

TM 55-1520-236-T

TECHNICAL MANUAL

TROUBLESHOOTING INSTRUCTION

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

AH-1S (MC) INTEGRATED ARMAMENT AND FIRE CONTROL SYSTEM

HEADQUARTERS, DEPARTMENT OF THE ARMY
15 JUNE 1983

This copy is a reprint which includes current pages from Changes 1 through 3.



INTRODUCTION
HEAD UP DISPLAY SUBSYSTEM (HUDS)
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

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 14 March 1994

CHANGE

NO. 3

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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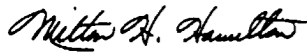
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Administrative Assistant to the
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CHANGE }
NO. 2 }

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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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CHANGE }
NO. 1 }

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Technical Manual
Troubleshooting Instructions
Aviation Unit Maintenance (AVUM) Level
and
Intermediate Maintenance (AVIM) Level
AH-1S (MC)
Integrated Armament and Fire Control System

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WARNING



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 improper 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 FAIL 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 damage 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 burns 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.

WARNING

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 ruptured (by crash damage, etc.) dispose of broken optics in accordance with AR 385-11 and TB 750-237.

AVUM/AVIM Troubleshooting Manual
 AH1F (MC) AND AH1F (MCN) INTEGRATED ARMAMENT SYSTEM

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS.

You can help improve this manual. If you find any mistakes or 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, U.S. Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Blvd.,
 St. Louis Mo. 63120-1798.

A reply will be furnished 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 Symptom 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 System (MAPS) list, table of content, 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 (CONTINUED).

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 which can be entered from the operational procedure and identified as a separate MAPS. This isolates systems using switches, circuit breakers, etc. and are broken into separate parts (A, B, C, etc).

Each logic tree with its locator illustrations stand alone and are broken into smaller page size segments with single flow 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.

CHAPTER 6

UNIVERSAL TURRET SUBSYSTEM (UTS) TROUBLESHOOTING

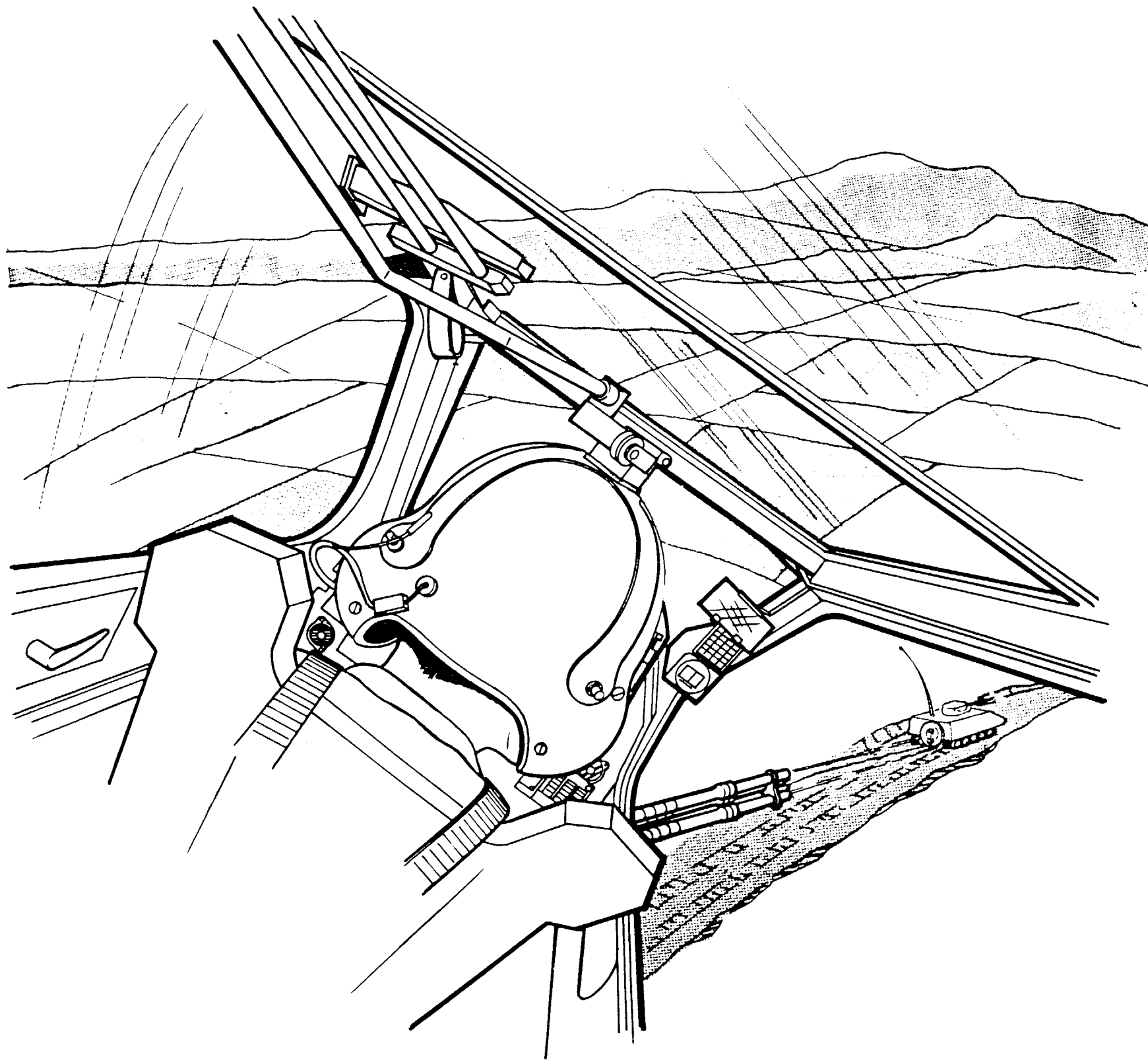
OVERVIEW

This chapter contains the UTS 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 unless otherwise noted in the procedures.



6-1. UTS PRE-OPERATIONAL CHECK SETUP .

INITIAL SETUP

Applicable Configuration

All

Personnel Required

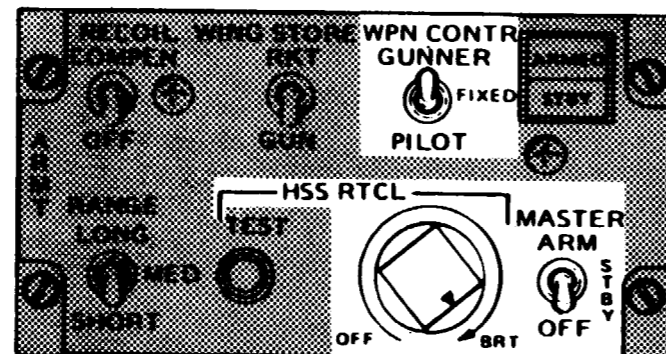
68J (2)

a. Open (OFF) all circuit breakers on AC/ARMT circuit breaker panel.

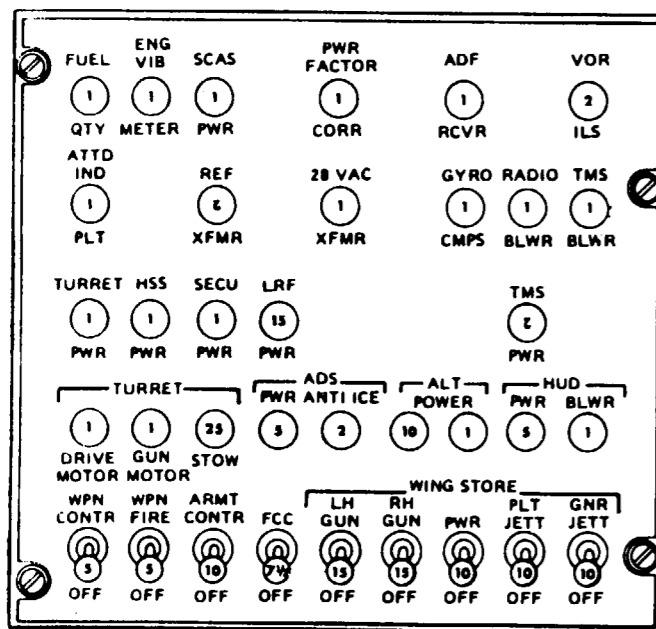
b. Open all circuit breakers on DC circuit breaker panel.

c. Set pilot ARMT control panel switches:

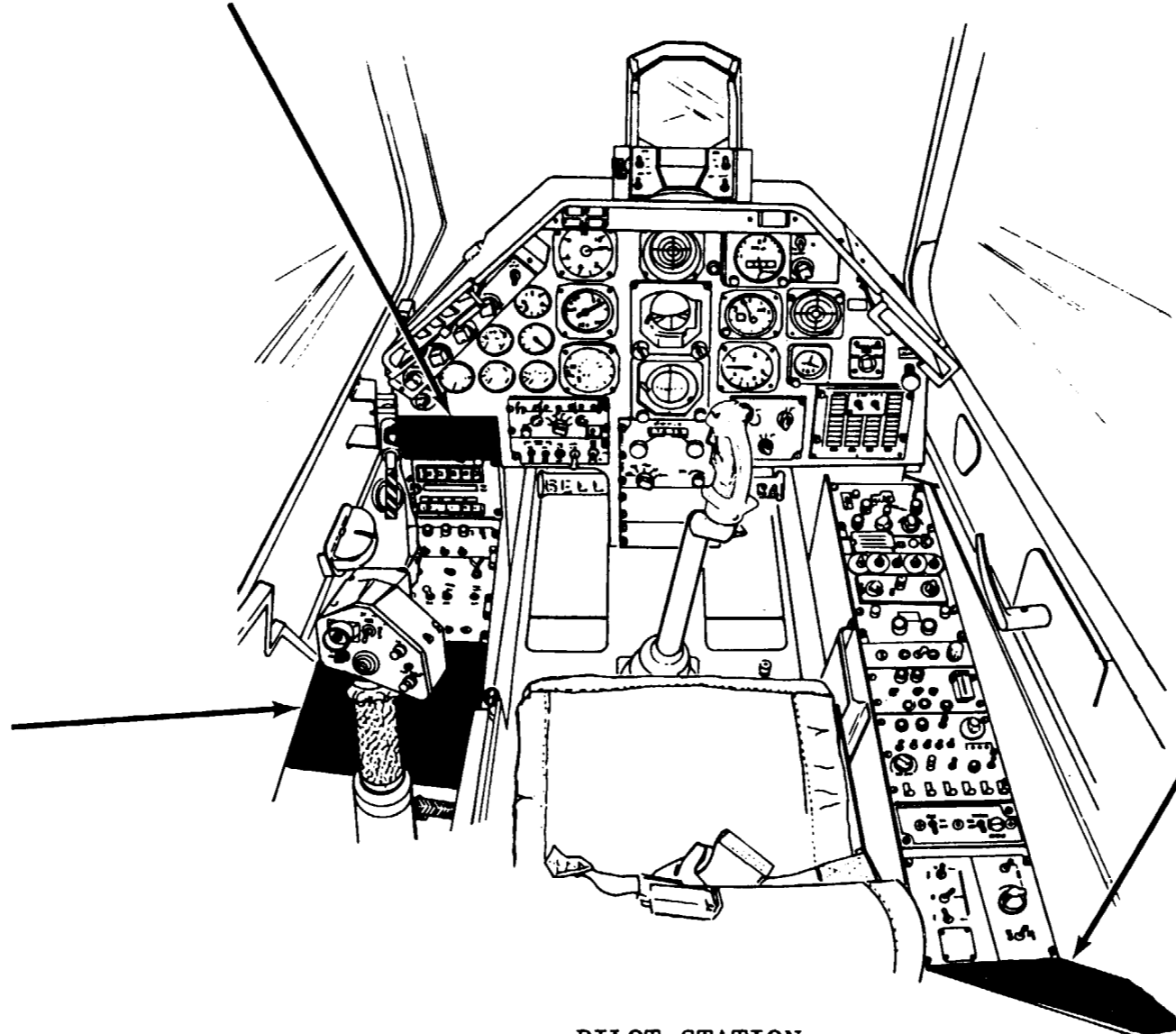
- (1) MASTER ARM to OFF.
- (2) WPN CONTR to GUNNER.
- (3) HSS RTCL to BRT.



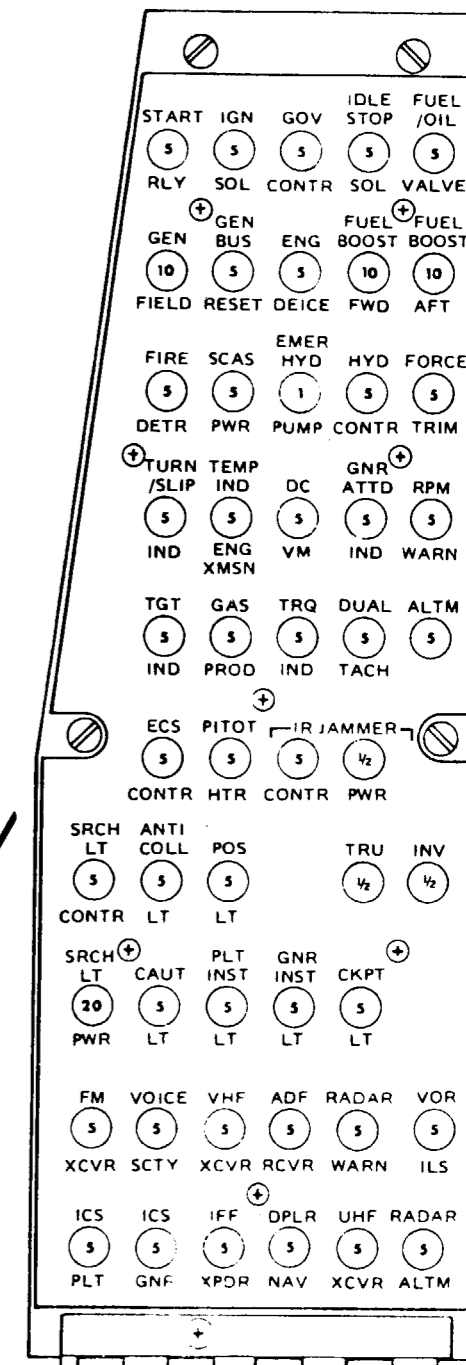
PILOT ARMT CONTROL PANEL



AC/ARMT CIRCUIT BREAKER PANEL



PILOT STATION



DC CIRCUIT BREAKER PANEL

6-1. UTS PRE-OPERATIONAL CHECK SETUP (CONTINUED).

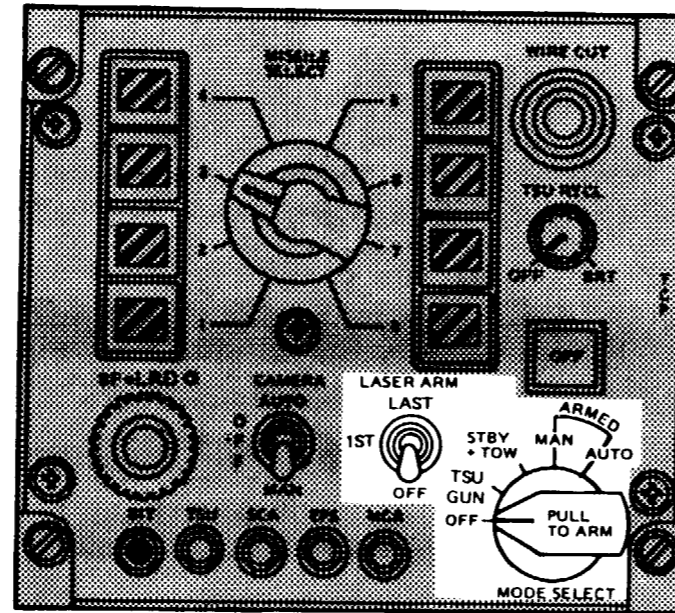
d. Set TCP (TOW control panel) switches:

- (1) LASER ARM to OFF.
- (2) MODE SELECT to OFF.

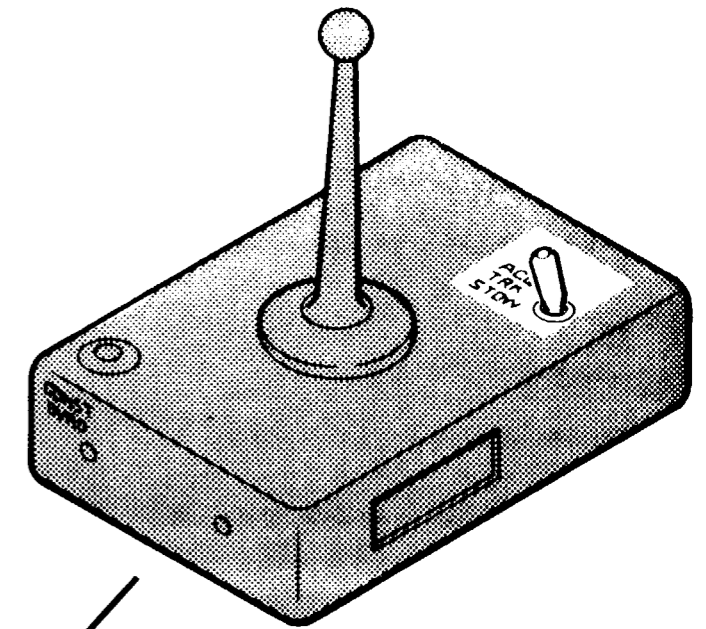
e. Set ACQ/TRK/STOW switch on sight hand control to STOW.

f. Set gunner armament control panel switches:

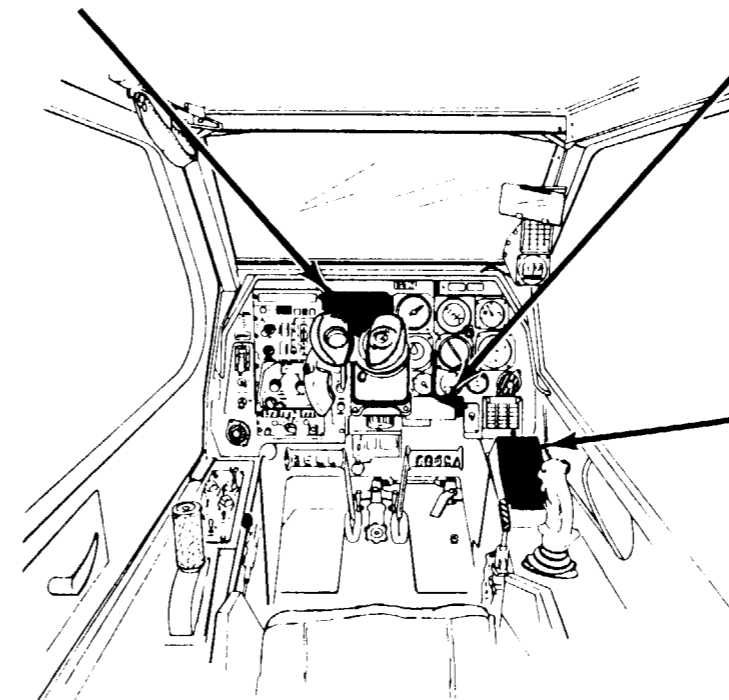
- (1) LASER SAFE/TURRET DEPR LIMIT to LASER SAFE/TURRET DEPR LIMIT.
- (2) TSU/GUN SLEW RATE HIGH.
- (3) TUR SLEW to GND TEST.
- (4) PLT ORIDE to OFF.
- (5) HSS RTCL to BRT.



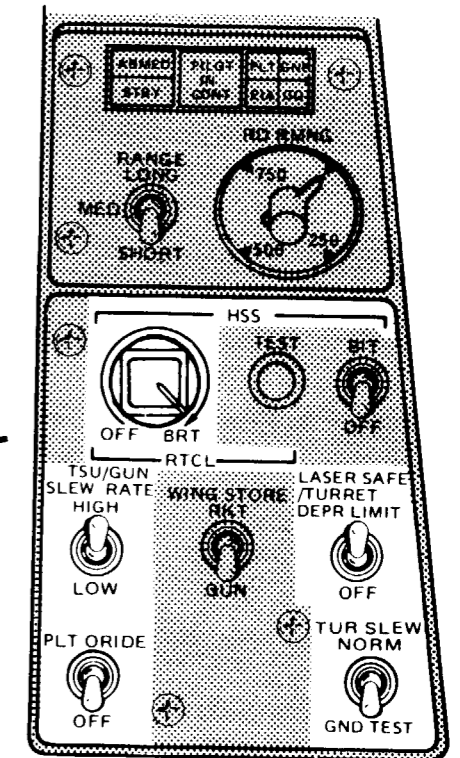
TCP (TOW CONTROL PANEL)



SIGHT HAND CONTROL



GUNNER STATION



GUNNER ARMAMENT CONTROL PANEL

6-2. UTS OPERATIONAL CHECK.

NOTE

Complete PRE-OPERATIONAL CHECK SETUP, paragraph 6-1, before continuing with operational check.

INITIAL SETUP

Applicable Configuration

All

Tools/Test and Support Equipment

Digital Voltmeter

Multimeter

Helmet with XM 136 Sight-Installed (2)

TSEM (Tow System Evaluation Missile) or TOW Missile Present Simulator (Local Manufacture)

Tool Set, A/C Armament Repairman

Ground Power Unit

Test Set, Electronic System, M137

Equipment Condition

Gun Safed/Barricade Erected (TM 9-1090-206-20-1/30)

Ammunition Feed System Installed (TM 9-1090-206-20-1)

Personnel Required

68J (3)

References

TM 9-1090-206-20-1/30

TM 9-1425-473-34

TM 55-1520-236-10

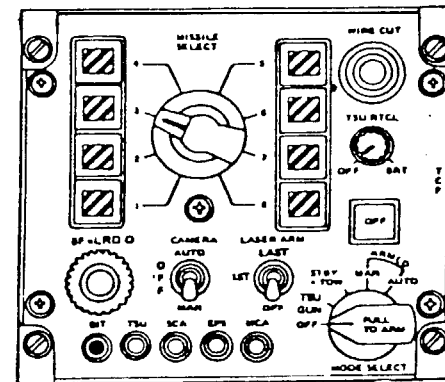
TM 55-1520-236-23

Access Panels

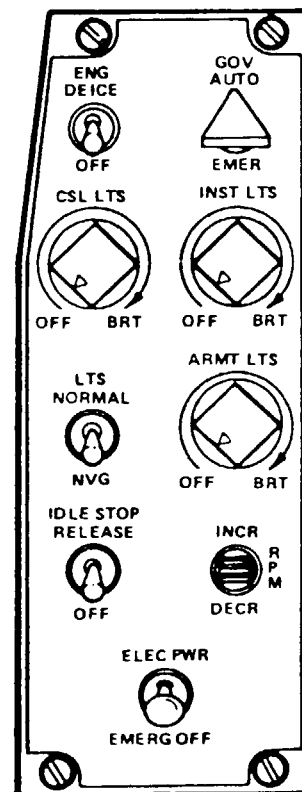
Battery Compartment - Removed

External Power Door - Open

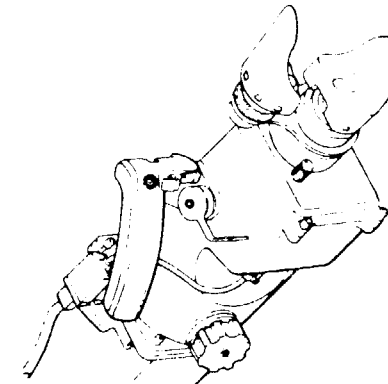
Ammo Compartment Door - Open



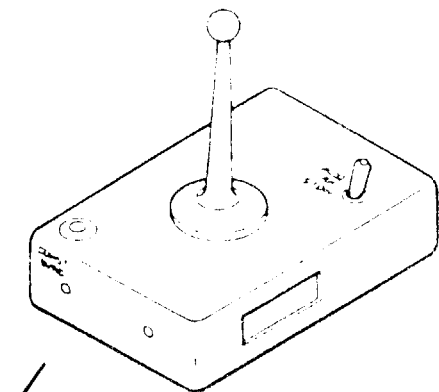
TCP (TOW CONTROL PANEL)



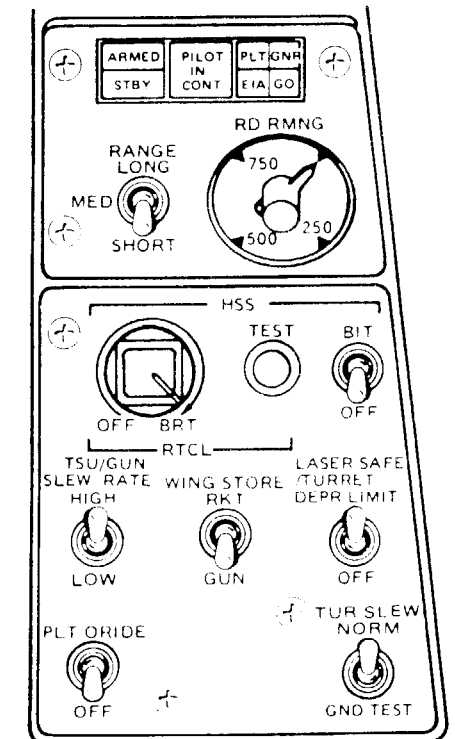
GUNNER MISCELLANEOUS CONTROL PANEL



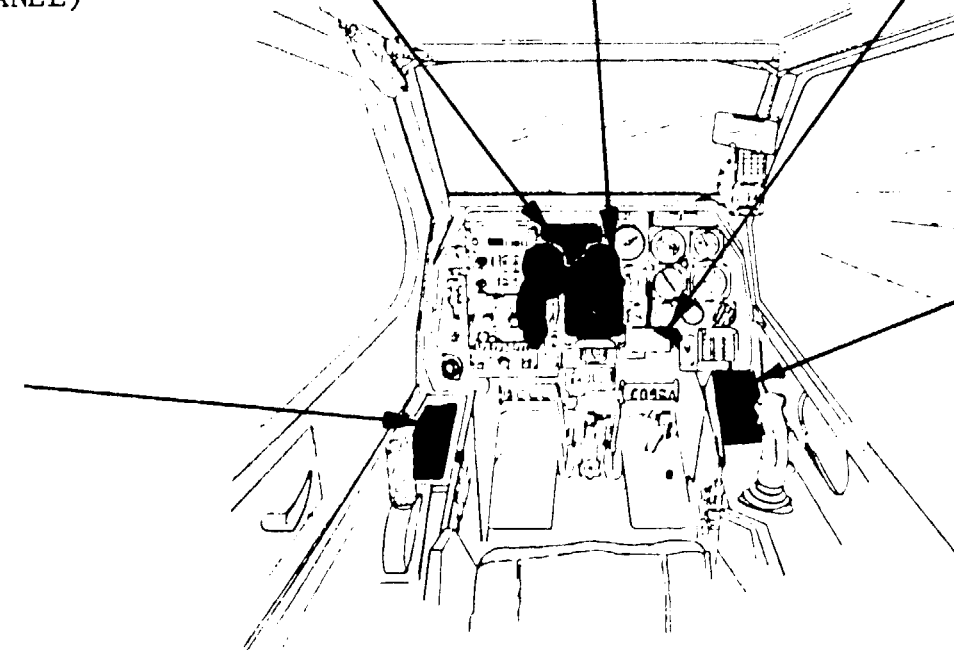
TELESCOPIC SIGHT UNIT (TSU)



SIGHT HAND CONTROL

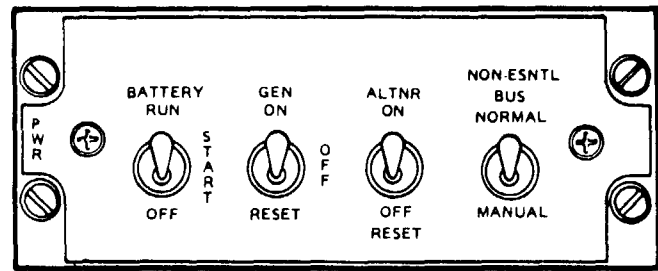


GUNNER ARMAMENT CONTROL PANEL

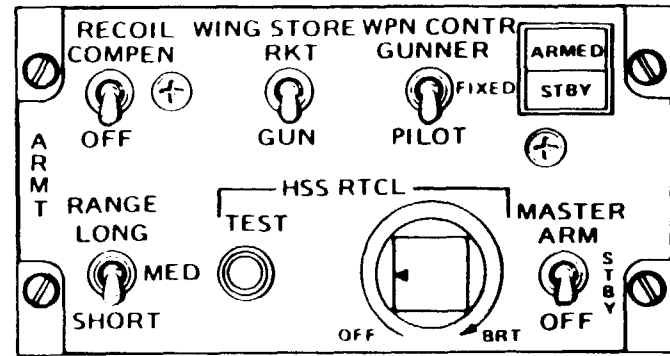


GUNNER STATION

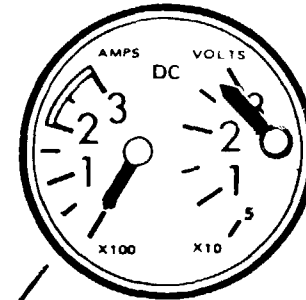
6-2. UTS OPERATIONAL CHECK (CONTINUED).



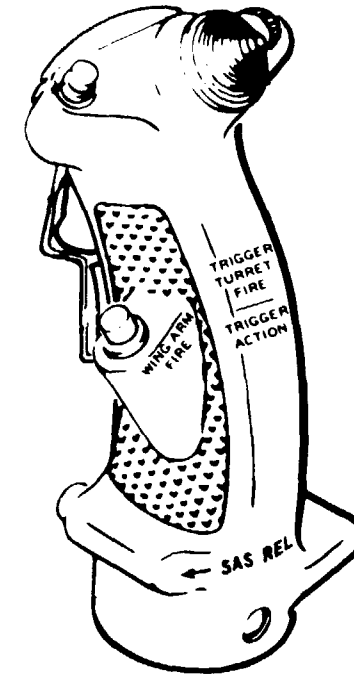
ELECTRICAL PWR CONTROL PANEL



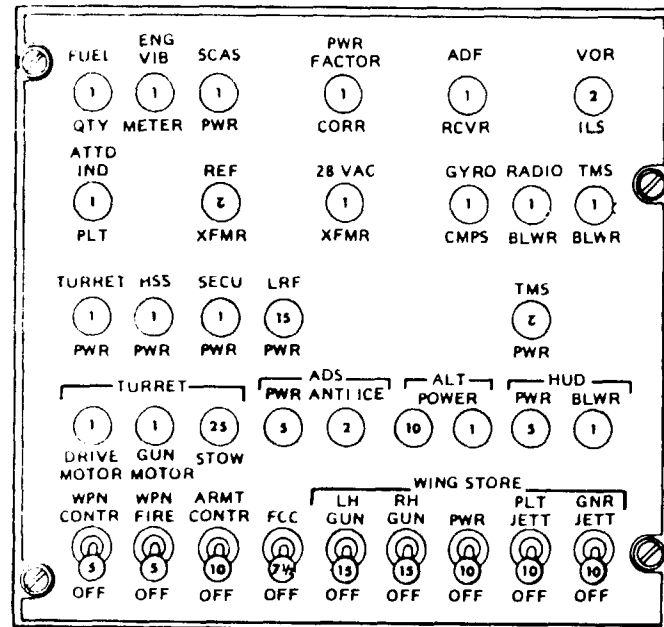
PILOT ARMT CONTROL PANEL



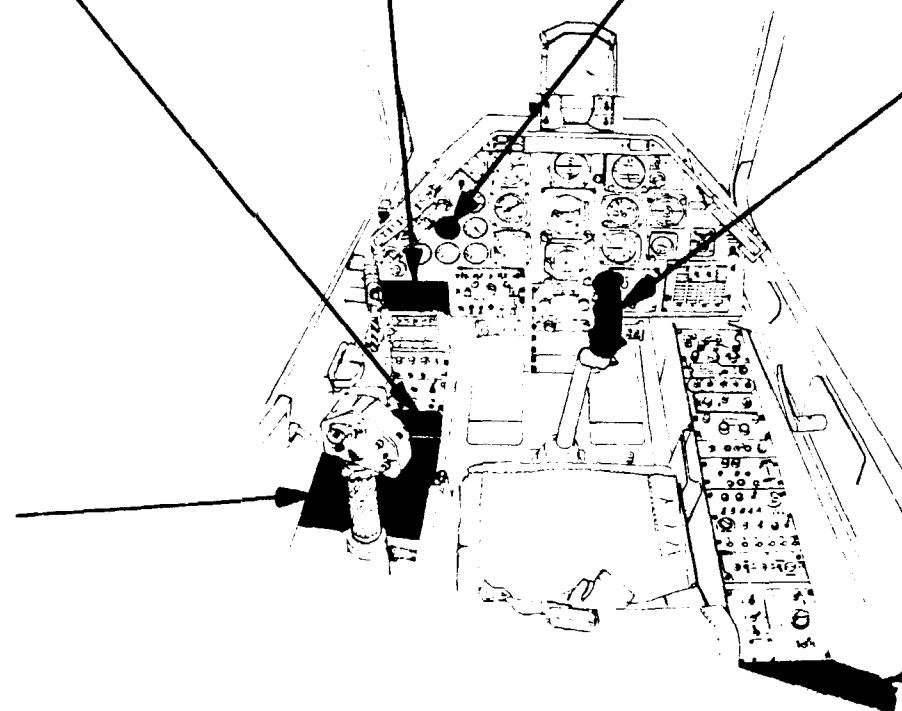
DC VOLTMETER



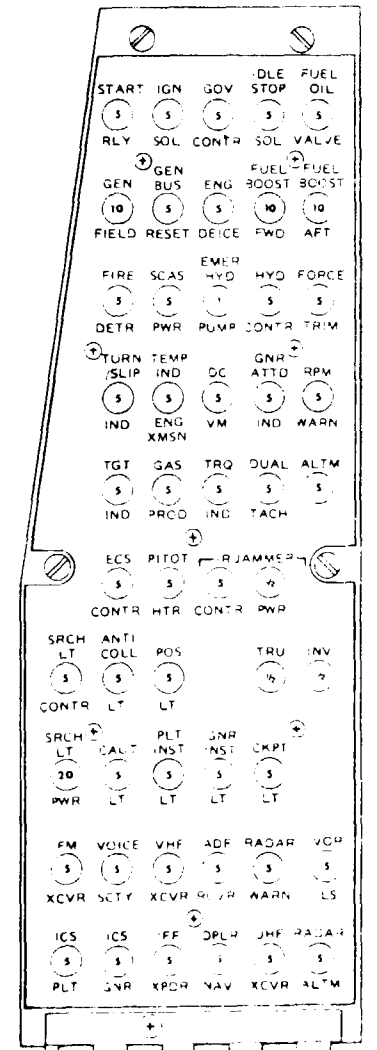
PILOT CYCLIC STICK



AC/ARMT CIRCUIT BREAKER PANEL

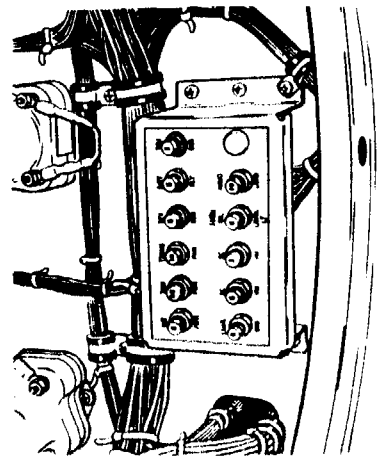


PILOT STATION

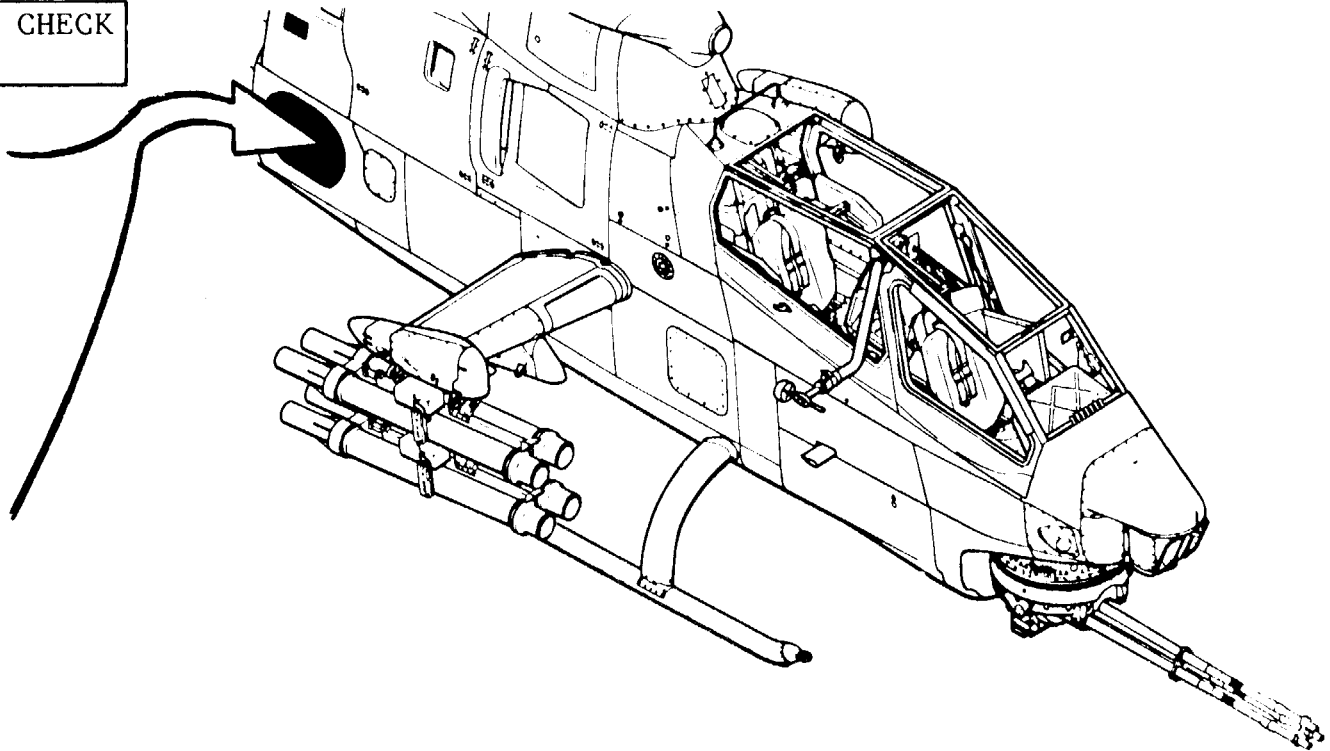


DC CIRCUIT BREAKER PANEL

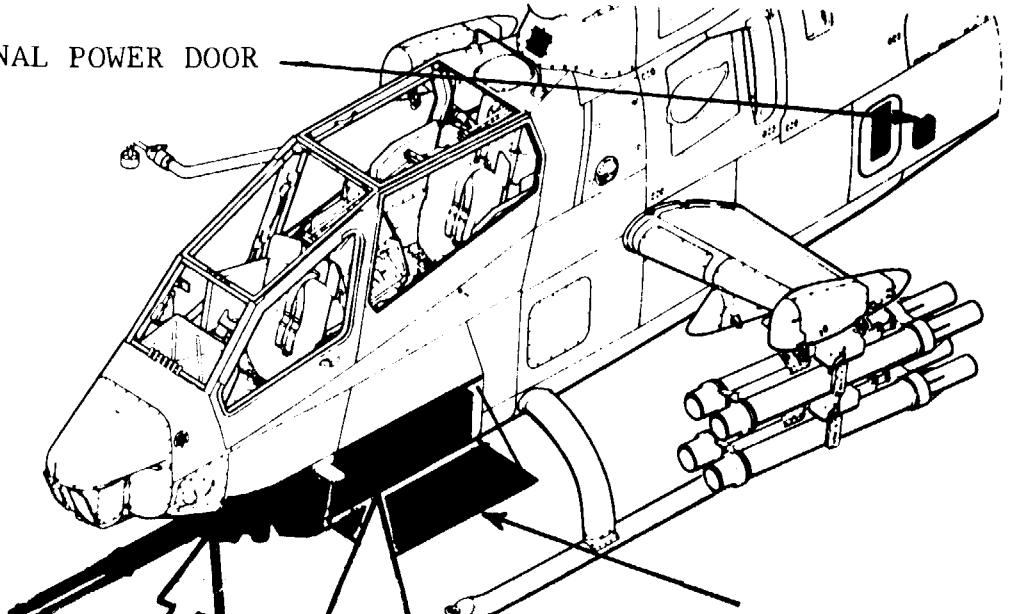
6-2. UTS OPERATIONAL CHECK
(CONTINUED).



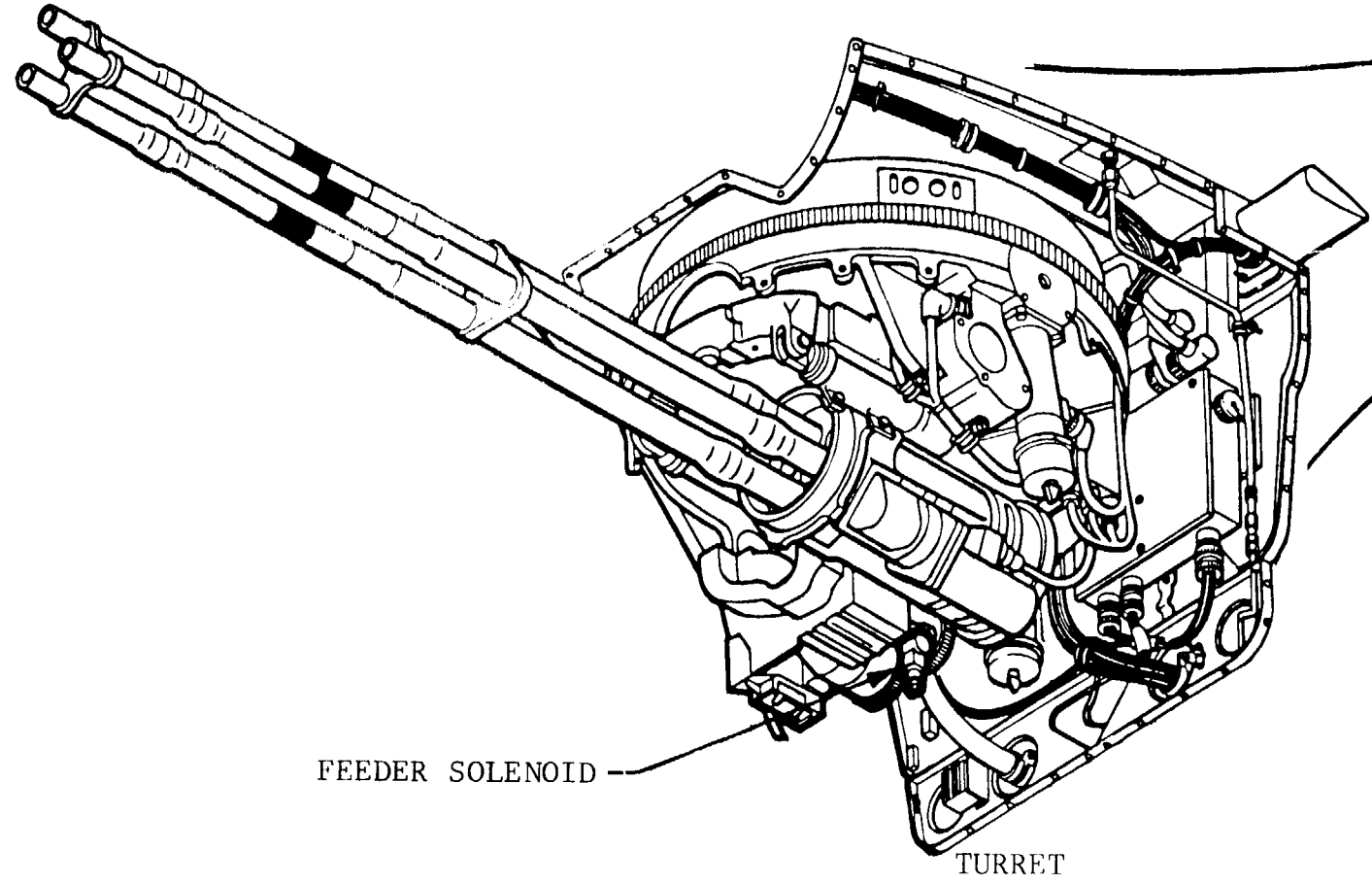
CIRCUIT BREAKER PANEL



EXTERNAL POWER DOOR

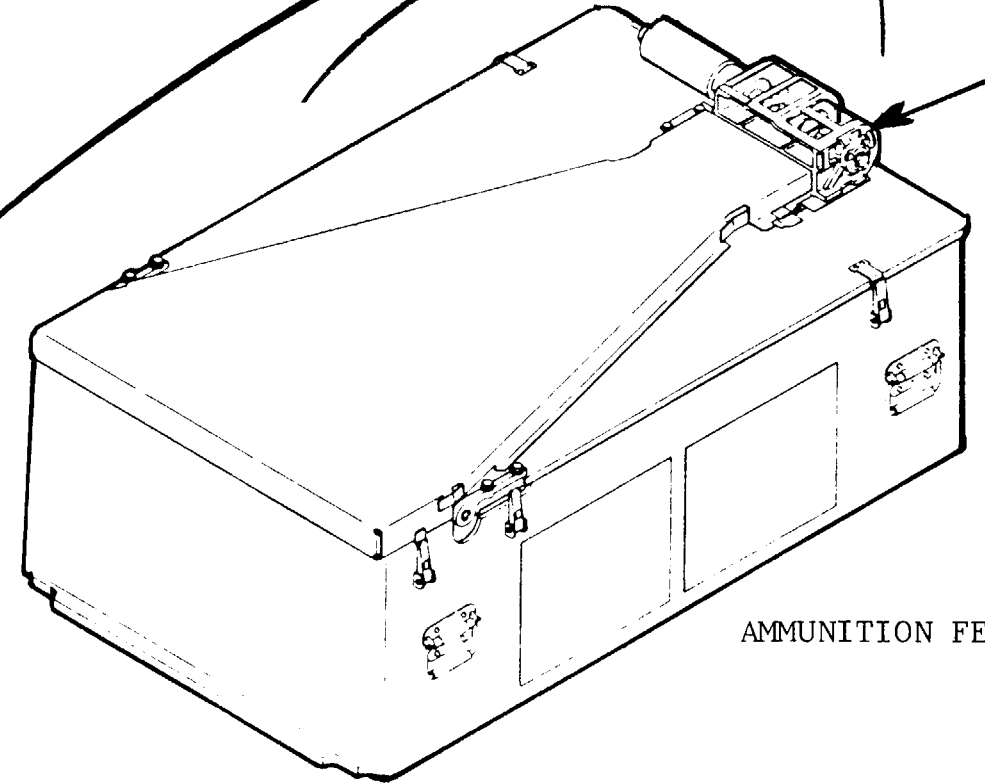


AMMO COMPARTMENT DOOR

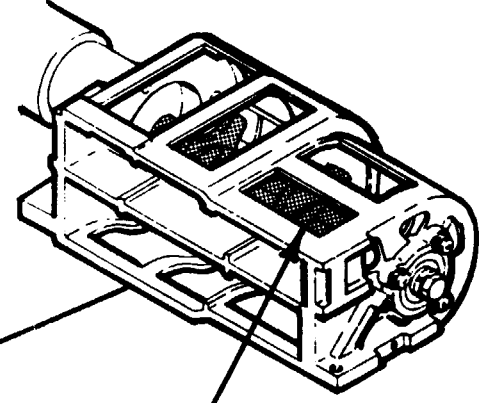


FEEDER SOLENOID

TURRET

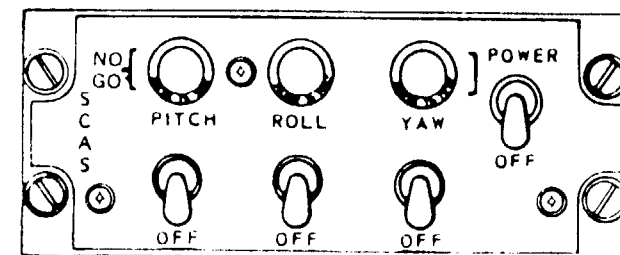
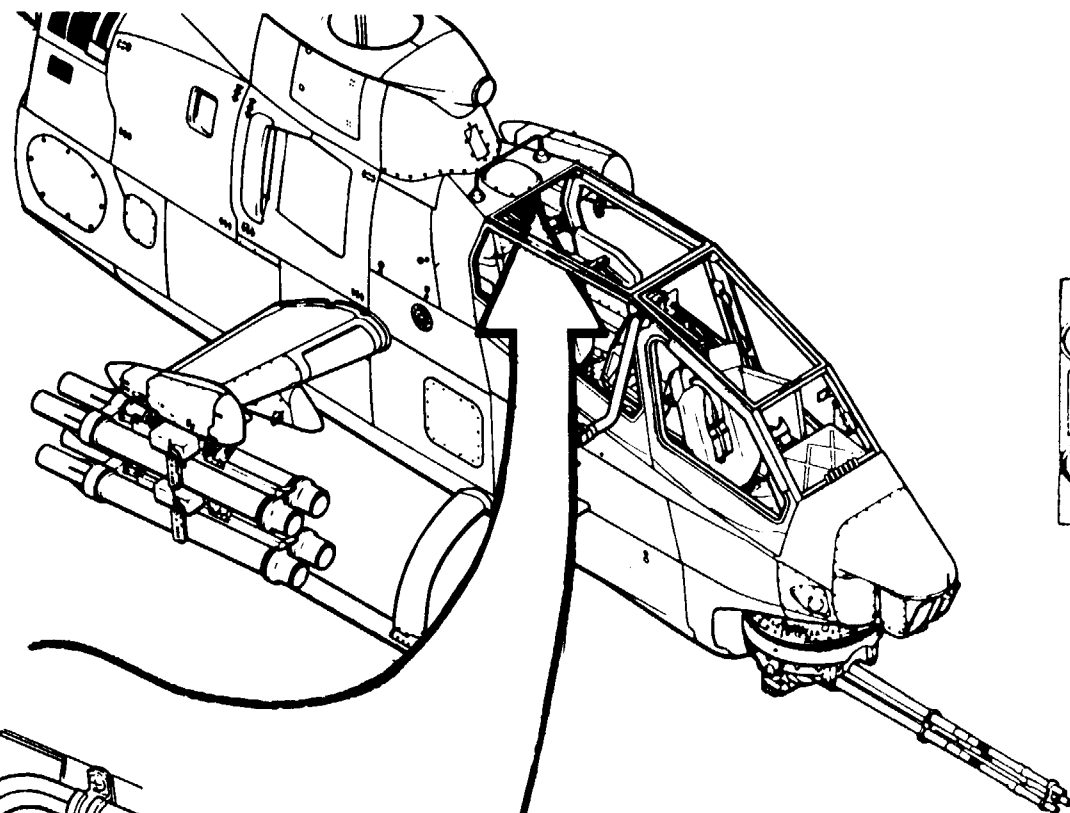


AMMUNITION FEED SYSTEM

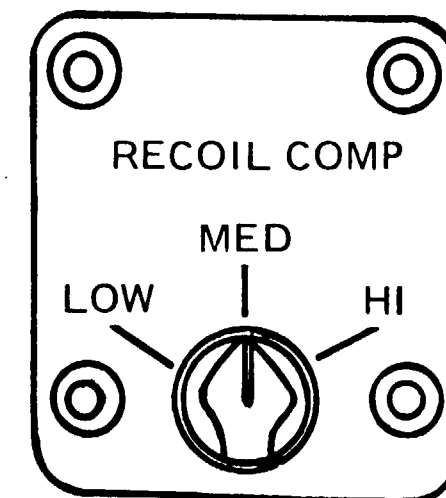


BOOSTER
MOTOR SPROCKET

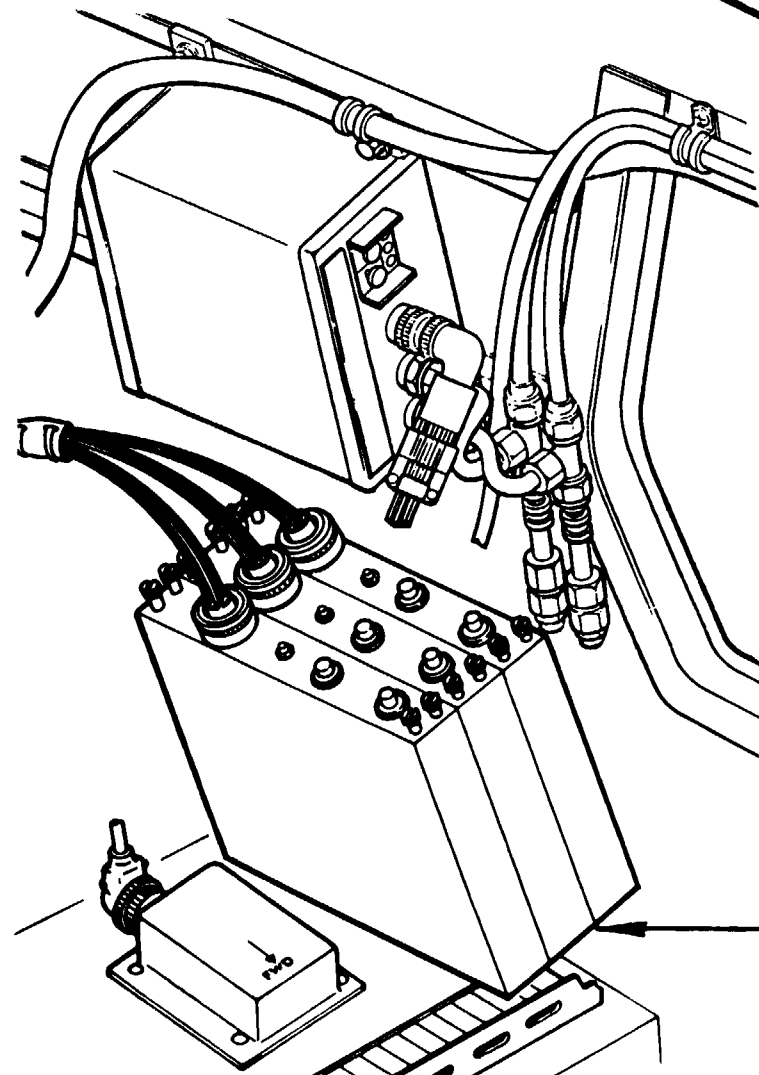
6-2. UTS OPERATIONAL CHECK
(CONTINUED).



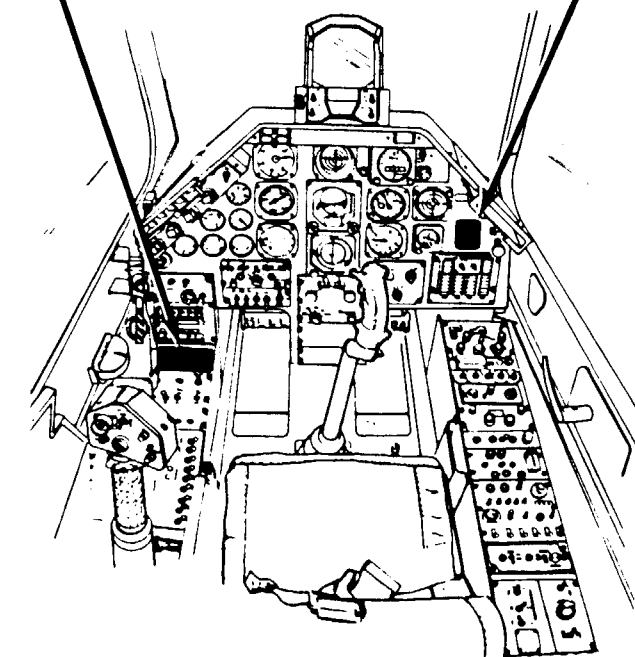
SCAS CONTROL PANEL



RECOIL COMP SWITCH



SENSOR AMPLIFIER UNIT



PILOT STATION

6-2. UTS OPERATIONAL CHECK
(CONTINUED).

APPLYING ELECTRICAL POWER

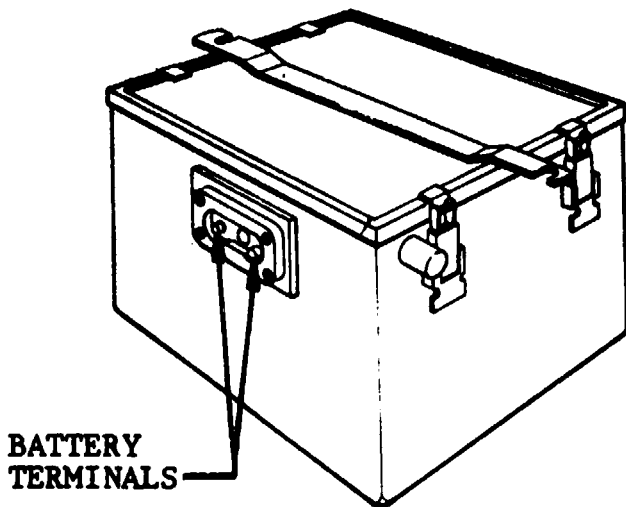
WARNING

Warn people working on or near helicopter before you apply electrical power.

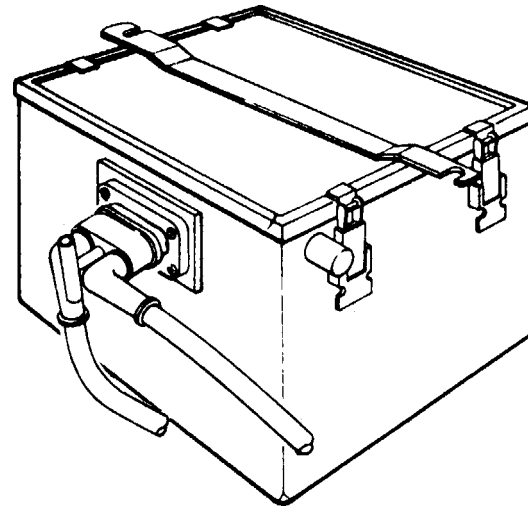
CAUTION

Minimum acceptable battery voltage is 22 V dc. 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.

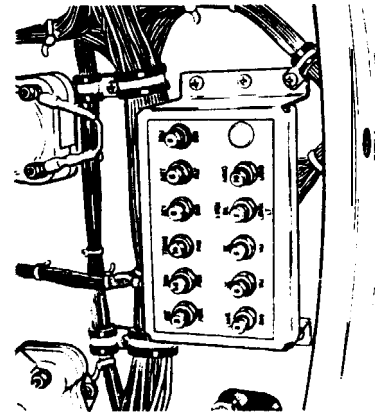


b. Connect battery.



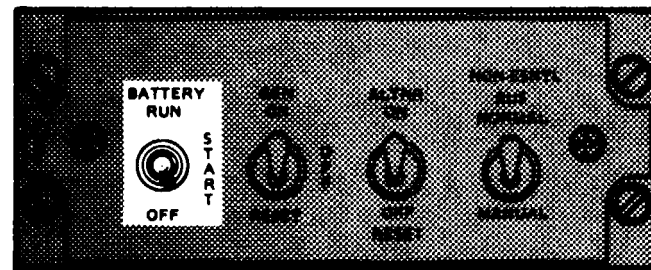
BATTERY

c. Close all circuit breakers on circuit breaker panel in battery compartment.



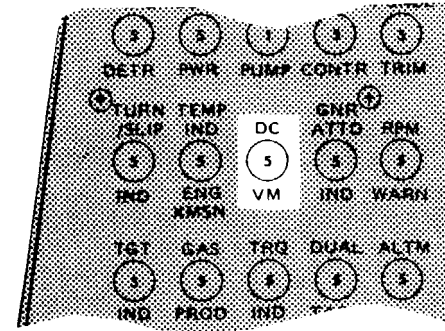
CIRCUIT BREAKER PANEL

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.



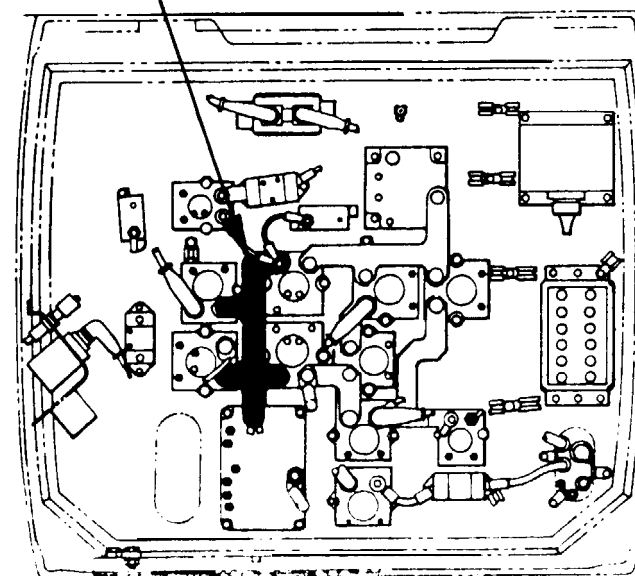
DC CIRCUIT BREAKER PANEL

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.

ESSENTIAL BUS

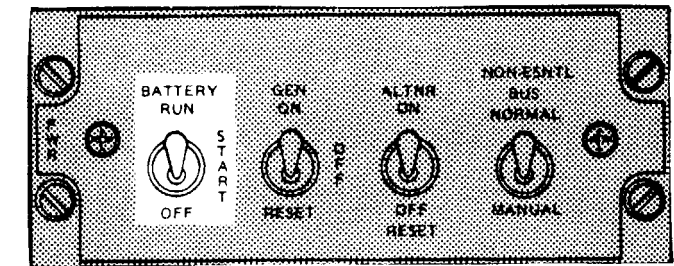


FORWARD BULKHEAD OF BATTERY COMPARTMENT

NOTE

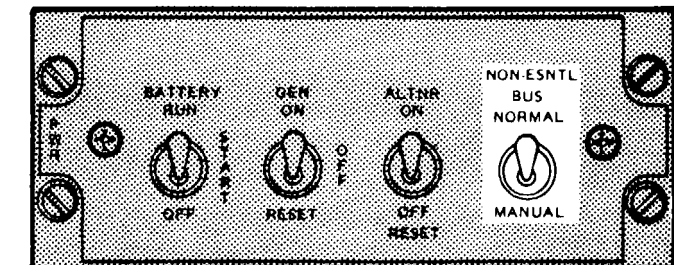
28 to 30 V dc is required for the following operational checks. The DC voltmeter can be observed to assure correct voltage is present.

g. Set BATTERY switch on electrical PWR control panel to RUN.



ELECTRICAL PWR CONTROL PANEL

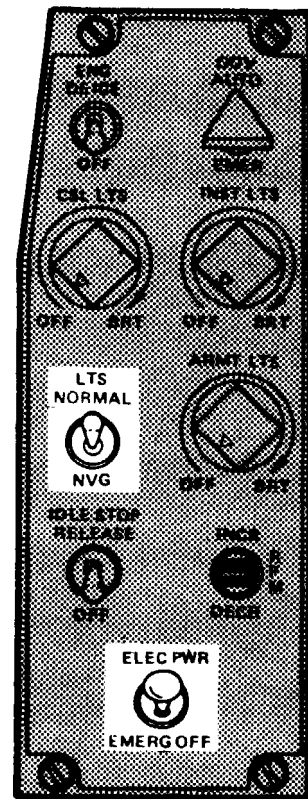
h. Set NON-ESNTL BUS switch on electrical PWR control panel to NORMAL.



ELECTRICAL PWR CONTROL PANEL

6-2. UTS OPERATIONAL CHECK (CONTINUED).

i. Set LTS switch on gunner miscellaneous control panel to NORMAL.



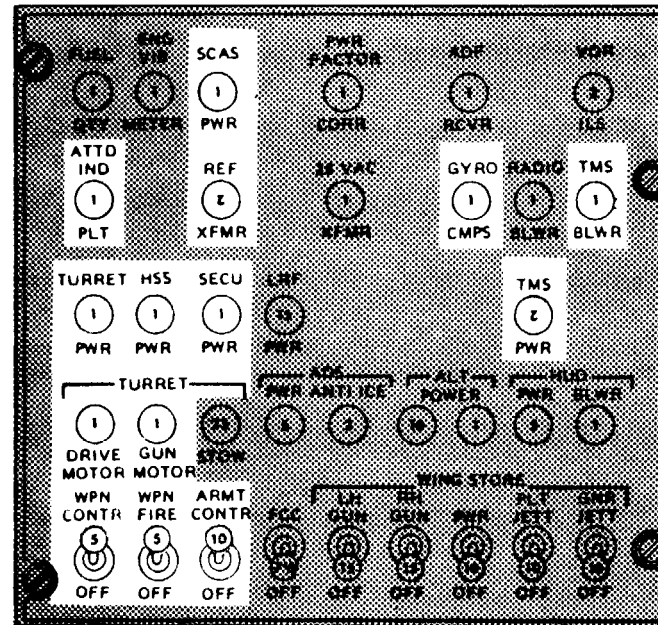
GUNNER MISCELLANEOUS CONTROL PANEL

j. Observe that ELEC PWR /EMERG OFF switch on gunner miscellaneous control panel is set to ELEC PWR.

k. Close the following circuit breakers on AC/ARMT circuit breaker panel:

- (1) SCAS PWR
- (2) ATTD IND PLT
- (3) REF XFMR
- (4) GYRO CMPS
- (5) TMS BLWR

- (6) TURRET PWR
- (7) HSS PWR
- (8) SECU PWR
- (9) TMS PWR
- (10) TURRET DRIVE MOTOR
- (11) TURRET GUN MOTOR
- (12) WPN CONTR
- (13) WPN FIRE
- (14) ARMT CONTR

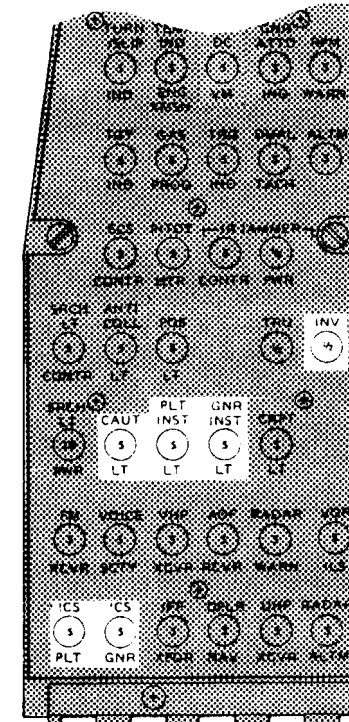


AC/ARMT CIRCUIT BREAKER PANEL

l. Close the following circuit breakers on the DC circuit breaker panel.

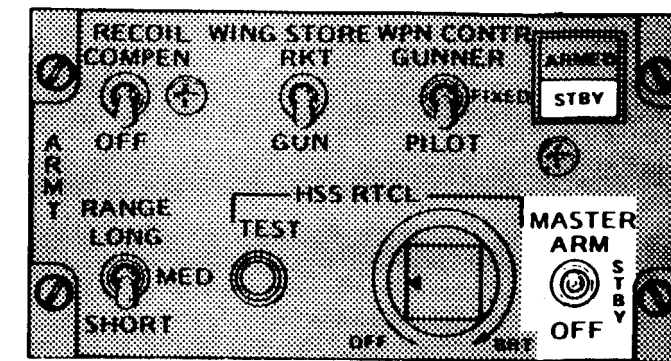
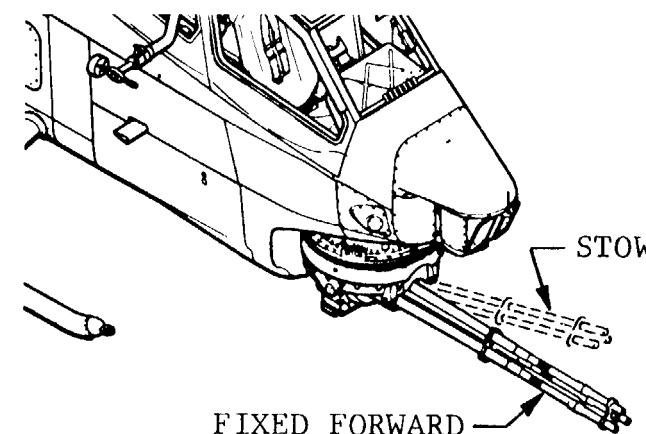
- (1) INV
- (2) CAUT LT
- (3) PLT INST LT
- (4) GNR INST LT

- (5) ICS PLT
- (6) ICS GNR



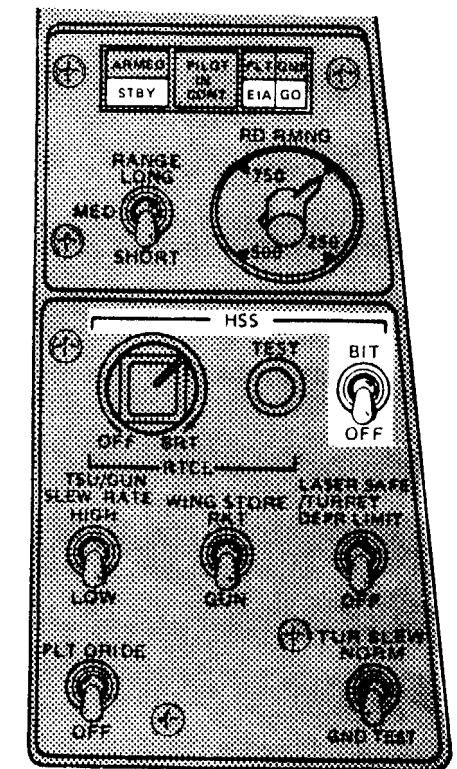
DC CIRCUIT BREAKER PANEL

m. Set MASTER ARM switch on pilot ARMT control panel to STBY. STBY (green) indicator will light on both pilot 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

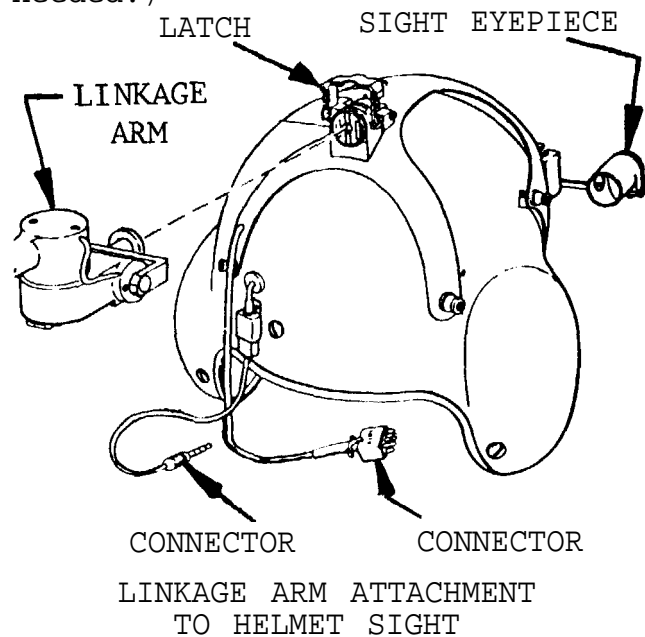
n. Ensure pilot and gunner HSS linkage arms are attached to their respective BIT magnets. Press HSS BIT switch on gunner armament control panel to BIT, then release. HSS system passes BIT if the GO segment on PLT/GNR/EIA/GO indicator lights for 5 to 10 seconds and then goes out.



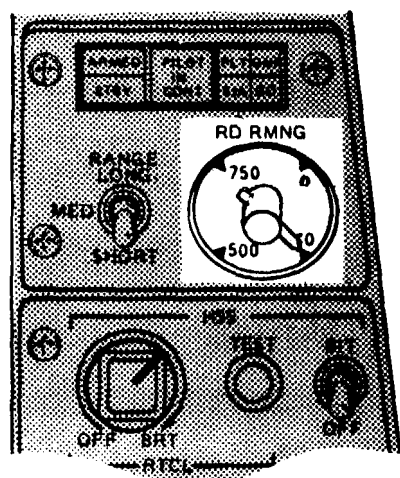
GUNNER ARMAMENT CONTROL PANEL

6-2. UTS OPERATIONAL CHECK (CONTINUED).

o. Put on helmet in pilot and gunner stations. Attach linkage arms, electrical connectors and adjust helmet sight eyepieces. Lighted target reticles will appear in both helmet sight eyepieces. (Refer to HSS chapter if additional information is needed.)



p. Set RD RMNG indicator on gunner armament control panel to 250. (To set, pull up RESET knob and rotate pointer.)

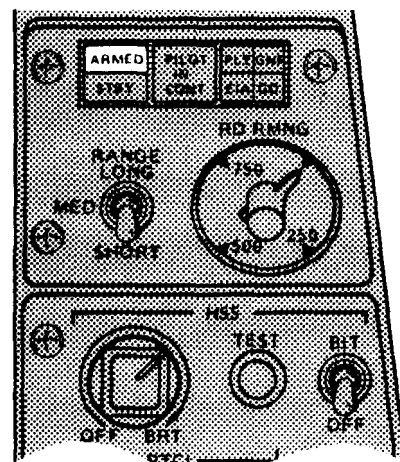


GUNNER ARMAMENT CONTROL PANEL

q. Set MASTER ARM switch on pilot ARMT control panel to ARM. ARMED indicator will light on both the pilot ARMT and gunner armament control panels.



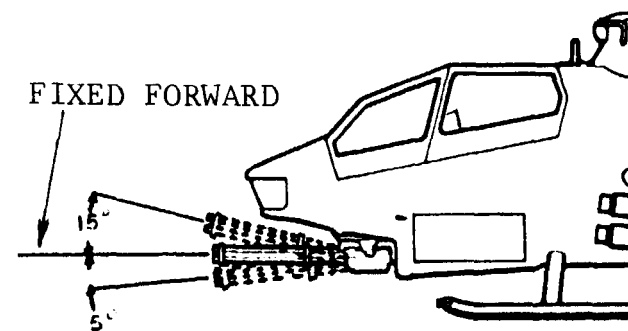
PILOT ARMT CONTROL PANEL



GUNNER ARMAMENT CONTROL PANEL

NOTE

Upward gun motion is limited by the turret to approximately 15 degrees. The TURRET DEPR LIMIT switch causes downward gun motion to be limited to 5 degrees below the turret fixed forward position. This prevents the gun from striking the ground.

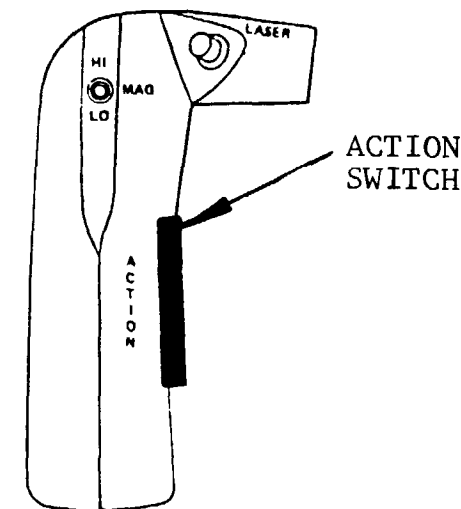


NOTE

During the following tests, gun slew rate will be slower than normal. The helmet sight reticle will flash if the helmet is moved faster than the turret can follow (out of coincidence) or if the turret is driven against one of the limit stops.

r. Press and hold ACTION switch on left hand grip. Rotate gunner helmet up, down, left and right and observe the gun follows helmet motion and is steady. (The turret will make audible sound as the gun moves.)

s. Slowly rotate gunner helmet upward (keeping in coincidence) and observe the gun follows to the upper elevation limit of gun motion. When the limit is reached; gun motion will stop, the turret drive motor will stop running (no noise) and the sight reticle in both helmet sights will flash continuously.

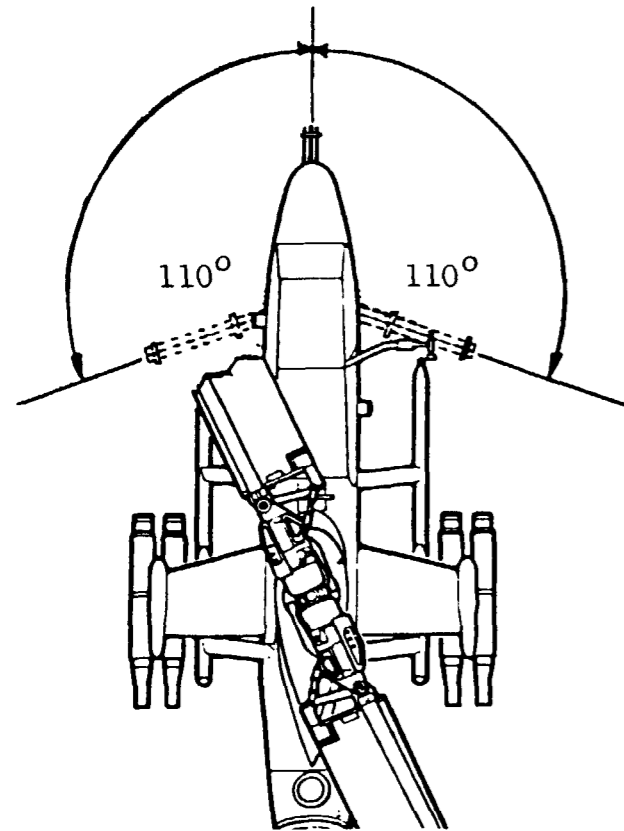


LEFT HAND GRIP

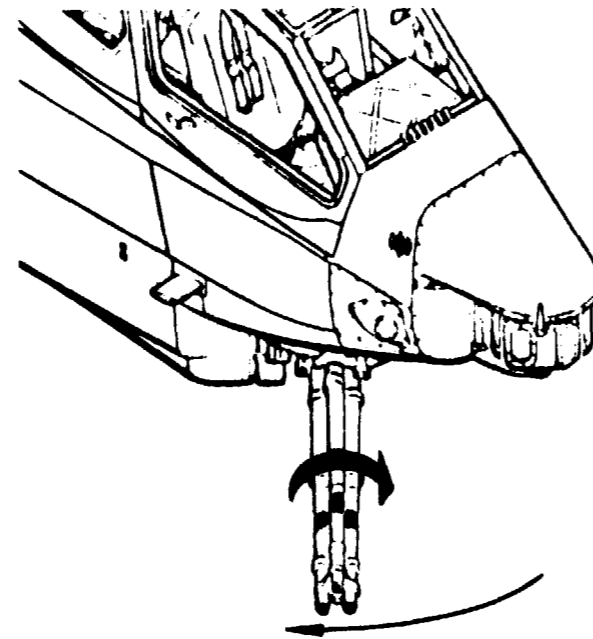
t. Slowly rotate gunner helmet downward and observe the lower elevation depression limit (gun stops moving downward). The reticle in both helmet sights will continuously flash as long as the turret is in depression limit.

6-2. UTS OPERATIONAL CHECK (CONTINUED).

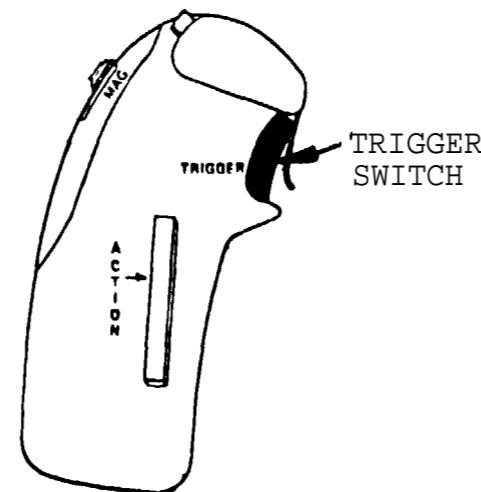
u. Rotate the gunner helmet to position the gun approximately midway between the elevation limits. Now turn the gunner helmet left until the gun reaches its left azimuth limit and stops (no noise). Observe that both helmet sight reticles begin flashing. Turn the gunner helmet right until the gun reaches its right azimuth limit and stops (no noise). Observe that both helmet sight reticles begin flashing.



v. Rotate the gunner helmet to position the gun approximately 45 degrees to the right azimuth and midway between the elevation limits (upper elevation limit and depression limit).



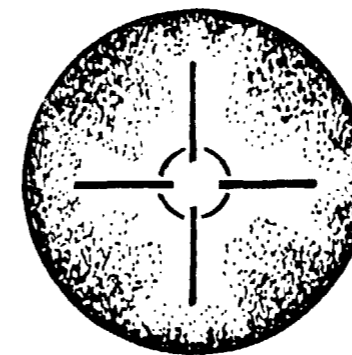
(1) Press and hold TRIGGER switch on left hand grip to the first detent (burst limit). Observe that gun barrels rotate approximately 2 seconds and then stop (simulate a 16 round burst).



LEFT HAND GRIP

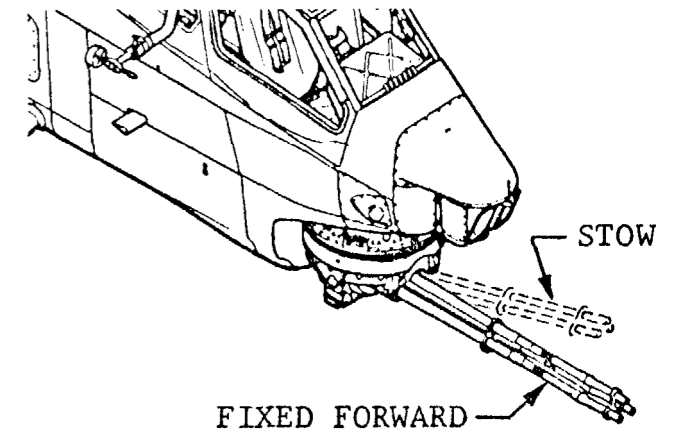
(2) Press and hold TRIGGER switch on left hand grip to second detent and observe that gun barrels rotate as long as the switch is held. Release TRIGGER switch and observe that gun barrels stop rotating.

w. With the gun pointing approximately 45 degrees to the right, rotate gunner helmet upward until the gun stops moving and both helmet sight reticles start flashing. Press and hold TRIGGER switch on left hand grip to the second detent. Observe that gun barrels do not rotate. Slowly move gunner helmet downward and observe as the gun begins to move down that the barrels start rotating and both helmet reticles stop flashing. Release TRIGGER switch.

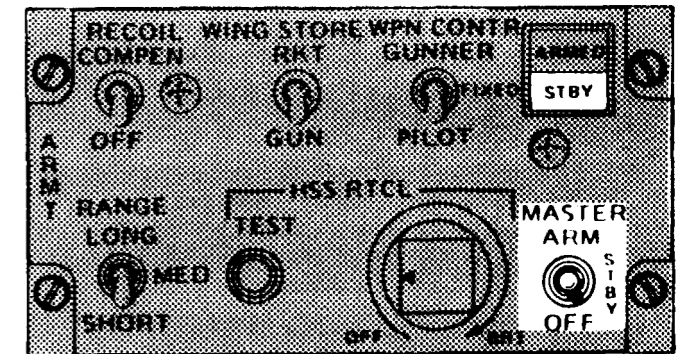


HSS RETICLE

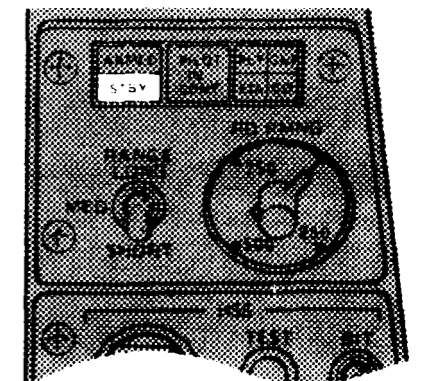
x. Release ACTION switch on gunner left hand grip. The gun will return to the stow position.



Set MASTER ARM switch on pilot ARMT control panel to STBY. The STBY (green) indicator on both pilot ARMT and gunner armament control panels will light.



PILOT ARMT CONTROL PANEL

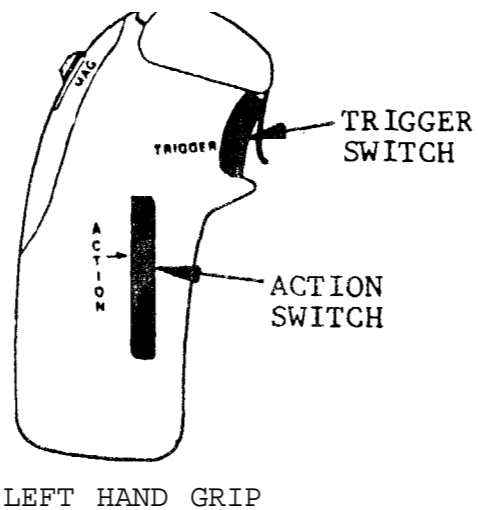


GUNNER ARMAMENT CONTROL PANEL

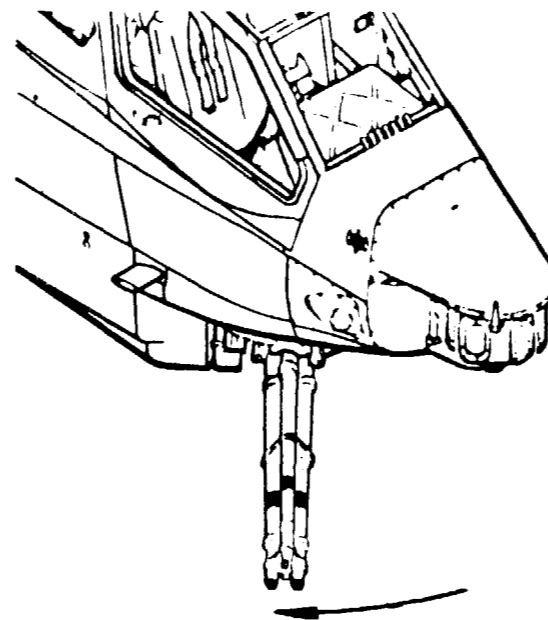
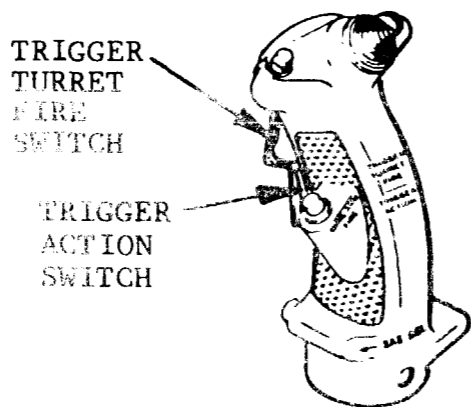
6-2. UTS OPERATIONAL CHECK (CONTINUED).

z. Set PILOT ORIDE switch on gunner armament control panel to PLT ORIDE. The ARMED indicator segment on both pilot ARMT and gunner armament control panels will light.

aa. Press ACTION and TRIGGER switches on left hand grip. The turret will not move and the gun barrels will not rotate. Release ACTION and TRIGGER switches on left hand grip.



ab. Press and hold TRIGGER ACTION switch on the gunner cyclic stick. Move the gunner helmet to position the gun to a fixed point approximately 45 degrees to the right (azimuth) and midway between the elevation limits.



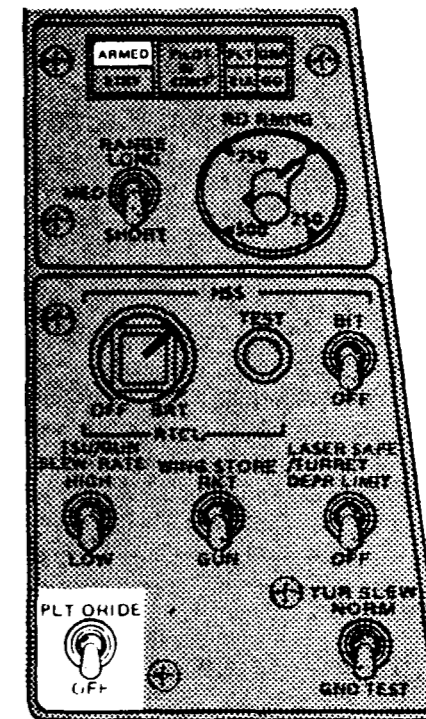
NOTE

TOW system may re-initiate BIT when gun is fired due to momentary power drain. This is normal when using ground power, abnormal when using aircraft power.



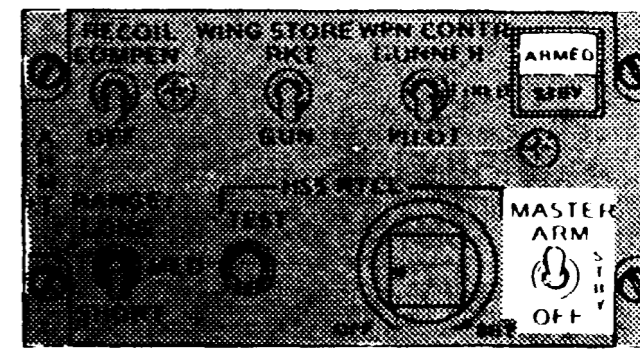
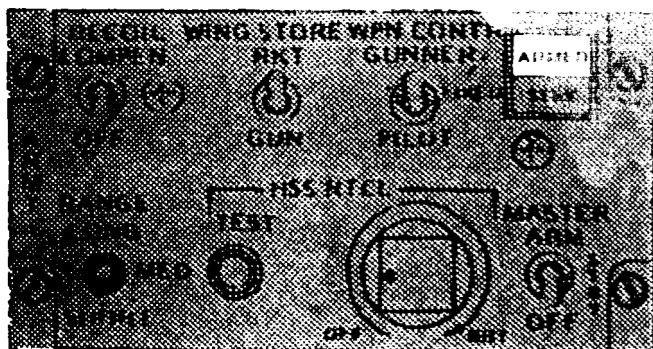
- (1) Press TRIGGER TURRET FIRE switch on gunner cyclic stick to the first detent. Observe that gun barrels rotate approximately 2 seconds and then stop.
- (2) Press TRIGGER TURRET FIRE switch to the second detent and observe that gun barrels rotate as long as the switch is held. Release the TRIGGER TURRET FIRE switch.

ac. Set PLT ORIDE switch on gunner armament control panel to OFF. Observe that turret returns to stow position. Release TRIGGER ACTION switch. Set MASTER ARM switch on pilot ARMT control panel to ARM and observe ARMED indicators light.



GUNNER ARMAMENT CONTROL PANEL

GUNNER ARMAMENT CONTROL PANEL

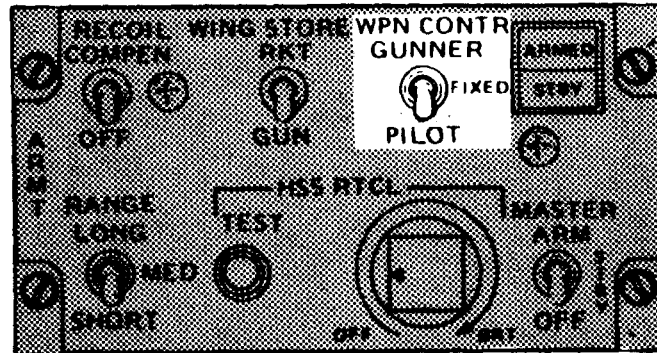


PILOT ARMT CONTROL PANEL

PILOT ARMT CONTROL PANEL

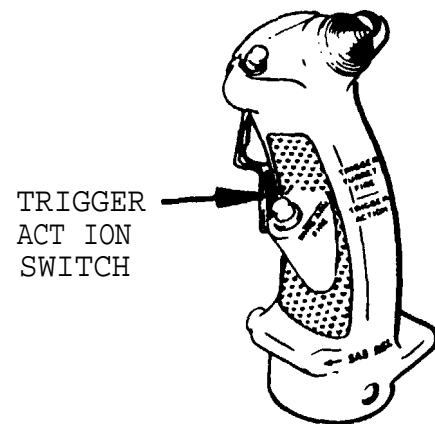
6-2. UTS OPERATIONAL CHECK (CONTINUED)

ad. Set WPN CONTR switch on pilot ARMT control panel to PILOT.



PILOT ARMT CONTROL PANEL

ae. Press and hold TRIGGER ACTION switch on pilot cyclic stick and slowly move pilot helmet to right approximately 45 degrees in azimuth. Rotate the helmet up and down and observe that gun follows. Hold pilot helmet steady for approximately 5 seconds and observe the gun is steady.

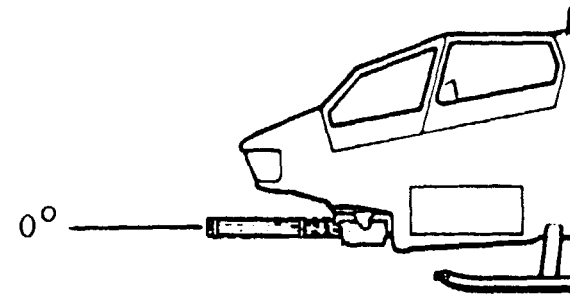


PILOT CYCLIC STICK

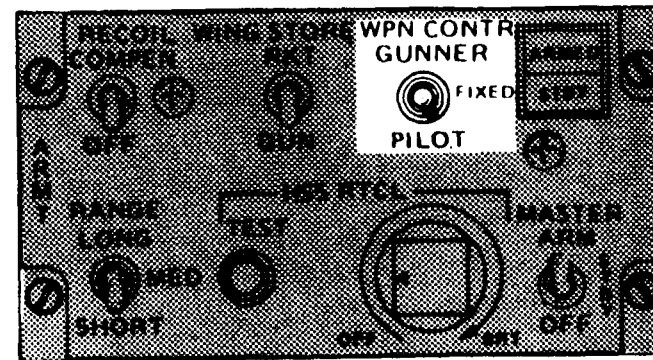
af. Release the TRIGGER ACTION switch on pilot cyclic stick and observe that turret returns to stow.

NOTE

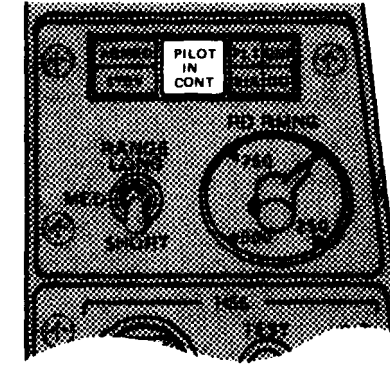
In the fixed forward position, the turret is positioned to align the gun barrels straight forward (0 degrees azimuth, 0 degrees elevation).



ag. Set WPN CONTR switch on pilot ARMT control panel to FIXED. Turret will move to the fixed forward position and remain stationary. Observe PILOT IN CONT indicator on gunner armament control panel lights.

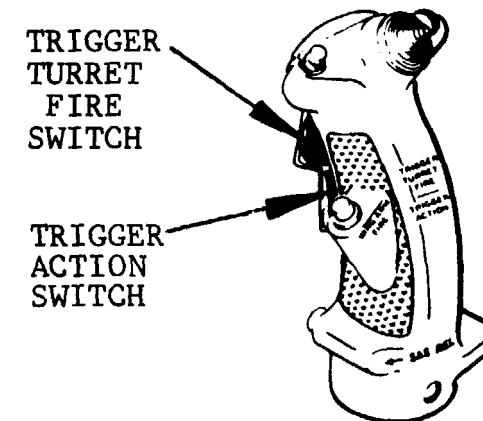


PILOT ARMT CONTROL PANEL



GUNNER ARMAMENT CONTROL PANEL

ah. Press and hold TRIGGER ACTION switch and press TRIGGER TURRET FIRE switch on pilot cyclic stick to the first detent. Observe that gun barrels rotate approximately 2 seconds and stop.

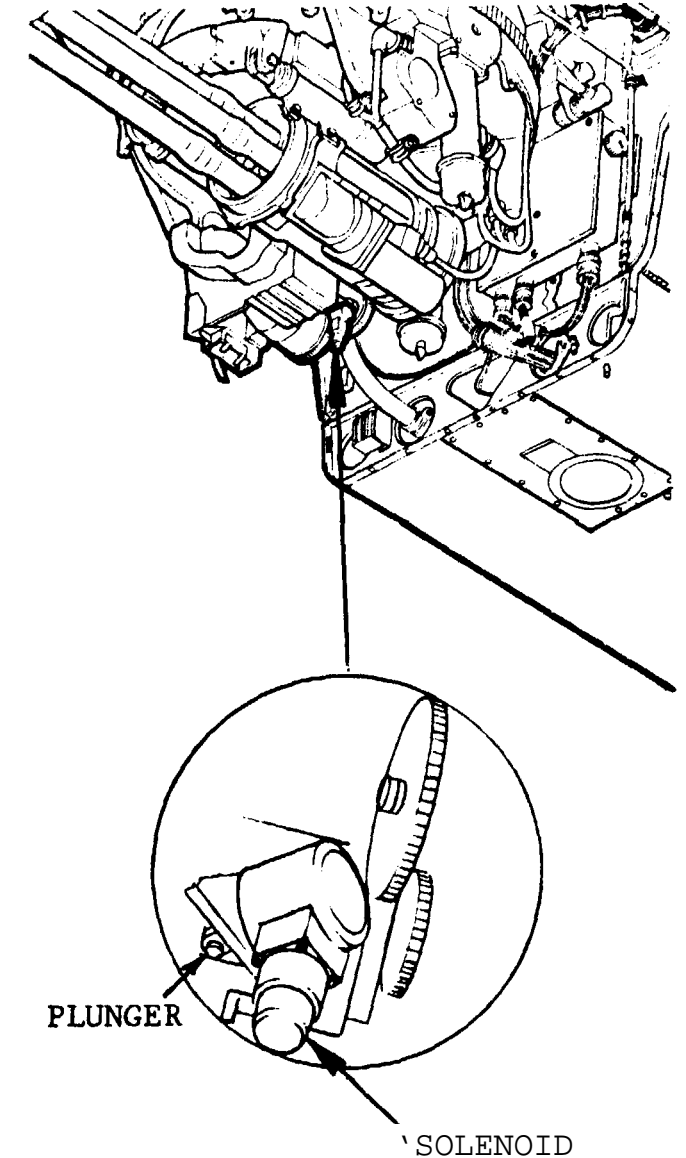


PILOT CYCLIC STICK

ai. Press TRIGGER TURRET FIRE switch on pilot cyclic stick to the second detent. (TRIGGER ACTION switch still pressed.) Observe the following (repeat each test as necessary):

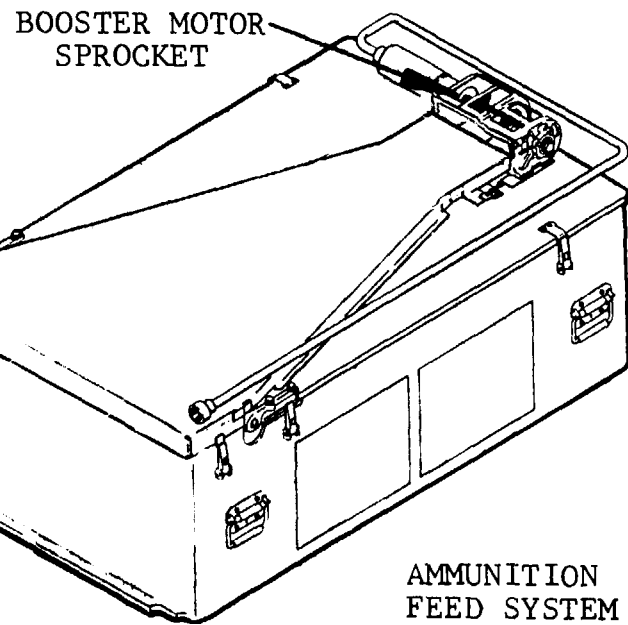
- (1) The gun barrels rotate as long as the trigger is pressed.

- (2) The gun feeder solenoid engages the feeder clutch only when the TRIGGER TURRET FIRE switch is pressed. Observe plunger moving in and out as solenoid engages and disengages.

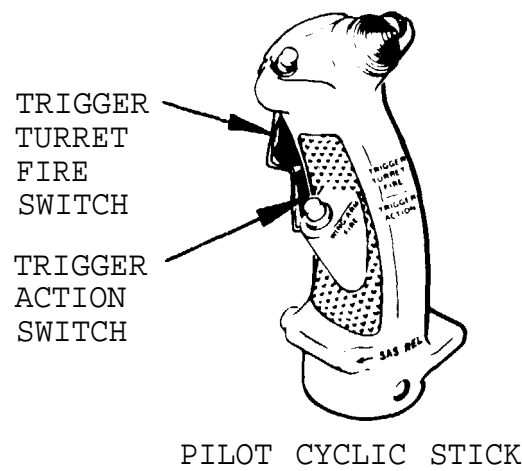


6-2. UTS OPERATIONAL CHECK
(CONTINUED).

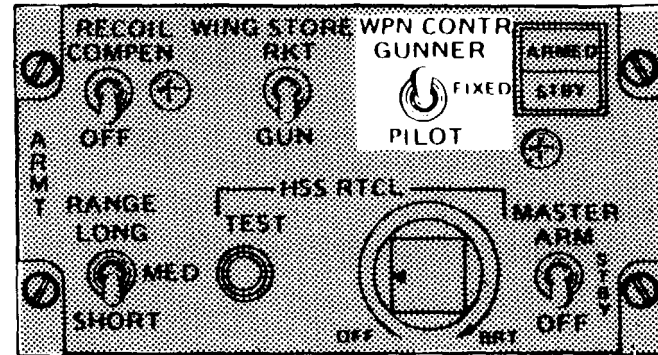
(3) The booster motor sprocket rotates only while the TRIGGER TURRET FIRE switch is pressed.



aj. Release TRIGGER ACTION switch and TRIGGER TURRET FIRE switch on pilot cyclic stick.

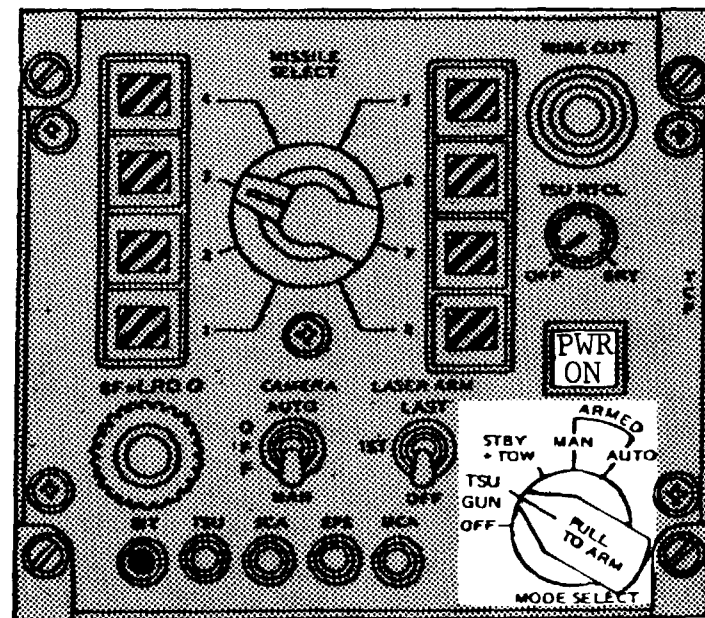


ak. Set WPN CONTR switch on pilot ARMT control panel to GUNNER. Retract gunner helmet sight eyepiece.

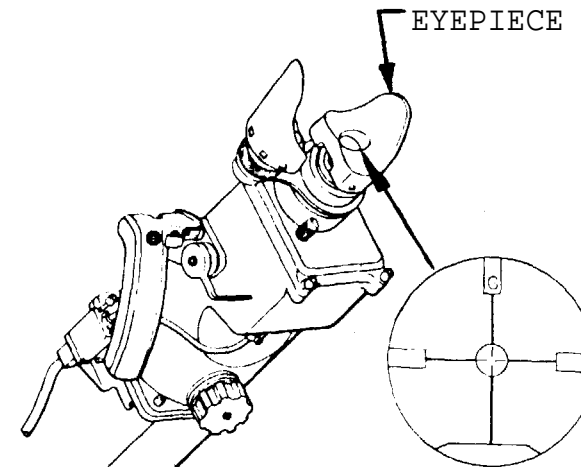


al. Set MODE SELECT switch on TCP (TOW control panel) to TSU GUN. After BIT test is complete, the mode indicator will indicate PWR ON. The "G" battle-flag indicator will appear in the TSU eyepiece. Disconnect gunner linkage arm from helmet and attach to stow bracket.

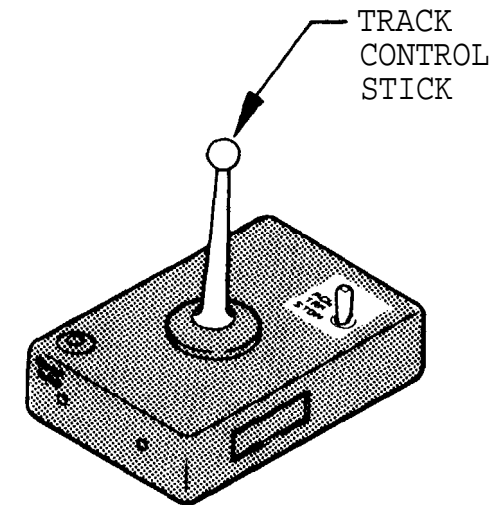
MCN all Set MAG switch on TSU left hand grip to DAY.



am. Set ACQ/TRK/STOW switch on sight hand control to TRK. While looking into the TSU eyepiece, apply force to track control stick on sight hand control to move TSU image up, down, left and right. Observe that image moves in response to the applied force on the track control stick. Move TSU approximately 45 degrees to the right and slightly above 0 degrees elevation.

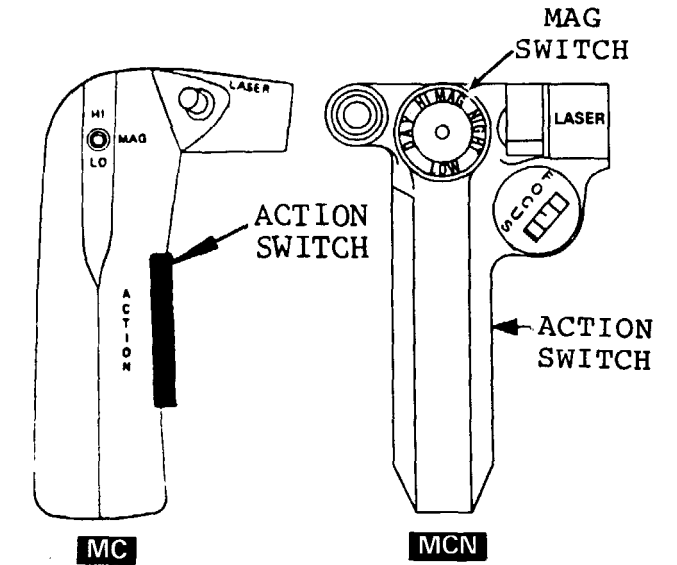


TELESCOPIC SIGHT UNIT (TSU)



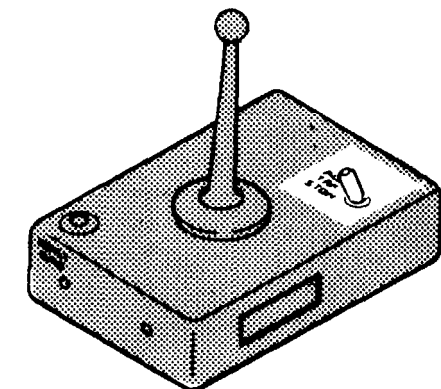
SIGHT HAND CONTROL

an. Press and hold the ACTION switch on left hand grip. Observe that the turret moves into coincidence with the TSU. Release ACTION switch.



LEFT HAND GRIP

ao. Set ACQ/TRK/STOW switch on sight hand control to STOW.



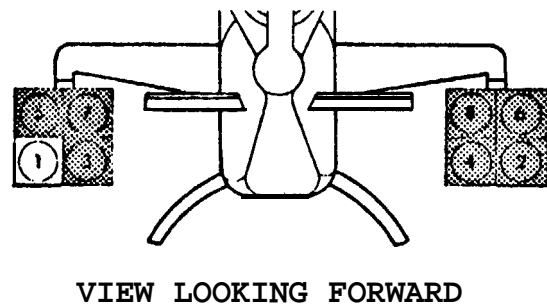
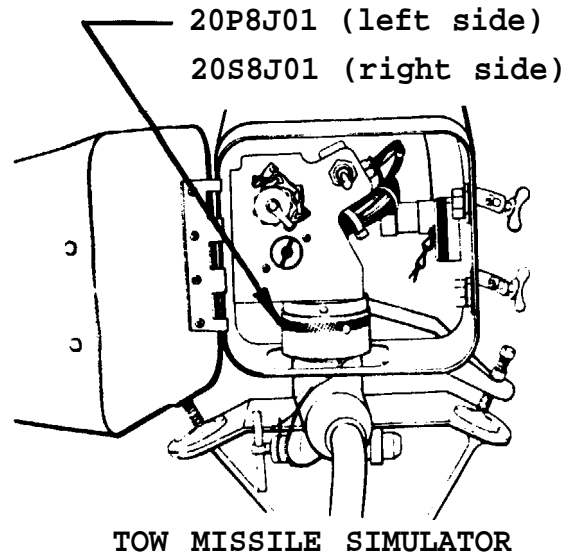
SIGHT HAND CONTROL

NOTE

The following check verifies that gun interruption circuits are functioning.

6-2. UTS OPERATIONAL CHECK (CONTINUED).

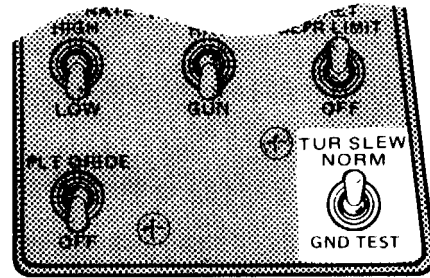
ap. Connect TOW Missile-present Simulators to 20P8J01 and 20S8J01 or install TSEM in launcher position #1 per TM 9-1425-473-34.



WARNING

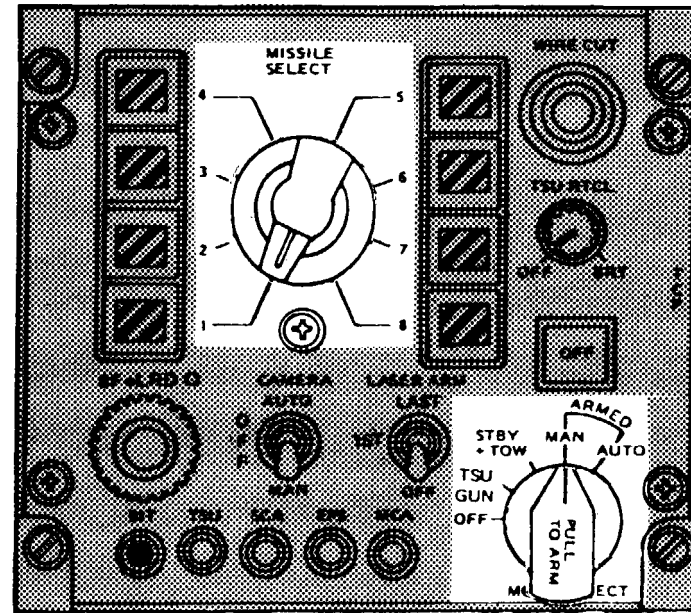
During the next test, the turret will respond at the same fast slew rate that occurs in flight. Be sure that personnel and equipment are not located in front or to either side of the gun.

aq. On gunner armament control panel set TUR SLEW to NORM.



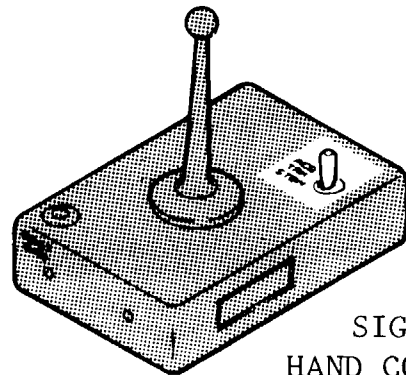
GUNNER ARMAMENT CONTROL PANEL

ar. On TCP (TOW control panel), set MISSILE SELECT switch to 1 and MODE SELECT switch to ARMED MAN. Observe turret moves to fixed forward position.



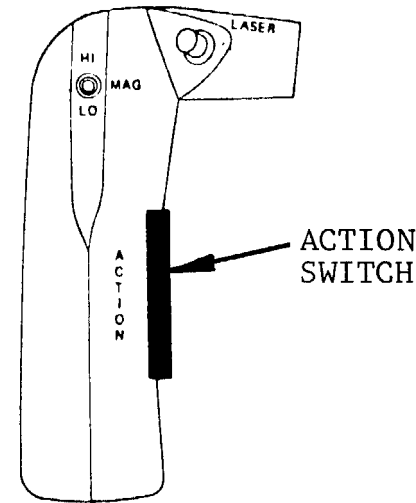
TCP (TOW CONTROL PANEL)

as. Set ACQ/TRK/STOW switch on sight hand control to TRK.



SIGHT HAND CONTROL

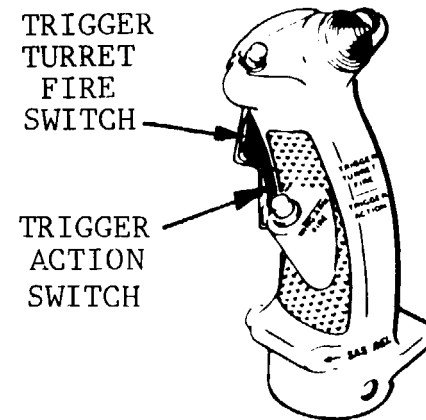
at. Press and hold ACTION switch on left hand grip until instructed otherwise.



LEFT HAND GRIP

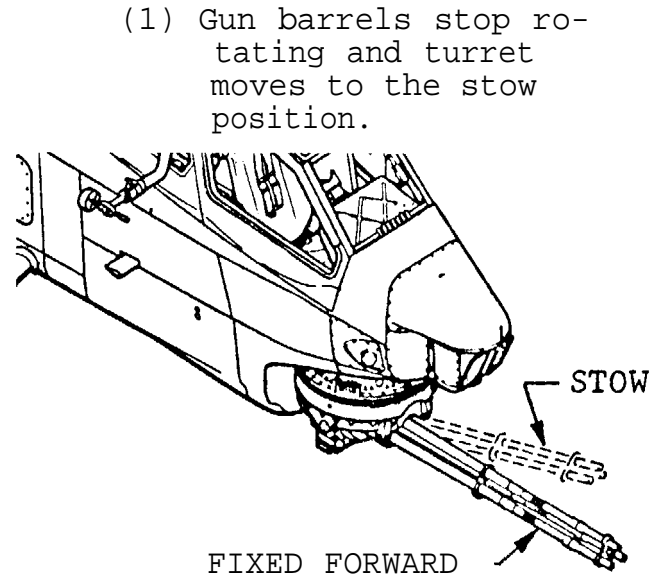
au. Select a target to right of helicopter with the pilot helmet sight.

av. On pilot cyclic stick, press and hold TRIGGER ACTION switch. The turret will point at the selected target. Press and hold TRIGGER TURRET FIRE switch to the second detent. The gun barrels will rotate.

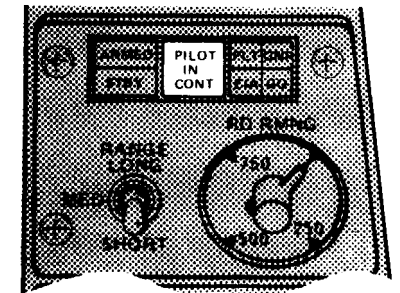


PILOT CYCLIC STICK

aw. On left hand grip, press TRIGGER switch and immediately release both TRIGGER and ACTION switches. Observe the following.



(2) PILOT IN CONT indicator on gunner armament control panel goes out.

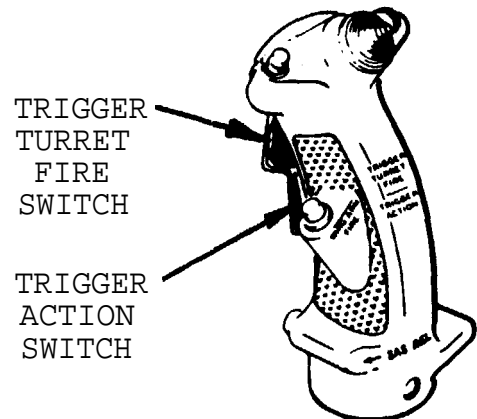


GUNNER ARMAMENT CONTROL PANEL

(3) After a short time delay (from time the left hand grip TRIGGER switch was first pressed), PILOT IN CONT indicator will light and turret will return to the target selected by the pilot. Gun barrels will start rotating.

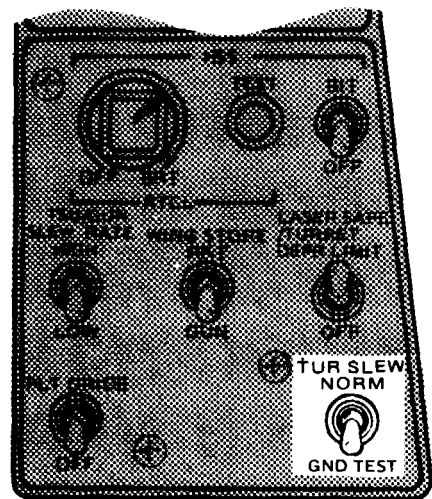
6-2. UTS OPERATIONAL CHECK (CONTINUED).

ax. Release TRIGGER TURRET FIRE switch and TRIGGER ACTION switch on pilot cyclic stick.



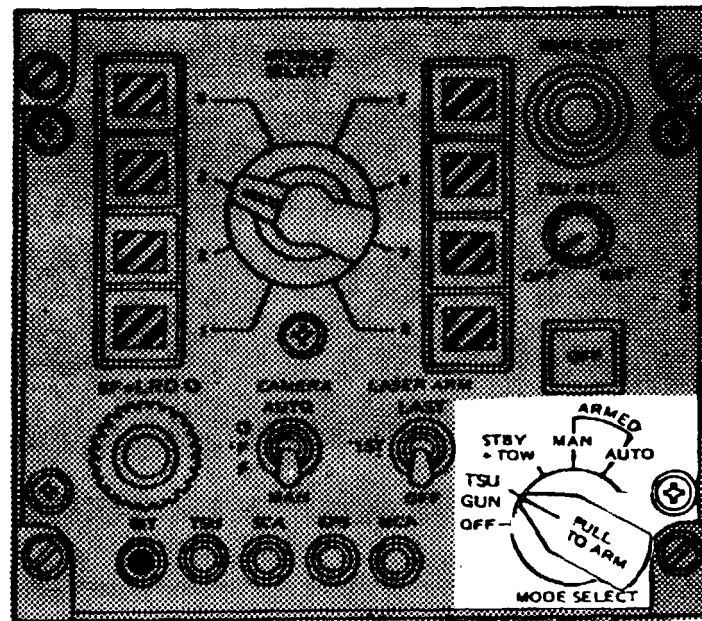
PILOT CYCLIC STICK

ay. Set TUR SLEW switch on gunner armament control panel to GND TEST.



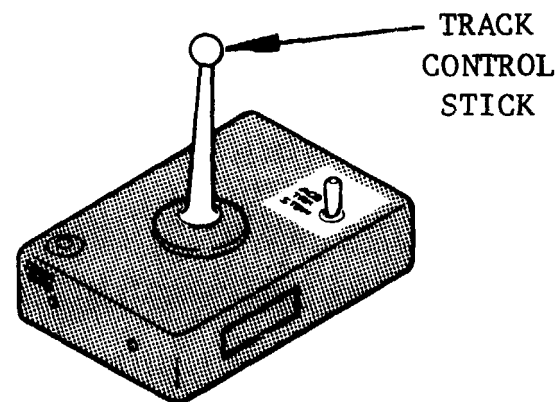
GUNNER ARMAMENT CONTROL PANEL

az. Set MODE SELECT switch on TCP (TOW control panel) to TSU GUN.

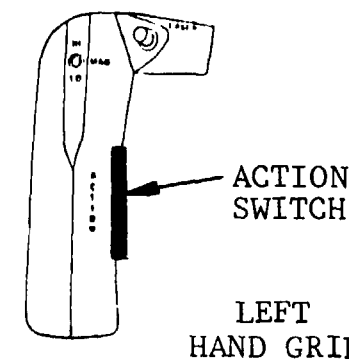


TCP (TOW CONTROL PANEL)

ba. Move TSU 45 degrees to one side (right or left) with track control stick on sight hand control. Press and hold ACTION switch on left hand grip, turret will move into coincidence with TSU. Hold ACTION switch until instructed otherwise.



SIGHT HAND CONTROL



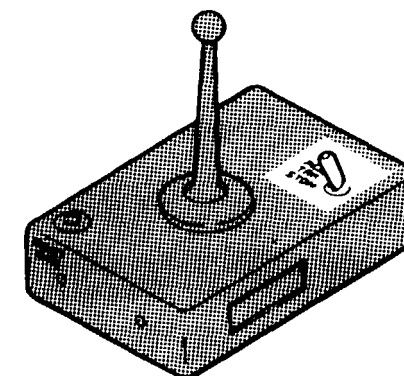
LEFT HAND GRIP

bb. Press and hold WING ARM FIRE switch on pilot cyclic stick. Turret will return to stow position. Release WING ARM FIRE switch. After approximately a 0.5 second delay the turret will move back into coincidence with TSU.

PILOT CYCLIC STICK

WING ARM FIRE SWITCH

bc. Release ACTION switch on left hand grip and position ACQ/TRK/STOW switch on sight hand control to stow.

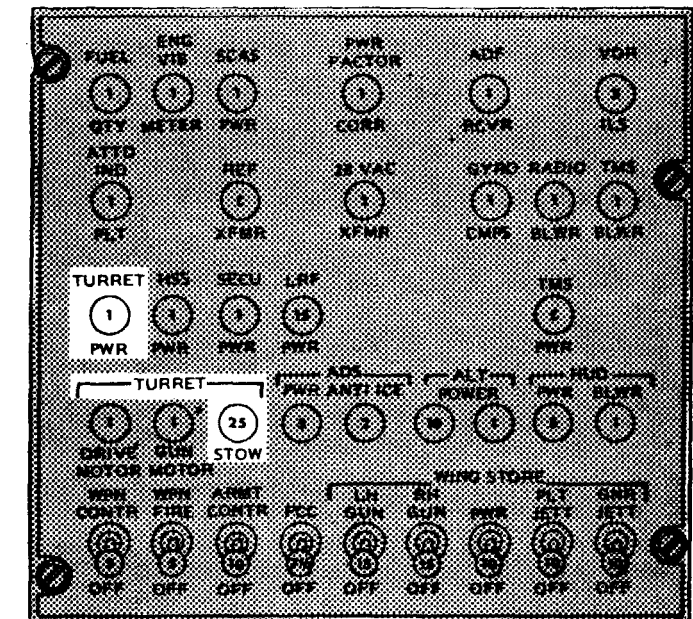


SIGHT HAND CONTROL

NOTE

The following test verifies the emergency stow circuitry is functioning.

bd. Close TURRET STOW circuit breaker on AC/ARMT circuit breaker panel.



AC/ARMT CIRCUIT BREAKER PANEL

be. Position ACQ/TRK/STOW switch on sight hand control to TRK. Press and hold ACTION switch on left hand grip. With track control stick, move TSU and turret approximately 45 degrees to one side and down.

bf. Open TURRET PWR circuit breaker on AC/ARMT circuit breaker panel. Observe that turret moves to the stow position.

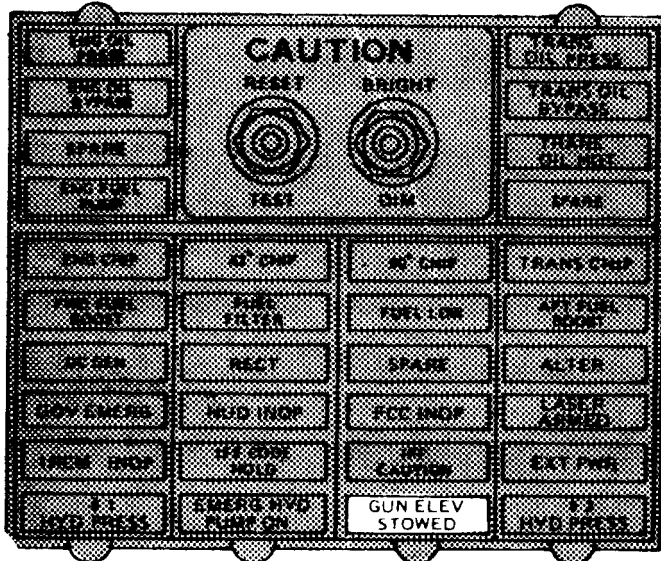
6-2. UTS OPERATIONAL CHECK (CONTINUED).

bi. Set ACQ/TRK/STOW switch on sight hand control to STOW,

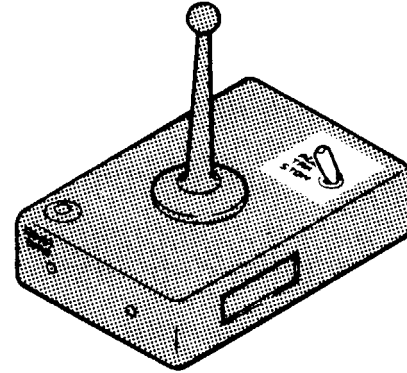
bk. Set MASTER ARM switch on pilot ARMT control panel to OFF.

bm. Open TURRET STOW circuit breaker on AC/ARMT circuit breaker panel.

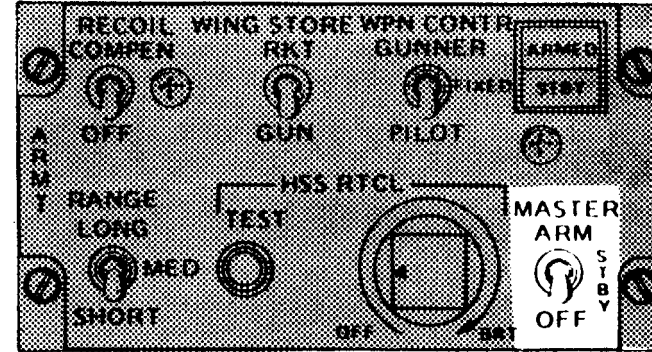
bg. Observe that GUN ELEV STOWED segment lights on pilot caution panel.



PILOT CAUTION PANEL



SIGHT HAND CONTROL



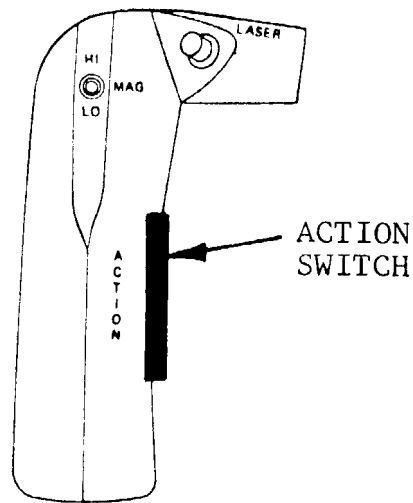
PILOT ARMT CONTROL PANEL

bl. Observe RD RMNG indicator on gunner armament control panel has decreased from the previous 250 setting.

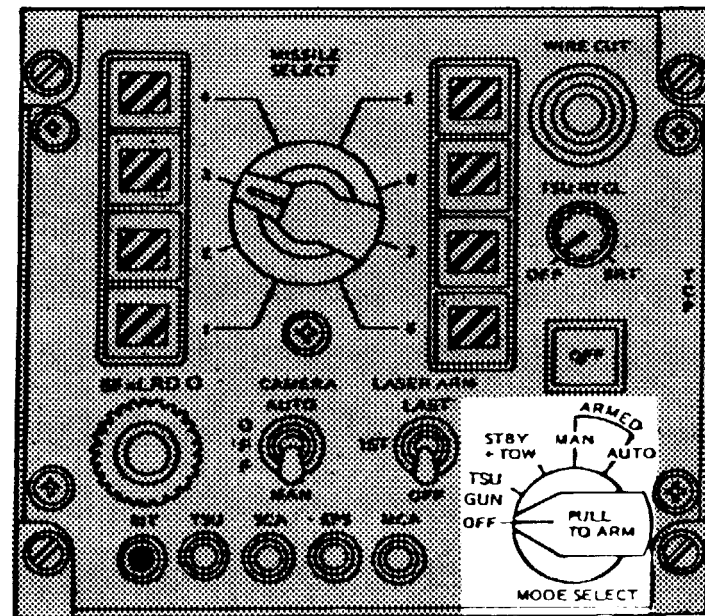
bj. Set MODE SELECT switch on TCP (TOW control panel) to OFF.

AC/ARMT CIRCUIT BREAKER PANEL

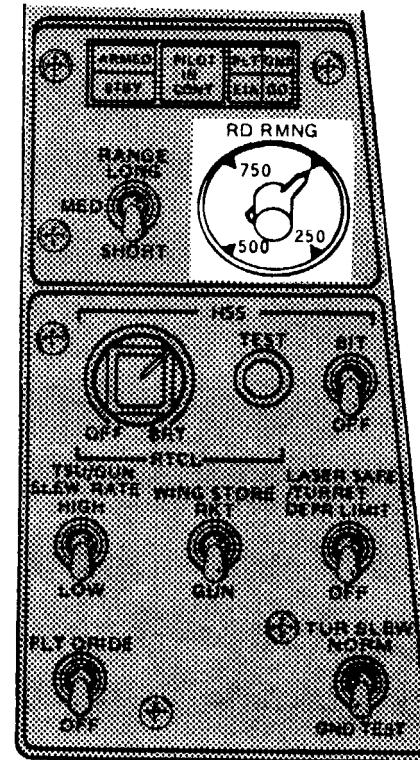
bh. Release ACTION switch on left hand grip.



LEFT HAND GRIP



TCP (TOW CONTROL PANEL)



GUNNER ARMAMENT CONTROL PANEL

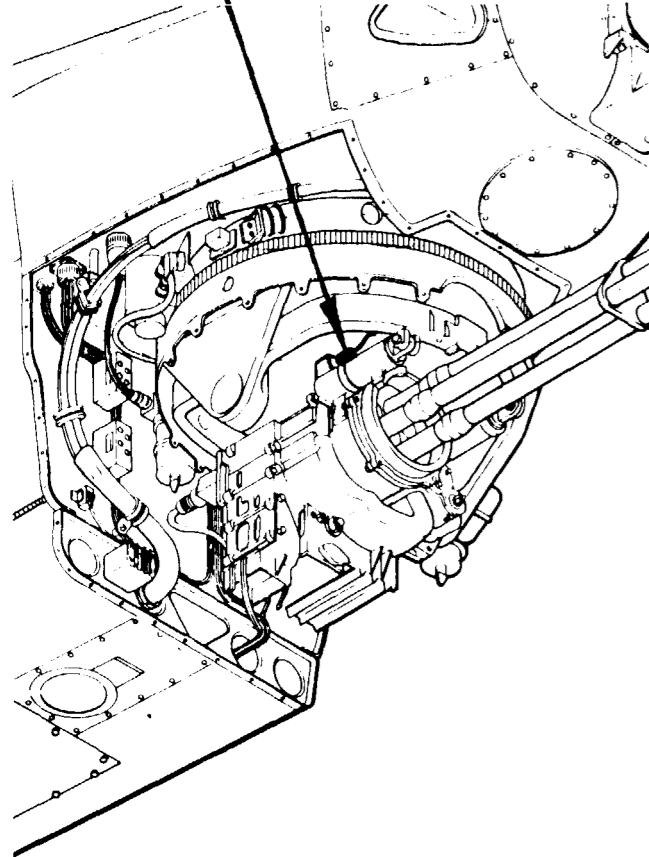
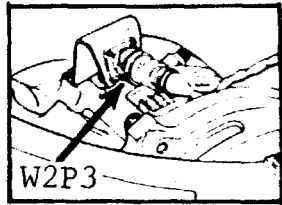
bn. Close TURRET PWR circuit breaker on AC/ARMT circuit breaker panel.

NOTE

The following portion of the operational check verifies that the armament compensation is functioning correctly.

6-2. UTS OPERATIONAL CHECK
(CONTINUED).

bo. Disconnect the fire voltage connector (W2P3) located on top of gun rotor assembly.

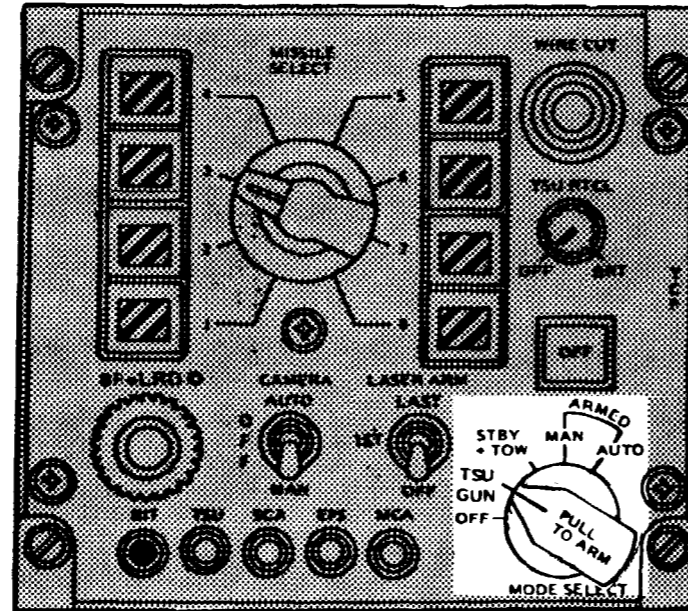


bp. Connect W2P3 to the fire voltage simulator (part of the universal turret system test set).

bq. Set MASTER ARM switch on pilot ARMT control panel to ARM, Set MODE SELECT switch on TCP (TOW control panel) to TSU GUN.



PILOT ARMT CONTROL PANEL



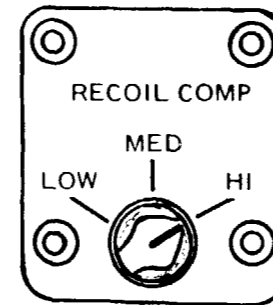
TCP (TOW CONTROL PANEL)

br. Set RECOIL COMPEN/OFF switch on pilot ARMT control panel to RECOIL COMPEN. Observe TURRET PWR circuit breaker remains closed.



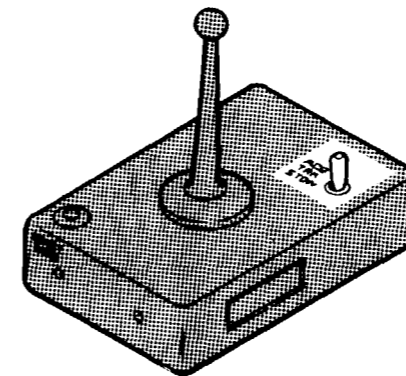
PILOT ARMT CONTROL PANEL

bs. Set RECOIL COMP switch on pilot instrument panel to HI.



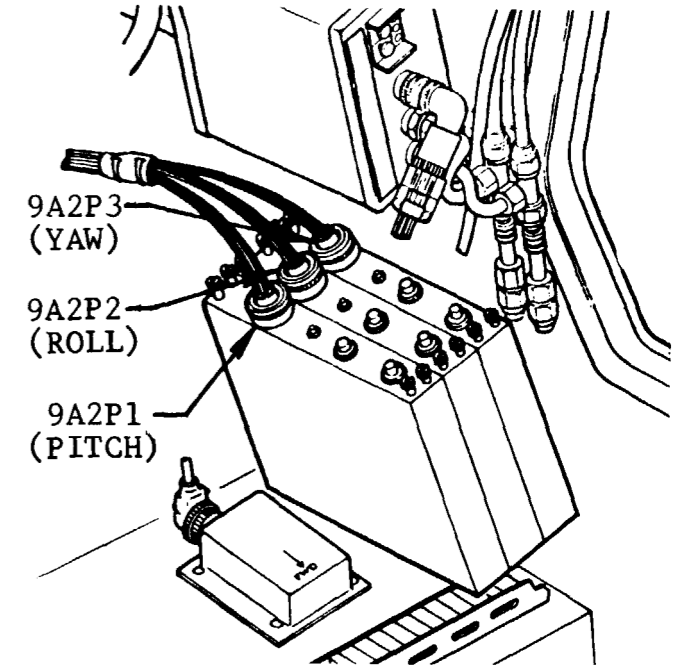
RECOIL COMP SWITCH

bt. Set ACQ/TRK/STOW switch on sight hand control to TRK. Remove linkage arm from pilot helmet and attach to stow bracket.



SIGHT HAND CONTROL

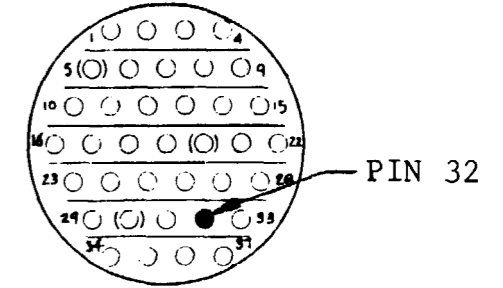
bu. Disconnect 9A2P2 from sensor amplifier unit roll axis. Connect digital voltmeter (DVM) negative lead to airframe ground.



9A2P3 (YAW)

9A2P2 (ROLL)

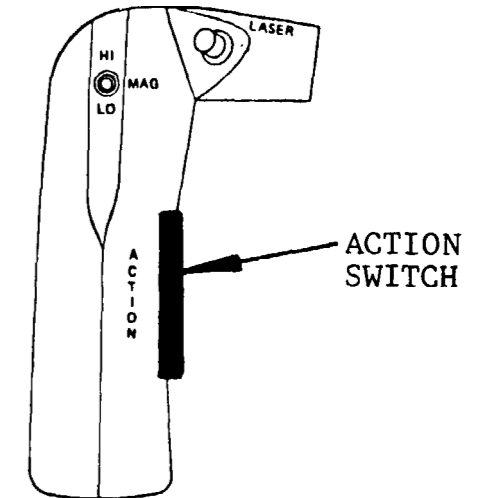
9A2P1 (PITCH)



9A2P2

PIN 32

bv. Press and hold ACTION switch on left hand grip.



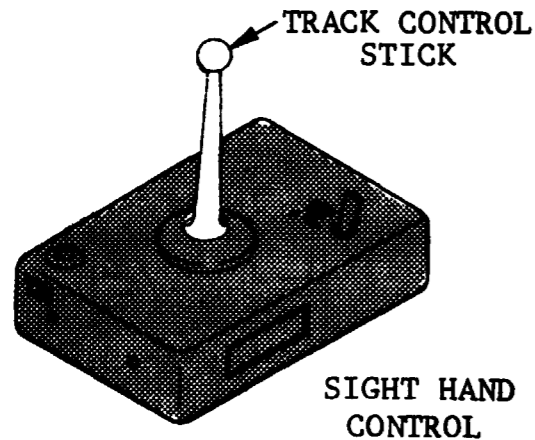
LEFT HAND GRIP

6-2. UTS OPERATIONAL CHECK (CONTINUED).

NOTE

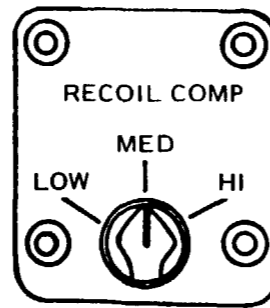
Accuracy of the digital volt-meter readings to be observed in the following tests requires the turret to be held (without drifting) by the track control stick to positions indicated.

bw. With track control stick, move TSU and turret approximately 90 degrees to the right and 0 degrees elevation.



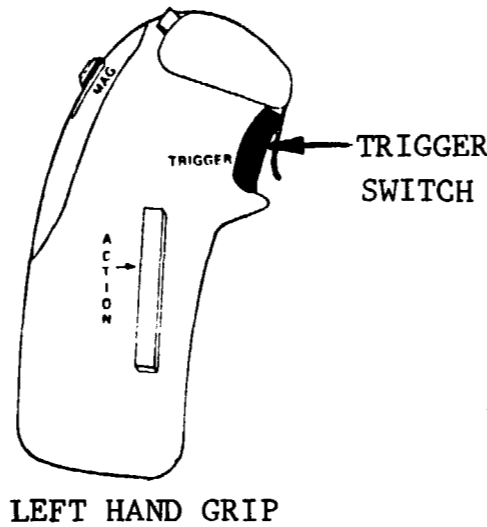
bx. Press and hold TRIGGER switch on left hand grip to second detent. Observe DVM when gun barrels start rotating. The DVM will indicate between +0.5 and +0.9 V dc.

by. Release TRIGGER switch and set RECOIL COMP switch to MED.

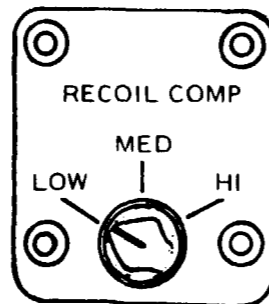


RECOIL COMP SWITCH

bz. With the gun still positioned 90 degrees to the right and 0 degrees elevation, press TRIGGER switch on left hand grip to second detent. Observe DVM when gun barrels start rotating. The DVM will indicate between +0.35 and +0.75 V dc.



ca. Release TRIGGER switch and set RECOIL COMP switch to LOW.



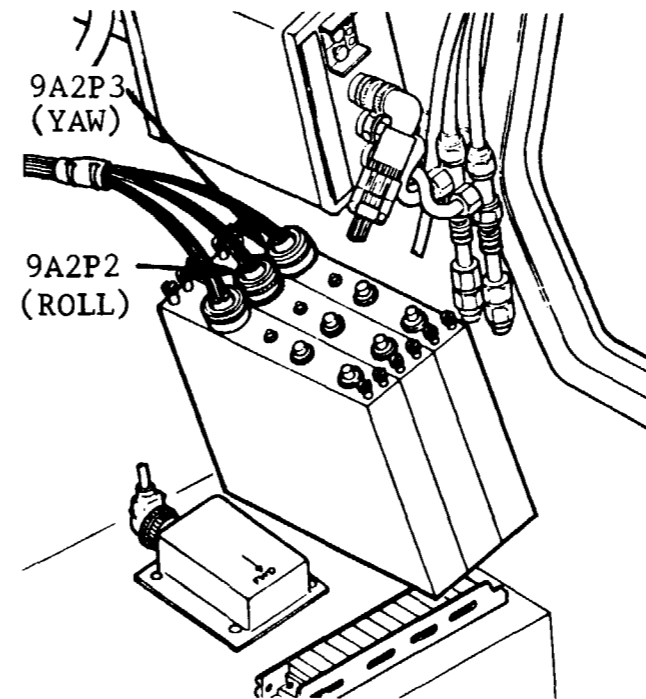
RECOIL COMP SWITCH

cb. With the gun still positioned 90 degrees to the right and 0 degrees elevation, press TRIGGER switch on left hand grip to second detent.

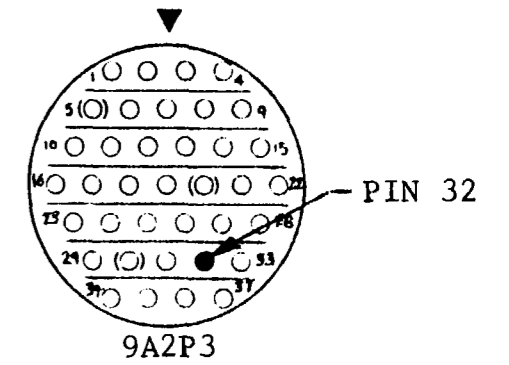
cc. Observe DVM when gun barrels start rotating. The DVM will indicate between +0.25 and +0.65 V dc.

cd. Release TRIGGER and ACTION switches.

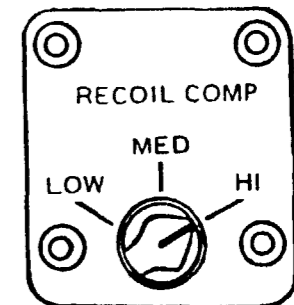
ce. Remove DVM positive lead from 9A2P2-32 and connect 9A2P2 to sensor amplifier unit roll axis.



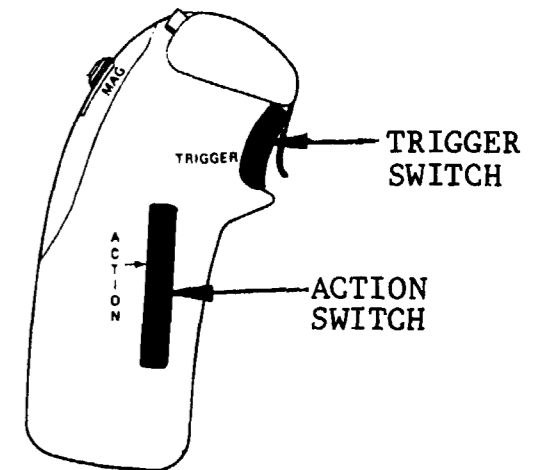
cf. Disconnect 9A2P3 from sensor amplifier unit yaw axis and connect DVM positive lead to 9A2P3-32. Ensure negative lead is still connected to air-frame ground.



cg. Set RECOIL COMP switch to HI. Press and hold ACTION switch on left hand grip.



RECOIL COMP SWITCH



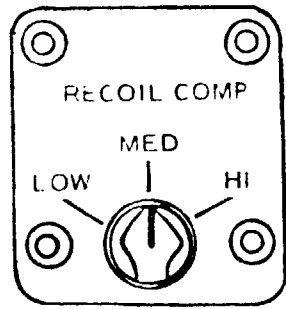
LEFT HAND GRIP

ch. With the track control stick, move TSU and turret approximately 90 degrees to the right and 0 degrees elevation.

ci. Press and hold TRIGGER switch on left hand grip. Observe DVM when gun barrels start rotating. The DVM will indicate between +1.1 and +1.5 V dc.

6-2. UTS OPERATIONAL CHECK (CONTINUED).

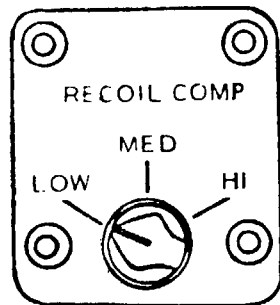
cj. Release TRIGGER switch on left hand grip and set RECOIL COMP switch to MED.



RECOIL COMP SWITCH

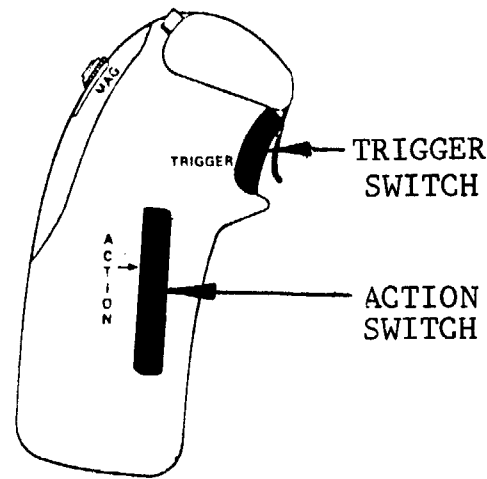
ck. With the gun still positioned 90 degrees to the right and 0 degrees elevation, press TRIGGER switch on left hand grip. Observe DVM when gun barrels start rotating. The DVM will indicate between +0.85 and +1.25 V dc.

cl. Release TRIGGER switch on left hand grip and set RECOIL COMP switch to LOW.



RECOIL COMP SWITCH

cm. With the gun still positioned 90 degrees to the right and 0 degrees elevation, press TRIGGER switch on left hand grip. Observe DVM when gun barrels start rotating. The DVM will indicate between +0.6 and +1.0 V dc.

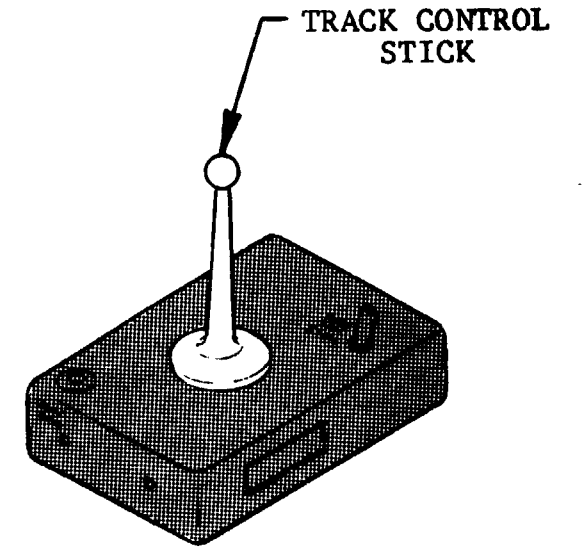
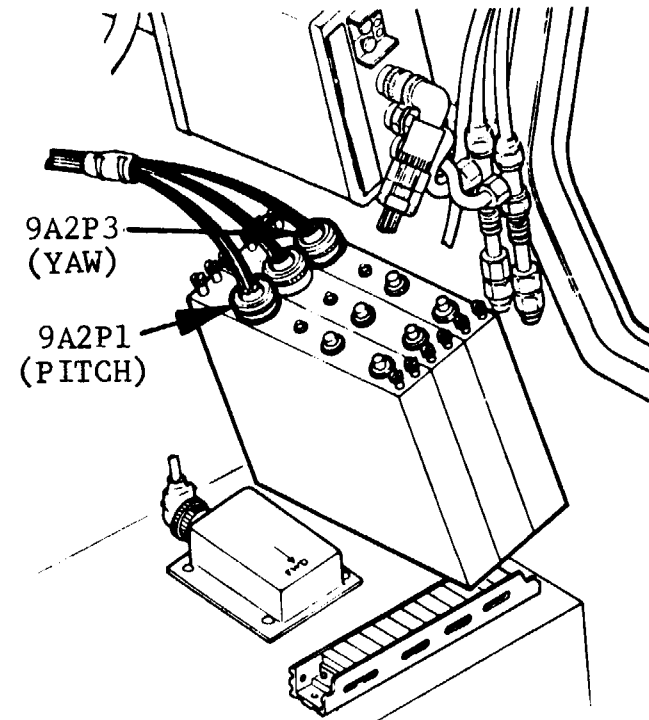
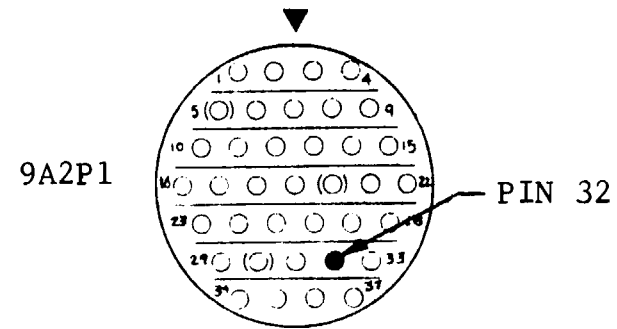


LEFT HAND GRIP

cn. Release TRIGGER and ACTION switches on left hand grip.

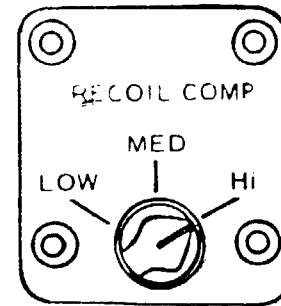
co. Disconnect DVM positive lead from 9A2P3. Connect 9A2P3 to sensor amplifier unit YAW axis.

cp. Disconnect 9A2P1 from the sensor amplifier unit pitch axis and connect DVM positive lead to 9A2P1-32. Ensure the negative lead is still connected to air-frame ground.

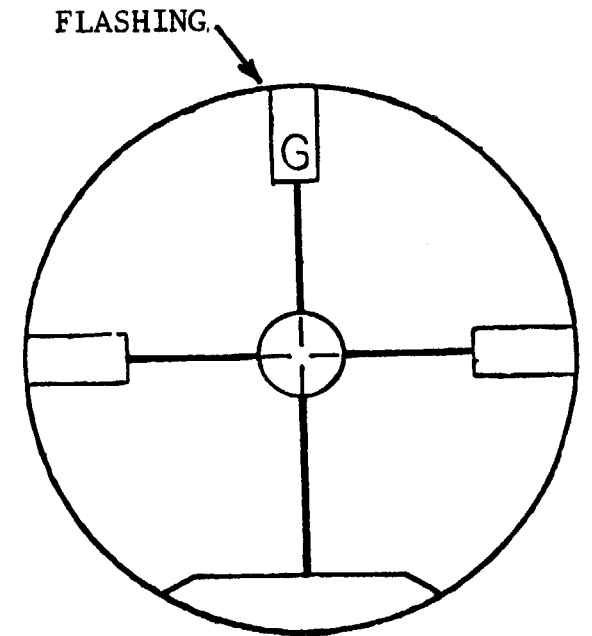


SIGHT HAND CONTROL

cq. Set RECOIL COMP switch to HI. Press and hold ACTION switch on left hand grip.



RECOIL COMP SWITCH

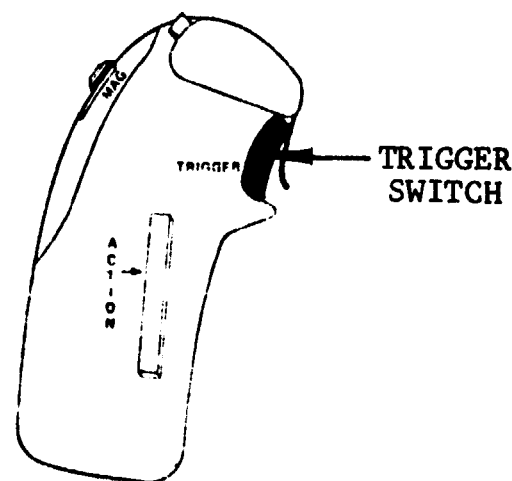


TSU EYEPIECE

cr. With track control stick, move TSU and turret to 0 degrees azimuth and 0 degrees elevation. Lower TSU and turret straight down from this point until the "G" battleflag starts flashing. Raise TSU and turret slowly until the "G" battleflag stops flashing and hold TSU steady.

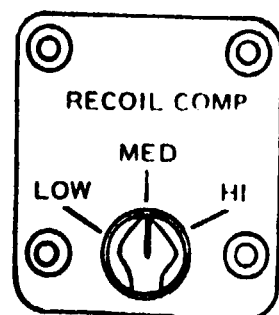
6-2. UTS OPERATIONAL CHECK (CONTINUED).

cs. Press and hold TRIGGER switch on left hand grip. Observe DVM when gun barrels start rotating. The DVM will indicate between -0.50 and -1.25 V dc.



LEFT HAND GRIP

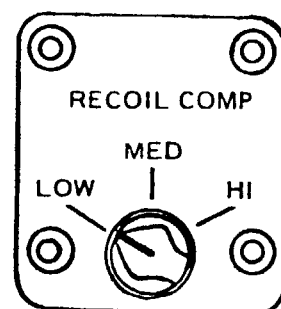
ct. Release left hand grip TRIGGER switch and set RECOIL COMP selector switch to MED.



RECOIL COMP SWITCH

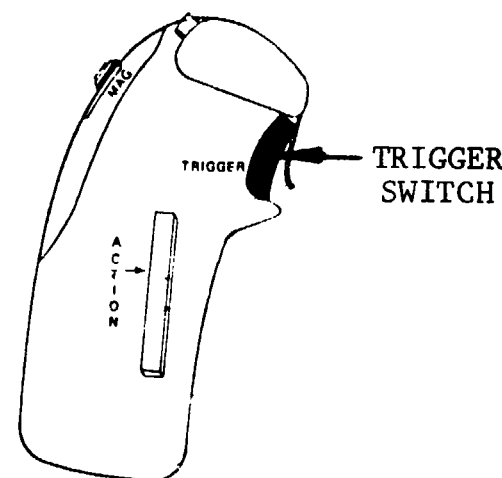
cu. With gun still positioned as defined in paragraph cr., press and hold TRIGGER switch on left hand grip. Observe DVM when gun barrels start rotating. The DVM will indicate between -0.40 and -0.90 V dc.

cv. Release left hand grip TRIGGER switch and set RECOIL COMP switch to LOW.



RECOIL COMP SWITCH

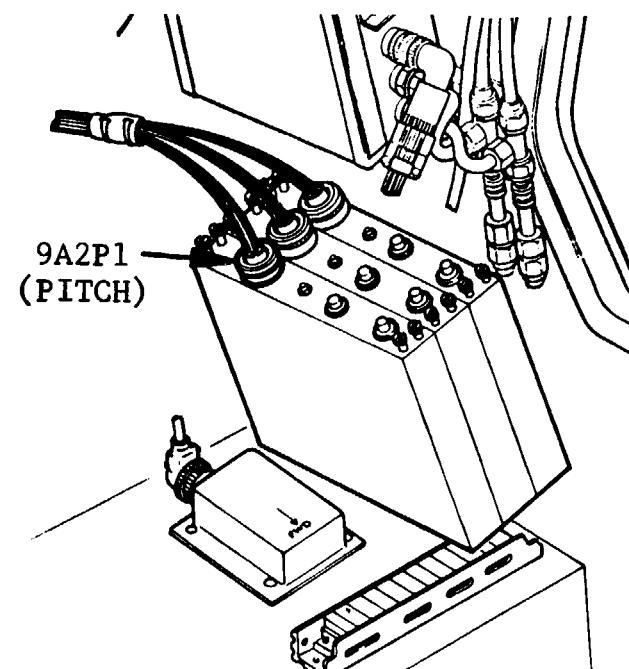
cw. With gun still positioned as defined in paragraph cr., press and hold TRIGGER switch on left hand grip. Observe DVM when gun barrels start rotating. The DVM will indicate between -0.30 and -0.75 V dc.



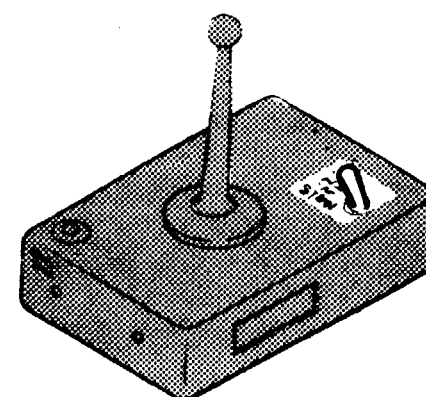
LEFT HAND GRIP

cx. Release left hand grip TRIGGER and ACTION switches.

cy. Remove DVM meter leads. Connect 9A2P1 to the sensor amplifier unit pitch axis.

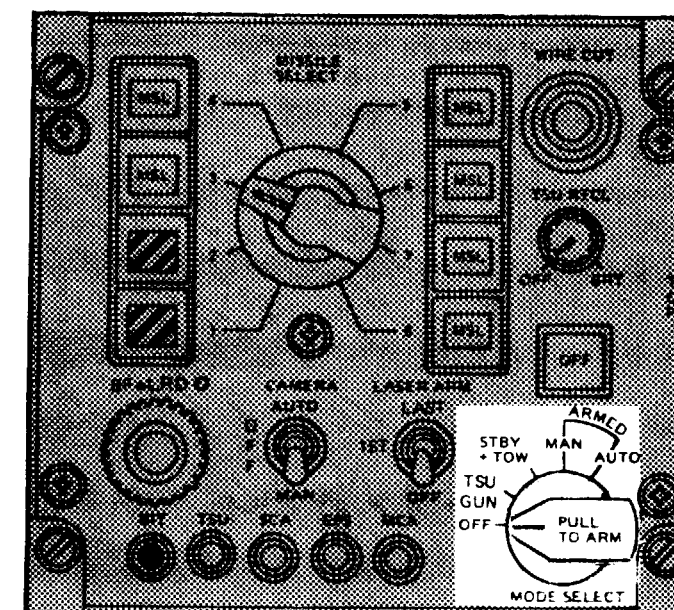


cz. Set ACQ/TRK/STOW switch on sight hand control to STOW.



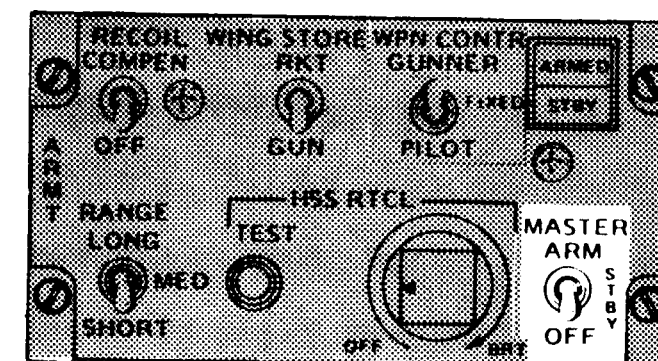
SIGHT HAND CONTROL

da. Set MODE SELECT switch on TCP (TOW control panel) to OFF.



TCP (TOW CONTROL PANEL)

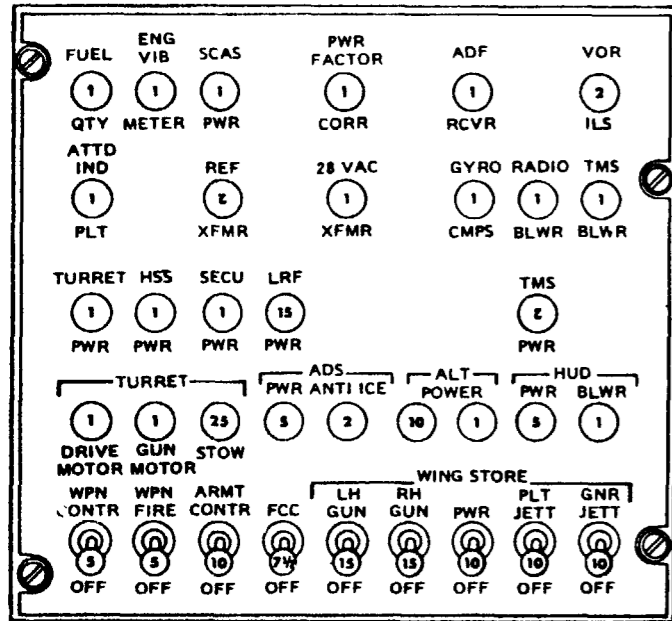
db. Set MASTER ARM switch on pilot ARMT control panel to OFF.



PILOT ARMT CONTROL PANEL

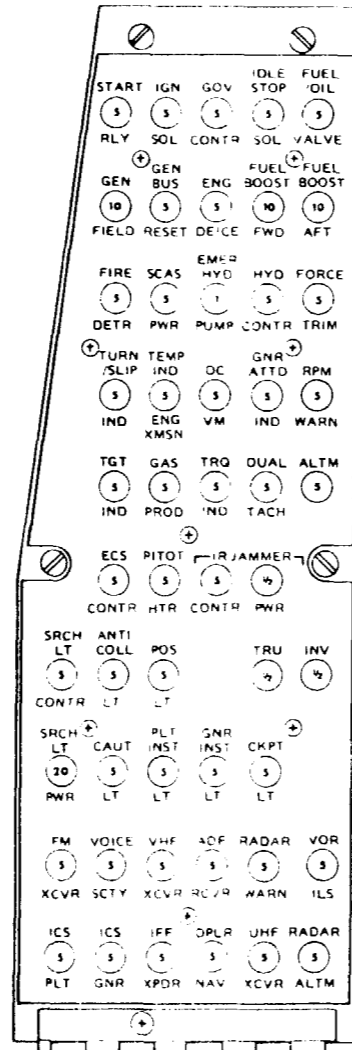
6-2. UTS OPERATIONAL CHECK (CONTINUED).

dc. Open all circuit breakers on AC/ARMT circuit breaker panel.



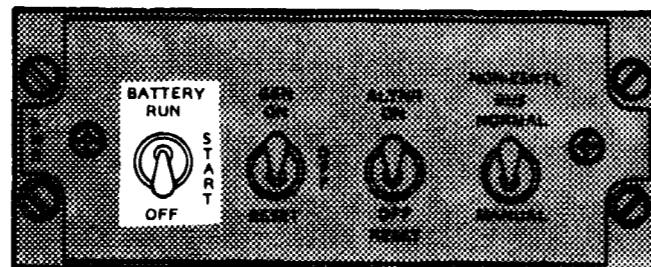
AC/ARMT CIRCUIT BREAKER PANEL

dd. Open all circuit breakers on DC circuit breaker panel.



DC CIRCUIT BREAKER PANEL

de. Set BATTERY switch on electrical PWR control panel to OFF.

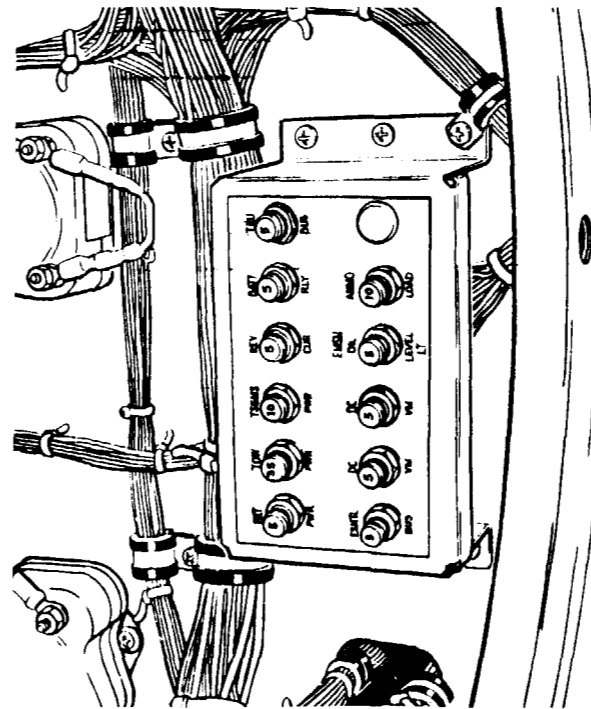


df. Turn off and disconnect ground power unit.

dg. Remove fire voltage simulator and connect W2P3.

dh. Remove TSEM or Tow missile present simulators.

di. Open all circuit breakers on circuit breaker panel in battery compartment.



CIRCUIT BREAKER PANEL

dj. Disconnect battery.

6-3. POWER OFF /POWER ON PROCEDURES.

INITIAL SETUP

Applicable Configuration
All

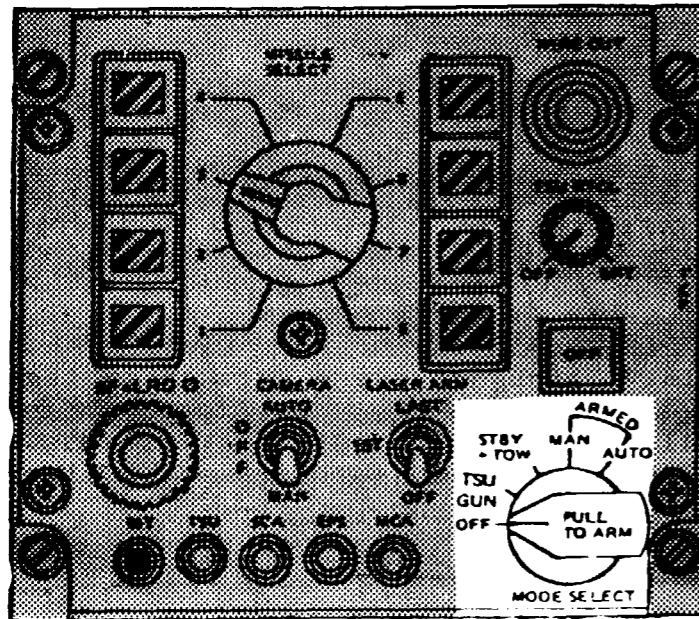
Personnel Required

a. Turn off electrical power when specified in troubleshooting procedures as follows:

NOTE

Note the position of the MODE SELECT switch. This switch must be set to the same position during the Power On Procedure.

- (1) Set MODE SELECT switch on TCP (TOW control panel) to OFF.



TCP (TOW CONTROL PANEL)

NOTE

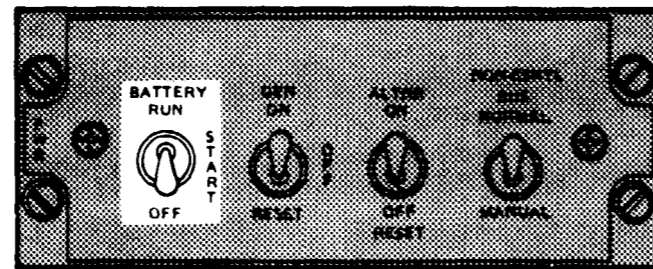
Note the position of the MASTER ARM switch. This switch must be set to the same position during the Power On-Procedure.

- (2) Set MASTER ARM switch on pilot ARMT control panel to OFF.



PILOT ARMT CONTROL PANEL

- (3) Set BATTERY switch on electrical PWR control panel to OFF.



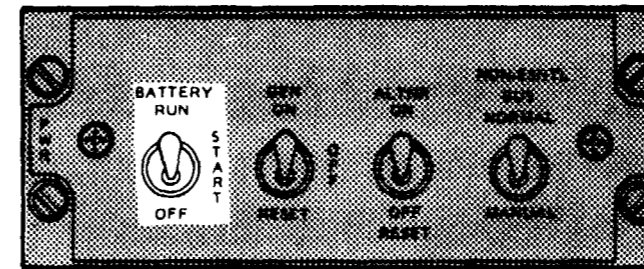
ELECTRICAL PWR CONTROL PANEL

- (4) Turn off ground power unit.

- (5) Disconnect battery.

b. Turn on electrical power when specified in troubleshooting procedures 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 Procedures.

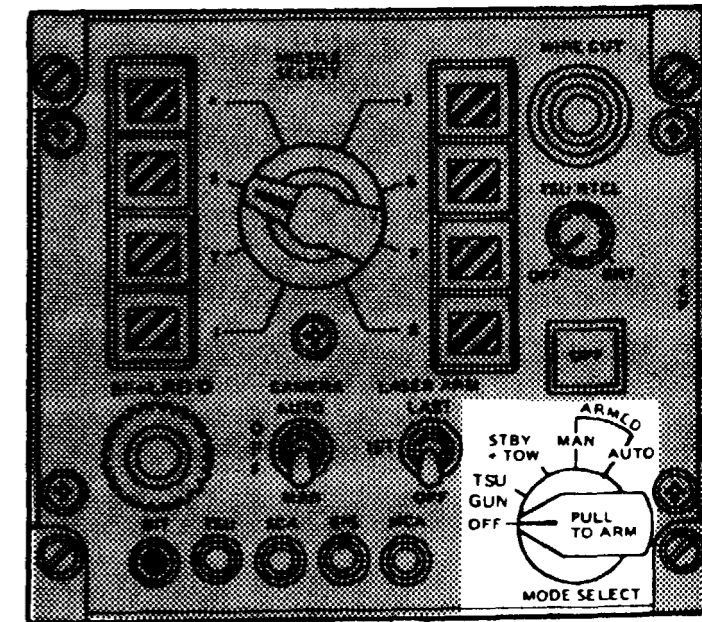


PILOT ARMT CONTROL PANEL

NOTE

When TCP MODE SELECT is set to TSU GUN or STBY TOW, system will perform system BIT prior to PWR ON indication.

- (5) Set MODE SELECT switch on TCP (TOW control panel) to the same position the switch was in prior to Power Off Procedures.



TCP (TOW CONTROL PANEL)

6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED.

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 9-1270-212-14
- TM 9-1425-473-34
- TM 55-1520-236-23

Access Panels

Right Side Control Linkage - Removed

Forward Belly Armament and Lighting - Removed

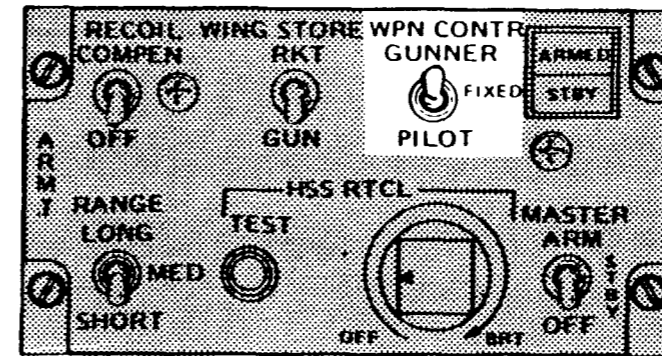
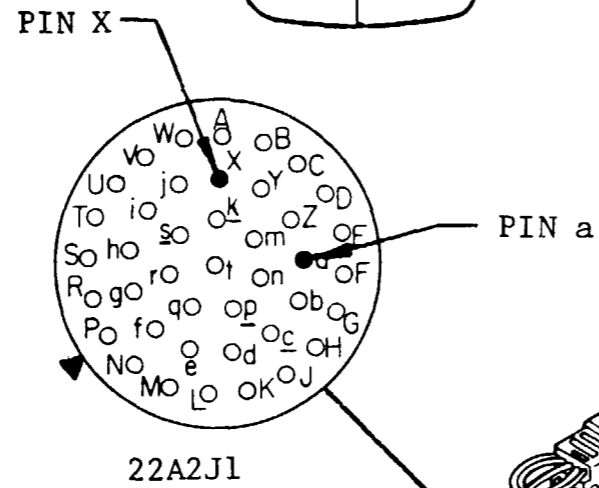
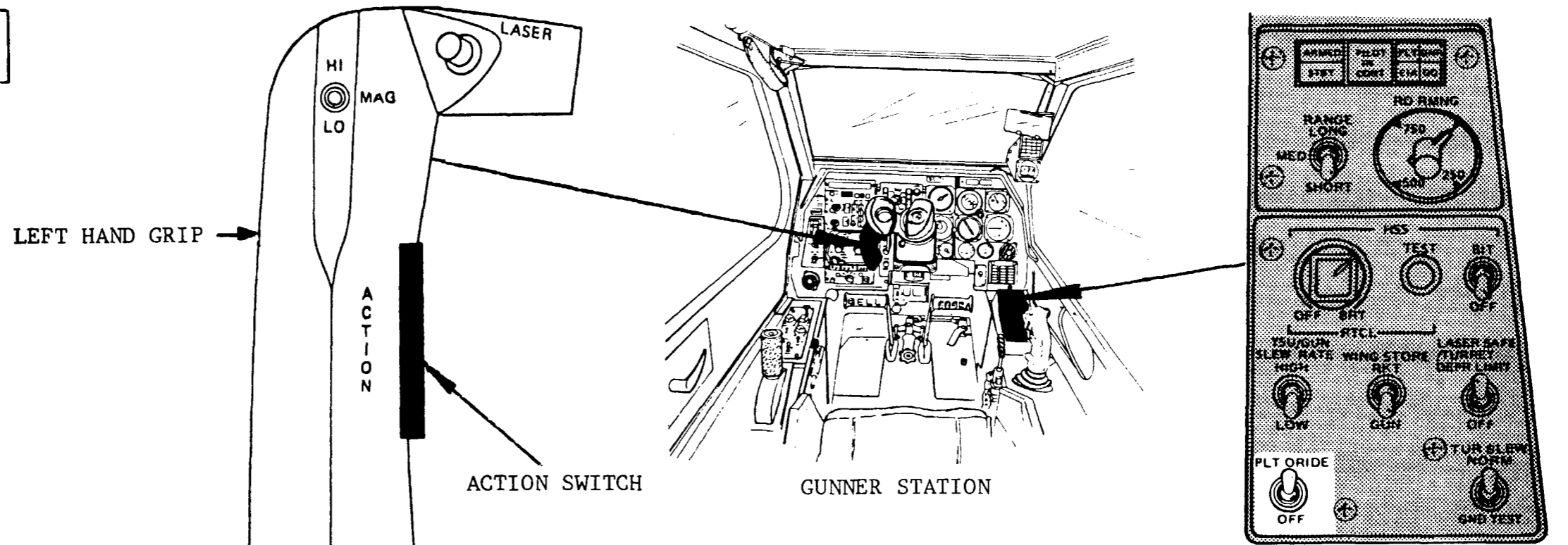
Interface Control Unit - Removed

Ammo Compartment Door - Open

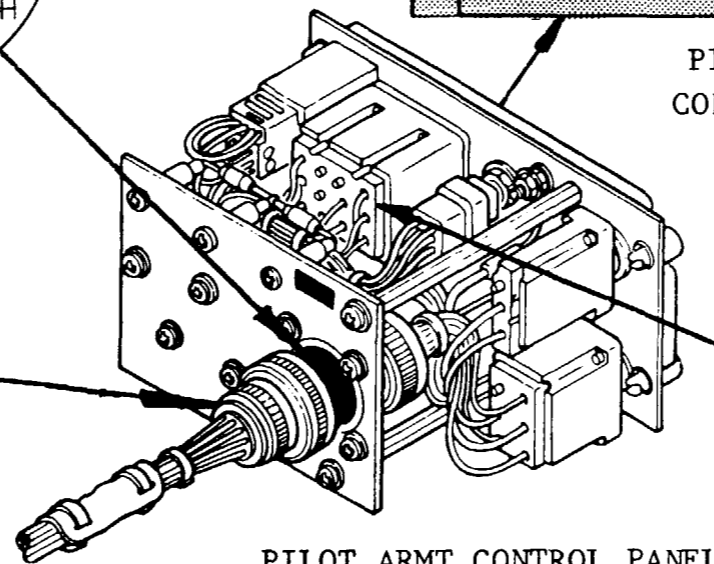
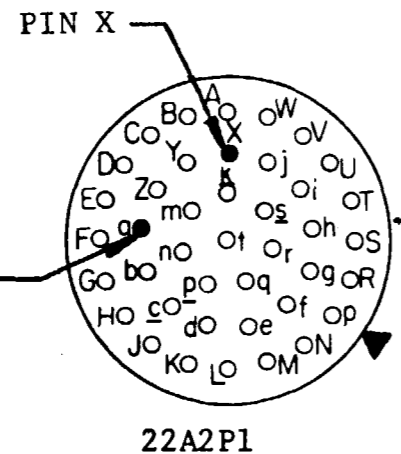
Logic Control Unit - Removed

Battery Compartment - Removed

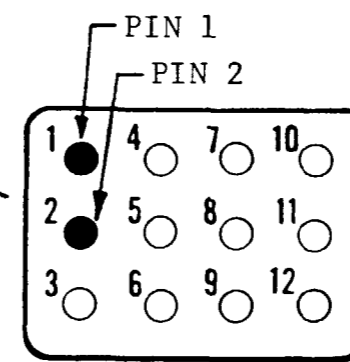
A. TROUBLESHOOTING LOGIC PART ONE.



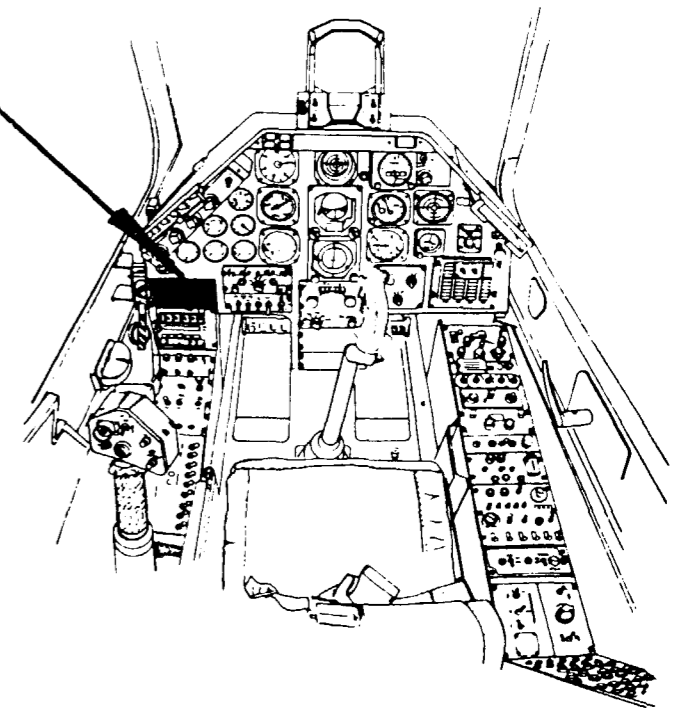
GUNNER ARMAMENT CONTROL PANEL .



PILOT ARM CONTROL PANEL (REAR VIEW)

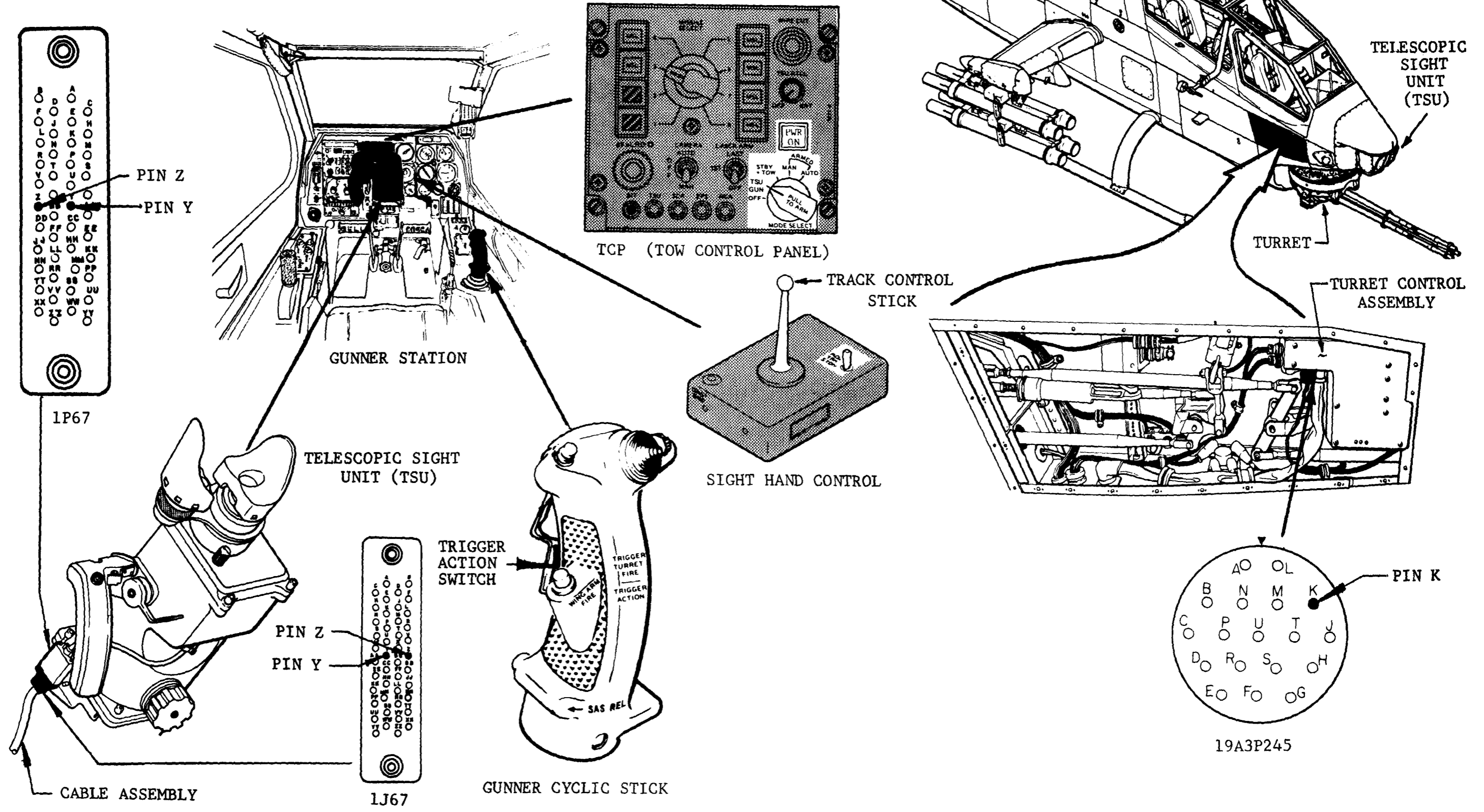


19S13



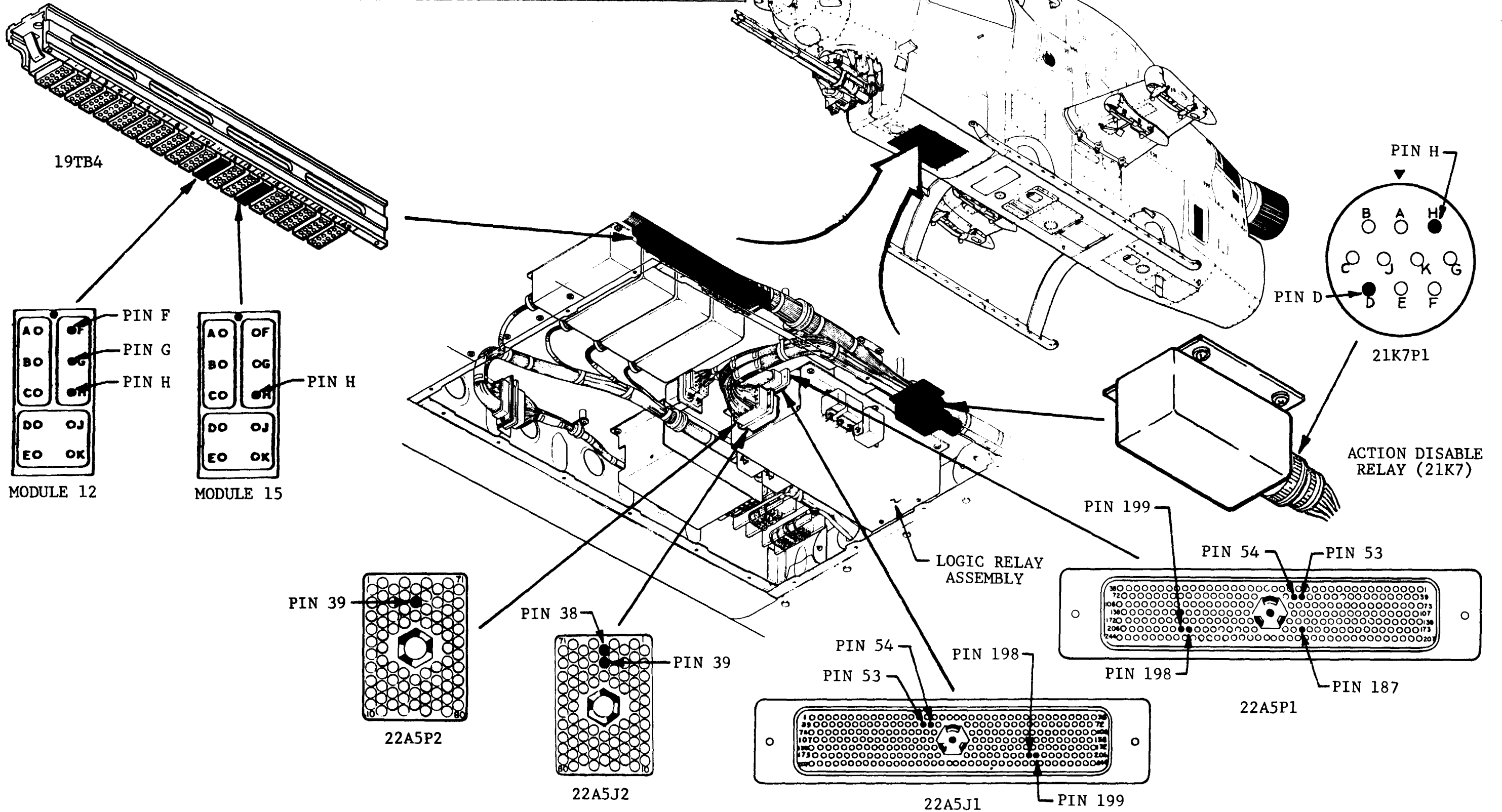
PILOT STATION

6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



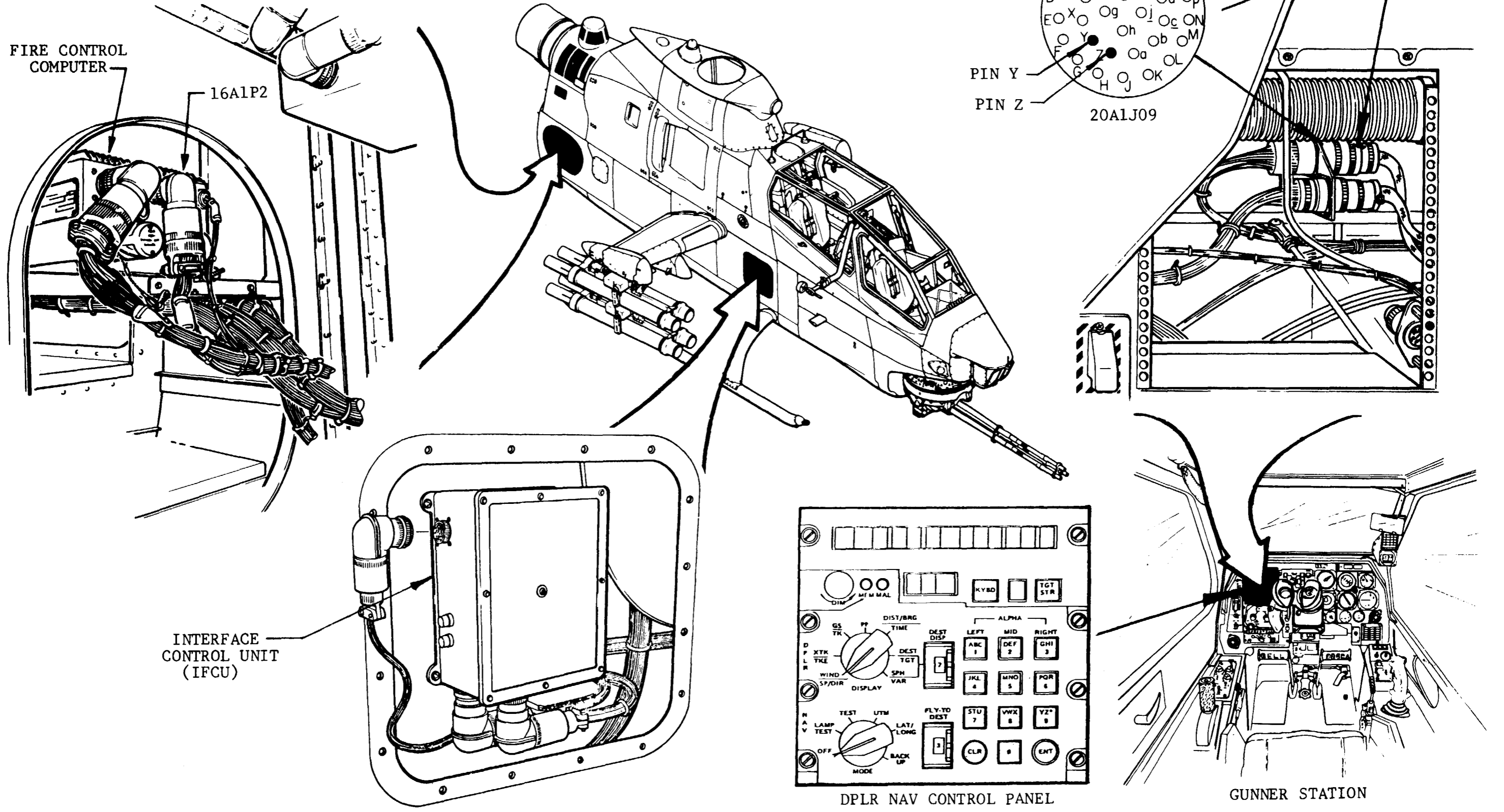
6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



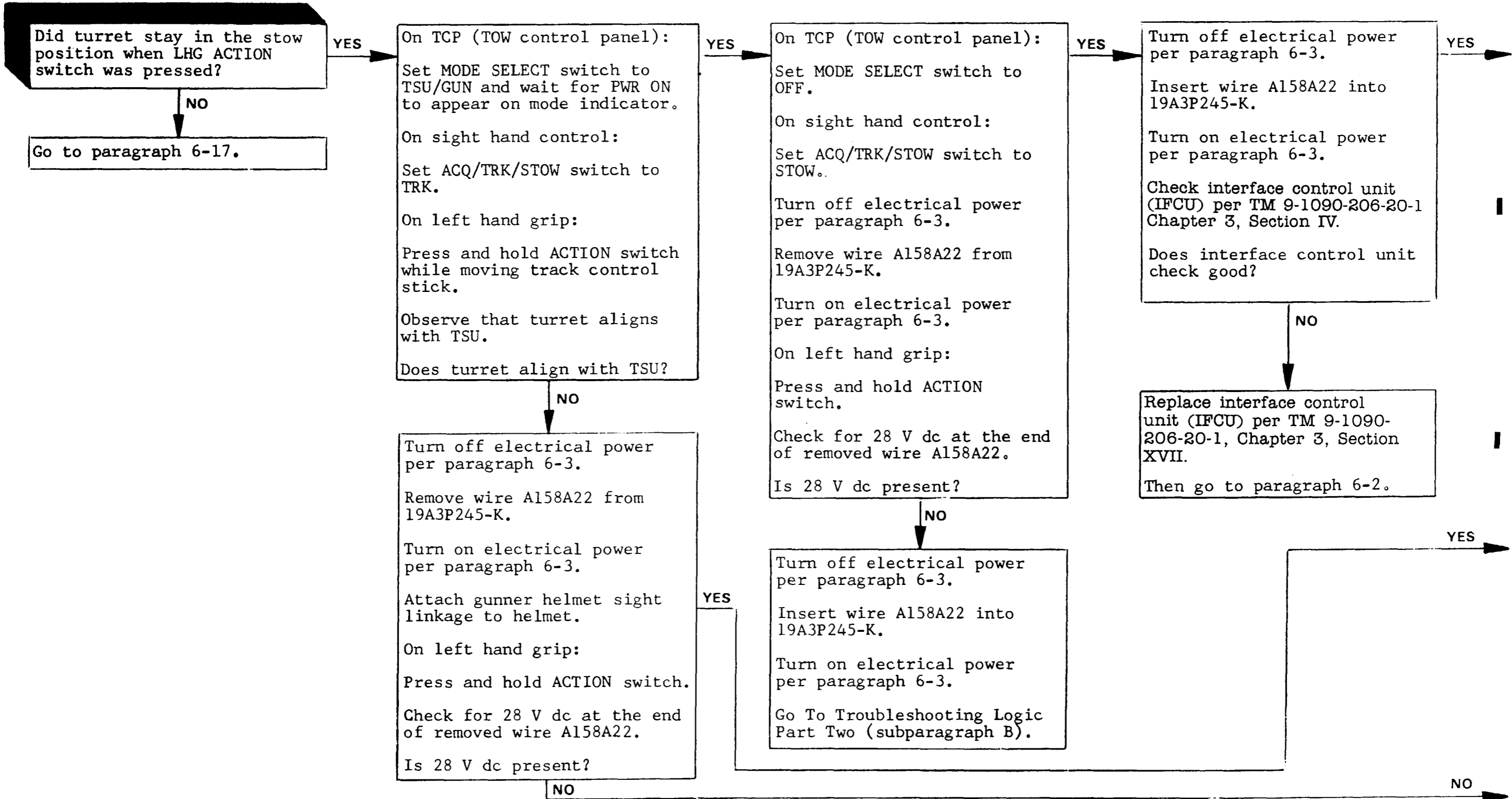
6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

YES → Go to paragraph 7-2.

Turn off electrical power per paragraph 6-3.
 Insert wire A158A22 into 19A3P245-K.
 Turn on electrical power per paragraph 6-3.
 Check interface control unit (IFCU) per TM 9-1090-206-20-1 Chapter 3, Section IV.
 Does interface control unit check good?

YES → Troubleshoot turret per TM 9-1090-206-20-1. Chapter 3, Section III.
 Then go to paragraph 6-2.

NO → Replace interface control unit (IFCU) per TM 9-1090-206-20-1, Chapter 3, Section XVII.
 Then go to paragraph 6-2.

NO

NO → On left hand grip:
 Release ACTION switch.
 On TCP (TOW control panel):
 Set MODE SELECT switch to OFF.
 On sight hand control:
 Set ACQ/TRK/STOW switch to STOW.
 On gunner armament control panel:
 Set PLT ORIDE switch to PLT ORIDE.
 On gunner cyclic stick:
 Press and hold TRIGGER ACTION switch.
 Check for 28 V dc at the end of removed wire A158A22.
 Is 28 V dc present?

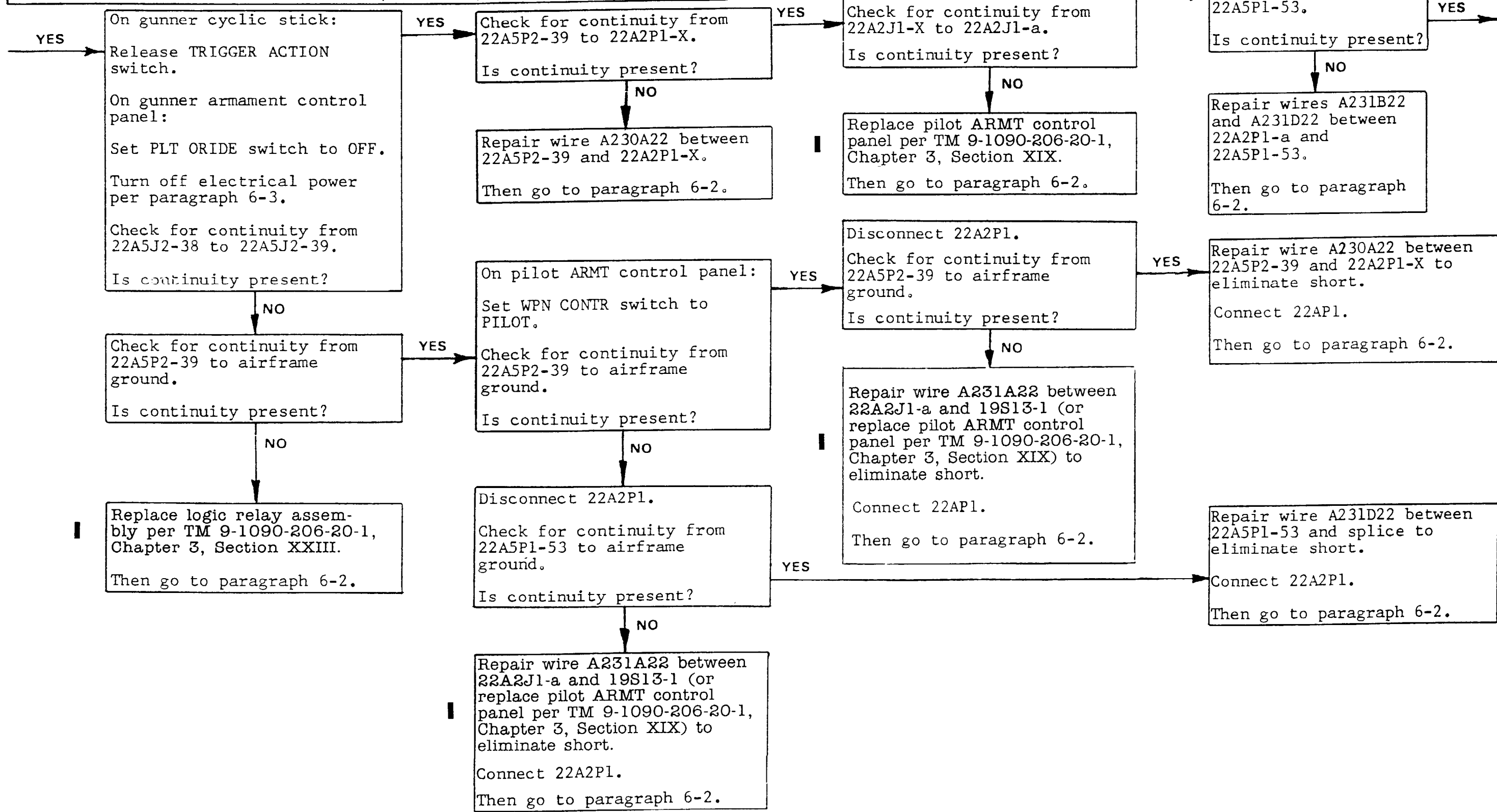
YES → YES

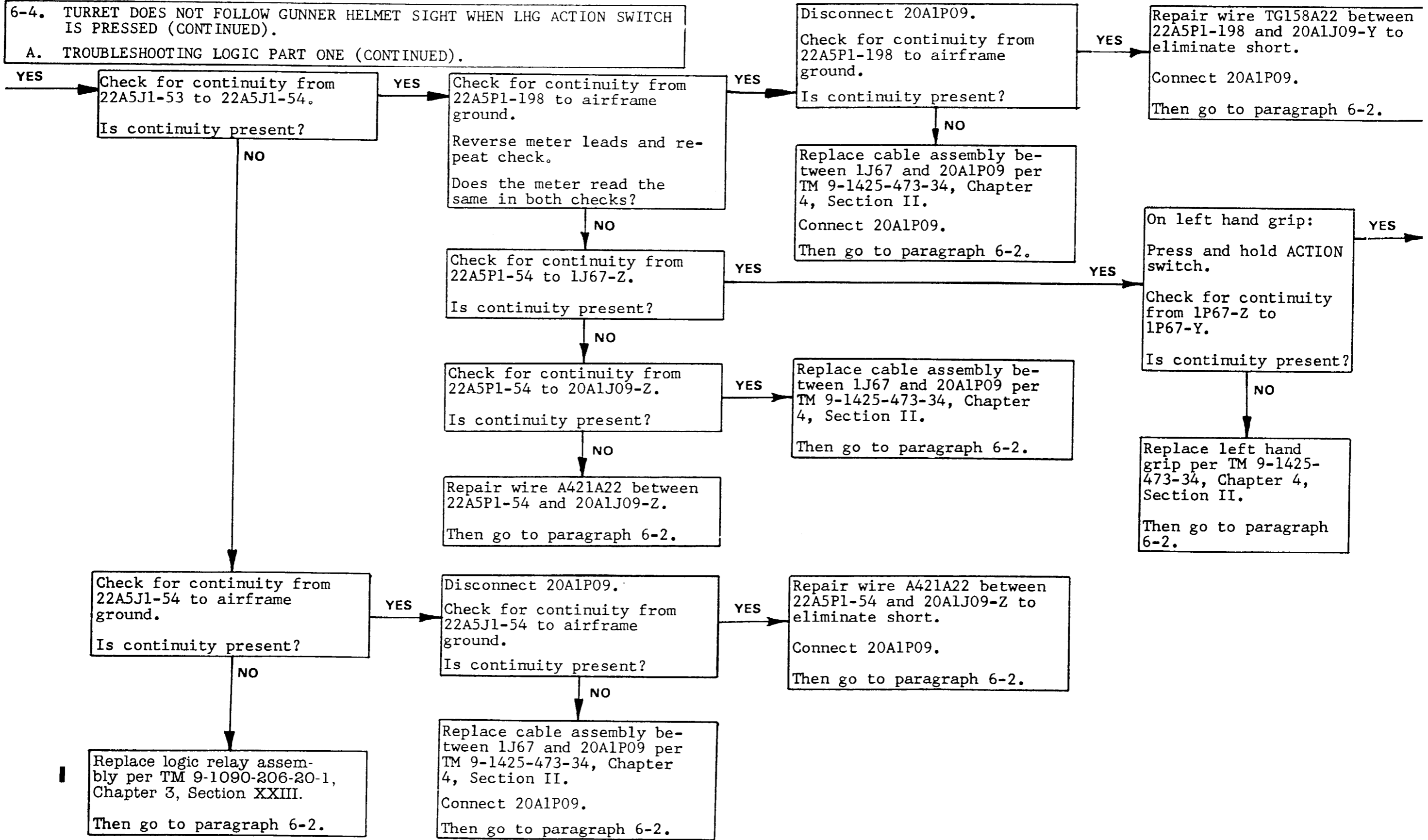
NO → On gunner cyclic stick:
 Release TRIGGER ACTION switch.
 On gunner armament control panel:
 Set PLT ORIDE switch to OFF.
 Turn off electrical power per paragraph 6-3.
 Check for continuity from 19TB4-15H to airframe ground.
 Is continuity present?

YES → Insert wire A158A22 into 19A3P245-K.
 Go To Troubleshooting Logic Part 3 (subparagraph C).

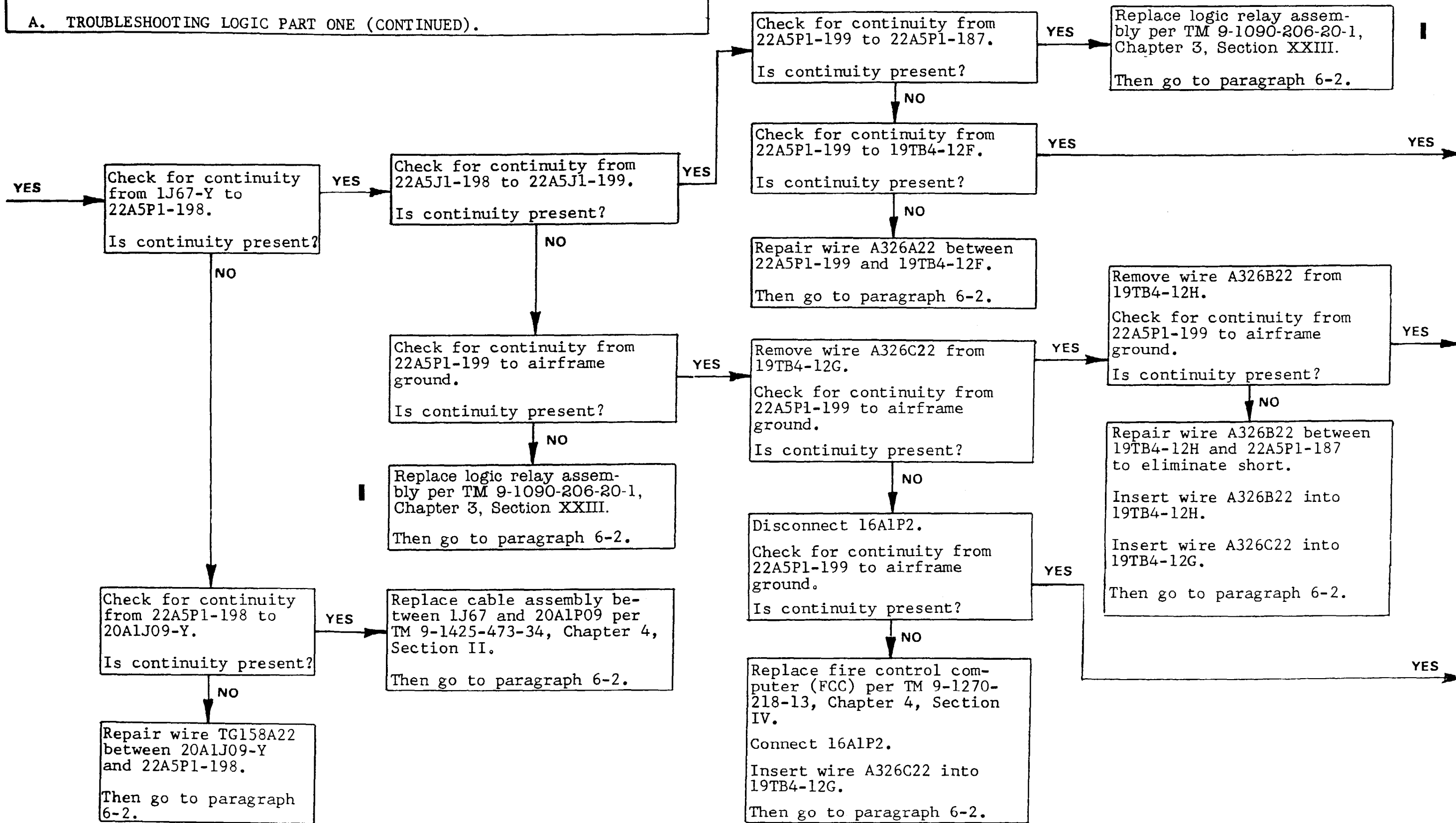
NO → Insert wire A158A22 into 19A3P245-K.
 Go To Troubleshooting Logic Part Four (subparagraph D).

6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



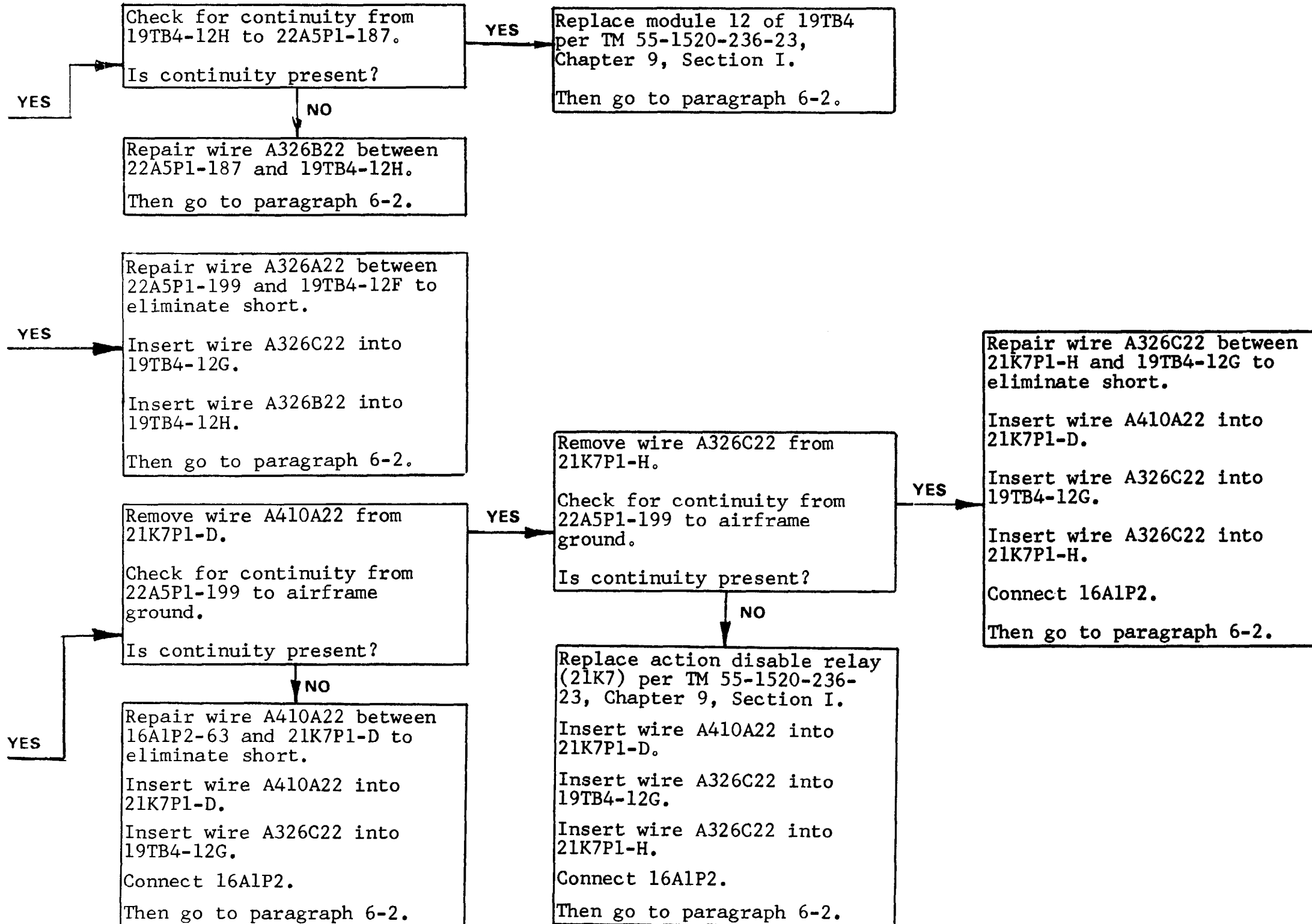


6-4. TURRET DOES NOT FOLLOW GUNNER. HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



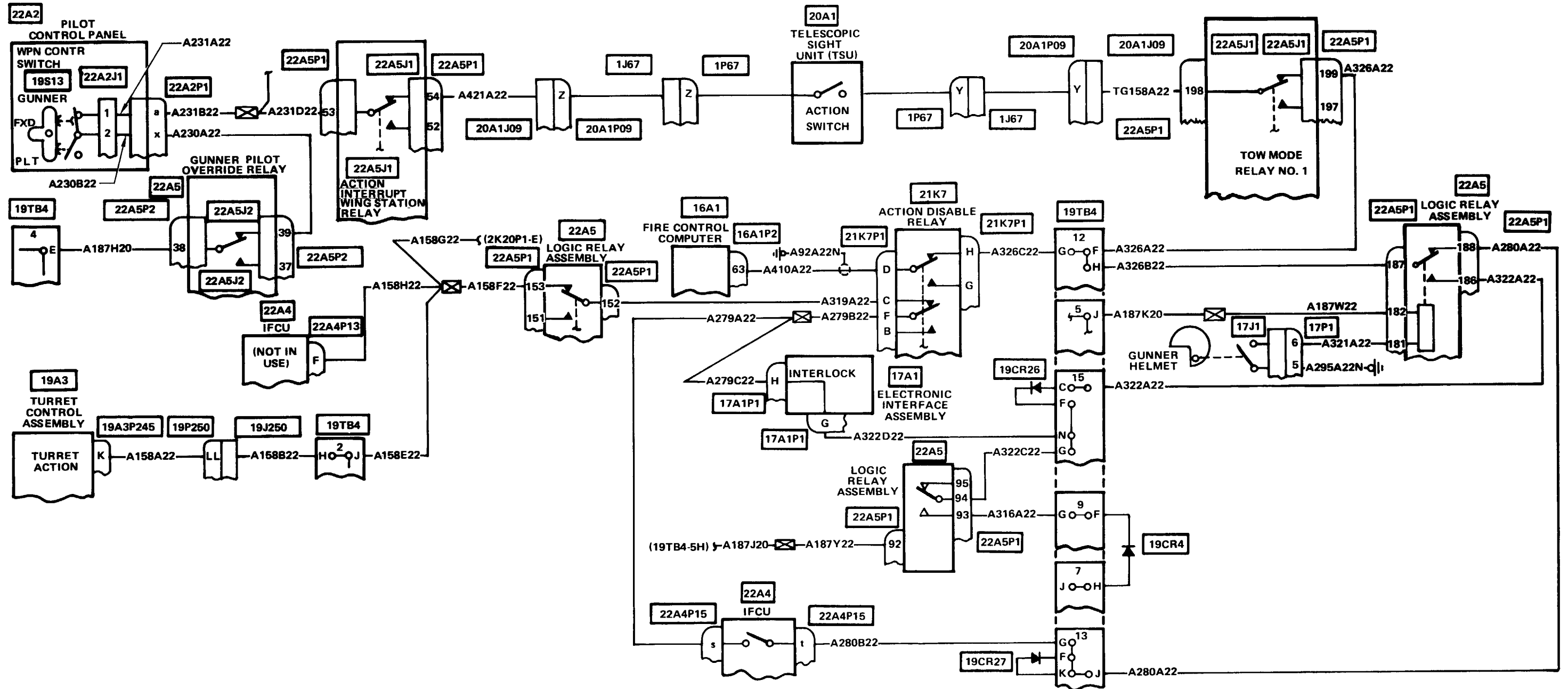
6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



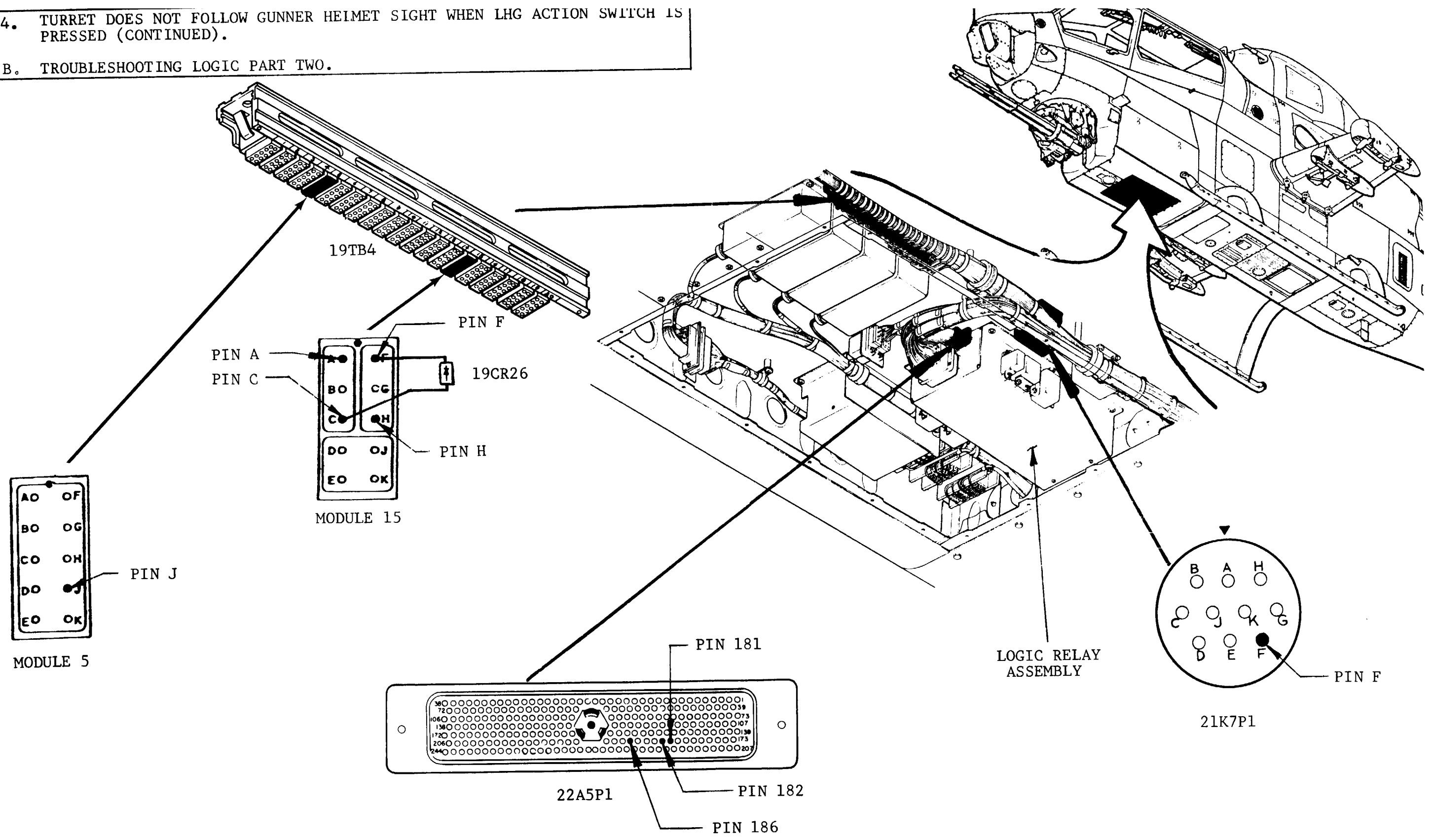
6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



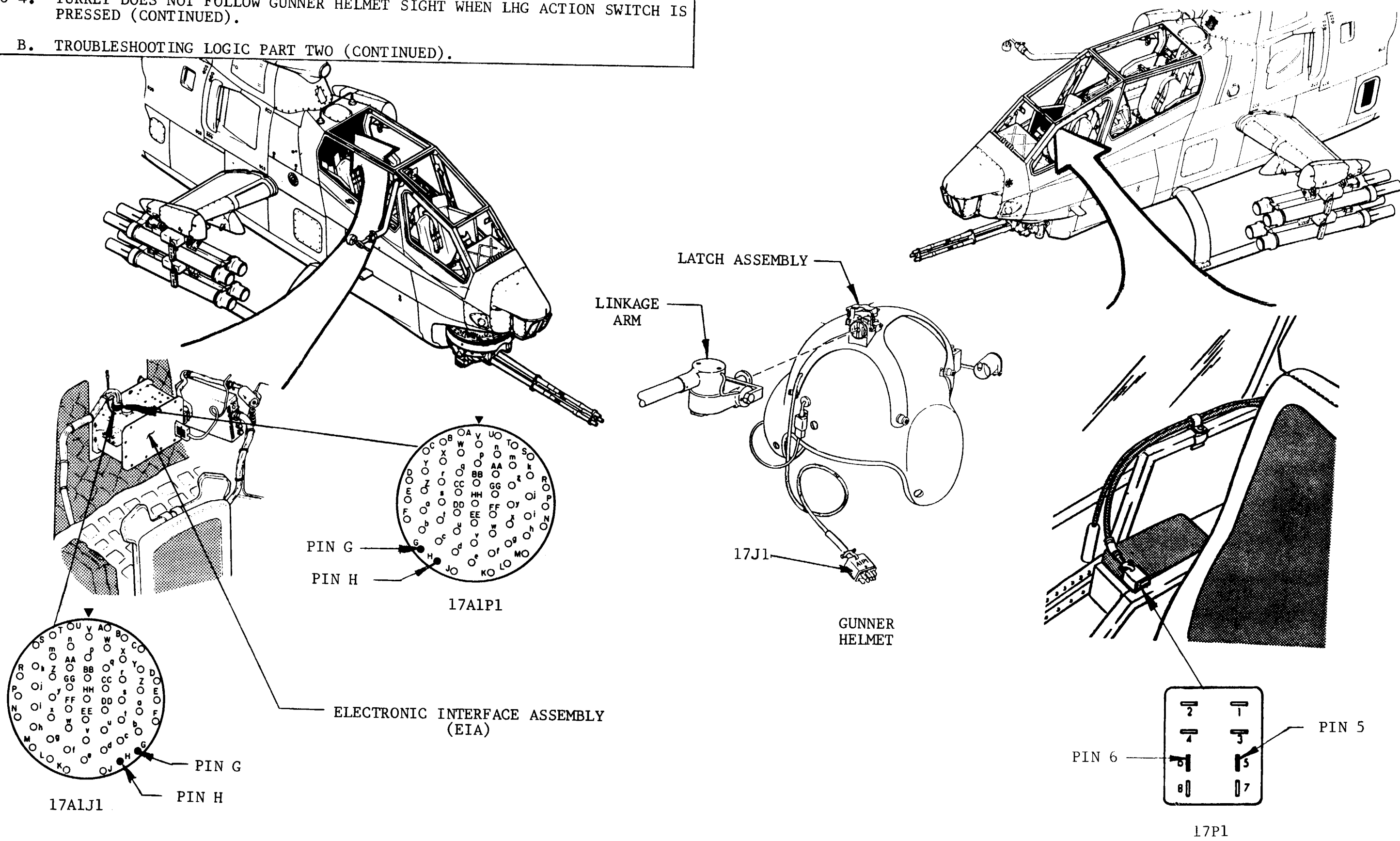
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6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO.

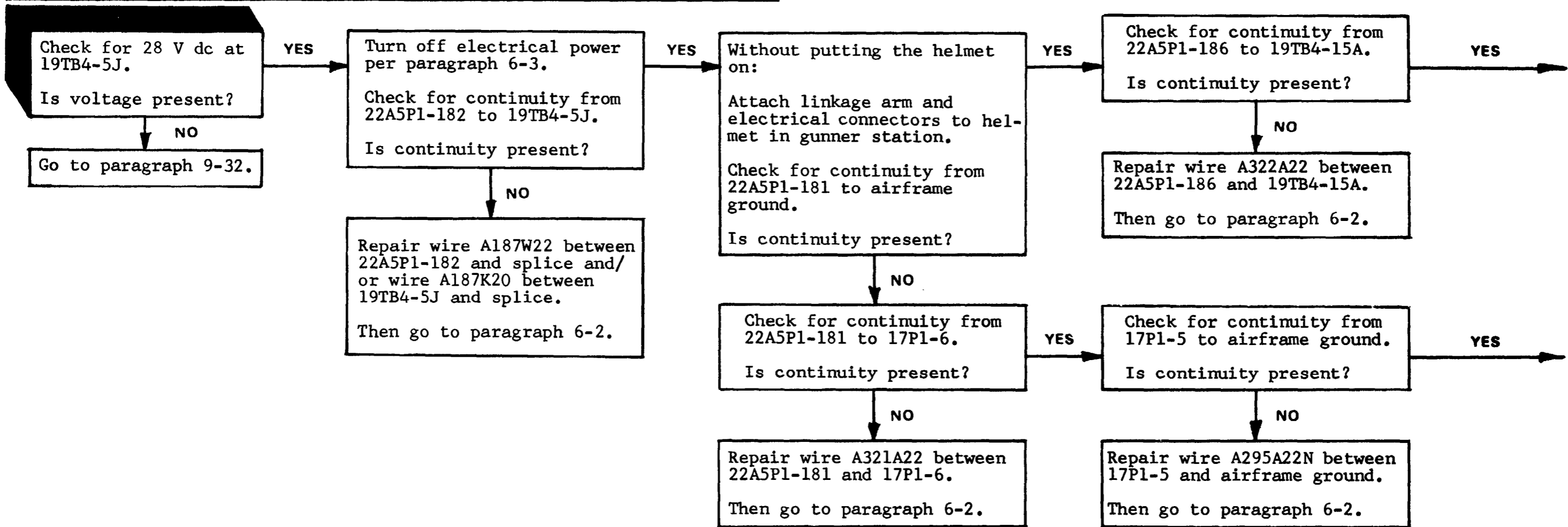


6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

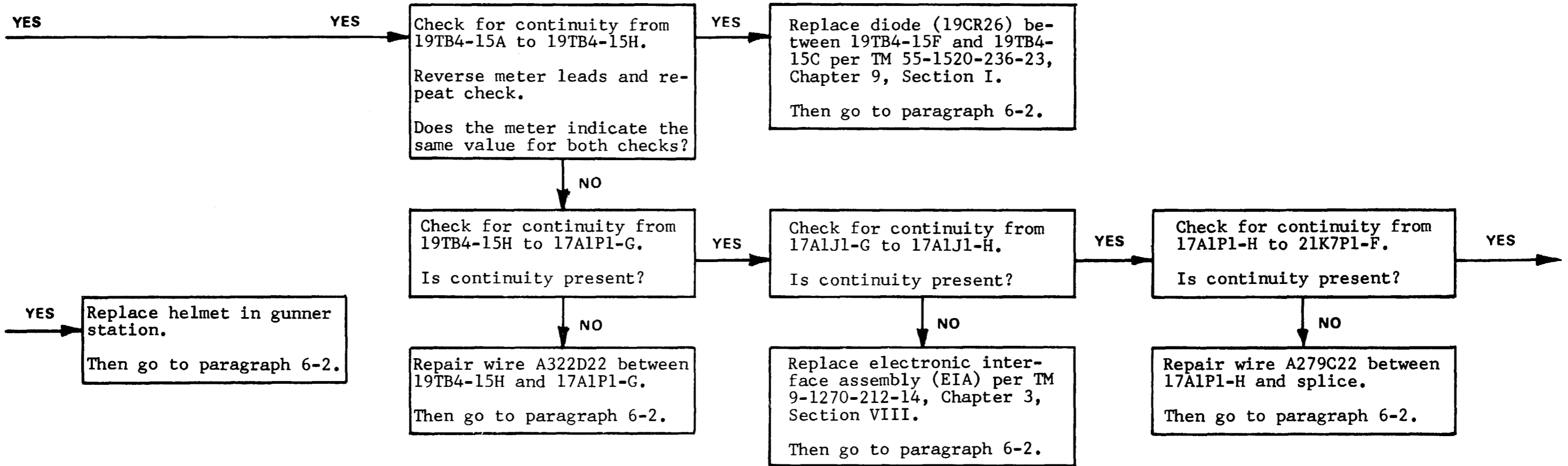
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

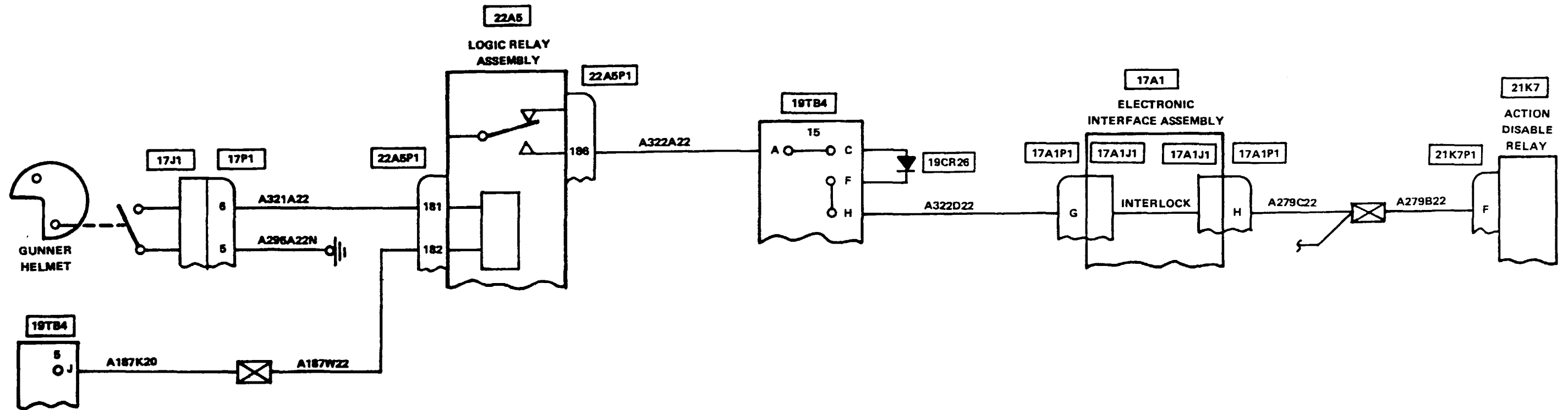


6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

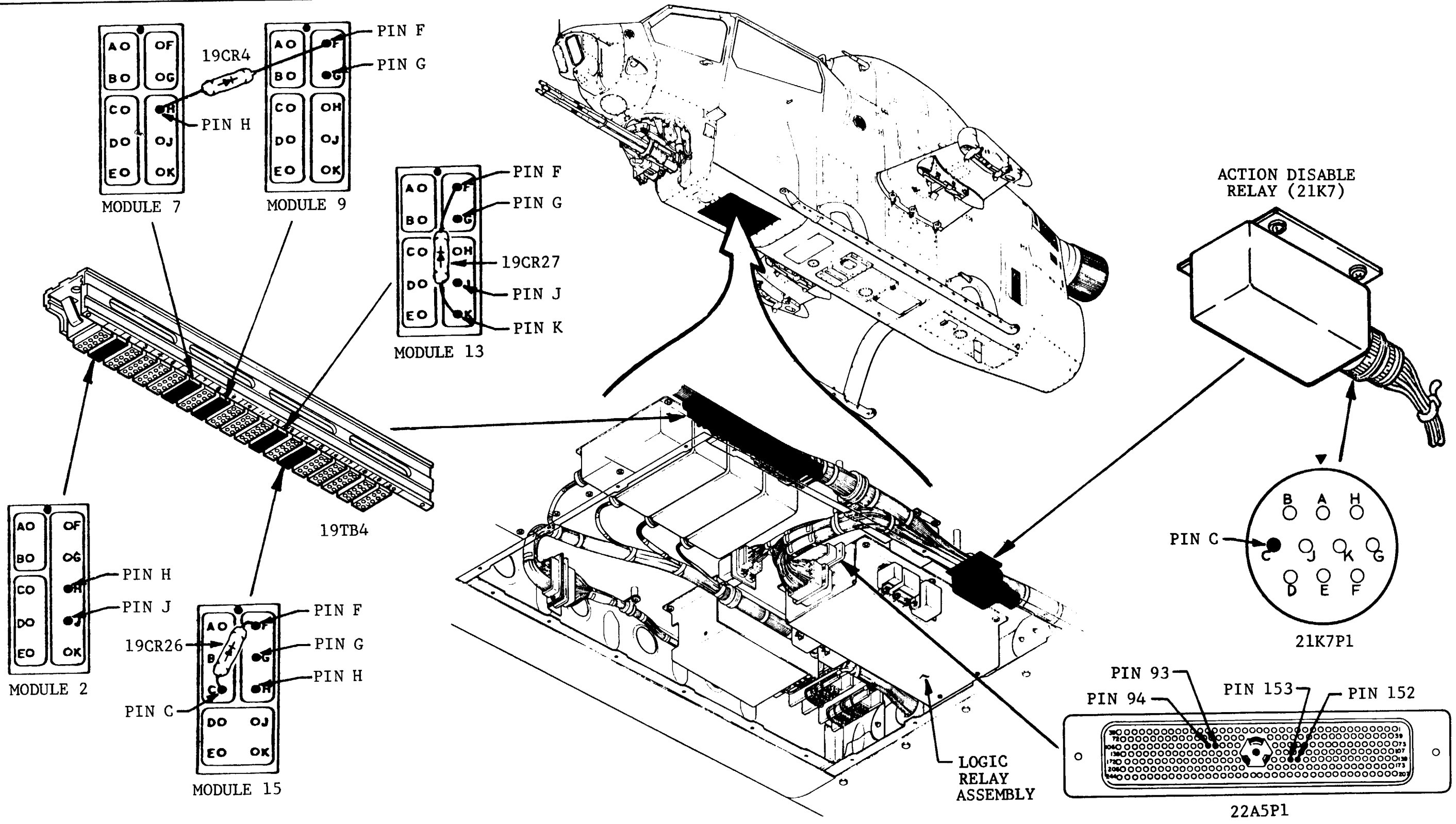
Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXIII.
 Then go to paragraph 6-2.



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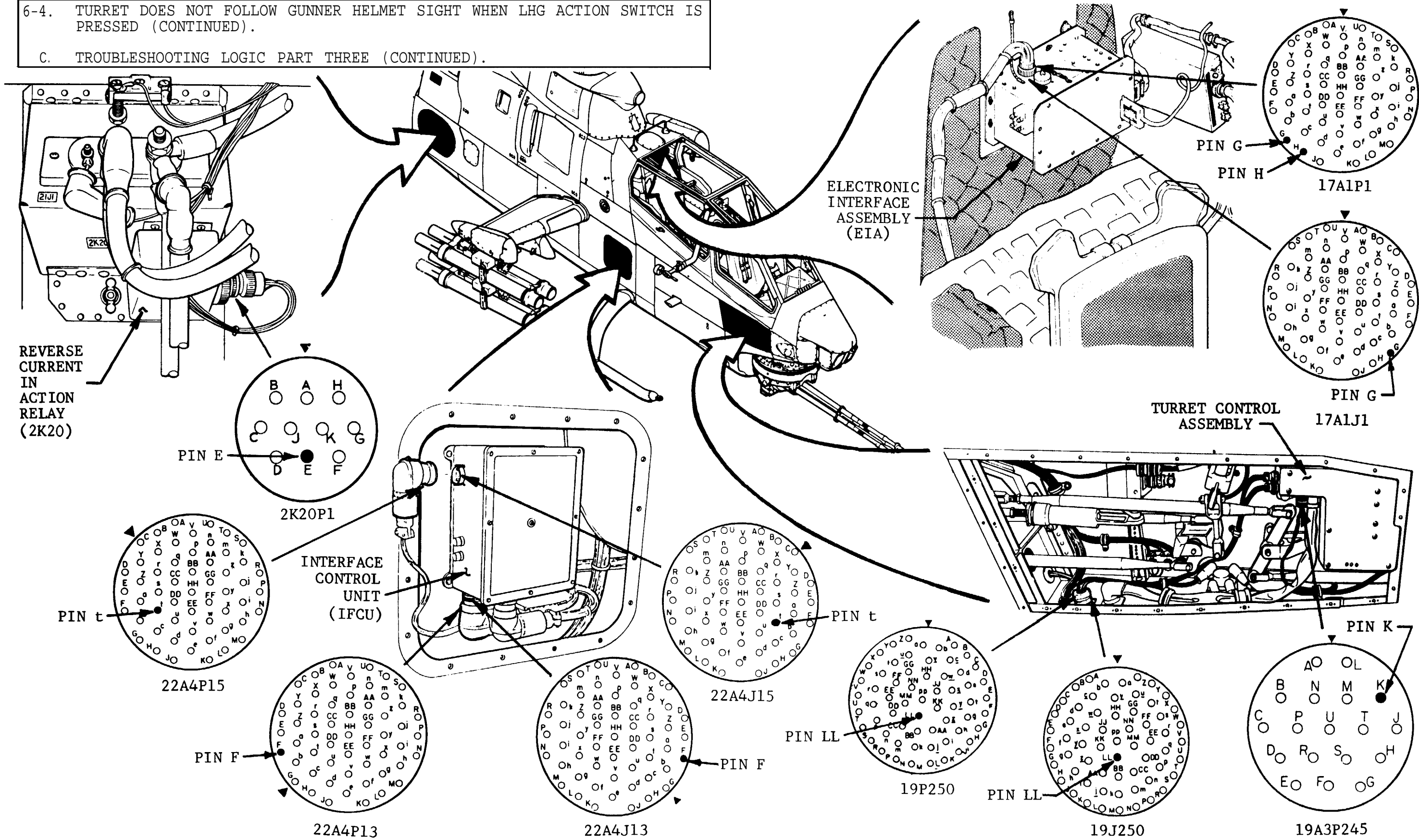
6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE.



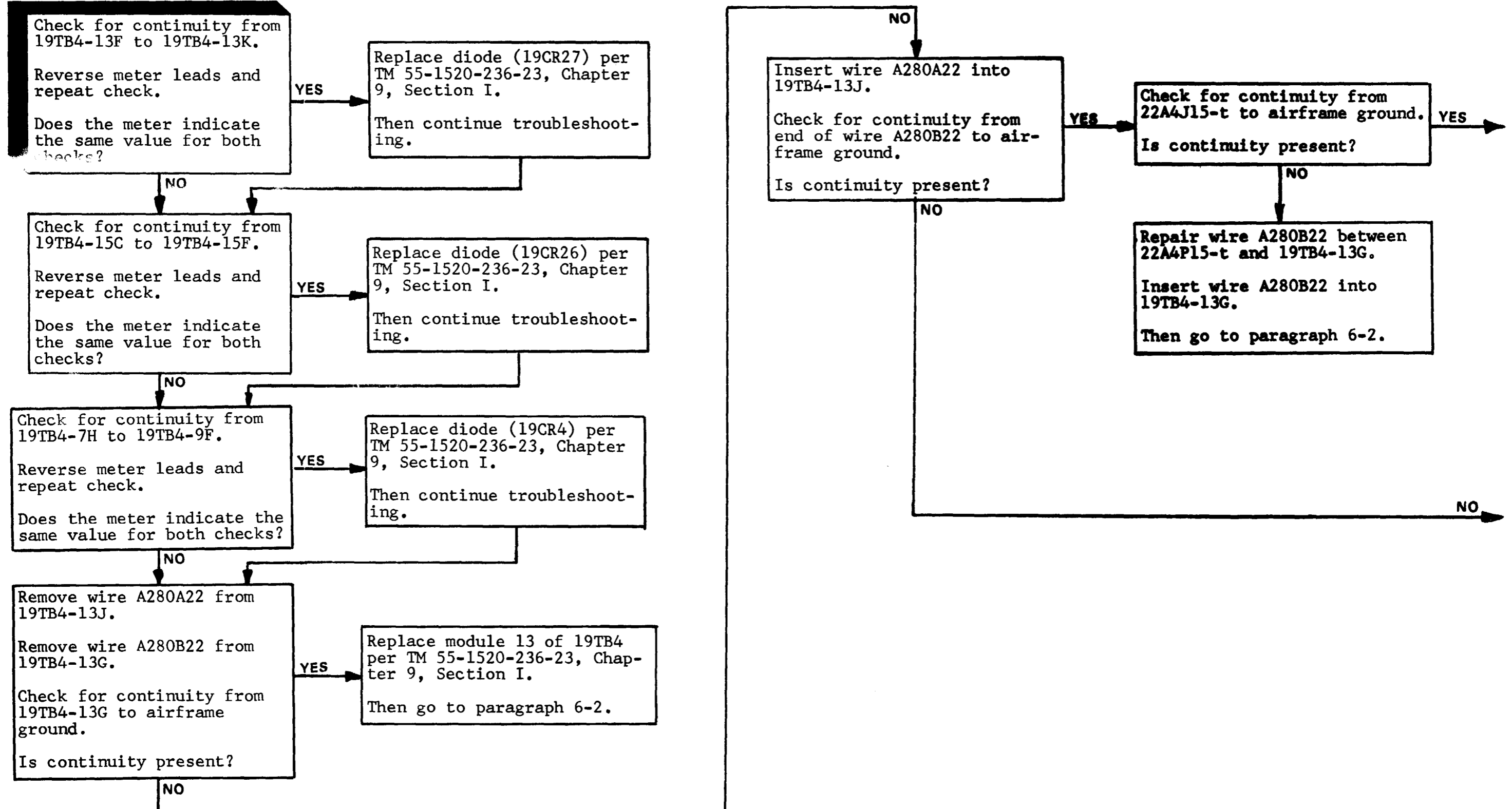
6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

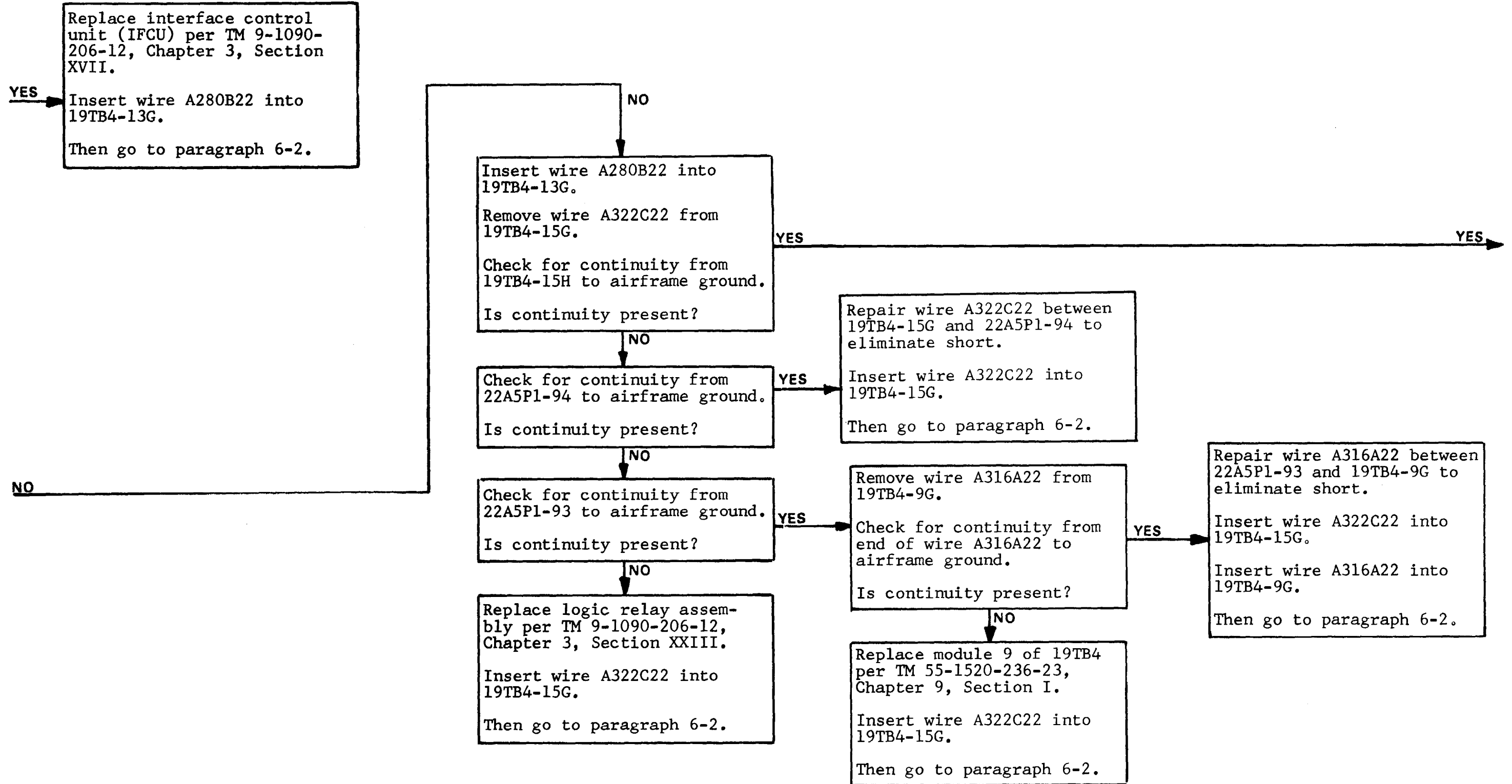


6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

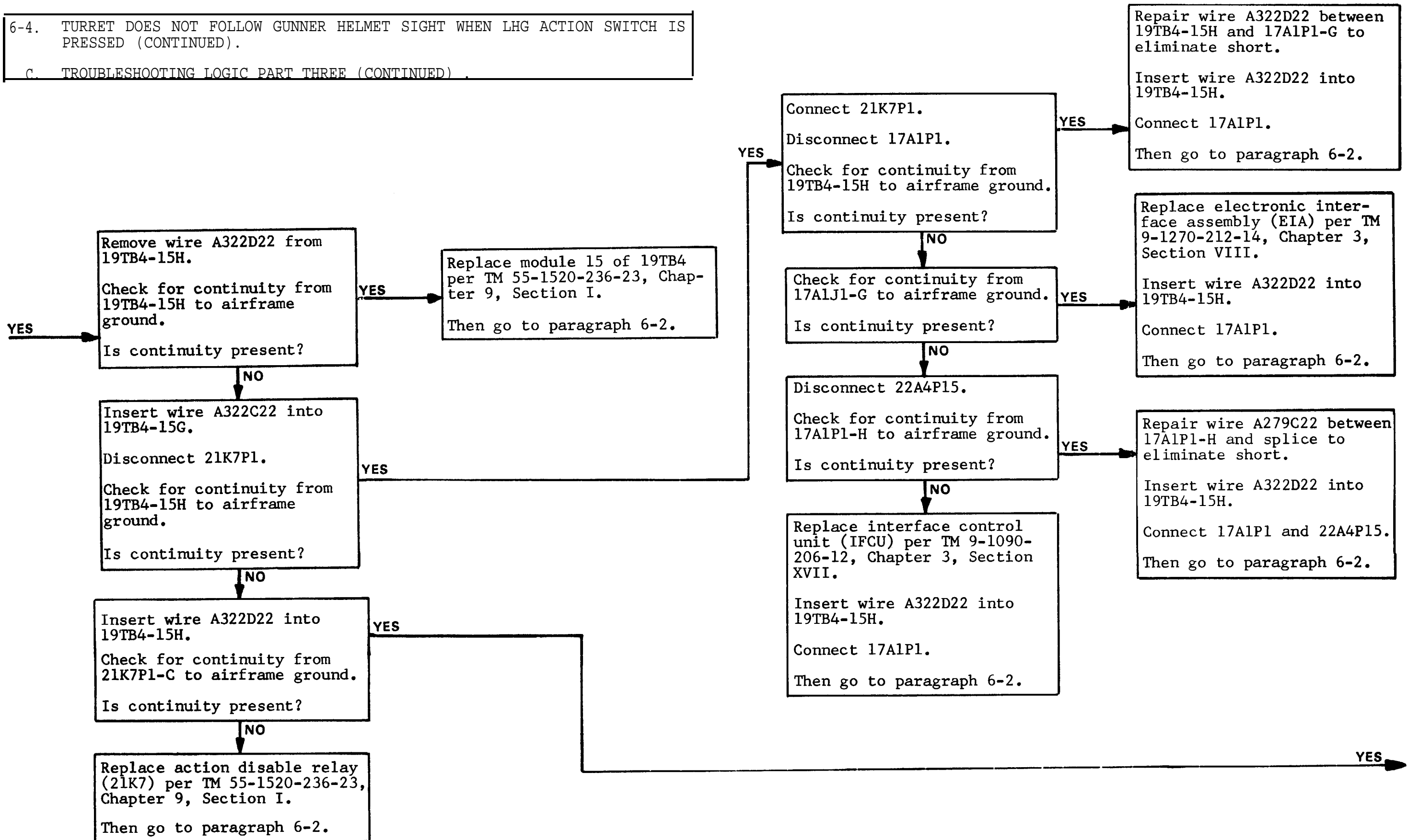


6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



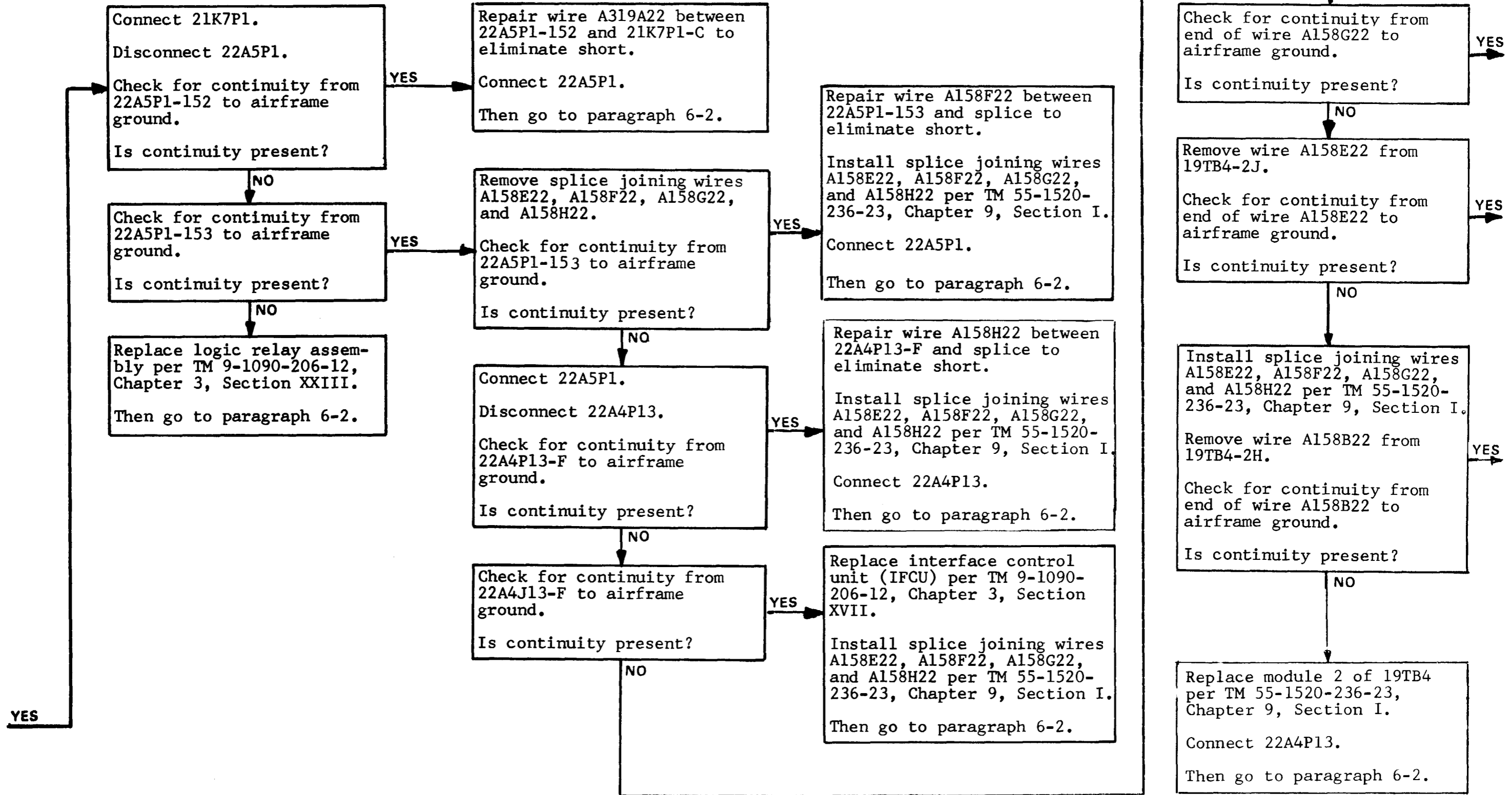
6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED)



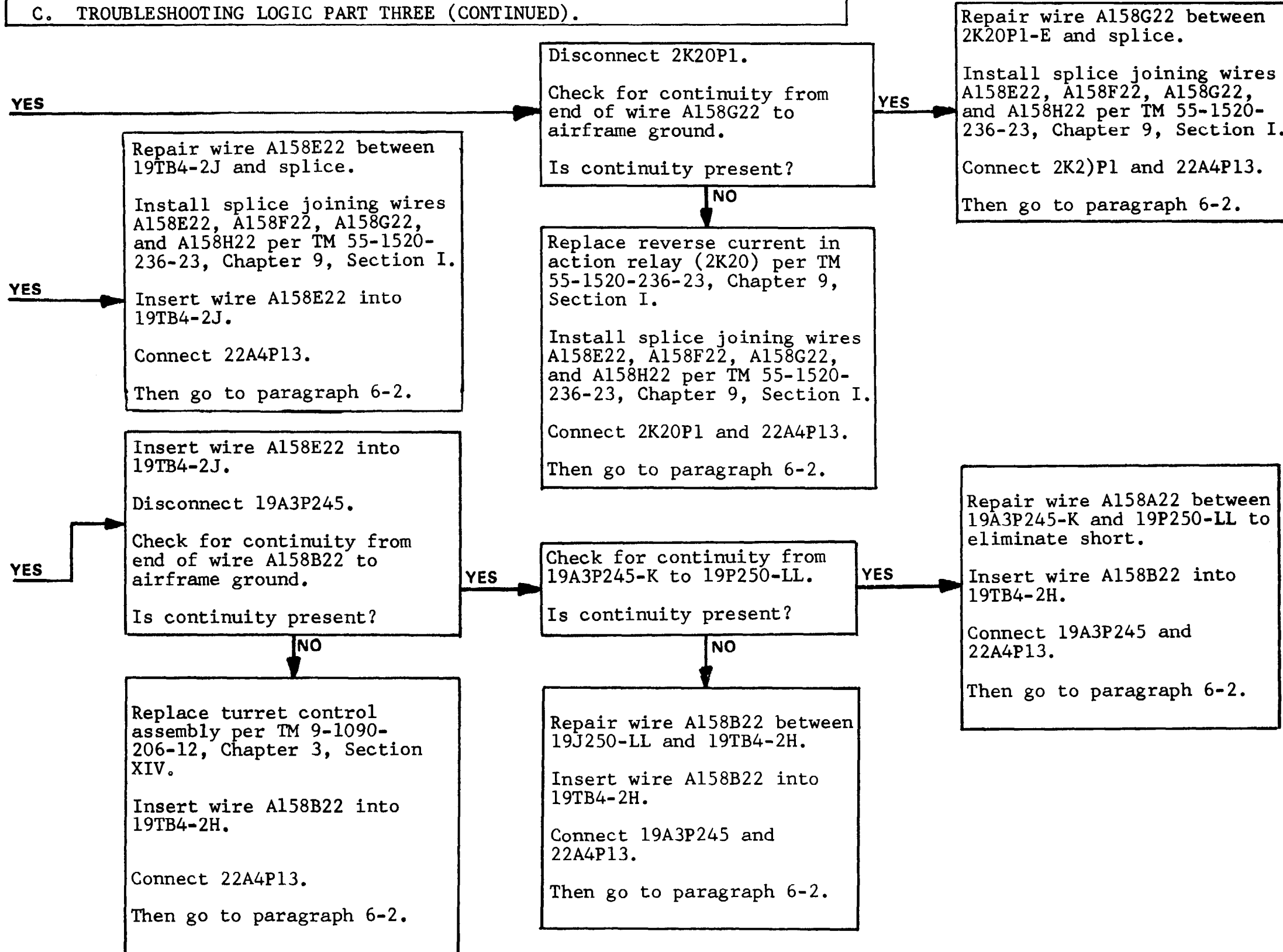
6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

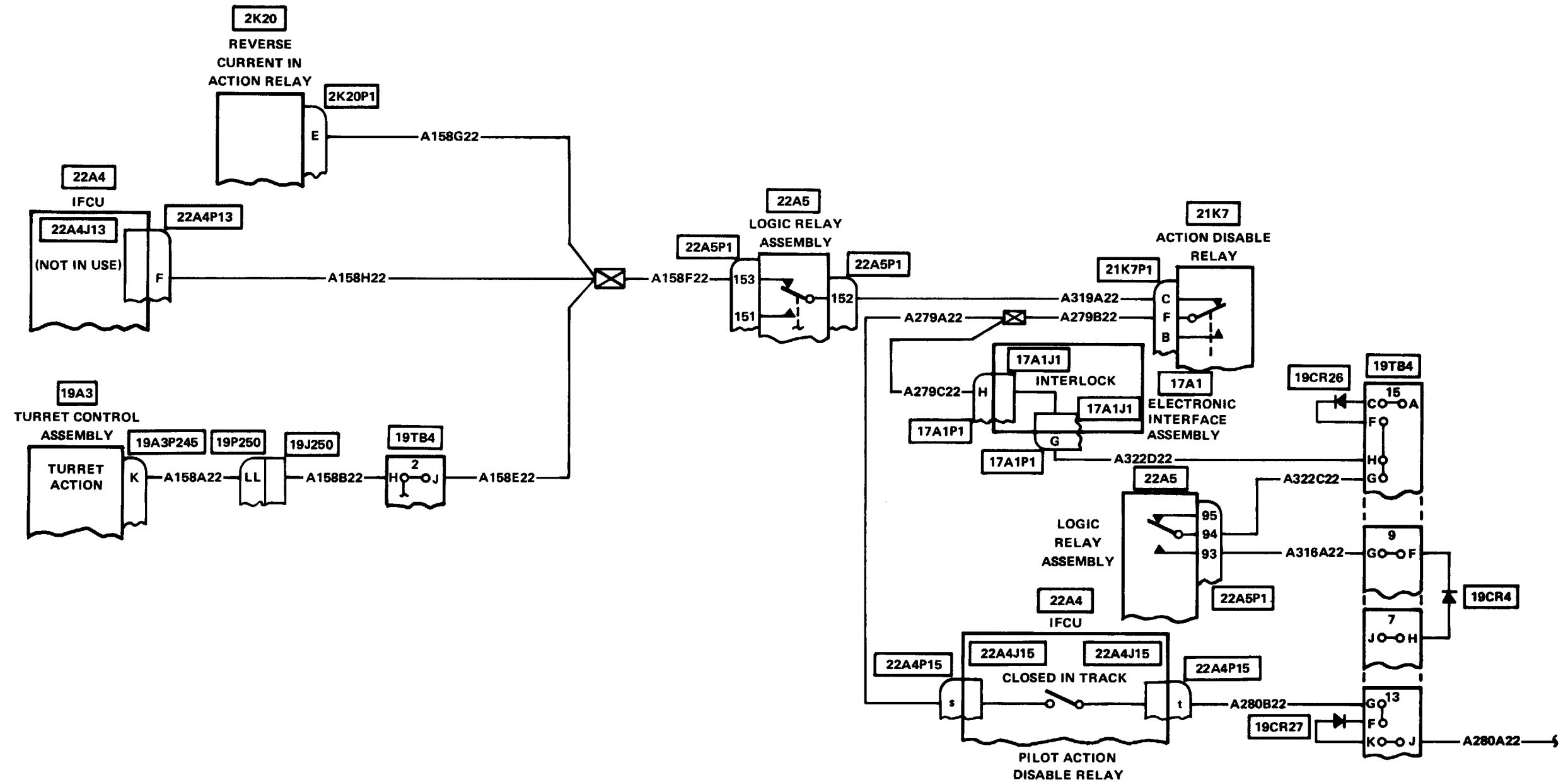


6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

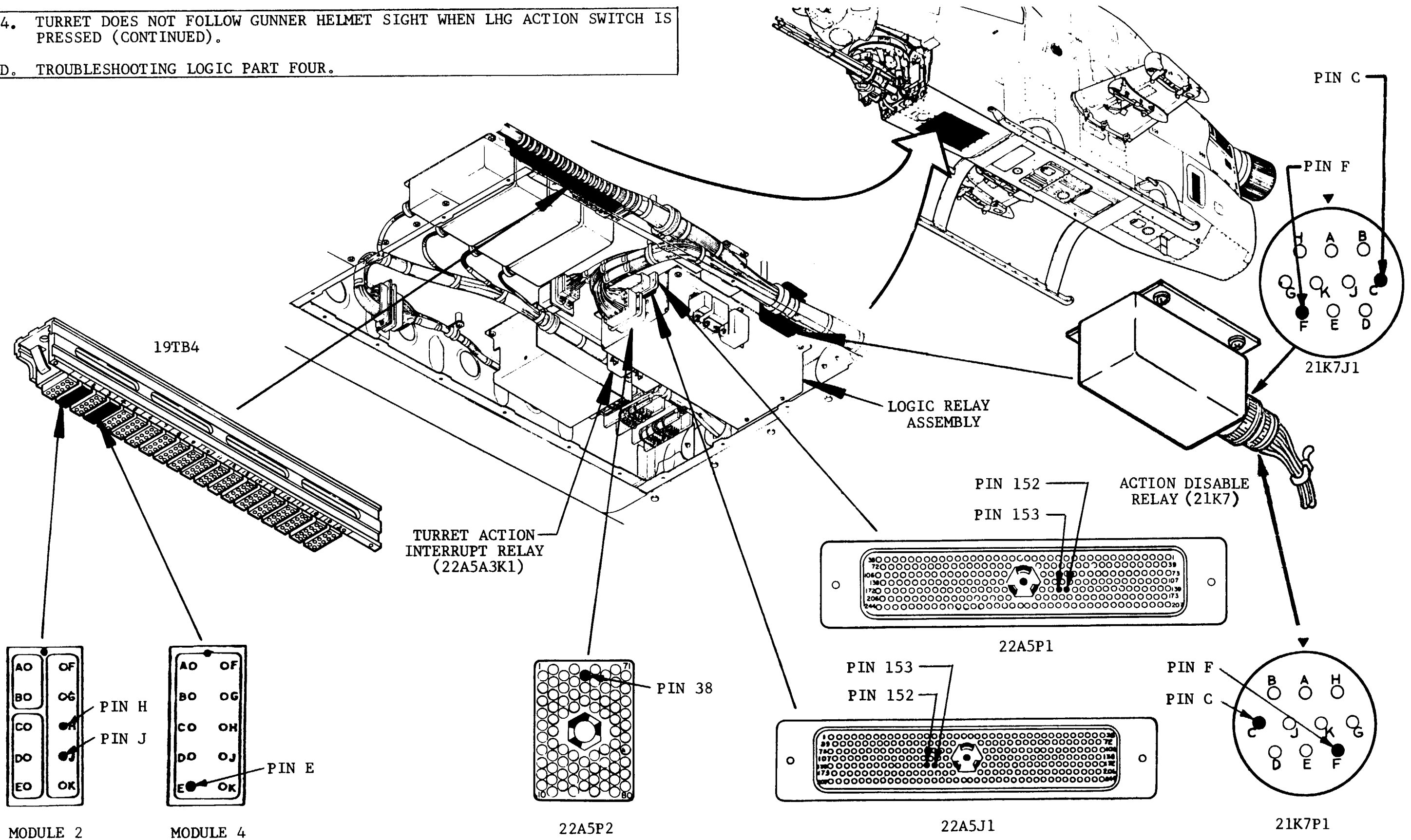
C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

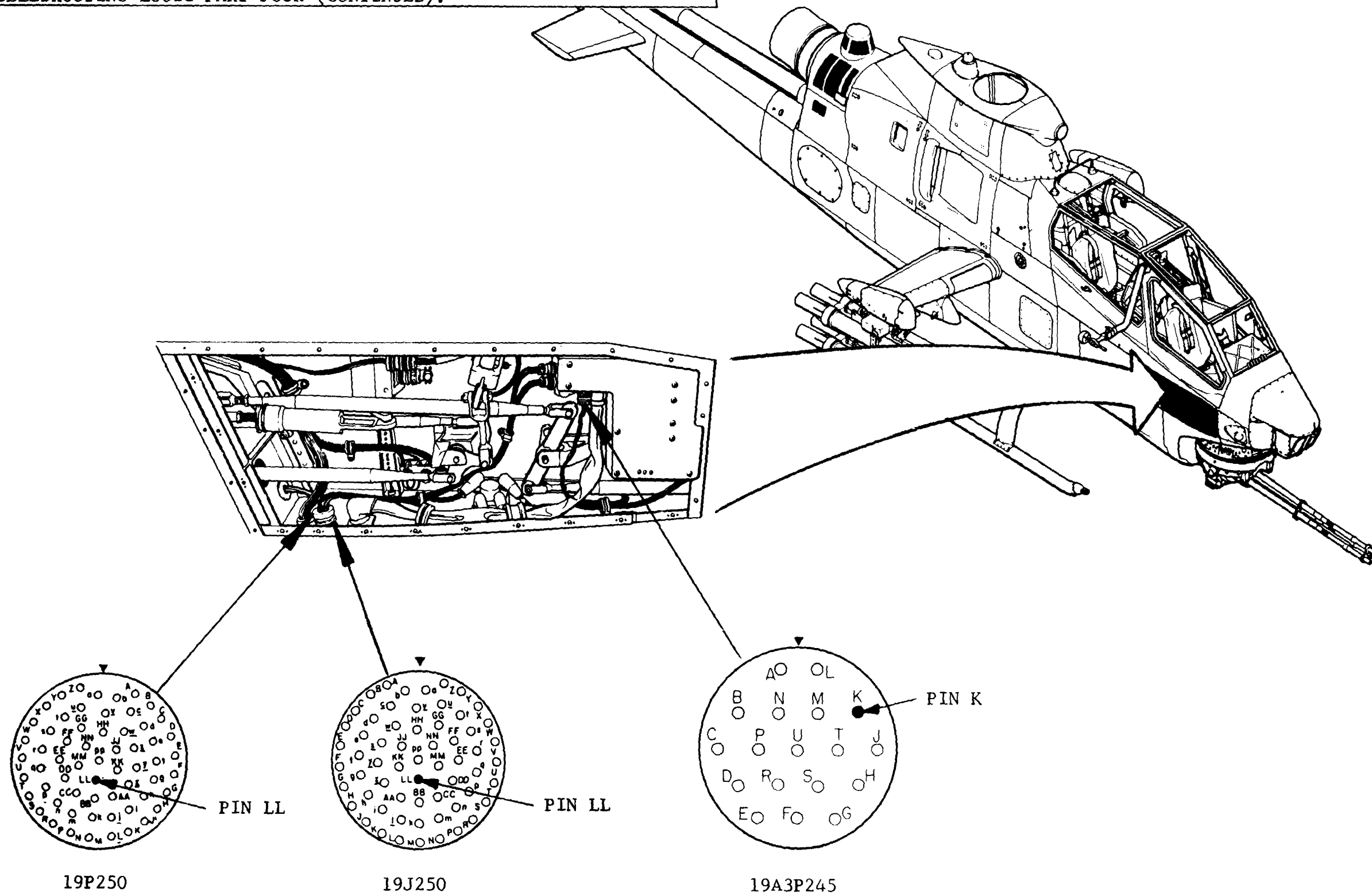


6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 D. TROUBLESHOOTING LOGIC PART FOUR.



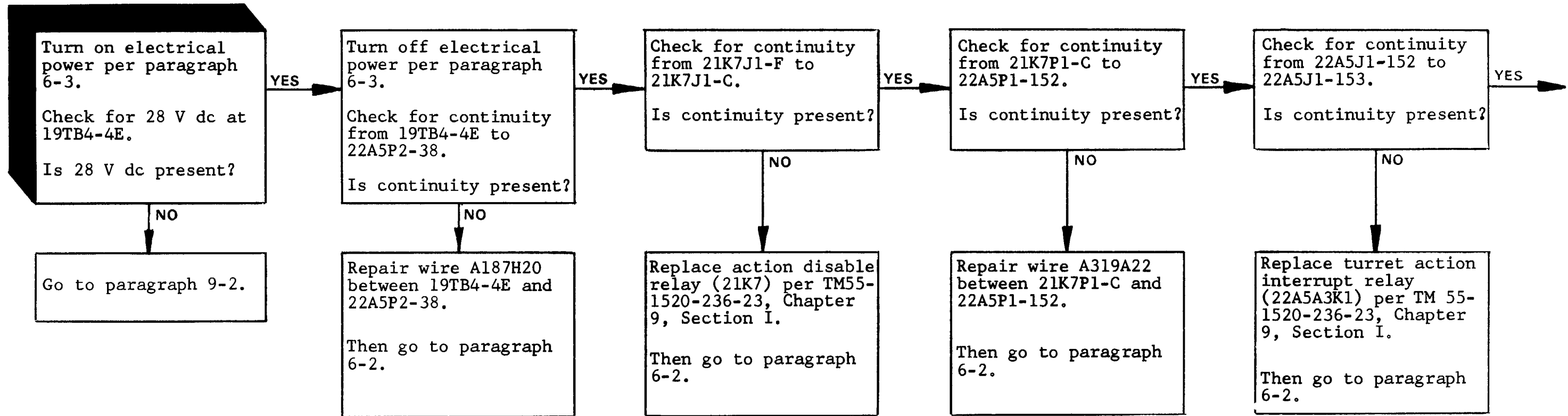
6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).

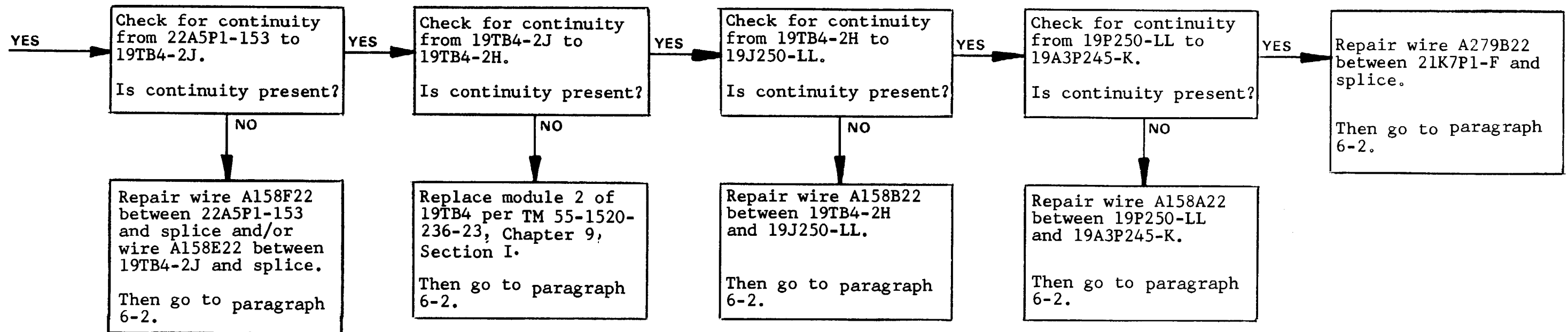


6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).

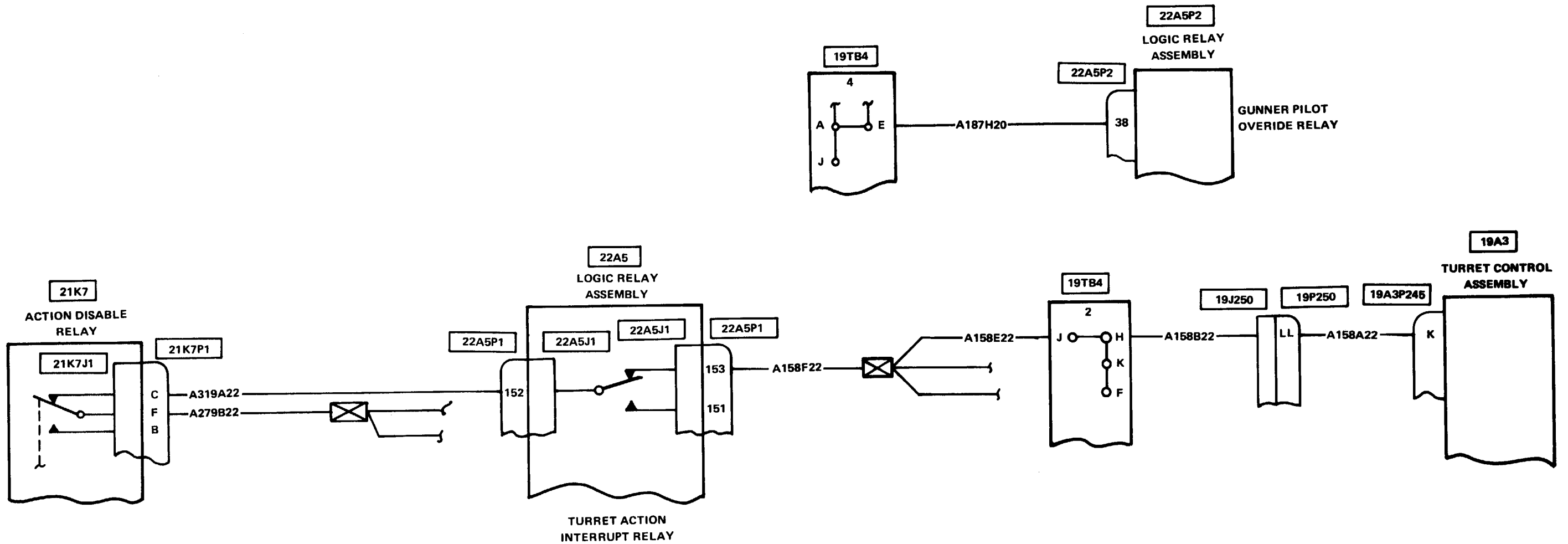
D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



5-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



6-4. TURRET DOES NOT FOLLOW GUNNER HELMET SIGHT WHEN LHG ACTION SWITCH IS PRESSED (CONTINUED).
 D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



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6-5 TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN AZIMUTH (REMAINS STATIONARY OR DRIFTS).

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 9-1270-218-13

Access Panels
Battery Compartment - Removed

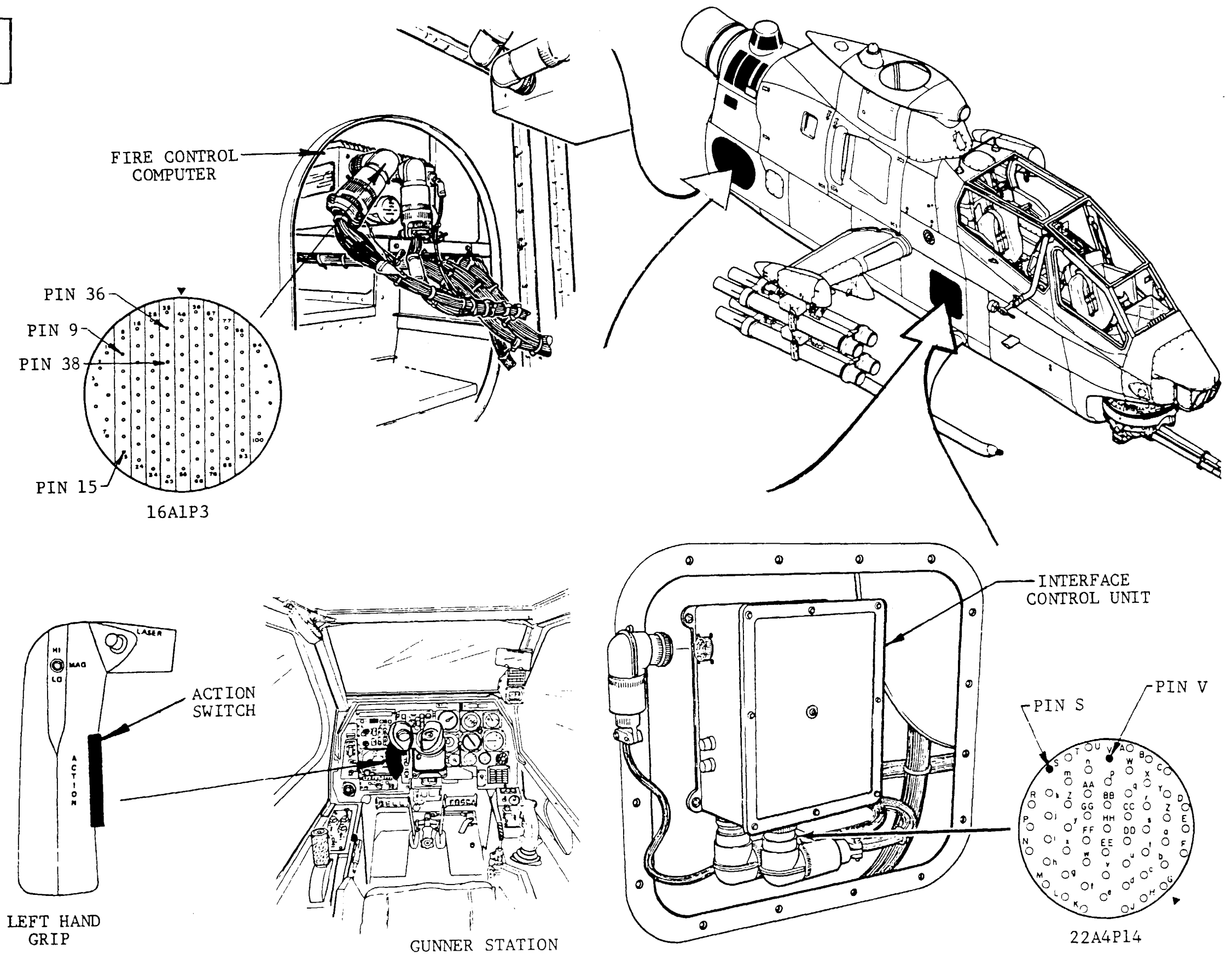
Interface Control Unit - Removed

Right Forward Control Linkage - Removed

Turret Fairing - Removed

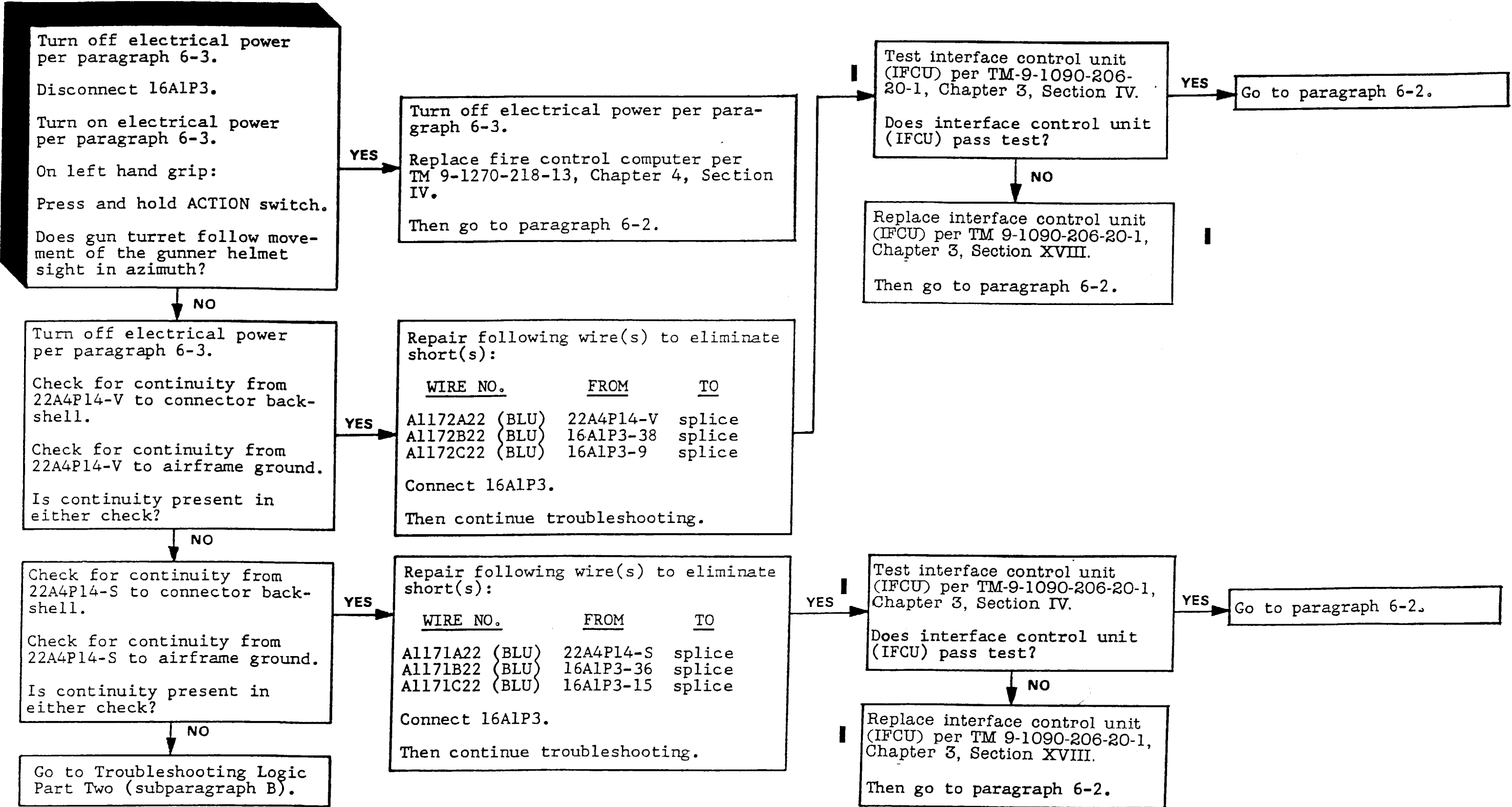
Left Ammo Compartment Door - Open

A. TROUBLESHOOTING LOGIC PART ONE.

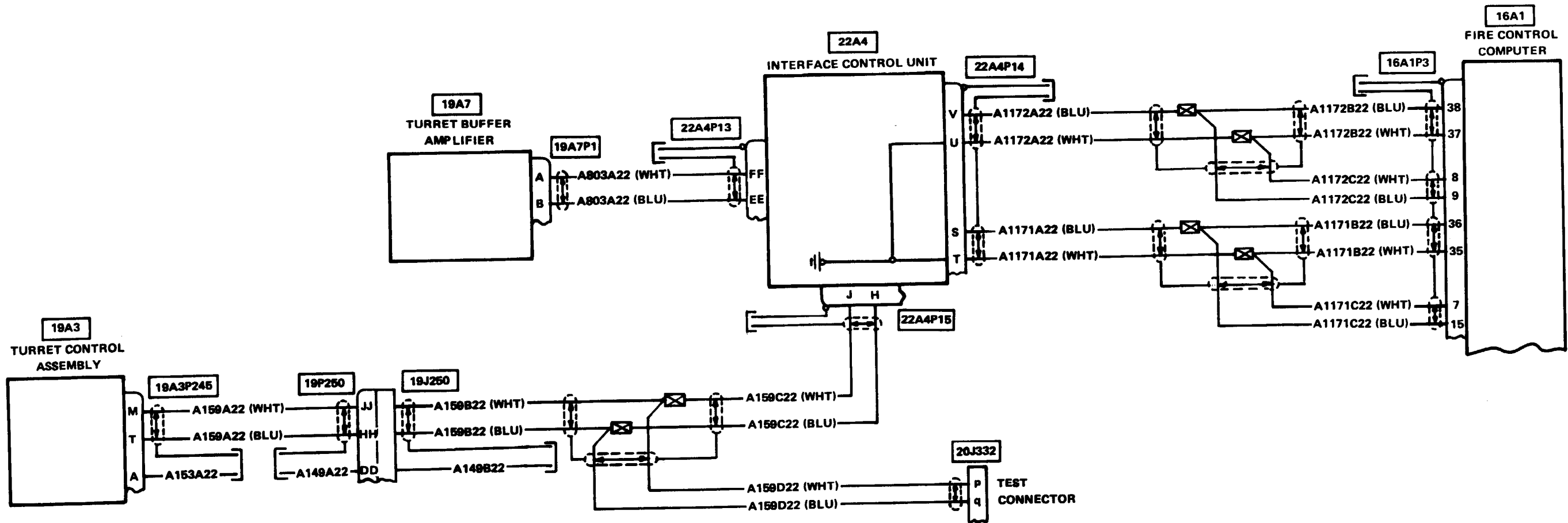


6-5. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN AZIMUTH (REMAINS STATIONARY OR DRIFTS) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



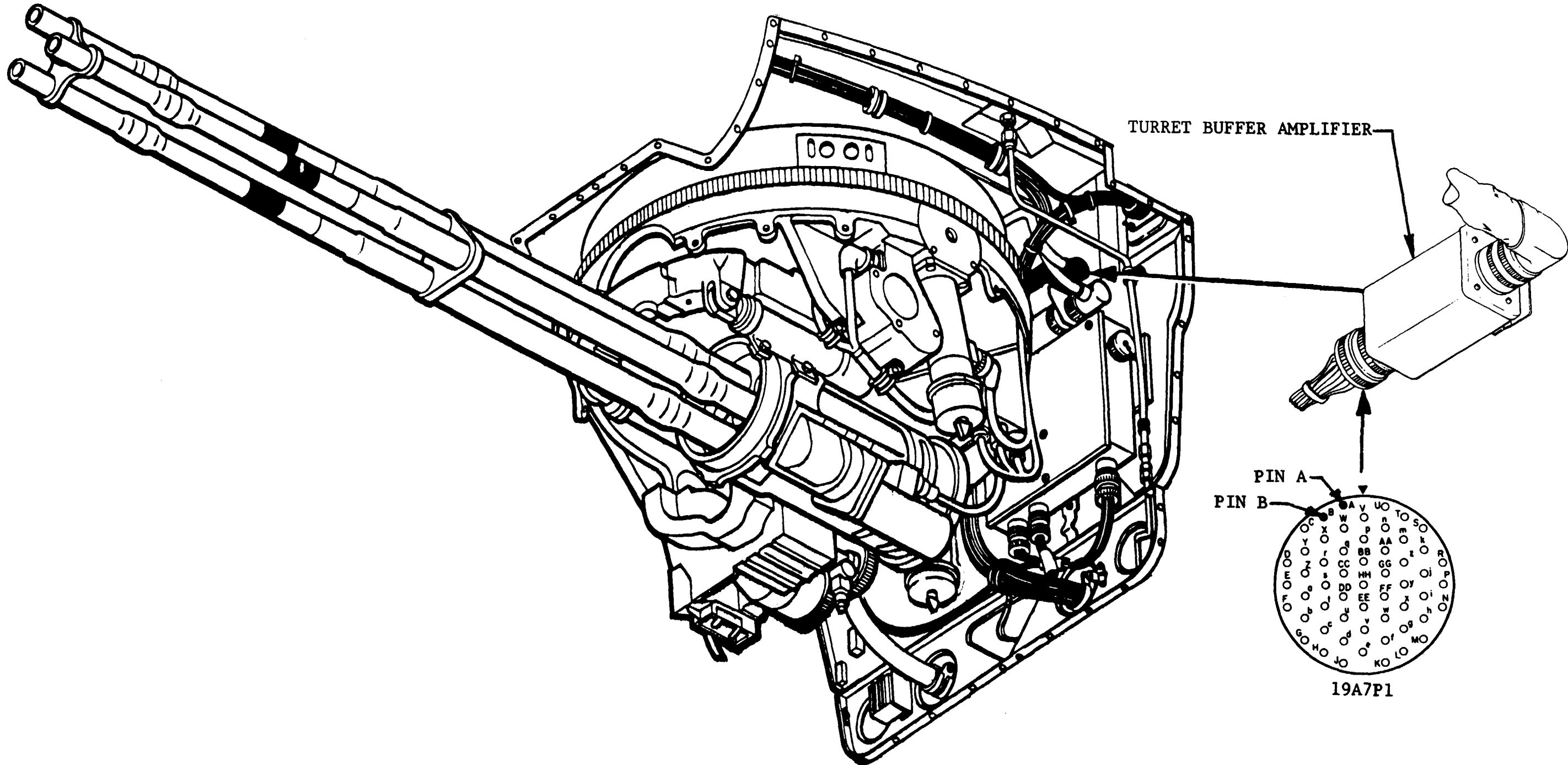
6-5 TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN AZIMUTH (REMAINS STATIONARY OR DRIFTS) (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



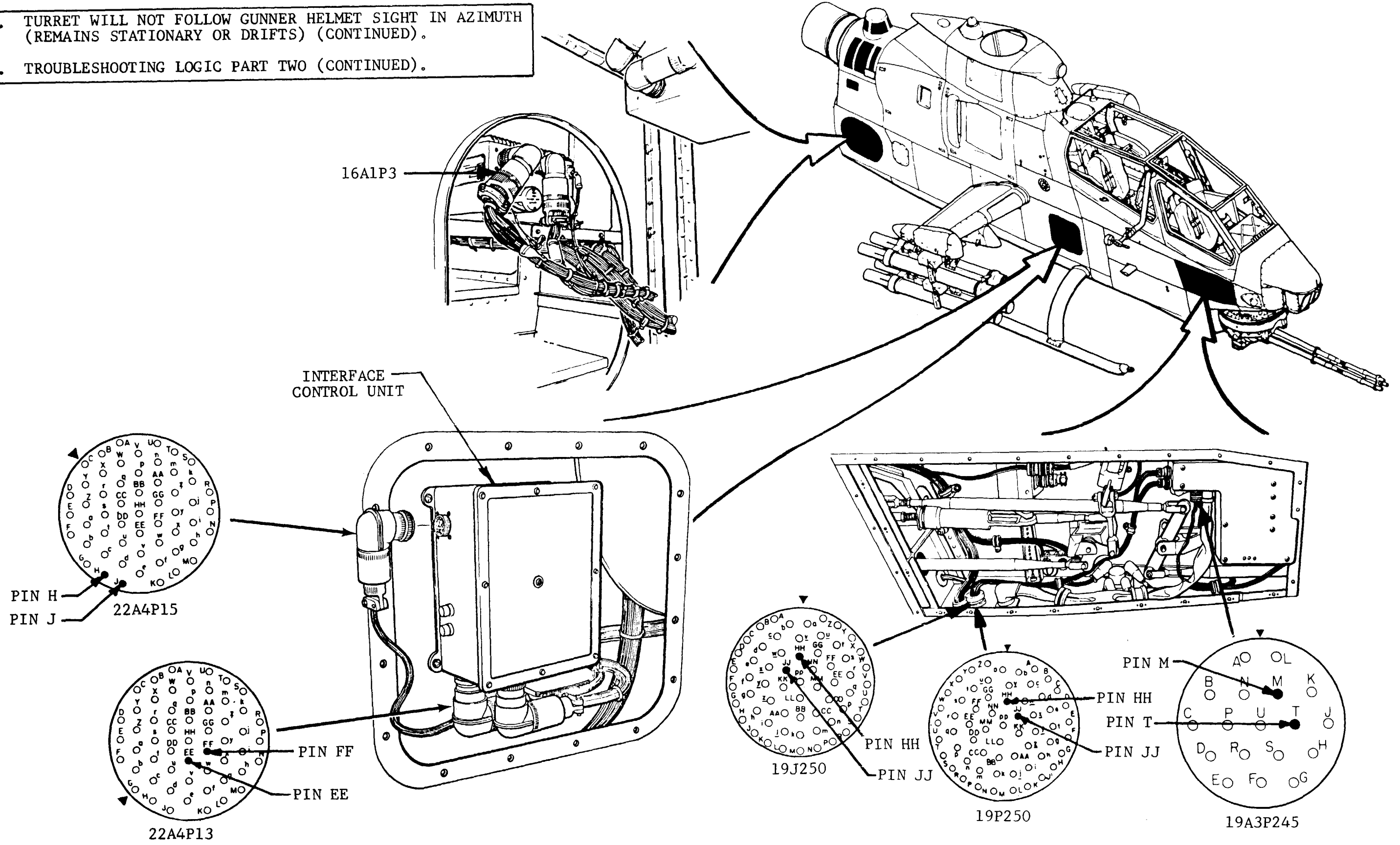
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6-5. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN AZIMUTH (REMAINS STATIONARY OR DRIFTS) (CONTINUED).

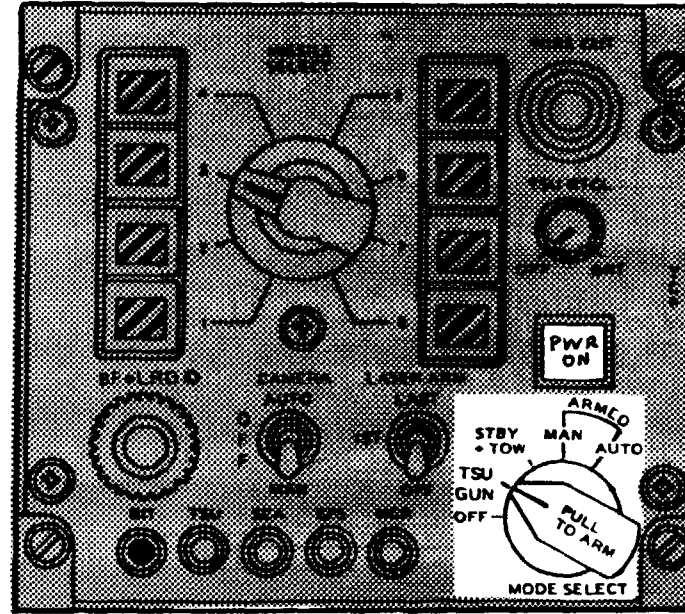
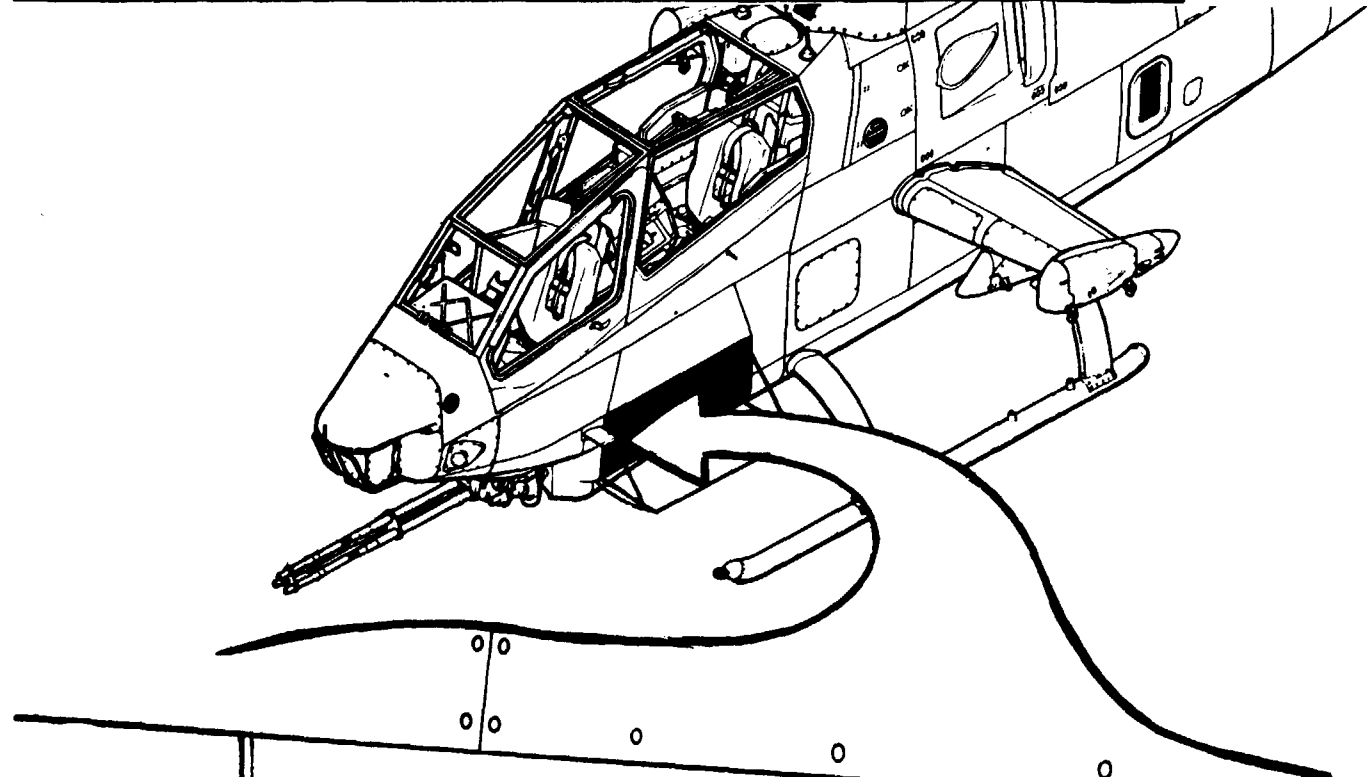
B. TROUBLESHOOTING LOGIC PART TWO.



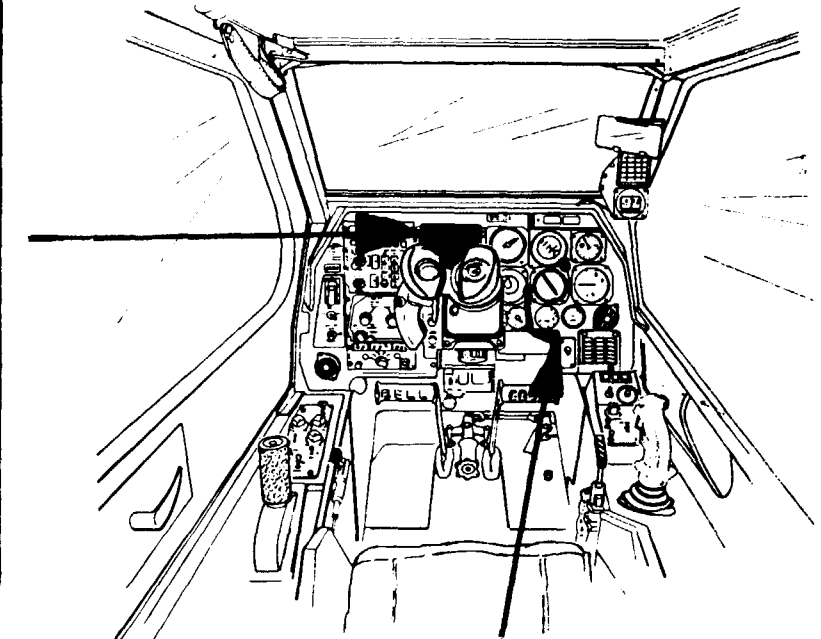
6-5. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN AZIMUTH (REMAINS STATIONARY OR DRIFTS) (CONTINUED).
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



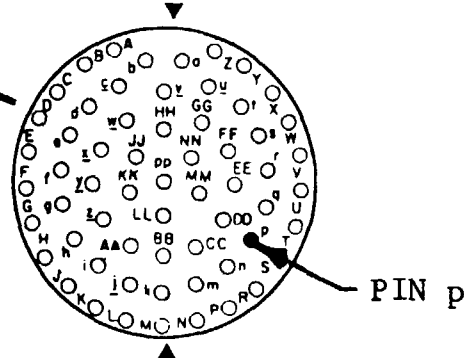
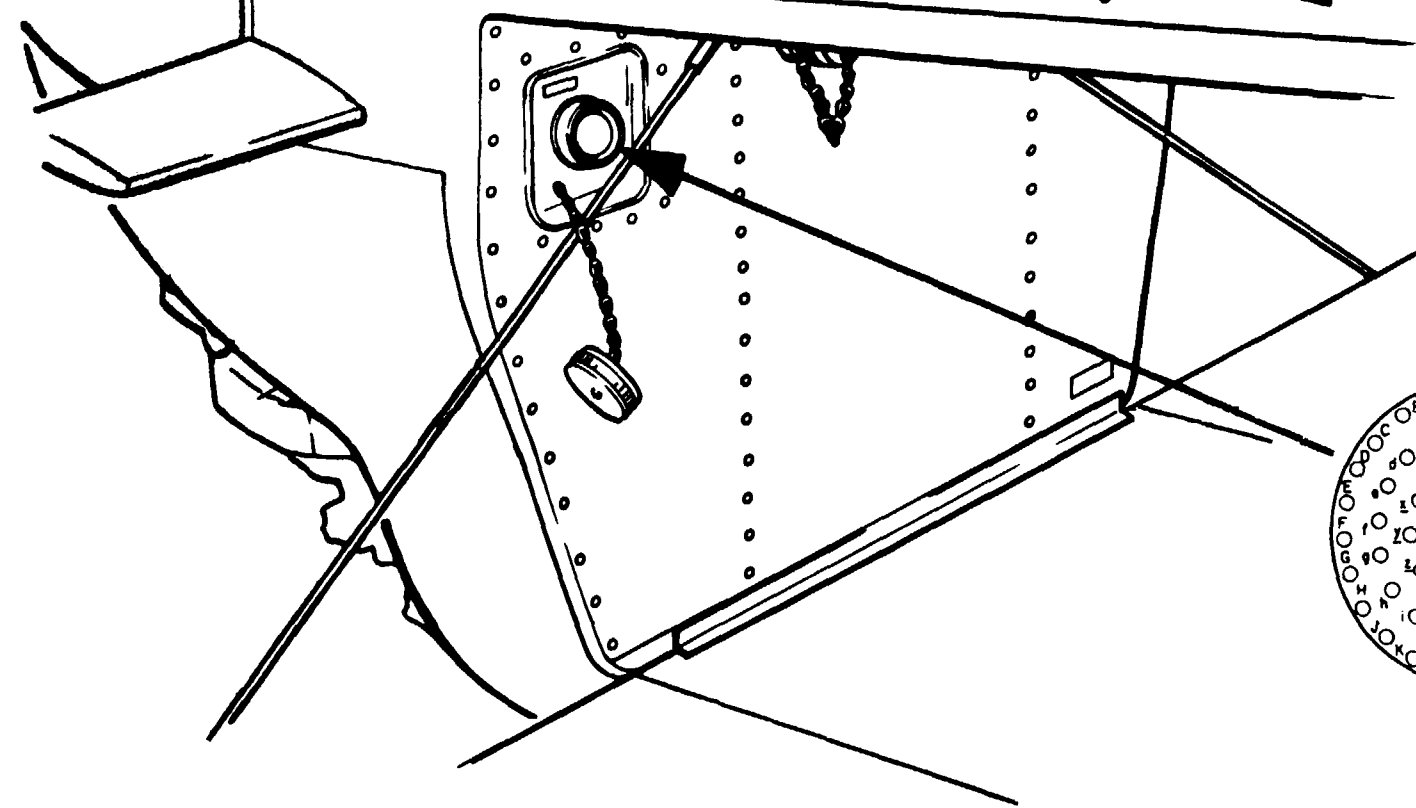
6-5. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN AZIMUTH (REMAINS STATIONARY OR DRIFTS) (CONTINUED).
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



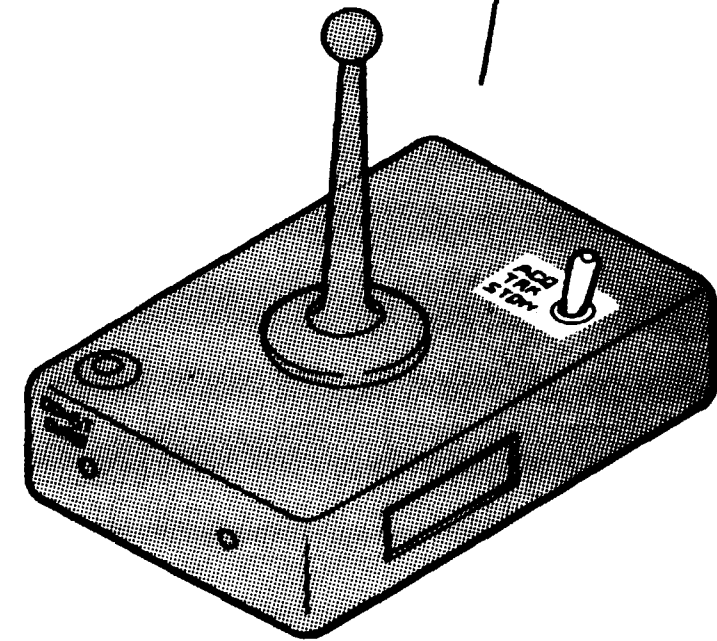
TCP
(TOW CONTROL PANEL)



GUNNER STATION

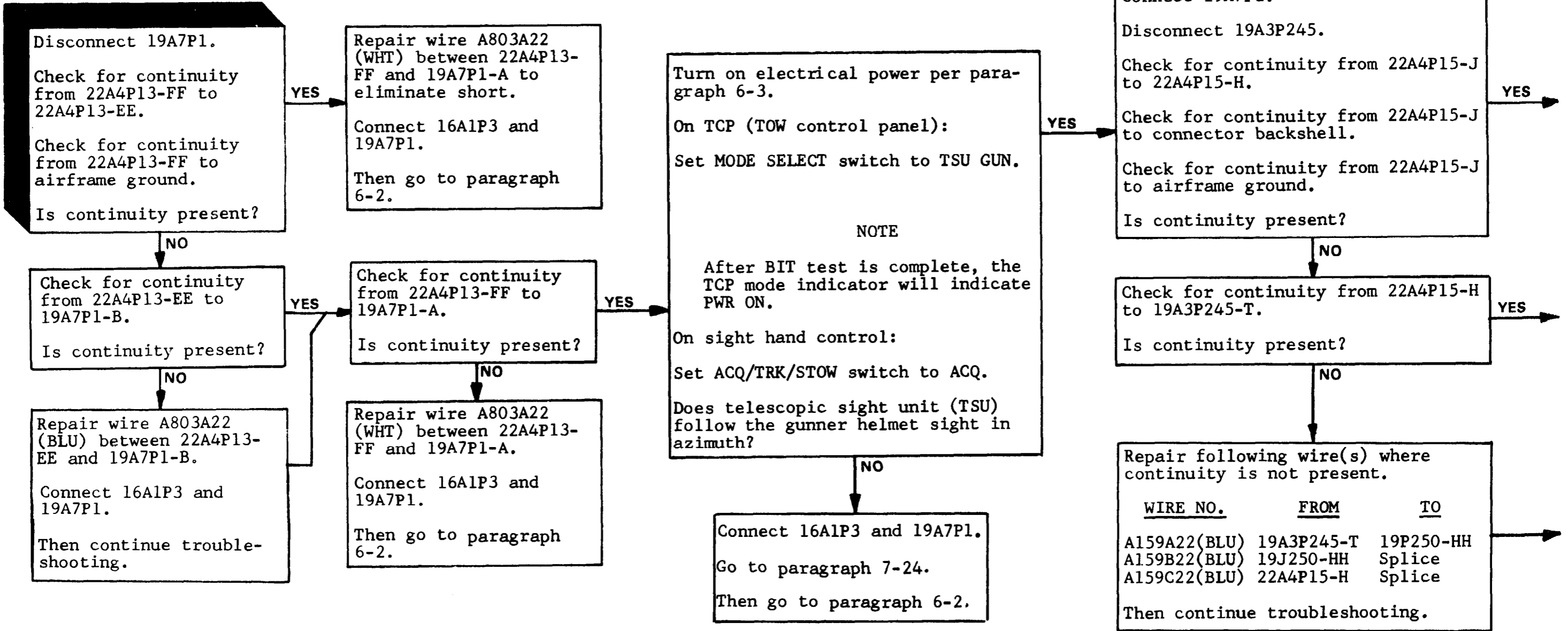


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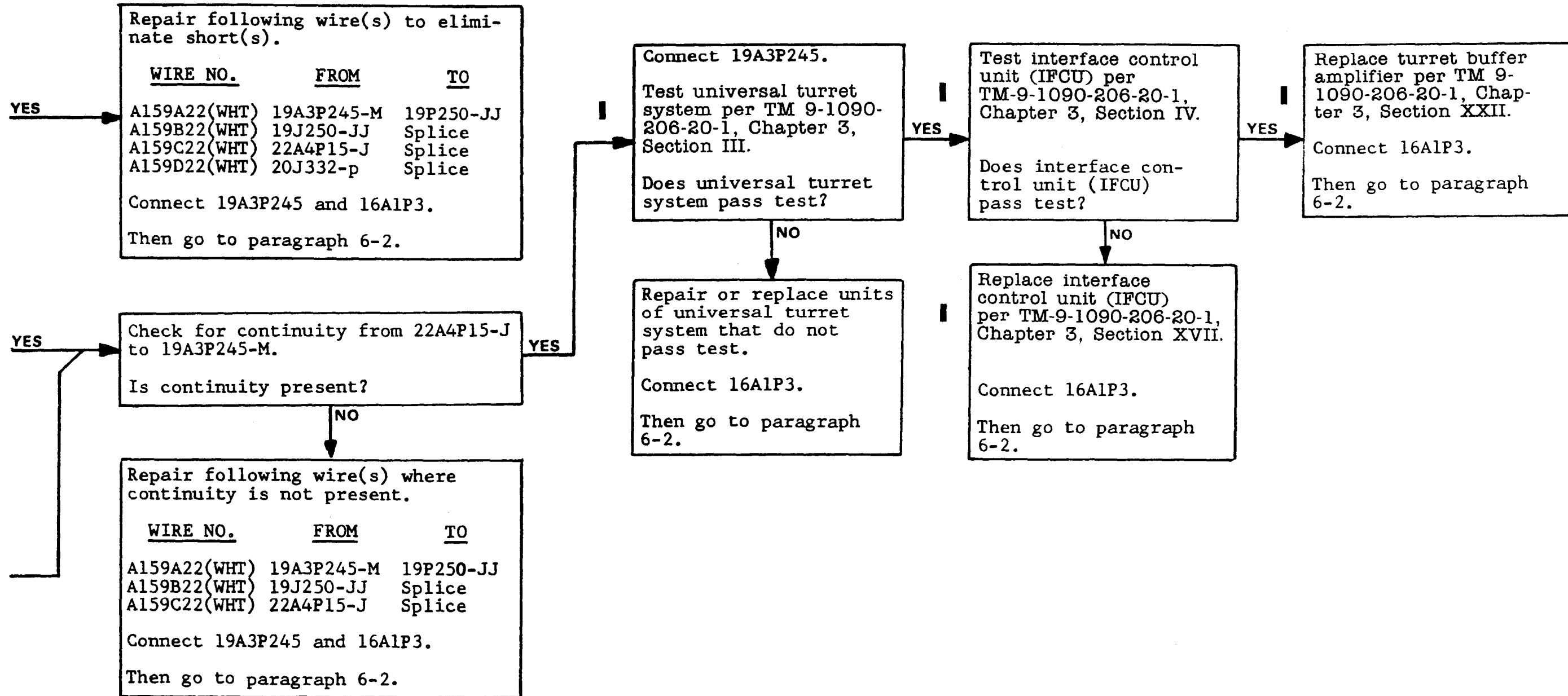


SIGHT HAND CONTROL

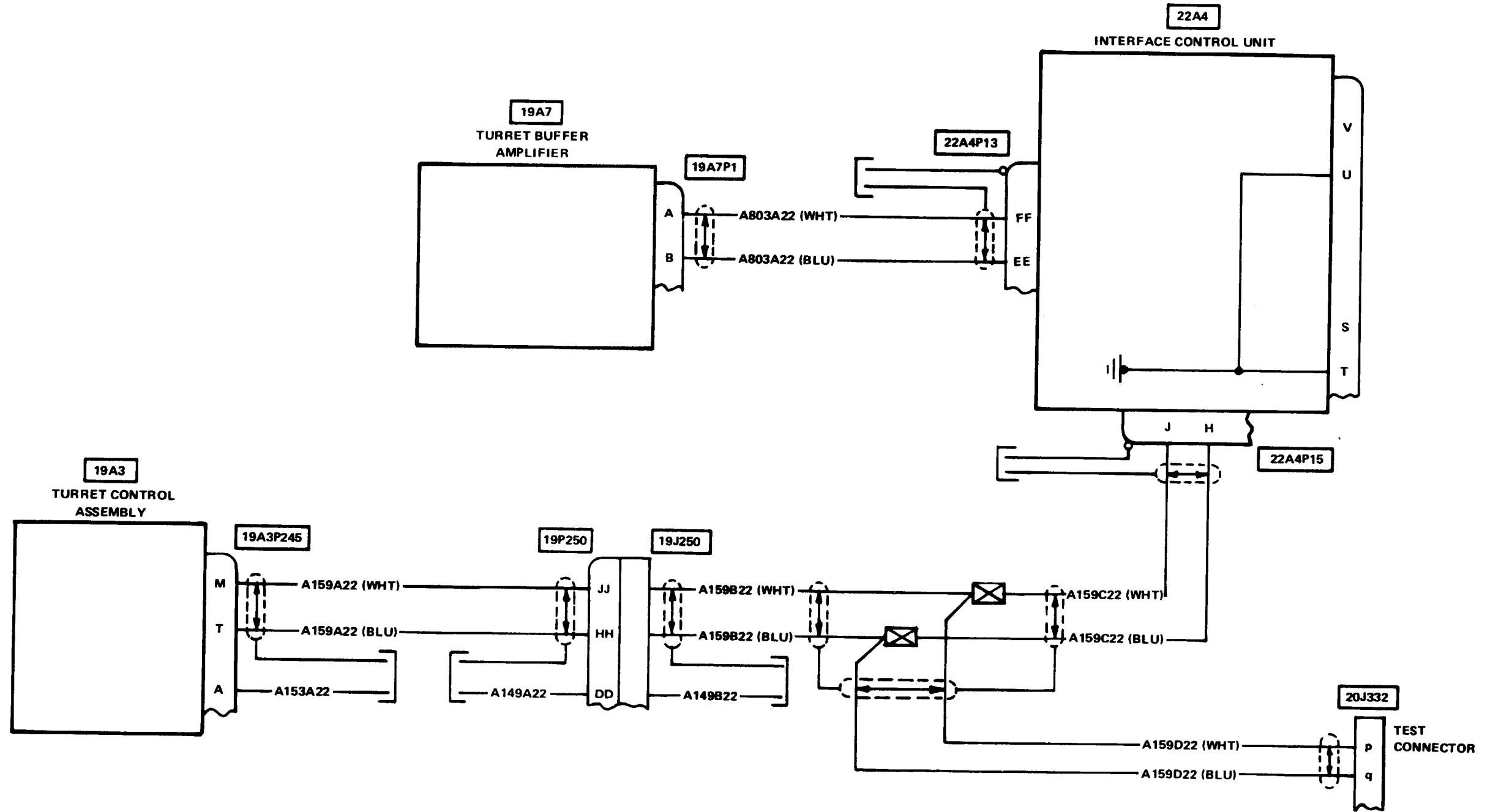
6-5. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN AZIMUTH (REMAINS STATIONARY OR DRIFTS) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-5. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN AZIMUTH (REMAINS STATIONARY OR DRIFTS) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-5. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN AZIMUTH (REMAINS STATIONARY OR DRIFTS) (CONTINUED).
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-6. TURRET TRIES TO FOLLOW GUNNER HELMET SIGHT BUT IS SLUGGISH AND OUT OF COINCIDENCE.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

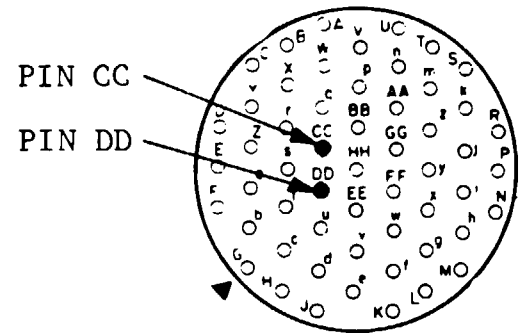
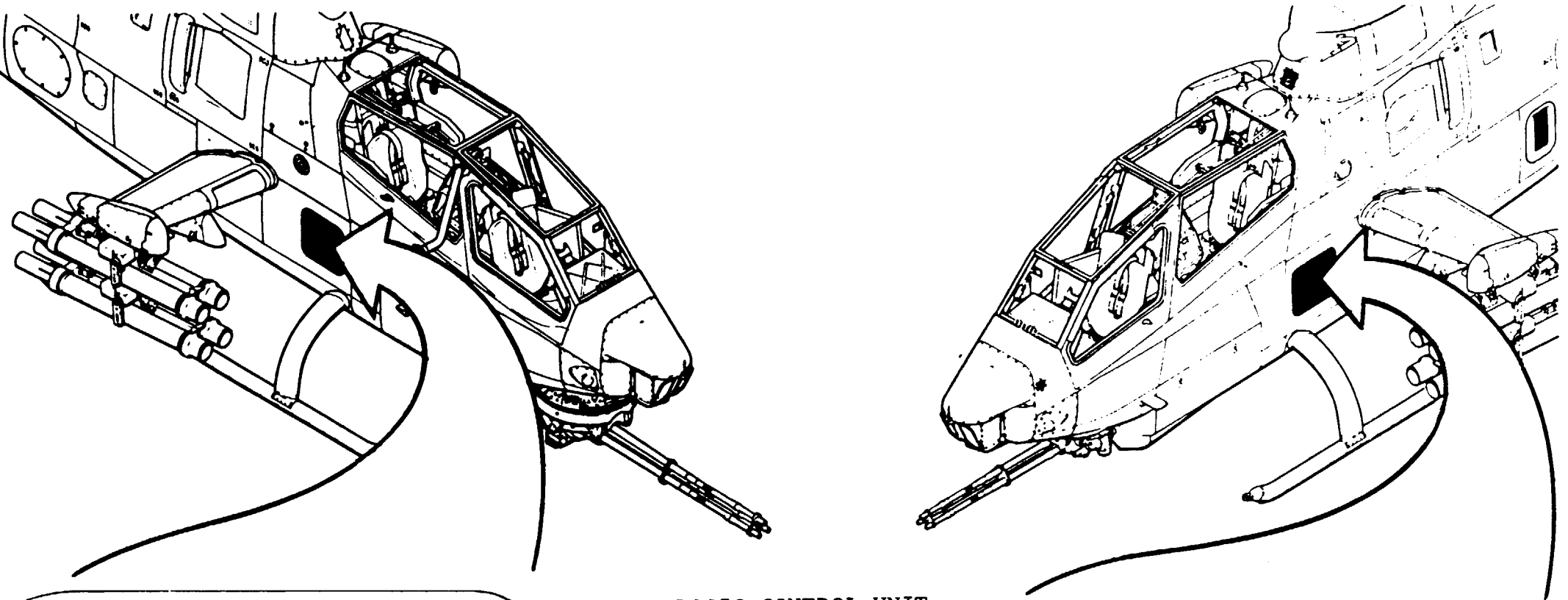
References
TM 9-1090-206-20-1

Access Panels

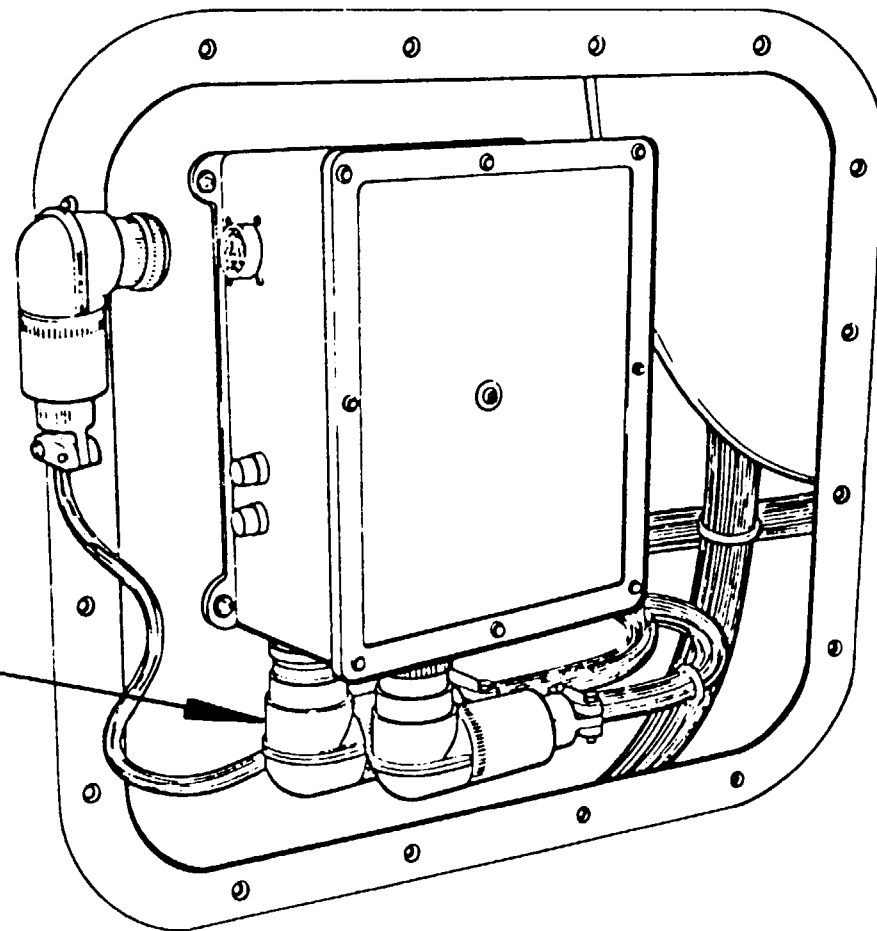
Interface Control Unit -
Removed

Logic Control Unit -
Removed

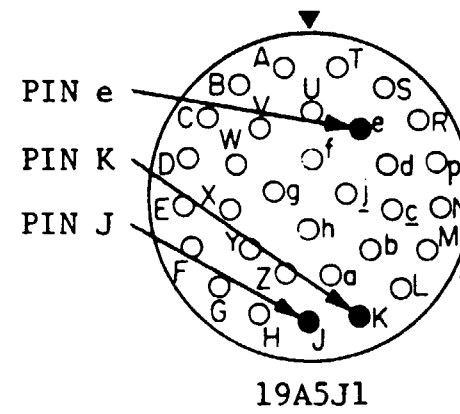
Turret Fairing - Removed



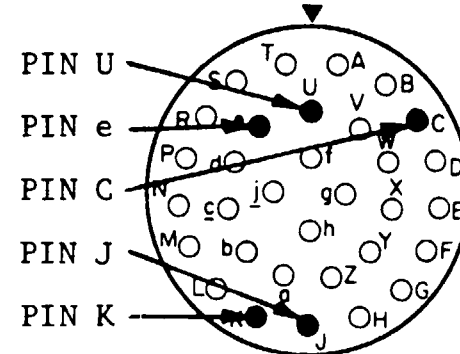
22A4P13



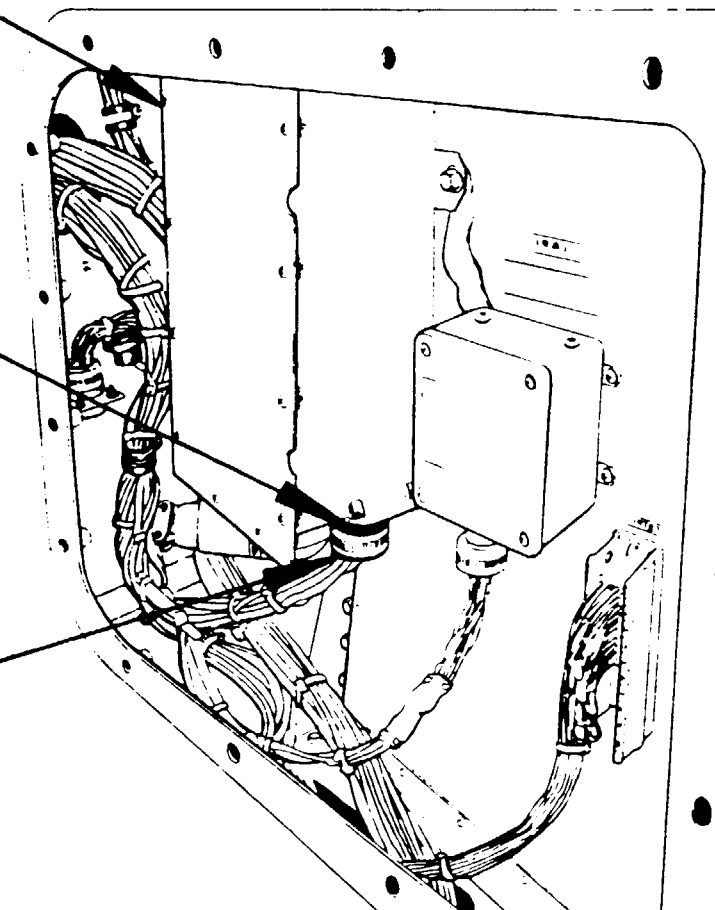
LOGIC CONTROL UNIT



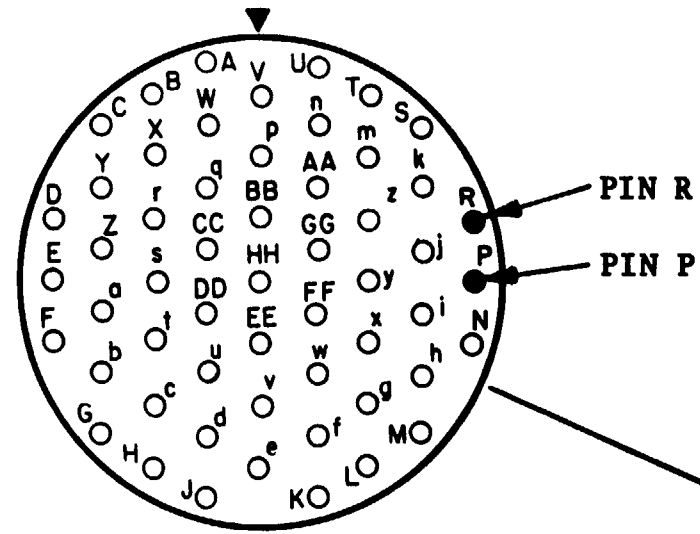
19A5J1



19A5P1

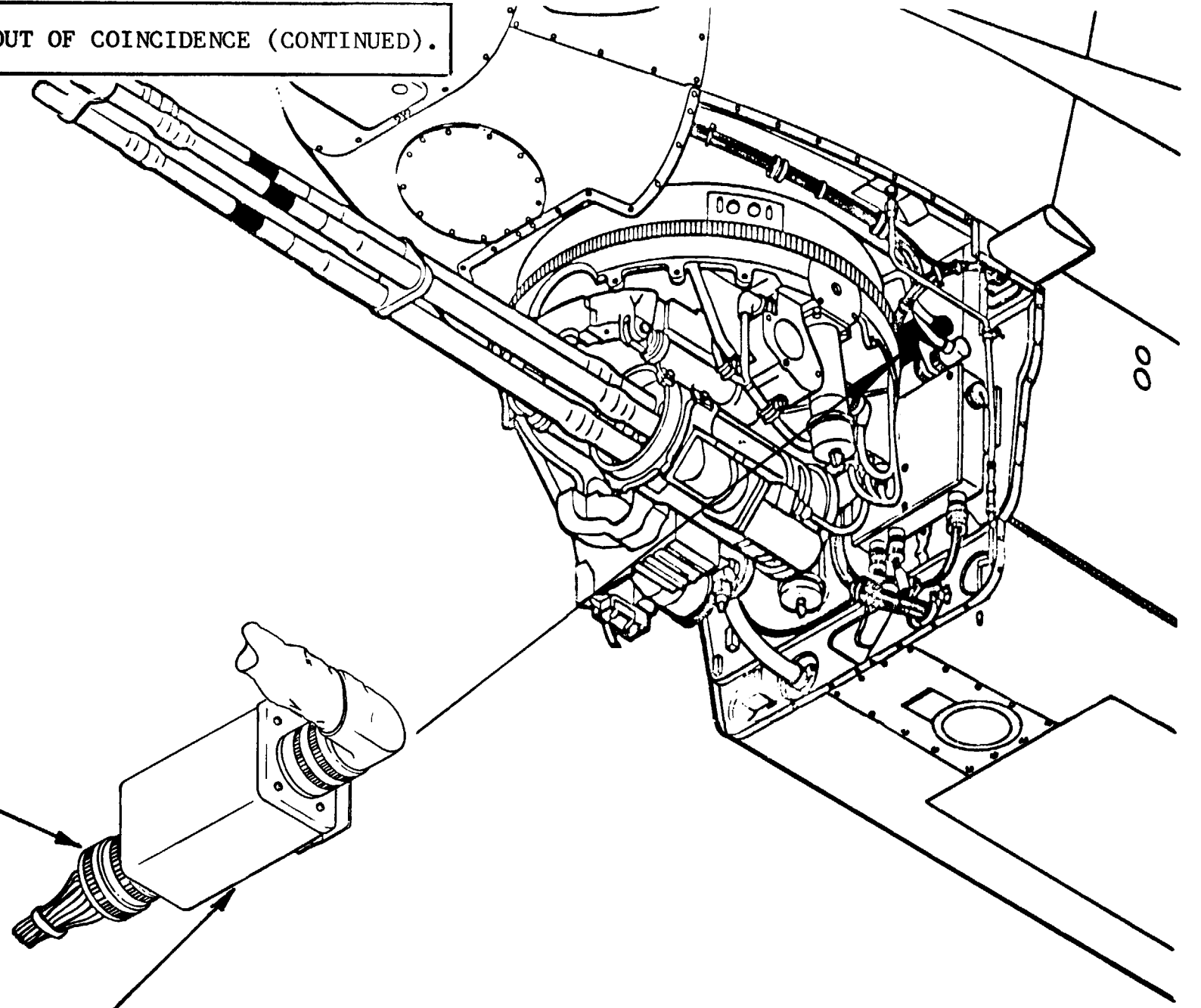


6-6. TURRET TRIES TO FOLLOW GUNNER HELMET SIGHT BUT IS SLUGGISH AND OUT OF COINCIDENCE (CONTINUED).

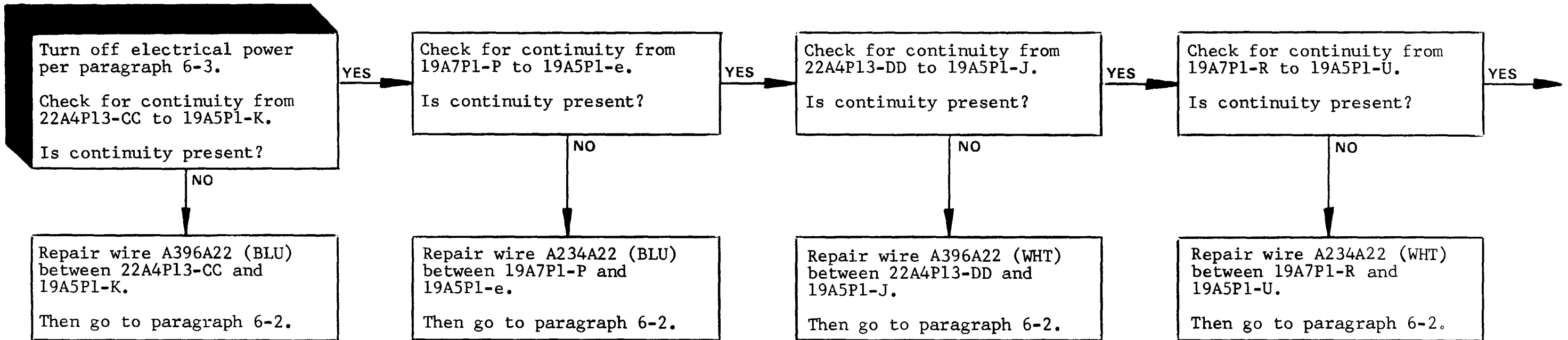


19A7P1

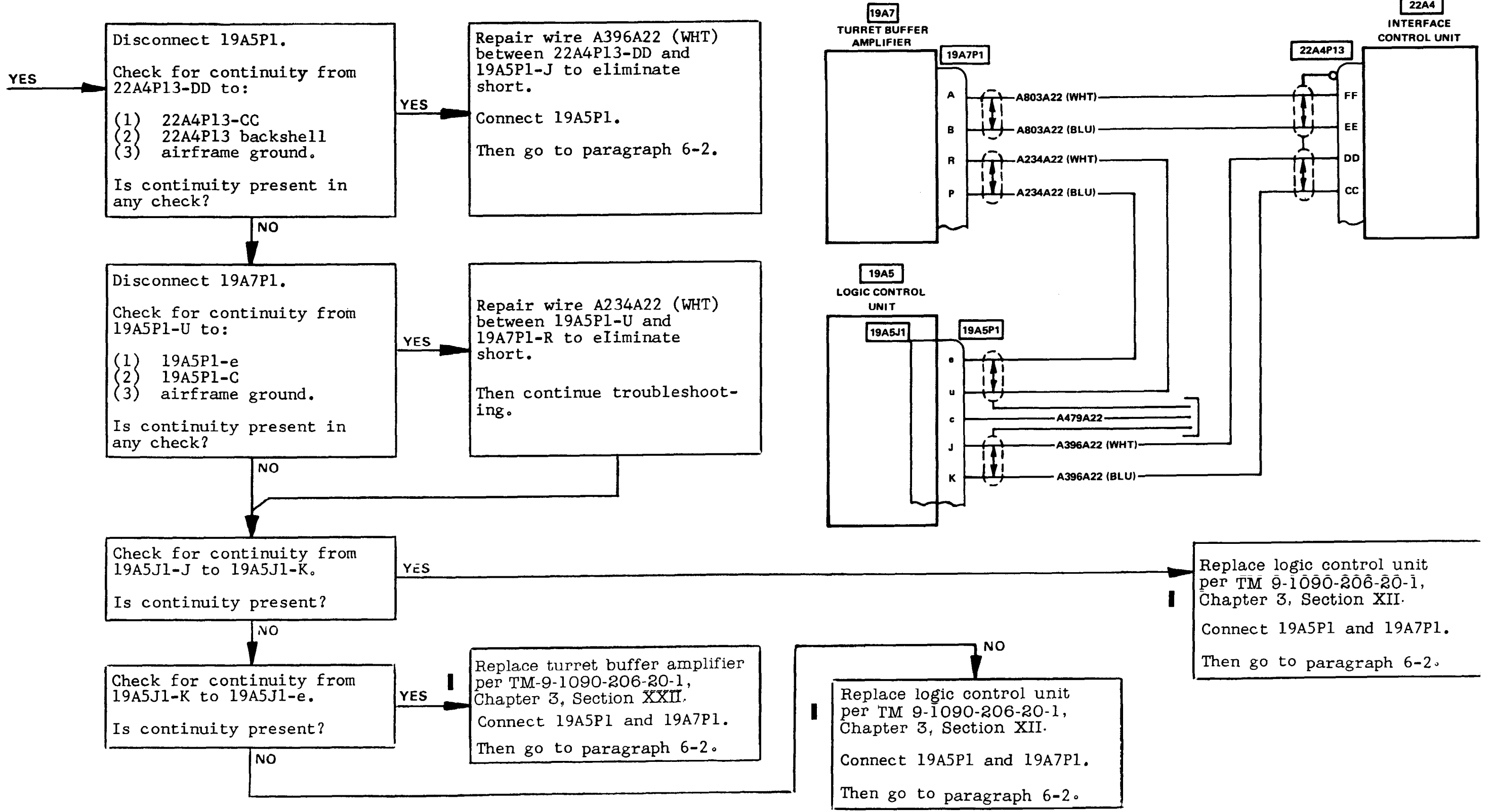
TURRET BUFFER
AMPLIFIER



6-6. TURRET TRIES TO FOLLOW GUNNER HELMET SIGHT BUT IS SLUGGISH AND OUT OF COINCIDENCE (CONTINUED).



6-6, TURRET TRIES TO FOLLOW GUNNER HELMET SIGHT BUT IS SLUGGISH AND OUT OF COINCIDENCE (CONTINUED).



6-7. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN ELEVATION (EITHER REMAINS STATIONARY OR DRIFTS).

INITIAL SETUP

Applicable Configuration
All

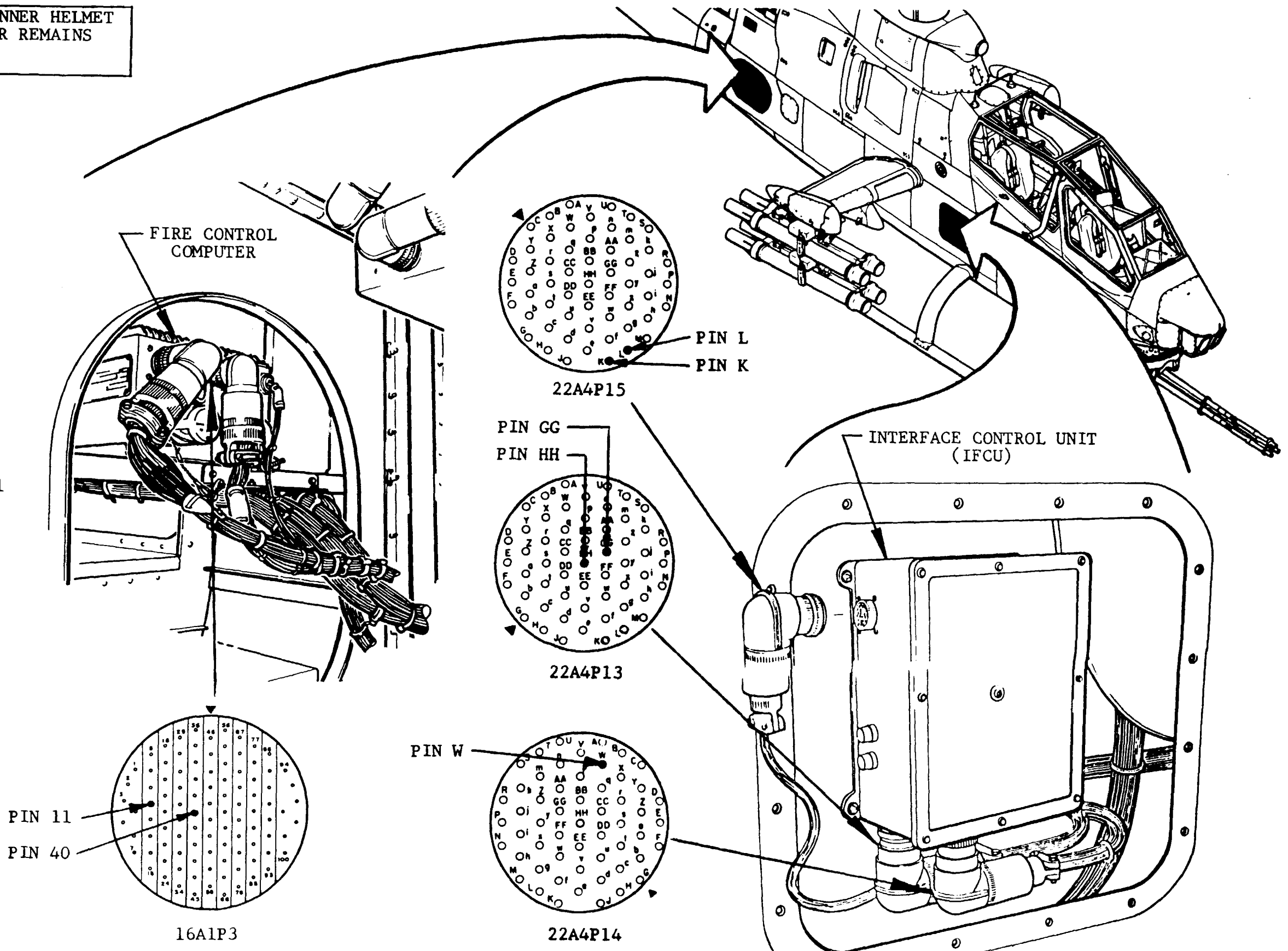
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References
TM 9-1090-206-20-1
TM 9-1270-218-13
TM 55-1520-236-23

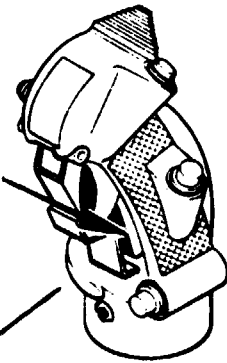
- Access Panels
- Forward Right Side Control Linkage - Removed
 - Interface Control Unit - Removed
 - Logic Control Unit - Removed
 - Left Ammo Compartment Door - Open
 - Battery Compartment - Removed
 - Turret Fairing - Removed



6-7. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN ELEVATION (EITHER REMAINS STATIONARY OR DRIFTS)(CONTINUED).

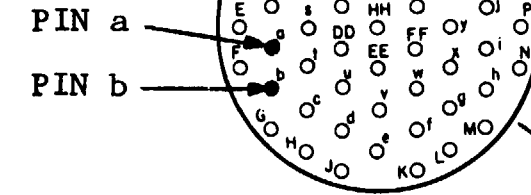
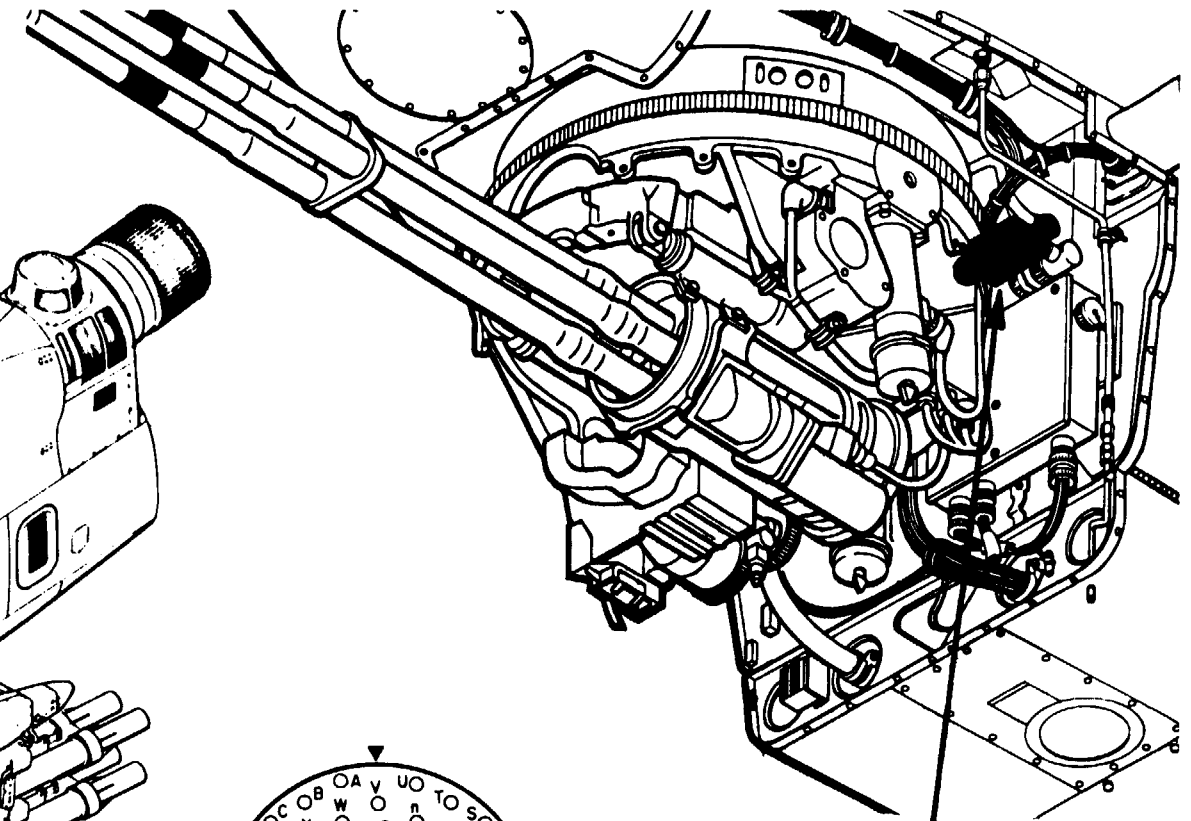


PILOT ARM CONTROL PANEL

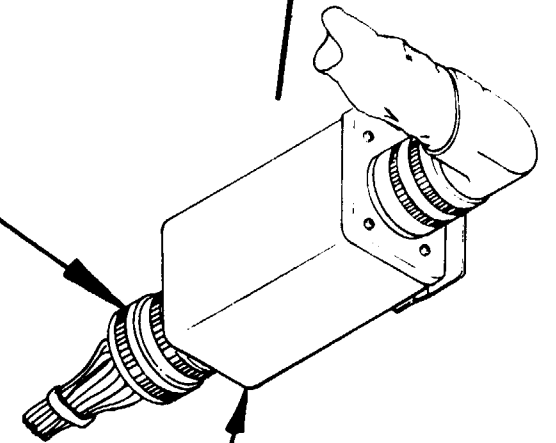


TRIGGER ACTION SWITCH

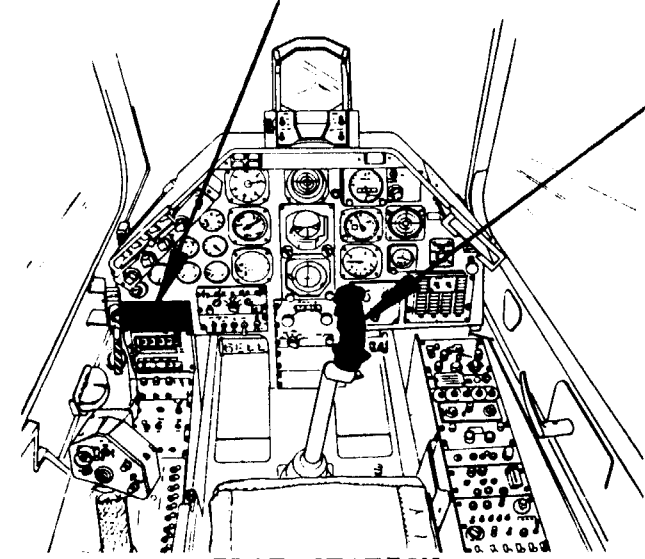
PILOT CYCLIC STICK



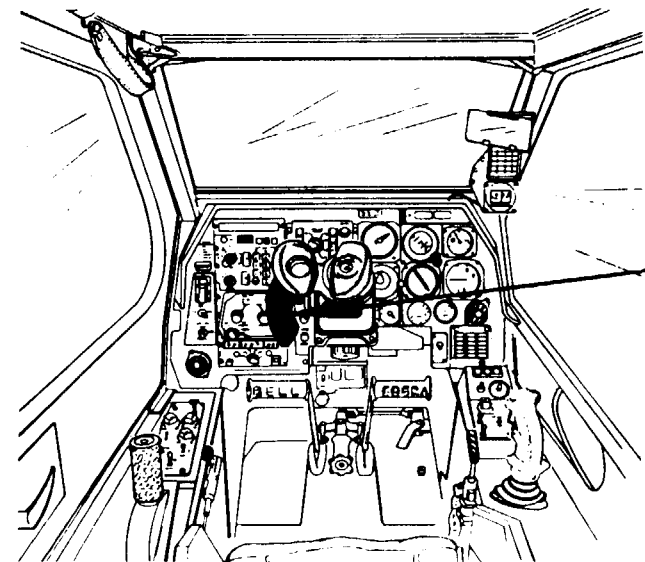
19A7P1



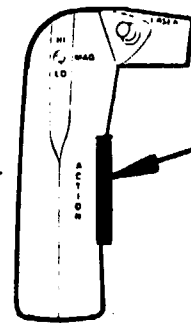
TURRET BUFFER AMPLIFIER



PILOT STATION

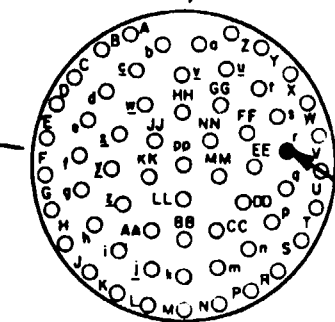
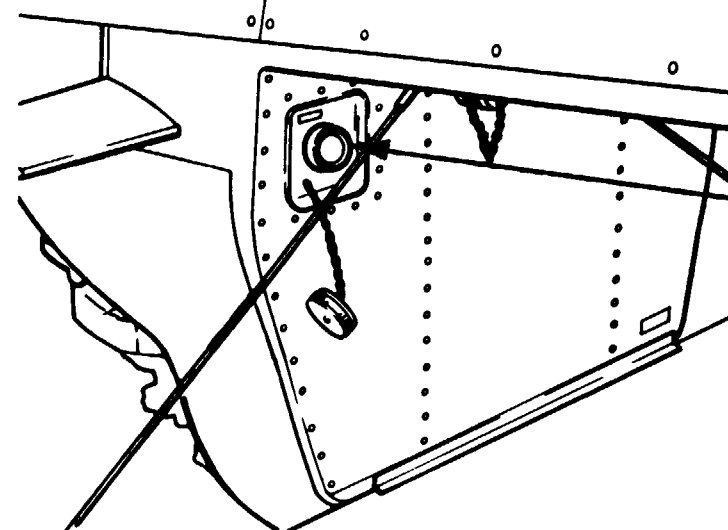


GUNNER STATION



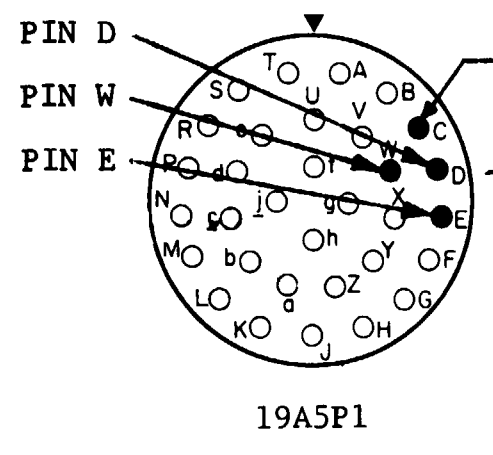
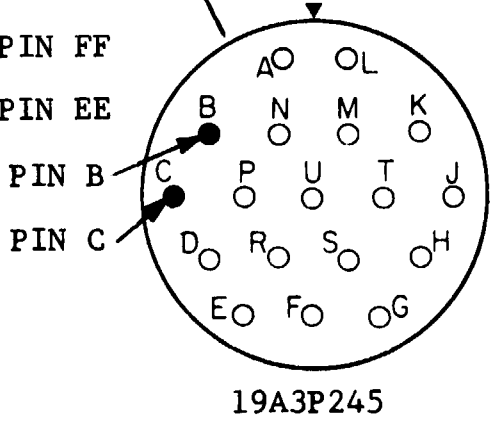
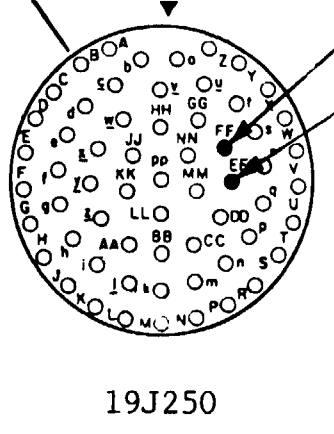
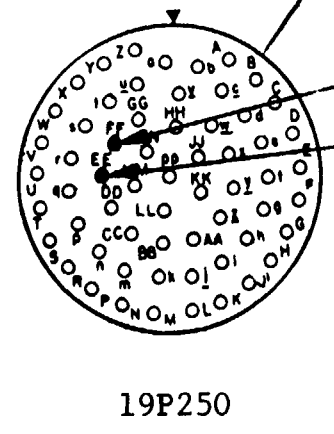
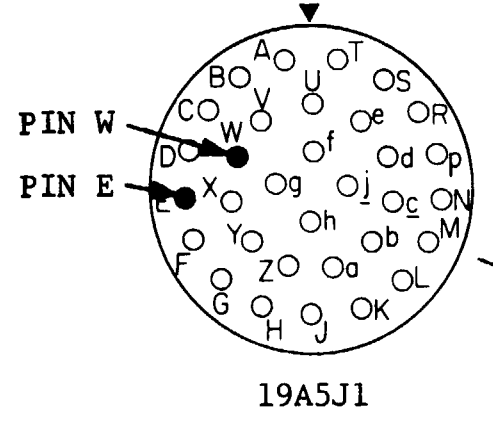
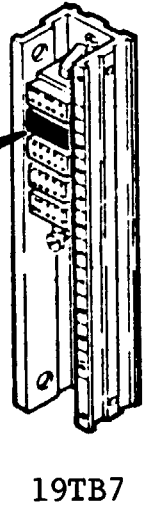
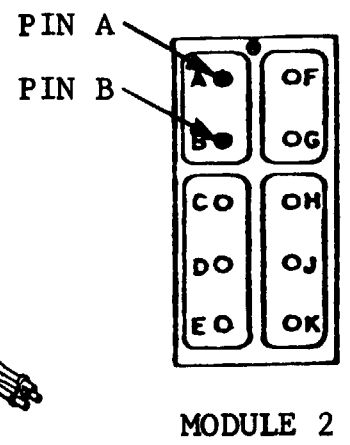
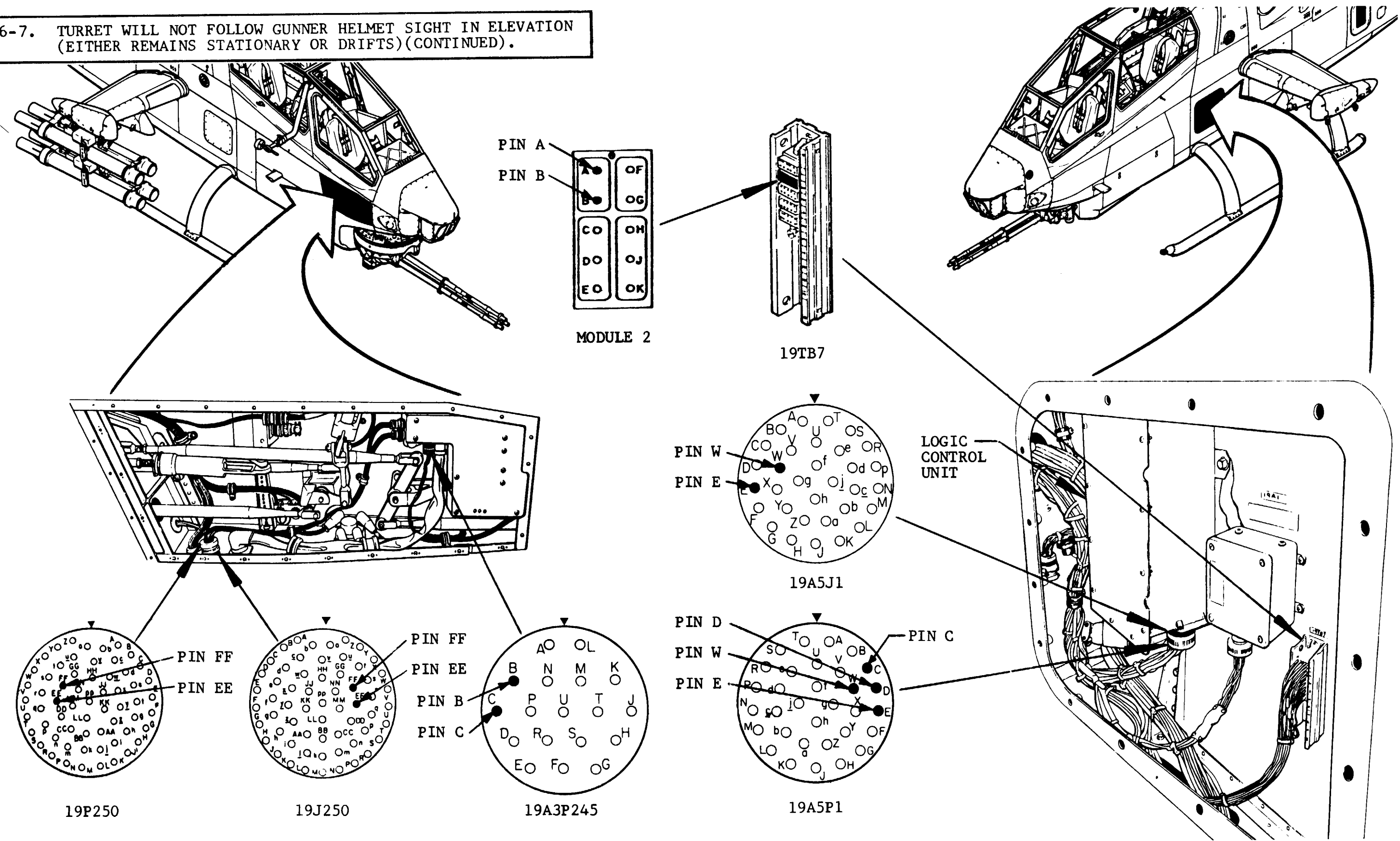
LEFT HAND GRIP

ACTION SWITCH

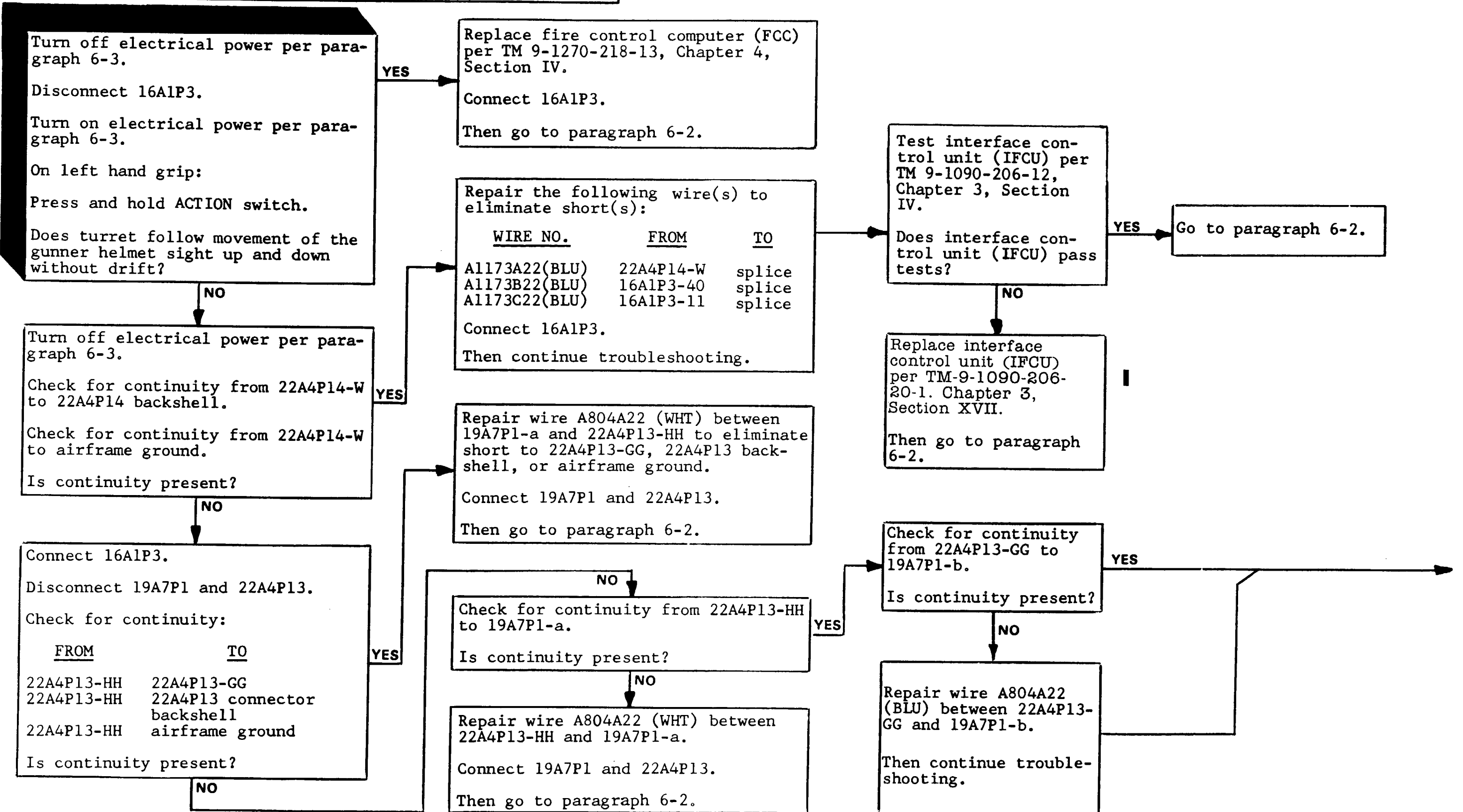


20J332

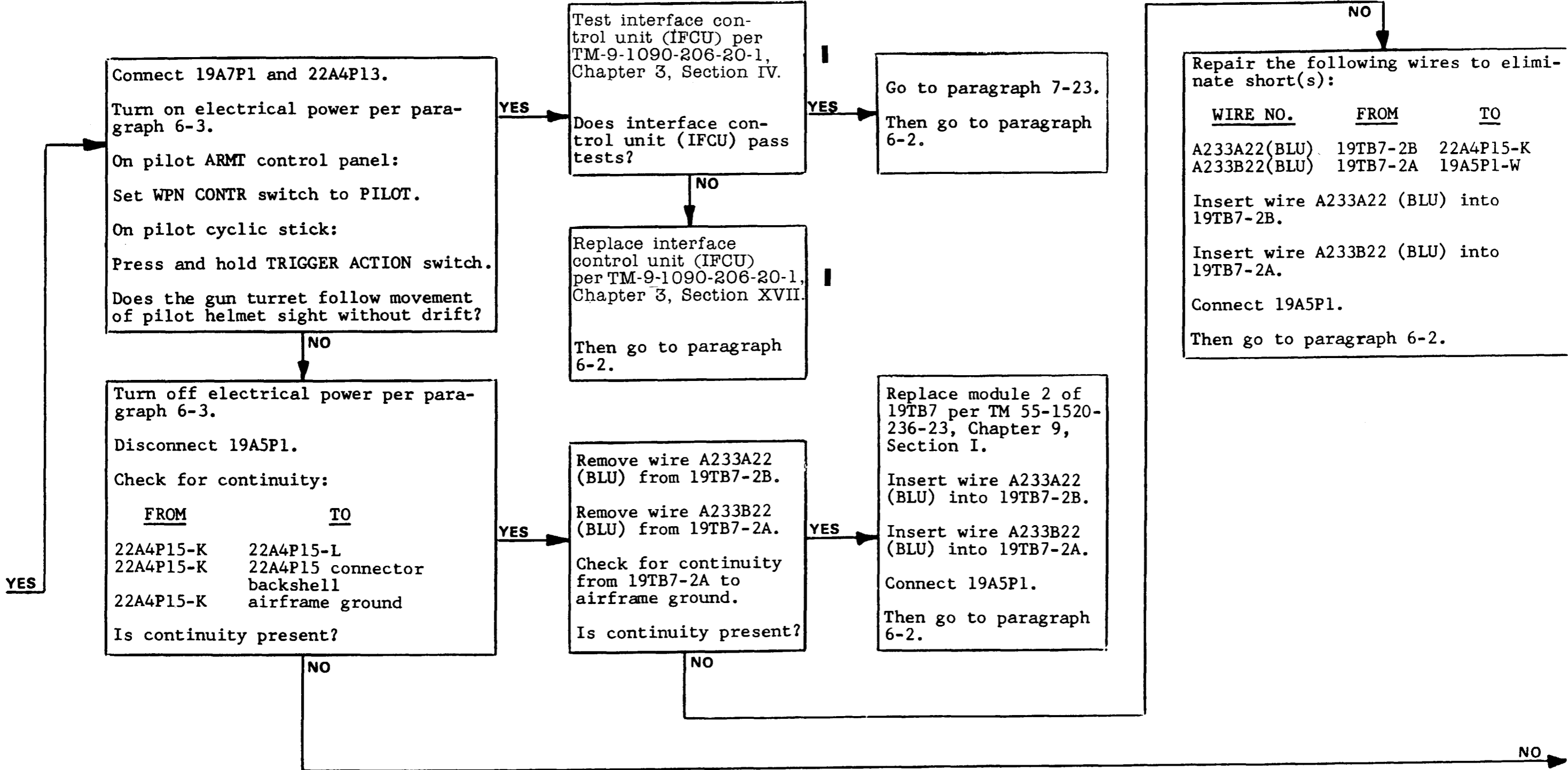
6-7. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN ELEVATION (EITHER REMAINS STATIONARY OR DRIFTS) (CONTINUED).



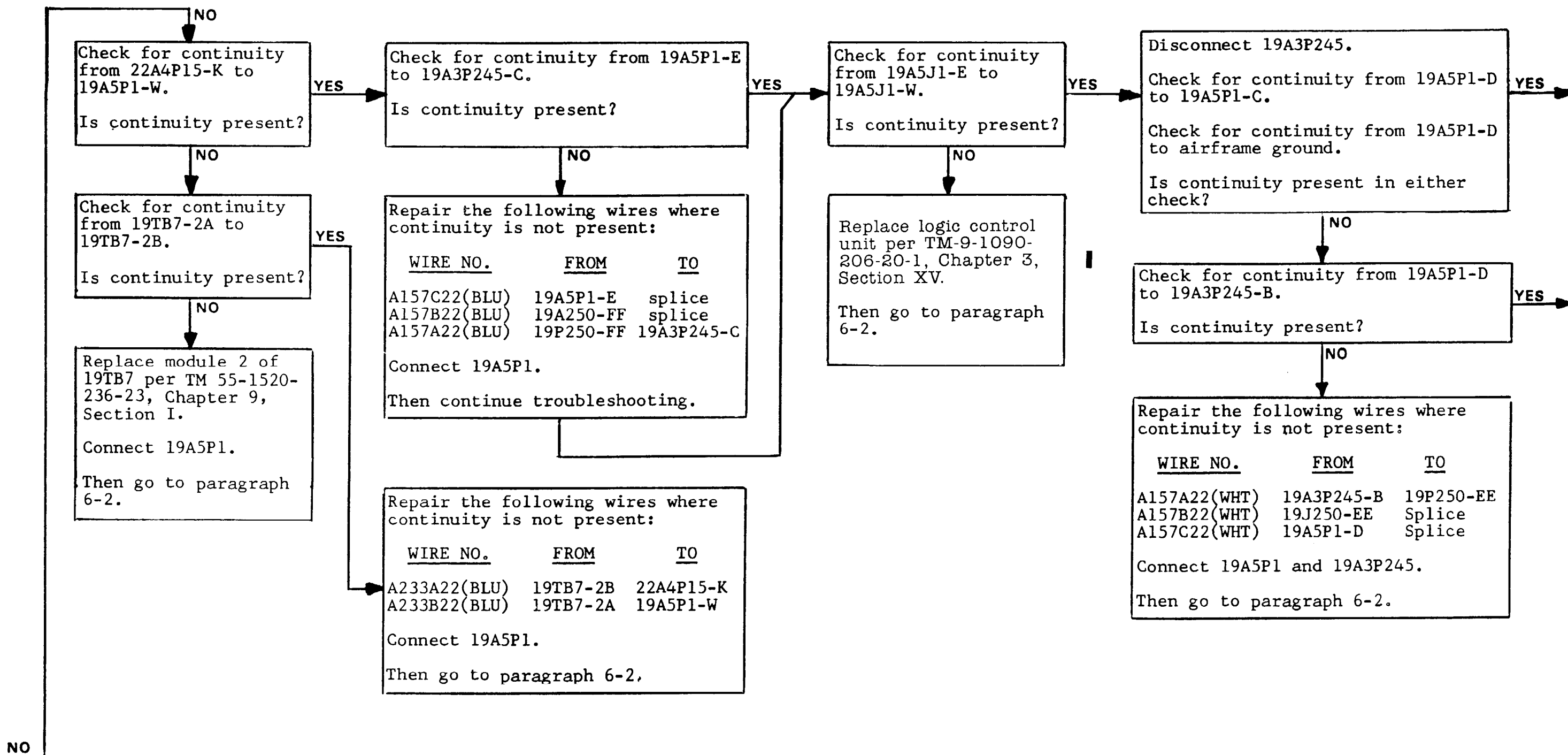
6-7. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN ELEVATION (EITHER REMAINS STATIONARY OR DRIFTS)(CONTINUED).



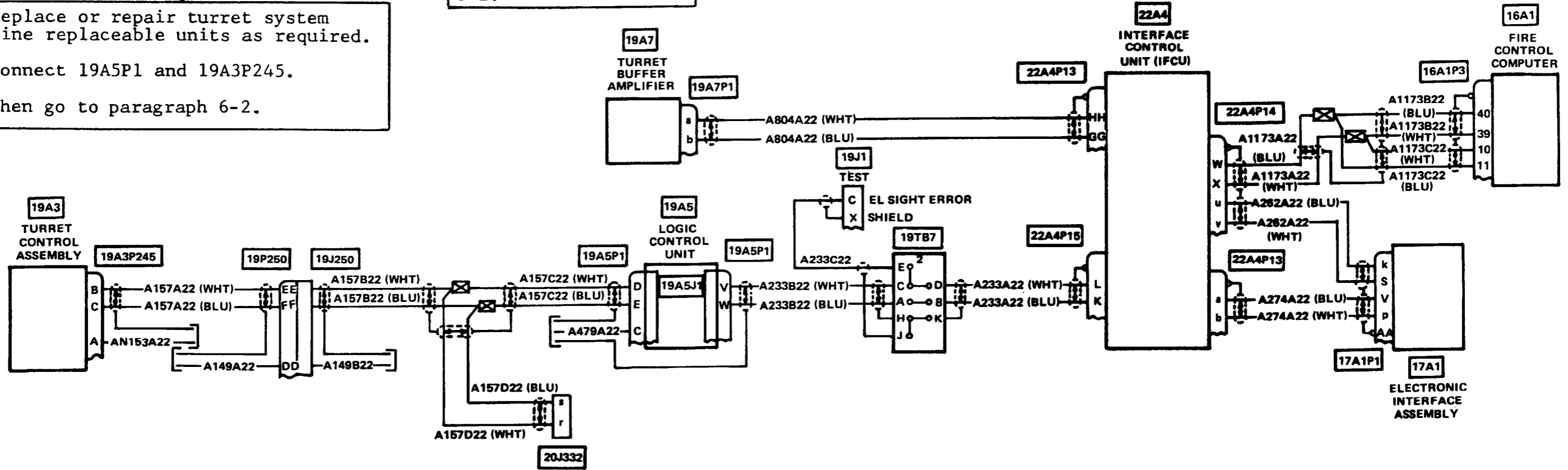
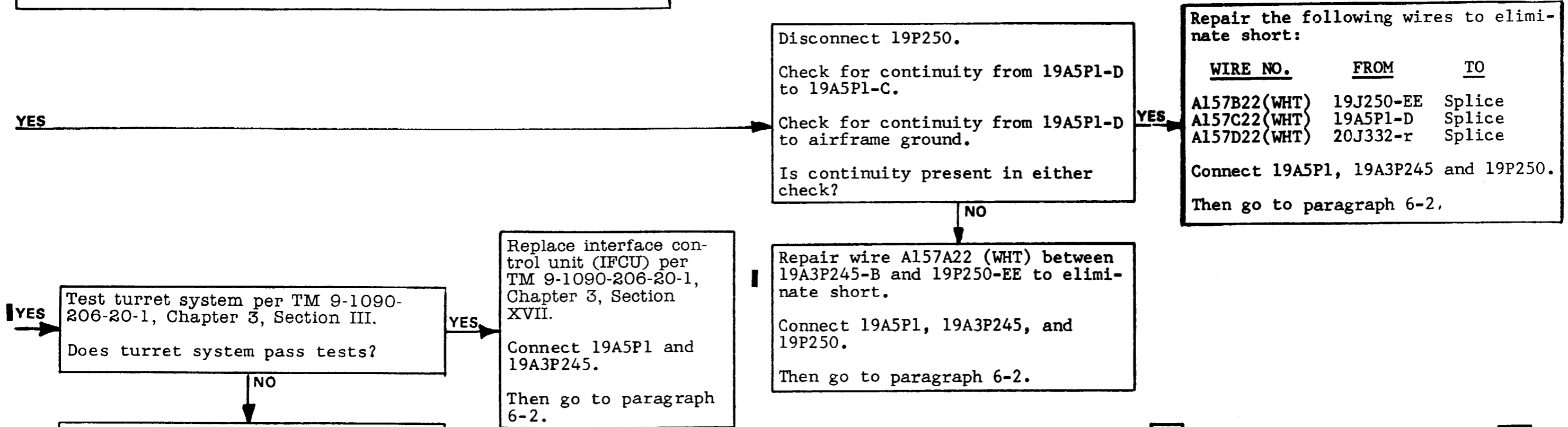
6-7. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN ELEVATION (EITHER REMAINS STATIONARY OR DRIFTS)(CONTINUED).



6-7. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN ELEVATION (EITHER REMAINS STATIONARY OR DRIFTS)(CONTINUED).



6-7. TURRET WILL NOT FOLLOW GUNNER HELMET SIGHT IN ELEVATION (EITHER REMAINS STATIONARY OR DRIFTS)(CONTINUED).



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6-8. RETICLE IS NOT PRESENT WHEN ANY ACTION SWITCH IS PRESSED.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

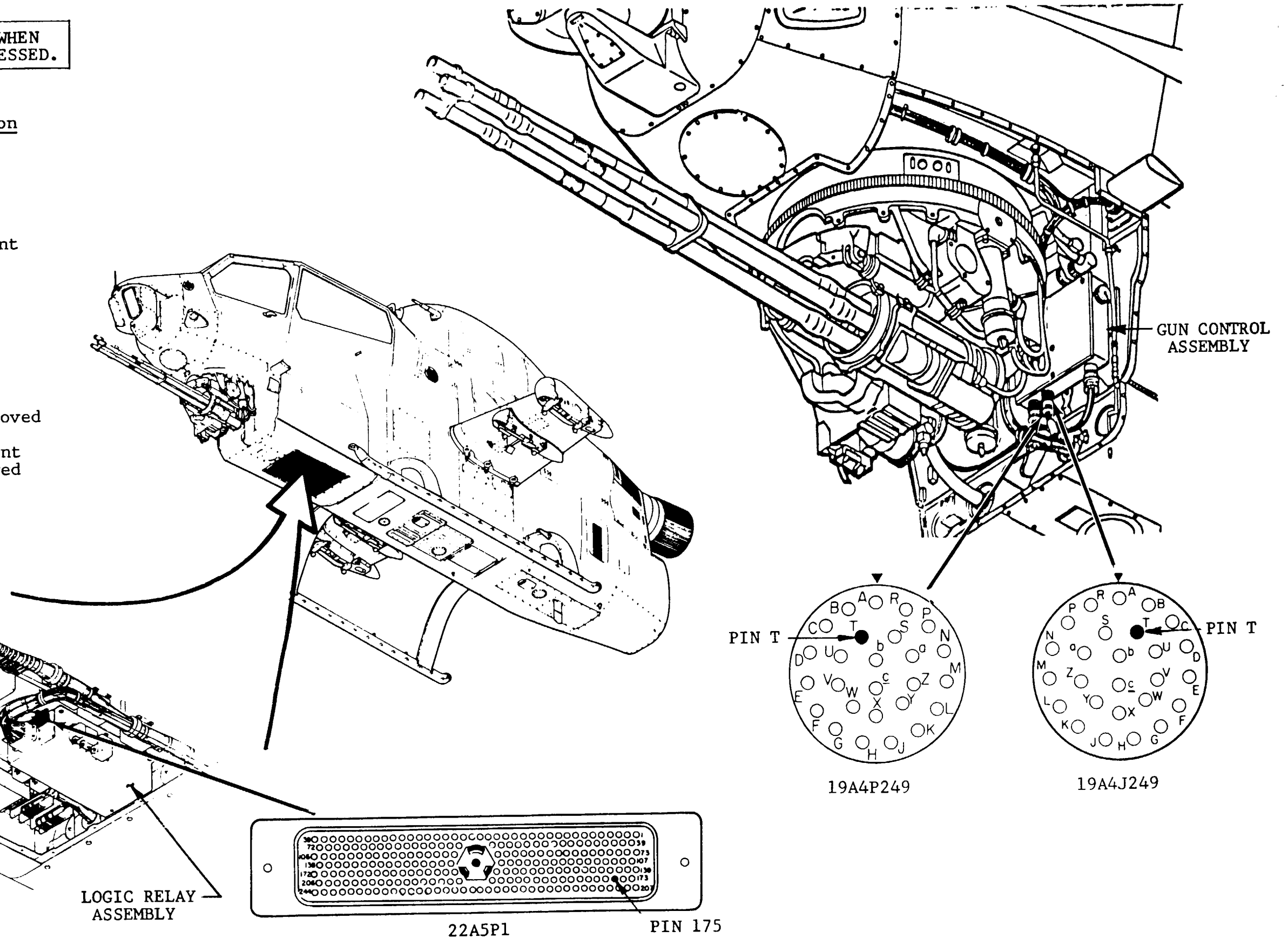
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

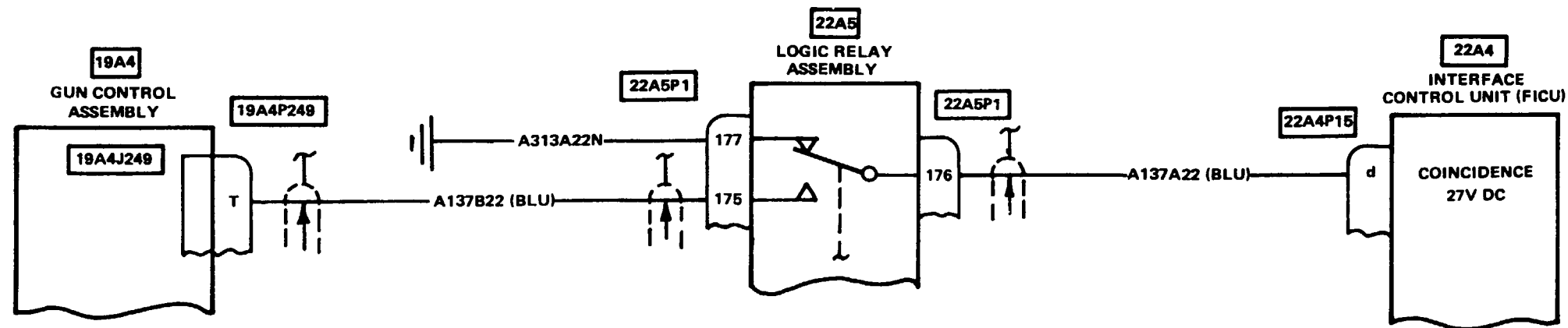
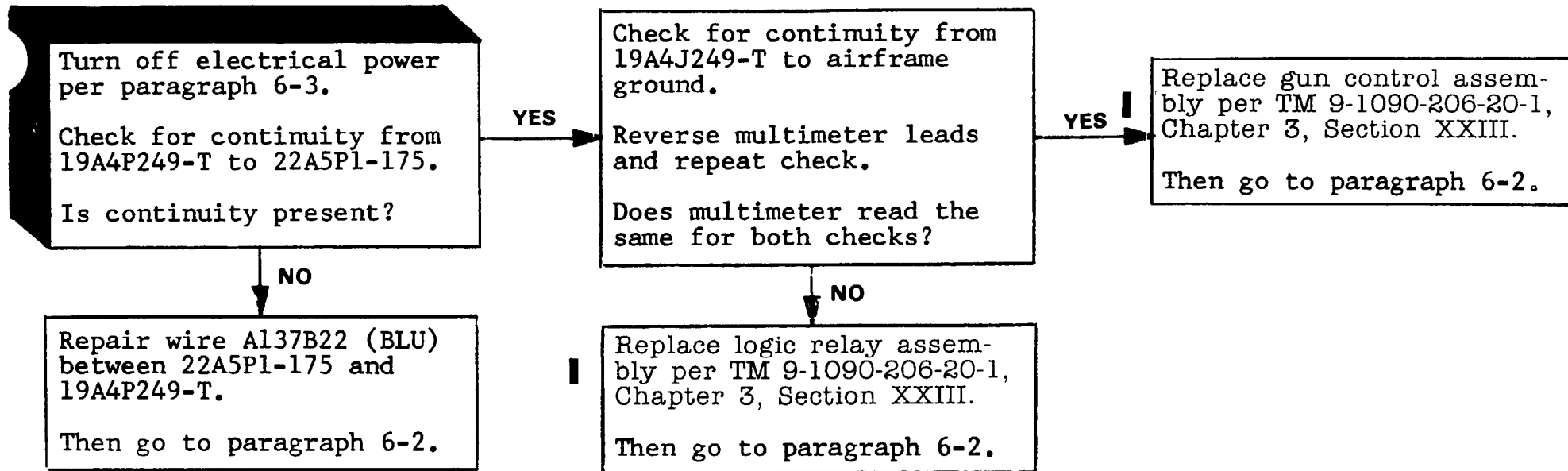
References
TM 9-1090-206-20-1

Access Panels
Turret Fairing - Removed

Forward Belly Armament and Lighting - Removed



6-8. RETICLE IS NOT PRESENT WHEN ANY ACTION SWITCH IS PRESSED (CONTINUED).



6-9. TURRET FOLLOWS SIGHT IN COINCIDENCE BUT RETICLE FLASHES CONTINUOUSLY.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

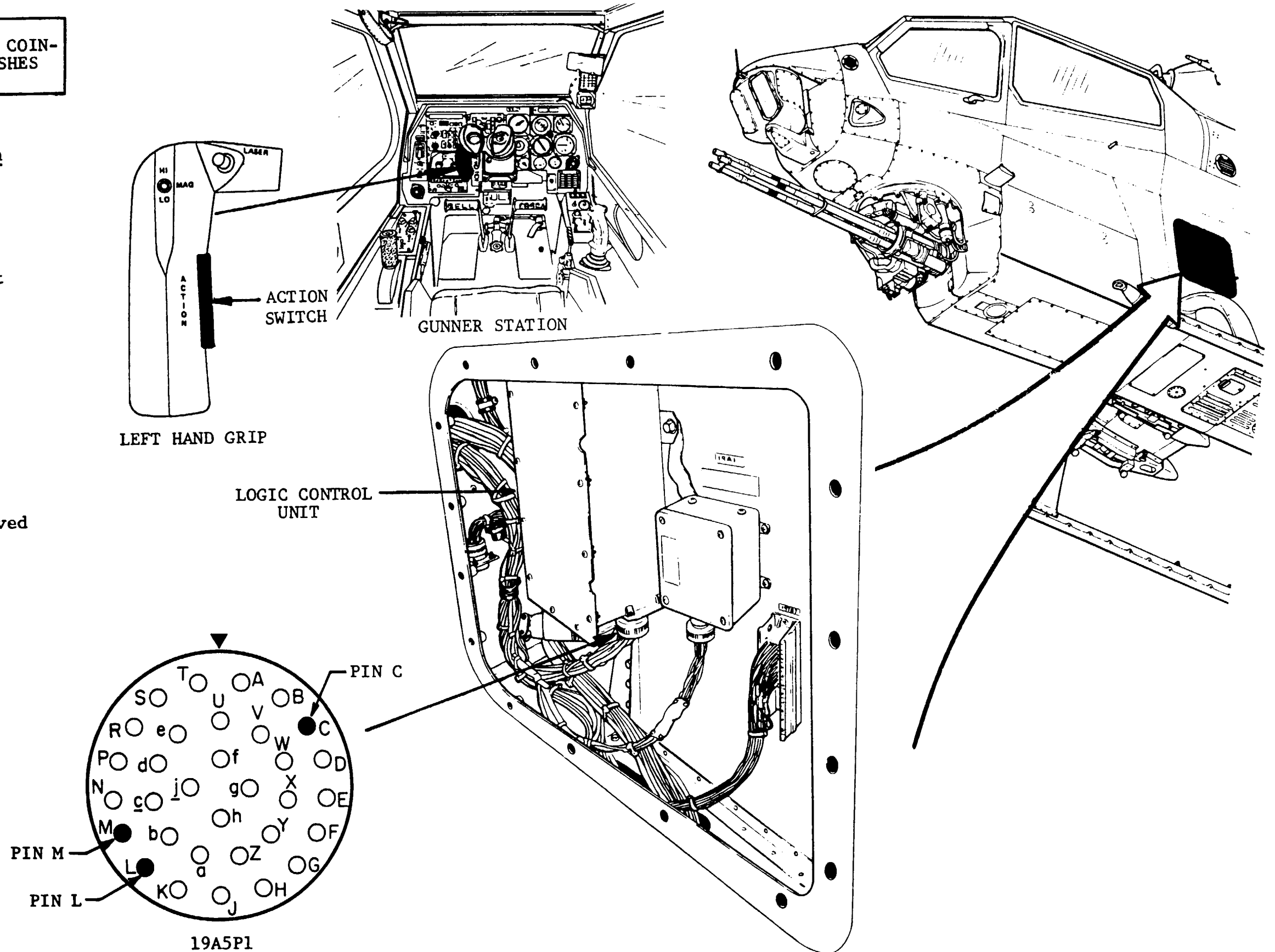
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

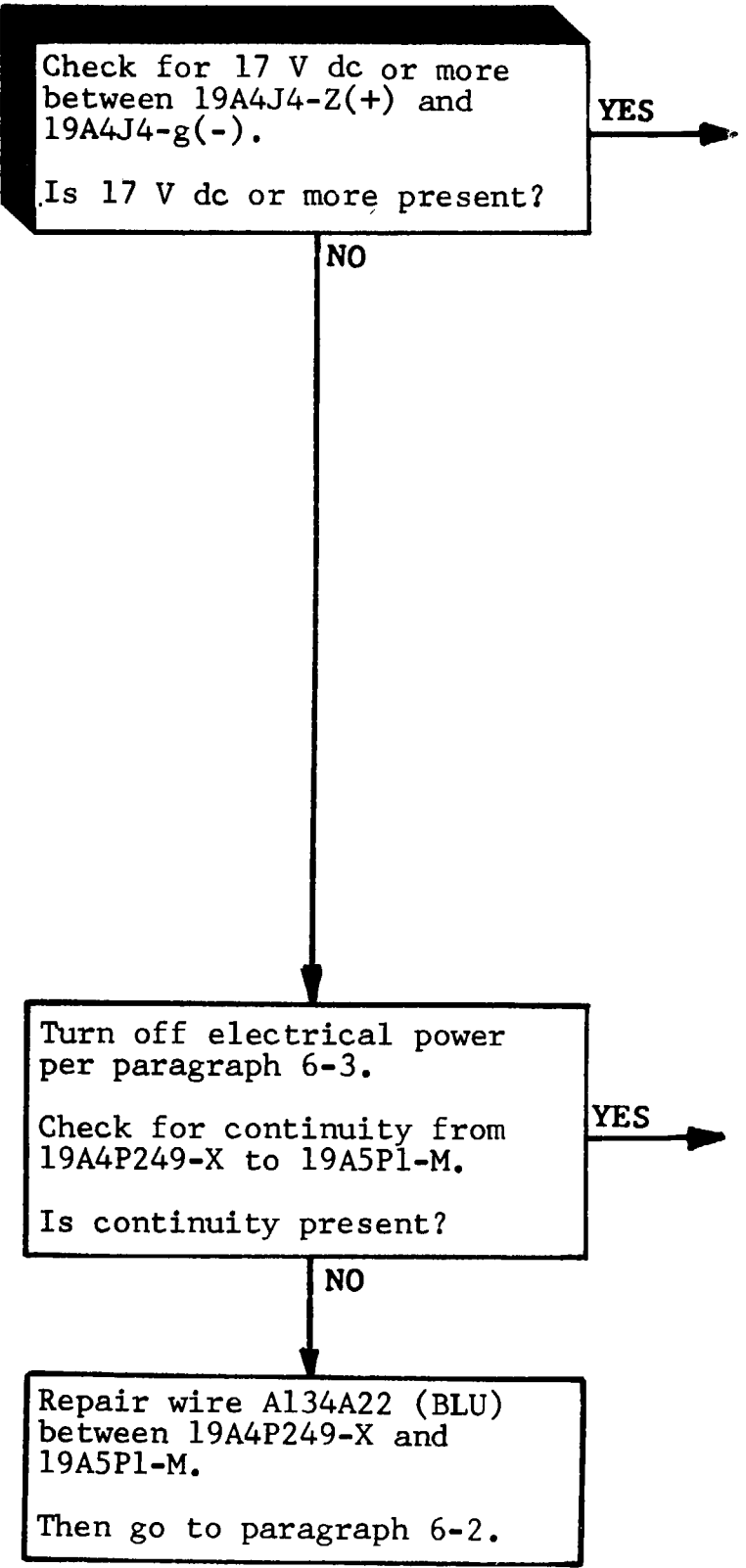
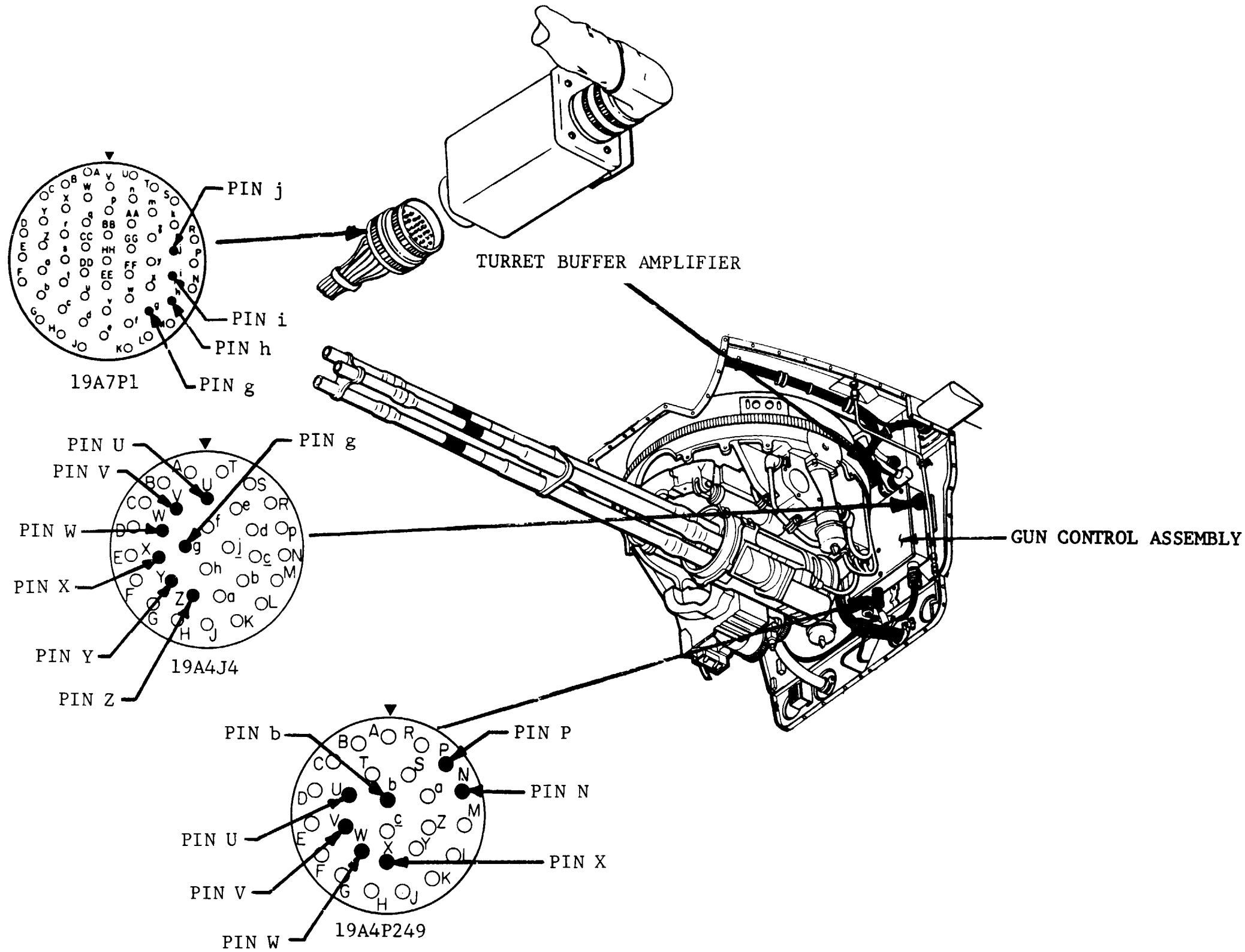
References
TM 9-1090-206-20-1
TM 9-1090-206-30

Access Panels
Logic Control Unit - Removed

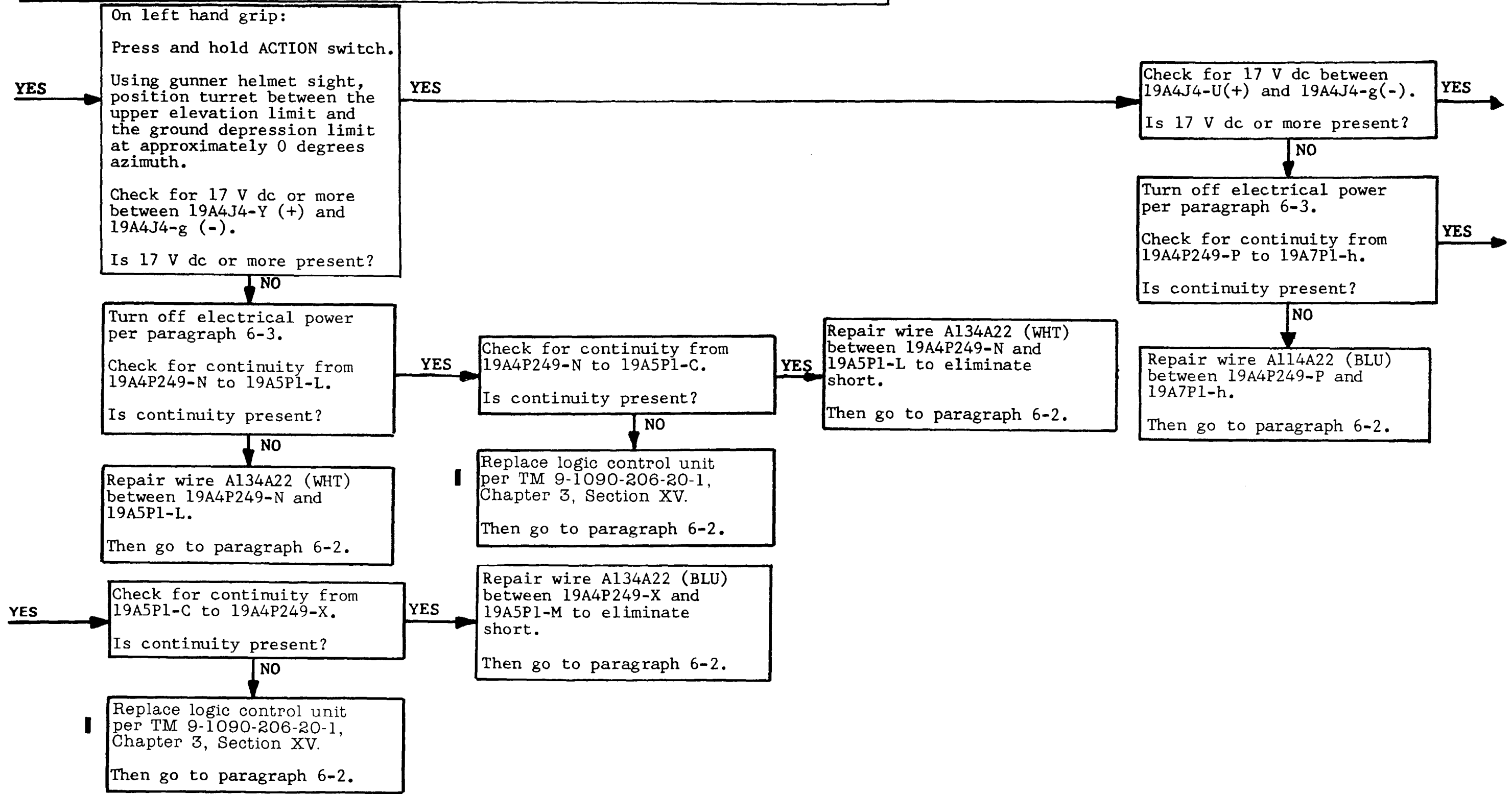
Turret Fairing - Removed



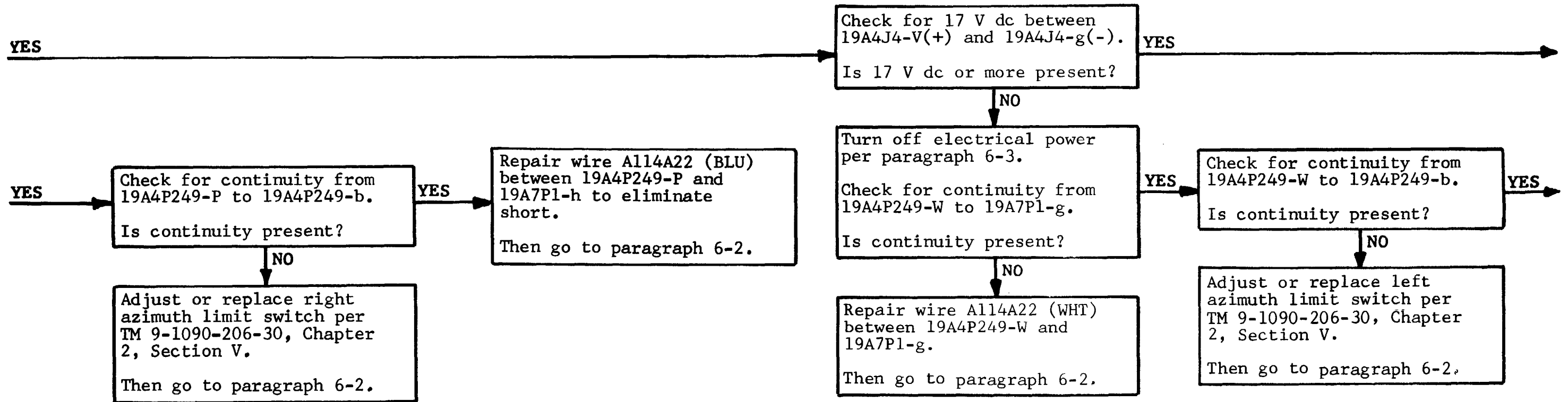
6-9. TURRET FOLLOWS SIGHT IN COINCIDENCE BUT RETICLE FLASHES CONTINUOUSLY (CONTINUED).



