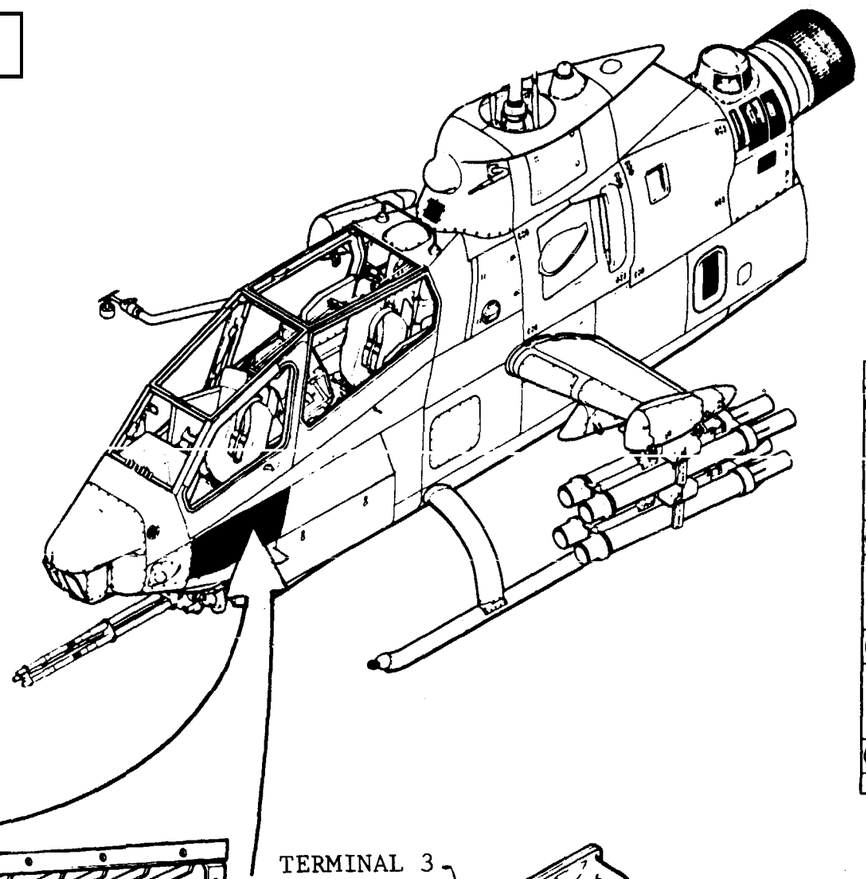
Personnel Required
68J (1)

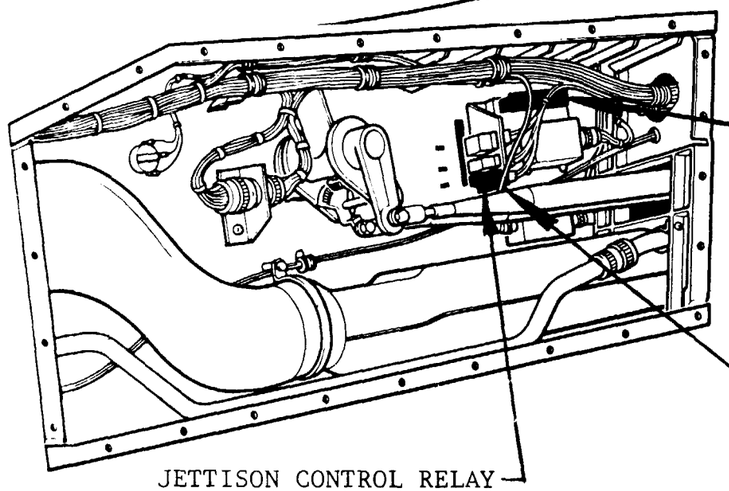
References
TM 55-1520-236-23

Access Panels
Left Forward Control Linkage - Removed

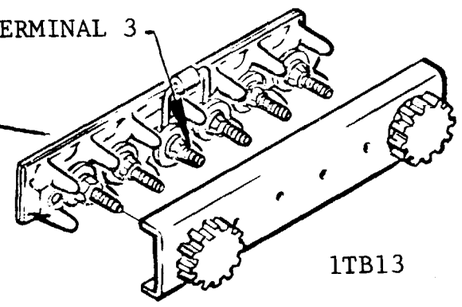
Logic Control Unit - Removed

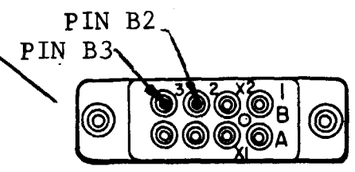
Left Wing Outboard Leading Edge Cover - Removed

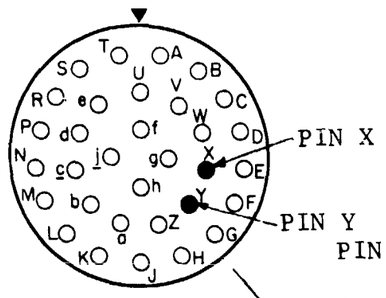


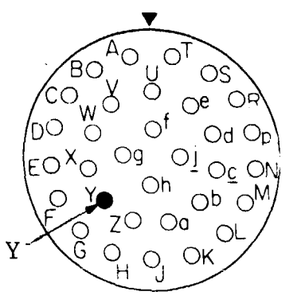


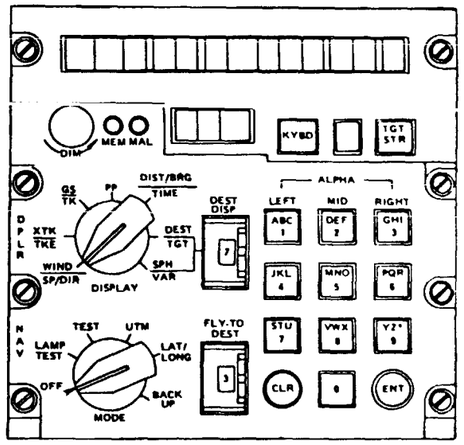
JETTISON CONTROL RELAY (21K2)



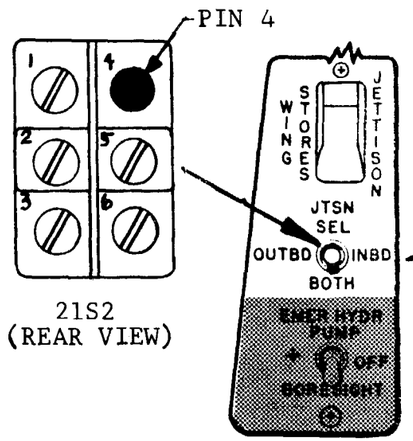



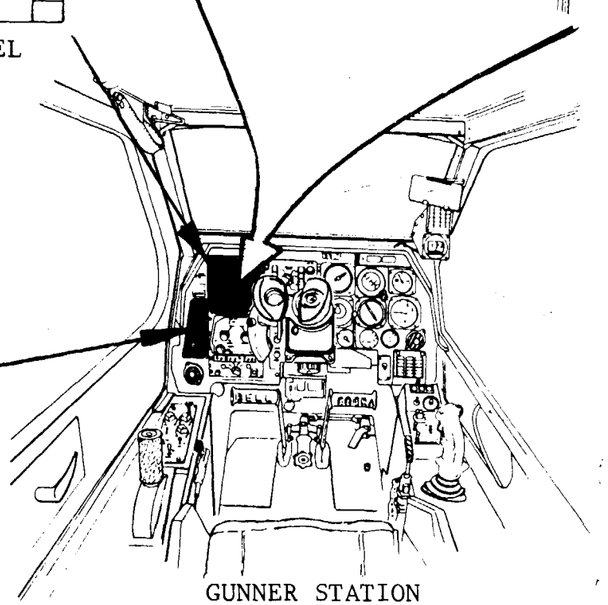




DPLR NAV CONTROL PANEL

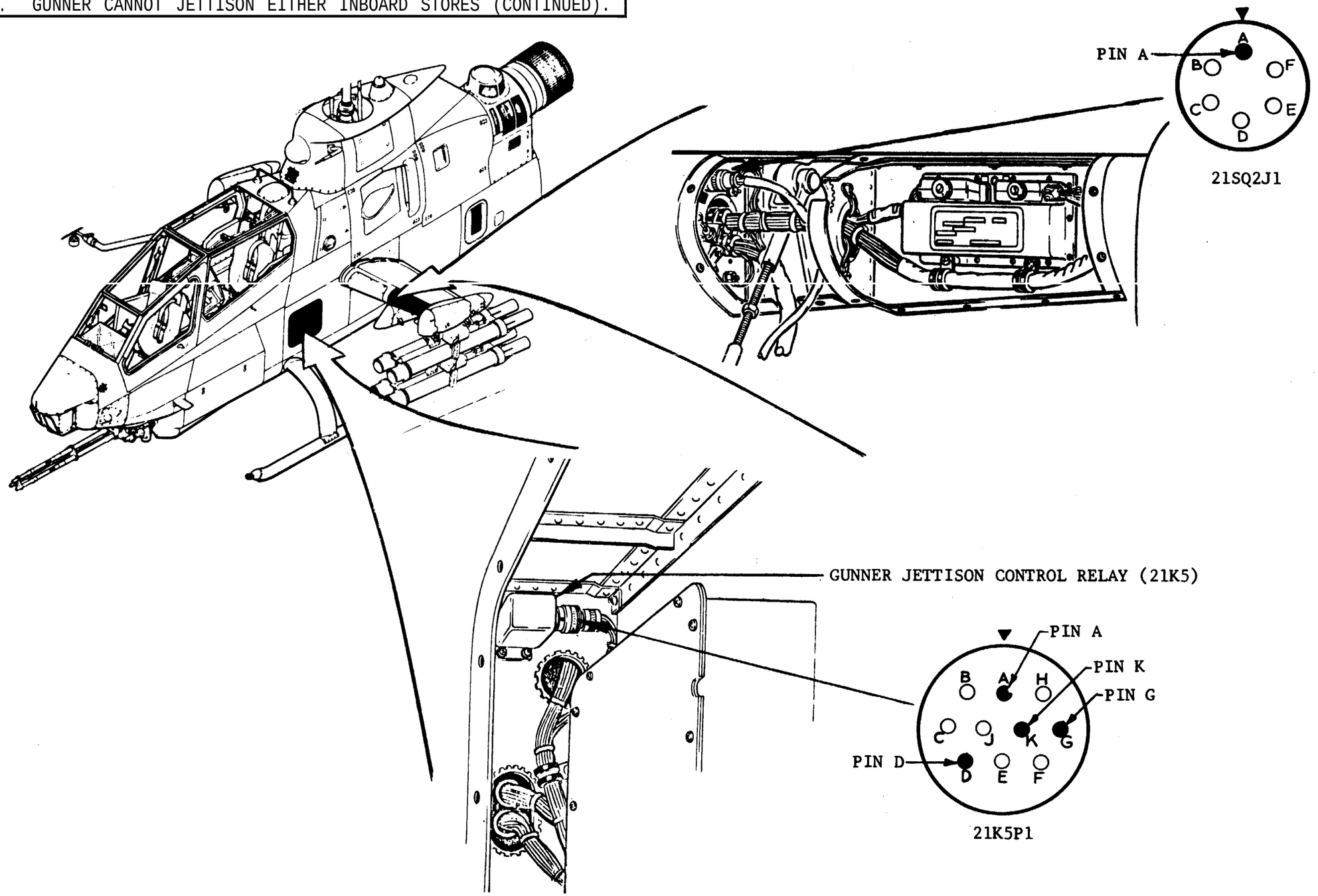



21S2
(REAR VIEW)



GUNNER STATION

10-11. GUNNER CANNOT JETTISON EITHER INBOARD STORES (CONTINUED).



## 10-11. GUNNER CANNOT JETTISON EITHER INBOARD STORES (CONTINUED) .

NOTE

Inboard stores will not jettison with either lower TOW missile launchers connected or TOW missile present simulators connected.

On gunner instrument panel:

Set JTSN SEL switch to INBD.

Set WING STORES JETTISON switch to up.

Check for 28 V dc at 1TB13-3.

Is 28 V dc present?

NO

Go to paragraph 10-12.

YES

Turn off electrical power per paragraph 10-3.

Check for continuity from 5A1J1-X to 5A1J1-Y.

Is continuity present?

YES

Check for continuity from 5A1P1-Y to 21K5P1-K.

Is continuity present?

YES

NO

Check for continuity from 5A1P1-Y to 21XK2-B2.

Is continuity present?

YES

NO

Repair wire A516B20 between 5A1P1-Y and 21XK2-B2.

Then go to paragraph 10-2.

NO

Check for continuity from 21S2-4 to 5A1J1-Y.

Is continuity present?

YES

Replace gunner JTSN SEL switch per TM 55-1520-236-23, Chapter 9, Section I.

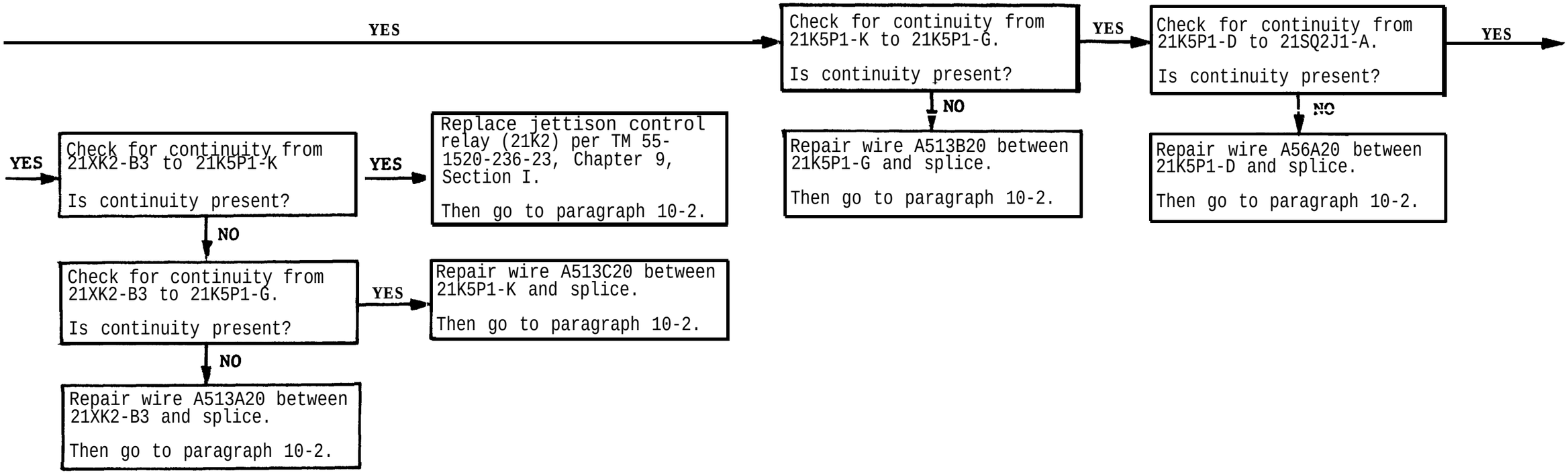
Then go to paragraph 10-2.

NO

Repair wire A516A20 between 21S2-4 to 5A1J1-Y.

Then go to paragraph 10-2.

10-11. GUNNER CANNOT JETTISON EITHER INBOARD STORES (CONTINUED) .



10-11. GUNNER CANNOT JETTISON EITHER INBOARD STORES (CONTINUED).

YES

Check for continuity from 21K5P1-A to airframe ground.

Is continuity present?

YES

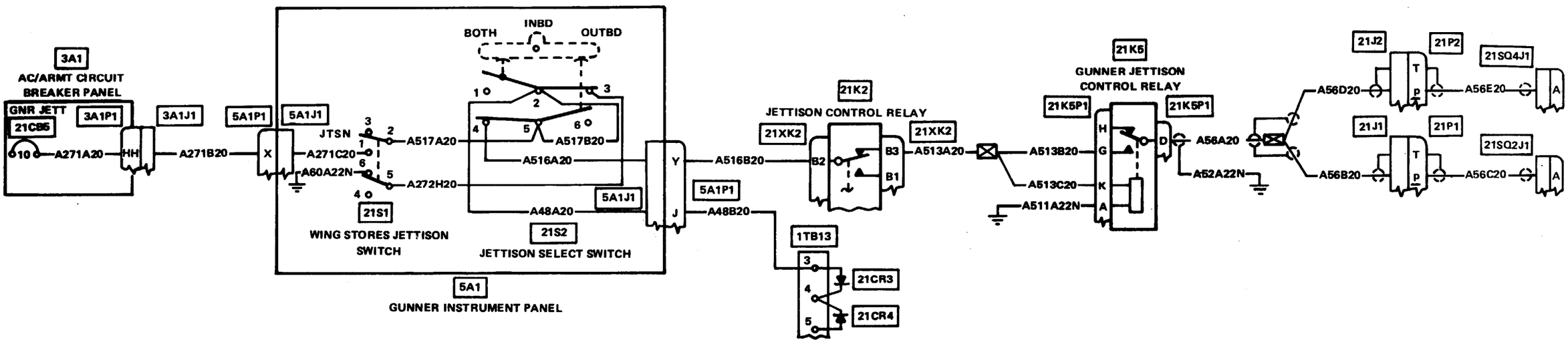
Replace gunner jettison control relay (21K5) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO

Repair wire A511A22N between 21K5P1-A and airframe ground.

Then go to paragraph 10-2.



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## 10-12. GUNNER CANNOT JETTISON INBOARD OR OUTBOARD STORES.

INITIAL SETUP

Applicable Configuration
All

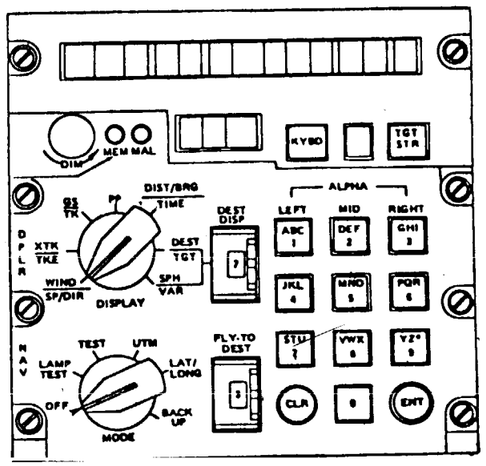
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

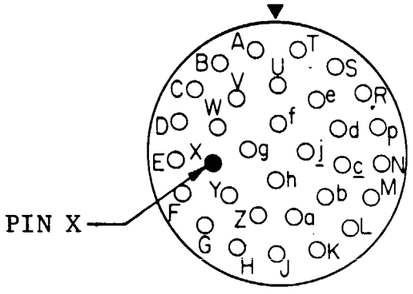
Personnel Required
68J (2)

References
TM 55-1520-236-23

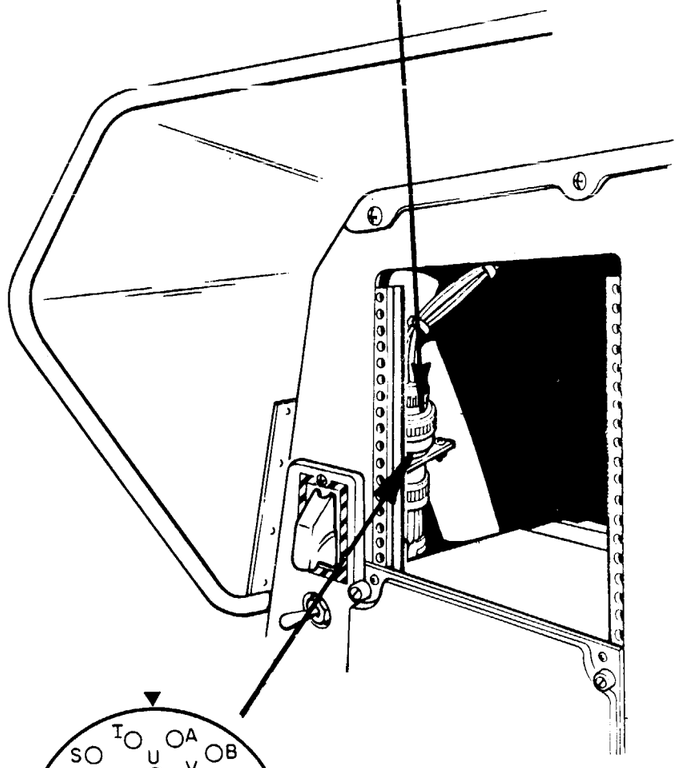
Access Panels
Left Side Control Linkage - Removed

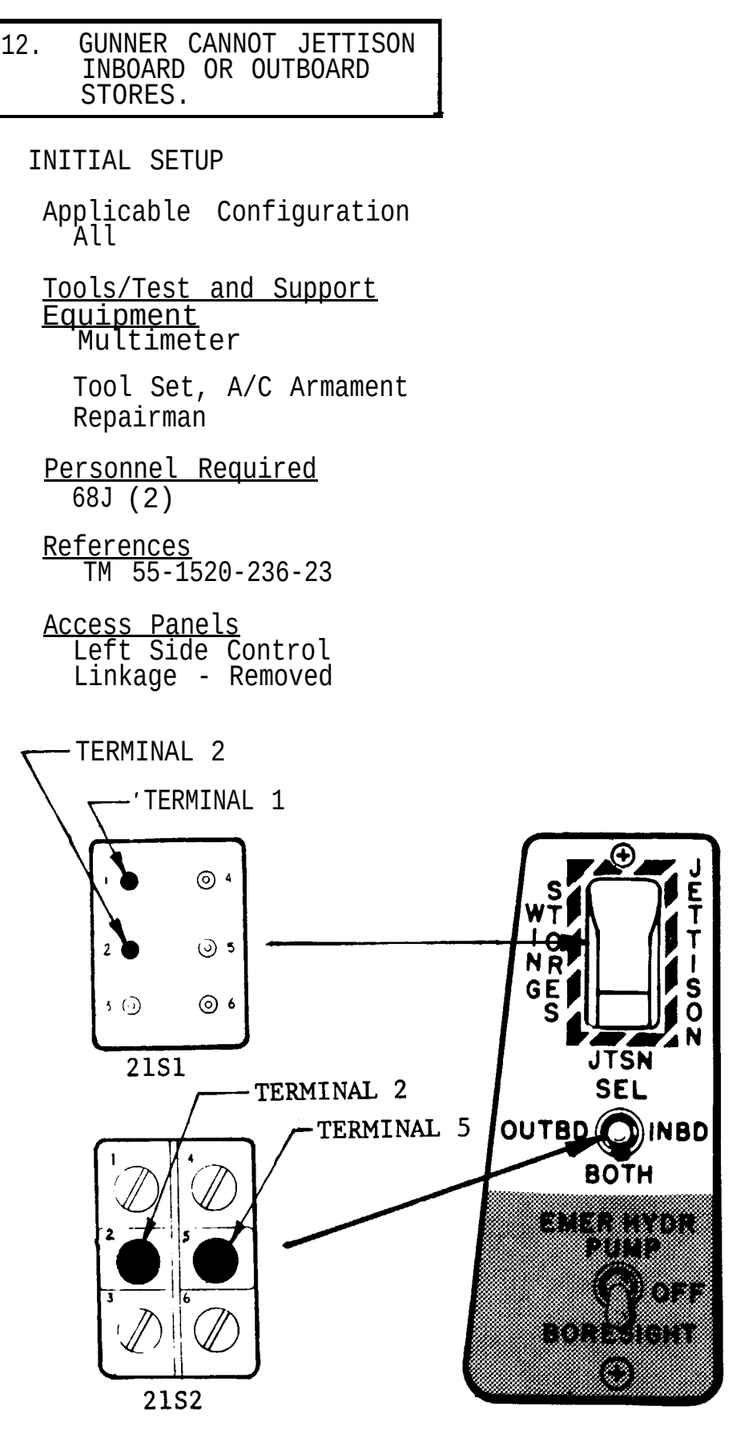


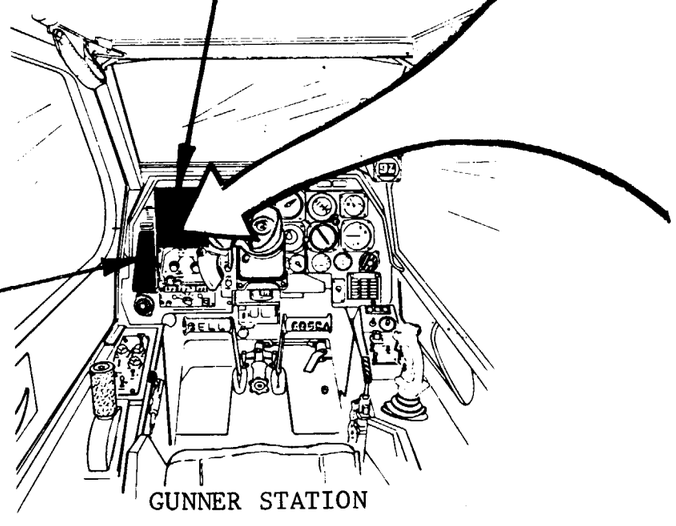

DPLR NAV CONTROL PANEL



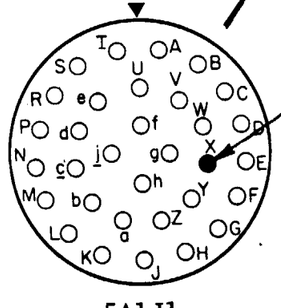

5A1P1





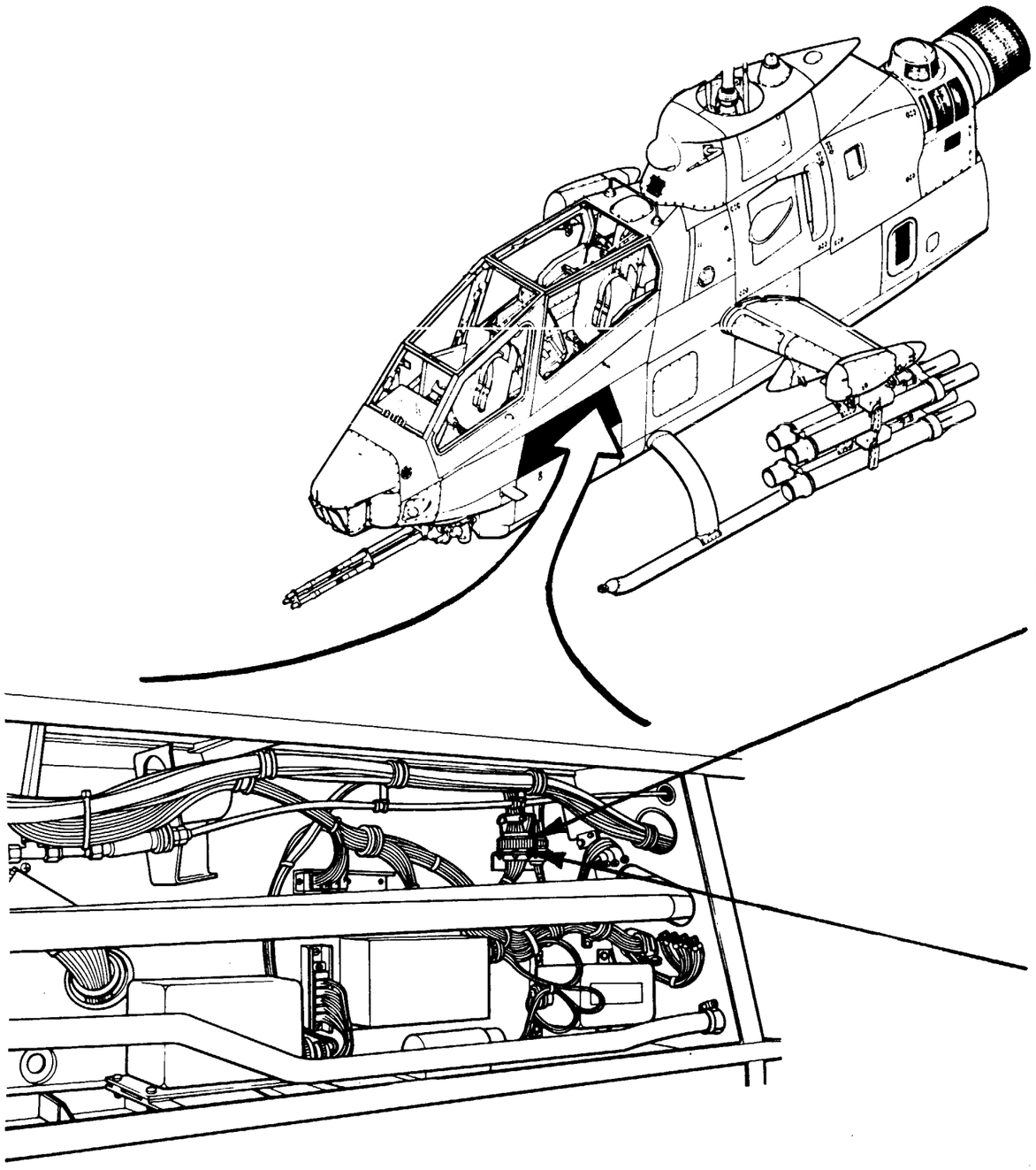



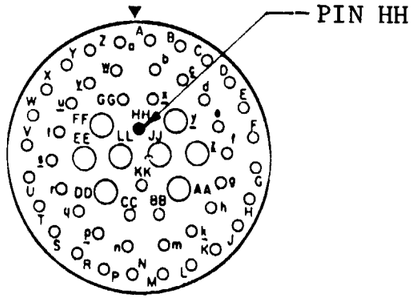
GUNNER STATION



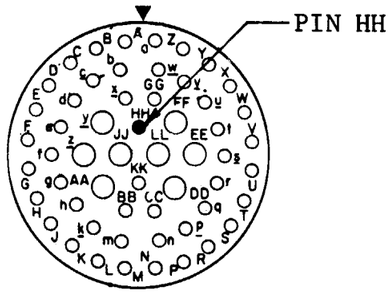

5A1J1

10-12. GUNNER CANNOT JETTISON INBOARD OR OUTBOARD STORES (CONTINUED).

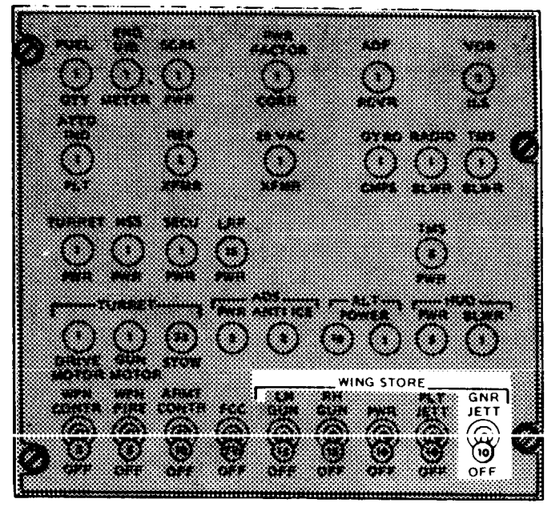




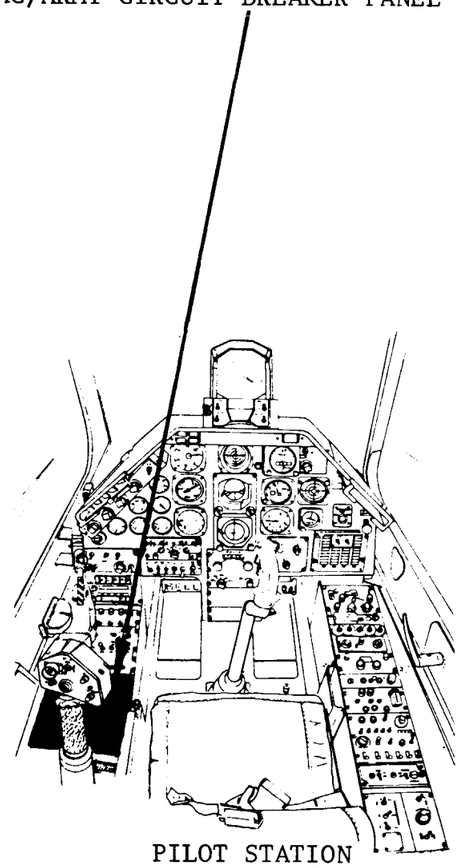
3A1P1



3A1J1

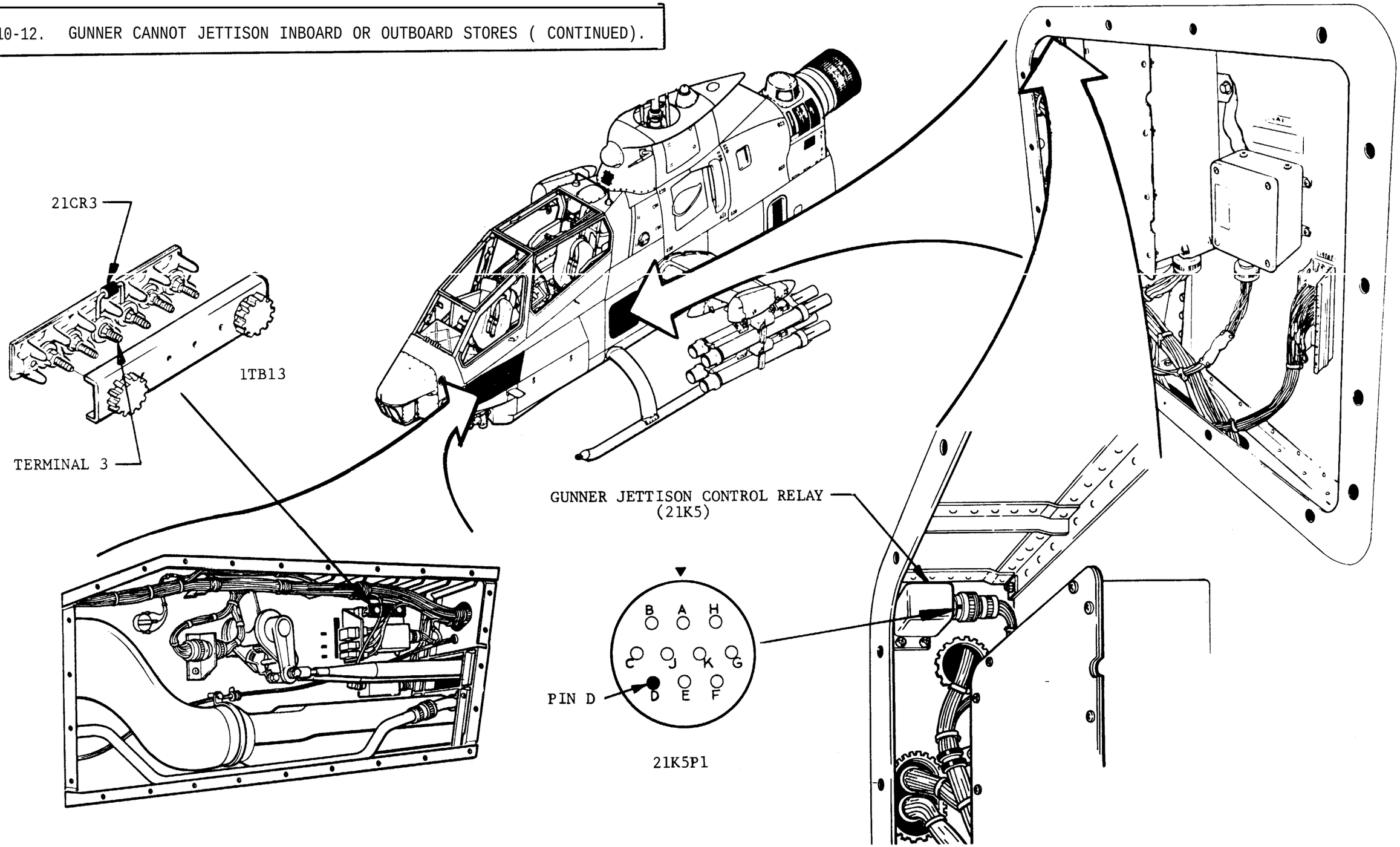



AC/ARMT CIRCUIT BREAKER PANEL



PILOT STATION

10-12. GUNNER CANNOT JETTISON INBOARD OR OUTBOARD STORES ( CONTINUED).



10-12. GUNNER CANNOT JETTISON INBOARD OR OUTBOARD STORES (CONTINUED).

Turn off electrical power per paragraph 10-3.
Disconnect 5A1P1.
Turn on electrical power per paragraph 10-3.
Check for 28 V dc at 5A1P1-X.
Is 28 V dc present?

YES → Turn off electrical power per paragraph 10-3.
Check for continuity from 5A1J1-X to 21S1-1.
Is continuity present?

YES → Connect 5A1P1.
On gunner instrument panel:
Raise guard and set WING STORES JETTISON switch to up position.
Check for continuity from 21S1-1 to 21S1-2.
Is continuity present?

YES →

NO → Replace WING STORES JETTISON switch per TM 55-1520-236-23, Chapter 9, Section I.
Then go to paragraph 10-2.

NO → Repair wire A271C20 between 5A1J1-X and 21S1-1.
Connect 5A1P1.
Then go to paragraph 10-2.

NO → Turn off electrical power per paragraph 10-3.
On A/C armament circuit breaker panel:
Open WING STORE GNR JETT circuit breaker.
Disconnect jettison circuitry test set.
Disconnect 21K5P1.
Disconnect diode (21CR3) from 1TB13-3.
On gunner instrument panel:
Set JTSN SEL switch to BOTH.
Check for continuity from 1TB13-3 to airframe ground.
Is continuity present?

YES → Connect diode (21CR3) to 1TB13-3.
Connect 5A1P1 and 21K5P1.
Go to paragraph 10-21.

NO → Check for continuity from 21K5P1-D to airframe ground.
Is continuity present?

YES → Connect diode (21CR3) to 1TB13-3.
Connect 5A1P1 and 21K5P1.
Go to paragraph 10-21.

NO → Connect diode (21CR3) to 1TB13-3.
Connect 21K5P1.
Check for continuity from 3A1J1-HH to 5A1P1-X.
Is continuity present?

YES → Connect 5A1P1.
Check for continuity from 3A1P1-HH to the terminal opposite bus on WING STORE GNR JETT circuit breaker.
Is continuity present?

YES →

NO → Repair wire A271A20 between 3A1P1-HH and WING STORE GNR JETT circuit breaker.
Then go to paragraph 10-2.

NO → Repair wire A271B20 between 3A1J1-HH and 5A1P1-X.
Connect 5A1P1.
Then go to paragraph 10-2.

## 10-12. GUNNER CANNOT JETTISON INBOARD OR OUTBOARD STORES (CONTINUED) .

YES → Check for continuity from 21S1-2 to 21S2-5.

is continuity present?

NO → Repair wire A517A20 between 21S1-2 and 21S2-5.

Then go to paragraph 10-2.

YES → Check for continuity from 21S2-5 to 21S2-2.

Is continuity present?

NO → Repair wire A517B20 between 21S2-5 and 21S2-2.

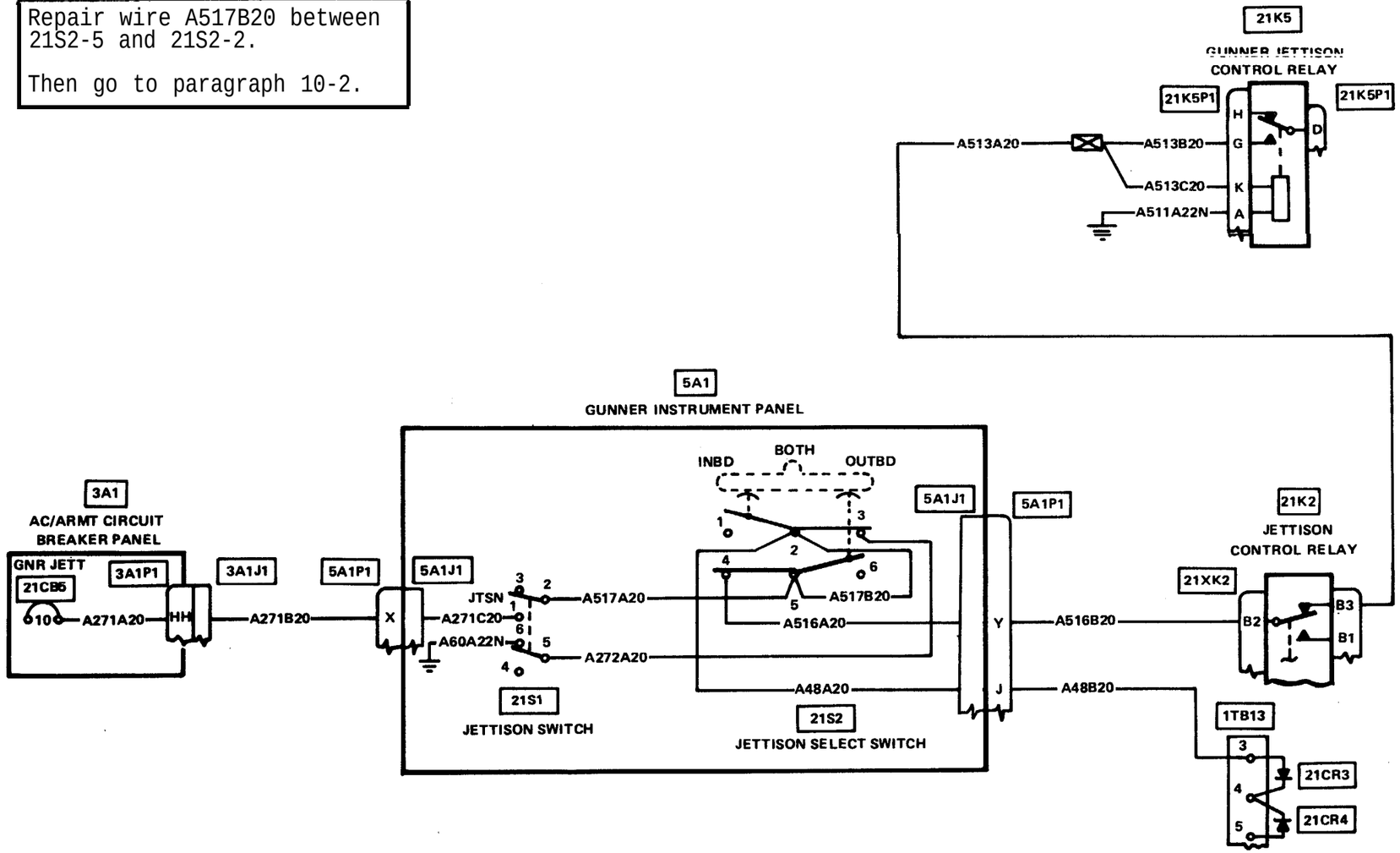
Then go to paragraph 10-2.

YES → Replace JTSN SEL switch per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

YES → Replace WING STORE GNR JETT circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.



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10-13. WING STORE PLT CIRCUIT BREAKER OPENS WHEN JETTISON SWITCH IS PRESSED WITH BOTH PILOT JETTISON SELECT SWITCHES SET TO OFF.

INITIAL SETUP

Applicable Configuration
All

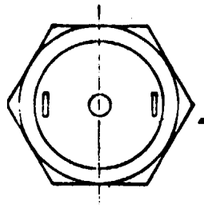
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

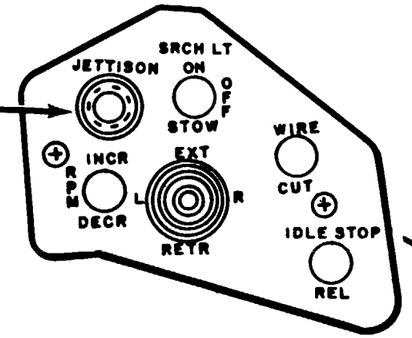
Personnel Required
68J (1)

References
TM 55-1520-236-23

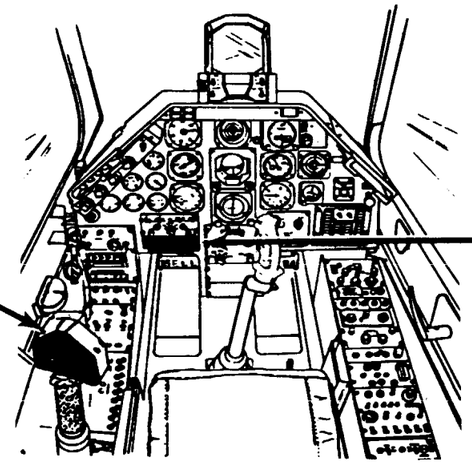
Access Panels
Left Forward Control Linkage - Removed
Pilot Collective Linkage - Removed



21S3
(REAR VIEW)

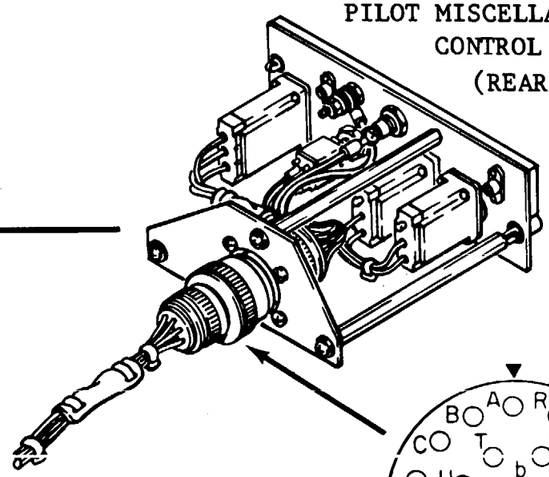


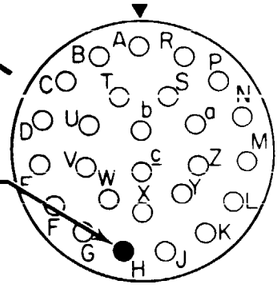

PILOT COLLECTIVE STICK



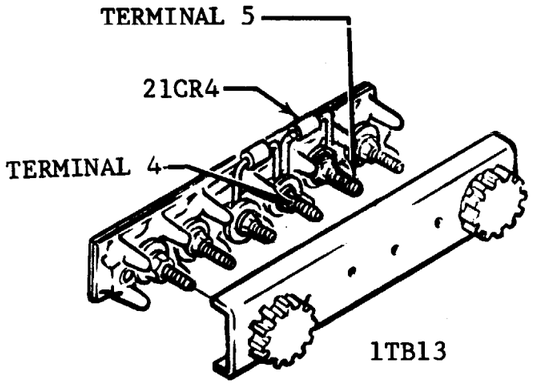
PILOT STATION

PILOT MISCELLANEOUS CONTROL PANEL (REAR VIEW)

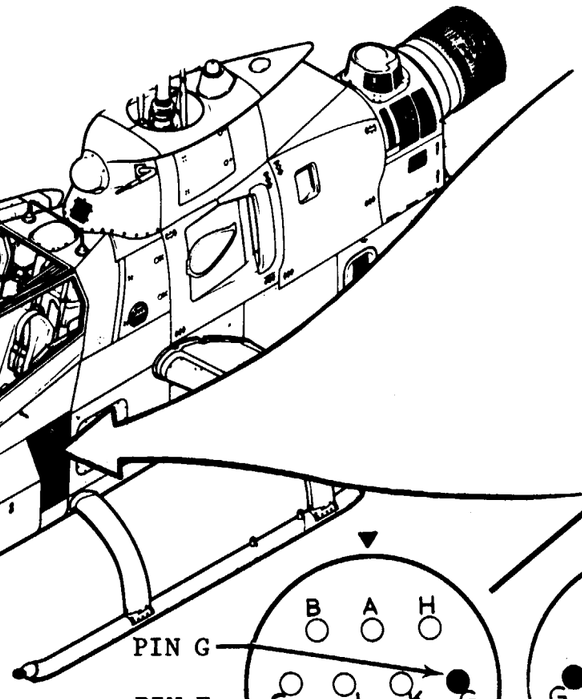


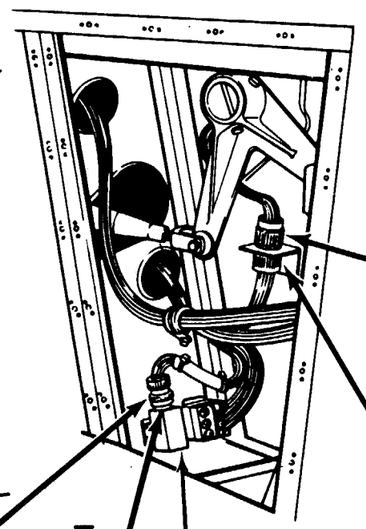


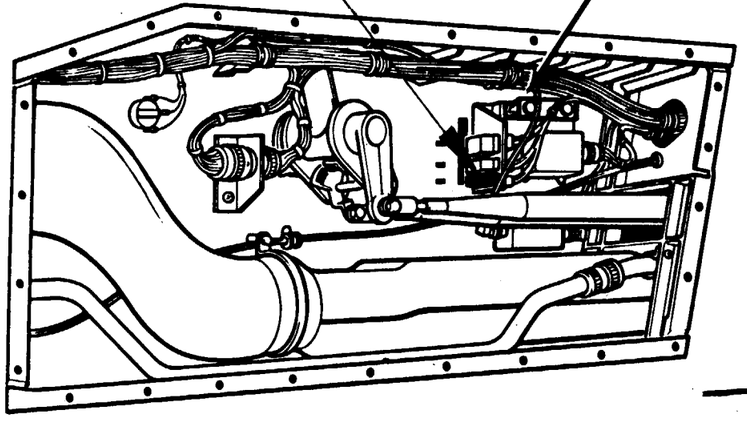

22A1P1

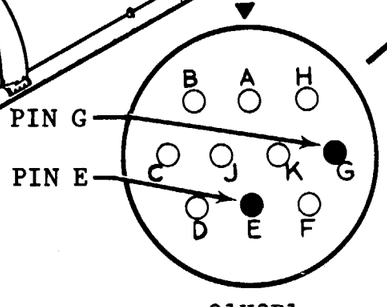



1TB13

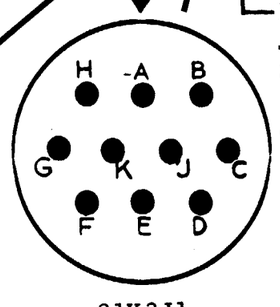






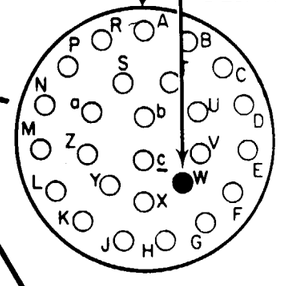




21K3P1

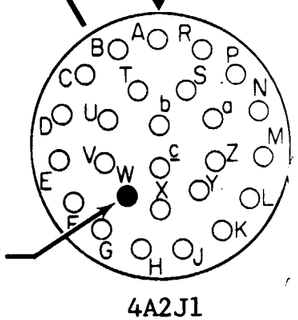



21K3J1

PILOT JETTISON SWITCH RELAY (21K3)




4A2P1




4A2J1

10-13. WING STORE PLT JETT CIRCUIT BREAKER OPENS WHEN JETTISON SWITCH IS PRESSED WITH BOTH PILOT JETTISON SELECT SWITCHES SET TO OFF (CONTINUED).