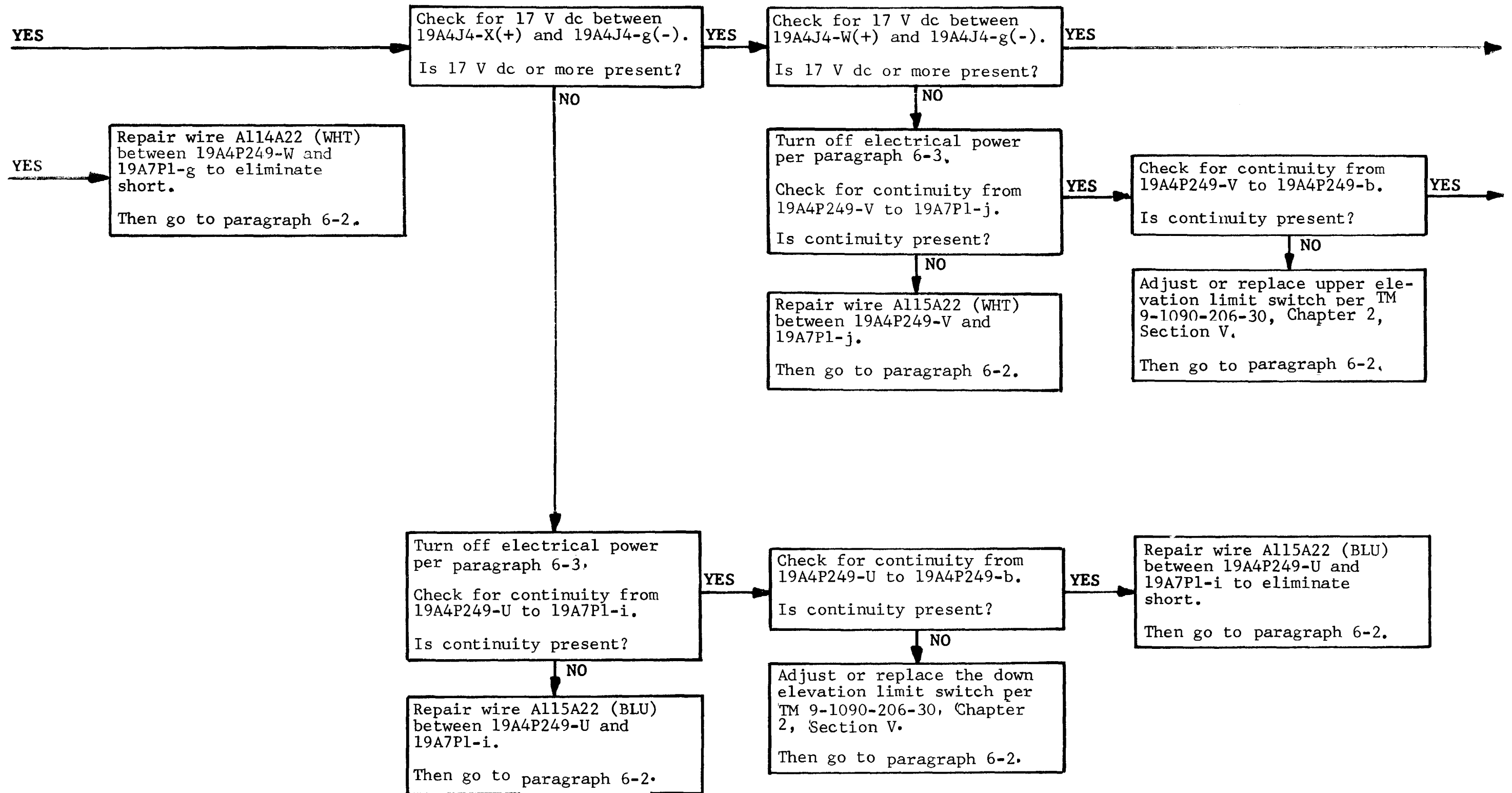
6-9. TURRET FOLLOWS SIGHT IN COINCIDENCE BUT RETICLE FLASHES CONTINUOUSLY (CONTINUED).



6-9. TURRET FOLLOWS SIGHT IN COINCIDENCE BUT RETICLE FLASHES CONTINUOUSLY (CONTINUED).



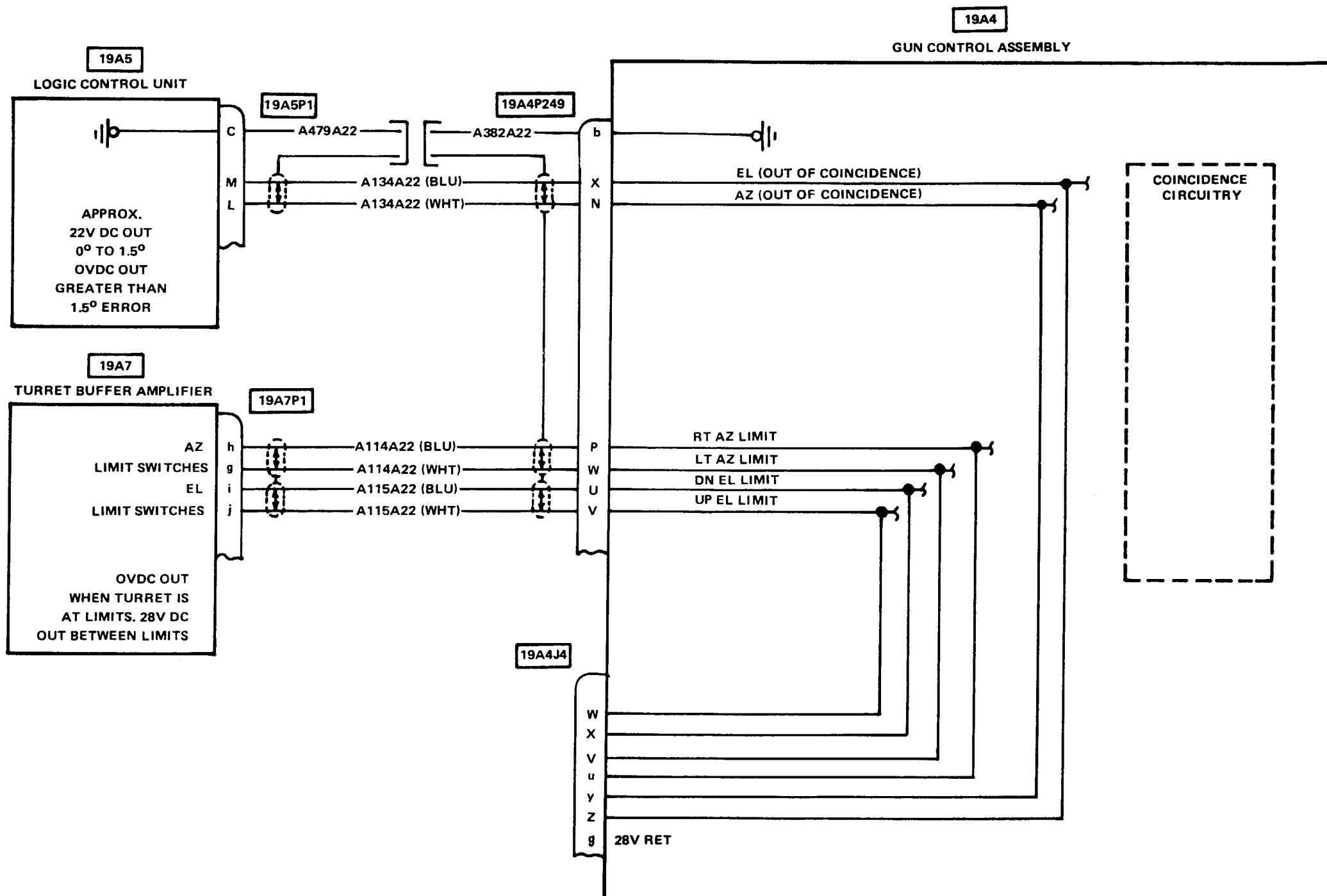
6-9. TURRET FOLLOWS SIGHT IN COINCIDENCE BUT RETICLE FLASHES CONTINUOUSLY (CONTINUED).



6-9. TURRET FOLLOWS SIGHT IN COINCIDENCE BUT RETICLE FLASHES CONTINUOUSLY (CONTINUED).

YES →
 Replace Gun Control Assembly per TM 9-1090-206-20-1, Chapter 3, Section XIII.
 Then go to paragraph 6-2.

YES →
 Repair wire A115A22 (WHT) between 19A4P249-V and 19A7P1-j to eliminate short.
 Then go to paragraph 6-2.



6-10. GUNNER AND PILOT RETICLES DO NOT FLASH.

INITIAL SETUP

Applicable Configuration
All

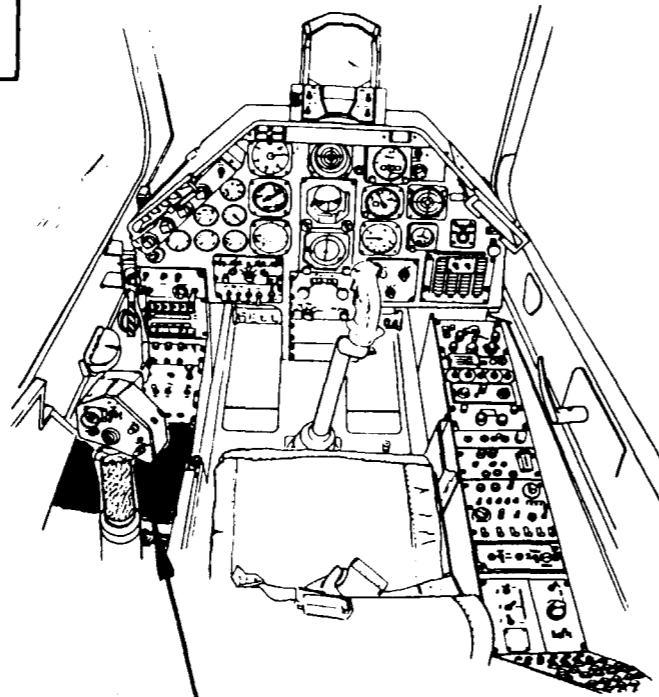
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

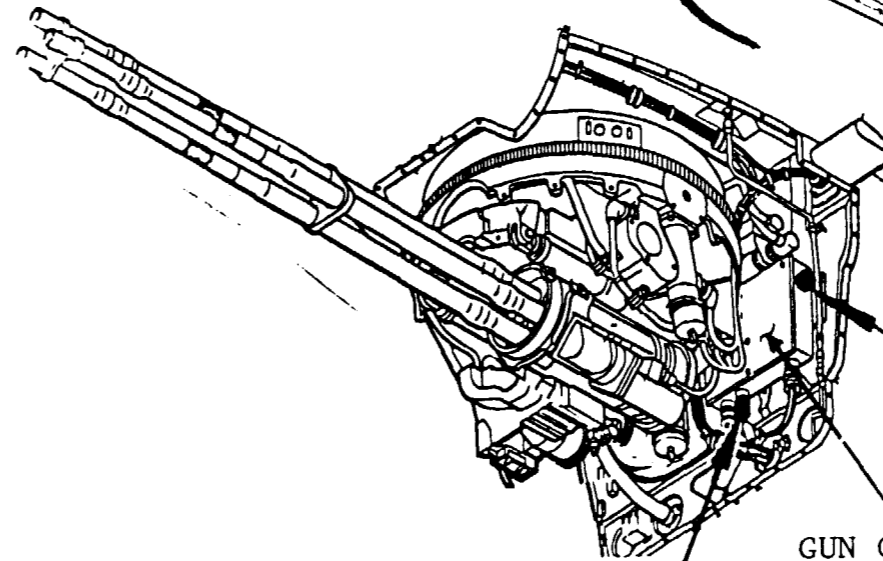
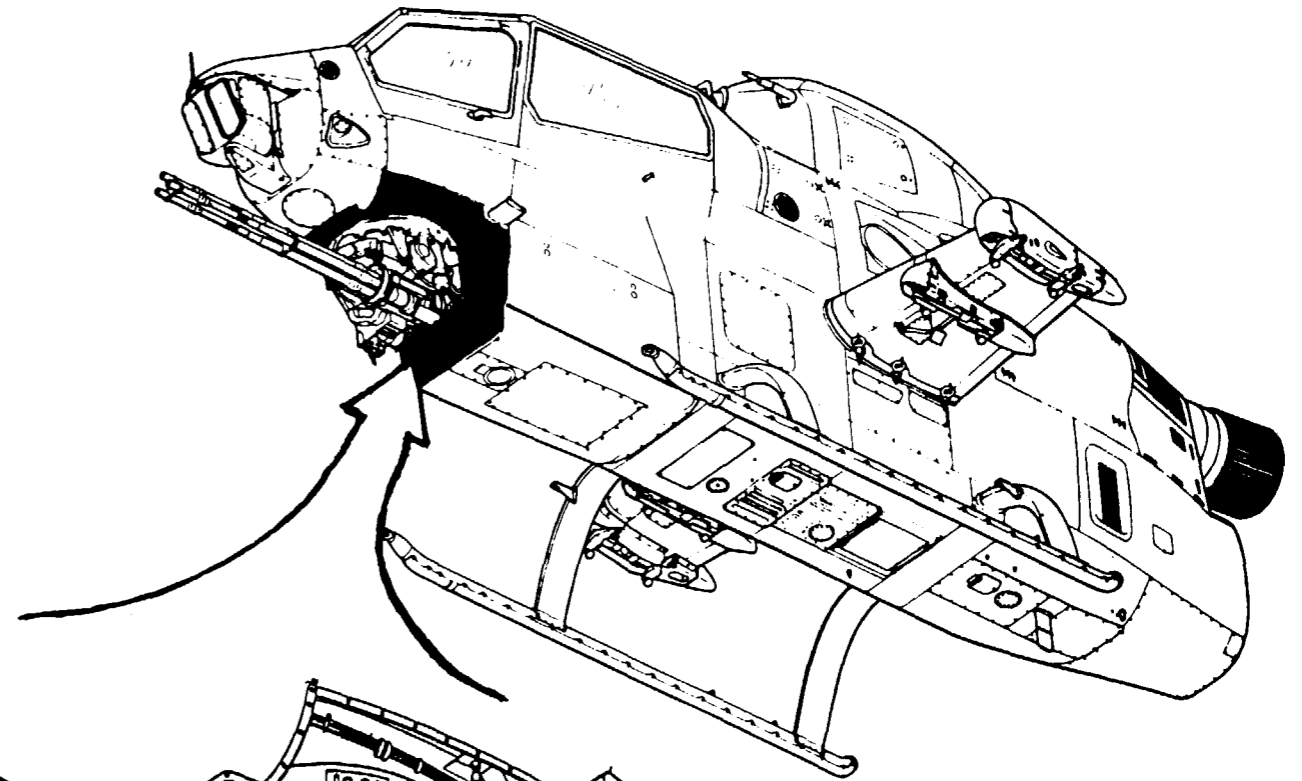
Personnel Required
68J (2)

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

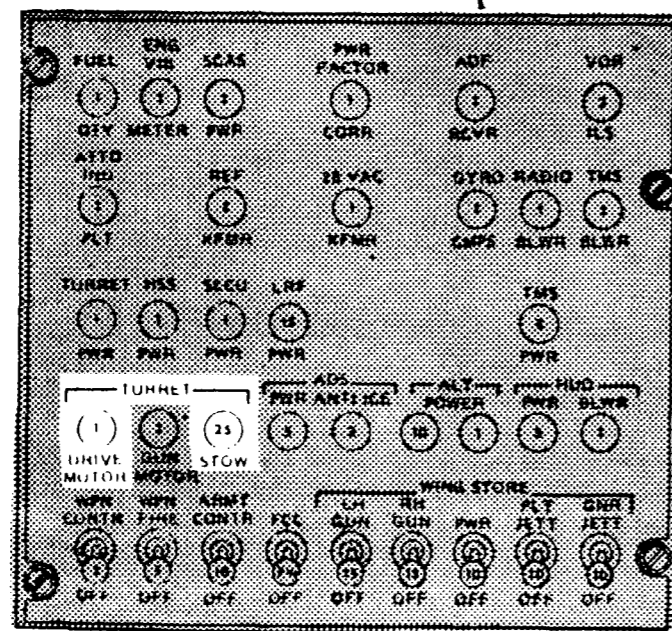
Access Panels
Forward Belly Armament and Lighting - Removed
Turret Fairing - Removed
Interface Control Unit - Removed



PILOT STATION

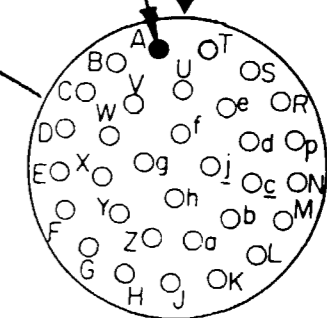


GUN CONTROL ASSEMBLY



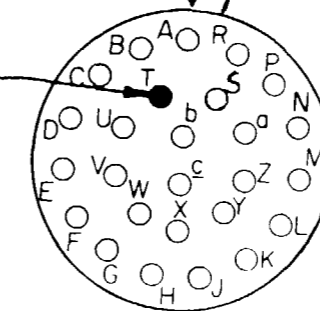
AC/ARMT CIRCUIT BREAKER PANEL

PIN A



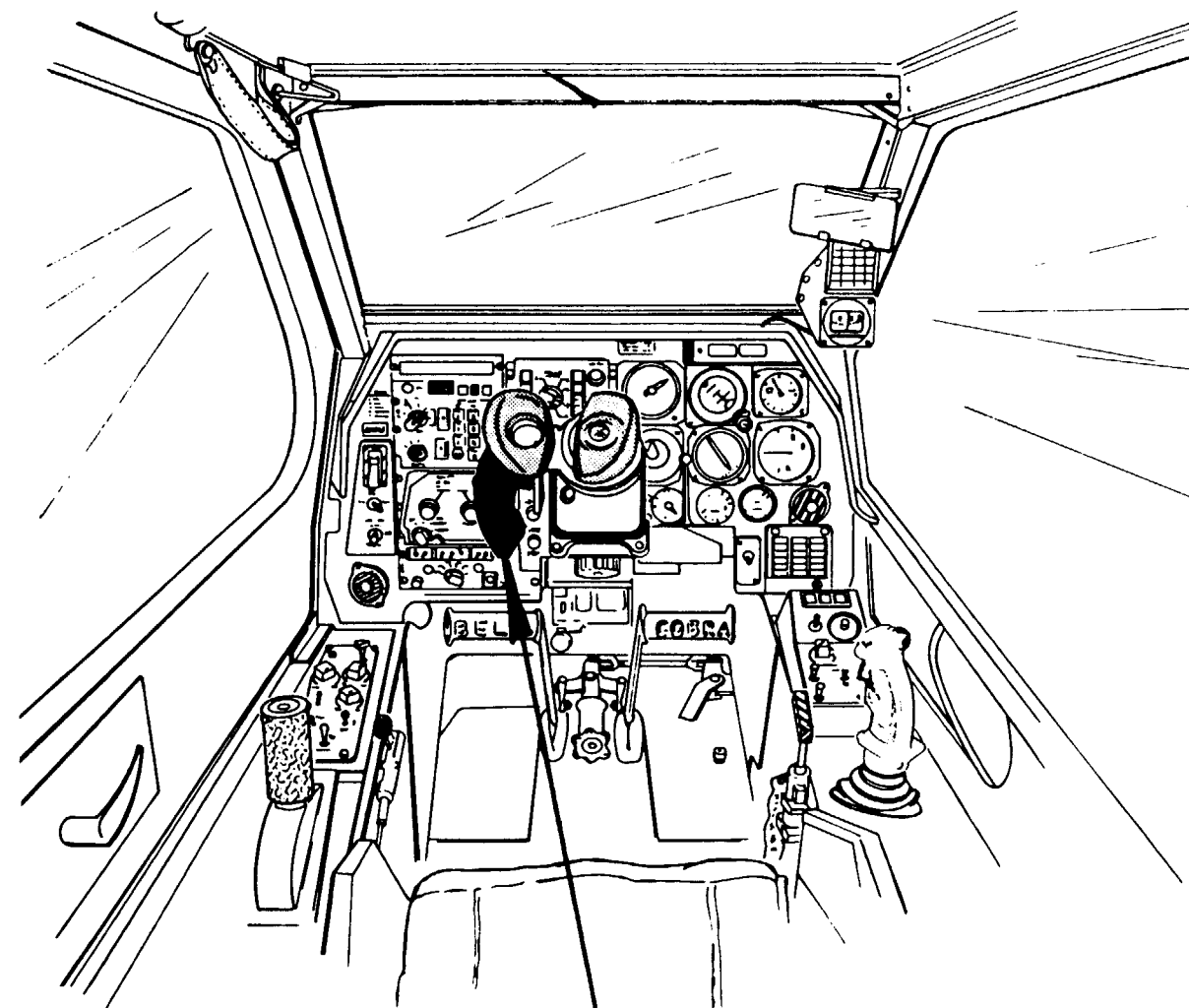
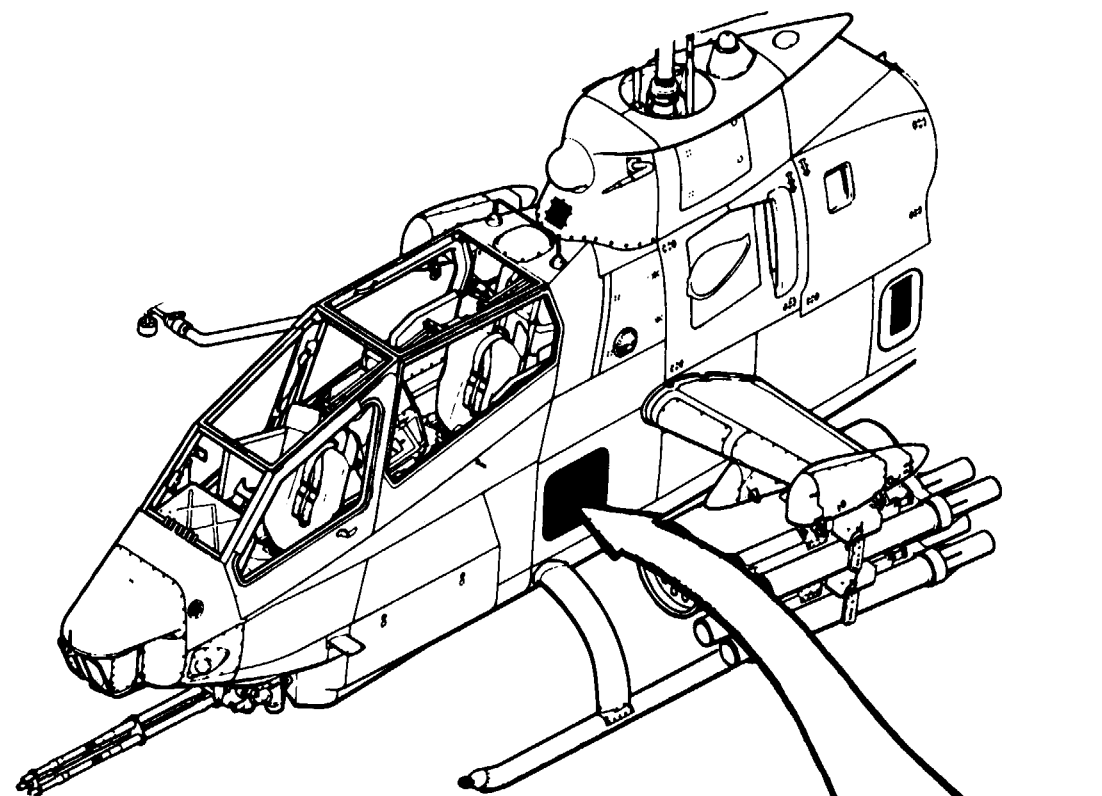
19A4J4

PIN T

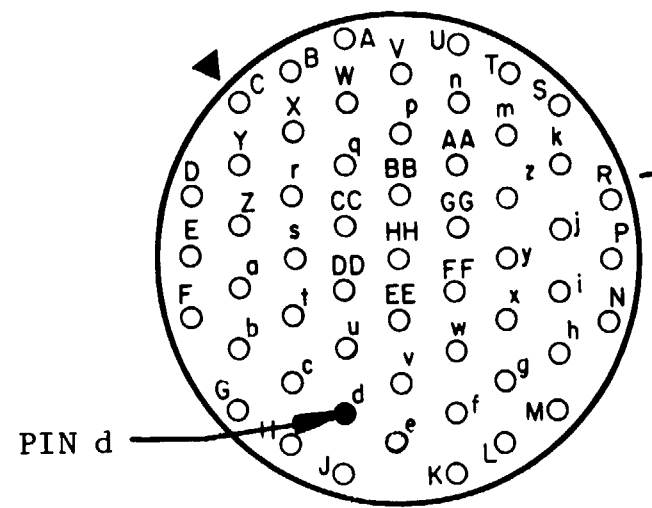


19A4P249

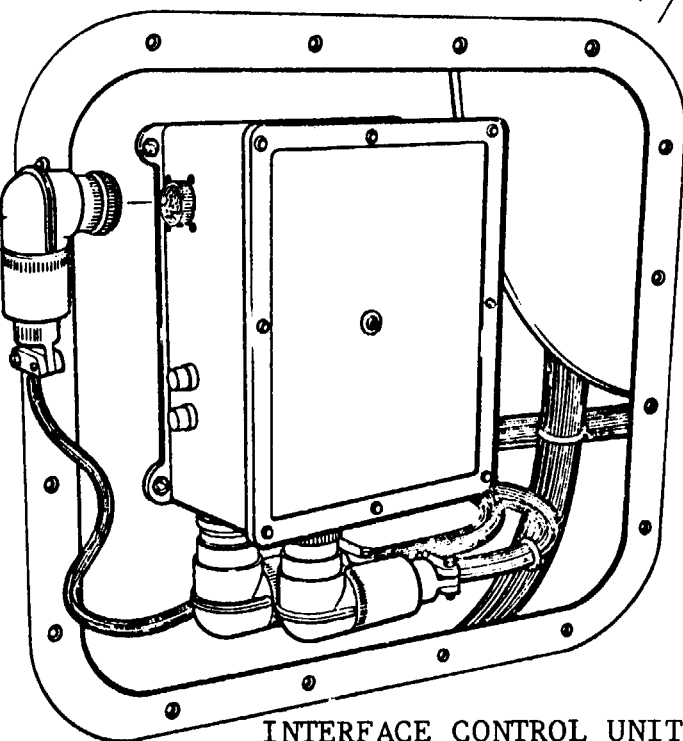
6-10. GUNNER AND PILOT RETICLES DO NOT FLASH (CONTINUED).



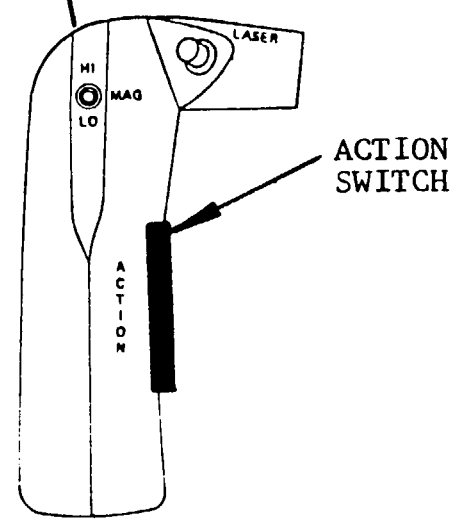
GUNNER STATION



22A4P15

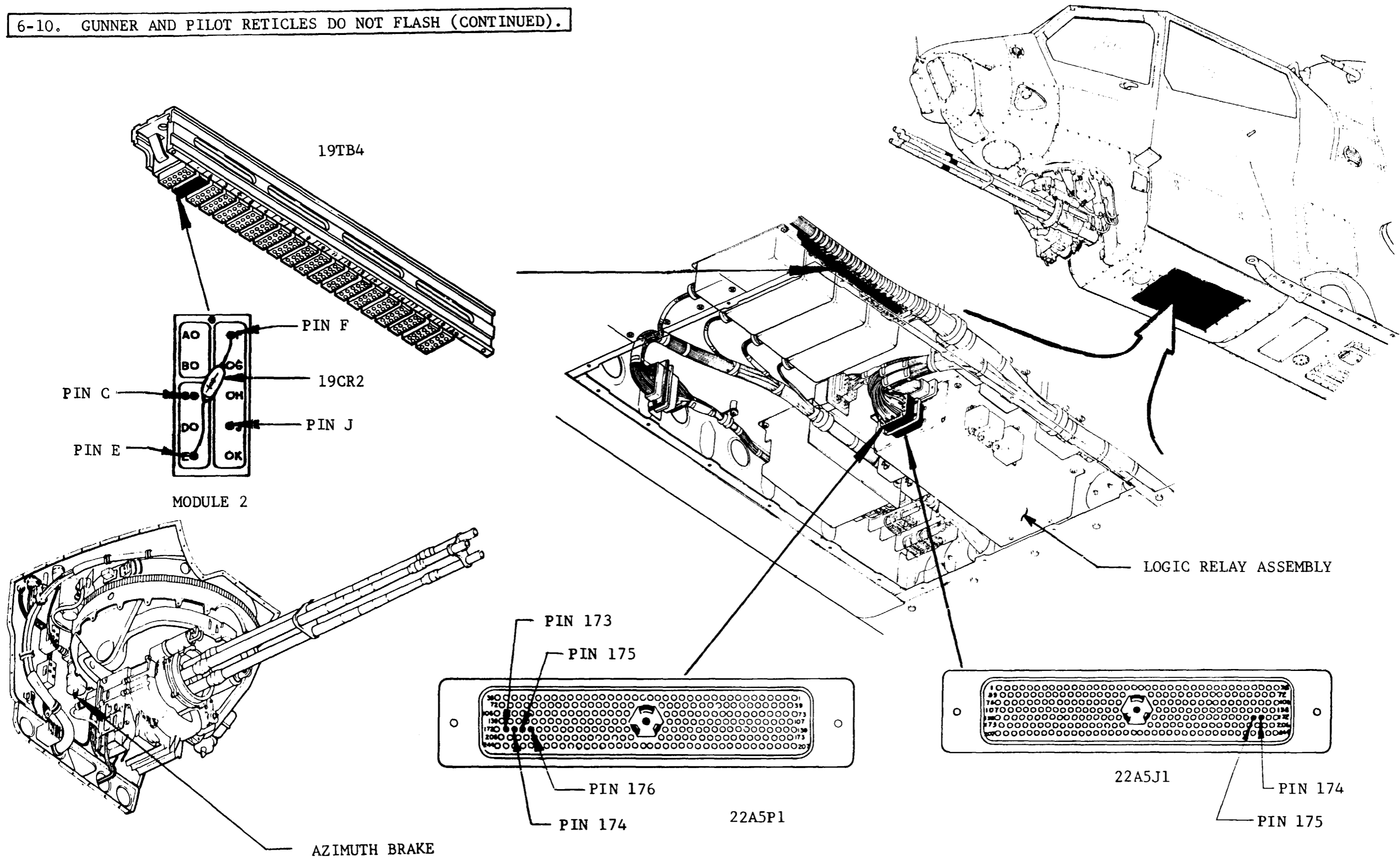


INTERFACE CONTROL UNIT

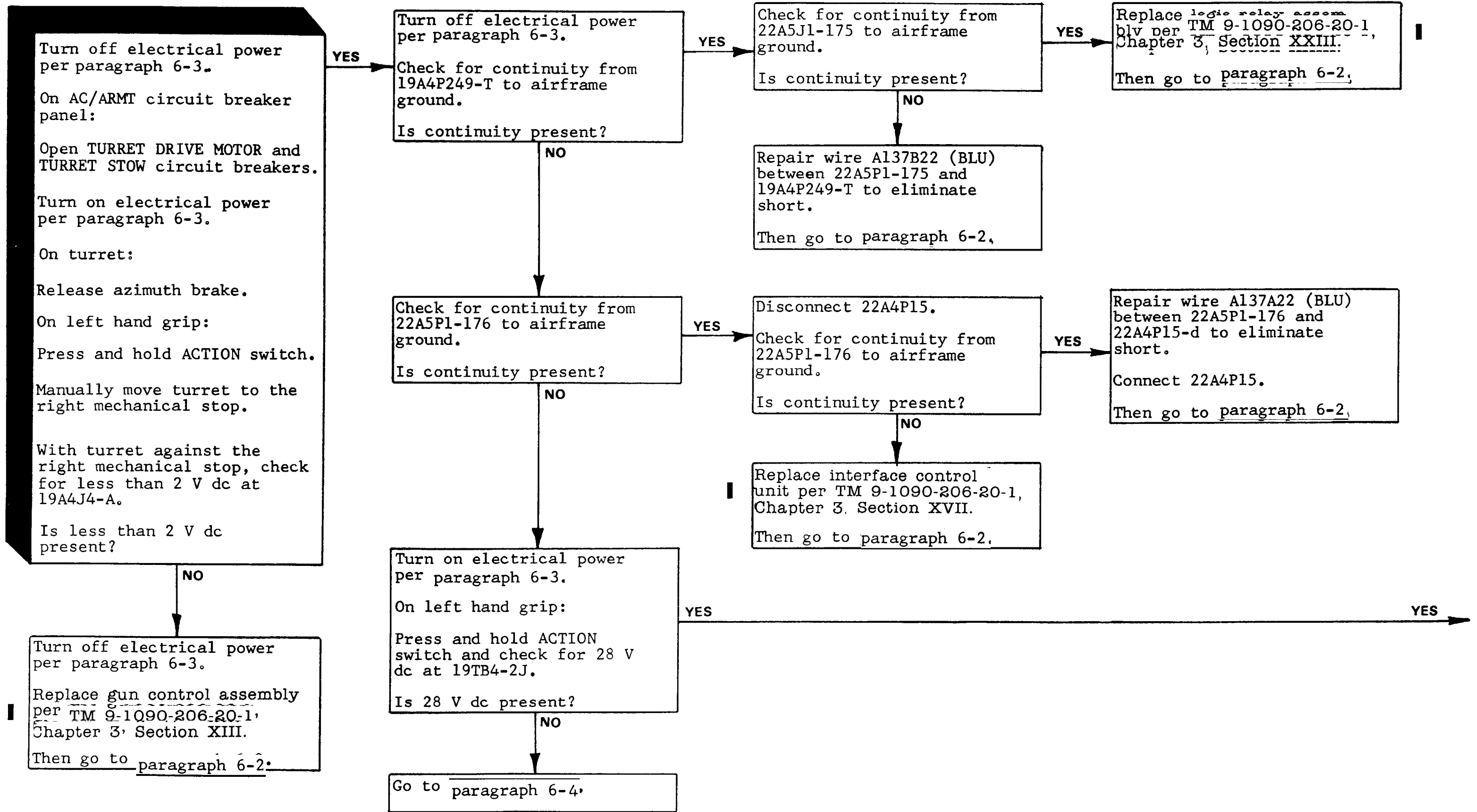


LEFT HAND GRIP

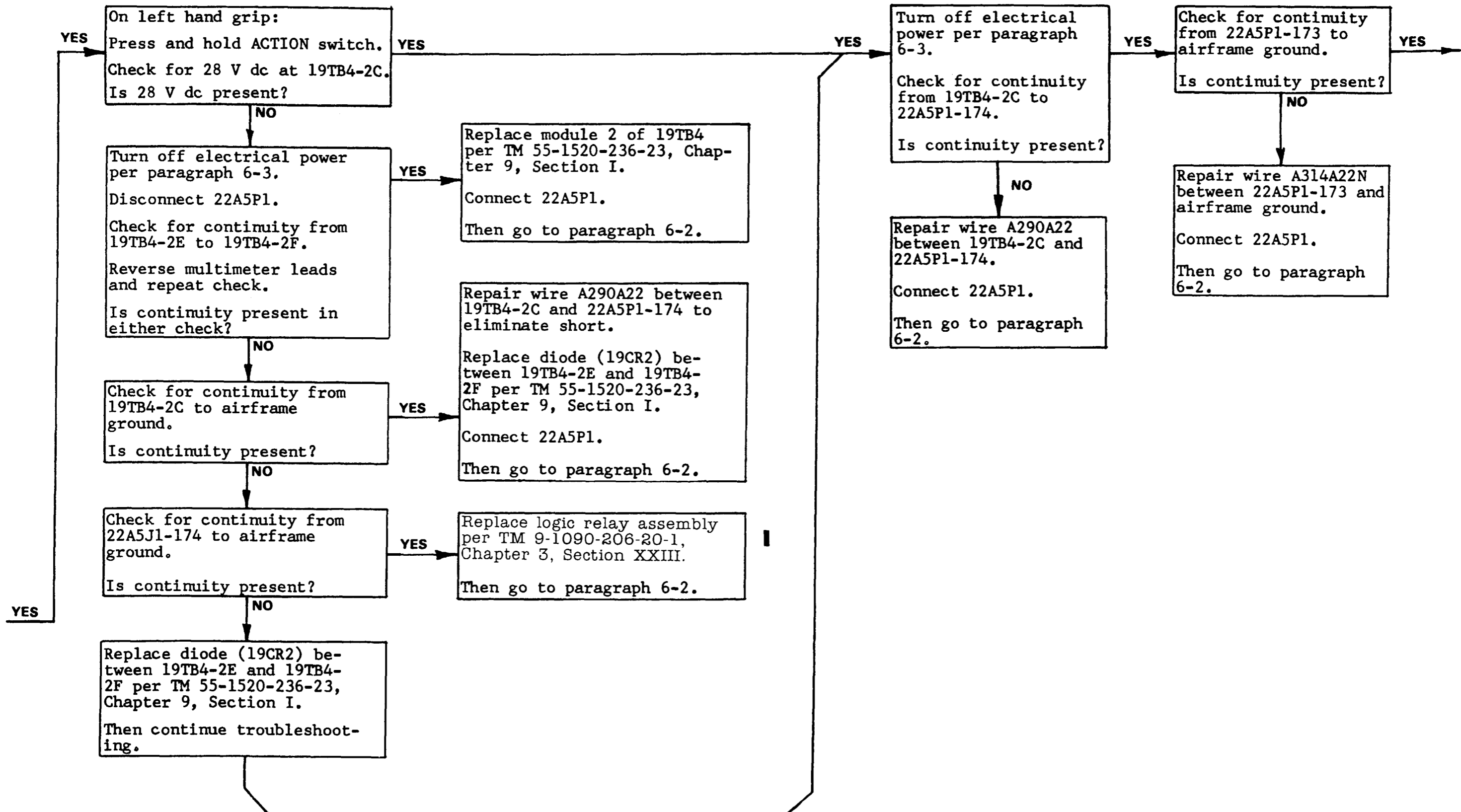
6-10. GUNNER AND PILOT RETICLES DO NOT FLASH (CONTINUED).



6-10. GUNNER AND PILOT RETICLES DO NOT FLASH (CONTINUED).



6-10. GUNNER AND PILOT RETICLES DO NOT FLASH (CONTINUED).

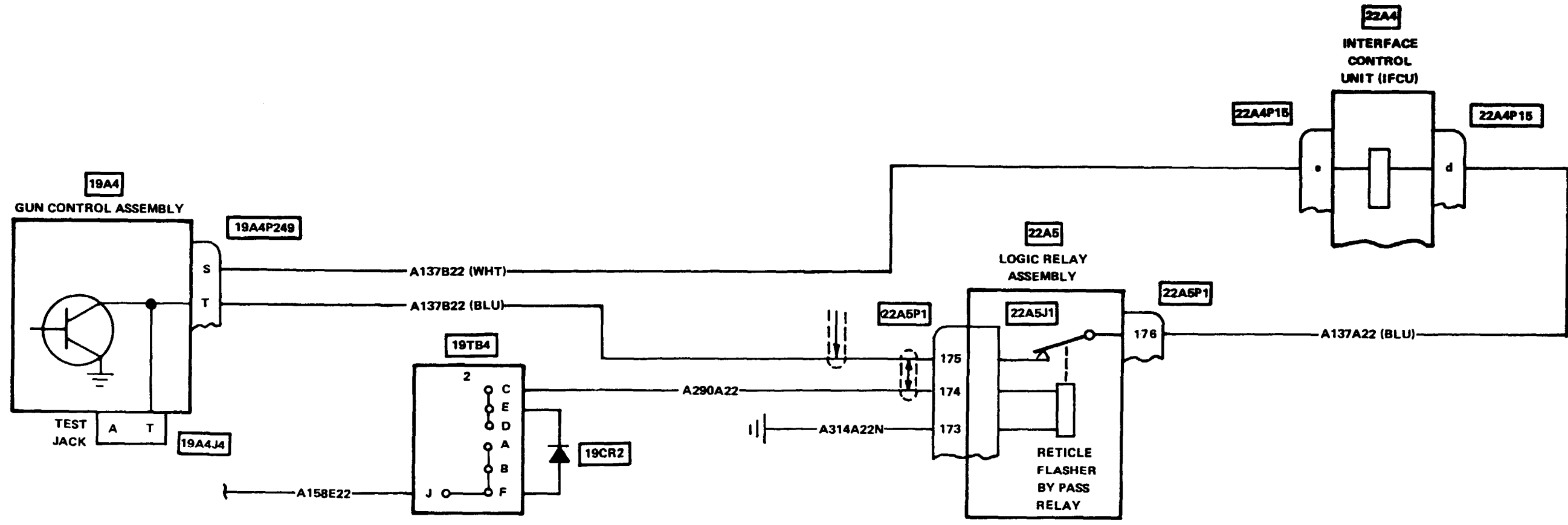


6-10. GUNNER AND PILOT RETICLES DO NOT FLASH (CONTINUED).

YES →

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

Then go to paragraph 6-2.



6-11. TURRET SLEW RATE DOES NOT DECREASE WITH TUR SLEW SWITCH SET TO GND TEST.

INITIAL SETUP

Applicable Configuration
All

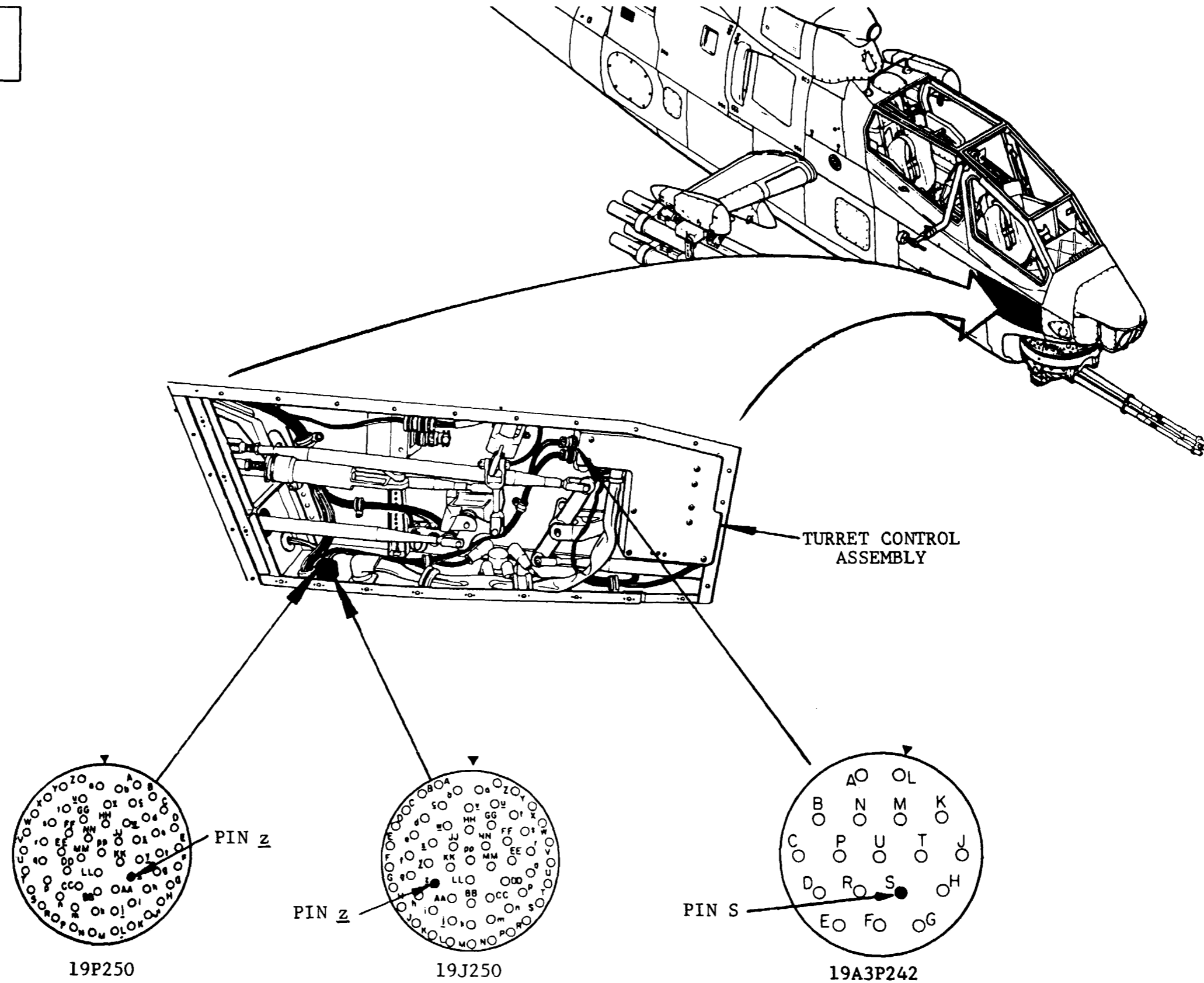
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

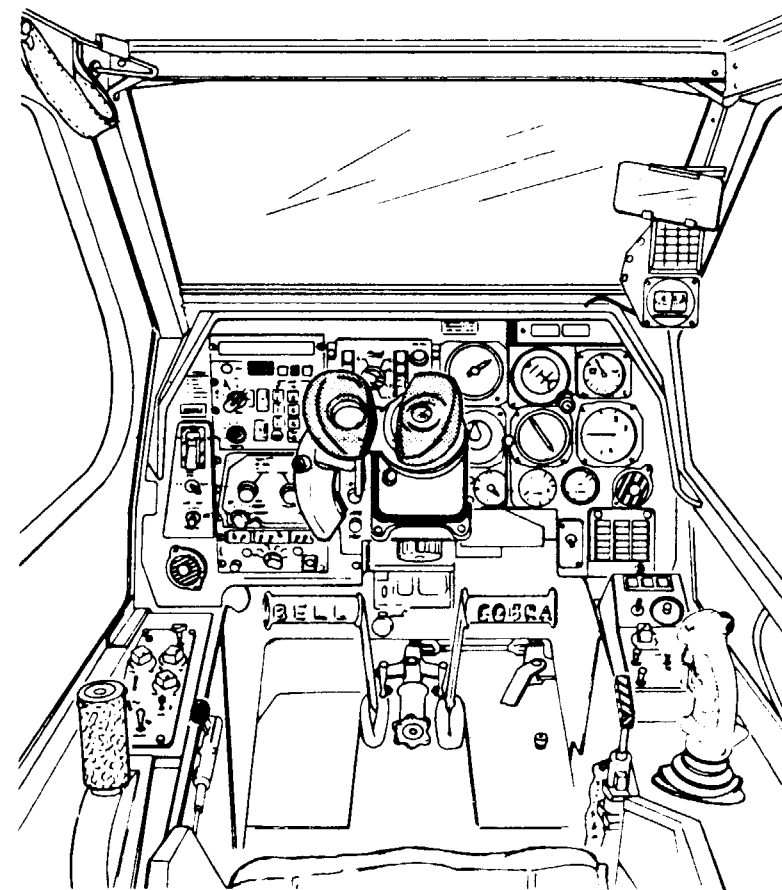
Personnel Required
68J (2)

References
TM 9-1090-206-20-1

Access Panels
Forward Right Side Control Linkage - Removed
Logic Control - Removed

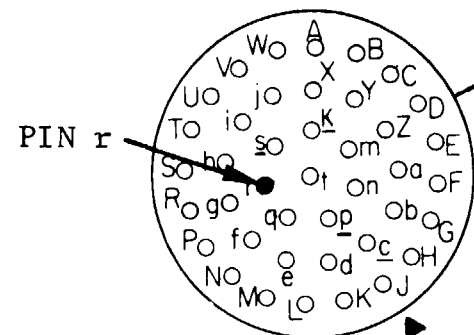
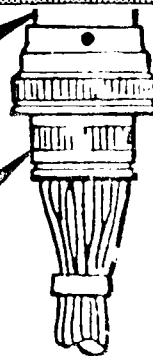
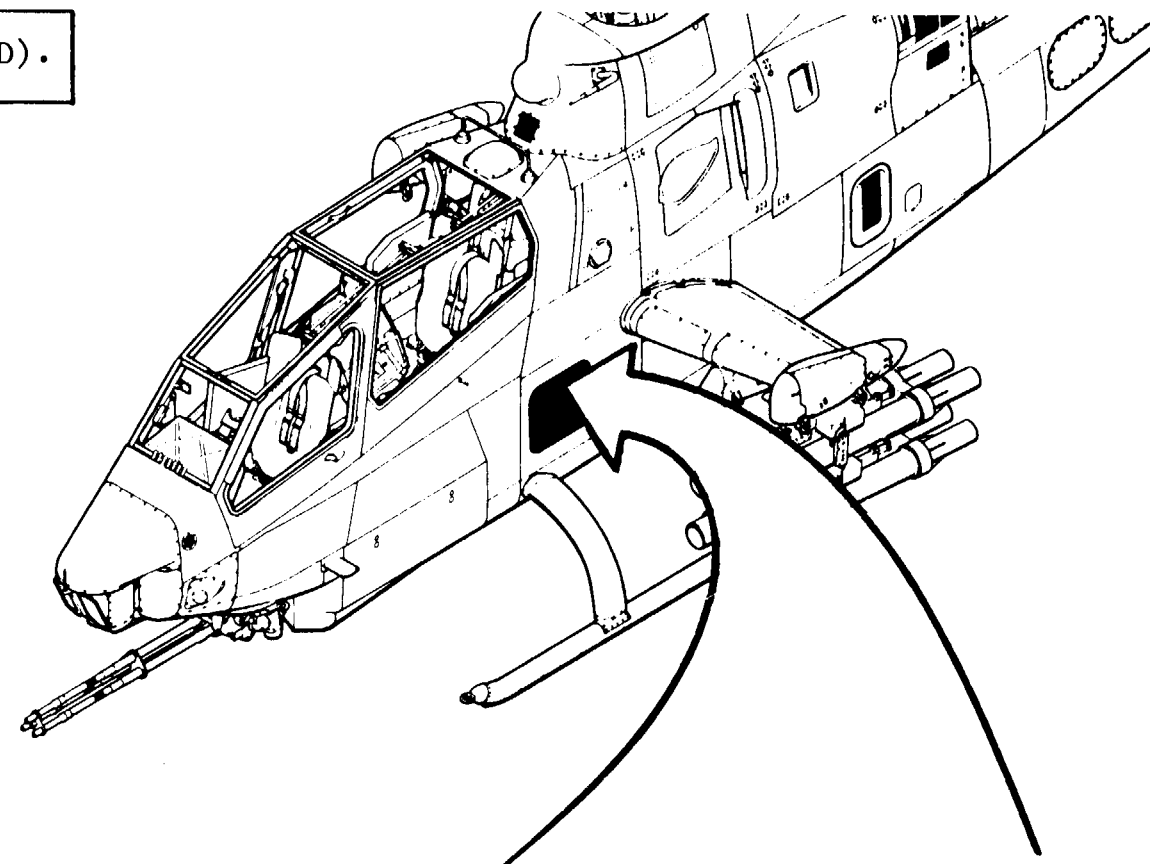
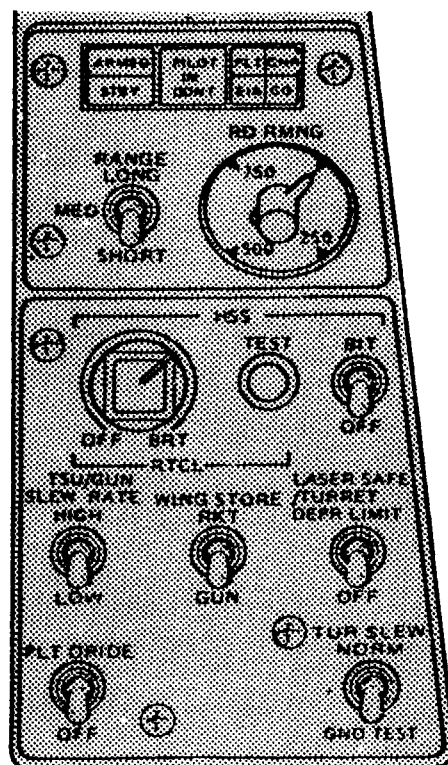


6-11. TURRET SLEW RATE DOES NOT DECREASE WITH TUR SLEW SWITCH SET TO GND TEST (CONTINUED).

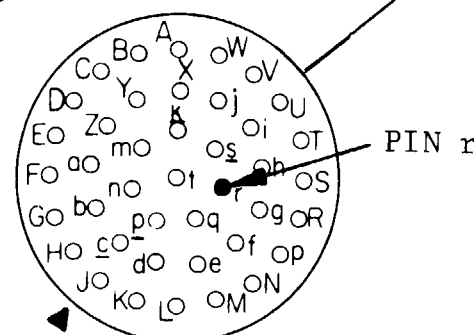


GUNNER STATION

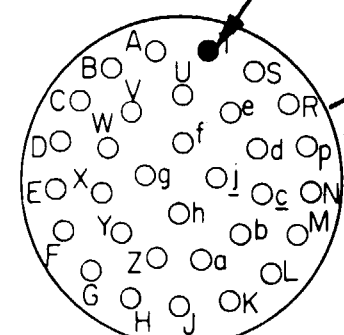
GUNNER ARMAMENT CONTROL PANEL



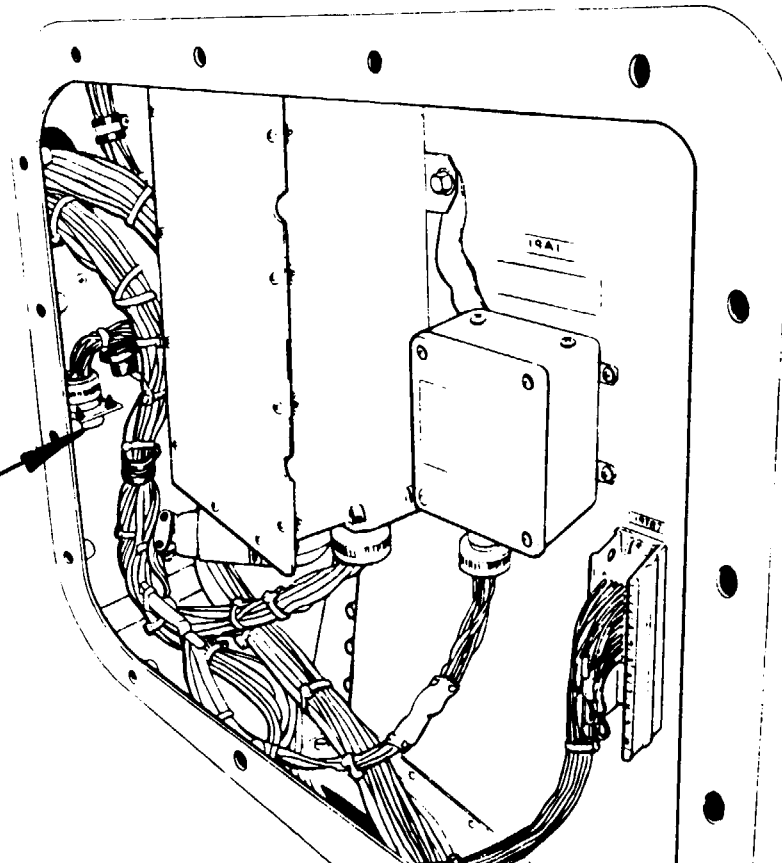
22A3J1



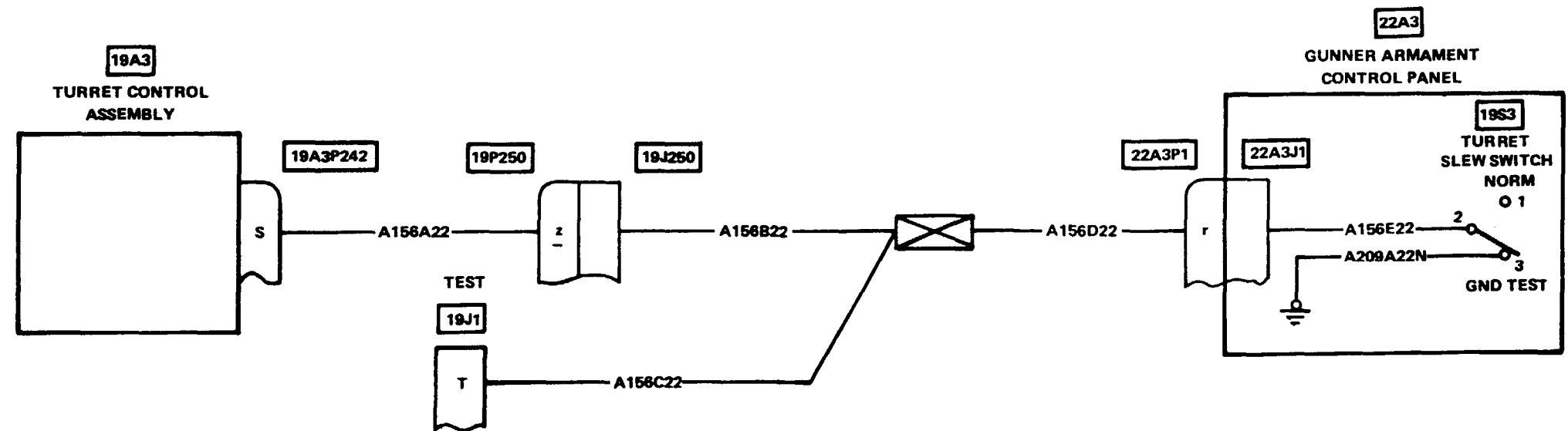
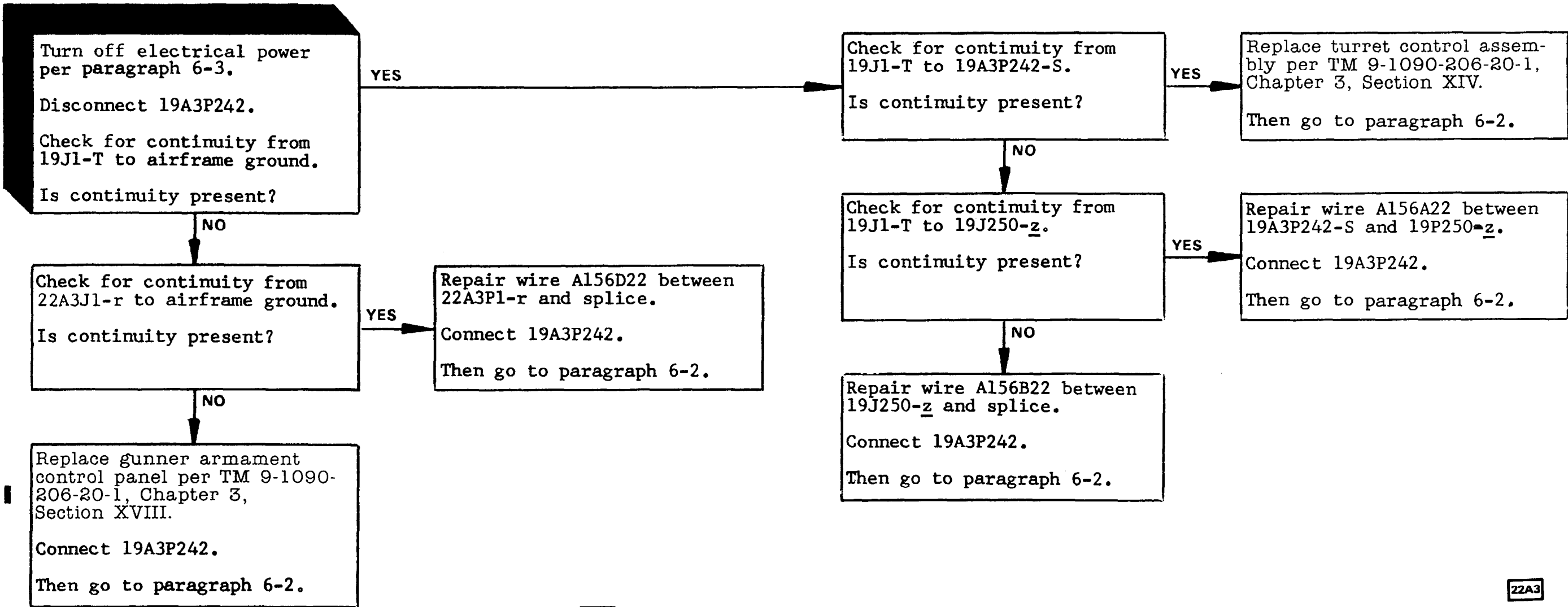
22A3P1



19J1



6-11. TURRET SLEW RATE DOES NOT DECREASE WITH TUR SLEW SWITCH SET TO GND TEST (CONTUNUED).



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6-12. TURRET DRIVES THROUGH DEPRESSION LIMIT.

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 55-1520-236-23

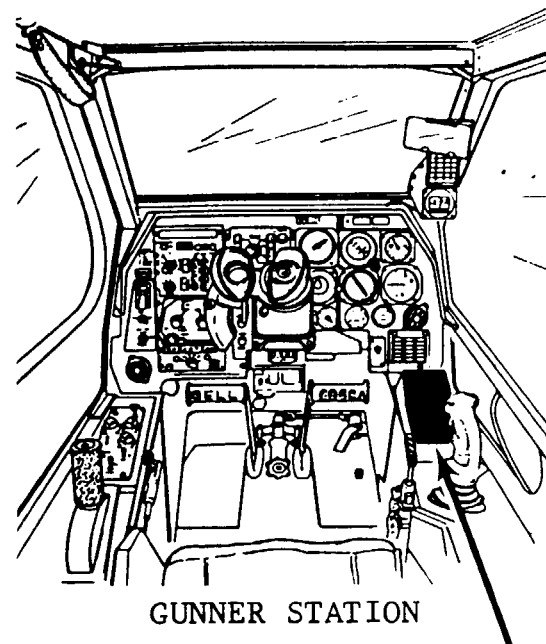
Access Panels

Logic Control Unit -

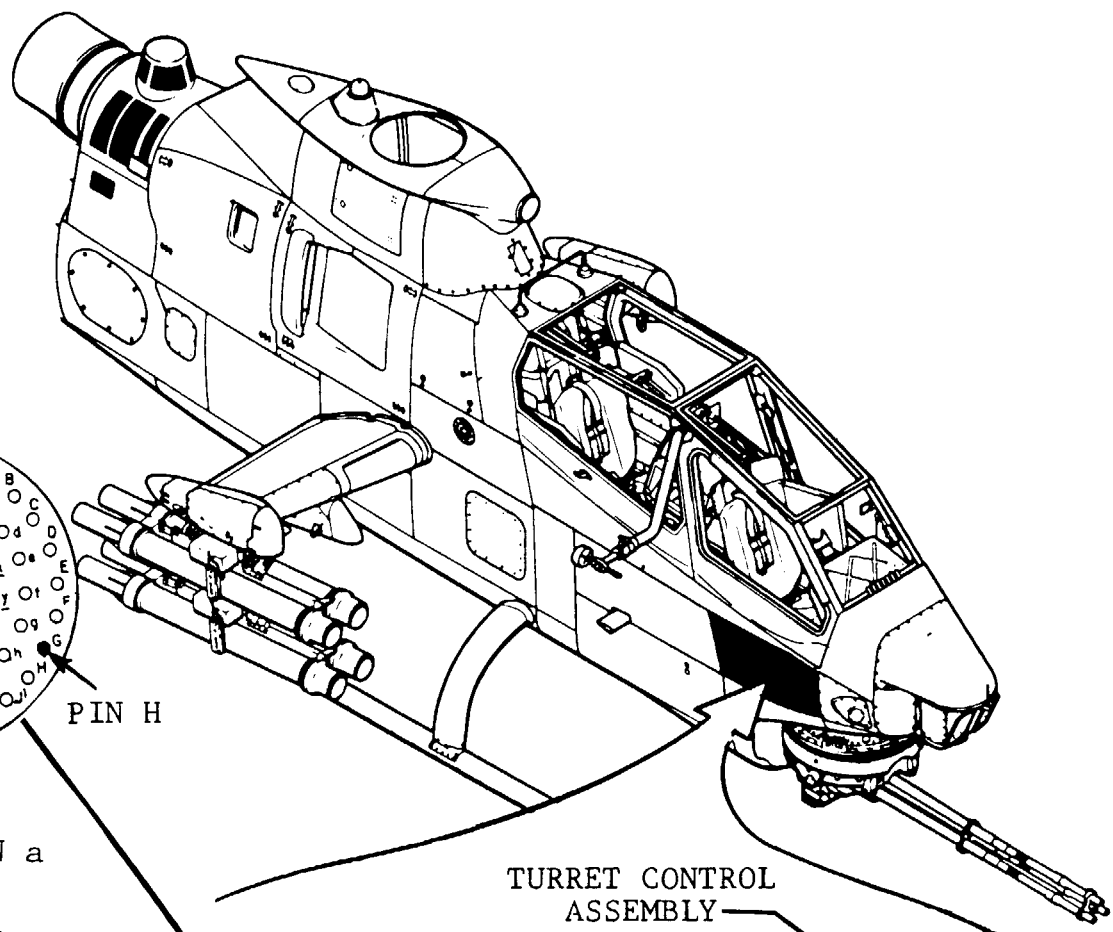
and Lighting - Removed

Turret Fairing - Removed

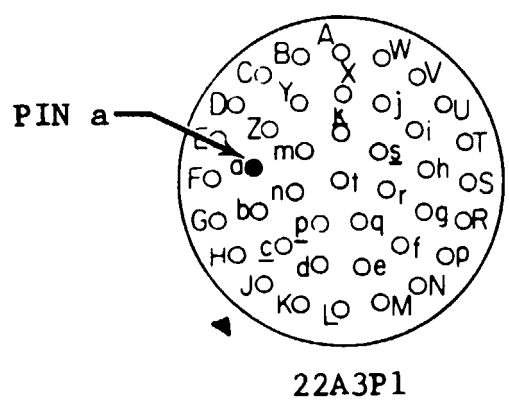
Forward Right Side Control Linkage - Removed



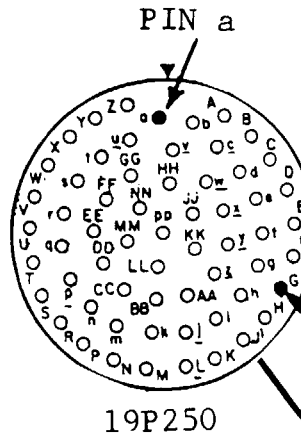
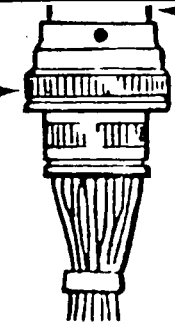
GUNNER ARMAMENT CONTROL PANEL



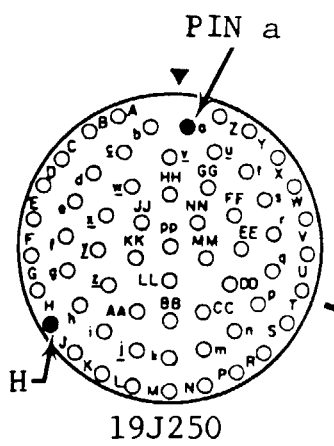
TURRET CONTROL ASSEMBLY



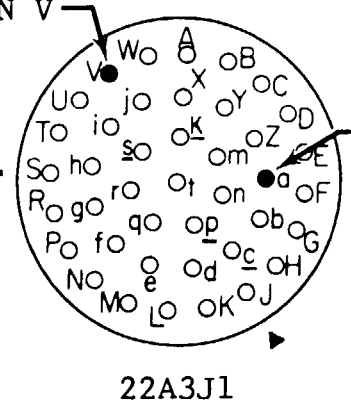
22A3P1



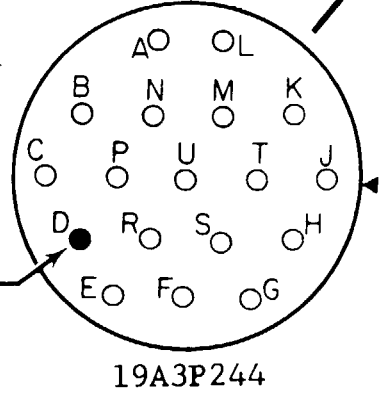
19P250



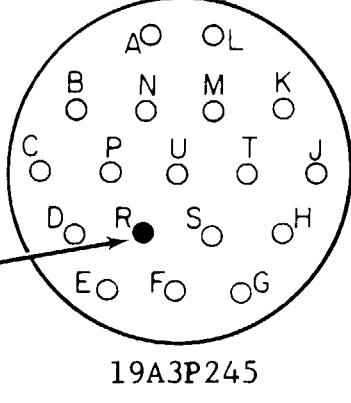
19J250



22A3J1

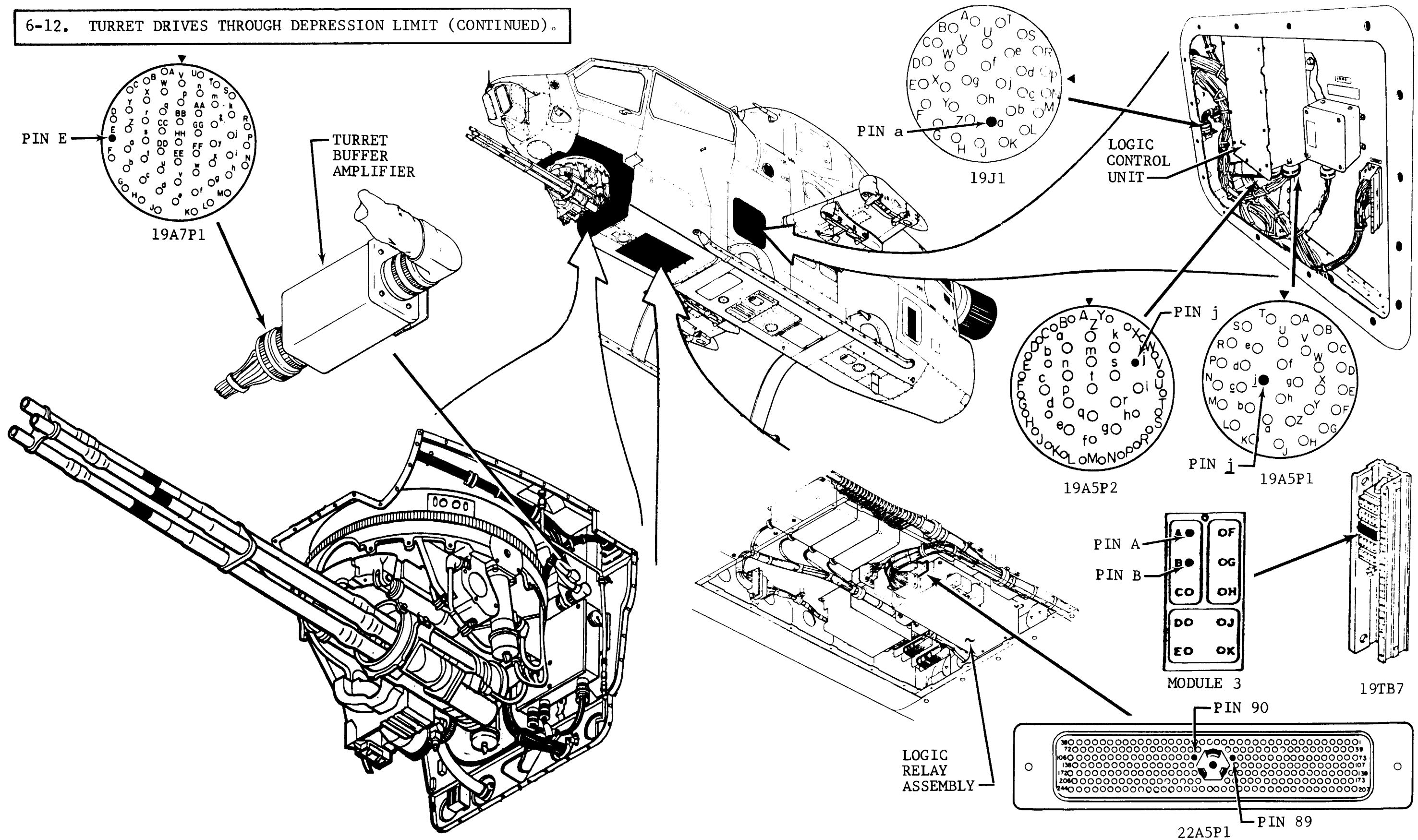


19A3P244

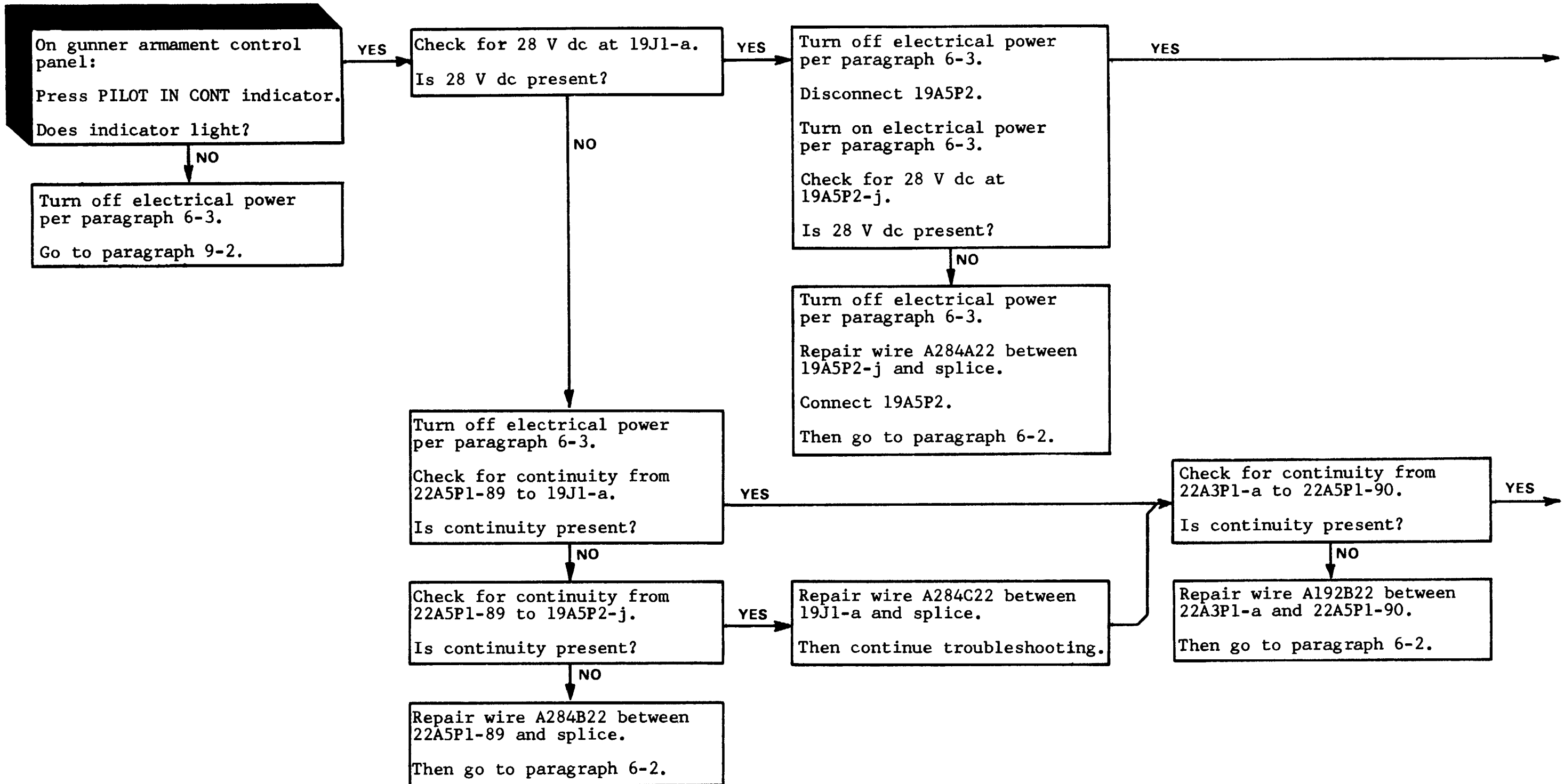


19A3P245

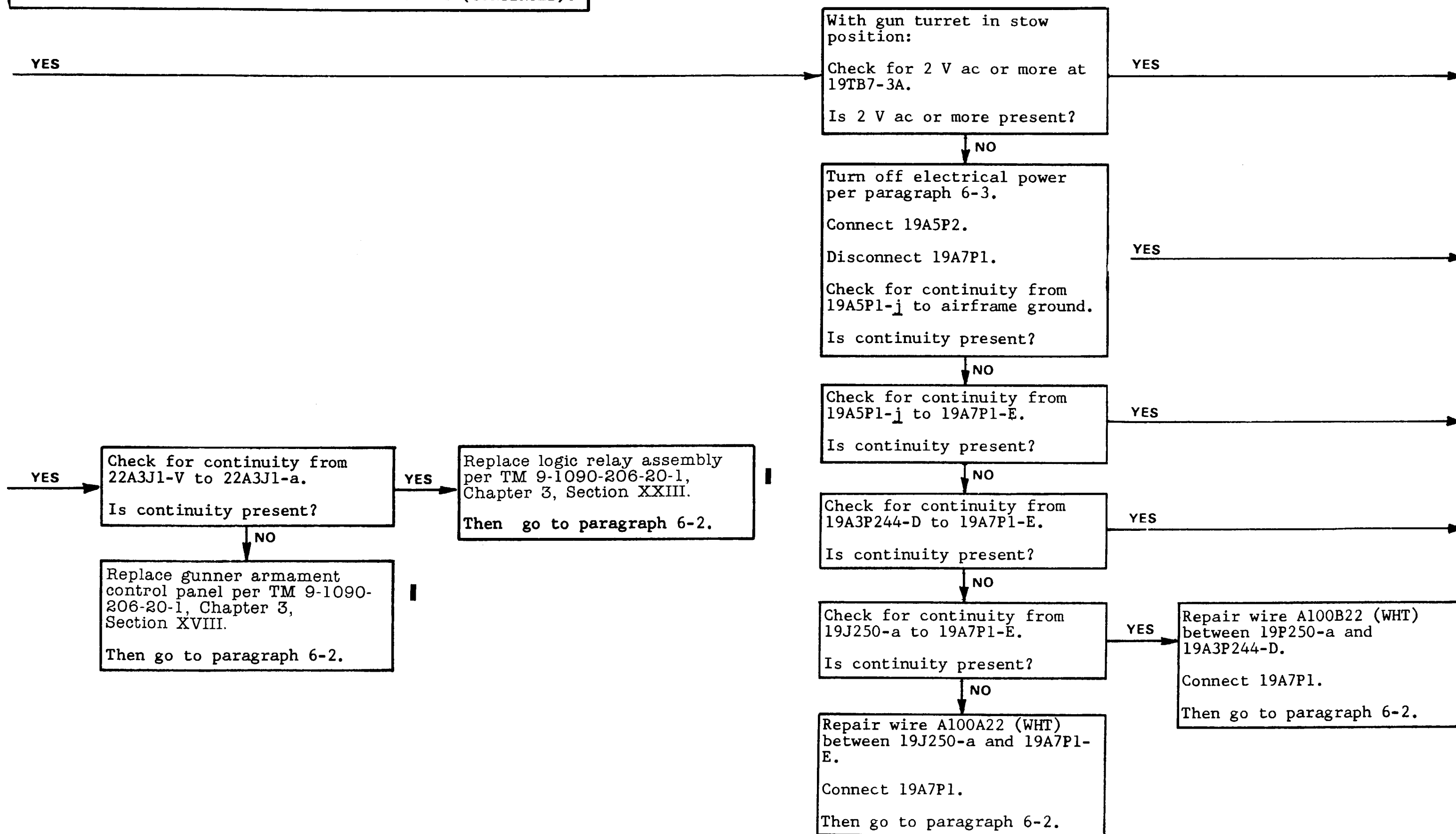
6-12. TURRET DRIVES THROUGH DEPRESSION LIMIT (CONTINUED).



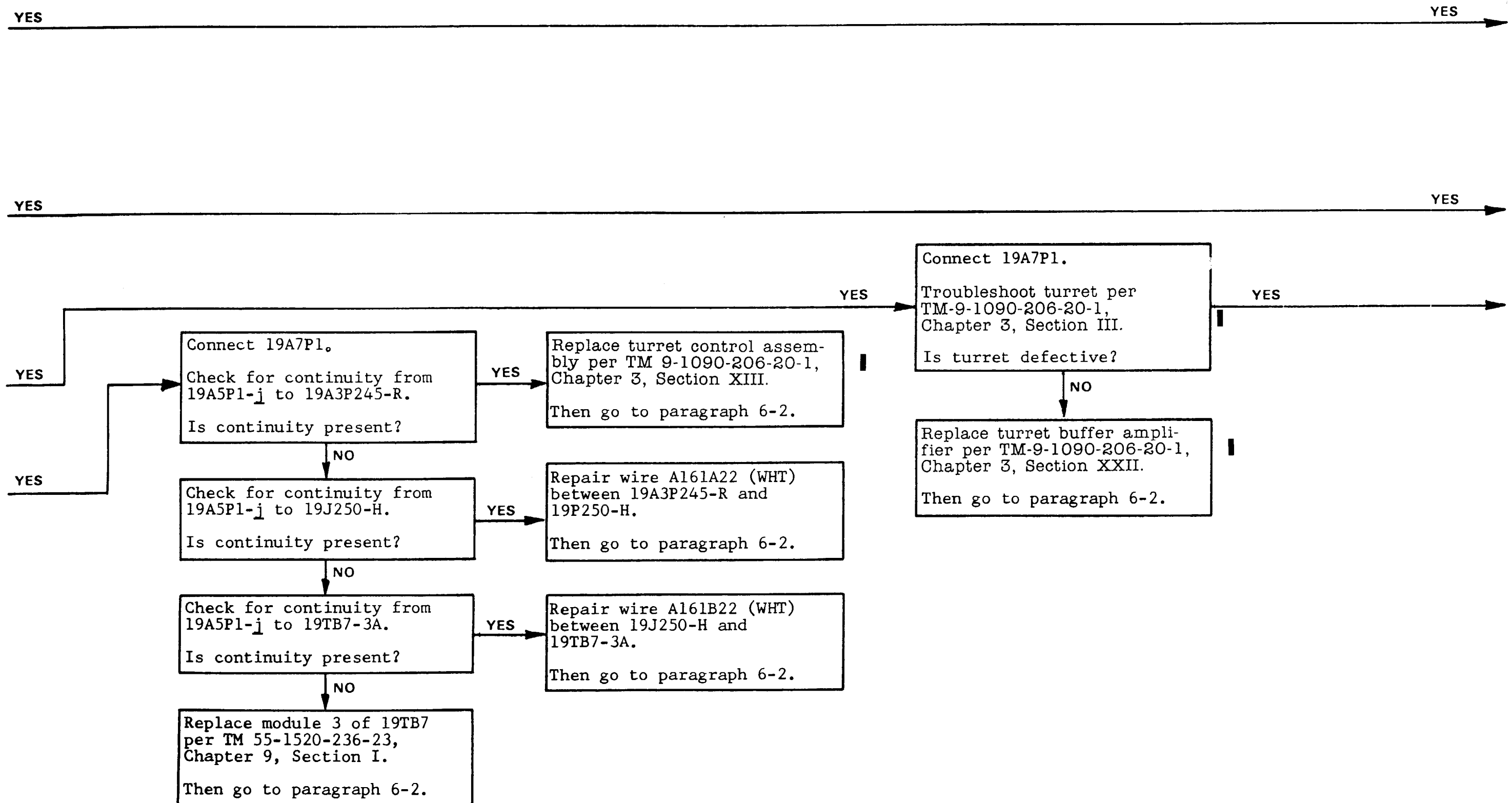
6-12. TURRET DRIVES THROUGH DEPRESSION LIMIT (CONTINUED).



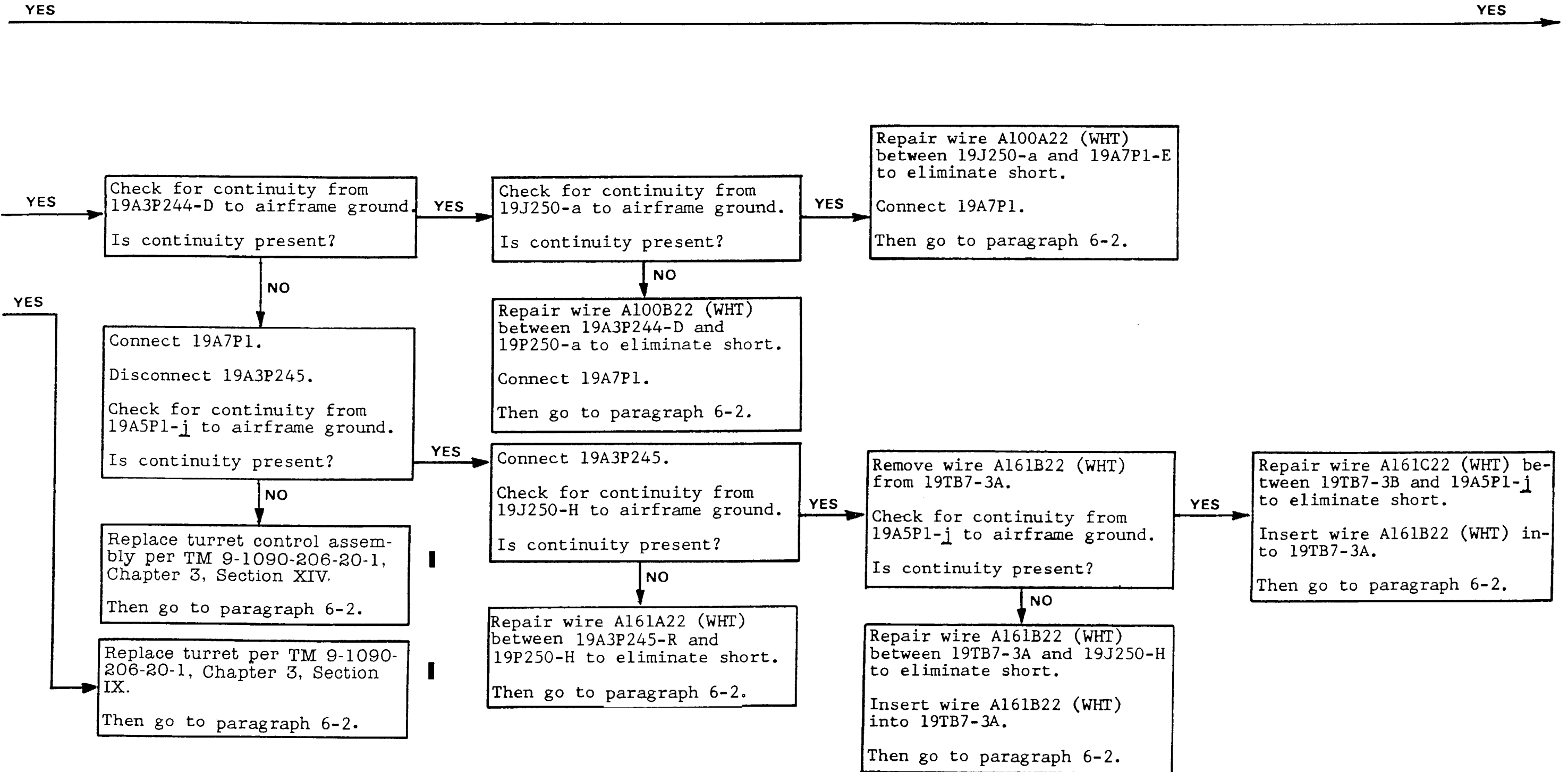
6-12. TURRET DRIVES THROUGH DEPRESSION LIMIT (CONTINUED).



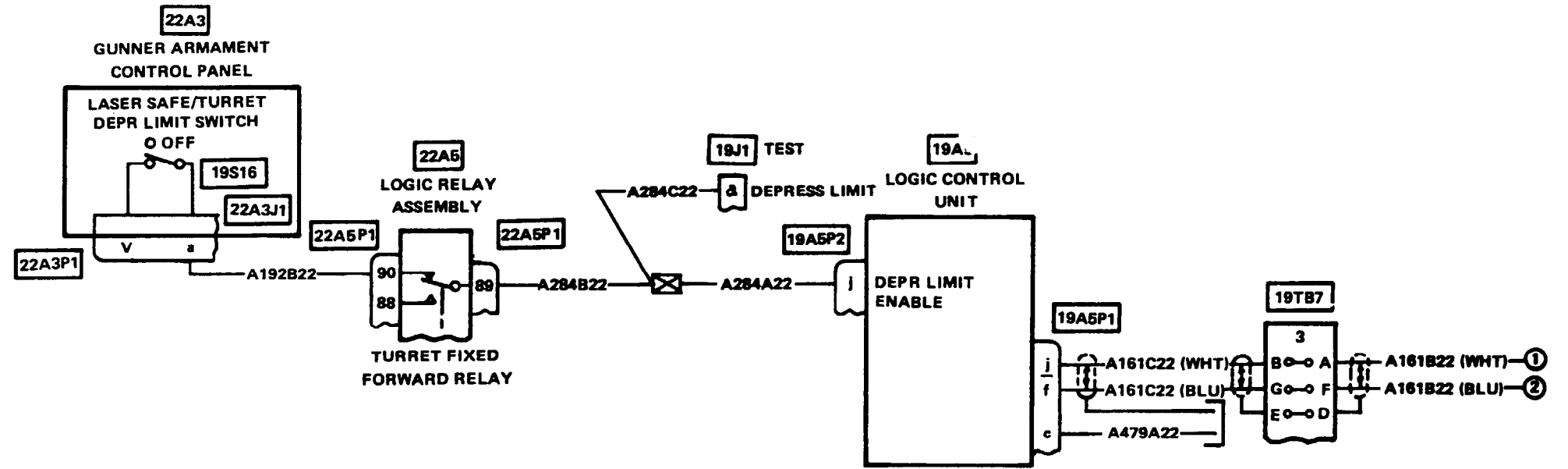
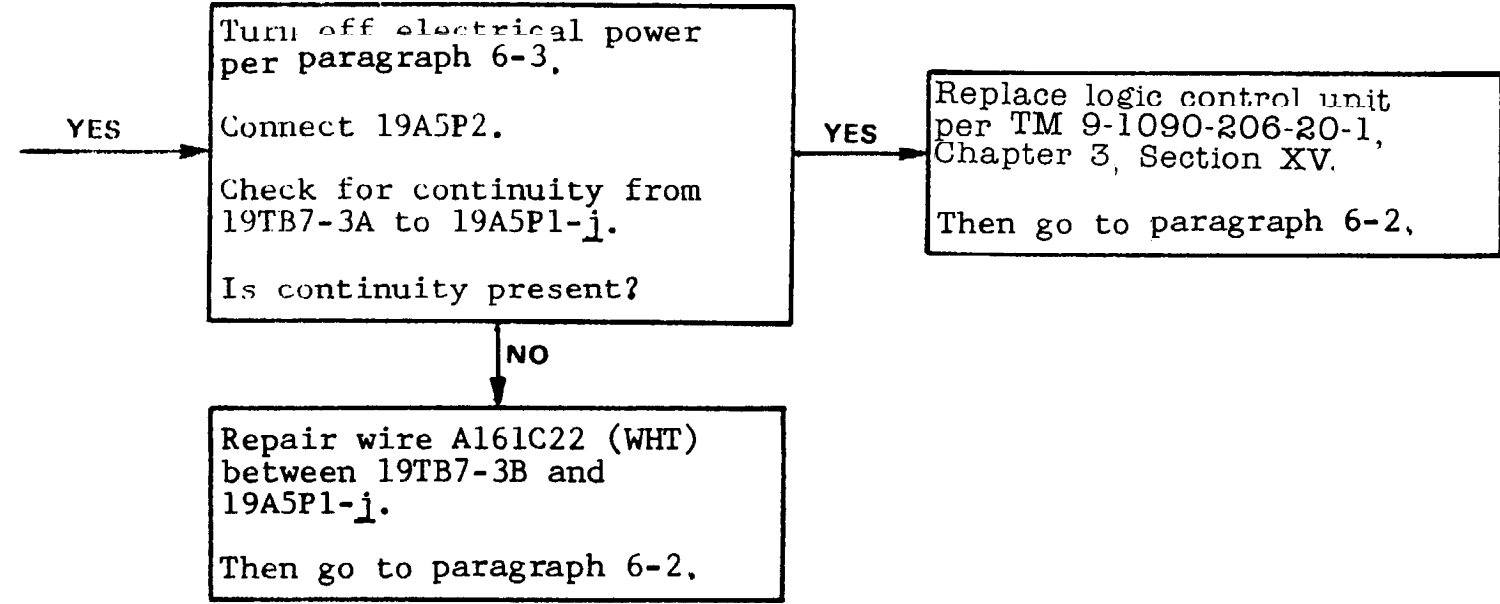
6-12. TURRET DRIVES THROUGH DEPRESSION LIMIT (CONTINUED).



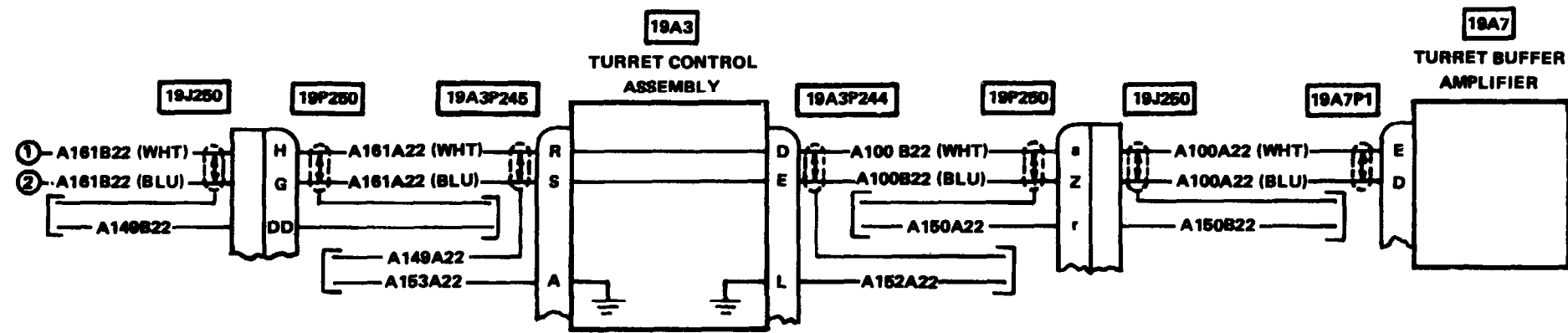
6-12. TURRET DRIVES THROUGH DEPRESSION LIMIT (CONTINUED).



6-12. TURRET DRIVES THROUGH DEPRESSION LIMIT (CONTINUED).



6-12. TURRET DRIVES THROUGH DEPRESSION LIMIT (CONTINUED).



6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP.

INITIAL SETUP

Al I

Tools/Test and Support

Equipment

Digital Voltmeter

Tool Set, A/C Armament Repairman

Personnel Required

68J (2)

References

TM 9-1090-206-20-1

TM 55-1520-236-23

Access Panels

Logic Control - Removed

Turret Fairing - Removed

Left Side Control Linkage - Removed

Forward Right Side Control Linkage - Removed

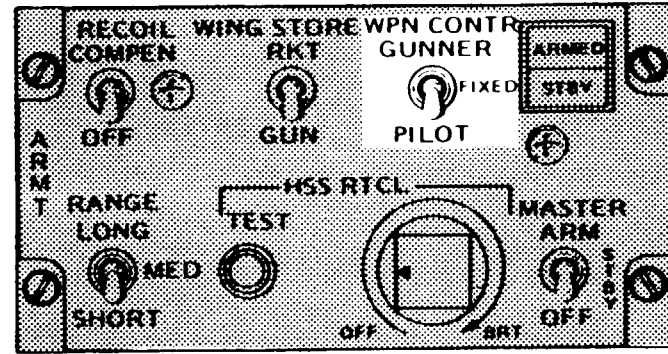
Forward Belly Armament and Lighting - Removed

A. TROUBLESHOOTING LOGIC PART ONE.

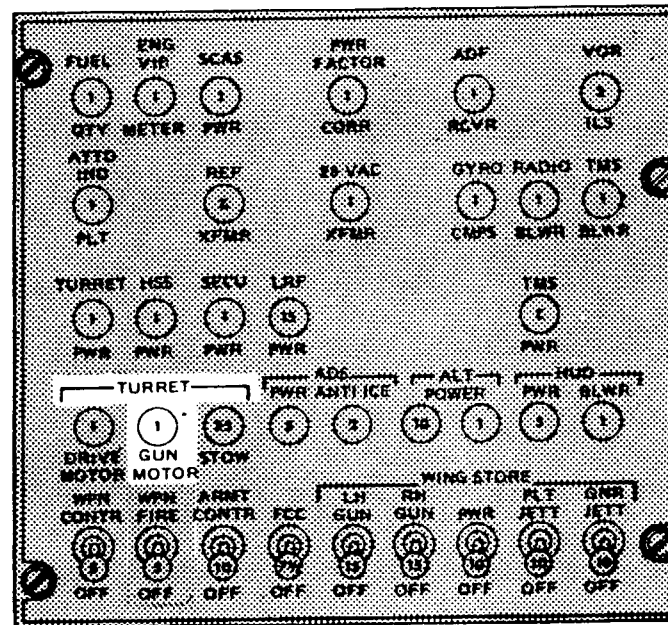
TRIGGER SWITCH

ACTION SWITCH

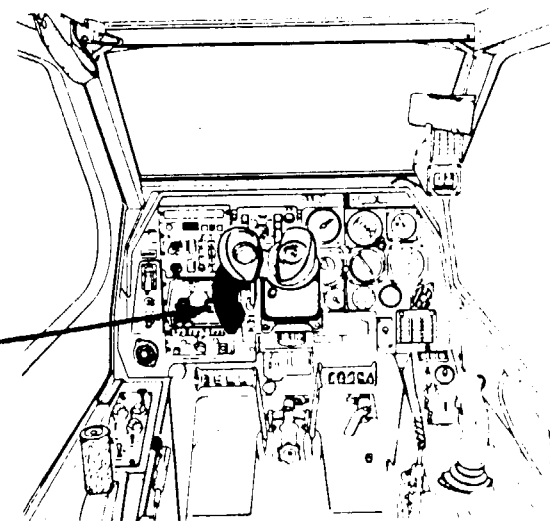
LEFT HAND GRIP



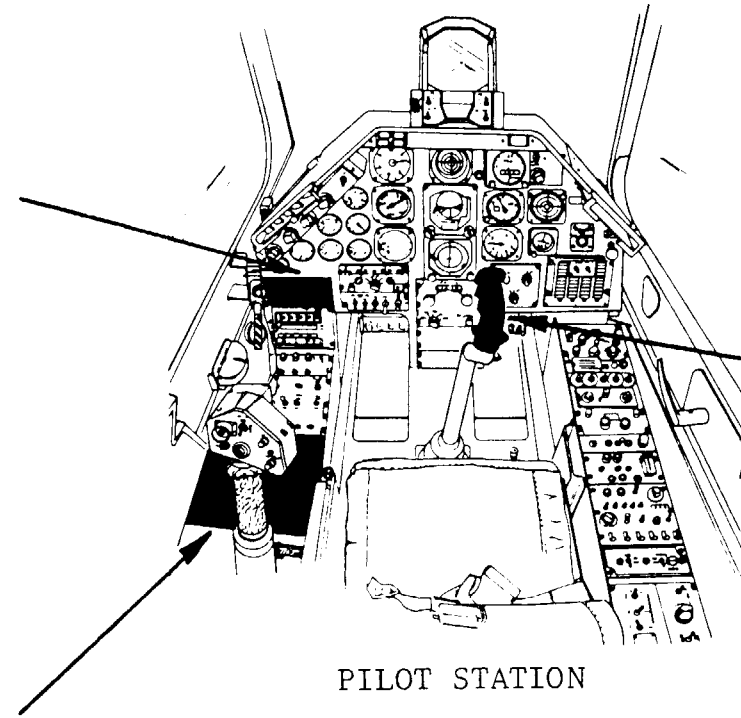
PILOT ARMT CONTROL PANEL



AC/ARMT CIRCUIT BREAKER PANEL



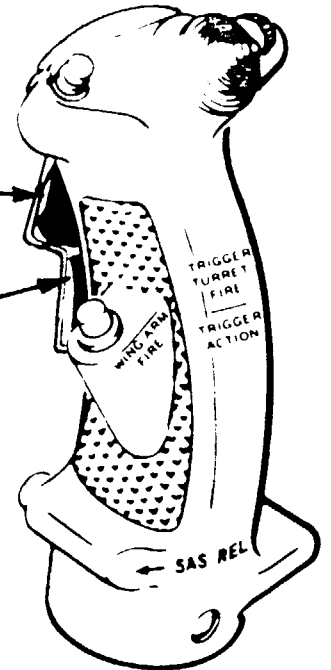
GUNNER STATION



PILOT STATION

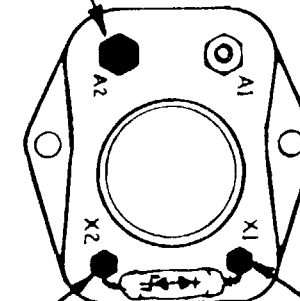
TRIGGER TURRET FIRE SWITCH

TRIGGER ACTION SWITCH

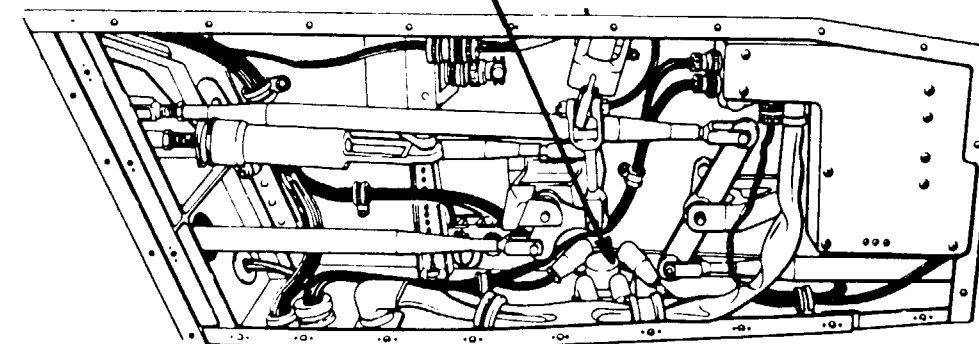
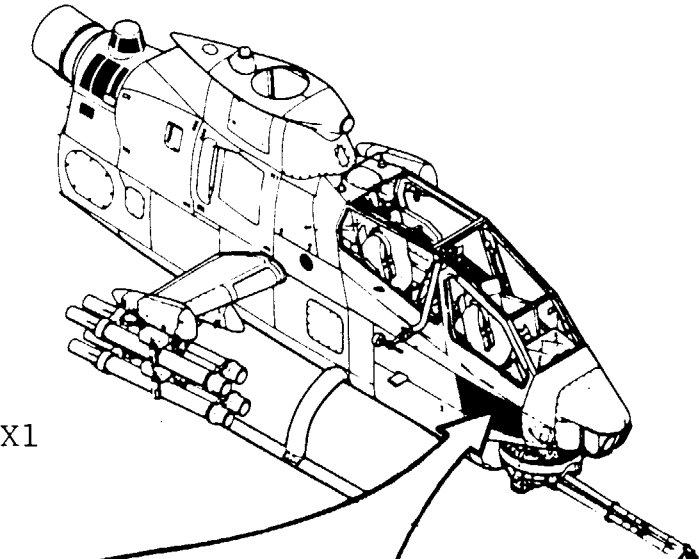


PILOT CYCLIC STICK

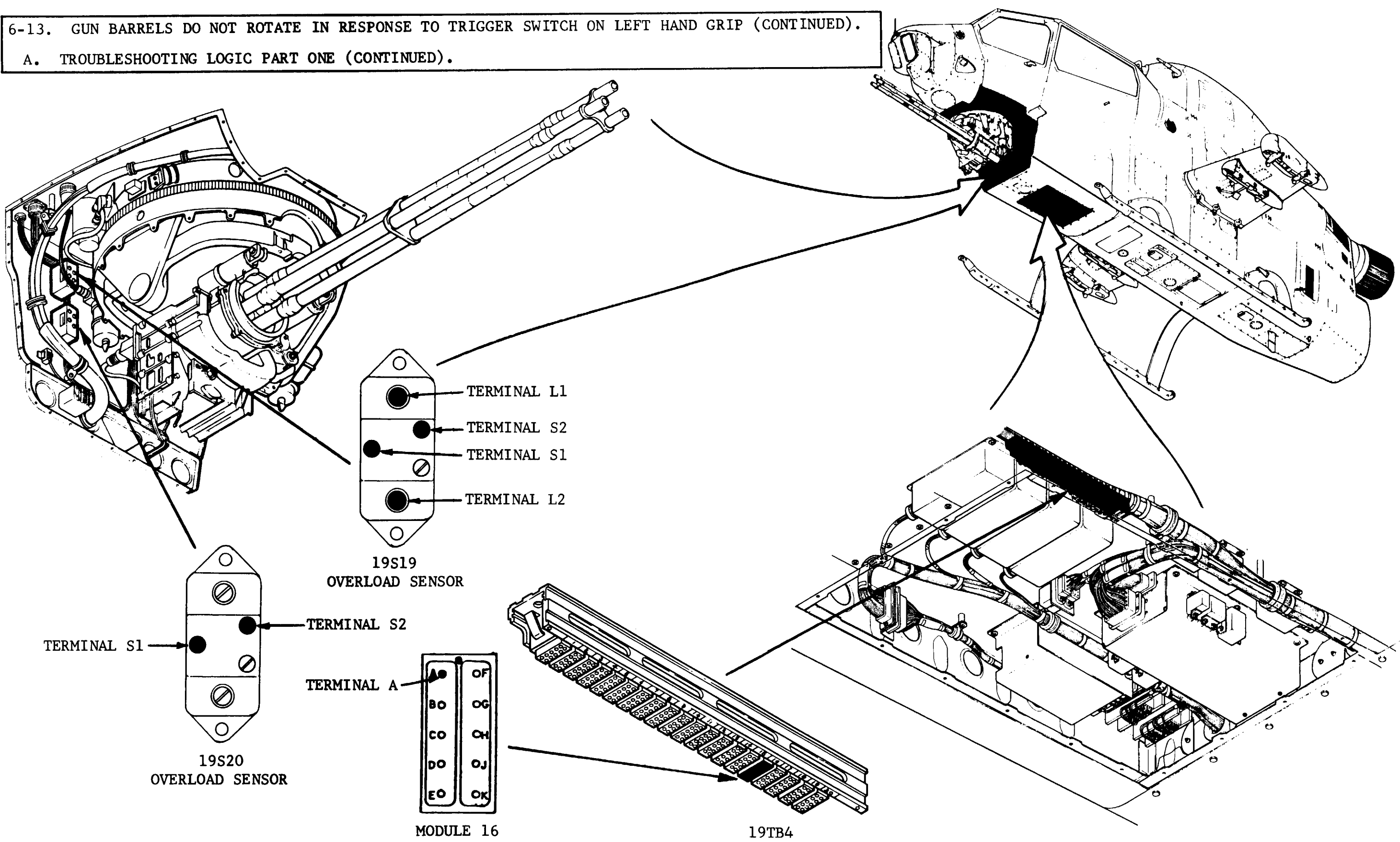
TERMINAL A2



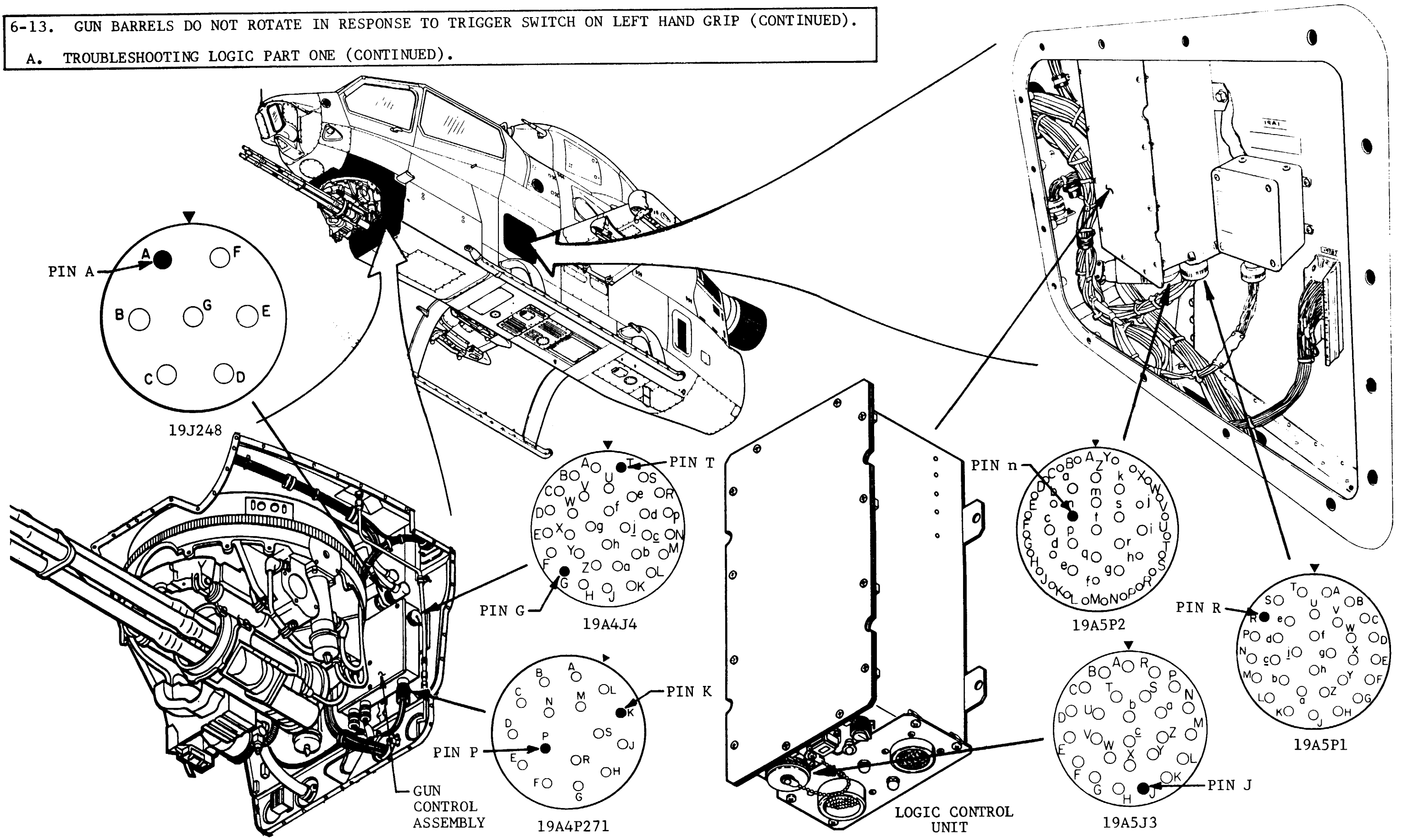
19K5 TURRET GUN POWER RELAY



6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

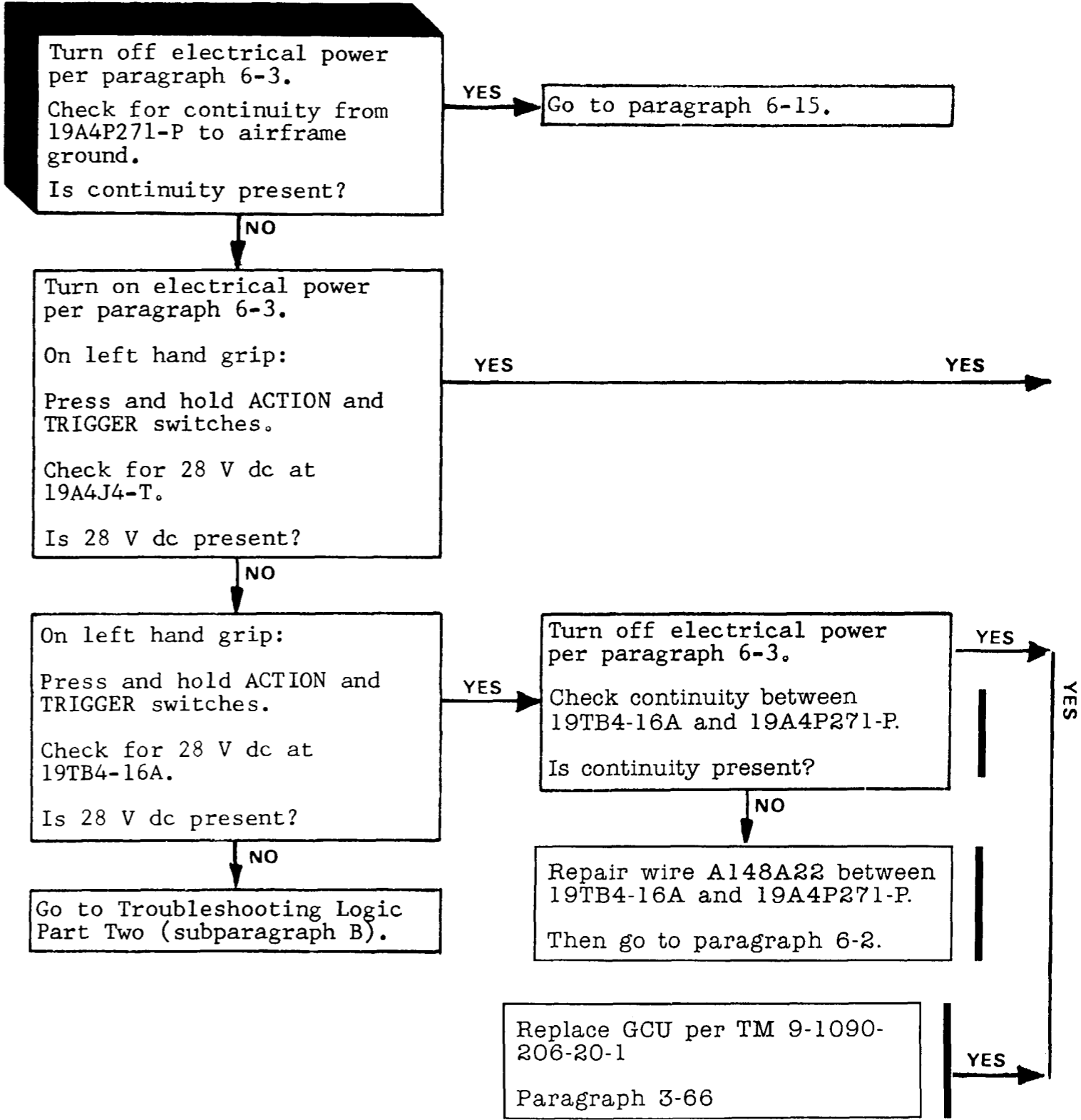
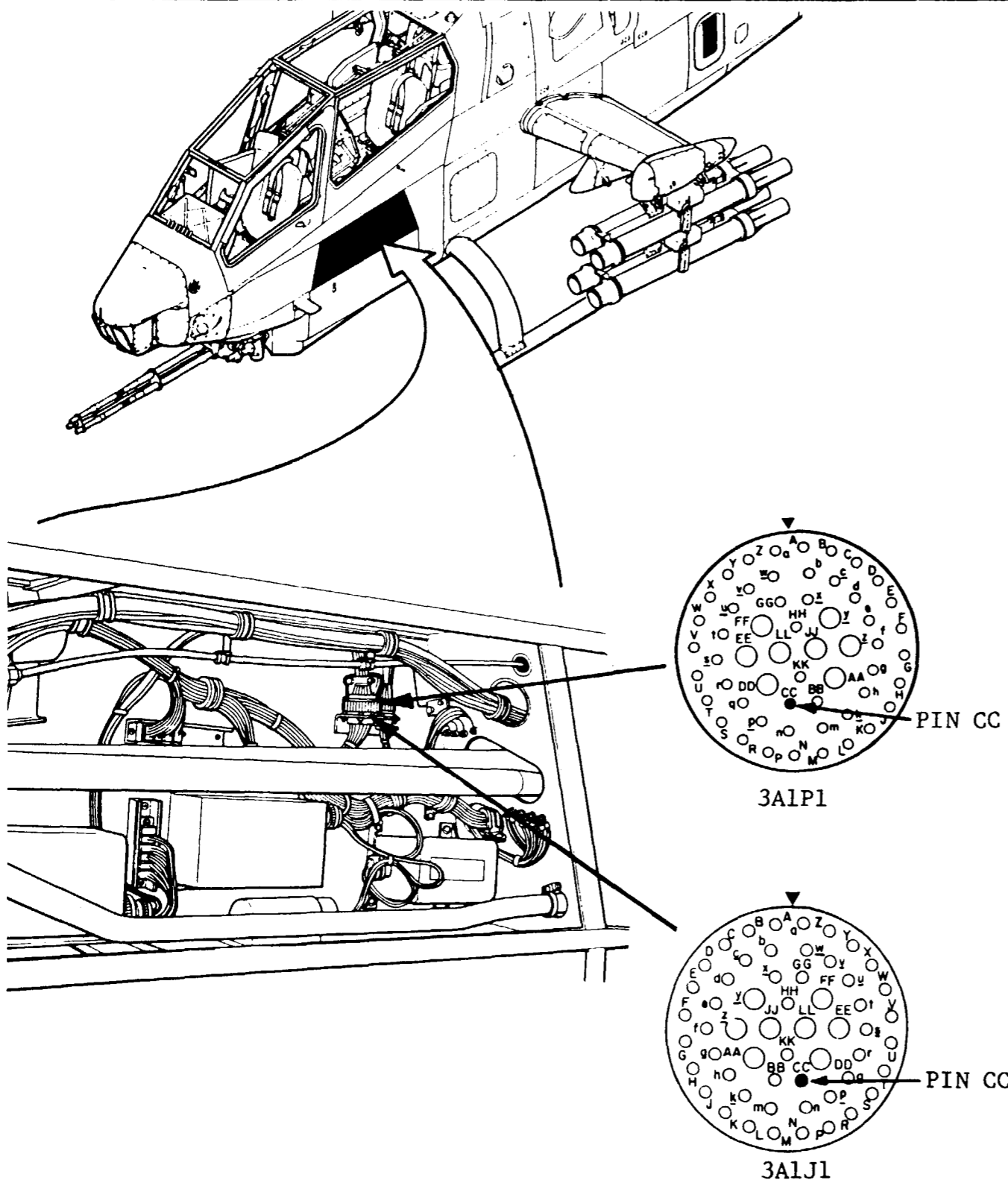


6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



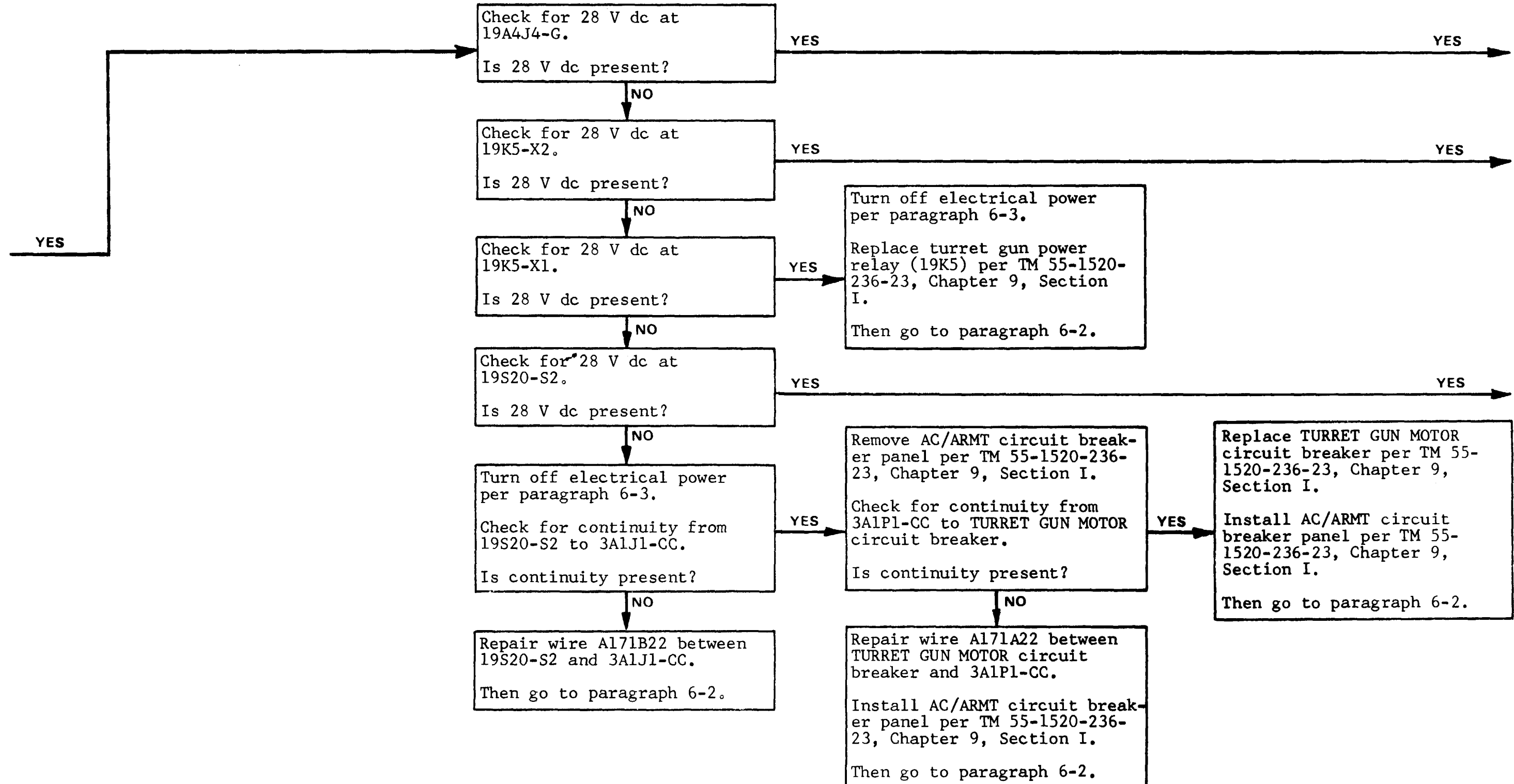
6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



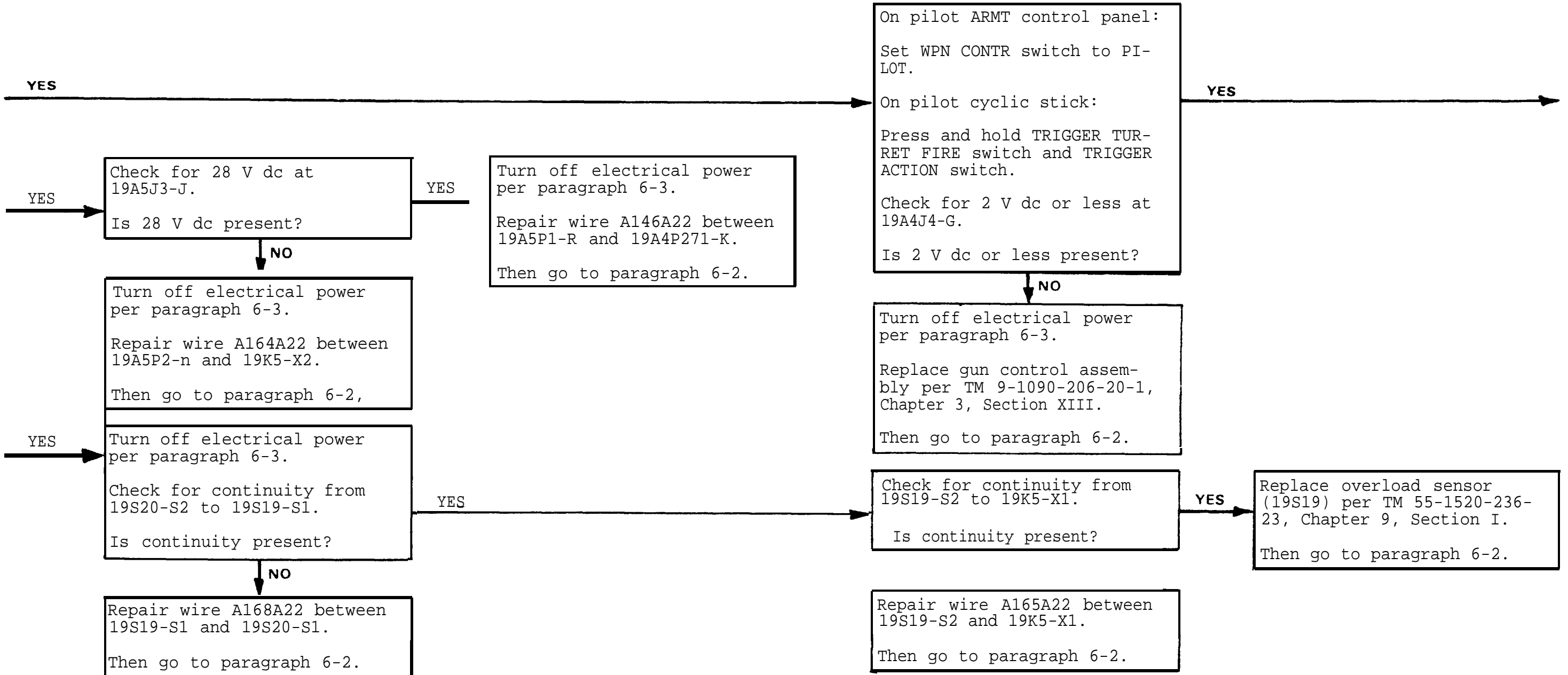
6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



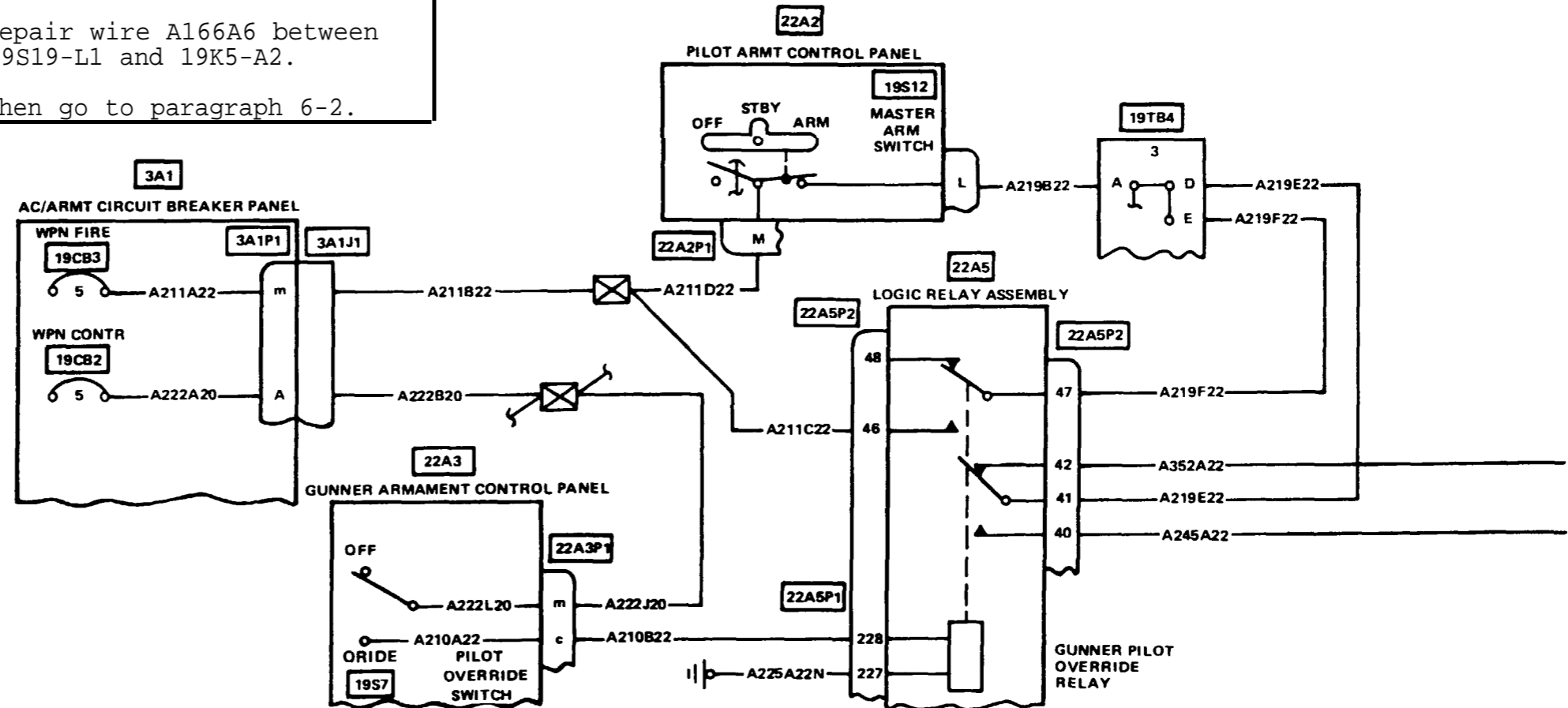
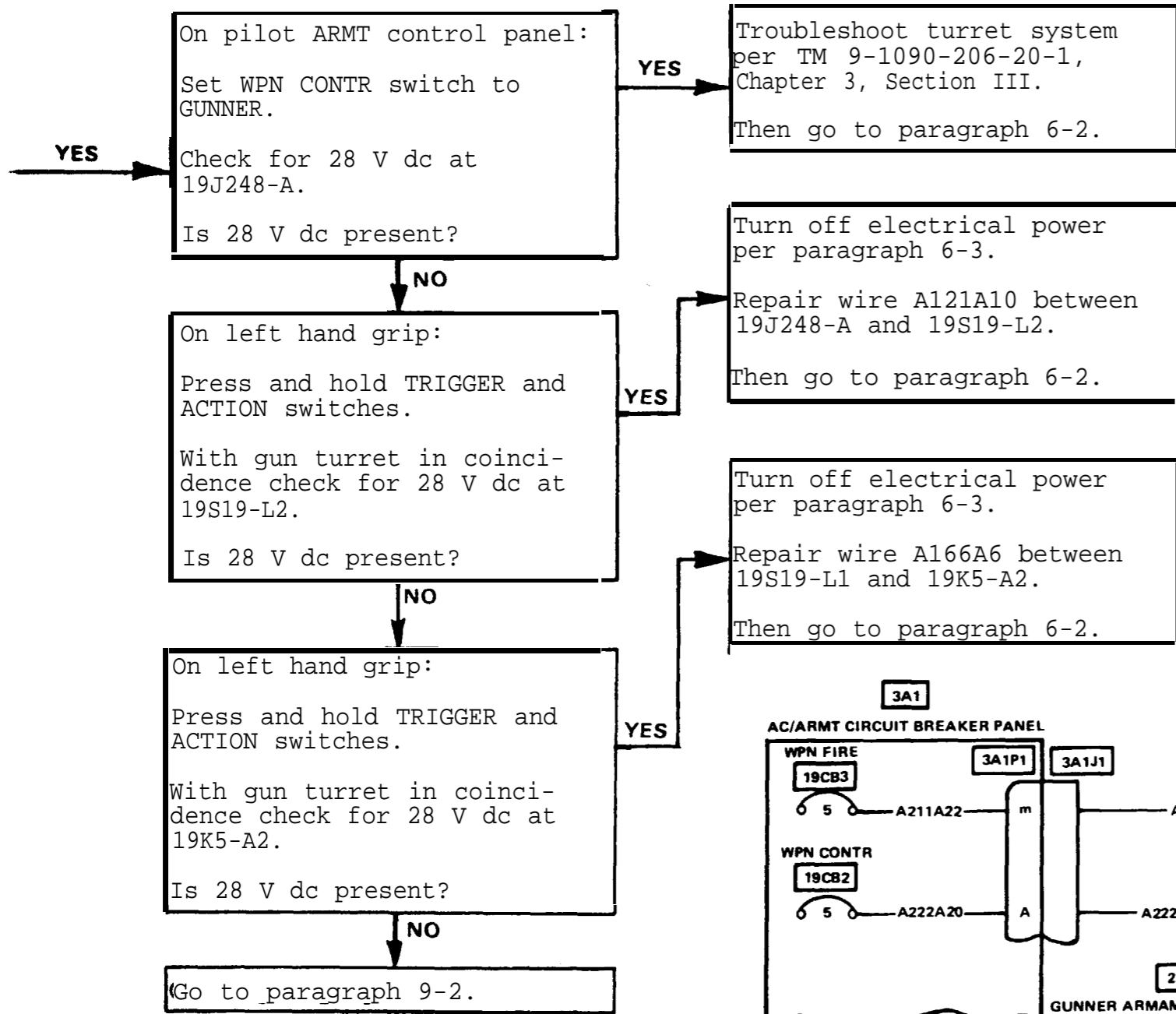
6-13. GUN BARRELS DO NOT ROTATE IN REPOSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

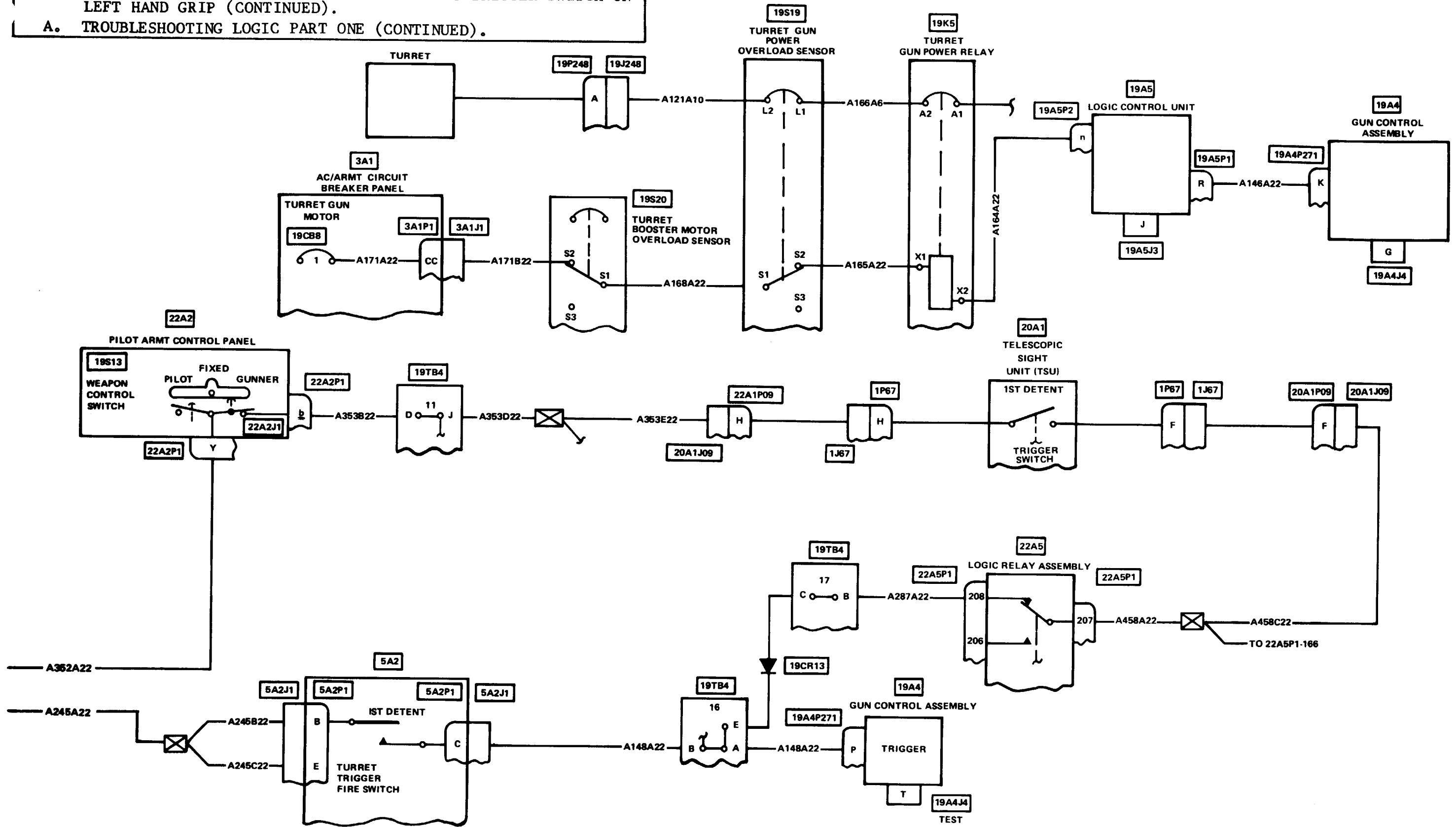


6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

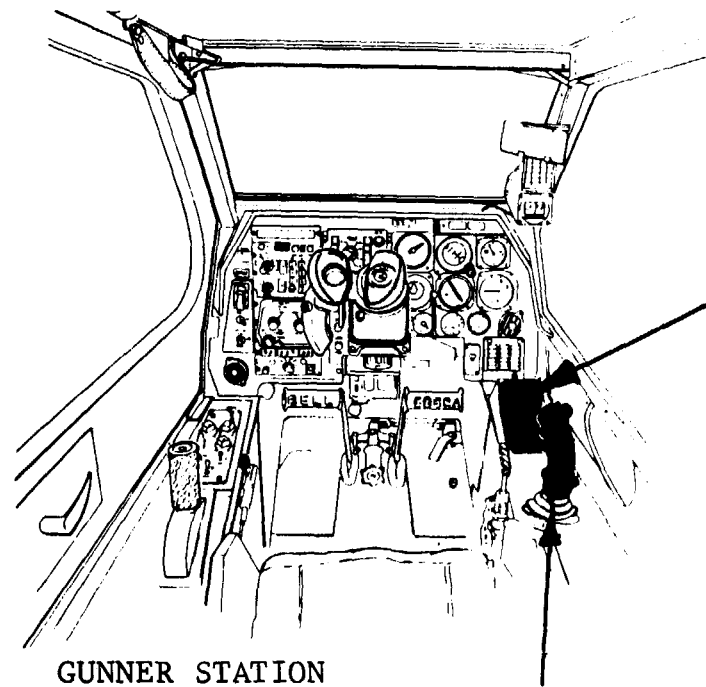


6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

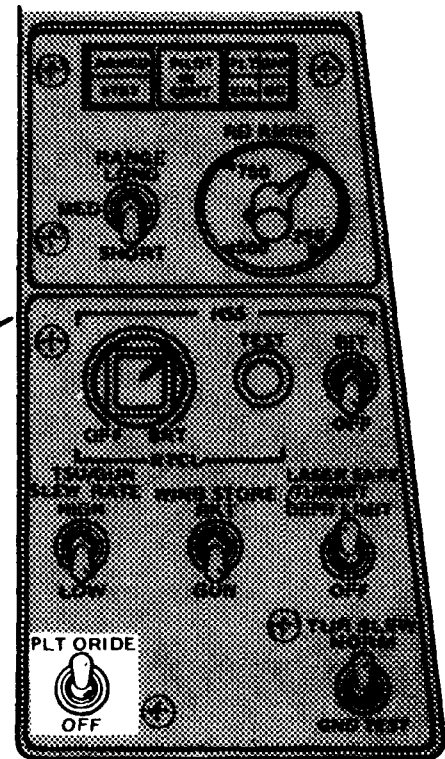


6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).

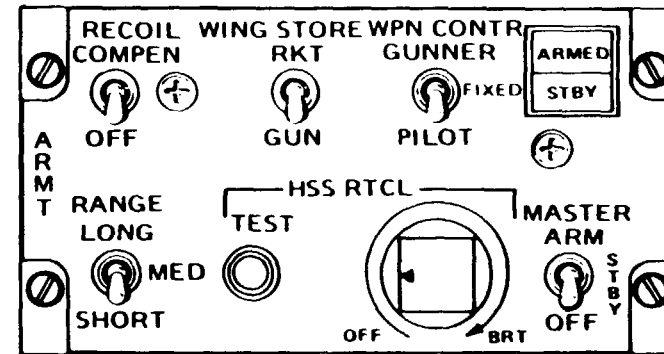
B. TROUBLESHOOTING LOGIC PART TWO.



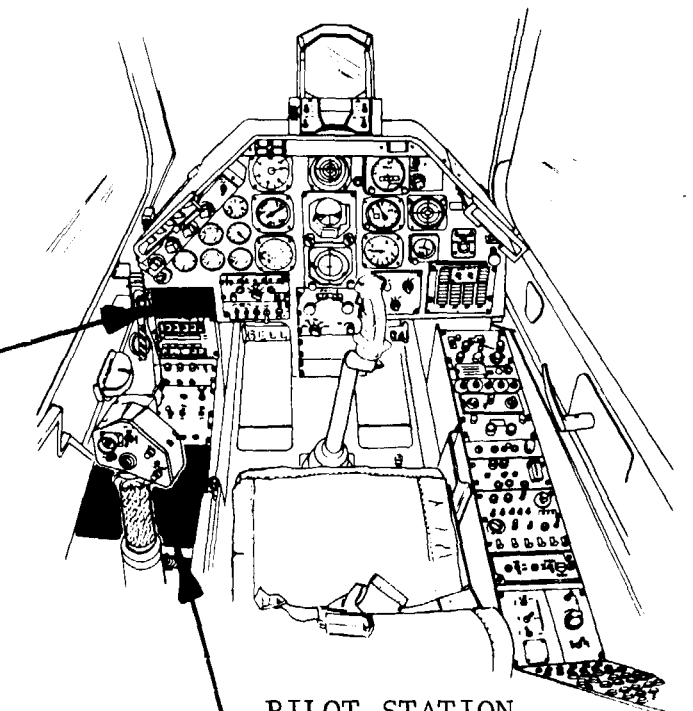
GUNNER STATION



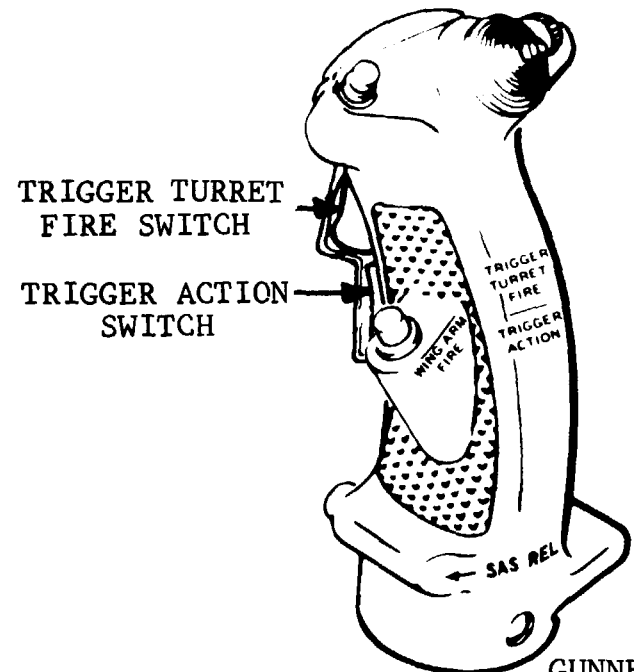
GUNNER ARMAMENT CONTROL PANEL



PILOT ARMAMENT CONTROL PANEL



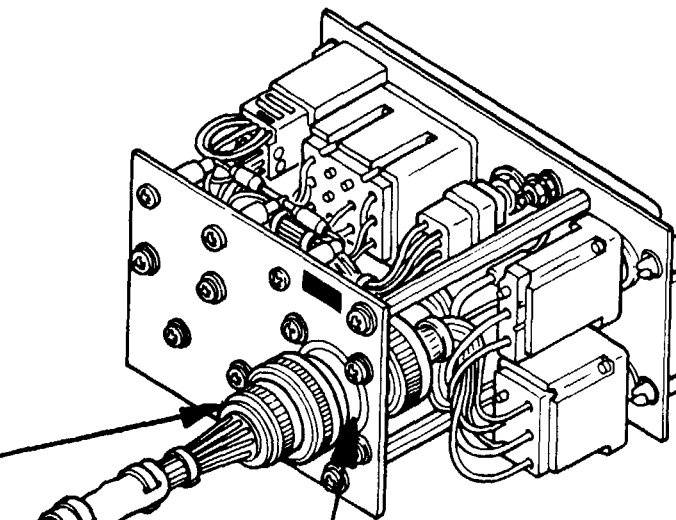
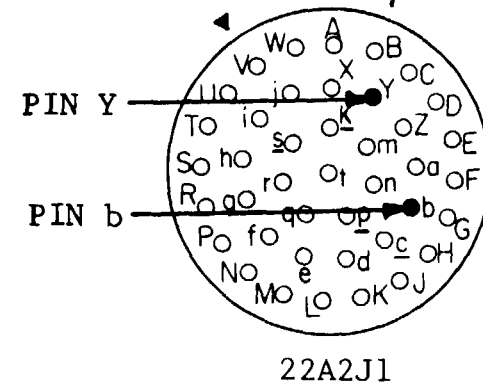
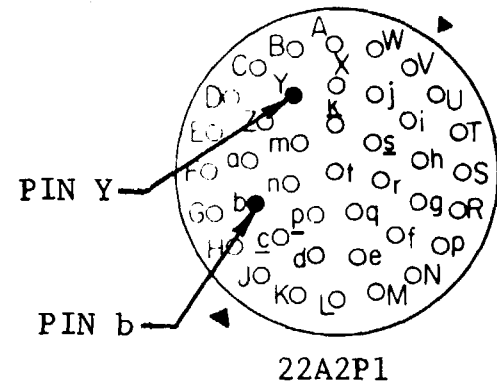
PILOT STATION



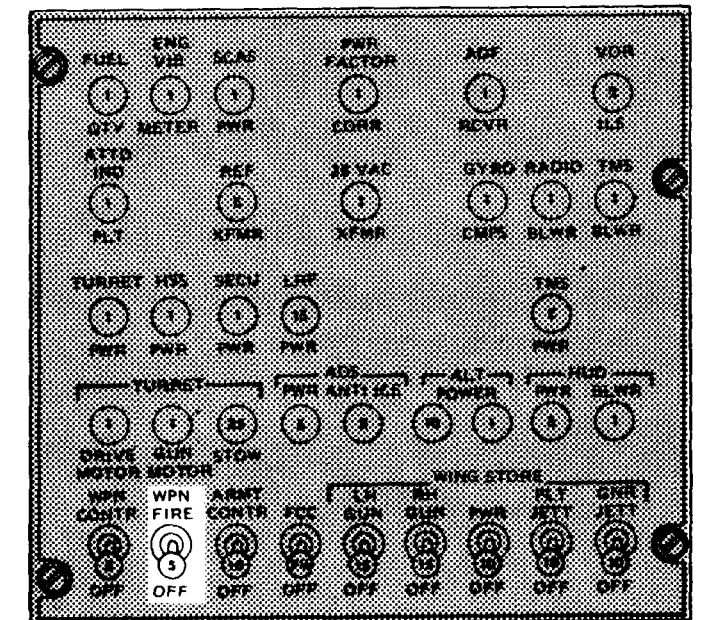
TRIGGER TURRET FIRE SWITCH

TRIGGER ACTION SWITCH

GUNNER CYCLIC STICK



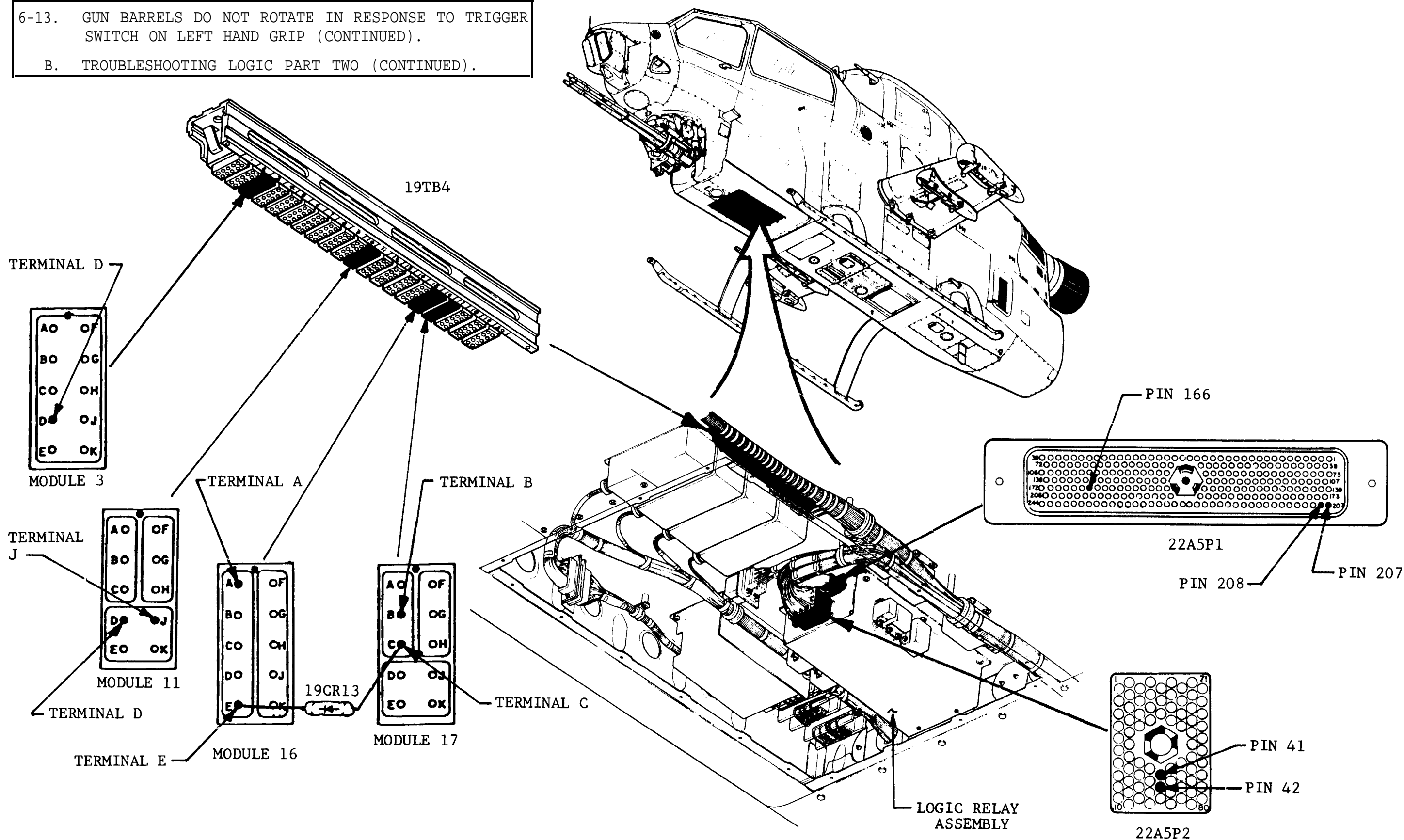
PILOT ARMAMENT CONTROL PANEL (REAR VIEW)



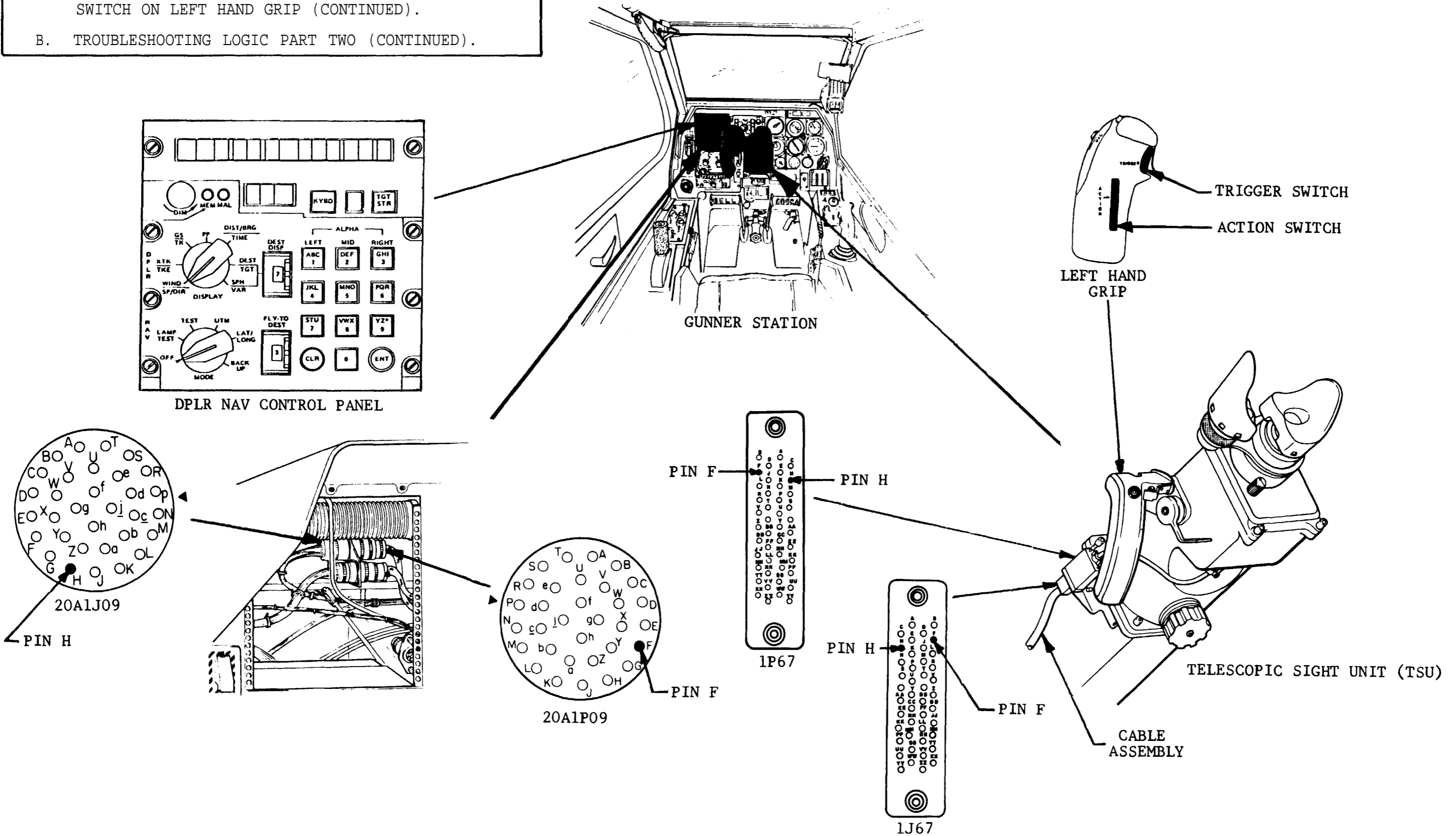
AC/ARMAMENT CIRCUIT BREAKER PANEL

6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).

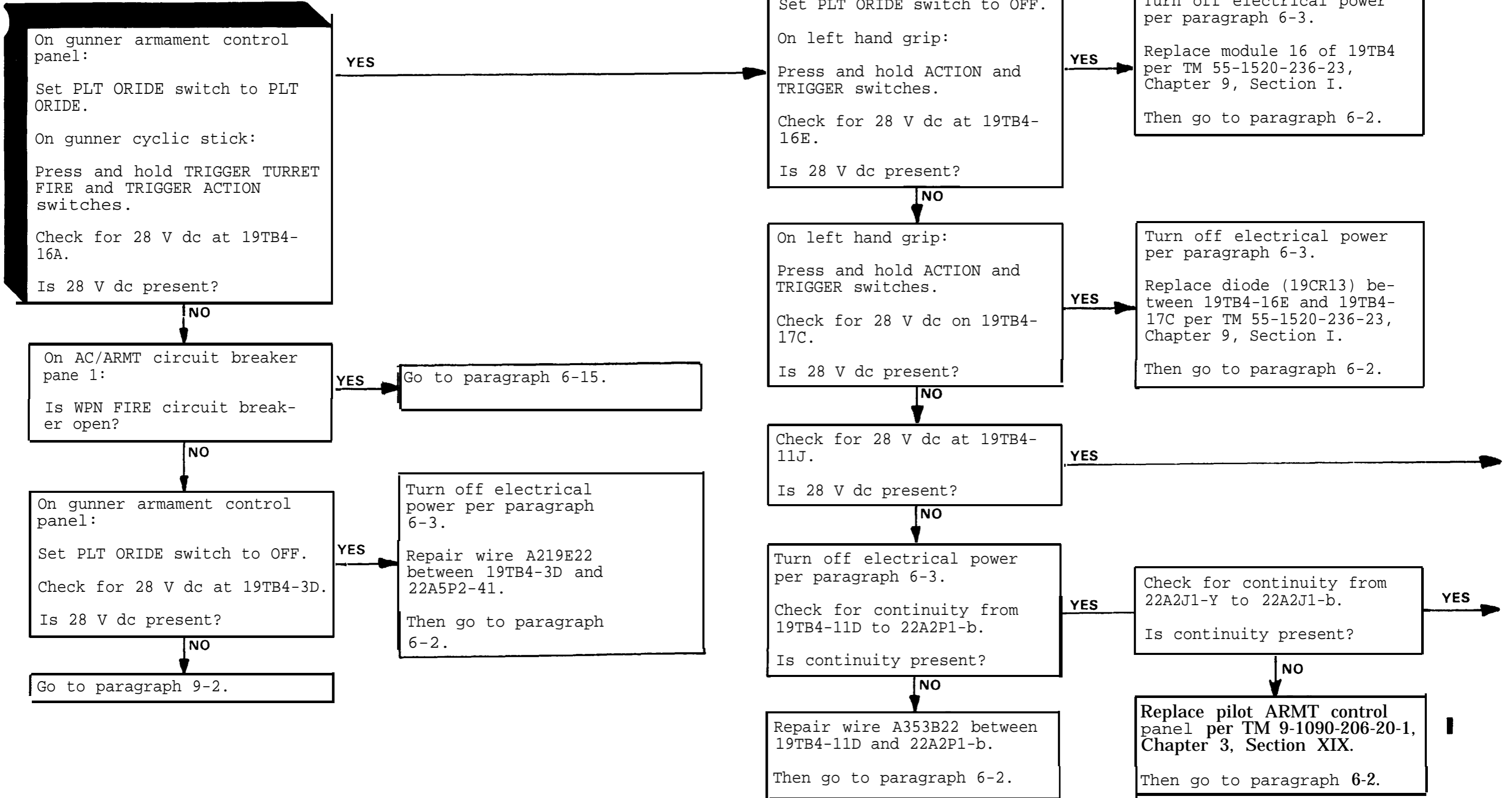
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



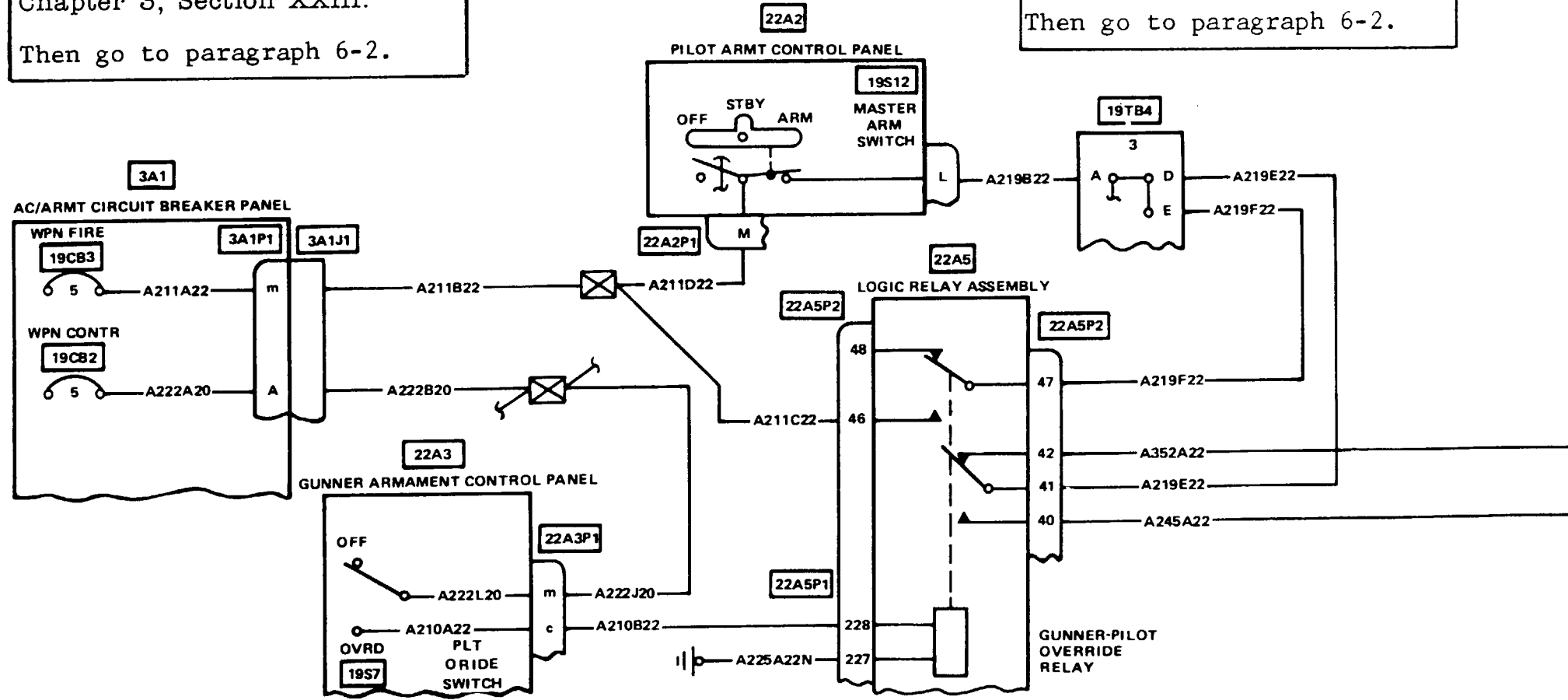
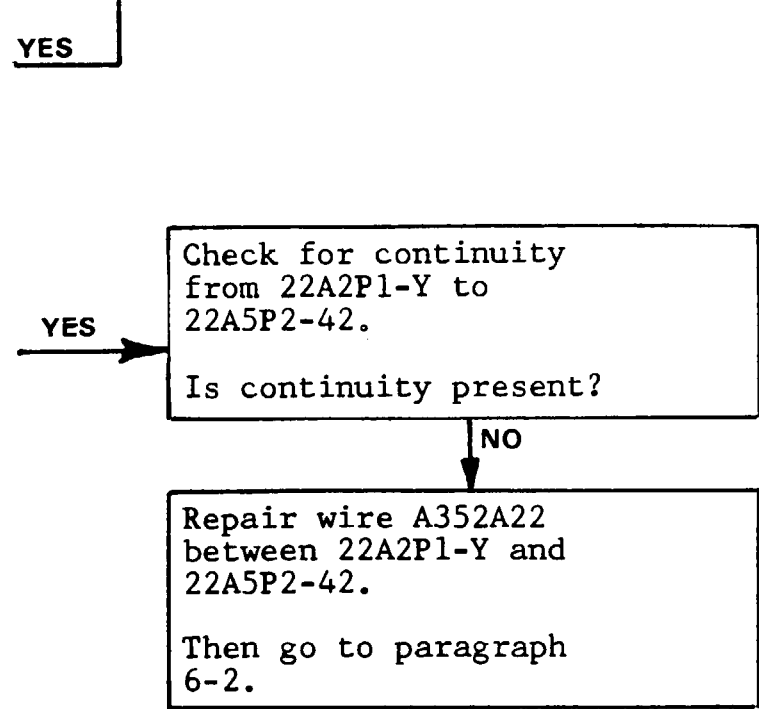
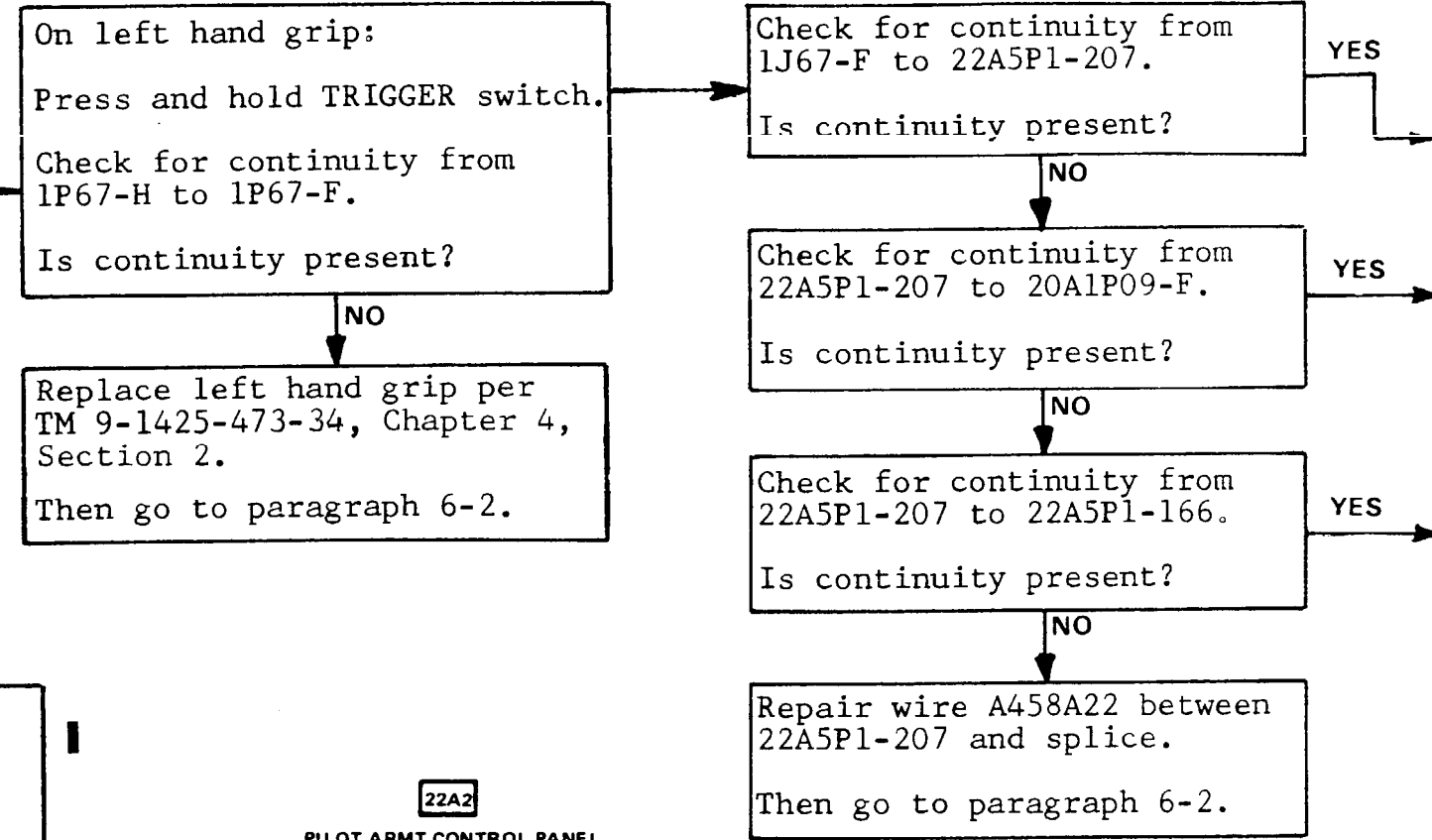
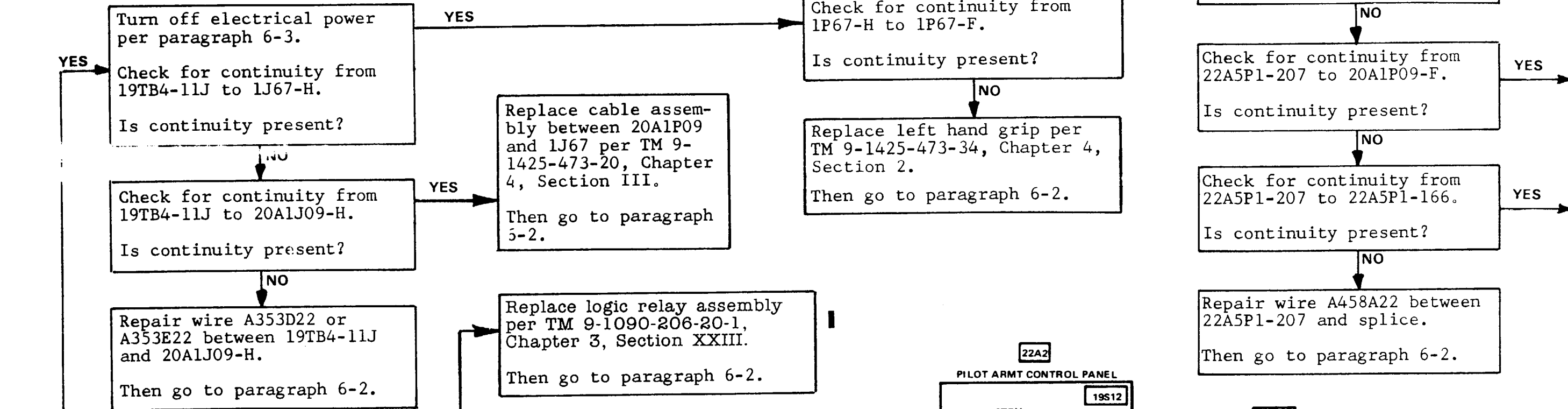
6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-13. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER SWITCH ON LEFT HAND GRIP (CONTINUED).

B. Troubleshooting LOGIC PART TWO (CONTINUED).

YES

YES

YES

Replace cable assembly between 20A1P09 and 1J67 per TM 9-1425-473-20, Chapter 4, Section III.
Then go to paragraph 6-2.

Repair wire A458C22 between 20A1P09-F and splice.
Then go to paragraph 6-2.

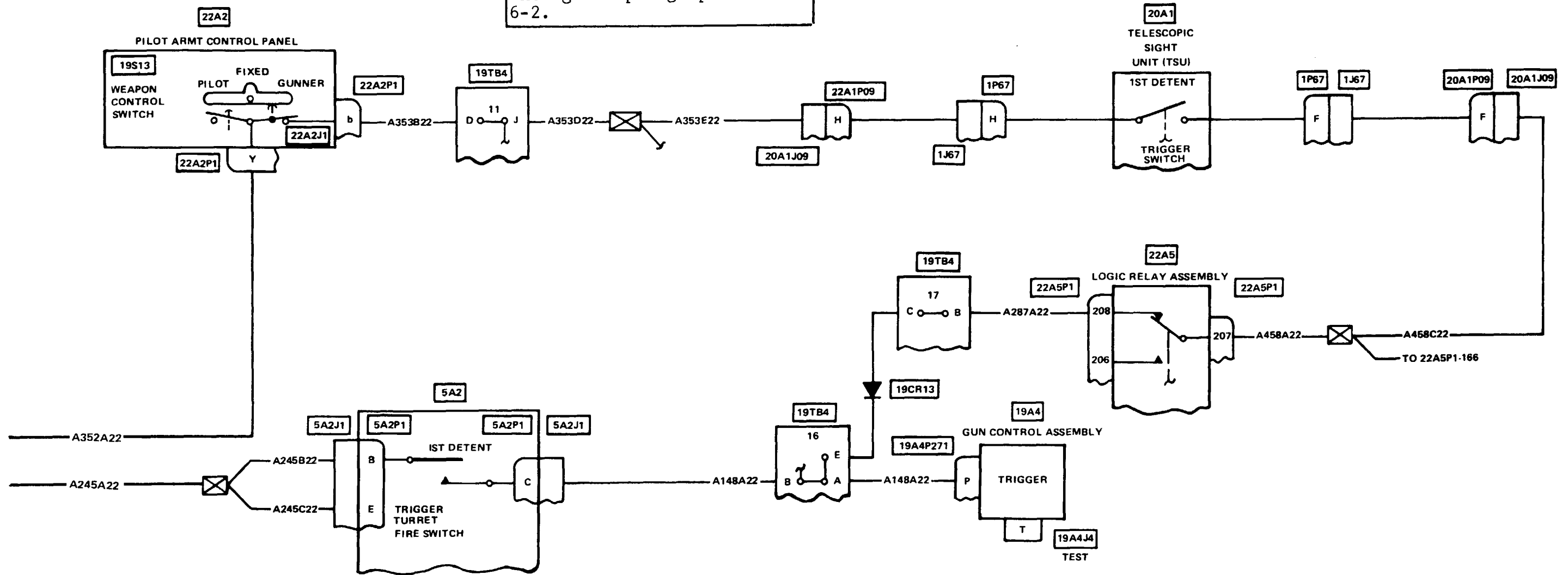
Check for continuity from 22A5P1-207 to 22A5P1-208.
Is continuity present?

YES

Repair wire A287A22 between 22A5P1-208 and 19TB4-17B.
Then go to paragraph 6-2.

NO

Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXIII.
Then go to paragraph 6-2.



6-14. GUN BARREL ROTATES CONTINUOUSLY WHEN TRIGGER SWITCH IS PRESSED TO FIRST DETENT.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

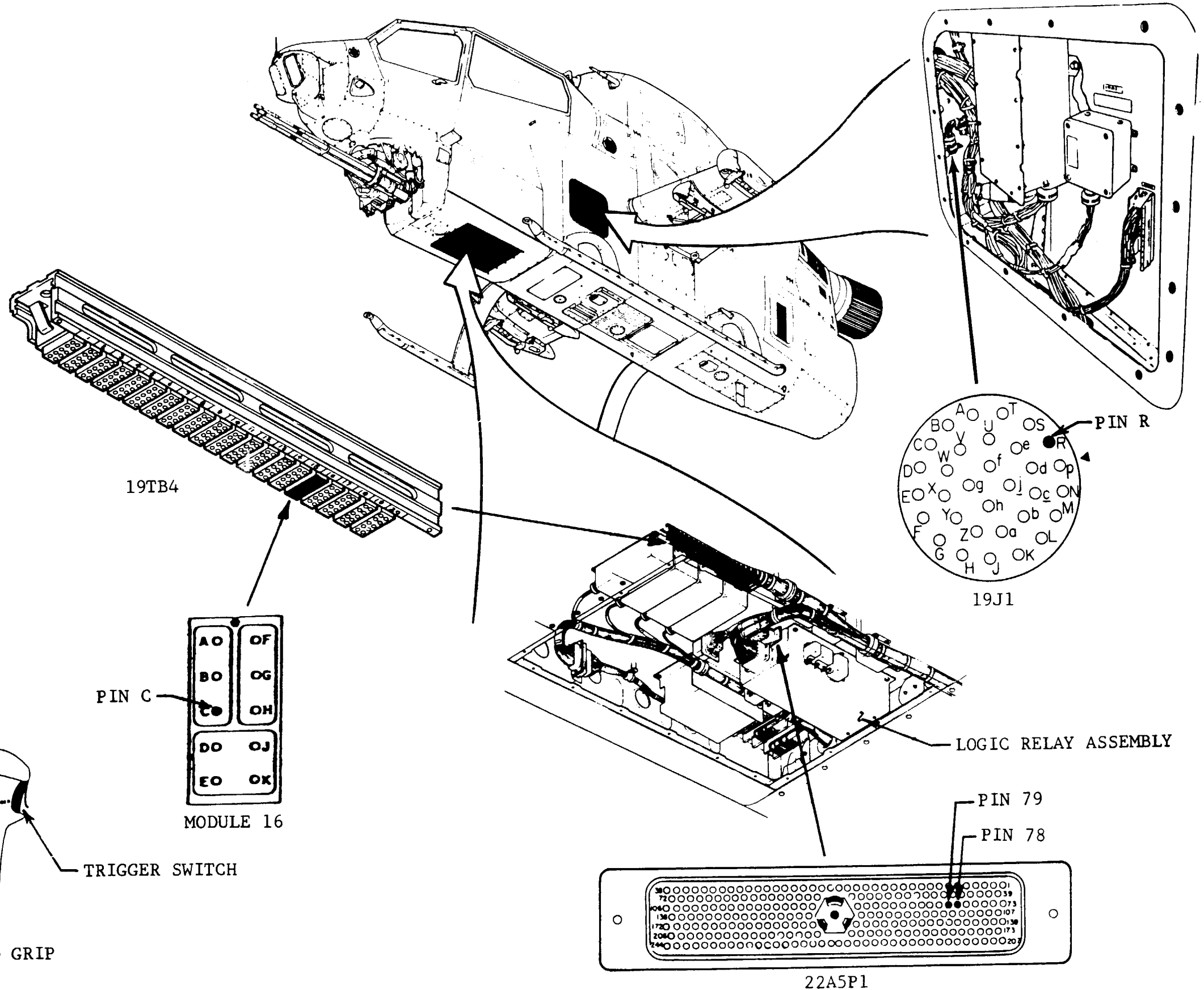
Personnel Required
68J (2)

References

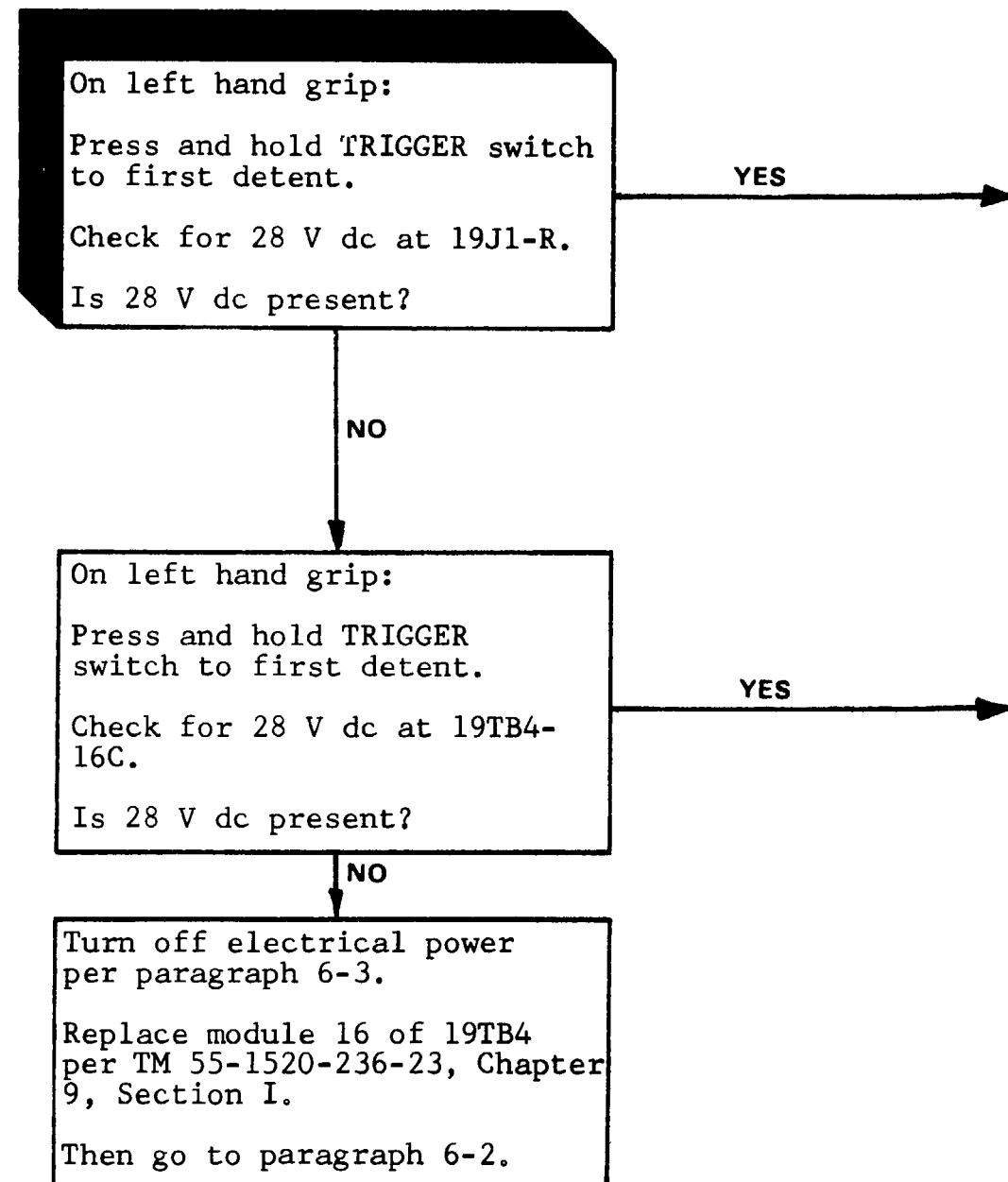
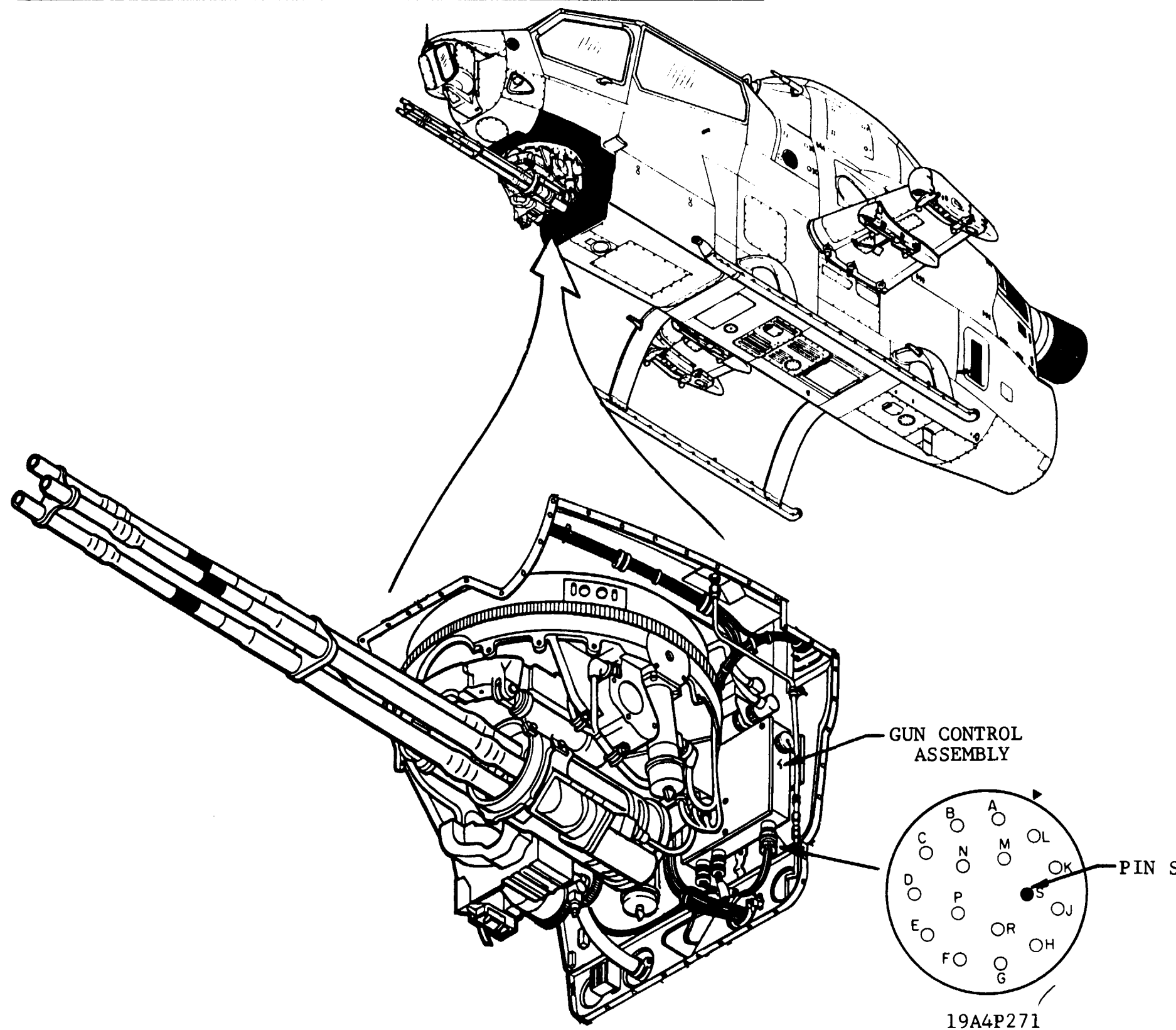
- TM 9-1090-206-20-1
- TM 55-1520-236-23

Access Panels

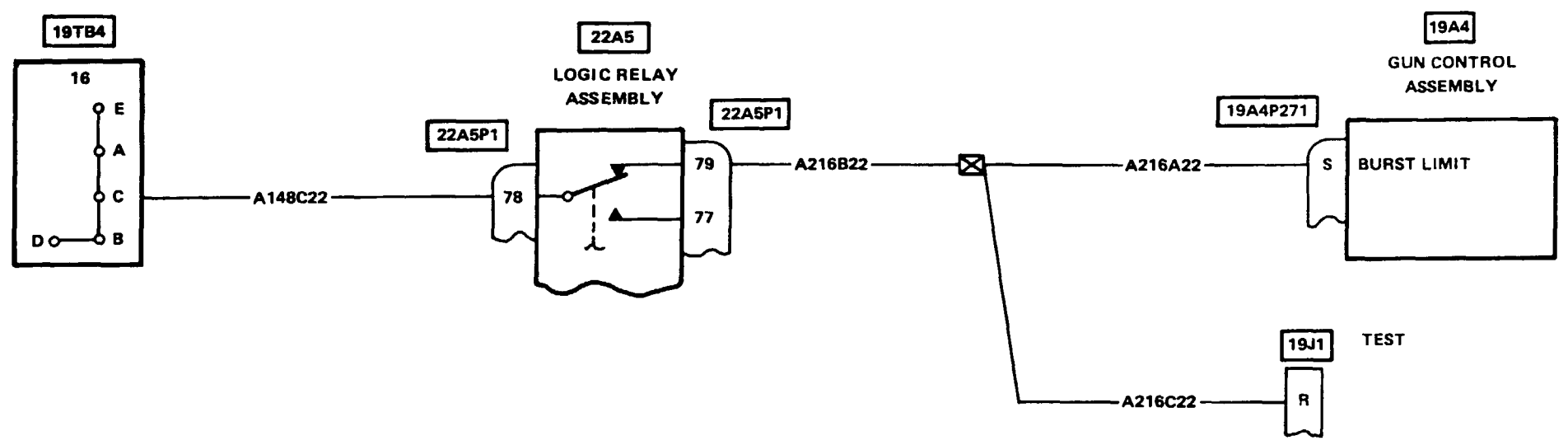
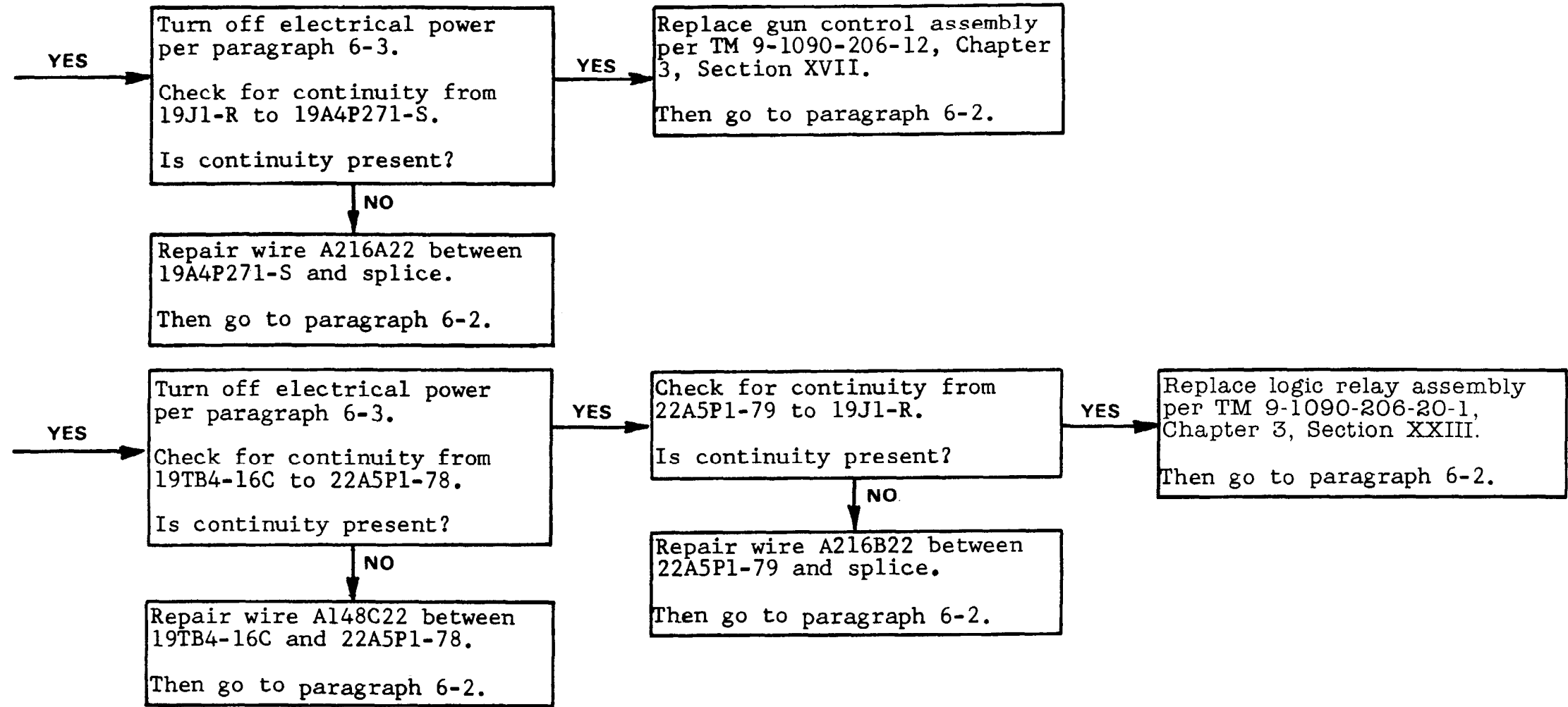
- Forward Belly Armament and Lighting - Removed
- Turret Fairing - Removed
- Logic Control - Removed



6-14. GUN BARREL ROTATES CONTINUOUSLY WHEN TRIGGER SWITCH IS PRESSED TO FIRST DETENT (CONTINUED).



6-14. GUN BARREL ROTATES CONTINUOUSLY WHEN TRIGGER SWITCH IS PRESSED TO FIRST DETENT (CONTINUED).



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6-15. PRESSING TRIGGER SWITCH TO FIRST DETENT OPENS WPN FIRE CIRCUIT BREAKER.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

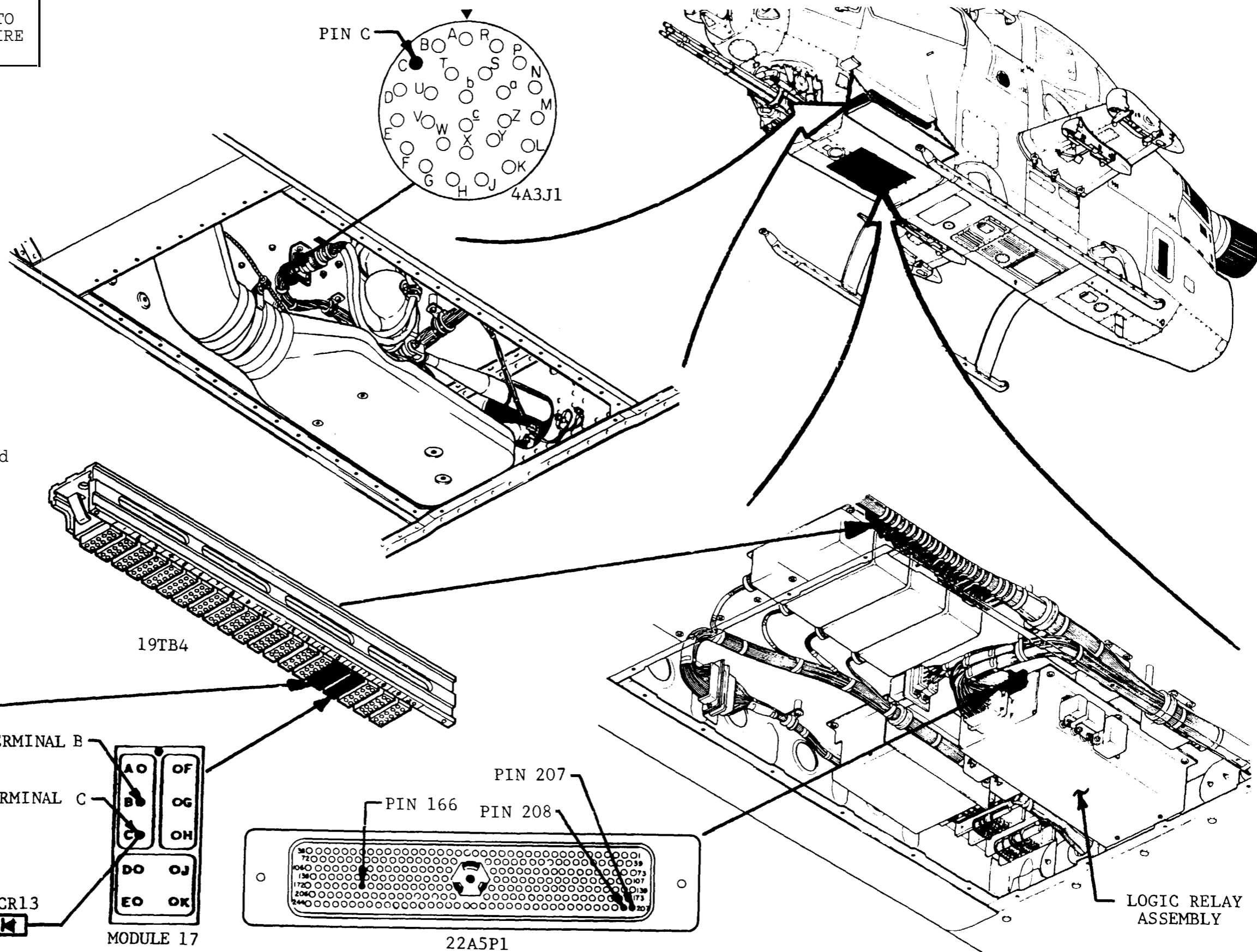
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

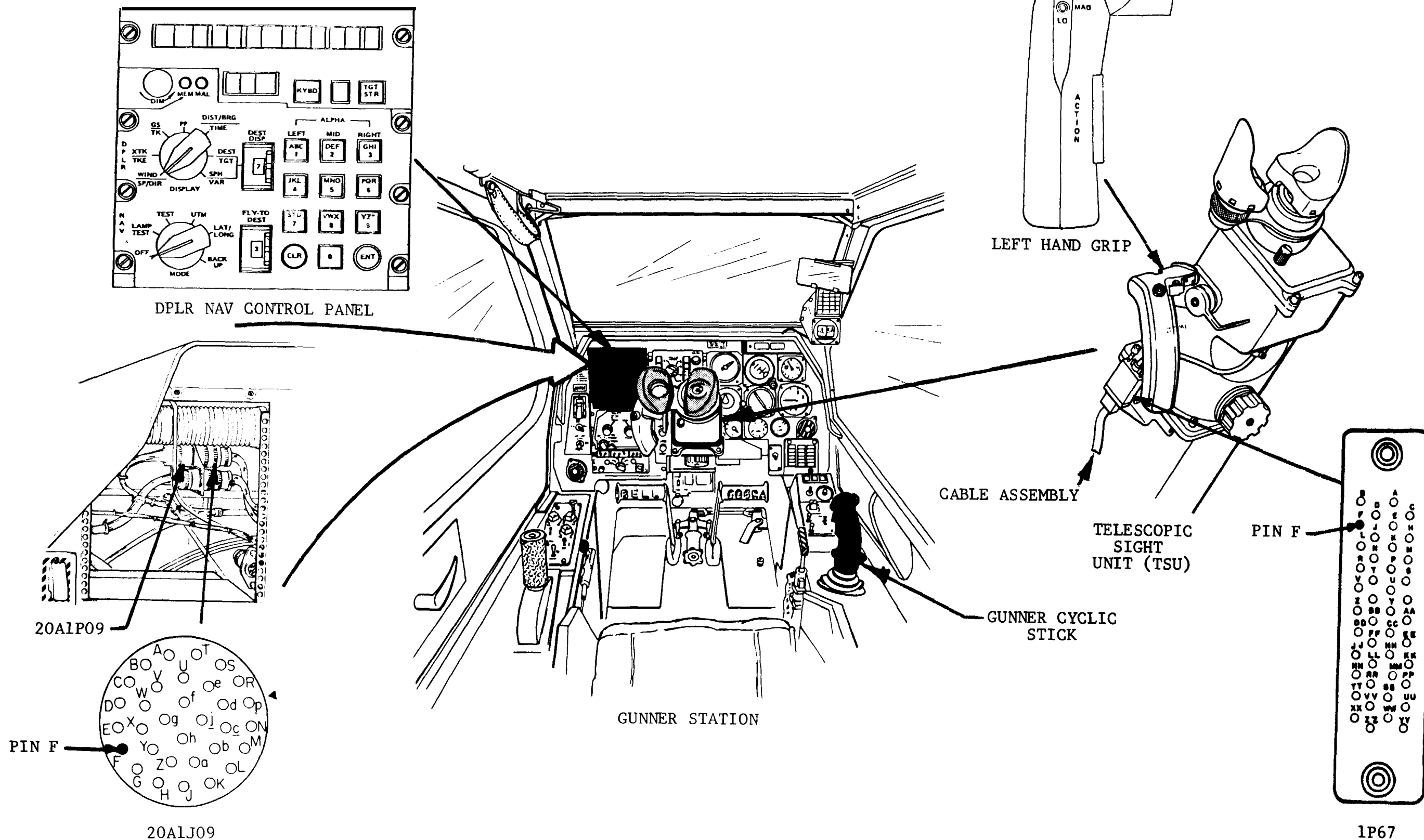
References
TM 9-1090-206-20-1
TM 9-1425-473-34
TM 55-1520-236-23

Access Panels
Forward Belly Armament and Lighting - Removed
Right Forward Control Linkage - Removed
Left Ammo Compartment - Opened
Upper Ammo Compartment Door - Open

A. TROUBLESHOOTING LOGIC PART ONE.

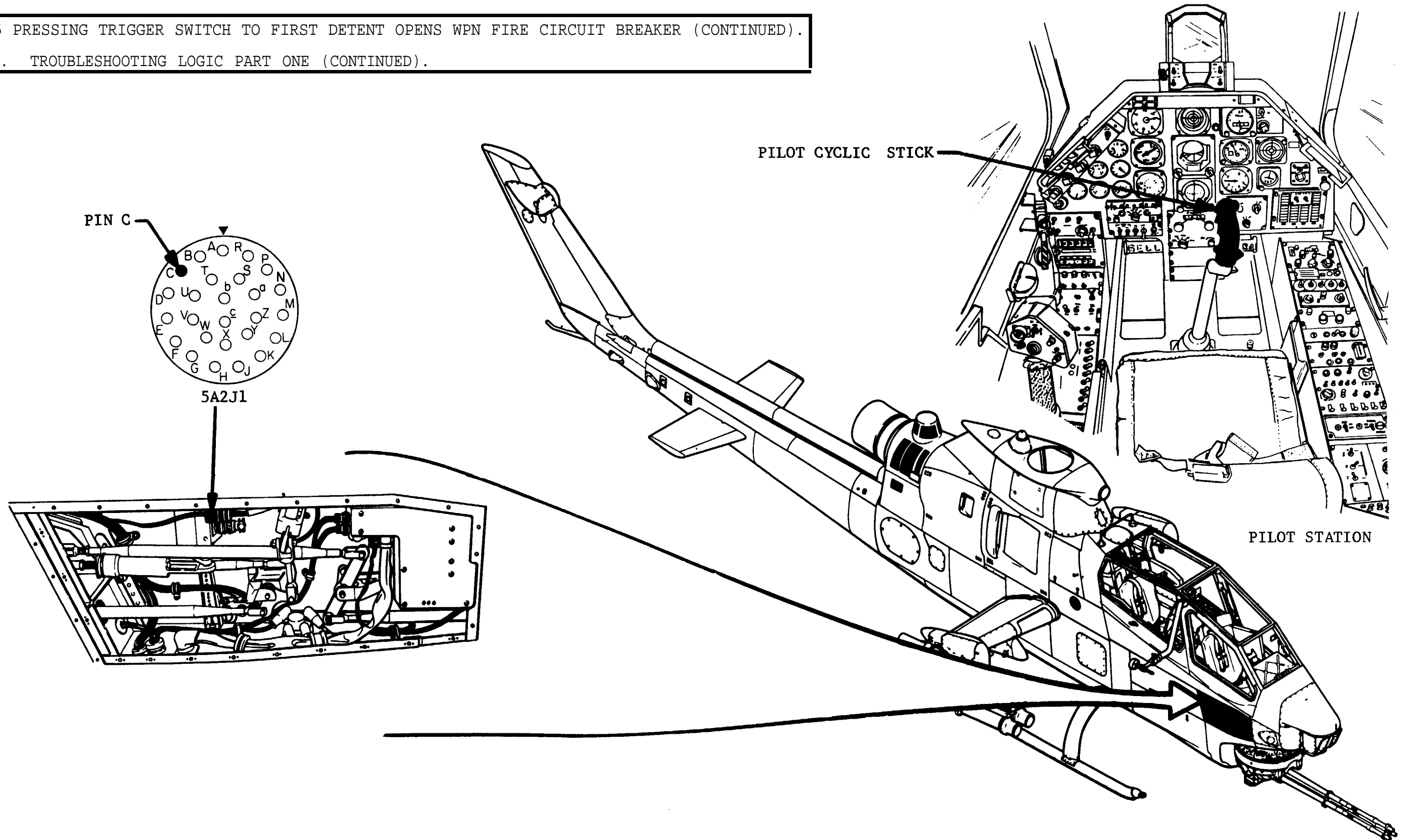


6-15. PRESSING TRIGGER SWITCH TO FIRST DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



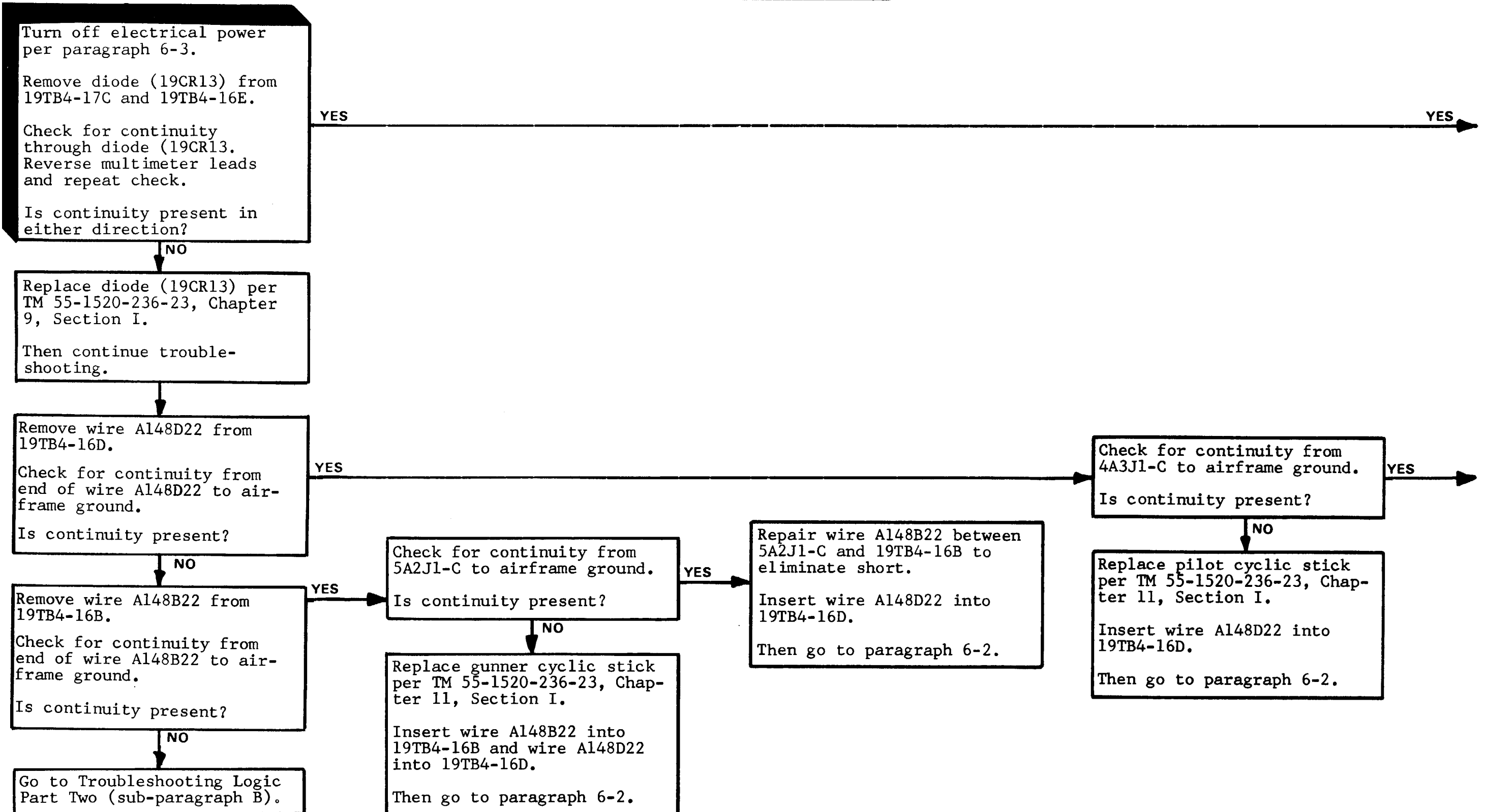
6-15 PRESSING TRIGGER SWITCH TO FIRST DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



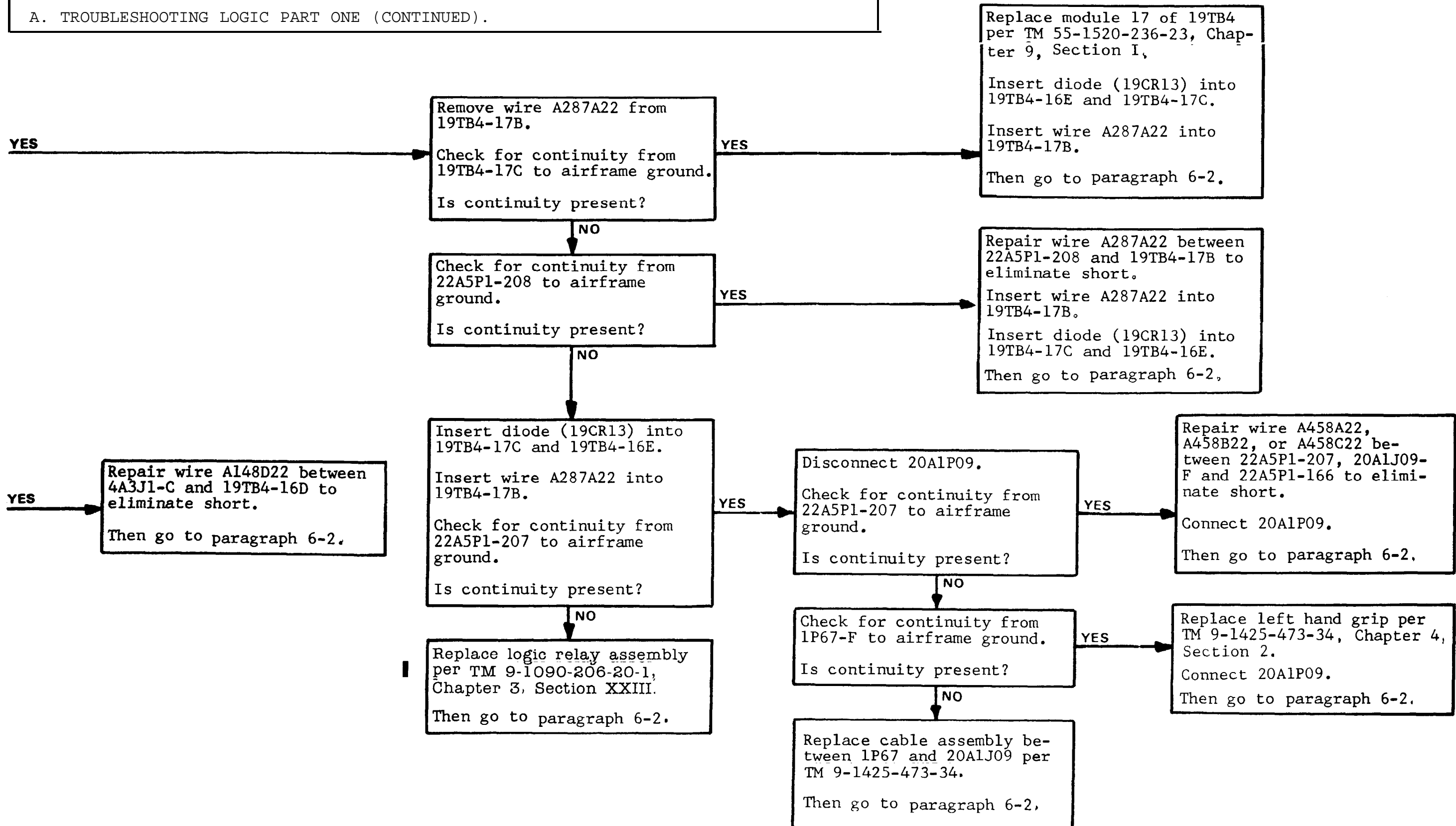
6-15. PRESSING TRIGGER SWITCH TO FIRST DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



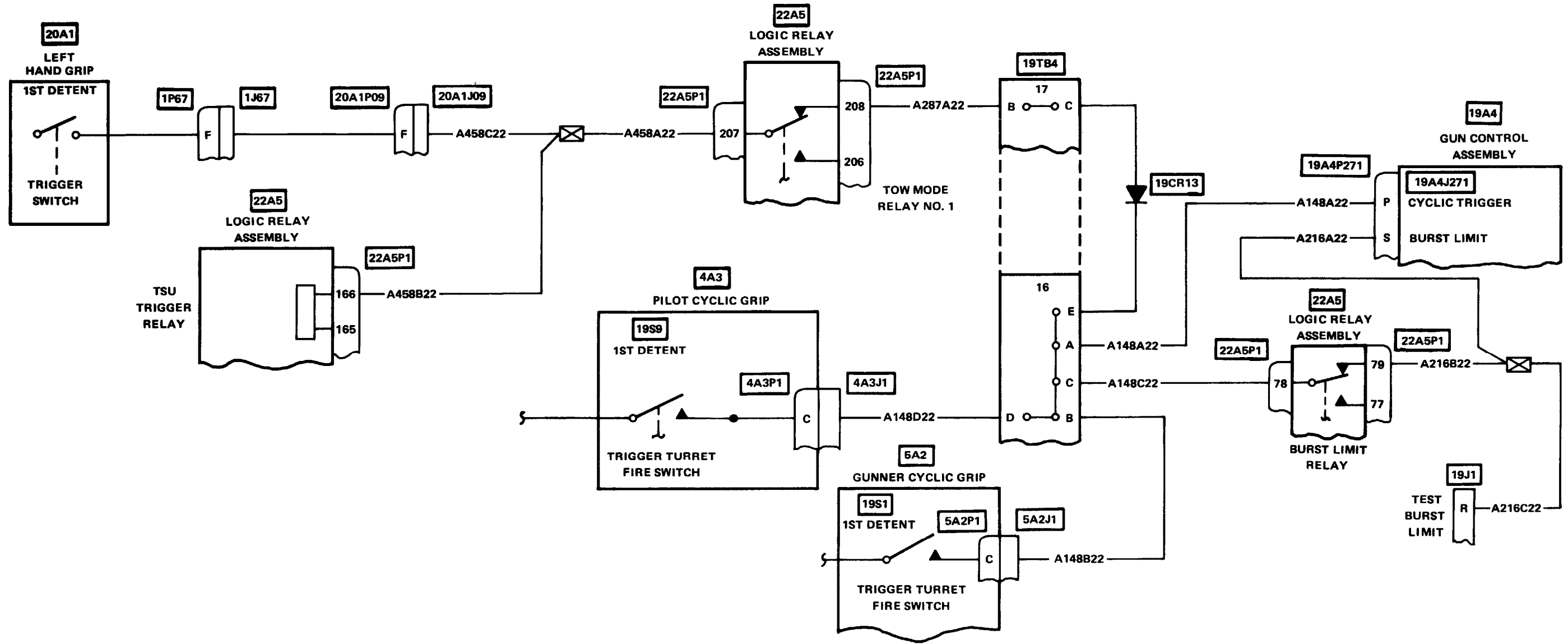
6-15. PRESSING TRIGGER SWITCH TO FIRST DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



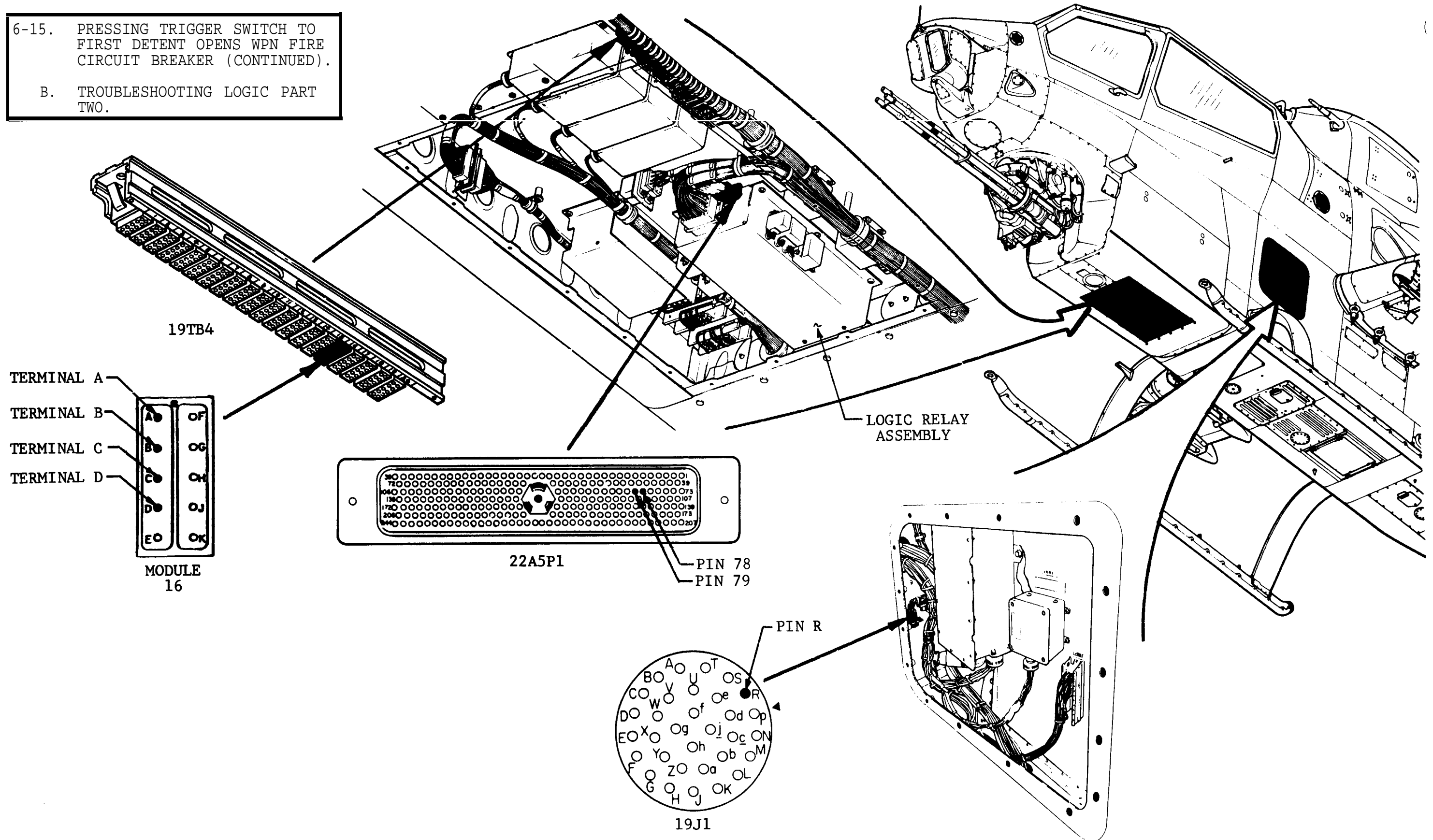
6-15. PRESSING TRIGGER SWITCH TO FIRST DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ON (CONTINUED).

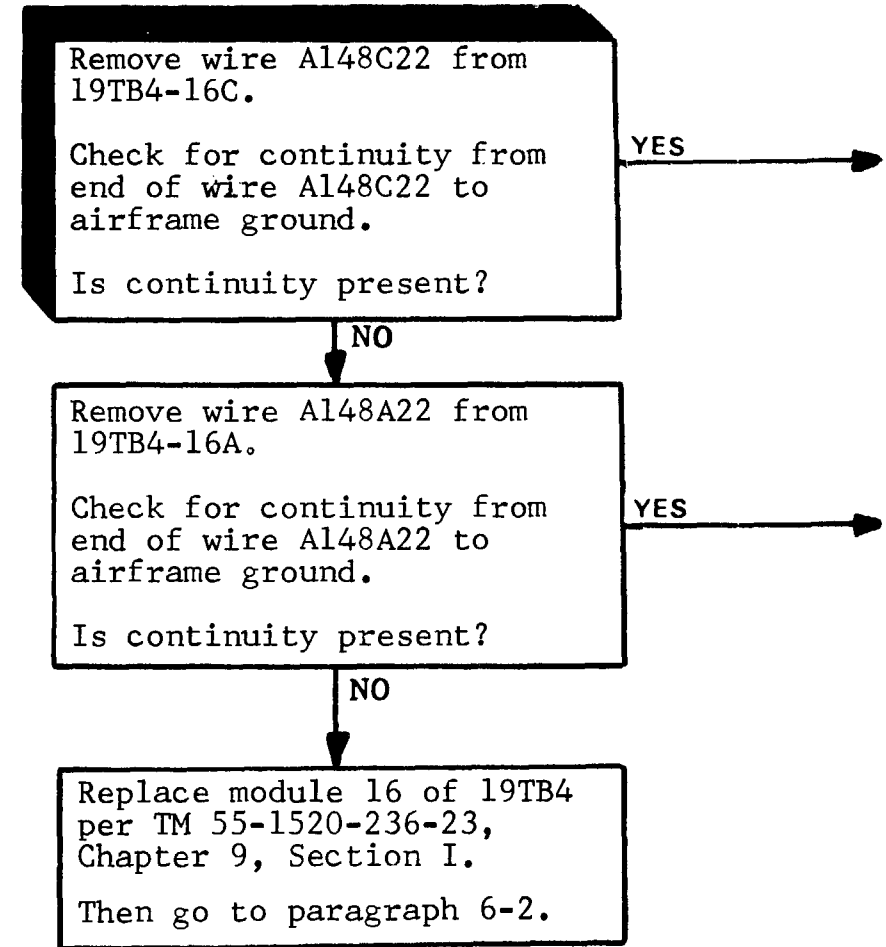
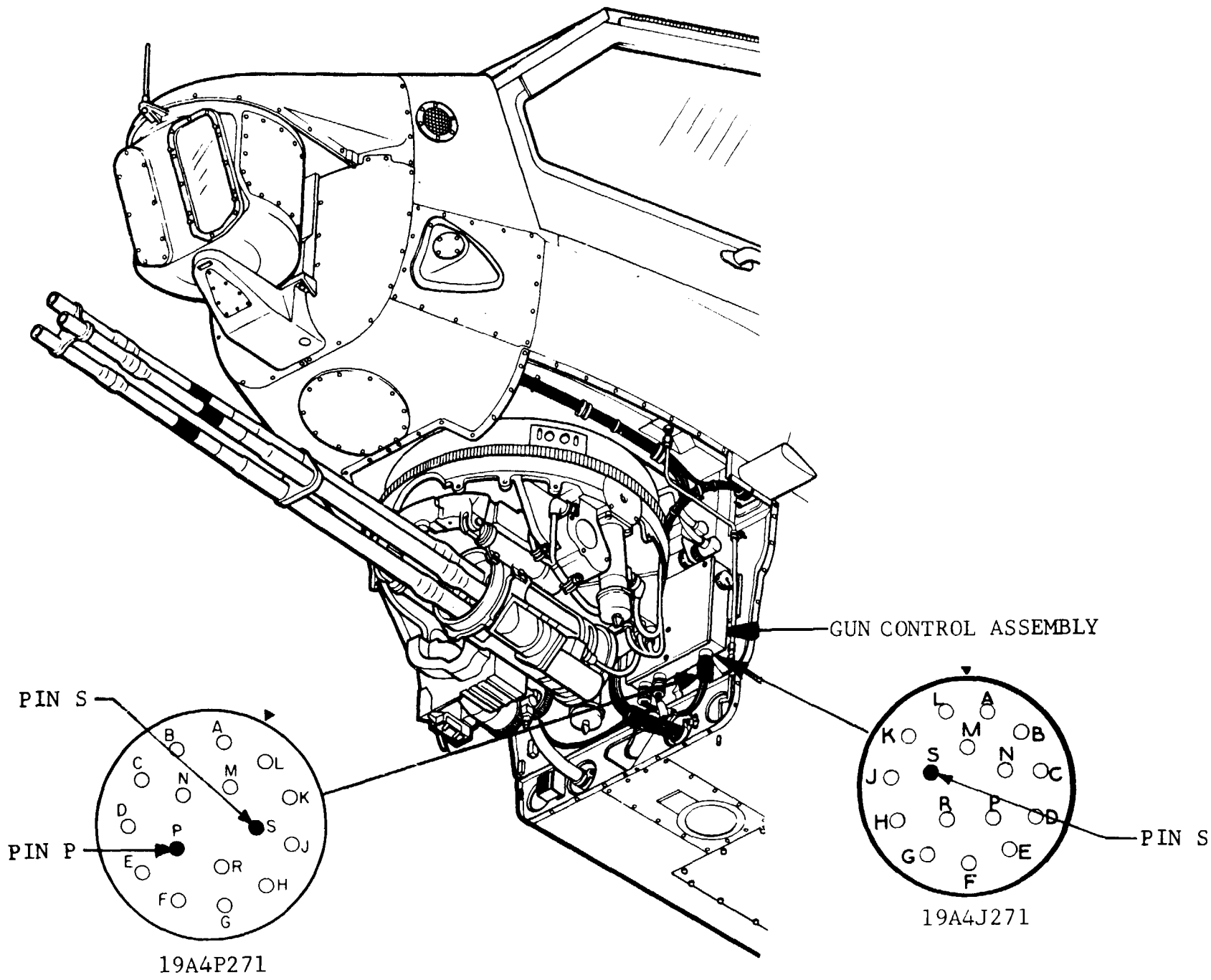


6-15. PRESSING TRIGGER SWITCH TO FIRST DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO.

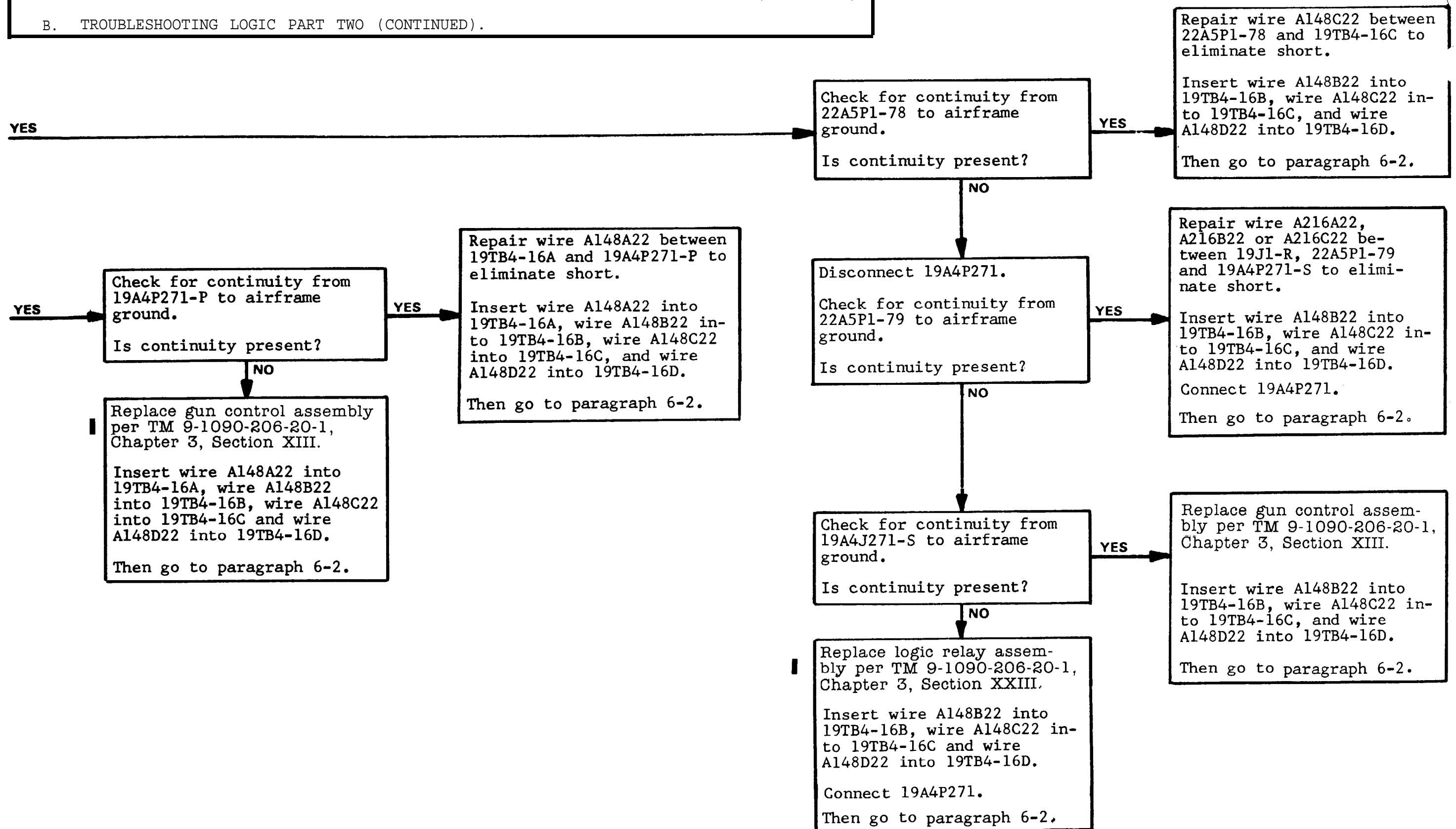


6-15. PRESSING TRIGGER SWITCH TO FIRST DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



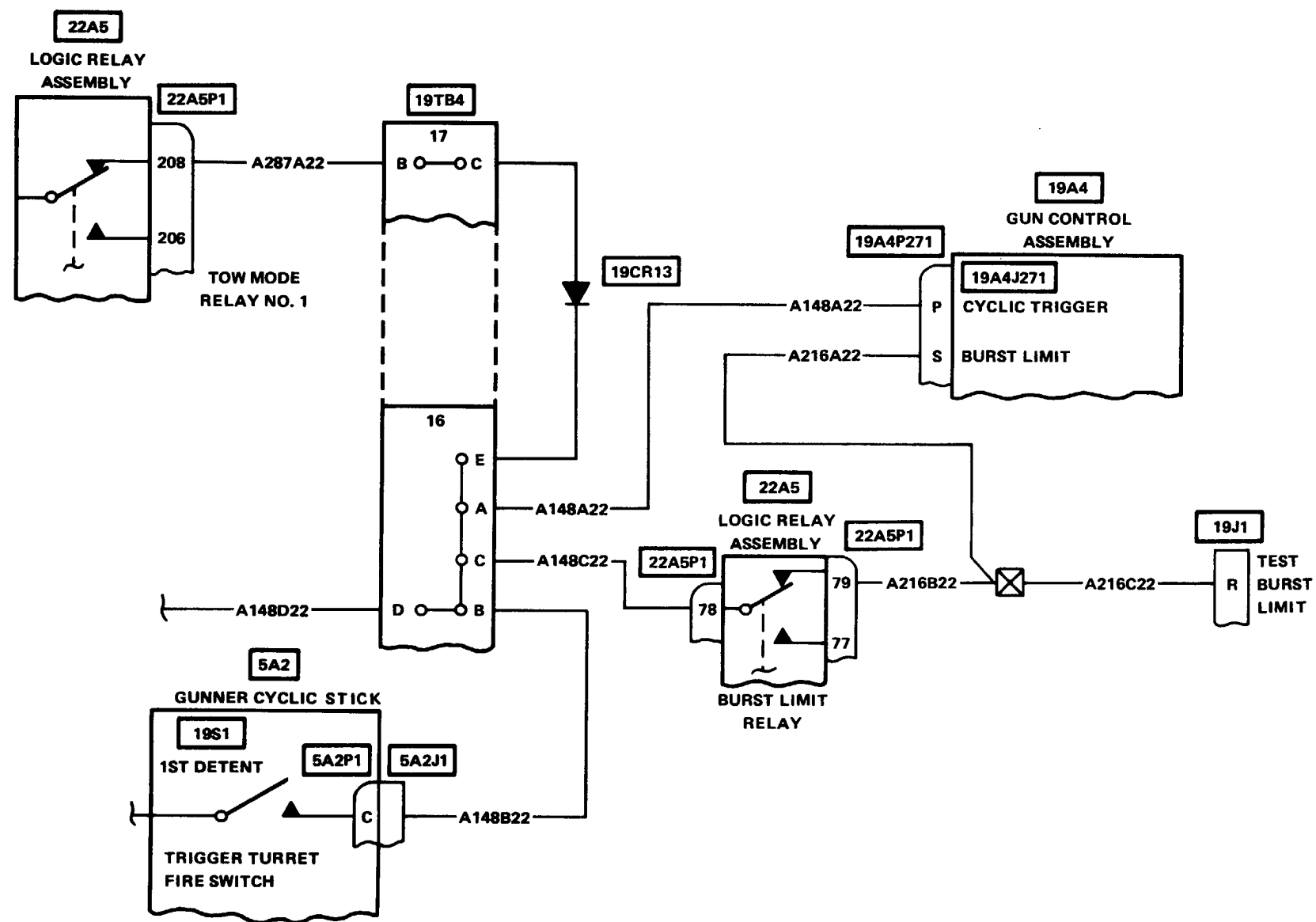
6-15. PRESSING TRIGGER SWITCH TO FIRST DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



16-15. PRESSING TRIGGER SWITCH TO FIRST DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-16. PRESSING TRIGGER SWITCH TO SECOND DETENT OPENS WPN FIRE CIRCUIT BREAKER.

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

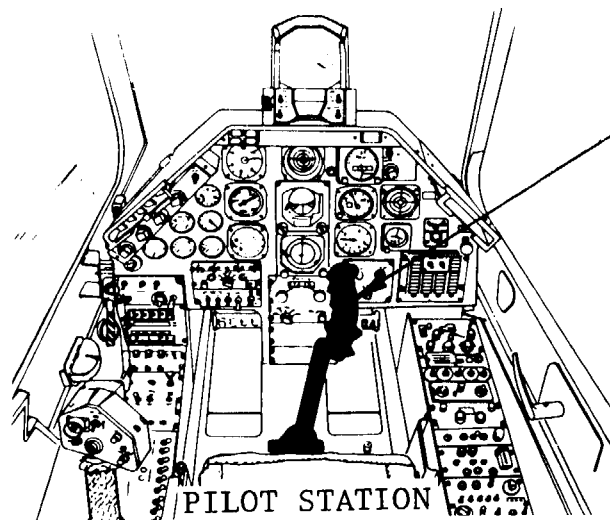
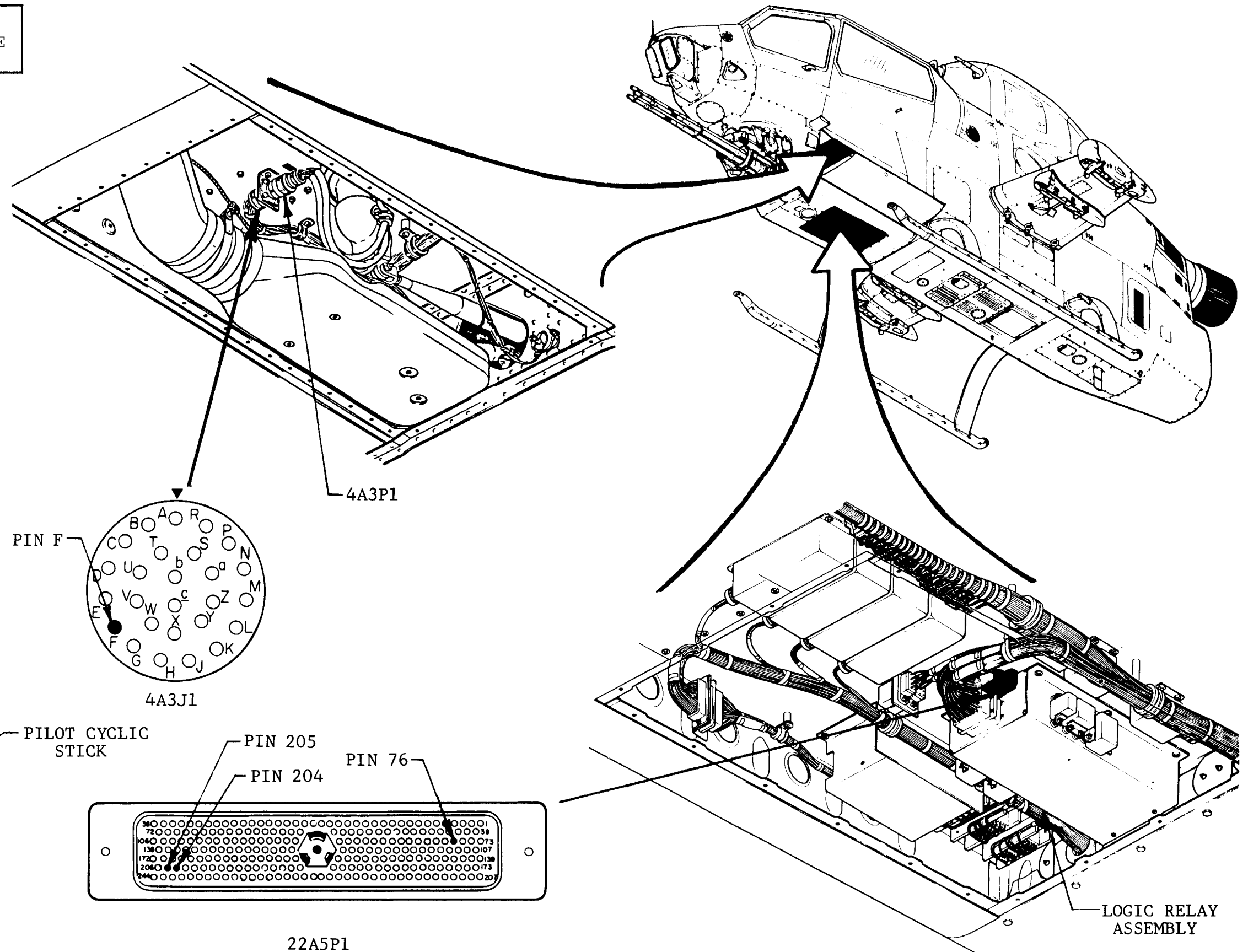
Access Panels

Forward Belly Armament and Lighting - Removed

Ammo Compartment Door - Opened

Upper Ammo Compartment - Removed

Forward Right Side Control Linkage - Removed



PILOT CYCLIC STICK

PIN 205

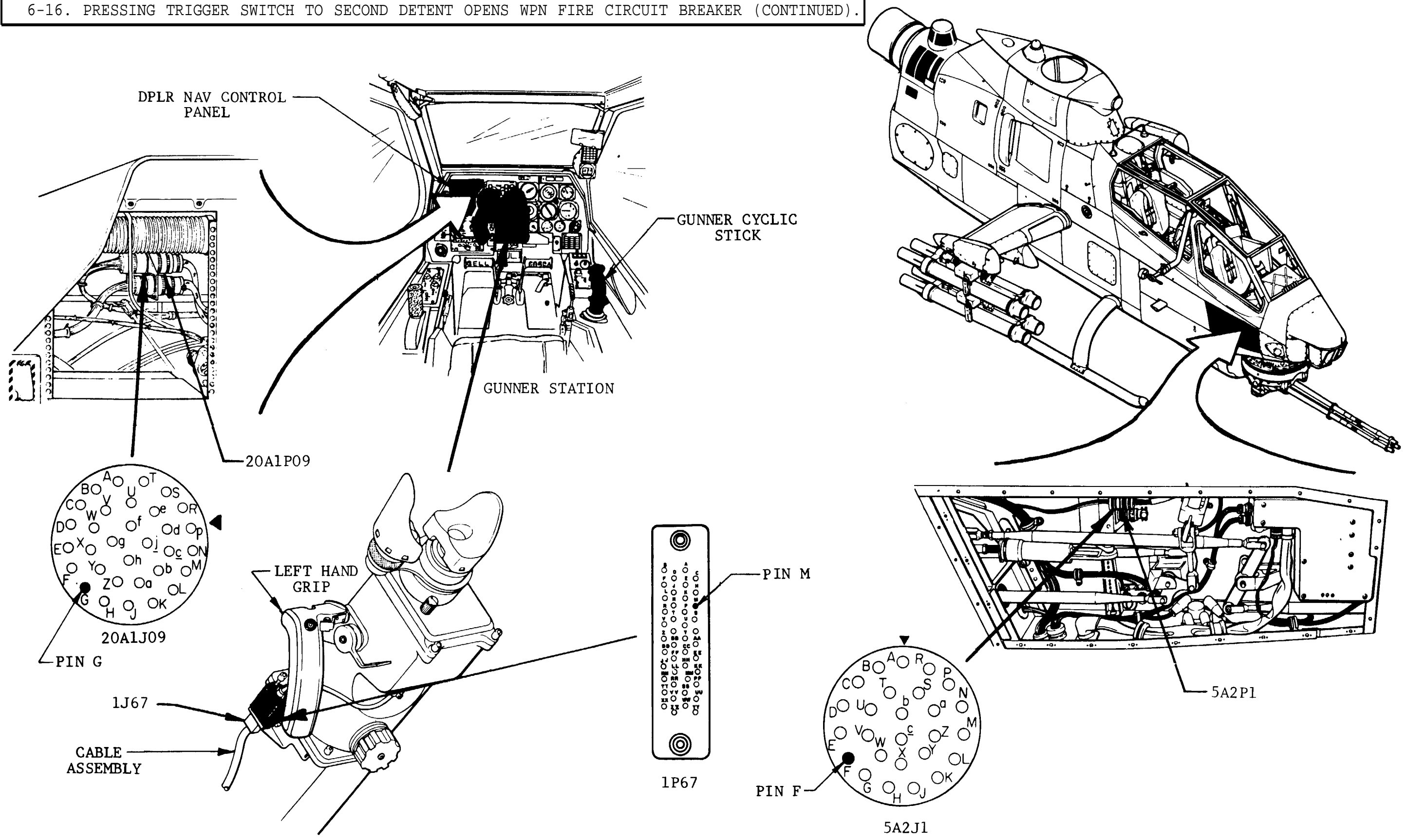
PIN 204

PIN 76

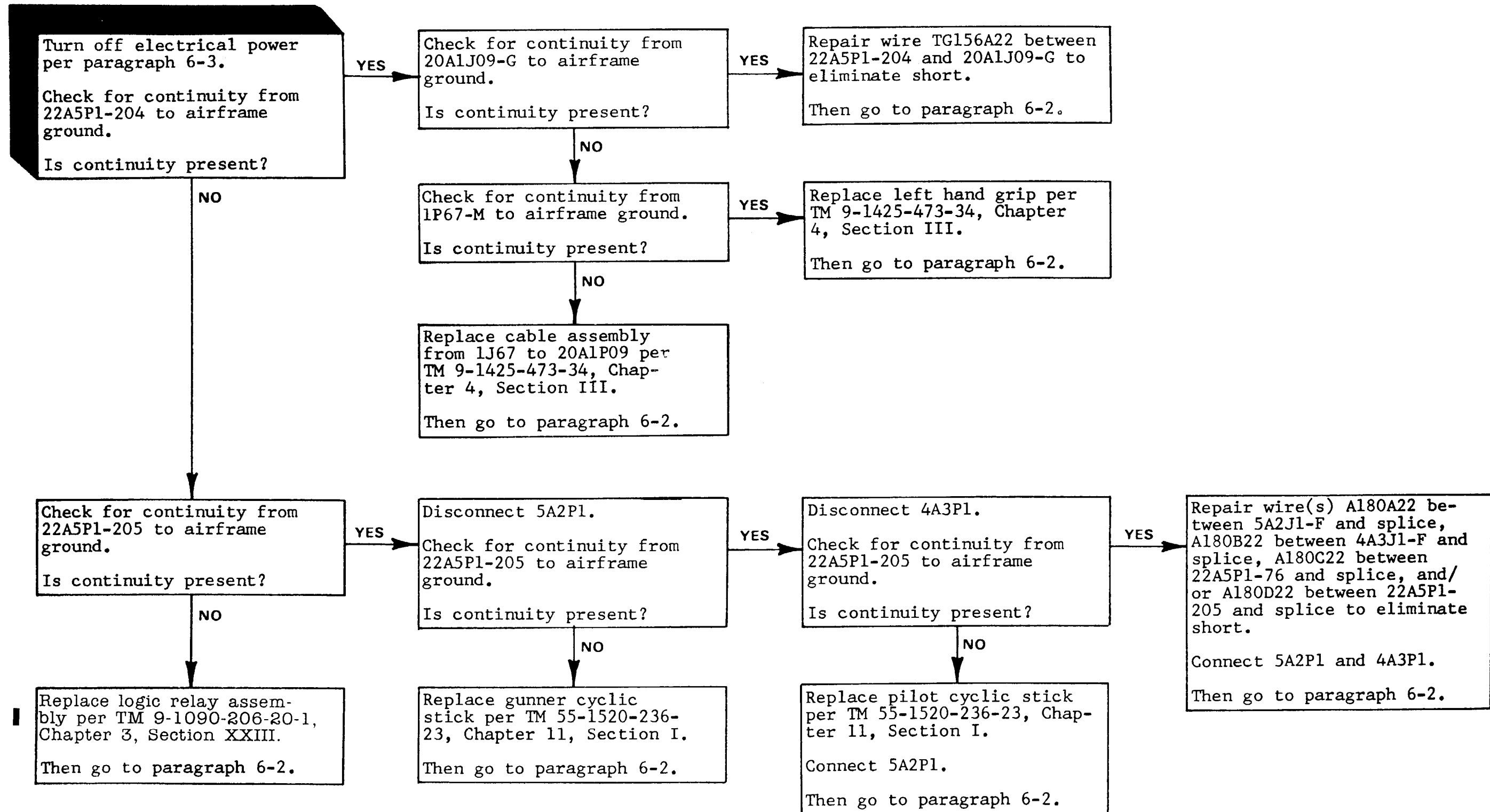
22A5P1

LOGIC RELAY ASSEMBLY

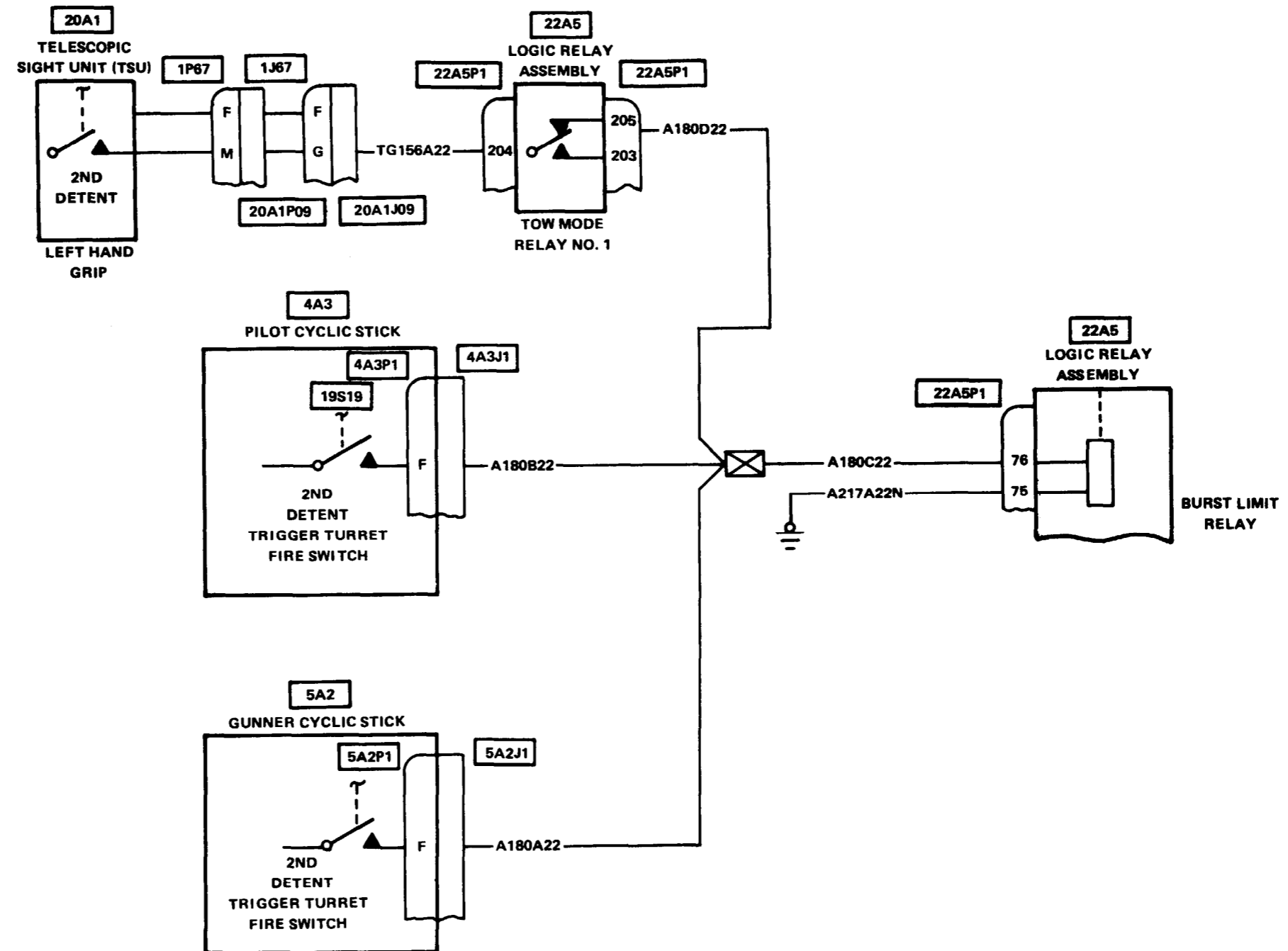
6-16. PRESSING TRIGGER SWITCH TO SECOND DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).



6-16. PRESSING TRIGGER SWITCH TO SECOND DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).



6-16. PRESSING TRIGGER SWITCH TO SECOND DETENT OPENS WPN FIRE CIRCUIT BREAKER (CONTINUED).



6-17. TURRET HAS NO CONTROL;
DRIFTS IN BOTH AZIMUTH
AND ELEVATION.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

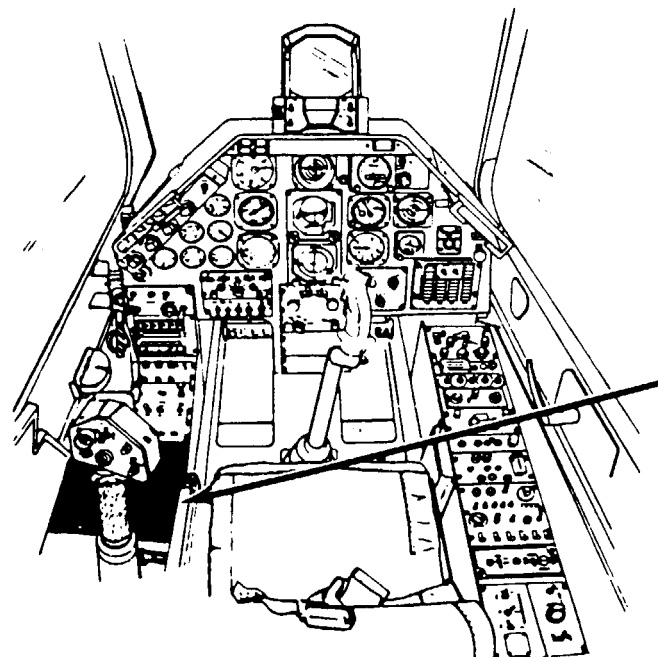
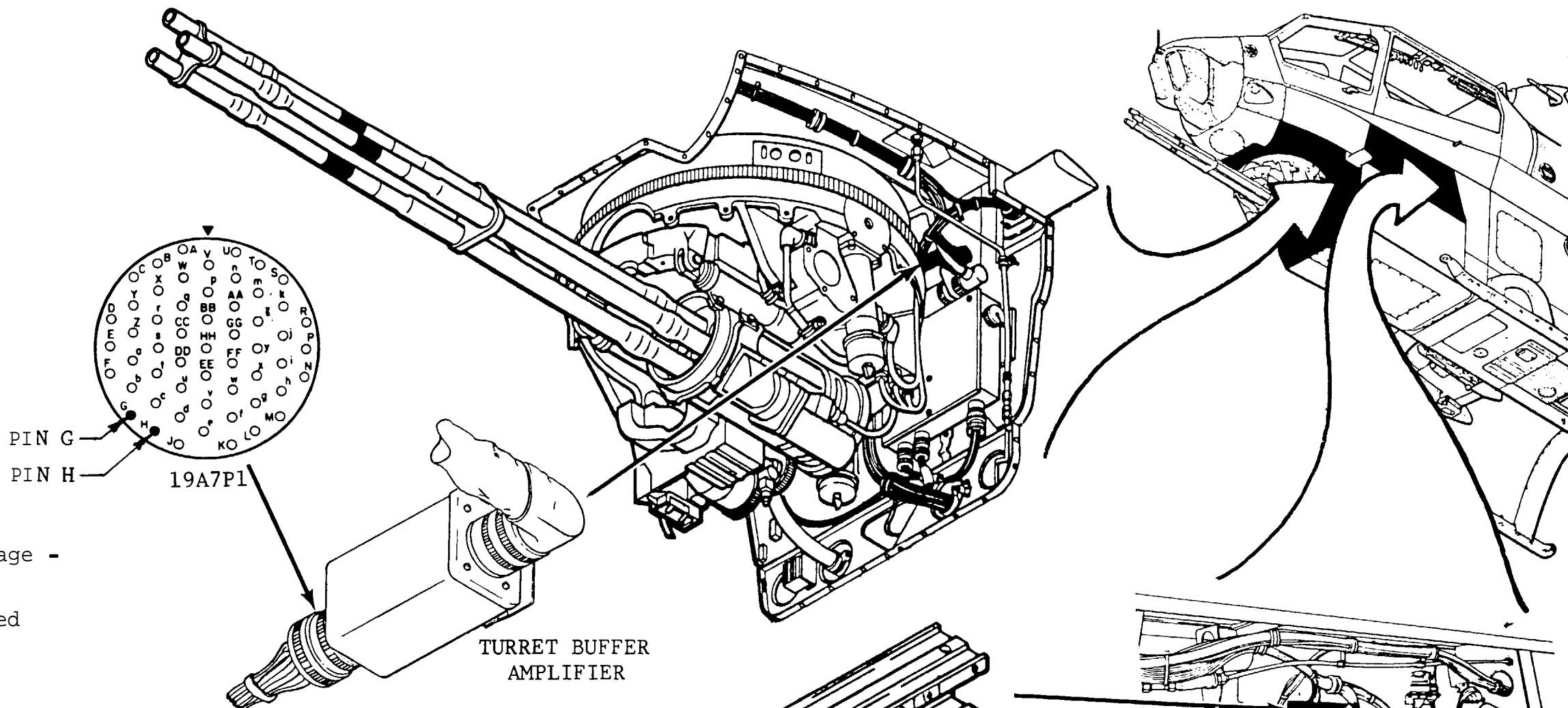
Tool Set, A/C Armament
Repairman

Personnel Required
68J (1)

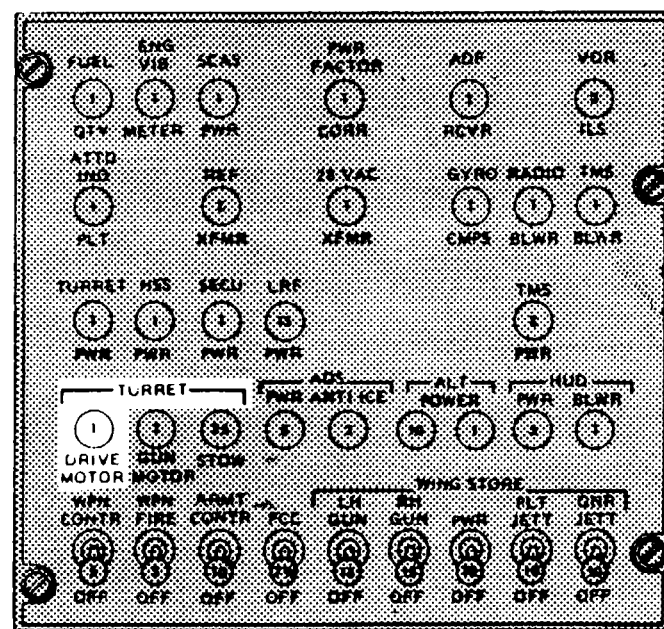
References
TM 9-1090-206-20-1
TM 55-1520-236-23

Access Panels
Left Side Control Linkage -
Removed

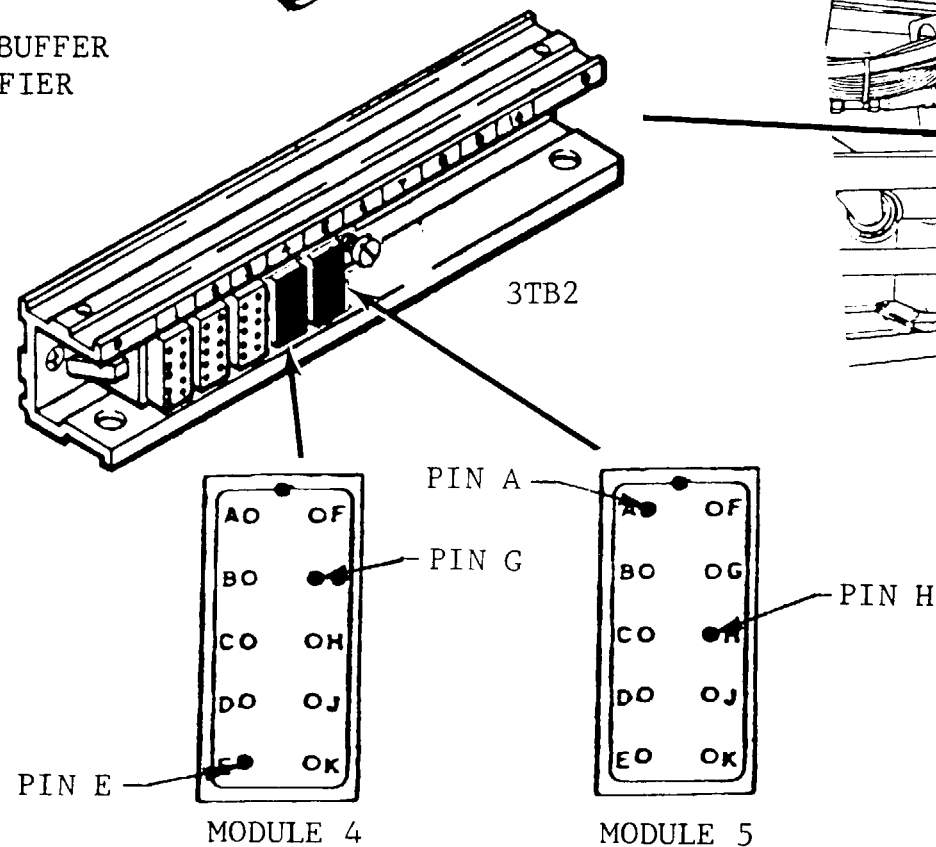
Turret Fairing - Removed



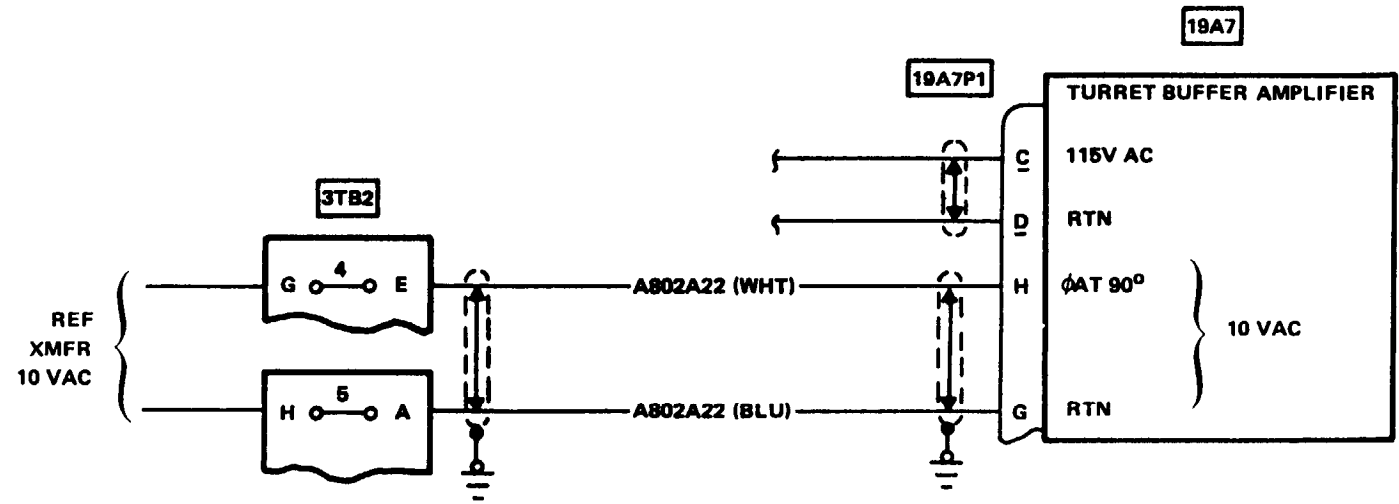
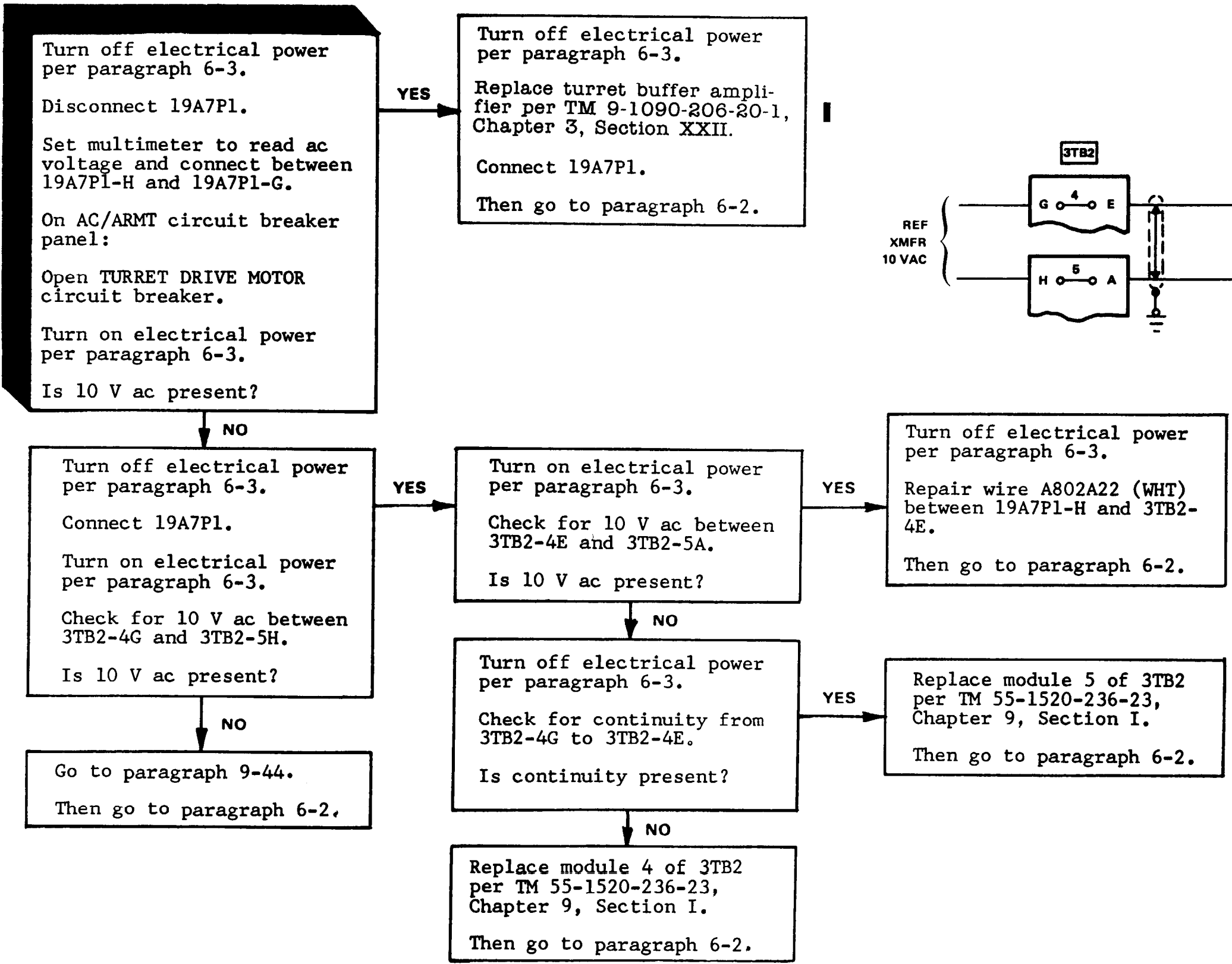
PILOT STATION



AC/ARMT CIRCUIT BREAKER PANEL



6-17. TURRET HAS NO CONTROL; DRIFTS IN BOTH AZIMUTH AND ELEVATION (CONTINUED).



6-18. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER TURRET FIRE SWITCH ON THE GUNNER CYCLIC GRIP.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

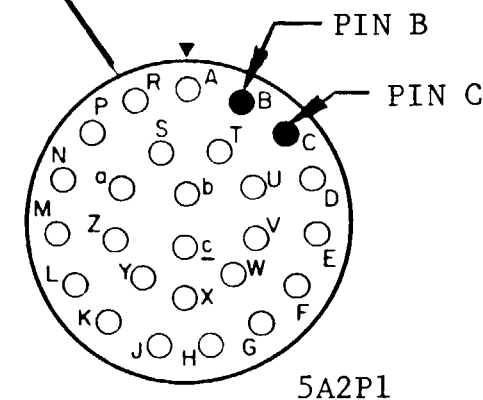
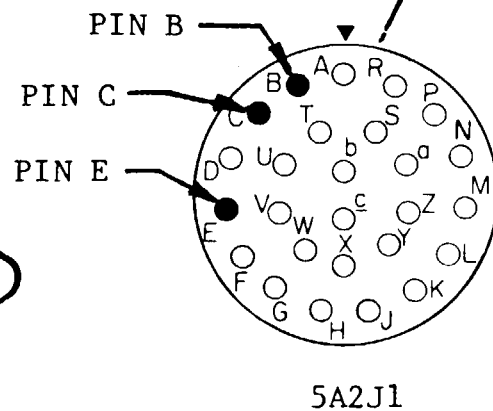
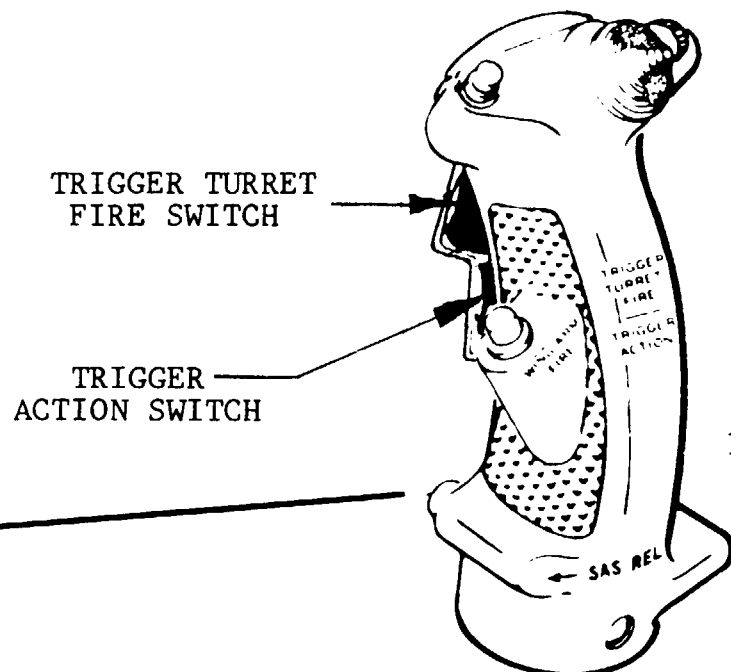
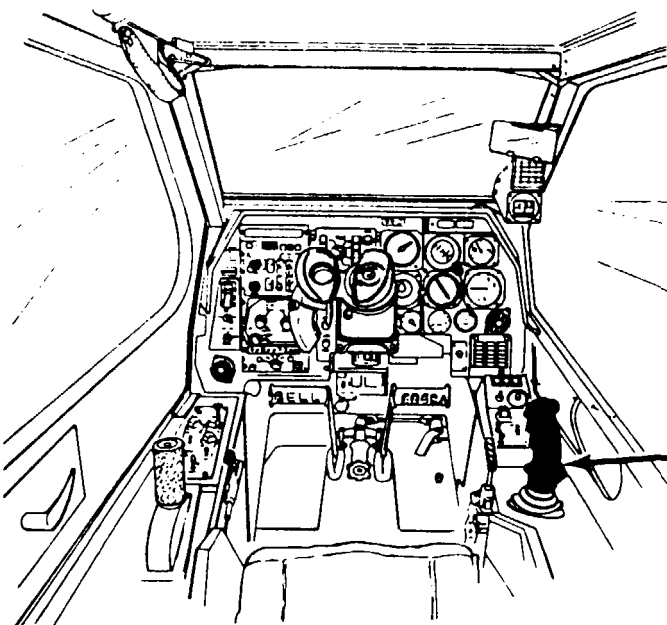
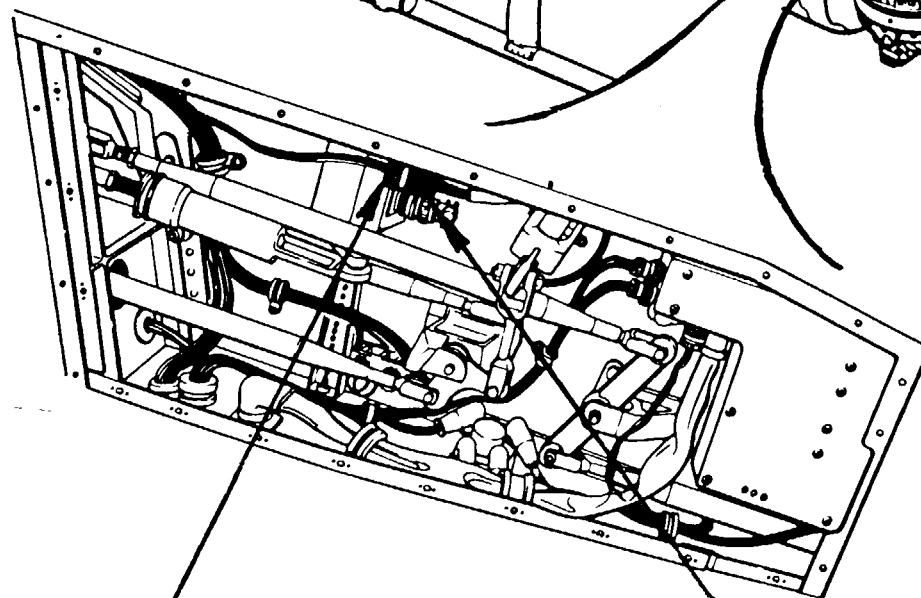
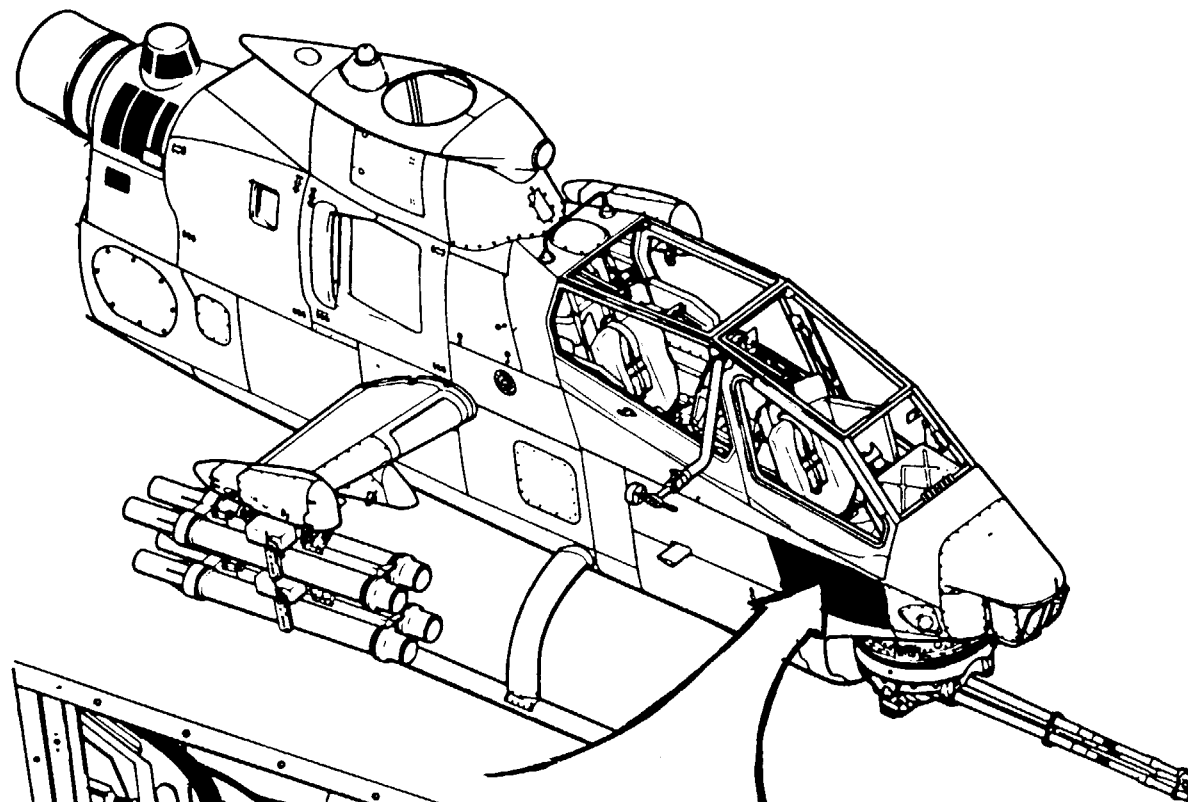
Personnel Required
68J (2)

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

Access Panels

Forward Belly Armament and Lighting - Removed

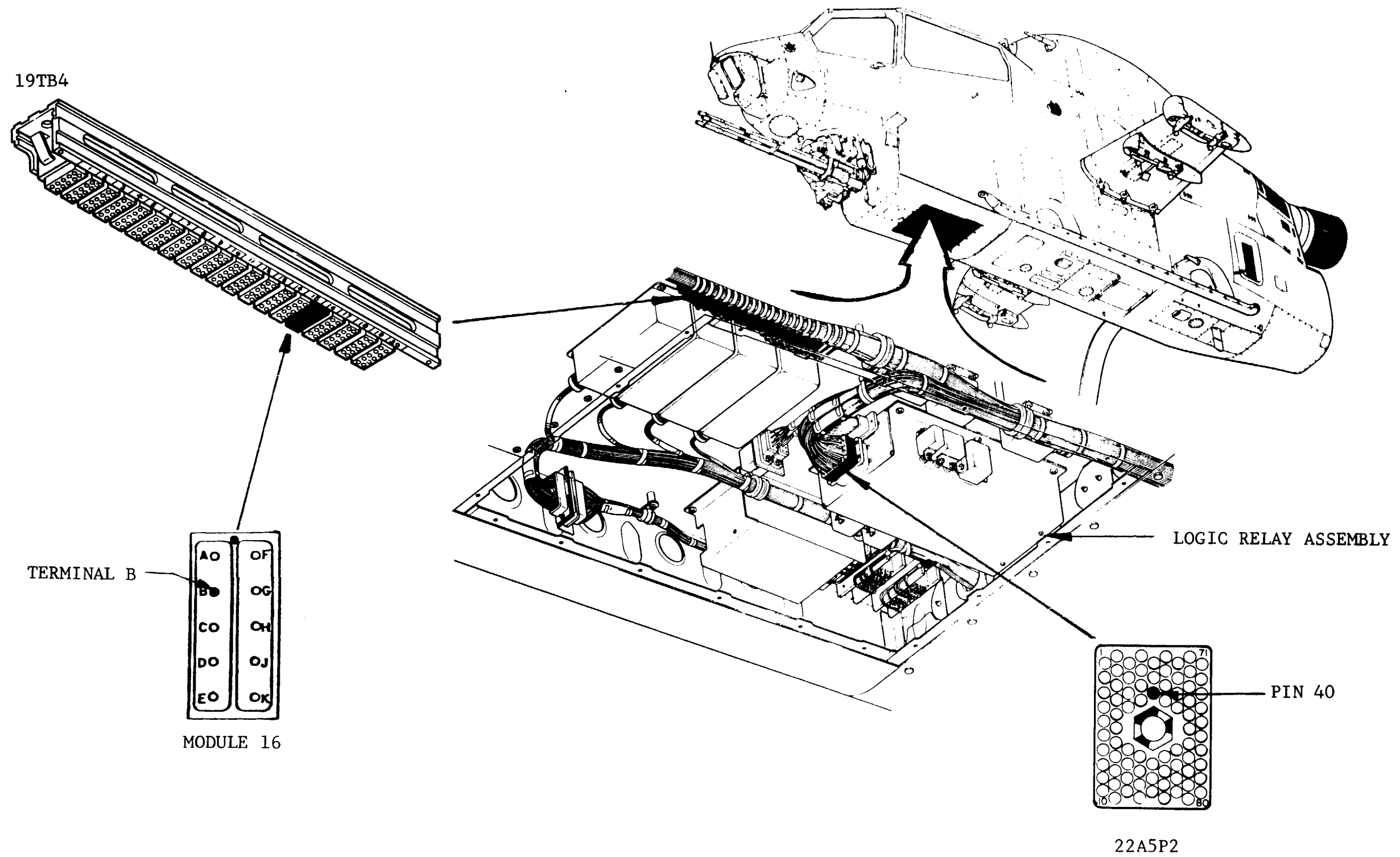
Forward Right Side Control Linkage - Removed



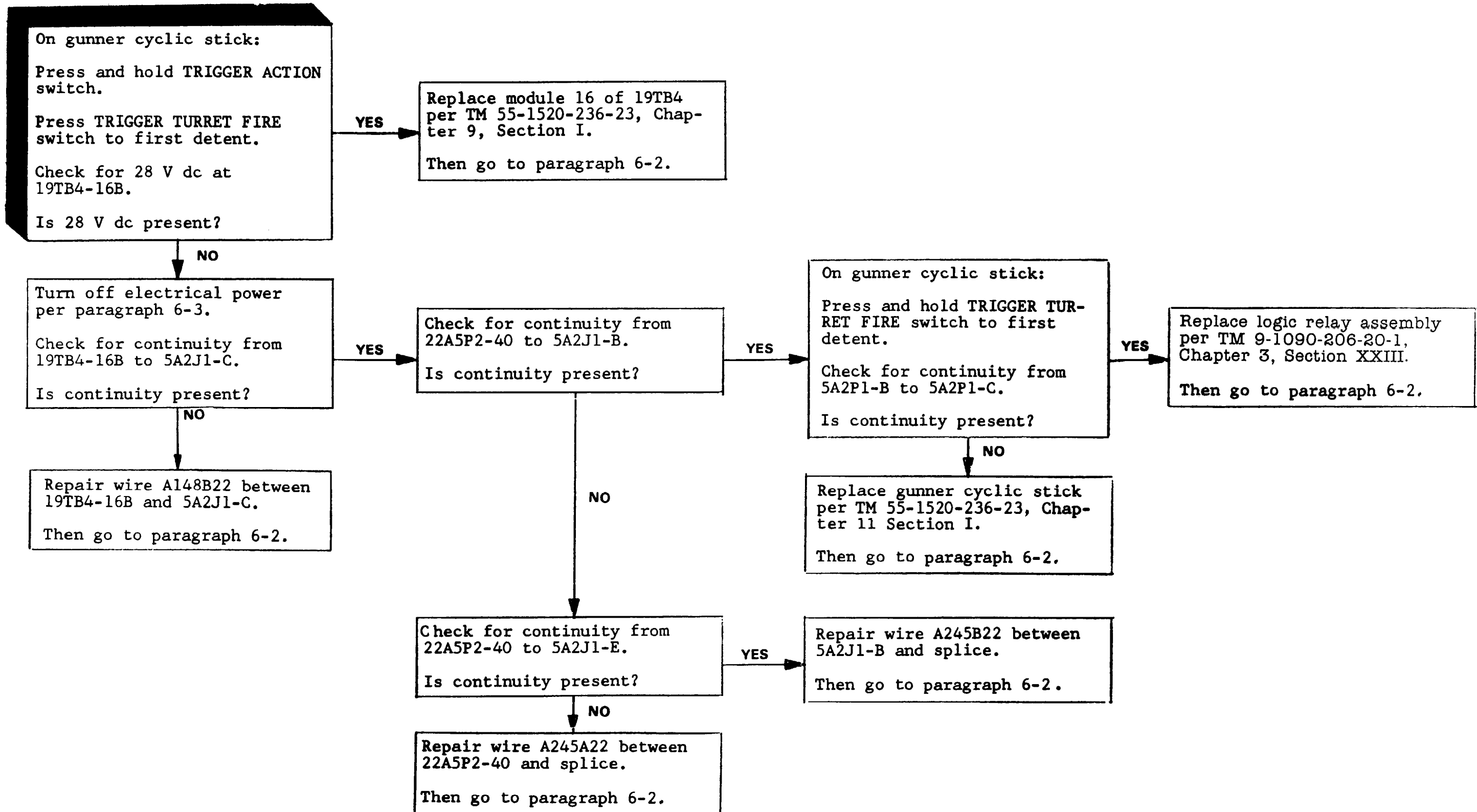
GUNNER STATION

GUNNER CYCLIC STICK

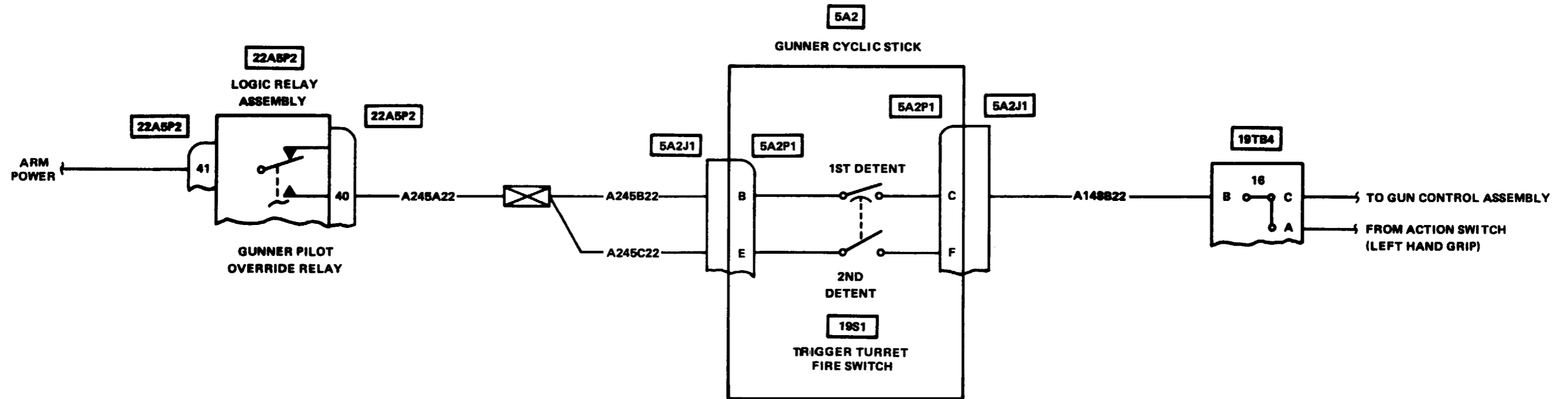
6-18. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER TURRET FIRE SWITCH ON THE GUNNER CYCLIC GRIP (CONTINUED).



6-18. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER TURRET FIRE SWITCH ON THE GUNNER CYCLIC GRIP (CONTINUED).



6-18. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER TURRET FIRE SWITCH ON THE GUNNER CYCLIC GRIP (CONTINUED).



6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED.

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 55-1520-236-23

Access Panels

Forward Belly Armament and Lighting - Removed

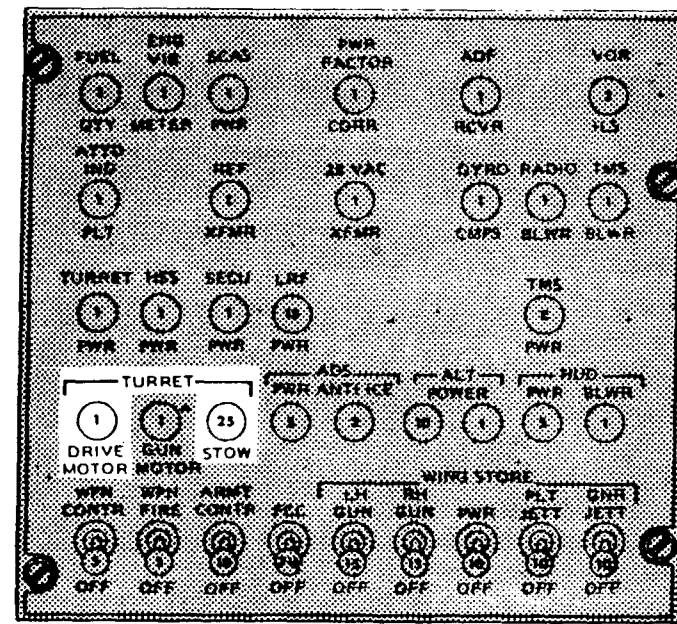
Turret Fairing - Removed

Logic Control Unit - Removed

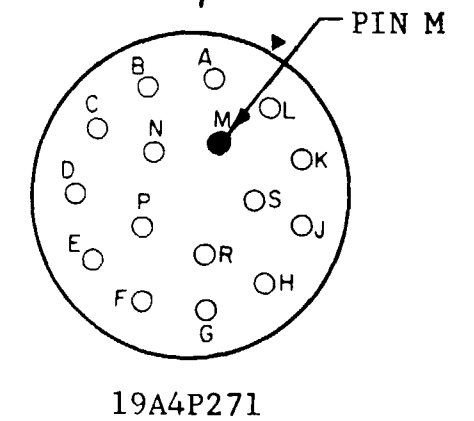
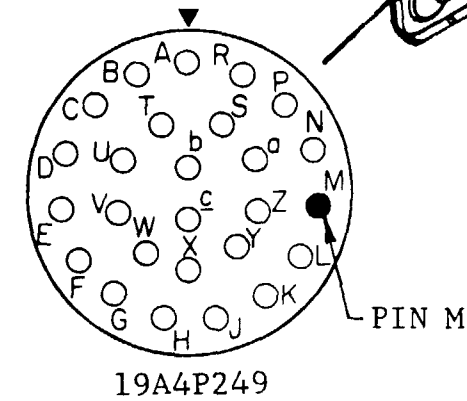
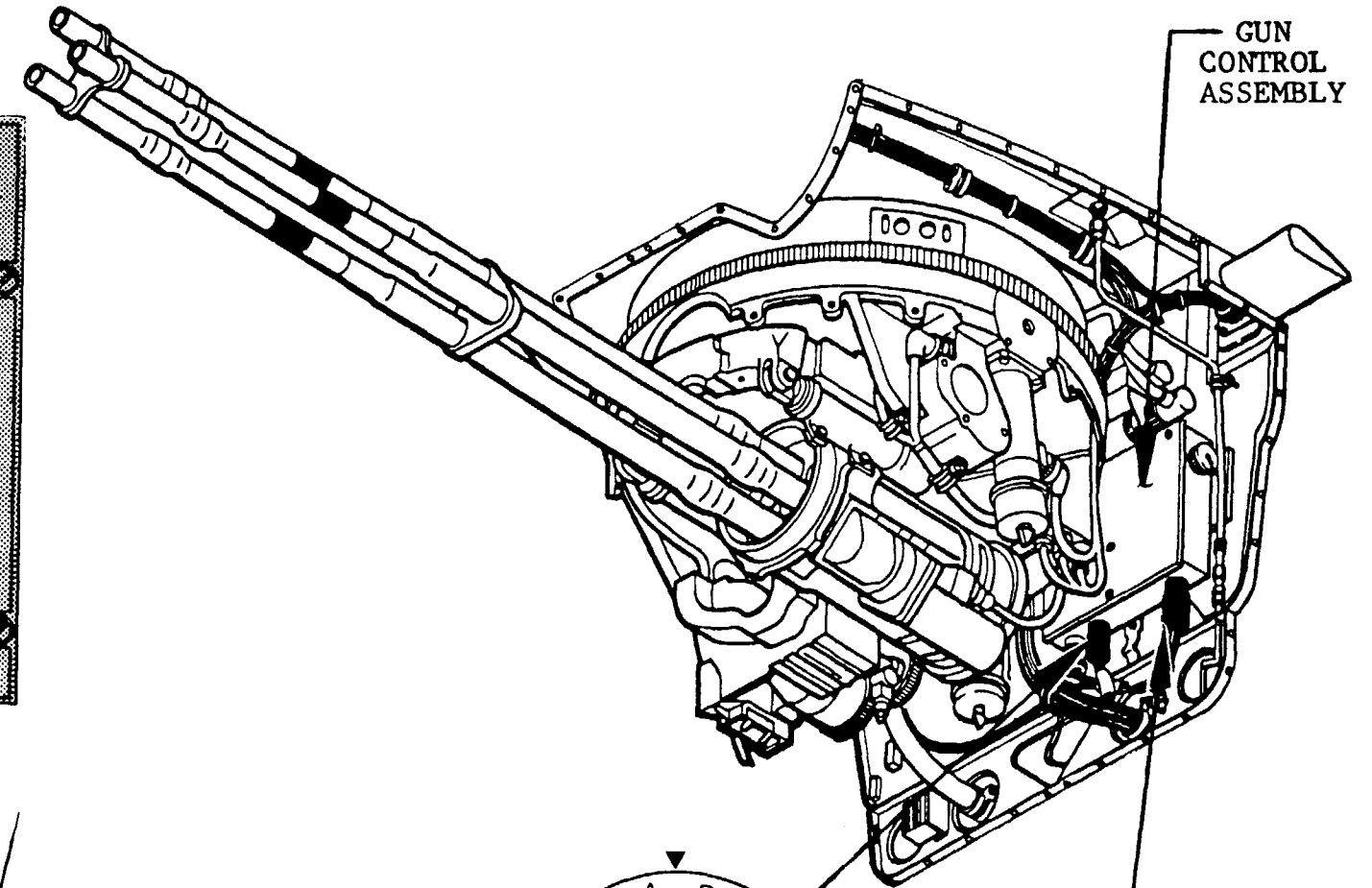
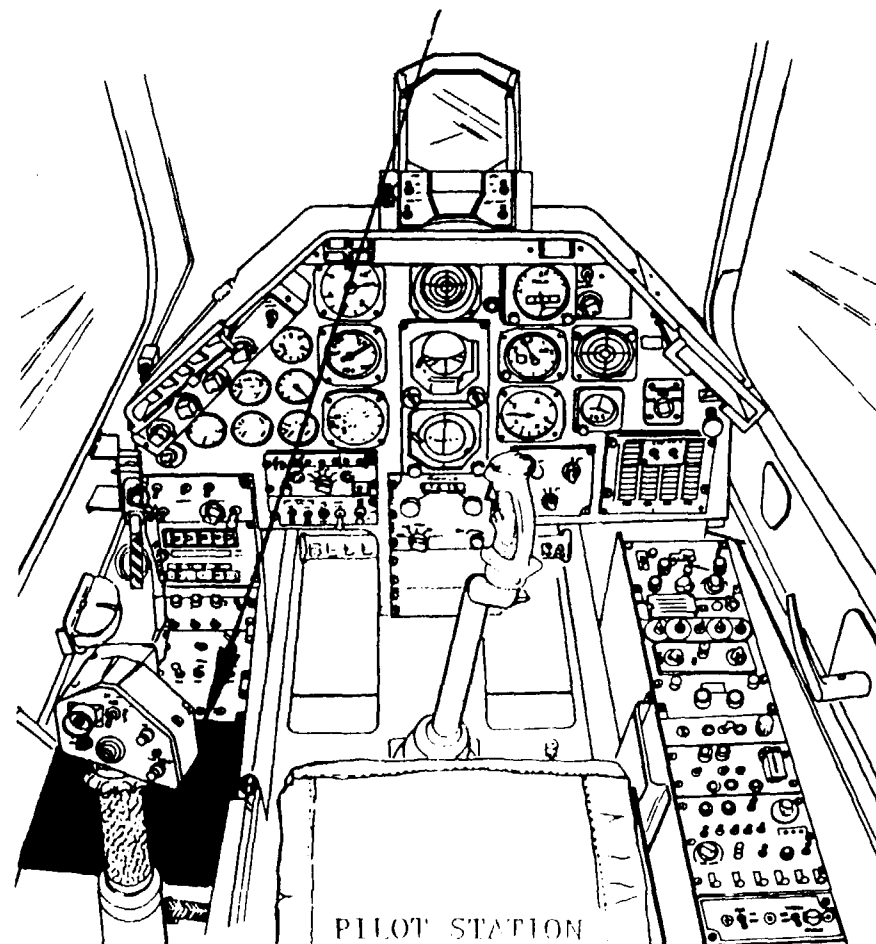
Right Forward Control Linkage - Removed

Battery Compartment - Removed

A. TROUBLESHOOTING LOGIC PART ONE.

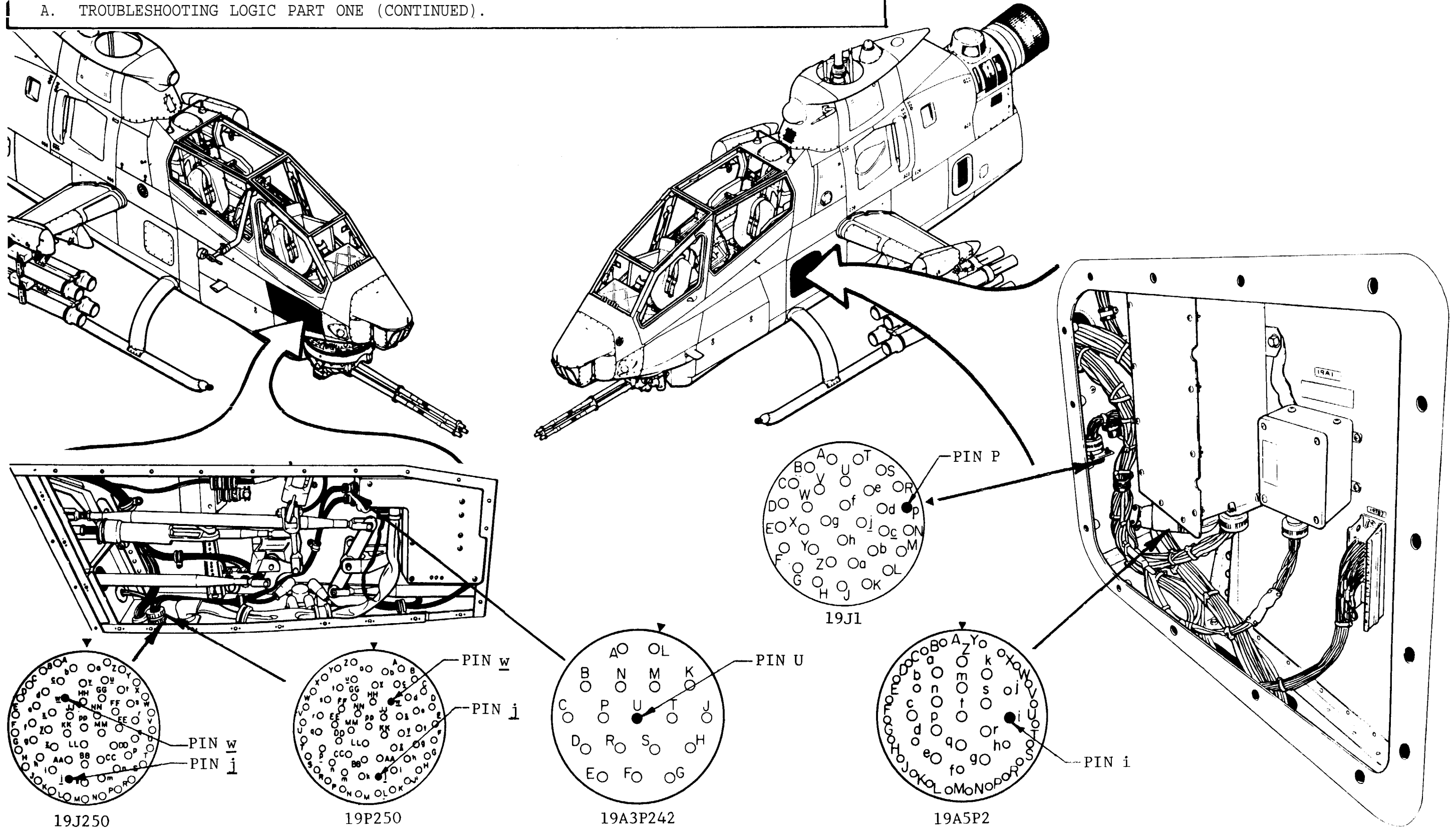


AC/ARMT CIRCUIT BREAKER PANEL

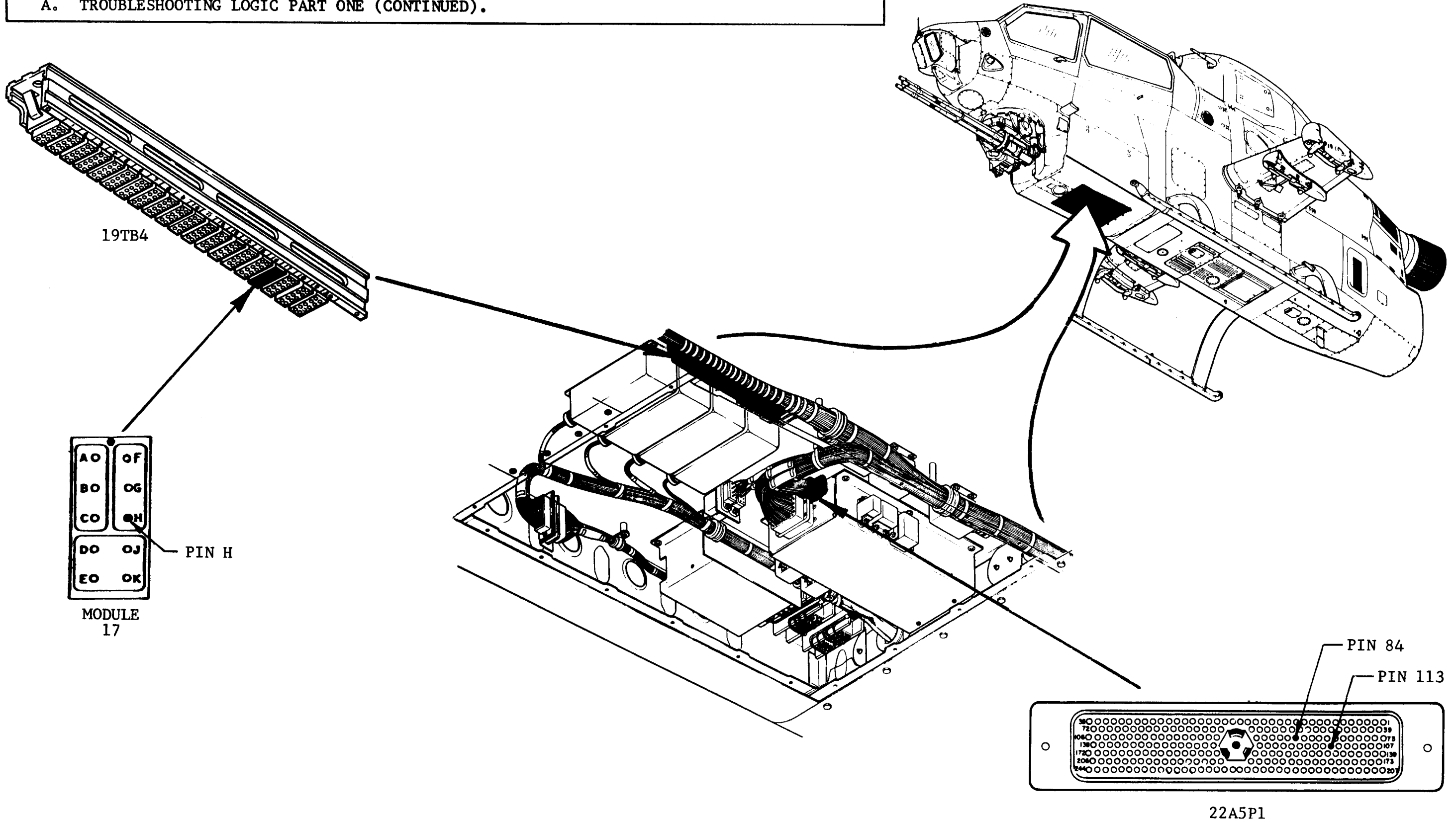


6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).

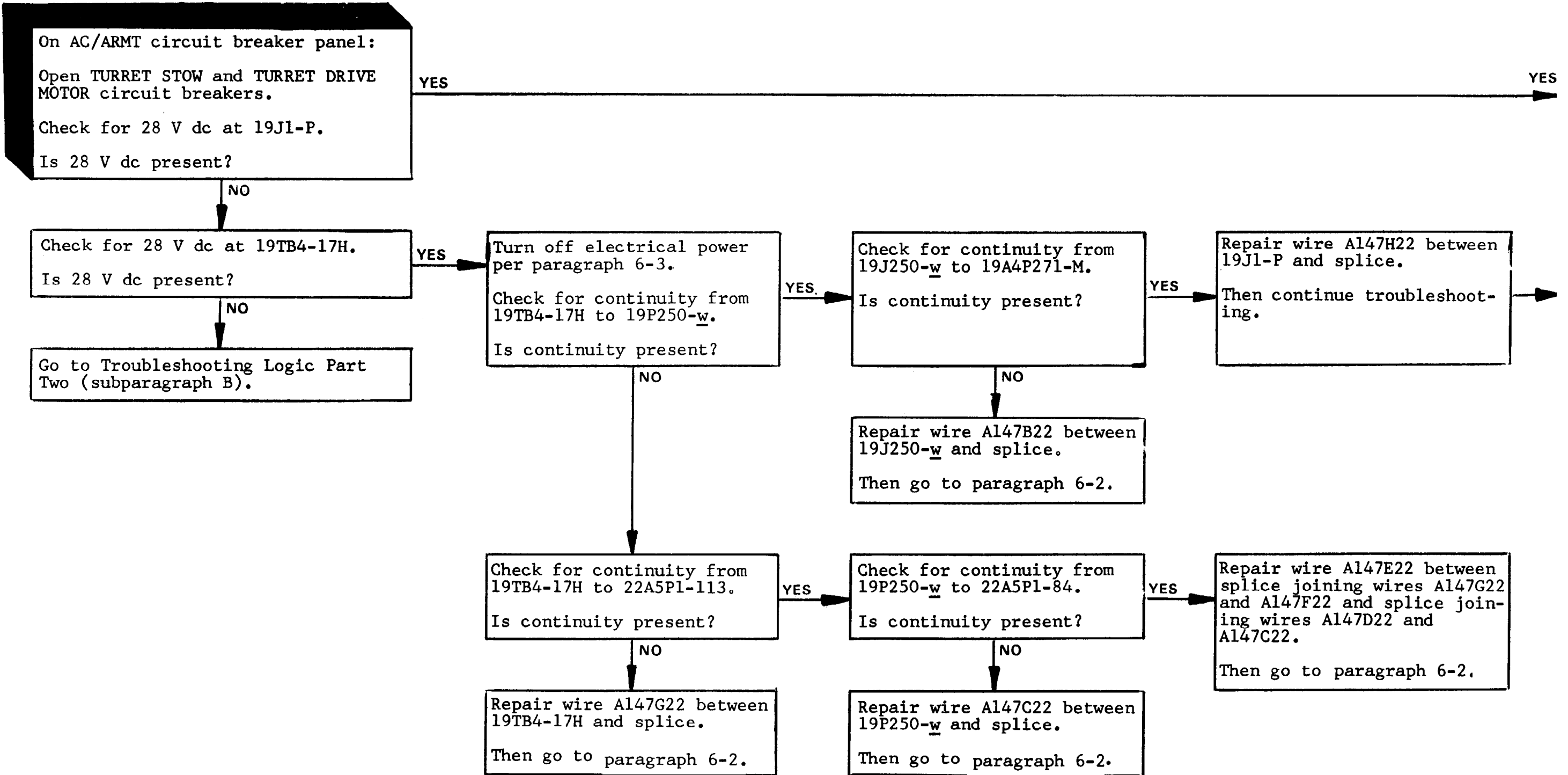
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

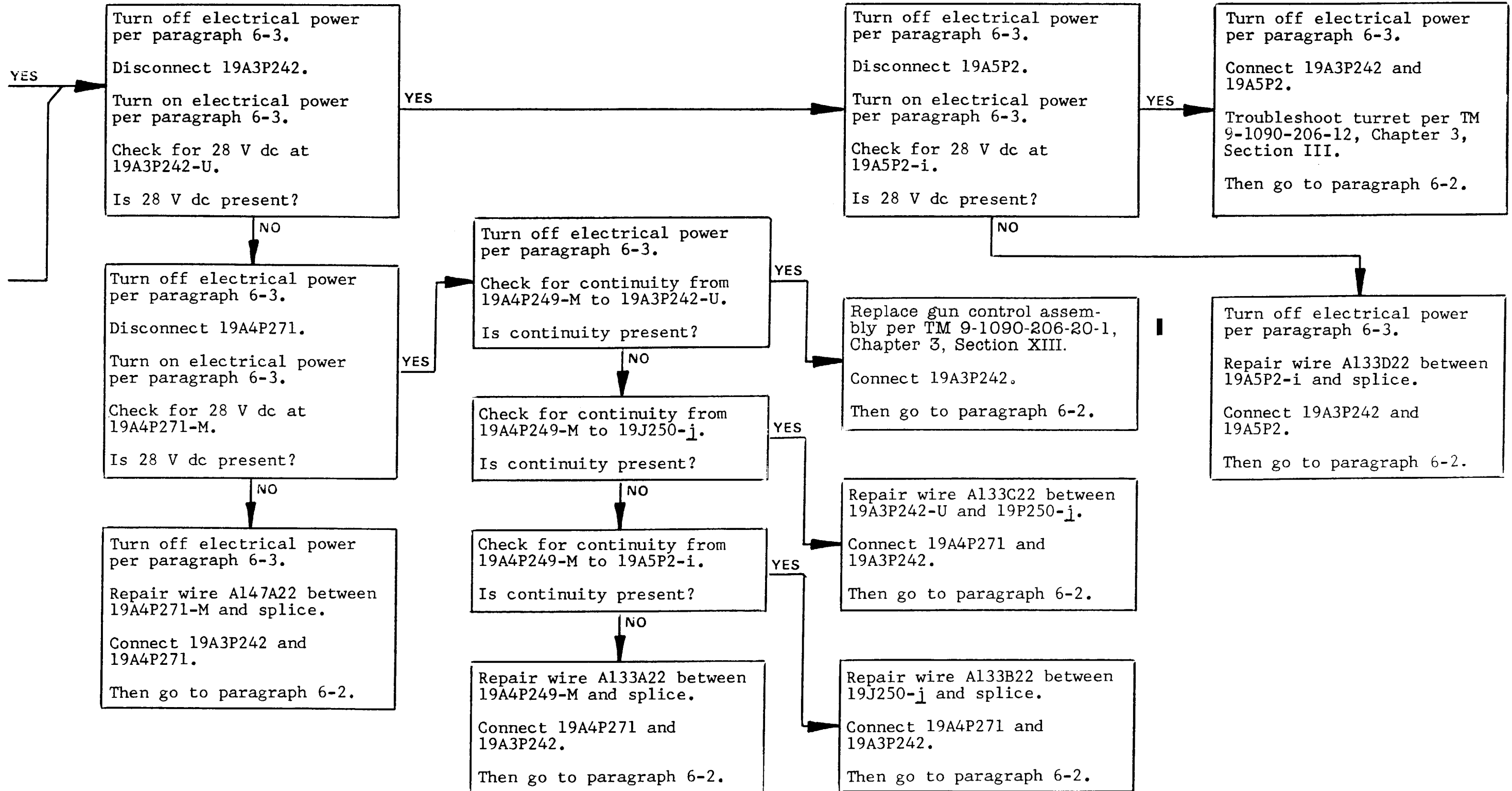


6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED),



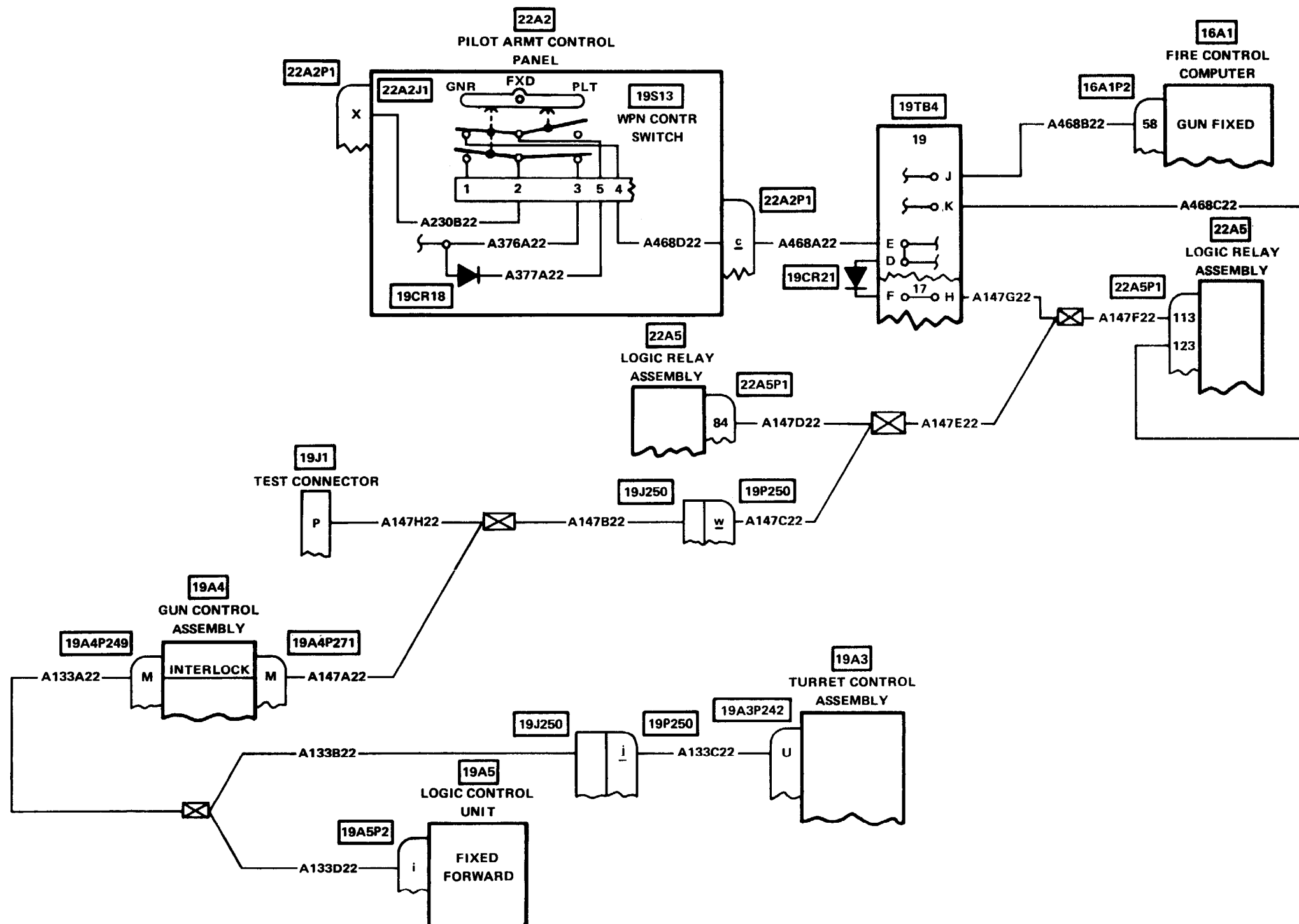
6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

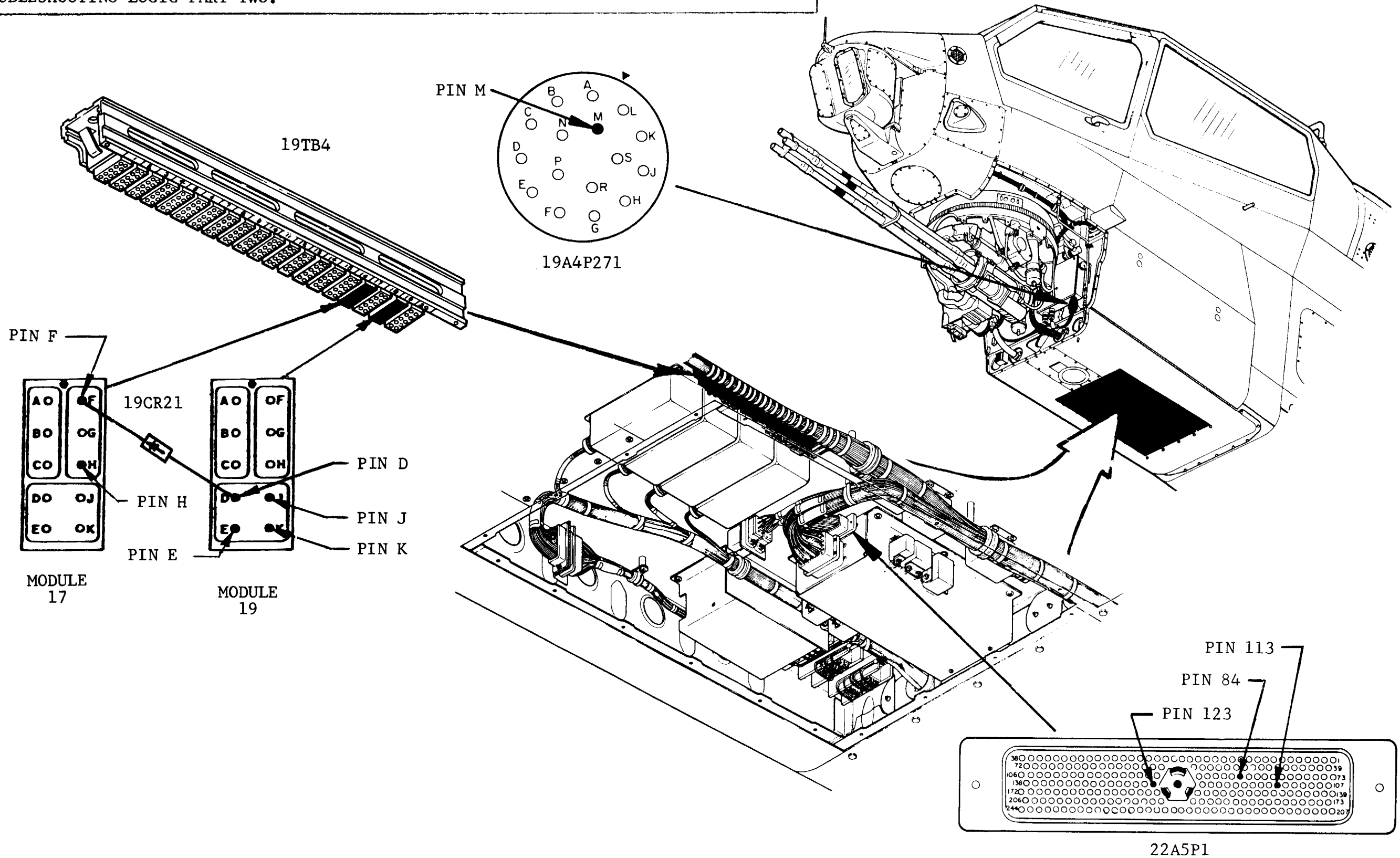


6-19, TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).

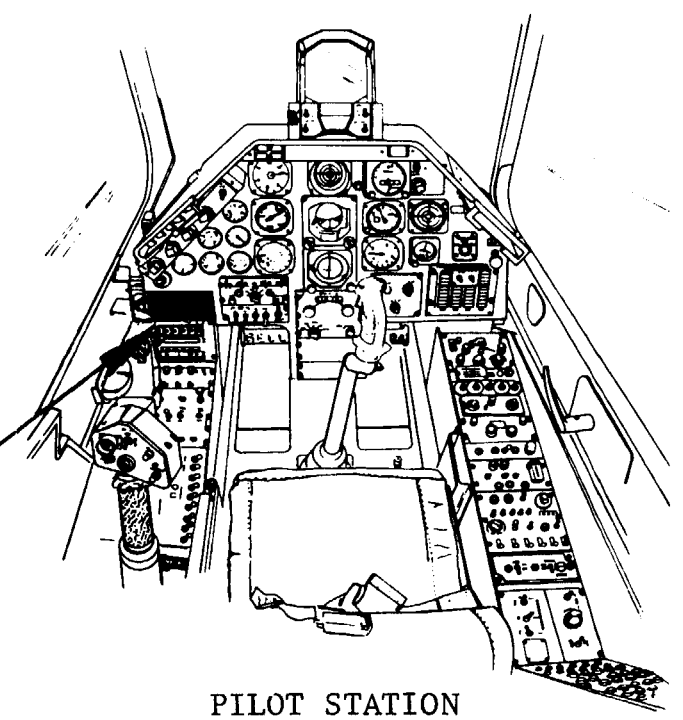
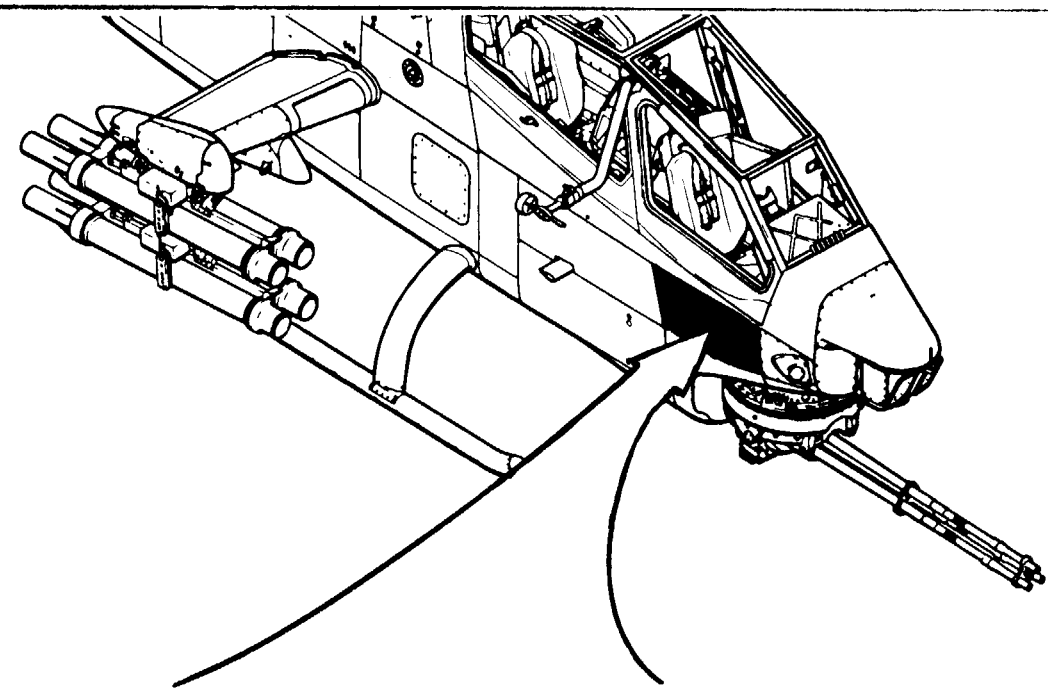
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



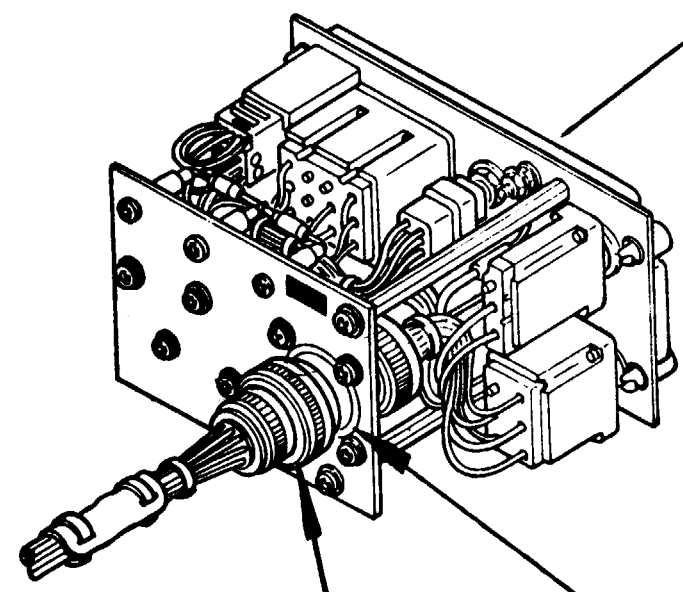
6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO.



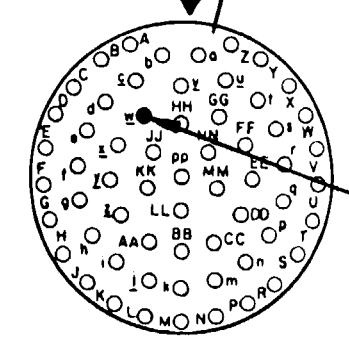
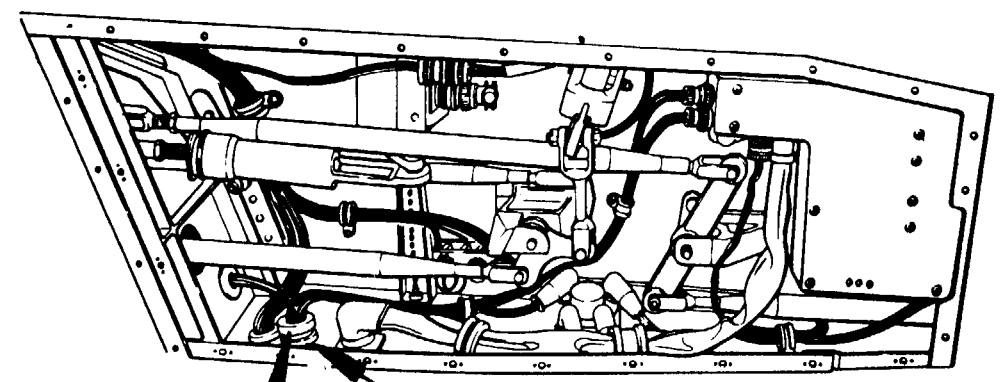
6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



PILOT ARMT CONTROL PANEL (REAR VIEW)

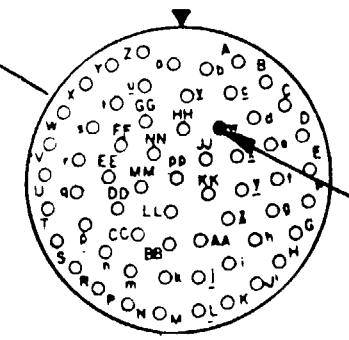


PILOT STATION



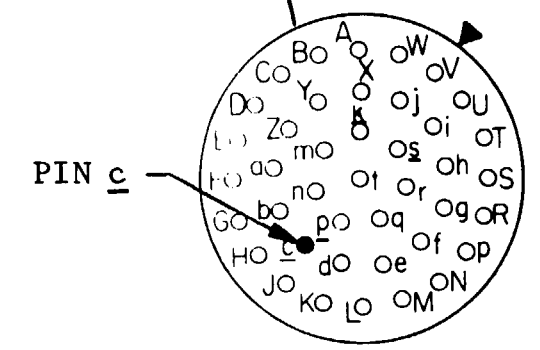
19J250

PIN W



19P250

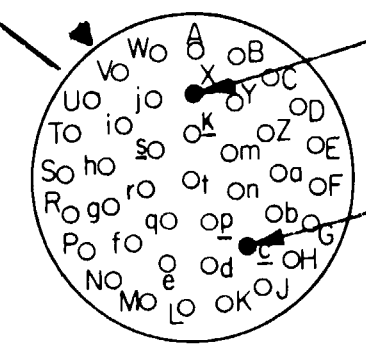
PIN W



22A2P1

PIN c

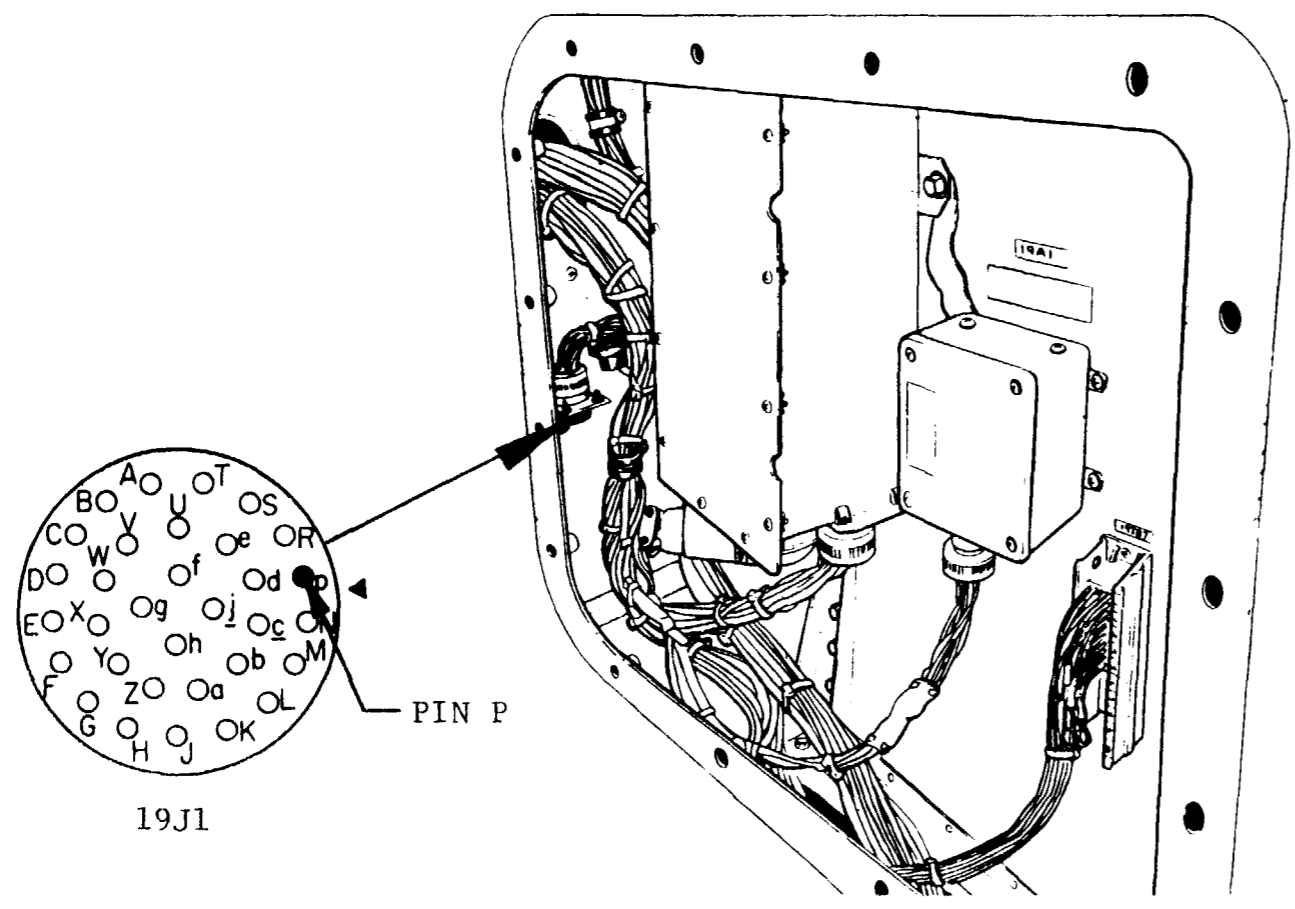
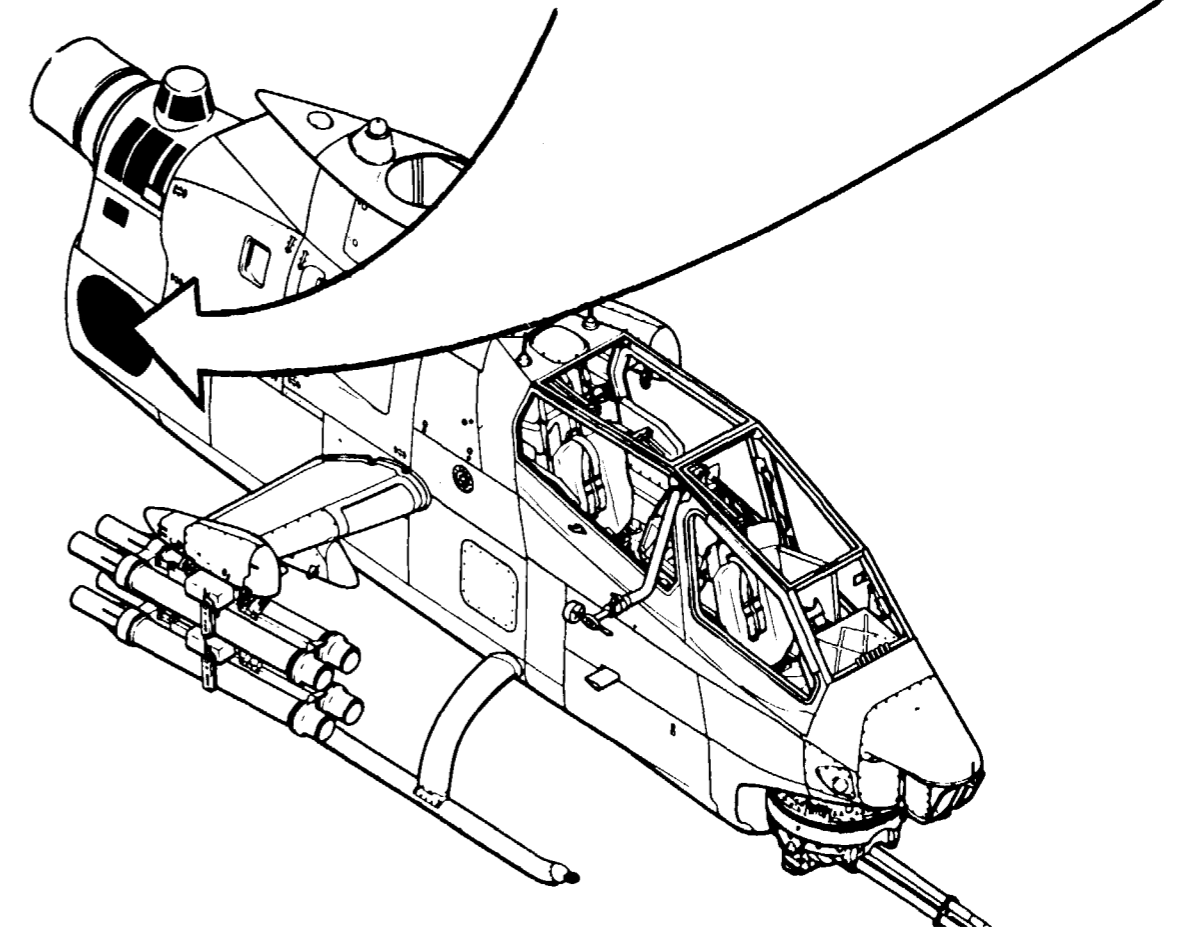
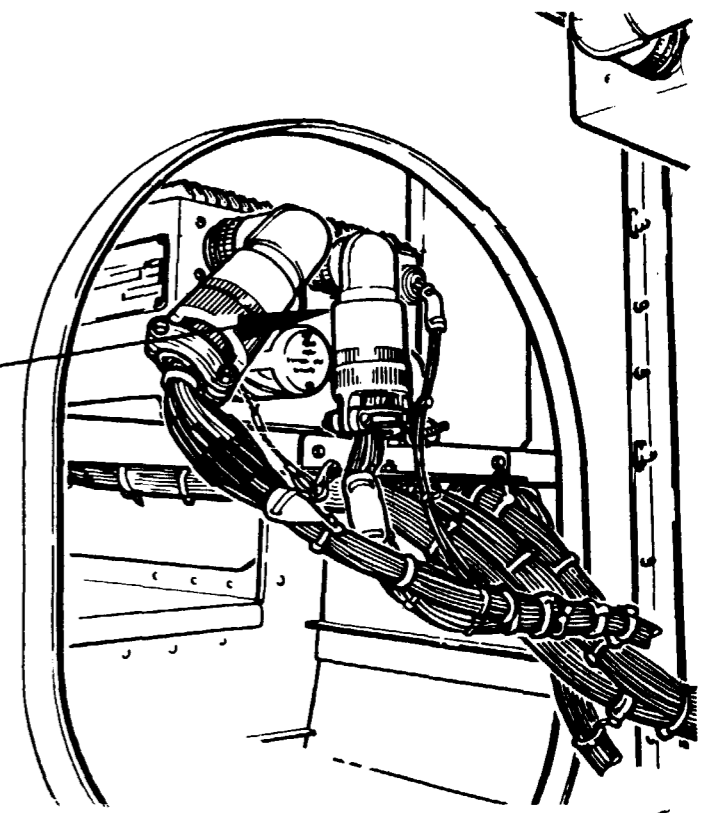
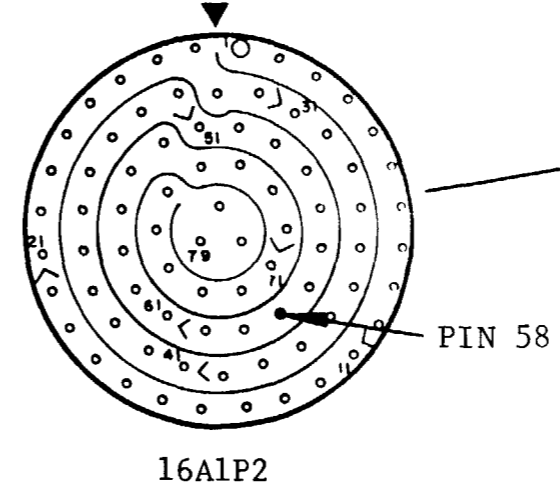
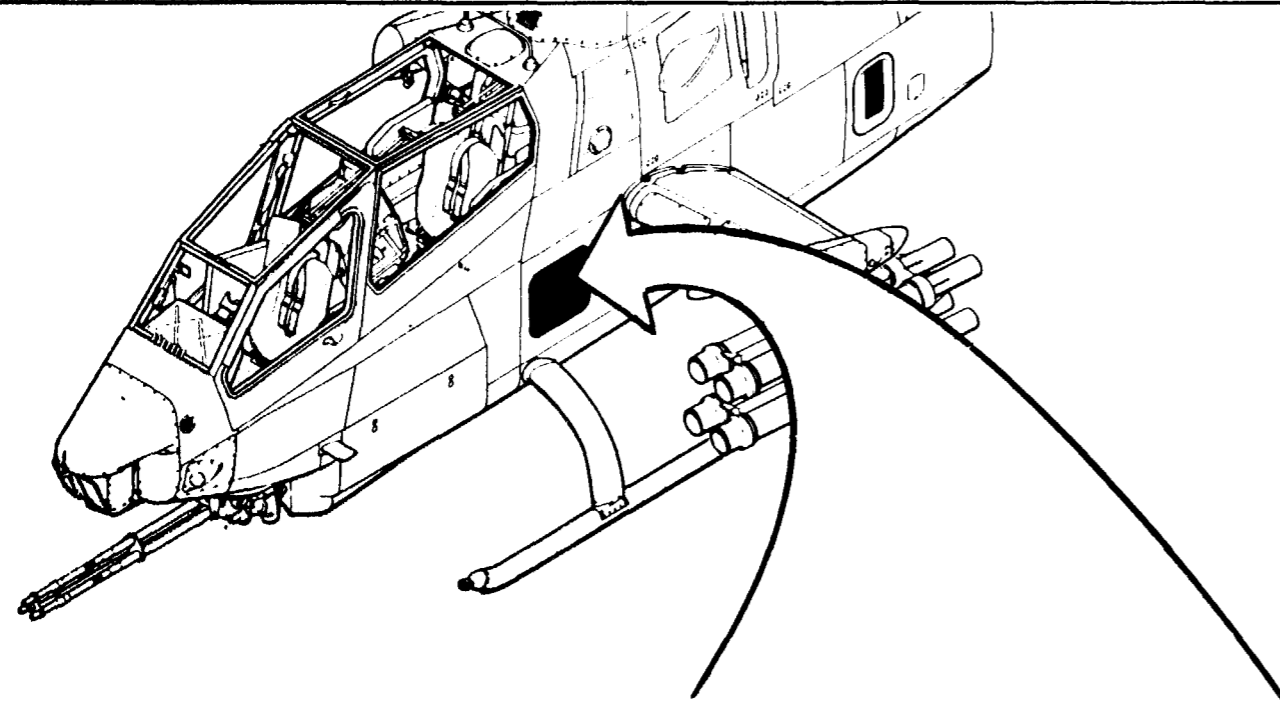
PIN X



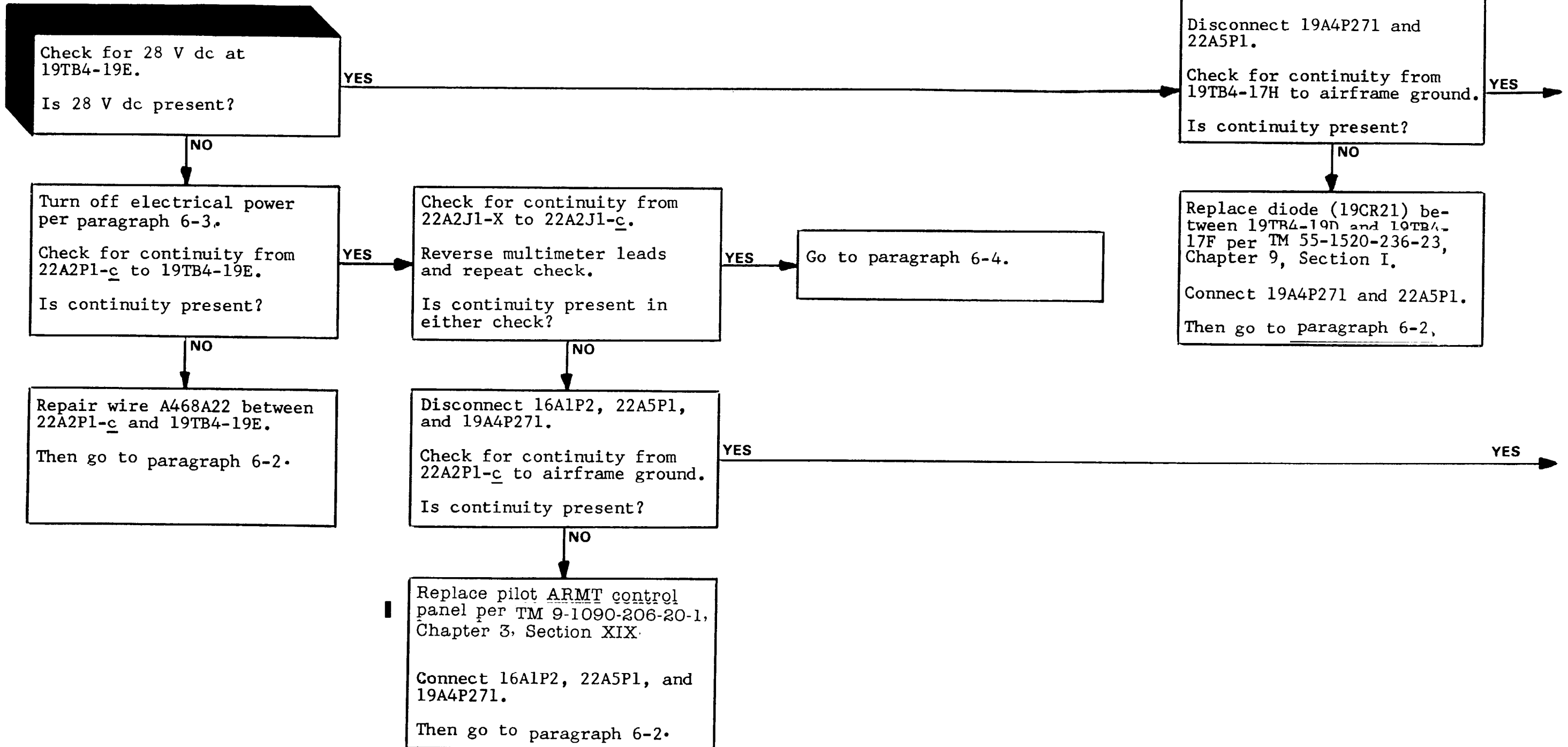
22A2J1

PIN c

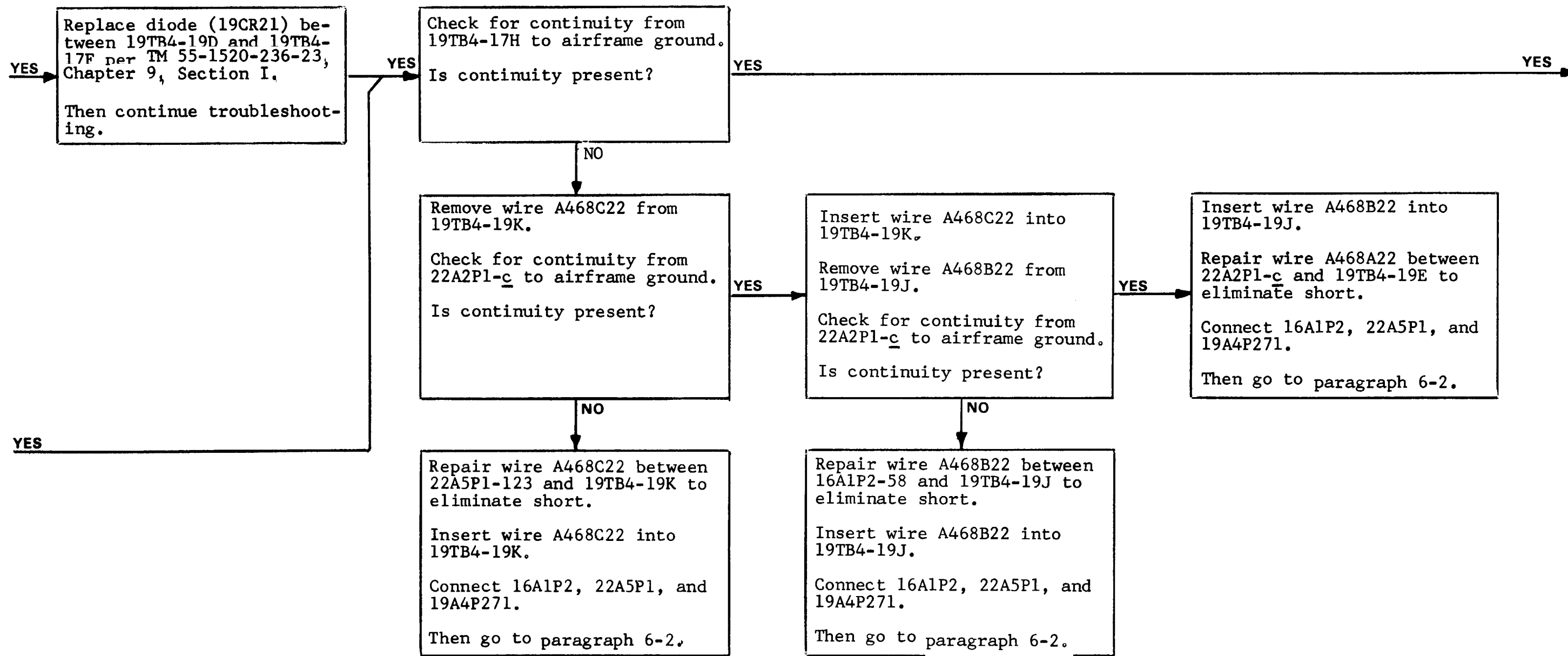
6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



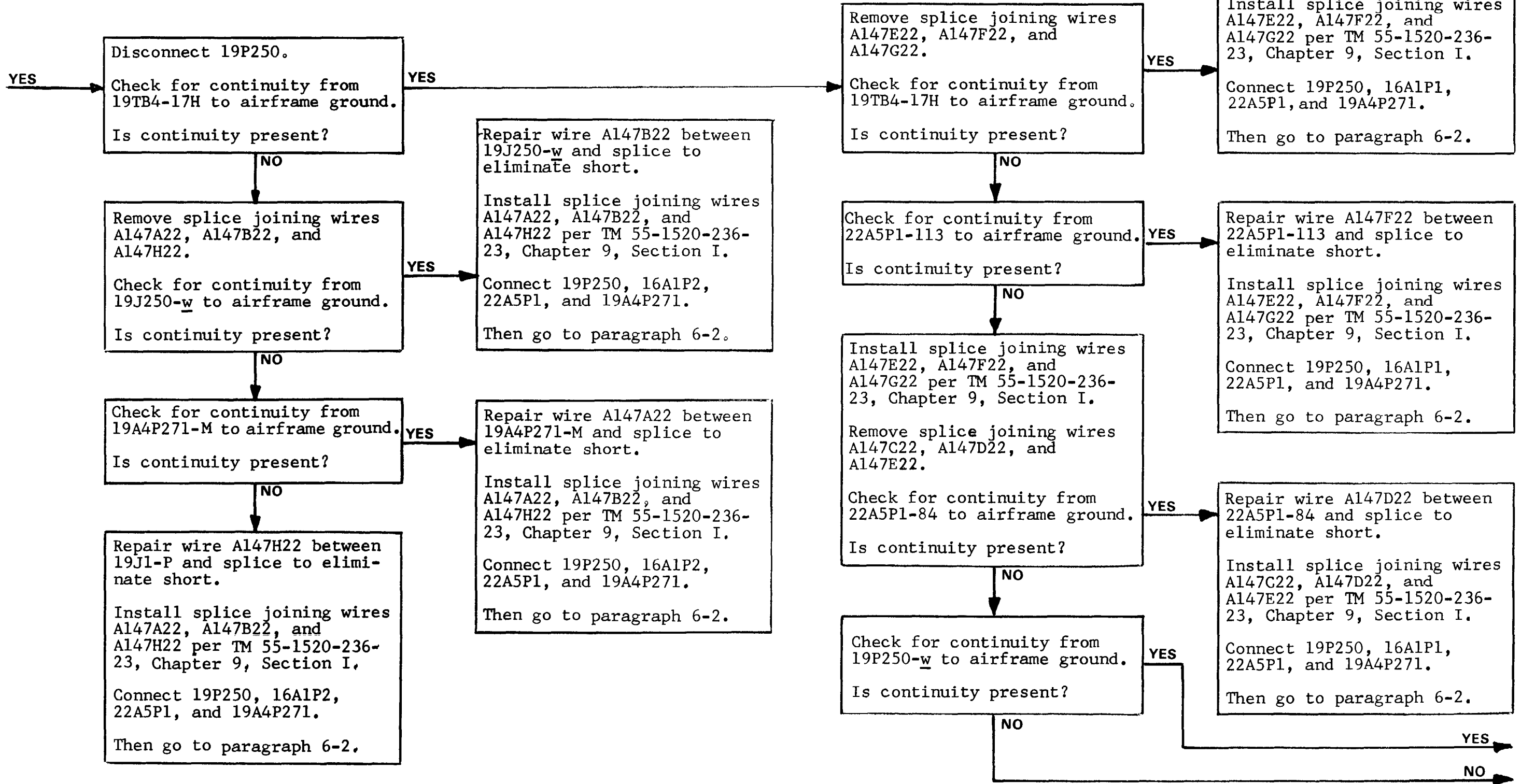
6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FTXED (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



6-19. TURRET WILL NOT MOVE TO FIXED FORWARD POSITION WHEN PILOT SELECTS FIXED (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

Repair wire A147C22 between 19P250-w and splice to eliminate short.

Install splice joining wires A147C22, A147D22, and A147E22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 19P250, 16A1P2, 22A5P1, and 19A4P271.

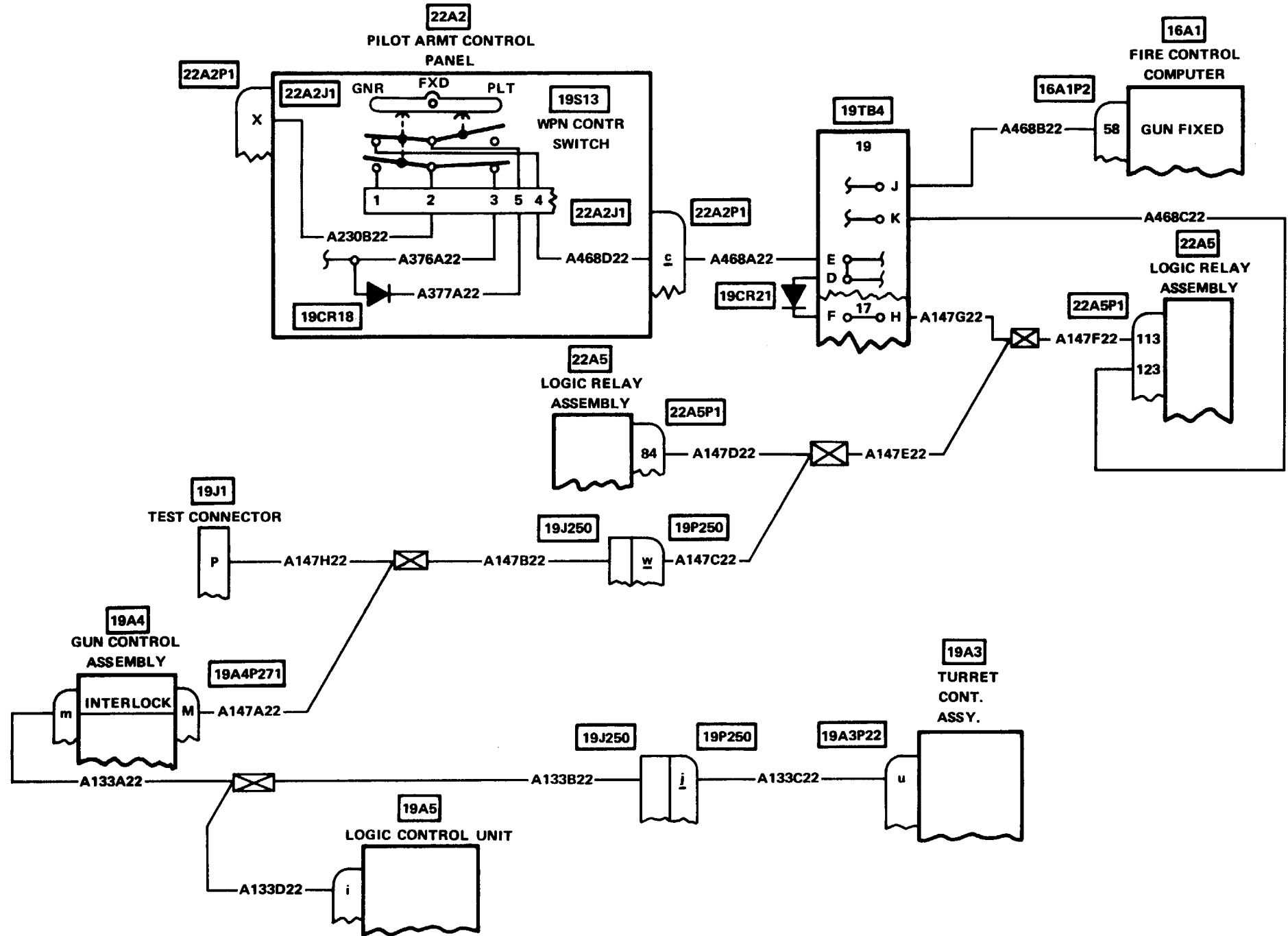
Then go to paragraph 6-2.

Repair wire A147E22 between splice joining wires A147F2:2 and A147G22 and splice joining wires A147C22 and A147D22 to eliminate short.

Install splice joining wires A147C22, A147D22, and A147E22 per TM 55-1520-236-23, Chapter 9, Section I.

Connect 19P250, 16A1P2, 22A5P1, and 19A4P271.

Then go to paragraph 6-2.



YES

NO

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6-20. 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 Set, A/C Armament Repairman

Personnel Required
68J (2)

References

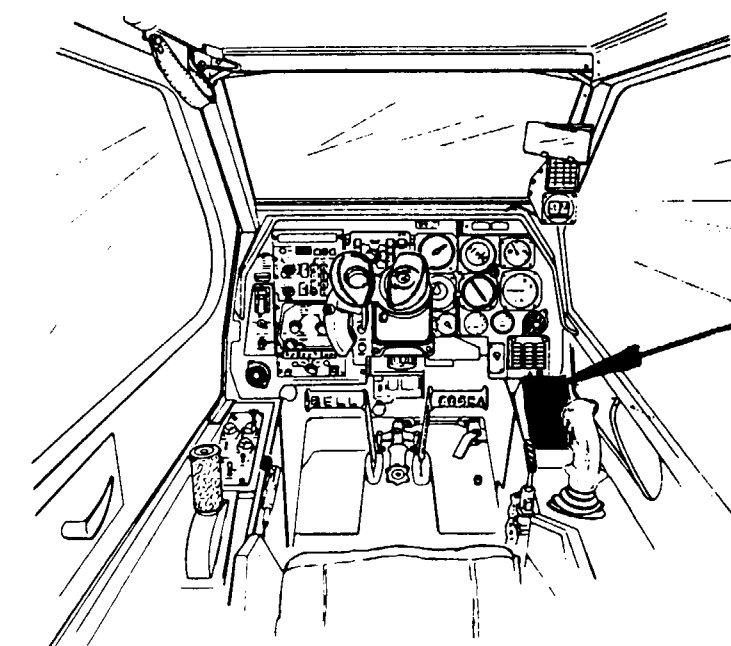
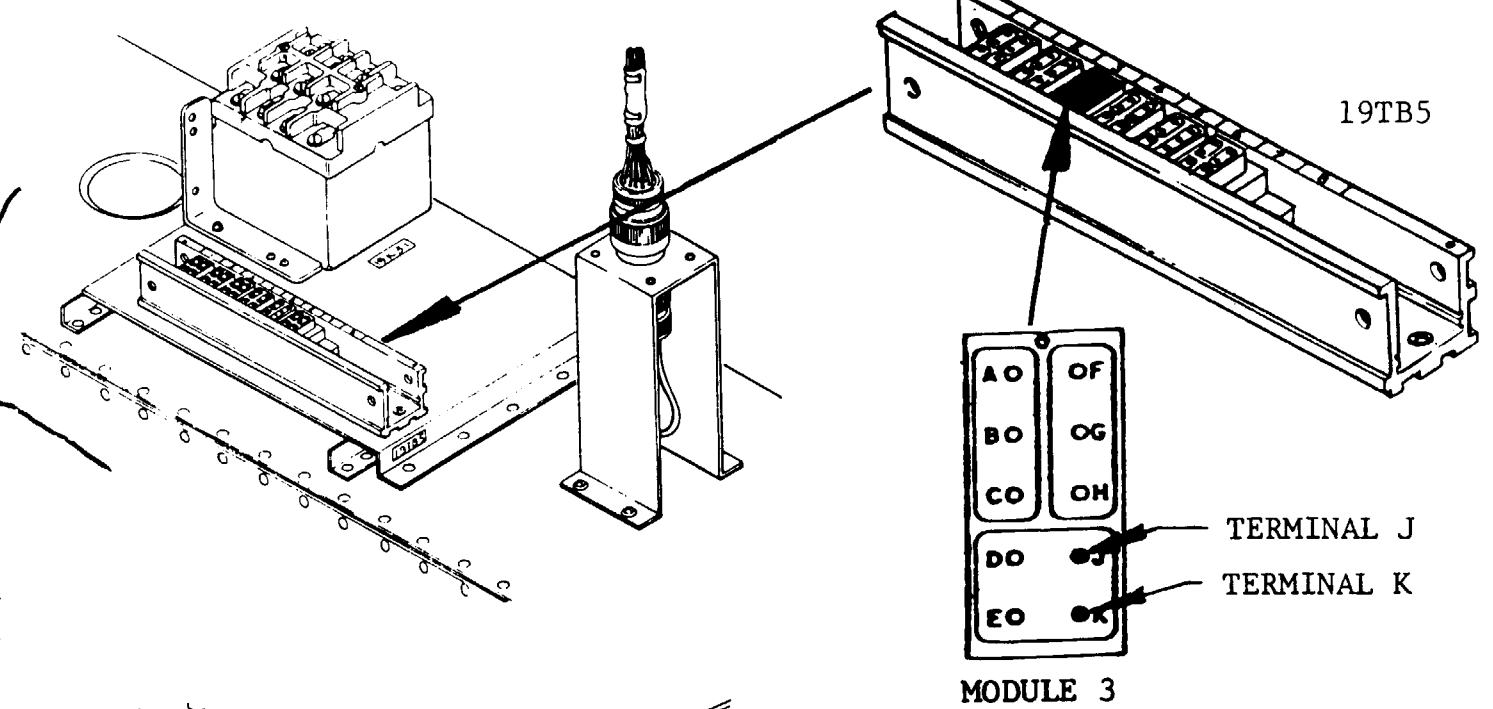
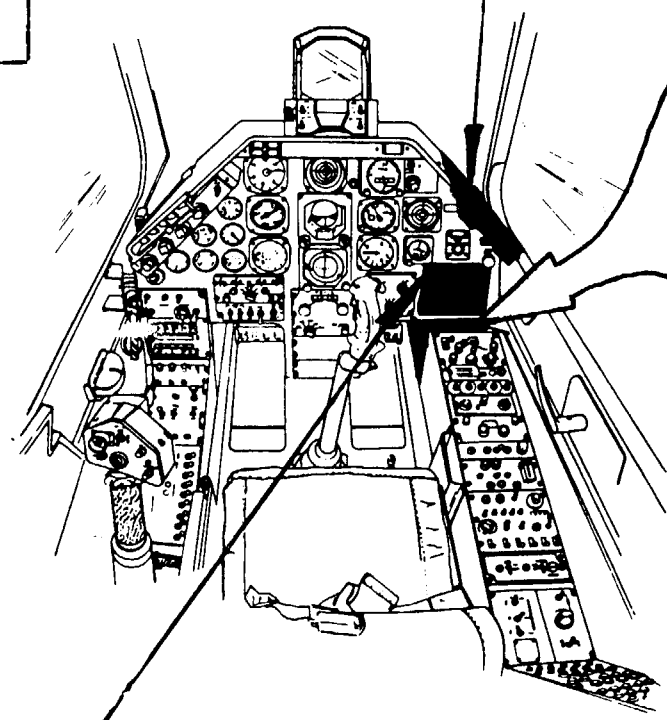
- TM 9-1090-206-20-1
- TM 55-1520-236-23

Access Panels

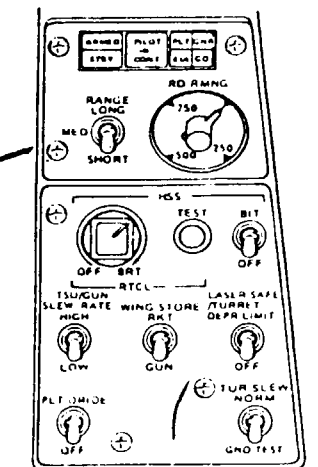
Forward Belly Armament and Lighting - Removed

Right Side Glareshield - Removed

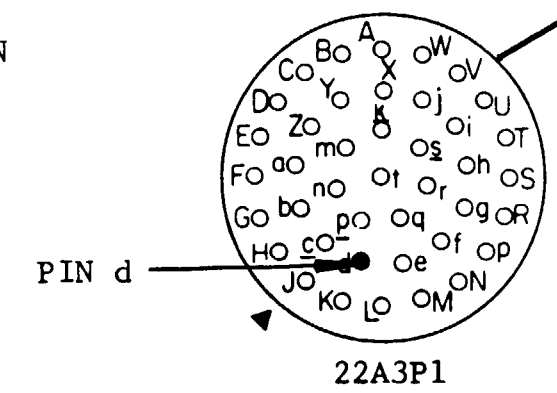
PILOT STATION
RIGHT SIDE
GLARESHIELD



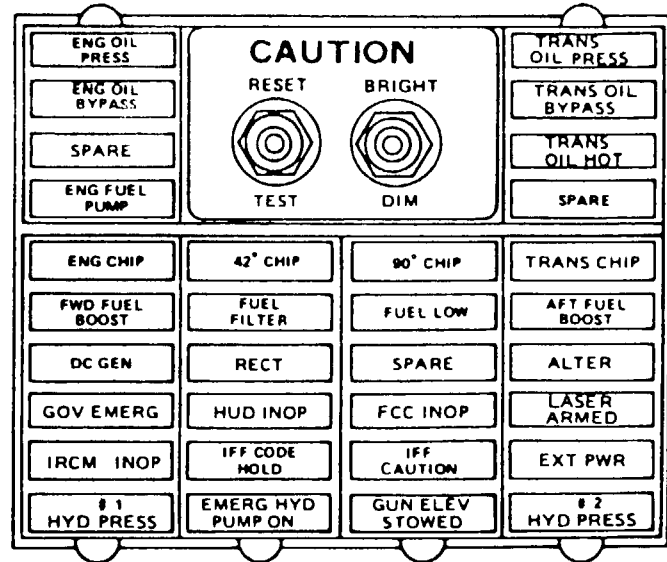
GUNNER STATION



GUNNER ARMAMENT CONTROL PANEL

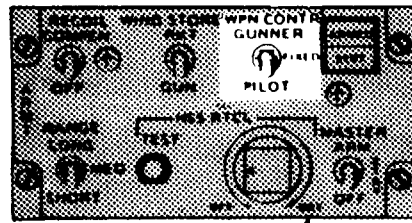


22A3P1

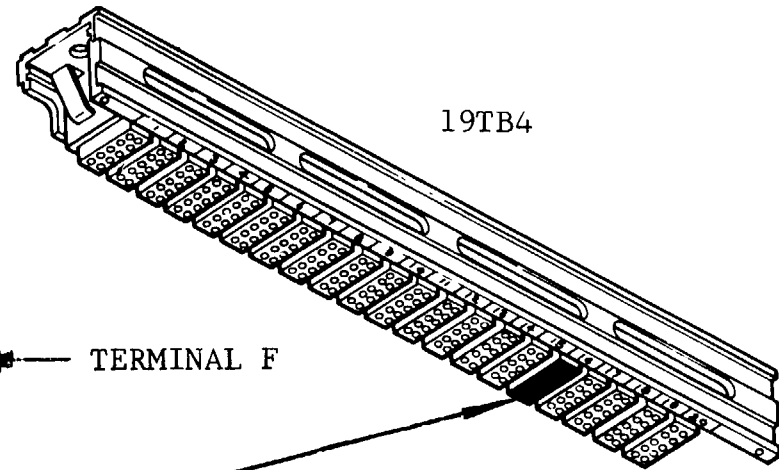


PILOT CAUTION PANEL

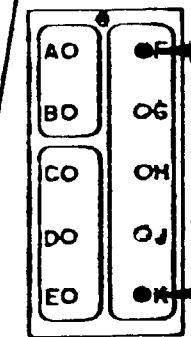
6-20. PILOT IN CONT INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).



PILOT ARMAMENT CONTROL PANEL



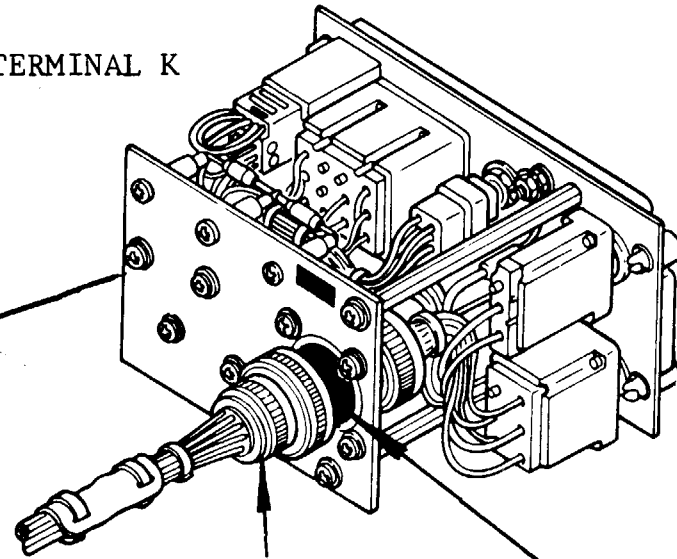
19TB4



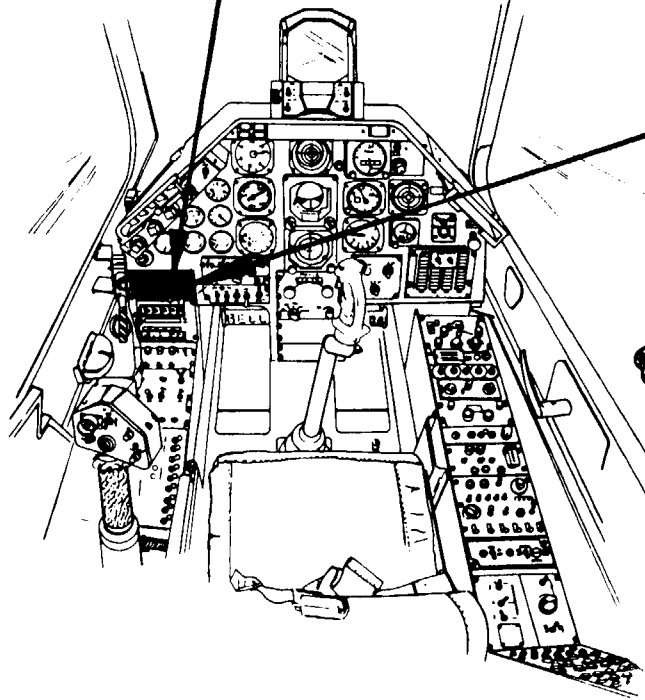
TERMINAL F

TERMINAL K

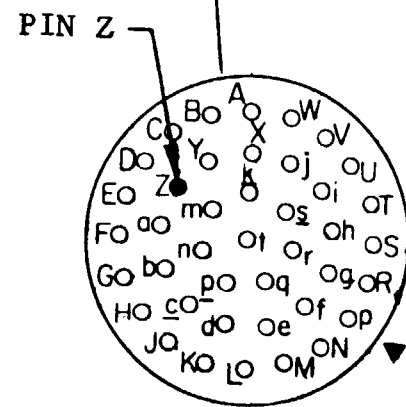
MODULE 16



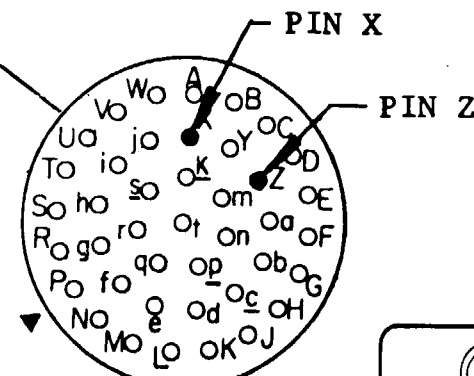
PILOT ARMAMENT CONTROL PANEL (REAR VIEW)



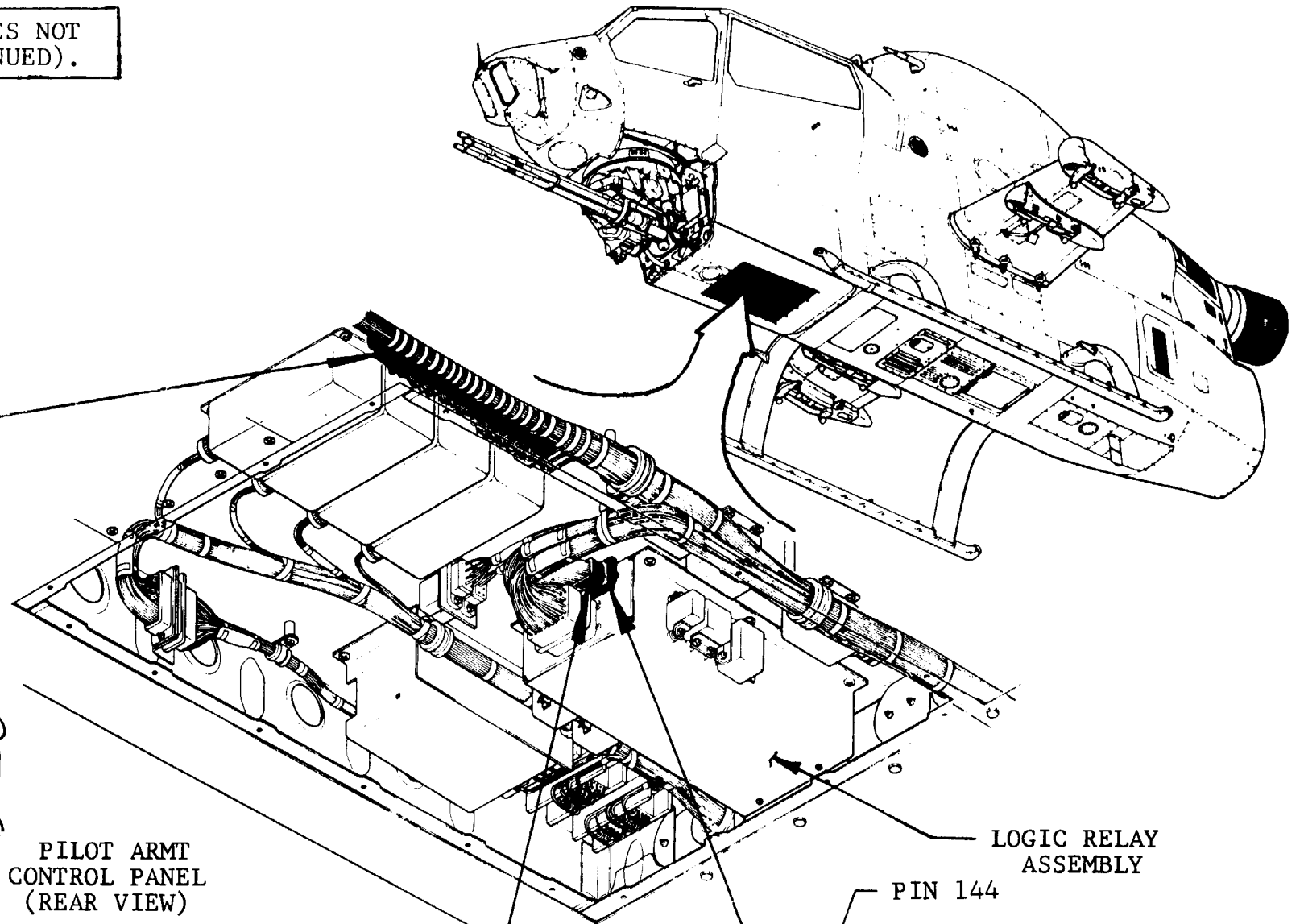
PILOT STATION



22A2P1



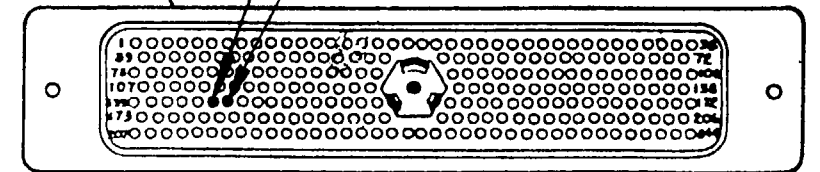
22A2J1



LOGIC RELAY ASSEMBLY

PIN 144

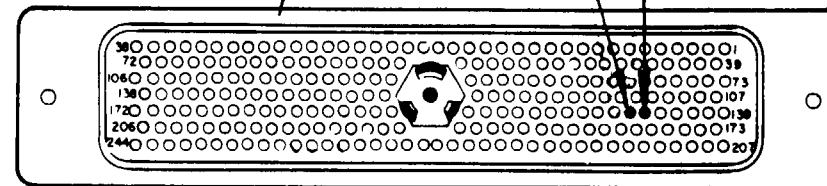
PIN 145



22A5J1

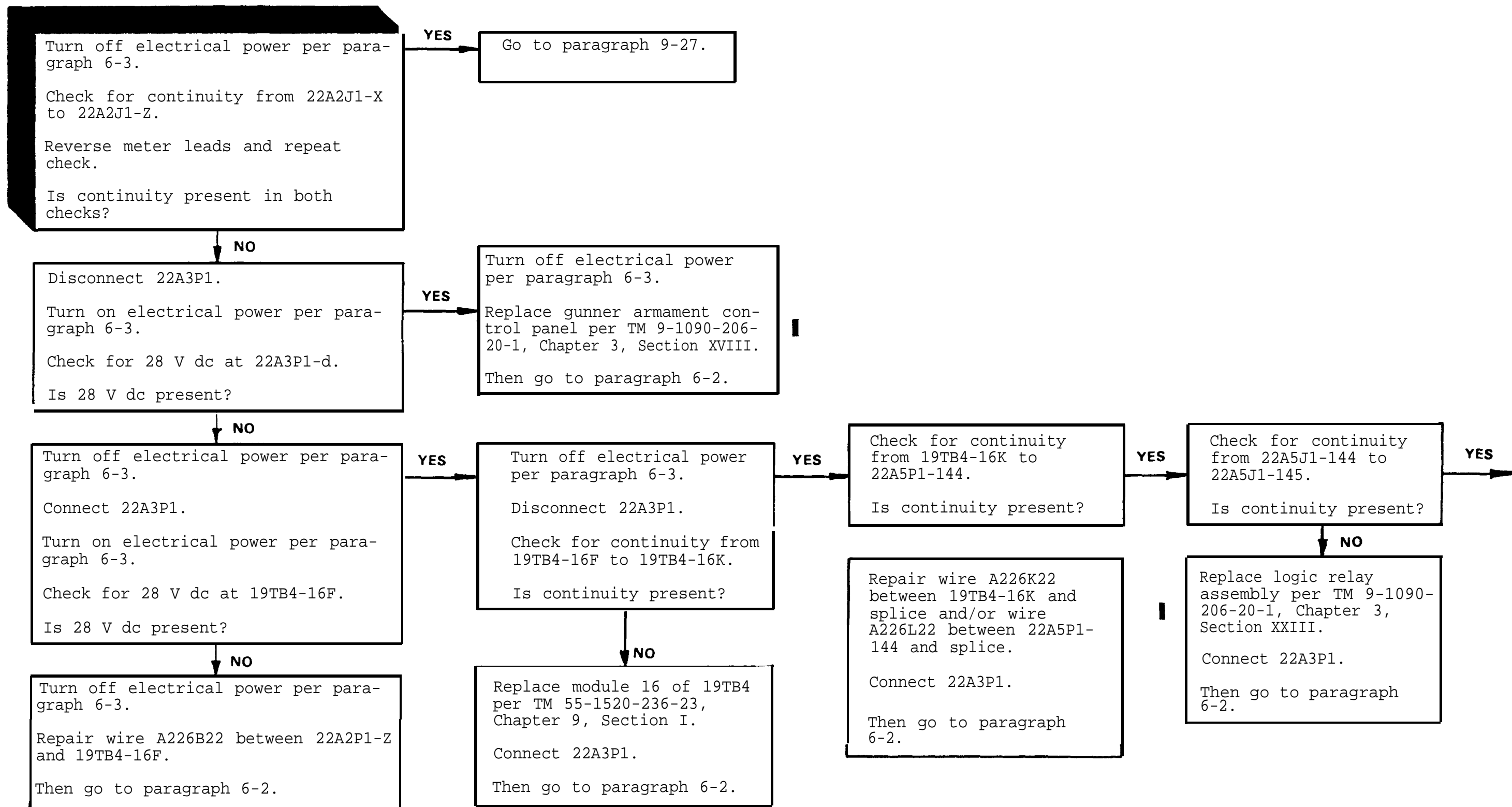
PIN 145

PIN 144

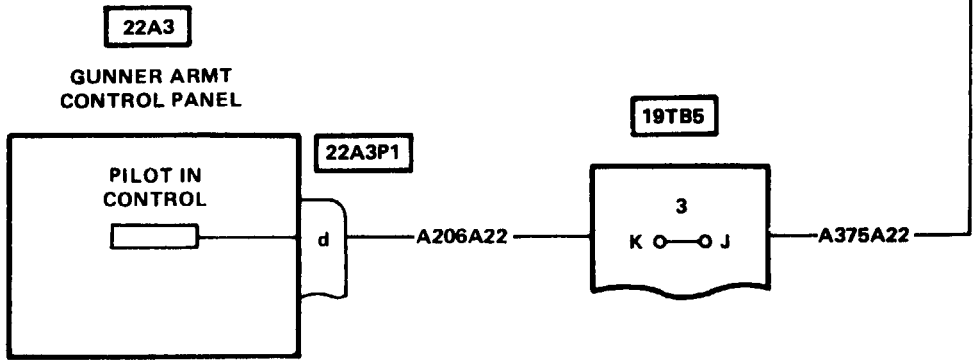
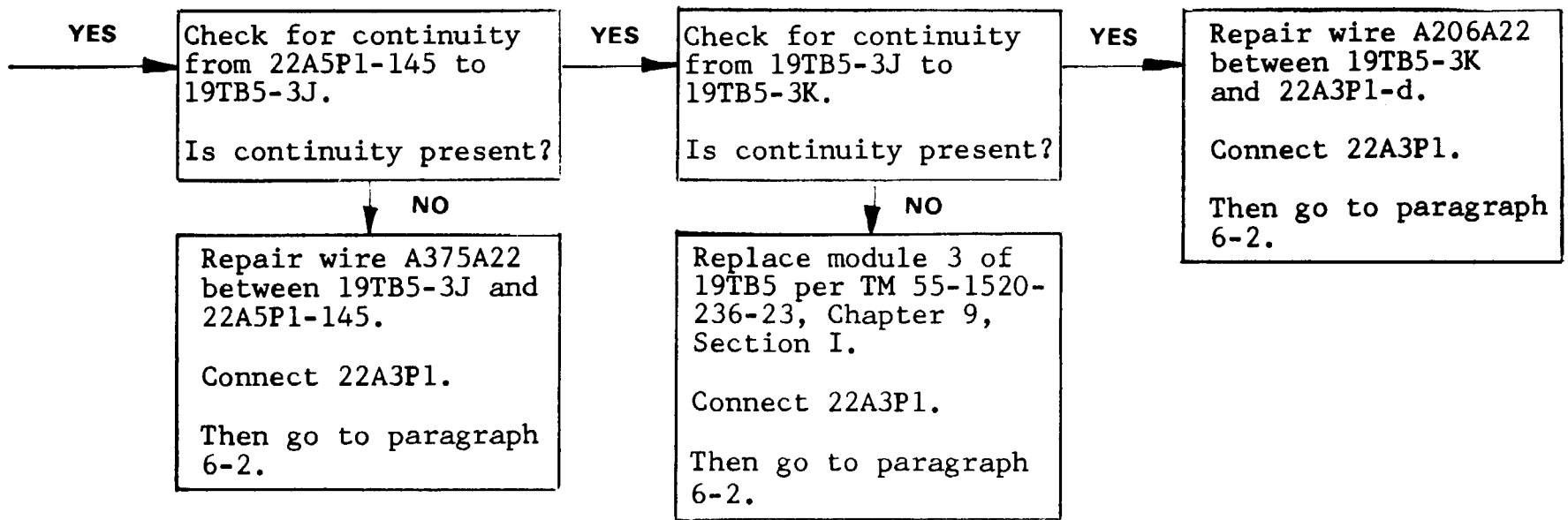
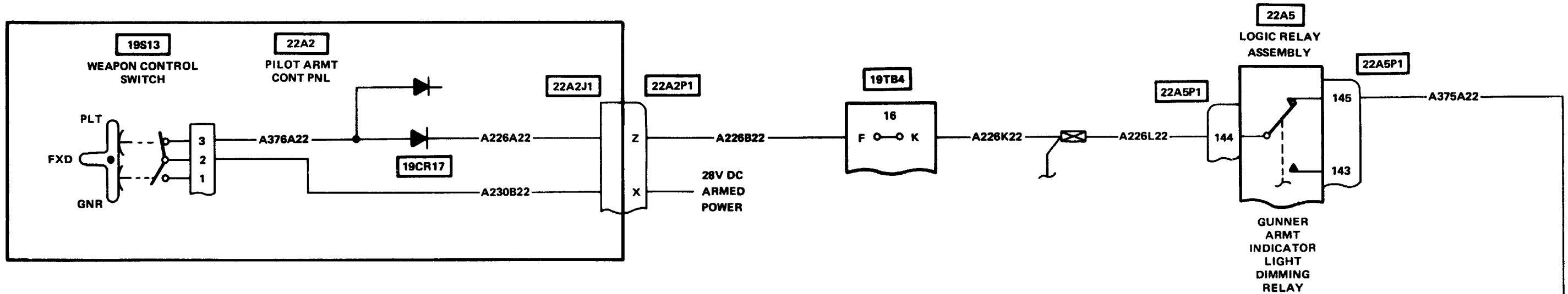


22A5P1

6-20. PILOT IN CONT INDICATOR ON GUNNER ARMMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).



6-20. PILOT IN CONTROL INDICATOR ON GUNNER ARMAMENT CONTROL PANEL DOES NOT LIGHT WHEN WPN CONTR SWITCH IS SET TO PILOT OR FIXED (CONTINUED).



6-21. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER TURRET FIRE SWITCH ON PILOT CYCLIC STICK.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

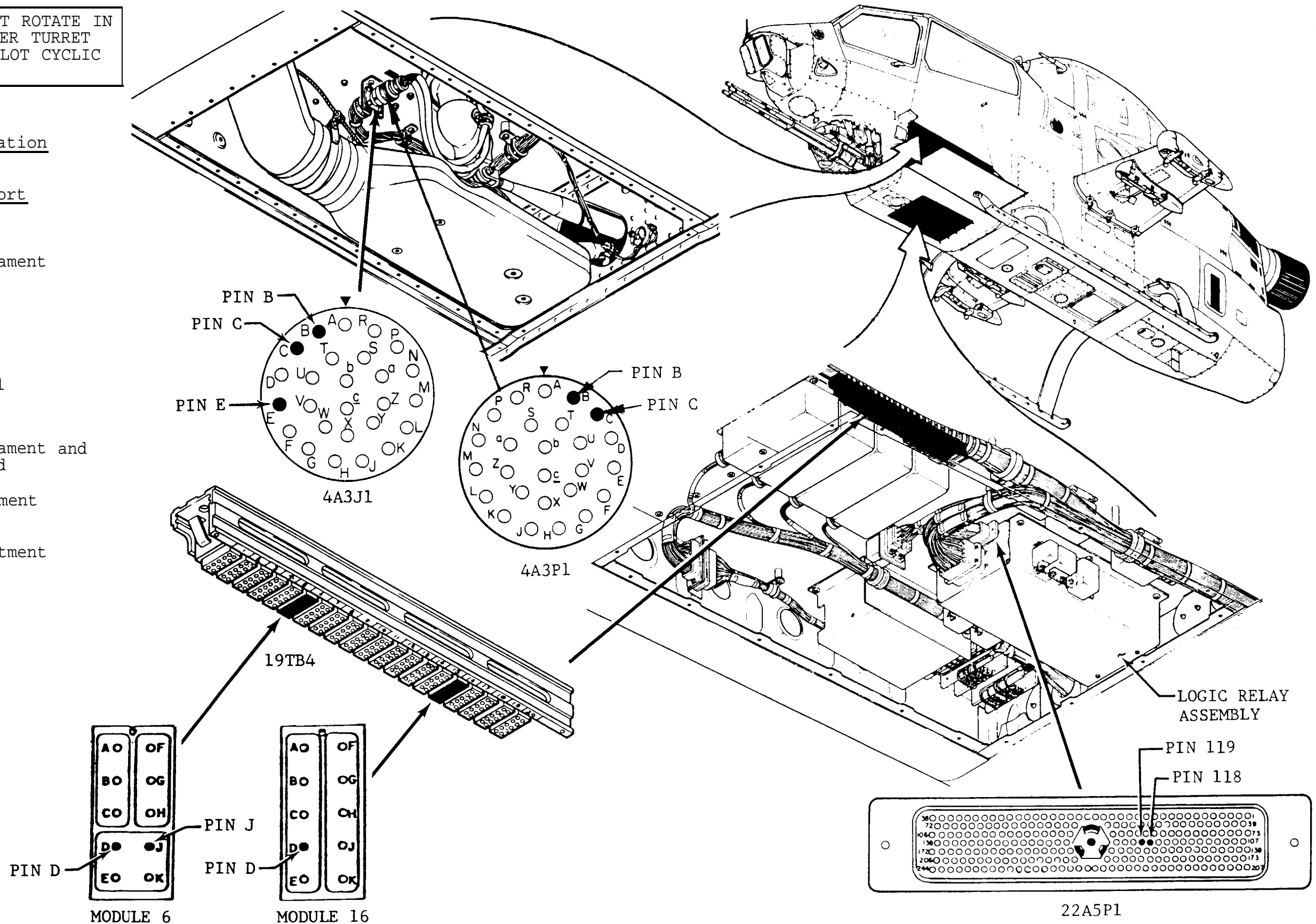
Personnel Required
68J (3)

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

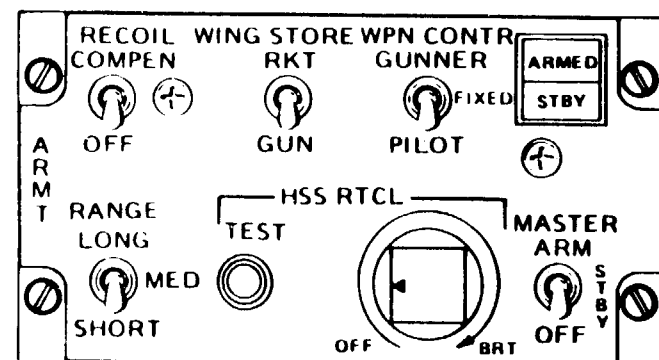
Access Panels
Forward Belly Armament and Lighting - Removed

Left Ammo Compartment Door - Open

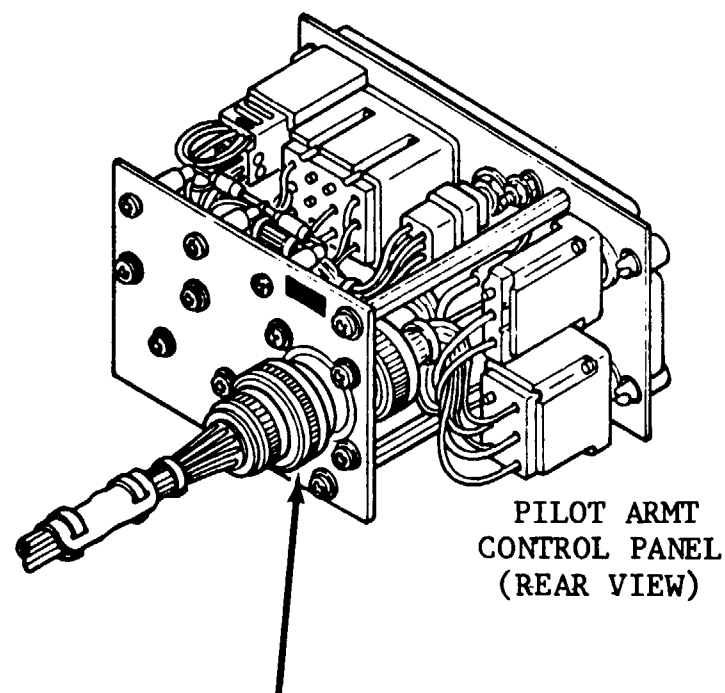
Upper Ammo Compartment Removed



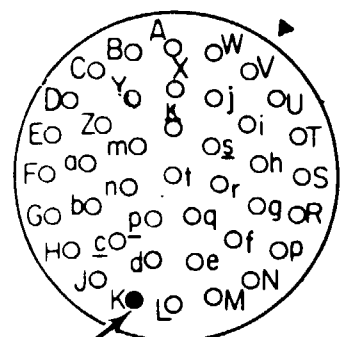
6-21. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER TURRET FIRE SWITCH ON PILOT CYCLIC STICK (CONTINUED).



PILOT ARMT CONTROL PANEL

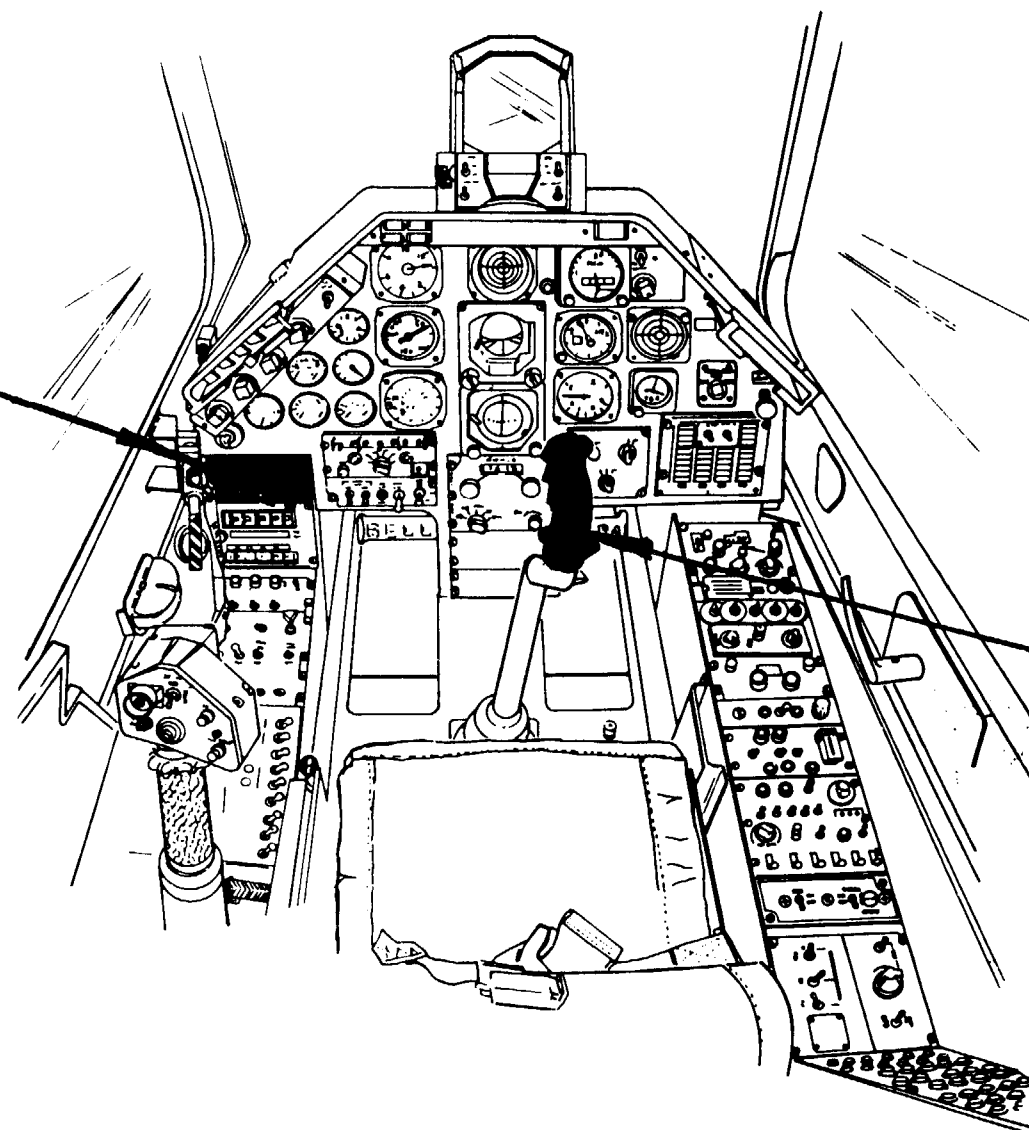


PILOT ARMT CONTROL PANEL (REAR VIEW)



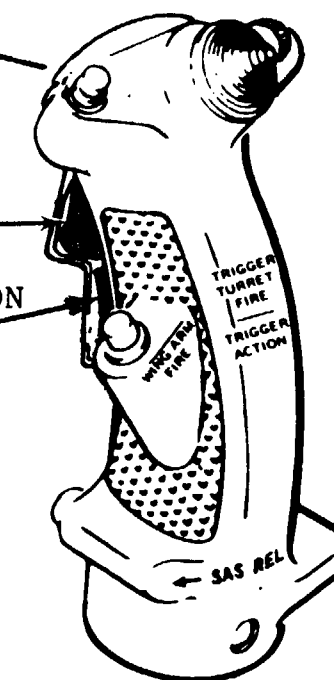
PIN K

22A2P1



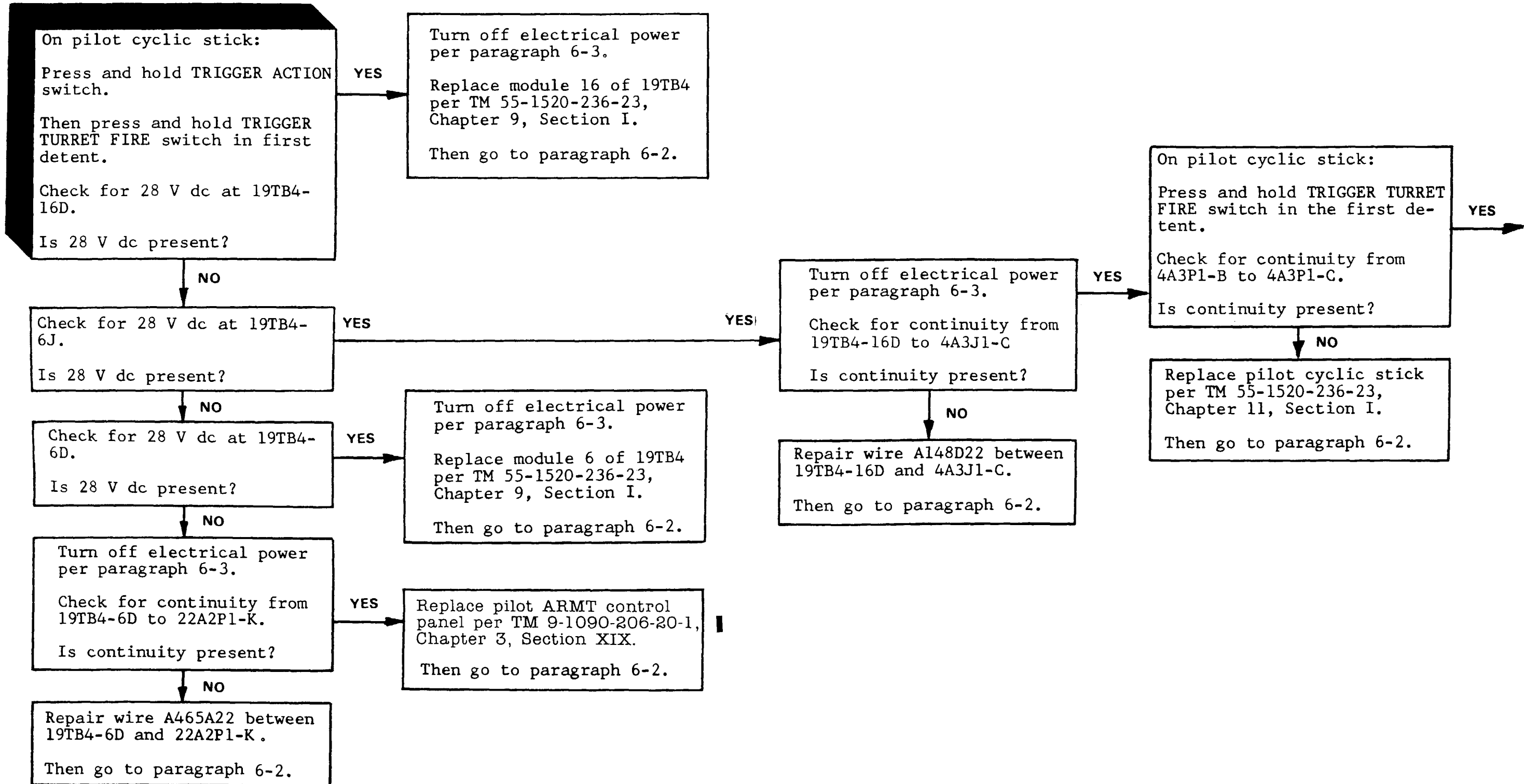
TRIGGER TURRET FIRE SWITCH

TRIGGER ACTION SWITCH

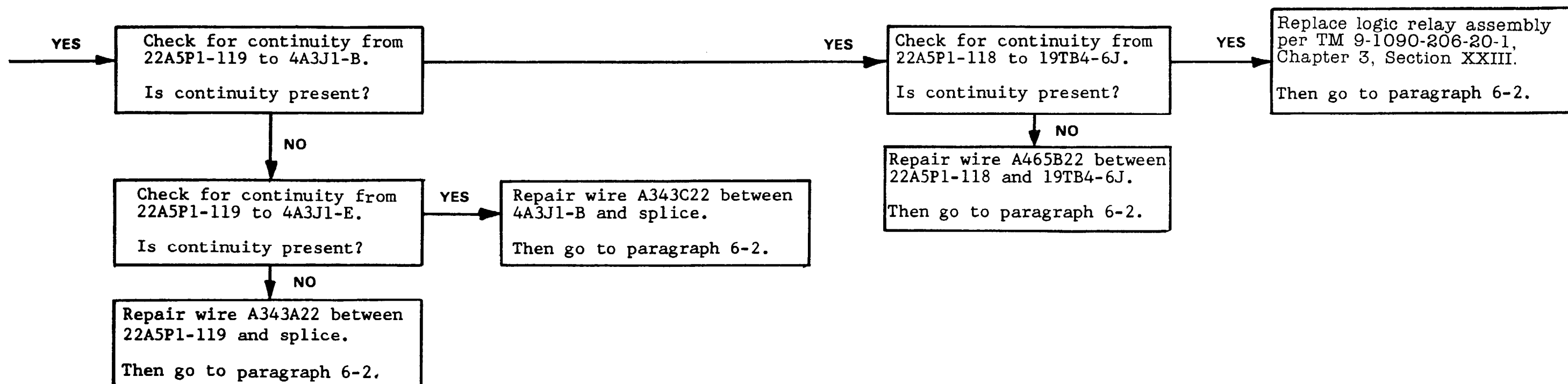


PILOT CYCLIC STICK

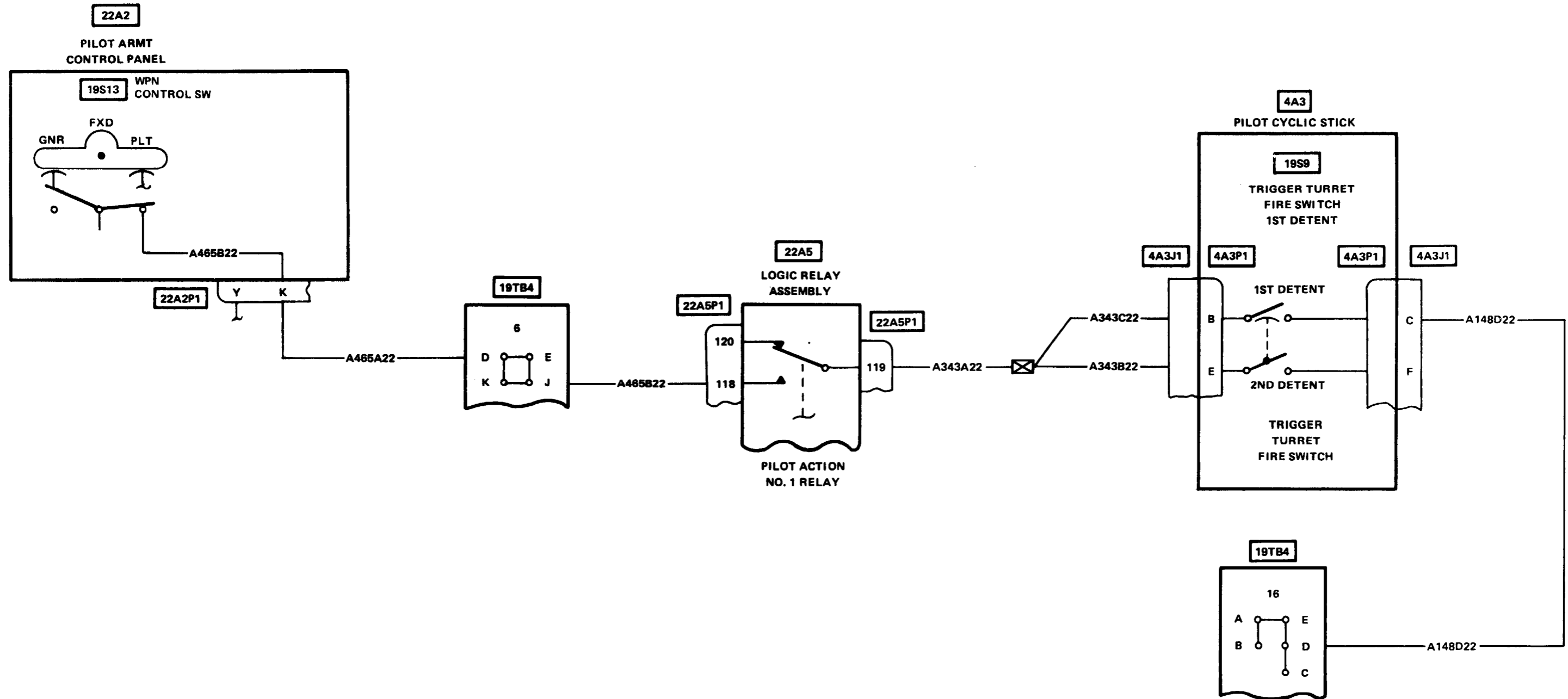
6-21. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER TURRET FIRE SWITCH ON PILOT CYCLIC STICK (CONTINUED).



6-21. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER TURRET FIRE SWITCH ON PILOT CYCLIC STICK (CONTINUED).



6-21. GUN BARRELS DO NOT ROTATE IN RESPONSE TO TRIGGER TURRET FIRE SWITCH ON PILOT CYCLIC STICK (CONTINUED).



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6-22. GUN FEEDER SOLENOID WILL NOT ENGAGE FEEDER.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

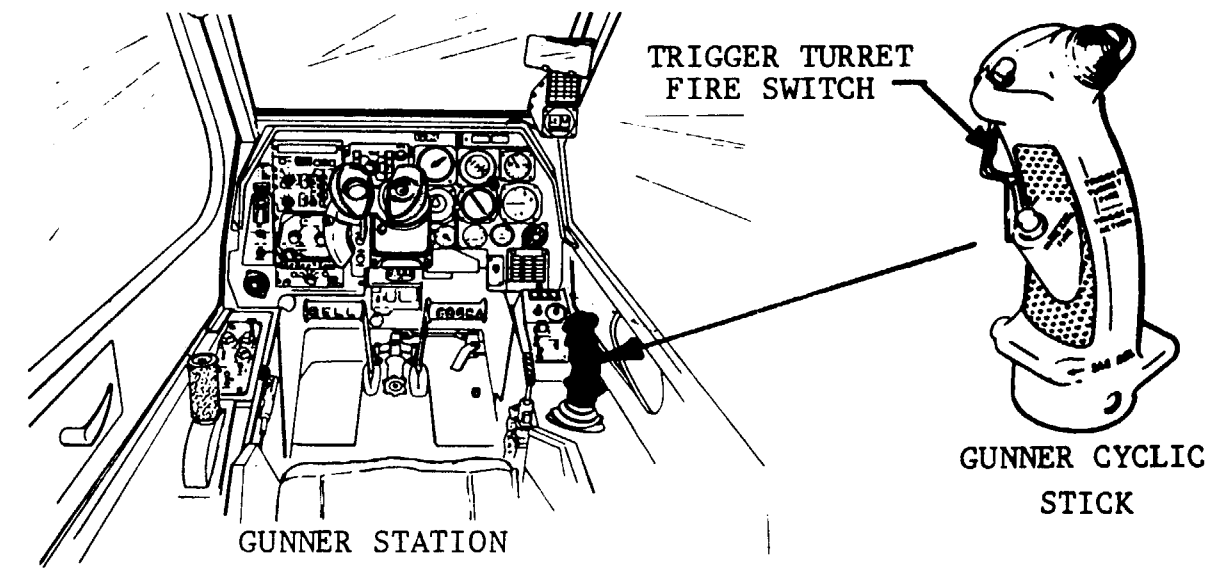
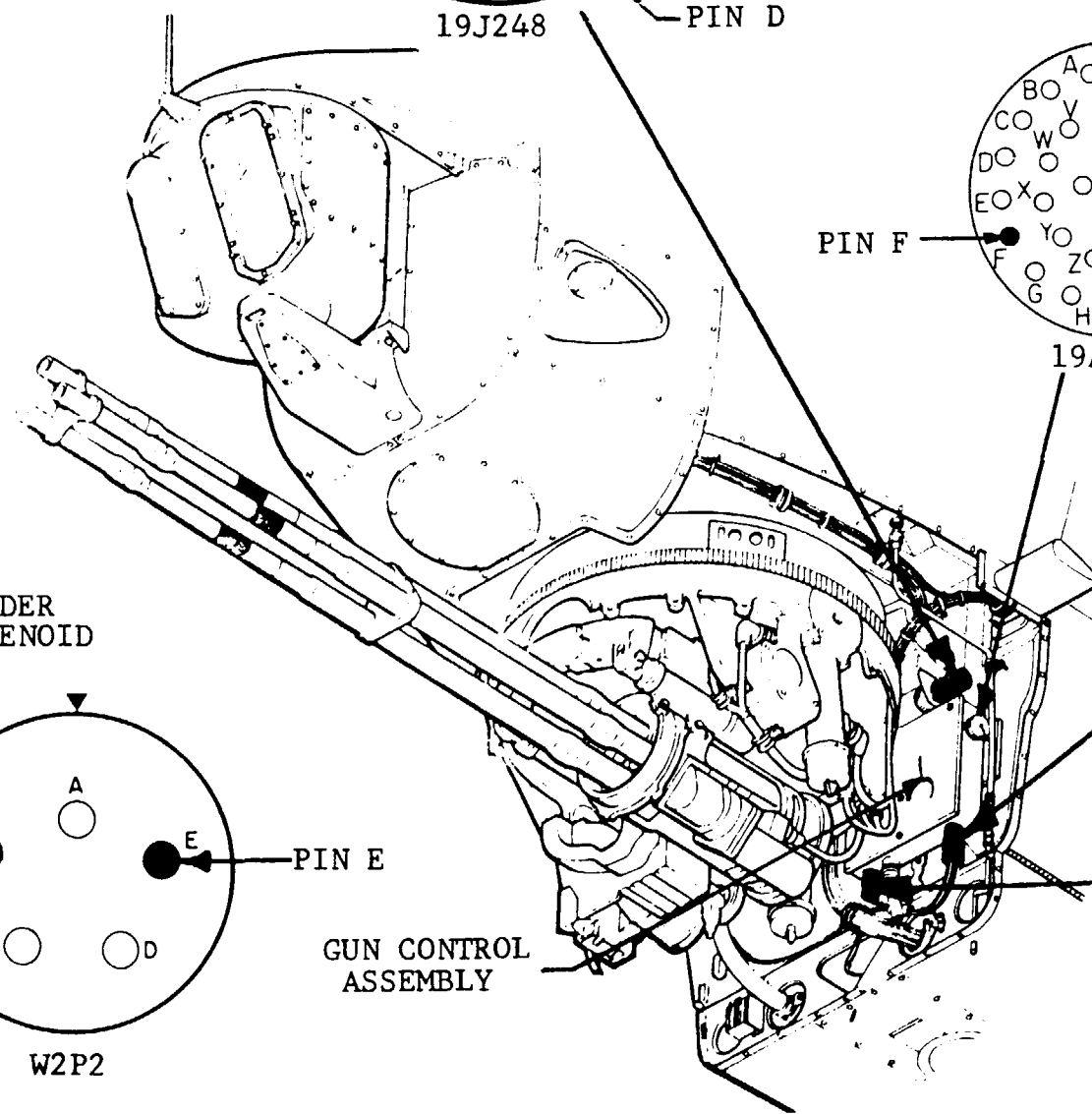
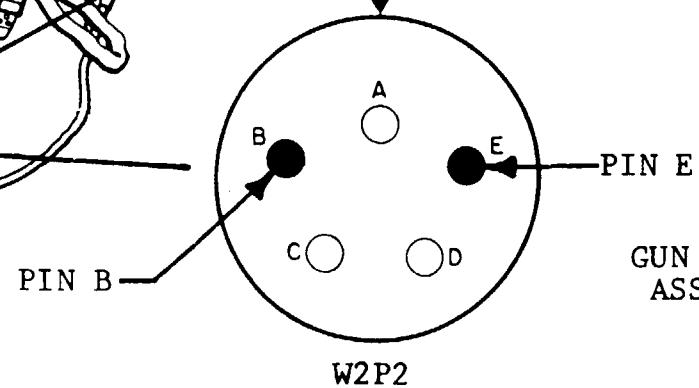
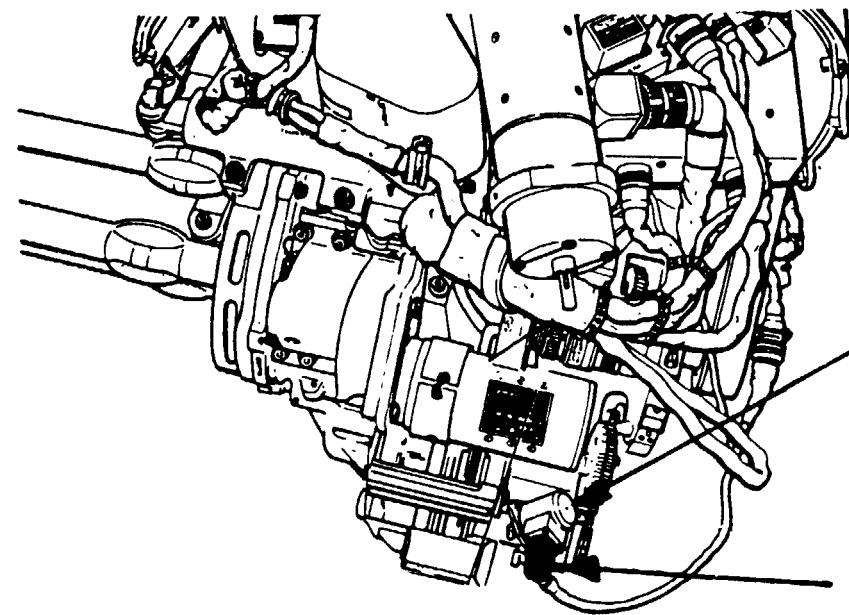
Personnel Required
68J

References

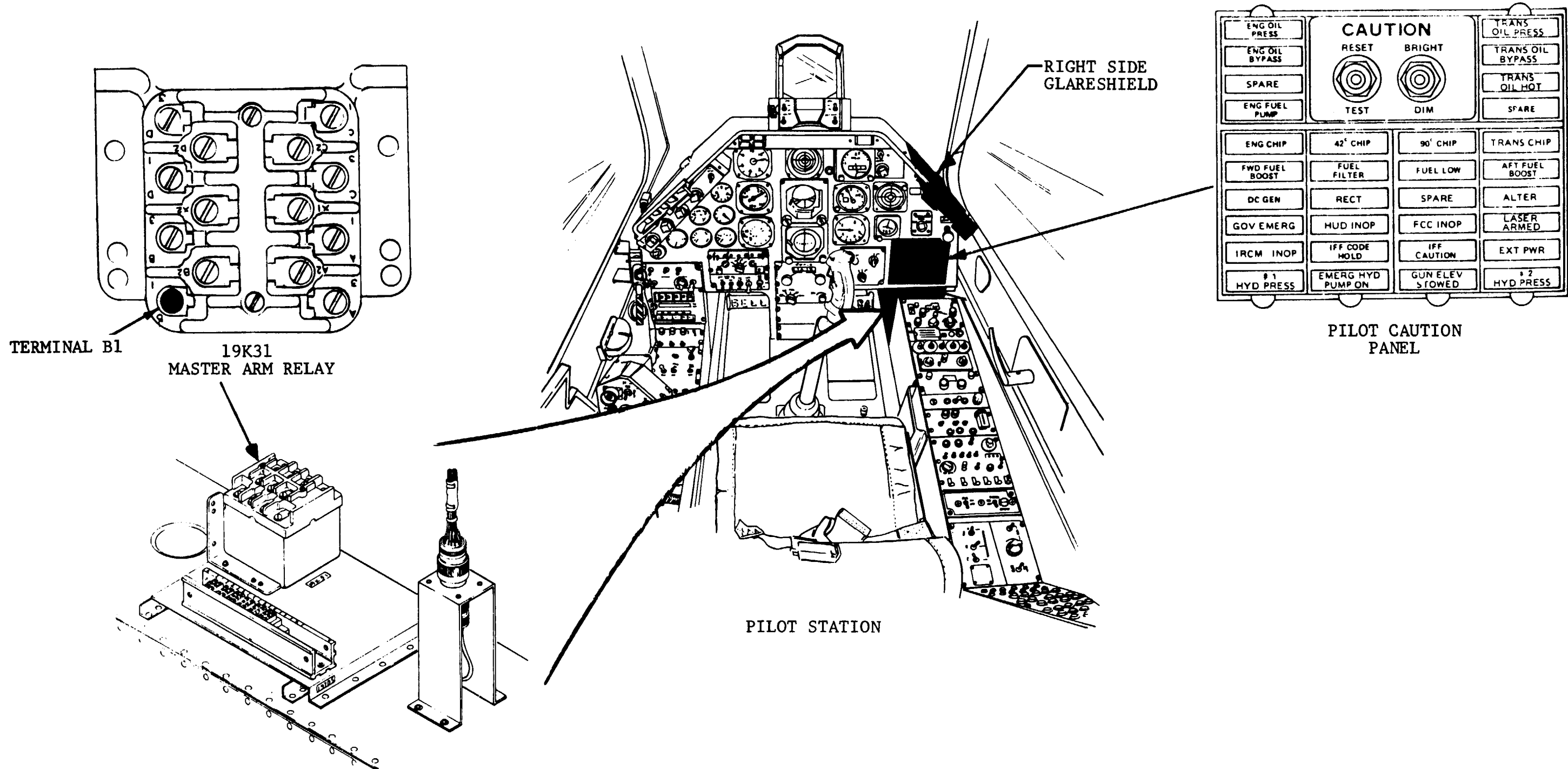
- TM 9-1090-206-20-1
- TM 55-1520-236-23

Access Panels

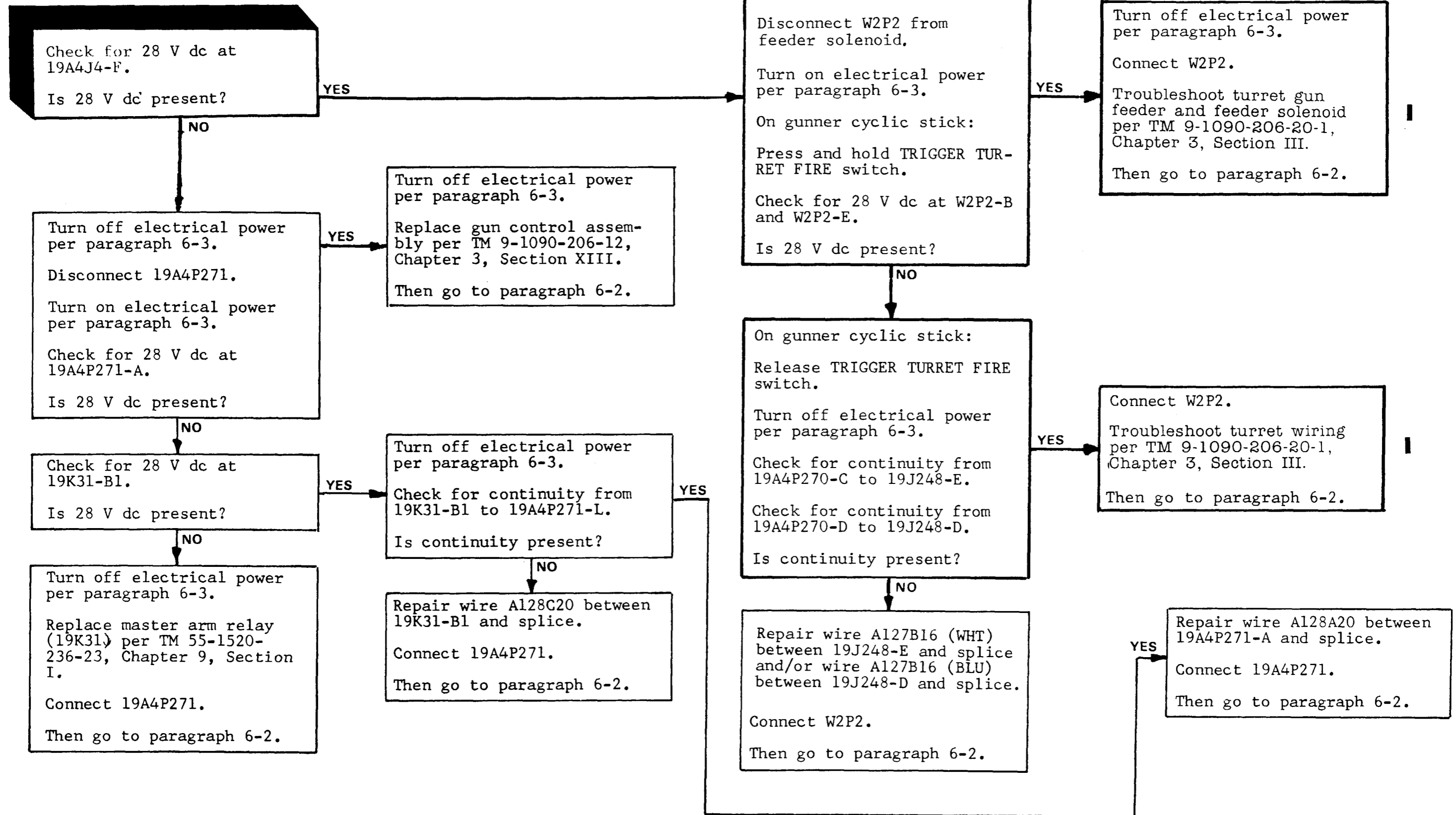
- Turret Fairing - Removed
- Right Side Glareshield - Removed



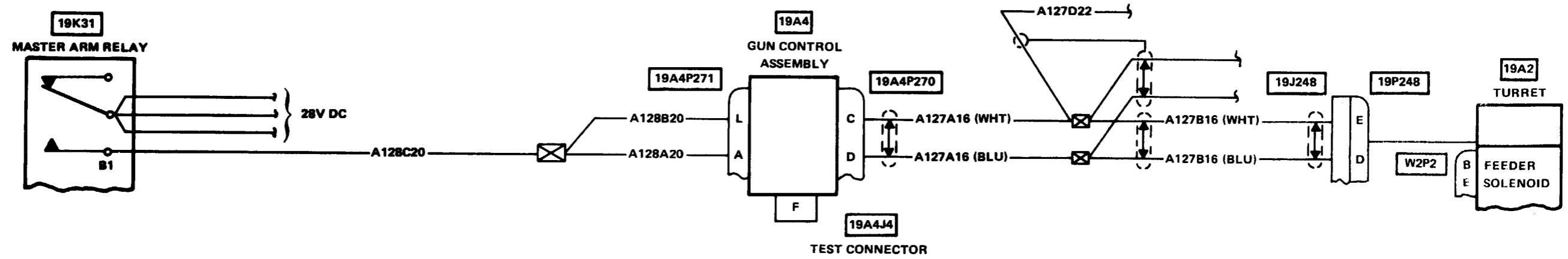
6-22. GUN FEEDER SOLENOID WILL NOT ENGAGE FEEDER (CONTINUED).



6-22. GUN FEEDER SOLENOID WILL NOT ENGAGE FEEDER (CONTINUED).



6-22. GUN FEEDER SOLENOID WILL NOT ENGAGE FEEDER (CONTINUED).



6-23. AMMO BOOST MOTOR FAILS TO RUN WITH TRIGGER SWITCH PRESSED.

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 55-1520-236-23

Access Panels

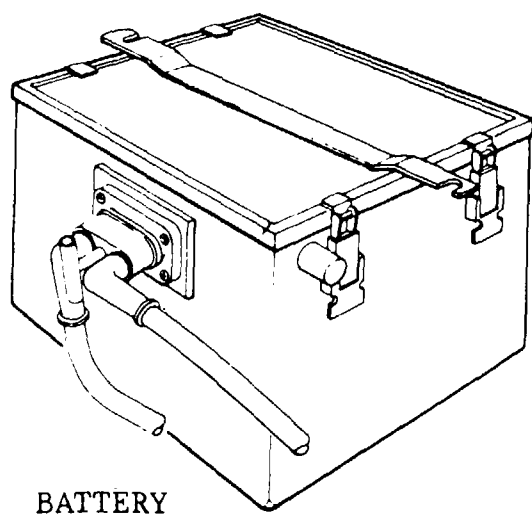
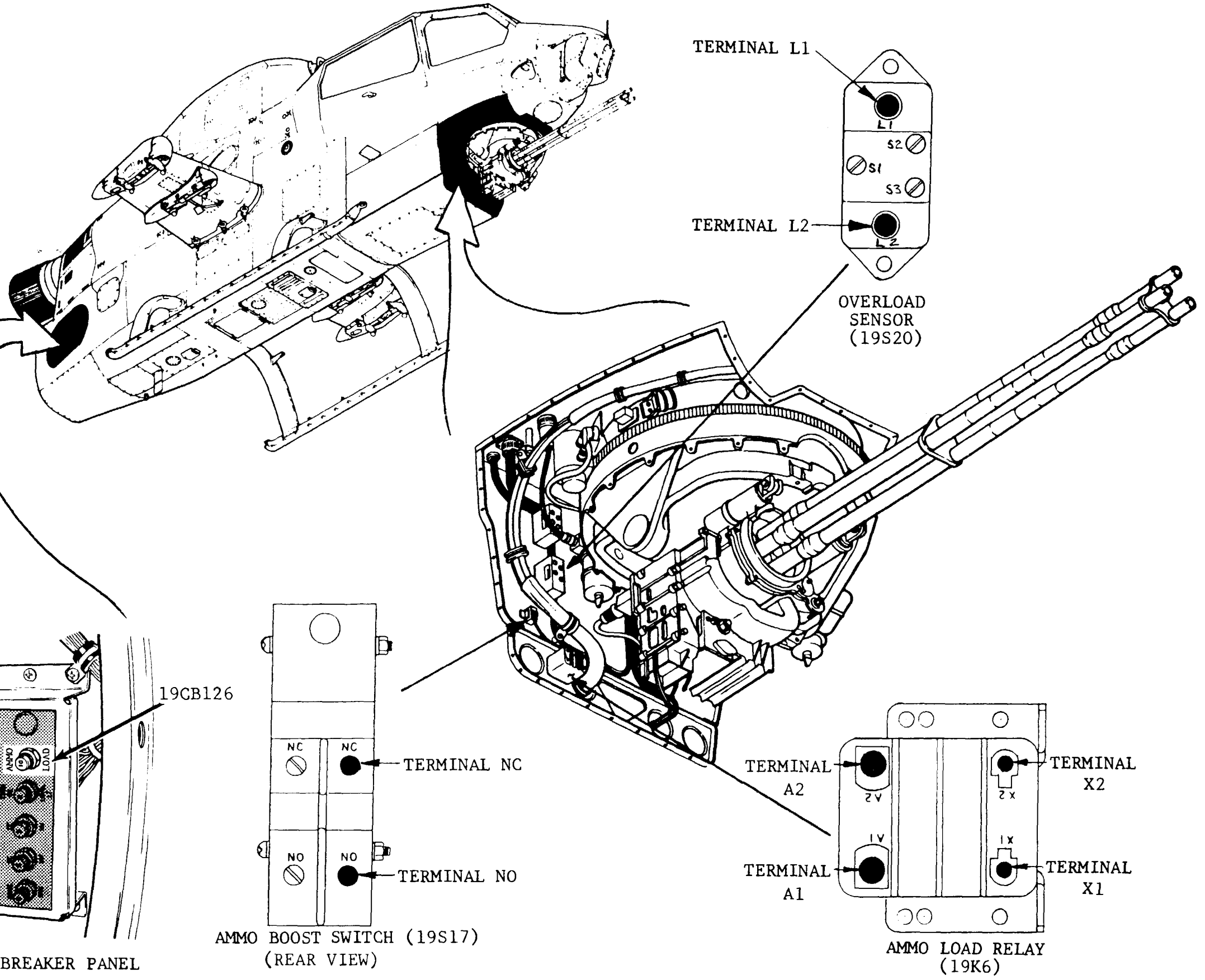
Right Forward Control Linkage - Removed

Turret Fairing - Removed

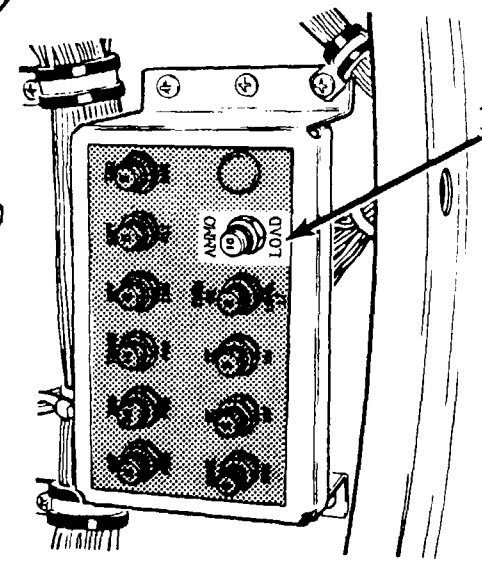
Left Ammo Compartment Door - Open

Right Ammo Compartment Door - Open

Battery Compartment - Removed

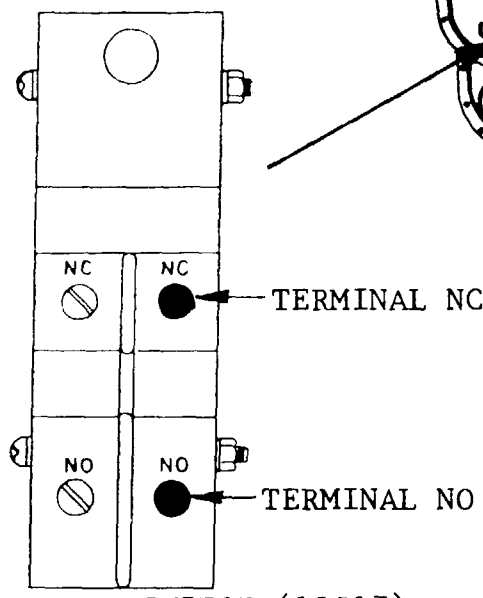


BATTERY

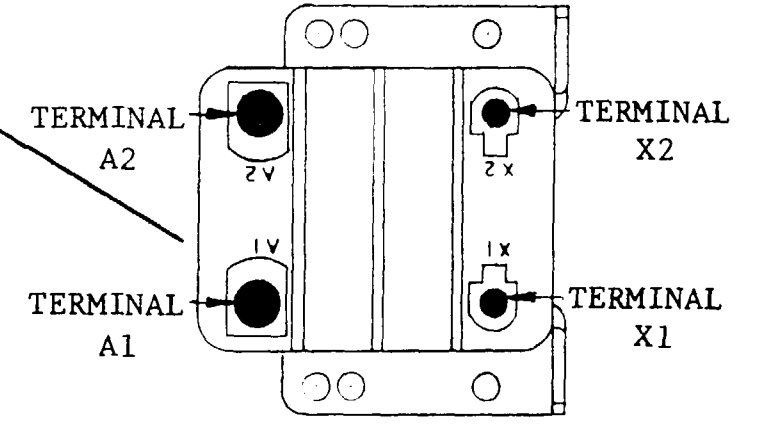


CIRCUIT BREAKER PANEL

19CB126

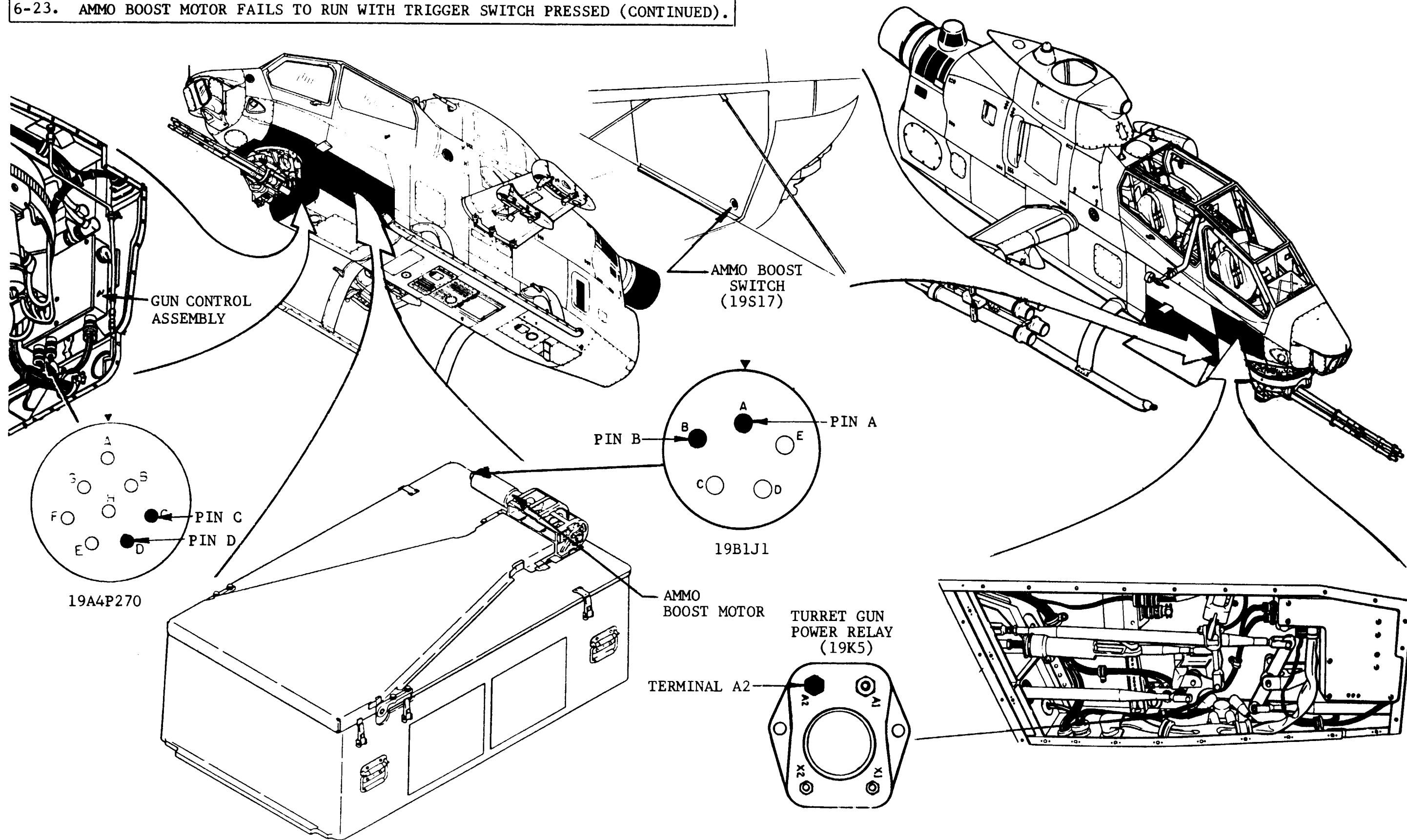


AMMO BOOST SWITCH (19S17)
(REAR VIEW)

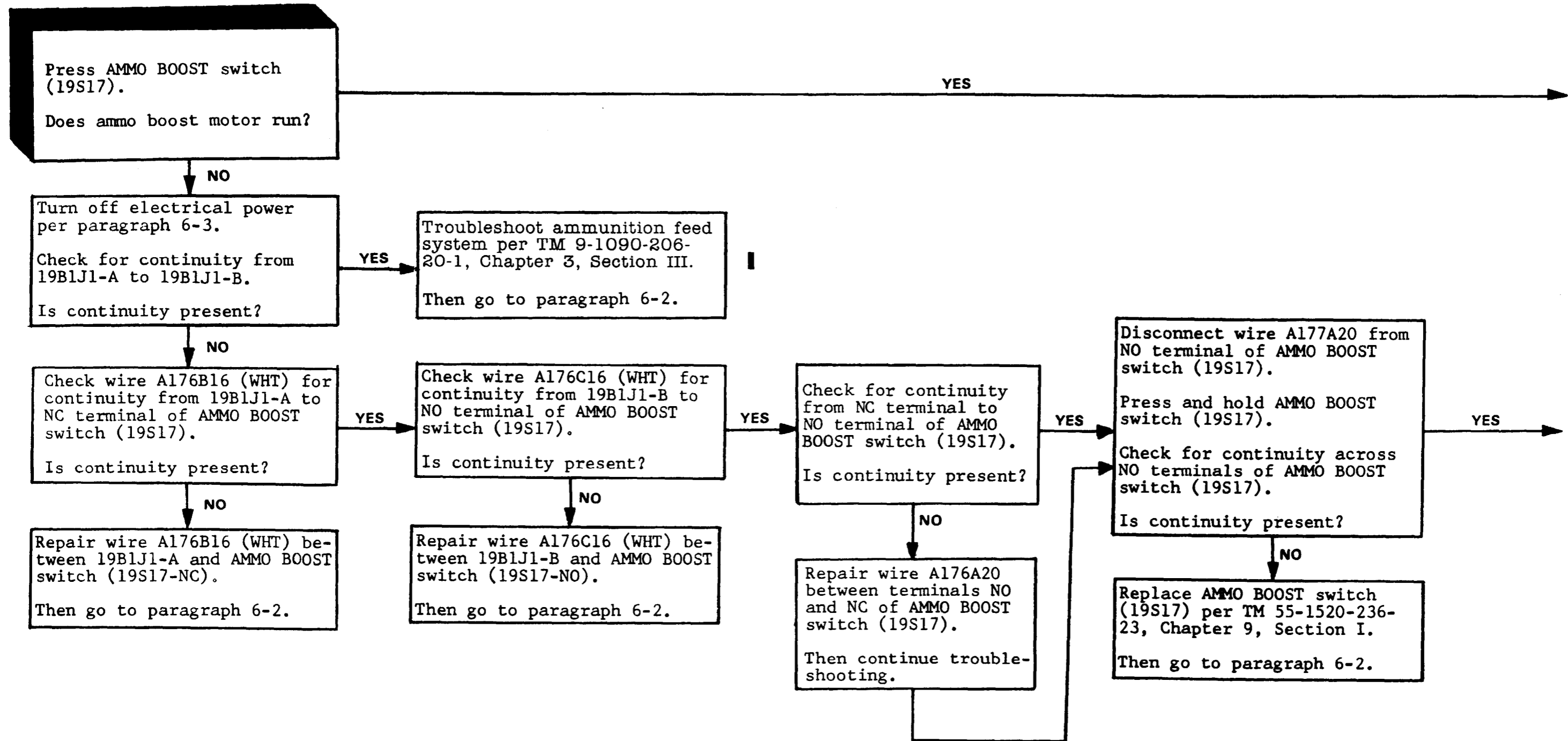


AMMO LOAD RELAY (19K6)

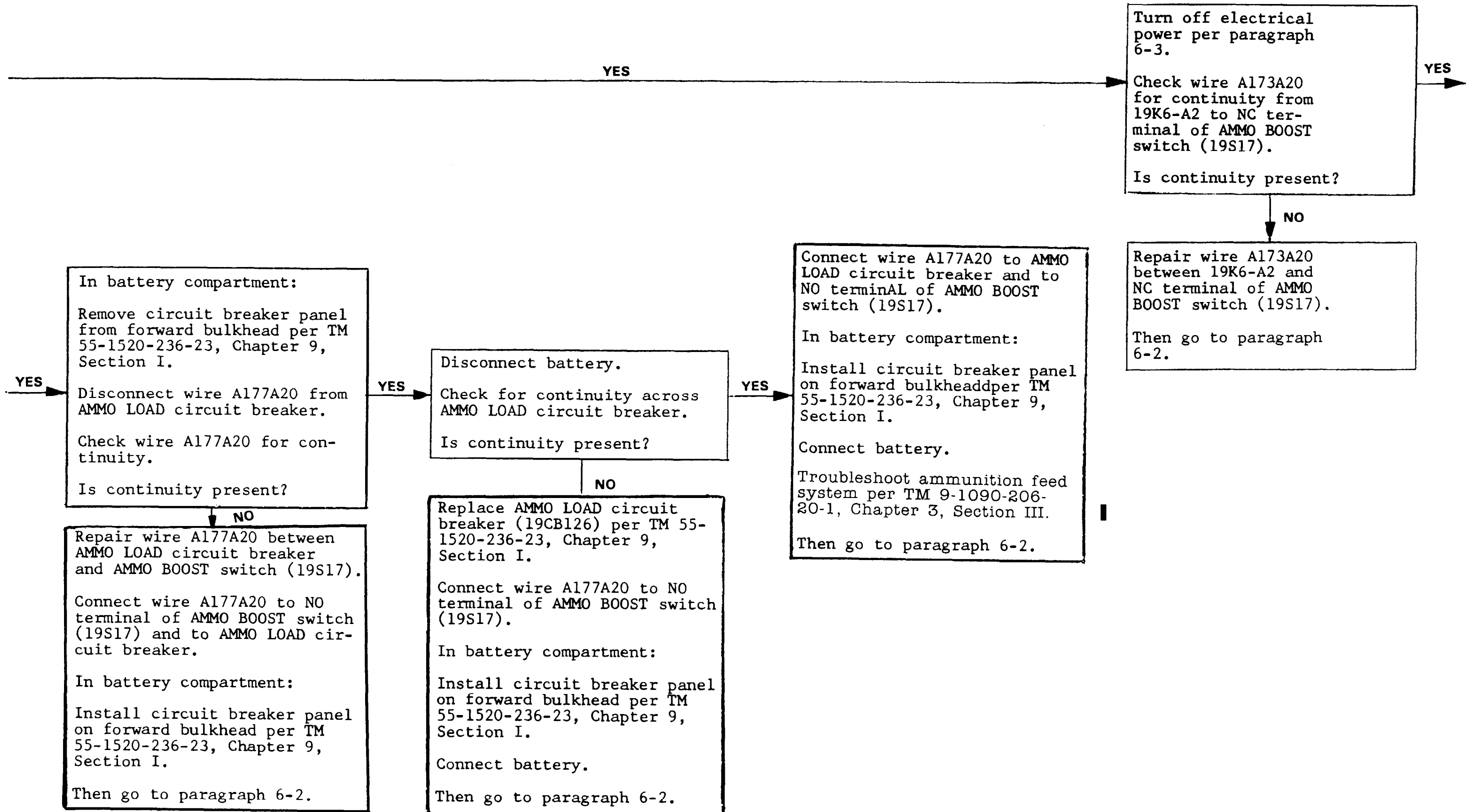
6-23. AMMO BOOST MOTOR FAILS TO RUN WITH TRIGGER SWITCH PRESSED (CONTINUED).



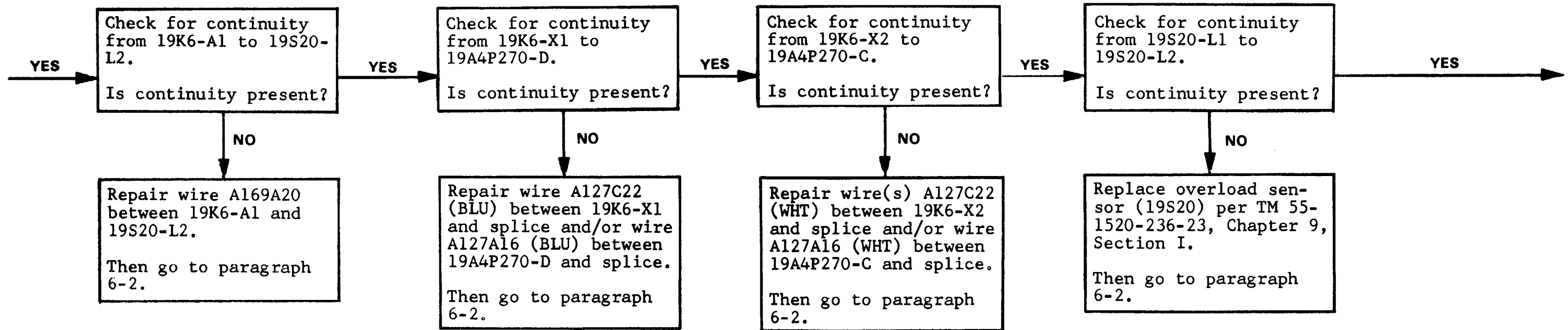
6-23. AMMO BOOST MOTOR FAILS TO RUN WITH TRIGGER SWITCH PRESSED (CONTINUED).



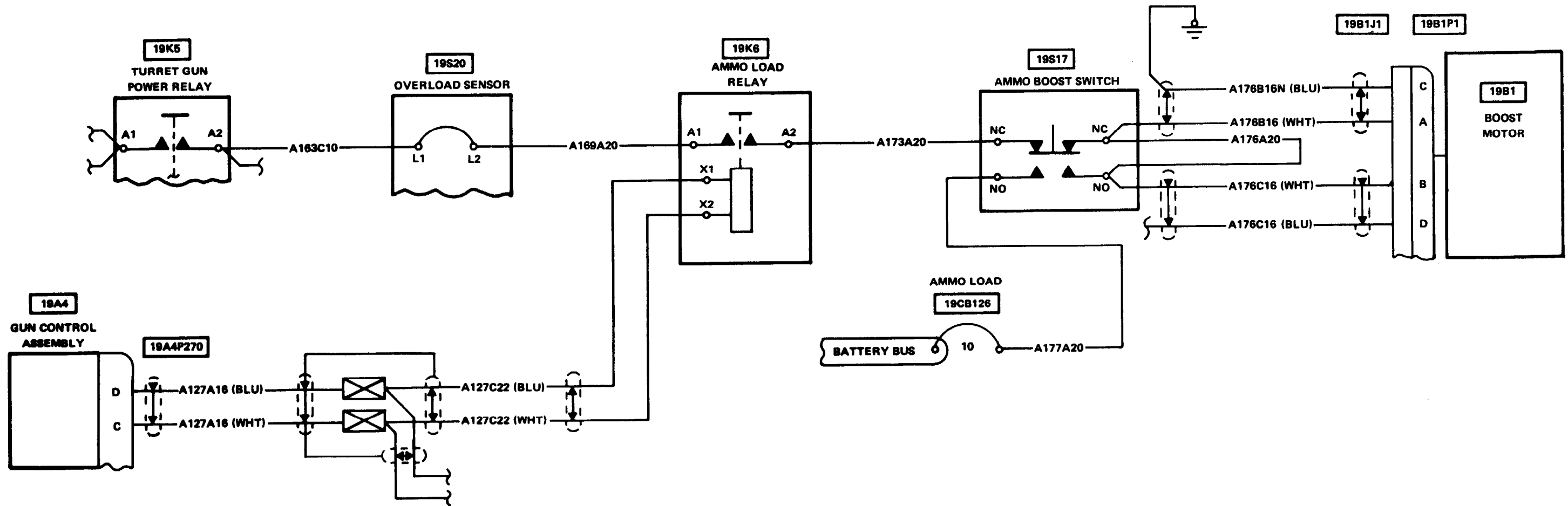
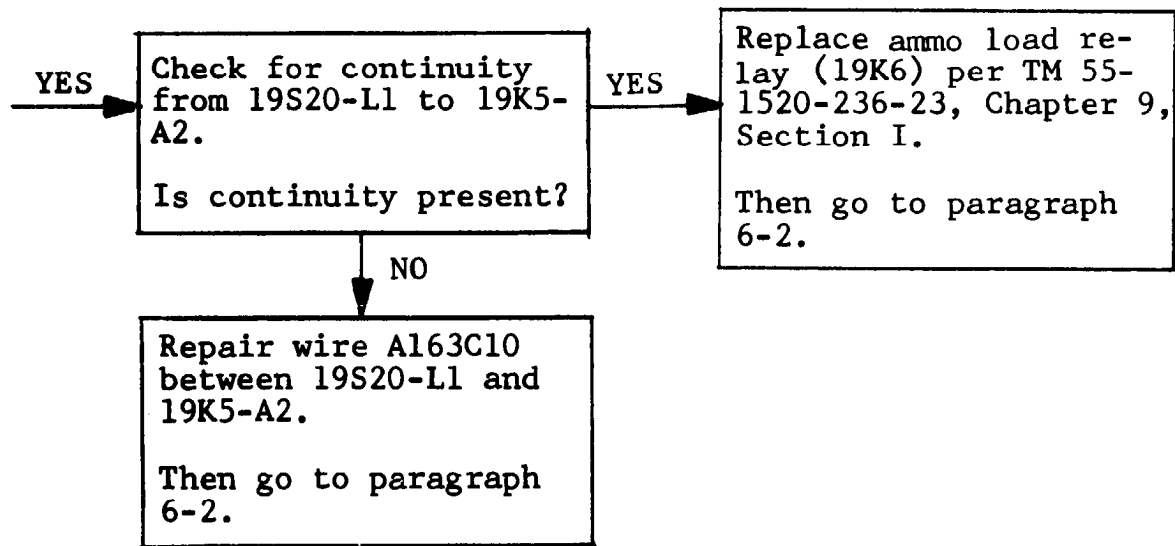
6-23. AMMO BOOST MOTOR FAILS TO RUN WITH TRIGGER SWITCH PRESSED (CONTINUED).



6-23. AMMO BOOST MOTOR FAILS TO RUN WITH TRIGGER SWITCH PRESSED (CONTINUED).



6-23. AMMO BOOST MOTOR FAILS TO RUN WITH TRIGGER SWITCH PRESSED (CONTINUED).



6-24. TURRET DOES NOT RESPOND TO PILOT TRIGGER ACTION SWITCH .

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References

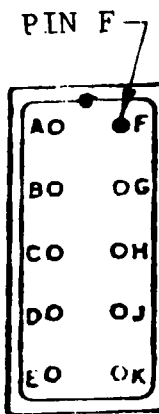
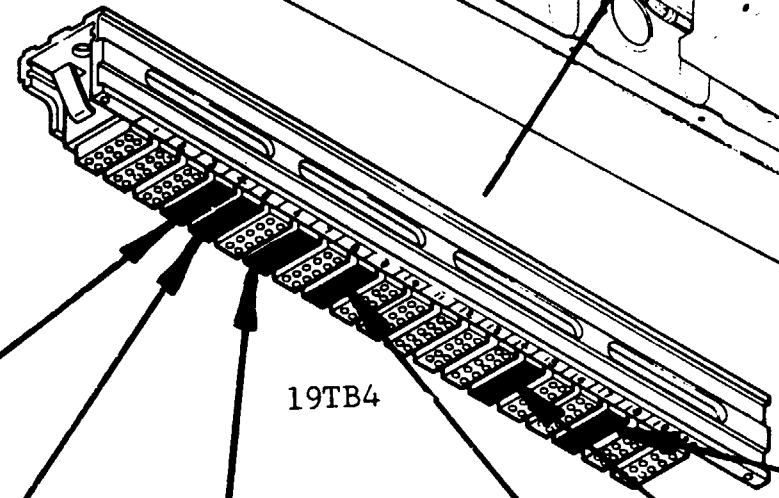
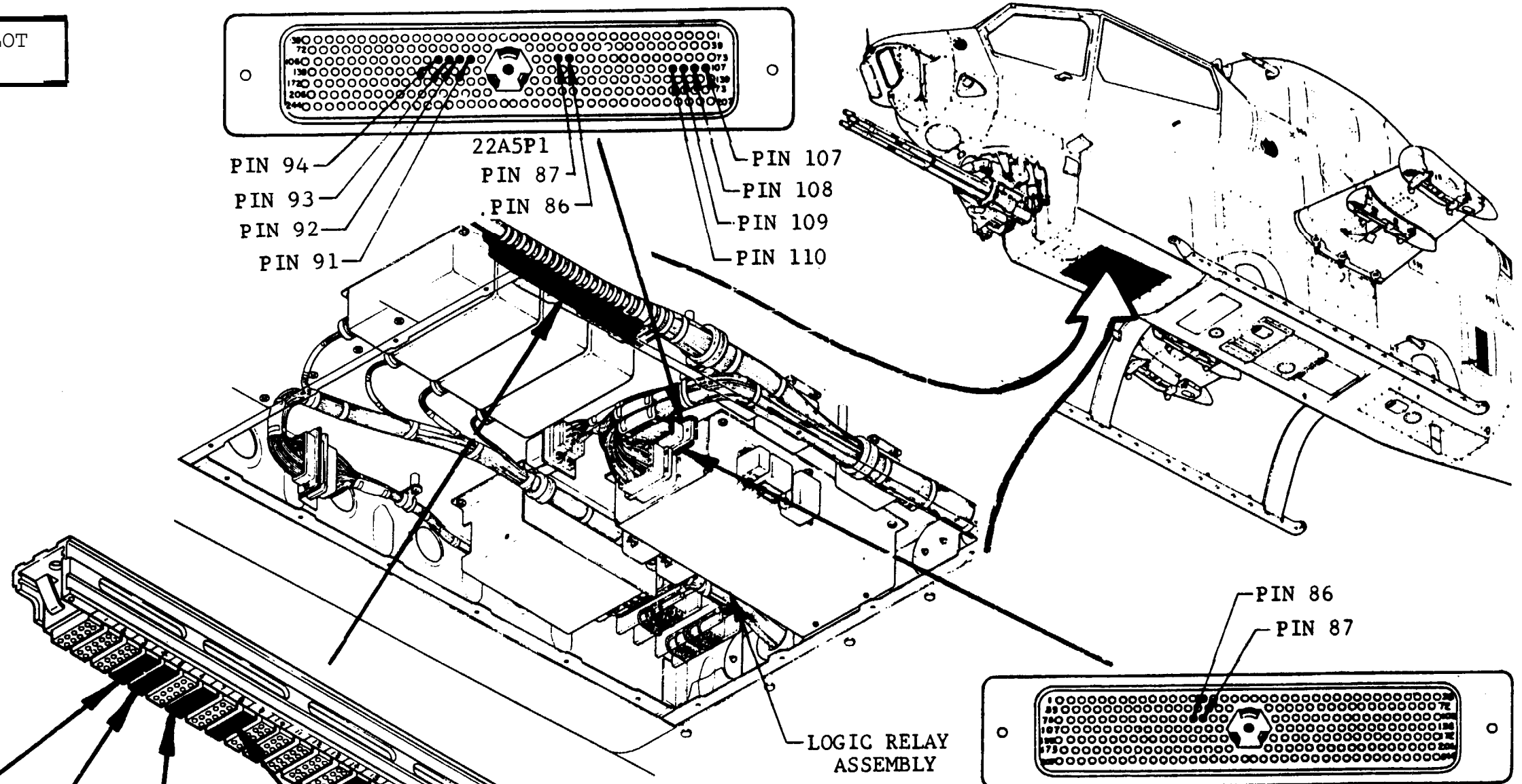
TM 9-1090-206-20-1
TM 55-1520-236-23

Access Panels

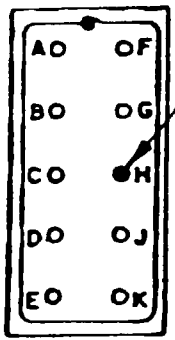
Forward Belly Armament and Lighting - Removed

Ammo Compartment Door - Open

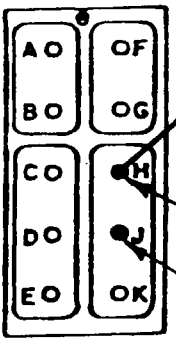
Upper Ammo Compartment - Removed



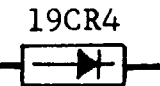
MODULE 4



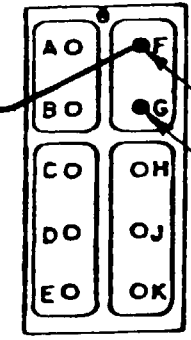
MODULE 5



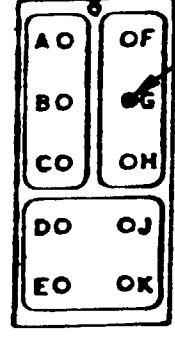
MODULE 7



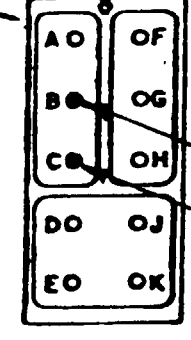
19CR4



MODULE 9

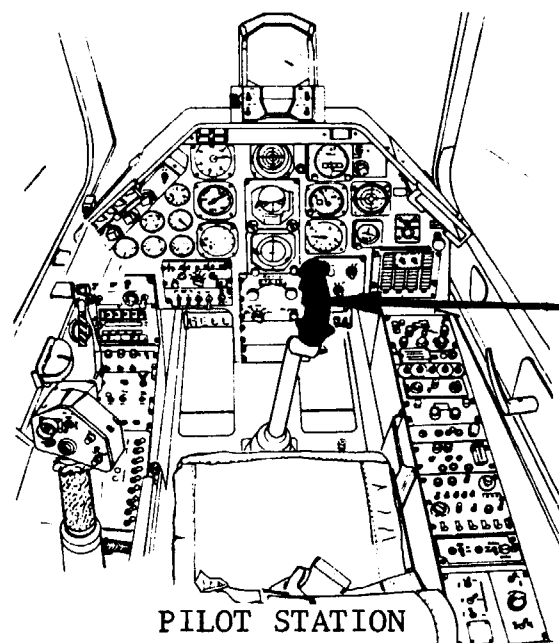


MODULE 15

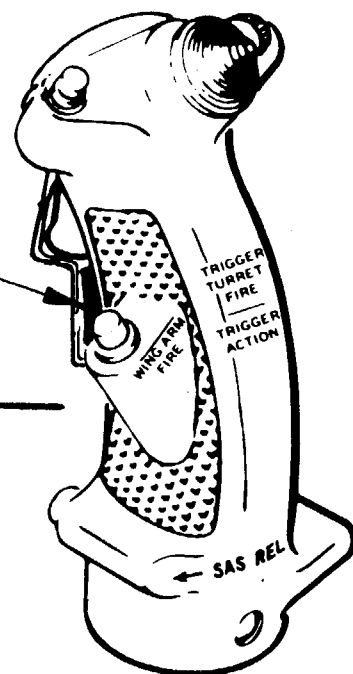


MODULE 18

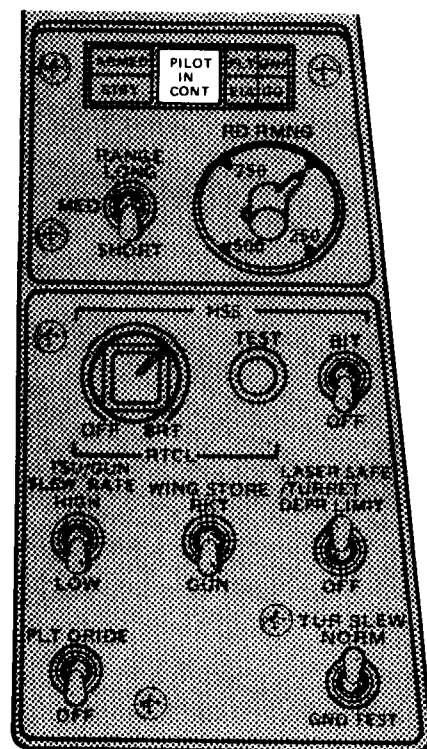
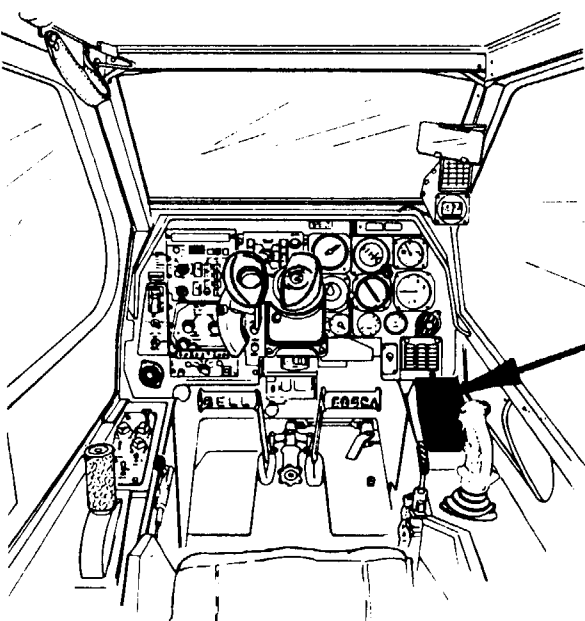
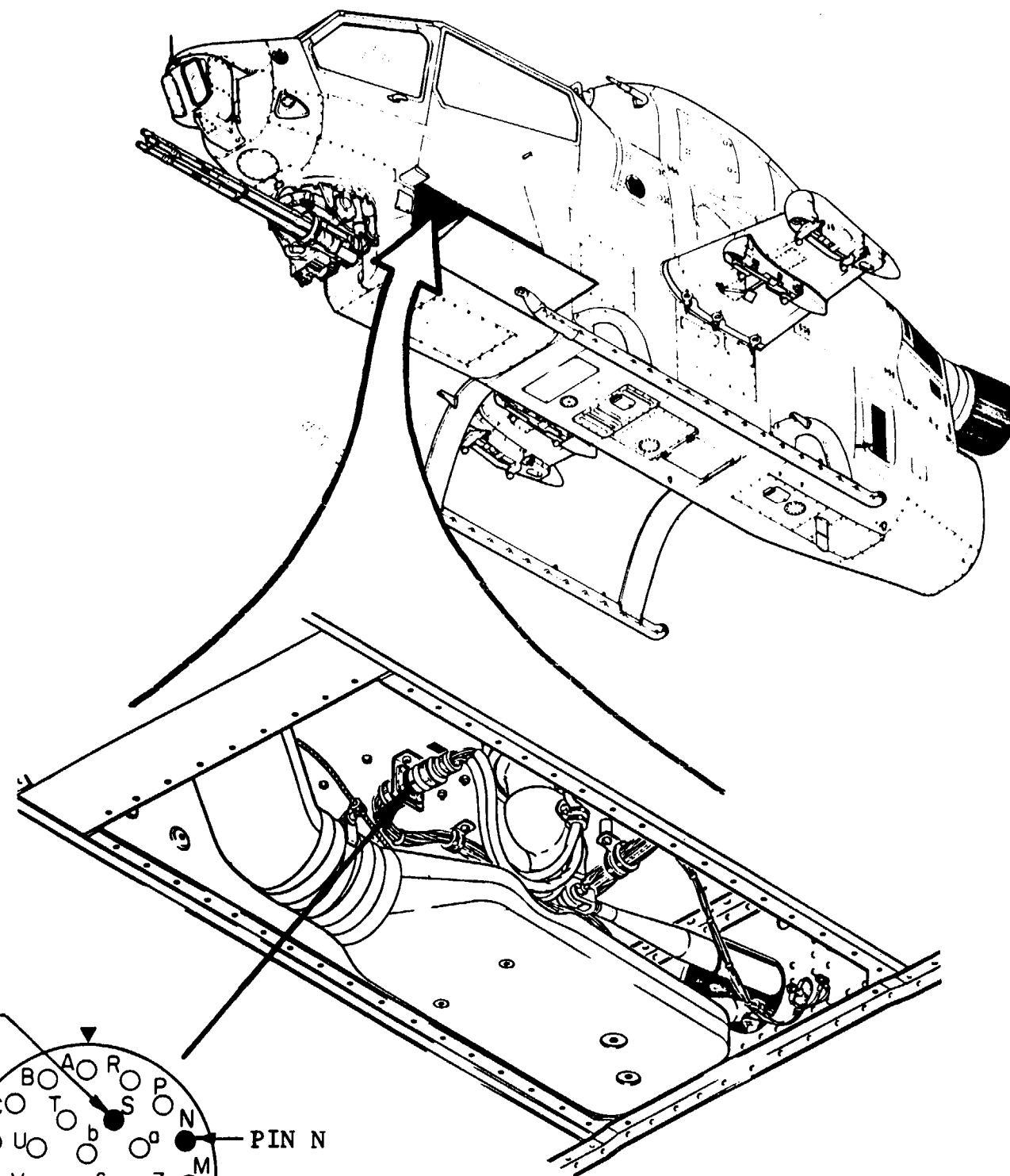
6-24. TURRET DOES NOT RESPOND TO PILOT TRIGGER ACTION SWITCH (CONTINUED).



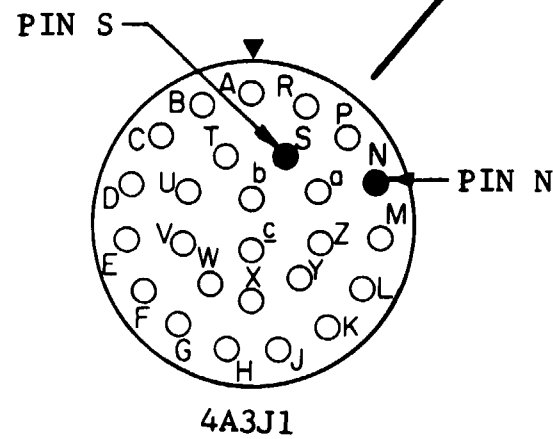
TRIGGER ACTION SWITCH



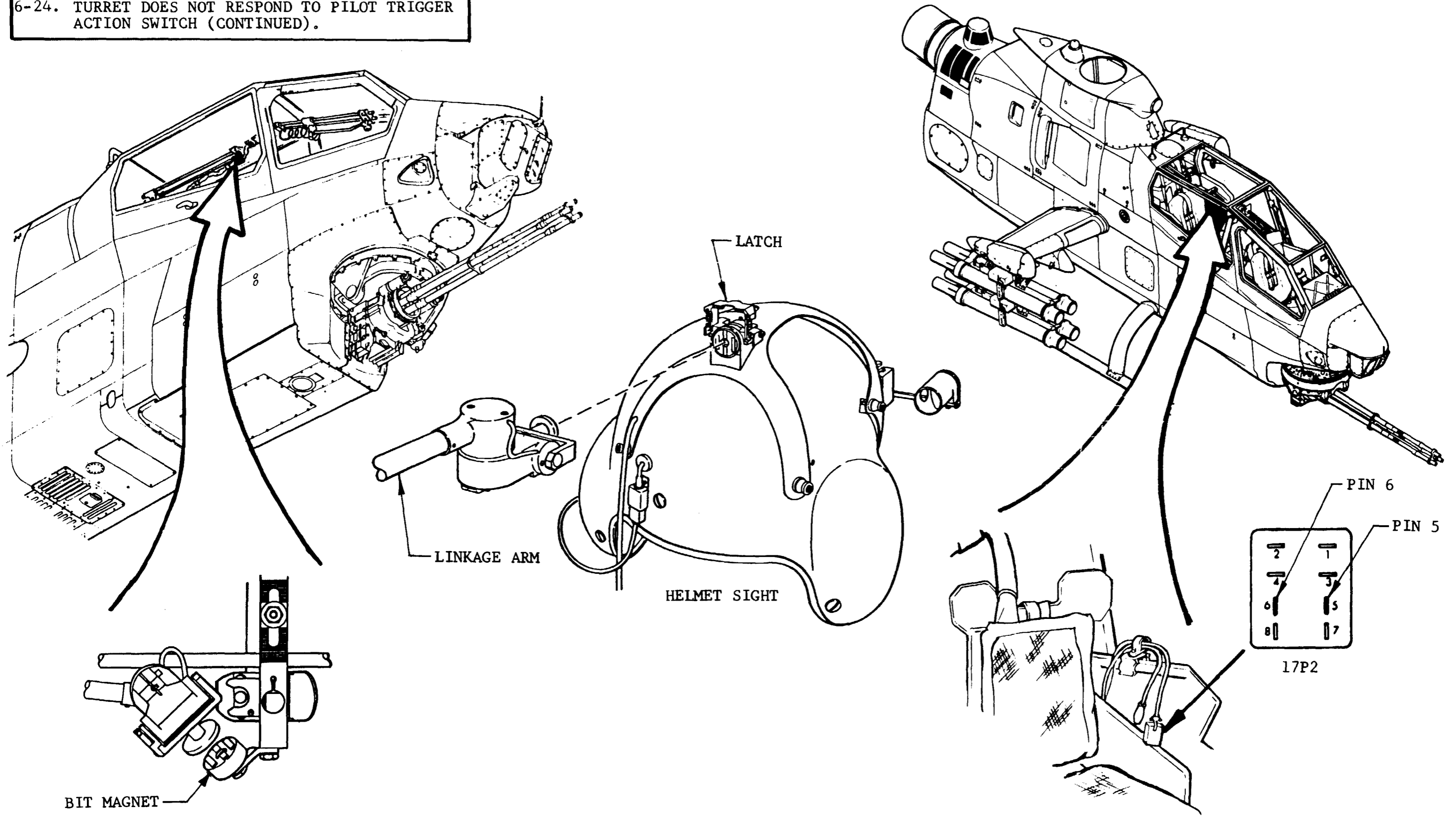
PILOT CYCLIC STICK



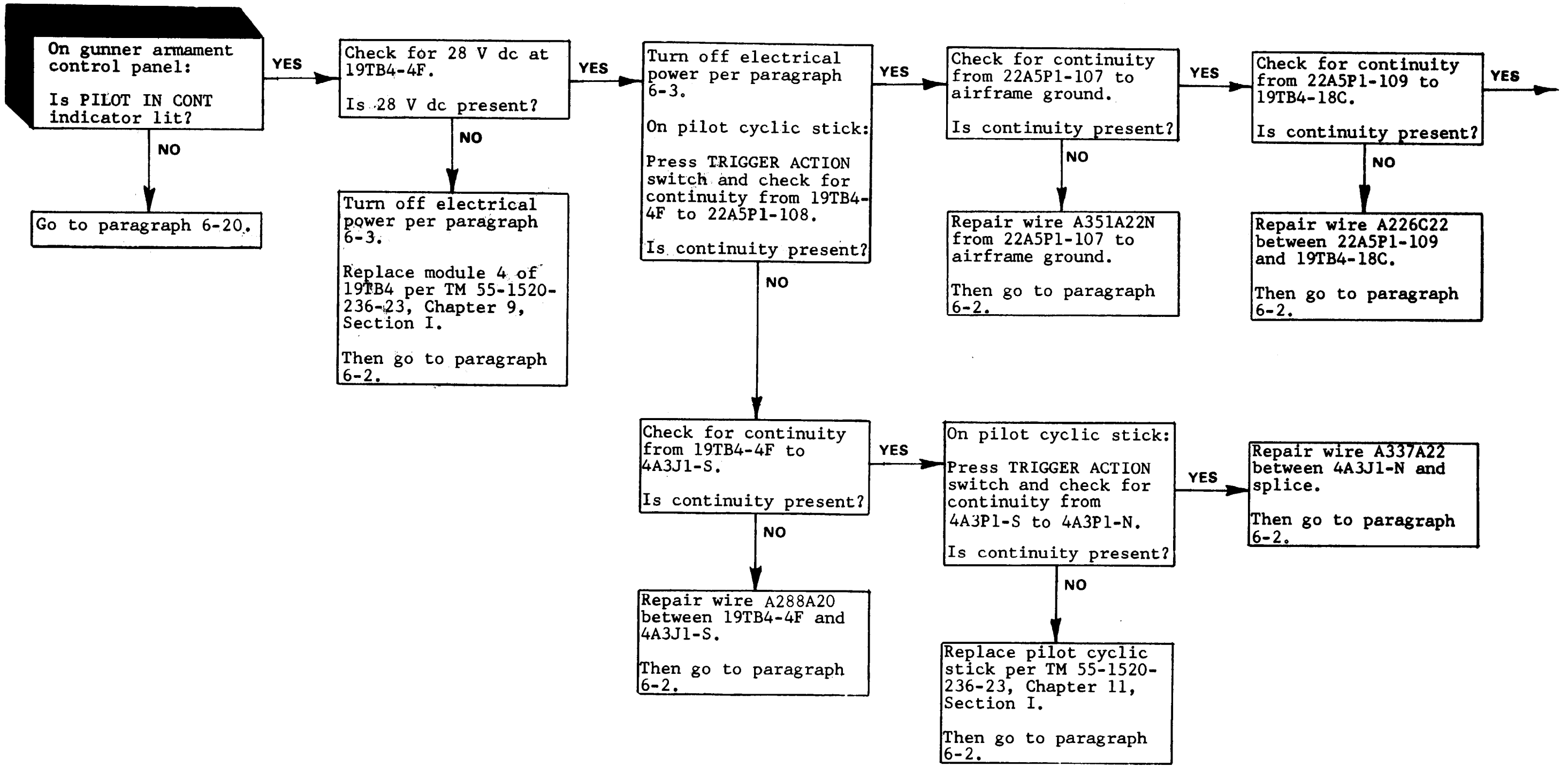
GUNNER ARMAMENT CONTROL PANEL



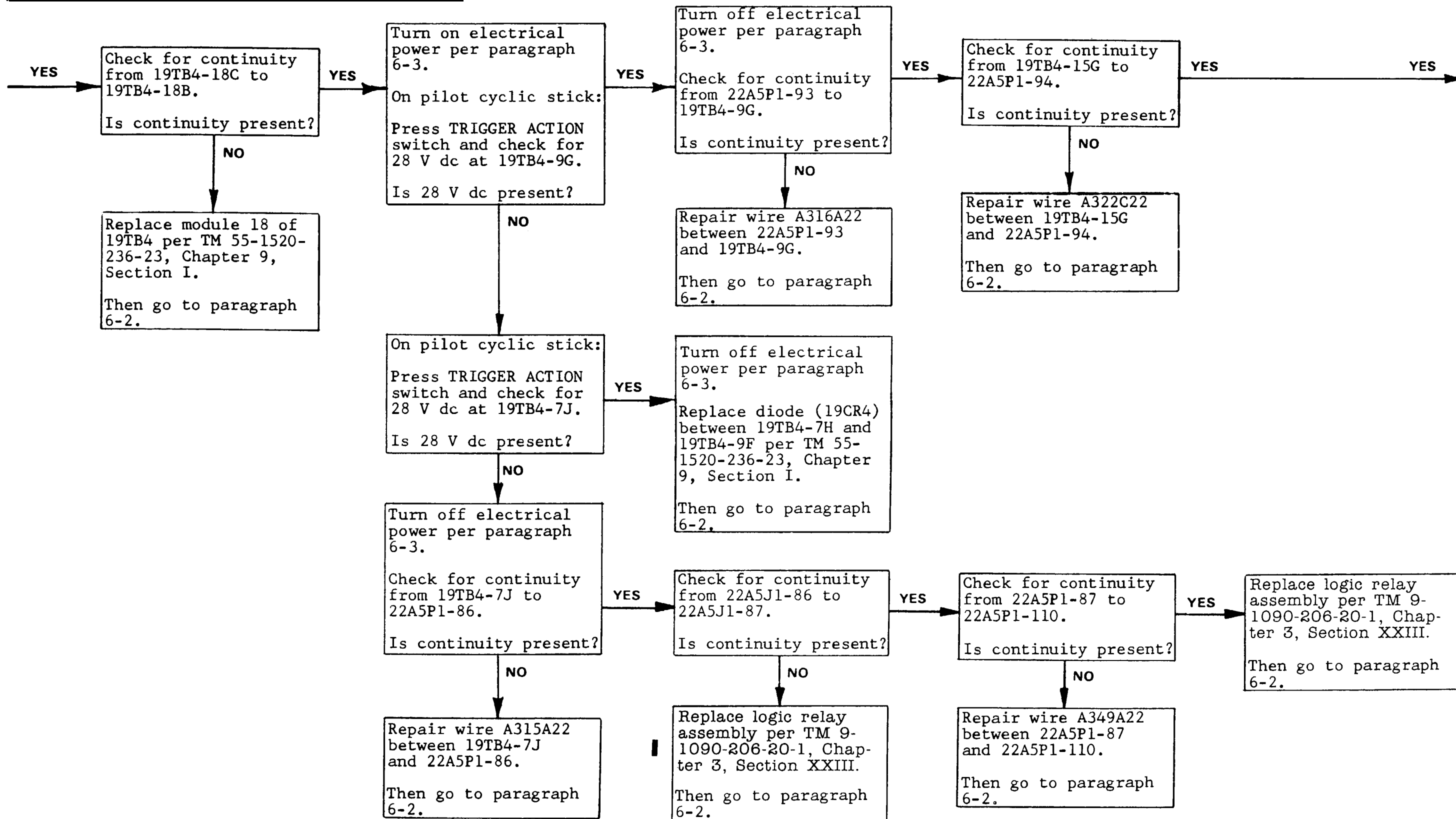
6-24. TURRET DOES NOT RESPOND TO PILOT TRIGGER ACTION SWITCH (CONTINUED).



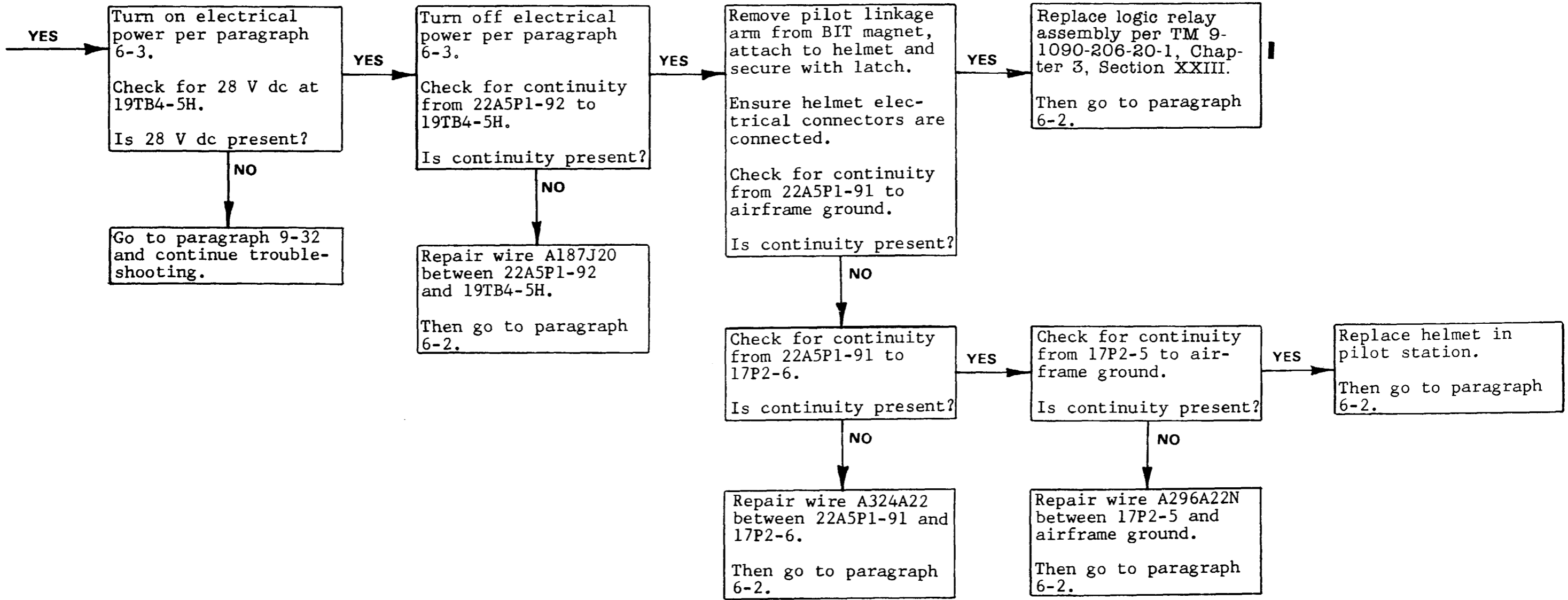
6-24. TURRET DOES NOT RESPOND TO PILOT TRIGGER ACTION SWITCH (CONTINUED).



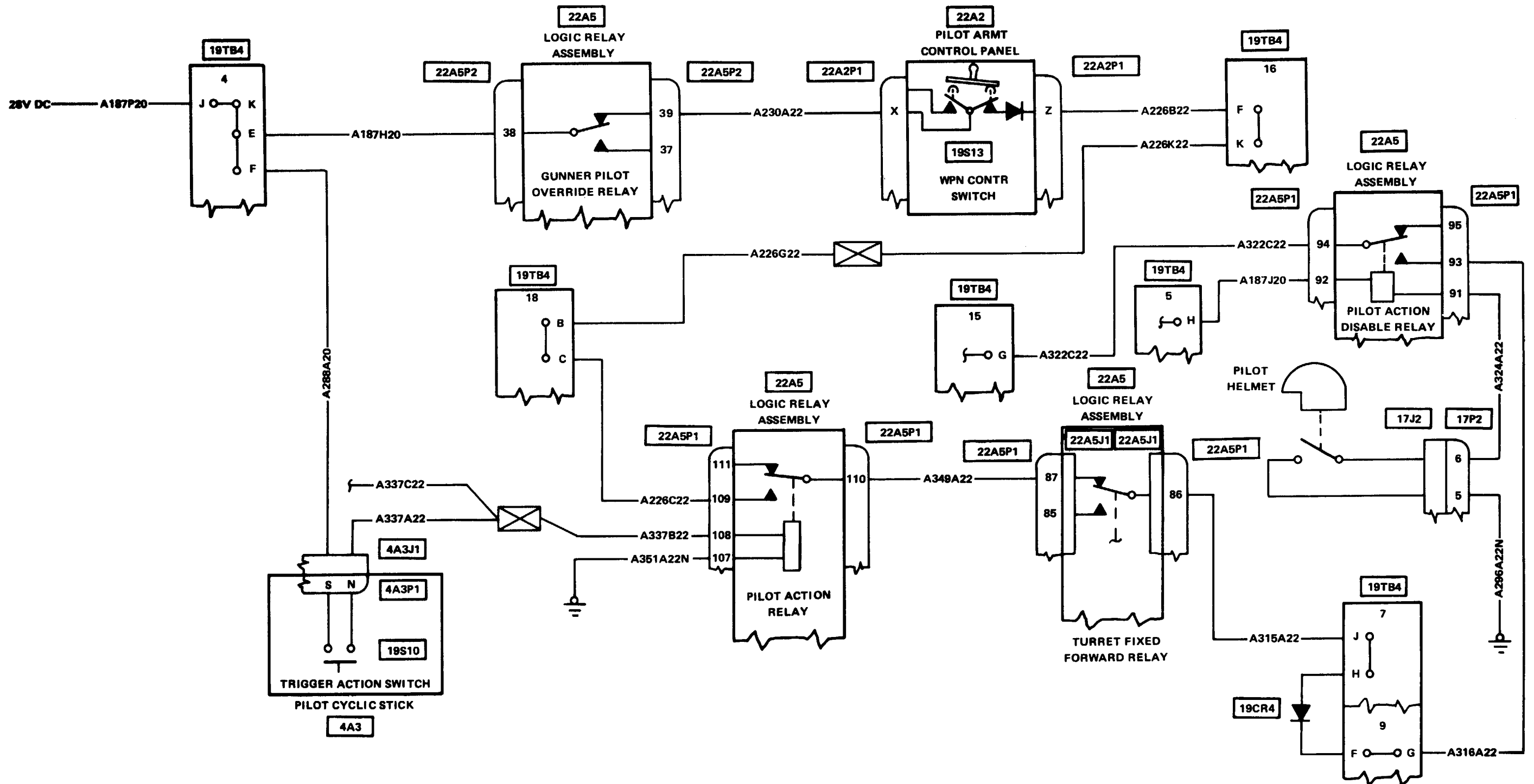
6-24. TURRET DOES NOT RESPOND TO PILOT TRIGGER ACTION SWITCH (CONTINUED).



6-24. TURRET DOES NOT RESPOND TO PILOT TRIGGER ACTION SWITCH (CONTINUED).



6-24. TURRET DOES NOT RESPOND TO PILOT TRIGGER ACTION SWITCH (CONTINUED).



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6-25. TURRET DOES NOT ALIGN WITH TSU.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Digital Voltmeter

Tool Set, A/C Armament Repairman

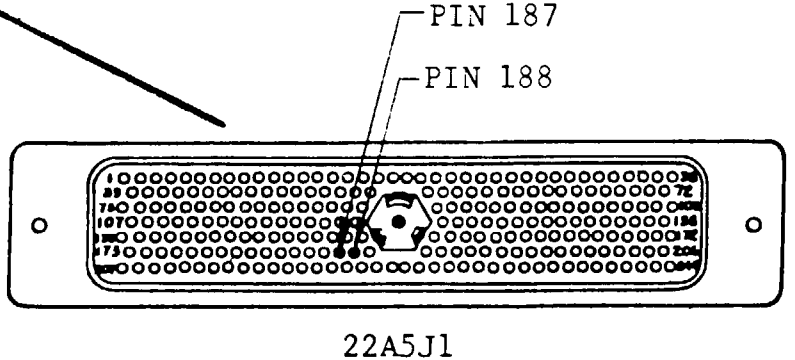
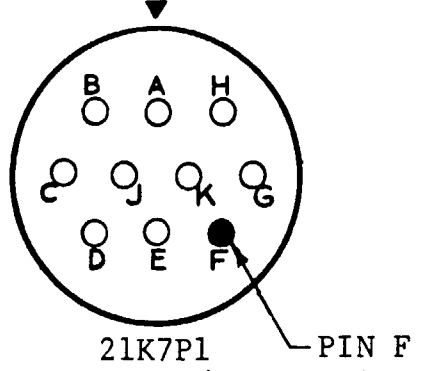
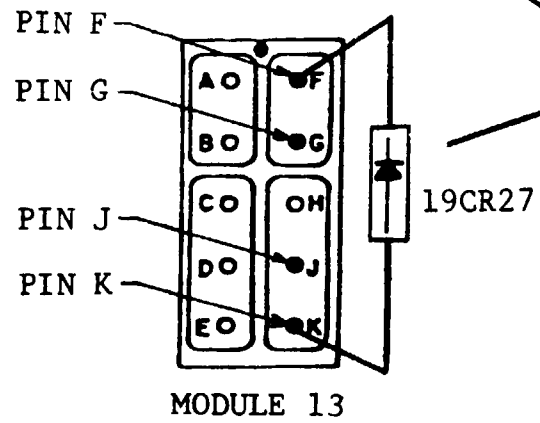
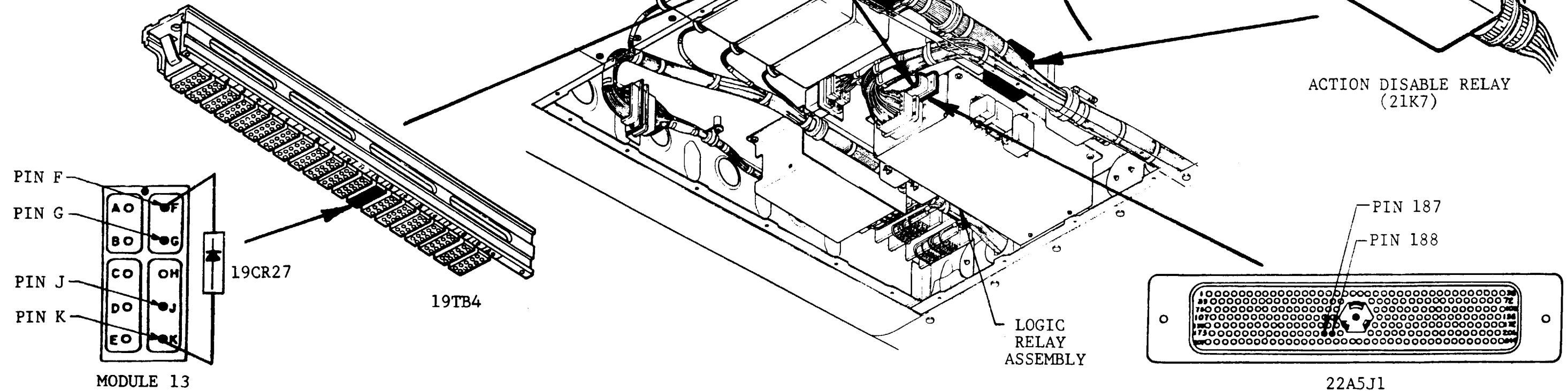
Personnel Required
68J (2)

References

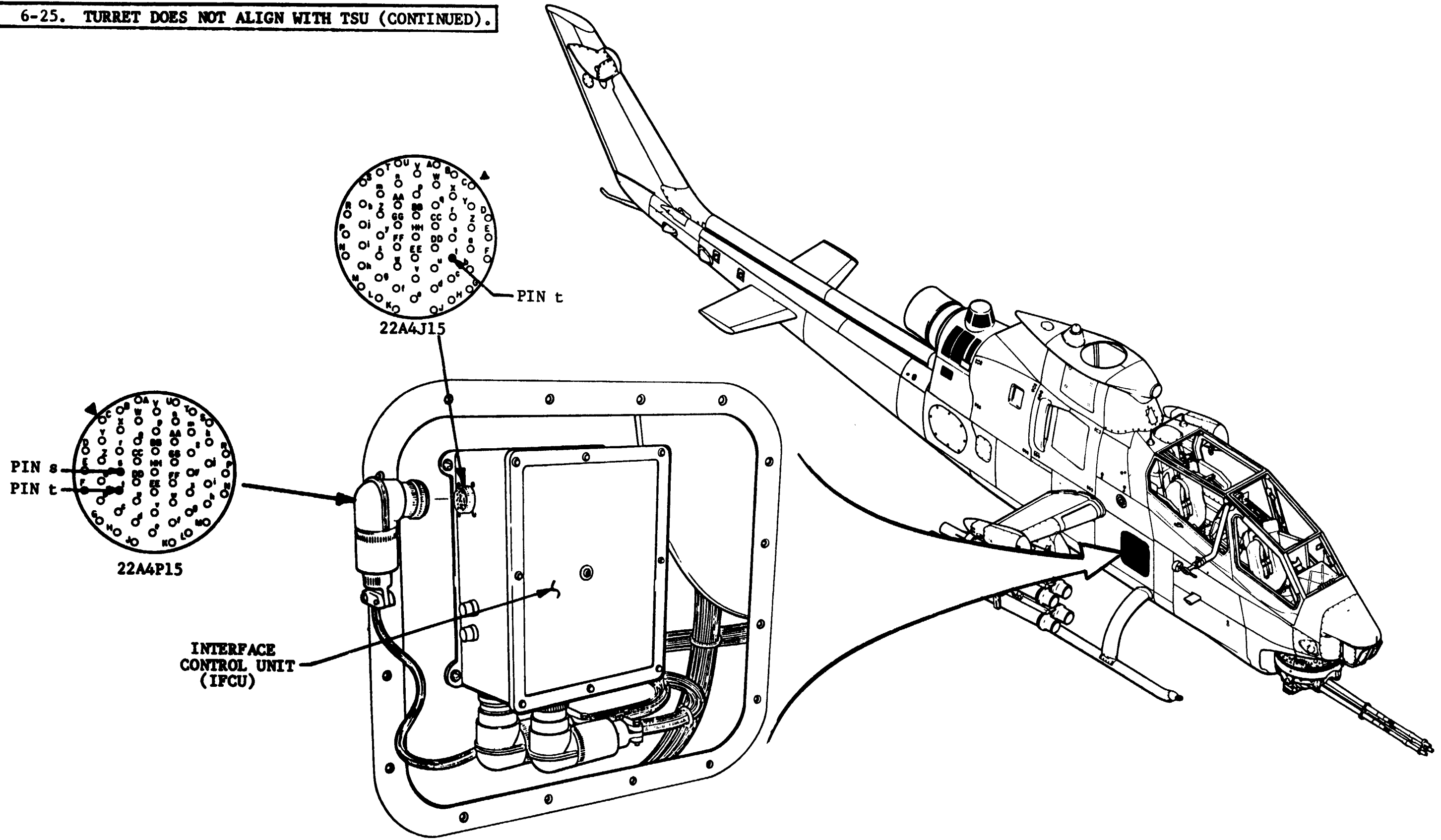
- TM 9-1090-206-20-1
- TM 55-1520-236-23

Access Panels

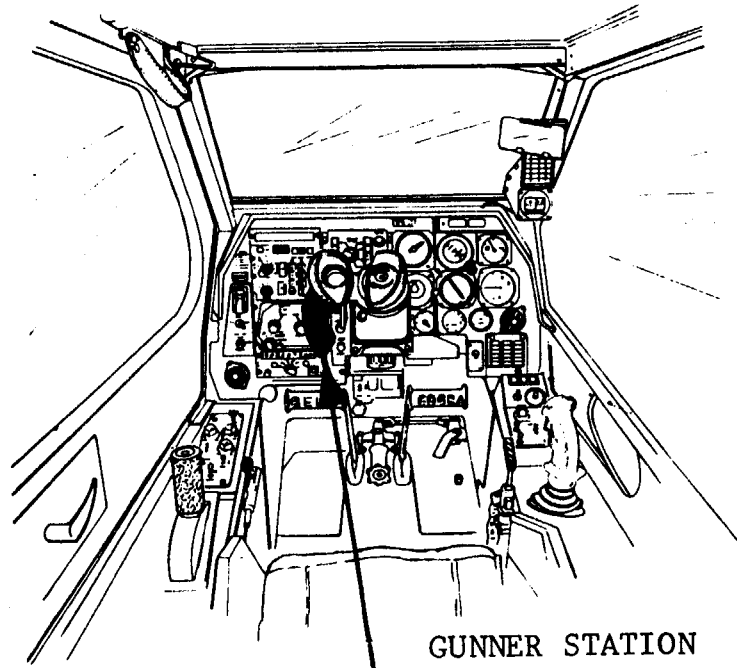
Forward Belly Armament and Lighting - Removed



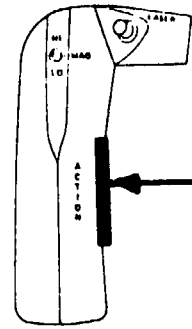
6-25. TURRET DOES NOT ALIGN WITH TSU (CONTINUED).



6-25. TURRET DOES NOT ALIGN WITH TSU(CONTINUED).

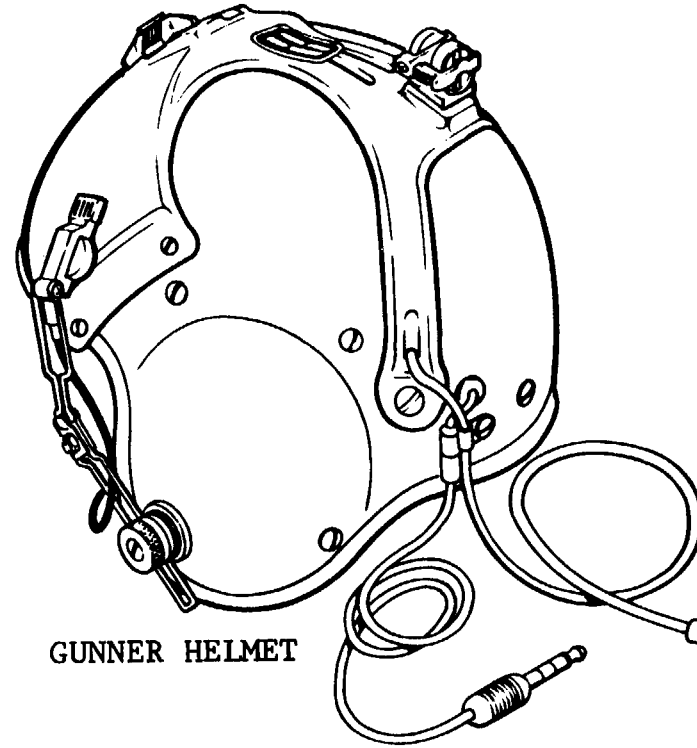


GUNNER STATION

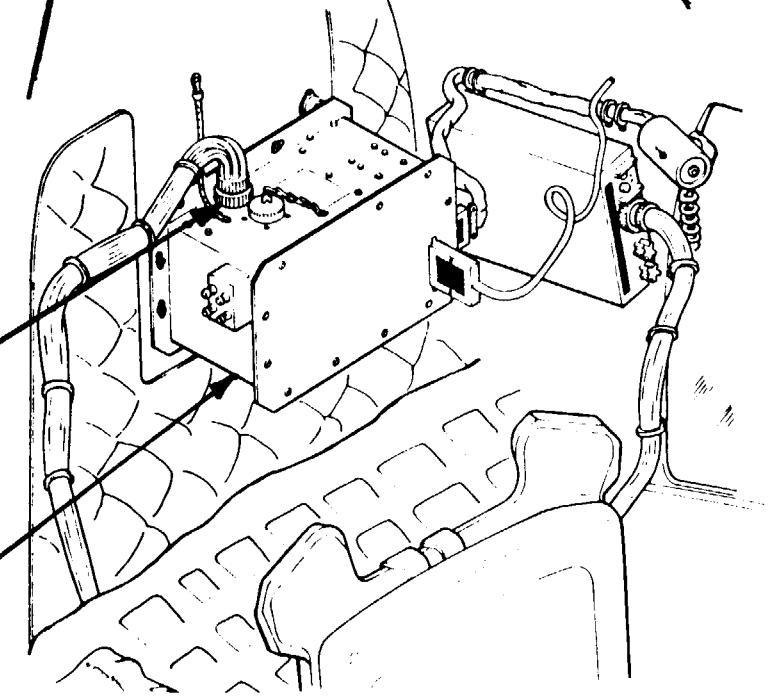
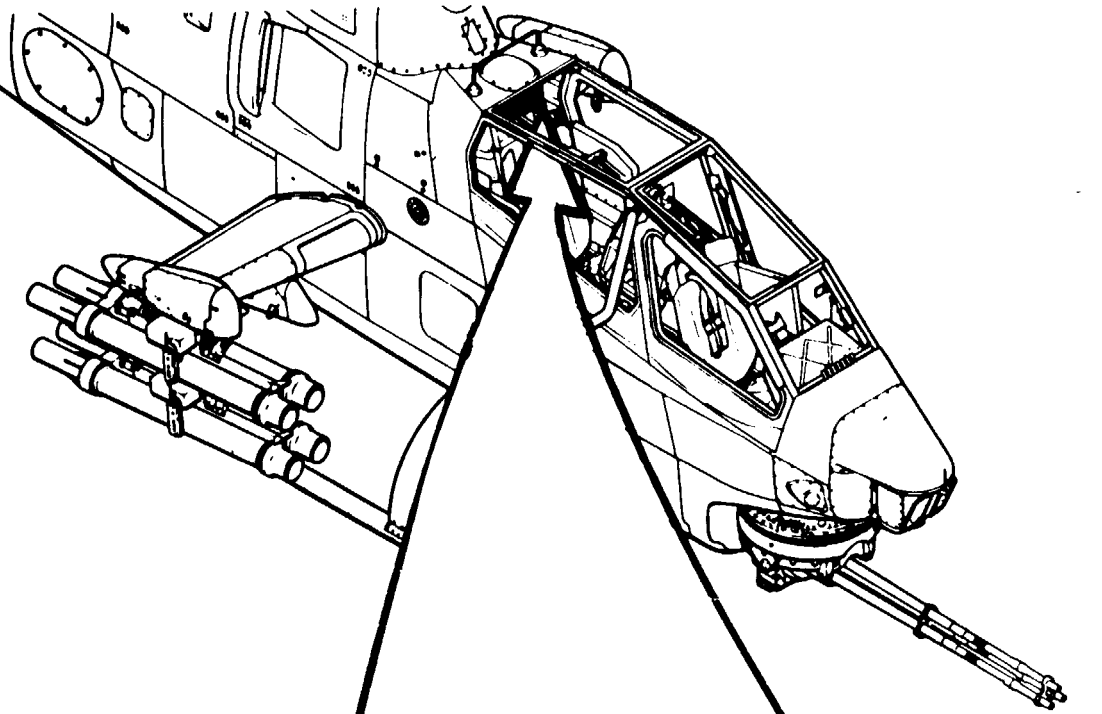


ACTION SWITCH

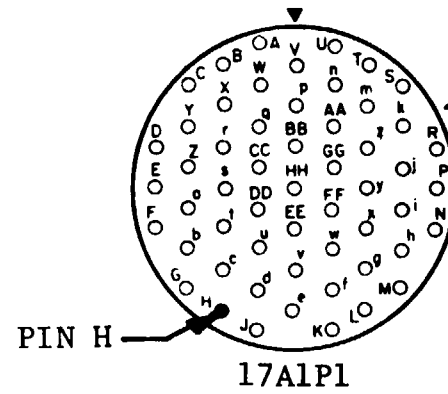
LEFT HAND GRIP



GUNNER HELMET



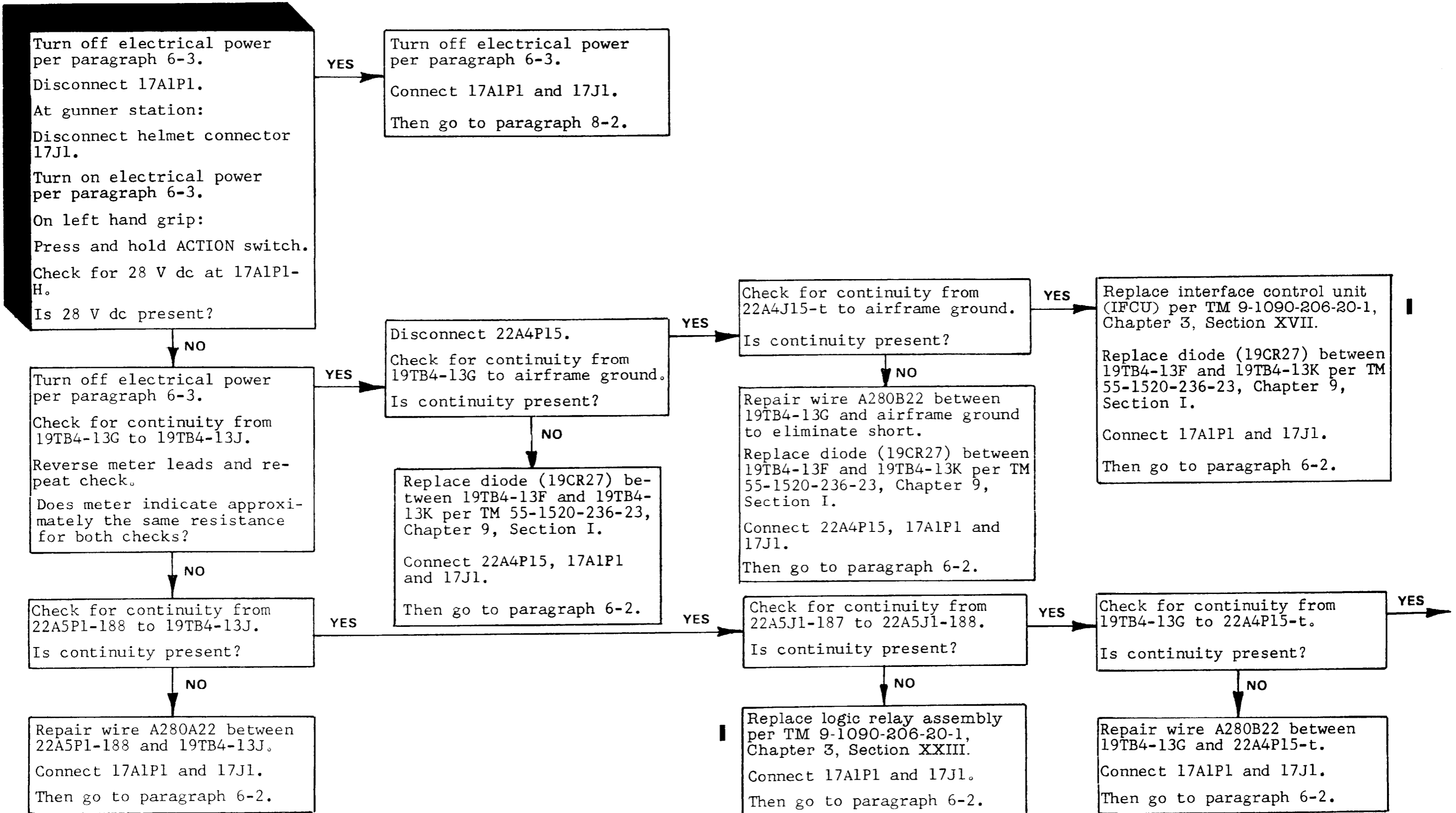
ELECTRONIC INTERFACE ASSEMBLY



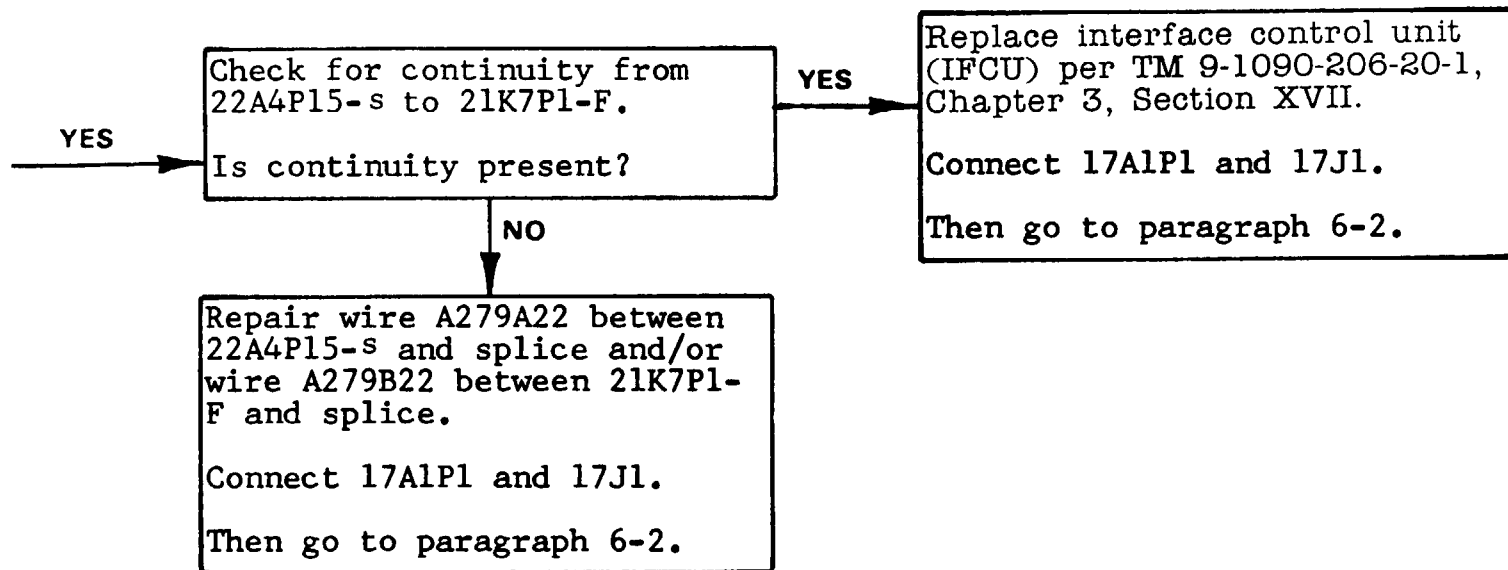
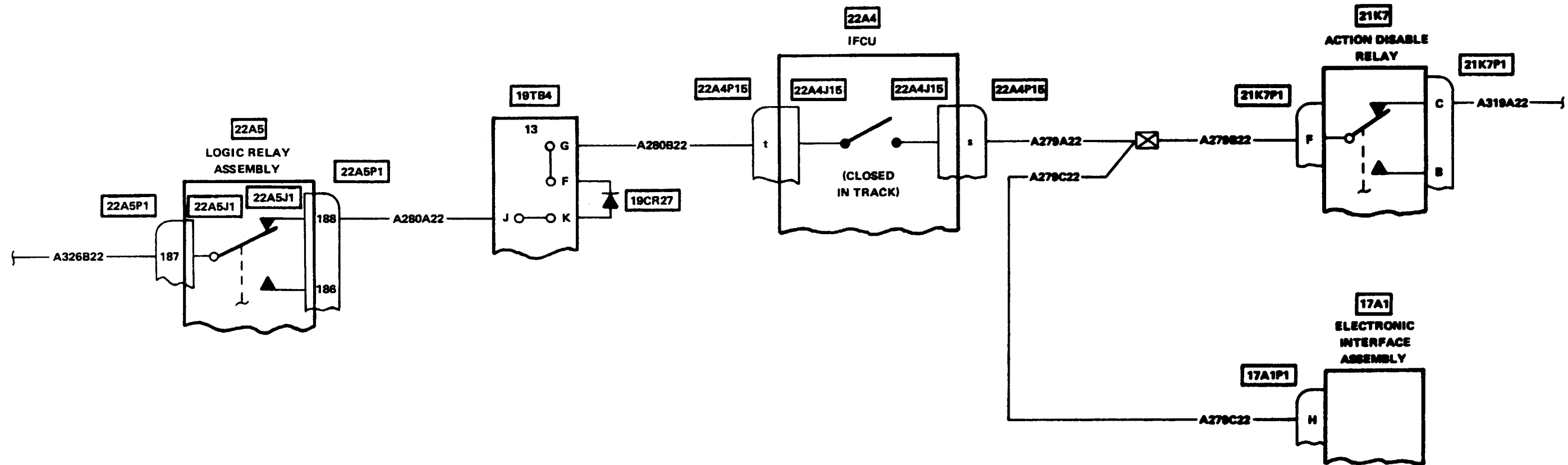
PIN H

17A1P1

6-25. TURRET DOES NOT ALIGN WITH TSU (CONTINUED).



6-25. TURRET DOES NOT ALIGN WITH TSU (CONTINUED).



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6-26. TURRET WILL NOT MOVE TO THE FIXED FORWARD POSITION WHEN IN A TOW MODE.

INITIAL SETUP

Applicable Configuration
All

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

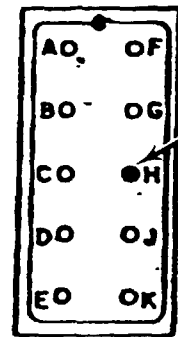
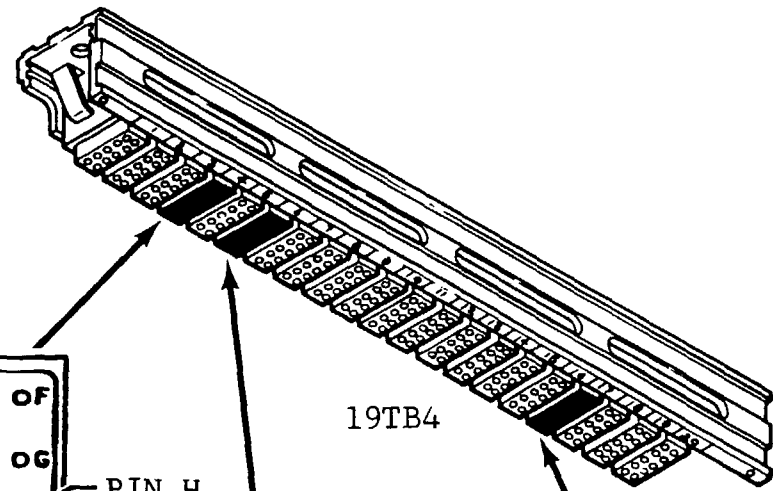
Personnel Required
68J (2)

References

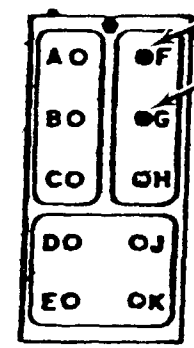
TM 9-1090-206-20-1
TM 55-1520-236-23

Access Panels

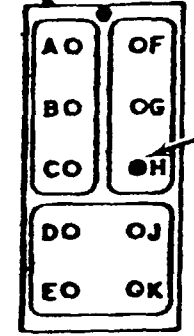
Forward Belly Armament and Lighting - Removed



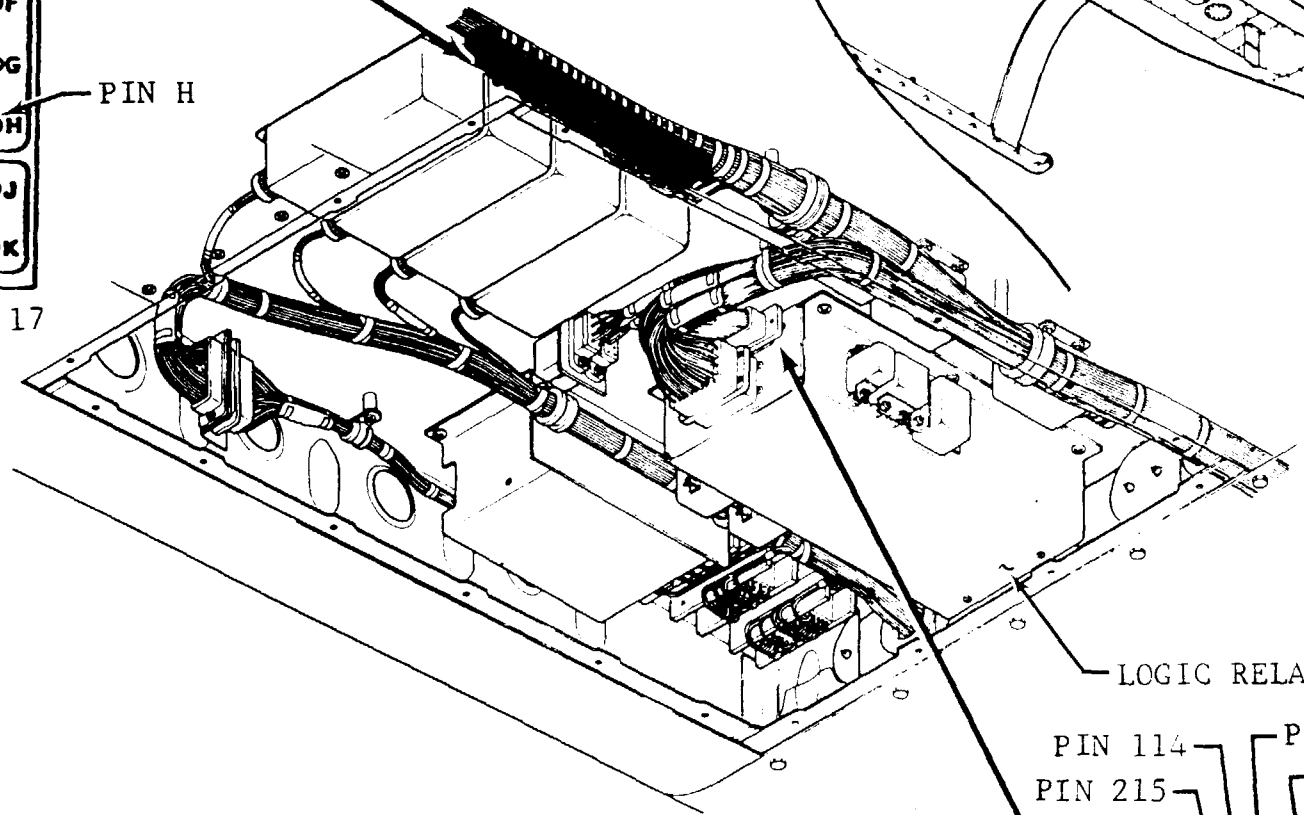
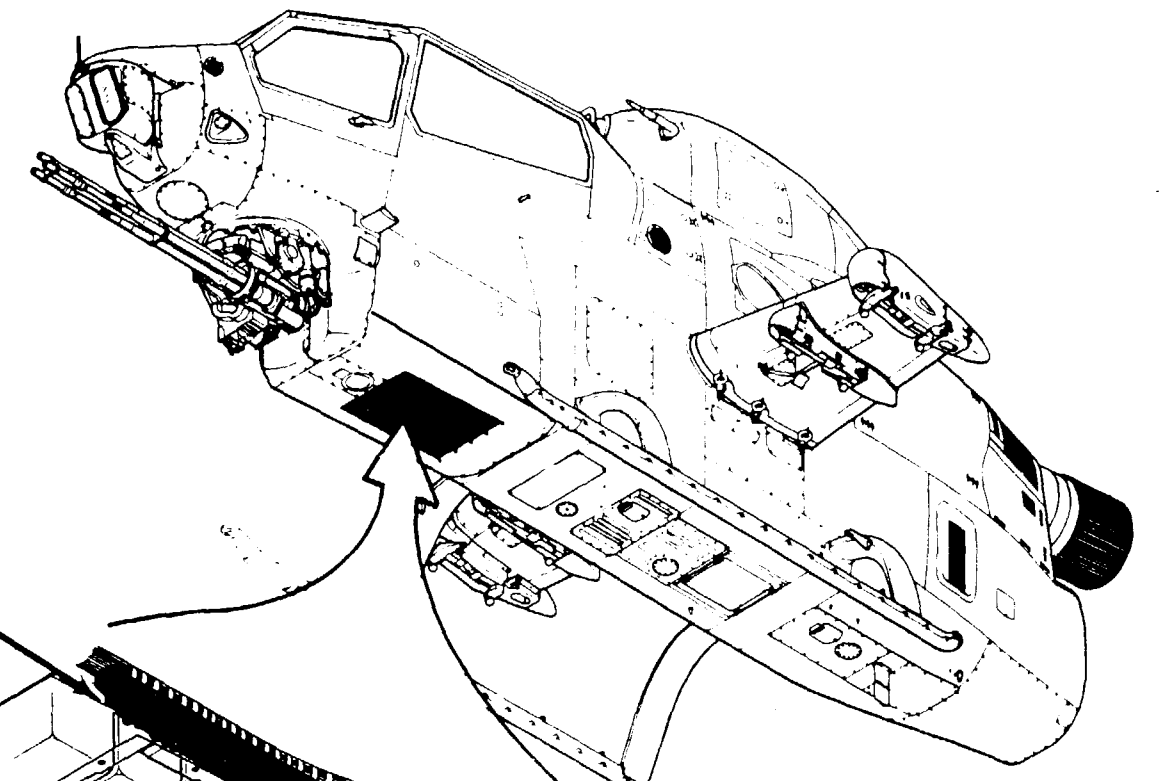
PIN H



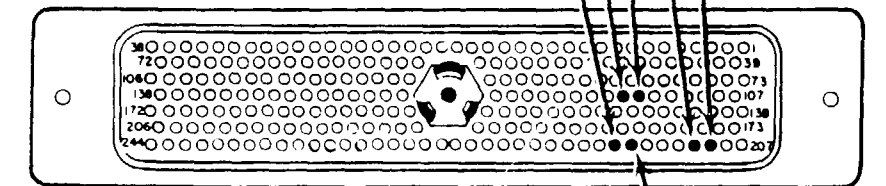
PIN F
PIN G



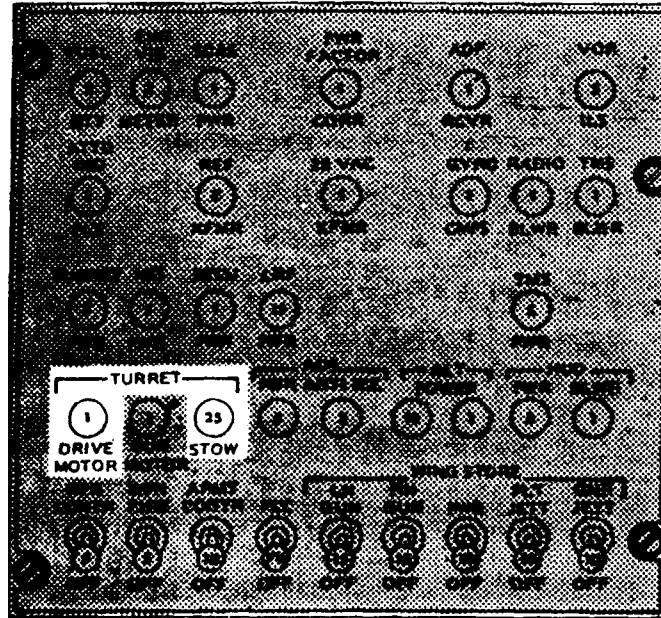
PIN H



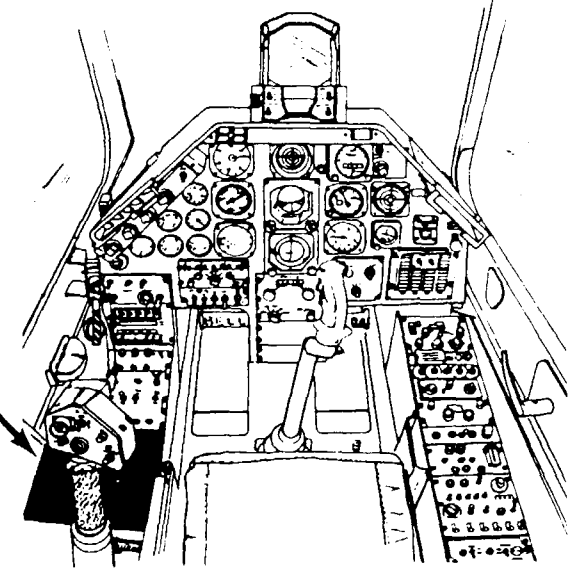
PIN 114
PIN 215
PIN 113
PIN 210
PIN 209



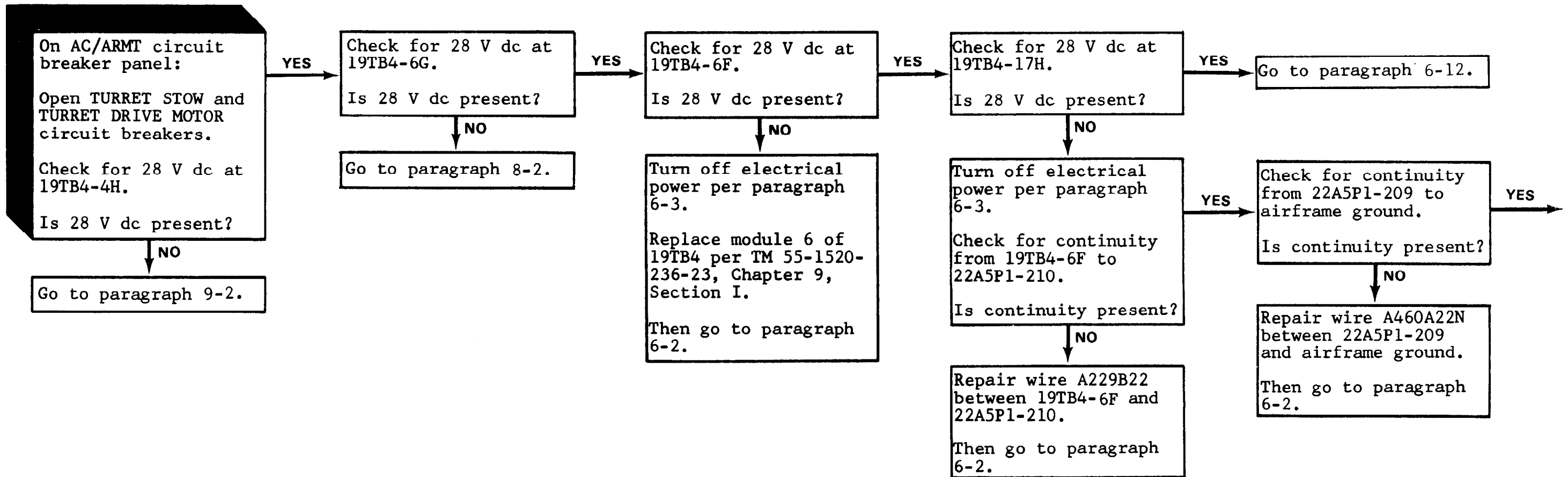
PIN 214



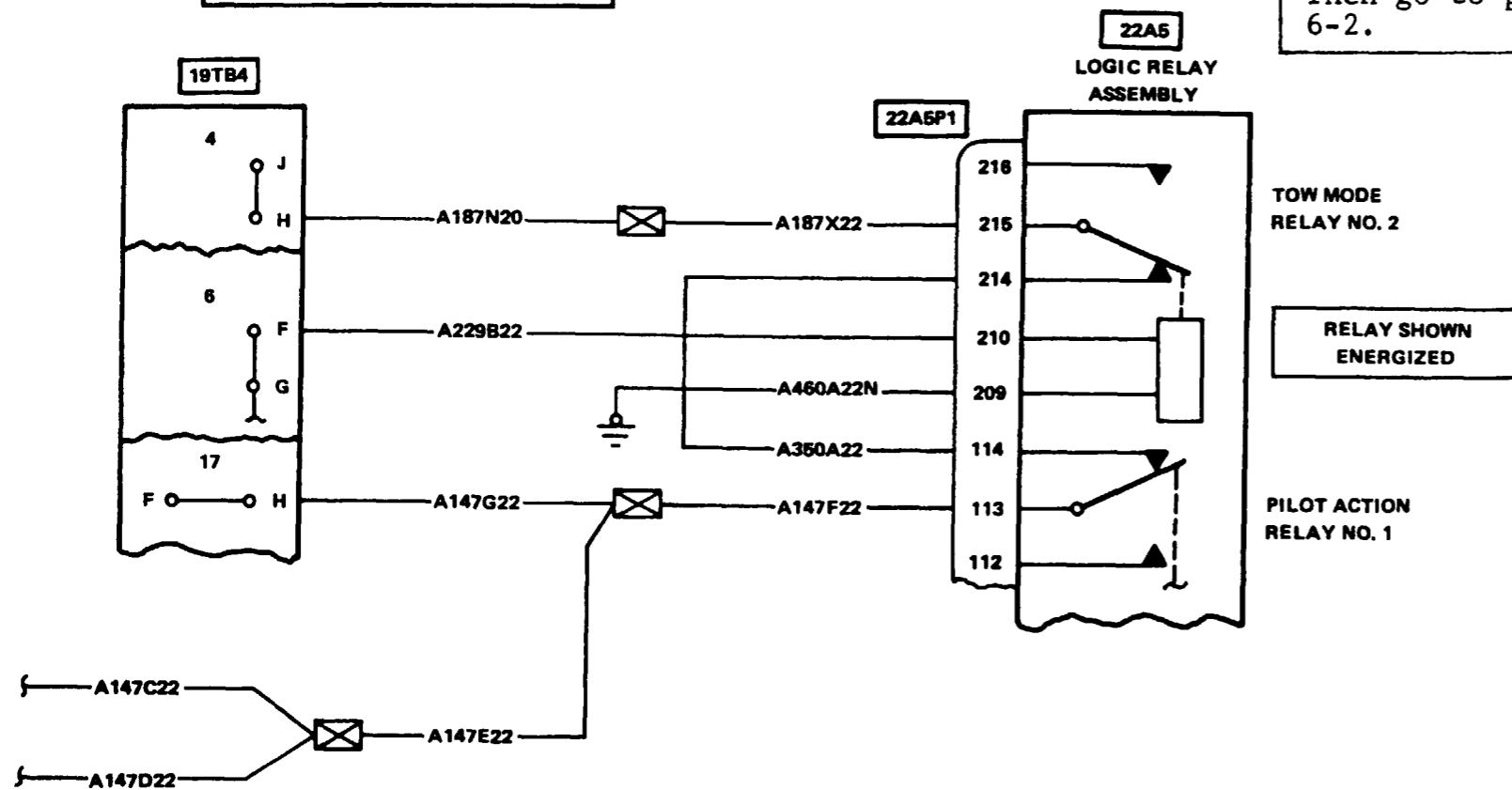
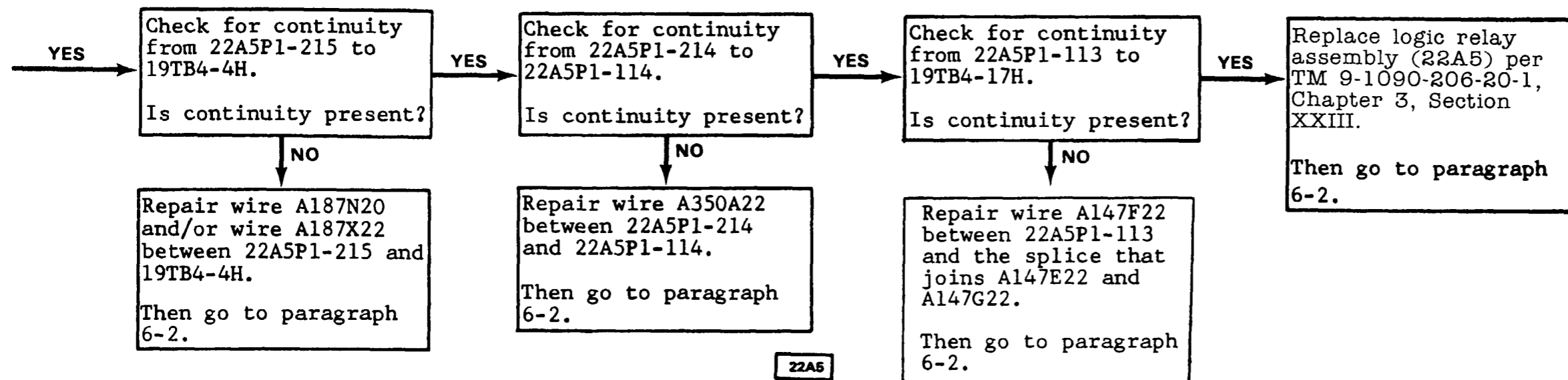
AC/ARMY CIRCUIT BREAKER PANEL



6-26. TURRET WILL NOT MOVE TO THE FIXED FORWARD POSITION WHEN IN A TOW MODE (CONTINUED).



6-26. TURRET WILL NOT MOVE TO THE FIXED FOWARD POSITION WHEN IN A TOW MODE (CONTINUED).



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6-27. GUNTURRET WILL NOT MOVE TO STOW POSITION WHEN TRIGGER ON LEFT HAND GRIP IS PRESSED IN TOW MODE.

INITIAL SETUP

Applicable Configuration
All

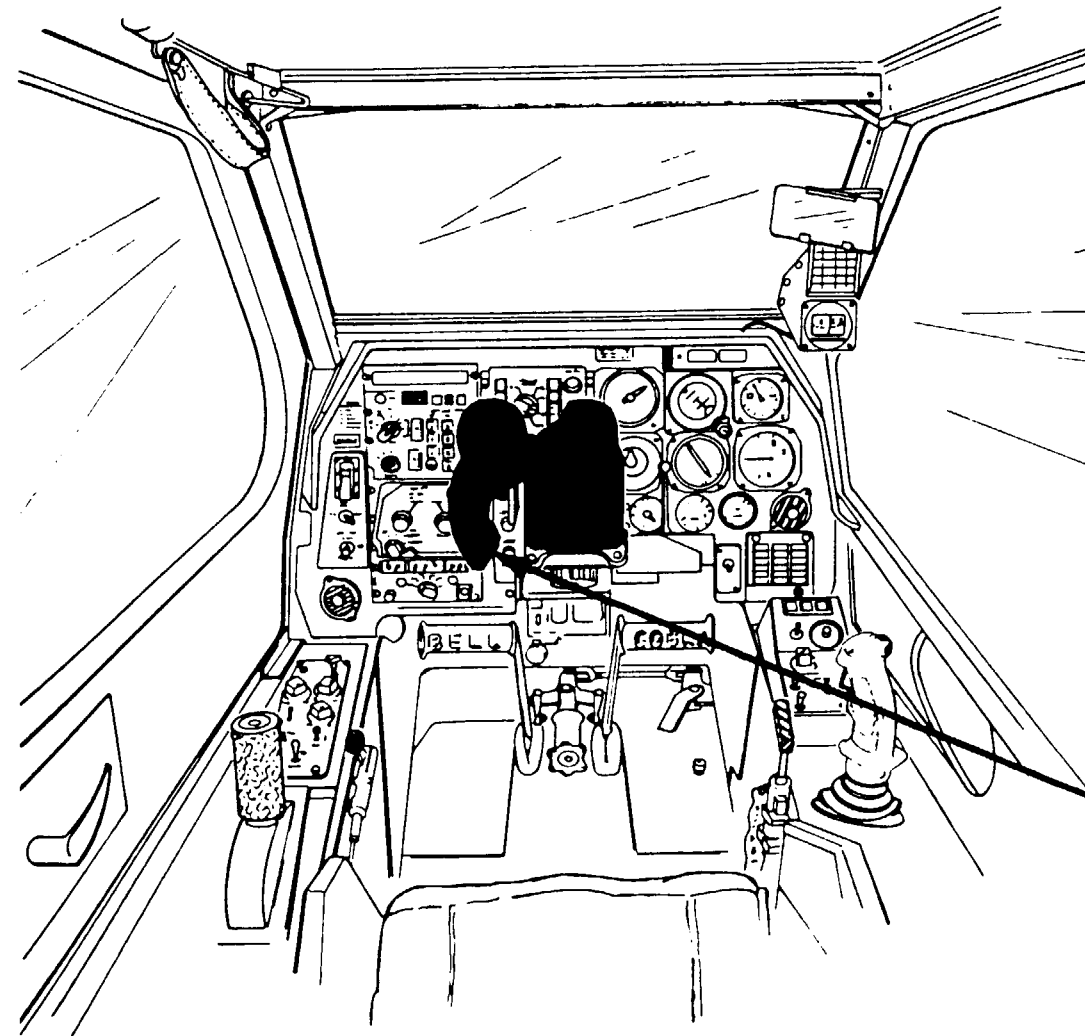
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

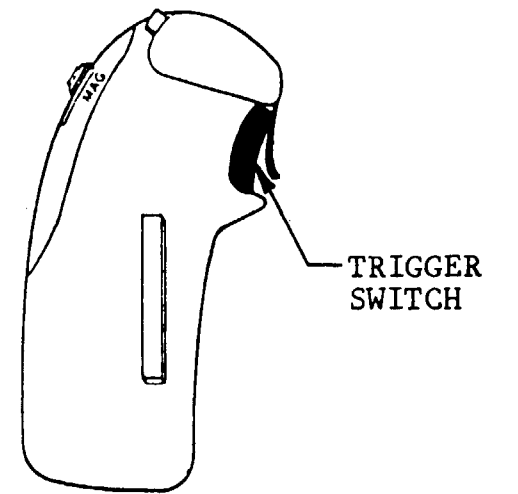
Personnel Required
68J (2)

References
TM 9-1090-206-20-1

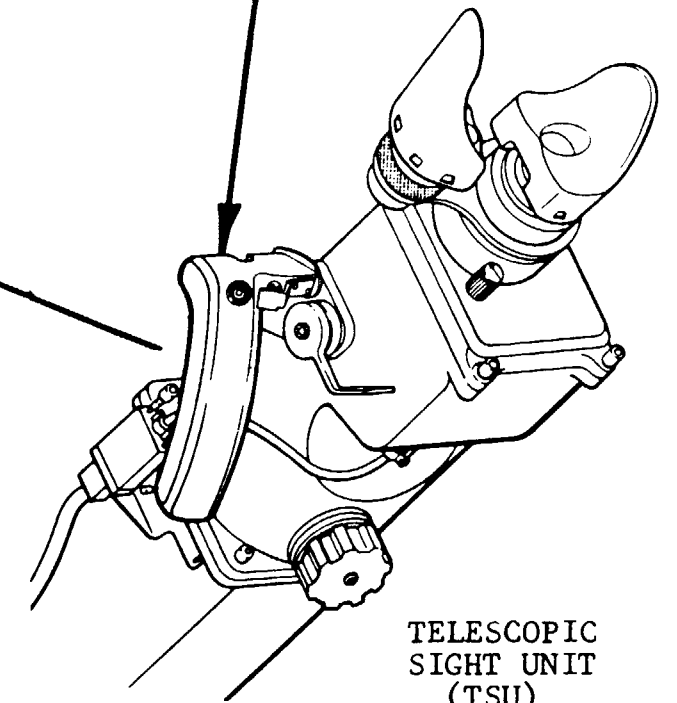
Access Panels
Forward Belly Armament and Lighting - Removed



GUNNER STATION

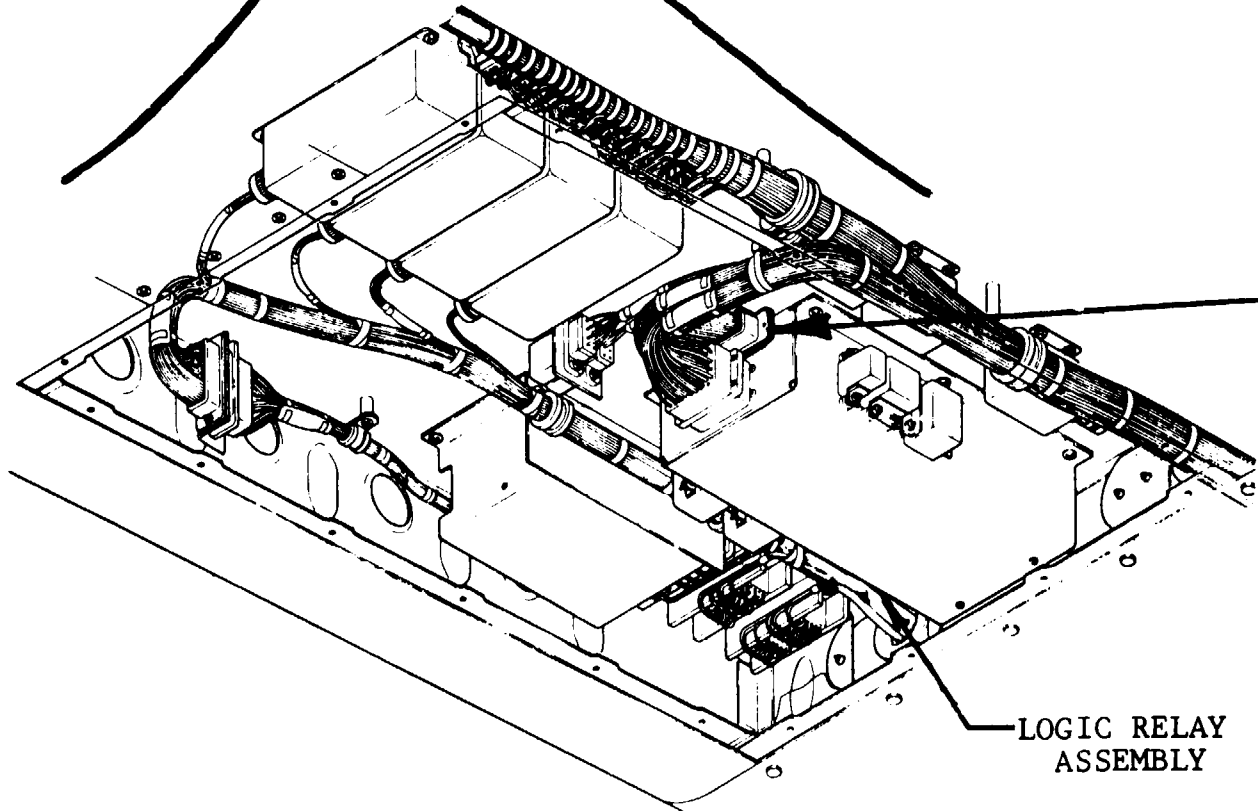
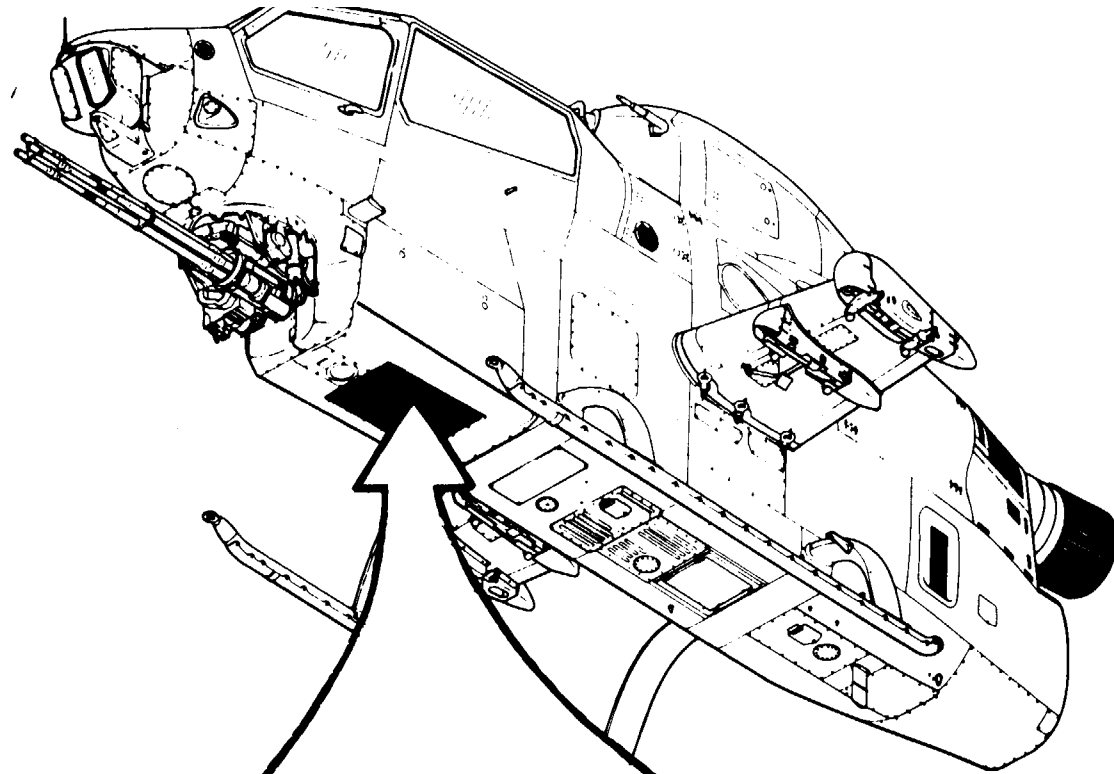


LEFT HAND GRIP



TELESCOPIC SIGHT UNIT (TSU)

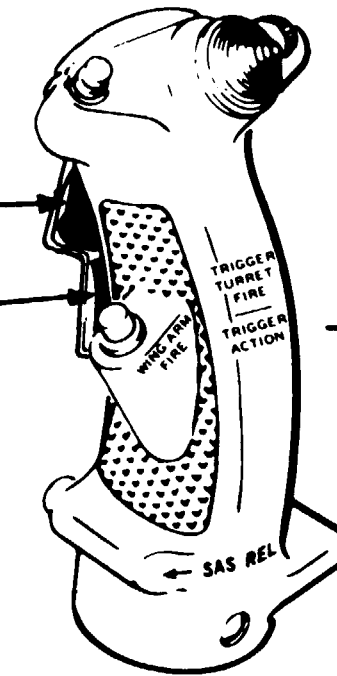
6-27. GUN TURRET WILL NOT MOVE TO STOW POSITION WHEN TRIGGER ON LEFT HAND GRIP IS PRESSED IN TOW MODE (CONTINUED).



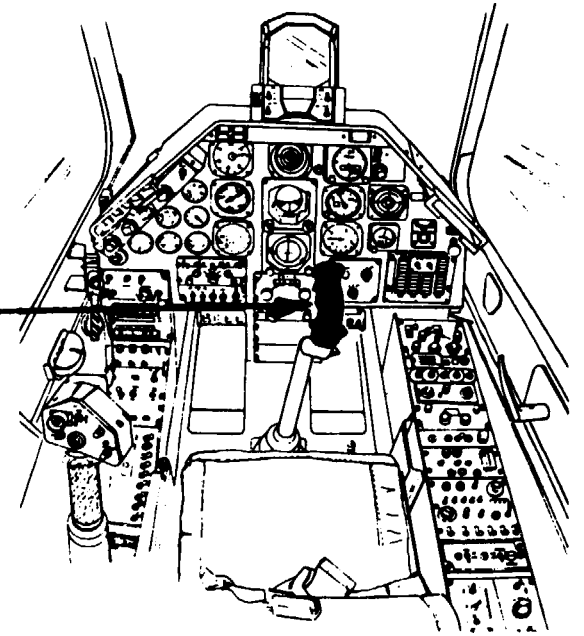
LOGIC RELAY ASSEMBLY

TRIGGER TURRET FIRE SWITCH

TRIGGER ACTION SWITCH



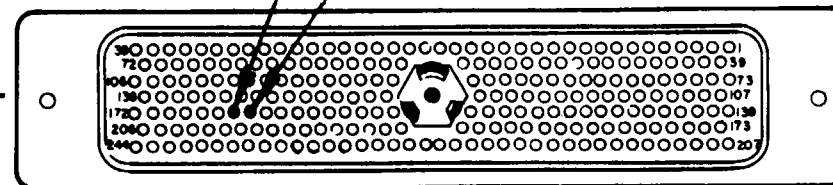
PILOT CYCLIC STICK



PILOT STATION

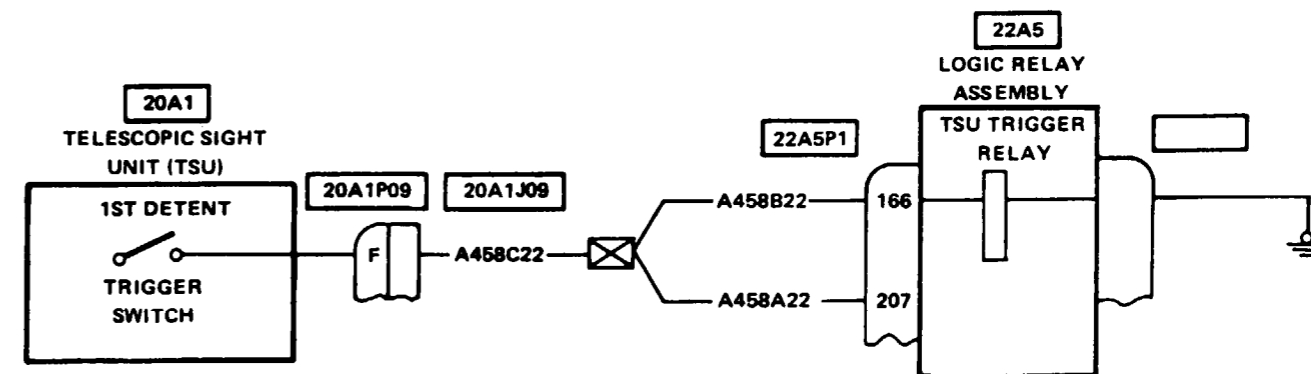
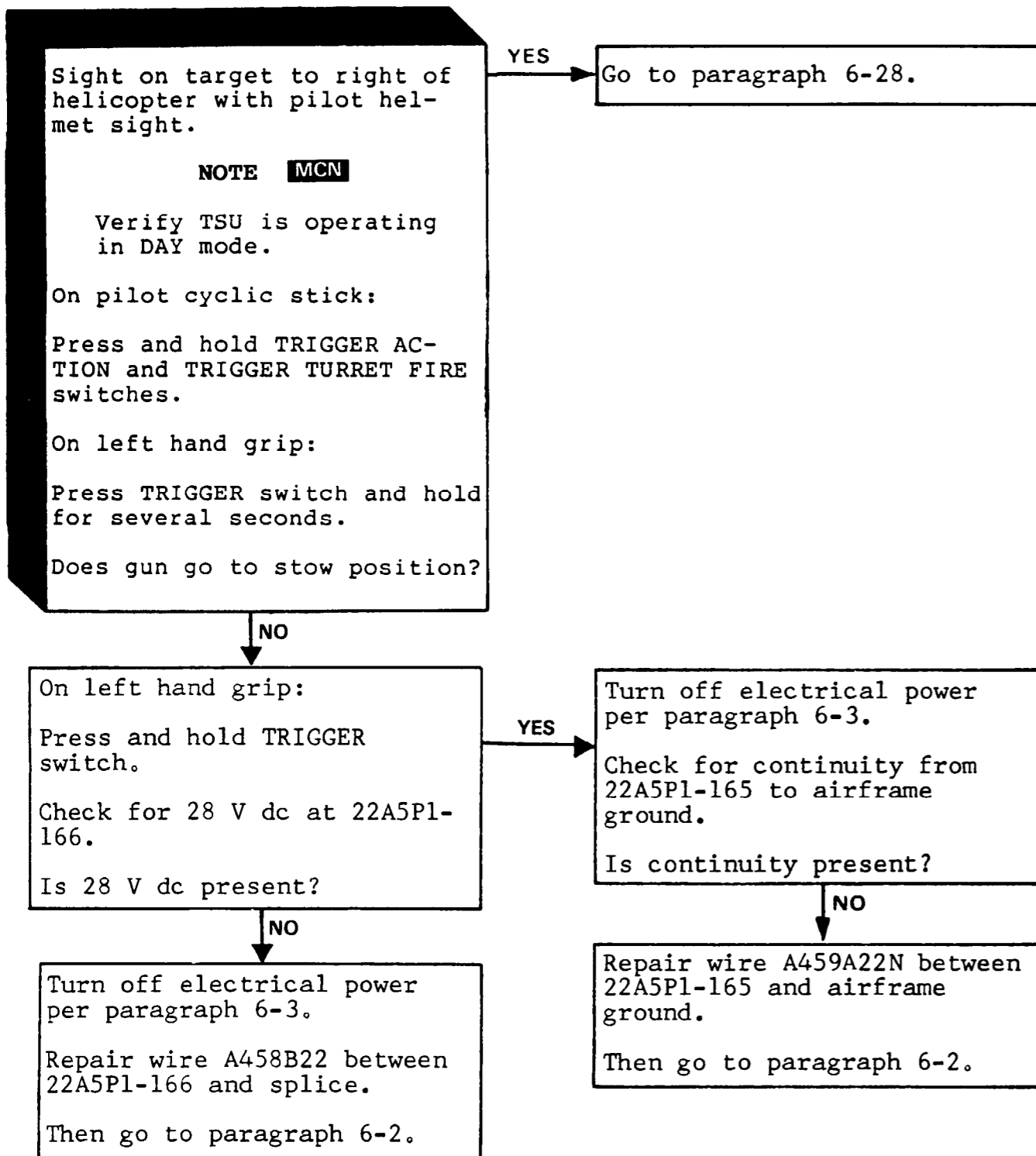
PIN 166

PIN 165



22A5P1

6-27. GUN TURRET WILL NOT MOVE TO STOW POSITION WHEN TRIGGER ON LEFT HAND GRIP IS PRESSED IN TOW MODE (CONTINUED).



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6-28. PILOT IN CONT INDICATOR LIGHTS IMMEDIATELY AFTER RELEASE OF LEFT HAND GRIP TRIGGER SWITCH IN TOW MODE.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

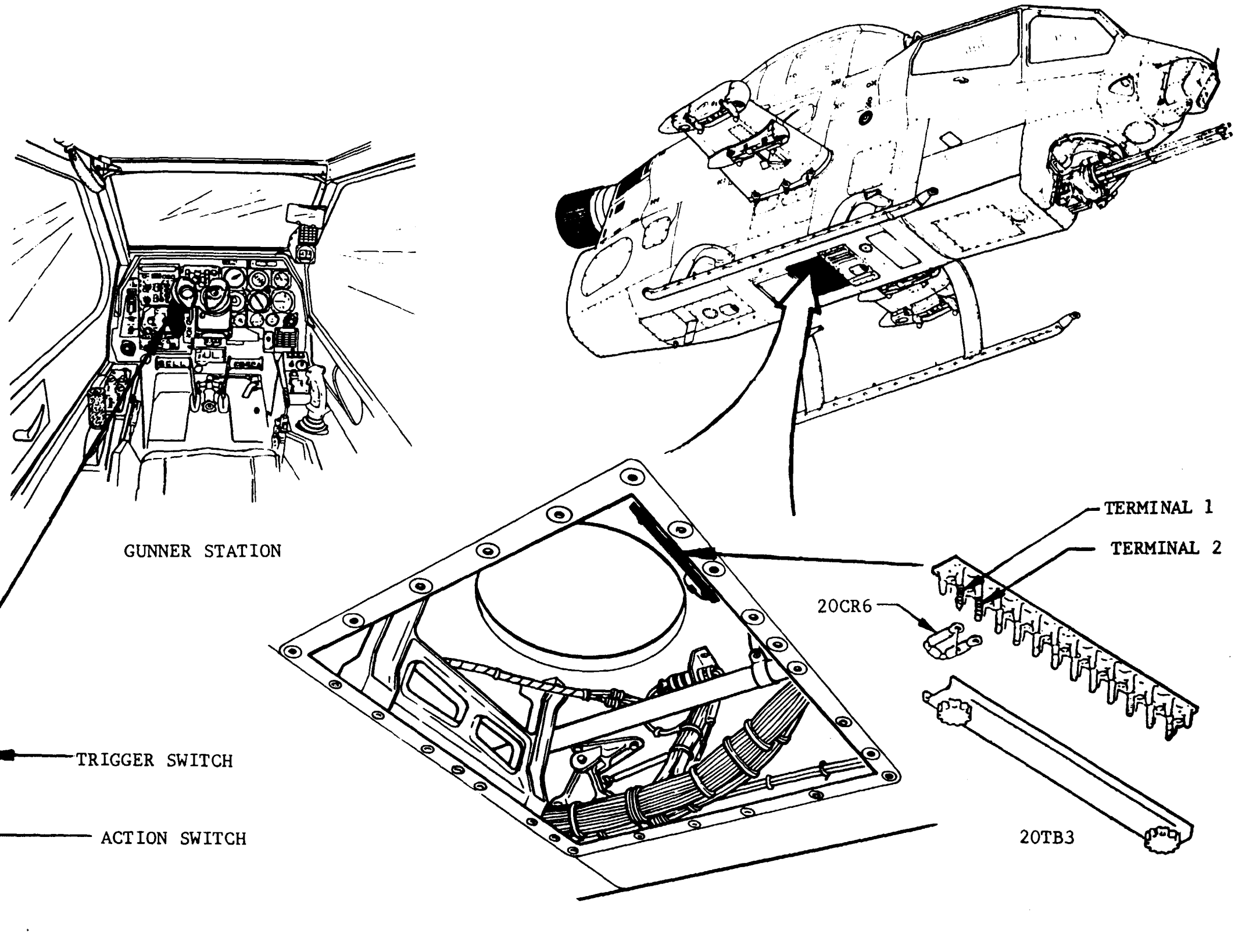
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

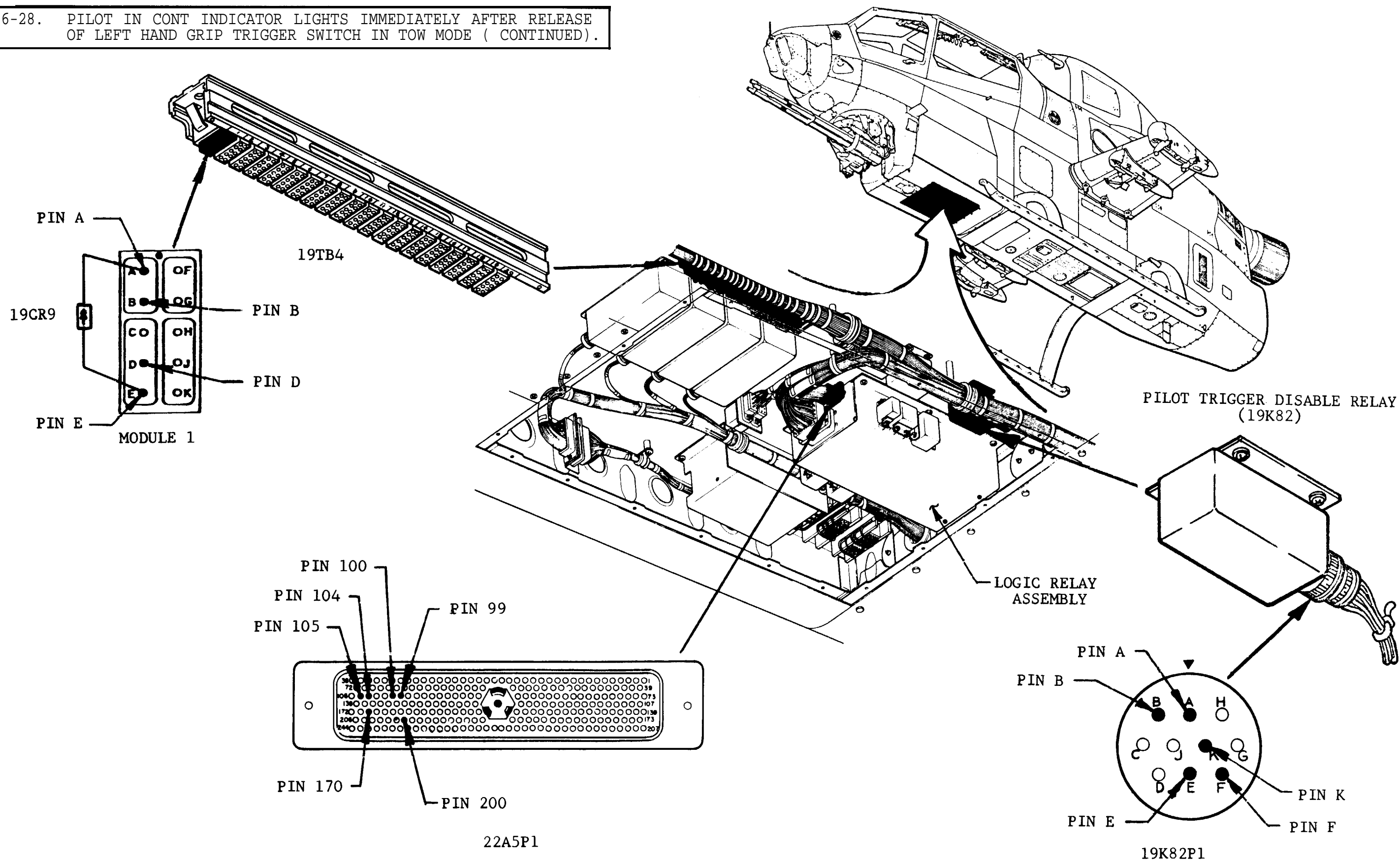
References
TM 9-1090-206-20-1
TM 55-1520-236-23

Access Panels
Forward Belly Armament and Lighting - Removed

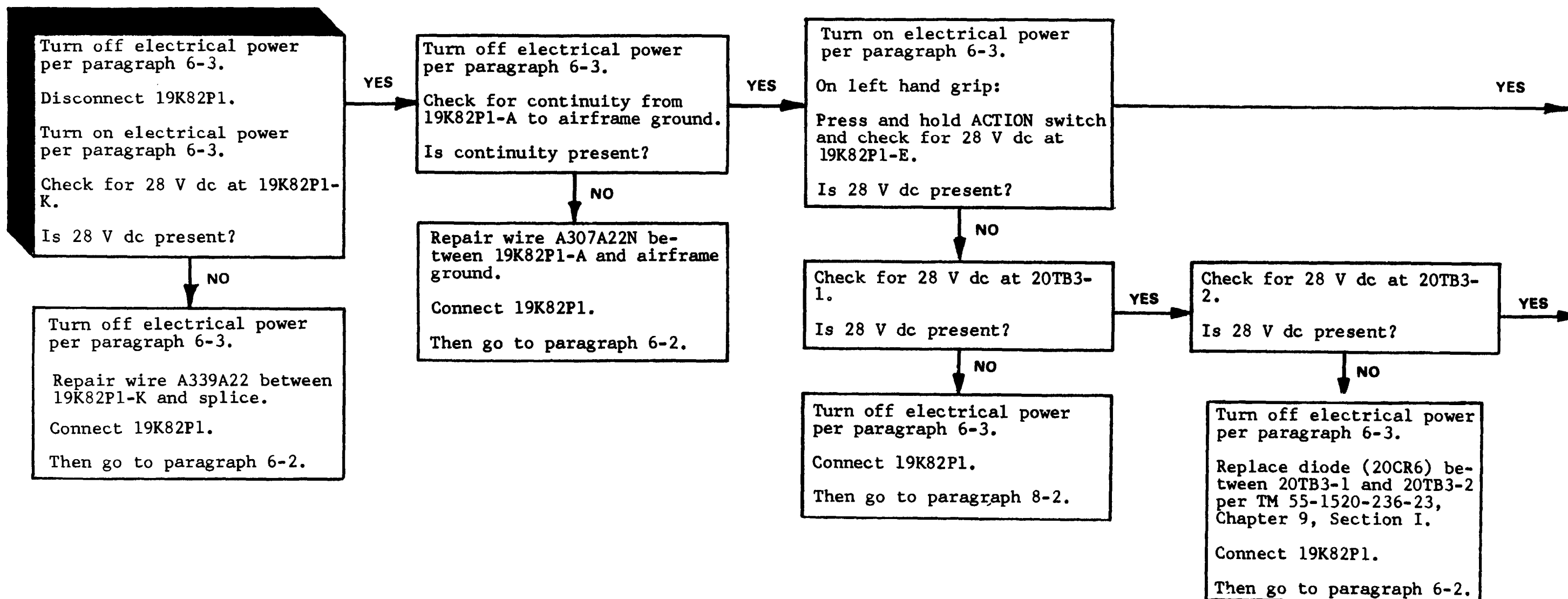
Radar Altimeter Antenna - Removed



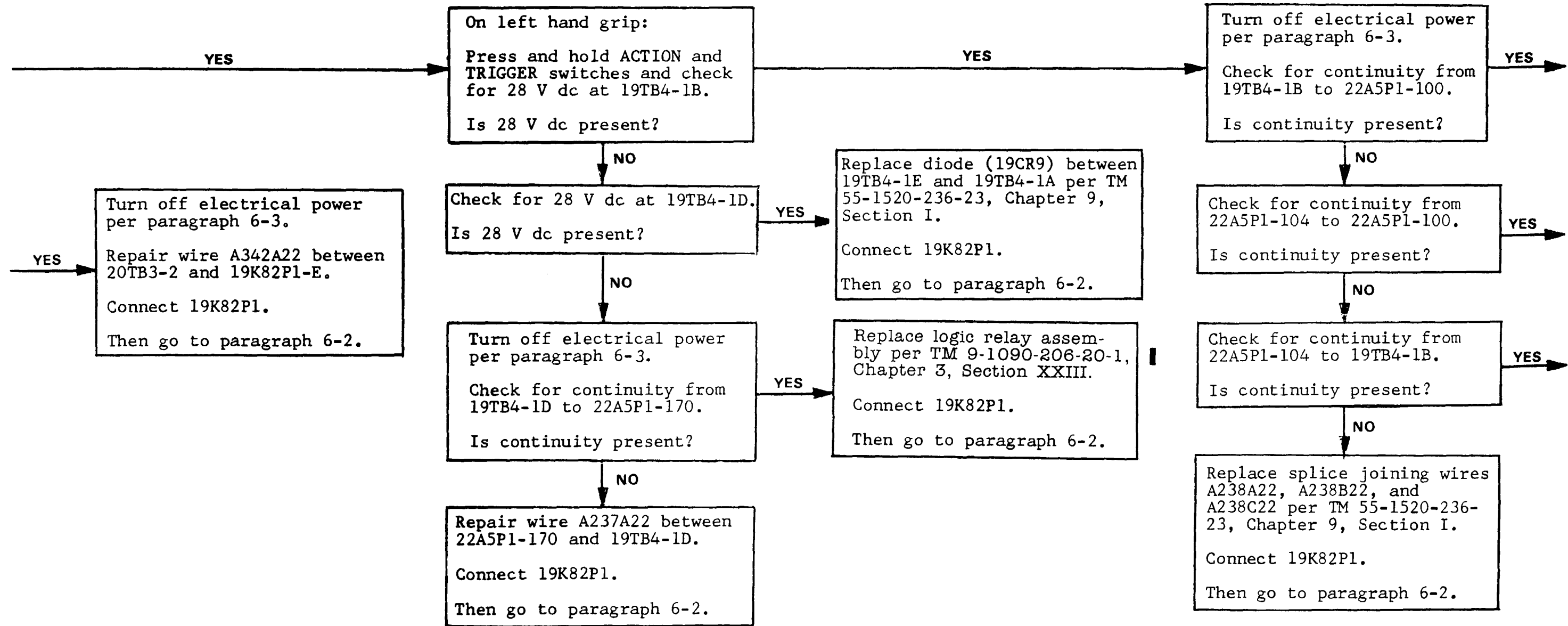
6-28. PILOT IN CONT INDICATOR LIGHTS IMMEDIATELY AFTER RELEASE OF LEFT HAND GRIP TRIGGER SWITCH IN TOW MODE (CONTINUED).



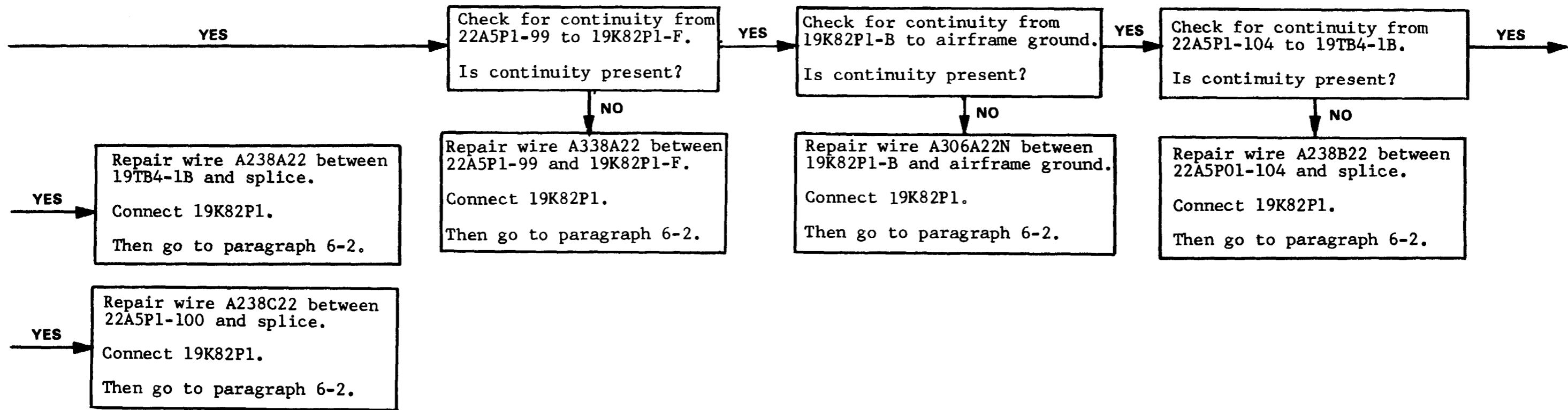
6-28. PILOT IN CONT INDICATOR LIGHTS IMMEDIATELY AFTER RELEASE OF LEFT HAND GRIP TRIGGER SWITCH IN TOW MODE (CONTINUED).



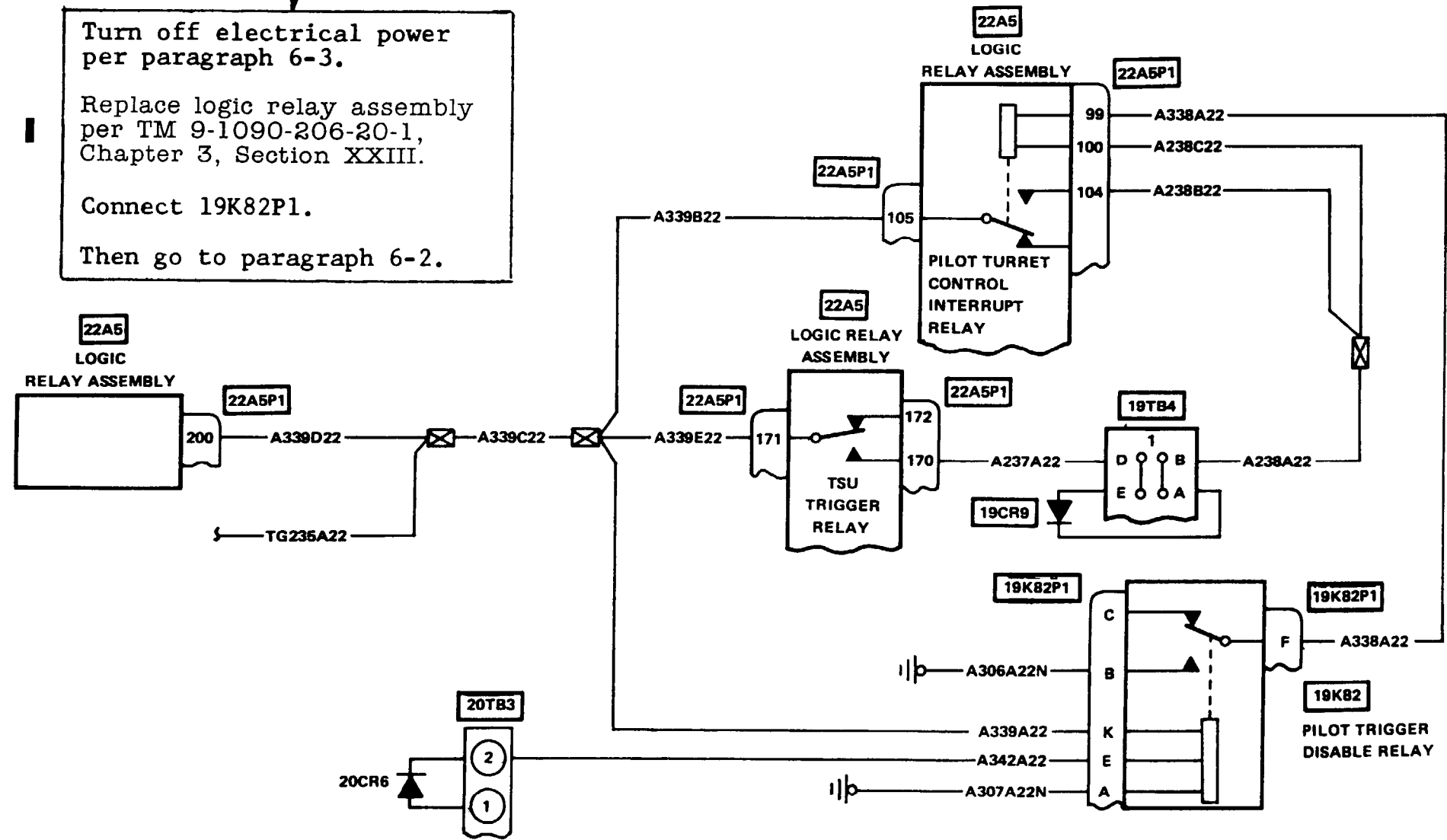
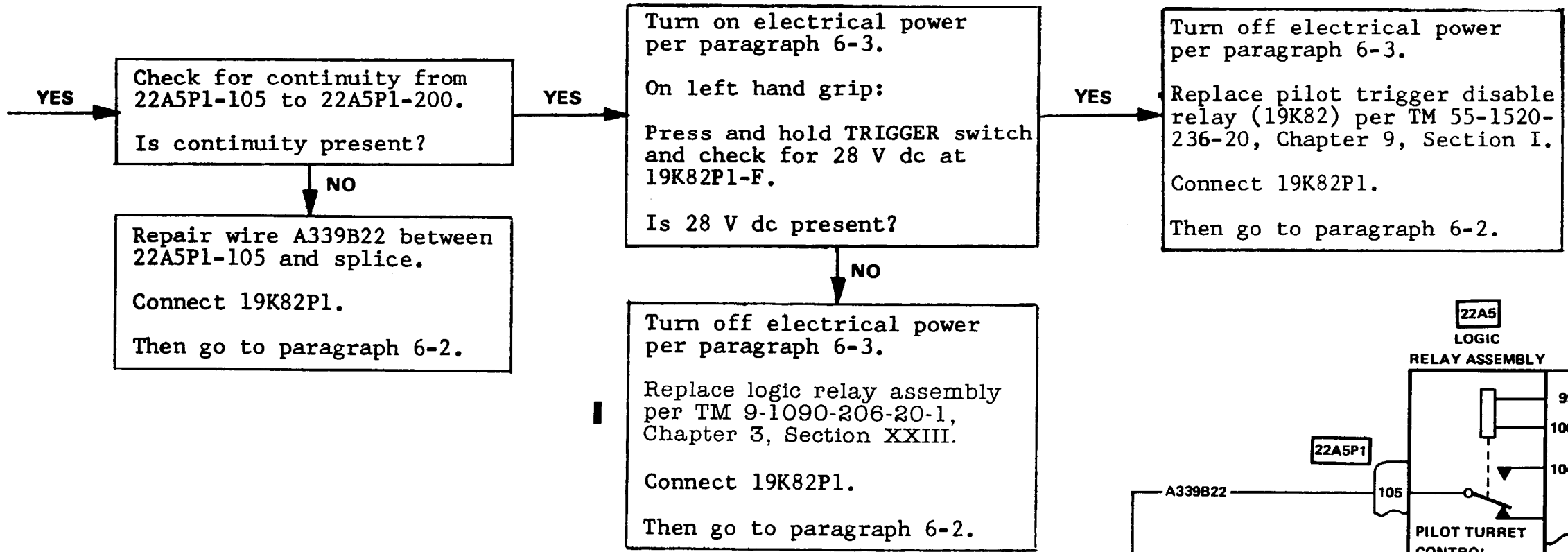
6-28. PILOT IN CONT INDICATOR LIGHTS IMMEDIATELY AFTER RELEASE OF LEFT HAND GRIP TRIGGER SWITCH IN TOW MODE (CONTINUED).



6-28. PILOT IN CONT INDICATOR LIGHTS IMMEDIATELY AFTER RELEASE OF LEFT HAND GRIP TRIGGER SWITCH IN TOW MODE (CONTINUED).



6-28. PILOT IN CONT INDICATOR LIGHTS IMMEDIATELY AFTER RELEASE OF LEFT HAND GRIP TRIGGER SWITCH IN TOW MODE (CONTINUED).



6-29. TURRET EMERGENCY STOW FAILS.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

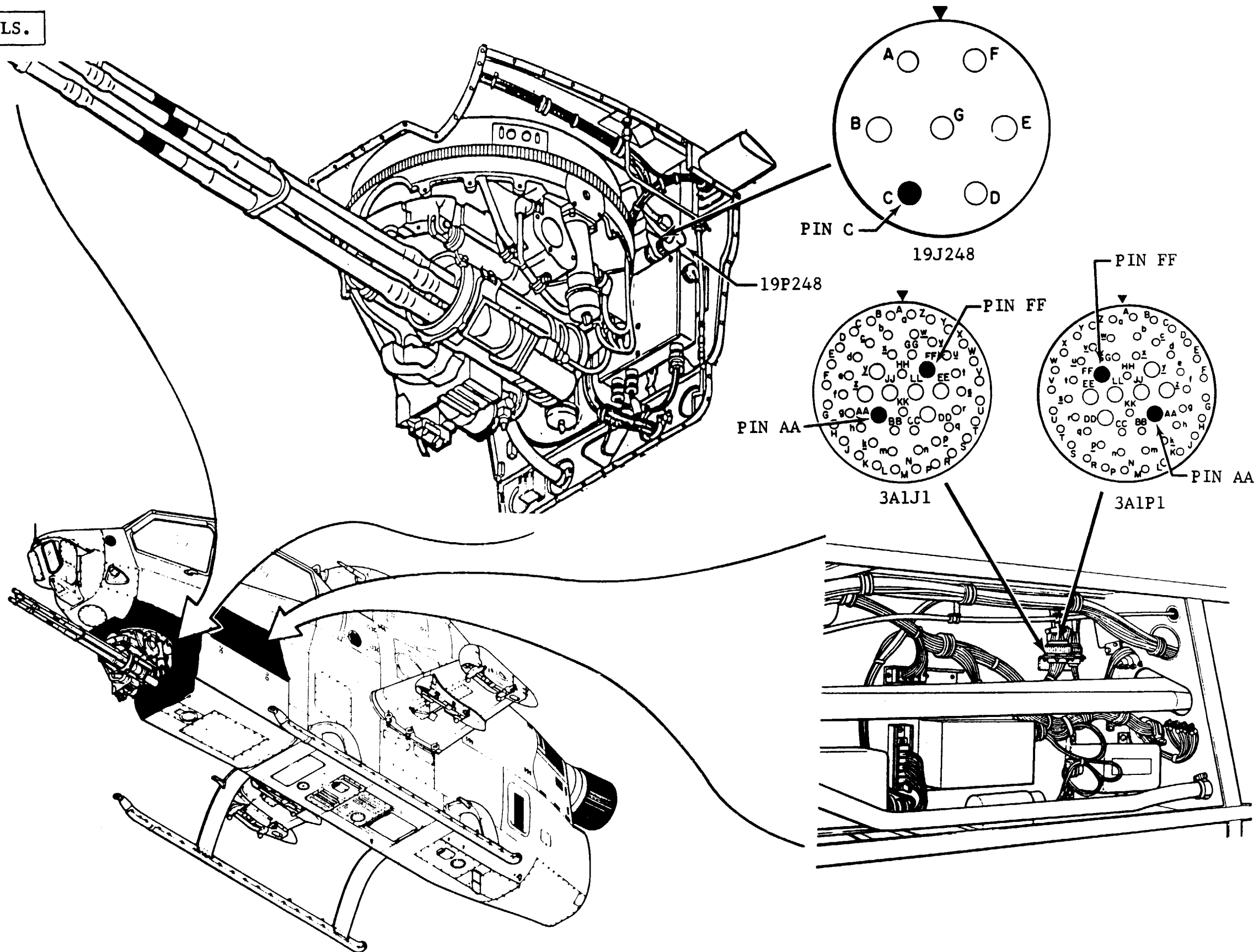
Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

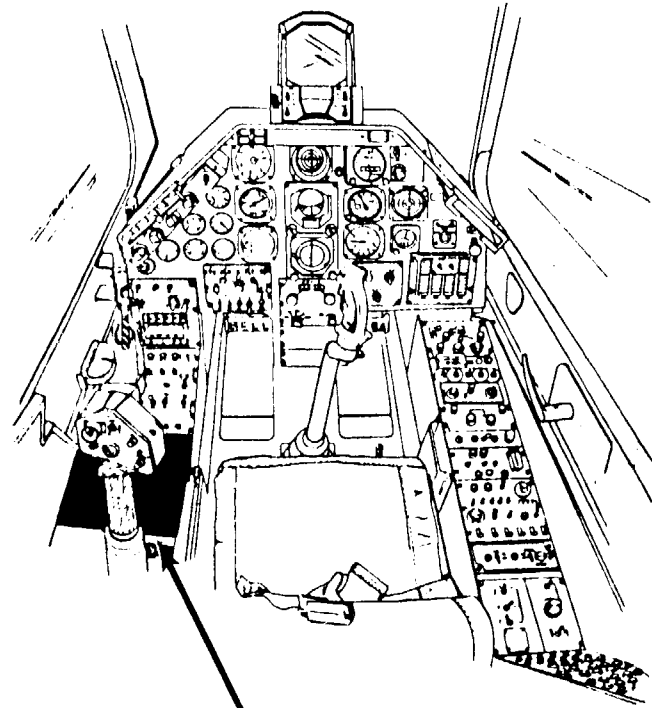
References
TM 9-1090-206-20-1
TM 55-1520-236-23

Access Panels
Turret Fairing - Removed

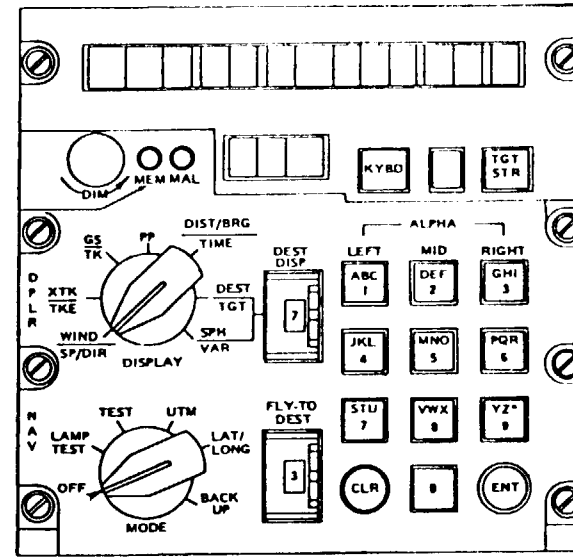
Left Side Control
Linkage - Removed



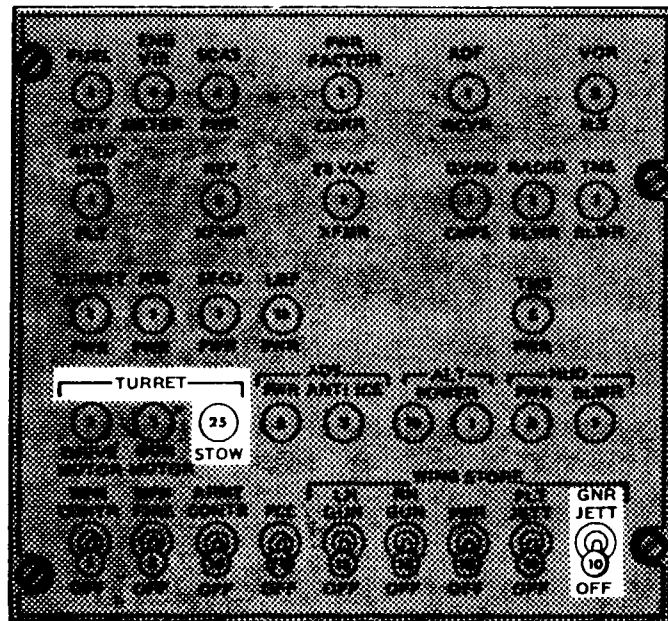
6-29. TURRET EMERGENCY STOW FAILS (CONTINUED).



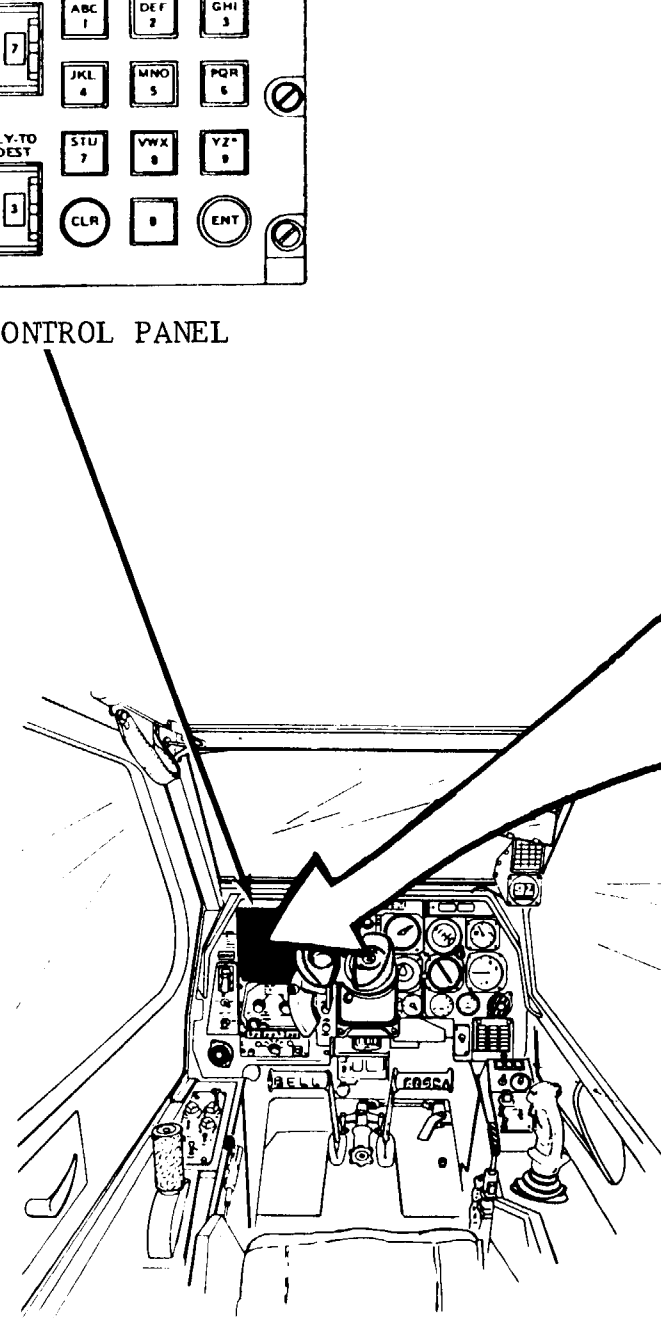
PILOT STATION



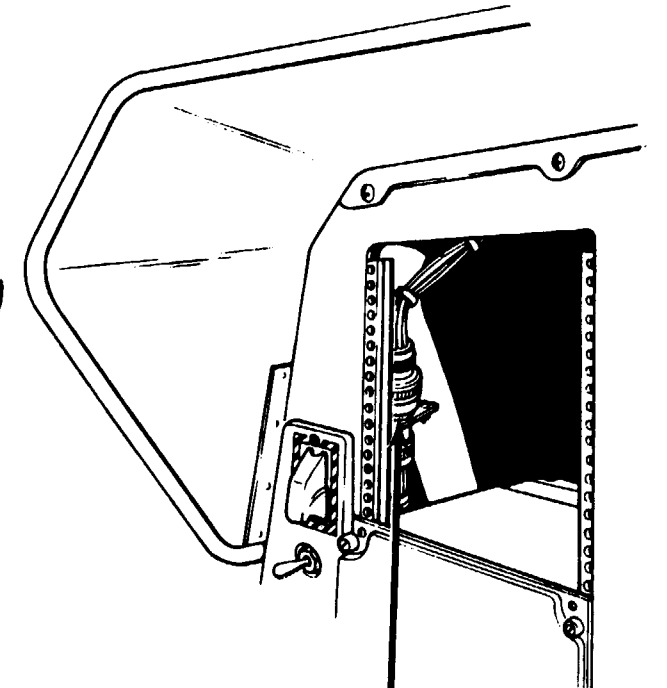
DPLR NAV CONTROL PANEL



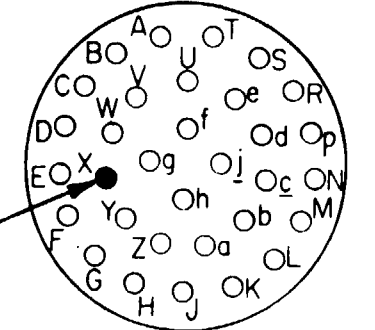
AC/ARMT CIRCUIT BREAKER PANEL



GUNNER STATION

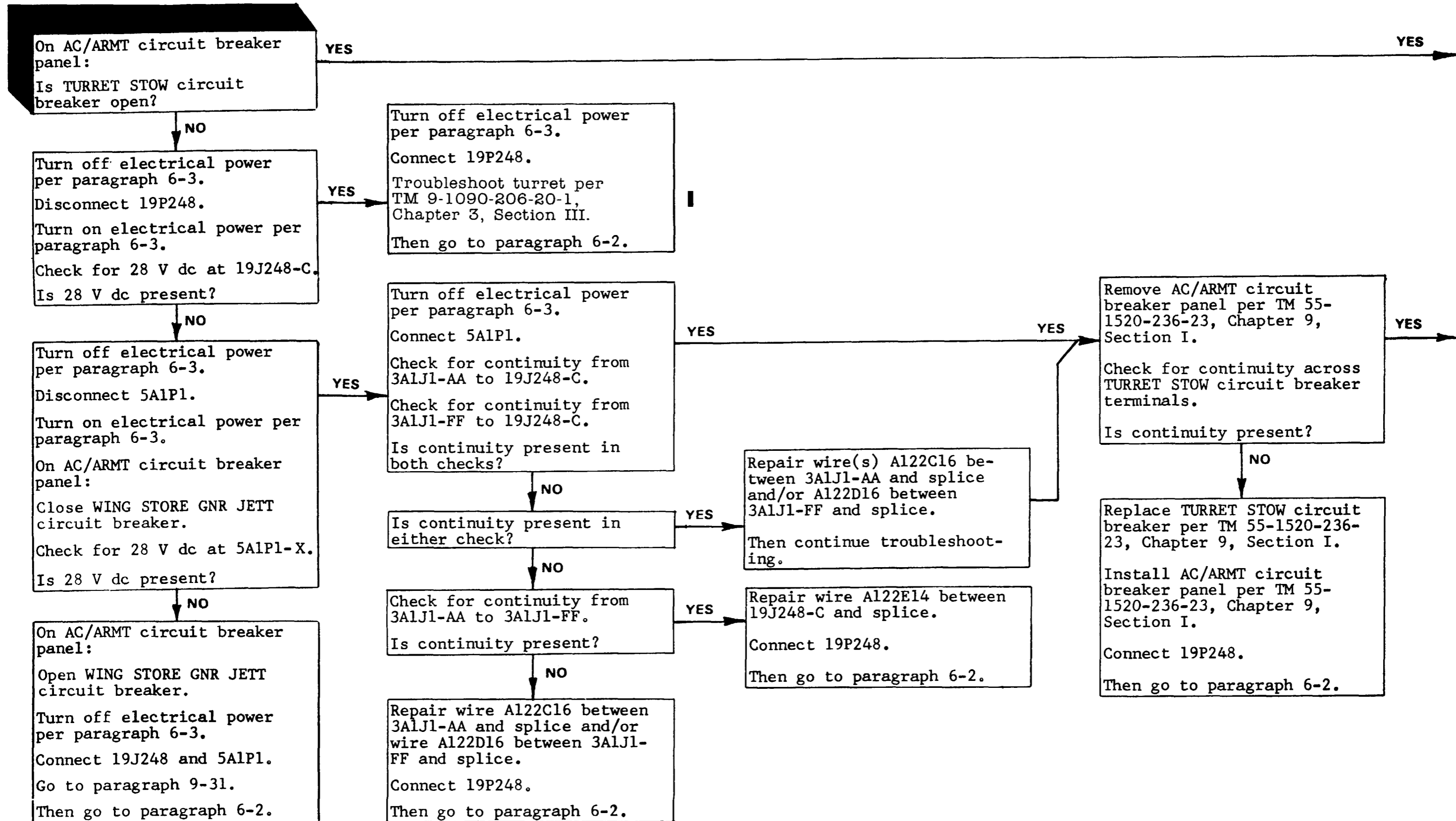


PIN X

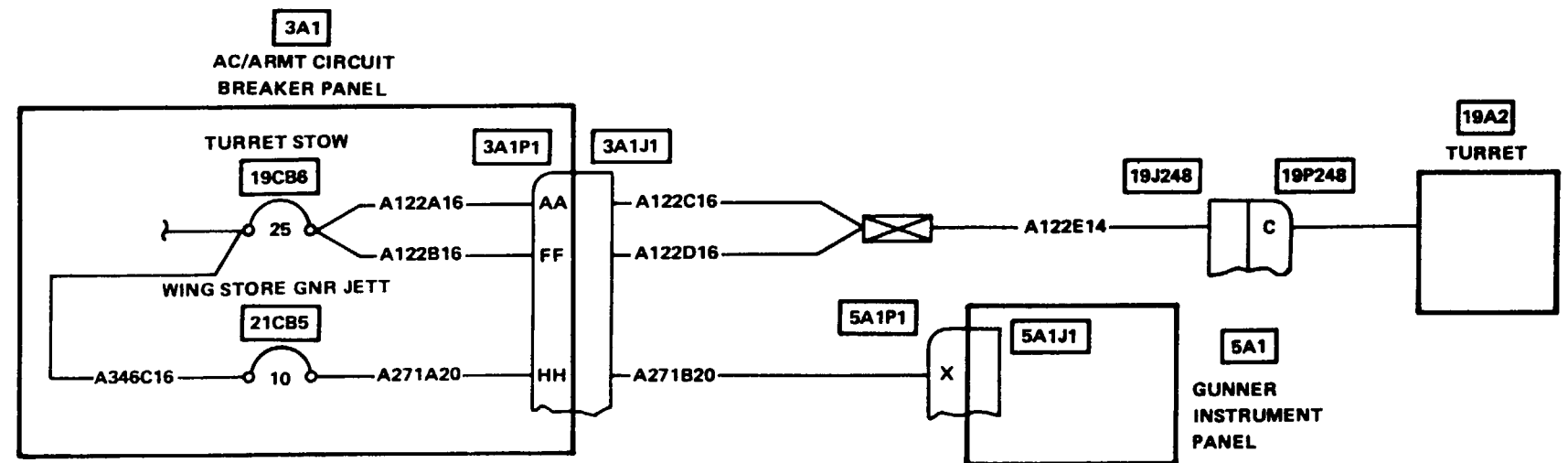
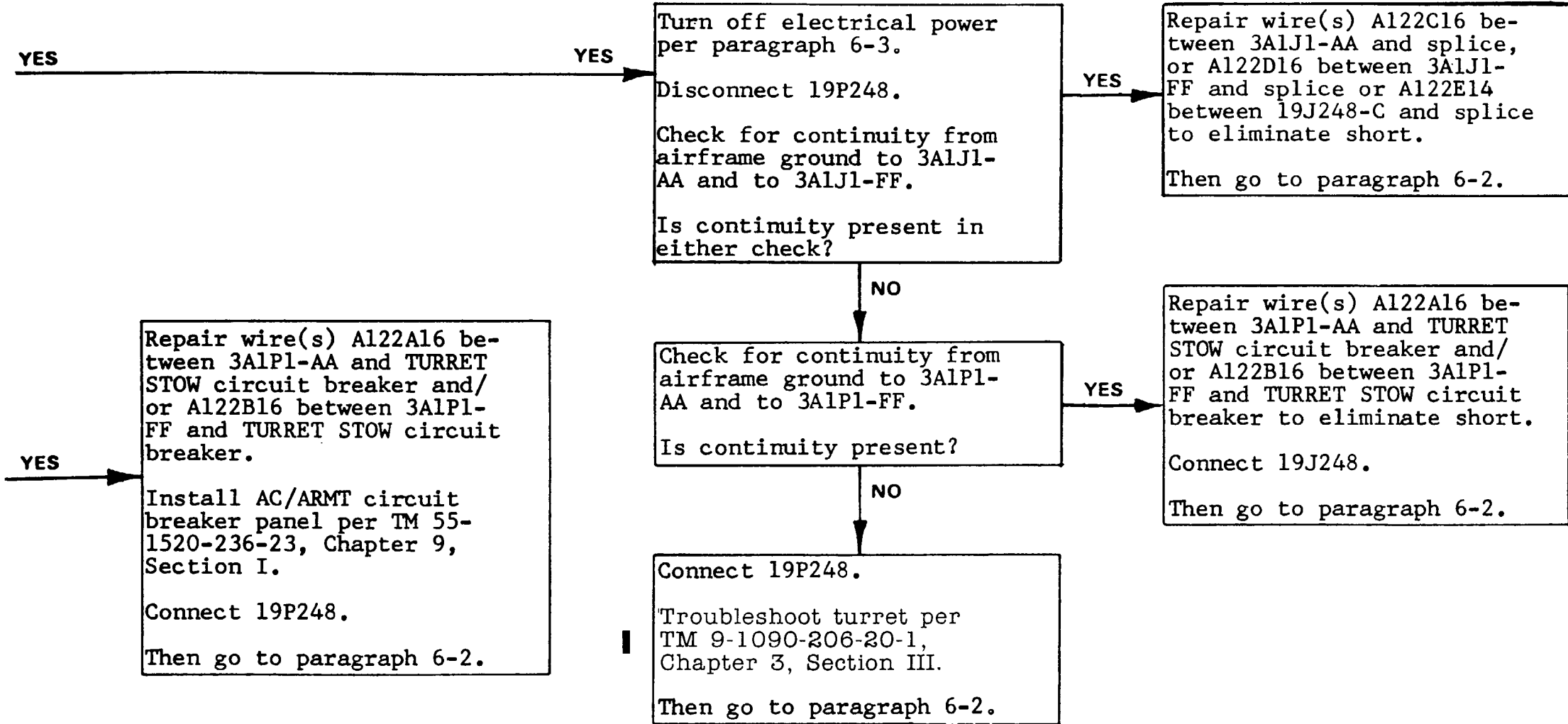


5A1P1

6-29. TURRET EMERGENCY STOW FAILS (CONTINUED).



6-29. TURRET EMERGENCY STOW FAILS (CONTINUED).



6-30. GUN ELEV STOWED SEGMENT ON PILOT CAUTION PANEL DOES NOT LIGHT .

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (1)

References

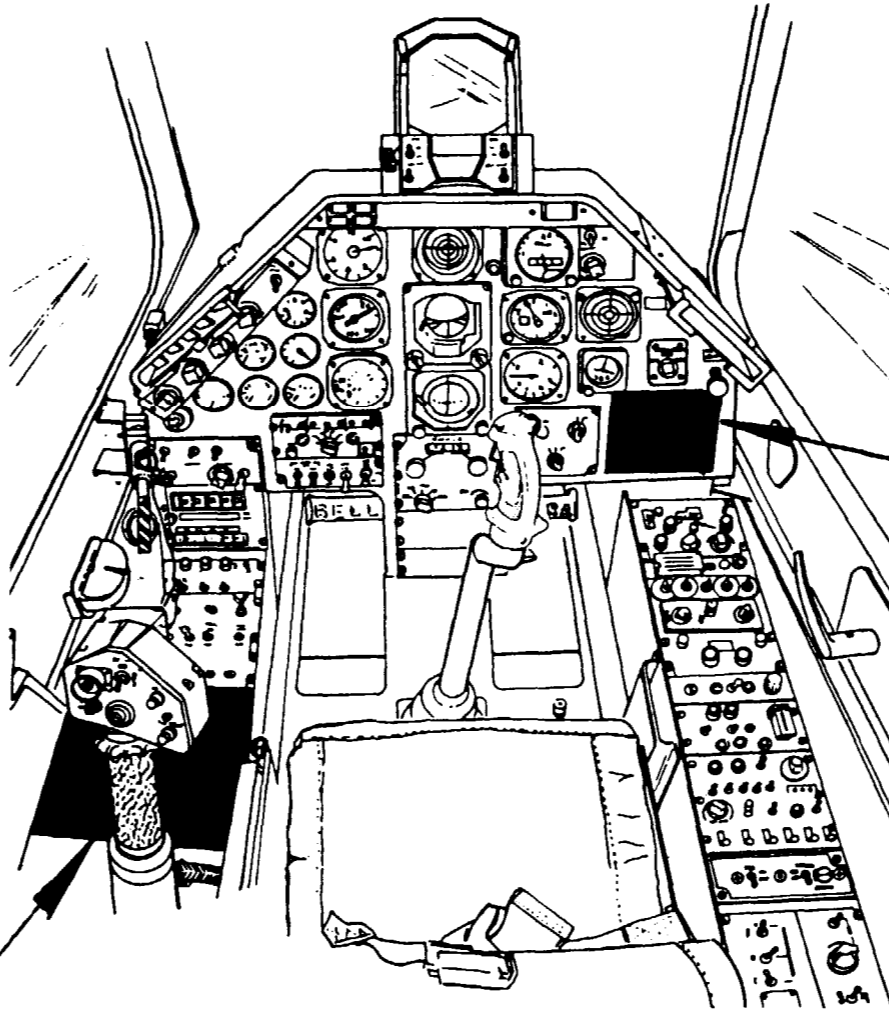
- TM 9-1090-206-20-1
- TM 55-1520-236-23

Access Panels

Turret Fairing - Removed

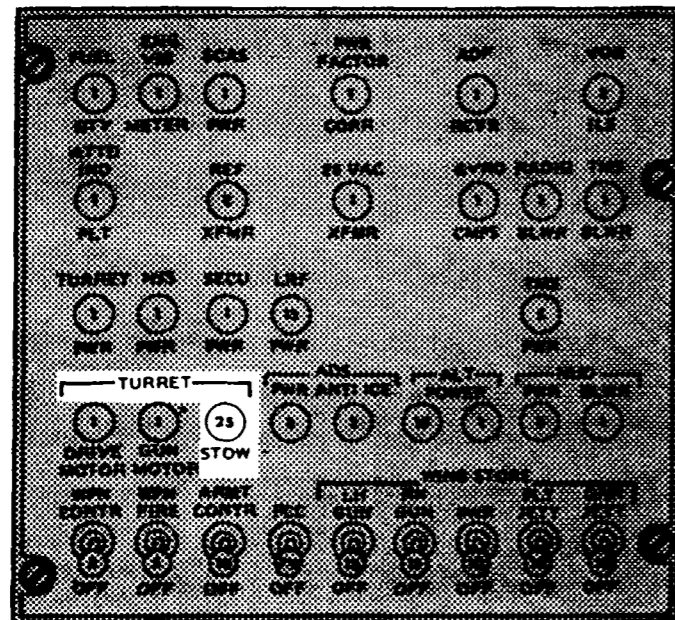
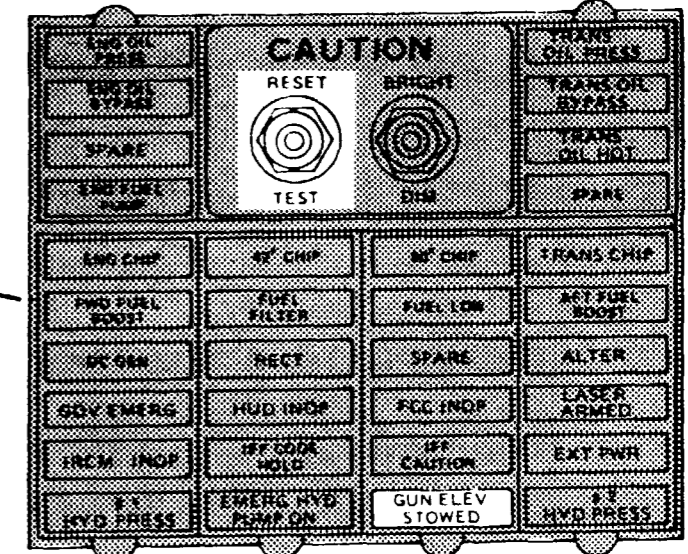
Forward Right Side Control Linkage - Removed

Aft Right Side Control Linkage - Removed

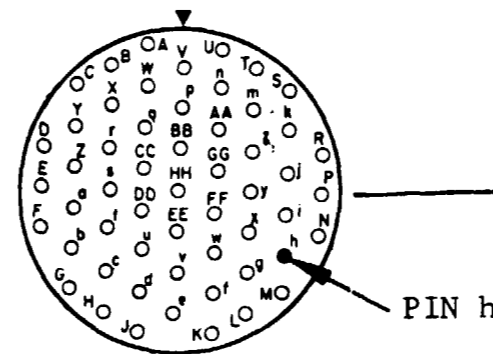


PILOT STATION

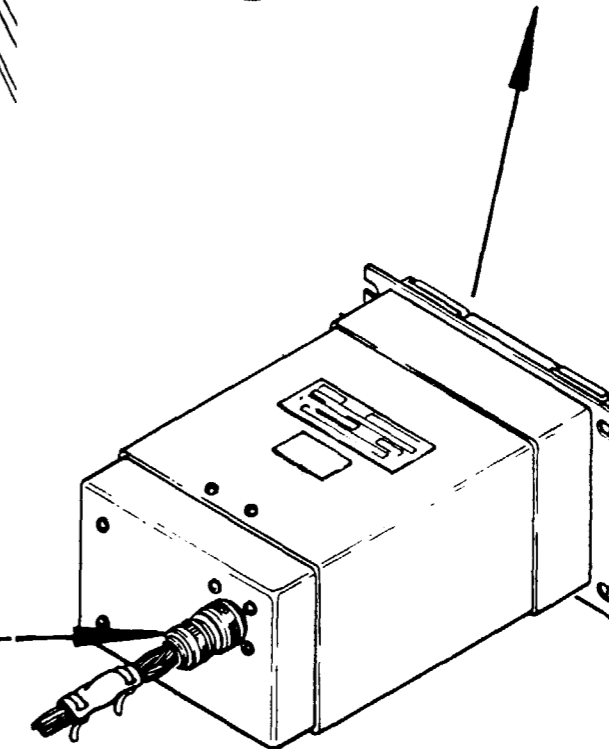
PILOT CAUTION PANEL



AC/ARMT CIRCUIT BREAKER PANEL

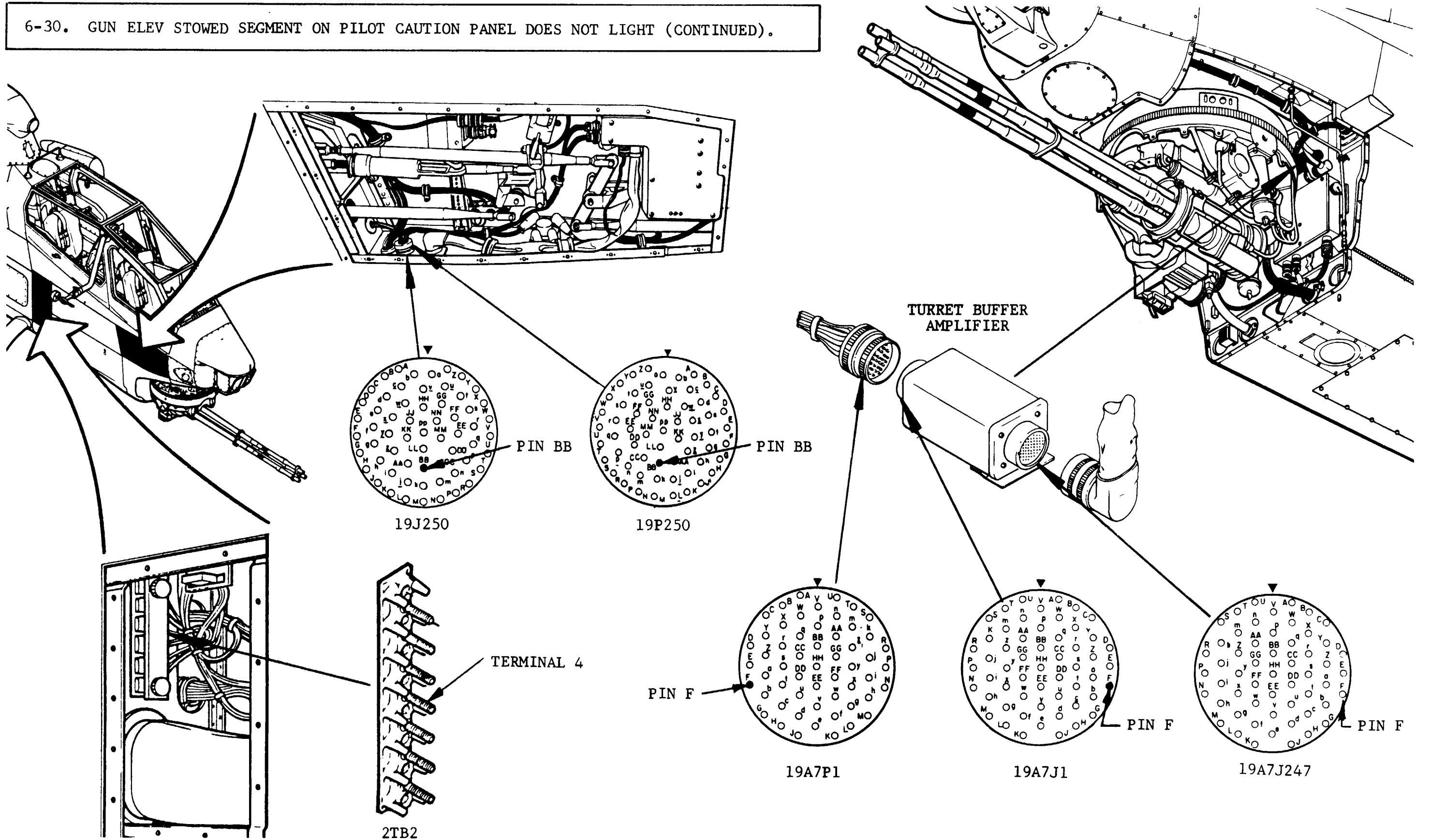


8A2P1

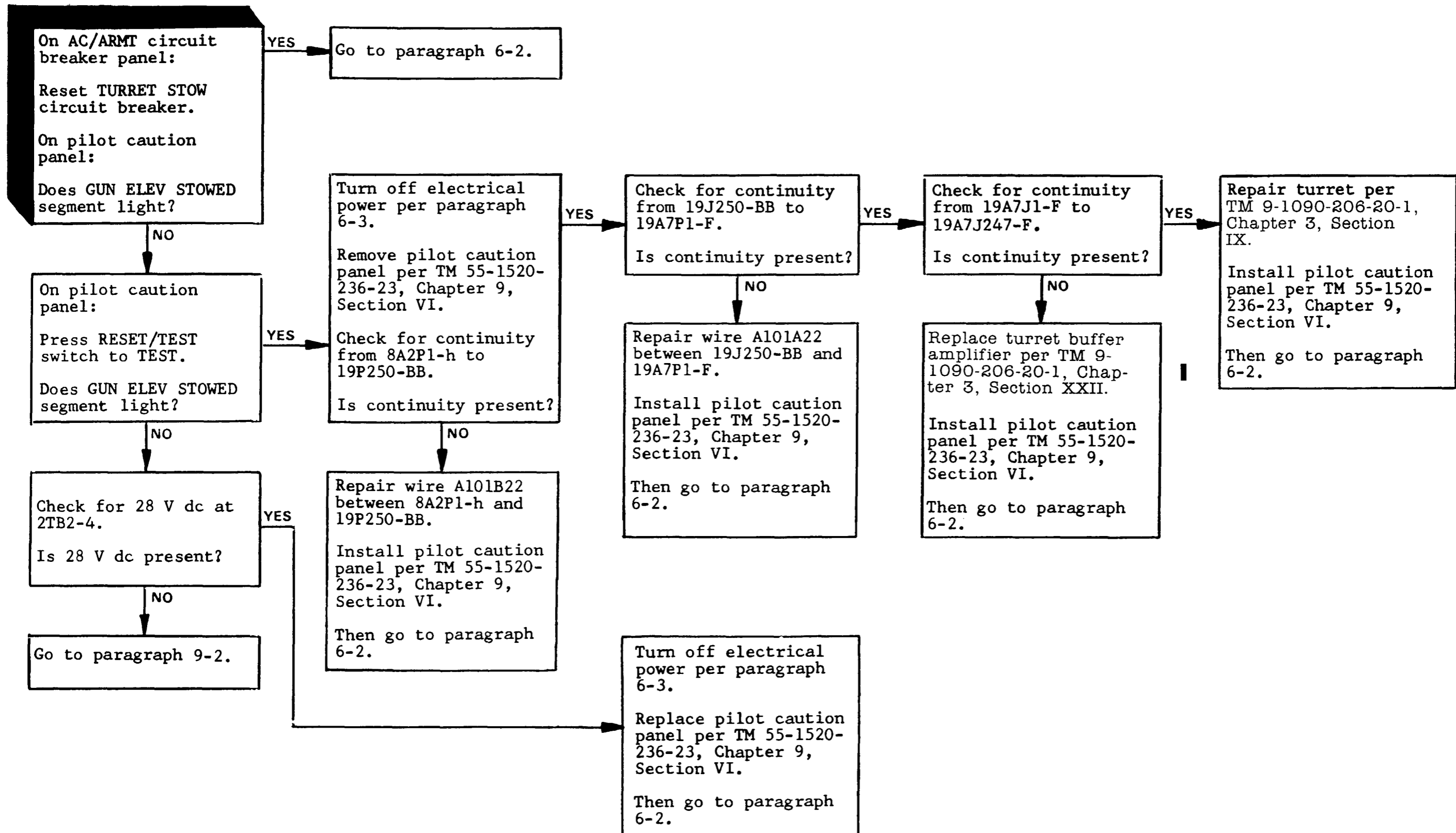


PILOT CAUTION PANEL
(REAR VIEW)

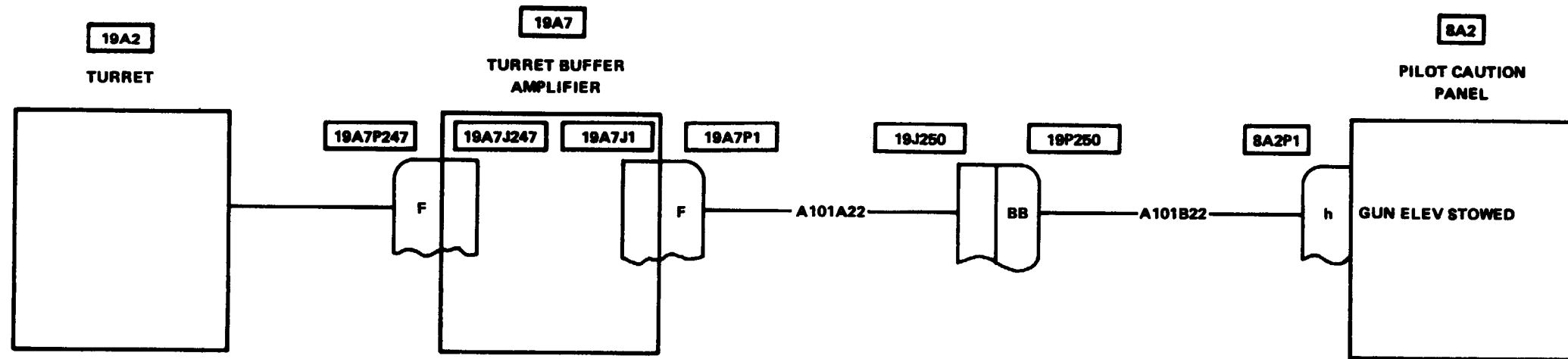
6-30. GUN ELEV STOWED SEGMENT ON PILOT CAUTION PANEL DOES NOT LIGHT (CONTINUED).



6-30. GUN ELEV STOWED SEGMENT ON PILOT CAUTION PANEL DOES NOT LIGHT (CONTINUED).



6-30. GUN ELEV STOWED SEGMENT ON PILOT CAUTION PANEL DOES NOT LIGHT (CONTINUED).



6-31. RD RMNG INDICATOR DOES NOT DECREASE.

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

Access Panels

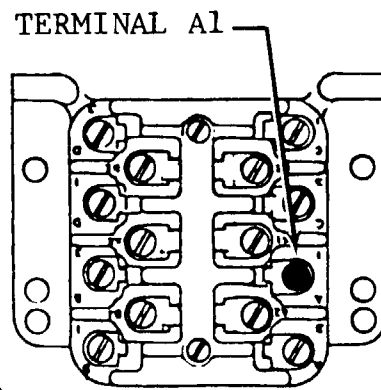
Turret Fairing - Removed

Right Forward Control Linkage - Removed

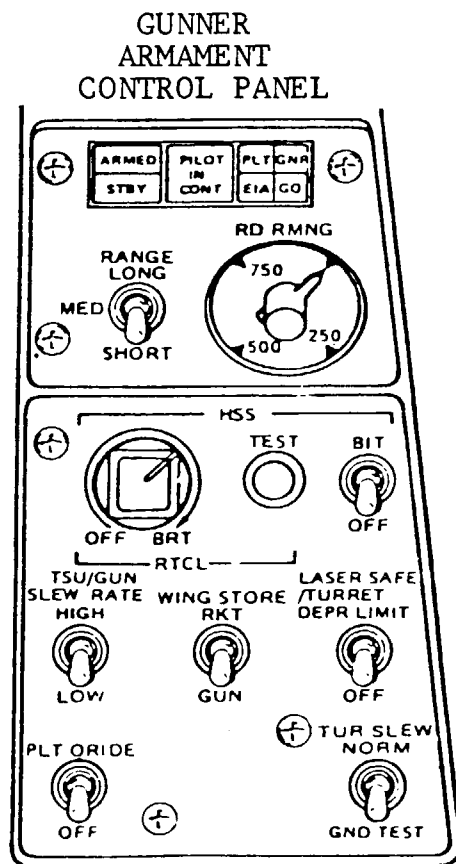
Right Side Glareshield - Removed



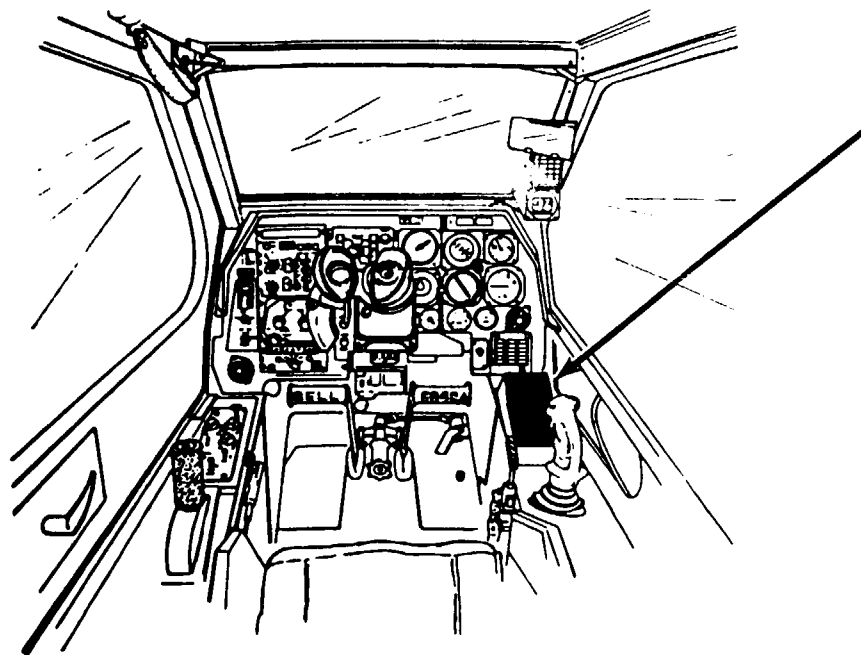
PILOT ARMT CONTROL PANEL



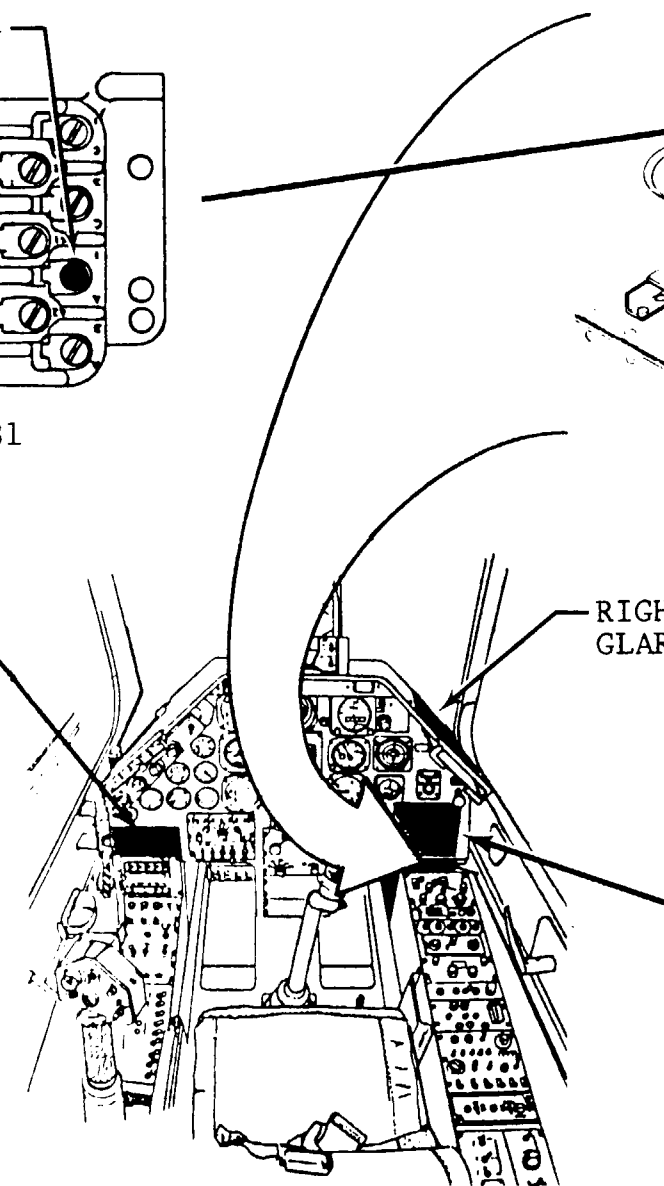
19K31



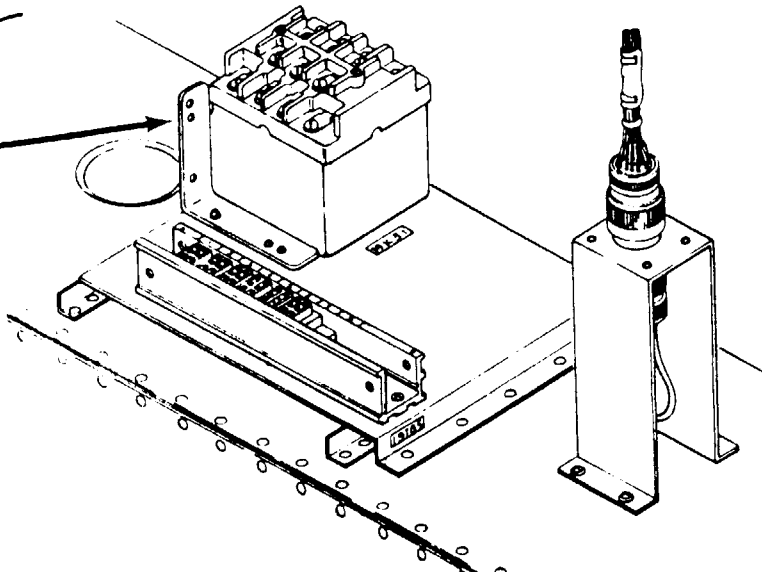
GUNNER ARMAMENT CONTROL PANEL



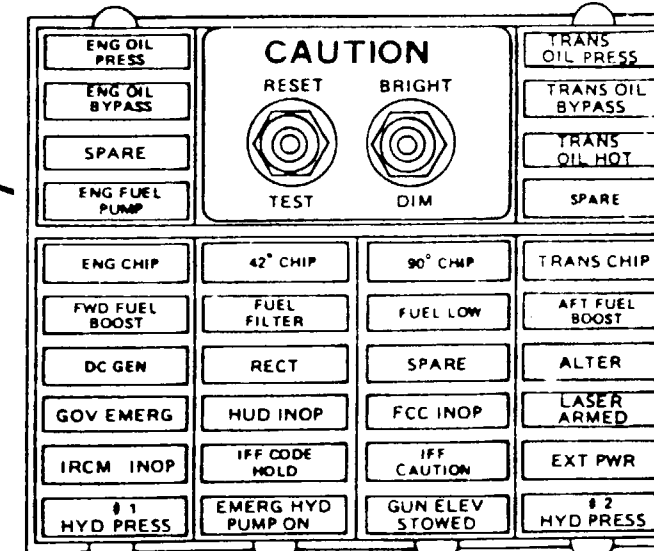
GUNNER STATION



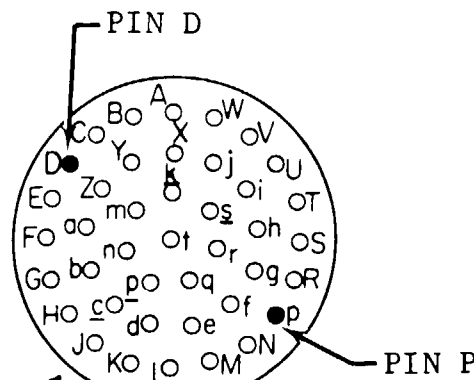
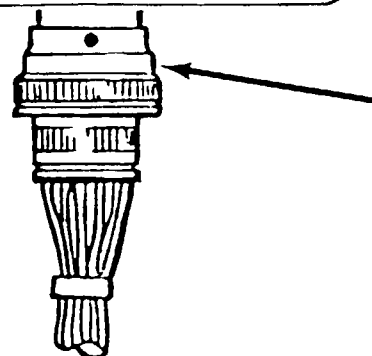
PILOT STATION



RIGHT SIDE GLARESHIELD

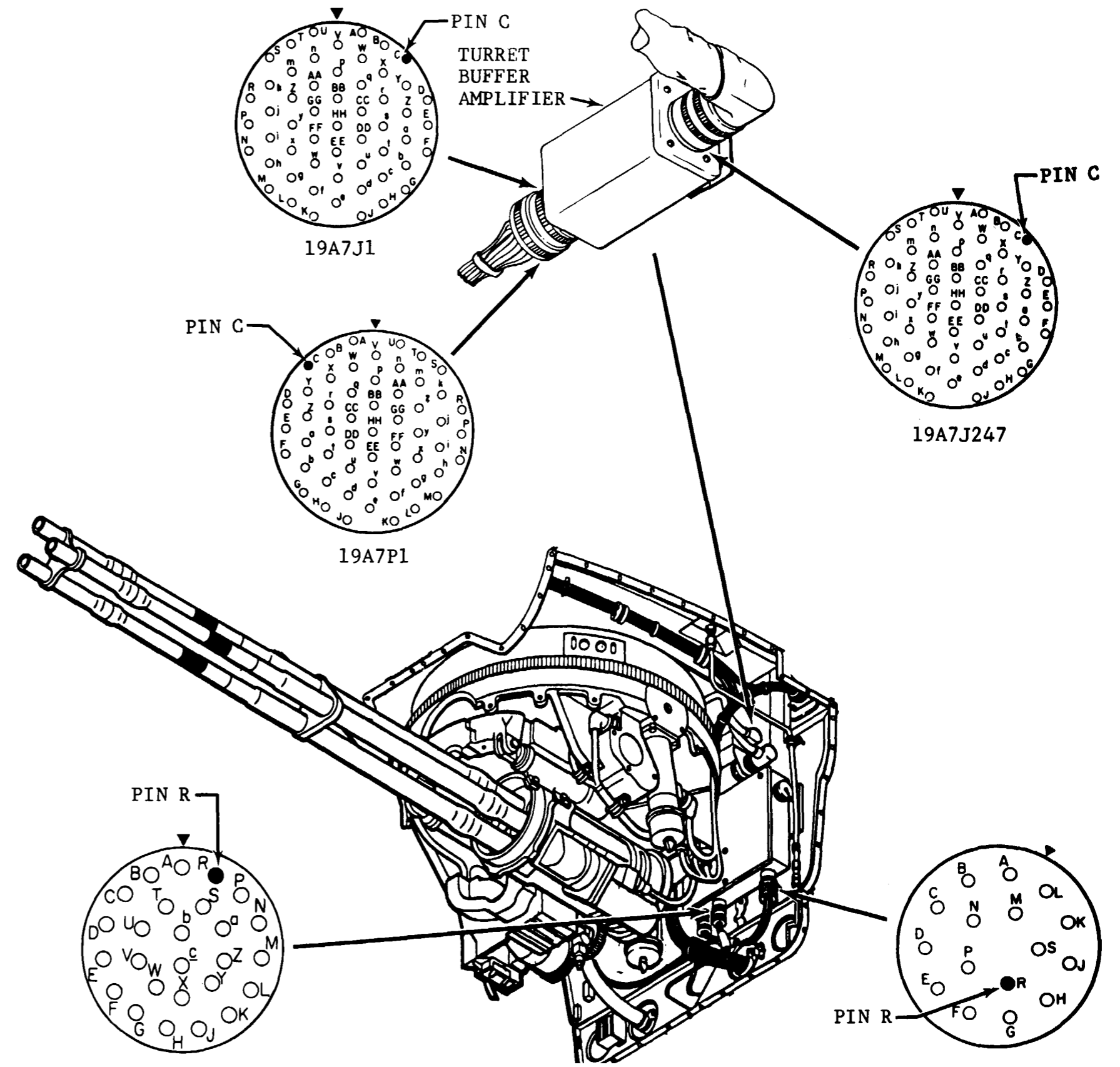
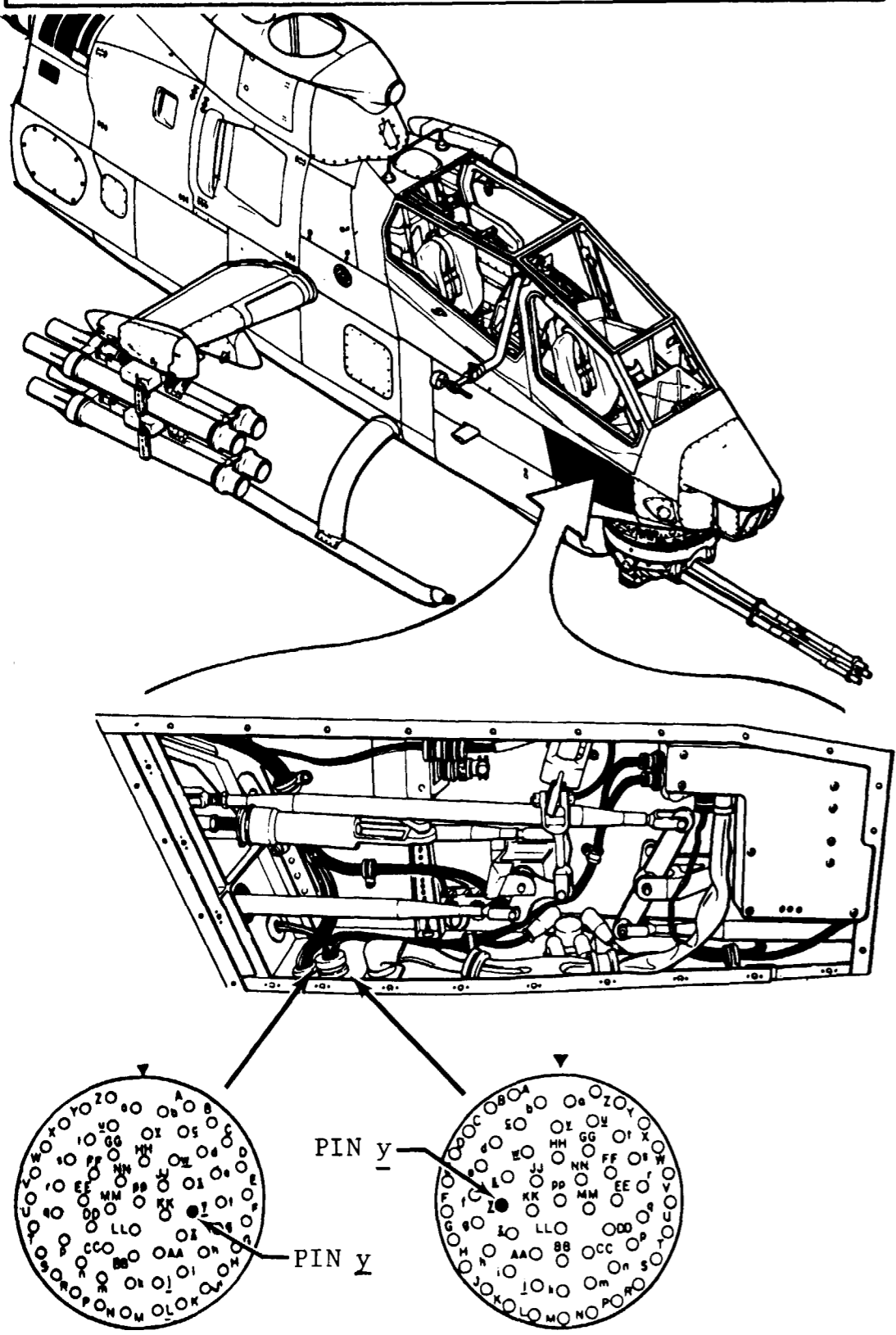


PILOT CAUTION PANEL

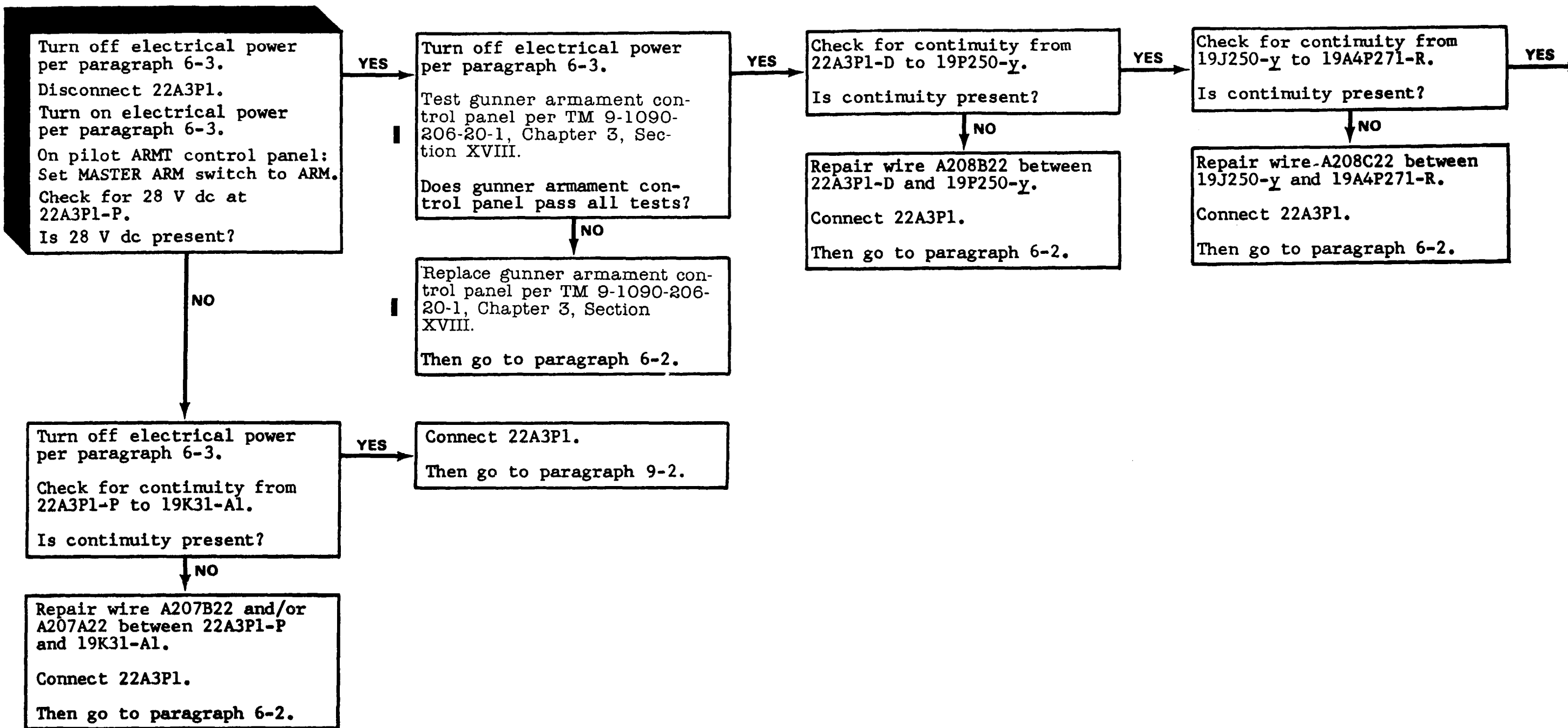


22A3P1

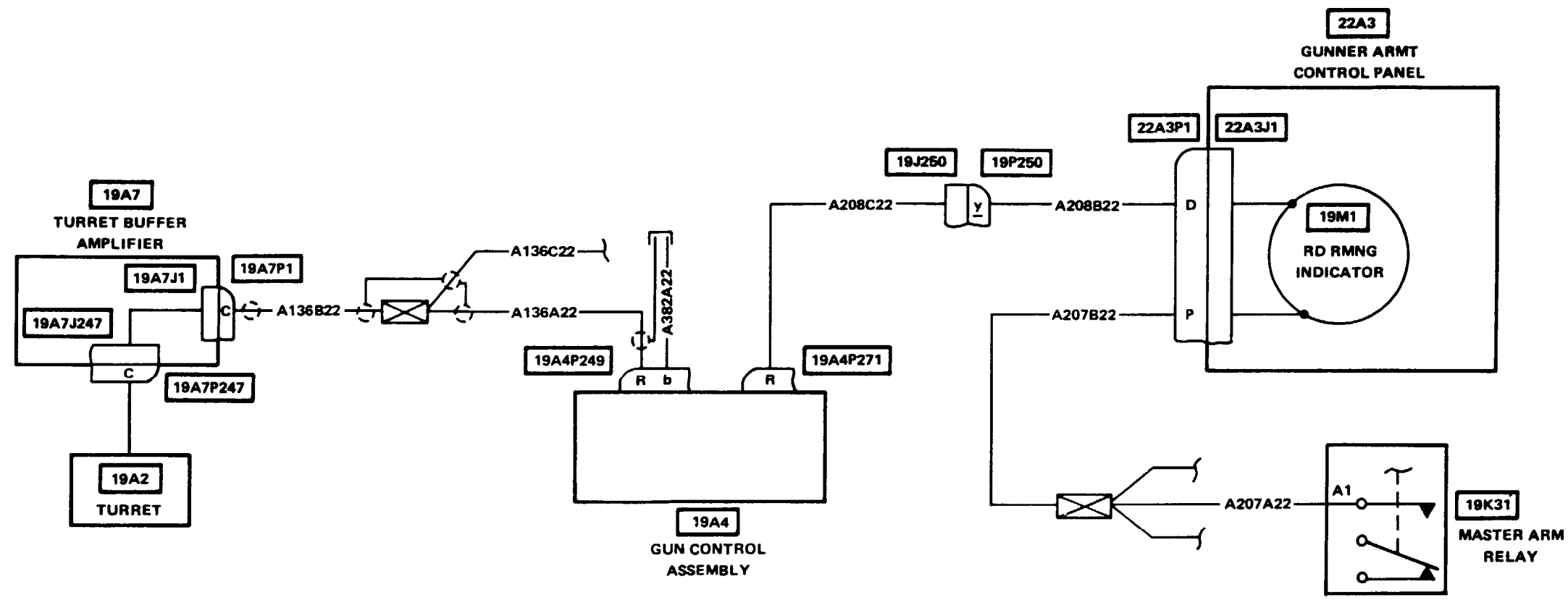
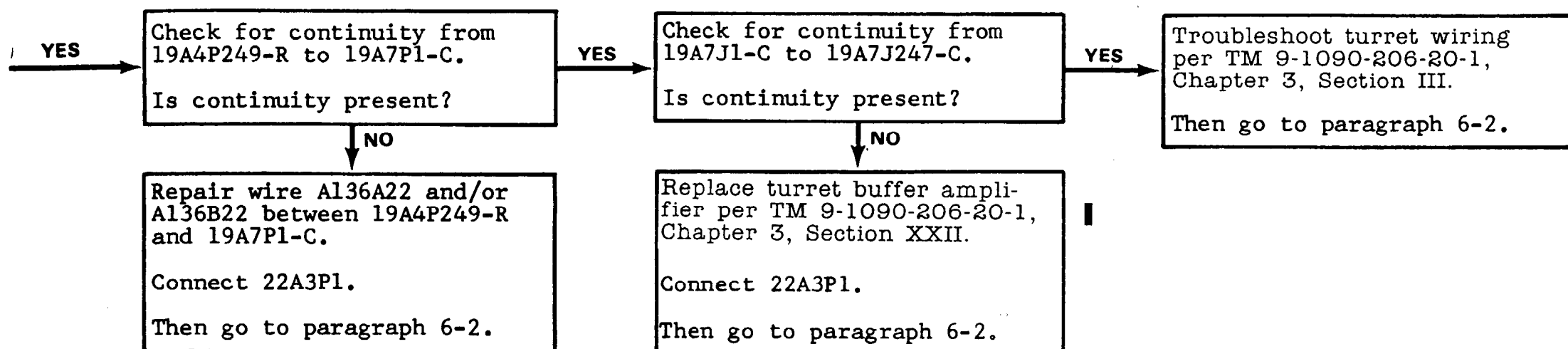
6-31. RD RMNG INDICATOR DOES NOT DECREASE (CONTINUED).



6-31. RD RMNG INDICATOR DOES NOT DECREASE (CONTINUED).



6-31. RD RMNG INDICATOR DOES NOT DECREASE (CONTINUED).



6-32. TURRET PWR CIRCUIT BREAKER
OPENS WHEN RECOIL COMPEN SWITCH
IS SET TO RECOIL COMPEN.

INITIAL SETUP

Applicable Configuration
All

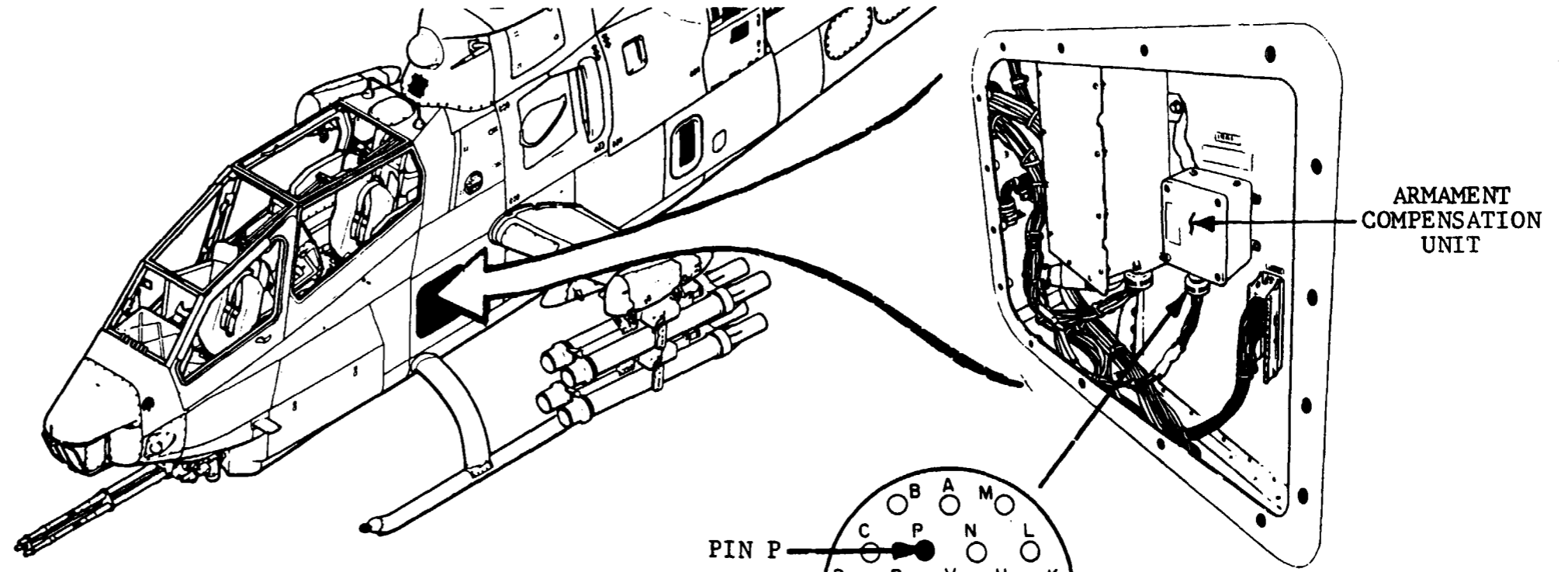
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

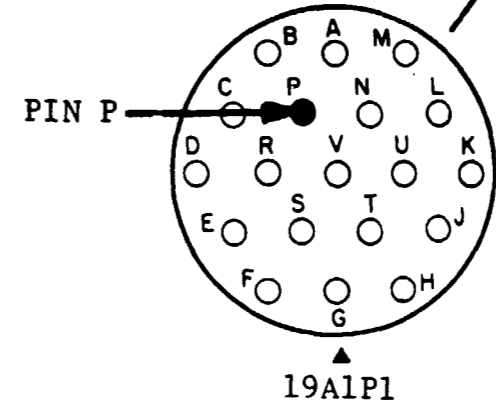
Personnel Required
68J (1)

References
TM 11-1520-236-20
TM 9-1090-206-20-1

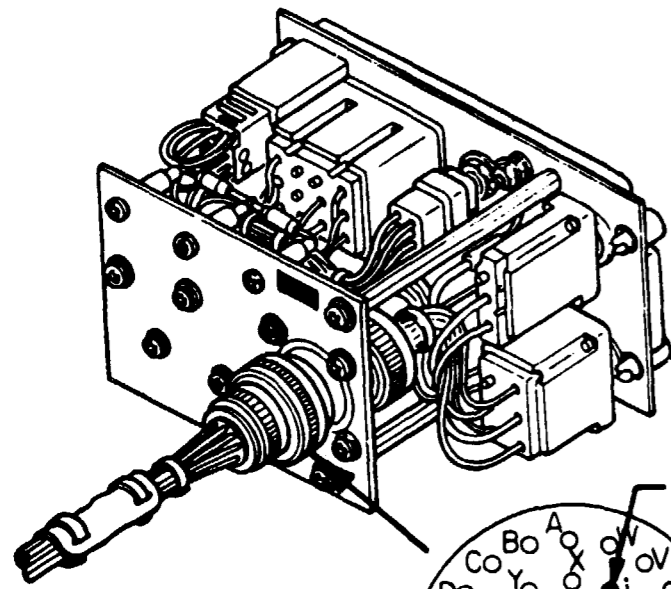
Access Panels
Logic Control - Removed



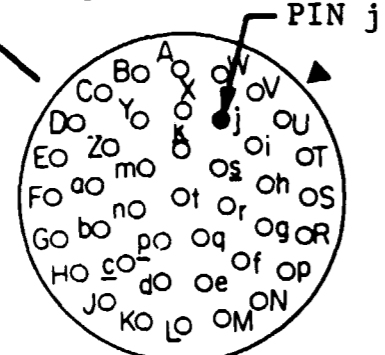
ARMAMENT COMPENSATION UNIT



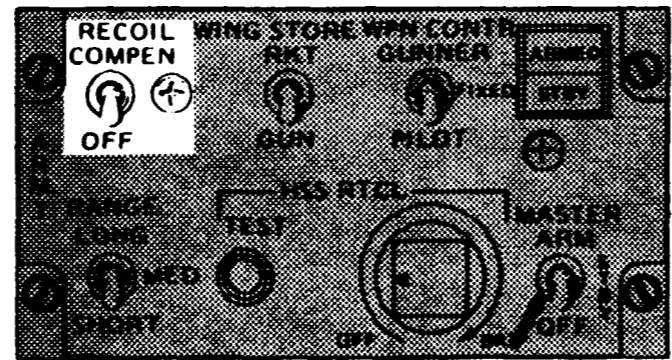
19A1P1



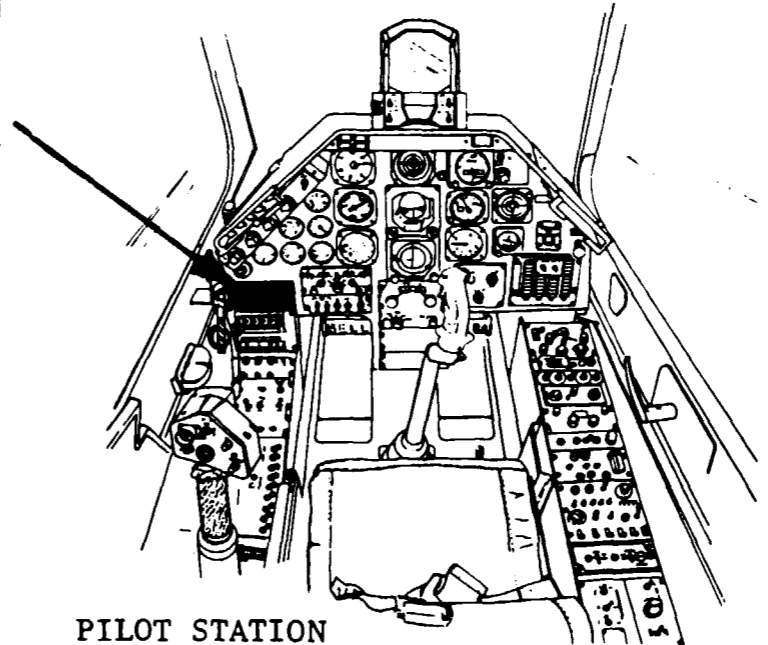
PILOT ARMT CONTROL PANEL (REAR VIEW)



22A2P1

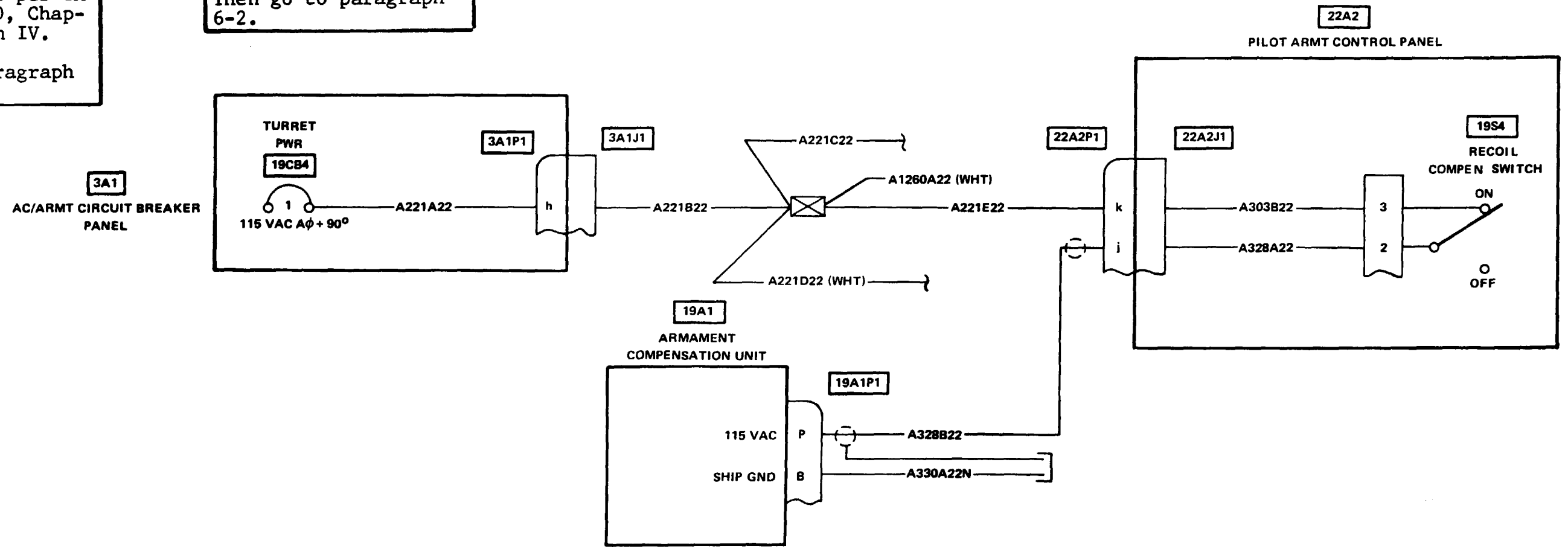
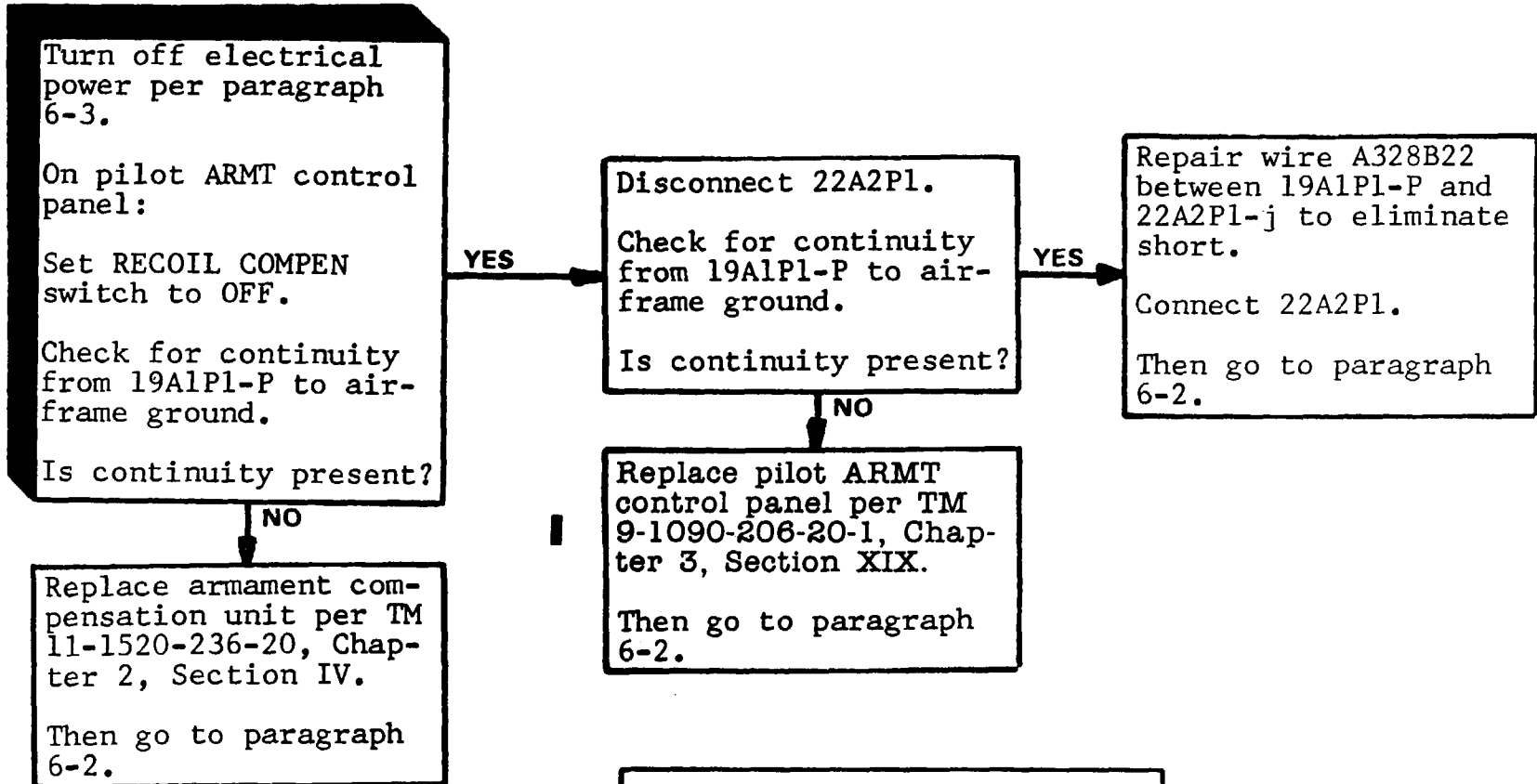


PILOT ARMT CONTROL PANEL



PILOT STATION

6-32. TURRET PWR CIRCUIT BREAKER OPENS WHEN RECOIL COMPEN SWITCH IS SET TO RECOIL COMPEN (CONTINUED).



6-33. ROLL COMPENSATION VOLTAGE GREATER THAN 0.9 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION.

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

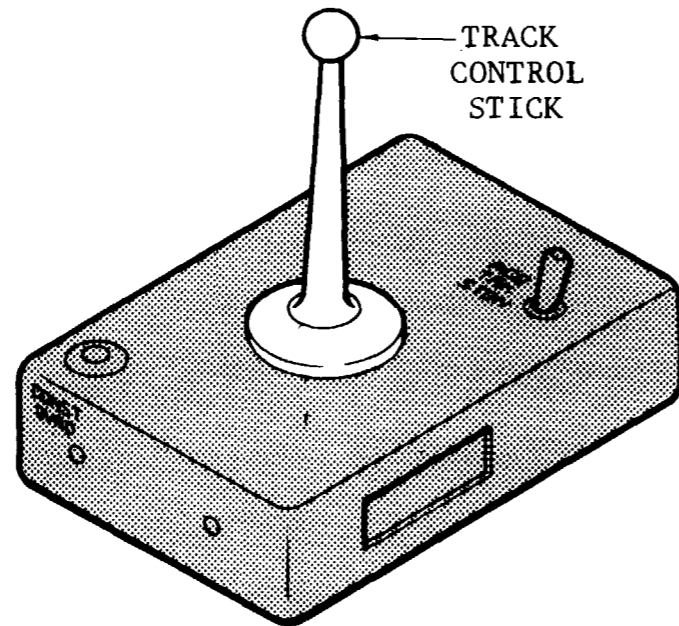
Digital Voltmeter

Tool Set, A/C Armament Repairman

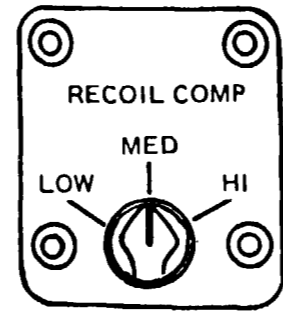
Personnel Required
68J (1)

References
TM 55-1520-236-23

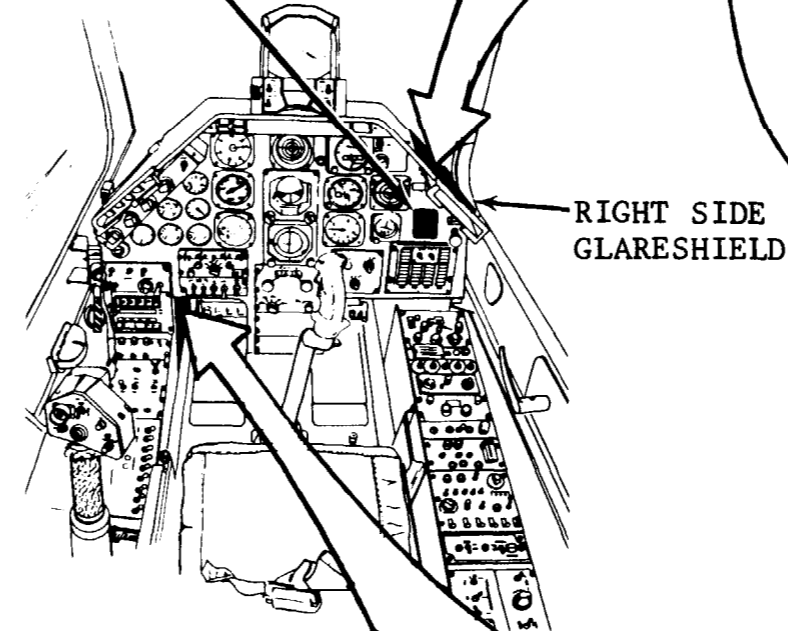
Access Panels
Right Side Glareshield - Removed



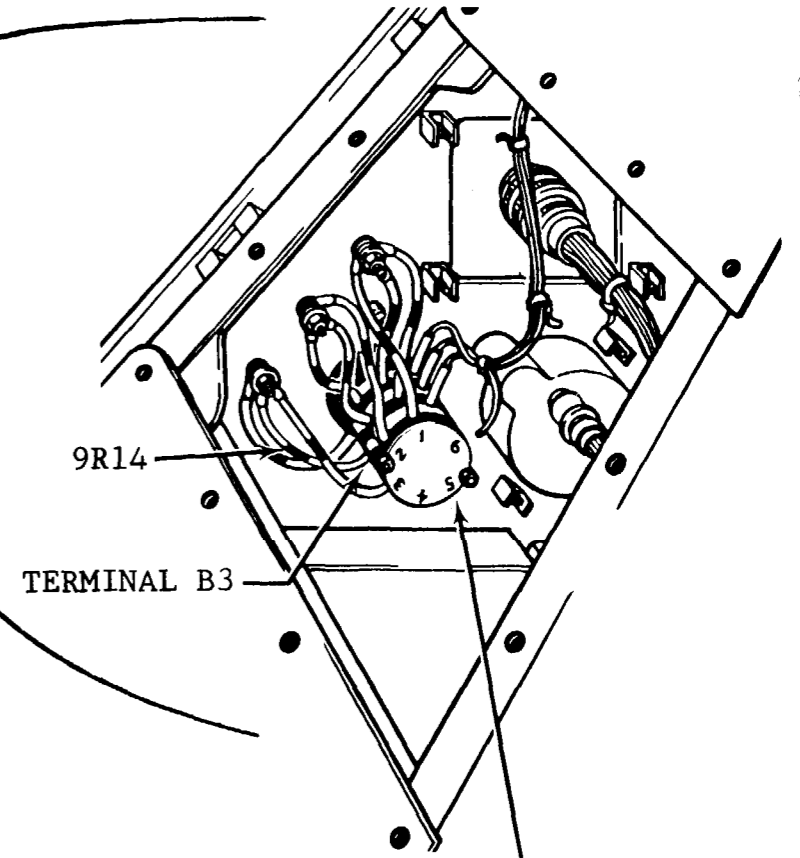
SIGHT HAND CONTROL



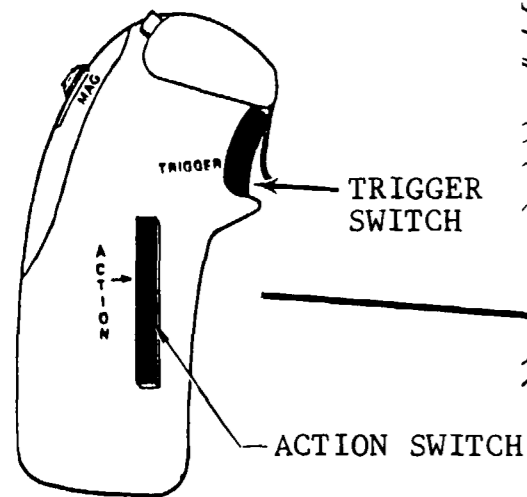
RECOIL COMP SWITCH (9S6)



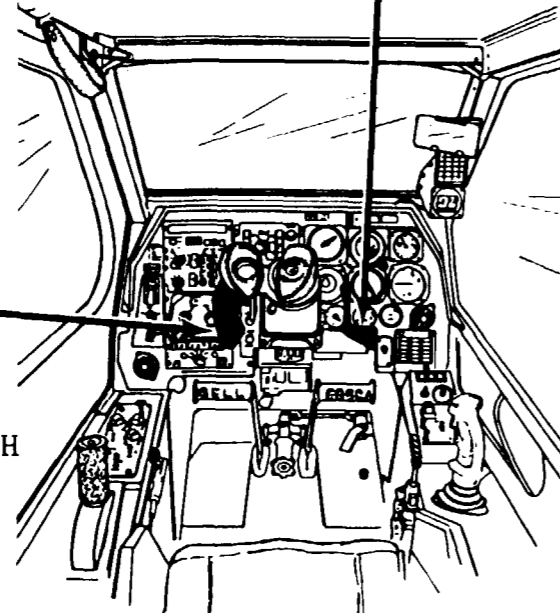
PILOT STATION



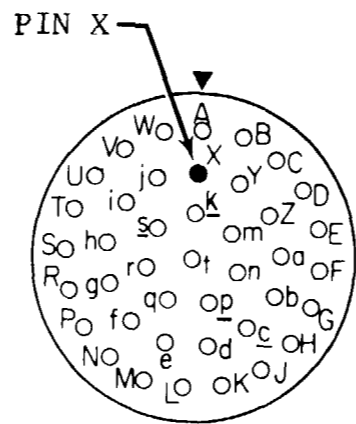
RECOIL COMP SWITCH (9S6) (REARVIEW)



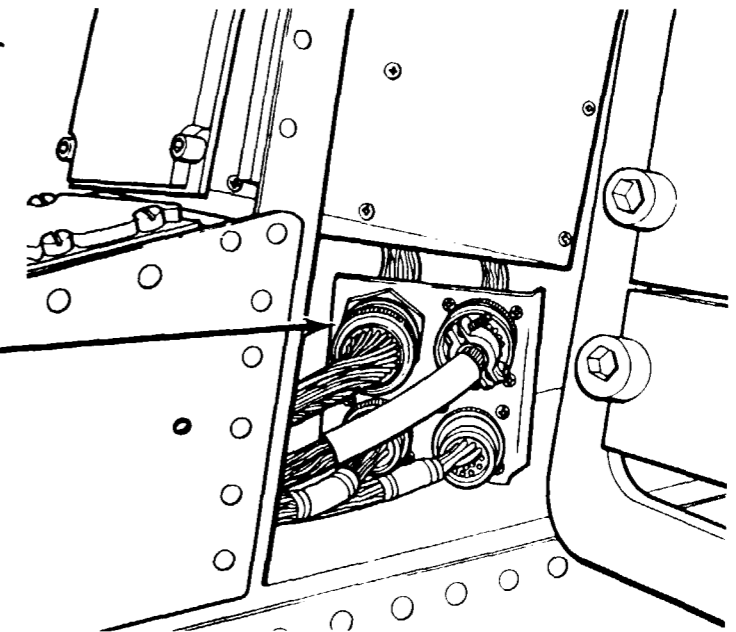
LEFT HAND GRIP



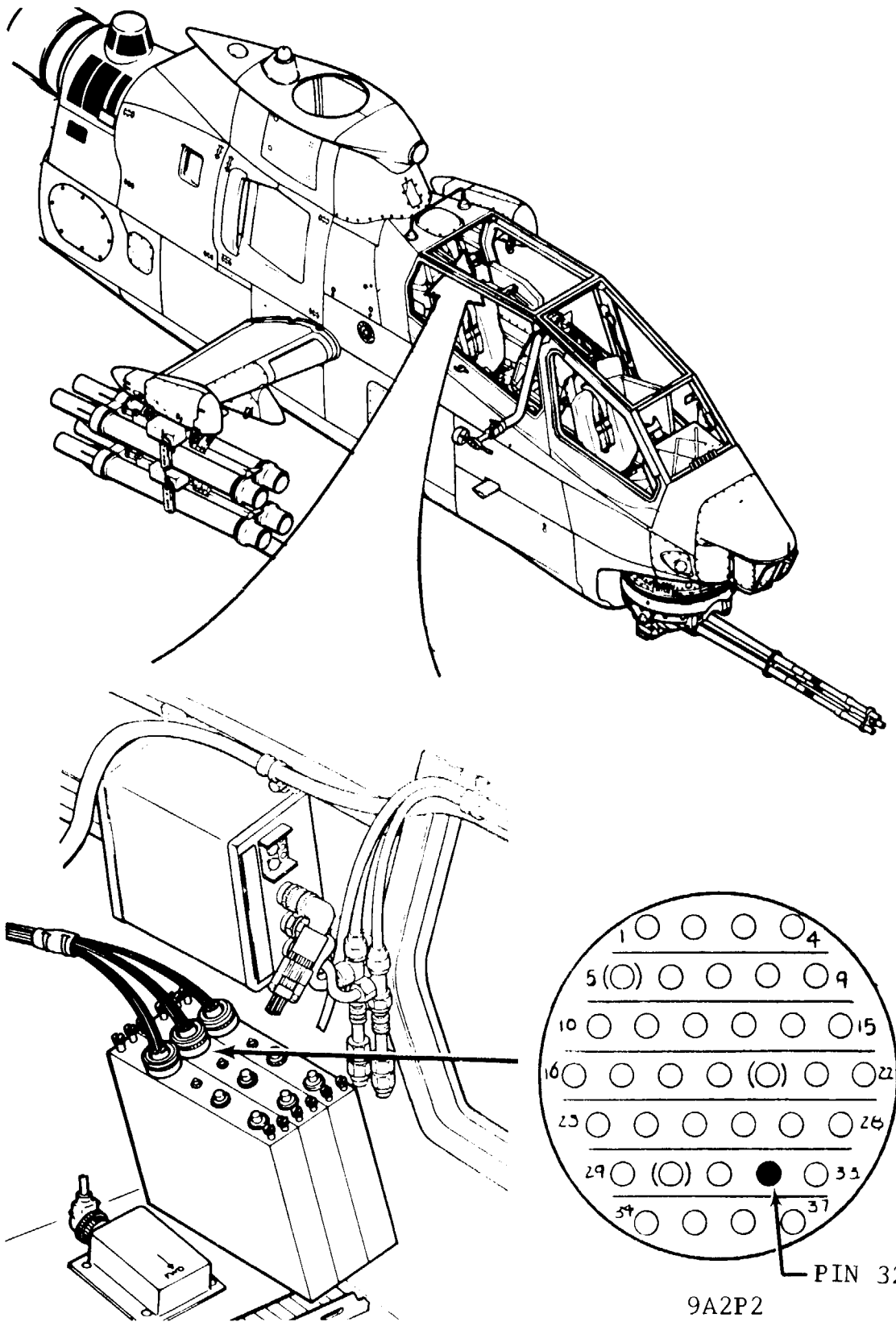
GUNNER STATION



4A1P1



6-33. ROLL COMPENSATION VOLTAGE GREATER THAN 0.9 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



Check that digital voltmeter is connected at 9A2P2-32.

On pilot instrument panel:

Set RECOIL COMP switch to MED.

On left hand grip:

Press and hold ACTION switch.

On sight hand control:

Position gun barrels level at 90 degrees right with track control stick.

On left hand grip:

Press and hold TRIGGER switch to second detent and observe digital voltmeter when gun barrels start rotating.

Is 0.75 V dc or more present?

YES

Go to paragraph 6-45.

NO

NO

Turn off electrical power per paragraph 6-3.

On pilot instrument panel:

Set RECOIL COMP switch to HI.

Check for continuity from 4A1P1-X to 9S6-B3.

Is continuity present?

YES

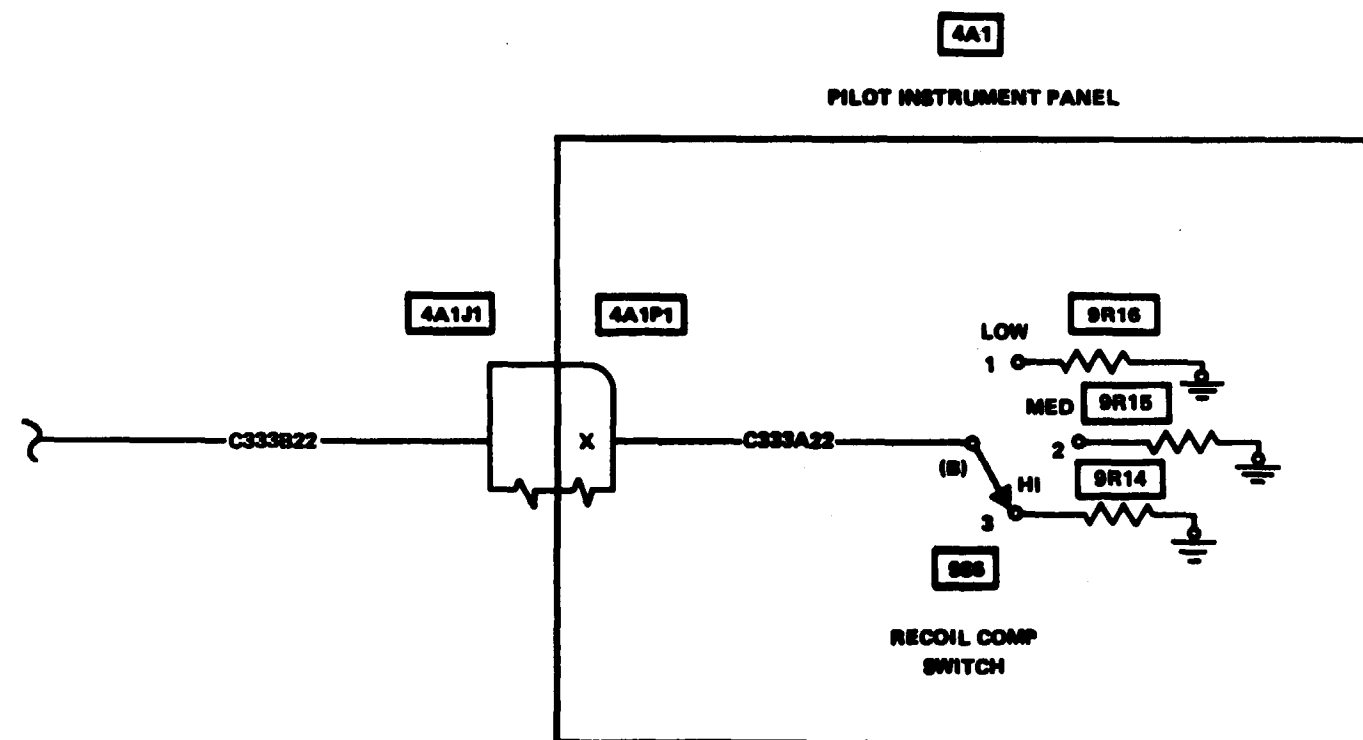
NO

Replace RECOIL COMP switch (9S6) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 9A2P2.

Then go to paragraph 6-2.

6-33. ROLL COMPENSATION VOLTAGE GREATER THAN 0.9 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



YES →

Replace resistor (9R14) between 9S6-B3 and airframe ground per TM 55-1520-236-23, Chapter 9, Section I.

Connect 9A2P2.

Then go to paragraph 6-2.

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6-34. ROLL COMPENSATION VOLTAGE LESS THAN 0.5 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

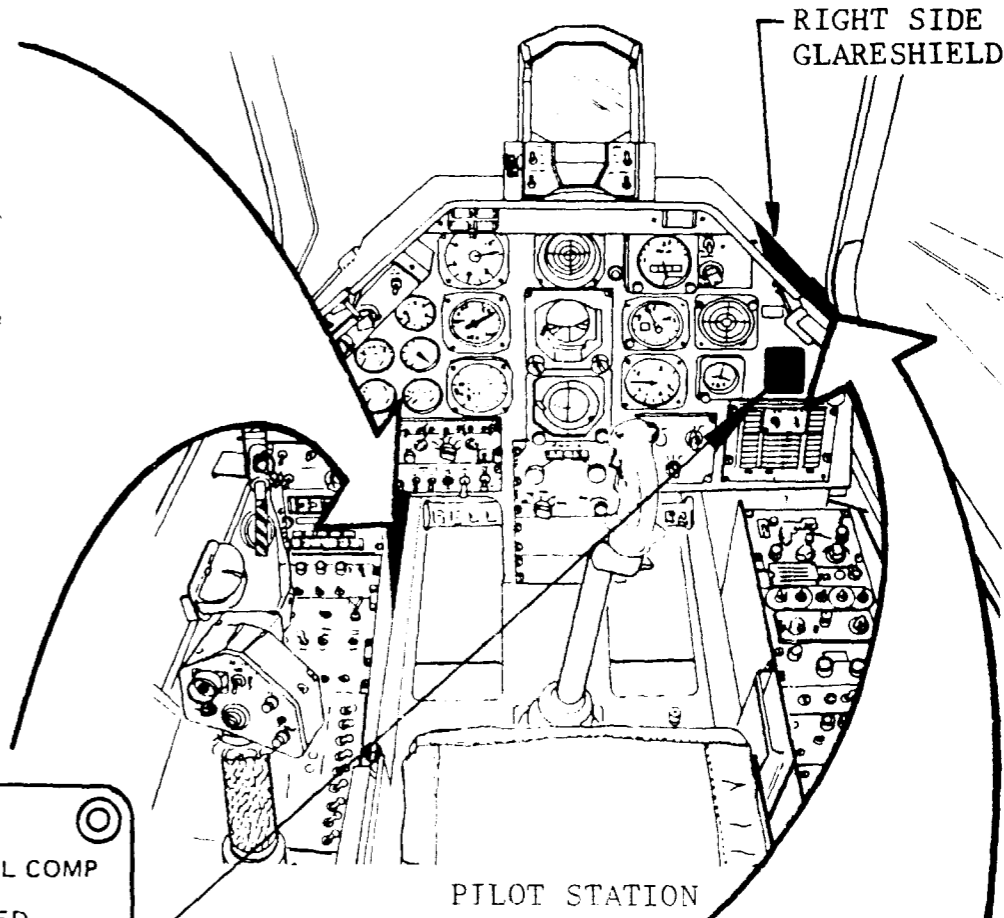
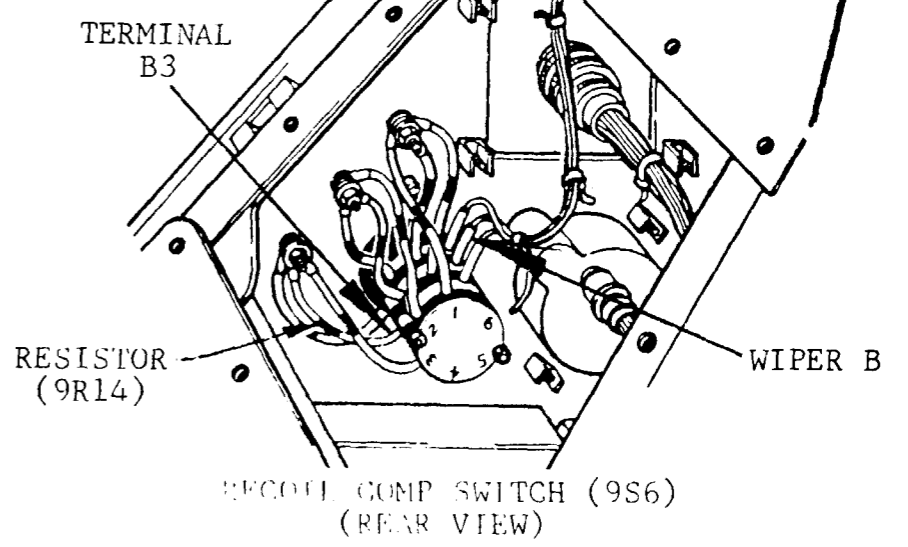
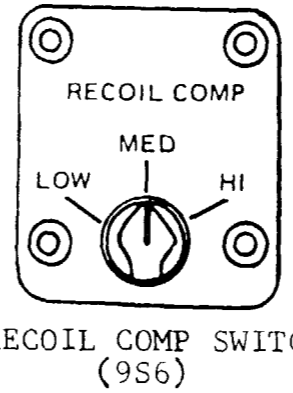
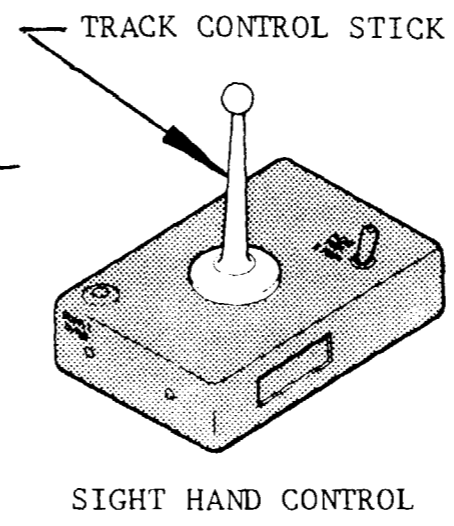
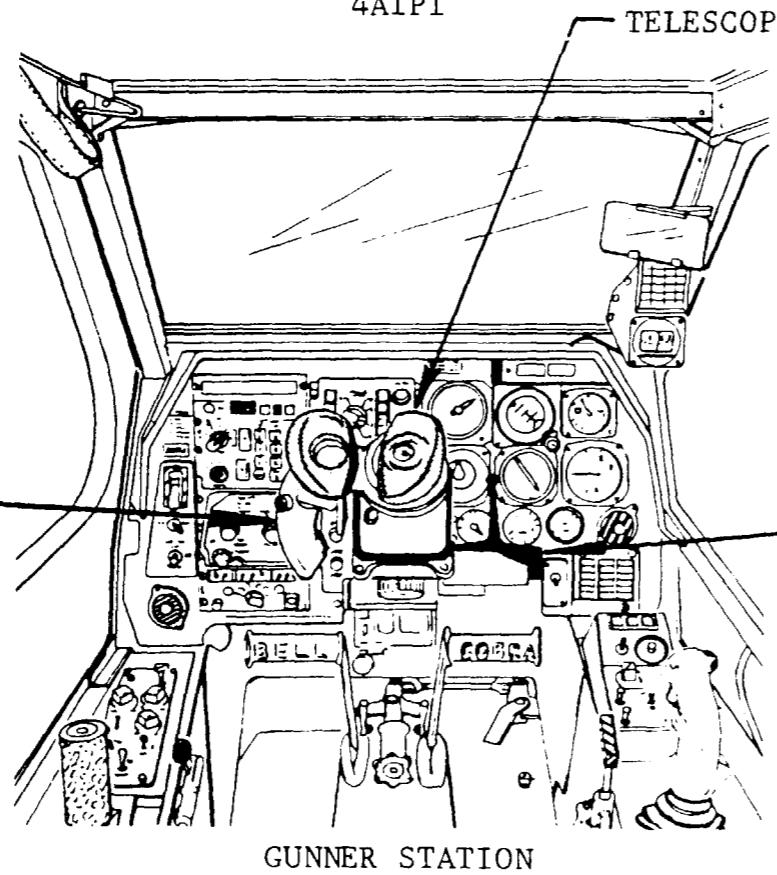
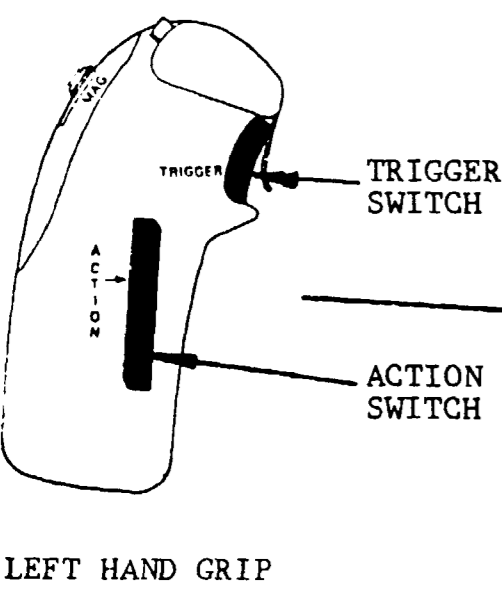
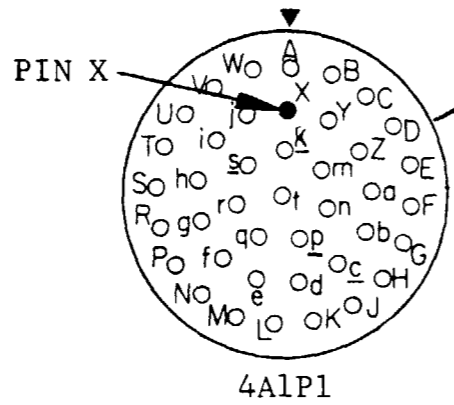
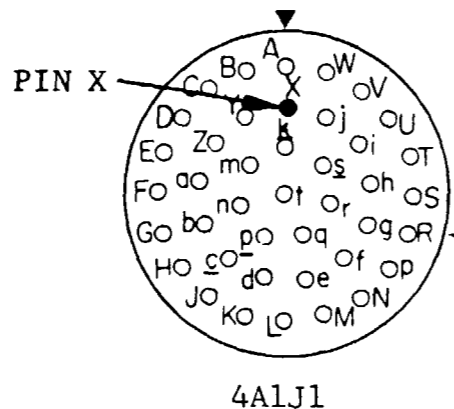
Digital Voltmeter

Tool Set, A/C Armament Repairman

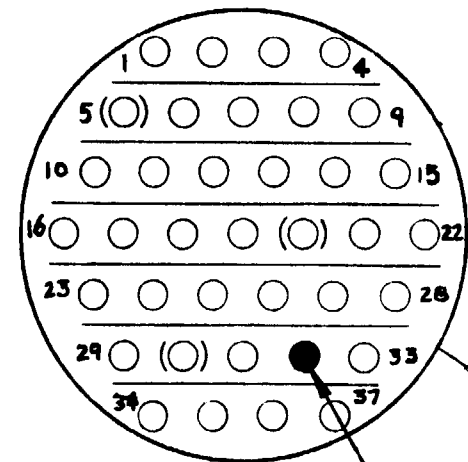
Personnel Required
68J (2)

References
TM 11-1520-236-20
TM 9-1090-206-20-1
TM 55-1520-236-23

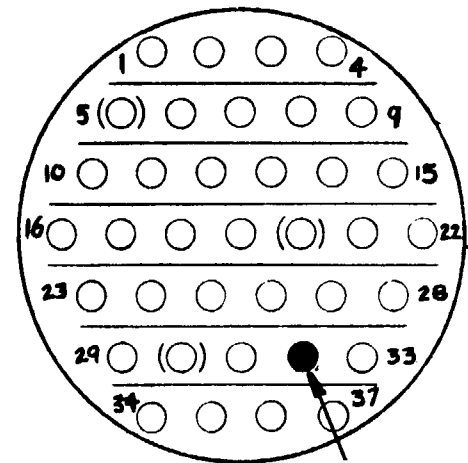
Access Panels
Logic Control - Removed
Right Side Glareshield - Removed



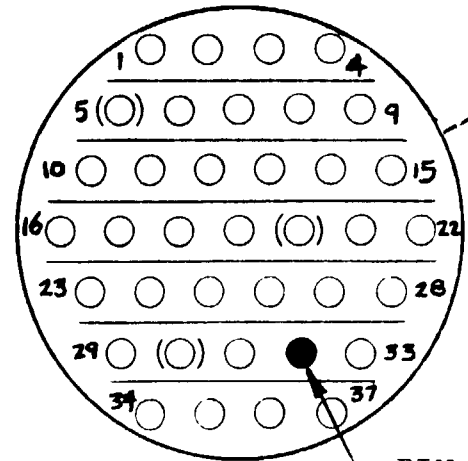
6-34. ROLL COMPENSATION VOLTAGE LESS THAN 0.5 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



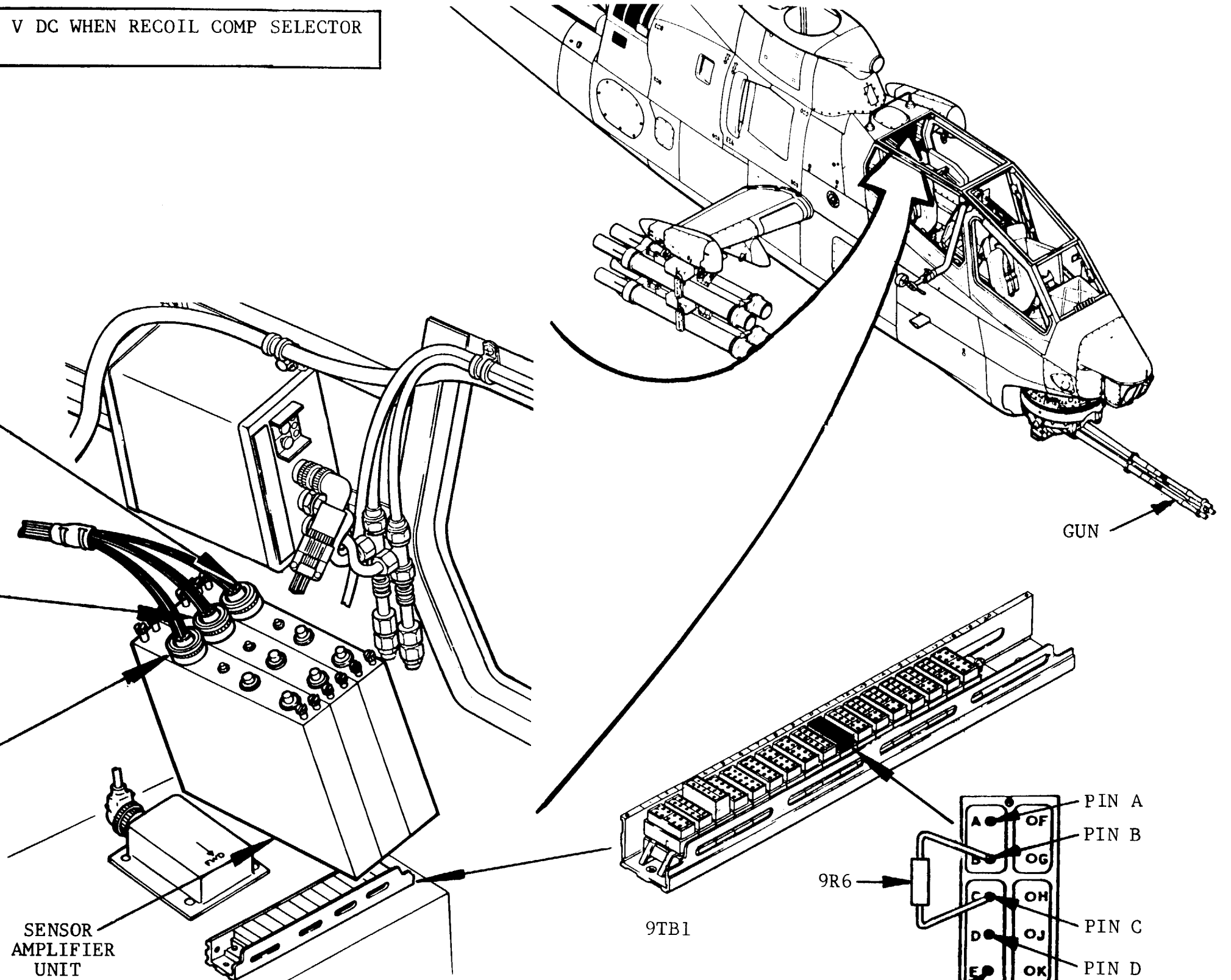
9A2P3 — PIN 32



9A2P2 — PIN 32



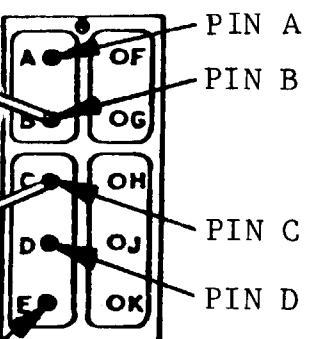
9A2P1 — PIN 32



SENSOR
AMPLIFIER
UNIT

9TB1

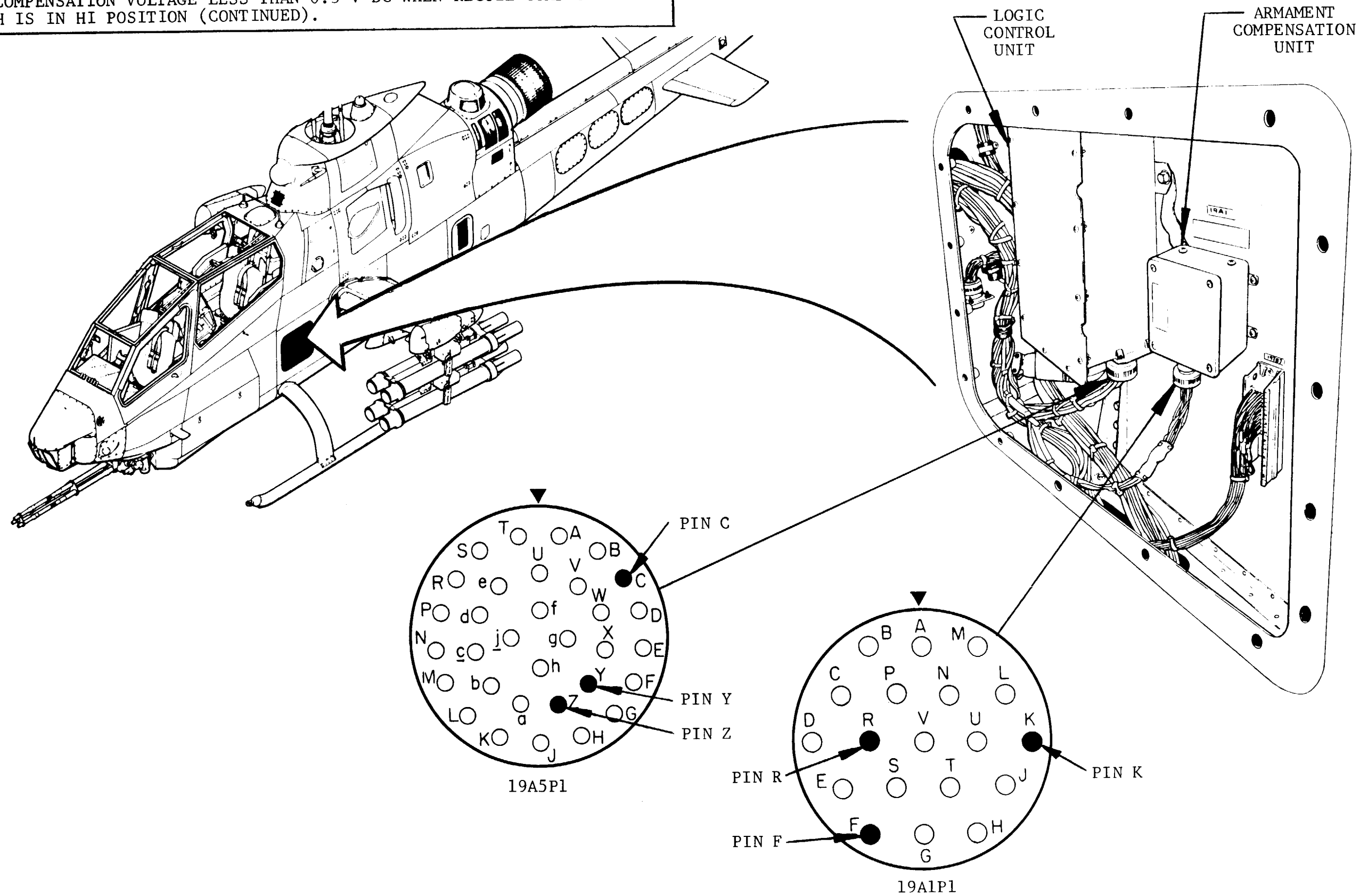
9R6



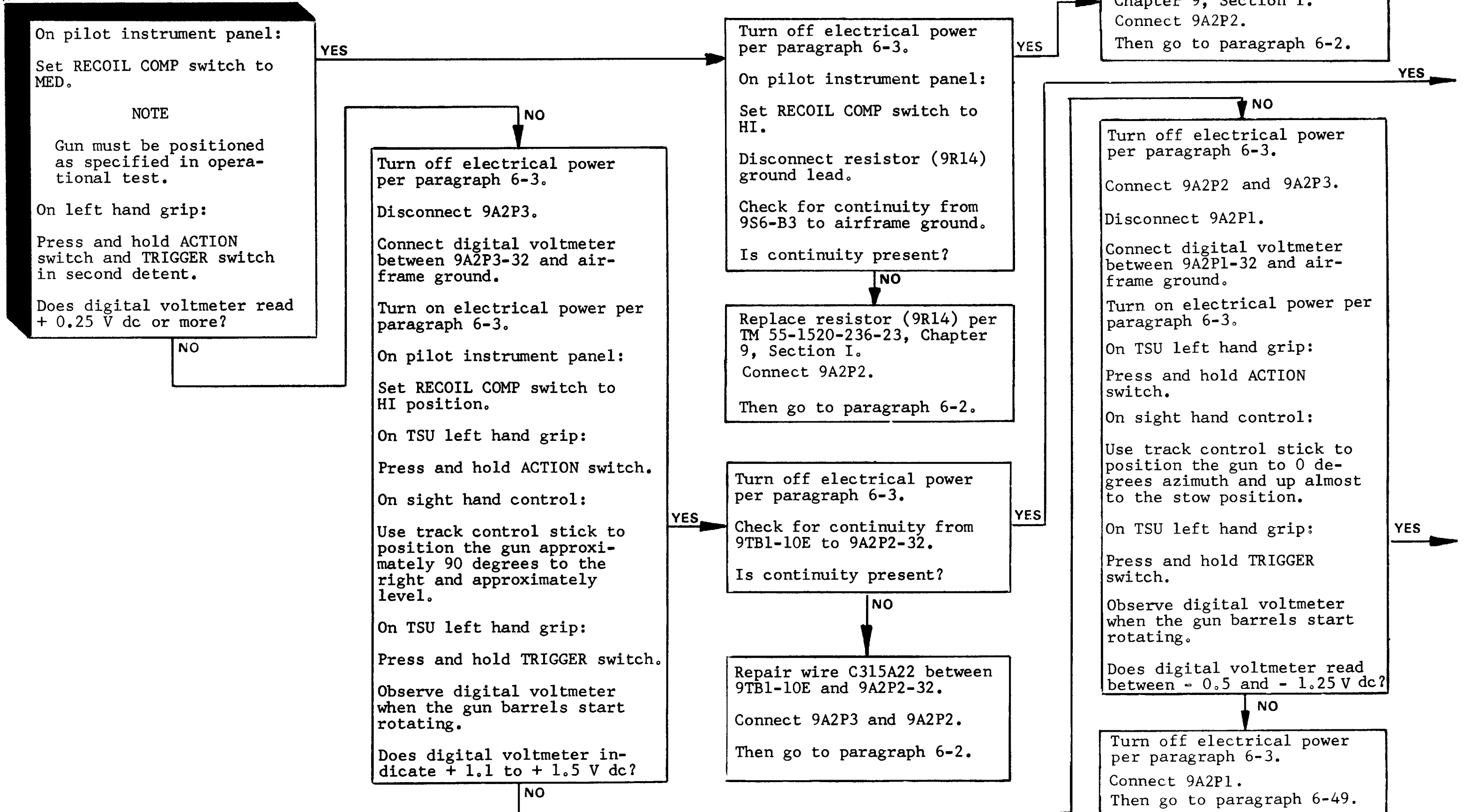
MODULE
10

GUN

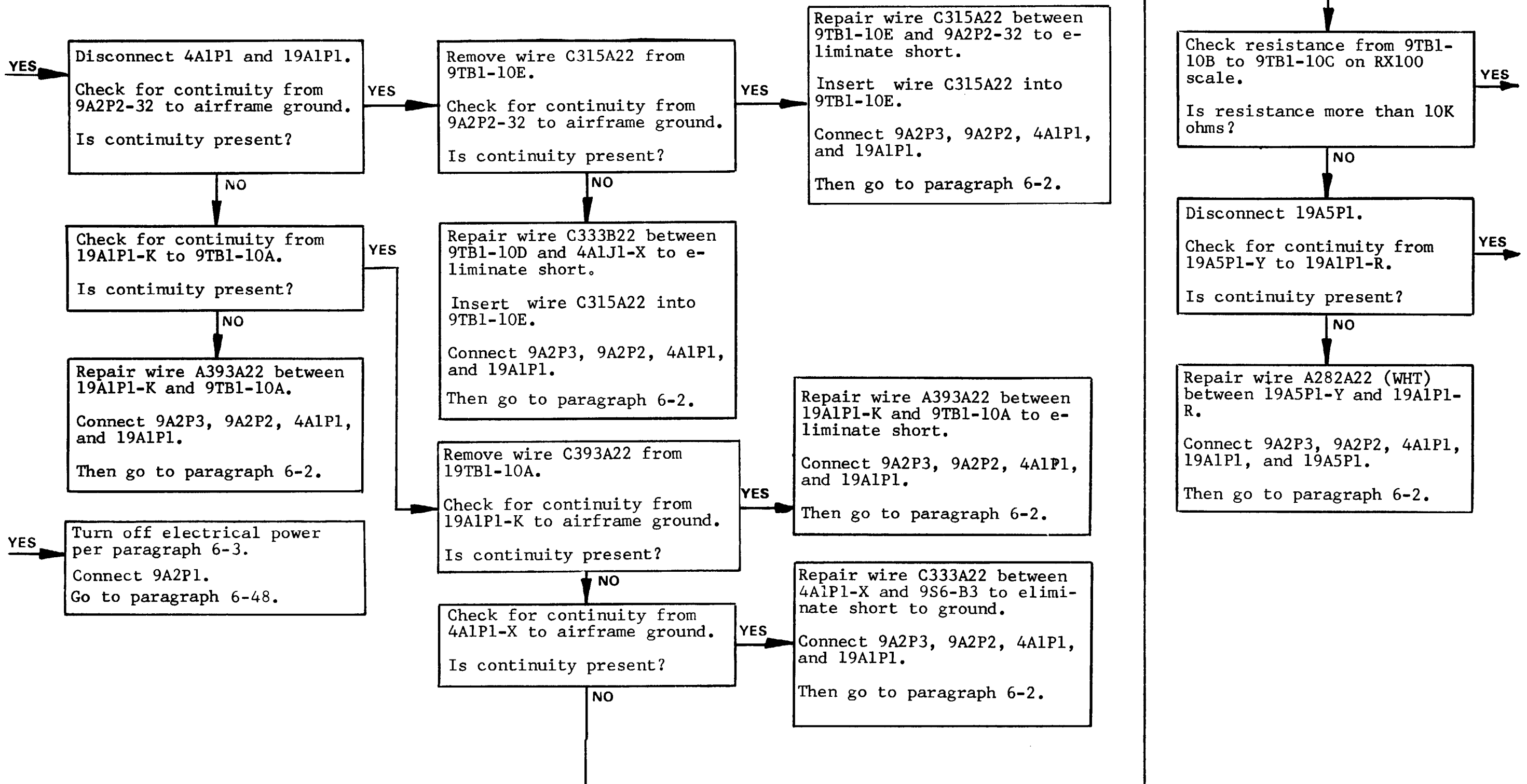
6-34. ROLL COMPENSATION VOLTAGE LESS THAN 0.5 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



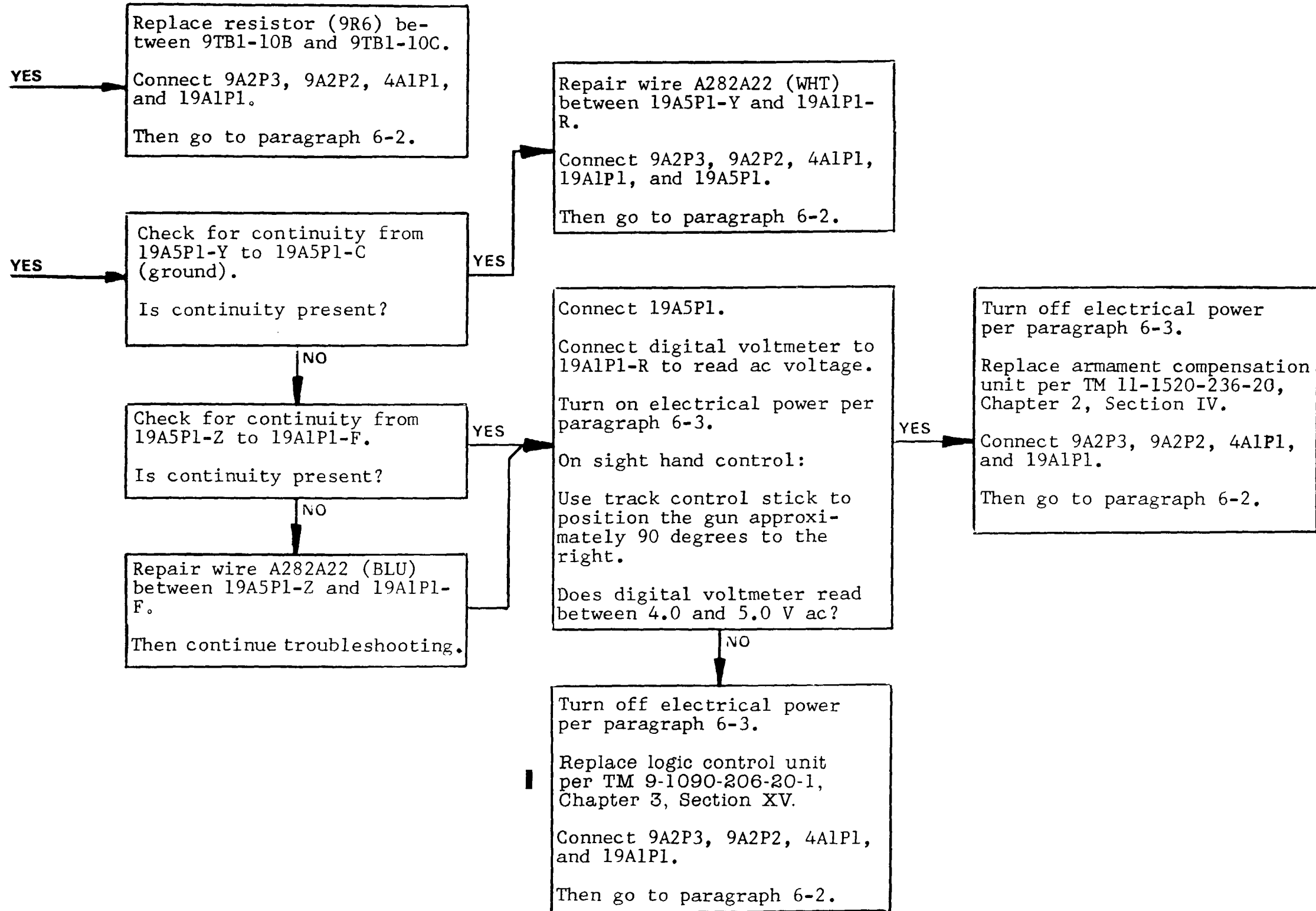
6-34. ROLL COMPENSATION VOLTAGE LESS THAN 0.5 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



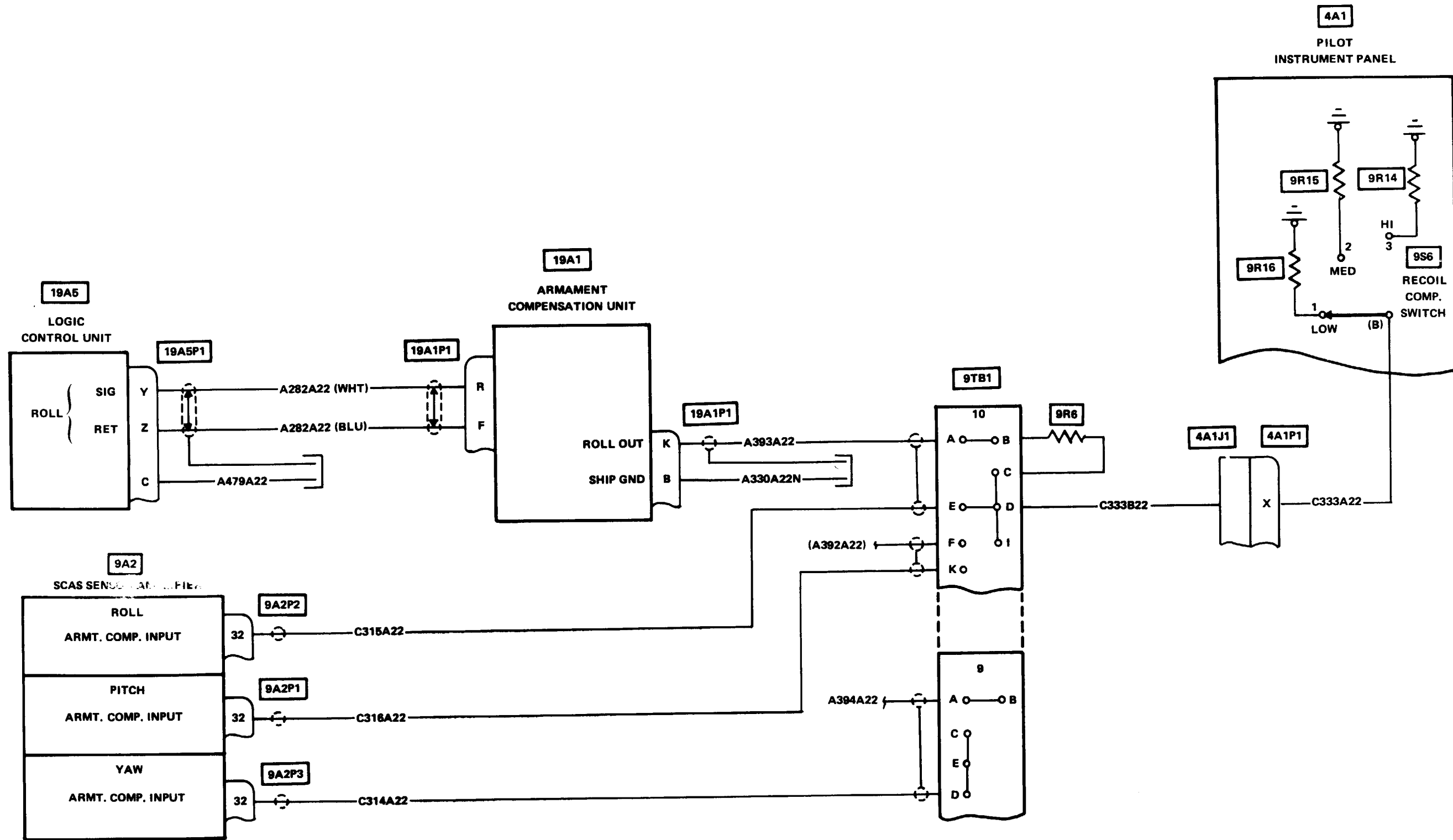
6-34. ROLL COMPENSATION VOLTAGE LESS THAN 0.5 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



6-34. ROLL COMPENSATION VOLTAGE LESS THAN 0.5 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



6-34. ROLL COMPENSATION VOLTAGE LESS THAN 0.5 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



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6-35. ROLL COMPENSATION VOLTAGE GREATER THAN 0.75 V DC OR LESS THAN 0.35 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN MED POSITION (CONTINUED).

INITIAL SETUP

Applicable Configuration
All

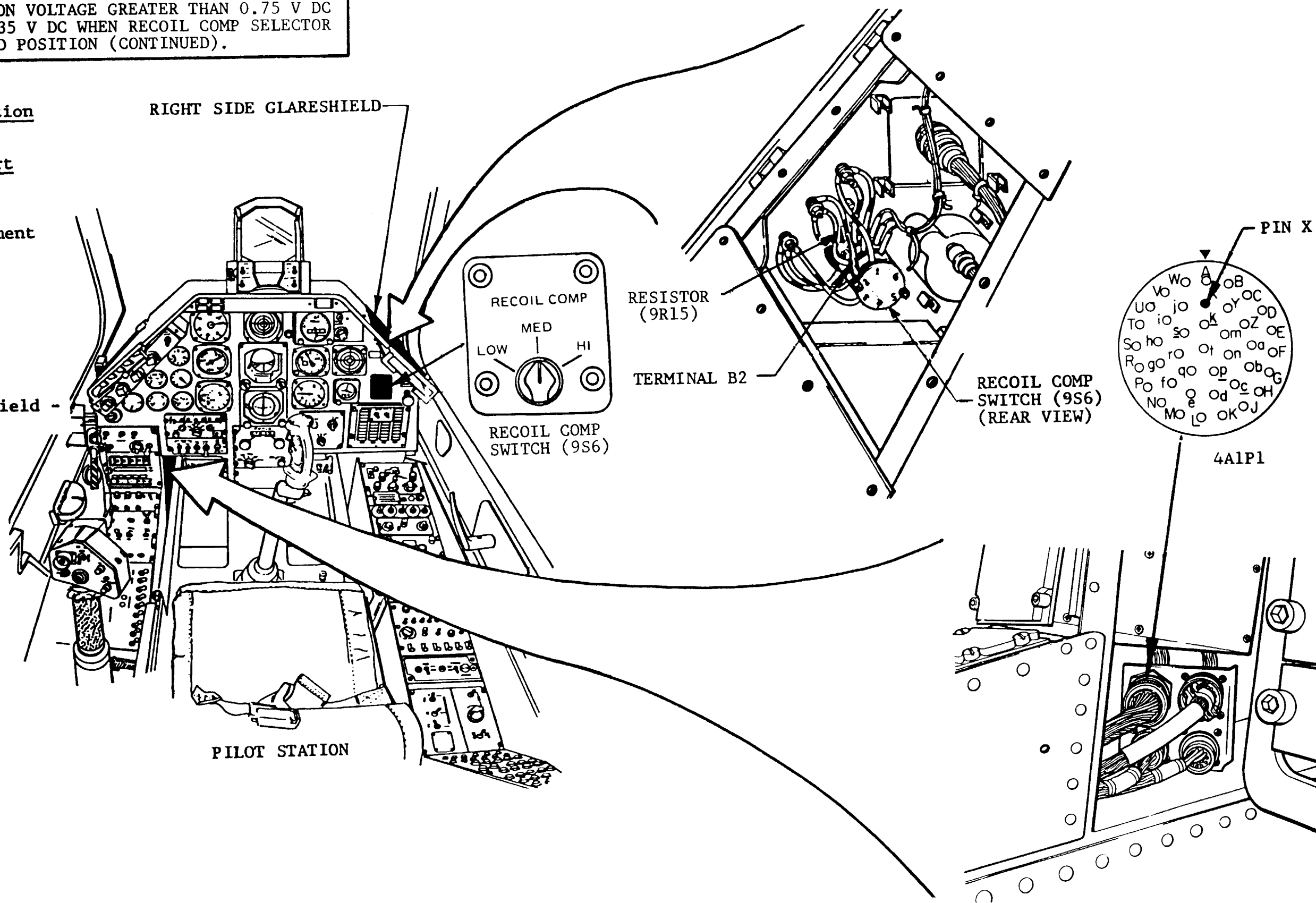
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

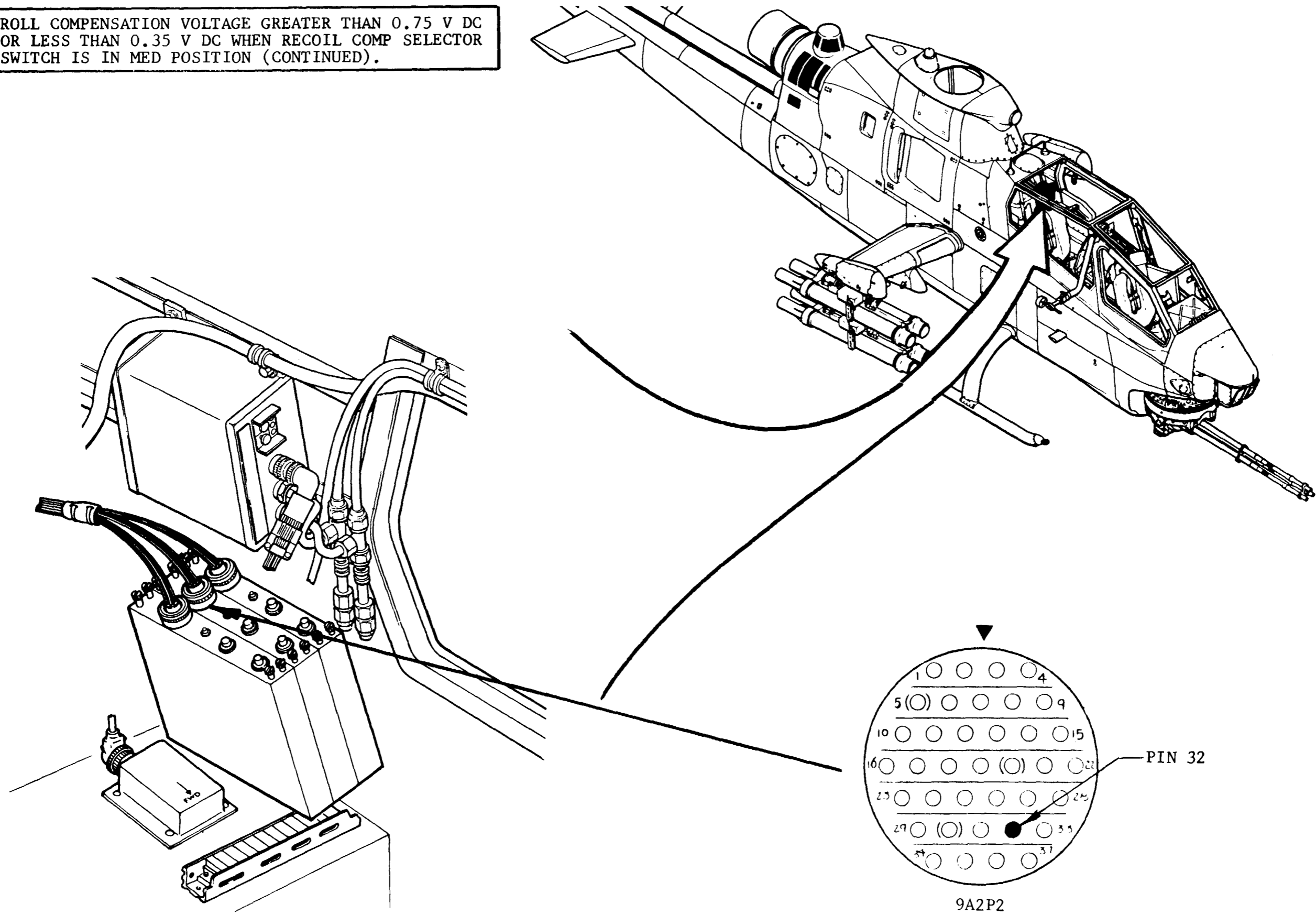
Personnel Required
68J (2)

References
TM 55-1520-236-23

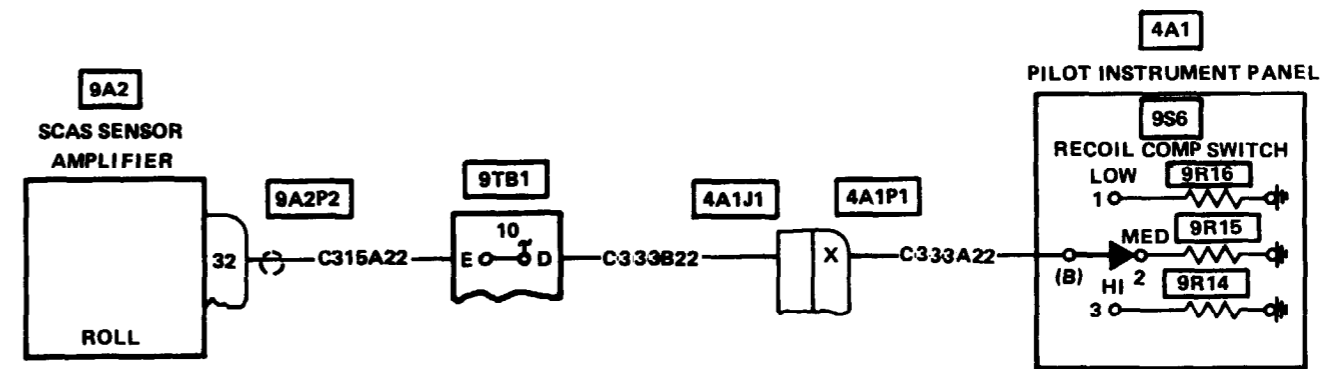
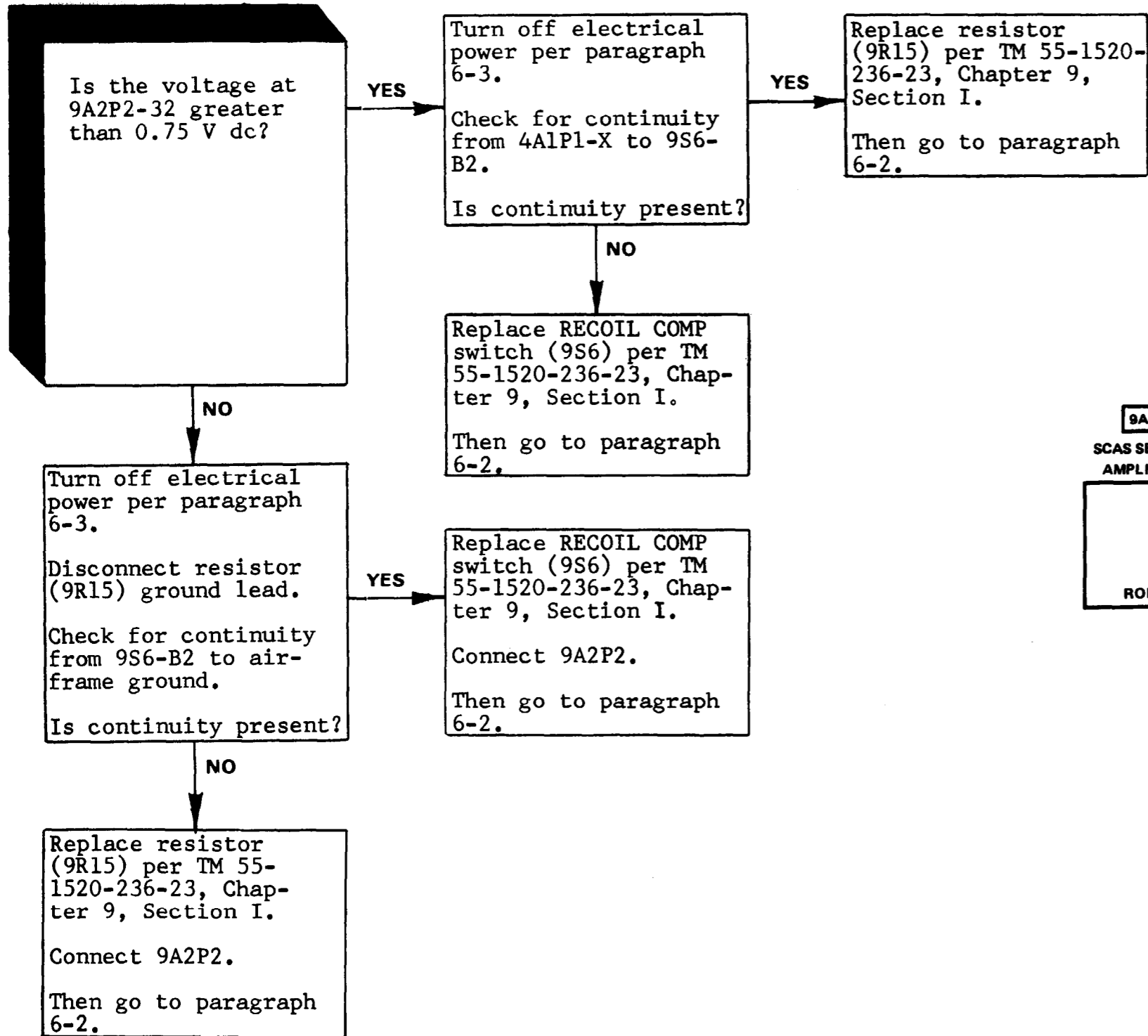
Access Panels
Right Side Glareshield - Removed



6-35. ROLL COMPENSATION VOLTAGE GREATER THAN 0.75 V DC OR LESS THAN 0.35 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN MED POSITION (CONTINUED).



6-35. ROLL COMPENSATION VOLTAGE GREATER THAN 0.75 V DC OR LESS THAN 0.35 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN MED POSITION (CONTINUED).



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6-36. ROLL COMPENSATION VOLTAGE GREATER THAN 0.65 V DC OR LESS THAN 0.25 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN LOW POSITION .

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

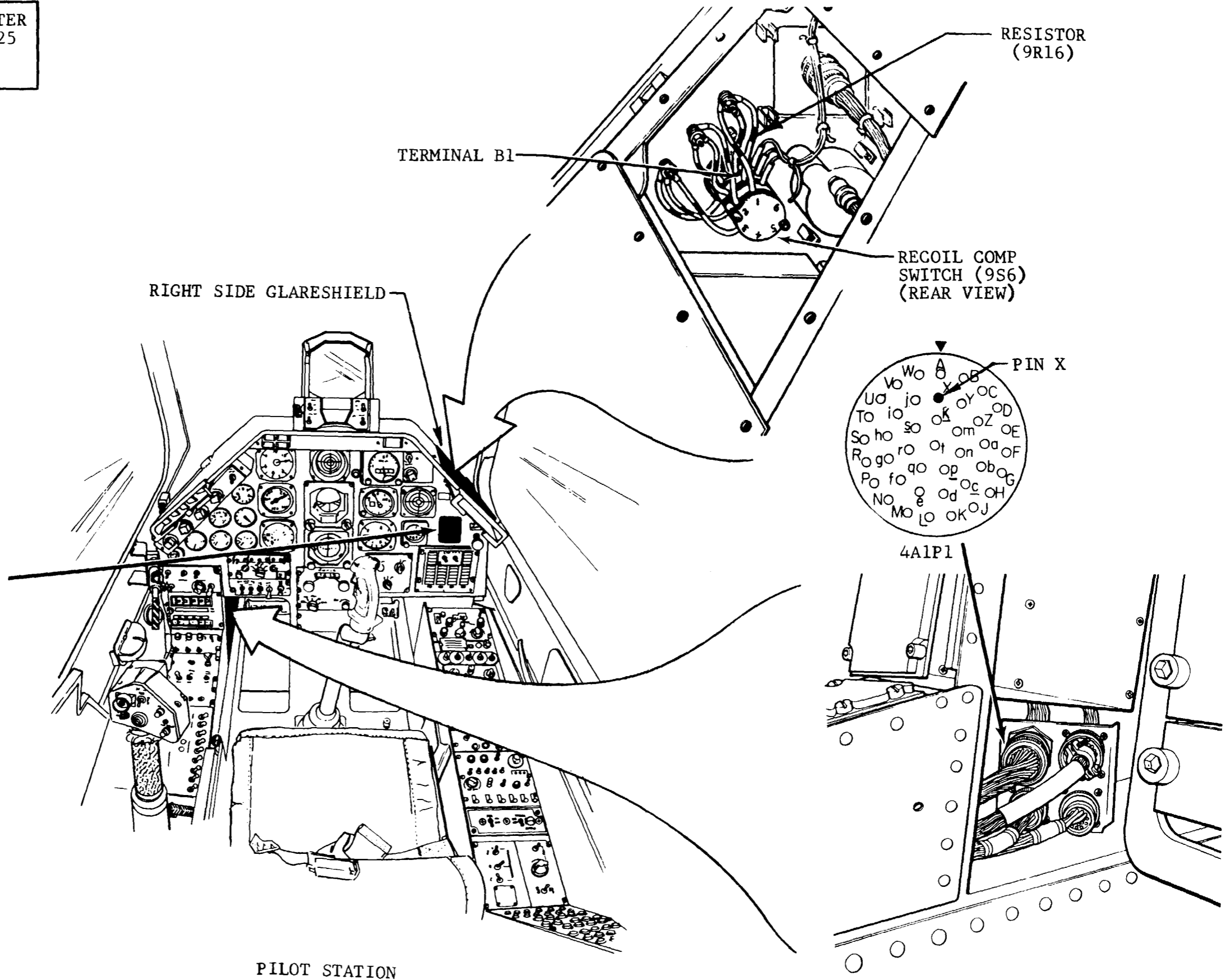
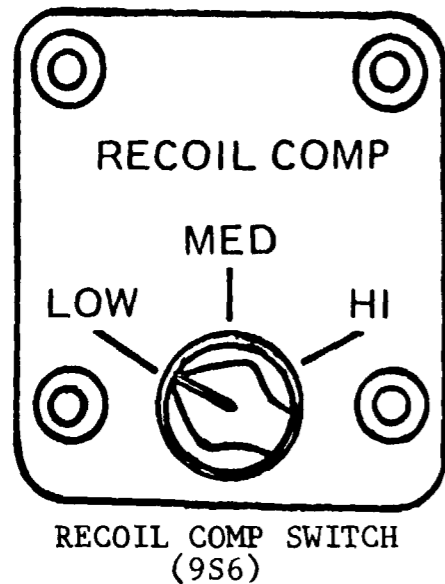
Digital Voltmeter

Tool Set, A/C Armament Repairman

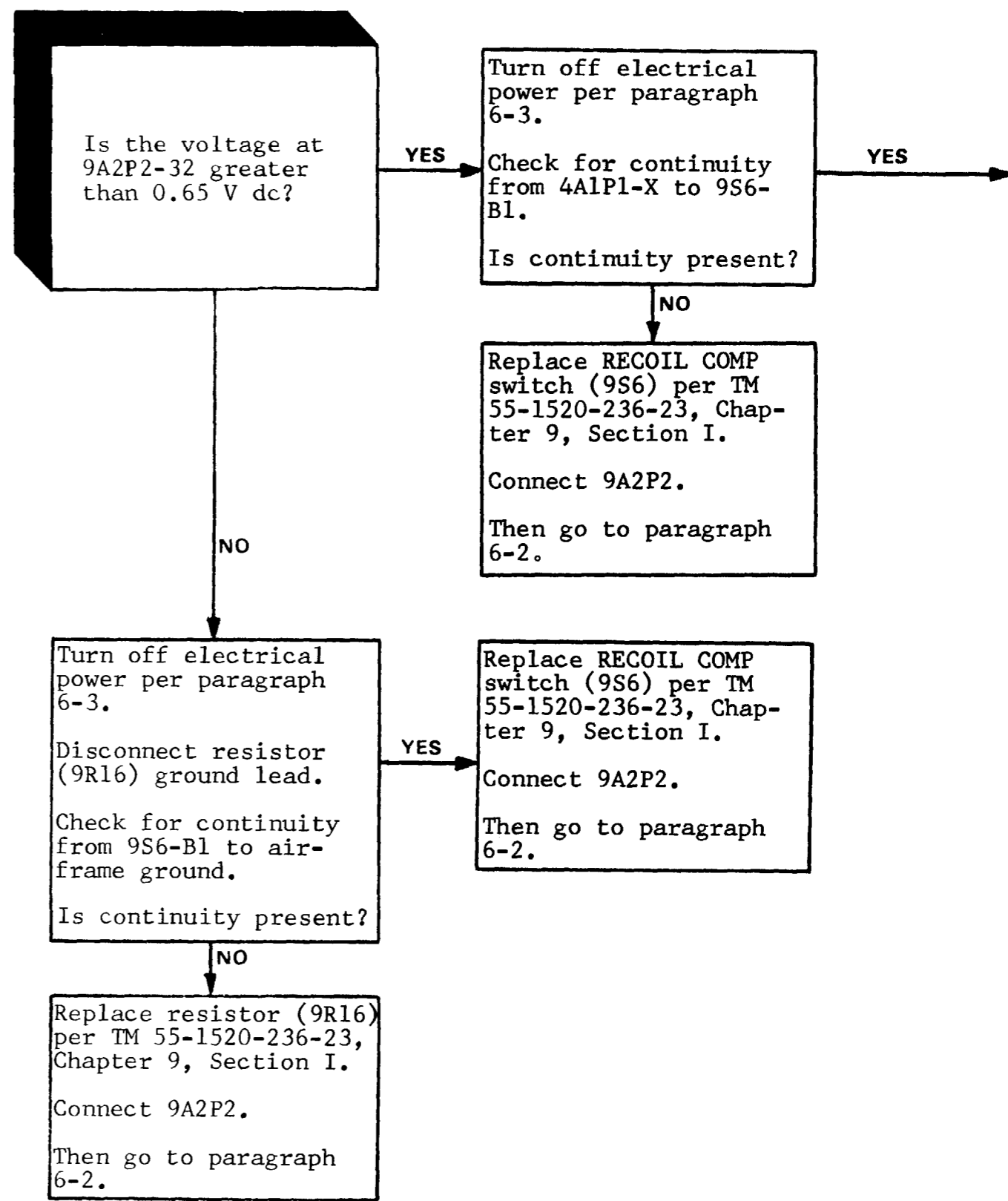
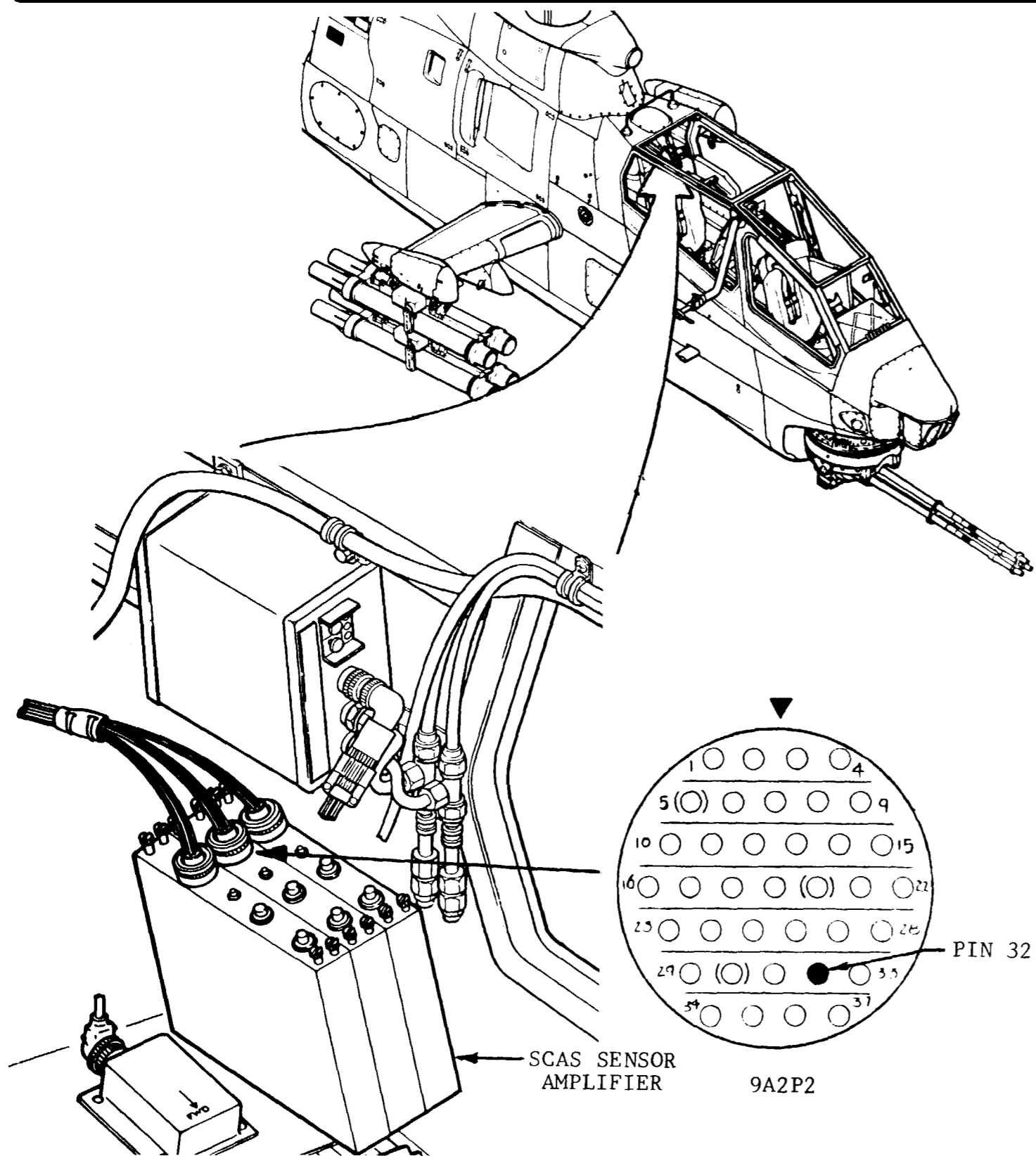
Personnel Required
68J (2)

References
TM 55-1520-236-23

Access Panels
Right Side Glareshield - Removed



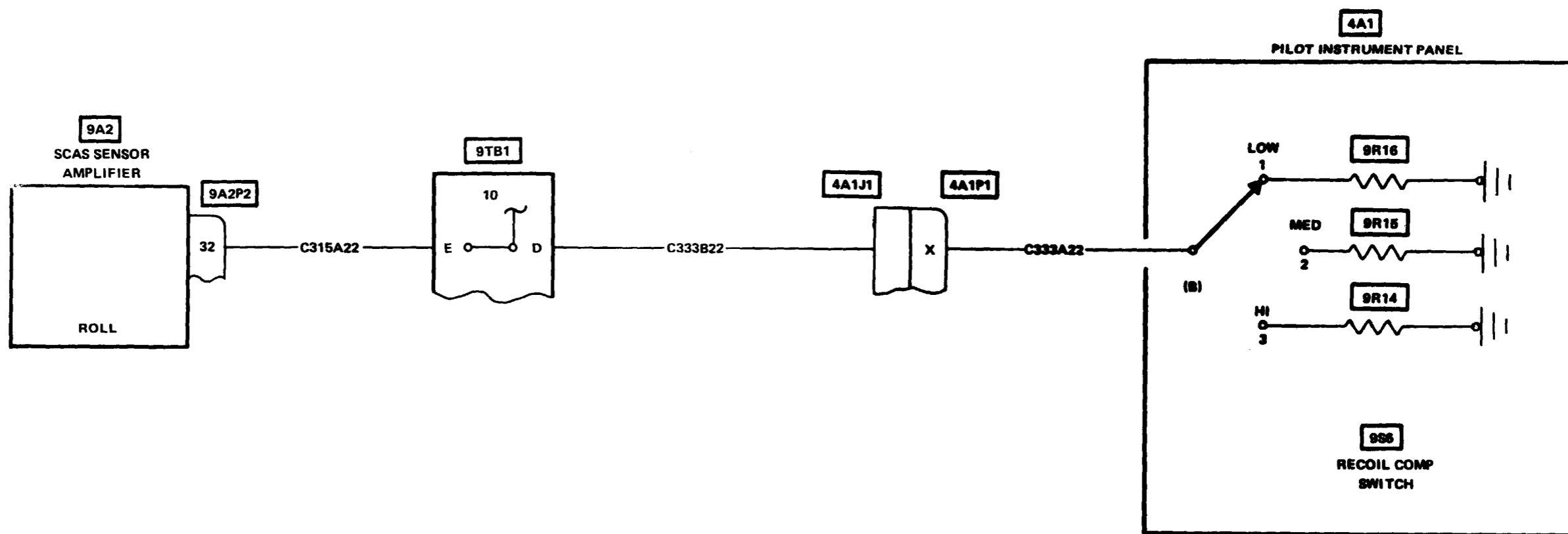
6-36. ROLL COMPENSATION VOLTAGE GREATER THAN 0.65 V DC OR LESS THAN 0.25 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN LOW POSITION (CONTINUED).



6-36. ROLL COMPENSATION VOLTAGE GREATER THAN 0.65 V DC OR LESS THAN 0.25 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN LOW POSITION (CONTINUED).

YES

Replace resistor (9R16)
per TM 55-1520-236-23,
Chapter 9, Section I.
Connect 9A2P2.
Then go to paragraph
6-2.



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6-37. YAW COMPENSATION VOLTAGE GREATER THAN 1.5 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION .

INITIAL SETUP

Applicable Configuration

All

Tools/Test and Support

Equipment

Multimeter

Digital Voltmeter

Tool Set, A/C Armament
Repairman

Personnel Required

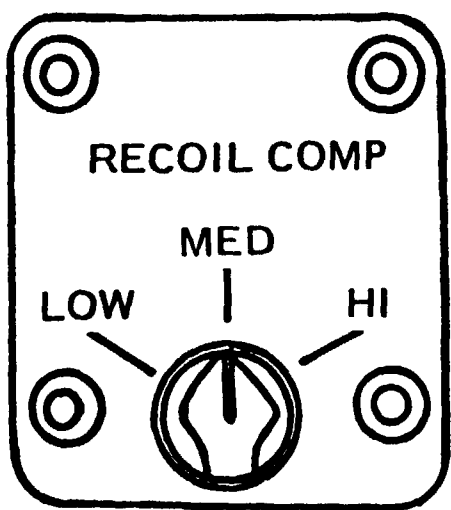
68J (3)

References

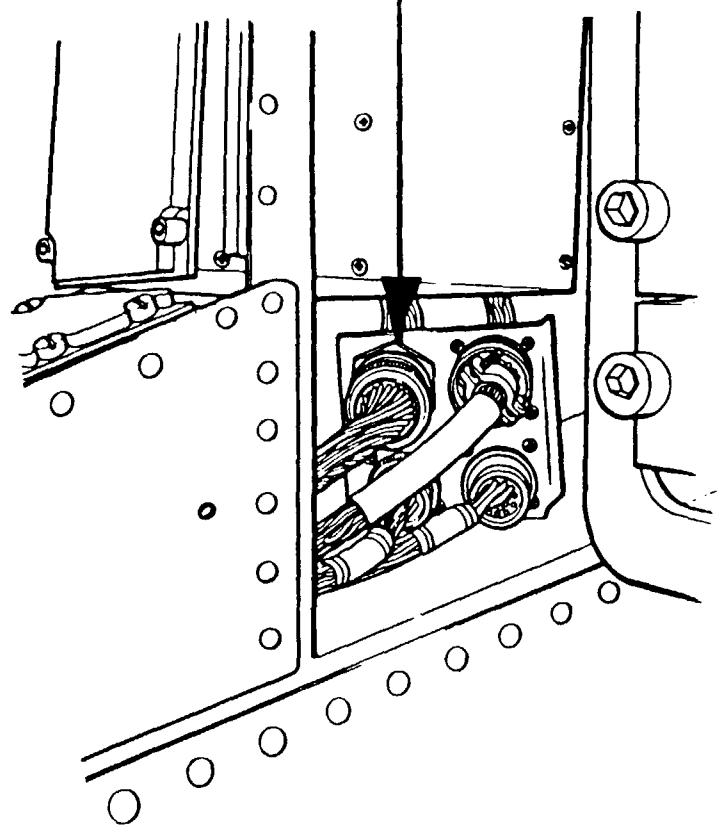
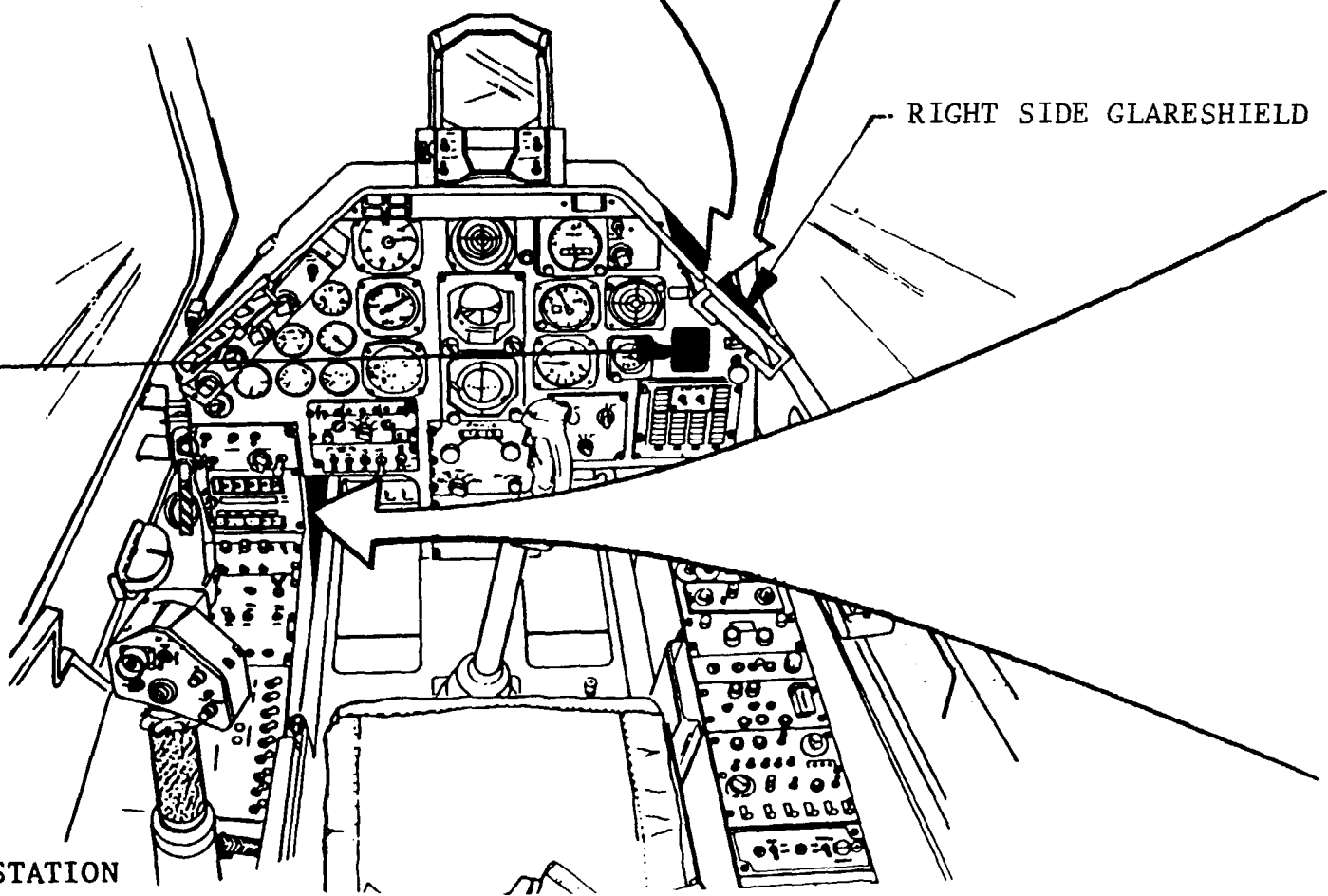
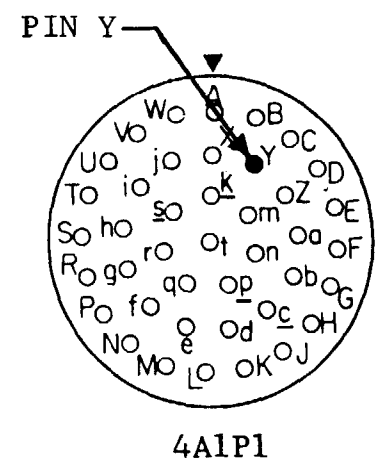
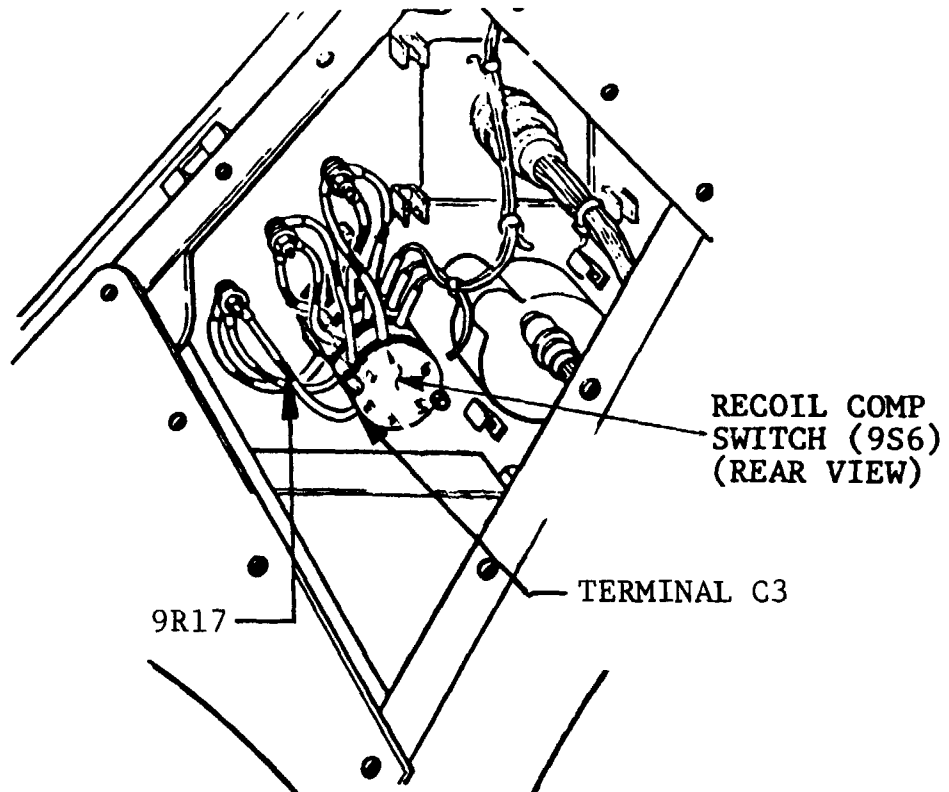
TM 55-1520-236-23

Access Panels

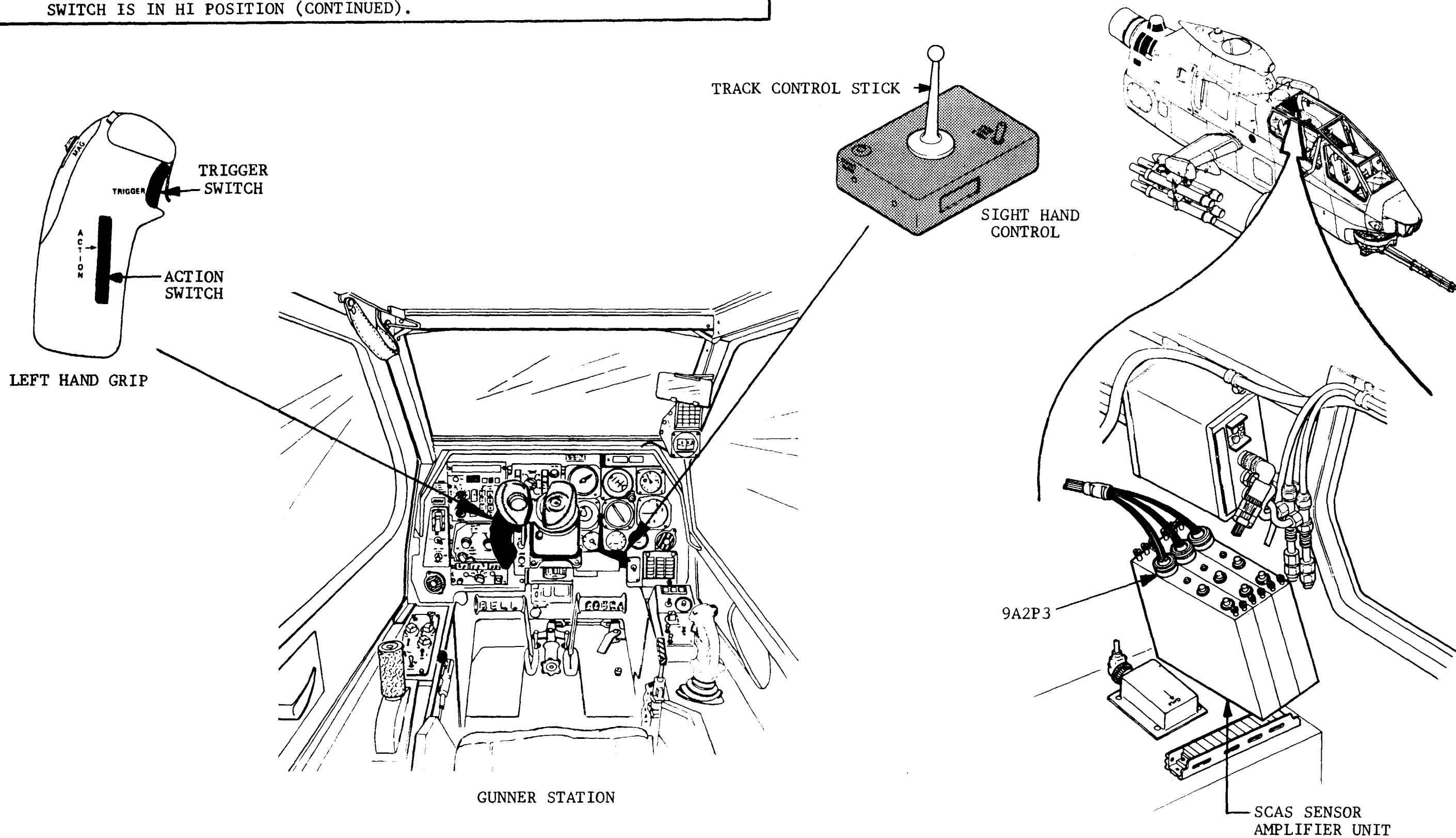
Right Side Glareshield -
Removed



RECOIL COMP SWITCH (9S6)



6-37. YAW COMPENSATION VOLTAGE GREATER THAN 1.5 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



6-37. YAW COMPENSATION VOLTAGE GREATER THAN 1.5 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).

On pilot instrument panel:

Set RECOIL COMP switch to MED.

On left hand grip:

Press and hold ACTION switch.

On sight hand control:

Move track control stick to position gun barrels 90 degrees to right of forward, and level.

On left hand grip:

Press and hold TRIGGER switch and observe digital voltmeter when gun barrels begin rotating.

Does digital voltmeter read greater than + 1.25 V dc?

YES

Go to paragraph 6-40.

NO

Turn off electrical power per paragraph 6-3.

On pilot instrument panel:

Set RECOIL COMP switch to HI.

Check for continuity from 4A1P1-Y to 9S6-C3.

Is continuity present?

YES

Replace resistor (9R17) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 9A2P3.

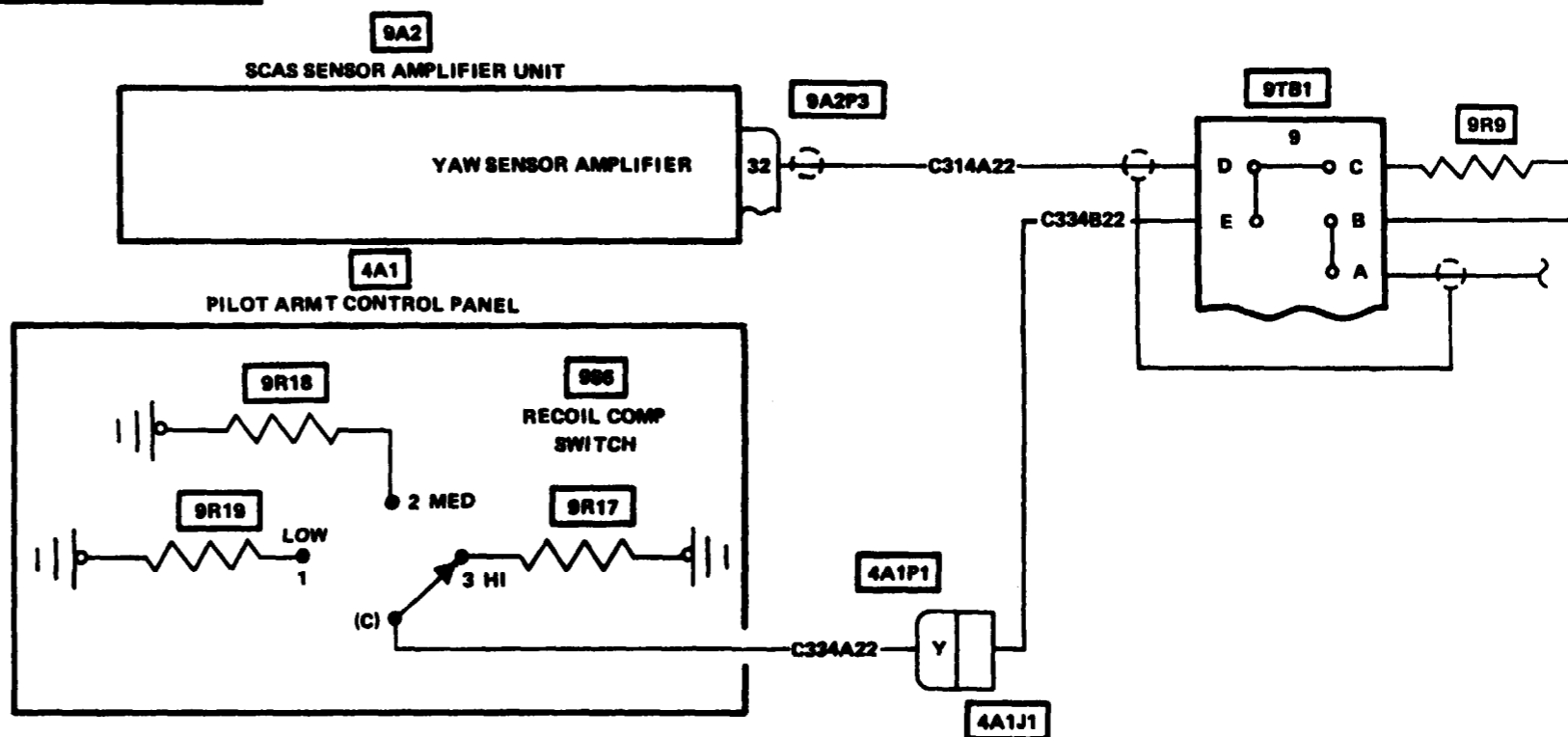
Then go to paragraph 6-2.

NO

Replace RECOIL COMP switch (9S6) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 9A2P3.

Then go to paragraph 6-2.



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6-38. YAW COMPENSATION VOLTAGE LESS THAN 1.1 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment

- Digital Voltmeter
- Multimeter
- Tool Set, A/C Armament Repairman

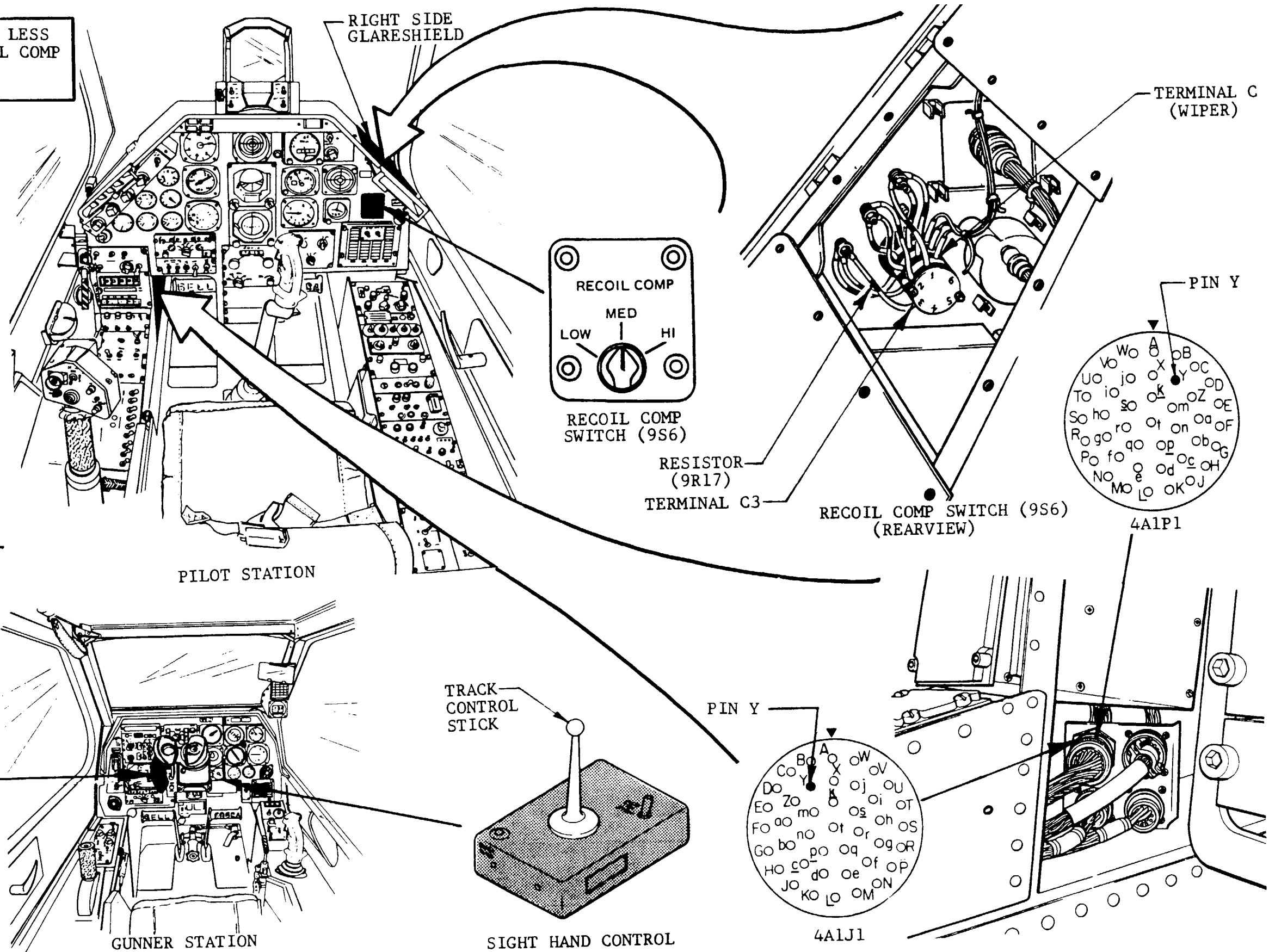
Personnel Required
68J (2)

References

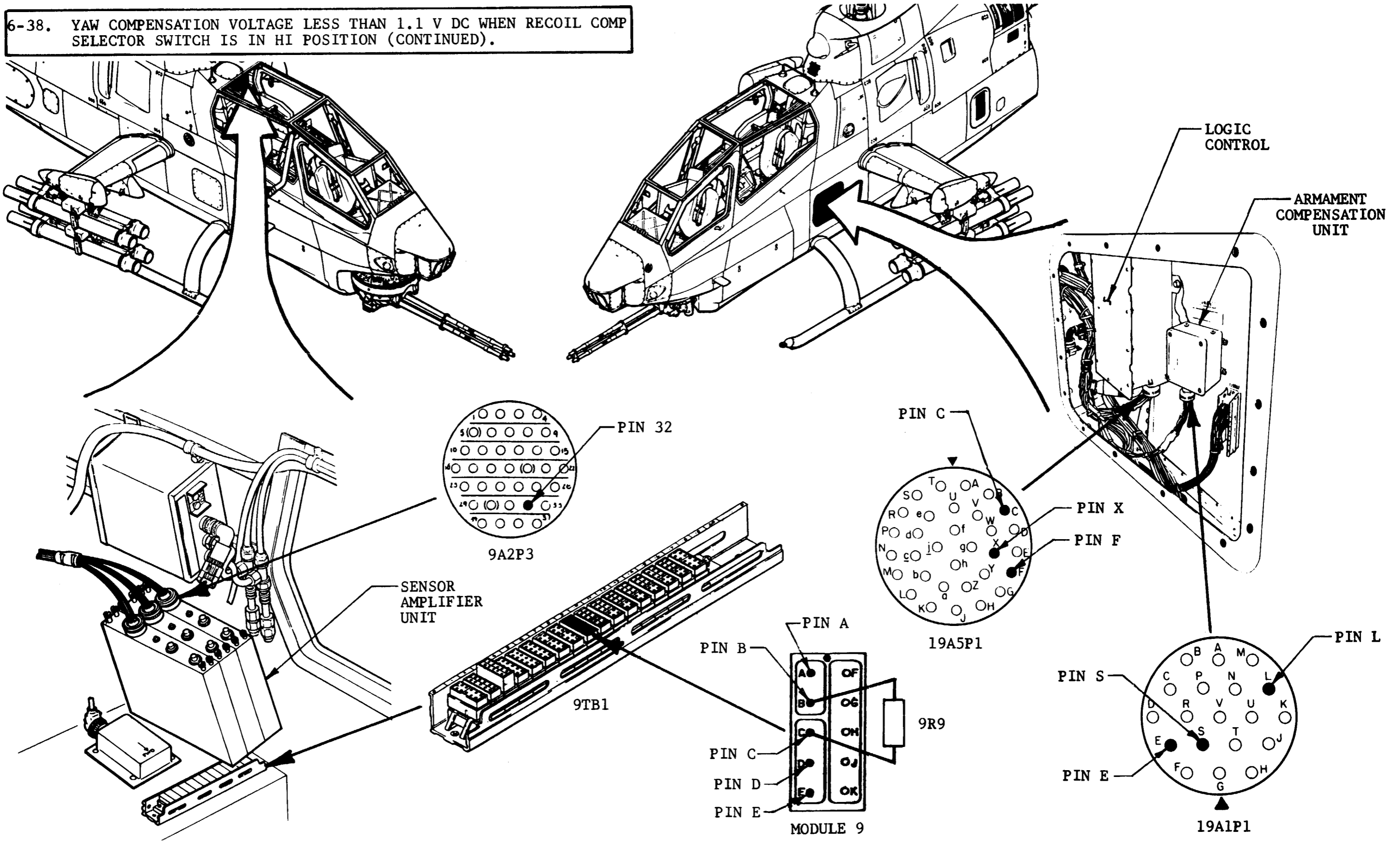
- TM 9-1090-206-20-1
- TM 11-1520-236-20
- TM 55-1520-236-23

Access Panels

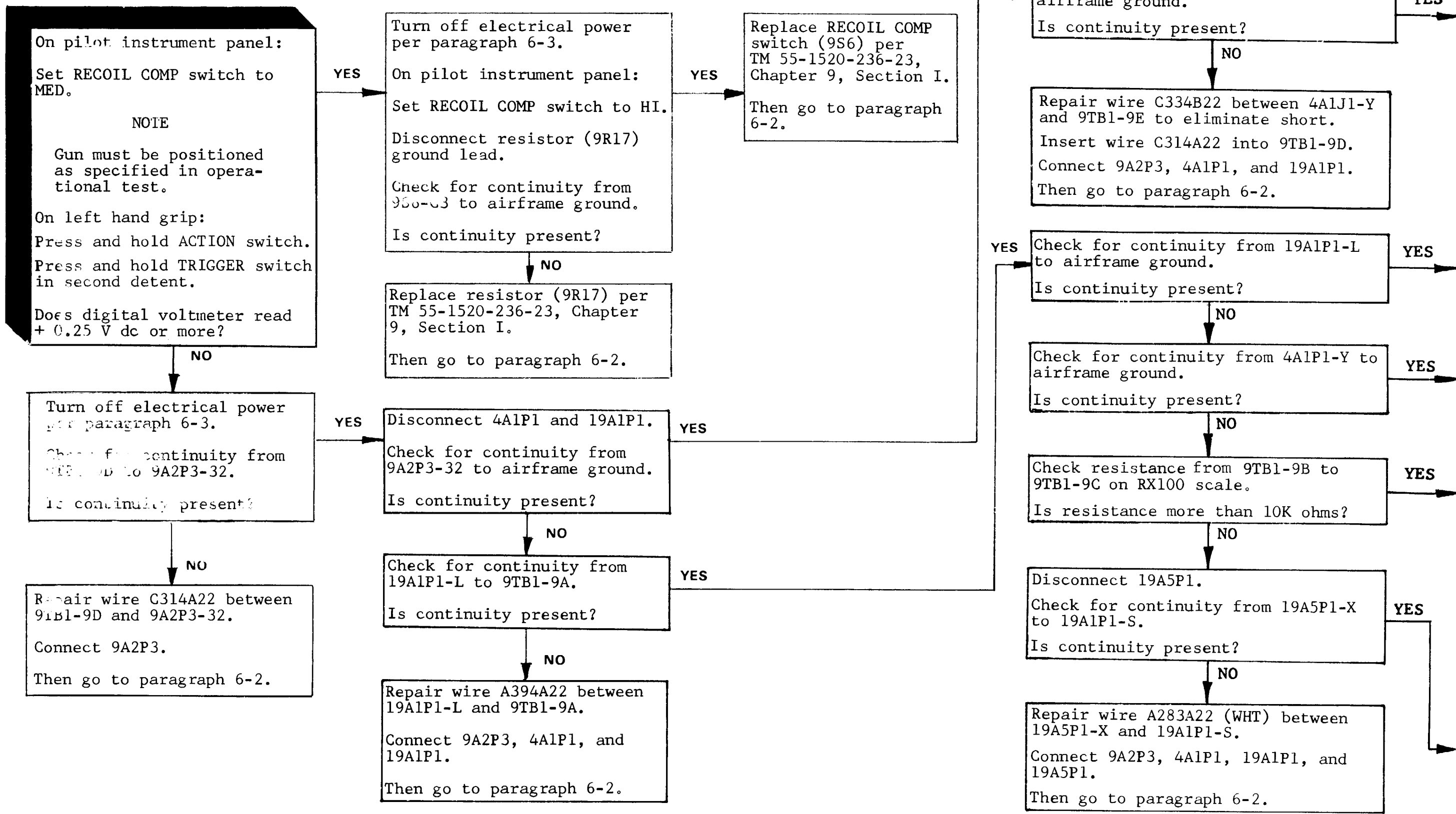
- Logic Control - Removed
- Right Side Glareshield - Removed



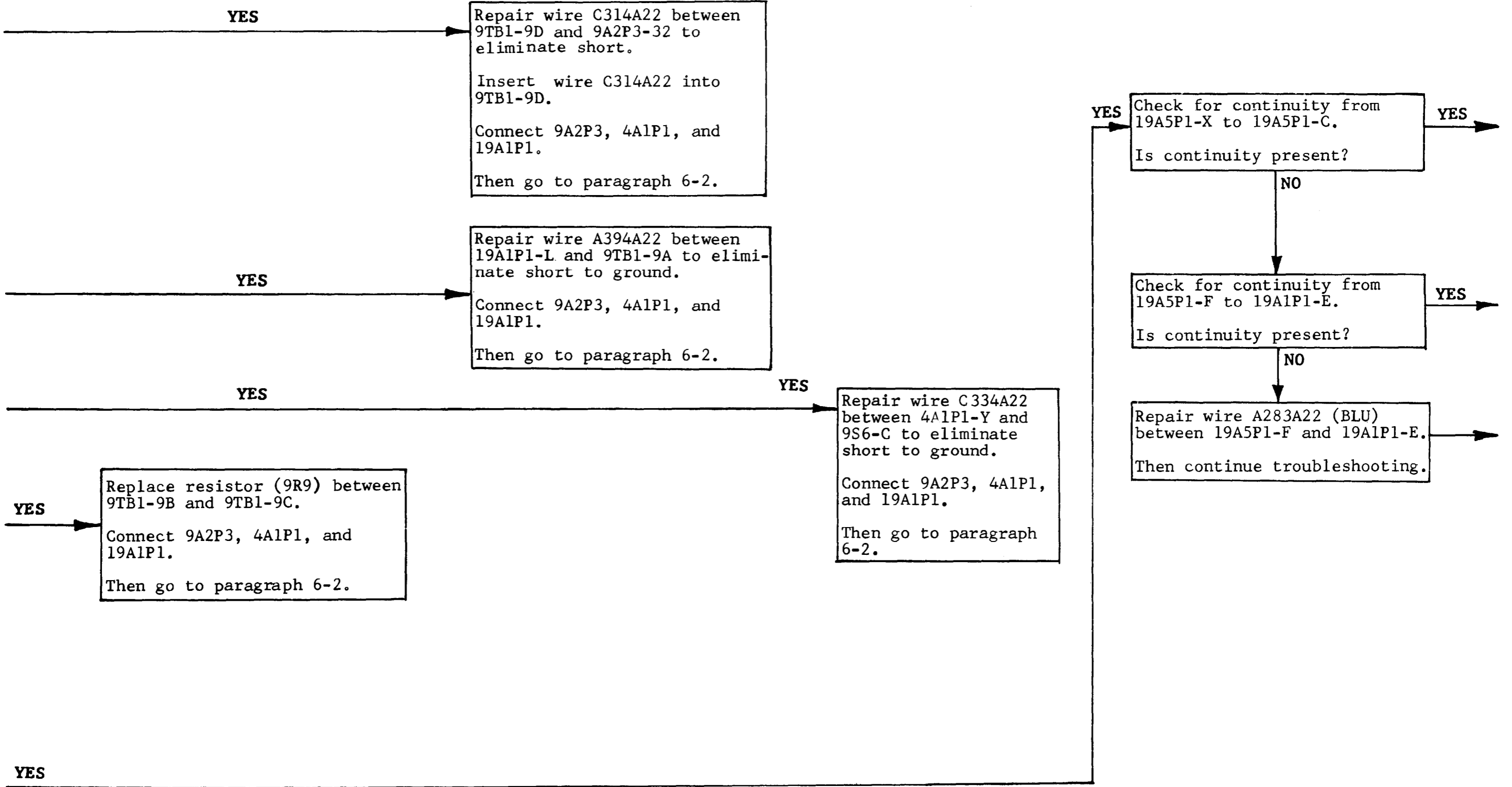
6-38. YAW COMPENSATION VOLTAGE LESS THAN 1.1 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



6-38. YAW COMPENSATION VOLTAGE LESS THAN 1.1 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



6-38. YAW COMPENSATION VOLTAGE LESS THAN 1.1 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



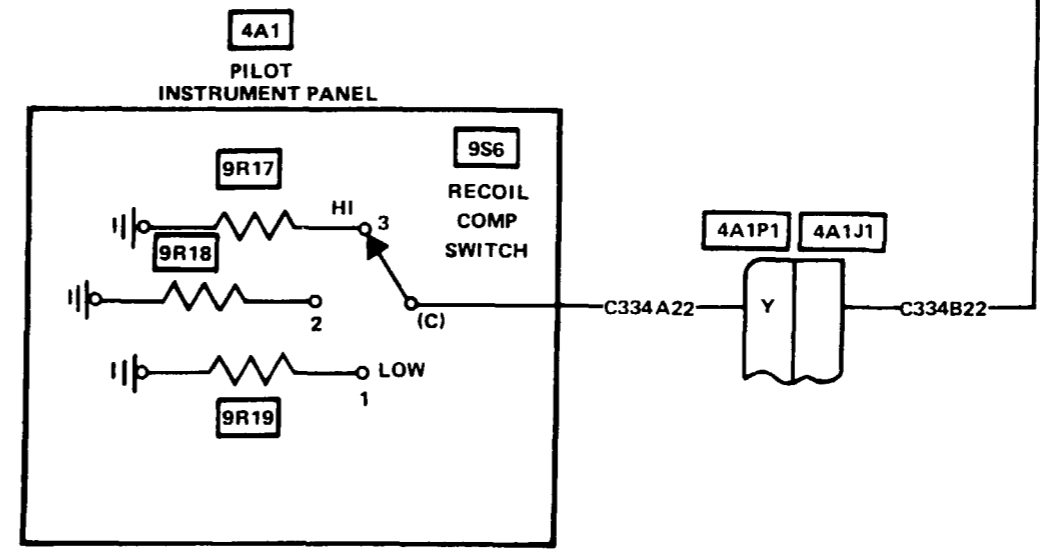
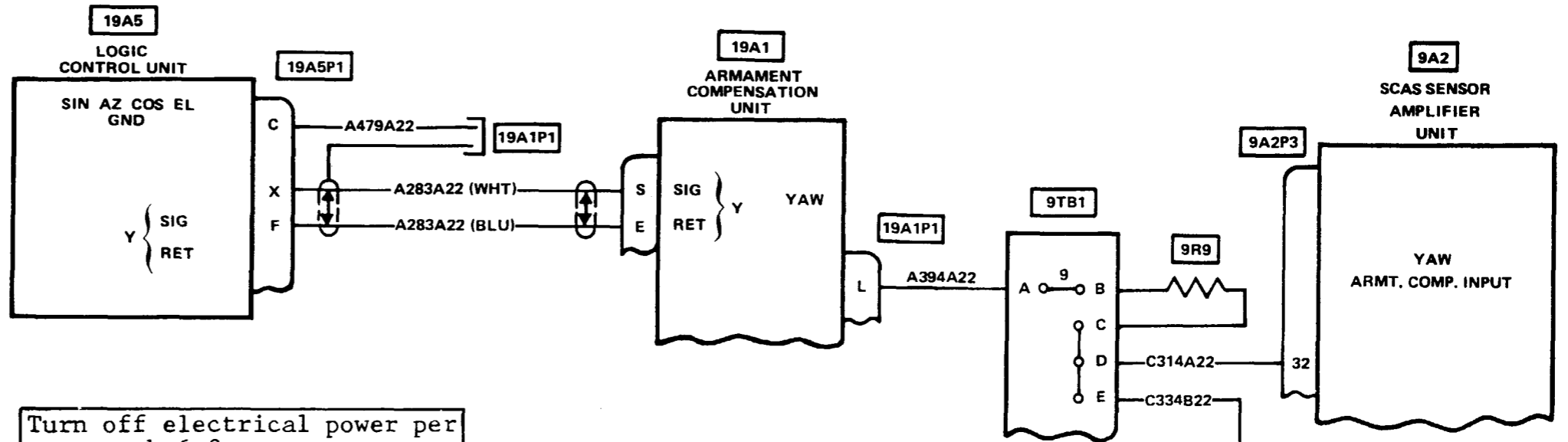
6-38. YAW COMPENSATION VOLTAGE LESS THAN 1.1 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).

YES → Repair wire A283A22 (WHT) between 19A5P1-X and 19A1P1-S to eliminate short to ground.
Connect 9A2P3, 4A1P1, 19A1P1, and 19A5P1.
Then go to paragraph 6-2.

YES → Connect 19A5P1.
Connect digital voltmeter to 19A1P1-S to read ac voltage.
Turn on electrical power per paragraph 6-3.
On sight hand control:
Use track control stick to position gun approximately 90° to the right.
Does digital voltmeter read between 4.0 and 5.0 V ac?

YES → Turn off electrical power per paragraph 6-3.
Replace armament compensation unit per TM 11-1520-236-20, Chapter 2, Section IV.
Connect 9A2P3, 4A1P1, and 19A1P1.
Then go to paragraph 6-2.

NO → Turn off electrical power per paragraph 6-3.
Replace logic control unit per TM 9-1090-206-20-1, Chapter 3, Section XV.
Connect 9A2P3, 4A1P1, and 19A1P1.
Then go to paragraph 6-2.



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6-39. YAW COMPENSATION VOLTAGE
 GREATER THAN 1.25 V DC OR
 LESS THAN 0.85 V DC WHEN RE-
 COIL COMP SELECTOR SWITCH IS
 IN MED POSITION.

INITIAL SETUP

Applicable Configuration
 All

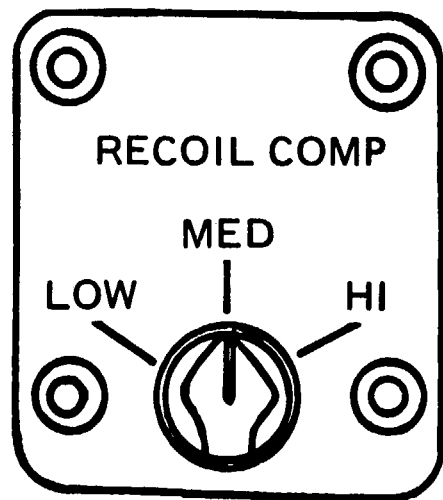
Tools/Test and Support
 Equipment
 Multimeter

Tool Set, A/C Armament
 Repairman

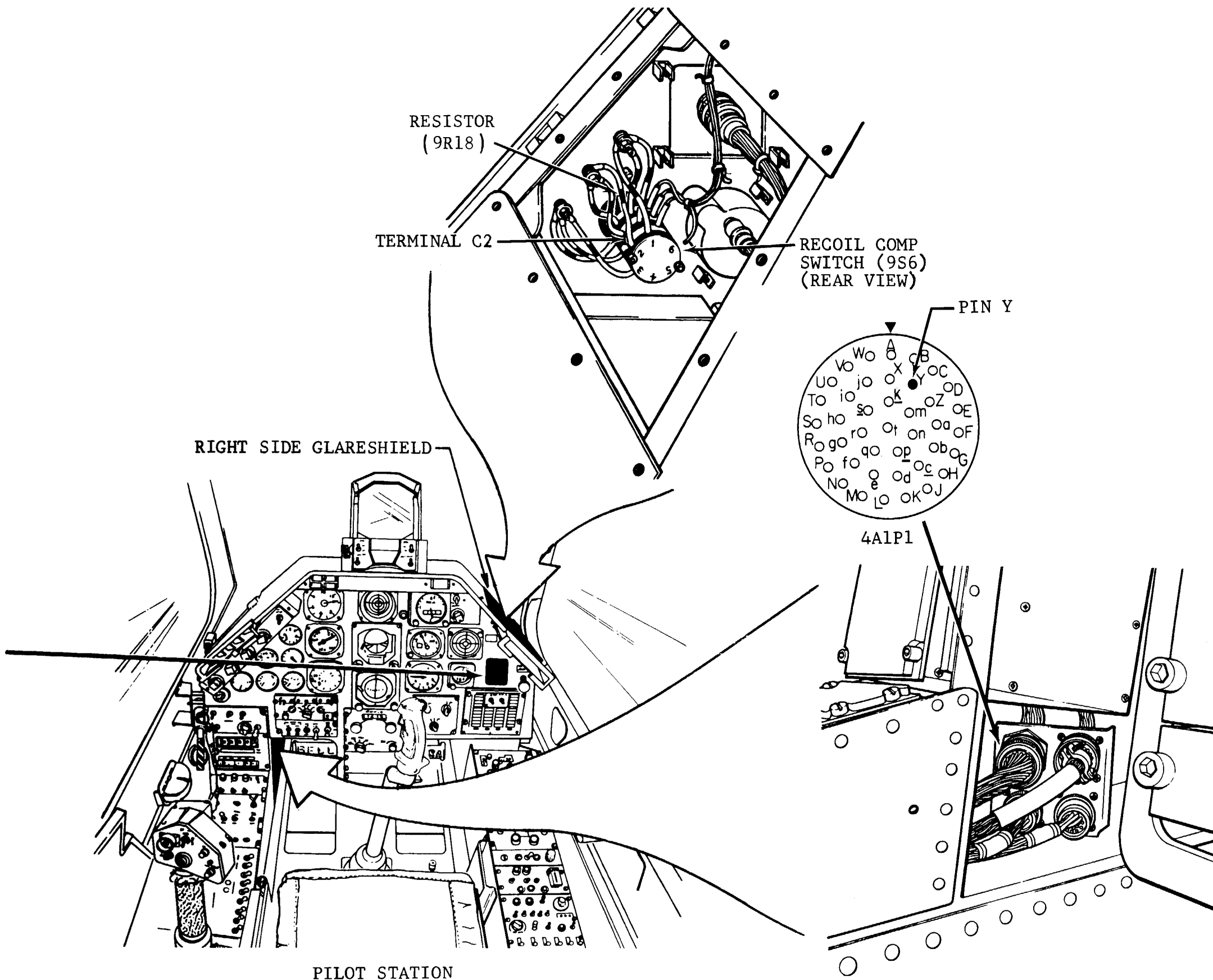
Personnel Required
 68J (2)

References
 TM 55-1520-236-23

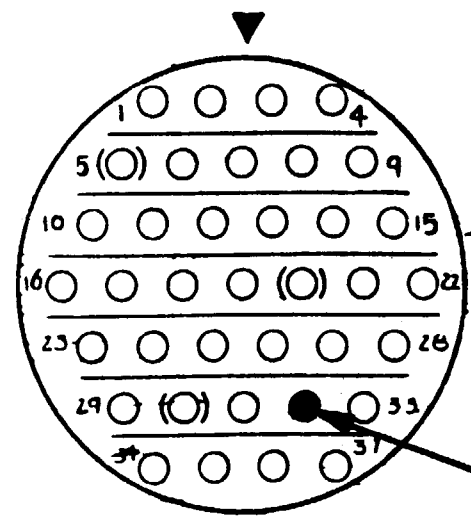
Access Panels
 Right Side Glareshield -
 Removed



RECOIL COMP
 SWITCH (9S6)

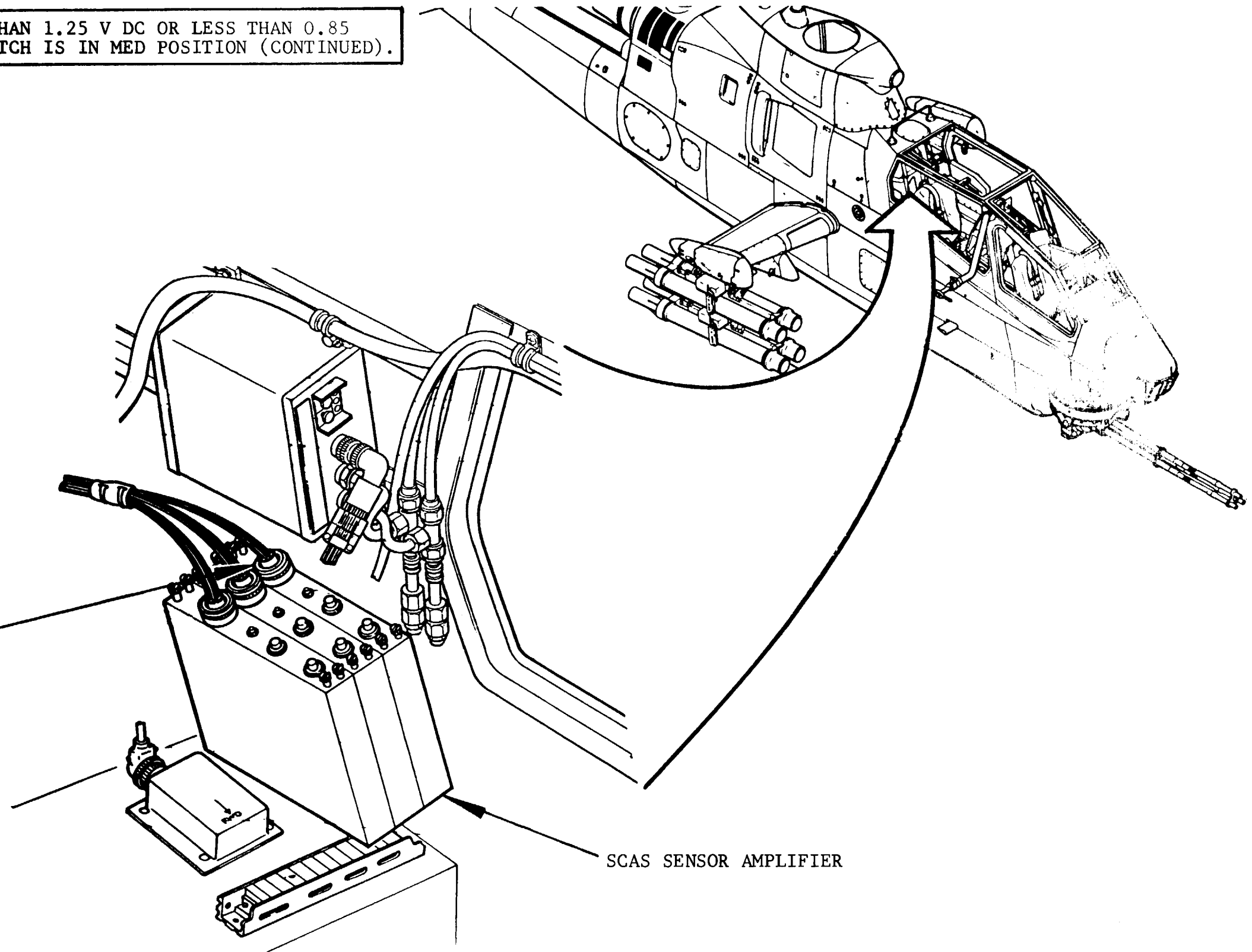


6-39. YAW COMPENSATION VOLTAGE GREATER THAN 1.25 V DC OR LESS THAN 0.85 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN MED POSITION (CONTINUED).



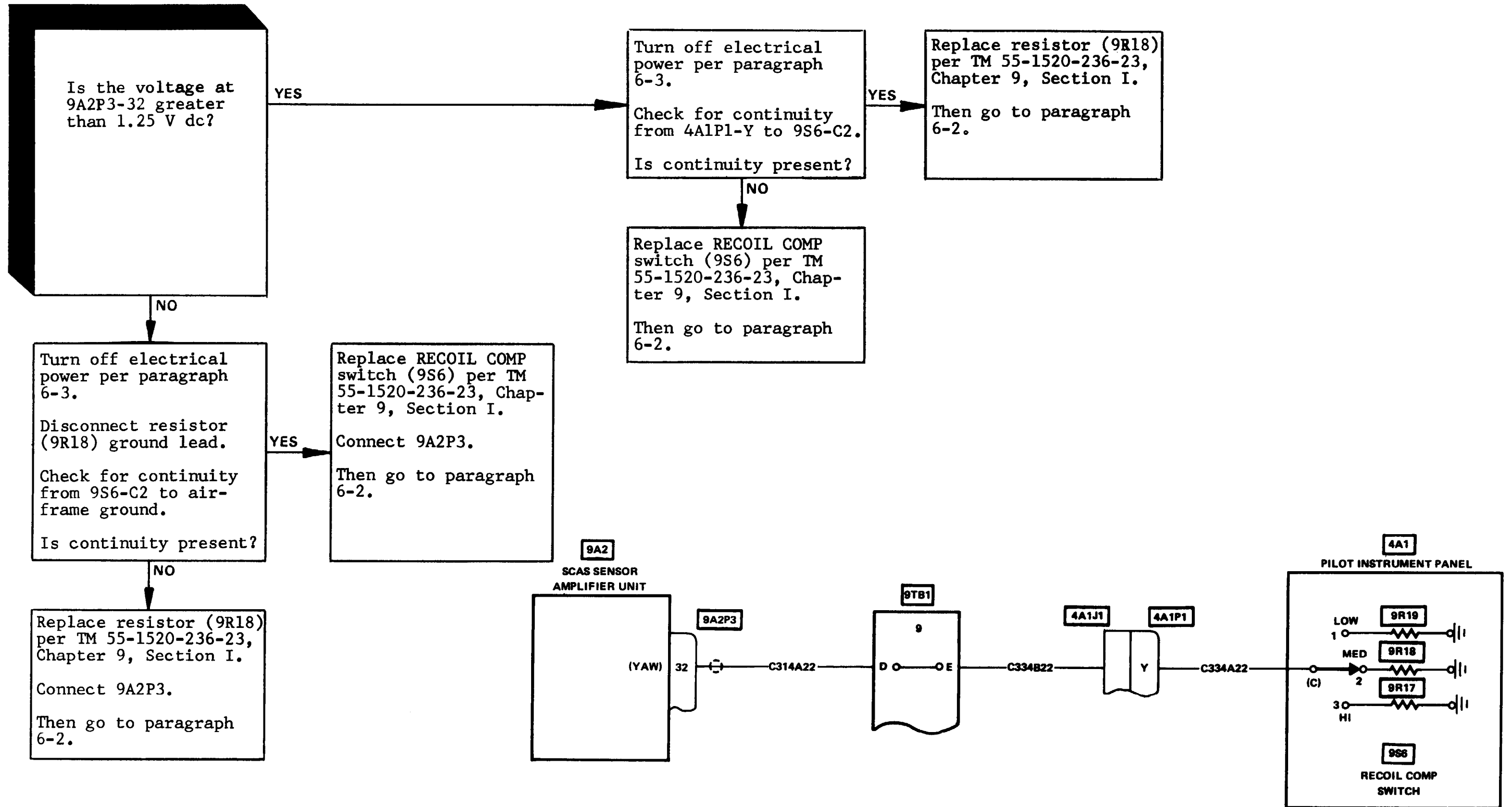
9A2P3

PIN 32



SCAS SENSOR AMPLIFIER

6-39. YAW COMPENSATION VOLTAGE GREATER THAN 1.25 V DC OR LESS THAN 0.85 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN MED POSITION (CONTINUED).



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6-40. YAW COMPENSATION VOLTAGE
GREATER THAN 1.0 V DC OR
LESS THAN 0.85 V DC WHEN
RECOIL COMP SELECTOR SWITCH
IS IN MED POSITION.

INITIAL SETUP

Applicable Configuration
All

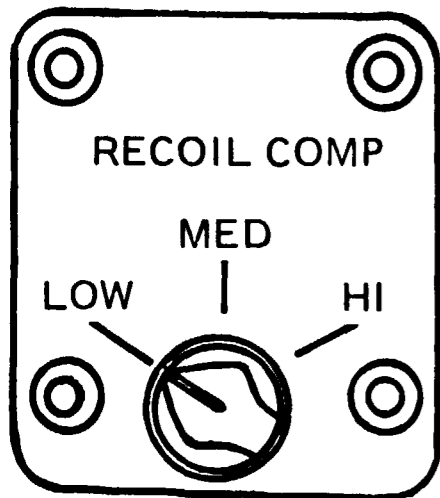
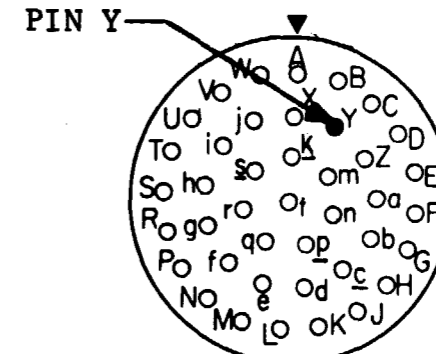
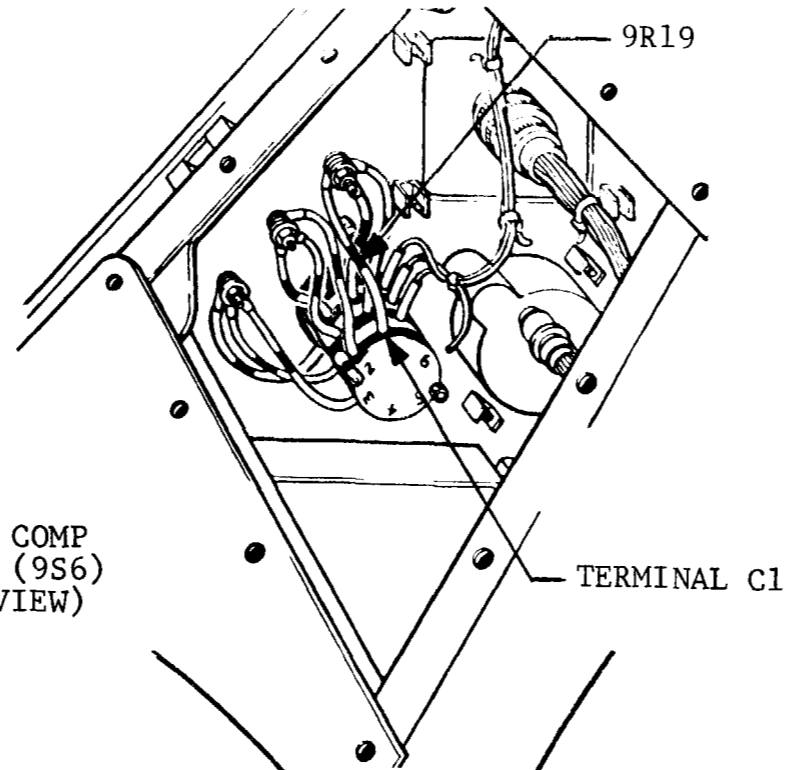
Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

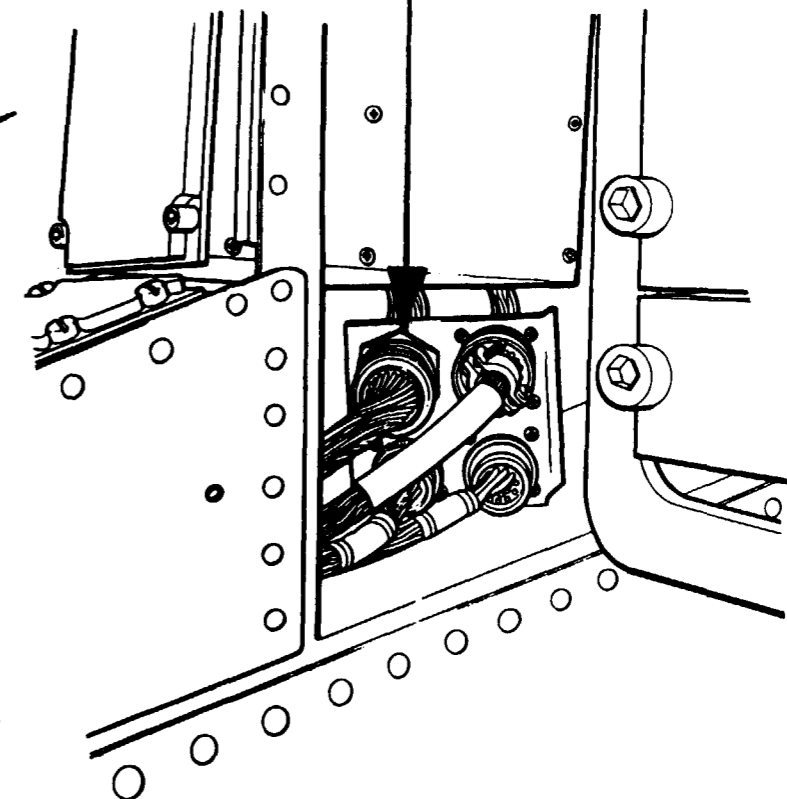
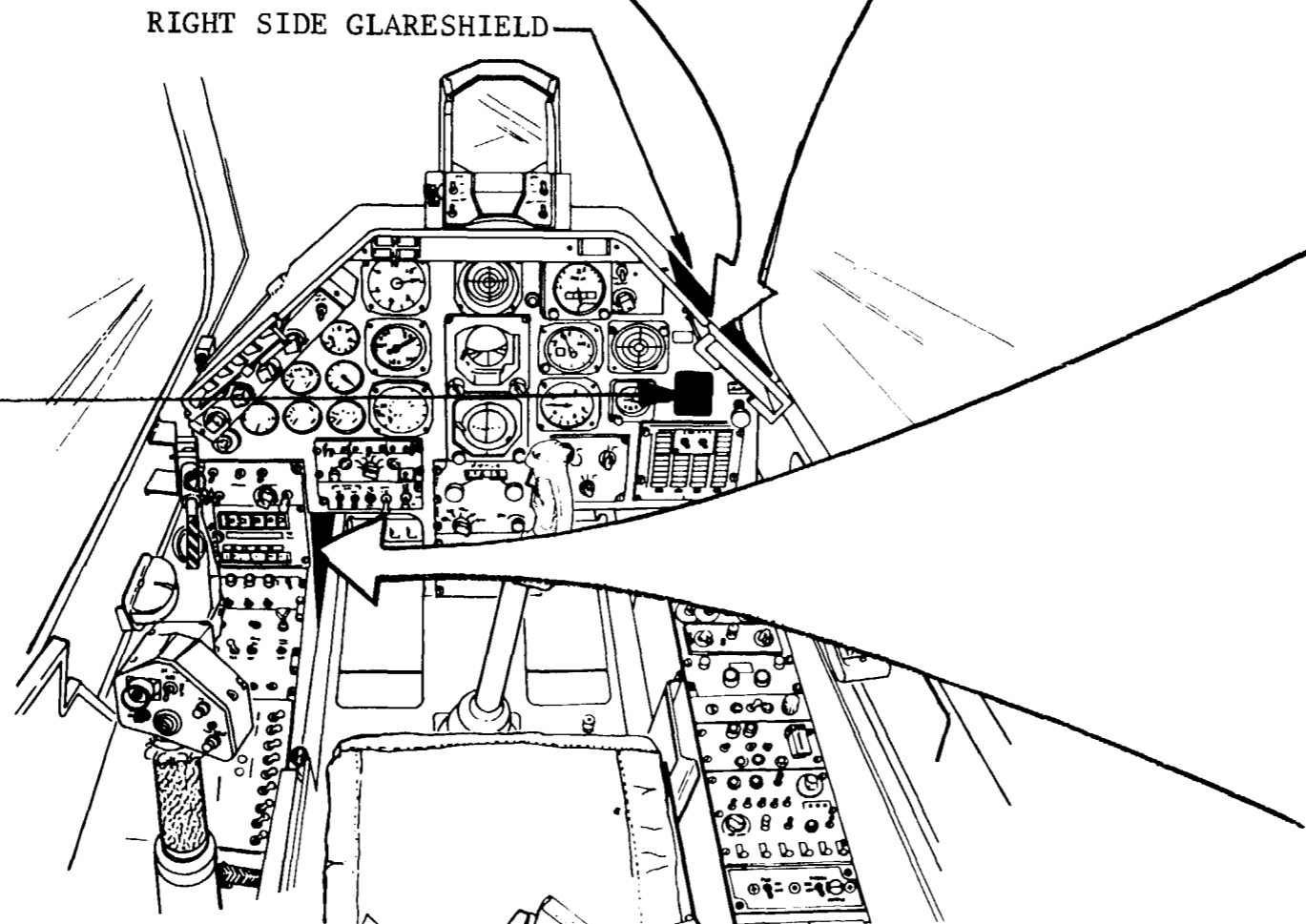
Personnel Required
68J (2)

References
TM 55-1520-236-23

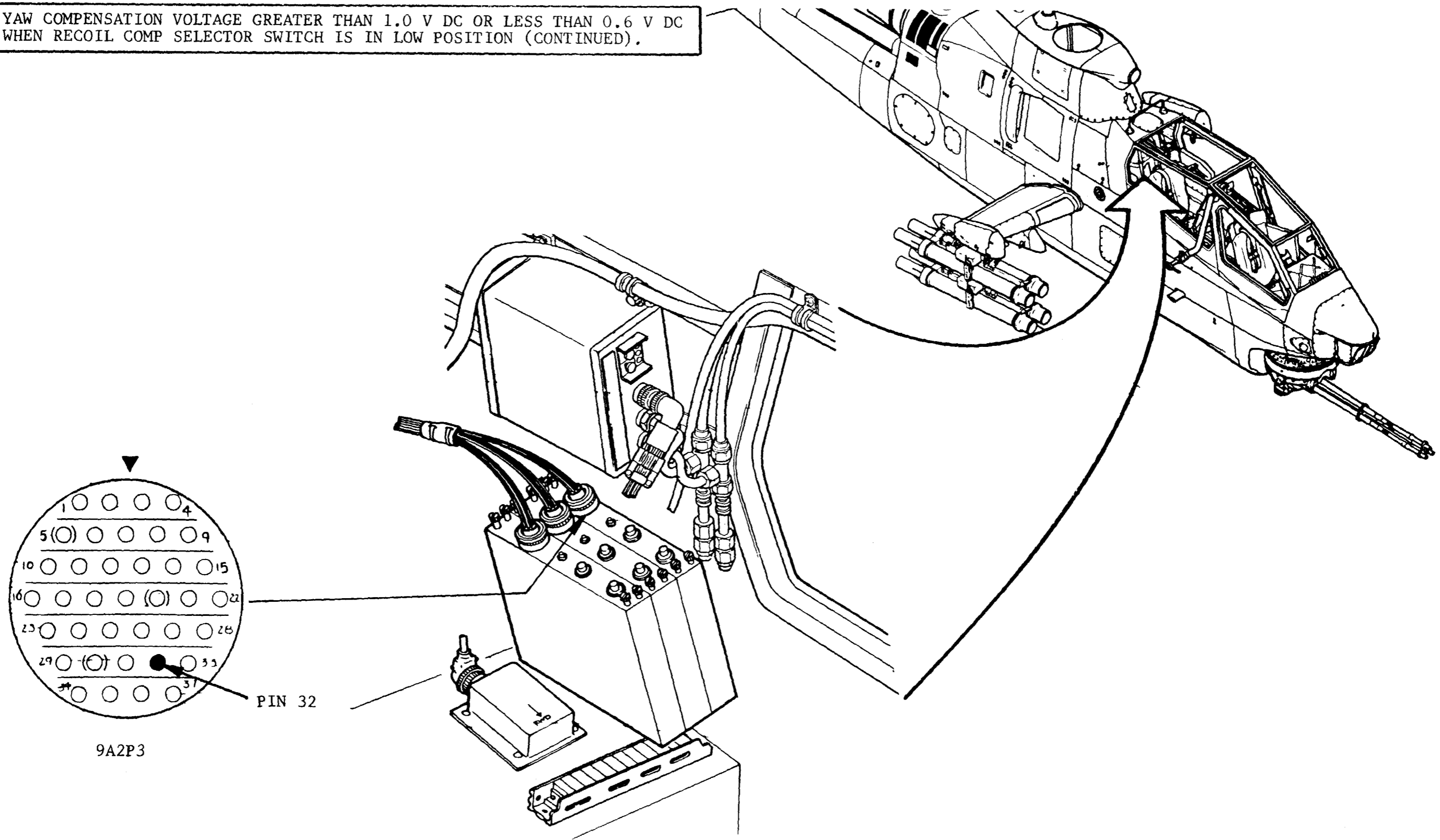
Access Panels
Right Side Glareshield -
Removed



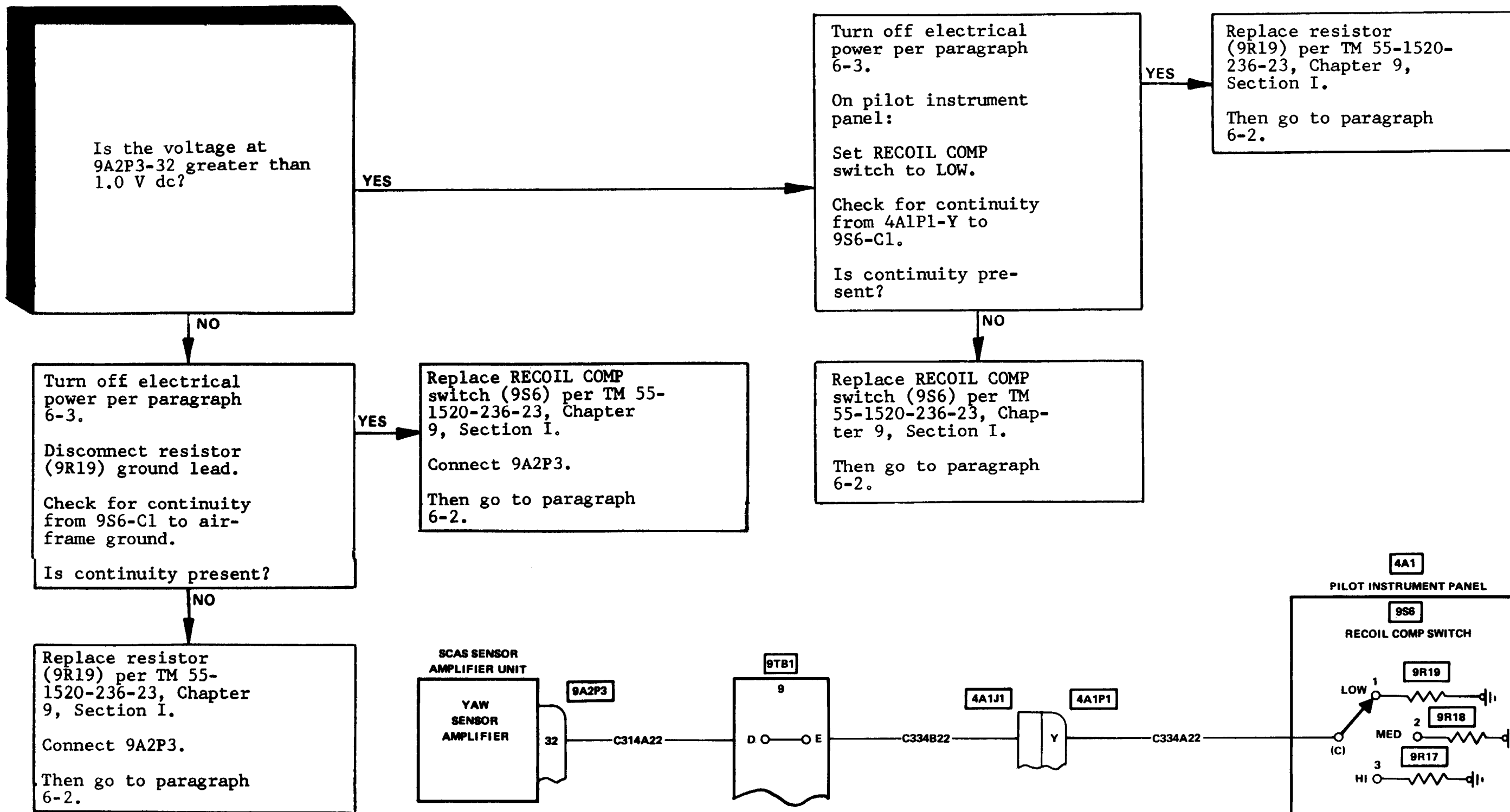
RECOIL COMP SWITCH (9S6)



6-40. YAW COMPENSATION VOLTAGE GREATER THAN 1.0 V DC OR LESS THAN 0.6 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN LOW POSITION (CONTINUED).