Turn off electrical power per paragraph 10-3.

Disconnect diode (21CR4) from 1TB13-5.

Check for continuity from 1TB13-4 to airframe ground.

Is continuity present?

YES → Connect diode (21CR4) to 1TB13-5.

Then go to paragraph 10-14.

NO ↓

Remove jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Connect diode (21CR4) to 1TB13-5.

Check for continuity from 22A1P1-H to airframe ground.

Is continuity present?

YES → Disconnect 21K3P1.

Check for continuity from 22A1P1-H to airframe ground.

Is continuity present?

YES →

NO ↓

Replace pilot jettison switch relay (21K3) per TM 55-1520-236-23, Chapter 9, Section 1.

Then go to paragraph 10-2.

NO ↓

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from all pins of 21K3J1 on pilot jettison switch relay (21K3) to airframe ground.

Is continuity present on any pin?

YES → Replace pilot jettison switch relay (21K3) per TM 55-1520-236-23, Chapter 9, Section 1.

Then go to paragraph 10-2.

NO ↓

Check for continuity from 21K3P1-E to airframe ground.

Is continuity present?

YES → Check for continuity from 4A2P1-W to airframe-ground.

Is continuity present?

YES → Disconnect wire A62A20 from 21S3.

Check for continuity from 4A2P1-Wto airframe ground.

Is continuity present?

YES →

NO ↓

Replace pilot JETTISON switch per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO ↓

Repair wire A62B20 between 4A2P1-W and 21K3P1-E to eliminate short to ground.

Then go to paragraph 10-2.

NO ↓

10-13. WING STORE PLT JETT CIRCUIT BREAKER OPENS WHEN JETTISON SWITCH IS PRESSED WITH BOTH PILOT JETTISON SELECT SWITCHES SET TO OFF (CONTINUED).

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Remove splice joining wires A20A20, A20A20, and A20E20.

Check for continuity from 22A1P1-H to airframe ground

Is continuity present?

YES

Repair wire A20A20 between 21K3P1-G and splice to eliminate short to ground.

Install splice joining wires A20A20, A20A20 and A20E20 per TM55-1520-236-23, Chapter 9, Section I.

Connect 21K3P1,

Then go to paragraph 10-2.

NO

Replace pilot miscellaneous control panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO

Check for continuity from 21K3P1-G to airframe ground.

Is continuity present?

YES

Repair wire A20A20 between 22A1P1-H and splice to eliminate short to ground.

Install splice joining wires A20A20, A20A20 and A20E20 per TM55-1520-236-23, Chapter 9, Section I.

Connect 21K3P1.

Then go to paragraph 10-2.

NO

Repair wire A20E20 between 1TB13-5 and splice to eliminate short to ground.

Install splice joining wires A20A20, A20A20 and A20E20 per TM55-1520-236-23, Chapter 9, Section I.

Connect 21K3P1,

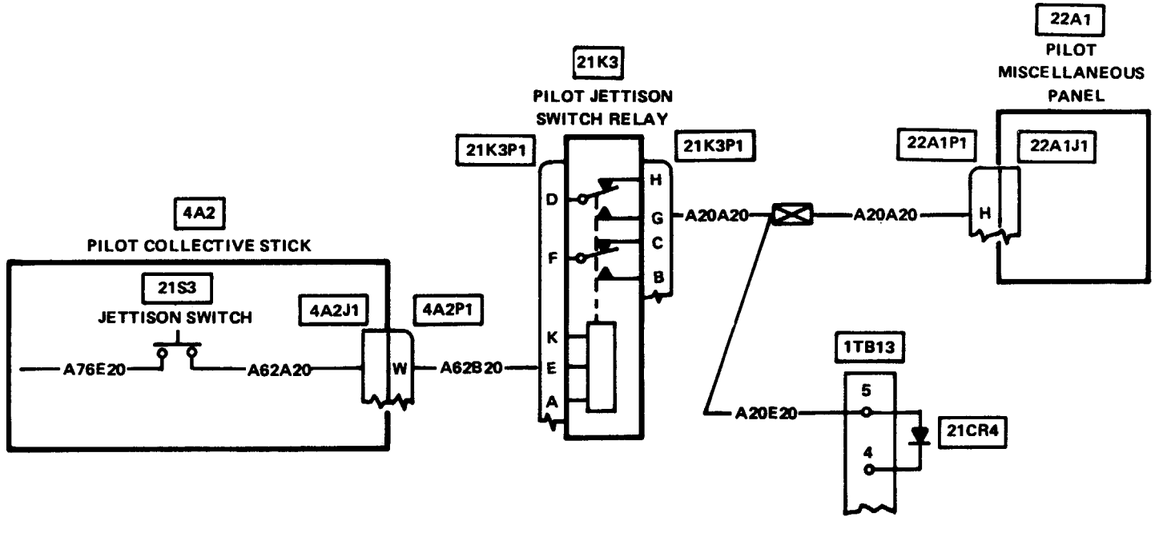
Then go to paragraph 10-2.

YES

Repair wire A62A20 between 4A2J1-W and 21S3 to eliminate short to ground.

Connect Wire A62A20 to 21S3.

Then go to paragraph 10-2.



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10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED).

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set. A/C Armament Repairman

Personnel Required
68J (2)

References
TM 55-1520-236-23
TM 9-1425-473-20

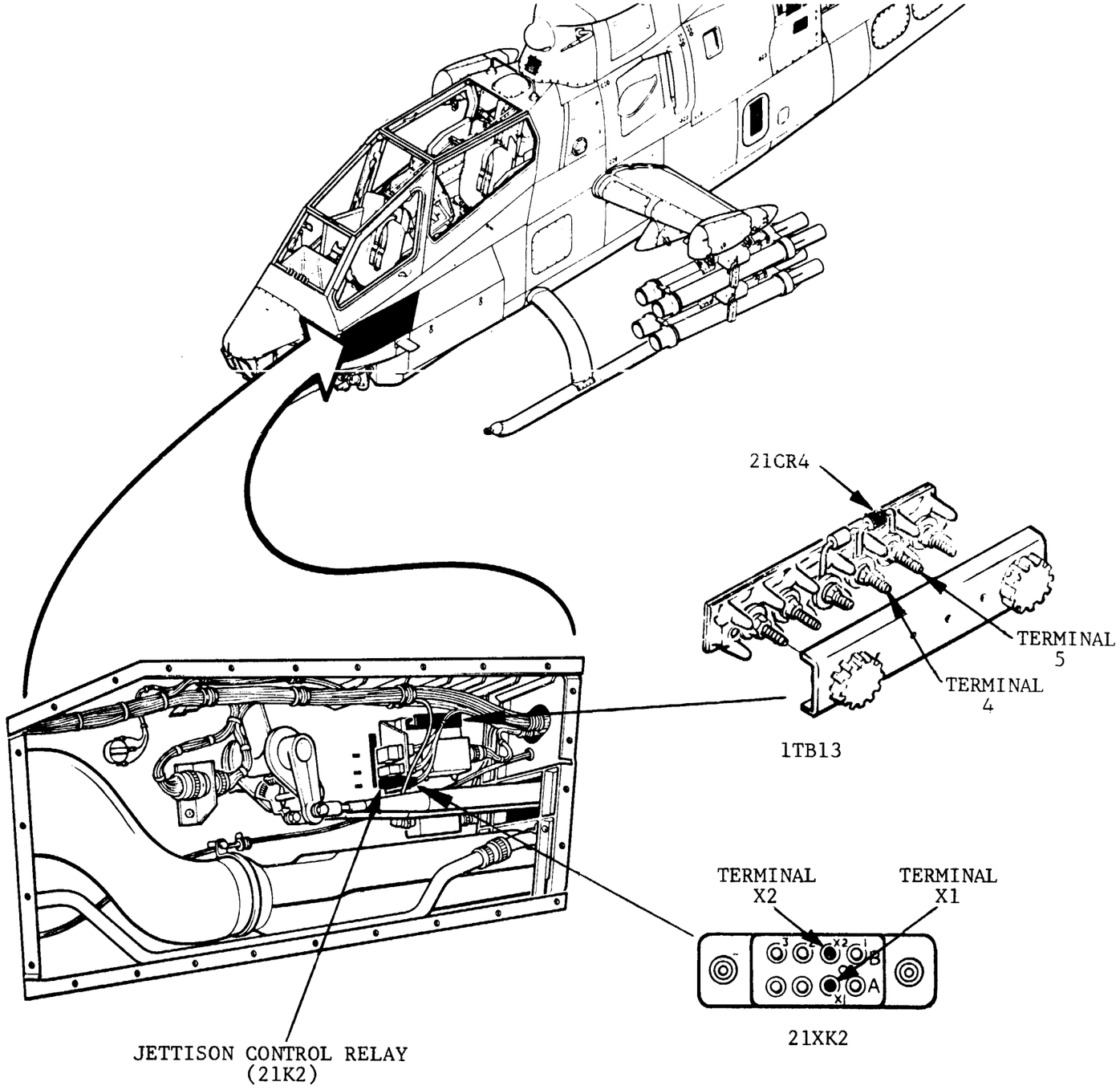
Access Panels
Servo Electronic Control Unit - Removed

Left Forward Control Linkage - Removed

Forward Belly Armament and Lighting - Removed

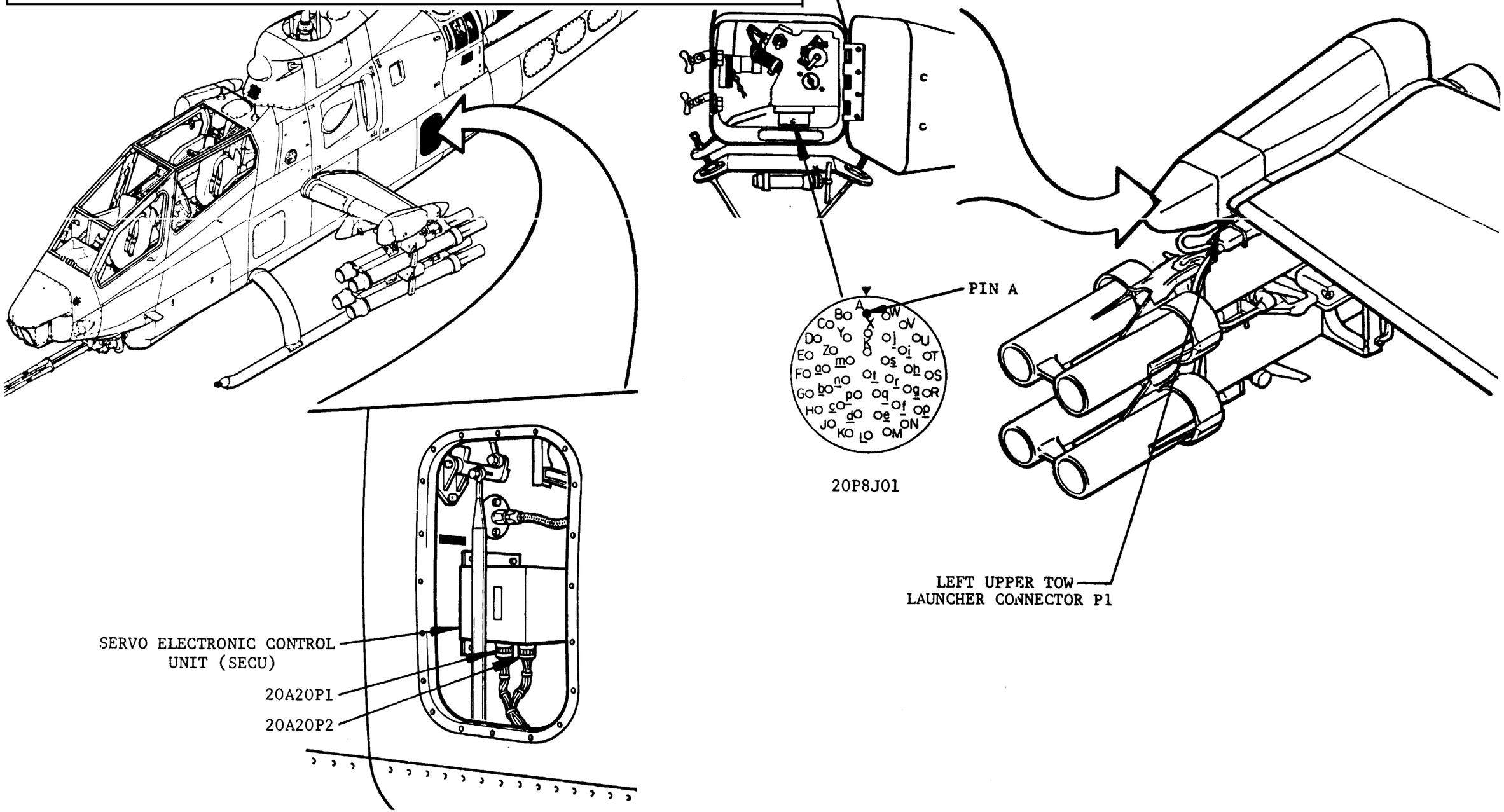
Left Ammunition Compartment Door - Open

A. TROUBLESHOOTING LOGIC PART ONE.



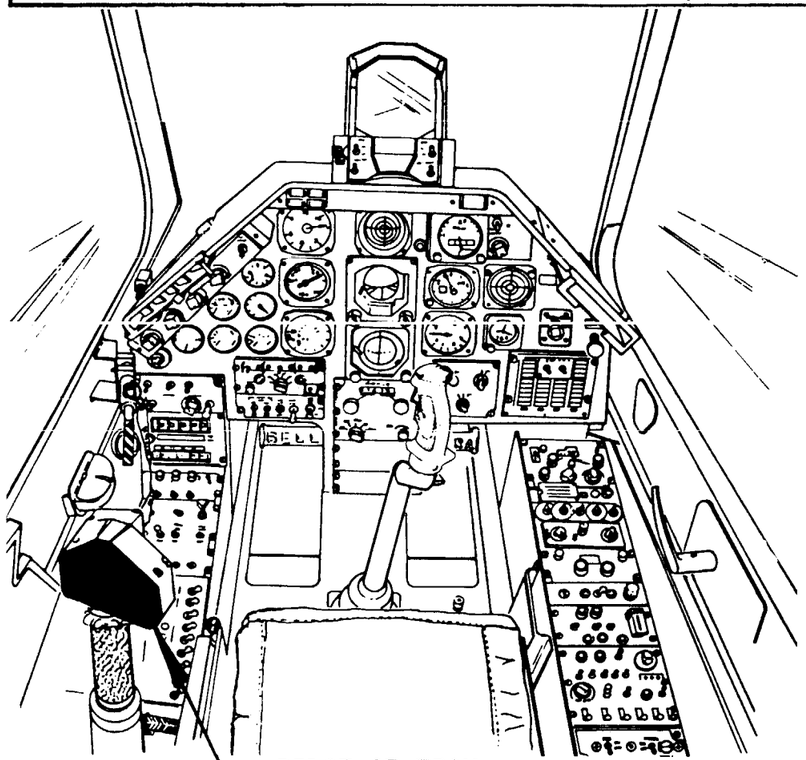
10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

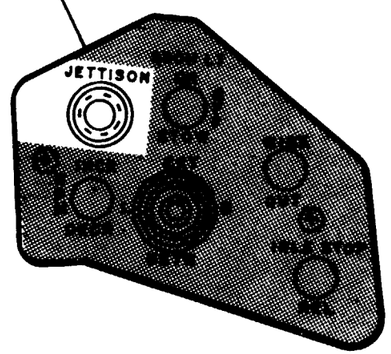


10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) (CONTINUED).

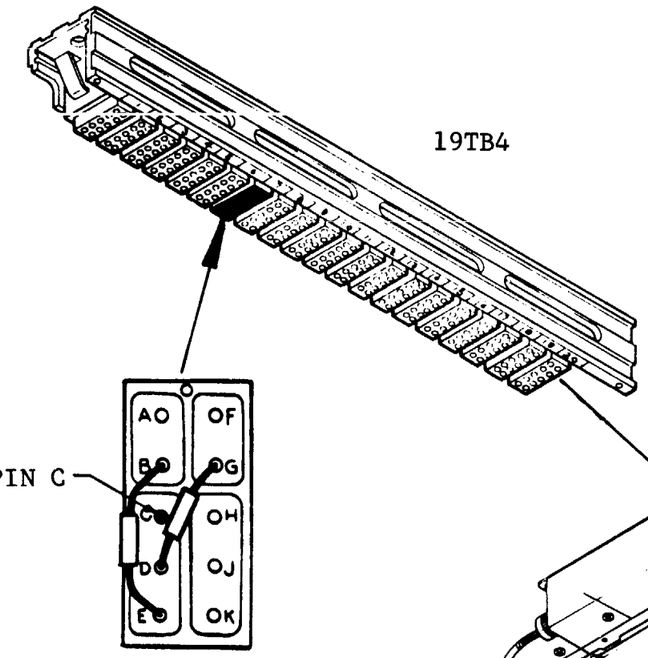
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



PILOT STATION



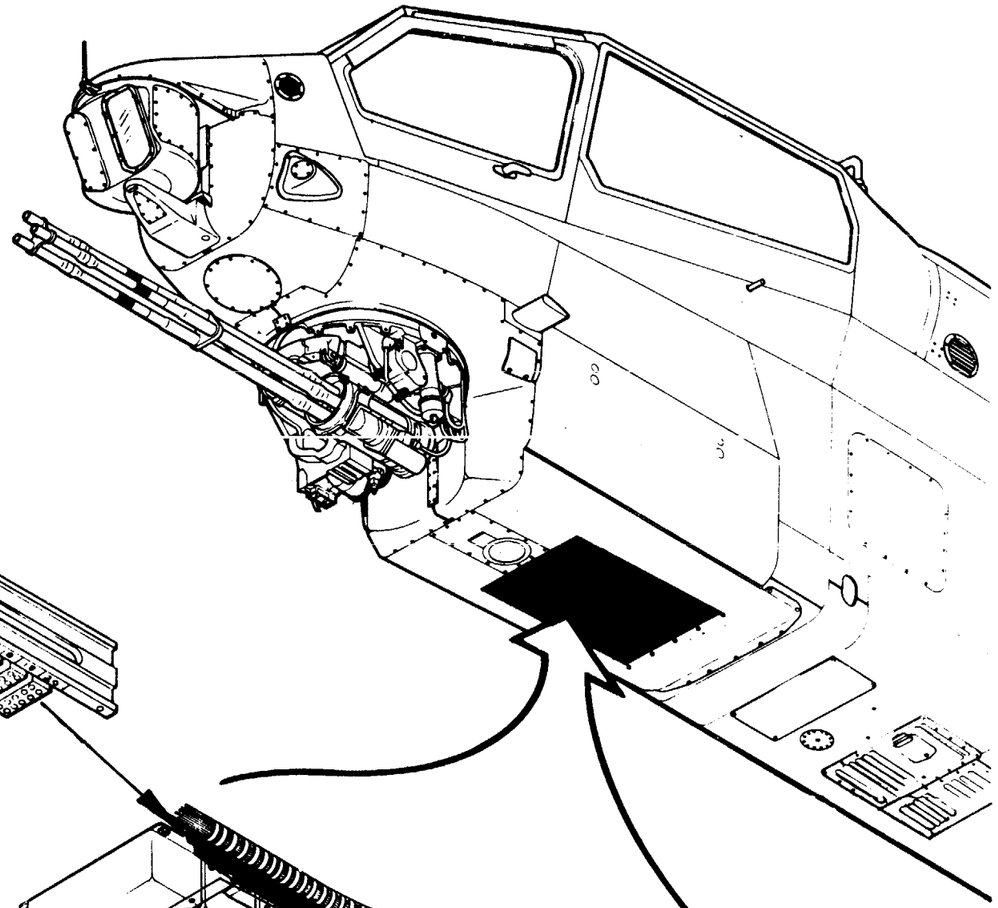

PILOT COLLECTIVE STICK

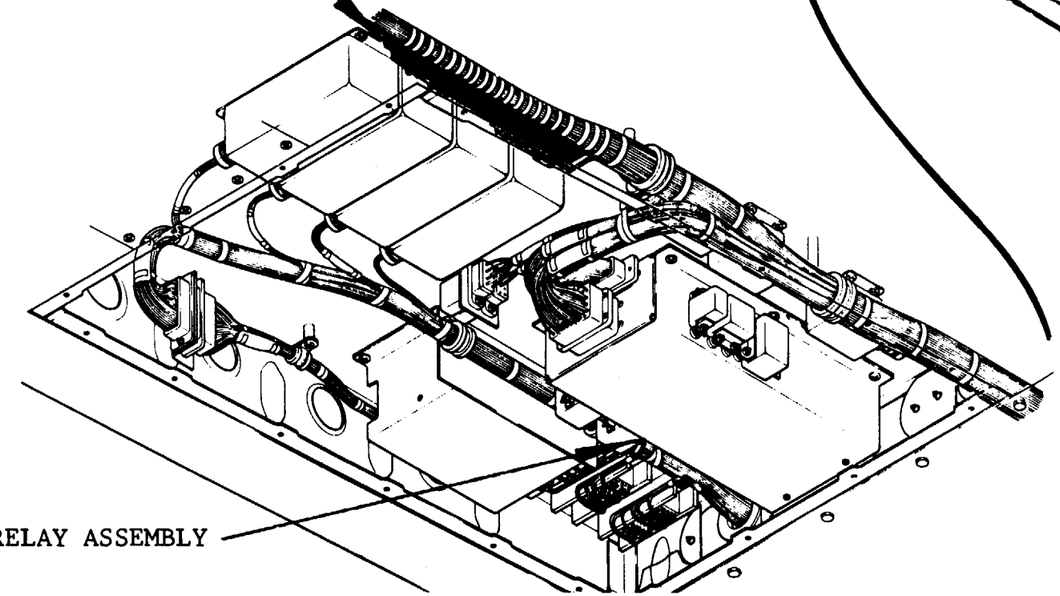



PIN C

MODULE 7

19TB4





LOGIC RELAY ASSEMBLY

10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) (CONTINUED) .

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED) .

On pilot collective stick:

Press and hold JETTISON switch.

Check for 28 V dc at 1TB13-5.

Is 28 V dc present?

YES

On pilot collective stick:

Press and hold JETTISON Switch.

Check for 28 V dc at 1TB13-4.

Is 28 V dc present?

YES

On pilot collective stick:

Press and hold JETTISON switch.

Check for 28 V dc at 19TB4-7C.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph.

Disconnect P1 on upper left TOW launcher from 20P8J01.

Turn on electrical power per paragraph 10-3.

On pilot collective stick:

Press and hold JETTISON switch.

Check for 28 V dc at 20P8J01-A.

Is 28 V dc present?

YES

NO

Turn off electrical power per paragraph 10-3.

Repair wire A308A20 between 1TB13-4 and splice.

Connect P1 on upper left TOW launcher to 20P8J01.

Then go to paragraph 10-2.

NO

Turn off electrical power per paragraph 10-3.

Repair wire A20E20 between 1TB13-5 and splice.

Then go to paragraph 10-2.

NO

Turn off electrical power per paragraph 10-3.

Remove jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Disconnect 20A20P1 and 20A20P2.

Check for continuity from 1TB13-4 to airframe ground.

Is continuity present?

YES

Replace diode (21CR4) per TM 55-1520-236-23, Chapter 9, Section I.

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 20A20P1 and 20A20P2.

Go to Troubleshooting Logic Part Two (subparagraph B ).

NO

Replace diode (21CR4) per TM 55-1520-236-23, Chapter 9, Section I.

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 20A20P1 and 20A20P2.

Then go to paragraph 10-2.

10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

YES → Turn off electrical power per paragraph 10-3.

Remove jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Turn on electrical power per paragraph 10-3.

On pilot collective stick:

Press and hold JETTISON switch.

Check for 28 V dc at 21XK2-X1.

Is 28 V dc present?

NO → Turn off electrical power per paragraph 10-3.

Repair wire A506A20 between 21XK2-X1 and 19TB4-7C.

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

YES → Replace module 7 of 19TB4 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

YES → Turn off electrical power per paragraph 10-3.

Check for continuity from 21XK2-X2 to airframe ground.

Is continuity present?

NO → Repair wire A507A20N between 21XK2-X2 and airframe ground.

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

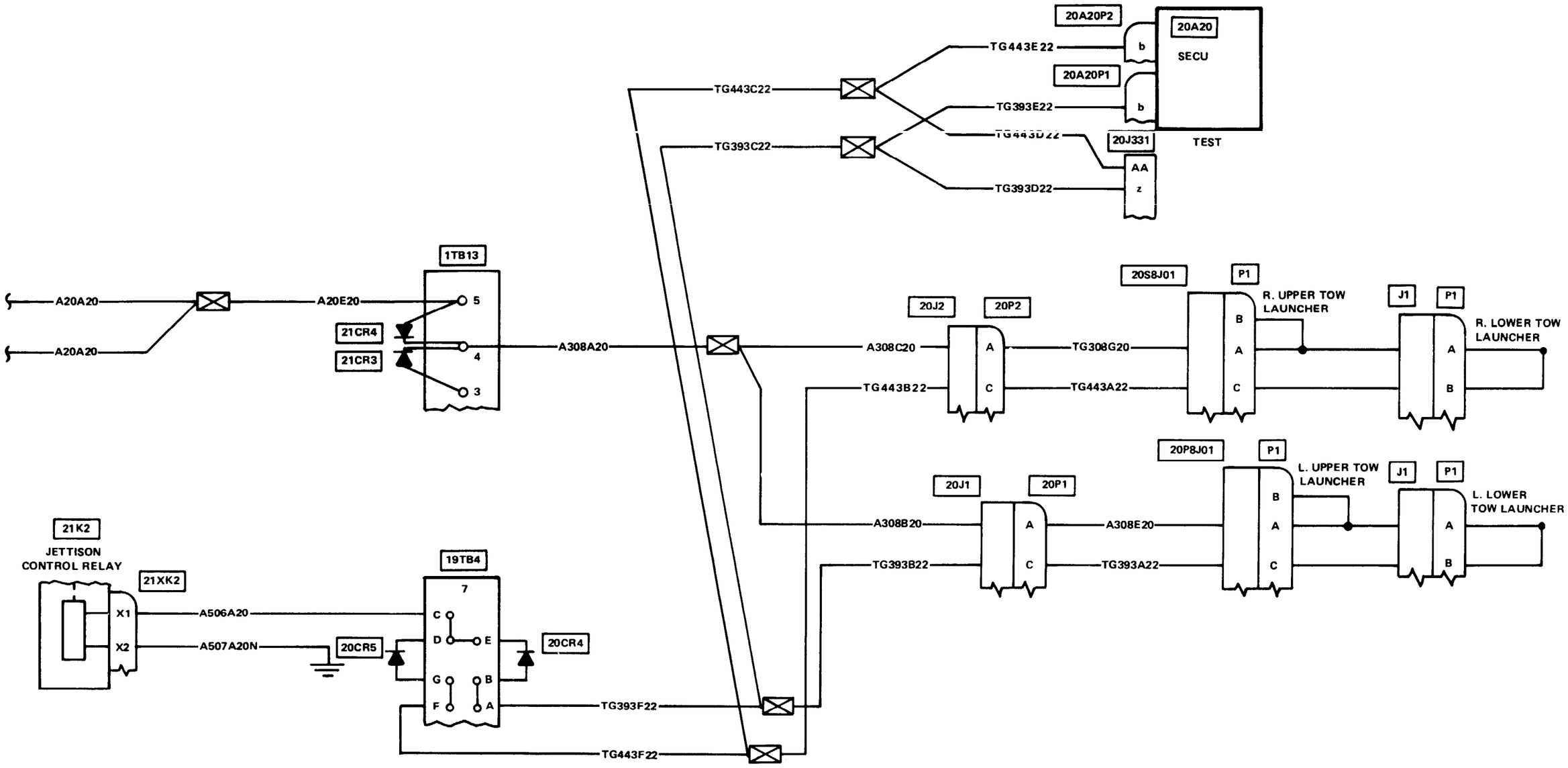
Then go to paragraph 10-2.

YES → Replace jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

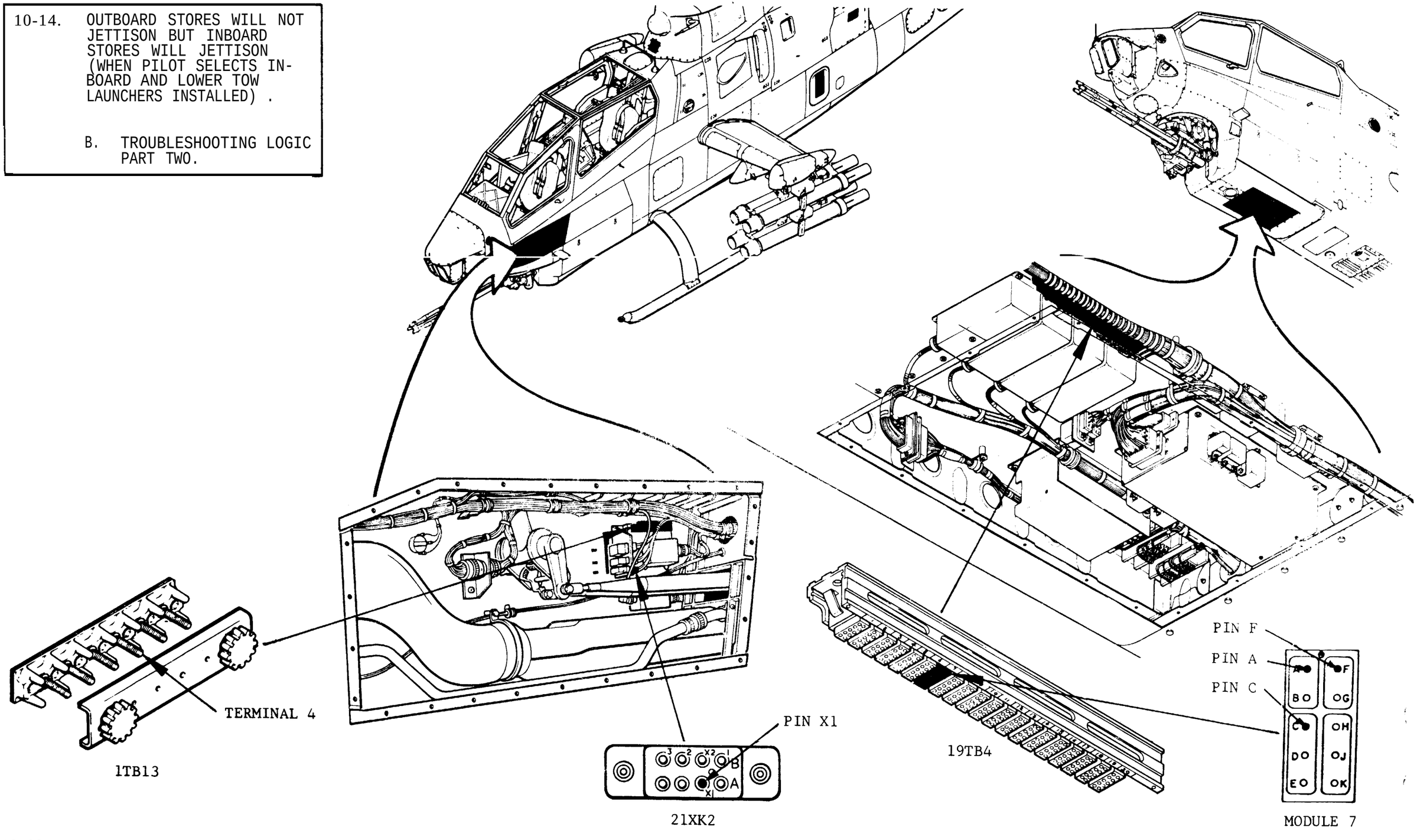
10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



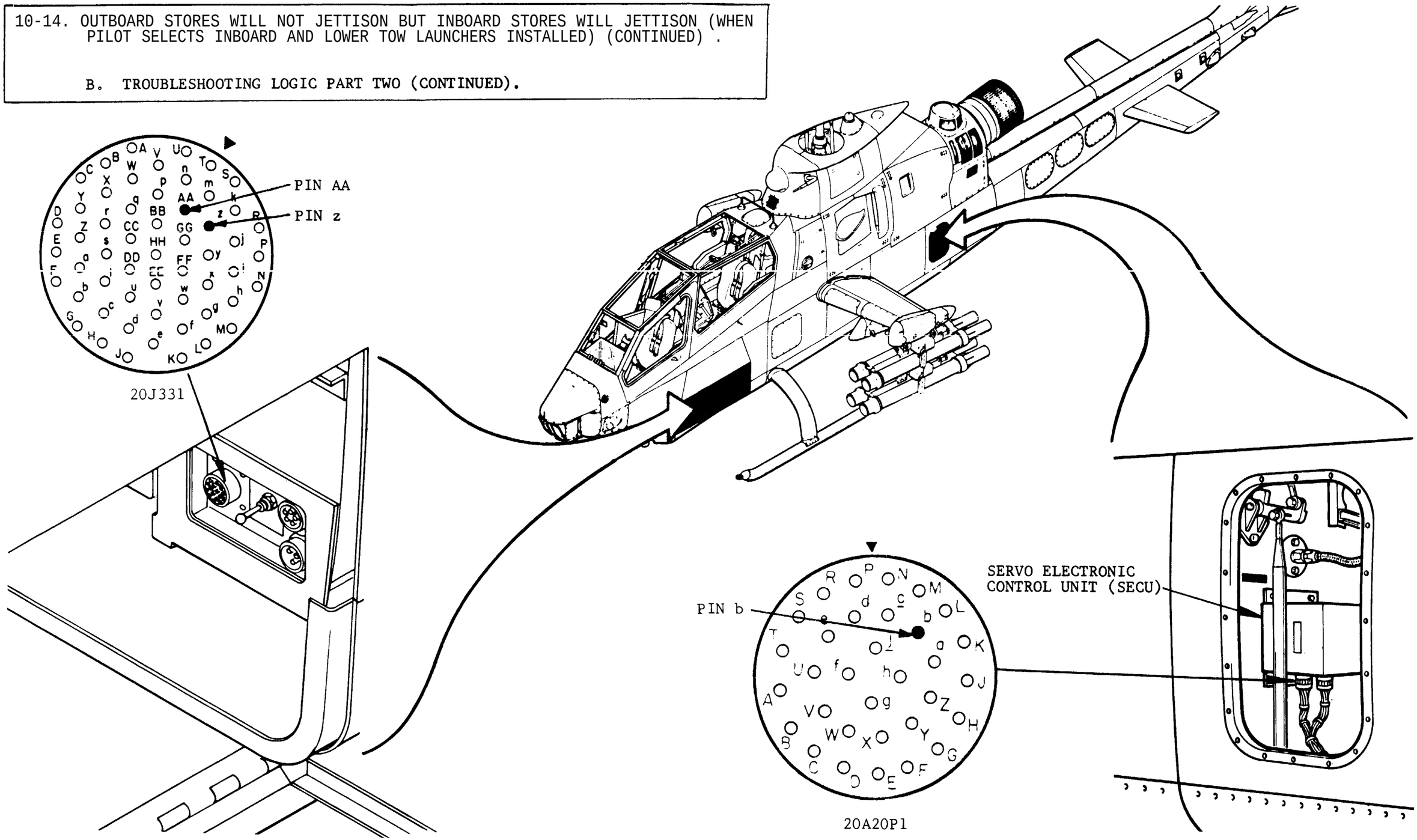
10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) .

B. TROUBLESHOOTING LOGIC PART TWO.



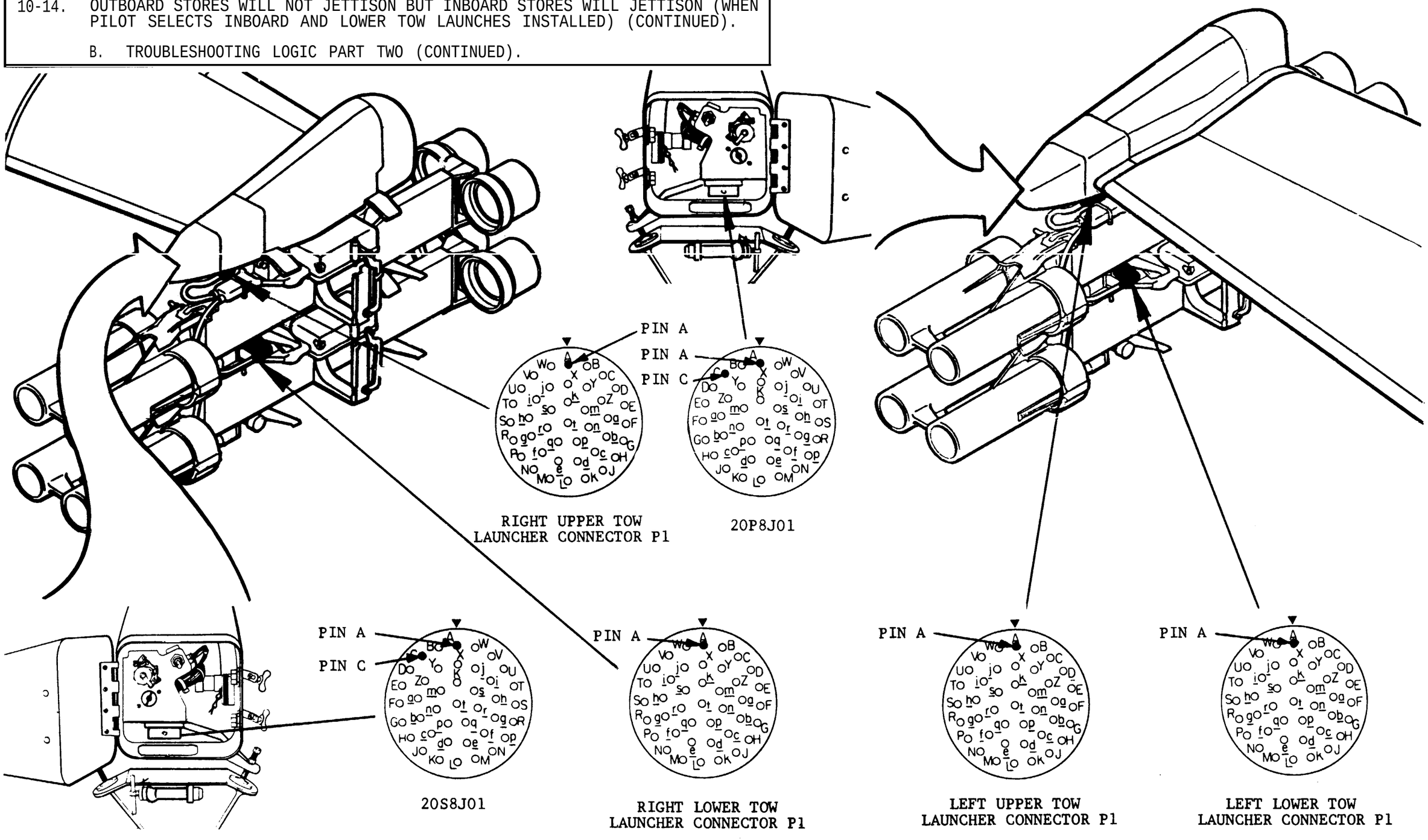
10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) (CONTINUED) .

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



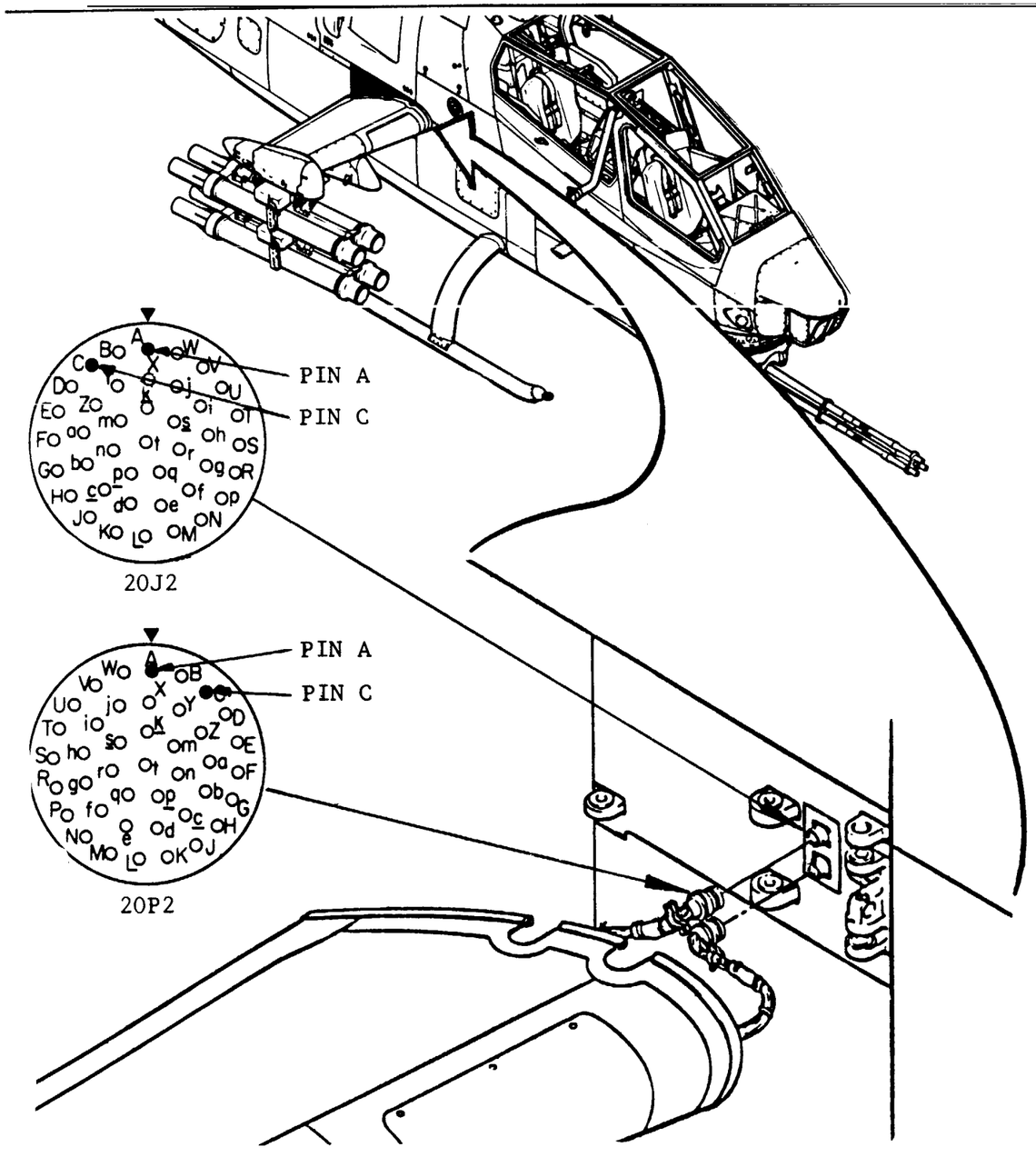
10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHES INSTALLED) (CONTINUED).

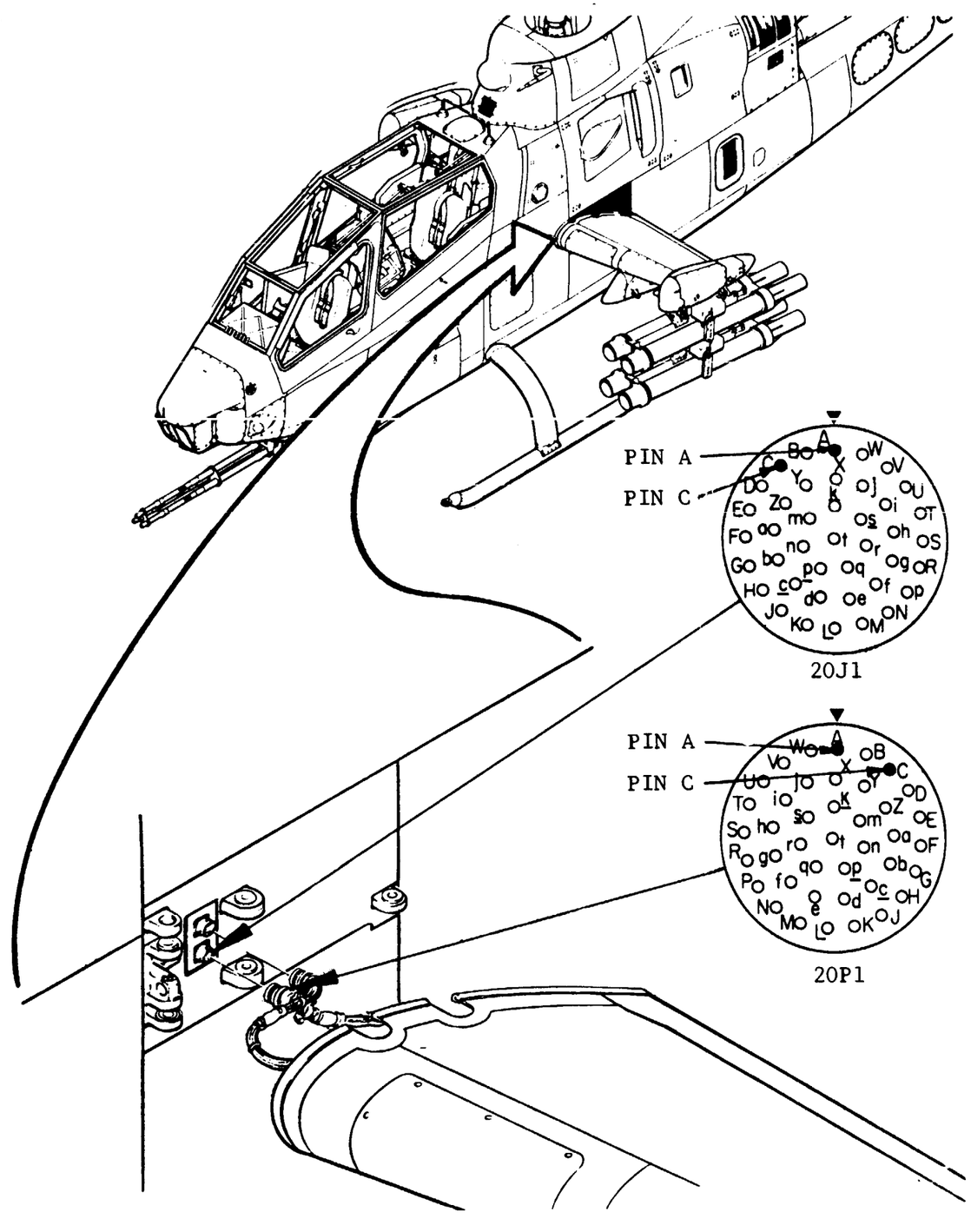
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) (CONTINUED).

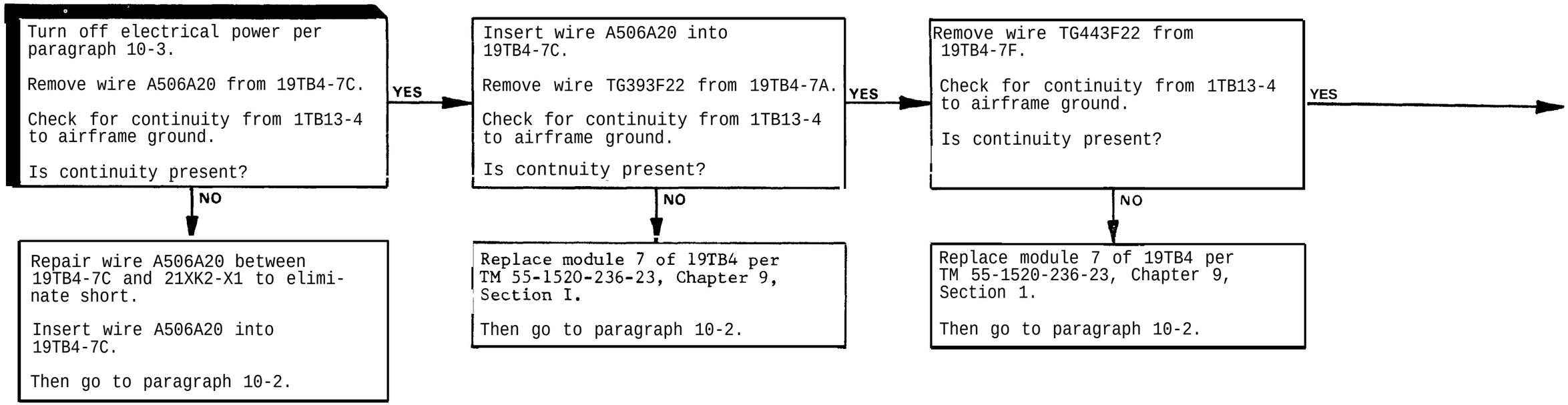
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHESRS INSTALLED)(CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

YES

Insert wire TG393F22 into 19TB4-7A.

Insert wire TG443F22 into 19TB4-7F.

Disconnect left upper TOW launcher

Check for continuity from 1TB13-4 to airframe ground.

Is continuity present?

YES

Replace left lower TOW launcher per TM 9-1475-473-20.

Then go to paragraph 10-2.

NO

Check for continuity from pin A of left upper TOW launcher connector P1 to airframe ground.

Is continuity present?

YES

Check for continuity from pin A of left lower TOW launcher connector P1 to airframe ground.

Is continuity present?

YES

Repair wire TG39F22 between 20J1-C and splice to eliminate short.

Install splice joining wires TG393B22, TG393C22, and TG393F22 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO

Check for continuity from 20J1-C to airframe ground.

Is continuity present?

YES

Remove splice joining wires TG393B22, TG393C22 and TG393F22.

Check for continuity from 20J1-C to airframe ground.

Is continuity present?

YES

Install splice joining wires TG393B22, TG393C22, and TG393F22 per TM 55-1520-236-23, Chapter 9, Section I.

Remove splice joining wires TG393D22, TG393C22, and TG393E22.

Check for continuity from 20J331-z to airframe ground.

Is continuity present?

YES

NO

Repair wire TG393A22 between 20P1-C and 20P8J01-C to eliminate short .

Then go to paragraph 10-2.

NO

Replace left upper TOW launcher per TM 9-1425-473-20.

Then go to paragraph 10-2.

NO

Repair wire TG393F22 between 19TB4-7A and splice to eliminate short.
Install splice joining wires TG393B22, TG393C22, and TG393F22 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO

Check for continuity from 20J331-z to airframe ground.

Is continuity present?

YES

Check for continuity from 20A20P1-b to airframe ground.

Is continuity present?