6-40. YAW COMPENSATION VOLTAGE GREATER THAN 1.0 V DC OR LESS THAN 0.6 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN LOW POSITION (CONTINUED).



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6-41. PITCH COMPENSATION VOLTAGE READING IS BETWEEN - 1.25 V DC AND - 5.0 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION.

INITIAL SETUP

Applicable Configuration
A

Tools/Test and Support Equipment

Multimeter

Digital Voltmeter

Tool Set, A/C Armament Repairman

Personnel Required

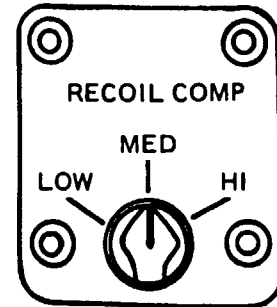
68J (2)

References

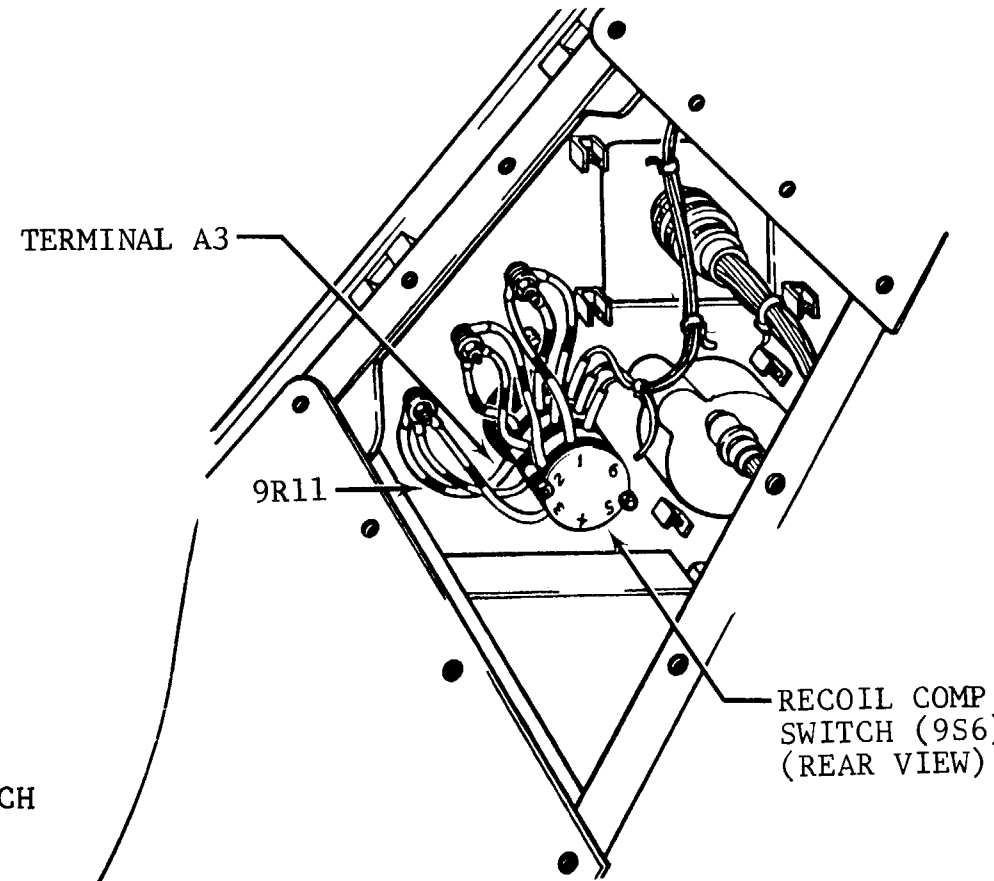
TM 55-1520-236-23

Access Panels

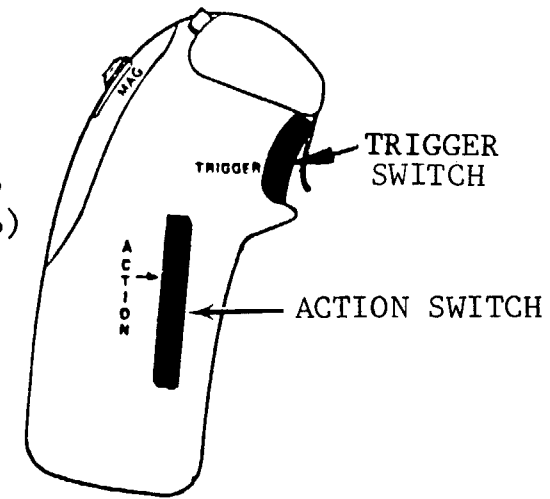
Right Side Glareshield - Removed



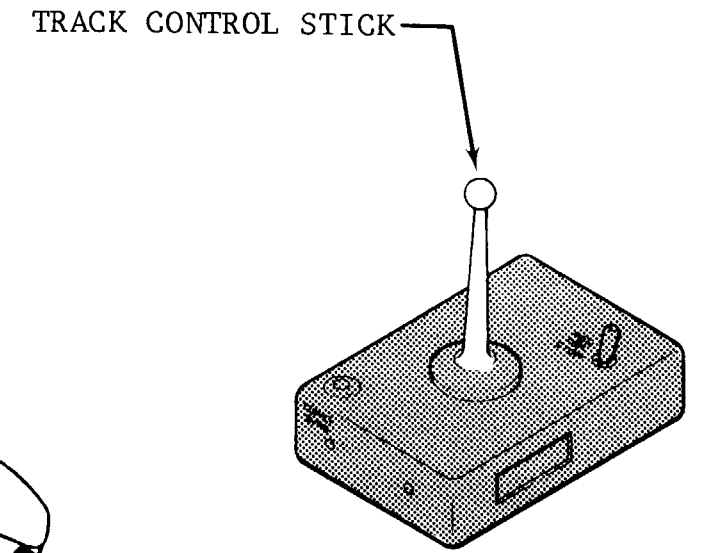
RECOIL COMP SWITCH (9S6)



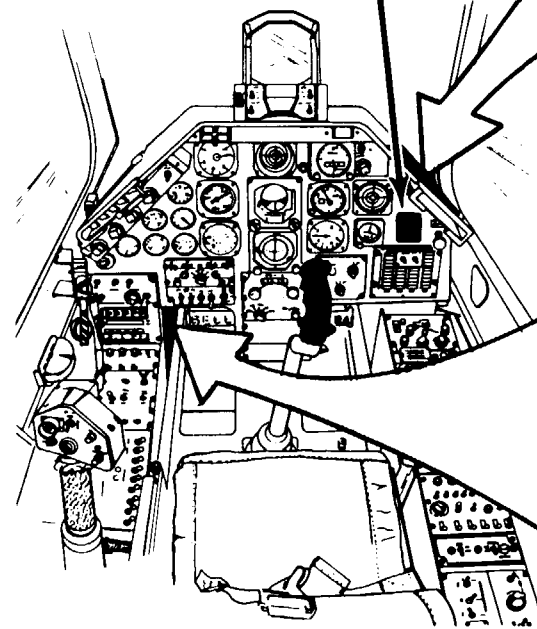
RECOIL COMP SWITCH (9S6) (REAR VIEW)



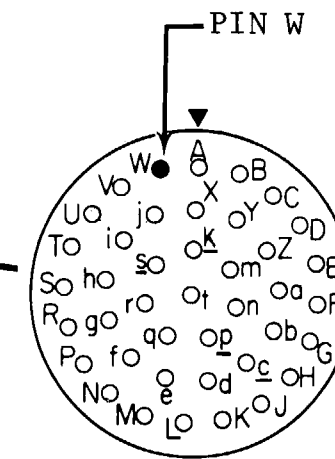
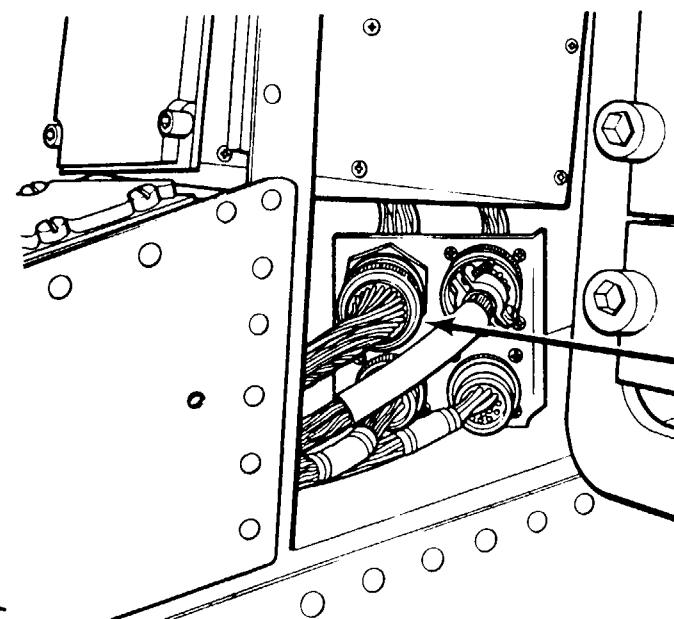
LEFT HAND GRIP



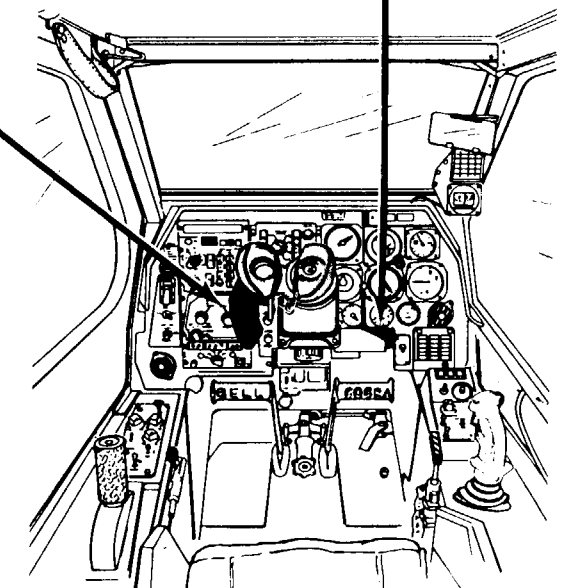
SIGHT HAND CONTROL



PILOT STATION

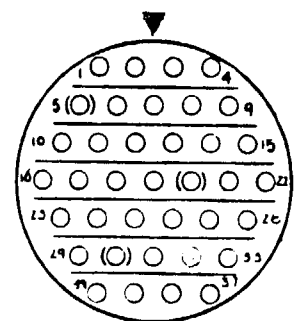
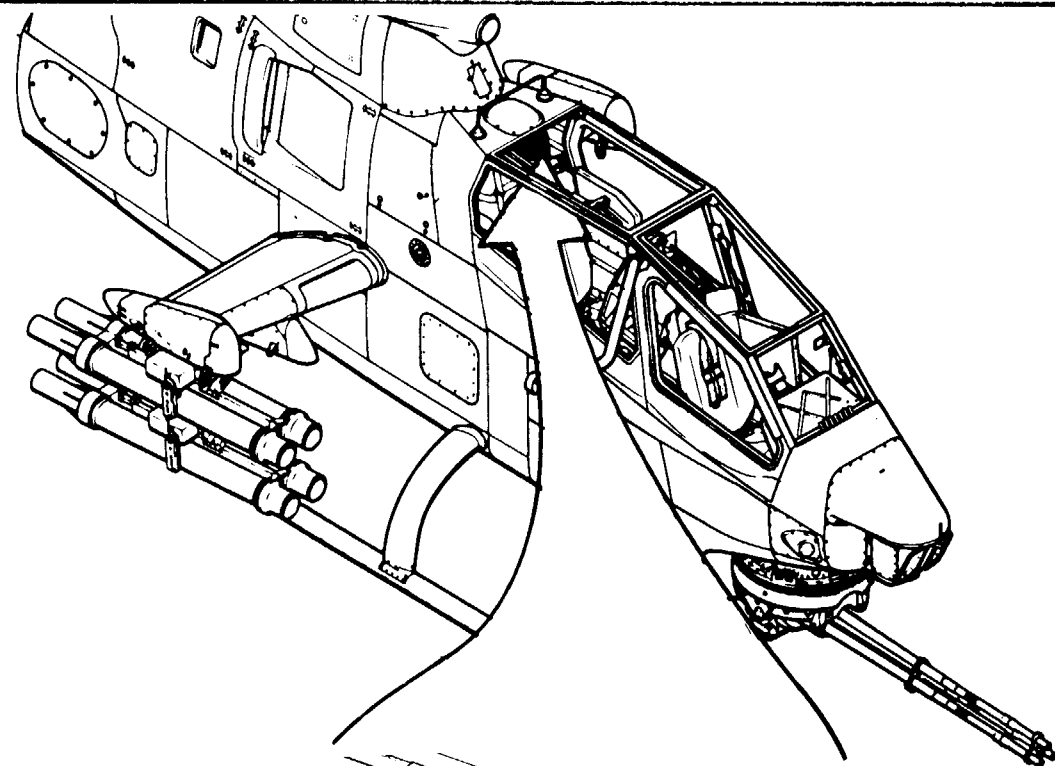


4A1P1

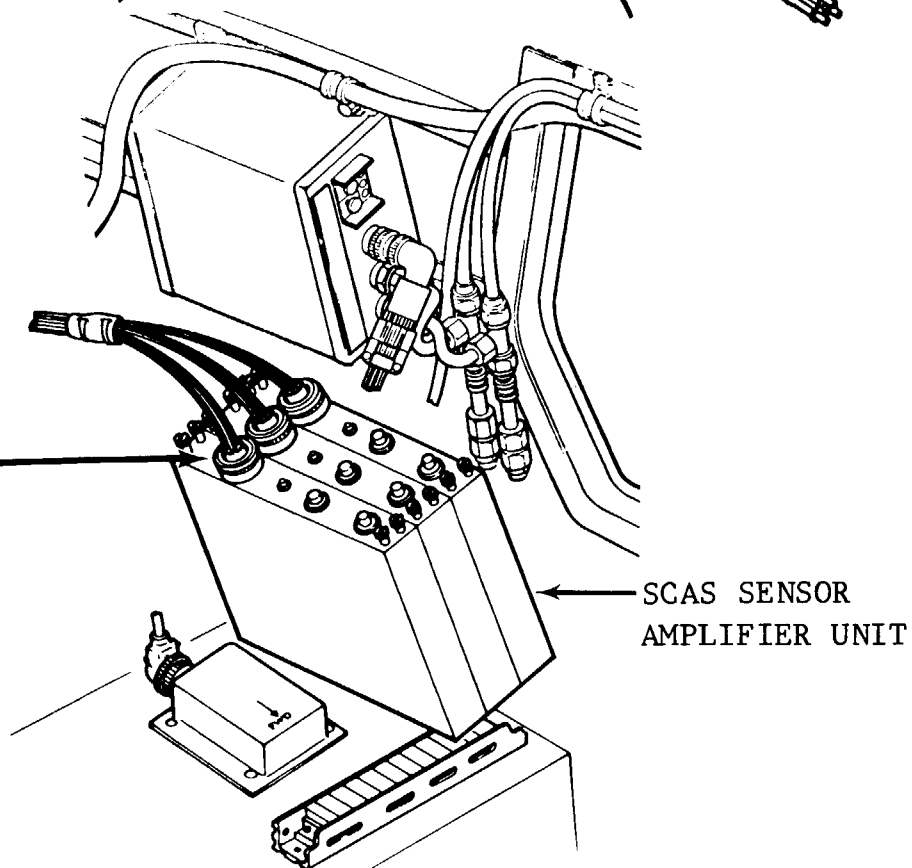


GUNNER STATION

6-41. PITCH COMPENSATION VOLTAGE READING IS BETWEEN - 1.25 V DC AND - 5.0 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



9A2P1



On pilot instrument panel:

Set RECOIL COMP switch to MED.

On left hand grip:

Press and hold ACTION switch.

On sight hand control:

Move track control stick to position turret gun to 0 degrees azimuth and slightly below stow position.

On left hand grip:

Press and hold TRIGGER switch to second detent and observe digital voltmeter when gun barrels start rotating.

Does digital voltmeter read between - 1.25 V dc and - 5.0 V dc?

YES

Go to paragraph 6-47.

NO

NO

Turn off electrical power per paragraph 6-3.

Set RECOIL COMP switch to HI.

Check for continuity from 4A1P1-W to 9S6-A3.

Is continuity present?

YES

NO

Replace RECOIL COMP switch (9S6) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 9A2P1.

Then go to paragraph 6-2.

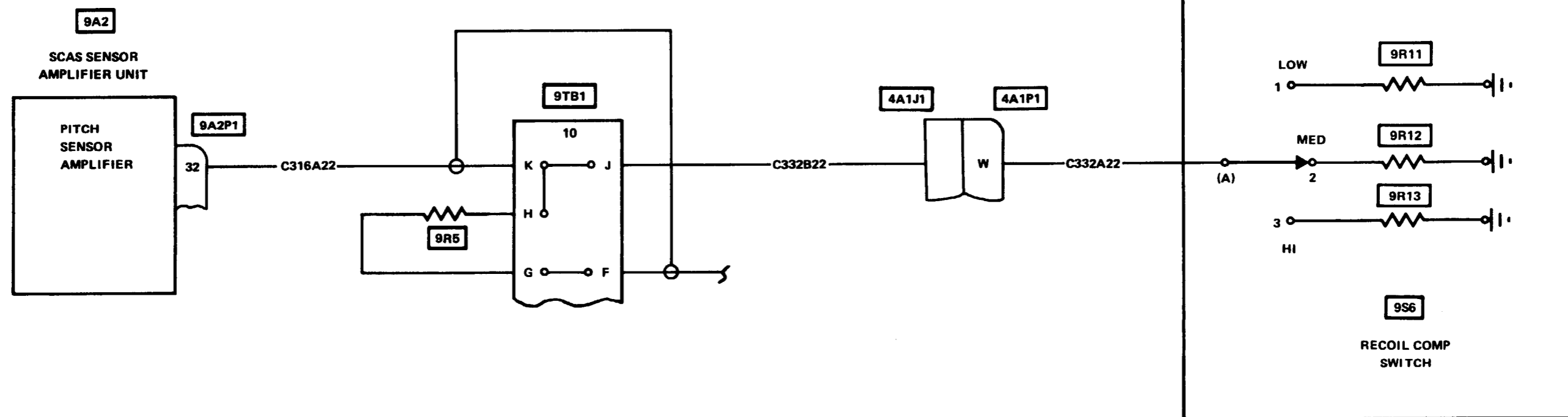
6-41. PITCH COMPENSATION VOLTAGE READING IS BETWEEN - 1.25 V DC AND - 5.0 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).

YES →

Replace resistor (9R11) per TM 55-1520-236-23, Chapter 9, Section I.

Connect 9A2P1.

Then go to paragraph 6-2.



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6-42. PITCH COMPENSATION VOLTAGE READS
 0 ± 0.2 V DC WHEN RECOIL COMP SE-
 LECTOR SWITCH IS IN HI POSITION.

INITIAL SETUP

Applicable Configuration
 All

Tools/Test and Support Equipment
 Multimeter

Tool Set, A/C Armament
 Repairman

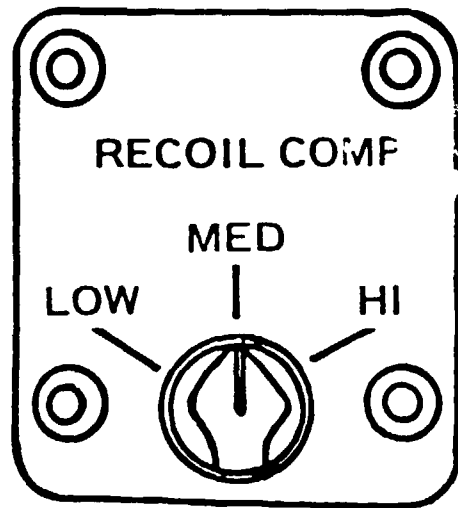
Personnel Required
 68J (2)

References

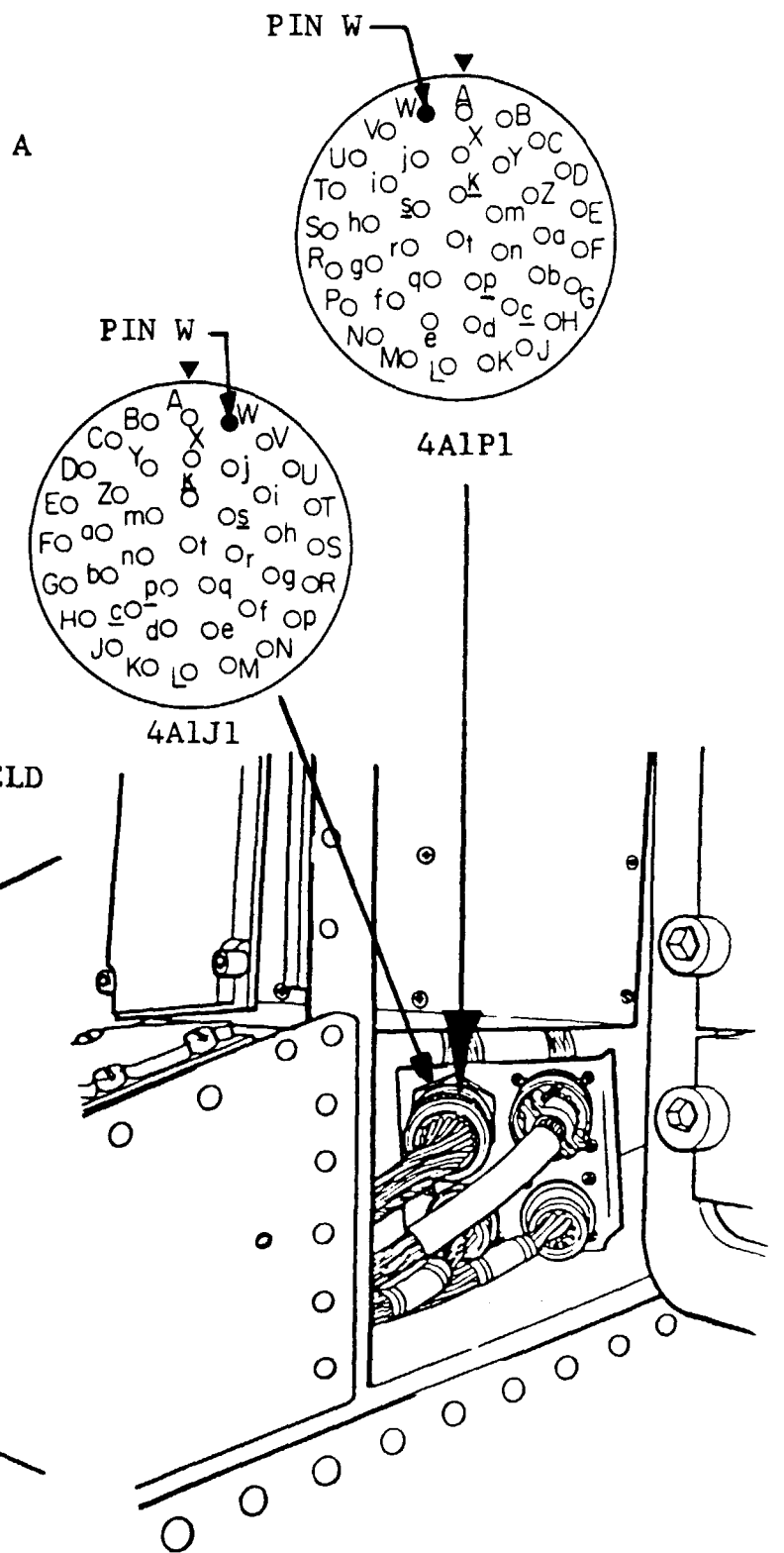
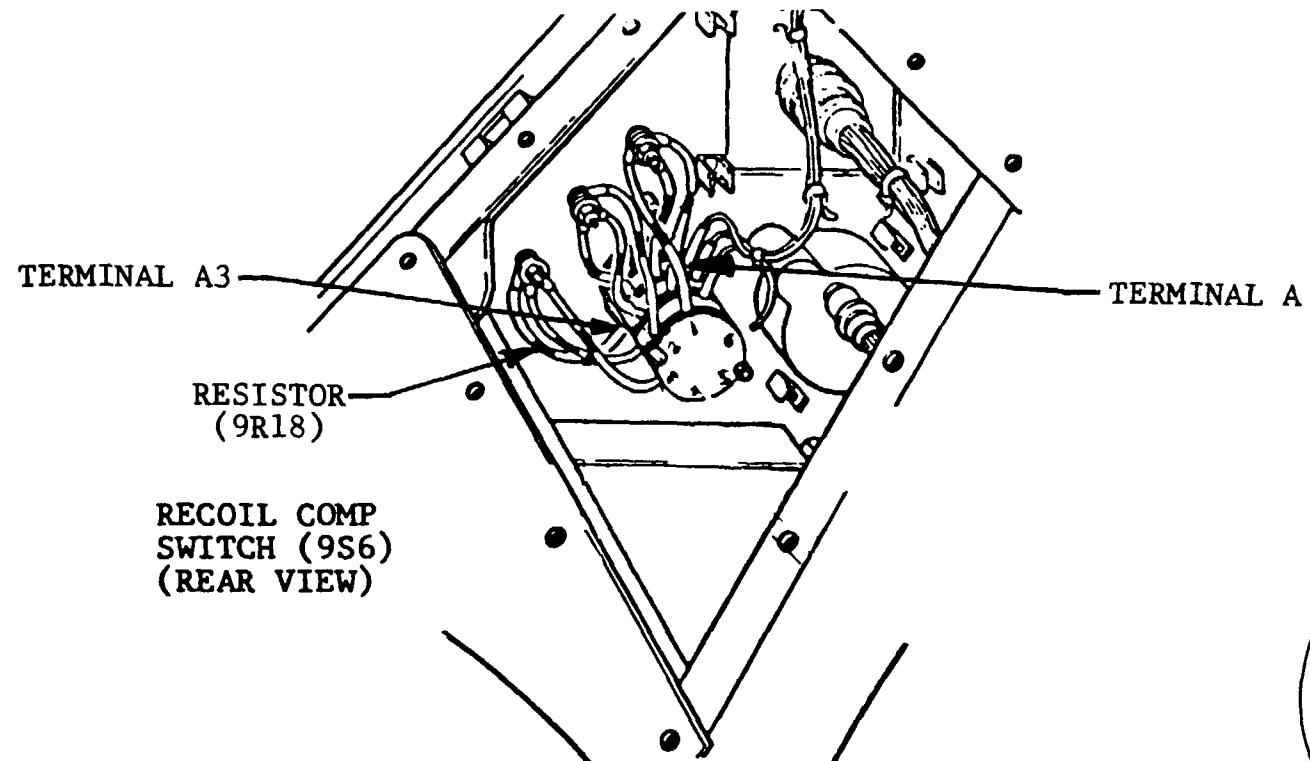
- TM 9-1090-206-20-1
- TM 11-1520-236-20
- TM 55-1520-236-23

Access Panel

- Logic Control Unit -
 Removed
- Right Side Glareshield -
 Removed

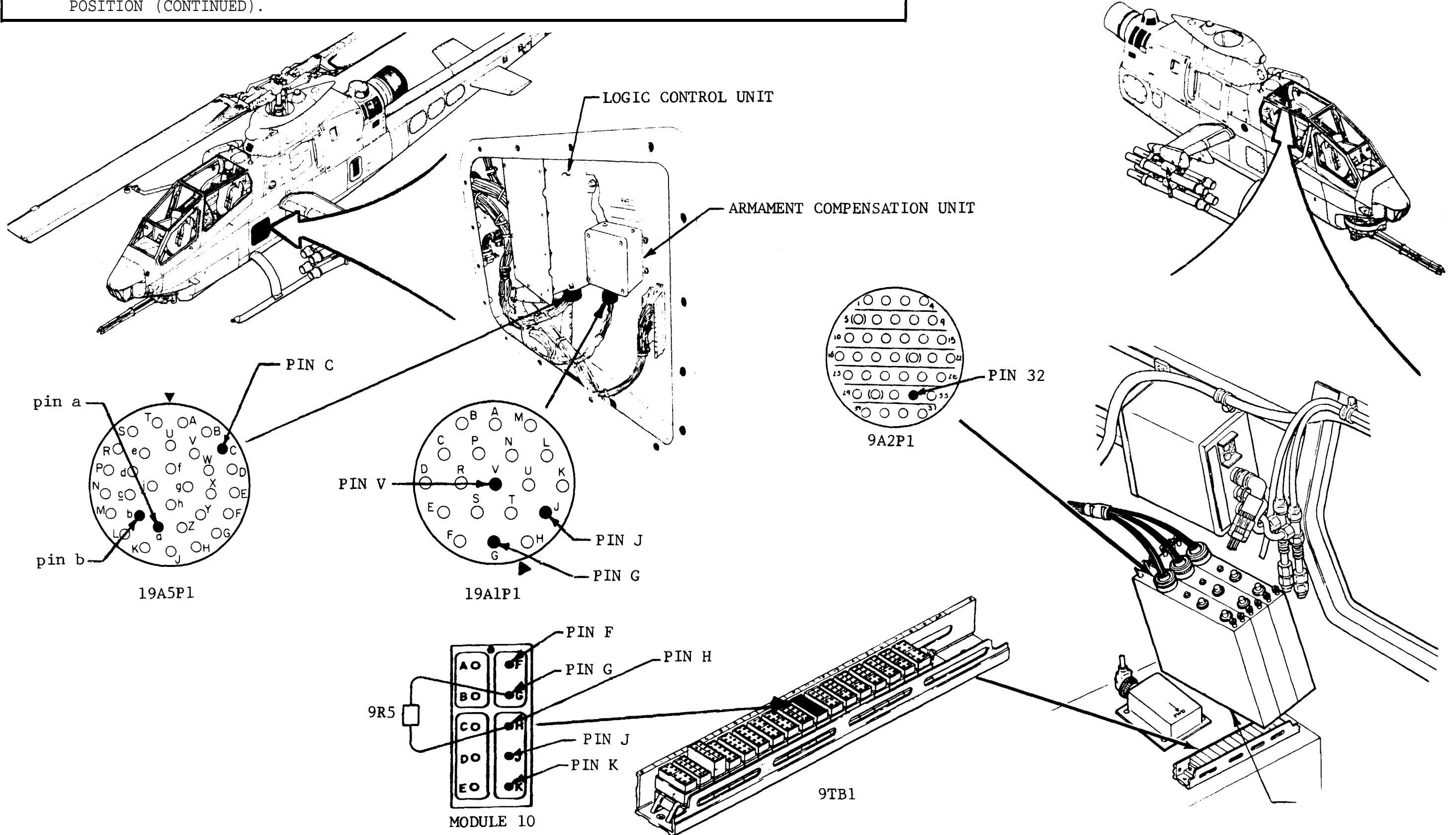


RECOIL COMP
 SWITCH (9S6)

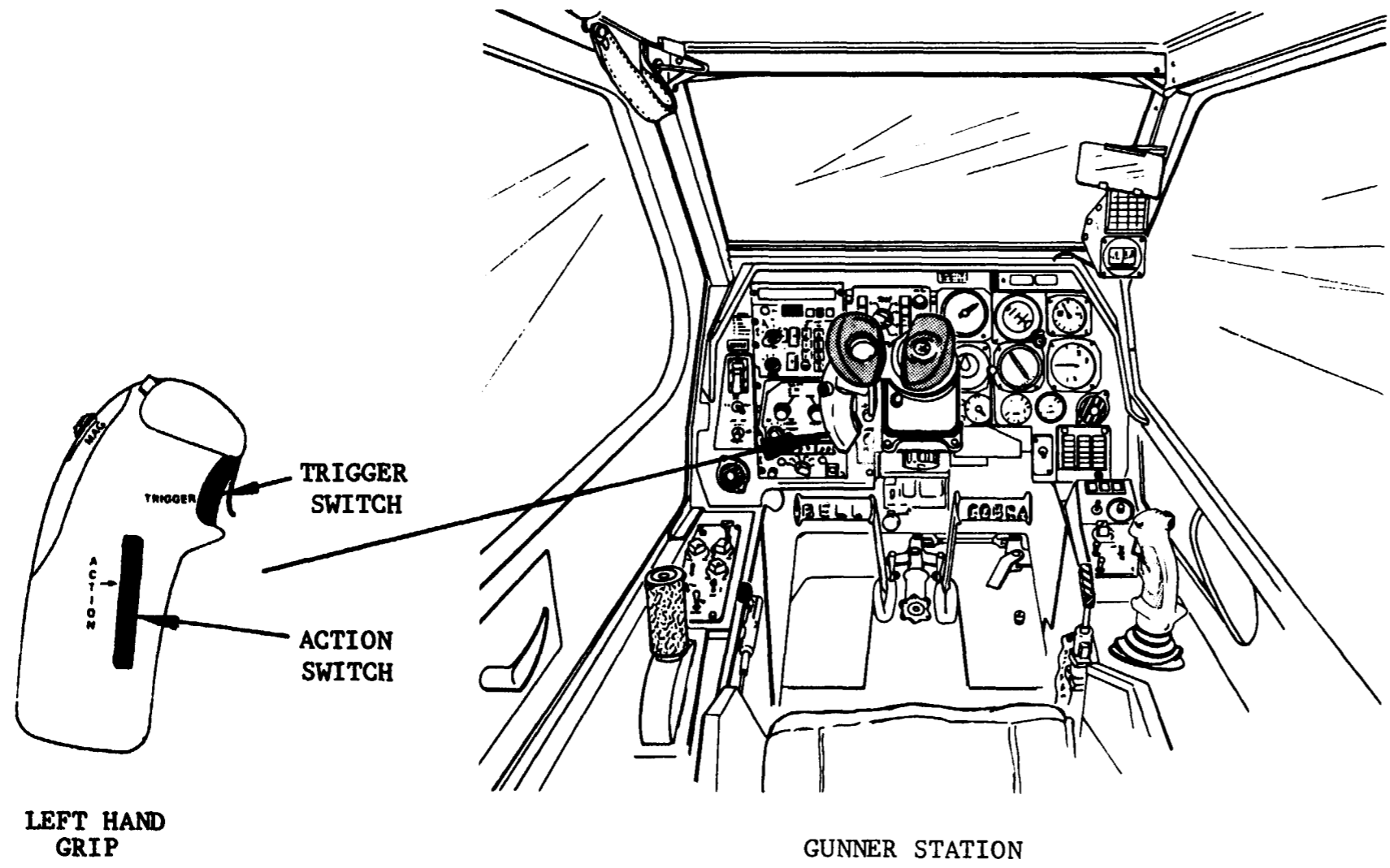


PILOT STATION

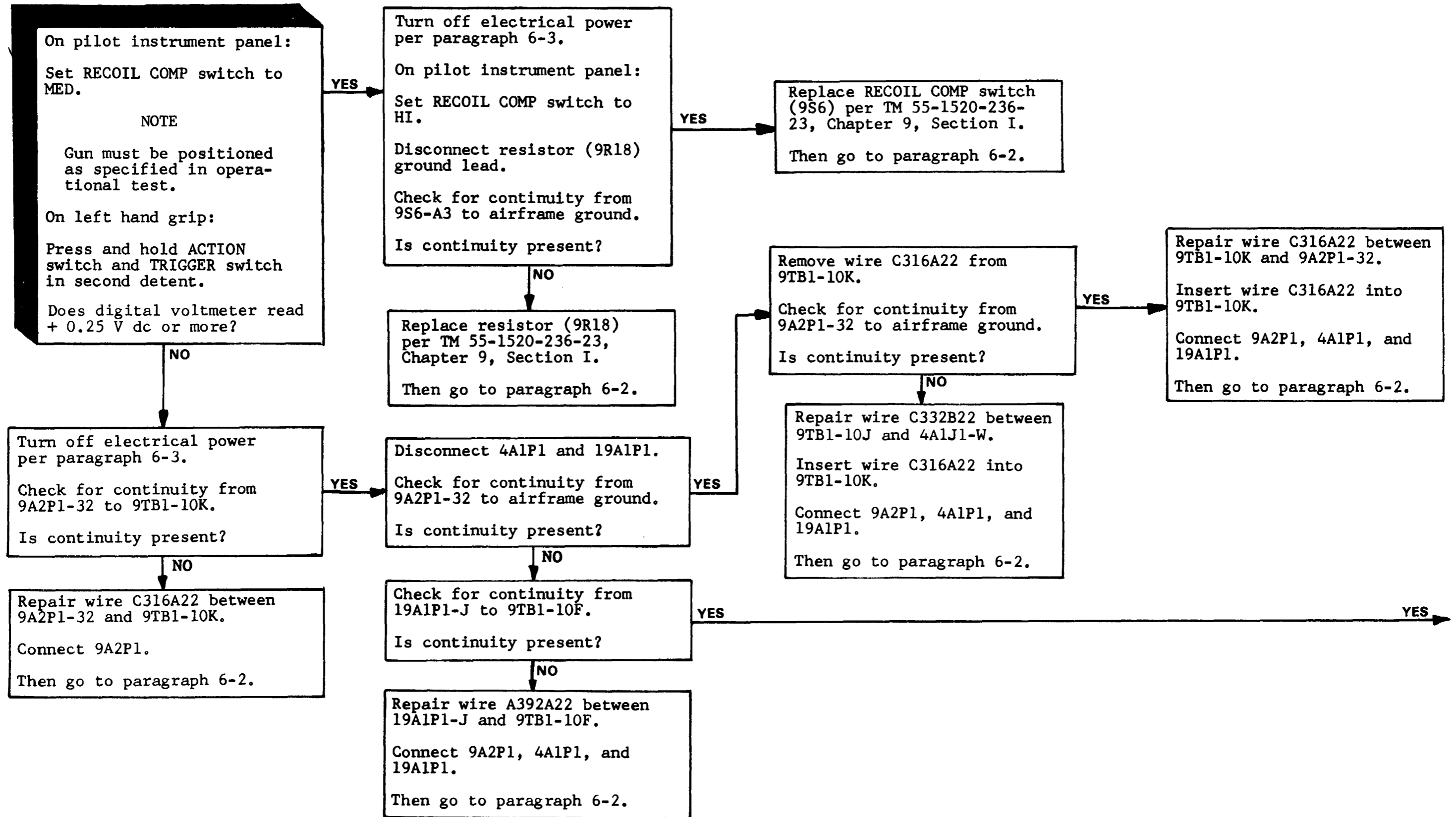
6-42. PITCH COMPENSATION VOLTAGE READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



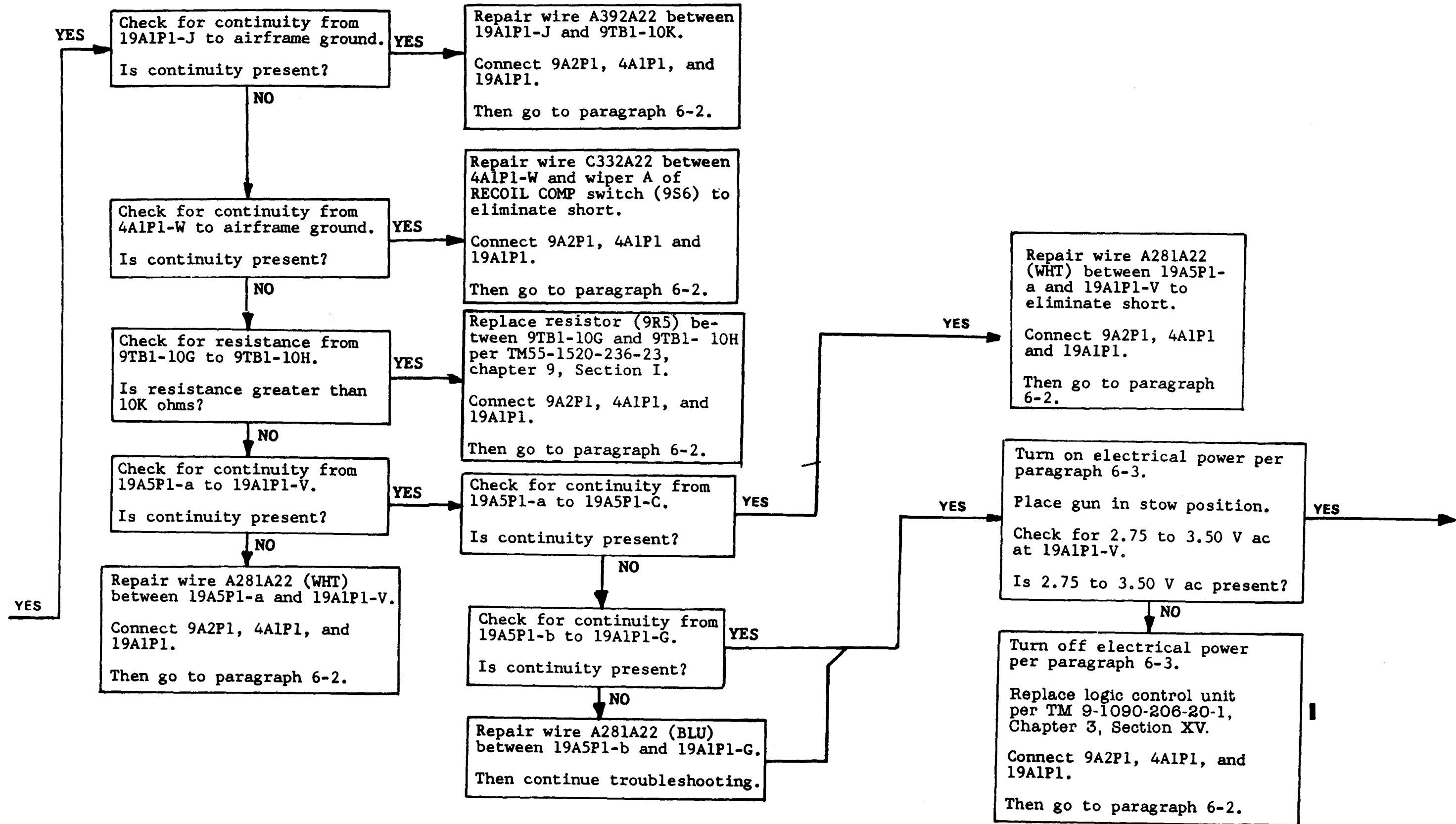
6-42. PITCH COMPENSATION VOLTAGE READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



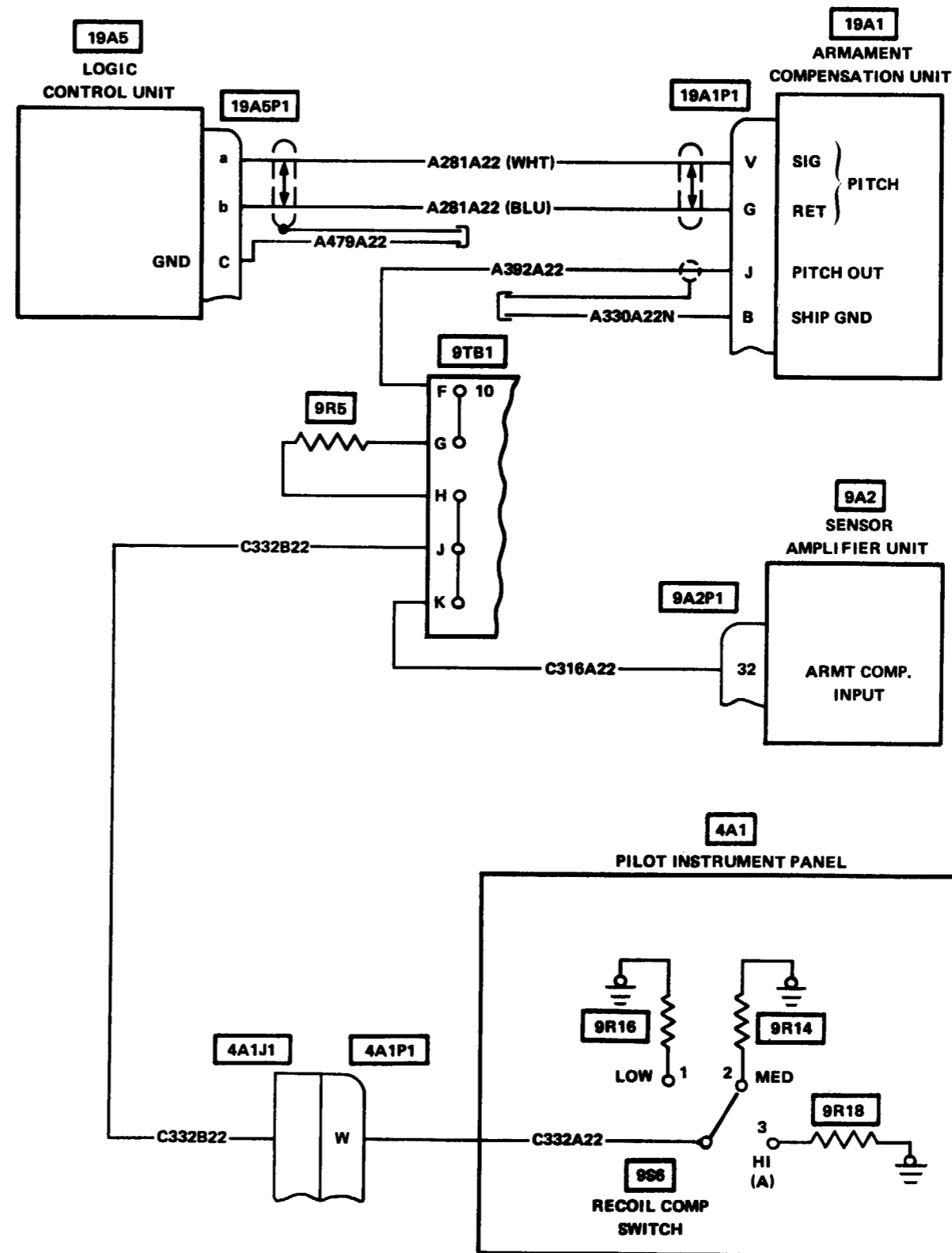
6-42. PITCH COMPENSATION VOLTAGE READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



6-42. PITCH COMPENSATION VOLTAGE READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



6-42. PITCH COMPENSATION VOLTAGE READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN HI POSITION (CONTINUED).



YES →

Turn off electrical power per paragraph 6-3.

Replace armament compensation unit per TM 11-1520-236-20, Chapter 2, Section IV.

Connect 9A2P1, 4A1P1, and 19A1P1.

Then go to paragraph 6-2.

6-43. PITCH COMPENSATION VOLTAGE READING IS BETWEEN - 0.90 V DC AND 5.0 V DC OR READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN MED POSITION.

Applicable Configuration
All

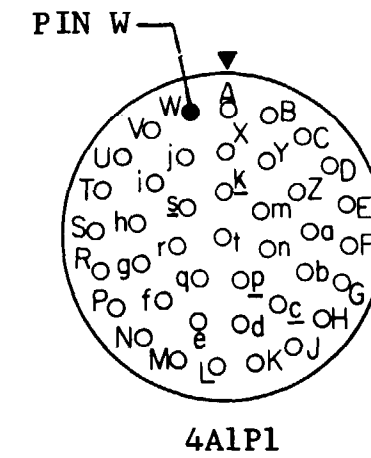
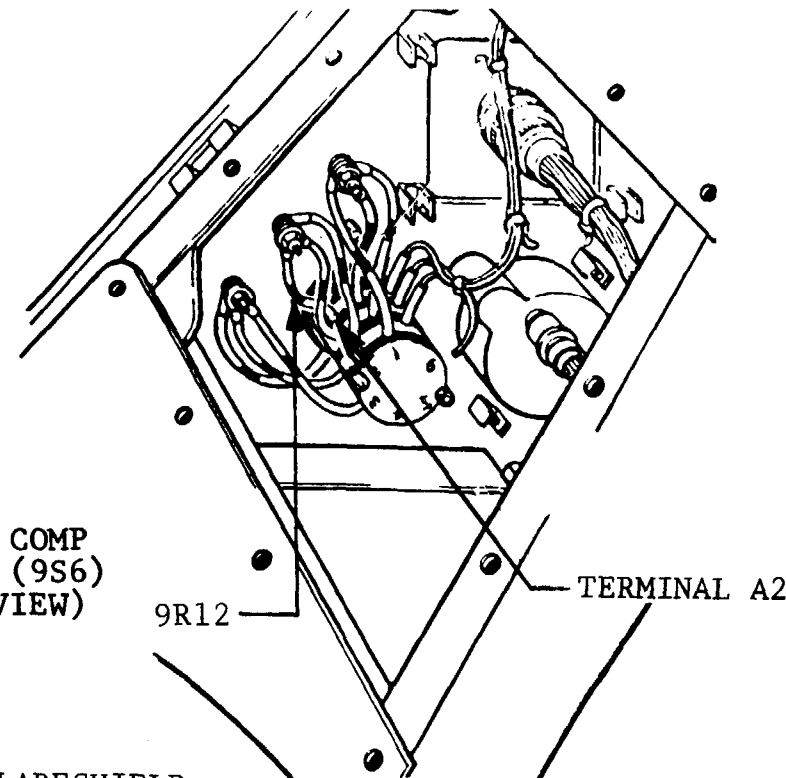
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

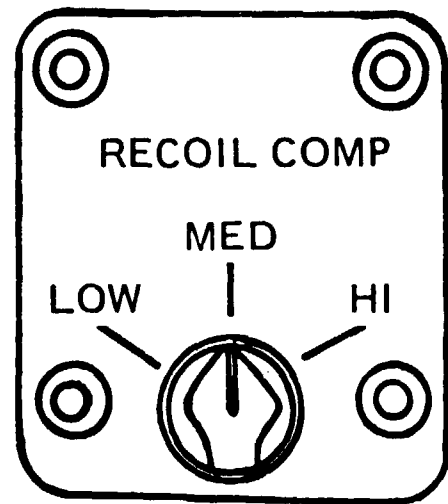
Personnel Required
68J (1)

References
TM 55-1520-236-23

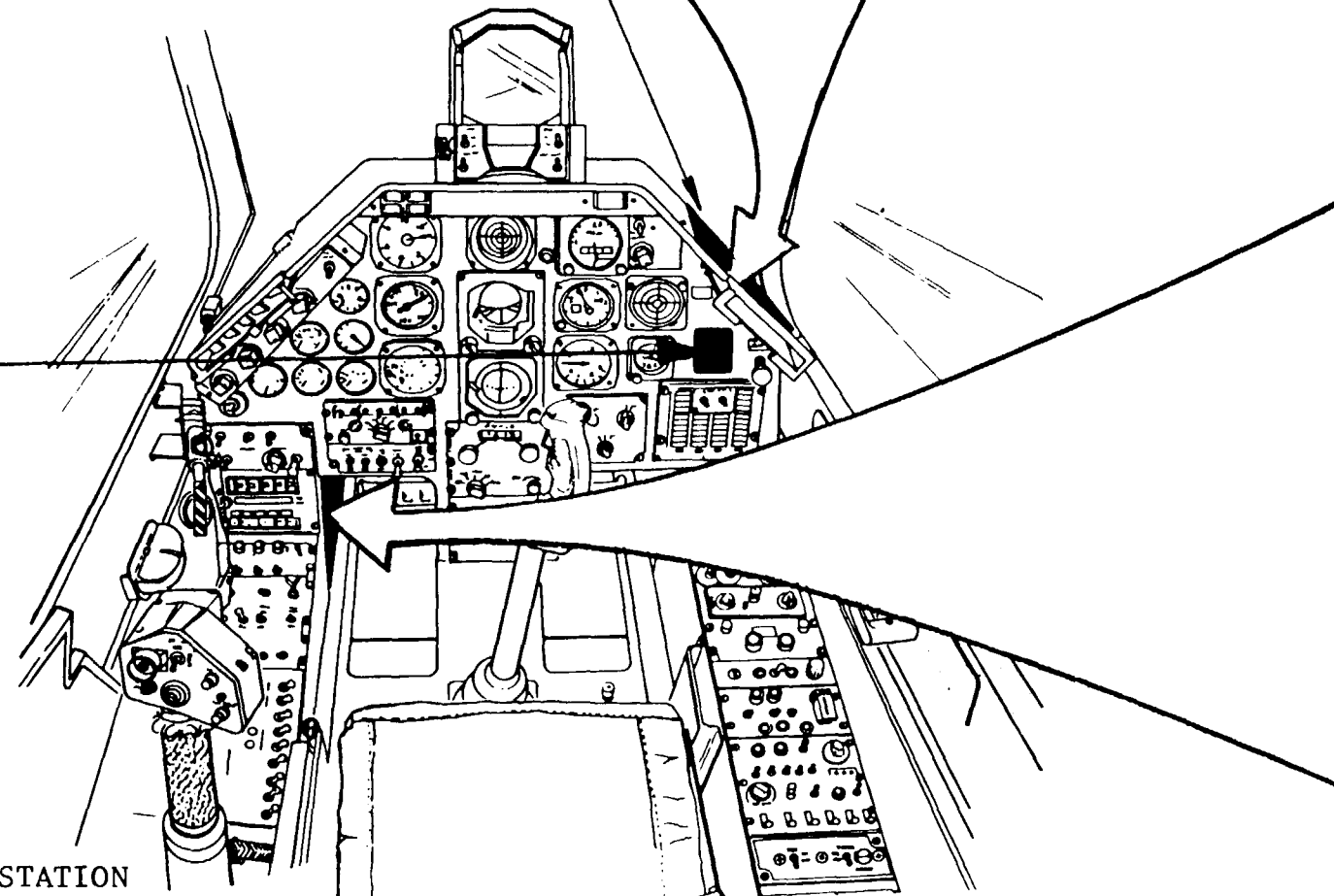
Access Panels
Right Side Glareshield - Removed



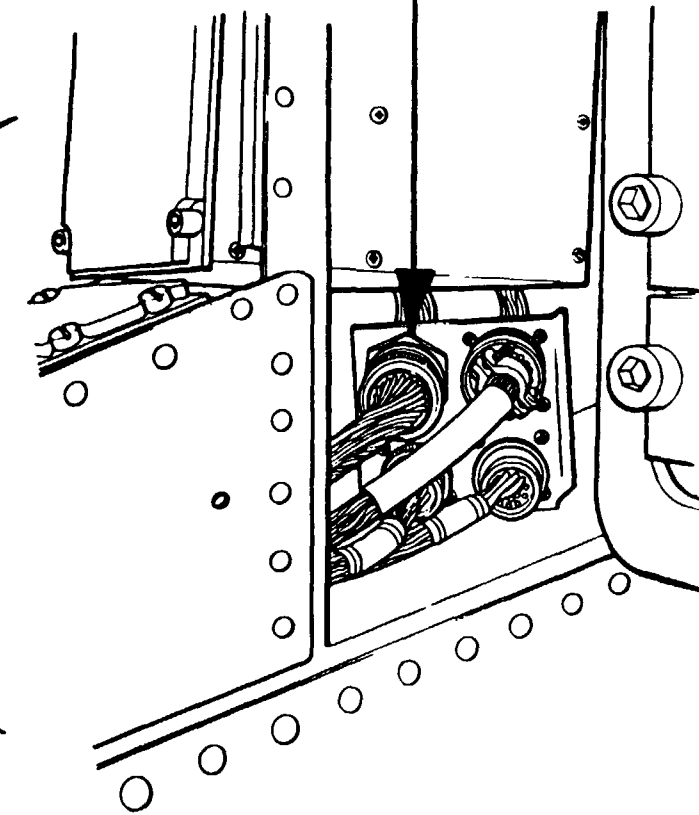
RIGHT SIDE GLARESHIELD



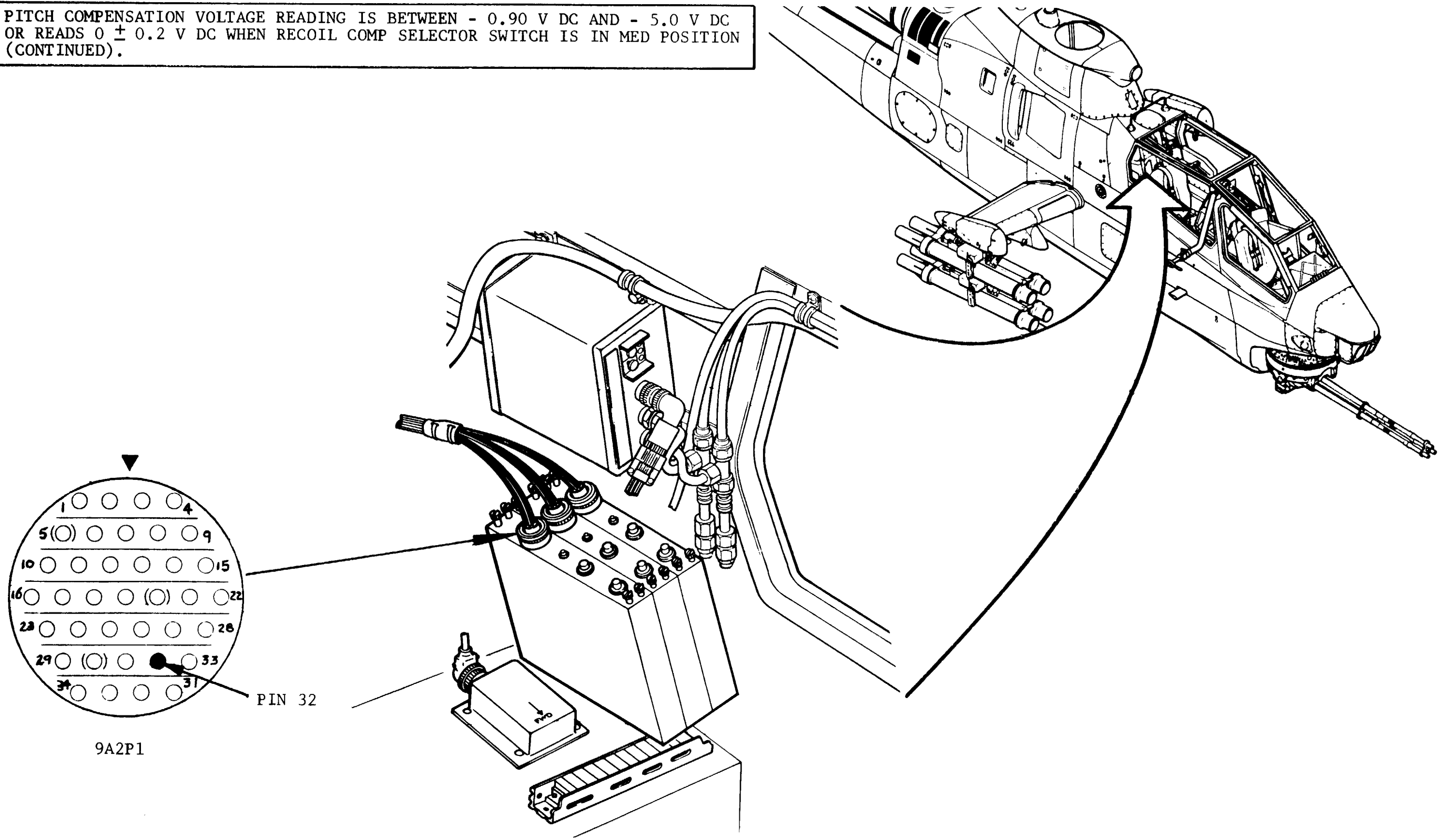
RECOIL COMP SWITCH (9S6)



PILOT STATION

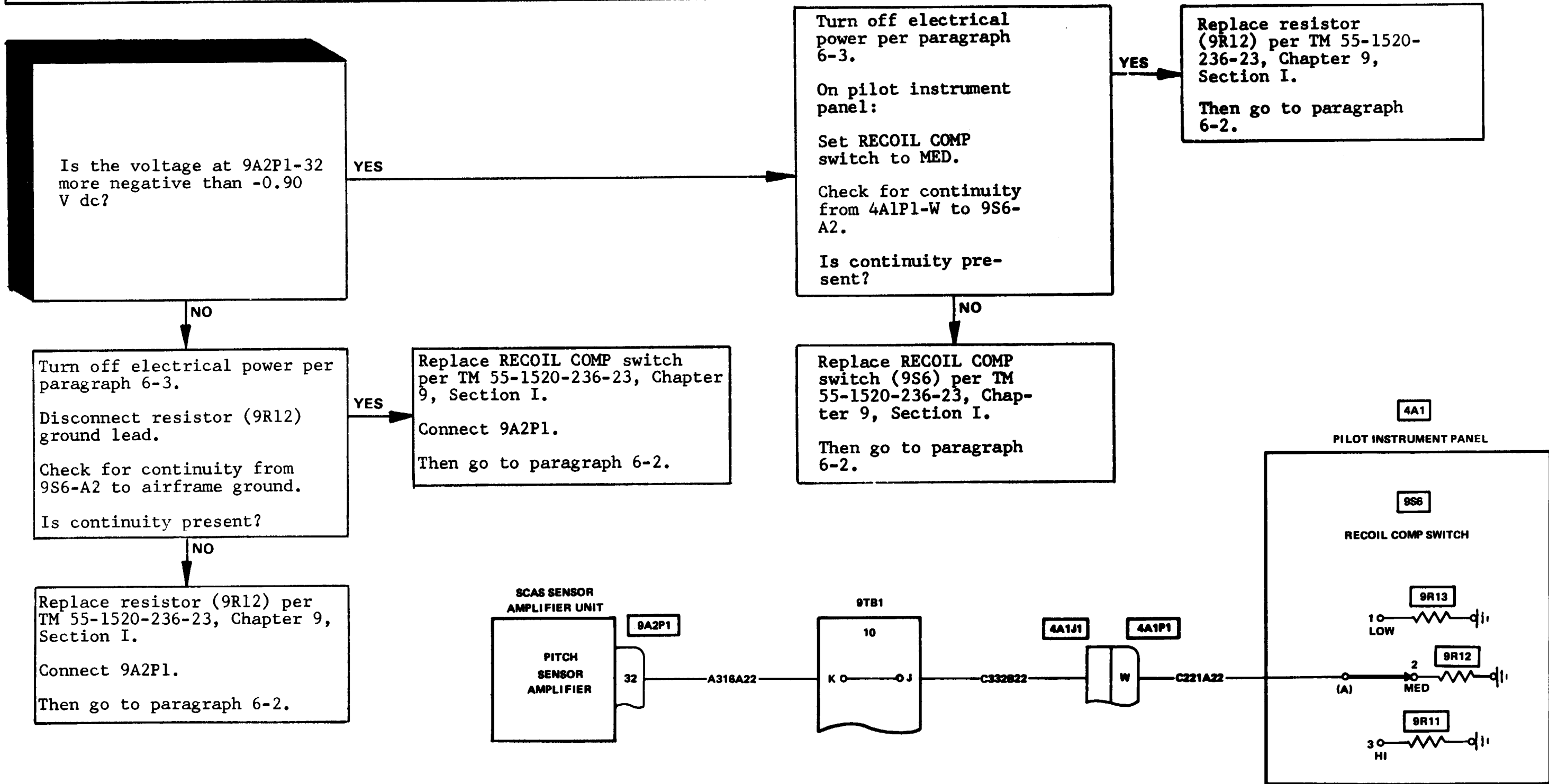


6-43. PITCH COMPENSATION VOLTAGE READING IS BETWEEN - 0.90 V DC AND - 5.0 V DC OR READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN MED POSITION (CONTINUED).



9A2P1

6-43. PITCH COMPENSATION VOLTAGE READING IS BETWEEN - 0.90 V DC AND - 5.0 V DC OR READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN MED POSITION (CONTINUED).



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6-44. PITCH COMPENSATION VOLTAGE READING IS BETWEEN - 0.75 V DC AND -5 V DC OR READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN LOW POSITION.

INITIAL SETUP

Applicable Configuration

All

Tools/Test and Support Equipment

Multimeter

Tool Set, A/C Armament Repairman

Personnel Required

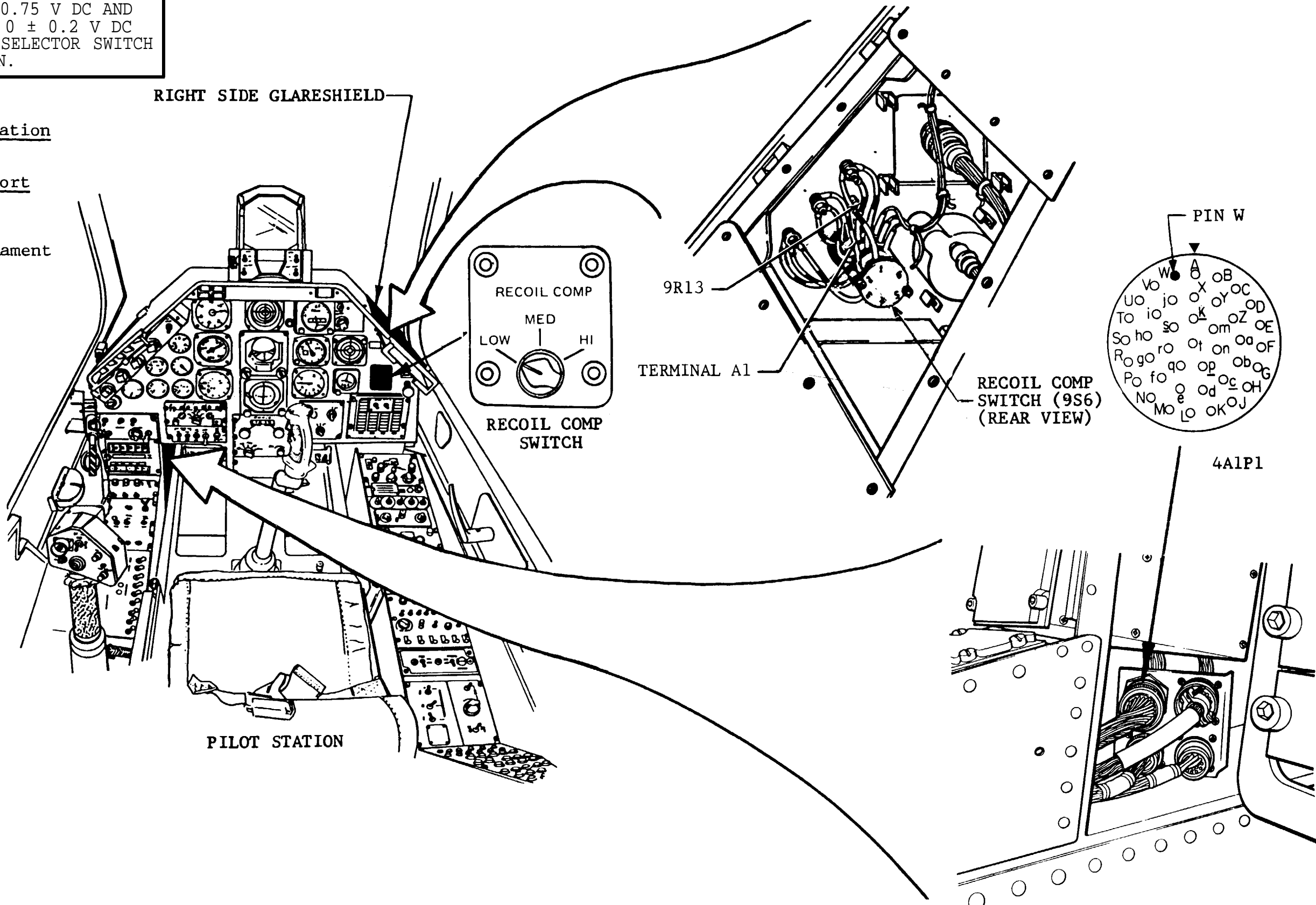
68J (2)

References

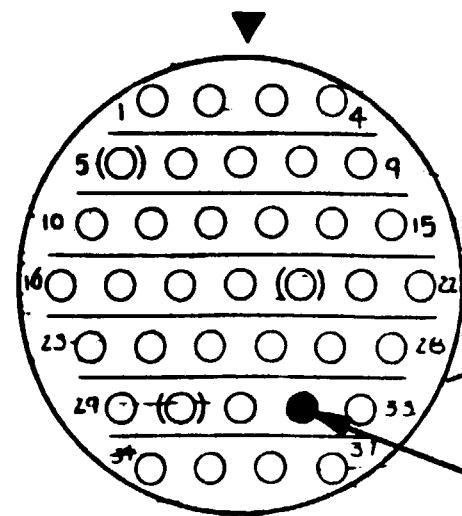
TM 55-1520-236-23

Access Panels

Right Side
Glareshield -
Removed

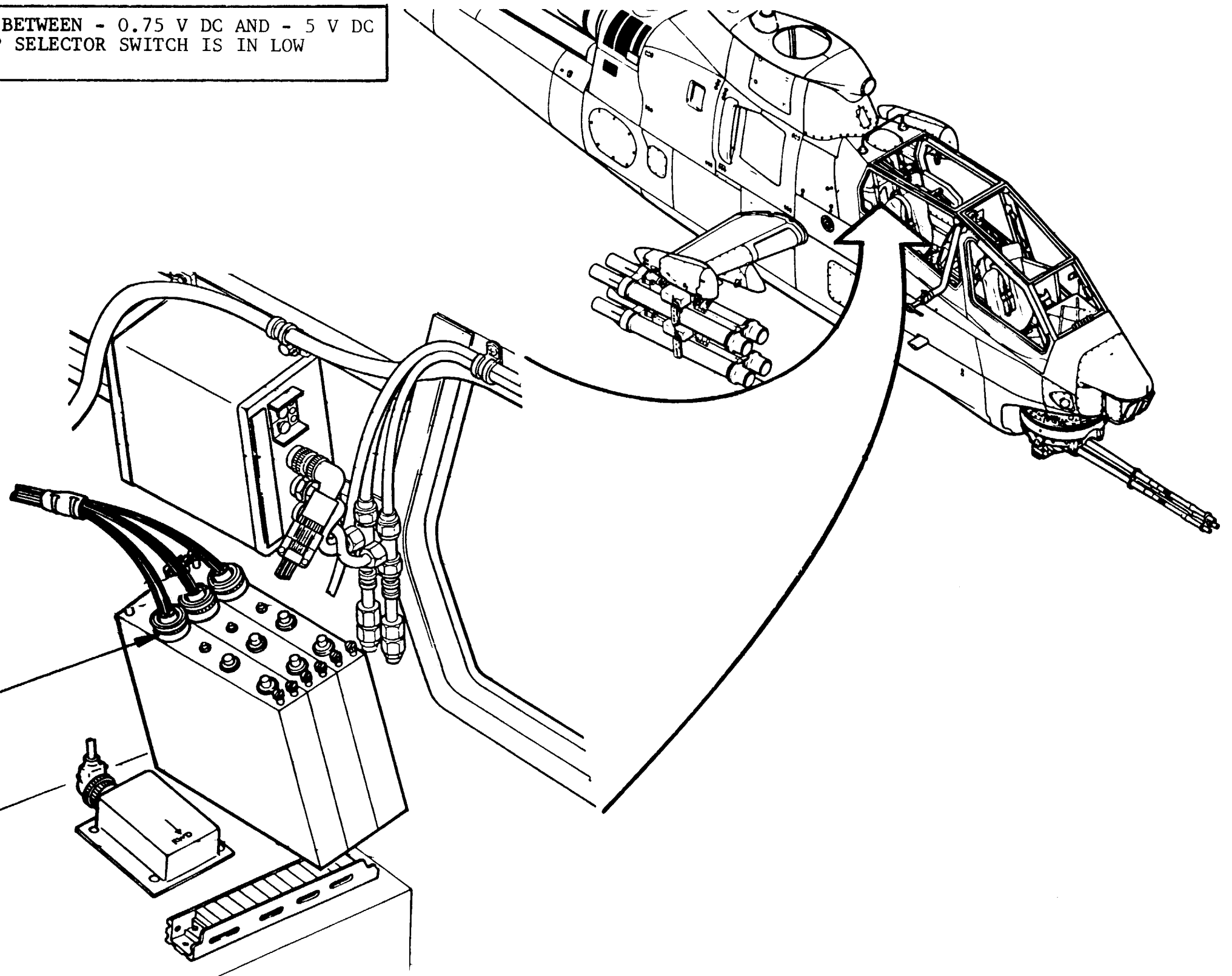


6-44. PITCH COMPENSATION VOLTAGE READING IS BETWEEN - 0.75 V DC AND - 5 V DC OR READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN LOW POSITION (CONTINUED).

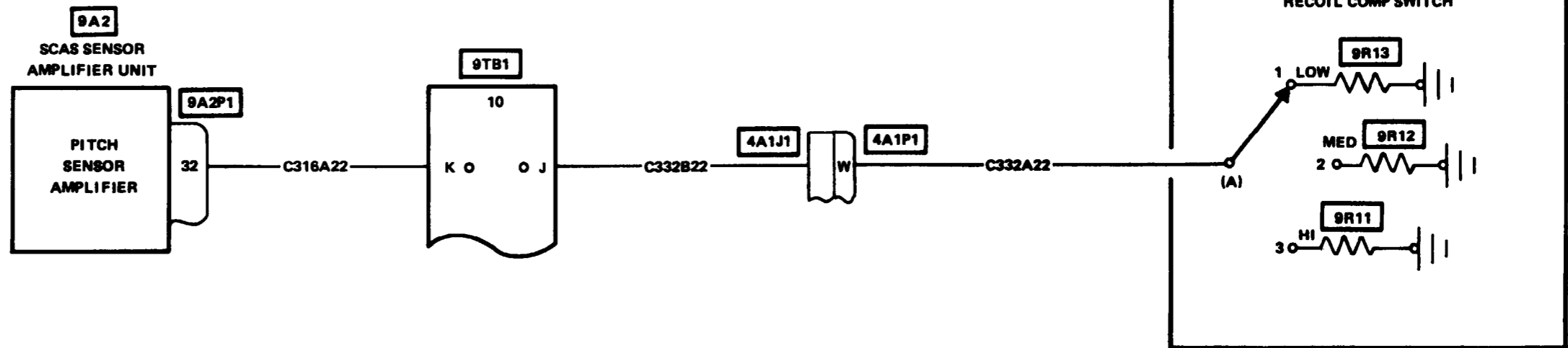
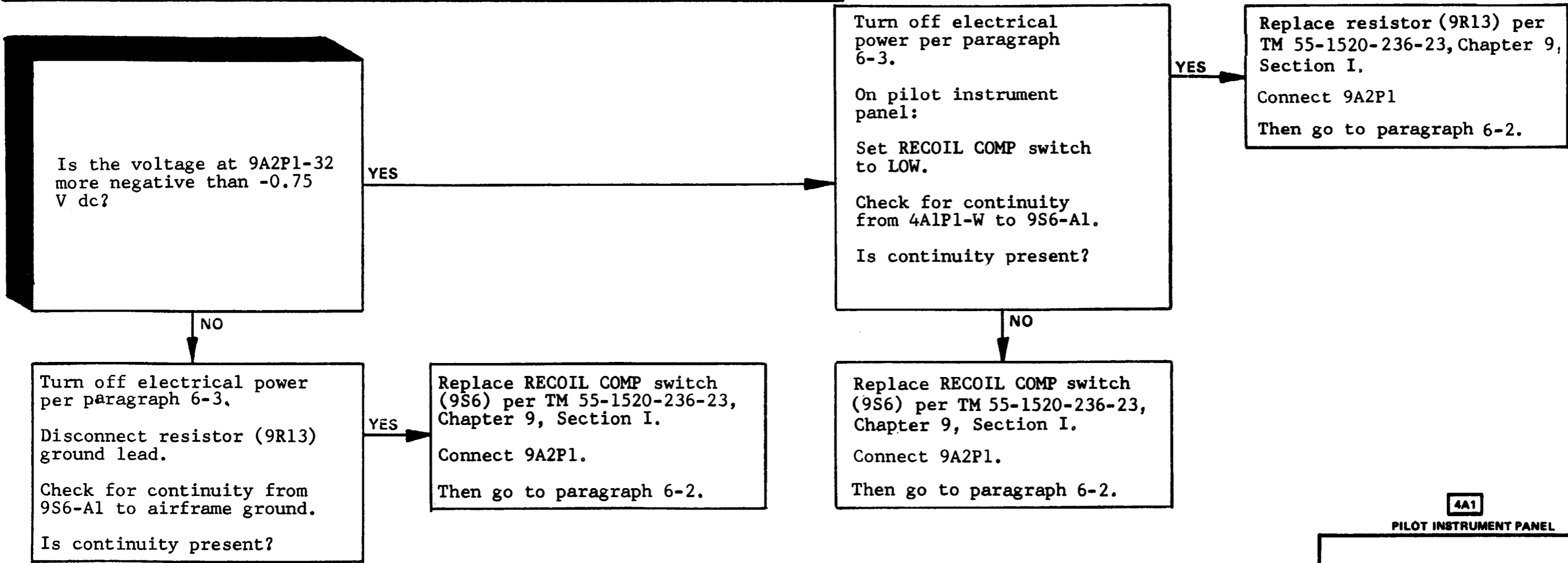


9A2P1

PIN 32



6-44. PITCH COMPENSATION VOLTAGE READING IS BETWEEN - 0.75 V DC AND - 5 V DC OR READS 0 ± 0.2 V DC WHEN RECOIL COMP SELECTOR SWITCH IS IN LOW POSITION (CONTINUED).



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6-45. ROLL COMPENSATION VOLTAGE
TOO HIGH WHEN RECOIL COMP
SELECTOR SWITCH IS IN ANY
POSITION.

INITIAL SETUP

Applicable Configuration
All

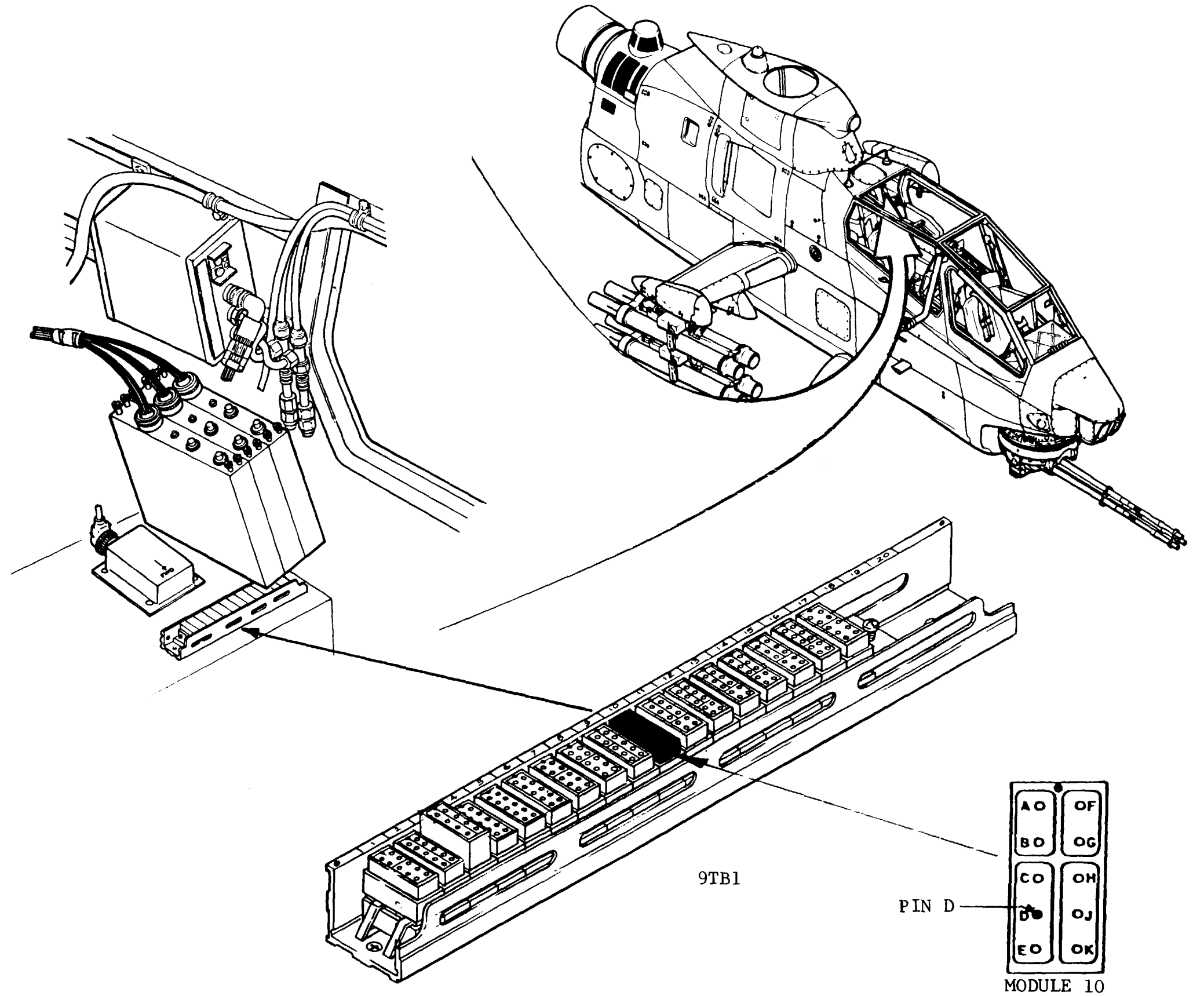
Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

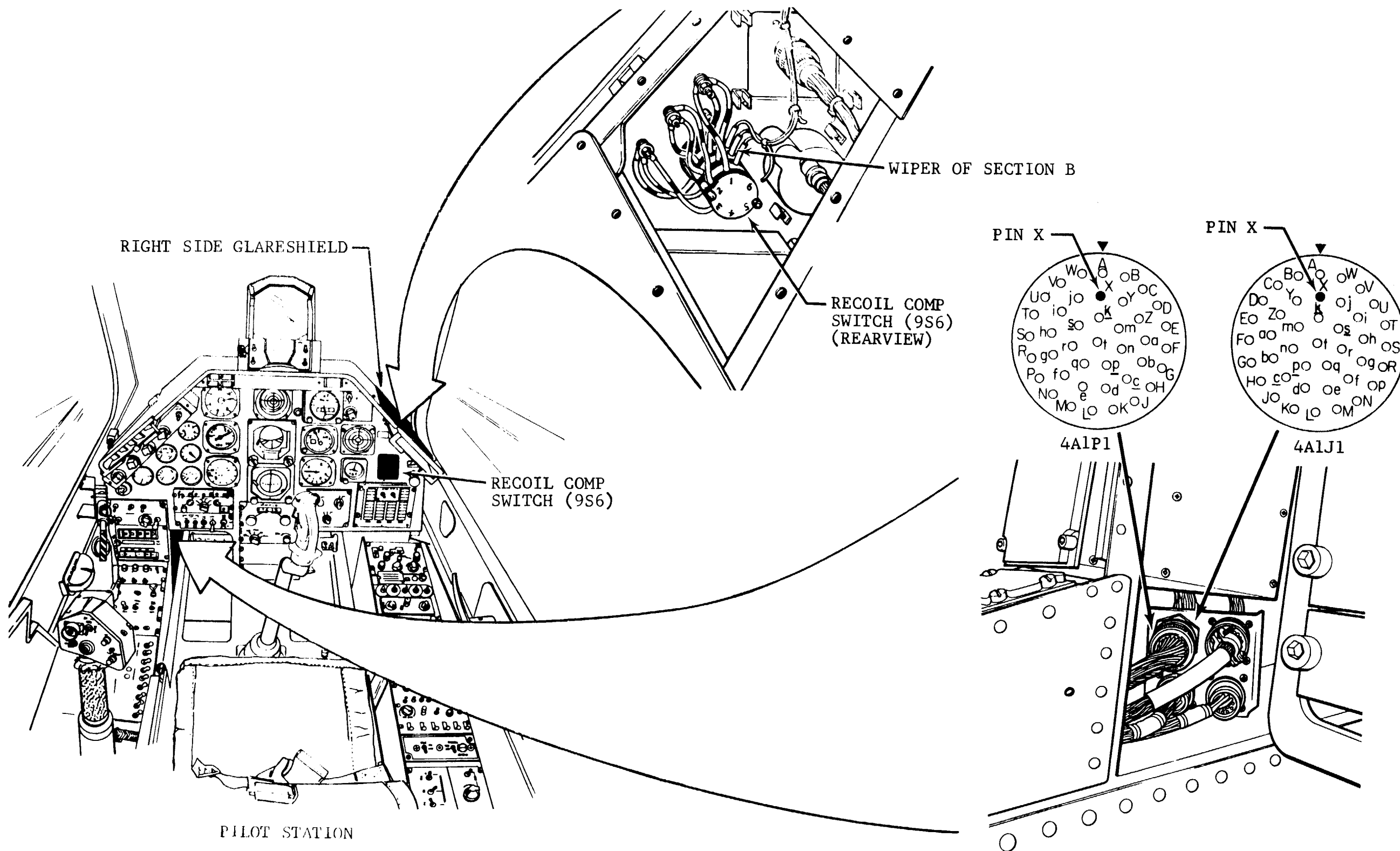
Personnel Required
68J (2)

References
TM 55-1520-236-23

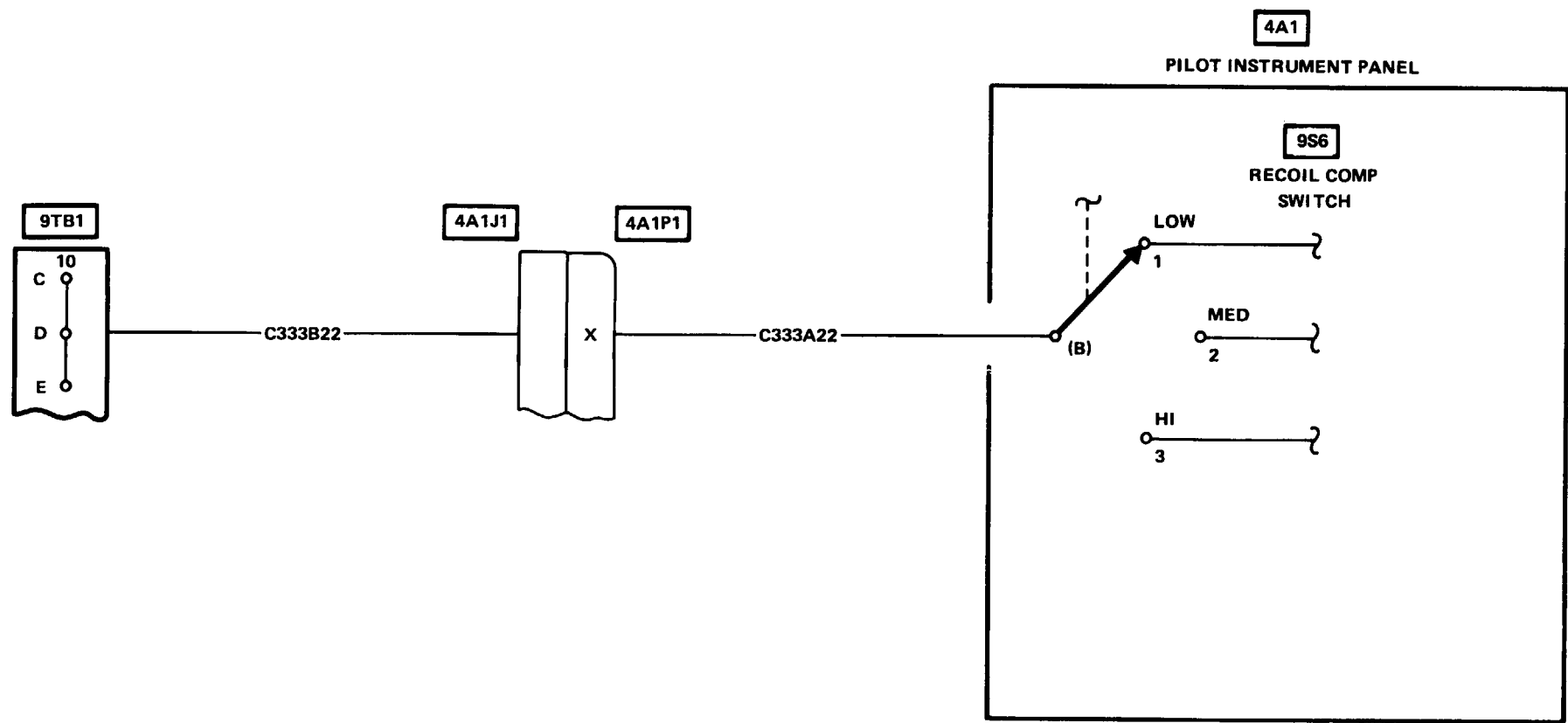
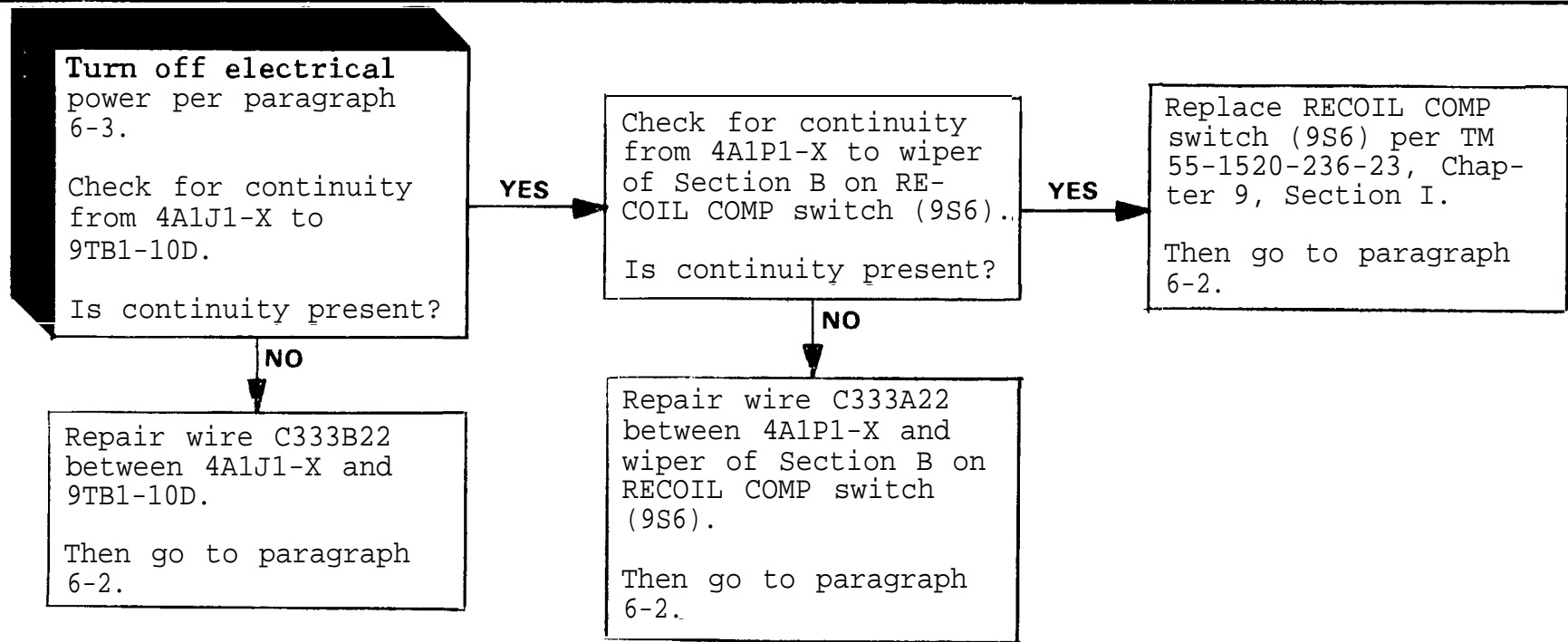
Access Panels
Right Side Glareshield -
Removed



6-45. ROLL COMPENSATION VOLTAGE TOO HIGH WHEN RECOIL COMP SELECTOR SWITCH IS IN ANY POSITION
(CONTINUED).



6-45. ROLL COMPENSATION VOLTAGE TOO HIGH WHEN RECOIL COMP SELECTOR SWITCH IS IN ANY POSITION
(CONTINUED).



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6-46. YAW COMPENSATION VOLTAGE TOO HIGH WHEN RECOIL COMP SELECTOR SWITCH IS IN ANY POSITION.

INITIAL SETUP

Applicable Configuration
All

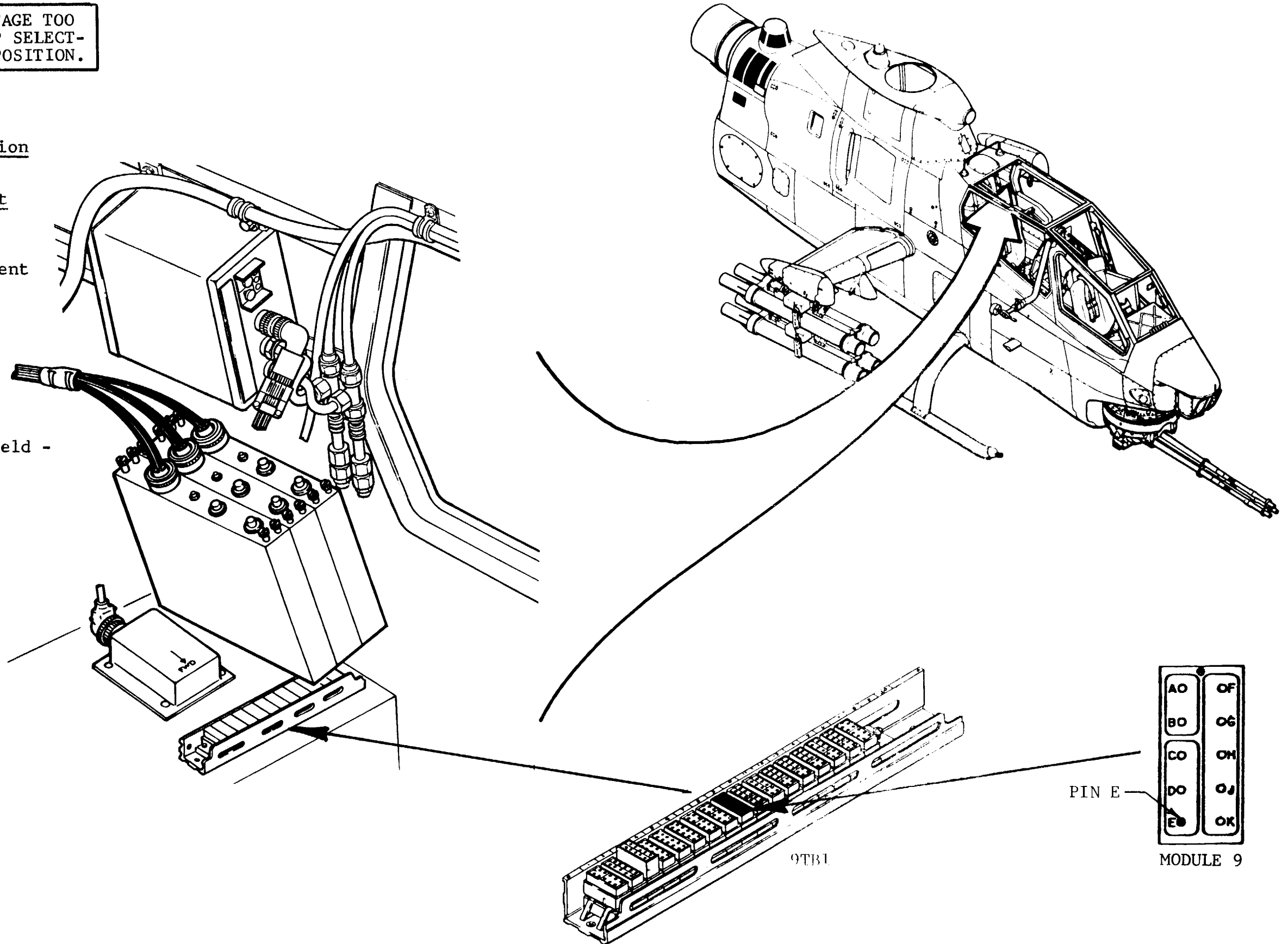
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

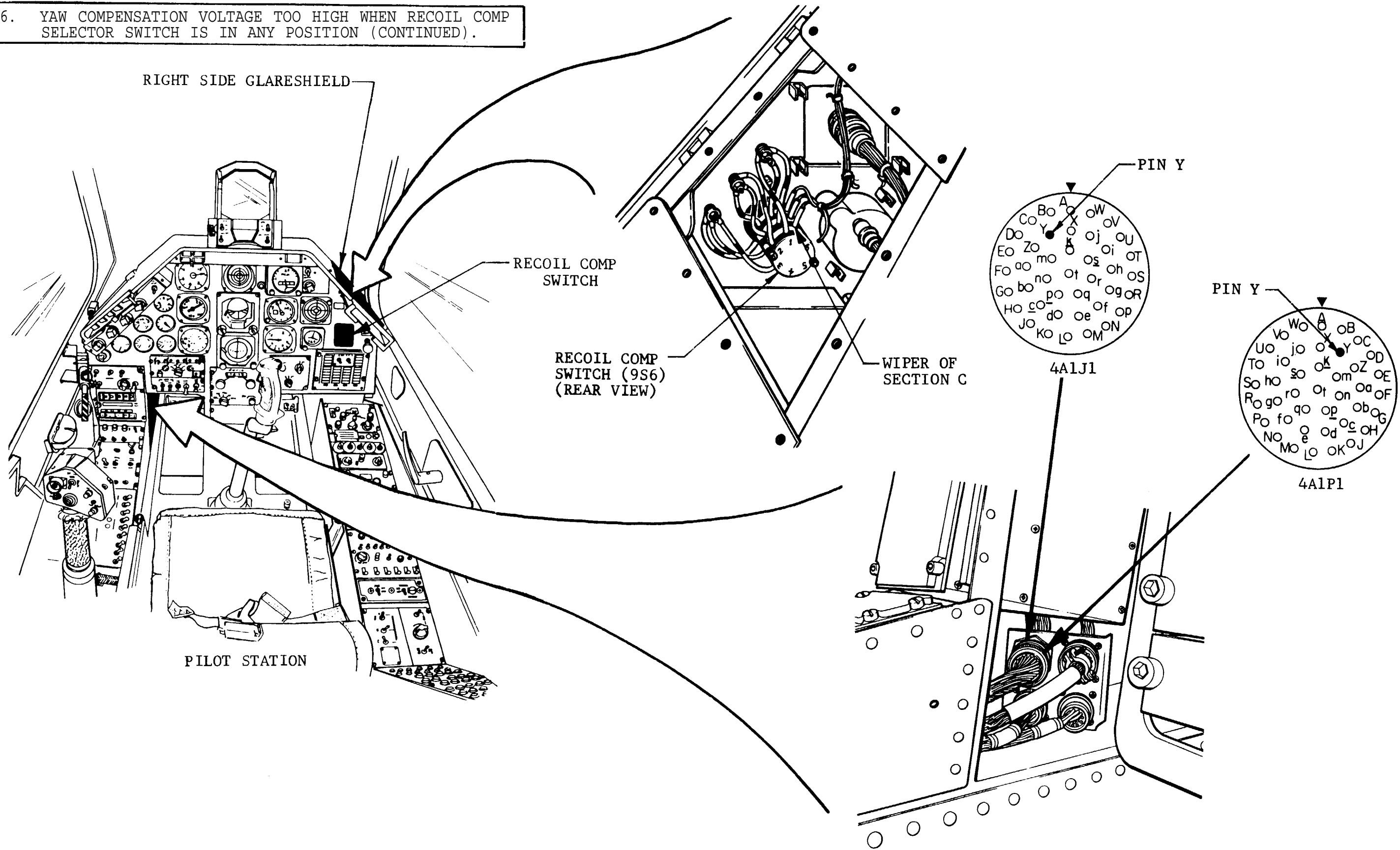
Personnel Required
68J (2)

References
TM 55-1520-236-23

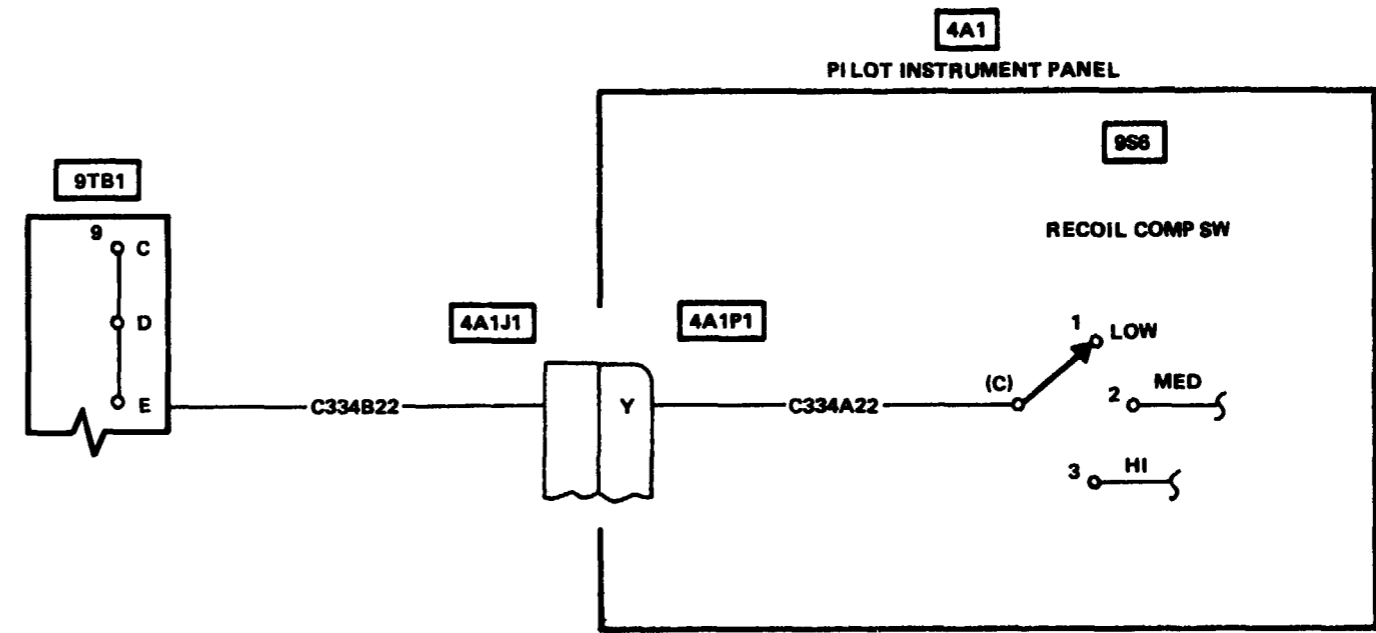
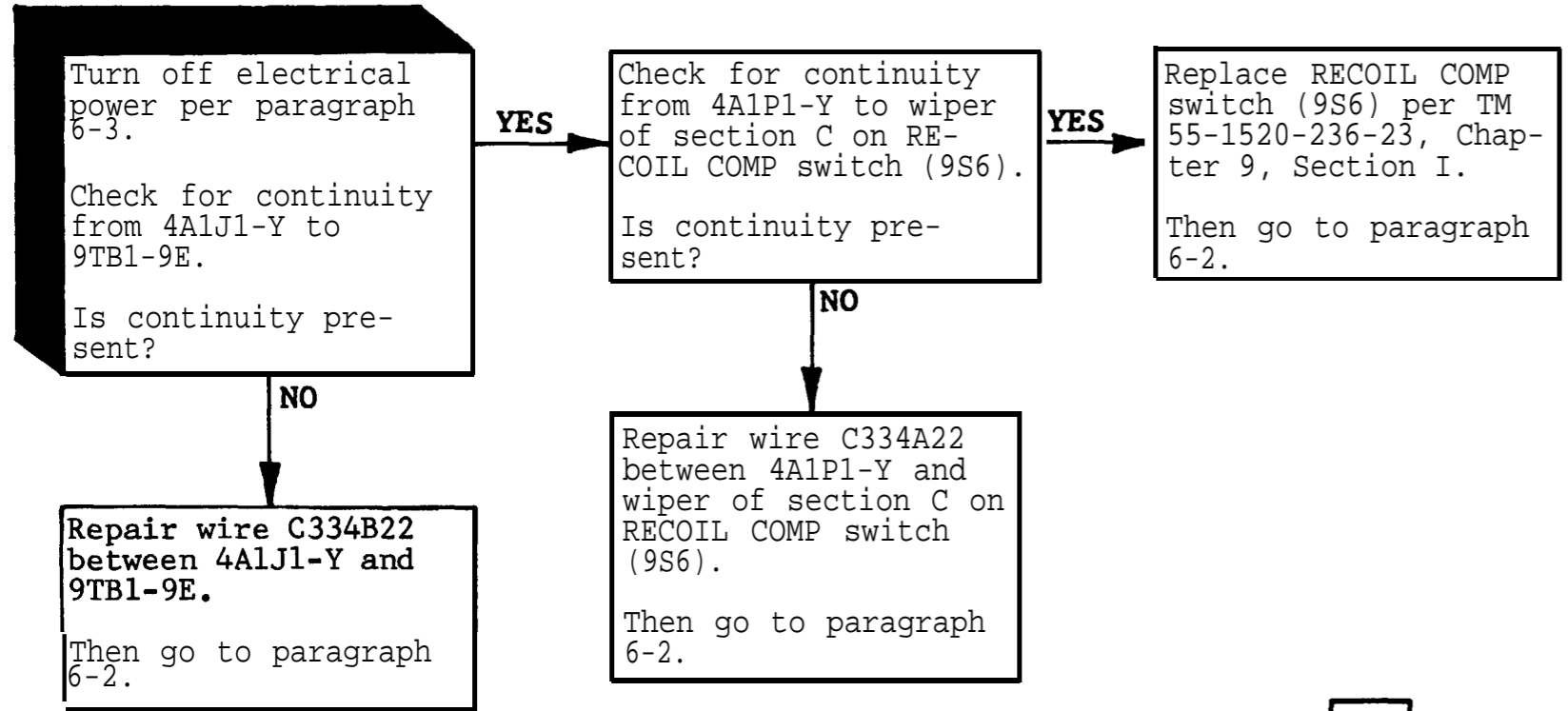
Access Panels
Right Side Glareshield -
Removed



6-46. YAW COMPENSATION VOLTAGE TOO HIGH WHEN RECOIL COMP SELECTOR SWITCH IS IN ANY POSITION (CONTINUED).



6-46. YAW COMPENSATION VOLTAGE TOO HIGH WHEN RECOIL COMP SELECTOR SWITCH IS IN ANY POSITION (CONTINUED).



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6-47. PITCH COMPENSATION VOLTAGE TOO HIGH WHEN RECOIL COMP SELECTOR SWITCH IS IN ANY POSITION.

INITIAL SETUP

Applicable Configuration
All

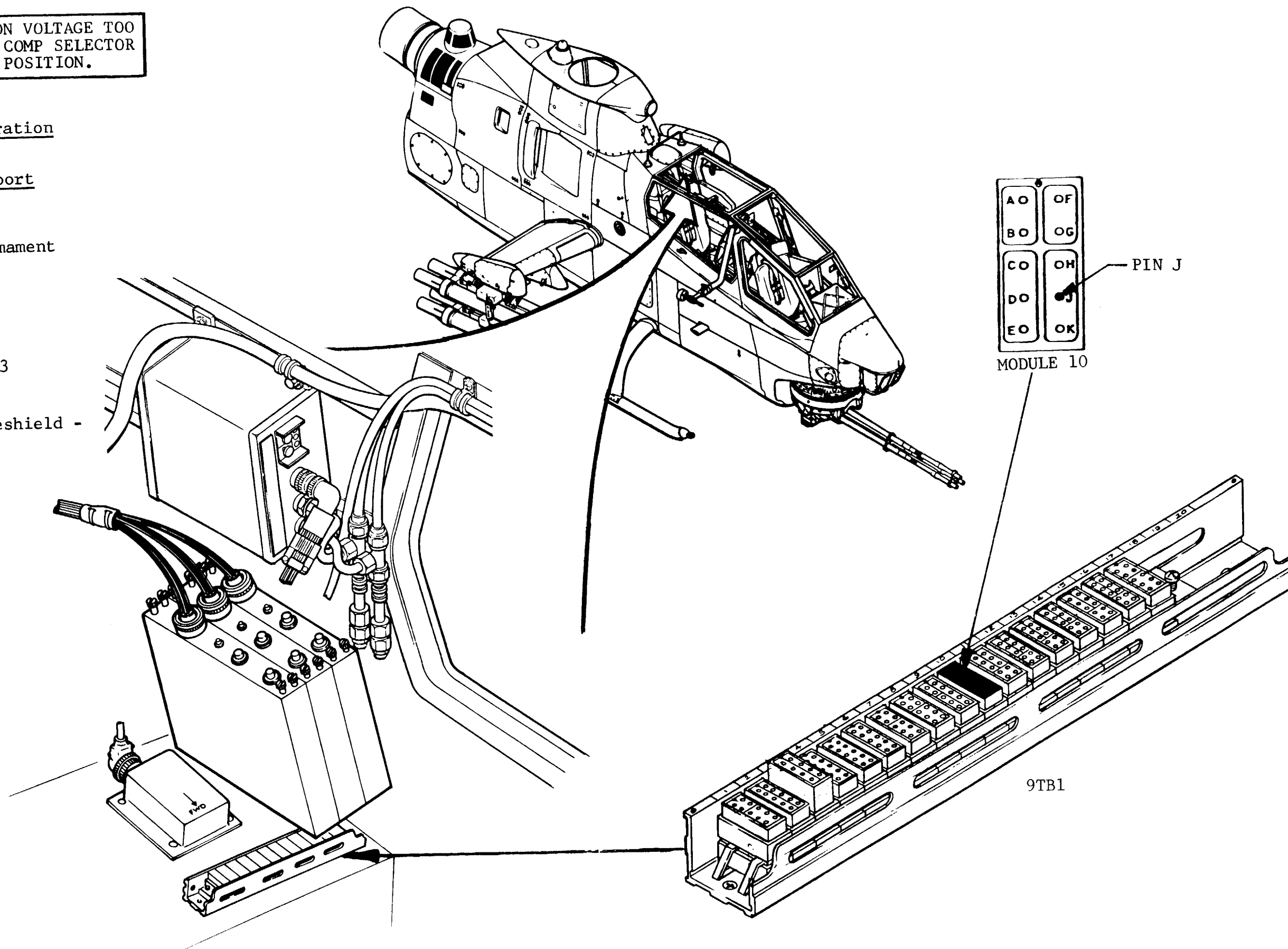
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

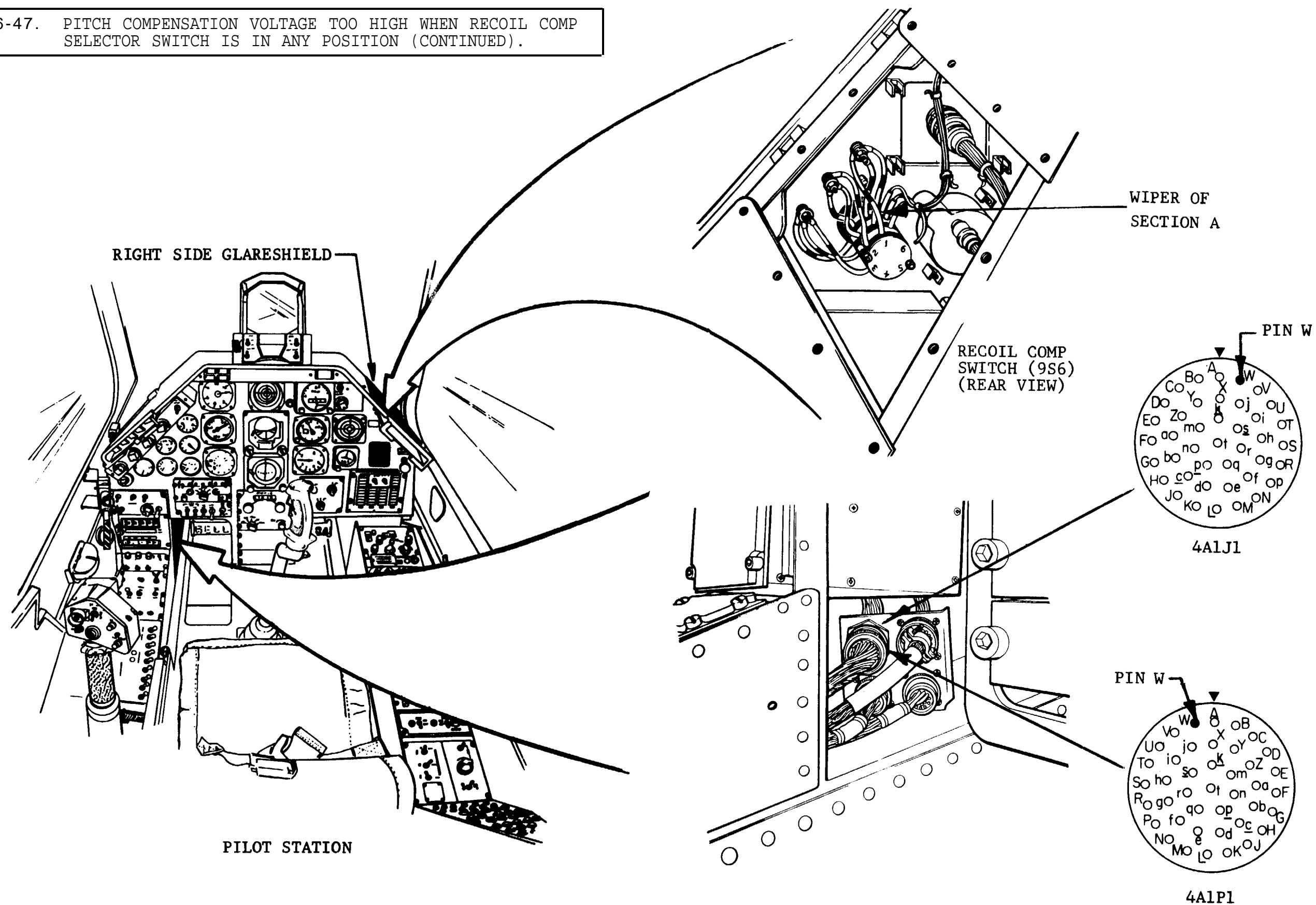
Personnel Required
68J (2)

References
TM 55-1520-236-23

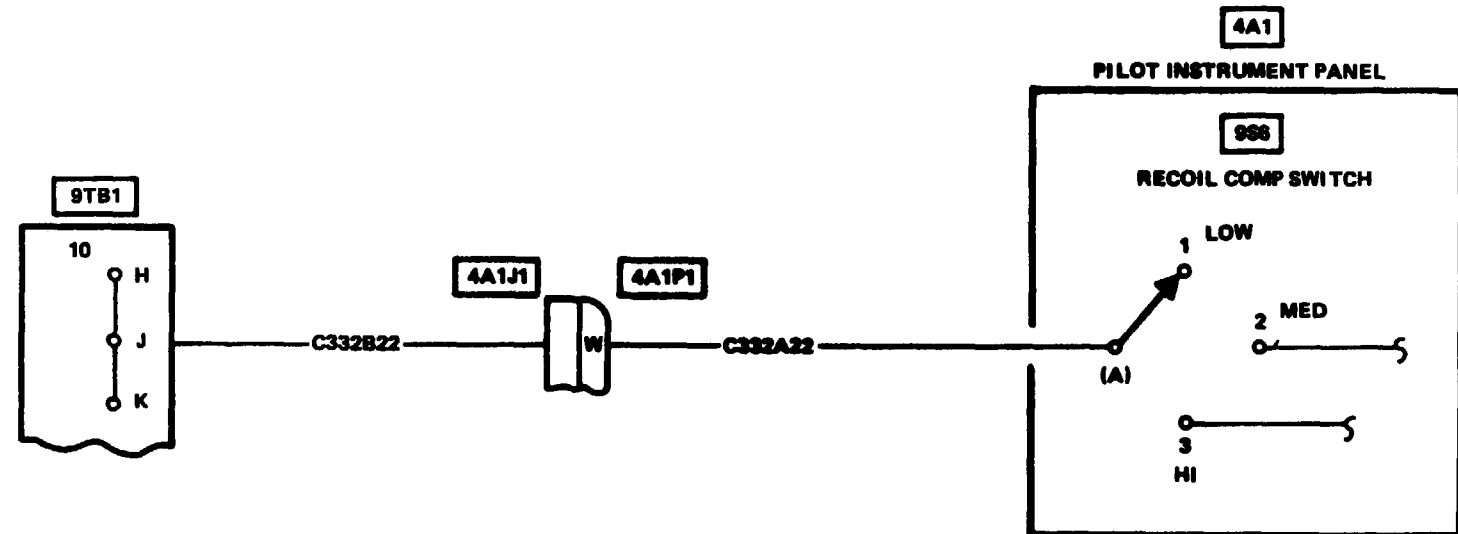
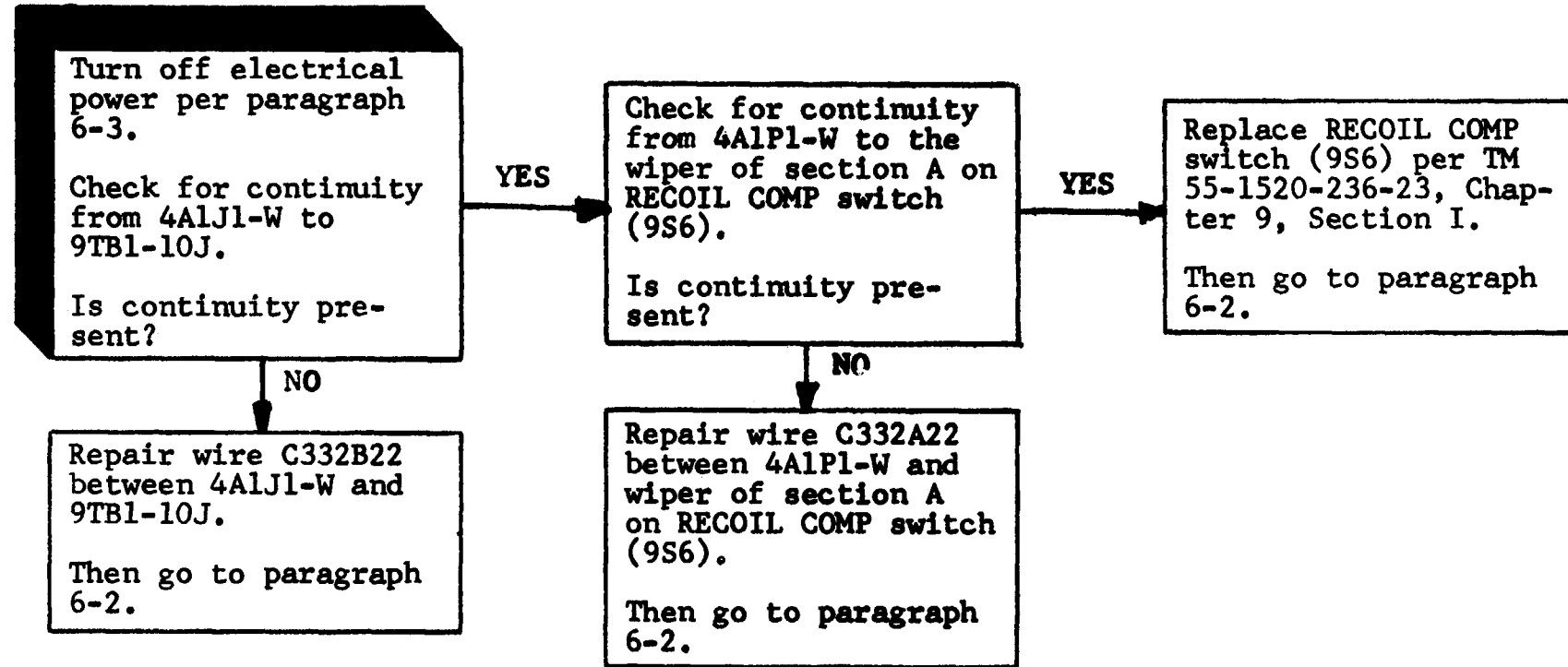
Access Panels
Right Side Glareshield - Removed



6-47. PITCH COMPENSATION VOLTAGE TOO HIGH WHEN RECOIL COMP SELECTOR SWITCH IS IN ANY POSITION (CONTINUED).



6-47. PITCH COMPENSATION VOLTAGE TOO HIGH WHEN RECOIL COMP SELECTOR SWITCH IS IN ANY POSITION (CONTINUED).



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6-48. NO ROLL OR YAW COMPENSATION
VOLTAGE, PITCH COMPENSATION
VOLTAGE NORMAL.

INITIAL SETUP

Applicable Configuration
Digital Voltmeter

Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

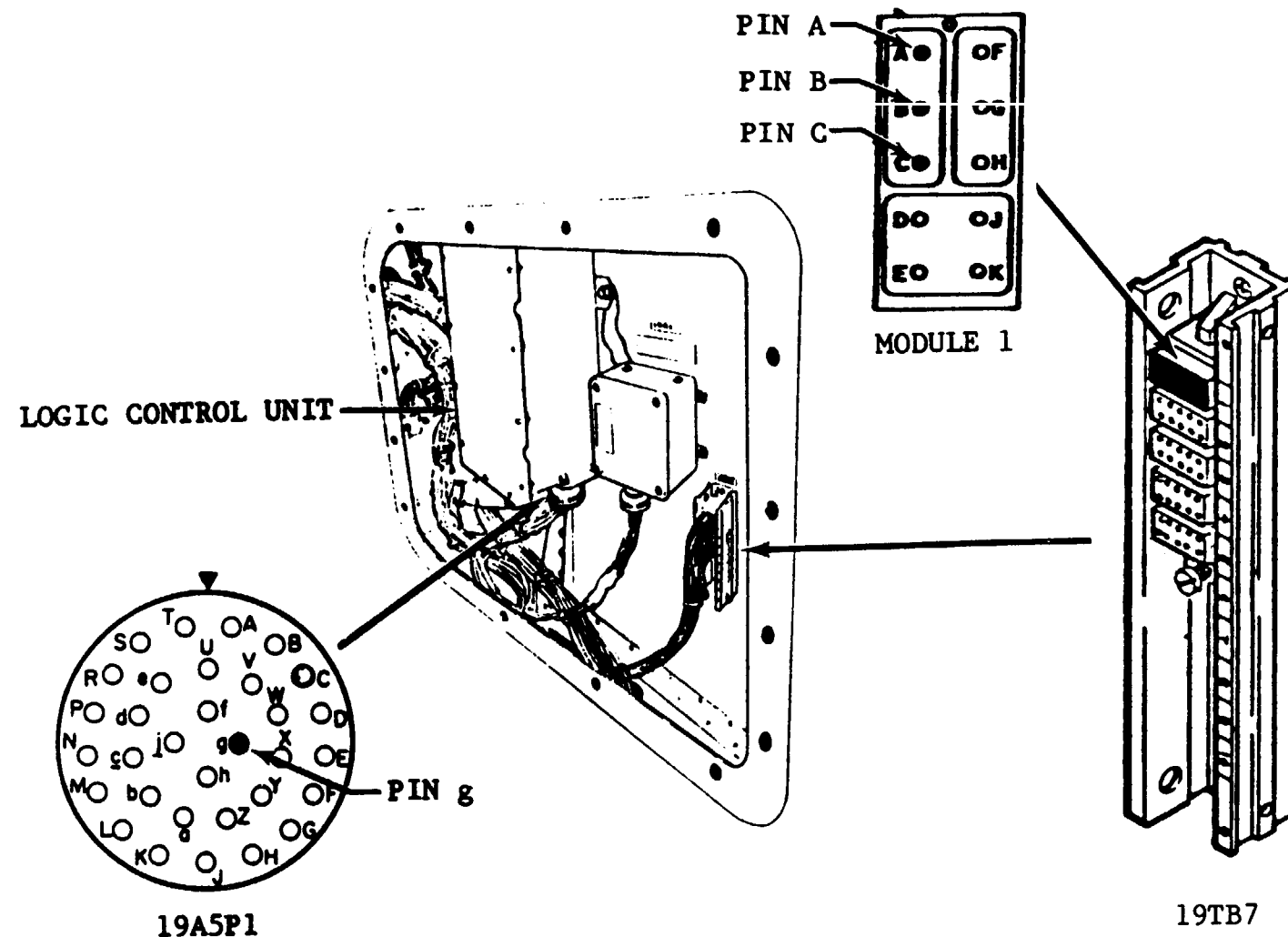
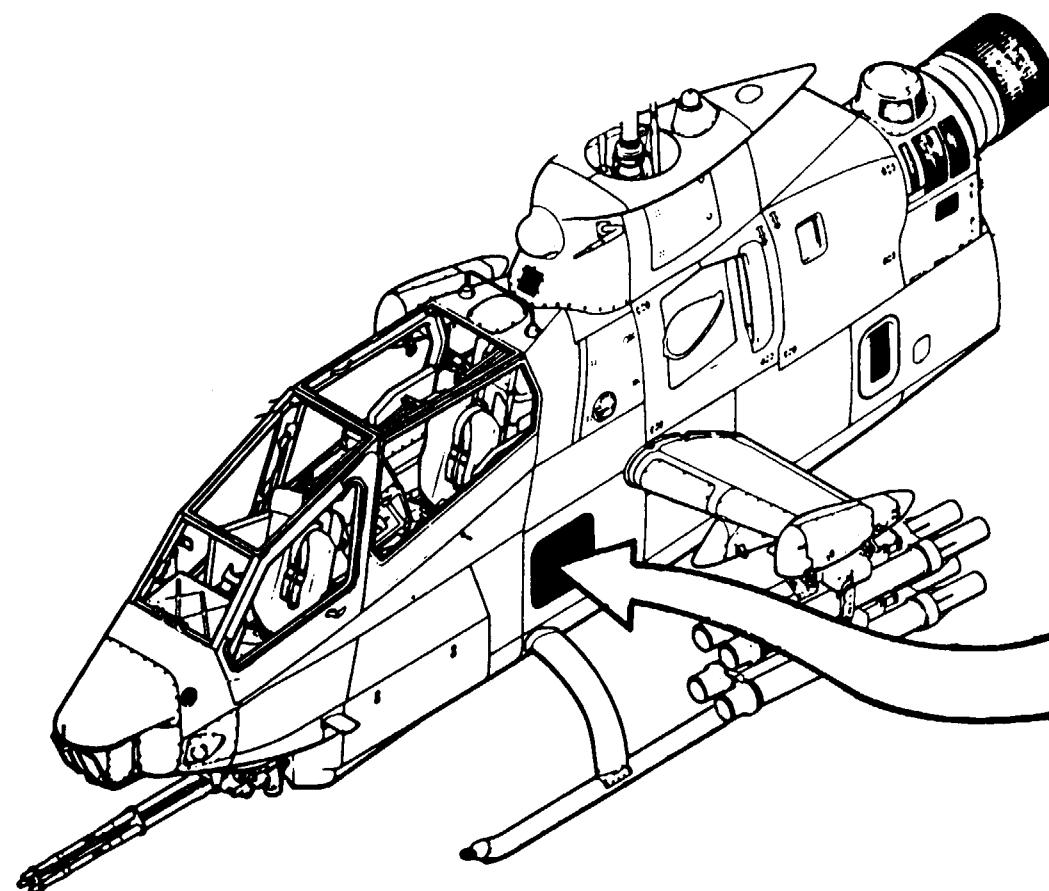
References

TM 9-1090-206-20-1
TM 55-1520-236-23

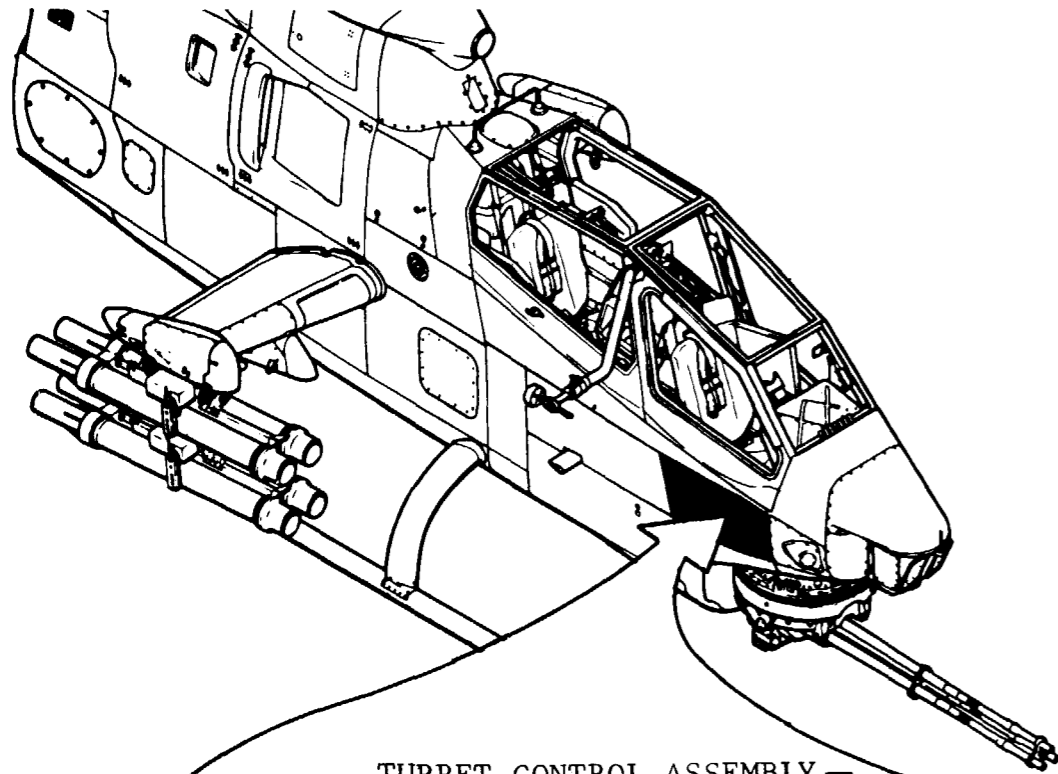
Access Panels

Forward Right Side Control
Linkage - Removed

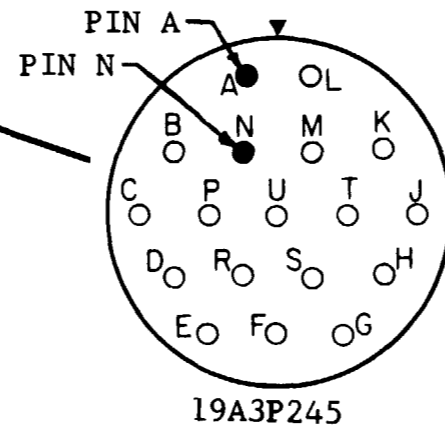
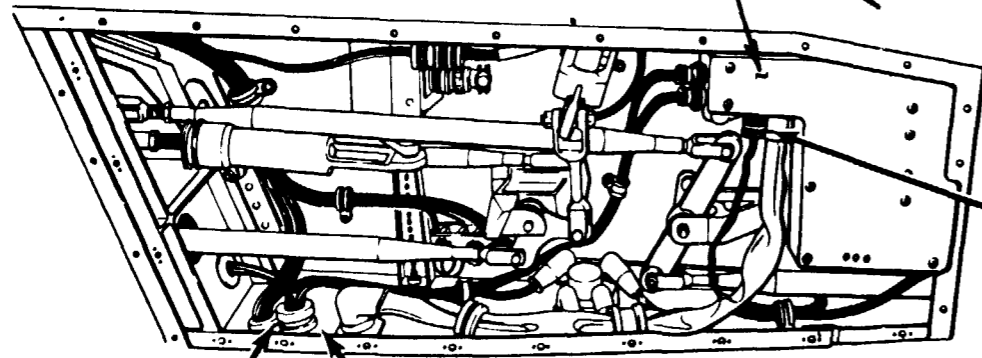
Logic Control and Sensor
Amplifier Access - Removed



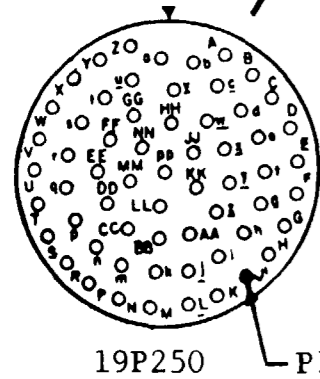
6-48. No ROLL OR YAW COMPENSATION VOLTAGE, PITCH COMPENSAION VOLTAGE NORMAL (CONTINUED).



TURRET CONTROL ASSEMBLY

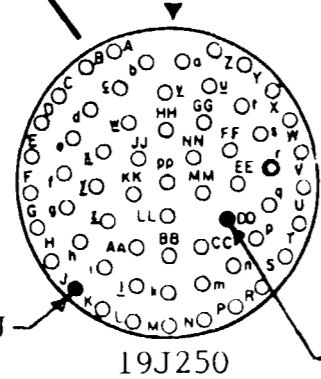


19A3P245



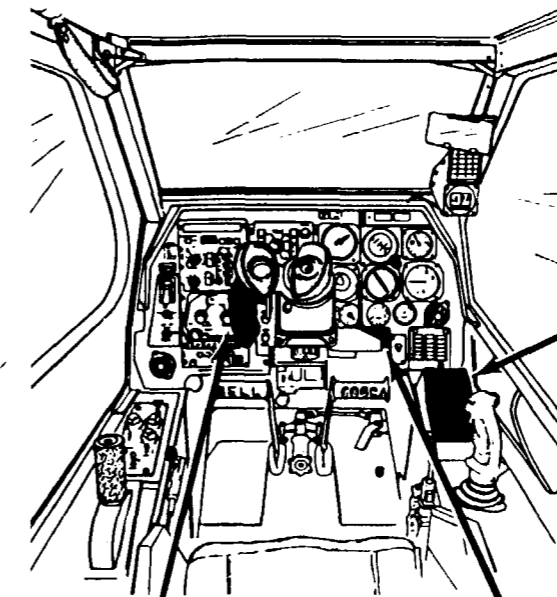
19P250

PIN J
PIN J

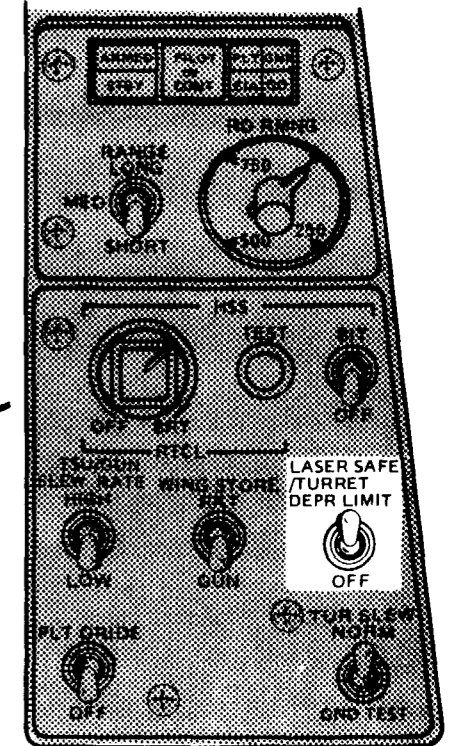


19J250

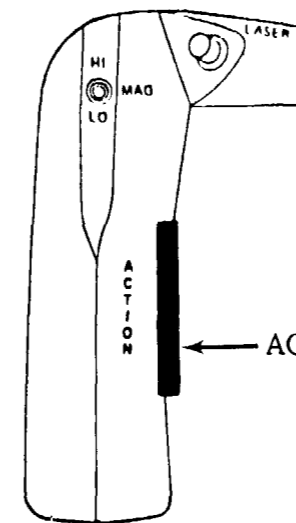
PIN DD



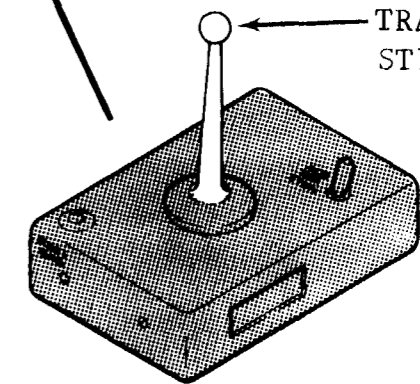
GUNNER STATION



GUNNER ARMAMENT CONTROL PANEL



LEFT HAND GRIP

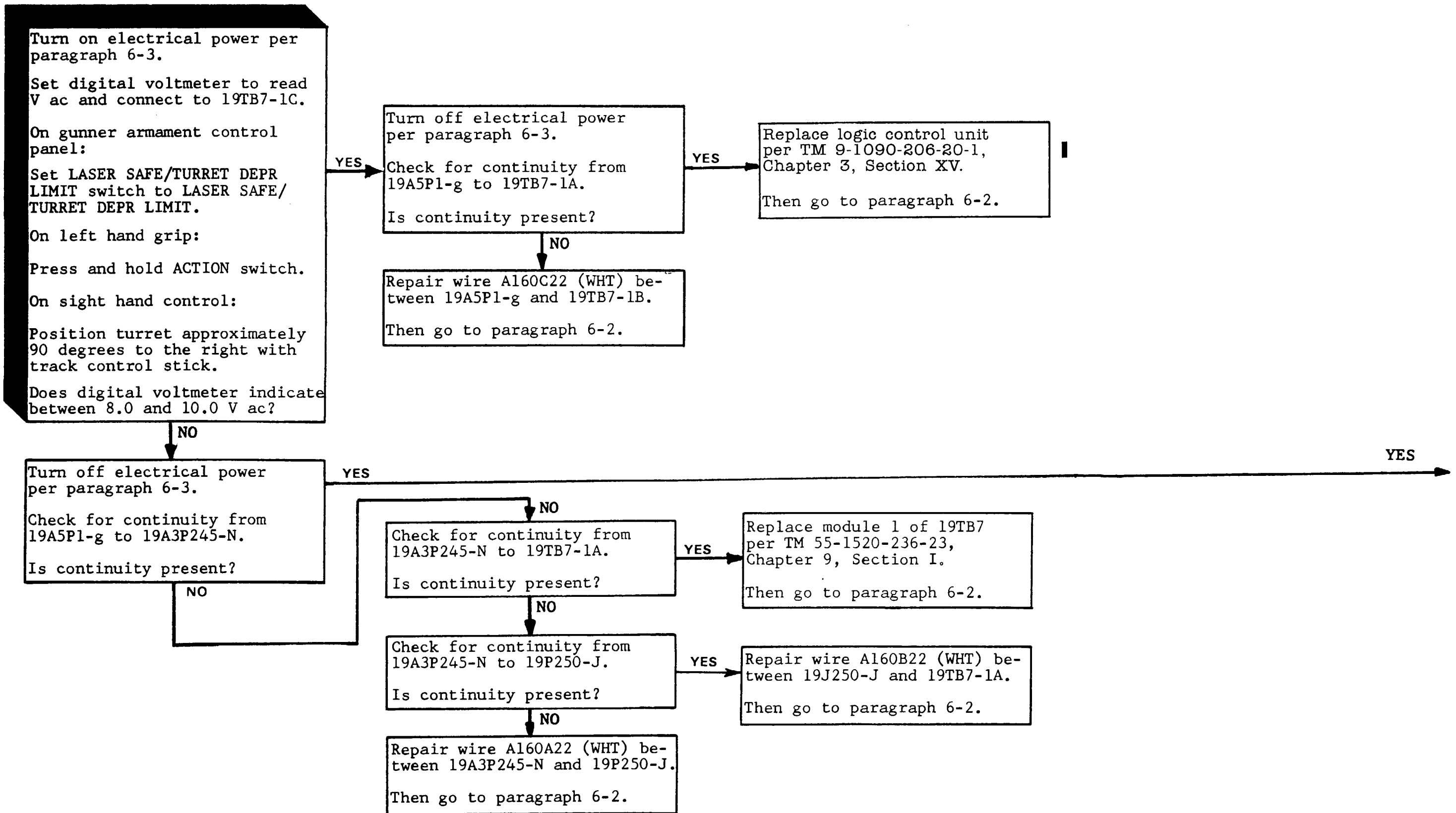


SIGHT HAND CONTROL

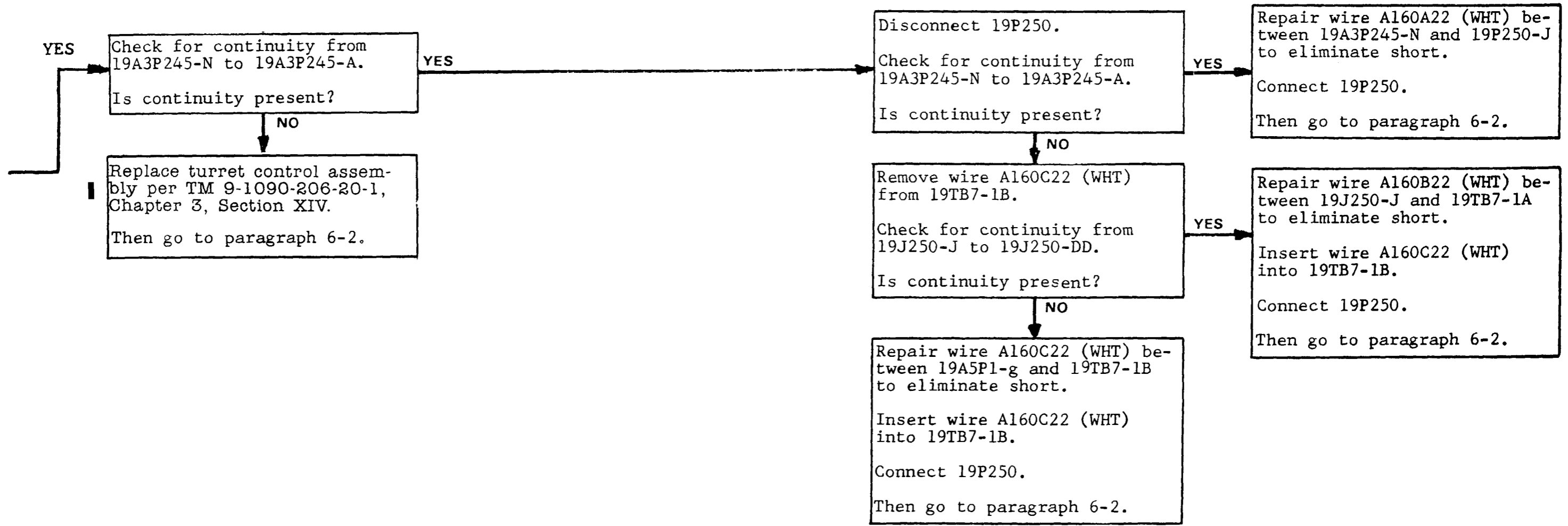
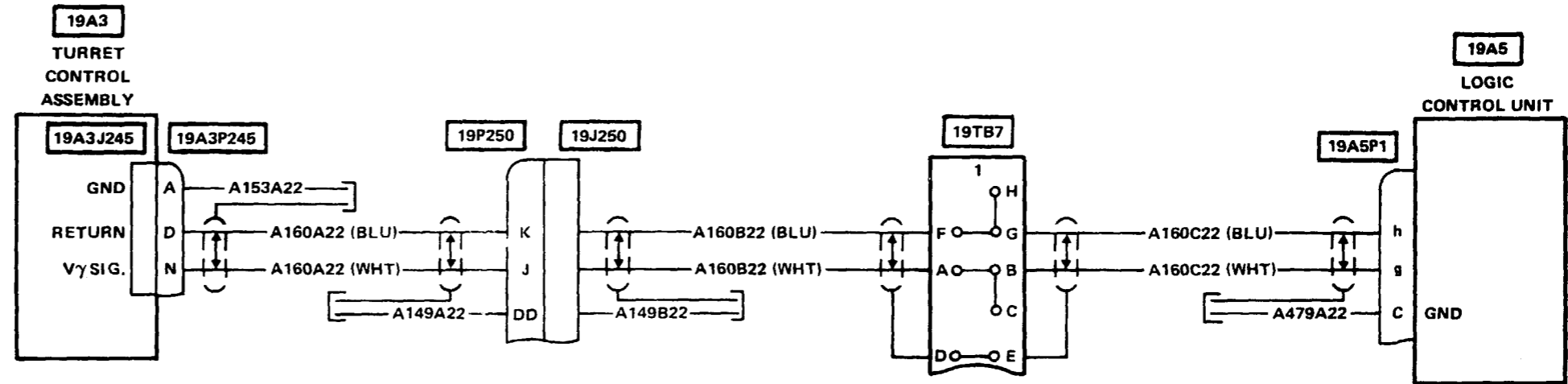
TRACK CONTROL STICK

ACTION SWITCH

6-48. NO ROLL OR YAW COMPENSATION VOLTAGE. PITCH COMPENSATION VOLTAGE NORMAL (CONTINUED).



6-48. NO ROLL OR YAW COMPENSATION VOLTAGE, PITCH COMPENSATION VOLTAGE NORMAL (CONTINUED).



6-49. NO ARMAMENT COMPENSATION VOLTAGE IN ANY AXIS.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

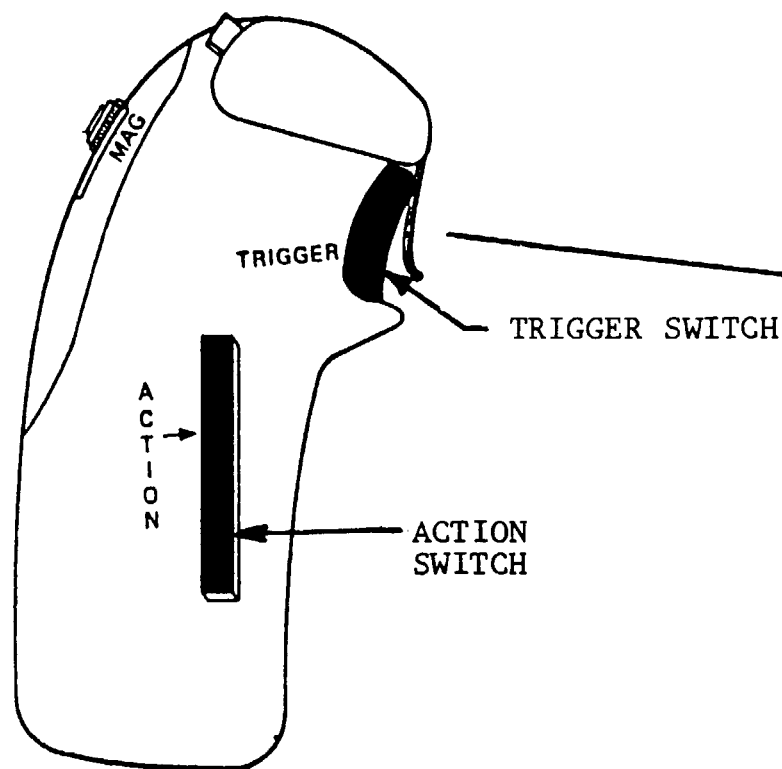
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

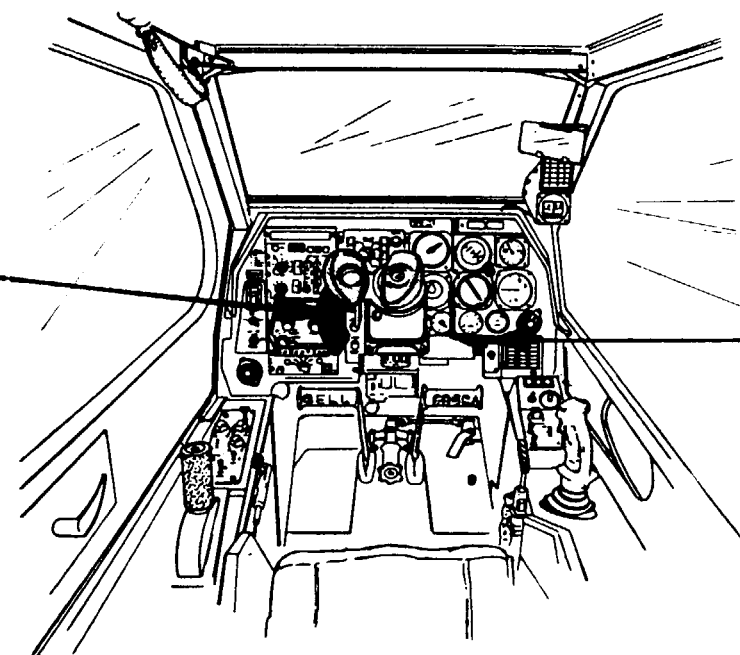
References
TM 9-1090-206-20-1
TM 55-1520-236-23

Access Panels
Logic Control Unit -
Removed

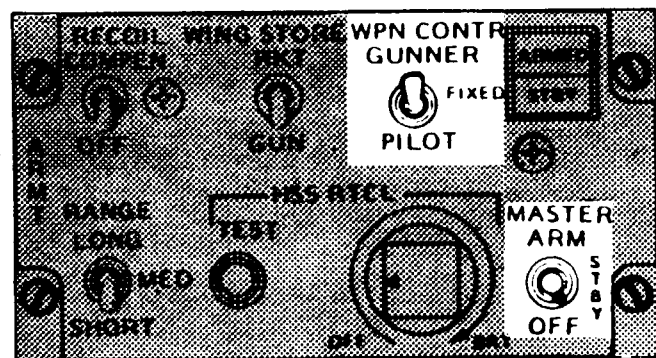
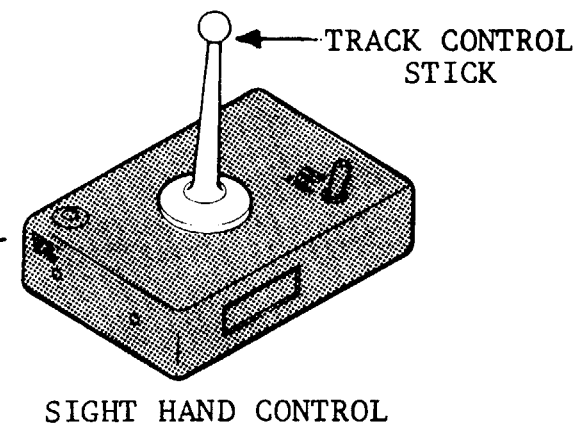
Turret Fairing -
Removed



LEFT HAND GRIP
(RIGHT SIDE VIEW)



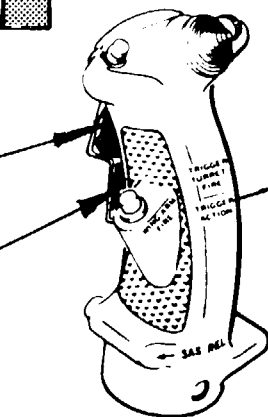
GUNNER STATION



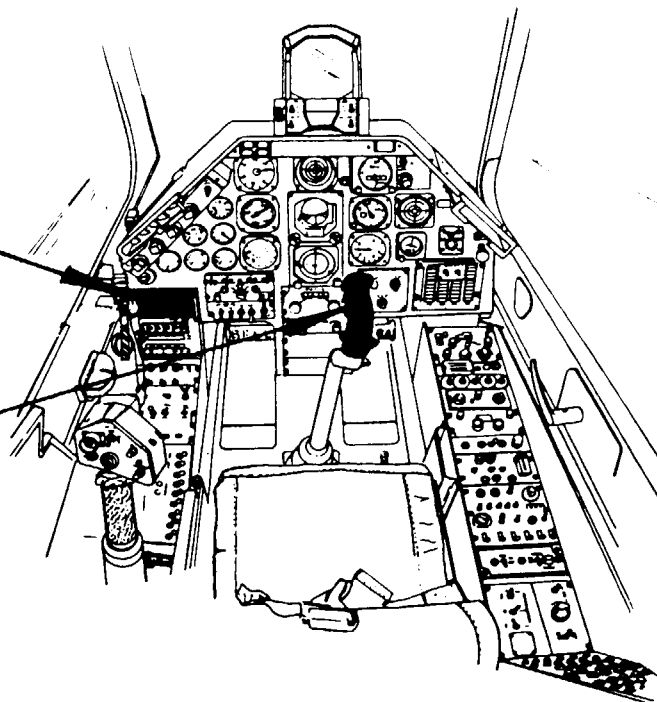
PILOT ARMT CONTROL PANEL

TRIGGER TURRET FIRE SWITCH

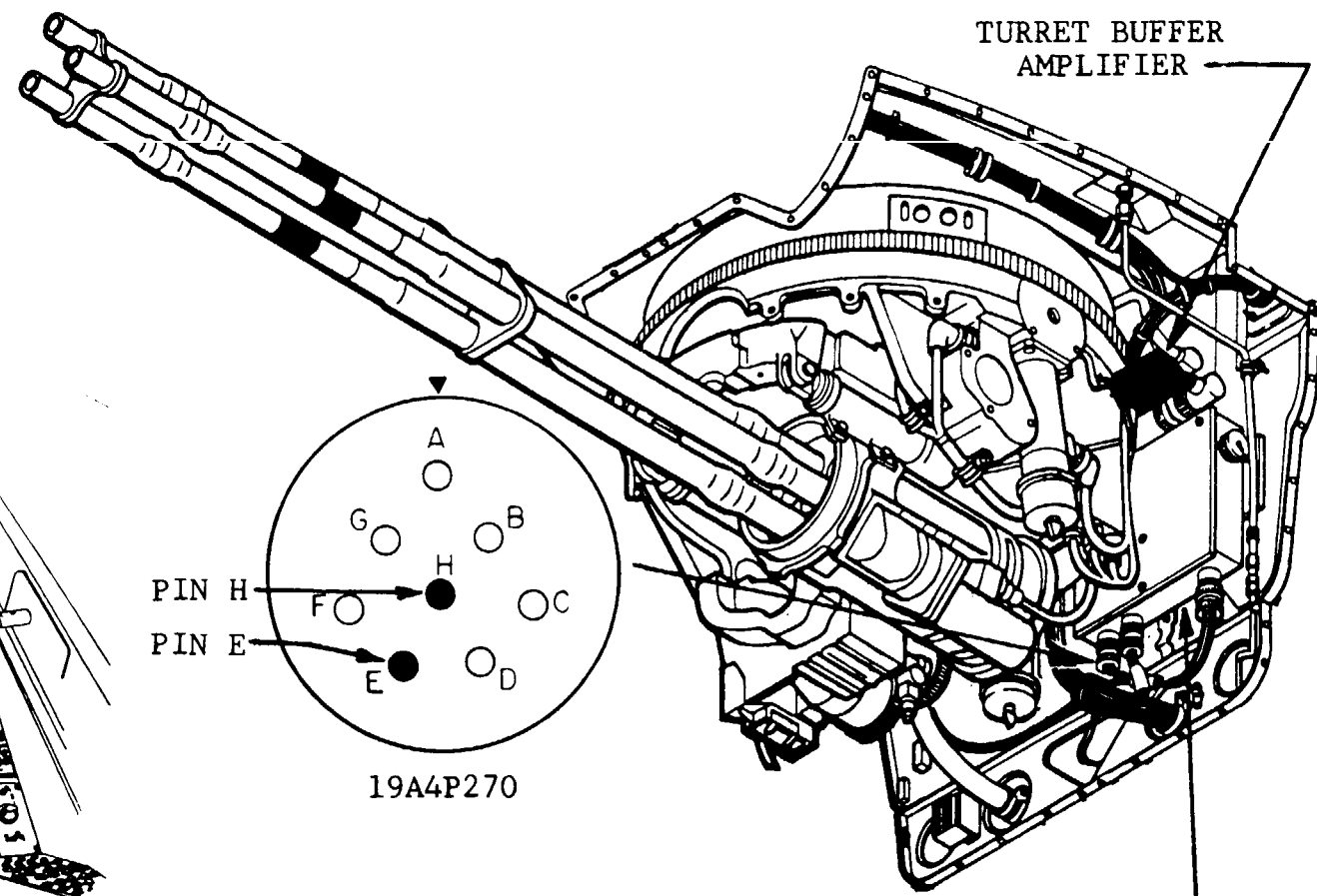
TRIGGER ACTION SWITCH



PILOT CYCLIC STICK

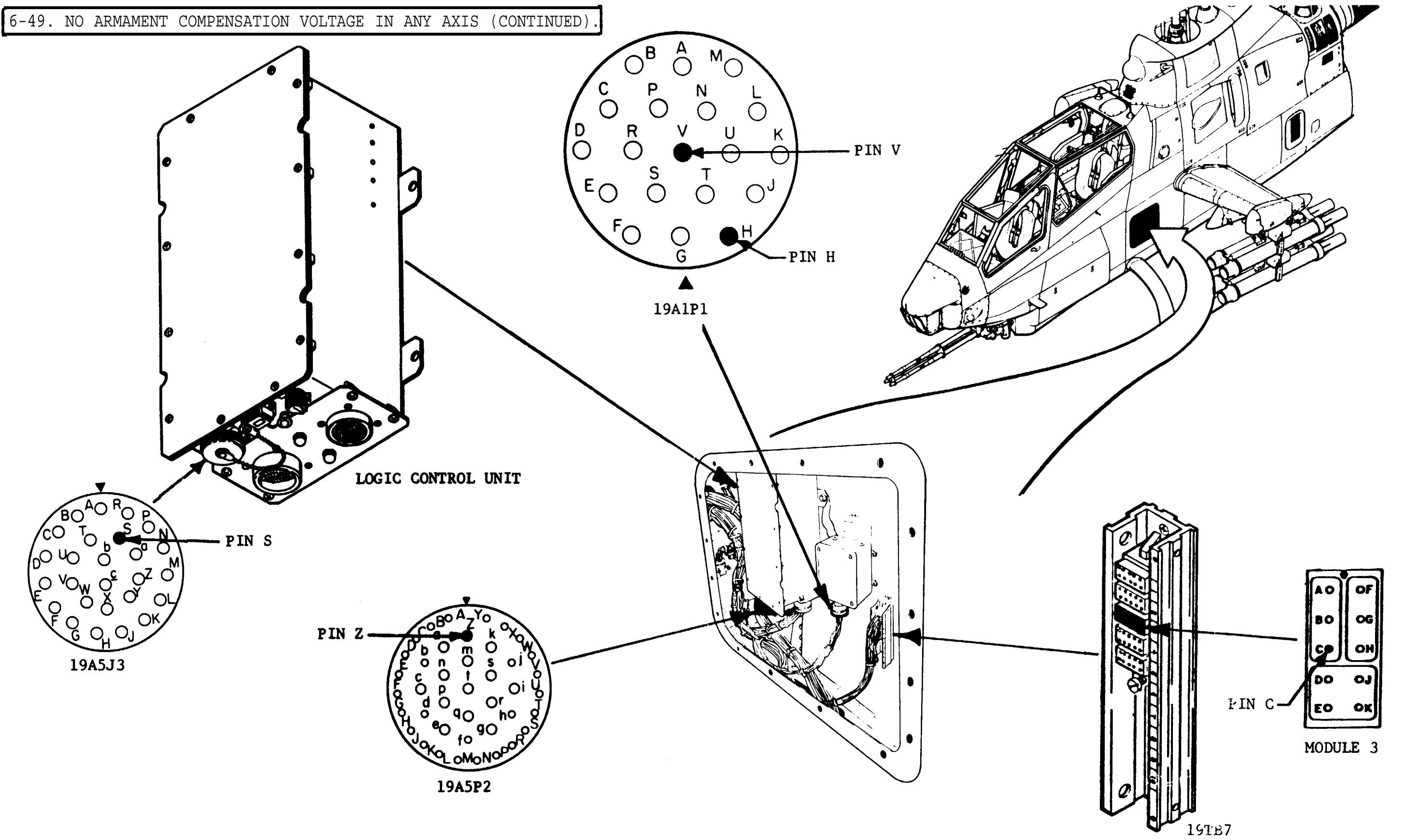


PILOT STATION

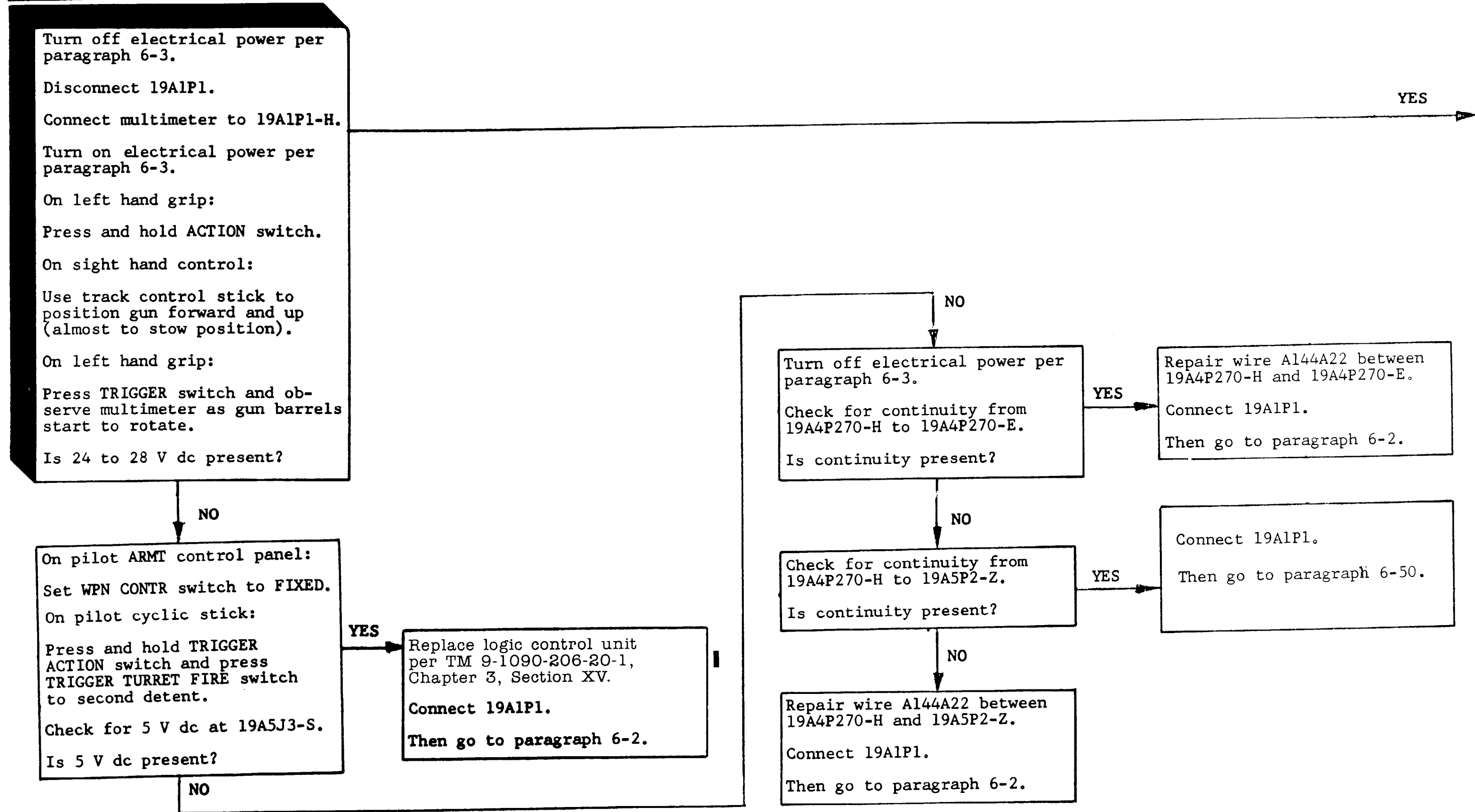


GUN CONTROL UNIT

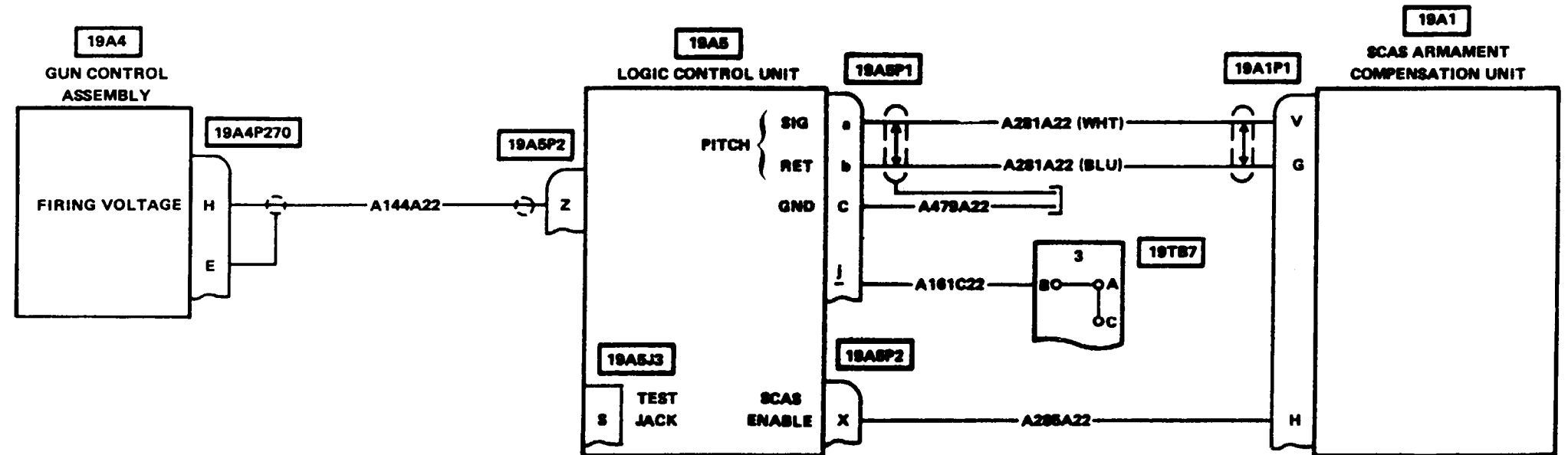
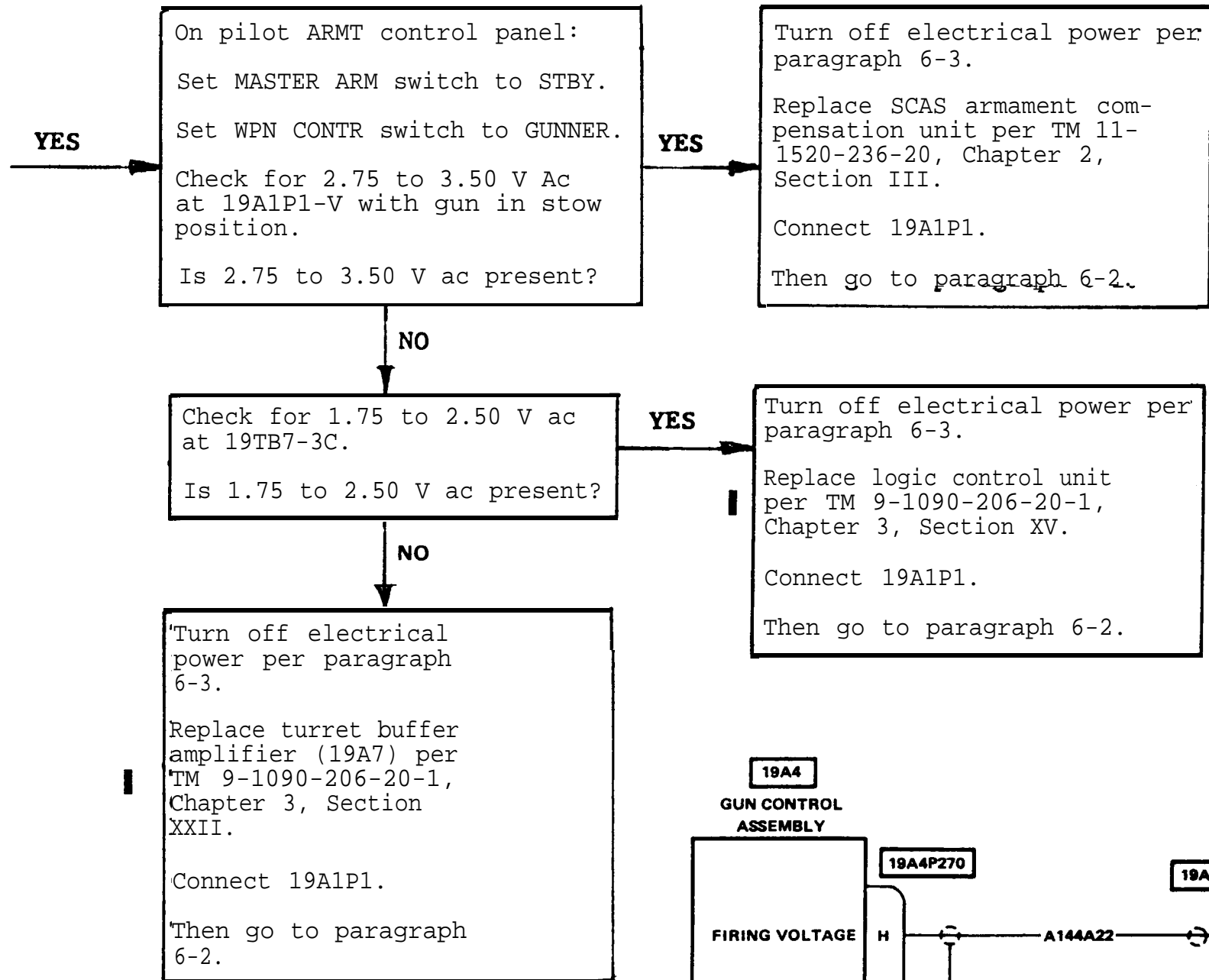
6-49. NO ARMAMENT COMPENSATION VOLTAGE IN ANY AXIS (CONTINUED).



6-49. NO ARMAMENT COMPENSATION VOLTAGE IN ANY AXIS (CONTINUED).



6-49. NO ARMAMENT COMPENSATION VOLTAGE IN ANY AXIS (CONTINUED).



6-50. NO FIRING VOLTAGE.

INITIAL SETUP

Applicable Configuration

All

Tools/Test and Support Equipment

Multimeter

Tool Set, A/C Armament Repairman

Personnel Required

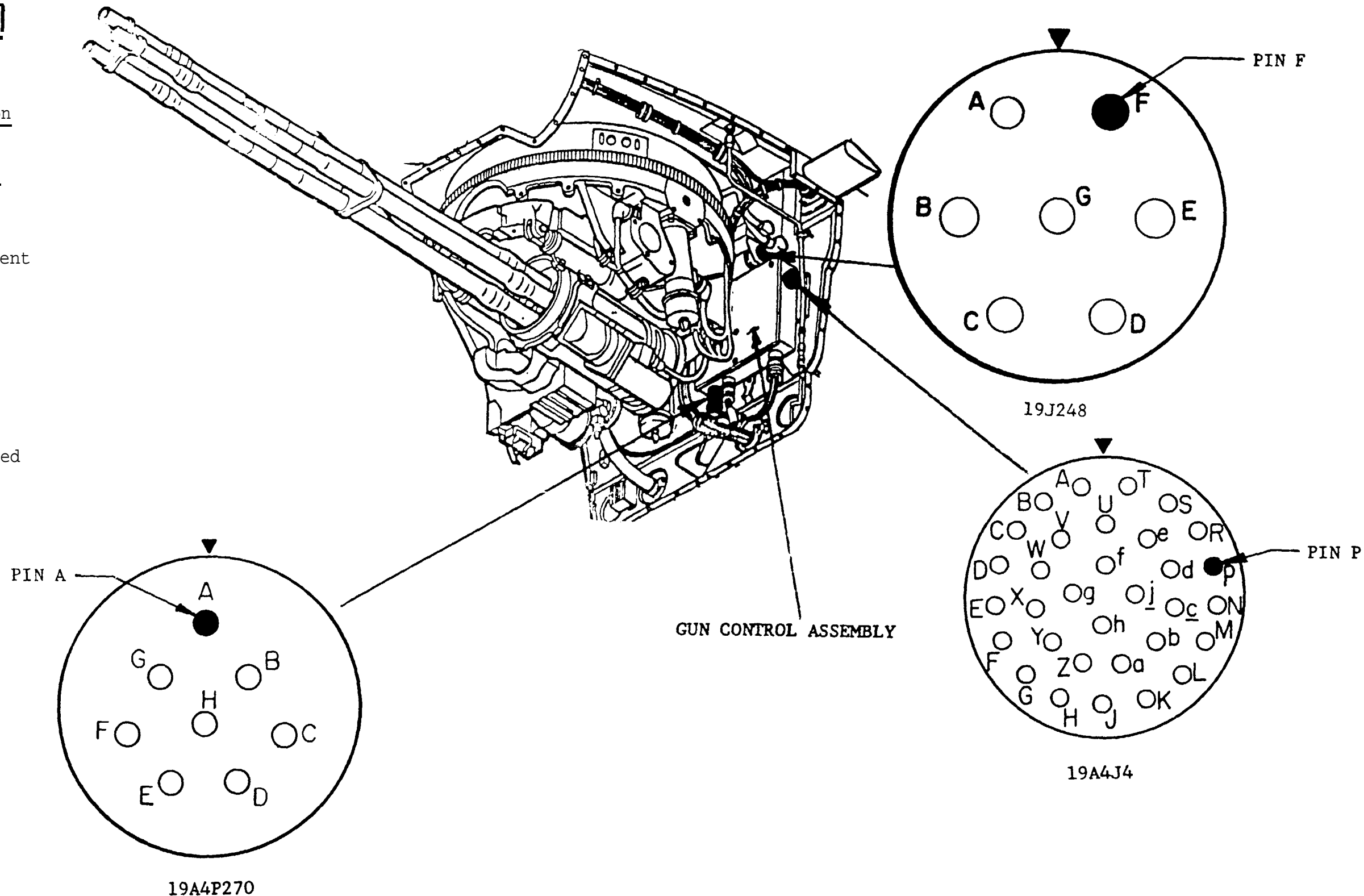
68J (1)

References

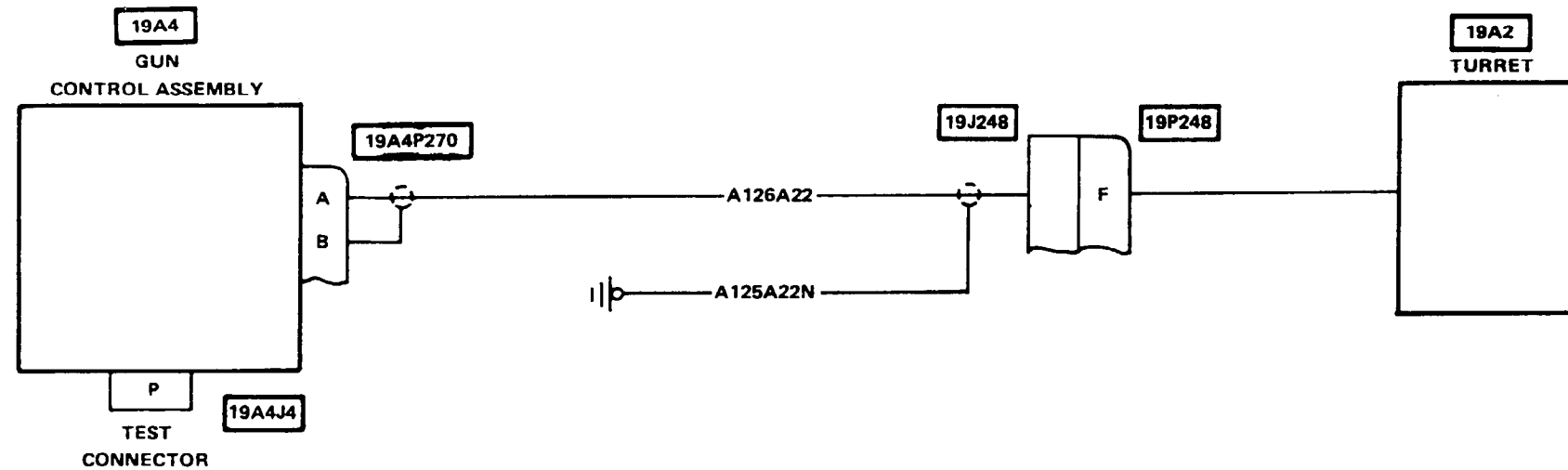
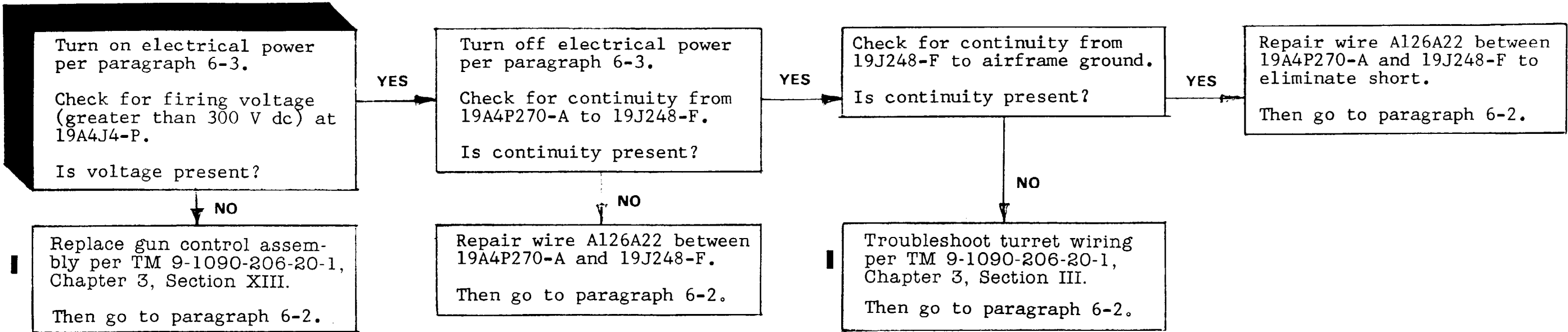
TM 9-1090-206-20-1

Access Panels

Turret Fairing - Removed



6-50. NO FIRING VOLTAGE (CONTINUED).



6-51. TURRET IS NOT IN STOW POSITION WITH MASTER ARM SWITCH IN STBY.

INITIAL SETUP

Applicable Configuration
All

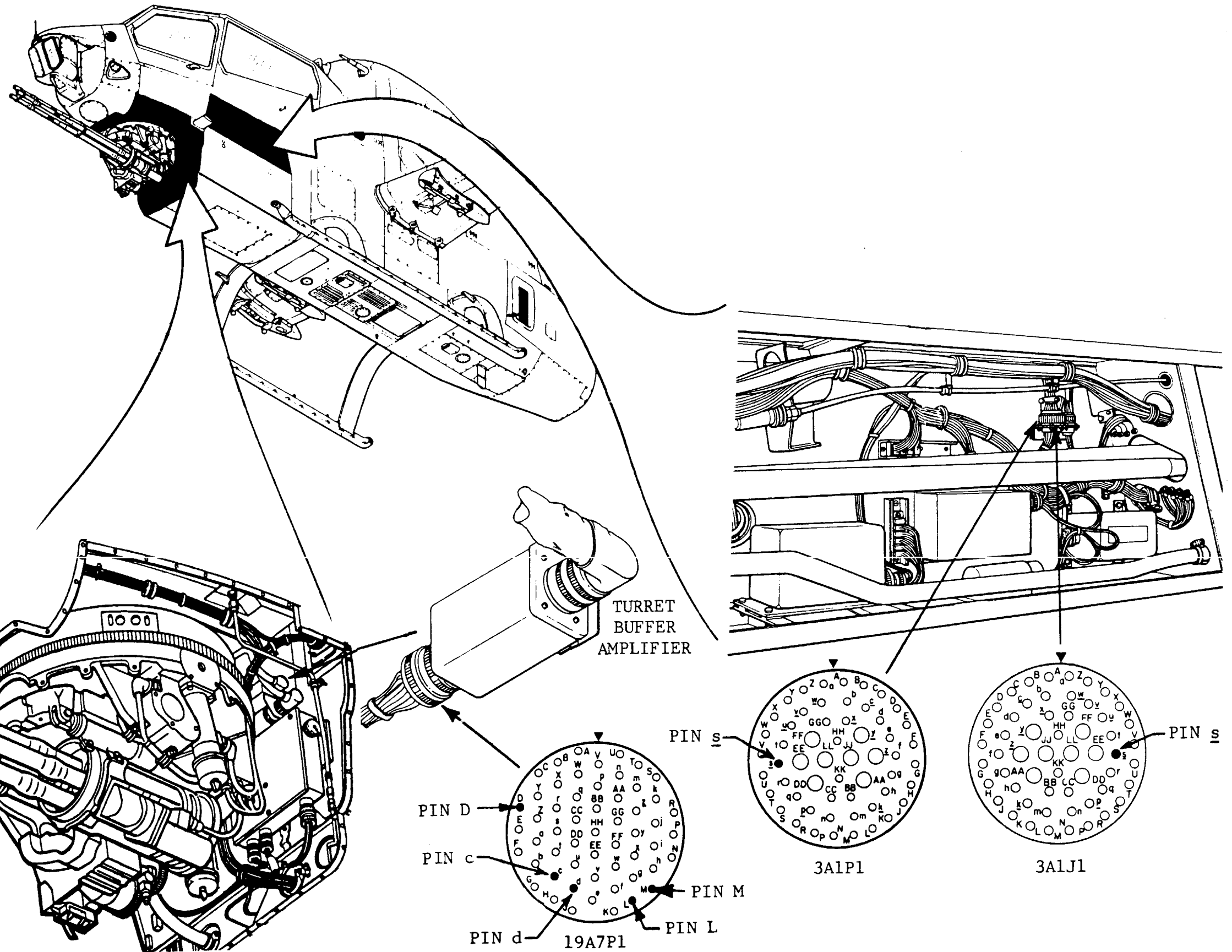
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

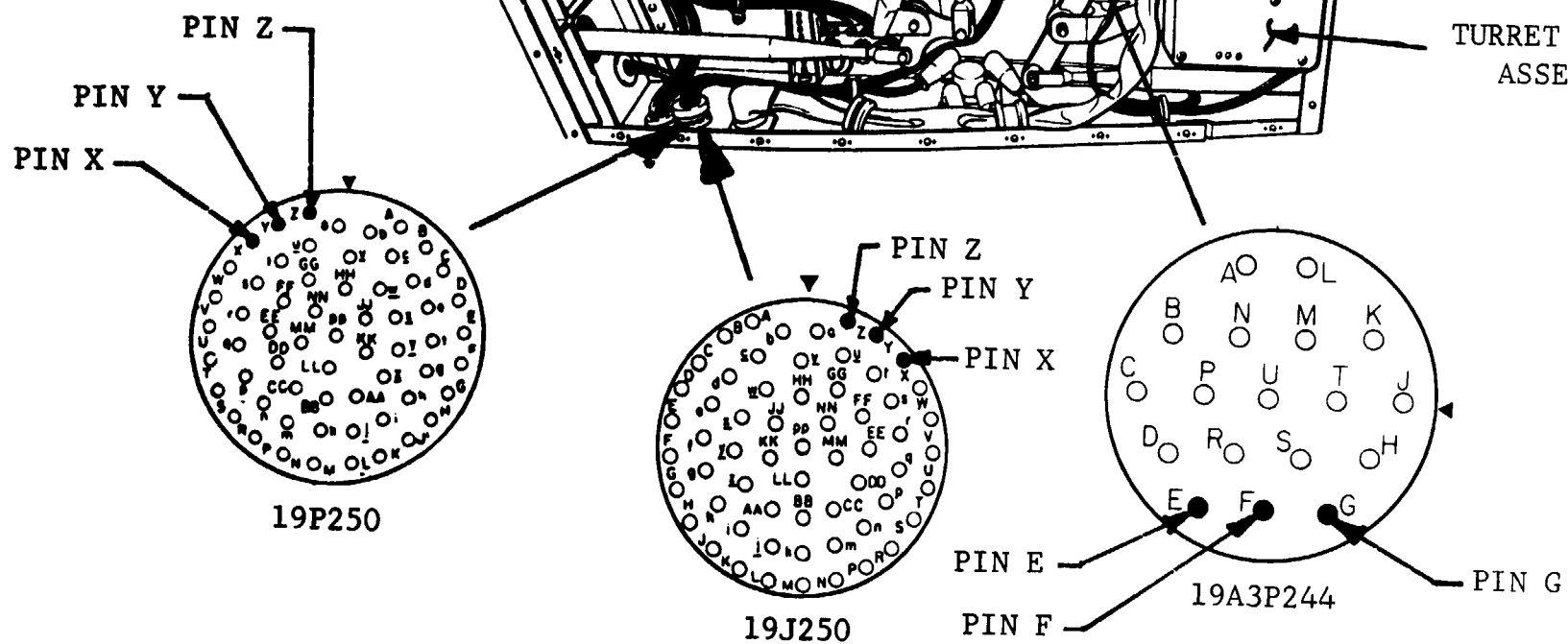
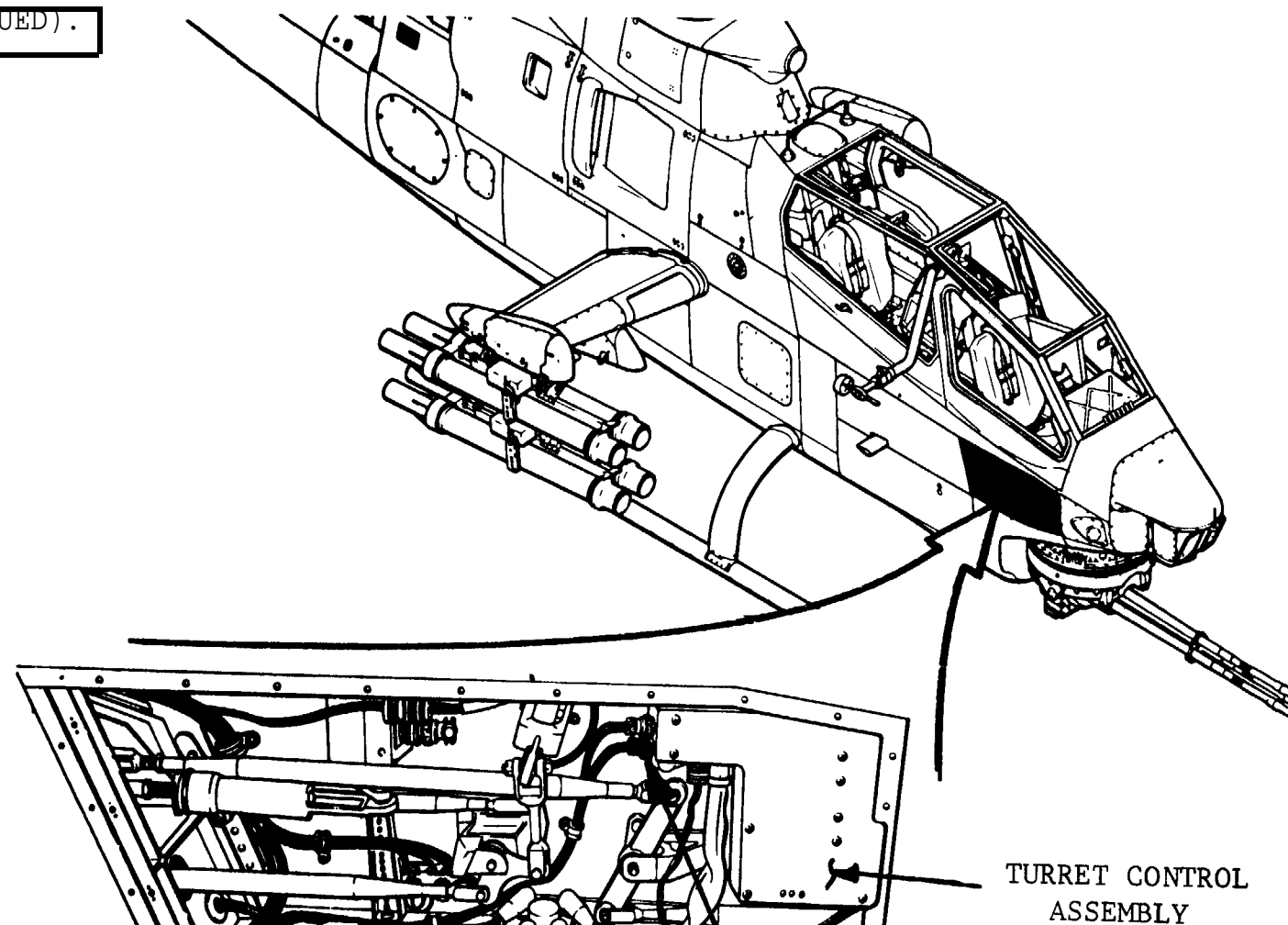
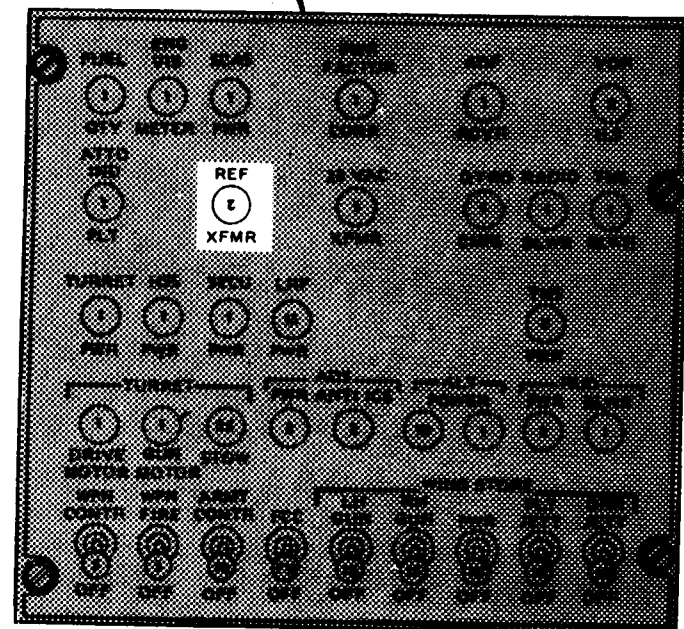
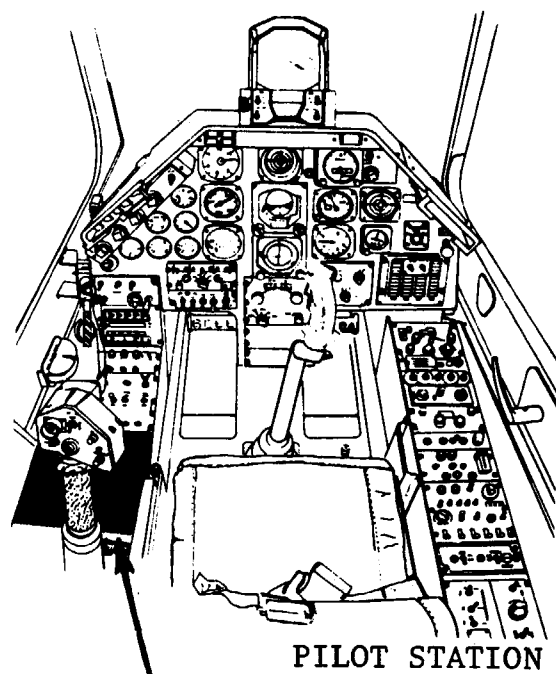
Personnel Required
68J (2)

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

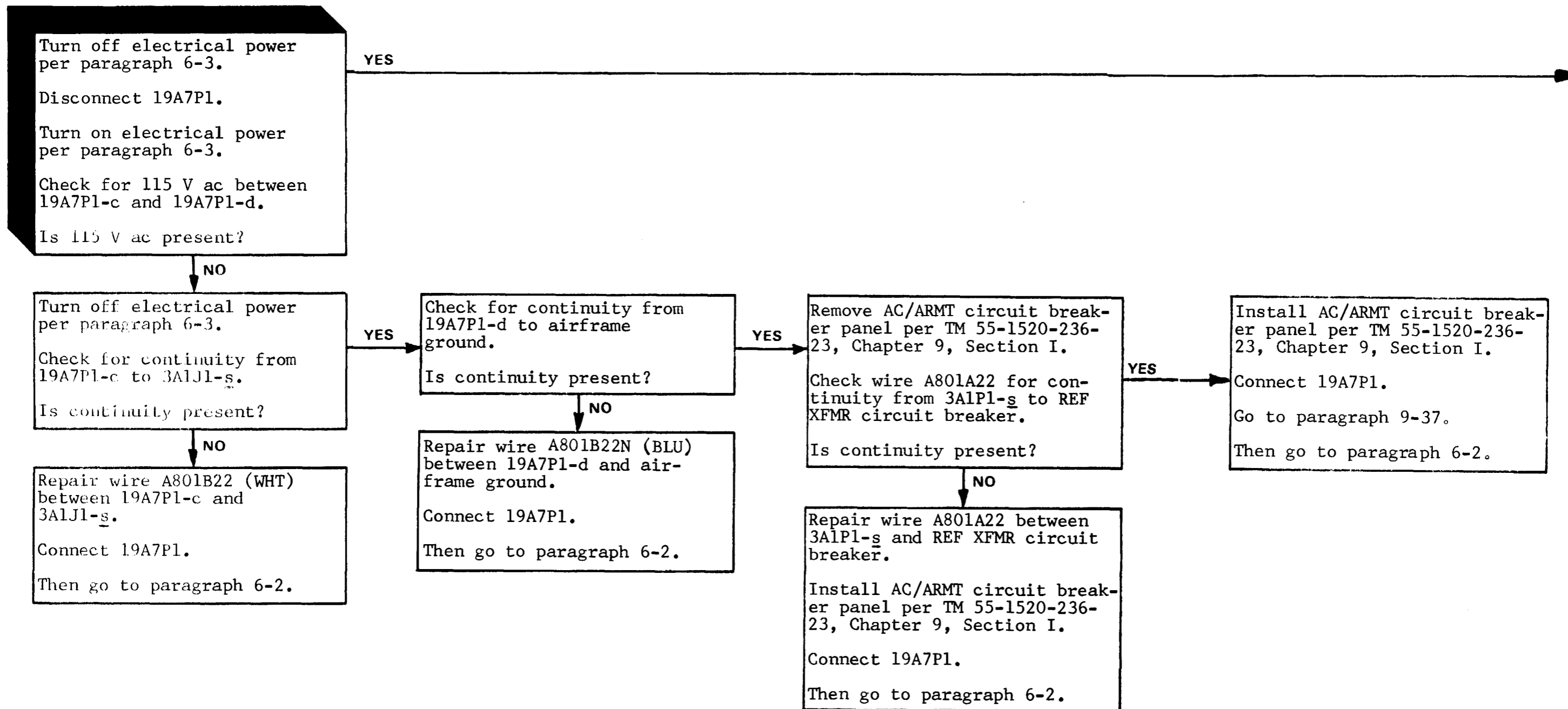
Access Panels
Left Side Control Linkage - Removed
Turret Fairing - Removed
Right Side Forward Control Linkage - Removed



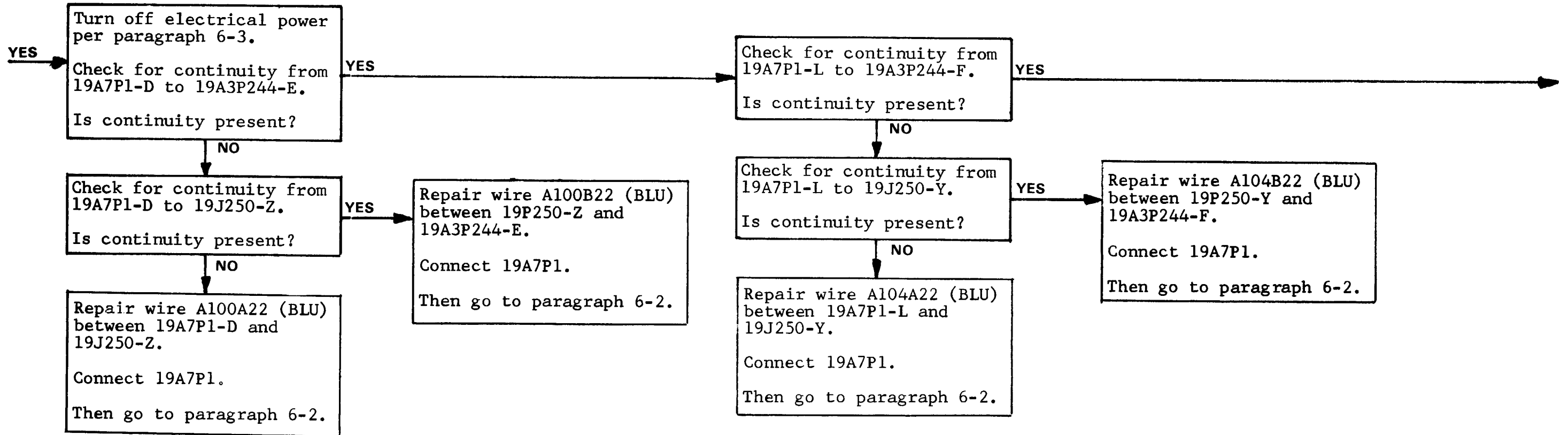
6-51. TURRET IS NOT IN STOW POSITION WITH MASTER ARM SWITCH IN STBY (CONTINUED).



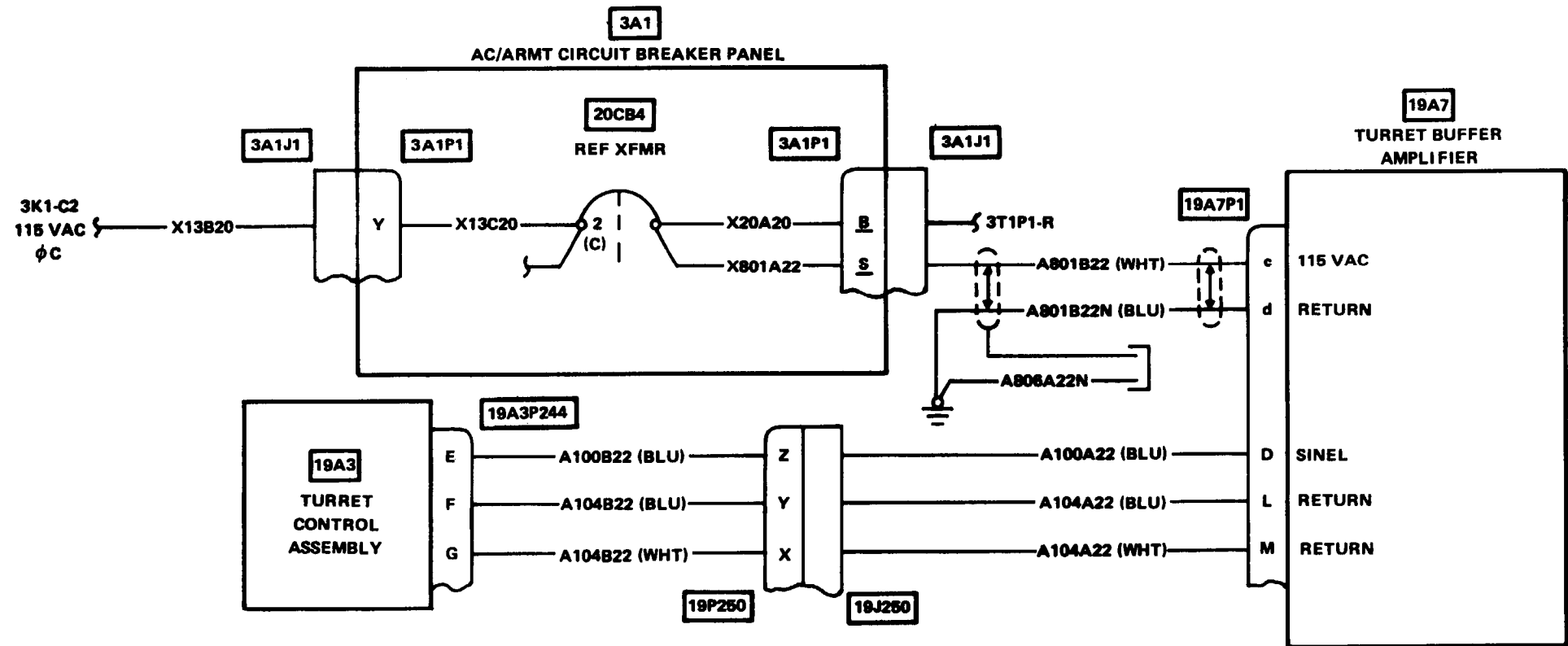
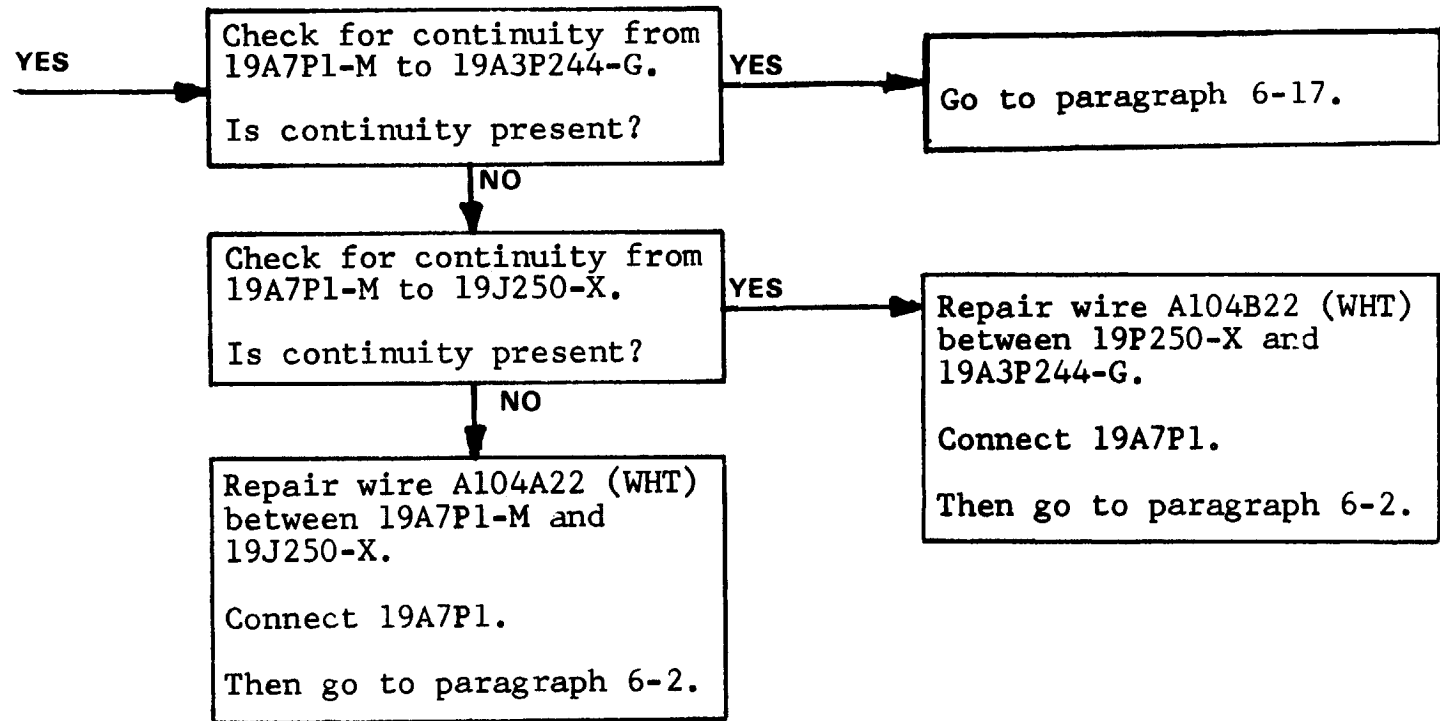
6-51. TURRET IS NOT IN STOW POSITION WITH MASTER ARM SWITCH IN STYB (CONTINUED).



6-51. TURRET IS NOT IN STOW POSITION WITH MASTER ARM SWITCH IN STBY (CONTINUED).



6-51. TURRET IS NOT IN STOW POSITION WITH MASTER ARM SWITCH IN STBY (CONTINUED).



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6-52. GUN BARRELS DO NOT ROTATE CONTINUOUSLY FROM LEFT HAND GRIP TRIGGER SWITCH SECOND DETENT.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

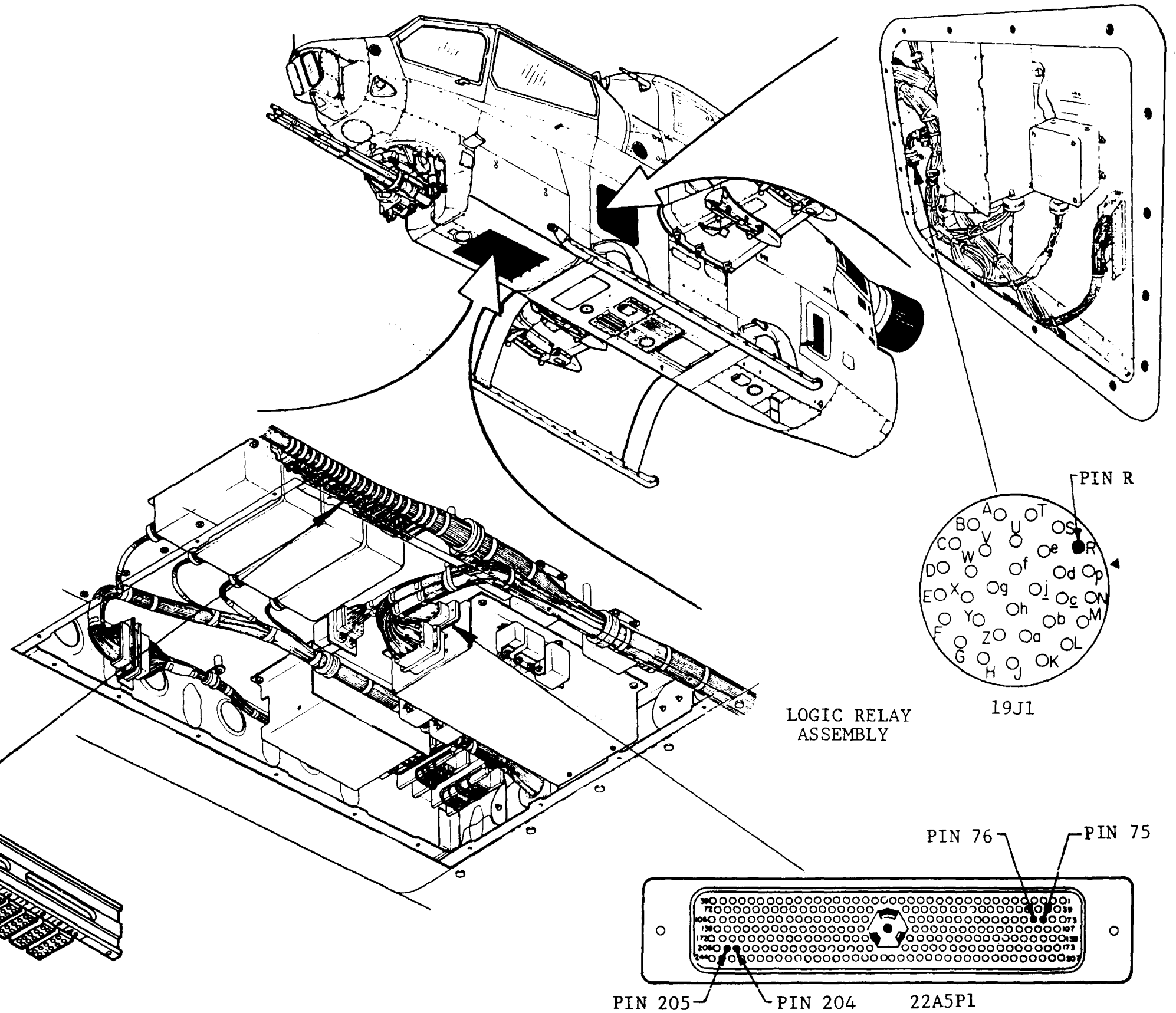
Personnel Required
68J (2)

References

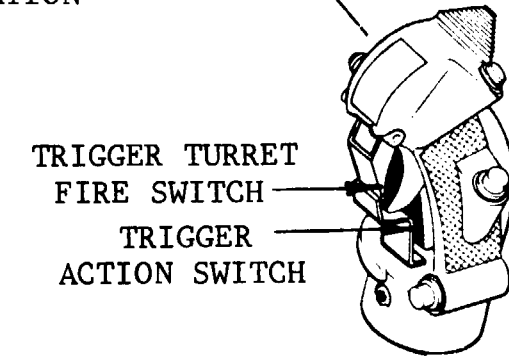
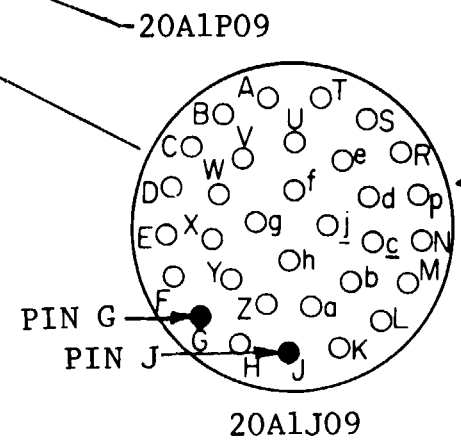
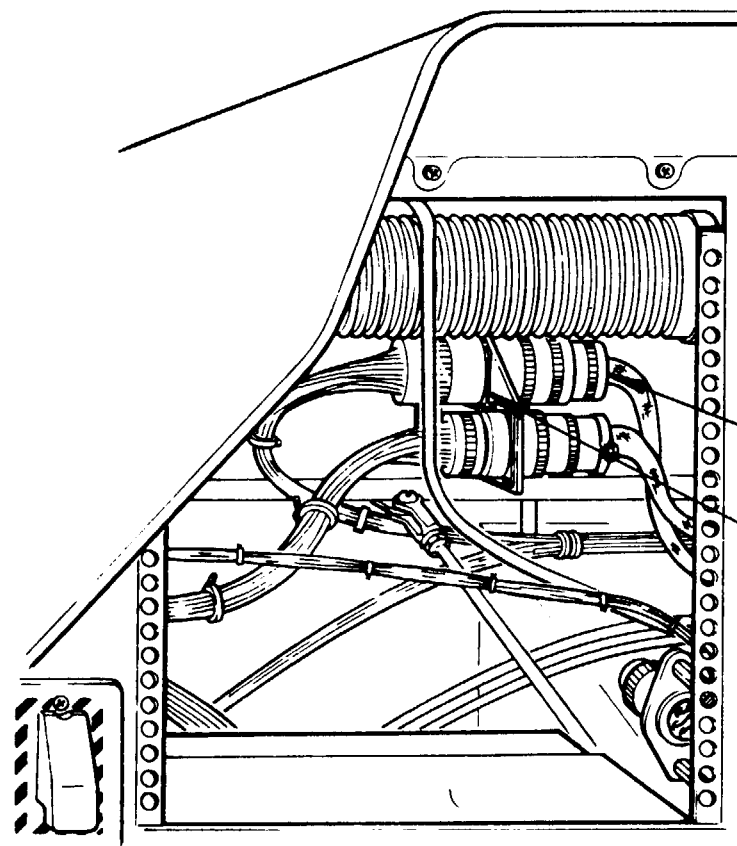
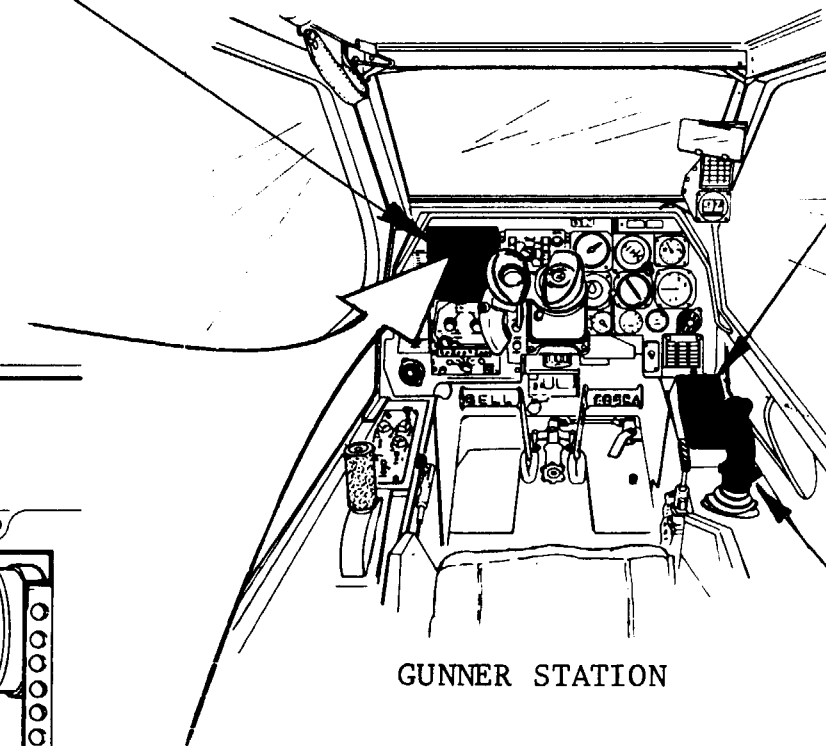
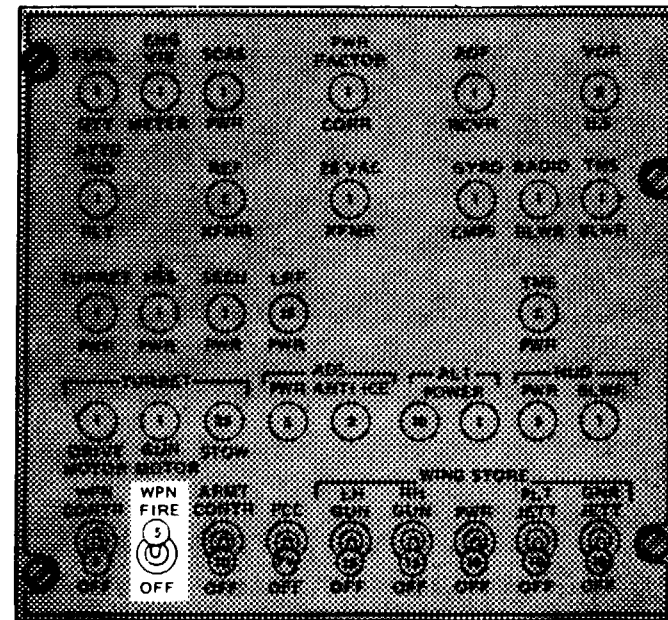
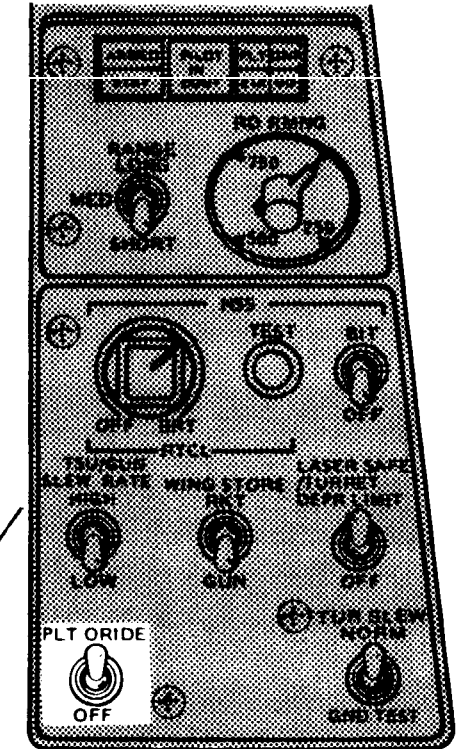
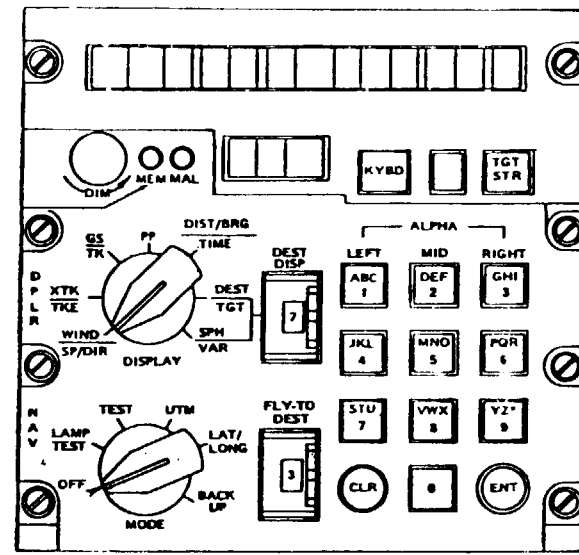
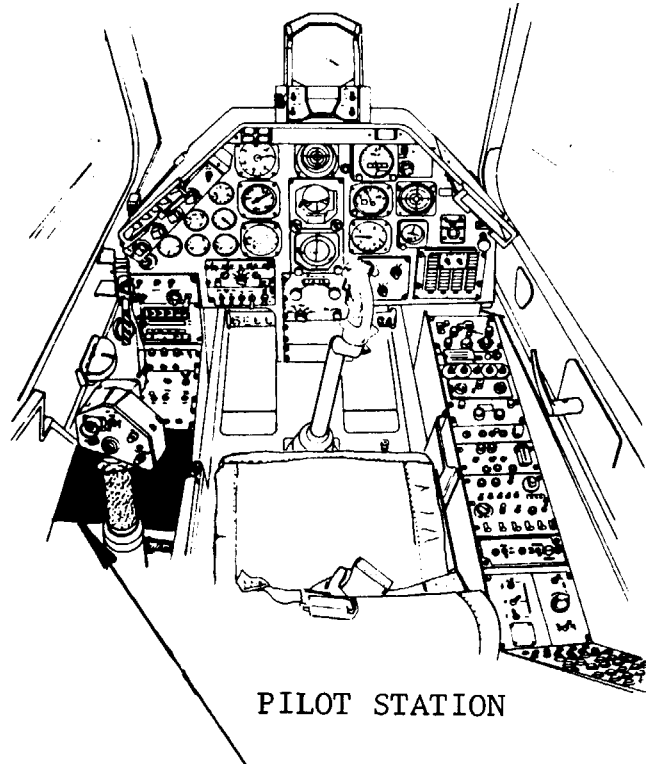
- TM 9-1090-206-20-1
- TM 55-1425-473-20

Access Panels

- Forward Belly Armament and Lighting - Removed
- Turret Fairing - Removed
- Logic Control - Removed

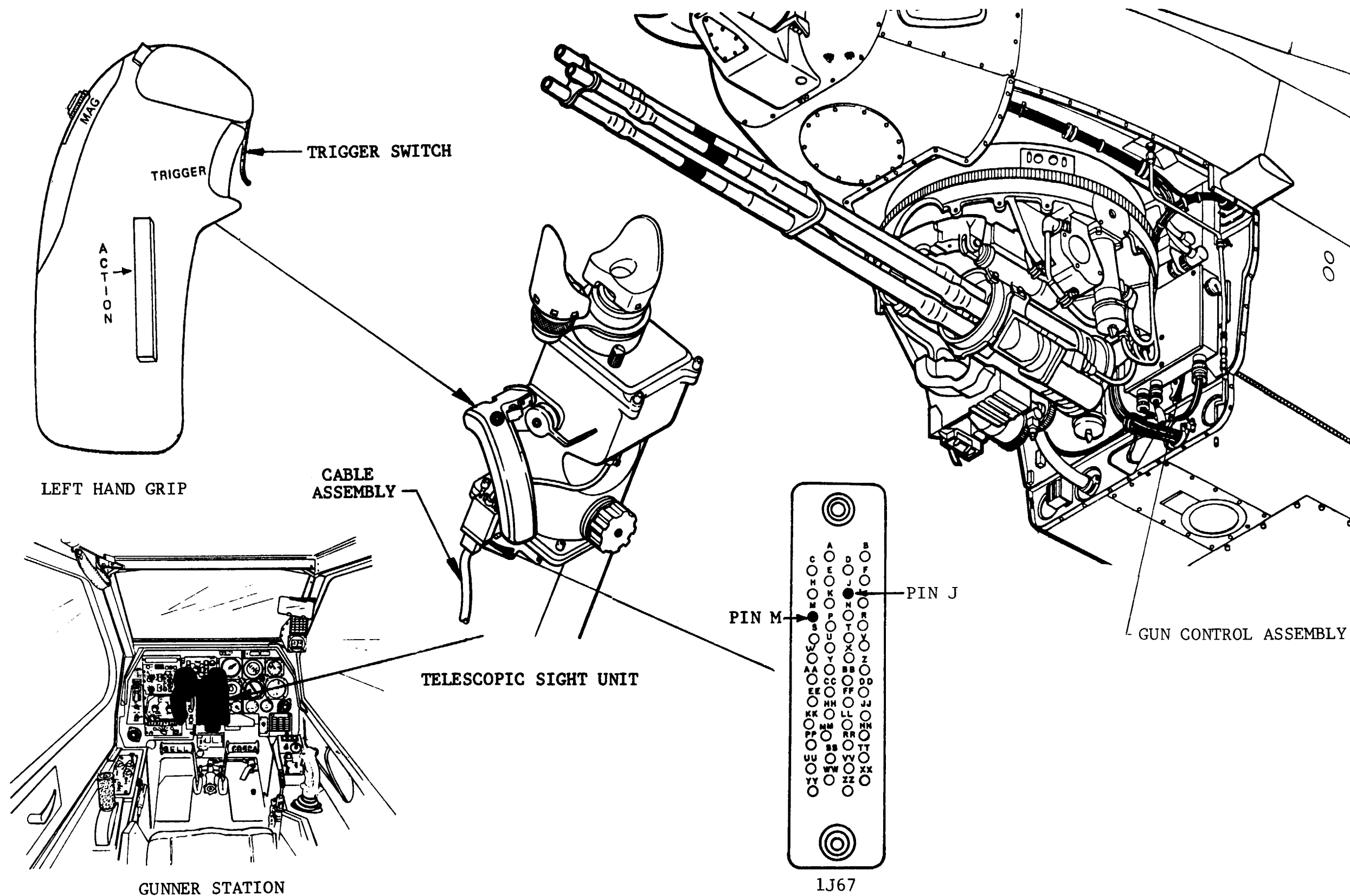


6-52. GUN BARRELS DO NOT ROTATE CONTINUOUSLY FROM LEFT HAND GRIP TRIGGER SWITCH SECOND DETENT (CONTINUED).

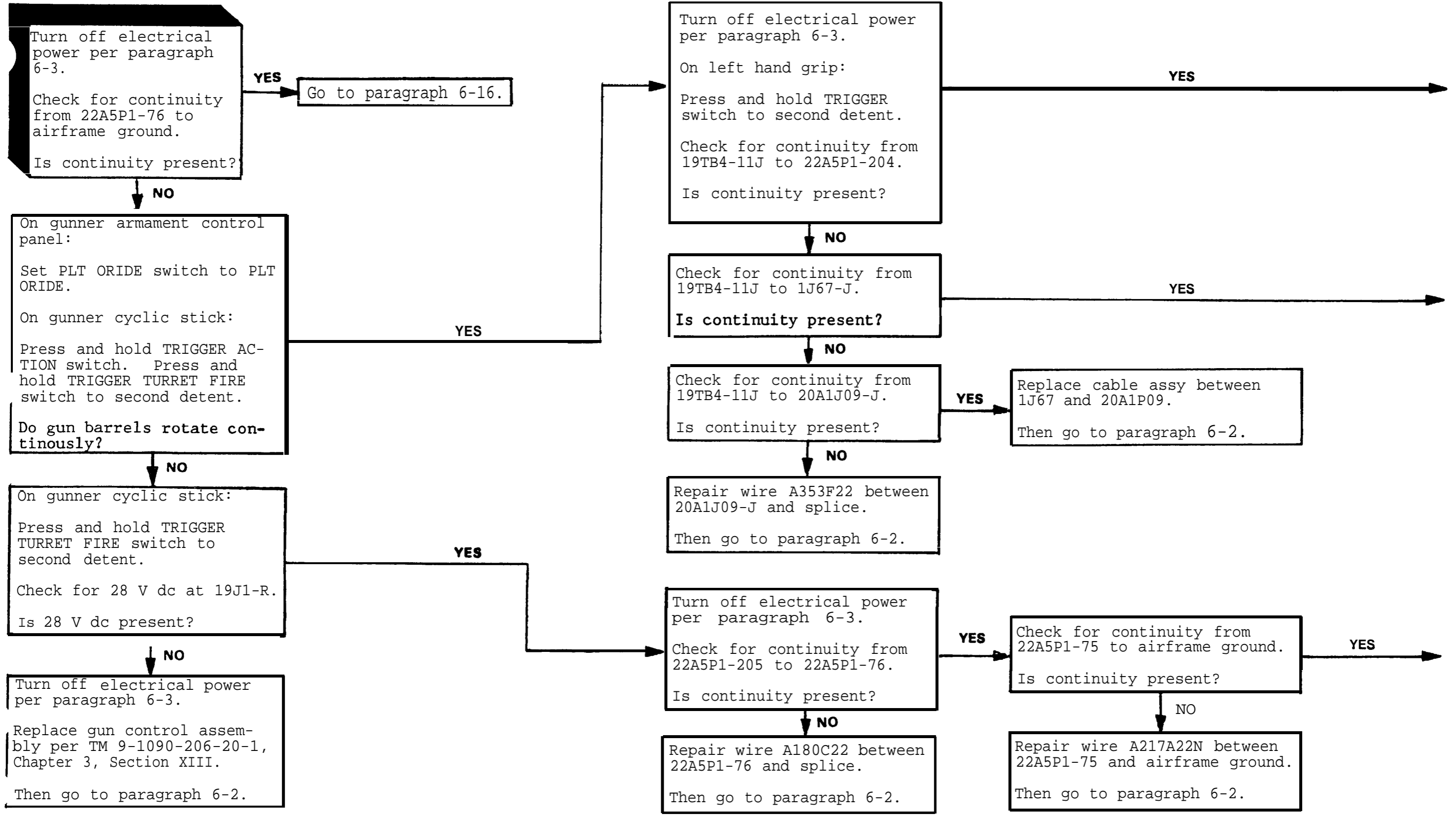


GUNNER CYCLIC STICK

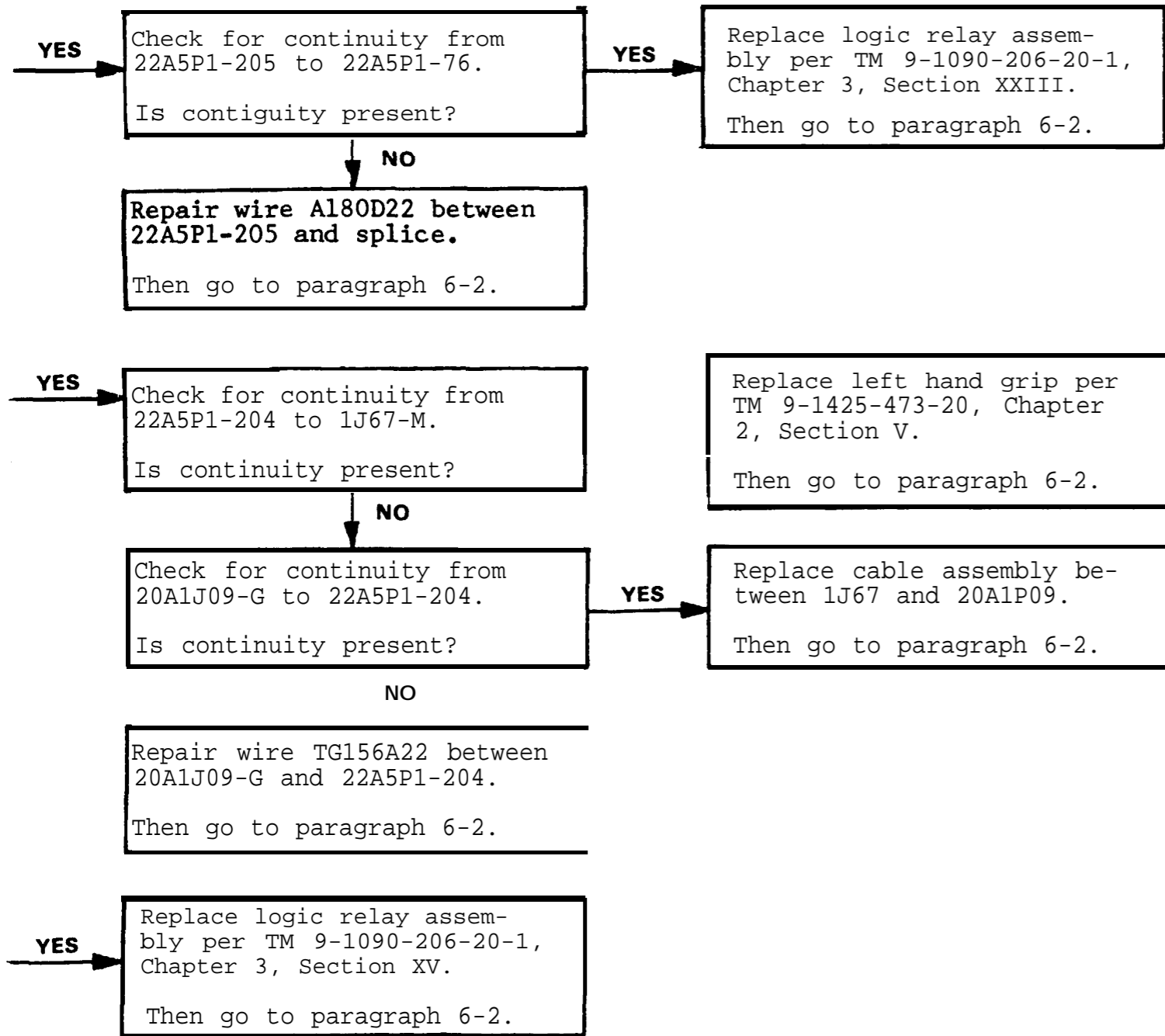
6-52. GUN BARRELS DO NOT ROTATE CONTINUOUSLY FROM LEFT HAND GRIP TRIGGER SWITCH SECOND DETENT (CONTINUED).



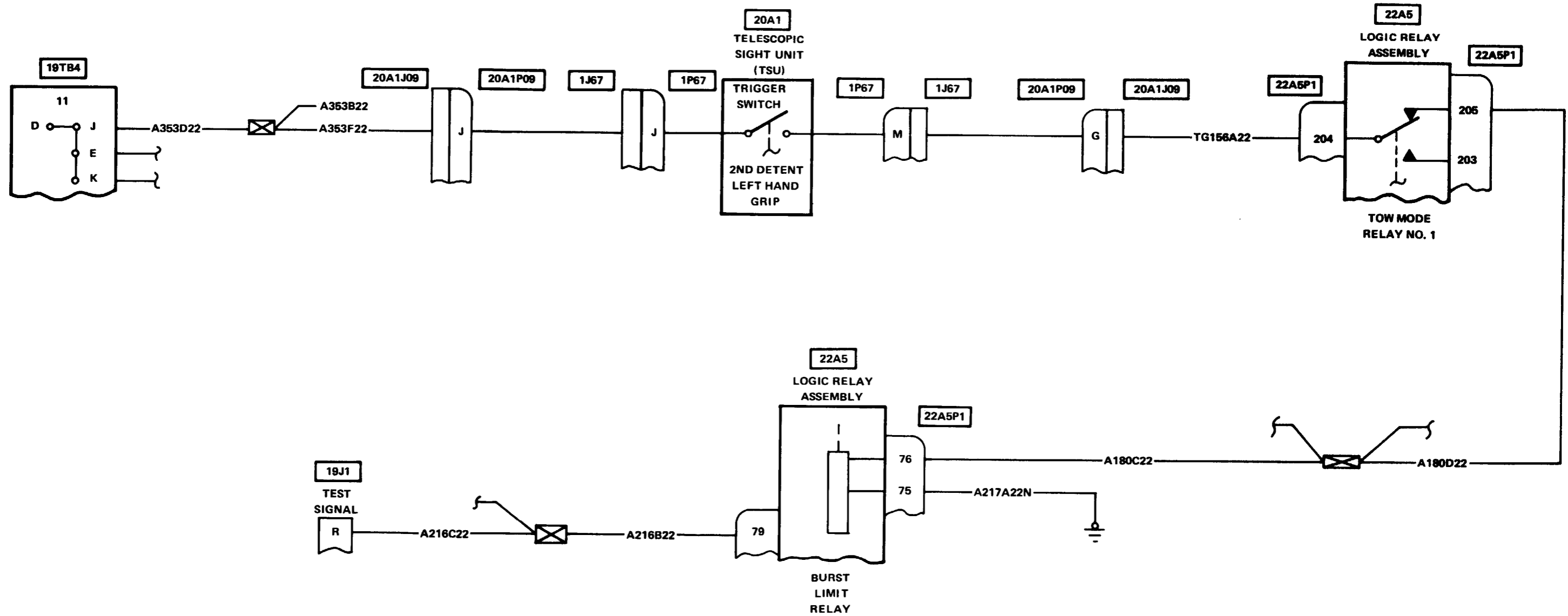
6-52. GUN BARRELS DO NOT ROTATE CONTINUOUSLY FROM LEFT HAND GRIP TRIGGER SWITCH SECOND DETENT (CONTINUED).



6-52. GUN BARRELS DO NOT ROTATE CONTINUOUSLY FROM LEFT HAND GRIP TRIGGER SWITCH SECOND DETENT (CONTINUED).



6-52. GUN BARRELS DO NOT ROTATE CONTINUOUSLY FROM LEFT HAND GRIP TRIGGER SWITCH SECOND DETENT (CONTINUED).



6-53. GUN BARRELS DO NOT ROTATE CONTINUOUSLY FROM GUNNER CYCLIC STICK TRIGGER TURRET FIRE SWITCH SECOND DETENT.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

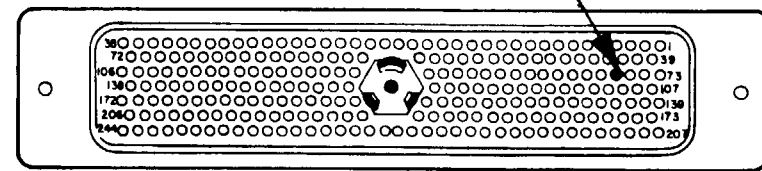
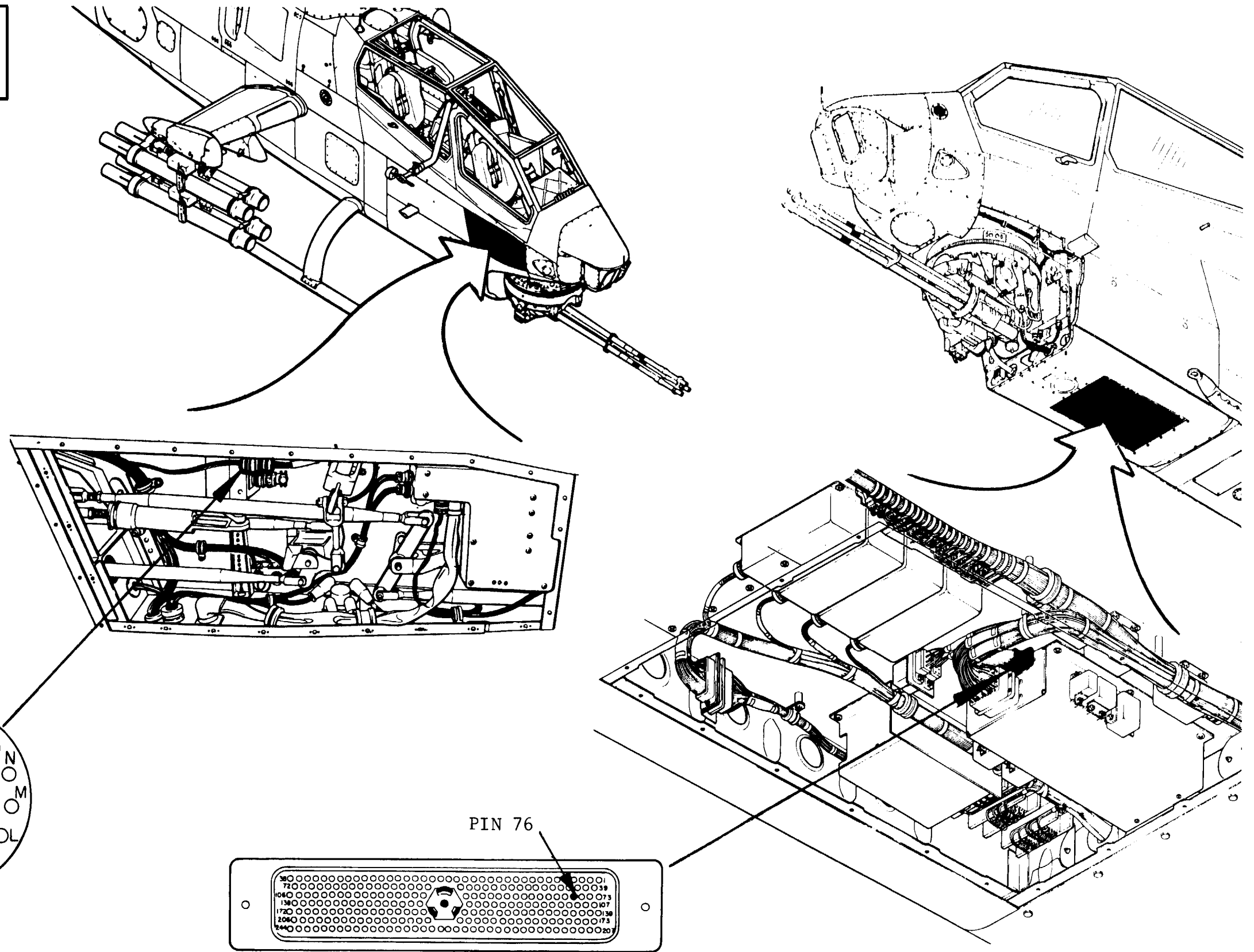
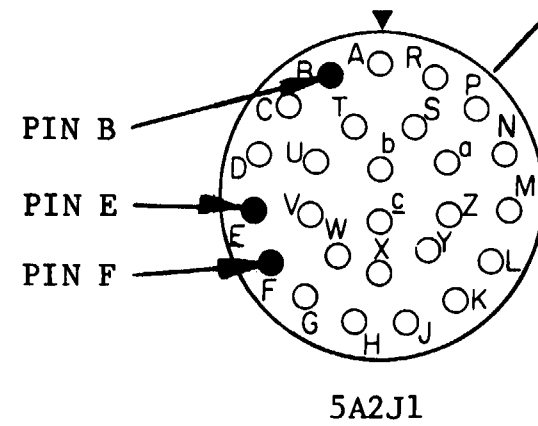
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

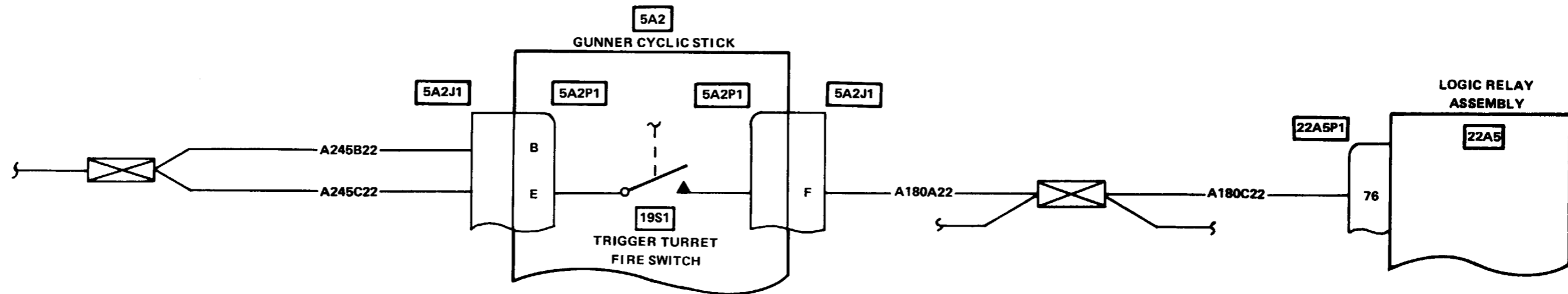
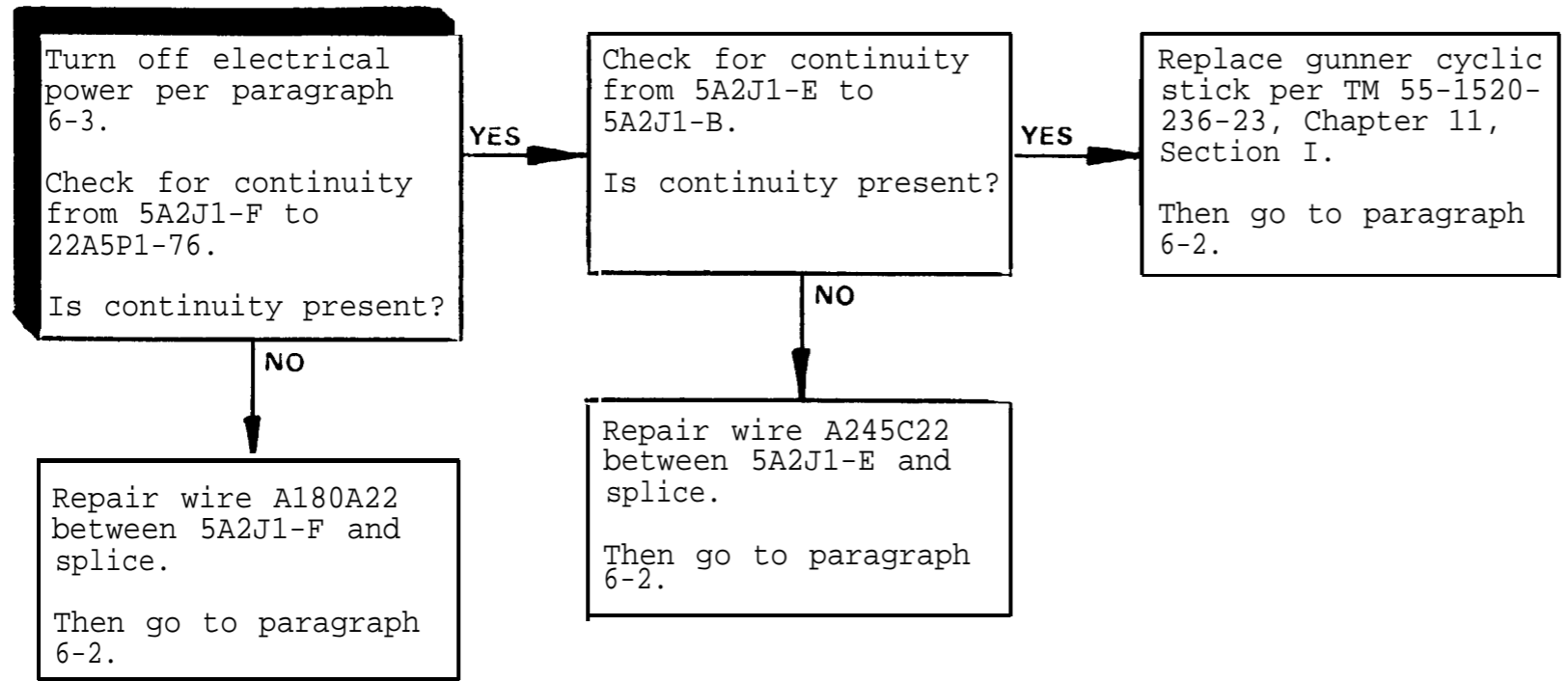
References
TM 35-1520-236-23

Access Panels
Forward Right Side Control Linkage - Removed

Forward Belly Armament and Lighting - Removed



6-53. GUN BARRELS DO NOT ROTATE CONTINUOUSLY FROM GUNNER CYCLIC STICK TRIGGER TURRET FIRE SWITCH SECOND DETENT (CONTINUED).



6-54. GUN BARRELS DO NOT ROTATE CONTINUOUSLY FROM PILOT CYCLIC STICK TRIGGER TURRET FIRE SWITCH SECOND DETENT.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

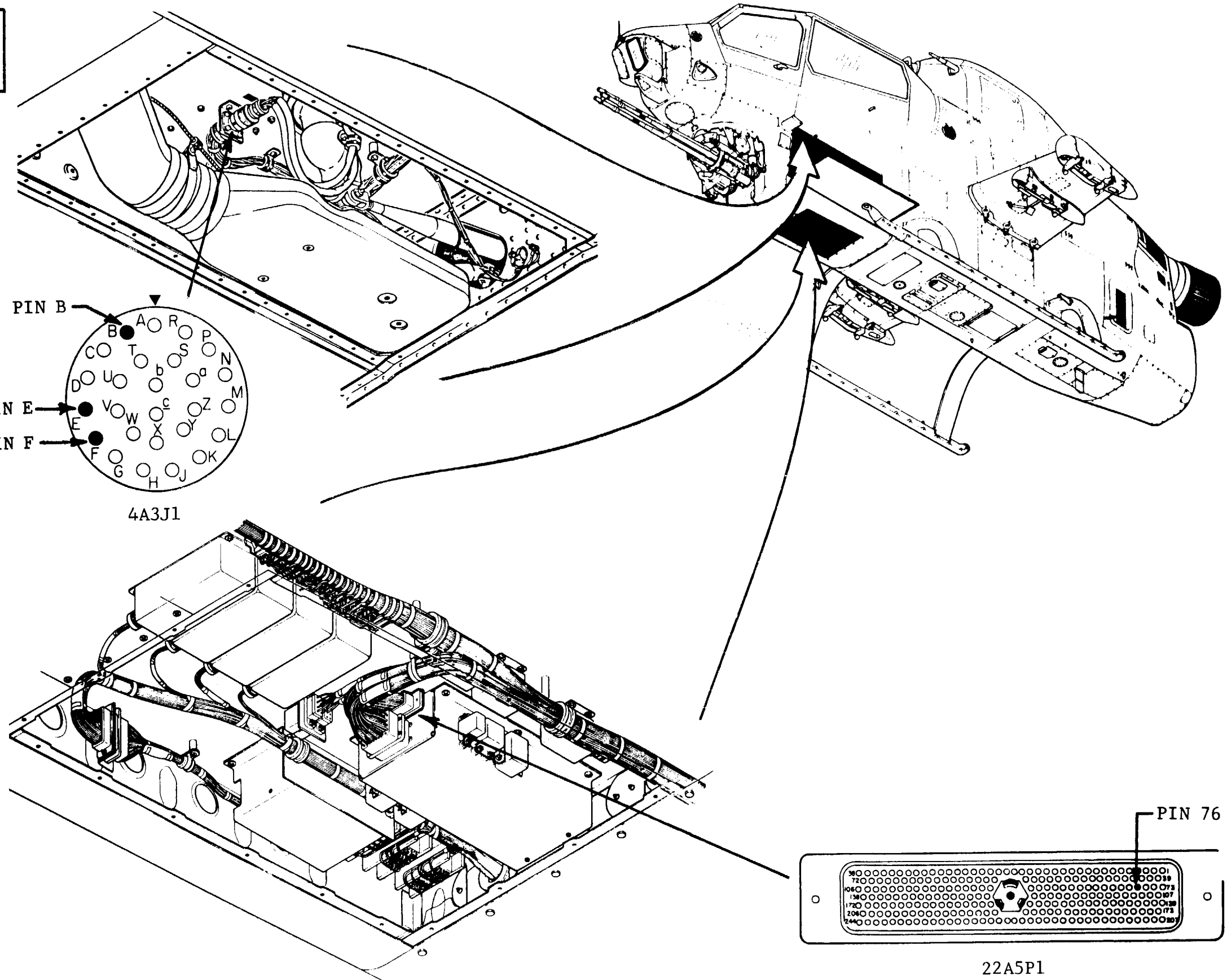
Personnel Required
68J (2)

References
TM 55-1520-236-23

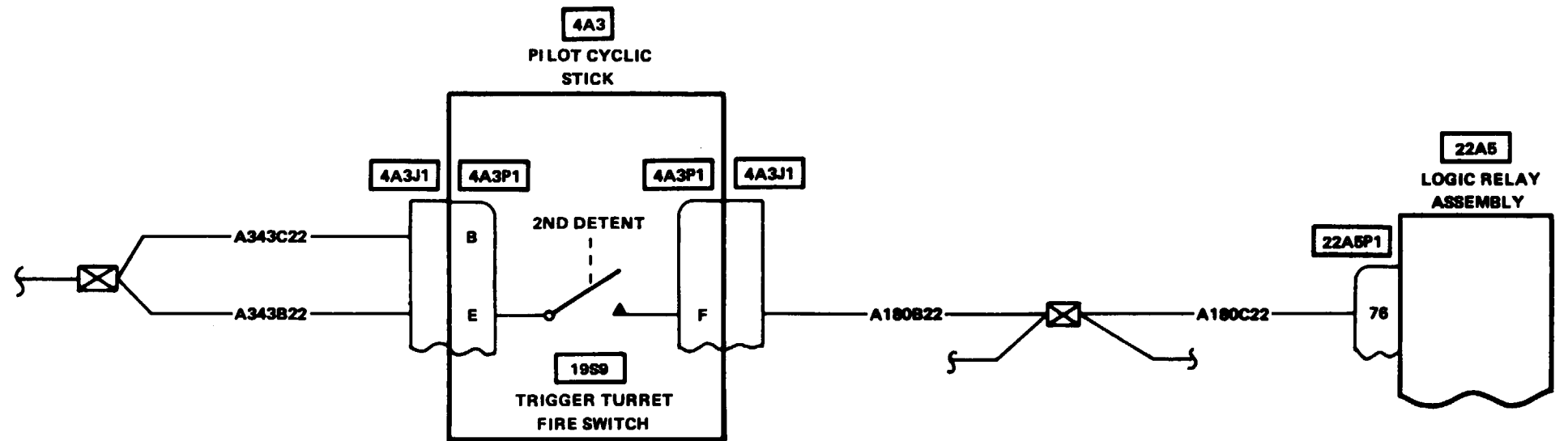
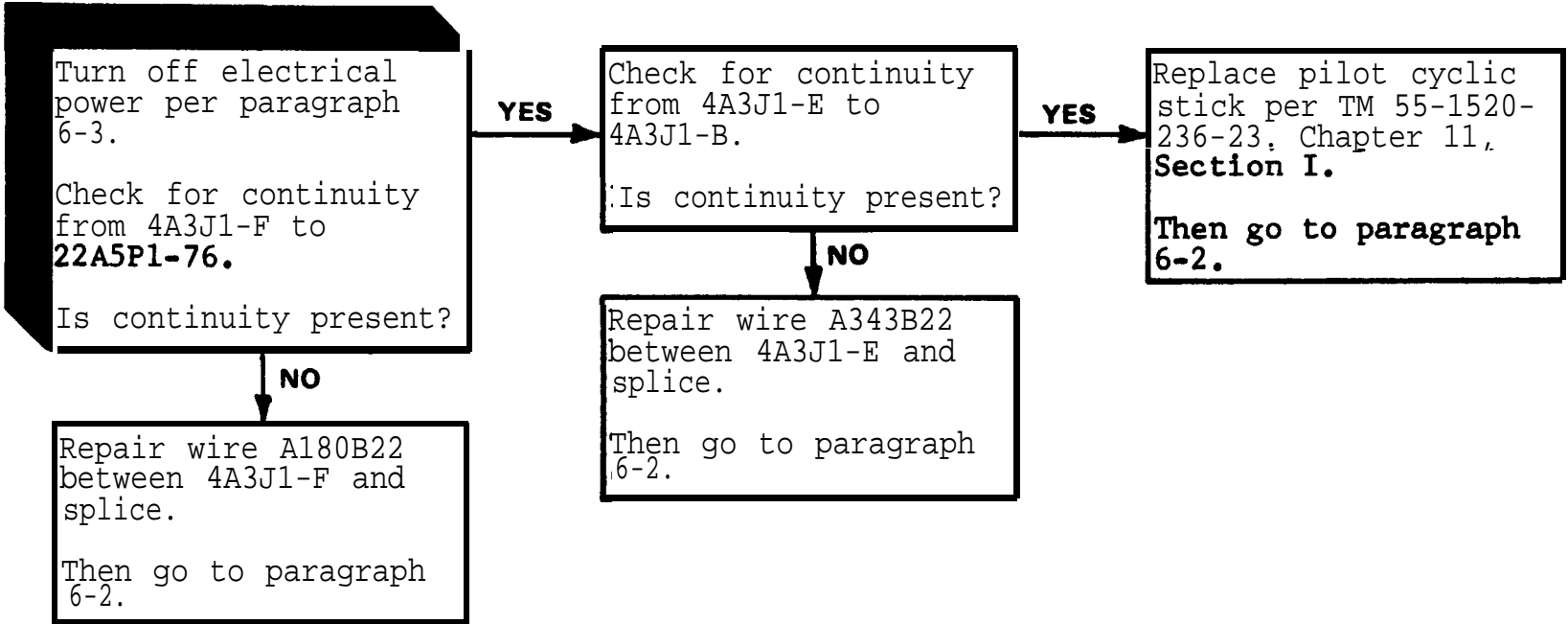
Access Panels
Forward Belly Armament and Lighting - Removed

Left Ammo Compartment Door - Open

Upper Ammo Compartment - Removed



6-54. GUN BARRELS DO NOT ROTATE CONTINUOUSLY FROM PILOT CYCLIC STICK TRIGGER TURRET FIRE SWITCH SECOND DETENT (CONTINUED).



6-55. GUN BARRELS DO NOT ROTATE
IN RESPONSE TO PILOT TRIG-
GER IN TOW MODE.

INITIAL SETUP

Applicable Configuration
All

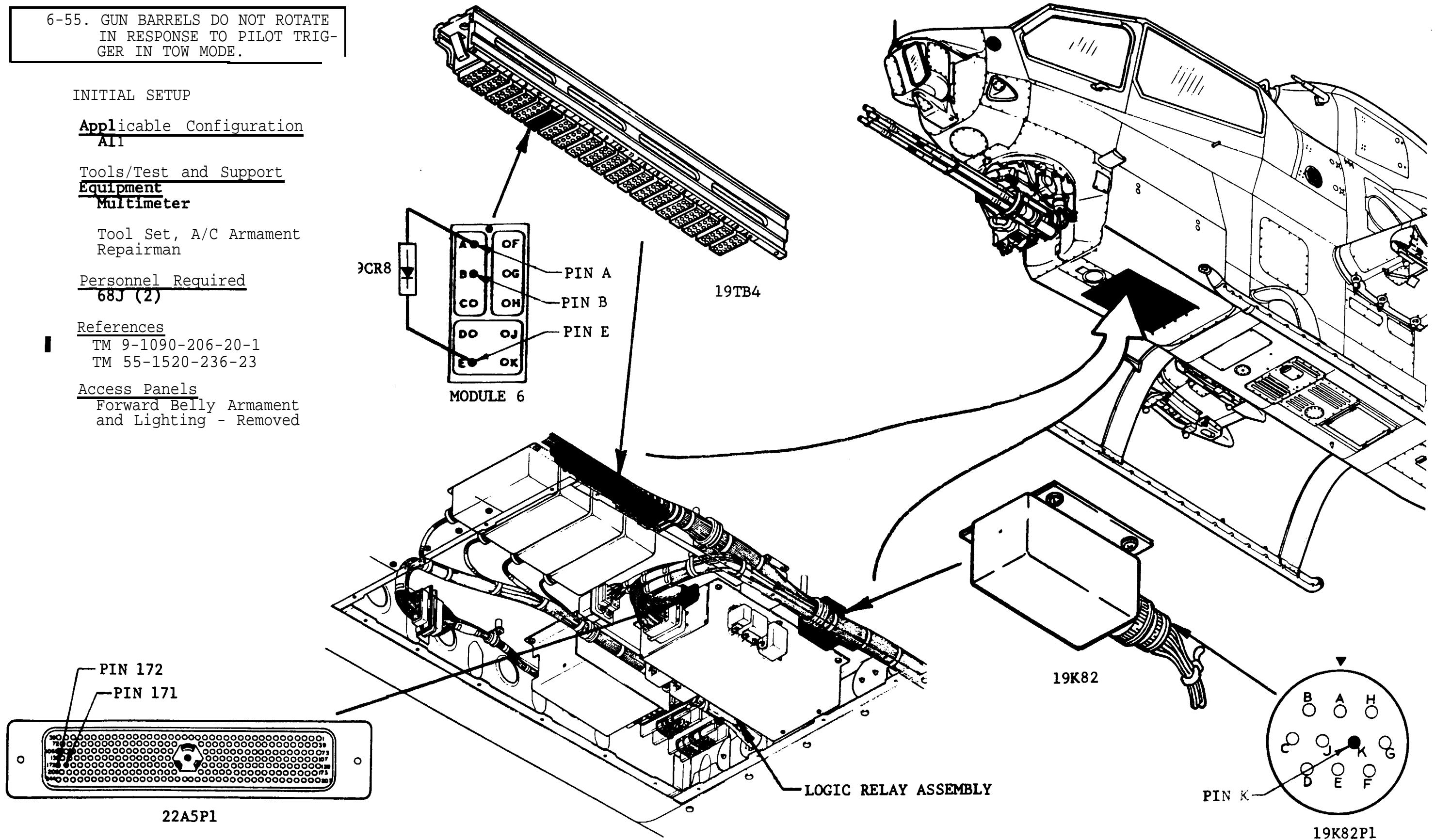
Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

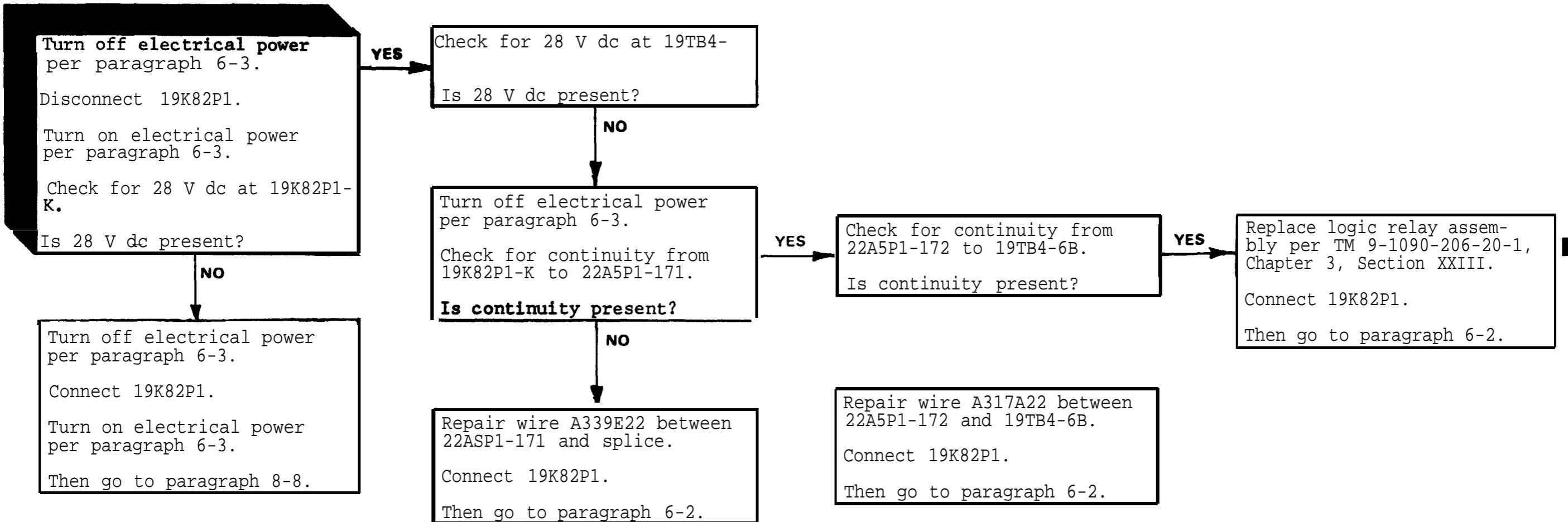
Personnel Required
68J (2)

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

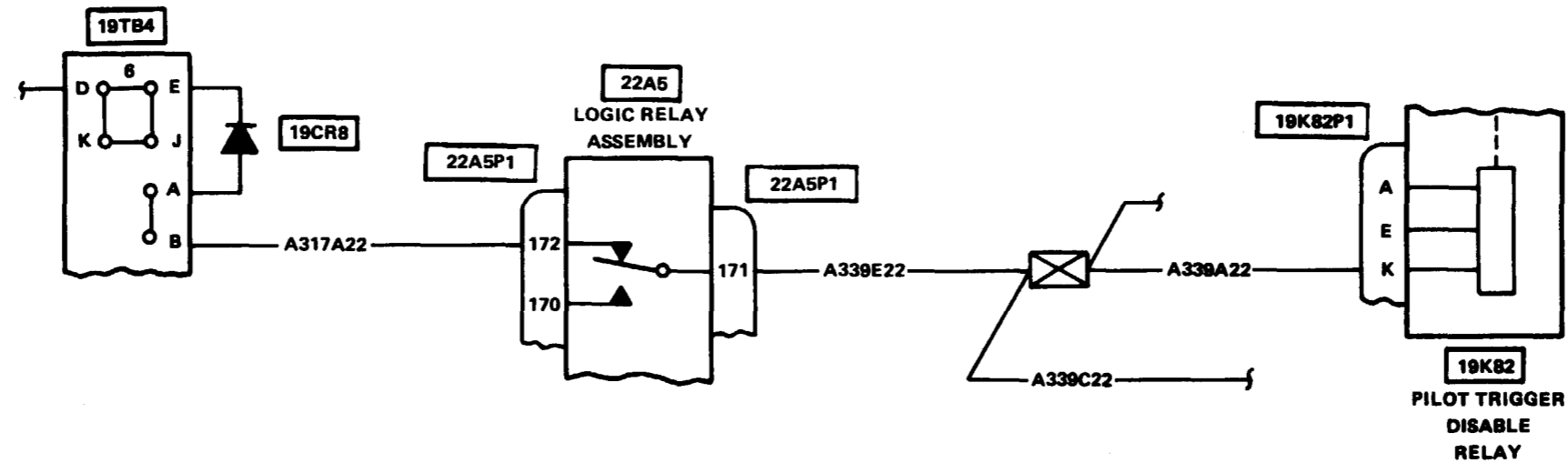
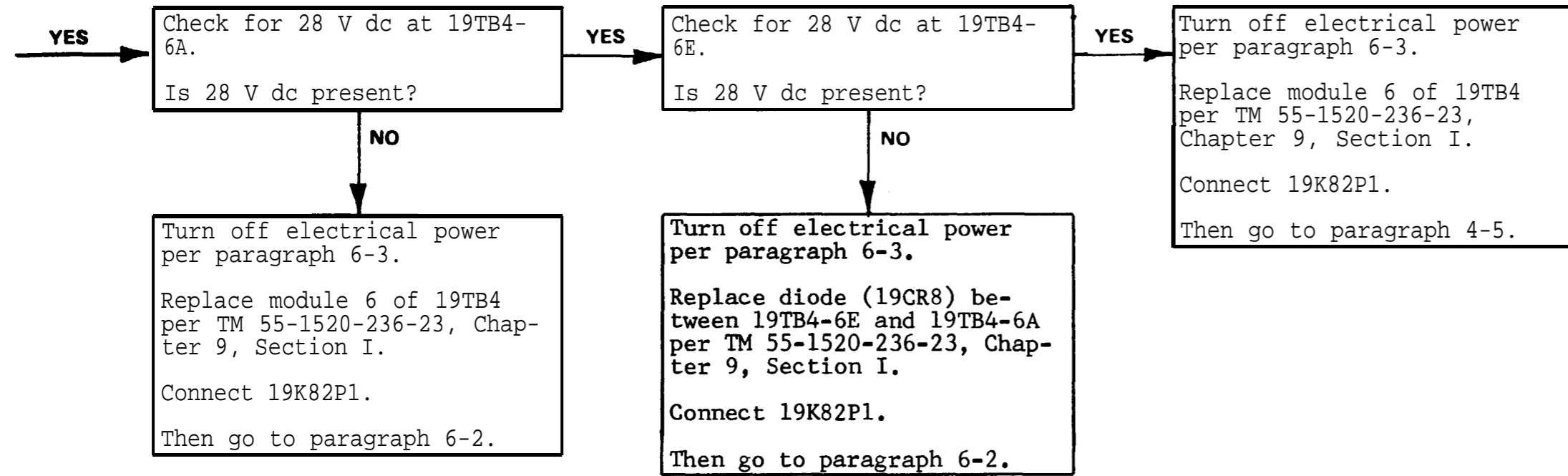
Access Panels
Forward Belly Armament
and Lighting - Removed



6-55. GUN BARRELS DO NOT ROTATE IN RESPONSE TO PILOT TRIGGER IN TOW MODE (CONTINUED).



6-55. GUN BARRELS DO NOT ROTATE IN RESPONSE TO PILOT TRIGGER IN TOW MODE (CONTINUED).



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6-56. TURRET DOES NOT RESPOND TO GUNNER CYCLIC STICK TRIGGER ACTION SWITCH.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

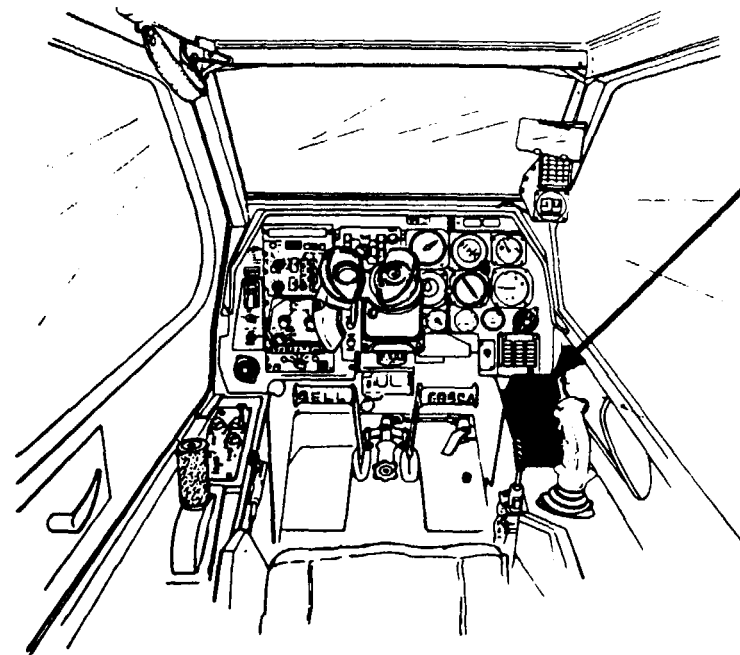
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

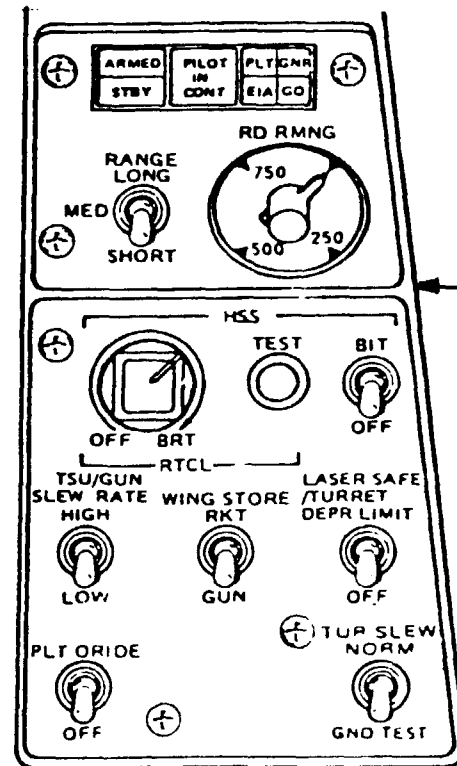
References
TM 9-1090-206-20-1

Access Panels
Forward Belly Armament and Lighting - Removed

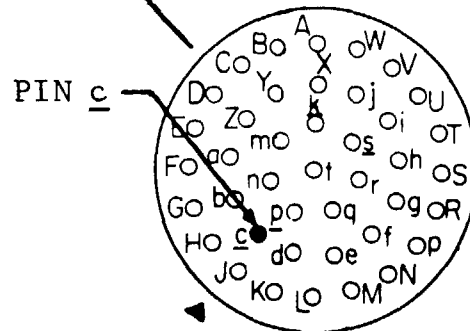
Forward Right Side Control Linkage - Removed



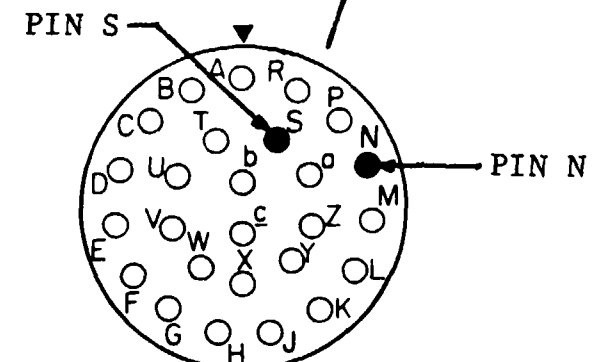
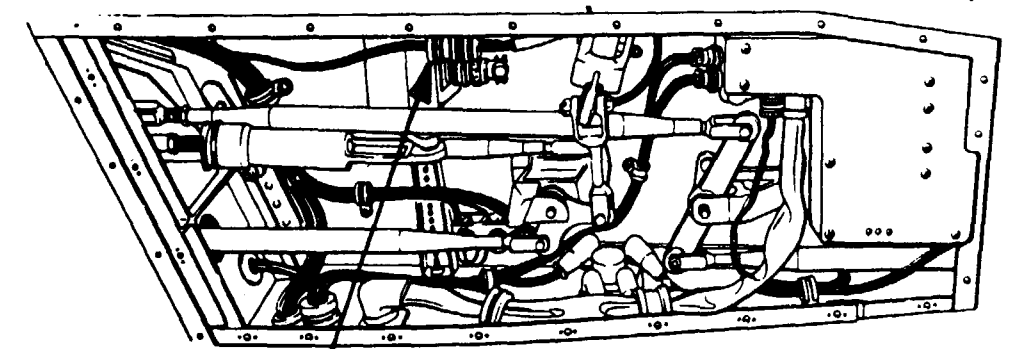
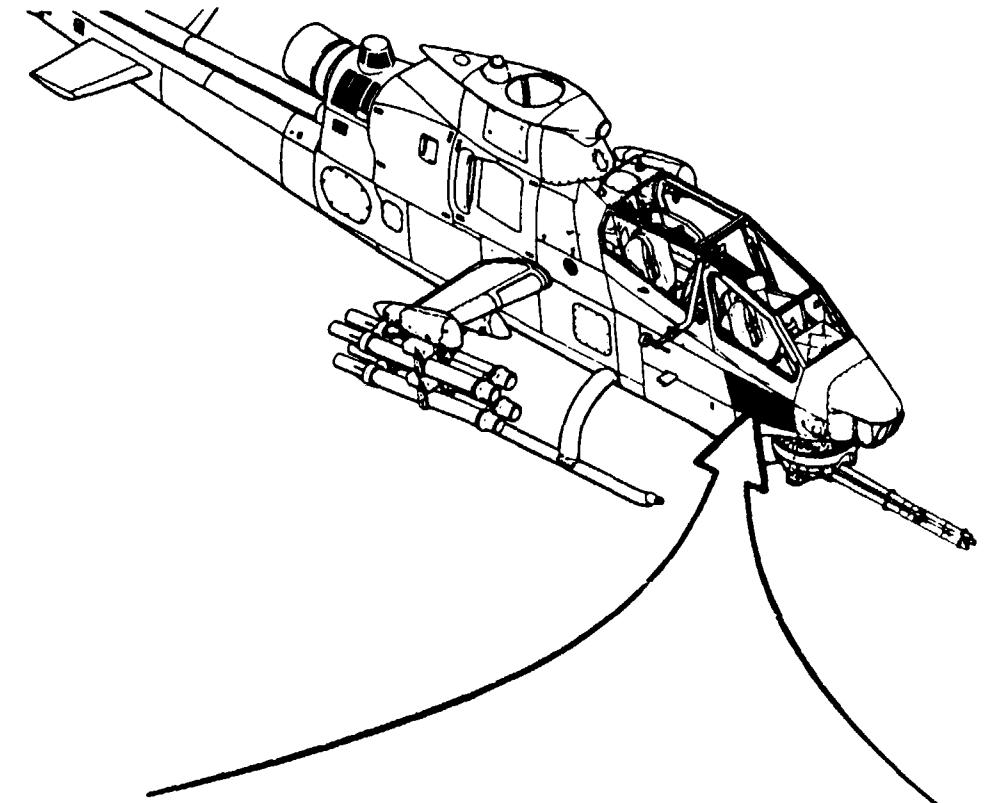
GUNNER STATION



GUNNER ARMAMENT CONTROL PANEL

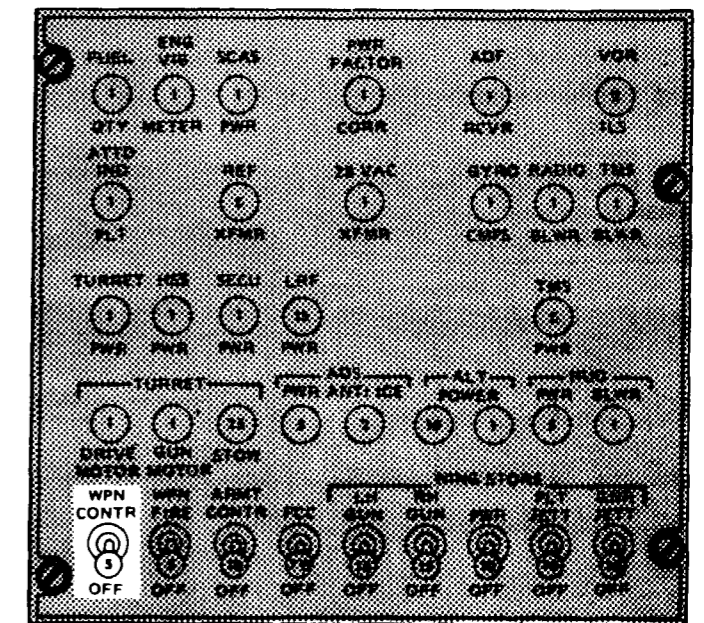
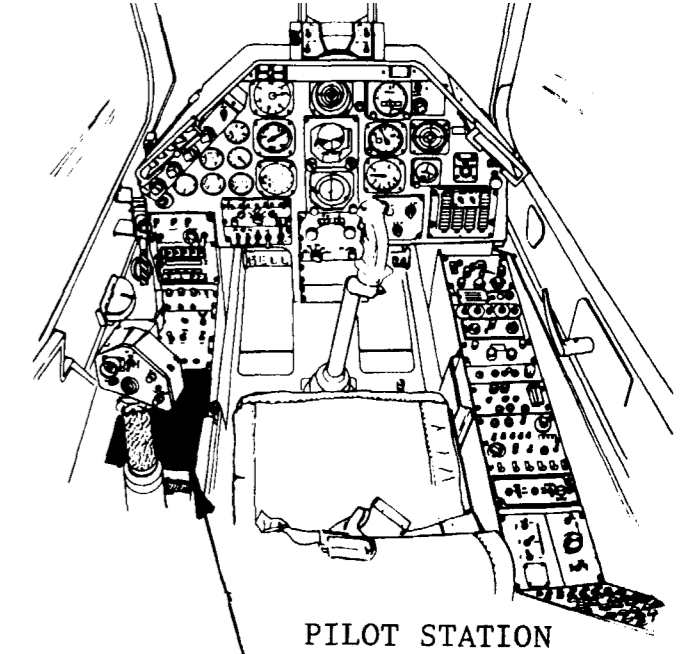
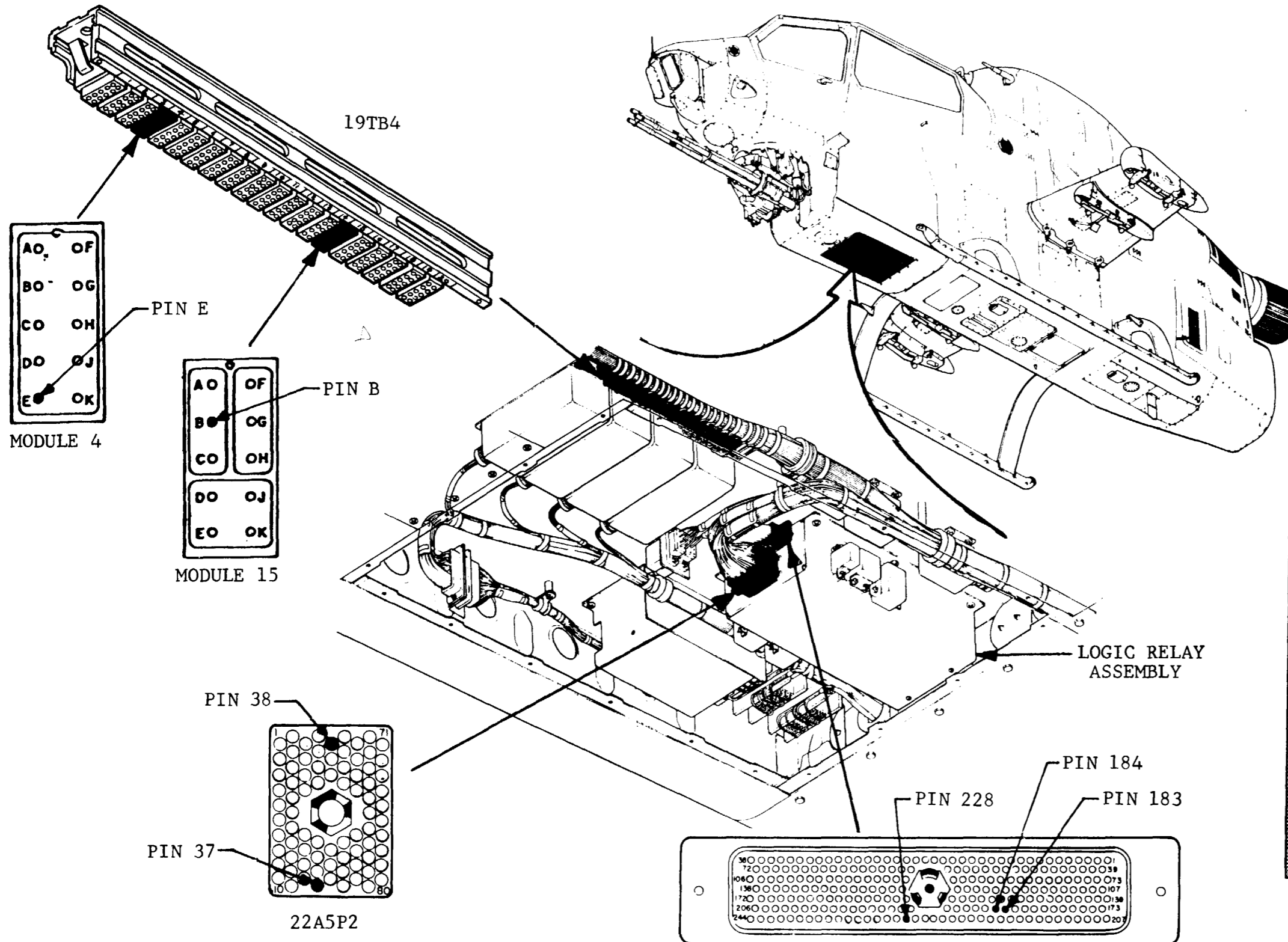


22A3P1



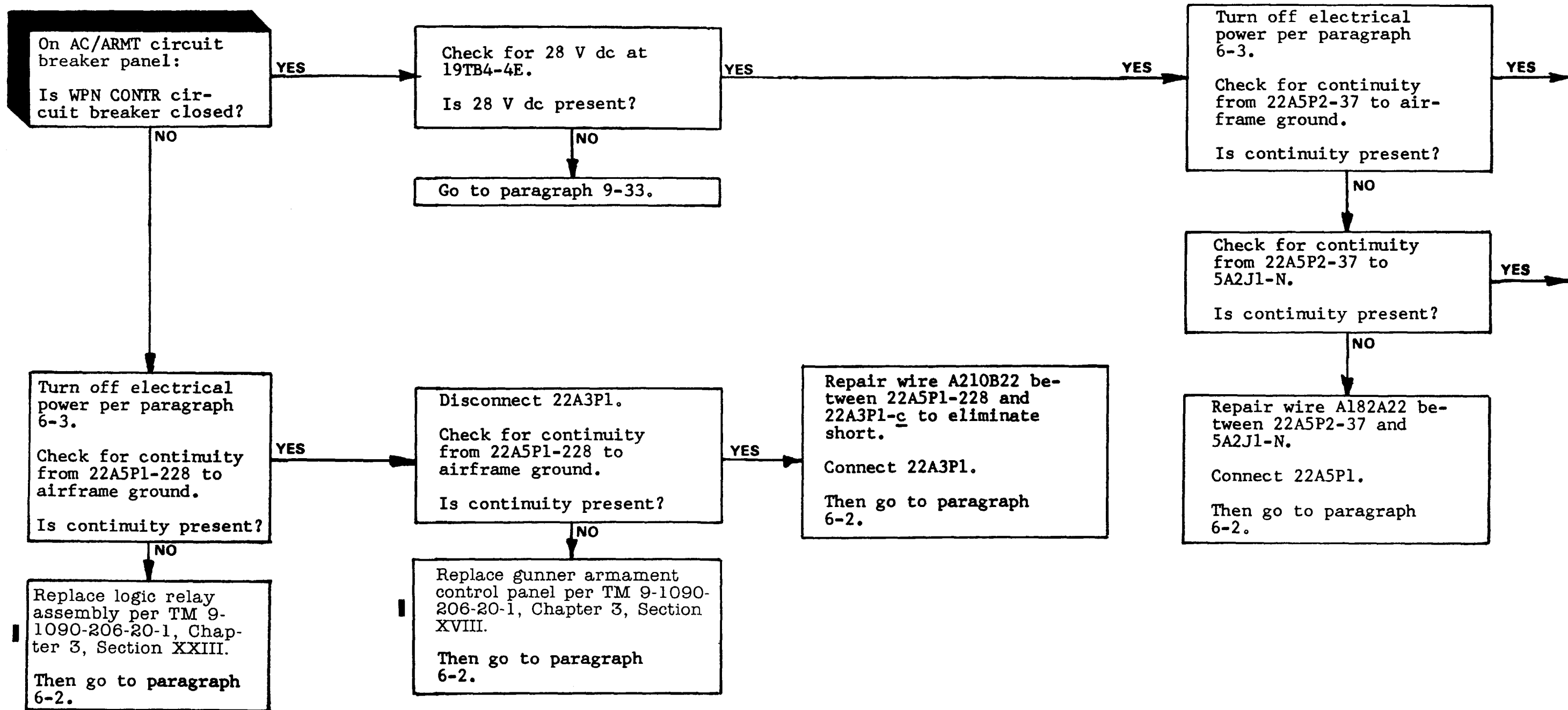
5A2J1

6-56. TURRET DOES NOT RESPOND TO GUNNER CYCLIC STICK TRIGGER ACTION SWITCH (CONTINUED).

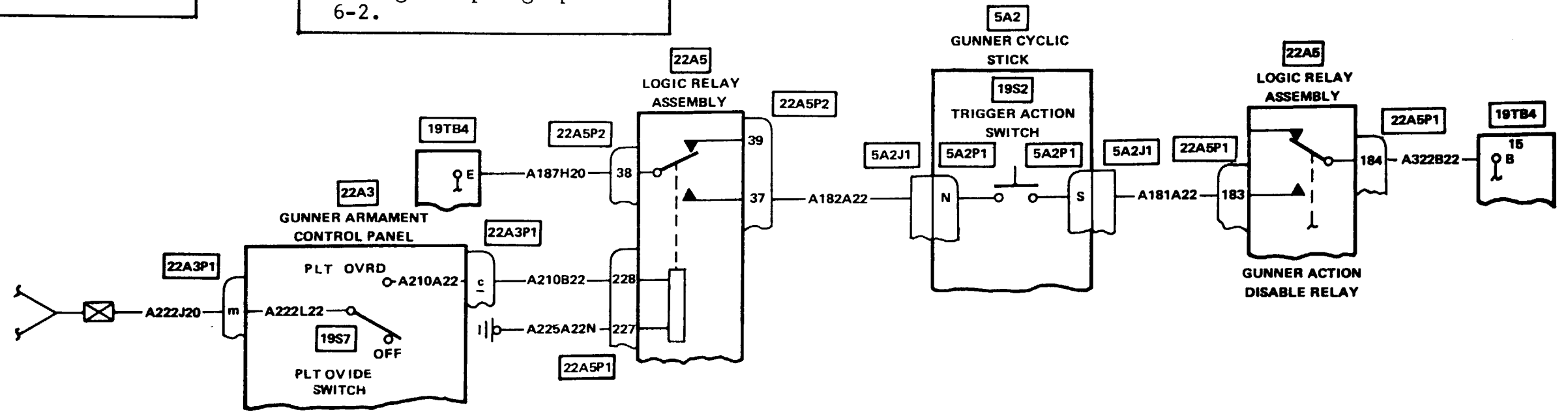
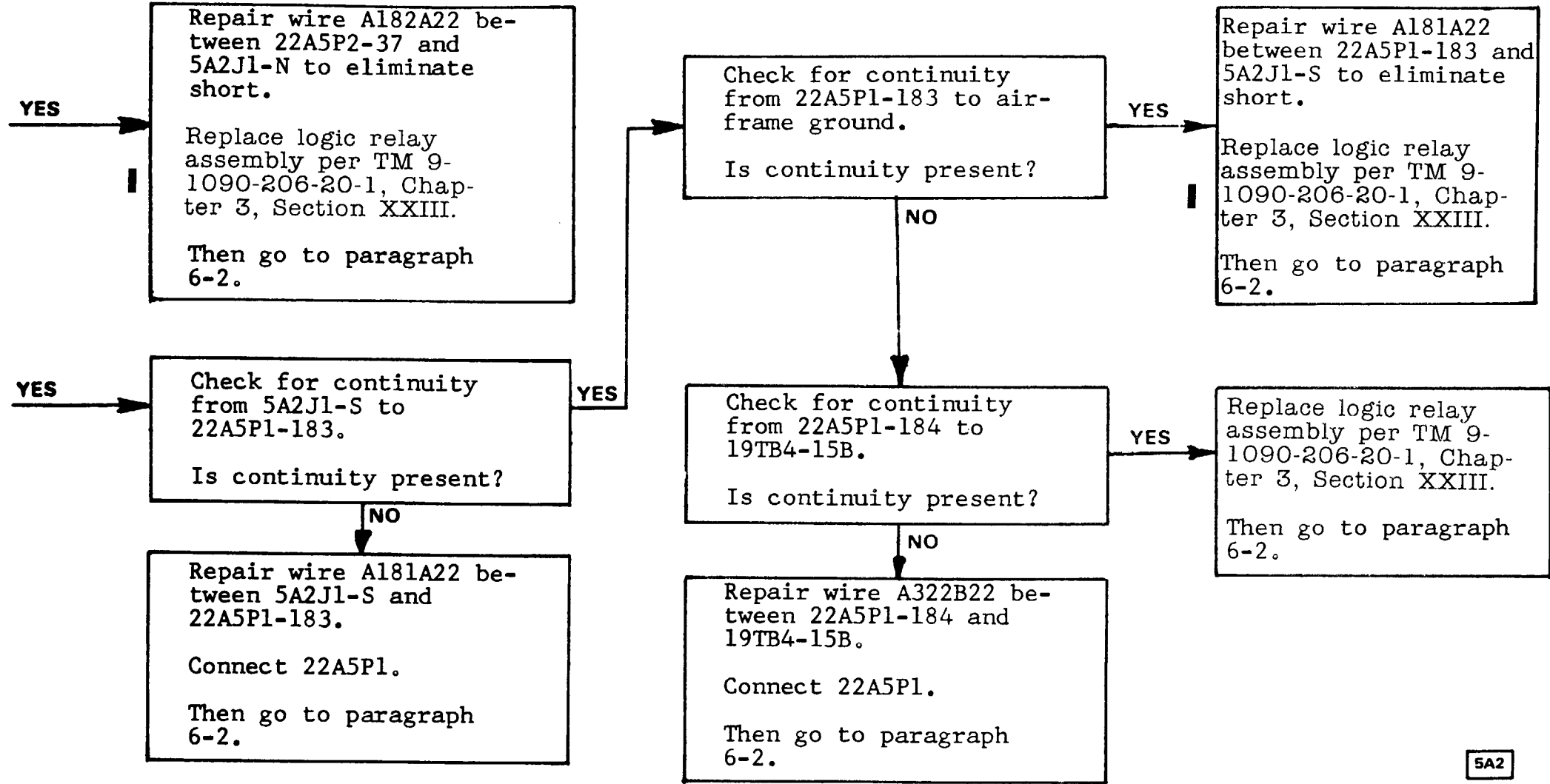


AC/ARMT CIRCUIT BREAKER PANEL

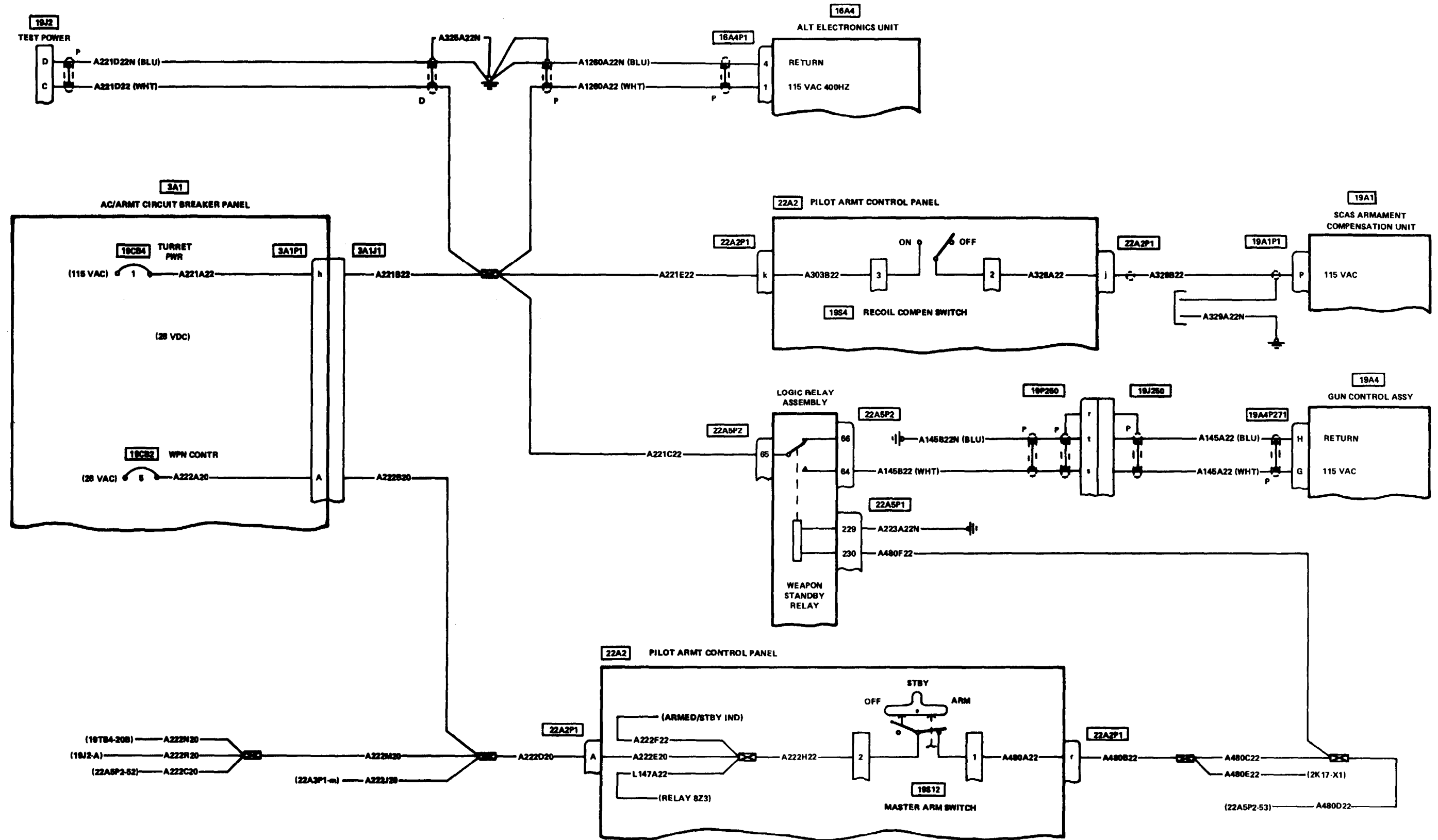
6-56. TURRET DOES NOT RESPOND TO GUNNER CYCLIC STICK TRIGGER ACTION SWITCH (CONTINUED).



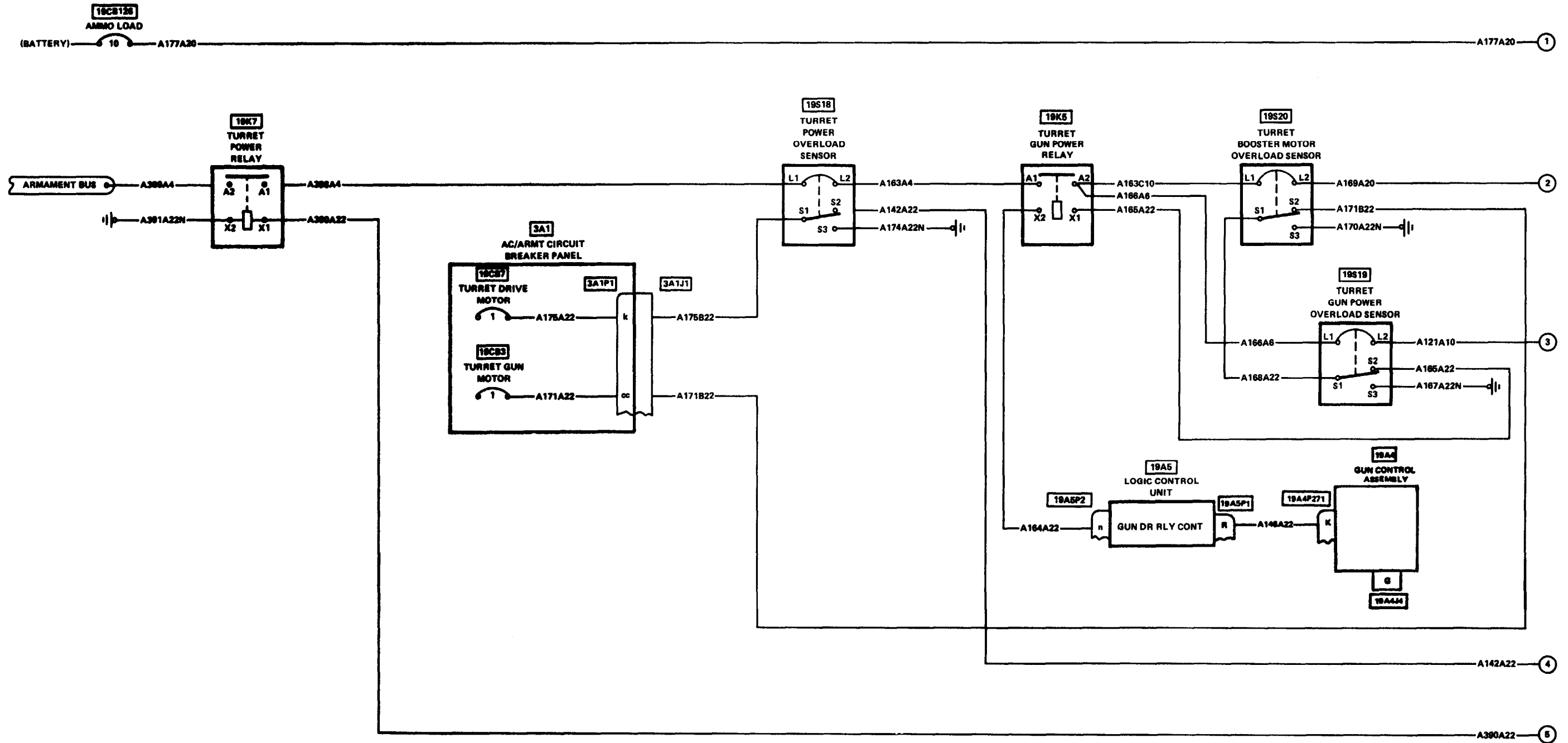
6-56. TURRET DOES NOT RESPOND TO GUNNER CYCLIC STICK TRIGGER ACTION SWITCH (CONTINUED).



TURRET AC POWER

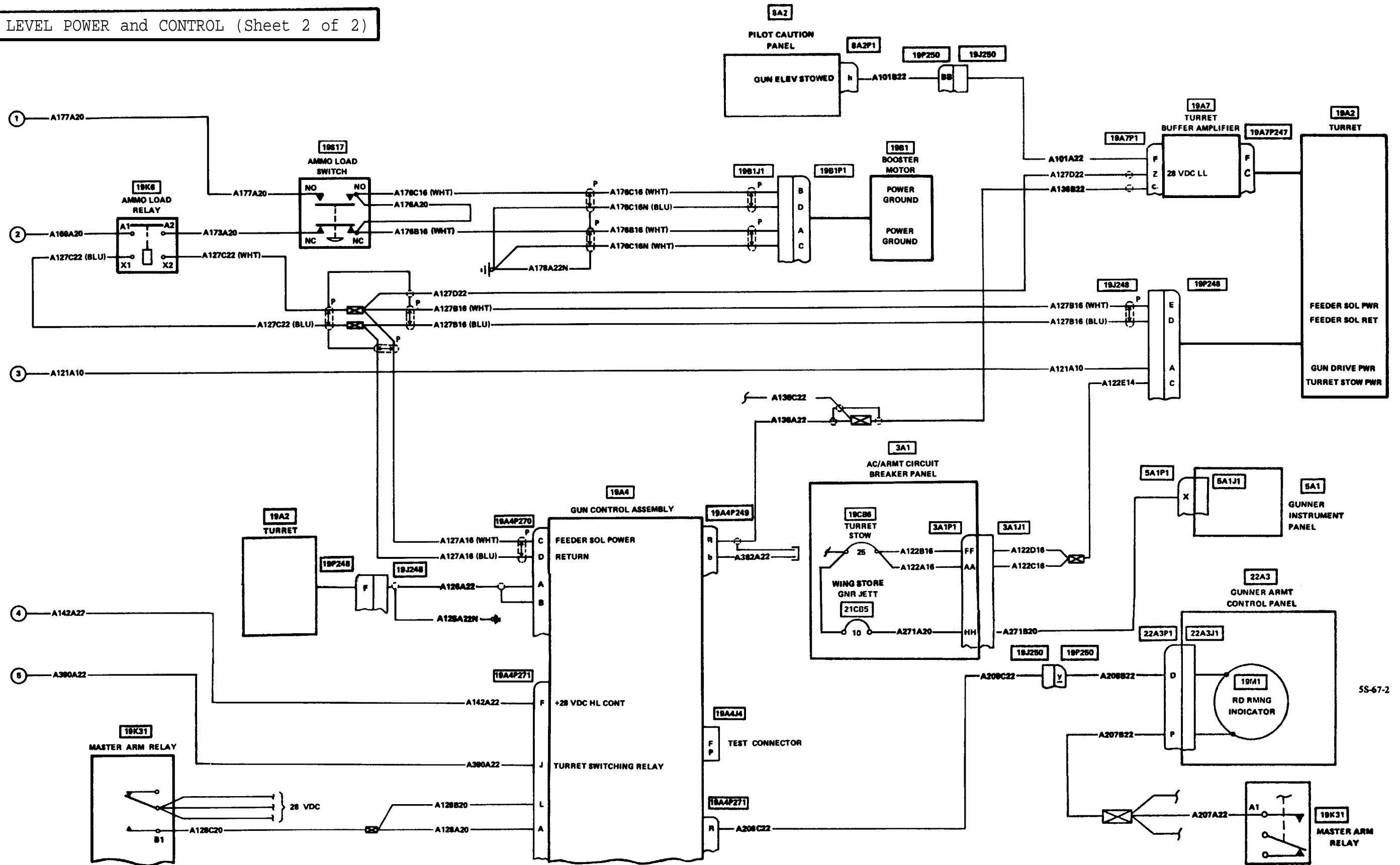


HIGH LEVEL POWER and CONTROL (Sheet 1 of 2)



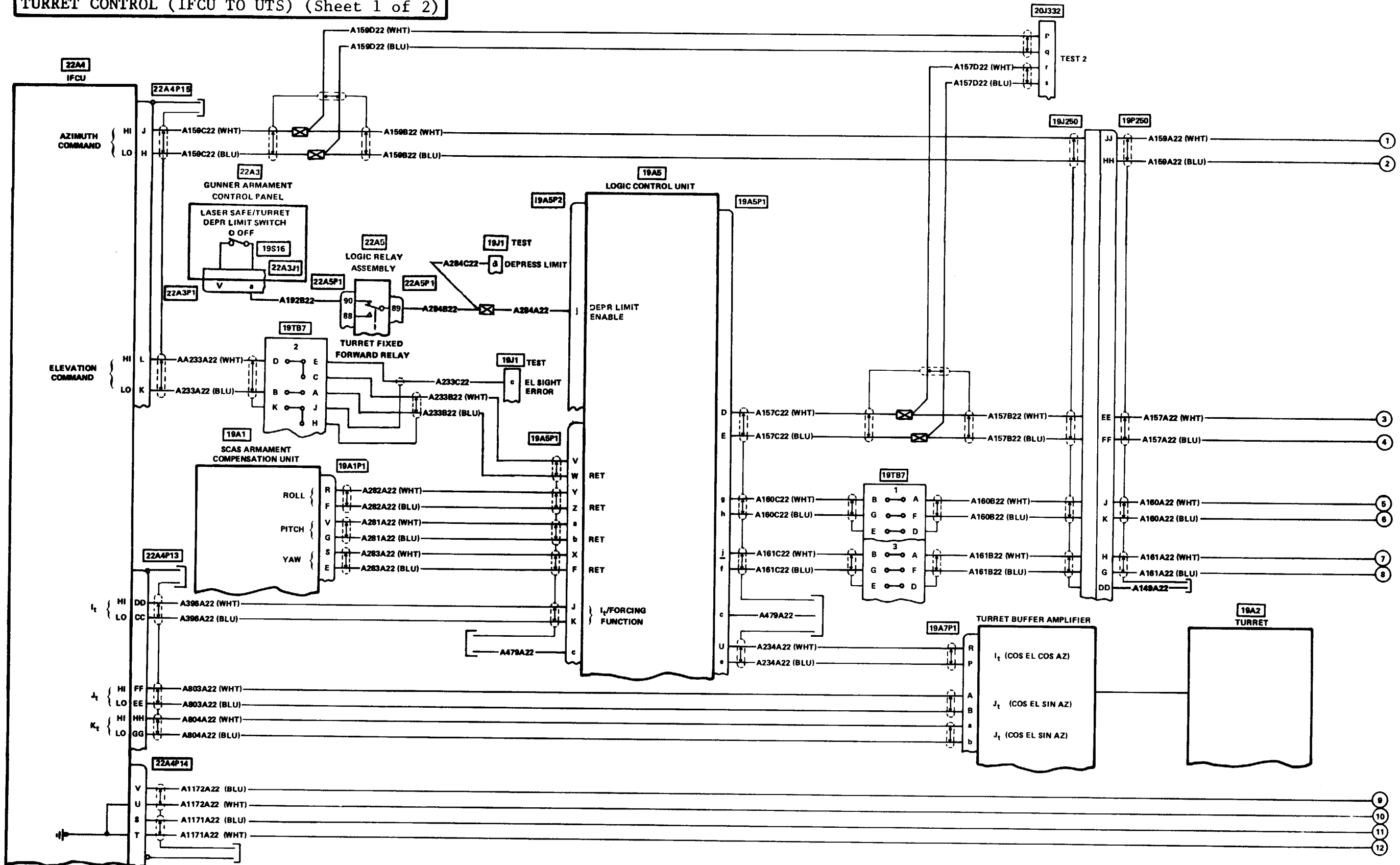
55-67-1

HIGH LEVEL POWER and CONTROL (Sheet 2 of 2)

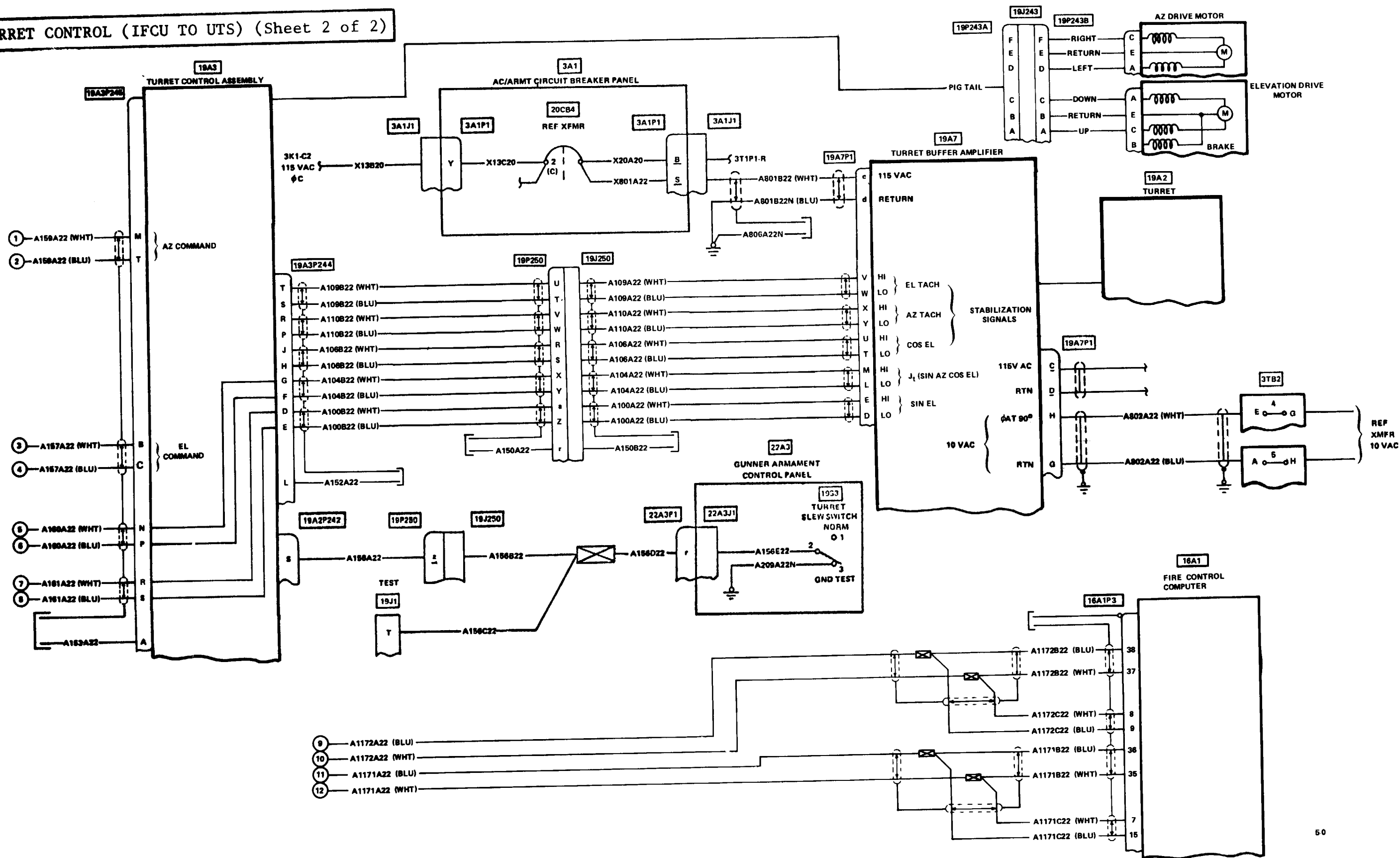


55-67-2

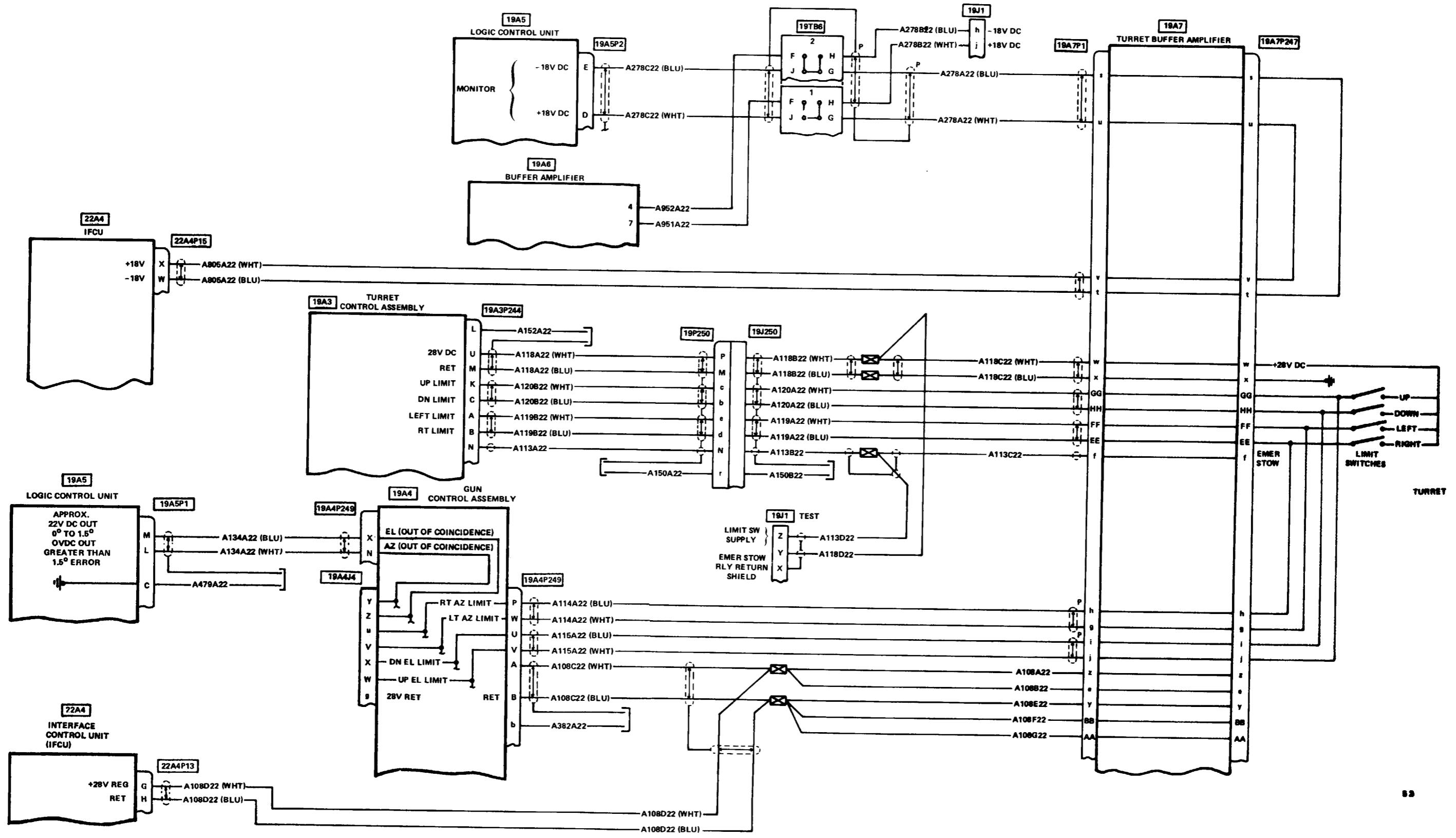
TURRET CONTROL (IFCU TO UTS) (Sheet 1 of 2)



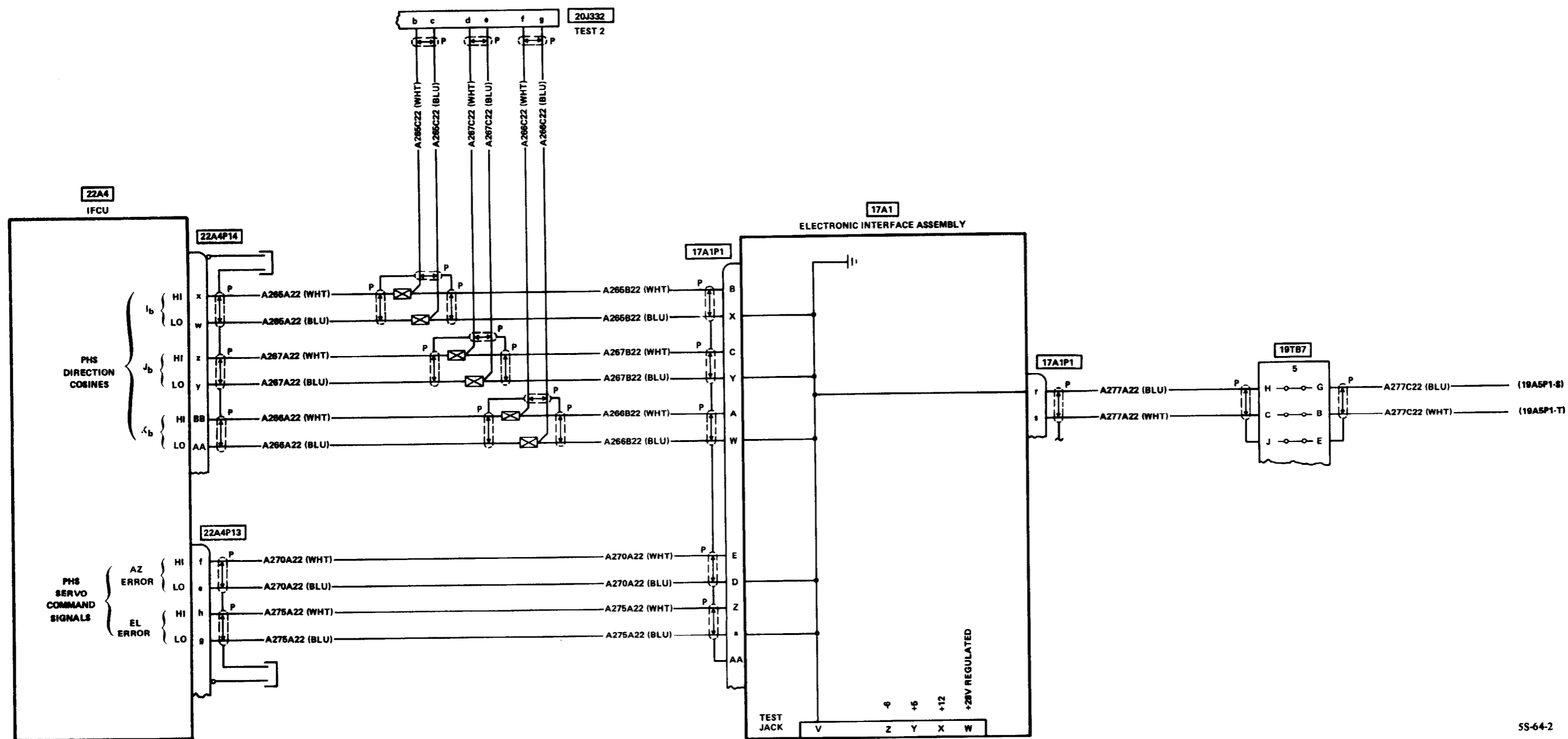
TURRET CONTROL (IFCU TO UTS) (Sheet 2 of 2)



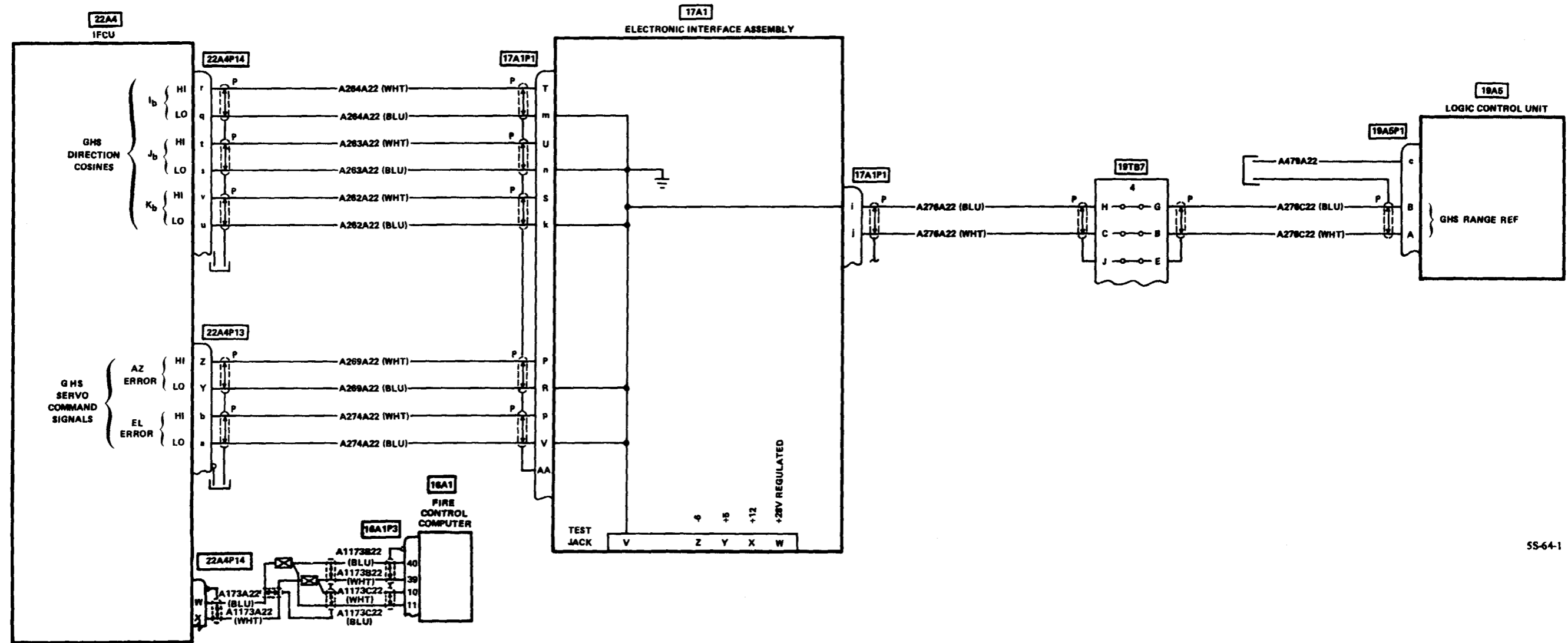
LIMIT SWITCHES (POWER AND CONTROL) (Sheet 1 of 1)



PILOT HELMET SIGHT SIGNALS (EIA TO IFCU) (Sheet 1 of 1)

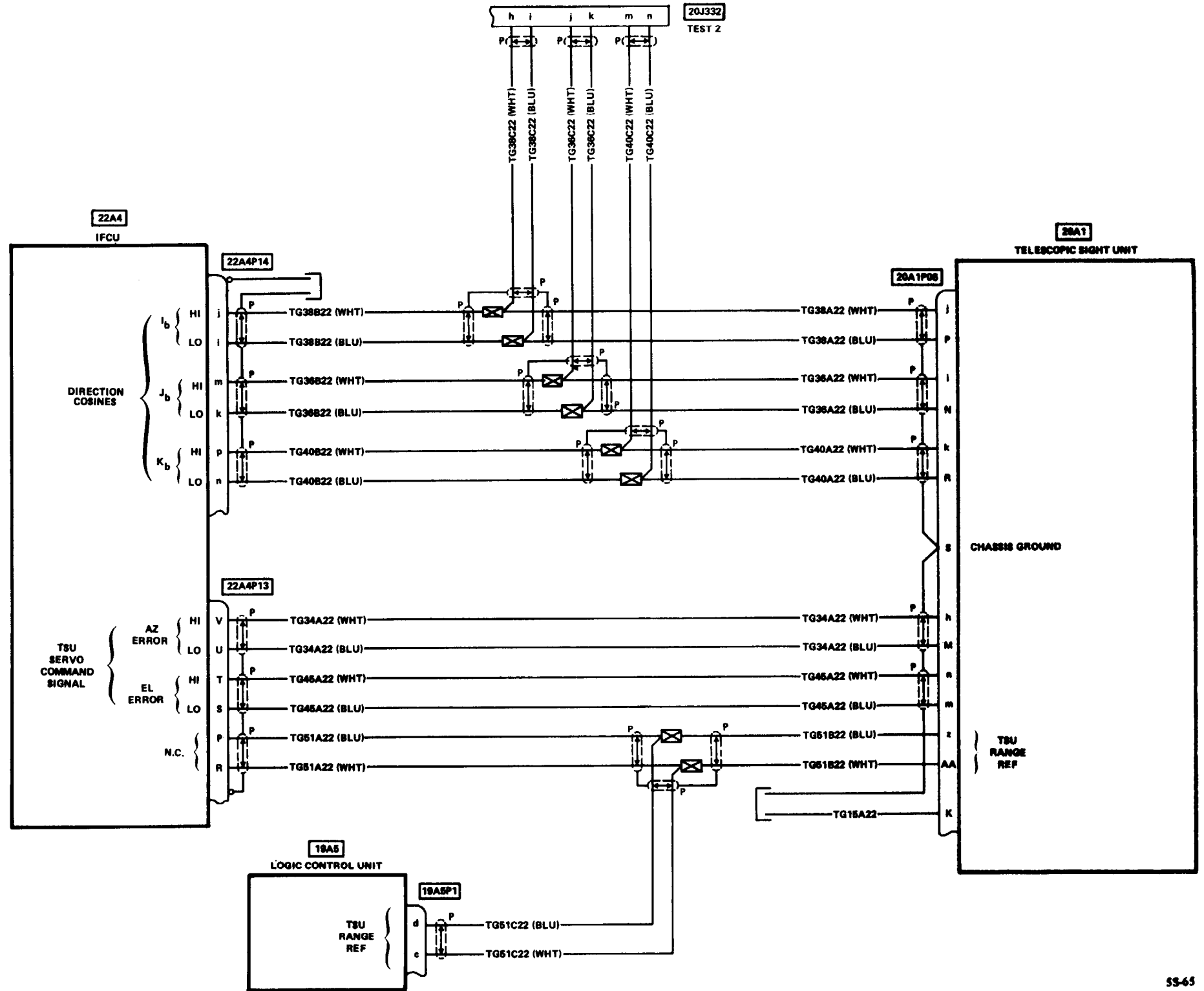


GUNNER HELMET SIGHT SIGNALS (EIA TO IFCU) (Sheet 1 of 1)

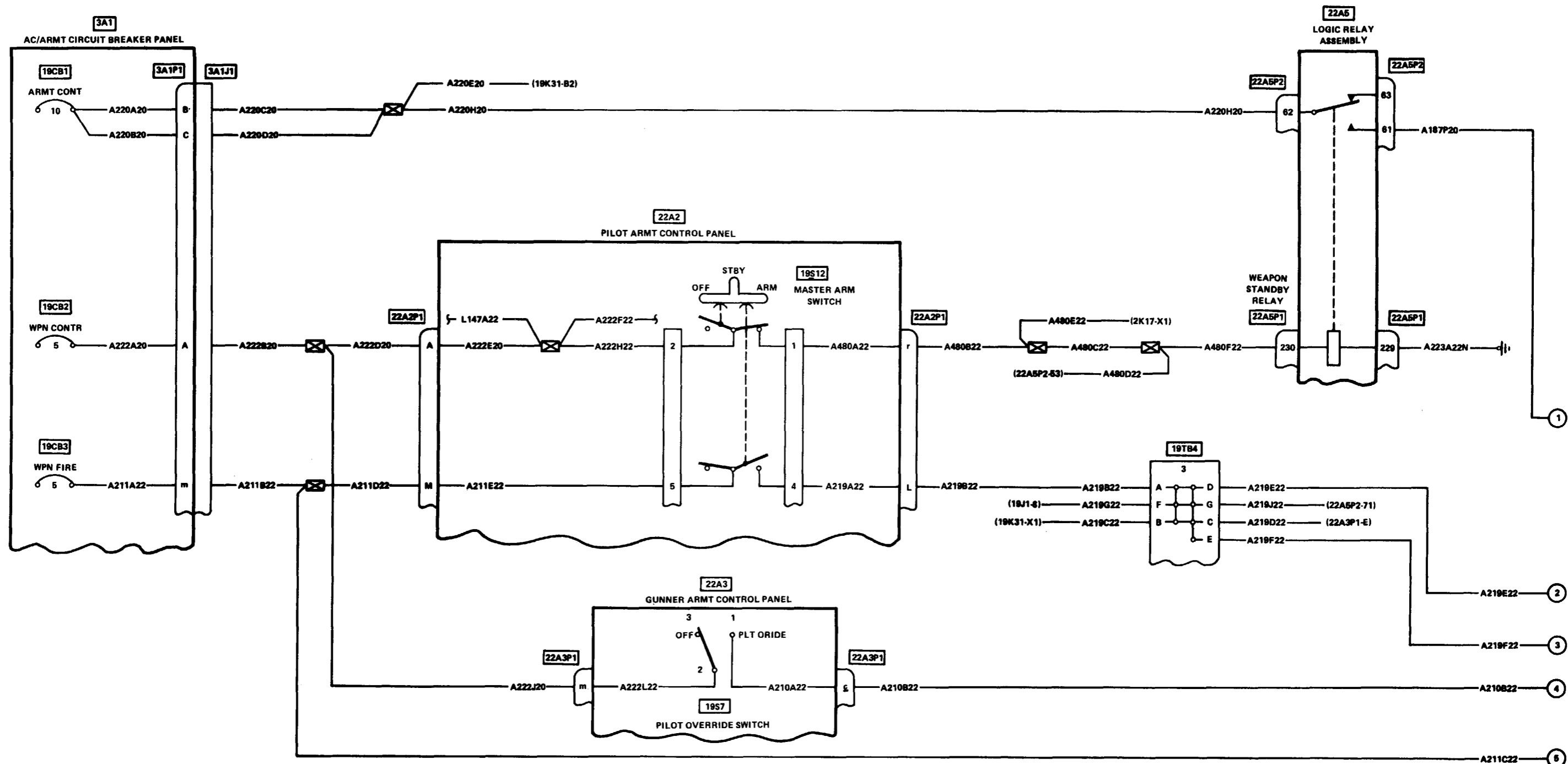


55-64-1

TSU SIGNALS (TSU TO IFCU) (Sheet 1 of 1)

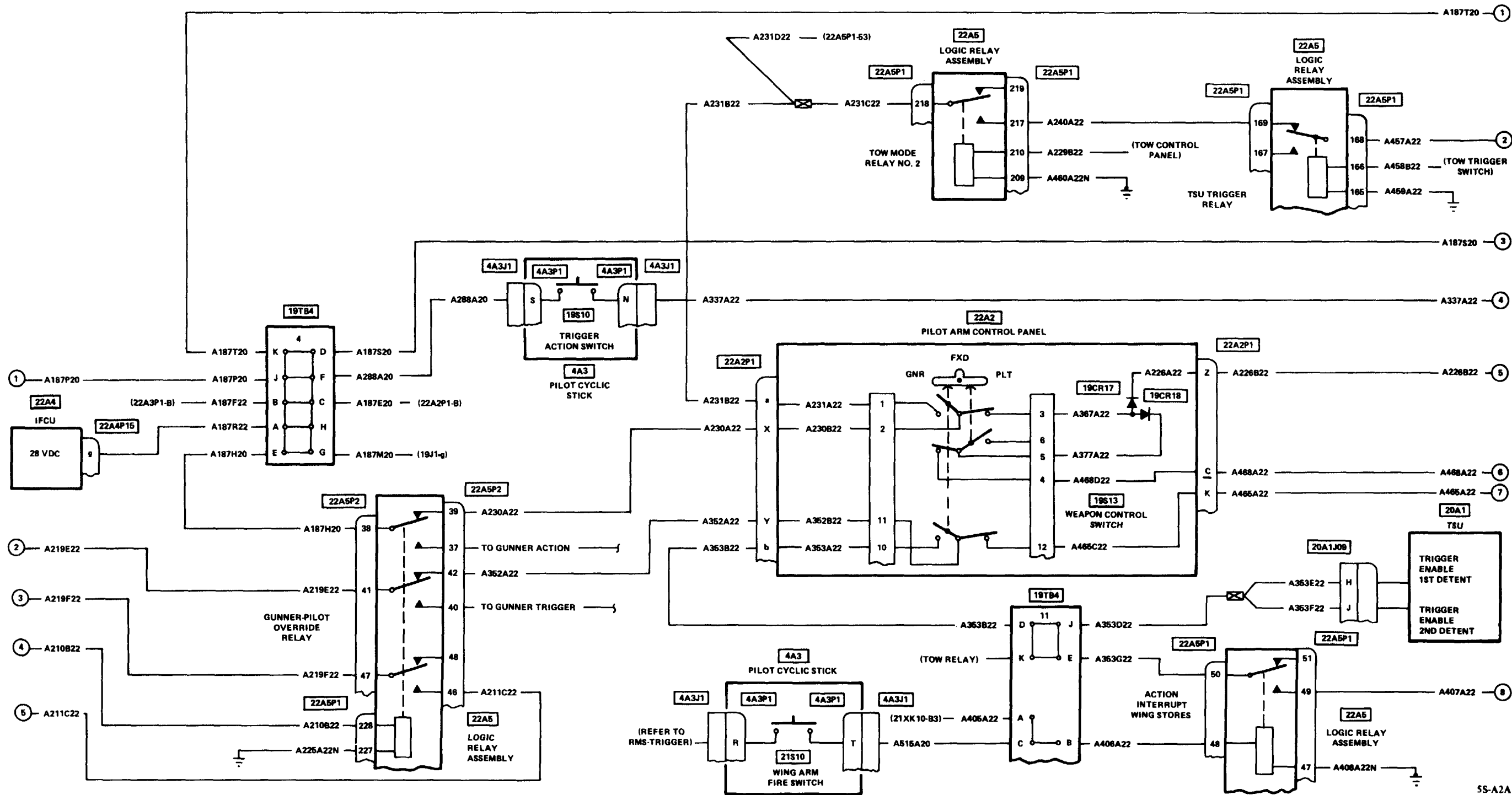


PILOT ACTION SWITCHES (Sheet 1 of 5)



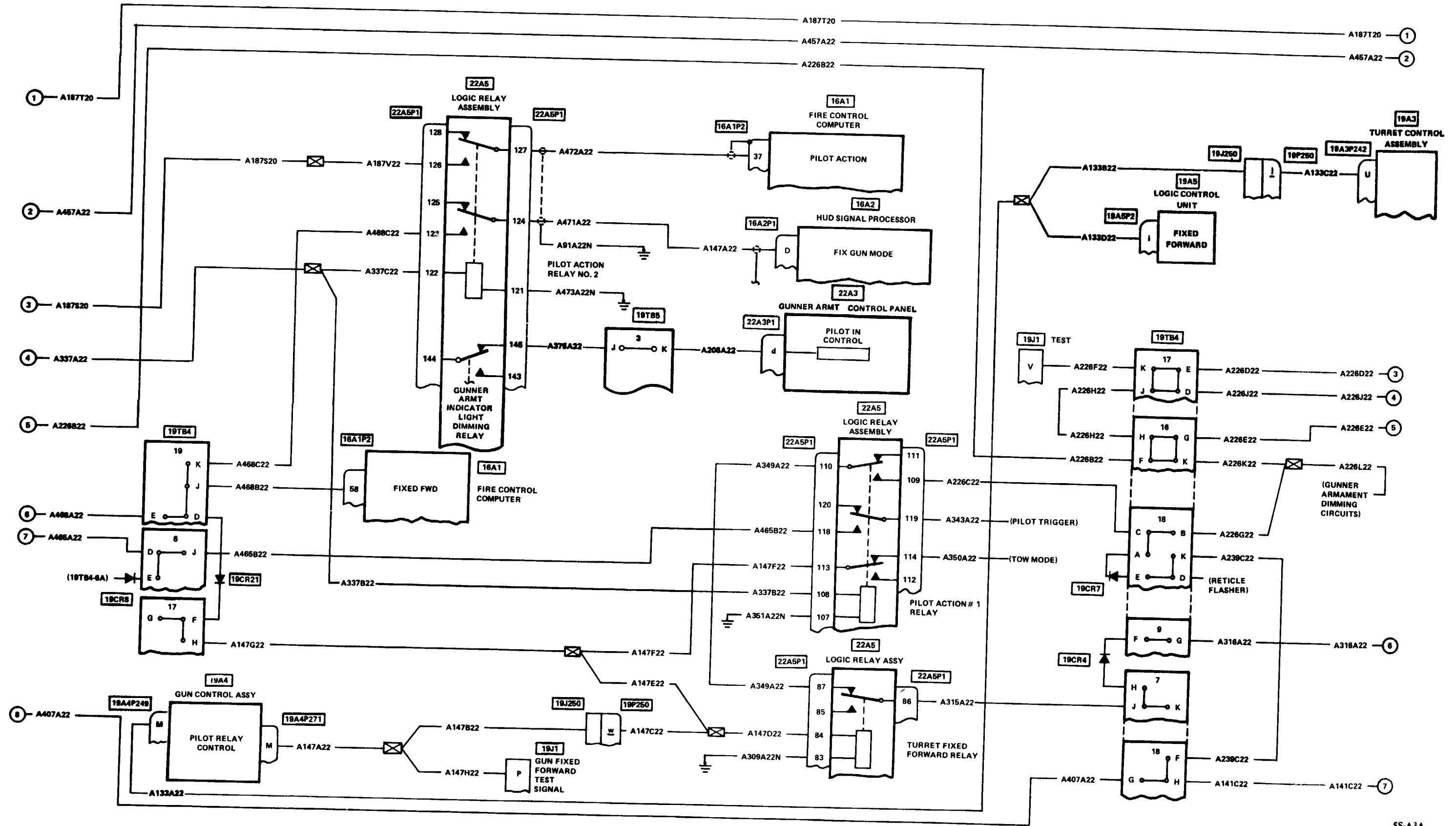
55-68

PILOT ACTION SWITCHES (Sheet 2 of 5)

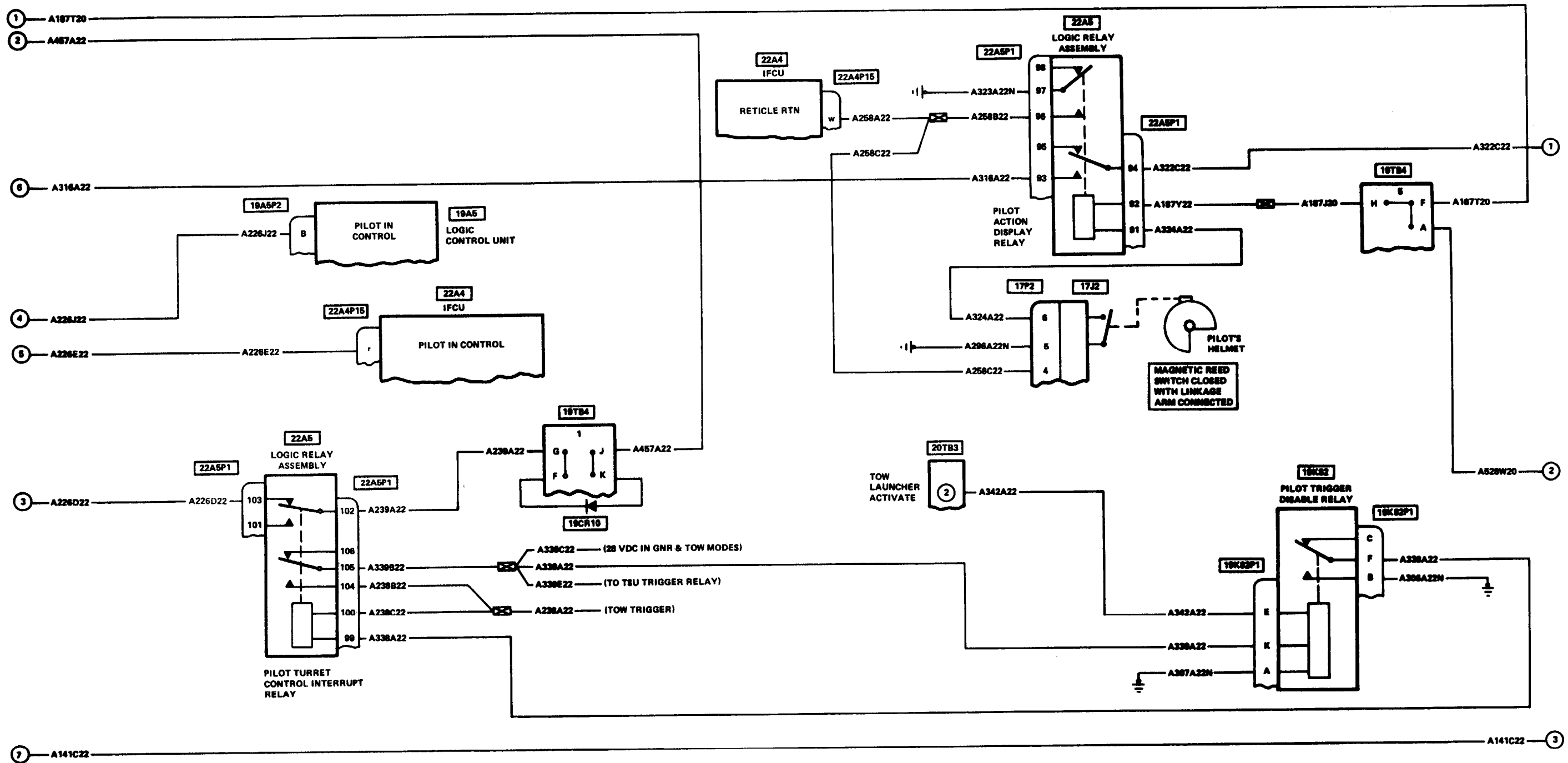


55-A2A

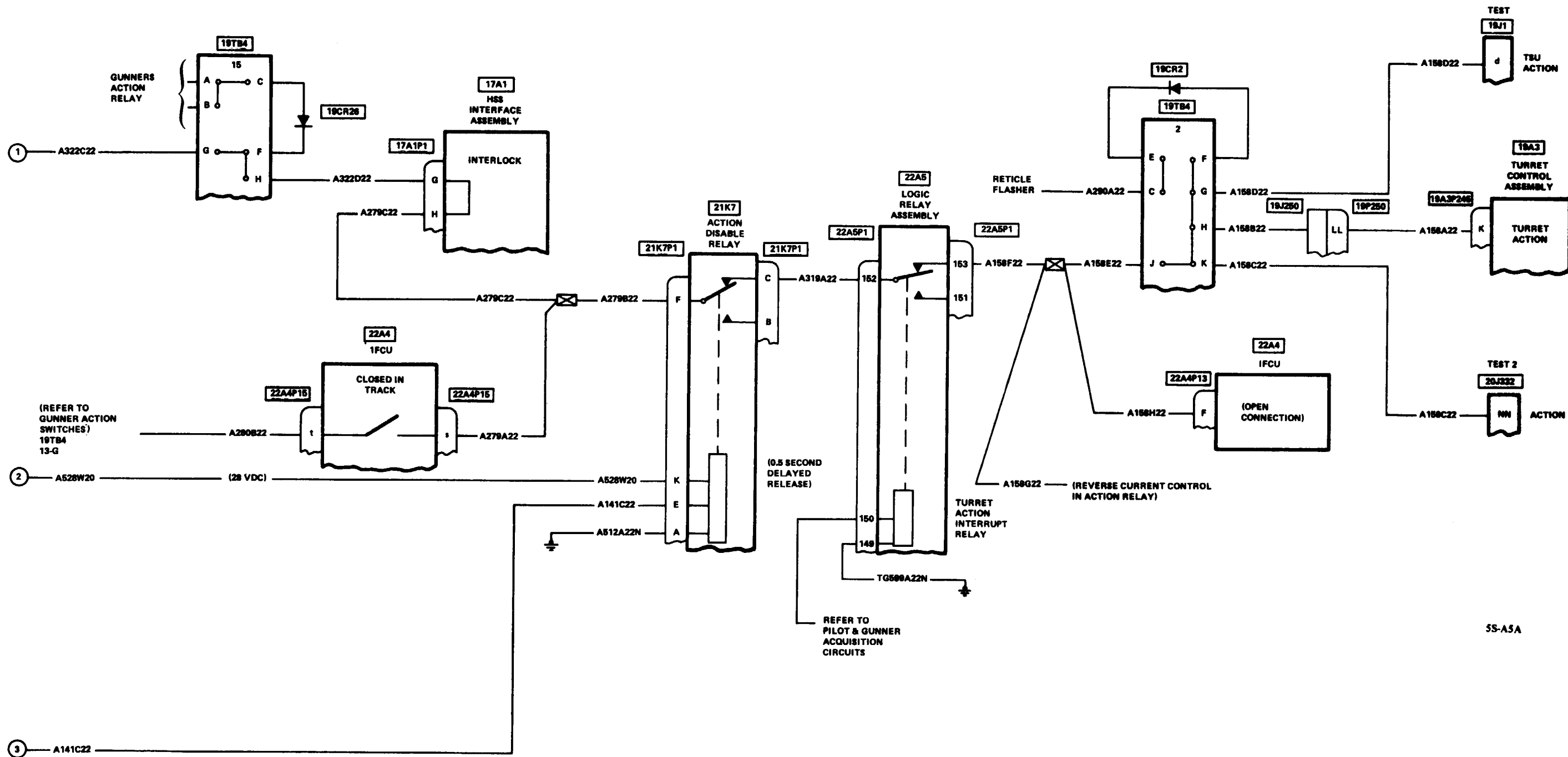
PILOT ACTION SWITCHES (Sheet 3 of 5)



PILOT ACTION SWITCHES (Sheet 4 of 5)

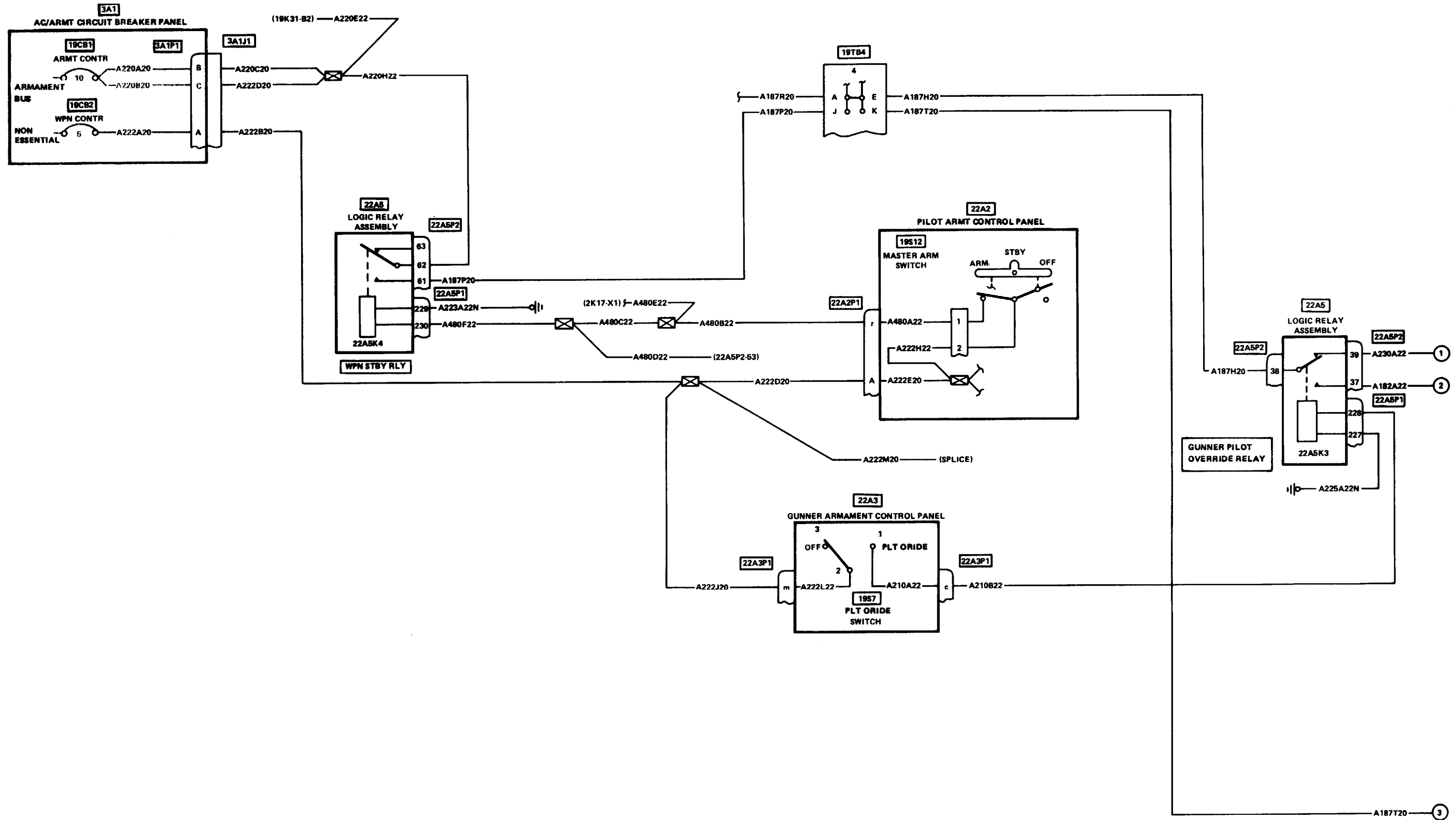


PILOT ACTION SWITCHES (Sheet 5 of 5)

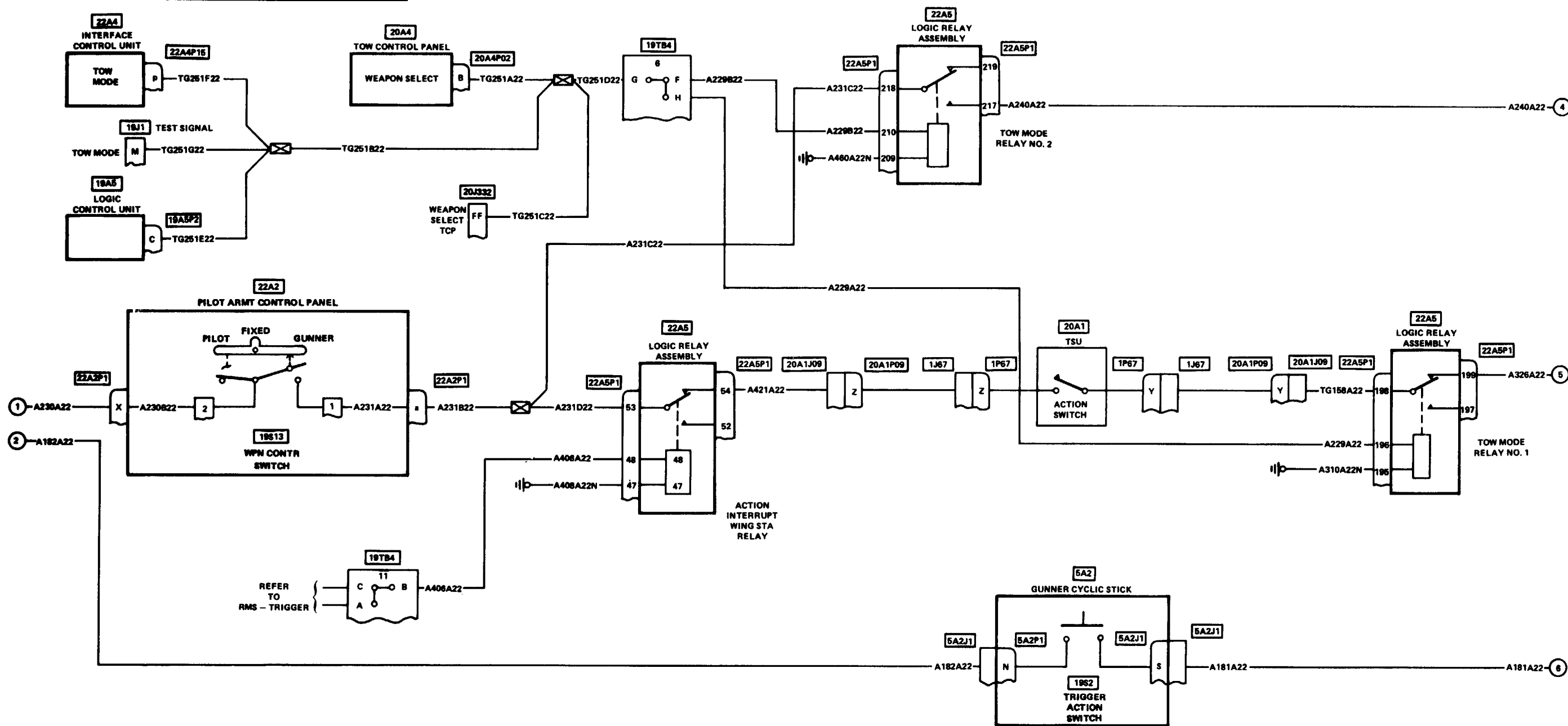


55-A5A

GUNNER ACTION SWITCHES (Sheet 1 of 4)



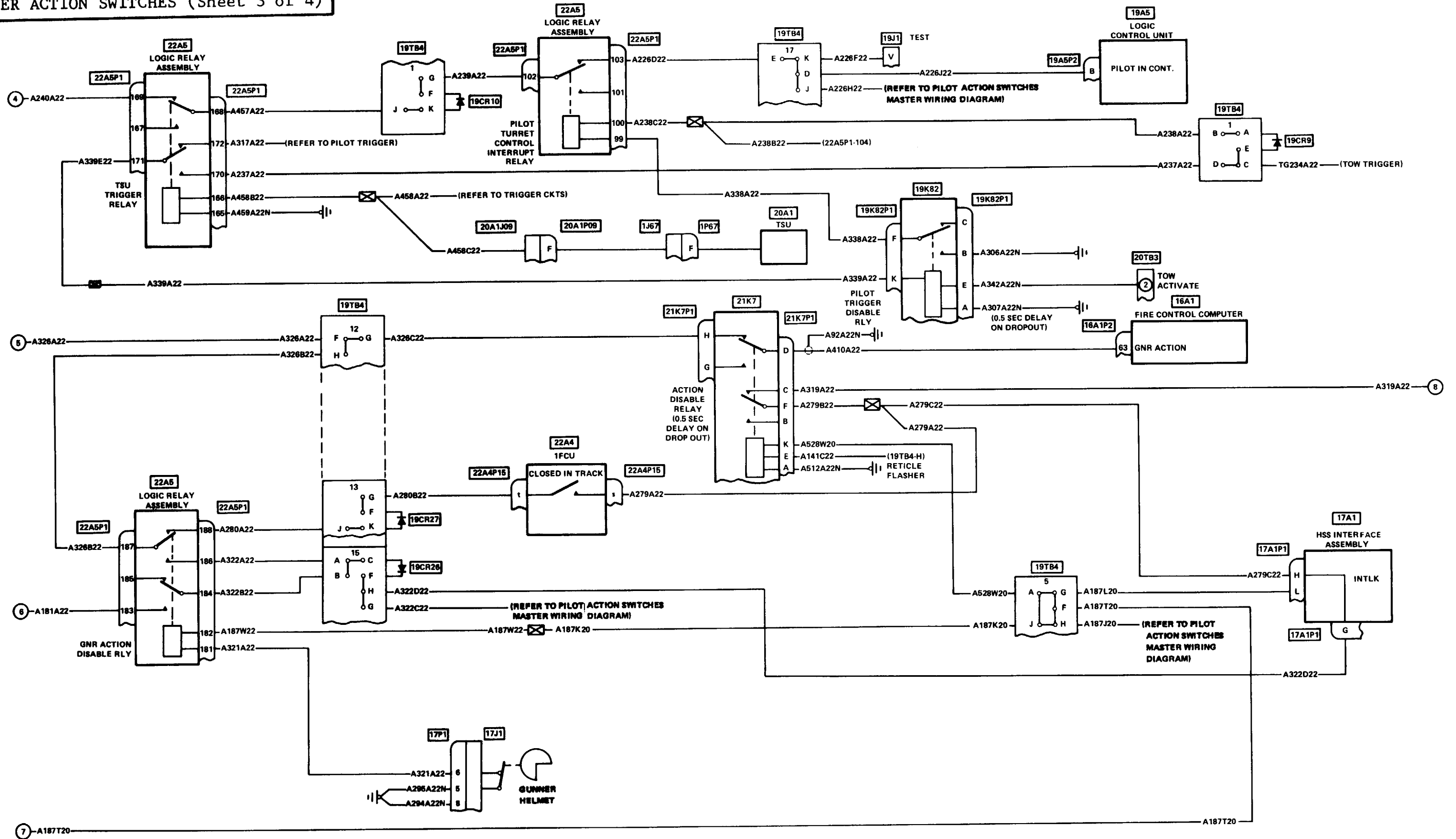
GUNNER ACTION SWITCHES (Sheet 2 of 4)



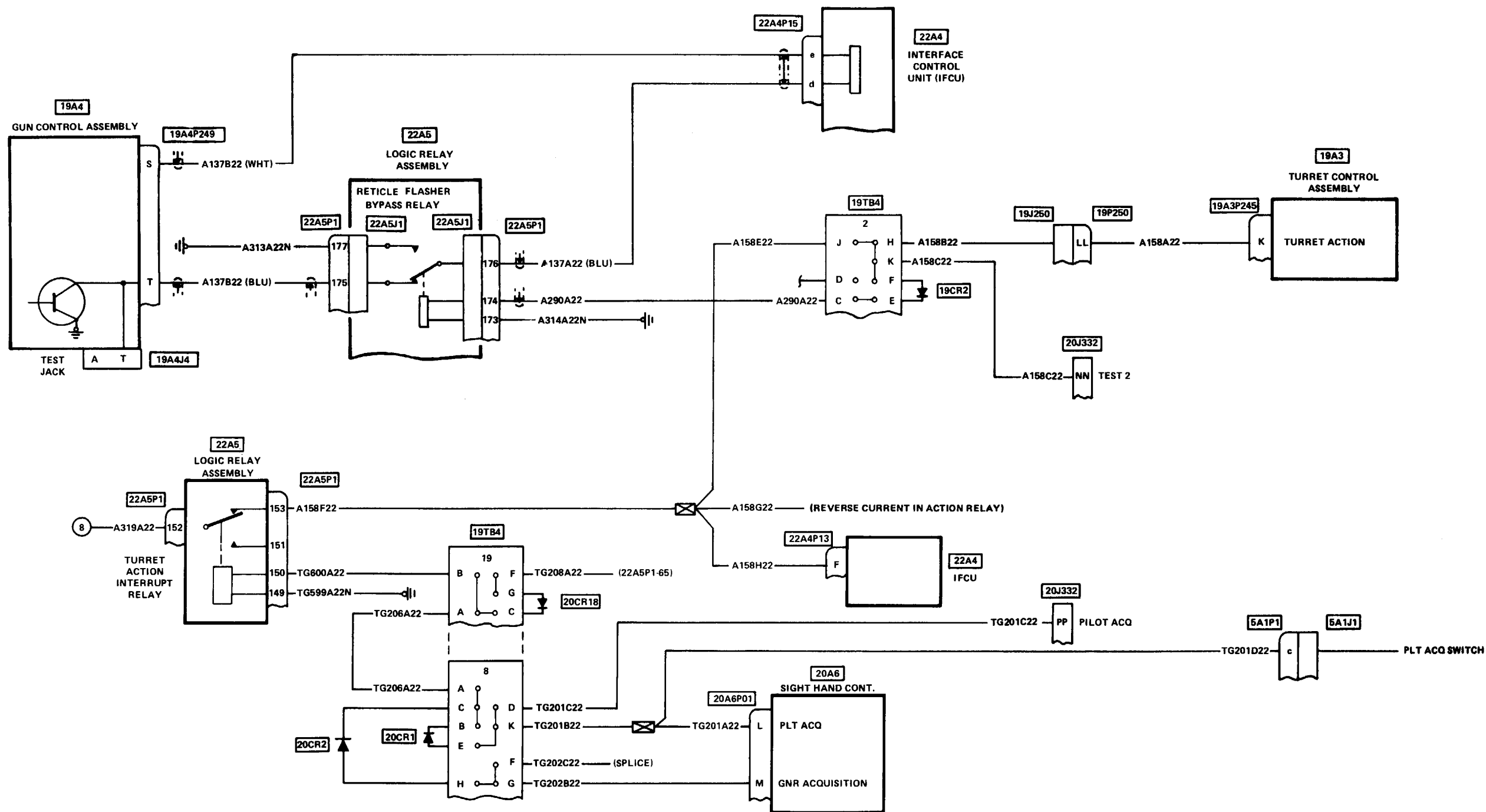
3 - A187T20

A187T20 - 7

GUNNER ACTION SWITCHES (Sheet 3 of 4)

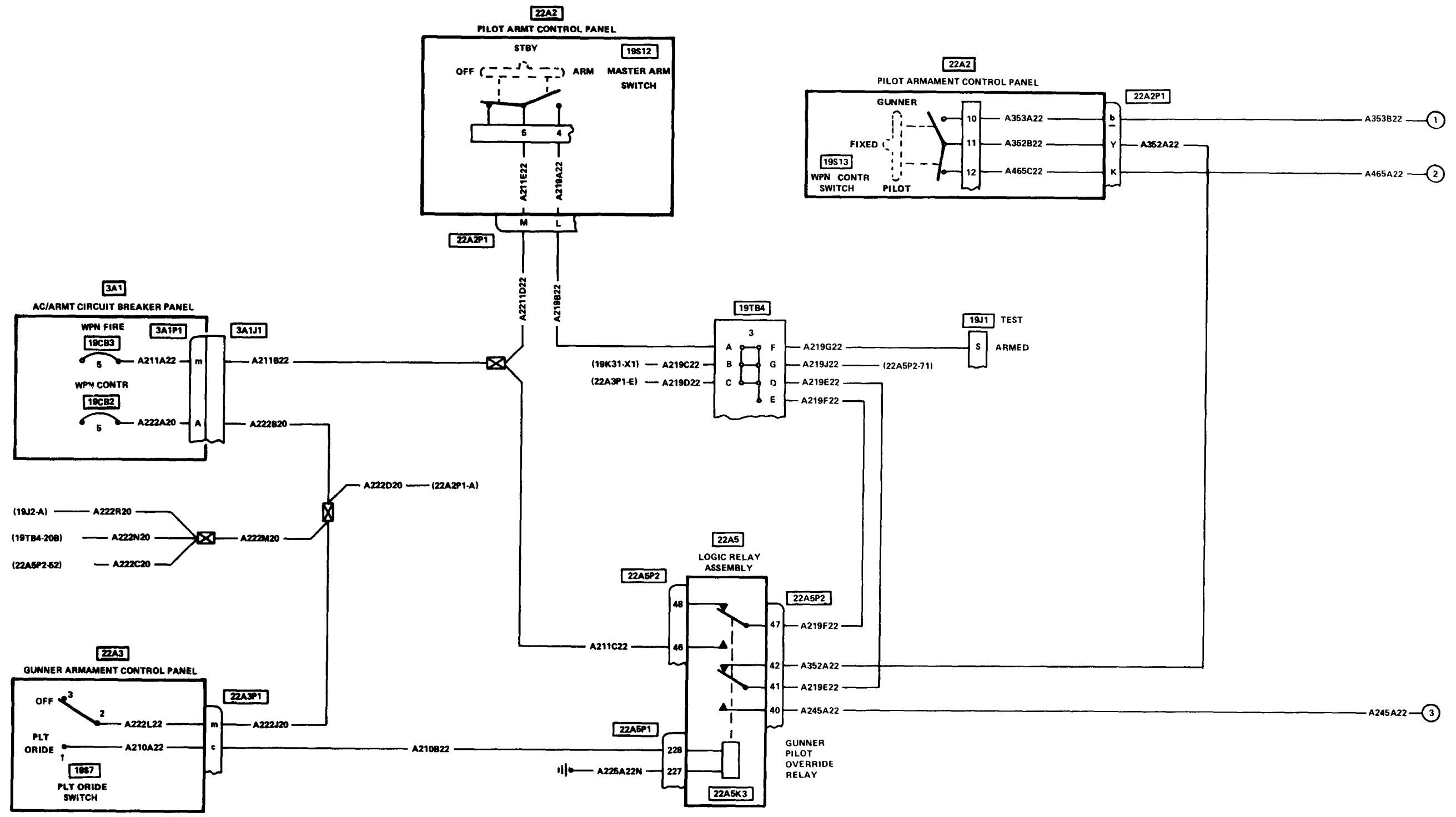


GUNNER ACTION SWITCHES (Sheet 4 of 4)

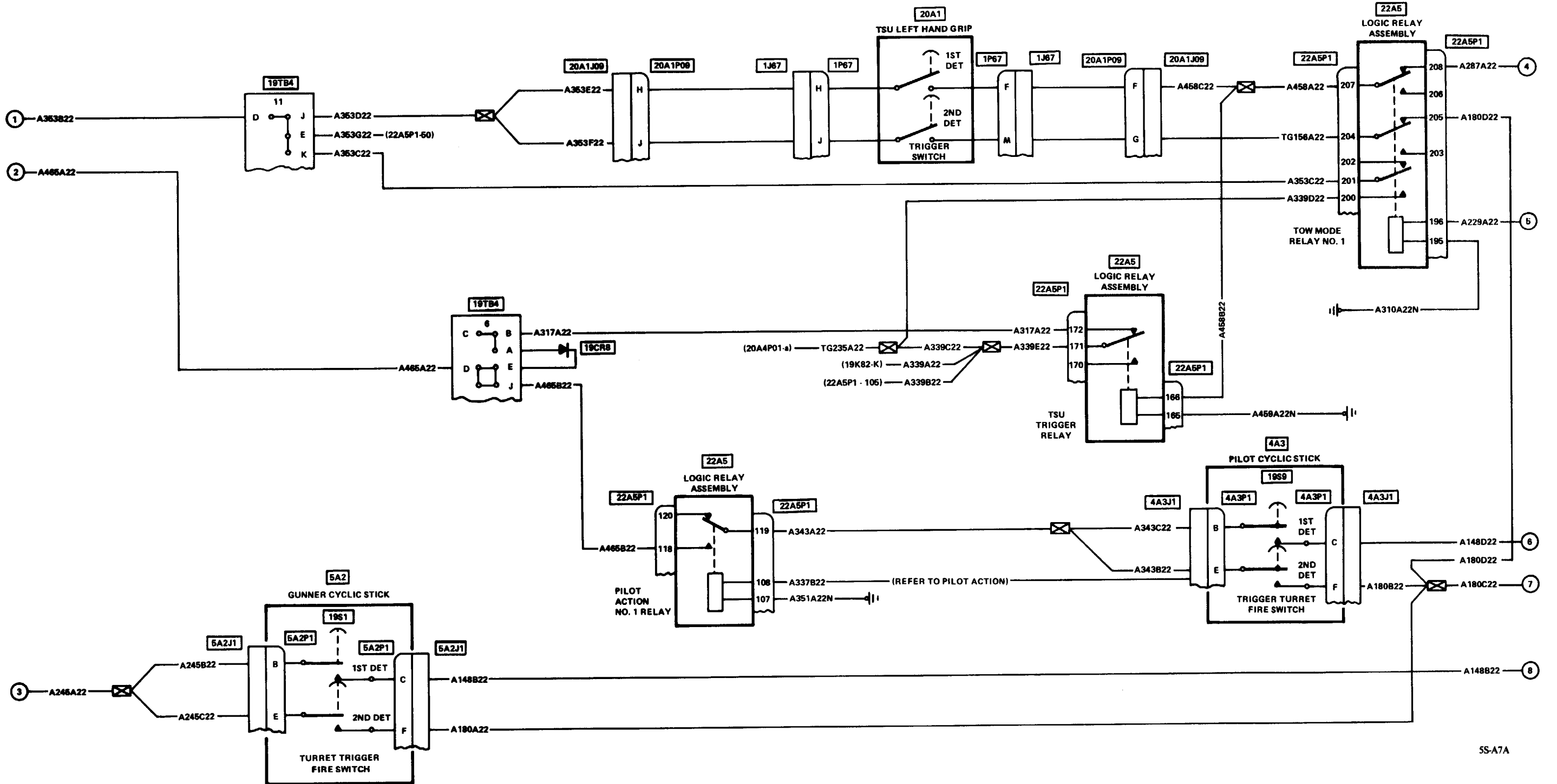


55-A45

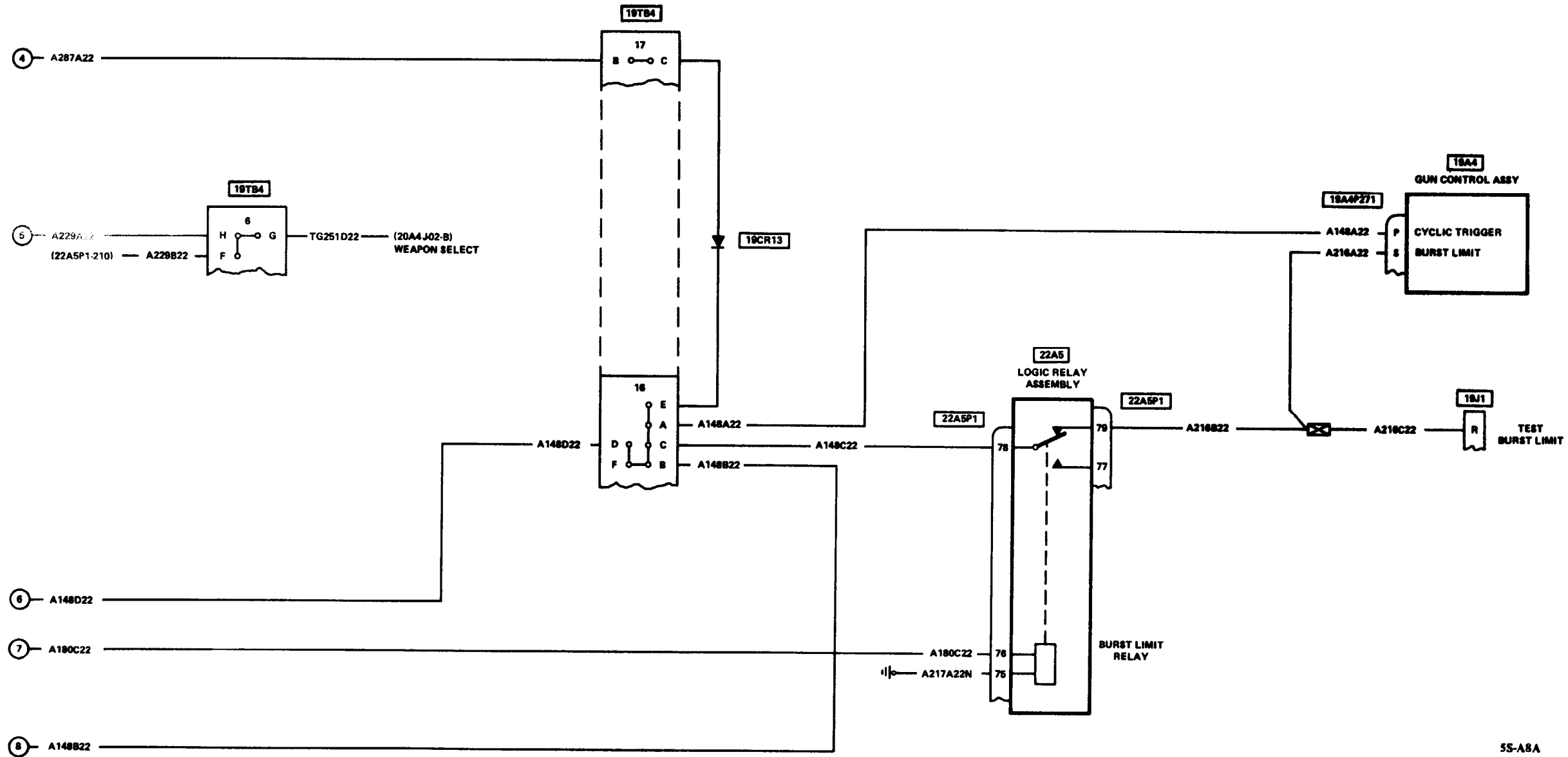
TRIGGER SWITCHES (Sheet 1 of 3)



TRIGGER SWITCHES (Sheet 2 of 3)

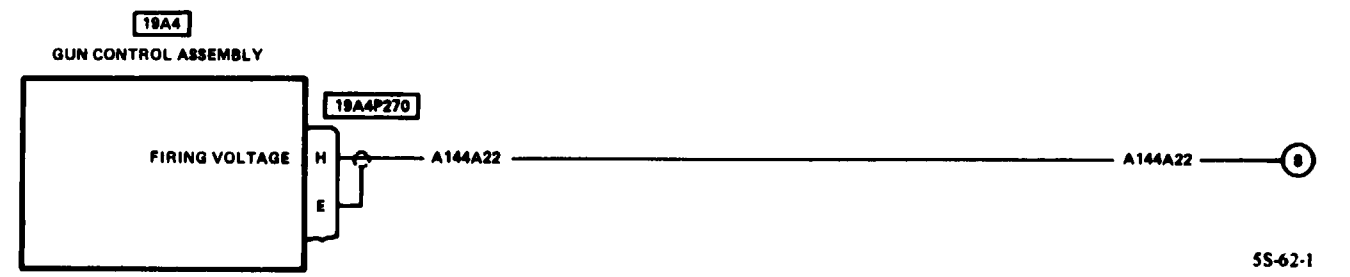
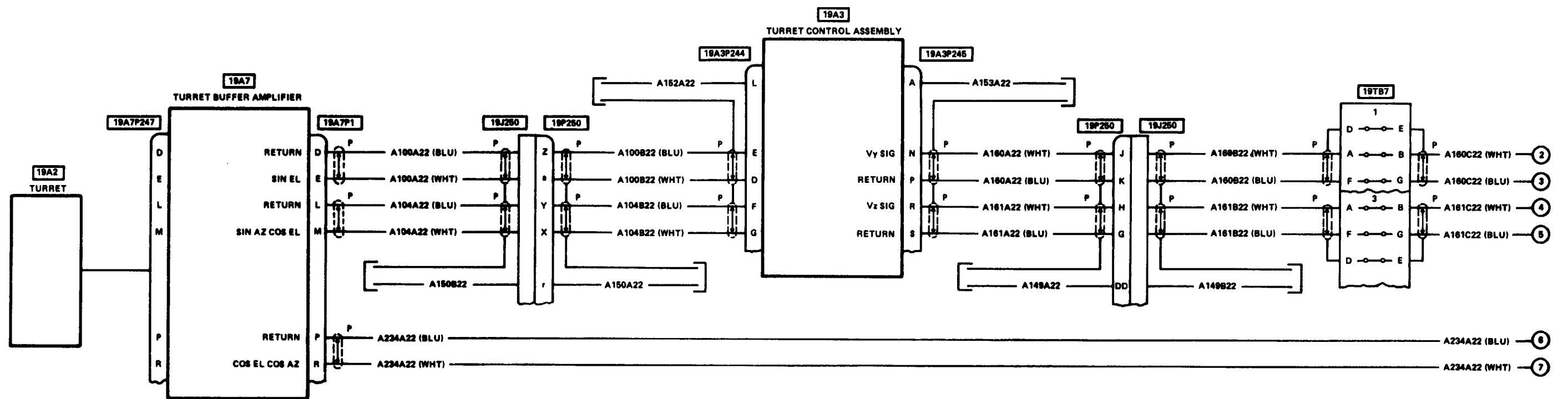
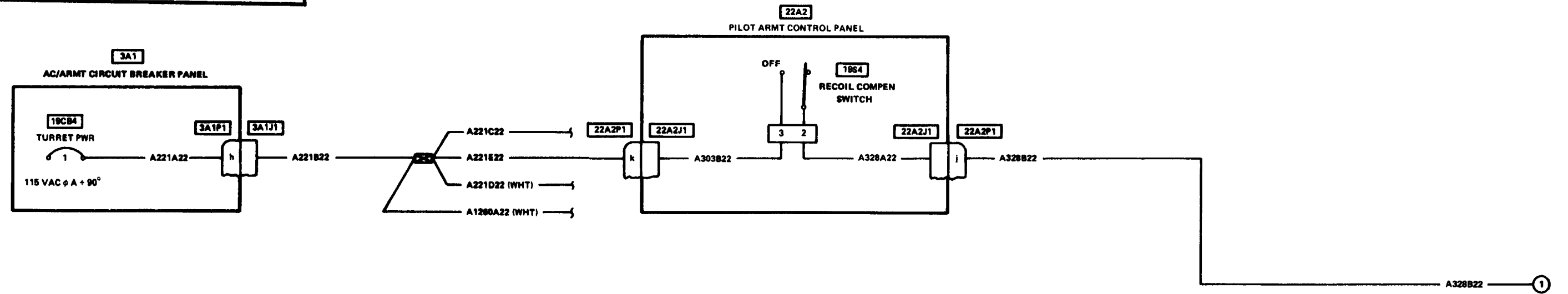


TRIGGER SWITCHES (Sheet 3 of 3)



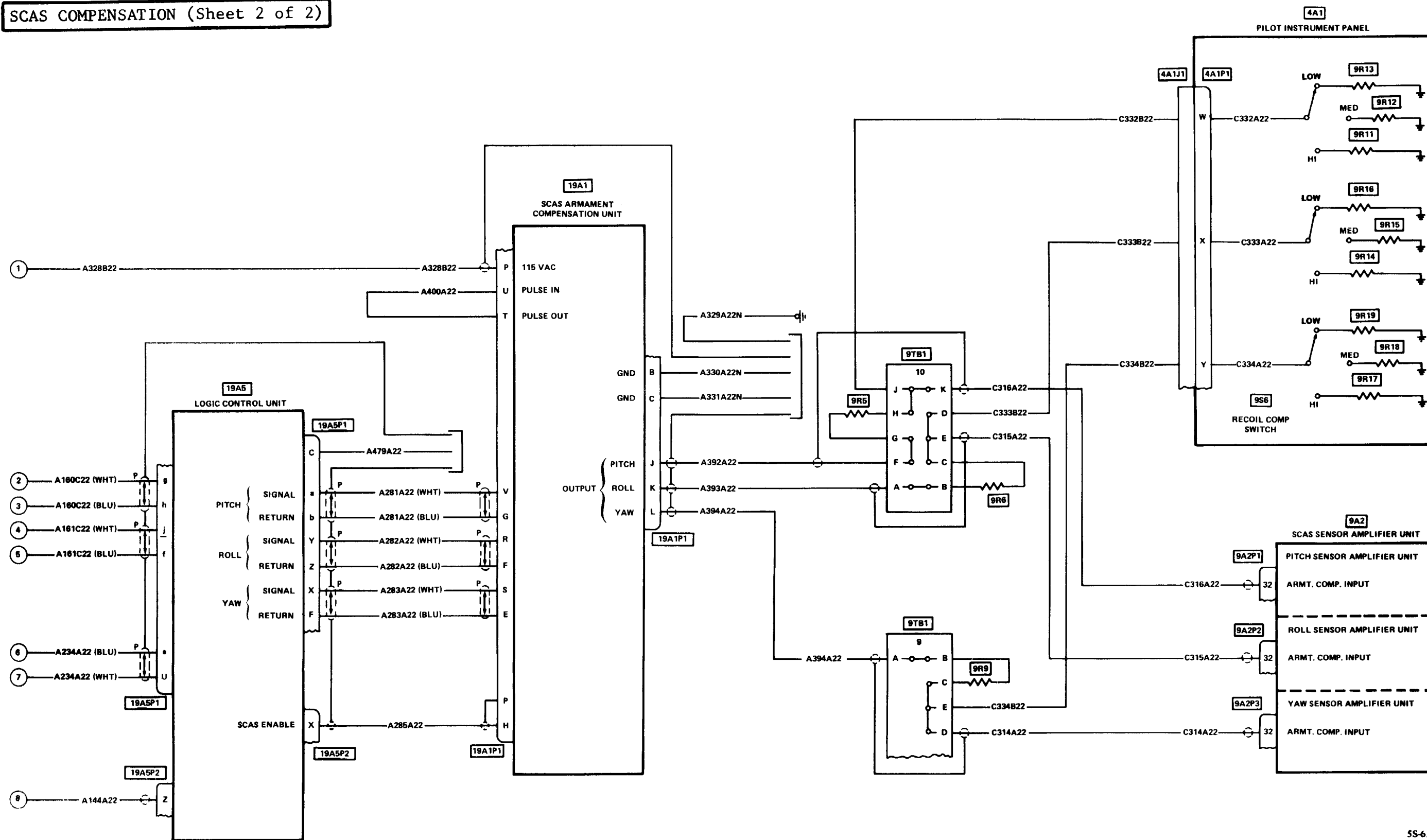
55-A8A

SCAS COMPENSATION (Sheet 1 of 2)

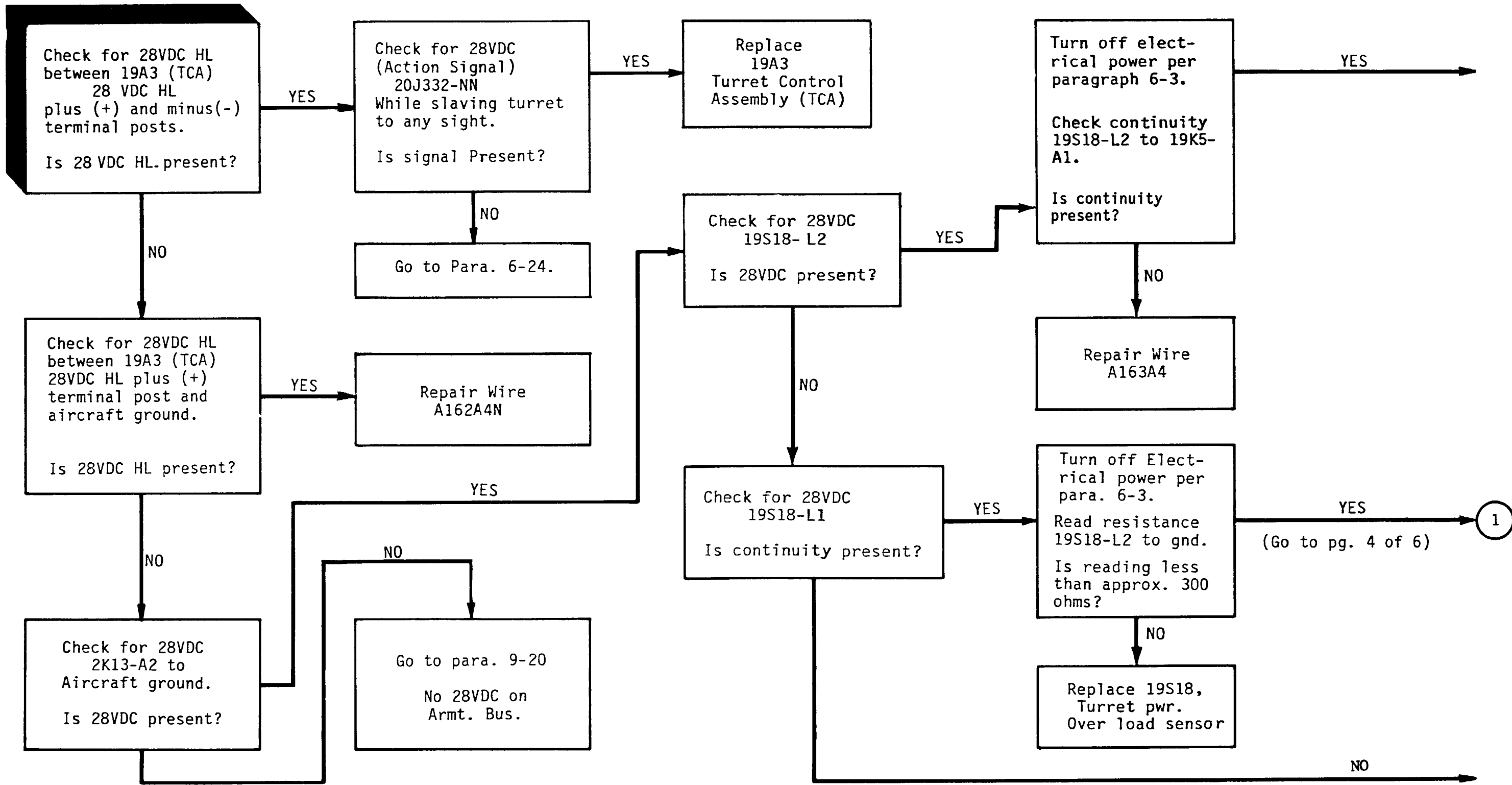


55-62-1

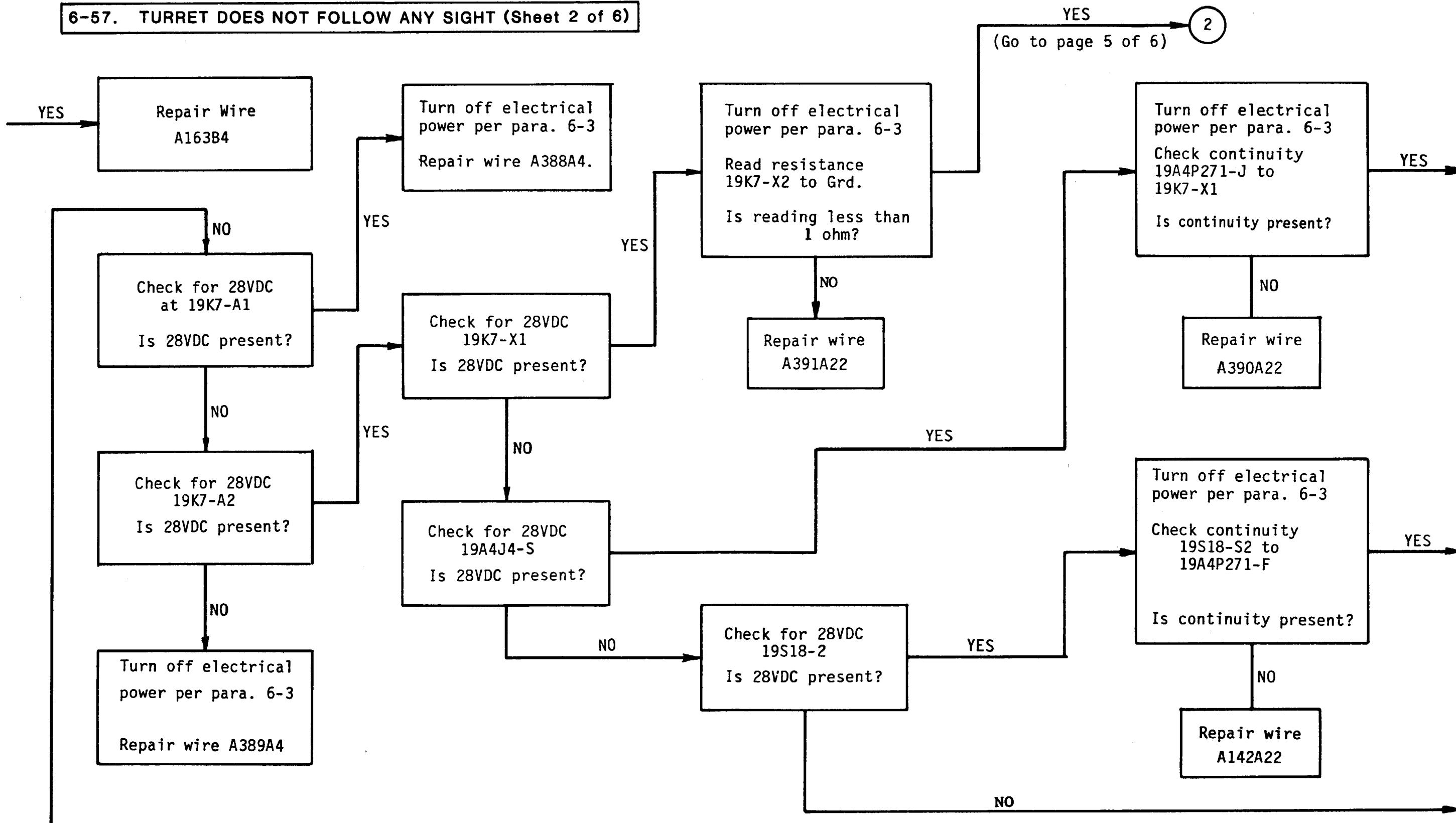
SCAS COMPENSATION (Sheet 2 of 2)



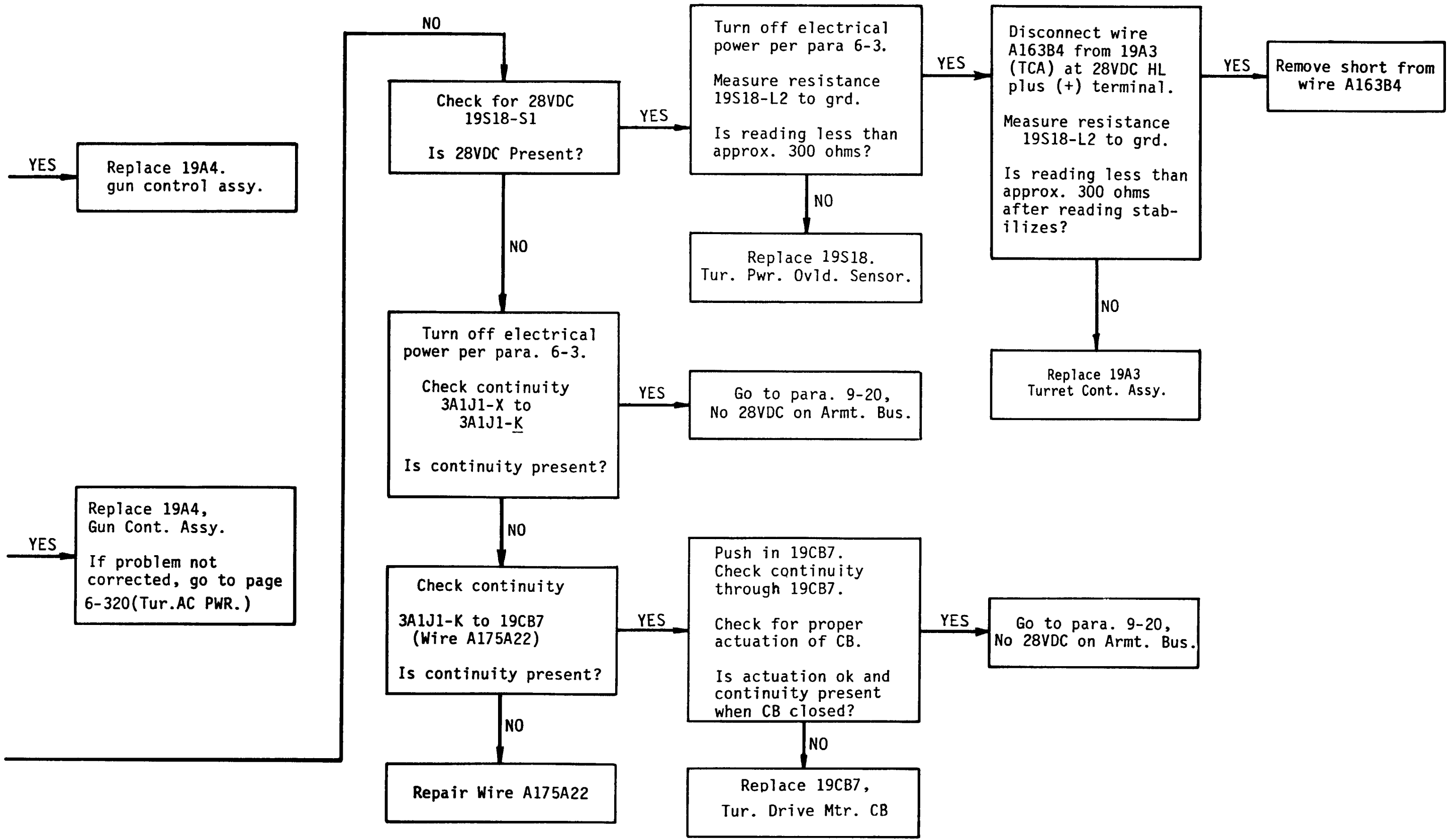
6-57. TURRET DOES NOT FOLLOW ANY SIGHT (Sheet 1 of 6)



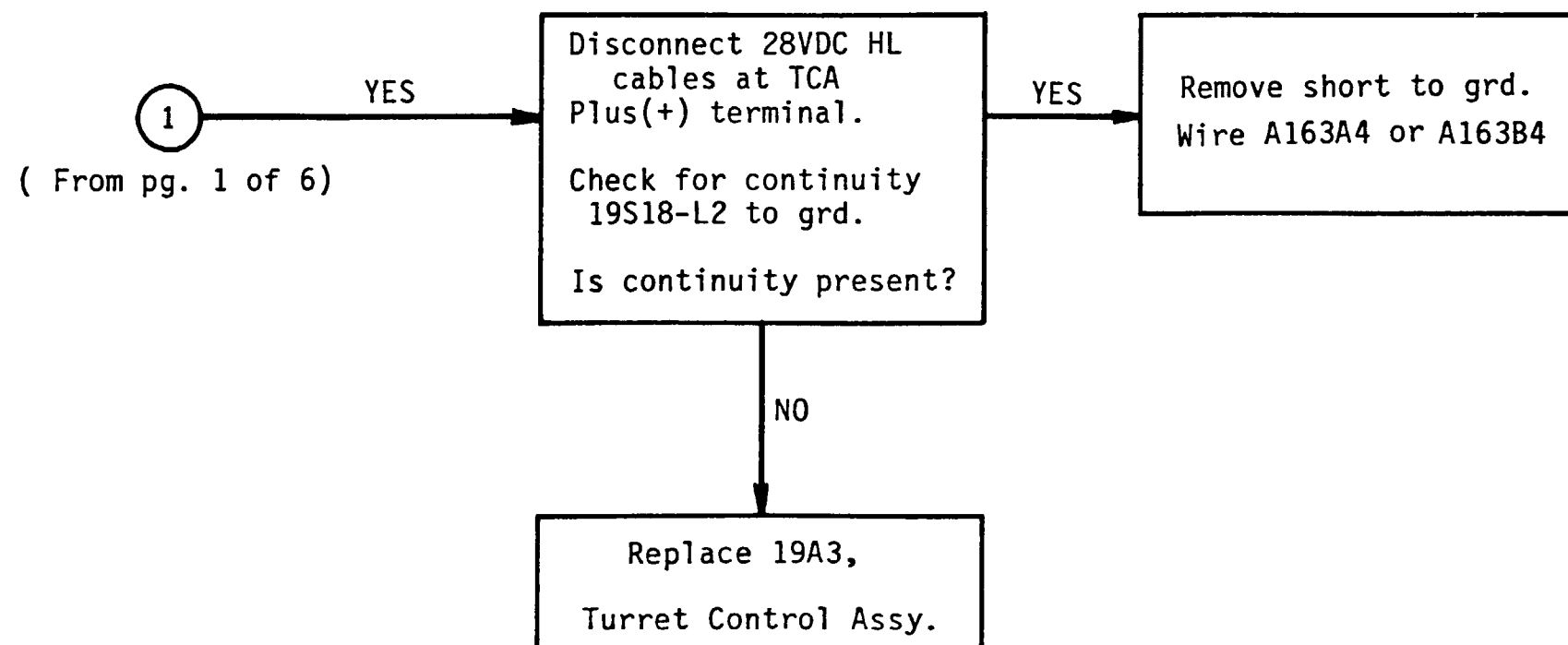
6-57. TURRET DOES NOT FOLLOW ANY SIGHT (Sheet 2 of 6)



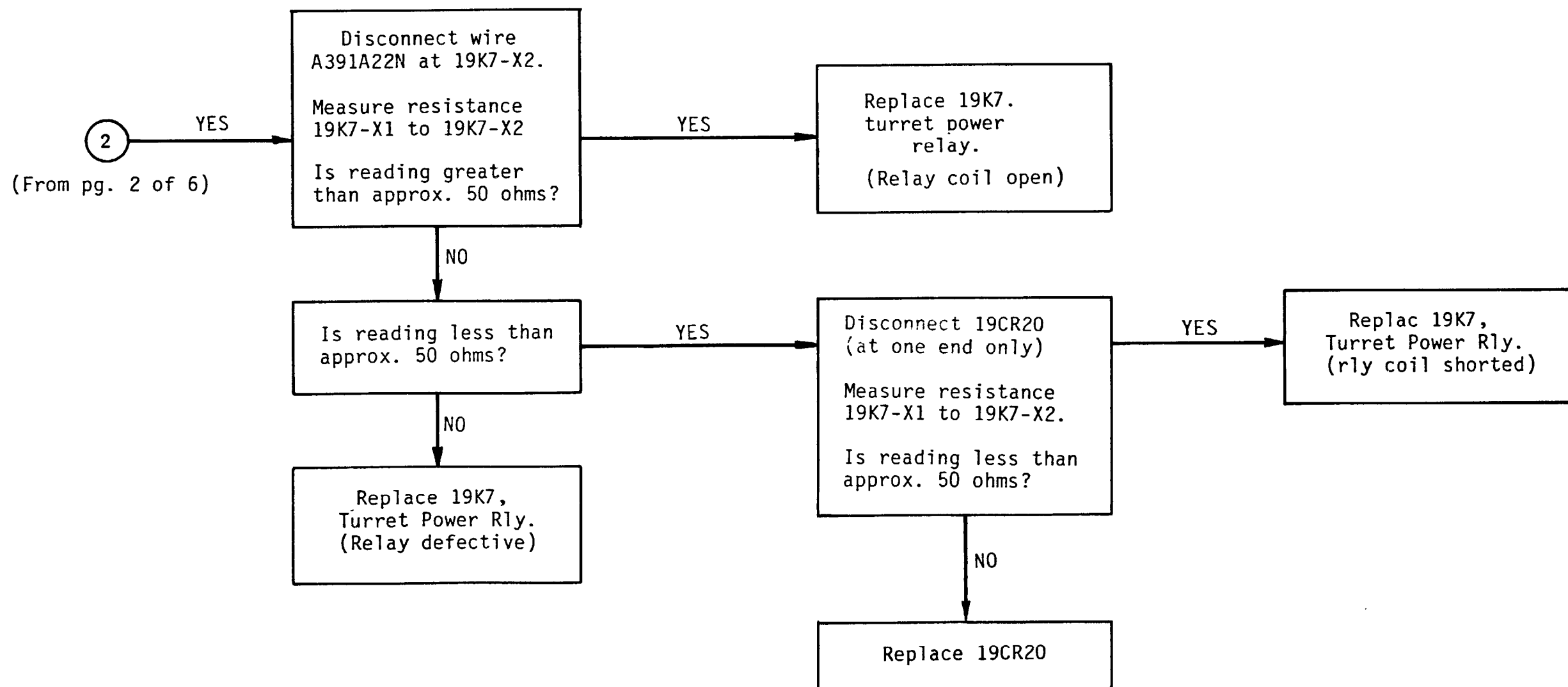
6-57. TURRET DOES NOT FOLLOW ANY SIGHT (Sheet 3 of 6)



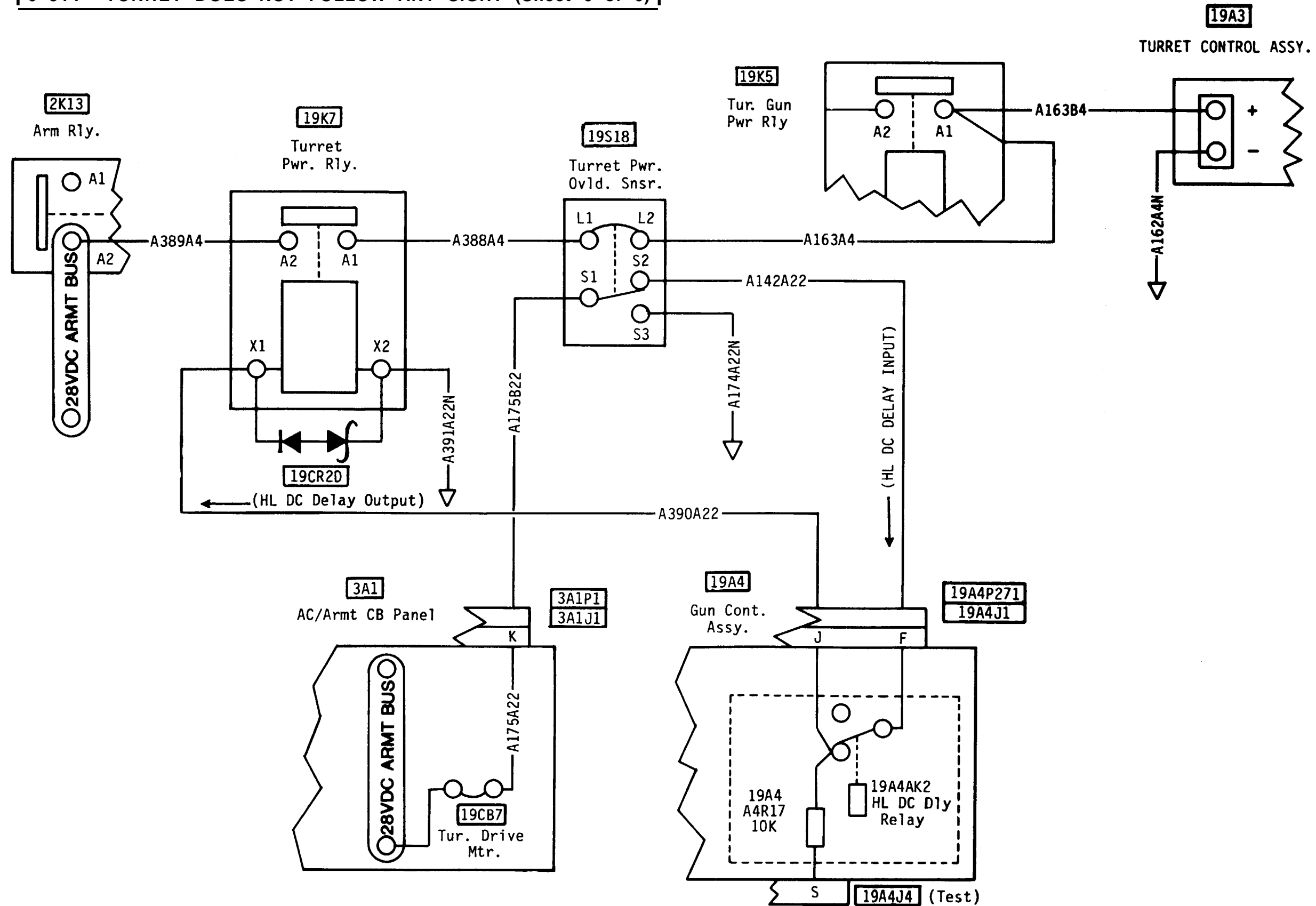
6-57. TURRET DOES NOT FOLLOW ANY SIGHT (Sheet 4 of 6)



6-57. TURRET DOES NOT FOLLOW ANY SIGHT (Sheet 5 of 6)



6-57. TURRET DOES NOT FOLLOW ANY SIGHT (Sheet 6 of 6)



CHAPTER 7

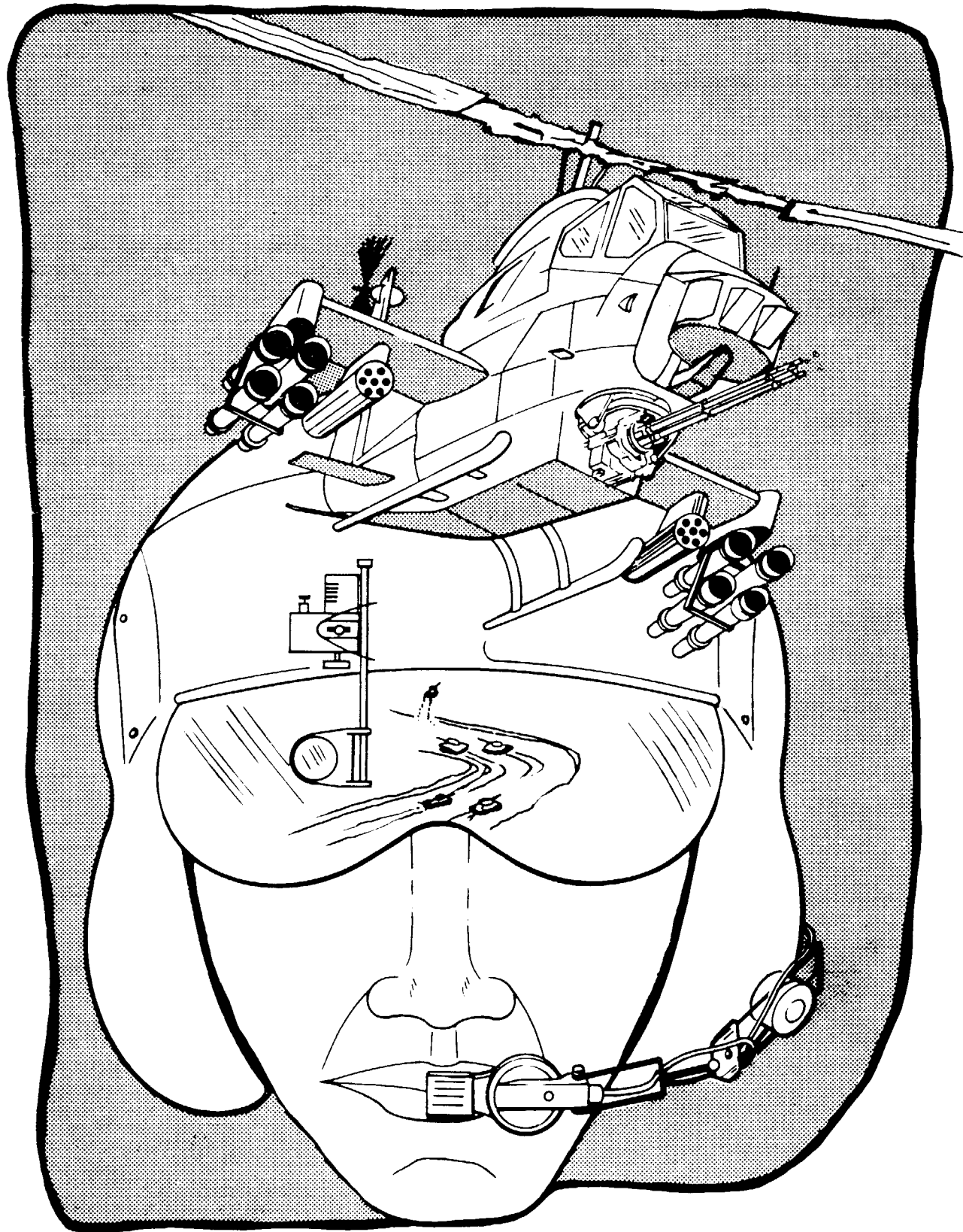
HELMET SIGHT SUBSYSTEM (HSS) TROUBLESHOOTING

OVERVIEW

This chapter contains the HSS operational check and logic tree troubleshooting procedures.

Turn off all electrical power when removing equipment or disconnecting electrical connectors unless otherwise noted in the 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.



7-1. HSS PRE-OPERATIONAL CHECK SETUP .

INITIAL SETUP

Applicable Configuration

Equipment Condition

All ordnance shall be removed from helicopter.

Personnel Required

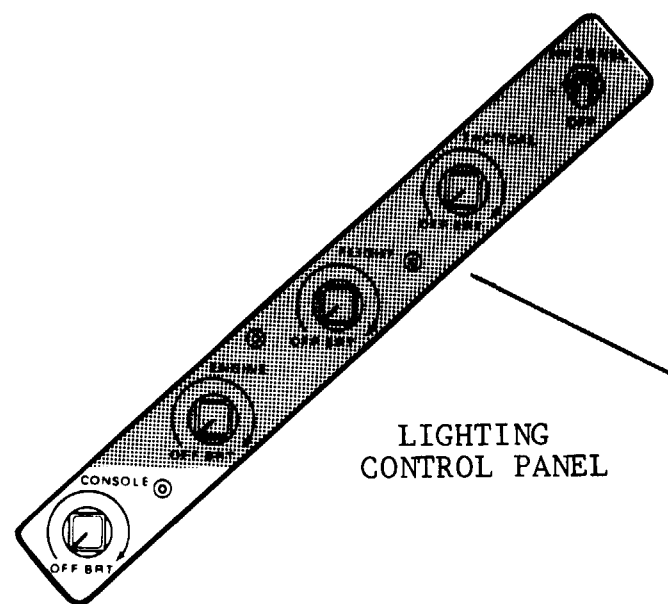
68J (2)

- a. Open (OFF) all circuit breakers on AC/ARMT circuit breaker panel.
- b. Open all circuit breakers on DC circuit breaker panel.

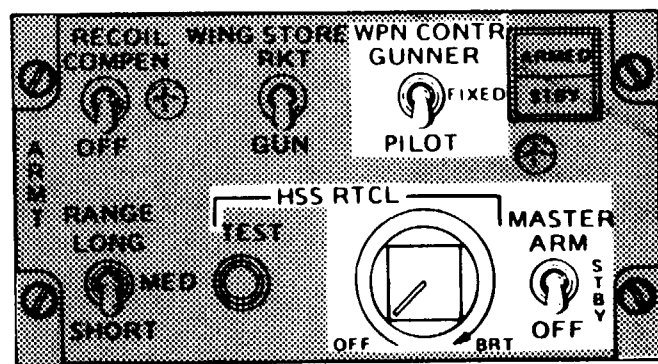
Set pilot ARMT control panel switches:

- (1) MASTER ARM to OFF.
- (2) WPN CONTR to PILOT.
- (3) HSS RTCL to OFF.

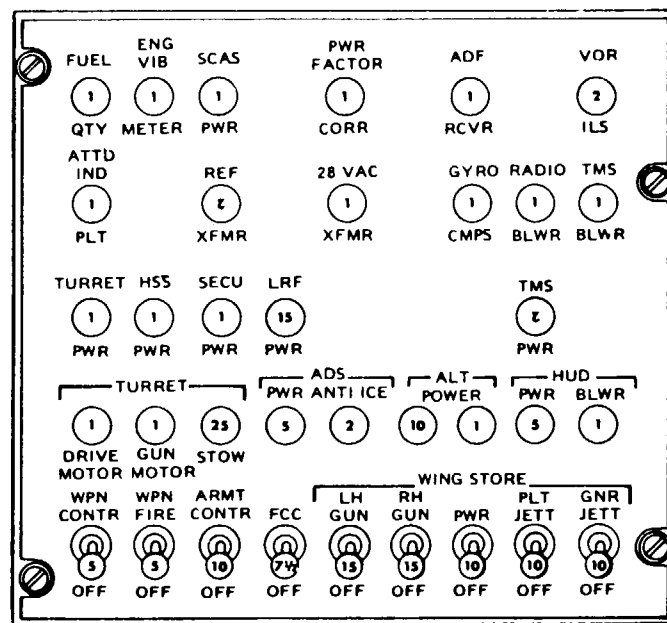
d. Set CONSOLE control on lighting control panel to OFF .



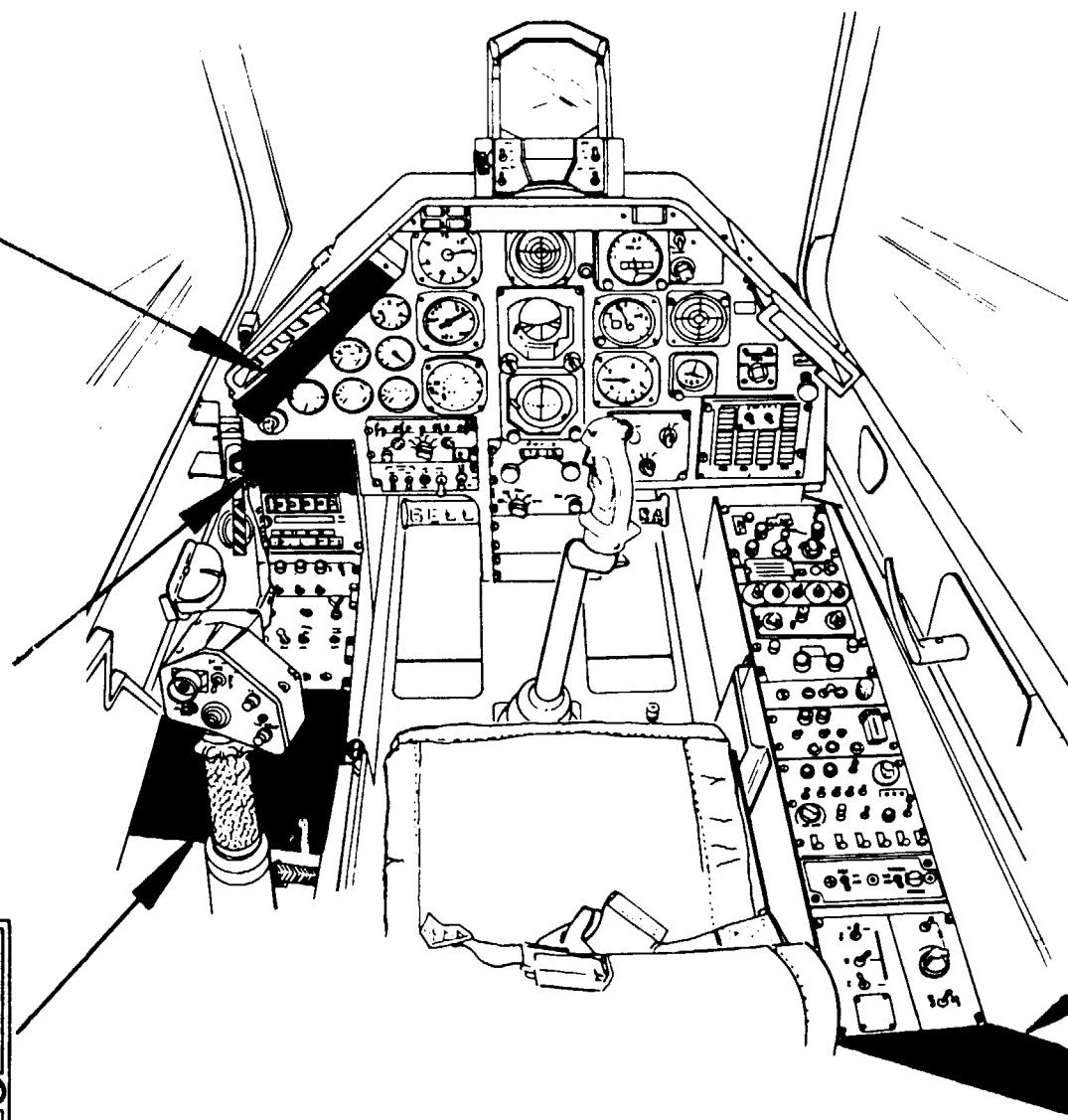
LIGHTING CONTROL PANEL



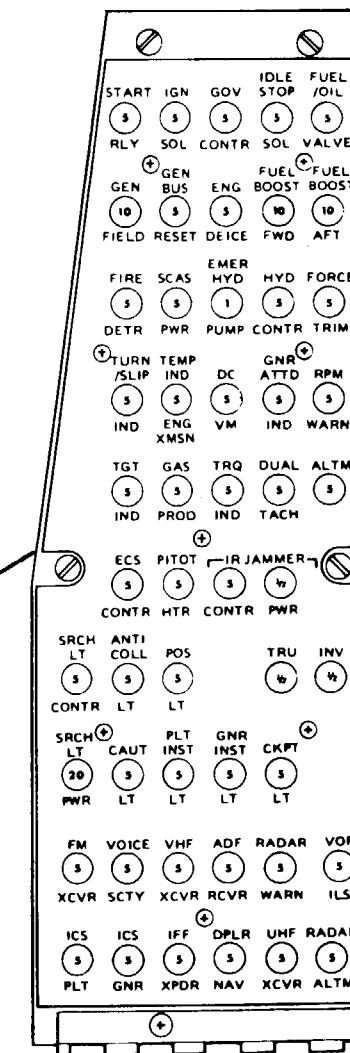
PILOT ARMT CONTROL PANEL



AC/ARMT CIRCUIT BREAKER PANEL



PILOT STATION



DC CIRCUIT BREAKER PANEL

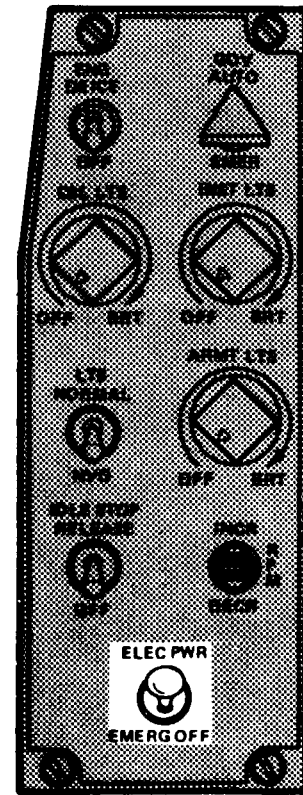
7-1. HSS PRE-OPERATIONAL CHECK
SETUP (CONTINUED).

e. Set gunner armament control panel switches:

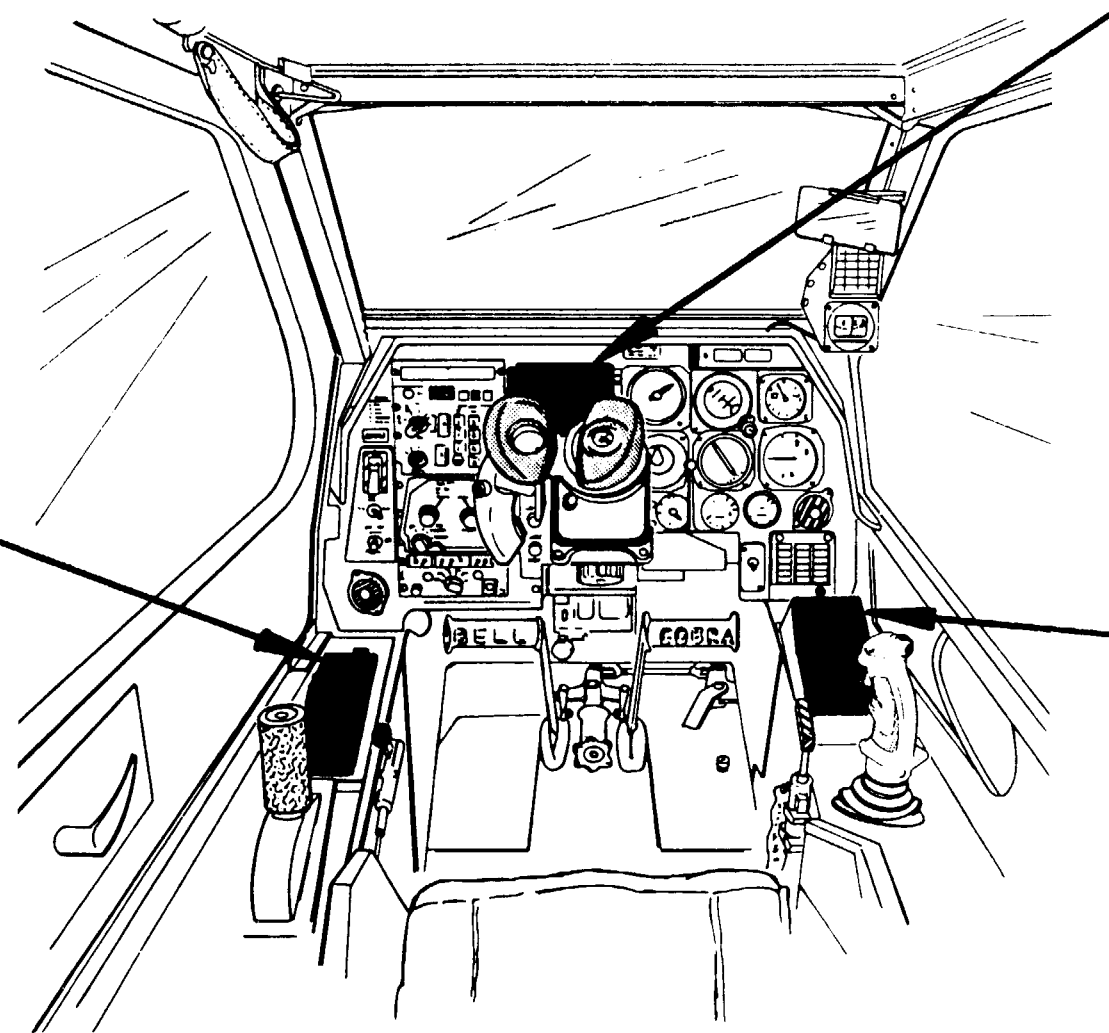
- (1) PLT ORIDE to OFF.
- (2) LASER SAFE/TURRET DEPR LIMIT TO LASER SAFE/TURRET DEPR LIMIT.
- (3) TUR SLEW to GND TEST.
- (4) HSS RTCL to OFF.

f. Set MODE SELECT switch on TCP (TOW control panel) to OFF.

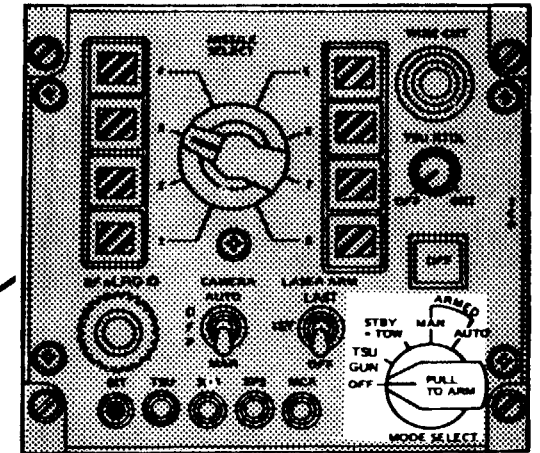
g. Set ELEC PWR/EMERG OFF switch on gunner miscellaneous control panel to ELEC PWR.



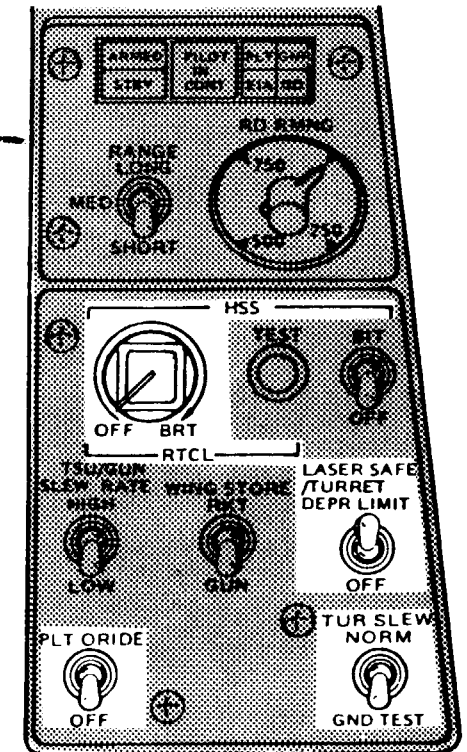
MISCELLANEOUS CONTROL PANEL



GUNNER STATION



TCP
(TOW CONTROL PANEL)



GUNNER ARMAMENT CONTROL PANEL

7-2. HSS OPERATIONAL CHECK

NOTE

Complete HSS PRE-OPERATIONAL CHECK SETUP, paragraph 7-1, before continuing with the operational check.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Ground Power Unit

Tool Set, A/C Armament Repairman

Helmet with XM 136 Sight Installed (2)

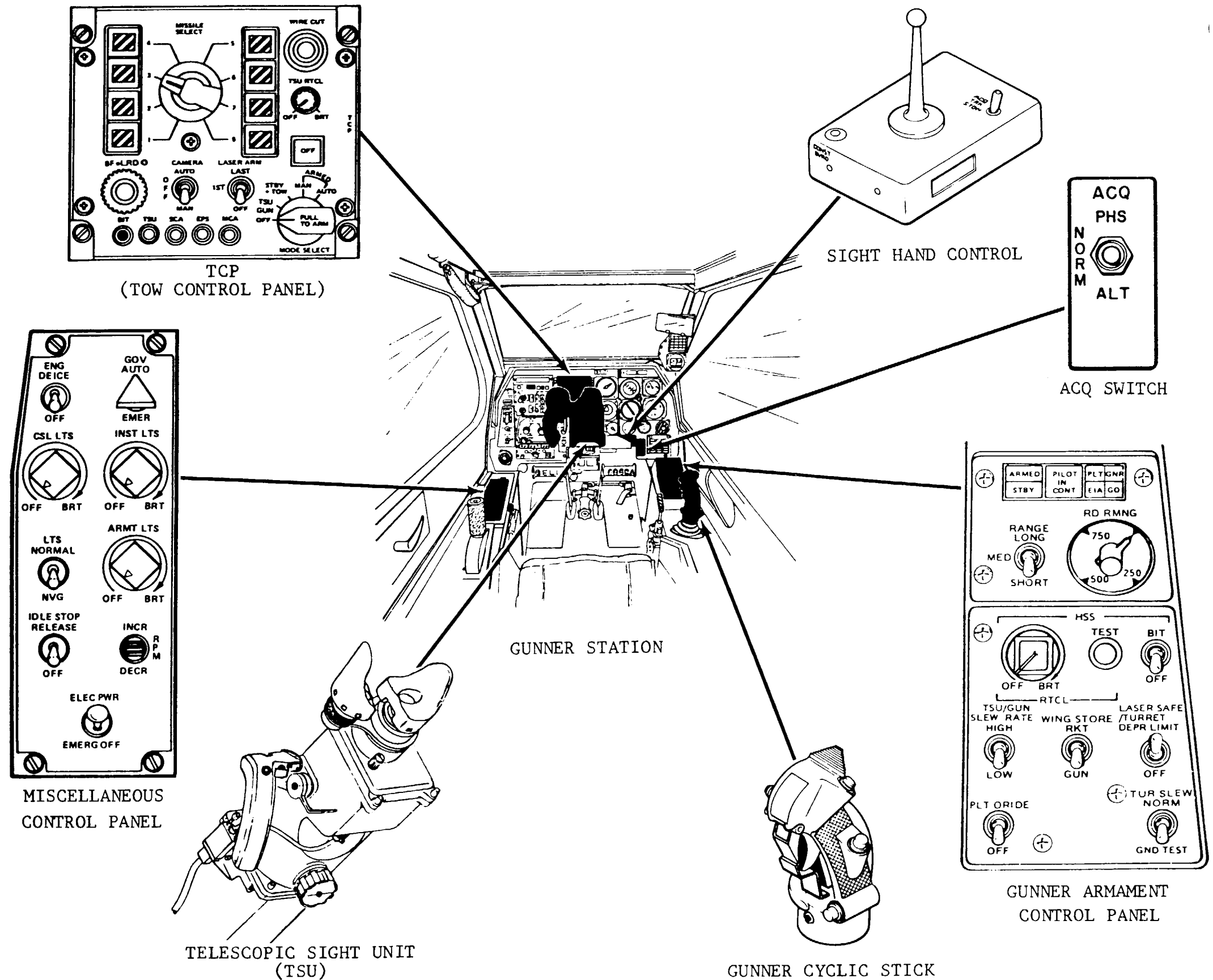
Personnel Required
68J (2)

Equipment Condition
Gun Safed/Barricade Erected (TM 9-1090-206-20-1/30)

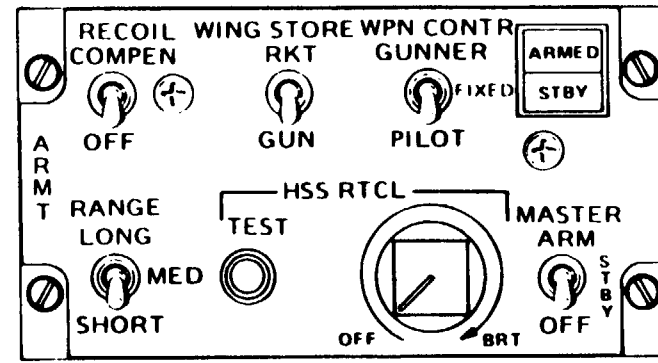
Access Panels
Battery Compartment - Removed

External Power Door - Open

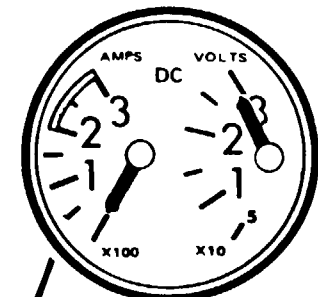
References
TM 9-1270-212-14
TM 55-1520-236-10
TM 55-1520-236-23



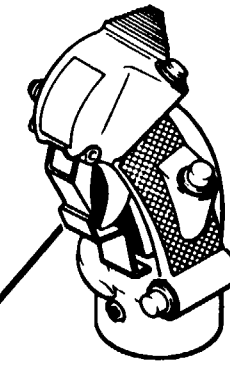
7-2. HSS OPERATIONAL CHECK
(CONTINUED).



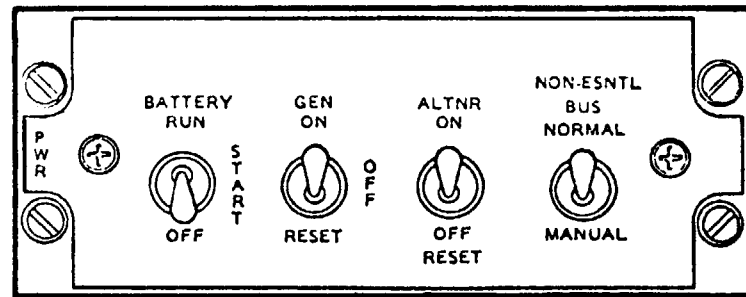
PILOT ARMT CONTROL PANEL



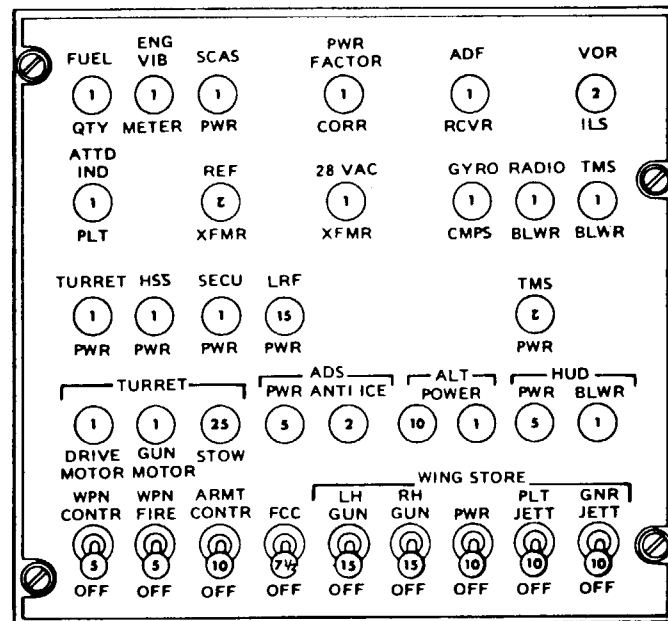
DC VOLTMETER



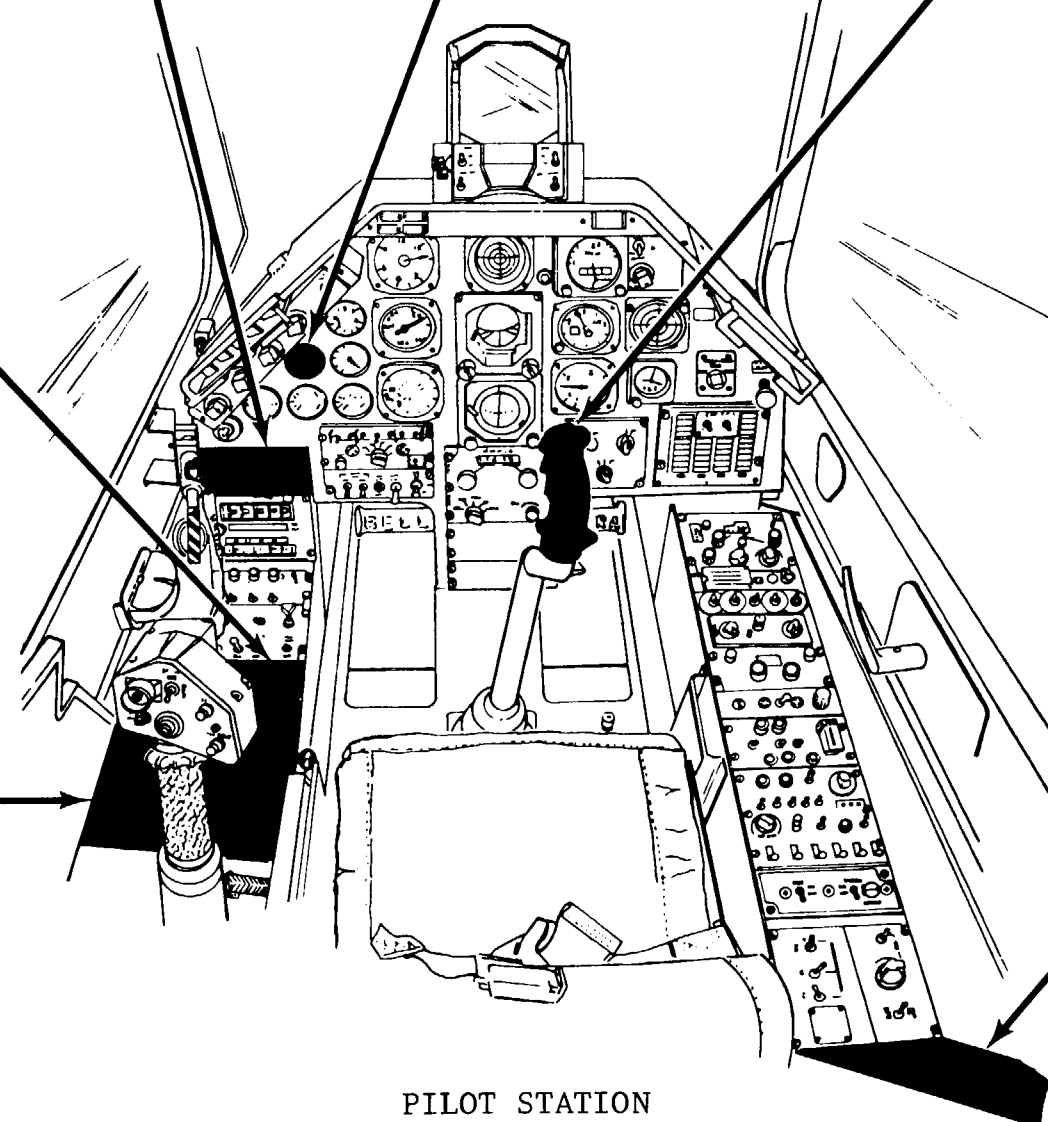
PILOT CYCLIC STICK



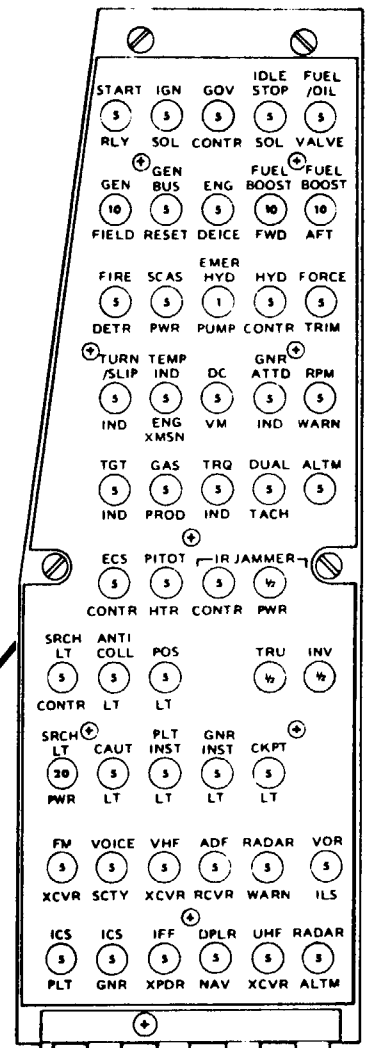
ELECTRICAL PWR CONTROL PANEL



AC/ARMT CIRCUIT BREAKER PANEL

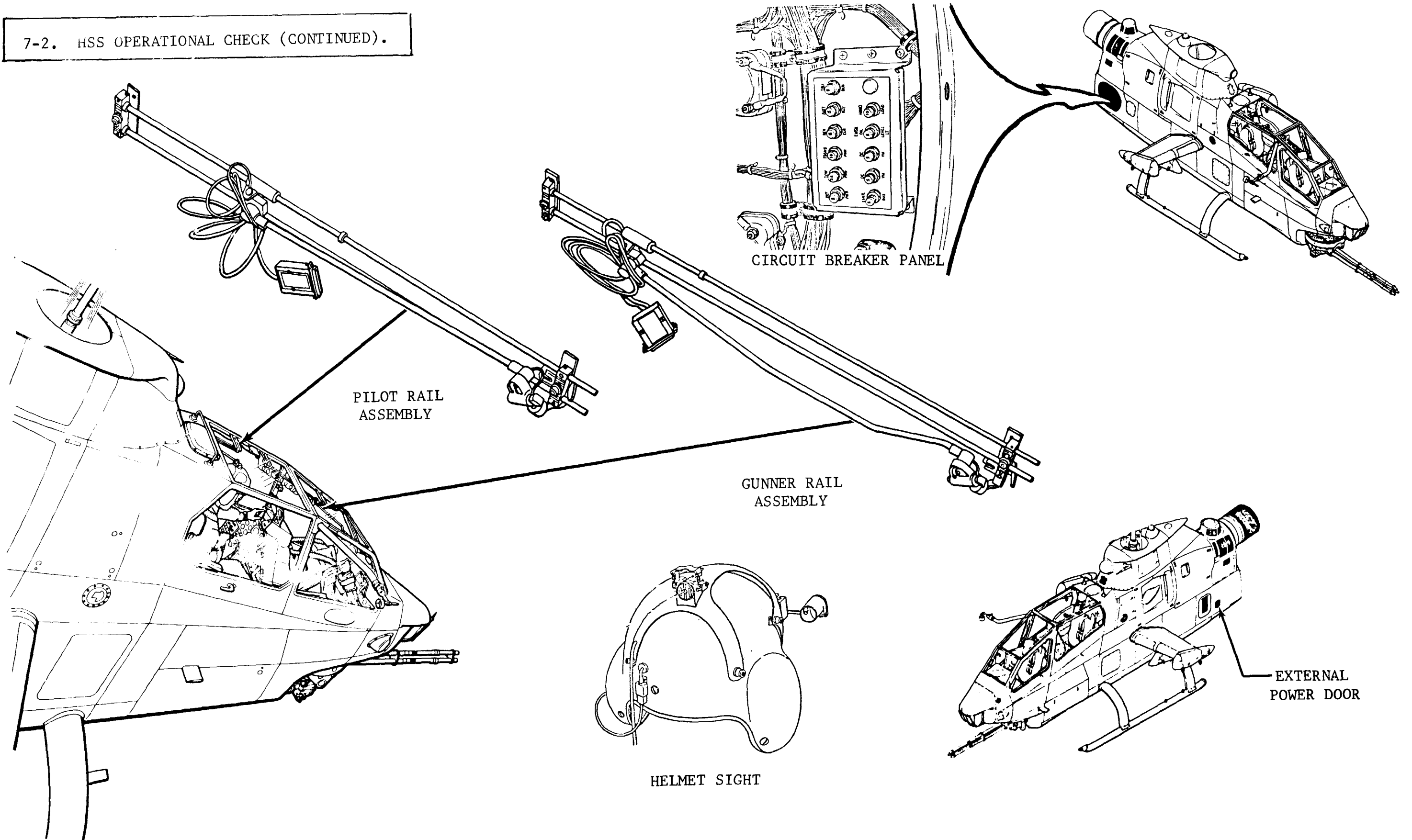


PILOT STATION



DC CIRCUIT BREAKER PANEL

7-2. HSS OPERATIONAL CHECK (CONTINUED).



7-2. HSS OPERATIONAL CHECK
(CONTINUED).

APPLYING ELECTRICAL POWER

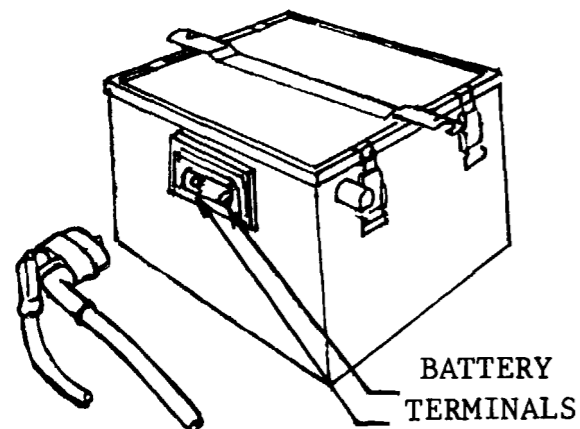
WARNING

Warn people working on or near helicopter before you apply electrical power.

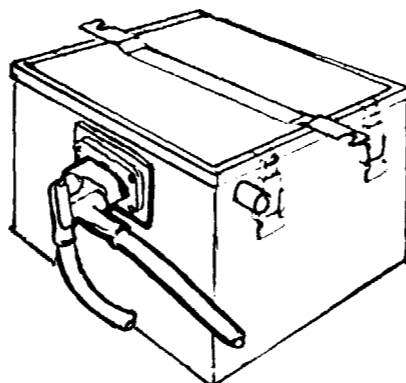
CAUTION

Minimum acceptable battery voltage is 22 V dc. Low battery voltage may result in excessive battery overheating (thermal runaway) after external power is applied.

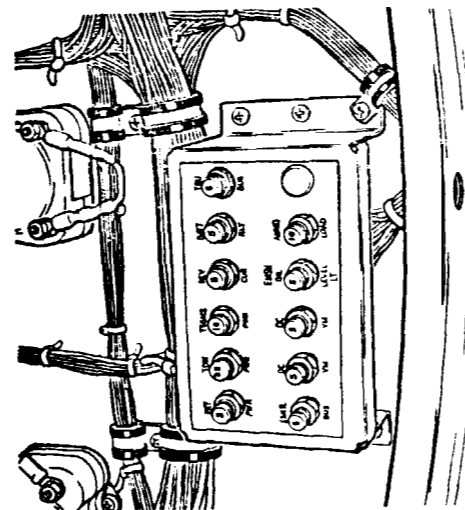
a. Check battery voltage. Minimum battery voltage shall be 22 V dc measured at battery terminals.



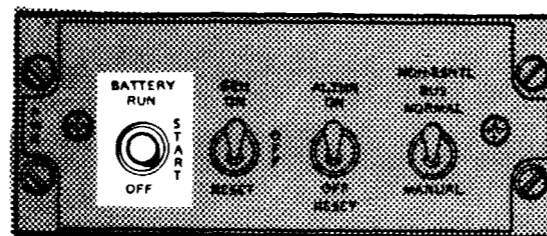
b. Connect battery.



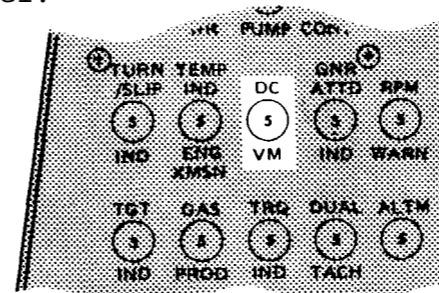
c. Close all circuit breakers on circuit breaker panel in battery compartment.



d. Set BATTERY switch on electrical PWR control panel to START.



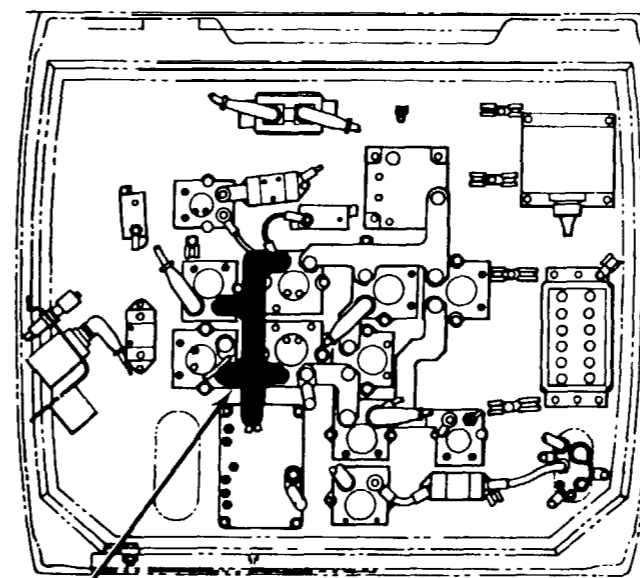
Close DC VM circuit breaker on DC circuit breaker panel.



CAUTION

Do not exceed 30 V dc output on ground power unit.

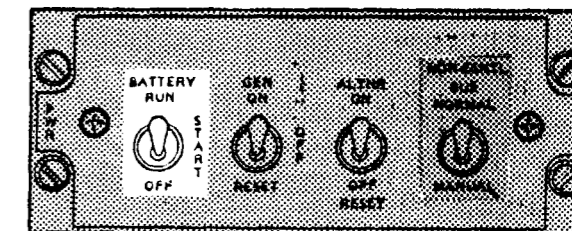
f. Apply external power to helicopter. (Refer to TM 55-1520-236-23, Chapter 1, Section III.) Adjust ground power unit to provide 28 to 30 V dc measured at the essential bus with a multimeter.



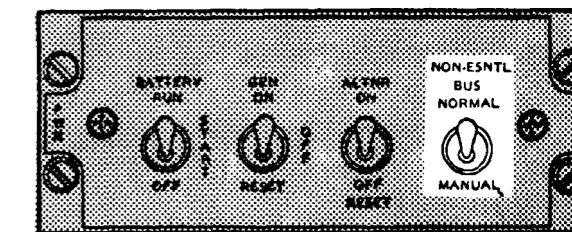
NOTE

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.



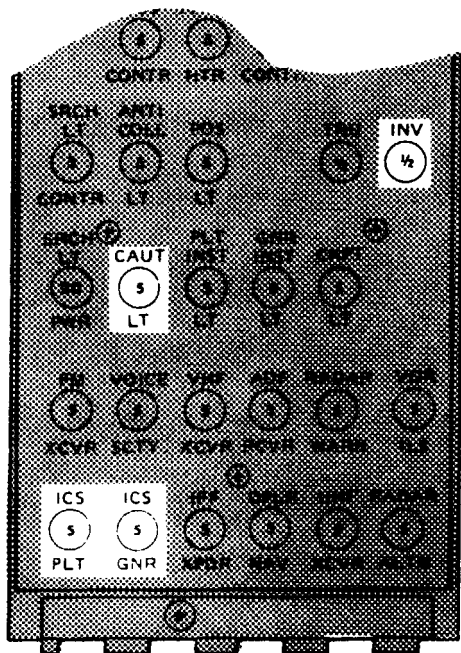
h. Set NON-ESNTL BUS switch on electrical PWR control panel to NORMAL.



7-2. HSS OPERATIONAL CHECK
(CONTINUED) .

i. Close the following circuit breakers on DC circuit breaker panel:

- (1) INV
- (2) CAUTLT
- (3) ICS PLT
- (4) ICS GNR

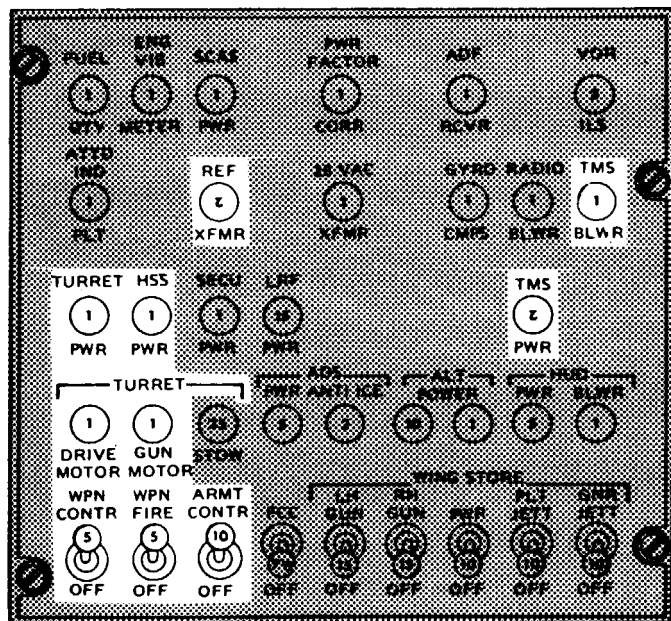


DC CIRCUIT BREAKER PANEL

j. Close the following circuit breakers on AC/ARMT circuit breaker panel:

- (1) REF XFMR
- (2) TMS BLWR
- (3) TURRET PWR
- (4) HSS PWR

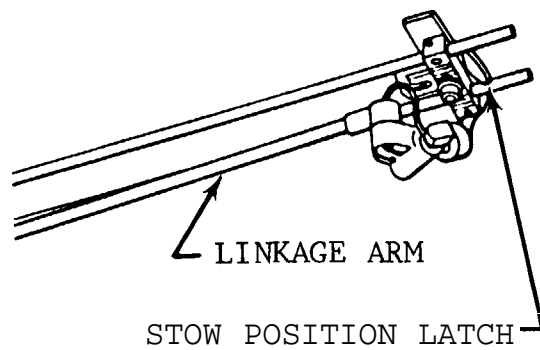
- (5) TMS PWR
- (6) TURRET DRIVE MOTOR
- (7) TURRET GUN MOTOR
- (8) WPN CONTR
- (9) WPN FIRE
- (10) ARMT CONTR



AC/ARMT CIRCUIT BREAKER PANEL

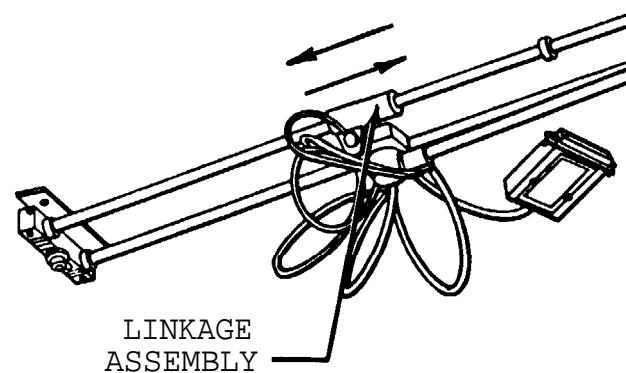
k. On pilot rail assembly:

- (1) Press the stow position latch and disconnect linkage arm.



PILOT/GUNNER RAIL ASSEMBLY

- (2) Slide linkage assembly back and forth on rails to verify linkage assembly is not binding. If binding occurs, refer to TM 9-1270-212-14 for maintenance procedures.

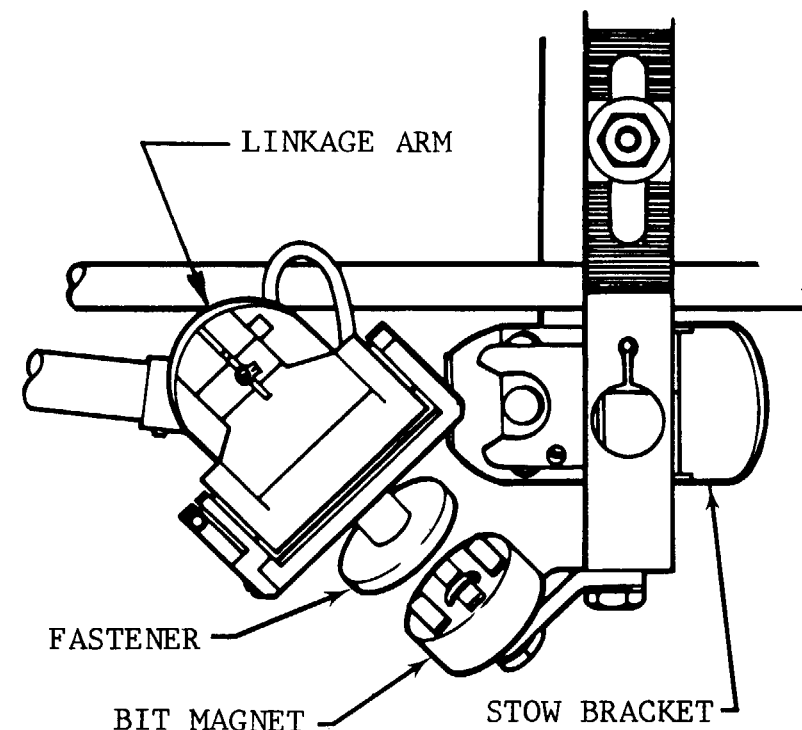


PILOT/GUNNER RAIL ASSEMBLY

- (3) Connect linkage arm to the BIT magnet.

NOTE

Make sure that BIT magnet and linkage arm are properly connected. Failure to do so may cause BIT check to show a failure.



PILOT/GUNNER LINKAGE ARM ATTACHMENT TO BIT MAGNET AND STOW BRACKET

1. On gunner rail assembly:

- (1) Press the stow position latch and disconnect linkage arm.
- (2) Slide linkage assembly back and forth on rails to verify linkage assembly is not binding. If binding occurs, refer to TM 9-1270-212-14 for maintenance procedures.

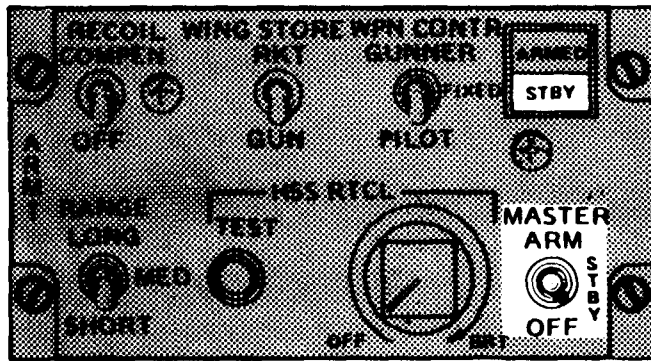
- (3) Connect linkage arm to the BIT magnet.

NOTE

Make sure that BIT magnet and linkage arm are properly connected. Failure to do so may cause BIT check to show a failure.

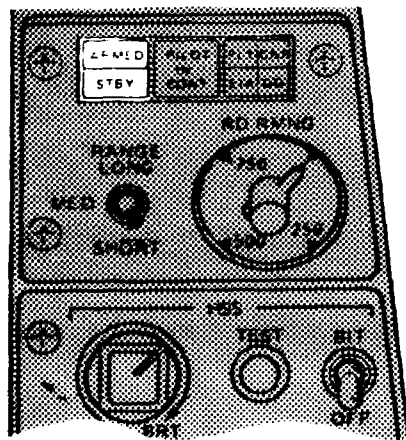
7-2. HSS OPERATIONAL CHECK
(CONTINUED).

m. Set MASTER ARM switch on pilot ARMT control panel to STBY. STBY (green) indicator will light.



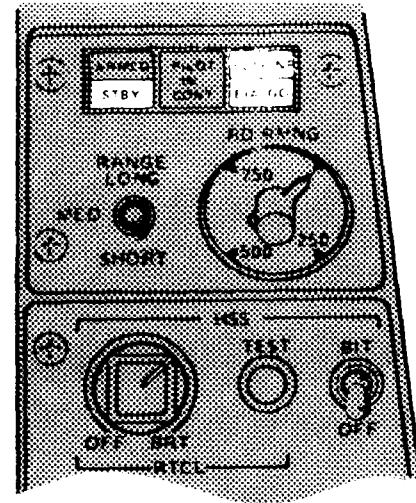
PILOT ARMT CONTROL PANEL

n. Press gunner ARMED/STBY indicator segment. ARMED segment will light and stay on as long as it is held.



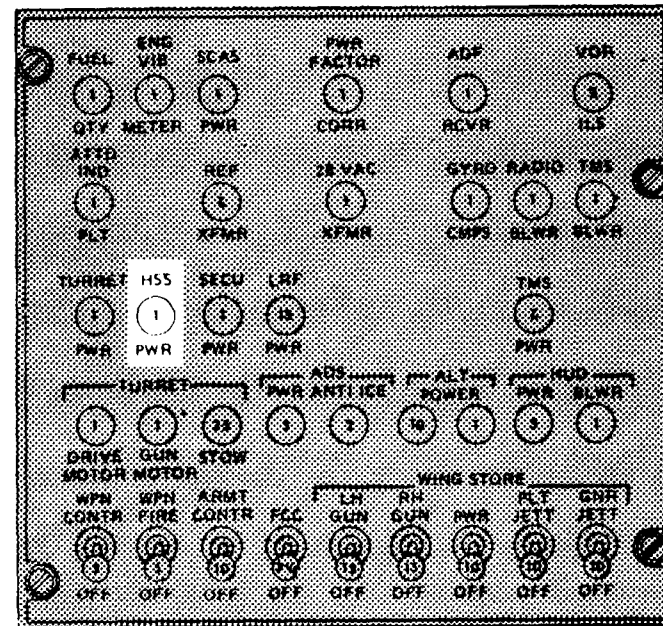
GUNNER ARMAMENT CONTROL PANEL

o. STBY (green) indicator is lit on gunner armament control panel. Press PLT/GNR/EIA/GO BIT indicator. All four segments will light. Release PLT/GNR/EIA/GO BIT indicator and observe that all segments go out.

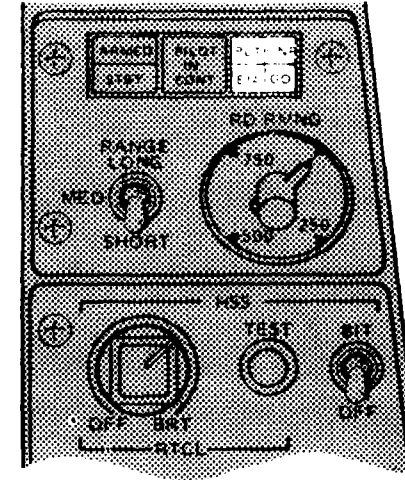


GUNNER ARMAMENT CONTROL PANEL

p. Open HSS PWR circuit breaker on AC/ARMT circuit breaker panel. Observe EIA segment on PLT/GNR/EIA/GO BIT indicator lights. Close HSS PWR circuit breaker and HSS BIT segment will go out.

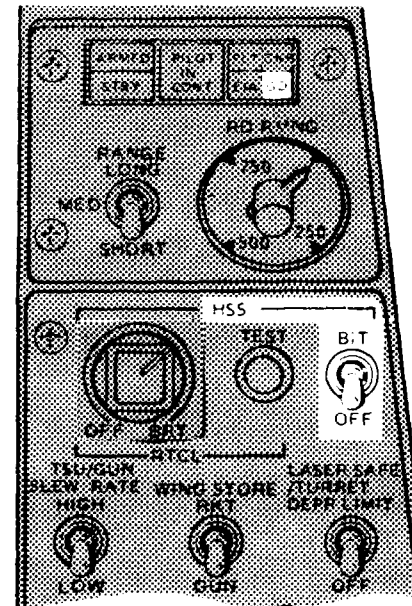


AC/ARMT CIRCUIT BREAKER PANEL



GUNNER ARMAMENT CONTROL PANEL

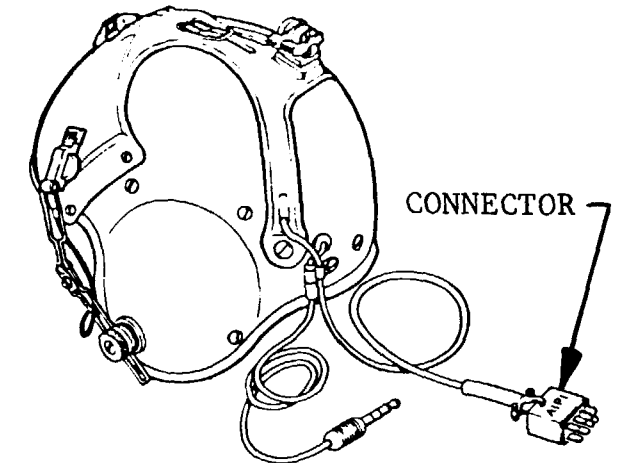
q. Press and release HSS BIT switch on gunner armament control panel. The GO segment of the BIT indicator should light for 5-10 seconds. PLT, GNR, and EIA segments should not light.



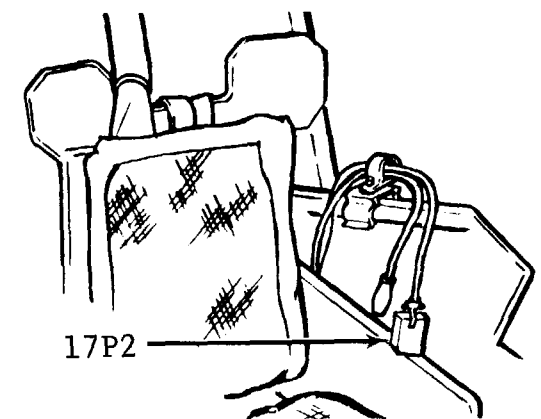
GUNNER ARMAMENT CONTROL PANEL

r. Put on pilot and gunner helmets. Make sure they are positioned comfortably and the chin strap is securely fastened.

s. Attach pilot helmet to HSS connector (17P2) located on top left side of pilot seat armor.

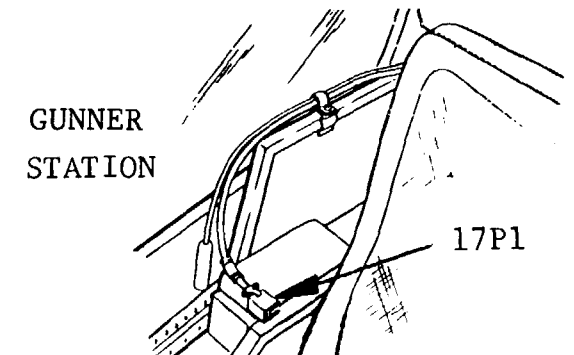


PILOT/GUNNER HELMET



PILOT STATION

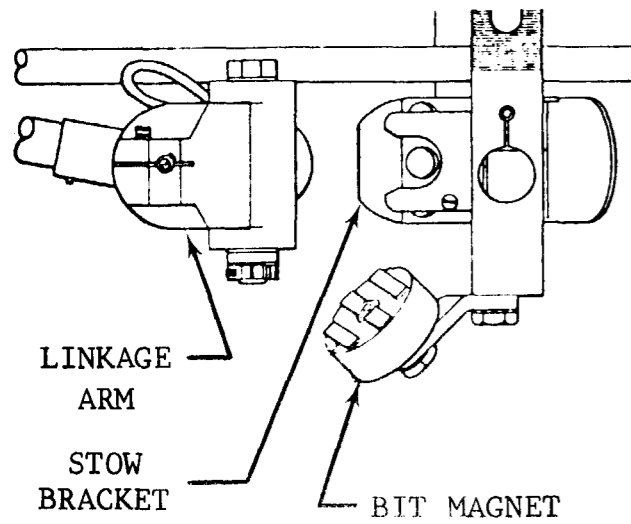
t. Attach gunner helmet to HSS connector (17P1) located on top right side of gunner seat armor.



GUNNER STATION

**7-2. HSS OPERATIONAL CHECK
(CONTINUED).**

u. Disconnect pilot and gunner linkage arms from BIT magnets.

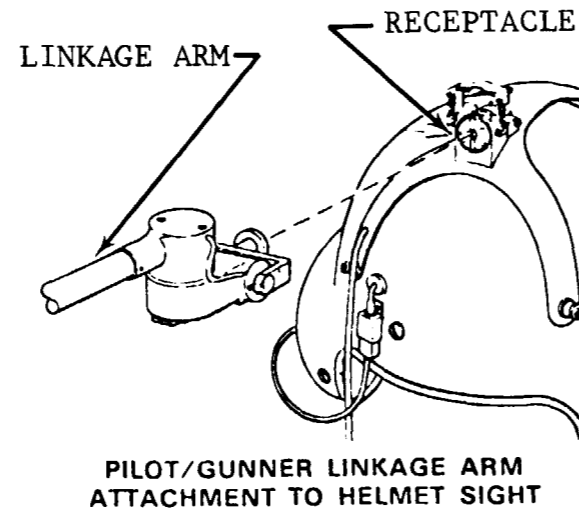


PILOT/GUNNER LINKAGE ARM ATTACHMENT TO HELMET SIGHT

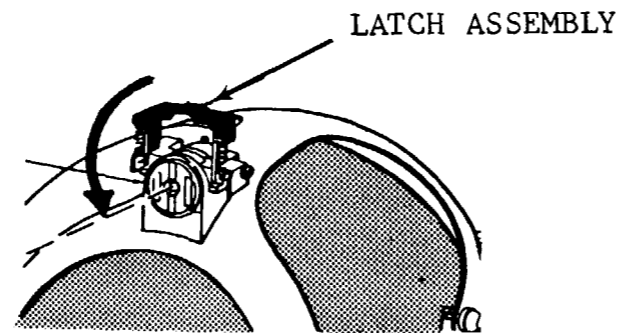
NOTE

The linkage arm must be connected to the helmet sight receptacle before the reticle will light or the gun turret will leave the stow position.

v. Connect linkage arms to pilot and gunner helmets.

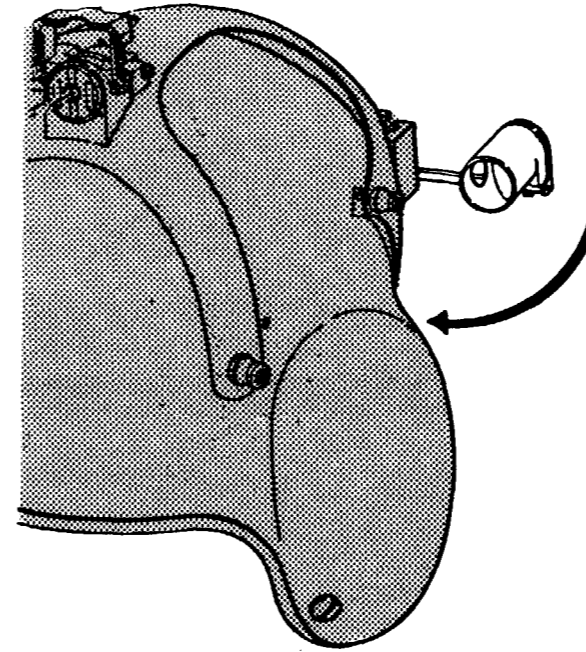


w. Close the latch around the fastener by pushing the mechanism back and down.



HELMET SIGHT

x. Rotate the sight eyepieces on pilot and gunner helmets down until they latch.

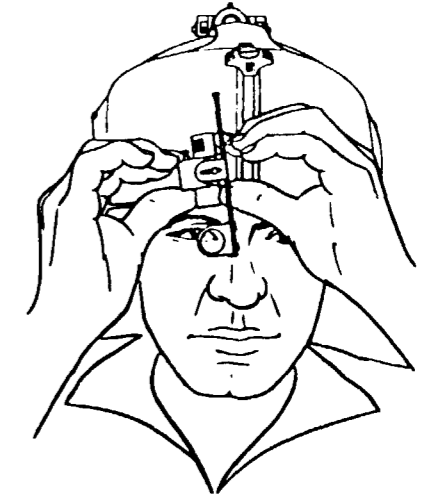


HELMET SIGHT

y. Adjust eyepiece vertically by compressing the ends of the spring lock with the left hand and moving the eyepiece up or down with the right hand.



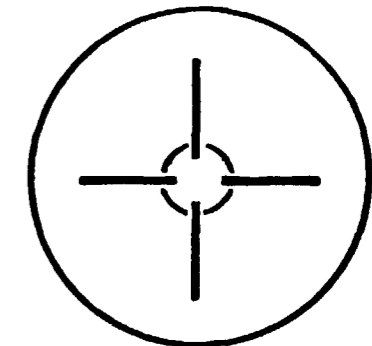
z. Adjust eyepiece laterally by rotating the housing.



aa. Press HSS RTCL TEST switch on pilot ARMT control panel. Reticle will appear in pilot helmet sight. Release HSS RTCL TEST switch. Reticle will disappear.



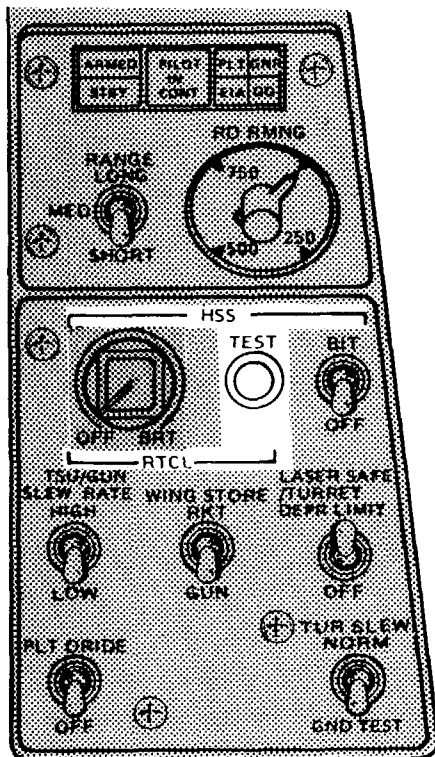
PILOT ARMT CONTROL PANEL



HSS RETICLE

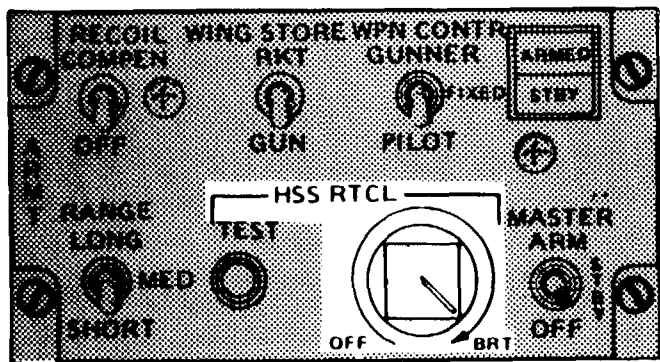
7-2. HSS OPERATIONAL CHECK
(CONTINUED).

ab. Press HSS RTCL TEST switch on gunner armament control panel. Reticle will appear in gunner helmet sight. Release TEST switch. Reticle will disappear.



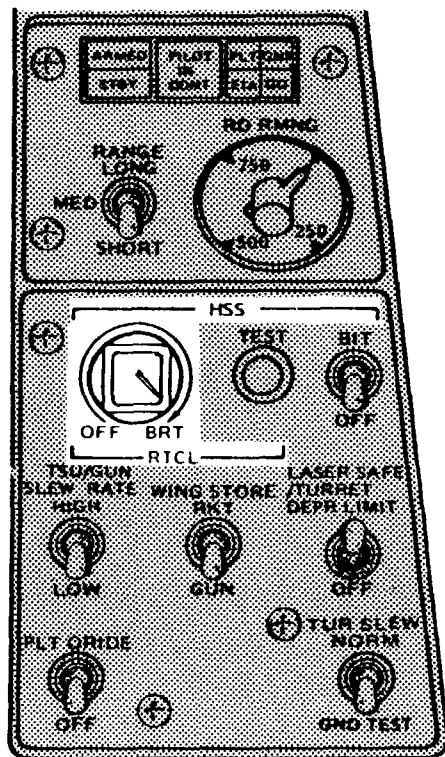
GUNNER ARMAMENT CONTROL PANEL

ac. Rotate HSS RTCL OFF-BRT control on pilot ARMT control panel to BRT. Reticle will appear in pilot helmet eyepiece.



PILOT ARMT CONTROL PANEL

ad. Rotate HSS RTCL OFF-BRT control on gunner armament control panel to BRT. Reticle will appear in gunner helmet eyepiece.

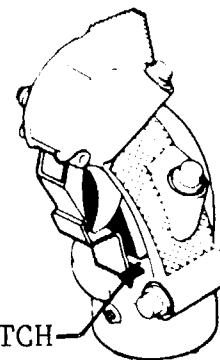


GUNNER ARMAMENT CONTROL PANEL

ae. Press TRIGGER ACTION switch on pilot cyclic stick. Rotate pilot helmet slowly up (elevation) and to the side (azimuth). The turret will follow helmet movement in both azimuth and elevation and the reticle in the helmet eyepiece will be steady.

NOTE

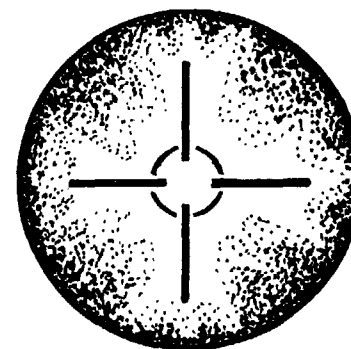
Turret depression limit prevents gun from striking ground.



TRIGGER ACTION SWITCH

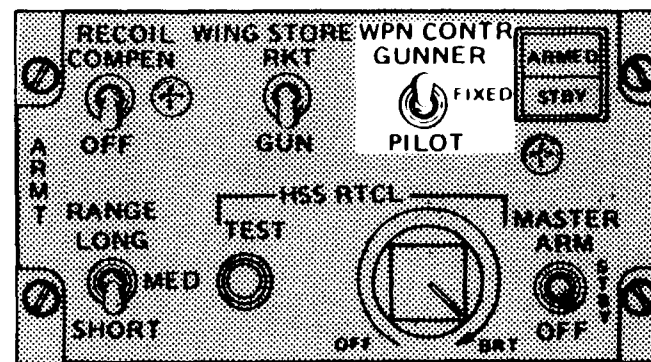
PILOT CYCLIC STICK

af. With TRIGGER ACTION switch still pressed, move pilot helmet rapidly 90° in azimuth. The sight reticle will flash and will continue to flash until the line of sight of the gun and line of sight of helmet coincide.



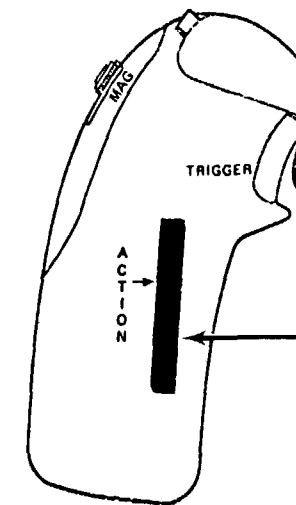
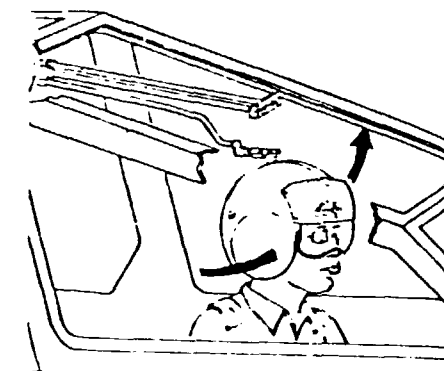
HSS RETICLE

ag. Set WPN CONTR switch on pilot ARMT control panel to GUNNER.



PILOT ARMT CONTROL PANEL

ah. Press and hold ACTION switch on TSU left hand grip. Move gunner helmet slowly up and to the side. The turret will follow helmet movement in both azimuth and elevation and reticle in helmet sight eyepiece will be steady. Release ACTION switch.



LEFT HAND GRIP

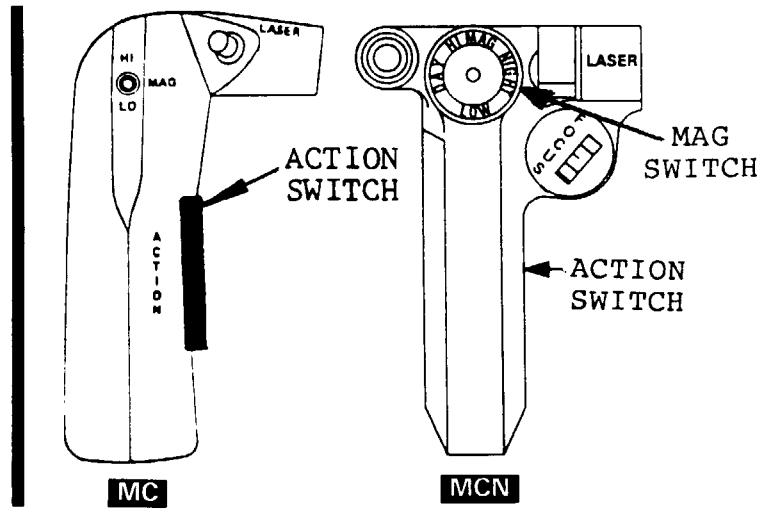
ACTION SWITCH

ai. Press and hold ACTION switch on TSU left hand grip and check gunner helmet sight reticle as follows:

- (1) Move gunner helmet rapidly 90 degrees to the side. The sight reticle will

7-2. HSS OPERATIONAL CHECK
(CONTINUED).

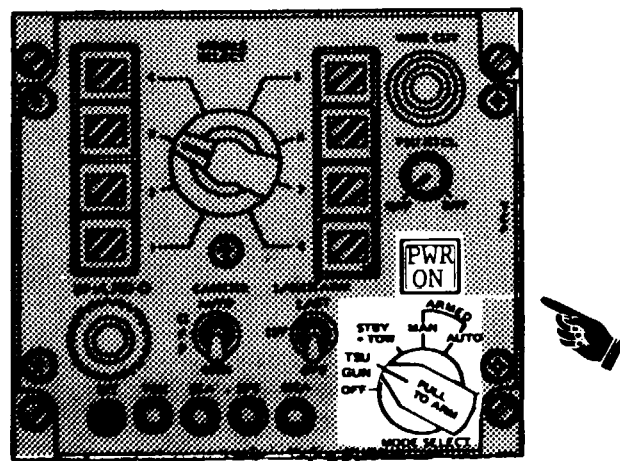
flash until the line of sight of the gun and the line of sight of the helmet coincide.



LEFT HAND GRIP

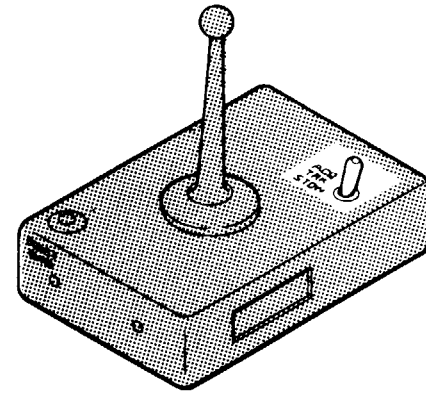
(2) Release ACTION switch.

aj. Set MODE SELECT switch on TCP (TOW control panel) to TSU GUN. After BIT test on TCP is complete, the mode indicator will indicate PWR ON.



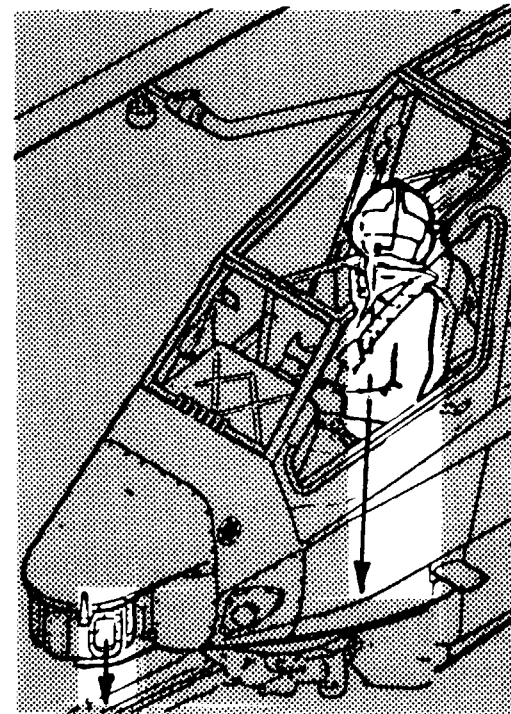
TCP (TOW CONTROL PANEL)

ak. Press and hold ACQ/TRK/STOW switch on sight hand control in ACQ position.

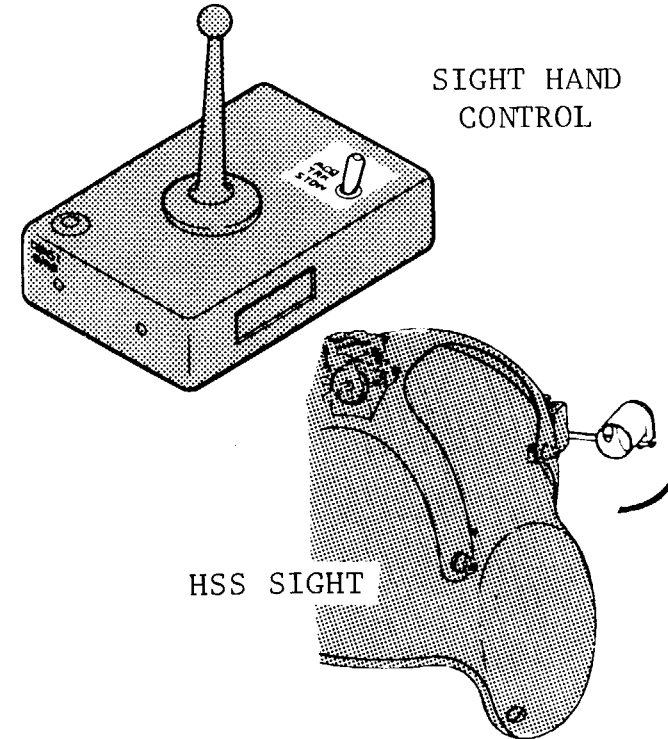


SIGHT HAND CONTROL

al. Move gunner helmet in elevation and azimuth to sight on a target. The TSU will follow the movement of the helmet sight.

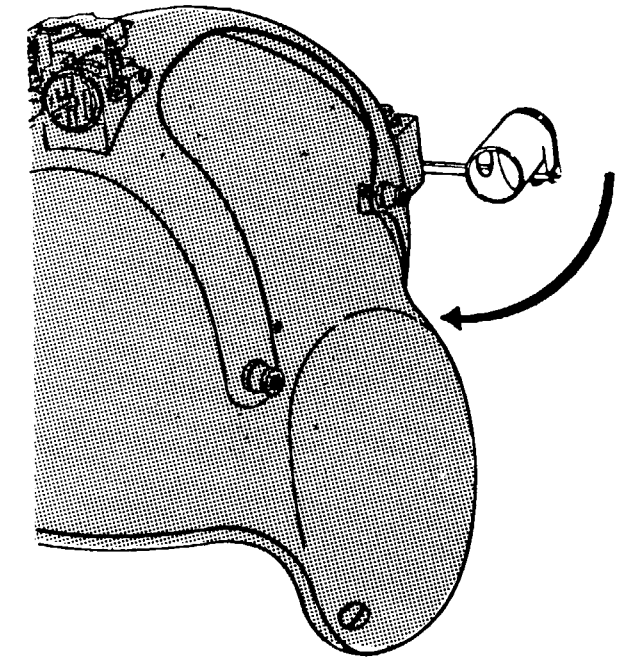


am. Release ACQ/TRK/STOW switch to TRK. The gunner helmet eyepiece will retract.



HSS SIGHT

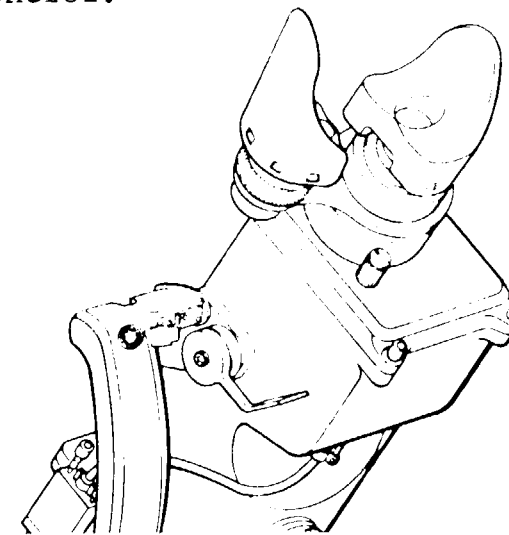
ao. Rotate gunner helmet sight eyepiece down until it latches.



HSS SIGHT

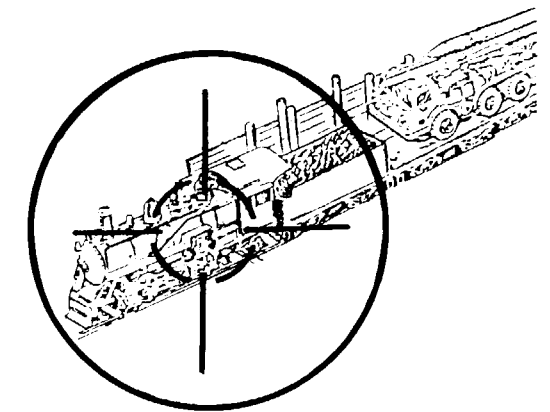
am.1. Set MAG switch on TSU left hand grip to DAY.

an. Look into TSU. TSU will be on same target acquired with helmet sight. TSU can be held on target with sight hand control.



TSU

ap. In pilot station select target with pilot helmet sight.



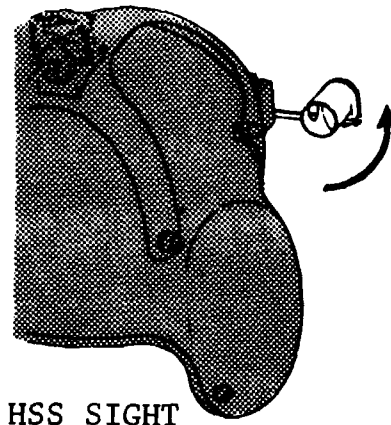
HSS RETICLE

7-2. HSS OPERATIONAL CHECK
(CONTINUED).

aq. Press and hold ACQ switch on gunner instrument panel in PHS position. The gunner helmet eyepiece will retract and the TSU will be on the same target selected with the pilot helmet.

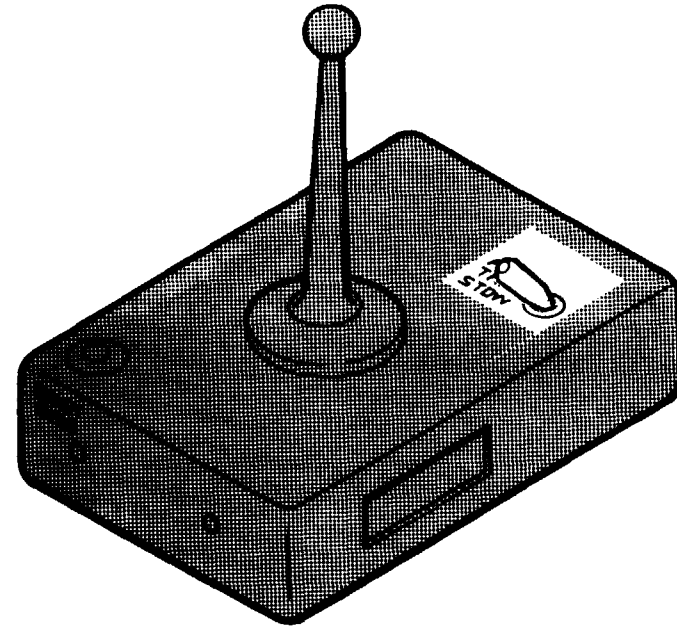


ACQ SWITCH



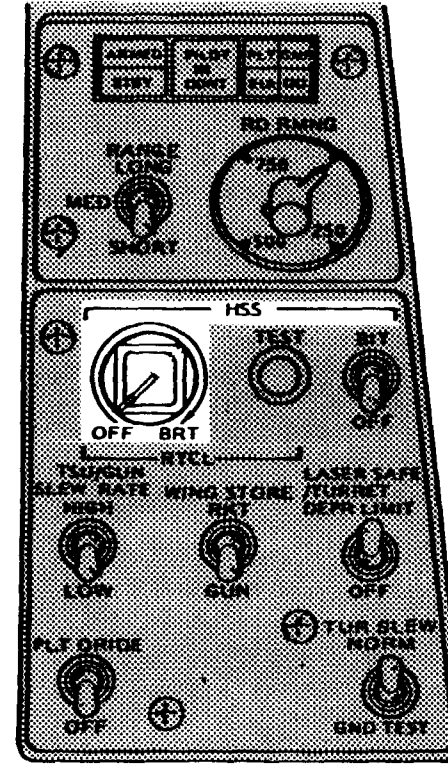
HSS SIGHT

as. Set ACQ/TRK/STOW switch on sight hand control to STOW.



SIGHT HAND CONTROL

au. Set HSS RTCL OFF-BRT switch on gunner armament control panel to OFF.



GUNNER ARMAMENT CONTROL PANEL

aw. Set TUR SLEW switch on gunner armament control panel to NORM.

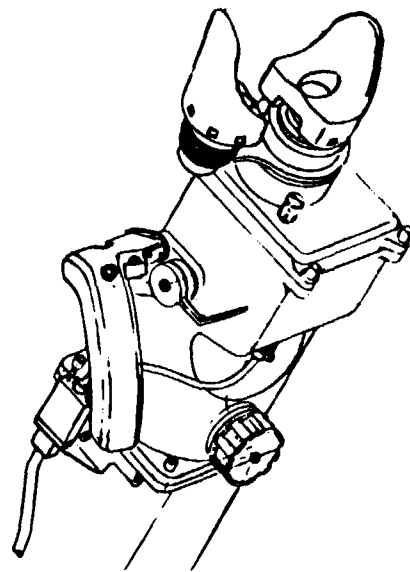


GUNNER ARMAMENT CONTROL PANEL

ar. Look into TSU while pilot helmet is moved in azimuth and elevation. The TSU will follow the pilot helmet movement. Release ACQ switch and remove helmet.

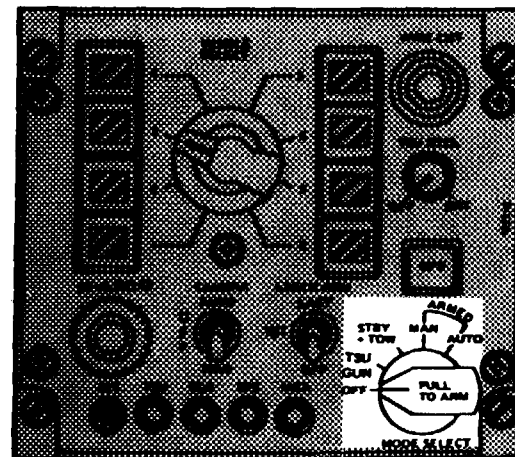


ACQ SWITCH



TSU

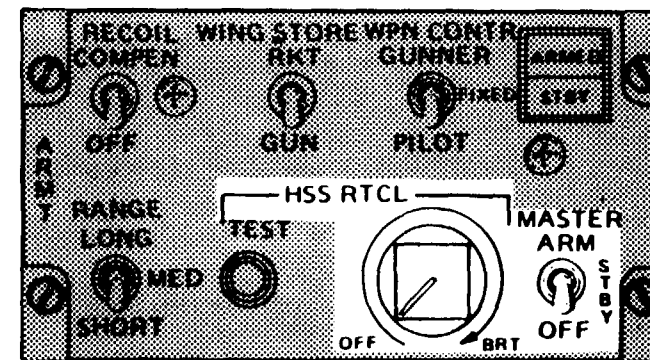
at. Set MODE SELECT switch on TCP (TOW control panel) to OFF.



TCP (TOW CONTROL PANEL)

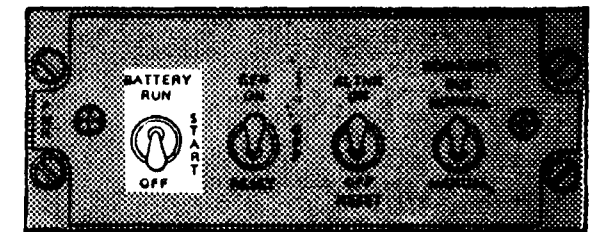
av. Set pilot ARMT control panel switches:

- (1) HSS RTCL OFF-BRT to OFF.
- (2) MASTER ARM to OFF.



PILOT ARMT CONTROL PANEL

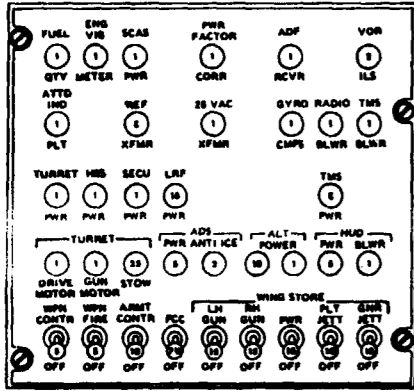
ax. Set BATTERY switch on electrical PWR control panel to OFF.



ELECTRICAL PWR CONTROL PANEL

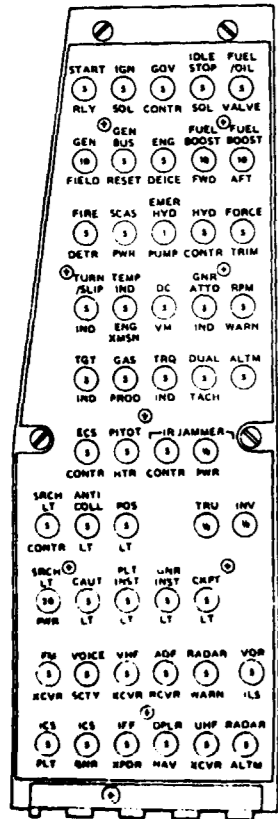
7-2. HSS OPERATIONAL CHECK
(CONTINUED).

ay. Open (OFF) all circuit breakers on AC/ARMT circuit breaker panel.



AC/ARMT CIRCUIT BREAKER PANEL

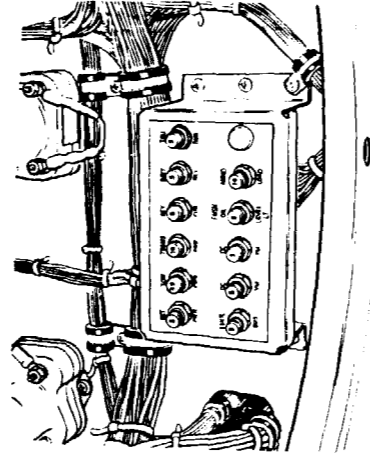
az. Open all circuit breakers on DC circuit breaker panel.



DC CIRCUIT BREAKER PANEL

ba. Turn off and disconnect external power.

bb. Open all circuit breakers on circuit breaker panel in battery compartment.



CIRCUIT BREAKER PANEL

bc. Disconnect battery.

7-3. POWER OFF/POWER ON PROCEDURES.

INITIAL SETUP

Applicable Configuration
All

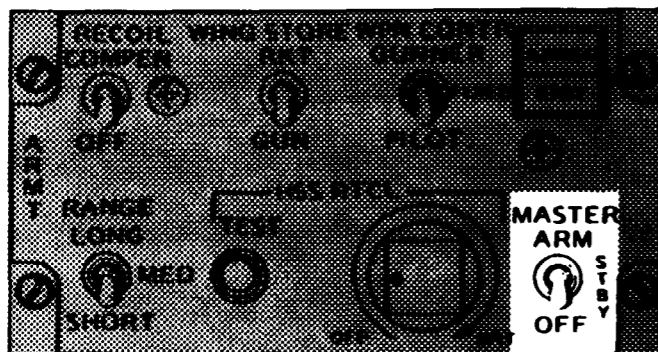
Personnel Required
68J (1)

a. Turn off electrical power when specified in troubleshooting procedure as follows:

NOTE

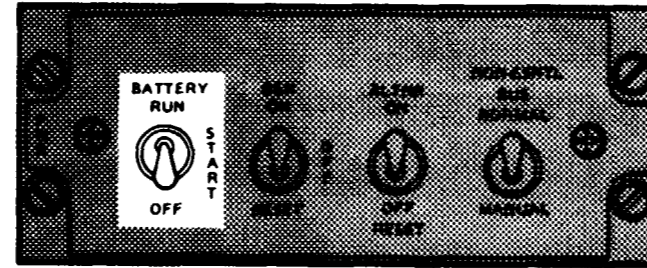
Note the position that the MASTER ARM switch is in. The MASTER ARM switch must be set to the same position during the Power On Procedure.

(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.

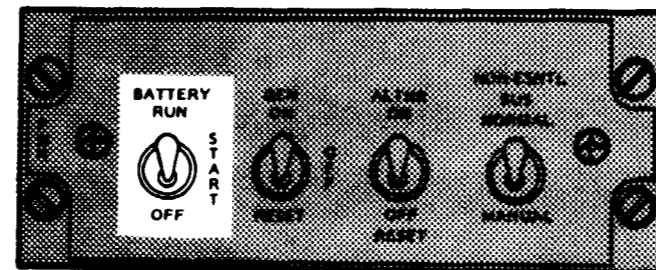


ELECTRICAL PWR CONTROL PANEL

(3) Turn off ground power unit.
(4) Disconnect battery.

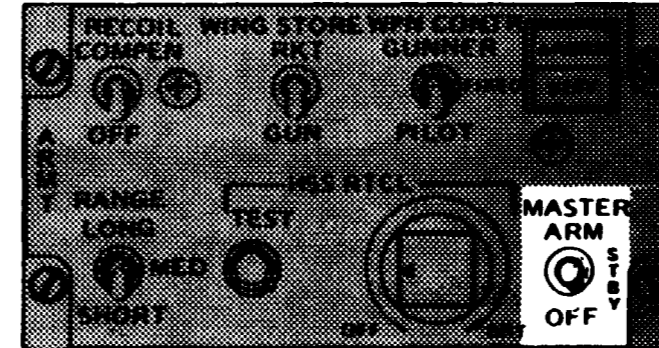
b. Turn on electrical power when specified in troubleshooting procedure as follows:

(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

7-4. HSS PWR CIRCUIT BREAKER WILL NOT STAY CLOSED.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

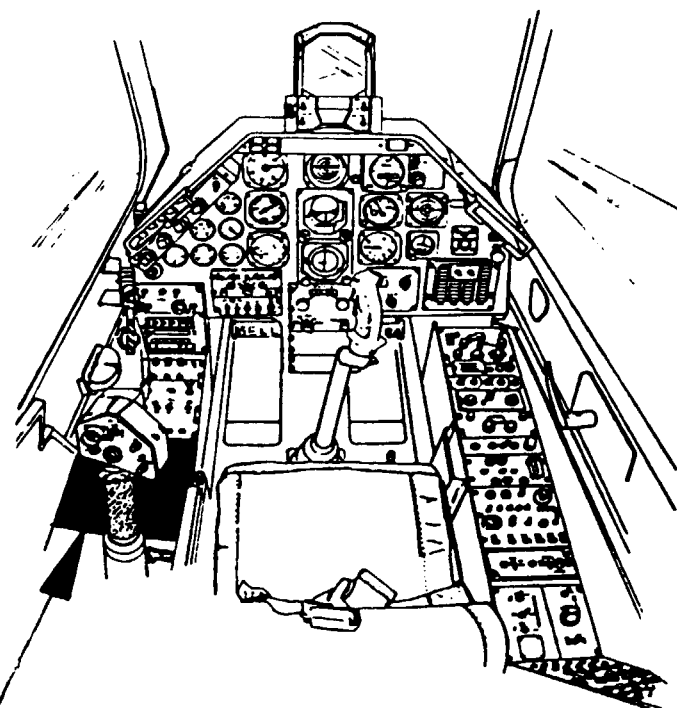
Tool Set, A/C Armament Repairman

Personnel Required
68J (1)

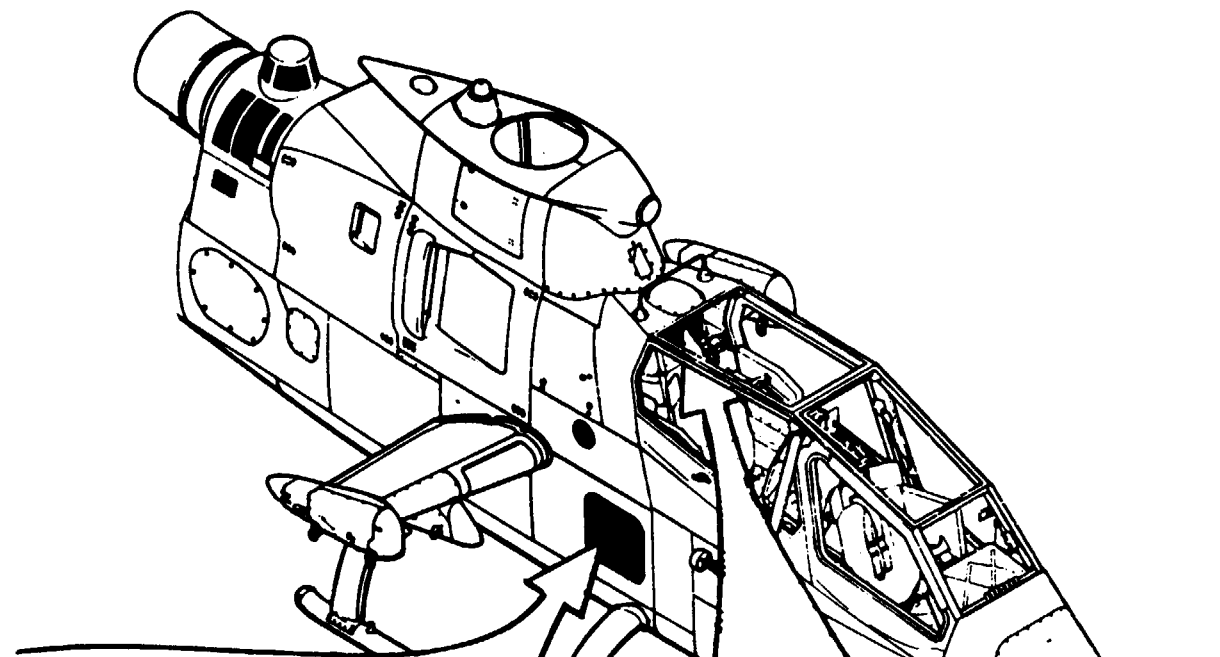
References
TM 1270-212-14
TM 55-1520-236-23
TM 9-1090-206-20-1

Access Panels
Interface Control Unit - Removed

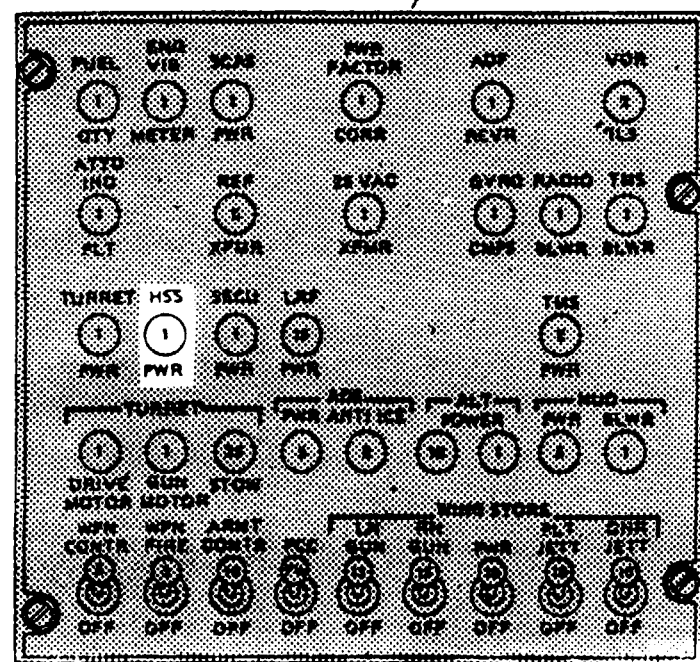
Left Side Control Linkage - Removed



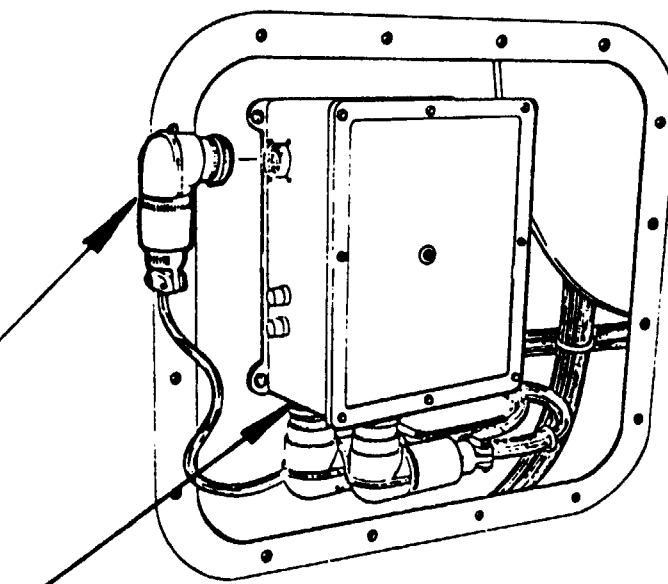
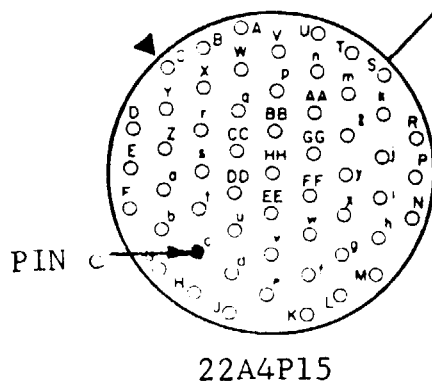
PILOT STATION



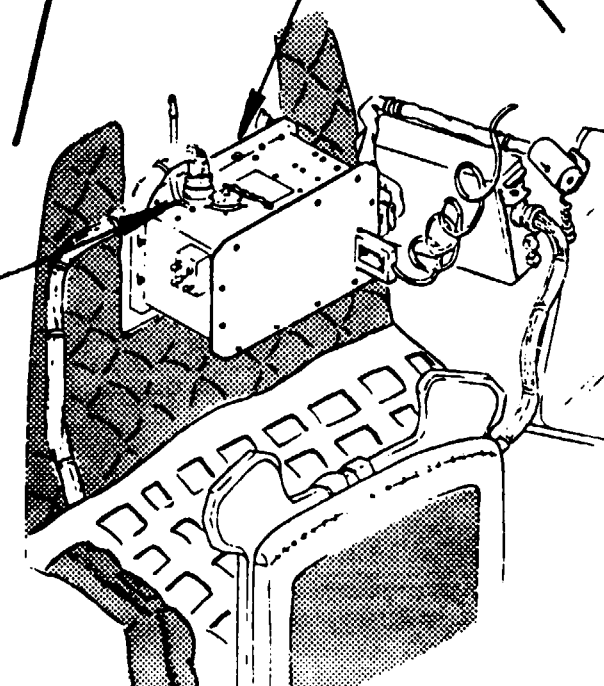
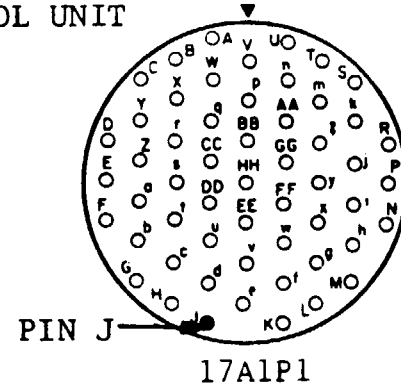
ELECTRONIC INTERFACE ASSEMBLY (EIA)



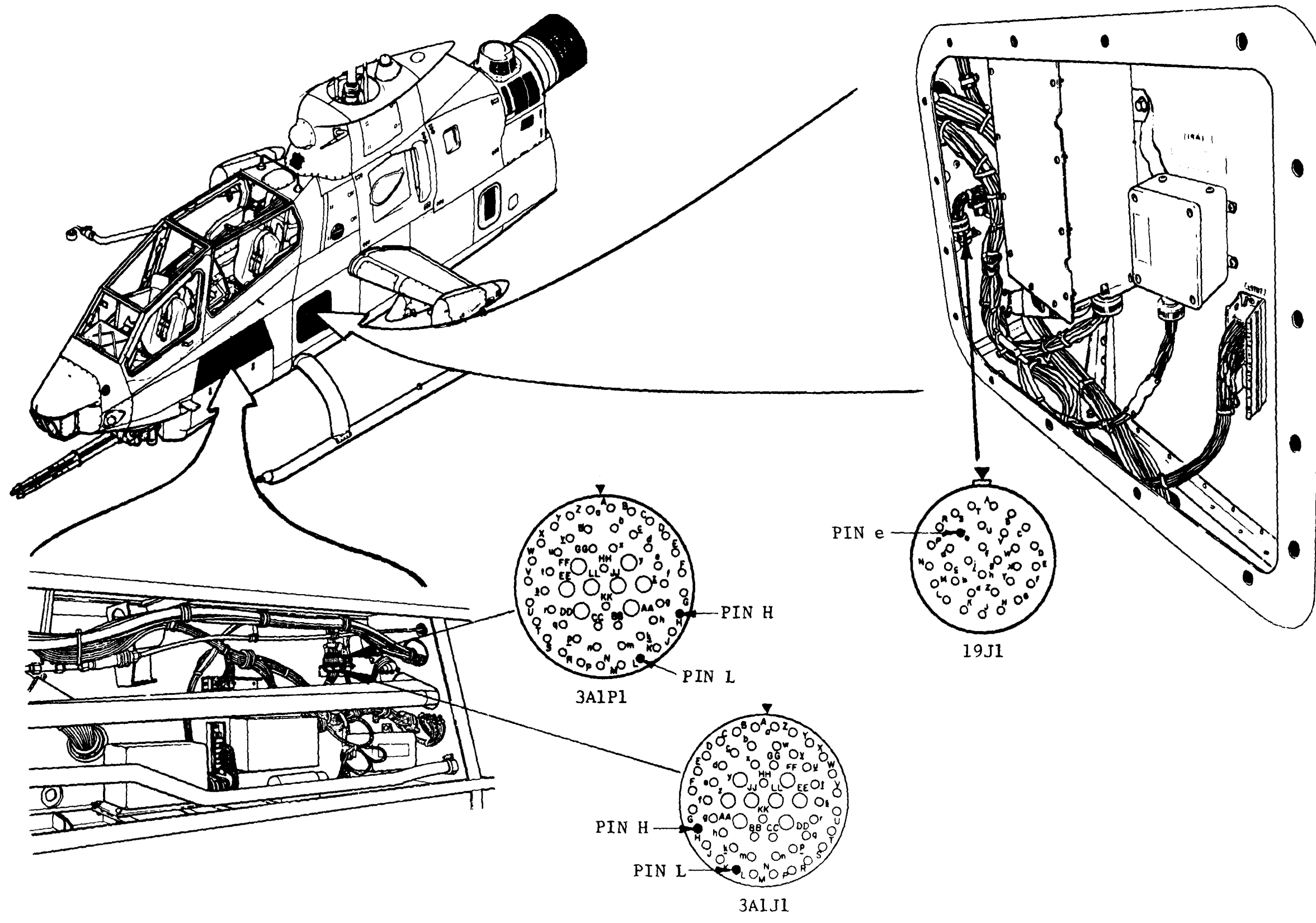
AC/ARMT CIRCUIT BREAKER PANEL



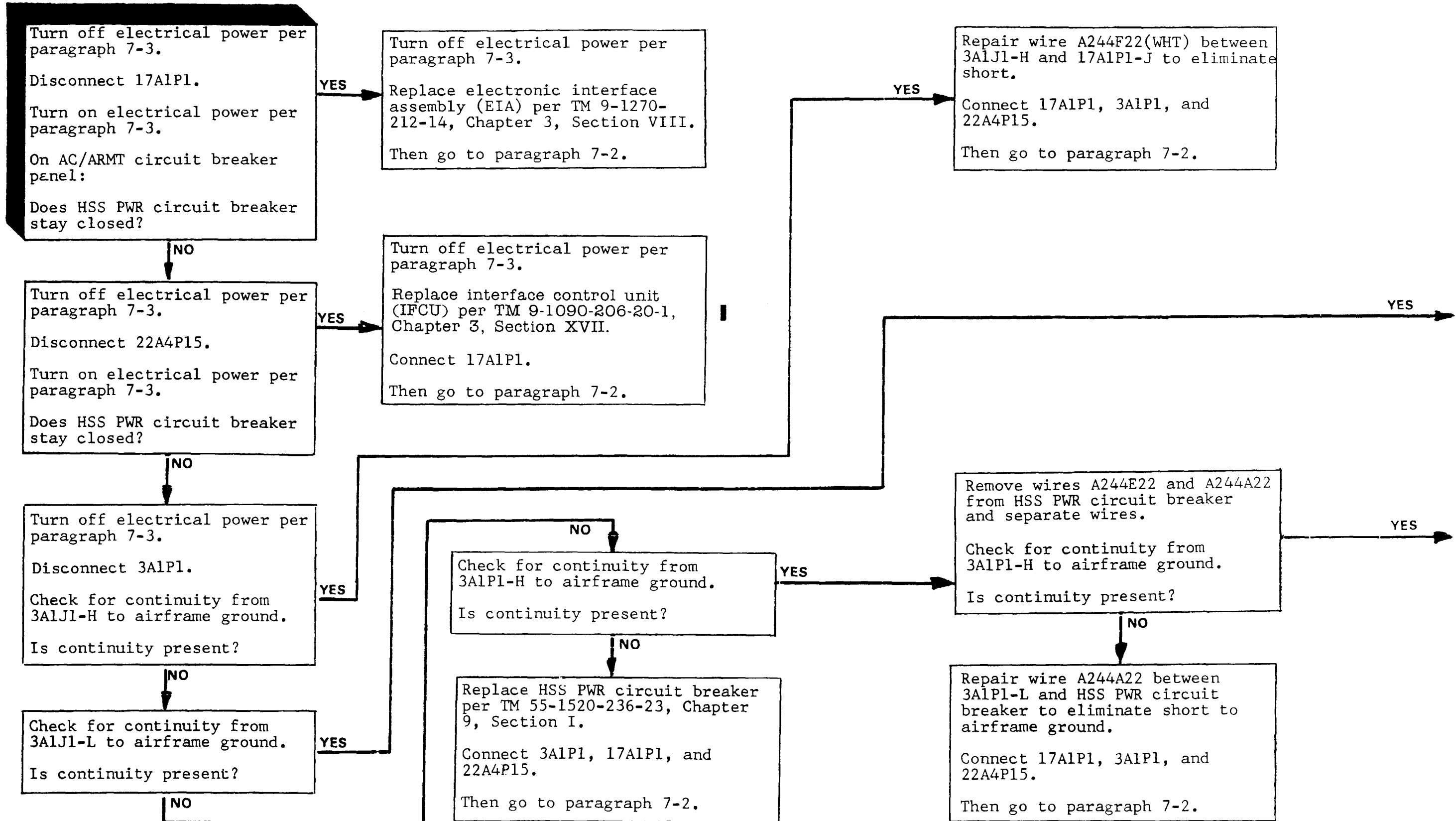
INTERFACE CONTROL UNIT (IFCU)



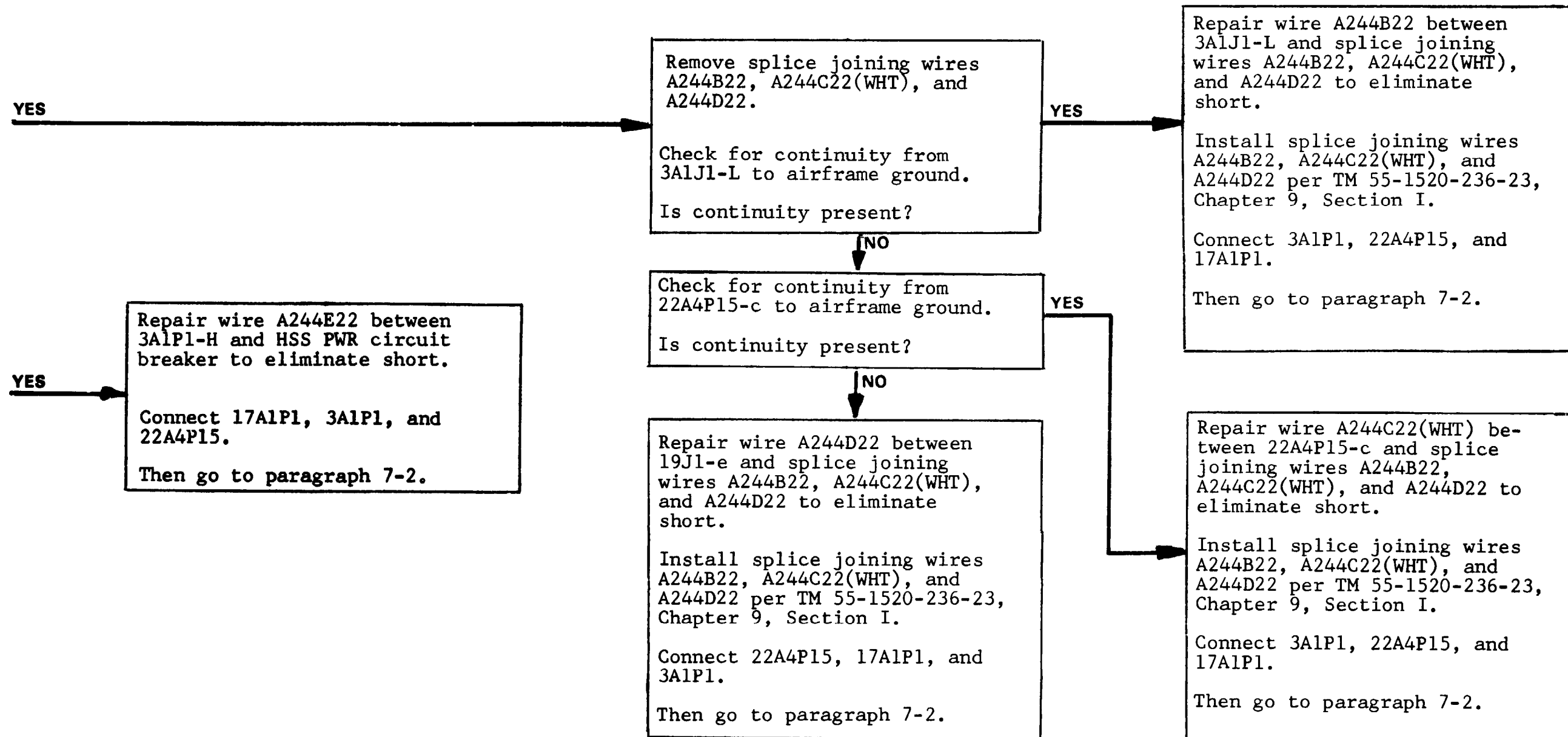
7-4 . HSS PWR CIRCUIT BREAKER WILL NOT STAY CLOSED (CONTINUED).



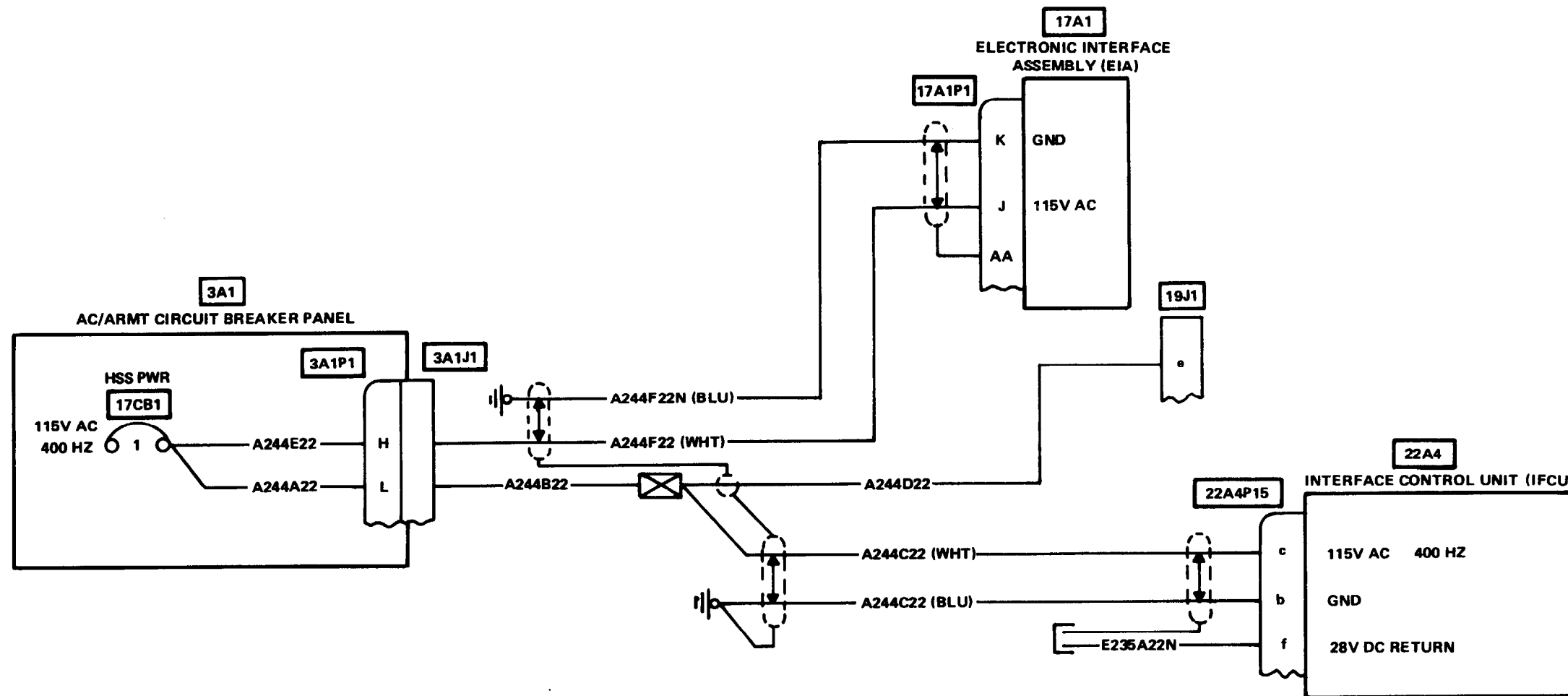
7-4 . HSS PWR CIRCUIT BREAKER WILL NOT STAY CLOSED (CONTINUED).



7-4 . HSS PWR CIRCUIT BREAKER WILL NOT STAY CLOSED (CONTINUED).



7-4 . HSS PWR CIRCUIT BREAKER WILL NOT STAY CLOSED (CONTINUED).



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7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS
DO NOT ALL LIGHT DURING PRESS TO TEST.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

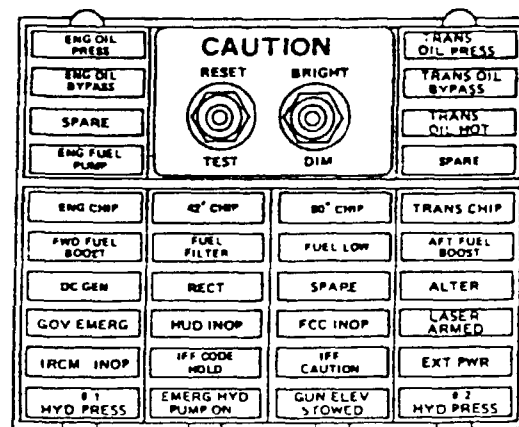
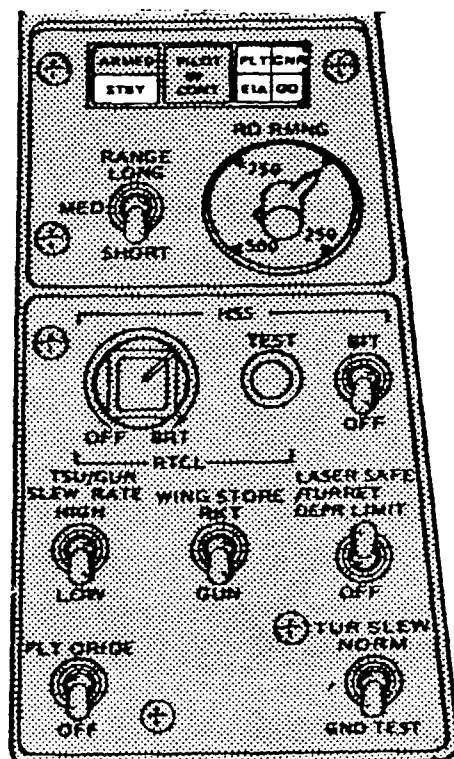
Personnel Required
68J (2)

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

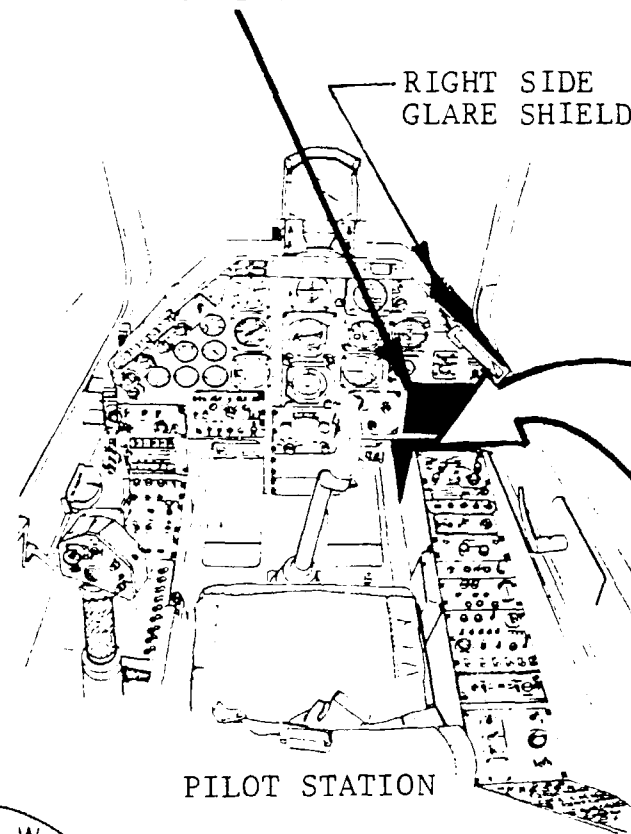
Access Panels
Right Side Glare
Shield - Removed

A. TROUBLESHOOTING LOGIC PART ONE.

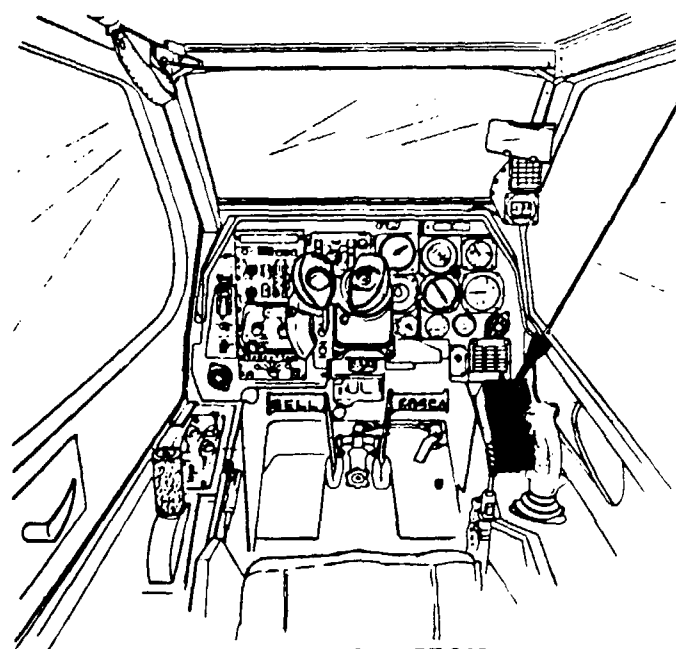
GUNNER ARMAMENT
CONTROL PANEL



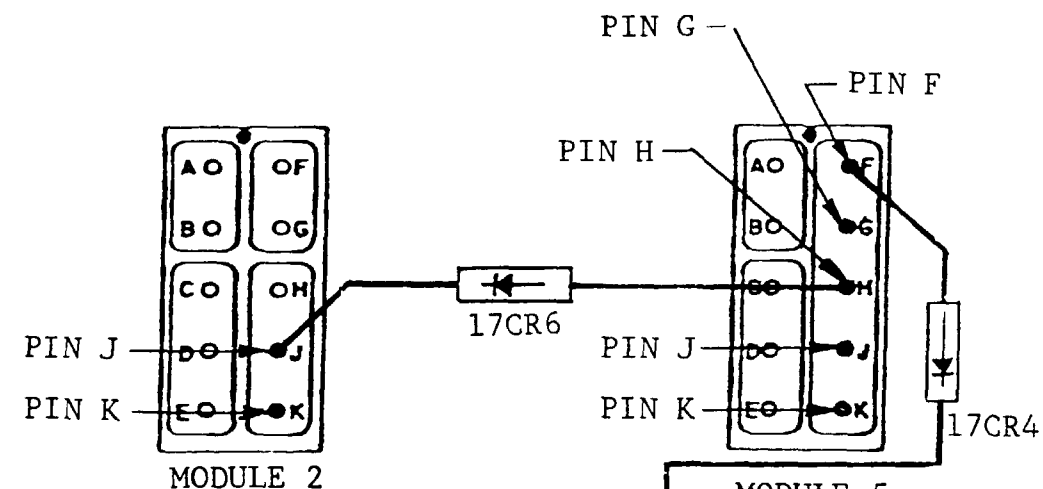
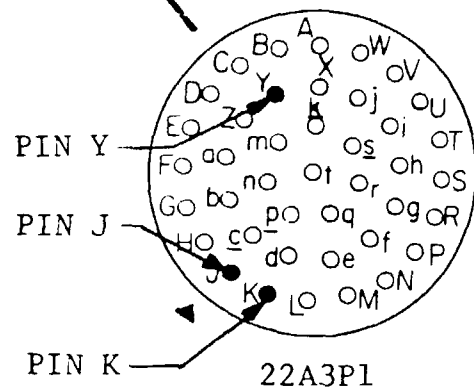
PILOT CAUTION PANEL



PILOT STATION

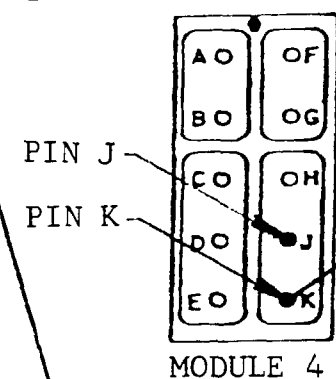


GUNNER STATION

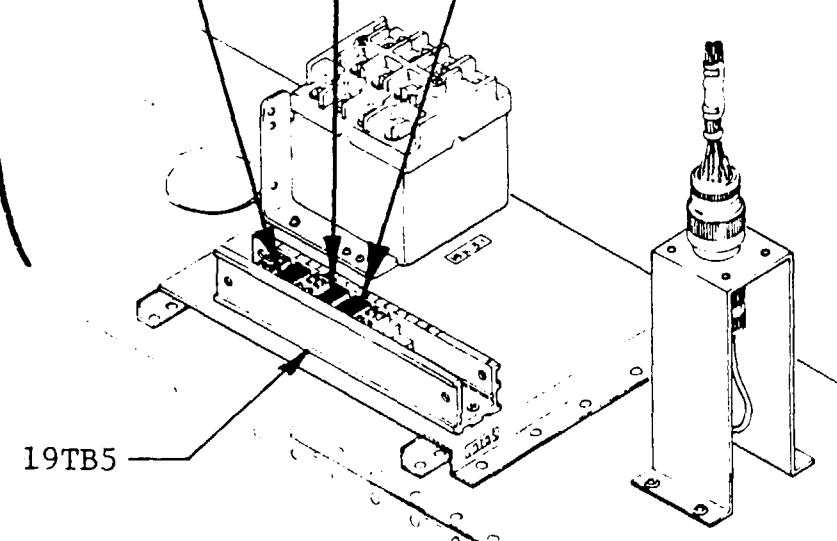


MODULE 2

MODULE 5

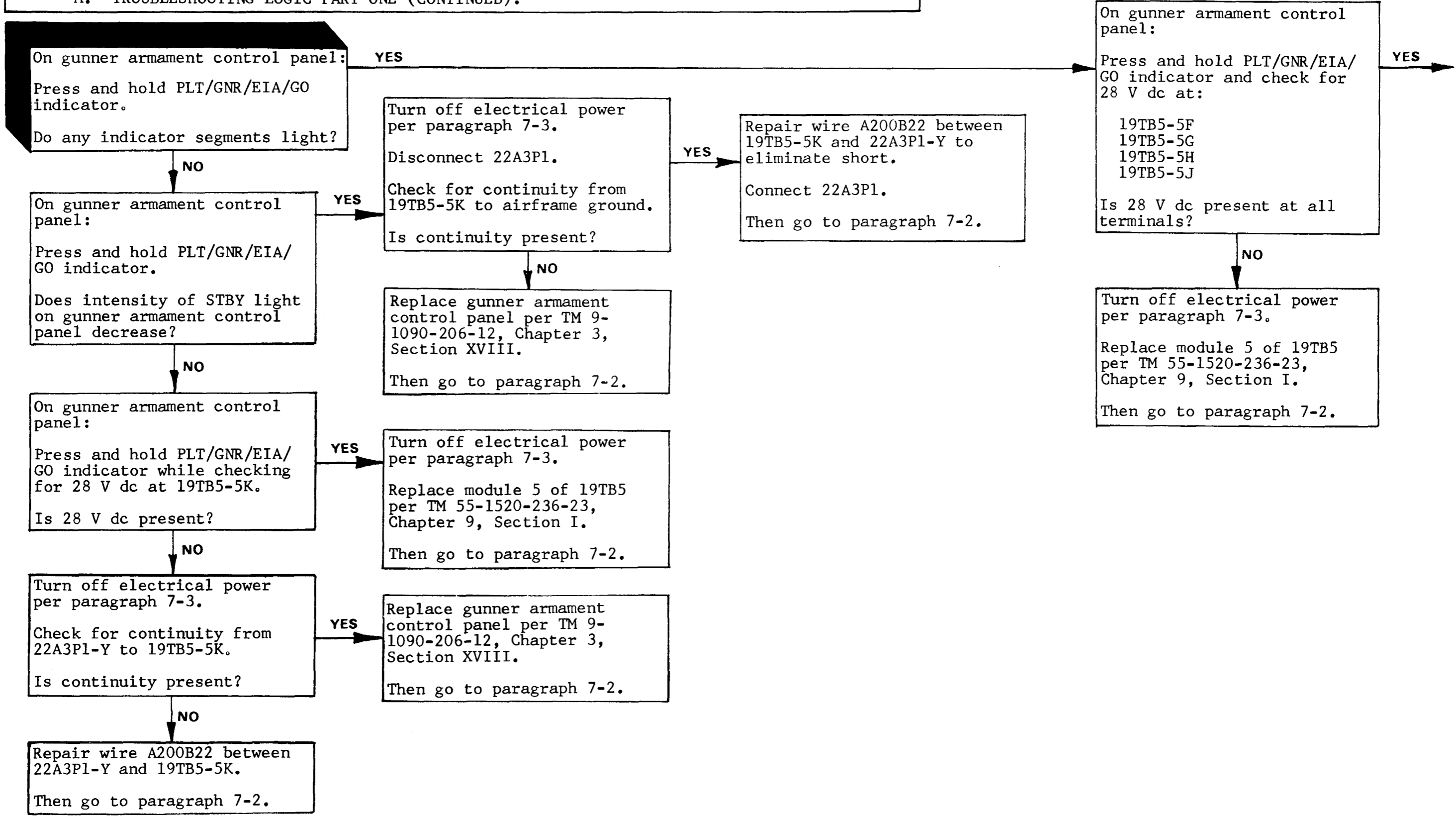


MODULE 4



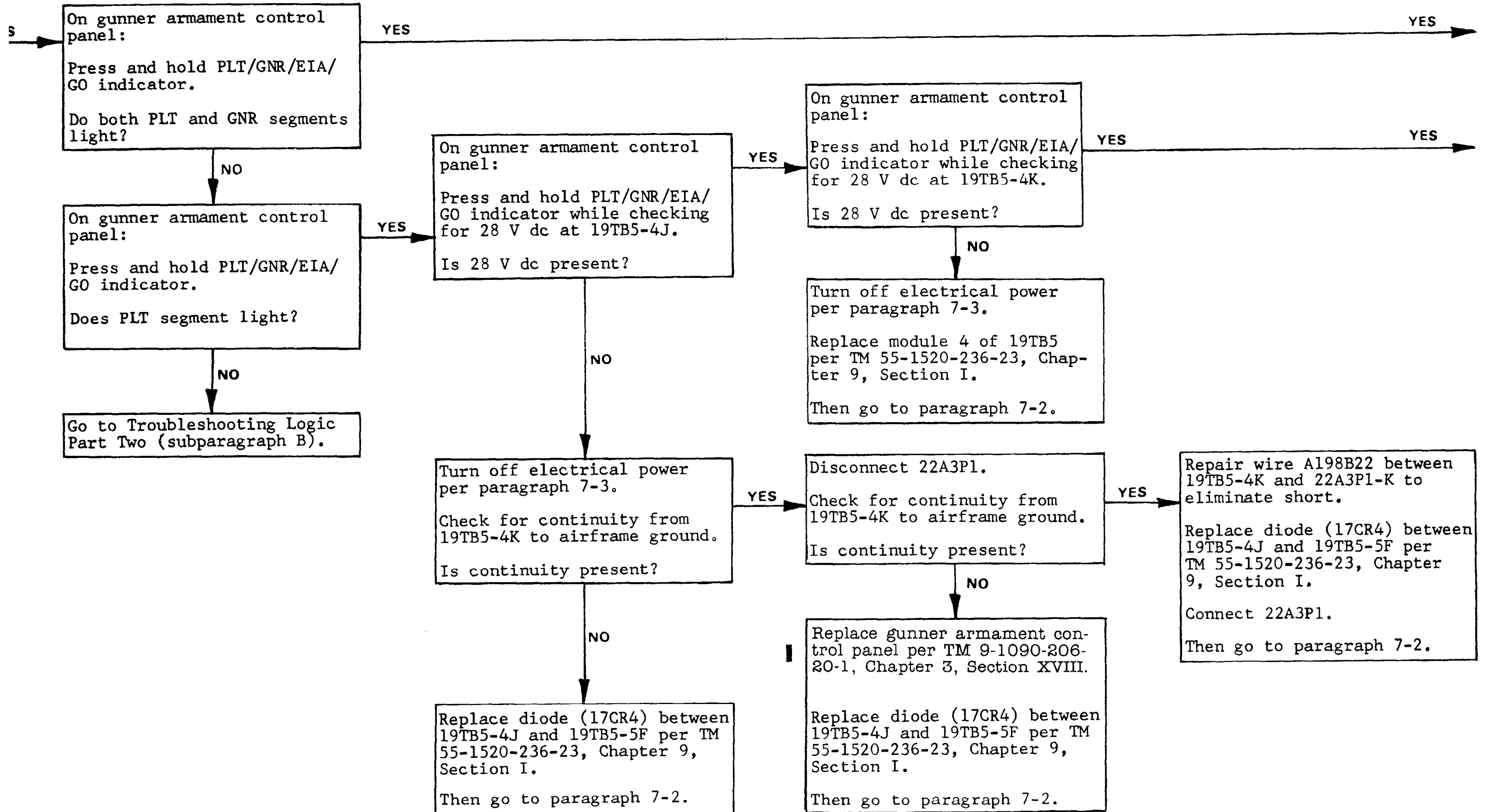
19TB5

7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS DO NOT ALL LIGHT DURING PRESS TO TEST (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



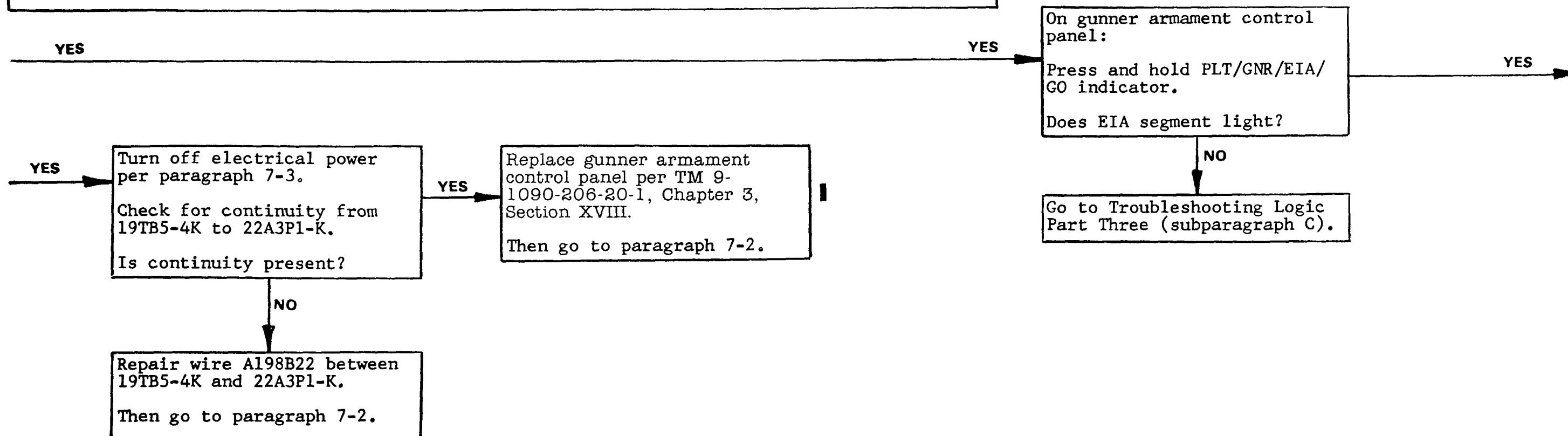
7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS DO NOT ALL LIGHT DURING PRESS TO TEST (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

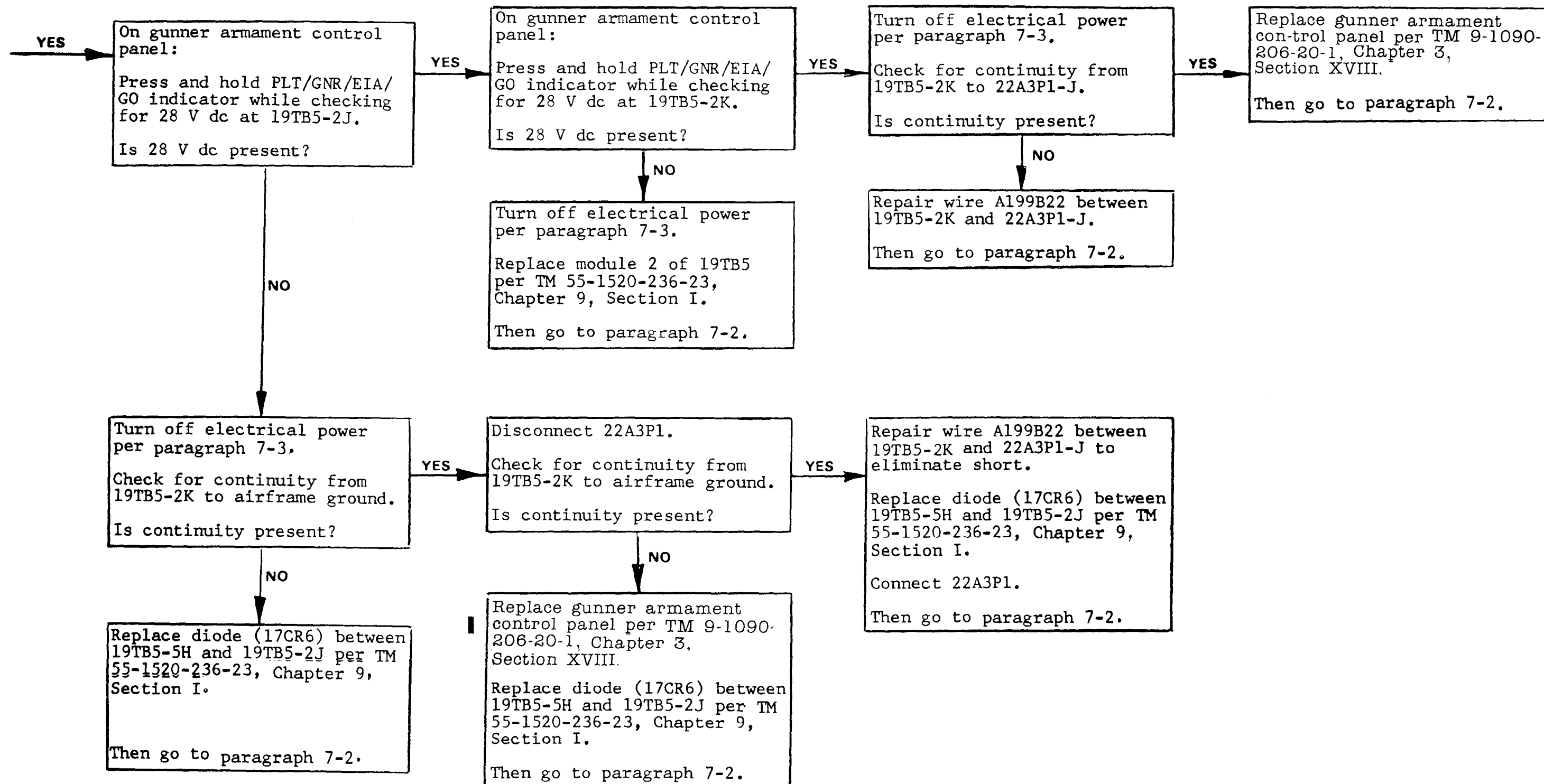


7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS DO NOT ALL LIGHT DURING PRESS TO TEST (CONTINUED).

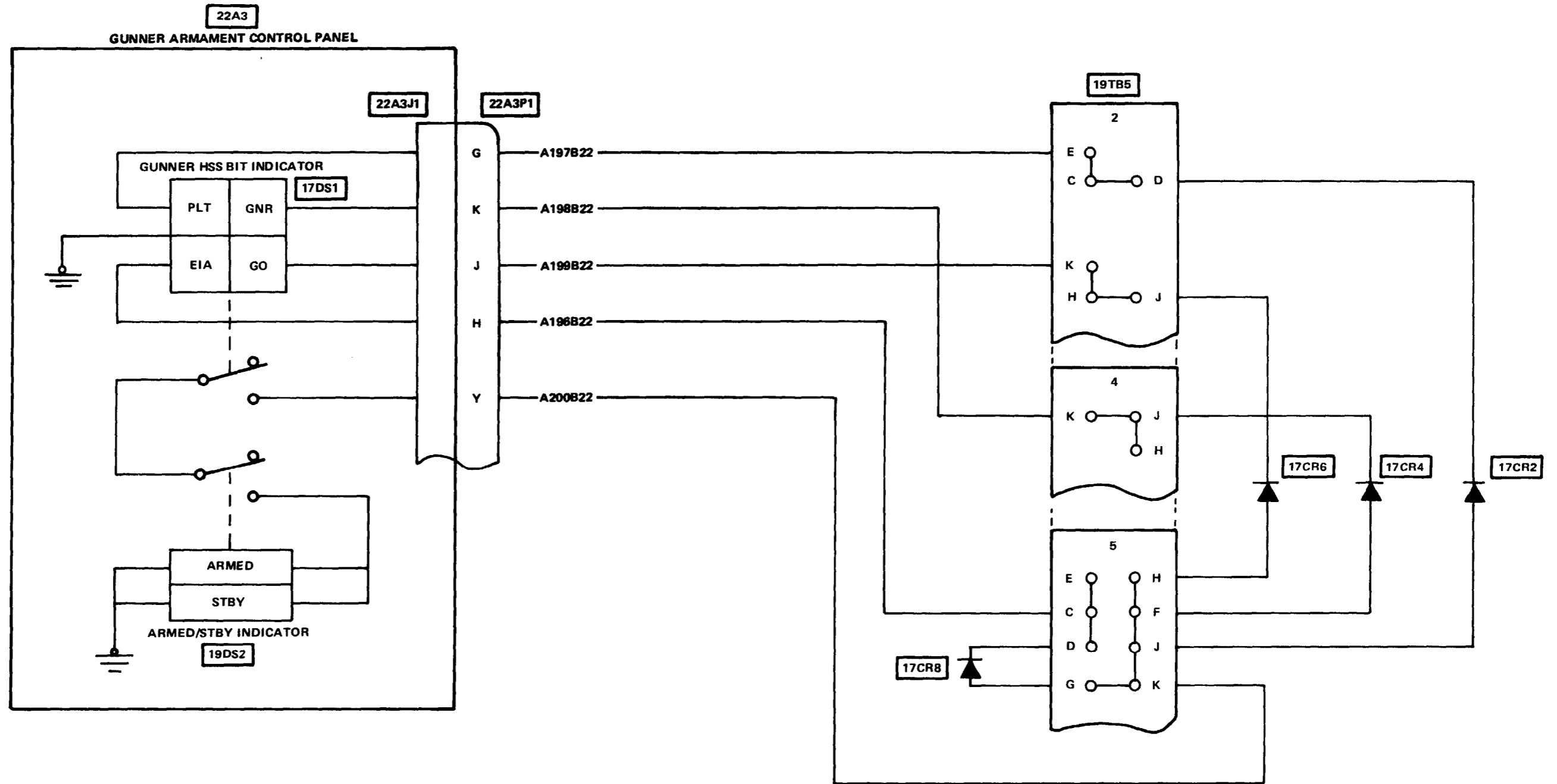
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS DO NOT ALL LIGHT DURING PRESS TO TEST (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



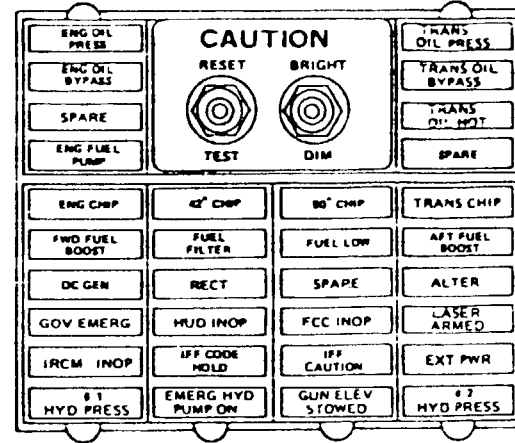
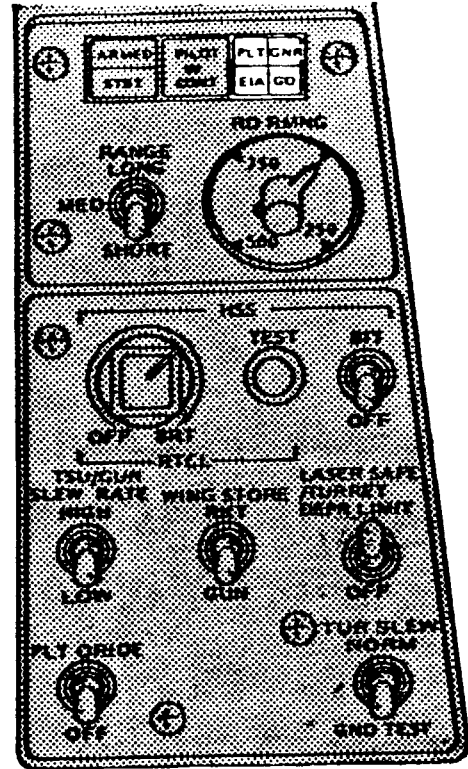
7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS DO NOT ALL LIGHT DURING PRESS TO TEST (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



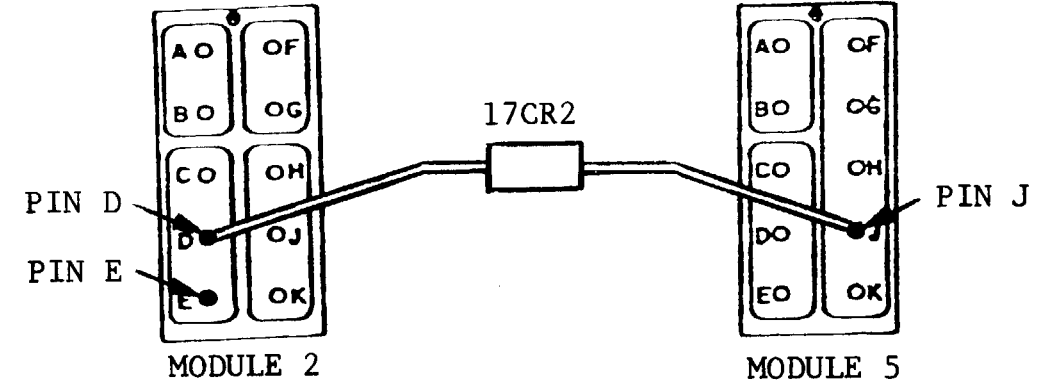
7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS DO NOT ALL LIGHT DURING PRESS TO TEST (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO.

GUNNER ARMAMENT CONTROL PANEL

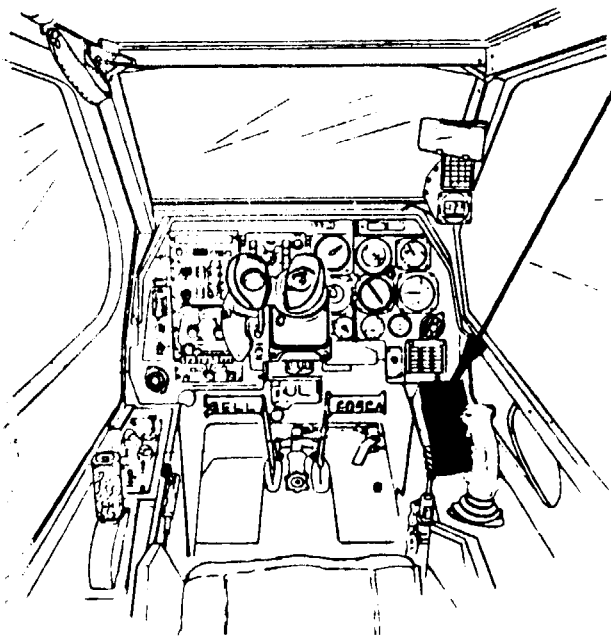


PILOT CAUTION PANEL

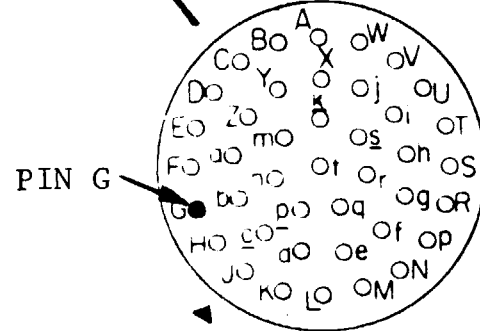


RIGHT SIDE GLARESHIELD

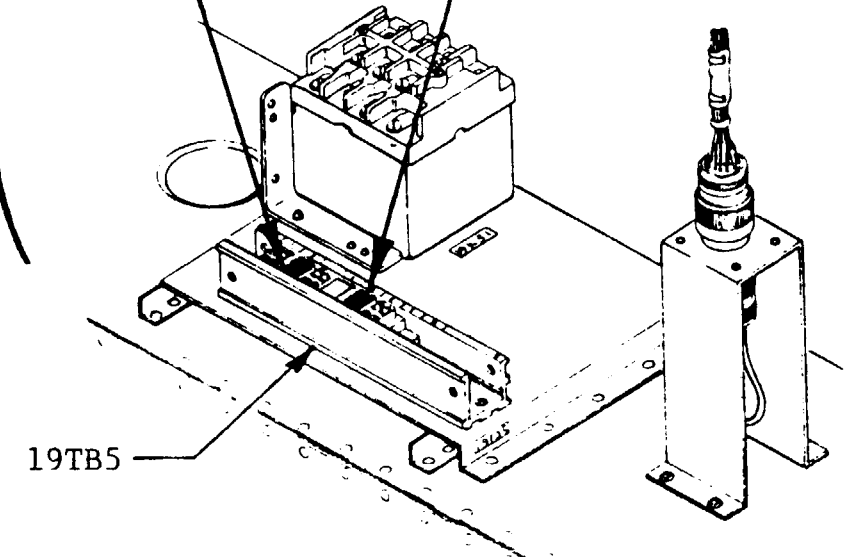
PILOT STATION



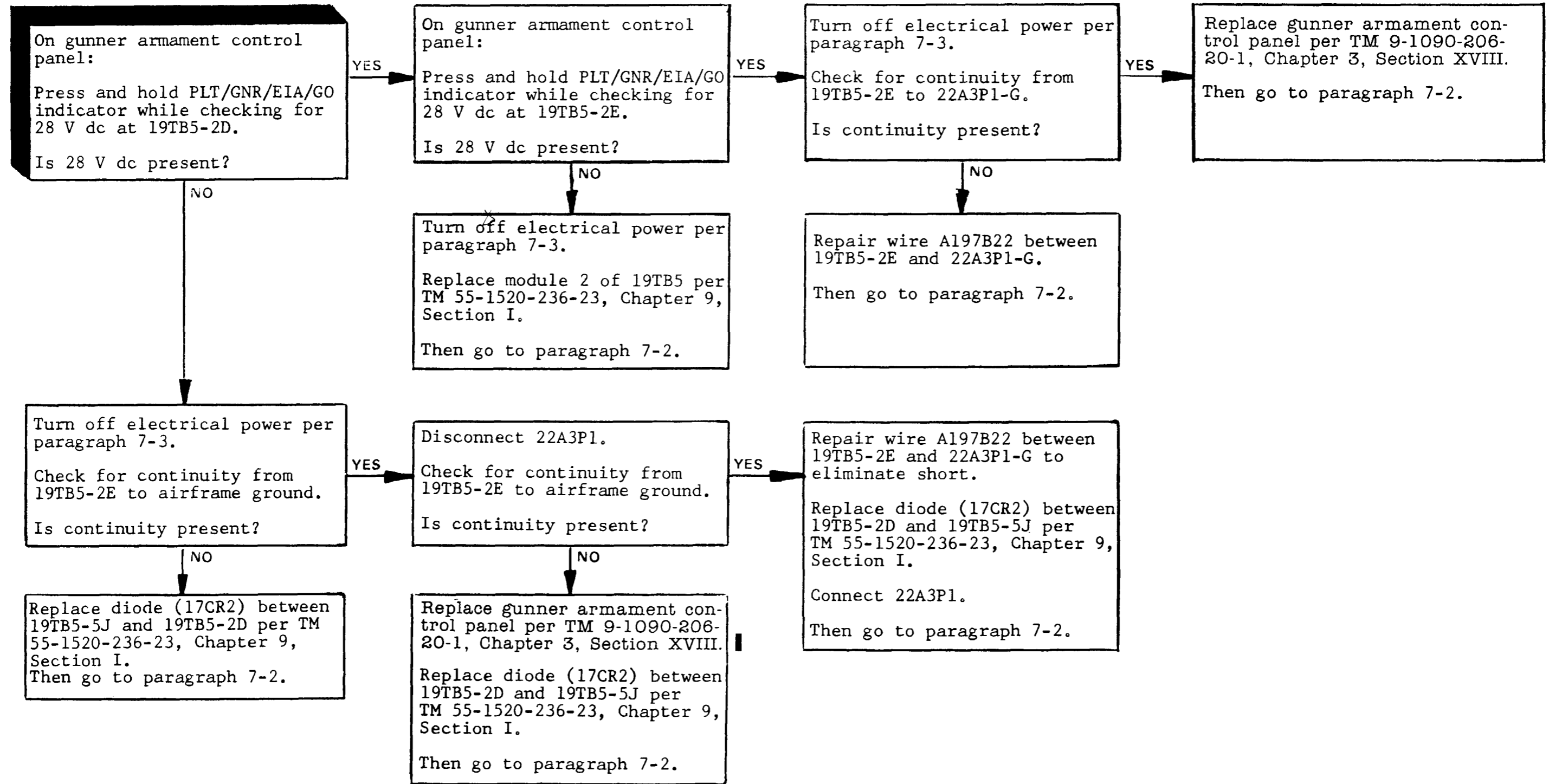
GUNNER STATION



22A3P1

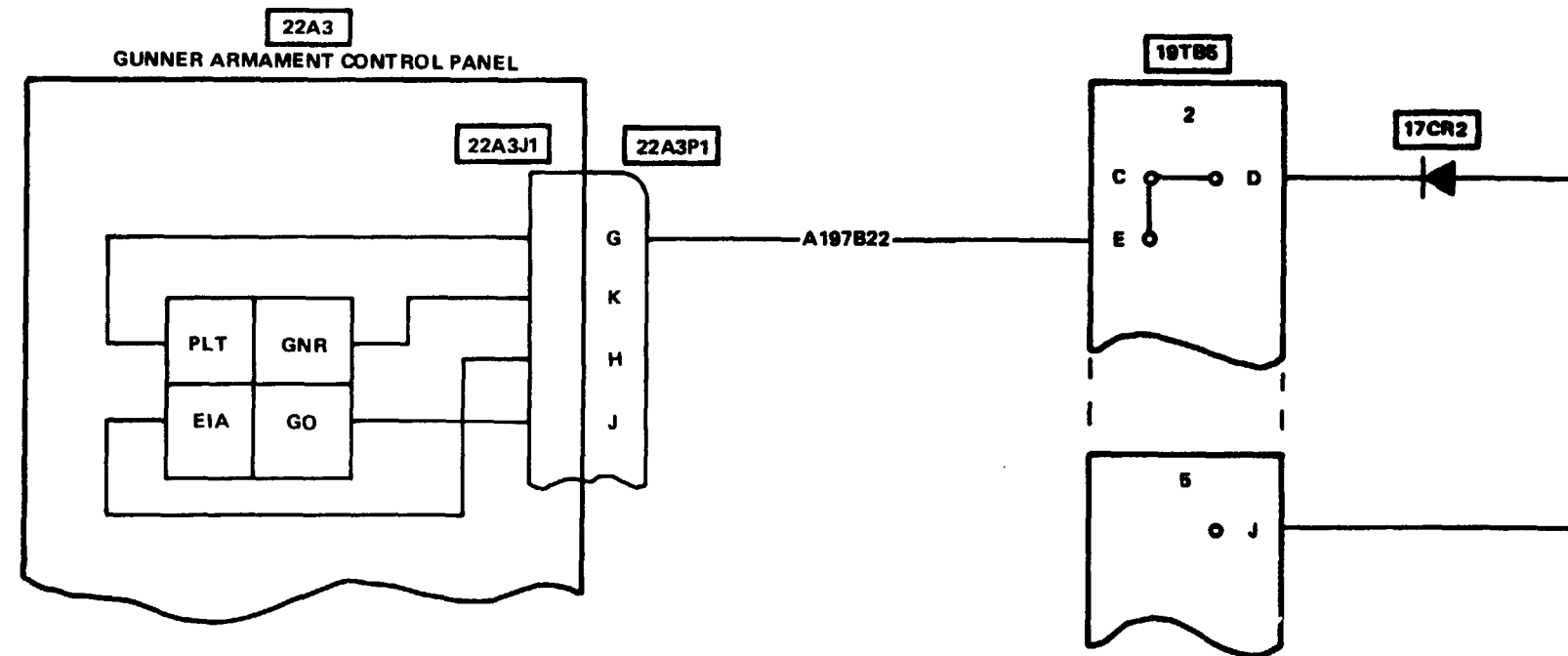


7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS DO NOT ALL LIGHT DURING PRESS TO TEST (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS
DO NOT ALL LIGHT DURING PRESS TO TEST
(CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

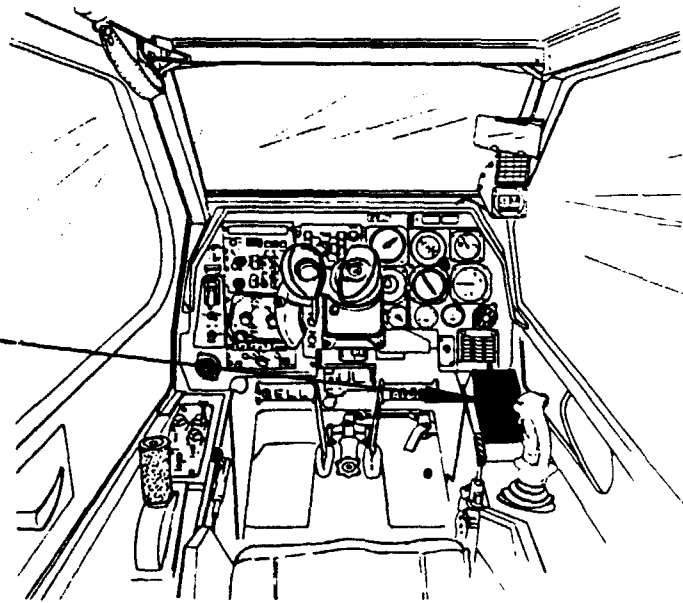


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7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS DO NOT ALL LIGHT DURING PRESS TO TEST (CONTINUED).

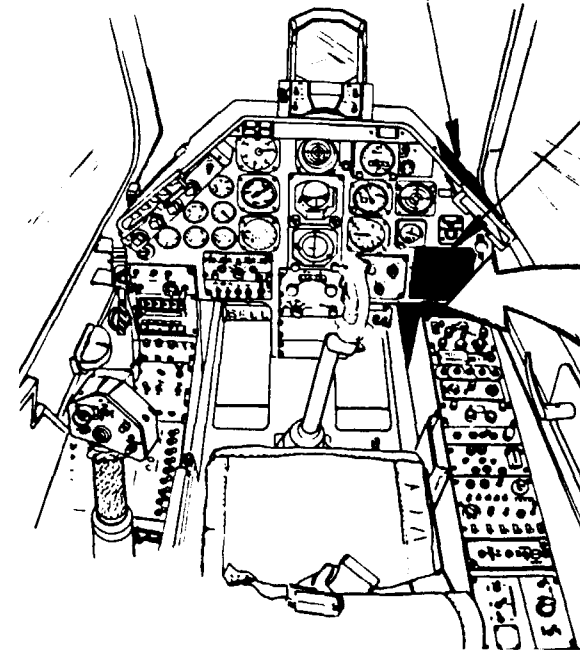
C. TROUBLESHOOTING LOGIC PART THREE.

GUNNER ARMAMENT CONTROL PANEL

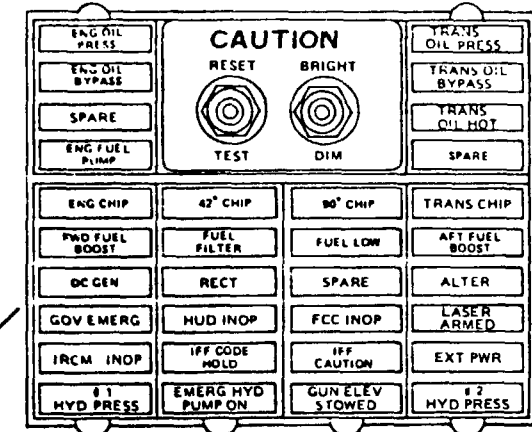


GUNNER STATION

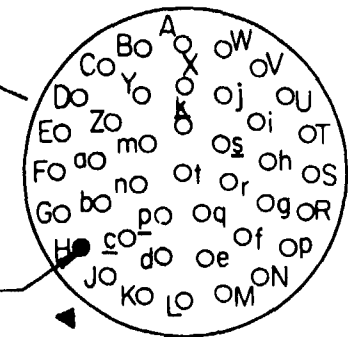
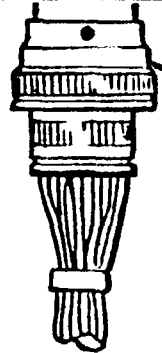
RIGHT SIDE GLARE SHIELD



PILOT STATION

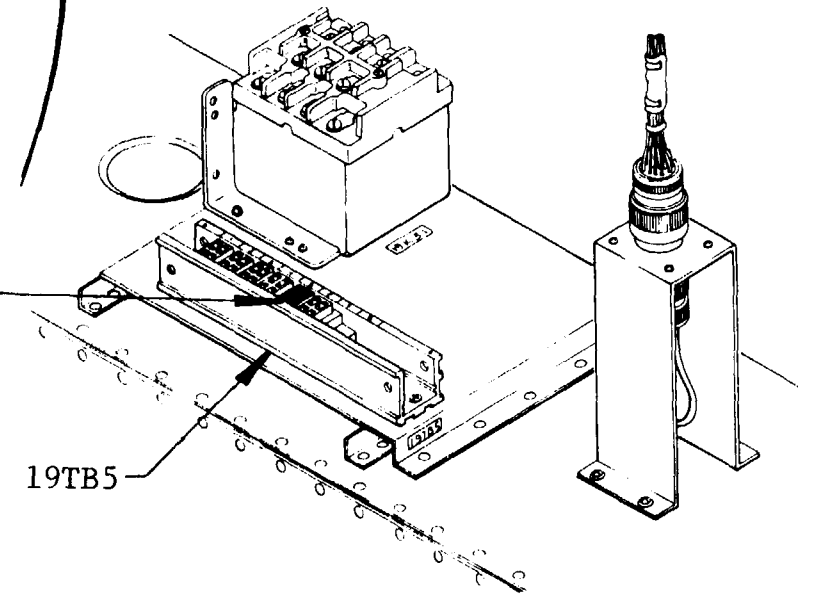
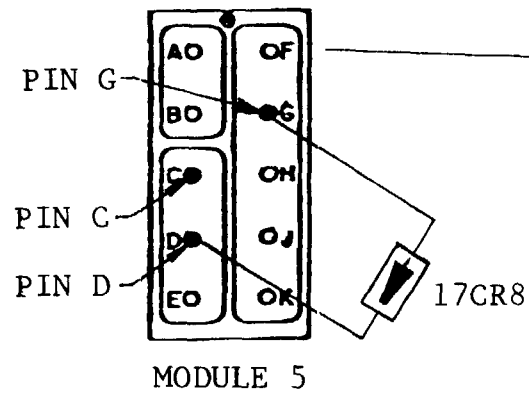


PILOT CAUTION PANEL

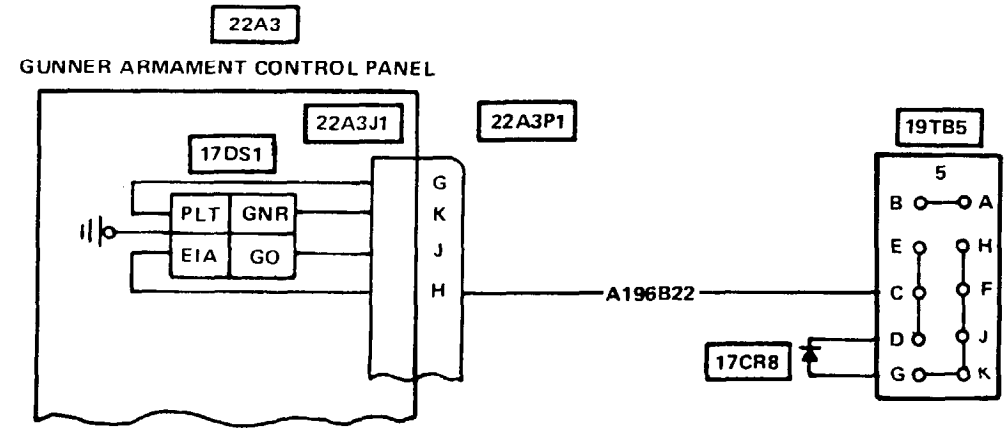
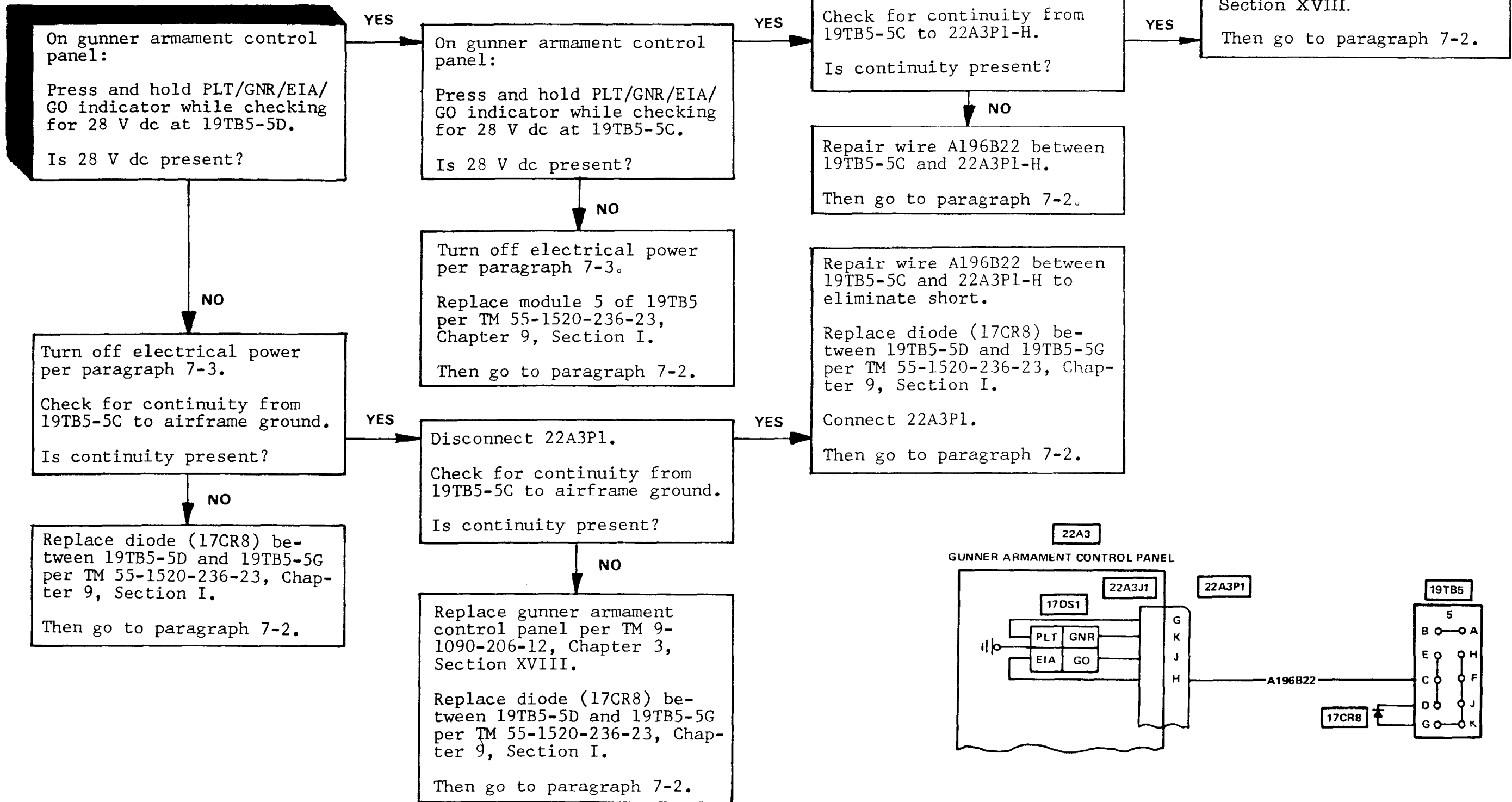


PIN H

22A3P1



7-5. PLT/GNR/EIA/GO BIT INDICATOR SEGMENTS DO NOT ALL LIGHT DURING PRESS TO TEST (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



7-6. EIA SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK.

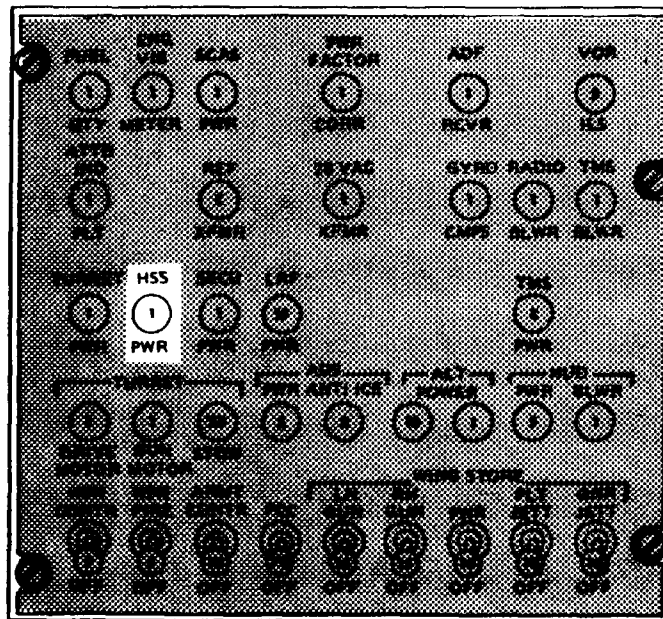
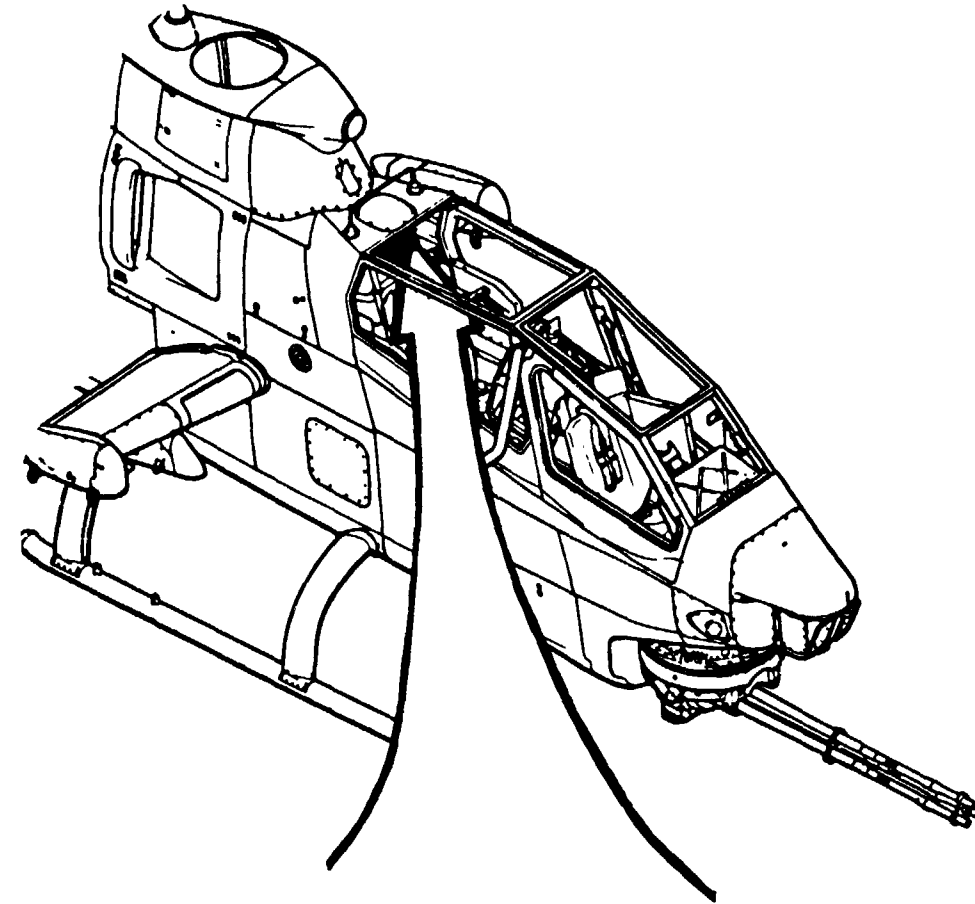
INITIAL SETUP

Applicable Configuration
All

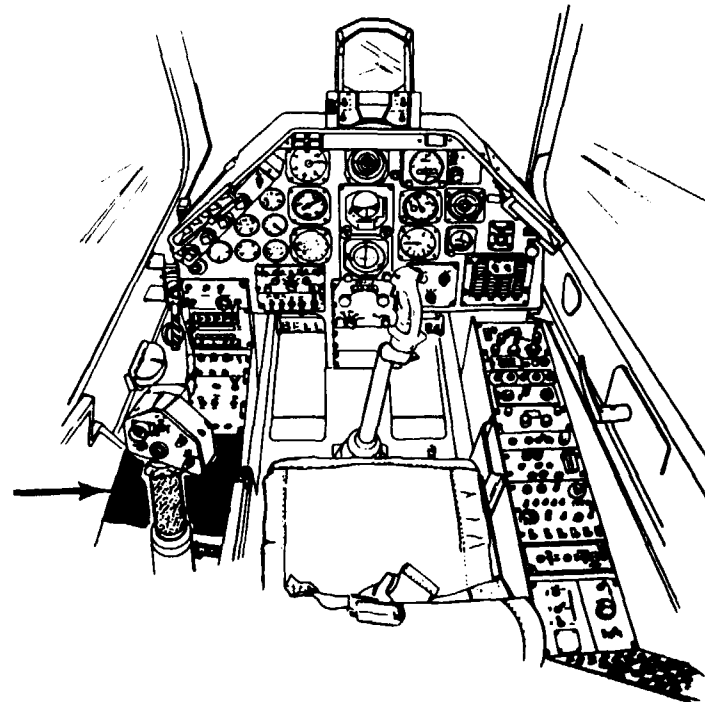
Tools/Test and Support Equipment
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

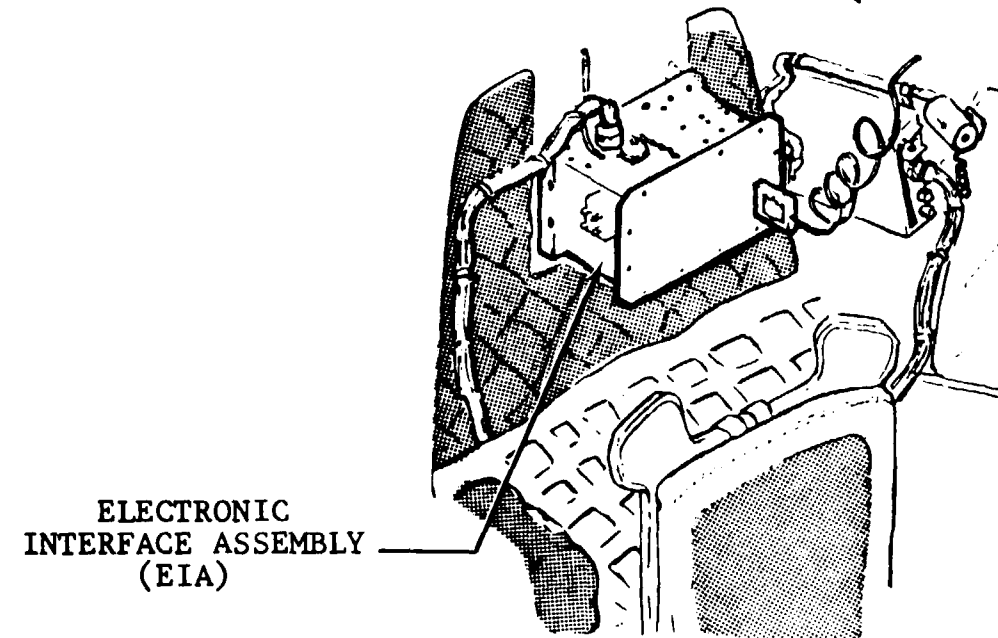
References
TM 9-1270-212-14



AC/ARMT CIRCUIT BREAKER PANEL

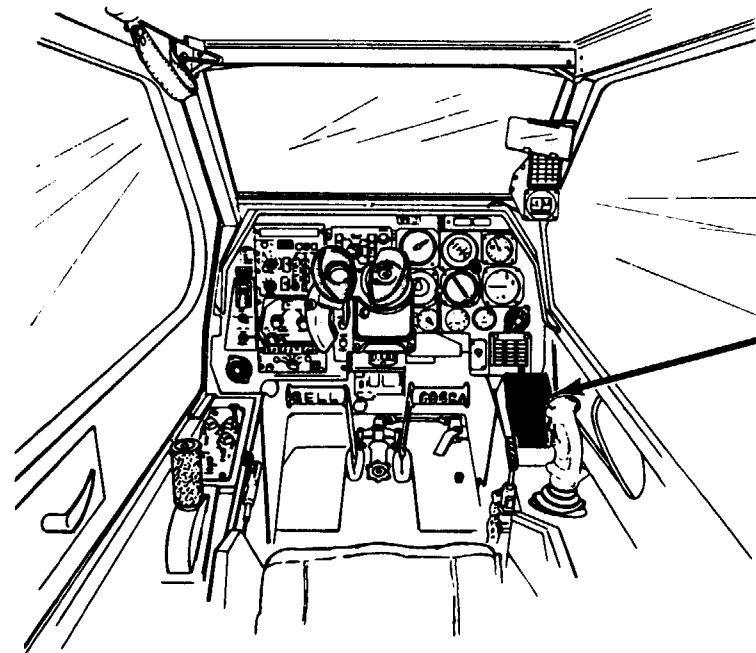


PILOT STATION

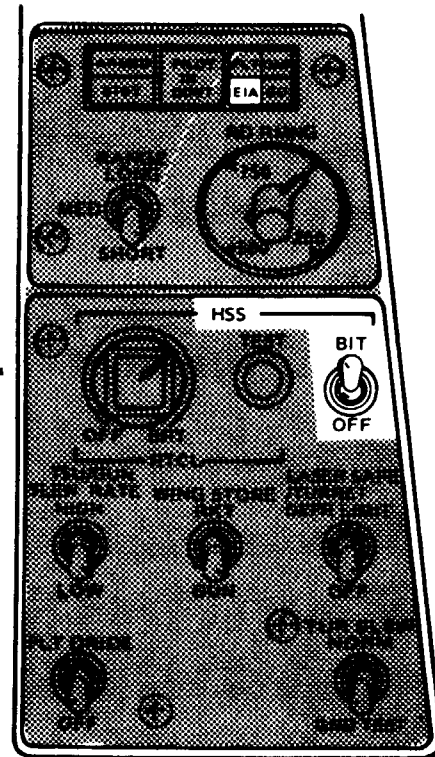


ELECTRONIC INTERFACE ASSEMBLY (EIA)

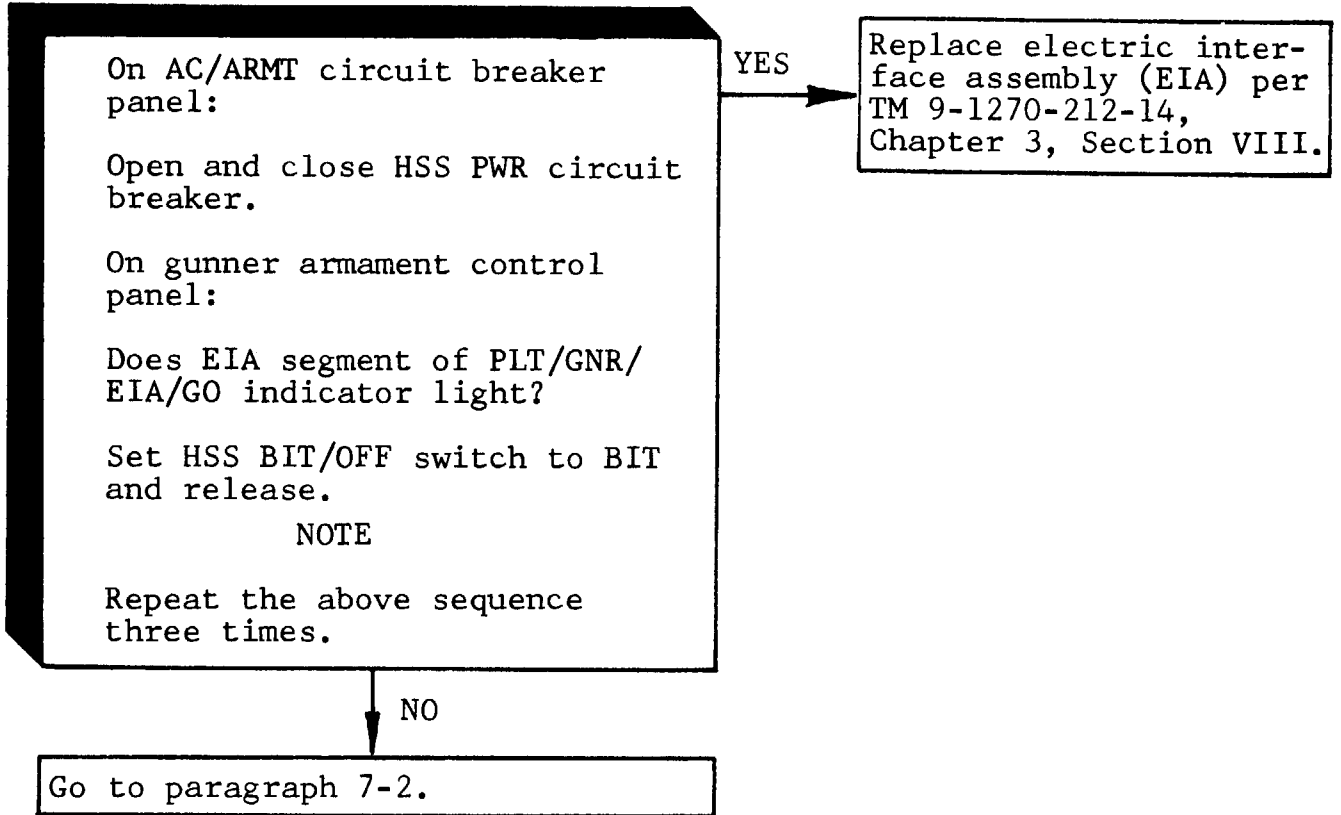
7-6. EIA SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK (CONTINUED).



GUNNER STATION



GUNNER ARMAMENT CONTROL PANEL



7-7. EIA SEGMENT ON BIT INDICATOR STAYS LIT.

INITIAL SETUP

Applicable Configuration

All

Tools/Test and Support Equipment

Multimeter

Tool Set, A/C Armament Repairman

Personnel Required

68J (2)

References

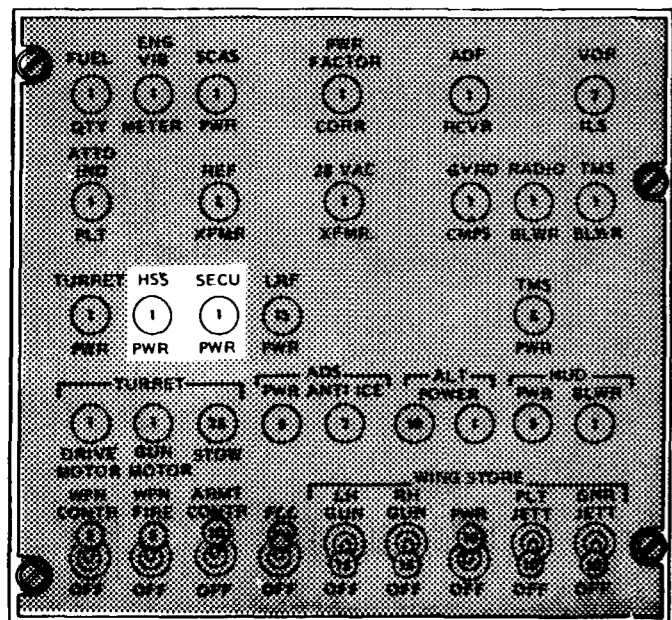
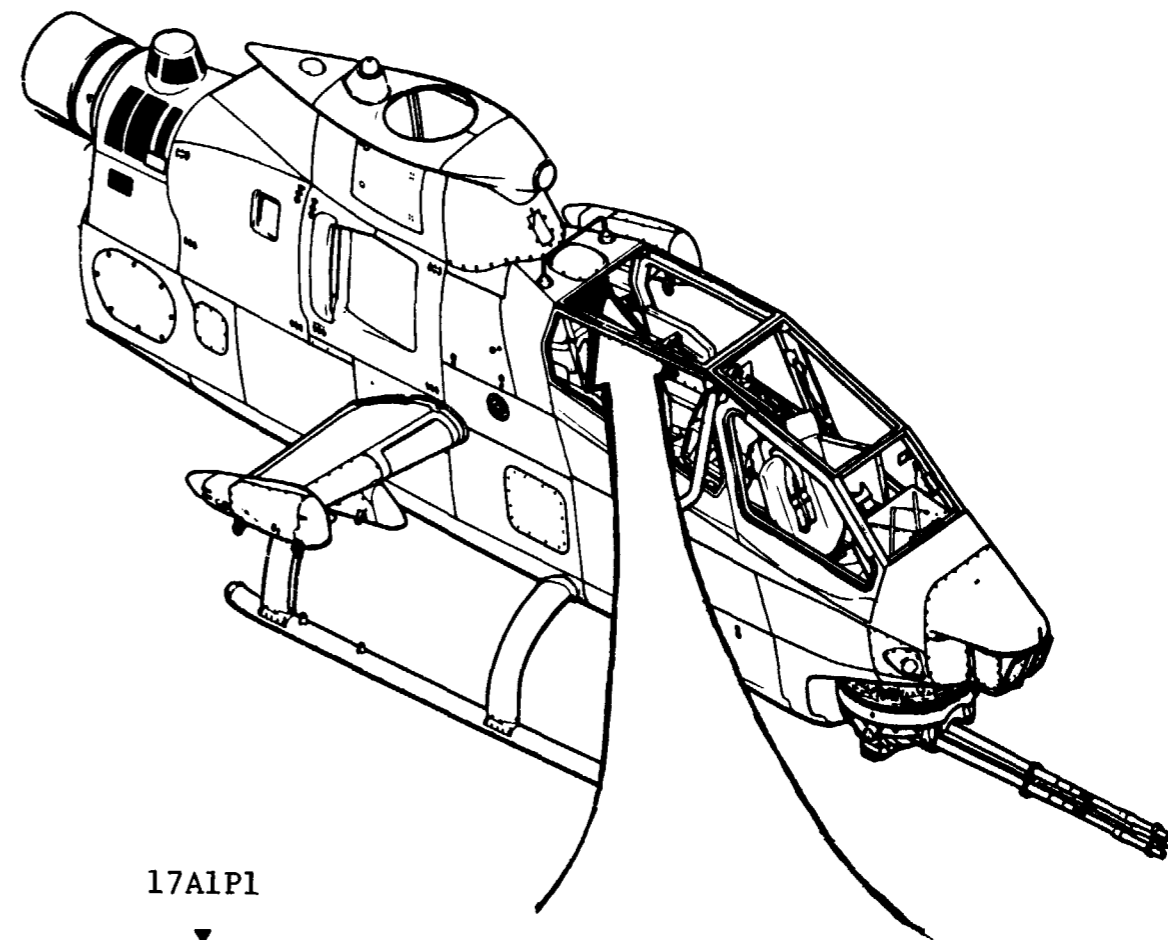
TM 9-1270-212-14

TM 55-1520-236-23

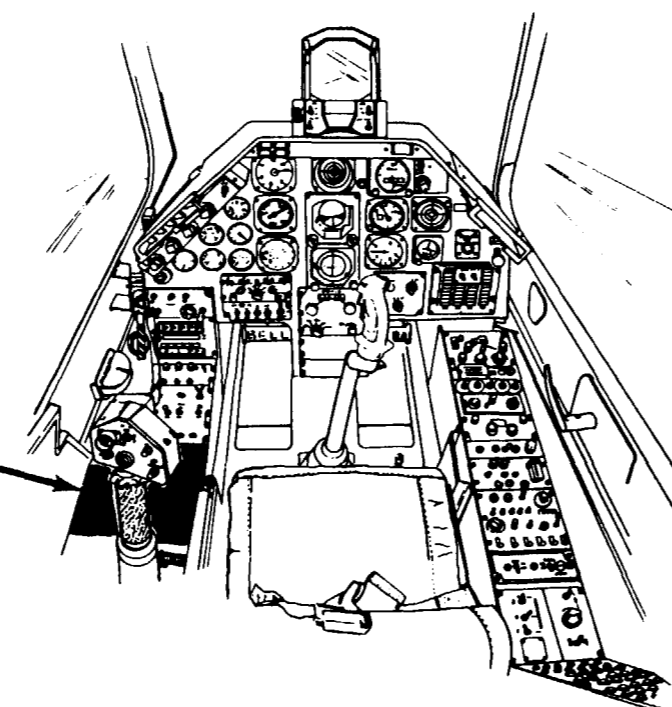
Access Panels

Left Side Control

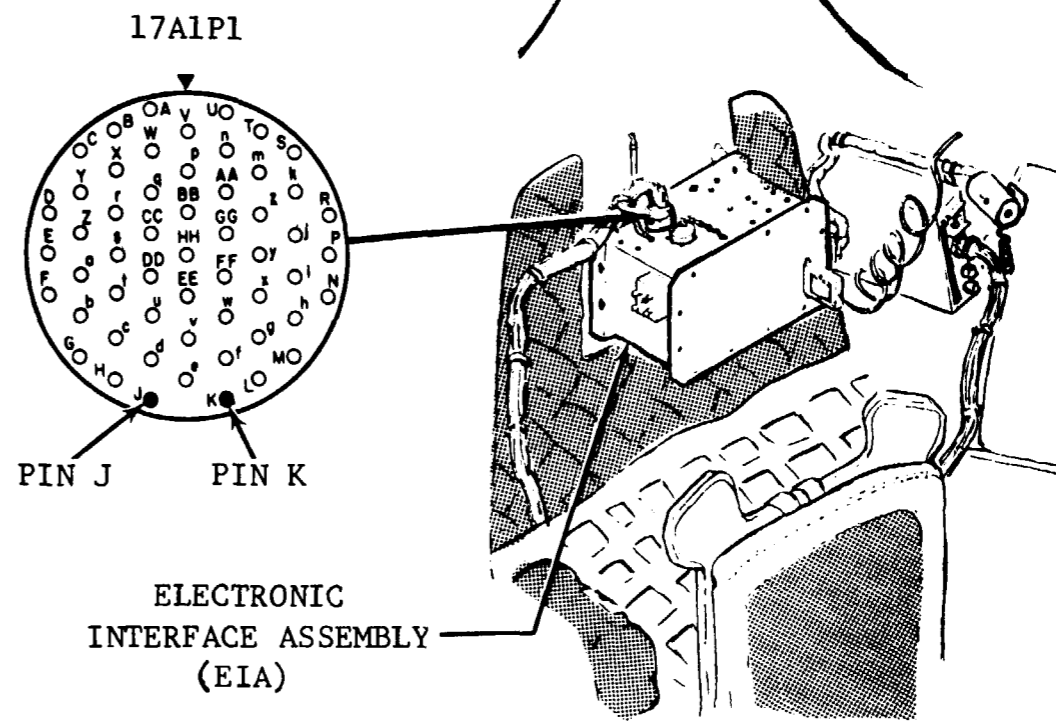
Linkage - Removed



AC/ARMT CIRCUIT BREAKER PANEL

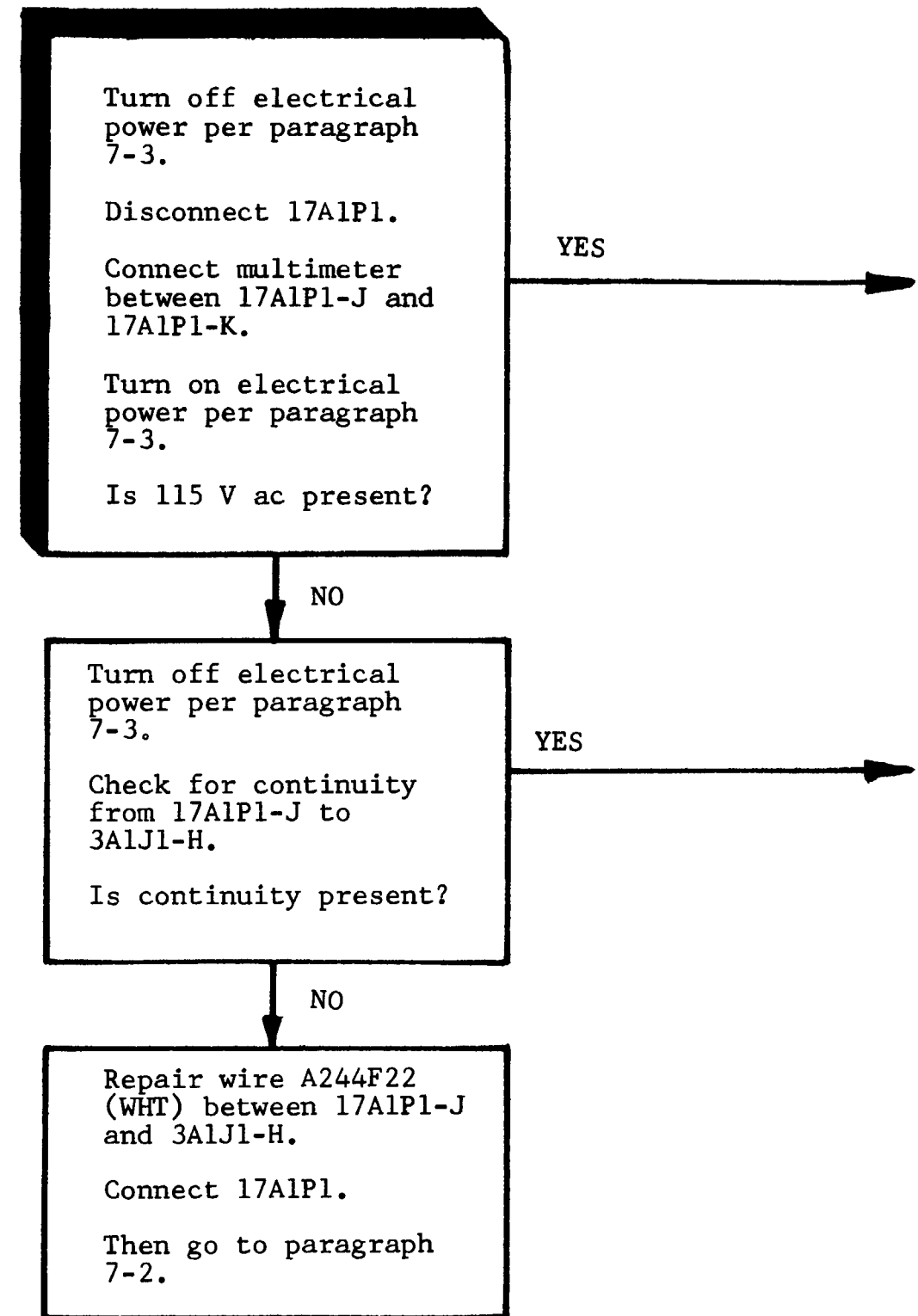
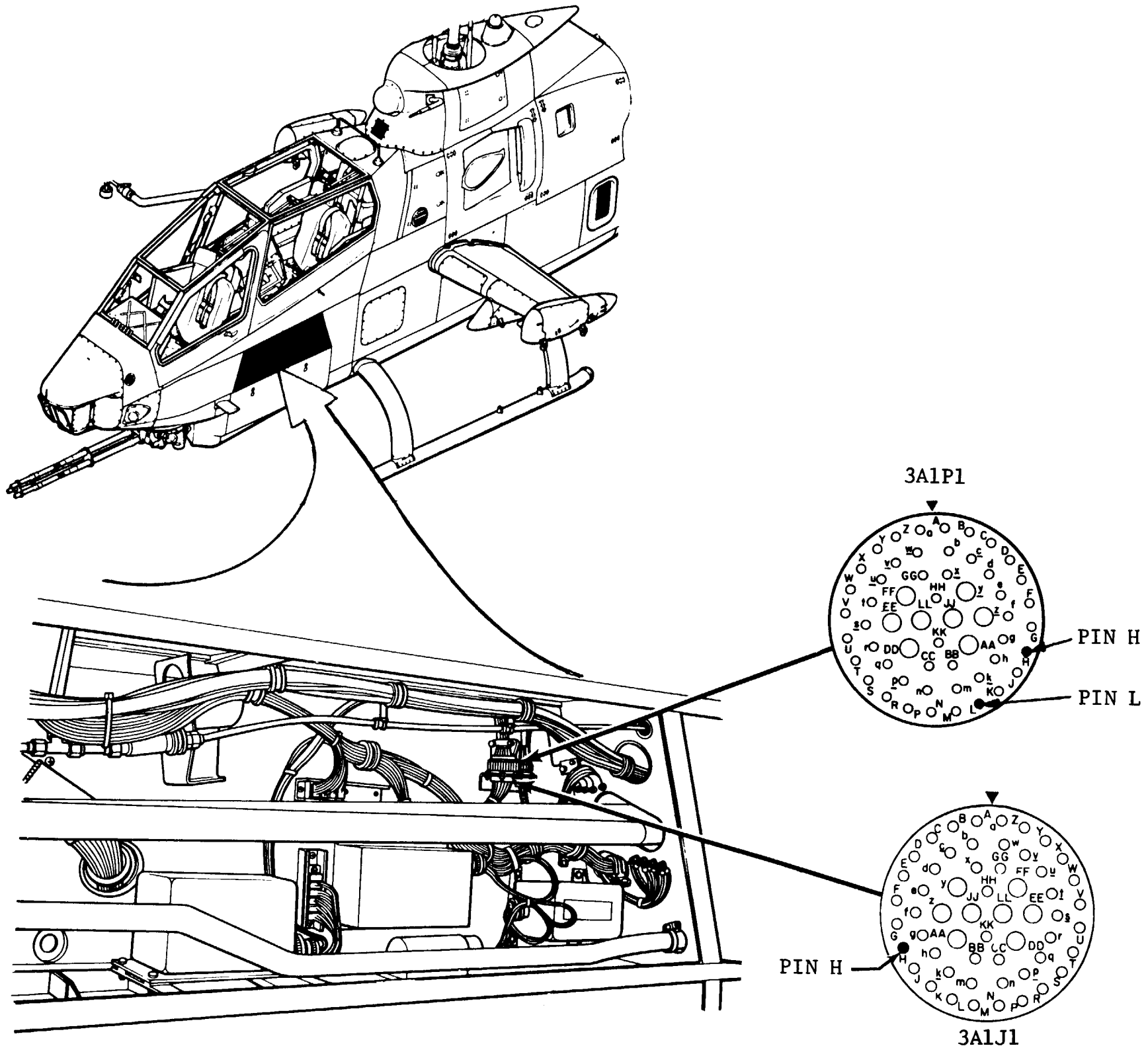


PILOT STATION



ELECTRONIC INTERFACE ASSEMBLY (EIA)

7-7. EIA SEGMENT ON BIT INDICATOR STAYS LIT (CONTINUED).

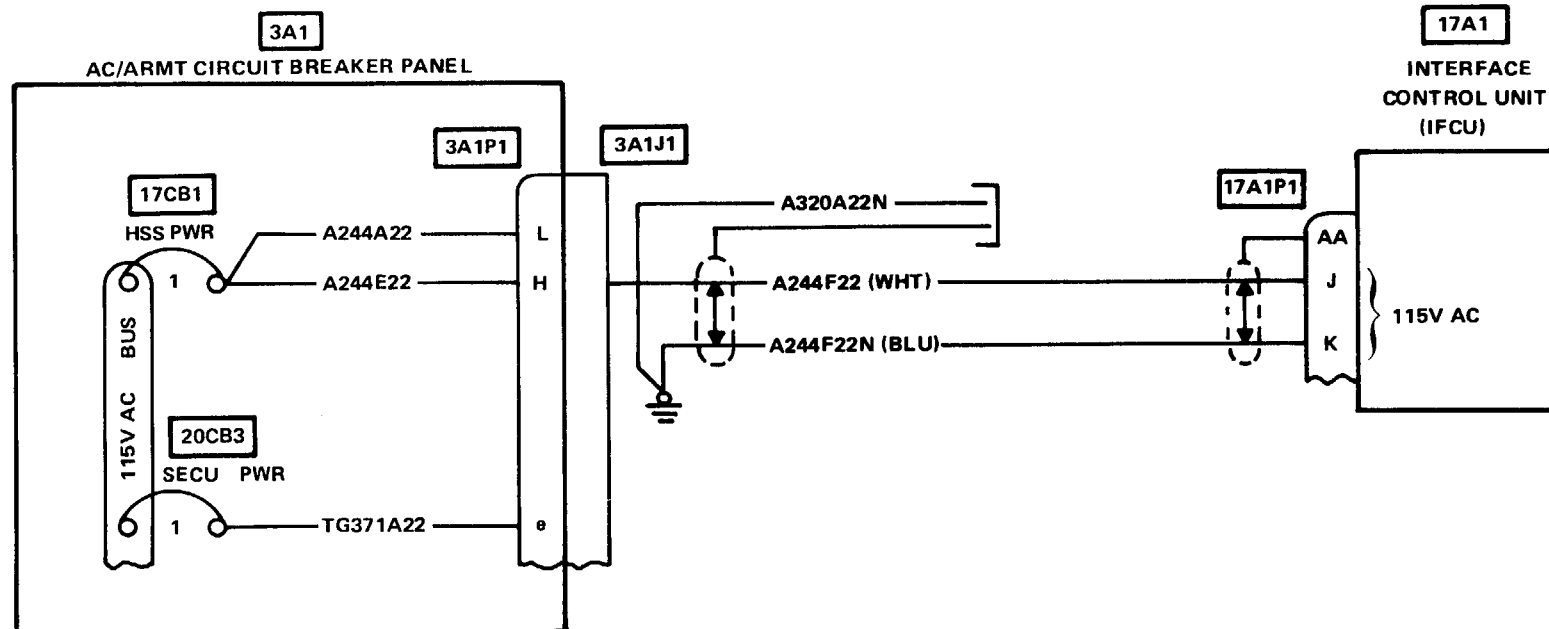


7-7. EIA SEGMENT ON BIT INDICATOR STAYS LIT (CONTINUED).

Turn off electrical power per paragraph 7-3.

Replace electronic interface assembly (EIA) per TM 9-1270-212-14, Chapter 3, Section VIII.