YES

NO

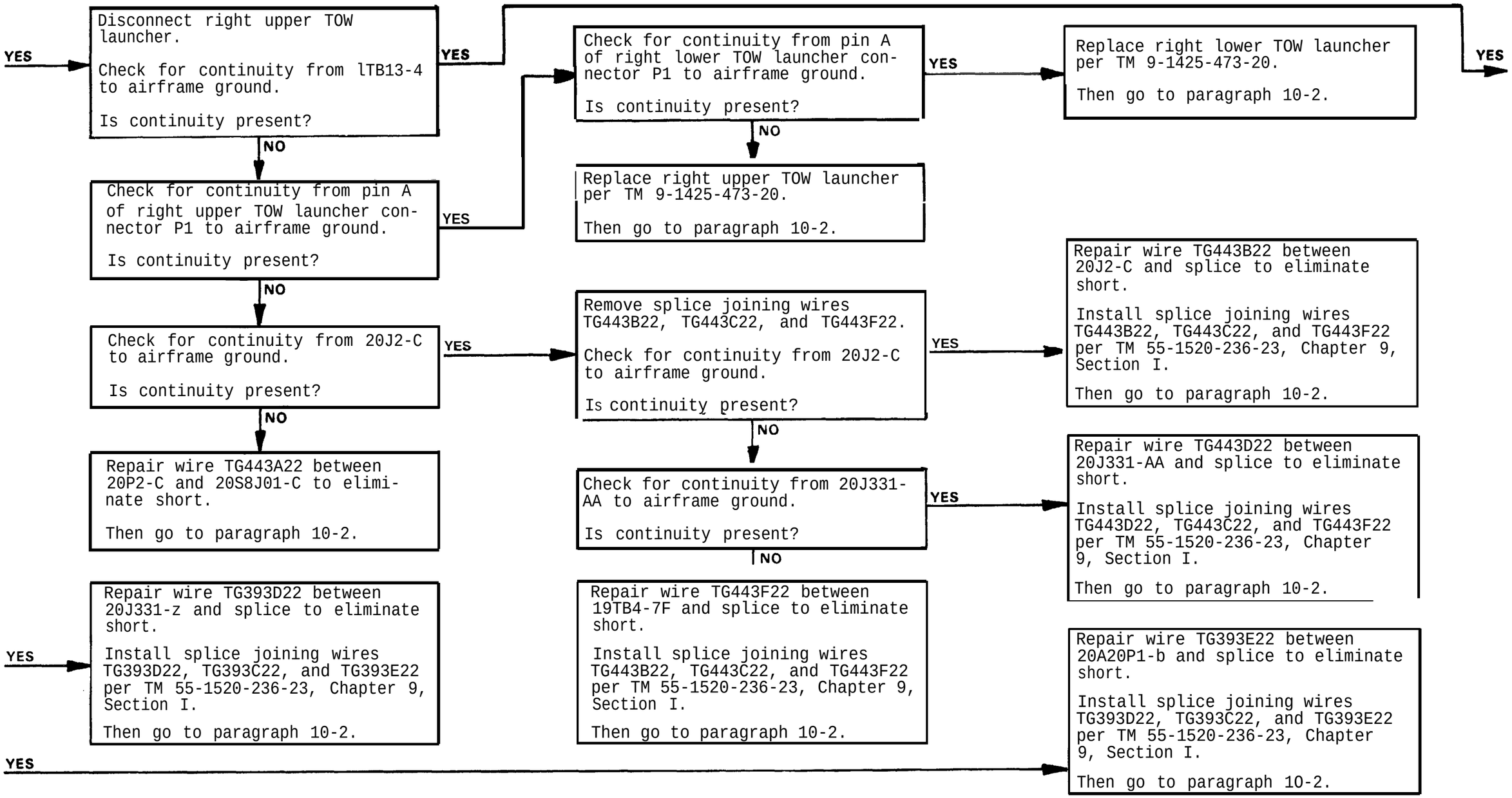
Repair wire TG393C22 between splices to eliminate short.

Install splice joining wires TG393D22, TG393C22, and TG393E22. per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD AND LOWER TOW LAUNCHERS INSTALLED) (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO(CONTINUED).

YES

Connect left upper TOW launcher.

Connect right upper TOW launcher.

Check for continuity from 20J1-A to airframe ground.

Is continuity present?

NO

Repair wire A308E20 between 20P1-A and 20P8J01-A to eliminate short.

Then go to paragraph 10-2.

YES

Check for continuity from 20J2-A to airframe ground.

Is continuity present?

NO

Repair wire TG308G20 between 20P2-A and 20S8J01-A to eliminate short.

Then go to paragraph 10-2.

YES

Remove splice joining wires A308A20, A308B20, and A308C20.

Check for continuity from 20J1-A to airframe ground.

Is continuity present?

YES

Repair-wire A308C20 between 20J1-A and splice to eliminate short.

Install splice joining wires A308A20, A308B20, and A308C20 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO

Check for continuity from 20J2-A to airframe ground.

Is continuity present?

YES

Repair wire A308B20 between 20J2-A and splice to eliminate short.

Install spiice joining wires A308A20, A308B20, and A308C20 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO

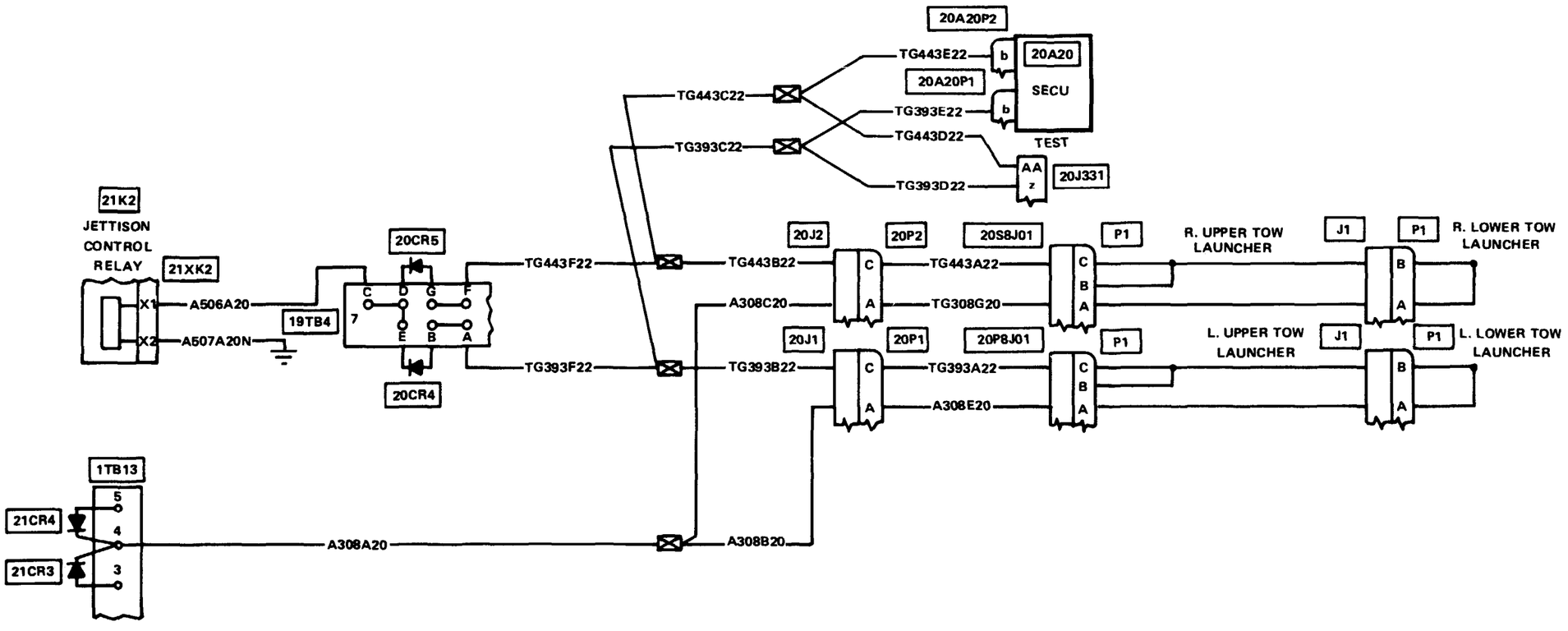
Repair wire A308A20 between 1TB13-4 and splice to eliminate short.

Install splice joining wires 1308A20, A308B20, and A308C20 per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

10-14. OUTBOARD STORES WILL NOT JETTISON BUT INBOARD STORES WILL JETTISON (WHEN PILOT SELECTS INBOARD ANDLOWER TOW LAUNCHERS INSTALLED) (CONTINUED).

B. TROUBLESHOOT ING LOGIC PART TWO (CONTINUED).



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## 10-15. GUNNER CANNOT JETTISON LEFT OUTBOARD STORES ONLY,

INITIAL SETUP

Applicable Configuration
All

Tools, /Test and Support Equipment
Multimeter

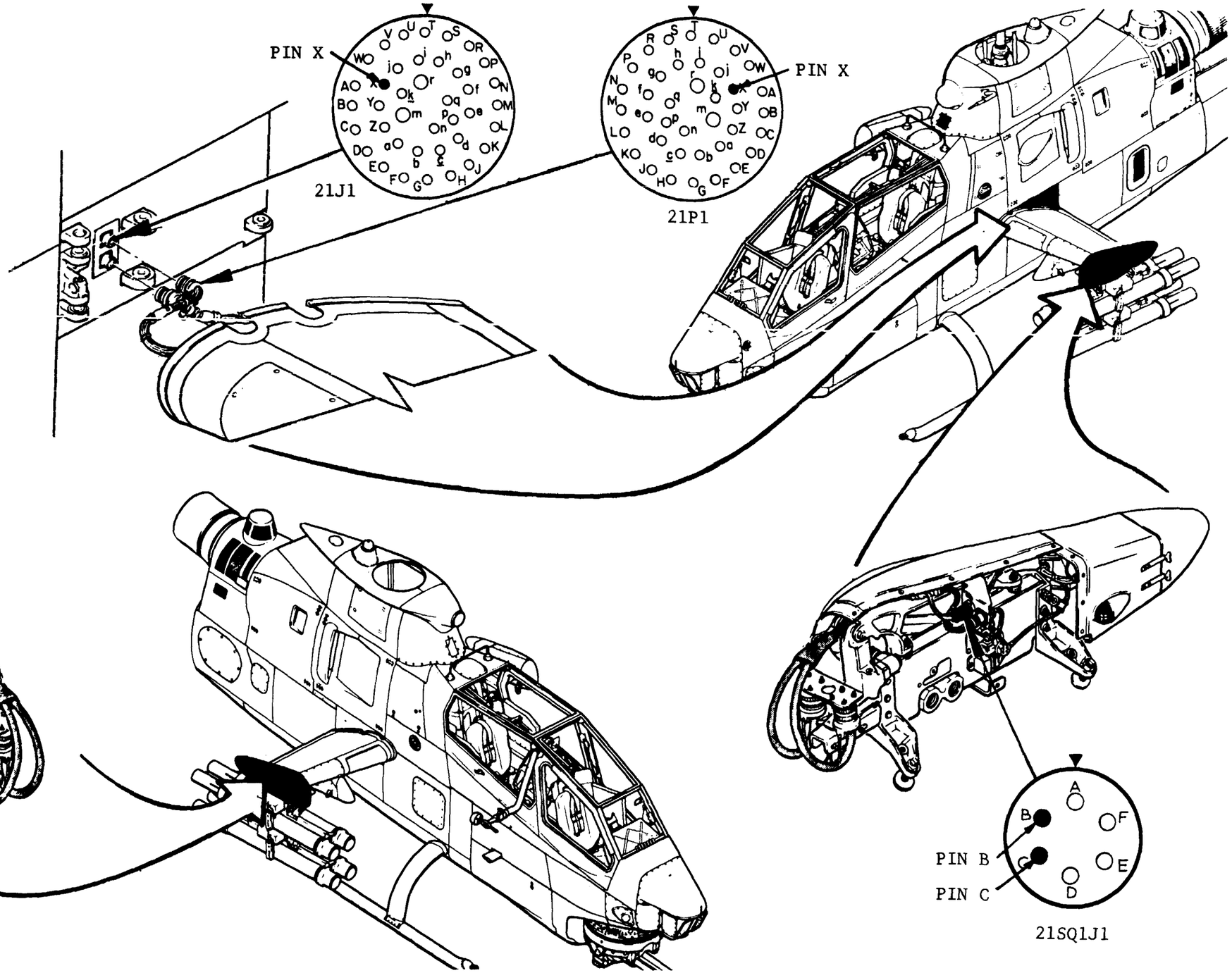
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References
TM 55-1520-236-23

Access Panels
Left Outboard Pylon Fairing - Removed

Right Outboard Pylon Fairing - Removed



10-15. GUNNER CANNOT JETTISON LEFT OUTBOARD STORES ONLY (CONTINUED).

Turn off electrical power per paragraph 10-3.

Check for continuity from 21SQ1J1-C to airframe ground.

Is continuity present?

YES

NO

Repair wire A59A20N between 21SQ1JI-C and airframe ground.

Then continue troubleshooting.

YES

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 21SQ3J1-B to 21J1-X.

Is continuity present?

YES

Repair wire A272E20 between 21P1-X and 21SQIJI-B.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

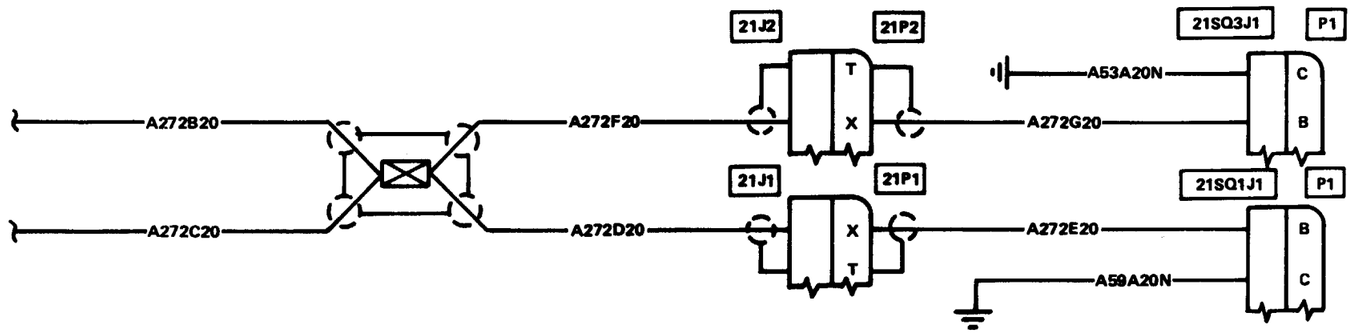
Then go to paragraph 10-2.

NO

Repair wire A272D20 between 21J1-X and splice.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.



## 10-16. GUNNER CANNOT JETTISON RIGHT OUTBOARD STORES ONLY.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

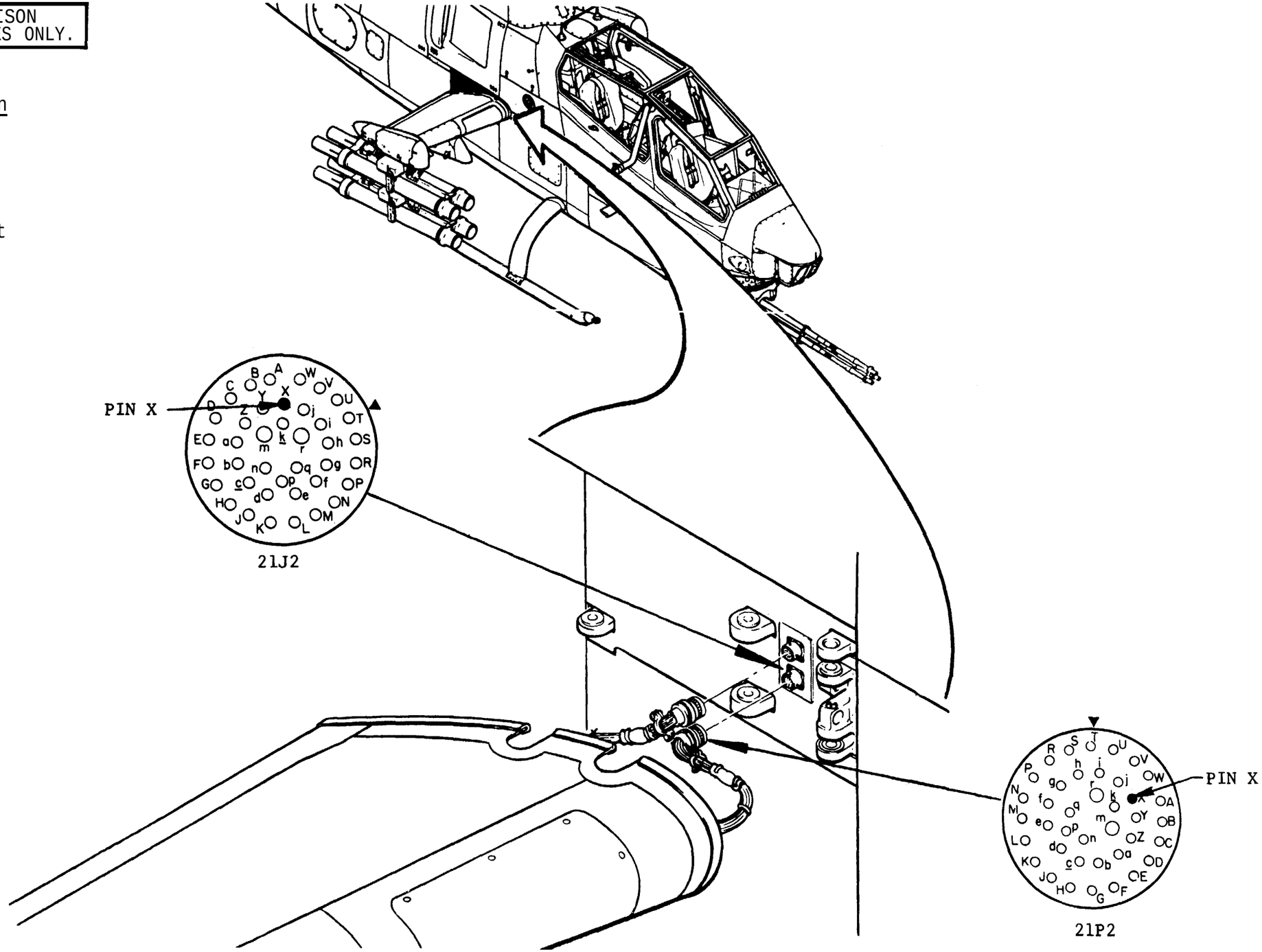
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

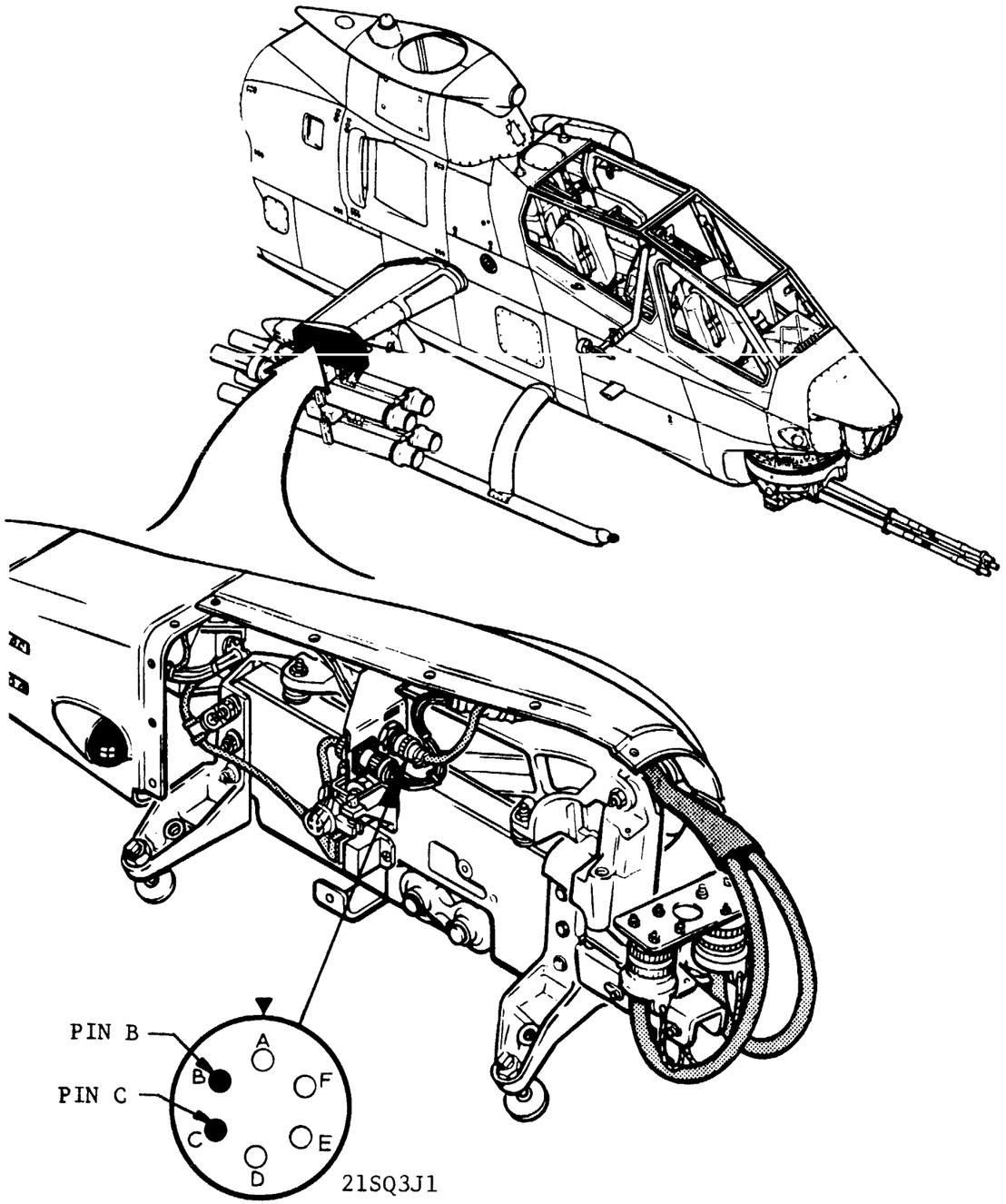
References
TM 55-1520-236-23

Access Panels
Left Outboard Pylon Fairing - Removed

Right Outboard Pylon Fairing - Removed



10-16. GUNNER CANNOT JETTISON RIGHT OUTBOARD STORES ONLY (CONTINUED).



10-16. GUNNER CANNOT JETTISON RIGHT OUTBOARD STORES ONLY (CONTINUED).

Turn off electrical power per paragraph 10-3.

Check for continuity from 21SQ3J1-C to airframe ground.

Is continuity present?

YES

NO

Repair wire A53A20N between 21S03J1-C and airframe ground.

Then continue troubleshooting.

Remove right wing per TM 55-1520 236-23, Chapter 2, Section IV.

Check for continuity from 21SQ3J1-B to 21P2-X.

Is continuity present?

YES

Repair wire A272GZ0 between 21P2-X and 21SQ3J1-B.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

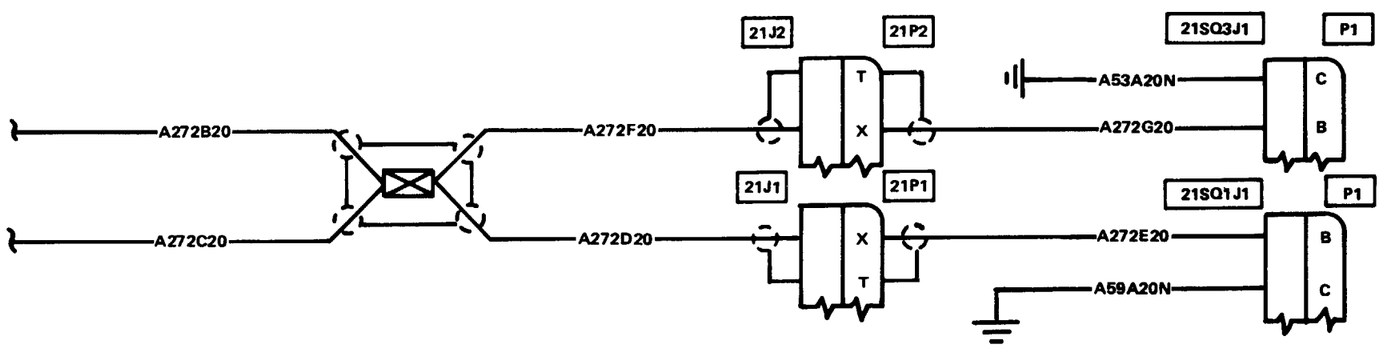
Then go to paragraph 10-2.

NO

Repair wire A272F20 between 21J2-X and splice.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.



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## 10-17. GUNNER CANNOT JETTISON LEFT INBOARD STORES ONLY.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

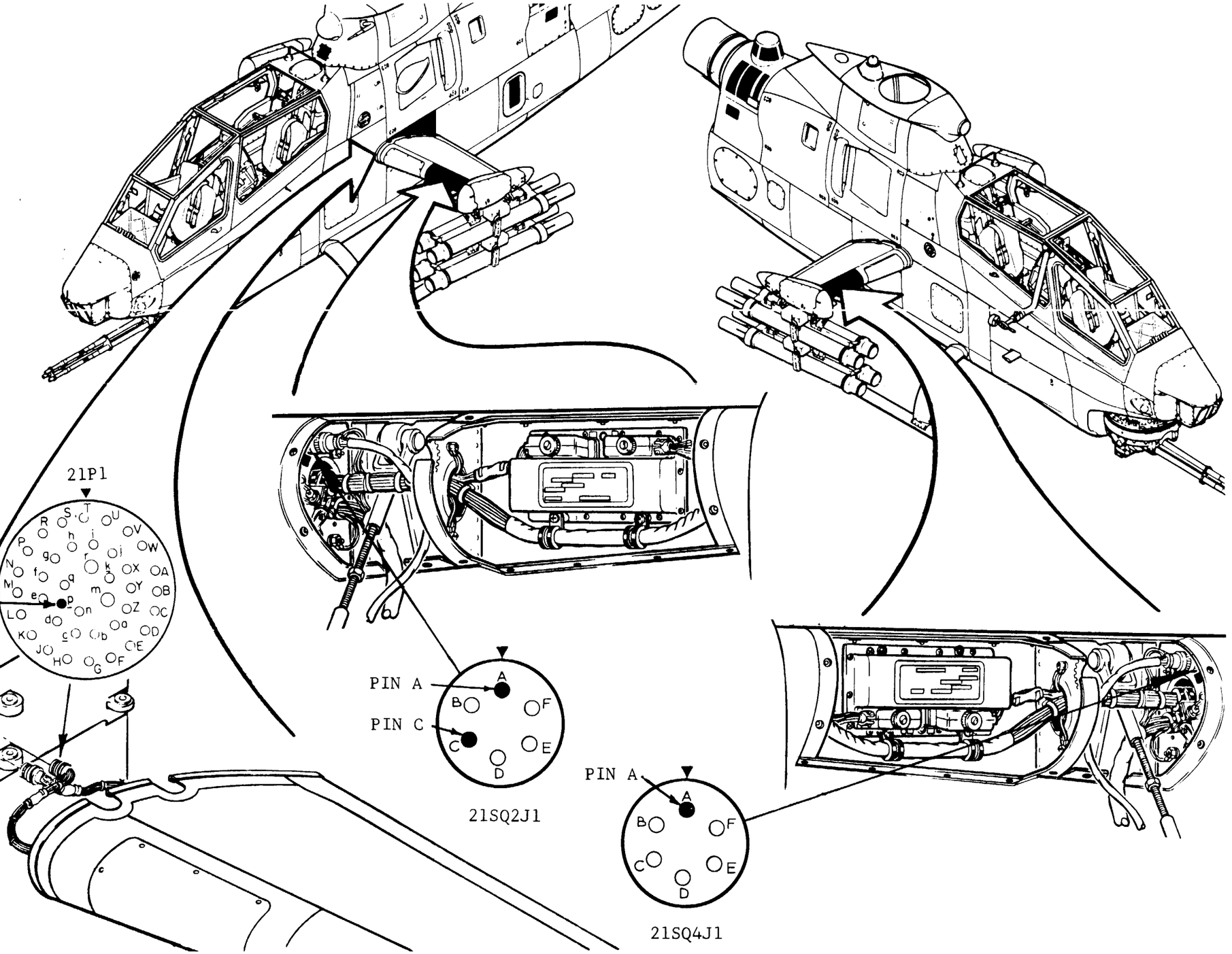
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

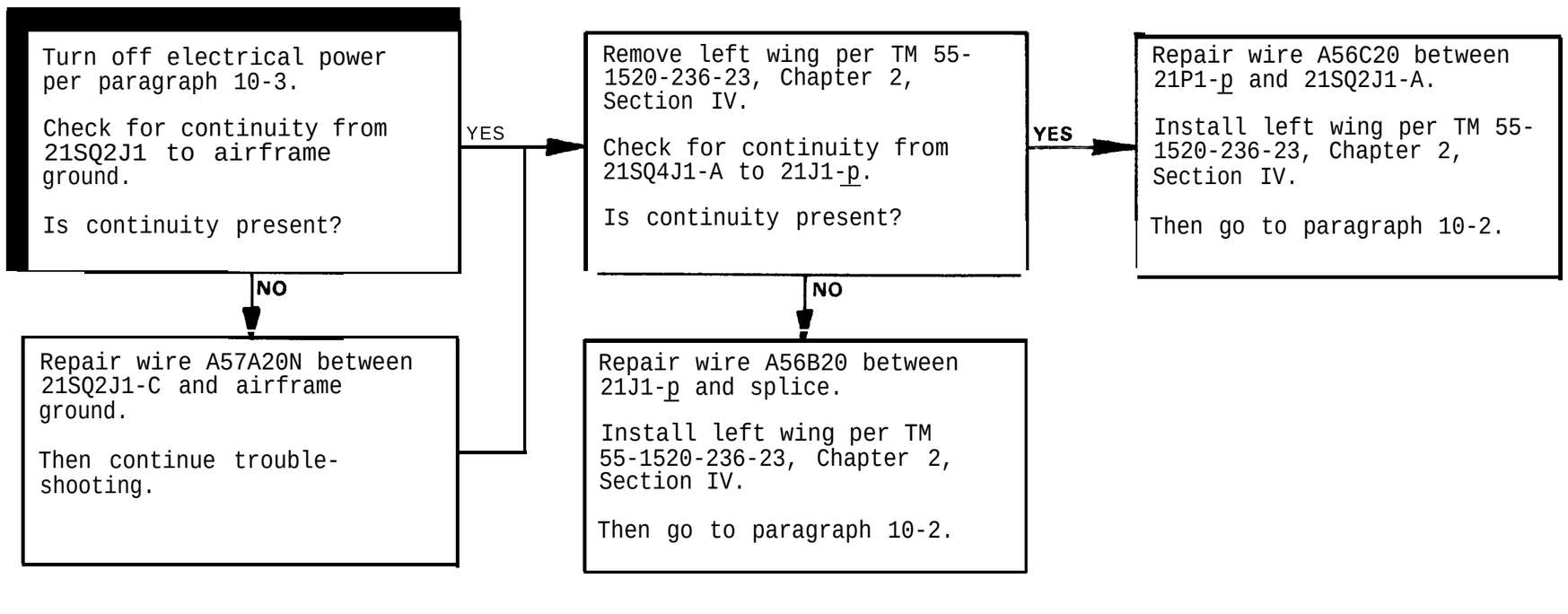
References
TM 55-1520-236-23

Access Panels
Left Wing Outboard Leading Edge Cover - Removed

Right Wing Outboard Leading Edge Cover - Removed



10-17. GUNNER CANNOT JETTISON LEFT INBOARD STORES ONLY (CONTINUED).



## 10-18. GUNNER CANNOT JETTISON RIGHT INBOARD STORES ONLY.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

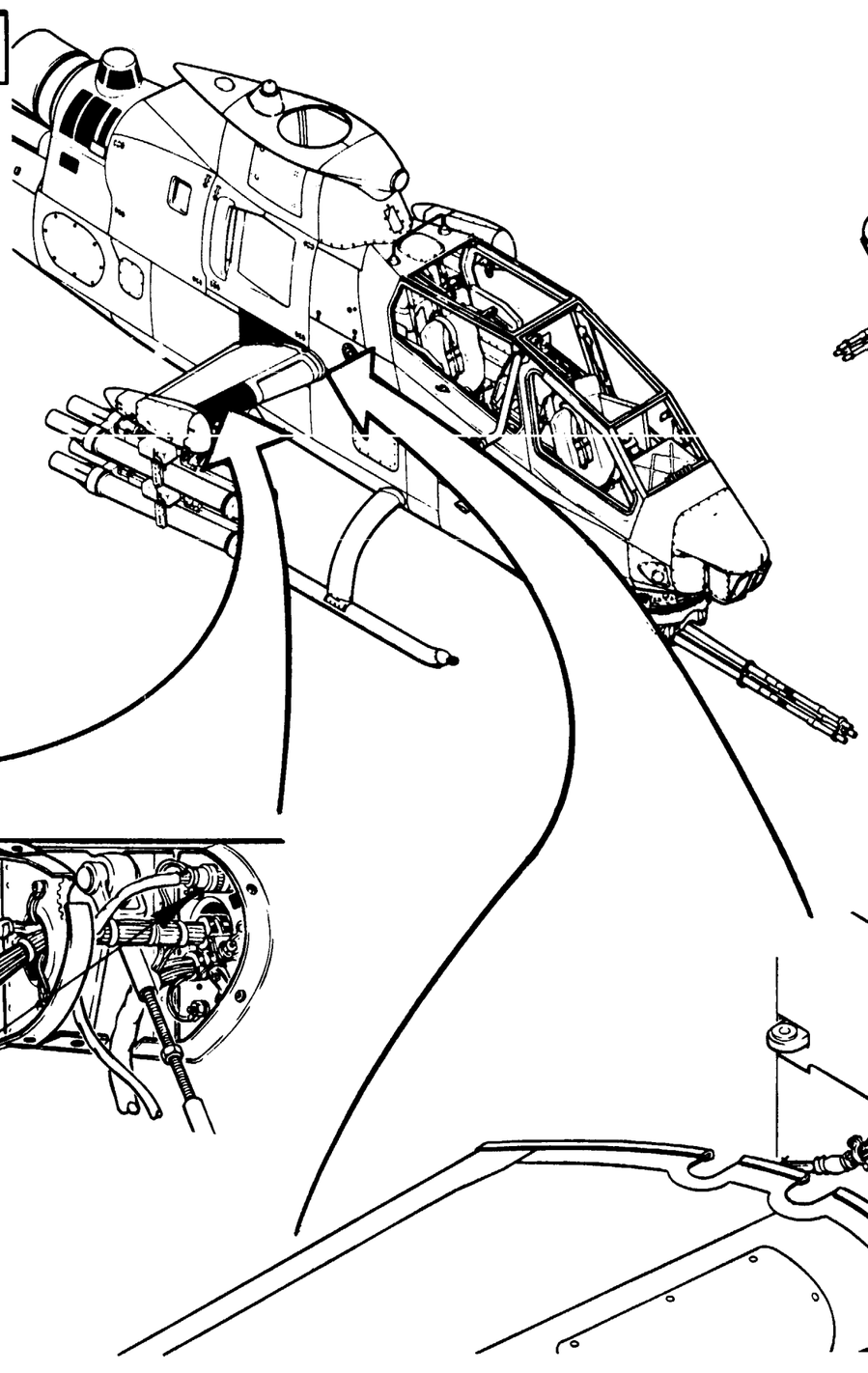
Tool Set, A/C Armament Repairman

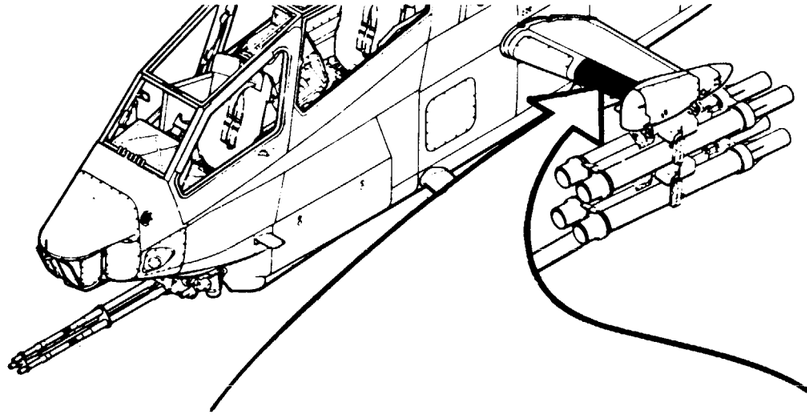
Personnel Required
68J

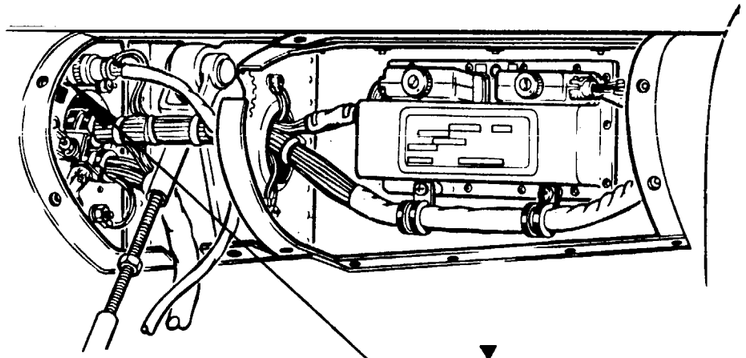
References
TM 55-1520-236-23

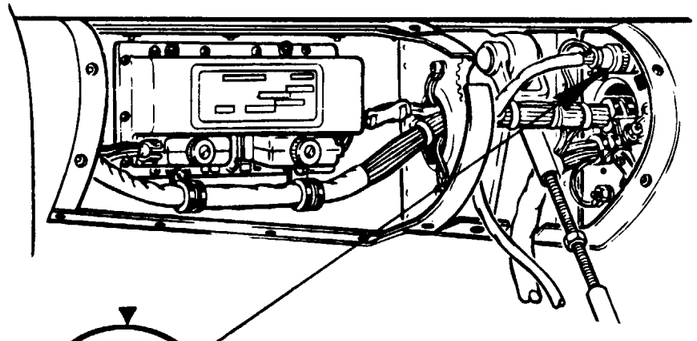
Access Panels
Right Wing Outboard Leading Edge Cover - Removed

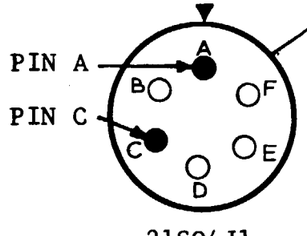
Left Wing Outboard Leading Edge Cover - Removed



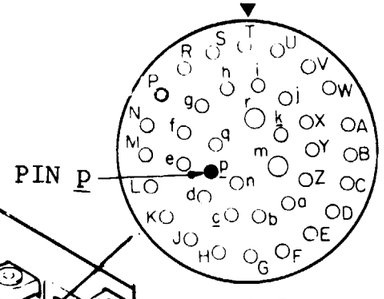




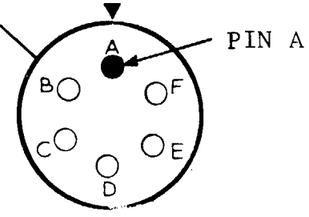




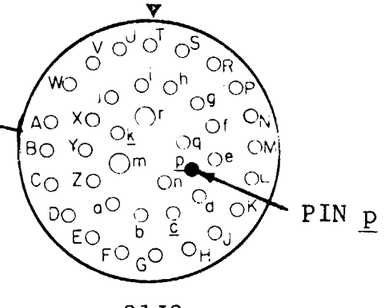

21SQ4J1




21P2




21SQ2J1




21J2

10-18. GUNNER CANNOT JETTISON RIGHT INBOARD STORES ONLY (CONTINUED) .

Turn off electrical power per paragraph 10-3.

Check for continuity from 21SQ4J1-C to airframe ground.

Is continuity present?

YES

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 21SQ2J1-A to 21J2-p.

Is continuity present?

YES

Repair wire A56E20 between 21P2-p and 21SQ4J1-A.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.

NO

Repair wire A55A20N between 21SQ4J1-C and airframe ground.

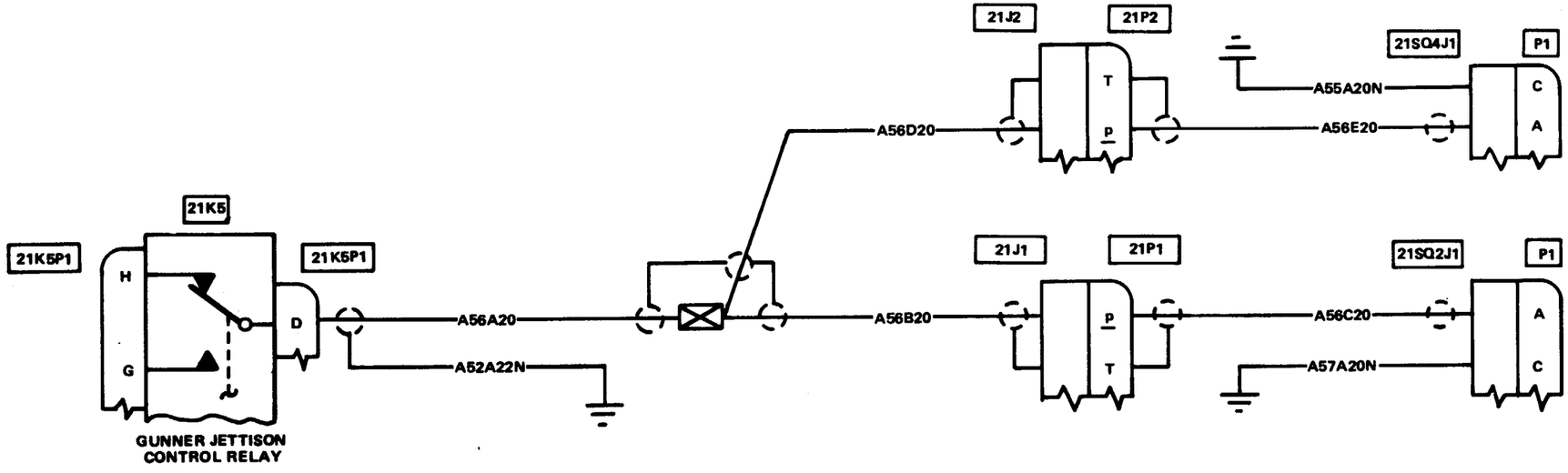
Then continue trouble-shooting.

NO

Repair wire A56D20 between 21J2-p and splice.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.



10-19. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH JETTISON SELECT SWITCHES SET TO OUTBD AND INBD AND JETTISON SWITCH PRESSED.

INIITAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (1)

References
TM 33-1520-236-23

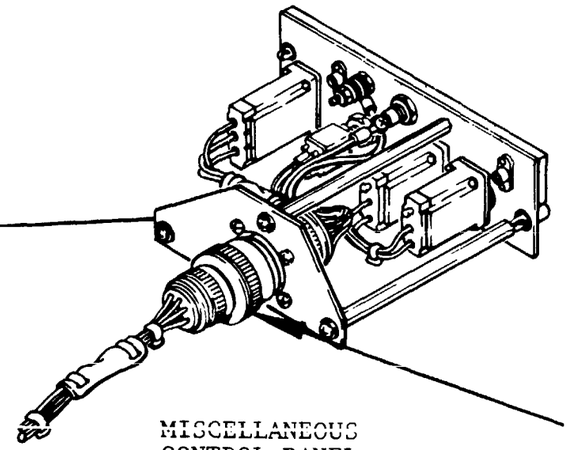
Access Panels
Forward Left Side Control Linkage - Removed

Pilot Collective Linkage - Removed

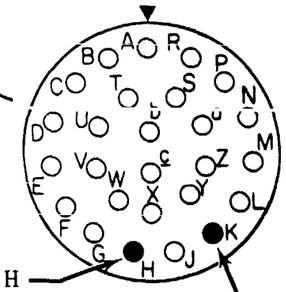
Forward Belly Armament and Lighting - Removed

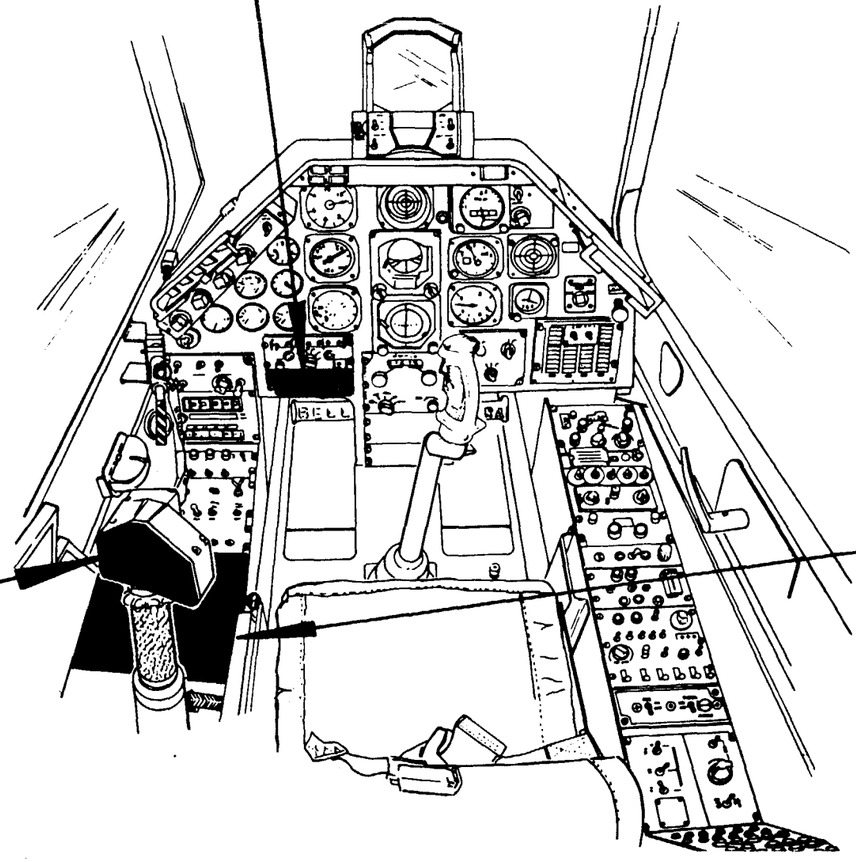


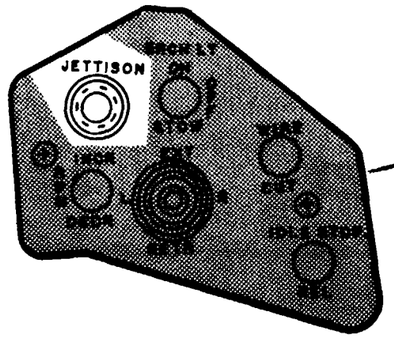

MISCELLANEOUS CONTROL PANEL



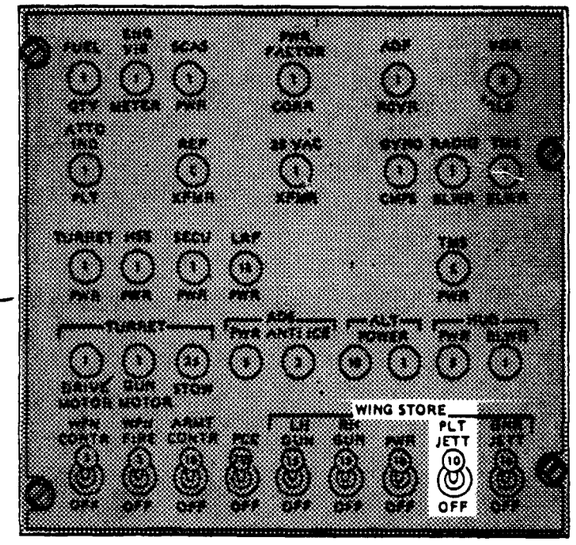
MISCELLANEOUS CONTROL PANEL (REAR VIEW)