Then go to paragraph 7-2.



```

    graph TD
        Start(( )) -- YES --> Q1{Check for continuity from 17A1P1-K to airframe ground. Is continuity present?}
        Q1 -- NO --> R1[Repair wire A244F22N (BLU) between 17A1P1-K and airframe ground. Connect 17A1P1. Continue troubleshooting.]
        Q1 -- YES --> Q2{Connect 17A1P1. Check for continuity from 3A1P1-H to 3A1P1-L. Is continuity present?}
        Q2 -- NO --> R2[Repair wire A244E22 between 3A1P1-H and HSS PWR circuit breaker. Then go to paragraph 7-2.]
        Q2 -- YES --> R3[Replace HSS PWR circuit breaker per TM 55-1520-236-23, Chapter 9, Section I. Then go to paragraph 7-2.]
    
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7-8. PLT SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK.

INITIAL SETUP

Applicable Configuration

ALL

Tools/Test and Support Equipment

Multimeter

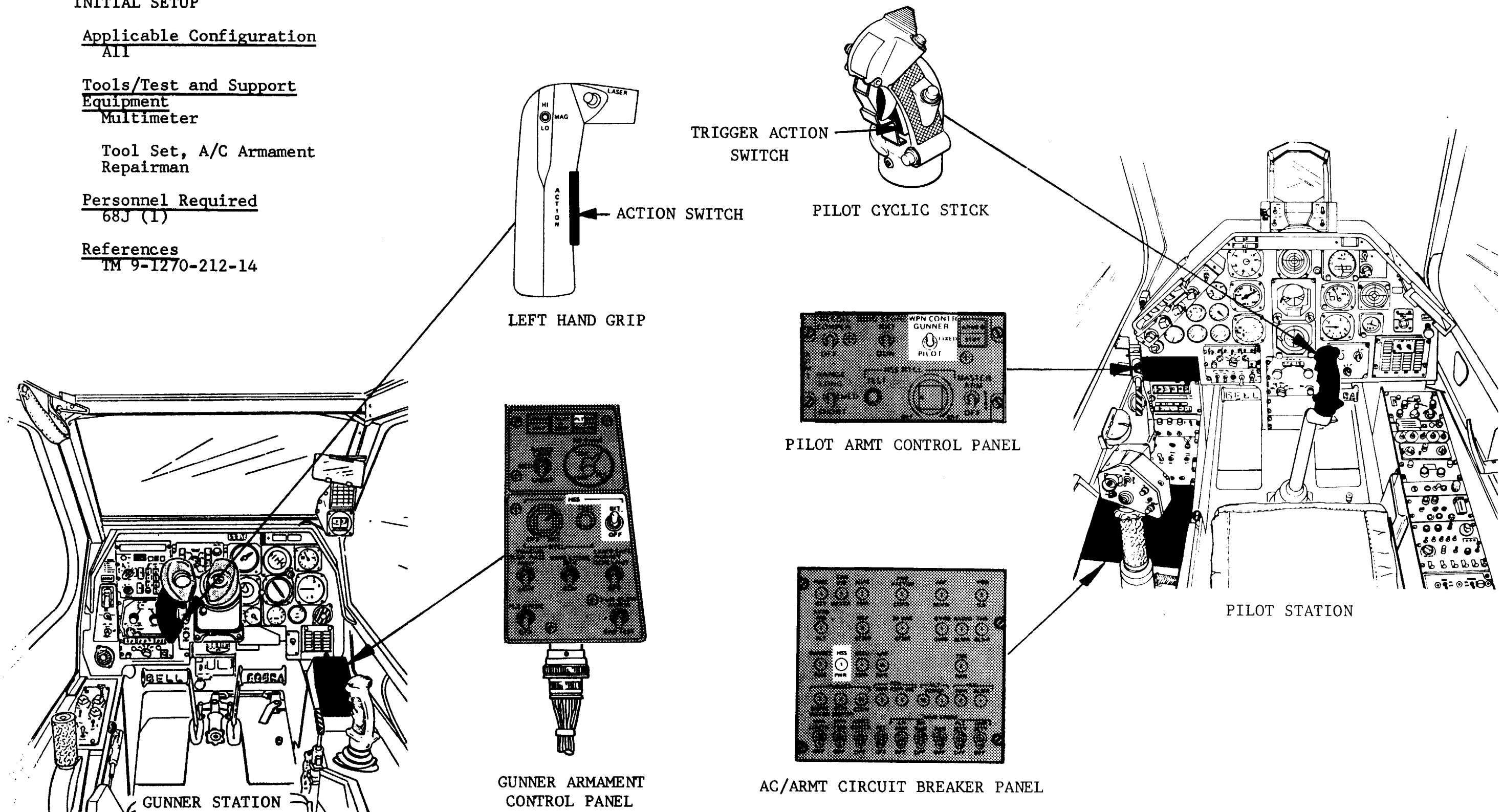
Tool Set, A/C Armament Repairman

Personnel Required

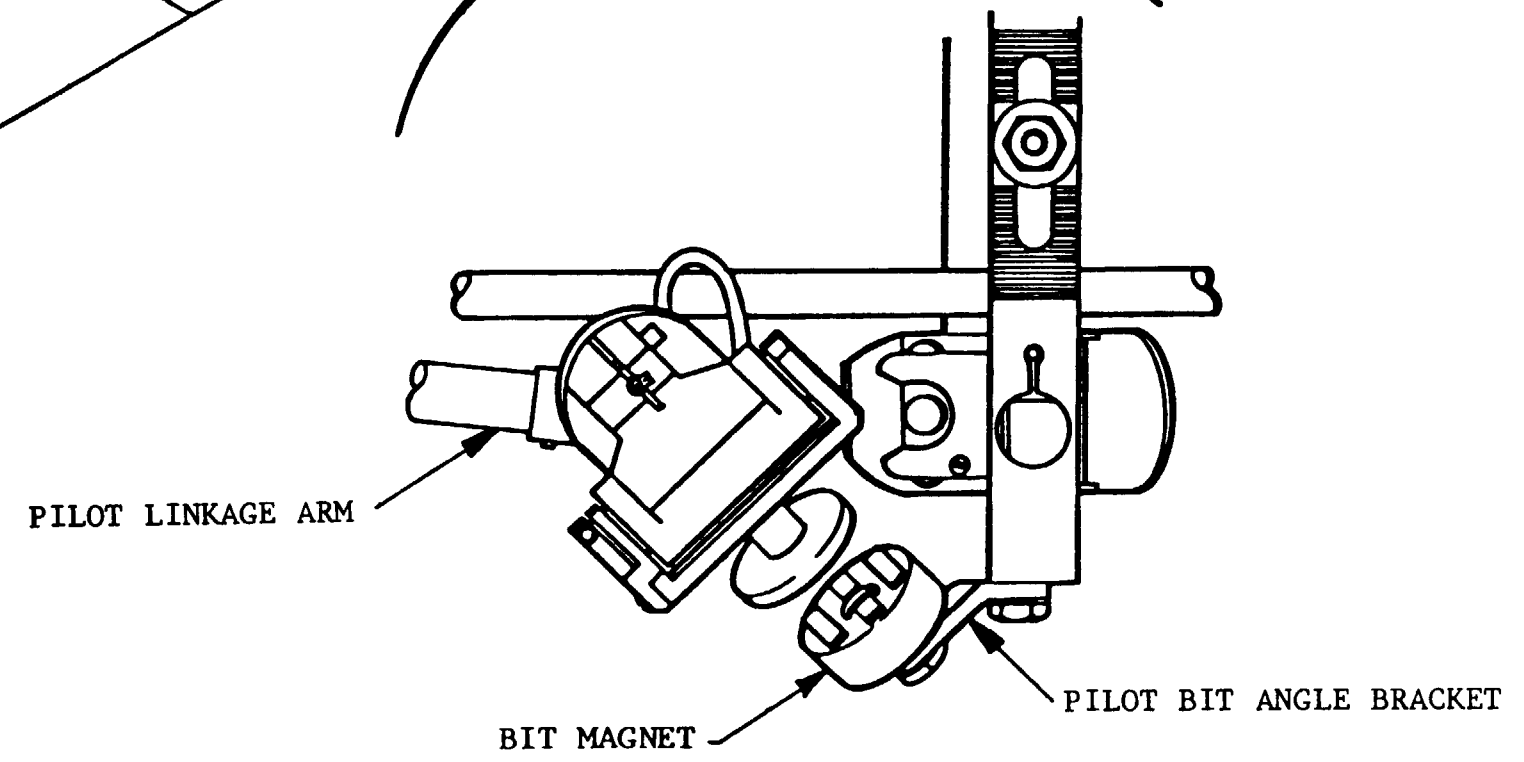
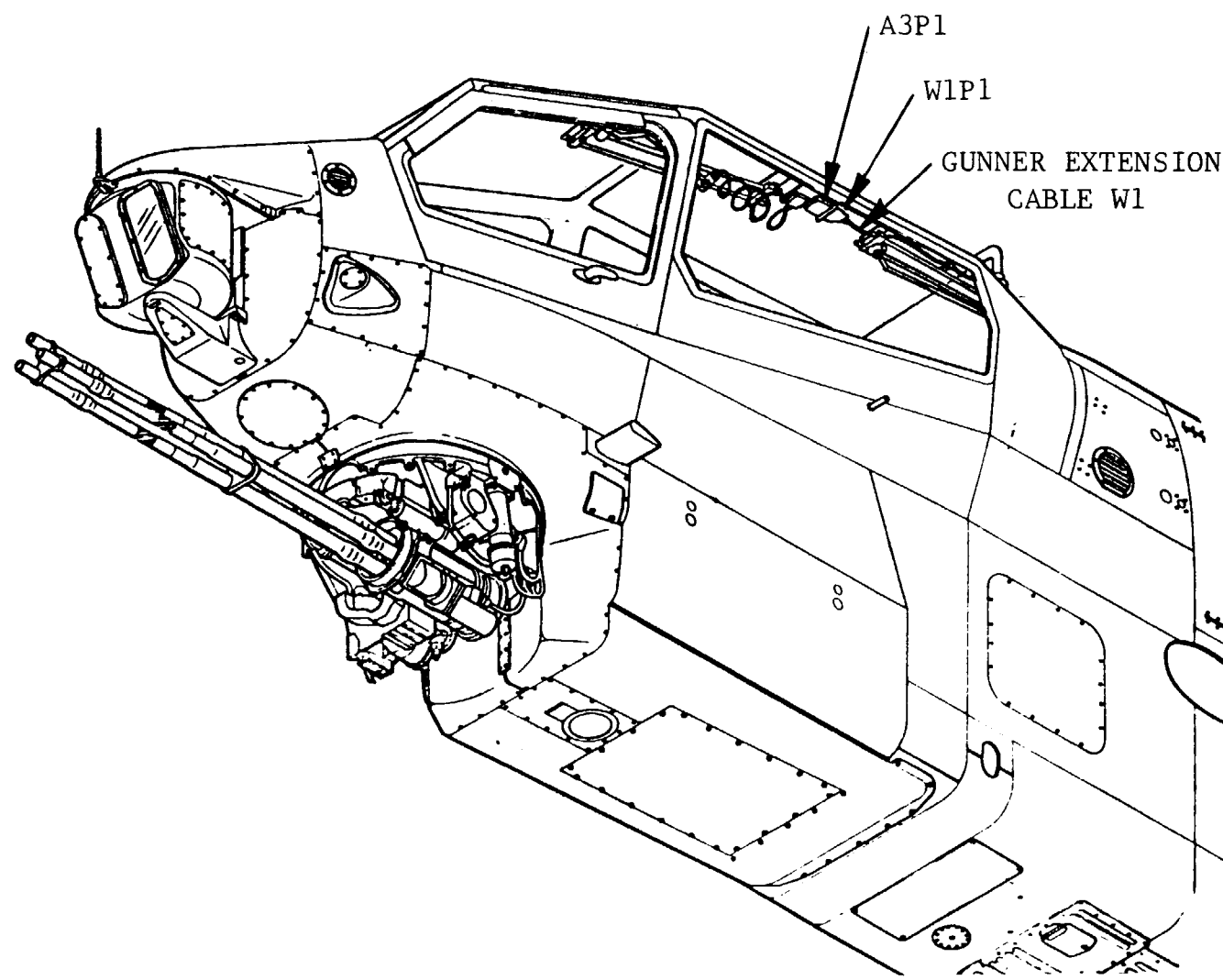
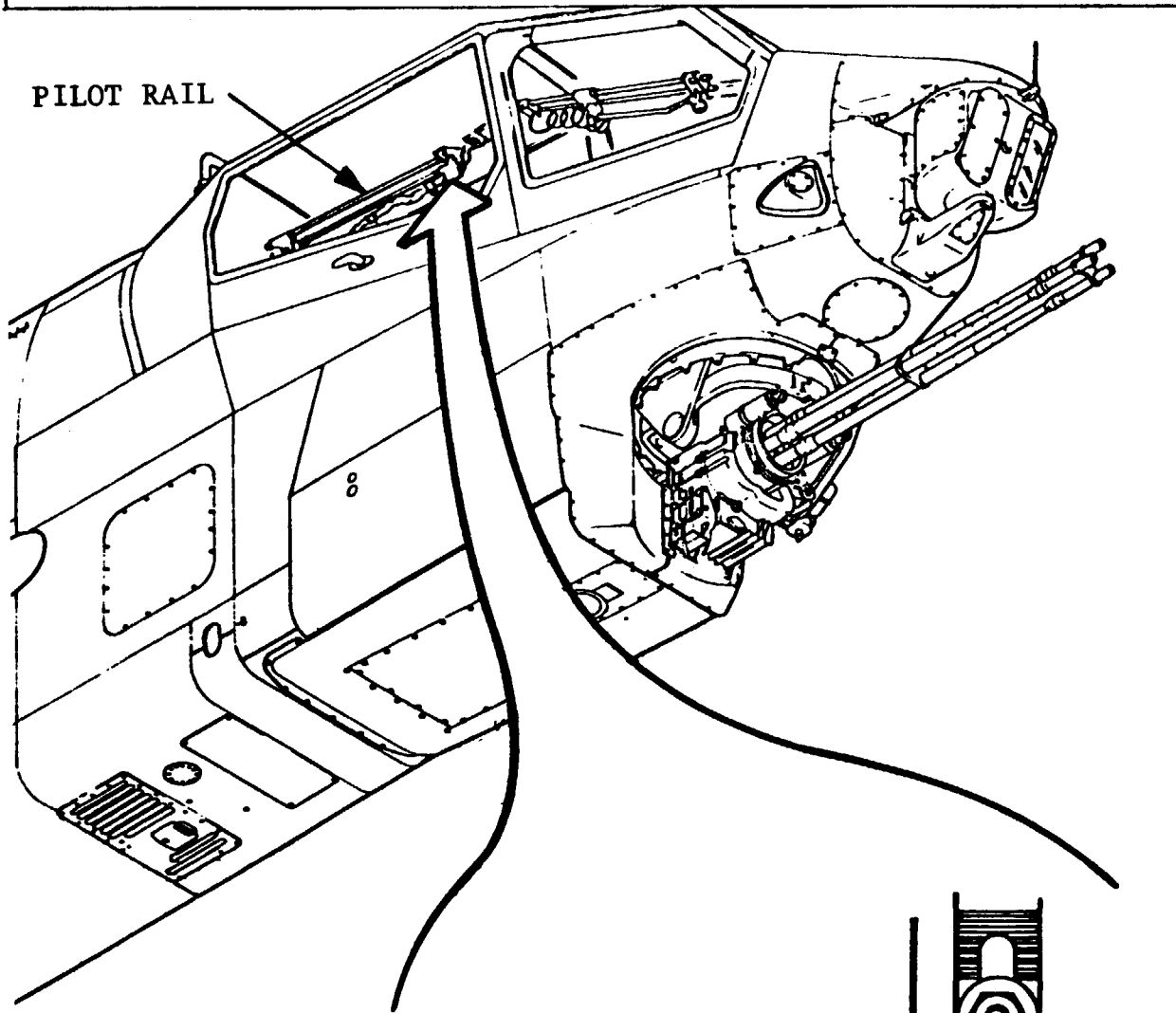
68J (1)

References

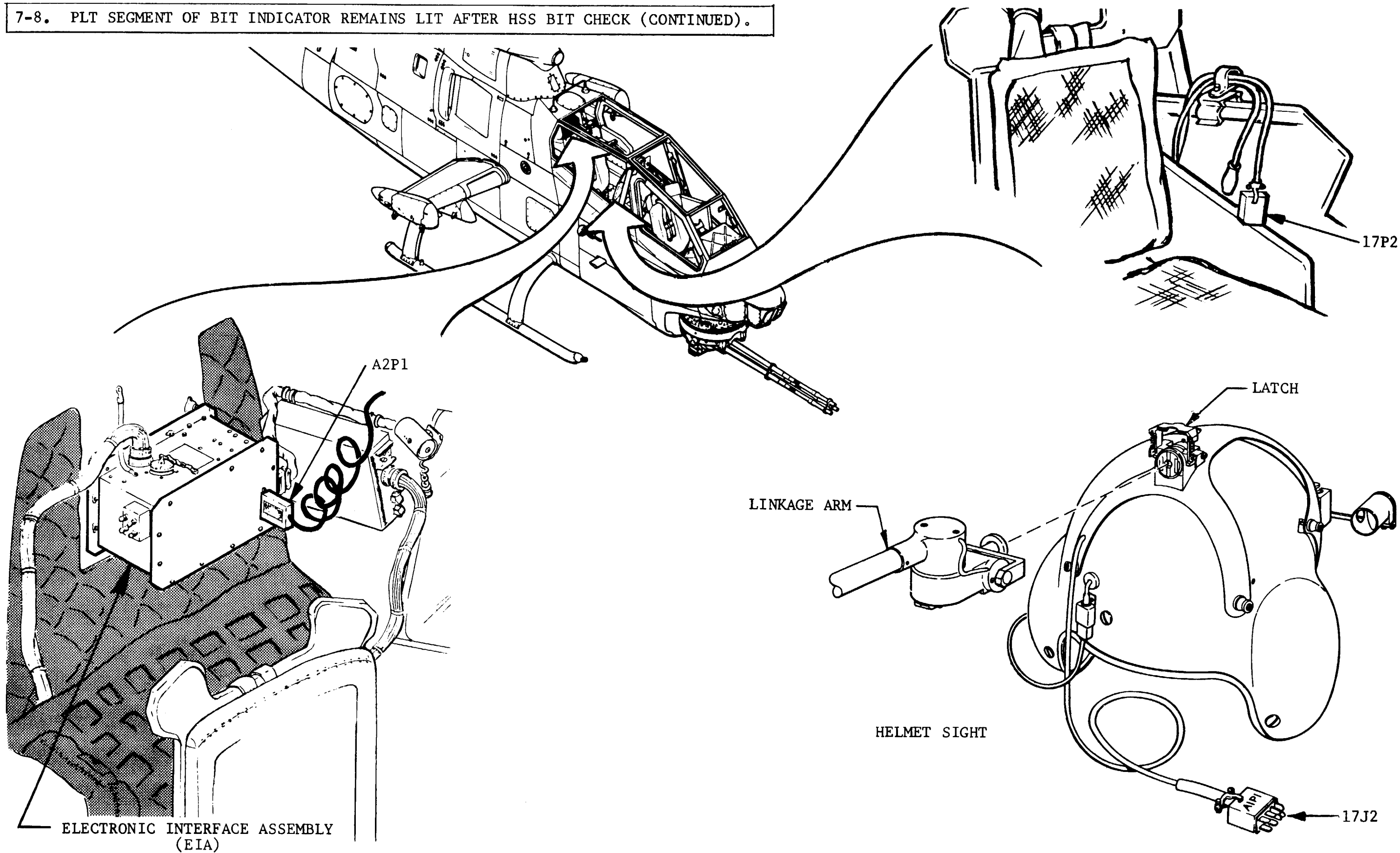
TM 9-1270-212-14



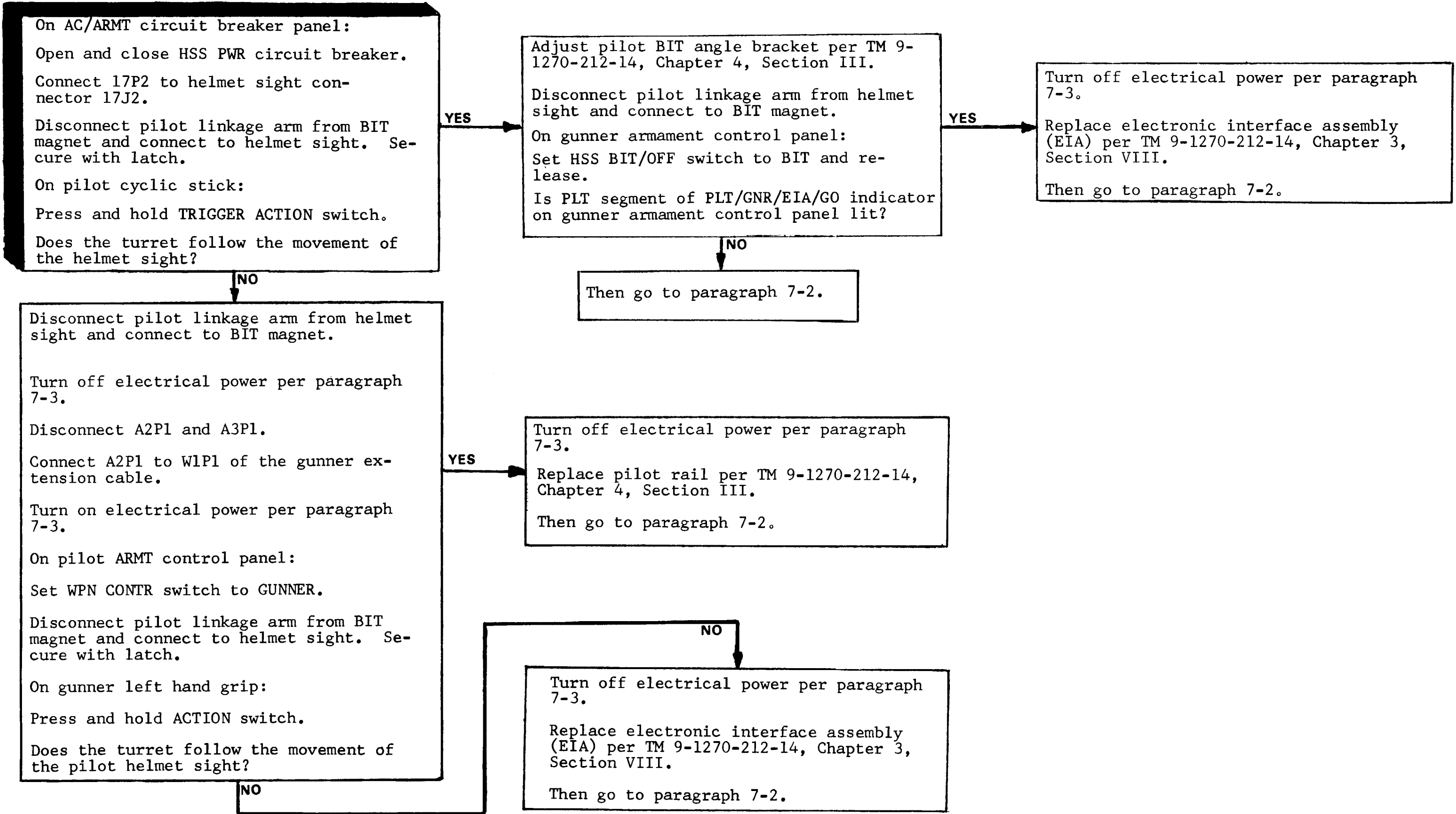
7-8. PLT SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK (CONTINUED).



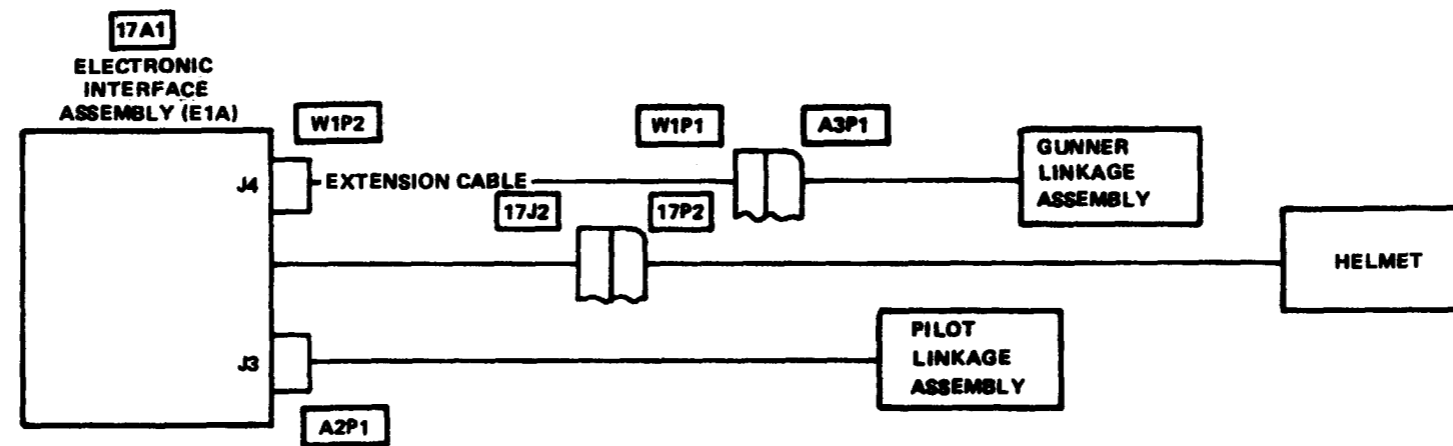
7-8. PLT SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK (CONTINUED).



7-8. PLT SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK (CONTINUED).



7-8. PLT SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK (CONTINUED).



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7-9. GNR SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK.

INITIAL SETUP

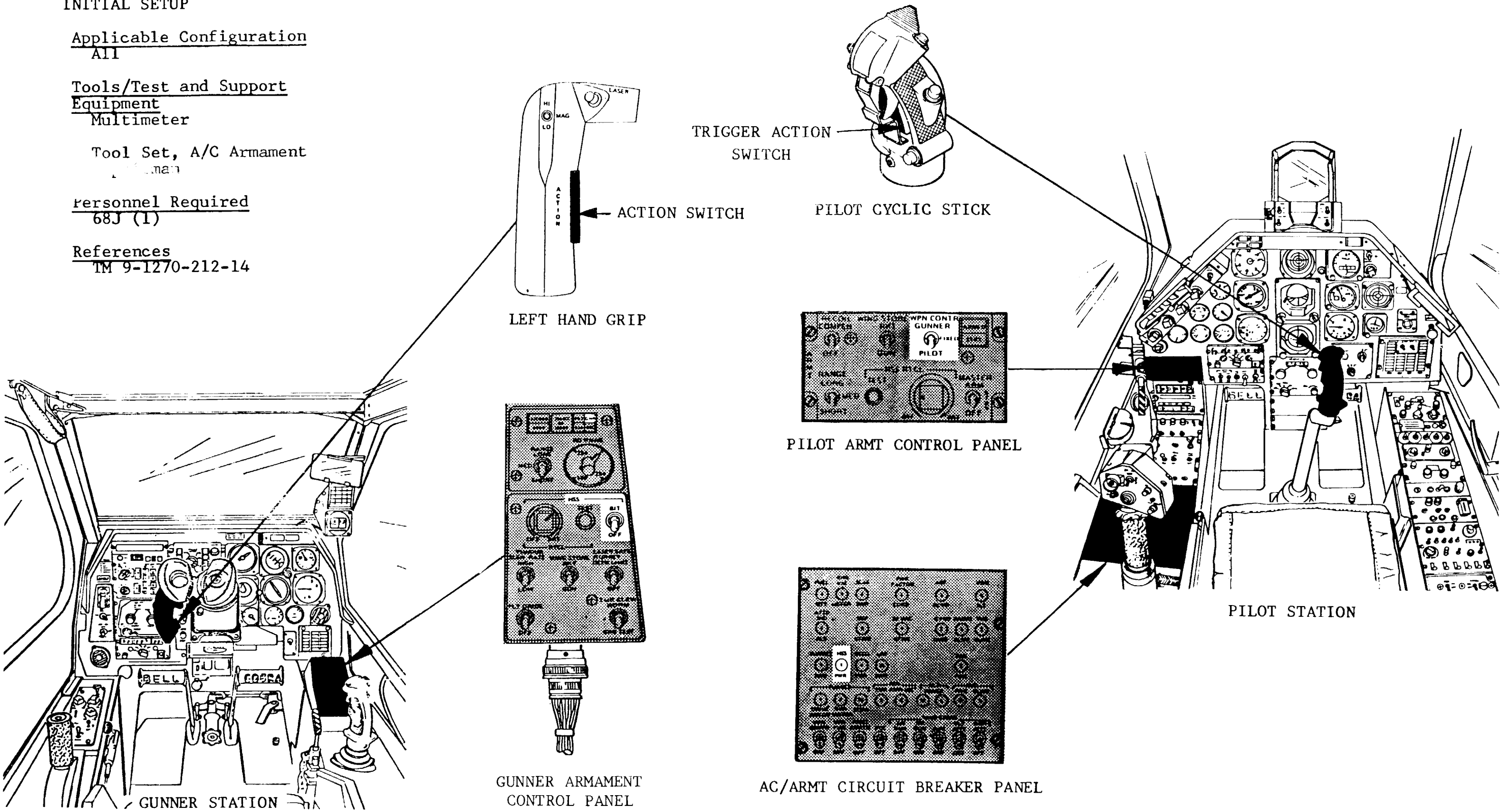
Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament
Crewman

Personnel Required
68J (1)

References
TM 9-1270-212-14



LEFT HAND GRIP

TRIGGER ACTION SWITCH

PILOT CYCLIC STICK

PILOT ARMAMENT CONTROL PANEL

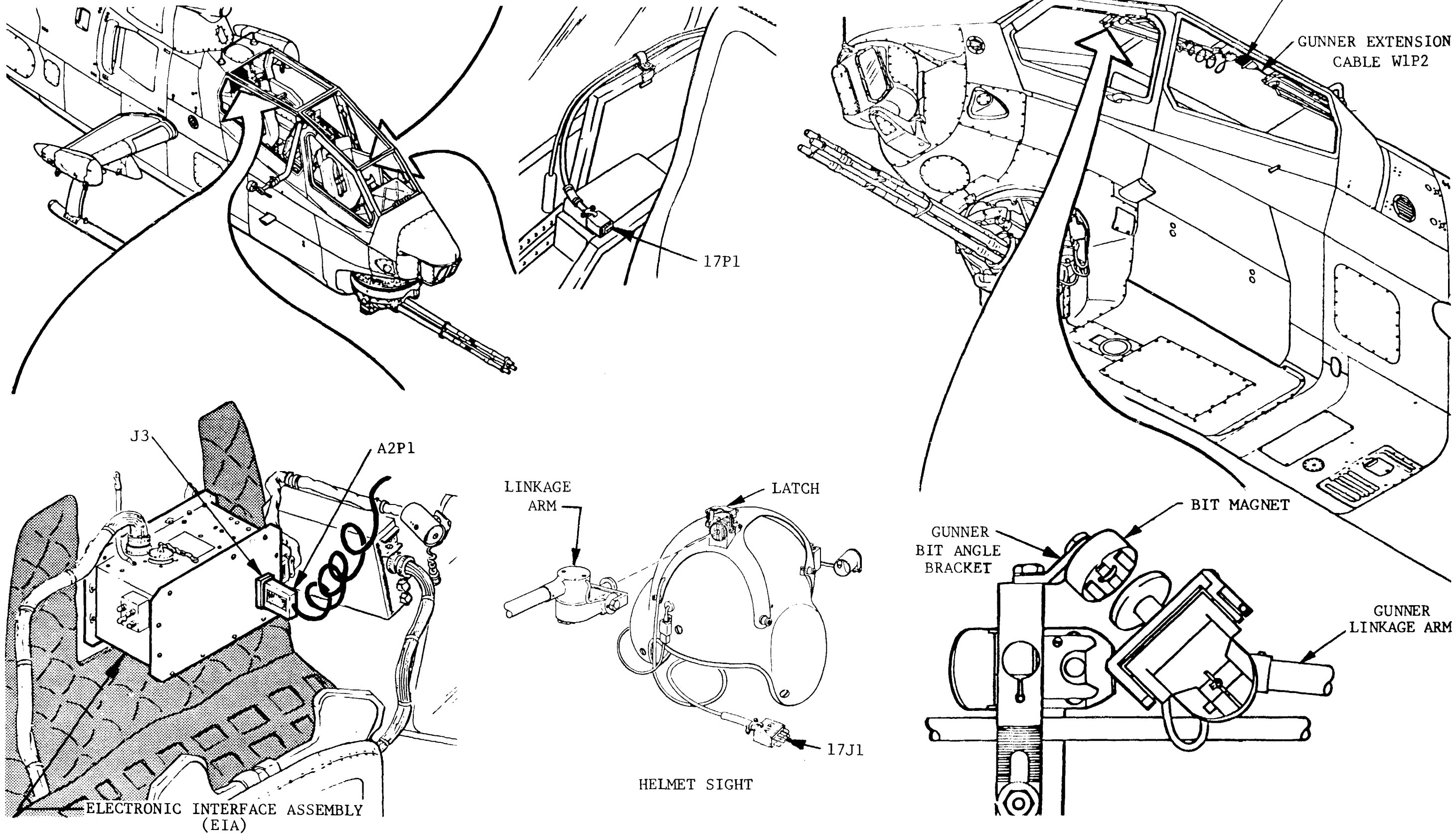
PILOT STATION

GUNNER STATION

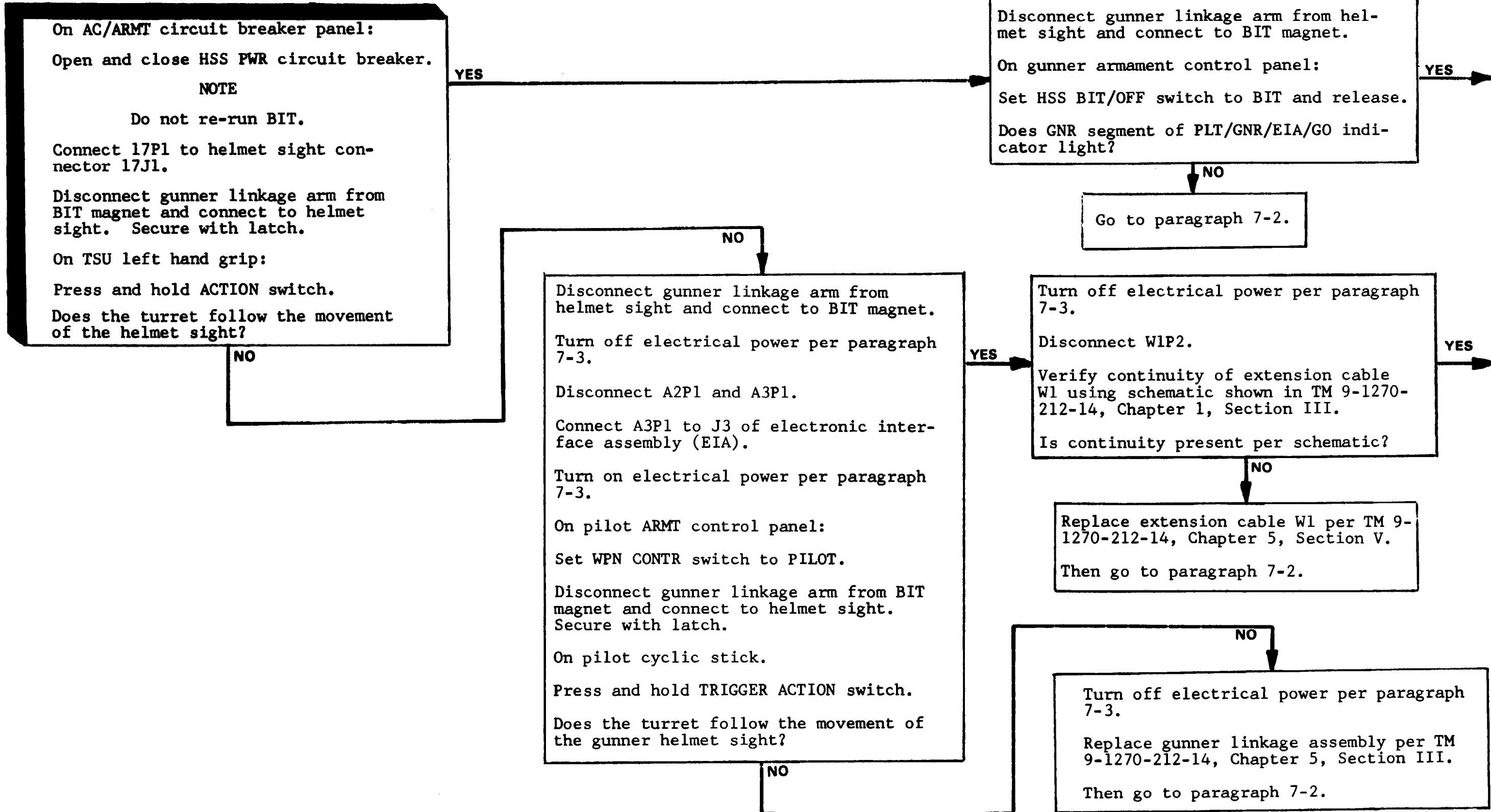
GUNNER ARMAMENT CONTROL PANEL

AC/ARMT CIRCUIT BREAKER PANEL

7-9. GNR SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK (CONTINUED).



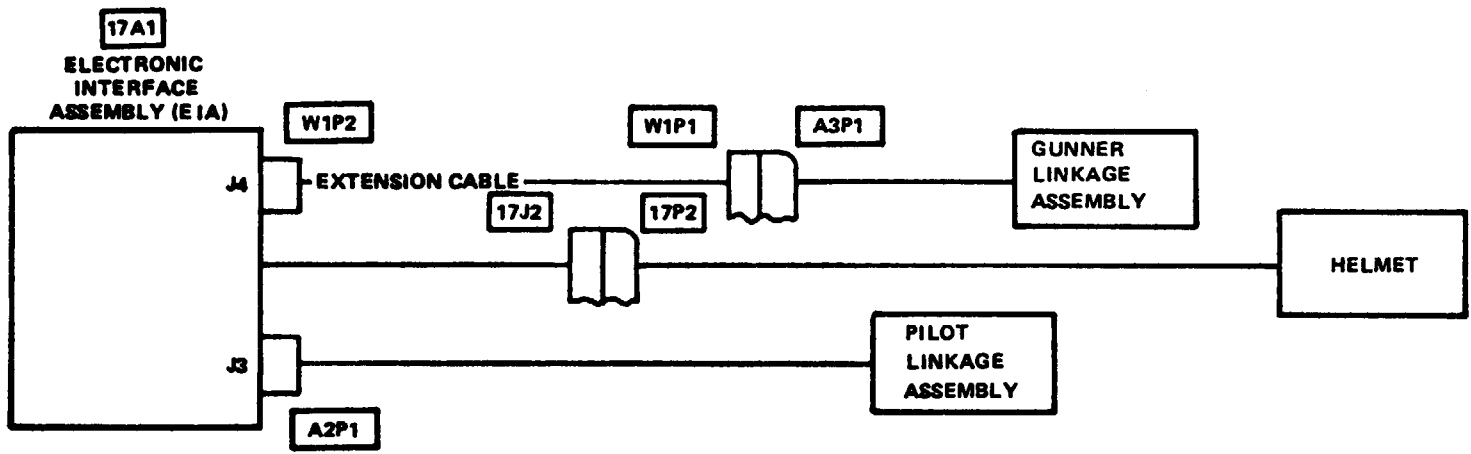
7-9. GNR SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK (CONTINUED).



7-9. GNR SEGMENT OF BIT INDICATOR REMAINS LIT AFTER HSS BIT CHECK (CONTINUED).

YES → Turn off electrical power per paragraph 7-3.
 Replace electronic interface assembly (EIA) per TM 9-1270-212-14, Chapter 3, Section VIII.
 Then go to paragraph 7-2.

YES → Replace electronic interface assembly (EIA) per TM 9-1270-212-14, Chapter 3, Section VIII.
 Then go to paragraph 7-2.



7-10. NO SEGMENT ON PLT/GNR/EIA/GO BIT INDICATOR WILL LIGHT AFTER BIT CHECK.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

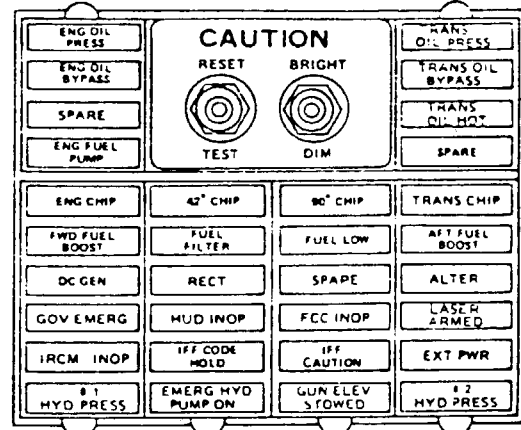
Personnel Required
68J (2)

References

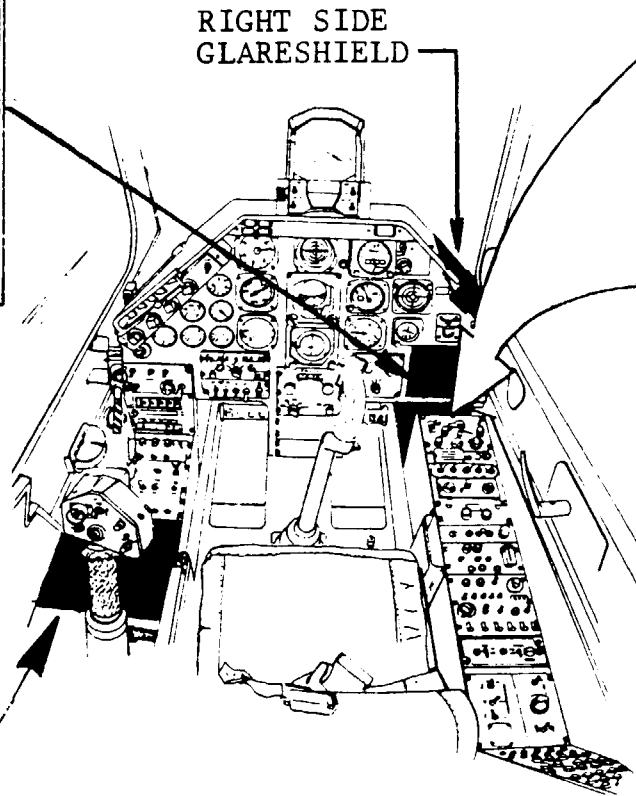
- TM 9-1090-206-20-1
- TM 9-1270-212-14
- TM 55-1520-236-23

Access Panels

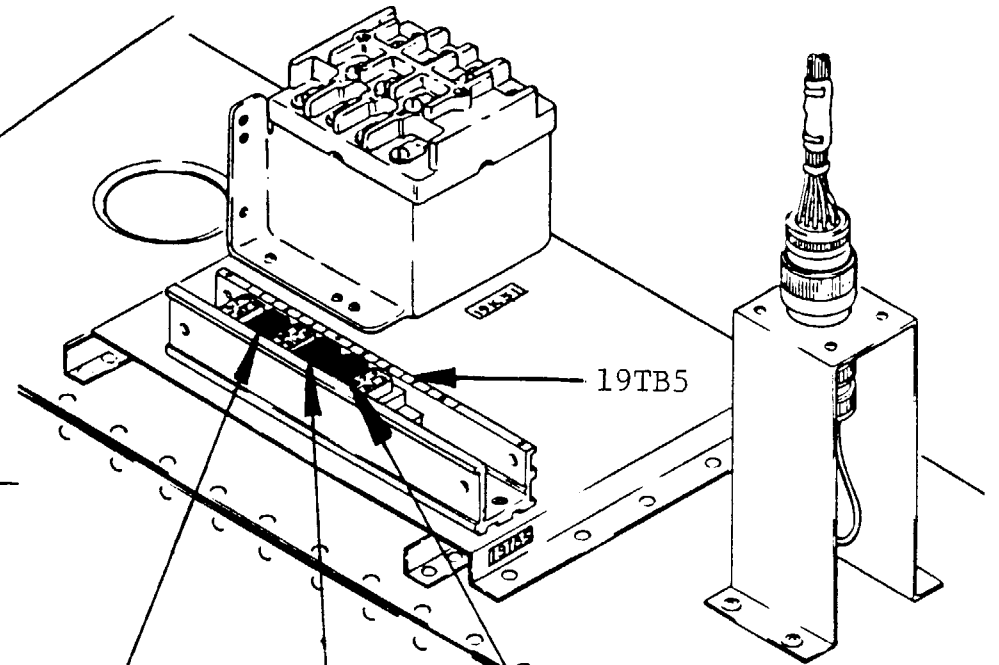
Right Side Glareshield - Removed



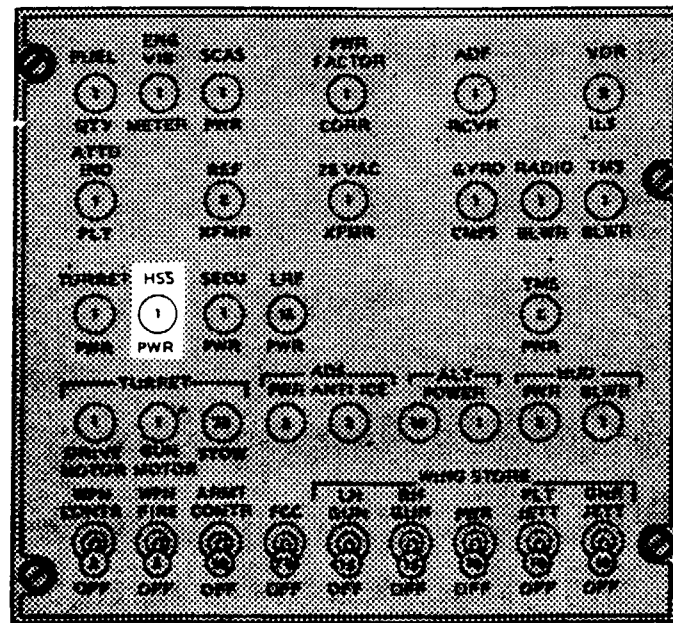
PILOT CAUTION PANEL



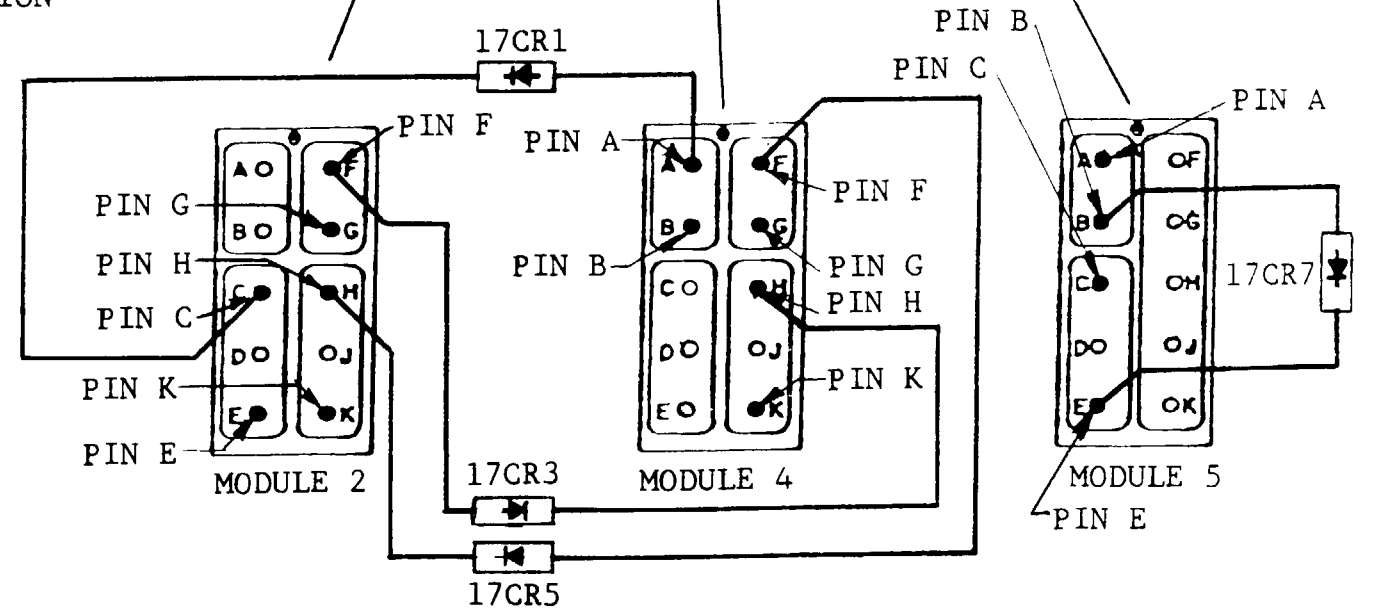
PILOT STATION



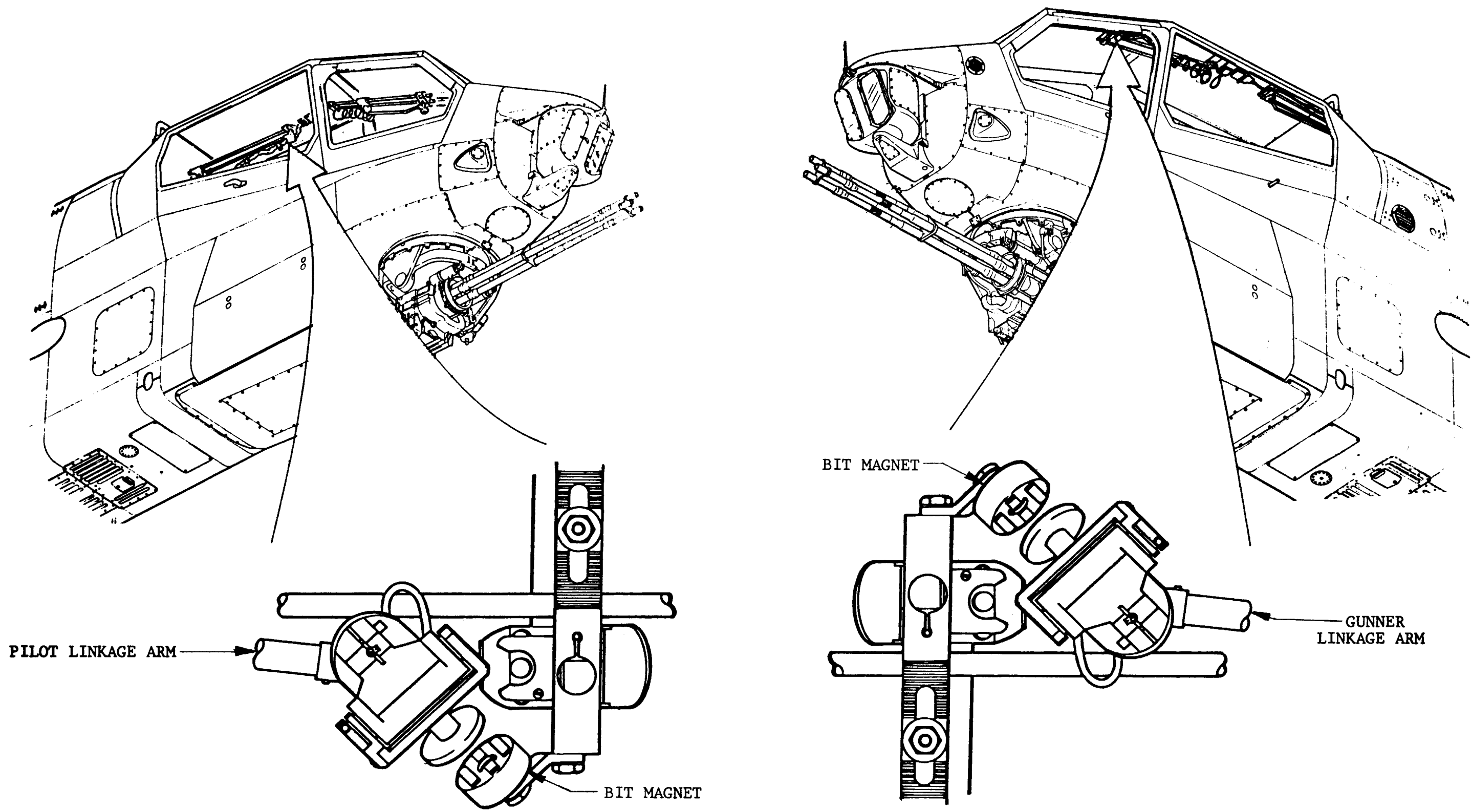
19TB5



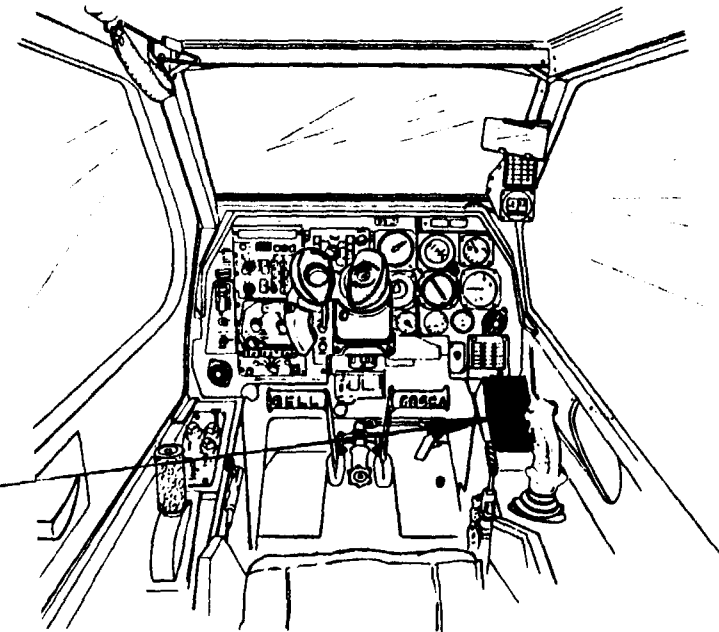
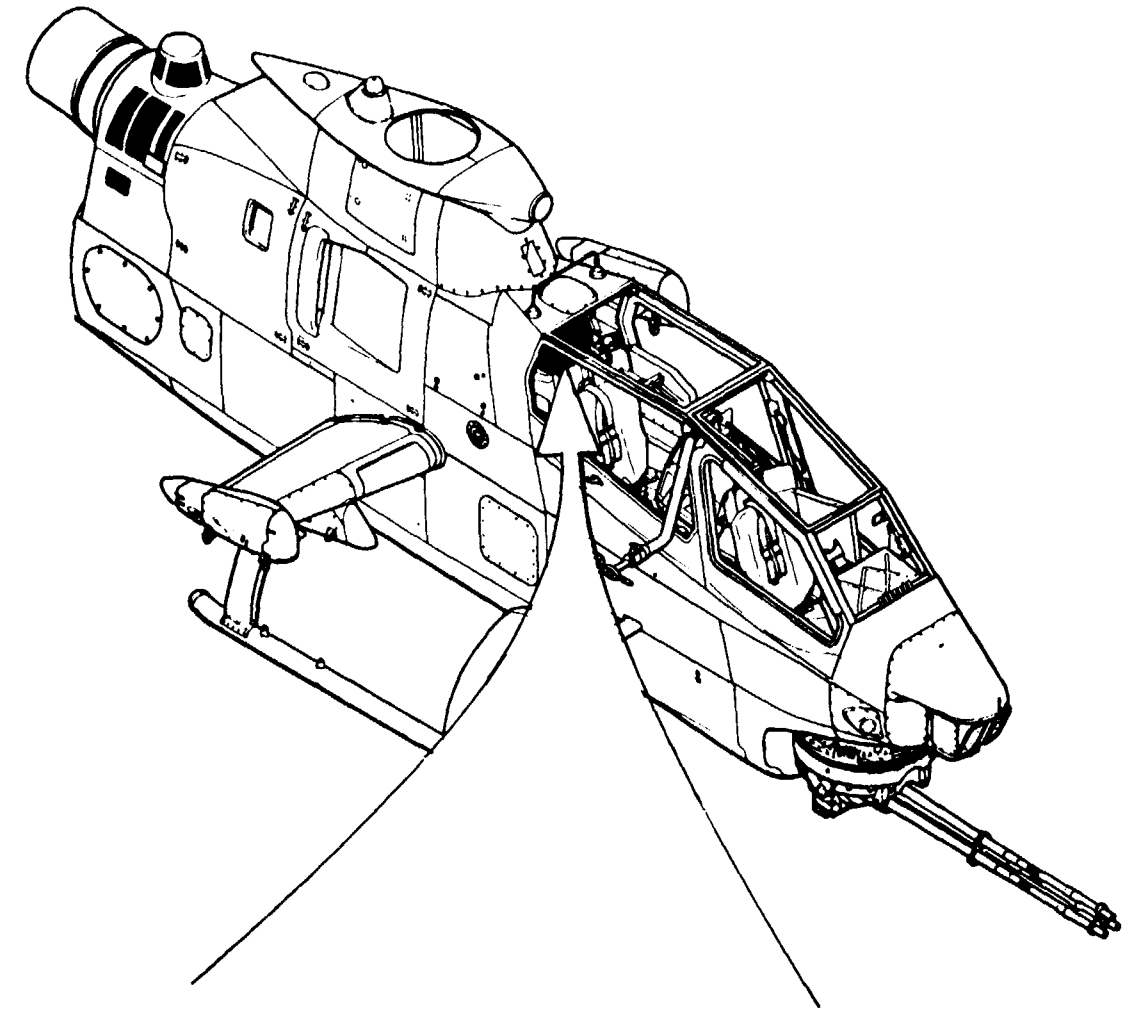
AC/ARMT CIRCUIT BREAKER PANEL



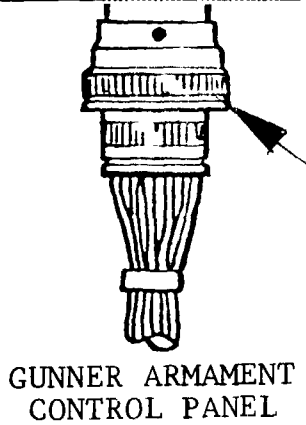
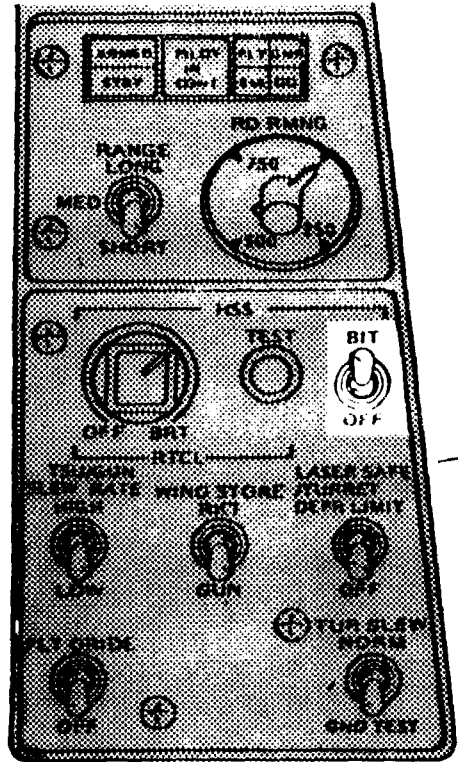
7-10. NO SEGMENT ON PLT/GNR/EIA/GO BIT INDICATOR WILL LIGHT AFTER BIT CHECK (CONTINUED).



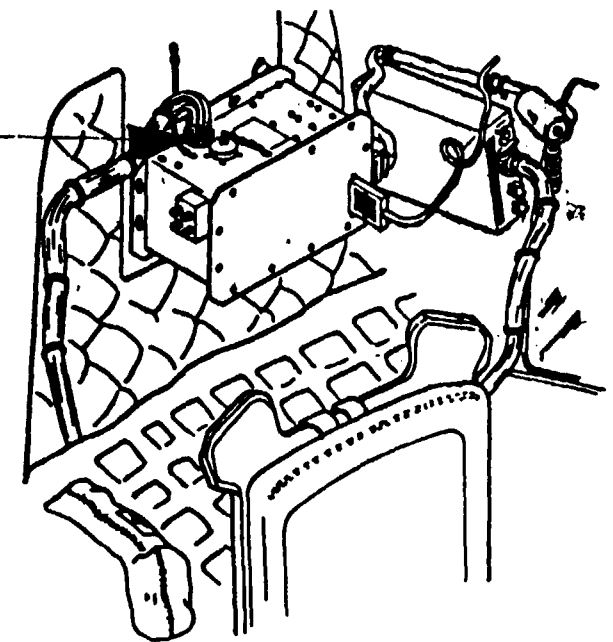
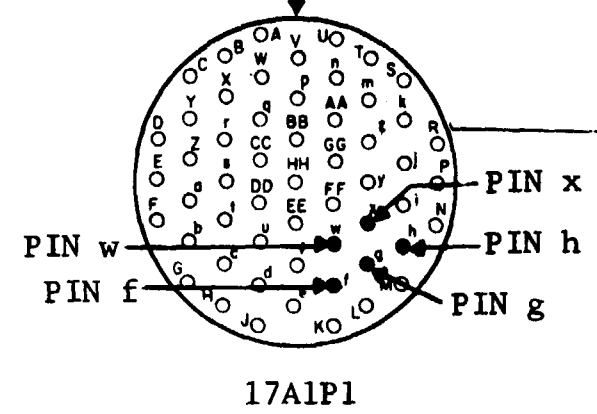
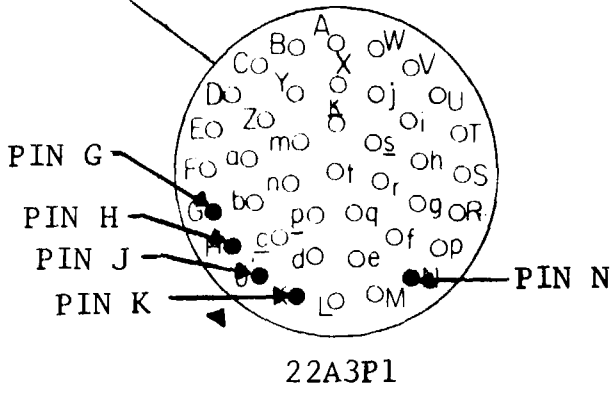
7-10. NO SEGMENT ON PLT/GNR/EIA/GO BIT INDICATOR WILL LIGHT AFTER BIT CHECK (CONTINUED).



GUNNER STATION

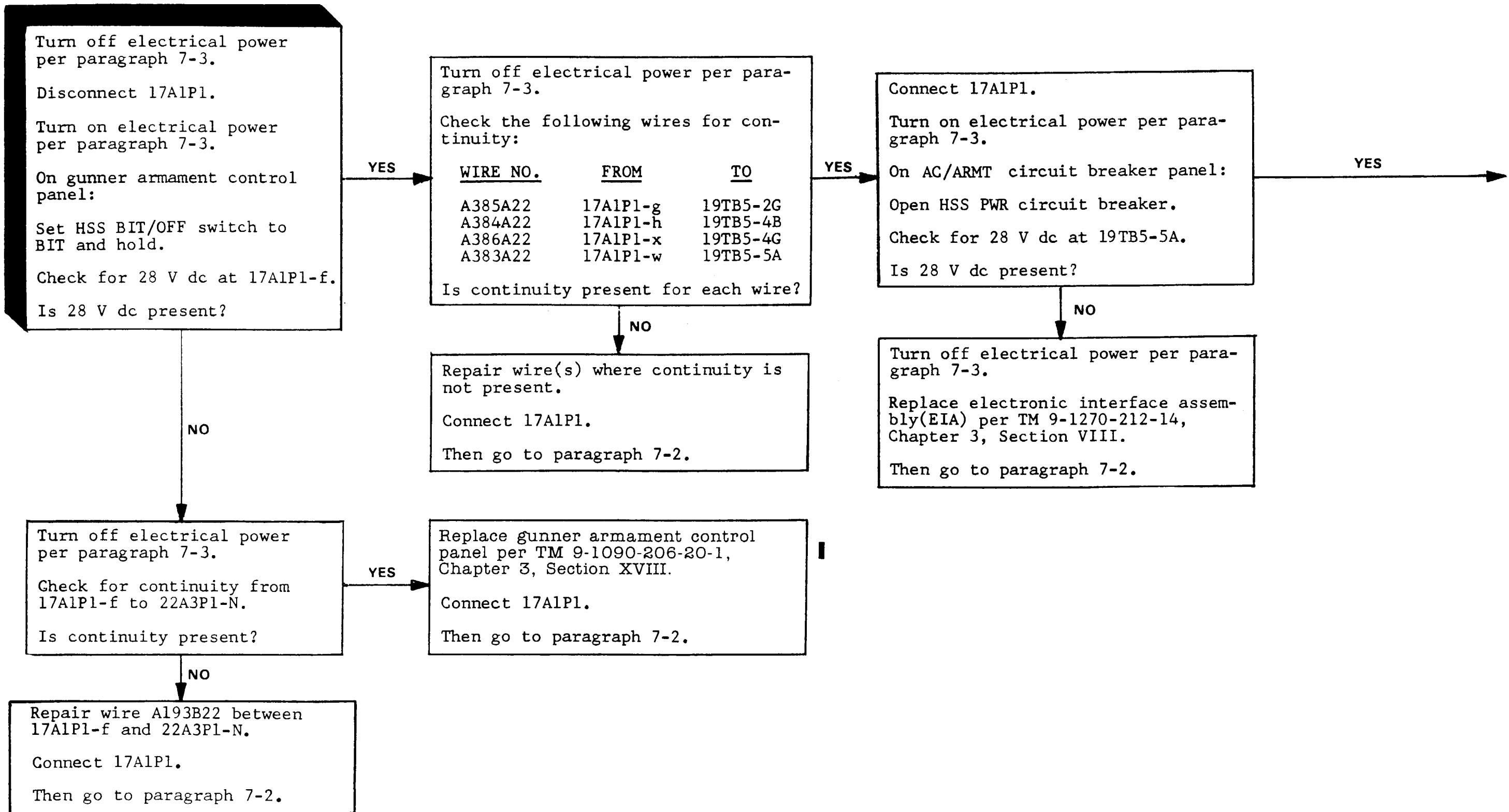


GUNNER ARMAMENT CONTROL PANEL

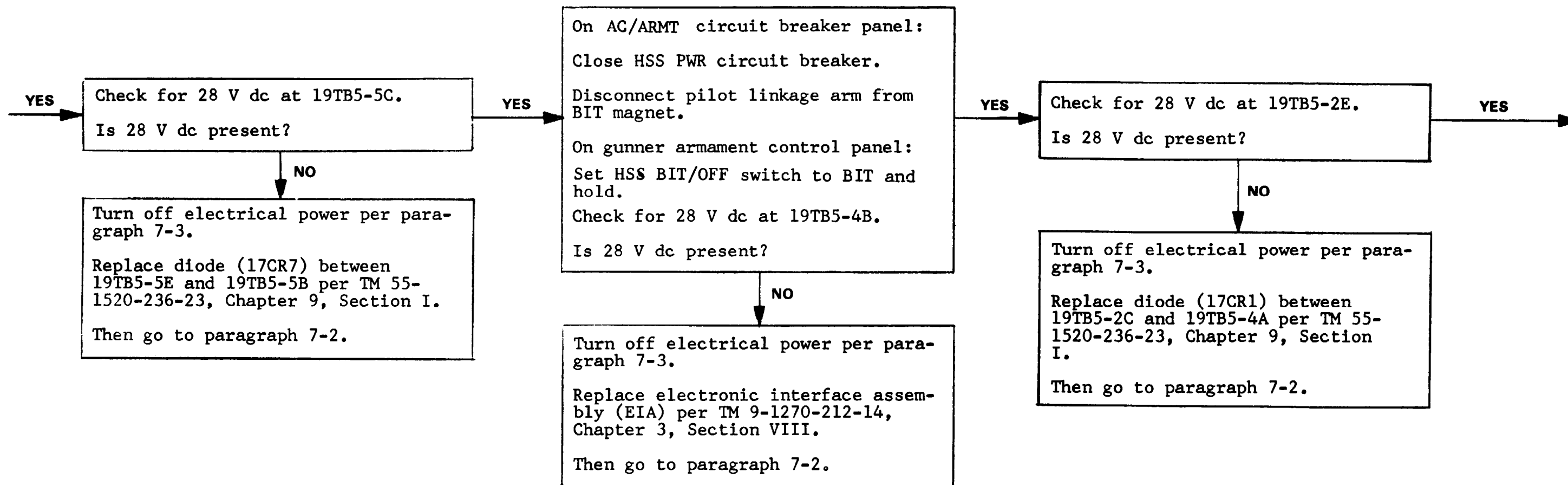


ELECTRONIC INTERFACE ASSEMBLY (EIA)

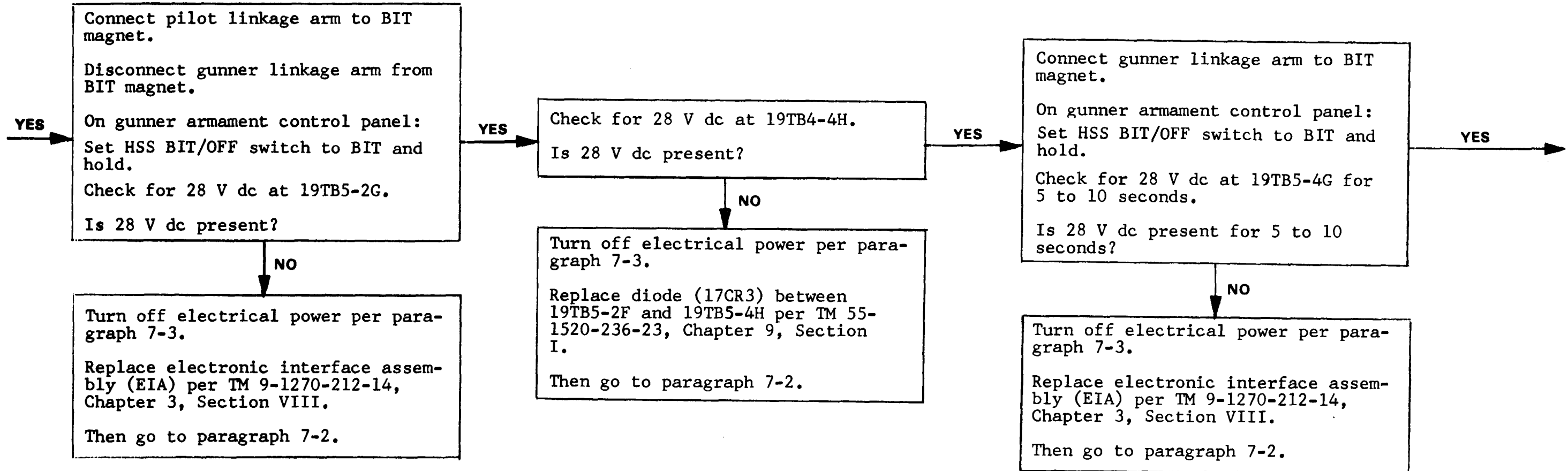
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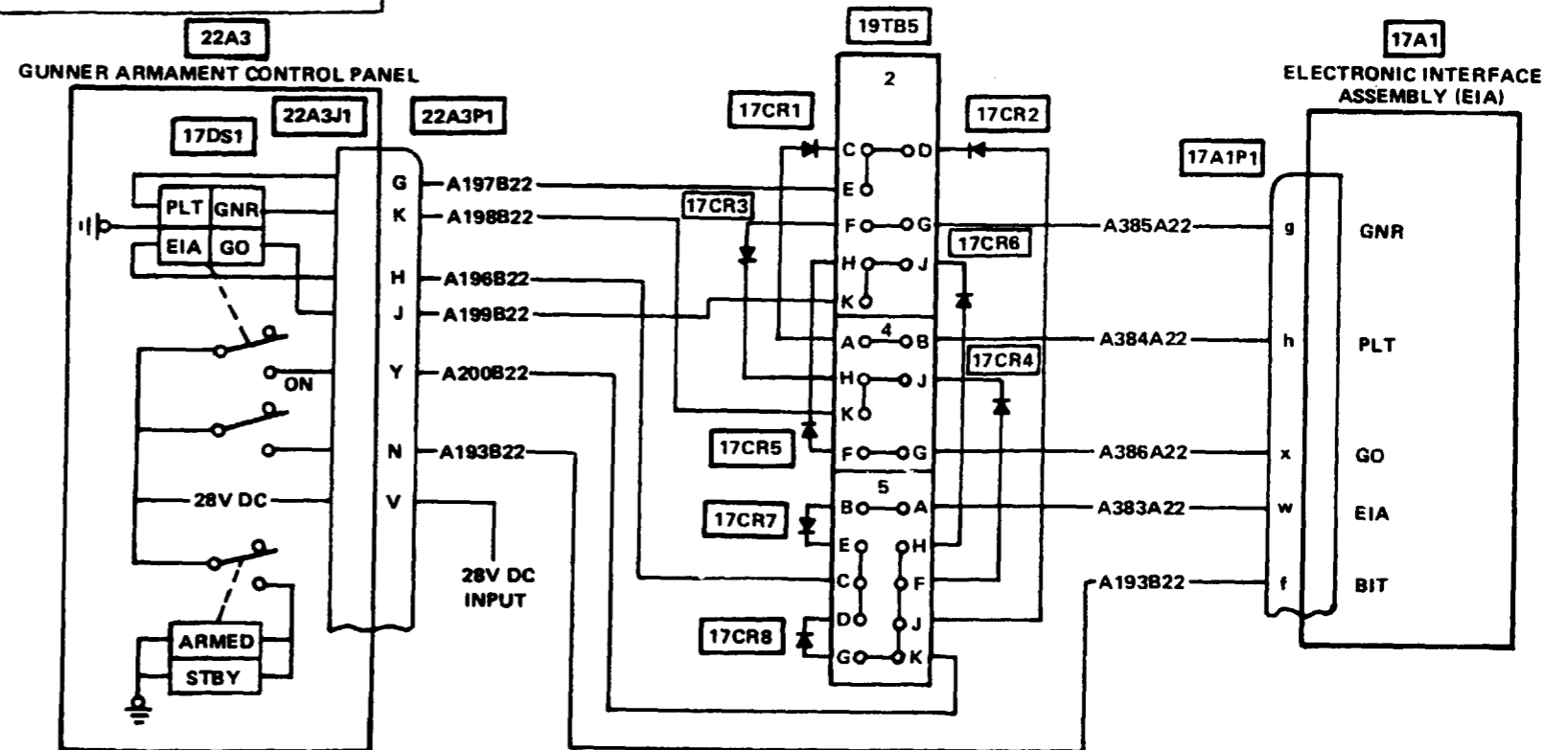
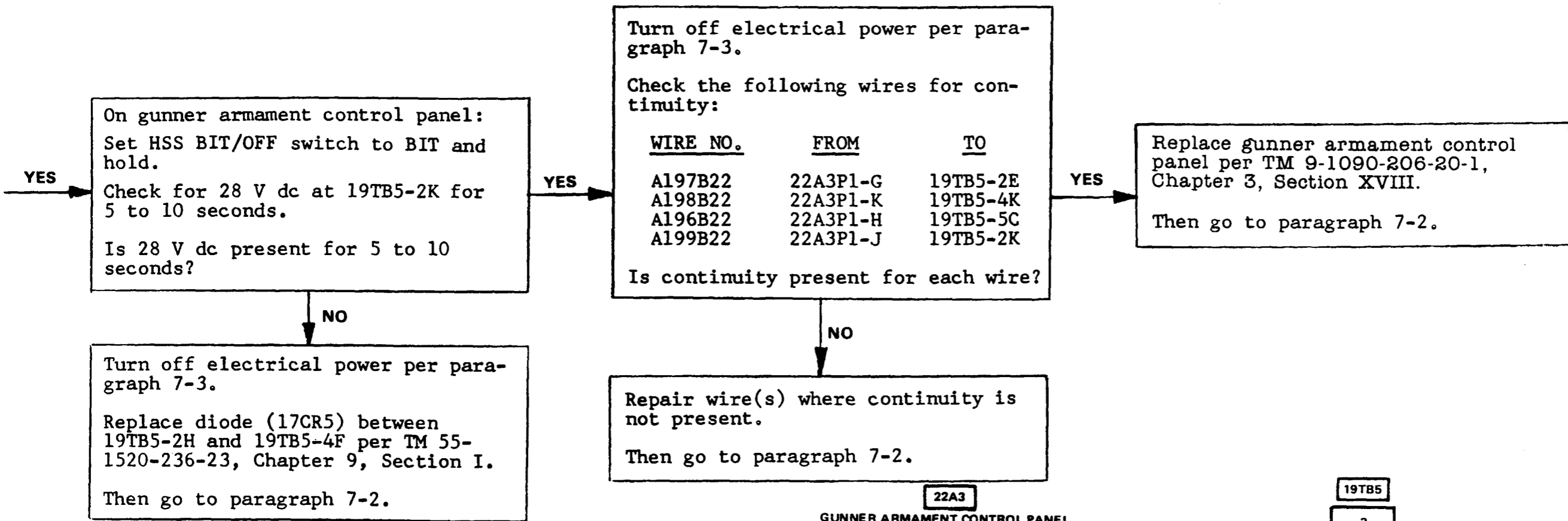
7-10. NO SEGMENT ON PLT/GNR/EIA/GO BIT INDICATOR WILL LIGHT AFTER BIT CHECK (CONTINUED).



7-10. NO SEGMENT ON PLT/GNR/EIA/GO BIT INDICATOR WILL LIGHT AFTER BIT CHECK (CONTINUED).



7-10. NO SEGMENT ON PLT/GNR/EIA/GO BIT INDICATOR WILL LIGHT AFTER BIT CHECK (CONTINUED).



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7-11. GUNNER HELMET EYEPiece WILL NOT LATCH.

INITIAL SETUP

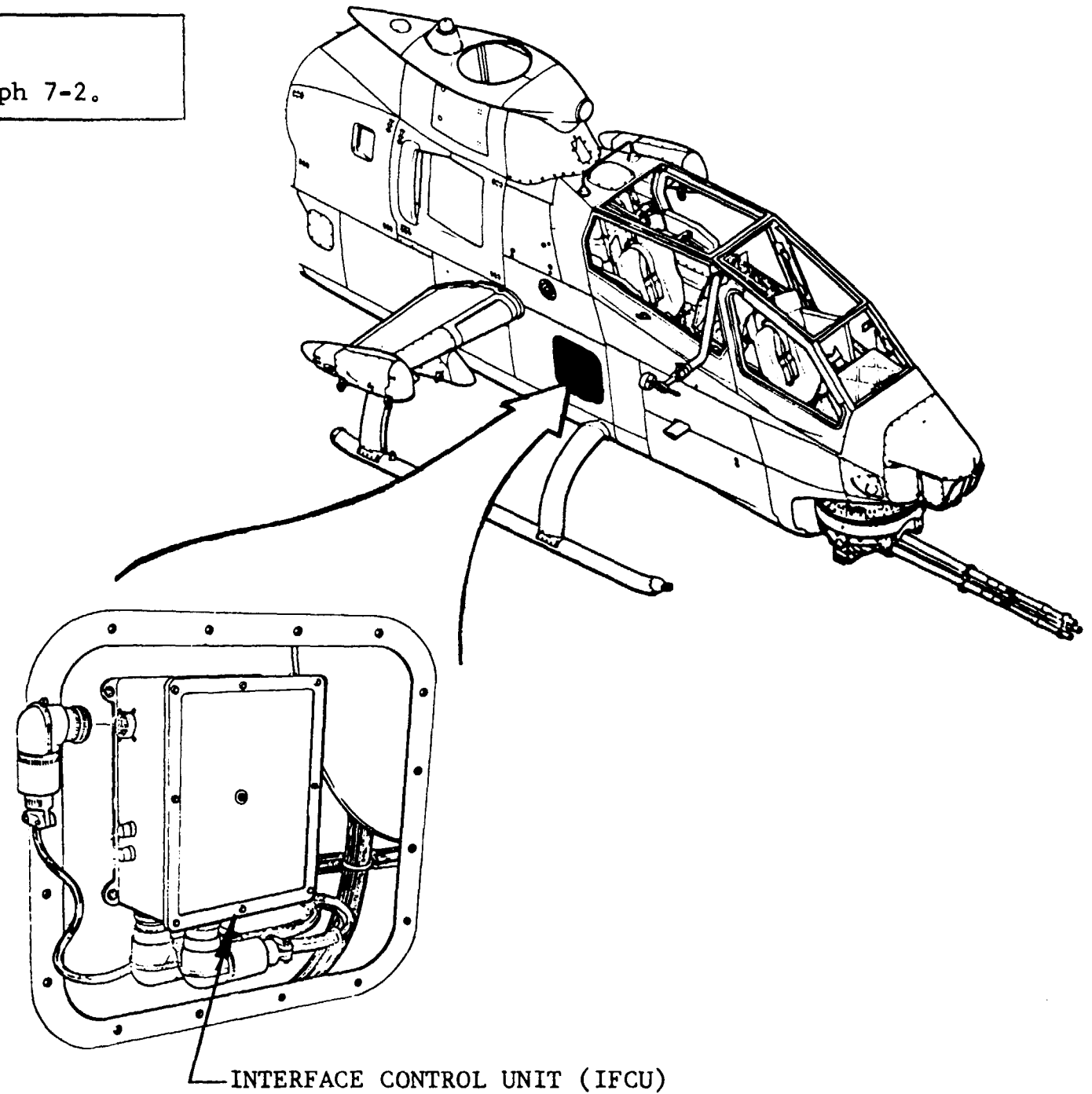
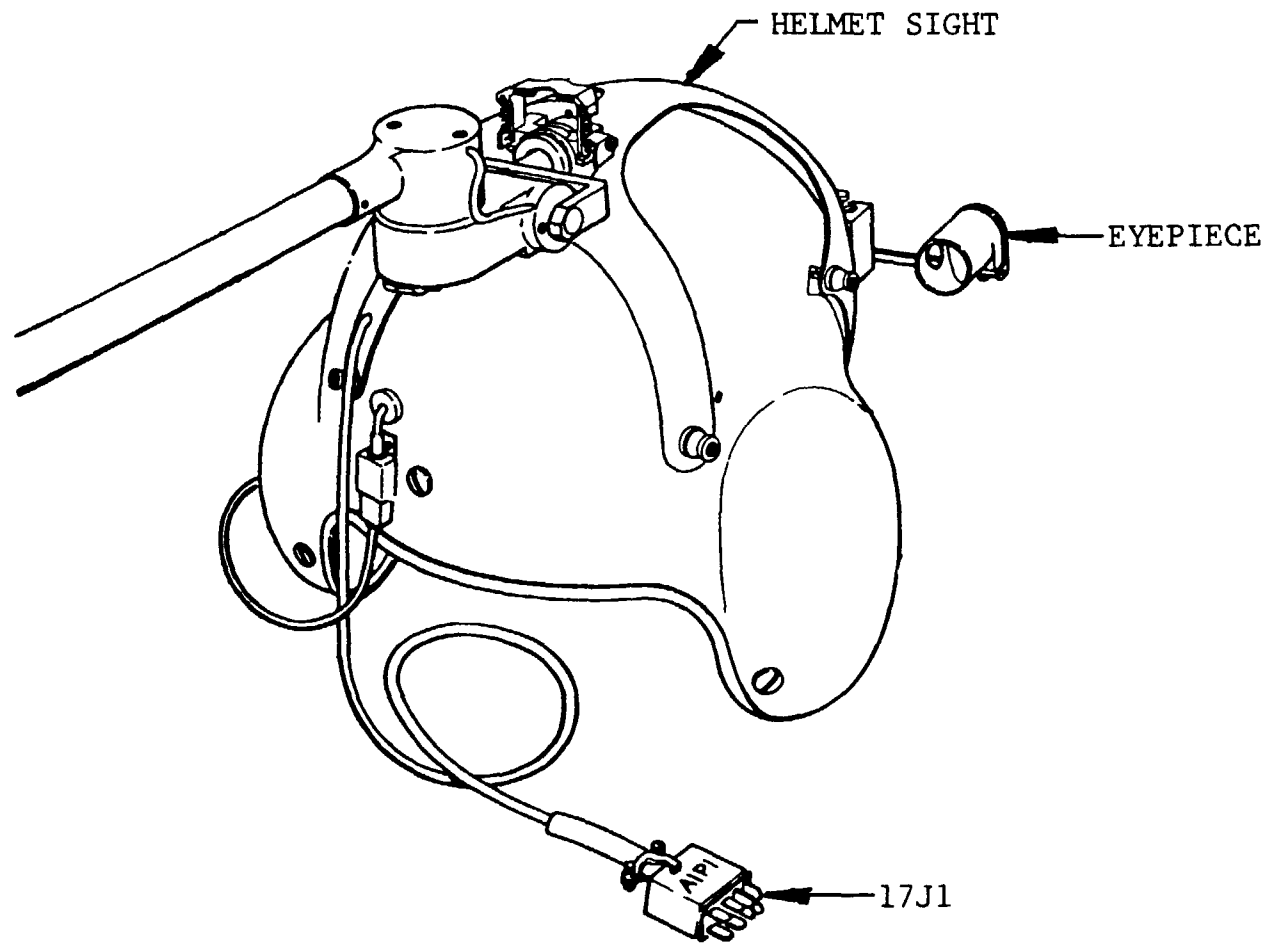
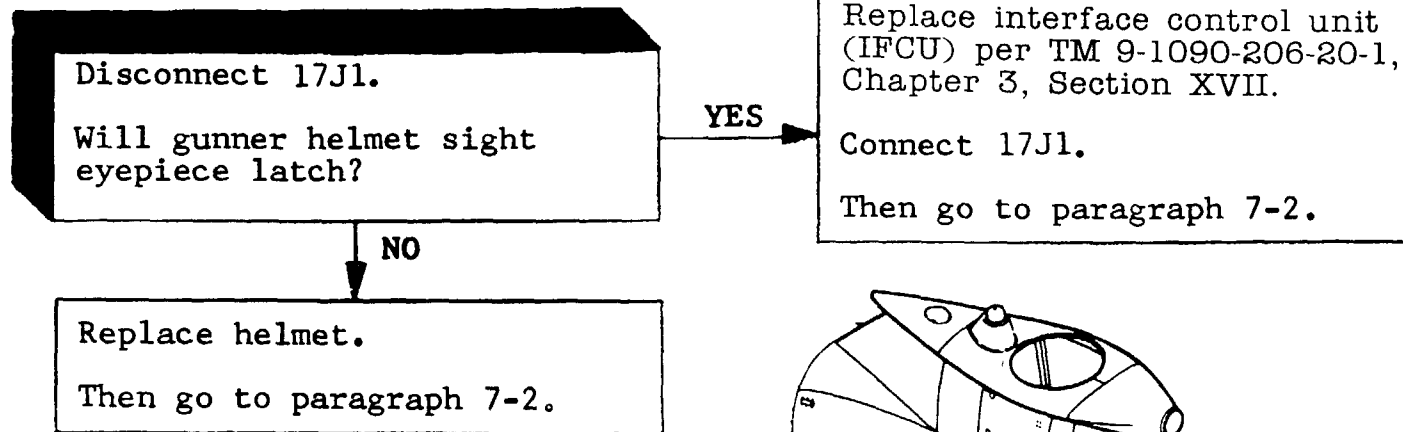
Applicable Configuration
All

Personnel Required
68J (1)

References
TM 9-1090-206-20-1

Access Panels

Interface Control
Unit- Removed



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7-12. NO RETICLE IN PILOT EYEPIECE DURING HSS RETICLE TEST.

INITIAL SETUP

Applicable Configuration
All

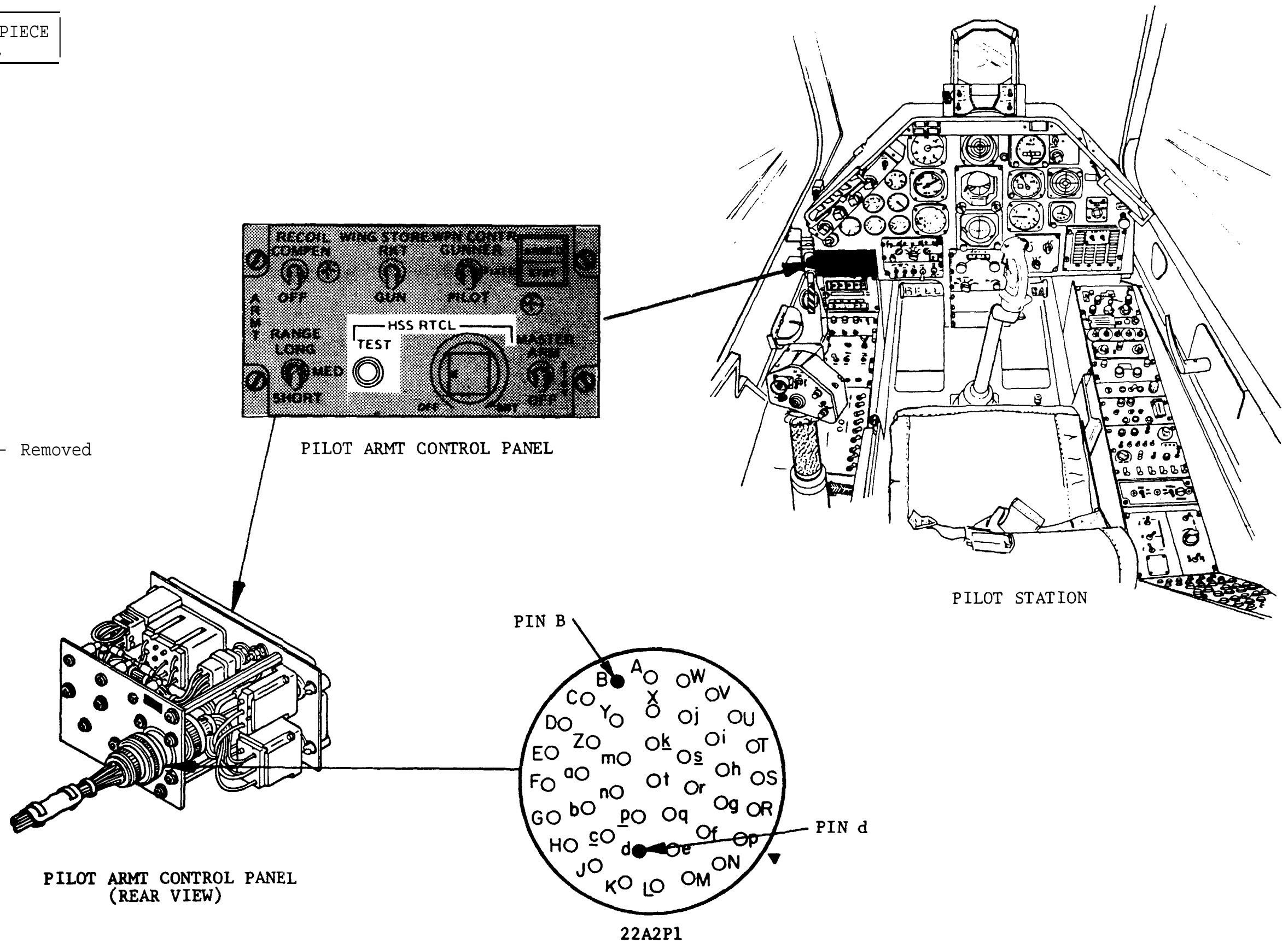
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

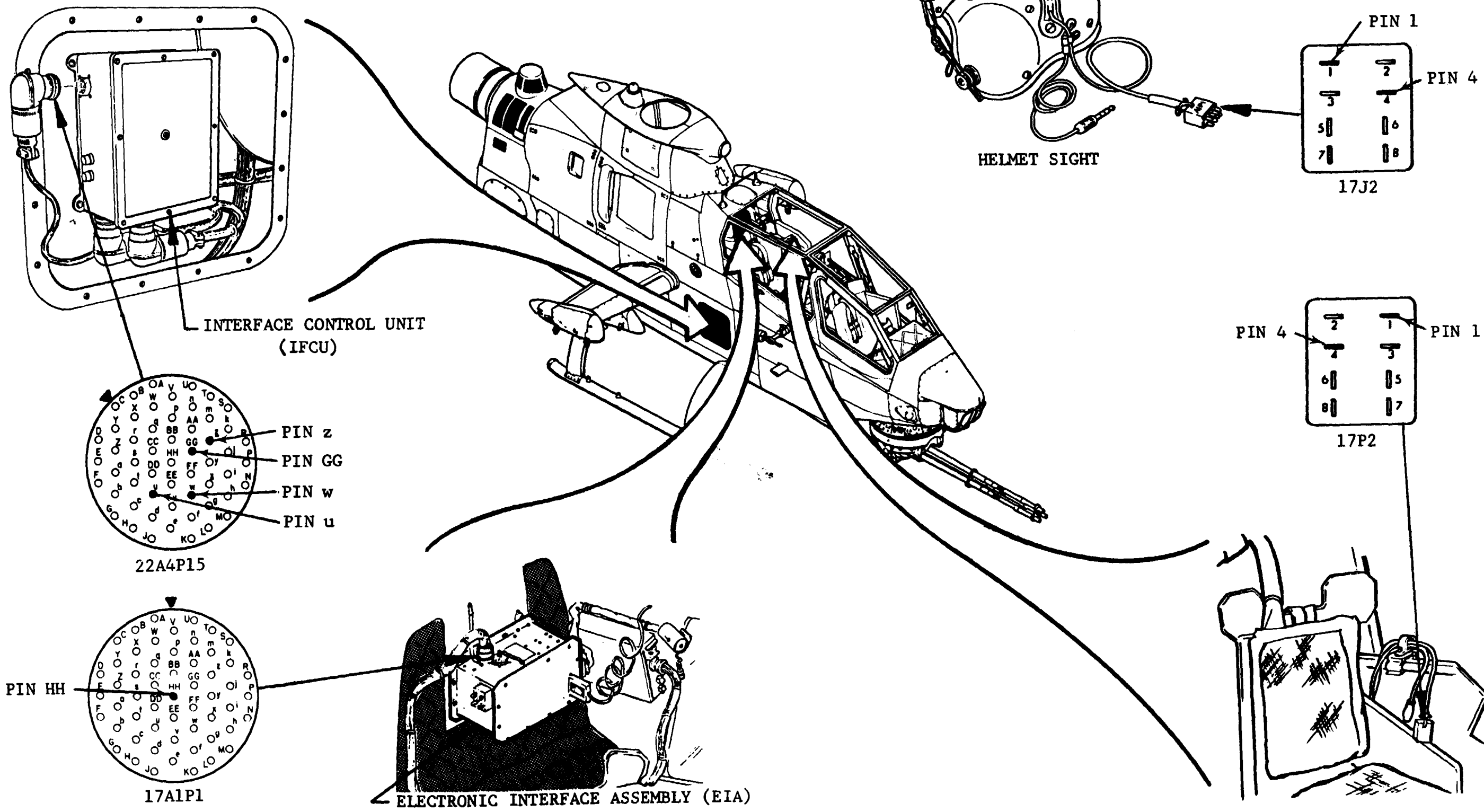
Personnel Required
68 J (2)

References
TM 9-1090-206-20-1
TM 9-1270-212-14

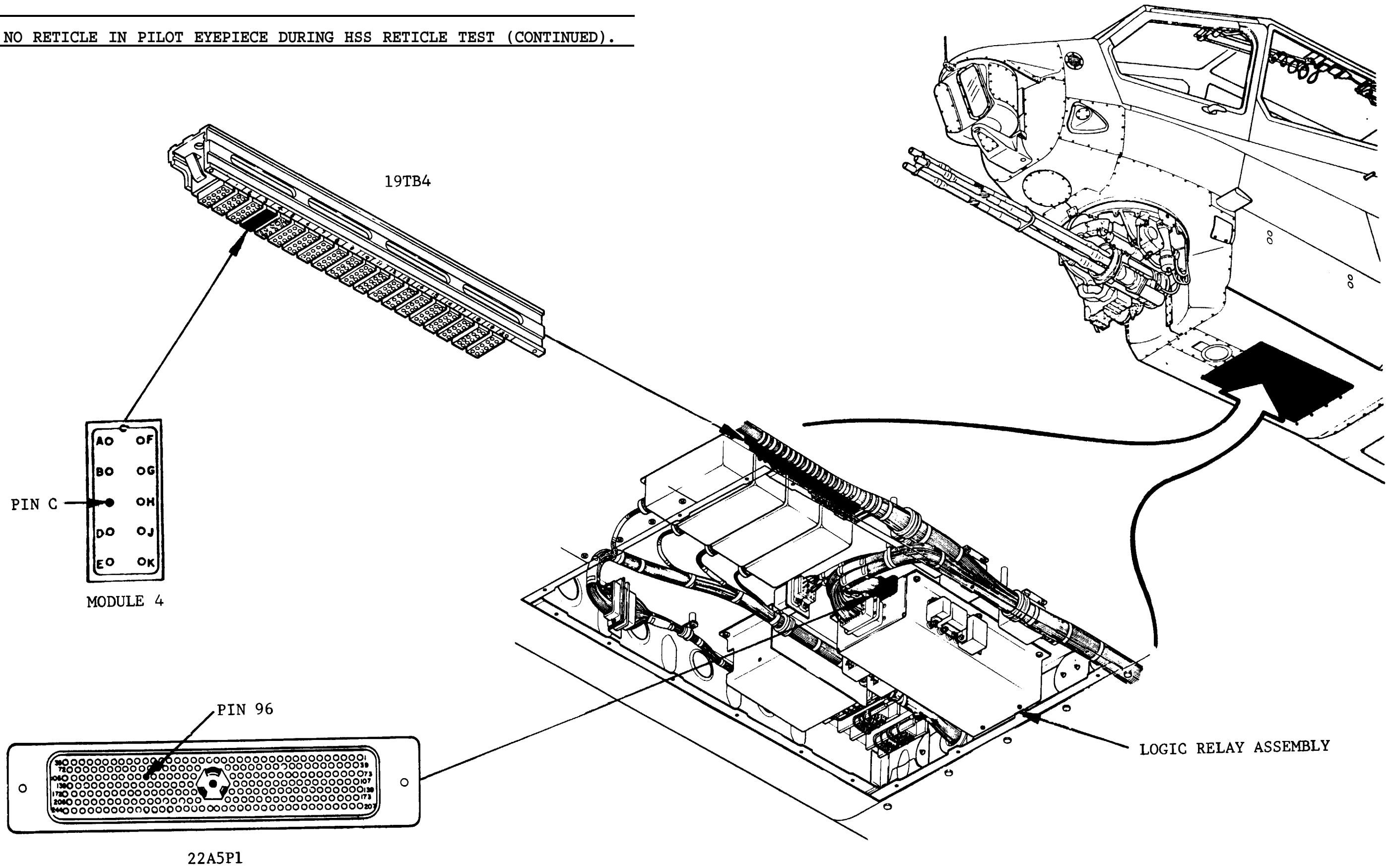
Access Panels
Interface Control Unit- Removed
Forward Belly Armament and Lighting - Removed



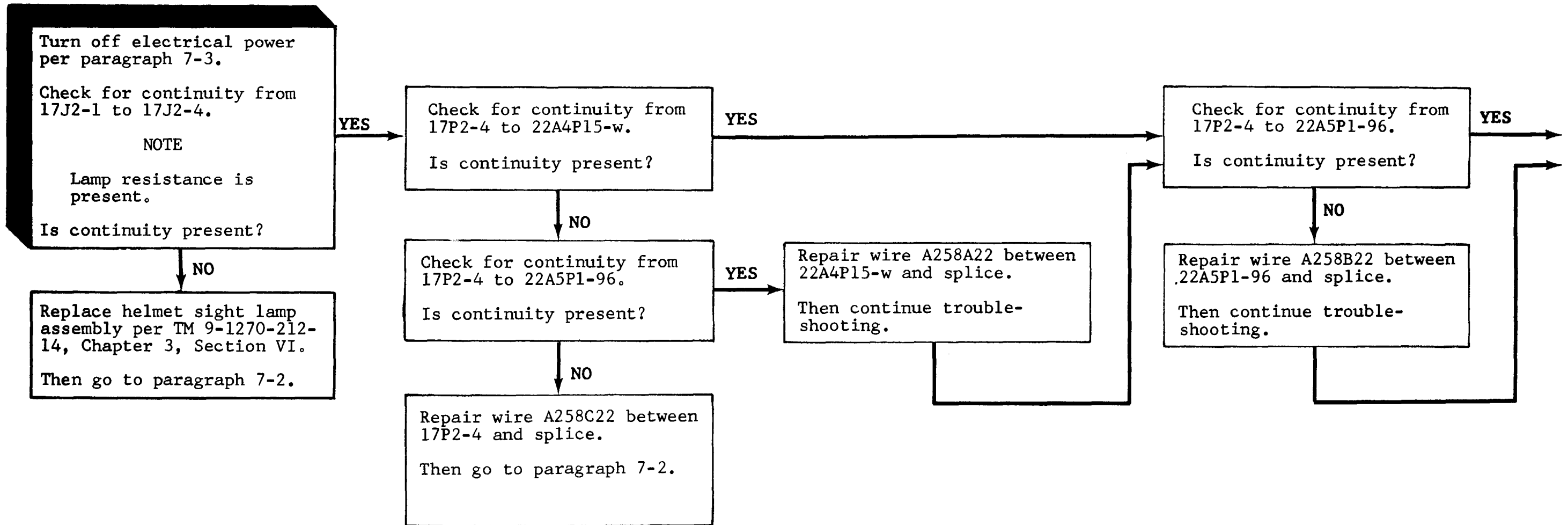
7-12. NO RETICLE IN PILOT EYEPIECE DURING HSS RETICLE TEST (CONTINUED).



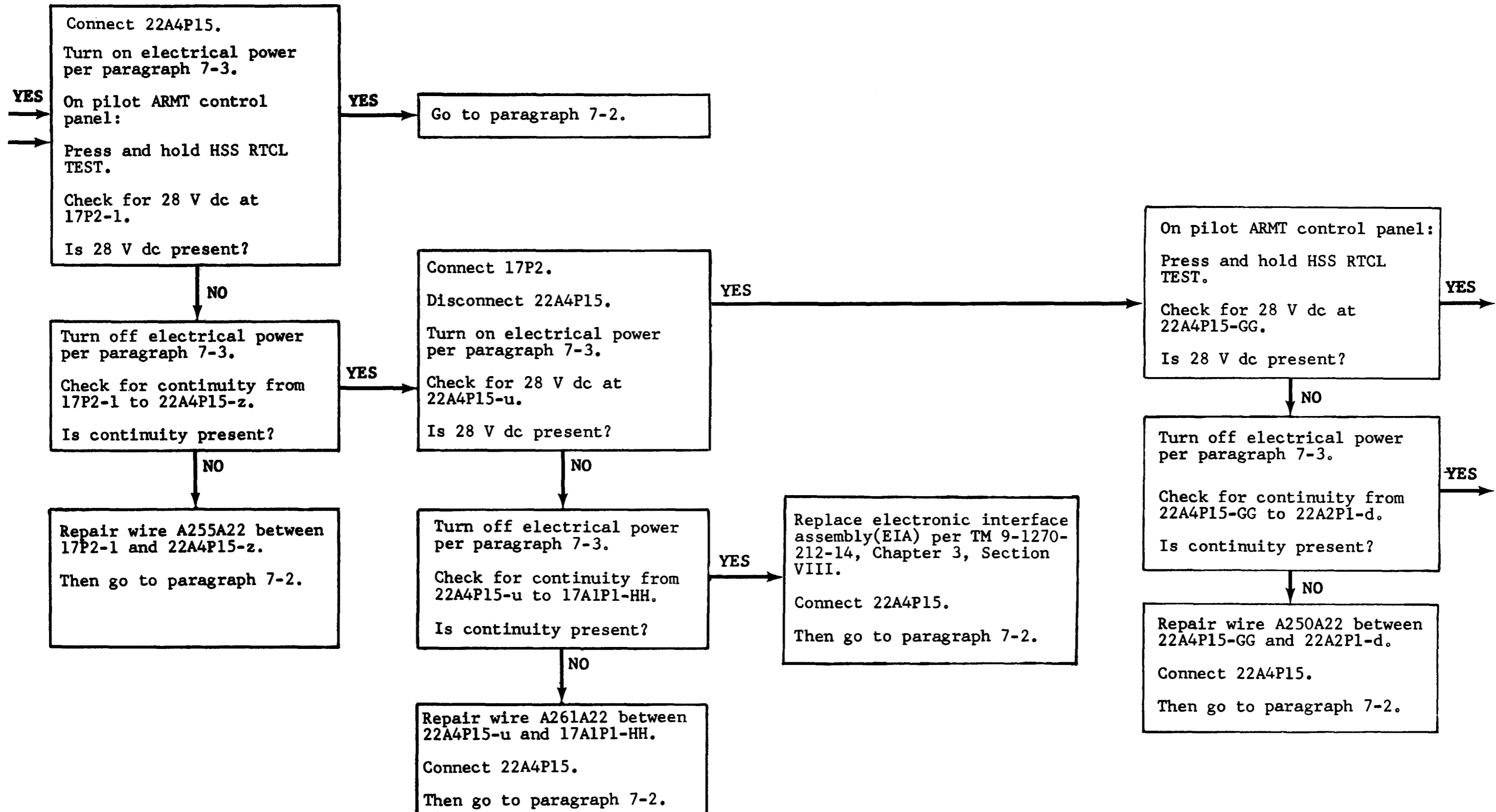
7-12. NO RETICLE IN PILOT EYEPIECE DURING HSS RETICLE TEST (CONTINUED).



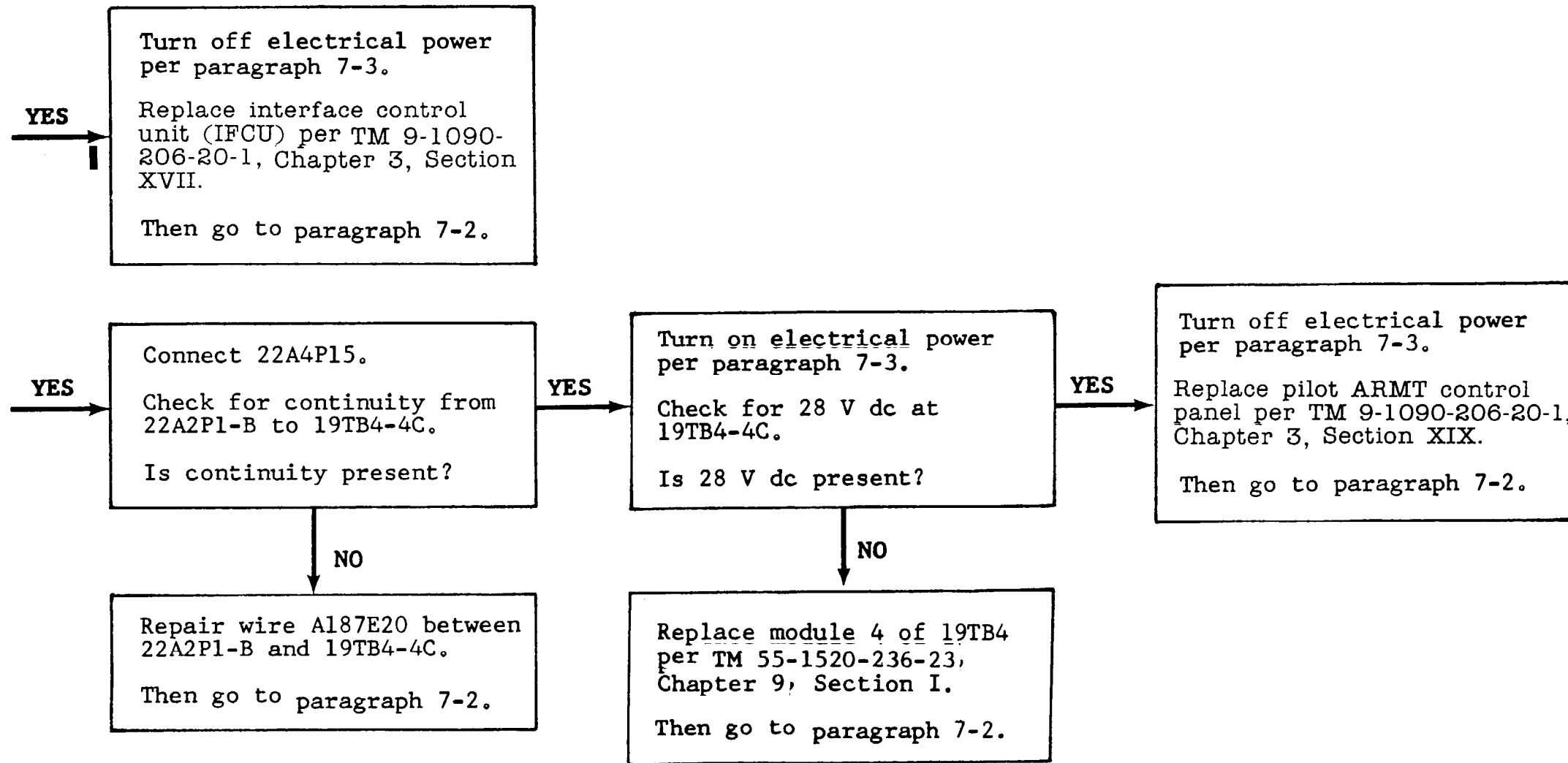
7-12. NO RETICLE IN PILOT EYEPiece DURING HSS RETICLE TEST (CONTINUED).



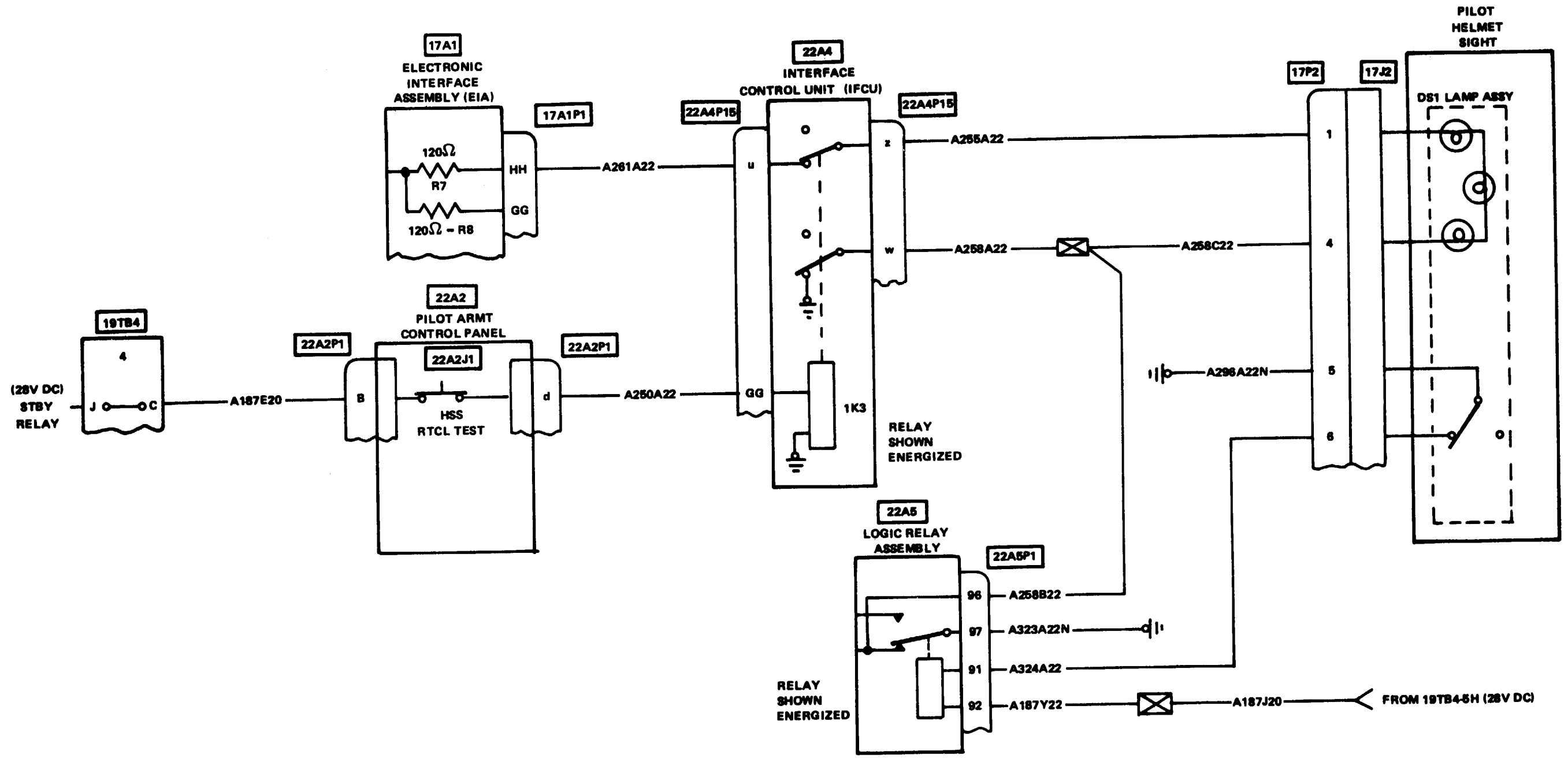
7-12. NO RETICLE IN PILOT EYEPIECE DURING HSS RETICLE TEST (CONTINUED).



7-12. NO RETICLE IN PILOT EYEPiece DURING HSS RETICLE TEST (CONTINUED).



7-12. NO RETICLE IN PILOT EYEPIECE DURING HSS RETICLE TEST (CONTINUED).



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7-13. NO RETICLE IN GUNNER EYEPIECE DURING HSS RETICLE TEST.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

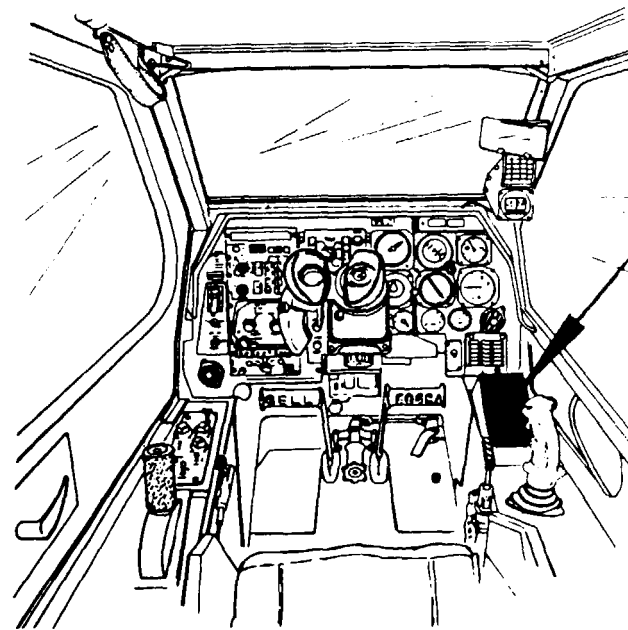
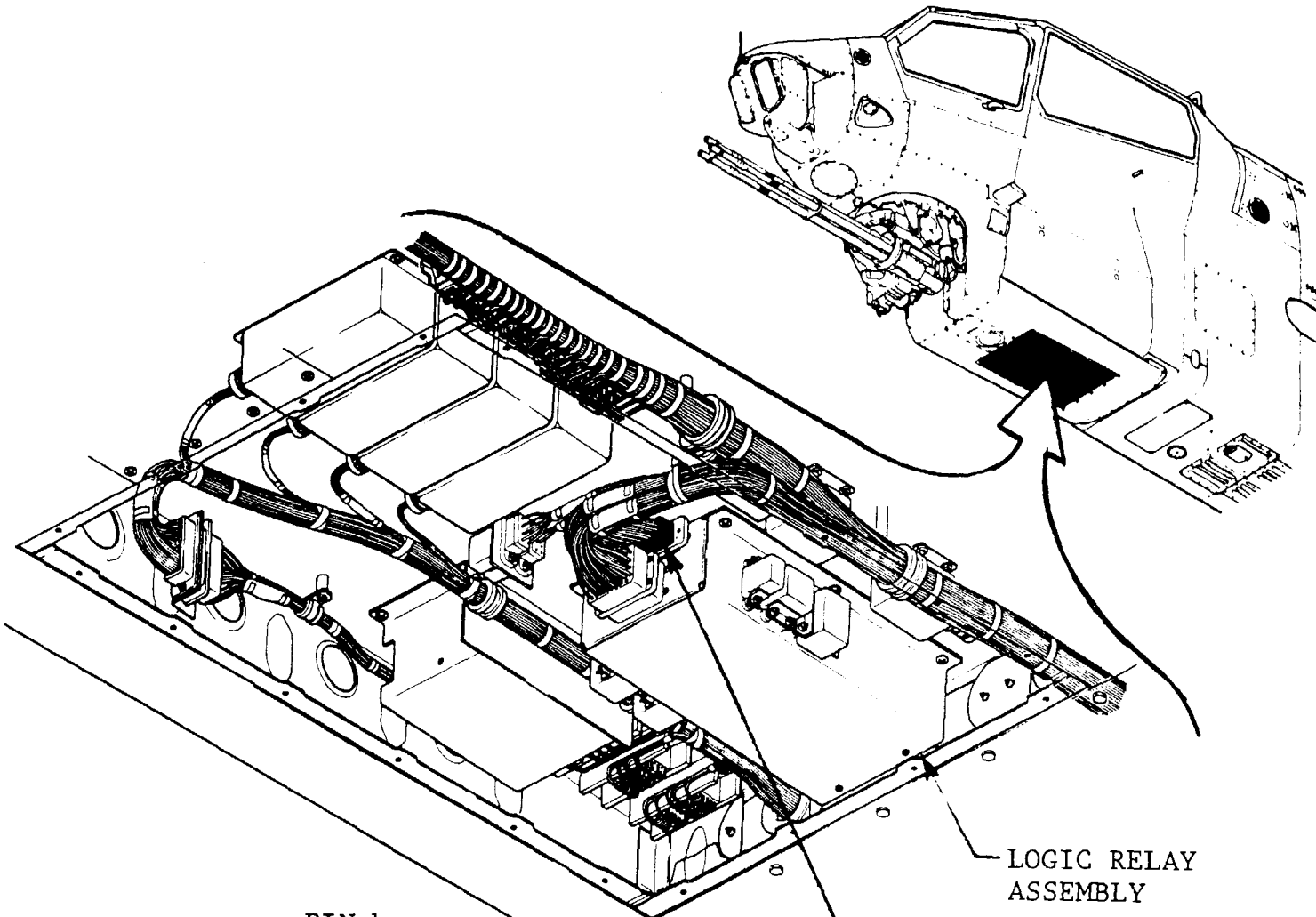
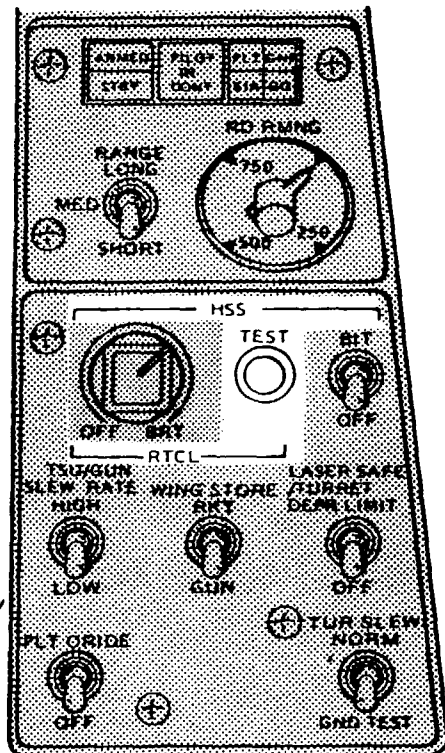
Personnel Required
68J (2)

References
TM 9-1090-206-20-1
TM 9-1270-212-14

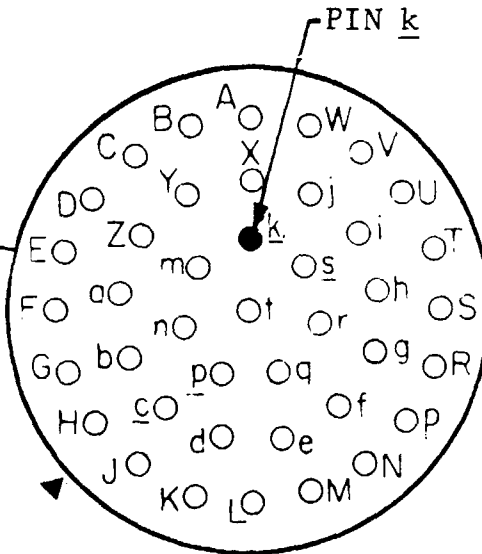
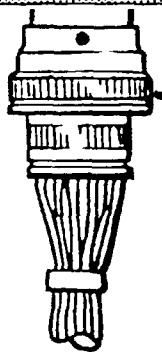
Access Panels
Forward Belly Armament and Lighting - Removed

Interface Control Unit - Removed

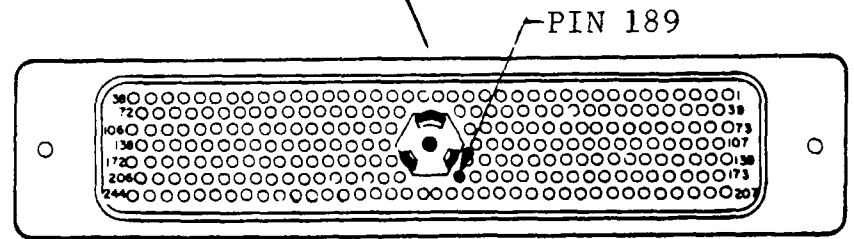
GUNNER ARMAMENT CONTROL PANEL



GUNNER STATION

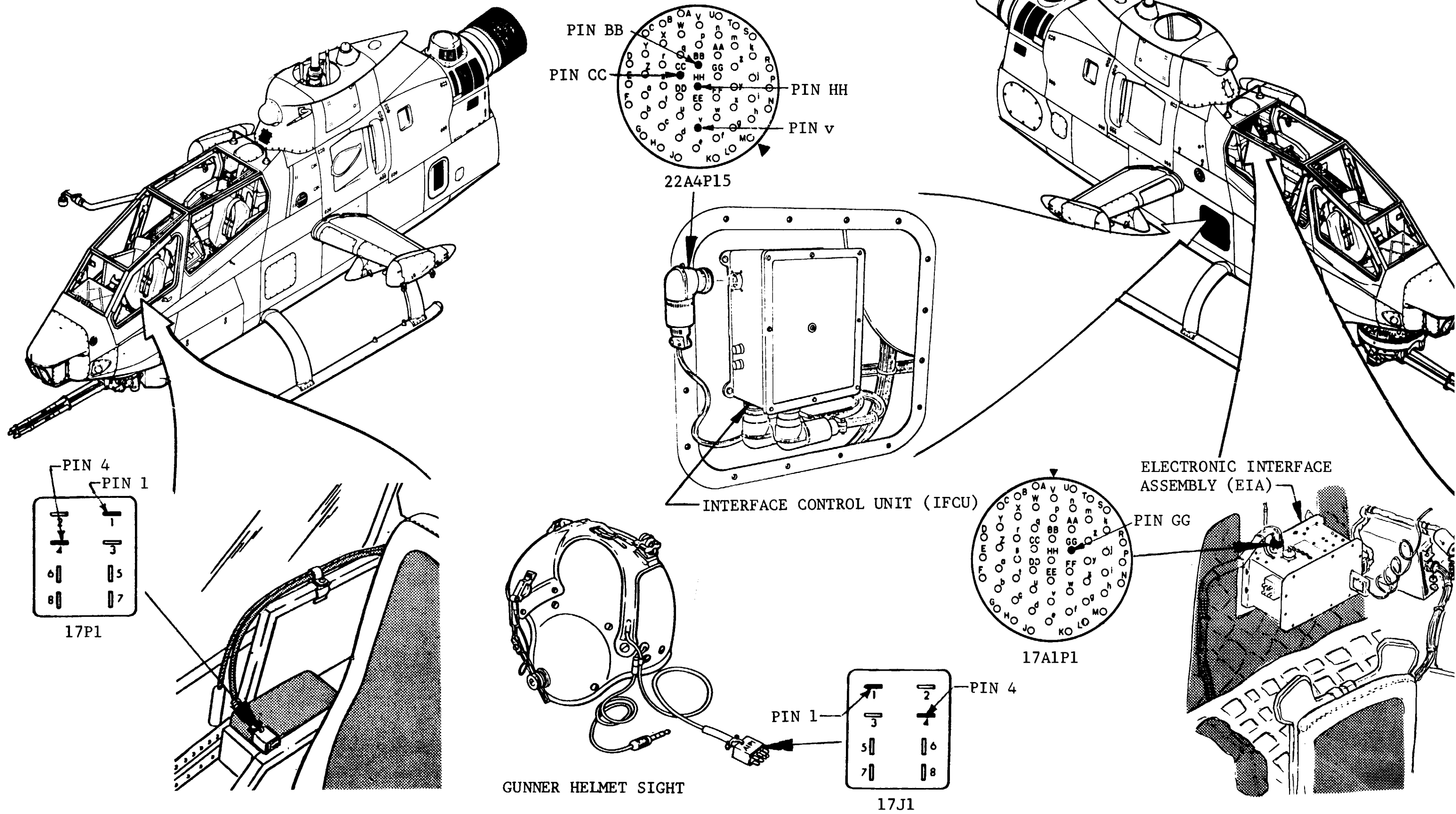


22A3P1

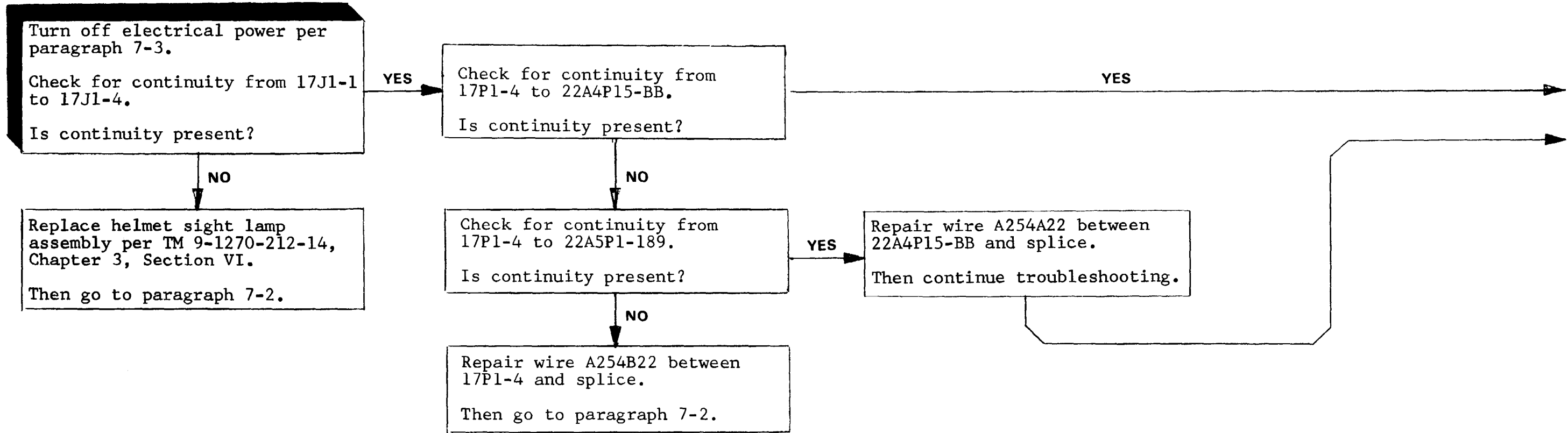


22A5P1

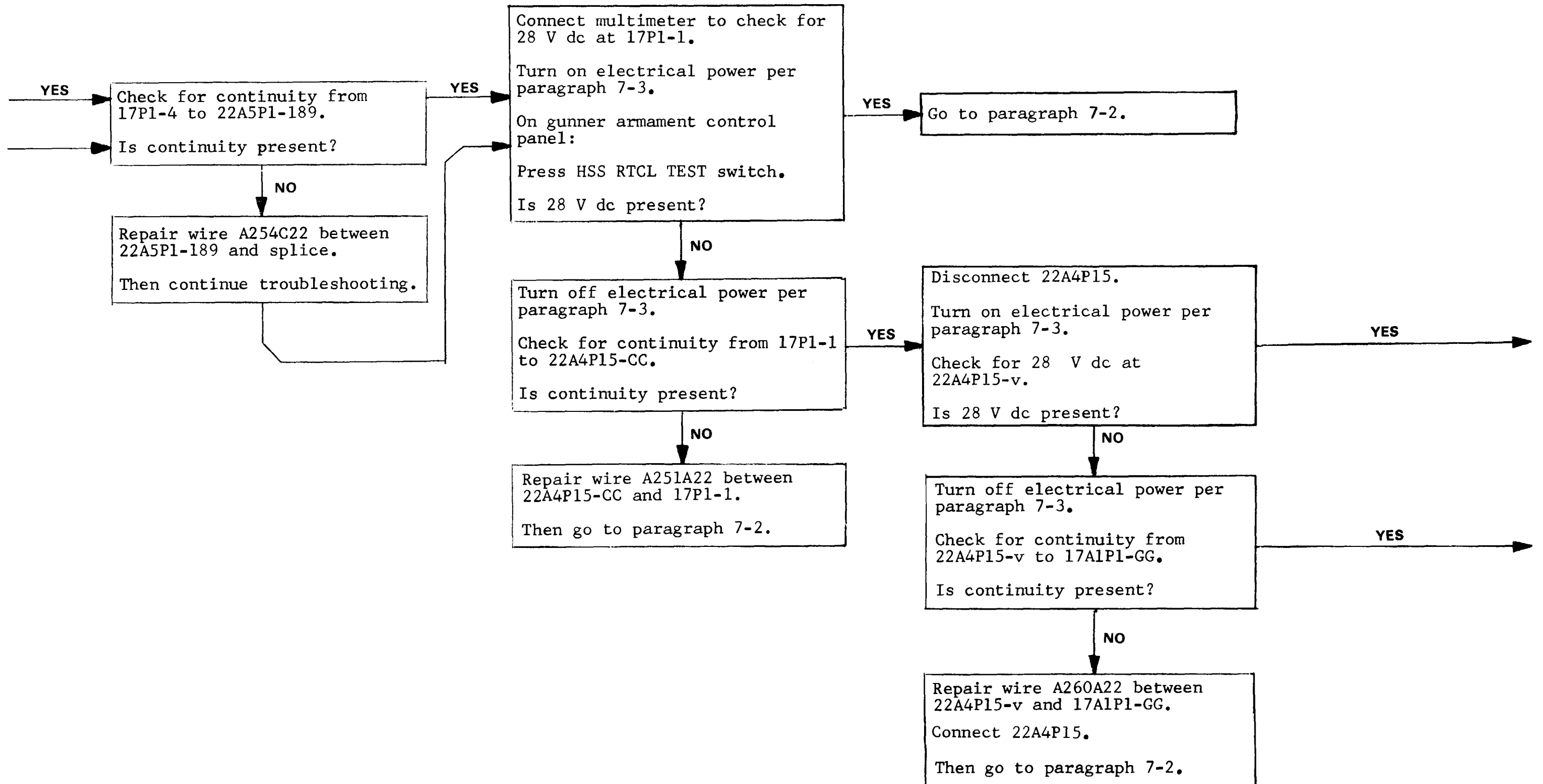
7-13. NO RETICLE IN GUNNER EYEPIECE DURING HSS RETICLE TEST (CONTINUED).



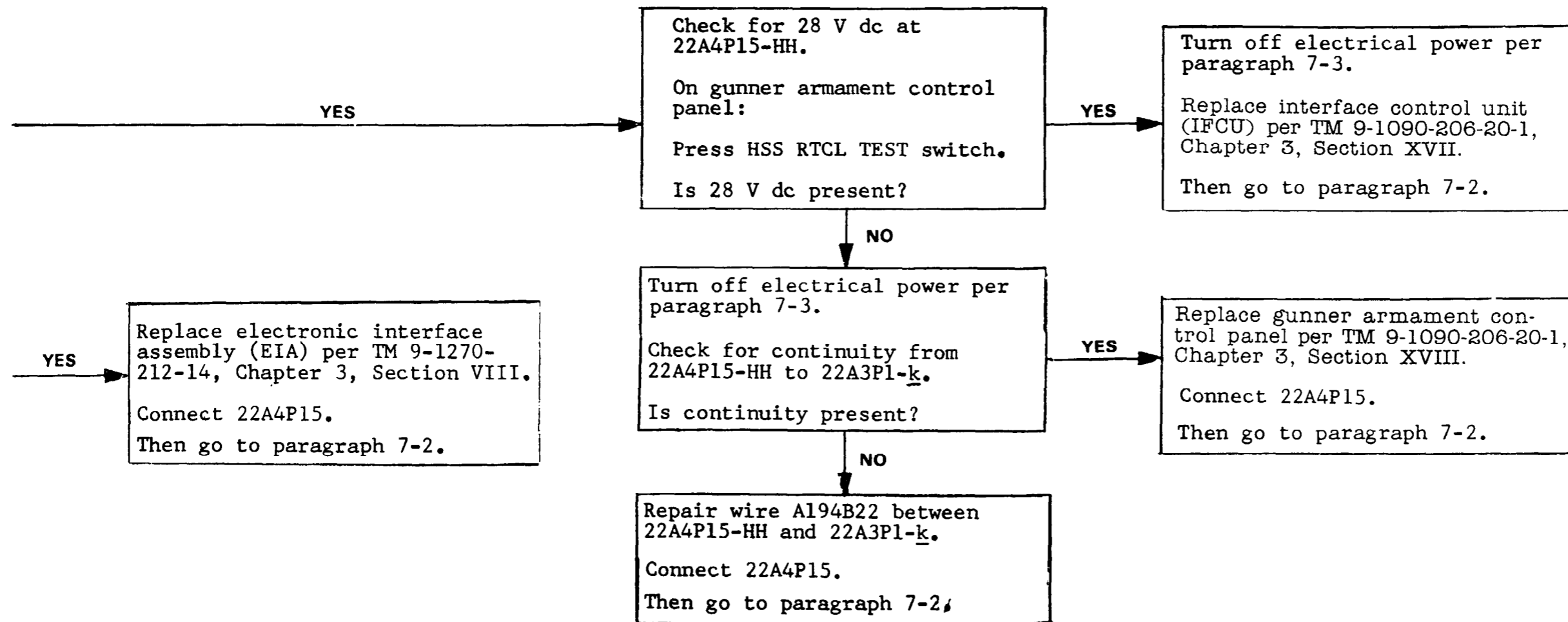
7-13. NO RETICLE IN GUNNER EYEPIECE DURING HSS RETICLE TEST (CONTINUED).



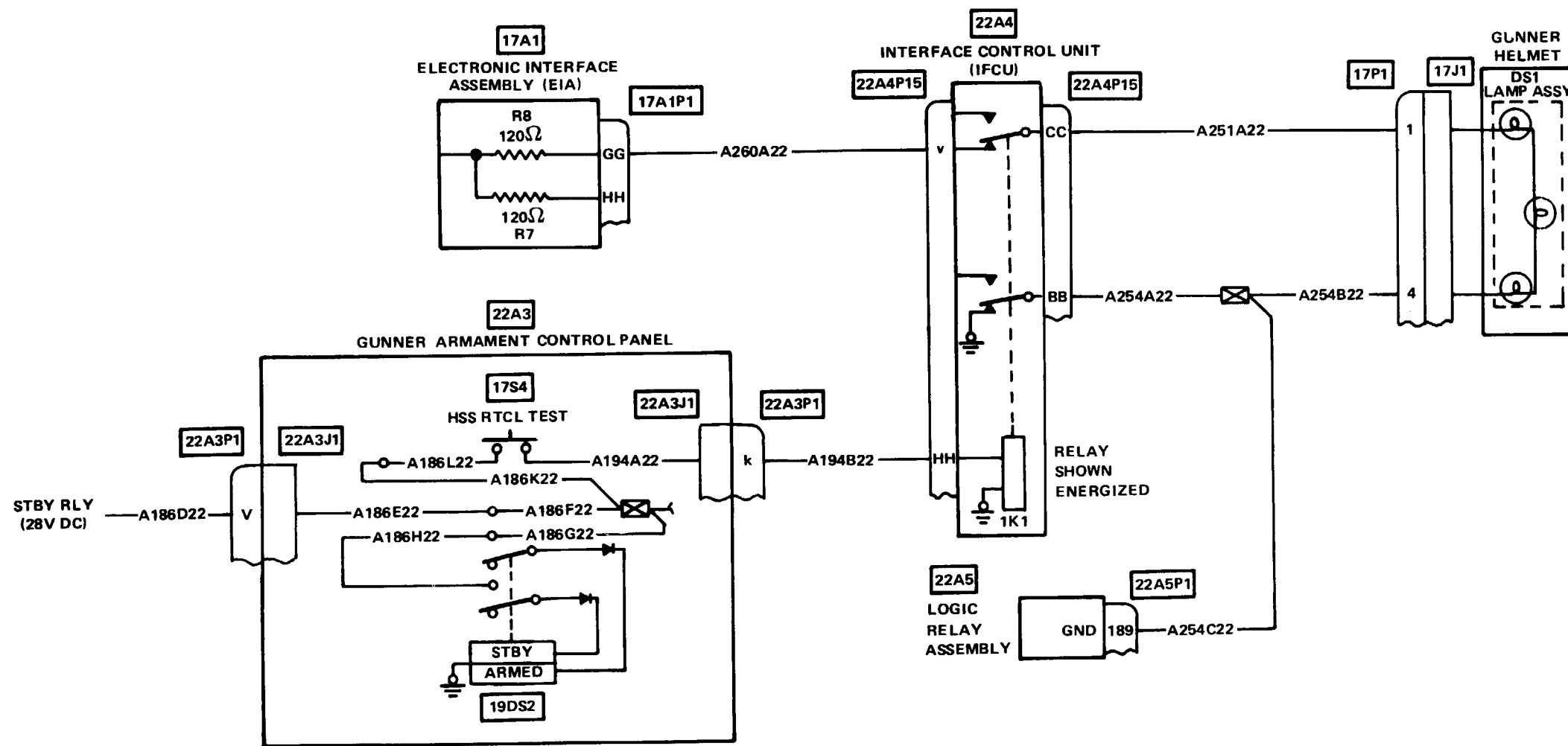
7-13. NO RETICLE IN GUNNER EYEPIECE DURING HSS RETICLE TEST (CONTINUED).



7-13. NO RETICLE IN GUNNER EYEPiece DURING HSS RETICLE TEST (CONTINUED).



7-13. NO RETICLE IN GUNNER EYEPIECE DURING HSS RETICLE TEST (CONTINUED).



7-14. NO RETICLE IN PILOT HELMET EYEPIECE.

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 9-1090 -206-20-1

TM 9-1270-212-14

TM 55-1520-236-23

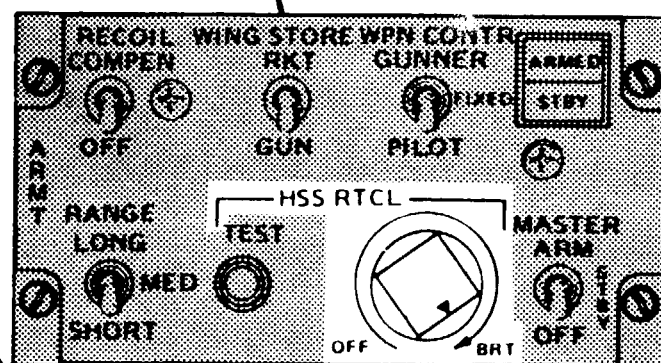
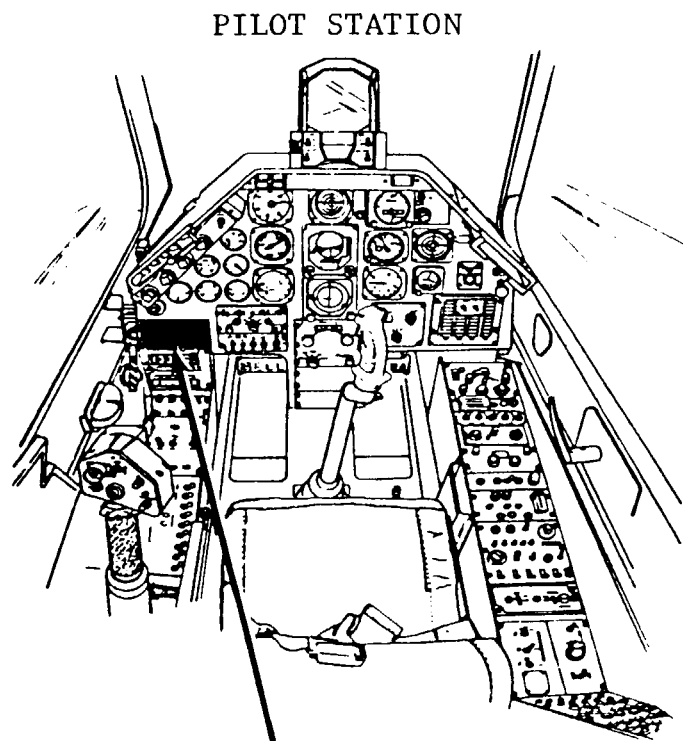
Access Panels

Turret Fairing - Removed

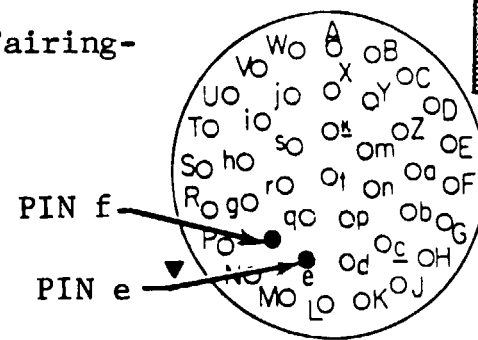
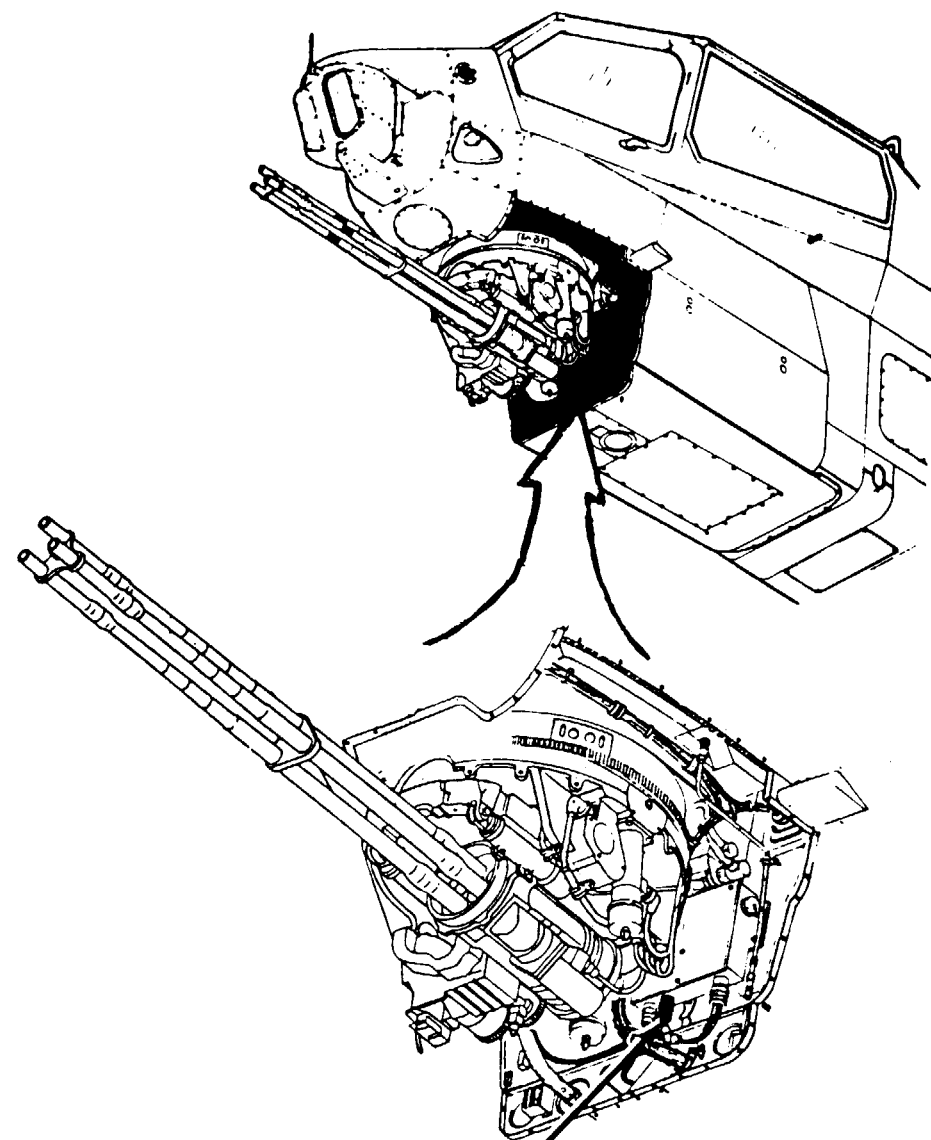
Forward Belly Armament and Lighting - Removed

Interface Control Unit - Removed

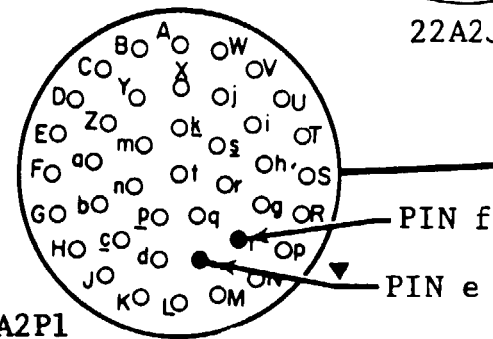
Turret Fairing-Removed



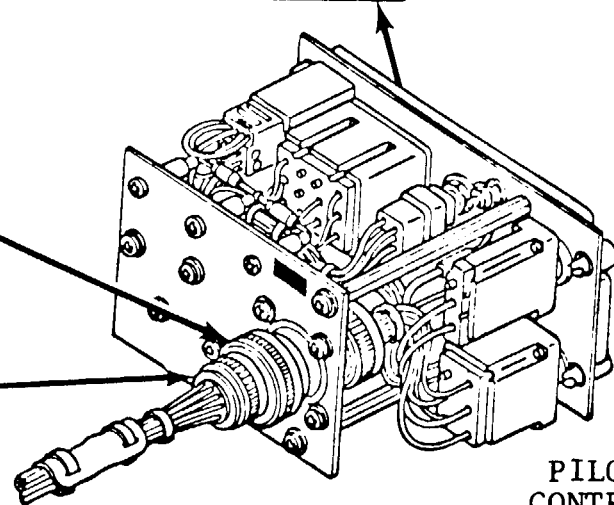
PILOT ARMT CONTROL PANEL



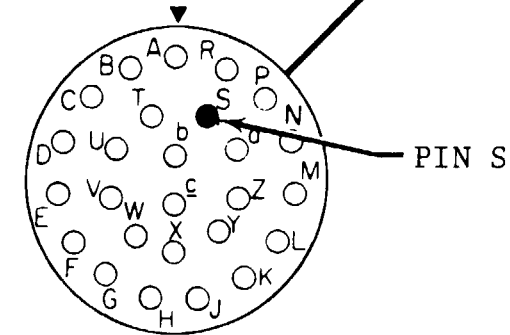
22A2J1



22A2P1

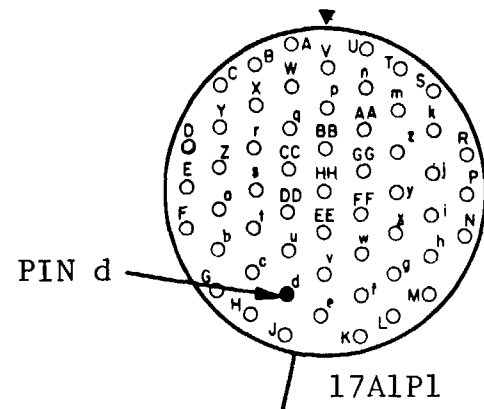
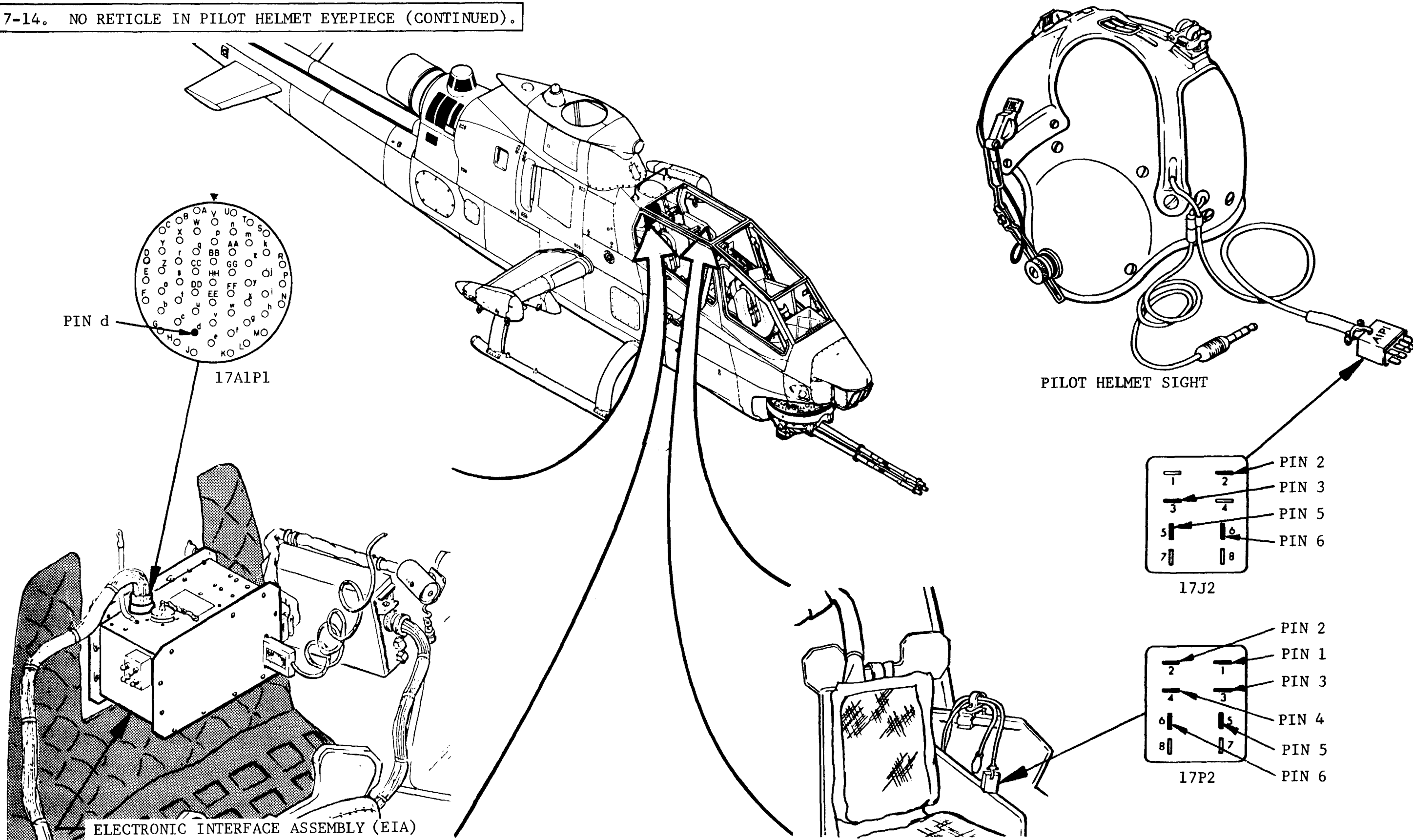


PILOT ARMT CONTROL PANEL (REAR VIEW)

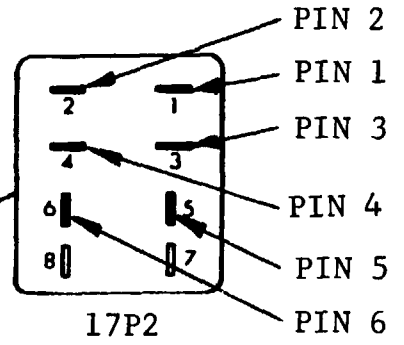
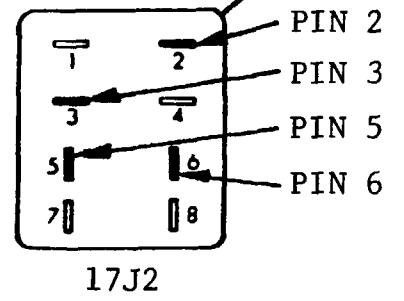


19A4P249

7-14. NO RETICLE IN PILOT HELMET EYEPIECE (CONTINUED).

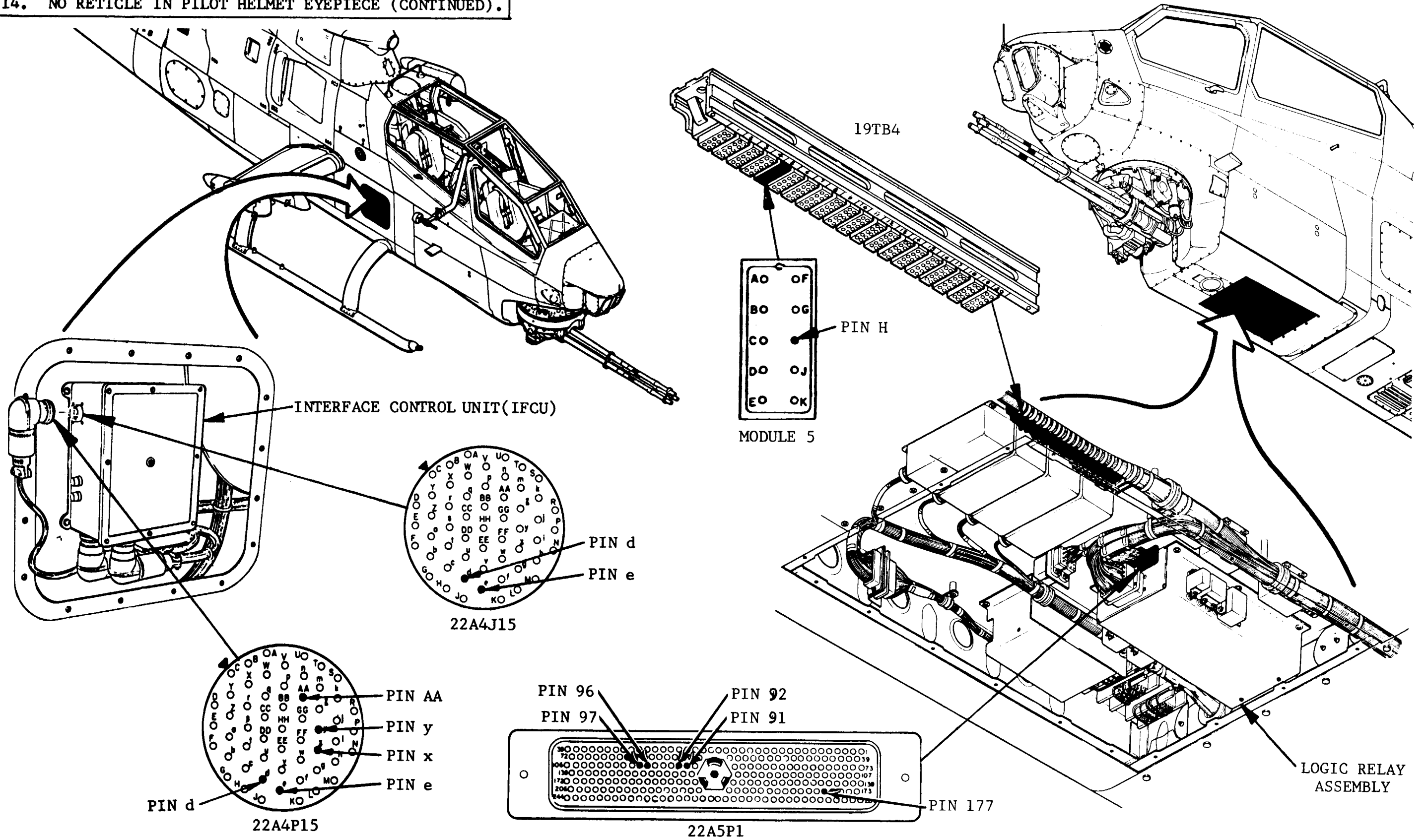


PILOT HELMET SIGHT

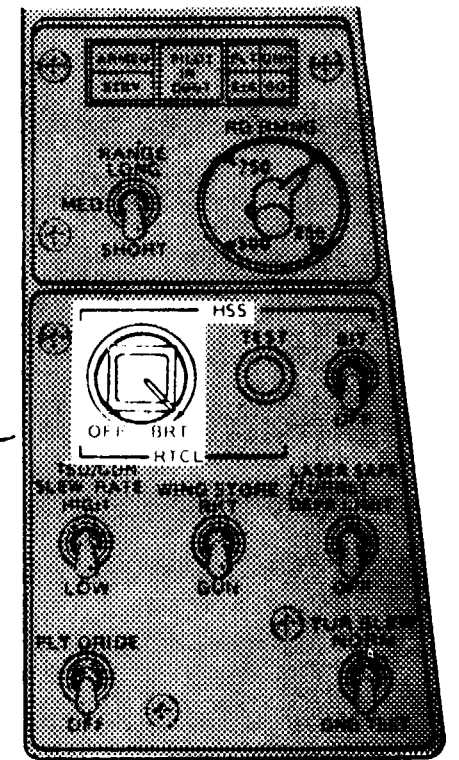
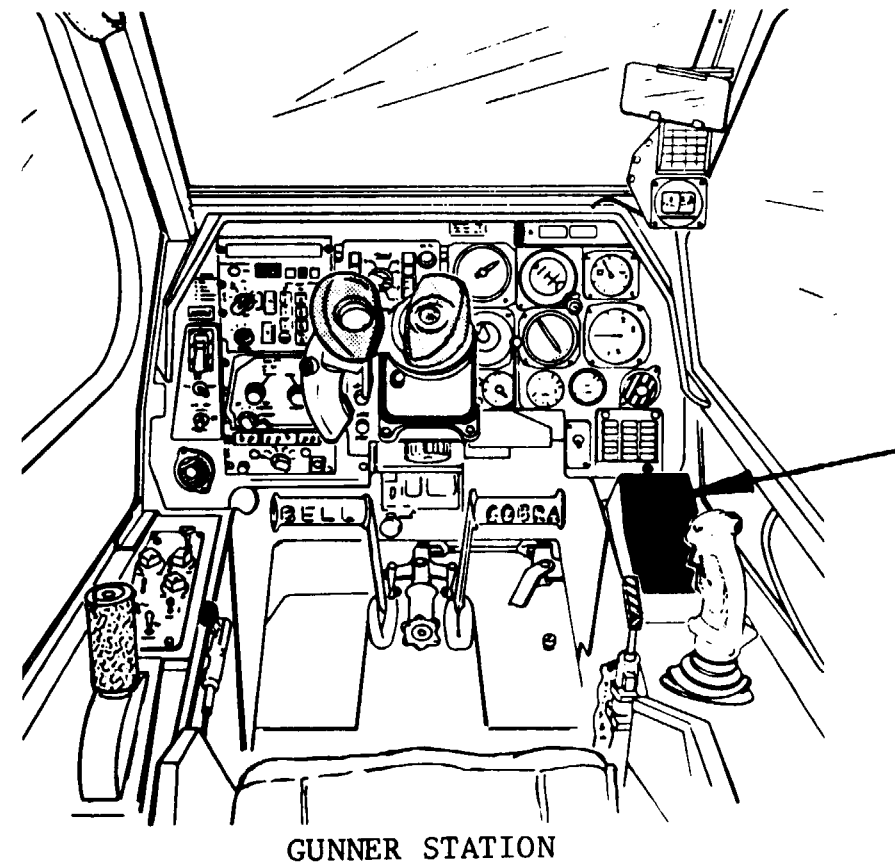
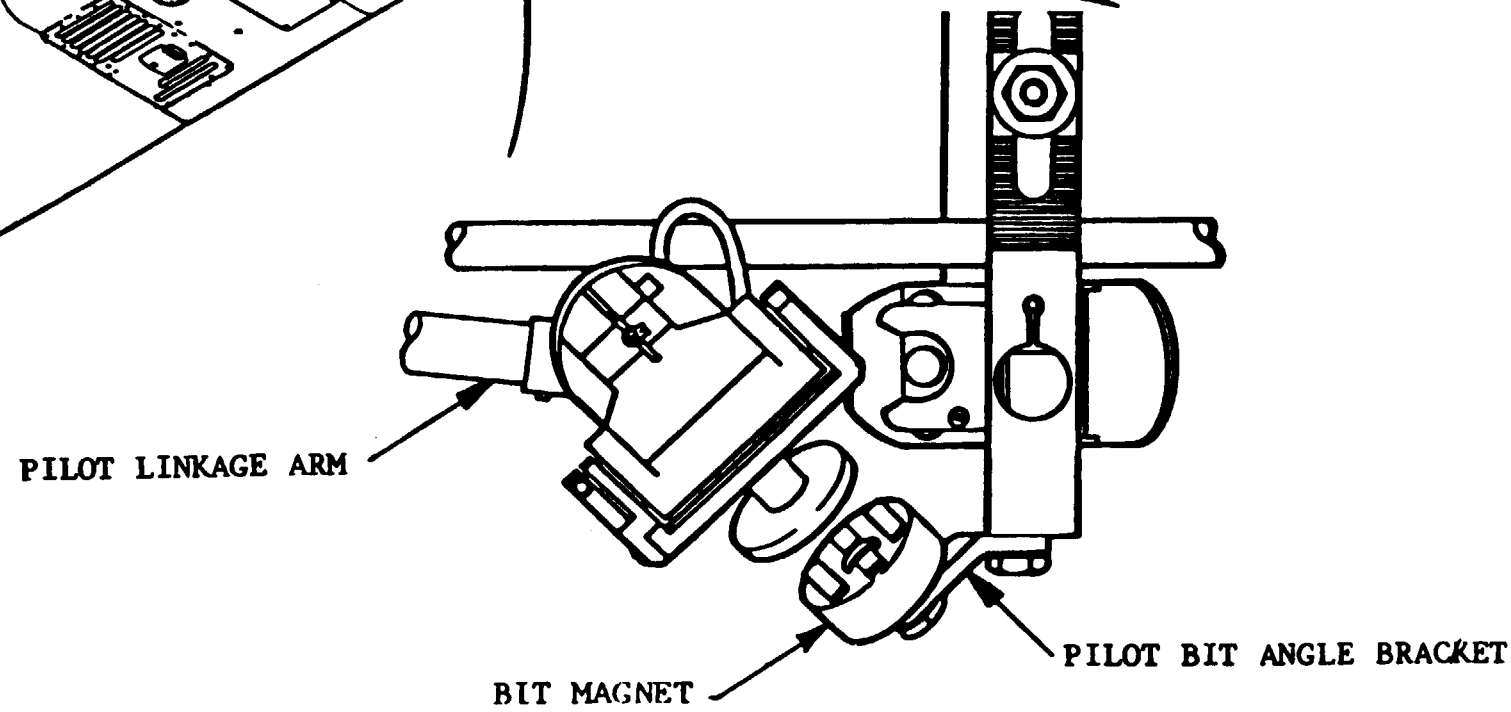
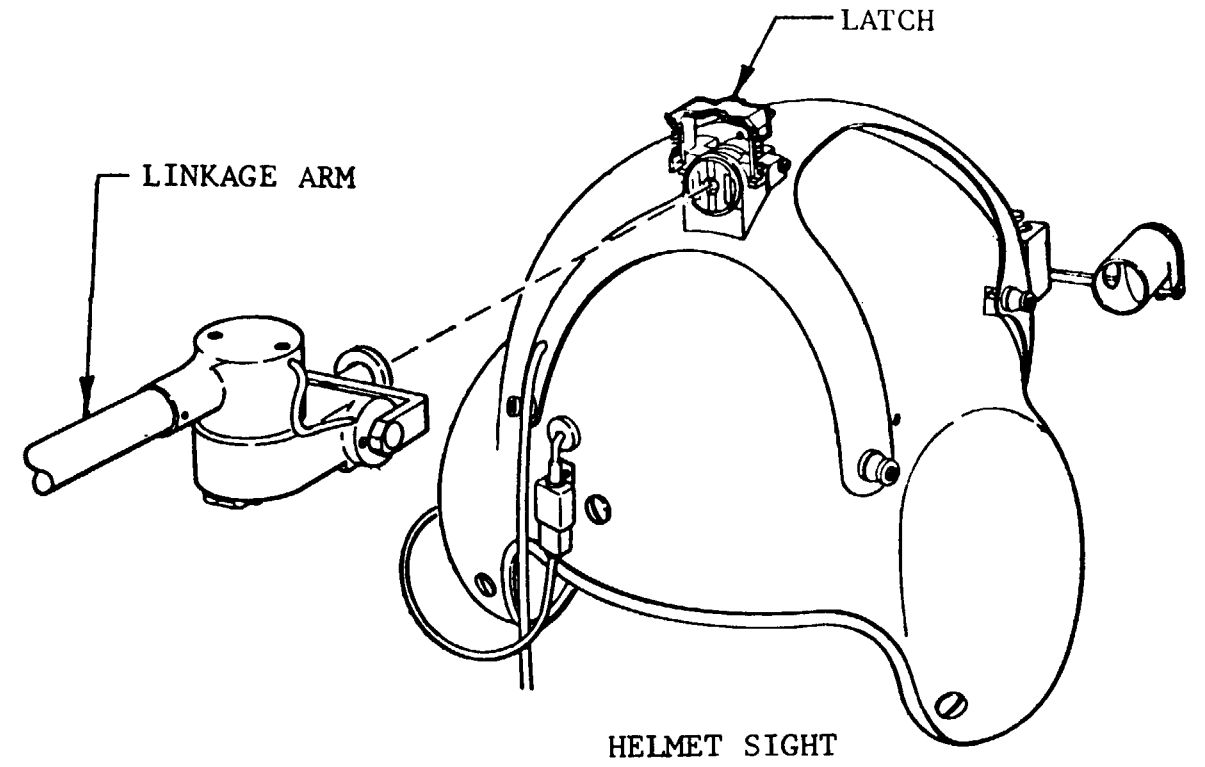
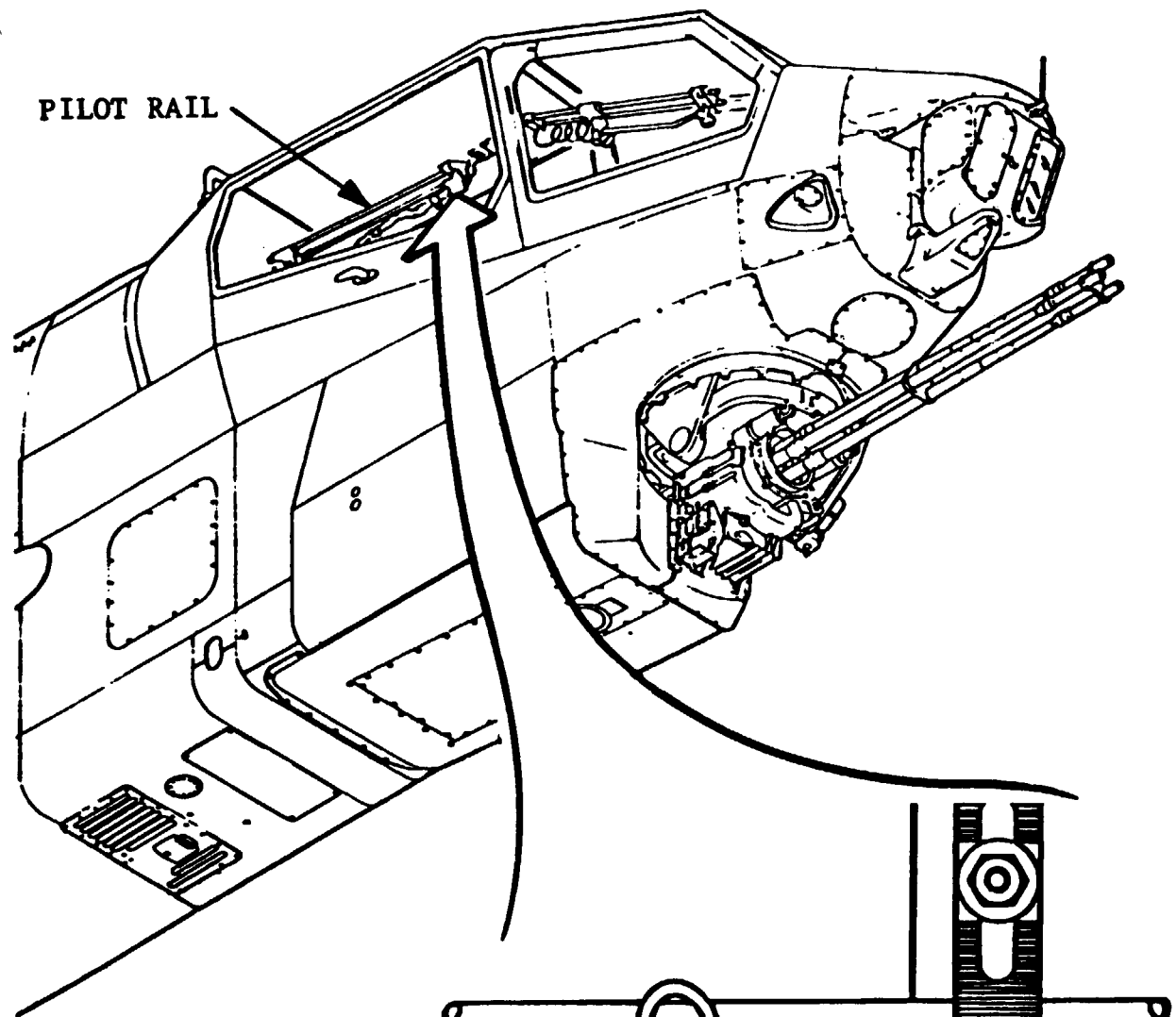


ELECTRONIC INTERFACE ASSEMBLY (EIA)

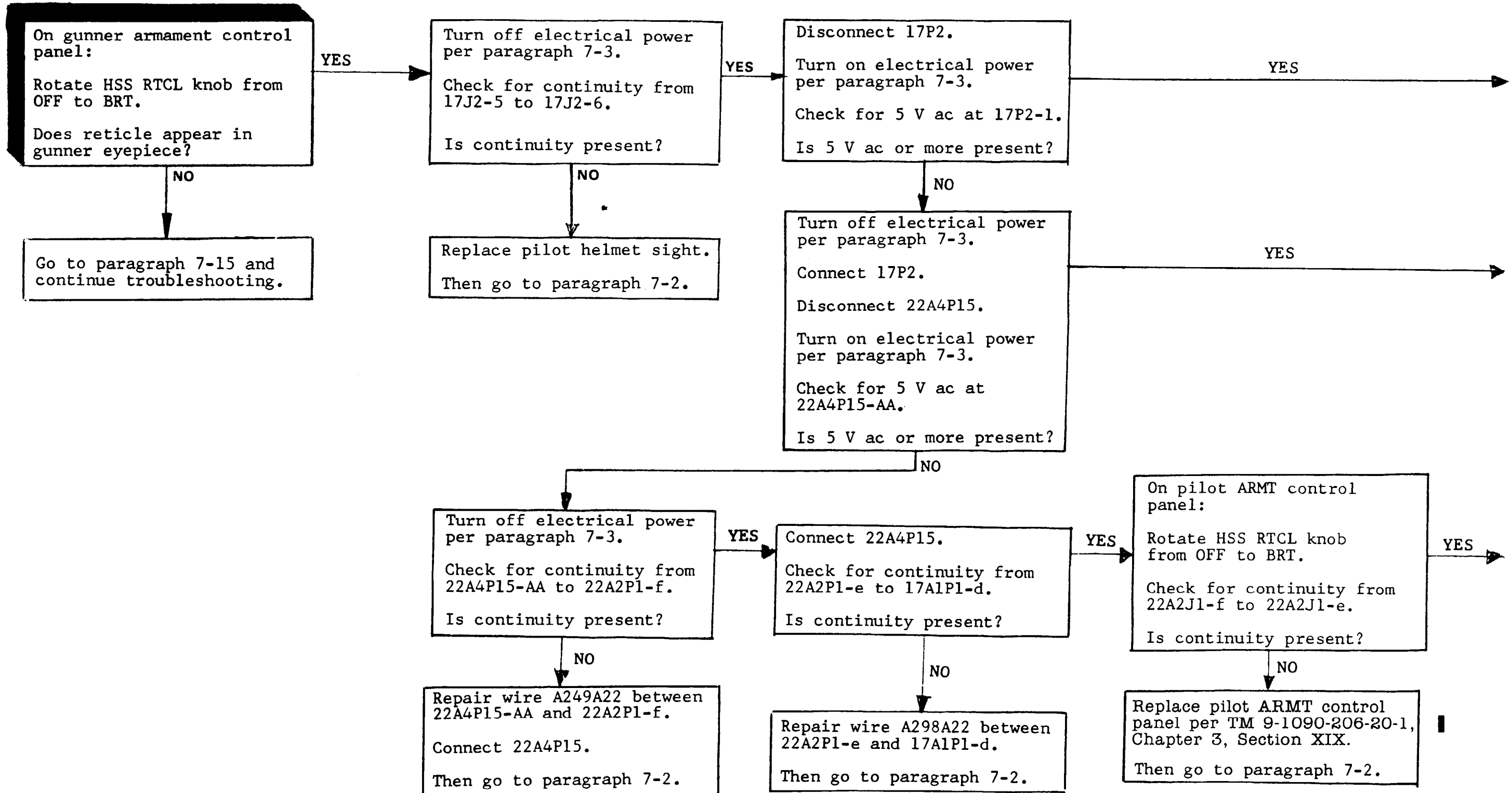
7-14. NO RETICLE IN PILOT HELMET EYEPIECE (CONTINUED).



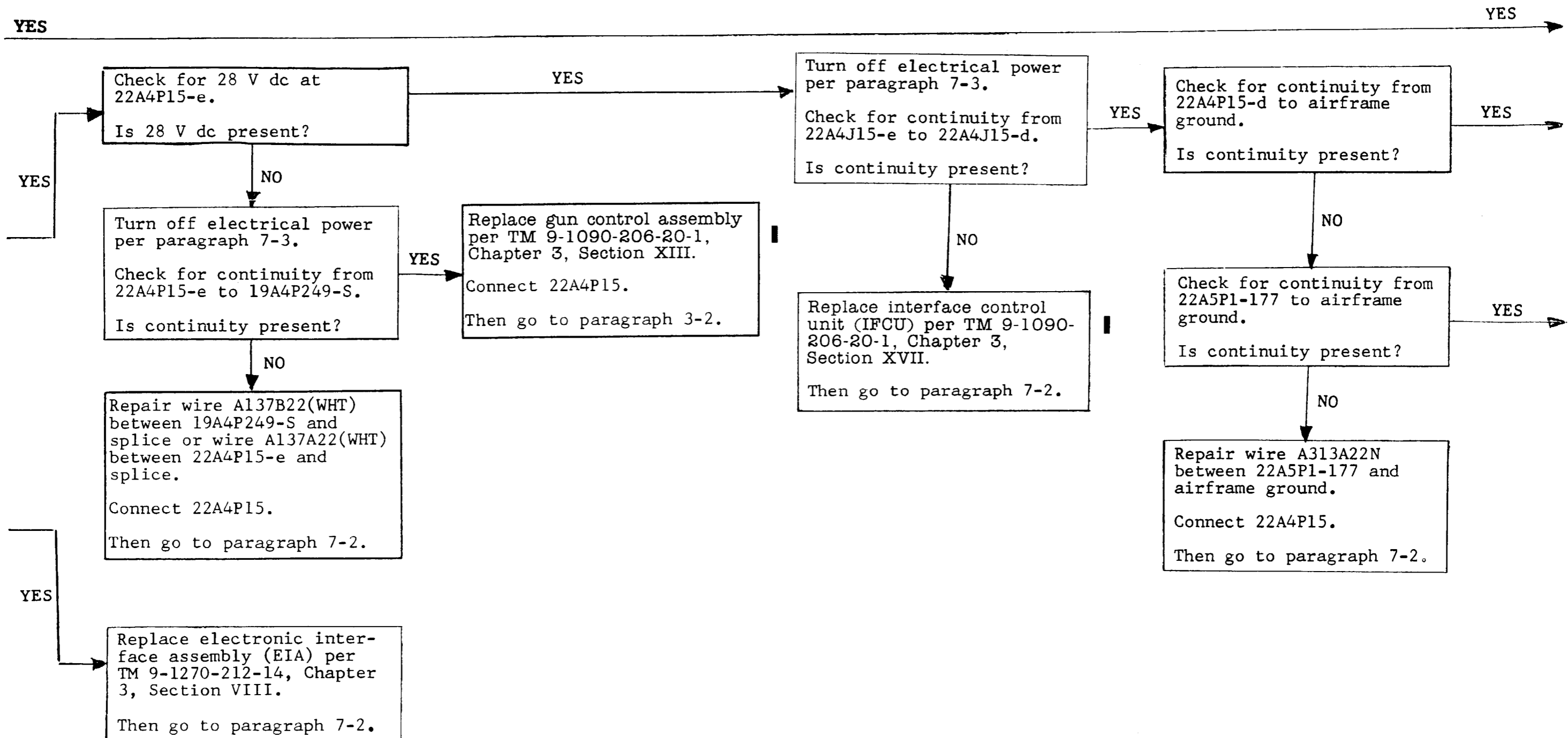
7-14. NO RETICLE IN PILOT HELMET EYEPiece (CONTINUED).



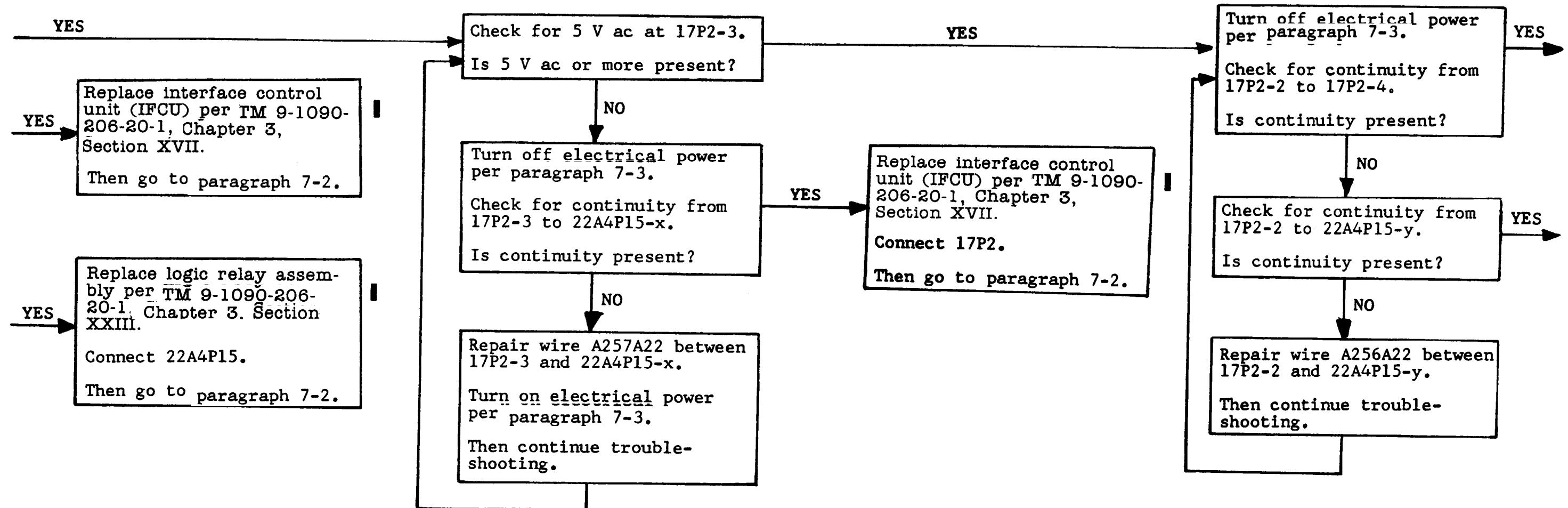
7-14. NO RETICLE IN PILOT HELMET EYEPiece (CONTINUED).



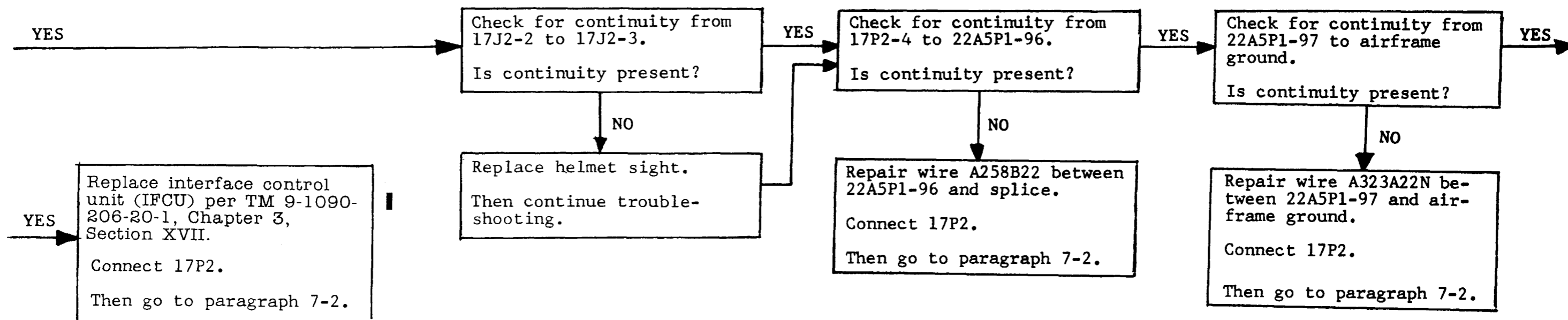
7-14. NO RETICLE IN PILOT HELMET EYEPiece (CONTINUED).



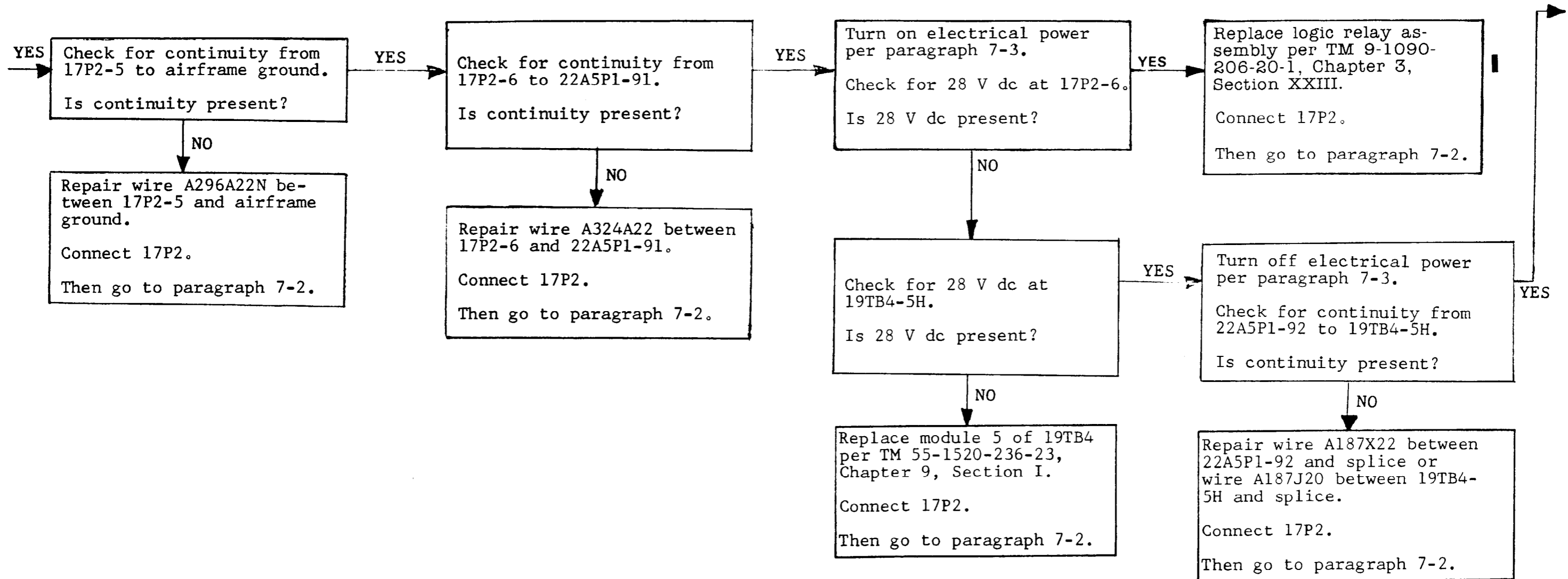
7-14. NO RETICLE IN PILOT HELMET EYEPIECE (CONTINUED).



7-14. NO RETICLE IN PILOT HELMET EYEPIECE (CONTINUED).



7-14. NO RETICLE IN PILOT HELMET EYEPIECE (CONTINUED).

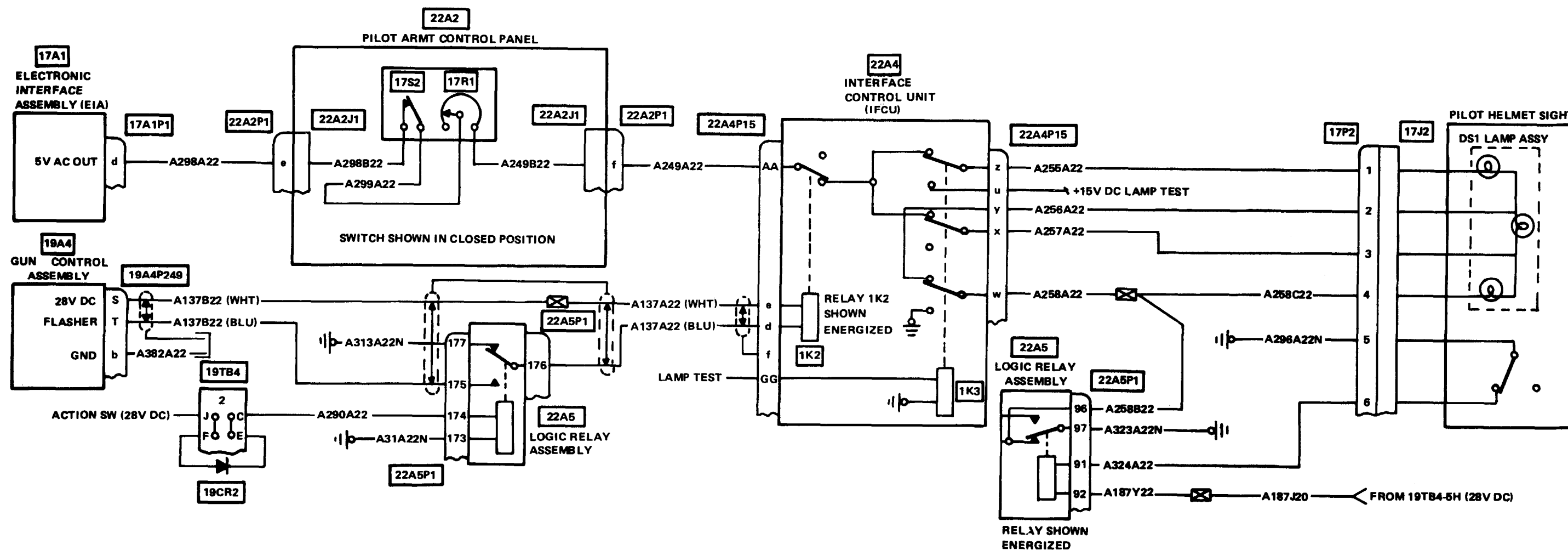


7-14. NO RETICLE IN PILOT HELMET EYEPIECE (CONTINUED).

Replace interface control unit (IFCU) per TM 9-1090-206-12, Chapter 3, Section XVII.

Connect 17P2.

Then go to paragraph 7-2.



7-15. NO RETICLE IN GUNNER HELMET EYEPiece.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

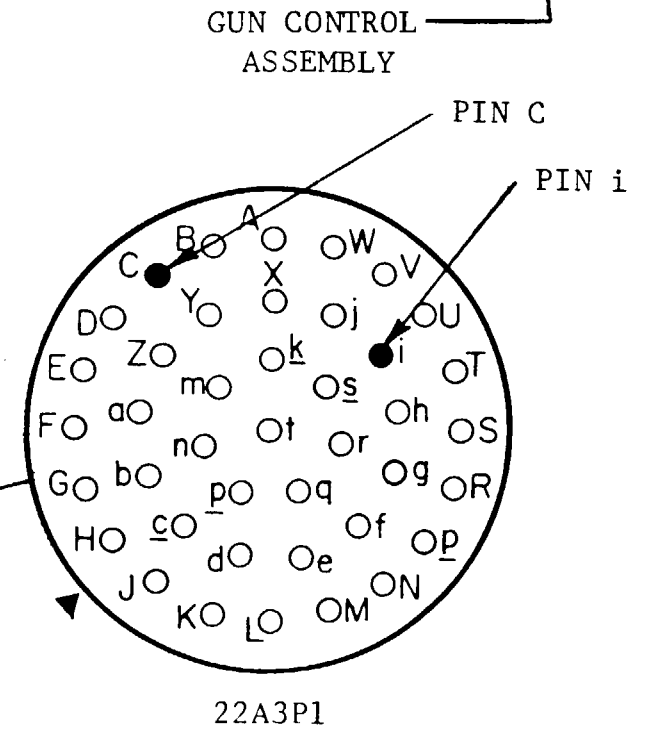
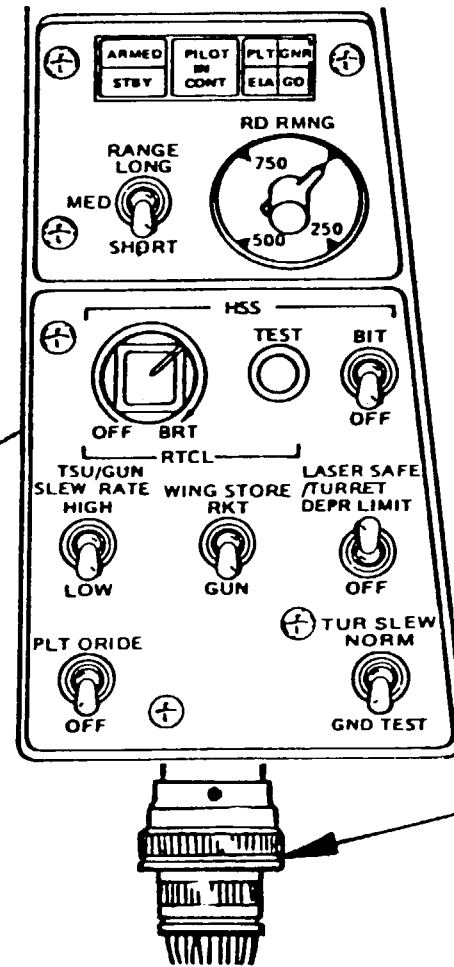
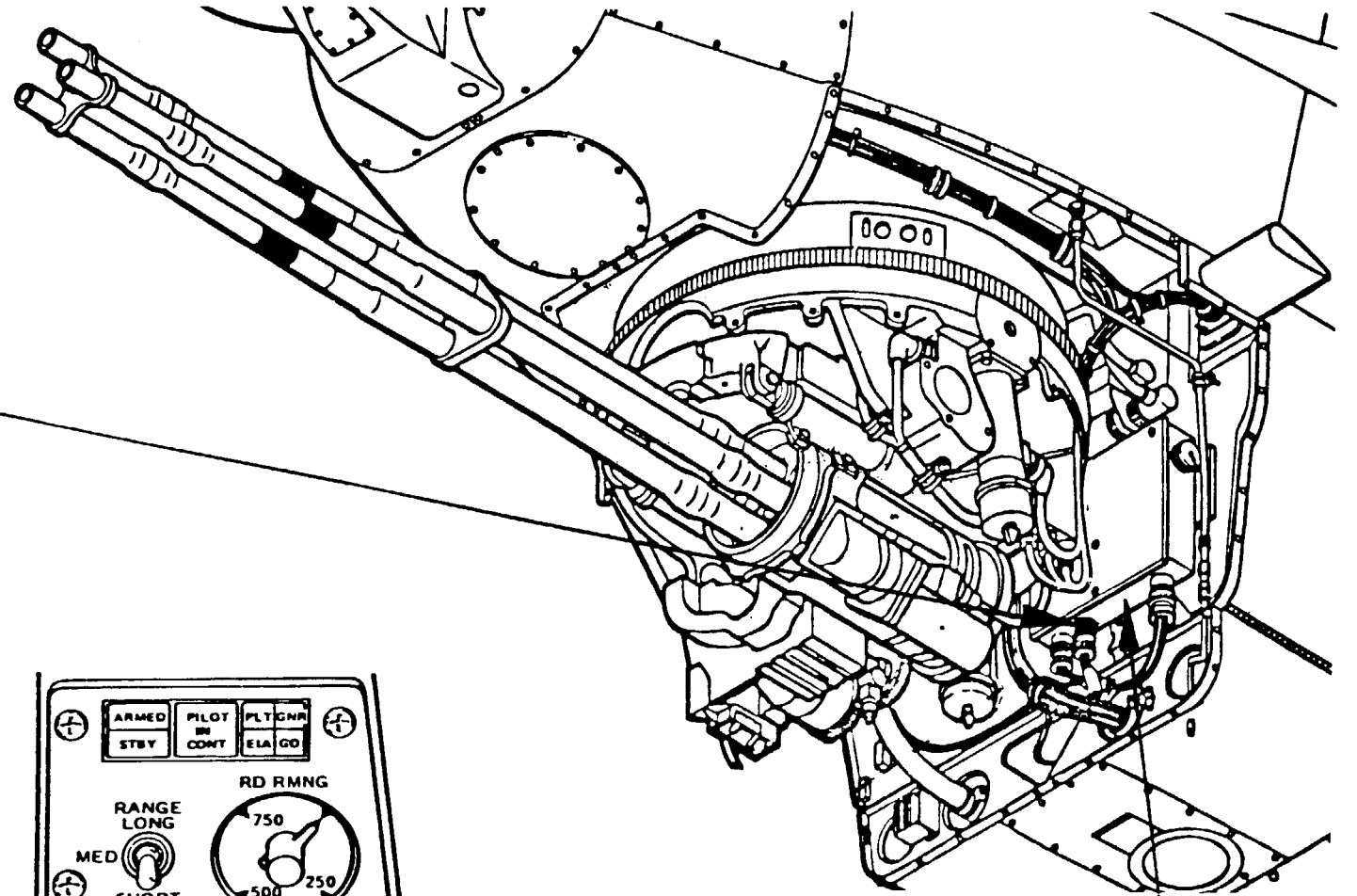
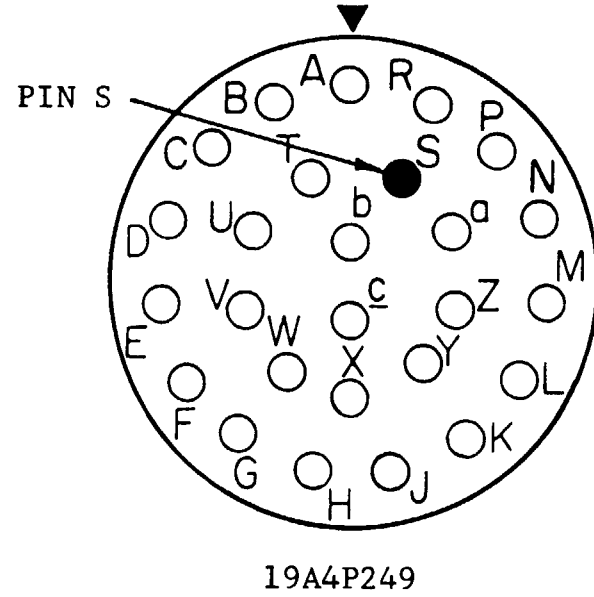
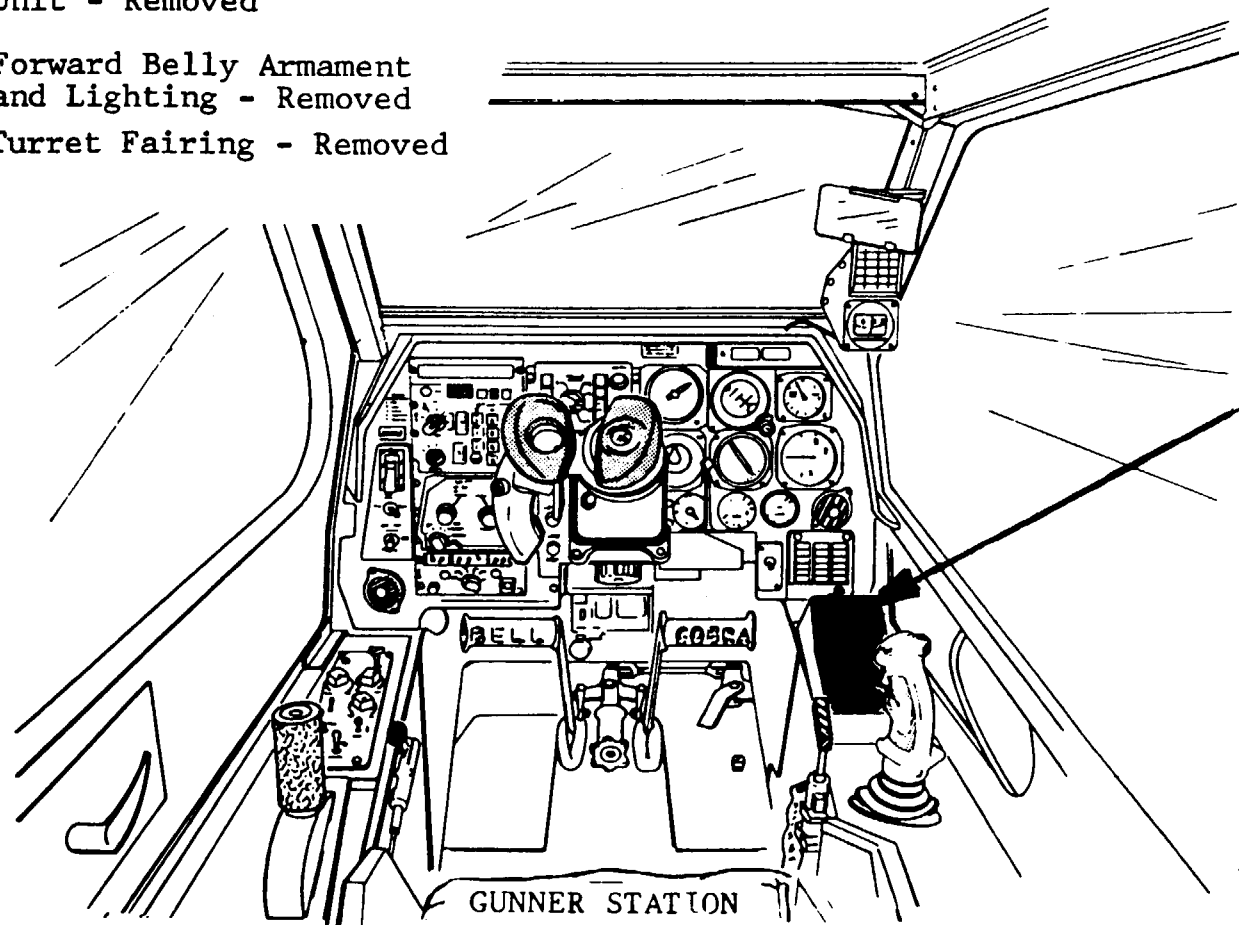
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References
TM 9-1090-206-20-1
TM 9-1270-212-14
TM 55-1520-236-23

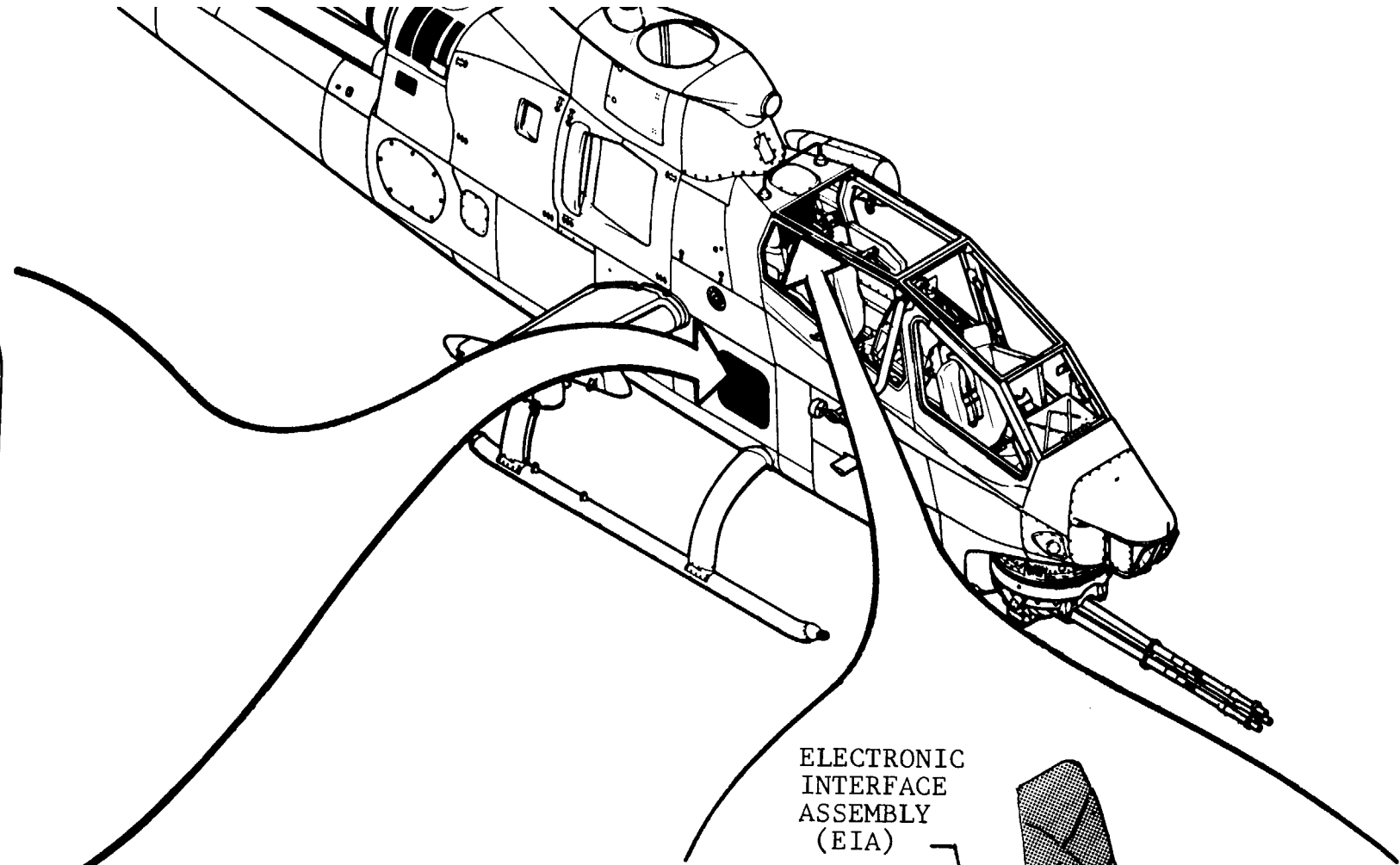
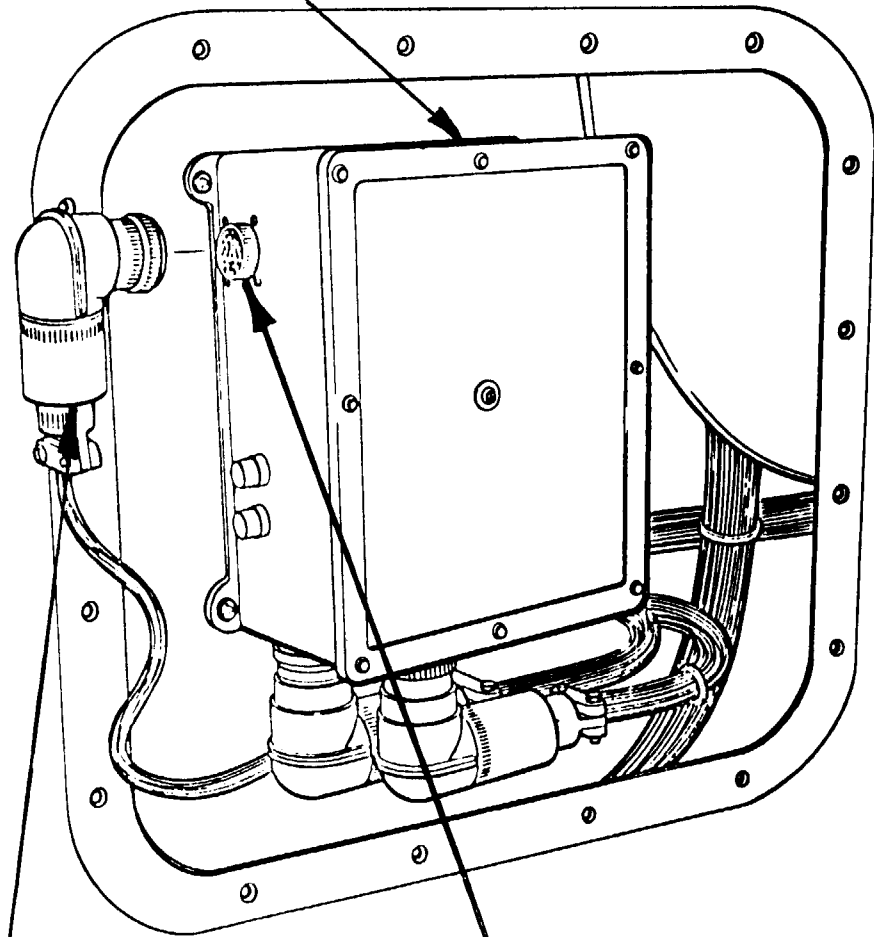
Access Panels
Interface Control Unit - Removed

Forward Belly Armament and Lighting - Removed
Turret Fairing - Removed

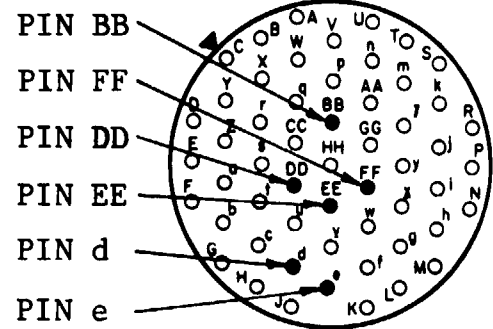
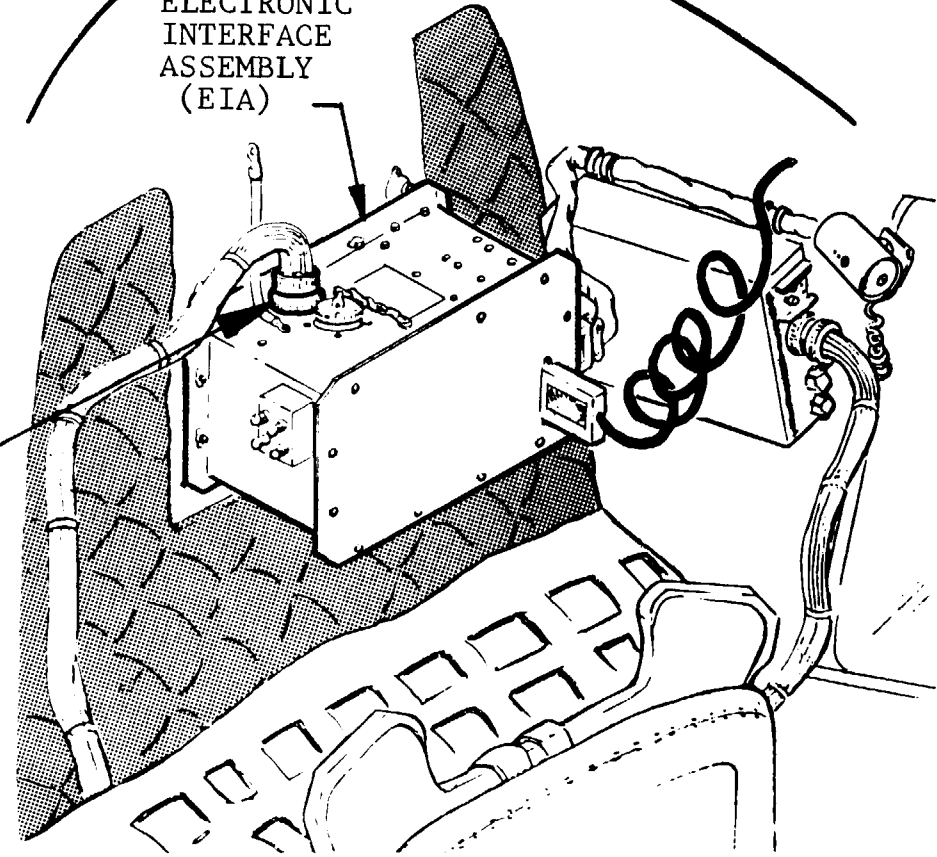


7-15. NO RETICLE IN GUNNER HELMET EYEPIECE (CONTINUED).

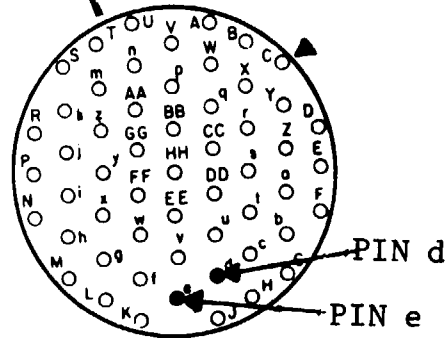
INTERFACE CONTROL UNIT (IFCU)



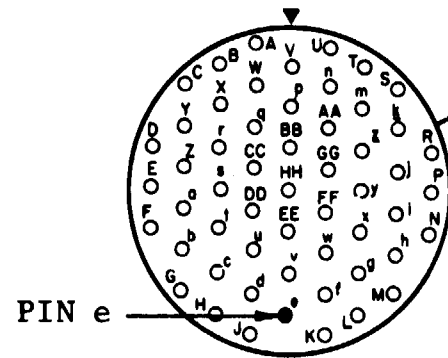
ELECTRONIC INTERFACE ASSEMBLY (EIA)



22A4P15

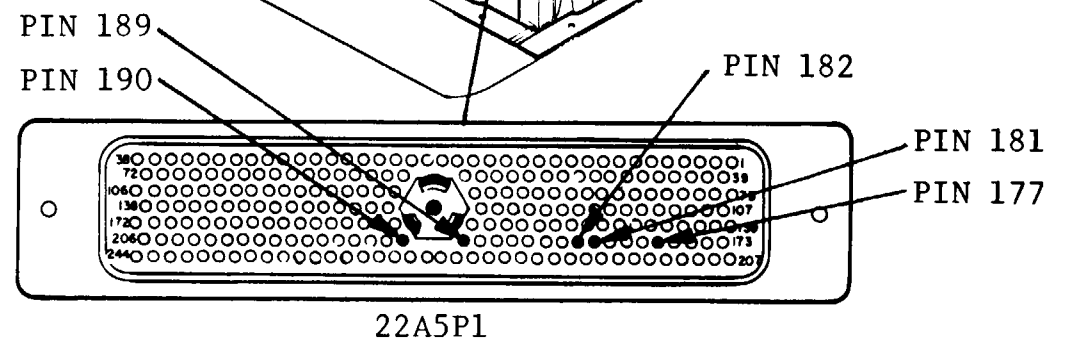
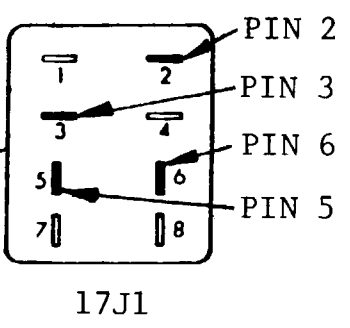
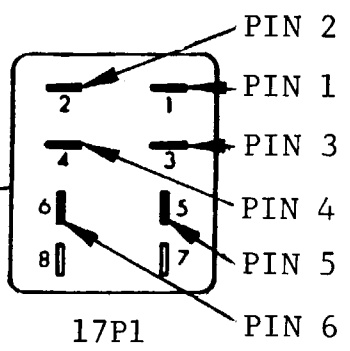
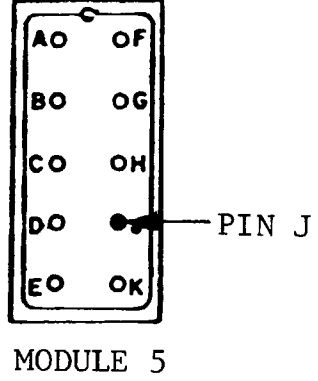
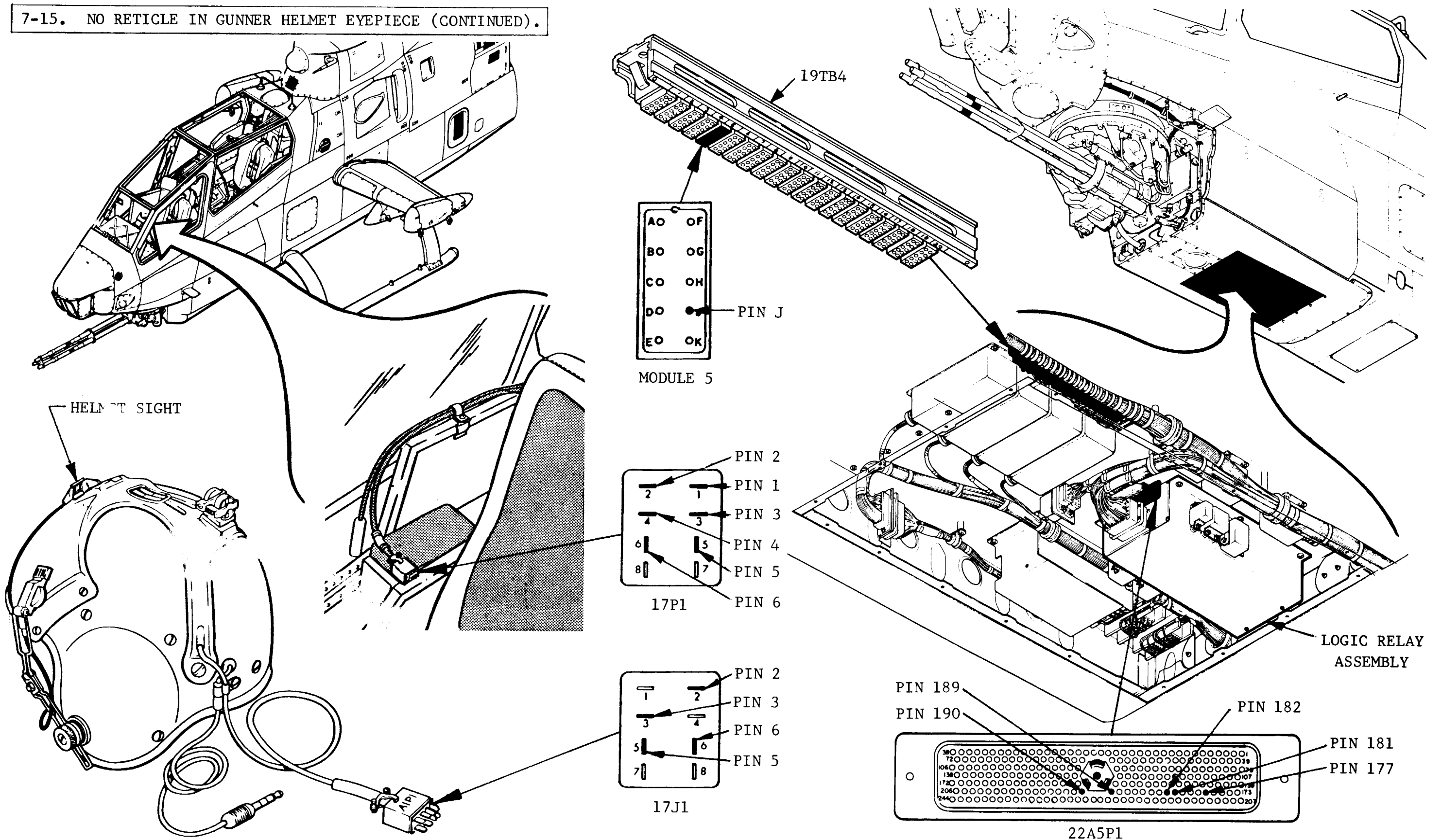


22A4J15

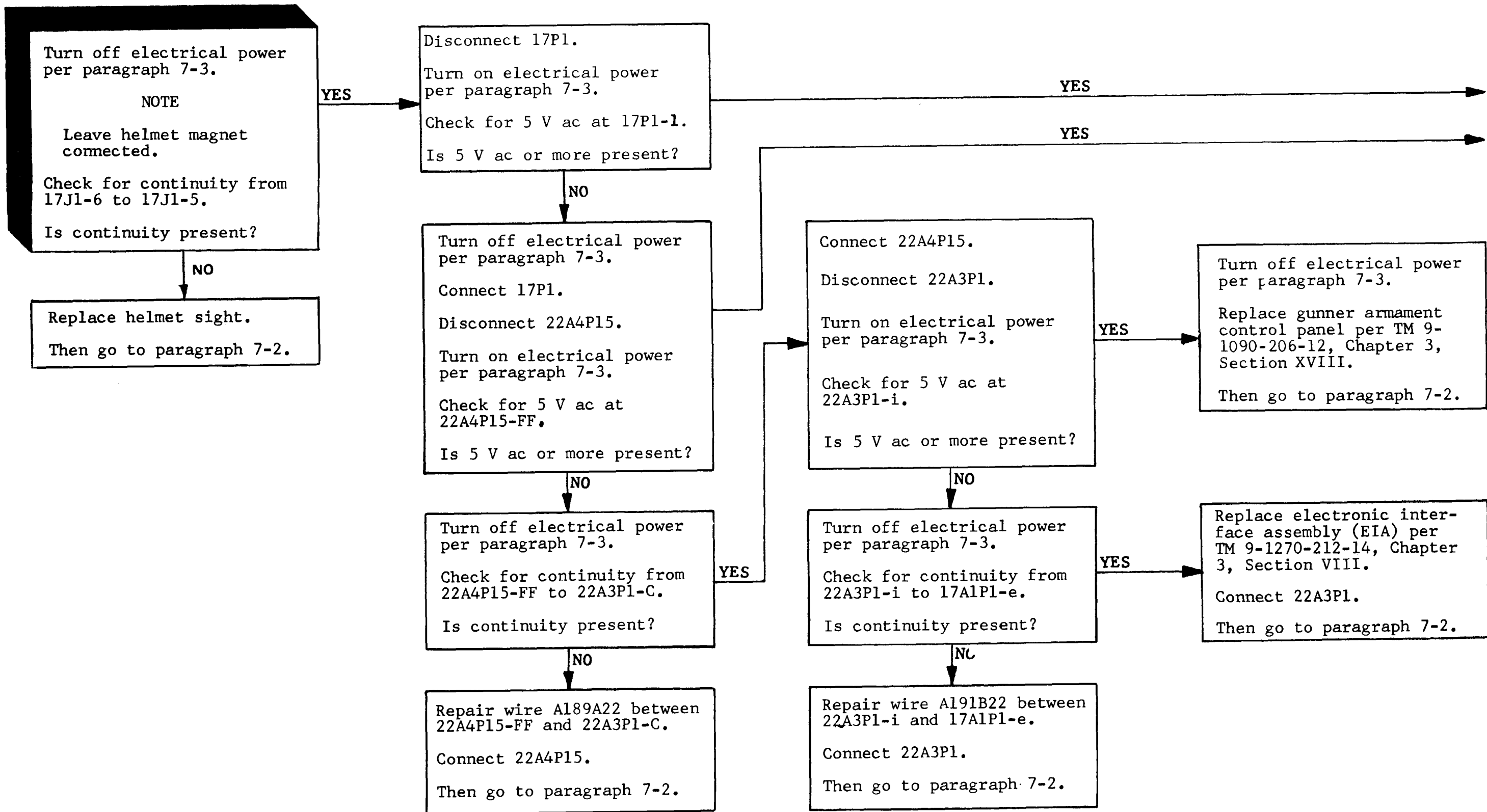


17A1P1

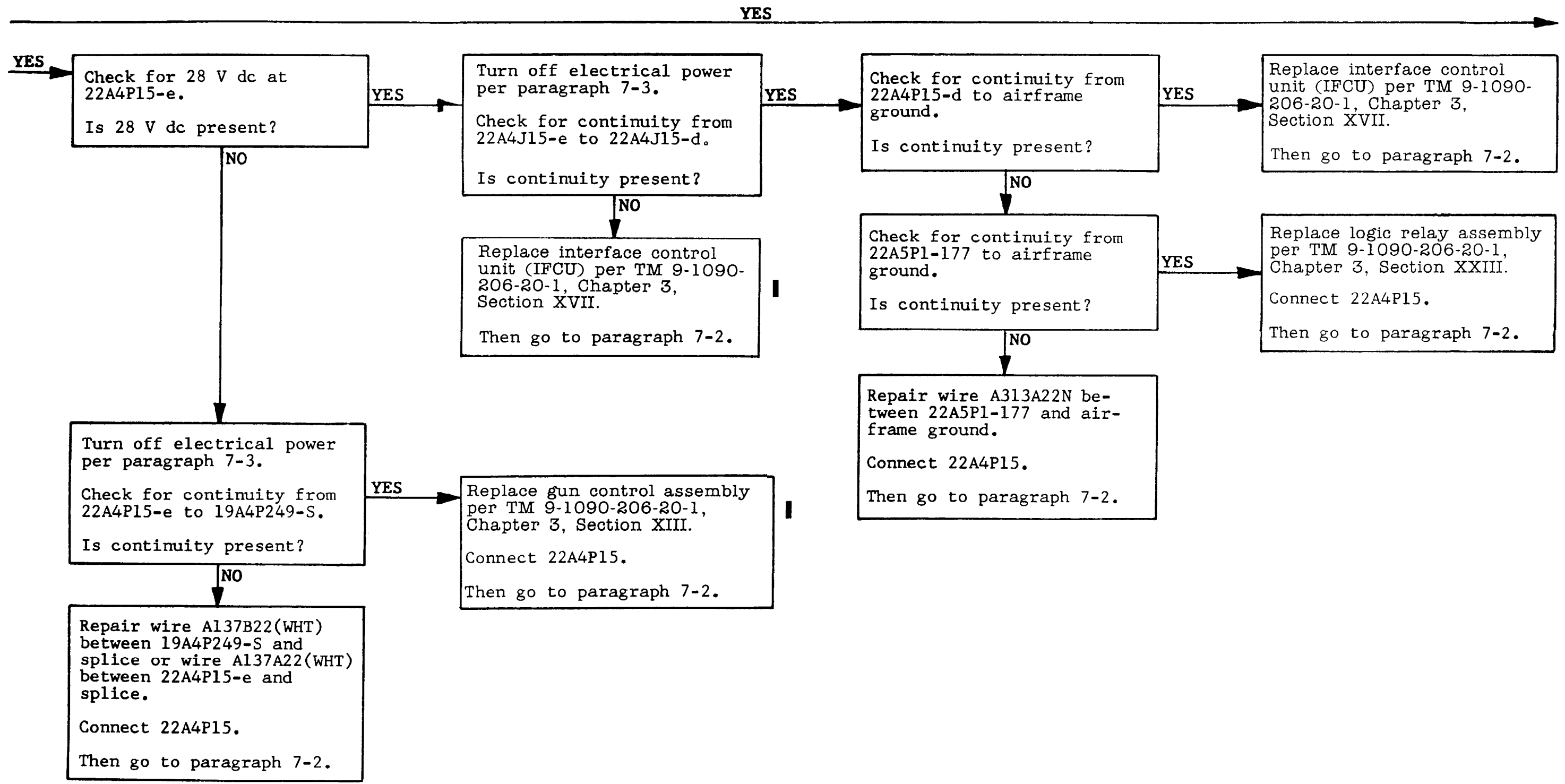
7-15. NO RETICLE IN GUNNER HELMET EYEPIECE (CONTINUED).



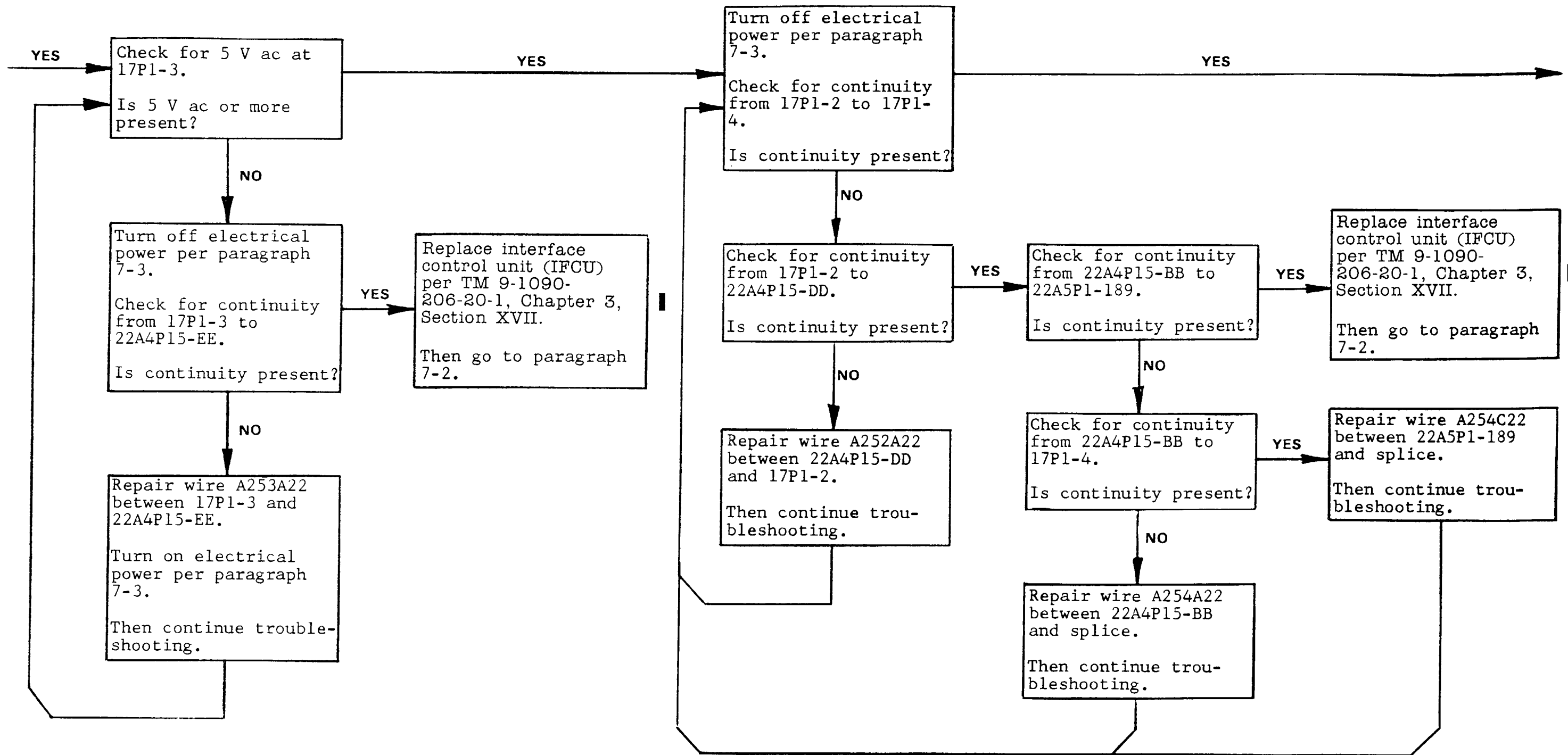
7-15. NO RETICLE IN GUNNER HELMET EYEPIECE (CONTINUED).



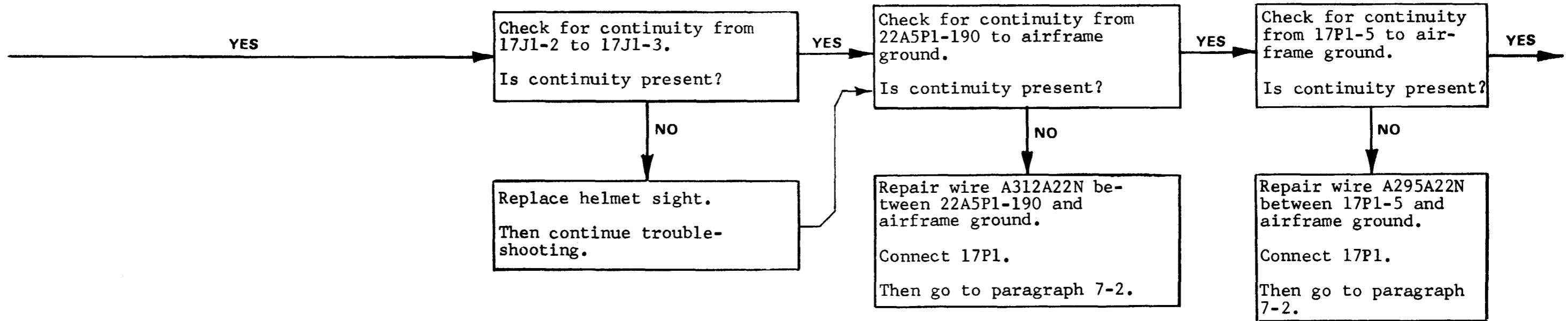
7-15. NO RETICLE IN GUNNER HELMET EYEPIECE (CONTINUED).



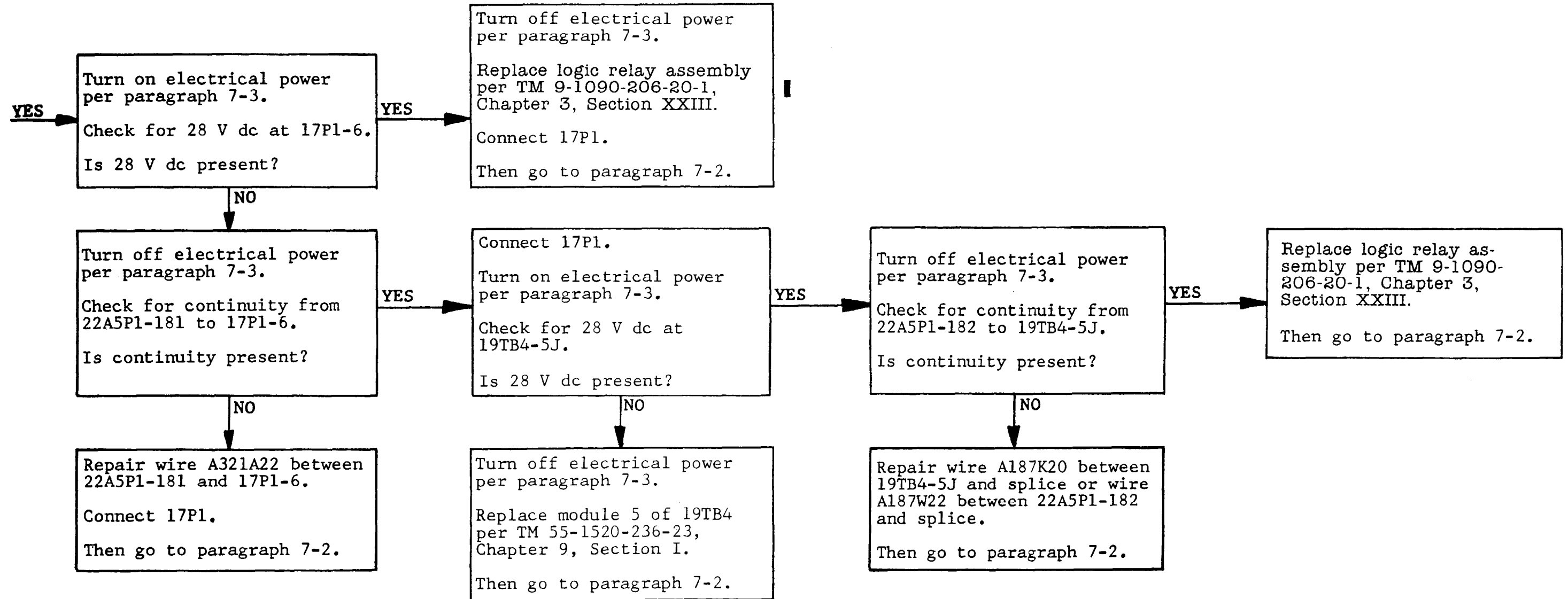
7-15. NO RETICLE IN GUNNER HELMET EYEPiece (CONTINUED).



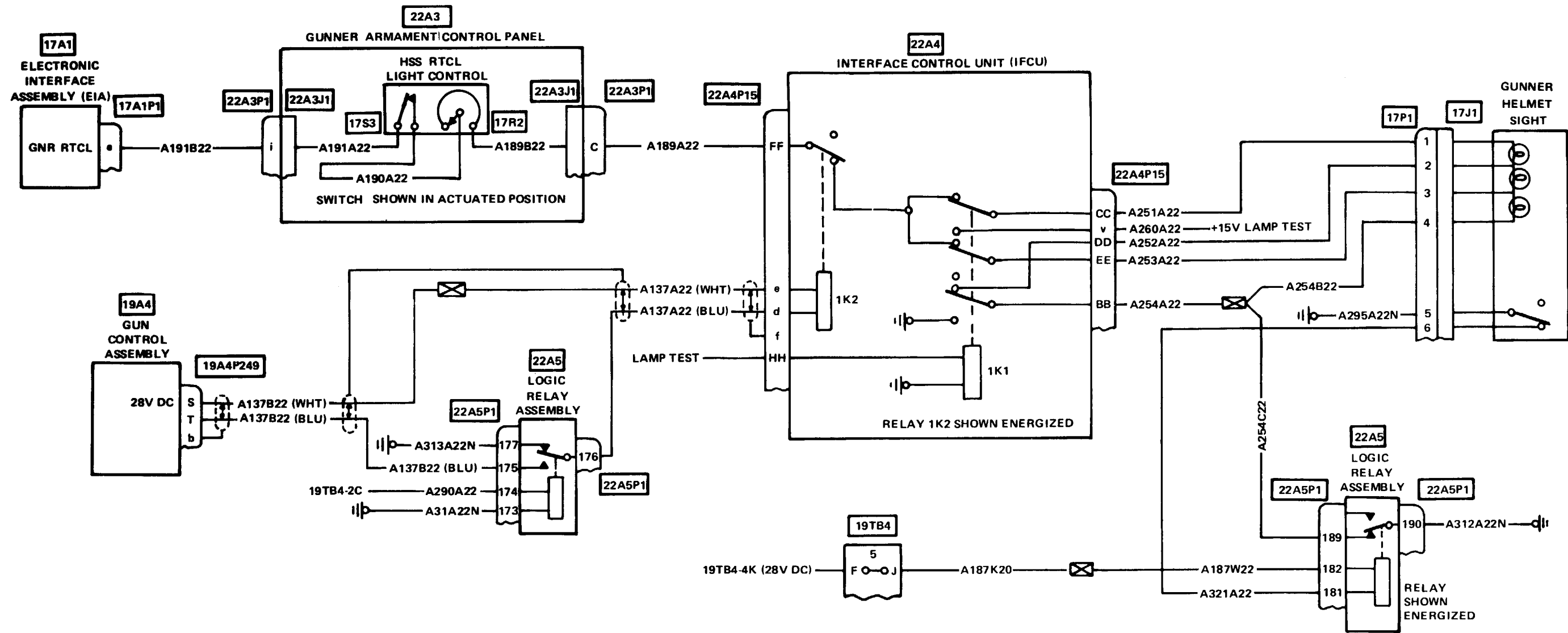
7-15. NO RETICLE IN GUNNER HELMET EYEPIECE (CONTINUED).



7-15. NO RETICLE IN GUNNER HELMET EYEPIECE (CONTINUED).



7-15. NO RETICLE IN GUNNER HELMET EYEPIECE (CONTINUED).



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7-16. EIA SEGMENT ON BIT INDICATOR NOT LIT WHEN HSS PWR CIRCUIT BREAKER IS OPEN.

INITIAL SETUP

Applicable Configuration
All

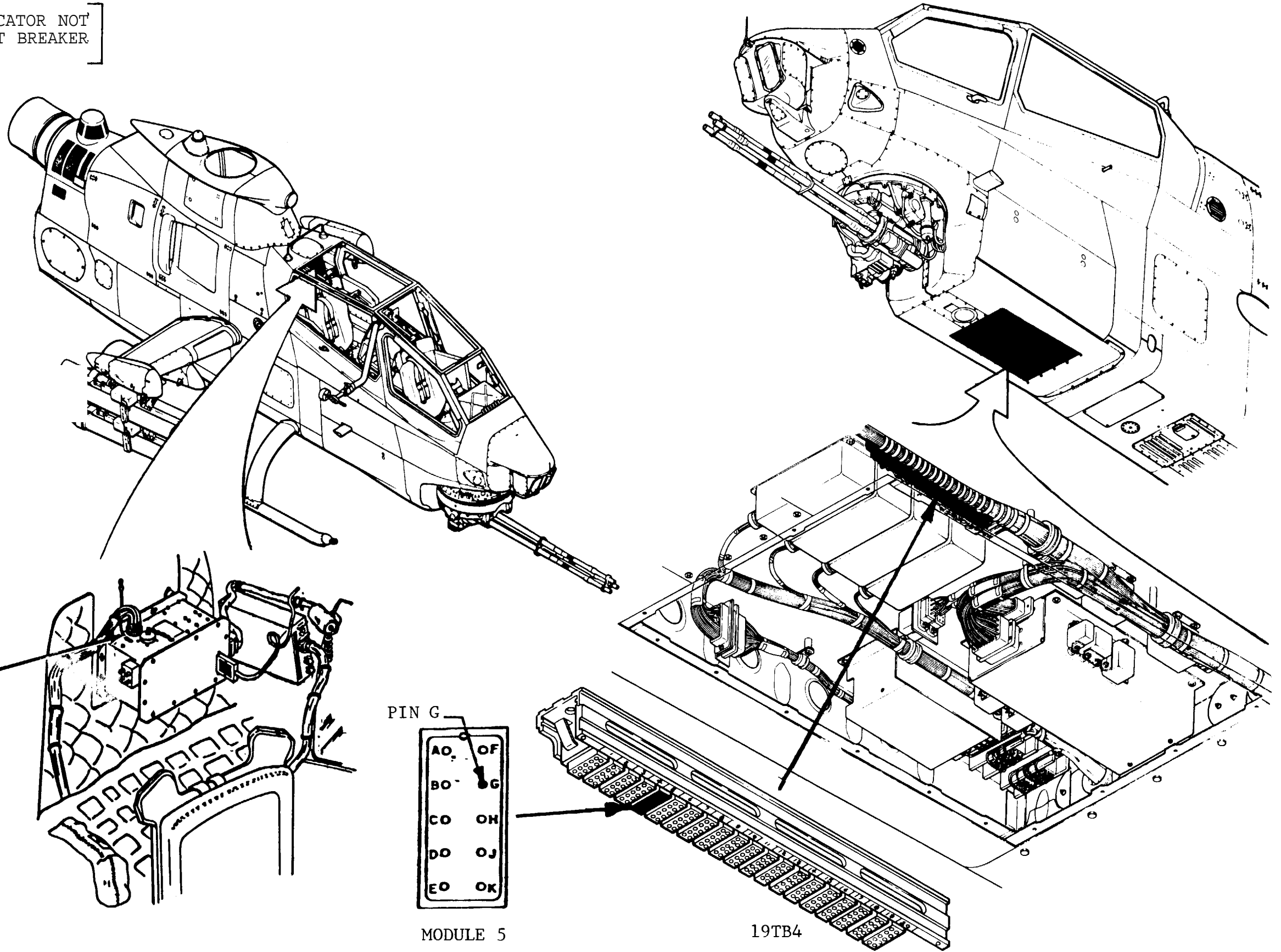
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

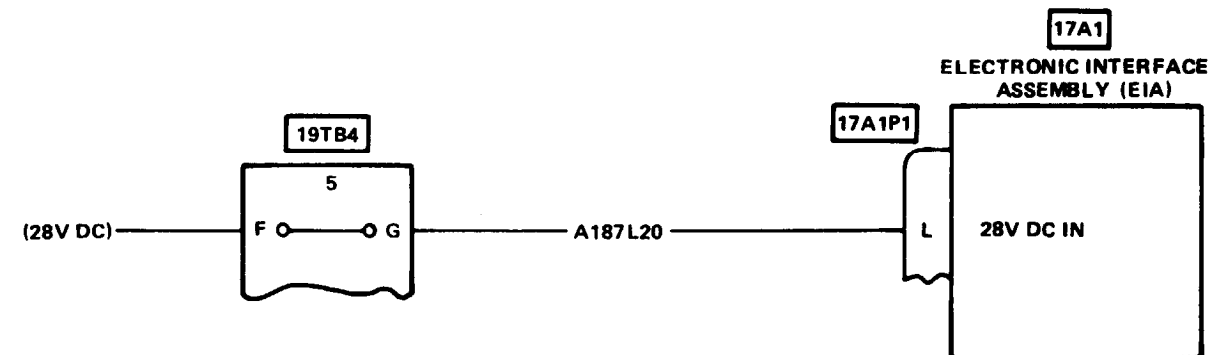
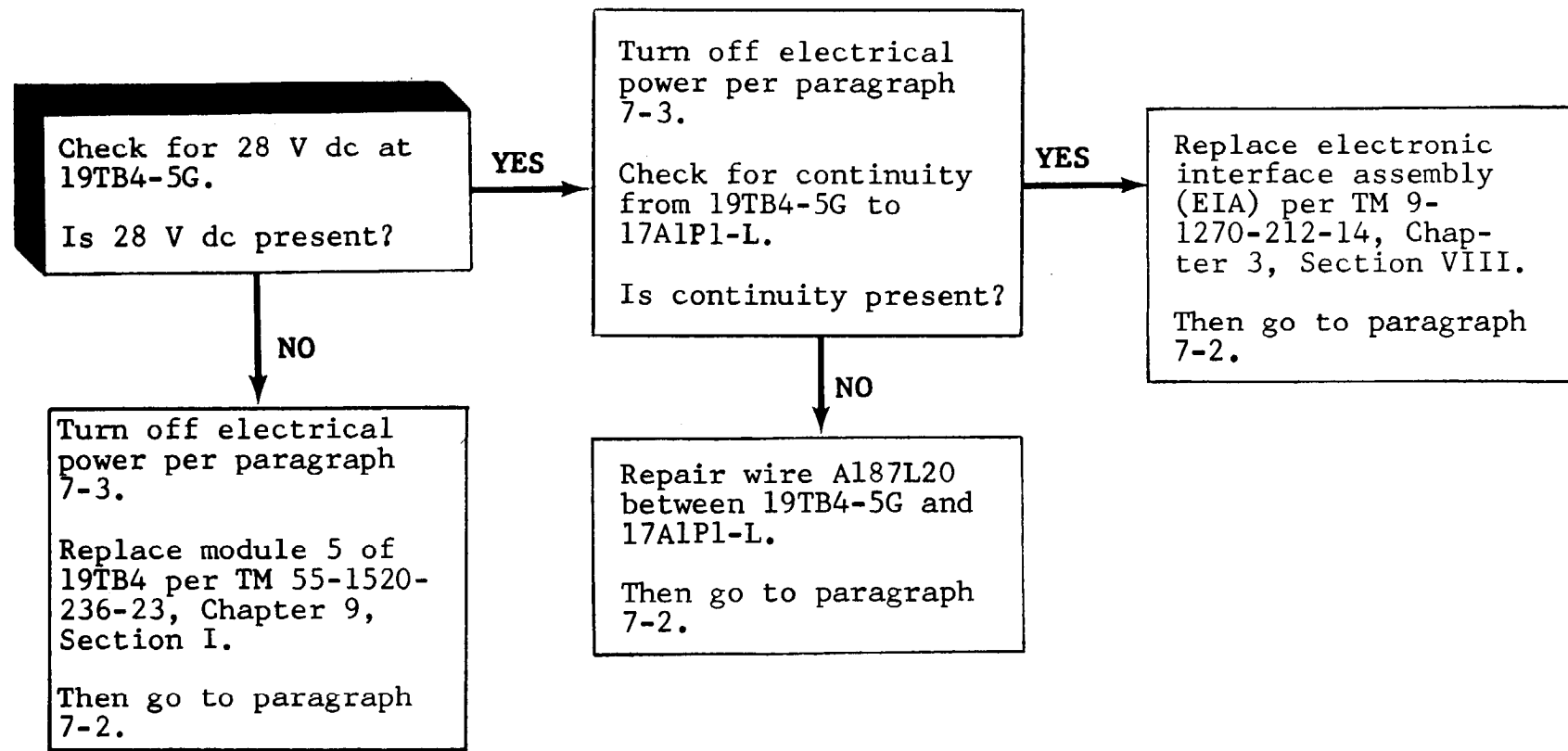
Personnel Required
68J (1)

References
TM 9-1270-212-14
TM 55-1520-236-23

Access Panels
Forward Belly
Armament and Lighting - Removed



7-16. EIA SEGMENT ON BIT INDICATOR NOT LIT WHEN HSS PWR CIRCUIT BREAKER IS OPEN (CONTINUED).



7-17. TURRET WILL NOT FOLLOW PILOT HEIMET MOVEMENT IN ELEVATION.

INITIAL SETUP

Applicable Configuration
All

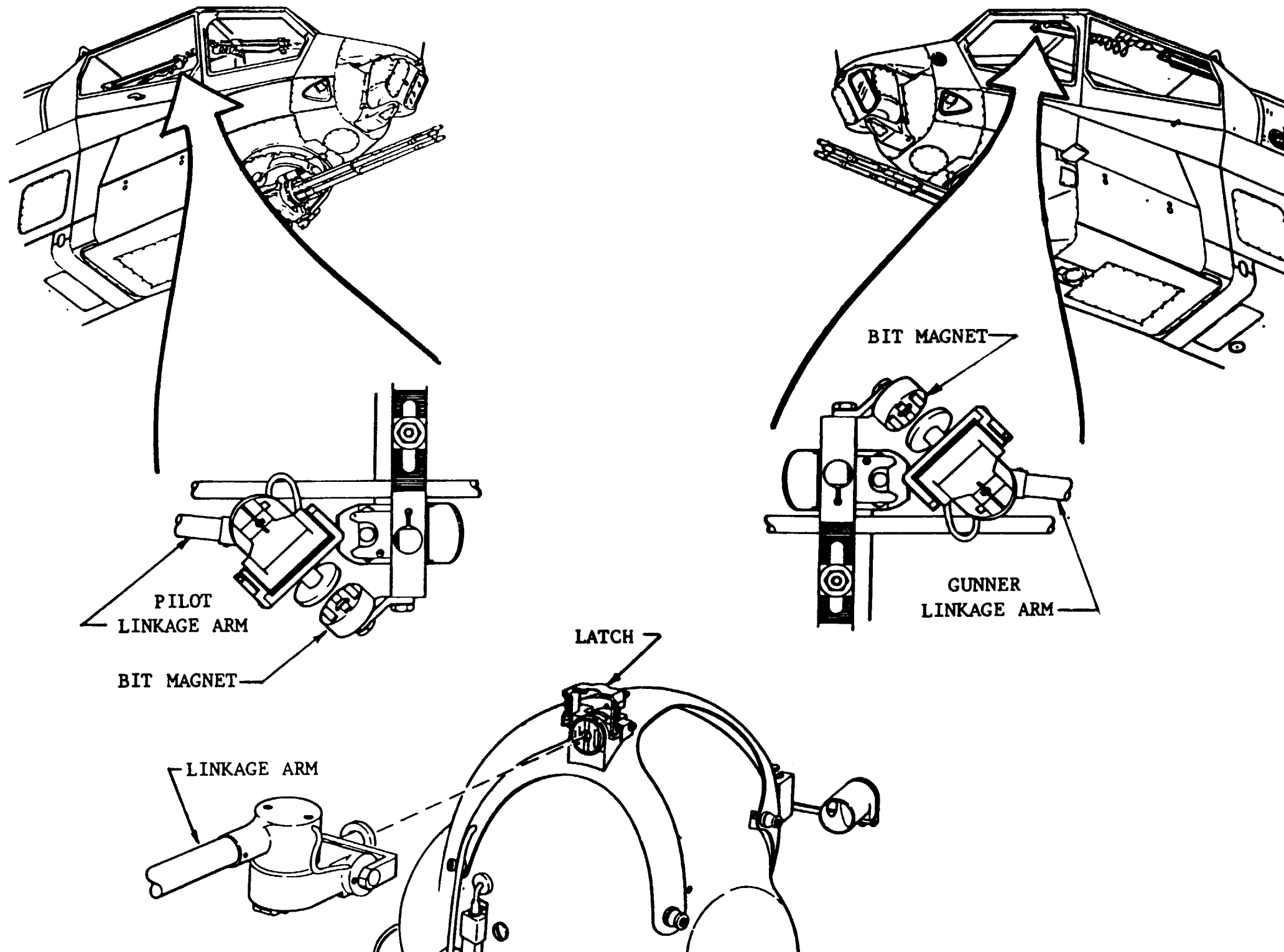
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

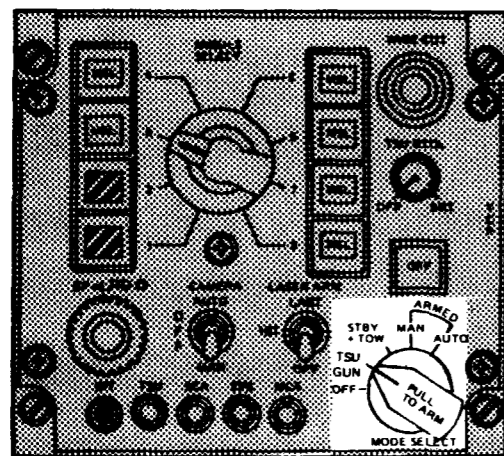
Personnel Required
68J (2)

References
TM 9-1090-206 -20-1

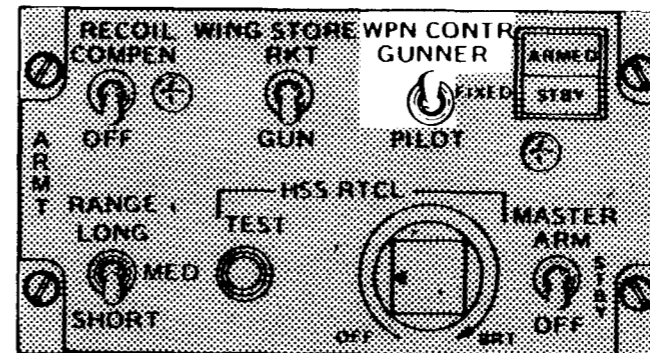
Access Panels
Interface Control Unit -
Removed
Ammo Compartment Door -
Open



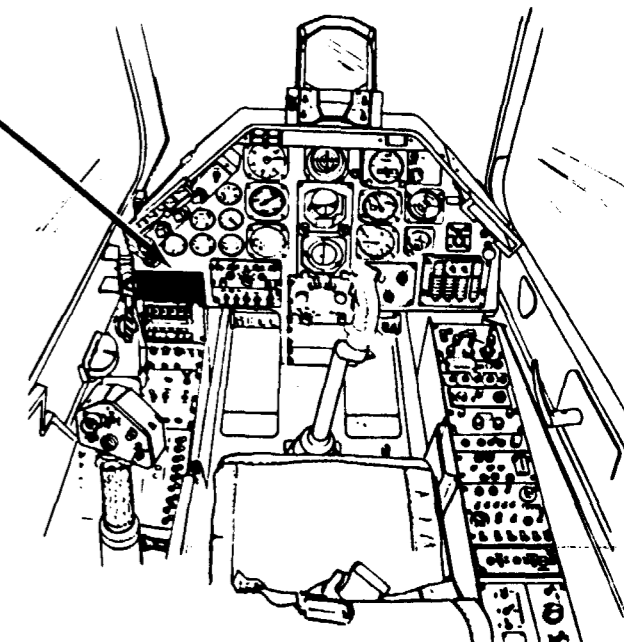
7-17. TURRET WILL NOT FOLLOW PILOT HELMET MOVEMENT IN ELEVATION (CONTINUED).



TCP (TOW CONTROL PANEL)



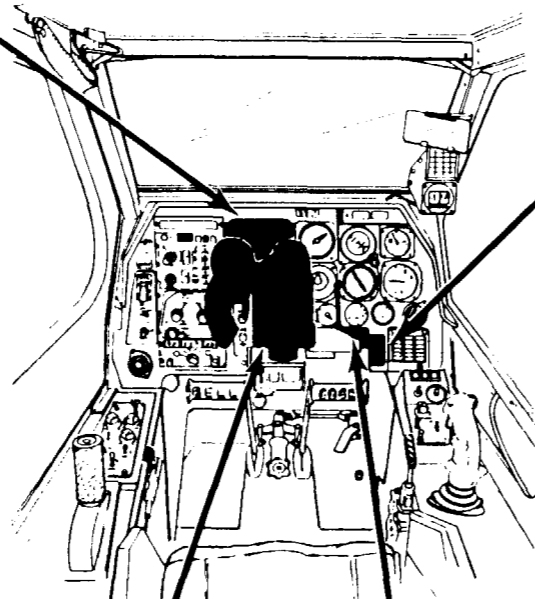
PILOT ARM CONTROL PANEL



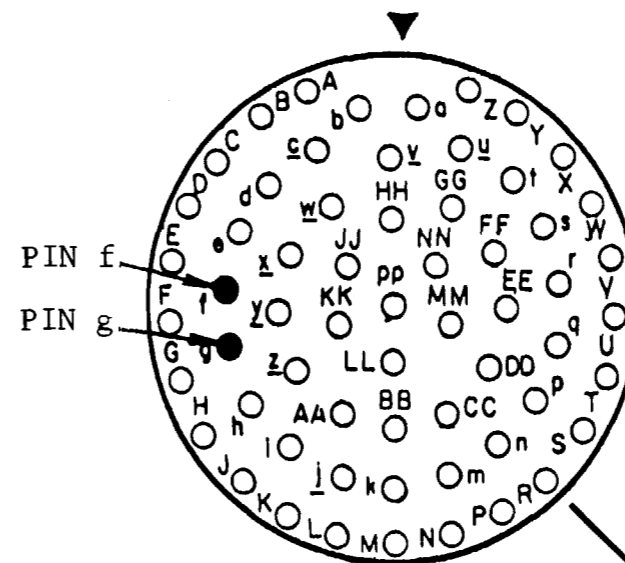
PILOT STATION



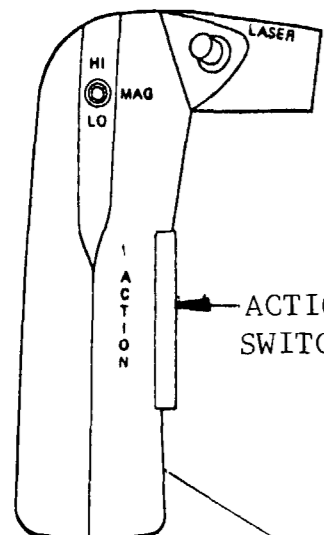
ACQ SWITCH



GUNNER STATION

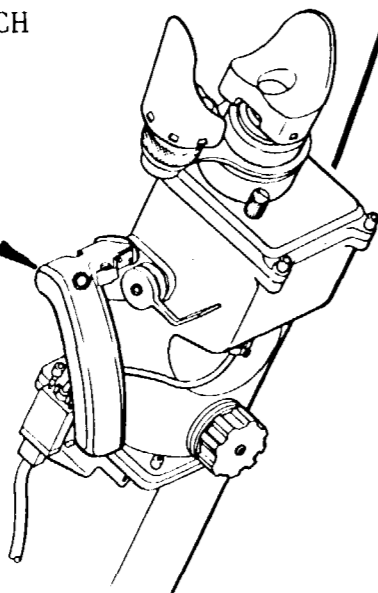


20J332

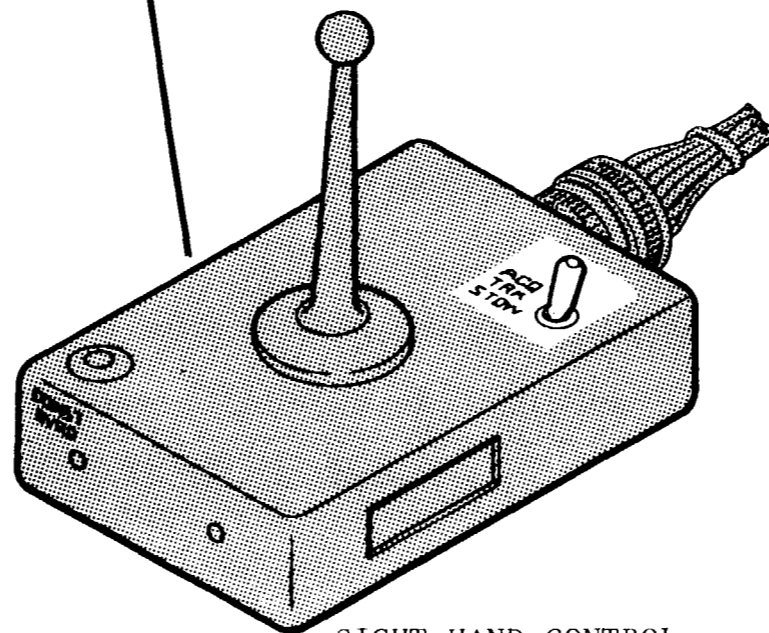


LEFT HAND GRIP

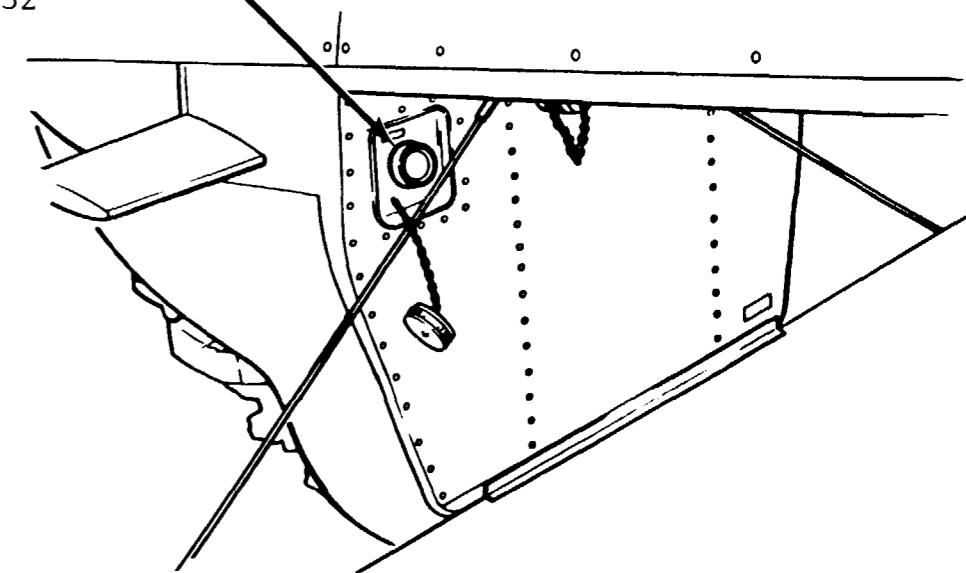
ACTION SWITCH



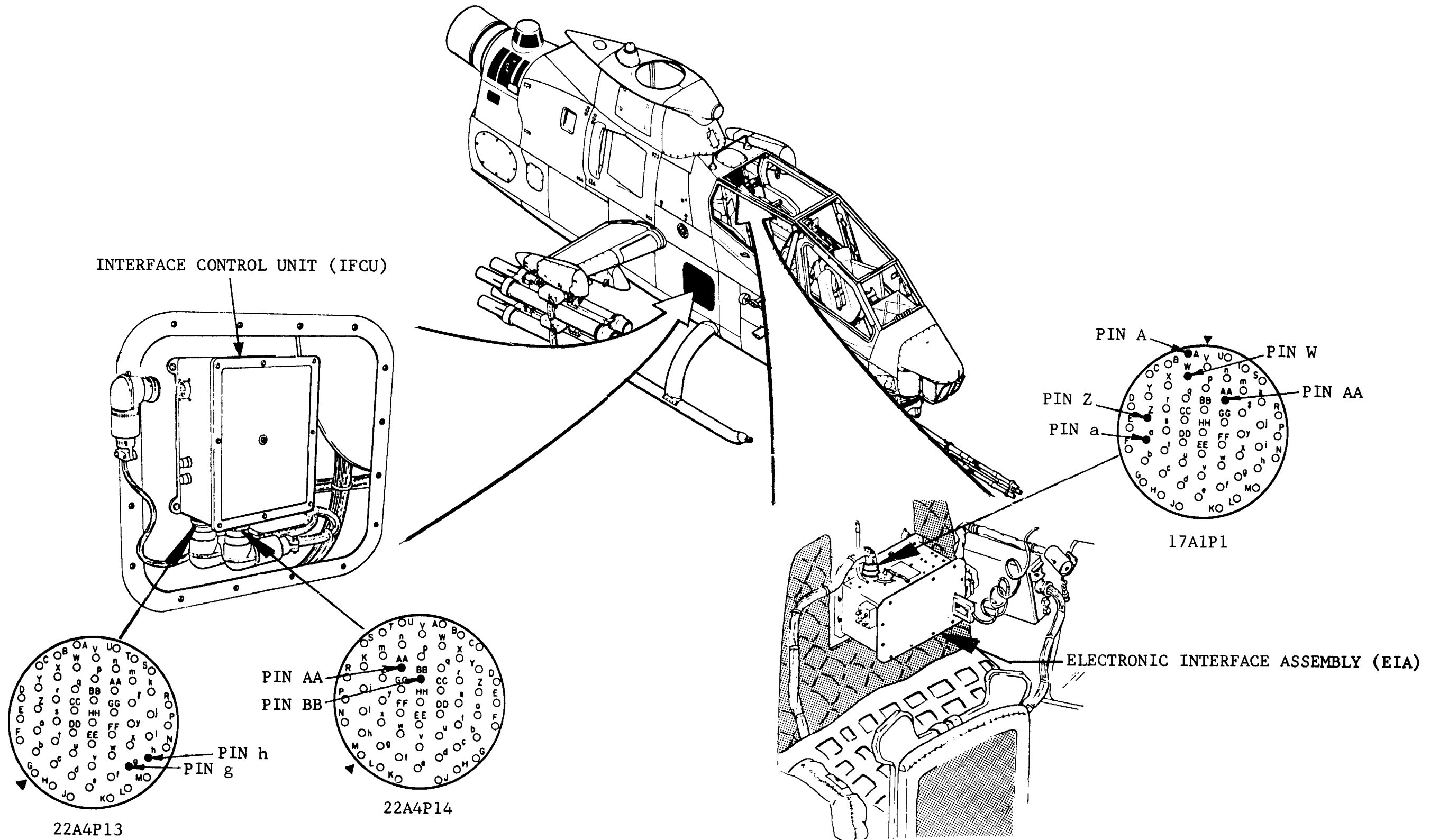
TELESCOPIC SIGHT UNIT (TSU)



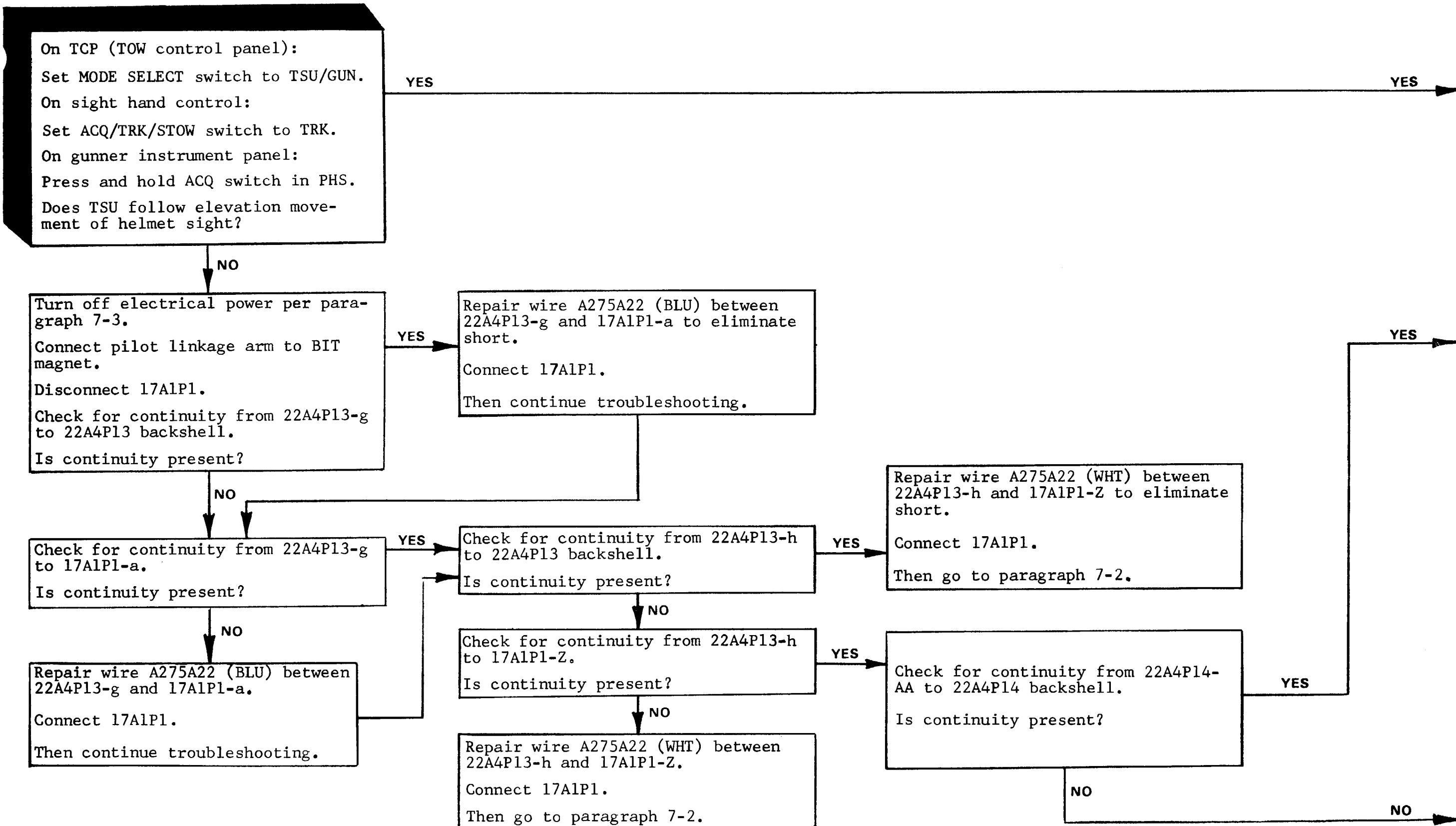
SIGHT HAND CONTROL



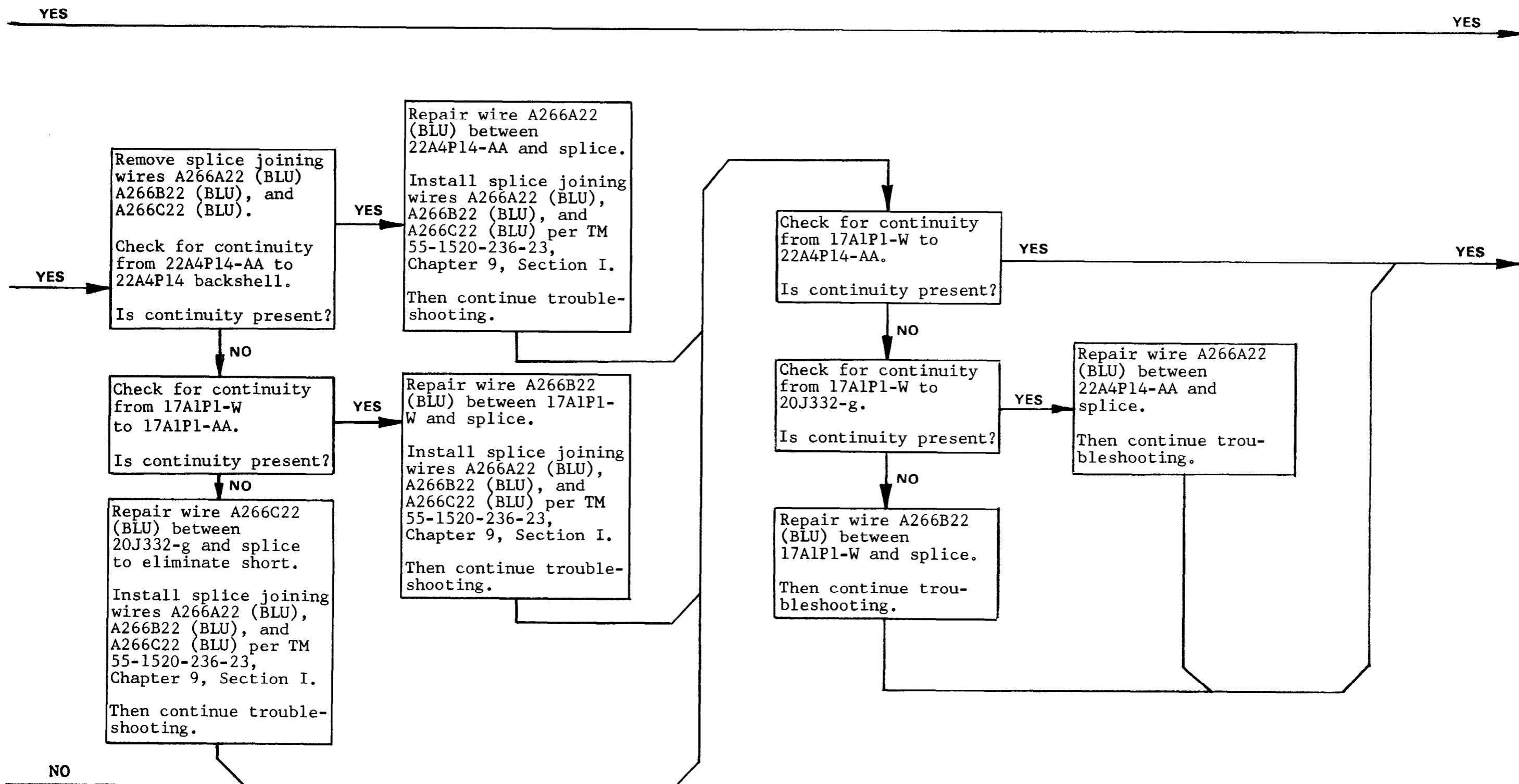
7-17. TURRET WILL NOT FOLLOW PILOT HELMET MOVEMENT IN ELEVATION (CONTINUED).



7-17. TURRET WILL NOT FOLLOW PILOT HELMET MOVEMENT IN ELEVATION (CONTINUED).



7-17. TURRET WILL NOT FOLLOW PILOT HELMET MOVEMENT IN ELEVATION (CONTINUED).



7-17. TURRET WILL NOT FOLLOW PILOT HELMET MOVEMENT IN ELEVATION (CONTINUED)

YES

Repair wire A266A22 (WHT) between 22A4P14-BB and splice.
 Install splice joining wires A266A22 (WHT), A266B22(WHT), and A266C22 (WHT) per TM 55-1520-236-23, Chapter 9, Section I.
 Connect 17A1P1.
 Then go to paragraph 7-2.

YES

Repair wire A266C22 (WHT) between 20J332-f and splice.
 Install splice joining wires A266A22 (WHT), A266B22 (WHT), and A266C22 WHT per TM 55-1520-236-23, Chapter 9, Section I.
 Connect 17A1P1.
 Then go to paragraph 7-2.

YES

YES

On sight hand control:
 Set ACQ/TRK/STOW switch to STOW,
 On pilot ARMT control panel:
 Set WPN CONTR switch to GUNNER.

 On TSU left hand grip:
 Press and hold ACTION switch.
 Does gun turret follow elevation movement of gunner helmet sight?

YES

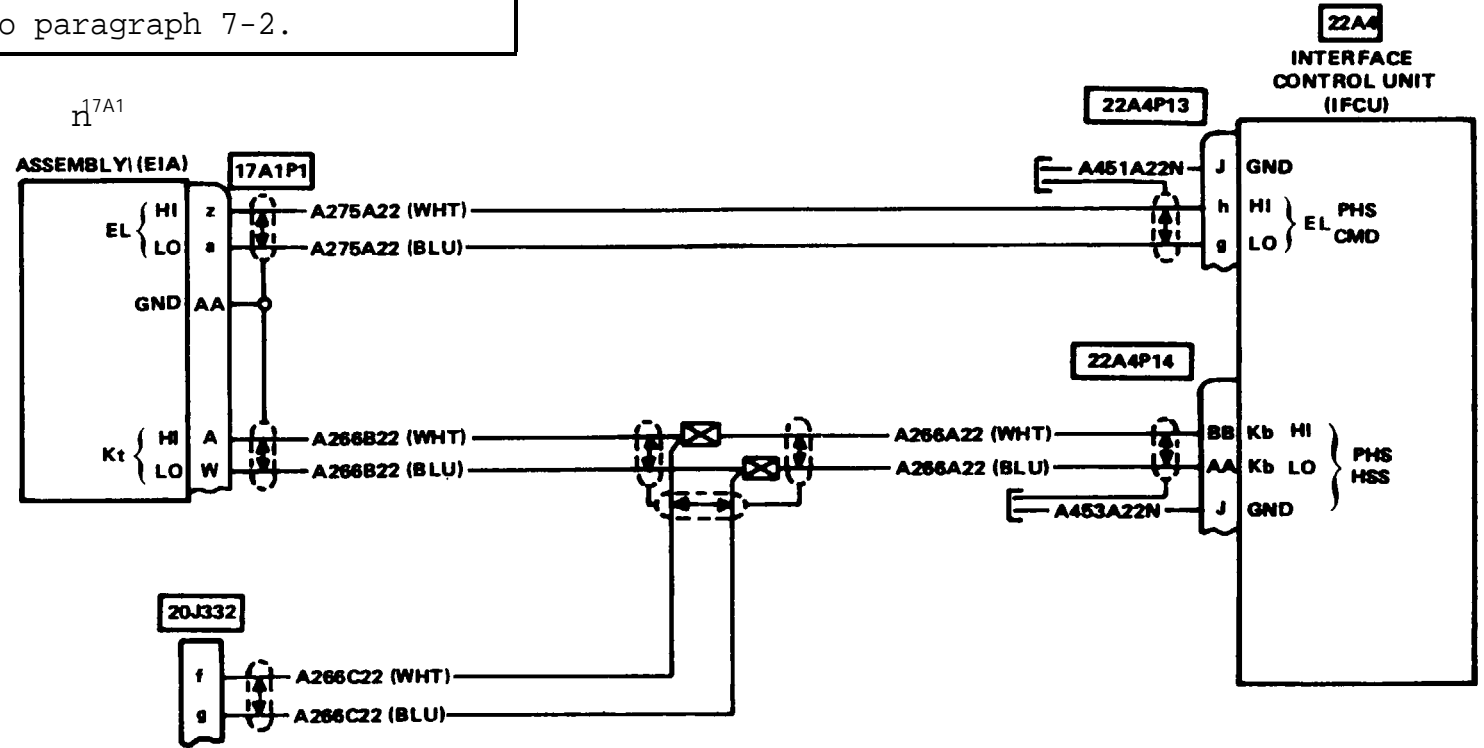
Turn off electrical power per paragraph 7-3.
 Replace interface control unit (IFCU) per TM 9-1090-206-20-1, Chapter 3 Section XIX, paragraph 3-70.
 Does gun turret follow elevation movement of gunner helmet sight?

NO

Turn off electrical power per paragraph 7-3.
 Replace electronic interface assembly (EIA) per TM 9-1270-212-14 and P, Chapter 3, Section VIII.
 Connect 17A1P1.
 Then go to paragraph 7-2.

NO

Accomplish paragraph 6-7.
 Then go to paragraph 7-2.



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7-18. TURRET WILL NOT FOLLOW PILOT HELMET MOVEMENT IN ELEVATION OR AZIMUTH.

INITIAL SETUP

Applicable Configuration
All

Tool/Test and Support Equipment
Multimeter

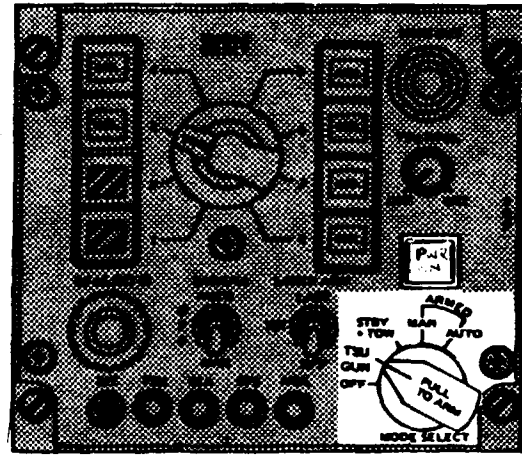
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

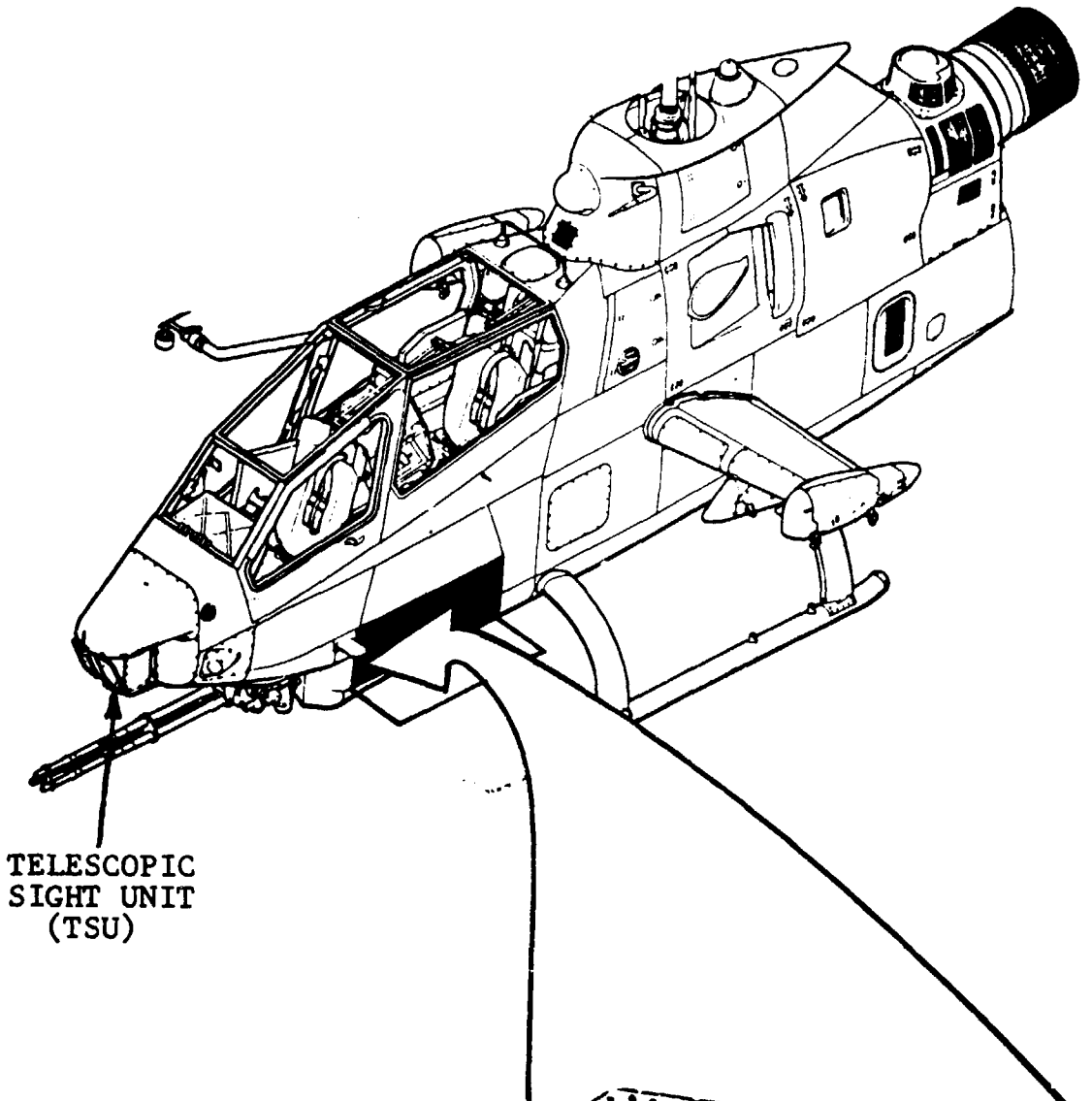
References
TM 9-1090-206-20-1
TM 55-1520-236-23

Access Panels
Interface Control Unit - Removed

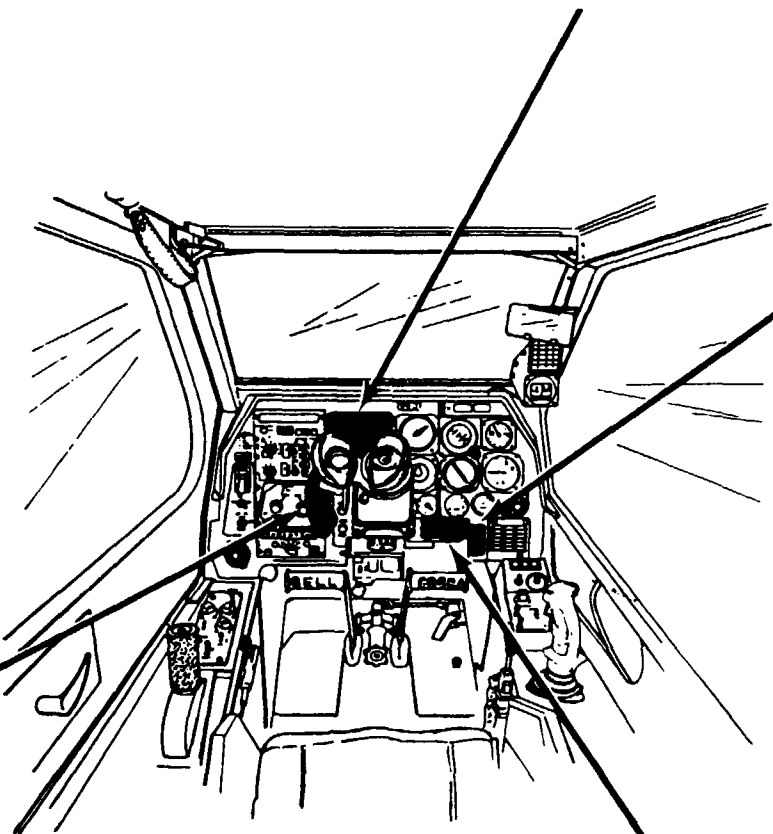
Ammo Compartment Coor - Open



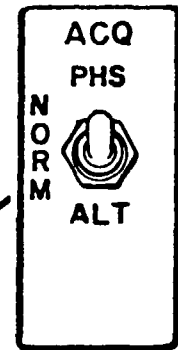
TCP (TOW CONTROL PANEL)



TELESCOPIC SIGHT UNIT (TSU)

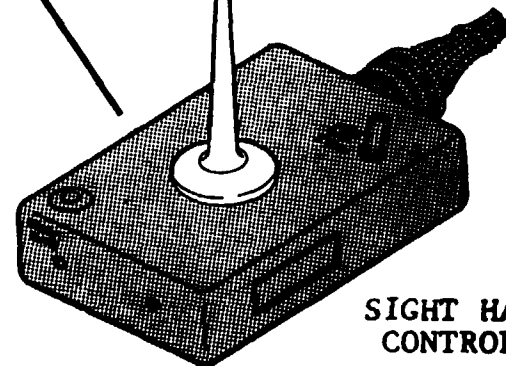


GUNNER STATION

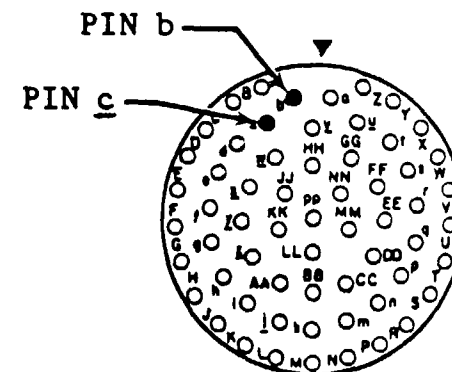


ACQ SWITCH

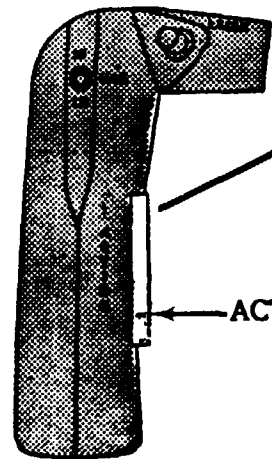
TRACK CONTROL STICK



SIGHT HAND CONTROL



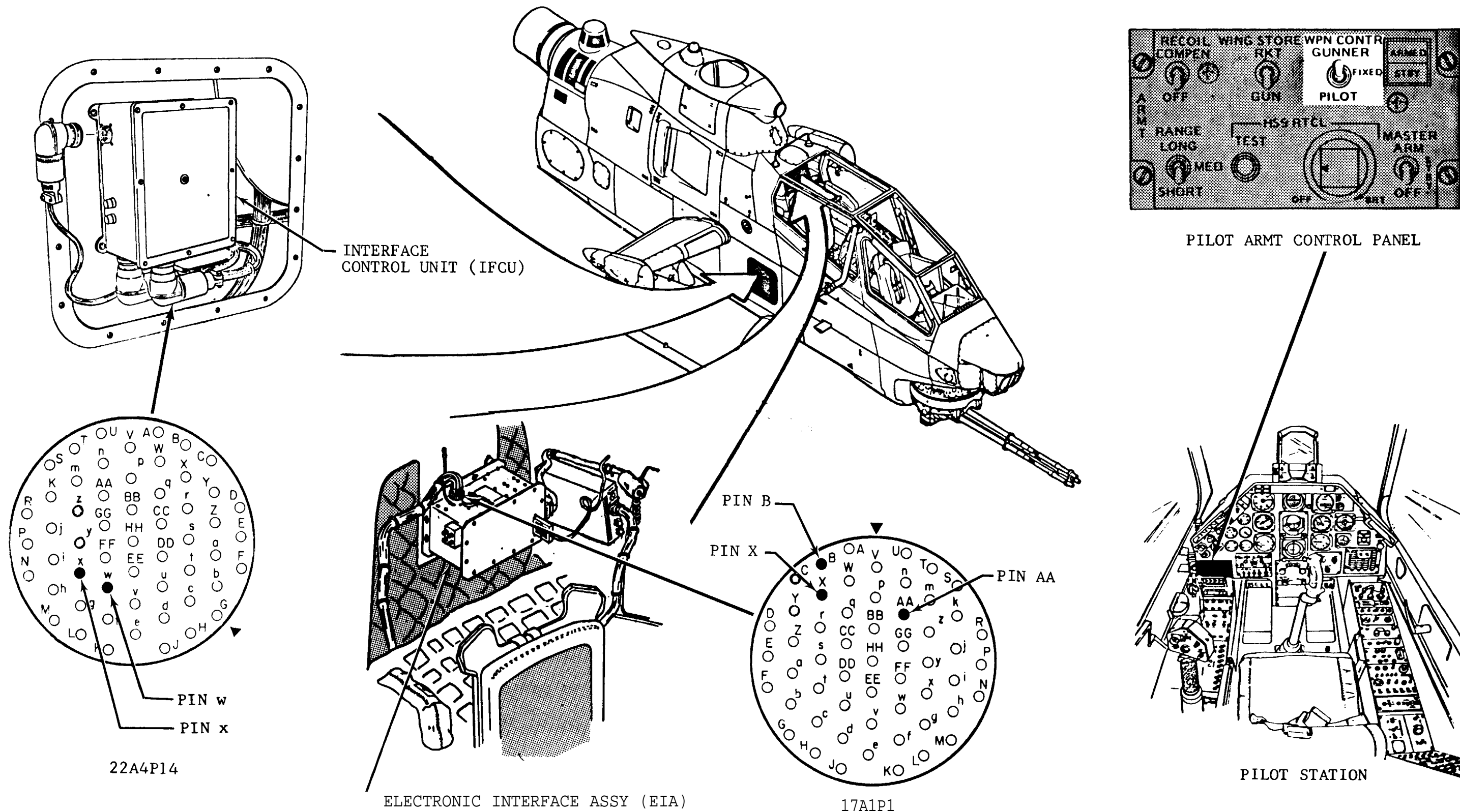
20J332



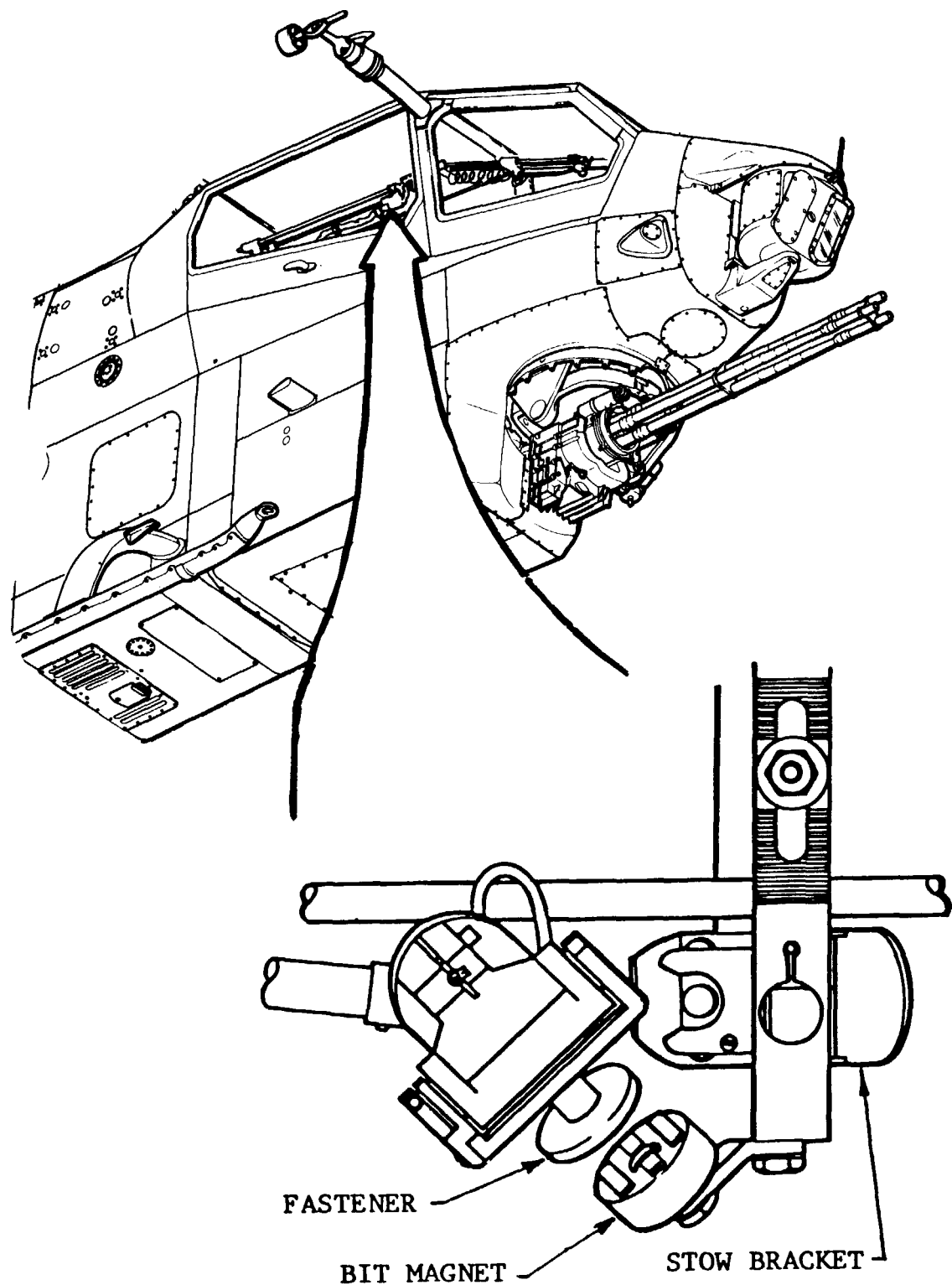
ACTION SWITCH

LEFT HAND GRIP

7-18. TURRET WILL NOT FOLLOW PILOT HELMET MOVEMENT IN ELEVATION OR AZIMUTH (CONTINUED).



7-18. TURRET WILL NOT FOLLOW PILOT HELMET MOVEMENT IN ELEVATION OR AZIMUTH (CONTINUED).



On TCP (TOW control panel):
 Set MODE SELECT switch to TSU/GUN.
 Wait for indicator to indicate PWR ON.

On sight hand control:
 Set ACQ/TRK/STOW switch to TRK.

On gunner instrument panel:
 Press and hold ACQ switch in PHS position.

Move pilot helmet in elevation.

Does telescopic sight unit (TSU) follow helmet movement?

YES

NO

Turn off electrical power per paragraph 7-3.

Connect pilot linkage arm to BIT magnet.

Check the following wires for continuity.

WIRE NO.	FROM	TO
A265A22(WHT)	17A1P1-B	22A4P14-x
A265B22(WHT)		
A265A22(BLU)	17A1P1-X	22A4P14-w
and A265B22(BLU)		

Is continuity present for each wire?

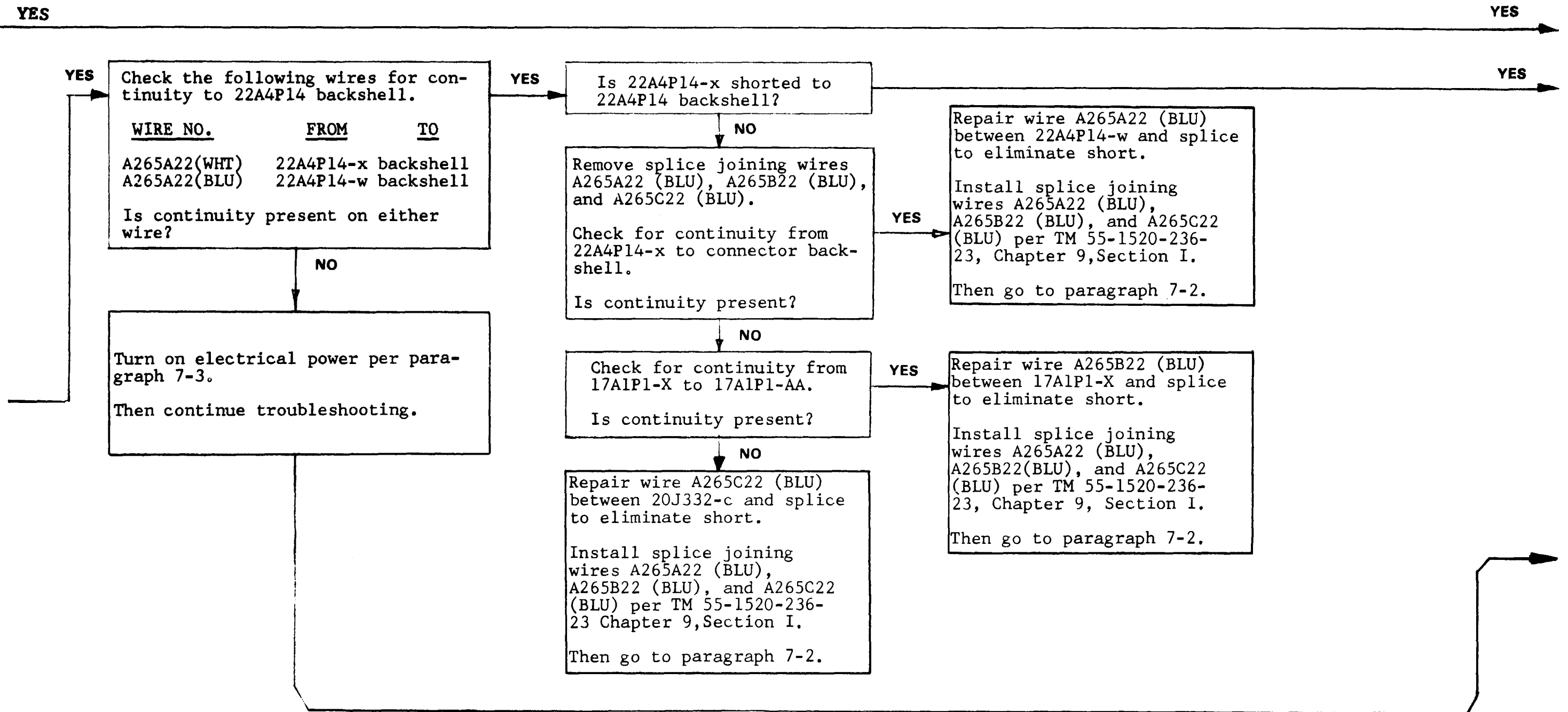
YES

NO

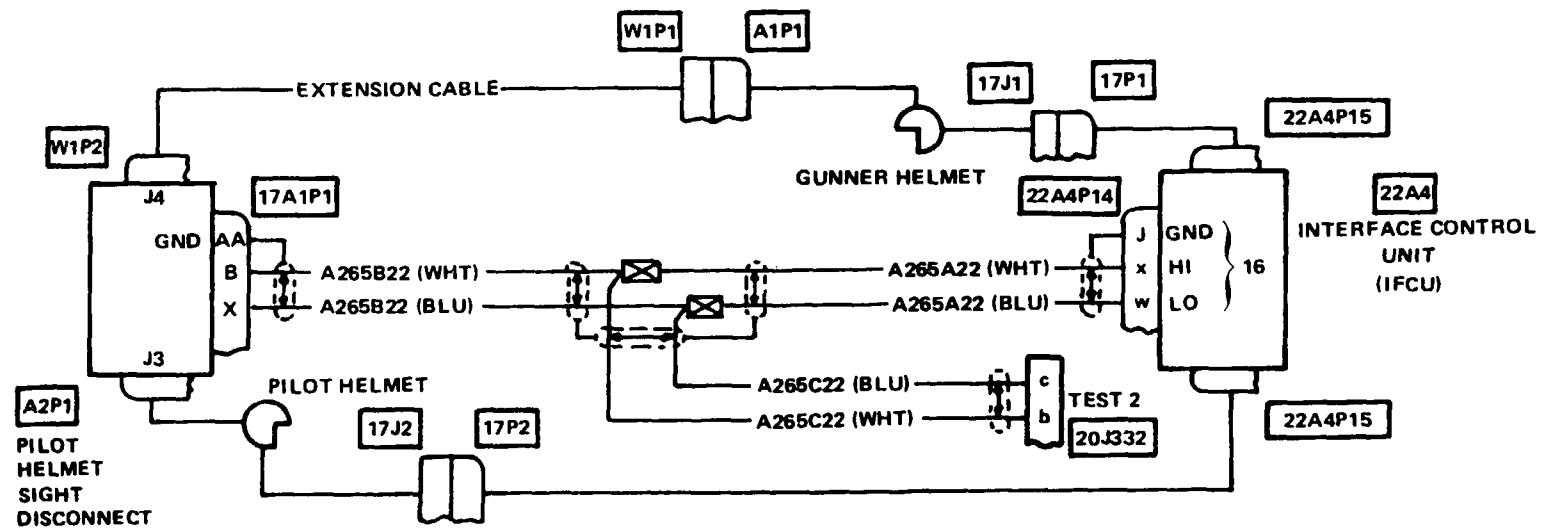
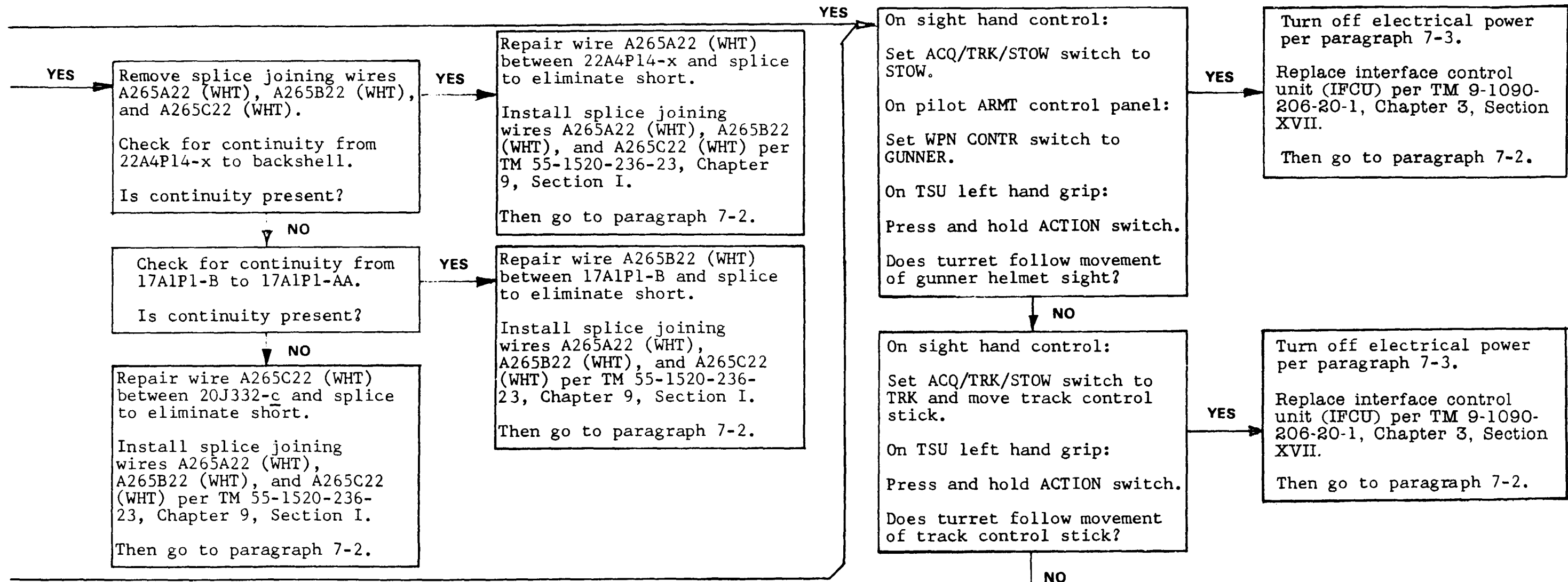
Repair wire(s) where continuity is not present.

Then go to paragraph 7-2.

7-18. TURRET WILL NOT FOLLOW PILOT HELMET MOVEMENT IN ELEVATION OR AZIMUTH (CONTINUED).



7-18. TURRET WILL NOT FOLLOW PILOT HELMET MOVEMENT IN ELEVATION OR AZIMUTH (CONTINUED).



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7-19. NO PILOT OR GUNNER HSS RETICLE WITH
PILOT OR GUNNER ACTION SWITCH PRESSED.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament
Repairman

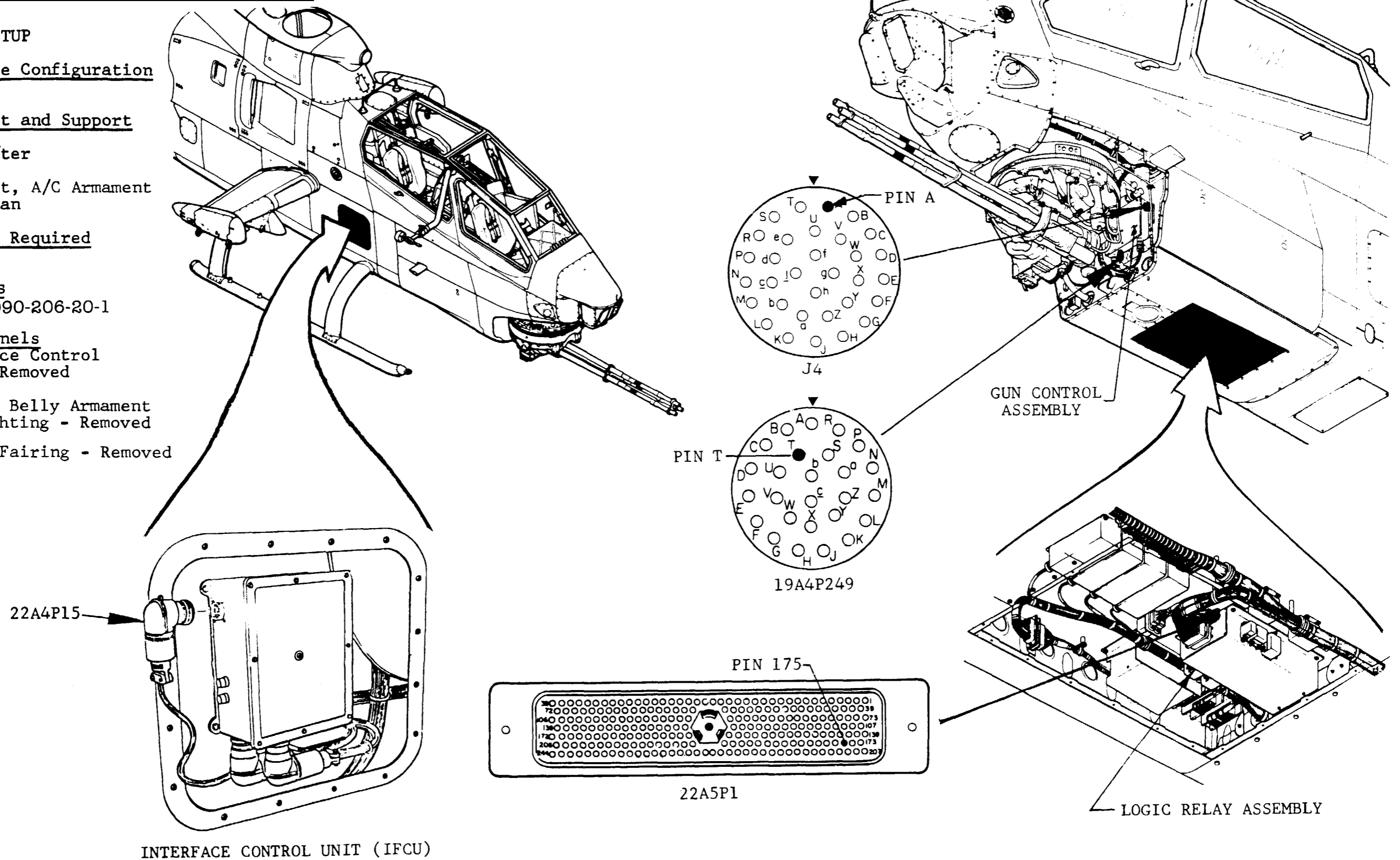
Personnel Required
68J (1)

References
TM 9-1090-206-20-1

Access Panels
Interface Control
Unit - Removed

Forward Belly Armament
and Lighting - Removed

Turret Fairing - Removed



7-19. NO PILOT OR GUNNER HSS RETICLE WITH PILOT OR GUNNER ACTION SWITCH PRESSED (CONTINUED).

Turn off electrical power per paragraph 7-3.
 Disconnect 22A4P15.
 Turn on electrical power per paragraph 7-3.
 Check for varying dc voltage at J4-A on gun control assembly.
 NOTE
 Less than 1 V dc will be present.
 Is varying dc voltage present?

YES

Turn off electrical power per paragraph 7-3.
 Check for continuity from 19A4P249-T to 22A5P1-175.
 Is continuity present?

YES

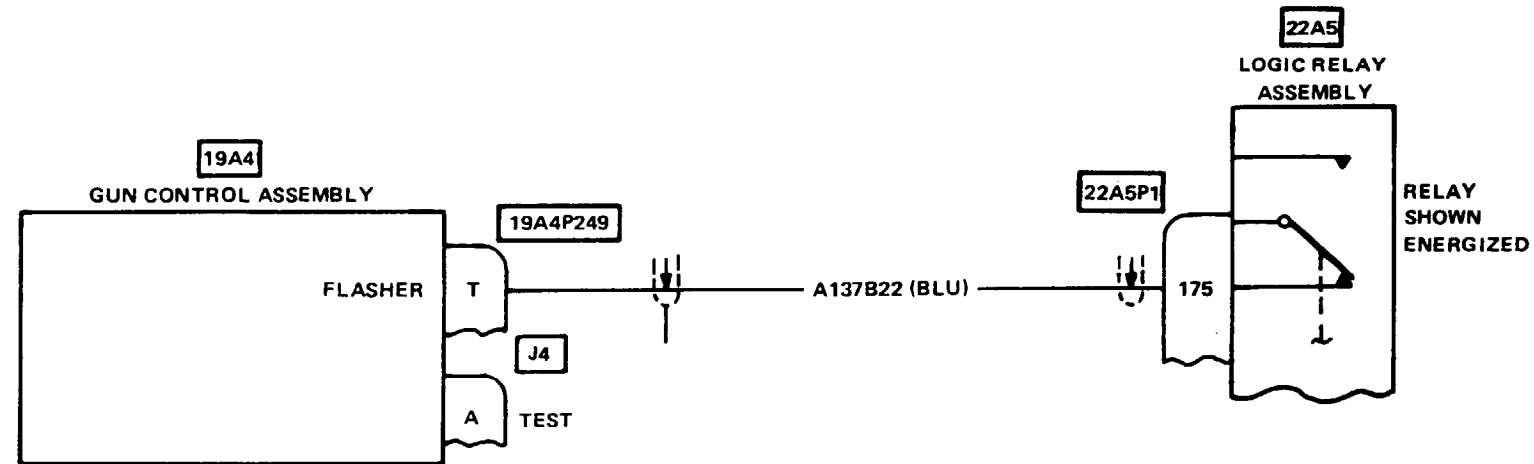
Replace logic relay assembly per TM 9-1090-206-20-1, Chapter 3, Section XXIII.
 Then go to paragraph 7-2.

NO

Repair wire A137B22(BLU) between 22A5P1-175 and 19A4P249-T.
 Connect 22A4P15.
 Then go to paragraph 7-2.

NO

Turn off electrical power per paragraph 7-3.
 Connect 22A4P15.
 Replace gun control assembly per TM 9-1090-206-20-1, Chapter 3, Section XIII.
 Then go to paragraph 7-2.



7-20. PILOT AND GUNNER HSS RETICLE NOT FLASHING WHILE TURRET IS OUT OF COINCIDENCE.

INITIAL SETUP

Applicable Configuration
All

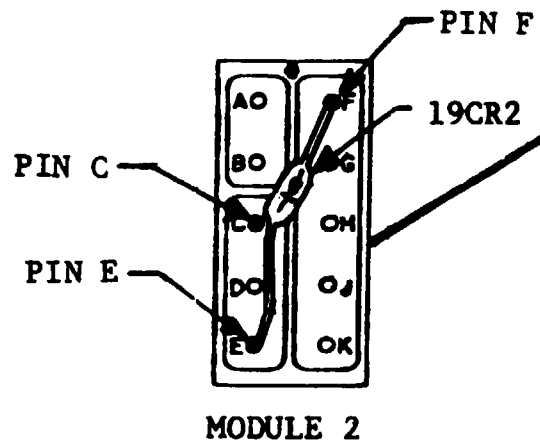
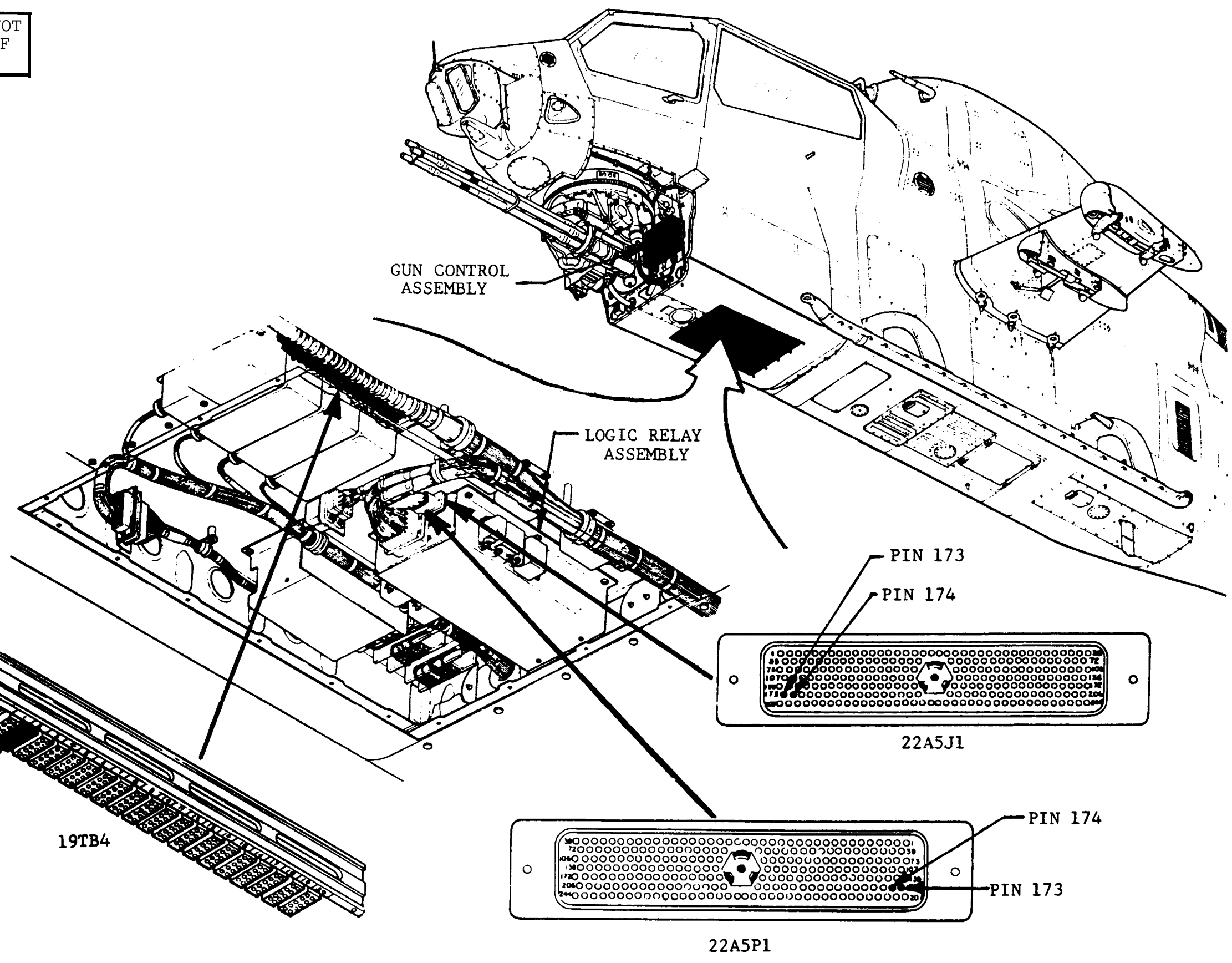
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

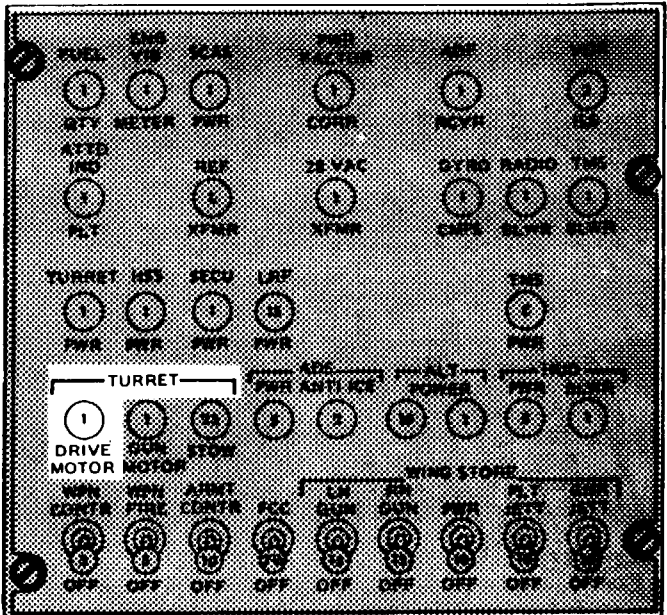
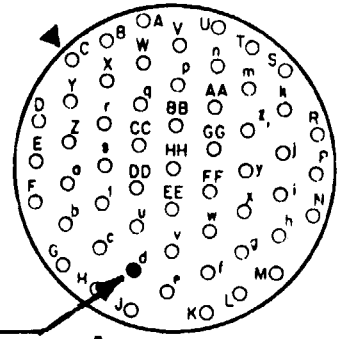
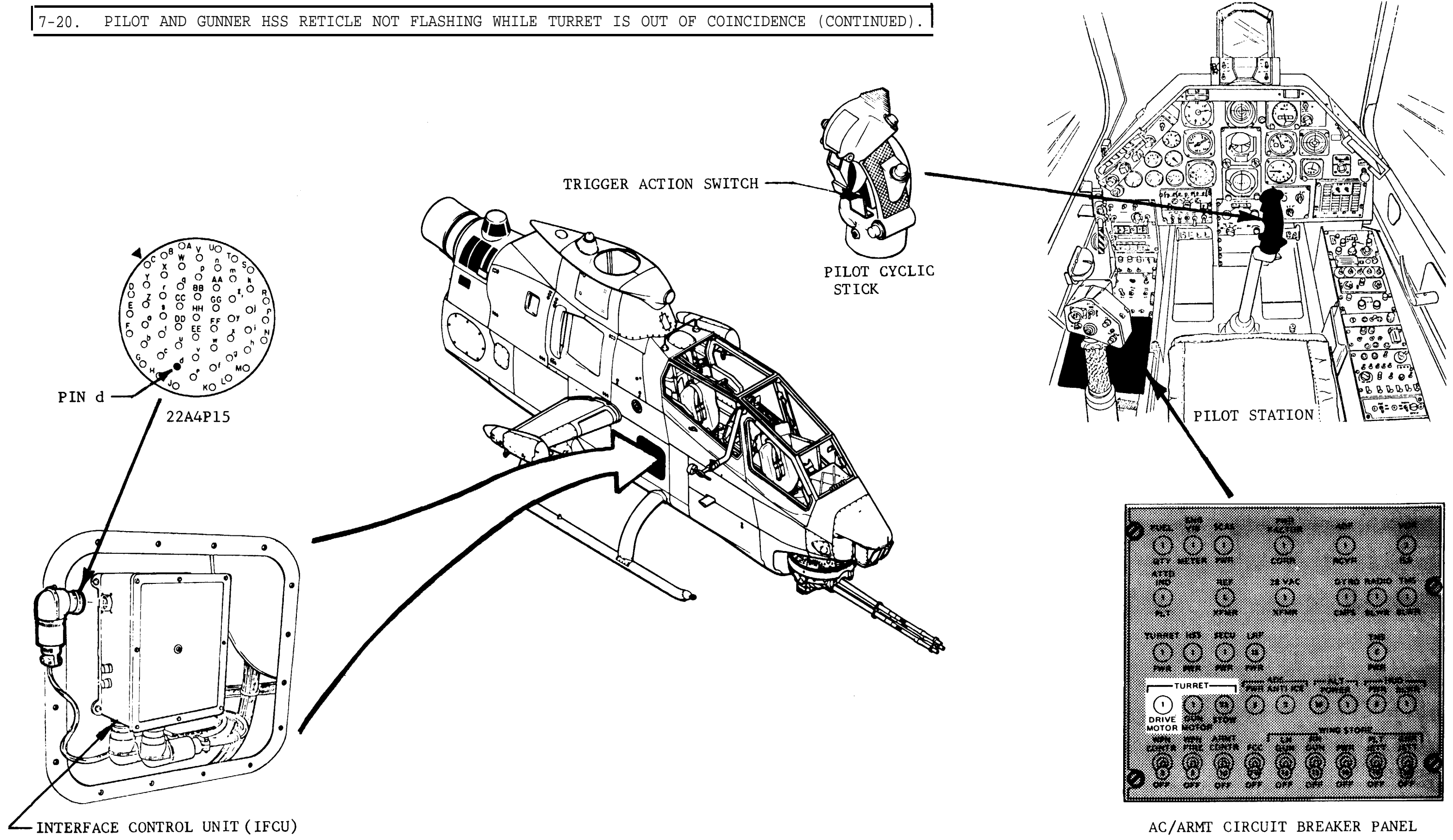
Personnel Required
68J (2)

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

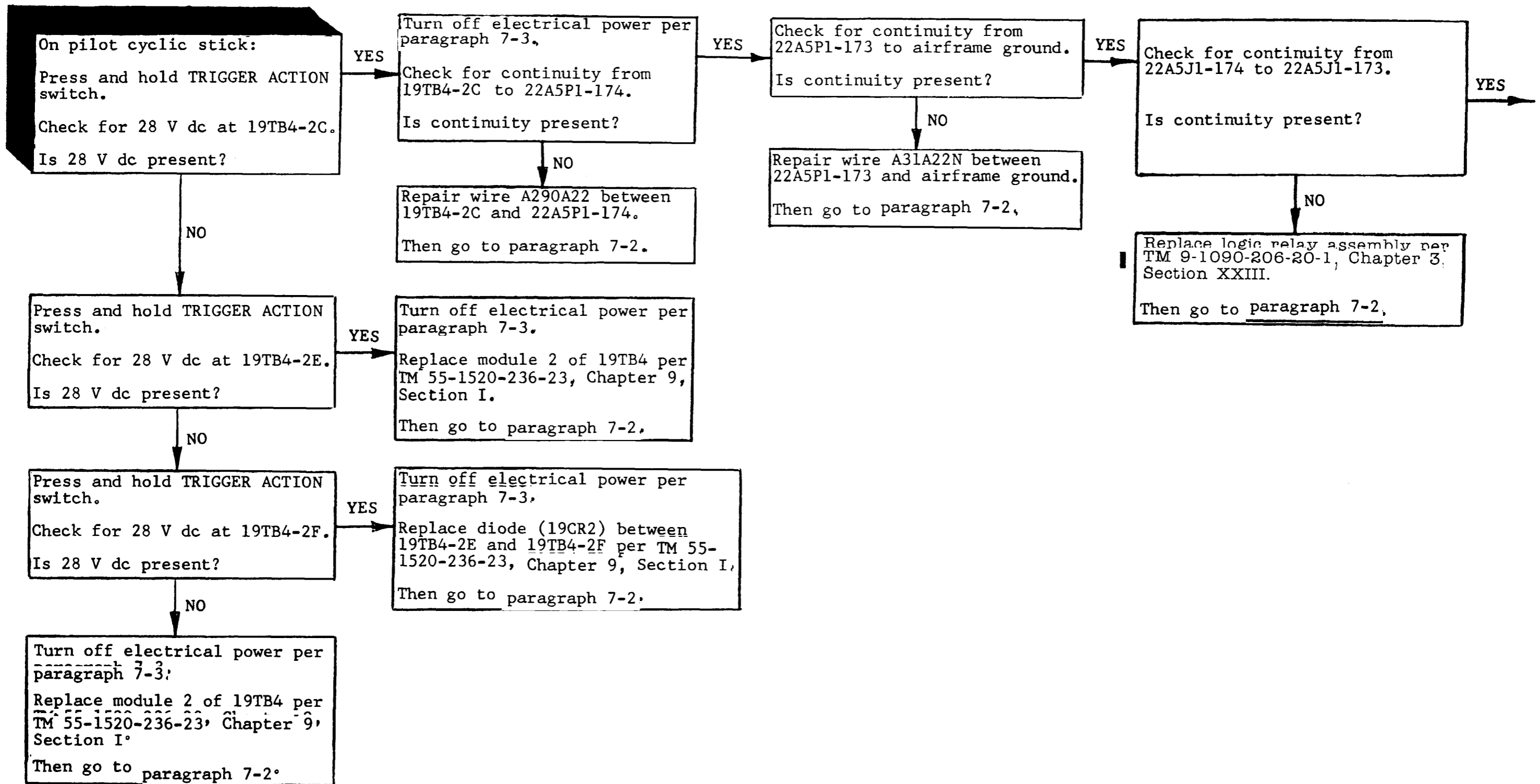
Access Panels
Forward Belly Armament and Lighting - Removed
Interface Control Unit - Removed
Turret Fairing - Removed



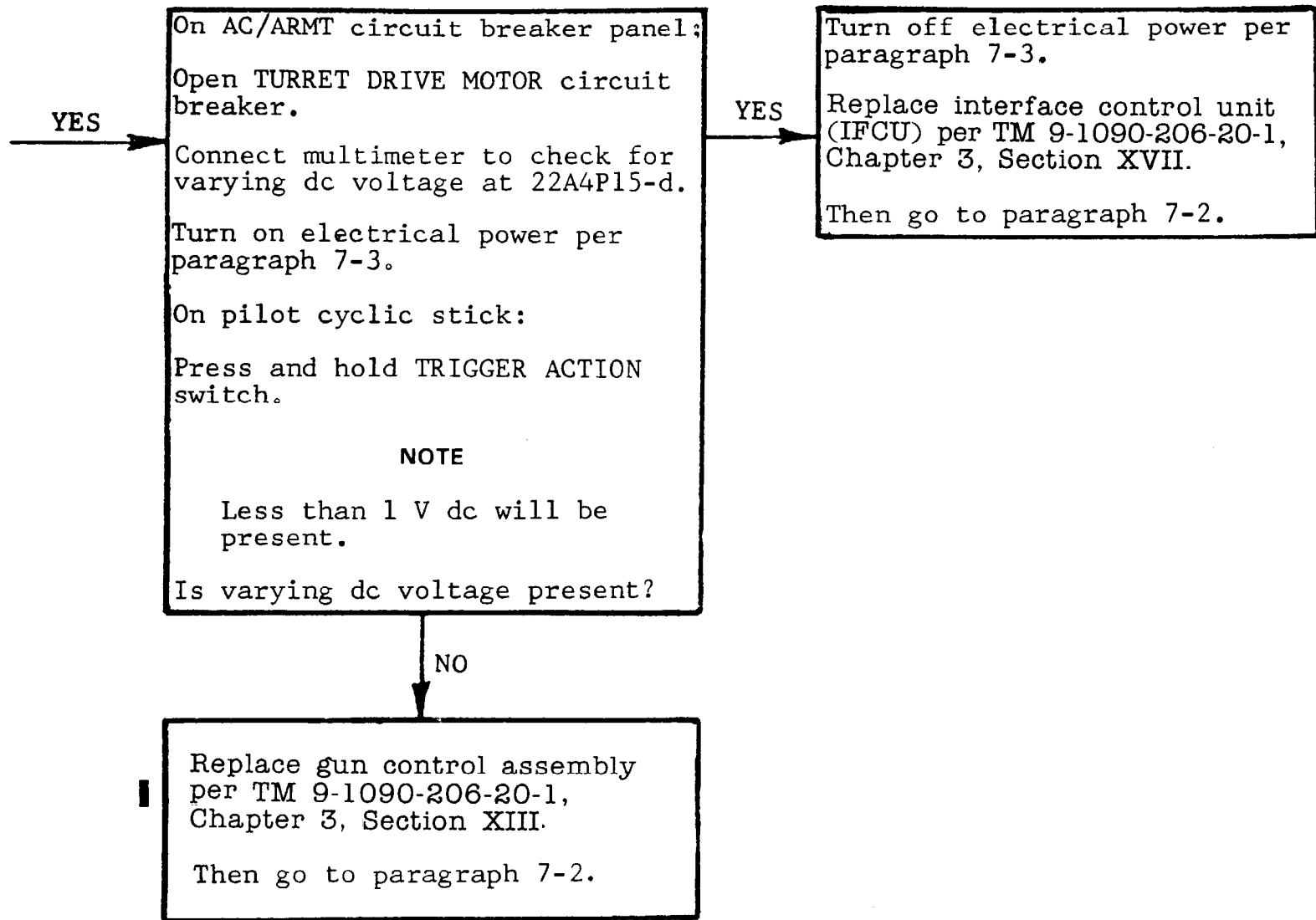
7-20. PILOT AND GUNNER HSS RETICLE NOT FLASHING WHILE TURRET IS OUT OF COINCIDENCE (CONTINUED).



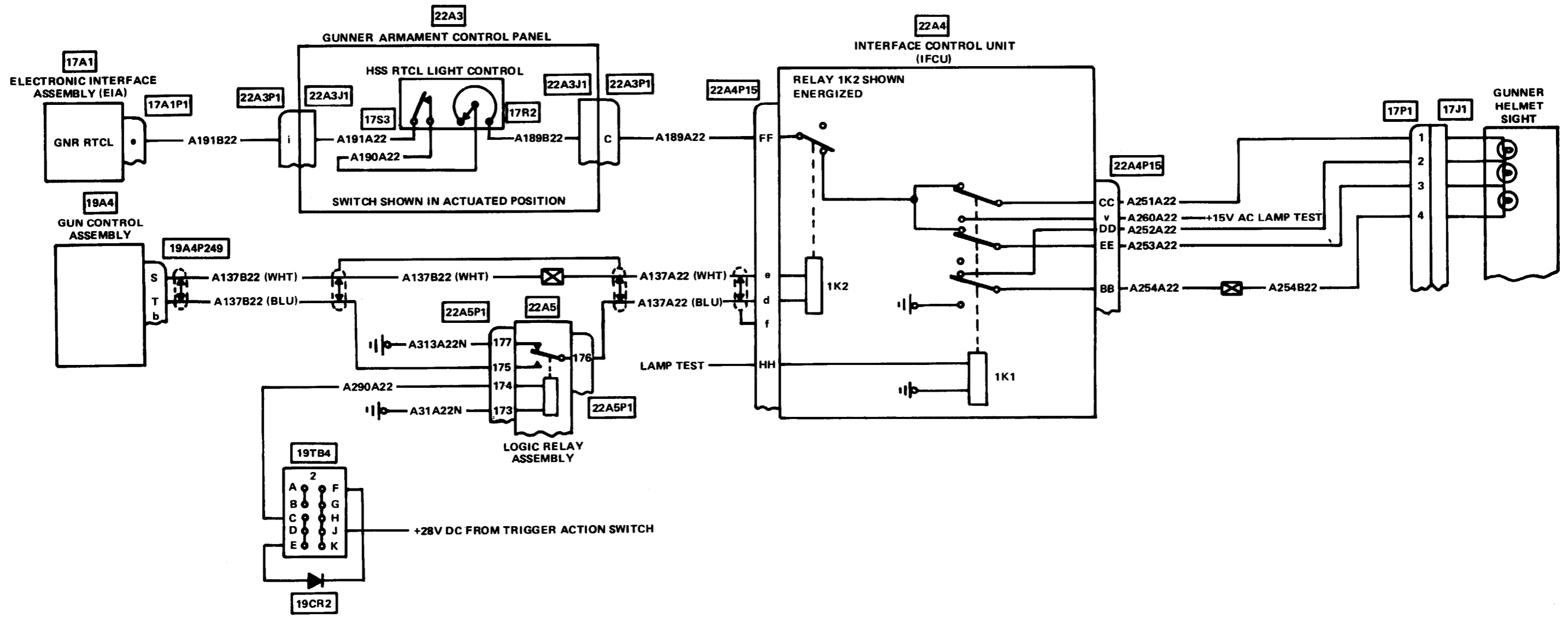
7-20. PILOT AND GUNNER HSS RETICLE NOT FLASHING WHILE TURRET IS OUT OF COINCIDENCE (CONTINUED).



7-20. PILOT AND GUNNER HSS RETICLE NOT FLASHING WHILE TURRET IS OUT OF COINCIDENCE (CONTINUED).



7-20. PILOT AND GUNNER HSS RETICLE NOT FLASHING WHILE TURRET IS OUT OF COINCIDENCE (CONTINUED).



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7-21. TURRET WILL NOT FOLLOW GUNNER
HELMET MOVEMENT IN ELEVATION.

INITIAL SETUP

Applicable Configuration
All

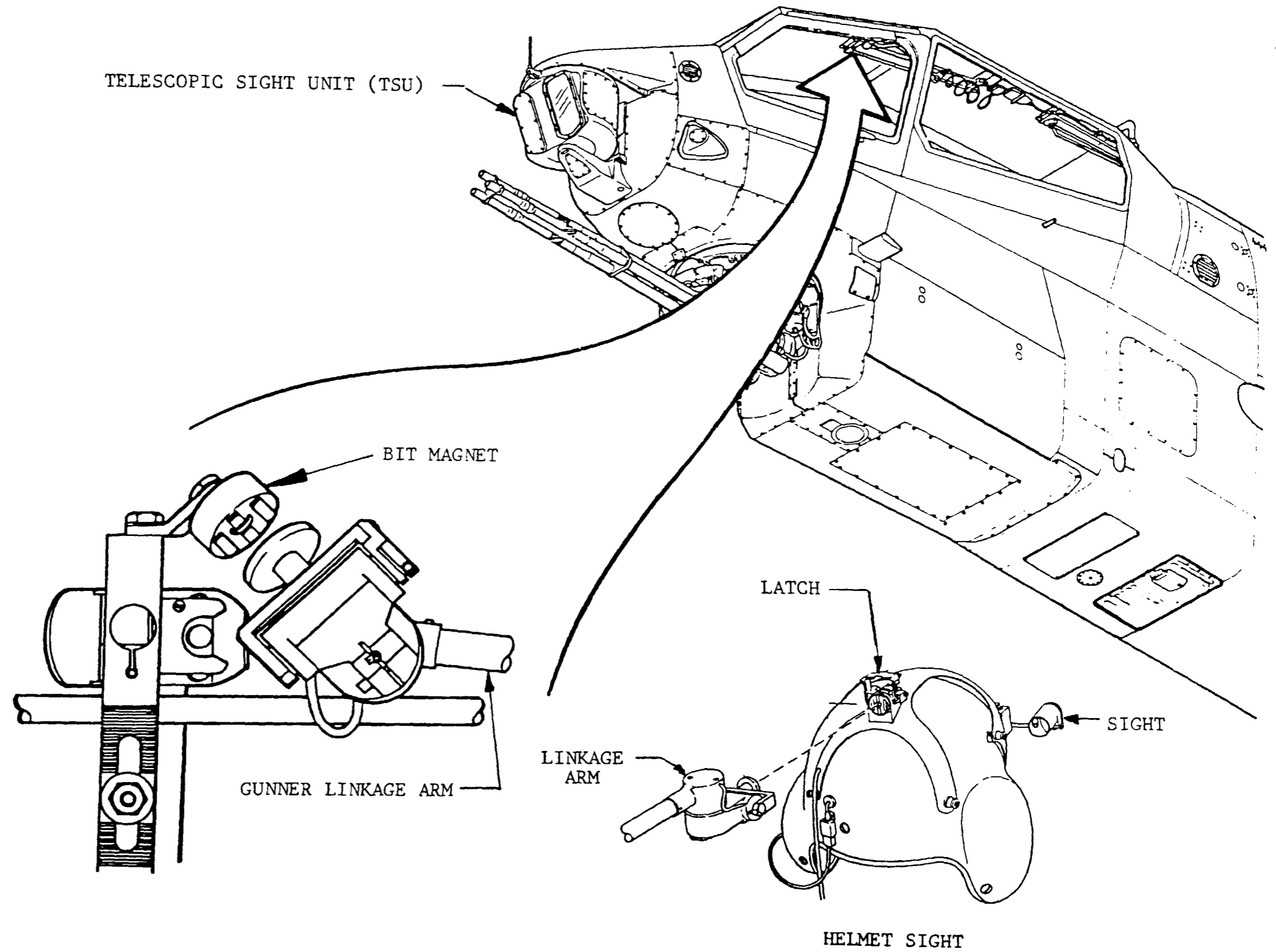
Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

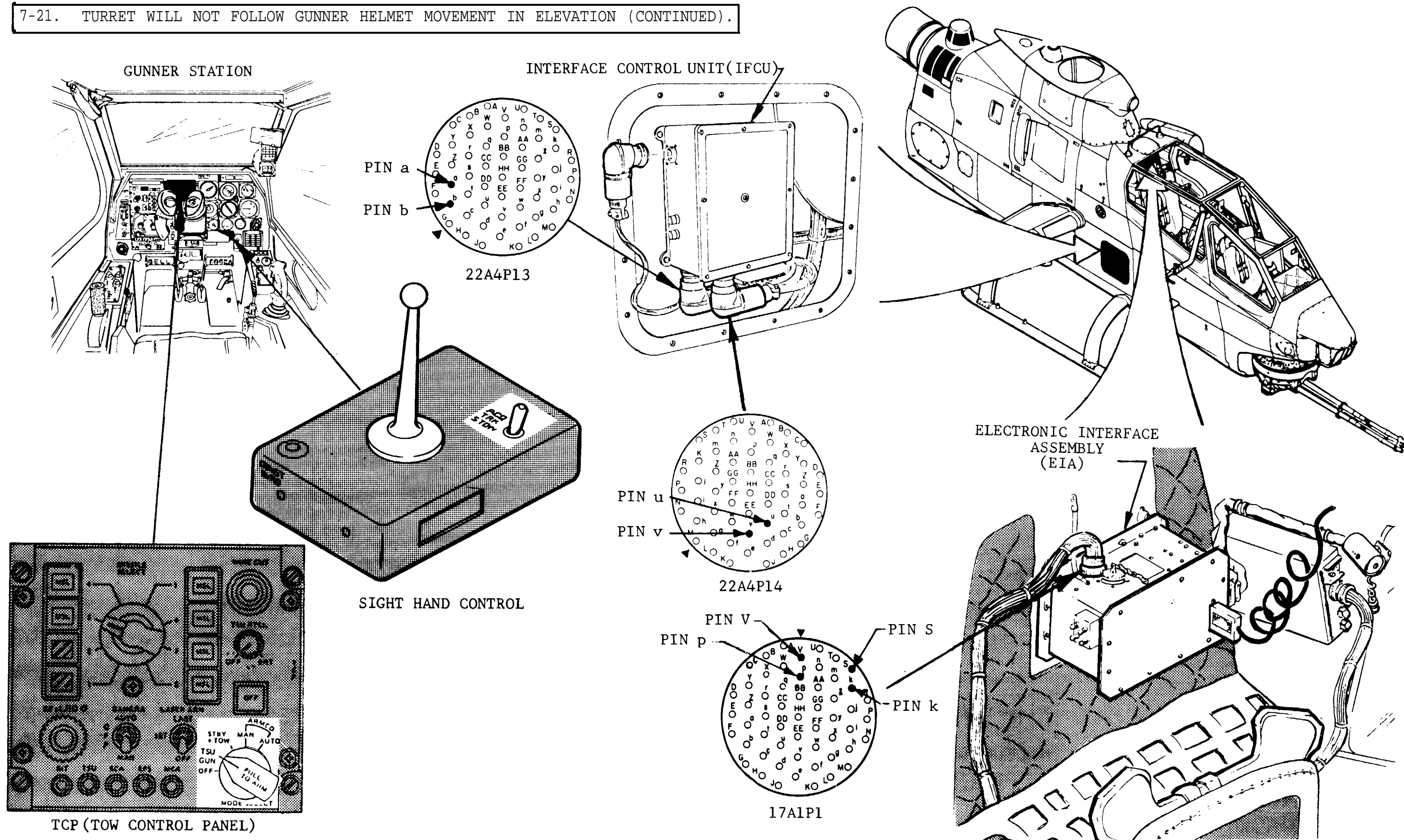
Personnel Required
68J (2)

References
TM 9-1090-206-20-1

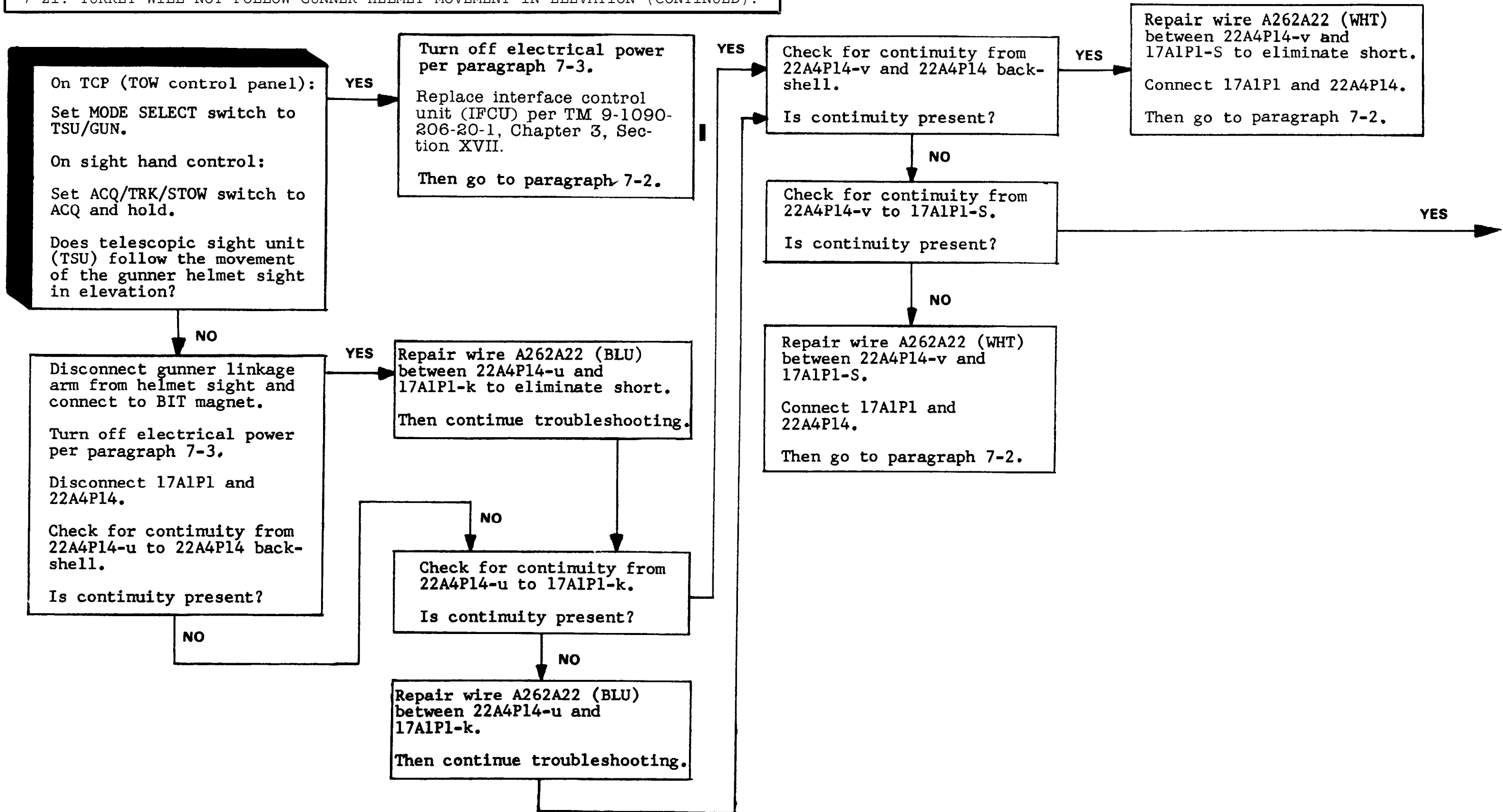
Access Panels
Interface Control
Unit - Removed



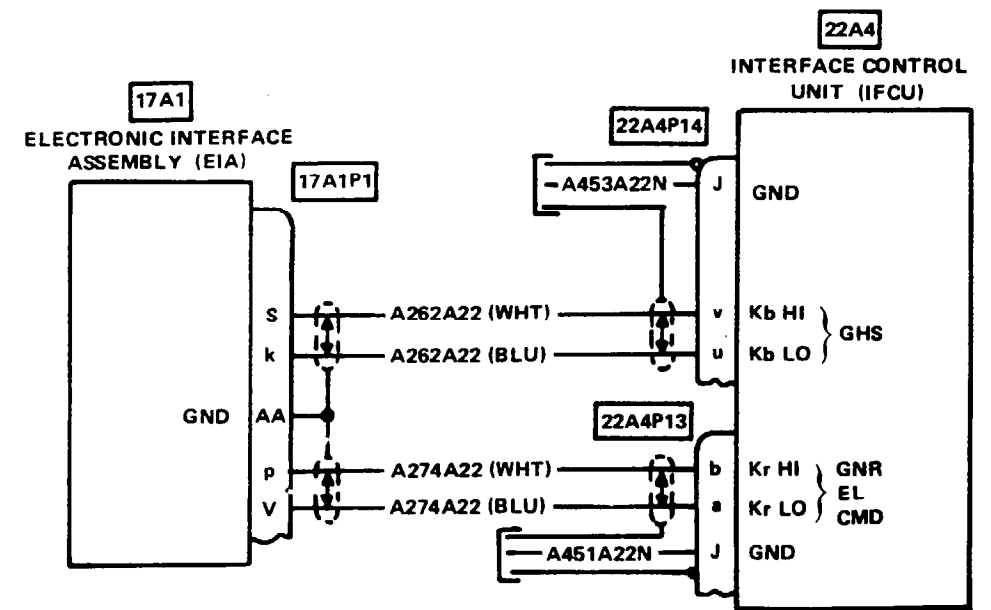
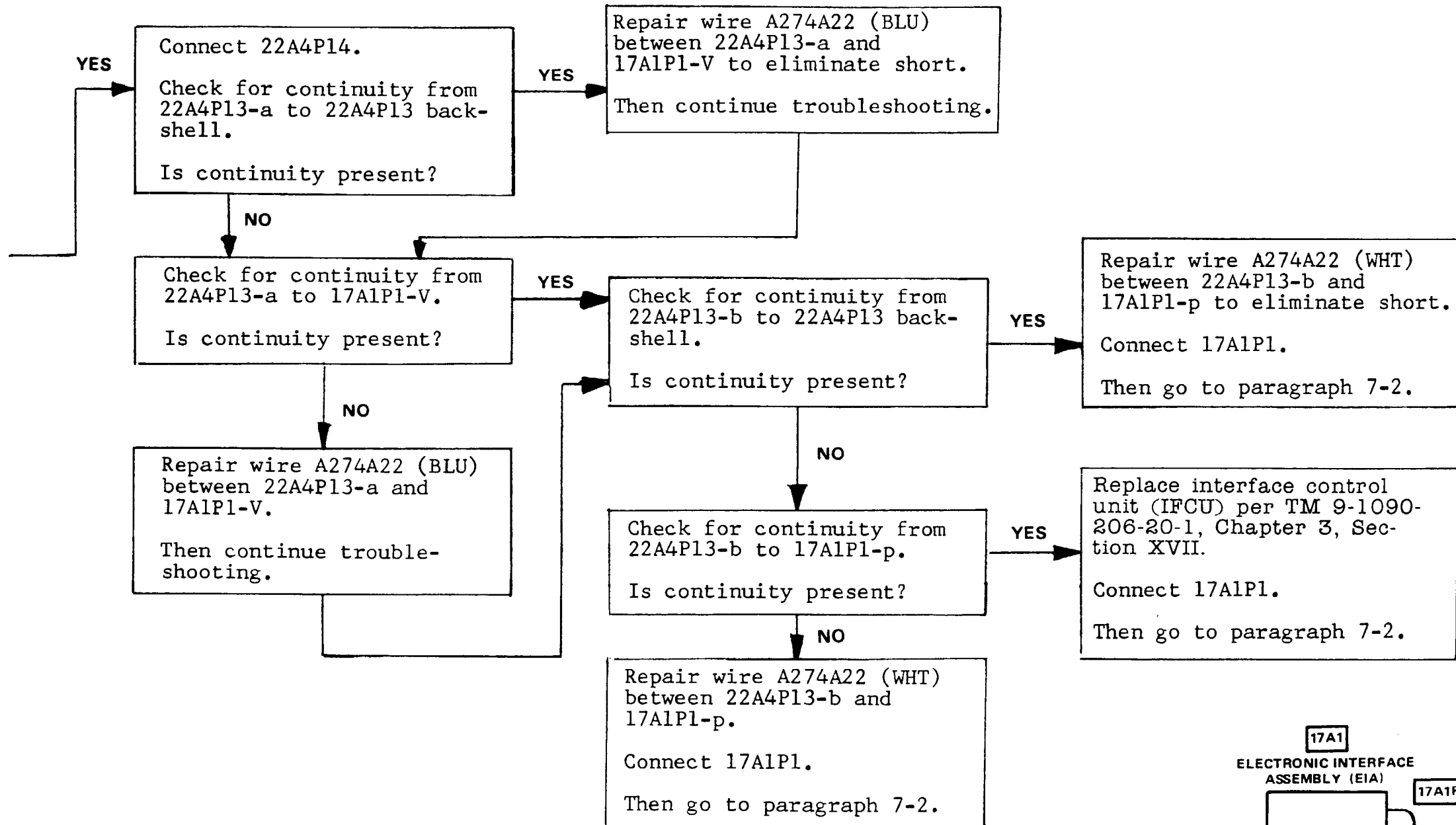
7-21. TURRET WILL NOT FOLLOW GUNNER HELMET MOVEMENT IN ELEVATION (CONTINUED).



7-21. TURRET WILL NOT FOLLOW GUNNER HELMET MOVEMENT IN ELEVATION (CONTINUED).



7-21. TURRET WILL NOT FOLLOW GUNNER HELMET MOVEMENT IN ELEVATION (CONTINUED).



7-22. TURRET WILL NOT FOLLOW GUNNER HELMET MOVEMENT.

INITIAL SETUP

Applicable Configuration
All

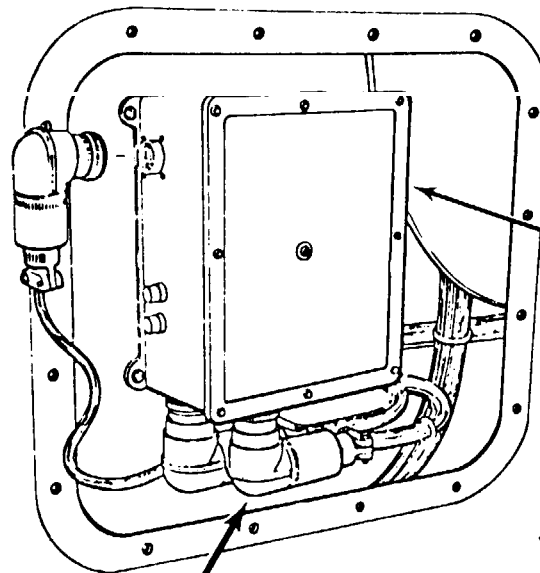
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

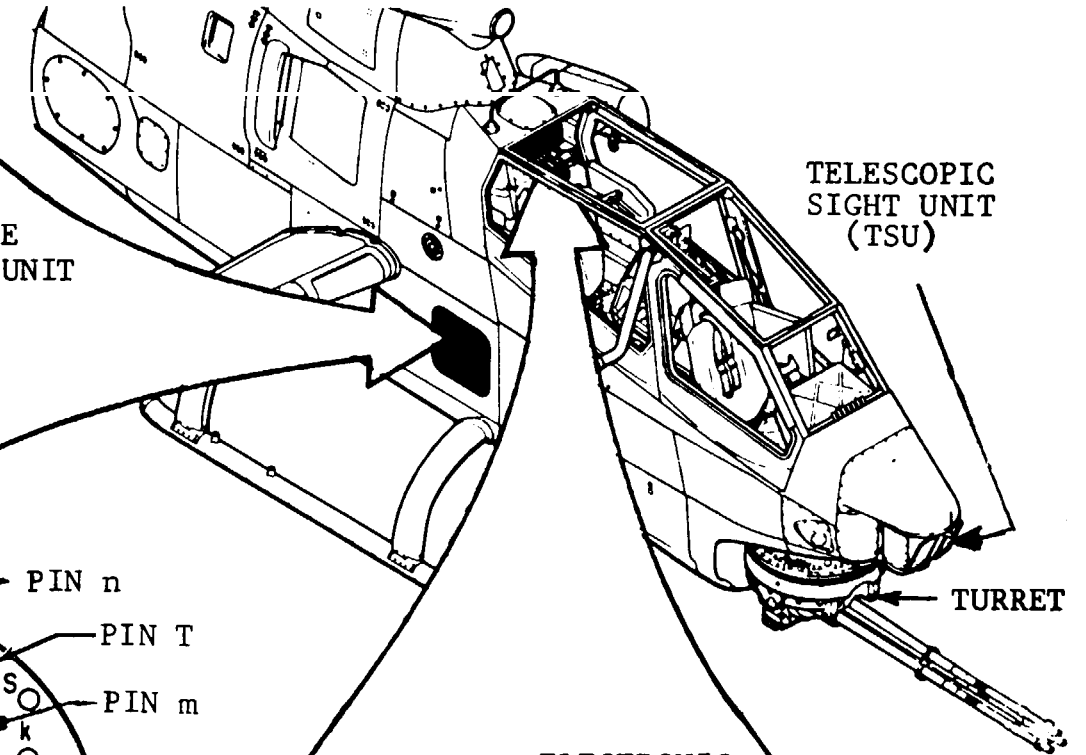
Personnel Required
68J (2)

References
TM 9-1090-206-20-1
TM 9-1270-212-14

Access Panels
Interface Control Unit - Removed

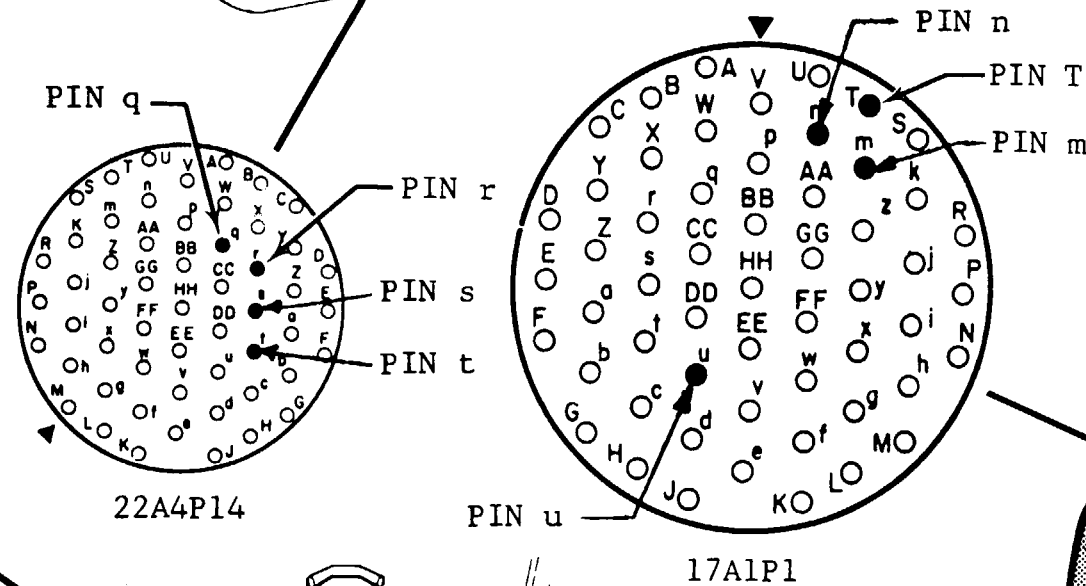


INTERFACE CONTROL UNIT (IFCU)



TELESCOPIC SIGHT UNIT (TSU)

TURRET



PIN q

PIN r

PIN s

PIN t

22A4P14

PIN n

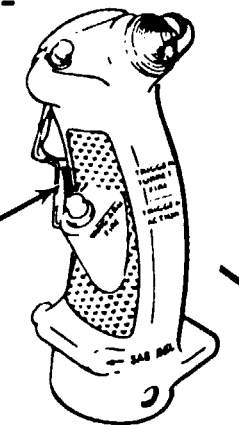
PIN T

PIN m

PIN u

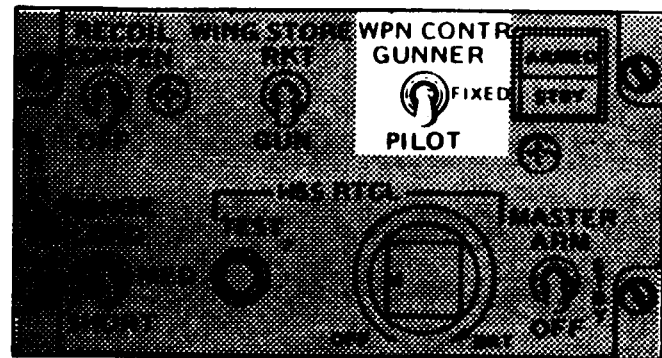
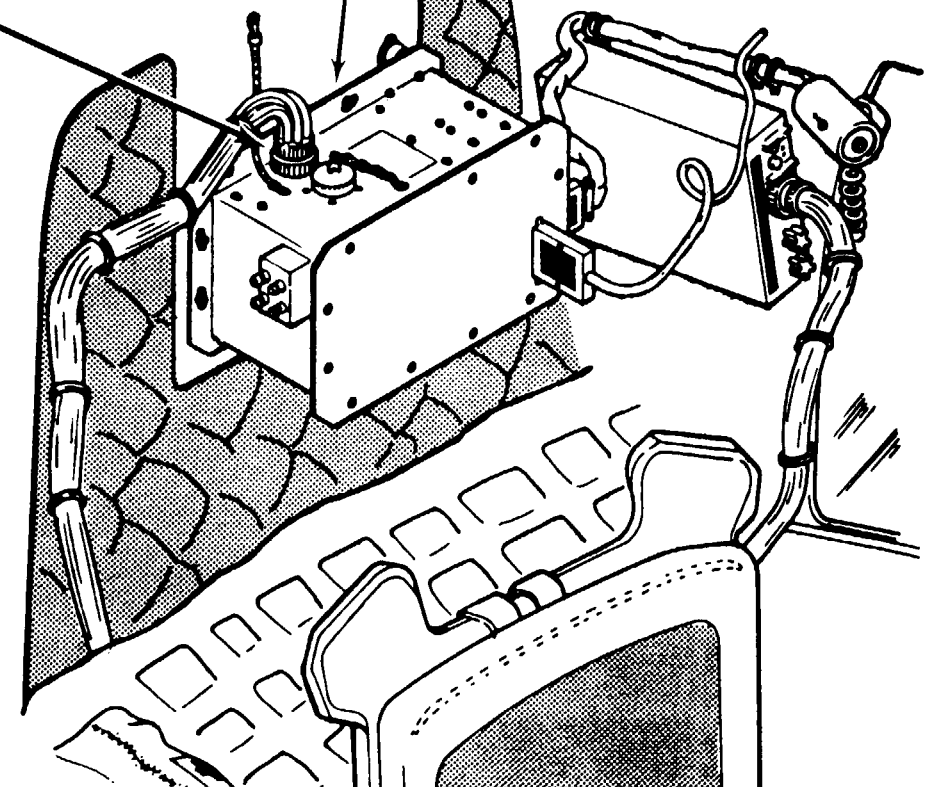
17A1P1

TRIGGER ACTION SWITCH

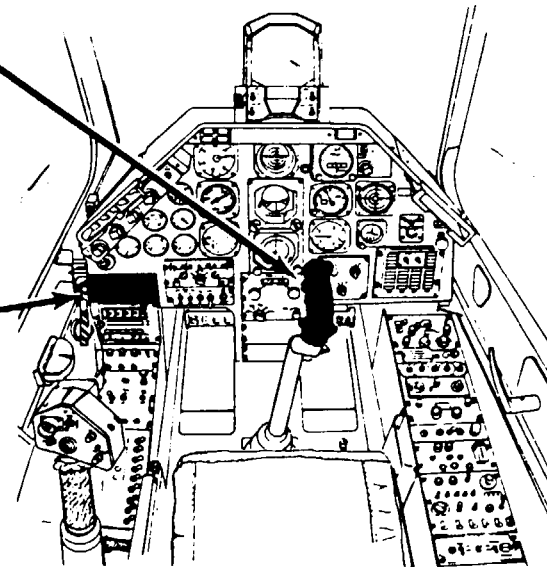


PILOT CYCLIC STICK

ELECTRONIC INTERFACE ASSEMBLY (EIA)

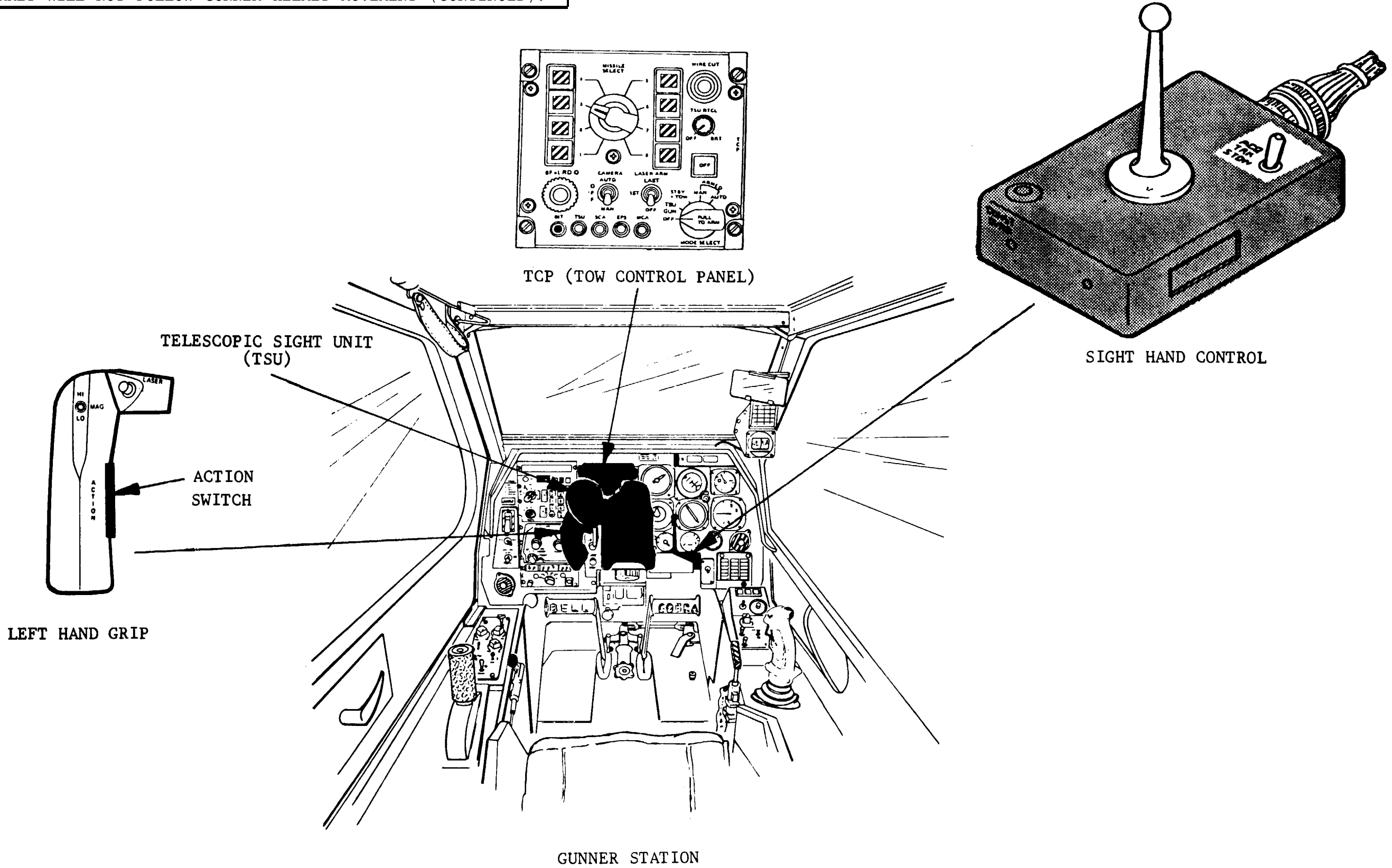


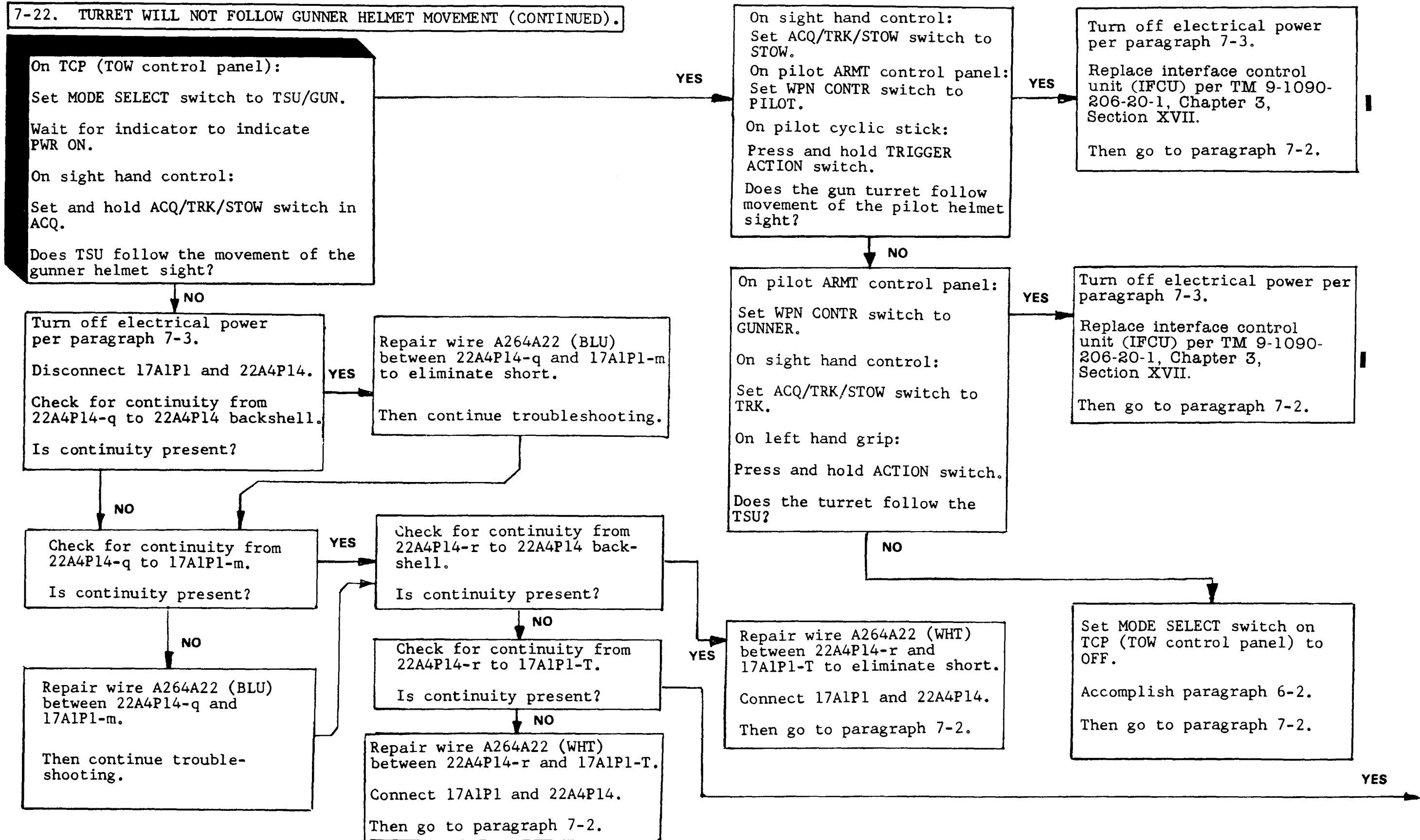
PILOT ARMT CONTROL PANEL



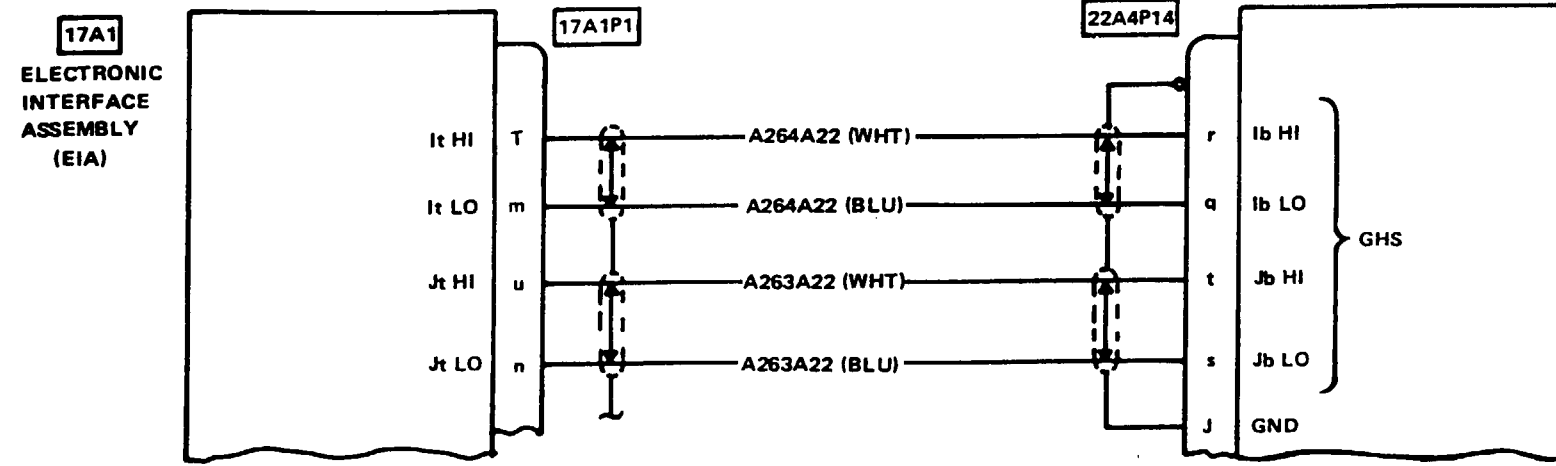
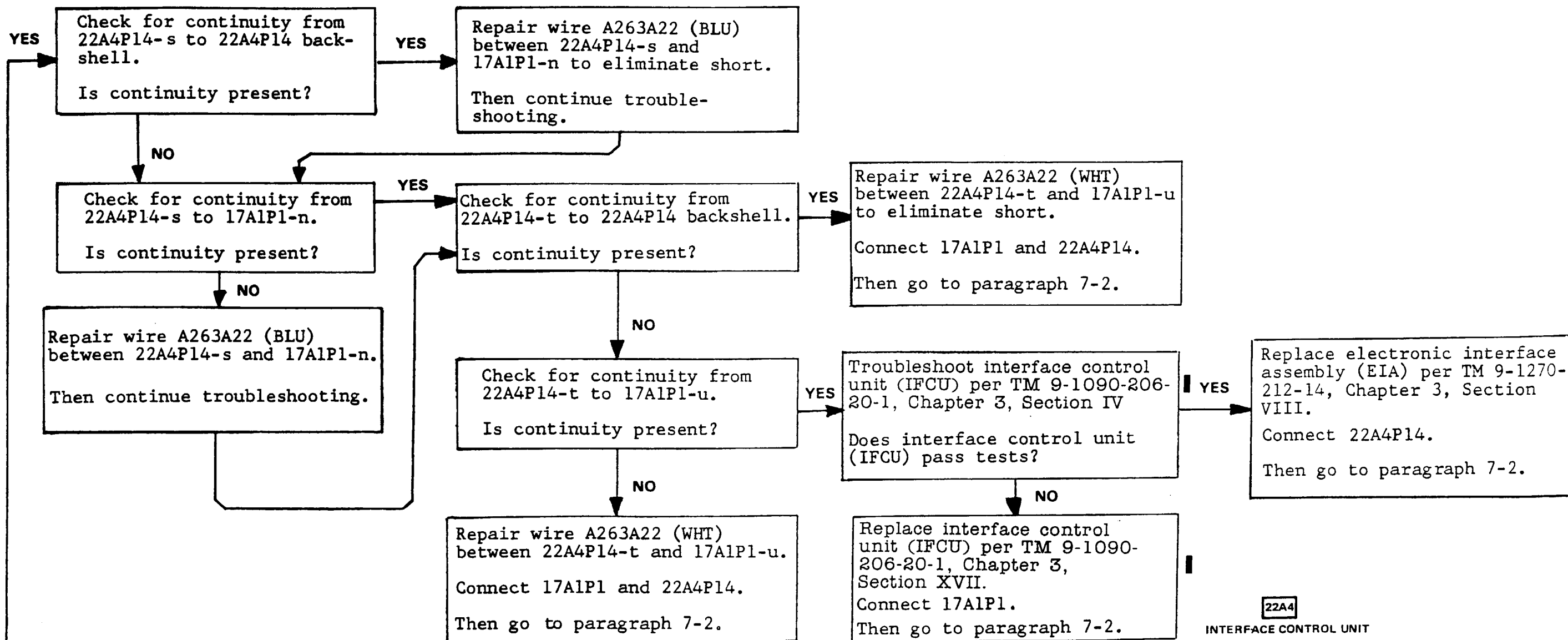
PILOT STATION

7-22. TURRET WILL NOT FOLLOW GUNNER HELMET MOVEMENT (CONTINUED).





7-22. TURRET WILL NOT FOLLOW GUNNER HELMET MOVEMENT (CONTINUED).



7-23. GUNNER HELMET EYEPIECE WILL NOT RETRACT WHEN ACQ/TRK/STOW SWITCH IS RELEASED.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

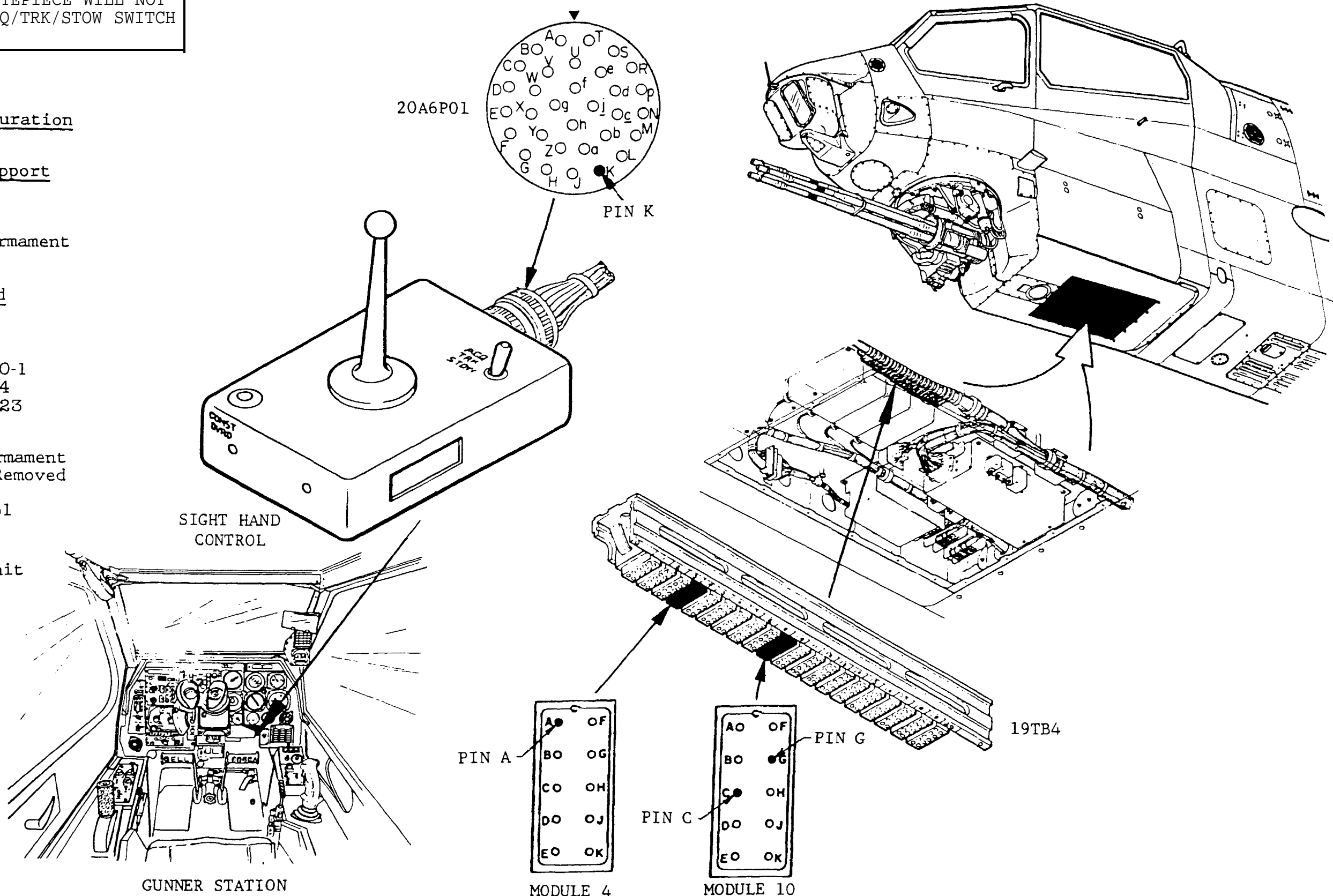
Personnel Required
68J (2)

References
TM 9-1090-206-20-1
TM 9-1270-212-14
TM 55-1520-236-23

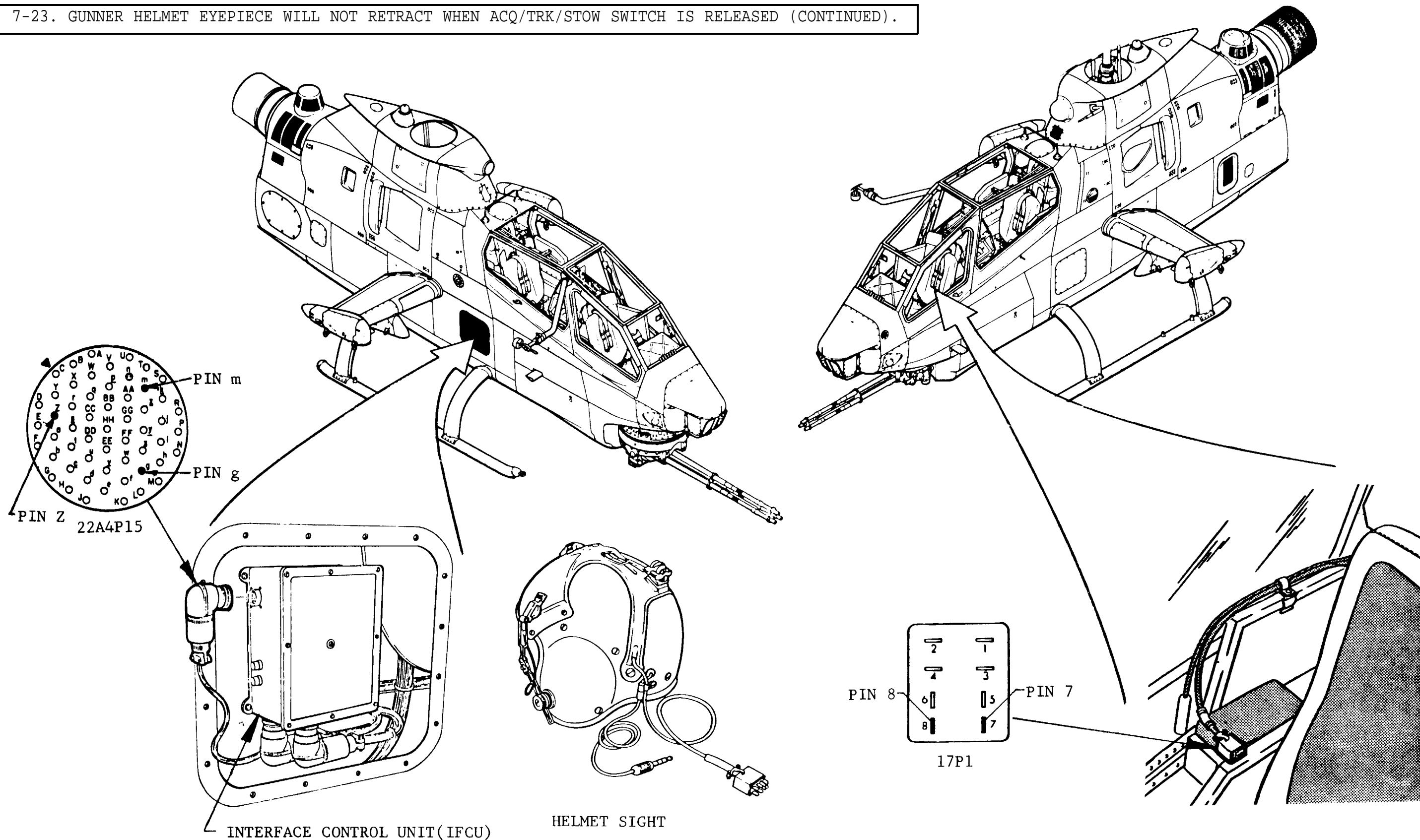
Access Panels
Forward Belly Armament and Lighting - Removed

Interface Control Unit - Removed

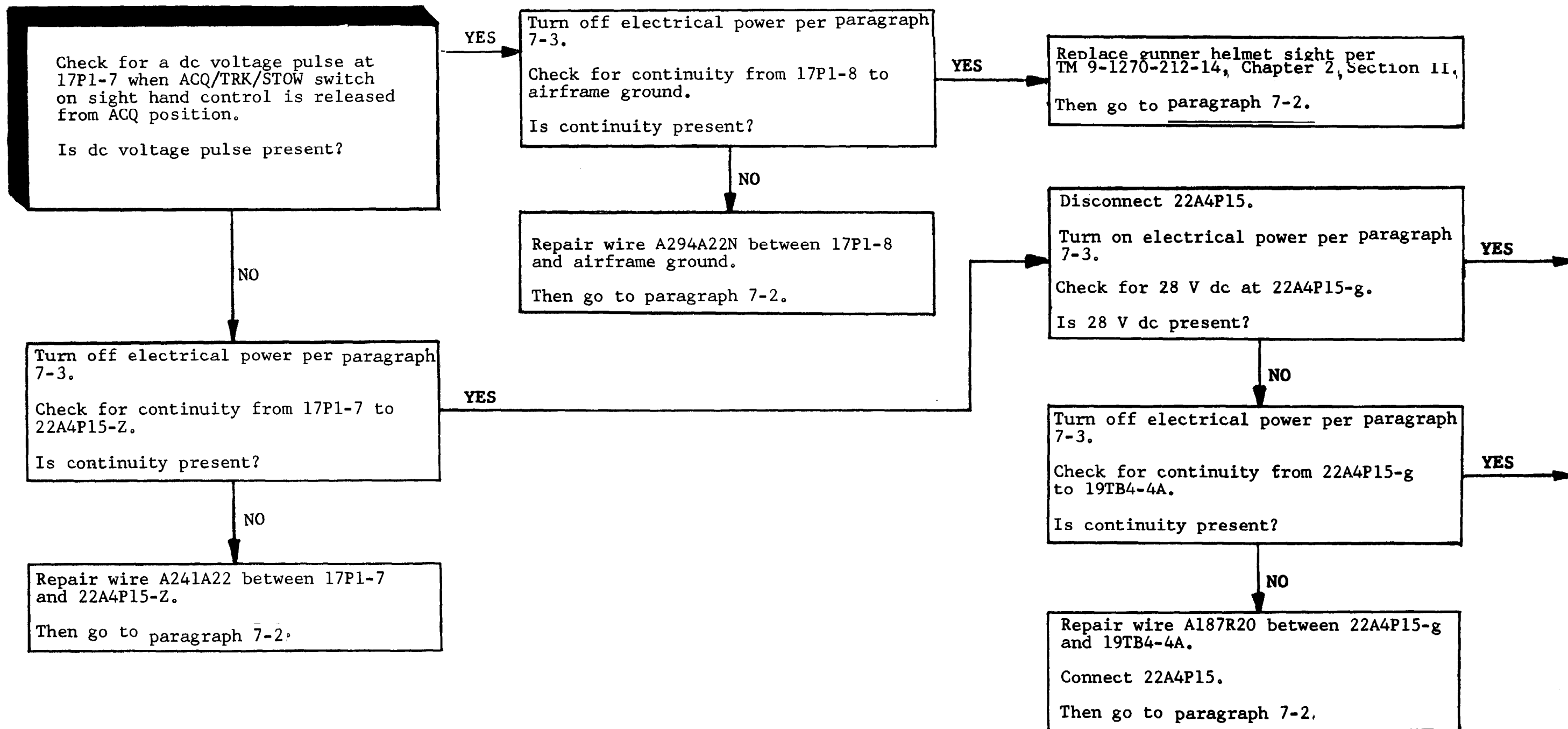
Logic Control Unit Removed



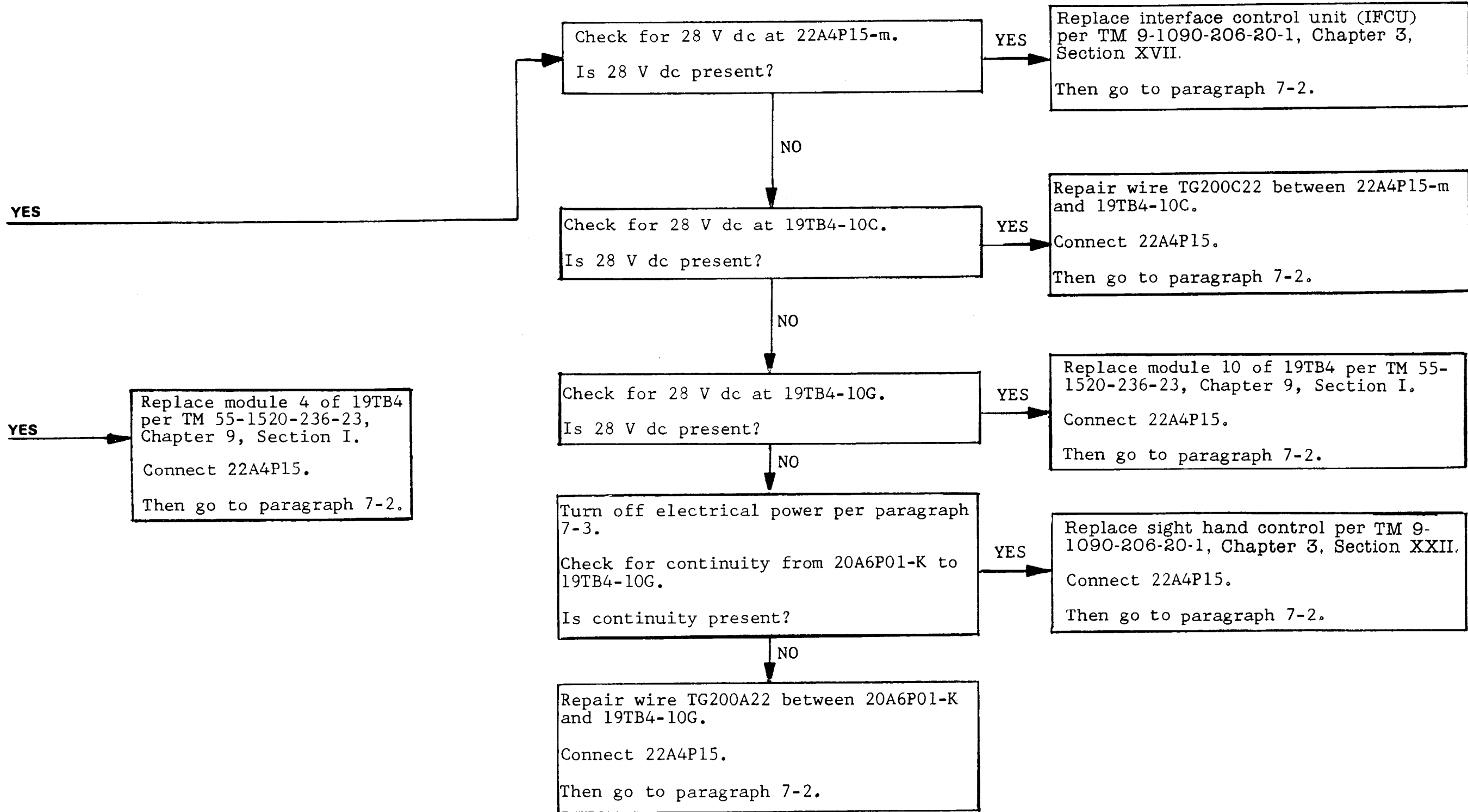
7-23. GUNNER HELMET EYEPIECE WILL NOT RETRACT WHEN ACQ/TRK/STOW SWITCH IS RELEASED (CONTINUED).



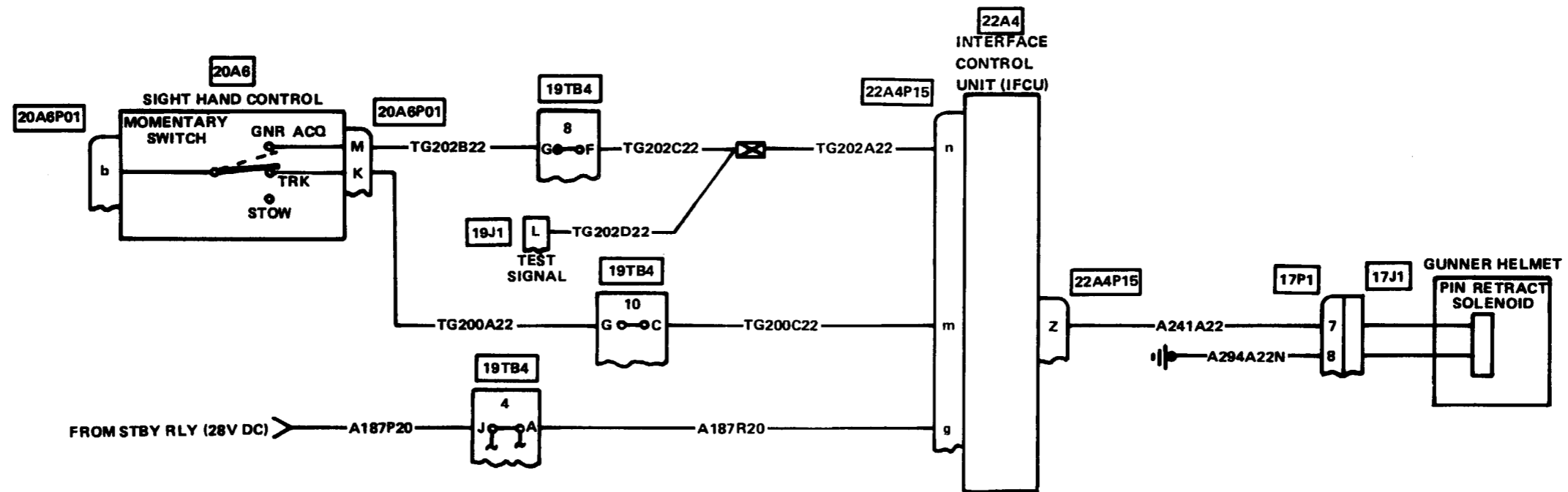
7-23. GUNNER HELMET EYEPiece WILL NOT RETRACT WHEN ACQ/TRK/STOW SWITCH IS RELEASED (CONTINUED).



7-23. GUNNER HELMET EYEPIECE WILL NOT RETRACT WHEN ACQ/TRK/STOW SWITCH IS RELEASED (CONTINUED).



7-23. GUNNER HELMET EYEPiece WILL NOT RETRACT WHEN ACQ/TRK/STOW SWITCH IS RELEASED (CONTINUED).



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7-24. GUNNER EYEPIECE WILL NOT RETRACT WHEN ACQ SWITCH IS HELD IN PHS.

INITIAL SETUP

Applicable Configuration
All

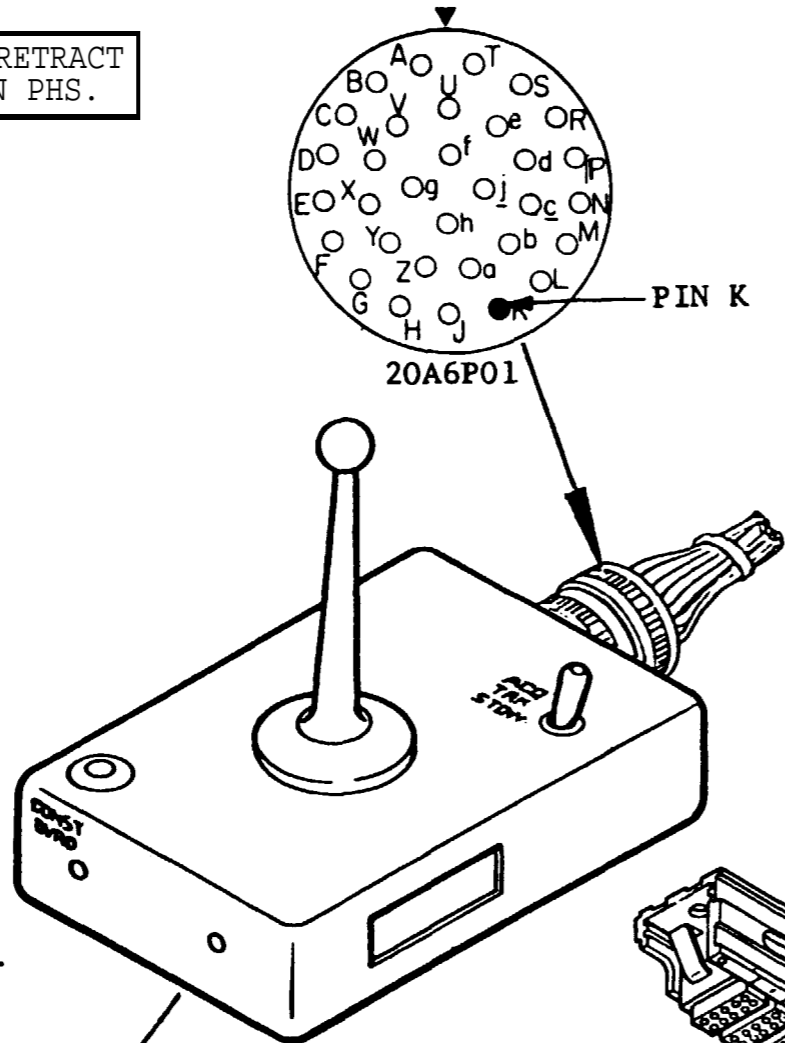
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

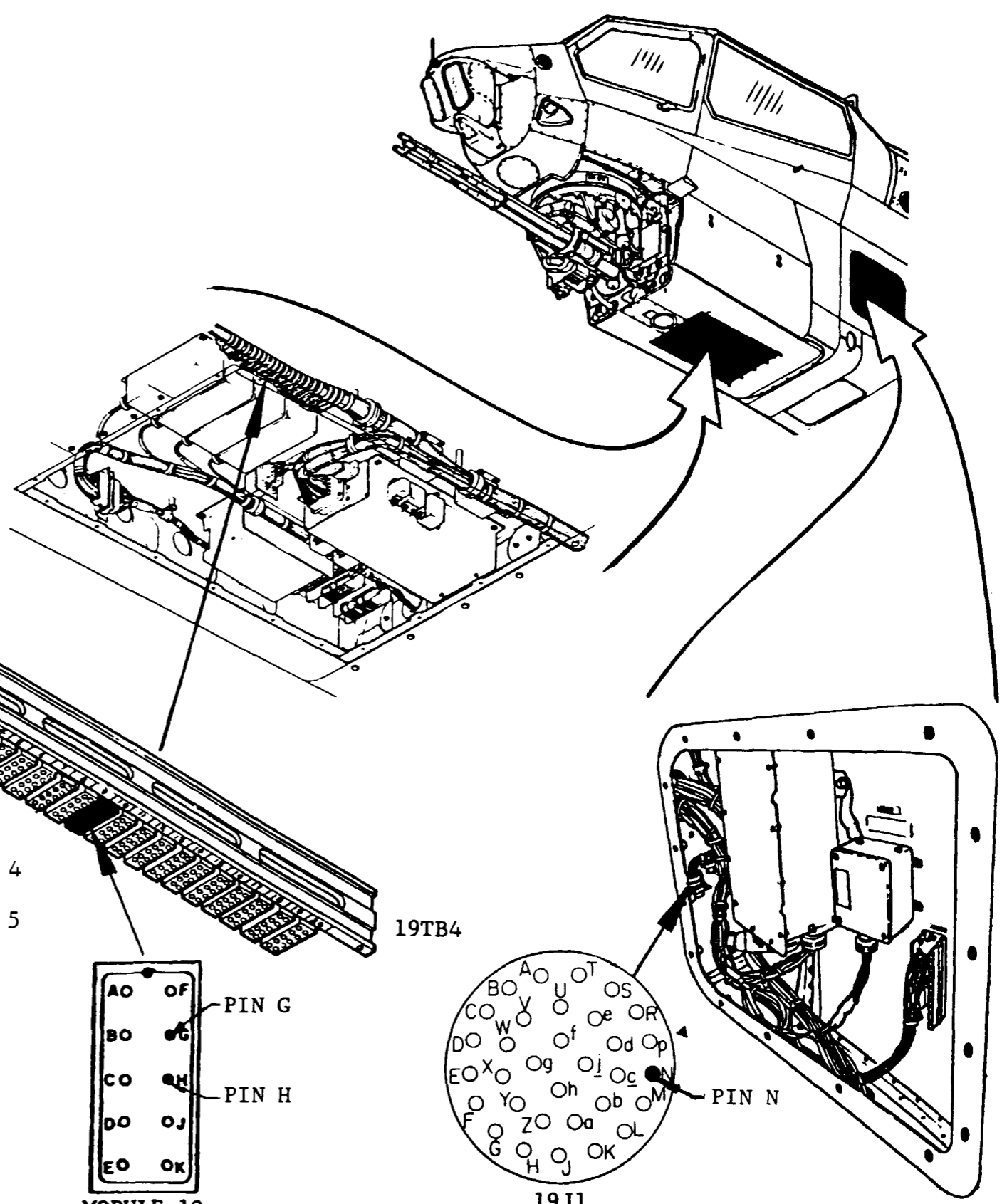
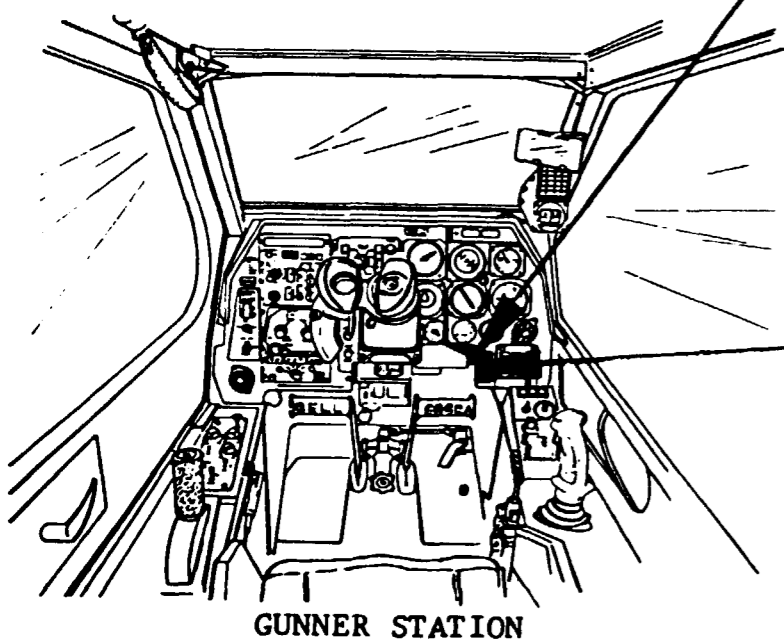
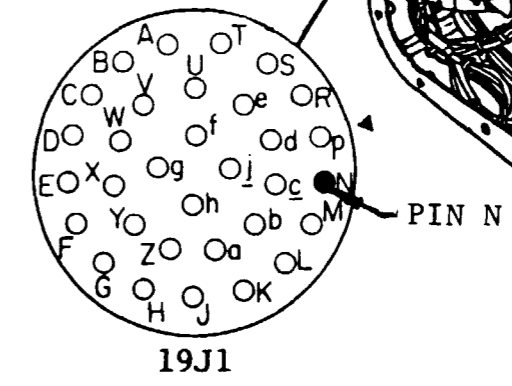
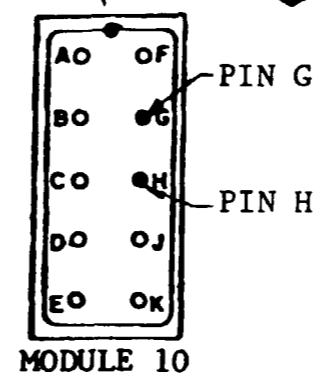
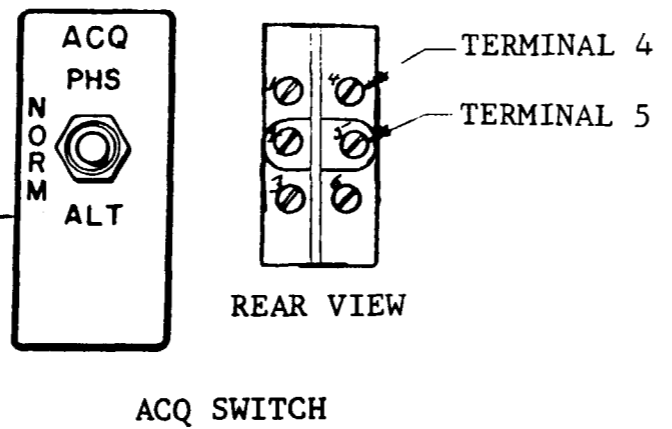
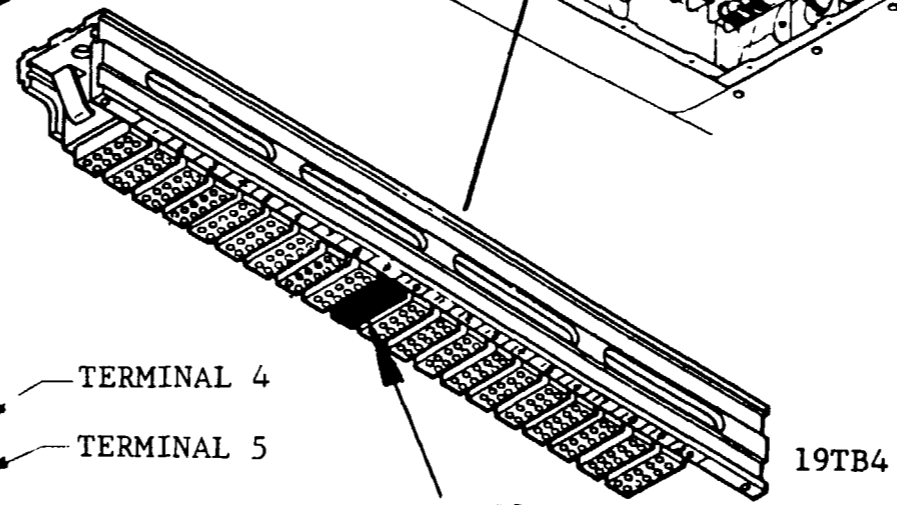
Personnel Required
68J (2)

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

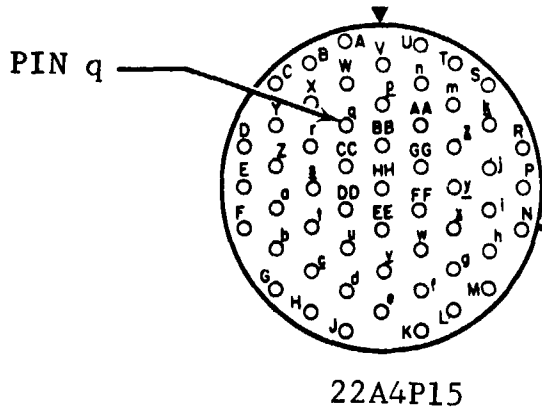
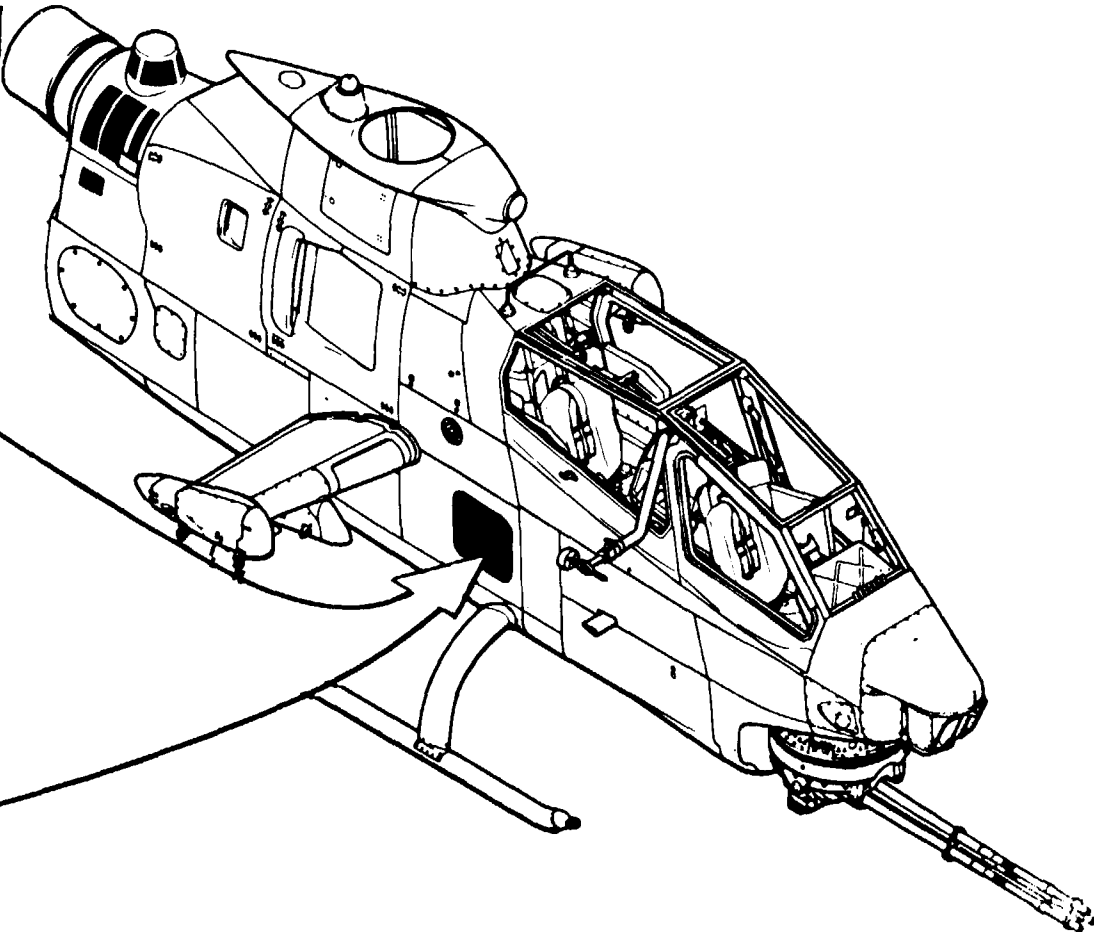
Access Panels
Forward Belly Armament and Lighting - Removed
Logic Control Unit - Removed
Interface Control Unit - Removed



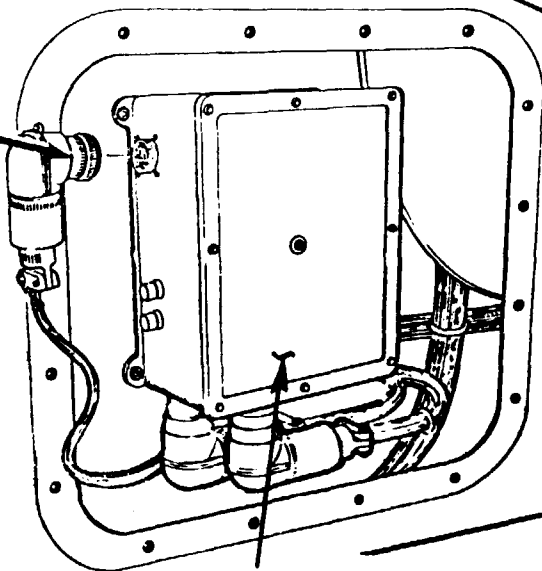
SIGHT HAND CONTROL



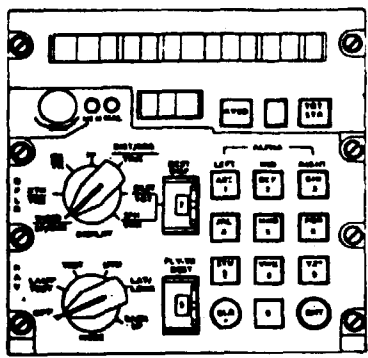
7-24. GUNNER EYEPiece WILL NOT RETRACT WHEN ACQ SWITCH IS HELD IN PHS (CONTINUED).



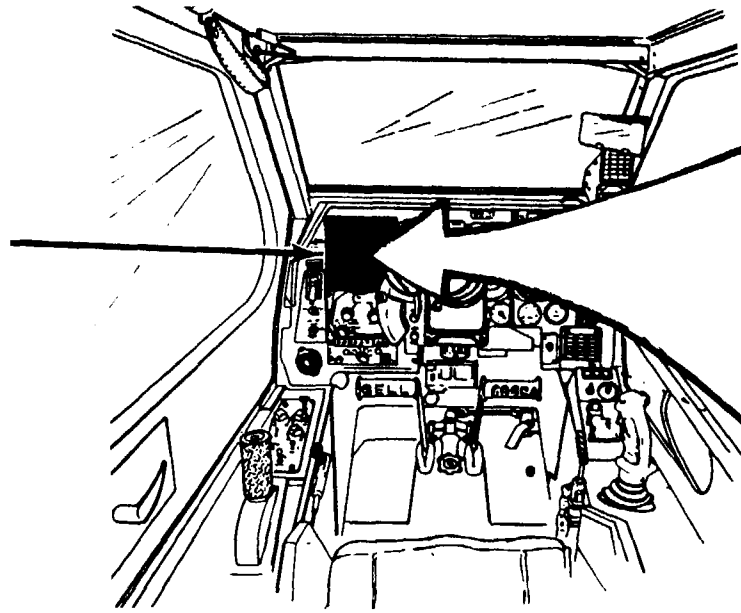
22A4P15



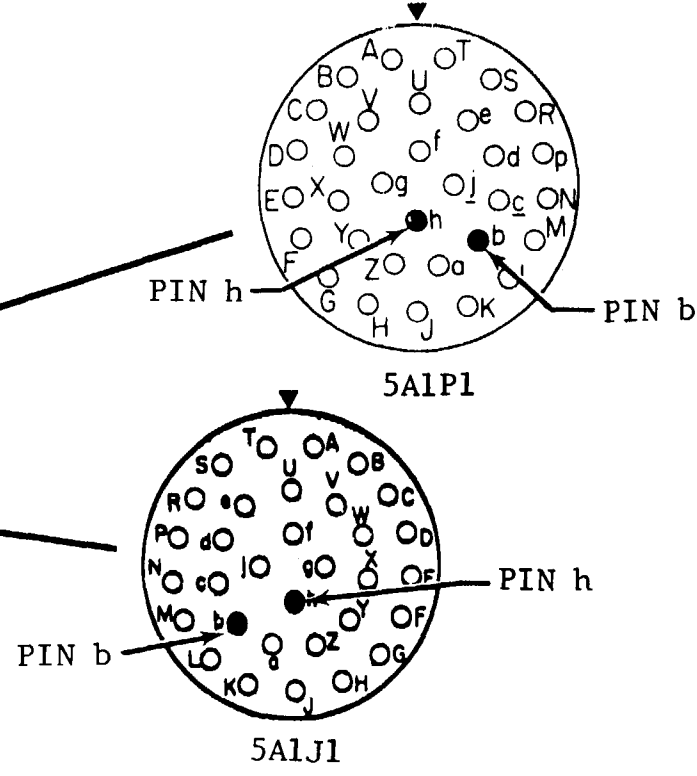
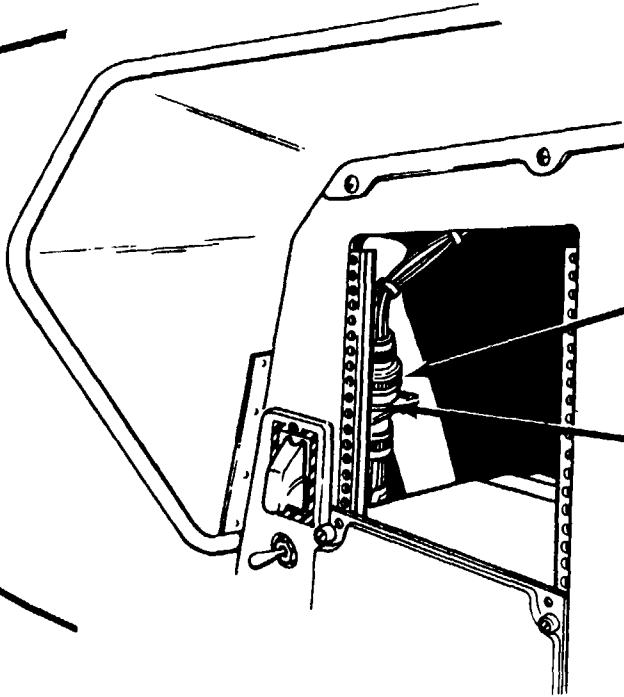
INTERFACE CONTROL UNIT (IFCU)



DPLR NAV CONTROL PANEL



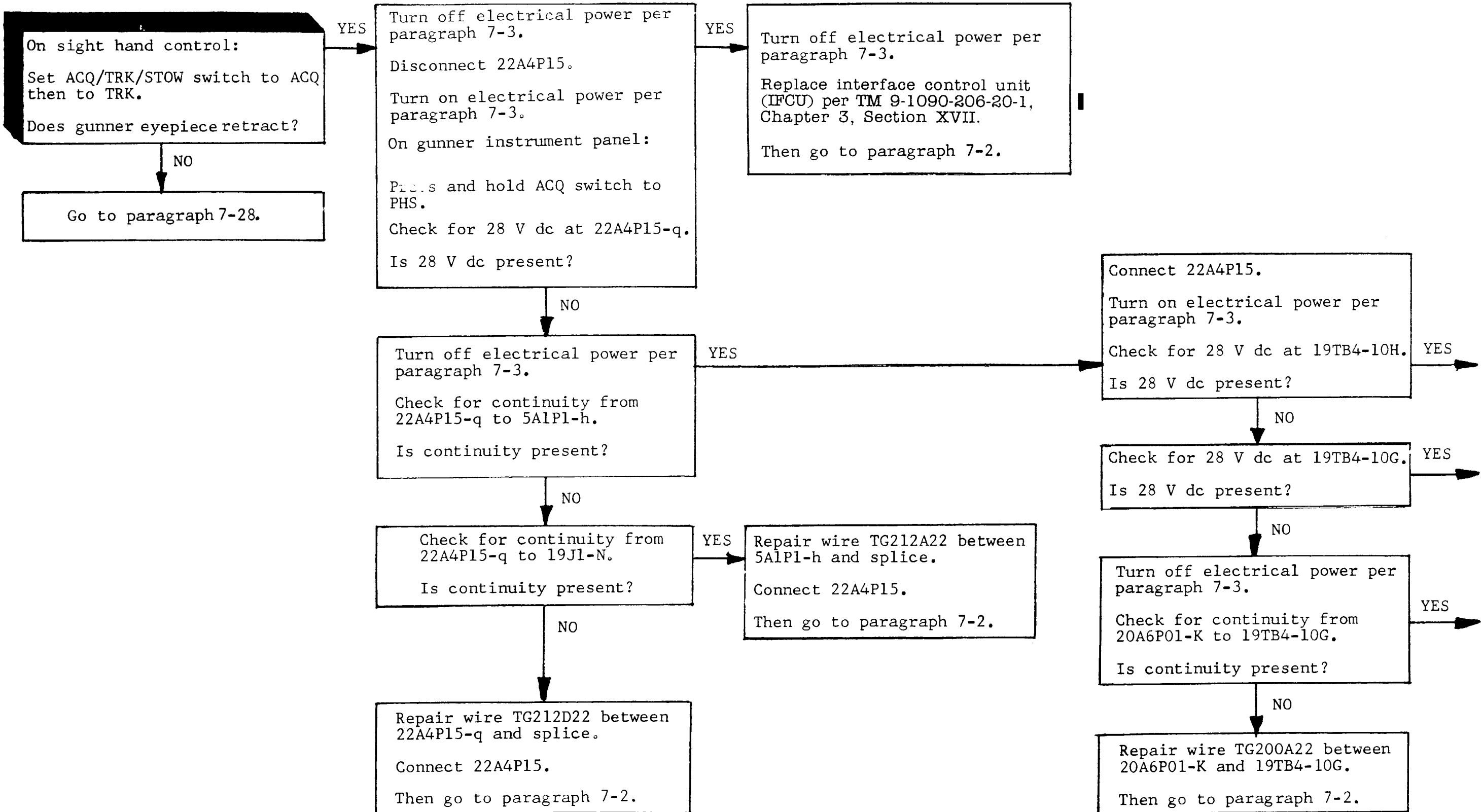
GUNNER STATION



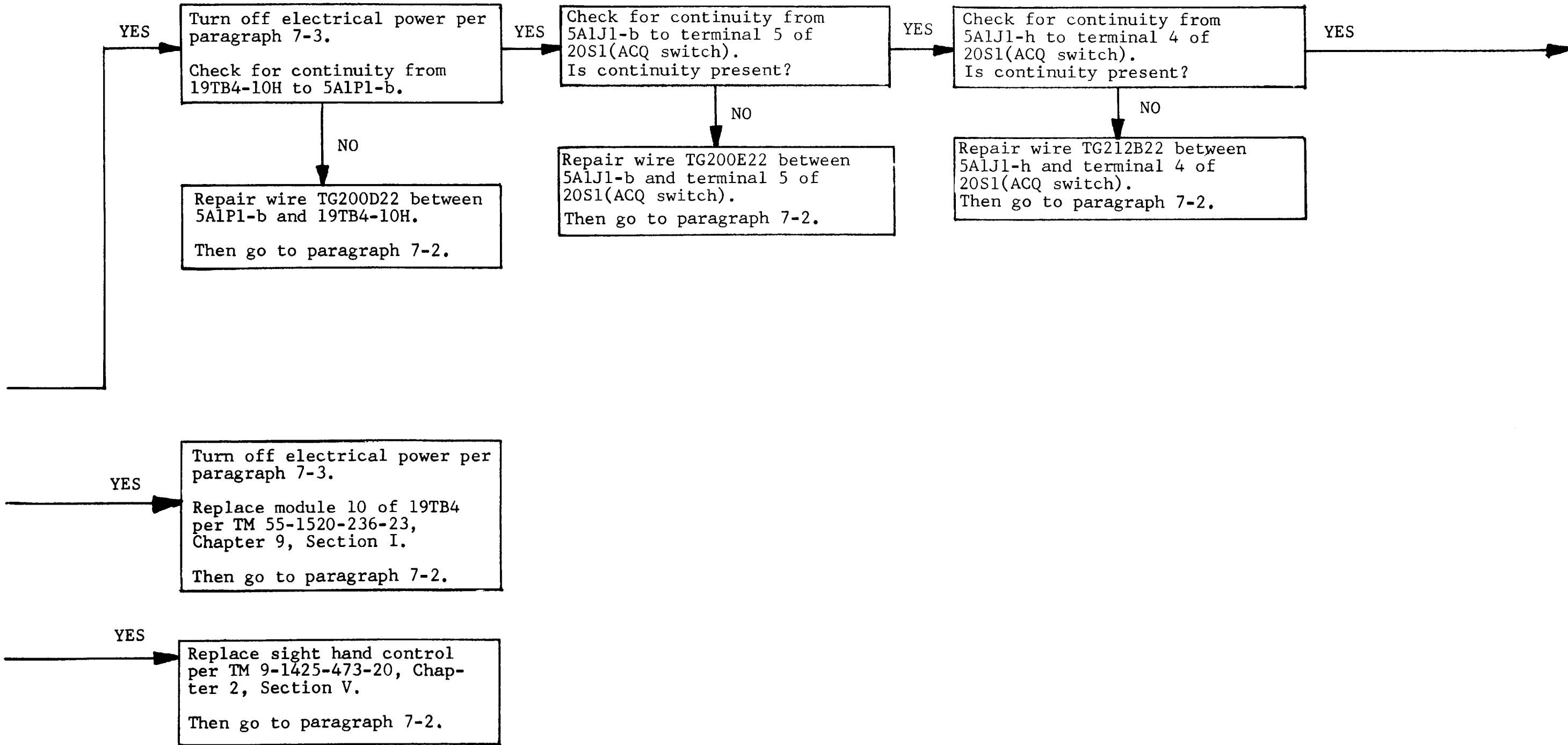
5A1P1

5A1J1

7-24. GUNNER EYEPiece WILL NOT RETRACT WHEN ACQ SWITCH IS HELD IN PHS (CONTINUED).



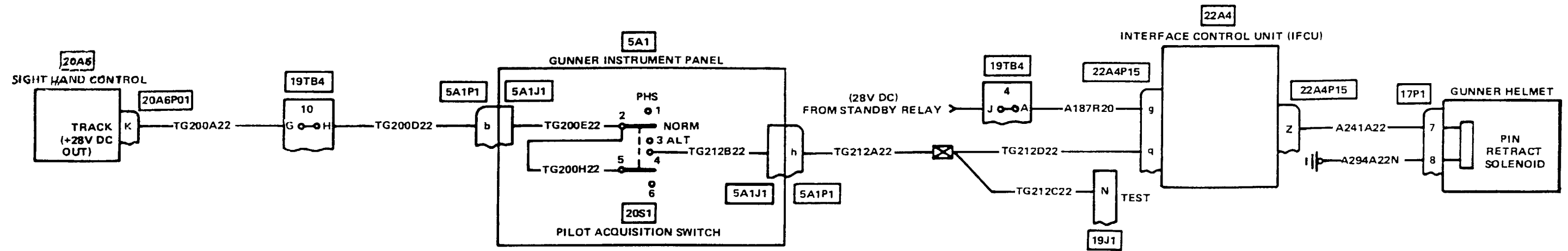
7-24. GUNNER EYEPIECE WILL NOT RETRACT WHEN ACQ SWITCH IS HELD IN PHS (CONTINUED).



7-24. GUNNER EYEPIECE WILL NOT RETRACT WHEN ACQ SWITCH IS HELD IN PHS (CONTINUED).

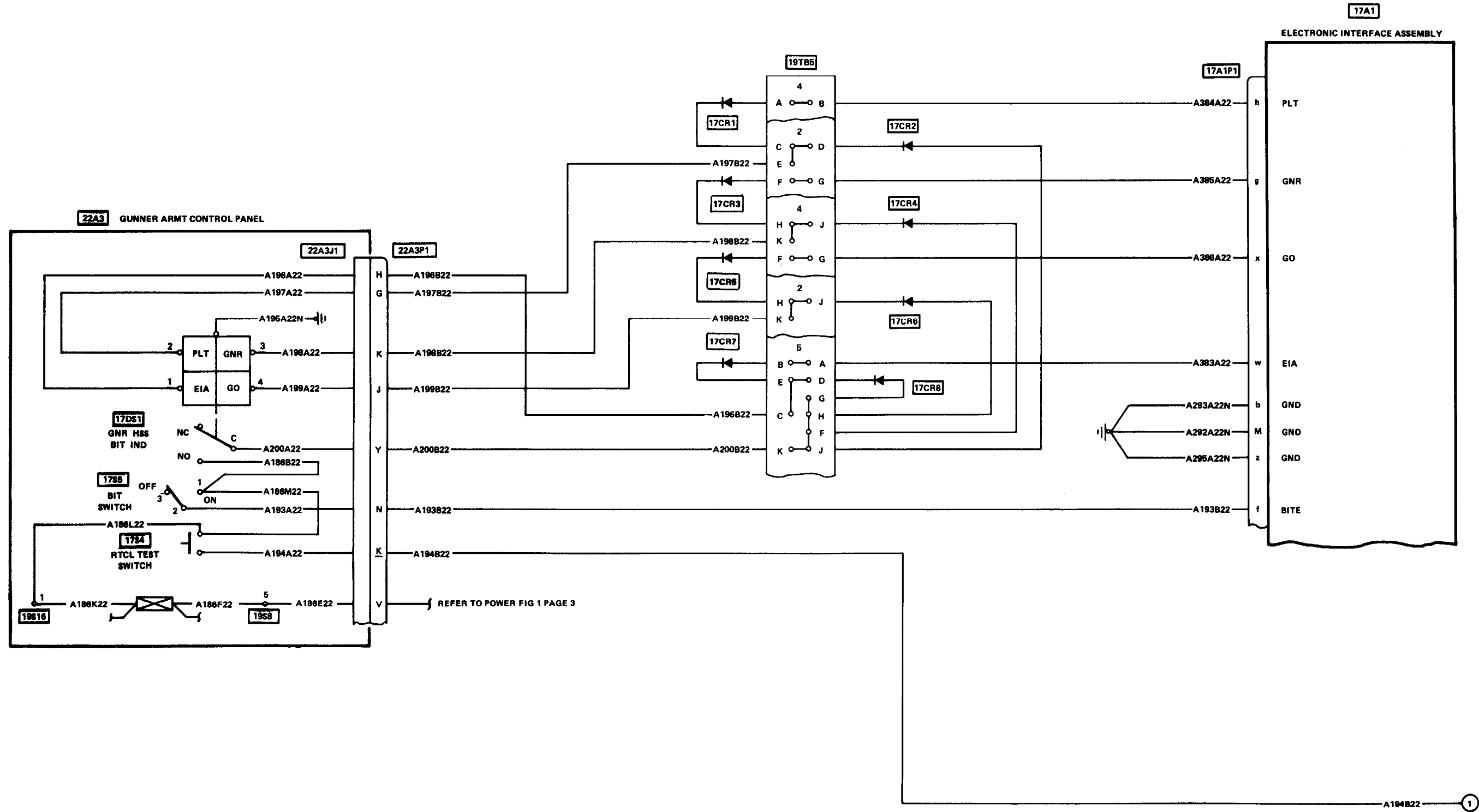
YES

Replace ACQ switch (20S1) per TM 9-1090-206-20-1, Chapter 3, Section XXIV.
Then go to paragraph 7-2.

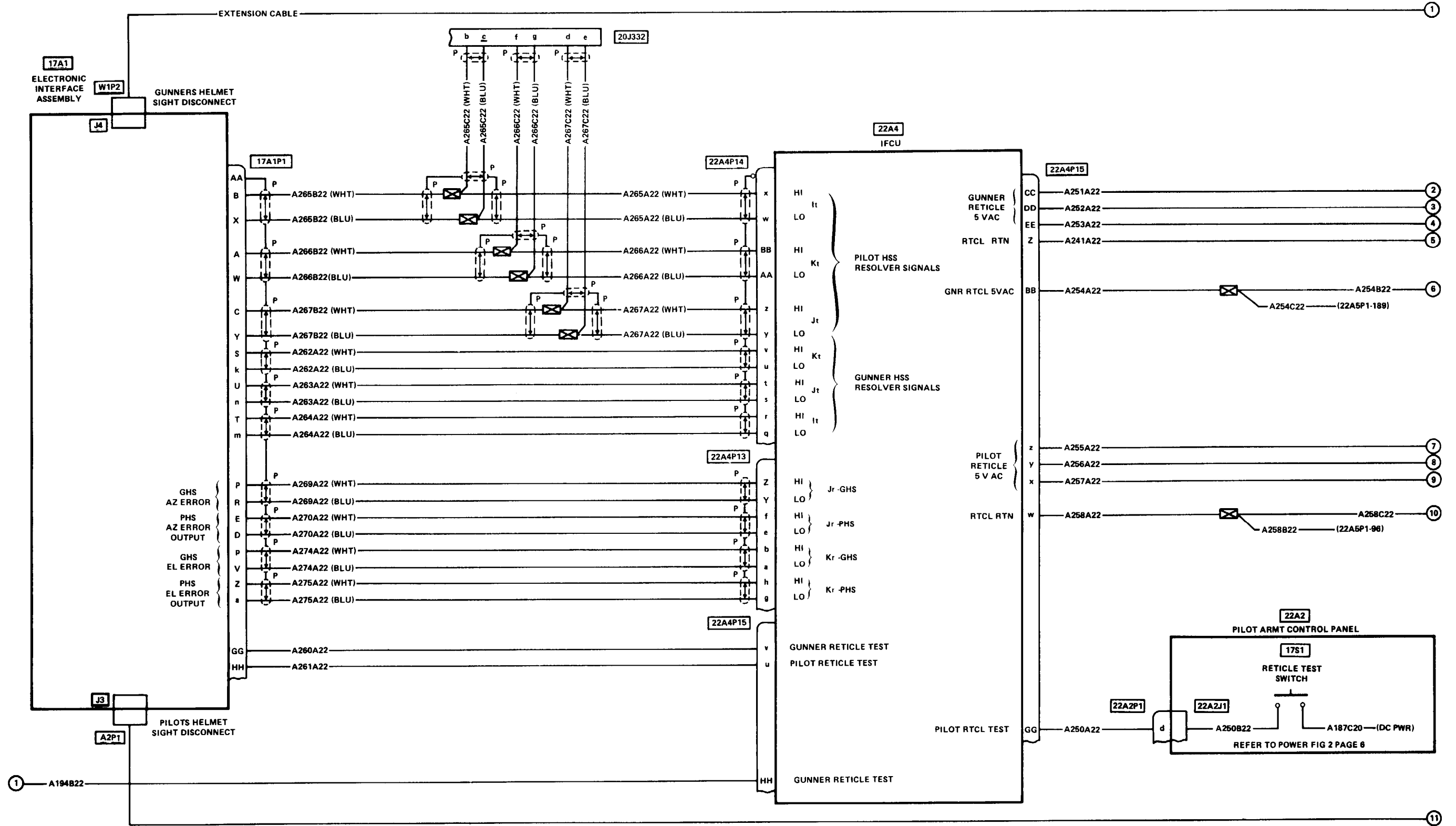


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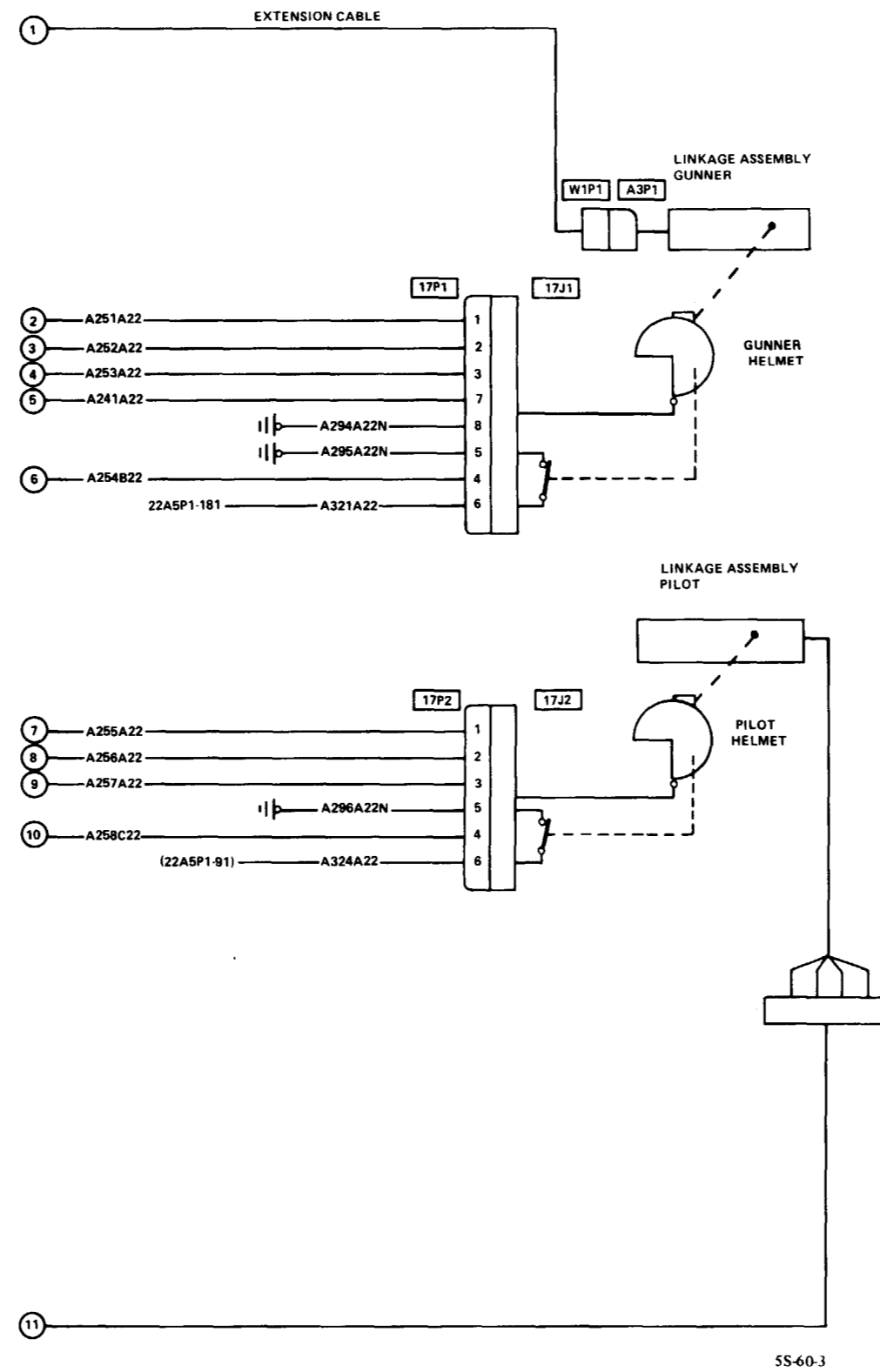
IFCU Interface and BIT (Sheet 1 of 3)



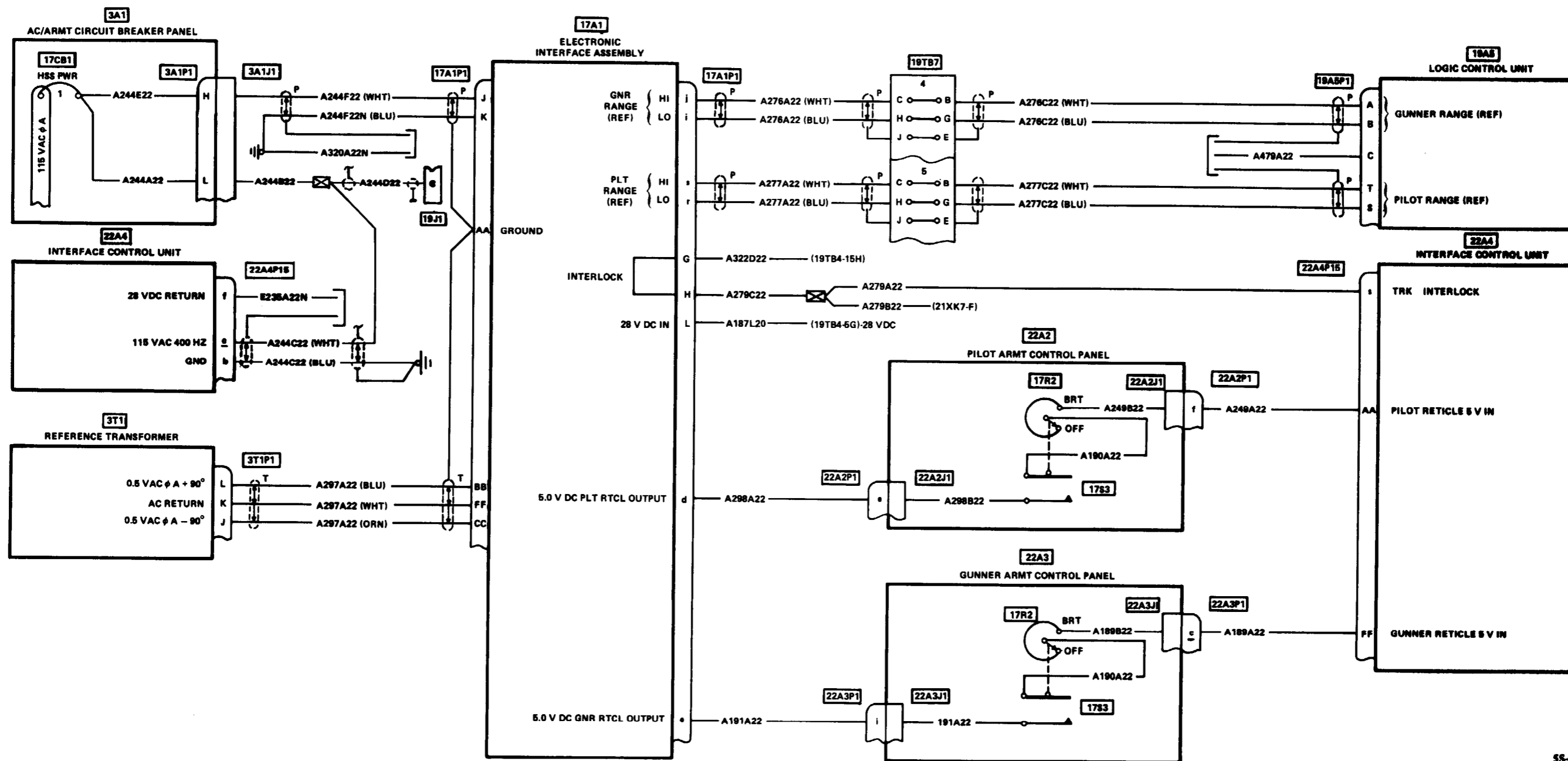
IFCU Interface and BIT (Sheet 2 of 3)



IFCU Interface and BIT (Sheet 3 of 3)

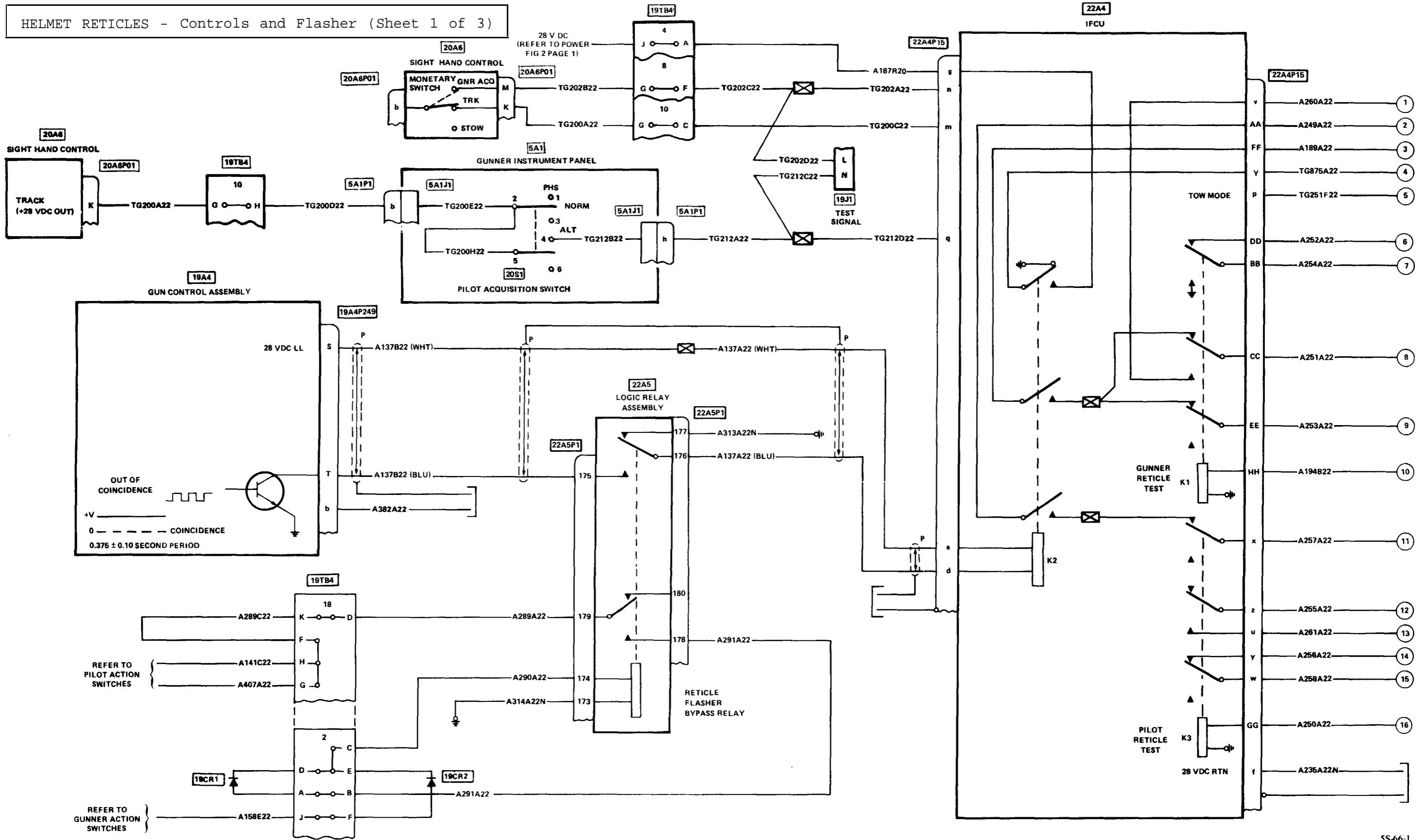


POWER and CONTROL (Sheet 1 of 1)

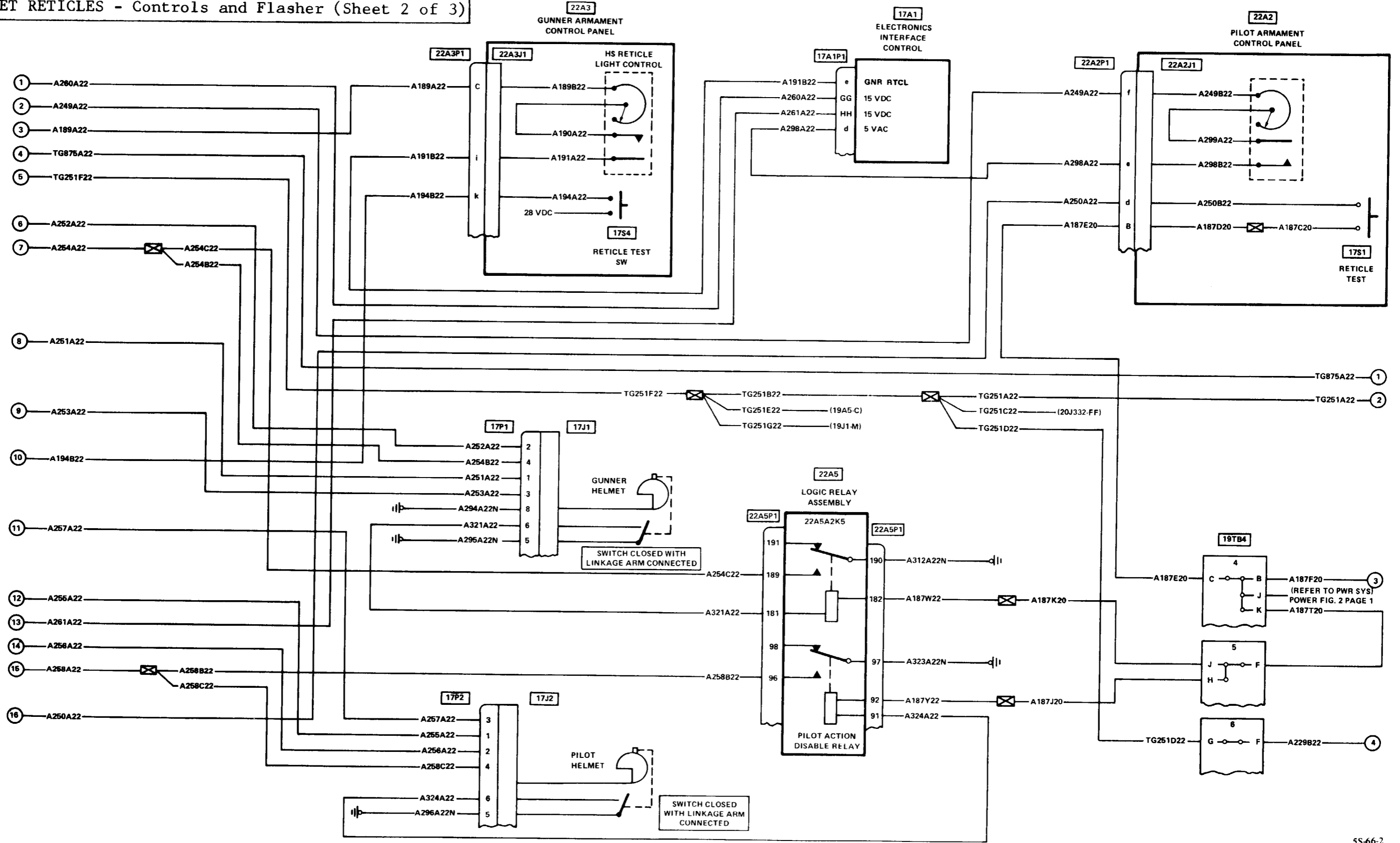


55-61

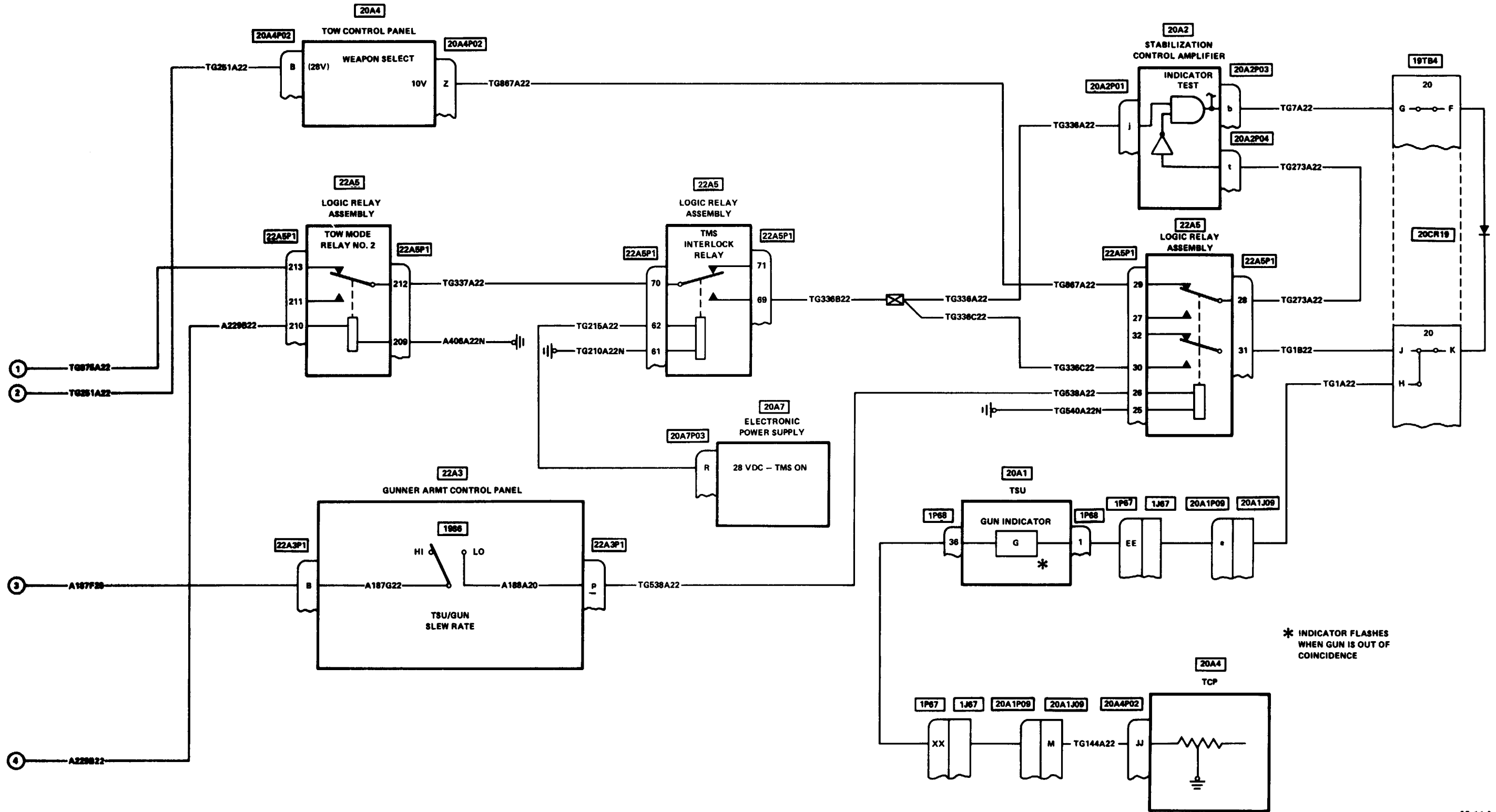
HELMET RETICLES - Controls and Flasher (Sheet 1 of 3)



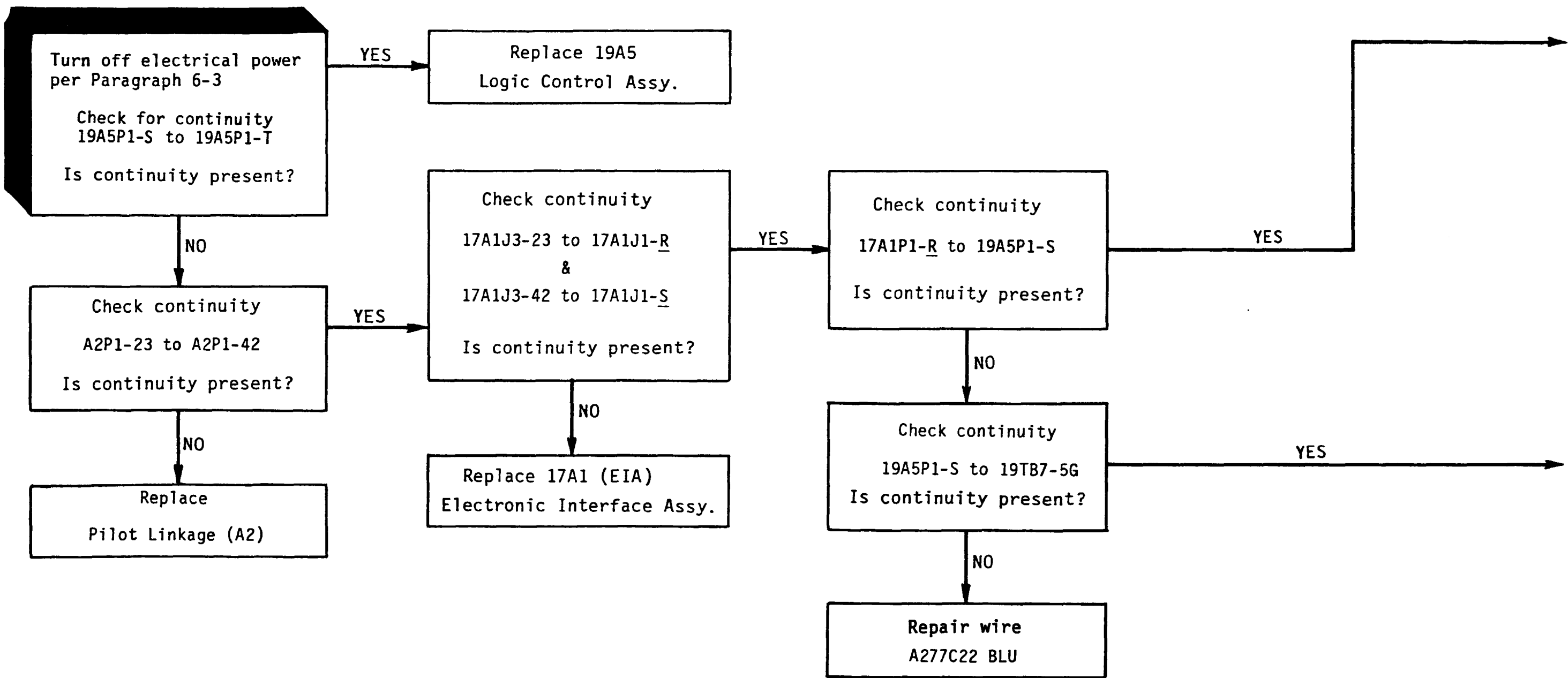
HELMET RETICLES - Controls and Flasher (Sheet 2 of 3)



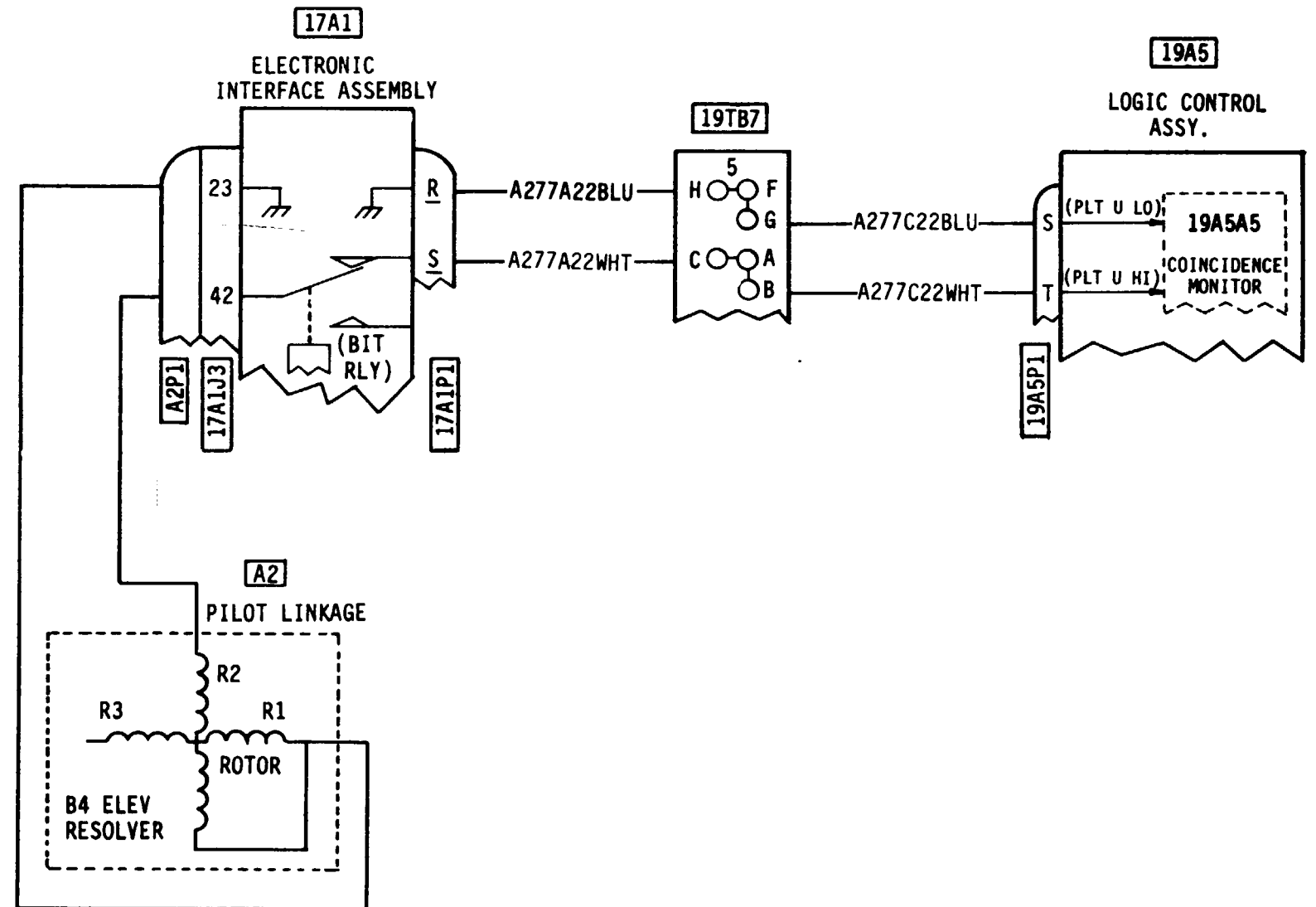
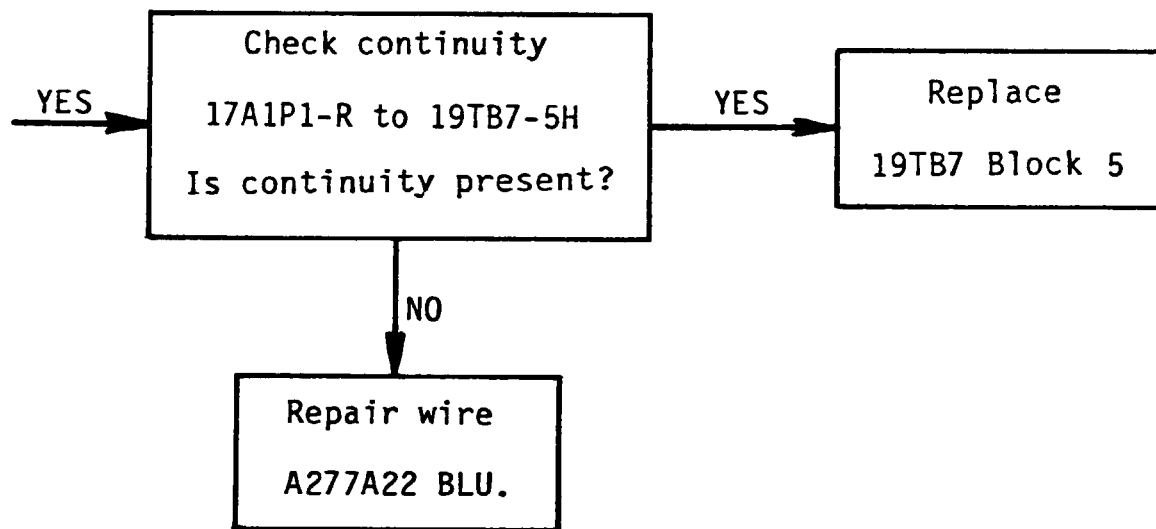
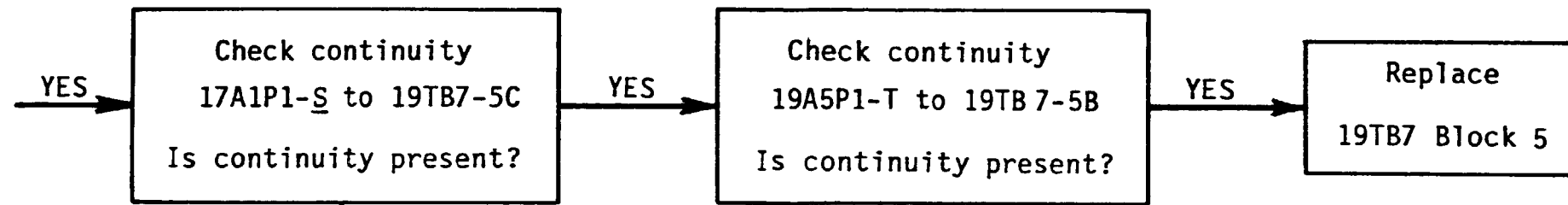
HELMET RETICLES - Controls and Flasher (Sheet 3 of 3)



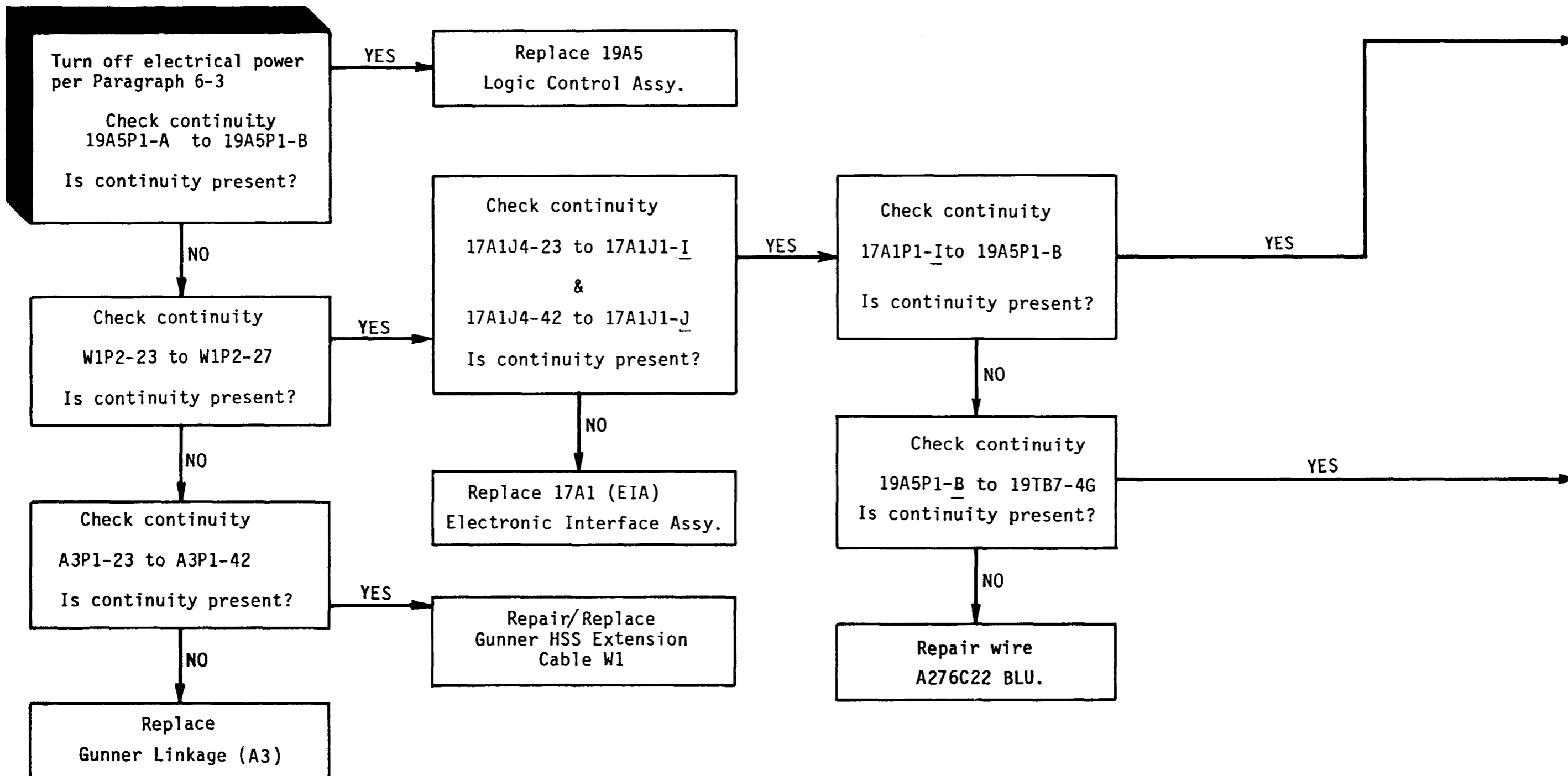
7-25 PILOT HSS RETICLE FLASHES CONTINUOUSLY WHILE ACTION SWITCH DEPRESSED. TURRET FOLLOWS SIGHT IN COINCIDENCE



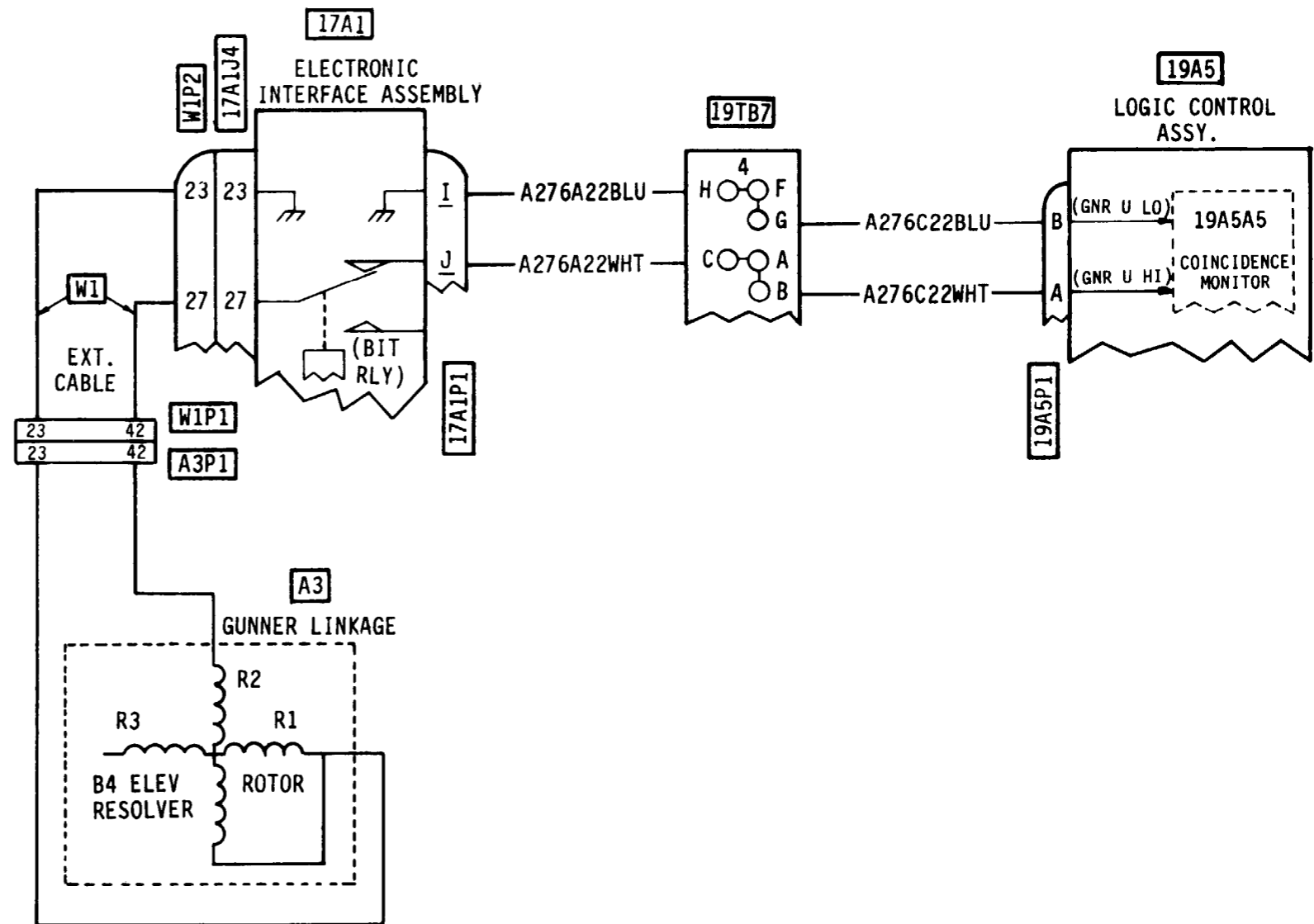
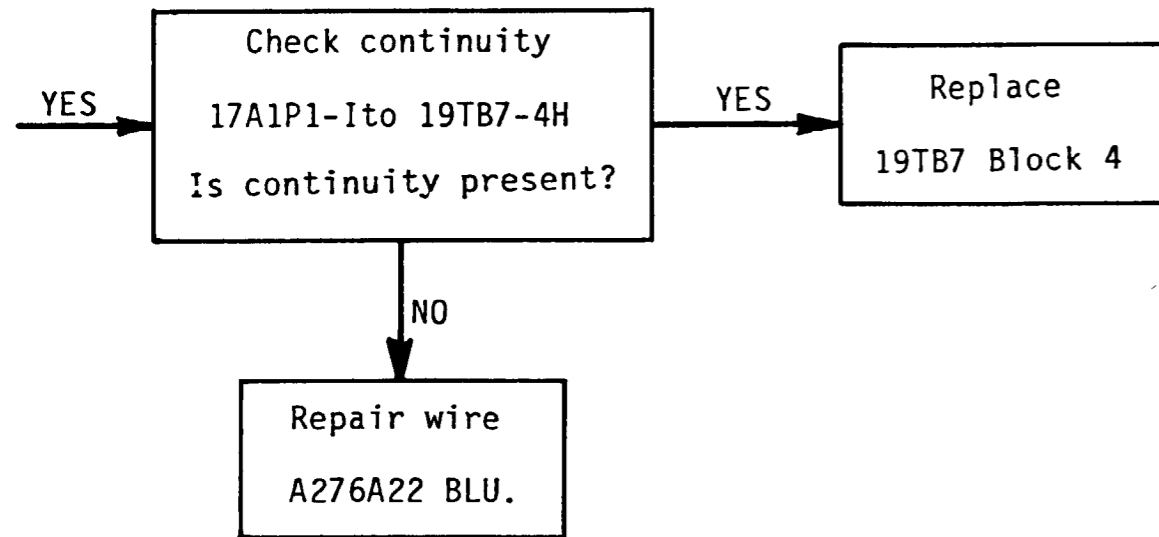
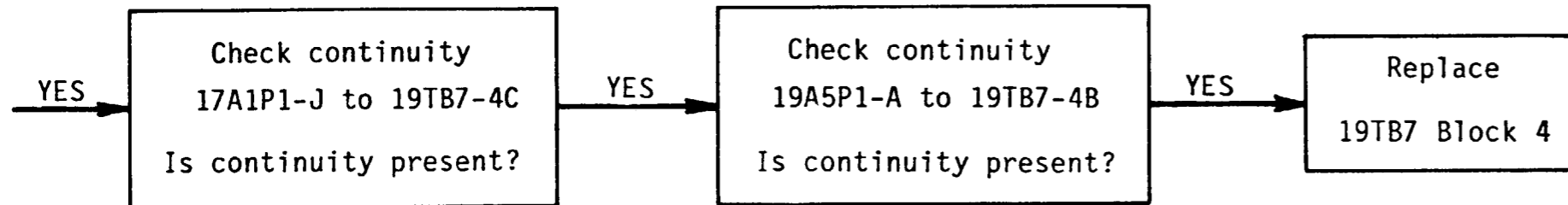
7-25 PILOT HSS RETICLE FLASHES CONTINUOUSLY WHILE ACTION SWITCH DEPRESSED. TURRET FOLLOWS SIGHT IN COINCIDENCE (Continued).



7-26 GUNNER HSS RETICLE FLASHES CONTINUOUSLY WHILE ACTION SWITCH DEPRESSED. TURRET FOLLOWS SIGHT IN COINCIDENCE



7-26 GUNNER HSS RETICLE FLASHES CONTINUOUSLY WHILE ACTION SWITCH DEPRESSED. TURRET FOLLOWS SIGHT IN COINCIDENCE (Continued).



CHAPTER 8

TOW MISSILE SUBSYSTEM (TMS) TROUBLESHOOTING

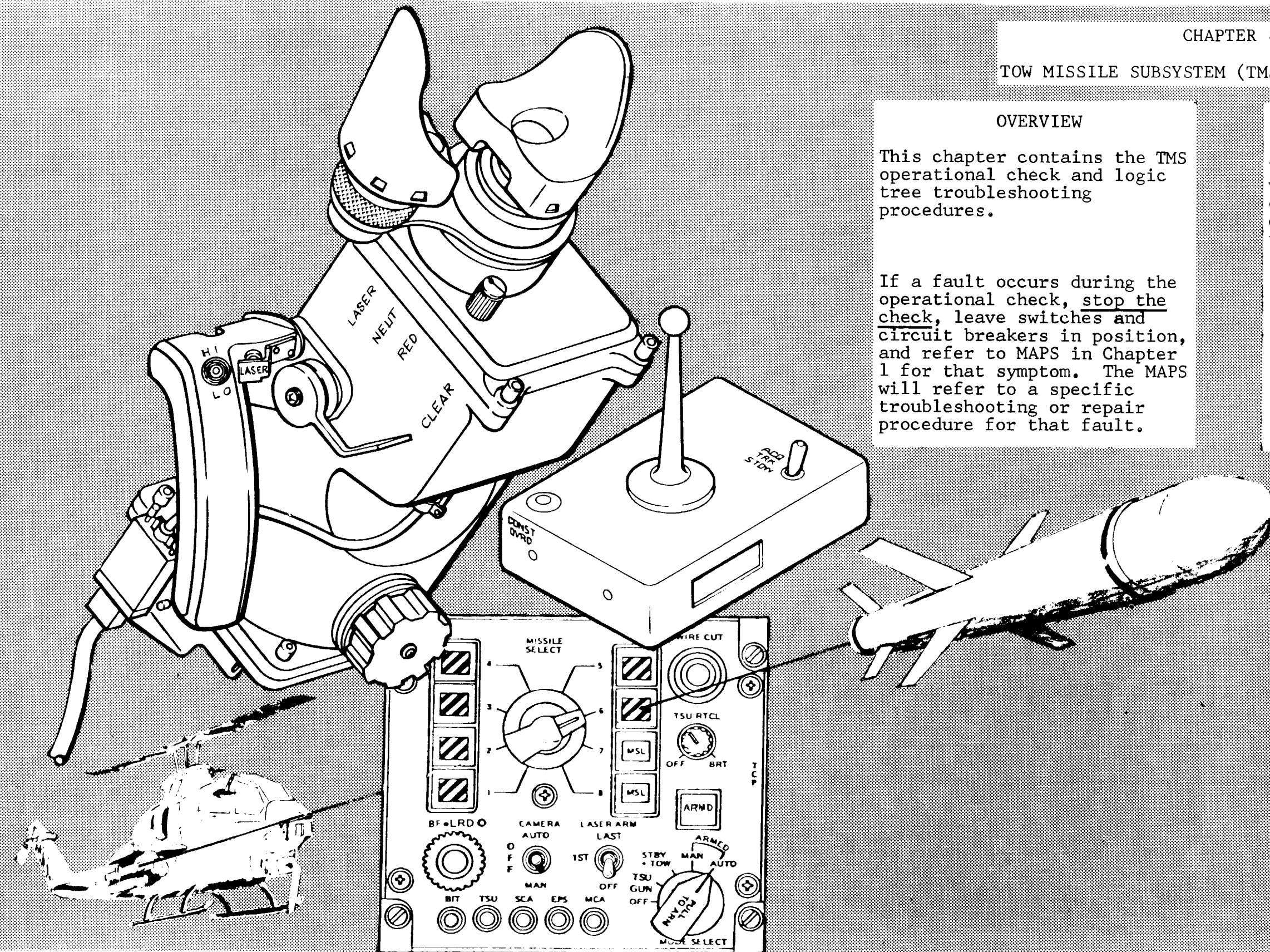
OVERVIEW

This chapter contains the TMS 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 unless otherwise noted in the procedures.



8-1. TMS PRE-OPERATIONAL CHECK SETUP.

INITIAL SETUP

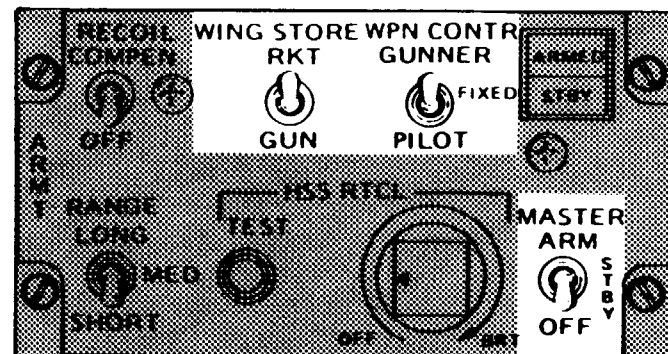
Applicable Configuration
All

Tools/Test and Support Equipment
None

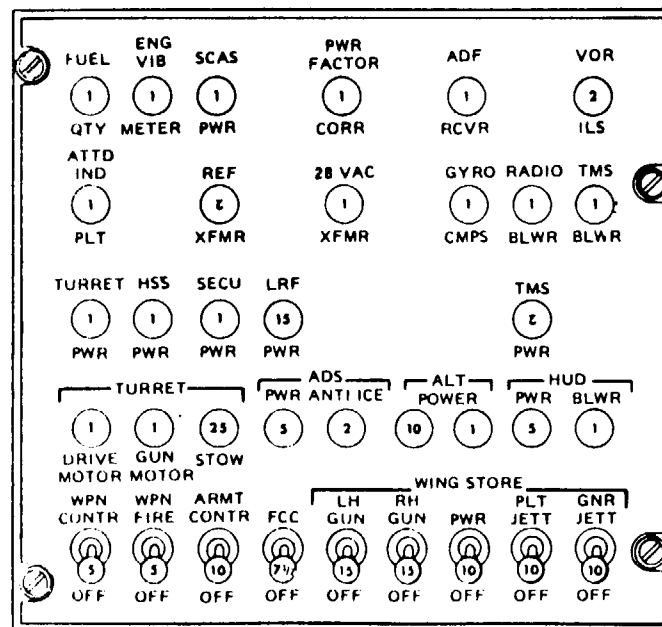
Personnel Required
68J (1)

Access Panels
Ammo Compartment Door - Open

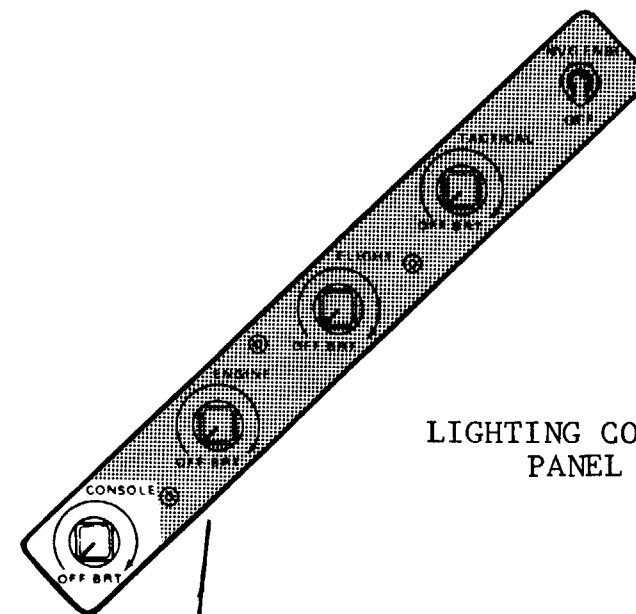
- a. Open (OFF) all circuit breakers on AC/ARMT circuit breaker panel.
- b. Open all circuit breakers on DC circuit breaker panel.
- c. Set pilot ARMT control panel switches:
 - (1) MASTER ARM to OFF.
 - (2) WING STORE to RKT.
 - (3) WPN CONTR to GUNNER.
- d. Set CONSOLE control on lighting control panel to OFF.



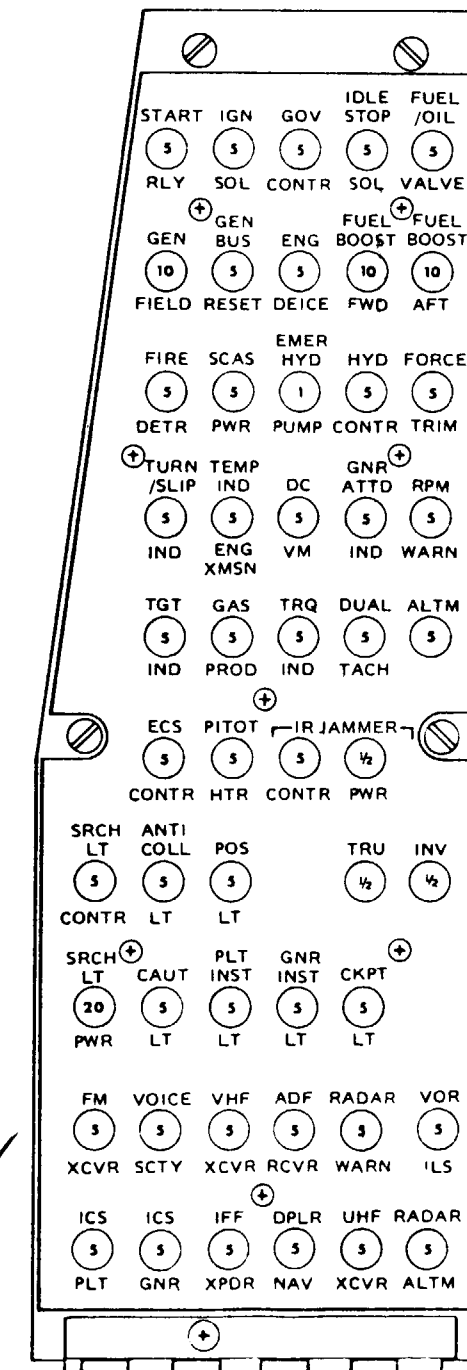
PILOT ARMT CONTROL PANEL



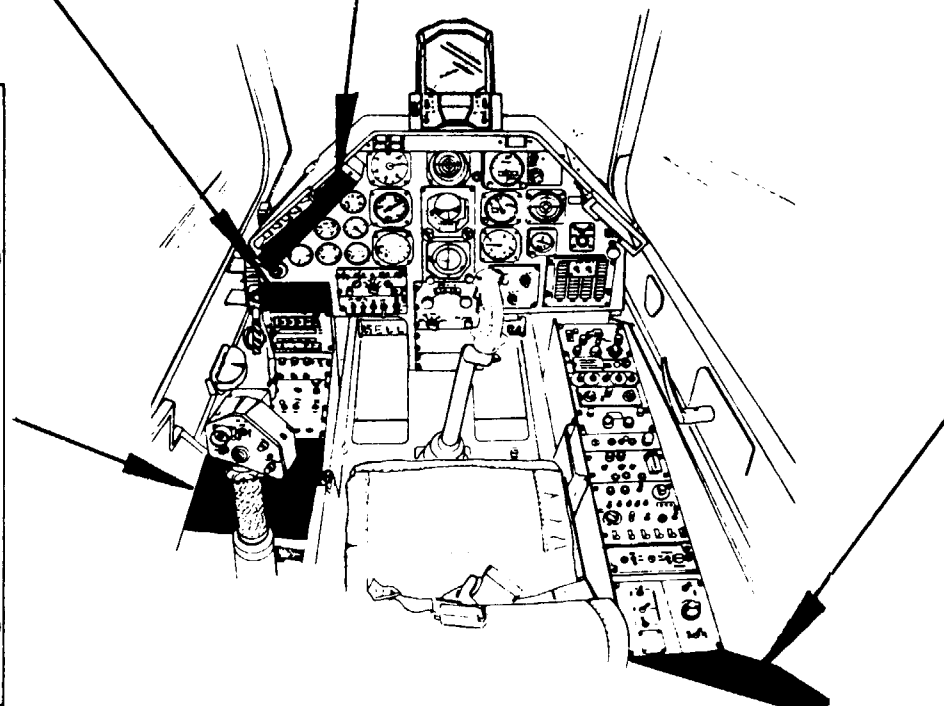
A/C ARMT CIRCUIT BREAKER PANEL



LIGHTING CONTROL PANEL



DC CIRCUIT BREAKER PANEL



PILOT STATION

8-1. TMS PRE-OPERATIONAL CHECK SETUP (CONTINUED).

e. Set TCP (Tow control panel) switches:

- (1) LASER ARM to OFF.
- (2) MODE SELECT to OFF.
- (3) CAMERA to OFF.

f. Set gunner armament control panel switches:

- (1) LASER SAFE/TURRET DEPR LIMIT TO LASER SAFE/TURRET DEPR LIMIT.
- (2) WING STORE to RKT.
- (3) PLT ORIDE to OFF.
- (4) TSU/GUN SLEW RATE to HIGH.
- (5) TUR SLEW to GND TEST.

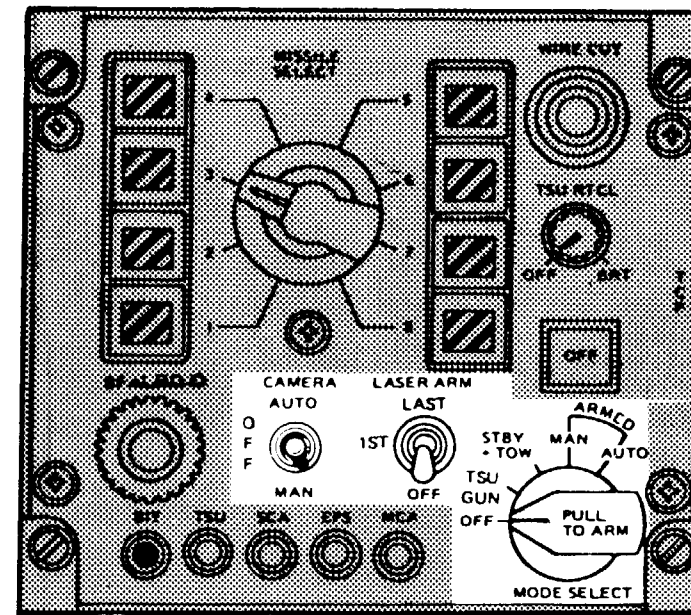
g. Set gunner miscellaneous control panel switches:

- (1) CSL LTS to OFF.
- (2) LTS to NORMAL.

h. Set LCHR BORESIGHT switch in ammo compartment to OFF.

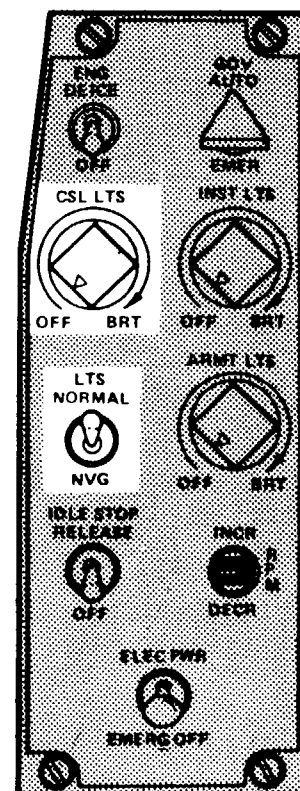
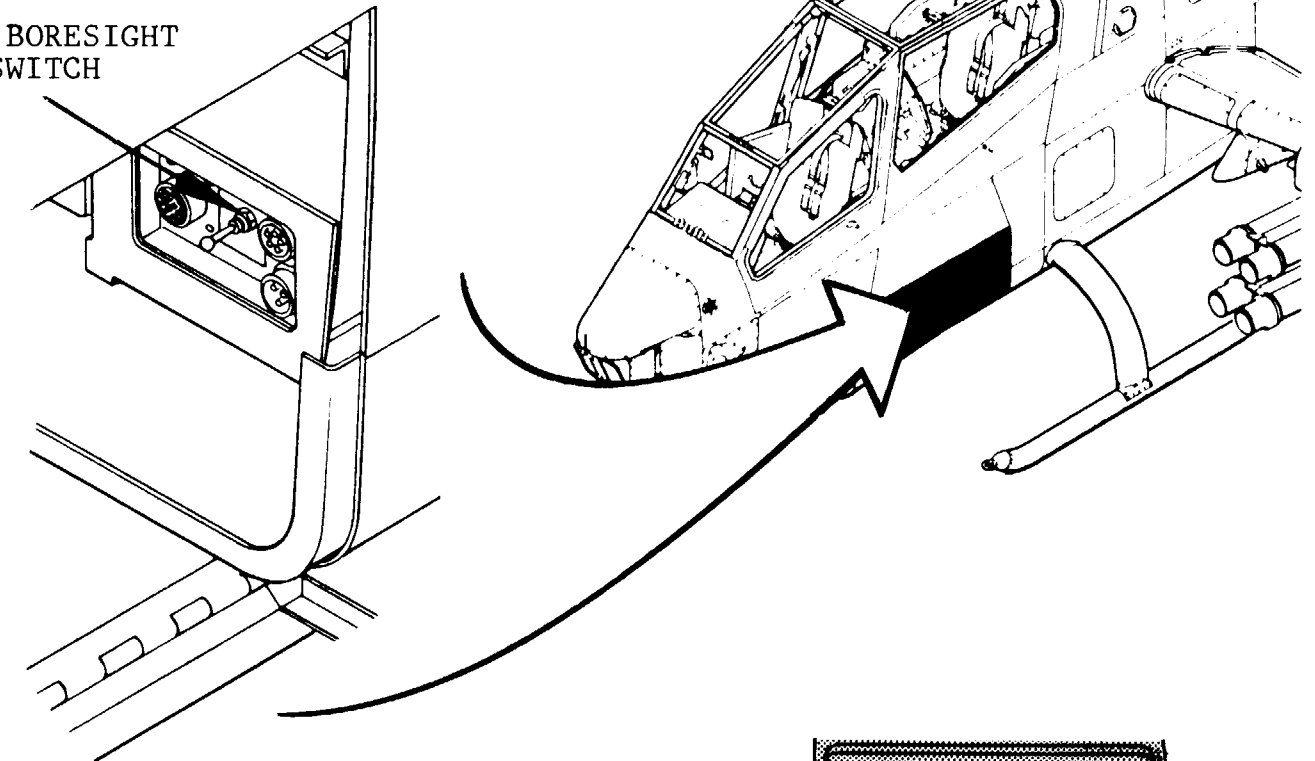
MCNi. Set FCP (FLIR control panel) switches:

- (1) OFF/ON/BIT to OFF.
- (2) BORESIGHT to OFF.
- (3) RET BRT to full counter-clockwise.
- (4) IR GAIN to midrange.
- (5) IR LEVEL to midrange.
- (6) POLARITY to WT HT.

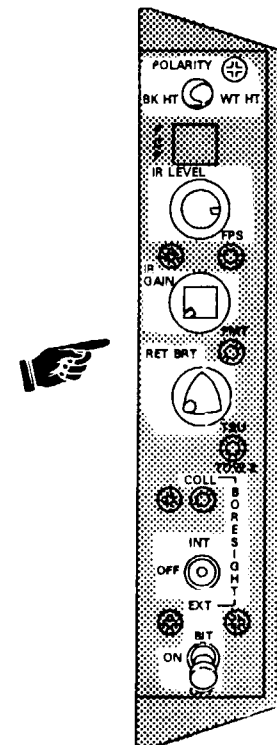


TCP (TOW CONTROL PANEL)

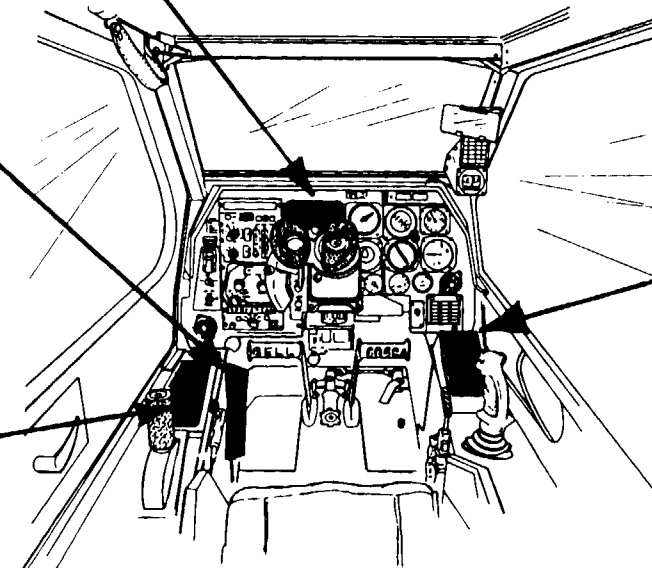
LCHR BORESIGHT SWITCH



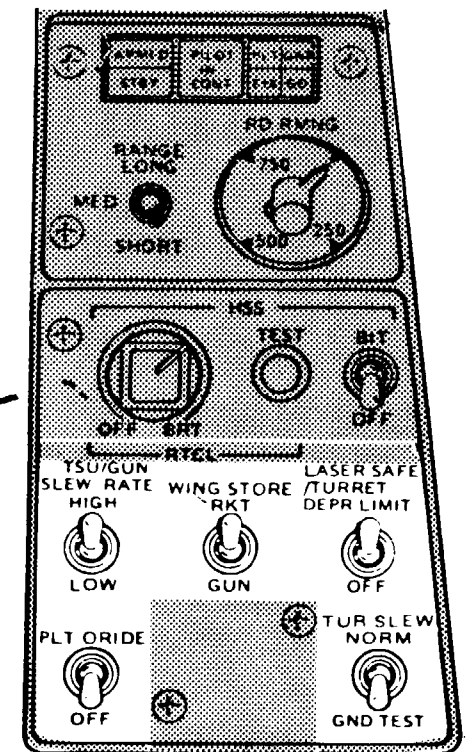
GUNNER MISCELLANEOUS CONTROL PANEL



FCP (FLIR CONTROL PANEL) **MCN**



GUNNER STATION



GUNNER ARMAMENT CONTROL PANEL

8-2. TMS OPERATIONAL CHECK.

NOTE

Complete TOW PRE-OPERATIONAL CHECK SETUP, paragraph 8-1, before continuing with operational check.

INITIAL SETUP

Applicable Configuration

AH-1F MC

Tools/Test and Support Equipment

Tool Set, A/C Armament Repairman

Multimeter

Ground Power Unit

Helmet with XM136 Sight Installed (2)

TOW System Evaluation Missile (TSEM)

Equipment Condition

Gun Safed/Barricade Erected (TM 9-1090-206-20-1/30)

Personnel Required

68J (2)

References

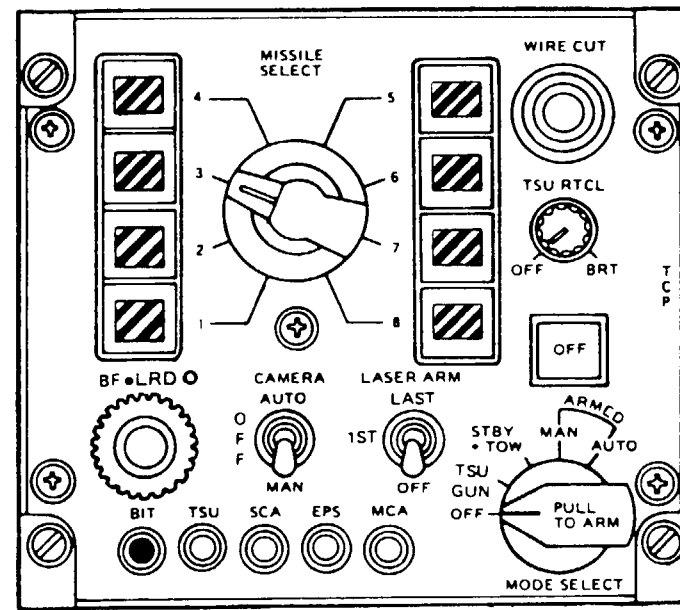
- TM 9-1270-220-13
- TM 9-1425-473-20
- TM 9-1425-473-34
- TM 55-1520-236-10
- TM 55-1520-236-23

Access Panels

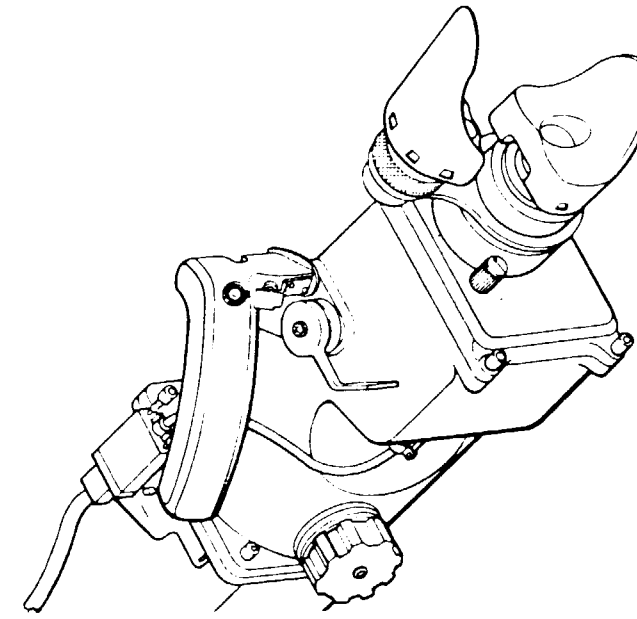
Battery Compartment - Removed

External Power Door - Open

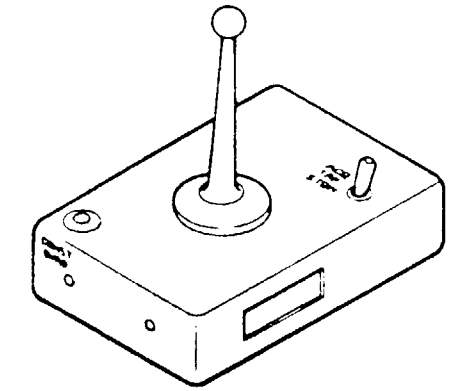
TSU Sight Protective Cover - Removed



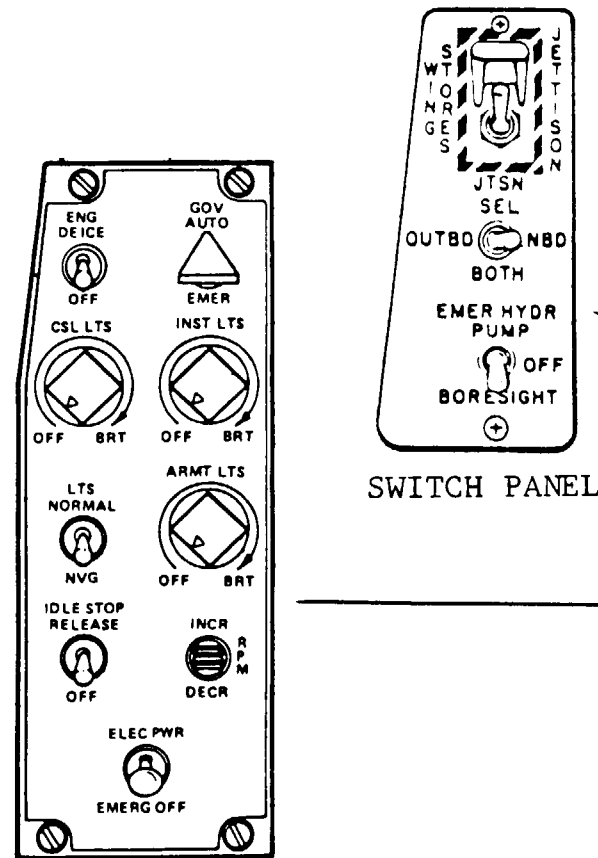
TCP (TOW CONTROL PANEL)



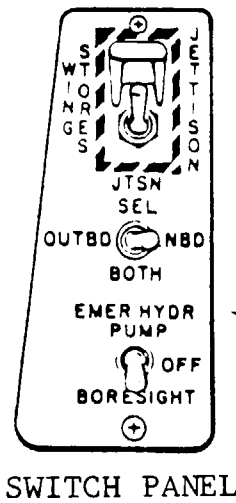
TELESCOPIC SIGHT UNIT (TSU)



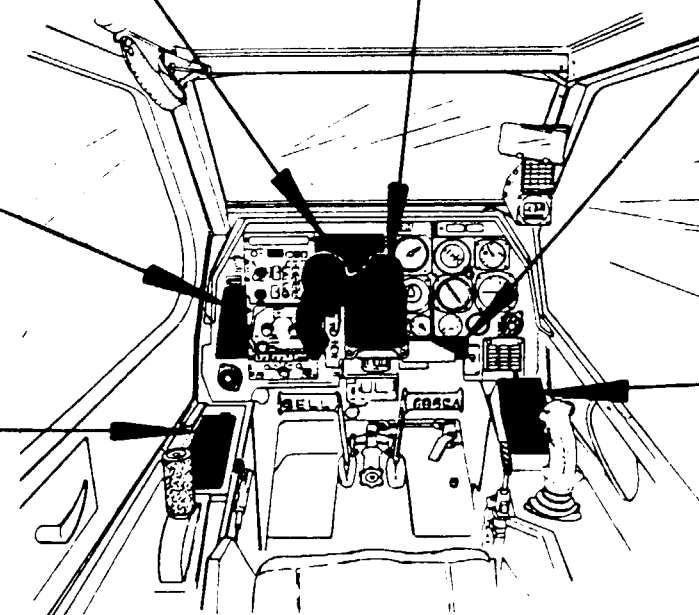
SIGHT HAND CONTROL



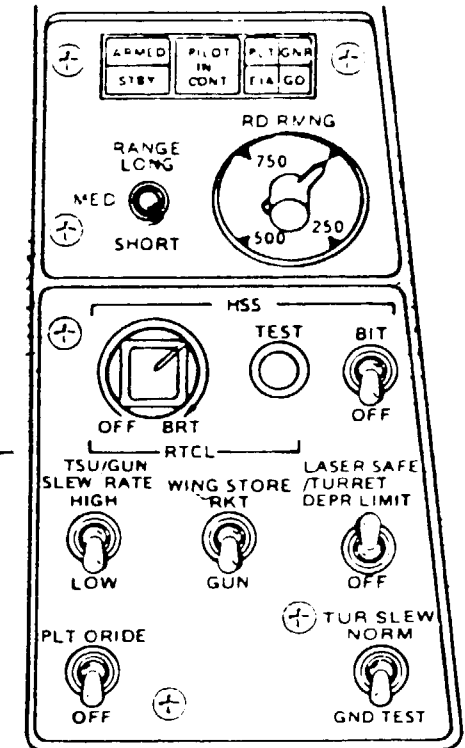
GUNNER MISCELLANEOUS CONTROL PANEL



SWITCH PANEL

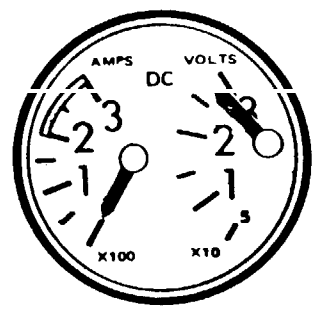


GUNNER STATION

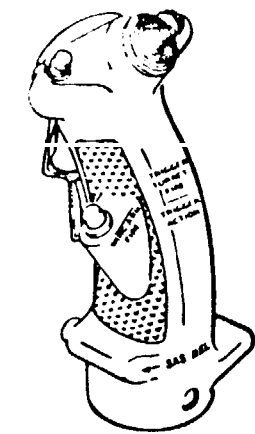


GUNNER ARMAMENT CONTROL PANEL

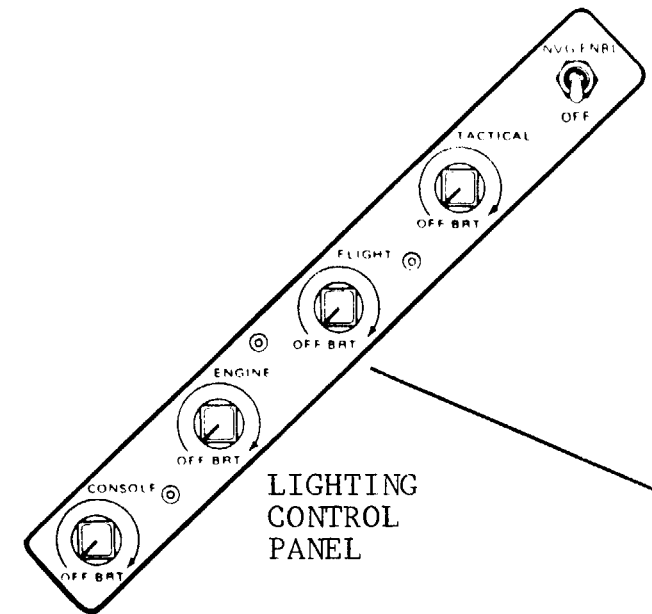
8-2. TMS OPERATIONAL CHECK
(CONTINUED).



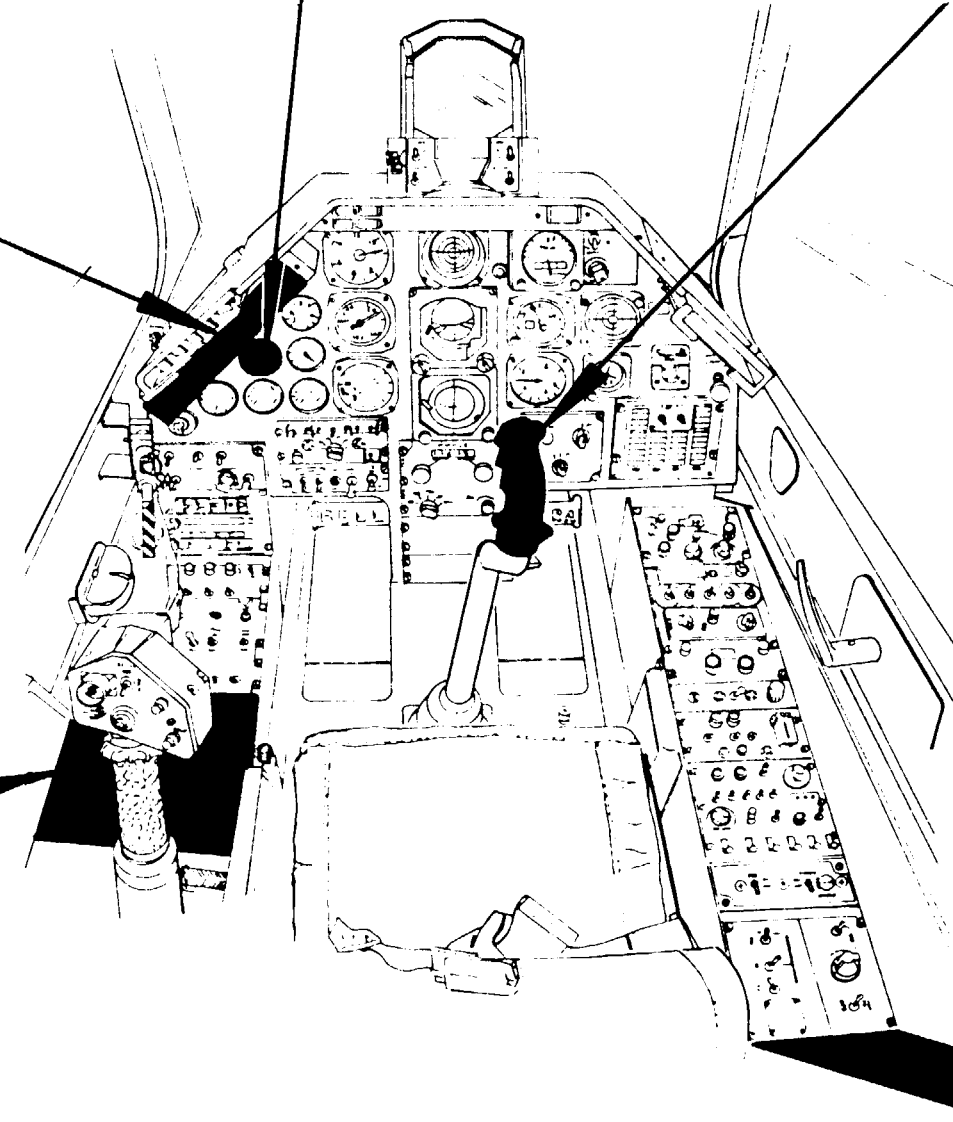
DC VOLTMETER



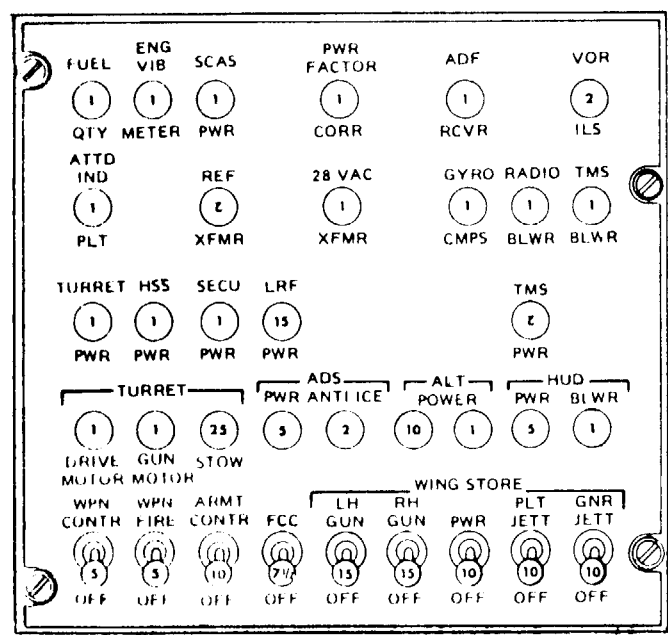
PILOT CYCLIC STICK



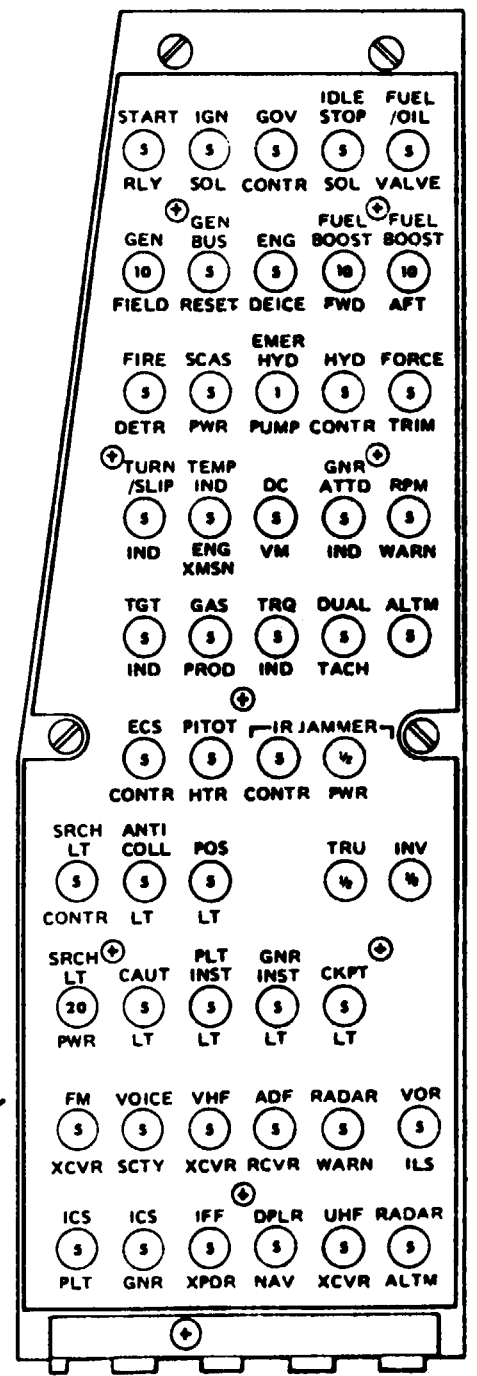
LIGHTING CONTROL PANEL



PILOT STATION

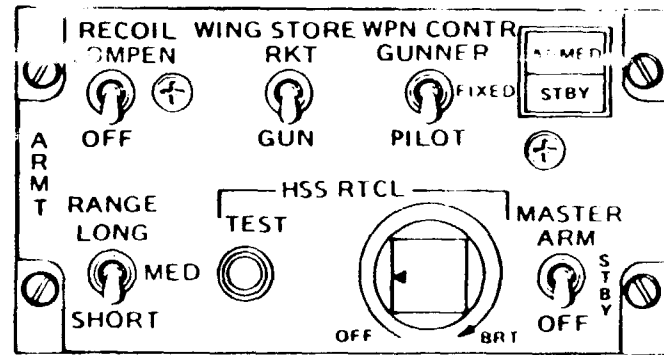


AC/ARMT CIRCUIT BREAKER PANEL

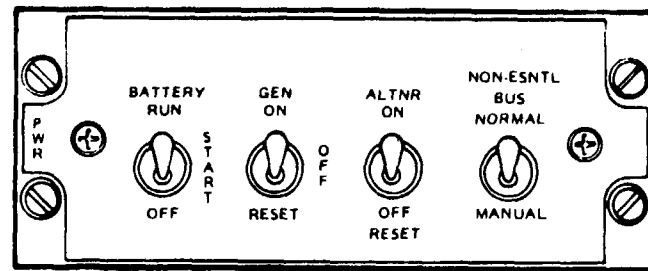


DC CIRCUIT BREAKER PANEL

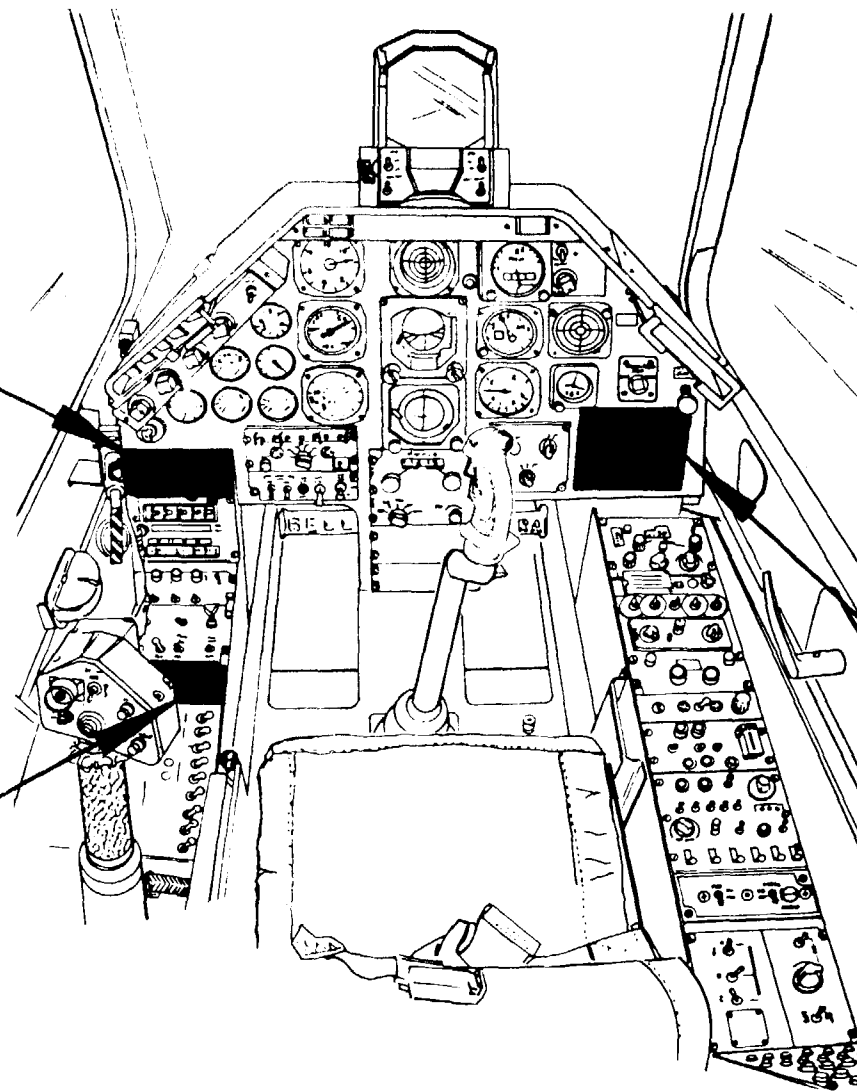
8-2. TMS OPERATIONAL CHECK
(CONTINUED).



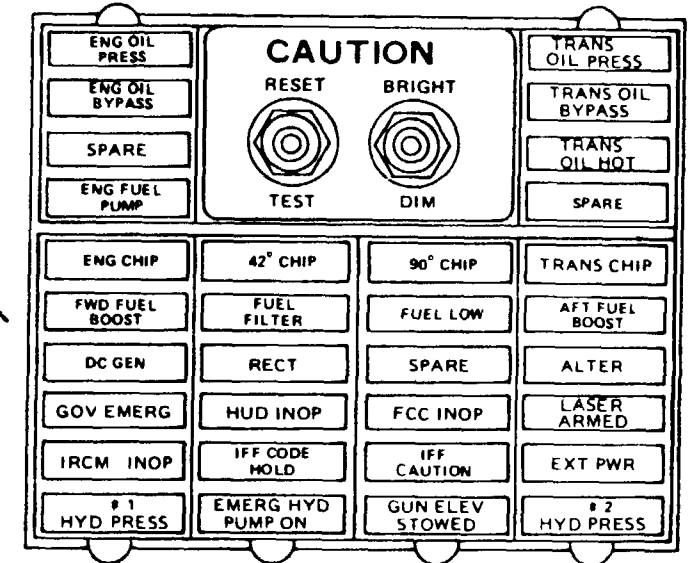
PILOT ARM CONTROL PANEL



ELECTRICAL PWR CONTROL PANEL

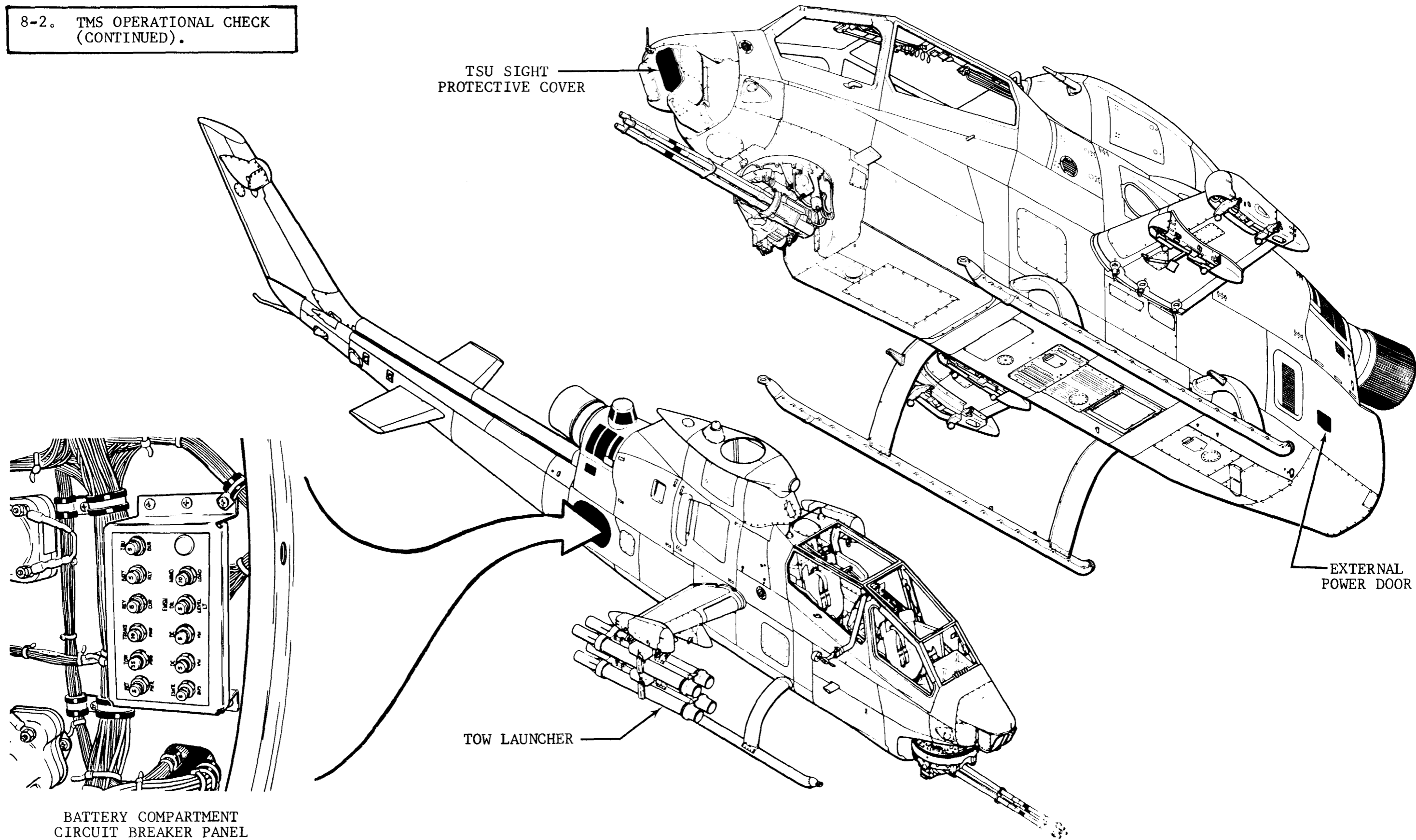


PILOT STATION



PILOT CAUTION PANEL

8-2. TMS OPERATIONAL CHECK
(CONTINUED).



**8-2. TMS OPERATIONAL CHECK
(CONTINUED).**

APPLYING ELECTRICAL POWER

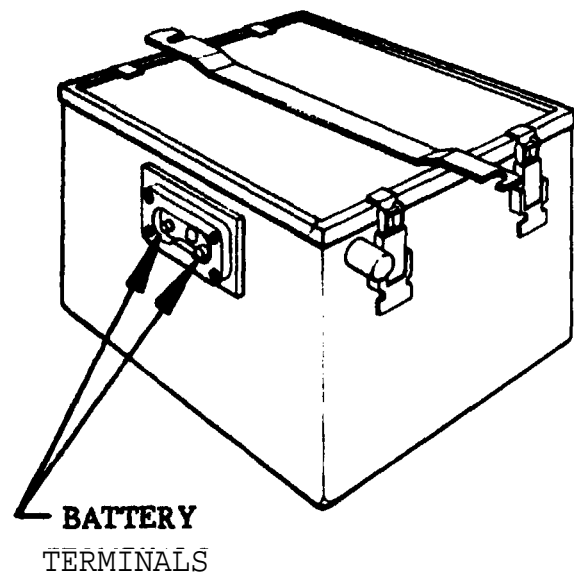
WARNING

Warn people working on or near helicopter before you apply electrical power.

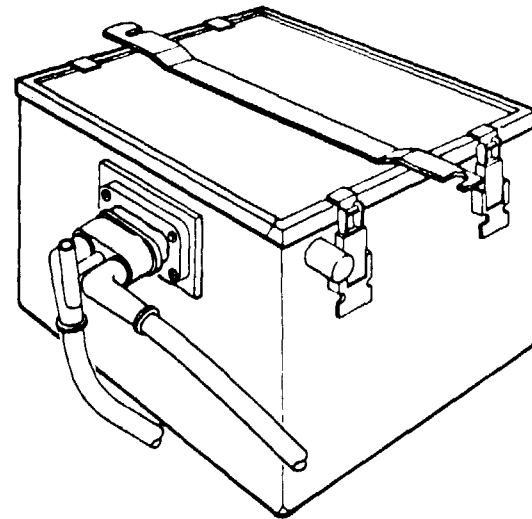
CAUTION

Minimum acceptable battery voltage is 2 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.

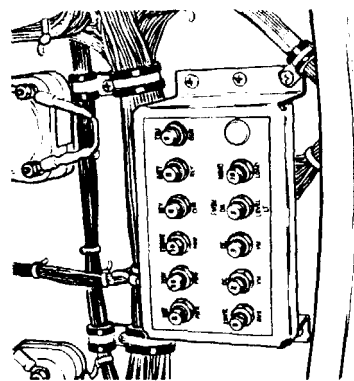


b. Connect battery.



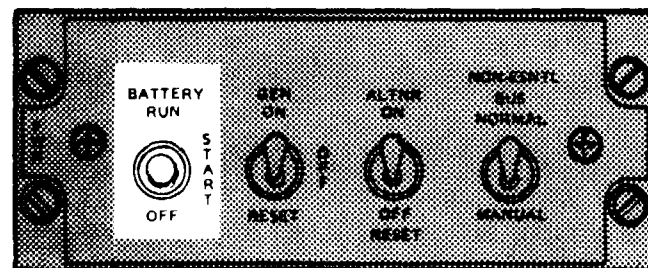
BATTERY

c. Close all circuit breakers on circuit breaker panel in battery compartment.



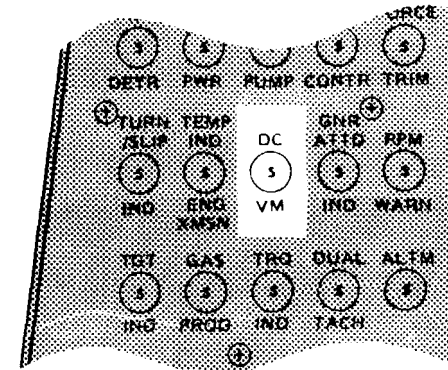
CIRCUIT BREAKER PANEL

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.

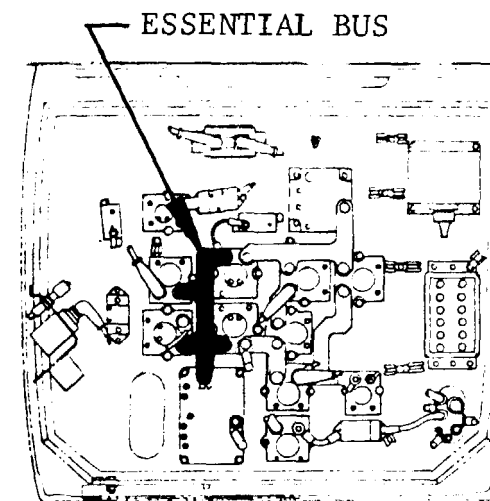


DC CIRCUIT BREAKER PANEL

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.

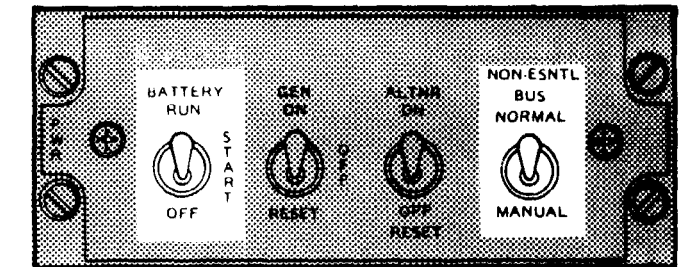


**FORWARD BULKHEAD OF BATTERY
COMPARTMENT**

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.



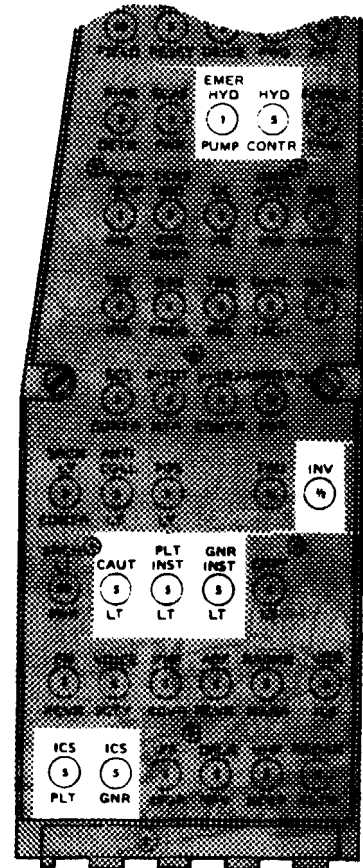
ELECTRICAL PWR CONTROL PANEL

h. Set NON-ESNTL BUS switch on electrical PWR control panel to NORMAL.

8-2. TMS OPERATIONAL CHECK
(CONTINUED).

i. Close the following circuit breakers on DC circuit breaker panel:

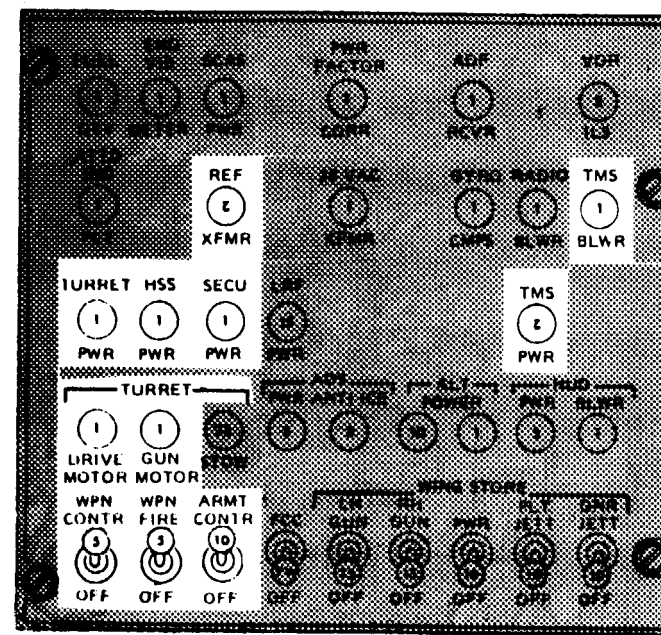
- (1) EMER HYD PUMP
- (2) HYD CONTR
- (3) INV
- (4) CAUT LT
- (5) PLT INST LT
- (6) GNR INST LT
- (7) ICS PLT
- (8) ICS GNR



DC CIRCUIT BREAKER PANEL

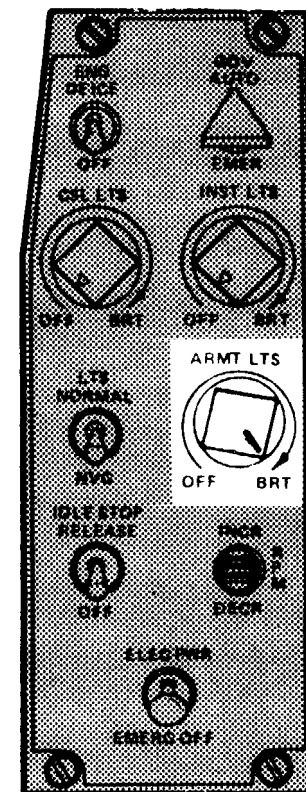
j. Close the following circuit breakers on AC/ARMT circuit breaker panel:

- (1) REF XFMR
- (2) TMS BLWR
- (3) TURRET PWR
- (4) HSS PWR
- (5) SECU PWR
- (6) TMS PWR
- (7) TURRET DRIVE MOTOR
- (8) TURRET GUN MOTOR
- (9) WPN CONTR
- (10) WPN FIRE
- (11) ARMT CONTR



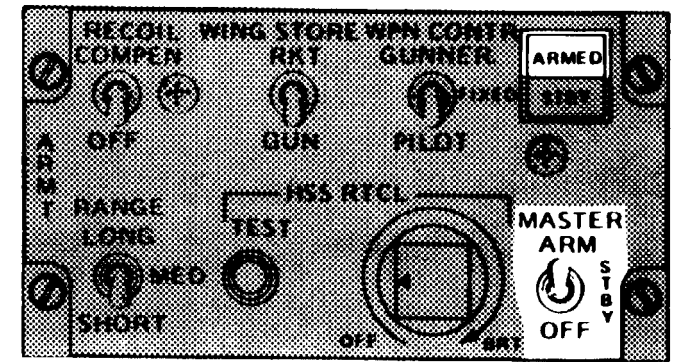
A/C ARMT CIRCUIT BREAKER PANEL

k. Set ARMT LTS control on gunner miscellaneous control panel to full BRT. Check that edge lit panel on TCP (TOW control panel) is lit. Set ARMT LTS control to OFF.



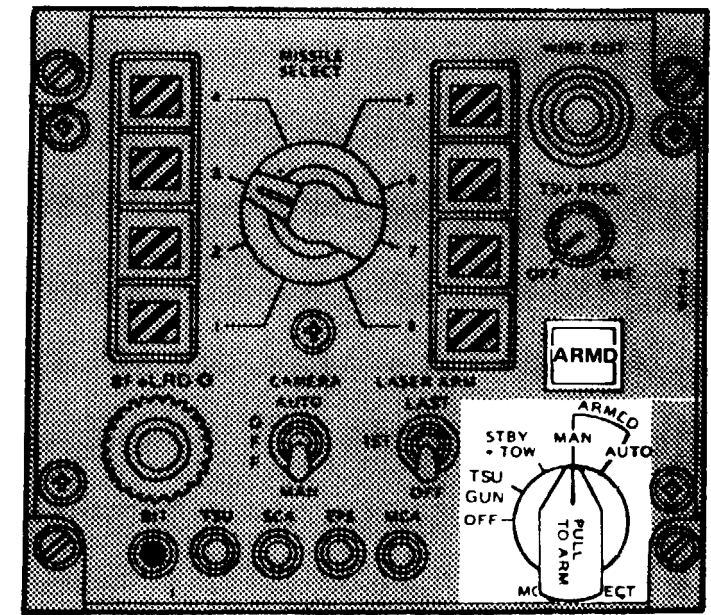
GUNNER MISCELLANEOUS CONTROL PANEL

l. Set MASTER ARM switch on pilot ARMT control panel to ARM. The ARMED indicator should light.



PILOT ARMT CONTROL PANEL

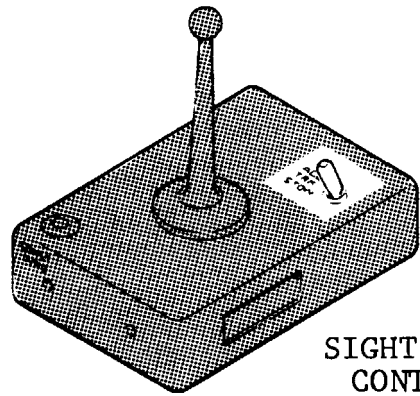
m. Set MODE SELECT switch on TCP (TOW control panel) to ARMED MAN. Within a few seconds, mode indicator will indicate ARMED. The gun will move to the fixed forward position.



TCP (TOW CONTROL PANEL)

8-2. TMS OPERATIONAL CHECK
(CONTINUED).

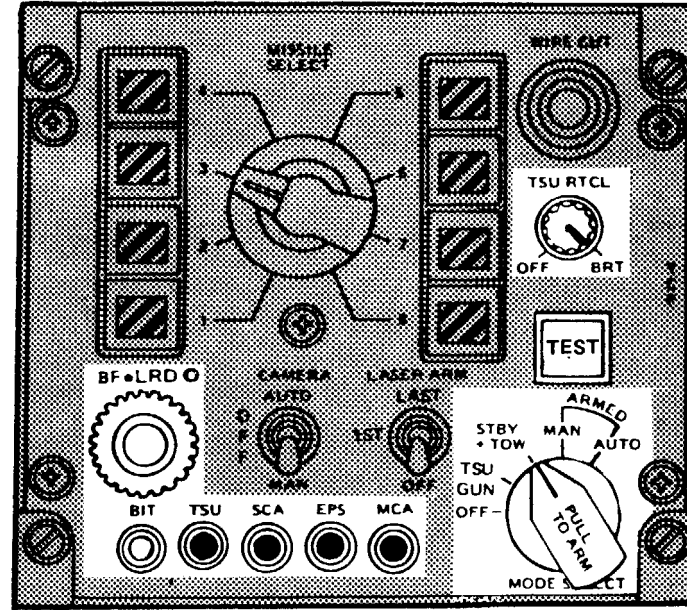
n. Set ACQ/TRK/STOW switch on sight hand control to STOW. Observe TSU is in stow position (sight pointed at a target directly in front of aircraft, 0 degrees azimuth, 0 degrees elevation). Image may be focused by focus knob on TSU.



SIGHT HAND CONTROL

o. Observe TSU image is up-right. Image should stay up-right throughout the operational check.

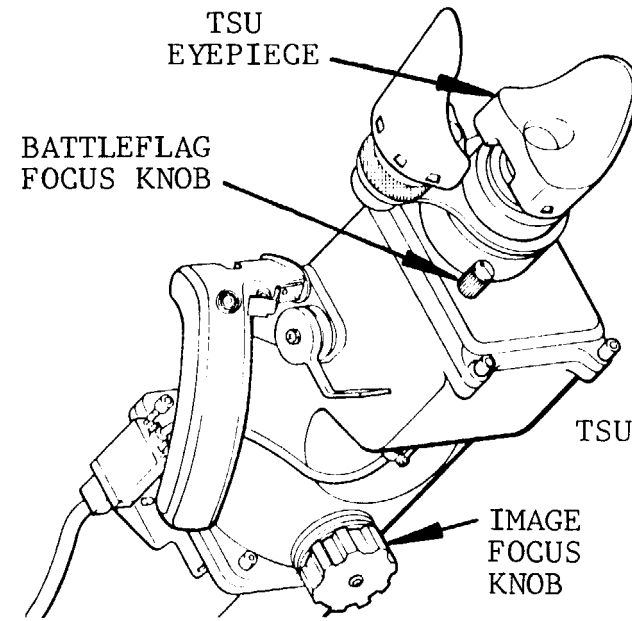
p. Set MODE SELECT switch on TCP (TOW control panel) to STBY TOW. Mode indicator will show TEST as system performs BIT test. When BIT test is complete, mode indicator will show PWR ON. Verify all BIT indicators are black.



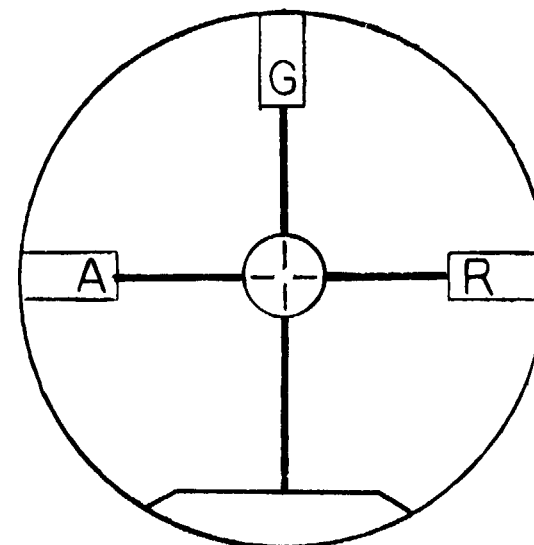
TCP (TOW CONTROL PANEL)

q. Set controls on TCP (TOW control panel) as follows:

- (1) BF (battle flags) to full clockwise.
- (2) TSU RTCL to BRT. Observe that fixed reticle in TSU eyepiece lights. (Reticle lighting is difficult to see in sunlight). Turn TSU RTCL counter-clockwise to mid-range.

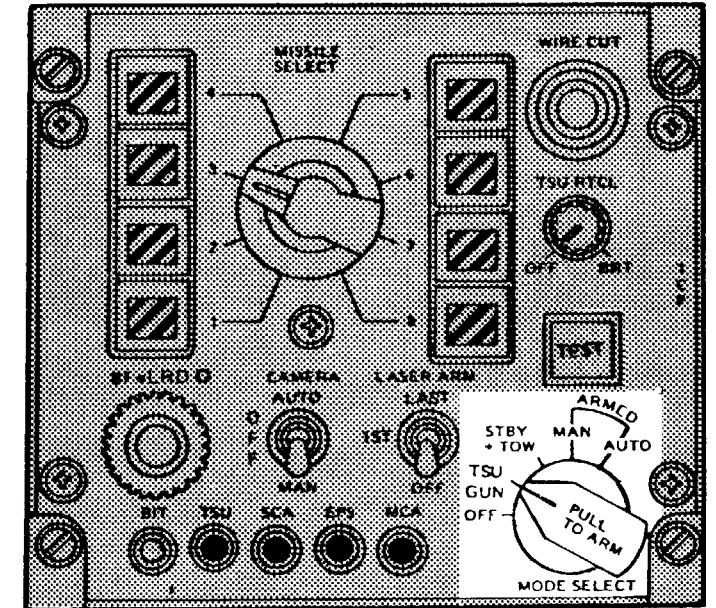


r. Press and hold BIT button on TCP (TOW control panel). Look into TSU eyepiece. An "A" will appear on the left battleflag, an "R" will appear on the right battleflag, and a "G" will appear on the top battleflag. Battleflag focus knob is located on TSU. Vary BF control on TCP (TOW control panel) and observe that battleflag intensity varies. Release BIT switch. Battleflags will disappear and system will perform BIT test. Mode indicator will indicate TEST.

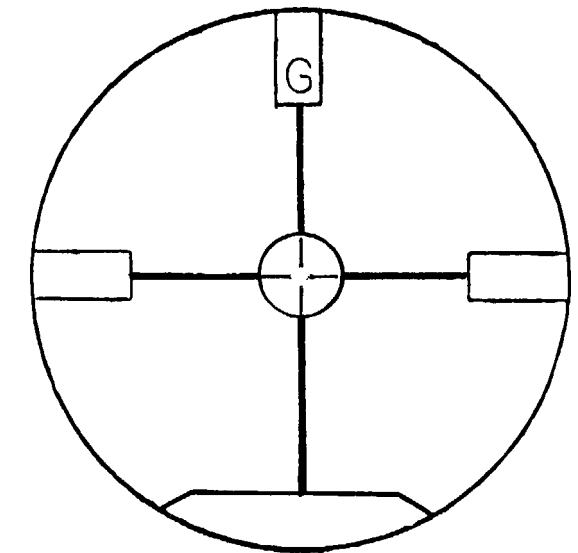


TSU EYEPIECE

s. Set MODE SELECT switch on TCP (TOW control panel) to TSU GUN. Look into TSU and observe a "G" (gun) appears in top battleflag in TSU eyepiece.



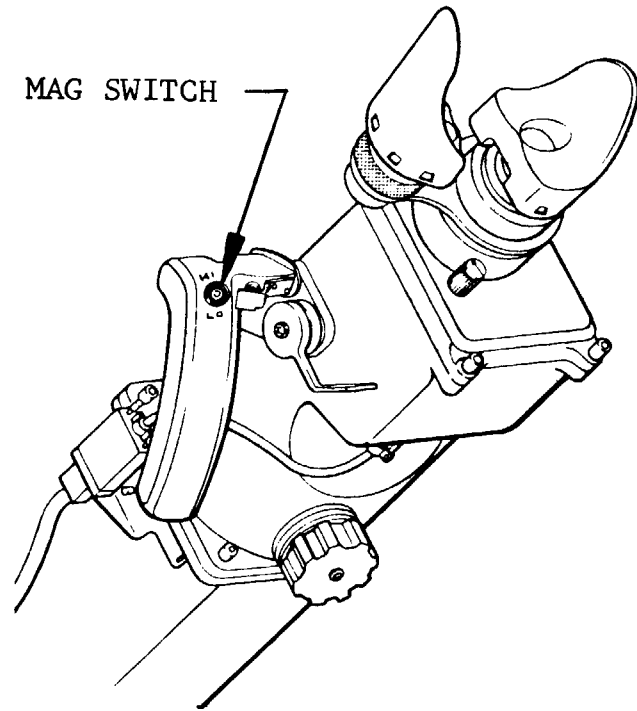
TCP (TOW CONTROL PANEL)



TSU EYEPIECE

8-2. TMS OPERATIONAL CHECK
(CONTINUED).

t. Set MAG switch on TSU left hand grip to HI, then to LO. Observe image changes in magnification.

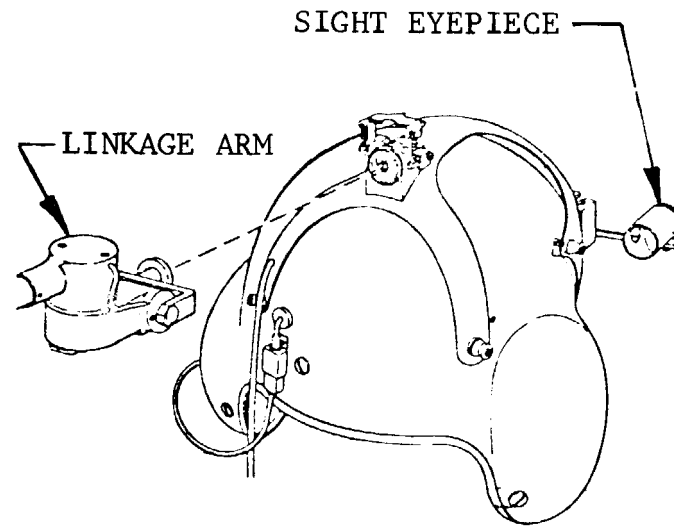


TELESCOPIC SIGHT UNIT (TSU)

NOTE

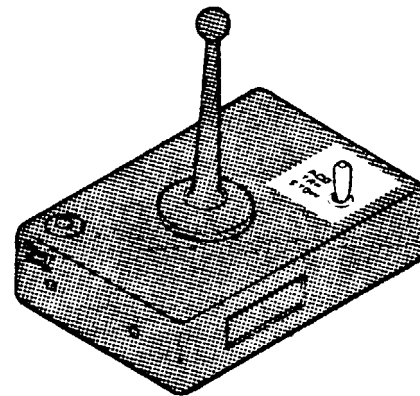
The following steps check the helmet sight subsystem (HSS) interface.

u. In pilot and gunner stations, put on helmets and connect to helicopter electrical connectors and linkage arms. Adjust eyepieces.



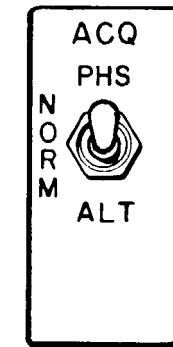
LINKAGE ARM ATTACHMENT TO HELMET SIGHT

v. Set ACQ/TRK/STOW switch on sight hand control to TRK.



SIGHT HAND CONTROL

w. Select a distant target to one side of the aircraft with pilot helmet sight. Press and hold ACQ switch on gunner instrument panel in PHS position. The gunner helmet eyepiece will retract. Observe TSU aligns with the target. Move pilot helmet in azimuth and elevation and observe TSU follows. Release ACQ switch.



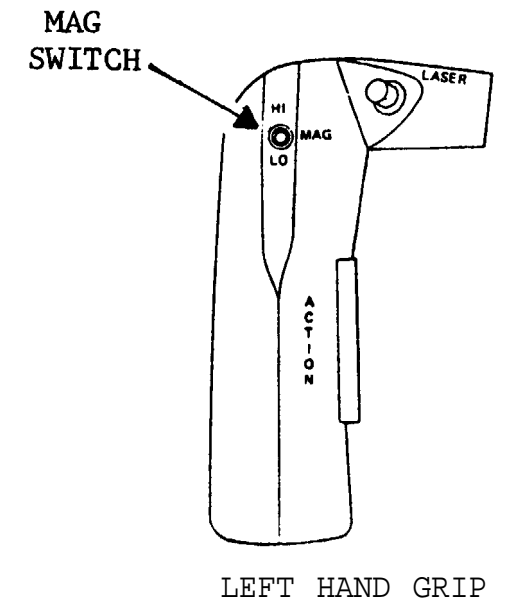
ACQ SWITCH

x. Rotate the sight eyepiece on gunner helmet down until it latches.

y. Move gunner helmet in elevation and azimuth to sight on a distant target. Momentarily press ACQ/TRK/STOW switch on sight hand control to ACQ position. Gunner helmet eyepiece will retract. Look through TSU and observe the same target selected with the helmet sight.

z. Disconnect and stow pilot and gunner linkage arms.

aa. Set MAG switch on TSU left hand grip to HI.



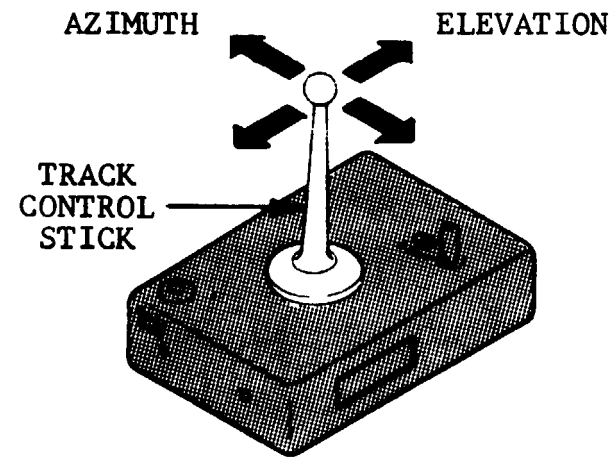
NOTE

The track control stick is a pressure sensitive control. It does not move, however, the more force applied the faster the reaction of the TSU.

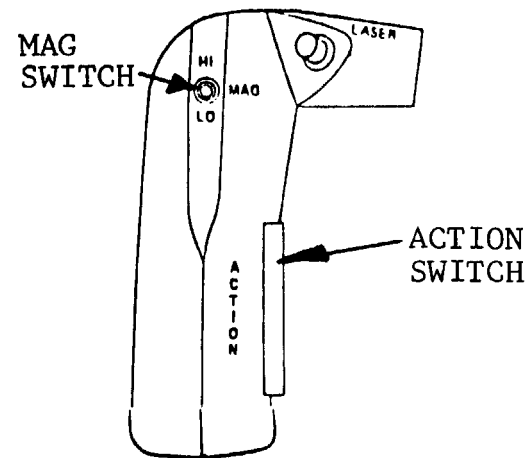
8-2. TMS OPERATIONAL CHECK
(CONTINUED).

ab. On sight hand control:

- (1) Apply pressure to track control stick to move the TSU in azimuth. Observe that TSU moves in azimuth.
- (2) Apply pressure to track control stick to move the TSU in elevation. Observe that TSU moves in elevation.
- (3) Set MAG switch on TSU left hand grip to LO. Move TSU in azimuth and elevation with track control stick. Observe that TSU now moves at a faster rate. Set MAG switch on TSU left hand grip to HI.



SIGHT HAND CONTROL



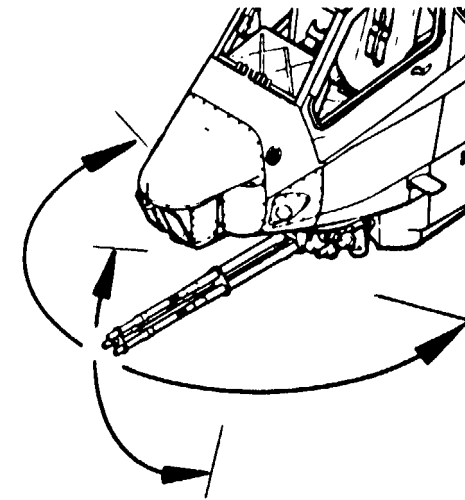
LEFT HAND GRIP

- (1) Observe that gun turret follows the TSU.
- (2) Slowly slew the TSU in elevation and observe the limits of turret motion.
- (3) Position the TSU to place the gun between upper and lower limits and hold gun motionless for 5 seconds.
- (4) Observe that the gun follows the TSU.
- (5) Release ACTION switch. (Turret will return to stow.)

NOTE

Upward gun motion is limited to approximately 15 degrees. The TURRET DEPR LIMIT switch limits downward gun motion to approximately 5 degrees to prevent the gun barrels from striking the ground. The gun will follow TSU movement only between these limits.

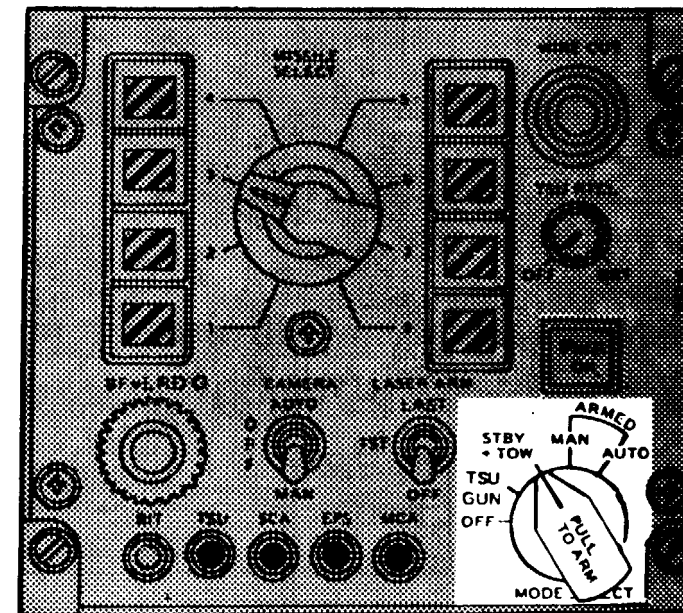
ac. Press and hold ACTION switch on TSU left hand grip. Slowly move TSU to the right and then approximately 45 degrees to the left with track control stick.



NOTE

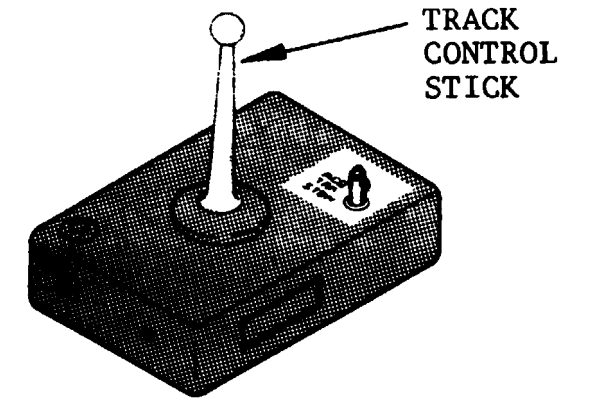
The following check verifies motion compensation is working.

ad. Set MODE SELECT switch on TCP (TOW control panel) to STBY TOW. The gun will move to the fixed forward position. The "G" in the TSU eyepiece will disappear.



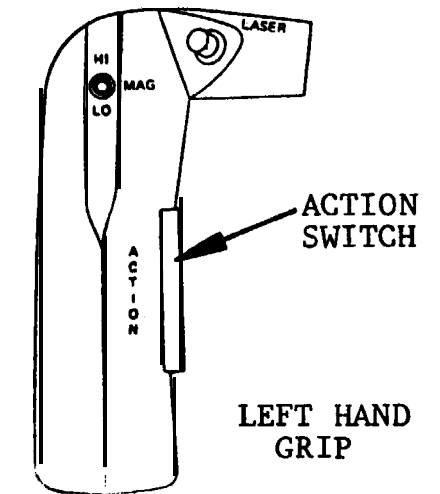
TCP (TOW CONTROL PANEL)

ae. Set ACQ/TRK/STOW switch on sight hand control to STOW momentarily, then return to TRK. The TSU will go to stow position.



SIGHT HAND CONTROL

af. Press and hold ACTION switch on left hand grip.

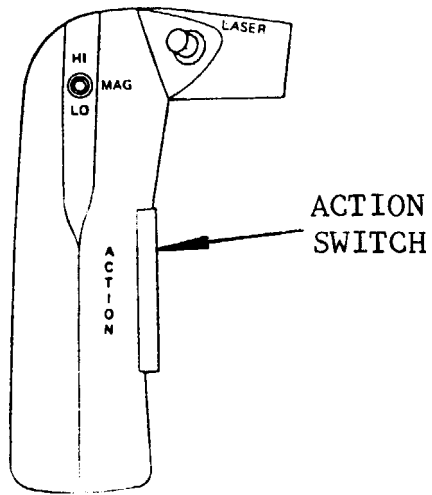


LEFT HAND GRIP

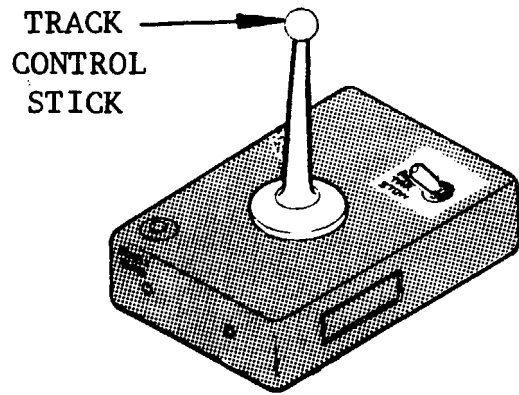
ag. Move TSU either left or right with track control stick.

8-2. TMS OPERATIONAL CHECK
(CONTINUED).

ah. Continue to press and hold ACTION switch. Release track control stick and observe that TSU continues to move at the same rate. (This verifies motion compensation is operative).



LEFT HAND GRIP



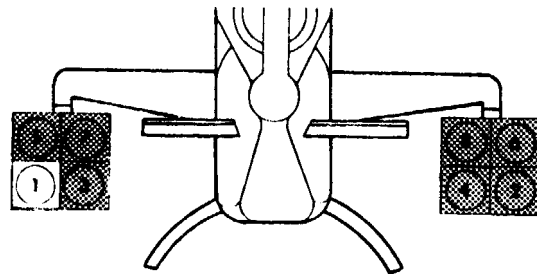
SIGHT HAND CONTROL

ai. Release ACTION switch. Set ACQ/TRK/STOW switch on sight hand control to STOW.

NOTE

This portion of check verifies pylon articulation and missile present.

aj. Install TSEM in launcher position 1 per TM 9-1425-473-34 Table 2-6 (or connect TOW missile present simulator to 20P8J01). MSL will appear in window next to setting 1 on TCP (TOW control panel).



VIEW LOOKING FORWARD

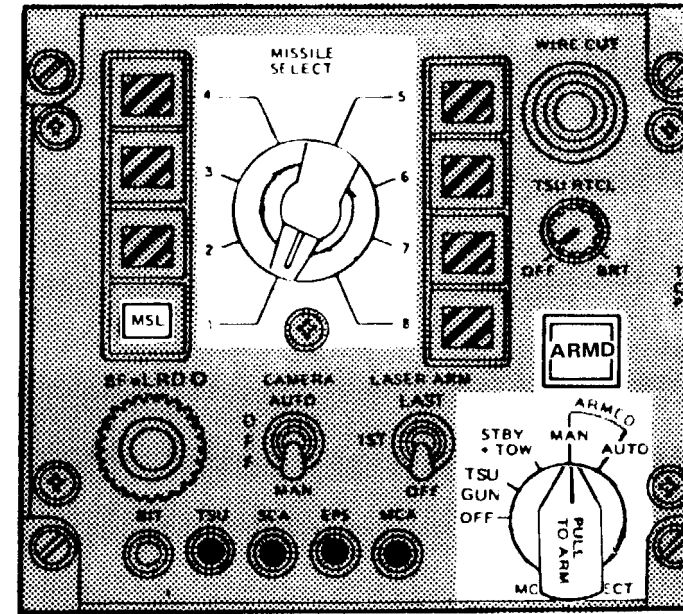
ak. Set TCP (TOW control panel) switches as follows:

- (1) MODE SELECT switch to ARMED MAN. Mode indicator will show ARMD.

CAUTION

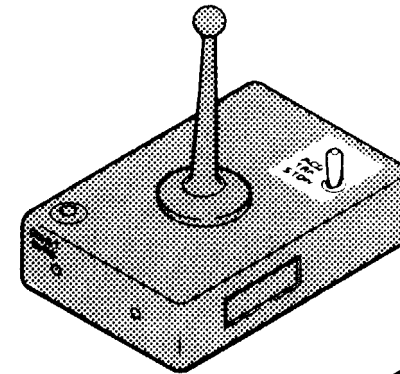
Do not turn MISSILE SELECT switch counterclockwise.

- (2) MISSILE SELECT switch to 1.

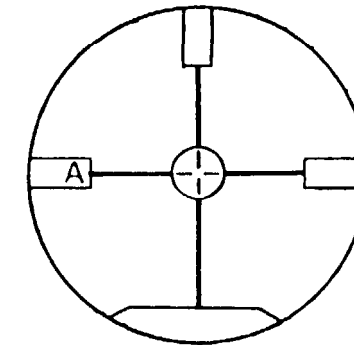


TCP (TOW CONTROL PANEL)

al. Set ACQ/TRK/STOW switch to TRK. Press and hold ACTION switch on left hand grip. Observe "A" (attack) flag appears in TSU eyepiece. ("R" flag may also appear.) Release ACTION switch.

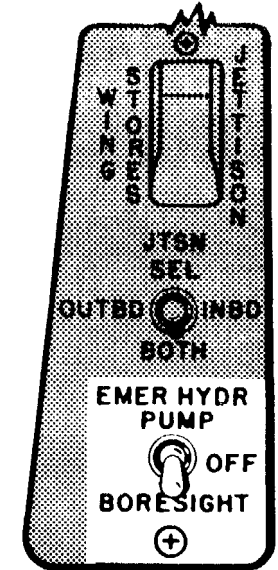


SIGHT HAND CONTROL

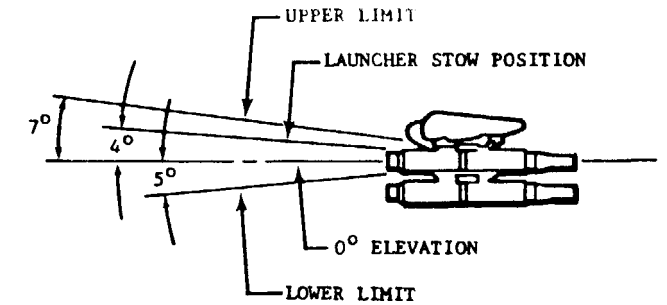


TSU EYEPIECE

am. Set EMER HYDR PUMP/BORESIGHT switch on gunner instrument panel to BORESIGHT EMERG HYD PUMP ON segment on gunner caution panel will light. (Emergency hydraulic pump operation can be heard above the normal aircraft noise environment.)



SWITCH PANEL

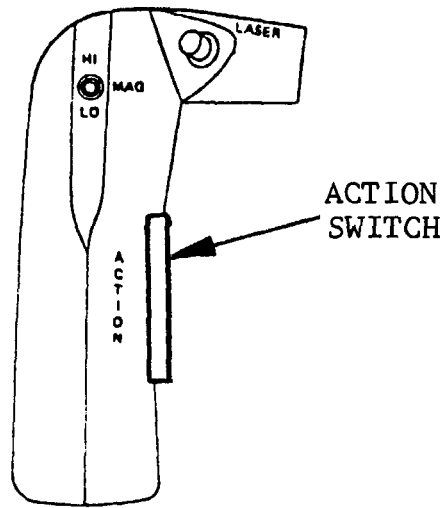


NOTE

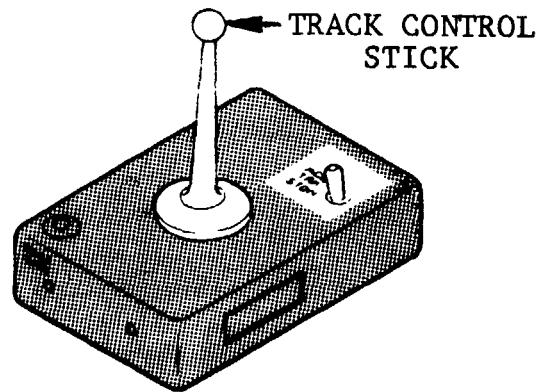
TMS launcher movement is limited to approximately 7 degrees up and 5 degrees down. The launcher will follow TSU movement only between these limits. The "R" battle flag will be present only when the launcher is aligned with the TSU.

8-2. TMS OPERATIONAL CHECK
(CONTINUED).

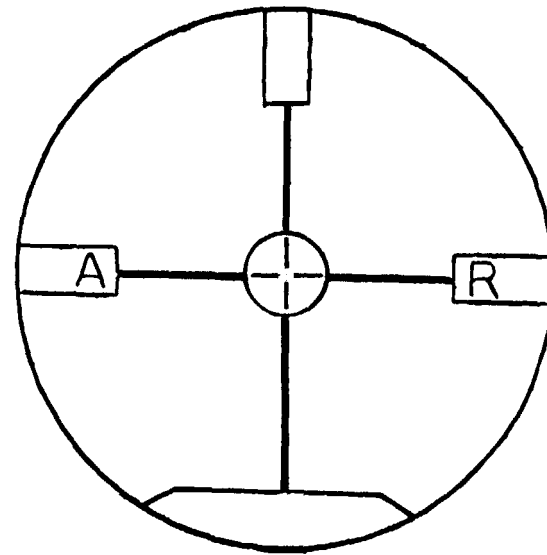
an. Set ACQ/TRK/STOW switch to STOW momentarily, then to TRK. Press and hold ACTION switch on left hand grip until otherwise instructed. From a position on the ground, observe the left launcher moves down from the stow position to align with TSU at 0 degrees elevation. (TSU may drift slightly).



LEFT HAND GRIP



SIGHT HAND CONTROL



TSU EYEPIECE

ao. Hold TSU at approximately 0 degrees elevation and 0 degrees azimuth with track control stick. With the launcher aligned with the TSU, observe "R" (ready) flag appears in TSU eyepiece.

ap. Pull back on track control stick. Observe left TOW launcher nose moves upward and the "R" flag in TSU eyepiece disappears.

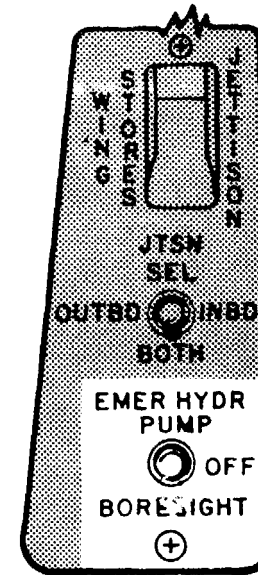
aq. Set ACQ/TRK/STOW switch on sight hand control to STOW. Observe left TOW launcher moves down to launcher stow position. TSU will stow.

ar. Set ACQ/TRK/STOW switch on sight hand control to TRK. Observe left TOW launcher moves down to align with TSU at 0 degrees elevation. ("R" flag will reappear if TSU drift is slight).

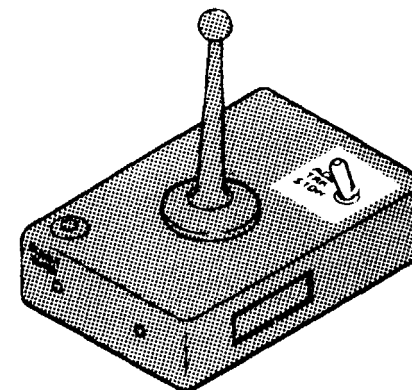
as. Push forward on track control stick. Left TOW launcher nose will move downward and "R" flag will not be lit.

at. Release ACTION switch on left hand grip. Left TOW launcher will move up to stow position.

au. Set EMER HYDR PUMP/BORESIGHT switch on gunner instrument panel to OFF. Set ACQ/TRK/STOW switch on sight hand control to STOW.

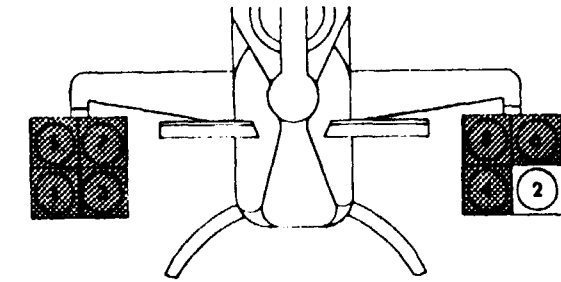


SWITCH PANEL

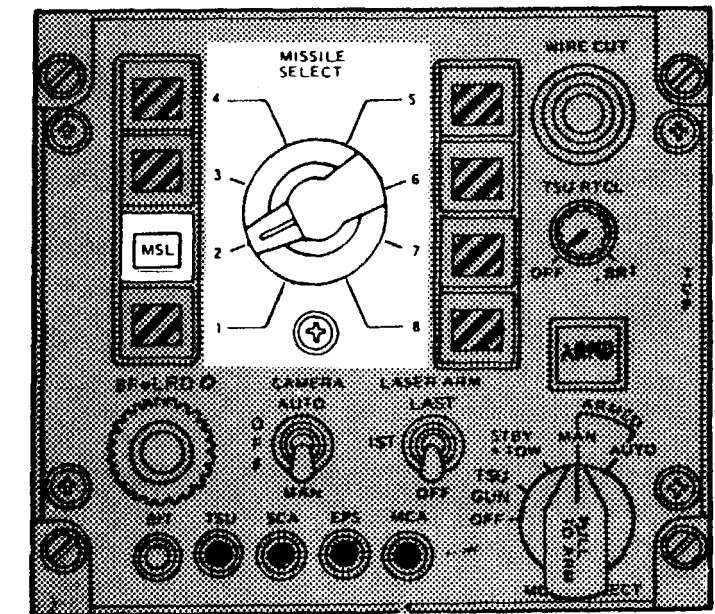


SIGHT HAND CONTROL

av. Install TSEM in launcher position 2 per TM 9-1425-473-34 Table 2-6 (or connect TOW missile present simulator to 20S8J01). MSL will appear in window next to setting 2 on TCP (TOW control panel). Set MISSILE SELECT switch on TCP to 2.



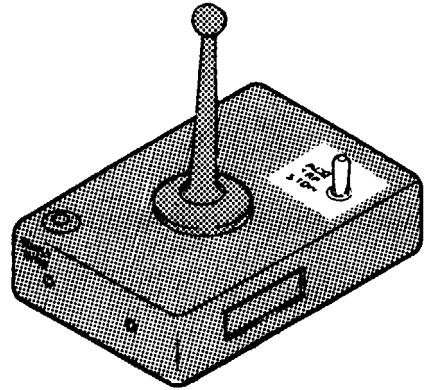
VIEW LOOKING FORWARD



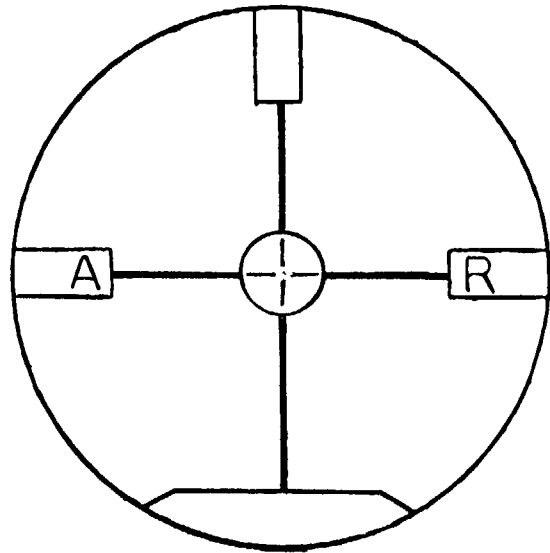
TCP (TOW CONTROL PANEL)

8-2. TMS OPERATIONAL CHECK (CONTINUED).

aw. Set ACQ/TRK/STOW switch on sight hand control to TRK. Press and hold ACTION switch on left hand grip. Observe "A" (attack) flag appears in TSU eyepiece. Release ACTION switch.

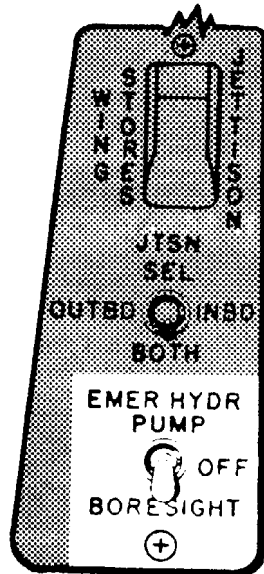


SIGHT HAND CONTROL



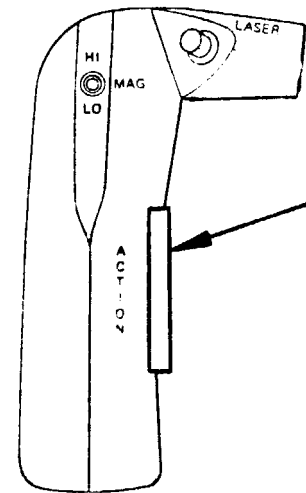
TSU EYEPiece

ax. Set EMER HYDR PUMP/BORESIGHT switch on gunner instrument panel to BORESIGHT.

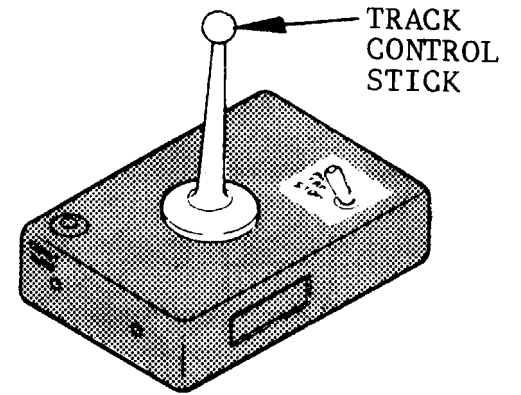


SWITCH PANEL

ay. Set ACQ/TRK/STOW switch to STOW momentarily, then to TRK. Press and hold ACTION switch on left hand grip until otherwise instructed. From the ground, observe the right launcher moves down from the stow position to align with the TSU at 0 degrees elevation (TSU may drift slightly).



LEFT HAND GRIP



TRACK CONTROL STICK

SIGHT HAND CONTROL
bb. Set ACQ/TRK/STOW switch on sight hand control to STOW. Observe right TOW launcher moves down to launcher stow position.

bc. Set ACQ/TRK/STOW switch on sight hand control to TRK. Observe right TOW launcher moves down to align with TSU at 0 degrees elevation. ("R" flag will reappear if TSU drift is slight.)

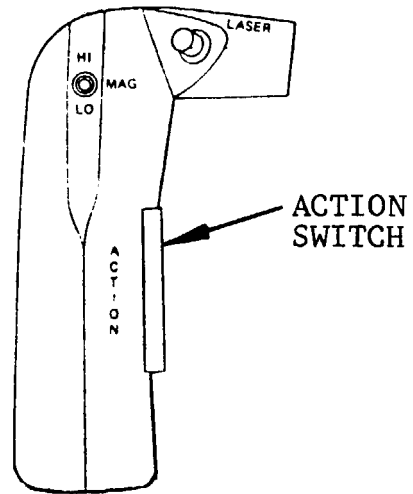
bd. Push forward on track control stick. Right TOW launcher nose will move downward and "R" flag will not be lit.

be. Release ACTION switch on left hand grip. Right TOW launcher will move up to stow position.

bf. Set EMER HYDR PUMP/BORESIGHT switch on gunner instrument panel to OFF. Set ACQ/TRK/STOW switch on sight hand control to STOW.

az. Hold TSU at approximately 0 degrees elevation and 0 degrees azimuth with track control stick. With launcher aligned with TSU, observe "R" (ready) flag appears in TSU eyepiece.

ba. Pull back on track control stick. Observe right TOW launcher nose moves upward and the "R" flag in TSU eyepiece disappears.



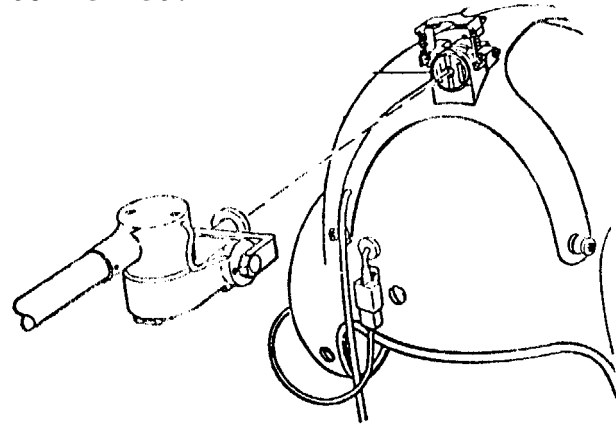
LEFT HAND GRIP

8-2. TMS OPERATIONAL CHECK
(CONTINUED).

NOTE

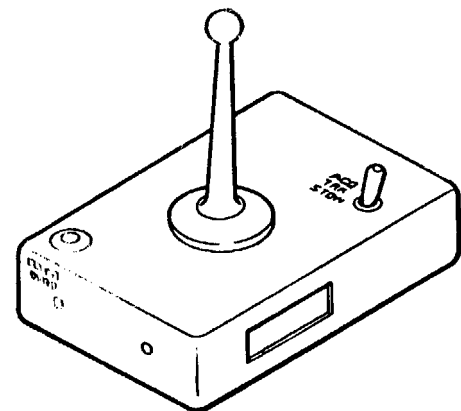
The following check verifies the circuitry that prevents the gun from firing when a TOW missile is being launched.

bg. Connect pilot linkage arm to helmet.



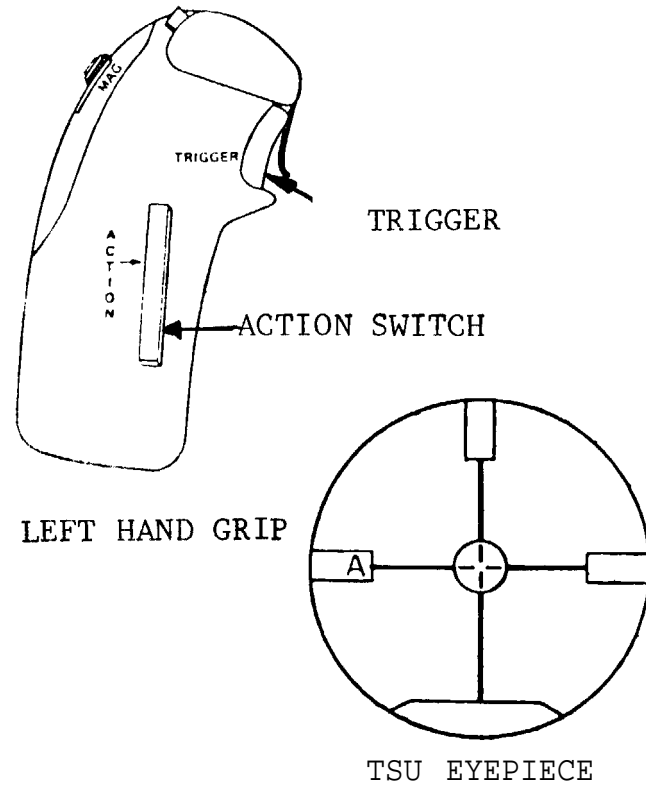
PILOT/GUNNER LINKAGE ARM ATTACHMENT TO HELMET SIGHT

bh. Set ACQ/TRK/STOW switch on sight hand control to TRK.



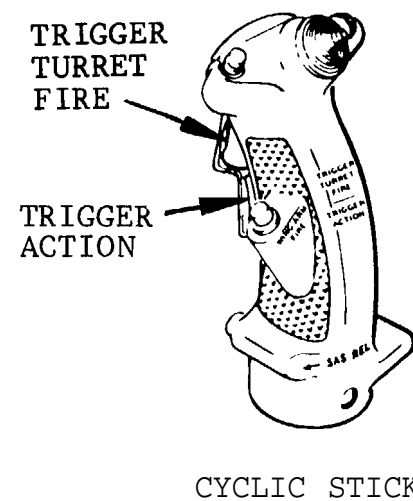
SIGHT HAND CONTROL

bi. Press and hold ACTION switch on TSU left hand grip until otherwise instructed. Observe "A" flag is present in TSU eyepiece.



bj. Select a target to the right of the helicopter with the pilot helmet sight.

bk. Press and hold TRIGGER ACTION switch on pilot cyclic stick. The turret will point at the selected target. Press and hold TRIGGER TURRET FIRE switch. The gun barrels will rotate.

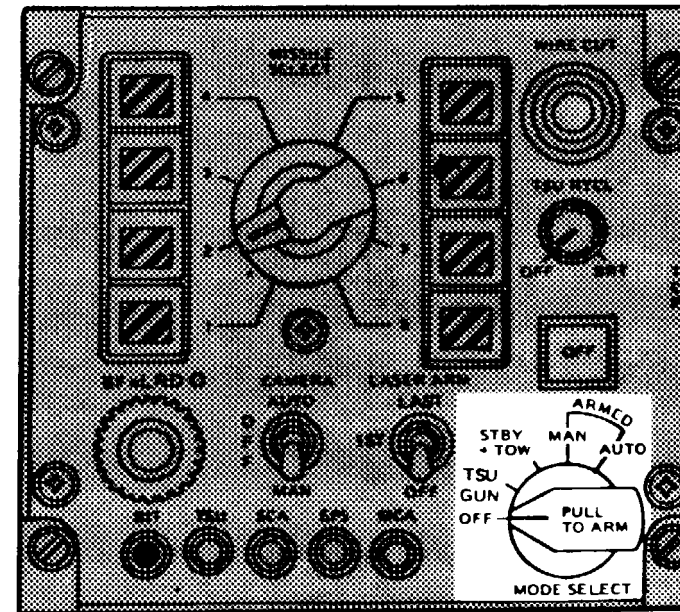


CYCLIC STICK

bl. Press and hold TRIGGER switch on left hand grip. Observe that gun barrels will stop rotating and gun will go to the stow position.

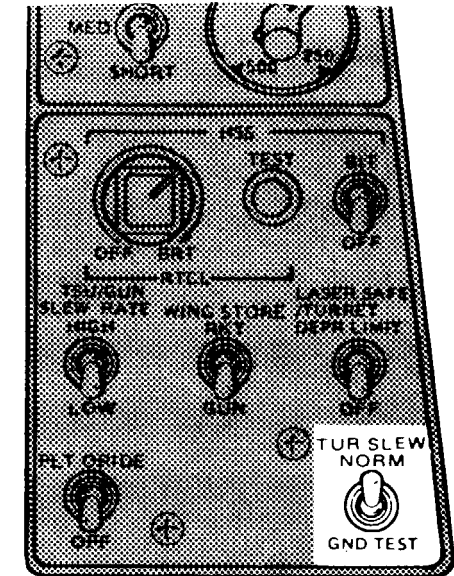
bm. Release TRIGGER and ACTION switches on left hand grip. After a few seconds gun will return to the target selected by the pilot and begin rotating. Release TRIGGER TURRET FIRE and TRIGGER ACTION switches on the cyclic stick.

bn. Set MODE SELECT switch on TCP (TOW control panel) to OFF.



TCP (TOW CONTROL PANEL)

bo. Set TUR SLEW switch on gunner armament control panel to NORM.



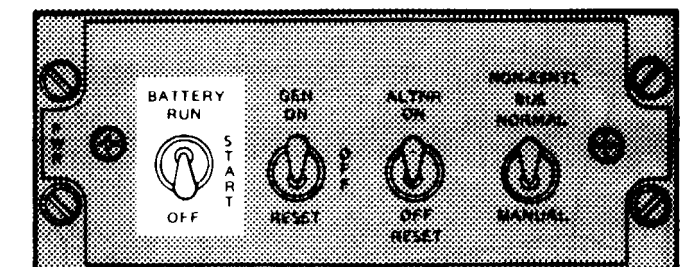
GUNNER ARMAMENT CONTROL PANEL

bp. Set MASTER ARM switch on pilot ARMT control panel to OFF.



PILOT ARMT CONTROL PANEL

bq. Set BATTERY switch on electrical PWR control panel to OFF.

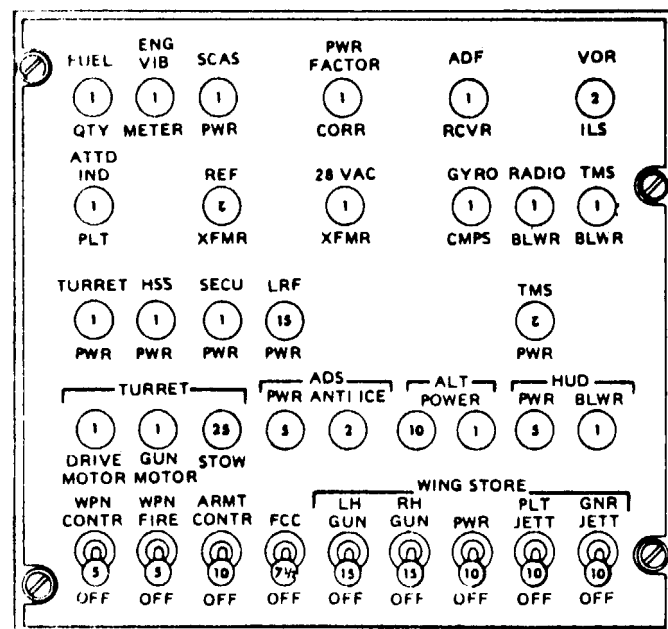


ELECTRICAL PWR CONTROL PANEL

br. Disconnect and stow pilot linkage arm. Remove helmets.

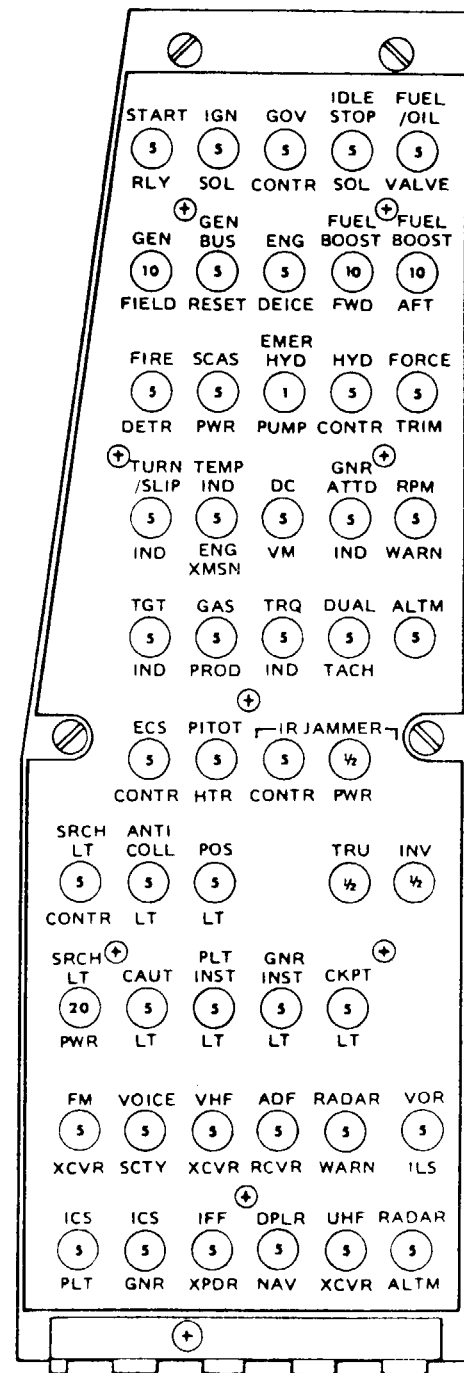
8-2. TMS OPERATIONAL CHECK
(CONTINUED).

bs. Open (OFF) all circuit breakers on AC/ARMT circuit breaker panel.



AC/ARMT CIRCUIT BREAKER PANEL

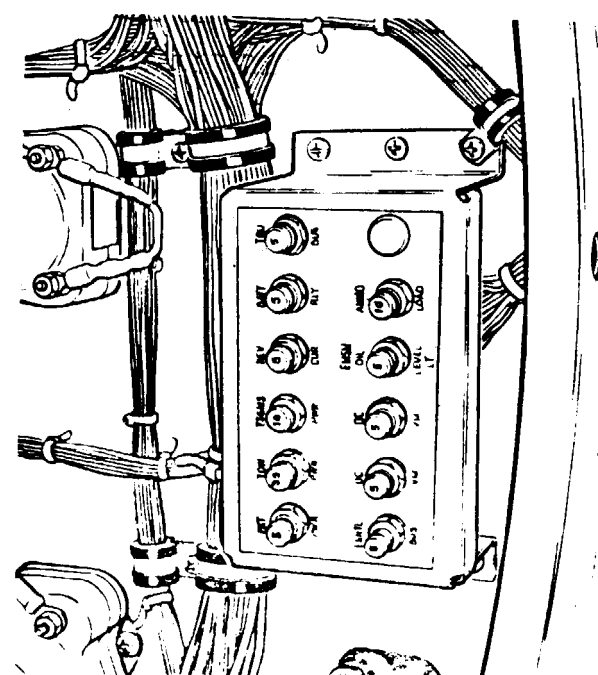
bt. Open all circuit breakers on DC circuit breaker panel.



DC CIRCUIT BREAKER PANEL

bu. Turn off external power.

bv. Open all circuit breakers on circuit breaker panel in battery compartment.



CIRCUIT BREAKER PANEL

bw. Disconnect battery.

8-2.1. TMS OPERATIONAL CHECK.

NOTE

Complete TOW PRE-OPERATIONAL CHECK SETUP, paragraph 8-1, before continuing with operational check.

INITIAL SETUP

Applicable Configuration

AH-1F MCN

Tools/Test and Support Equipment

Tool Set, A/C Armament Repairman

Multimeter

Ground Power Unit

Helmet with XM136 Sight Installed (2)

TOW System Evaluation Missile (TSEM)

Equipment Condition

Gun Safed/Barricade Erected (TM 9-1090-206-20-1/30)

Personnel Required

68J (2)

References

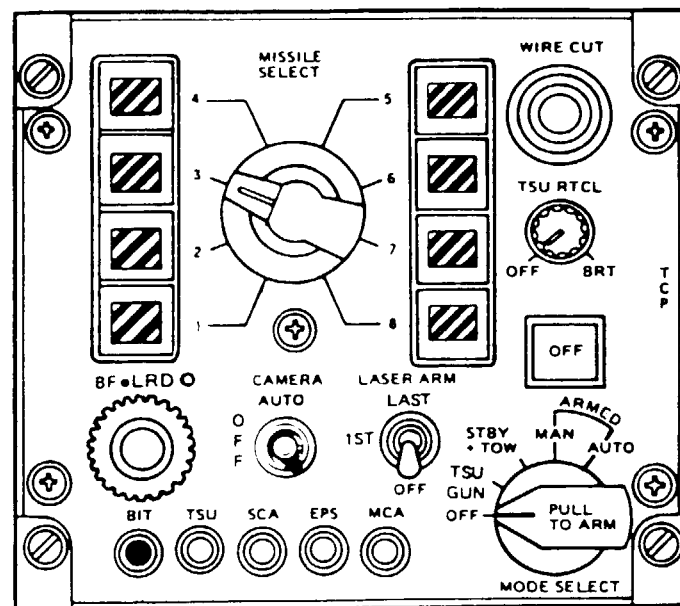
- TM 9-1270-220-13
- TM 9-1425-473-20
- TM 9-1425-473-34
- TM 55-1520-236-10
- TM 55-1520-236-23

Access Panels

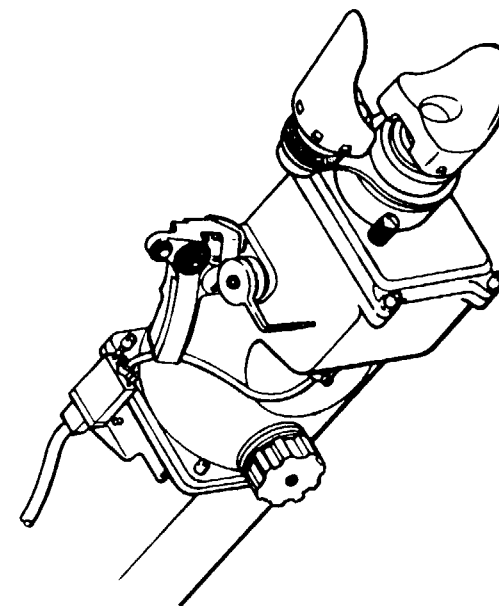
Battery Compartment Removed

External Power Door - Open

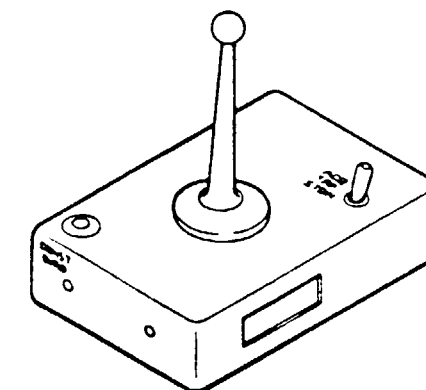
TSU Sight Window Covers - Removed



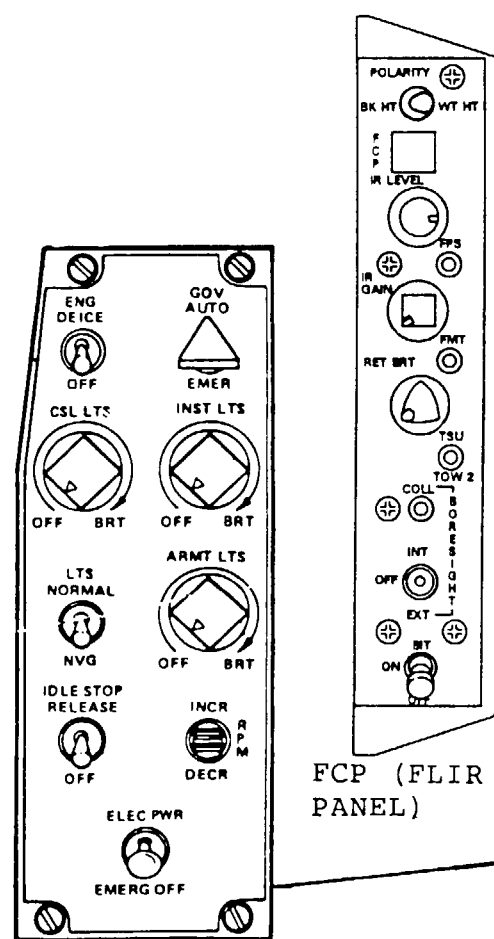
TCP (TOW CONTROL PANEL)



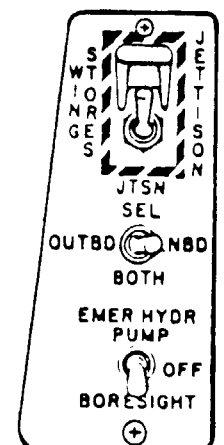
TELESCOPIC SIGHT UNIT (TSU)



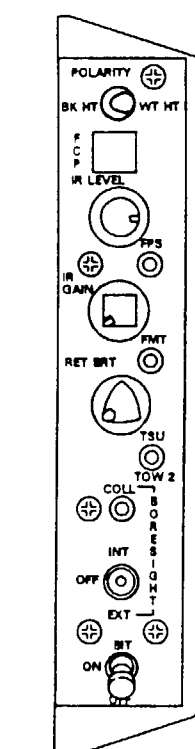
SIGHT HAND CONTROL



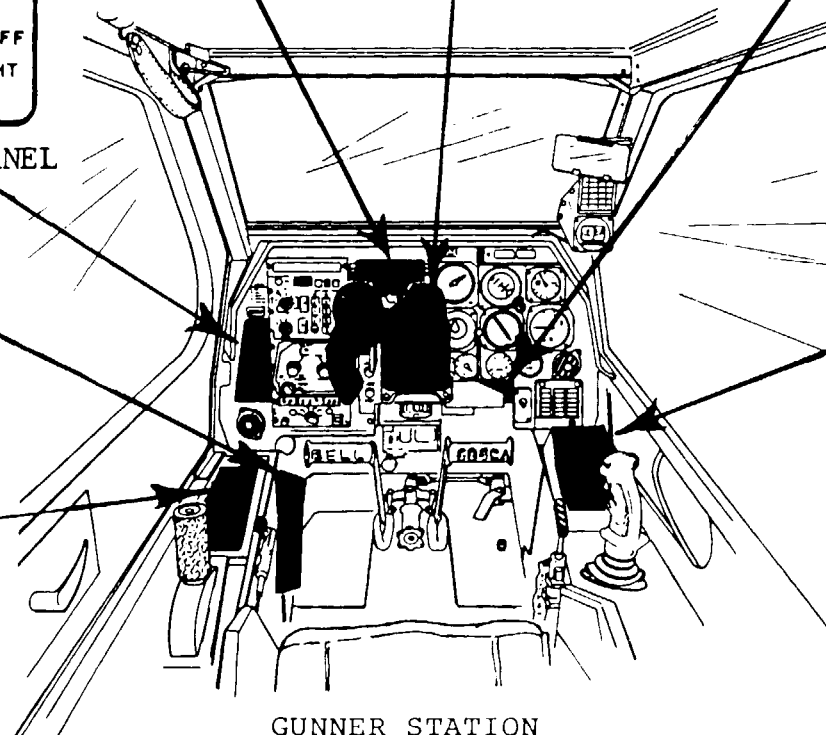
GUNNER MISCELLANEOUS CONTROL PANEL



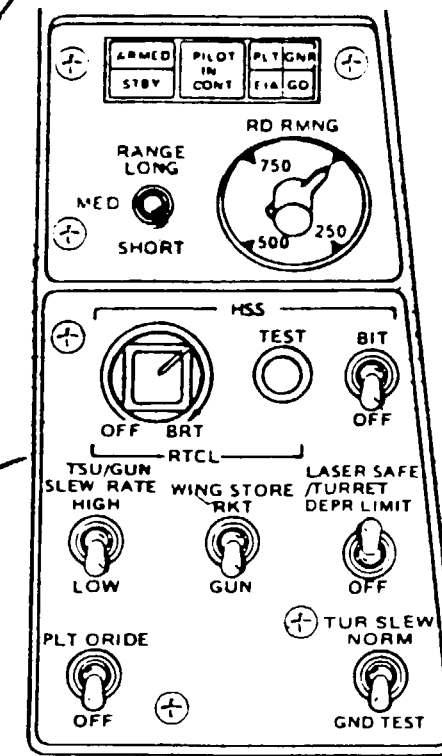
SWITCH PANEL



FCP (FLIR CONTROL PANEL)

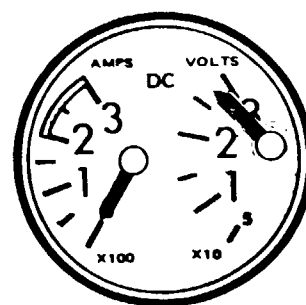


GUNNER STATION

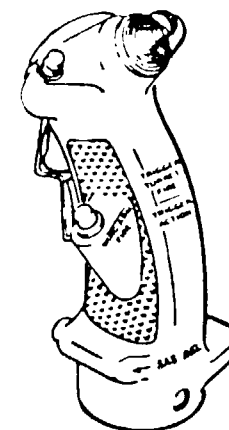


GUNNER ARMAMENT CONTROL PANEL

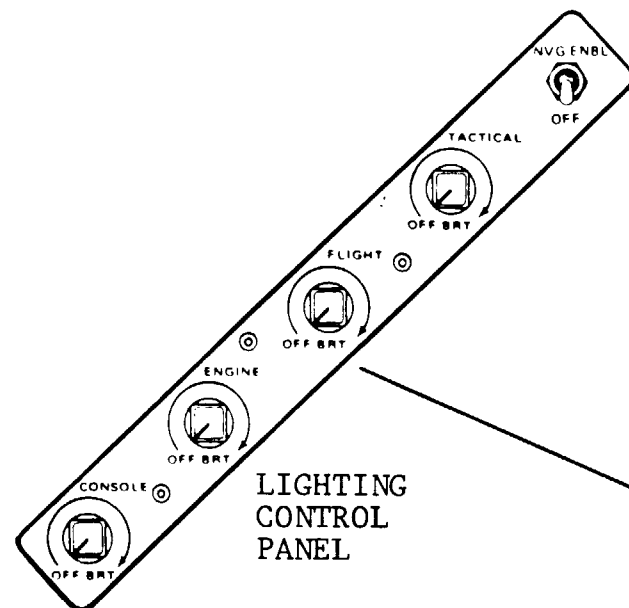
8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).



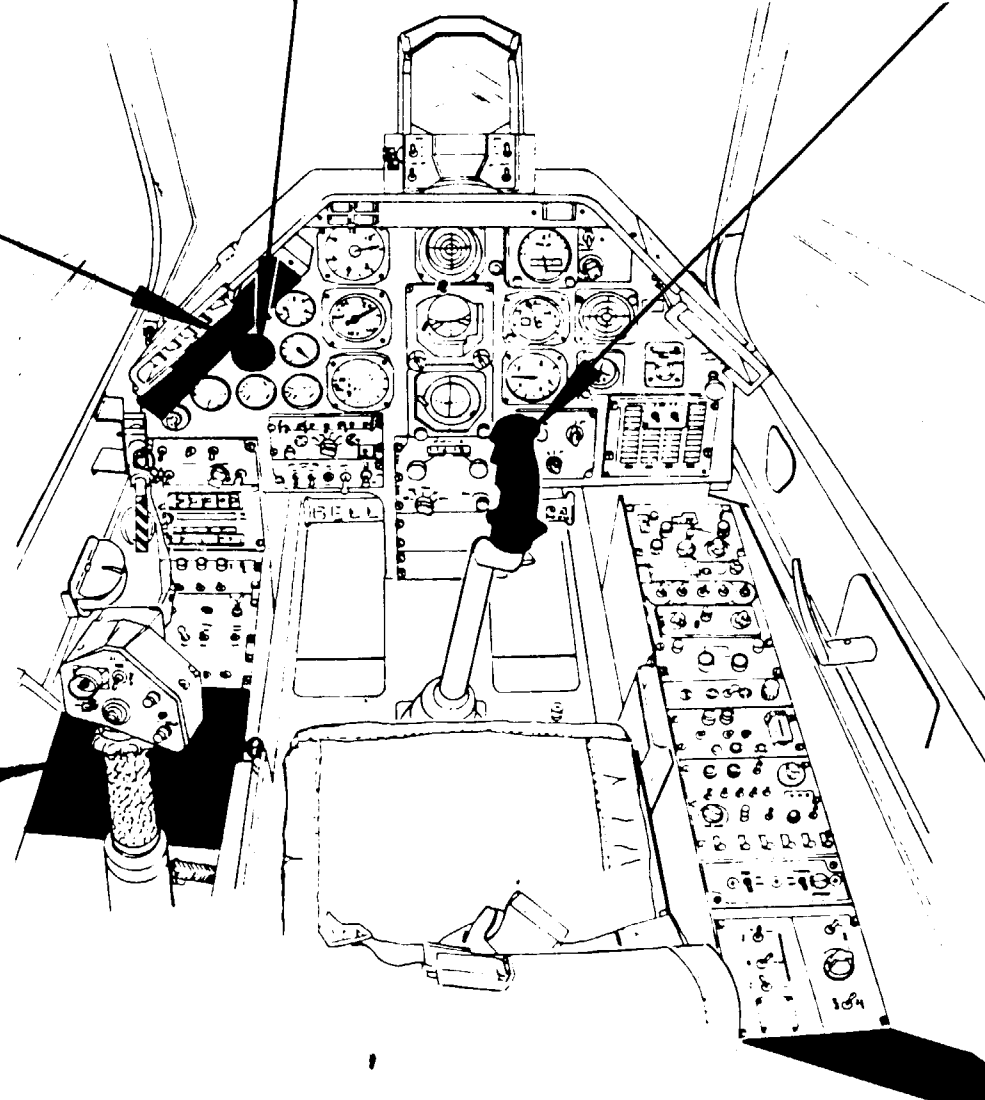
DC VOLTMETER



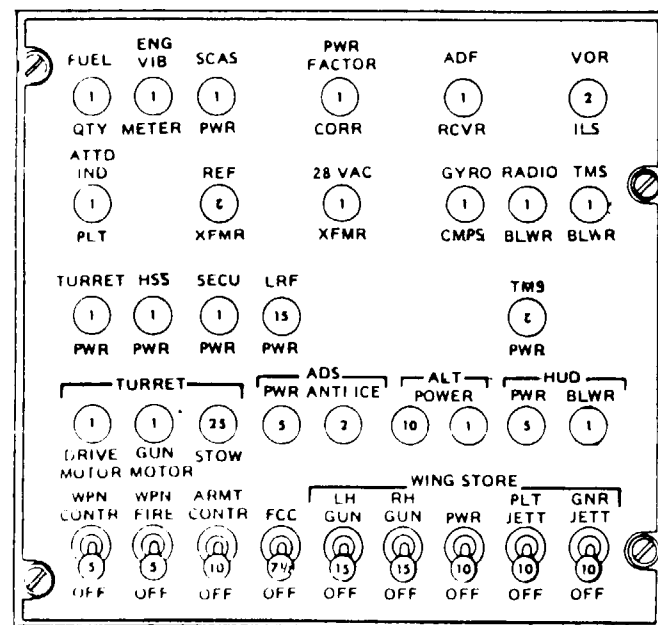
PILOT CYCLIC STICK



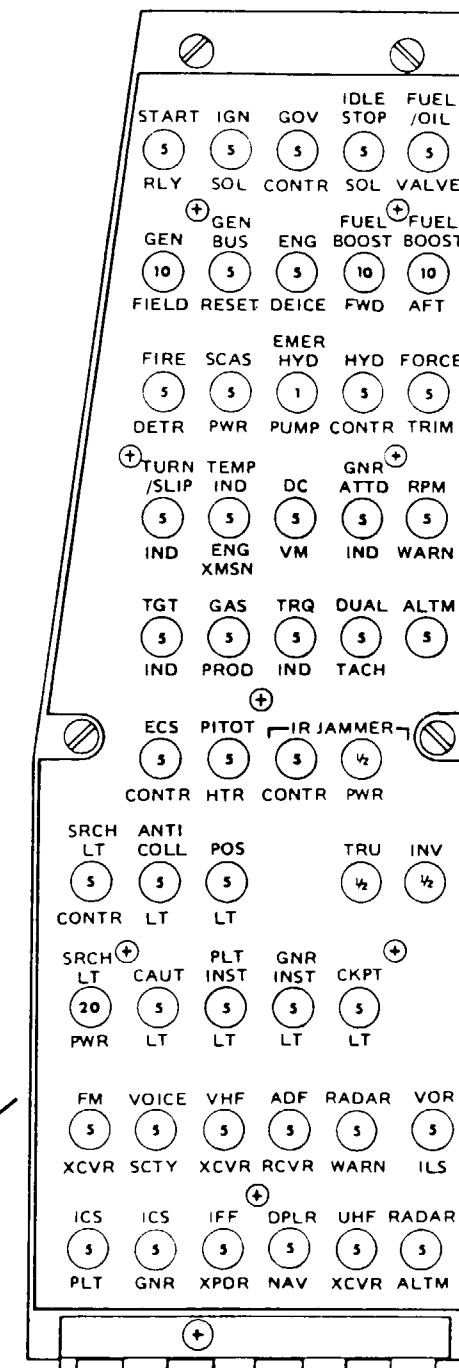
LIGHTING CONTROL PANEL



PILOT STATION

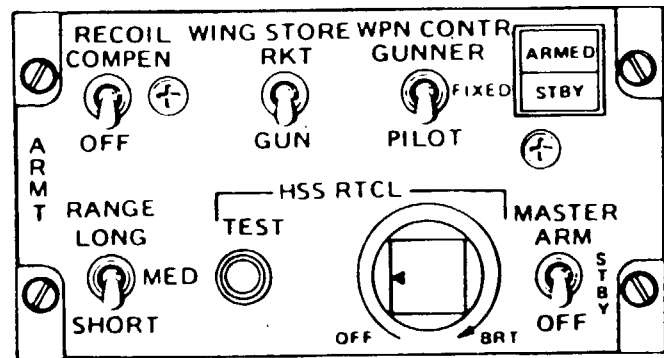


AC/ARMT CIRCUIT BREAKER PANEL

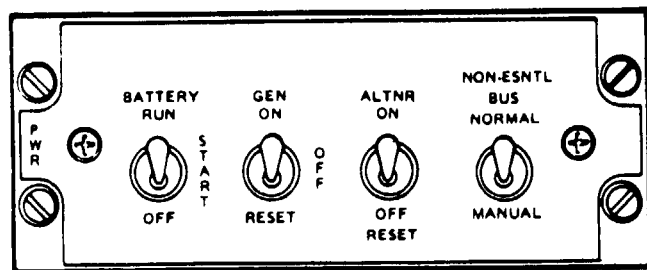


DC CIRCUIT BREAKER PANEL

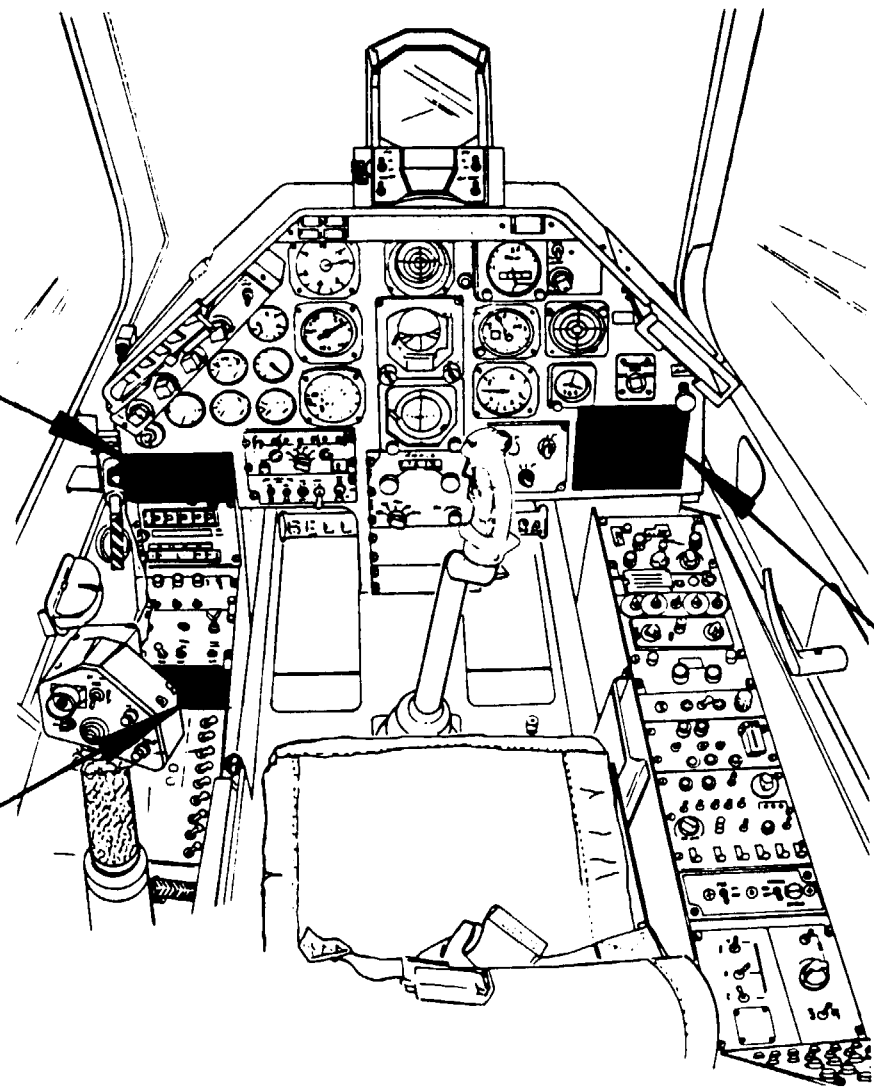
8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).



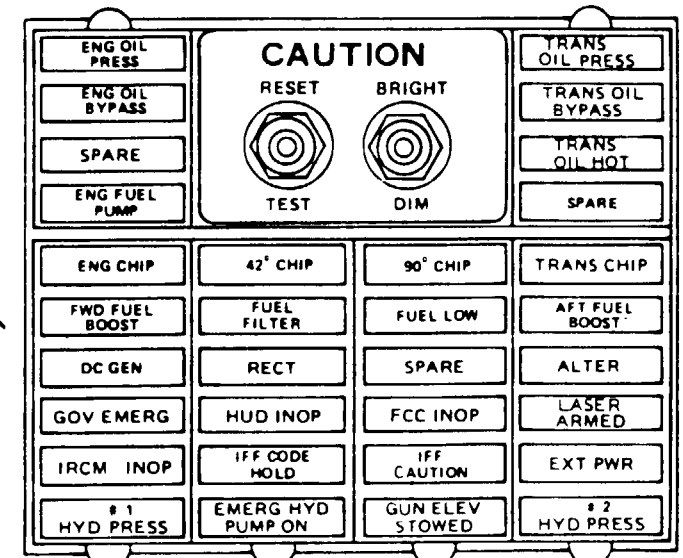
PILOT ARMT CONTROL PANEL



ELECTRICAL PWR CONTROL PANEL



PILOT STATION

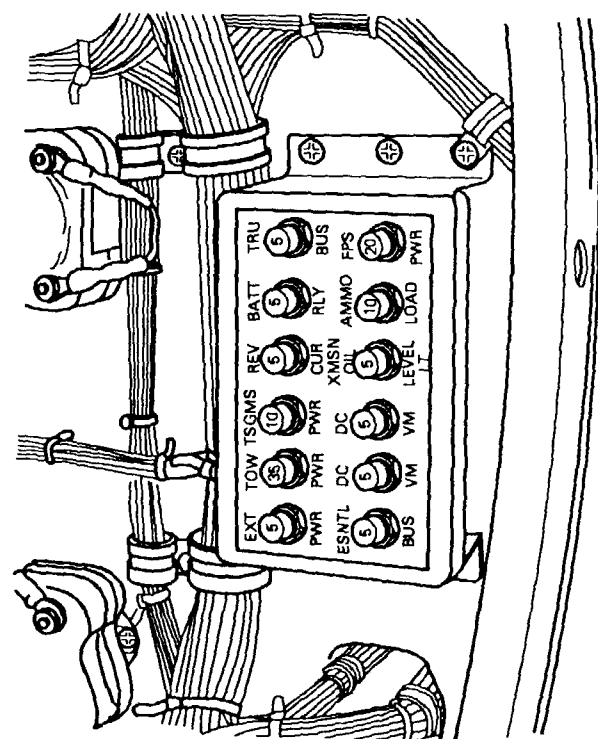


PILOT CAUTION PANEL

8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).

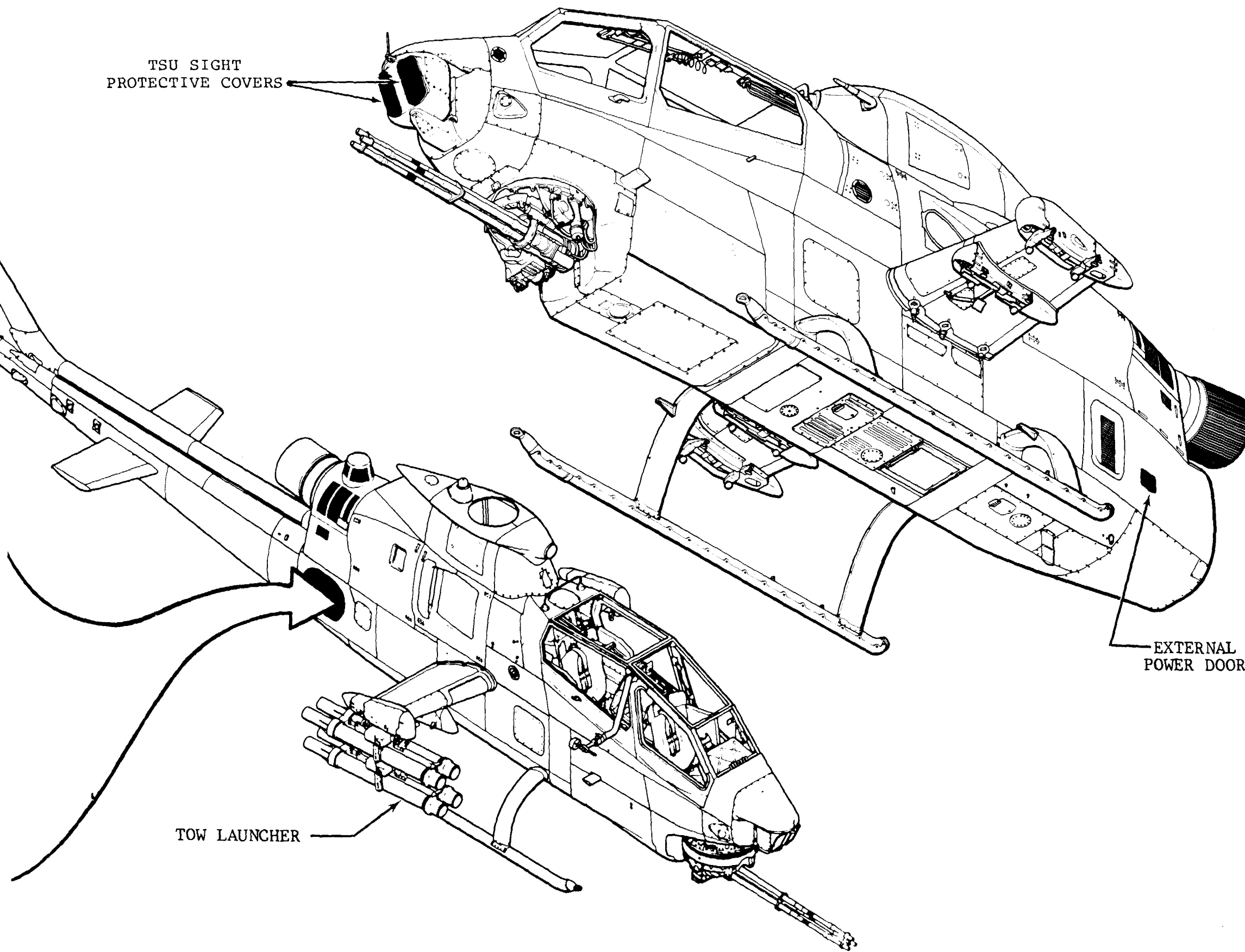
TSU SIGHT
PROTECTIVE COVERS

EXTERNAL
POWER DOOR



BATTERY COMPARTMENT
CIRCUIT BREAKER PANEL

TOW LAUNCHER



8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).

APPLYING ELECTRICAL POWER

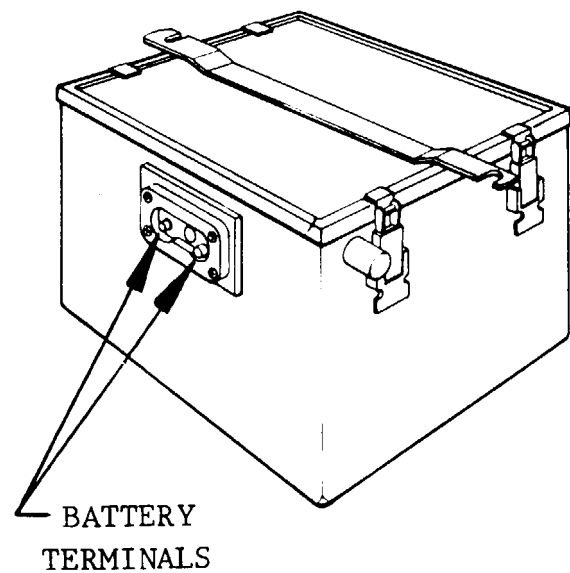
WARNING

Warn people working on or near helicopter before you apply electrical power.

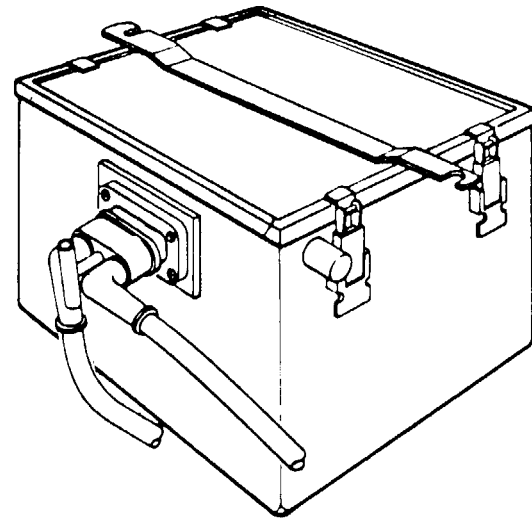
CAUTION

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.

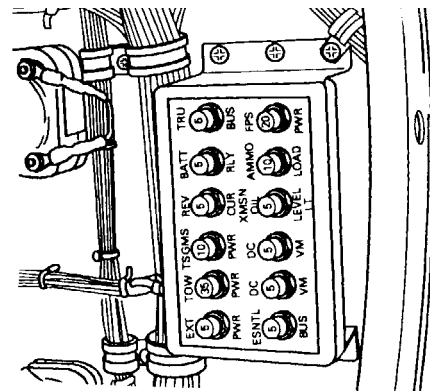


b. Connect battery.



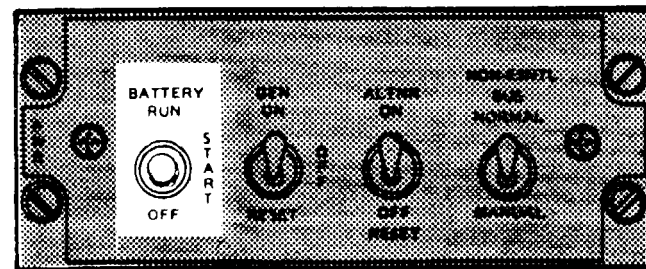
BATTERY

c. Close all circuit breakers on circuit breaker panel in battery compartment.



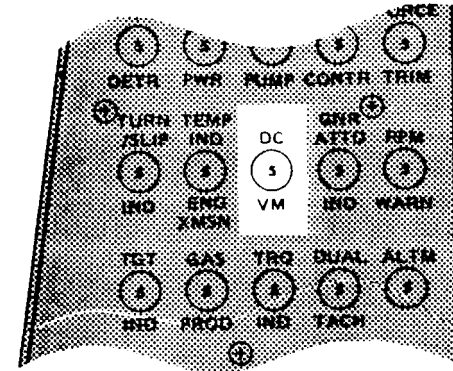
CIRCUIT BREAKER PANEL

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.

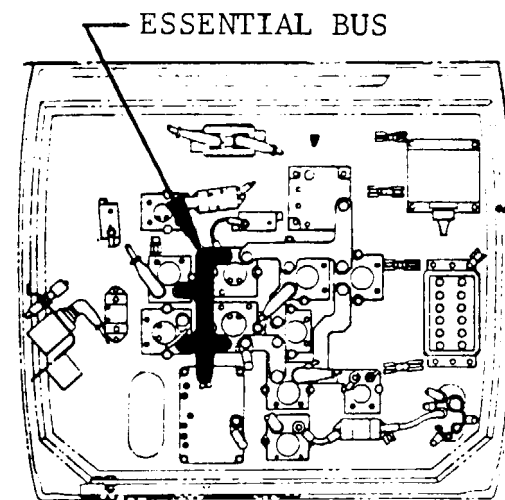


DC CIRCUIT BREAKER PANEL

CAUTION

Do not exceed 28.5 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 25.0 to 28.5 V dc measured at the essential bus with a multimeter.

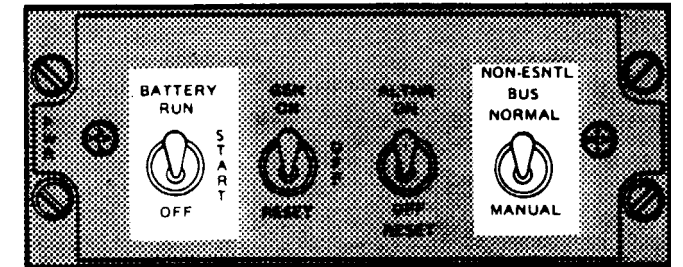


FORWARD BULKHEAD OF BATTERY COMPARTMENT

NOTE

25 to 28.5 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.

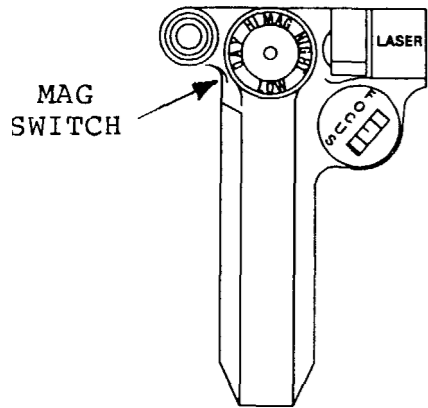


ELECTRICAL PWR CONTROL PANEL

h. Set NON-ESNTL BUS switch on electrical PWR control panel to NORMAL.

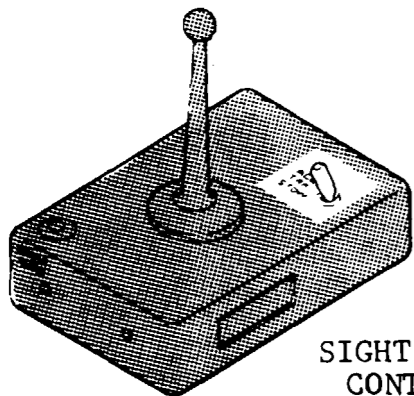
8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).

n. Press MAG switch on left hand grip to DAY; then LO.



LEFT HAND GRIP

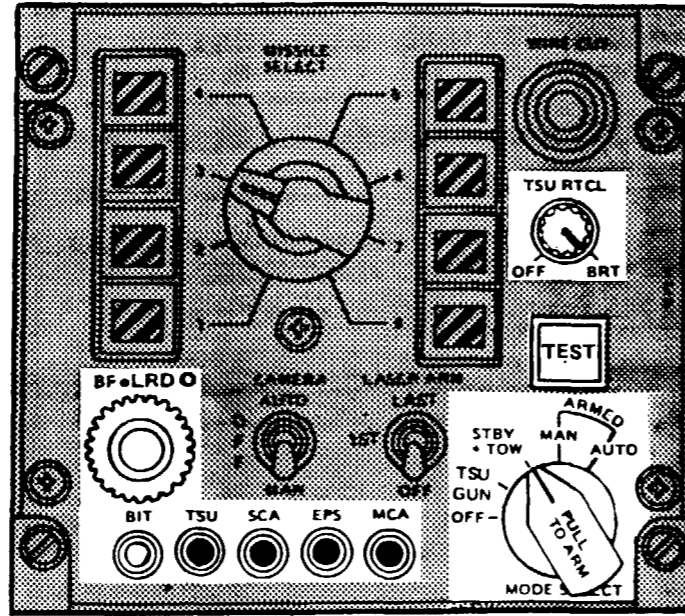
o. Set ACQ/TRK/STOW switch on sight hand control to STOW. Observe TSU is in stow position (sight pointed at a target directly in front of aircraft, 0 degrees azimuth, 0 degrees elevation). Image may be focused by aft relay focus knob on TSU.



SIGHT HAND CONTROL

p. Observe TSU image is up-right. Image should stay upright throughout the operational check.

q. Set MODE SELECT switch on TCP (TOW control panel) to STBY TOW. Mode indicator will show TEST as system performs BIT test.

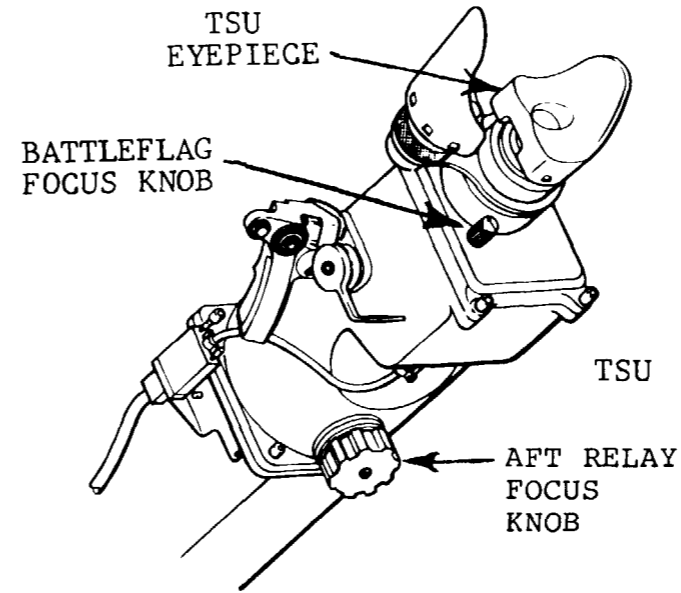


TCP (TOW CONTROL PANEL)

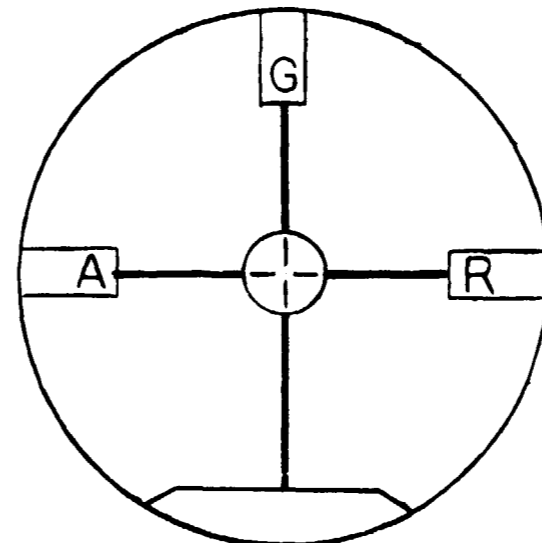
When BIT test is complete, mode indicator will show PWR ON. Verify all BIT indicators are black.

r. Set controls on TCP (TOW control panel) as follows:

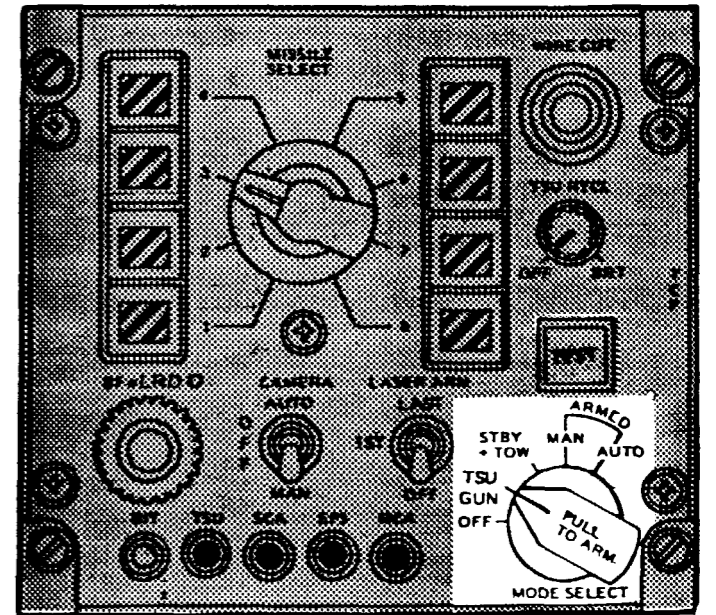
- (1) BF (battle flags) to full clockwise.
- (2) TSU RTCL to BRT. Observe that fixed reticle in TSU eyepiece lights. (Reticle lighting is difficult to see in sunlight). Turn TSU RTCL counter-clockwise to mid-range.



s. Press and hold BIT button on TCP (TOW control panel). Look into TSU eyepiece. An "A" will appear on the left battleflag, an "R" will appear on the right battleflag and a "G" will appear on the top battleflag. Battleflag focus knob is located on TSU. Vary BF control on TCP (TOW control panel) and observe that battleflag intensity varies. Release BIT switch. Battleflags will disappear and system will perform BIT test. Mode indicator will indicate TEST.

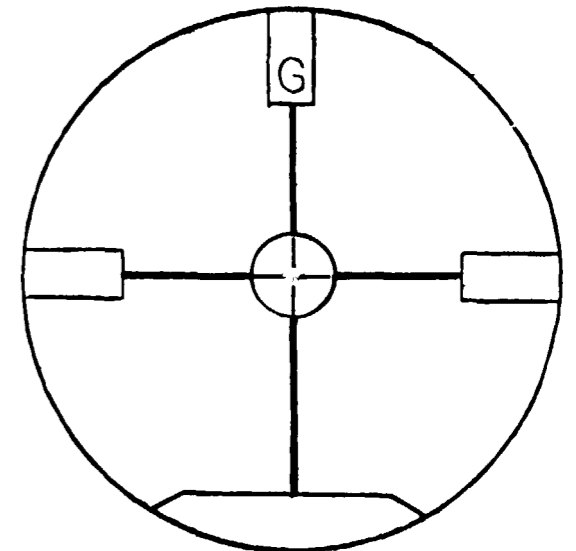


TSU EYEPiece



TCP (TOW CONTROL PANEL)

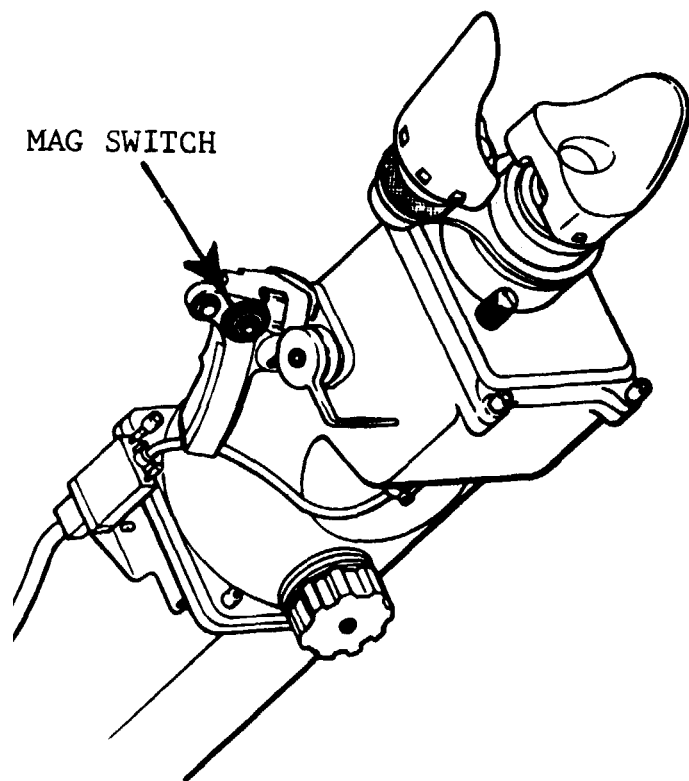
t. Set MODE SELECT switch on TCP (TOW control panel) to TSU GUN. Look into TSU and observe a "G" (gun) appears in top battleflag in TSU eyepiece.



TSU EYEPiece

8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).

u. Set MAG switch on TSU left hand grip to HI; then to LO. Observe image changes in magnification.

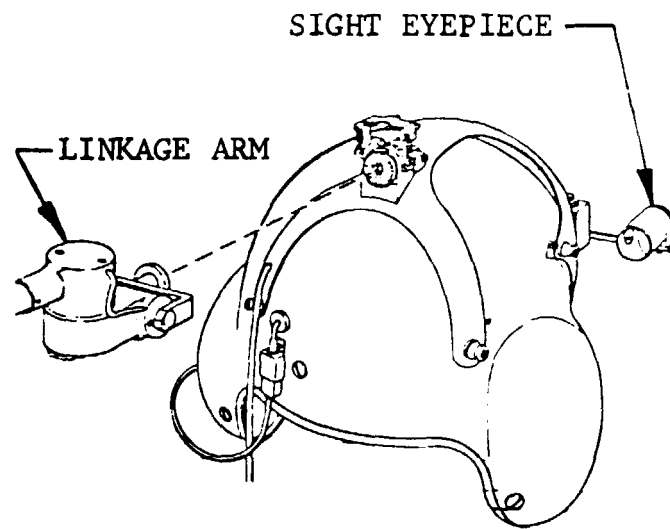


TELESCOPIC SIGHT UNIT (TSU)

NOTE

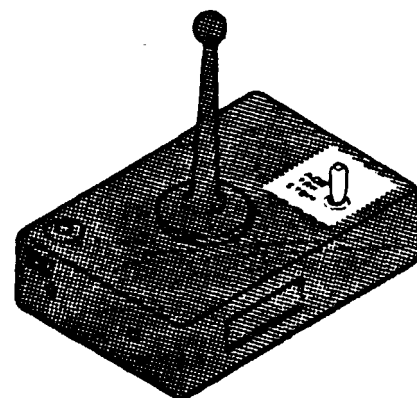
The following steps check the helmet sight subsystem (HSS) interface.

v. In pilot and gunner stations, put on helmets and connect to helicopter electrical connectors and linkage arms. Adjust eyepieces.



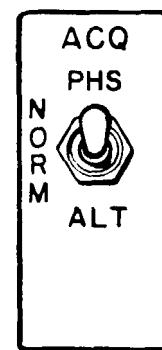
LINKAGE ARM ATTACHMENT TO HELMET SIGHT

w. Set ACQ/TRK/STOW switch on sight hand control to TRK.



SIGHT HAND CONTROL

x. Select a distant target to one side of the aircraft with pilot helmet sight. Press and hold ACQ switch on gunner instrument panel in PHS position. The gunner helmet eyepiece will retract. Observe TSU aligns with the target. Move pilot helmet in azimuth and elevation and observe TSU follows. Release ACQ switch.



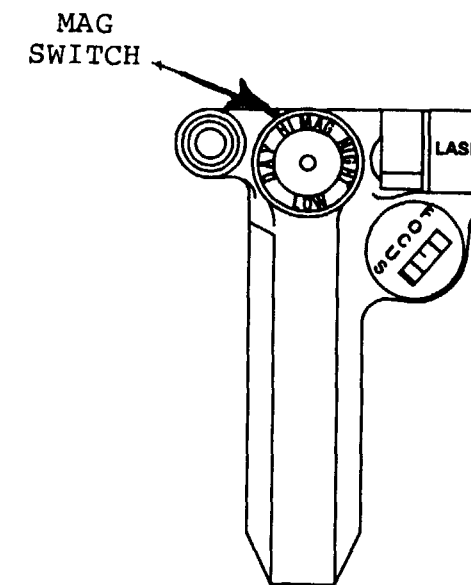
ACQ SWITCH

y. Rotate the sight eyepiece on gunner helmet down until it latches.

z. Move gunner helmet in elevation and azimuth to sight on a distant target. Momentarily press ACQ/TRK/STOW switch on sight hand control to ACQ position. Gunner helmet eyepiece will retract. Look through TSU and observe the same target selected with the helmet sight.

aa. Disconnect and stow pilot and gunner linkage arms.

ab. Set MAG switch on TSU left hand grip to HI.



LEFT HAND GRIP

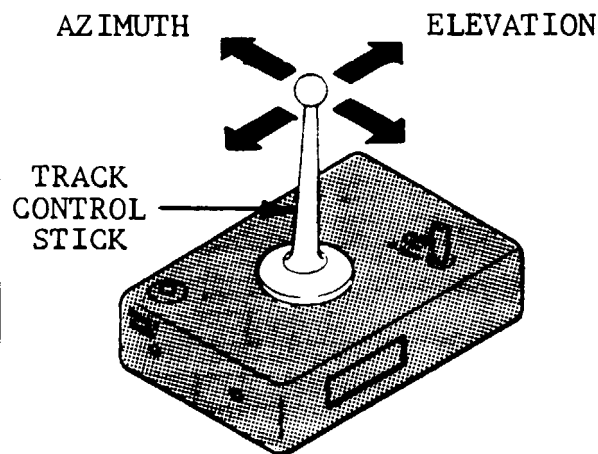
NOTE

The track control stick on sight hand control is a pressure sensitive control. It does not move, however, the more force applied the faster the reaction of the TSU.

8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).

ac. On sight hand control:

- (1) Apply pressure to track control stick to move the TSU in azimuth. Observe that TSU moves in azimuth.
- (2) Apply pressure to track control stick to move the TSU in elevation. Observe that TSU moves in elevation.
- (3) Set MAG switch on TSU left hand grip to LO. Move TSU in azimuth and elevation with track control stick. Observe that TSU now moves at a faster rate. Set MAG switch on TSU left hand grip to HI.



SIGHT HAND CONTROL

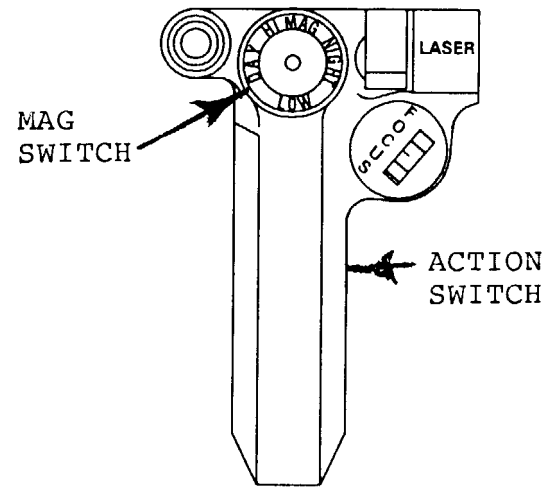
WARNING

Clear turret area of any obstructions and warn personnel to stand clear. Erect a safety barrier around gun barrel sweep area.

NOTE

Upward gun motion is limited to approximately 15 degrees. The TURRET DEPR LIMIT switch limits downward gun motion to approximately 5 degrees to prevent the gun barrels from striking the ground. The gun will follow TSU movement only between these limits.

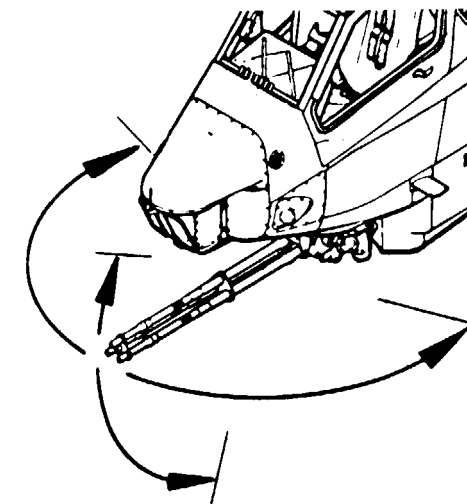
ad. Press and hold ACTION switch on TSU left hand grip. Slowly move TSU to the right and then approximately 45 degrees to the left with track control stick.



LEFT HAND GRIP

- (1) Observe that gun turret follows the TSU.

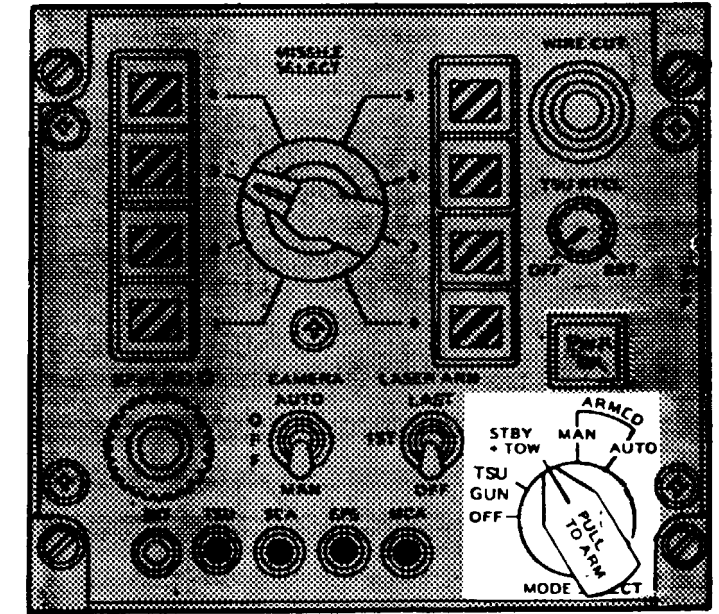
- (2) Slowly slew the TSU in elevation and observe the limits of turret motion.
- (3) Position the TSU to place the gun between upper and lower limits and hold gun motionless for 5 seconds.
- (4) Observe that the gun follows the TSU.
- (5) Release ACTION switch. (Turret will return to stow.)



NOTE

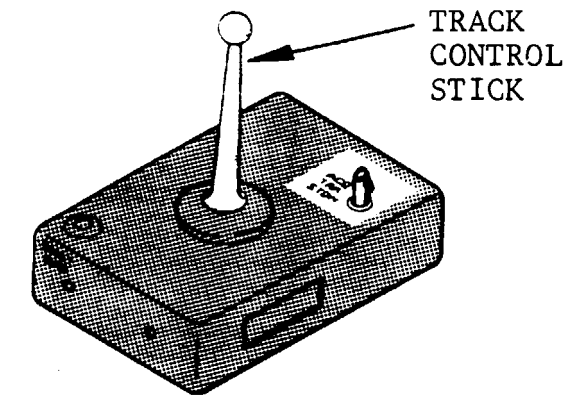
The following check verifies motion compensation is working.

ae. Set MODE SELECT switch on TCP (TOW control panel) to STBY TOW. The gun will move to the fixed forward position. The "G" in the TSU eyepiece will disappear.



TCP (TOW CONTROL PANEL)

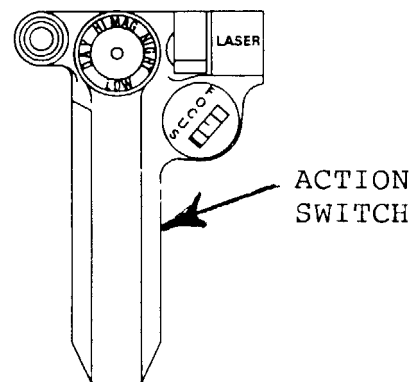
af. Set ACQ/TRK/STOW switch on sight hand control to STOW momentarily, then return to TRK. The TSU will go to stow position.



SIGHT HAND CONTROL

8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).

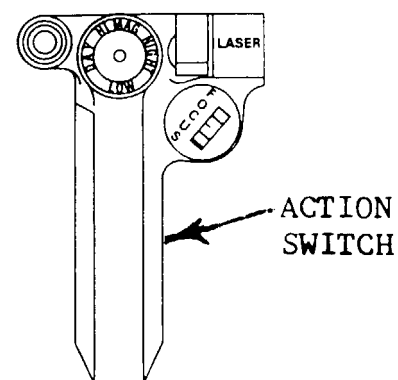
ag. Press and hold ACTION switch on left hand grip.



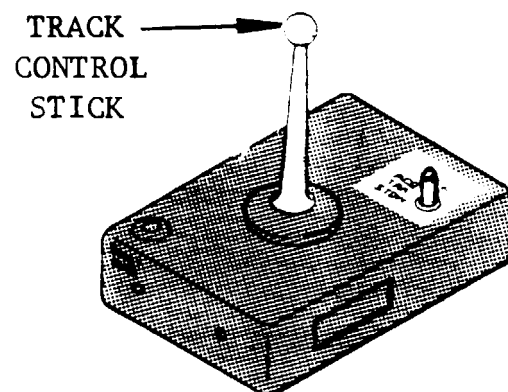
LEFT HAND GRIP

ah. Move TSU either left or right with track control stick on sight hand control.

ai. Continue to press and hold ACTION switch. Release track control stick and observe that TSU continues to move at the same rate. (This verifies motion compensation is operative).



LEFT HAND GRIP



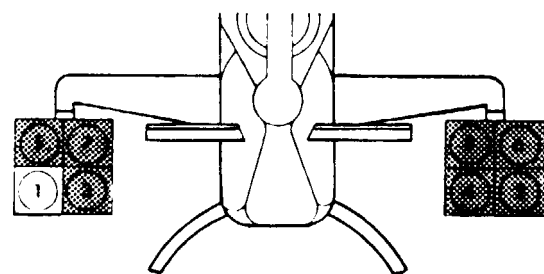
SIGHT HAND CONTROL

aj. Release ACTION switch. Set ACQ/TRK/STOW switch on sight hand control to STOW.

NOTE

This portion of check verifies pylon articulation and missile present.

ak. Install TSEM in launcher position 1 per TM 9-1425-473-34 Table 2-6 (or connect TOW missile present simulator to 20P8J01). MSL will appear in window next to setting 1 on TCP (TOW control panel).



VIEW LOOKING FORWARD

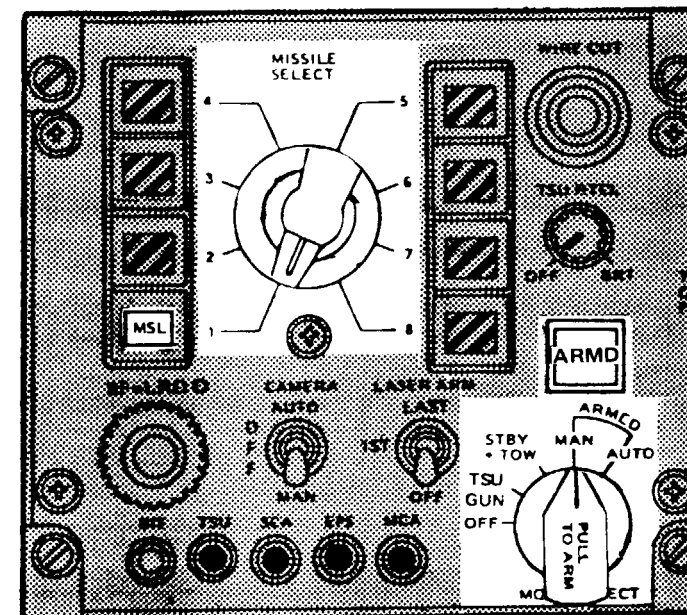
al. Set TCP (TOW control panel) switches as follows:

(1) MODE SELECT switch to ARMED MAN. Mode indicator will show ARMD.

CAUTION

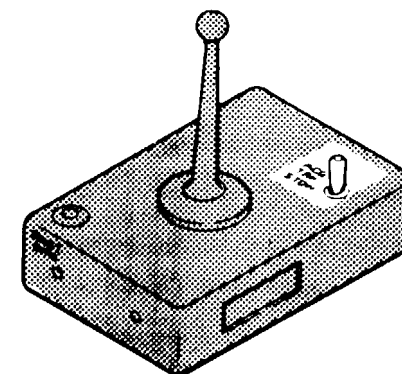
Do not turn MISSILE SELECT switch counterclockwise.

(2) MISSILE SELECT switch to 1.

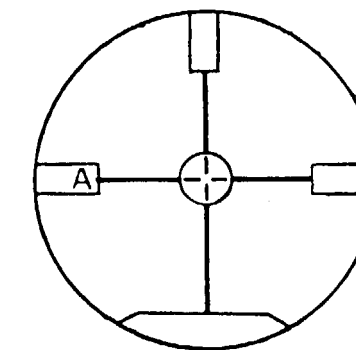


TCP (TOW CONTROL PANEL)

am. Set ACQ/TRK/STOW switch to TRK. Press and hold ACTION switch on left hand grip. Observe "A" (attack) flag appears in TSU eyepiece. ("R" flag may also appear.) Release ACTION switch.

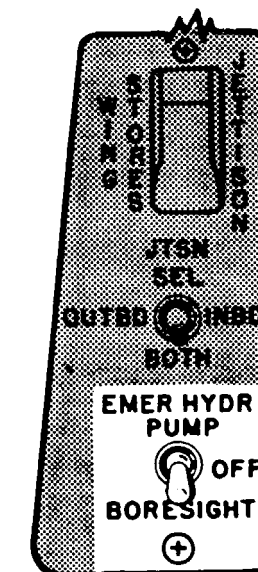


SIGHT HAND CONTROL

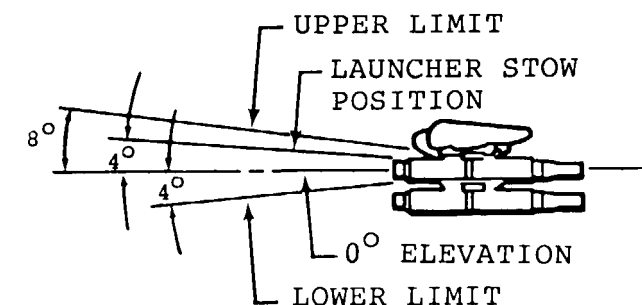


TSU EYEPIECE

an. Set EMER HYDR PUMP/BORESIGHT switch on gunner instrument panel to BORESIGHT. EMERG HYD PUMP ON segment on gunner caution panel will light. (Emergency hydraulic pump operation can be heard above the normal aircraft noise environment.)



SWITCH PANEL

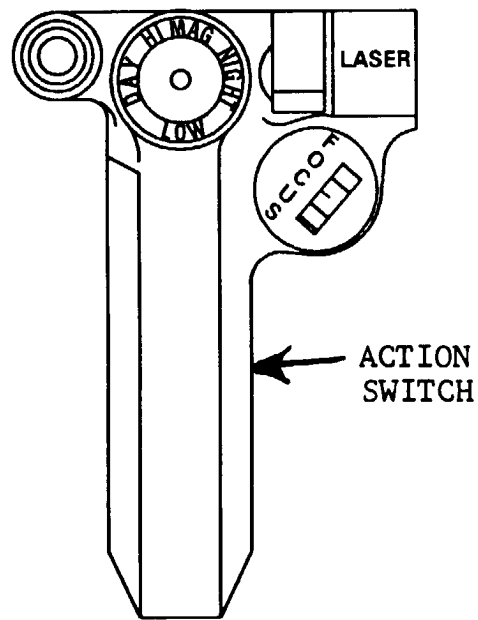


8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).

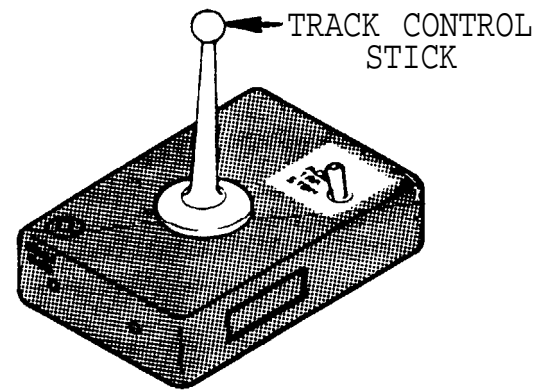
NOTE

TMS launcher movement is limited to approximately 8 degrees up and 4 degrees down. The launcher will follow TSU movement only between these limits. The "R" battle flag will be present only when the launcher is aligned with the TSU.

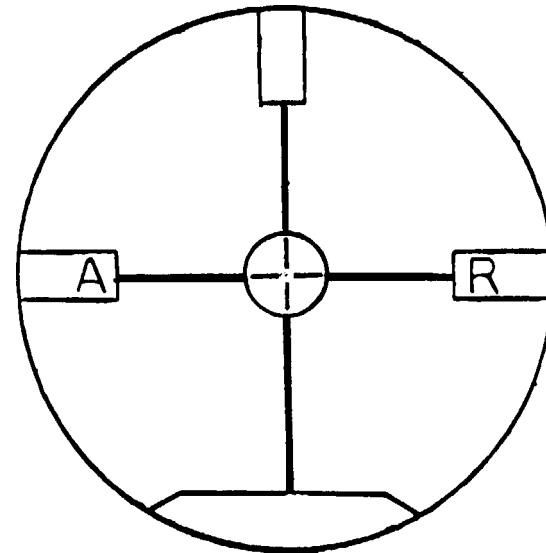
ao. Set ACQ\TRK\STOW switch to STOW momentarily, then to TRK. Press and hold ACTION switch on left hand grip until otherwise instructed. From a Position on the ground, observe the left launcher moves down from the stow position to align with TSU at 0 degrees elevation. (TSU may drift slightly).



"LEFT HAND GRIP"



SIGHT HAND CONTROL



TSU EYEPiece

ap. Hold TSU at approximately 0 degrees elevation and 0 degrees azimuth with track control stick. With the launcher aligned with the TSU, observe "R" (ready) flag appears in TSU eyepiece.

aq. Pull back on track control stick. Observe left TOW launcher nose moves upward and the "R" flag in TSU eyepiece disappears.

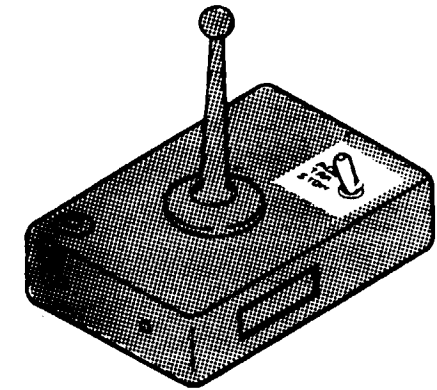
ar. Set ACQ/TRK\STOW switch on sight hand control to STOW. Observe left TOW launcher moves down to launcher stow position. TSU will stow.

as. Set ACQ/TRK\STOW switch on sight hand control to TRK. Observe left TOW launcher moves down to align with TSU at 0 degrees elevation. ("R" flag will reappear if TSU drift is slight) .

at. Push forward on track control stick. Left TOW launcher nose will move downward and "R" flag will not be lit.

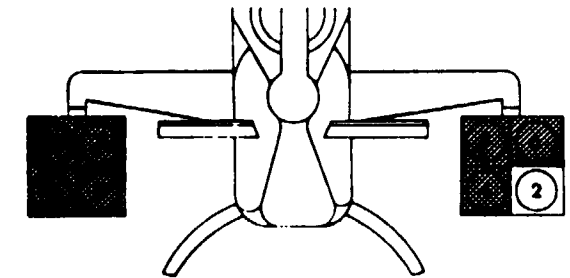
au. Release ACTION switch on left hand grip. Left TOW launcher will move up to stow position.

av. Set EMER HYDR PUMP/BORESIGHT switch on gunner instrument panel to OFF. Set ACQ/TRK\STOW switch on sight hand control to STOW.

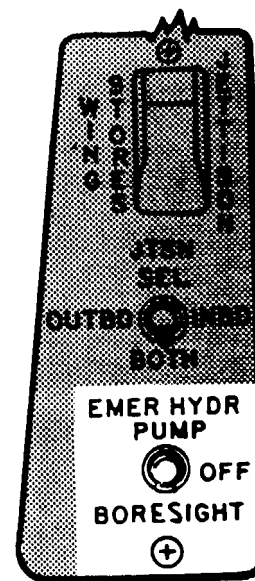


SIGHT HAND CONTROL

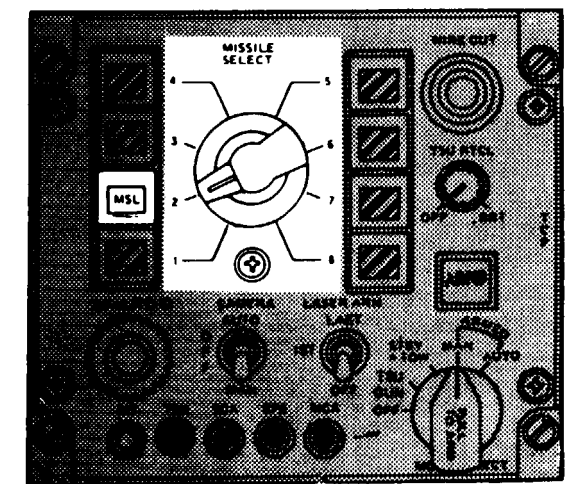
aw. Install TSEM in launcher position 2 per TM 9-1425-473-34 Table 2-6 (or connect TOW missile present simulator to 20S8J01). MSL will appear in window next to setting 2 on TCP (TOW control panel) . Set MISSILE SELECT switch on TCP to 2.



VIEW LOOKING FORWARD



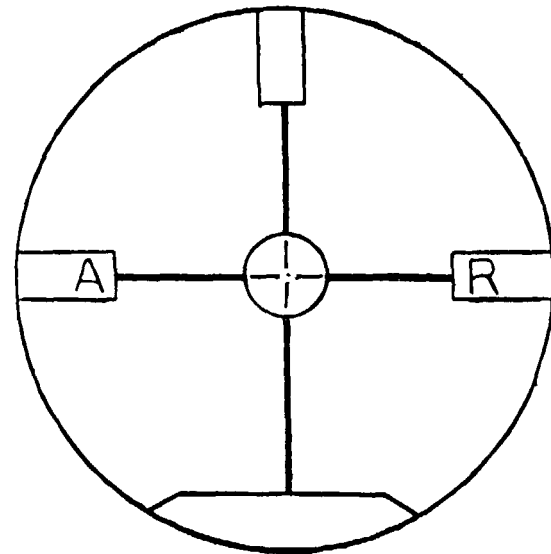
SWITCH PANEL



TCP (TOW CONTROL PANEL)

8-2.1. TMS OPERATIONAL CHECK
(CONTINUED)

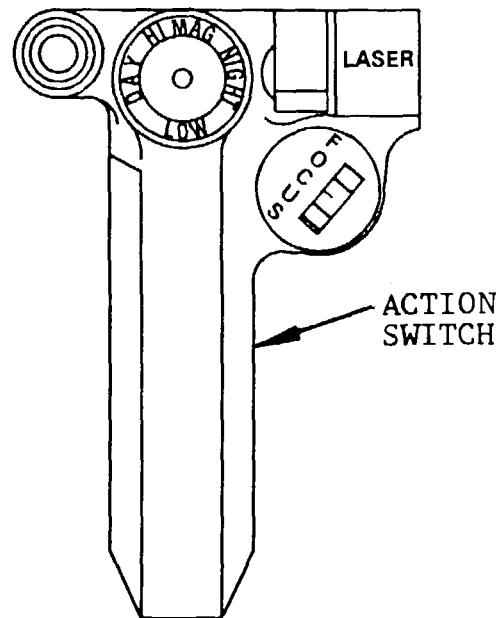
ax. Set ACQ/TRK/STOW switch on sight hand control to TRK. Press and hold ACTION switch on left hand grip. Observe "A" (attack) flag appears in TSU eyepiece. Release ACTION switch.



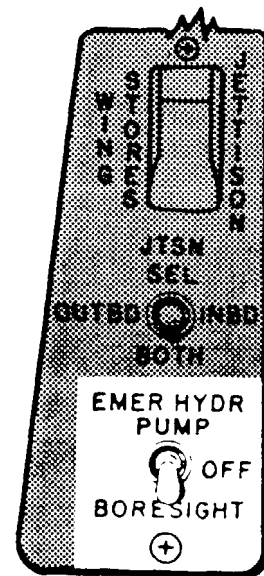
TSU EYEPIECE

ay. Set EMER HYDR PUMP/BORESIGHT switch on gunner instrument panel to BORESIGHT.

SIGHT HAND CONTROL

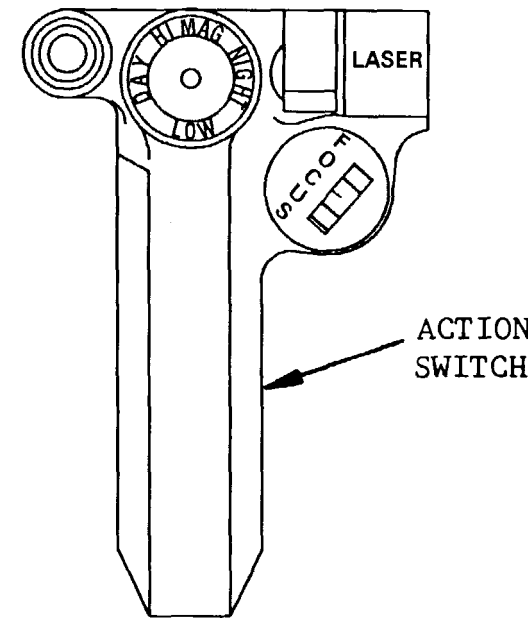


LEFT HAND GRIP



SWITCH PANEL

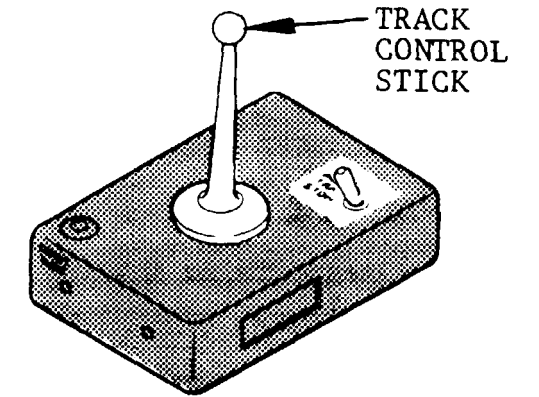
az. Set ACQ/TRK/STOW switch to STOW momentarily, then to TRK. Press and hold ACTION switch on left hand grip until otherwise instructed. From the ground, observe the right launcher moves down from the stow position to align with the TSU at 0 degrees elevation (TSU may drift slightly).



LEFT HAND GRIP

ba. Hold TSU at approximately 0 degrees elevation and 0 degrees azimuth with track control stick. With launcher aligned with TSU, observe "R" (ready) flag appears in TSU eyepiece.

bb. Pull back on track control stick. Observe right TOW launcher nose moves upward and the "R" flag in TSU eyepiece disappears.



SIGHT HAND CONTROL

bc. Set ACQ/TRK/STOW switch on sight hand control to STOW. Observe right TOW launcher moves down to launcher stow position.

bd. Set ACQ/TRK/STOW switch on sight hand control to TRK. Observe right TOW launcher moves down to align with TSU at 0 degrees elevation. ("R" flag will reappear if TSU drift is slight.)

be. Push forward on track control stick. Right TOW launcher nose will move downward and "R" flag will not be lit.

bf. Release ACTION switch on left hand grip. Right TOW launcher will move up to stow position.

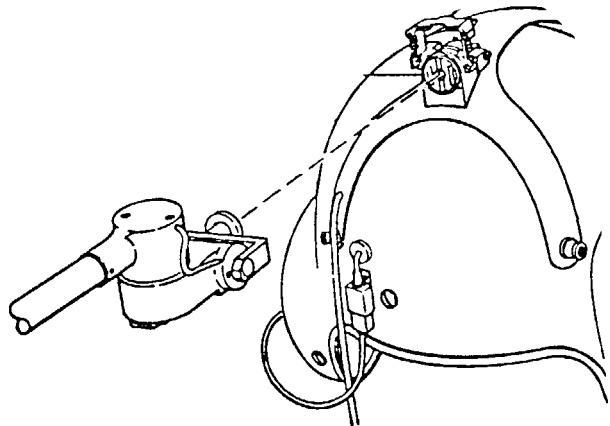
bg. Set EMER HYDR PUMP/BORESIGHT switch on gunner instrument panel to OFF. Set ACQ/TRK/STOW switch on sight hand control to STOW.

8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).

NOTE

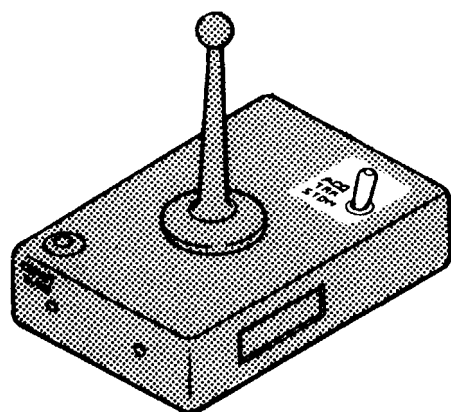
The following check verifies the circuitry that prevents the gun from firing when a TOW missile is being launched.

bh. Connect pilot linkage arm to helmet.



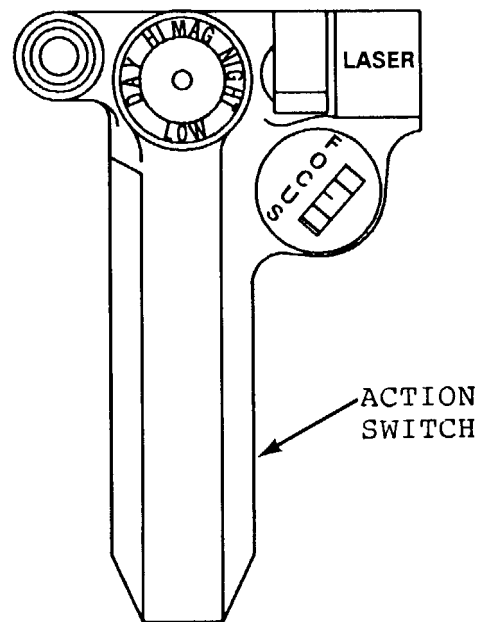
PILOT/GUNNER LINKAGE ARM ATTACHMENT TO HELMET SIGHT

bi. Set ACQ/TRK\STOW switch on sight hand control to TRK.

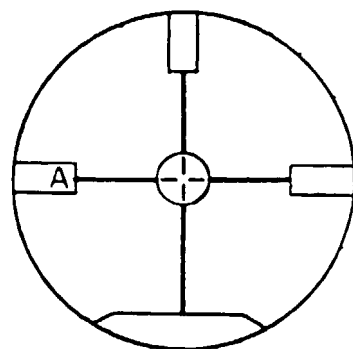


SIGHT HAND CONTROL

b-j. Press and hold ACTION switch on TSU left hand grip until otherwise instructed. Observe "A" flag is present in TSU eyepiece.



LEFT HAND GRIP



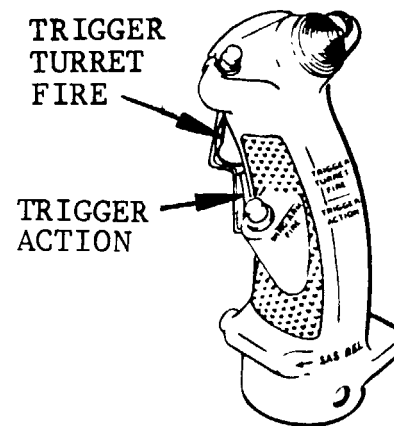
TSU EYEPIECE

bk. Select a target to the right of the helicopter with the pilot helmet sight.



Clear turret area of any obstructions and warn personnel to stand clear. Erect a safety barrier around gun barrel sweep area.

bl. Press and hold TRIGGER ACTION switch on pilot cyclic stick. The turret will point at the selected target. Press and hold TRIGGER TURRET FIRE switch. The gun barrels will rotate.



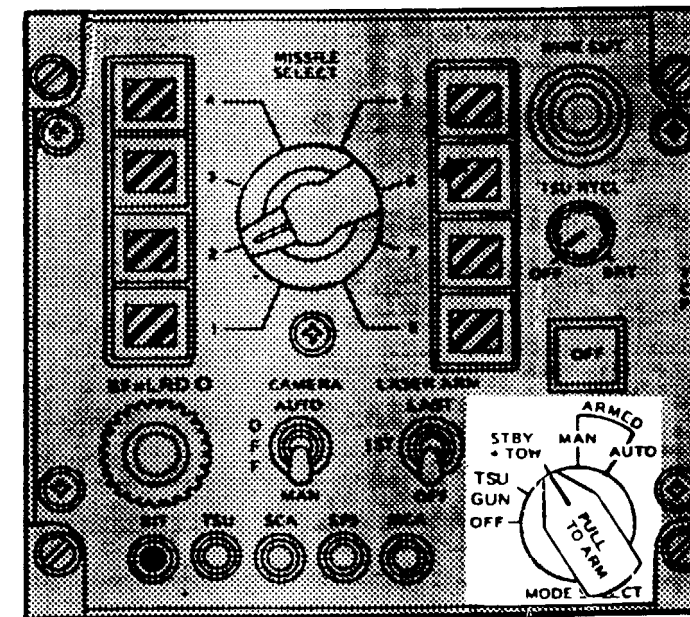
CYCLIC STICK

bm. Press and hold TRIGGER switch on left hand grip. Observe that gun barrels will stop rotating and gun will go to the stow position.

bn. Release TRIGGER and ACTION switches on left hand grip. After a few seconds gun will return to the target selected by the pilot and begin rotating. Release TRIGGER TURRET FIRE and TRIGGER ACTION switches on the cyclic stick.

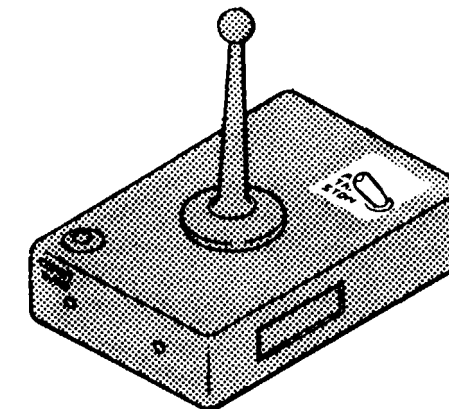
bo. Disconnect and stow pilot linkage arm. Remove helmet.

bp. Set MODE SELECT switch on TCP (TOW control panel) to STBY TOW.



TCP (TOW CONTROL PANEL)

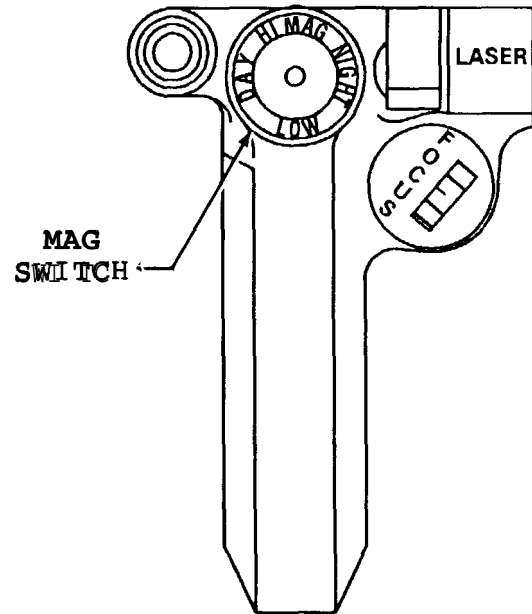
bq. Set ACQ/TRK\STOW switch on sight hand control to STOW.



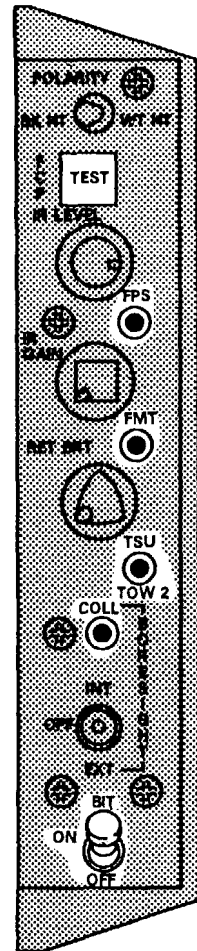
SIGHT HAND CONTROL

8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).

br. Set MAG switch on left hand grip to NIGHT, then LO.

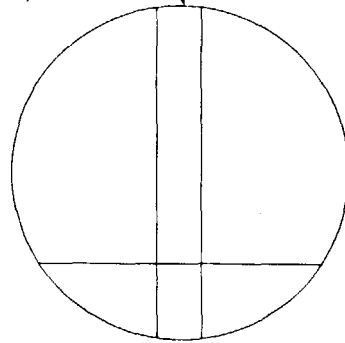


LEFT HAND GRIP



FCP (FLIR CONTROL PANEL)
VERTICAL BAR
(LEFT EDGE OF BAR
APPEARS TO BE SHARPER
THAN RIGHT EDGE OF
BAR)

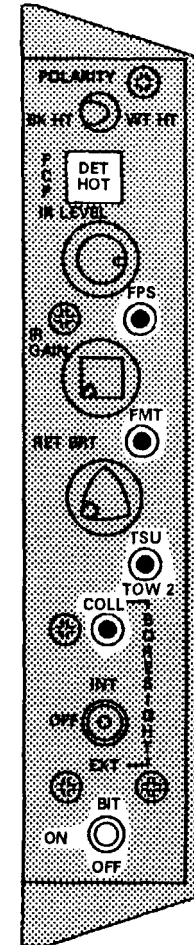
RETICLE OMITTEE
FOR CLARITY



TSU EYEPIECE -
VERTICAL BAR (VIDEO BIT DISPLAY)

bt. Mode indicator on FCP (FLIR control panel) will show TEST as system performs BIT. Within 60 seconds, mode indicator will show DET HOT or PWR ON.

bs. Press and hold OFF/ON/BIT switch on FCP (FLIR control panel) to BIT position. Look into TSU eyepiece. Release OFF/ON/BIT switch when vertical bar is displayed in the TSU eyepiece. Verify all BIT failure indicators on FCP are black.



FCP (FLIR CONTROL PANEL)

NOTE

COLL (collimator) BIT failure indicator will be white if BORESIGHT switch on FCP has been set to INT. To reset COLL BIT indicator set BORESIGHT switch to OFF and rerun BIT.

bu. Mode indicator on FCP (FLIR control panel) will show DET HOT for less than 15 minutes before showing PWR ON. Verify all BIT failure indicators on FCP (FLIR control panel) are black.

NOTE

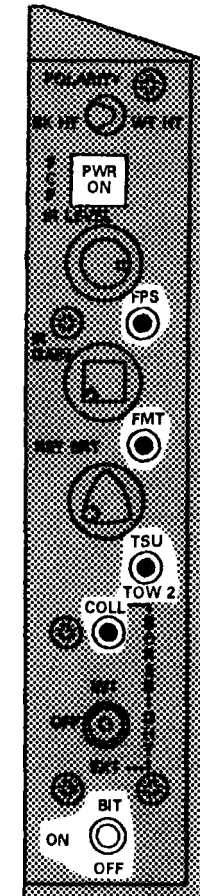
Dead channels will appear as a solid white or black horizontal line.

NOTE

Noisy channels appear as a horizontal white pulsing line or a line where no distinct image can be seen when compared with channels above or below it.

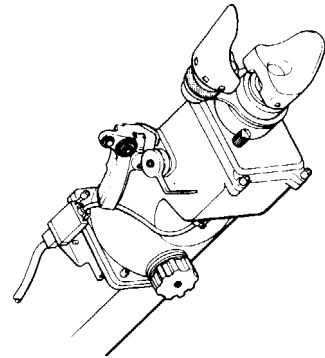
bv. Press and hold OFF/ON/BIT switch on FCP (FLIR control panel) to BIT position. Look into the TSU eyepiece and verify the following:

- (1) Vertical bar is present and center 20% of scene is free of dead or noisy channels.
- (2) Remaining portion of scene has no more than six dead or noisy channels.
- (3) All dead or noisy channels are separated by at least four good channels.



FCP (FLIR CONTROL PANEL)

8-2.1. TMS OPERATIONAL CHECK
(CONTINUED)



TELESCOPIC SIGHT UNIT (TSU)

VERTICAL BAR
(LEFT EDGE OF BAR
APPEARS TO BE SHARPER
THAN RIGHT EDGE OF
BAR)

RETICLE OMITTED
FOR CLARITY

CENTER 20% OF
SCENE (FREE OF
DEAD OR NOISY
CHANNELS)

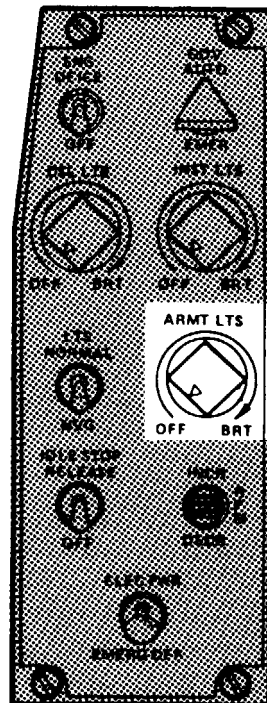
DEAD CHANNEL:
APPEARS AS A WHITE OR
BLACK HORIZONTAL LINE

NOISY CHANNEL:
APPEARS AS A HORIZONTAL WHITE
PULSING LINE OR A LINE WHERE
NO DISTINCT IMAGE CAN BE SEEN
WHEN COMPARED WITH CHANNELS
ABOVE OR BELOW IT

TSU EYEPIECE -
VERTICAL BAR (VIDEO BIT DISPLAY)

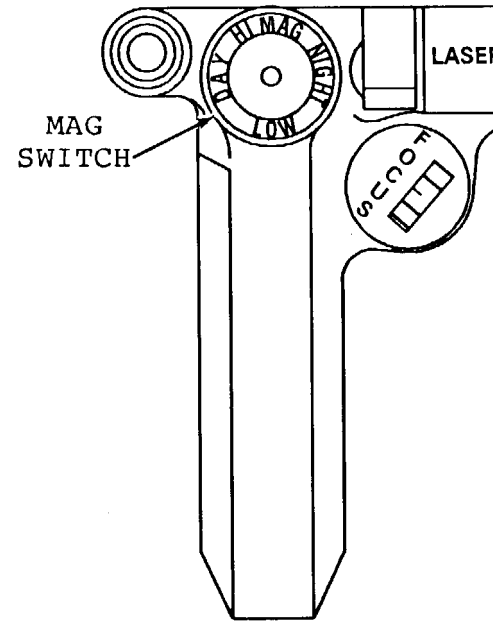
bw. Release OFF/ON/BRT switch
on FCP (FLIR control panel) .

bx. Look into TSU eyepiece.
Set ARMT LTS control on gunner
miscellaneous control panel to
BRT. Verify that the illumina-
tion of the scene in the TSU
eyepiece dims and the FCP (FLIR
control panel) illuminates. Set
ARMT LTS control to OFF.



GUNNER MISCELLANEOUS CONTROL PANEL

by. Set MAG switch on left
hand grip to DAY. Verify the
scene in TSU eyepiece can be
focused using FOCUS control on
left hand grip.

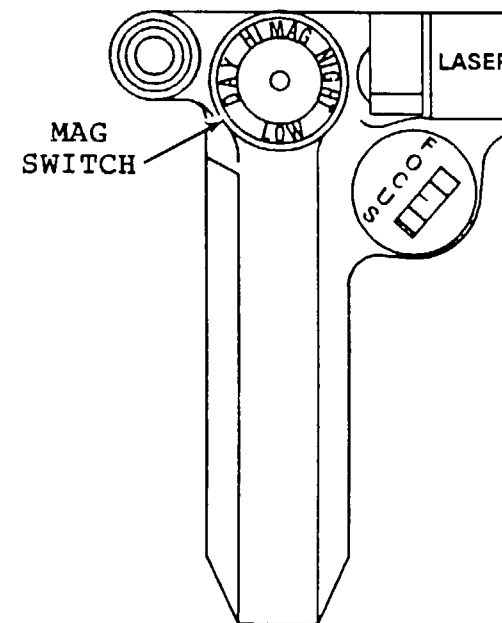


LEFT HAND GRIP

NOTE

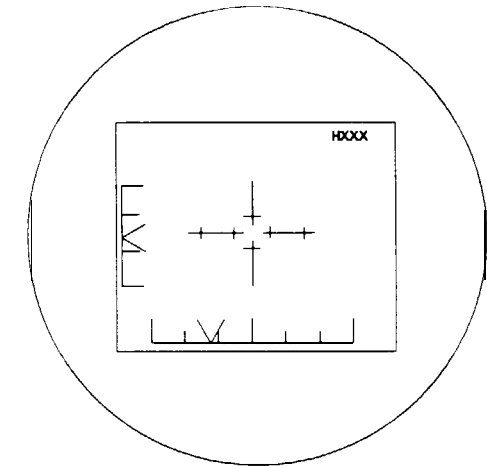
The symbology generator
unit (SGU) display is
available in NIGHT mode
only.

bz. Set MAG switch on left
hand grip to NIGHT, then HI.

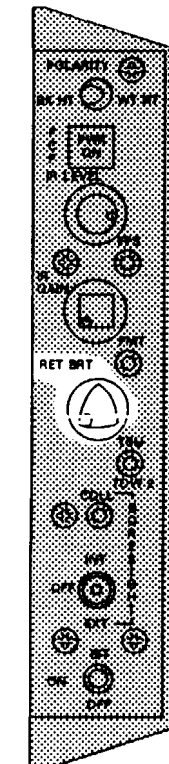


LEFT HAND GRIP

ca. Rotate RET BRT control on
FCP (FLIR control panel) clock-
wise. Verify FLIR display in TSU
eyepiece starts at full black,
disappears, then turns full white
as control is rotated through its
full range.



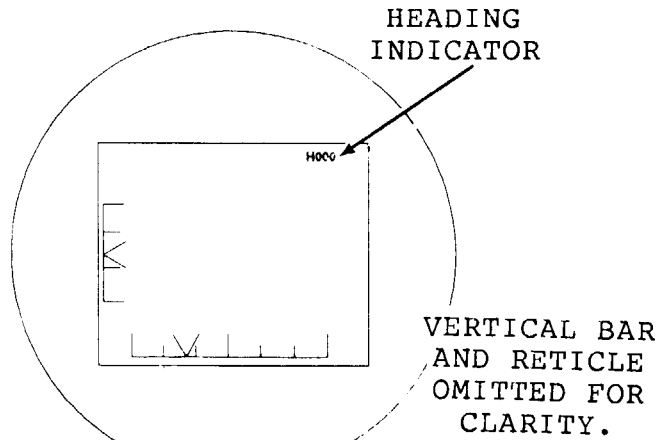
TSU EYEPIECE - FLIR DISPLAY



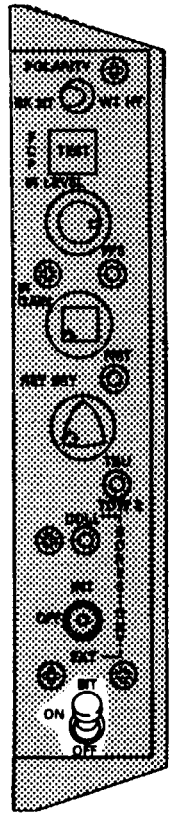
FCP (FLIR CONTROL PANEL)

8-2.1. TMS OPERATIONAL CHECK
(CONTINUED).

cb. Press and hold OFF/ON/BIT switch on FCP (FLIR control panel) to BIT position. Verify symbology generator unit (SGU) heading indicator in TSU eyepiece indicates $H000 \pm 1^\circ$.



TSU EYEPIECE - SYMBOLOGY GENERATOR UNIT (SGU) DISPLAY

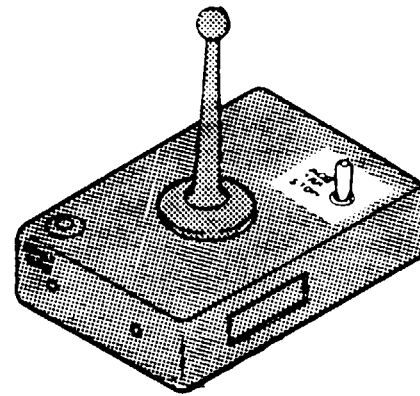


FCP (FLIR CONTROL PANEL)

NOTE

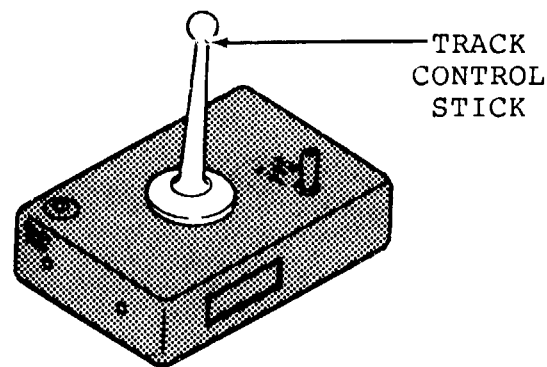
When ACQ/TRK/STOW switch on sight hand control is in TRK position, the TSU heading display is independent from aircraft heading.

cc. Set ACQ/TRK/STOW switch on sight hand control to TRK.

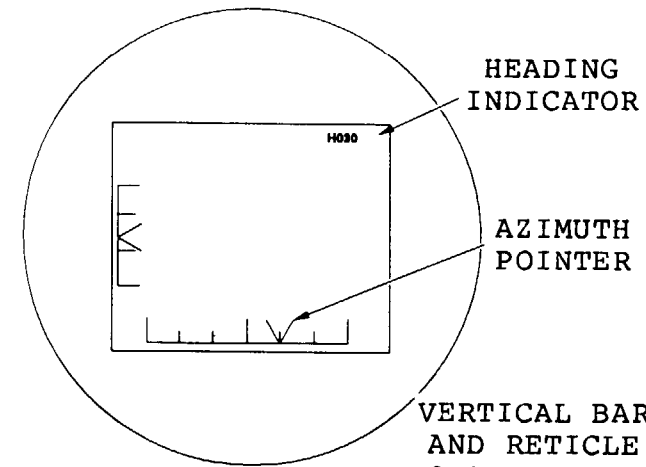


SIGHT HAND CONTROL

cd. Push track control stick on sight hand control to right, moving azimuth pointer in TSU eyepiece to first mark right of center. Verify symbology generator unit (SGU) heading indicator in TSU eyepiece indicates $H030 \pm 2^\circ$.

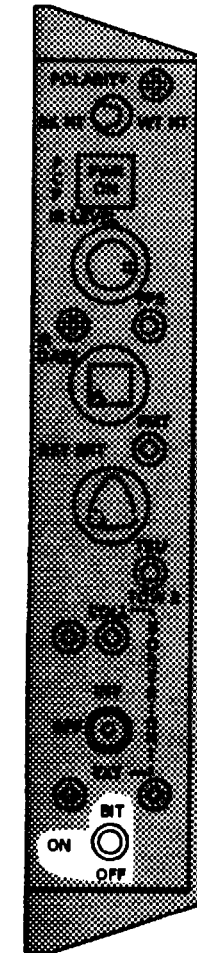


SIGHT HAND CONTROL



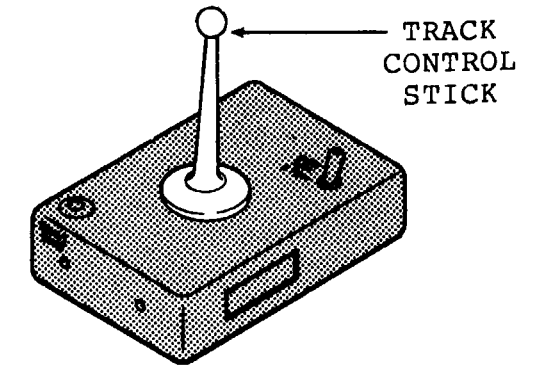
TSU EYEPIECE - SYMBOLOGY GENERATOR UNIT (SGU) DISPLAY

ce. Release OFF/ON/BIT switch.

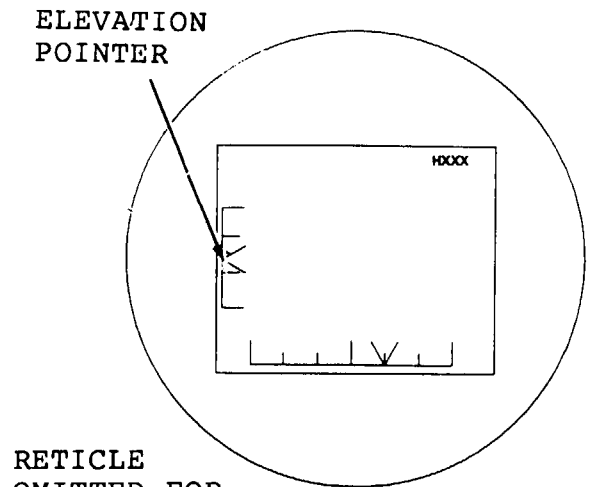


FCP (FLIR CONTROL PANEL)

cf. Move TSU up and down using track control stick on sight hand control. Verify symbology generator unit (SGU) elevation pointer in TSU eyepiece moves up and down.



SIGHT HAND CONTROL



RETICLE OMITTED FOR CLARITY

TSU EYEPIECE - SYMBOLOGY GENERATOR UNIT (SGU) DISPLAY

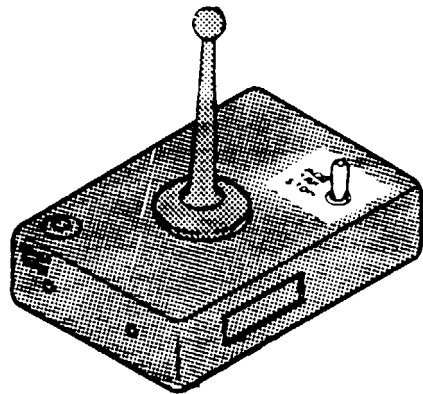
8-2.1. TMS OPERATIONAL CHECK
(CONTINUED)

NOTE

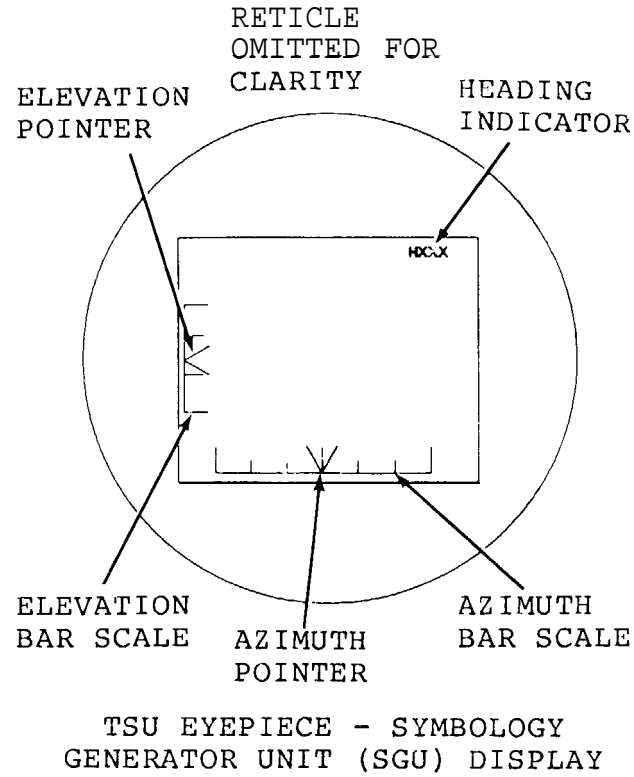
The elevation and azimuth pointers in TSU eyepiece may not align exactly with 0 degree marks.

The FLIR reticle in TSU eyepiece may not align exactly with elevation and azimuth bar scale 0 degree marks.

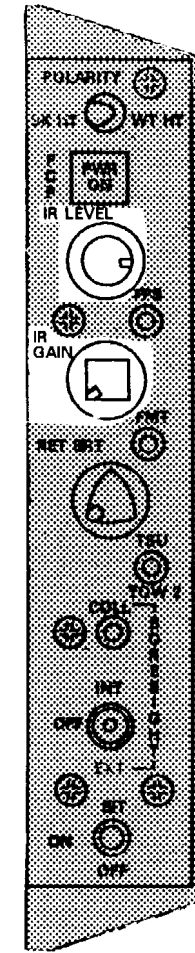
Cg. Set ACQ/TRK/STOW switch on sight hand control to STOW. Verify symbology generator unit (SGU) heading indicator in TSU eyepiece indicates same as directional gyro Hxxx ± 20. Verify elevation and azimuth pointers in TSU eyepiece indicate 0 degrees respectively.



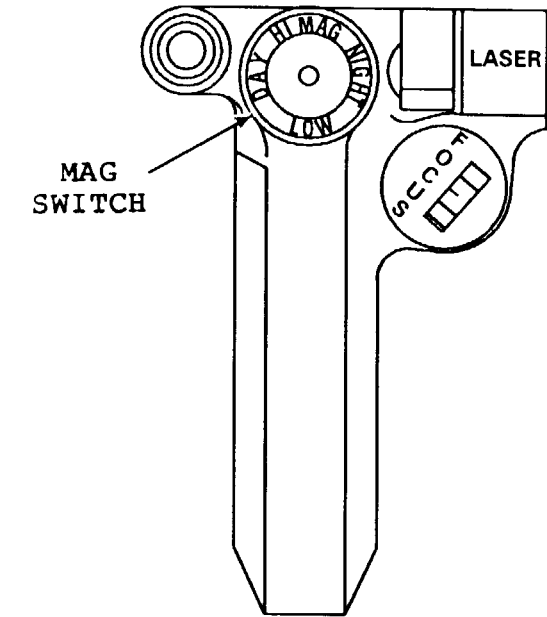
SIGHT HAND CONTROL



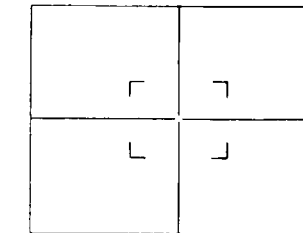
ch. Rotate IR GAIN control on FCP (FLIR control panel) clockwise. Verify the contrast of the scene in the TSU eyepiece increases.



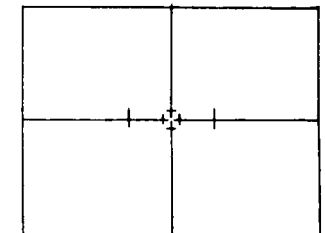
FCP (FLIR CONTROL PANEL)



LEFT HAND GRIP



TSU EYEPIECE -
FLIR LO MAG
RETICLE DISPLAY



TSU EYEPIECE -
FLIR HI MAG
RETICLE DISPLAY

ci. Rotate IR LEVEL control on FCP (FLIR control panel) clockwise. Verify the illumination of the scene in the TSU eyepiece increases.

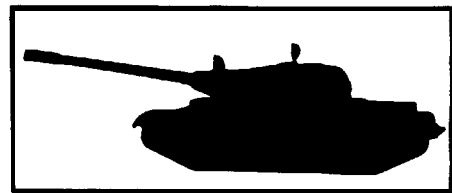
cj. Set MAG switch on let hand grip to HI; then LO. Verify that the image in the TSU eyepiece changes in magnification and both HI and LO magnification reticles are present.

8-2.1. TMS OPERATIONAL CHECK
(CONTINUED)

NOTE

POLARITY switch will have no effect on reticle color.

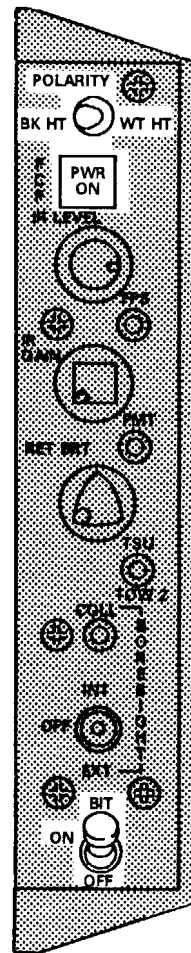
ck. Set POLARITY switch on FCP (FLIR control panel) to BK HT. Verify white areas of image in TSU eyepiece turn black.



BK HT POLARITY
(REFERENCE ONLY)



WT HT POLARITY
(REFERENCE ONLY)

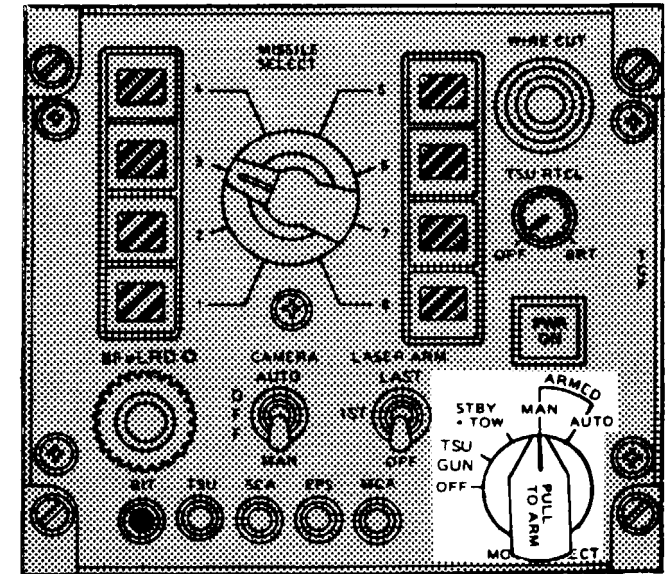


FCP (FLIR CONTROL PANEL)

NOTE

In the following step, the MODE SELECT switch should be set to ARMED MAN within 5 seconds of vertical bar appearance in TSU eyepiece.

cl. Press and hold OFF/ON/BIT switch on FCP (FLIR control panel) to BIT position until vertical bar is present in TSU eyepiece. Release OFF/ON/BIT switch. Set MODE SELECT switch on TCP (TOW control panel) to ARMED MAN position. Verify mode indicator on FCP (FLIR control panel) shows PWR ON.

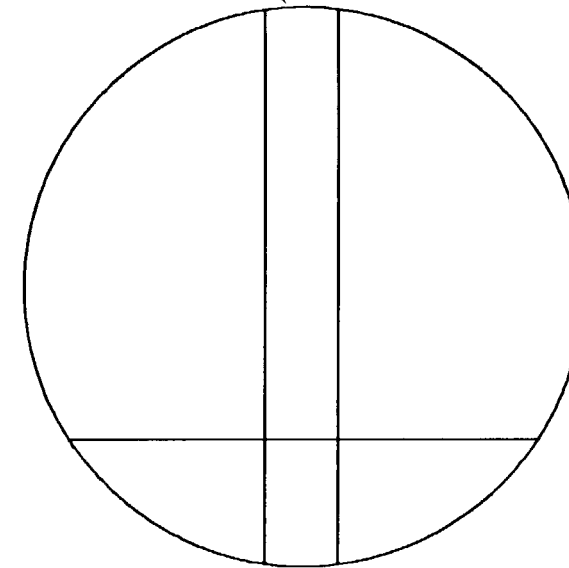


TCP (TOW CONTROL PANEL)

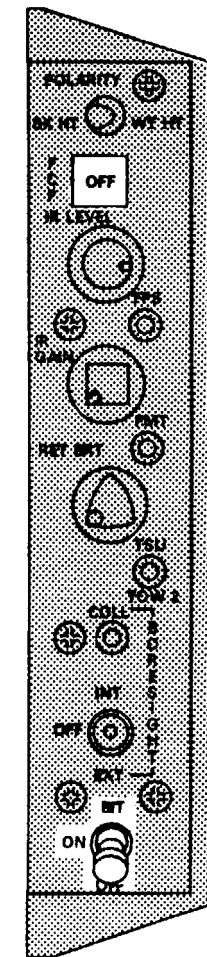
cm. Set OFF/ON/BIT switch on FCP (FLIR control panel) to OFF.

VERTICAL BAR
(LEFT EDGE OF BAR APPEARS TO BE SHARPER THAN RIGHT EDGE OF BAR)

RETICLE OMITTED FOR CLARITY



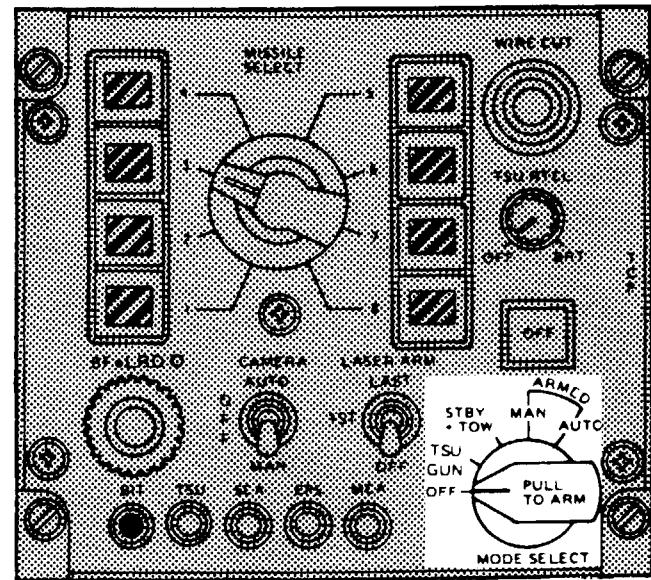
TSU EYEPIECE - VERTICAL BAR
(VIDEO BIT DISPLAY)



FCP (FLIR CONTROL PANEL)

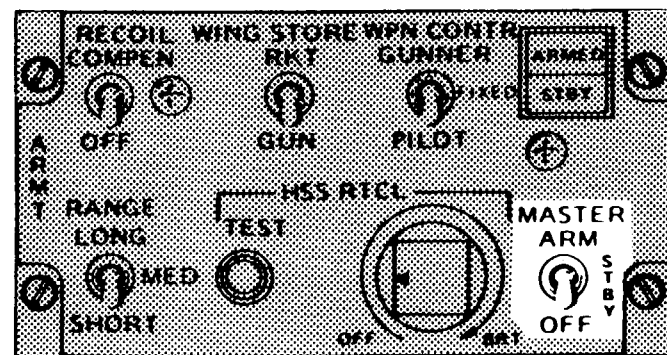
8-2.1. TMS OPERATIONAL CHECK (CONTINUED).

cn. Set MODE SELECT switch on TCP (TOW control panel) to OFF.



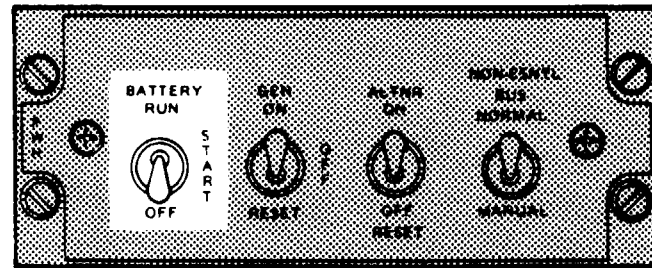
TCP (TOW CONTROL PANEL)

co. Set MASTER ARM switch on pilot ARMT control panel to OFF.



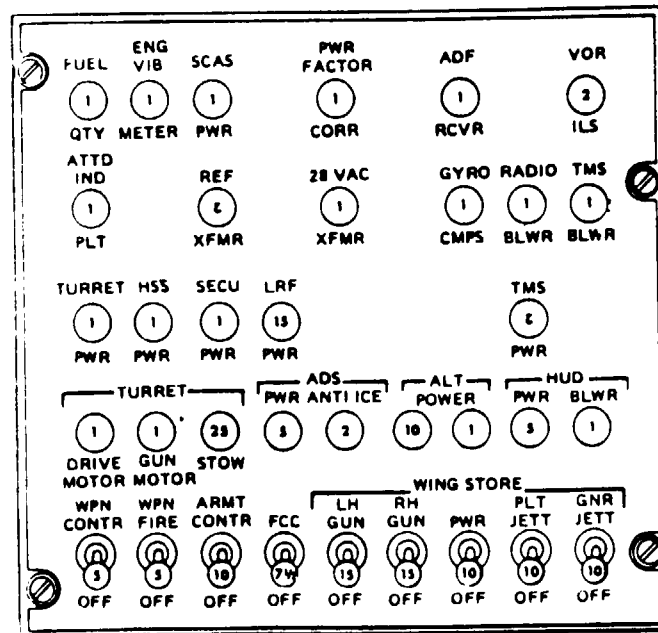
PILOT ARMT CONTROL PANEL

cp. Set BATTERY switch on electrical PWR control panel to OFF.



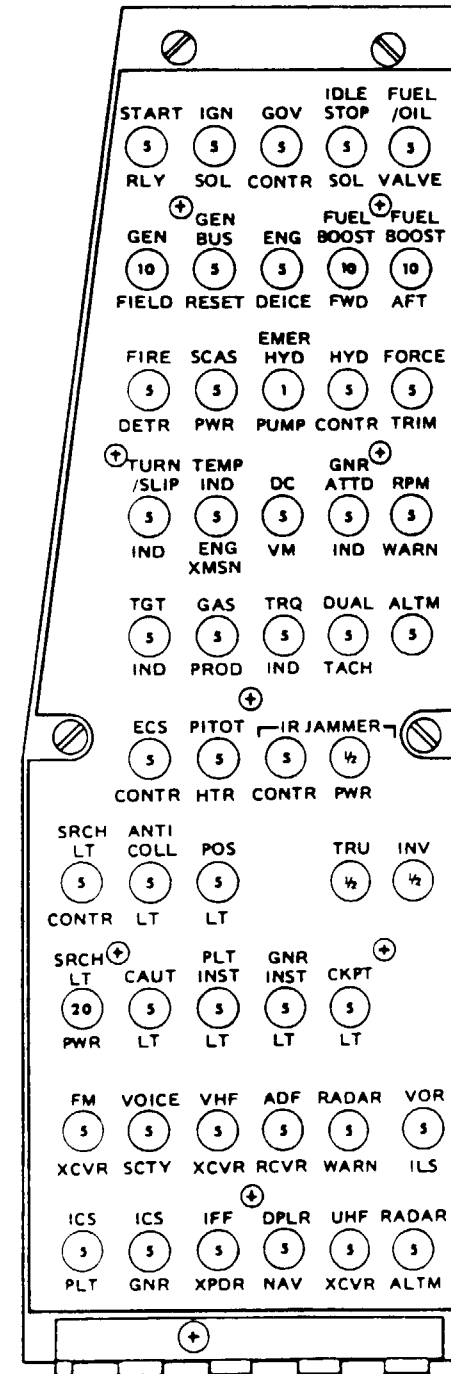
ELECTRICAL PWR CONTROL PANEL

cq. Open (OFF) all circuit breakers on AC/ARMT circuit breaker panel.



AC/ARMT CIRCUIT BREAKER PANEL

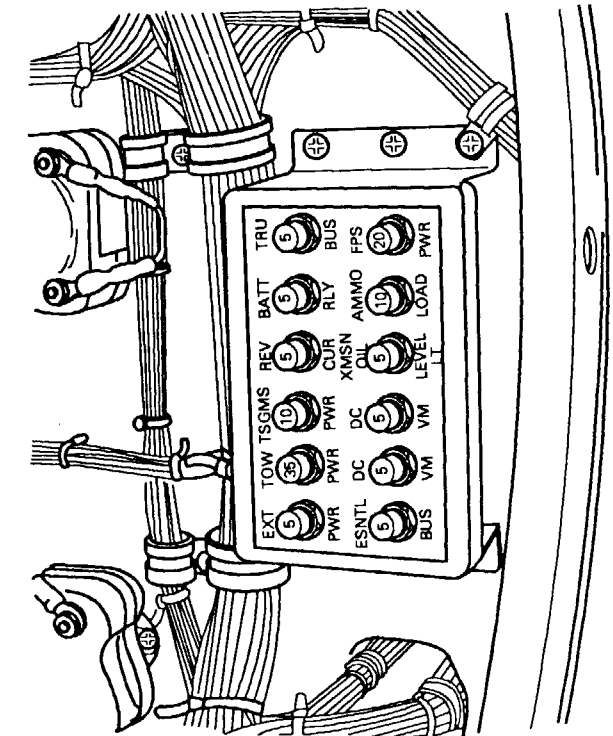
cr. Open all circuit breakers on DC circuit breaker panel.



DC CIRCUIT BREAKER PANEL

cs. Turn off external power.

ct. Open all circuit breakers on circuit breaker panel in battery compartment.



CIRCUIT BREAKER PANEL

cu. Disconnect battery.

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8-3. POWER OFF/POWER ON PROCEDURES.

INITIAL SETUP

Applicable Configuration
All

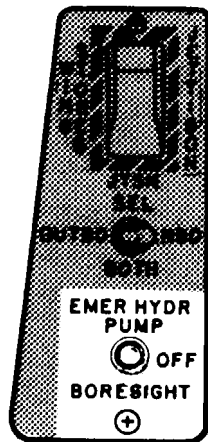
Personnel Required
68J (1)

a. Turn off electrical power when specified in troubleshooting procedures as follows:

NOTE

Note the position that EMER HYDR PUMP/BORE SIGHT switch is in. This switch must be set to the same position during the Power On Procedures.

- (1) Set EMER HYDR PUMP/BORESIGHT switch to OFF.

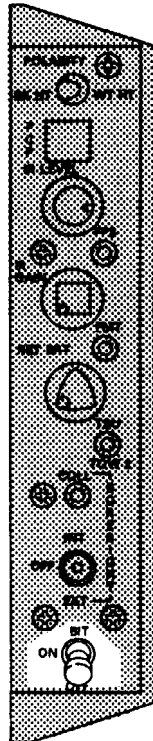


SWITCH PANEL

NOTE MCN

Note the position that OFF/ON/BIT switch is in. This switch must be set to the same position during the Power On Procedures.

- (1.1) Set OFF/ON/BIT switch on FCP (FLIR control panel) to OFF.

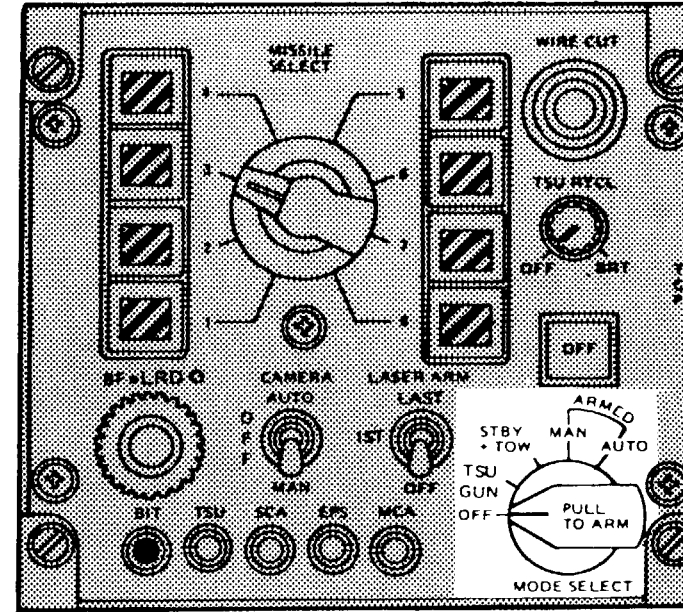


FCP (FLIR CONTROL PANEL) MCN

NOTE

Note the position that MODE SELECT switch is in. This switch must be set to the same position during the Power On Procedures.

- (2) Set MODE SELECT switch on TCP (TOW control panel) to OFF.

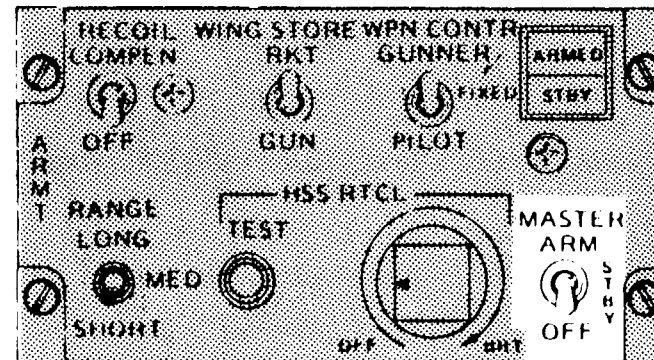


TCP (TOW CONTROL PANEL)

NOTE

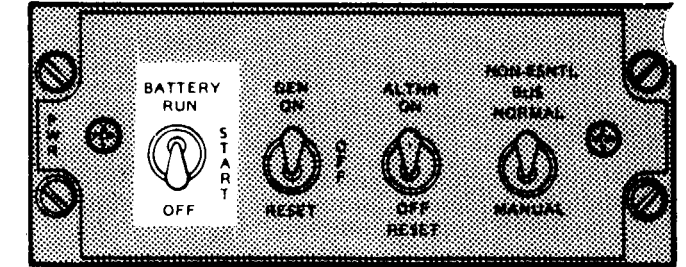
Note the position that MASTER ARM switch is in. This switch must be set to the same position during the Power On Procedure.

- (3) Set MASTER ARM switch on pilot ARMT control panel to OFF.



PILOT ARMT CONTROL PANEL

- (4) Set BATTERY switch on electrical PWR control panel to OFF.



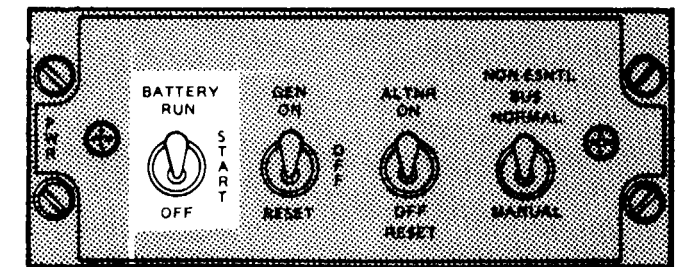
ELECTRICAL PWR CONTROL PANEL

- (5) Turn off ground power unit.

- (6) Disconnect battery.

b. Turn on electrical power when specified in troubleshooting procedures as follows:

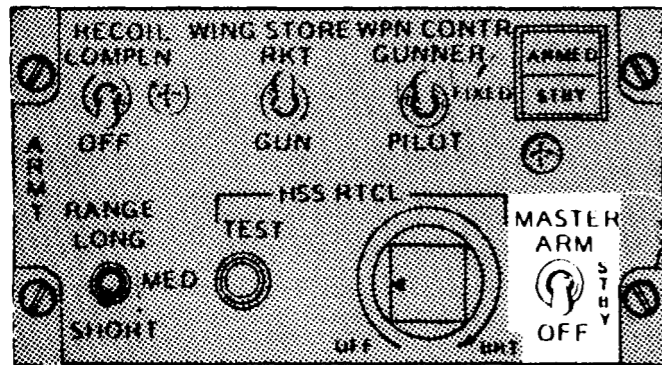
- (1) Connect battery.
- (2) Turn on ground power unit.
- (3) Set BATTERY switch on electrical PWR control panel to RUN.



ELECTRICAL PWR CONTROL PANEL

8-3. POWER OFF/POWER ON PROCEDURES (CONTINUED).

(4) Set MASTER ARM switch on pilot ARMT control panel to the same position the switch was in prior to Power Off Procedures.

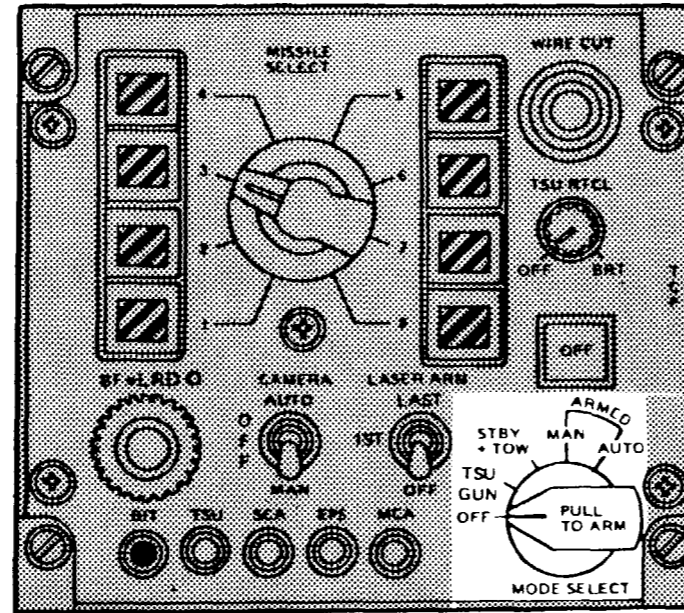


PILOT ARMT CONTROL PANEL

NOTE

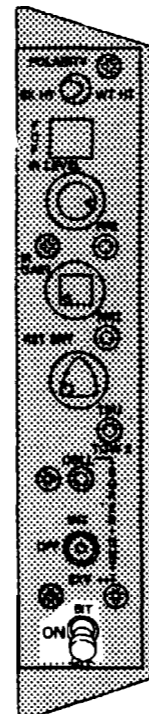
When MODE SELECT switch is set to TSU GUN or STBY TOW and ACQ/TRK/STOW switch is set to STOW, system will perform system BIT.

(5) Set MODE SELECT switch on TCP (TOW control panel) to the same position the switch was in prior to Power Off Procedures.



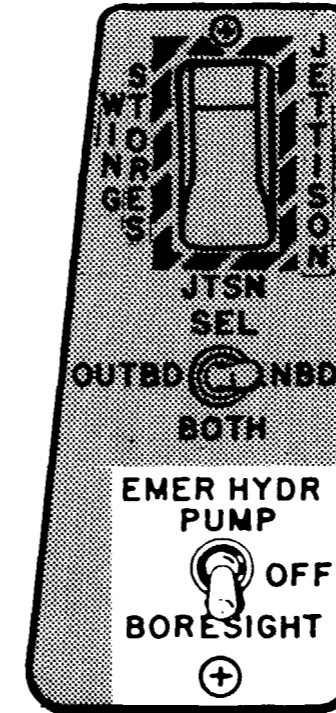
TCP (TOW CONTROL PANEL)

MCN (5.1) Set OFF/ON/BIT switch on FCP (FLIR control panel) to the same position the switch was in prior to Power Off Procedures.



FCP (FLIR CONTROL PANEL) **MCN**

(6) Set EMER HYDR PUMP/BORESIGHT switch to the same position the switch was in prior to Power Off Procedures.



SWITCH PANEL

8-4. SECU PWR CIRCUIT BREAKER OPENS .

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

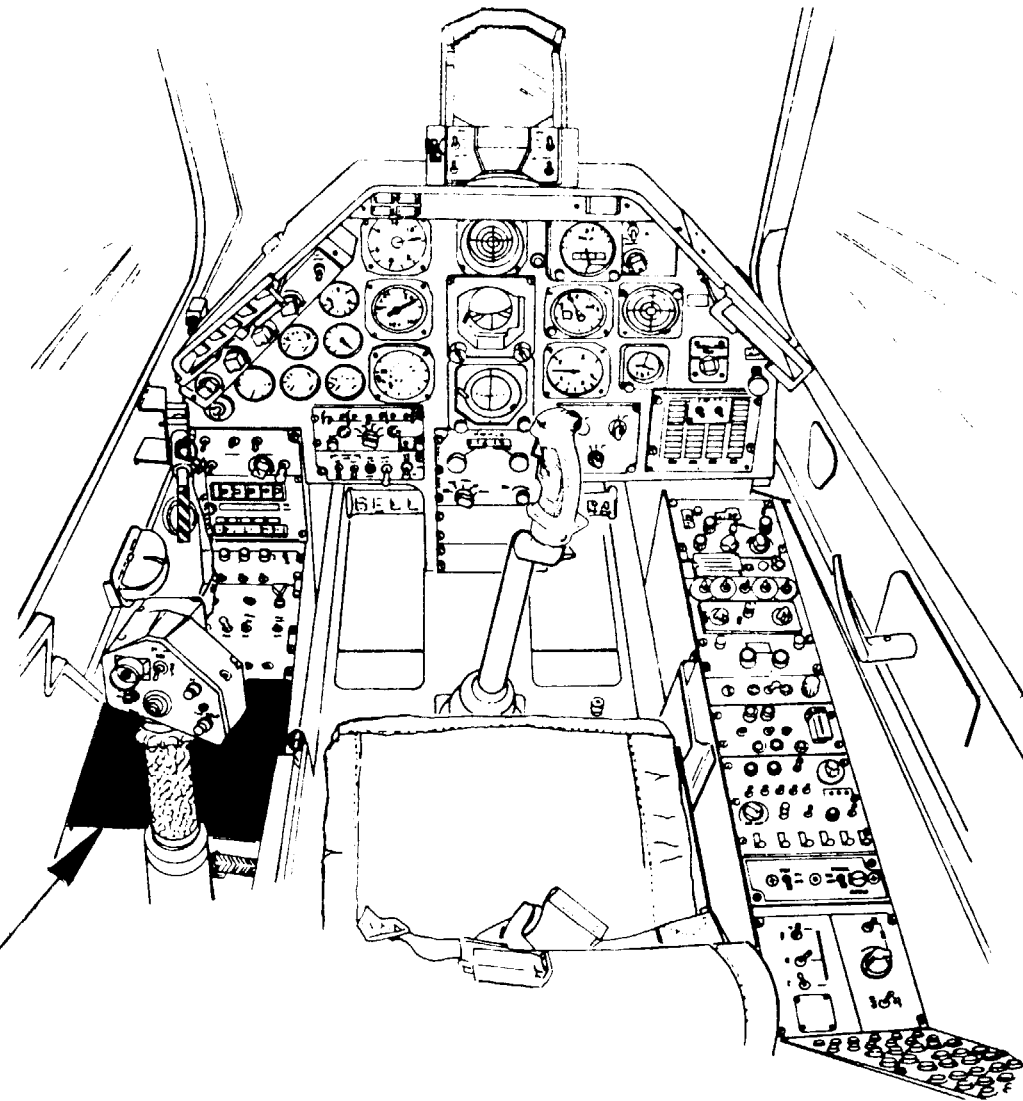
Personnel Required
68J (2)

References
TM 55-1520-236-23

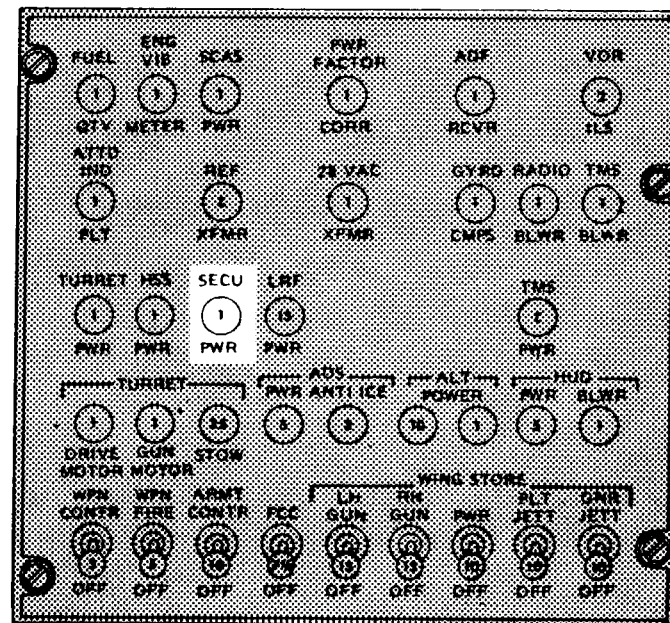
Access Panels
Left Side Control Linkage - Removed

Left Ammo Compartment Door - Open

Servo Electronic Control Unit - Removed

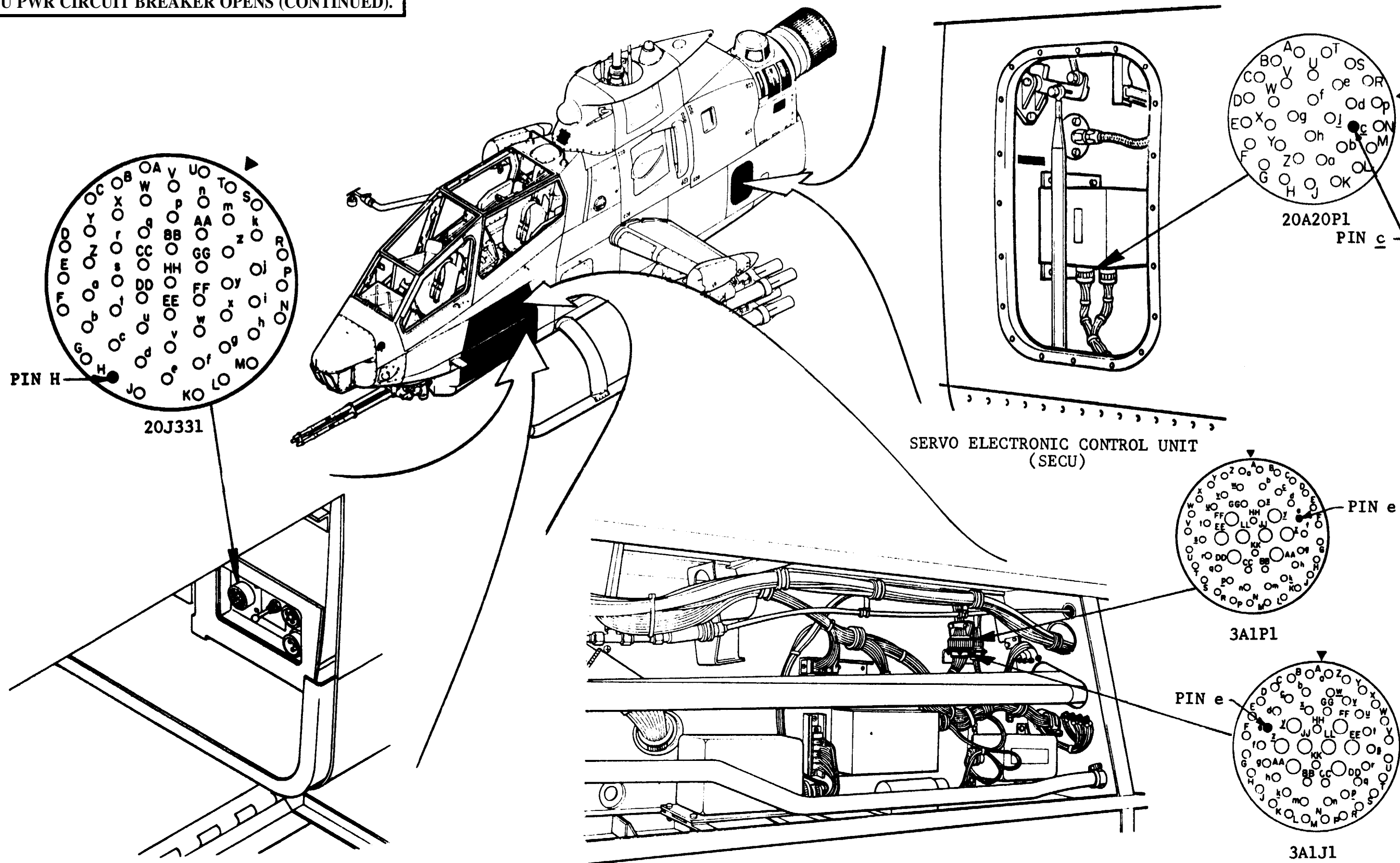


PILOT STATION

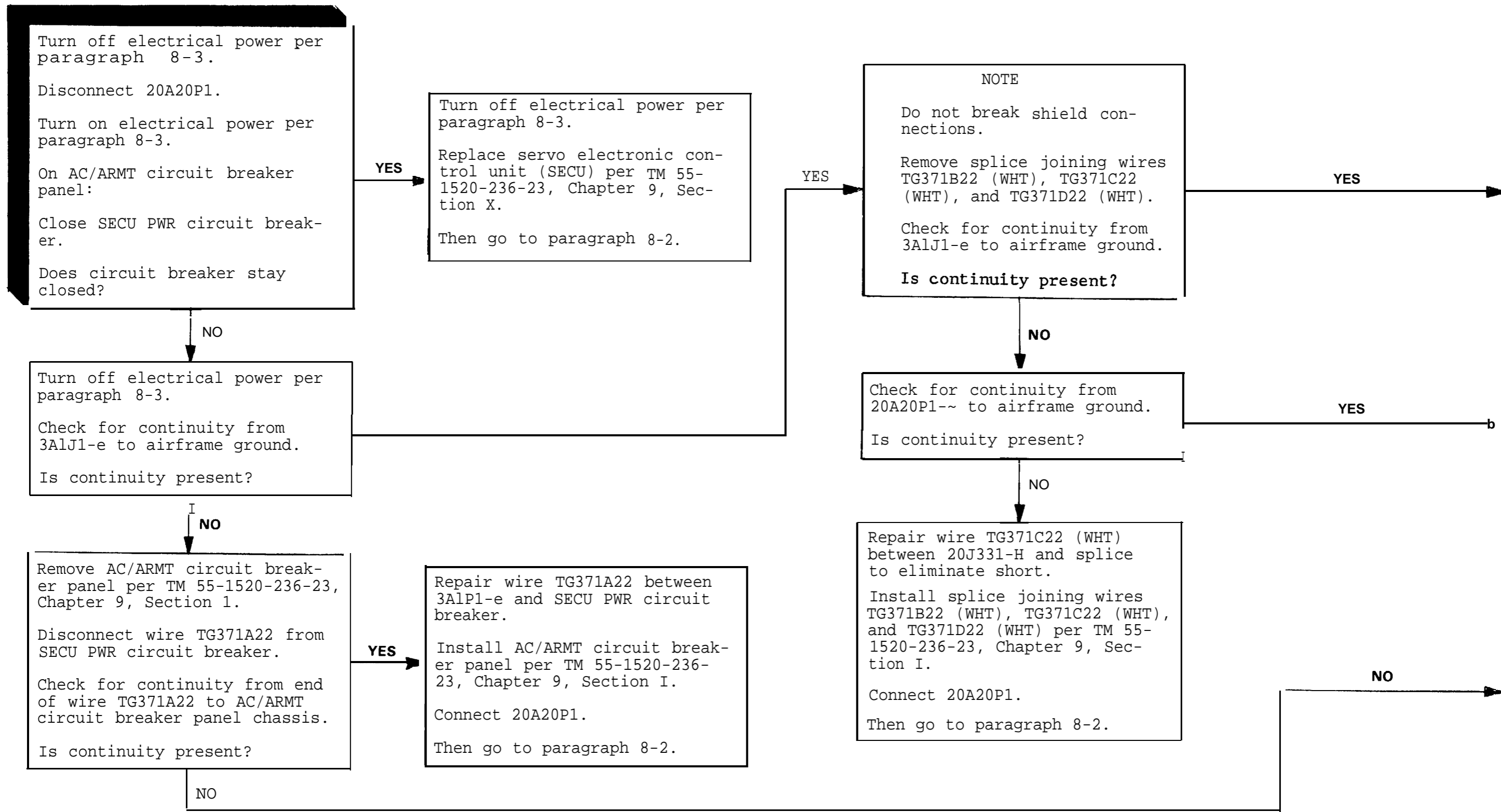


AC/ARMT CIRCUIT BREAKER PANEL

8-4. SECU PWR CIRCUIT BREAKER OPENS (CONTINUED).



8-4. SECU PWR CIRCUIT BREAKER OPENS (CONTINUED).

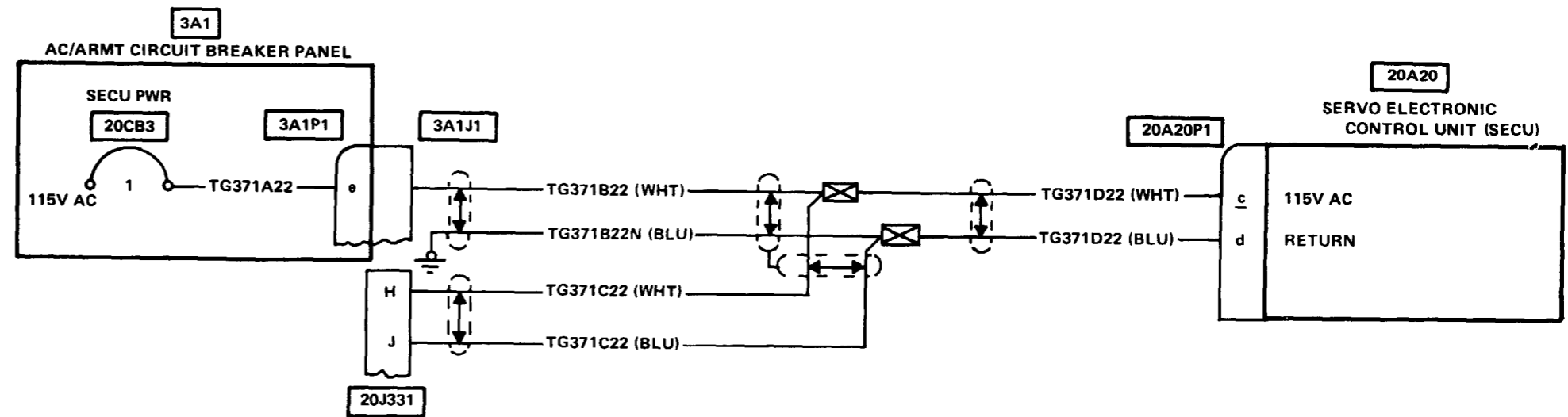


8-4. SECU PWR CIRCUIT BREAKER OPENS (CONTINUED).

YES → Repair wire TG371B22 (WHT) between 3A1J1-e and splice to eliminate short.
 Install splice joining wires TG371B22 (WHT), TG371C22 (WHT), and TG371D22 (WHT) per TM 55-1520-236-23, Chapter 9, Section I.
 Connect 20A20P1.
 Then go to paragraph 8-2.

YES → Repair wire TG371D22 (WHT) between 20A20P1-c and splice to eliminate short.
 Install splice joining wires TG371B22 (WHT), TG371C22 (WHT), and TG371D22 (WHT) per TM 55-1520-236-23, Chapter 9, Section I.
 Connect 20A20P1.
 Then go to paragraph 8-2.

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.
 Then go to paragraph 8-2.



8-5 . TMS PWR CIRCUIT BREAKER ON AC/
ARMT CIRCUIT BREAKER PANEL WILL
NOT STAY CLOSED.

INITIAL SETUP

Applicable Configuration
AH-1S MC

Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

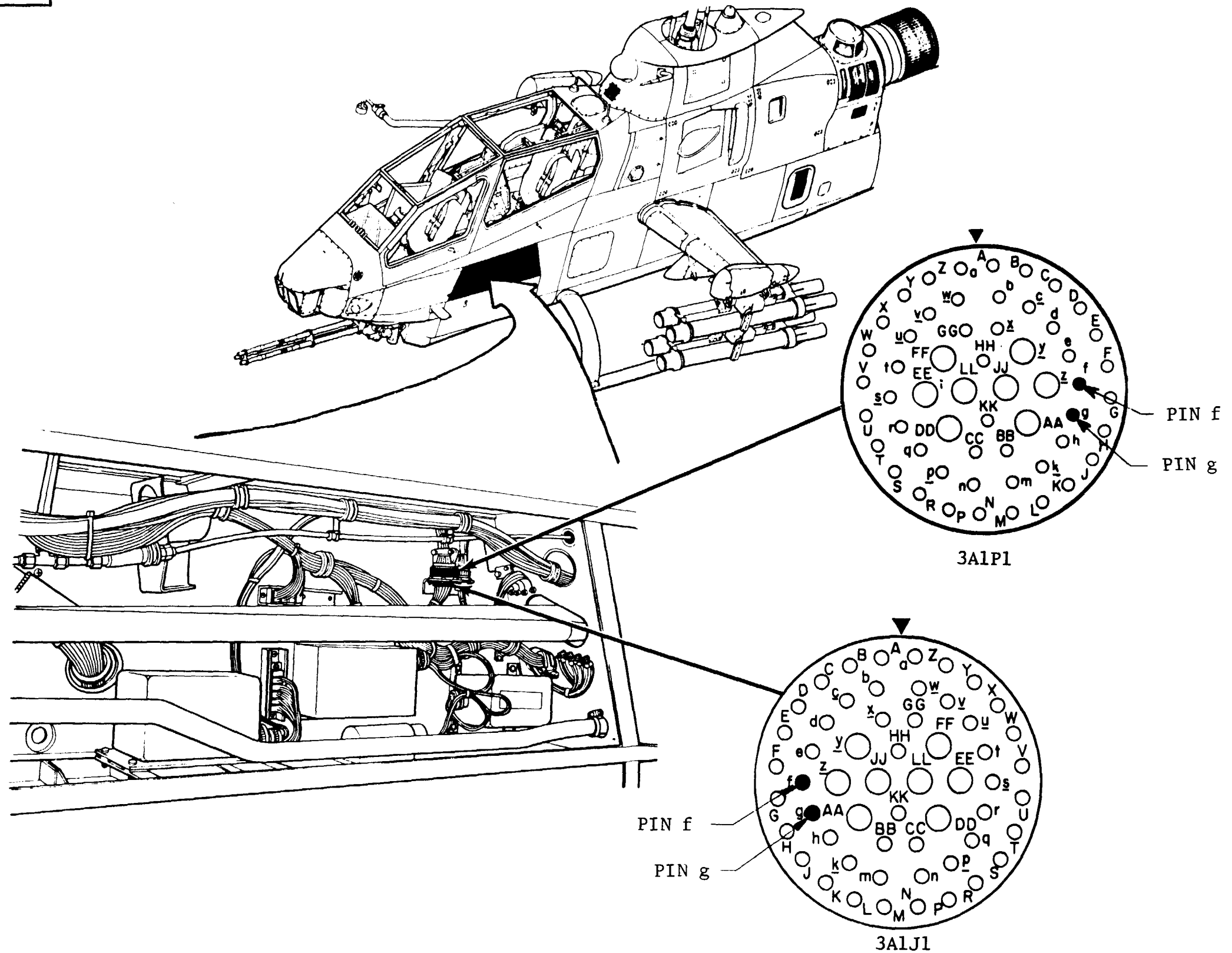
Personnel Required
68J (2)

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

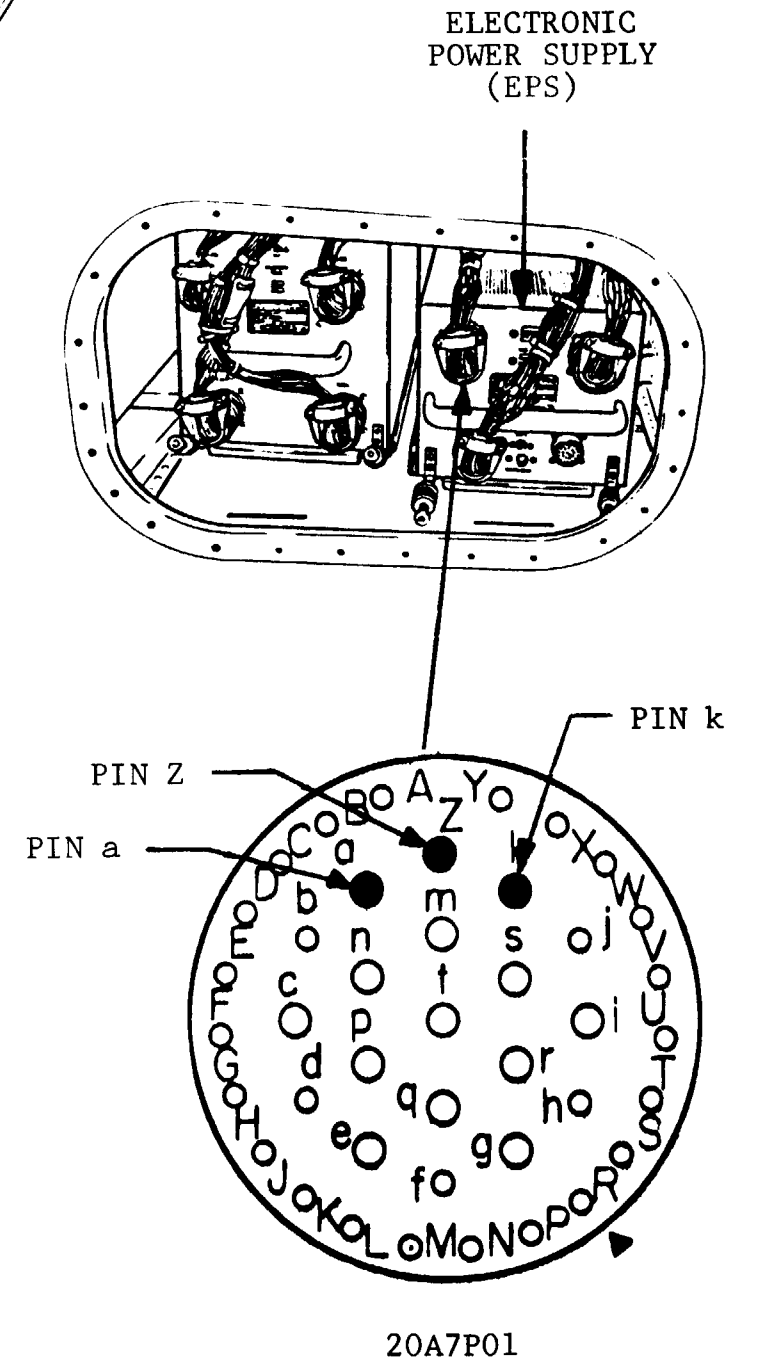
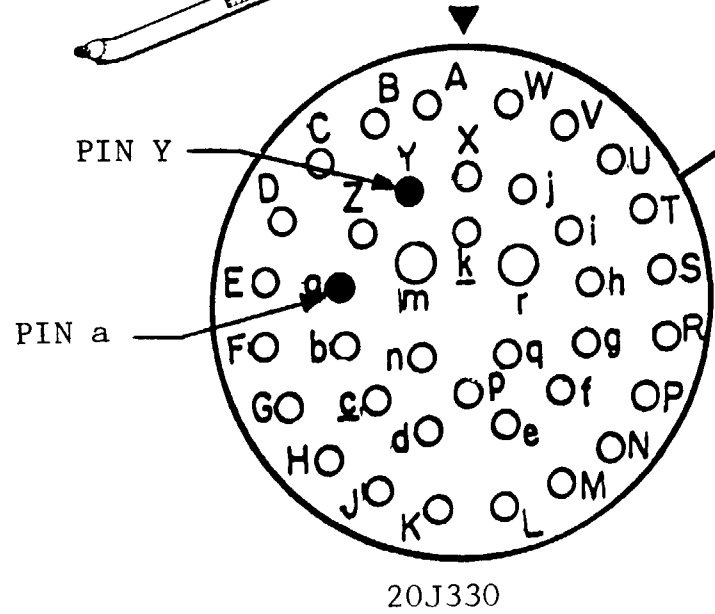
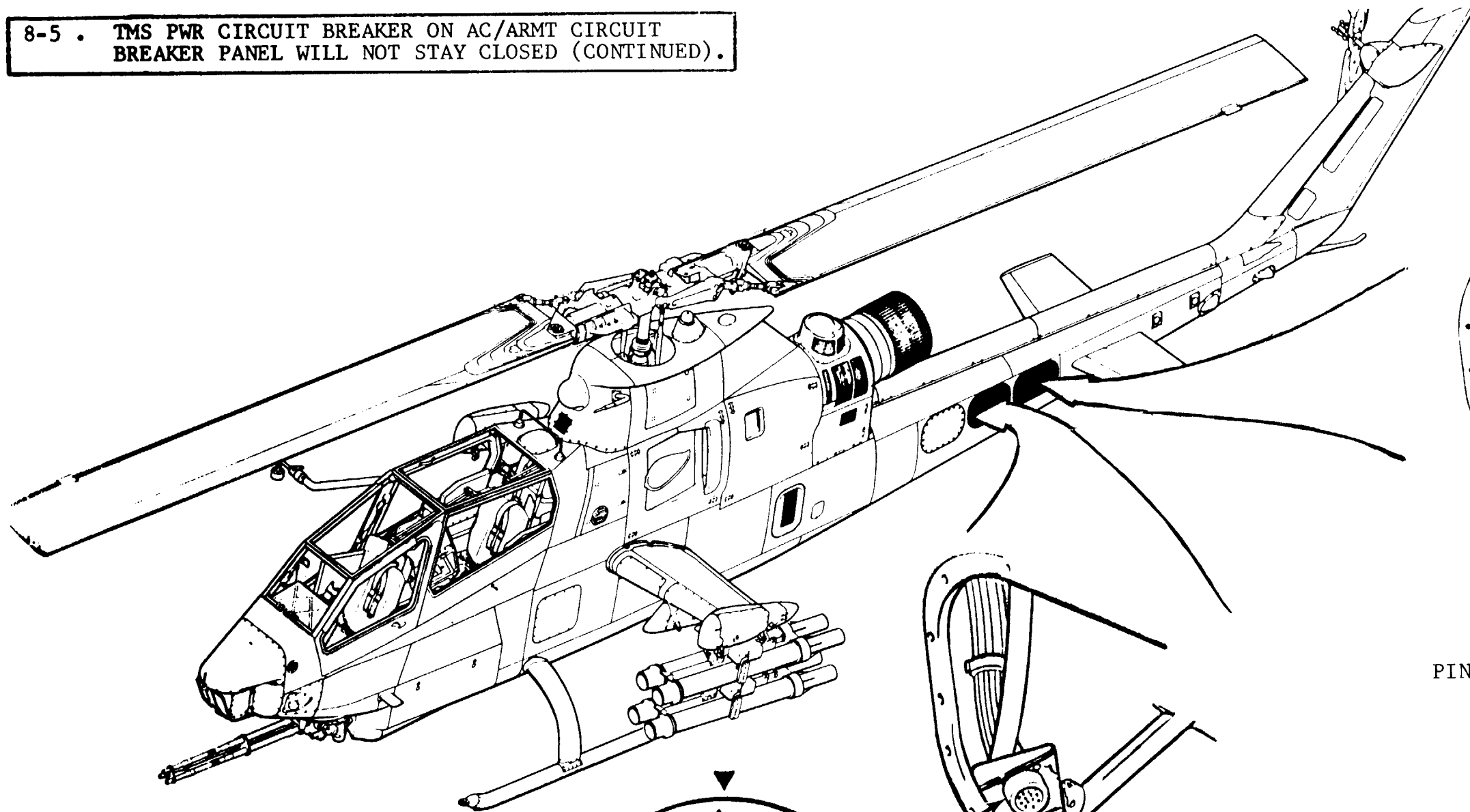
Access Panels
Left Side Control Linkage -
Removed

Middle Electronics
(Tailboom) - Removed

Aft Electronics
(Tailboom) - Removed

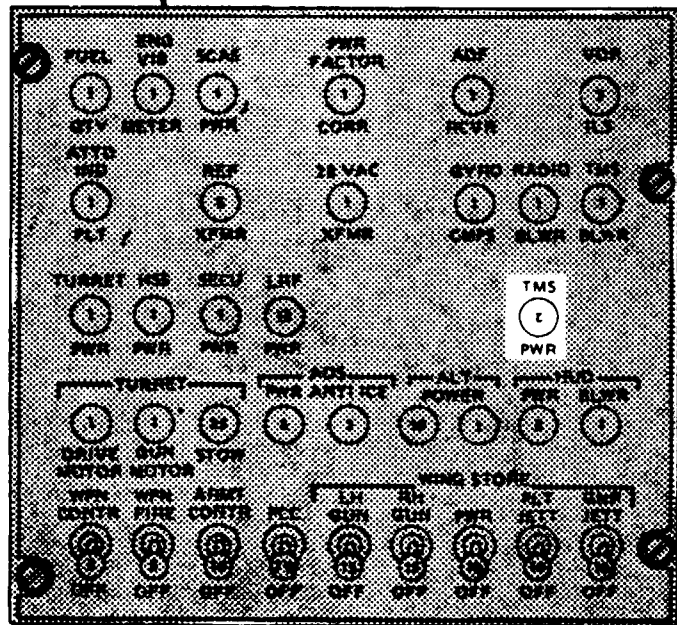
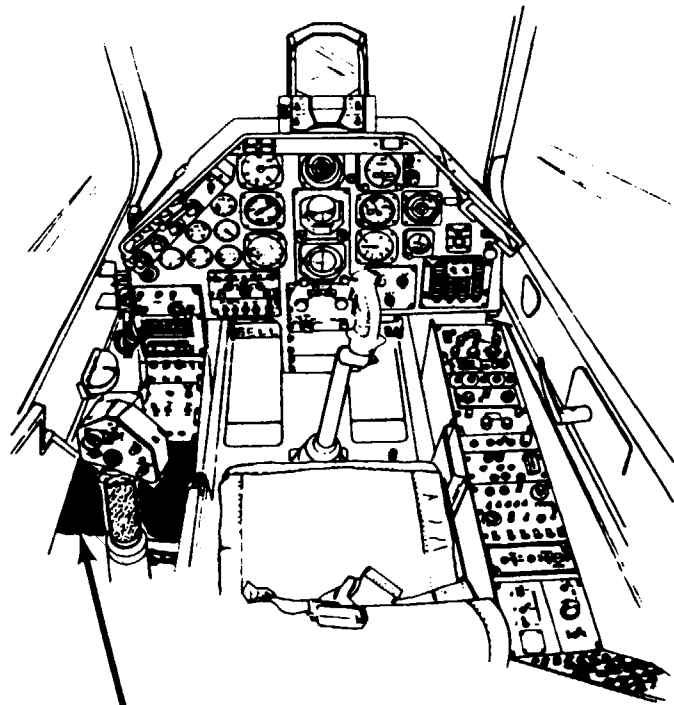


8-5 . TMS PWR CIRCUIT BREAKER ON AC/ARMT CIRCUIT BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED).

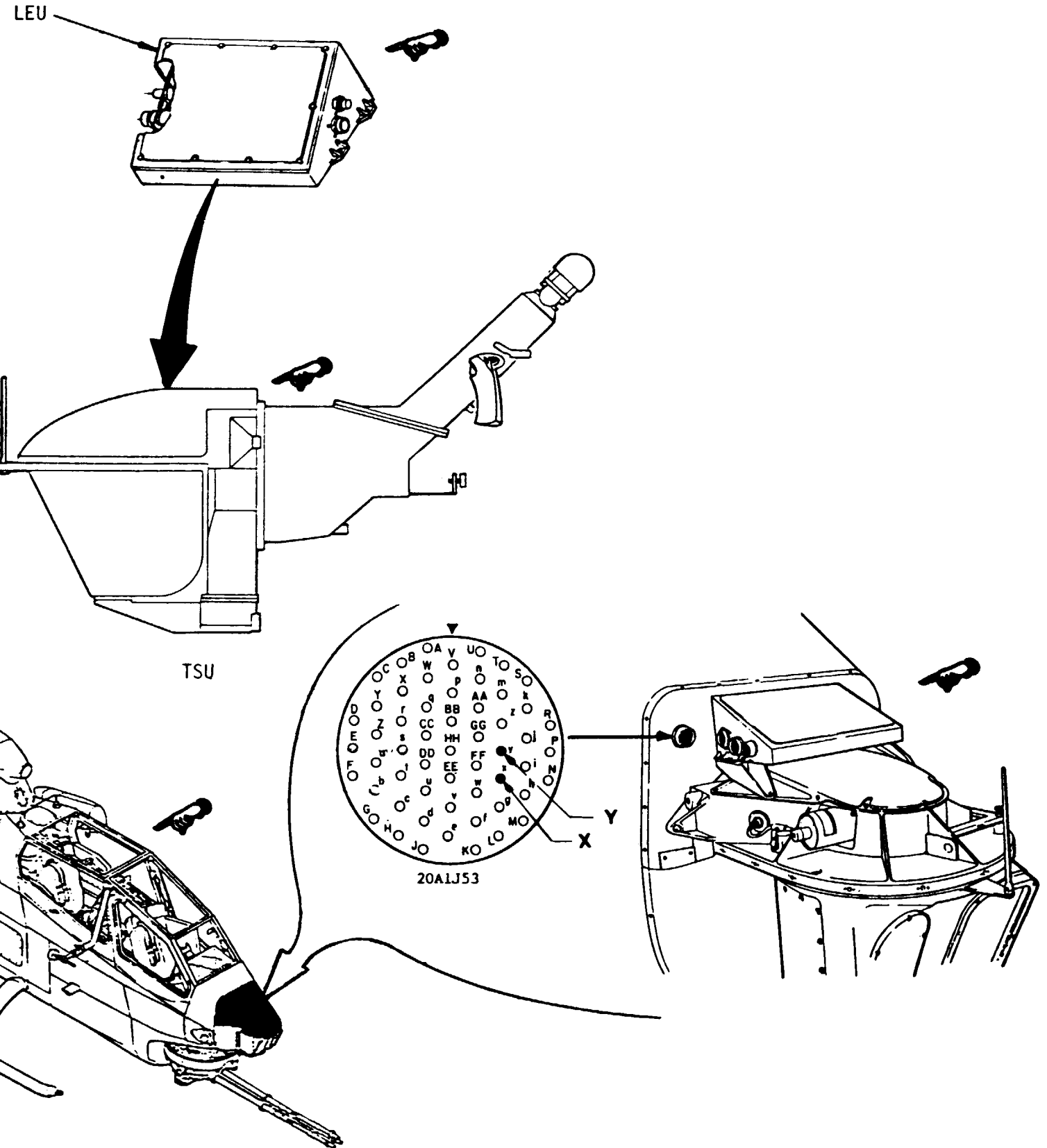


8-5 . TMS PWR CIRCUIT BREAKER ON AC/ARMT CIRCUIT BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED).

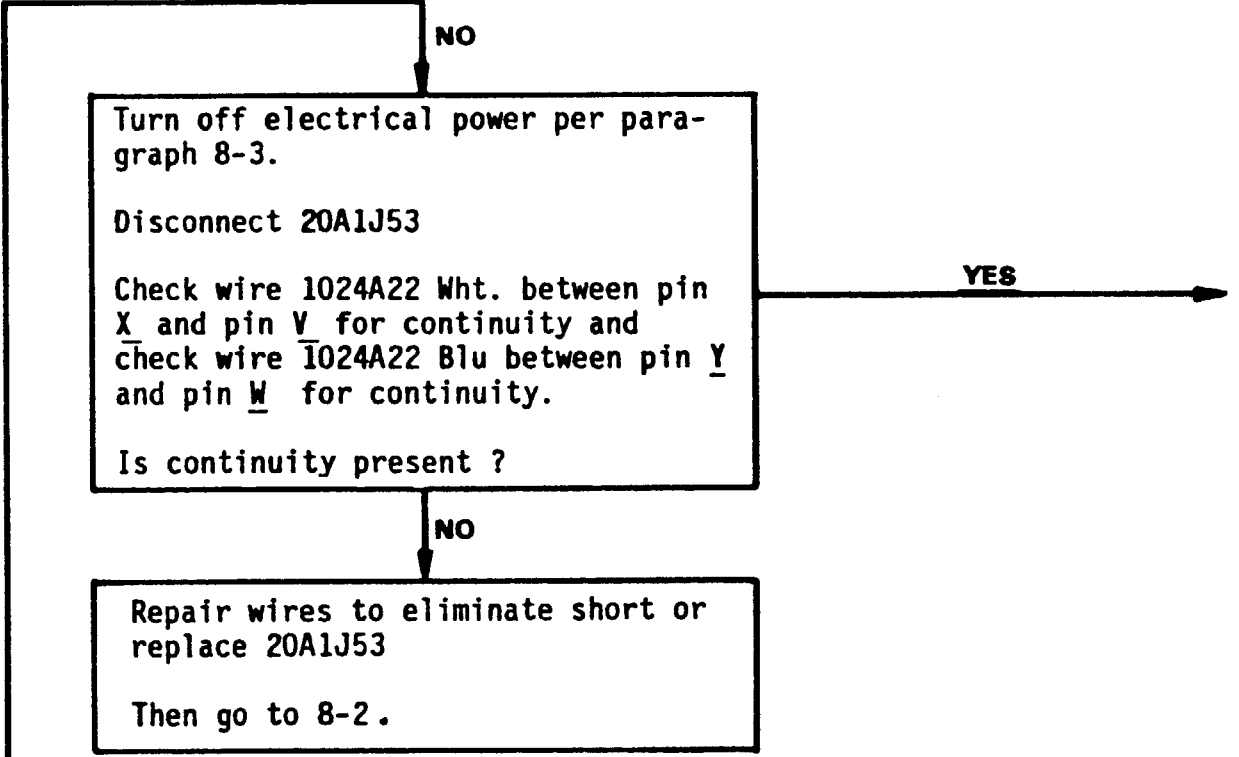
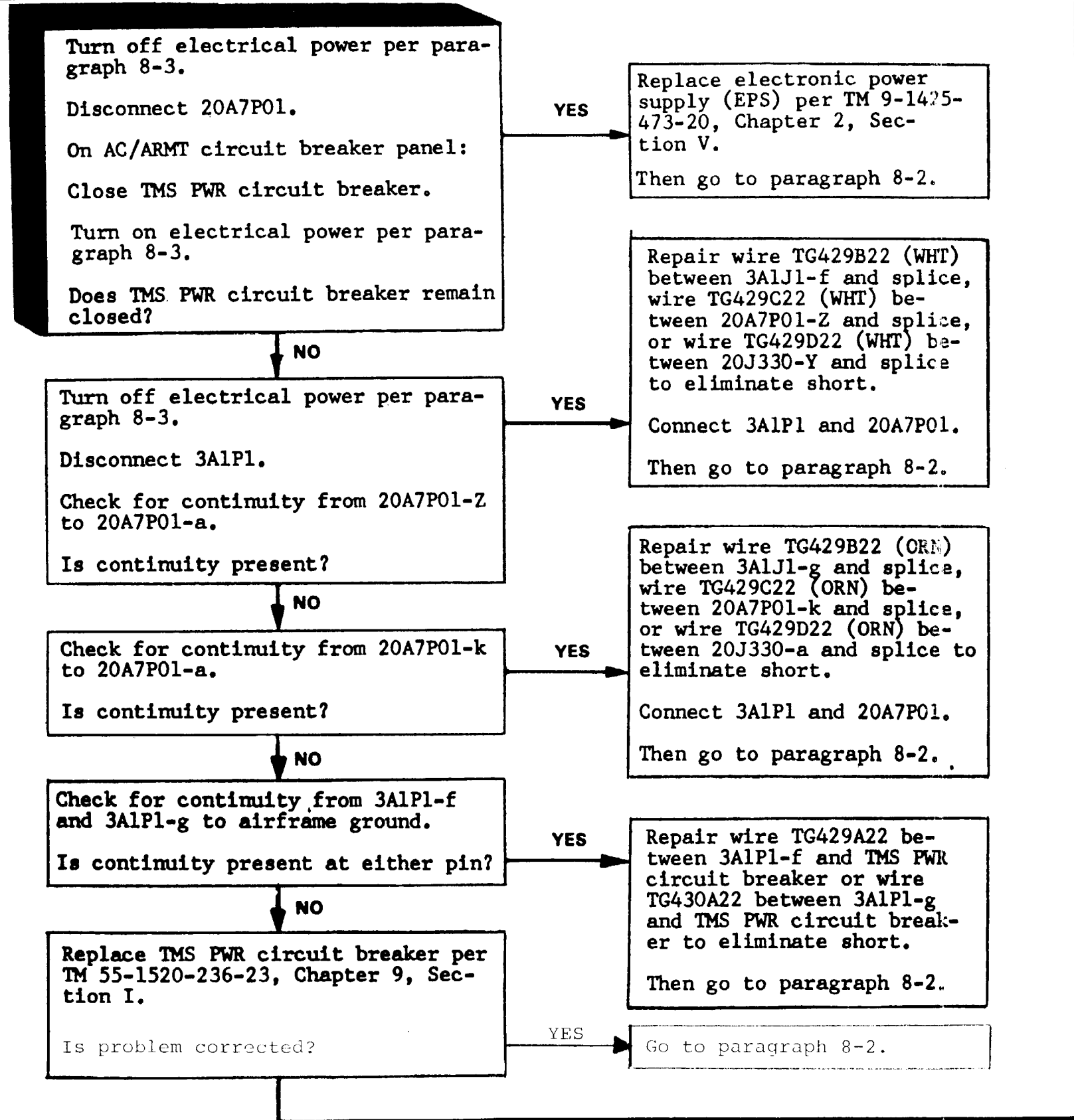
PILOT STATION



AC/ARMT CIRCUIT BREAKER PANEL

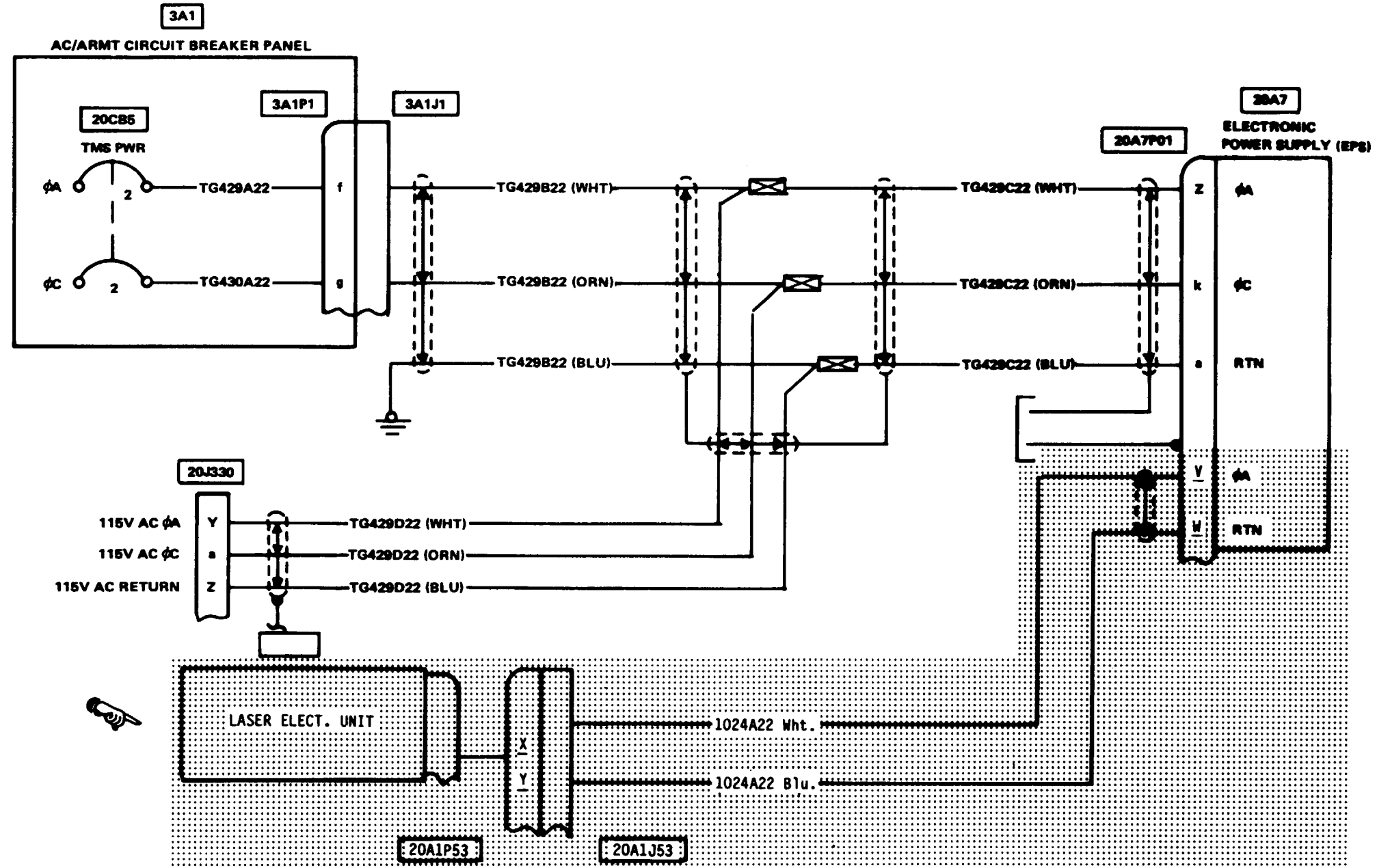


8-5 . TMS PWR CIRCUIT BREAKER ON AC/ARMT CIRCUIT BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED).



8-5. TMS PWR CIRCUIT BREAKER ON AC/ARMT CIRCUIT BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED).

YES →
 Replace TSU and LEU as a unit
 Per TM 9- 1425-473-34, section 4 paragraph 4-7 and 4-10.
 Then go to 8-2.



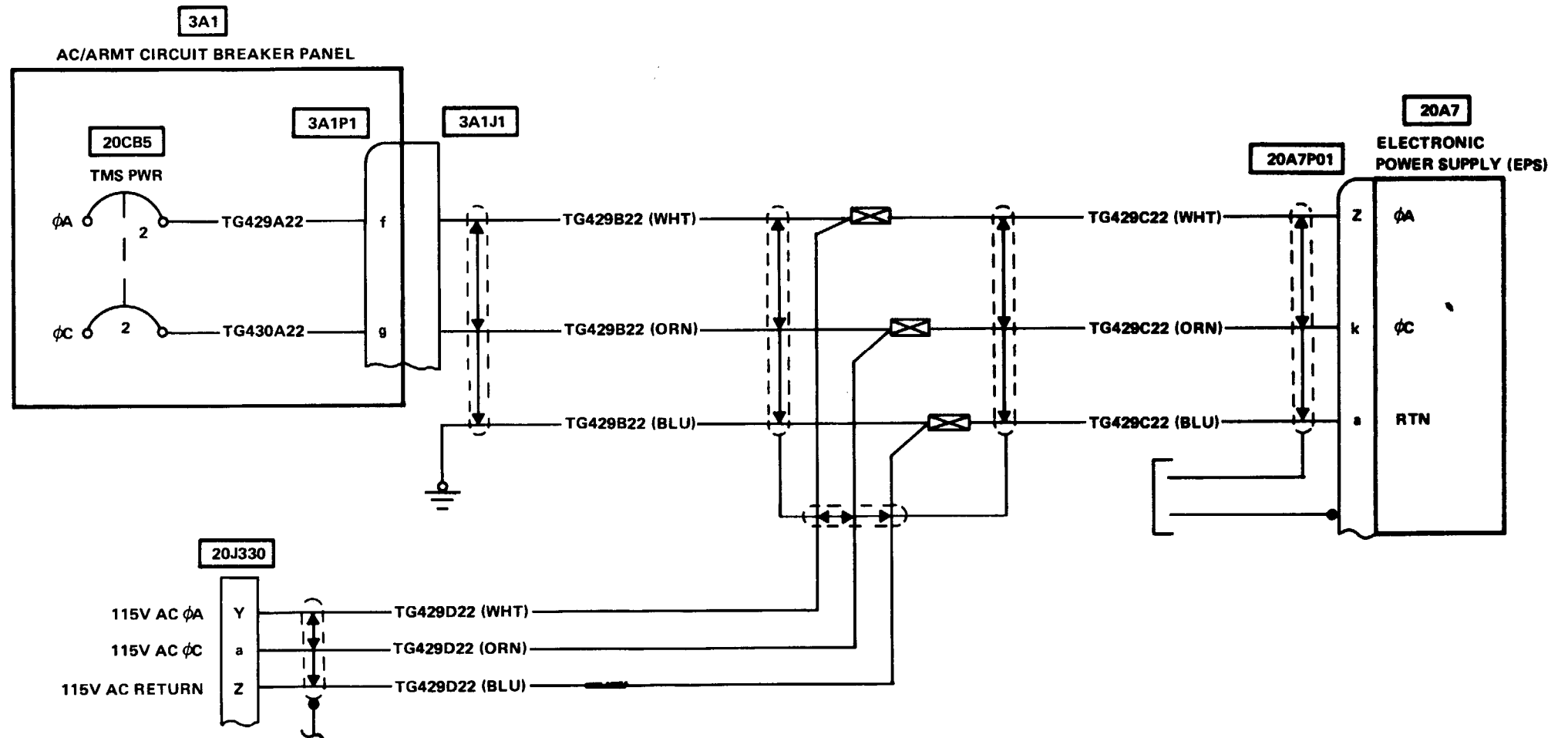
8-5 . TMS PWR CIRCUIT BREAKER ON AC/ARMT CIRCUIT BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED).

YES
 Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.
 Then go to paragraph 8-2.

YES
 Repair wire TG429B22 (WHT) between 3A1J1-f and splice, wire TG429C22 (WHT) between 20A7P01-Z and splice, or wire TG429D22 (WHT) between 20J330-Y and splice to eliminate short.
 Connect 3A1P1 and 20A7P01.
 Then go to paragraph 8-2.

YES