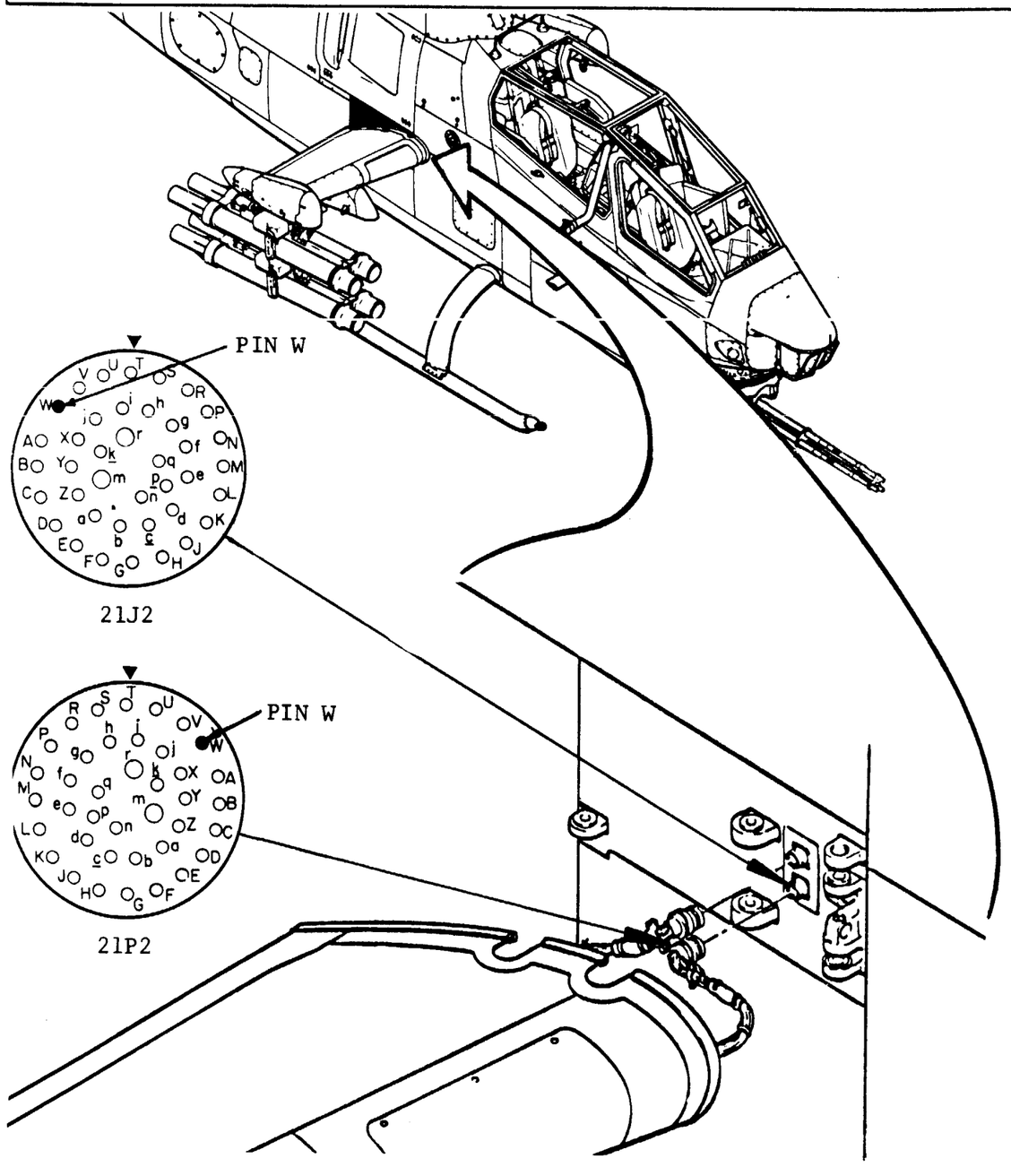


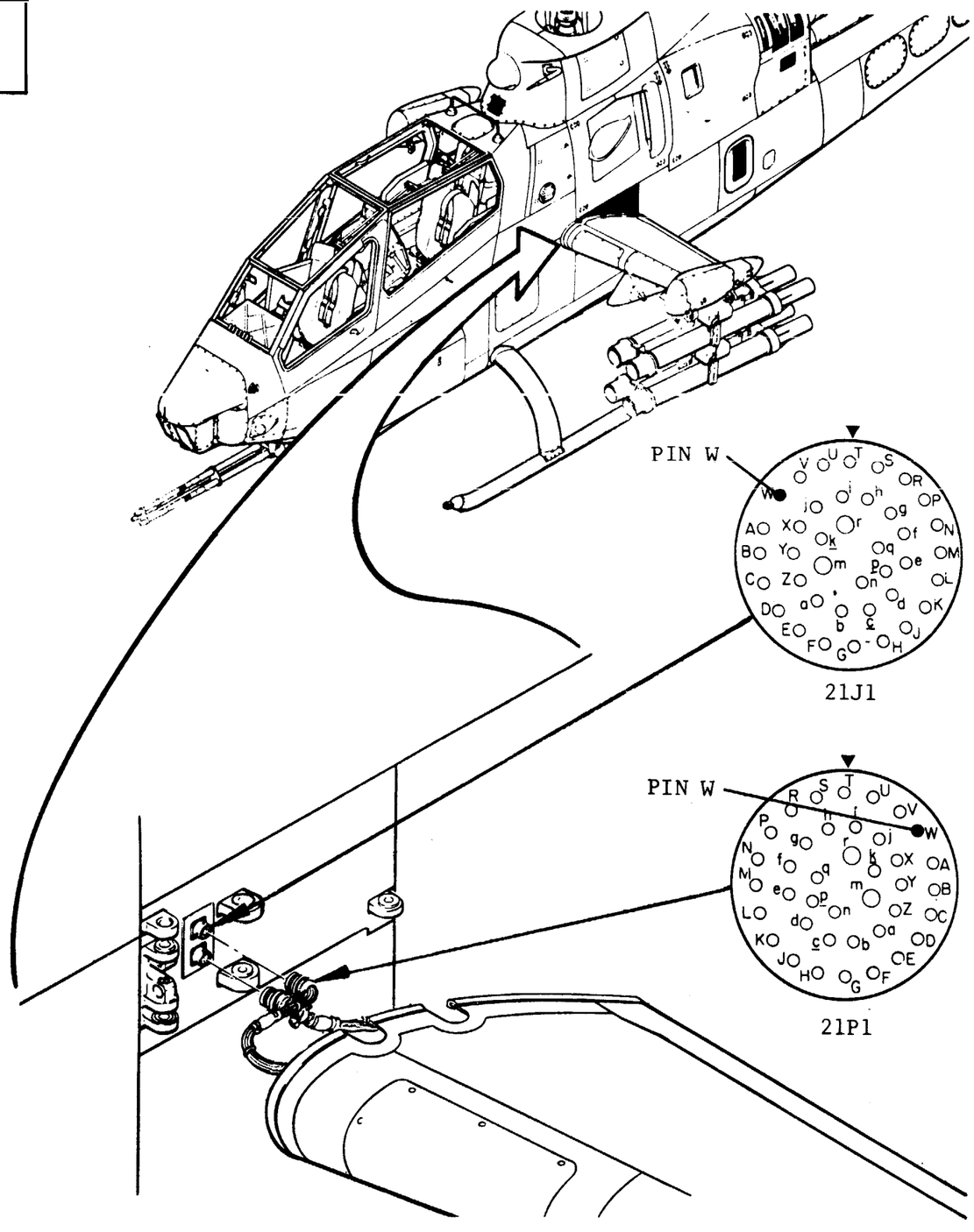

PILOT COLLECTIVE PANEL



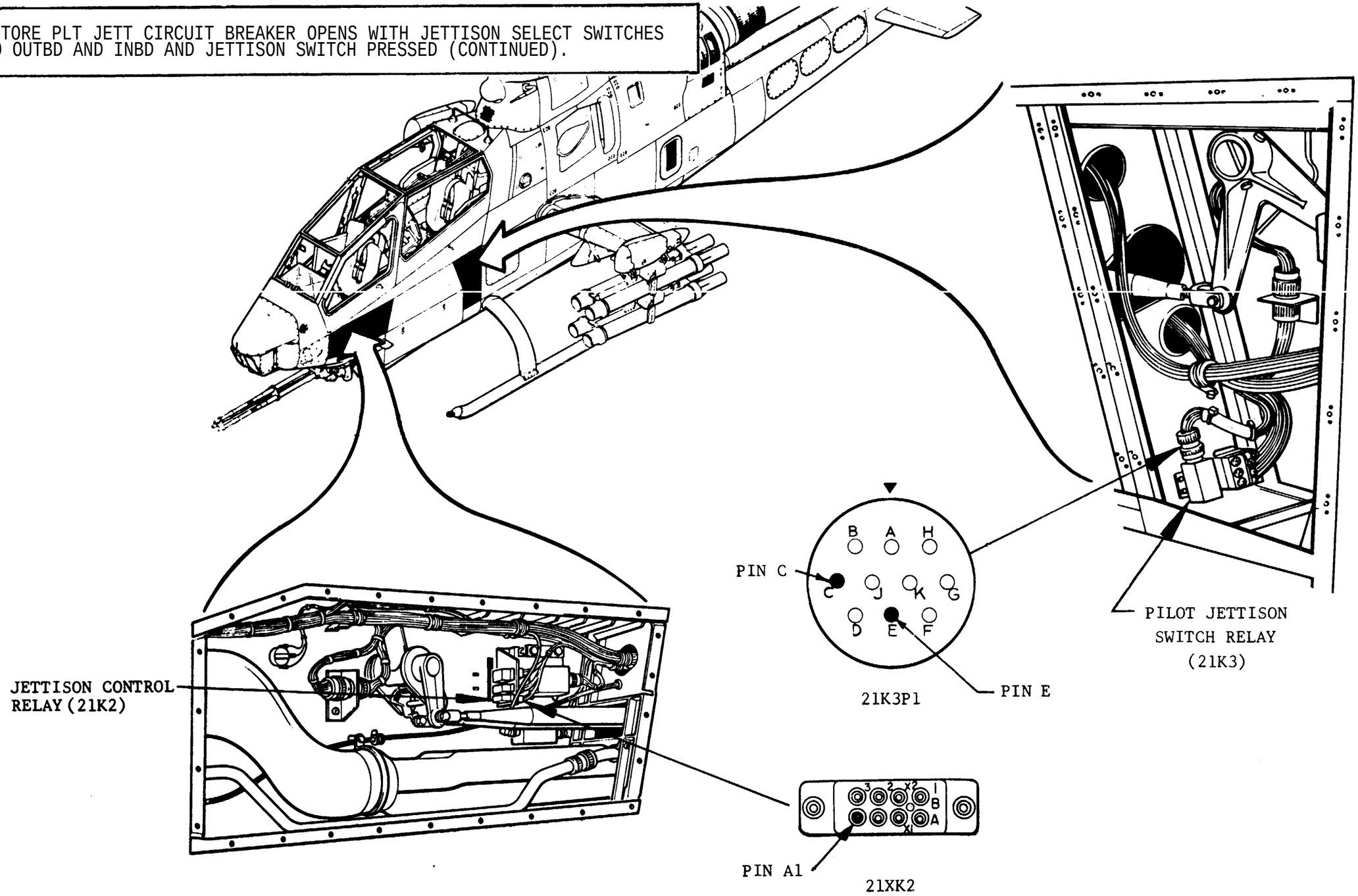

AC/ARMT CIRCUIT BREAKER PANEL

10-19. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH JETTISON SELECT SWITCHES SET TO OUTBD AND INBD AND JETTISON SWITCH PRESSED (CONTINUED).

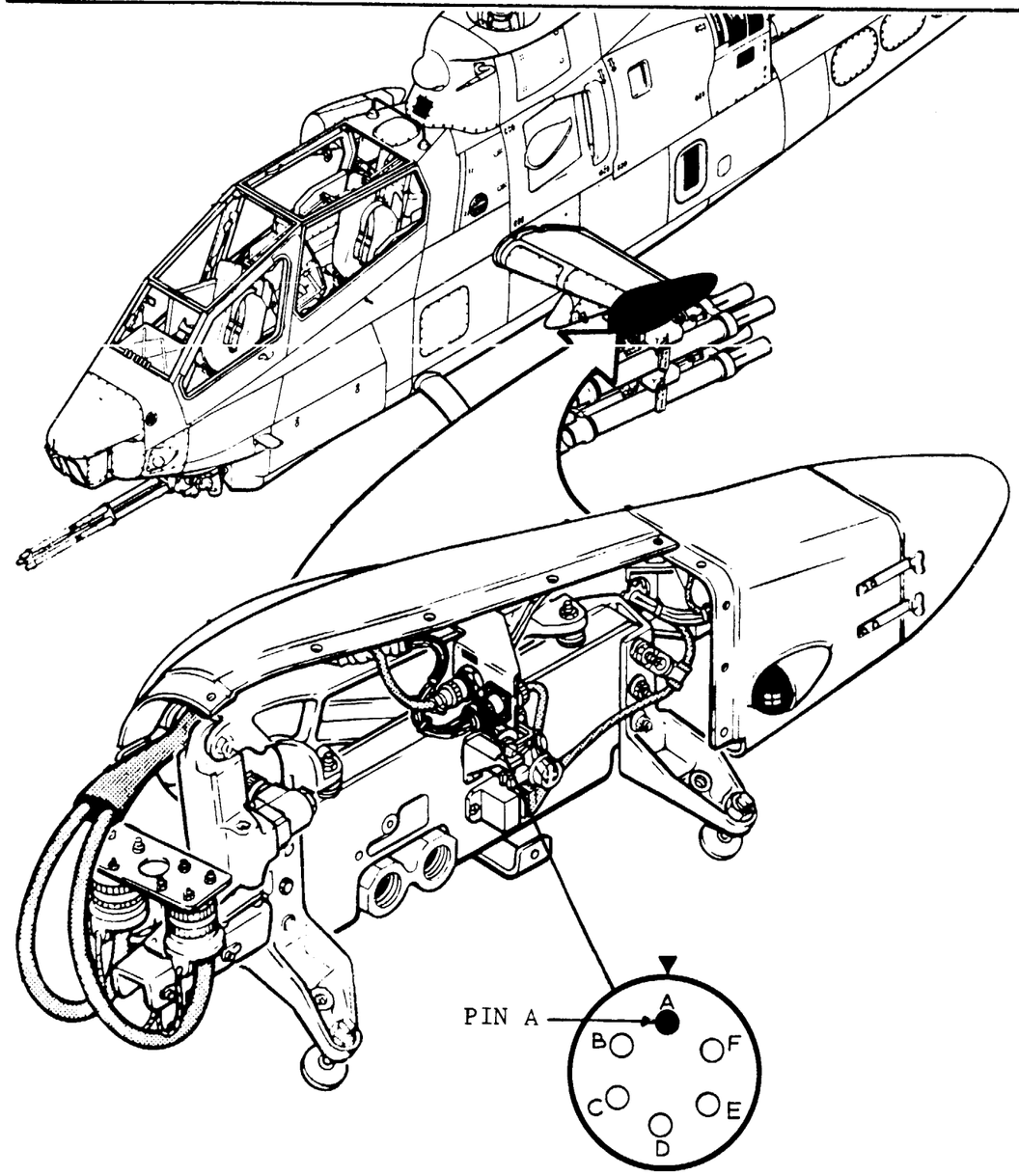


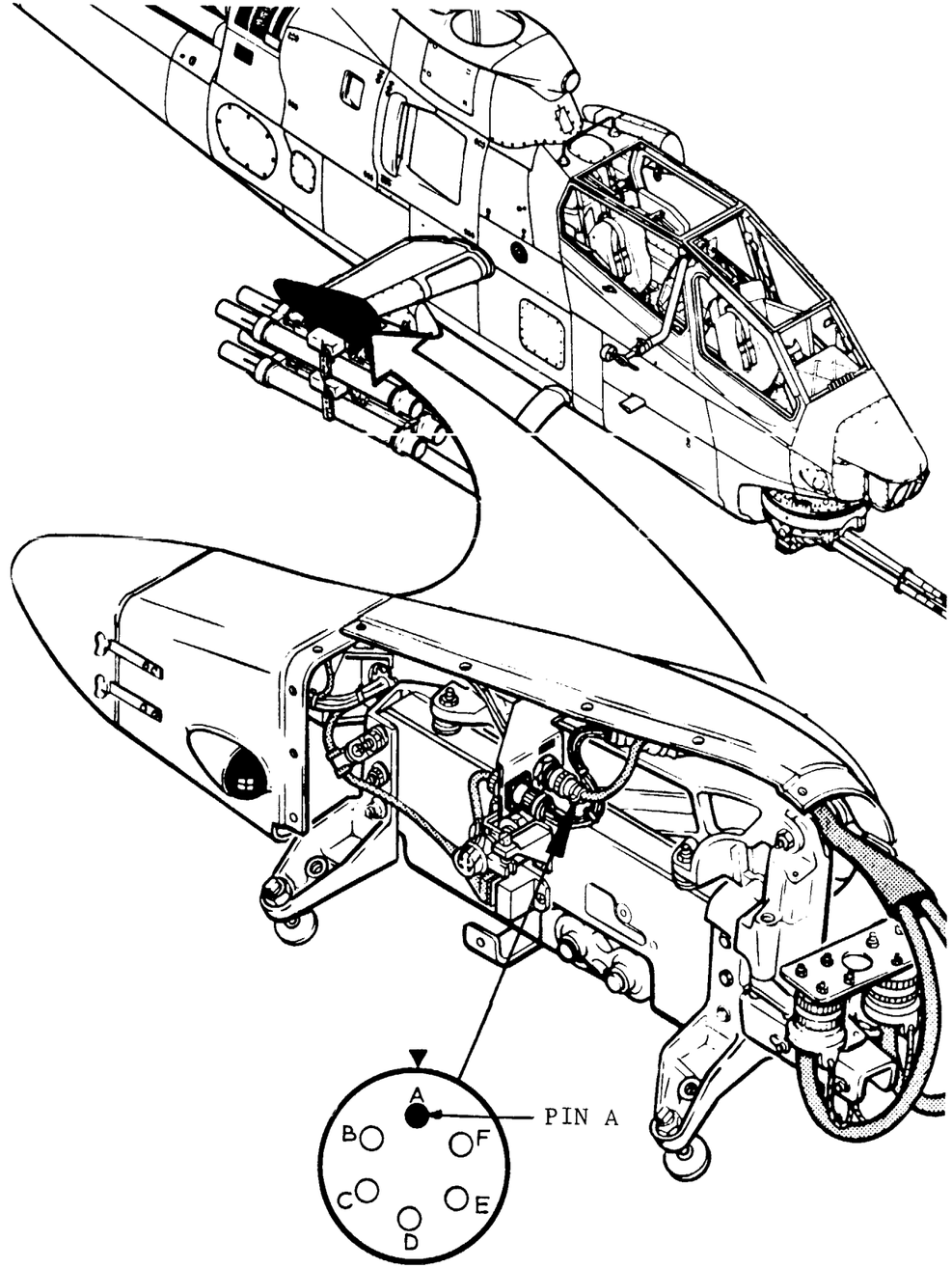
10-19. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH JETTISON SELECT SWITCHES SET TO OUTBD AND INBD AND JETTISON SWITCH PRESSED (CONTINUED).



10-19. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH JETTISON SELECT SWITCHES SET TO OUTBD AND INBD AND JETTISON SWITCH PRESSED (CONTINUED).

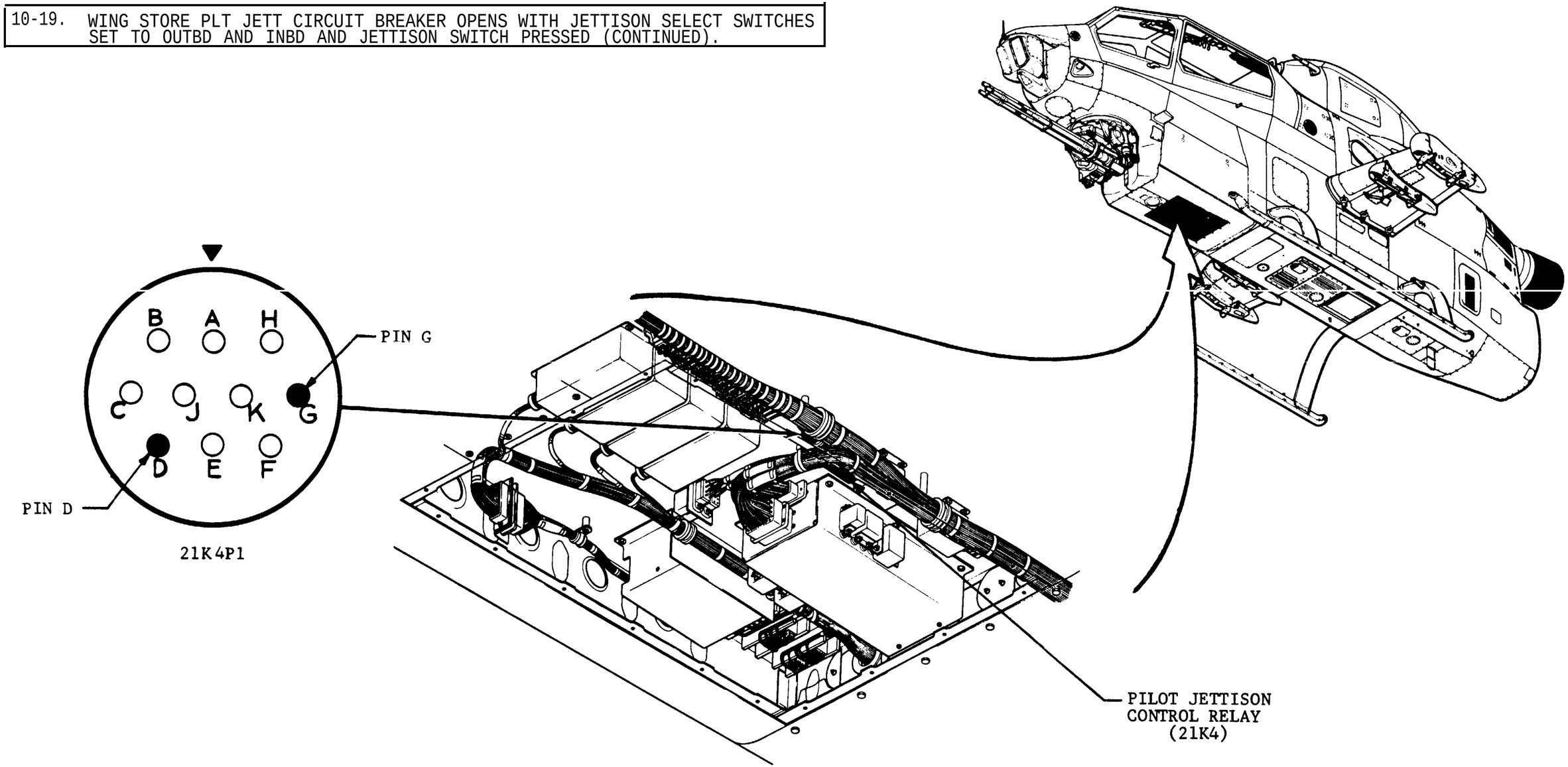



21SQ1J1




21SQ3J1

10-19. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH JETTISON SELECT SWITCHES SET TO OUTBD AND INBD AND JETTISON SWITCH PRESSED (CONTINUED).



10-19. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH JETTISON SELECT SWITCHES SET TO OUTBD AND INBD AND JETTISON SWITCH PRESSED (CONTINUED).

Turn off electrical power per paragraph 10-3.

Remove jettison control relay (21K2) per TM 1520-236-23, Chapter 9, Section I.

Check for continuity from 22A1P1-H to airframe ground.

Is continuity present?

YES → Go to paragraph 10-13.

NO

Check for continuity from 21K3P1-E to airframe ground.

Is continuity present?

YES → Go to paragraph 10-13.

NO

Disconnect jettison circuitry test set.

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 21K4P1-D to airframe ground.

Is continuity present?

YES → Go to paragraph 10-20.

NO

Check for continuity from 21K4P1-G to airframe ground.

Is continuity present?

YES → Go to paragraph 10-20.

NO

NO

Disconnect 21K3P1.

Check for continuity from 22A1P1-K to airframe ground.

Is continuity present?

YES

Remove jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 22A1P1-K to airframe ground.

Is continuity present?

YES

NO

Replace jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K3P1.

Then go to paragraph 10-2.

NO

Check for continuity from 22K3P1-C to airframe ground.

Is continuity present?

YES

Replace pilot jettison switch relay (21K3) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

NO

Replace pilot miscellaneous control panel per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K3P1.

Then go to paragraph 10-2.

10-19. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH JETTISON SELECT SWITCHES SET TO OUTBD AND INBD AND JETTISON SWITCH PRESSED (CONTINUED).

YES

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 21J1-W to airframe ground.

Is continuity present?

NO

Repair wire A58G20 between 21P1-W and 21SQ1J1-A to eliminate short to ground.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K3P1.

Then go to paragraph 10-2.

YES

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 21J2-W to airframe ground.

Is continuity present?

NO

Repair wire A58J20 between 21P2-W and 21SQ3J1-A to eliminate short to ground.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K3P1.

Then go to paragraph 10-2.

YES

Remove splice joining wires A58D20, A58E20, A58F20, and A58H20.

Check for continuity from 21J1-W to airframe ground.

Is continuity present?

YES

YES

NO

Check for continuity from 21J2-W to airframe ground.

Is continuity present?

YES

YES

NO

Check for continuity from 21K3P1-C to airframe ground.

Is continuity present?

YES

Repair wire A58E20 between 21K3P1-C and splice to eliminate short to ground.

Install splice joining wires A58D20, A58E20, A58F20, and A58H20 per TM 55-1520-236-23, Chapter 9, Section I.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K3P1.

Then go to paragraph 10-2.

NO

Install splice joining wires A58D20, A58E20, A58F20, and A58H20 per TM 55-1520-236-23, Chapter 9, Section I.

Remove splice joining wires A58B20, A58C20, and A58D20.

Check for continuity from 22A1P1-K to airframe ground.

Is continuity present?

YES

YES

NO

Check for continuity from 21XK2-A1 to airframe ground.

Is continuity present?

YES

Repair wire A58C20 between 21XK2-A1 and splice to eliminate short to ground.

Install splice joining wires A58B20, A58C20, and A58D20 per TM 55-1520-236-23, Chapter 9, Section I.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K3P1.

Then go to paragraph 10-2.

NO

Repair wire A58D20 between splice joining wires A58B20, A58C20, and A58D20, and splice joining wires A58D20, A58E20, A58F20, and A58H20 to eliminate short to ground.

Install splice joining wires A58B20, A58C20, and A58D20 per TM 55-1520-236-23, Chapter 9, Section I.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K3P1.

Then go to paragraph 10-2.

10-19. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH JETTISON SELECT SWITCHES SET TO OUTBD AND INBD AND JETTISON SWITCH PRESSED(CONTINUED).

YES → Repair wire A58F20 between 21J1-W and splice to eliminate short to ground.

Install splice joining wires A58D20, A58E20, A58F20, and A58H20 per TM 55-1520-236-23, Chapter 9, Section I.

Install wings pre TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K3P1.

Then go to paragraph 10-2.

YES → Repair wire A58H20 between 21J2-W and splice to eliminate short to ground.

Install splice joining wires A56D20, A58E20, A58F20, and A58H20 per TM 55-1520-236-23, Chapter 9, Section I.

Install wings pre TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K3P1.

Then go to paragraph 10-2.

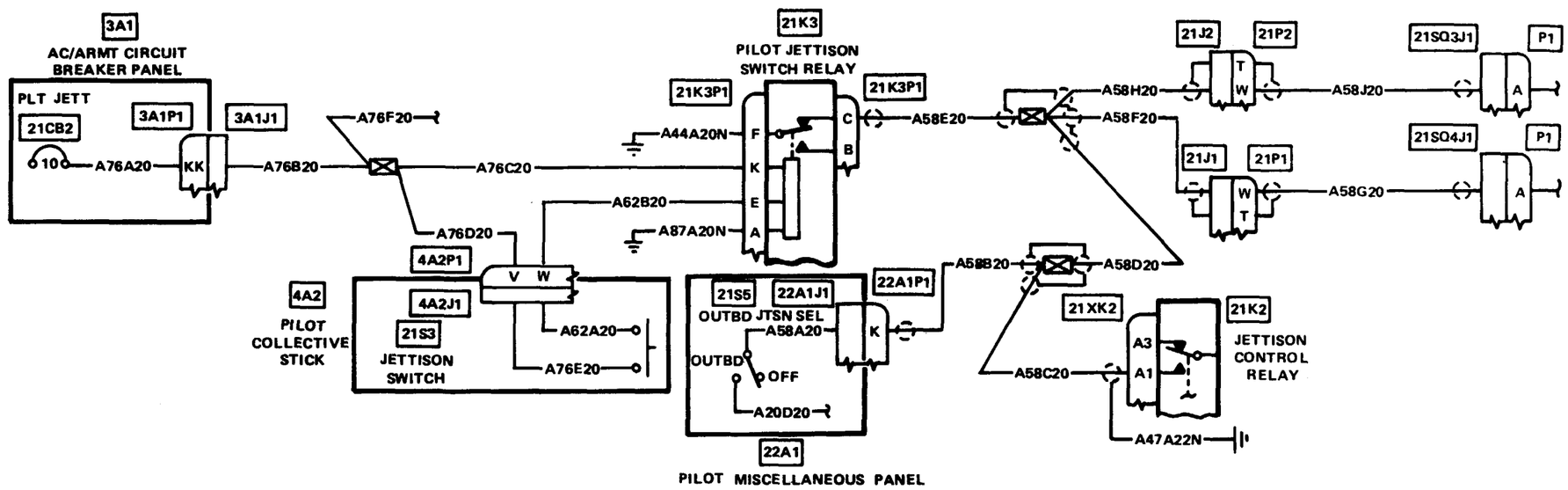
YES → Repair wire A58B20 between 22A1P1-K and splice to eliminate short to ground.

Install splice joining wires A58B20, A58C20, and A58D20 per TM 55-1520-236-23, Chapter 9, Section I.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K3P1.

Then go to paragraph 10-2.



10-20. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH INBD SELECTED WHEN JETTISON SWITCH IS PRESSED.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
60J (2)

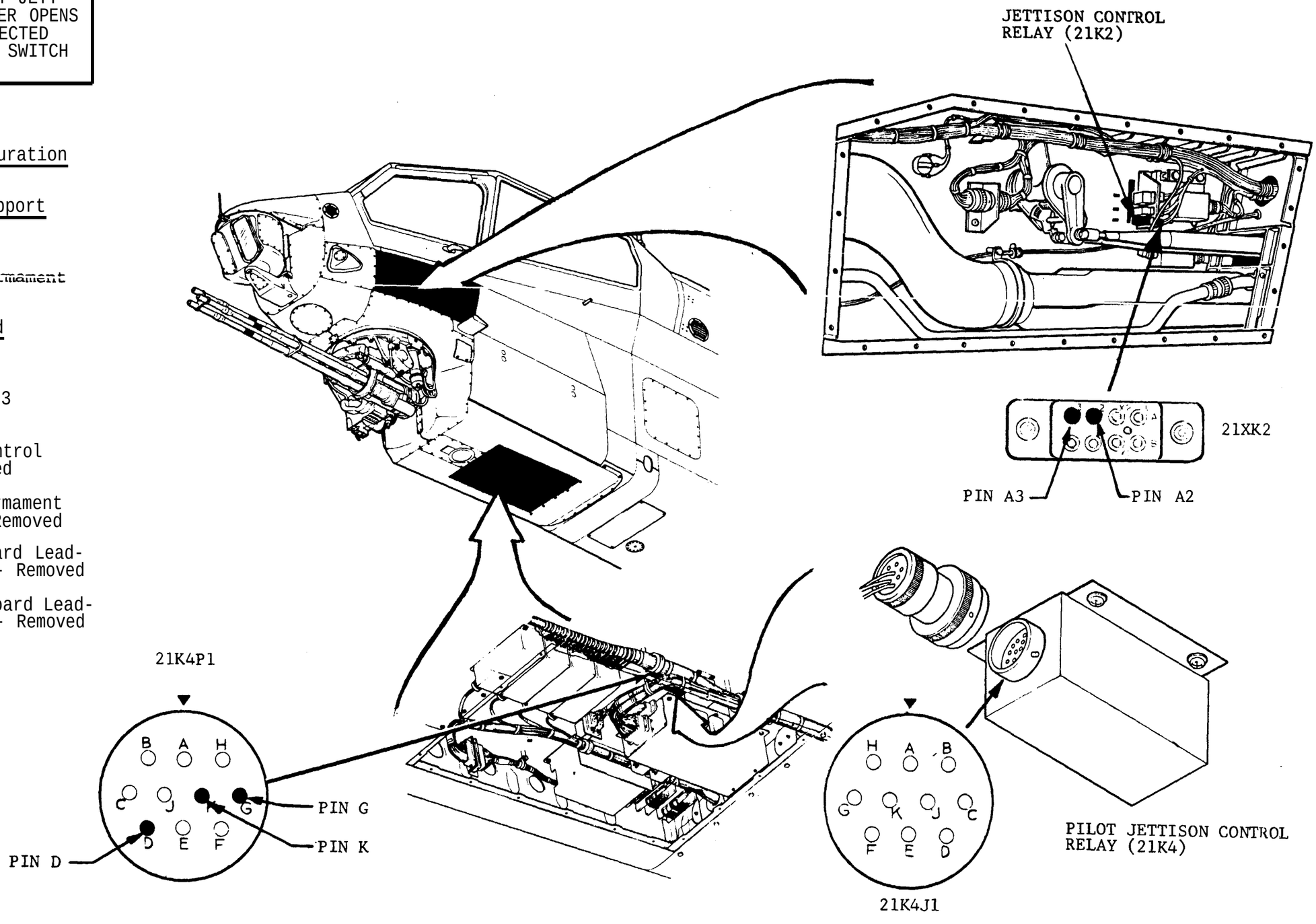
References
TM 55-1520-236-23

Access Panels
Left Forward Control Linkage - Removed

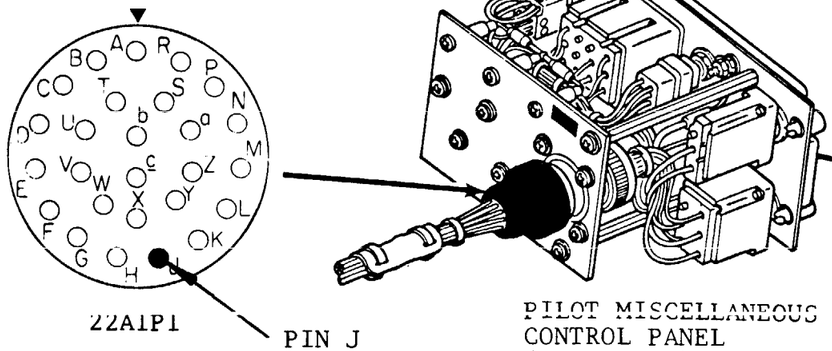
Forward Belly Armament and Lighting - Removed

Left Wing Outboard Leading Edge Cover - Removed

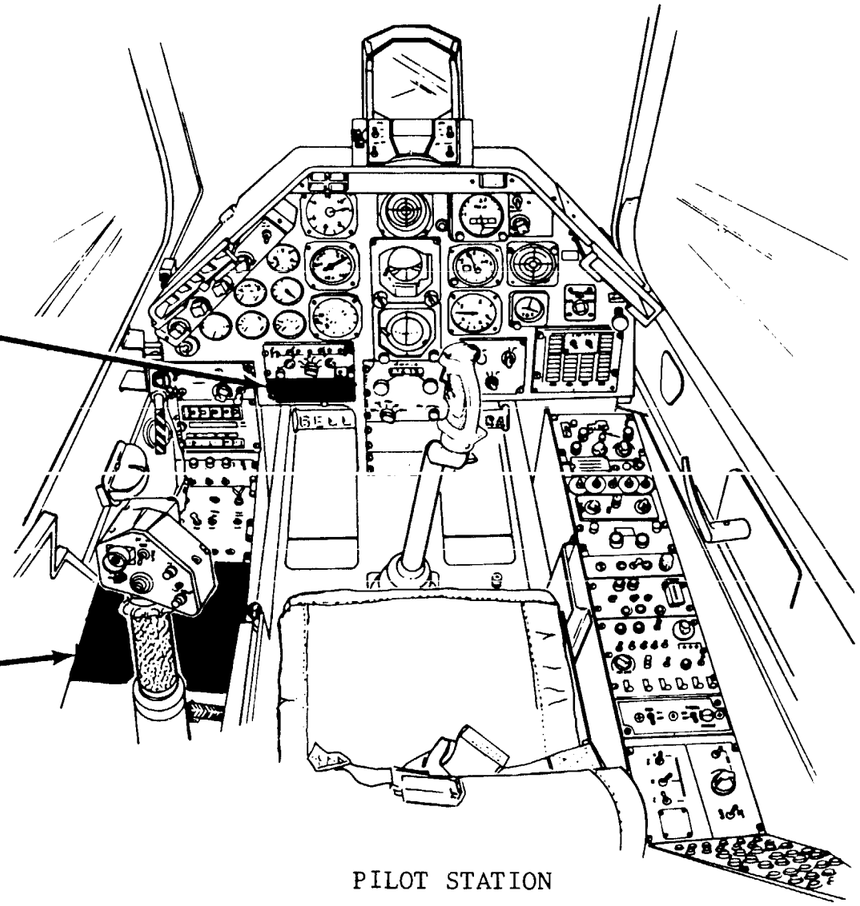
Right Wing Outboard Leading Edge Cover - Removed



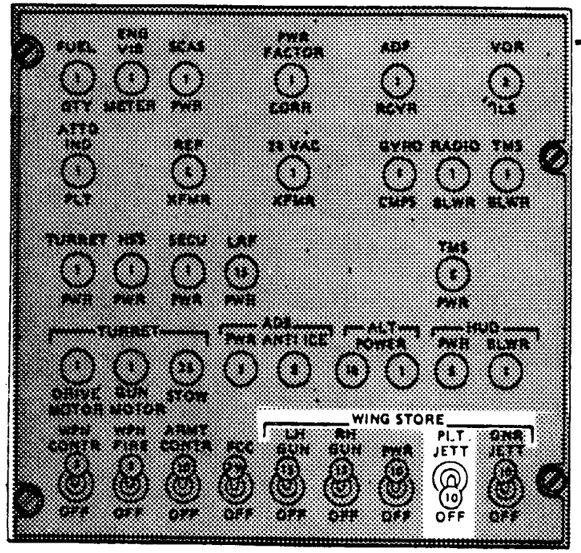
10-20. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH INBD SELECTED WHEN JETTISON SWITCH IS PRESSED (CONTINUED).




PILOT MISCELLANEOUS CONTROL PANEL (REAR VIEW)

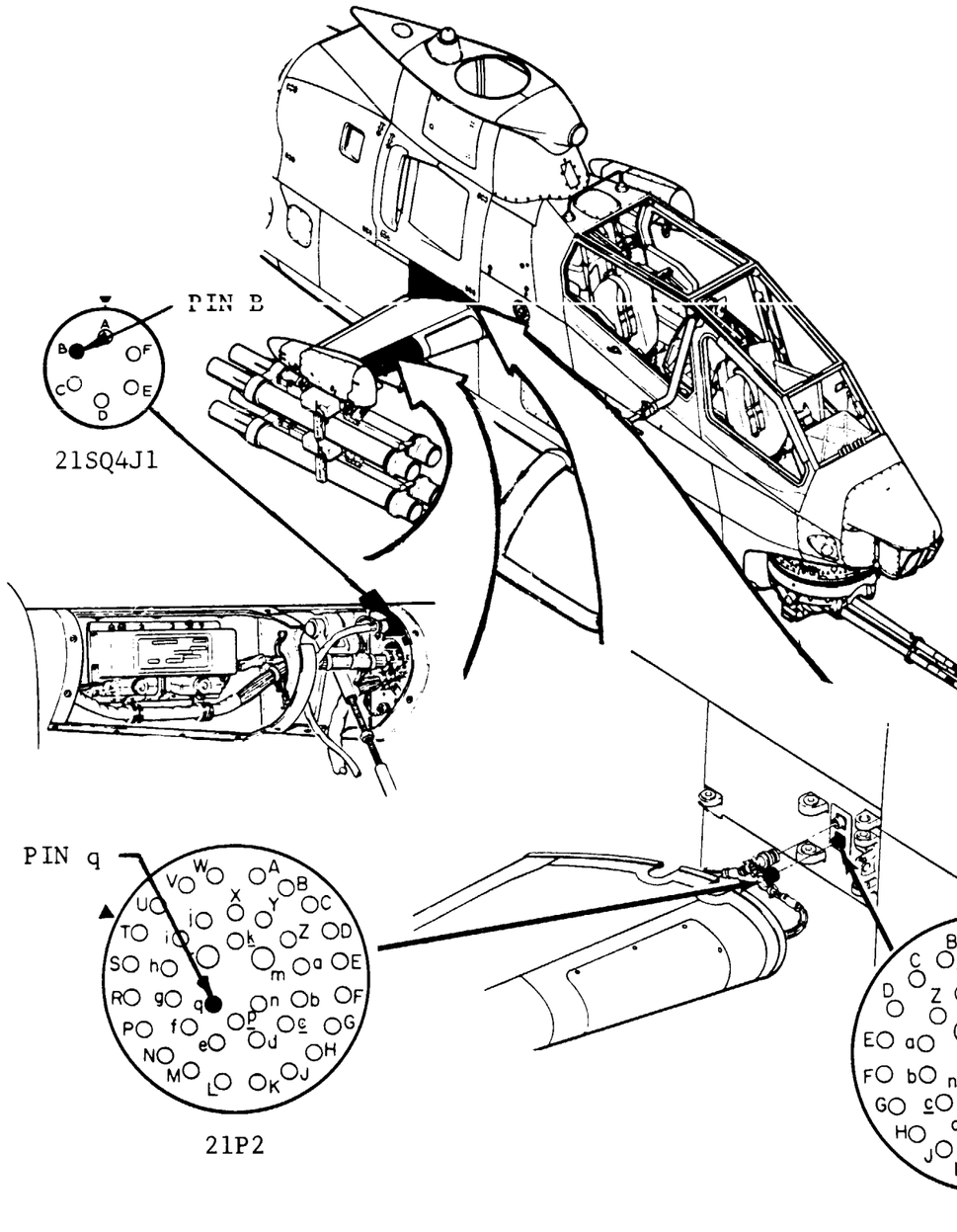


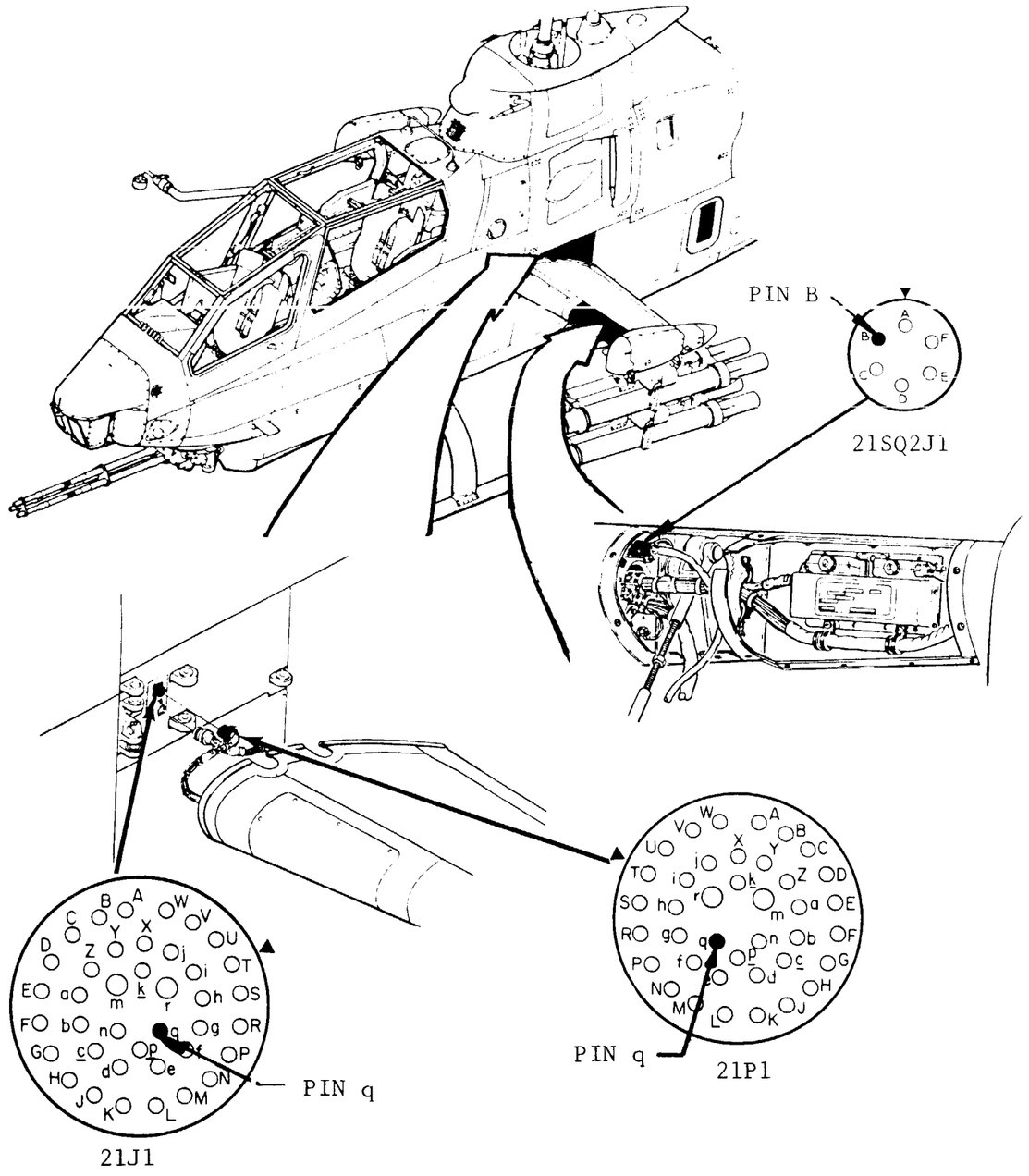
PILOT STATION




AC/ARMAMENT CIRCUIT BREAKER PANEL

10-20. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH INBD SELECTED WHEN JETTISON SWITCH IS PRESSED (CONTINUED).



10-20. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH INBD SELECTED WHEN JETTISON SWITCH IS PRESSED (CONTINUED).

Turn off electrical power per paragraph 10-3.

Disconnect 21K4P1.

Check for continuity from all pins of 21K4J1 on pilot jettison control relay (21K4) to airframe ground.

Is continuity present?

YES → Replace pilot jettison control relay (21K4) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K4P1.

Then go to paragraph 10-2.

NO ↓

Disconnect wing stores circuitry test panel.

Check for continuity from 22A1P1-J to airframe ground.

Is continuity present?

YES → Remove jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 22A1P1-J to airframe ground.

Is continuity present?

YES → Repair wire A504B20 between 22A1P1-J and 21XK2-A2 to eliminate short to ground.

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K4P1.

Then go to paragraph 10-2.

NO ↓

Check for continuity from 21XK2-A3 to airframe ground.

Is continuity present?

YES → Remove splice joining wires A508A20, A508B20, and A508C20.

Check for continuity from 21K4P1-G to air-frame ground.

Is continuity present?

YES → Repair wire A508B20 between 21K4P1-G and splice to eliminate short to ground.

Install splice joining wires A508A20, A508B20, and A508C20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K4P1.

Then go to paragraph 10-2.

NO ↓

Check for continuity from 21K4P1-K to airframe ground.

Is continuity present?

YES → Repair wire A508C20 between 21K4P1-K and splice to eliminate short to ground.

Install splice joining wires A508A20, A508B20, and A508C20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K4P1.

Then go to paragraph 10-2.

NO ↓

Repair wire A508A20 between 21XK2-A3 and splice to eliminate short to ground.

Install splice joining wires A508A20, A508B20, and A508C20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K4P1.

Then go to paragraph 10-2.

NO ↓

Replace jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K4P1.

Then go to paragraph 10-2.

NO ↓

Check for continuity from 21K4P1-D to airframe ground.

Is continuity present?

YES → (to YES)

NO ↓

Connect 21K4P1.

Replace pilot miscellaneous control panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

YES → (to YES)

10-20. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH INBD SELECTED WHEN JETTISON SWITCH IS PRESSED(CONTINUED).

YES

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 21J1-q to airframe ground.

Is continuity present?

NO

Repair wire A273C20 between 21P1-q and 21SQ2Jl-B to eiiminate short to ground.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K4P1.

Then go to paragraph 10-2.

YES

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Check for continuity from 21J2-q to airframe ground.

Is continuity present?

NO

Repair wire A273E20 between 21P2-q and 21SQ4J1-B to eliminate short to ground.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K4P1.

Then go to paragraph 10-2.

YES

Remove splice joining wires A273A20, A273B20, and A273D20.

Check for continuity from 21J1-q to airframe ground.

Is continuity present?

NO

Check for continuity from 21J2-q to airframe ground.

Is continuity present?

NO

Repair wire A273A20 between 21K4P1-D and splice to eliminate short to ground.

Install splice joining wires A273A20, A273B20, and A273D20 per TM 55-1520-236-23, Chapter 9, Section I.

Install wings per TM 55-1520-236-23, Chapter 3, Section IV.

Connect 21K4P1.

Then go to paragraph 10-2.

YES

Repair wire A273B20 between 21J1-q and splice to eliminate short to ground.

Install splice joining wires A273A20, A273B20, and A237D20 per TM 55-1520-236-23, Chapter 9, Section I.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K4P1.

Then go to paragraph 10-2.

YES

Repair wire A273D20 between 21J2-q and splice to eliminate short to ground.

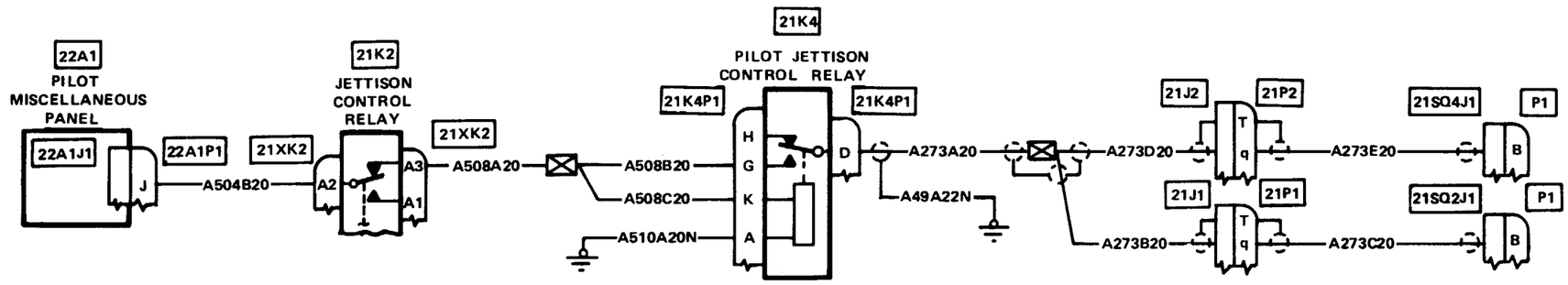
Install splice joining wires A273A20, A273B20, and A273D20 per TM 55-1520-236-23, Chapter 9, Section I.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21K4P1.

Then go to paragraph 10-2.

10-20. WING STORE PLT JETT CIRCUIT BREAKER OPENS WITH INBD SELECTED WHEN JETTISON SWITCH IS PRESSED (CONTINUED).



10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References
TM 55-1520-236-23

Access Panels
Logic Control Unit - Removed

Forward Left Side Control Linkage - Removed

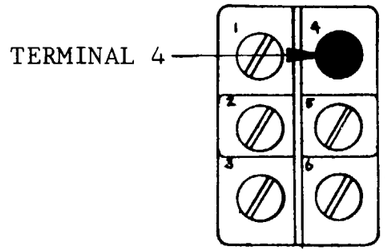
Left Wing Outboard Leading Edge Cover - Removed

Right Wing Outboard Leading Edge Cover - Removed

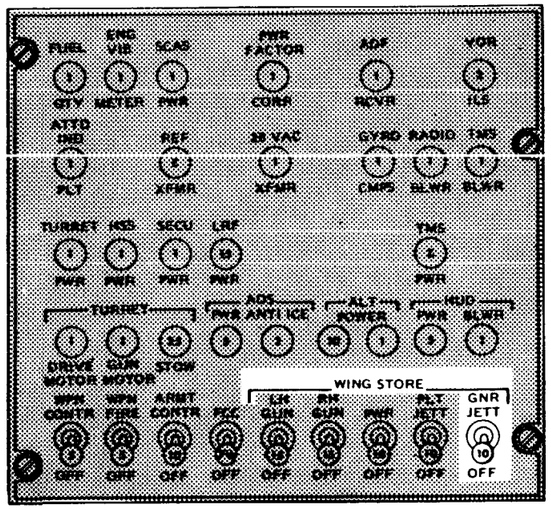
Right Outboard Pylon Fairing - Removed

Left Outboard Pylon Fairing - Removed

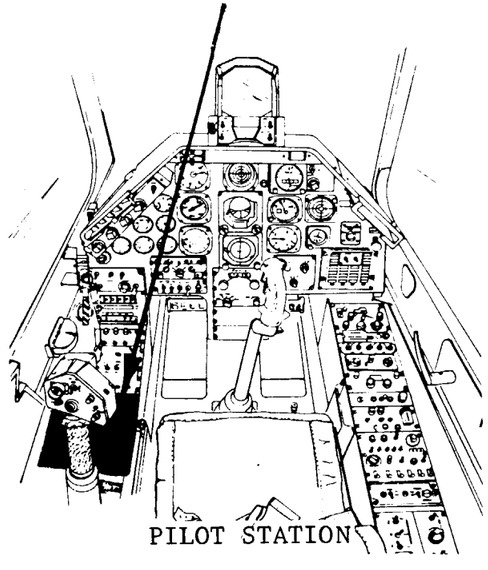
1A. TROUBLESHOOTING LOGIC PART ONE.

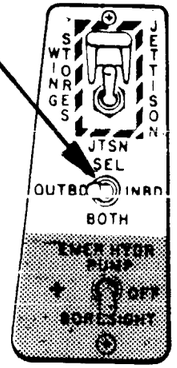


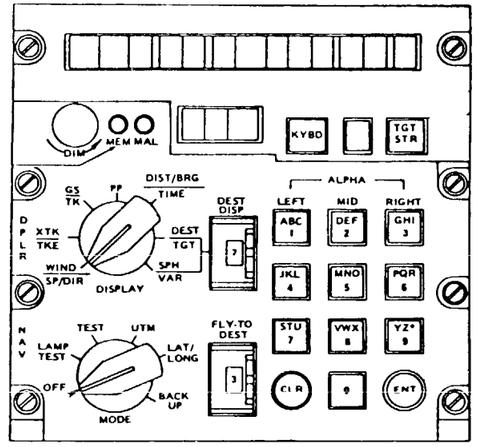
21S2



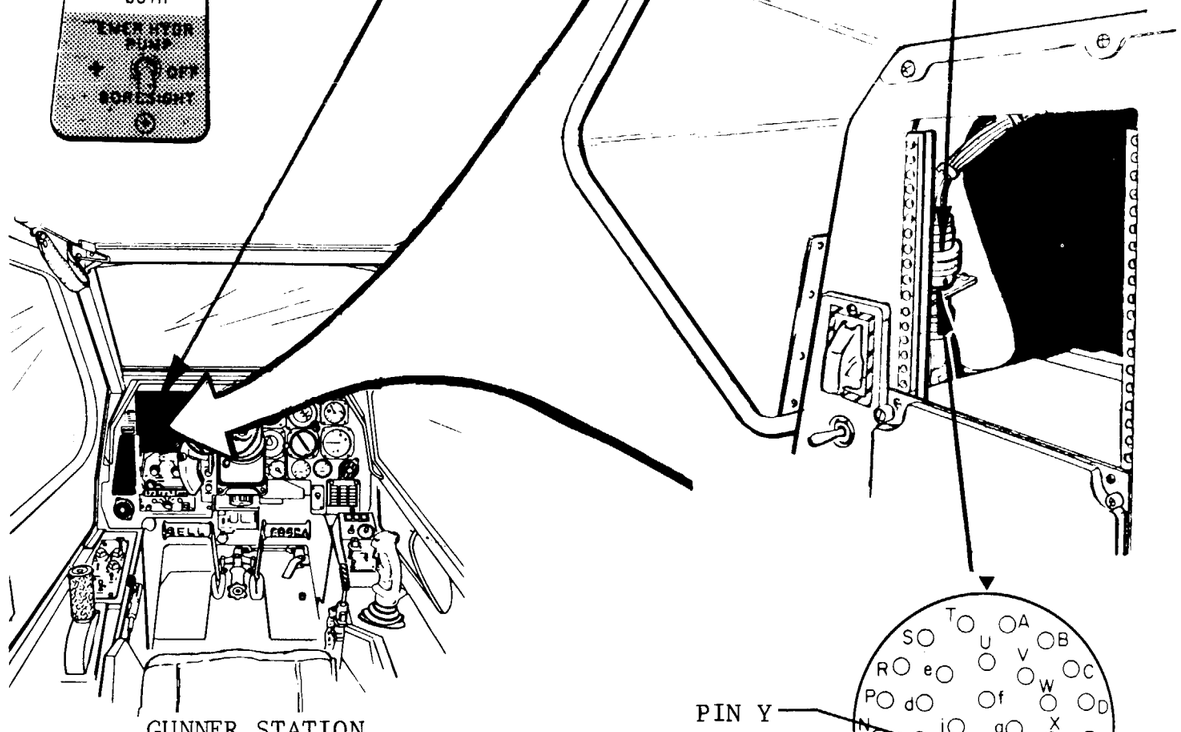
AC/ARMT CIRCUIT BREAKER PANEL

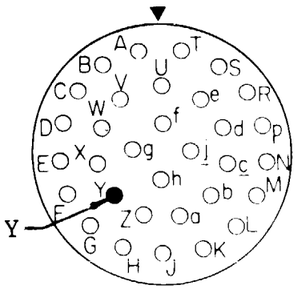

PILOT STATION



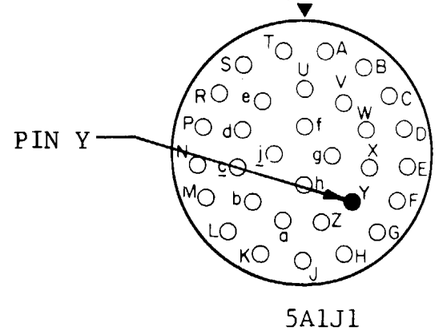



DPLR NAV CONTROL PANEL


GUNNER STATION



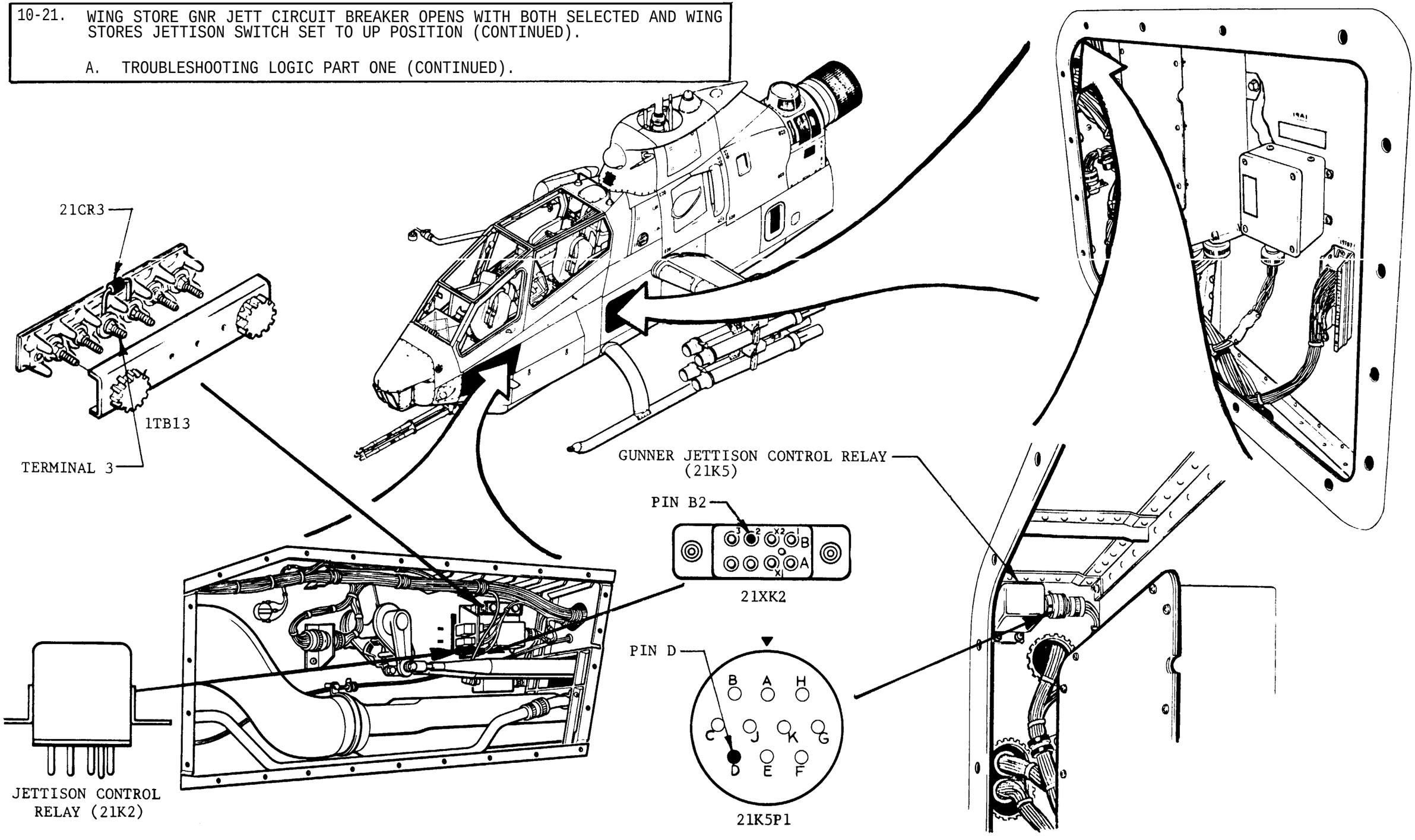
5A1P1



5A1J1

10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

Turn off electrical power per paragraph 10-3.

On AC/ARMT circuit breaker panel:

Open WING STORE GNR JETT circuit breaker.

Disconnect wing stores circuitry test set.

Disconnect 21K5P1.

Disconnect 21CR3 from 1TB13-3.

On gunner instrument panel:

Set JTSN SEL switch to OUTBD.

Check for continuity from 1TB13-3 to airframe ground.

Is continuity present?

YES

Go to Troubleshooting Logic Part Five (subparagraph E).

NO

On gunner instrument panel:

Set JTSN SEL switch to INBD.

Check for continuity from 1TB13-3 to airframe ground.

Is continuity present?

NO

Connect 21CR3 to 1TB13-3.

Check for continuity from 21K5P1-D to airframe ground.

Is continuity present?

NO

Replace gunner jettison control relay (21K5) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

YES

Go to Troubleshooting Logic Part Four (subparagraph D).

YES

Remove jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from 1TB13-3 to airframe ground.

Is continuity present?

NO

Go to Troubleshooting Logic Part Two (subparagraph B).

YES

Disconnect 5A1P1.

Check for continuity from 5A1P1-Y to airframe ground.

Is continuity present?

NO

On gunner instrument panel:

Set JTSN SEL switch to OUTBD.

Connect 21CR3 to 1TB13-3.

Check for continuity from 5A1J1-Y to airframe ground.

Is continuity present?

NO

Go to Troubleshooting Logic Part Three (subparagraph C).

YES

Repair wire A516A20 between 5A1J1-Y and 21S2-4 to eliminate short.

Connect 21K5P1 and 5A1P1.

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 10-2.

YES

Repair wire A516B20 between 5A1P1-Y and 21XK2-B2 to eliminate short.

Connect 21K5P1 and 5A1P1.

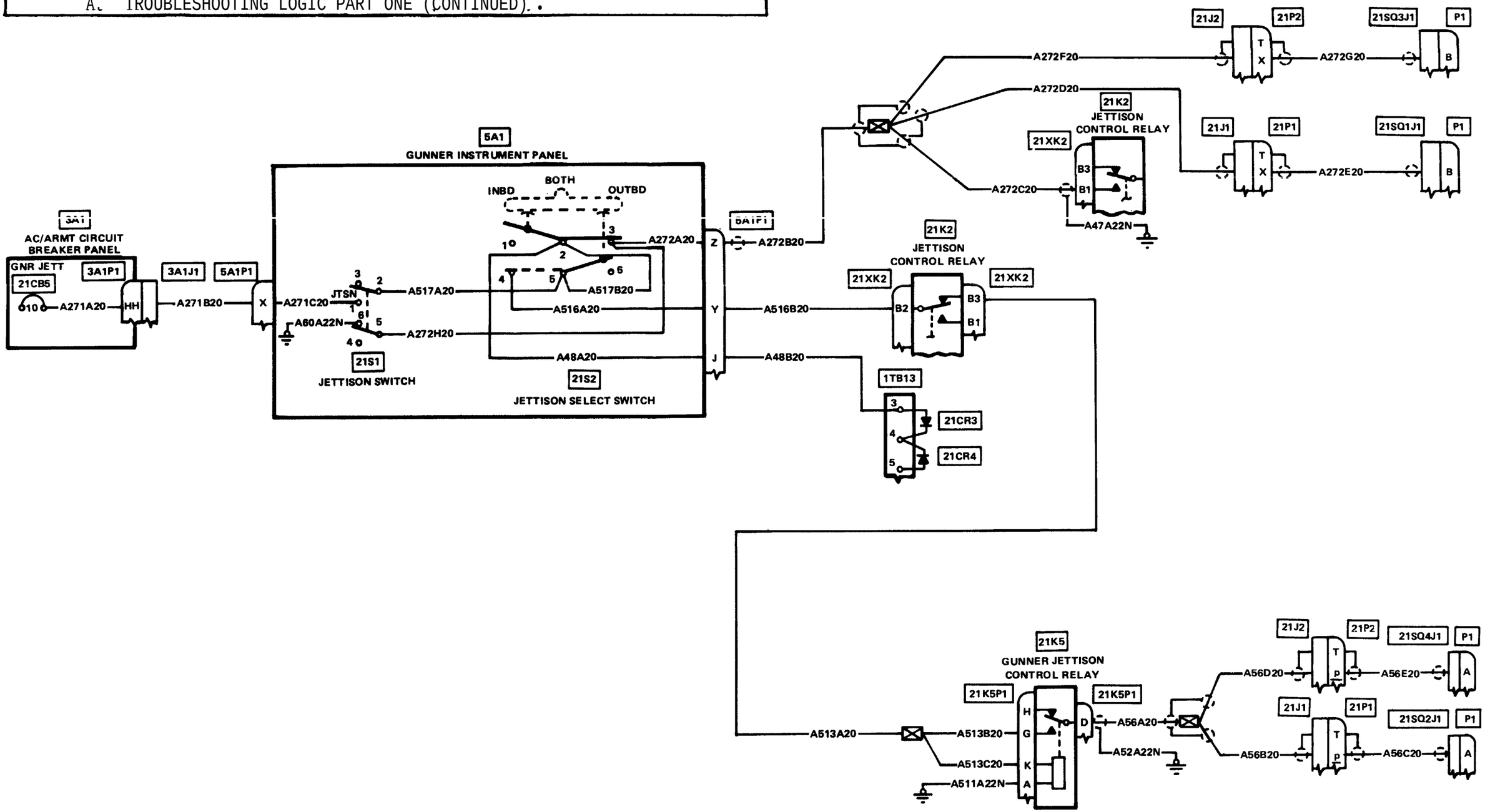
Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21CR3 to 1TB13-3.

Then go to paragraph 10-2.

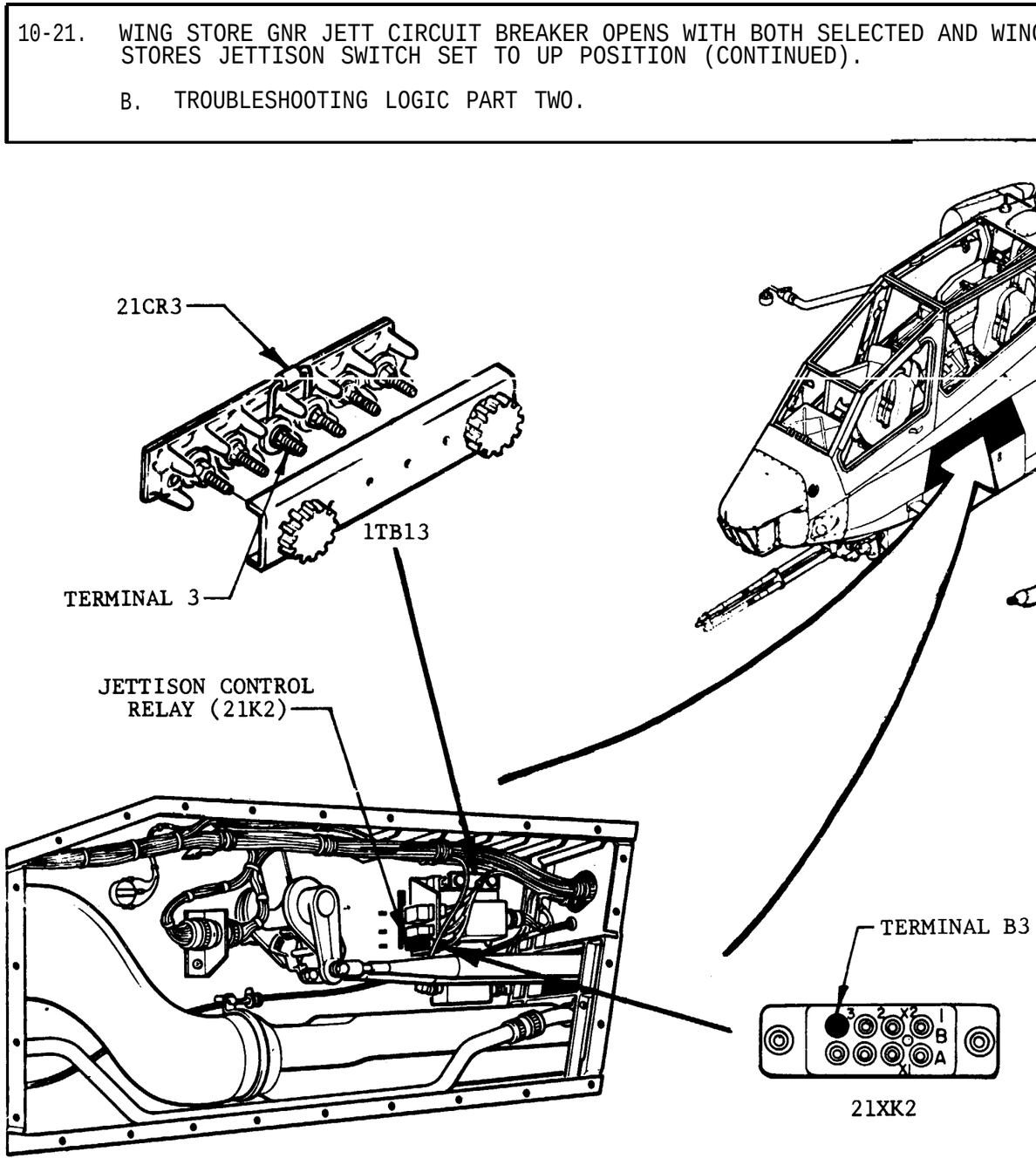
10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

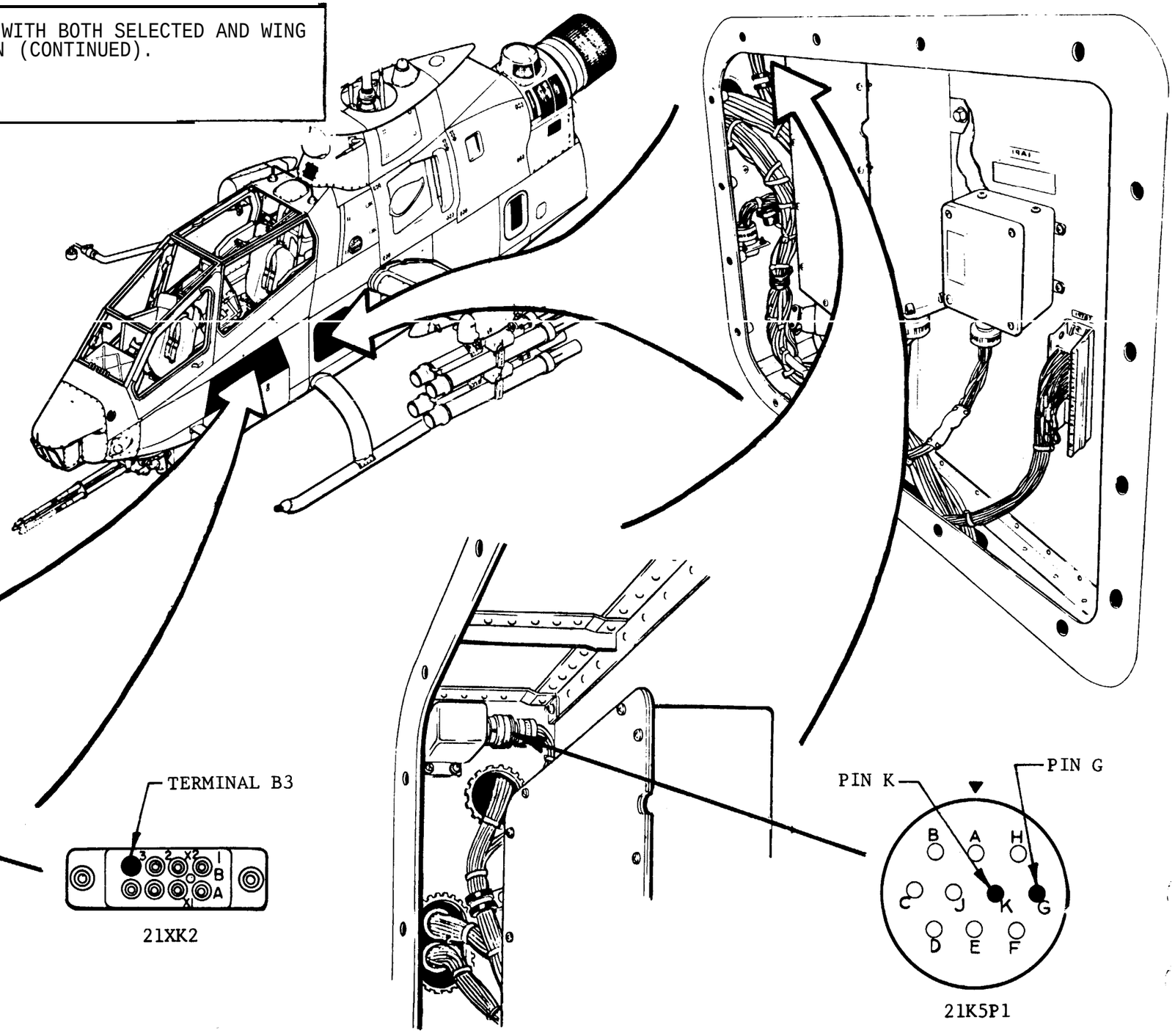
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

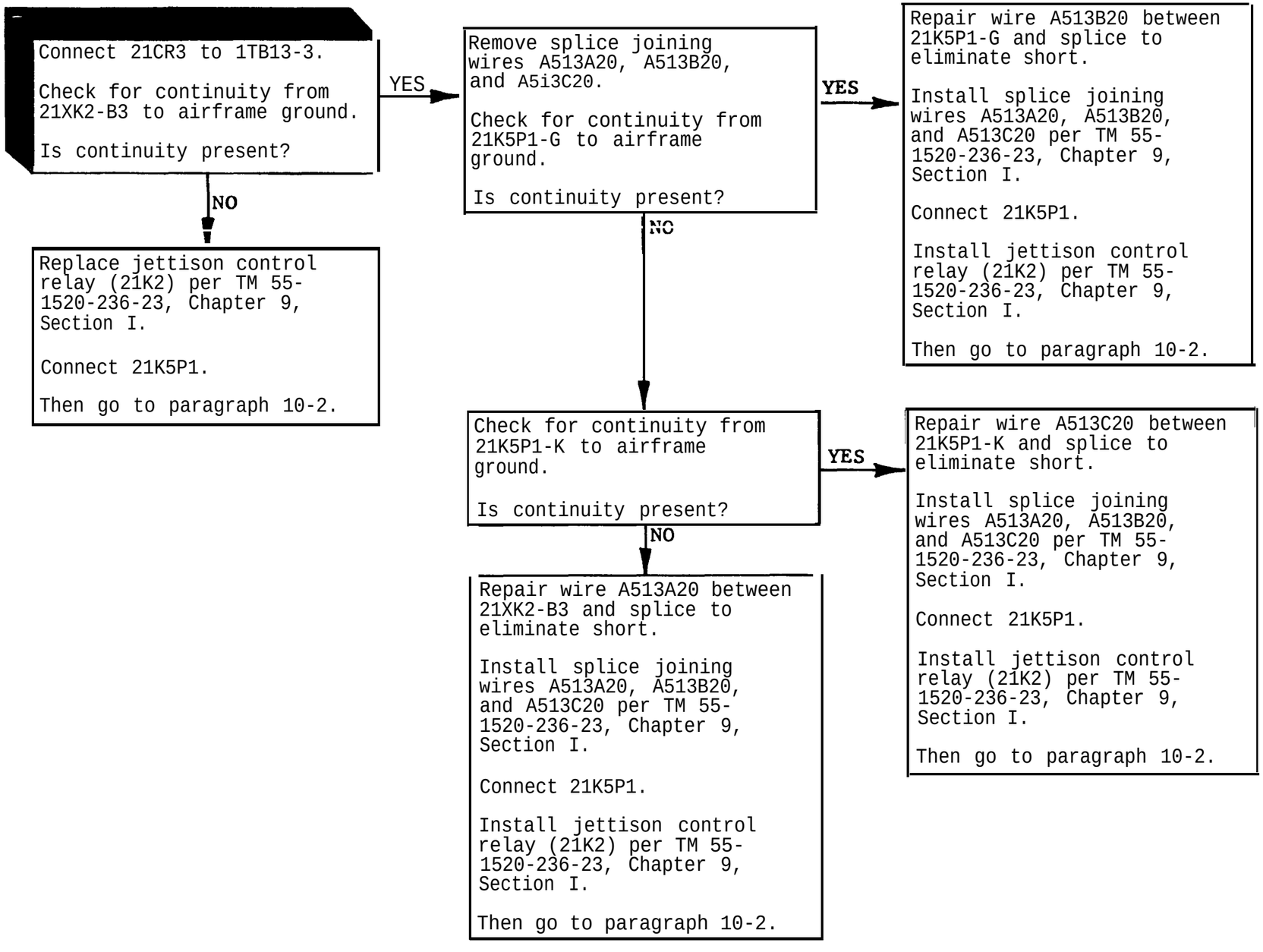
B. TROUBLESHOOTING LOGIC PART TWO.



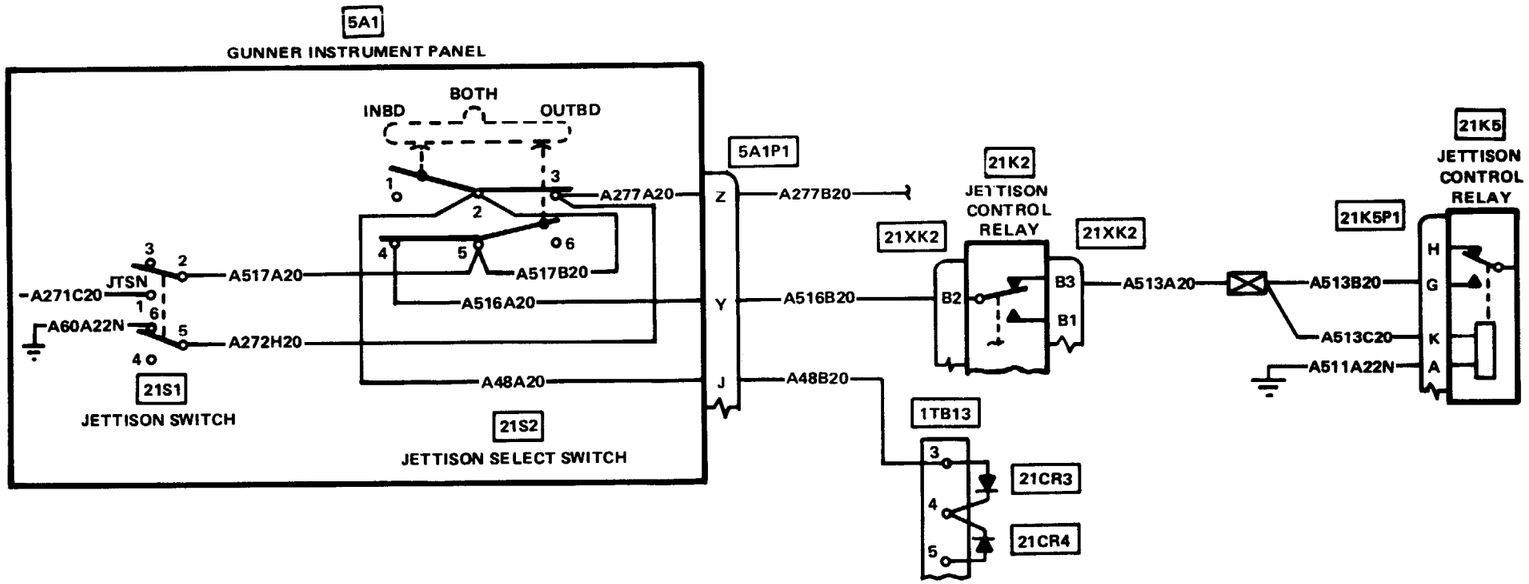
10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

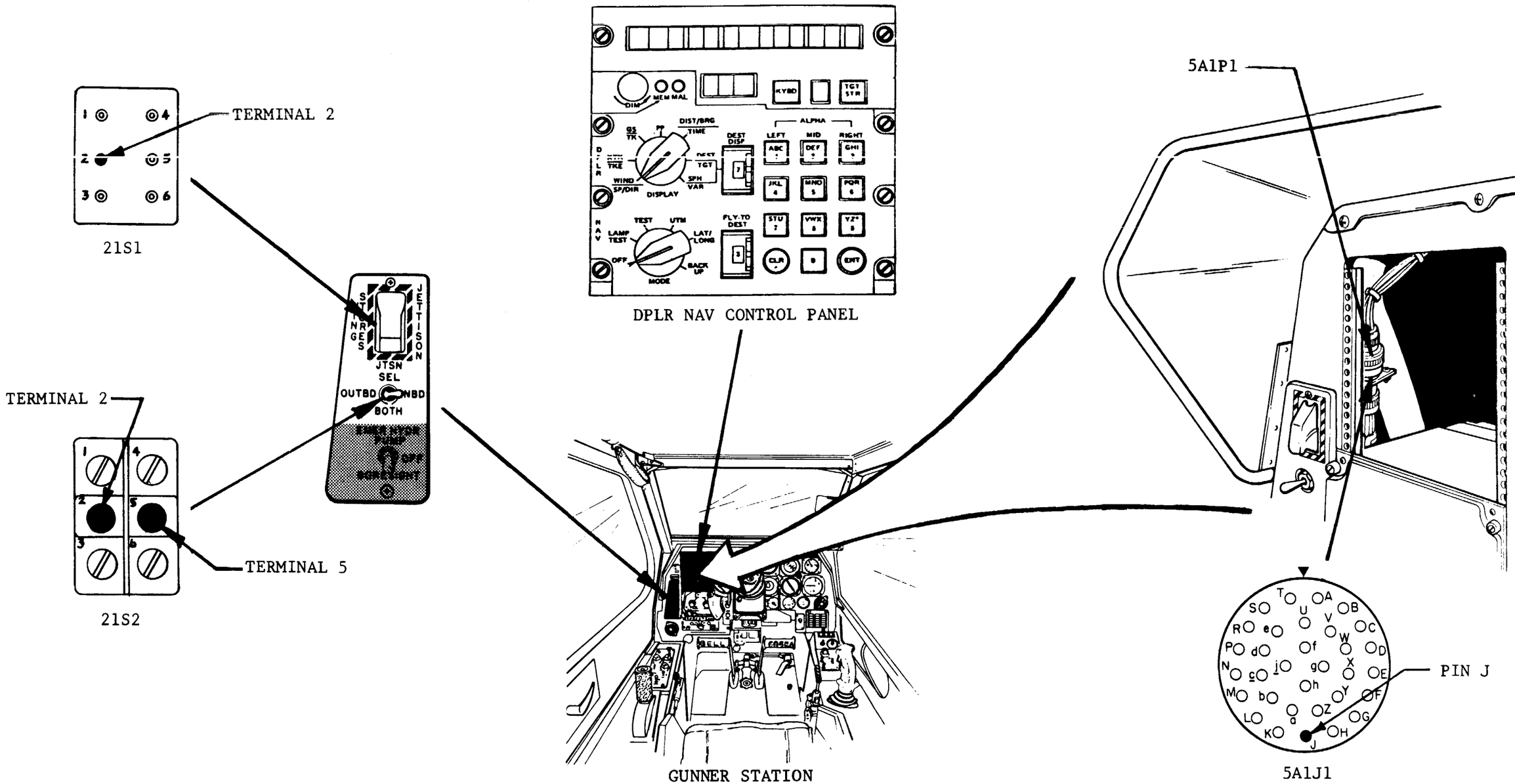
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



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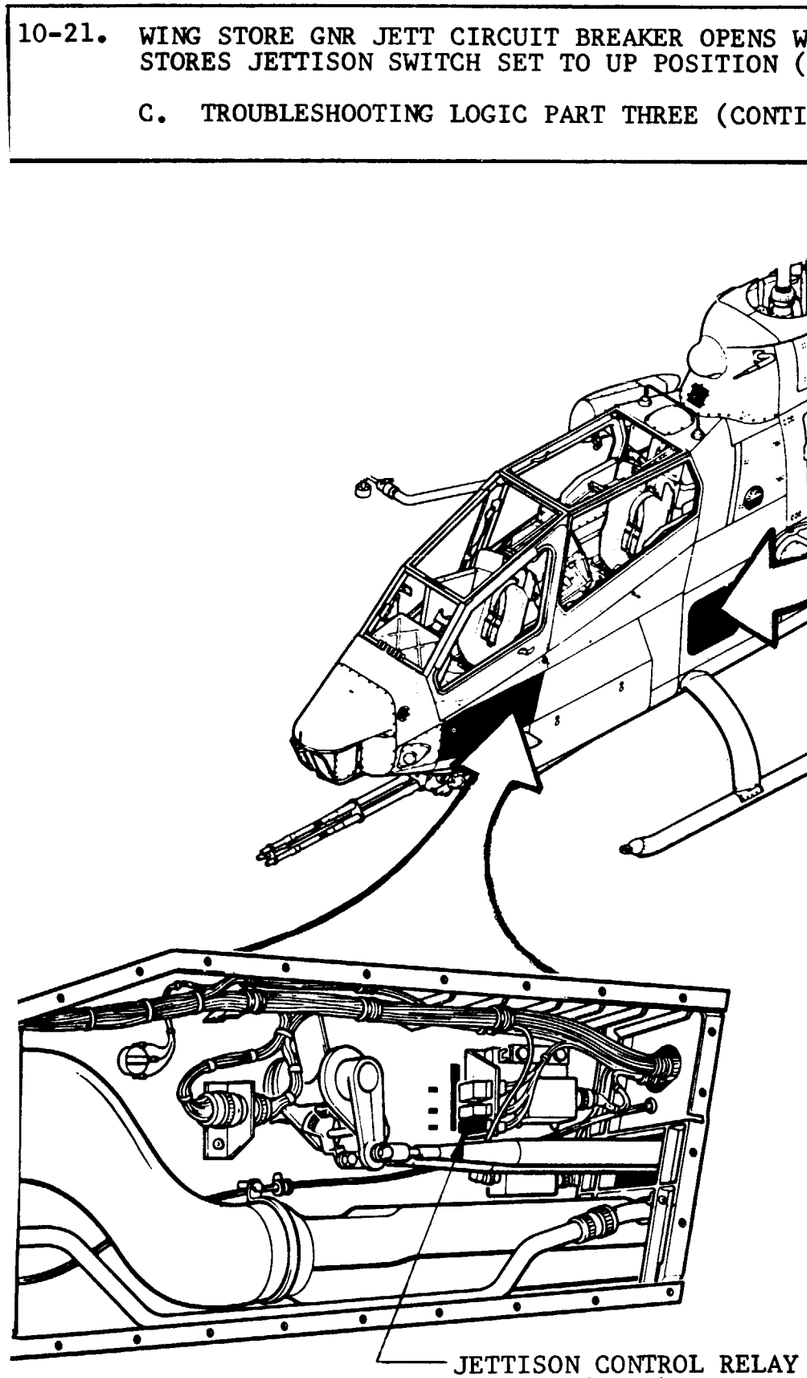
10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

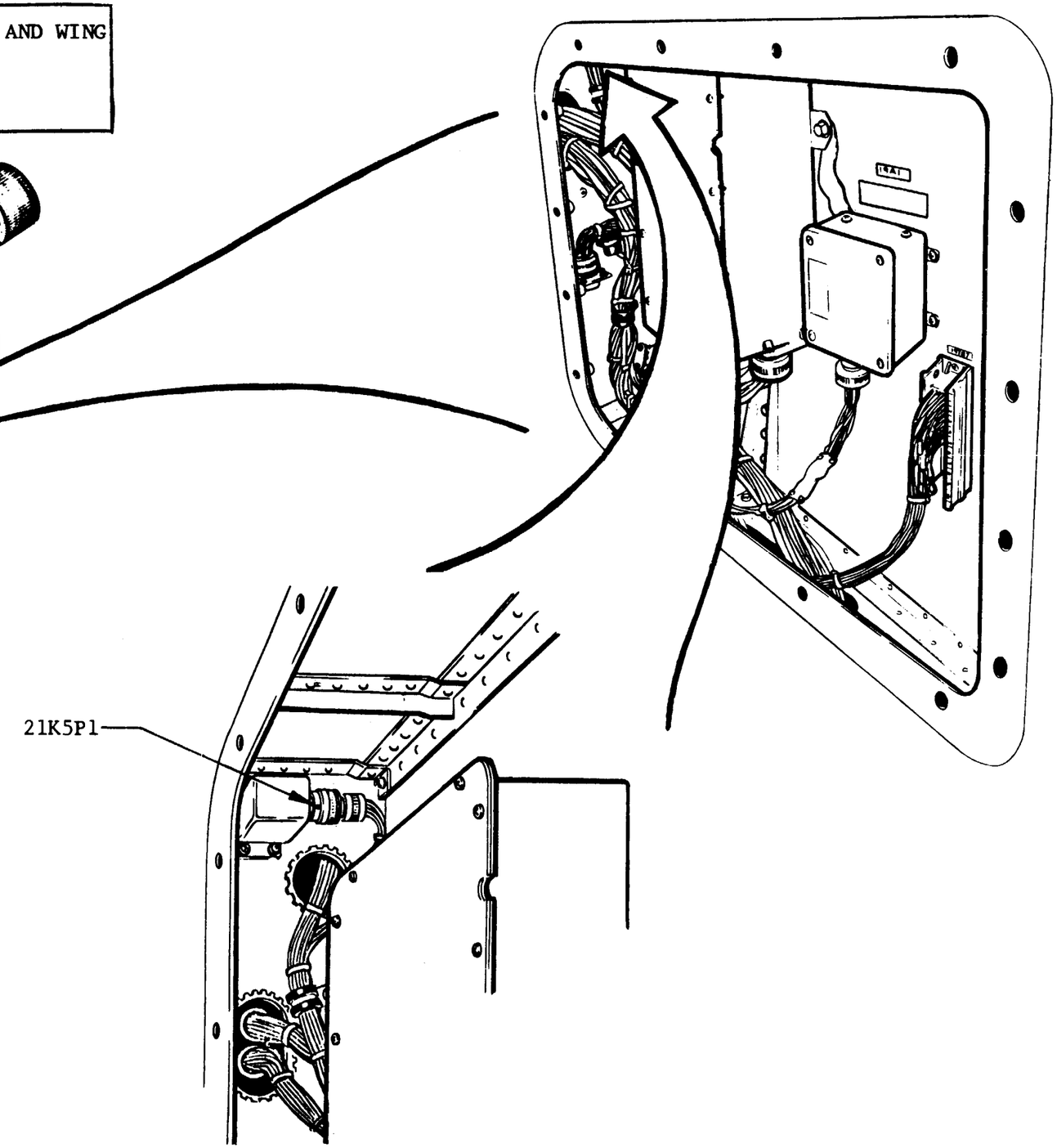
C. TROUBLESHOOTING LOGIC PART THREE.



10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

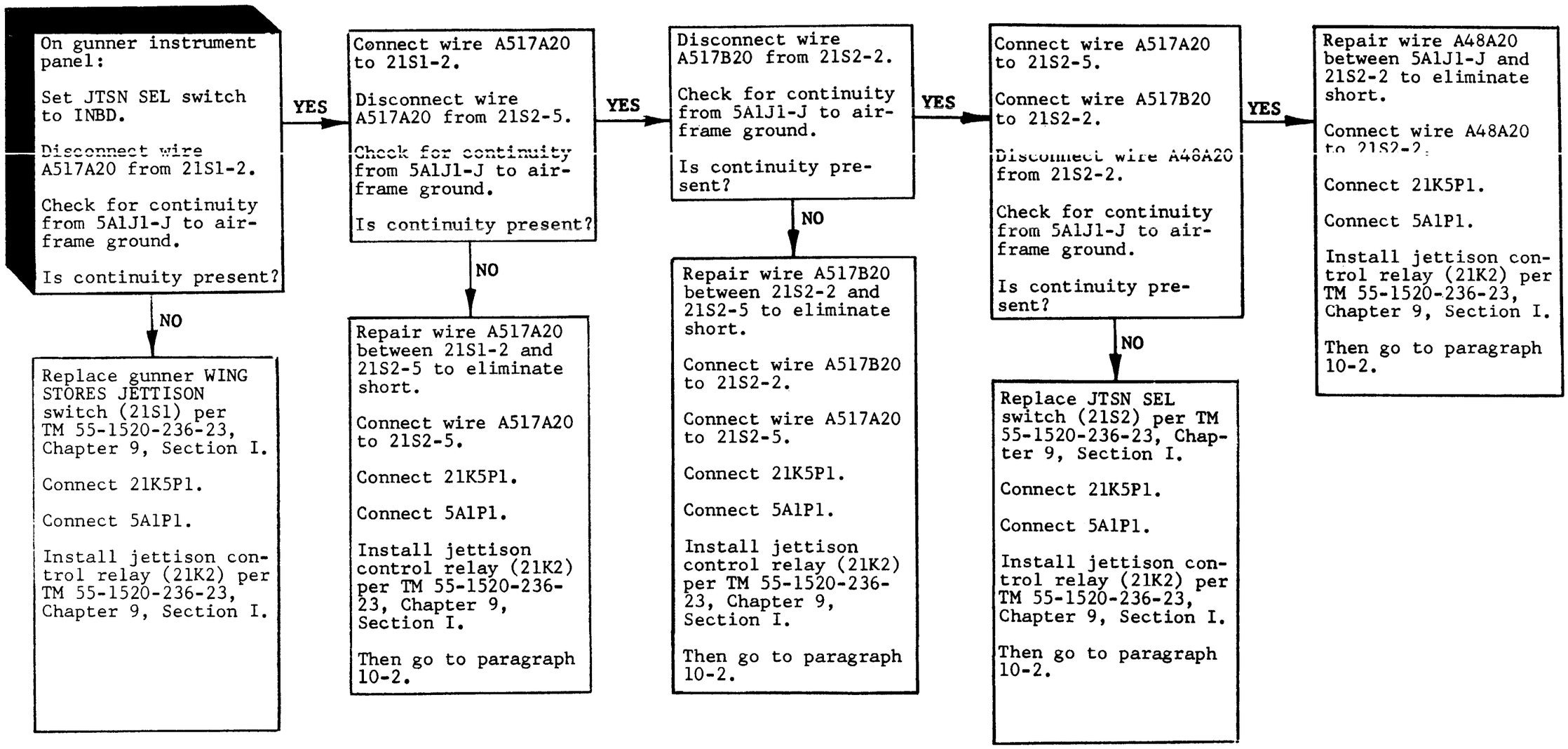
C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



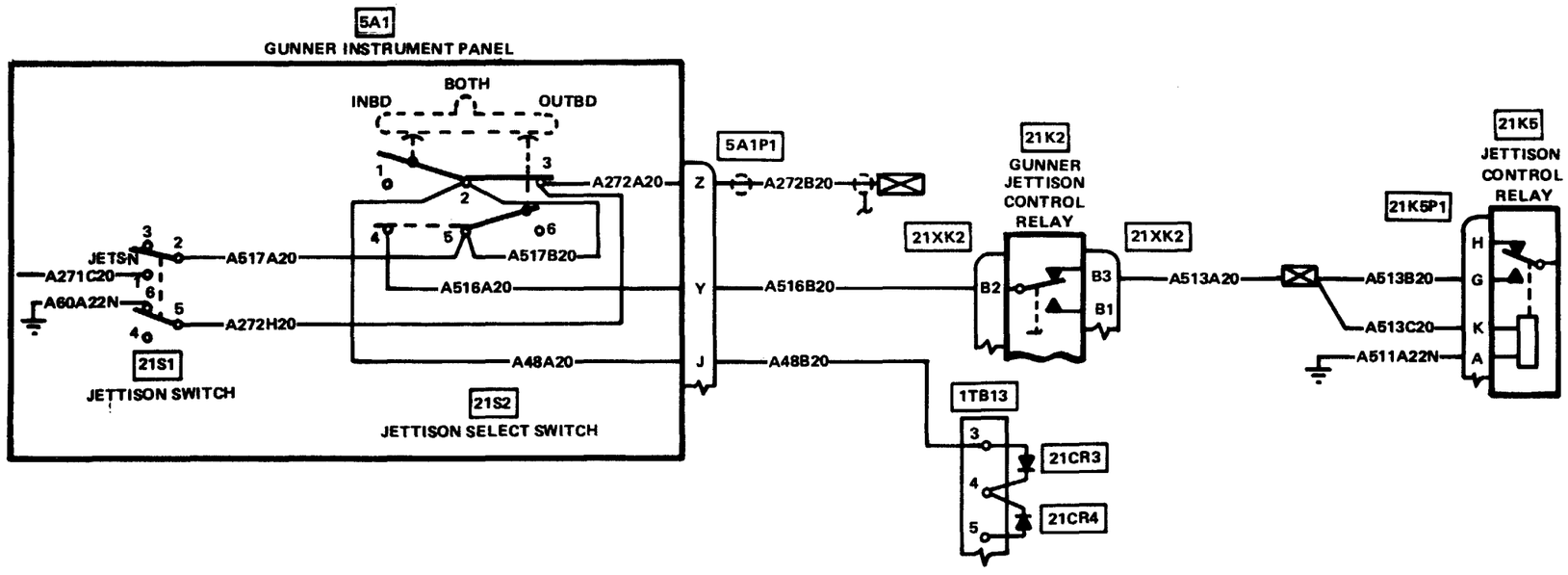
10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE(CONTINUED) .



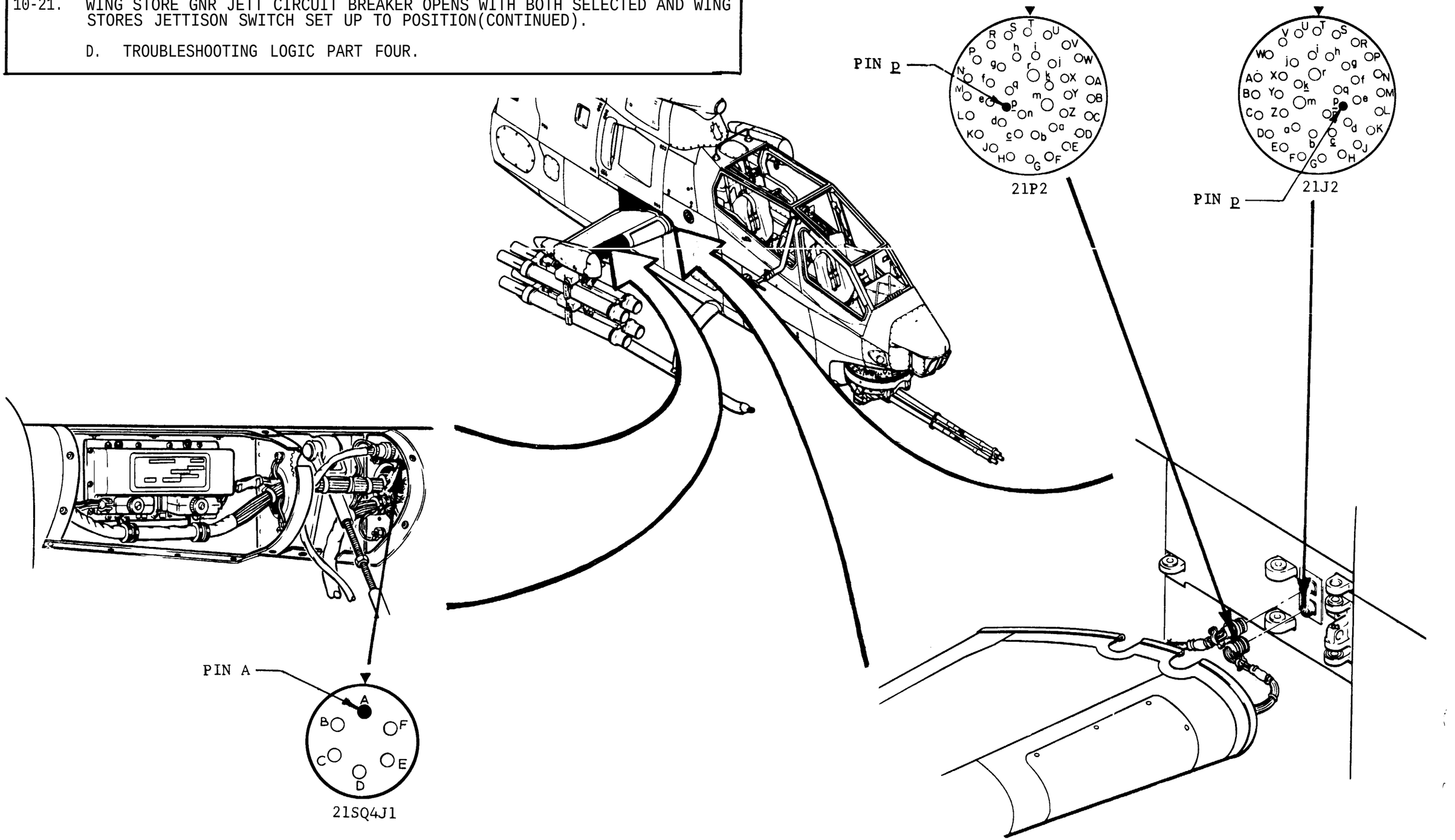
10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



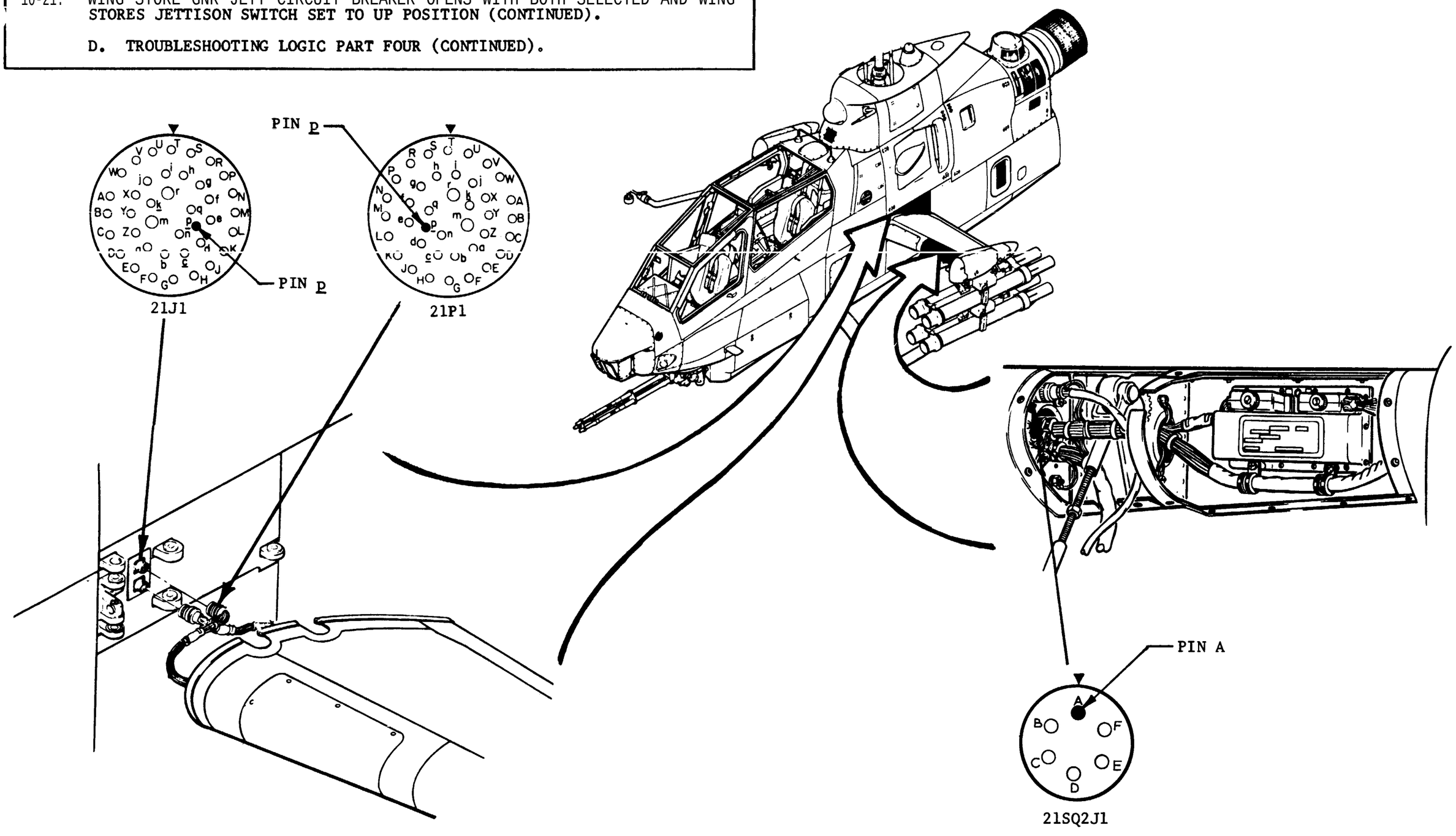
10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET UP TO POSITION(CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR.



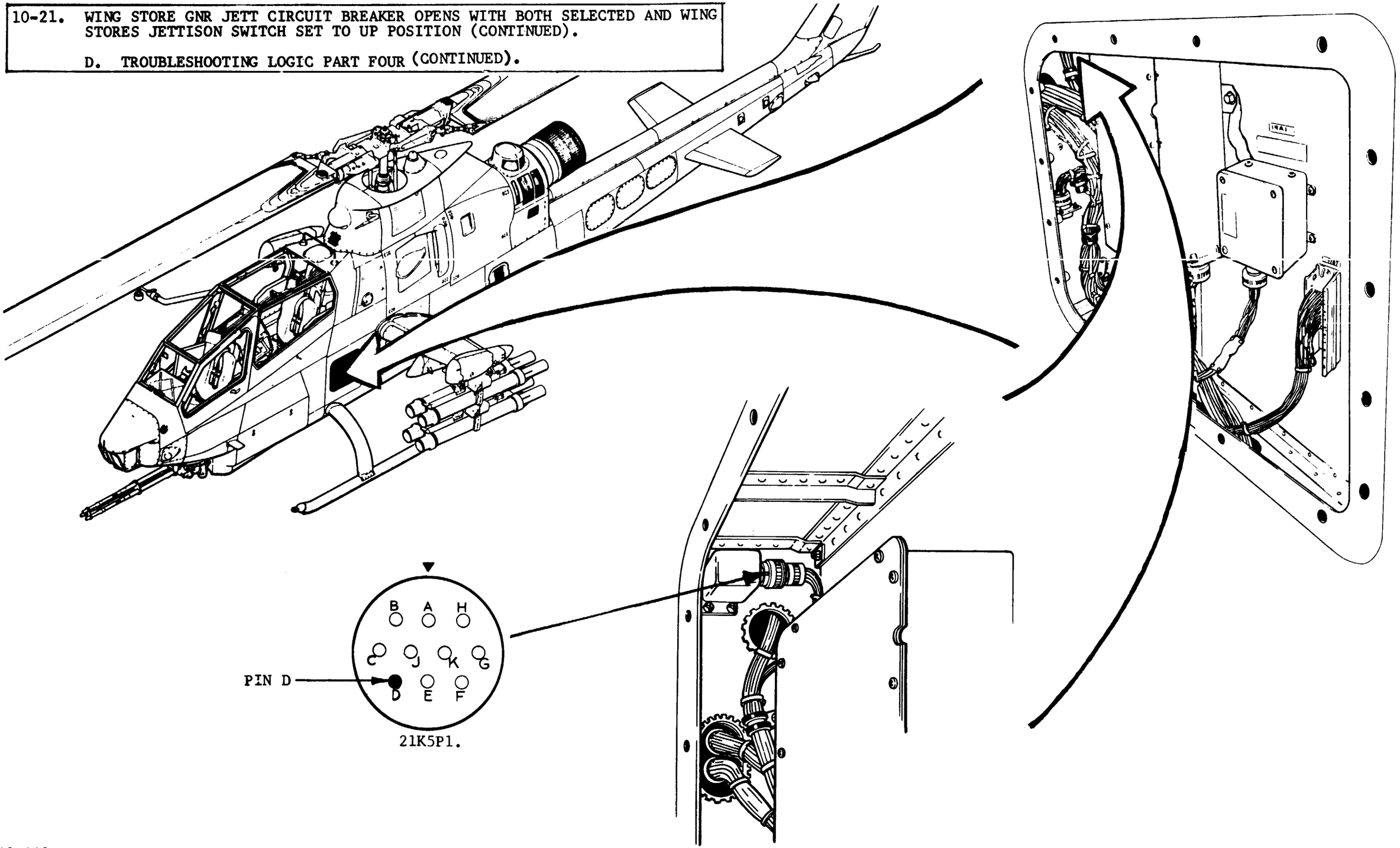
10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSTION (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).

Remove left wing assembly per TM 55-1520-236-23, Chapter 2, Section IV.

Disconnect 21P1.

Check for continuity from 21K5P1-D to airframe ground.

Is continuity present?

YES

Remove right wing assembly per TM 55-1520-236-23, Chapter 2, Section IV.

Disconnect 21P2.

Check for continuity from 21K5P1-D to airframe ground.

Is continuity present?

YES

Remove splice joining wires A56A20, A56B20, and A56D20.

Check for continuity from 21J1-p to airframe ground.

Is continuity present?

YES

Repair wire A56B20 between 21J1-p and splice to eliminate short.

Install splice joining wires A56A20, A56B20, and A56D20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K5P1.

Connect 21P1.

Connect 21P2.

Install left and right wing assemblies per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.

NO

Repair wire A56C20 between 21P1-p and 21SQ2J1-A to eliminate short.

Connect 21K5P1.

Connect 21P1.

Install left wing assembly per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.

NO

Repair wire A56E20 between 21P2-p and 21SQ4J1-A to eliminate short.

Connect 21K5P1.

Connect 21P1.

Connect 21P2.

Install left and right wing assemblies per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.

NO

Check for continuity from 21J2-p to airframe ground.

Is continuity present?

YES

Repair wire A56D20 between 21J2-p and splice to eliminate short.

Replace splice joining wires A56A20, A56B20, and A56D20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21K5P1.

Connect 21P1.

Connect 21P2.

Install left and right wing assemblies per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.

NO

Repair wire A56A20 between 21K5P1-D and splice to eliminate short.

Install splice joining wires A56A20, A56B20, and A56D20 per TM 55-1520-236-23, Chapter 9, Section I.

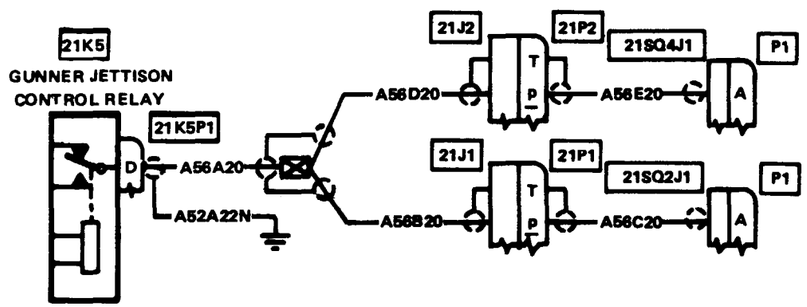
Connect 21K5P1.

Connect 21P1.

Connect 21P2.

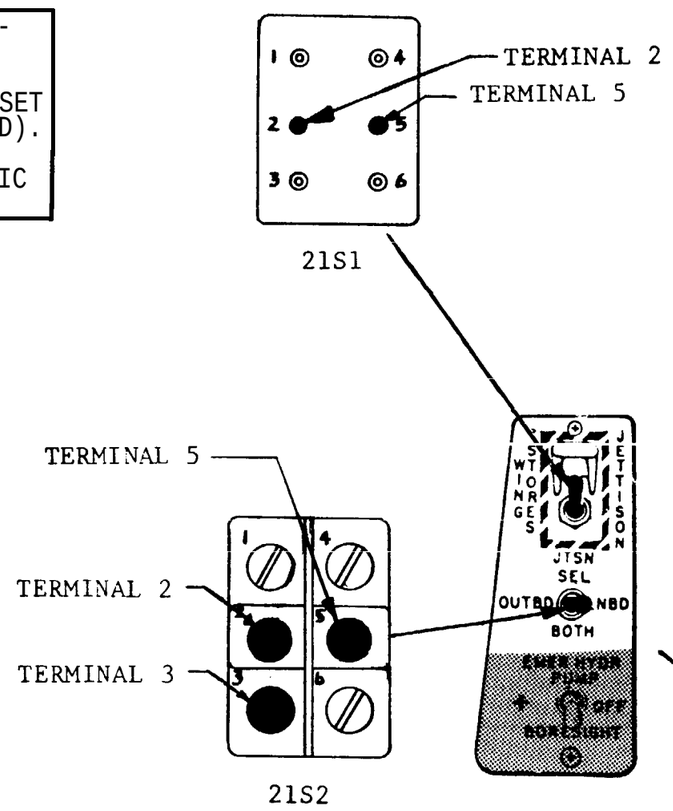
Install left and right wing assemblies per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.



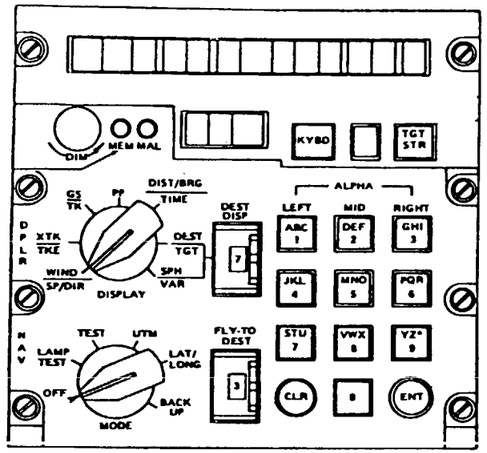
10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION(CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE.

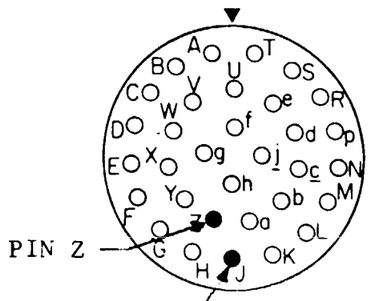


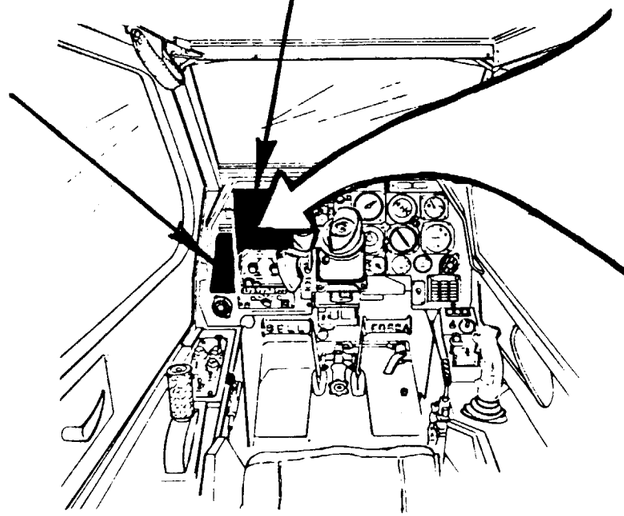

21S1

21S2

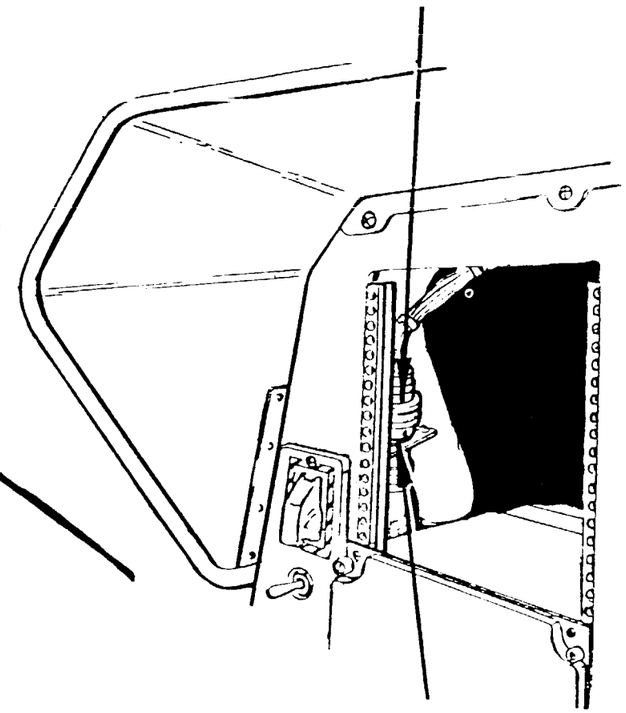


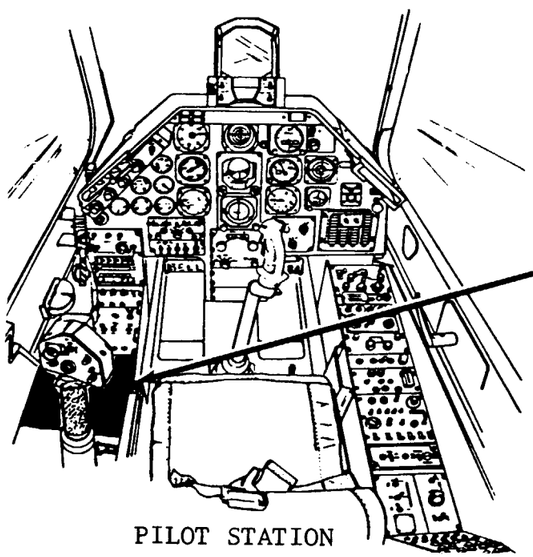

DPLR NAV CONTROL PANEL



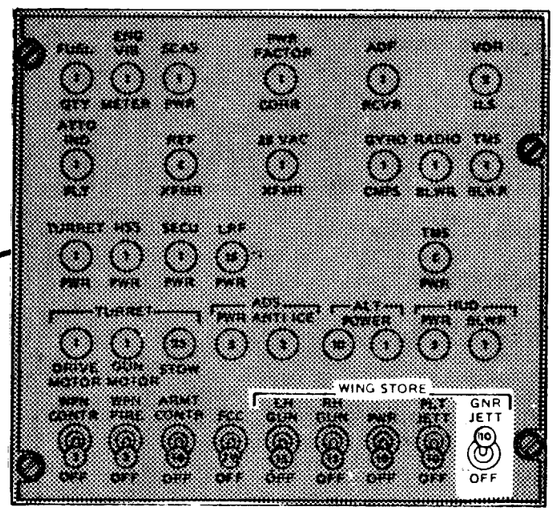



GUNNER STATION

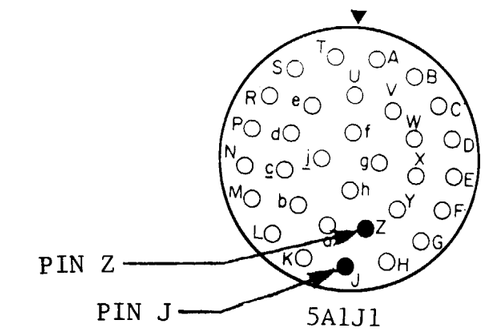




PILOT STATION

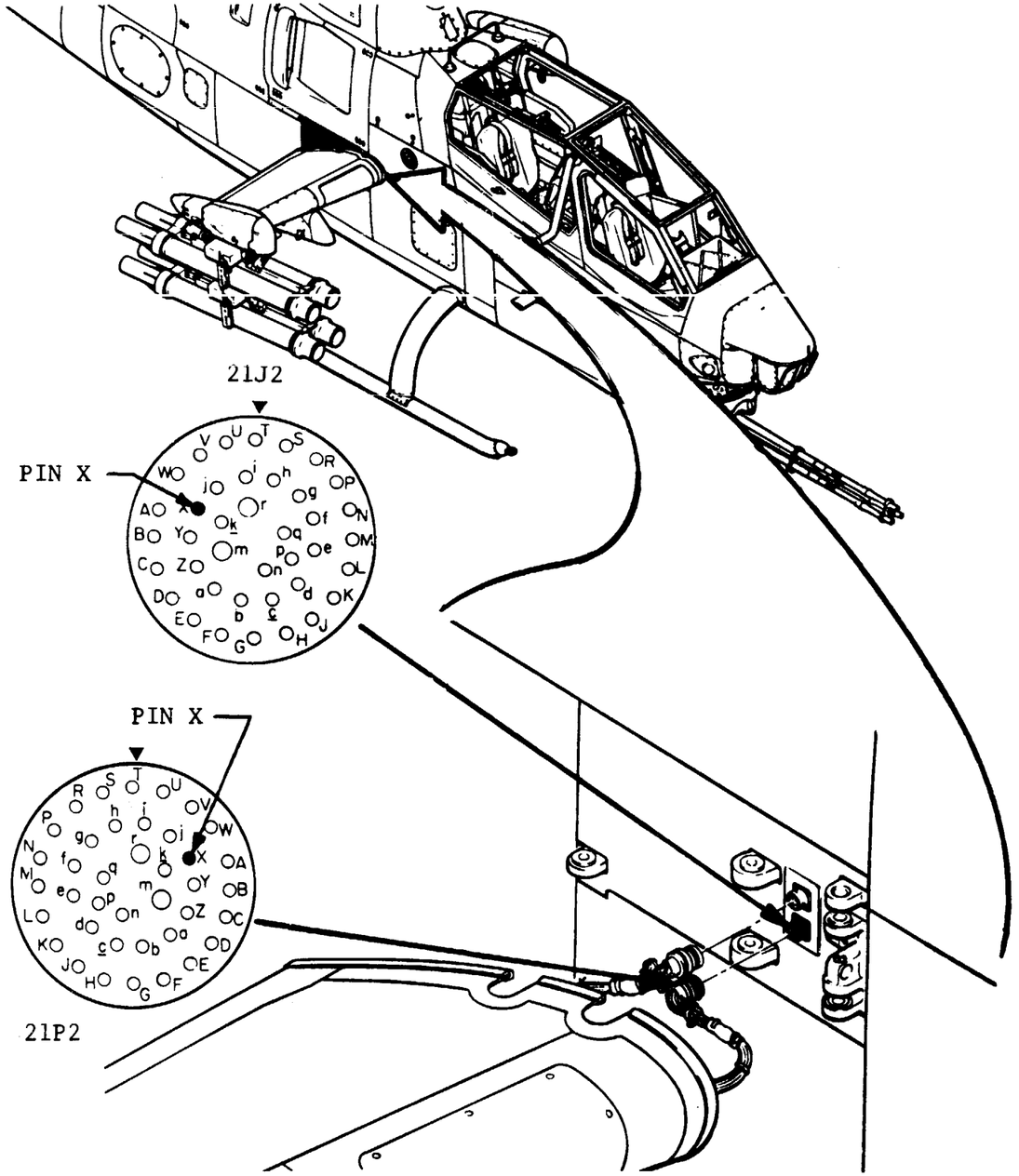


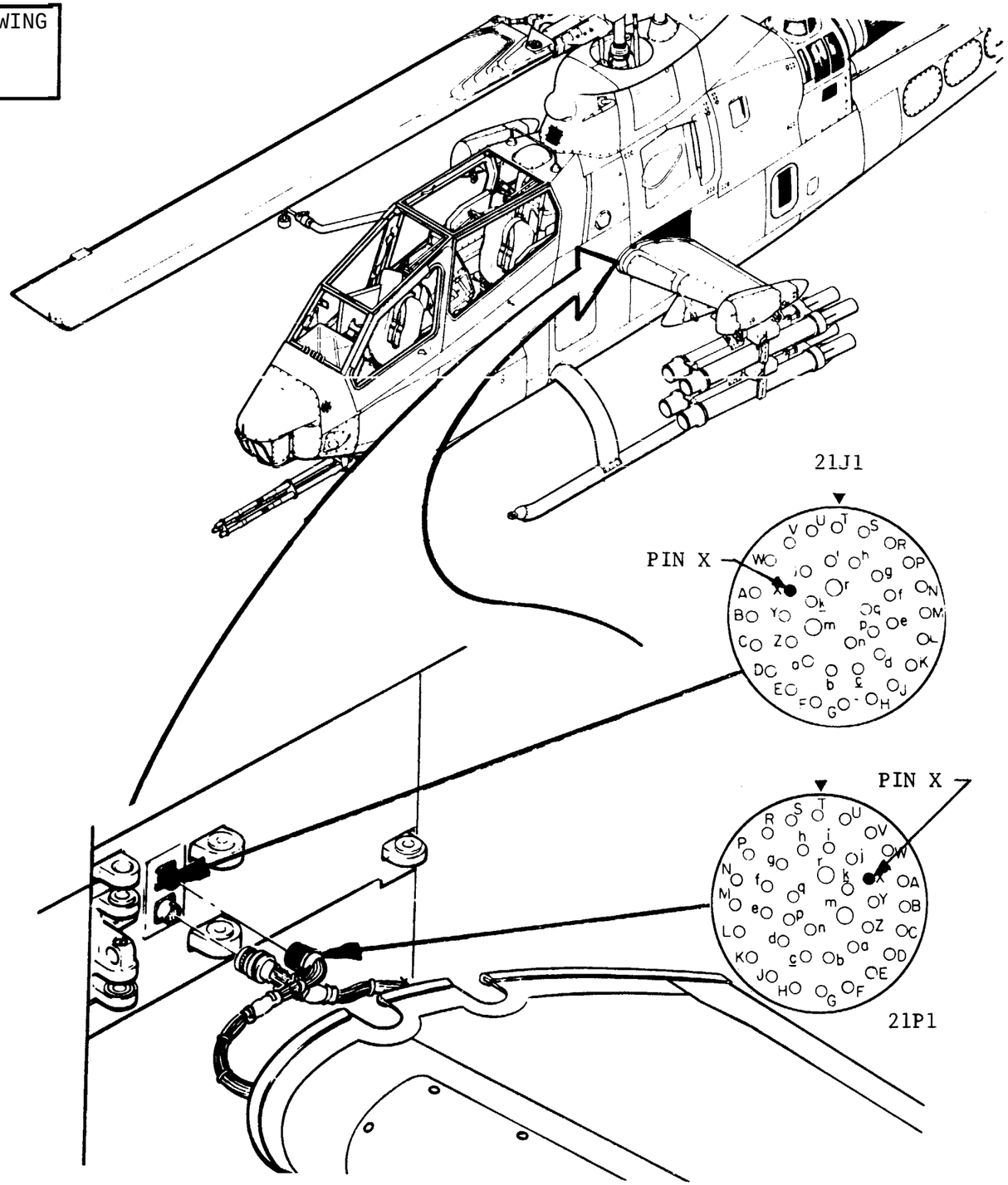

AC/ARMT CIRCUIT BREAKER PANEL



10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

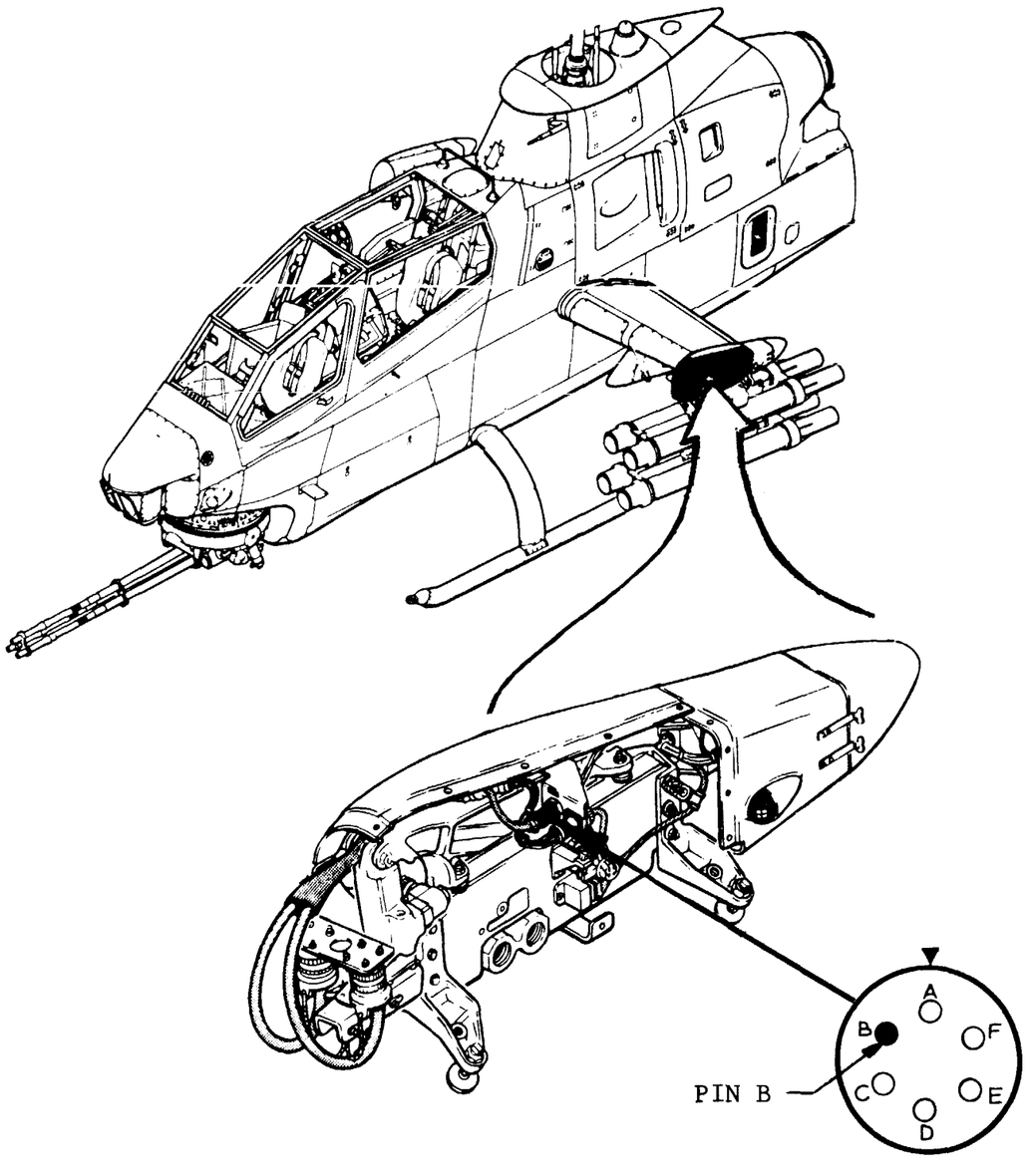
E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



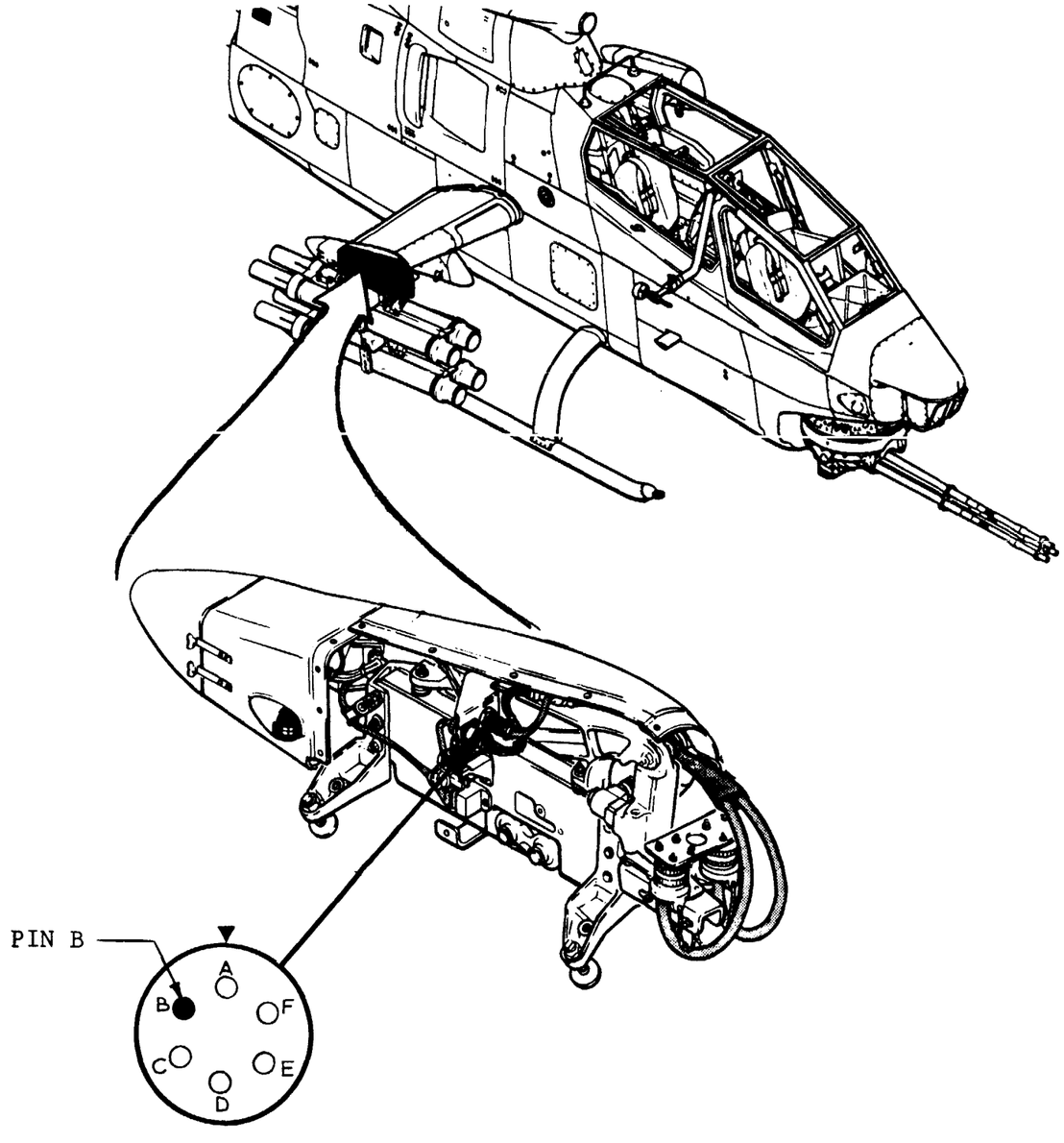



10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



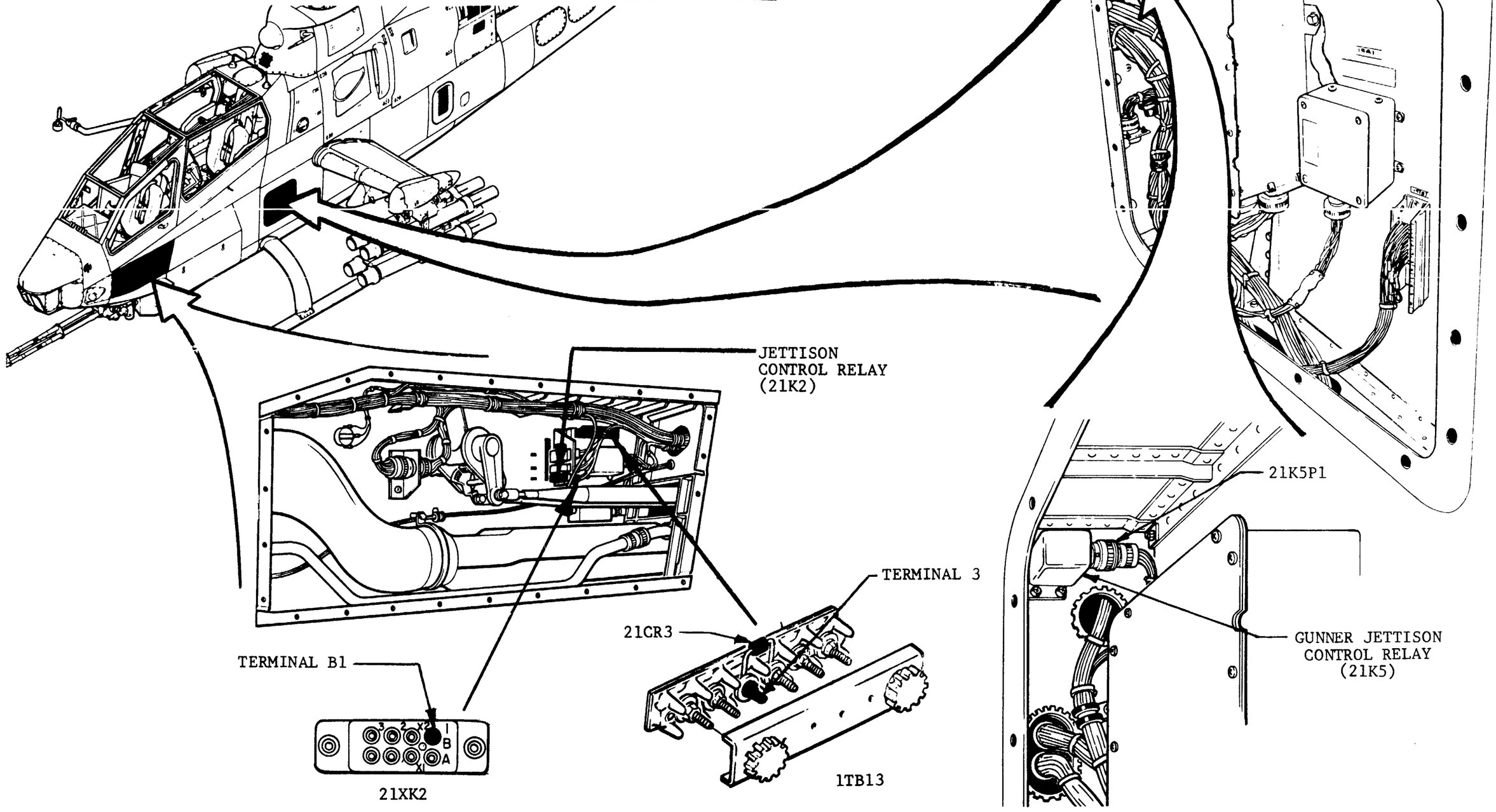

21SQ1J1




21SQ3J1

10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED) .



10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

E. TROBLESHOOTING LOGIC PART FIVE (CONTINUED).

On gunner instrument panel:

Set gunner JTSN SEL switch to INBD.

Check for continuity from 1TB13-3 to airframe ground.

Is continuity present?

YES

On gunner instrument panel:

Set gunner JTSN SEL switch to OUTBD.

Disconnect wire A517A20 from 21S2-5.

Check for continuity from 1TB13-3 to airframe ground.

Is continuity present?

YES

NO

Disconnect wire A517A20 from 21S1-2.

Check for continuity from terminal on wire A517A20 to airframe ground

Is continuity present?

YES

NO

Replace gunner WING STORES JETTISON switch (21S1) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

NO

Check for continuity from 5A1P1-Z to airframe ground.

Is continuity present?

YES

NO

10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

YES

Disconnect wire A517B20 from 21S2-5.

Check for continuity from 1TB13-3 to airframe ground.

Is continuity present?

NO

Replace JTSN SEL switch per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

YES

Repair wire A517A20 between 21S1-2 and 21S2-5 to eliminate short.

Connect wire A517A20 to 21S1-2 and 21S2-5.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

YES

Connect wires A517B20 and A517A20 to 21S2-5 and disconnect wire A517B20 from 21S2-2.

Check for continuity from 1TB13-3 to airframe ground.

Is continuity present?

NO

Repair wire A517B20 between 21S2-5 and 21S2-2 to eliminate short.

Connect wire A517B20 to 21S2-2.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

YES

Connect wire A517B20 to 21S2-2 and disconnect wire A48A20 from 21S2-2.

Check for continuity from 1TB13-3 to airframe ground.

Is continuity present?

NO

Replace JTSN SEL switch per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

YES

Connect wire A48A20 to 21S2-2.

Disconnect 5A1P1.

Check for continuity from 1TB13-3 to airframe ground.

Is continuity present?

NO

Repair wire A48A20 between 21S2-2 and 5A1J1-J to eliminate short.

Connect 21CR3 to 1TB13-3.

Connect 5A1P1 and 21K5P1.

Then go to paragraph 10-2.

YES

YES

NO

NO

10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED.

YES

Repair wire A48B20 between 5A1P1-J and 1TB13-3 to eliminate short.

Connect 21CR3 to 1TB13-3.

Connect 5A1P1 and 21K5P1.

Then go to paragraph 10-2.

YES

Remove jettison control relay (21K2).

Check for continuity from 5A1P1-Z to airframe ground.

Is continuity present?

YES

NO

Replace jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

YES

NO

Disconnect wire A272H20 from 21S1-5.

Check for continuity from 5A1J1-Z to airframe ground.

Is continuity present?

YES

NO

Replace gunner WING STORES JETTISON switch (21S1) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

YES

Connect wire A272H20 to 21S1-5 and disconnect from 21S2-3.

Check for continuity from 5A1J1-Z to airframe ground.

Is continuity present?

YES

NO

Repair wire A272H20 between 21S2-3 and 21S1-5 to eliminate short.

Connect wire A272H20 to 21S2-3.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

YES

Disconnect wire A272A20 from 21S2-3.

Check for continuity from 5A1J1-Z to airframe ground.

Is continuity present?

YES

NO

Replace JTSN SEL switch (21S2) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

YES

Install jettison control relay (21K2) per TM 55-1520-236-23, Chapter 9, Section I.

Remove left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Disconnect 21P1.

Check for continuity from 5A1P1-Z to airframe ground.

Is continuity present?

YES

NO

Repair wire A272E20 between 21P1-X and 21SQ1J1-B to eliminate short.

Install left wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

YES

Remove right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Disconnect 21P2.

Check for continuity from 5A1P1-Z to airframe ground.

Is continuity present?

YES

NO

Repair wire A272G20 between 21P2-X and 21SQ3J1-B to eliminate short.

Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.

Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to paragraph 10-2.

10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET TO UP POSITION (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

YES

Remove splice joining wires A272B20, A272C20, A272D20, and A272F20.

Check for continuity from 21J1-X to airframe ground.

Is continuity present?

YES

Repair wire A272D20 between 21J1-X and splice to eliminate short.

Install splice joining wires A272B20, A272C20, A272D20, and A272F20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 5A1P1 and 21K5P1.

Connect 21CR3 to 1TB13-3.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.

NO

Check for continuity from 21J2-X to airframe ground.

Is continuity present?

YES

Repair wire A272F20 between 21J2-X and splice to eliminate short.

Install splice joining wires A272B20, A272C20, A272D20, and A272F20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 5A1P1 and 21K5P1.

Connect 21CR3 to 1TB13-3.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.

NO

Check for continuity from 21XK2-B1 to airframe ground.

Is continuity present?

YES

Repair wire A272C20 between 21XK2-B1 and splice to eliminate short.

Install splice joining wires A272B20, A272C20, A272D20, and A272F20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 5A1P1 and 21K5P1.

Connect 21CR3 to 1TB13-3.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.

NO

Repair wire A272B20 between 5A1P1-Z and splice to eliminate short.

Install splice joining wires A272B20, A272C20, A272D20, and A272F20 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 5A1P1 and 21K5P1.

Connect 21CR3 to 1TB13-3.

Install wings per TM 55-1520-236-23, Chapter 2, Section IV.

Then go to paragraph 10-2.

YES

Repair wire A272A20 between 5A1J1-Z and 21S2-3 to eliminate short.

Connect wires A27A20 and A272H20 to 21S2-3.

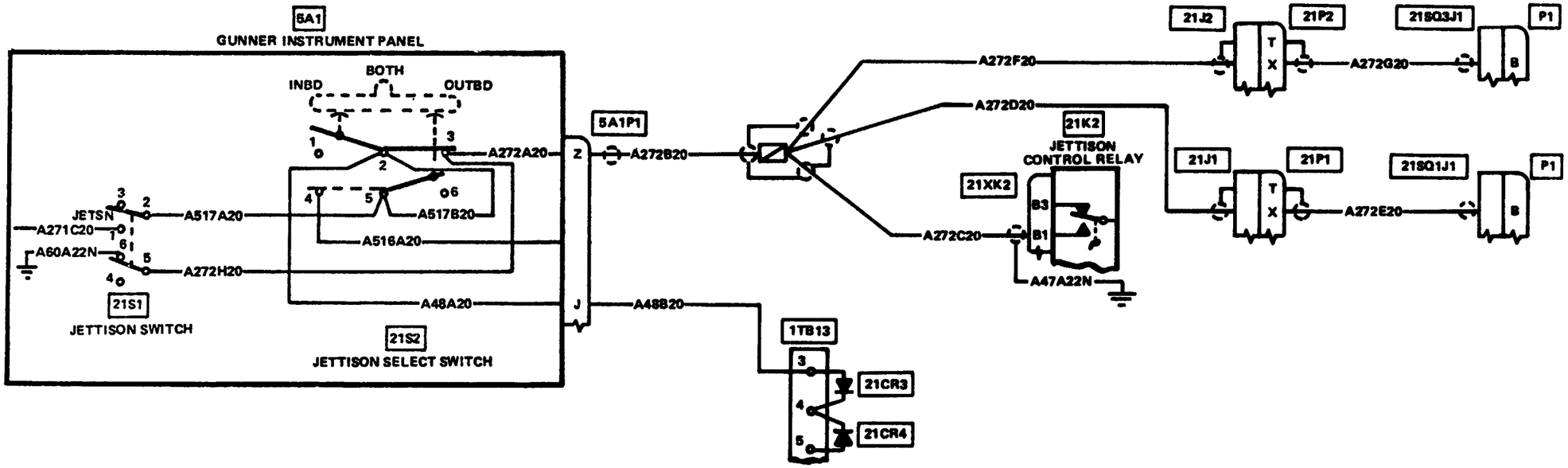
Connect 21CR3 to 1TB13-3.

Connect 21K5P1.

Then go to parpgraph 10-2.

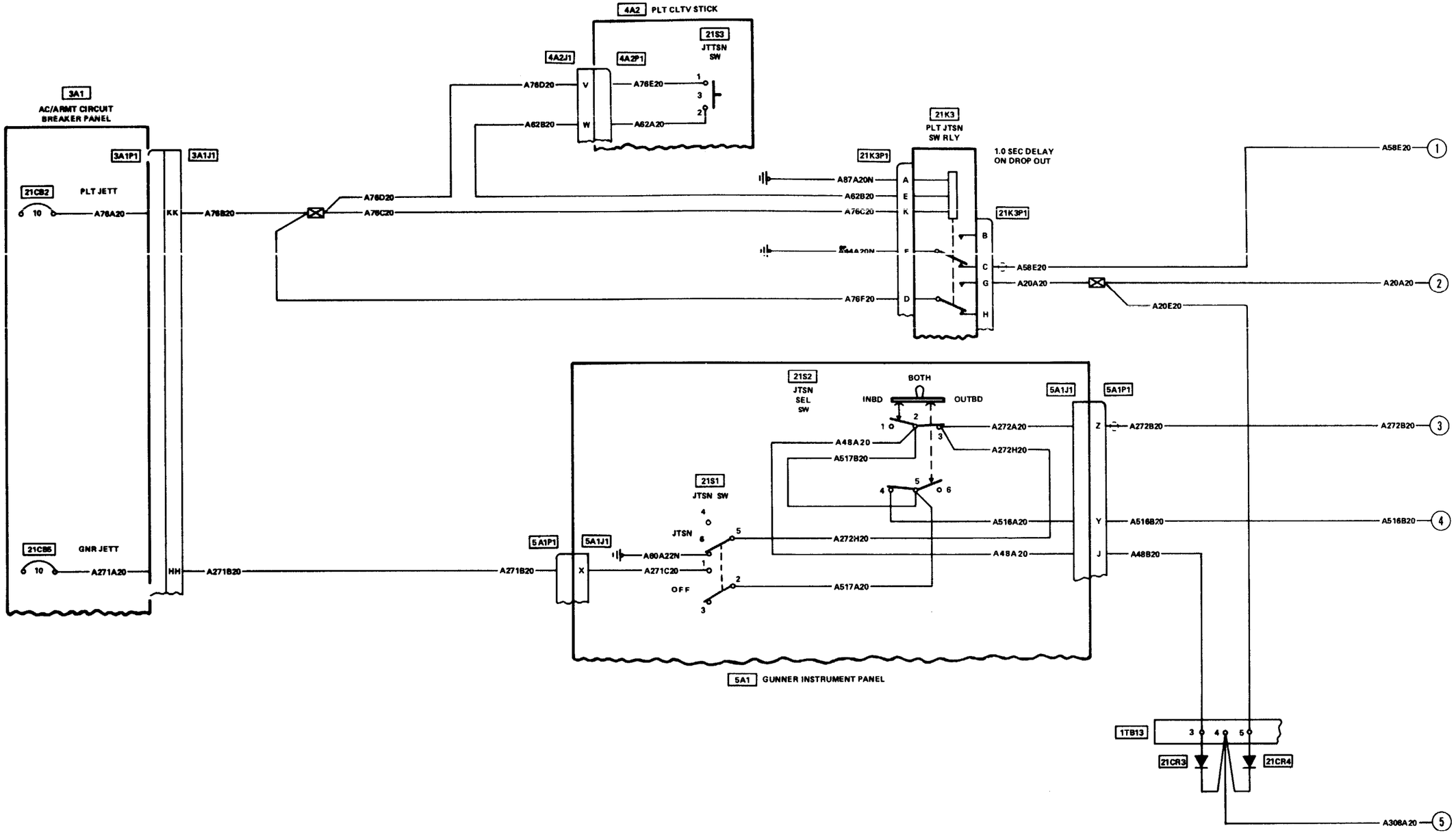
10-21. WING STORE GNR JETT CIRCUIT BREAKER OPENS WITH BOTH SELECTED AND WING STORES JETTISON SWITCH SET UP TO POSITION (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

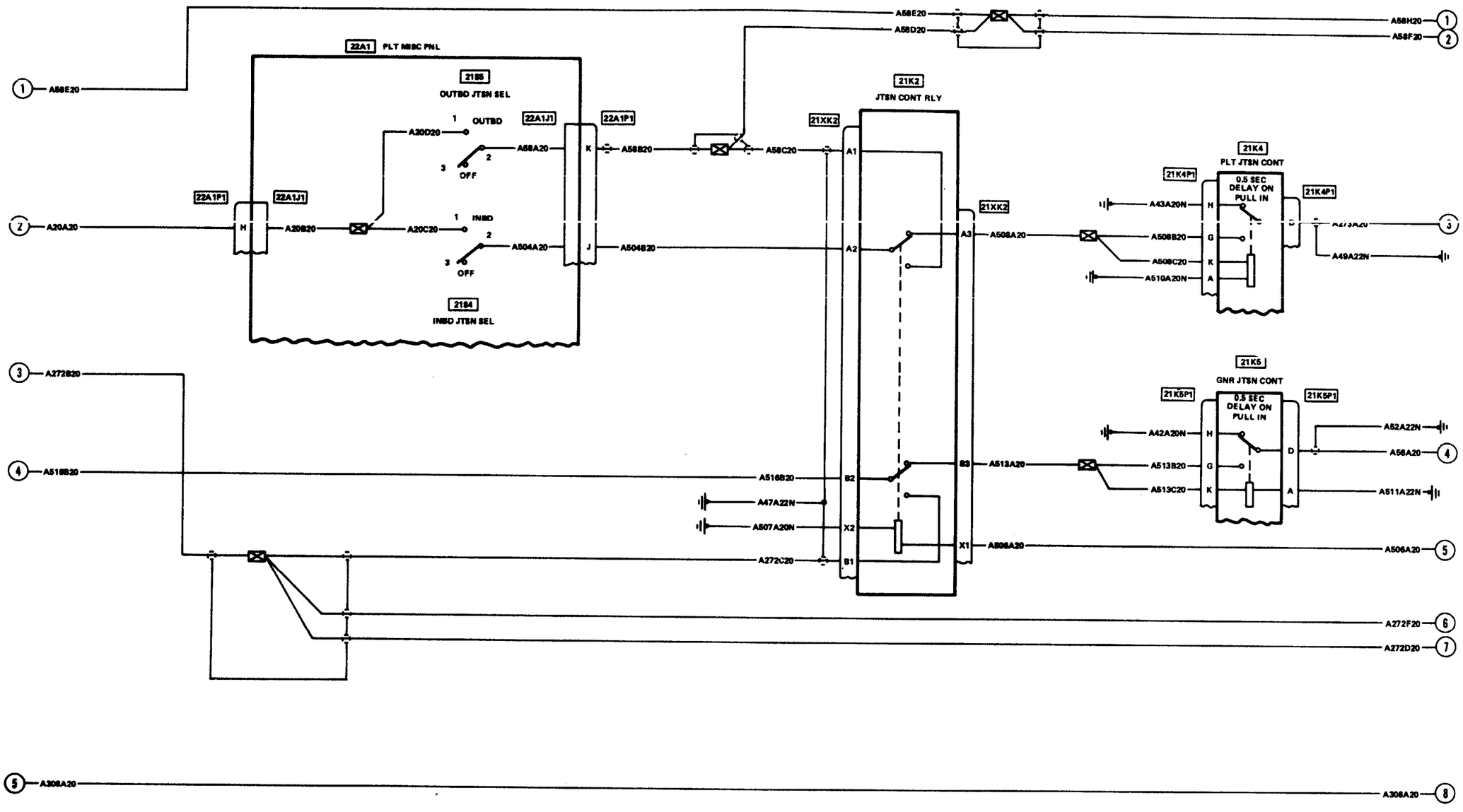


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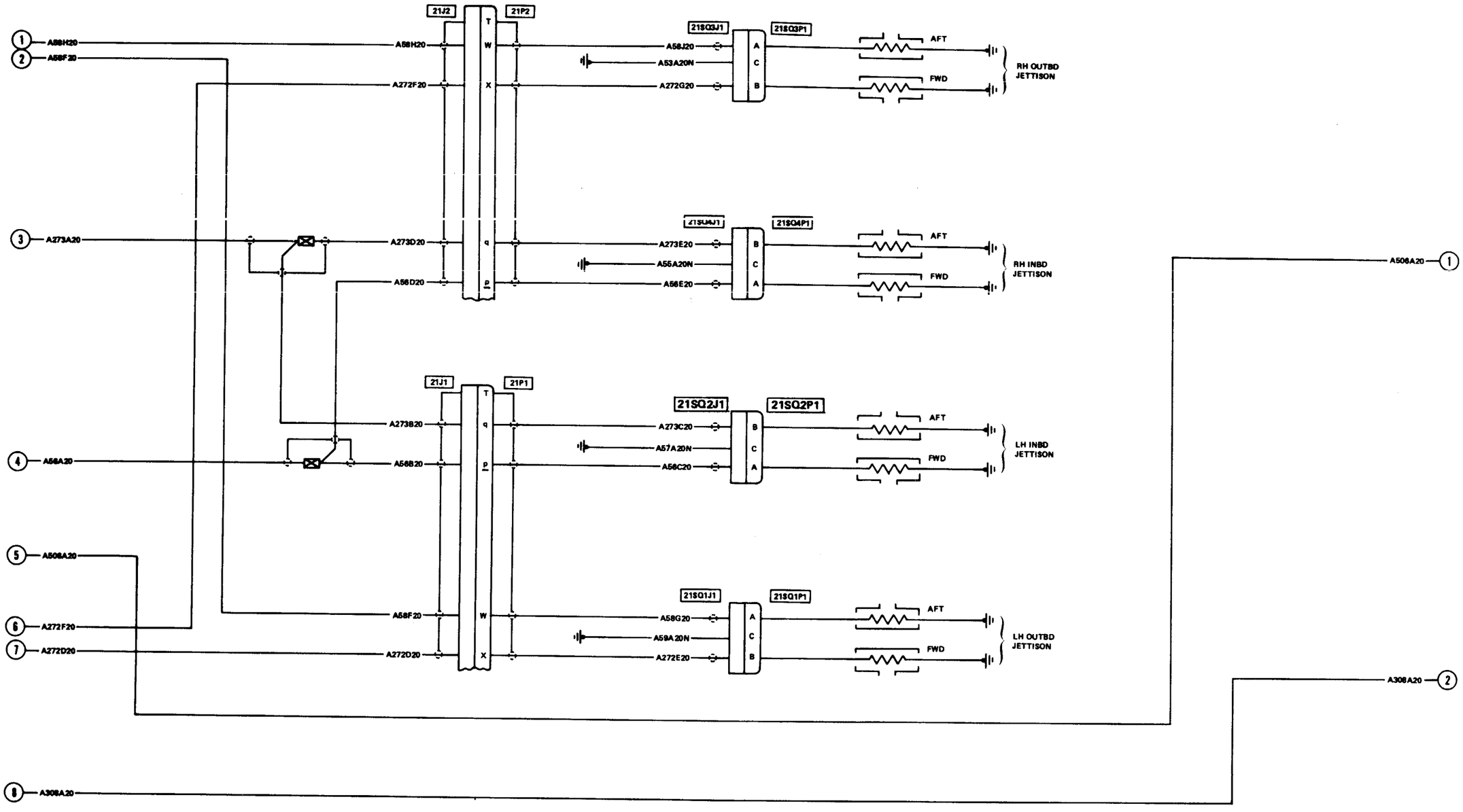
# JETTISON SYSTEM WIRING DIAGRAM (Sheet 1 of 4)



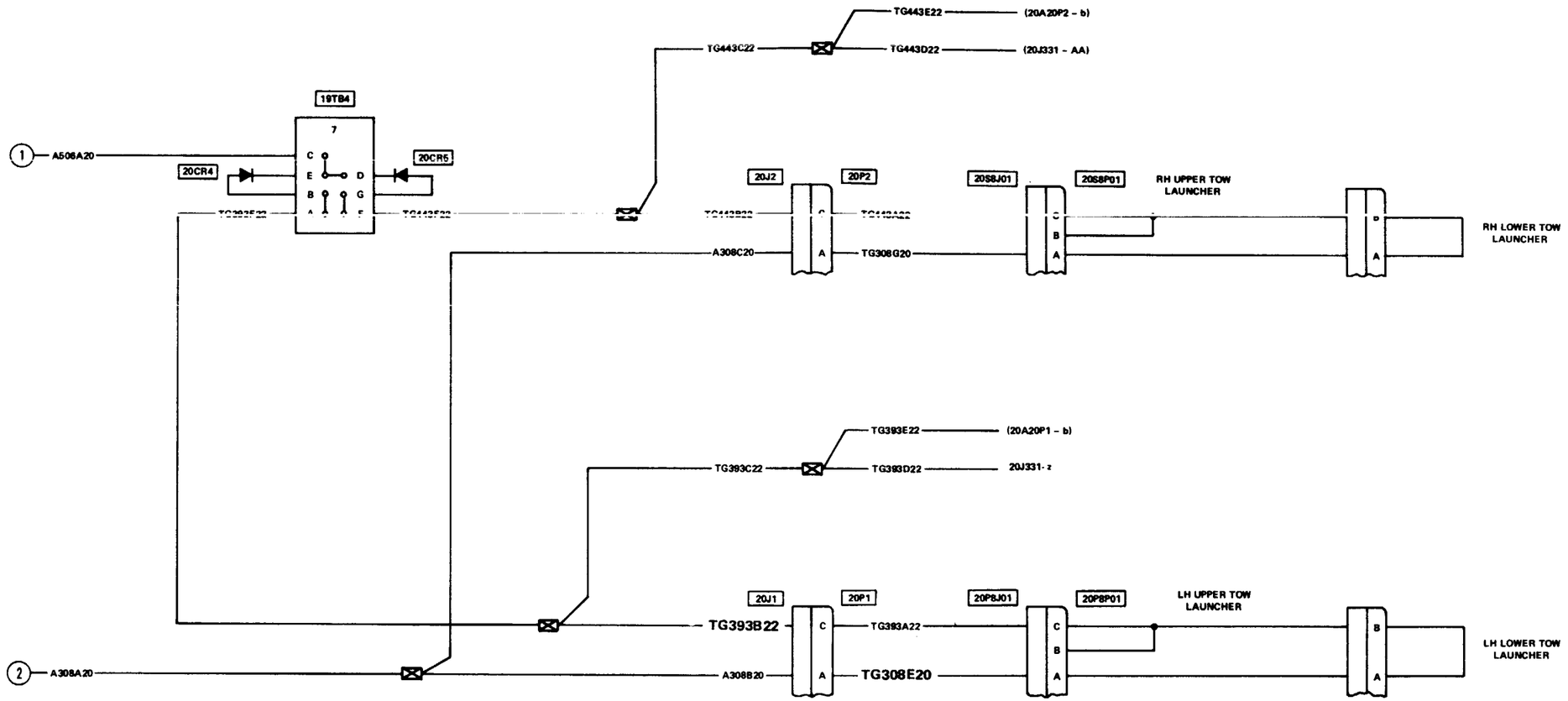
## JETTISON SYSTEM WIRING DIAGRAM (Sheet 2 of 4)

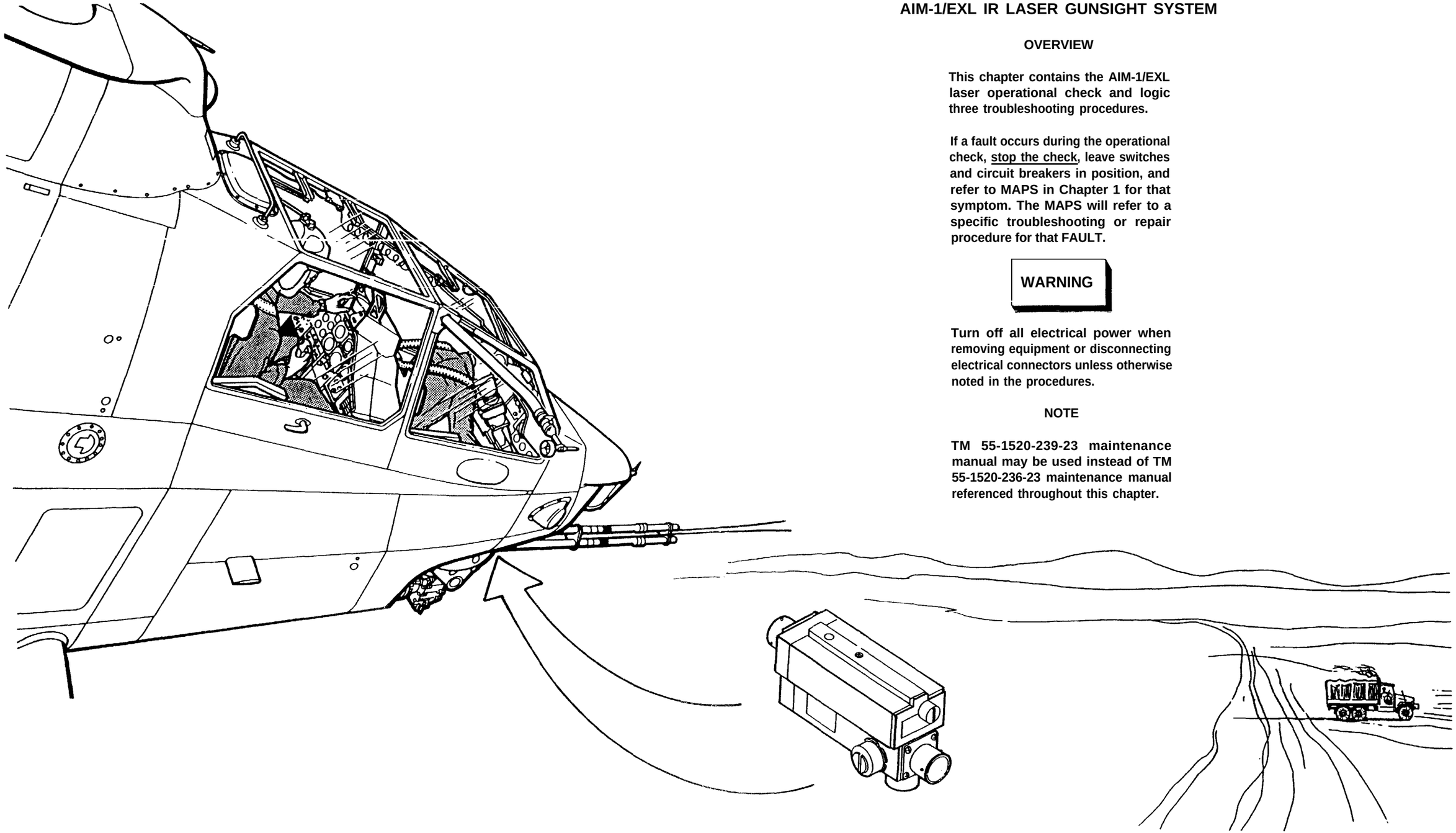


# JETTISON SYSTEM WIRING DIAGRAM (Sheet 3 of 4)



# JETTISON SYSTEM WIRING DIAGRAM (Sheet 4 of 4)





# CHAPTER 11

# AIM-1/EXL IR LASER GUNSIGHT SYSTEM

## OVERVIEW

**This chapter contains the AIM-1/EXL laser operational check and logic three troubleshooting procedures.**

**If a fault occurs during the operational check, stop the check, leave switches and circuit breakers in position, and refer to MAPS in Chapter 1 for that symptom. The MAPS will refer to a specific troubleshooting or repair procedure for that FAULT.**

**WARNING**

**Turn off all electrical power when removing equipment or disconnecting electrical connectors unless otherwise noted in the procedures.**

**NOTE**

**TM 55-1520-239-23 maintenance manual may be used instead of TM 55-1520-236-23 maintenance manual referenced throughout this chapter.**

## 11-1. AIM-l/EXL PRE-OPERATIONAL CHECK SETUP.

**INITIAL SETUP**

**Applicable Configuration**

**All**

**Personnel Required**

**68J2**

**a. Open (OFF all circuit breakers on AC/ARMT circuit breaker panel.**

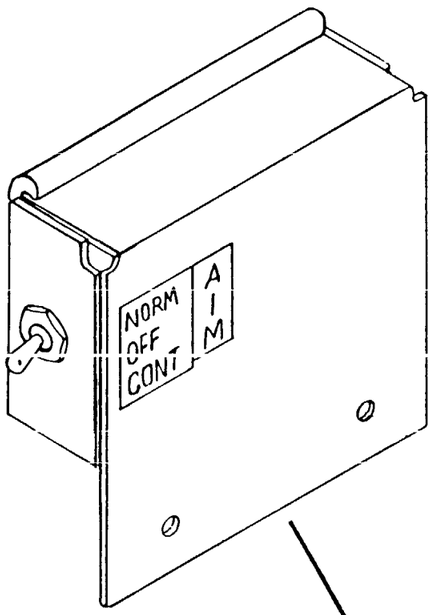
**b. Open all circuit breakers on DC circuit breaker panel.**

**c. Set pilot ARMT control panel switches:**

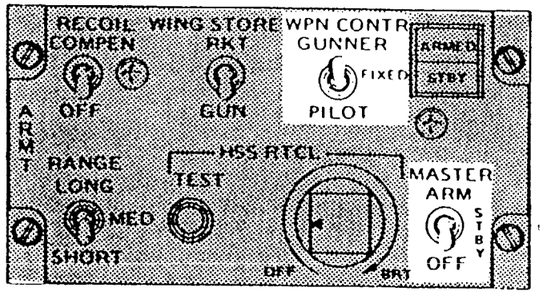
**(1) MASTER ARM to OFF.**

**(2) WPN CONTR to GUNNER.**

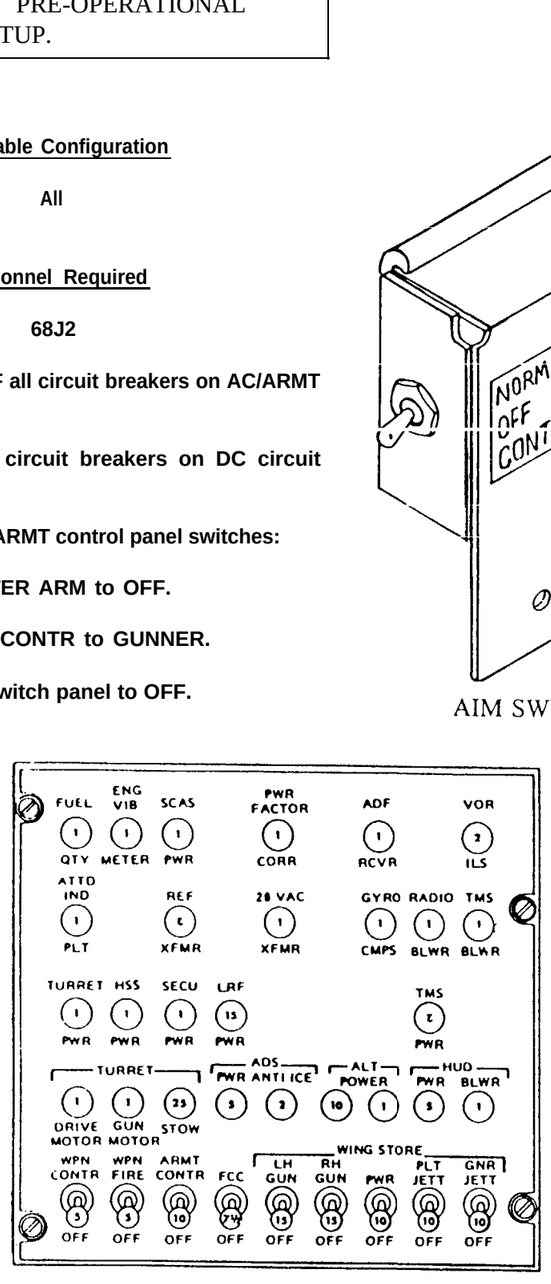
**d. Set AIM switch panel to OFF.**



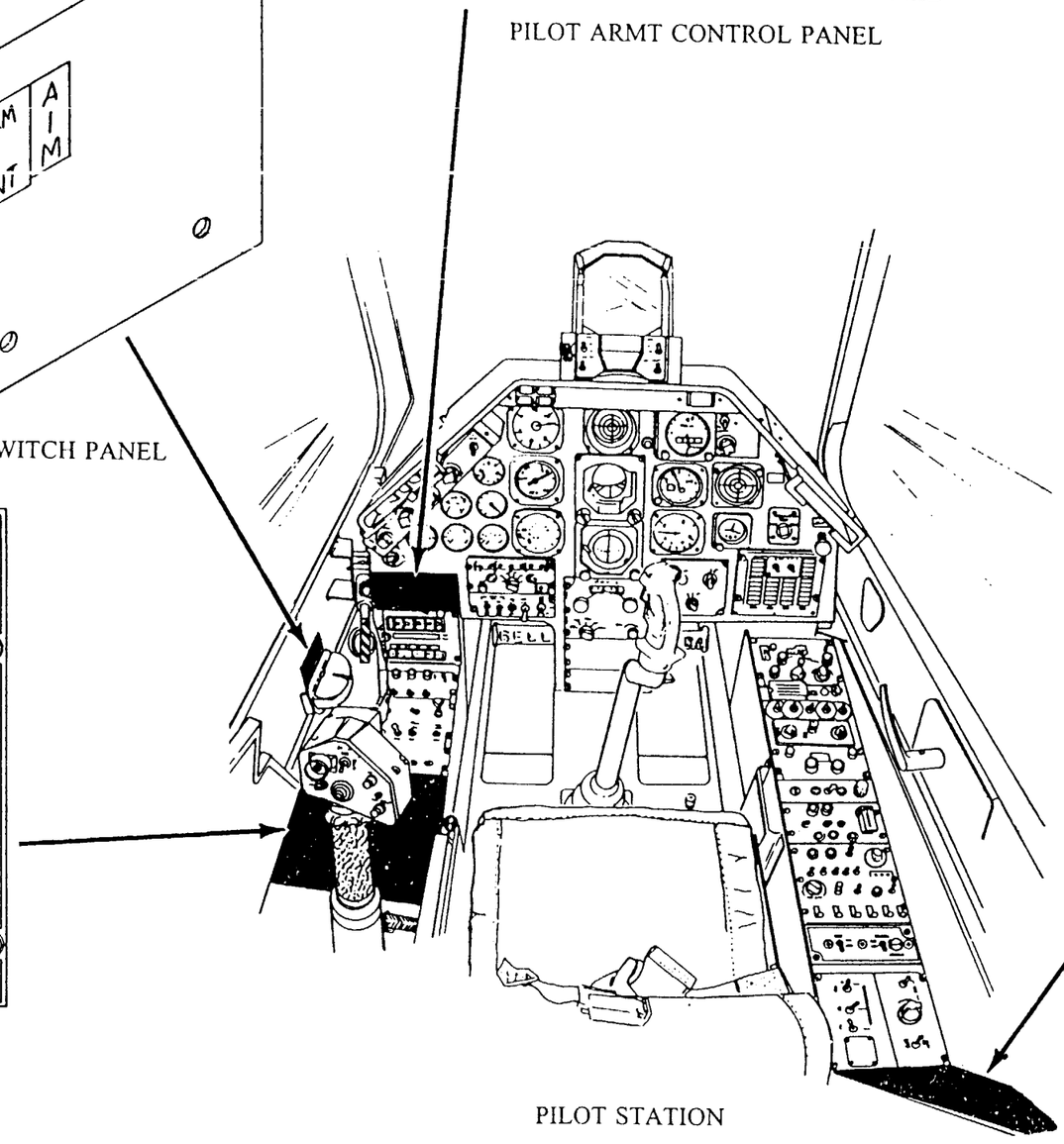

AIM SWITCH PANEL



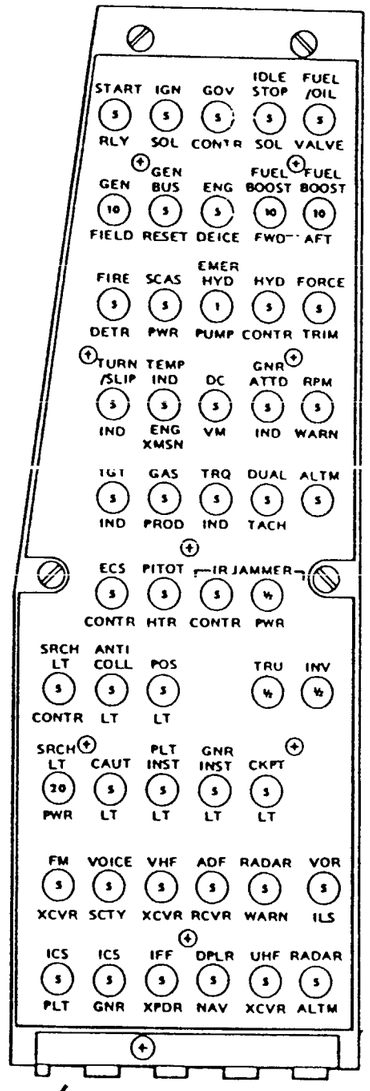

PILOT ARMT CONTROL PANEL




AC/ARMT CIRCUIT BREAKER PANEL




PILOT STATION




DC CIRCUIT BREAKER PANEL

11-2. AIM-l/EXL OPERATIONAL CHECK. (CONTINUED)

**WARNING**

The laser radiation emitted by the aiming light is dangerous to the human eye. Blindness or eye damage can be caused if the beam enters the eye directly or is reflected from a shiny surface. Ensure that the laser protective cover is kept over the emitter and that the AIM switch is off at all times when laser is not in use.

NOTE

- Complete AIM-1/EXL PRE-OPERATIONAL CHECK SETUP, paragraph 11-1, before continuing with operational check.
- Test should be performed in a shadowed or dark surrounding. Test may also be performed using day time filters.

INITIAL SETUP

Applicable Configuration
AH-1F

Tools/Test and Support Equipment
Tool Set, A/C Armament Repairman

Multimeter

Ground Power Unit

Night Vision Goggles

Helmet with XM136 Sight Installed

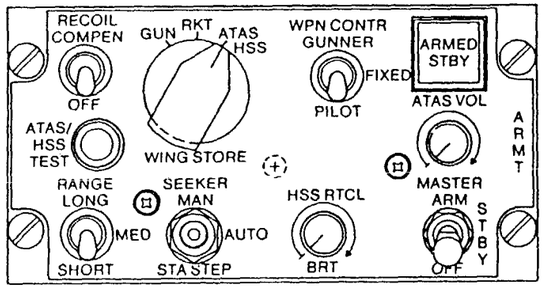
Personnel Required
68J (2)

References
TM 55-1520-236-10
TM 55-1520-236-23

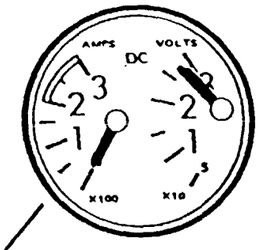
Access Panels
Battery Compartment - Removed

External Power Door - Open

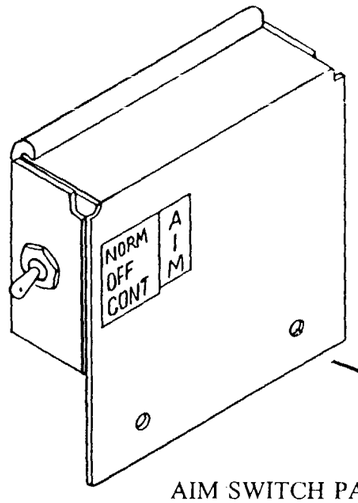
Aiming Light Protective Cover - Removed



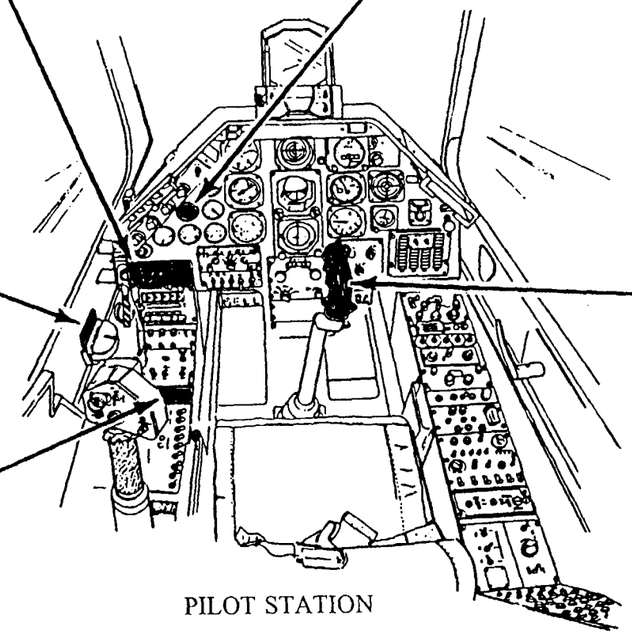

PILOT ARMT CONTROL PANEL



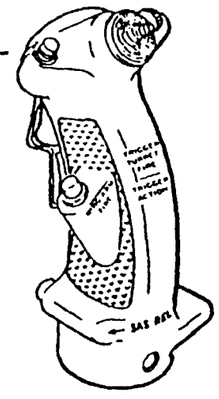

DC VOLTMETER



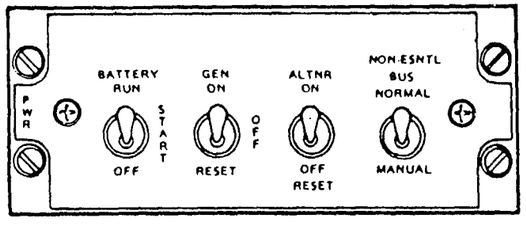

AIM SWITCH PANEL



PILOT STATION

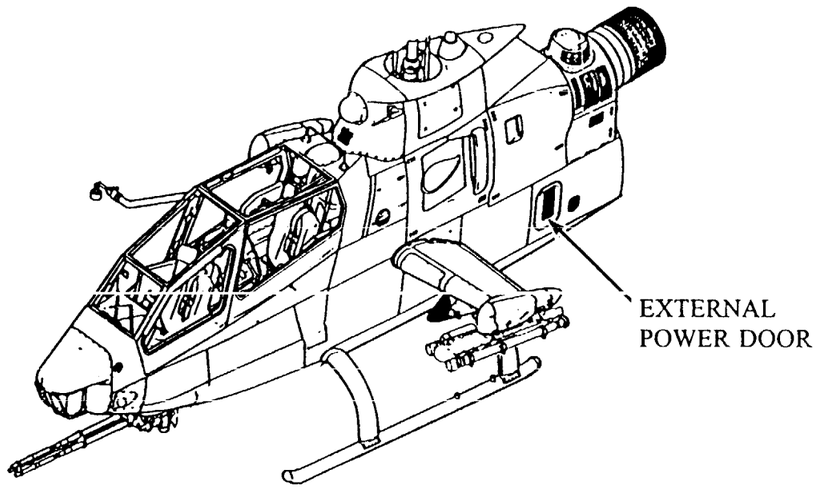


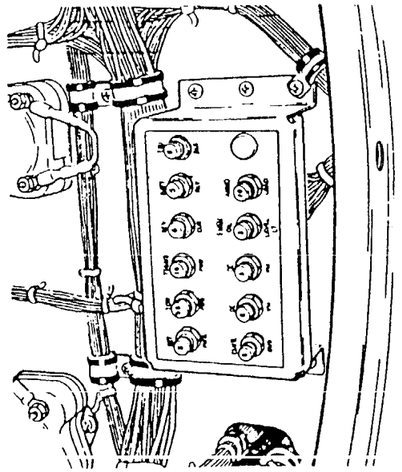
PILOT CYCLIC STICK



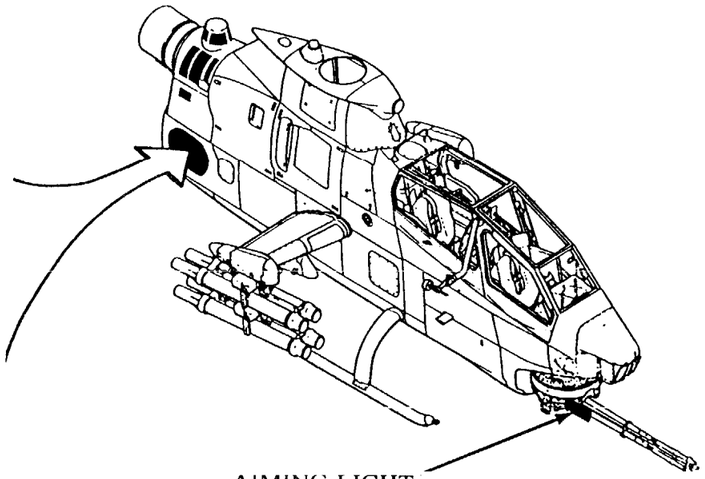

ELECTRICAL PWR CONTROL PANEL

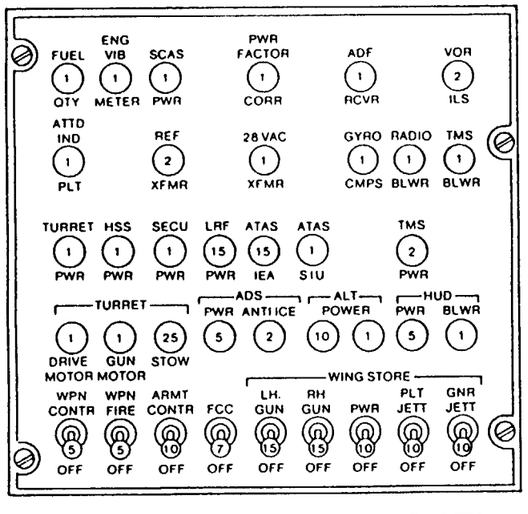
## 11-2. AIM-l/EXL OPERATIONAL CHECK.



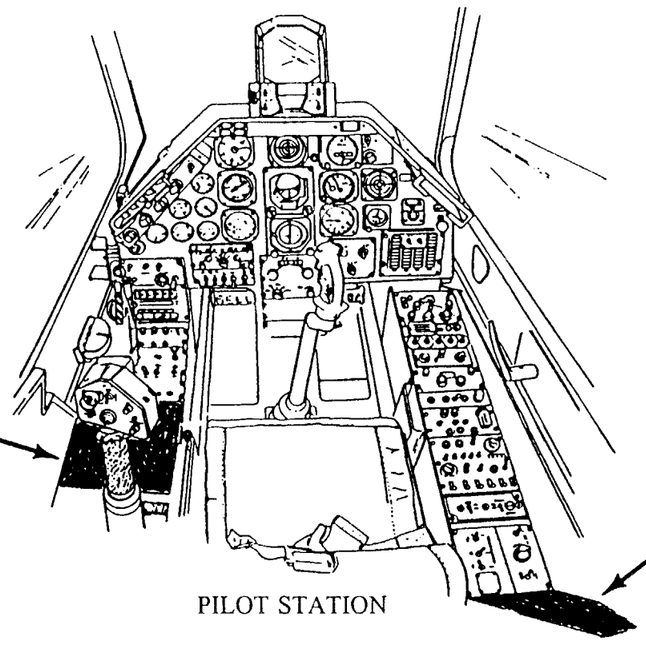



CIRCUIT BREAKER PANEL

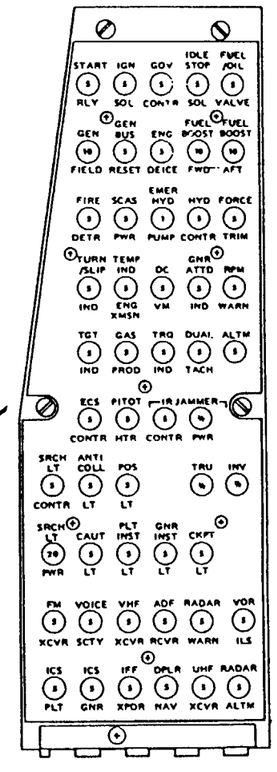



AC/ARMT CIRCUIT BREAKER PANEL



PILOT STATION




DC CIRCUIT BREAKER PANEL

11-2. AIM-1/EXL OPERATIONAL CHECK. (CONTINUED)

APPLYING ELECTRICAL POWER

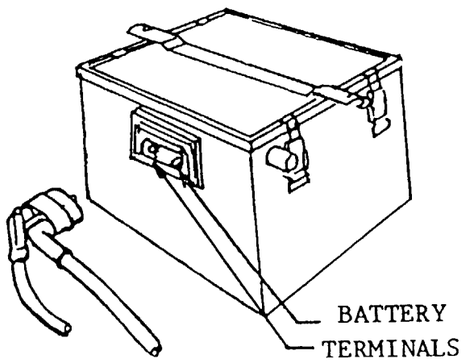
**WARNING**

Warn people working on or near helicopter before you apply electrical power.

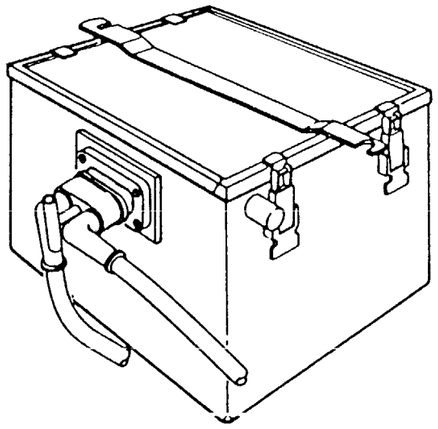
**CAUTION**

Minimum acceptable battery voltage is 22 V dc. Low battery voltage may result in excessive battery overheating (thermal runaway) after external power is applied.

**a.** Check battery voltage. Minimum battery voltage shall be 22 V dc measured at battery terminals.

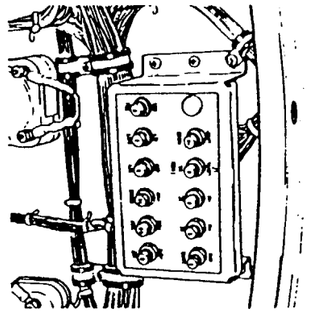



b. Connect battery.



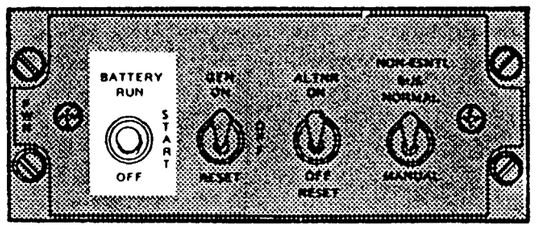
BATTERY

c. Close all circuit breakers on circuit breaker panel in battery compartment.



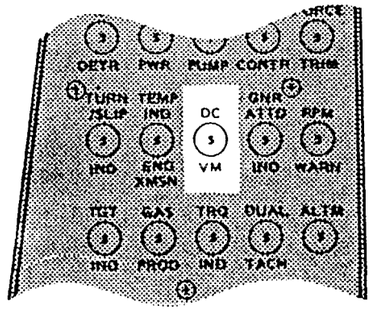
CIRCUIT BREAKER PANEL

d. Set BATTERY switch on electrical PWR control panel to START.




ELECTRICAL PWR CONTROL PANEL

e. Close DC VM circuit breaker on DC circuit breaker panel.

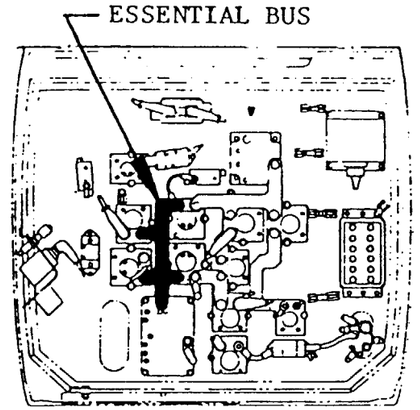



DC CIRCUIT BREAKER PANEL

**CAUTION**

Do not exceed 30 V dc output on ground power unit.

f. Apply external power to helicopter. (Refer to TM 55-1520-236-23, Chapter 1, Section III.) Adjust ground power unit to provide 28.0 to 30.0 V dc measured at the essential bus with a multimeter.

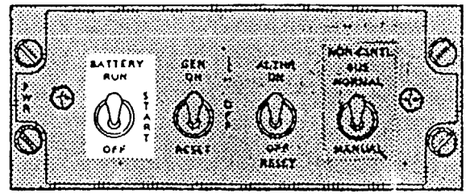



FORWARD BULKHEAD OF BATTERY COMPARTMENT

**NOTE**

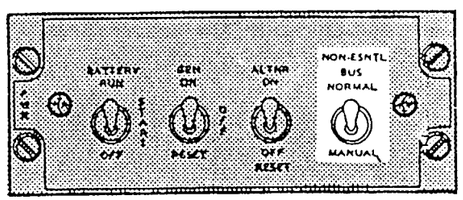
28 to 30 V dc is required for the following operational checks. The DC voltmeter can be observed to assure correct voltage is present.

g. Set BATTERY switch on electrical PWR control panel to RUN.




ELECTRICAL PWR CONTROL PANEL

h. Set NON-ESNTL BUS switch on electrical PWR control panel to NORMAL.




ELECTRICAL PWR CONTROL PANEL

## 11-2. AIM-1/EXL OPERATIONAL CHECK. (CONTINUED).

i. Close the following circuit breakers on DC circuit breaker panel:

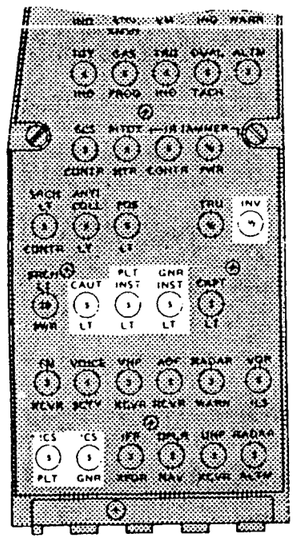
(1) INV

(2) CAUT LT

(3) PLT INST LT

(4) GNR INST LT

(5) ICS PLT



DC CIRCUIT BREAKER PANEL

j. Close the following circuit breakers on AC/ARMT circuit breaker panel:

(1) REF XFMR

(2) TMS BLWR

(3) TURRET PWR

(4) HSS PWR

(5) TMS PWR

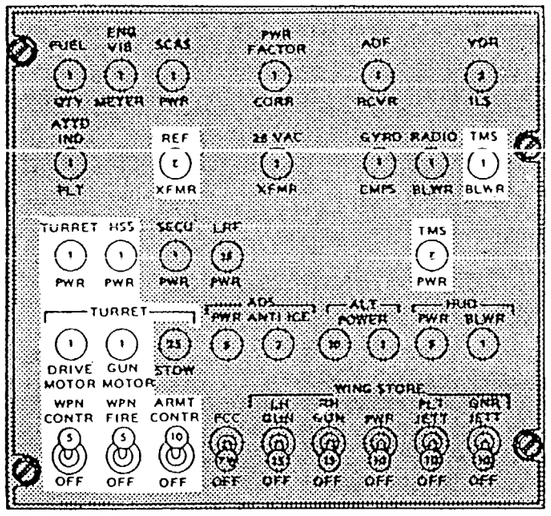
(6) TURRET DRIVE MOTOR

(7) TURRET GUN MOTOR

(8) WPN CONTR

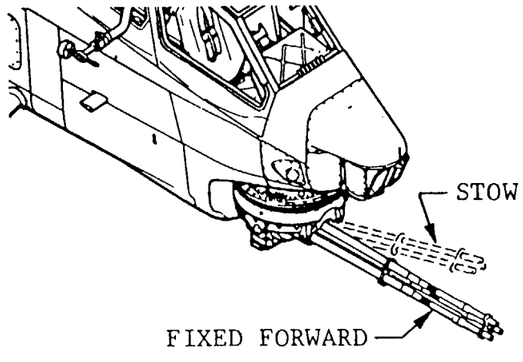
(9) WPN FIRE

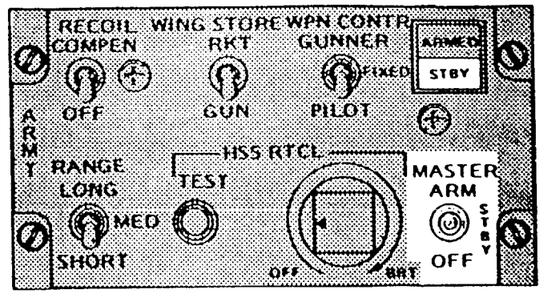
(10) ARMT CONTR



AC/ARMT CIRCUIT BREAKER PANEL

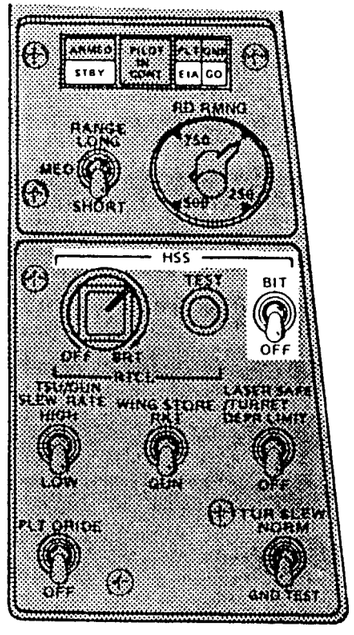
k. Set MASTER ARM switch on pilot ARMT control panel to STBY. STBY (green) indicator will light on both ARMT and gunner armament control panels. EIA segment on PLT/GNR/EIA/GO indicator should not be lit. Turret should be in stow position.



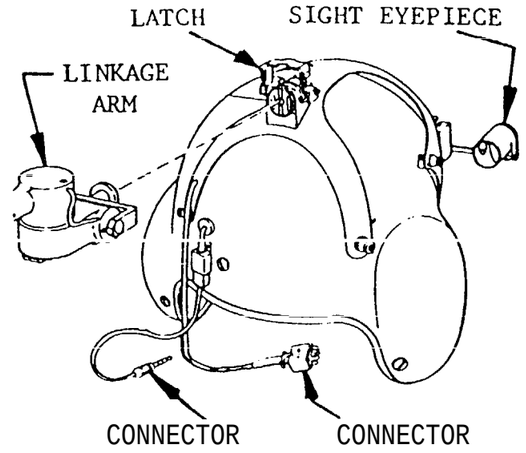

PILOT ARMT CONTROL PANEL

l. Ensure pilot and gunner HSS linkage arms are attached to their respective BIT magnets. Press HSS BIT switch on gunner armament control panel to BIT, then release. HSS system passes BIT if the GO segment on PLT/GNR/EIA/GO indicator lights for 5 to 10 seconds and then goes out.



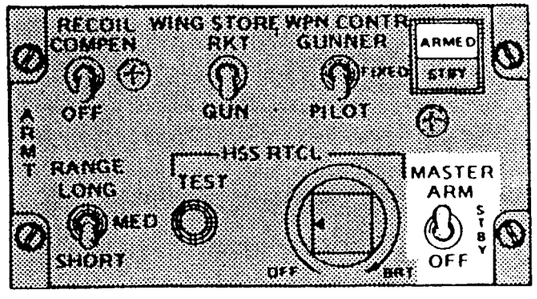

GUNNER ARMAMENT CONTROL PANEL

m. Put on helmet in pilot station. Attach linkage arm, electrical connectors and adjust helmet sight eyepieces. (Refer to HSS chapter if additional information is needed.)




LINKAGE ARM ATTACHMENT TO HELMET SIGHT

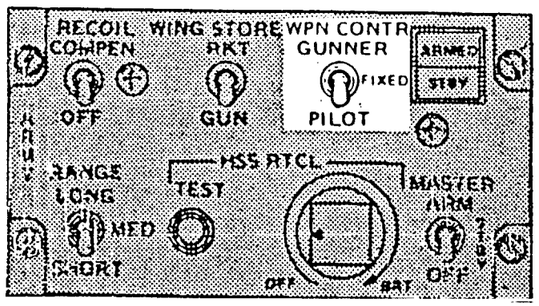
n. Set MASTER ARM switch on pilot ARMT control panel to ARM. ARMED indicator will light on the pilot ARMT controls panels.




PILOT ARM CONTROL PANEL

## 11-2. AIM-1/EXL OPERATIONAL CHECK. (CONTINUED).

o. Set WPN CONTR switch on pilot ARMT control panel to PILOT.

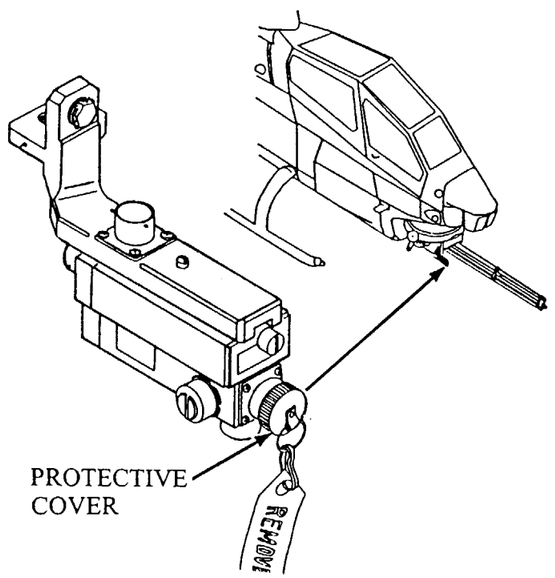



PILOT ARMT CONTROL PANEL

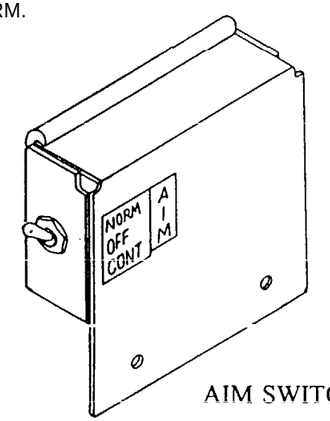
**WARNING**

Night goggles are required for the following test.

p. Remove protective cover from aiming light.

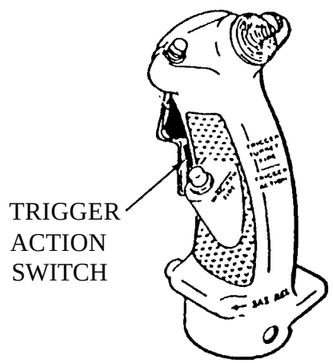



q. Set AIM switch on AIM switch panel to NORM.




AIM SWITCH PANEL

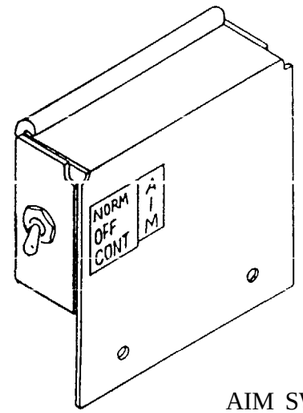
r. Select a distant target to side of the aircraft. Press and hold TRIGGER ACTION switch on pilot cyclic stick and slowly move pilot helmet toward target. When aiming light is within ±5° of target laser illuminates.




PILOT CYCLIC STICK

s. Release the TRIGGER ACTION switch on pilot cyclic stick and turret returns to stow.

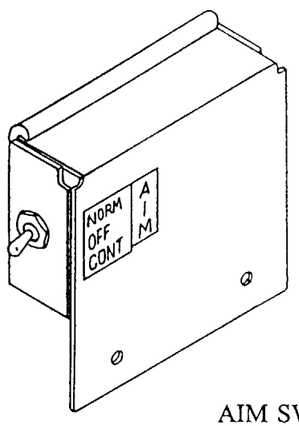
t. Set AIM switch on AIM switch panel to CONT. Laser illuminates.




AIM SWITCH PANEL

u. Slowly move helmet toward target and laser stays illuminated on movement toward target.

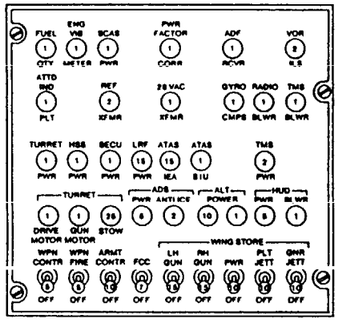
v. Set AIM switch on AIM switch panel to OFF and return turret to stow.




AIM SWITCH PANEL

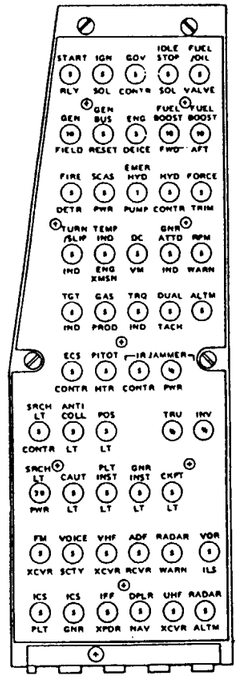
## 11-2. AIM-1/EXL OPERATIONAL CHECK. (CONTINUED).

w. Open (OFF) all circuit breakers on AC/ARMT circuit breaker panel.




AC/ARMT CIRCUIT BREAKER PANEL

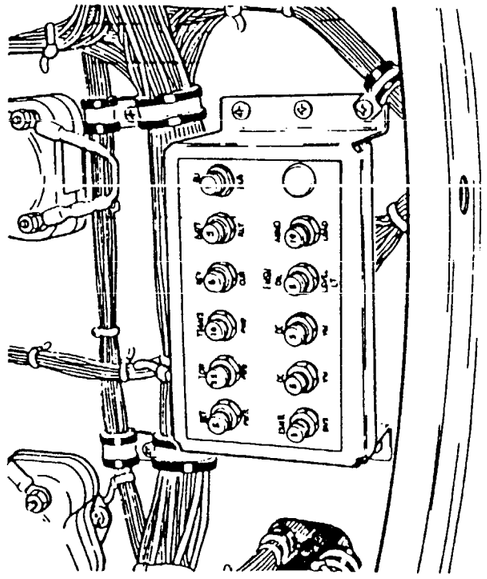
x. Open all circuit breakers on DC circuit breaker panel.




DC CIRCUIT BREAKER PANEL

y. Turn off and disconnect external power.

z. Open all circuit breakers on circuit breaker panel in battery compartment.



CIRCUIT BREAKER PANEL

aa. Disconnect battery.

## 11-3. POWER OFF/POWER ON PROCEDURES.

INITIAL SETUP

Applicable Configuration
All

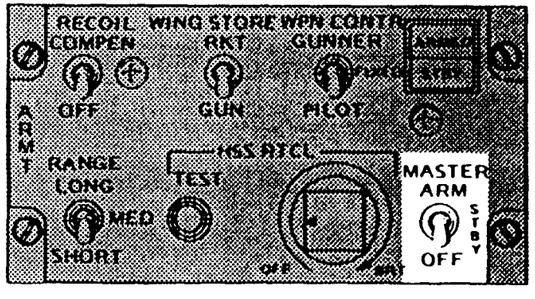
Personnel Required
68J (1)

a. Turn off electrical power when specified in trouble-shooting procedure as follows:

**NOTE**

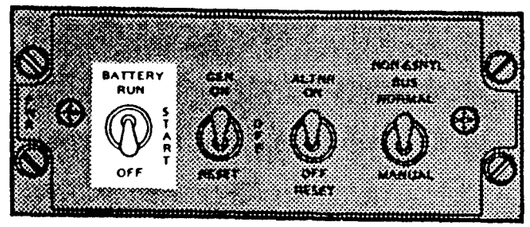
Note the position that the MASTER ARM switch is in. The MASTER ARM switch must be set to the same position during the Power On Procedure.

(1) Set MASTER ARM switch on pilot ARMT. control panel to OFF.




PILOTARMTCONTROL PANEL

(2) Set BATTERY switch on electrical PWR control panel to OFF.




ELECTRICAL PWR CONTROL PANEL

(3) Turn off ground power unit.

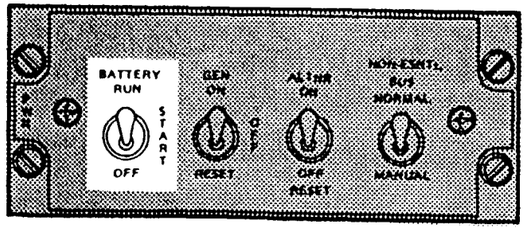
(4) Disconnect battery.

b. Turn on electrical power when specified in troubleshooting procedure as follows:

(1) Connect battery.

(2) Turn on ground power unit.

(3) Set BATTERY switch on electrical PWR control panel to RUN.




ELECTRICAL PWR CONTROL PANEL

(4) Set MASTER ARM switch on pilot ARMT control panel to the same position the switch was in prior to Power Off Procedure.




PILOT ARMT CONTROL PANEL

INITIAL SETUP

Applicable Configuration
AH-1F

Tools/Test and Support Equipment
Tool Set, A/C Armament Repairman

Multimeter

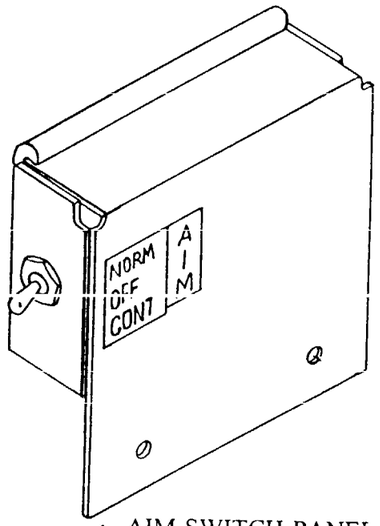
Personnel Required
68J (2)

References
TM 55-1520-236-23

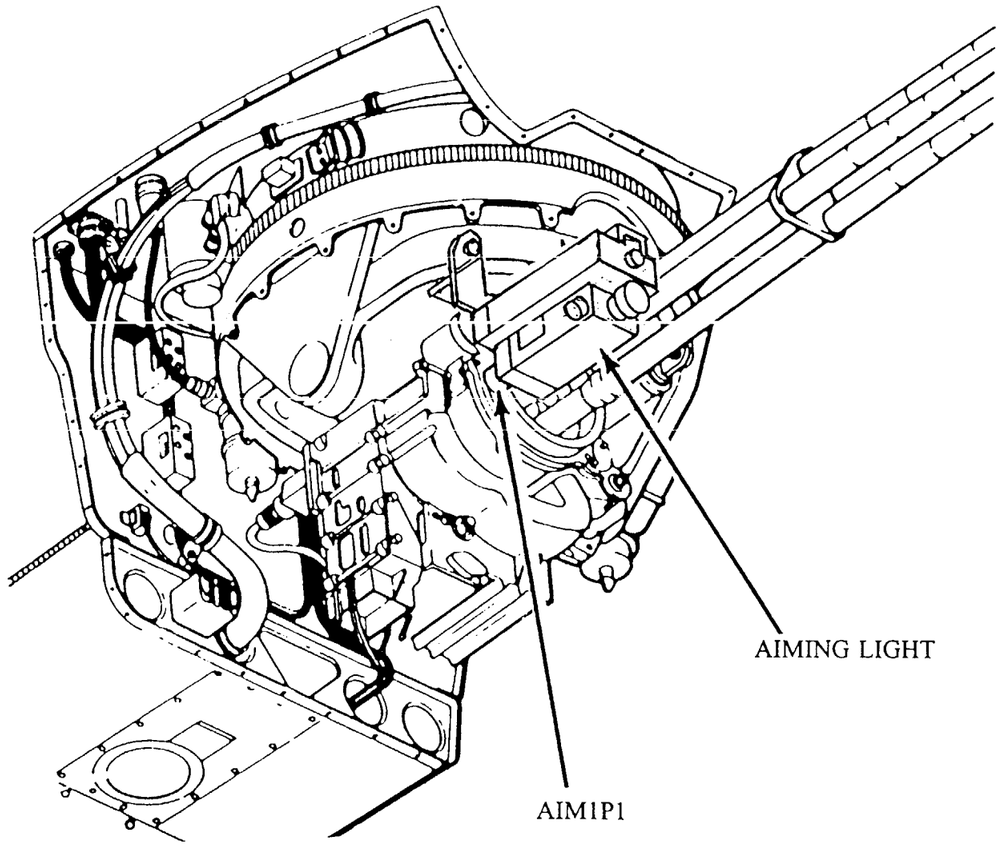
Access Panels
Left Side Control Linkage - Removed

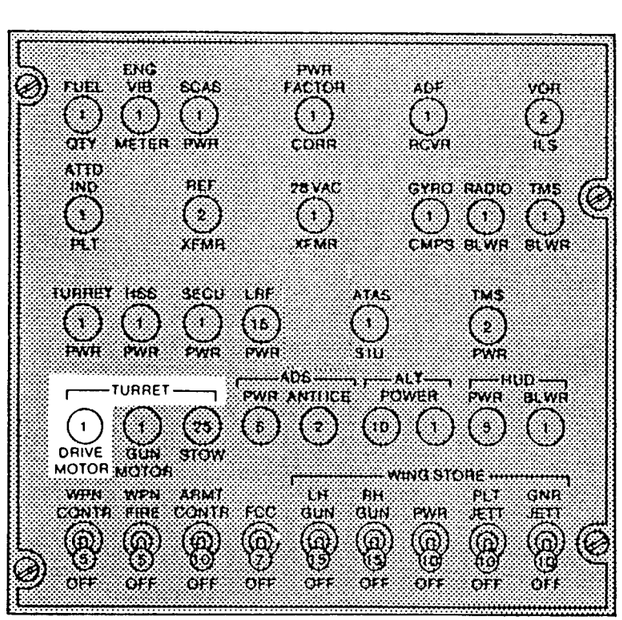
Left Forward Control Linkage - Removed

Turret Fairing - Removed

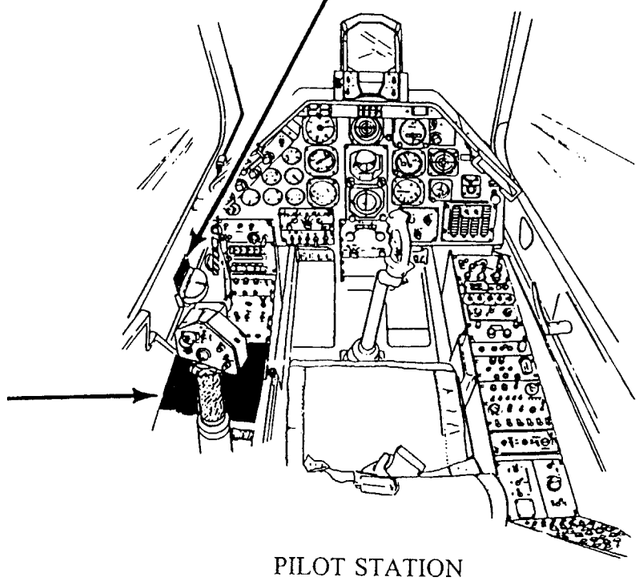



AIM SWITCH PANEL



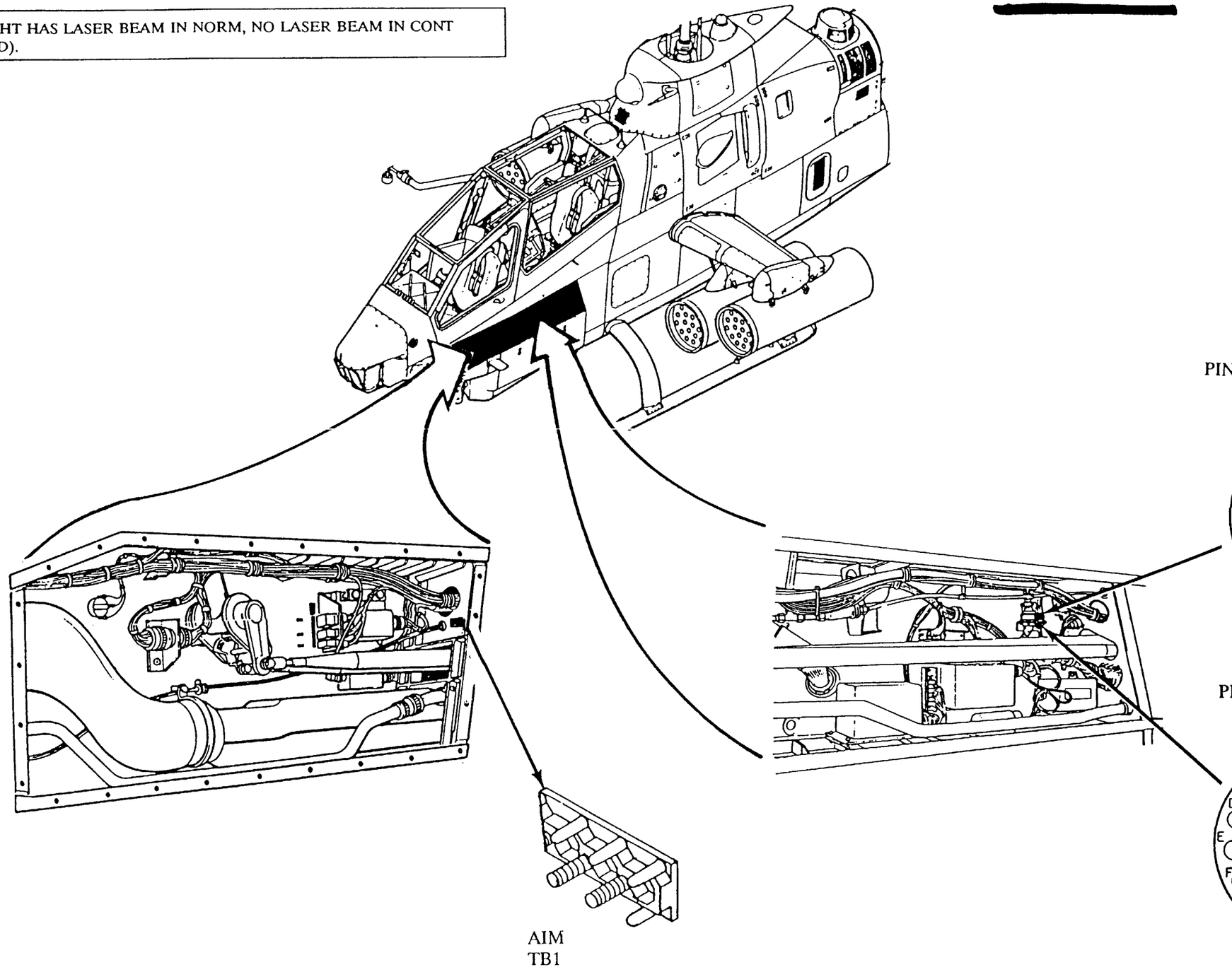




AC/ARMT CIRCUIT BREAKER PANEL

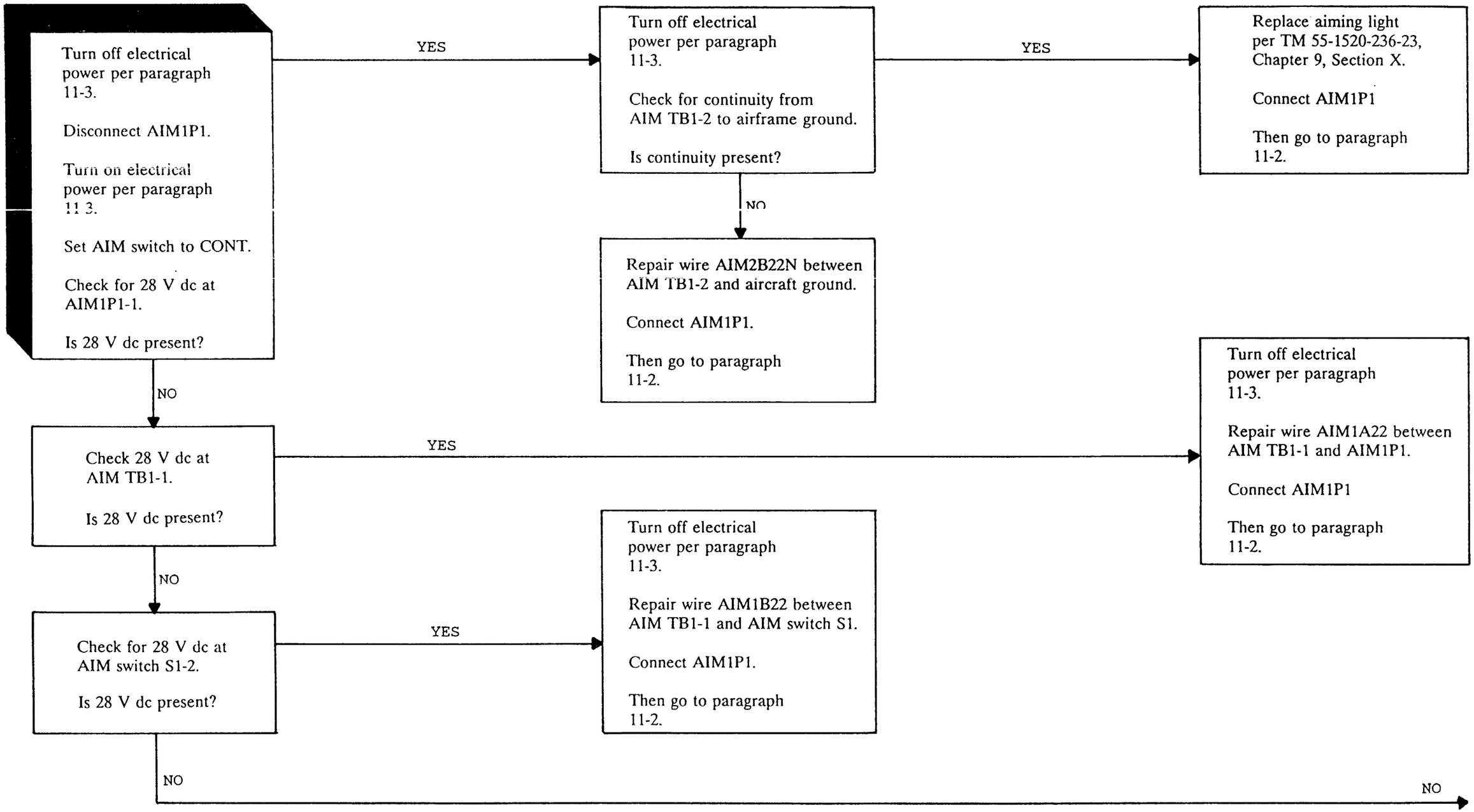


PILOT STATION

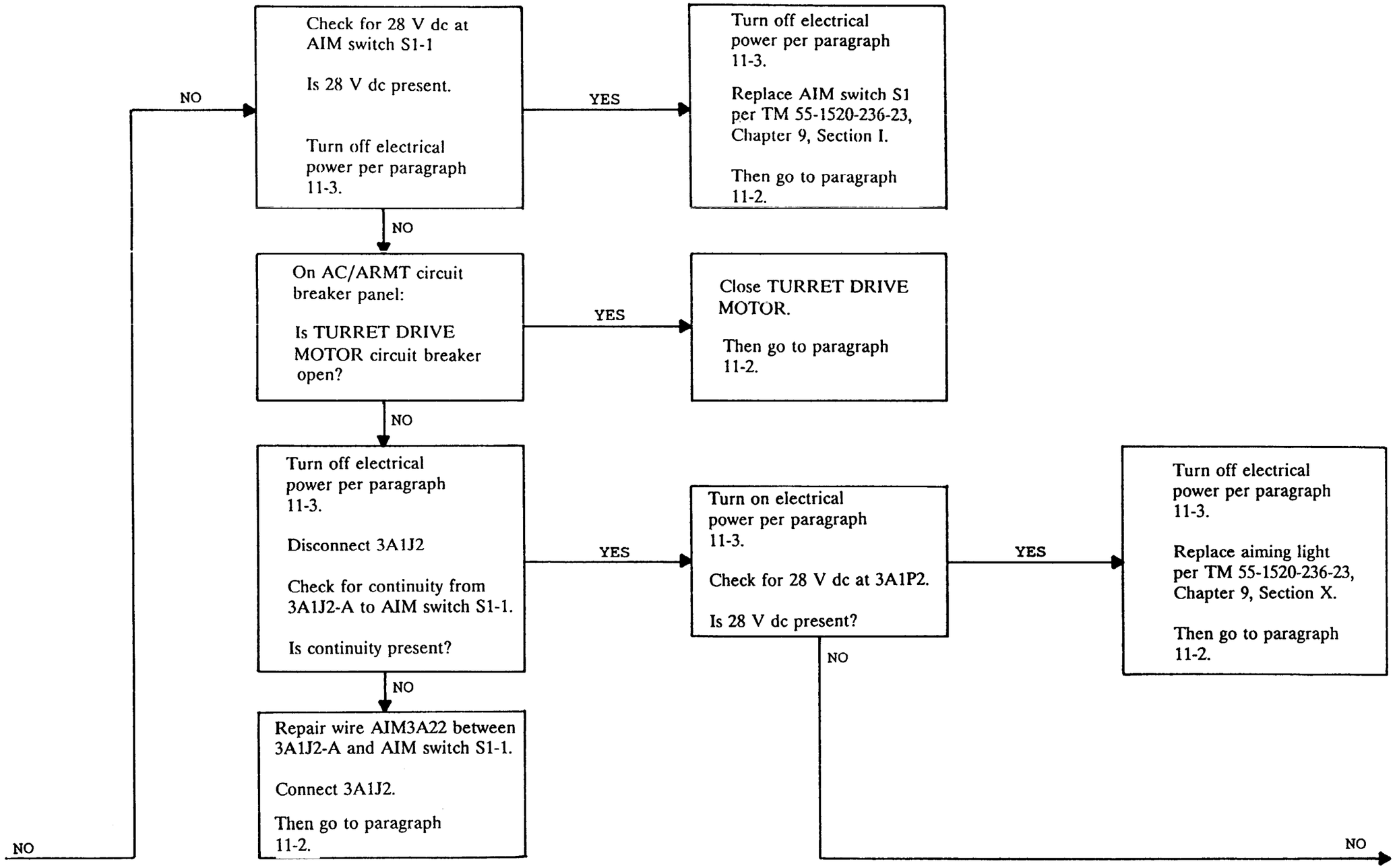
11-4. AIMING LIGHT HAS LASER BEAM IN NORM, NO LASER BEAM IN CONT (CONTINUED).



11-4. AIMING LIGHT HAS USER BEAM IN NORM, NO LASER BEAM IN CONT (CONTINUED).



**11-4. AIMING LIGHT HAS LASER BEAM IN NORM, NO LASER BEAM IN CONT (CONTINUED).**



11-4. AIMING LIGHT HAS LASER BEAM IN NORM, NO LASER BEAM IN CONT (CONTINUED).

Turn off electrical power per paragraph 11-3.

Remove AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Check for continuity from bus side to output terminal of TURRET DRIVE MOTOR circuit breaker.

Is continuity present?

NO

YES

Replace wire AIM3B22 between TURRET DRIVE MOTOR circuit breaker and 3A1P2-A.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

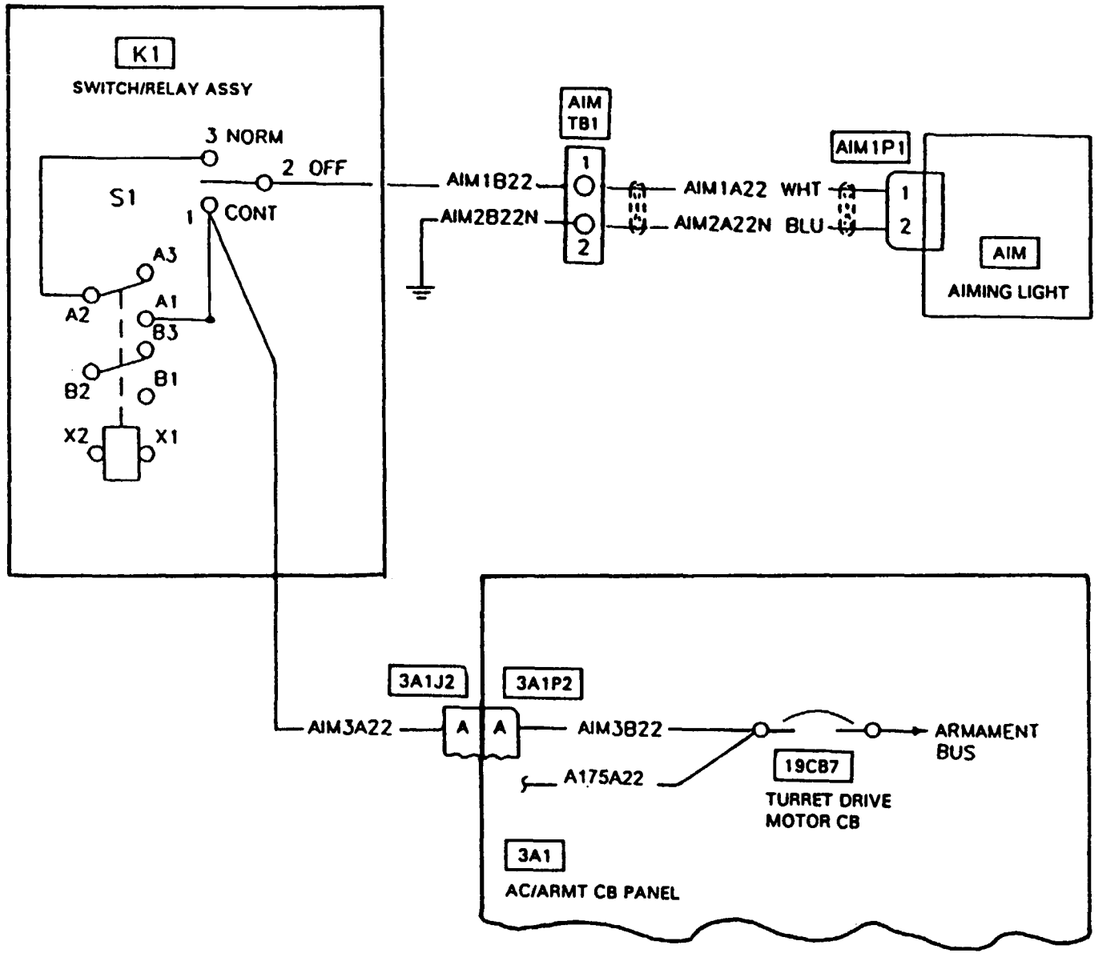
Then go to paragraph 11-2.

NO

Replace TURRET DRIVE MOTOR circuit breaker per TM 55-1520-236-23, Chapter 9, Section I.

Install AC/ARMT circuit breaker panel per TM 55-1520-236-23, Chapter 9, Section I.

Then go to paragraph 11-2.



**11-5. AIMING LIGHT HAS LASER BEAM IN CONT, NO LASER BEAM IN NORM.**

INITIAL SETUP

Applicable Configuration
AH-1F

Tools/Test and Support Equipment
Tool Set, A/C Armament Repairman

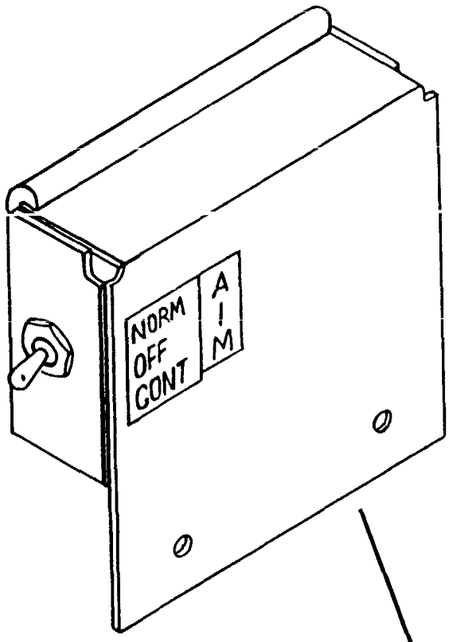
Multimeter

Personnel Required
68J (2)

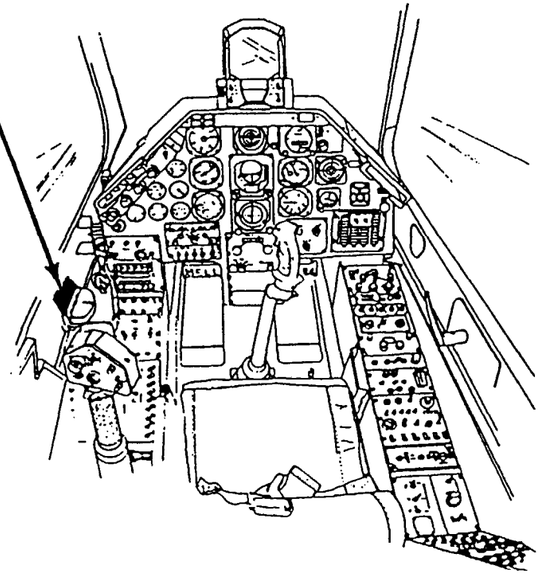
References
TM 55-1520-236-23

Access Panels
Right Side Control Linkage - Removed

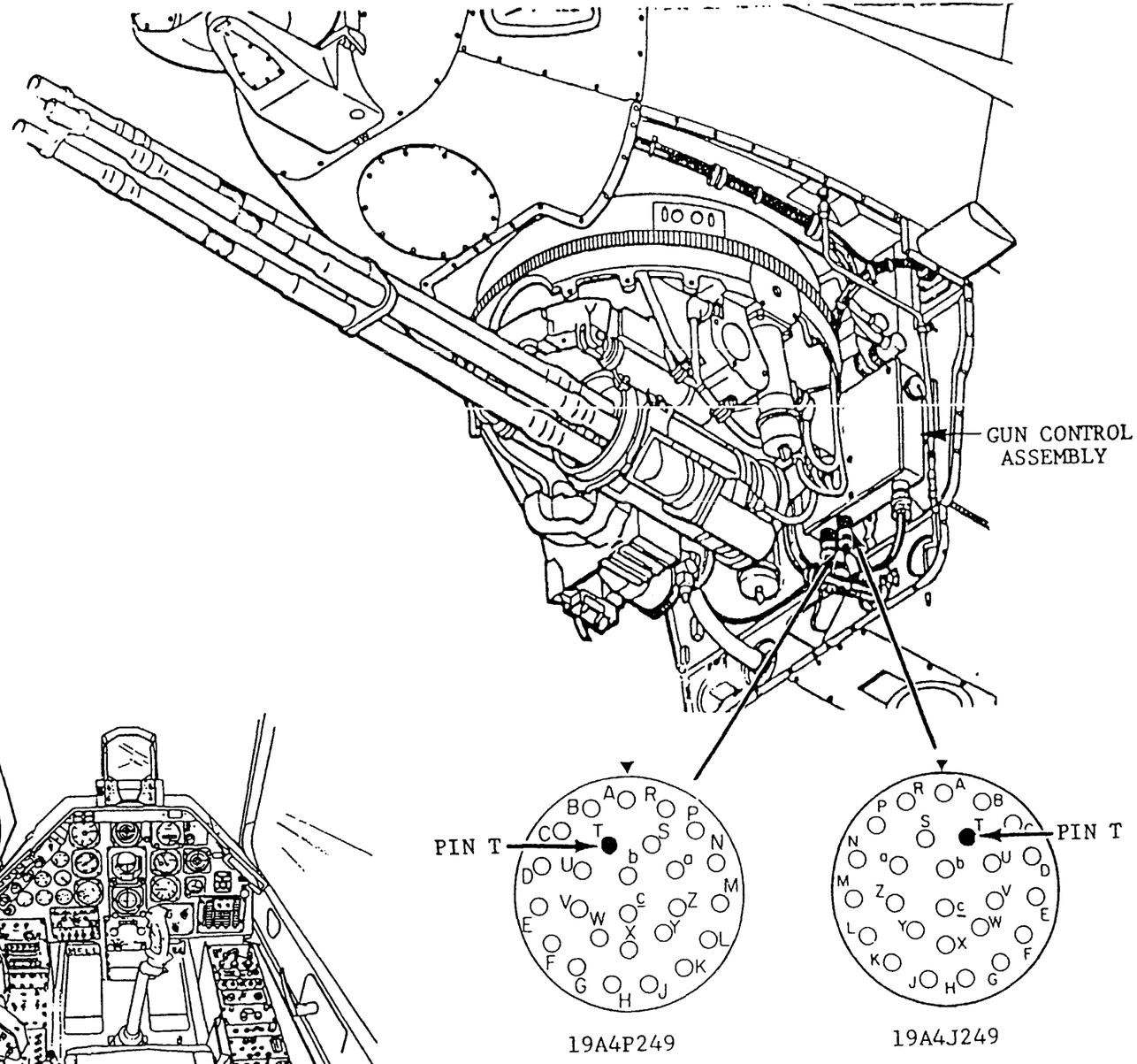
Turret Fairing - Removed



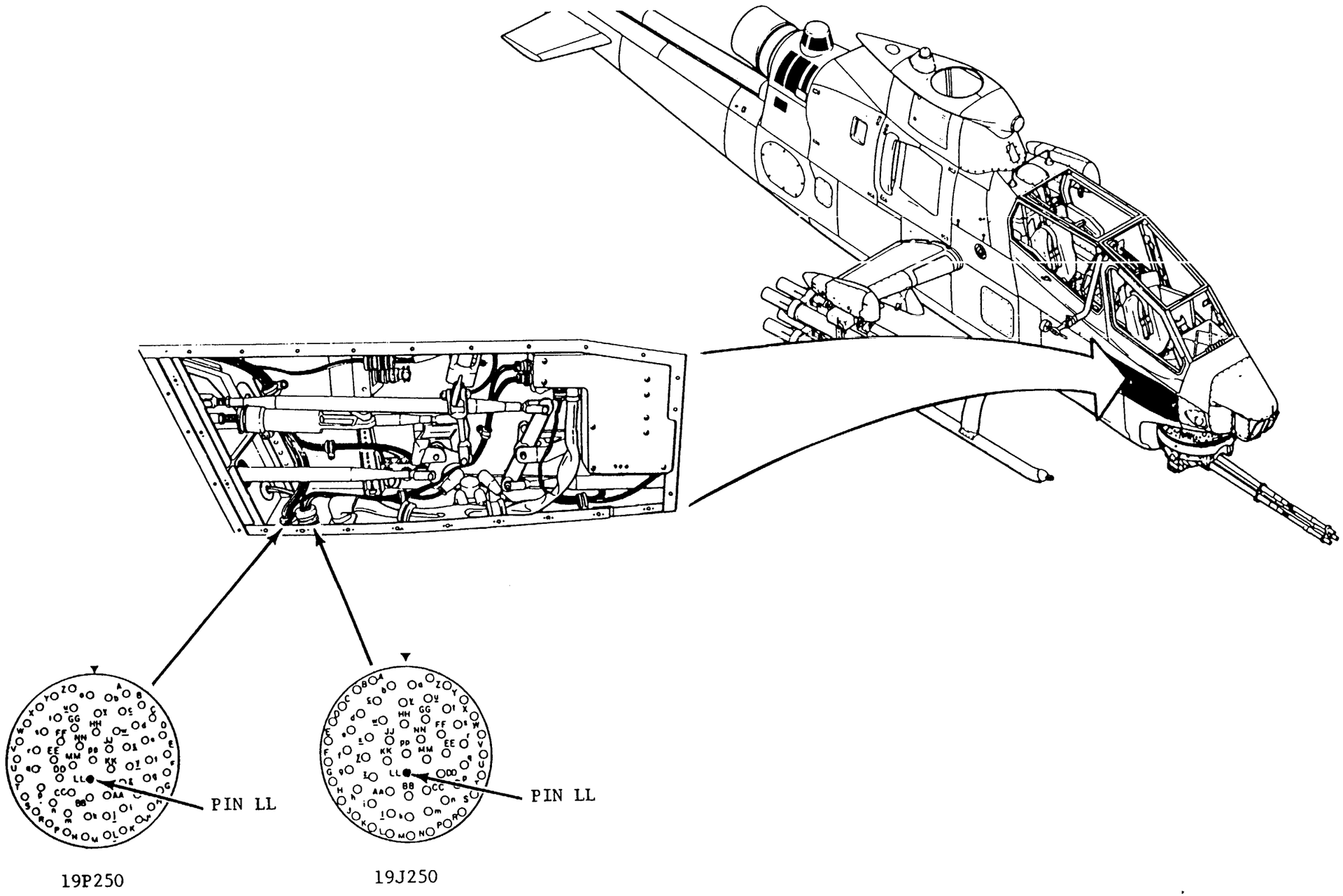

AIM SWITCH PANEL



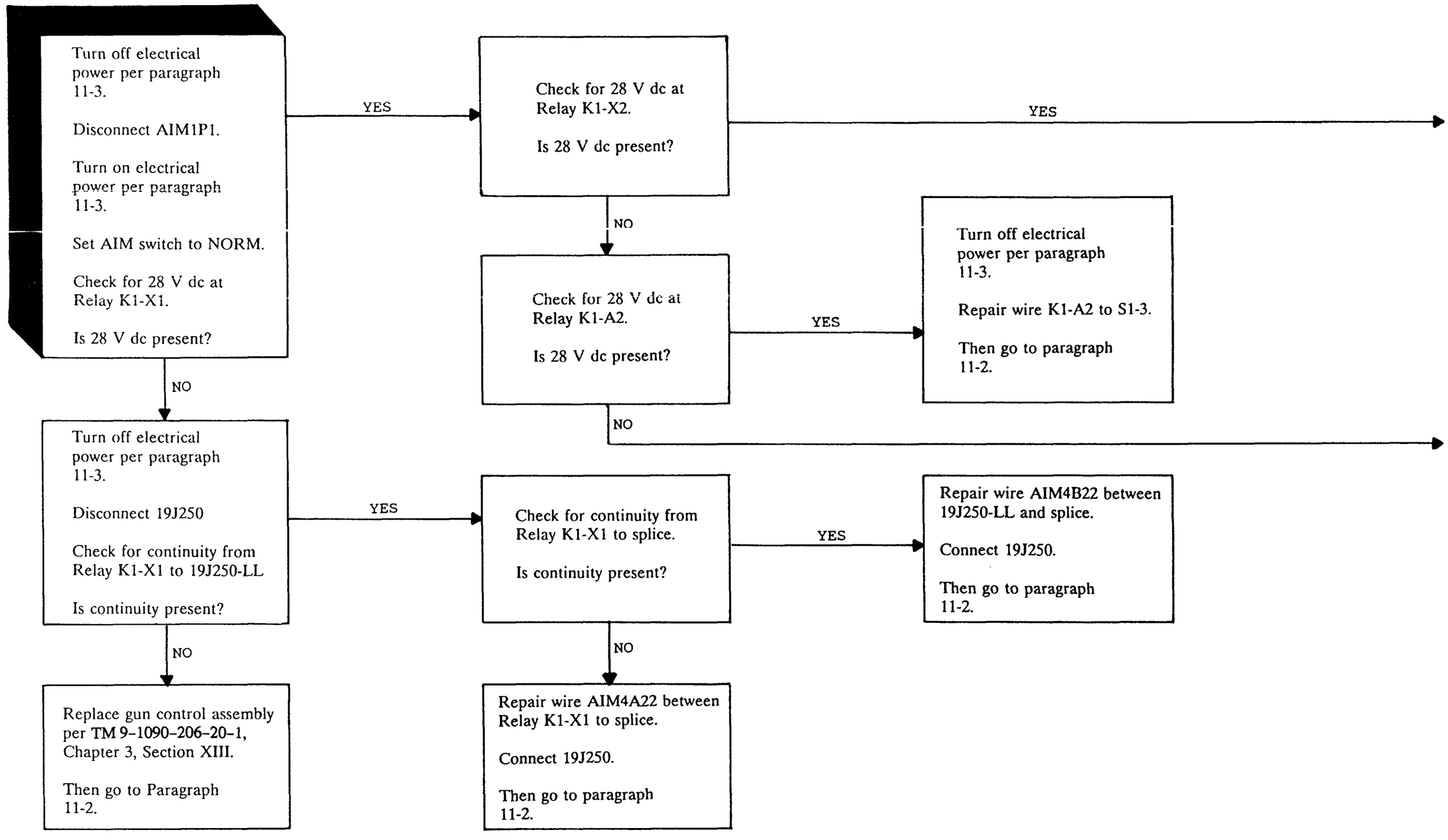
PILOT STATION



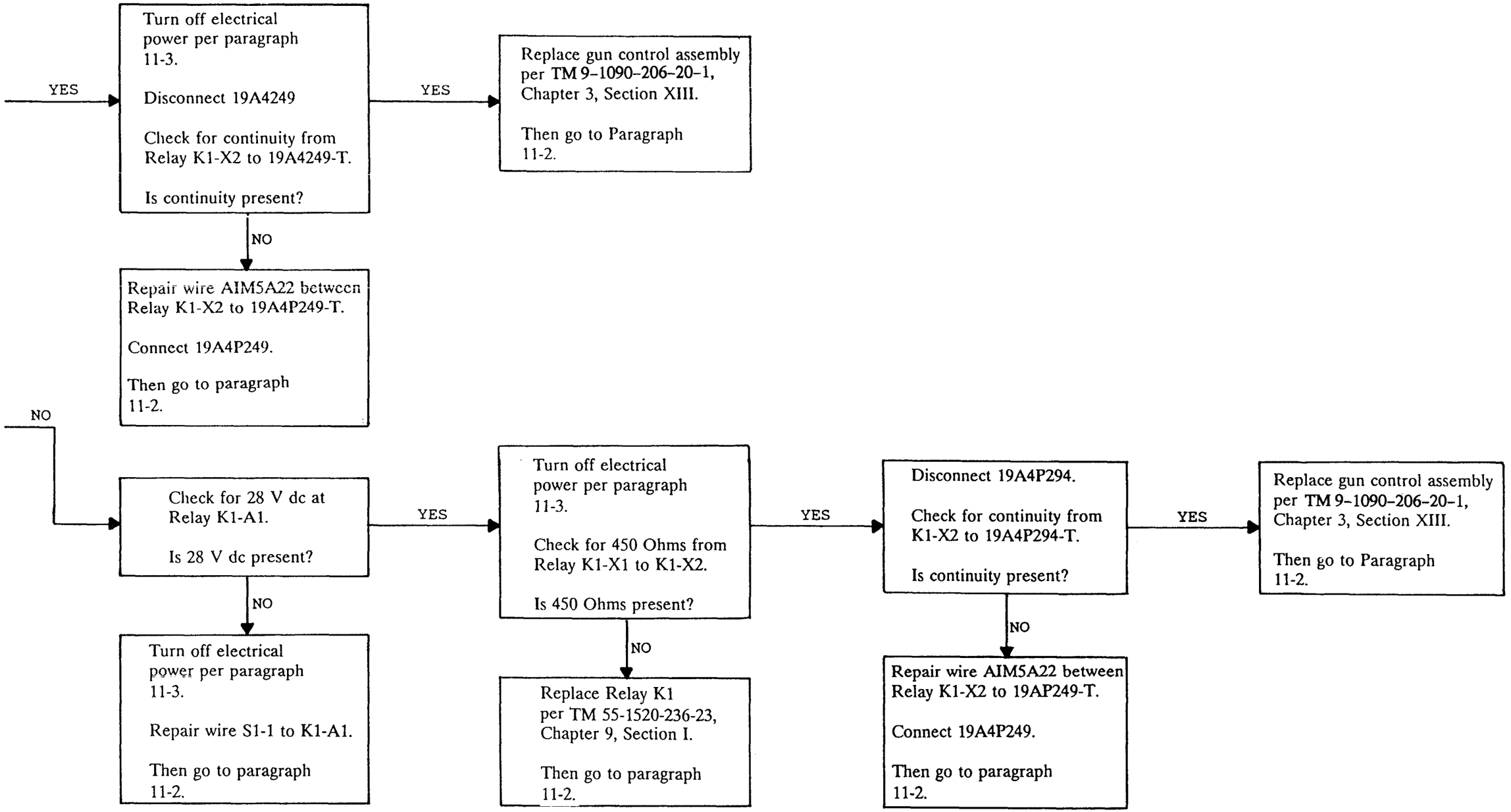
**11-5. AIMING LIGHT HAS LASER BEAM IN CONT, NO LASER BEAM IN NORM.**



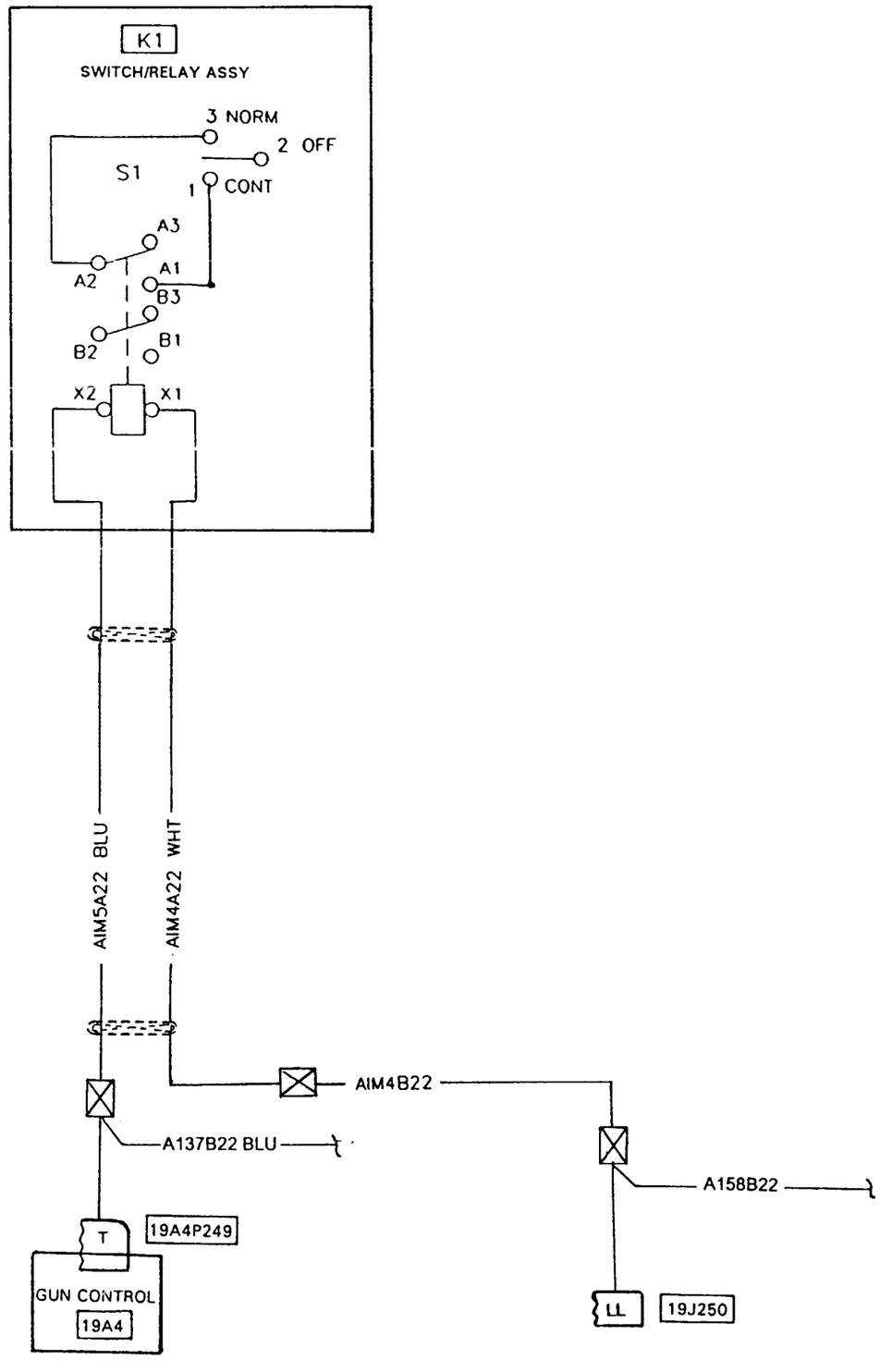
11-5. AIMING LIGHT HAS LASER BEAM IN CONT, NO LASER BEAM IN NORM (CONTINUED),



**11-5. AIMING LIGHT HAS LASER BEAM IN CONT, NO LASER BEAM IN NORM (CONTINUED).**



| 11-5. | AIMING LIGHT HAS LASER BEAM IN CONT, NO LASER BEAM IN NORM (CONTINUED). |
|---|---|



**By Order of the Secretary of the Army:**

**E. C. MEYER**
***General, United States Army***
***Chief of Staff***

**Official:**

**ROBERT M. JOYCE**
***Major General, United States Army***
***The Adjutant General***

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PFC JOHN DOE
COA, 3d ENGINEER BN
FT. LEAVENWOOD, MO 63108

DATE SENT

| PUBLICATION NUMBER | PUBLICATION DATE | PUBLICATION TITLE |
|---|---|---|
| TM 55-1520-236-T-3 | 15 Jun 83 | AH-1S (MC) Integrated Armament and Fire Control System |

BE EXACT PIN-POINT WHERE IT IS

| PAGE NO | PARAGRAPH | FIGURE NO | TABLE NO |
|---|---|---|---|
| 6 | 2-1 a | | |
| 81 | | 4-3 | |
| 125 | line 20 | | |

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

In line 6 of paragraph 2-1a the manual states the engine has 4 Cylinders. The engine in my set only has 4 Cylinders. Change the manual to show 4 Cylinders.

Callout 16 on figure 4-3 is pointing at a bolt. In key to figure 4-3, item 16 is called a shim - Please correct one or the other.

I ordered a gasket, item 19 on figure B-16 key NSN 2910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is wrong. Please give me a good NSN

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER
JOHN DOE, PFC (268) 317-7111

SIGN HERE John Doe
JOHN DOE

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CDR, 1st Br, 65th ADA
ATTN: SP4 J. Brown
Key West, FL 33040

DATE SENT
10 Jun 79

| PUBLICATION NUMBER | PUBLICATION DATE | PUBLICATION TITLE |
|---|---|---|
| TM 9-1430-550-34-1 | 7 Sep 72 . | Unit of Radar Set AN/MPQ-50 Tested at the HFC |

BE EXACT PIN-POINT WHERE IT IS

| PAGE NO | PARAGRAPH | FIGURE NO | TABLE NO |
|---|---|---|---|
| 9-19 | | 9-5 | |
| 21-2 | step 1C | 21-2 | |

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

"B" Ready Relay K11 is shown with two #9 contacts. That contact which is wired to pin 8 of relay K16 should be changed to contact #10.

Reads: Multimeter B indicates 600 K ohms to 9000 K ohms.

Change to read: Multimeter B indicates 600 K ohms minimum.

Reason: Circuit being checked could measure infinity. Multimeter can read above 9000 K ohms and still be correct.

SAMPLE

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER
SP4 J.T. Brown, Jr.

SIGN HERE
SP4 James Brown, Jr.

DA FORM 2 JUL 79 2028-2

REPLACES DA FORM 2028-2 1 APR 78 WHICH WILL BE USED UNTIL EXHAUSTED
AMSAV M Overprint 3, 1 Mar 91

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| TM 55-1520-236-T | 15 June 1983 | INTEGRATED ARMAMENT AND FIRE CONTROL SYSTEM |

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|---|---|---|---|

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# The Metric System and Equivalents

### *Linear Measure*

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

### *Weights*

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

### *Liquid Measure*

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

### *Square Measure*

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

### *Cubic Measure*

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

# Approximate Conversion Factors

| *To change* | *To* | *Multiply by* | *To change* | *To* | *Multiply by* |
|---|---|---|---|---|---|
| inches | centimeters | 2.540 | ounce-inches | newton-meters | .007062 |
| feet | meters | .305 | centimeters | inches | .394 |
| yards | meters | .914 | meters | feet | 3.280 |
| miles | kilometers | 1.609 | meters | yards | 1.094 |
| square inches | square centimeters | 6.451 | kilometers | miles | .621 |
| square feet | square meters | .093 | square centimeters | square inches | .155 |
| square yards | square meters | .836 | square meters | square feet | 10.764 |
| square miles | square kilometers | 2.590 | square meters | square yards | 1.196 |
| acres | square hectometers | .405 | square kilometers | square miles | .386 |
| cubic feet | cubic meters | .028 | square hectometers | acres | 2.471 |
| cubic yards | cubic meters | .765 | cubic meters | cubic feet | 35.315 |
| fluid ounces | milliliters | 29,573 | cubic meters | cubic yards | 1.308 |
| pints | liters | .473 | milliliters | fluid ounces | .034 |
| quarts | liters | .946 | liters | pints | 2.113 |
| gallons | liters | 3.785 | liters | quarts | 1.057 |
| ounces | grams | 28.349 | liters | gallons | .264 |
| pounds | kilograms | .454 | grams | ounces | .035 |
| short tons | metric tons | .907 | kilograms | pounds | 2.205 |
| pound-feet | newton-meters | 1.356 | metric tons | short tons | 1.102 |
| pound-inches | newton-meters | .11296 | | | |

# Temperature (Exact)

| | | | | |
|---|---|---|---|---|
| °F | Fahrenheit temperature | 5/9 (after subtracting 32) | Celsius temperature | °C |

PIN: 034792-003