 Repair wire TG429B22 (ORN) between 3A1J1-g and splice, wire TG429C22 (ORN) between 20A7P01-k and splice, or wire TG429D22 (ORN) between 20J330-a and splice to eliminate short.
 Connect 3A1P1 and 20A7P01.
 Then go to paragraph 8-2.

YES
 Repair wire TG429A22 between 3A1P1-f and TMS PWR circuit breaker or wire TG430A22 between 3A1P1-g and TMS PWR circuit breaker to eliminate short.
 Then go to paragraph 8-2.



8-5.1. TMS PWR CIRCUIT BREAKER ON
AC/ARMT CIRCUIT BREAKER
PANEL WILL NOT STAY CLOSED.

INITIAL SETUP

Applicable Configuration
AH-1S **MCN**

Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

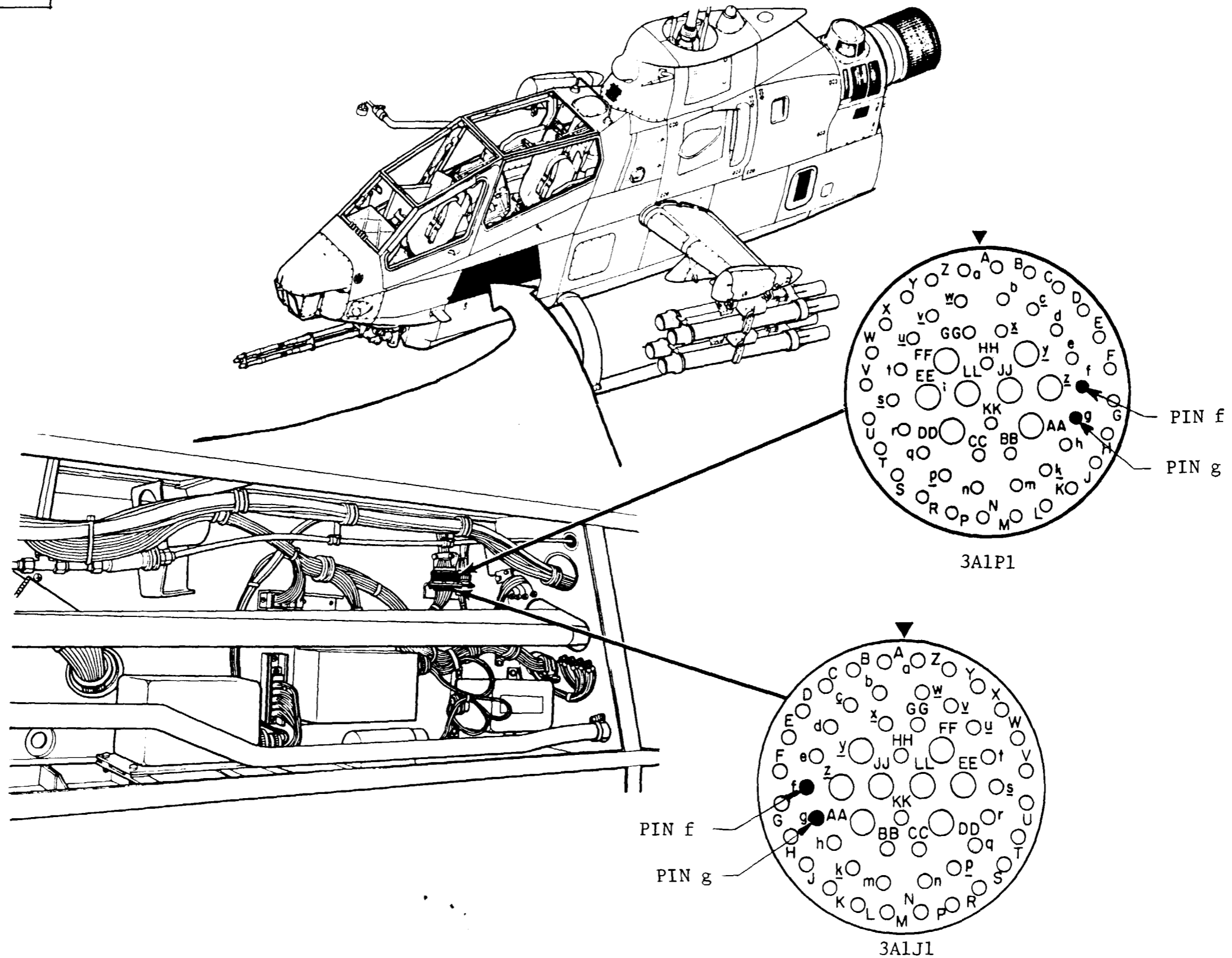
References
TM 9-1425-473-20
TM 55-1520-236-23

Access Panels

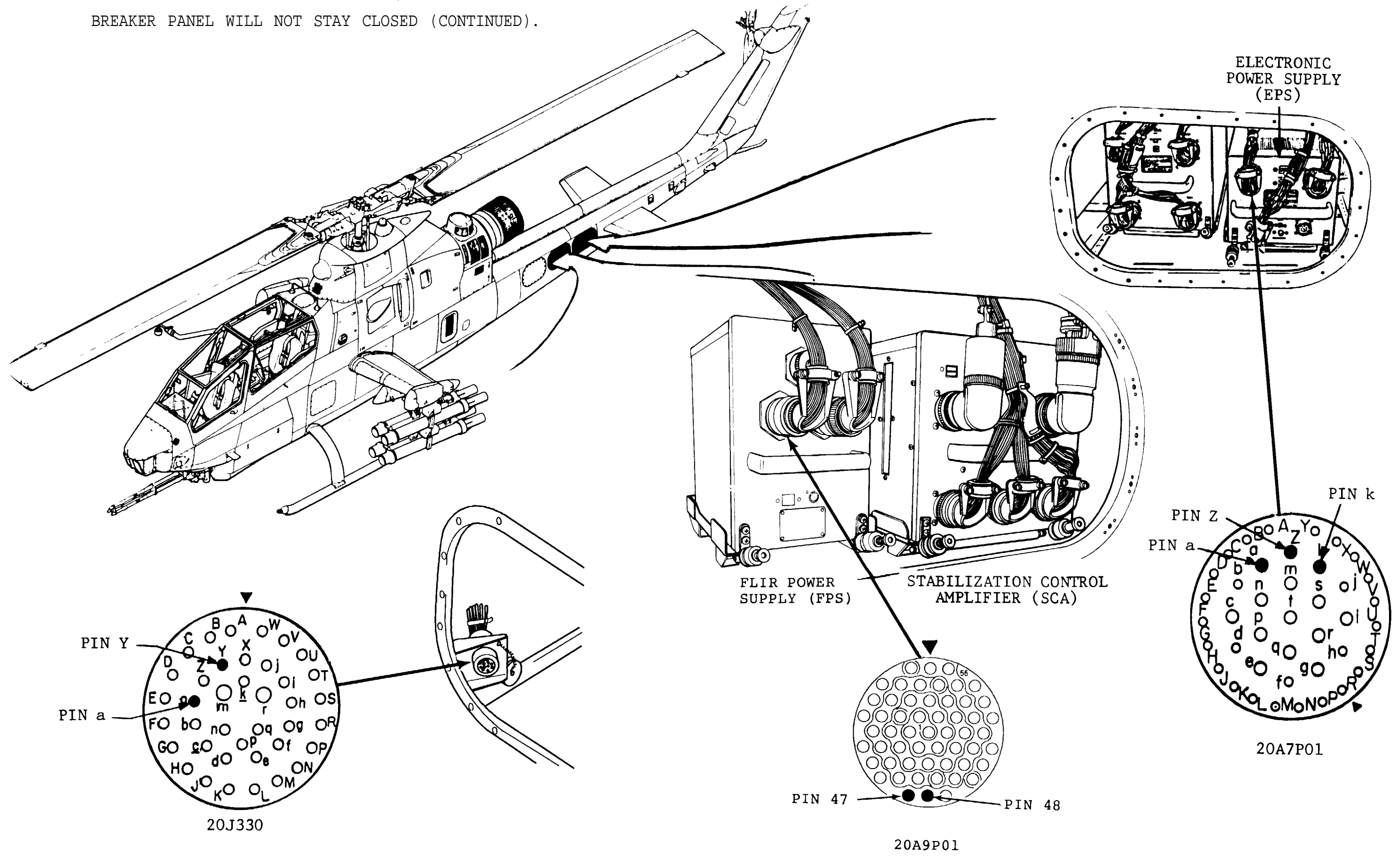
Left Side Control Linkage -
Removed

Middle Electronics
(Tailboom) - Removed

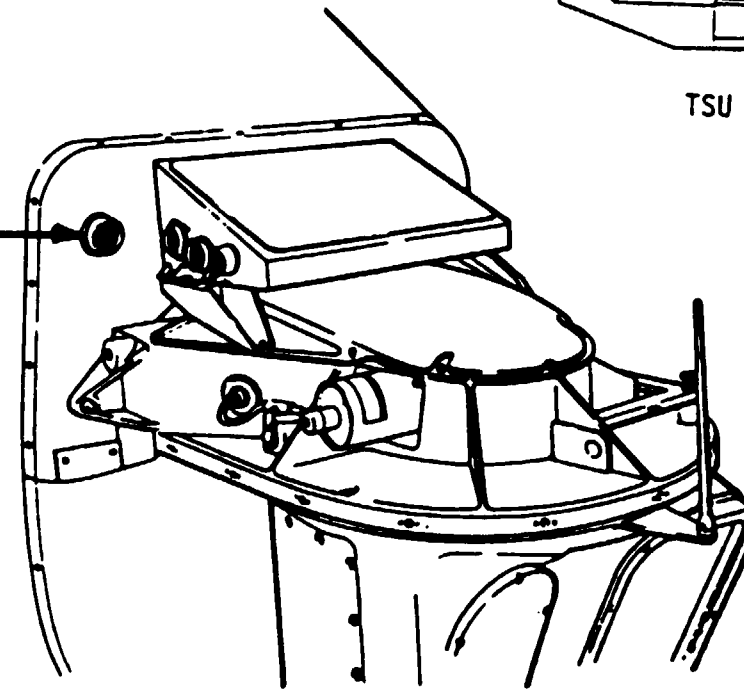
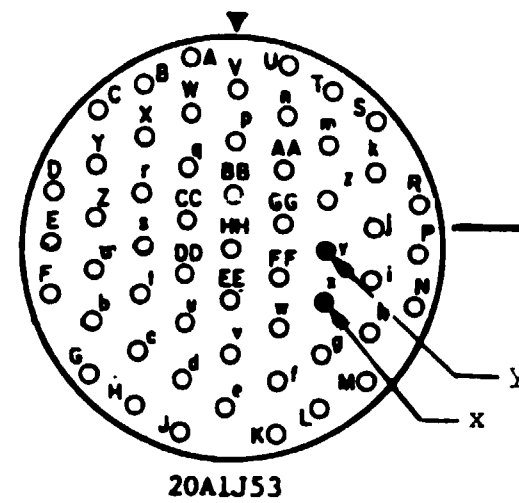
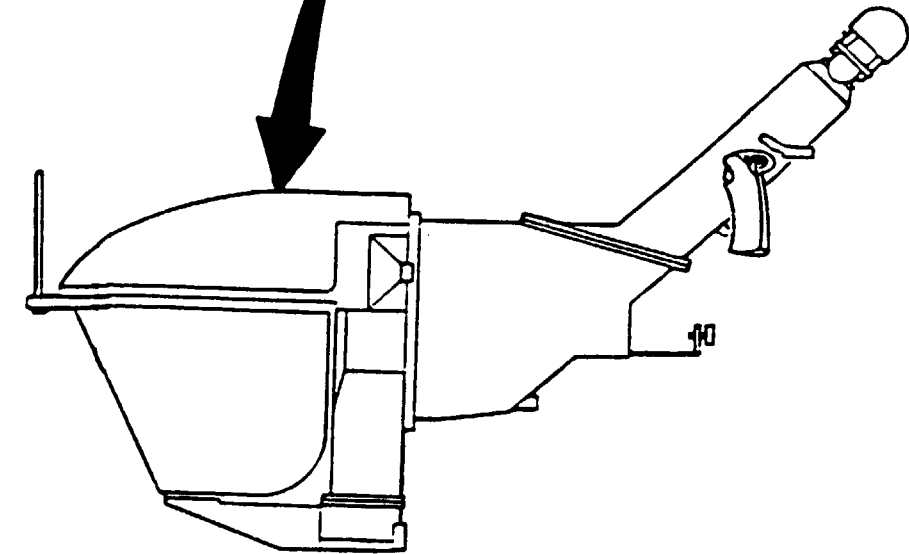
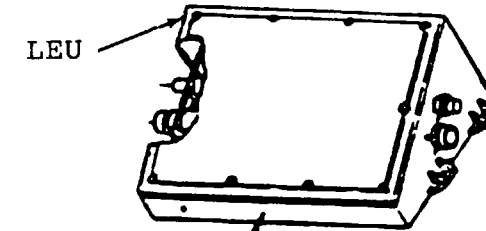
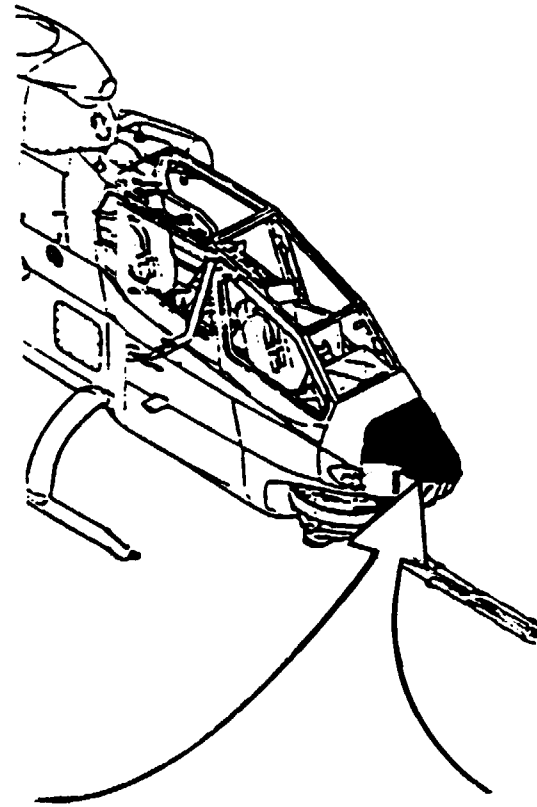
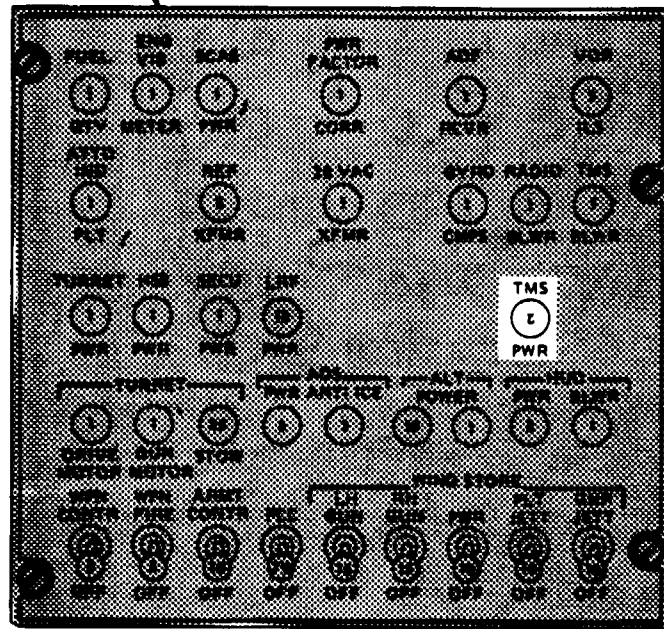
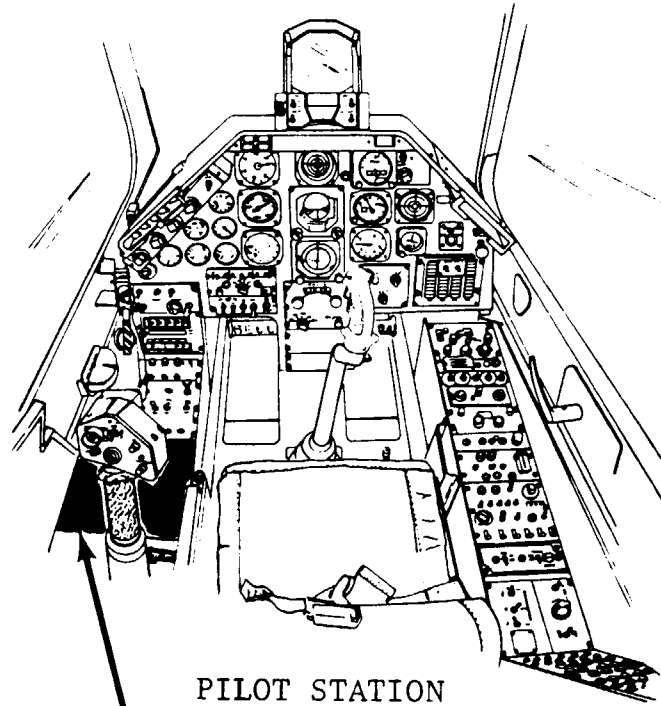
Aft Electronics
(Tailboom) - Removed



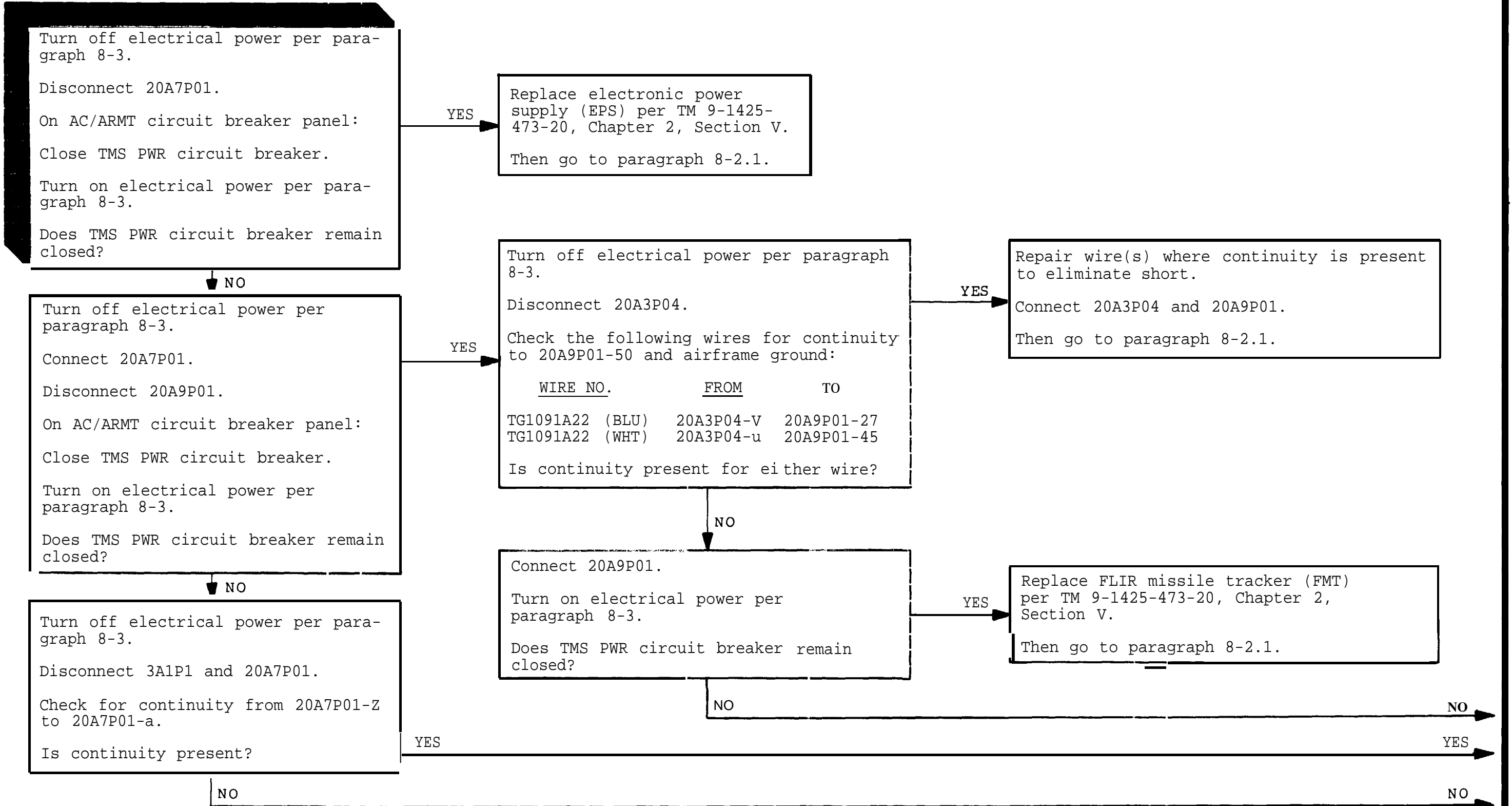
8-5.1. TMS PWR CIRCUIT BREAKER ON AC/ARMT CITRCUIT
BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED).



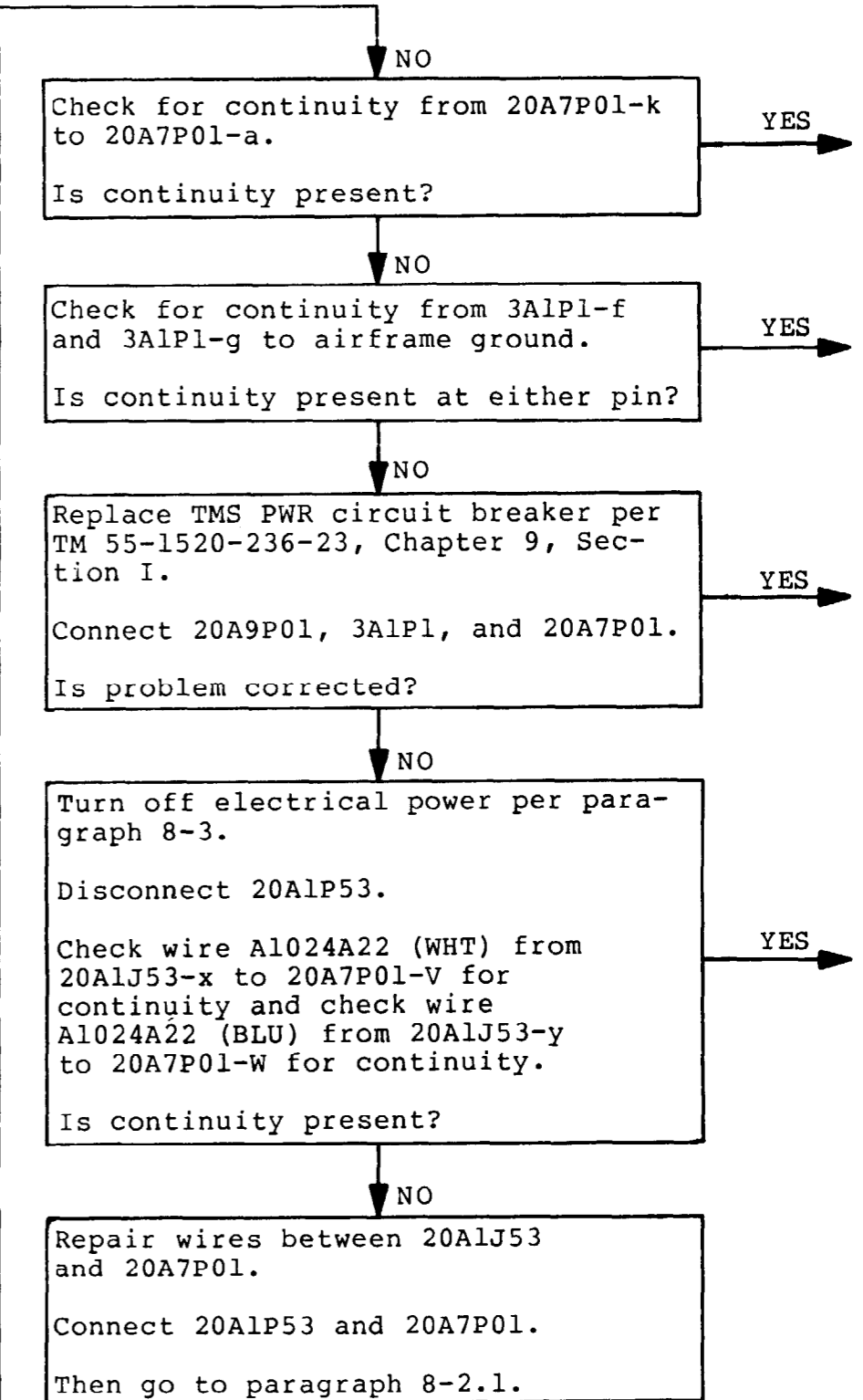
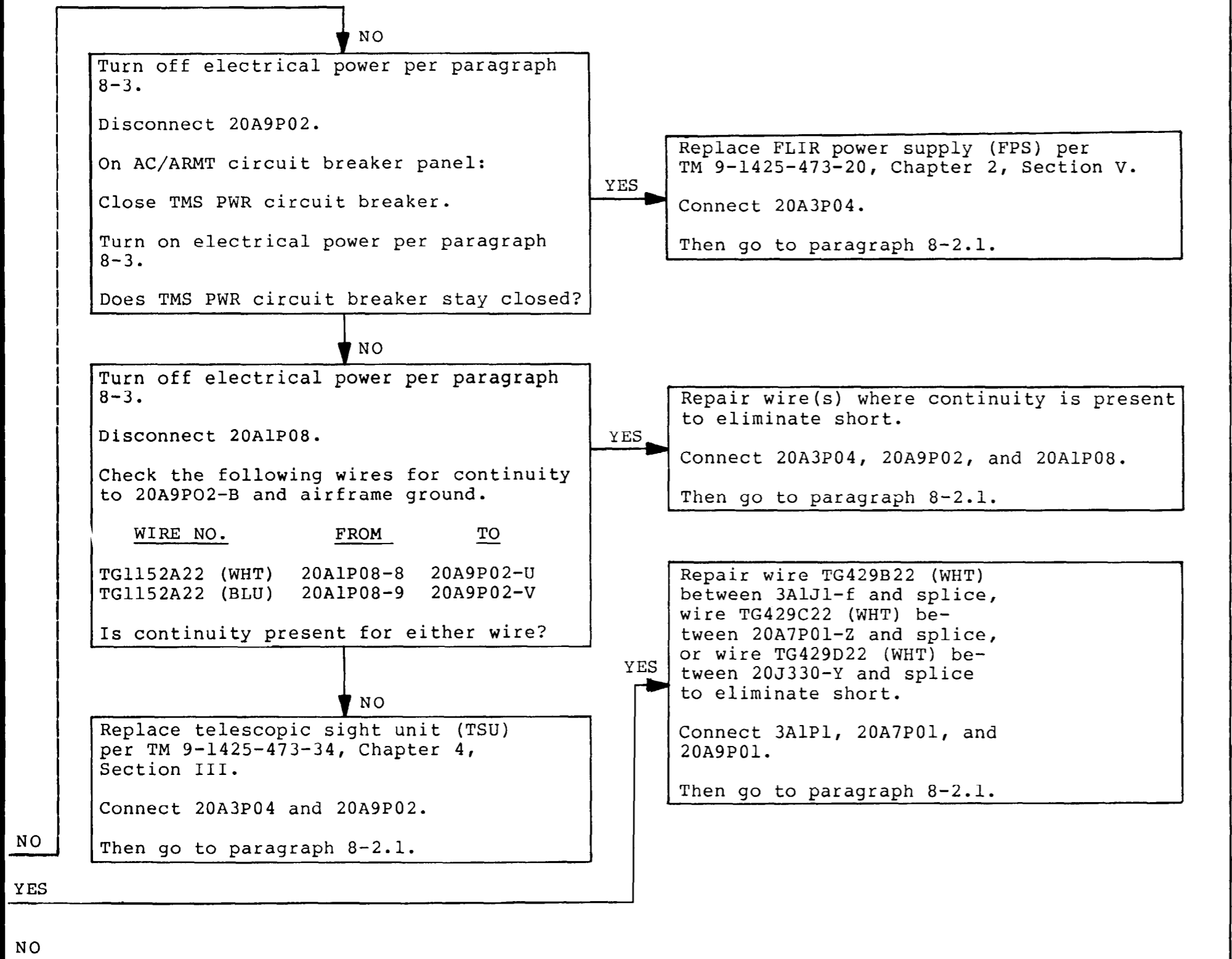
8-5.1. TMS PWR CIRCUIT BREAKER ON AC/ARMT CIRCUIT BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED).



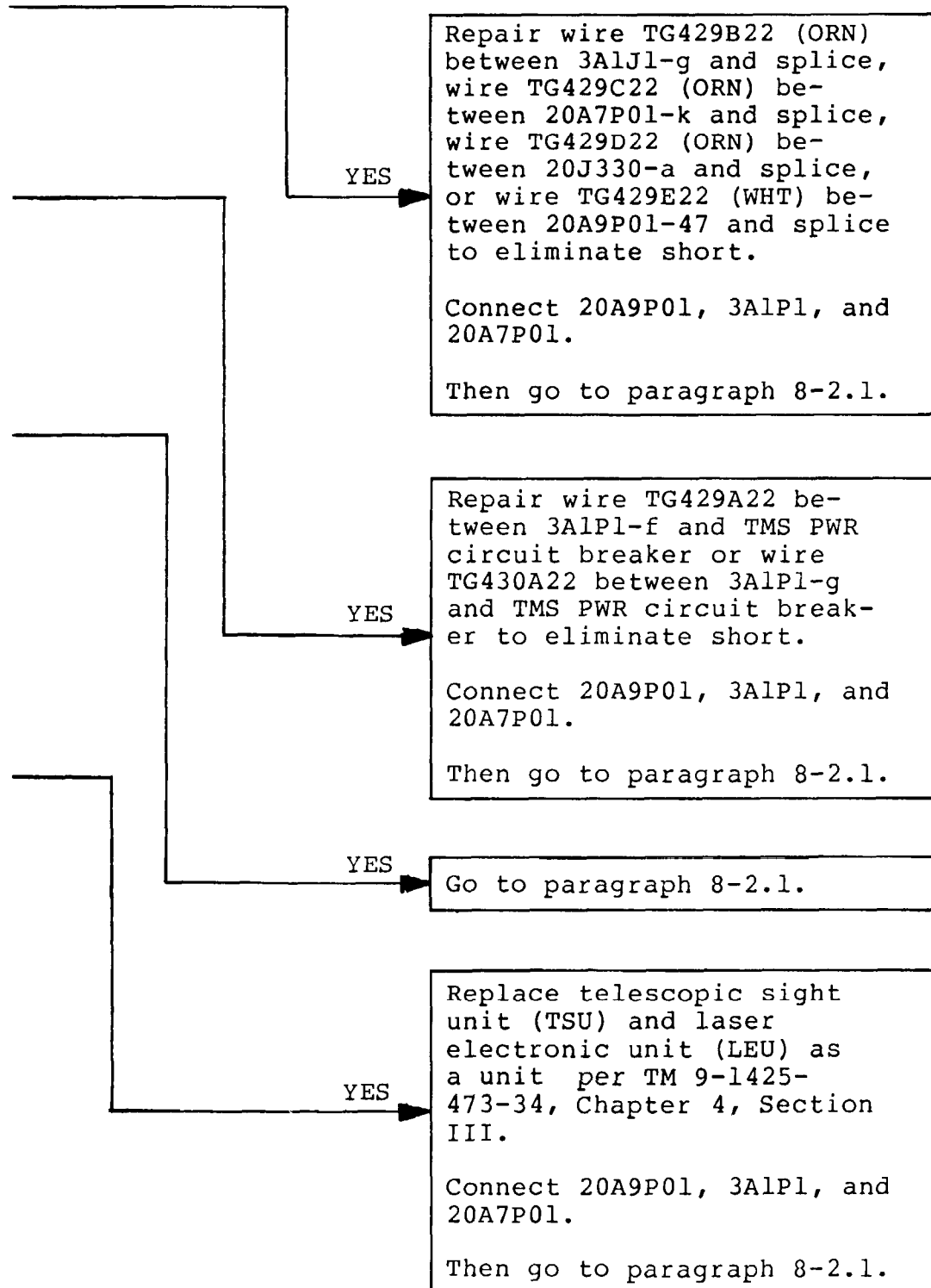
8-5.1. TMS PWR CIRCUIT BREAKER ON AC/ARMT CIRCUIT
BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED).



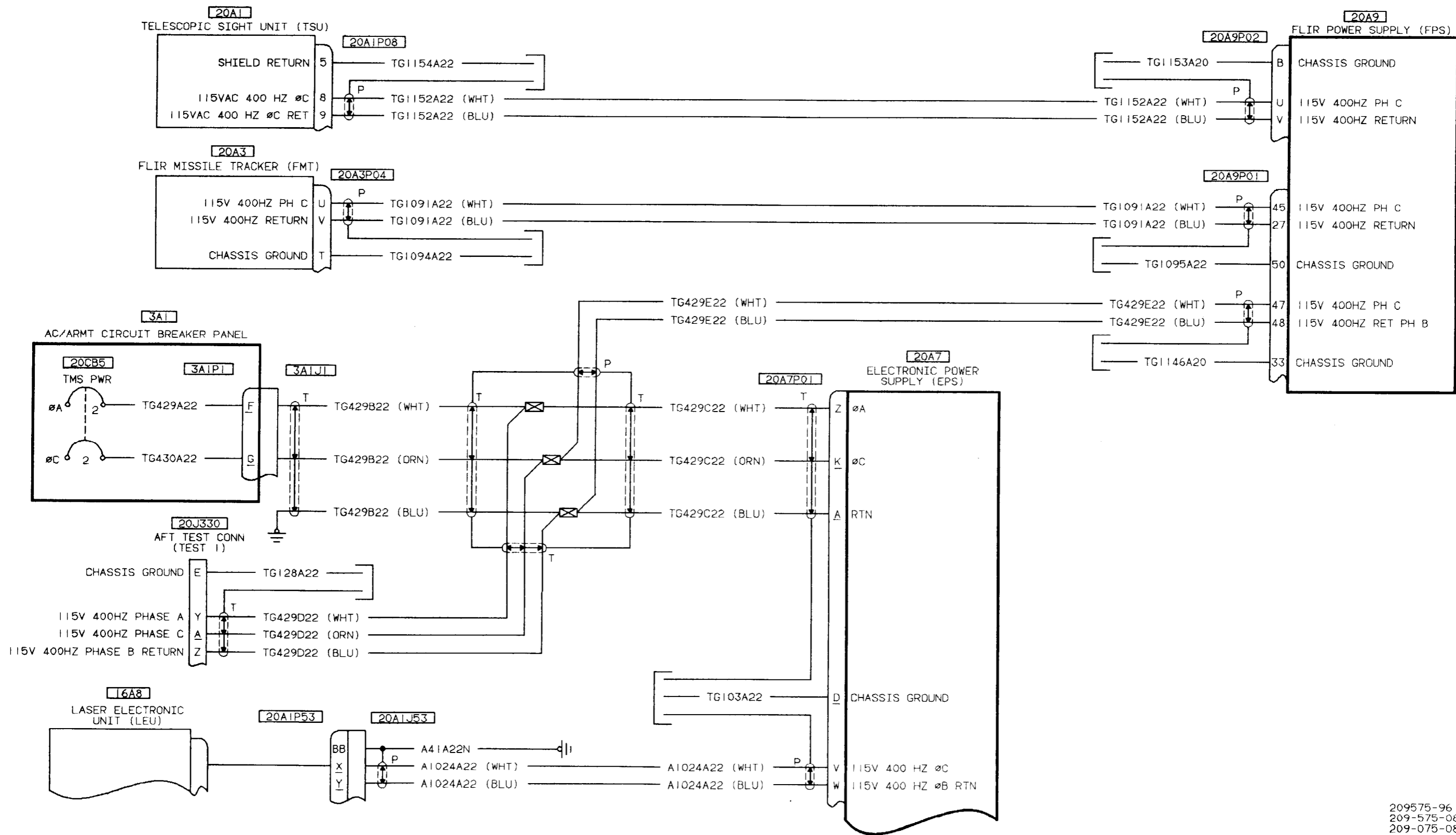
8-5.1. TMS PWR CIRCUIT BREAKER ON AC/ARMT CIRCUIT BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED).



8-5.1. TMS PWR CIRCUIT BREAKER ON AC/ARMT CIRCUIT
 BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED).



8-5.1. TMS PWR CIRCUIT BREAKER ON AC/ARMT CIRCUIT BREAKER PANEL WILL NOT STAY CLOSED (CONTINUED) .



209575-96
 209-575-082
 209-075-087
 209-075-089

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8-6 . TOW PWR CIRCUIT BREAKER IN BATTERY COMPARTMENT WILL NOT STAY CLOSED.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

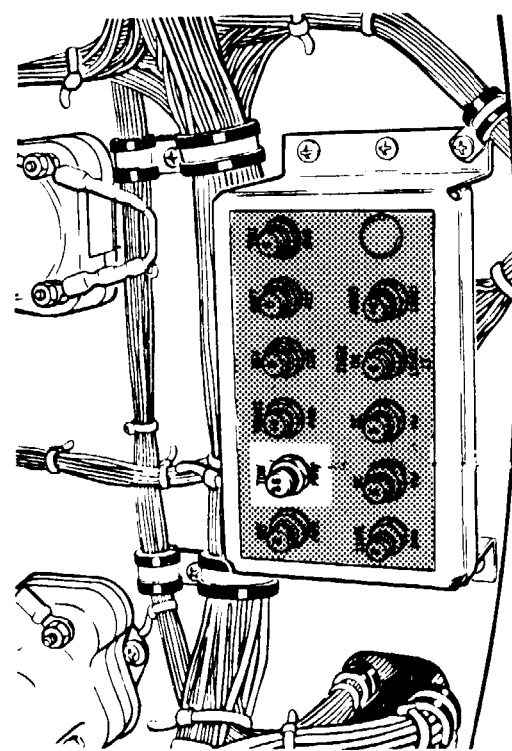
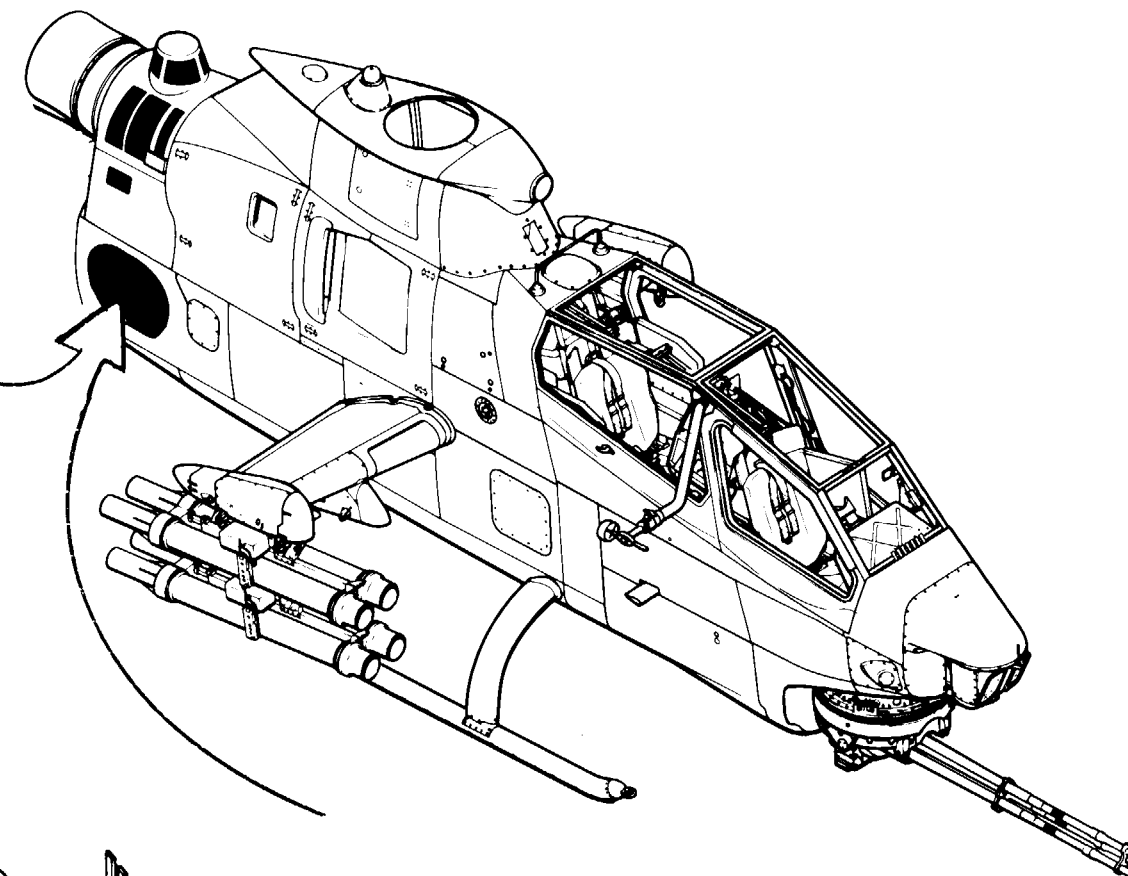
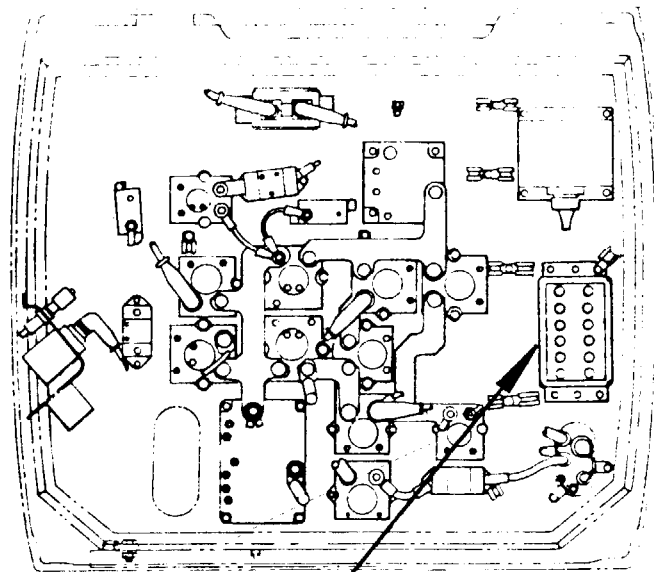
Personnel Required
68J (1)

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

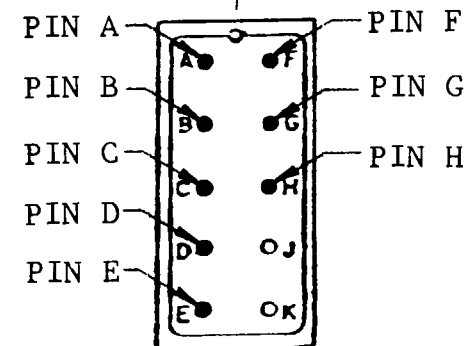
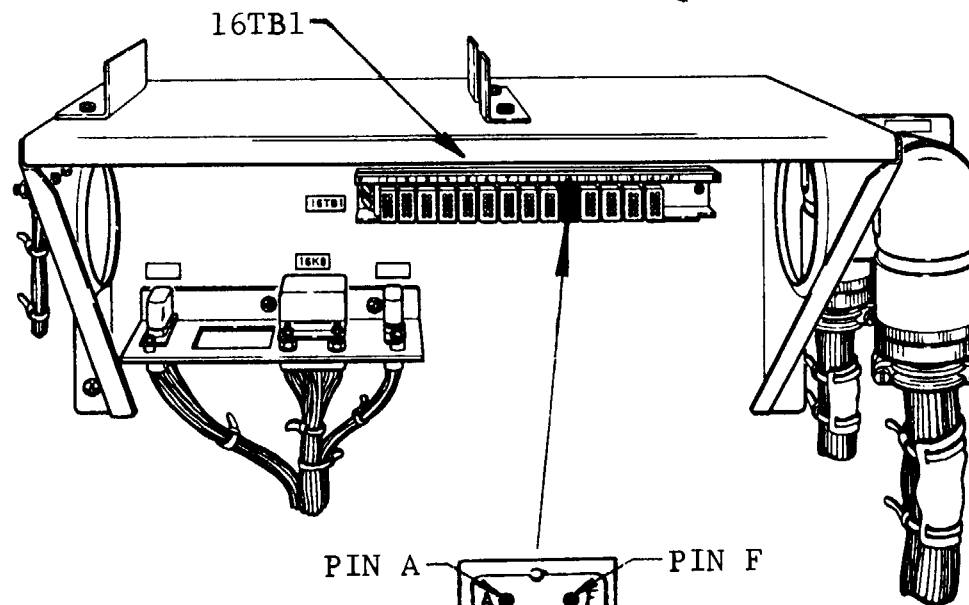
Access Panel
Aft Electronics (Tailboom) - Removed

Battery Compartment - Removed

BATTERY COMPARTMENT FORWARD BULKHEAD

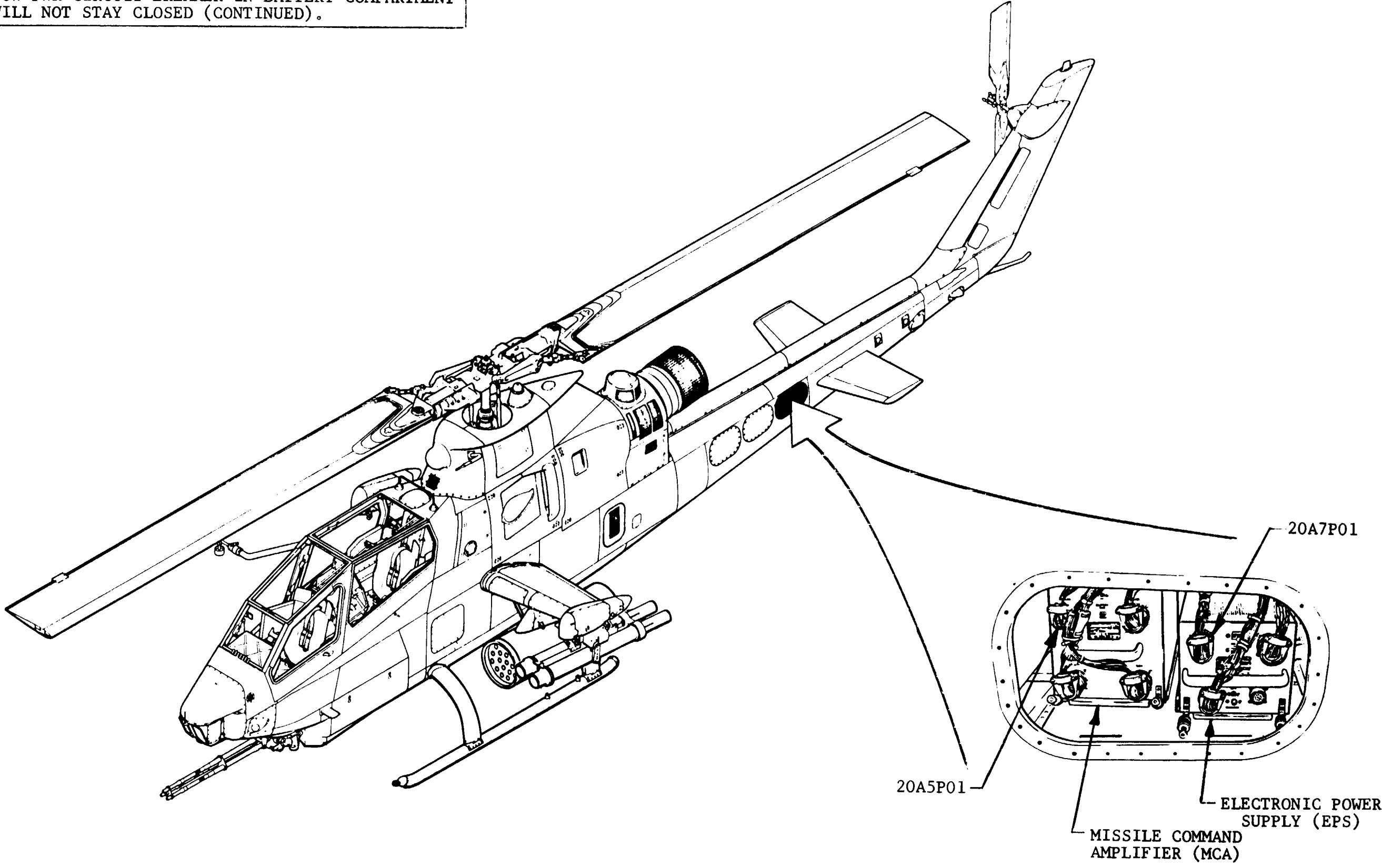


CIRCUIT BREAKER PANEL

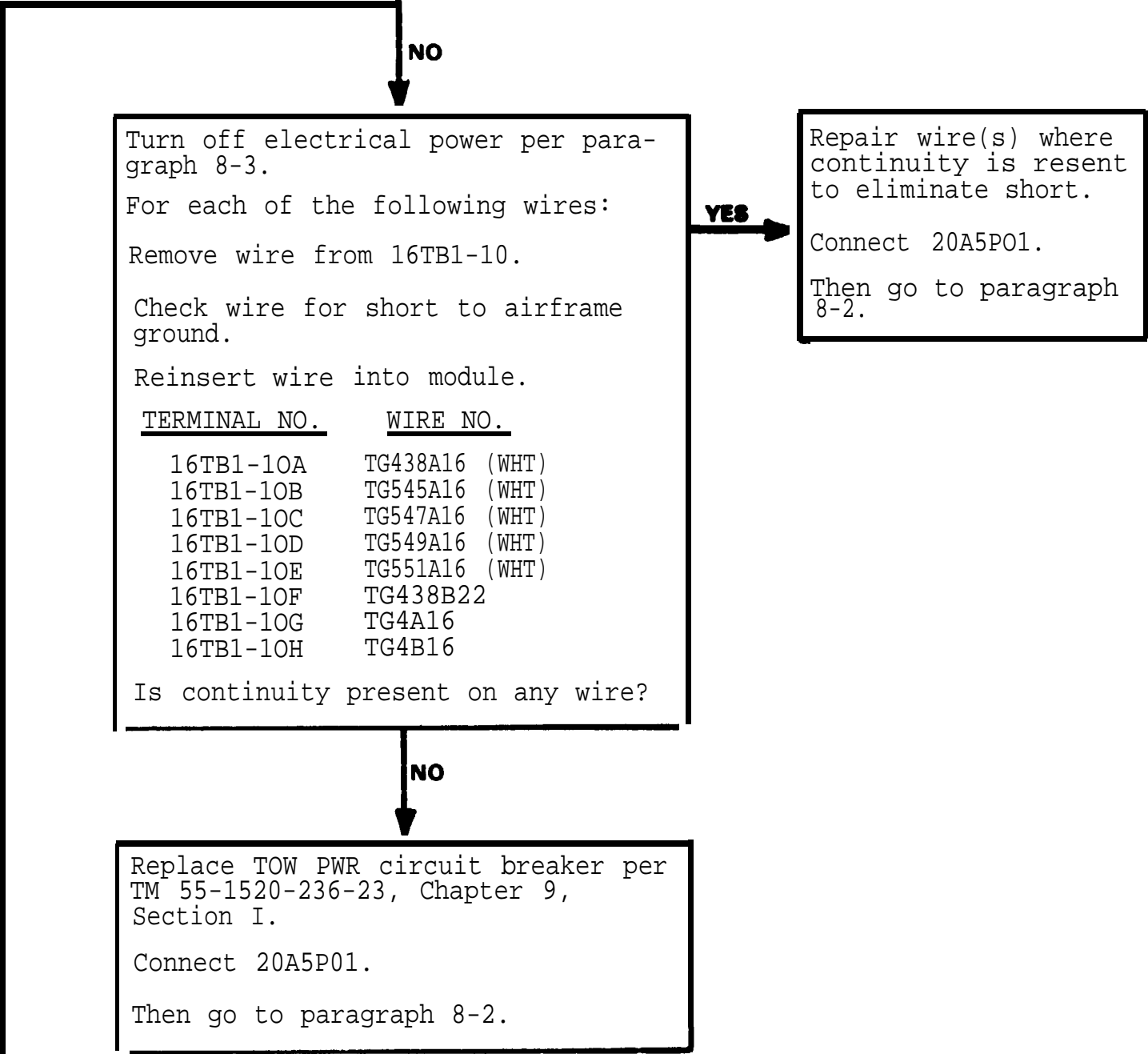
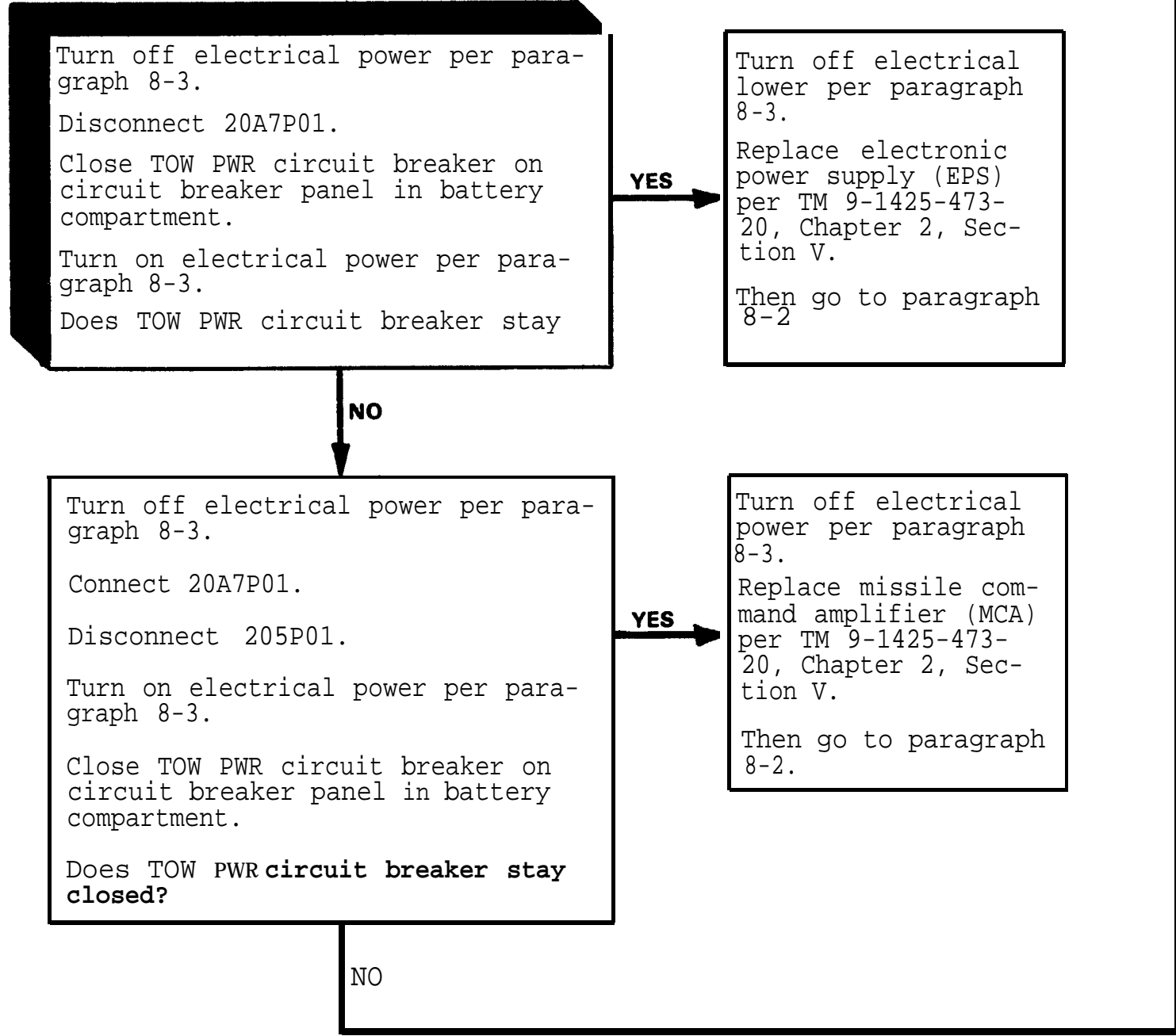


MODULE 10

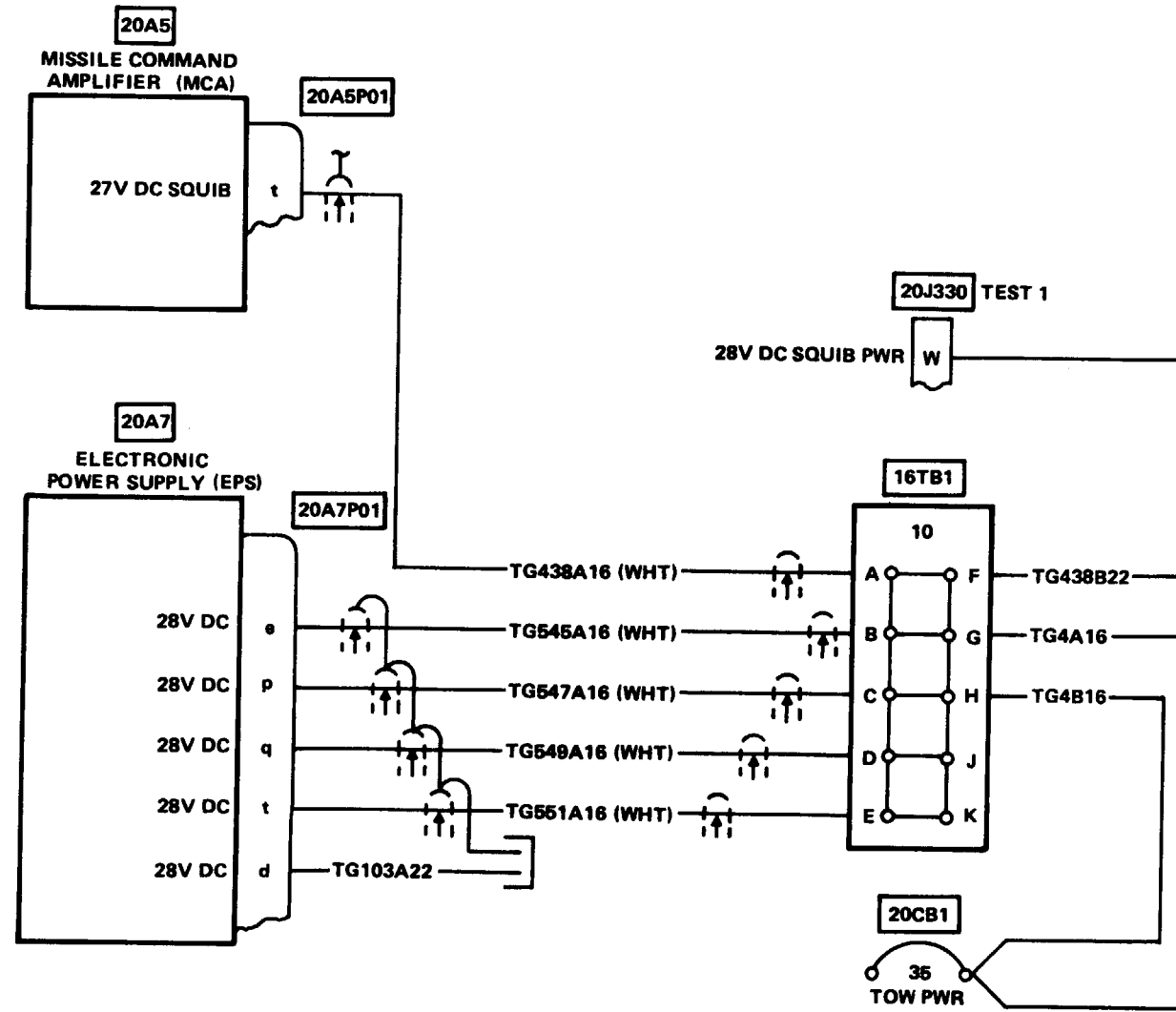
8-6 . TOW PWR CIRCUIT BREAKER IN BATTERY COMPARTMENT
WILL NOT STAY CLOSED (CONTINUED).



8-6 . TOW PWR CIRCUIT BREAKER IN BATTERY COMPARTMENT
WILL NOT STAY CLOSED (CONTINUED).



8-6 . TOW PWR CIRCUIT BREAKER IN BATTERY COMPARTMENT
WILL NOT STAY CLOSED (CONTINUED).



8-6.1. FPS PWR CIRCUIT BREAKER IN BATTERY COMPARTMENT WILL NOT STAY CLOSED.

INITIAL SETUP

Applicable Configuration
AH-1S MCN

Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

Personnel Required
68J (1)

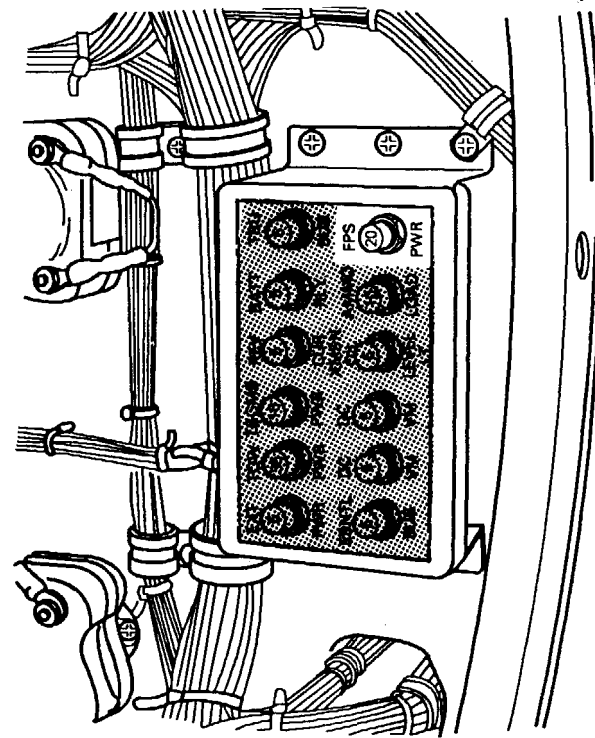
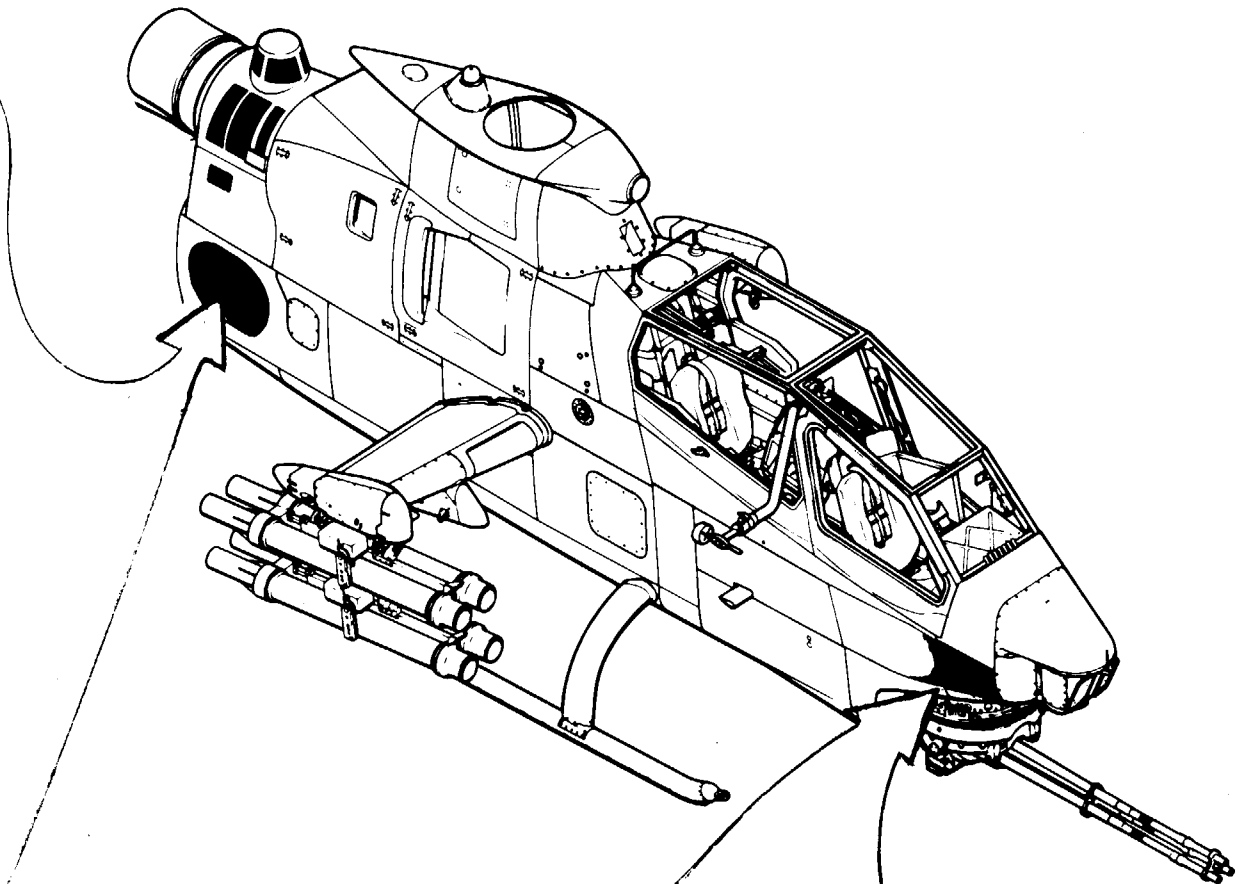
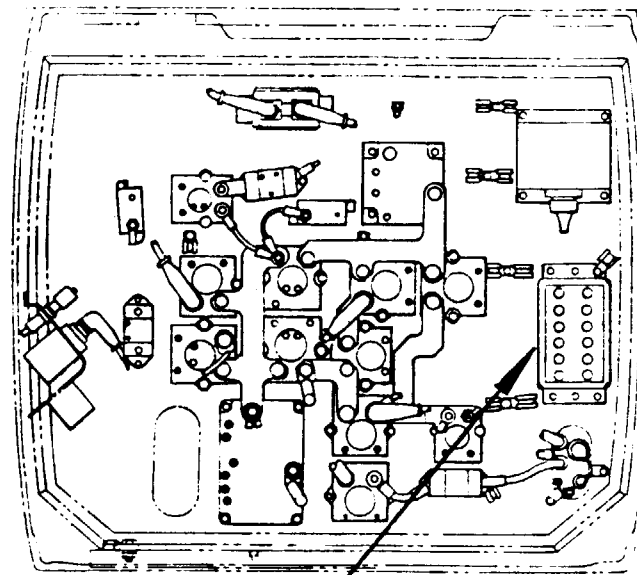
References
TM 9-1425-473-20
TM 55-1520-236-23

Access Panel
Middle Electronics
(Tailboom) - Removed

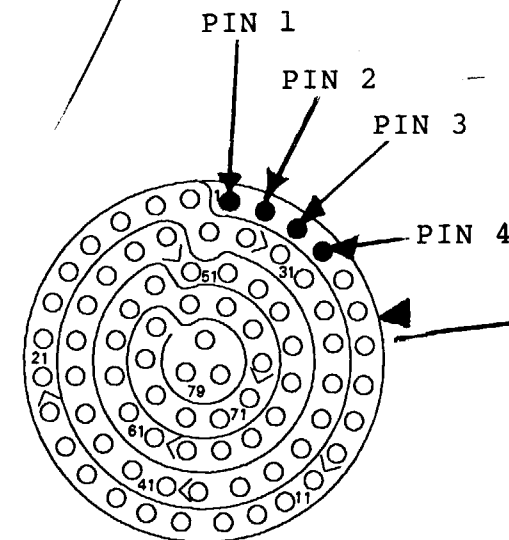
Battery Compartment -
Removed

Right Forward Radar
Warning Antenna -
Removed

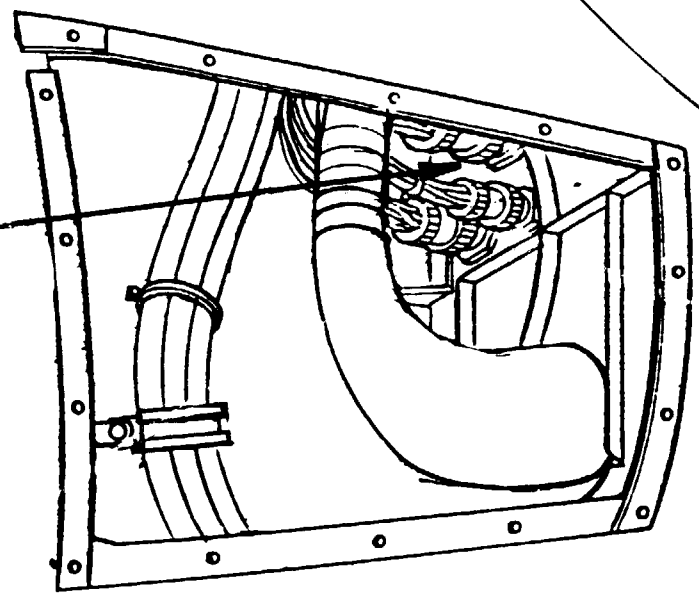
BATTERY COMPARTMENT
FORWARD BULKHEAD



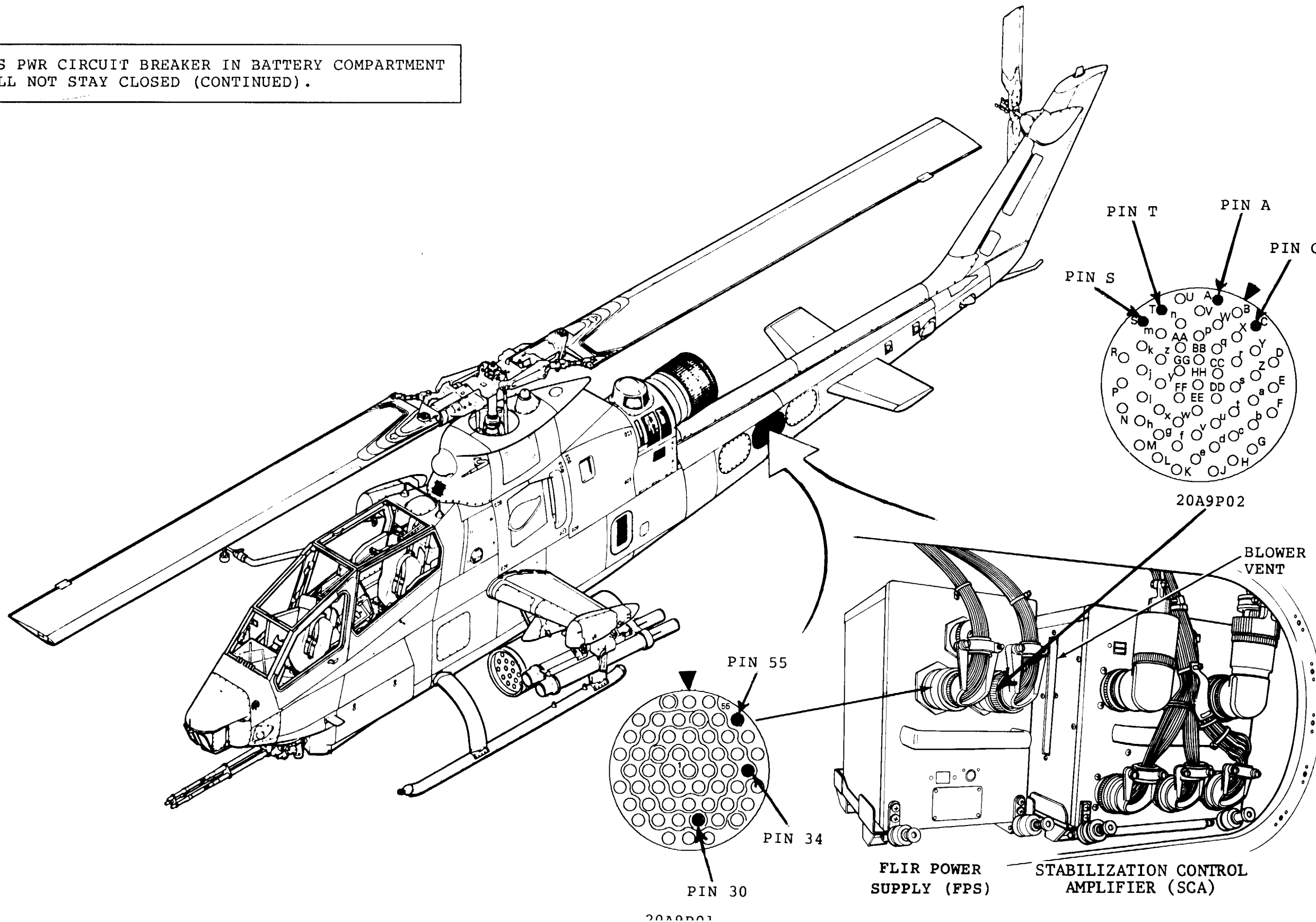
CIRCUIT BREAKER PANEL



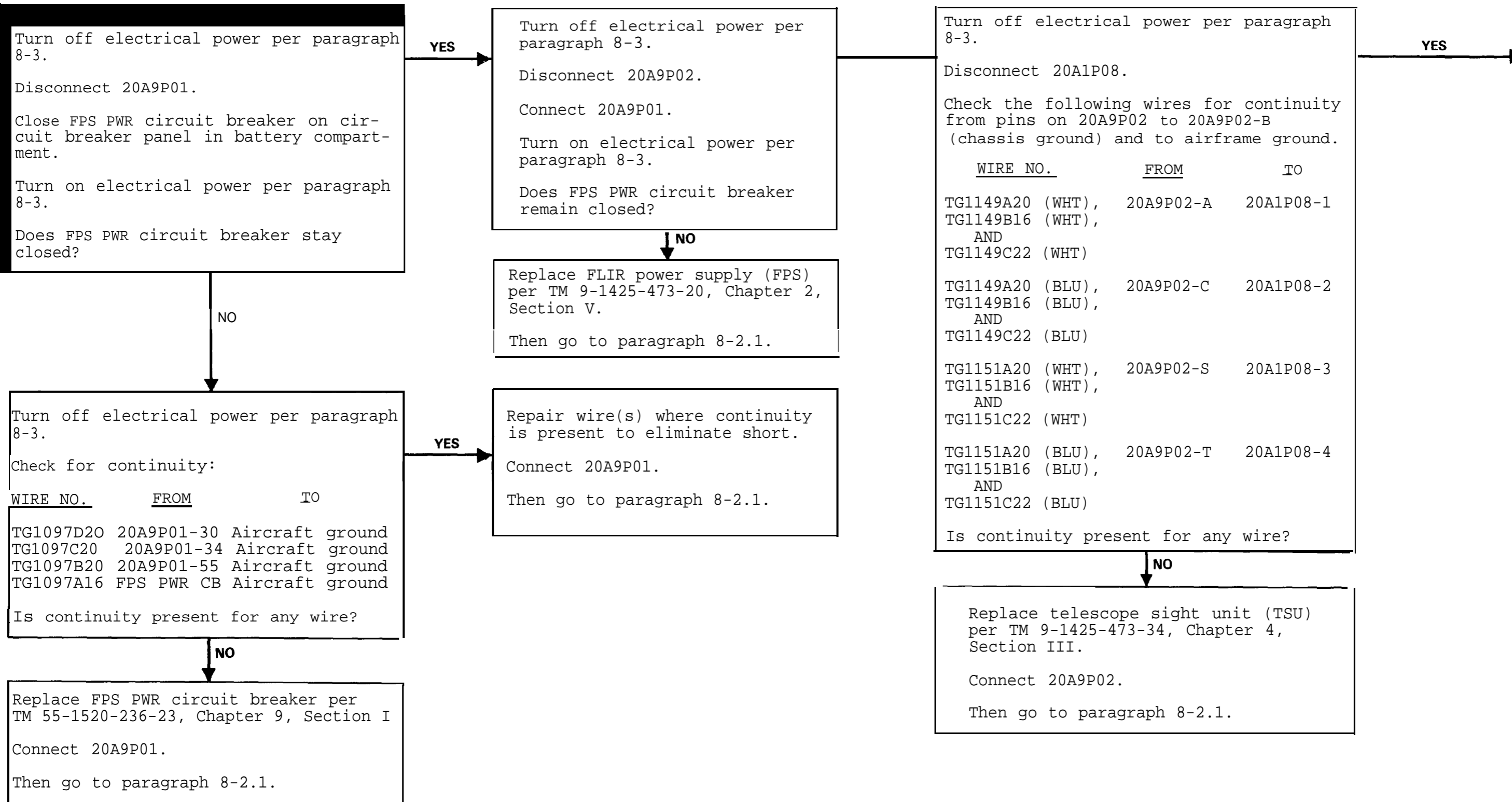
20A1P08



8-6.1. FPS PWR CIRCUIT BREAKER IN BATTERY COMPARTMENT
WILL NOT STAY CLOSED (CONTINUED).

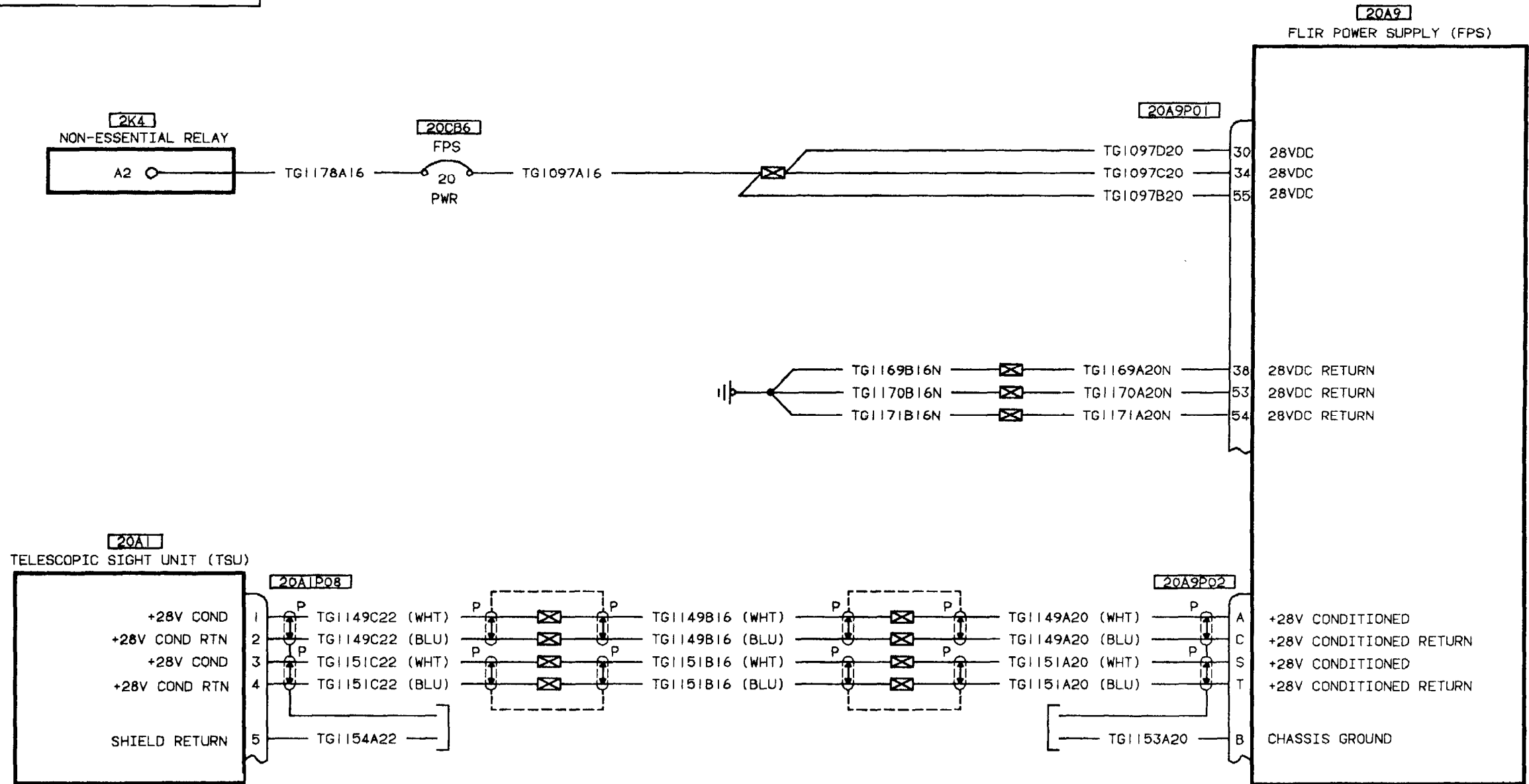


8-6.1. FPS PWR CIRCUIT BREAKER IN BATTERY COMPARTMENT
WILL NOT STAY CLOSED (CONTINUED) .



8-6.1. FPS PWR CIRCUIT BREAKER IN BATTERY COMPARTMENT WILL NOT STAY CLOSED (CONTINUED).

YES → Repair wire(s) where continuity is present to eliminate short.
 Connect 20A9P02 and 20A1P08.
 Then go to paragraph 8-2.1.



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8-7. TCP (TOW CONTROL PANEL)
LIGHTING INOPERATIVE.

INITIAL SETUP

Applicable Configuration
All

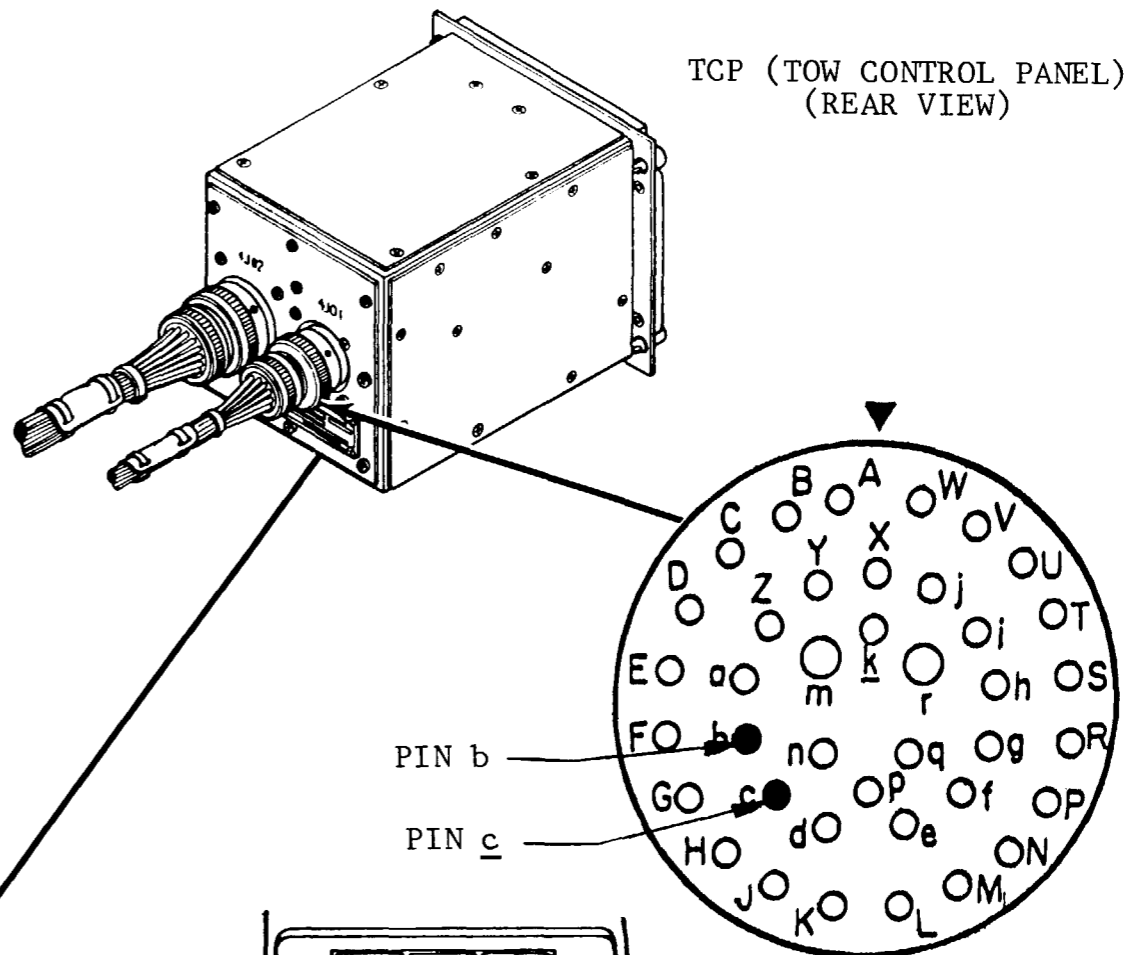
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

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

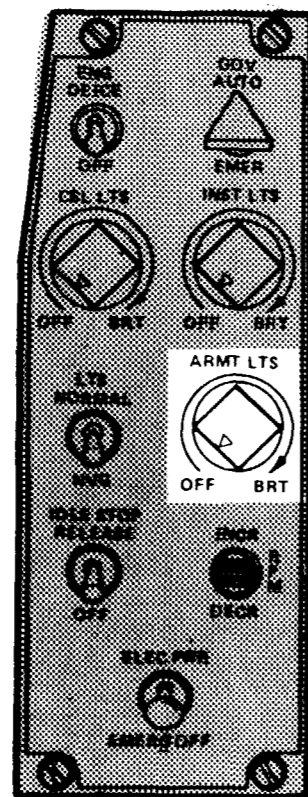
Access Panels
Right Forward Radar
Warning Antenna - Removed



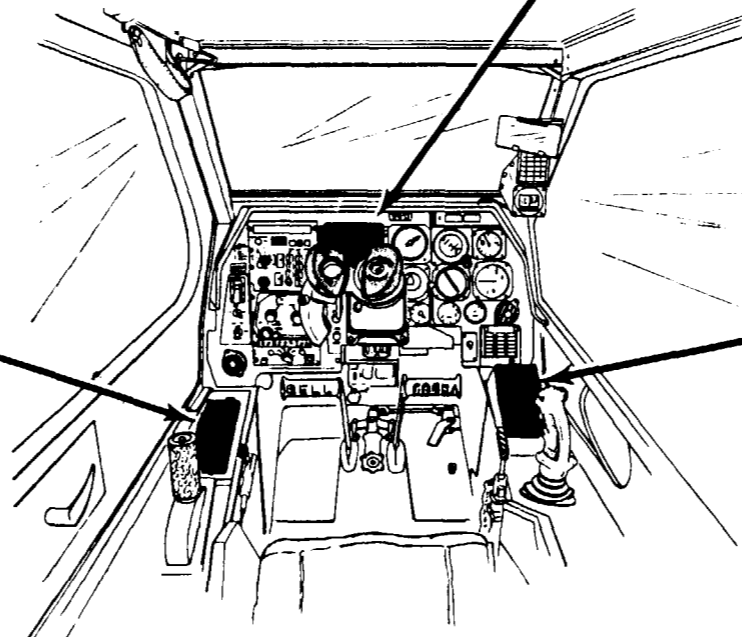
TCP (TOW CONTROL PANEL)
(REAR VIEW)

PIN b
PIN c

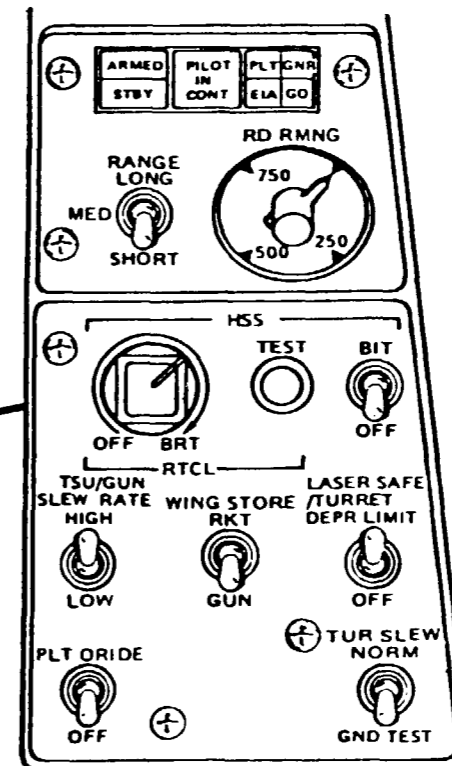
20A4P01



GUNNER MISCELLANEOUS
CONTROL PANEL

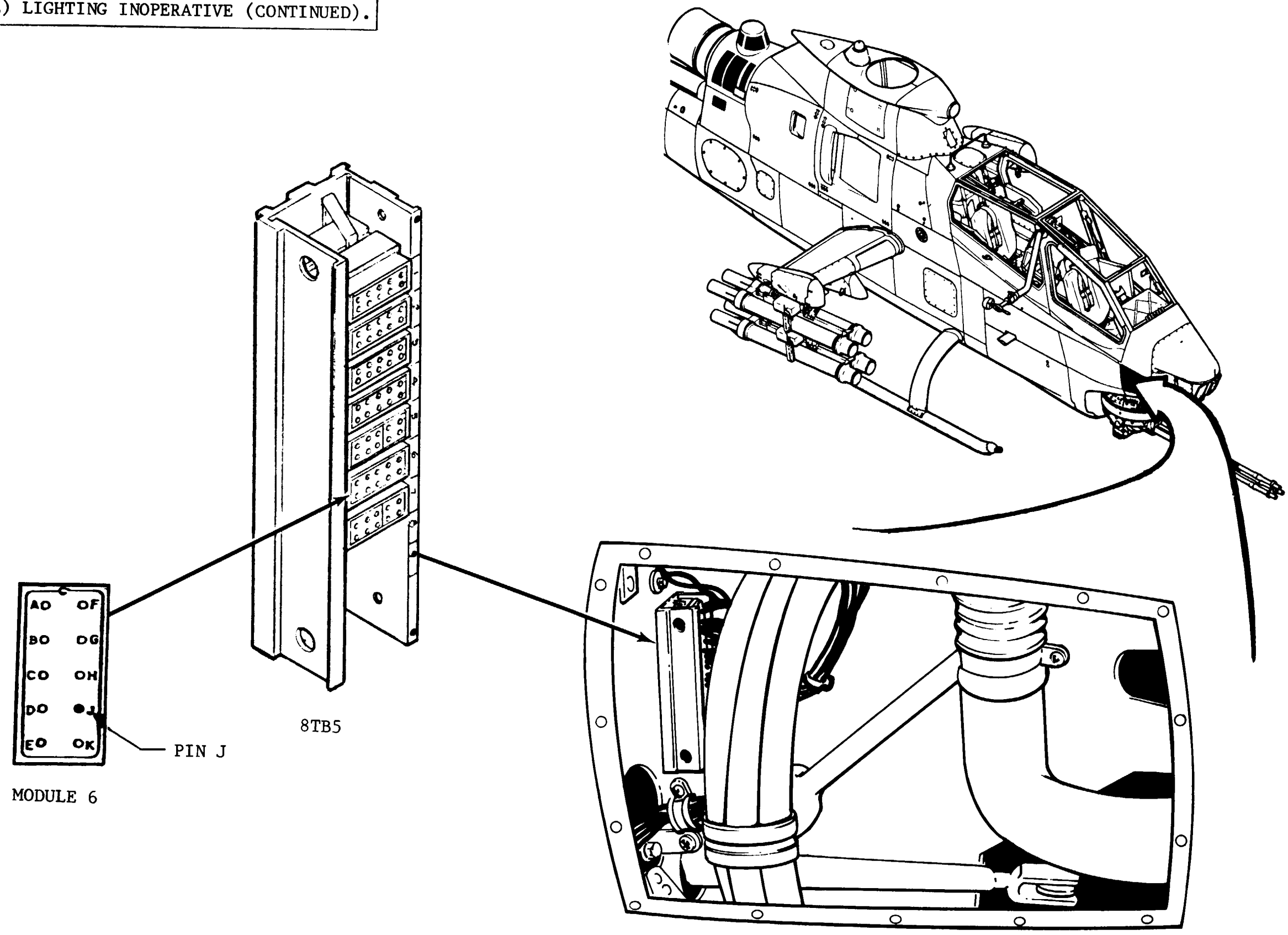


GUNNER SECTION

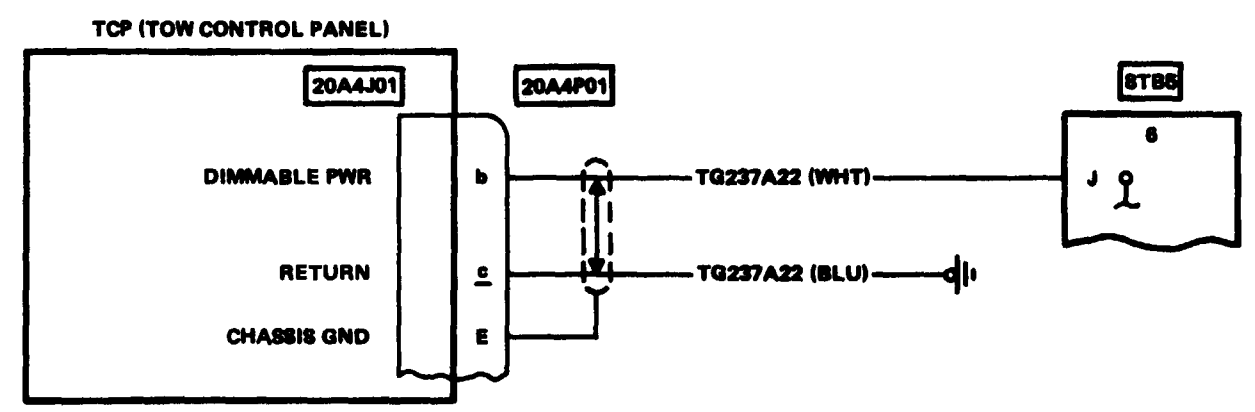
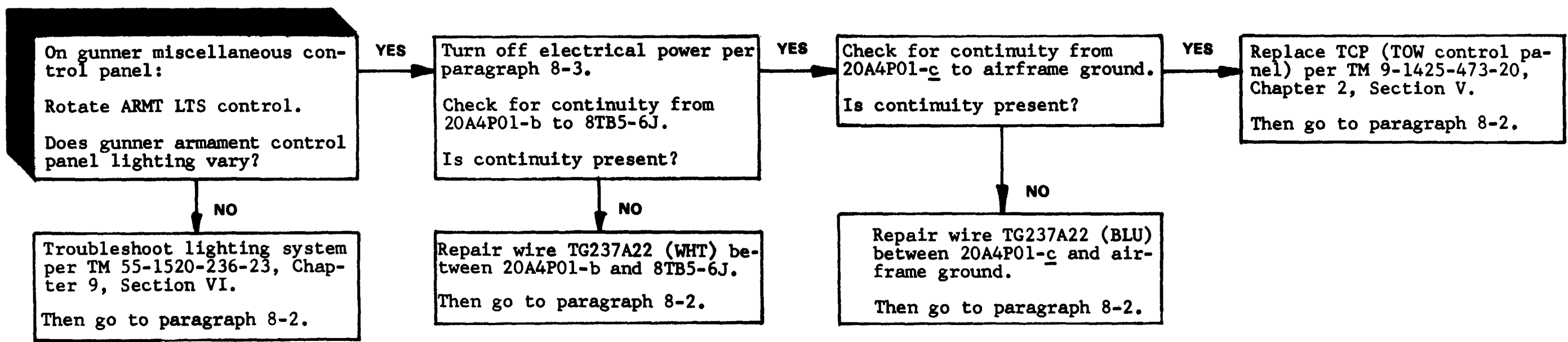


GUNNER ARMAMENT CONTROL PANEL

8-7. TCP (TOW CONTROL PANEL) LIGHTING INOPERATIVE (CONTINUED).



8-7. TCP (TOW CONTROL PANEL) LIGHTING INOPERATIVE (CONTINUED).



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8-7.1. FCP (FLIR CONTROL PANEL)
LIGHTING INOPERATIVE.

INITIAL SETUP

Applicable Configuration
AH-1S **MCN**

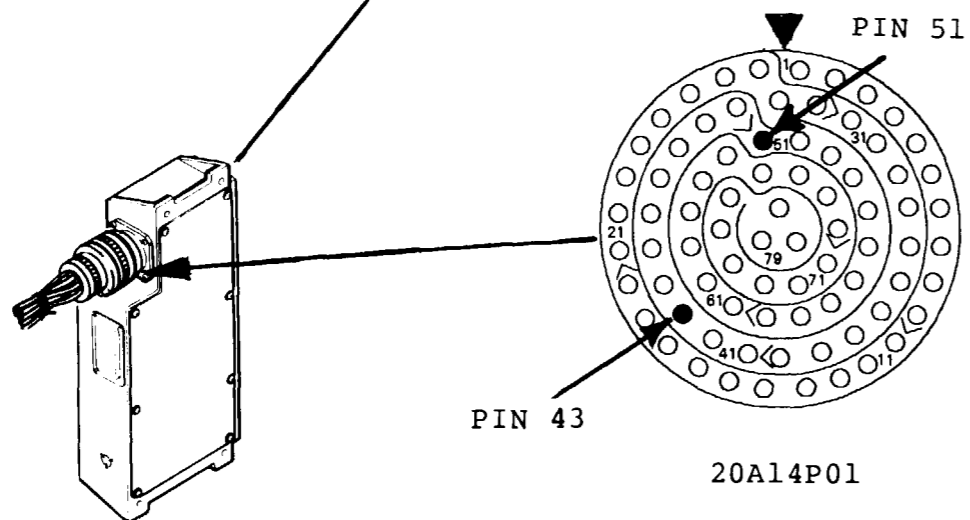
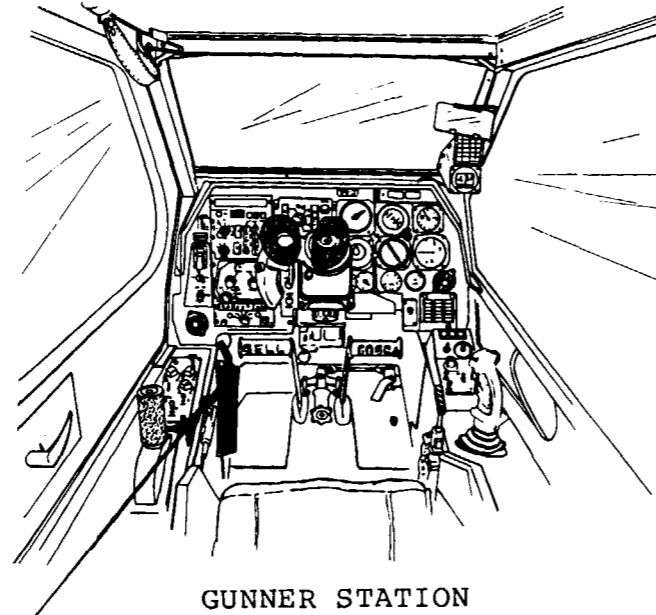
Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

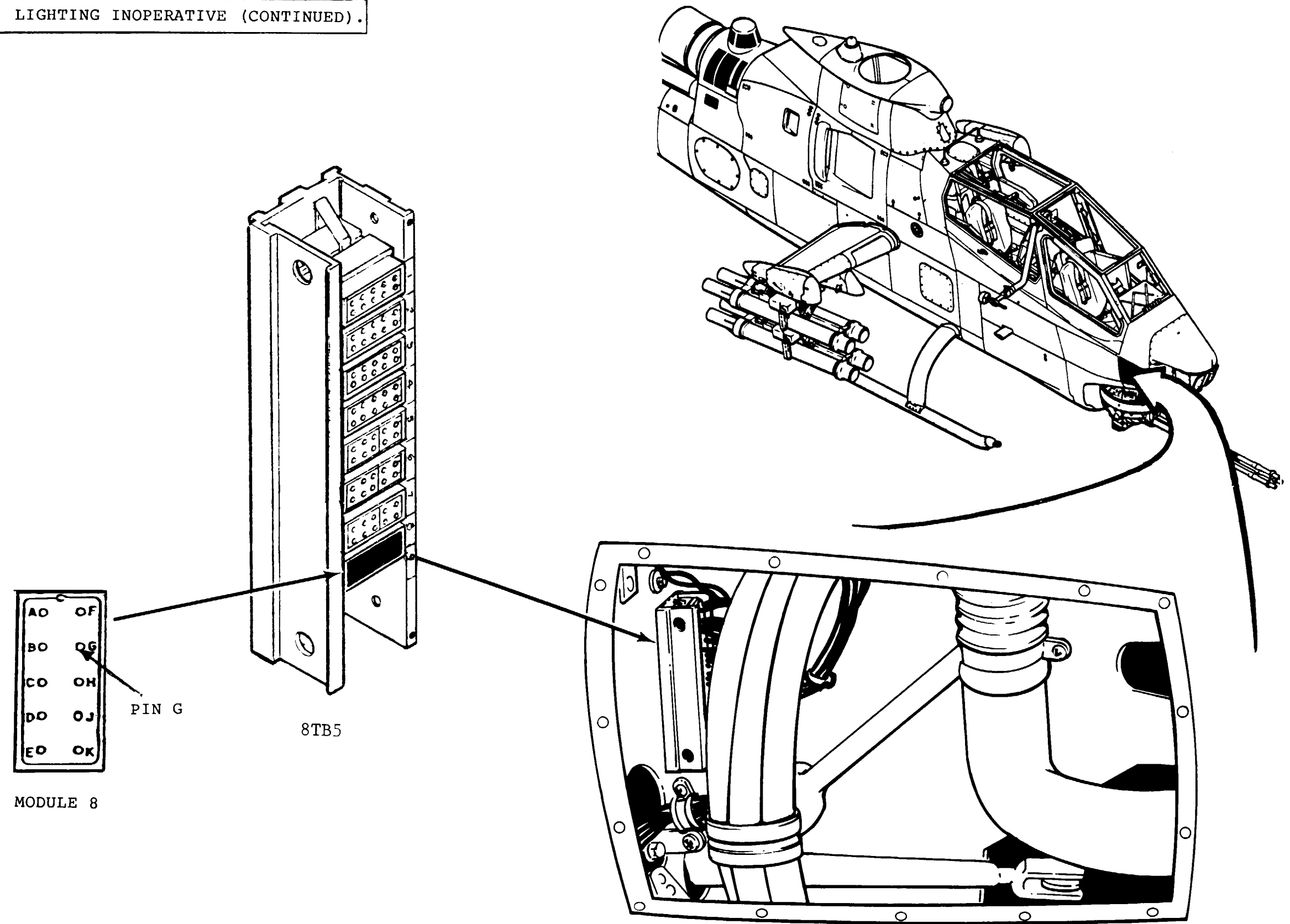
References
TM 9-1425-473-20
TM 55-1520-236-23

Access Panels
Right Forward Radar
Warning Antenna - Removed

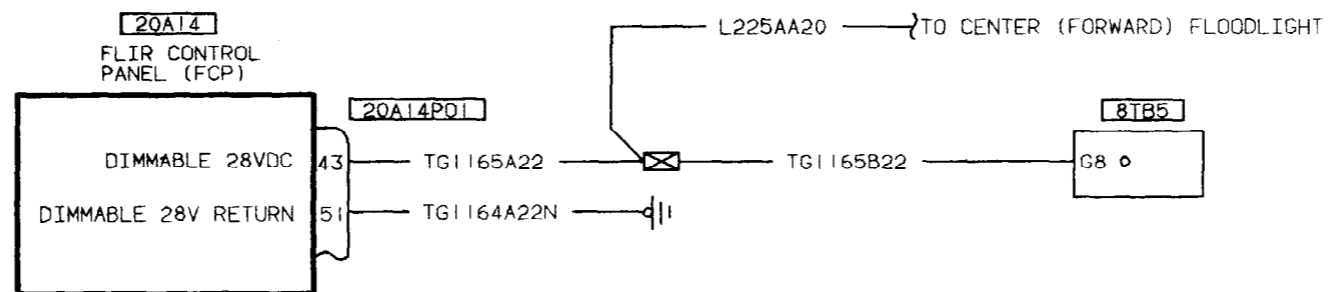
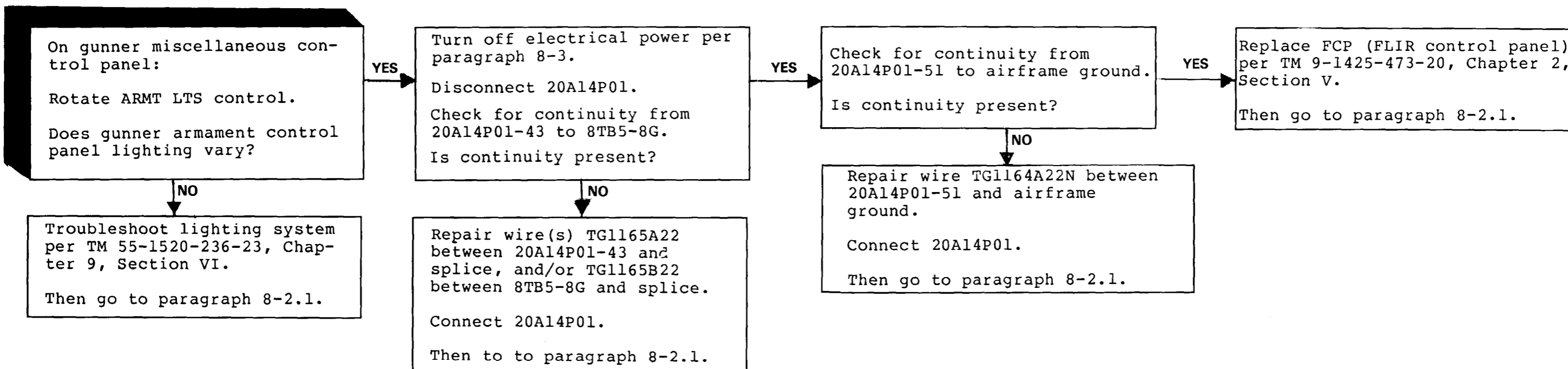


FCP (FLIR CONTROL PANEL)
(REAR VIEW)

8-7.1. FCP (FLIR CONTROL PANEL) LIGHTING INOPERATIVE (CONTINUED).



8-7.1. FCP (FLIR CONTROL PANEL) LIGHTING INOPERATIVE (CONTINUED).



209575-98

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8-8. ARMD NOT INDICATED ON TCP.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

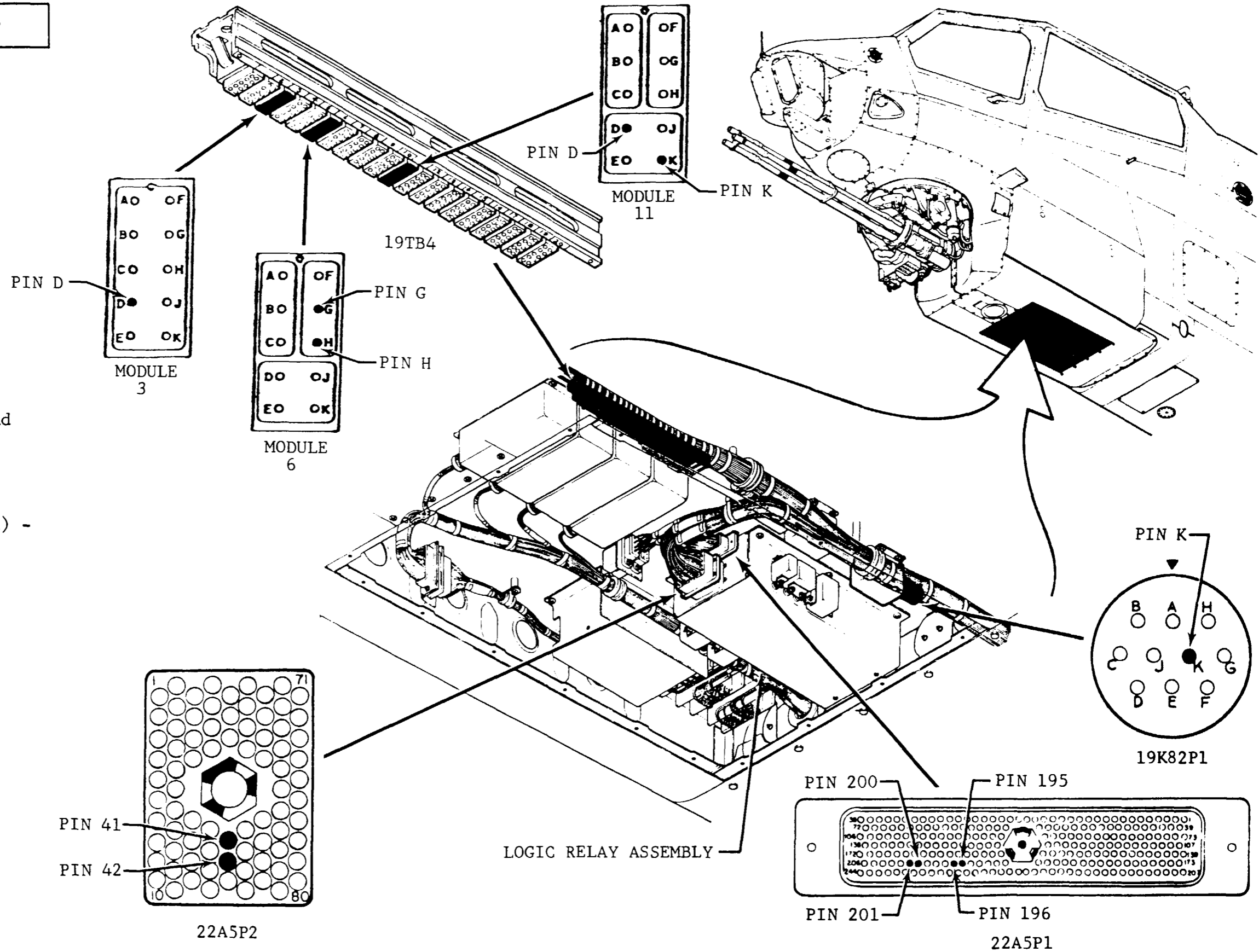
References
TM 9-1090-206-20-1
TM 9-1425-473-20

Access Panels

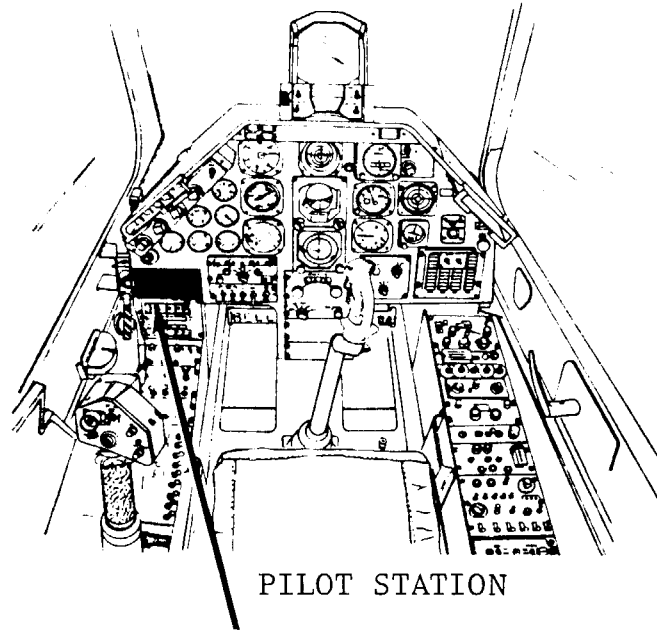
Forward Belly Armament and
Lighting - Removed

Middle Electronics (Tail-
boom) - Removed

Aft Electronics (Tailboom) -
Removed

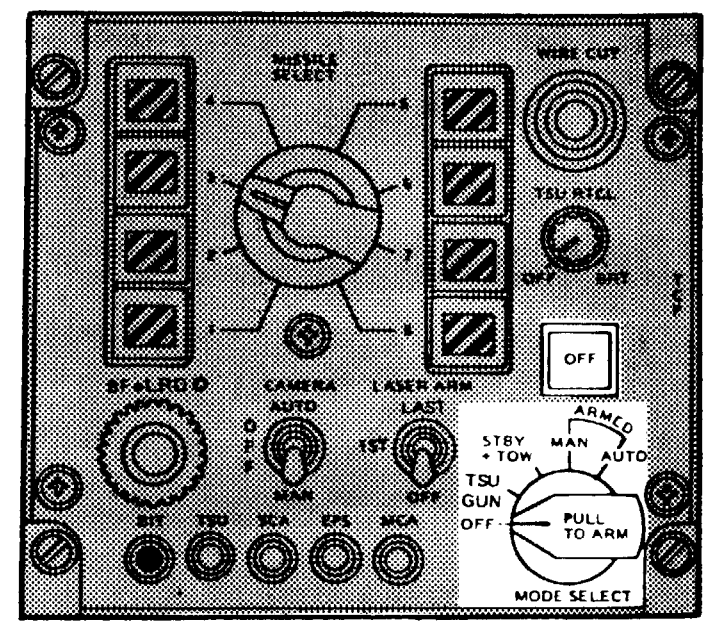
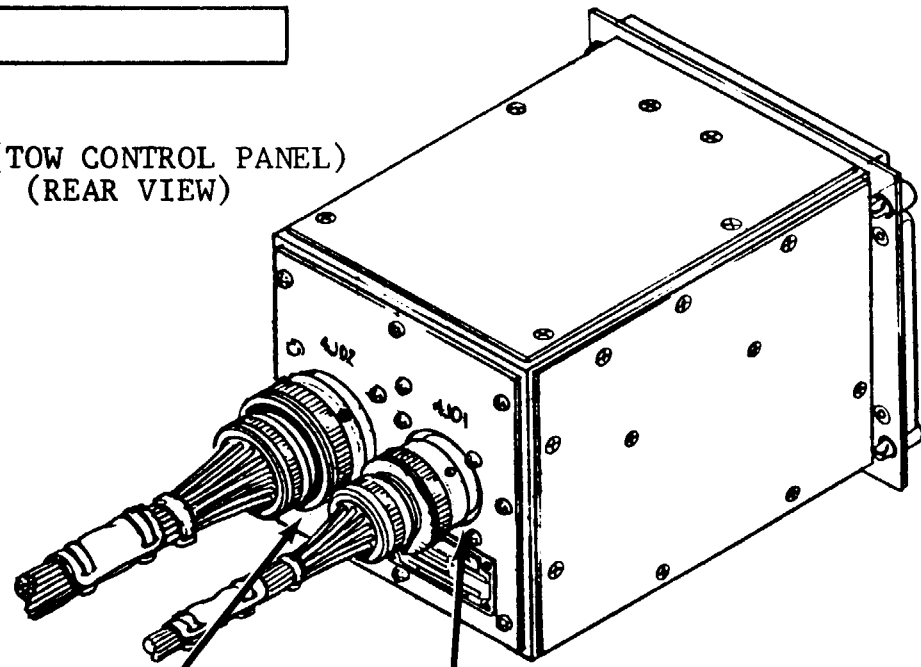


8-8. ARMD NOT INDICATED ON TCP (CONTINUED).

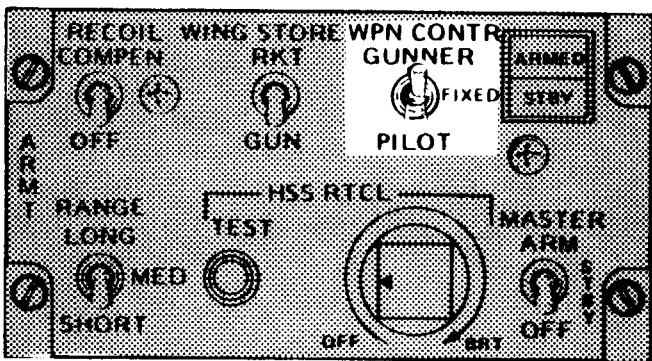


PILOT STATION

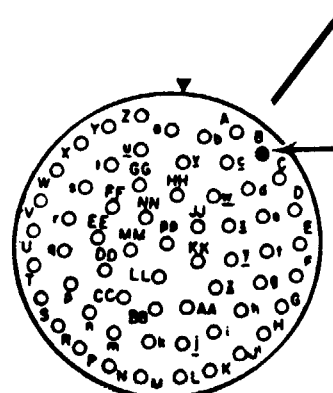
TCP (TOW CONTROL PANEL)
(REAR VIEW)



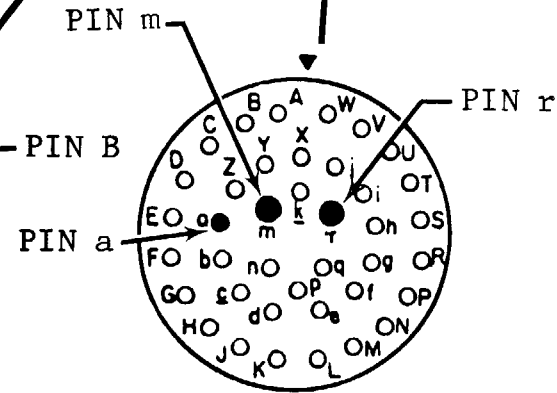
TCP (TOW CONTROL PANEL)



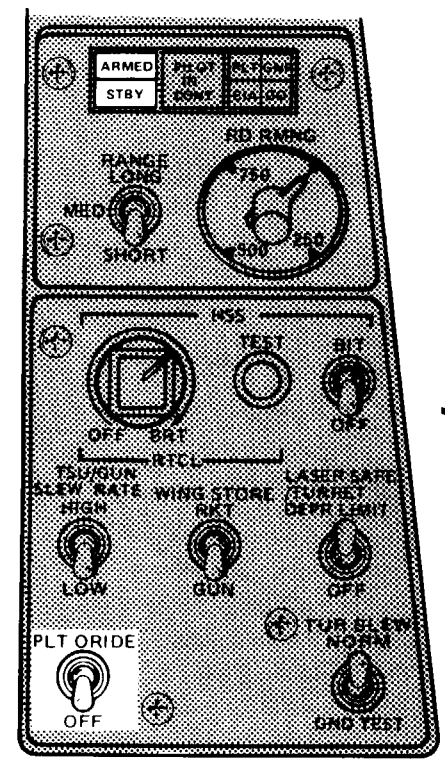
PILOT ARMAMENT CONTROL PANEL



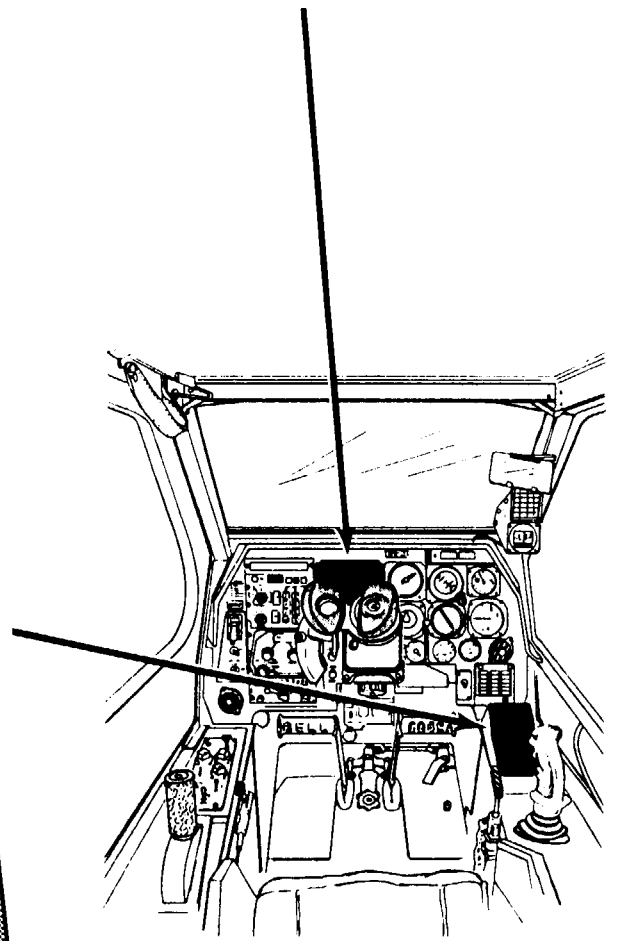
20A4P02



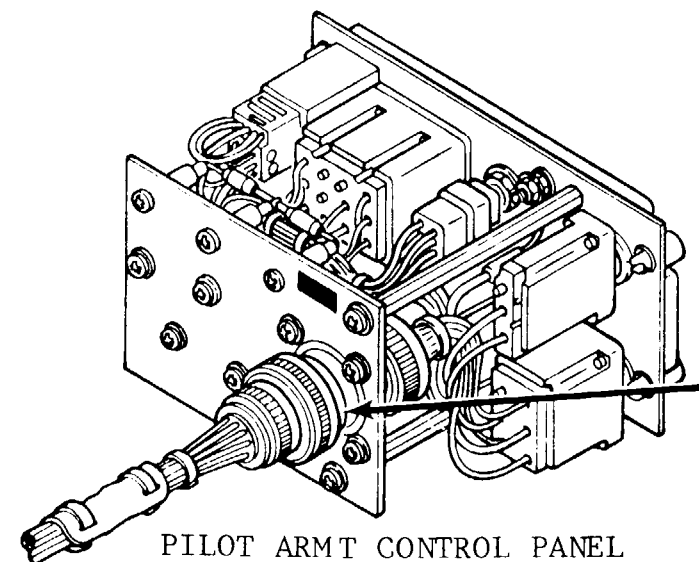
20A4P01



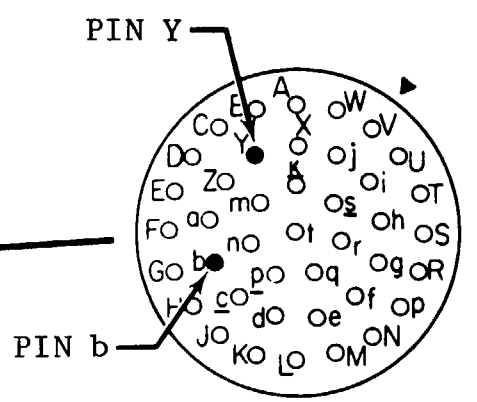
GUNNER ARMAMENT CONTROL PANEL



GUNNER STATION

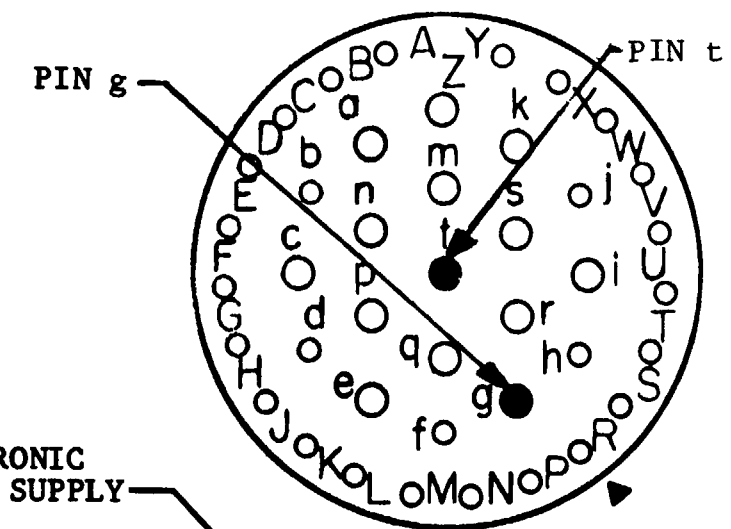
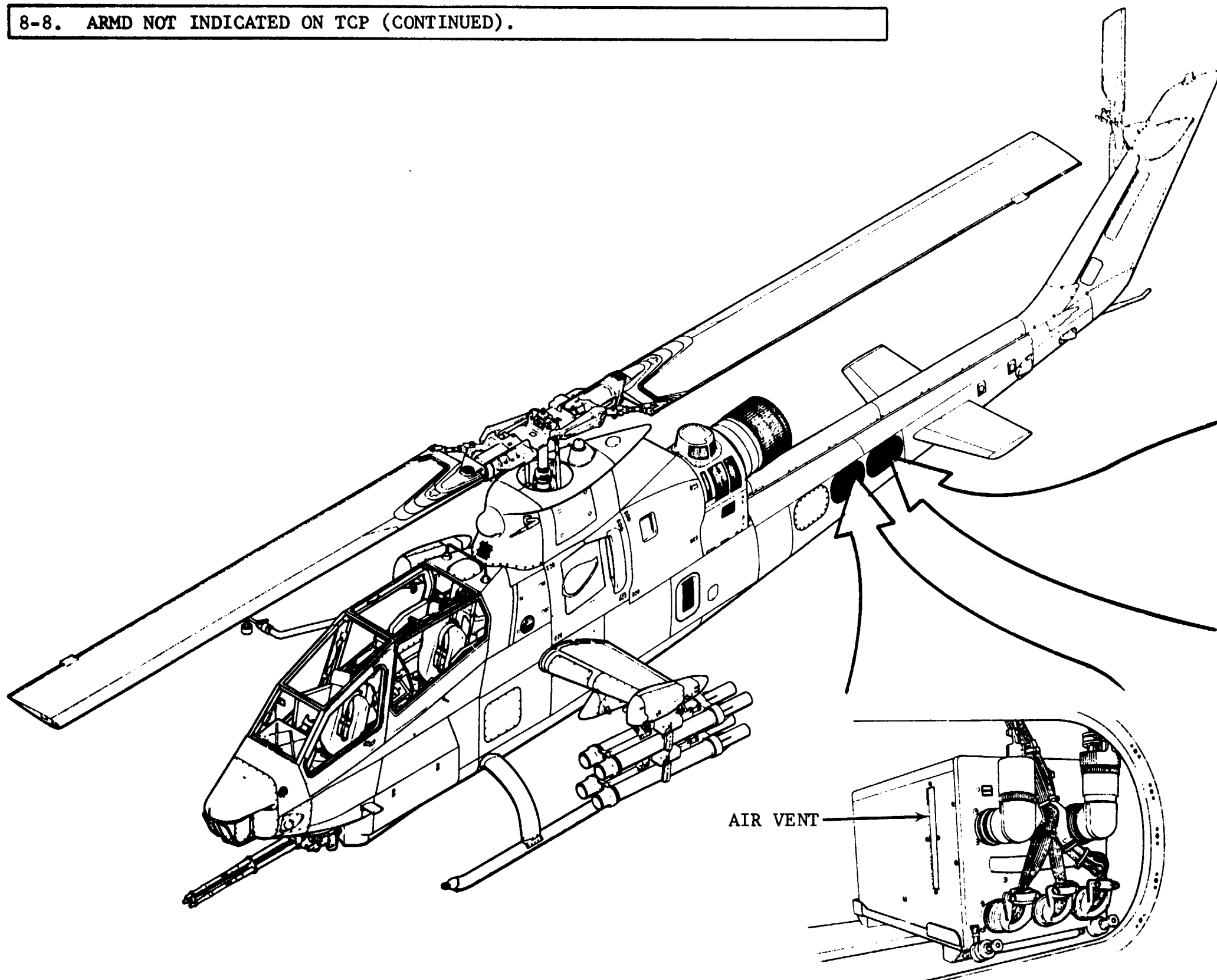


PILOT ARMAMENT CONTROL PANEL
(REAR VIEW)



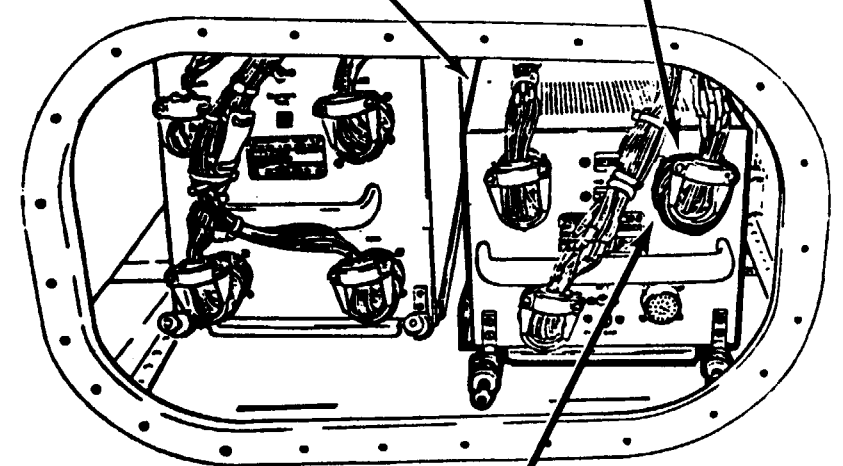
22A2P1

8-8. ARMD NOT INDICATED ON TCP (CONTINUED).

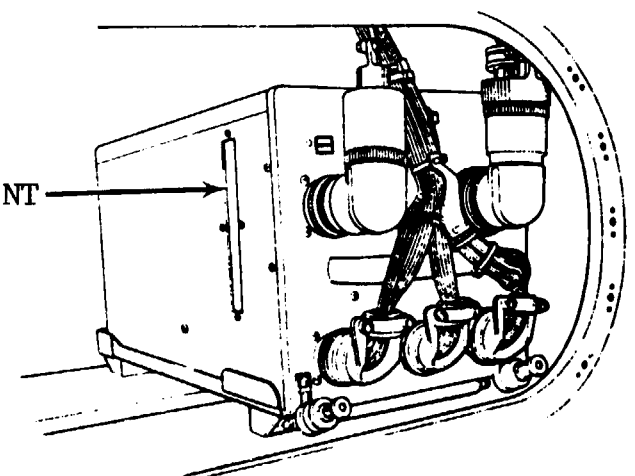


ELECTRONIC POWER SUPPLY (EPS)

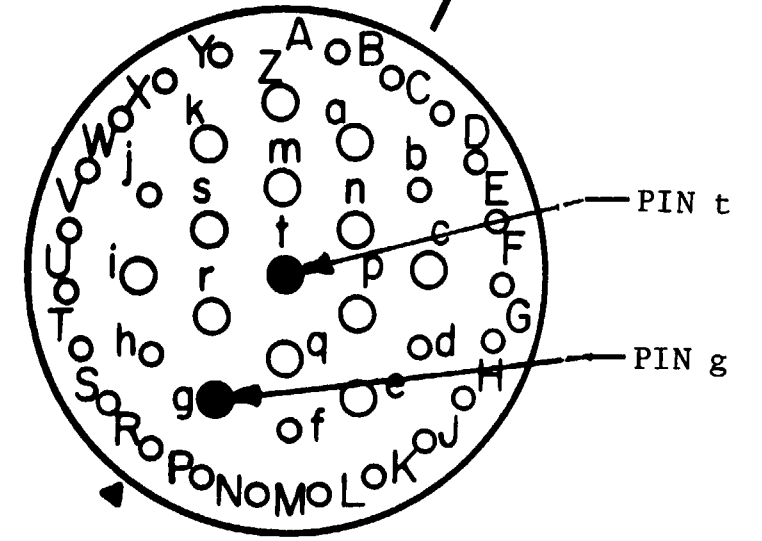
20A7J03



AIR VENT

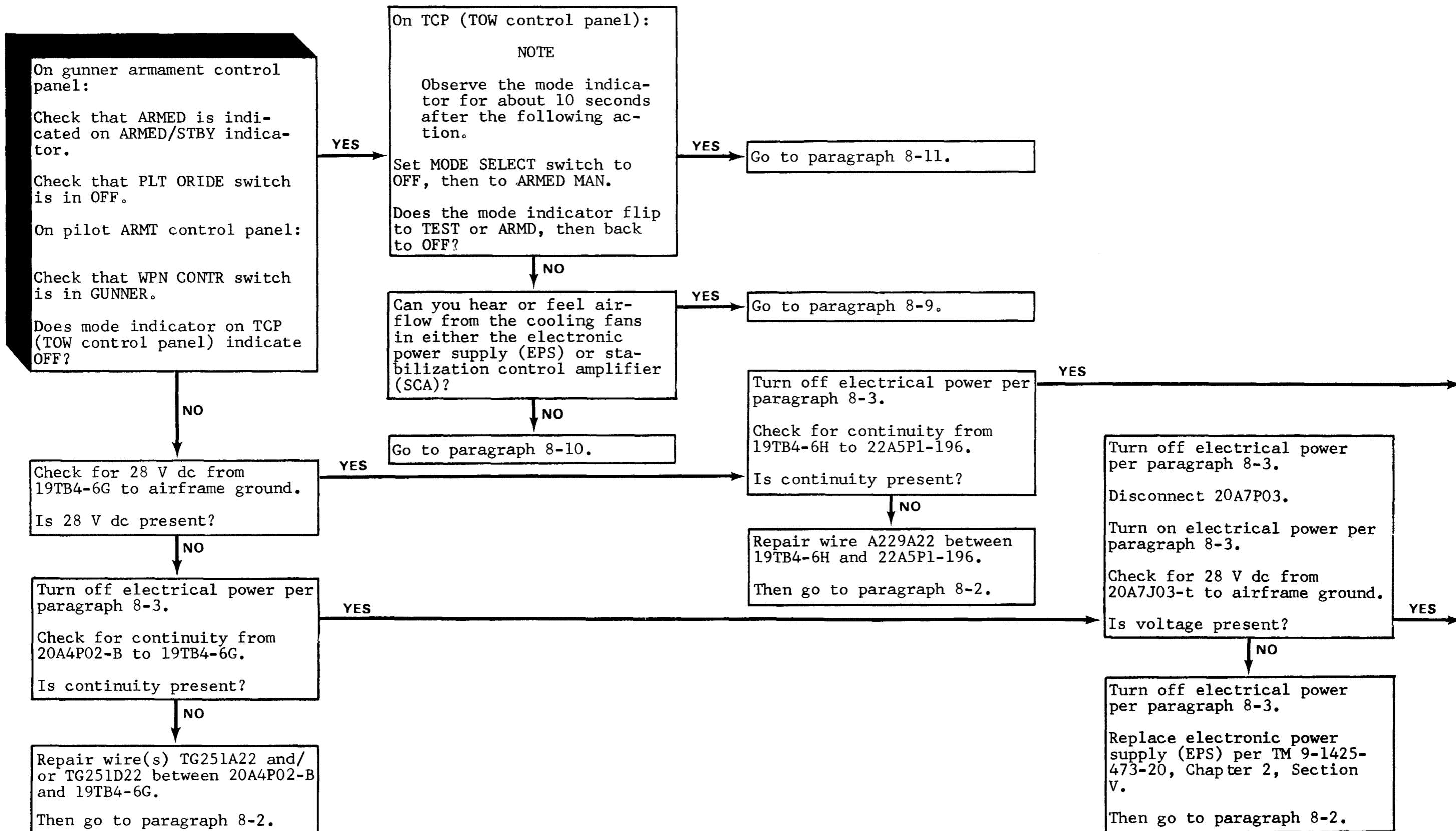


STABILIZATION CONTROL AMPLIFIER (SCA)

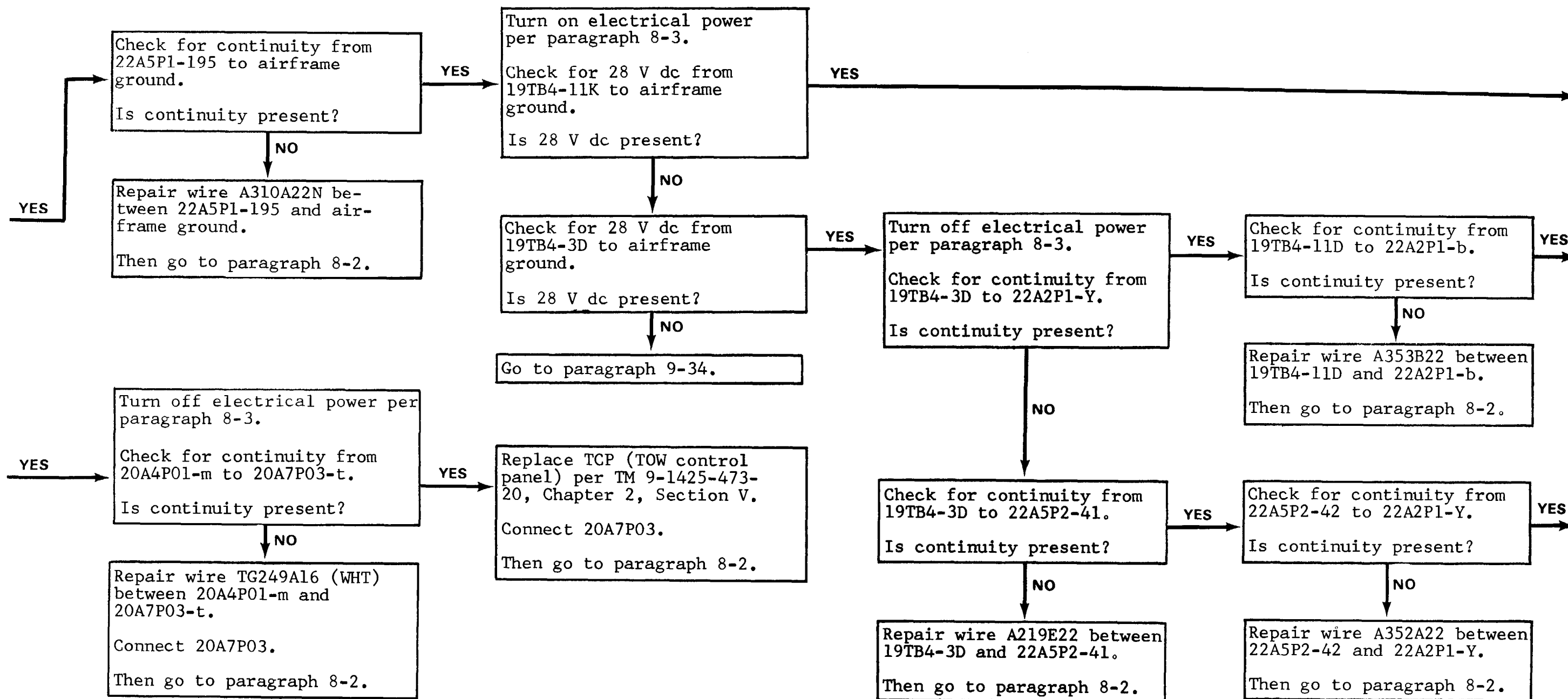


20A7P03

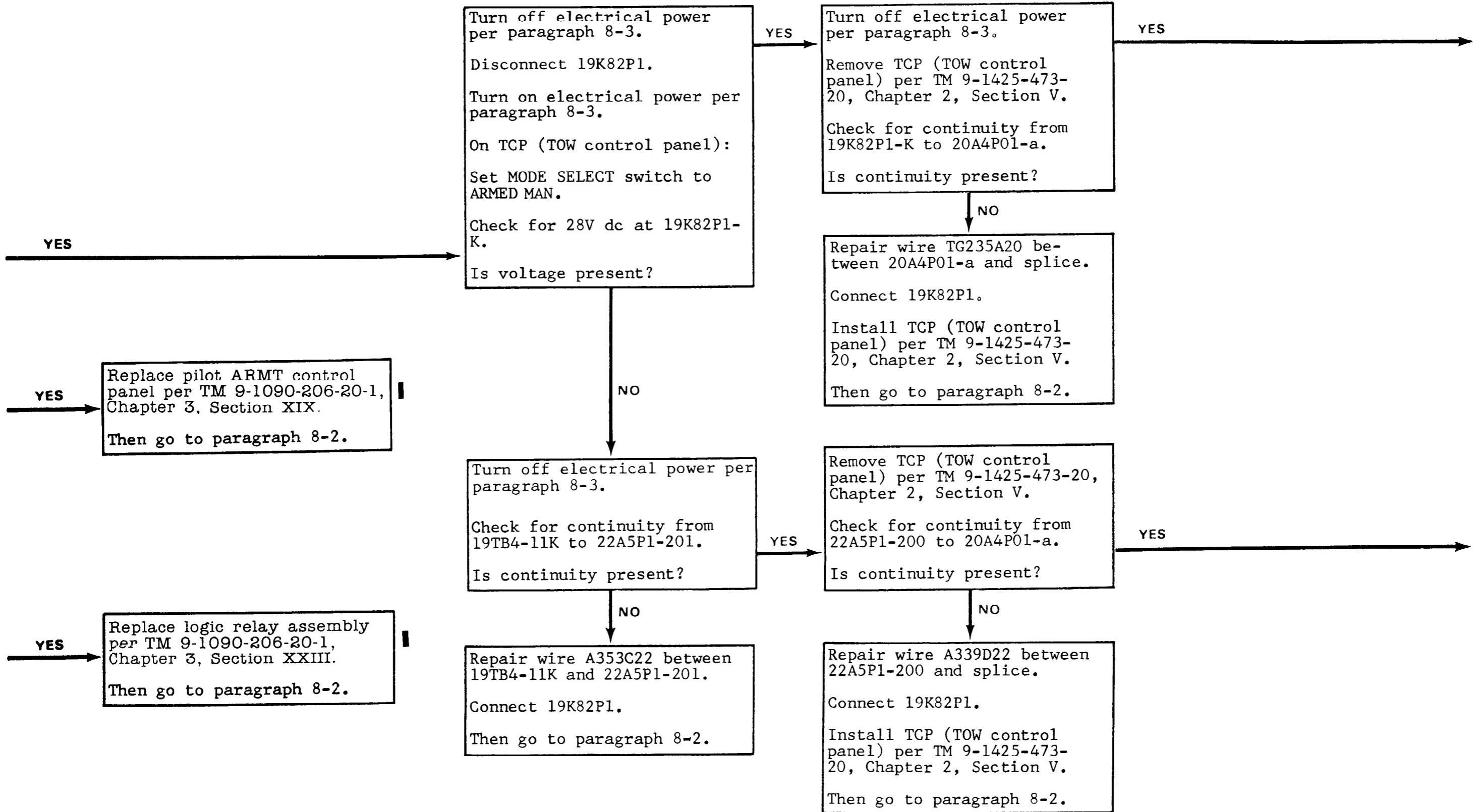
8-8. ARMD NOT INDICATED ON TCP (CONTINUED).



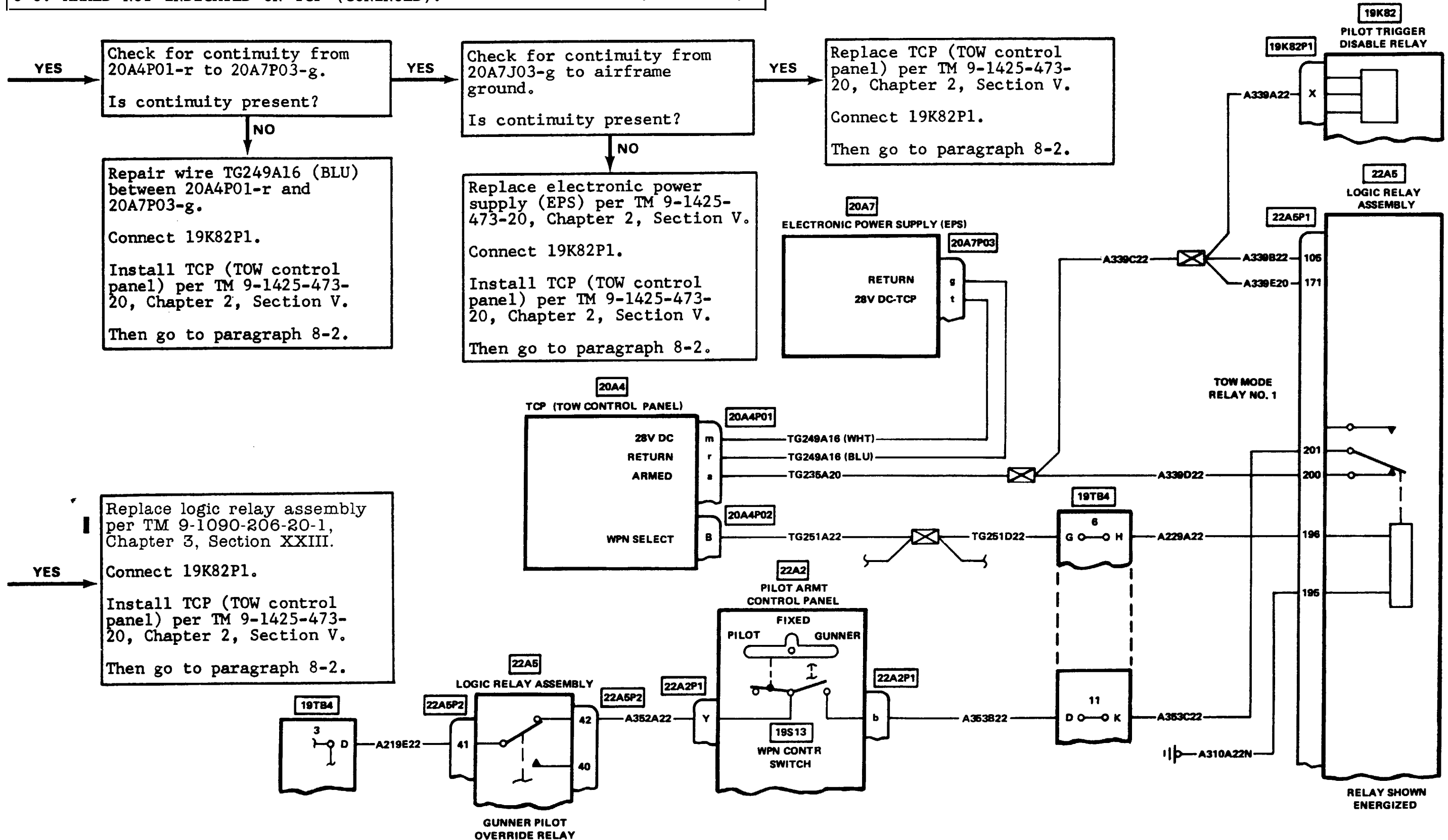
8-8. ARMD NOT INDICATED ON TCP (CONTINUED).



8-8. ARMD NOT INDICATED ON TCP (CONTINUED).



8-8. ARMED NOT INDICATED ON TCP (CONINUED). TOW ARMD (CONTINUED).



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8-9. TEST NOT INDICATED ON TCP.

INITIAL SETUP

Applicable Configuration

AH-1S MC

Tools/Test and Support Equipment

Multimeter

Tool Set, A/C Armament Repairman

Personnel Required

68J (2)

References

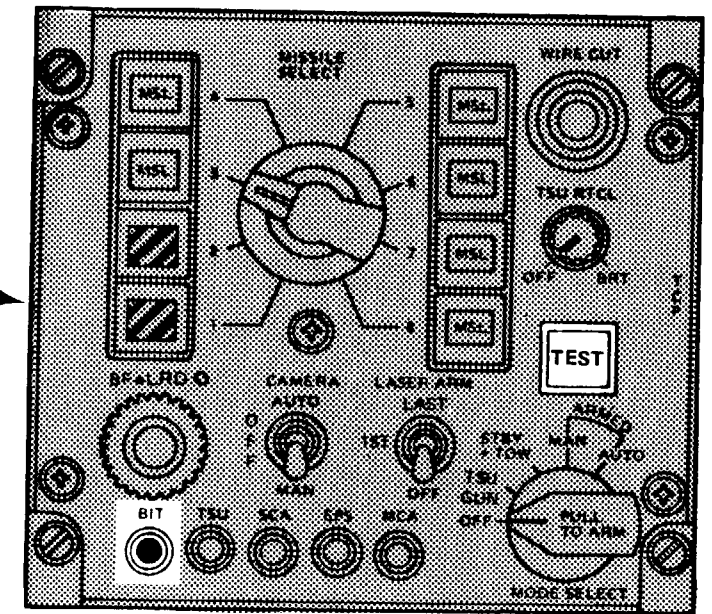
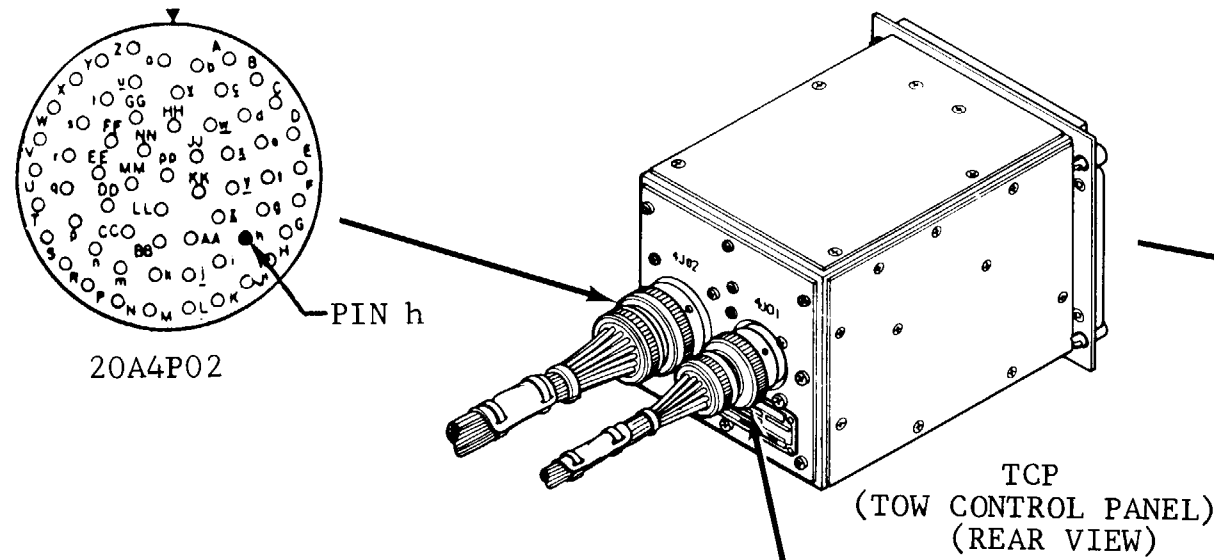
TM 9-1425-473-20

Access Panels

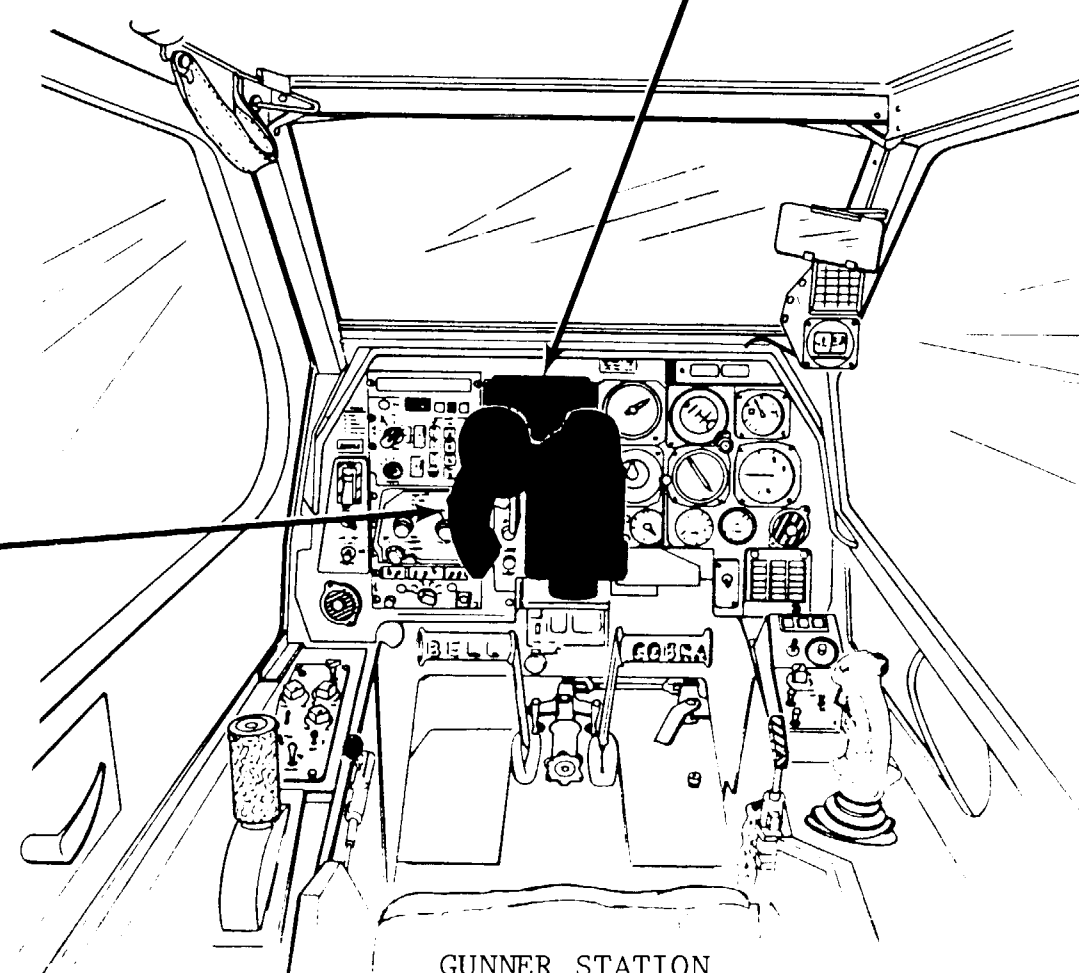
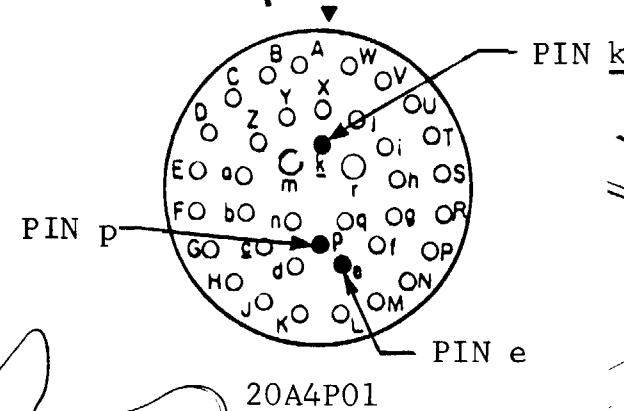
Forward Belly Armament and Lighting - Removed

Aft Electronics (Tailboom) - Removed

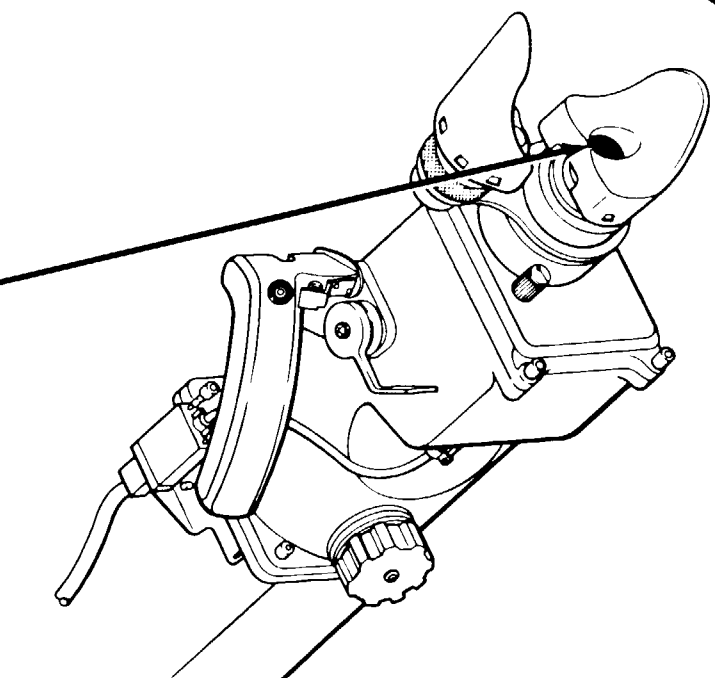
Middle Electronics (Tailboom) - Removed



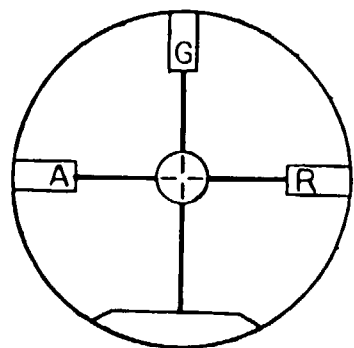
TCP (TOW CONTROL PANEL)



GUNNER STATION

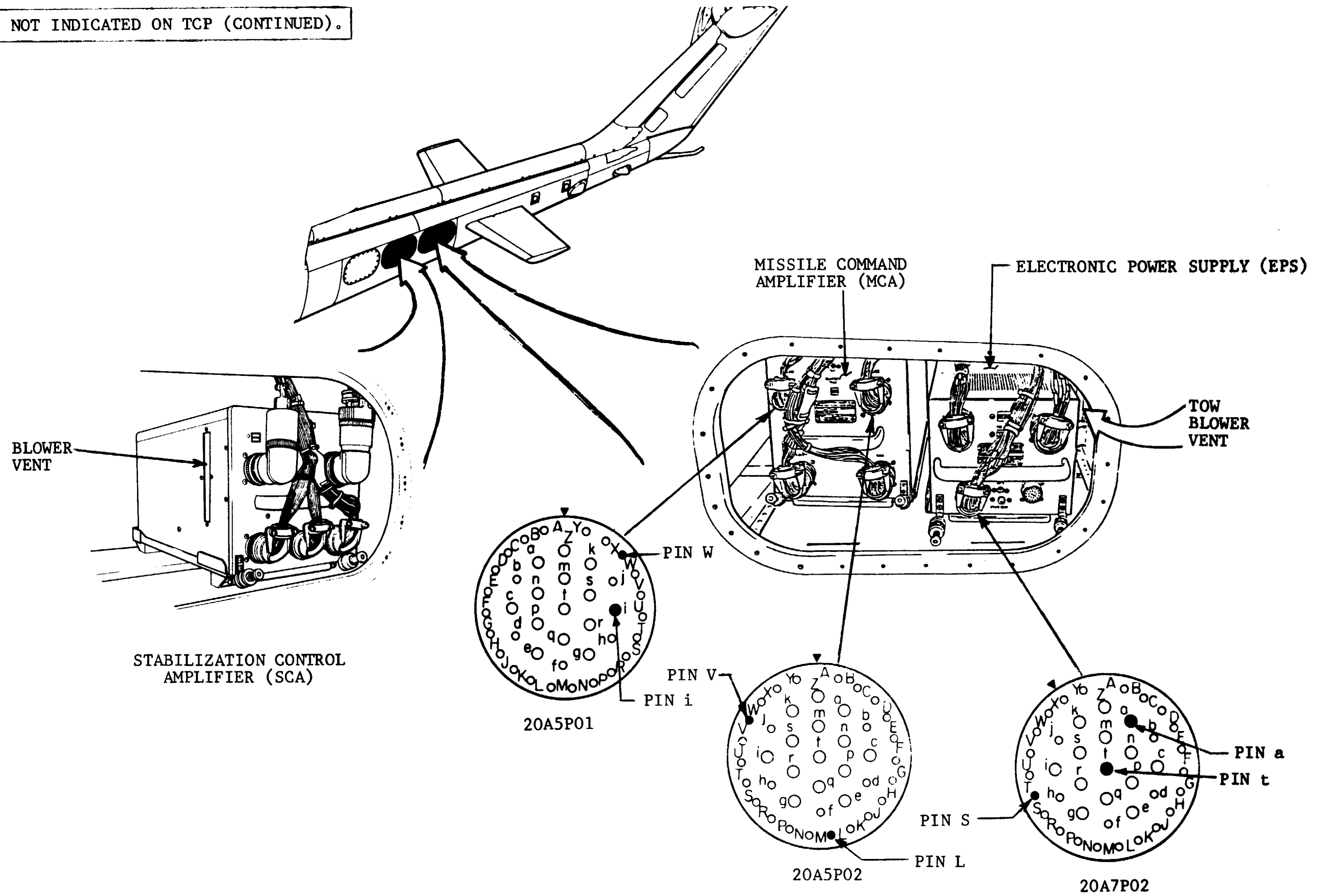


TELESCOPIC SIGHT UNIT (TSU) EYEPIECE

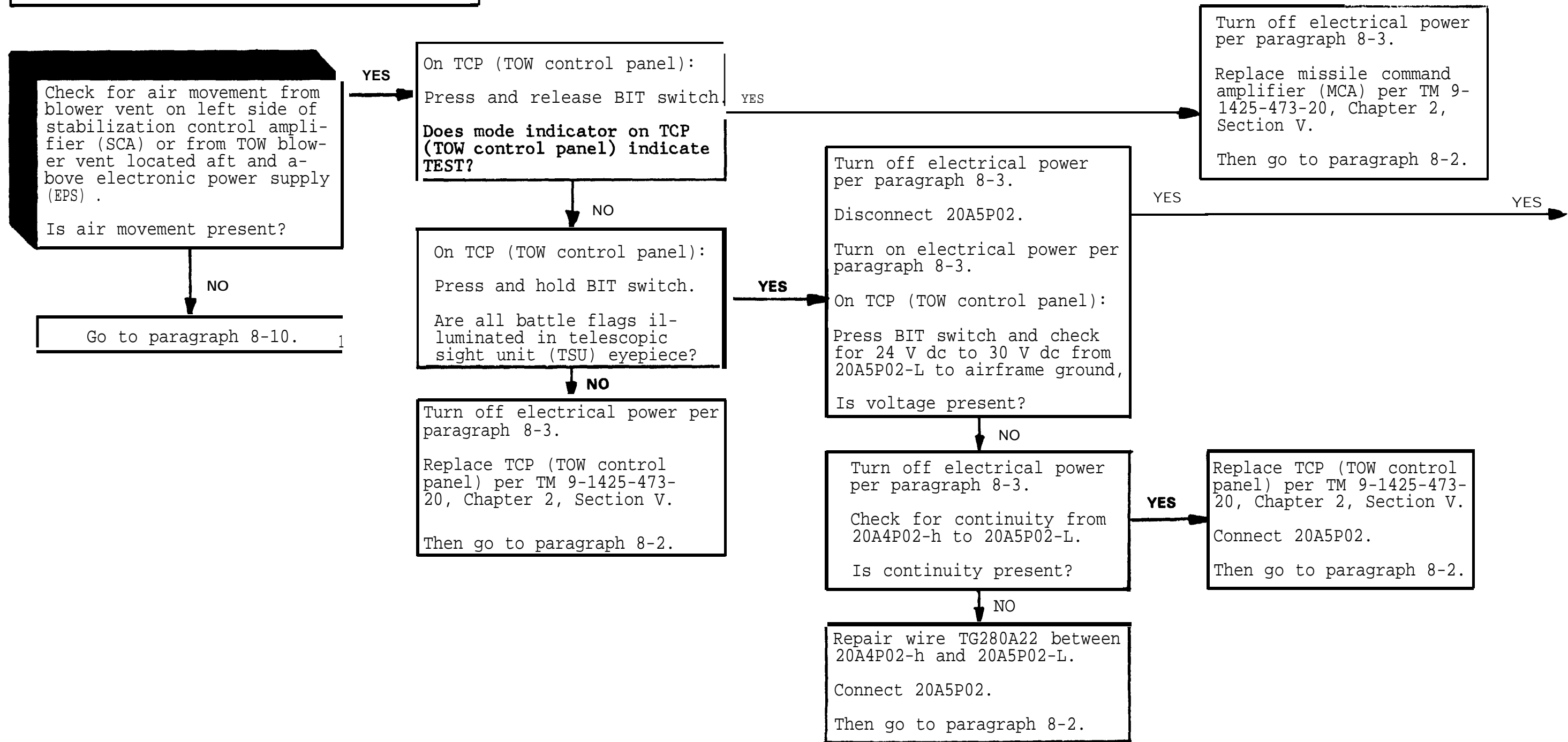


TSU EYEPIECE

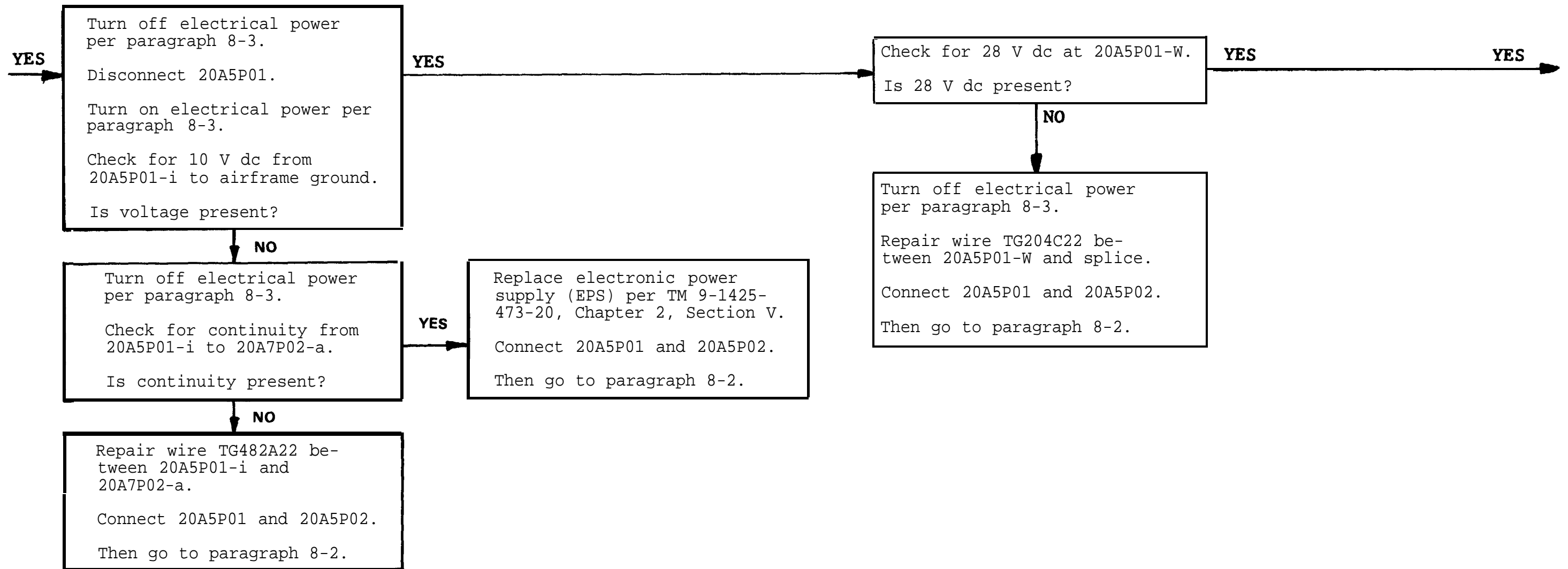
8-9. TEST NOT INDICATED ON TCP (CONTINUED).



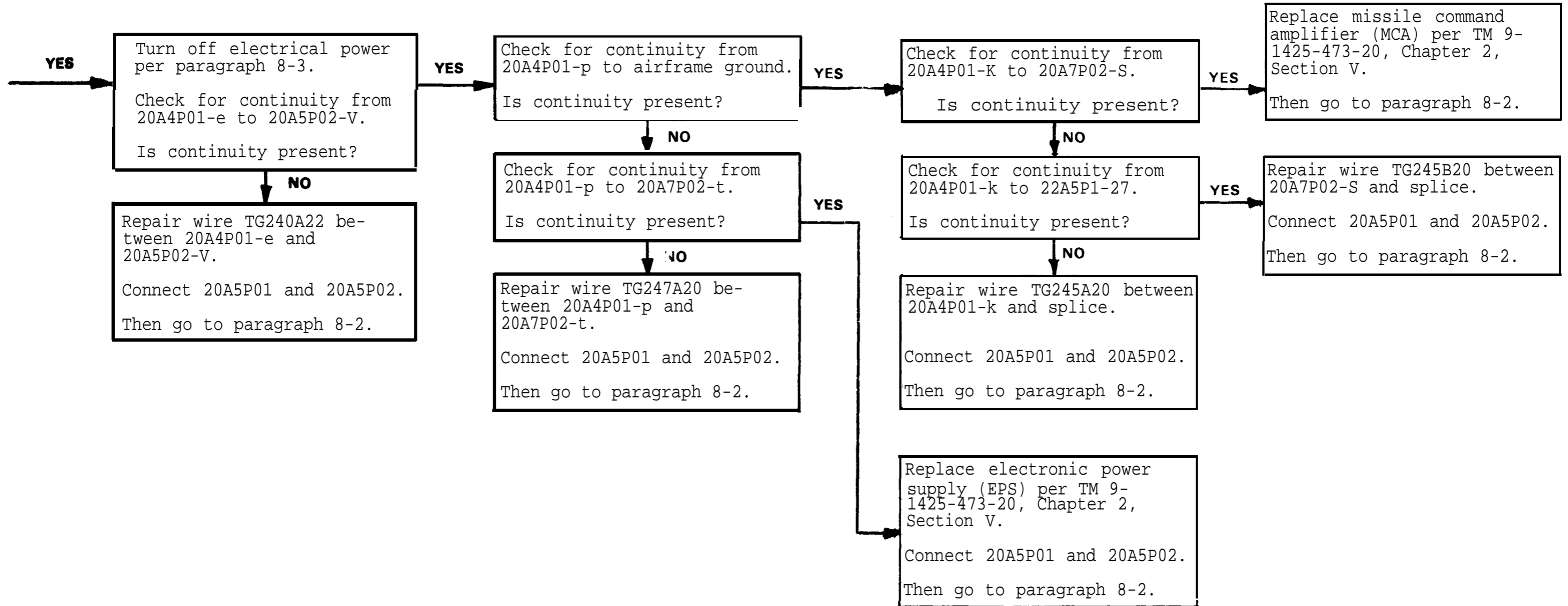
8-9. TEST NOT INDICATED ON TCP (CONTINUED).



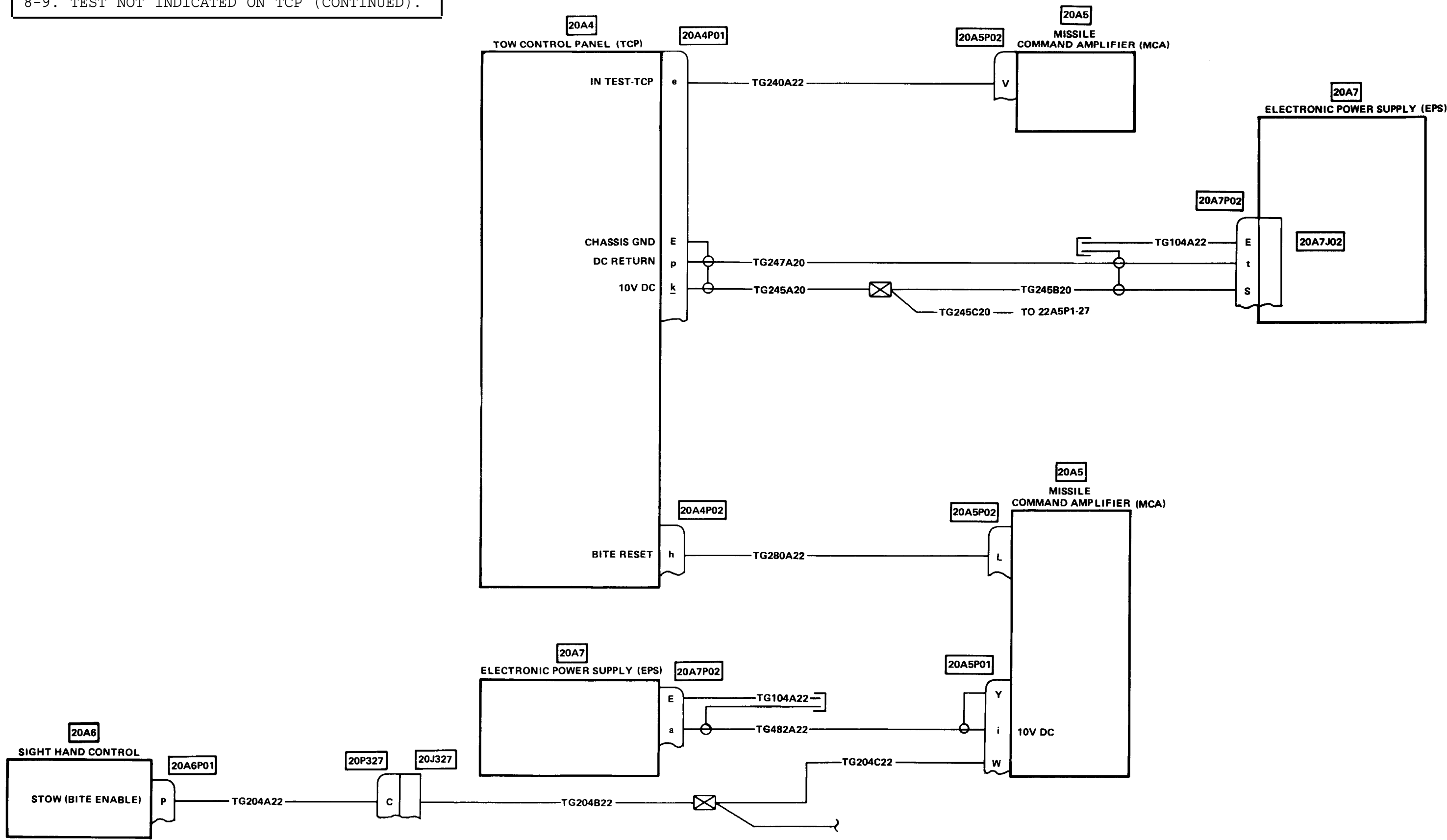
8-9. TEST NOT INDICATED ON TCP (CONTINUED).



8-9. TEST NOT INDICATED ON TCP (CONTINUED).



8-9. TEST NOT INDICATED ON TCP (CONTINUED).



8-9.1. TEST NOT INDICATED ON TCP.

INITIAL SETUP

Applicable Configuration
AH-1S **MCN**

Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

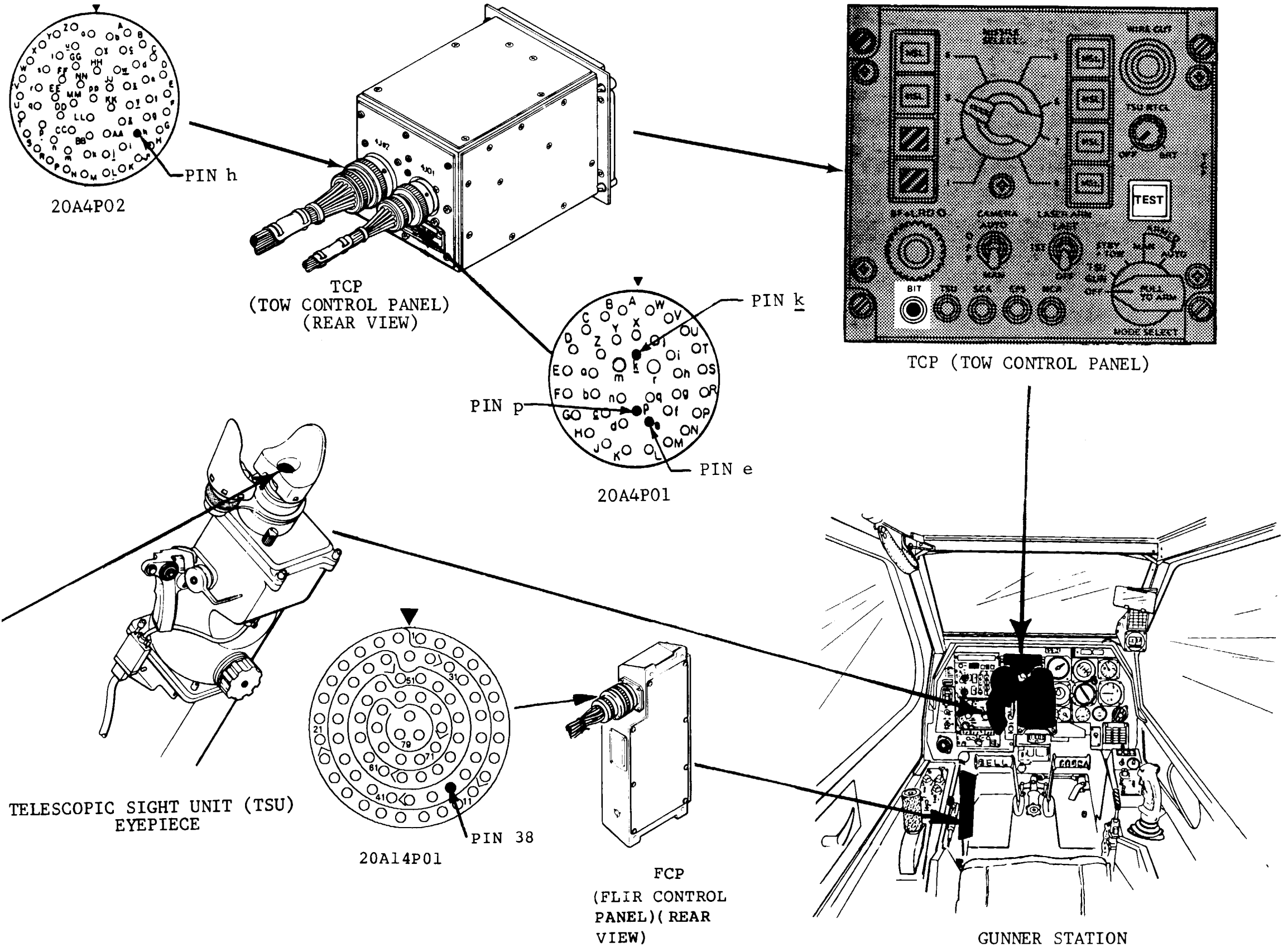
References
TM 9-1425-473-20

Access Panels

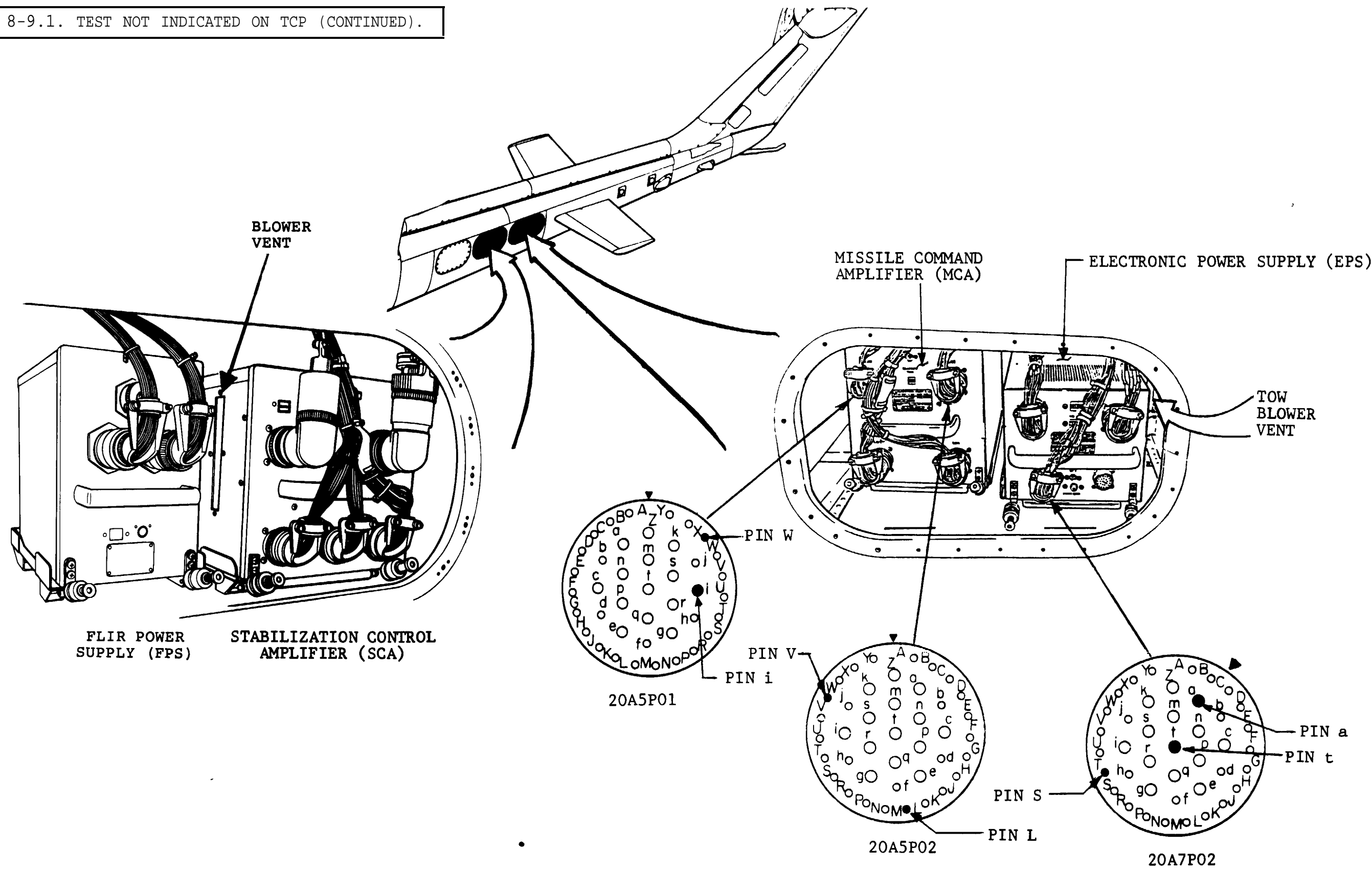
Forward Belly Armament
and Lighting - Removed

Aft Electronics (Tailboom) -
Removed

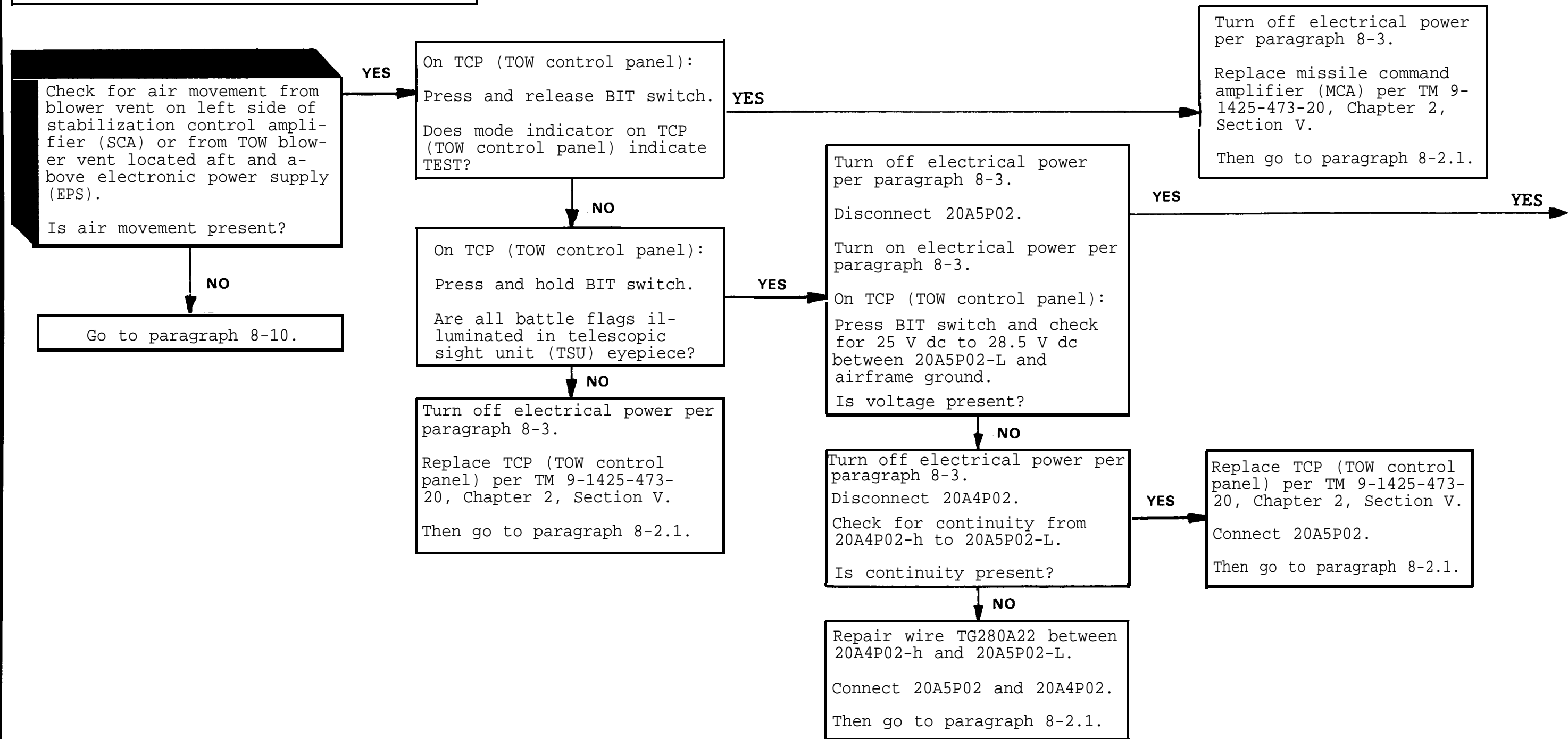
Middle Electronics (Tail-
boom) - Removed



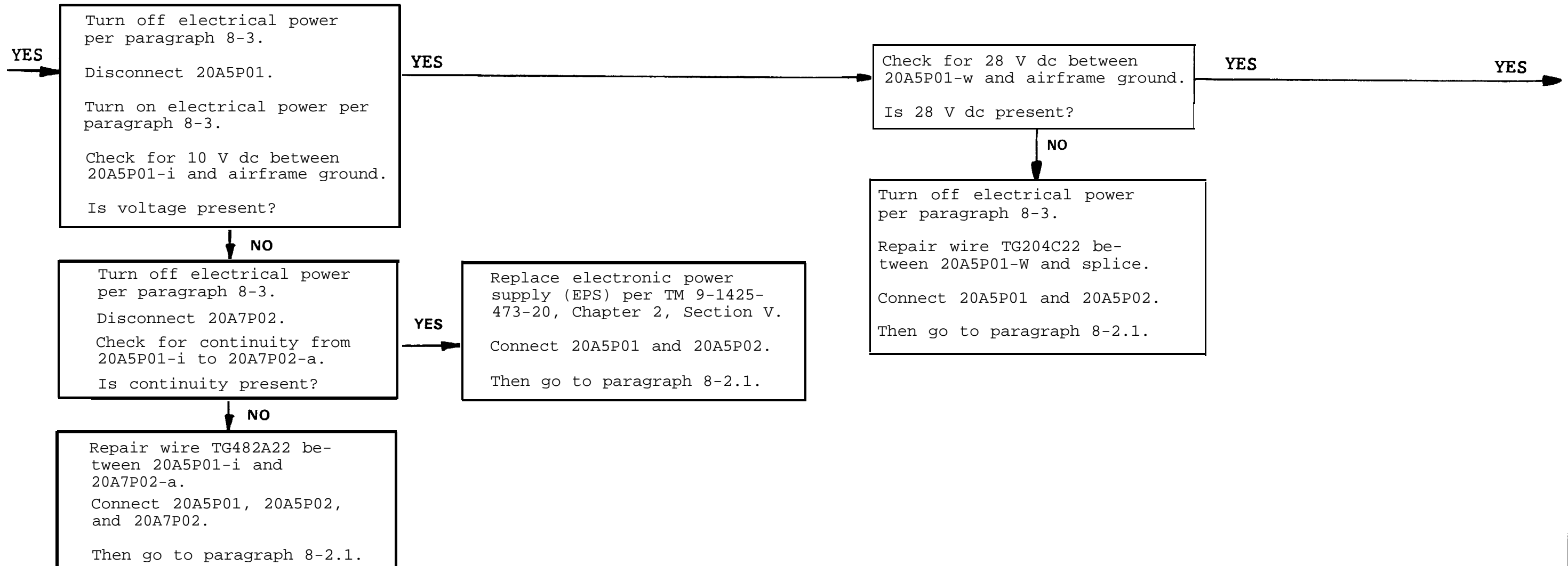
8-9.1. TEST NOT INDICATED ON TCP (CONTINUED).



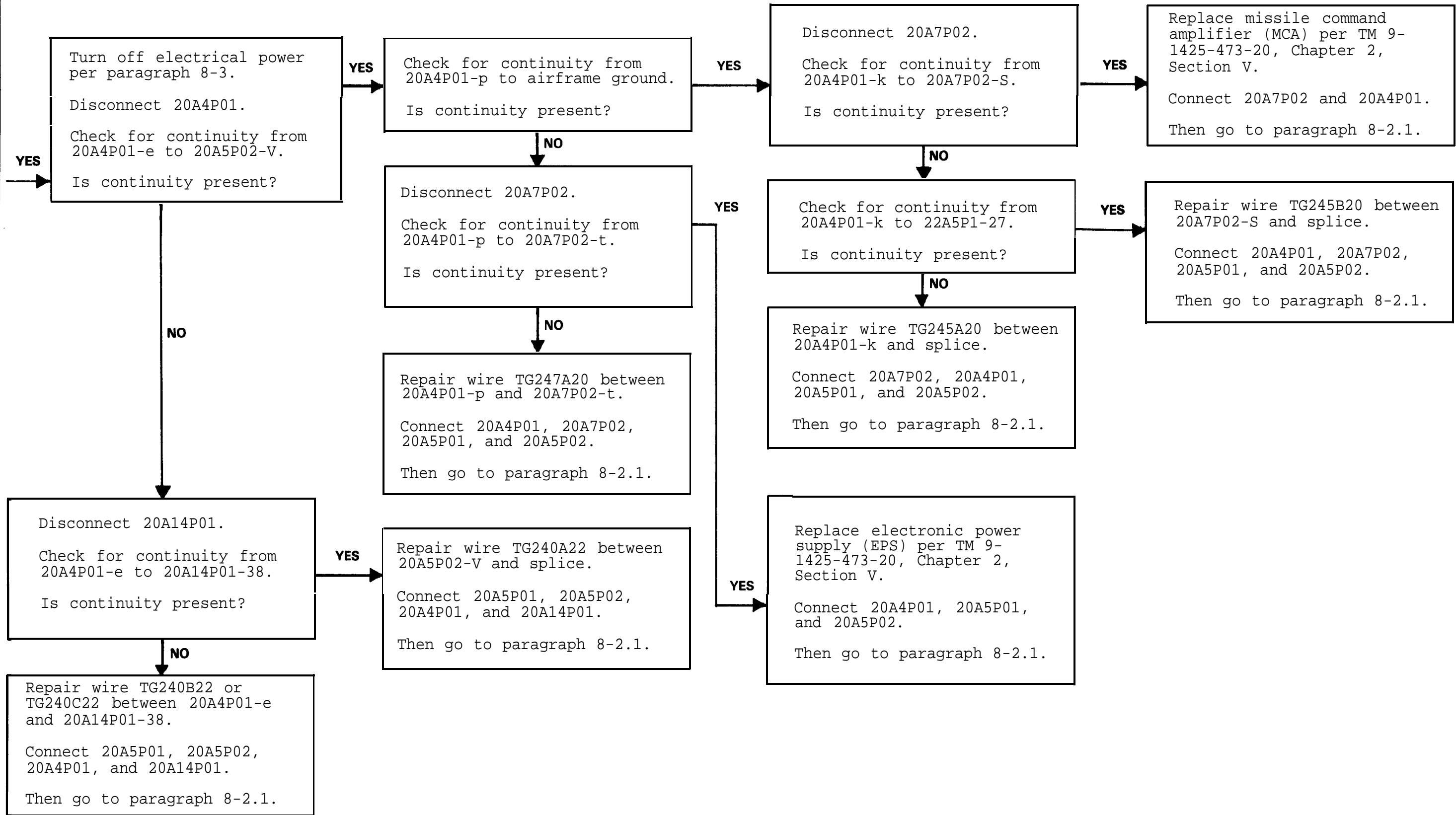
8-9.1. TEST NOT INDICATED ON TCP (CONTINUED).



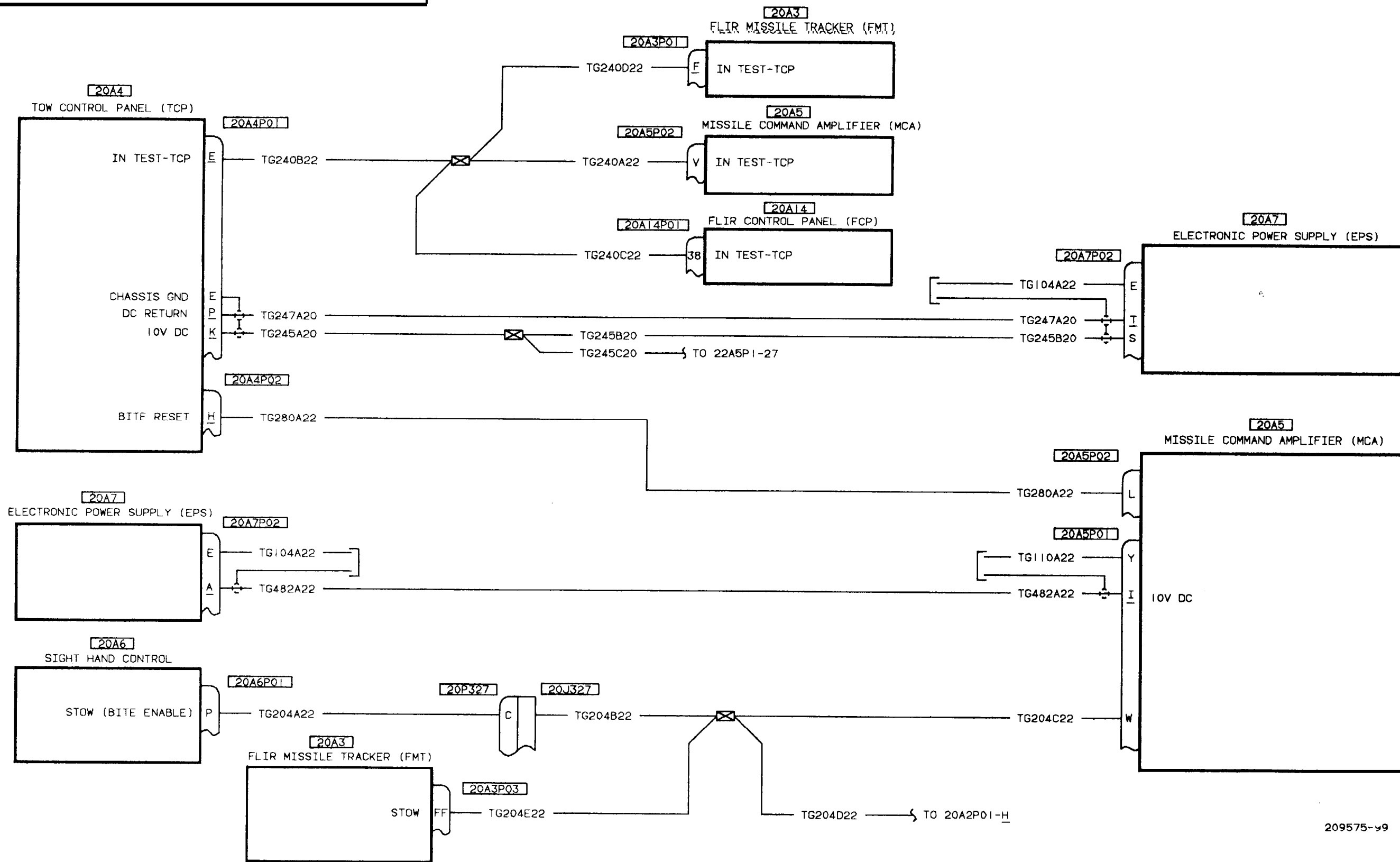
8-9.1. TEST NOT INDICATED ON TCP (CONTINUED).



8-9.1. TEST NOT INDICATED ON TCP (CONTINUED).



8-9.1. TEST NOT INDICATED ON TCP (CONTINUED).



209575-99

8-10. PWR ON NOT INDICATED ON TCP.

INITIAL SETUP

Applicable Configuration
AH-1F MCN

Tools/Test and Support
Equipment
 Multimeter

Tool Set, A/C Armament
 Repairman

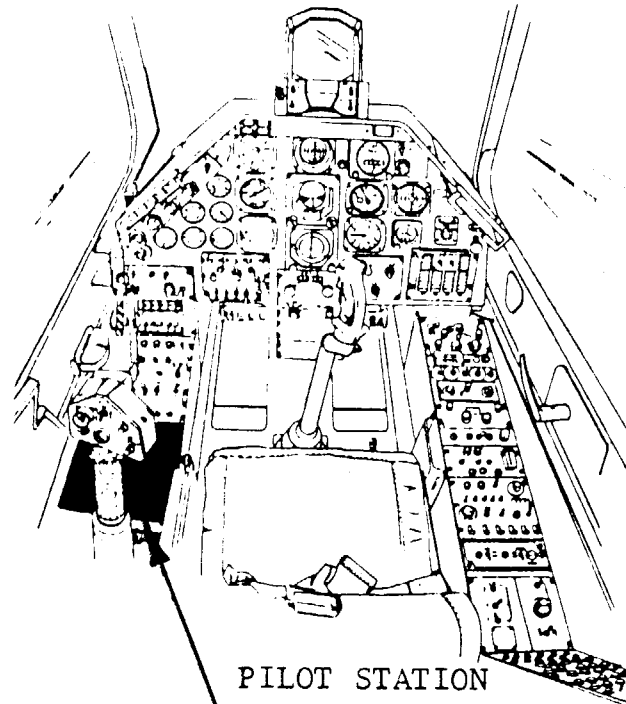
Personnel Required
 68J (2)

References

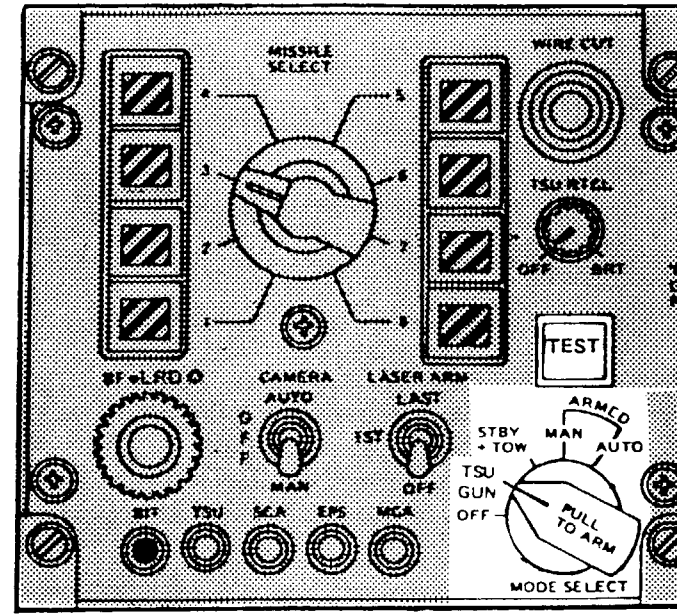
- TM 9-1090-206-20 -1
- TM 9-1425-473-20
- TM 55-1520-236-23

Access Panels

- Battery Compartment - Removed
- Forward Belly Armament and Lighting - Removed
- Left Ammo Compartment Door - Open
- Aft Electronics (Tailboom) - Removed
- Middle Electronics (Tailboom) - Removed
- Left Side Control Linkage - Removed

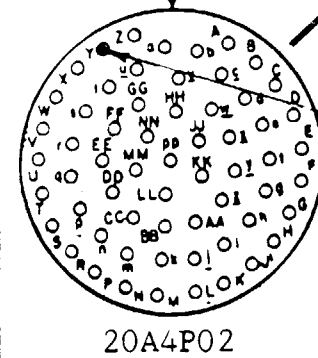
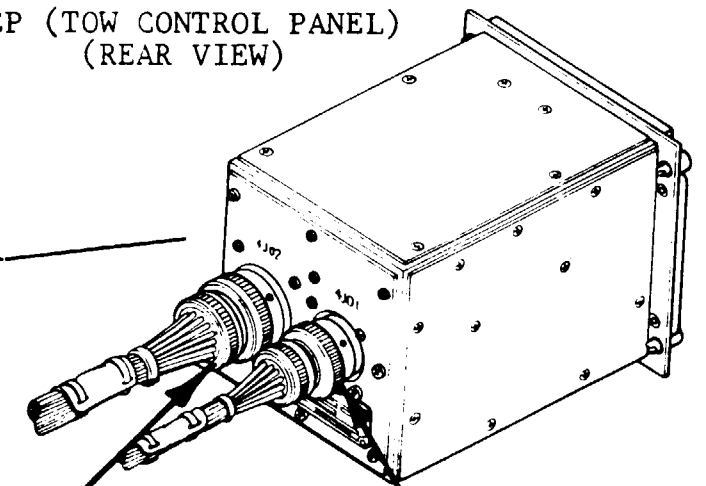


PILOT STATION

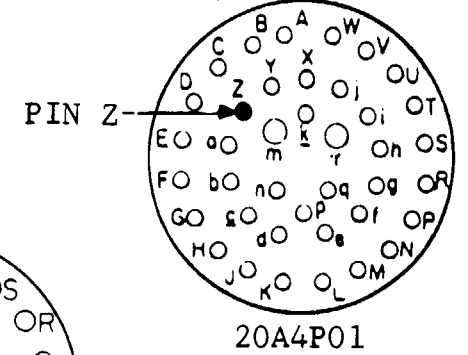


TCP (TOW CONTROL PANEL)

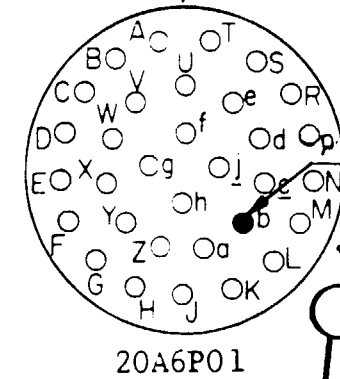
TCP (TOW CONTROL PANEL)
 (REAR VIEW)



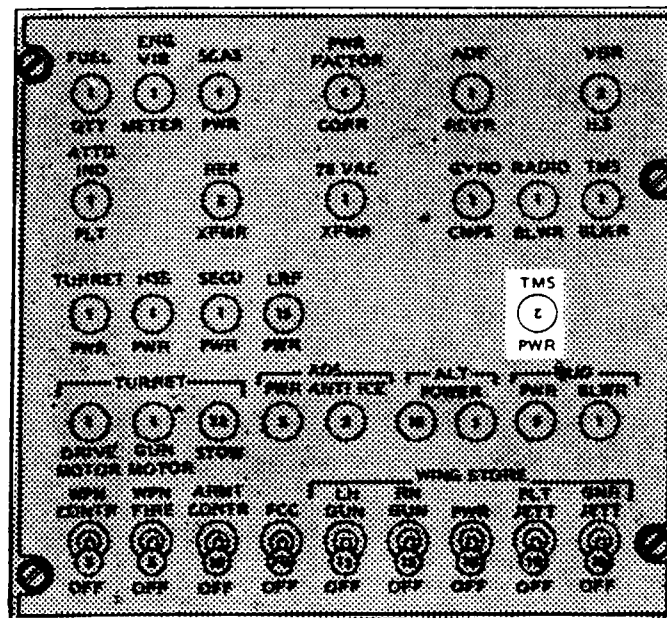
20A4P02



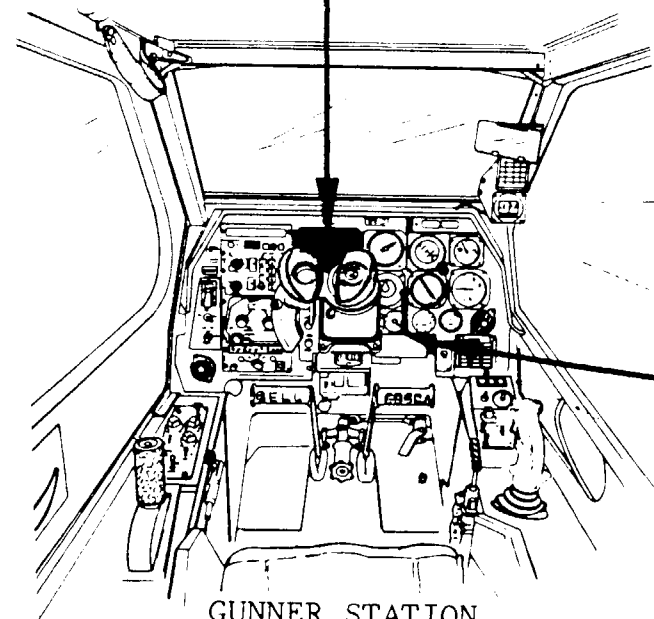
20A4P01



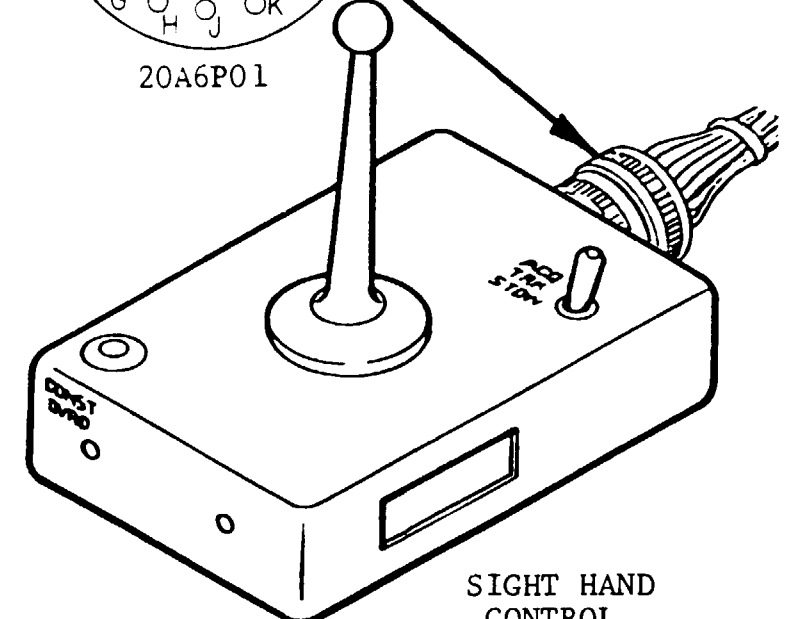
20A6P01



AC/ARMY CIRCUIT BREAKER PANEL

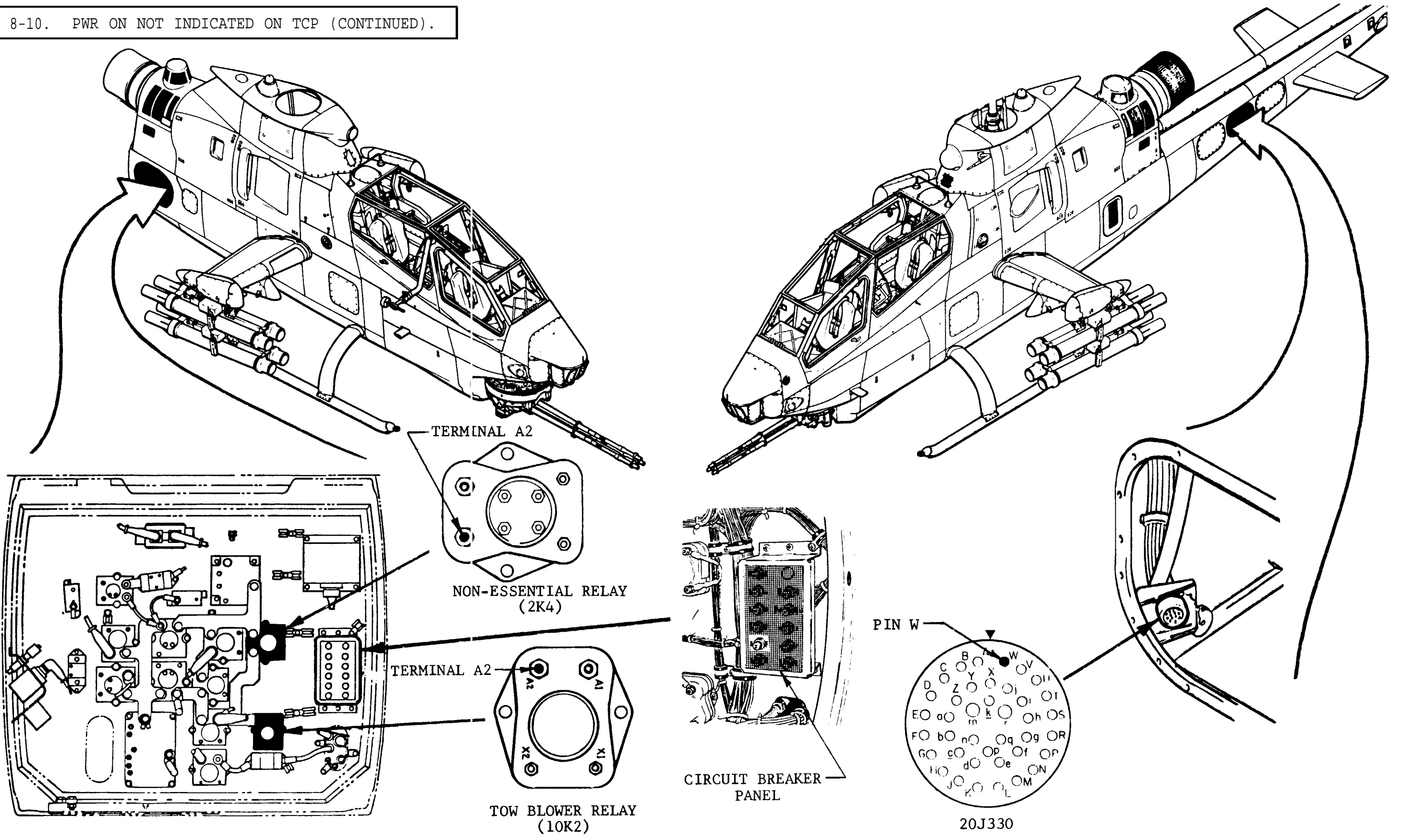


GUNNER STATION

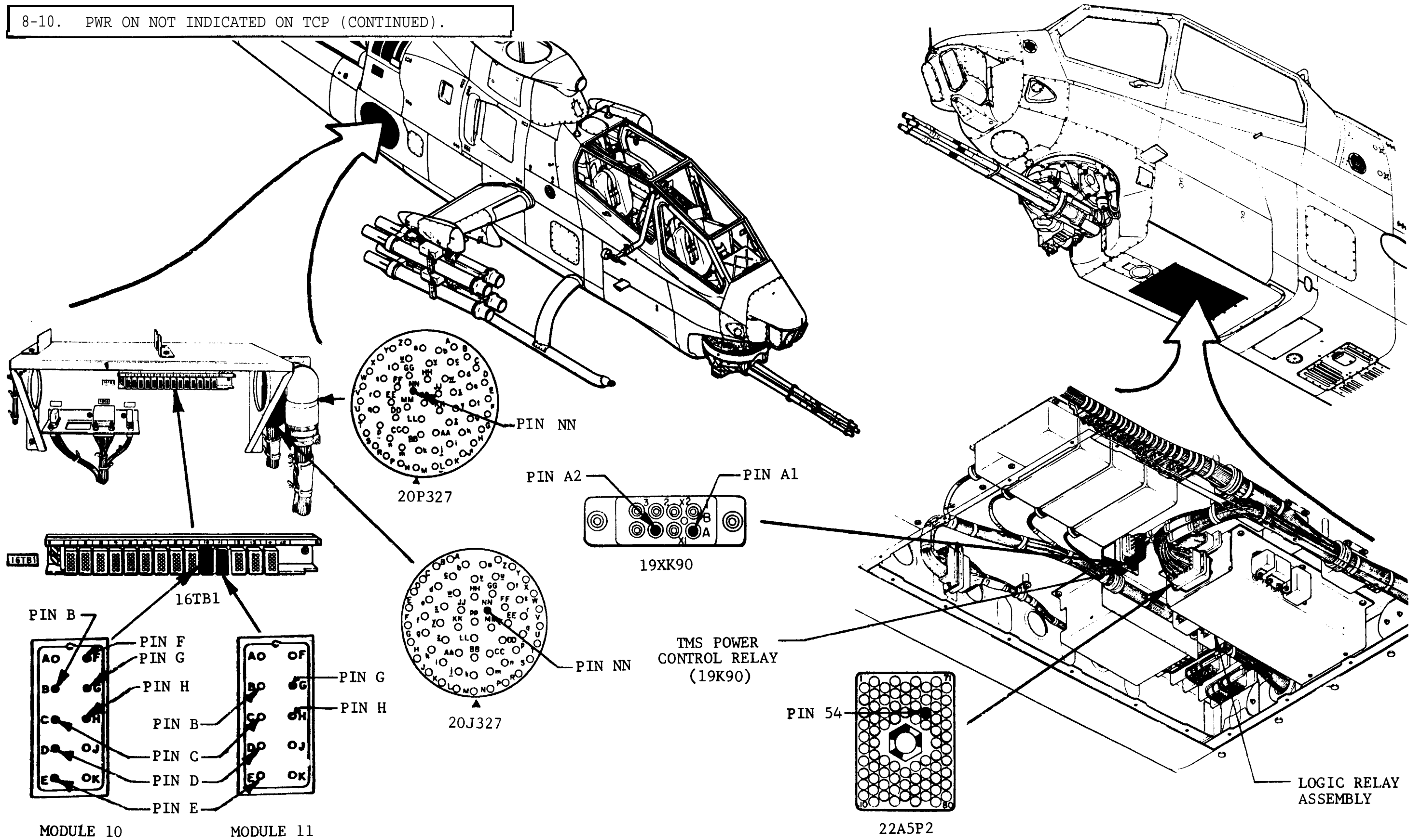


SIGHT HAND CONTROL

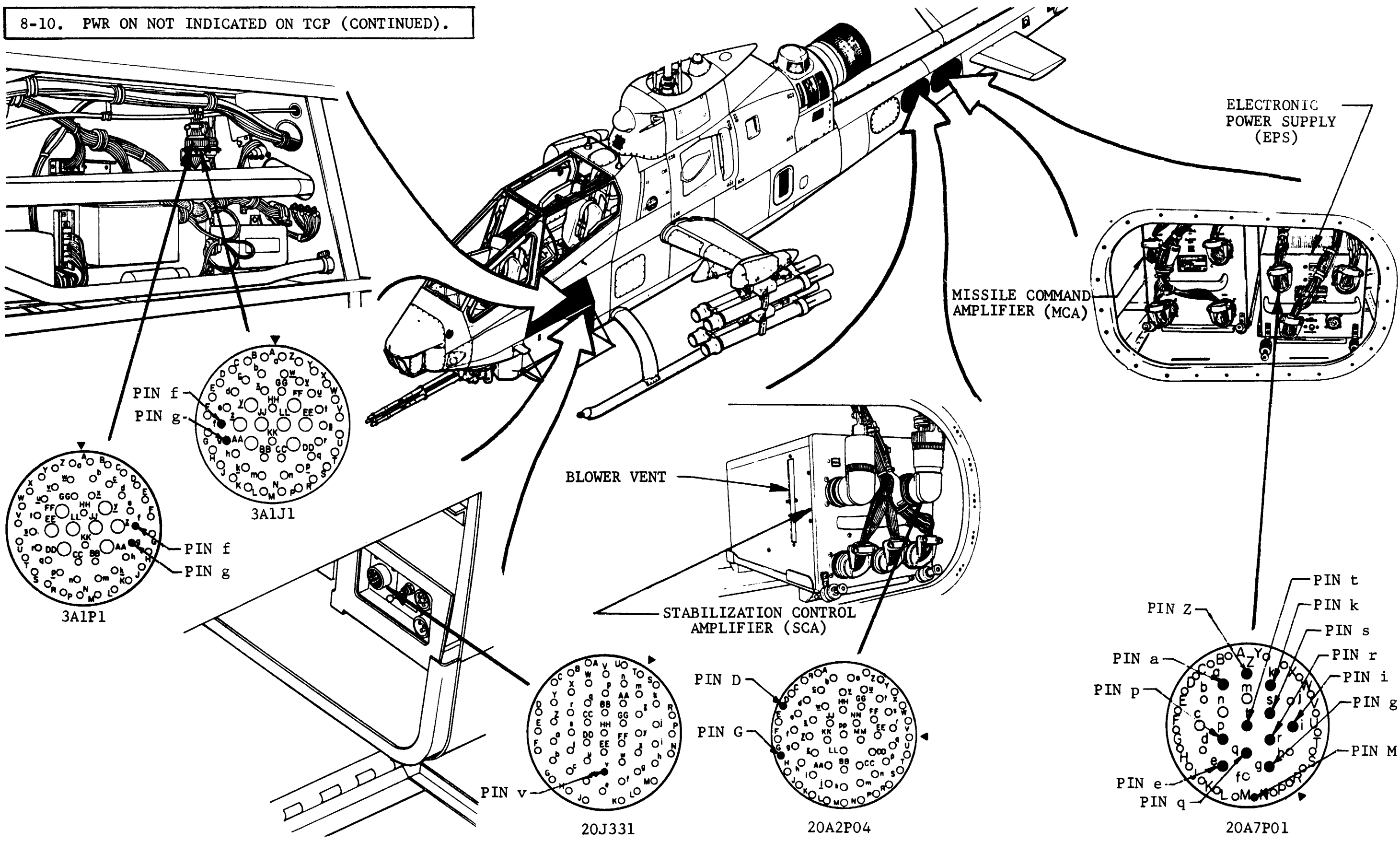
8-10. PWR ON NOT INDICATED ON TCP (CONTINUED).

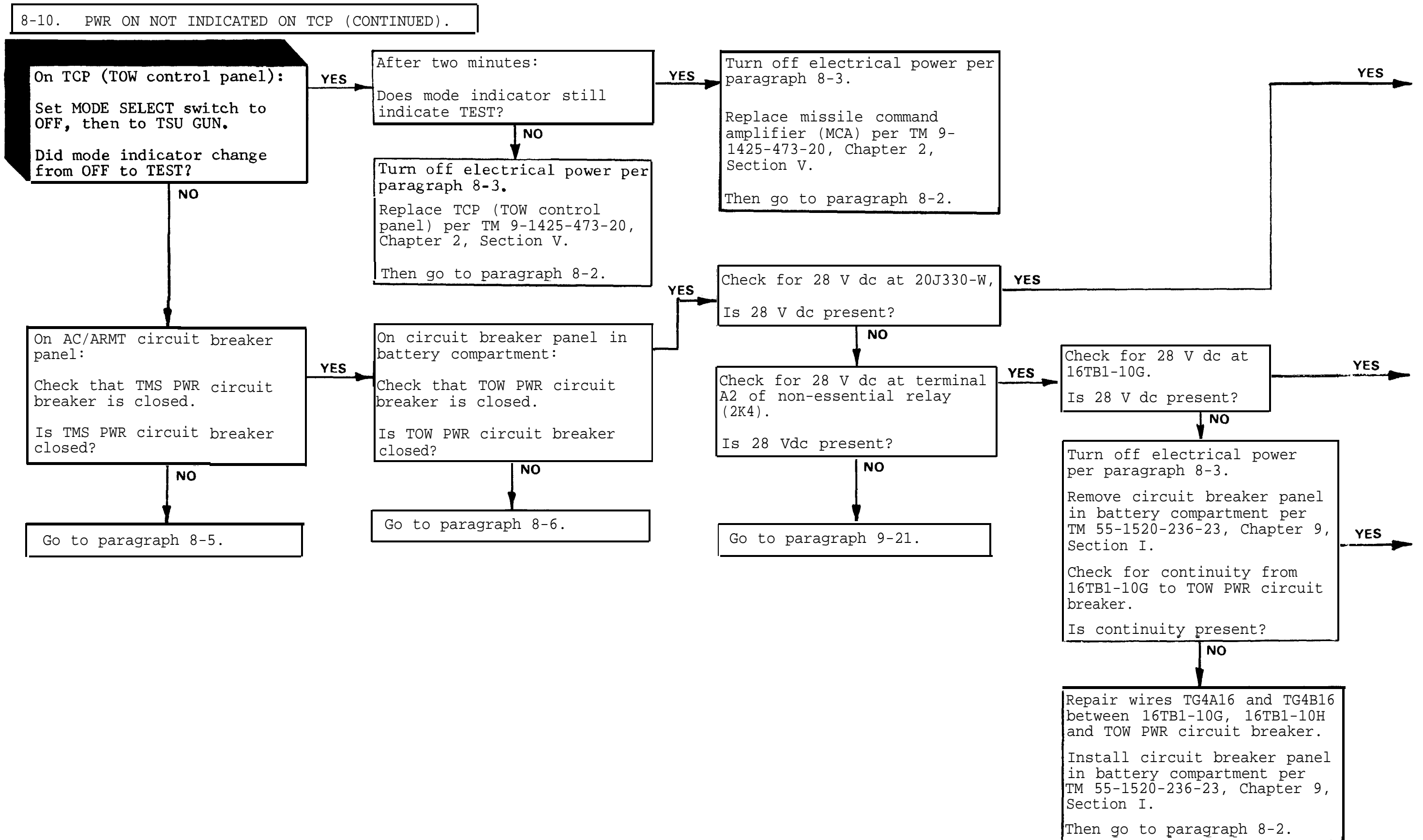


8-10. PWR ON NOT INDICATED ON TCP (CONTINUED).

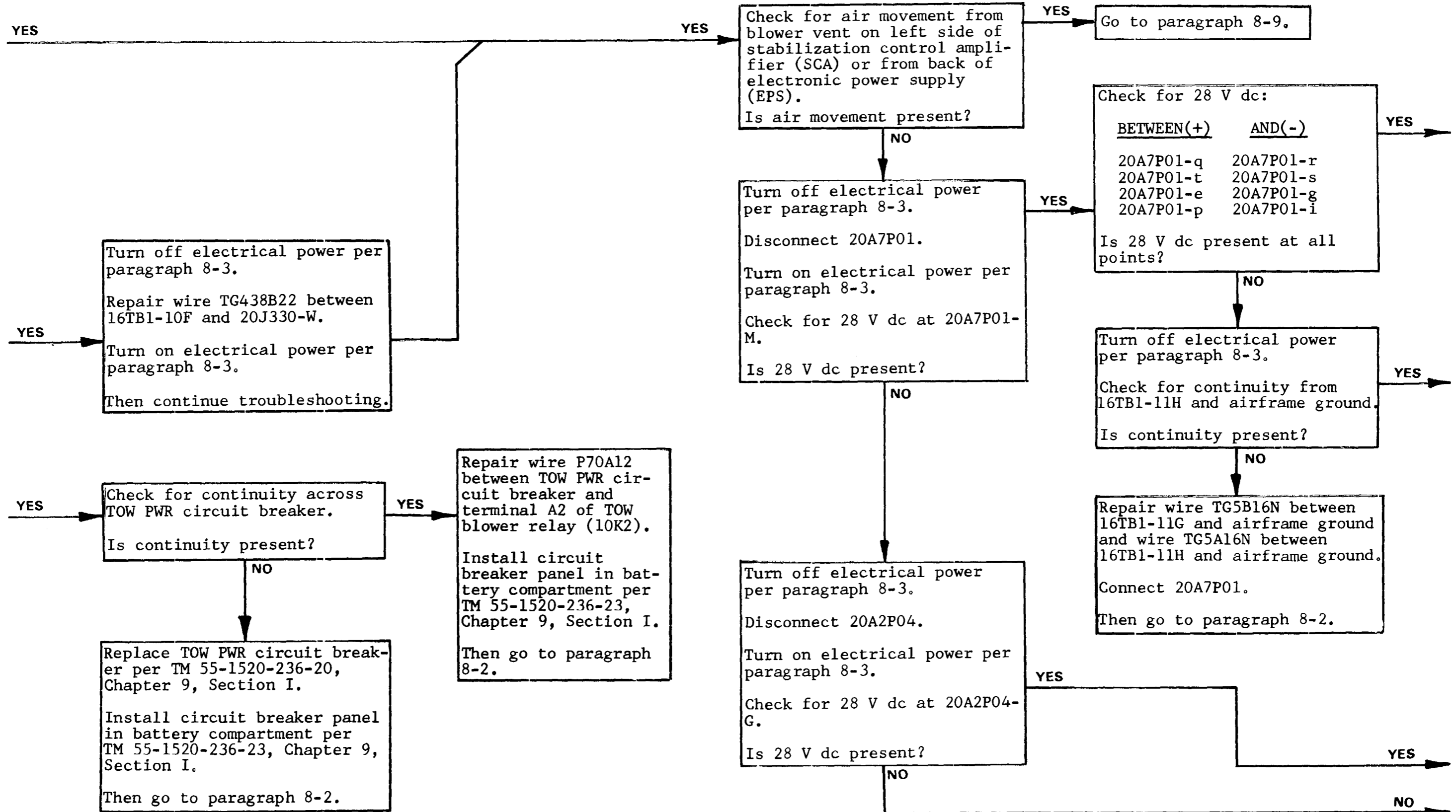


8-10. PWR ON NOT INDICATED ON TCP (CONTINUED).

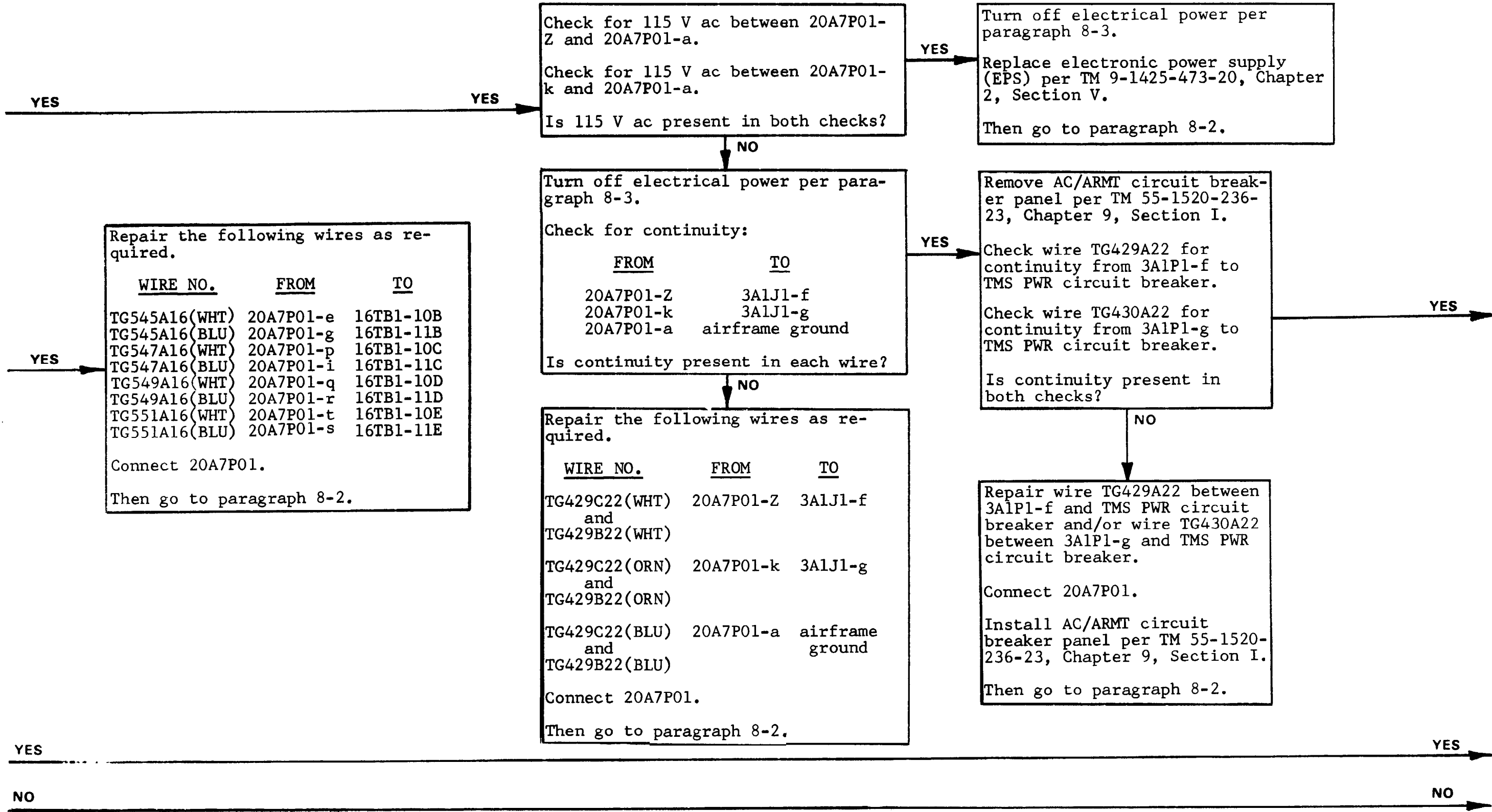




8-10. PWR ON NOT INDICATED ON TCP (CONTINUED).



8-10. PWR ON NOT INDICATED ON TCP (CONTINUED).



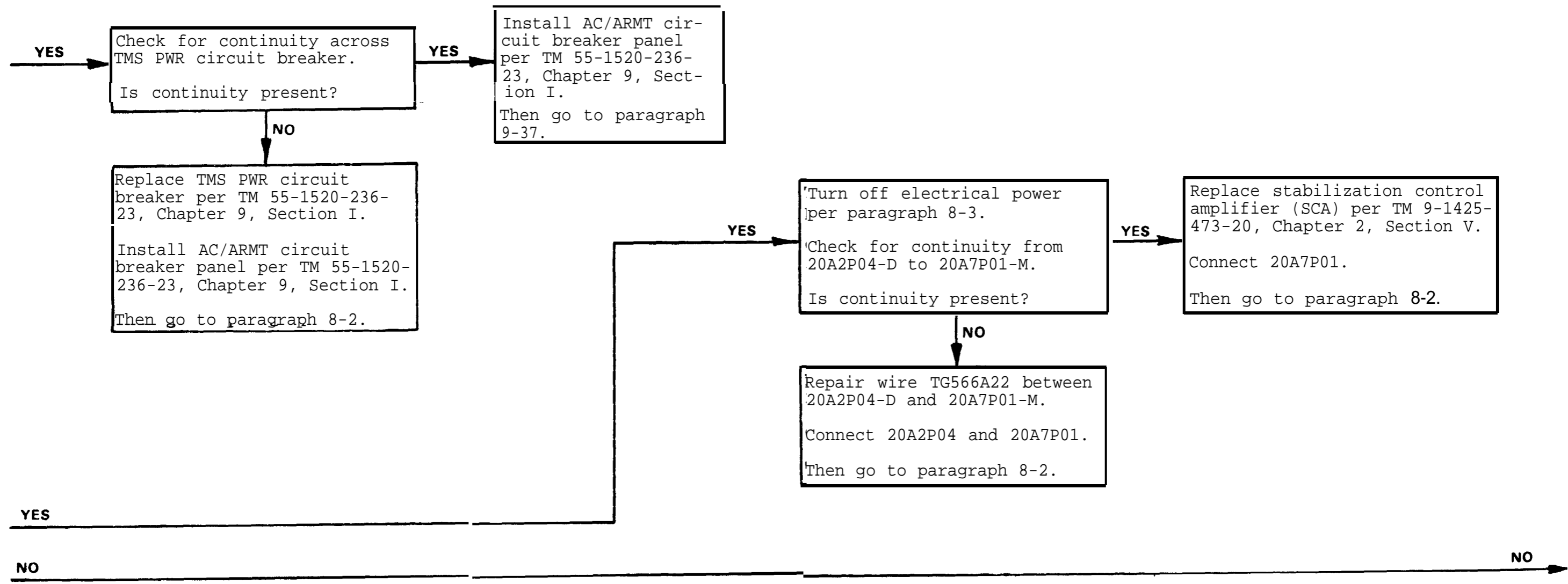
YES

YES

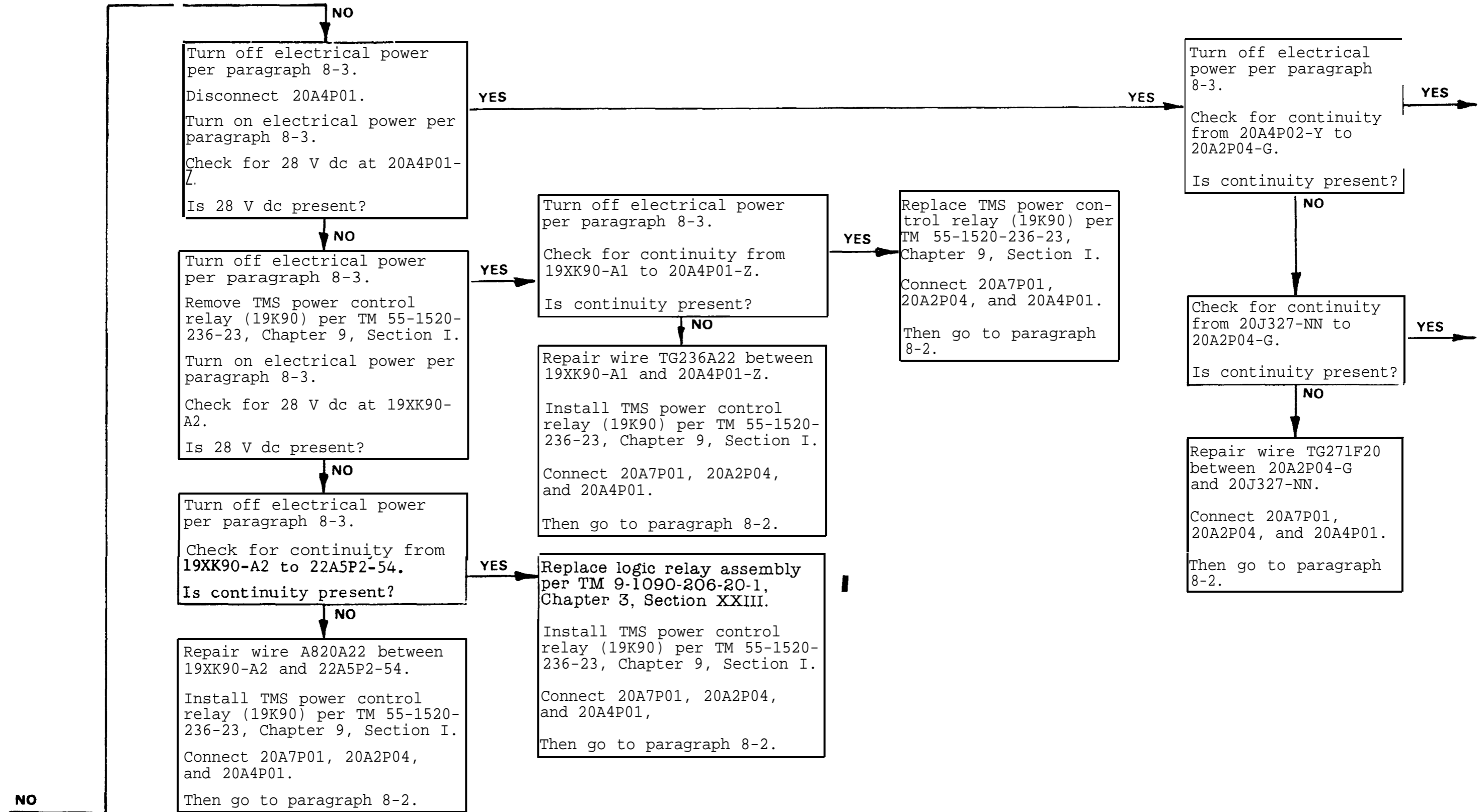
NO

NO

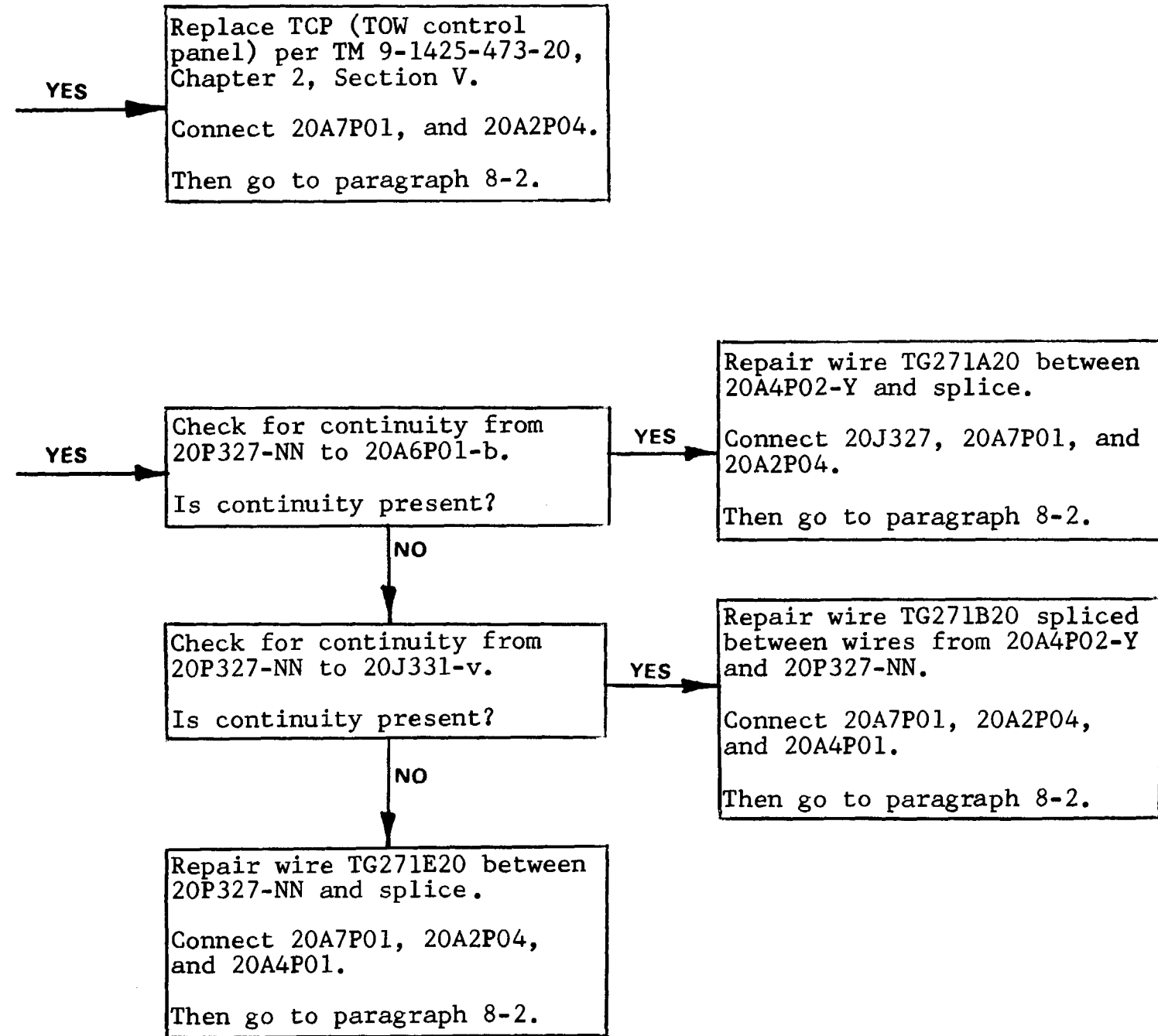
8-10. PWR ON NOT INDICATED ON TCP (CONTINUED).



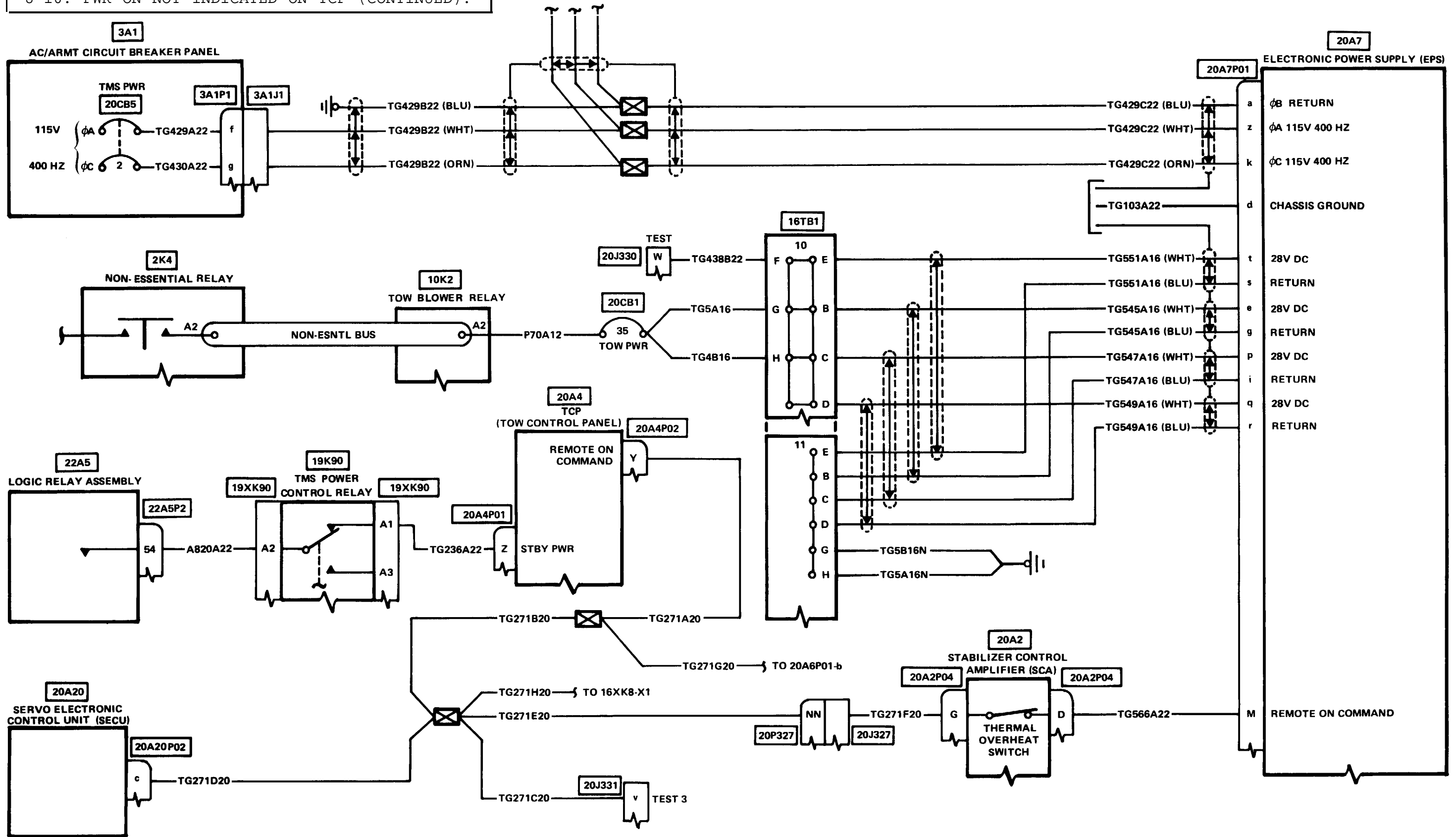
8-10. PWR ON NOT INDICATED ON TCP (CONTINUED).



8-10. PWR ON NOT INDICATED ON TCP (CONTINUED).



8-10. PWR ON NOT INDICATED ON TCP (CONTINUED).



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8-10.1. PWR ON NOT INDICATED ON TCP.

INITIAL SETUP

Applicable Configuration

AH-1F MCN

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

TM 55-1520-236-23

Access Panels

Battery Compartment - Removed

Forward Belly Armament and Lighting - Removed

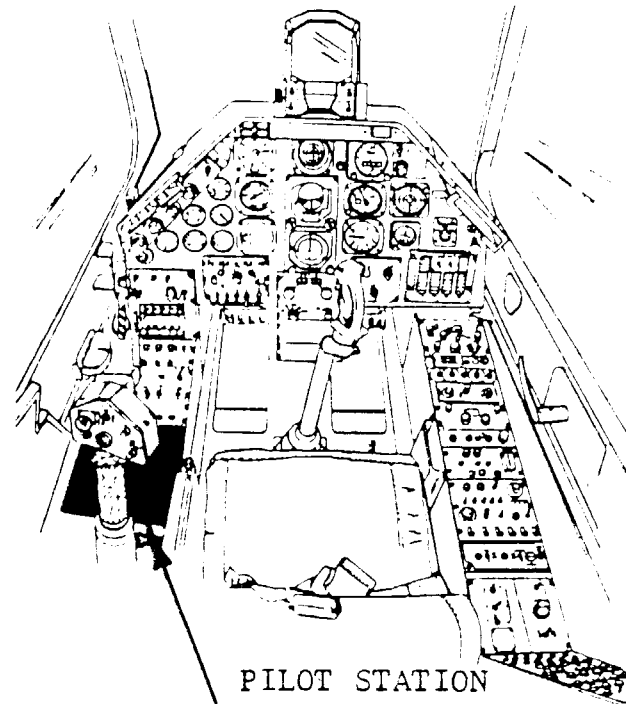
Left Ammo Compartment Door - Open

Aft Electronics (Tailboom) - Removed

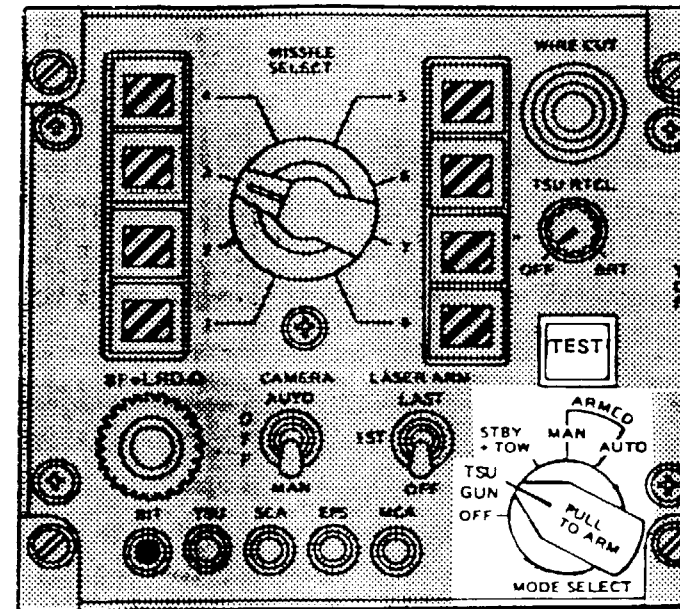
Middle Electronics (Tailboom) - Removed

Forward Electronics (Tailboom) - Removed

Left Side Control Linkage - Removed

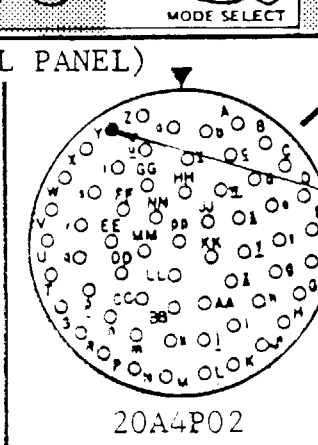
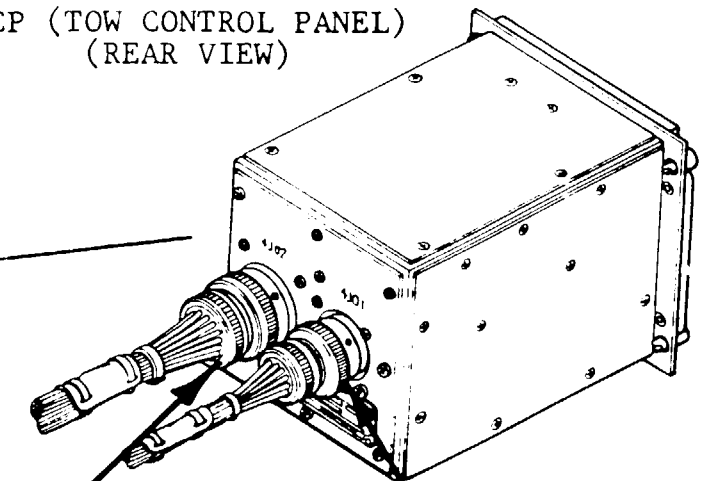


PILOT STATION

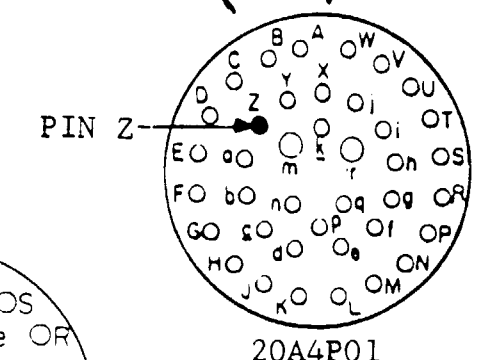


TCP (TOW CONTROL PANEL)

TCP (TOW CONTROL PANEL) (REAR VIEW)

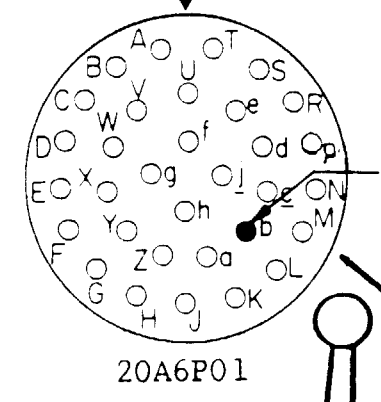


20A4P02



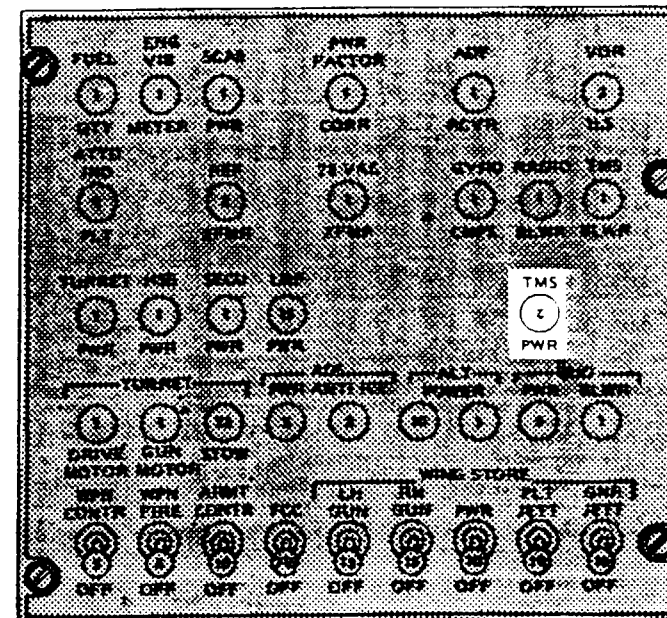
PIN Z

20A4P01

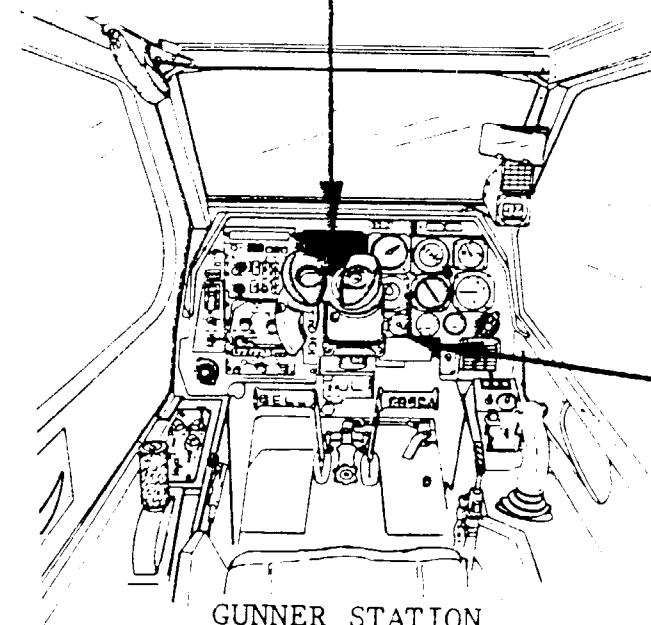


PIN b

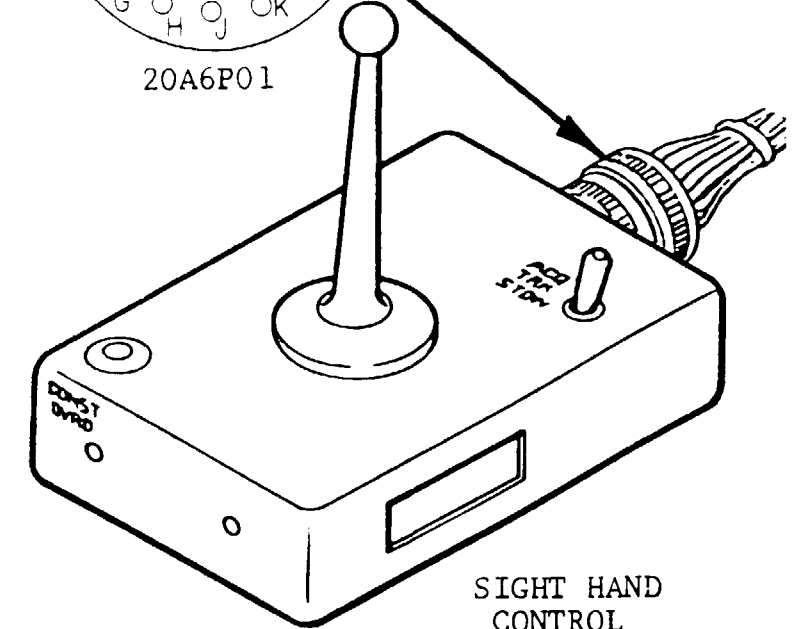
20A6P01



AC/ARMT CIRCUIT BREAKER PANEL

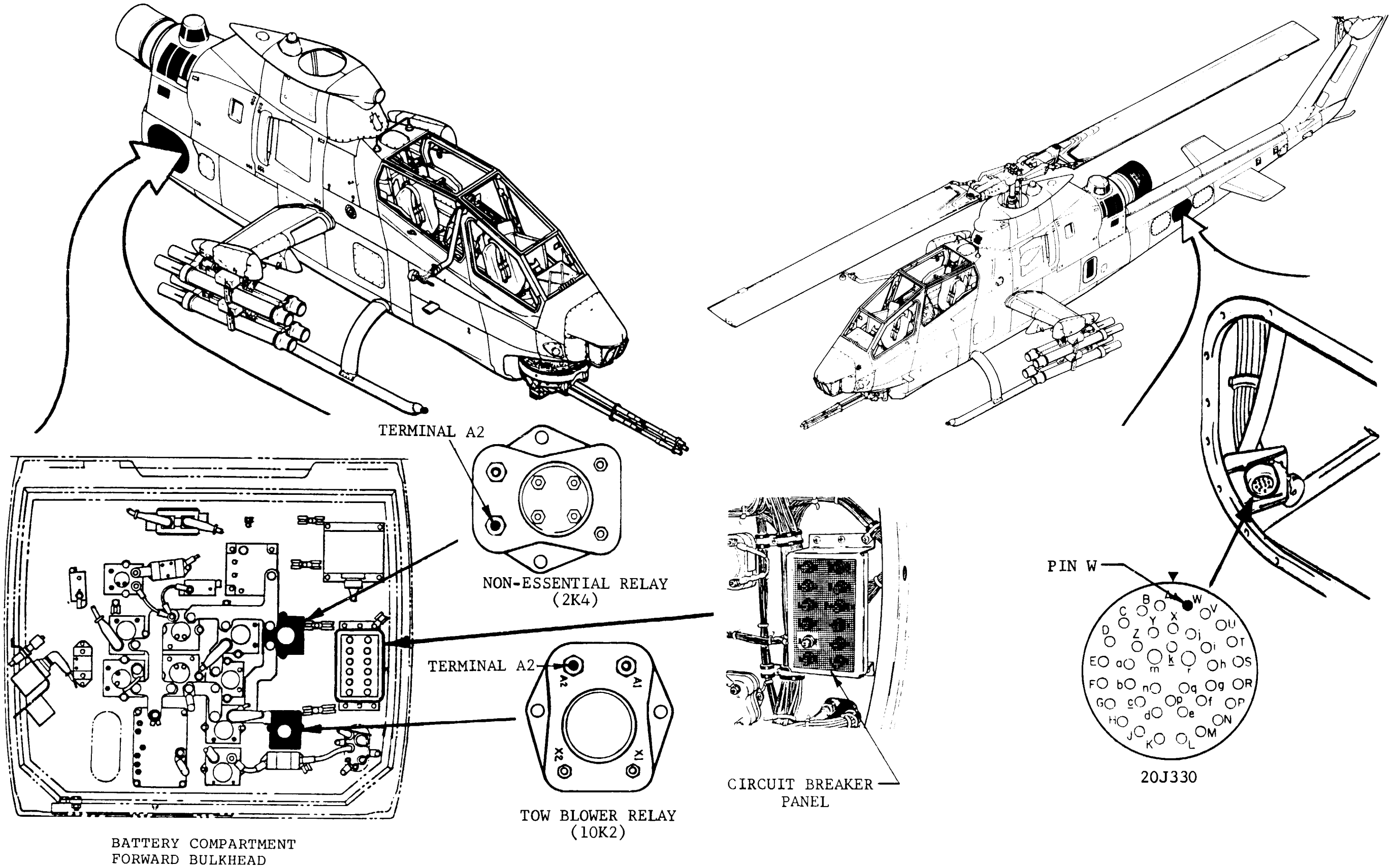


GUNNER STATION

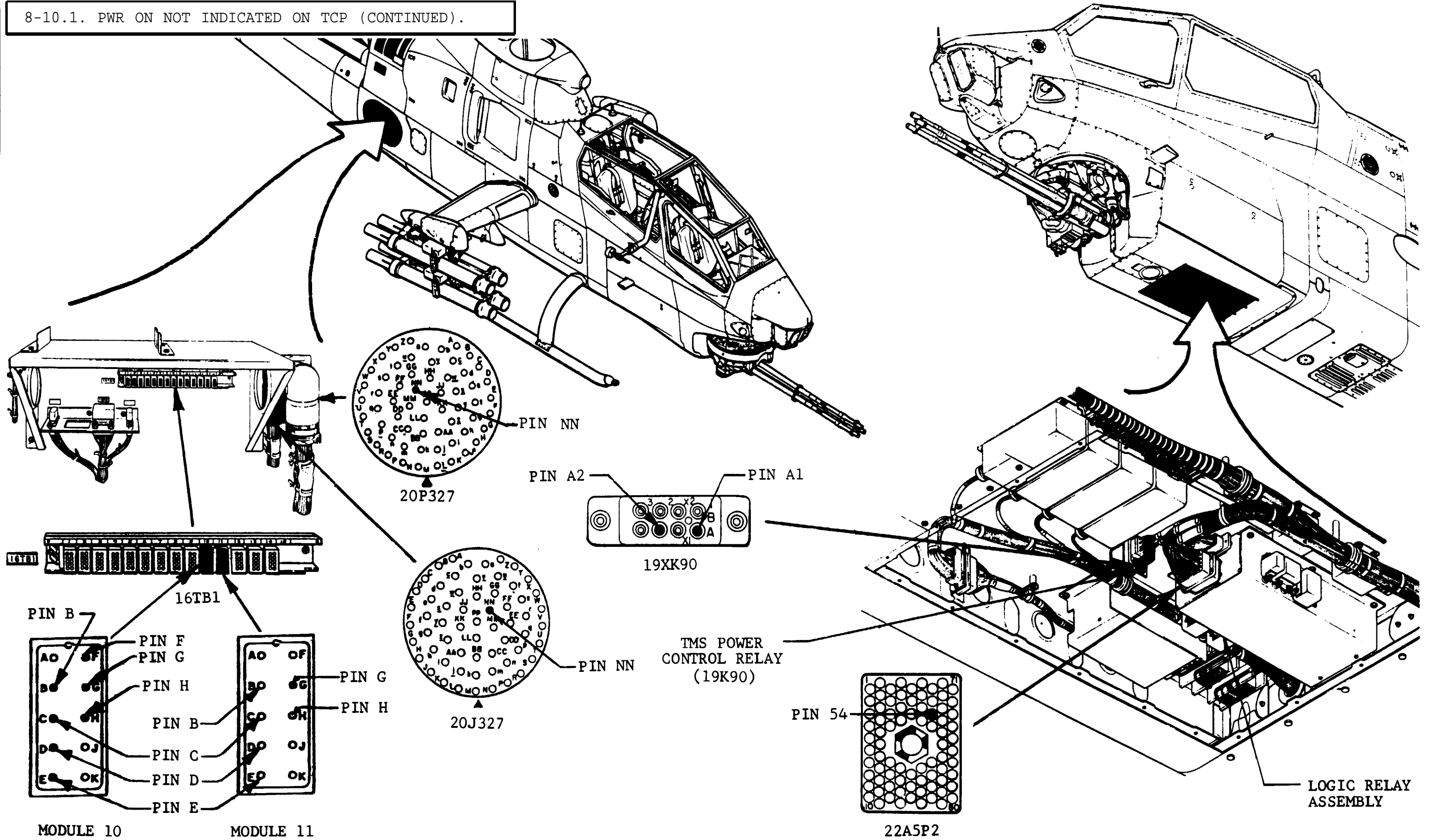


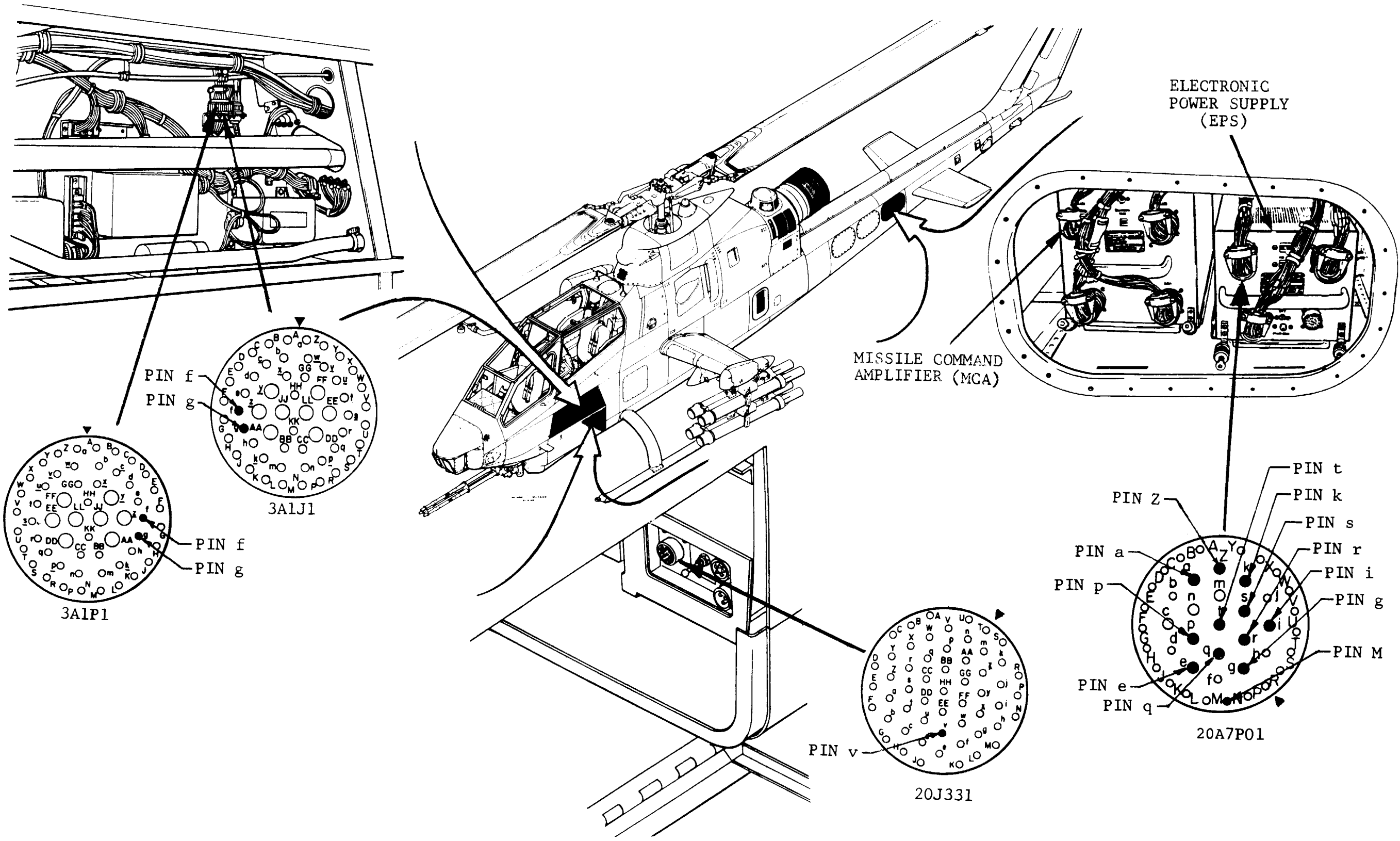
SIGHT HAND CONTROL

8-10.1. PWR ON NOT INDICATED ON TCP (CONTINUED).

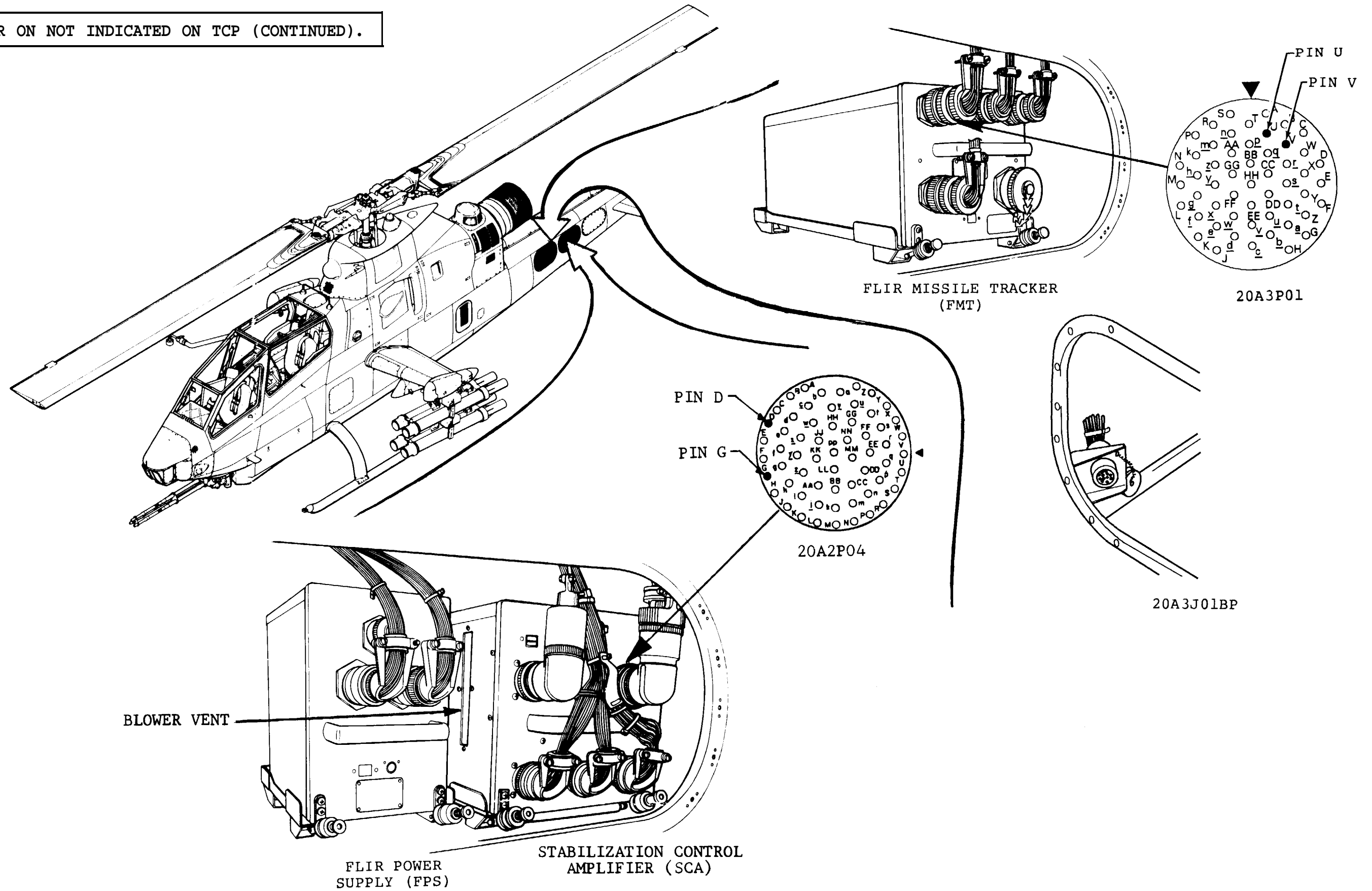


8-10.1. PWR ON NOT INDICATED ON TCP (CONTINUED).

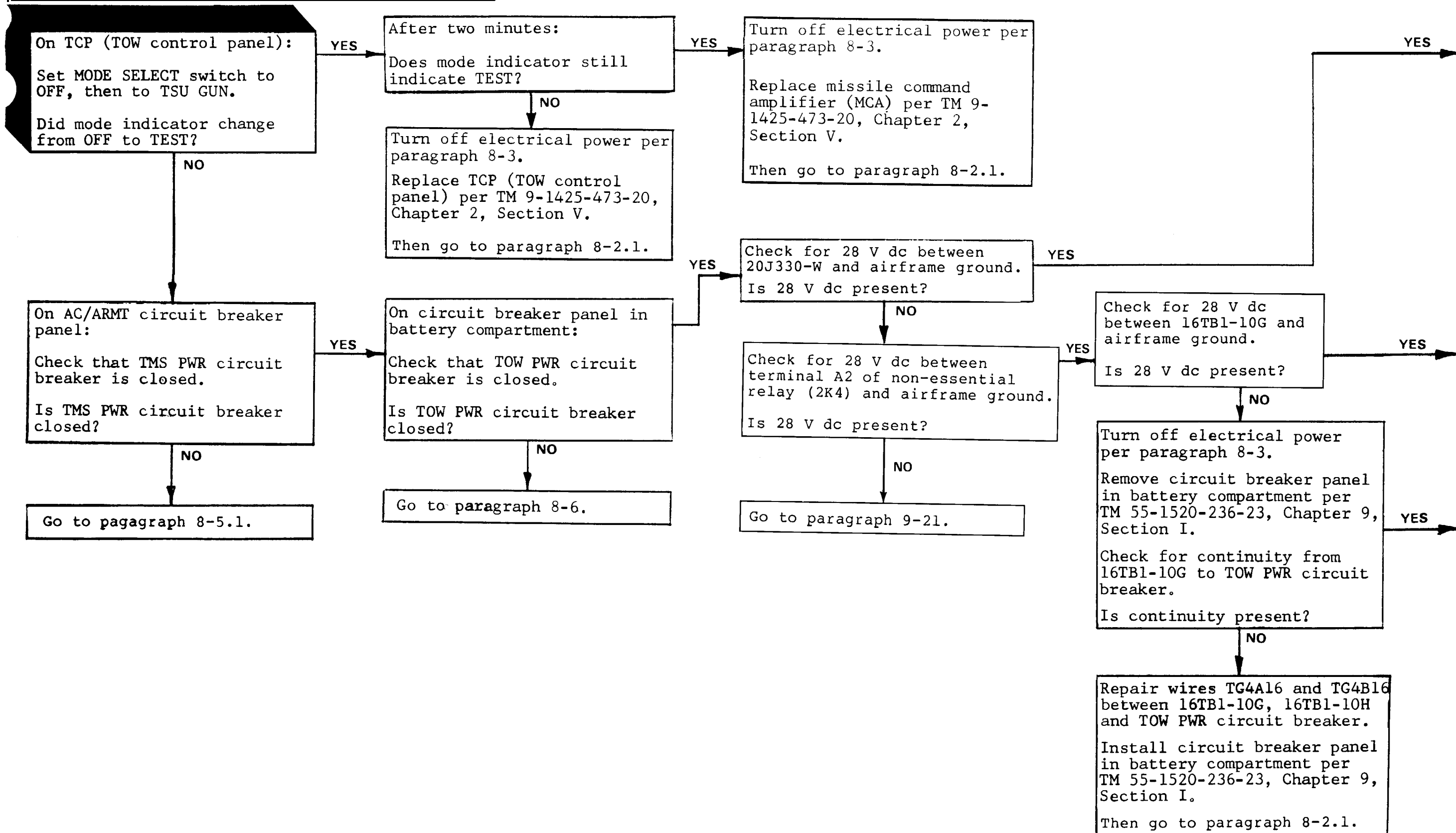




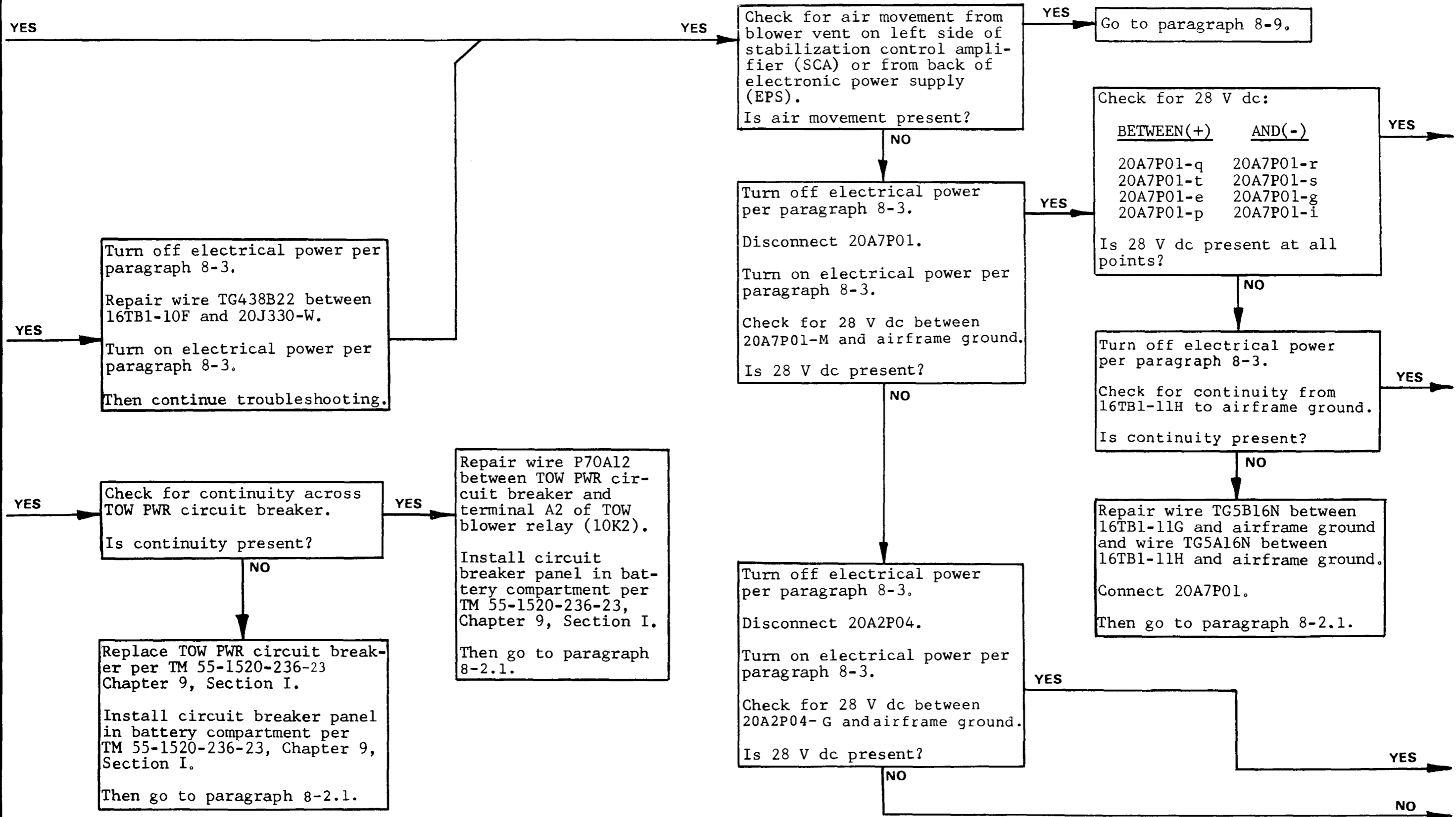
8-10.1. PWR ON NOT INDICATED ON TCP (CONTINUED).



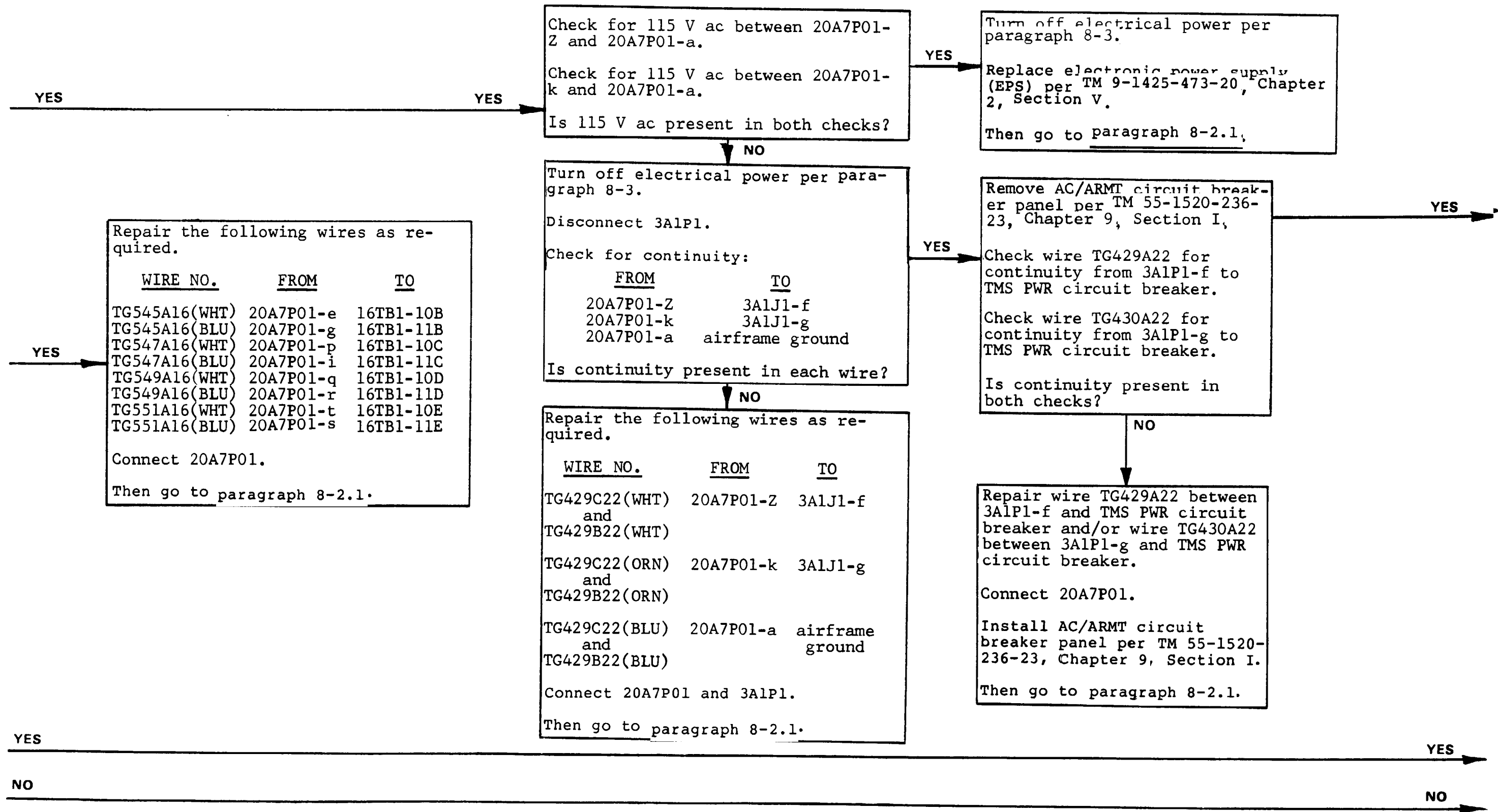
8-10.1. PWR ON NOT INDICATED ON TCP (CONTINUED).



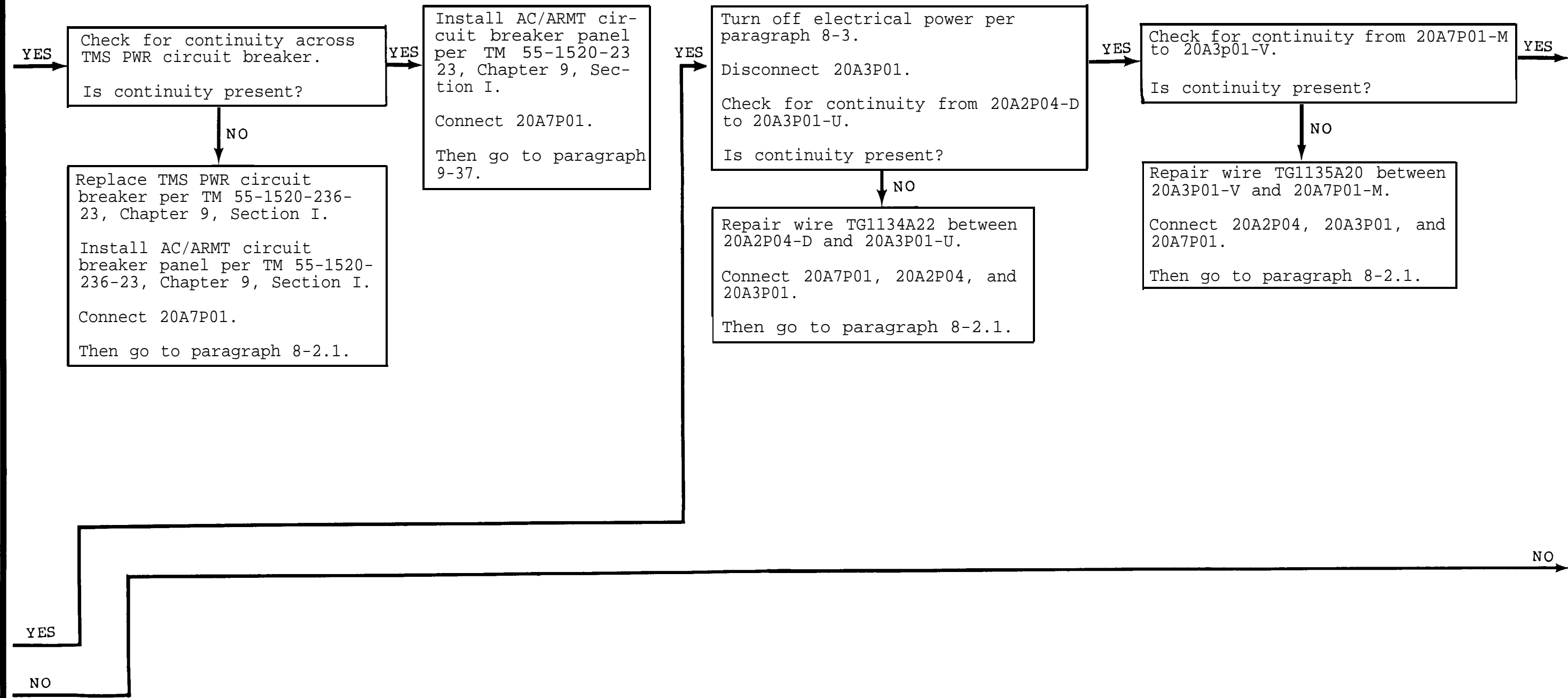
8-10.1. PWR ON NOT INDICATED ON TCP (CONTINUED).



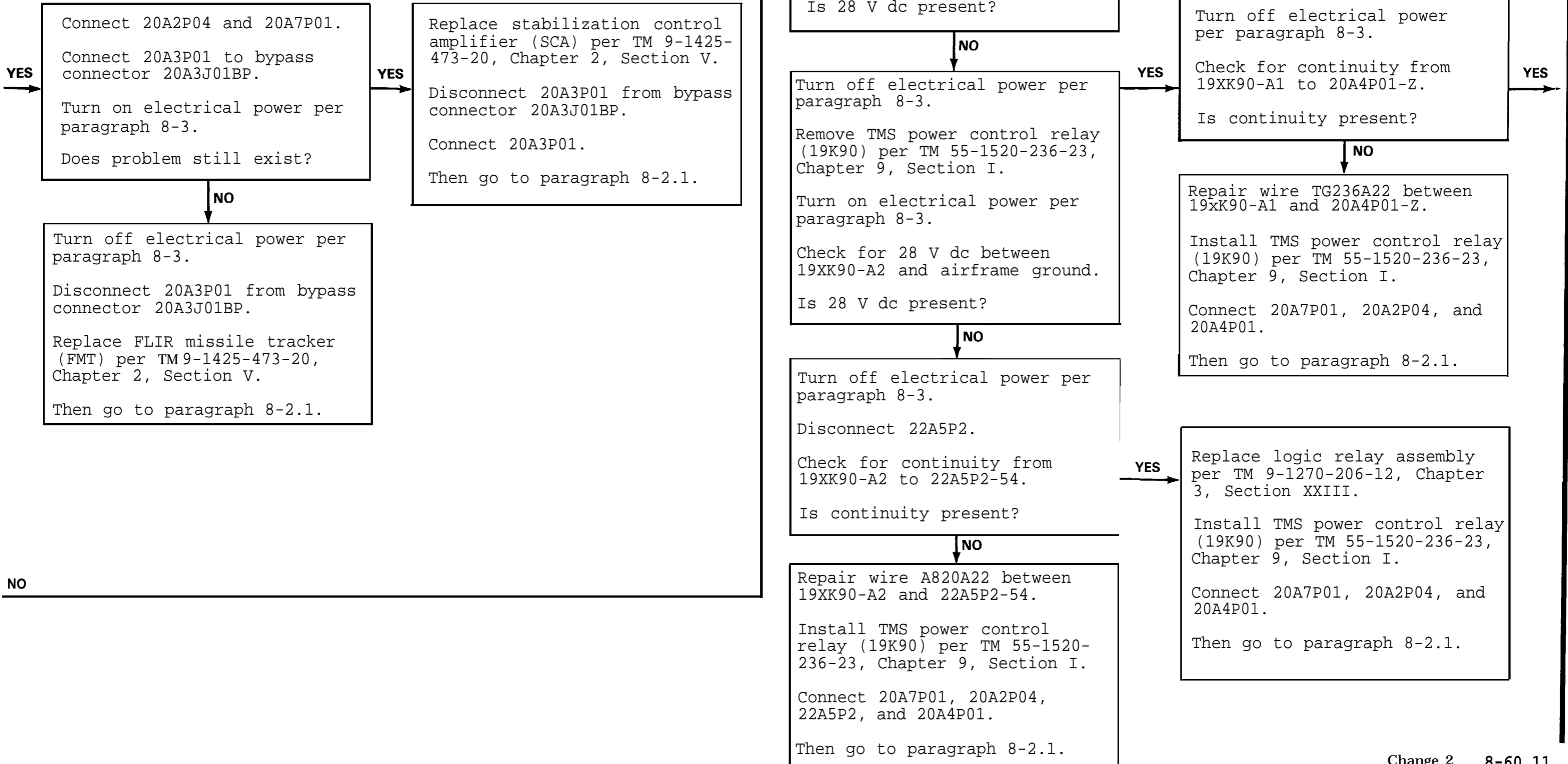
8-10.1. PWR ON NOT INDICATED ON TCP (CONTINUED).



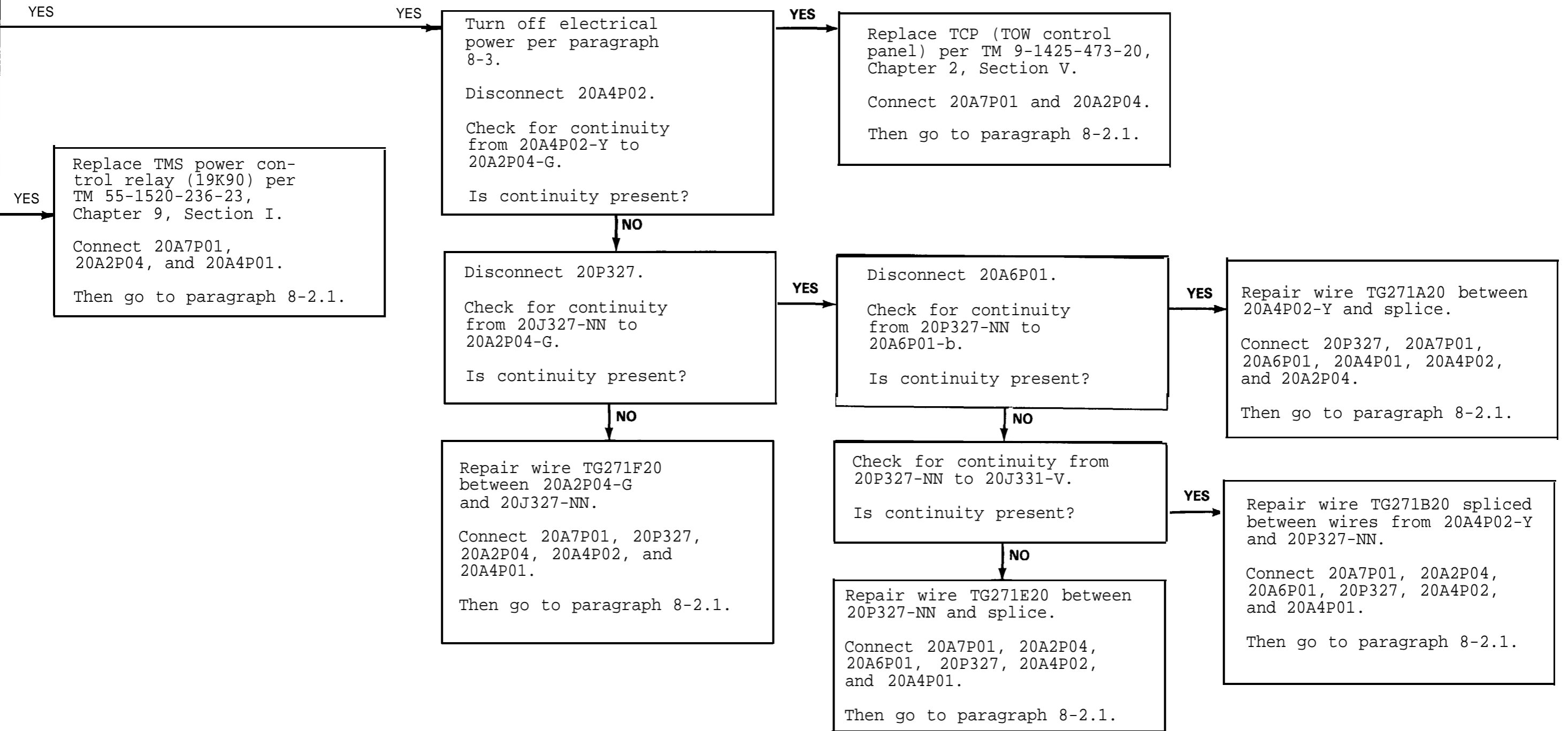
8-10.1. PWR ON NOT INDICATED ON TCP (CONTINUED).



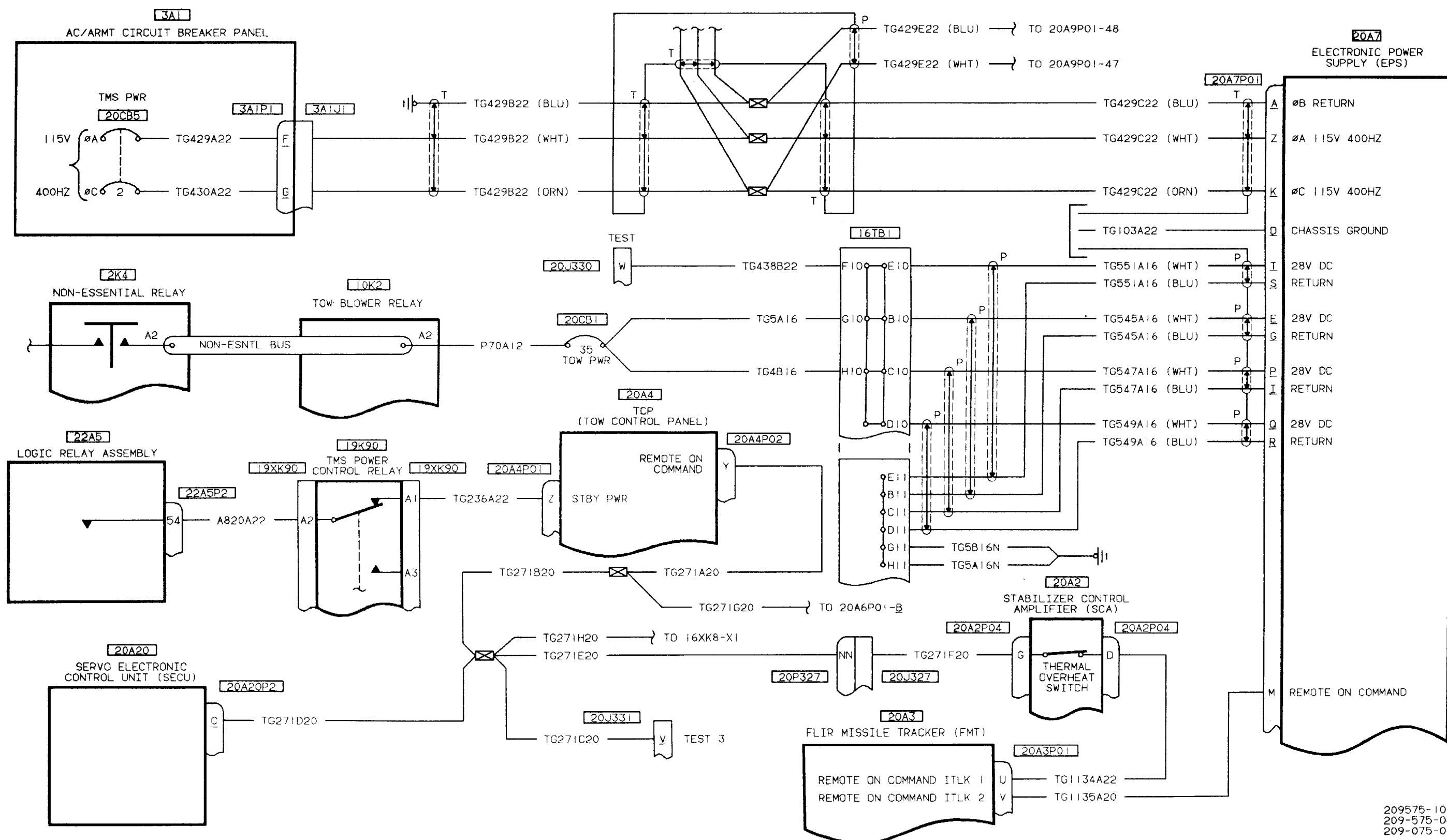
8-10.1. PWR ON NOT INDICATED ON TCP (CONTINUED).



8-10.1. PWR ON NOT INDICATED ON TCP (CONTINUED).



8-10.1. PWR ON NOT INDICATED ON TCP (CONTINUED).



209575-100
209-575-082
209-075-087

8-11. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON.

INITIAL SETUP

Applicable Configuration

AH-1F MCN

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

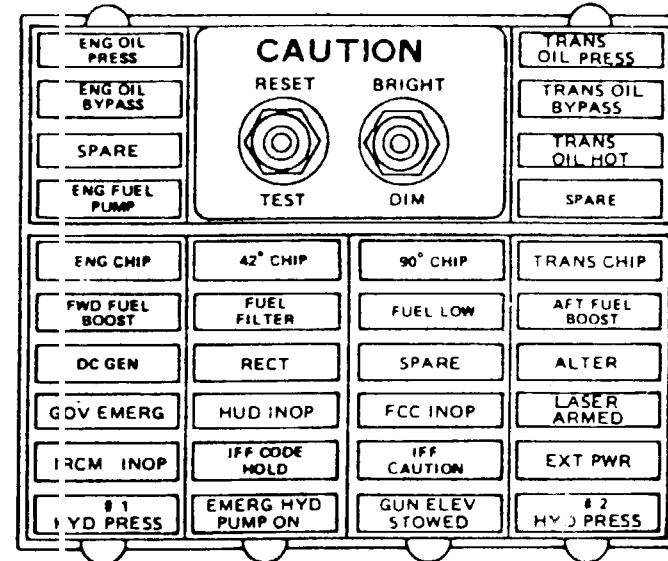
Forward Right Side Radar Warning Antenna - Removed

Forward Left Side Radar Warning Antenna - Removed

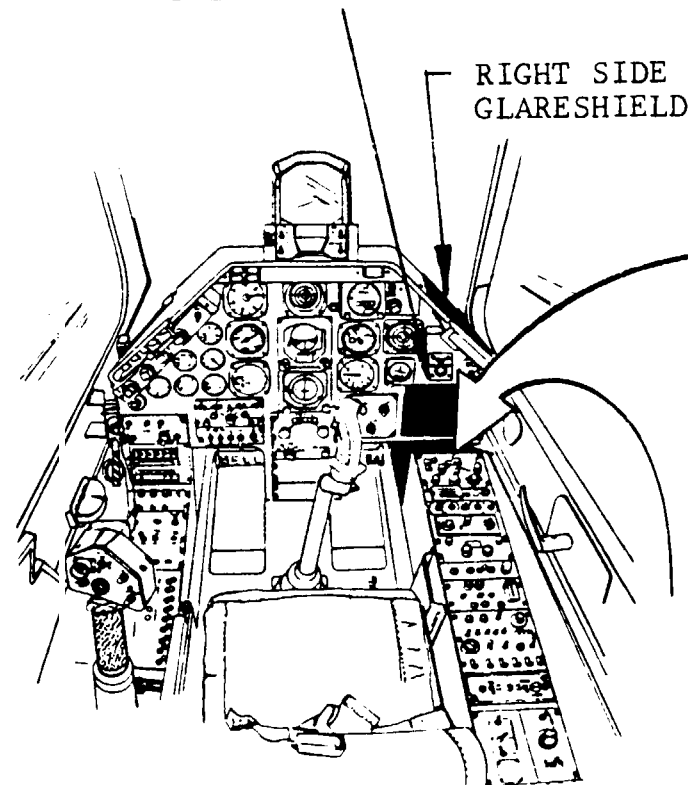
Aft Electronics (Tailboom) - Removed

Middle Electronics (Tailboom) - Removed

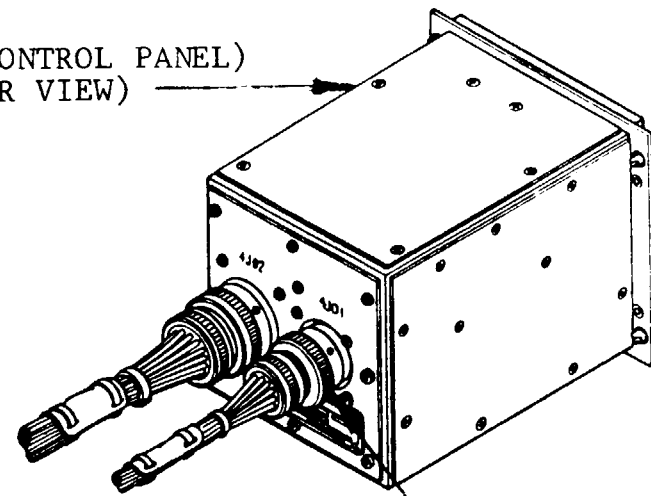
Right Side Glareshield - Removed



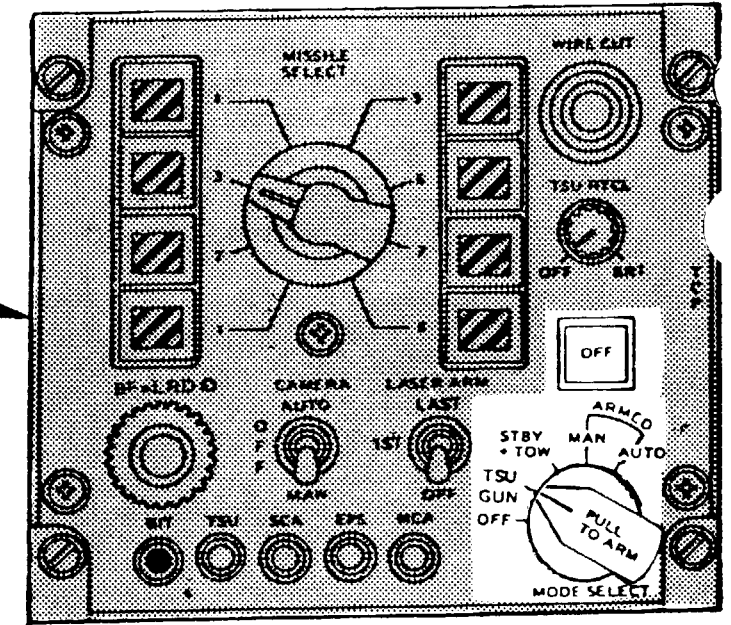
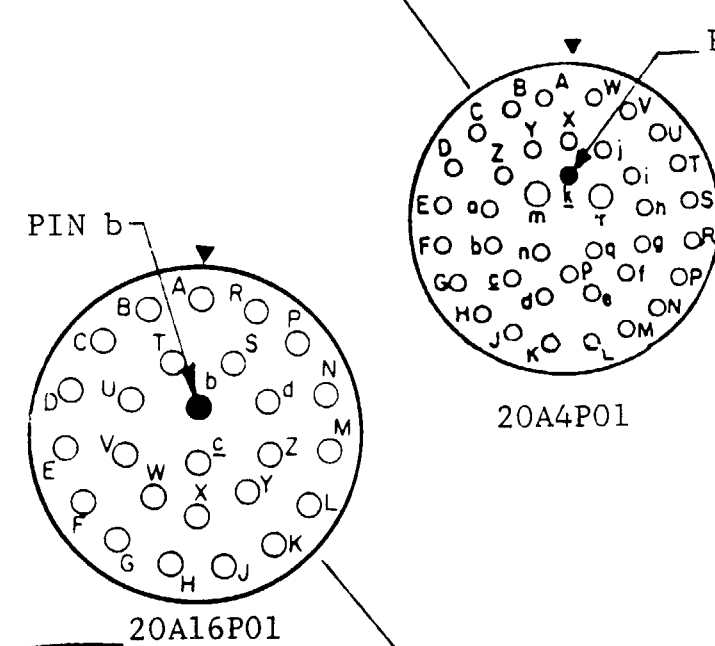
PILOT CAUTION PANEL



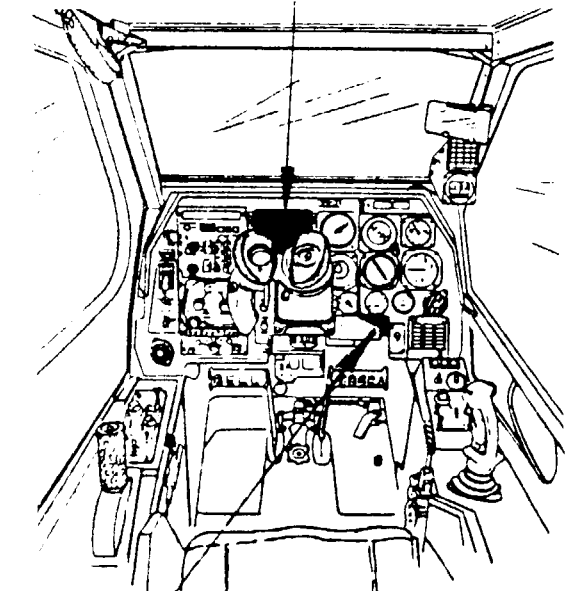
RIGHT SIDE GLARESHIELD



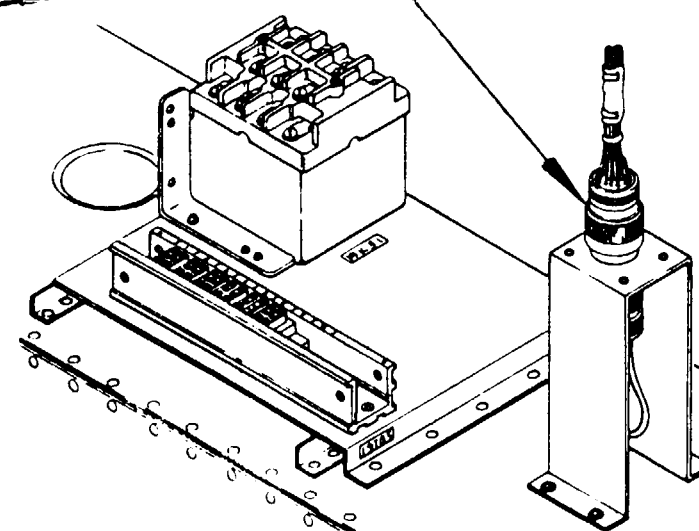
TCP (TOW CONTROL PANEL)
(REAR VIEW)



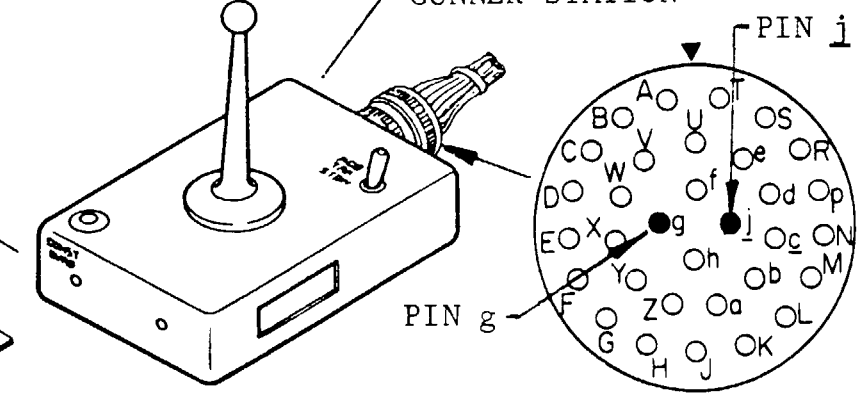
TCP (TOW CONTROL PANEL)



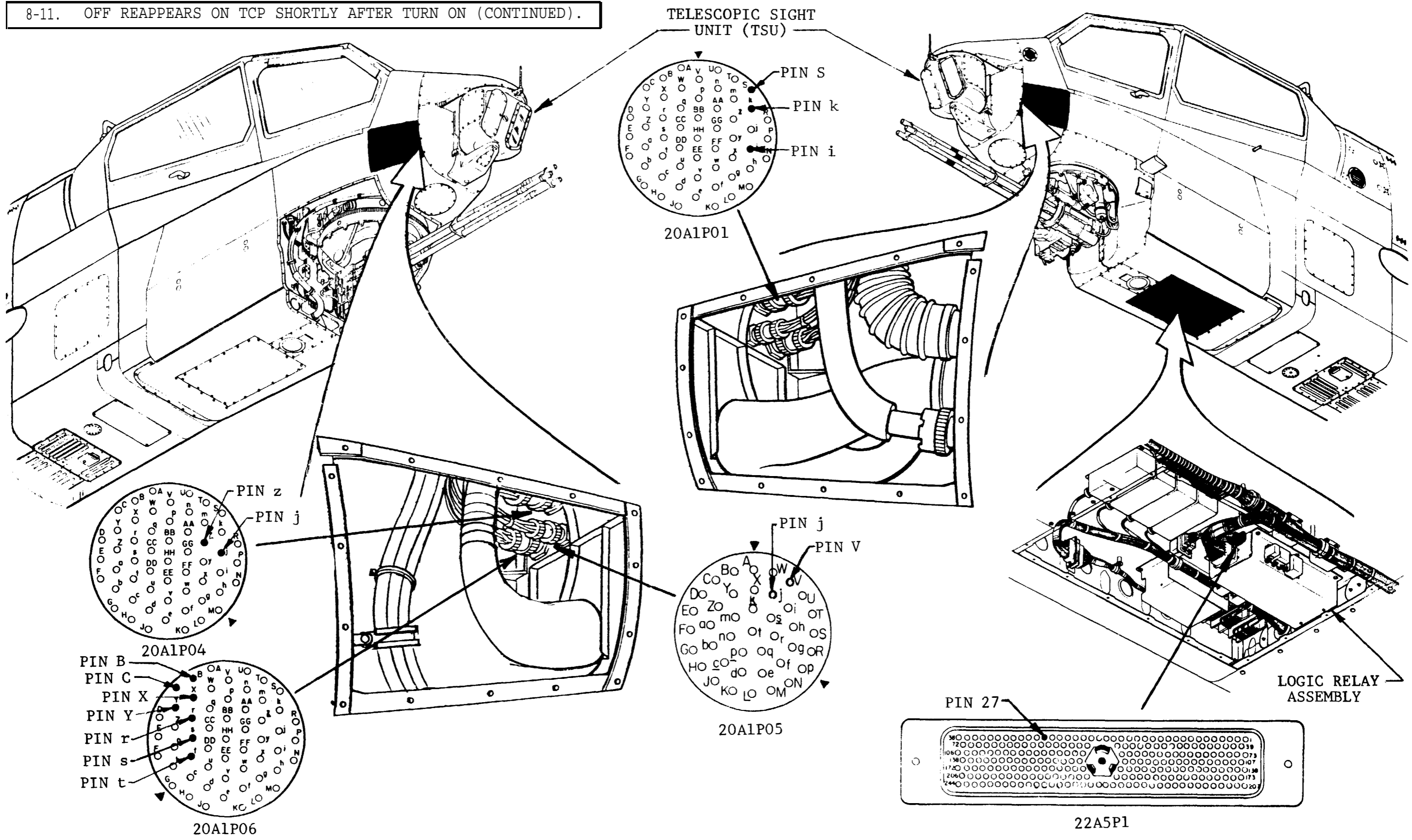
GUNNER STATION



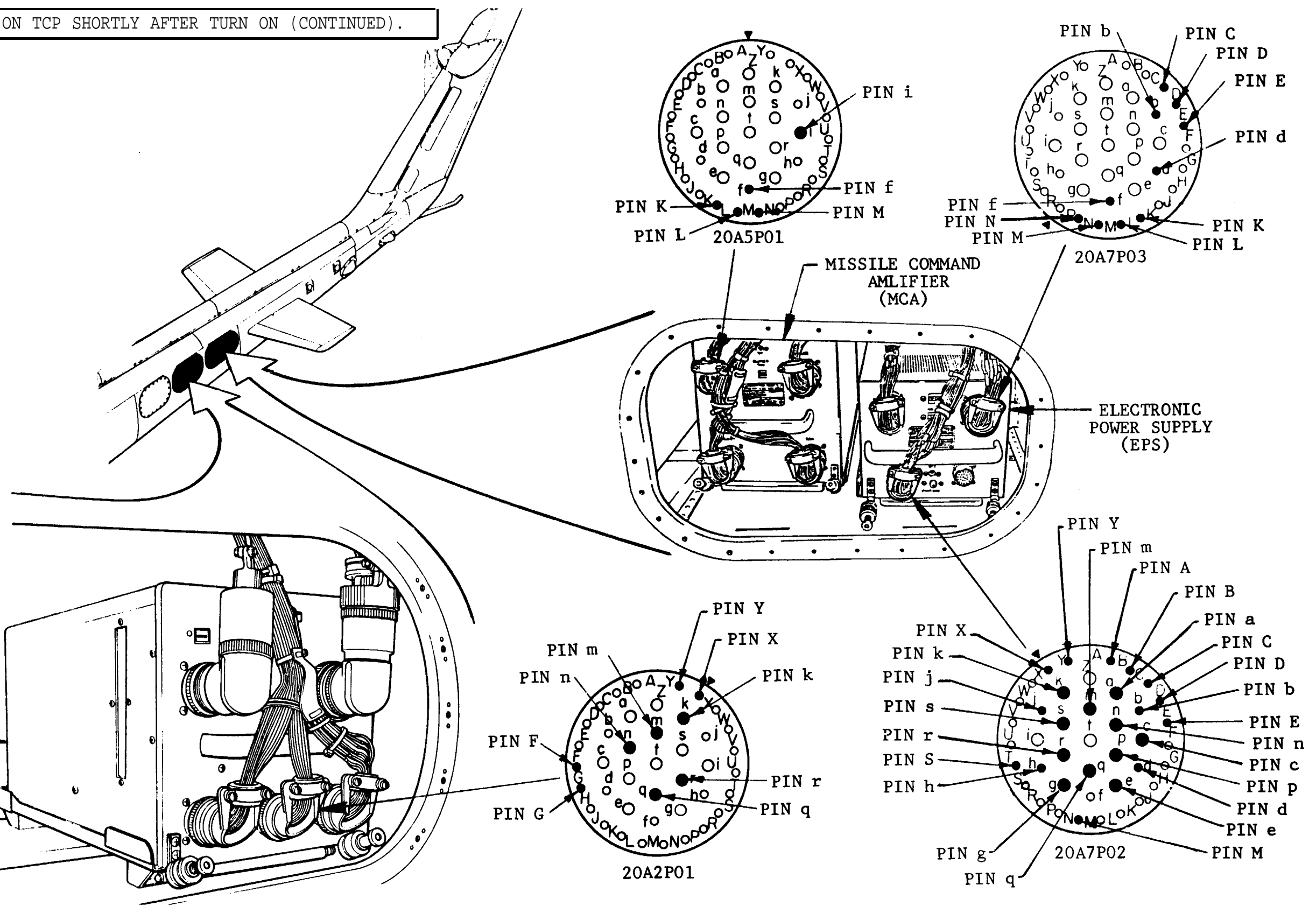
SIGHT HAND CONTROL



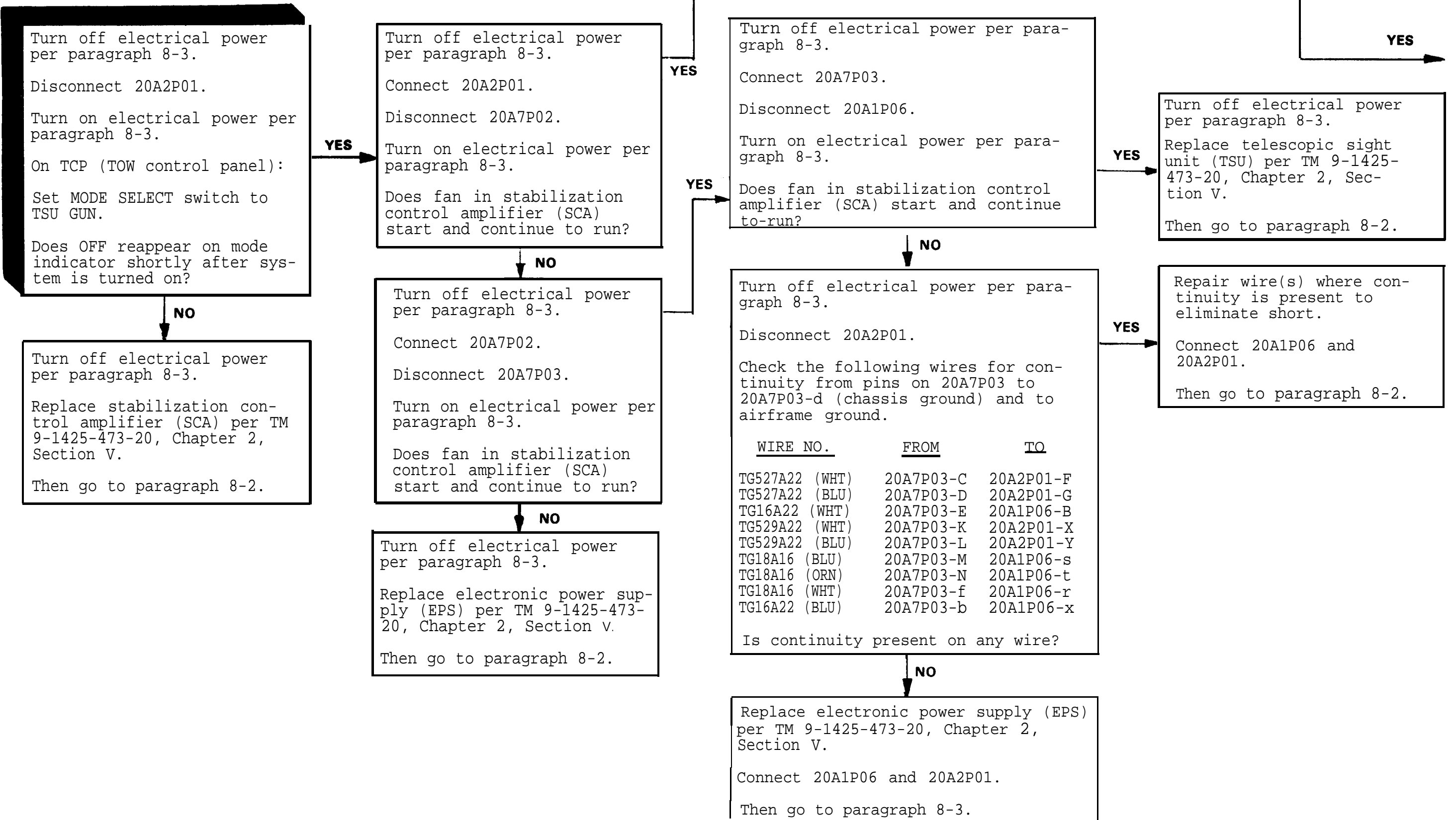
8-11. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).



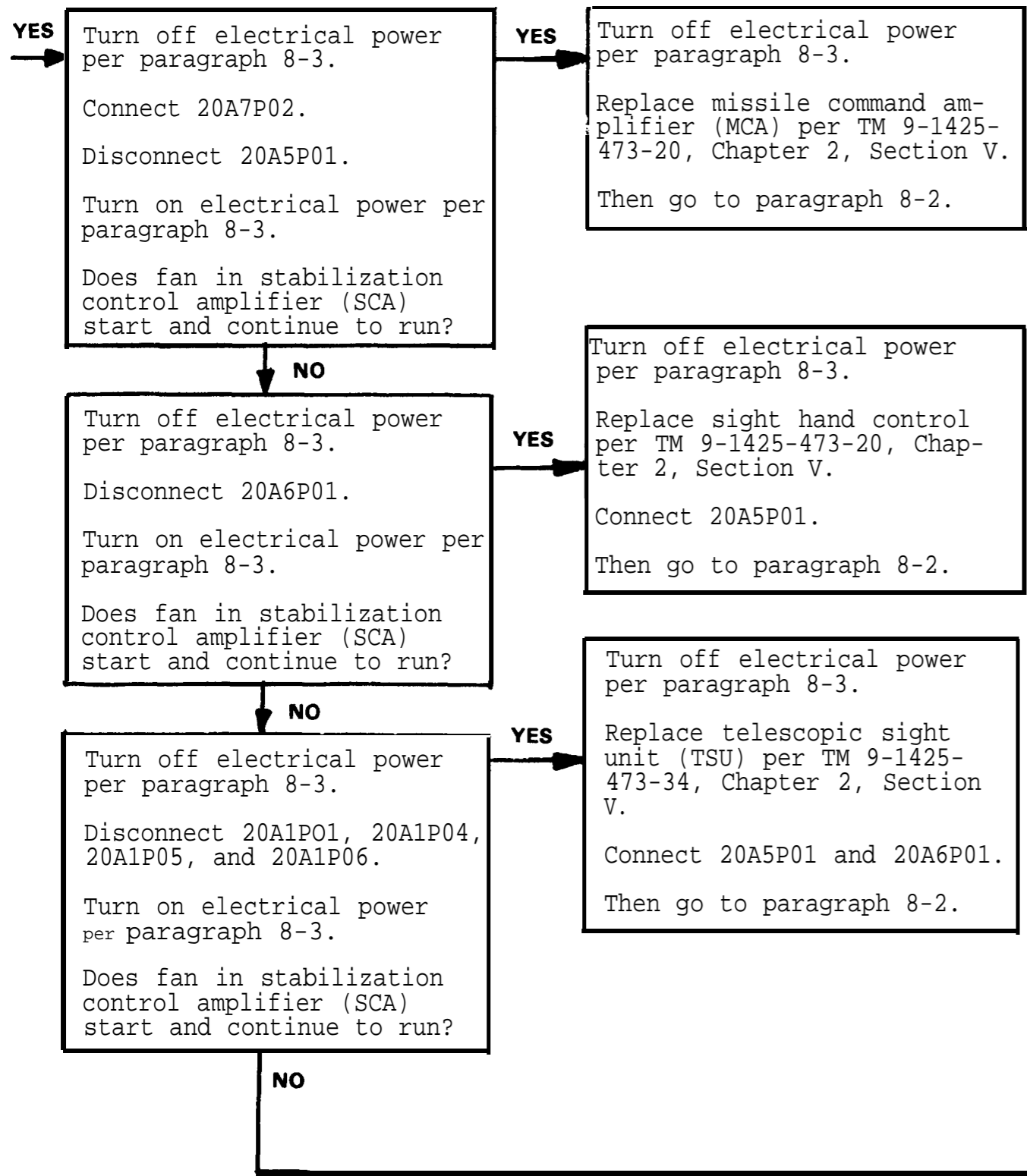
8-11. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).



8-11. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).



8-110 OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).



NO

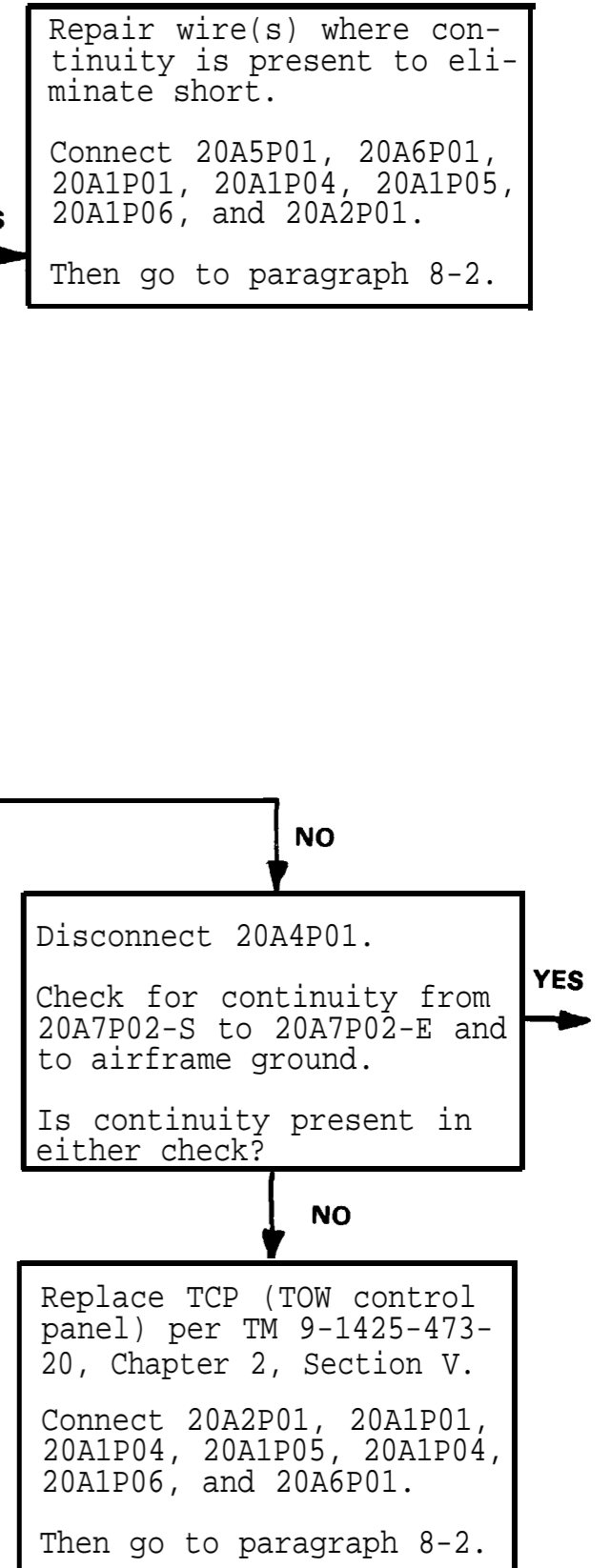
Turn off electrical power per paragraph 8-3.
Disconnect 20A2P01.

Check the following wires for continuity from pins on 20A7P02 to 20A7P02-E (chassis ground) and to airframe ground.

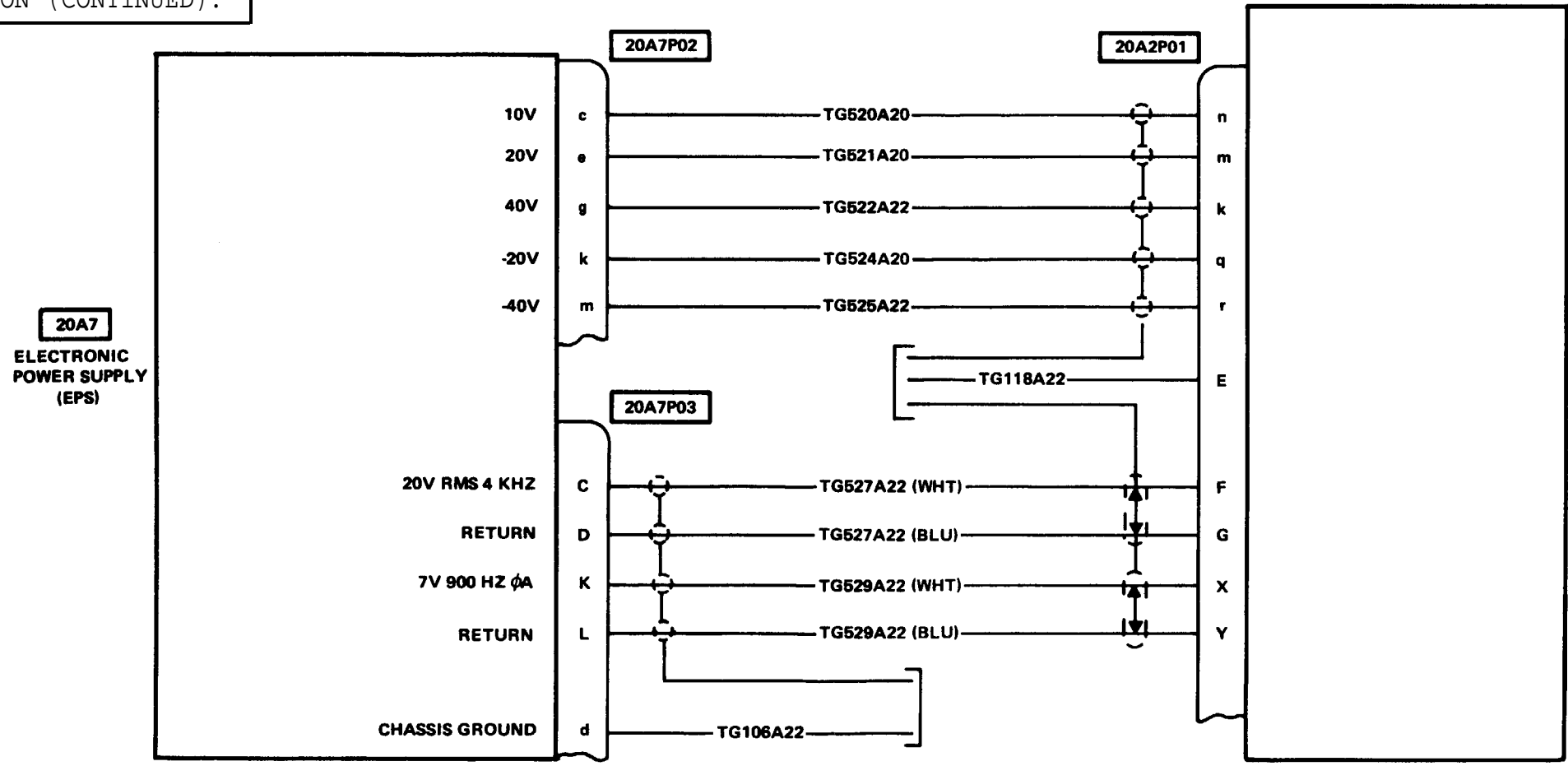
WIRE NO.	FROM	TO
TG22A22	20A7P02-A	20A1P06-Y
TG21A22	20A7P02-B	20A1P06-C
TG150A22	20A7P02-C	20A1P05-V
TG151A22	20A7P02-D	20A1P05-j
TG222A22	20A7P02-M	20A6P01-j
TG323A22	20A7P02-X	20A16P01-b
TG220A22	20A7P02-Y	20A6P01-g
TG482A22	20A7P02-a	20A5P01-i
TG480A22	20A7P02-b	20A5P01-f
TG520A20	20A7P02-c	20A2P01-n
TG478A22	20A7P02-d	20A5P01-L
TG521A20	20A7P02-e	20A2P01-m
TG522A22	20A7P02-g	20A2P01-k
TG479A22	20A7P02-h	20A5P01-M
TG477A22	20A7P02-j	20A5P01-K
TG524A20	20A7P02-k	20A2P01-q
TG525A22	20A7P02-m	20A2P01-r
TG122A22	20A7P02-n	20A1P04-j
TG76A22	20A7P02-p	20A1P01-i
TG78A22	20A7P02-q	20A1P01-k
TG123A22	20A7P02-r	20A1P04-z
TG75A22	20A7P02-s	20A1P01-S

Is continuity present on any wire?

NO



8-11. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).

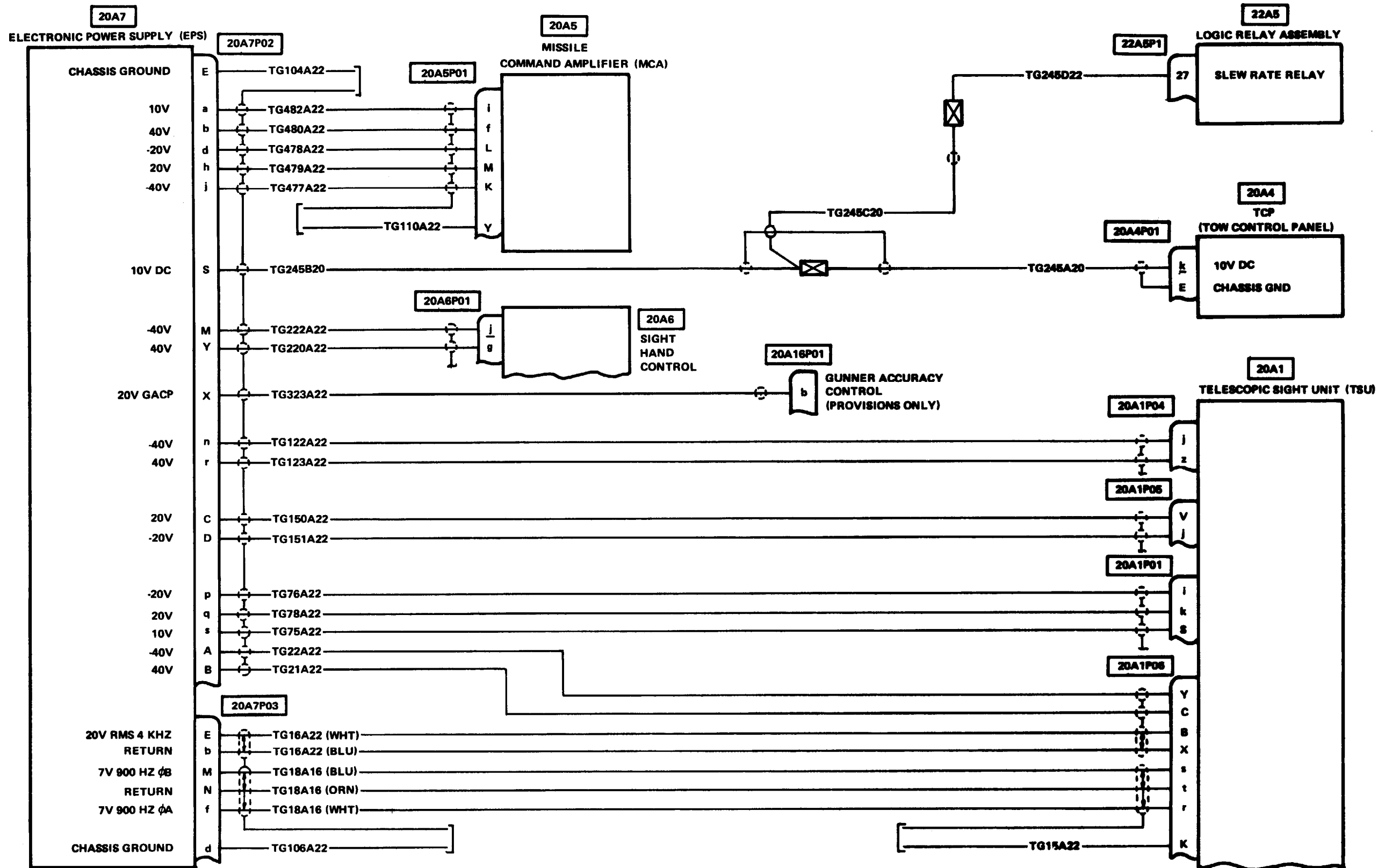


YES → Disconnect 22A5P1.
 Check for continuity from 20A7P02-S to 20A7P02-E and to airframe ground.
 Is continuity present in either check?

YES → Repair wire(s) TG245A20 between 20A4P01-k and splice, TG245B20 between 20A7P02-S and splice, TG245D22 between 22A5P1-27 and splice, and/or TG245C20 between splices.
 Connect 20A2P01, 20A1P01, 20A1P04, 20A1P05, 20A1P06, and 20A6P01.
 Then go to paragraph 8-2.

NO → Replace logic relay assembly per TM 9-1090-206-12, Chapter 3, Section XXIII.
 Connect 20A4P01, 20A2P01, 20A1P01, 20A1P04, 20A1P05, 20A1P06, and 20A6P01.
 Then go to paragraph 8-2.

8-11. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).



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8-11.1. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON.

INITIAL SETUP

Applicable Configuration

AH-1F **MCN**

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

Forward Right Side Radar Warning Antenna - Removed

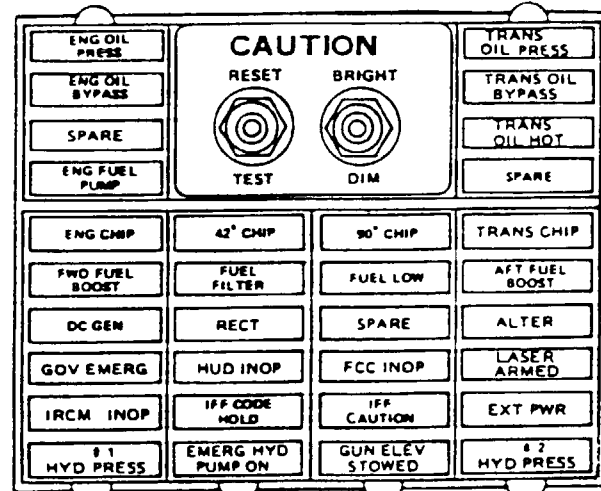
Forward Left Side Radar Warning Antenna - Removed

Aft Electronics (Tailboom) - Removed

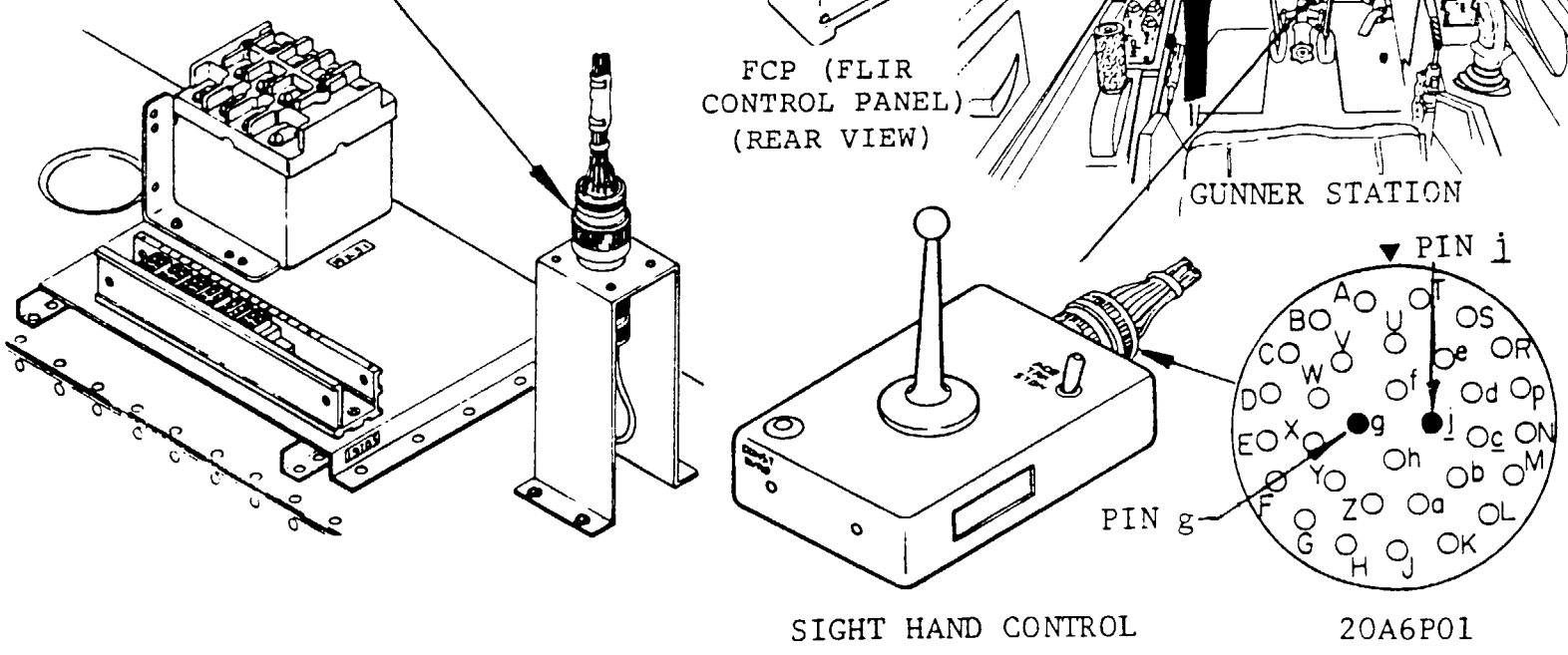
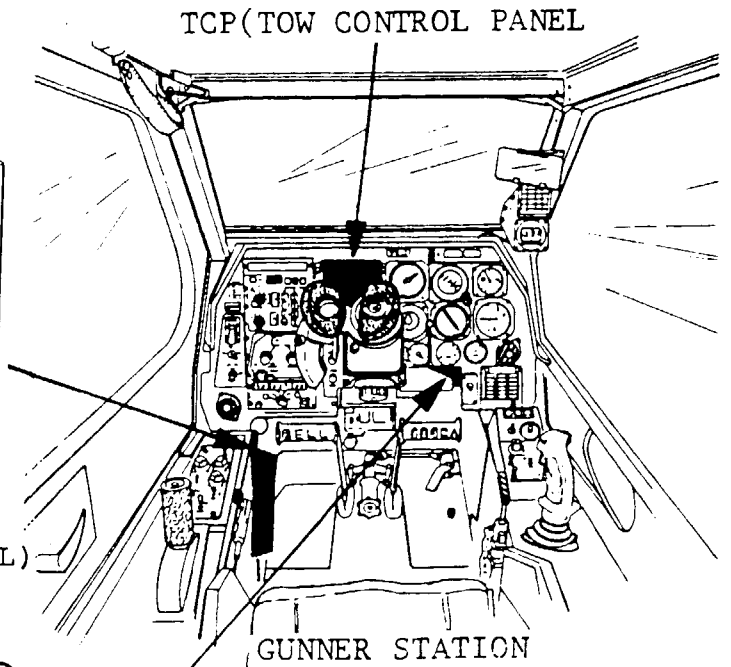
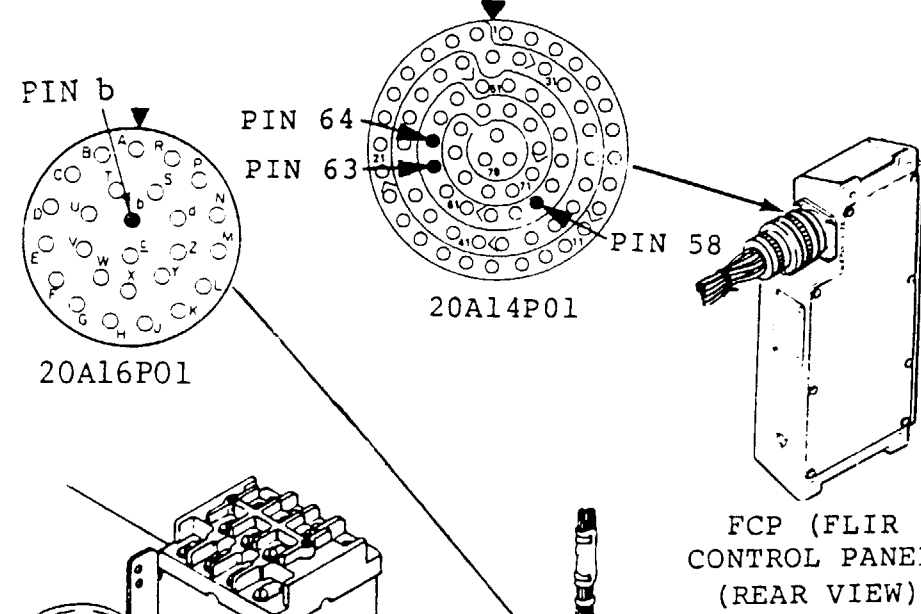
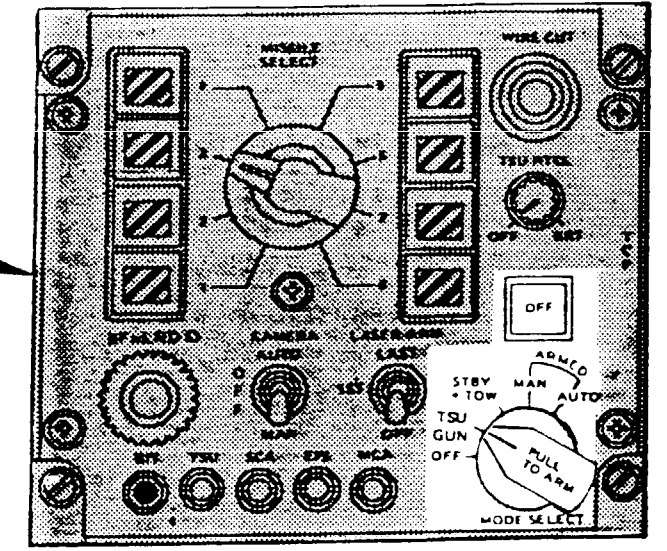
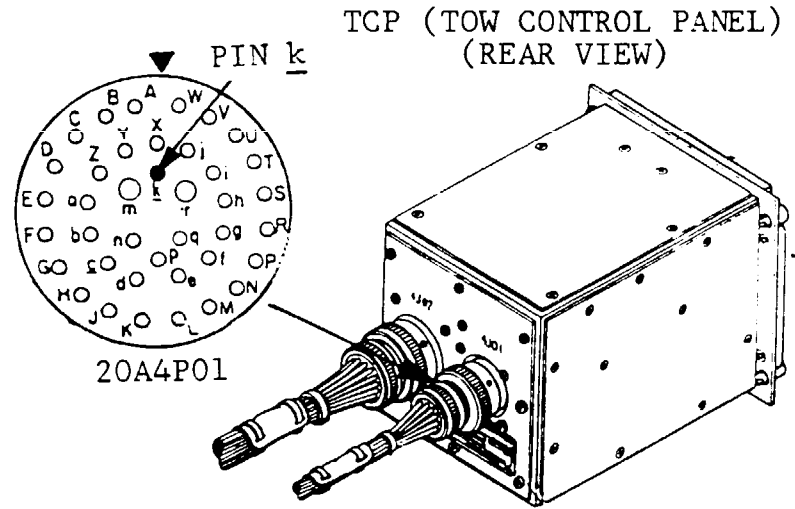
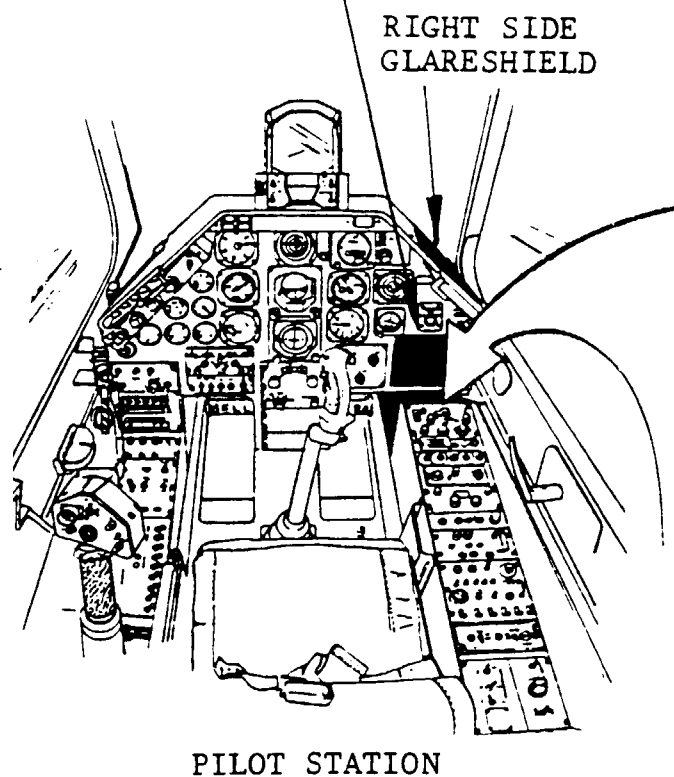
Middle Electronics (Tailboom) - Removed

Forward Electronics (Tailboom) - Removed

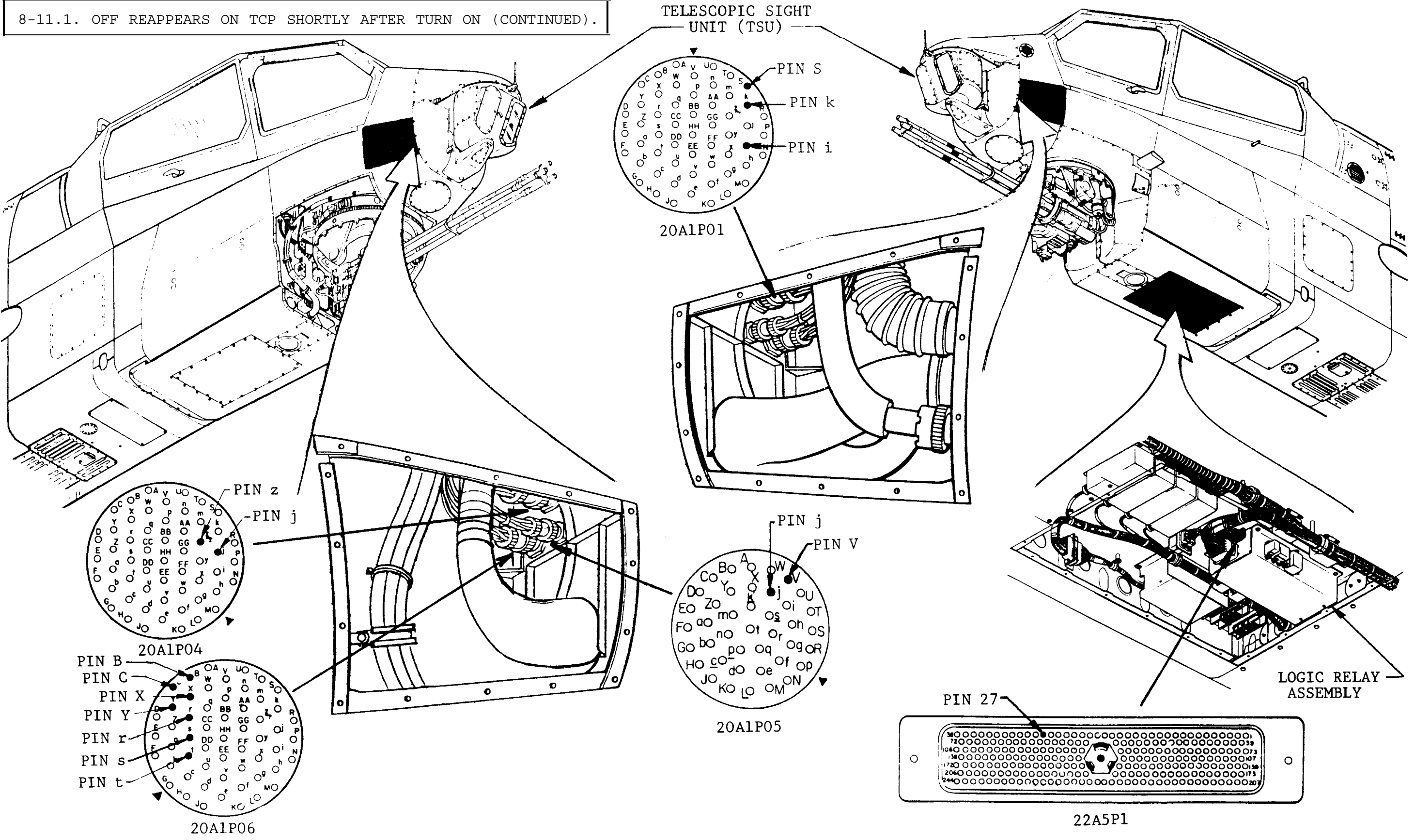
Right Side Glareshield - Removed



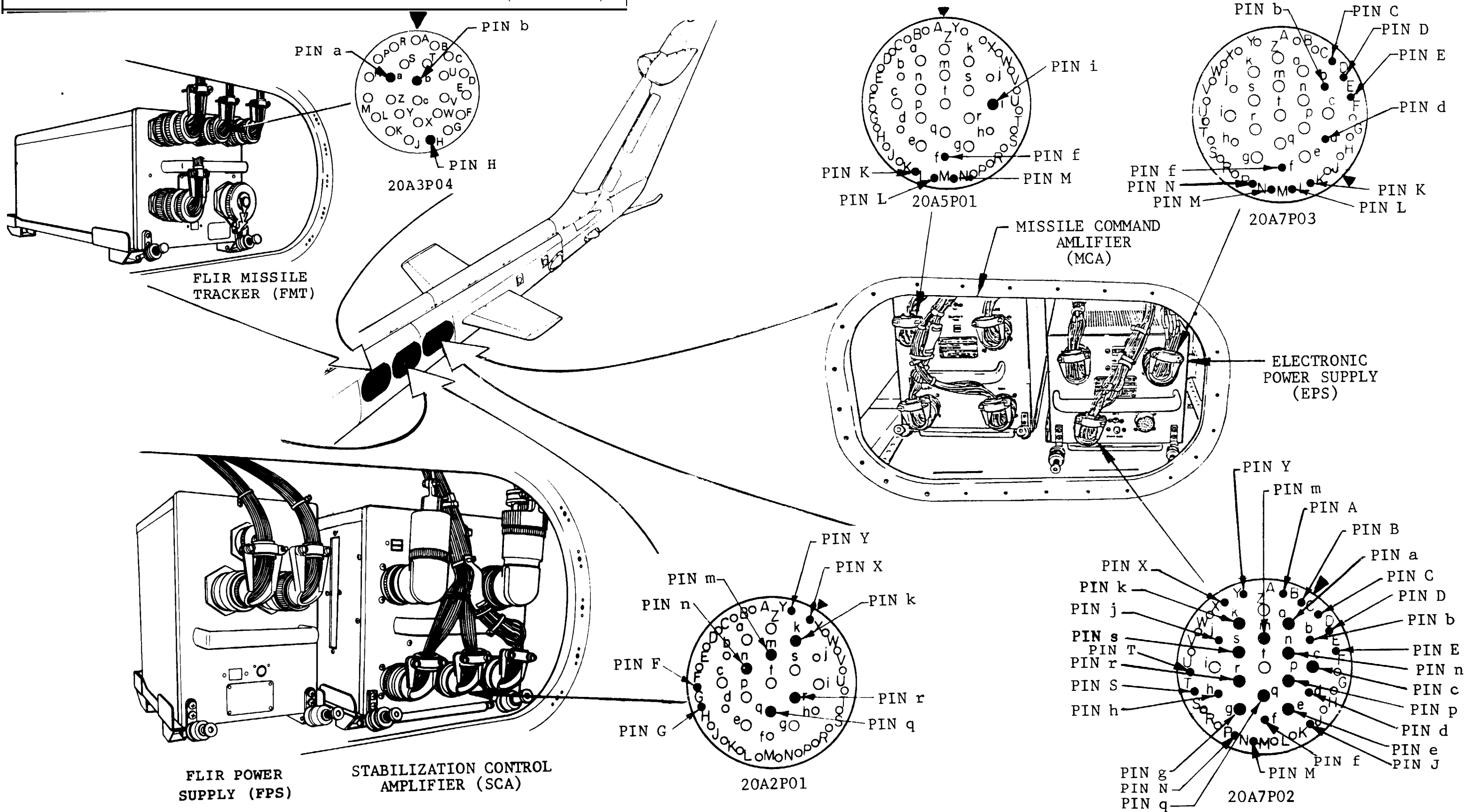
PILOT CAUTION PANEL



8-11.1. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).



8-11.1. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).



8-11.1. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).

Turn off electrical power per paragraph 8-3.
 Disconnect 20A2P01.
 Turn on electrical power per paragraph 8-3.
 On TCP (TOW control panel):
 Set MODE SELECT switch to TSU GUN.
 Does OFF reappear on mode indicator shortly after system is turned on?

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 8-2.1.

YES

Turn off electrical power per paragraph 8-3.
 Connect 20A2P01.
 Disconnect 20A7P02.
 Turn on electrical power per paragraph 8-3.
 Does fan in stabilization control amplifier (SCA) start and continue to run?

NO

Turn off electrical power per paragraph 8-3.
 Connect 20A7P02.
 Disconnect 20A7P03.
 Turn on electrical power per paragraph 8-3.
 Does fan in stabilization control amplifier (SCA) start and continue to run?

NO

Turn off electrical power per paragraph 8-3.
 Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.
 Then go to paragraph 8-2.1.

YES

Turn off electrical power per paragraph 8-3.
 Connect 20A7P03.
 Disconnect 20A1P06.
 Turn on electrical power per paragraph 8-3.
 Does fan in stabilization control amplifier (SCA) start and continue to run?

NO

Turn off electrical power per paragraph 8-3.
 Disconnect 20A7P03 and 20A2P01.
 Check the following wires for continuity from pins on 20A7P03 to 20A7P03-d (chassis ground) and to airframe ground.

WIRE NO.	FROM	TO
TG527A22 (WHT)	20A7P03-C	20A2P01-F
TG527A22 (BLU)	20A7P03-D	20A2P01-G
TG16A22 (WHT)	20A7P03-E	20A1P06-B
TG529A22 (WHT)	20A7P03-K	20A2P01-X
TG529A22 (BLU)	20A7P03-L	20A2P01-Y
TG18A16 (BLU)	20A7P03-M	20A1P06-s
TG18A16 (ORN)	20A7P03-N	20A1P06-t
TG18A16 (WHT)	20A7P03-f	20A1P06-r
TG16A22 (BLU)	20A7P03-b	20A1P06-x

Is continuity present on any wire?

NO

Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.
 Connect 20A1P06 and 20A2P01.
 Then go to paragraph 8-2.1.

YES

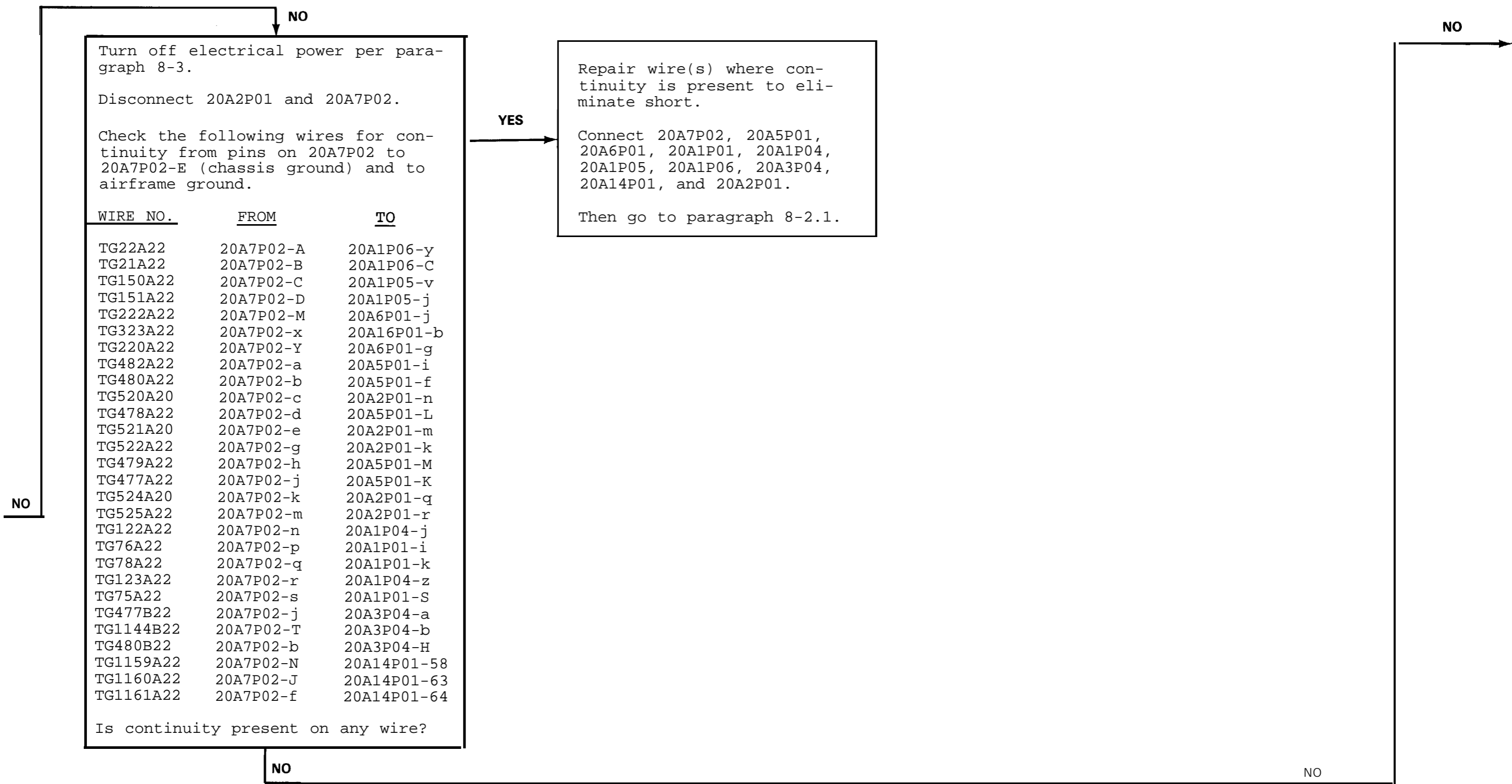
Turn off electrical power per paragraph 8-3.
 Replace telescopic sight unit (TSU) per TM 9-1425-473-20, Chapter 2, Section V.
 Then go to paragraph 8-2.1.

YES

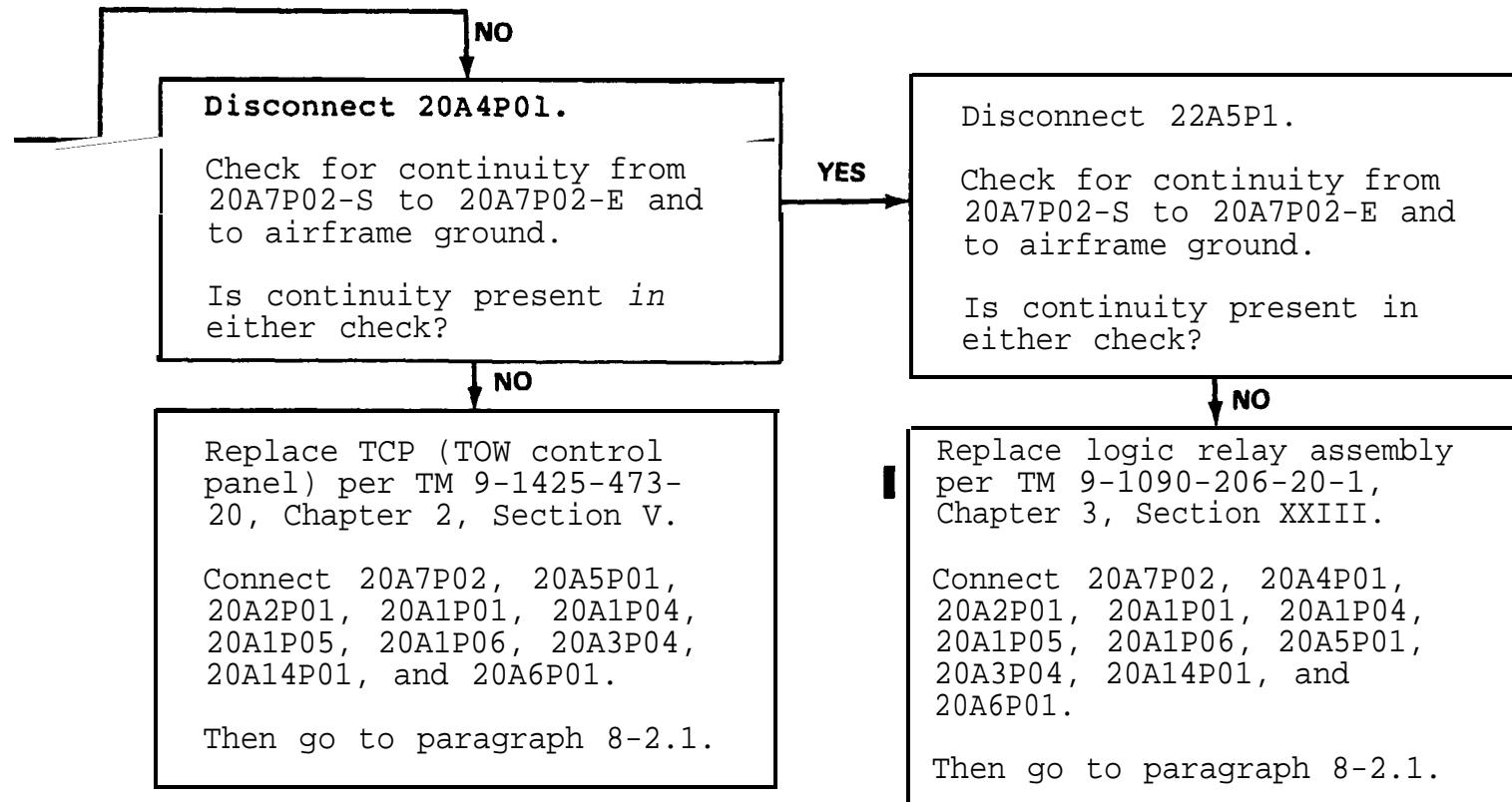
Repair wire(s) where continuity is present to eliminate short.
 Connect 20A1P06, 20A7P03, and 20A2P01.
 Then go to paragraph 8-2.1.

YES

8-11.1. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).



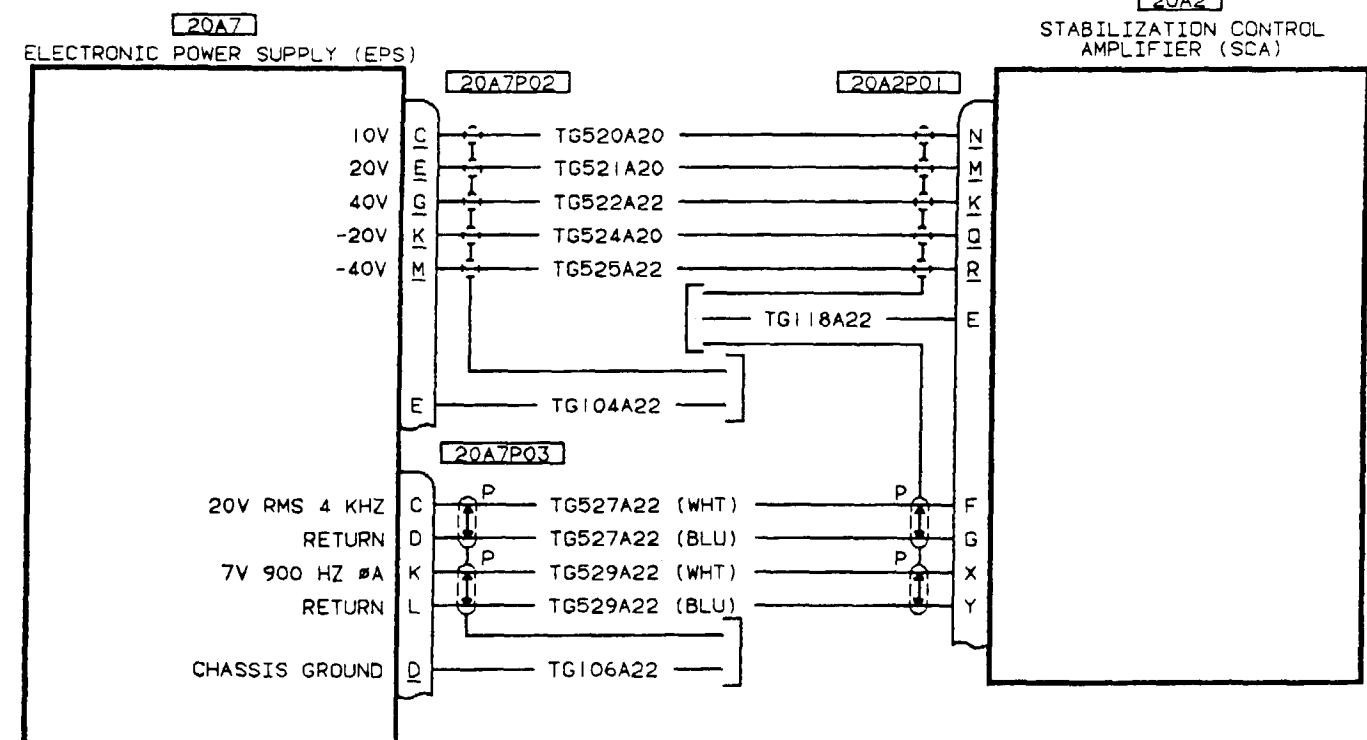
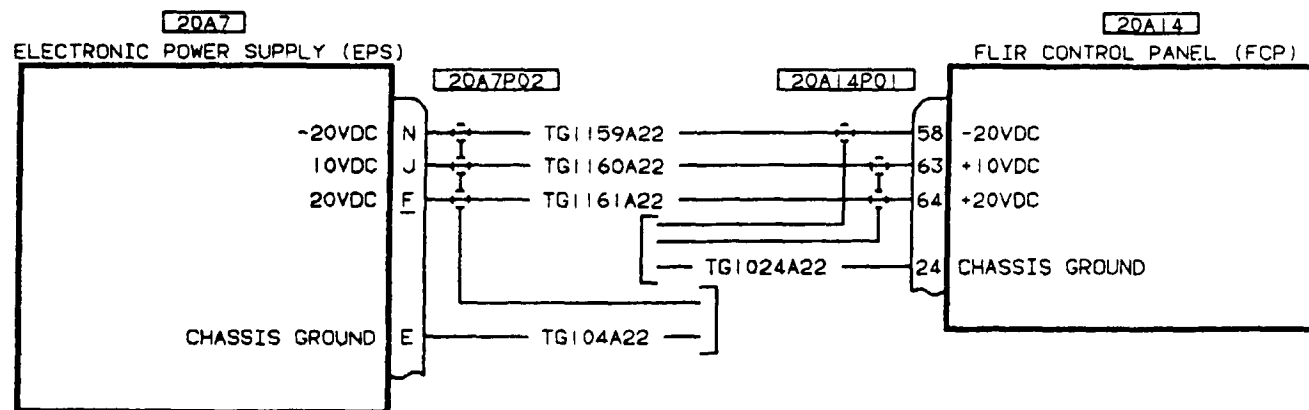
8-11.1. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).



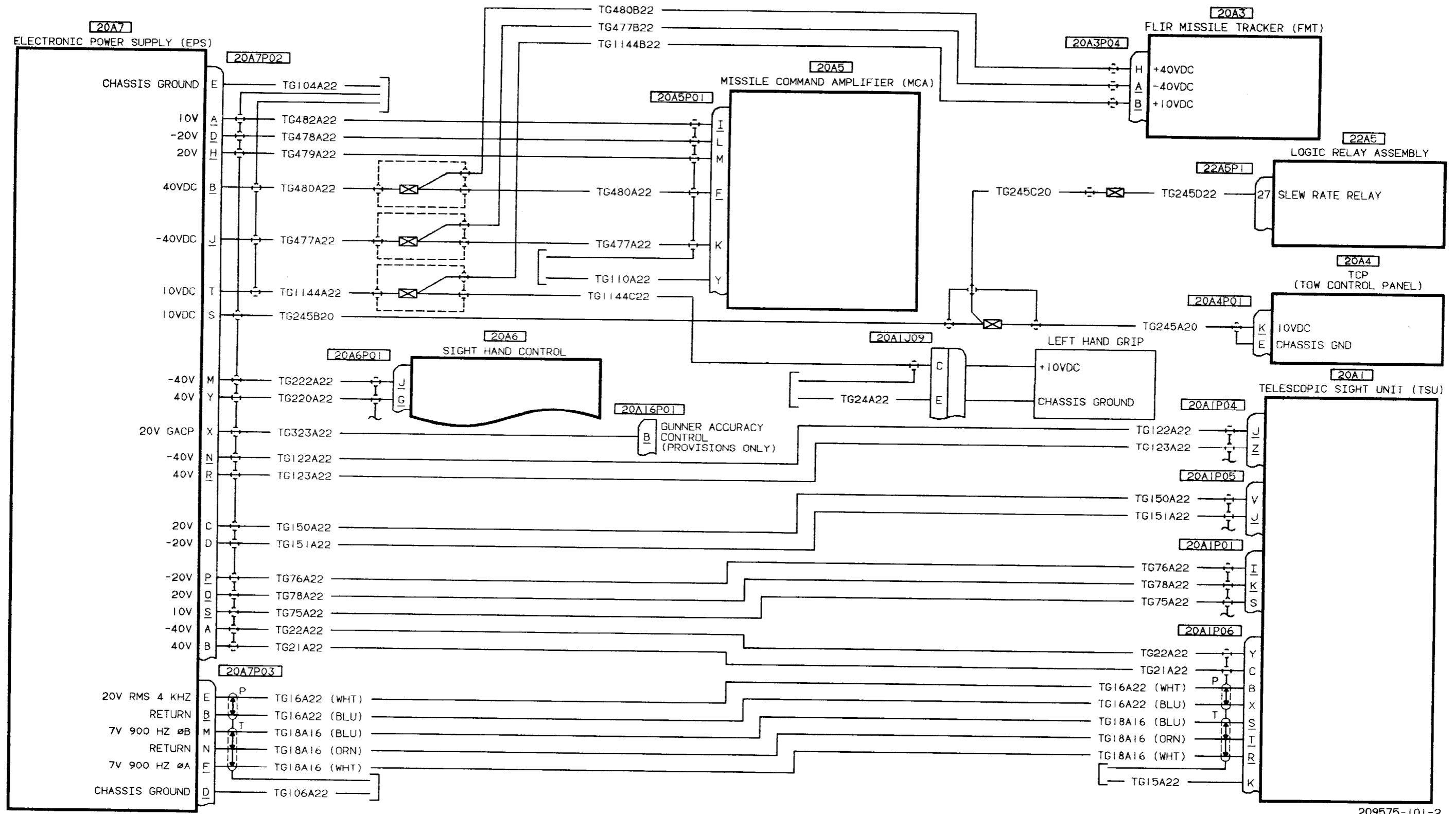
Repair wire(s) TG245A20 between 20A4P01-k and splice, TG245B20 between 20A7P02-S and splice, TG245D22 between 22A5P1-27 and splice, and/or TG245C20 between splices.

Connect 22A5P1, 20A7P02, 20A4P01, 20A2P01, 20A1P01, 20A1P04, 20A1P05, 20A1P06, 20A5P01, 20A3P04, 20A14P01, and 20A6P01.

Then go to paragraph 8-2.1.



8-11.1. OFF REAPPEARS ON TCP SHORTLY AFTER TURN ON (CONTINUED).



209575-101-2
209-575-082

8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN 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

Access Panels

Battery Compartment - Removed

Right Forward Radar Warning Antenna - Removed

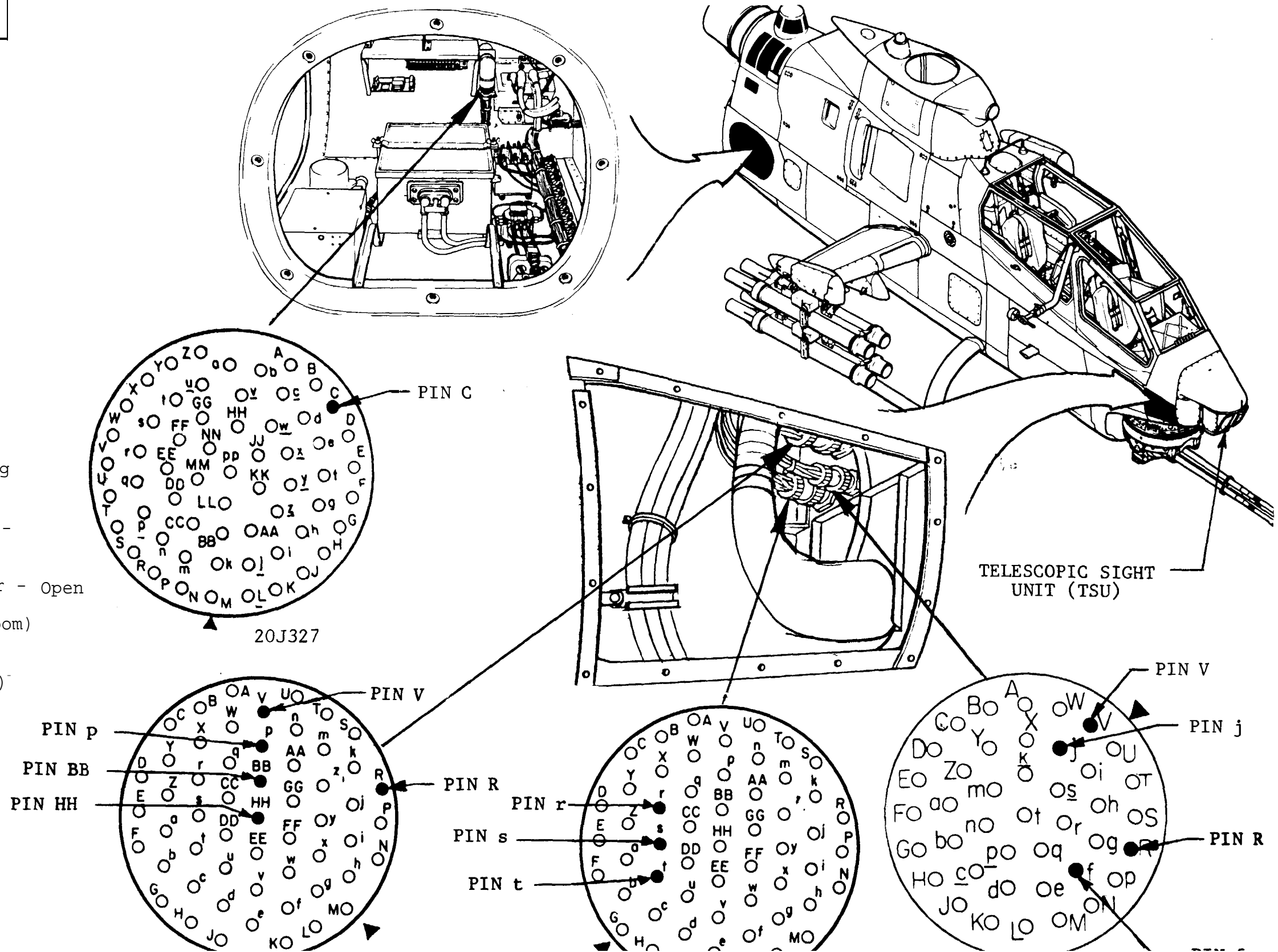
Left Side Control Linkage - Removed

Left Ammo Compartment Door - Open

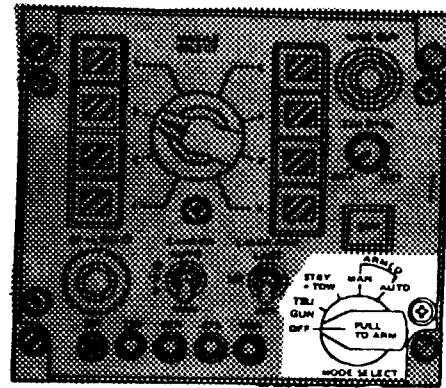
Middle Electronics (Tailboom) Removed

Aft Electronics (Tailboom) Removed

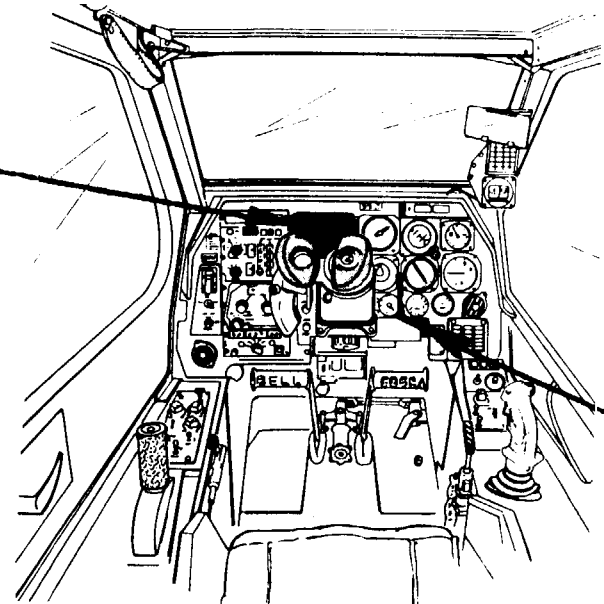
A. TROUBLESHOOTING LOGIC PART ONE.



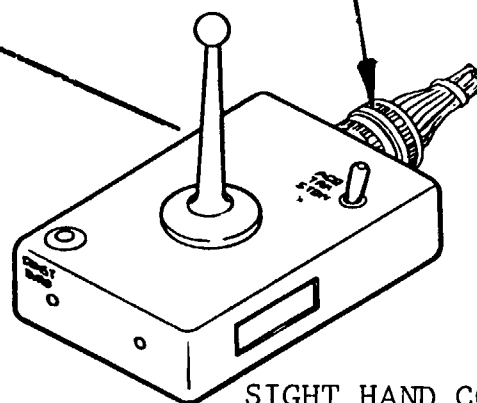
8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



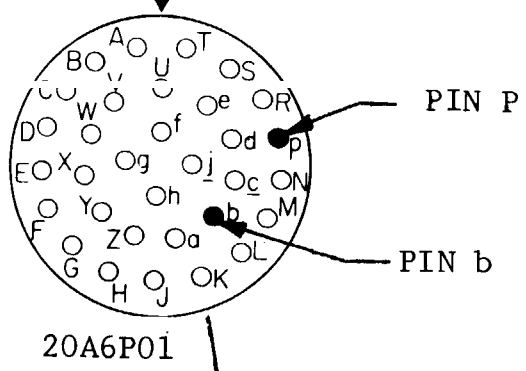
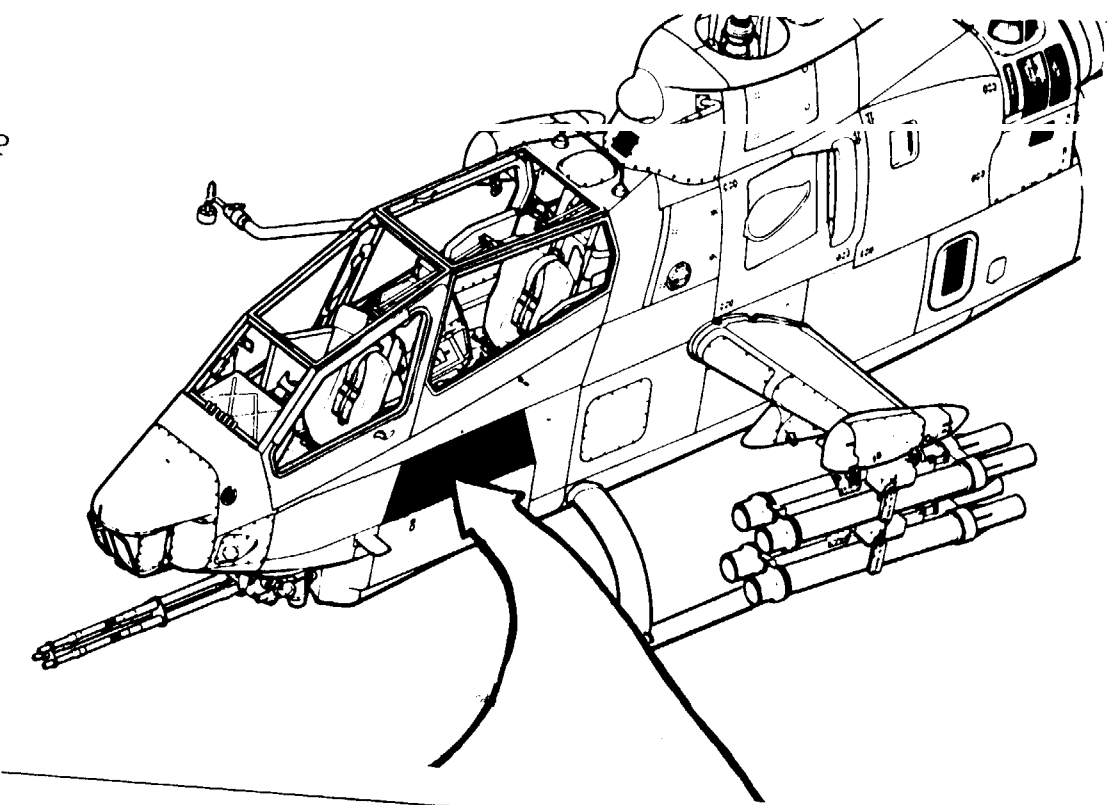
TCP (TOW CONTROL PANEL)



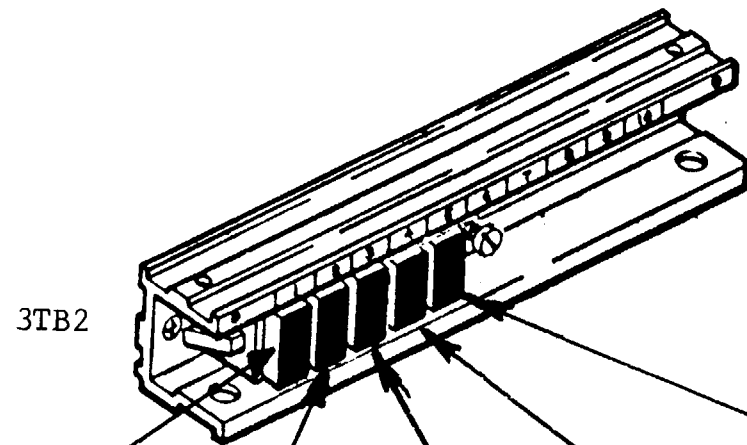
GUNNER STATION



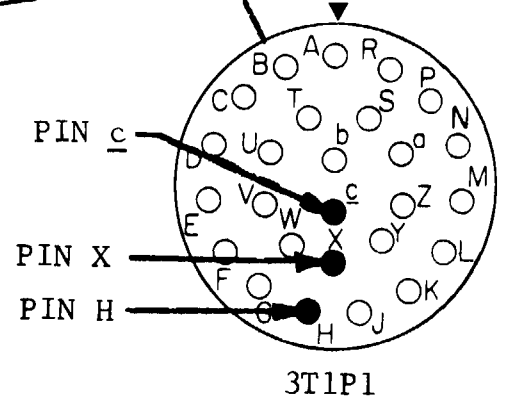
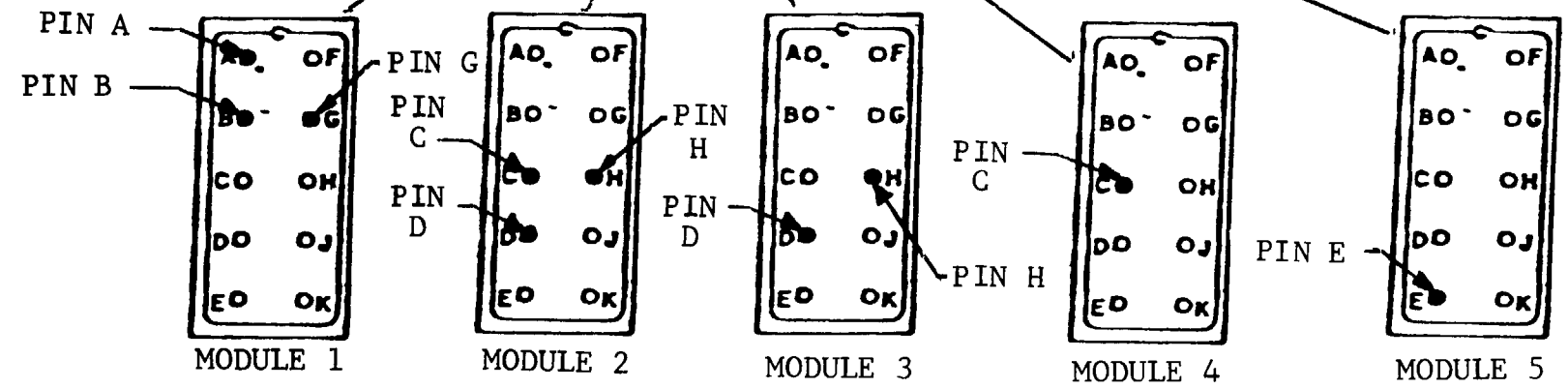
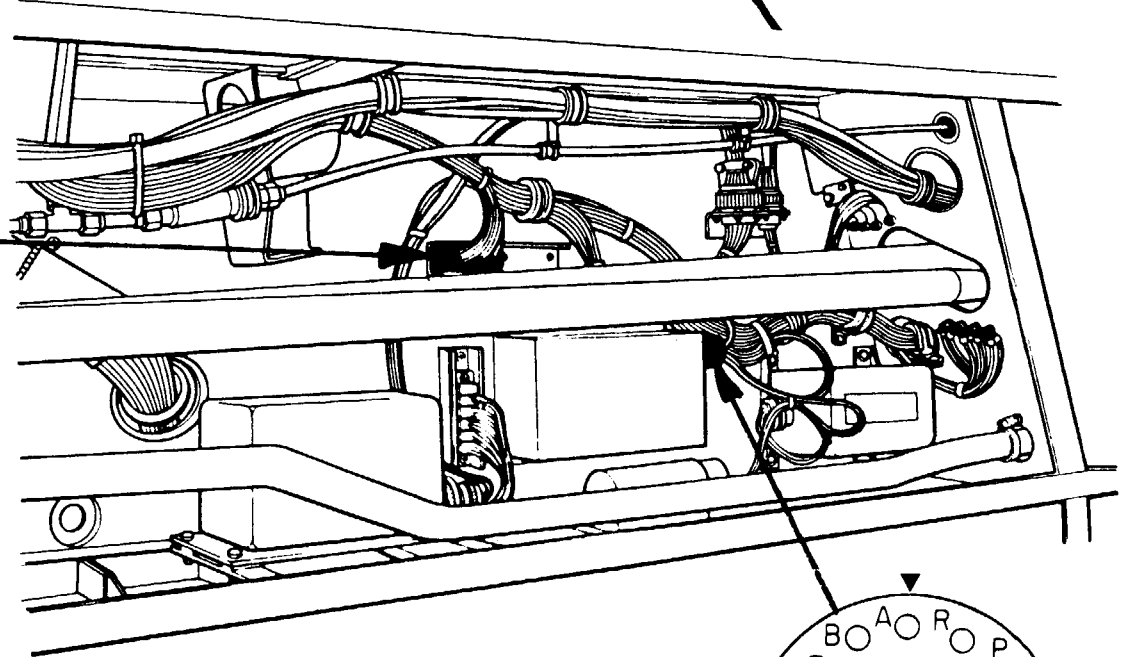
SIGHT HAND CONTROL



20A6P01



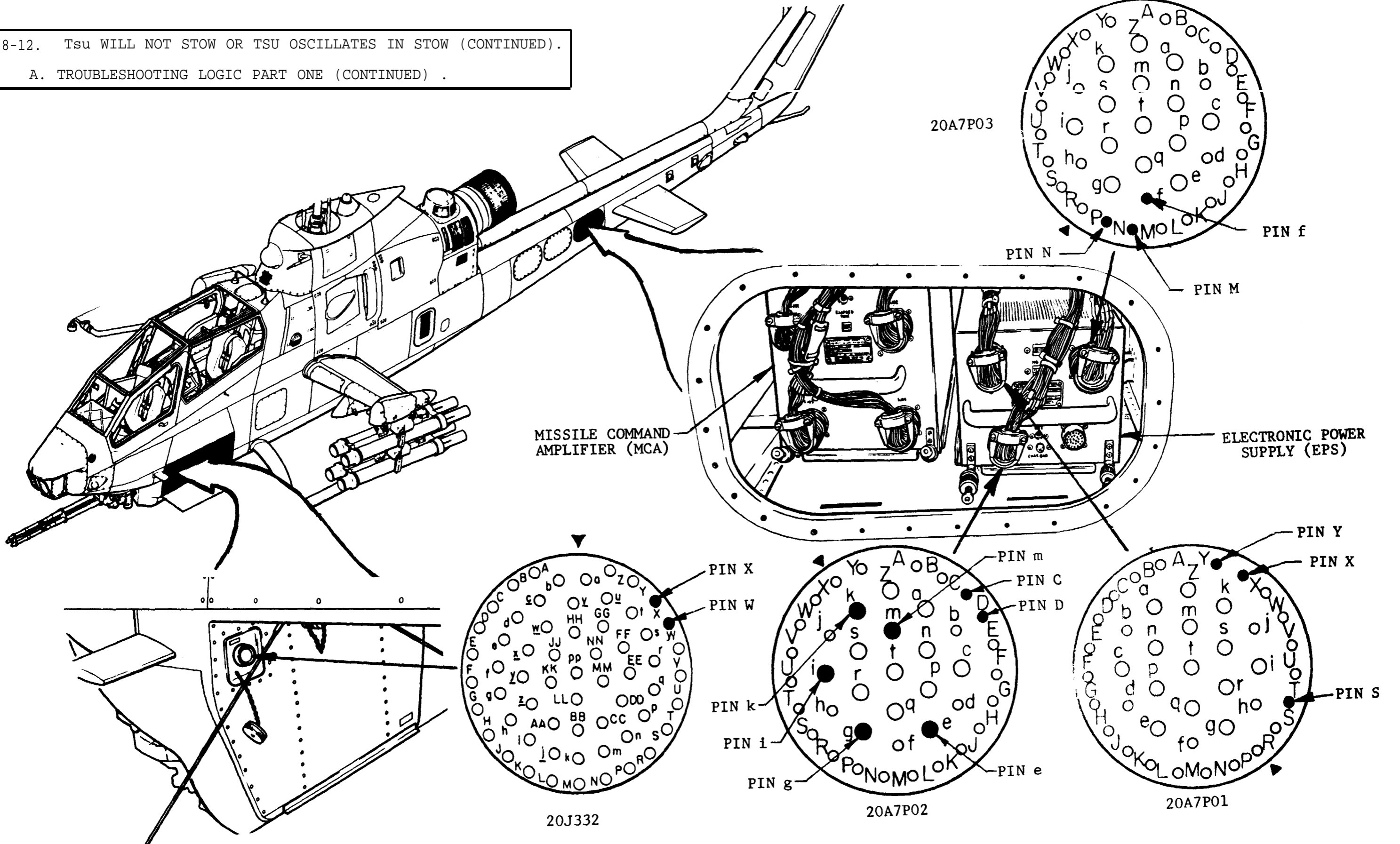
3TB2



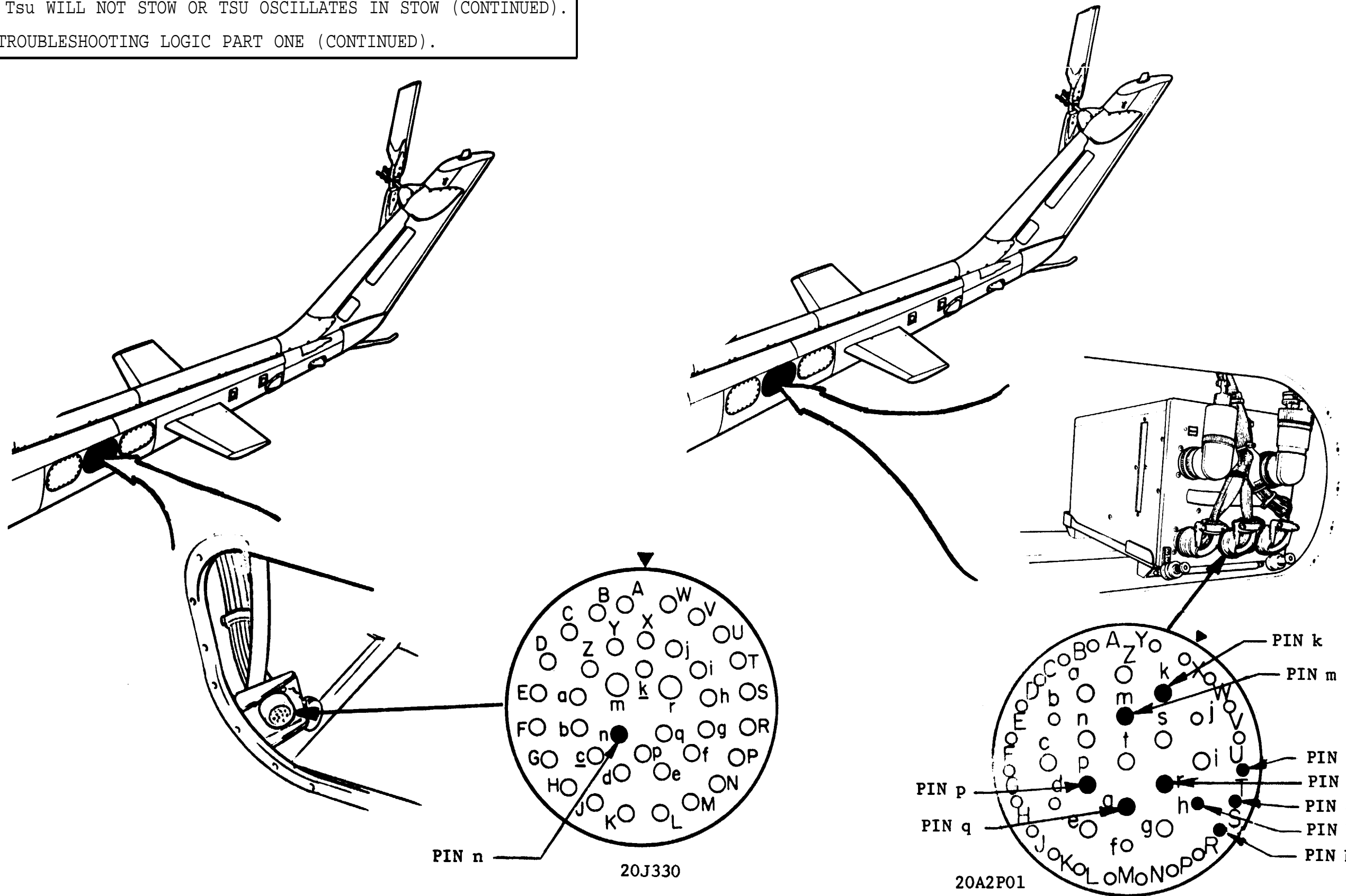
3T1P1

8-12. Tsu WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).

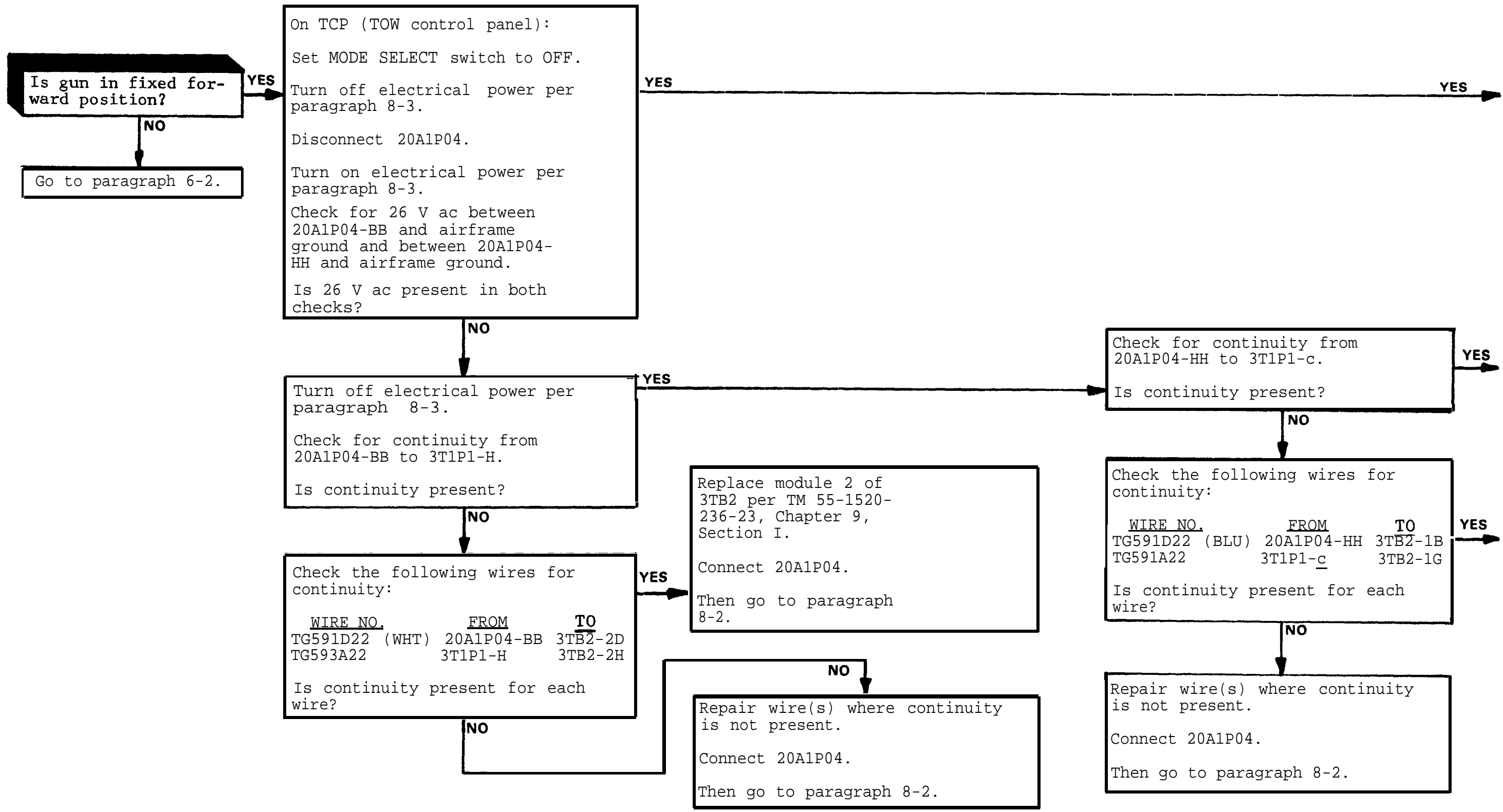
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED) .



8-12. Tsu WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

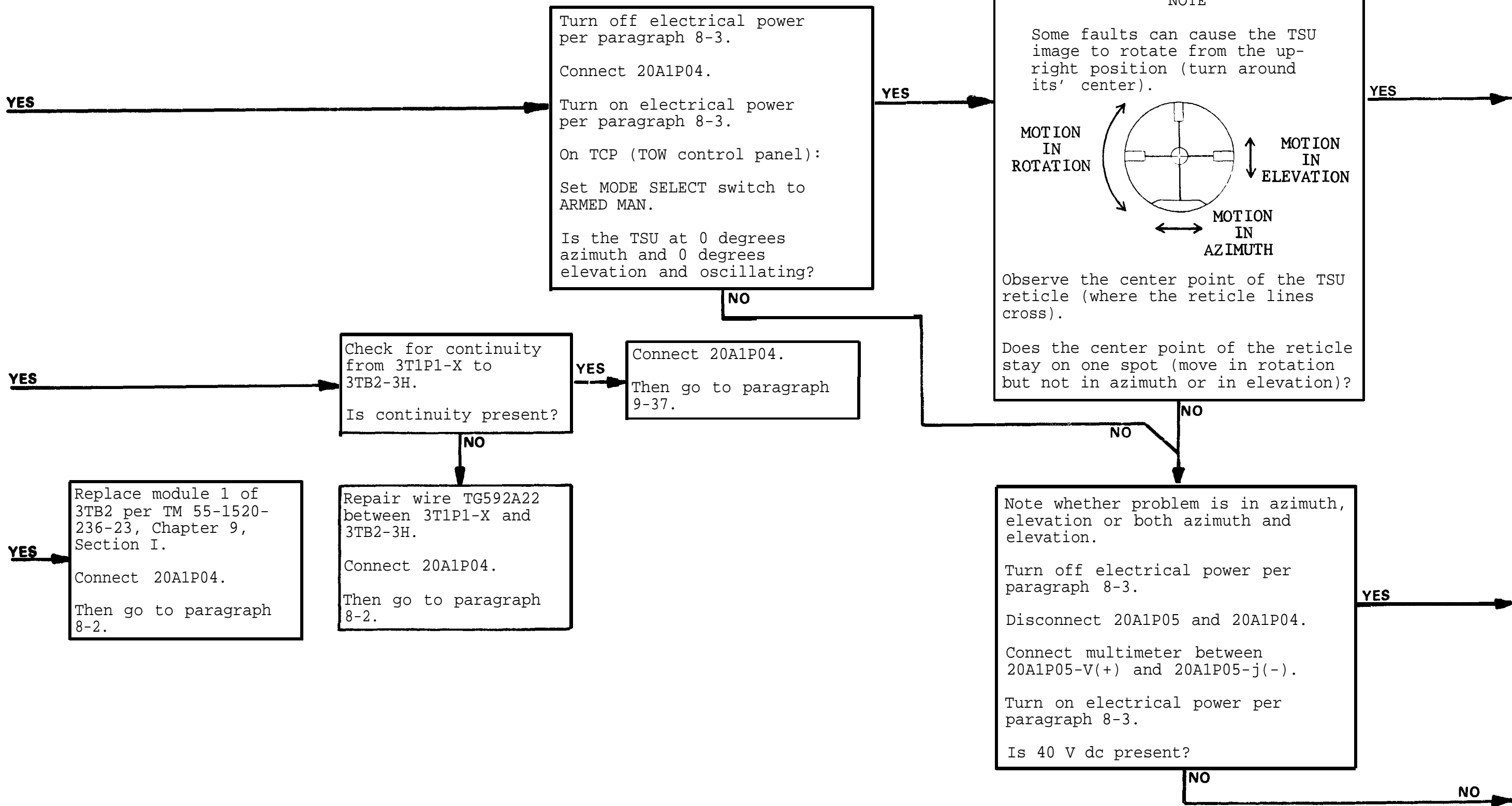


8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

YES → Go to paragraph 8-13.

On TCP (TOW control panel):
 Set MODE SELECT switch to OFF.
 Turn off electrical power per paragraph 8-3.
 Connect multimeter between 20A1P05-R and 20A1P05-f.
 Turn on electrical power per paragraph 8-3.
 Is 10 V ac present?

YES →

NO ↓
 Check for 10 V ac between 20J332-W and 20J332-X.
 Is 10 V ac present?

YES →

NO ↓
 Turn off electrical power per paragraph 8-3.
 Check for continuity from 20A1P05-R to 3TB2-4C and from 20A1P05-f to 3TB2-5E.
 Is continuity present in both checks?

YES →

NO ↓
 Repair wire TG594B22(WHT) between 3TB2-4C and splice and/or wire TG594B22(BLU) between 3TB2-5E and splice.
 Connect 20A1P04 and 20A1P05.
 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
TG150A22	20A1P05-V	20A7P02-C
TG151A22	20A1P05-j	20A7P02-D

Is continuity present?

YES →
 Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section V.
 Connect 20A1P04 and 20A1P05.
 Then go to paragraph 8-2.

NO ↓
 Repair wire(s) where continuity is not present.
 Connect 20A1P04 and 20A1P05.
 Then go to paragraph 8-2.

YES

NO

8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 A. TROUBLESHOOT LOGIC PART ONE (CONTINUED).

YES

Turn off electrical power per paragraph 8-3.
 Disconnect 20A1P06.
 Turn on electrical power per paragraph 8-3.
 On TCP (TOW control panel):
 Set MODE SELECT switch in STBY TOW.
 Check for 7 V ac or more from 20A1P06-r to 20A1P06-s and from 20A1P06-t to 20A1P06-s.
 Is 7 V ac or more present in both checks ?

YES

Turn off electrical power per paragraph 8-3.
 Repair wire(s) TG594C22 (WHT) between 20A1P05-R and splice and/or wire TG594C22(BLU) between 20A1P05-f and splice.
 Connect 20A1P04 and 20A1P05.
 Then go to paragraph 8-2.

YES

Connect 20A1P04 and 20A1P05.
 Then go to paragraph 9-44.

YES

NO

Turn off electrical power per paragraph 8-3.
 Check the following wires for continuity:

WIRE NO.	FROM
TG18A16 (WHT)	20A1P06-r 20A7P03-f
TG18A16 (ORN)	20A1P06-s 20A7P03-N
TG18A16 (BLU)	20A1P06-t 20A7P03-M

Is continuity present on all wires?

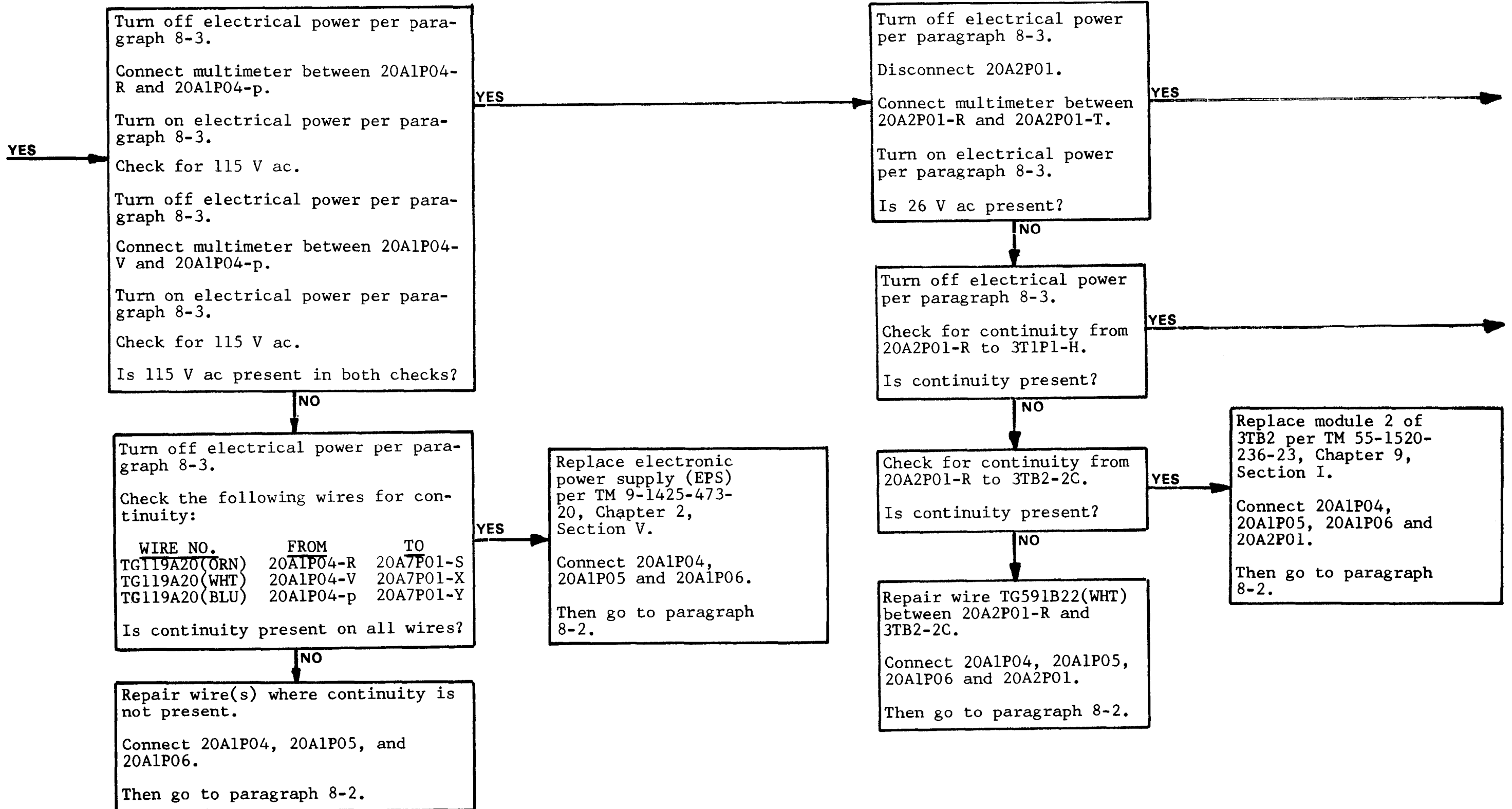
YES

Replace electronic power supply (EPS) per TM 9-1425-473-20, Chapter 2, Section v.
 Connect 20A1P04, 20A1P05, and 20A1P06.
 Then go to paragraph 8-2.

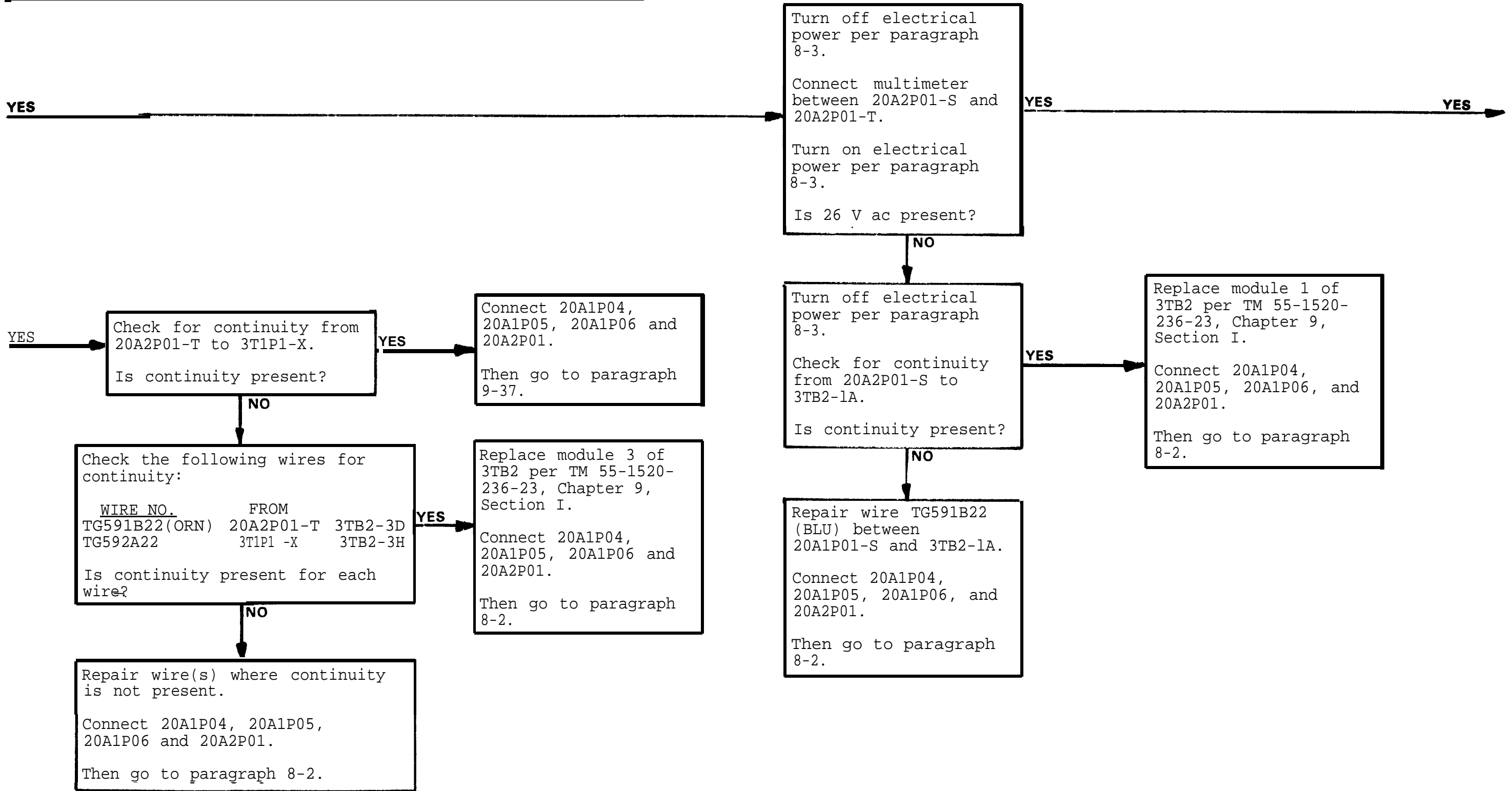
NO

Repair wire(s) where continuity is not present.
 Connect 20A1P04, 20A1P05, and 20A1P06.
 Then go to paragraph 8-2.

8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED),
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

Check for the following voltages:

FROM (+)	TO (-)	VOLTAGE REQUIRED
20A2P01-k	20A2P01-p	+ 40 V DC
20A2P01-m	20A2P01-p	+ 20 V DC
20A2P01-q	20A2P01-p	- 20 V DC
20A2P01-r	20A2P01-p	- 40 V DC

Is voltage correct for each measurement?

YES

YES

YES

Check for 28 V dc at 20A2P01-h.

Is 28 V dc present?

NO

Turn off electrical power per paragraph 8-3.

YES

Check for continuity from 20A2P01-h to 20A6P01-p.

Is continuity present?

NO

Check for continuity from 20A2P01-h to 20J327-C.

YES

Is continuity present?

NO

Repair wire(s) TG204D22 and/or TG204B22 between 20A2P01-h and 20J327-C.

Connect 20A1P04, 20A1P05 and 20A1P06.

Then go to paragraph 8-2.

Repair wire TG204A22 between 20A6P01-P and 20P327-C.

Connect 20A1P04, 20A1P05, and 20A1P06.

Then go to paragraph 8-2.

Turn off electrical power per paragraph 8-3.

Check the following wires for continuity:

WIRE NO.	FROM	TO
TG522A22	20A2P01-k	20A7P02-g
TG521A20	20A2P01-m	20A7P02-e
TG523A16	20A2P01-p	20A7P02-i
TG524A20	20A2P01-q	20A7P02-k
TG525A22	20A2P01-r	20A7P02-m
MCN TG523A16	20A2P01-p	20A7P02-i
MCN TG12A16 (WHT),	20A2P01-c	20A1P06-A
TG12B12 (WHT),		
AND		
TG12C18 (WHT)		
MCN TG12A16 (BLU),	20A2P01-e	20A1P06-W
TG12B12 (BLU),		
AND		
TG12C18 (BLU)		

Is continuity present for each wire?

NO

Repair wire(s) where continuity is not present.

Connect 20A1P04, 20A1P05, 20A1P06, and 20A2P01.

Then go to paragraph 8-2.

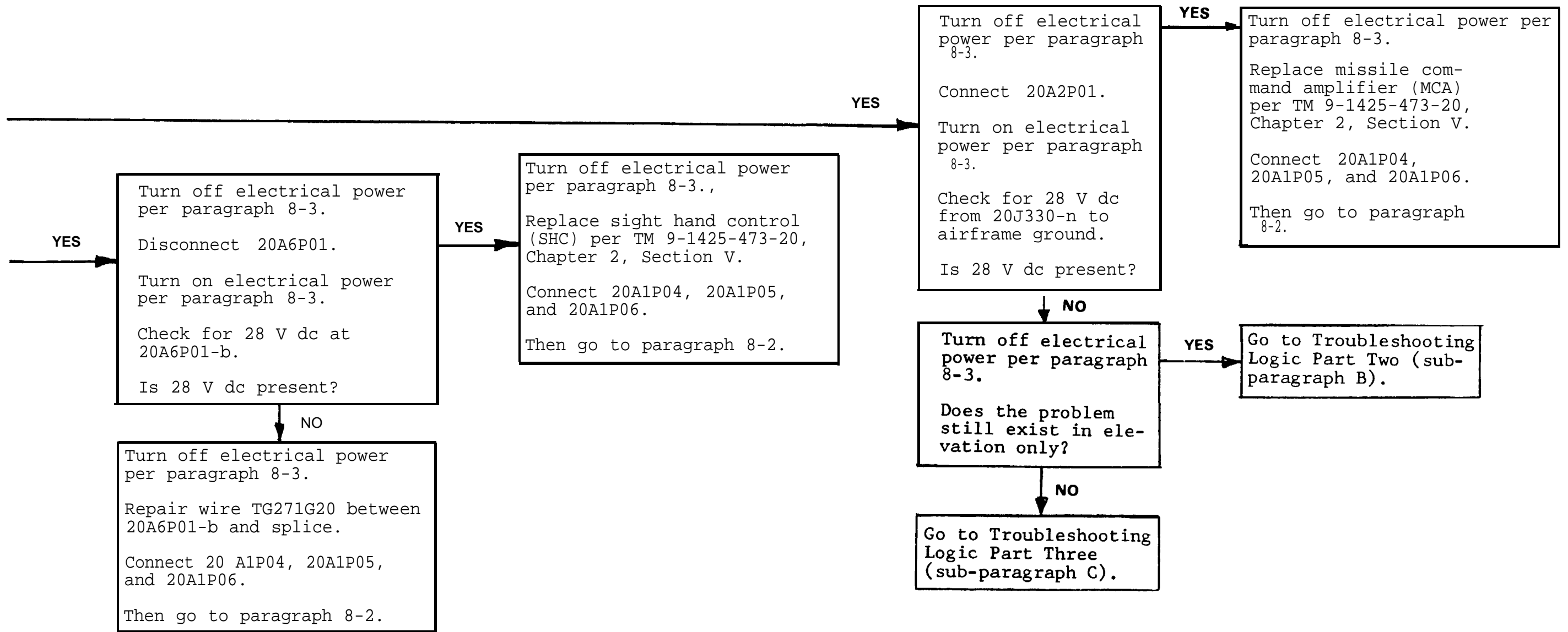
YES

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

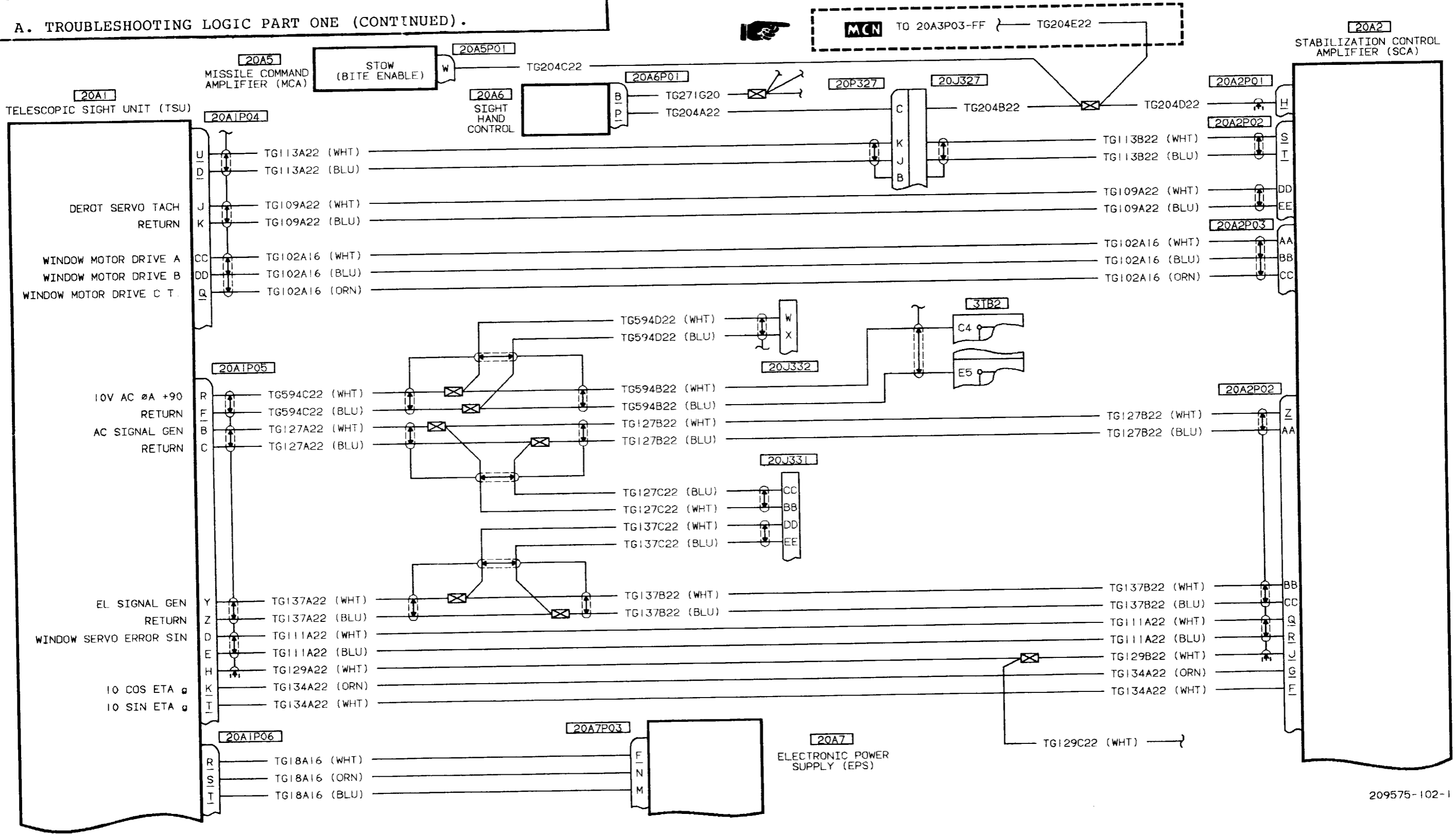
Connect 20A1P04, 20A1P05, 20A1P06 and 20A2P01.

Then go to paragraph 8-2.

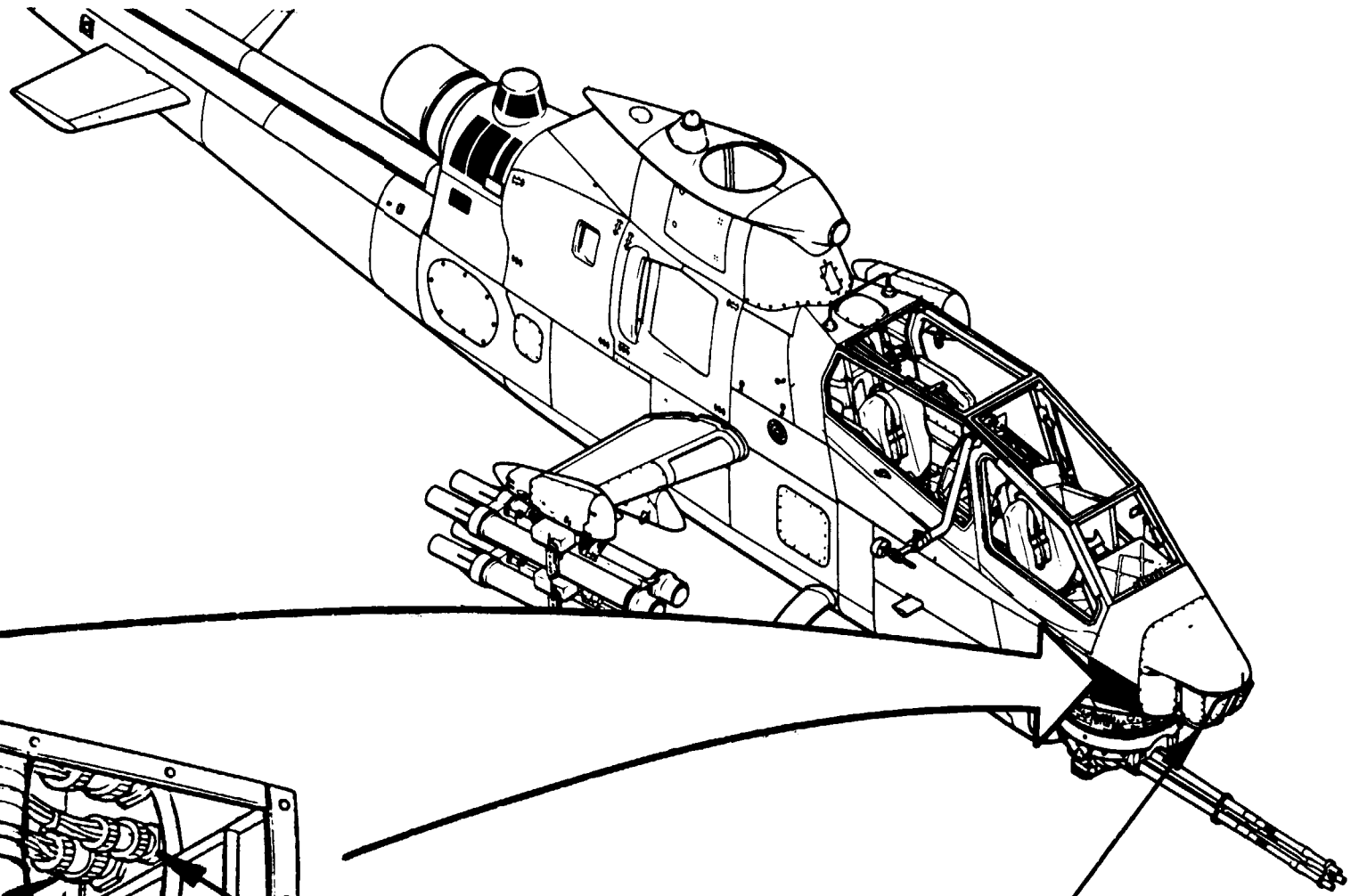
8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED) .



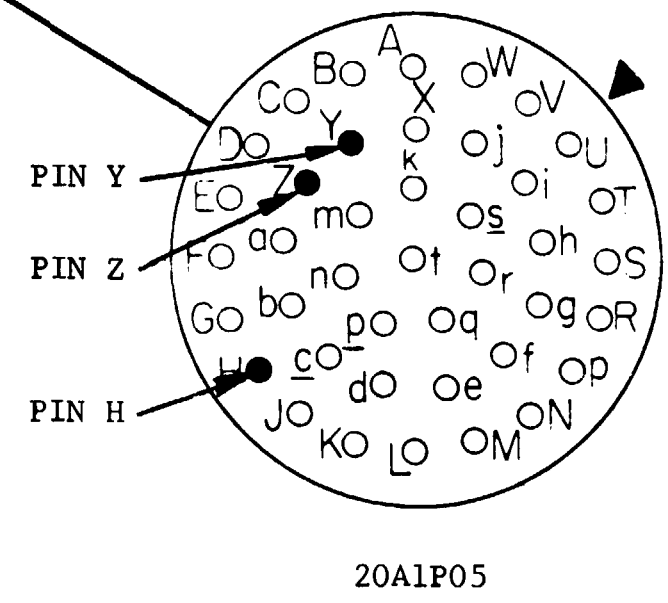
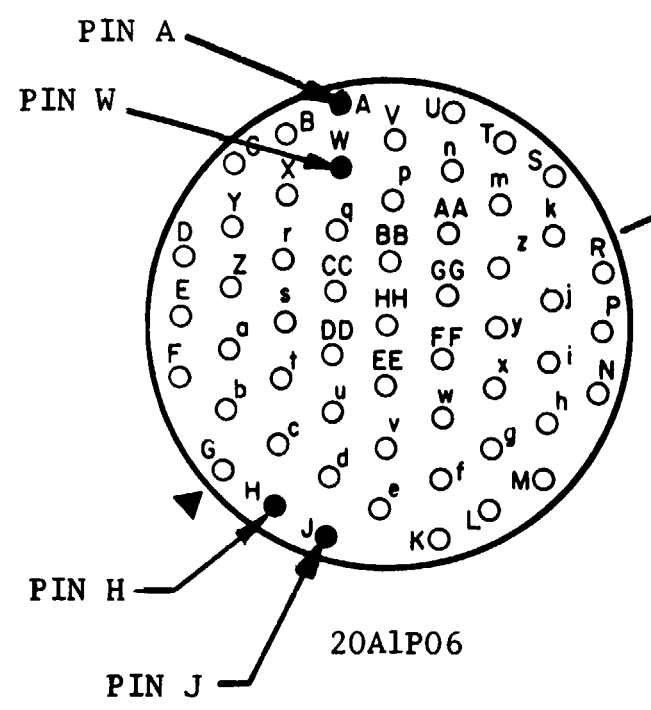
8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO.



TELESCOPIC SIGHT UNIT (TSU)



8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

Check the following wires for continuity:

WIRE NO.	FROM	TO
TG137B22 (WHT) and TG137A22 (WHT)	20A2P02-BB	20A1P05-Y
TG137B22 (BLU) and TG137A22 (BLU)	20A2P02-CC	20A1P05-z
TG129B22 (WHT) and TG129A22 (WHT)	20A2P02-j	20A1P05-H

Is continuity present in all checks?

NO

Repair wire(s) where continuity is not present.
Connect 20A1P04, 20A1P05 and 20A1P06.
Then go to paragraph 8-2.

YES

Check at pins 20A2P02-BB, 20A2P02-CC and 20A2P02-j for continuity to airframe ground and to 20A2P02-E.

Is continuity present on any wire?

NO

Check the following wires for continuity:

WIRE NO.	FROM	TO
TG23A22 WHT	20A2P03-y	20A1P06-H
TG23A22 BLU	20A2P03-z	20A1P06-J

Is continuity present on all wires?

NO

Repair wire(s) where continuity is not present.
Connect 20A1P04, 20A1P05 and 20A1P06.
Then go to paragraph 8-2.

YES

Repair wire(s) where continuity is present to eliminate short:

WIRE NO.	FROM	TO
TG137B22 (WHT) and TG137A22 WHT	20A2P02-BB	20A1P05-Y
TG137B22 BLU and TG137C22 (BLU)	20A2P02-CC	20A1P05-Z
TG129B22 (WHT) and TG129A22 (WHT)	20A2P02-j	20A1P05-H

Connect 20A1P04, 20A1P05, and 20A1P06

Then go to paragraph 8-2.

Check at pins 20A2P03-y, and 20A2P03-z for continuity to airframe ground and to 20A2P03-E.

Is continuity present on any wire?

YES

NO

Check the following wires for continuity:

WIRE NO.	FROM	TO
TG12A16 WHT	20A2P01-c	20A1P06-A
TG12A16 BLU	20A2P01-e	20A1P06-W

Is continuity present in both checks?

YES

NO

Repair wire(s) where continuity is not present.

Connect 20A1P04, 20A1P05, and 20A1P06.

Then go to paragraph 8-2.

8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

Repair wire(s) where continuity is present to eliminate short:

WIRE NO.	FROM	TO
TG23A22(WHT)	20A2P03-y	20A1P06-H
TG23A22(BLU)	20A2P03-z	20A1P06-J

Connect 20A1P04, 20A1P05, and 20A1P06.

Then go to paragraph 8-2.

Check at pins 20A2P01-c and 20A2P01-e for continuity to airframe ground and to 20A2P01-E.

Is continuity present on any wire?

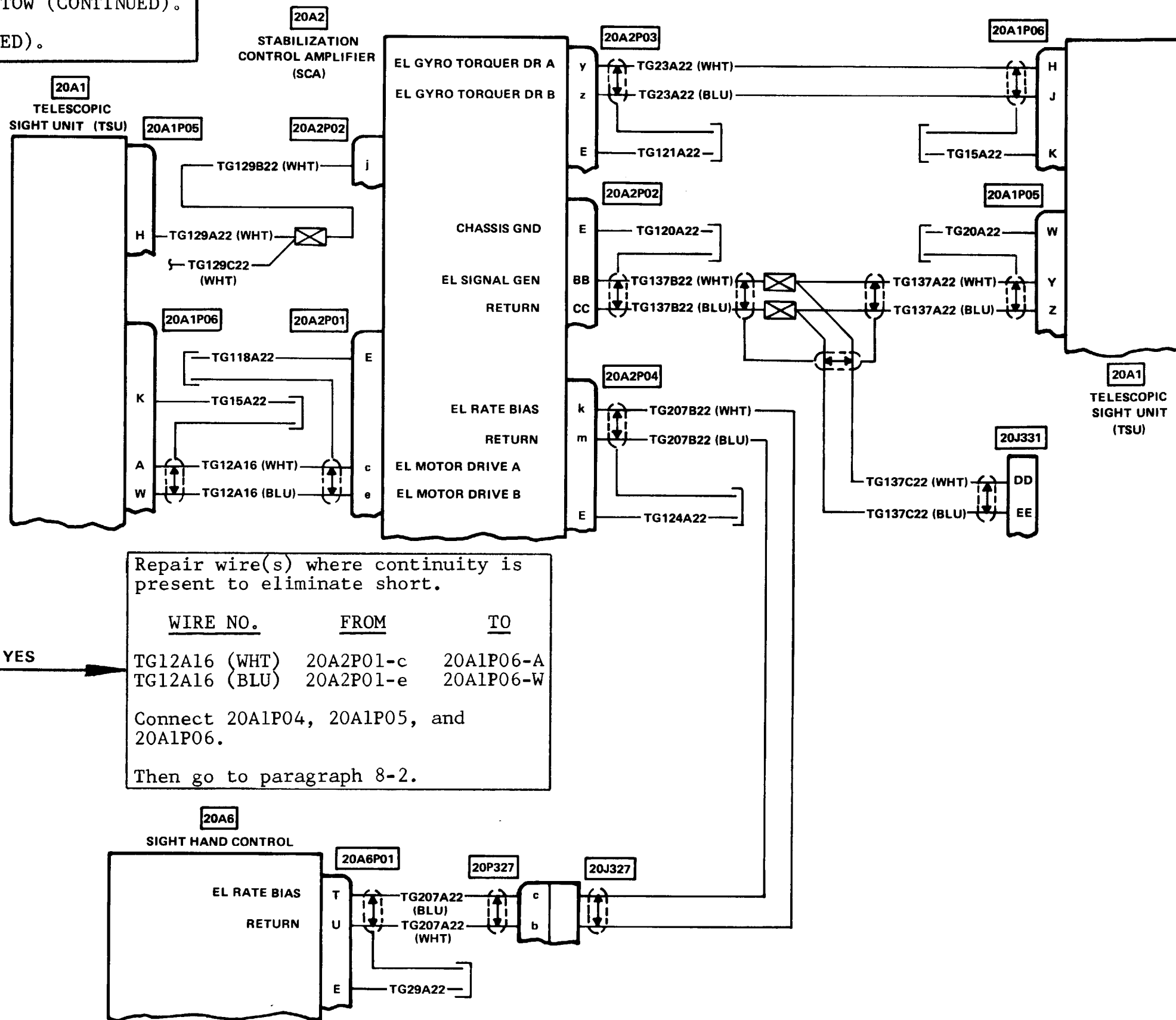
Repair wire(s) where continuity is present to eliminate short.

WIRE NO.	FROM	TO
TG12A16 (WHT)	20A2P01-c	20A1P06-A
TG12A16 (BLU)	20A2P01-e	20A1P06-W

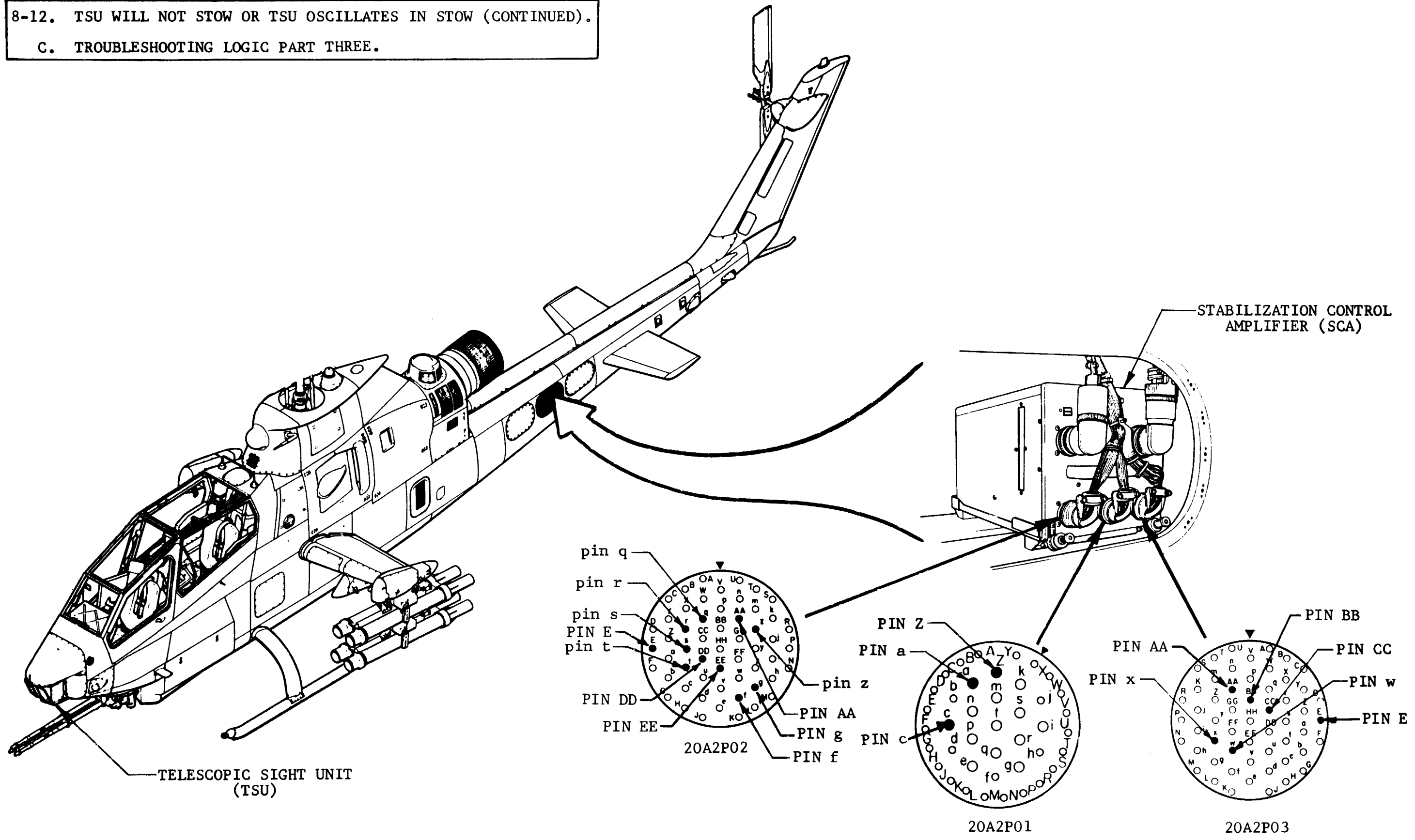
Connect 20A1P04, 20A1P05, and 20A1P06.

Then go to paragraph 8-2.

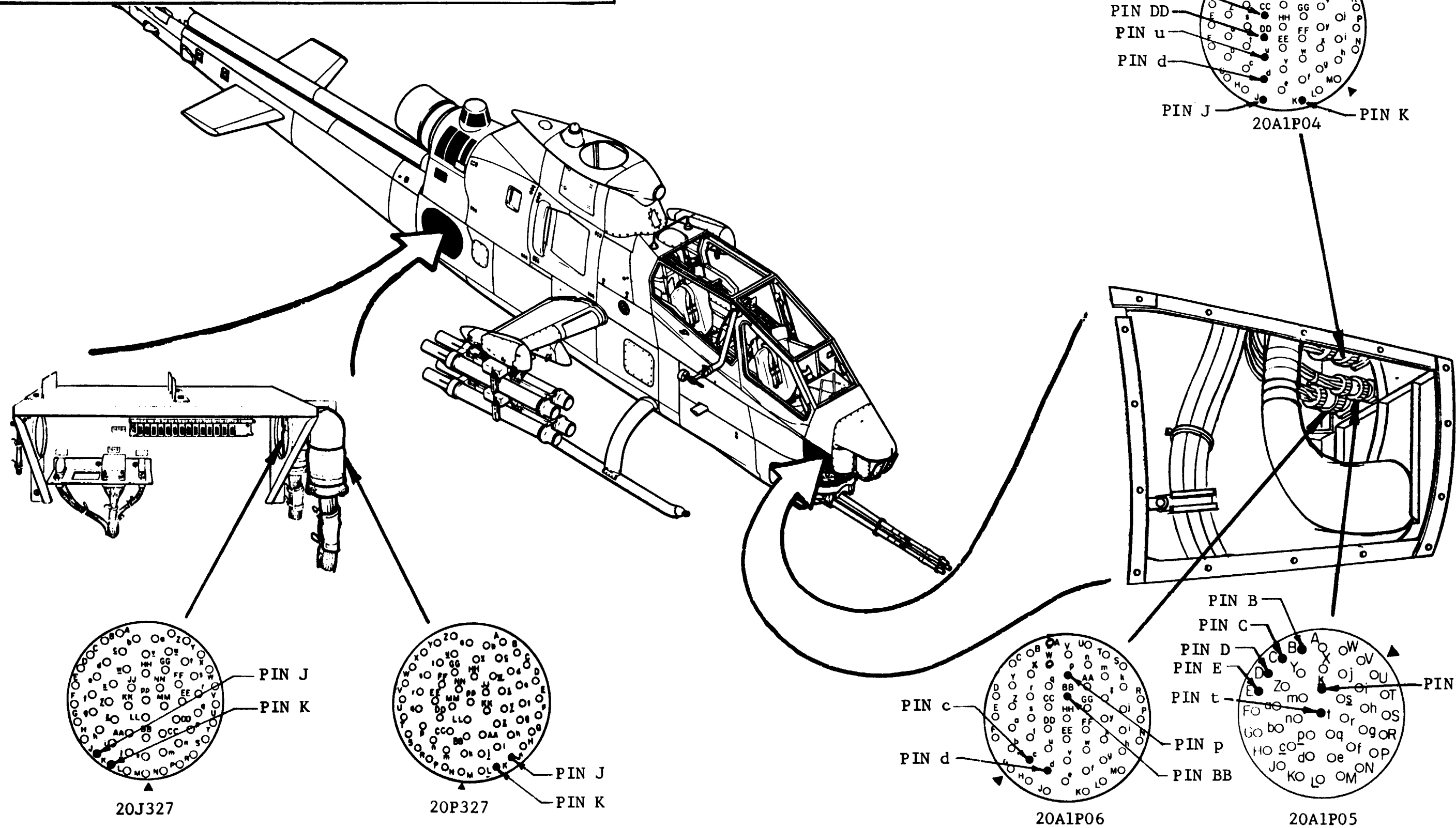
Go to Troubleshooting Logic Part Three (subparagraph C).



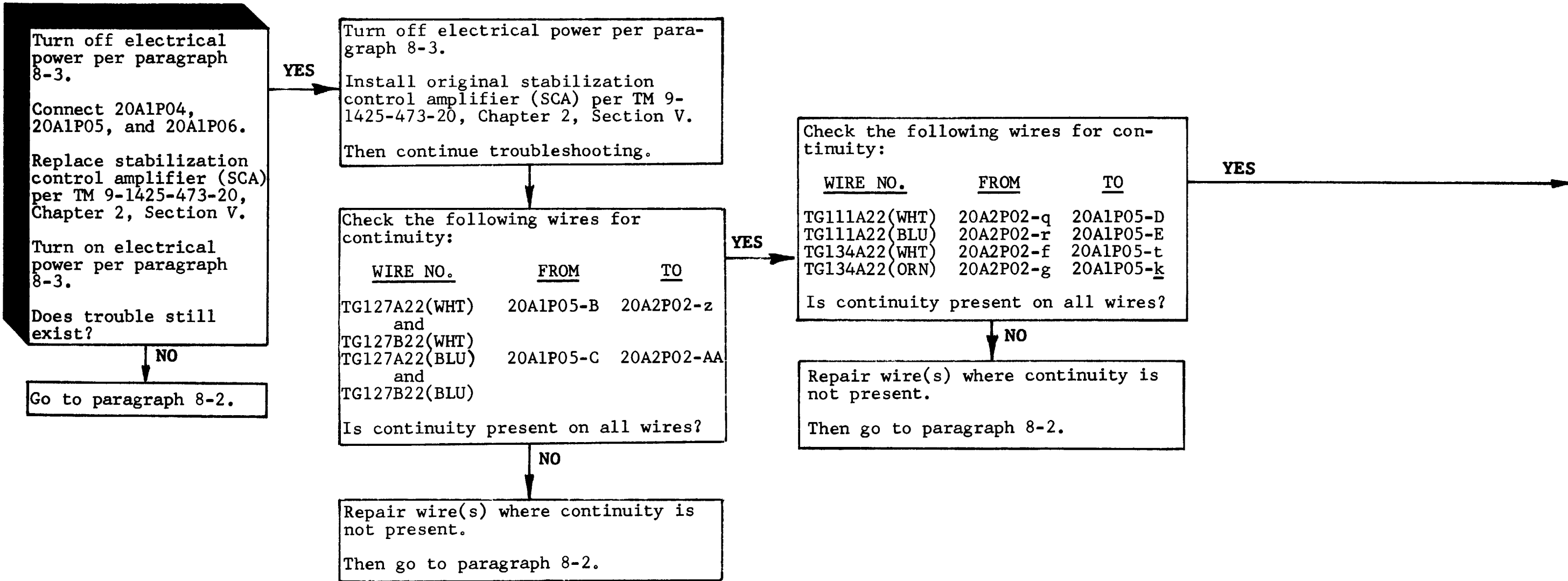
8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE.



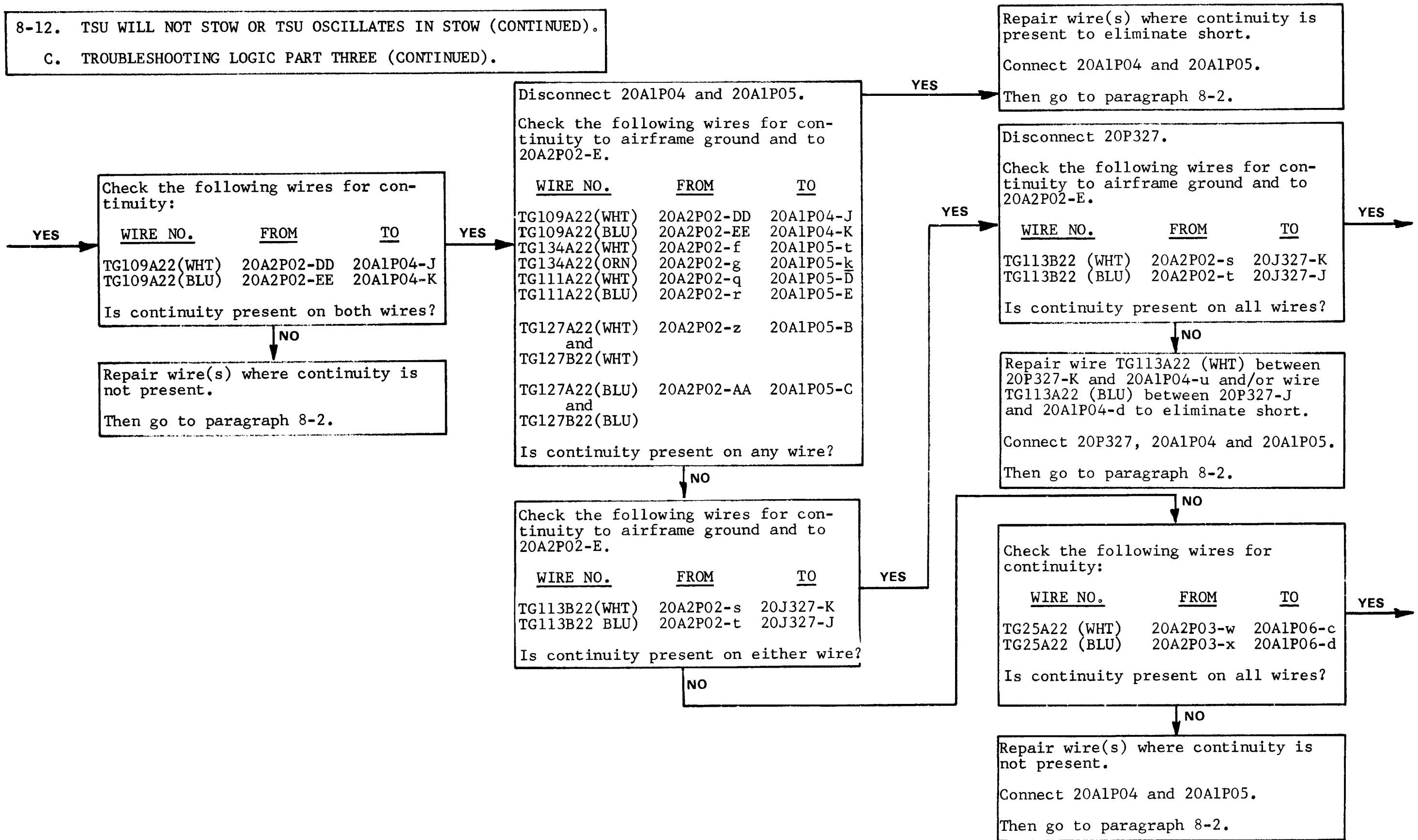
8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



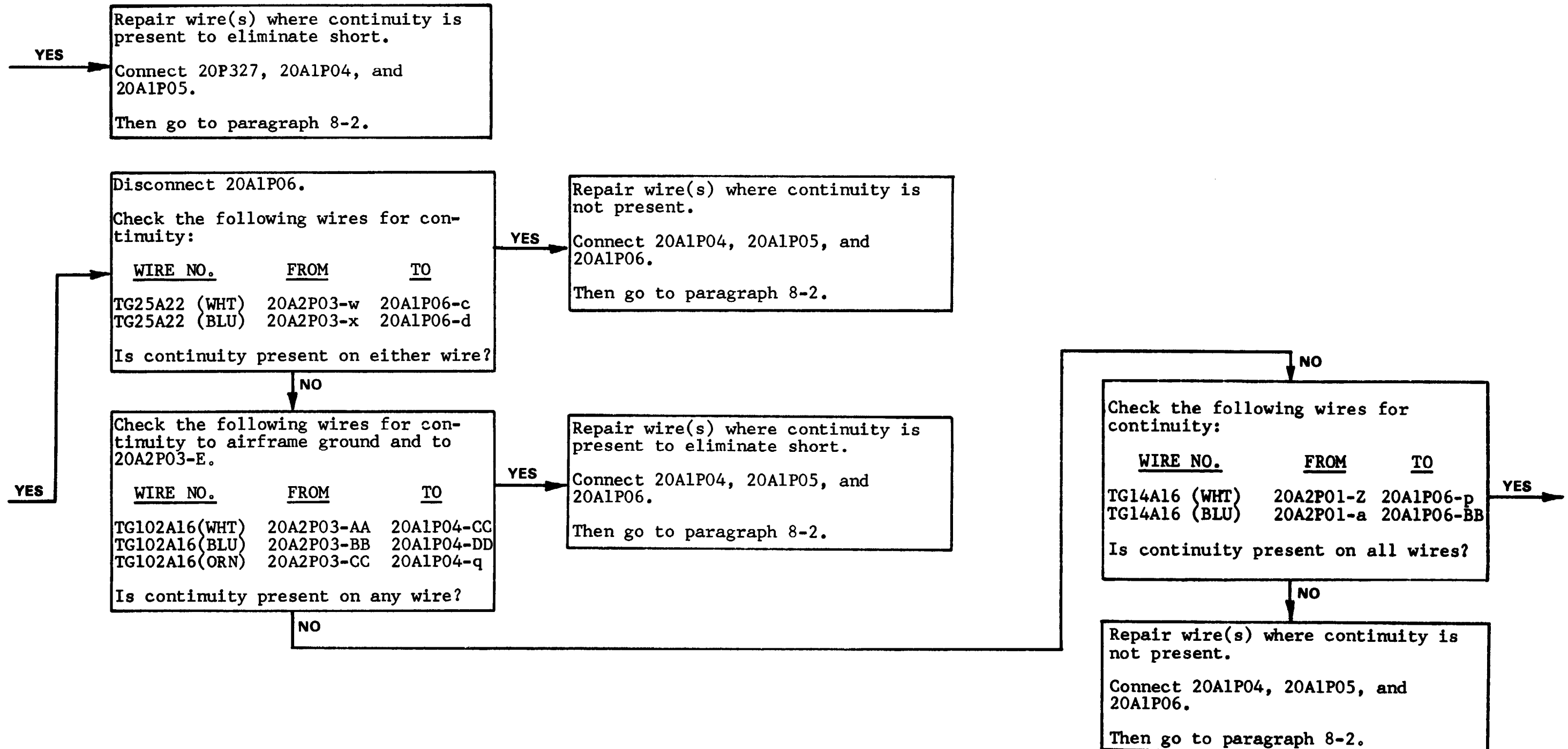
8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

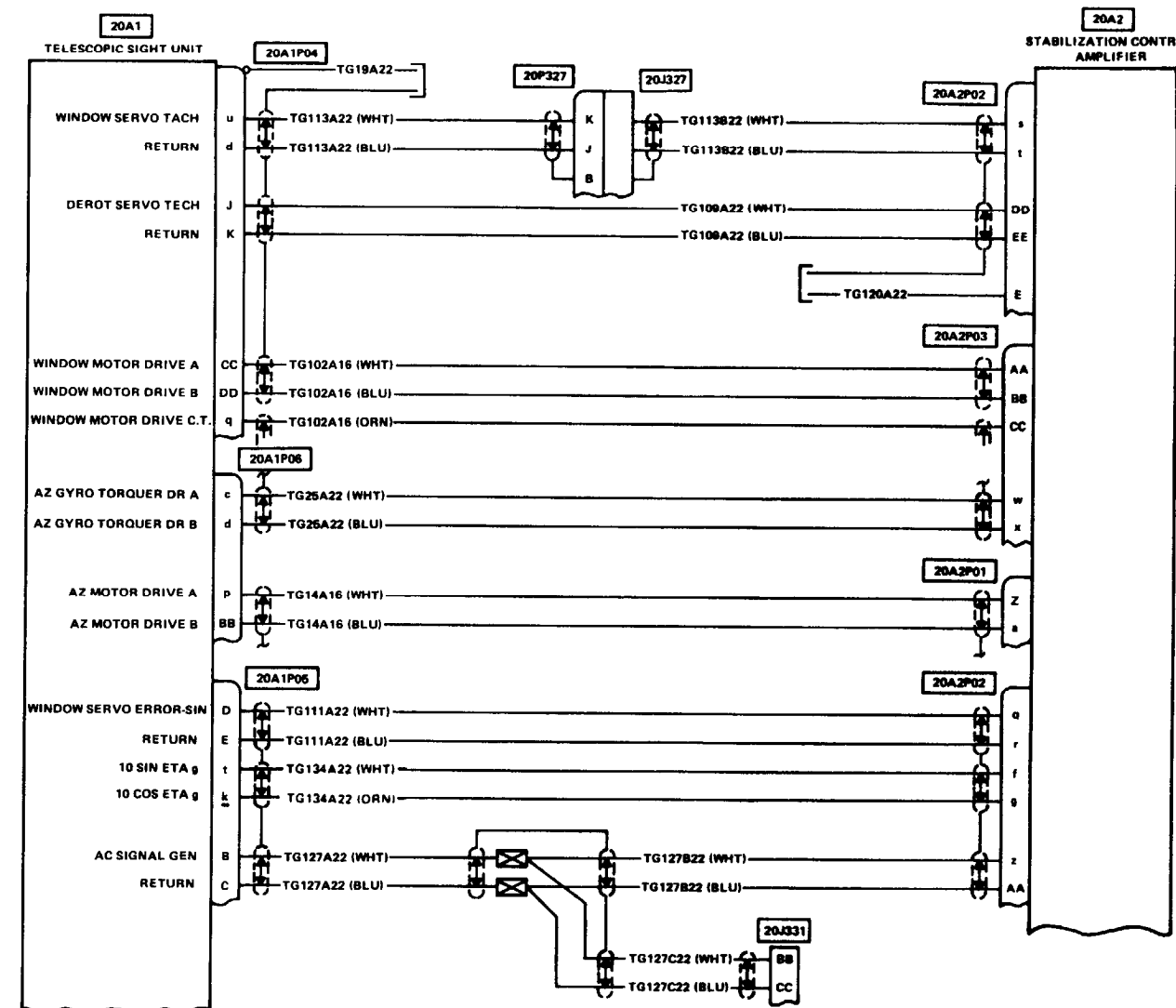


8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



8-12. TSU WILL NOT STOW OR TSU OSCILLATES IN STOW (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



Check the following wires for continuity:

WIRE NO.	FROM	TO
TG14A16 (WHT)	20A2P01-Z	20A1P06-p
TG14A16 (BLU)	20A2P01-a	20A1P06-BB

Is continuity present on either wire?

YES

YES

YES

Repair wire(s) where continuity is present to eliminate short.

Connect 20A1P04, 20A1P05, and 20A1P06.

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.

8-13. IMAGE IN TSU DOES NOT STAY UPRIGHT (ROTATES).

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

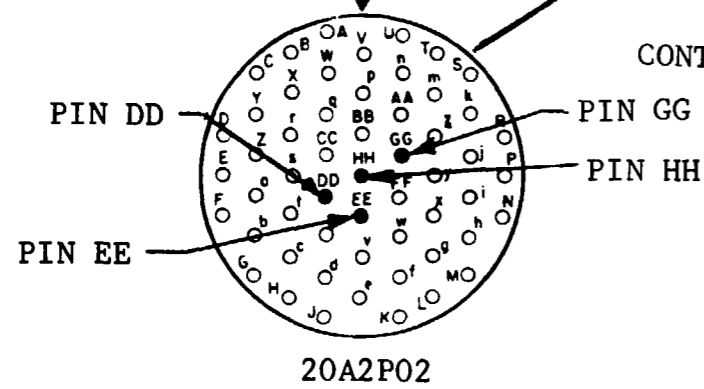
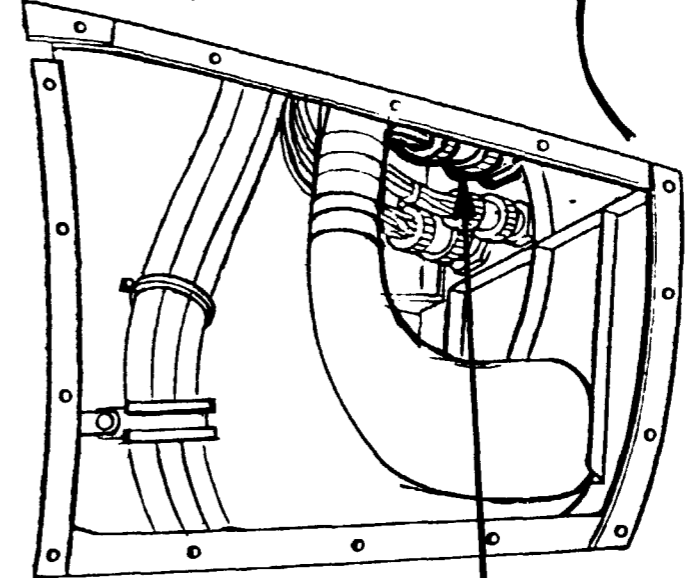
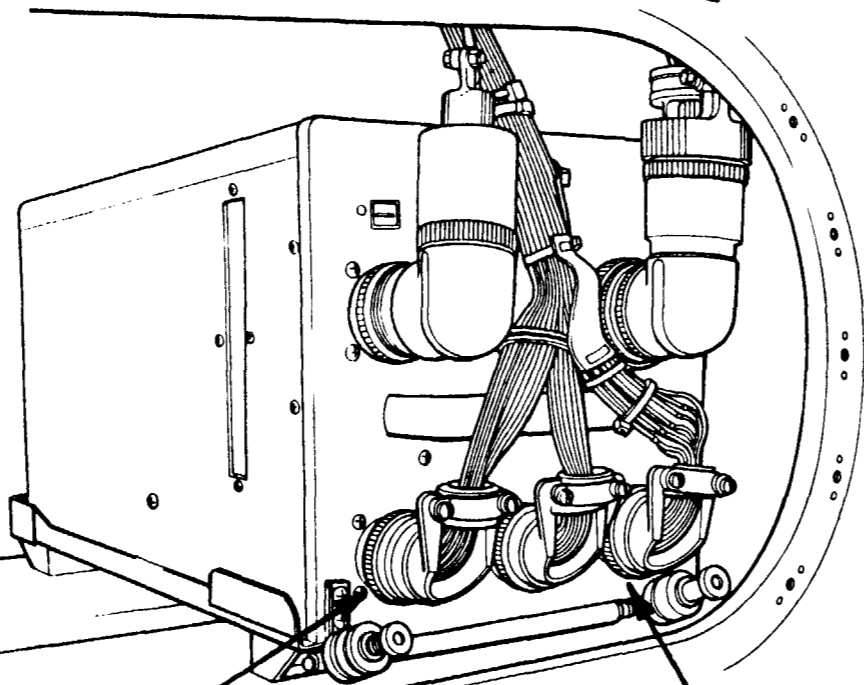
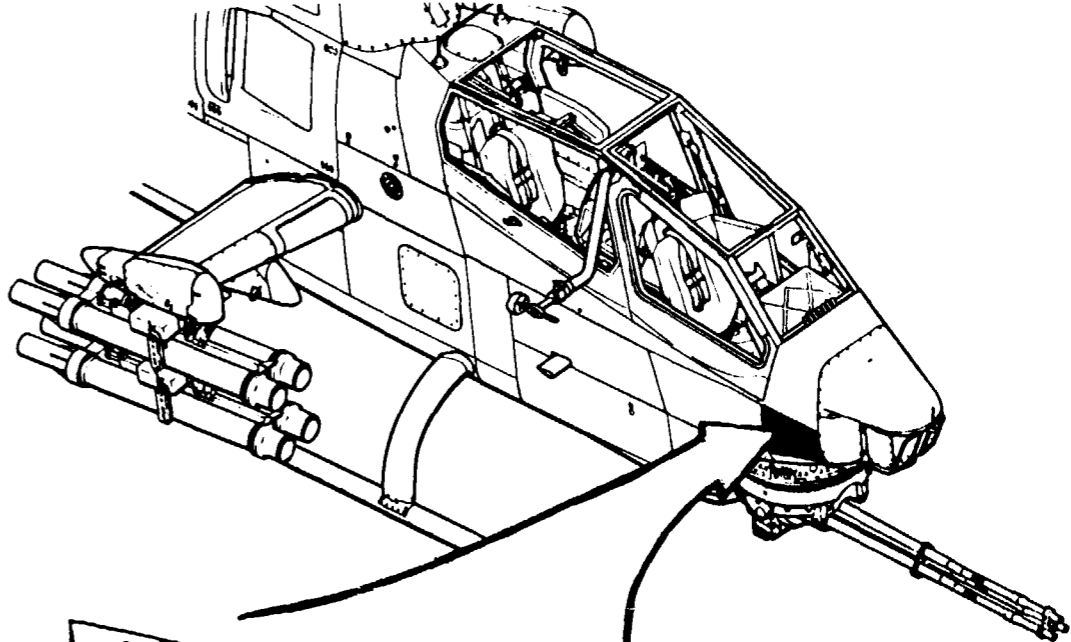
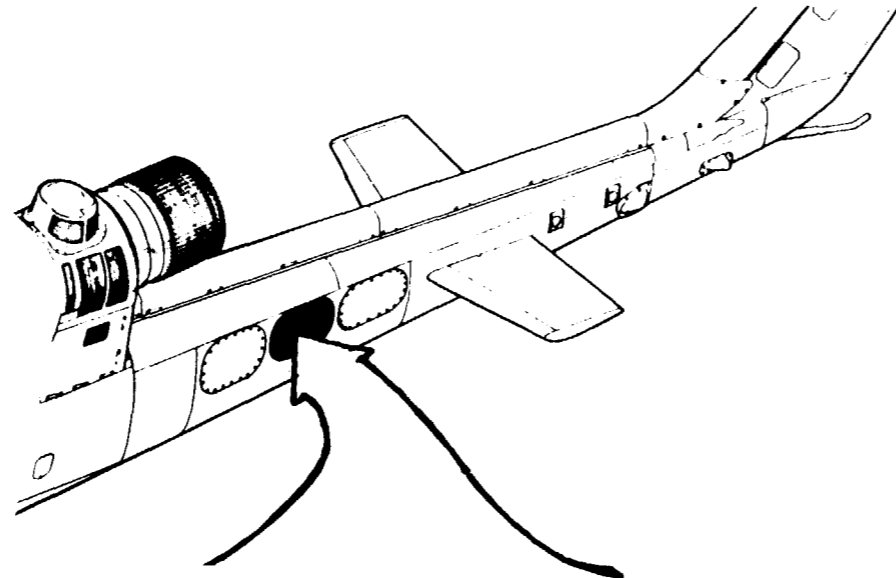
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

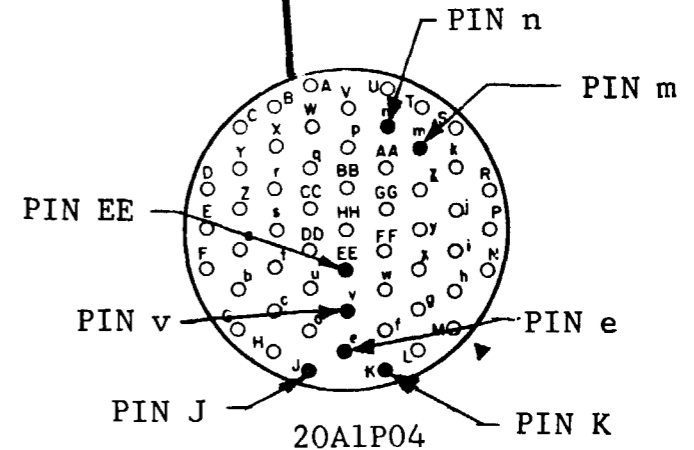
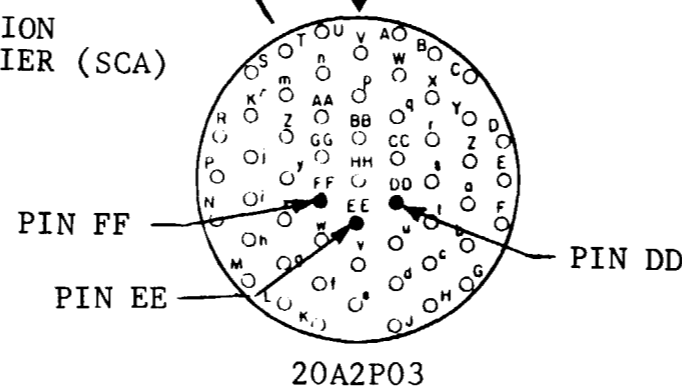
References
TM 9-1425-473-20

Access Panels
Middle Electronics (Tailboom) - Removed

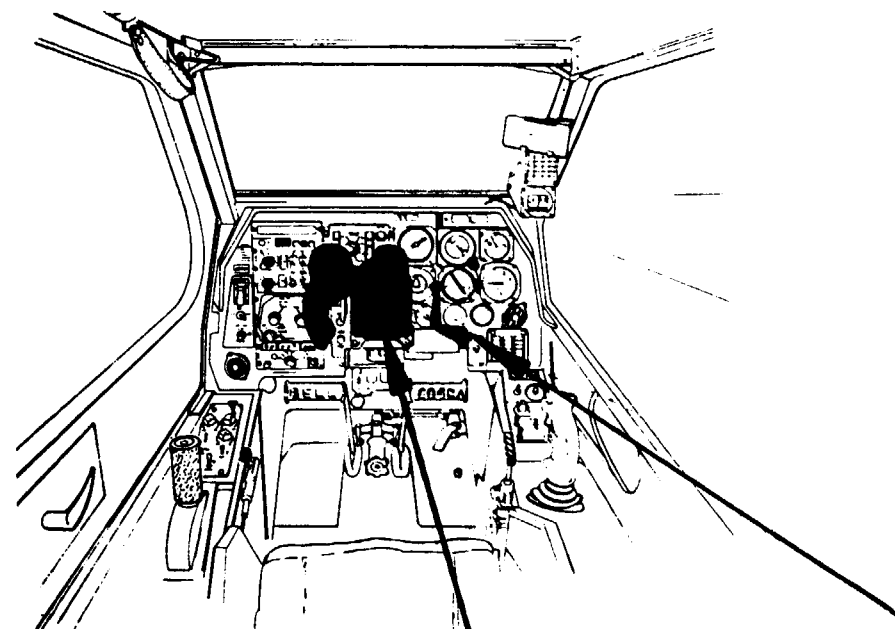
Forward Right Side Radar Warning Antenna - Removed



STABILIZATION CONTROL AMPLIFIER (SCA)



8-13. IMAGE IN TSU DOES NOT STAY UPRIGHT (ROTATES) (CONTINUED).



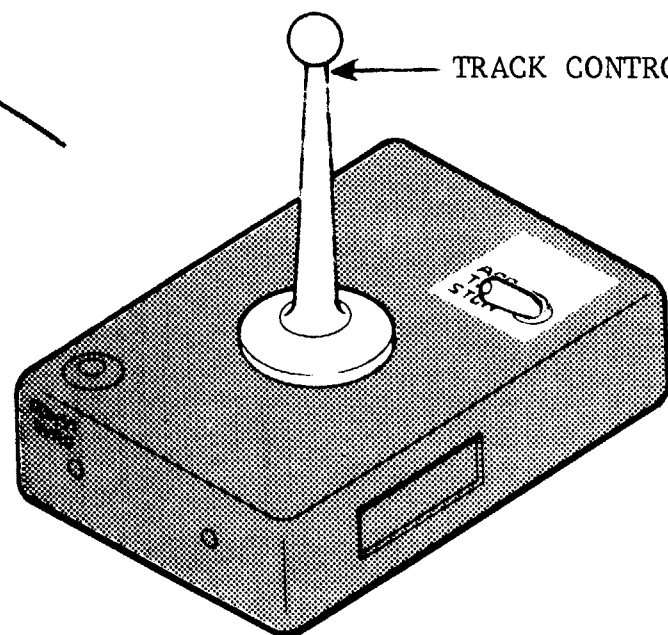
GUNNER STATION

On sight hand control:
Set the ACQ/TRK/STOW switch to STOW.
Does telescopic sight unit (TSU) go to 0 degrees azimuth and 0 degrees elevation?

YES

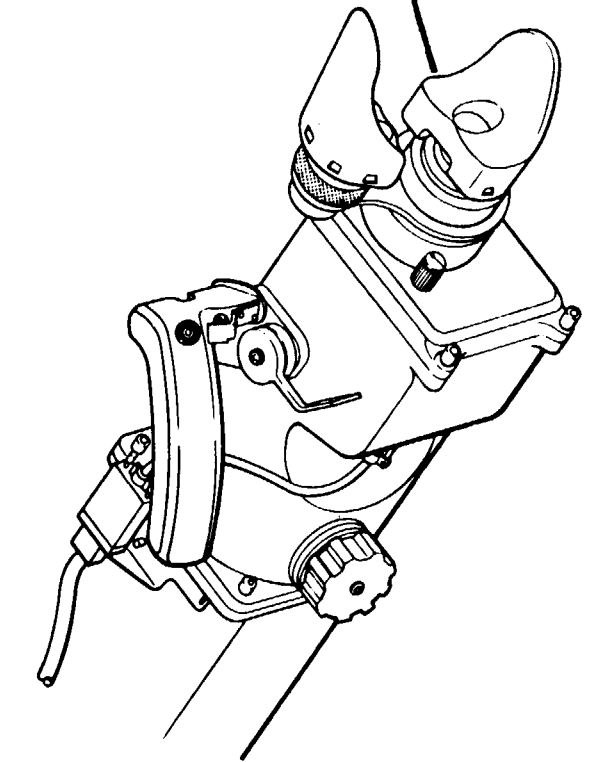
NO

Go to paragraph 8-12.



TRACK CONTROL STICK

SIGHT HAND CONTROL



TELESCOPIC SIGHT UNIT (TSU)

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.
On sight hand control:
Slew telescopic sight unit (TSU) with track control stick.
Is image now upright and stable?

YES

NO

Turn off electrical power per paragraph 8-3.
Check the following wires for continuity:

WIRE NO.	FROM	TO
TG109A22(WHT)	20A1P04-J	20A2P02-DD
TG109A22(BLU)	20A1P04-K	20A2P02-EE

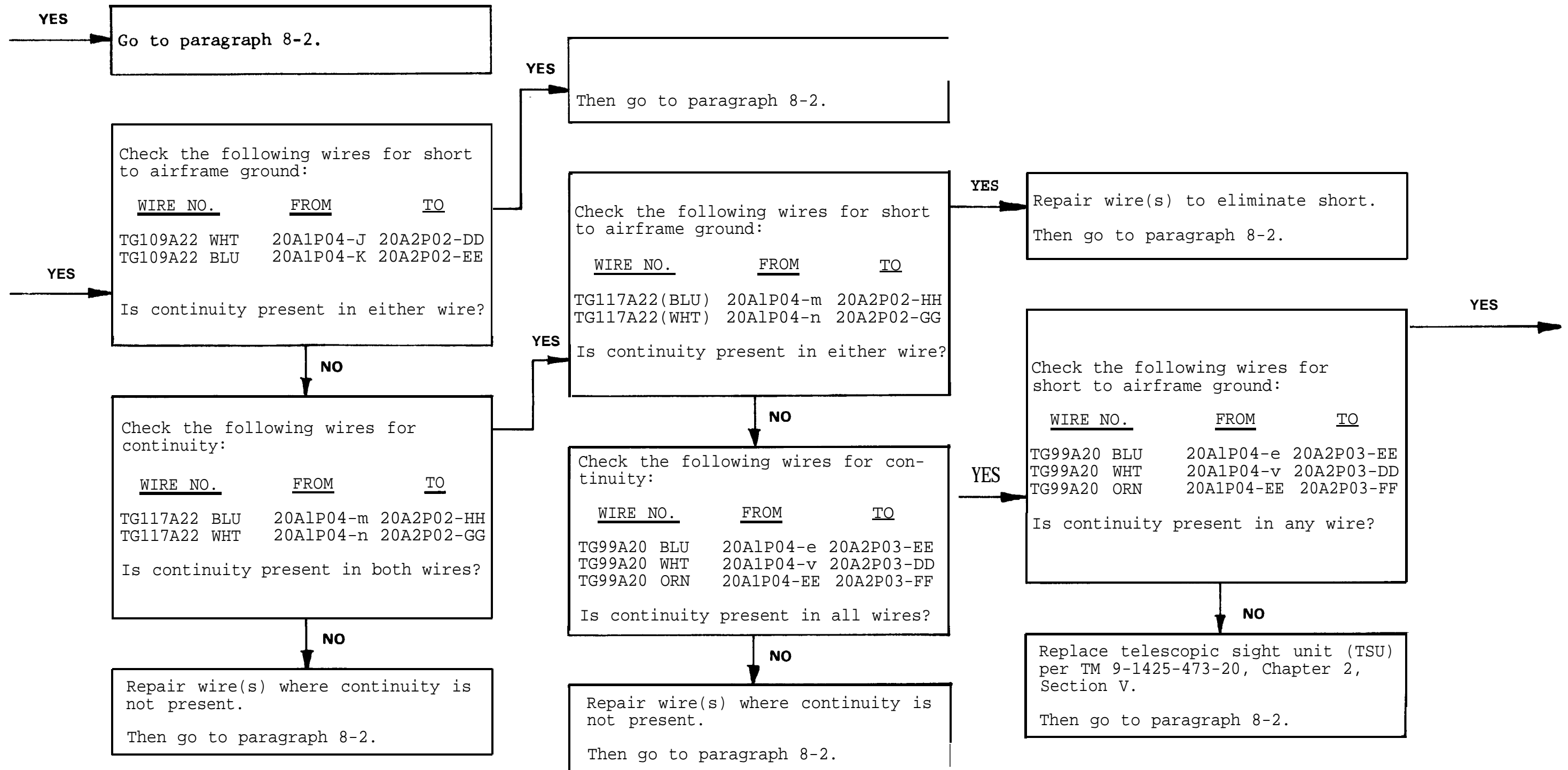
Is continuity present for each wire?

YES

NO

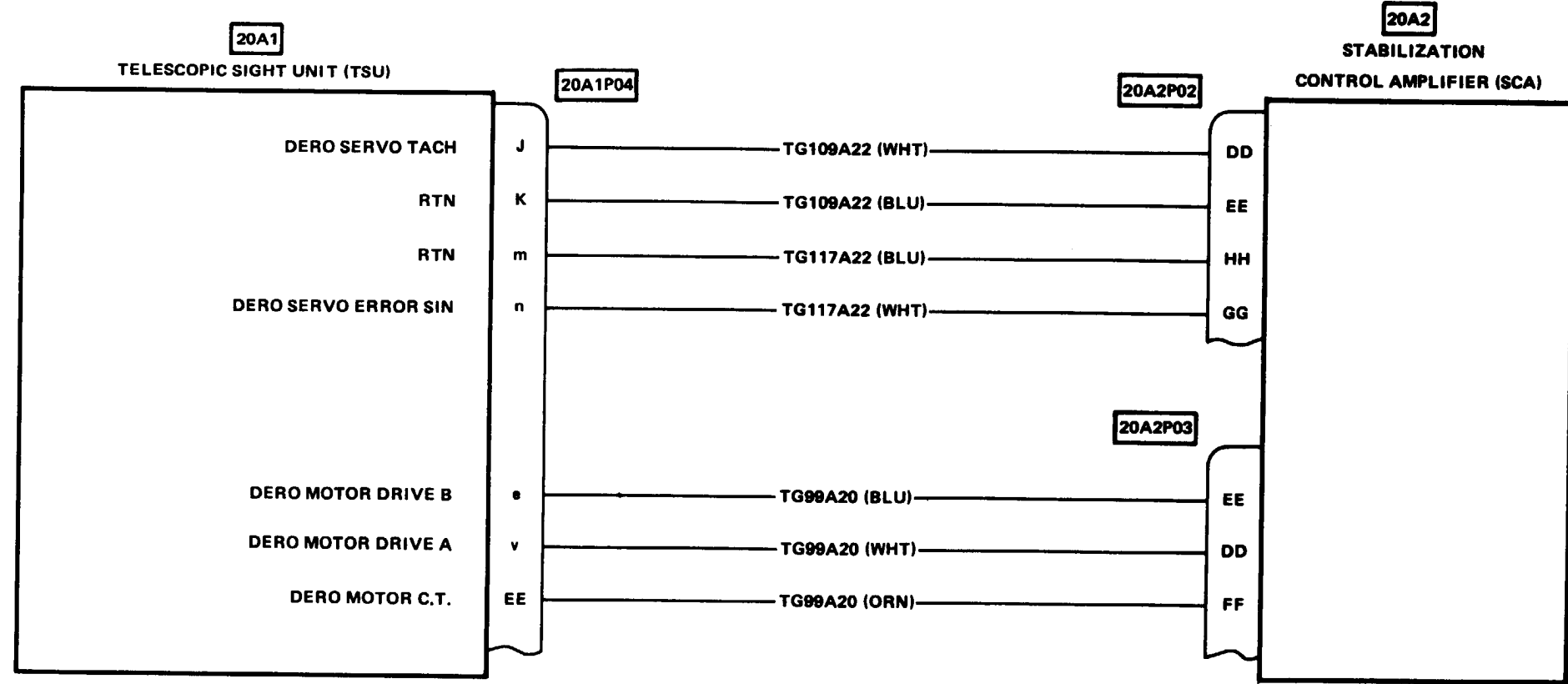
Repair wire(s) where continuity is not present.
Then go to paragraph 8-2.

8-13. IMAGE IN TSU DOES NOT SAY UPRIGHT(ROTATES) (CONTINUED).



8-13. IMAGE IN TSU DOES NOT STAY UPRIGHT (ROTATES) (CONTINUED).

YES Repair wire(s) to eliminate short.
Then go to paragraph 8-2.



8-14. TSU BIT INDICATOR ON TCP SHOWS WHITE.

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

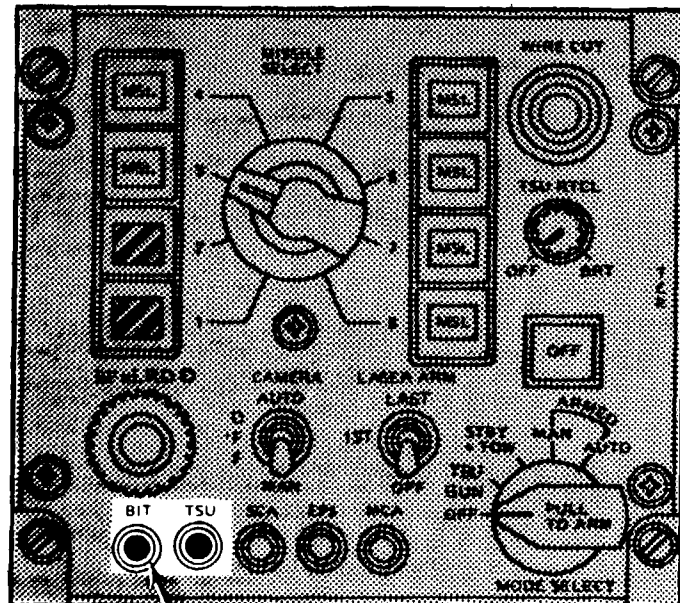
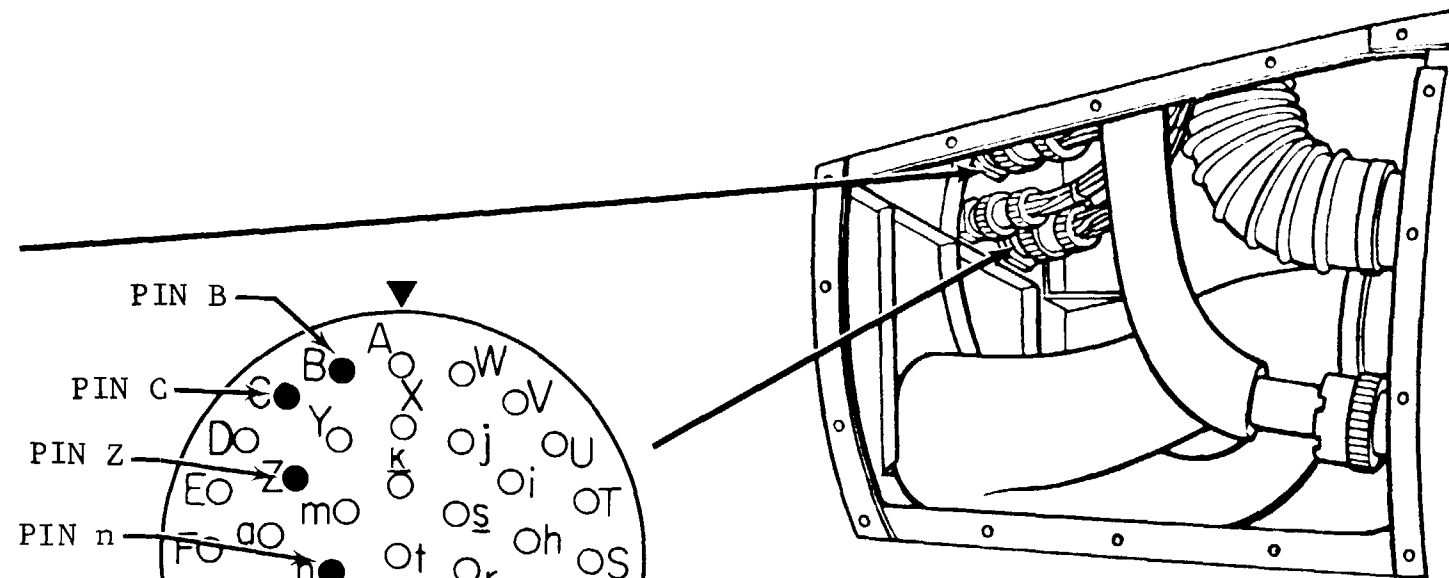
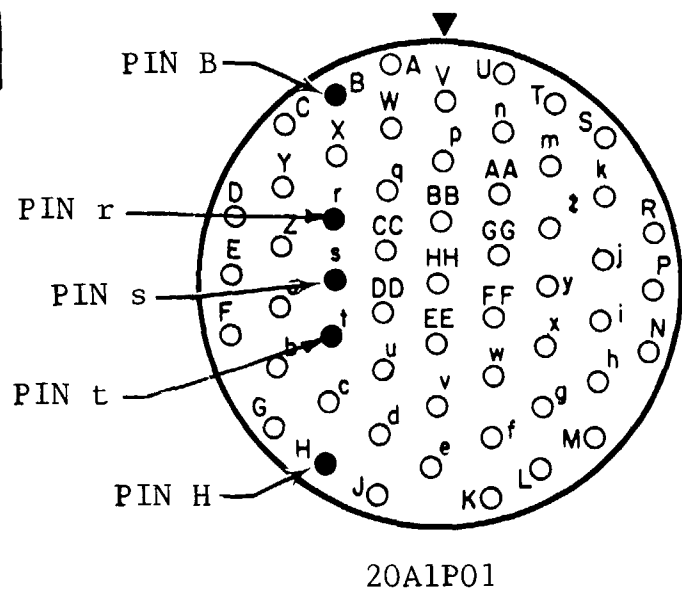
Access Panels

Middle Electronics (Tailboom) -
Removed

Aft Electronics (Tailboom) -
Removed

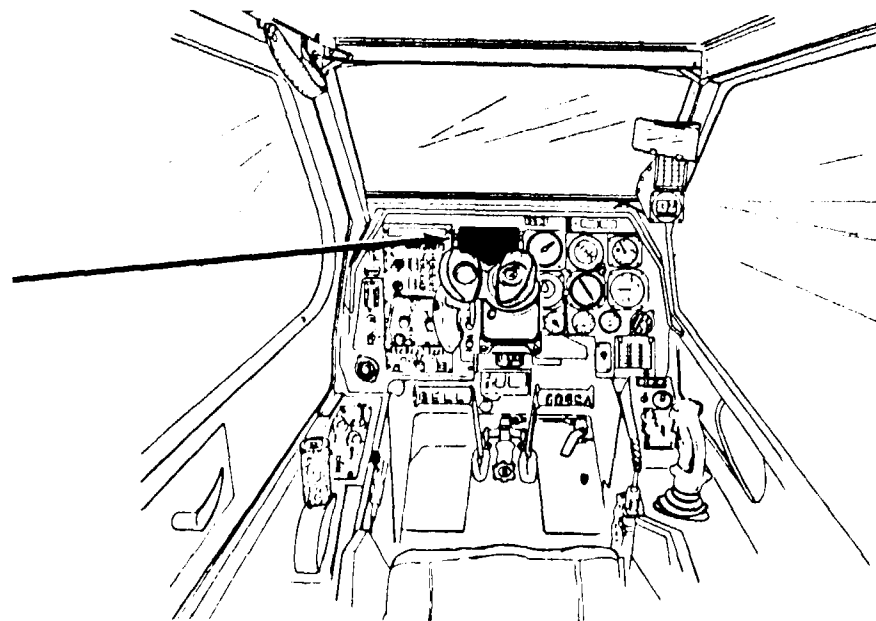
Left Ammo Compartment Door -
Open

Left Forward Radar Warning
Antenna - Removed

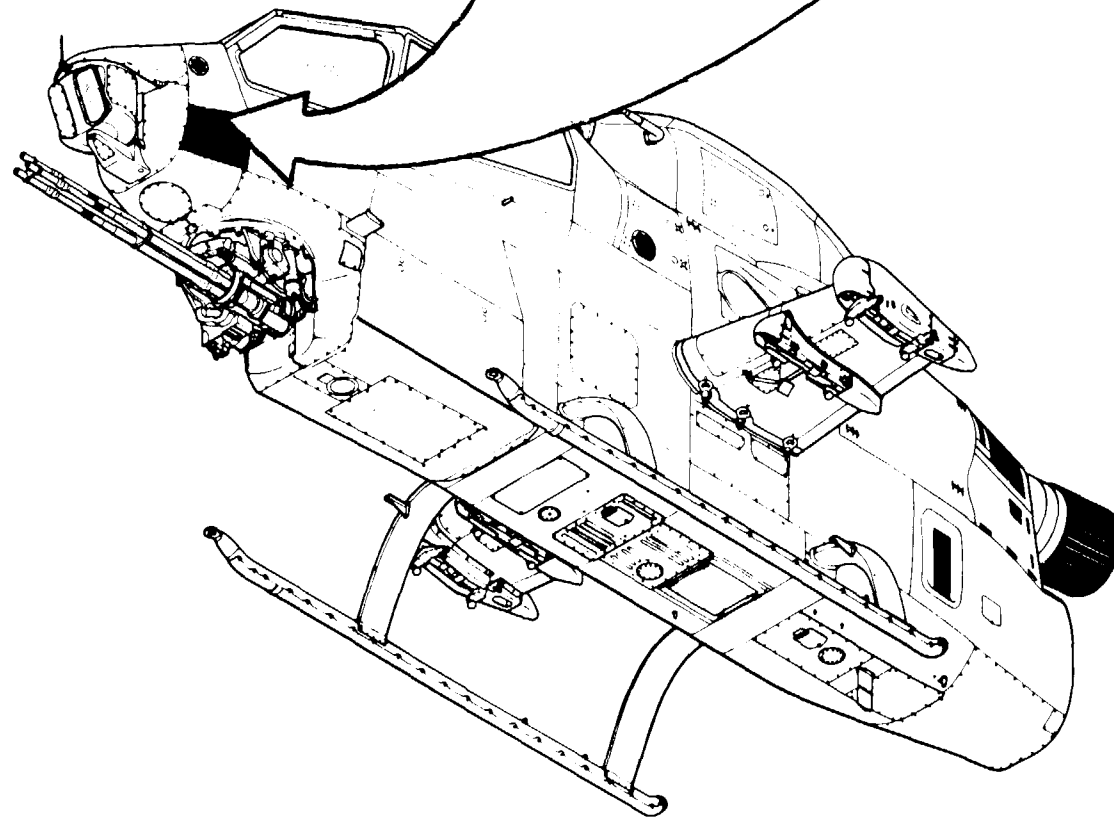


BIT SWITCH

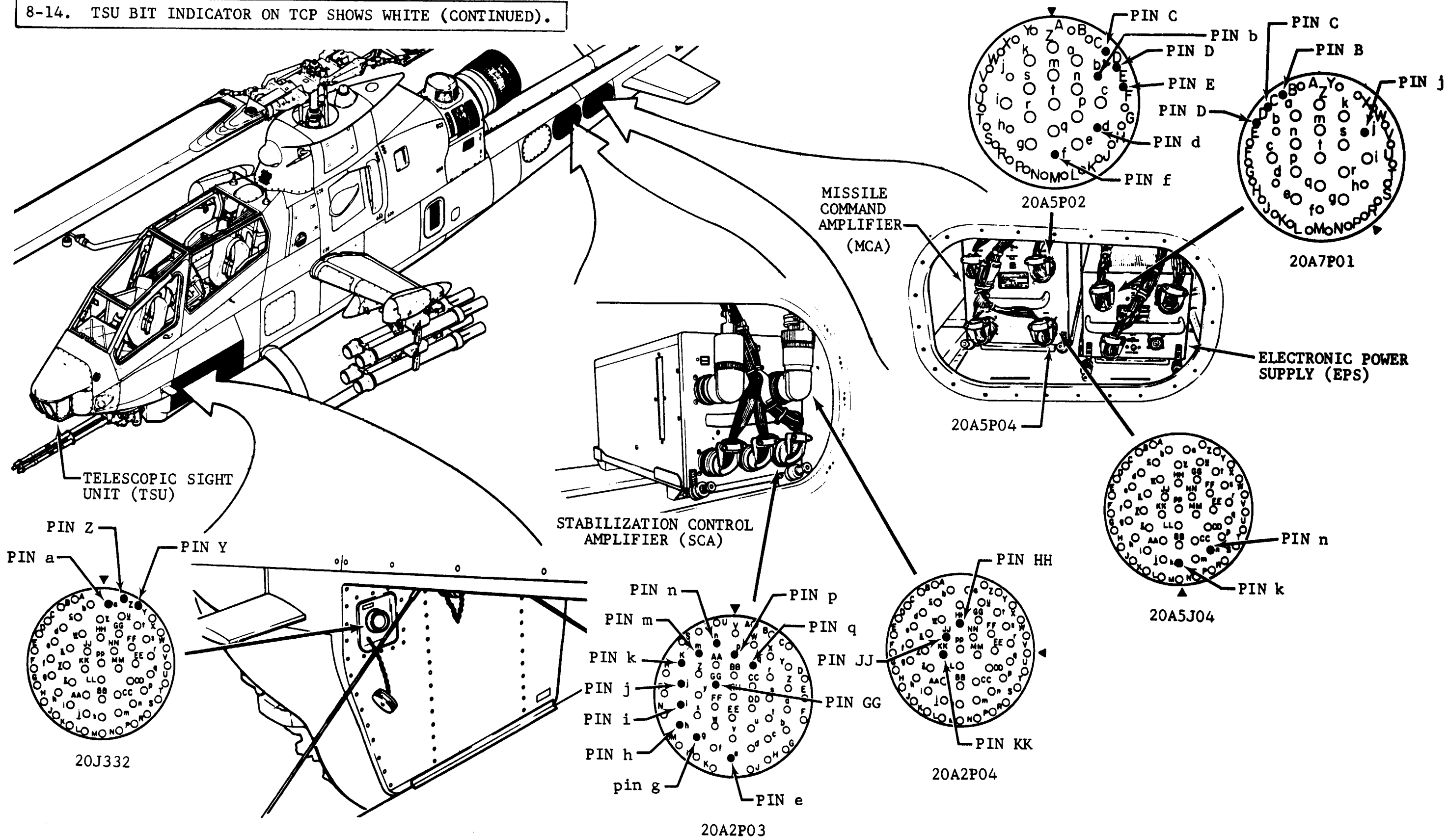
TCP (TOW CONTROL PANEL)



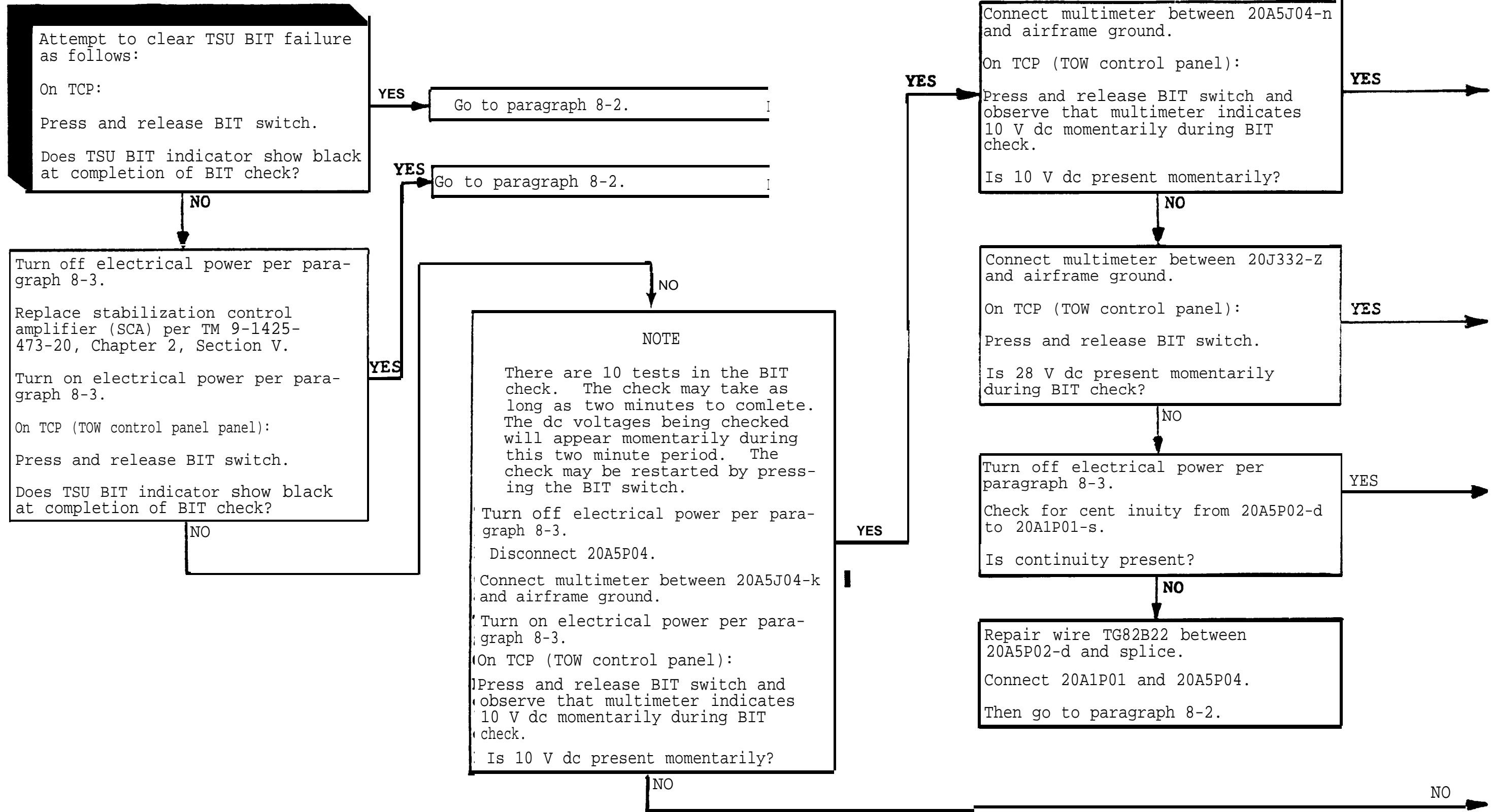
GUNNER STATION



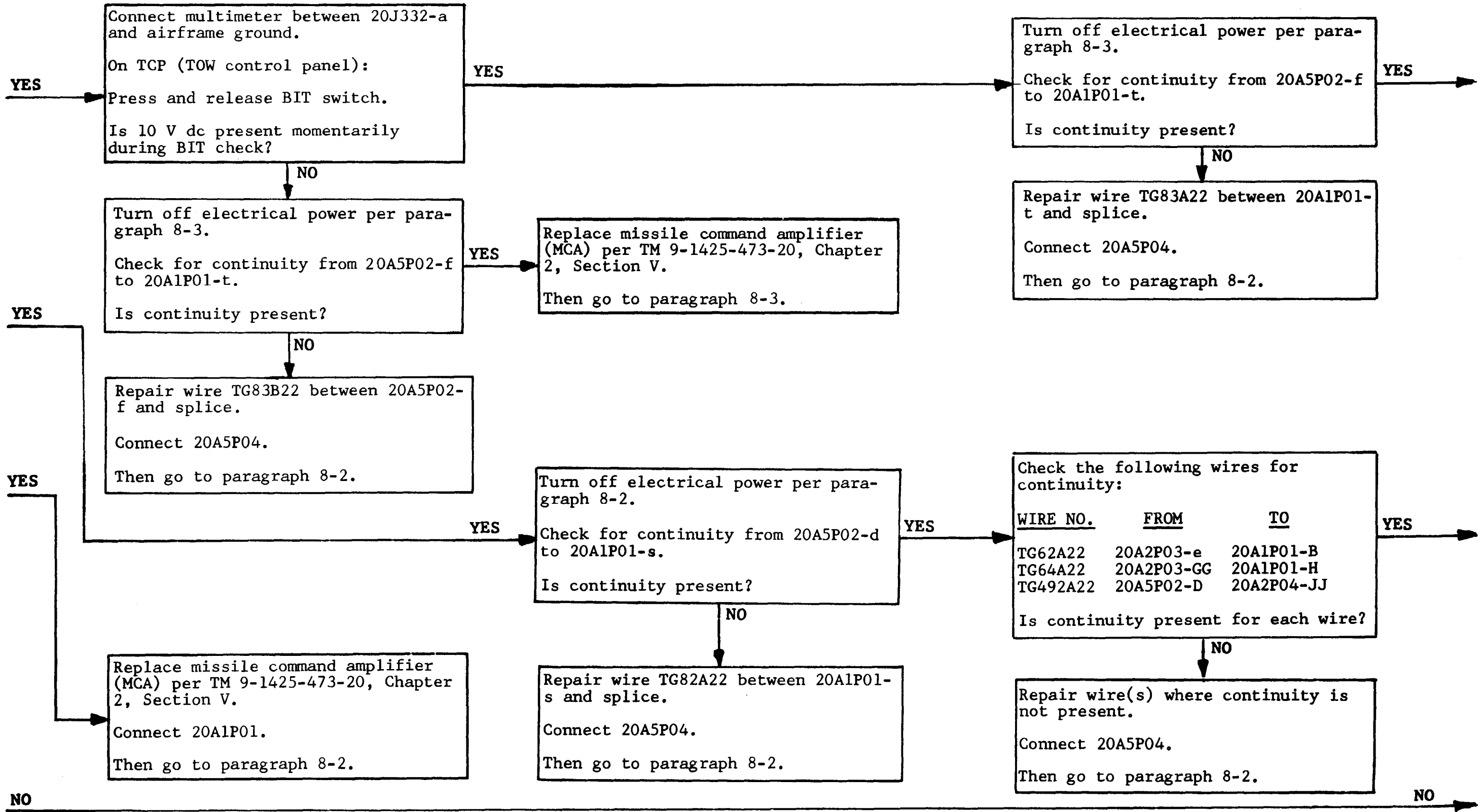
8-14. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



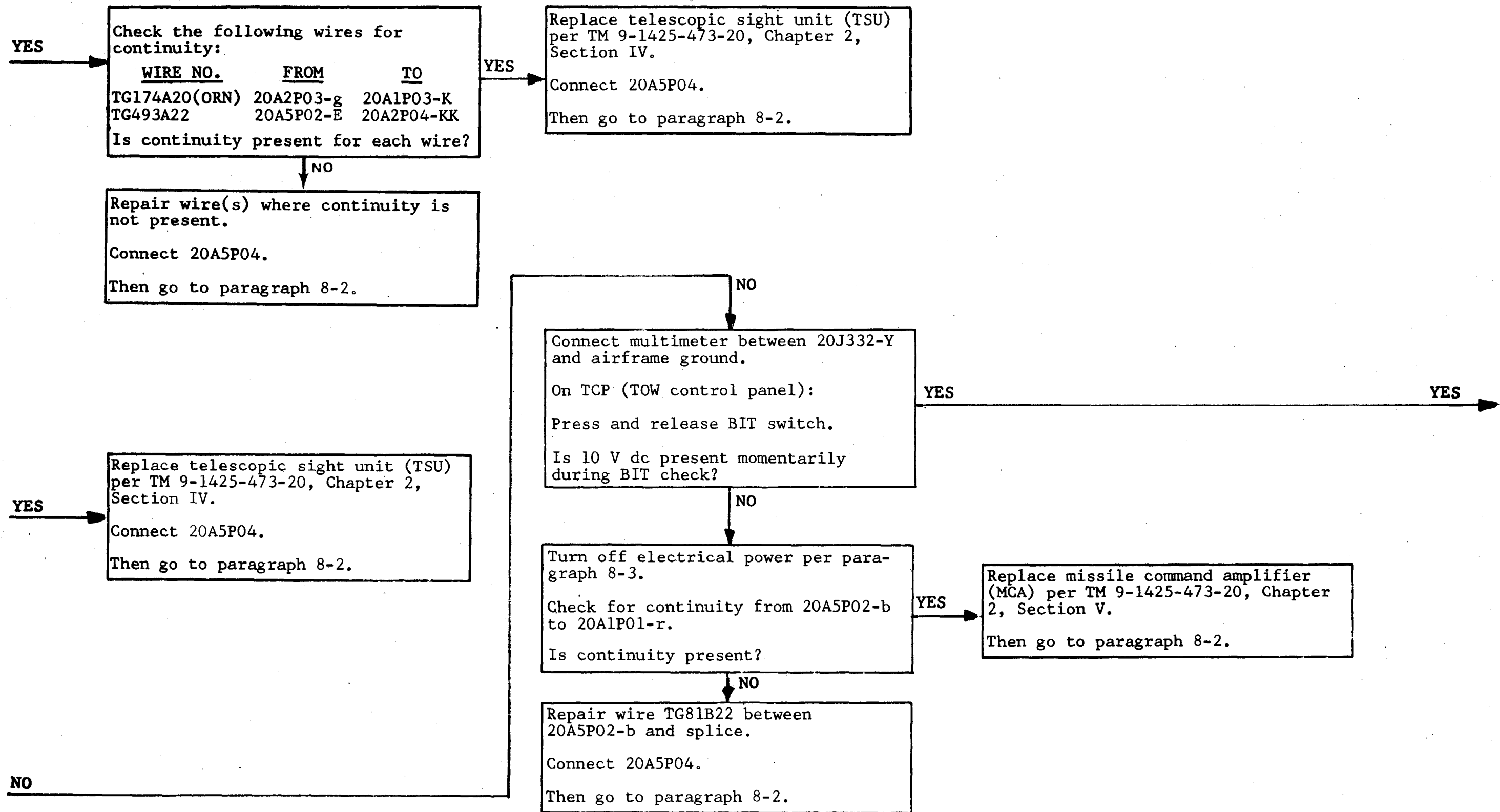
8-14. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED) .



8-14. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).

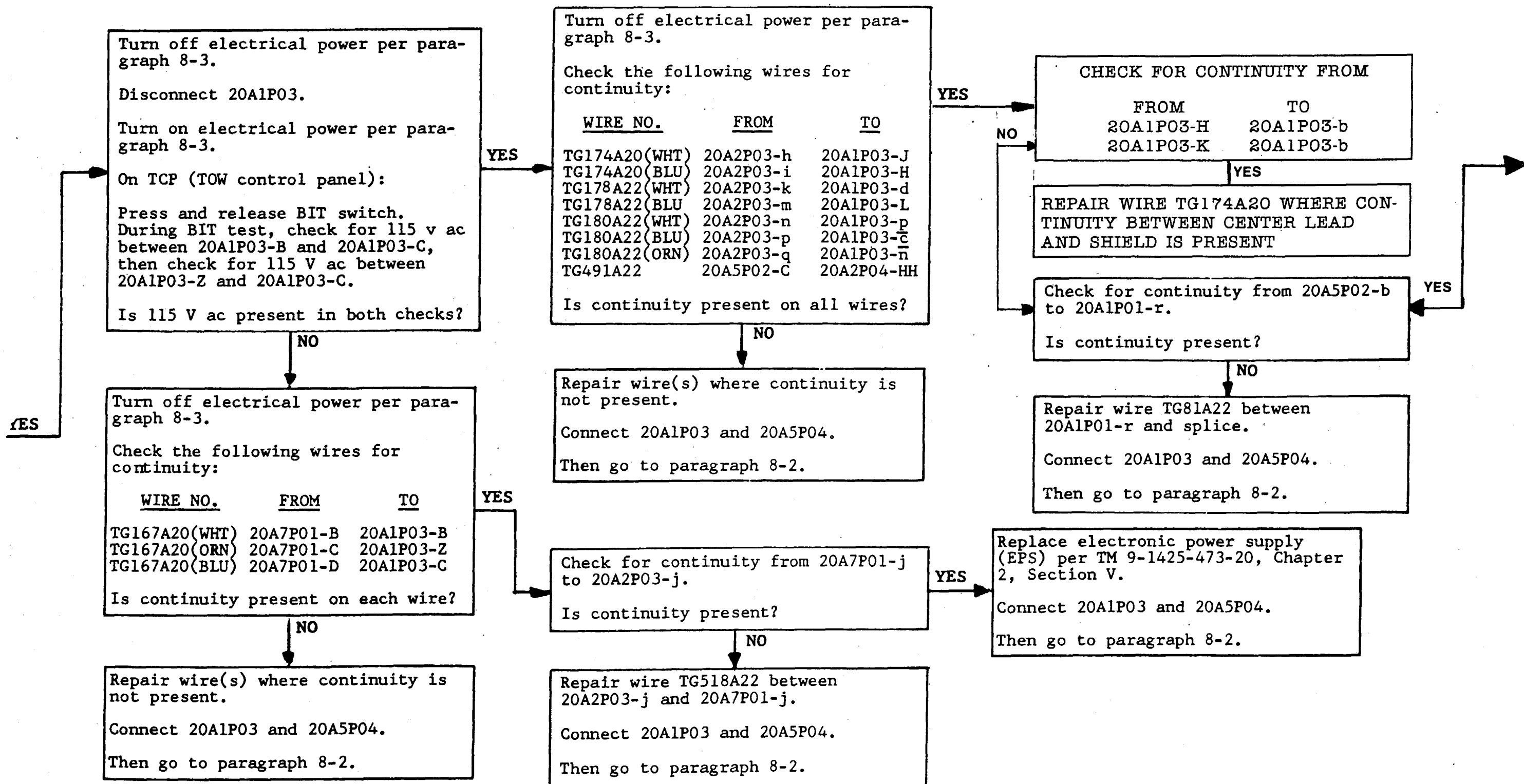


8-14. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



NO

8-14. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



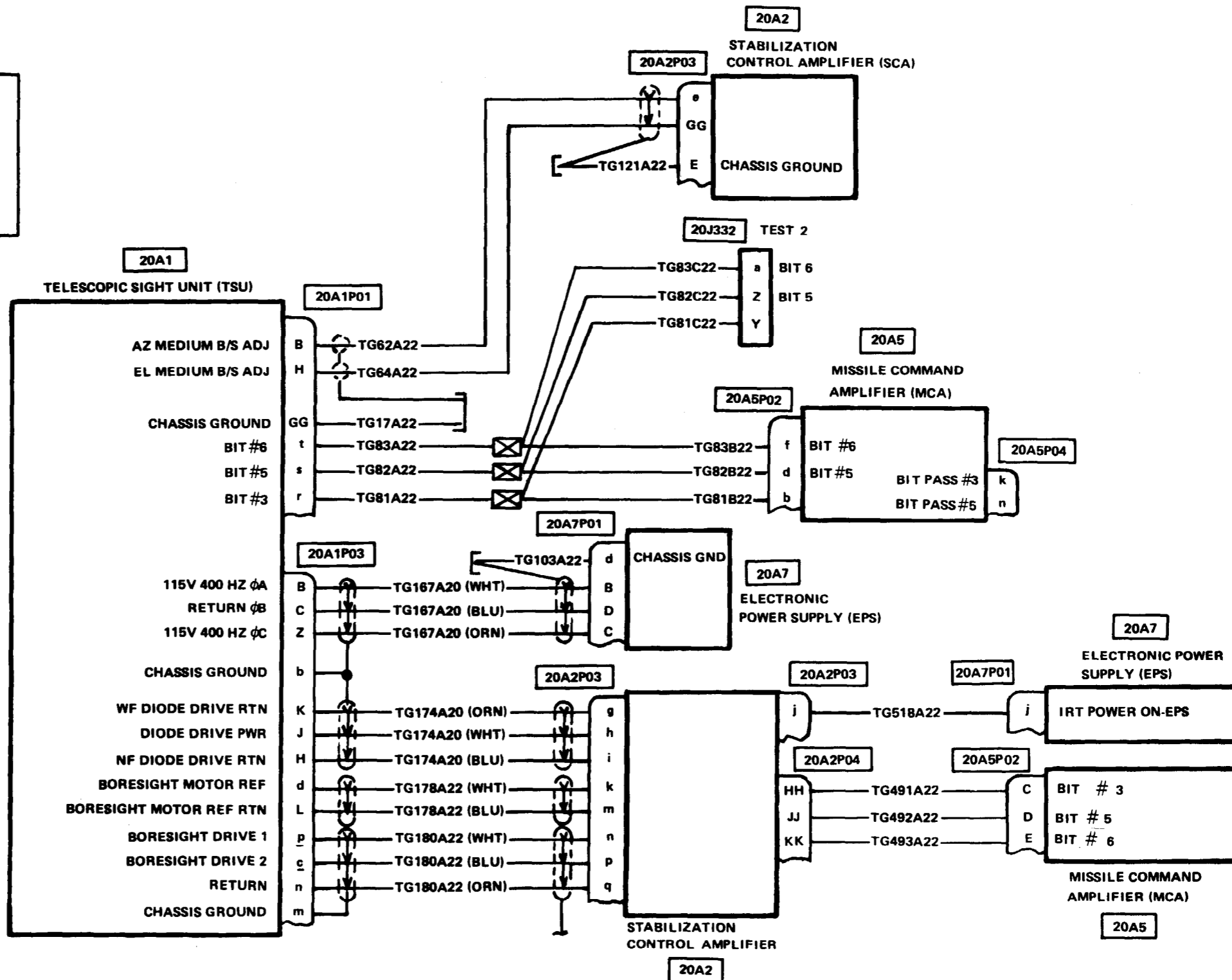
8-14. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).

YES →

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

Connect 20A5P04.

Then go to paragraph 8-2.



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8-14.1. TSU BIT INDICATOR ON TCP 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

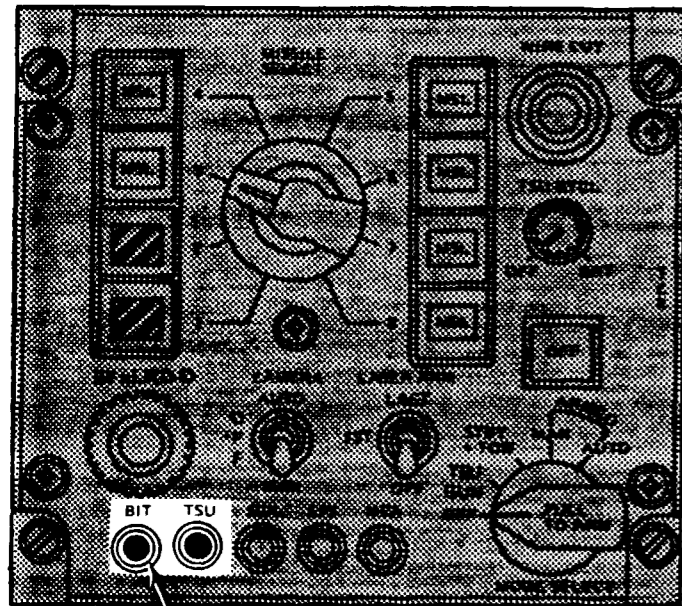
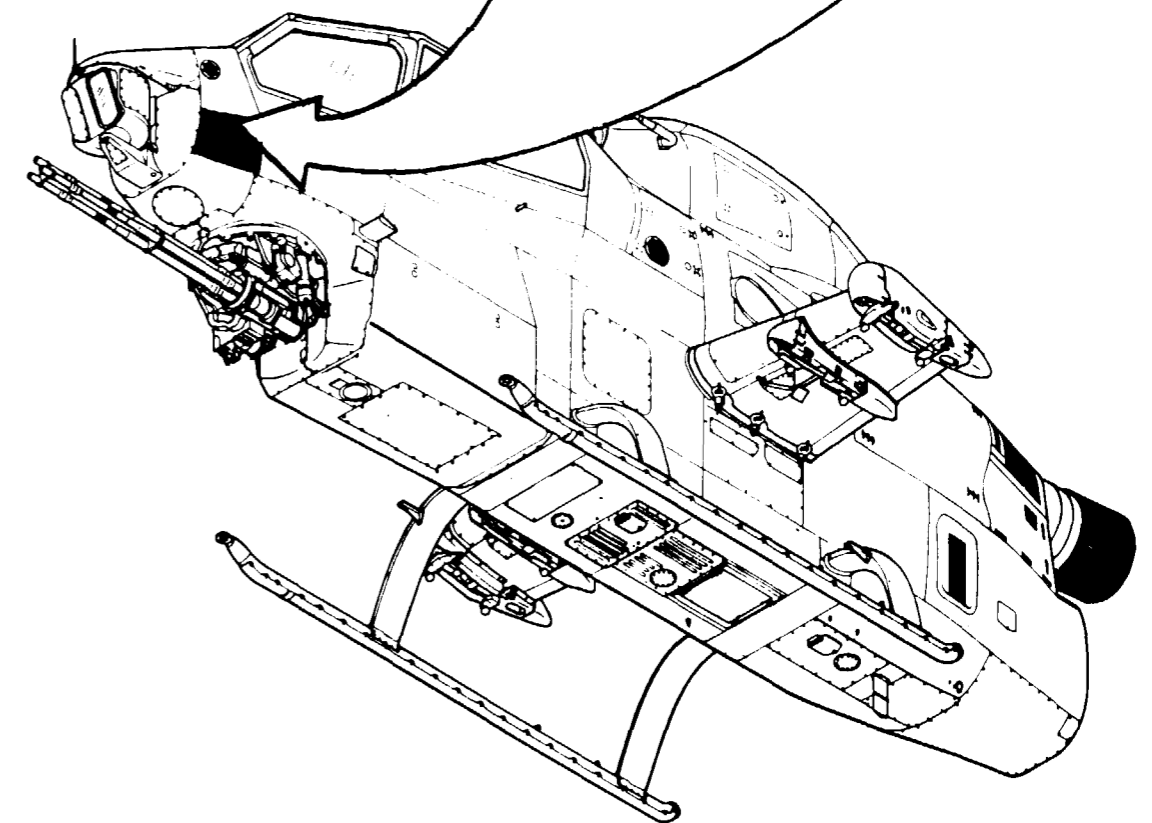
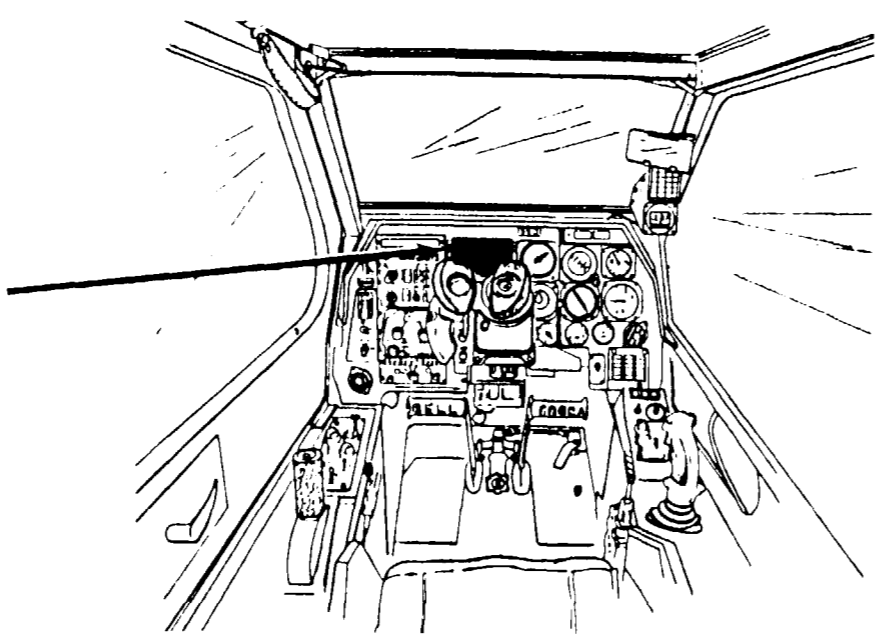
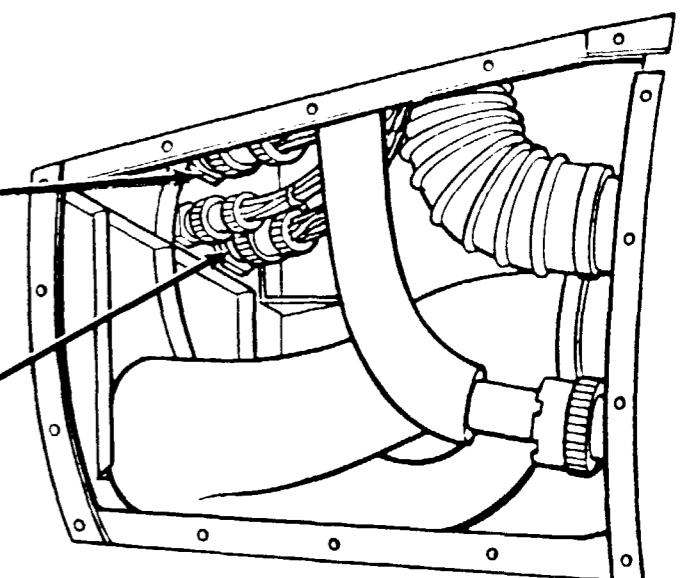
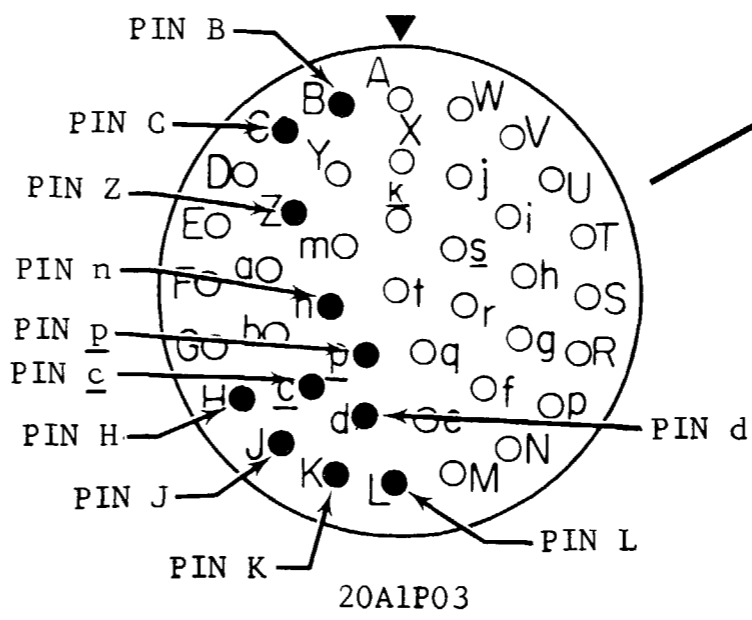
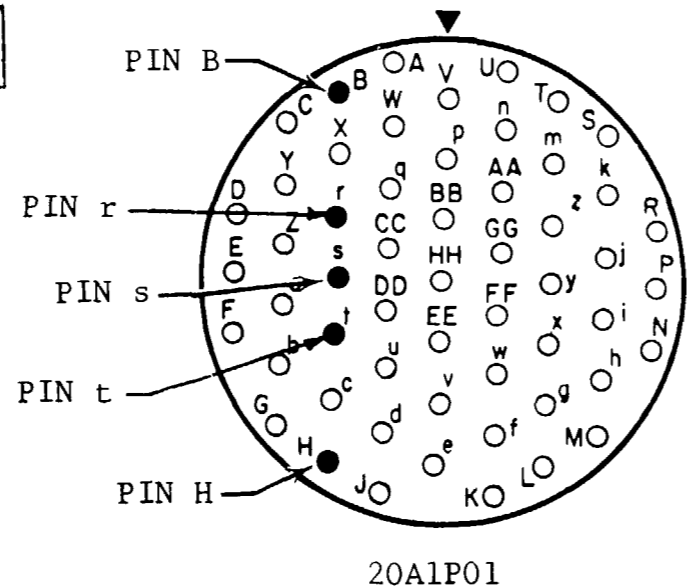
Forward Electronics (Tailboom) - Removed

Middle Electronics (Tailboom) - Removed

Aft Electronics (Tailboom) - Removed

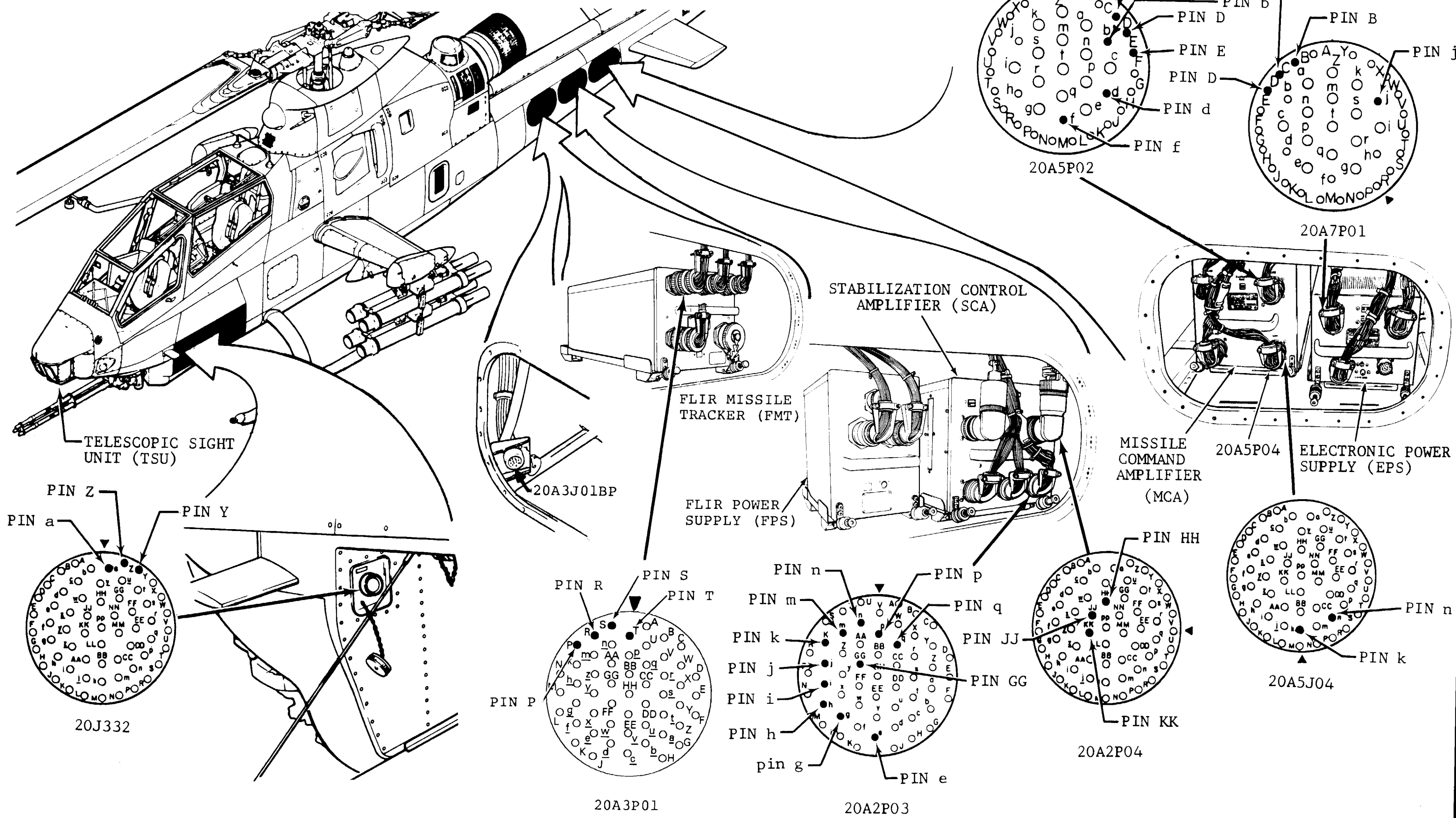
Left Ammo Compartment Door - Open

Left Forward Radar Warning Antenna - Removed



BIT SWITCH
TCP (TOW CONTROL PANEL)

8-14.1. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-14.1. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).

Attempt to clear TSU BIT failure as follows:
 On TCP (TOW control panel):
 Press and release BIT switch.
 Does TSU BIT indicator show black at completion of BIT check?

YES → Go to paragraph 8-2.1.

YES → Go to paragraph 8-2.1.

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.
 On TCP (TOW control panel):
 Press and release BIT switch.
 Does TSU BIT indicator show black at completion of BIT check?

NO

NOTE
 There are 10 tests in the BIT check. The check may take as long as two minutes to complete. The dc voltages being checked will appear momentarily during this two minute period. The check may be restarted by pressing the BIT switch.

Turn off electrical power per paragraph 8-3.
 Disconnect 20A5P04.
 Connect multimeter between 20A5J04-K and airframe ground.
 Turn on electrical power per paragraph 8-3.
 On TCP (TOW control panel):
 Press and release BIT switch and observe that multimeter indicates 10 V dc momentarily during BIT check.
 Is 10 V dc present momentarily?

NO

Turn off electrical power per paragraph 8-3.
 Connect multimeter between 20A5J04-n and airframe ground.
 Turn on electrical power per paragraph 8-3.
 On TCP (TOW control panel):
 Press and release BIT switch and observe that multimeter indicates 10 V dc momentarily during BIT check.
 Is 10 V dc present momentarily?

YES

YES

Turn off electrical power per paragraph 8-3.
 Connect multimeter between 20J332-Z and airframe ground.
 Turn on electrical power per paragraph 8-3.
 On TCP (TOW control panel):
 Press and release BIT switch.
 Is 28 V dc present momentarily during BIT check?

NO

YES

Turn off electrical power per paragraph 8-3.
 Connect 20A5P04.
 Disconnect 20A3P01 and 20A1P01.
 Check for continuity from 20A1P01-s to 20A3P01-T.
 Is continuity present?

NO

NO

Disconnect 20A5P02.
 Check for continuity from 20A5P02-d to 20A3P01-R.
 Is continuity present?

YES

YES

NO

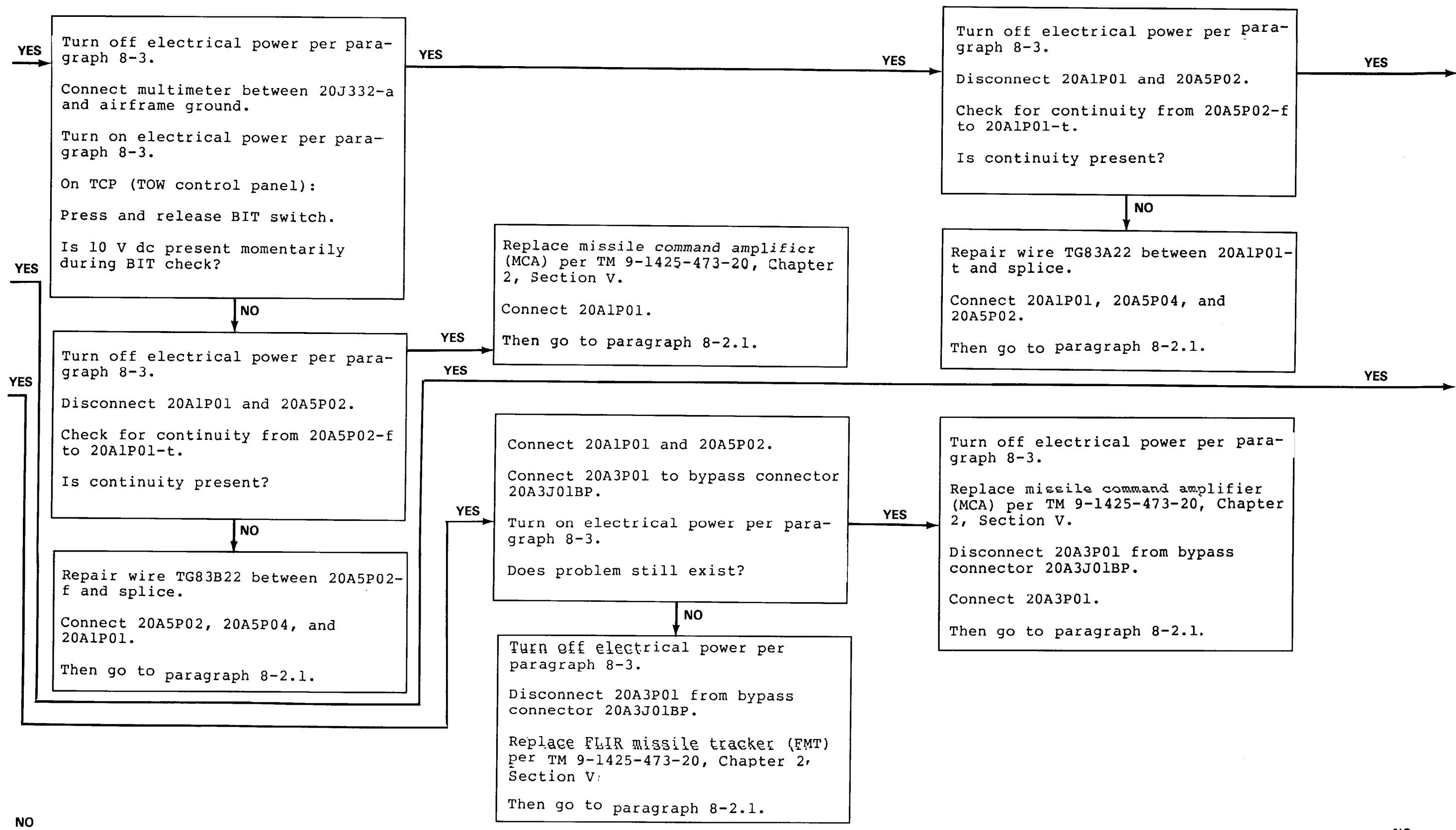
Repair wire TG82D22 or TG82B22 between 20A3P01-R and 20A5P02-d.
 Connect 20A5P02, 20A3P01, and
 Then go to paragraph 8-2.1.

NO

Repair wire TG1131A22 between 20A1P01-s and 20A3P01-T.
 Connect 20A1P01 and 20A3P01.
 Then go to paragraph 8-2.1.

NO

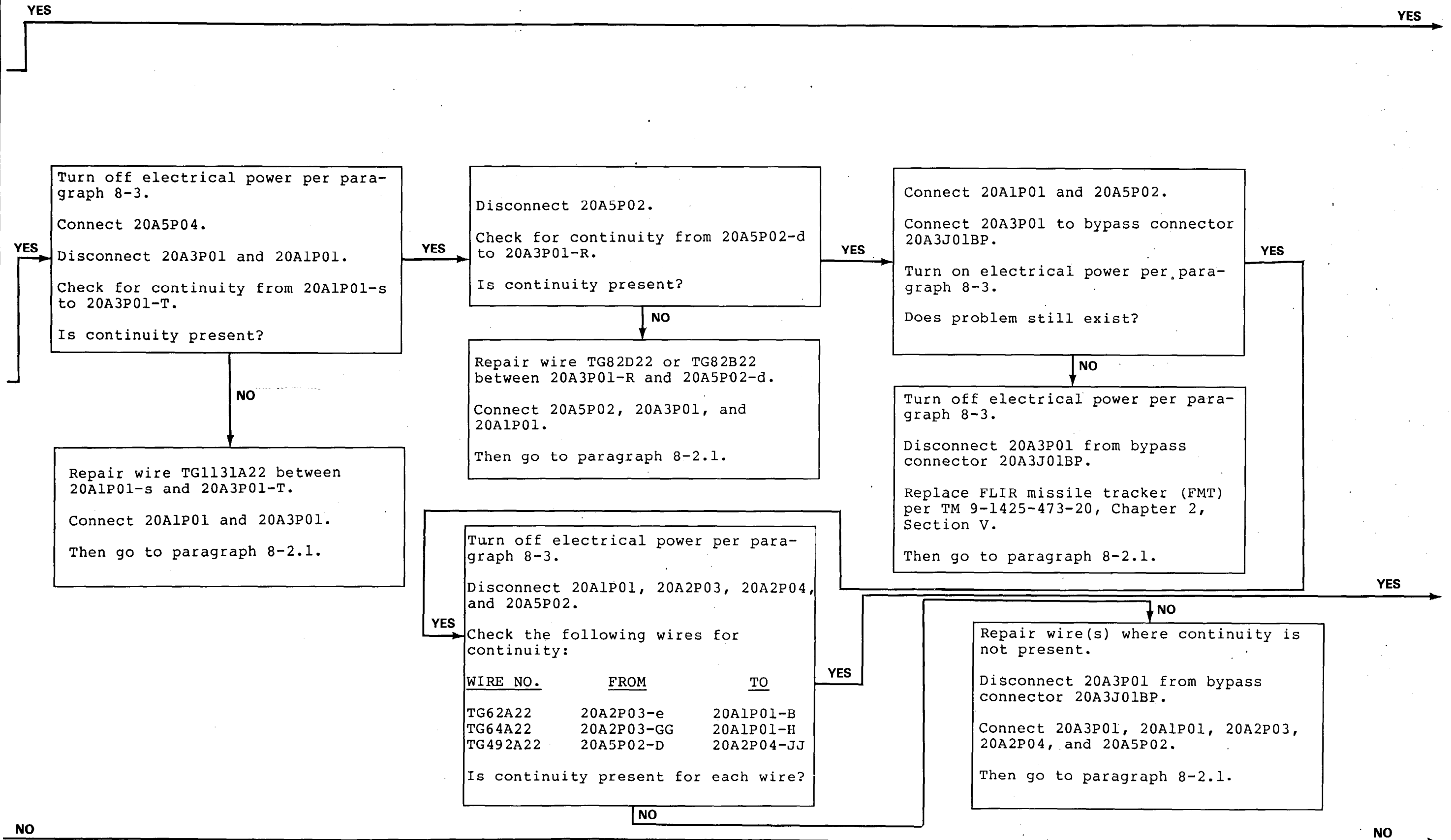
8-14.1. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



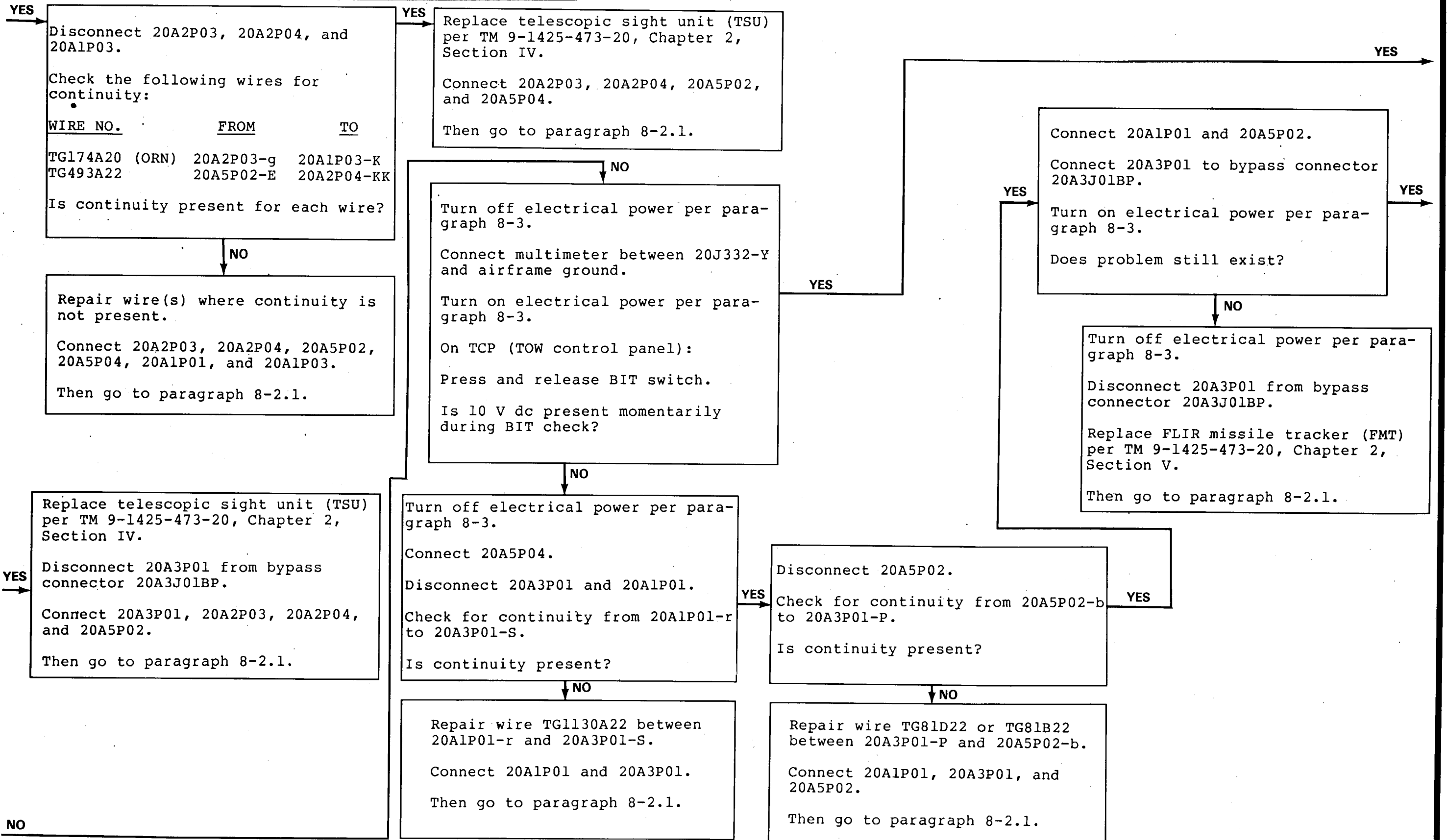
NO

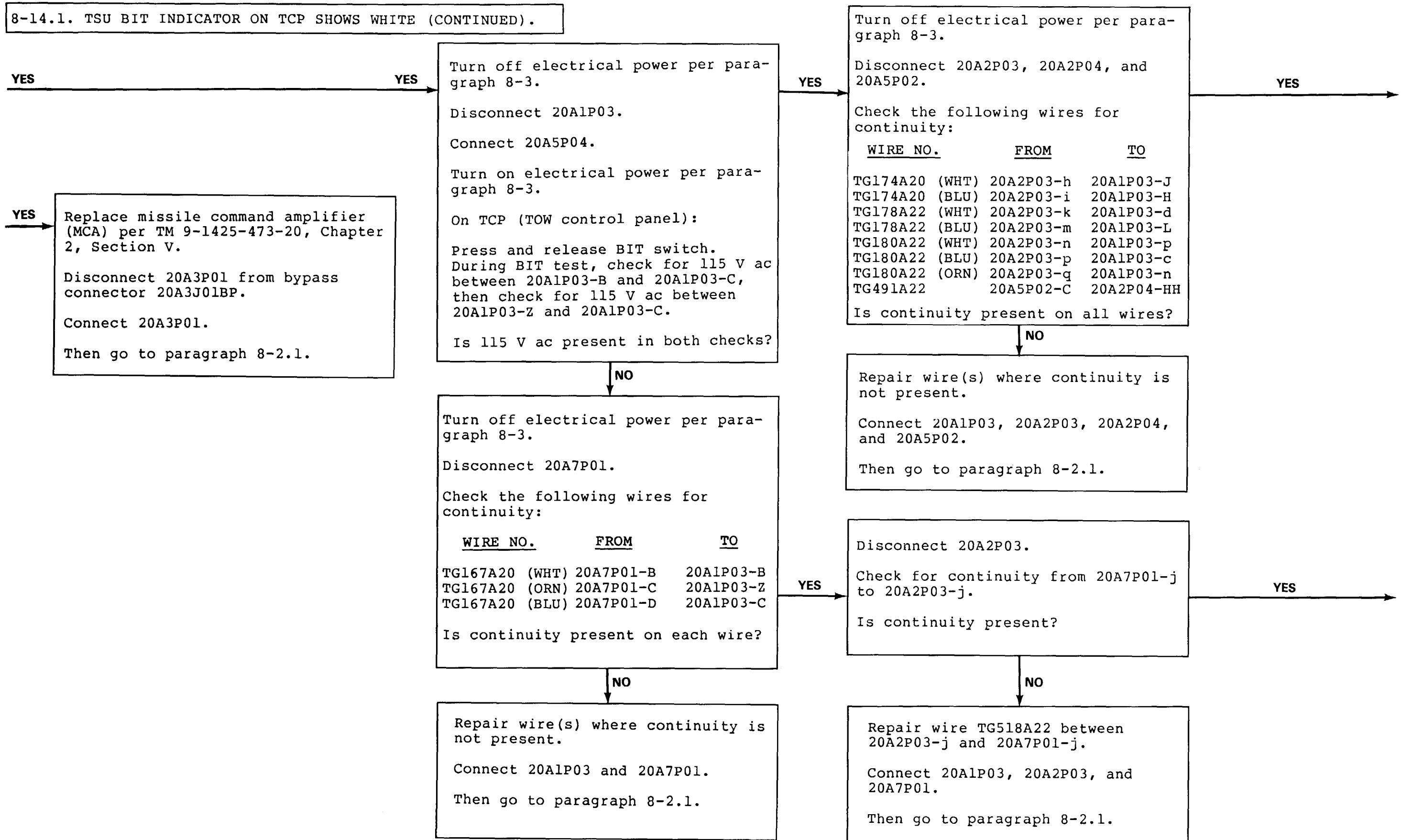
NO

8-14.1. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).

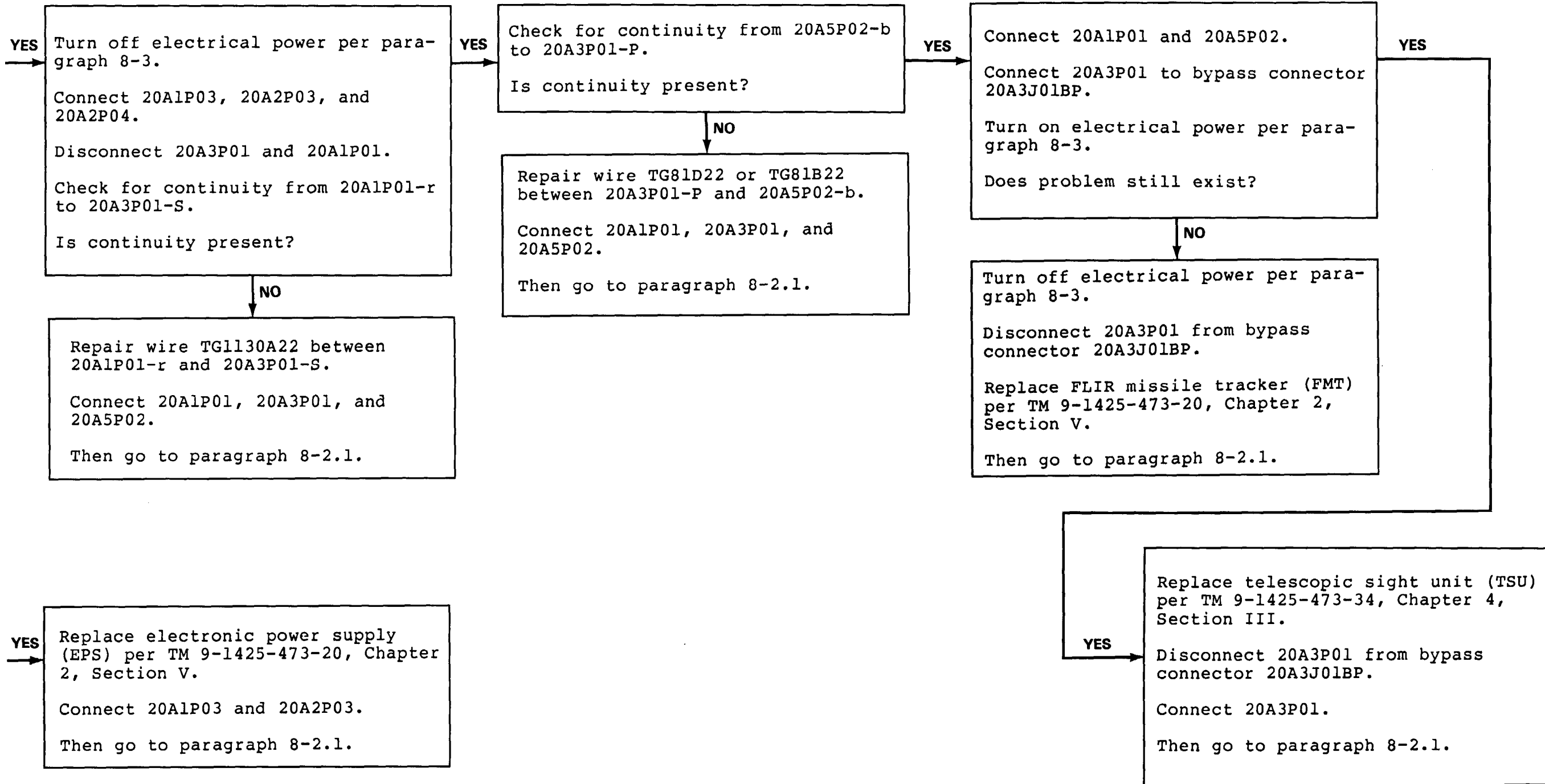


8-14.1. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).

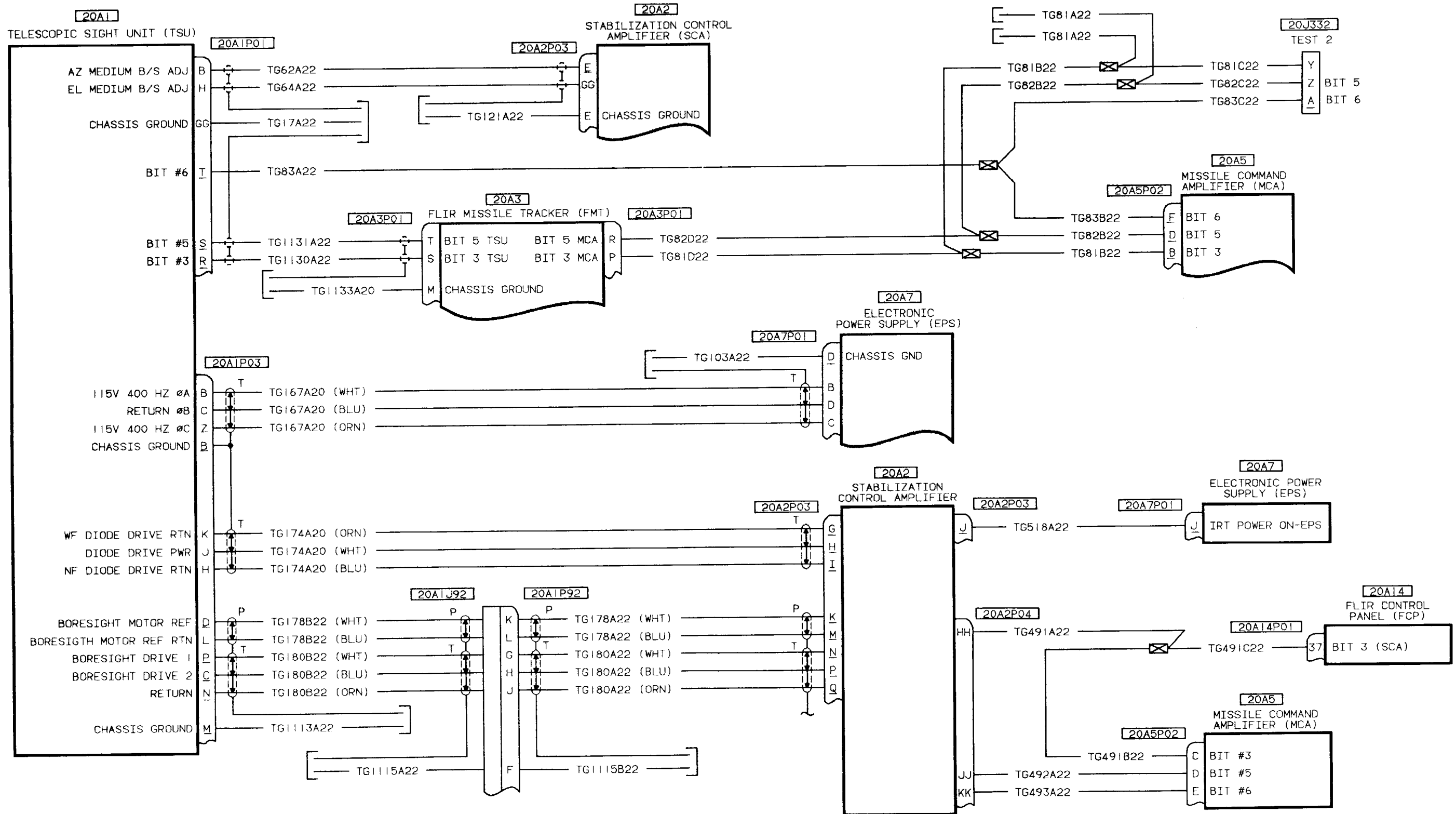




8-14.1. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-14.1. TSU BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



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8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE.

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 - Removed

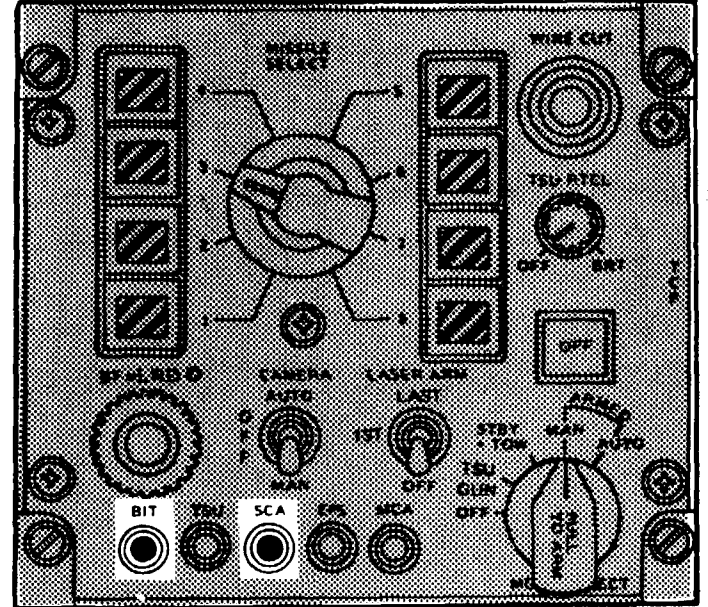
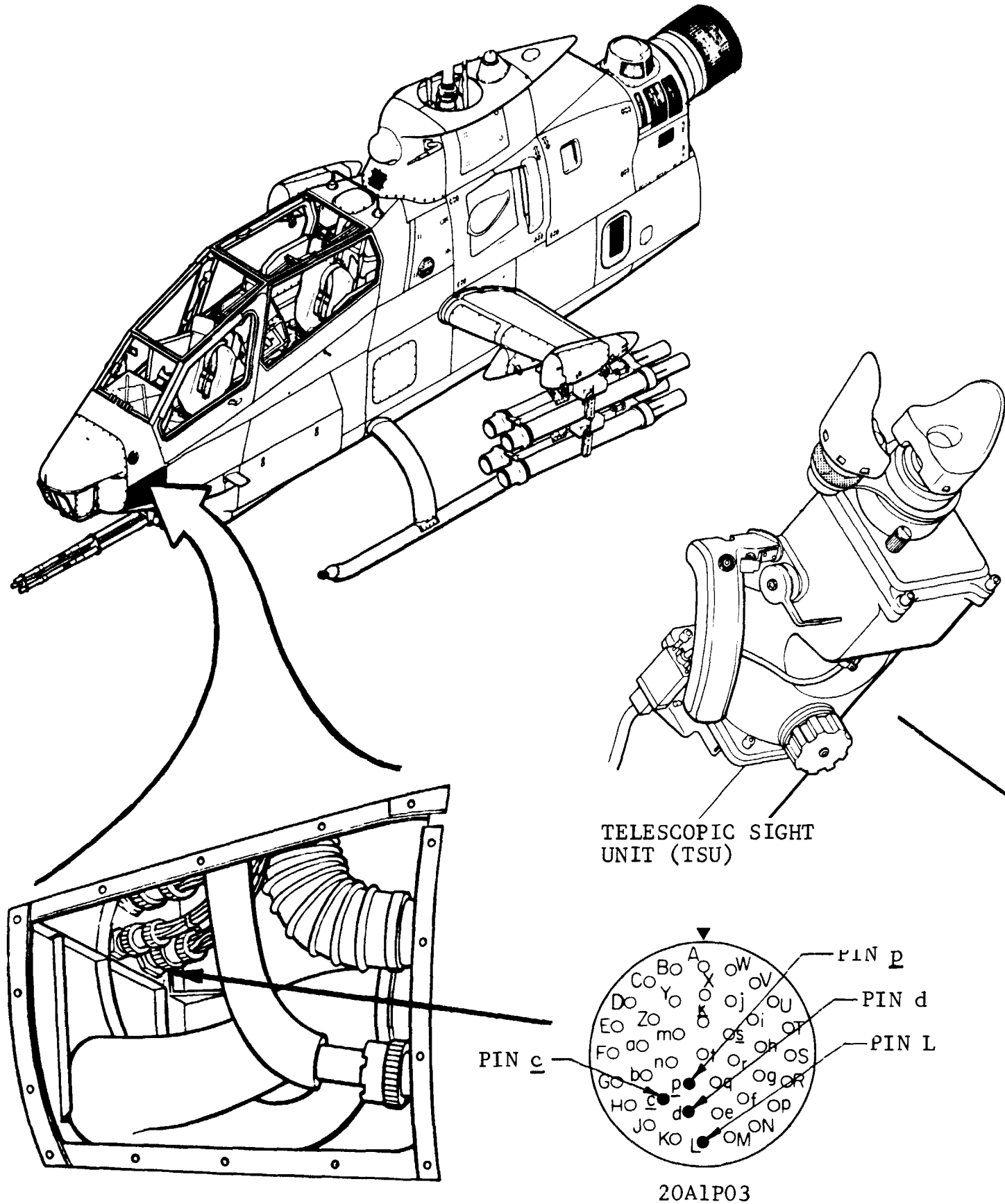
Middle Electronics (Tailboom) -
Removed

Aft Electronics (Tailboom) -
Removed

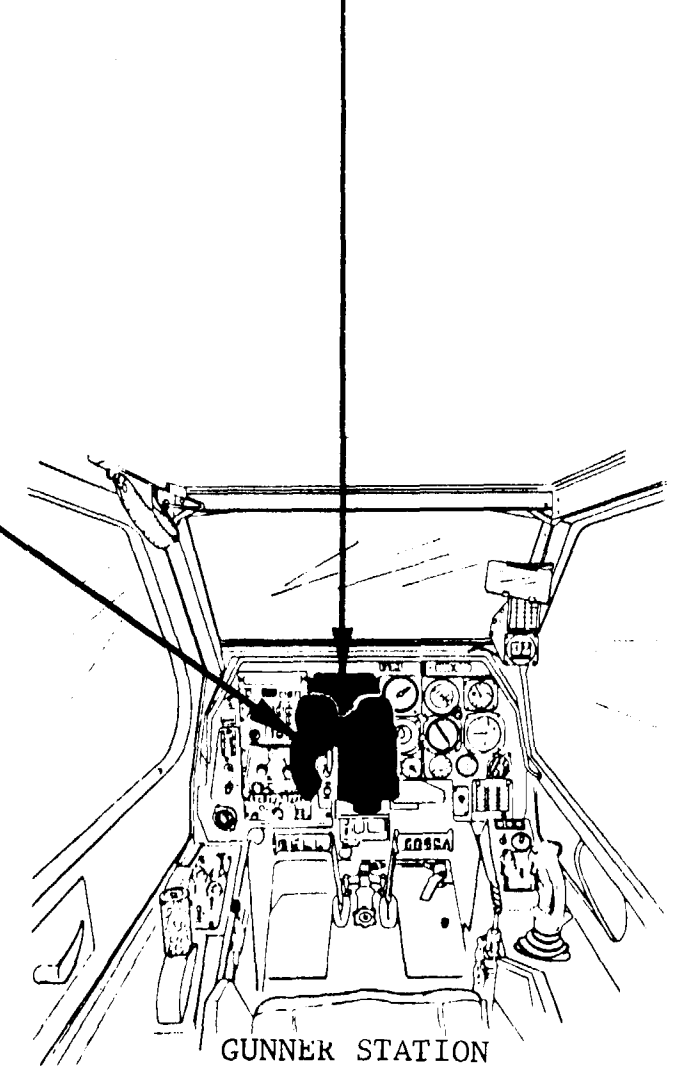
Right Forward Radar Warning
Antenna - Removed

Left Forward Radar Warning
Antenna - Removed

Left Side Control Linkage -
Removed

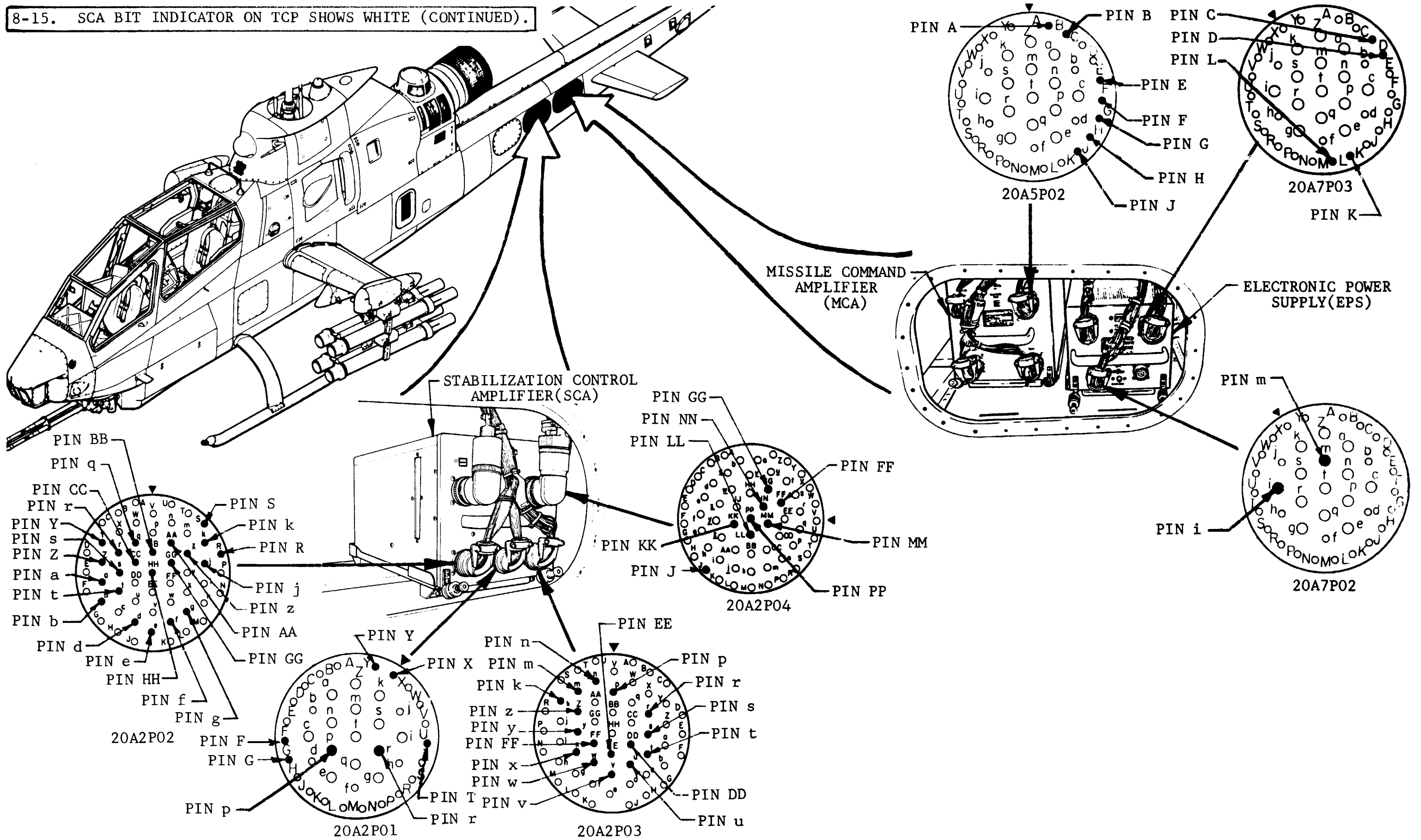


TCP (TOW CONTROL PANEL)

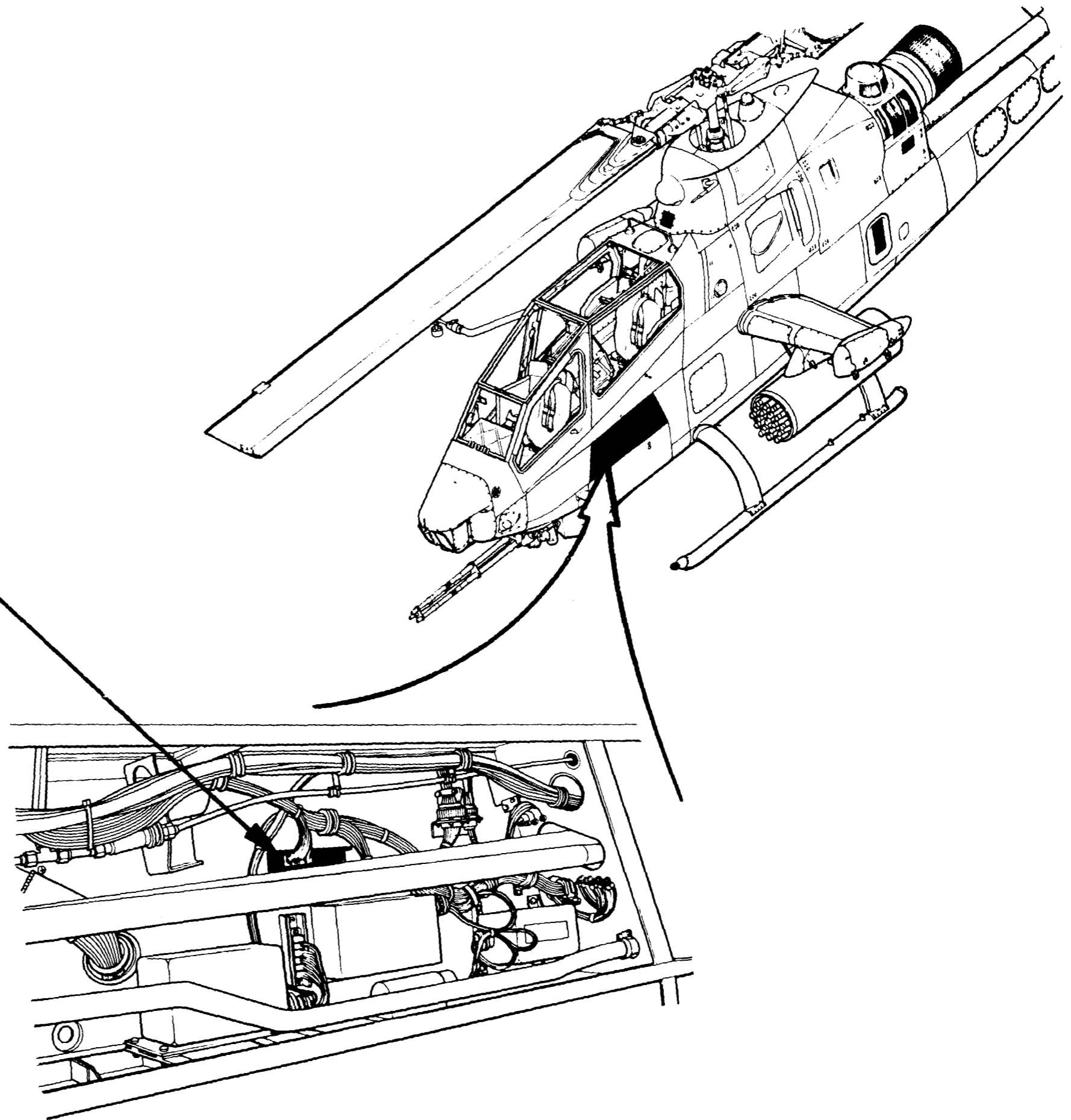
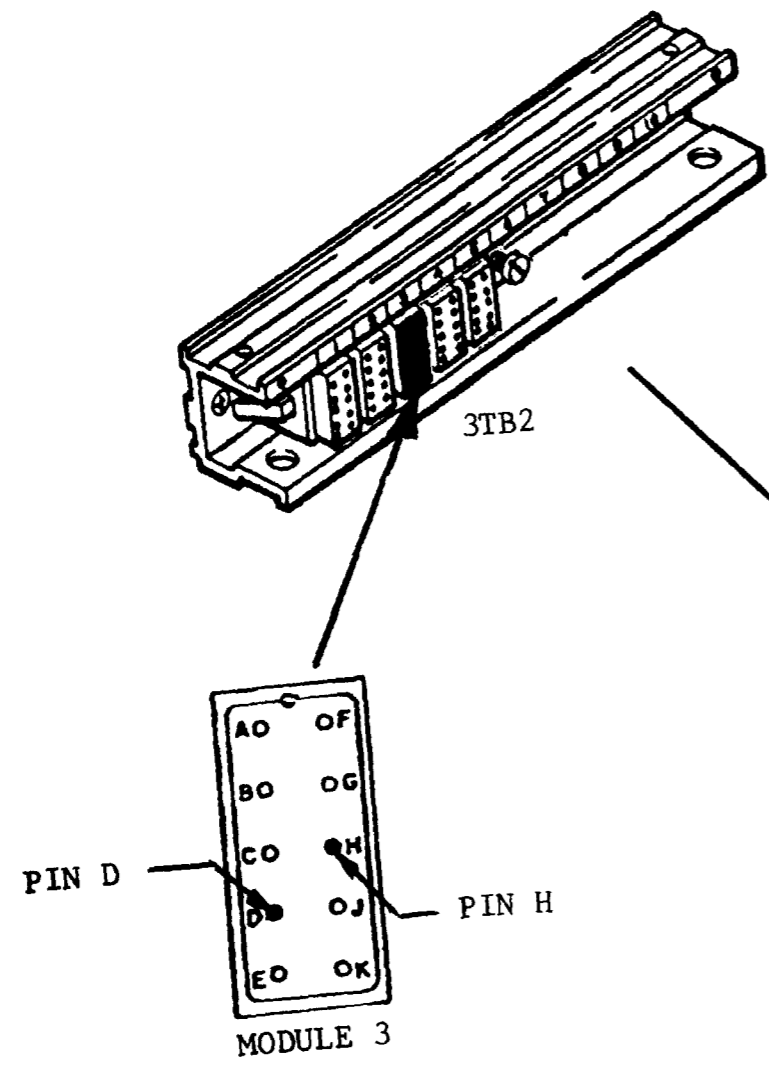


GUNNER STATION

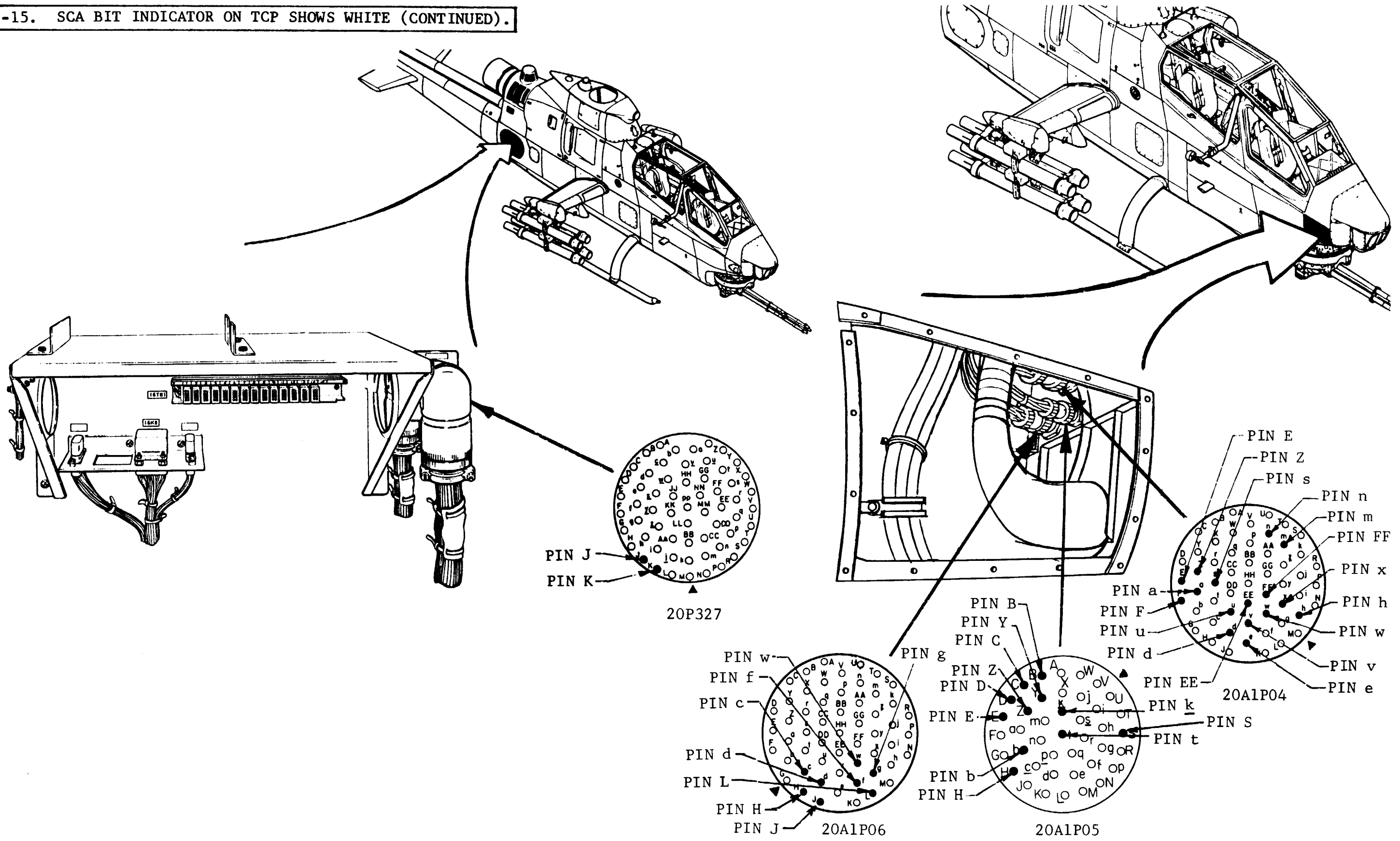
8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



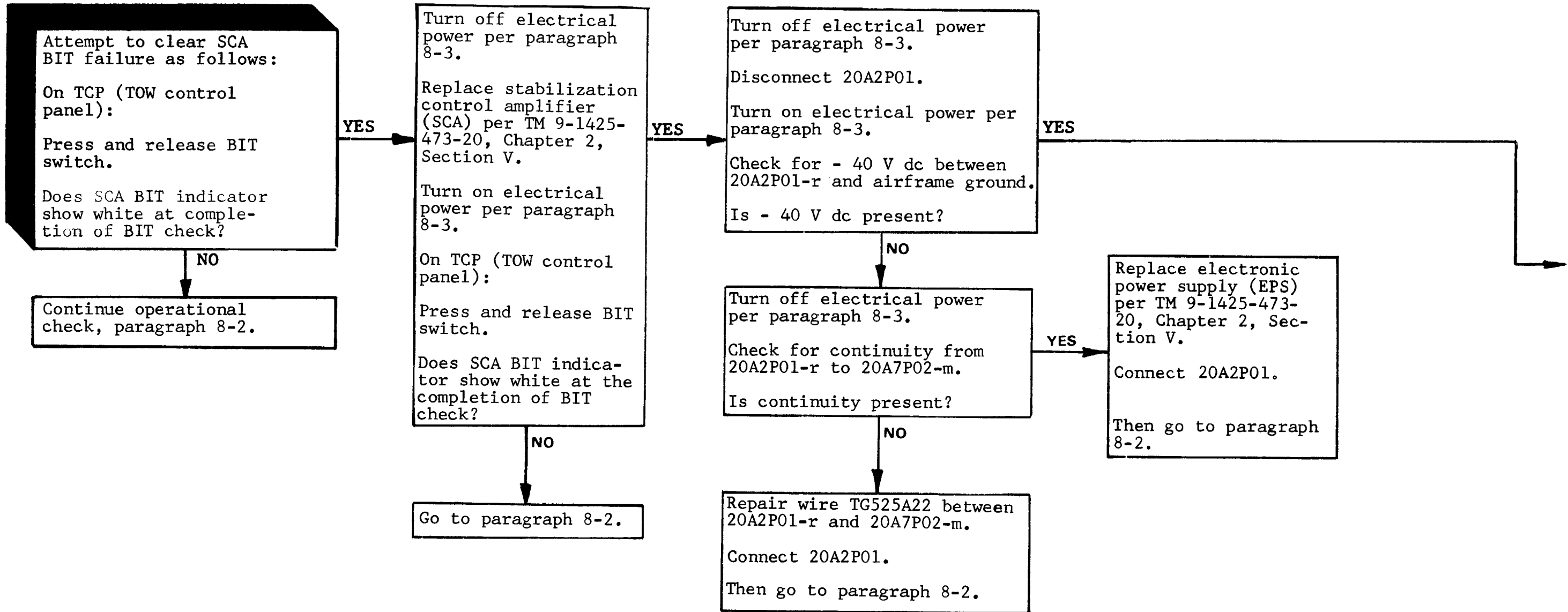
8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



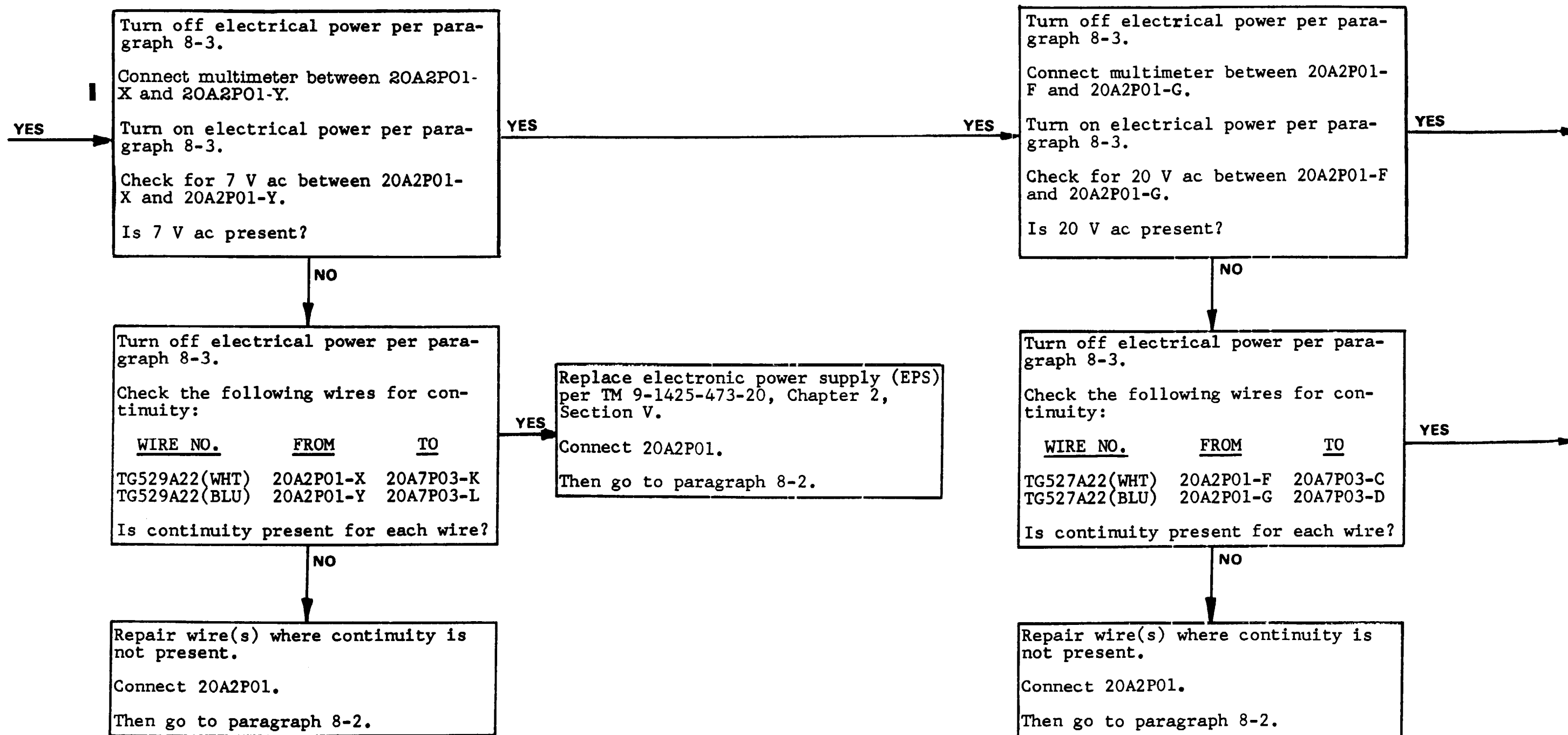
8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



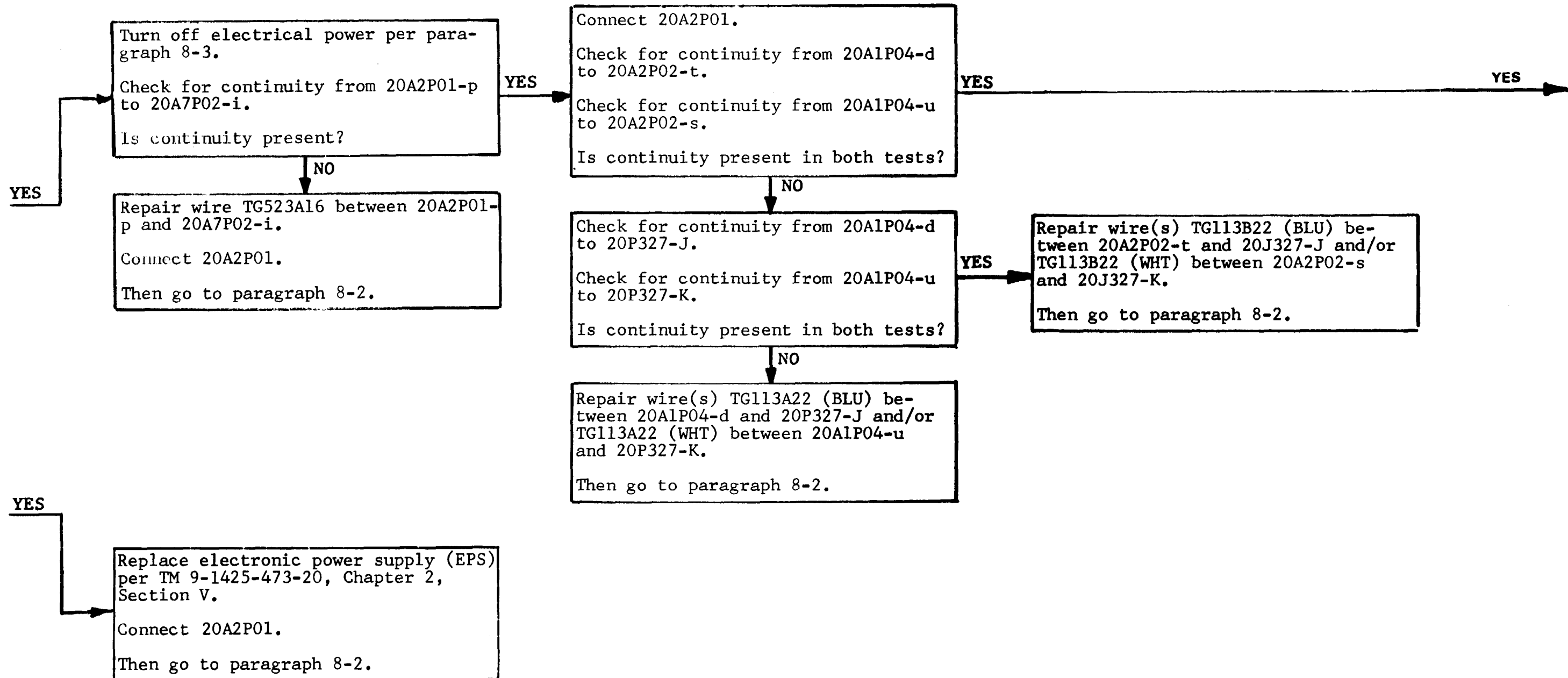
8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



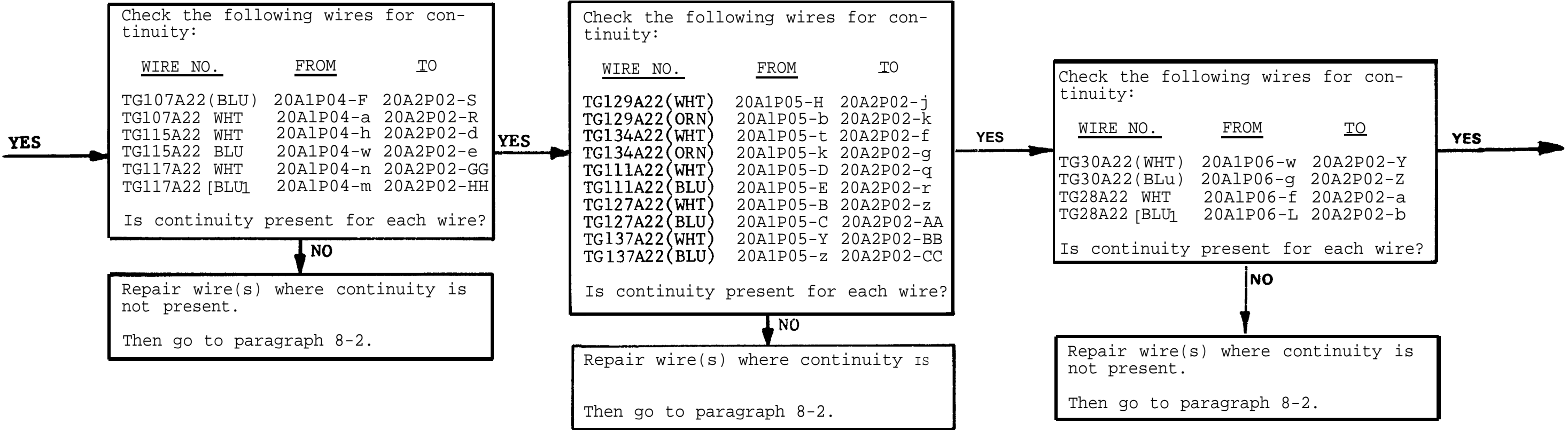
8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



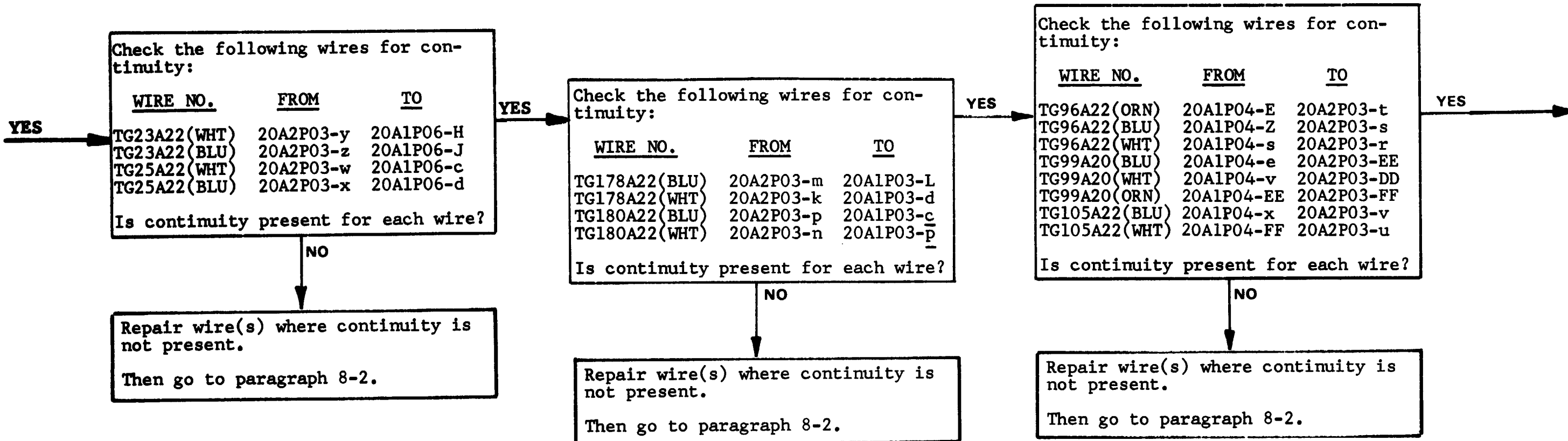
8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



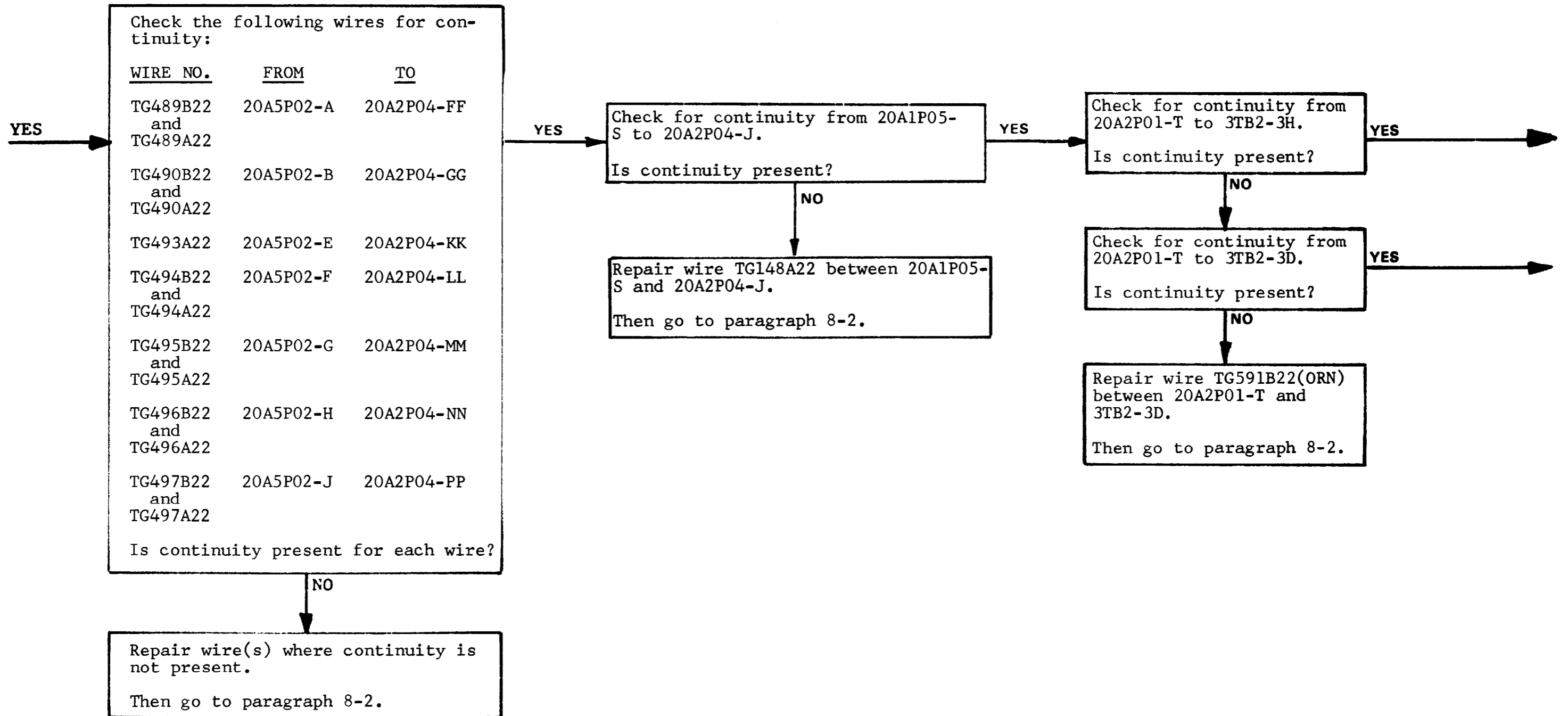
8-15. SCA BIT INDUCATOR ON TCP SHOWS WHITE (CONTINUED).



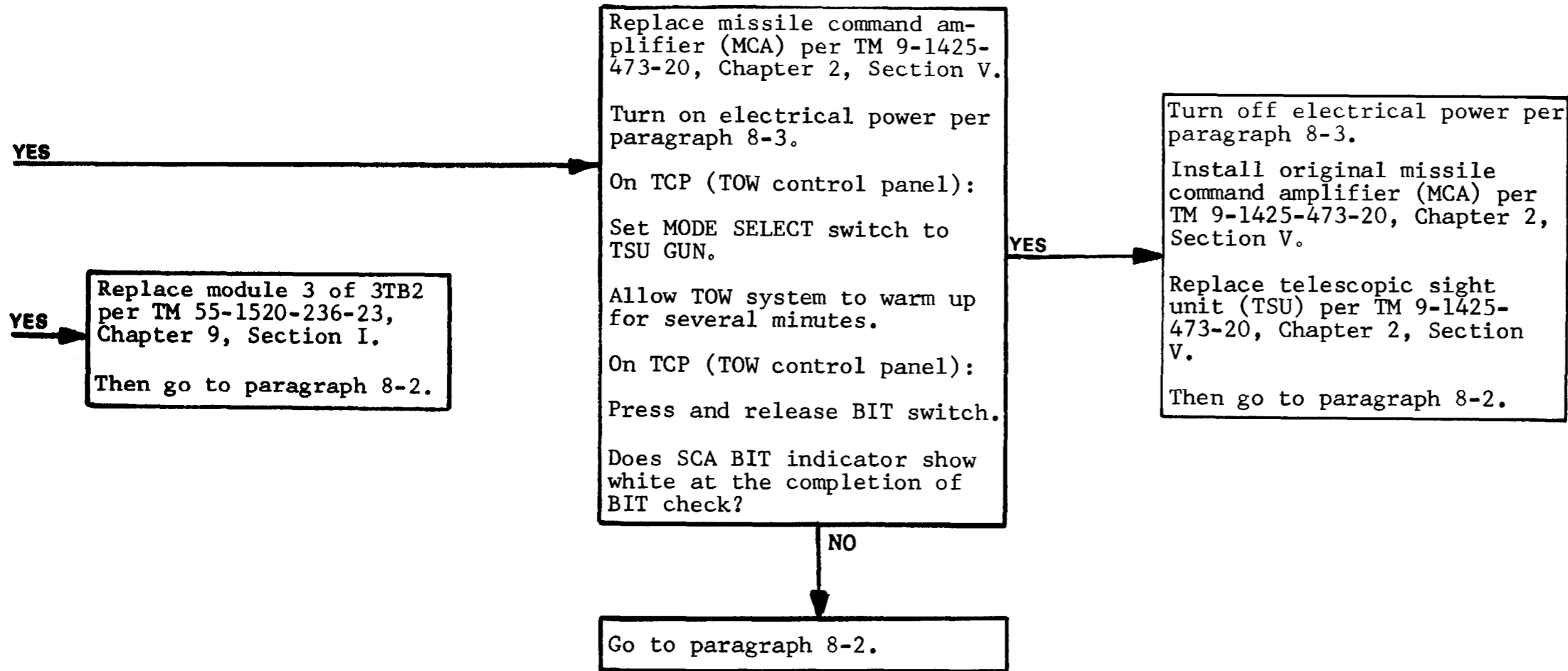
8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



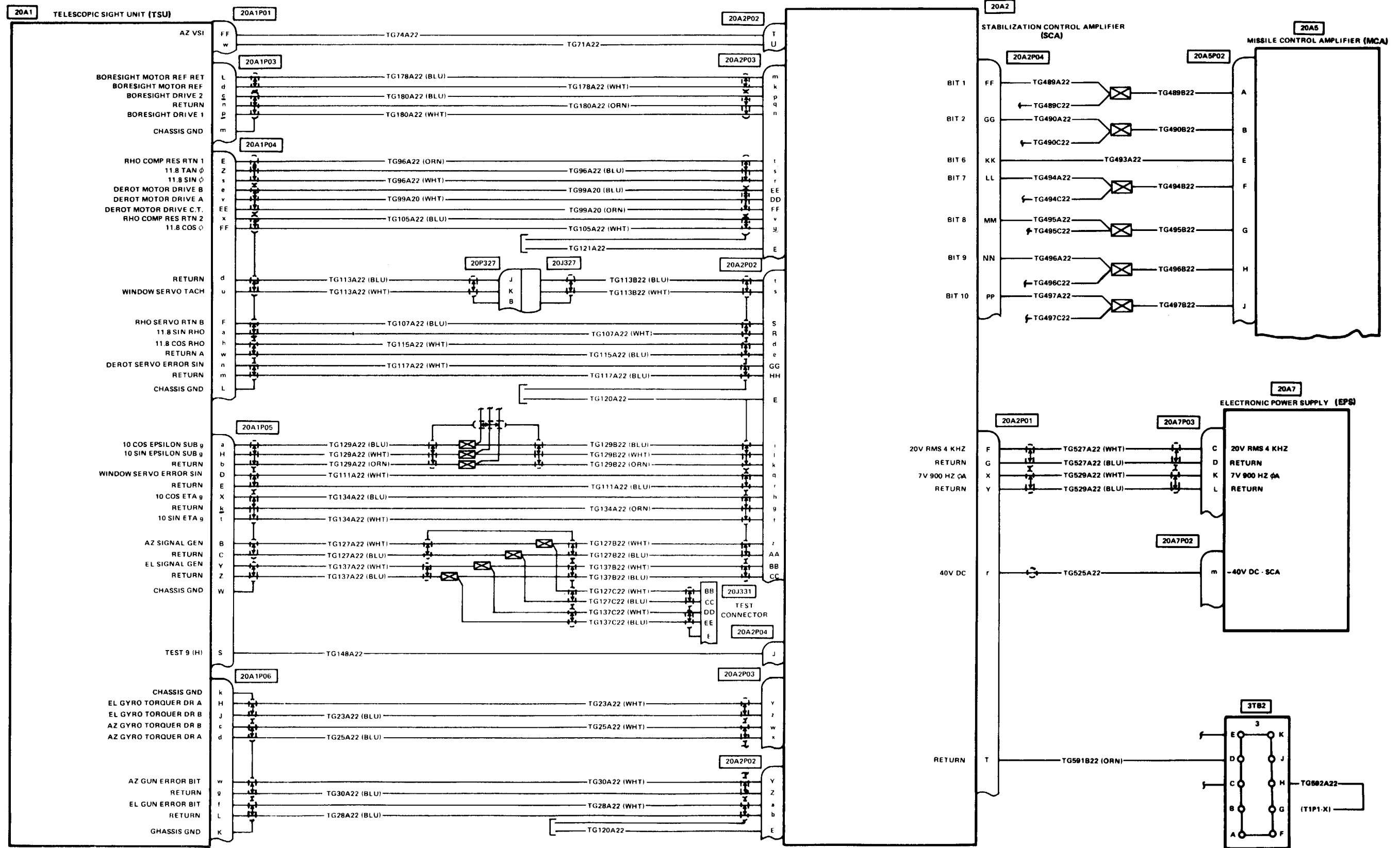
8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-15. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-15.1. SCA BIT INDICATOR ON TCP 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

Access Panels

Battery Compartment - Removed

Forward Electronics (Tailboom) - Removed

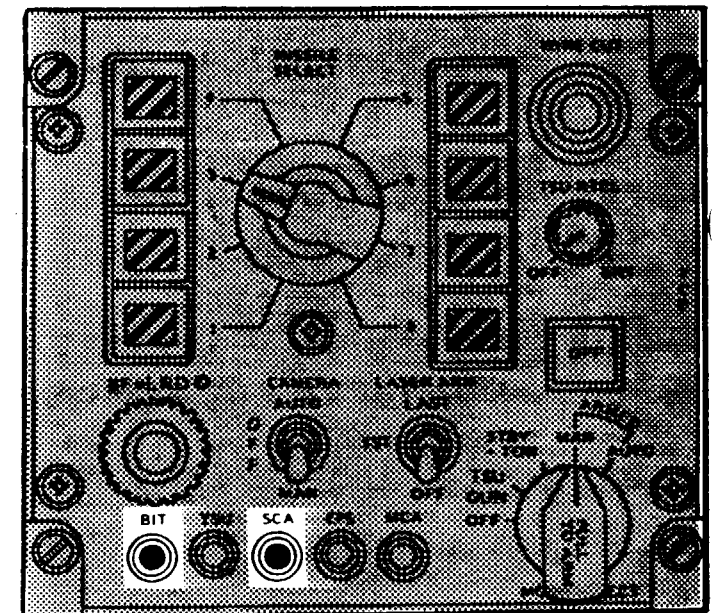
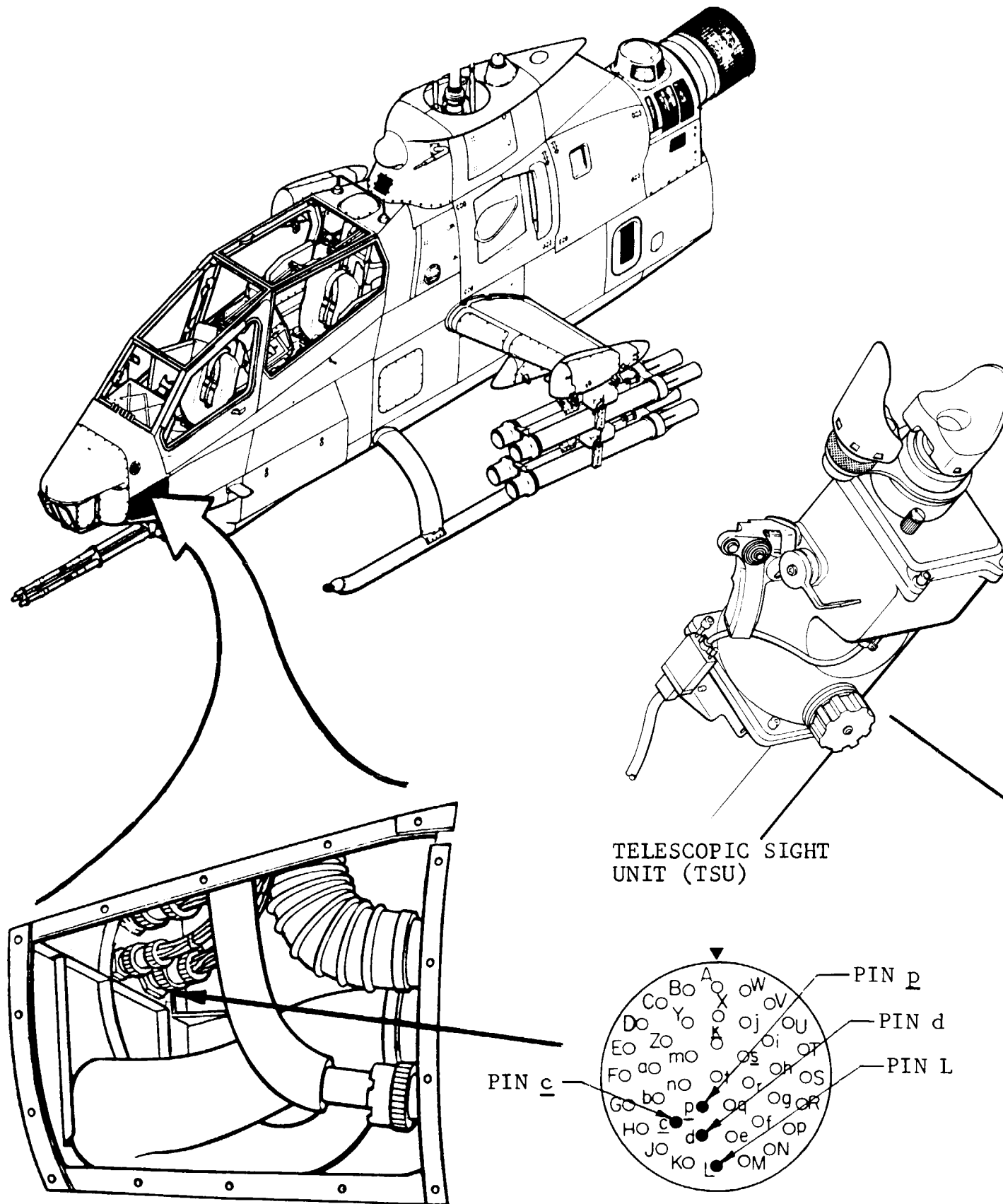
Middle Electronics (Tailboom) - Removed

Aft Electronics (Tailboom) - Removed

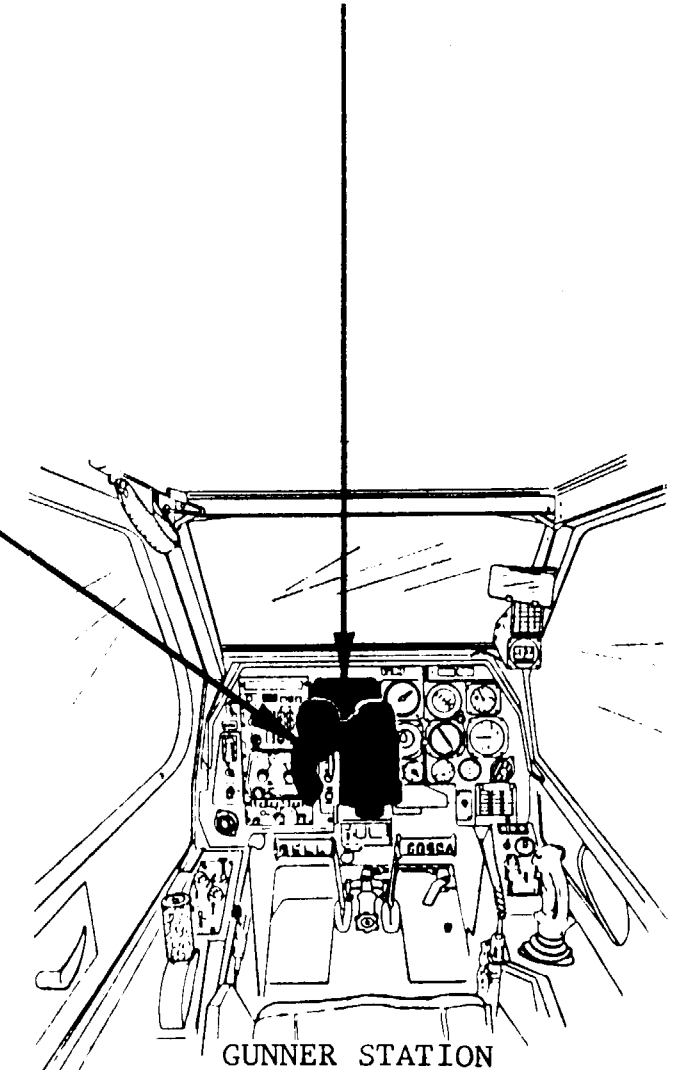
Right Forward Radar Warning Antenna - Removed

Left Forward Radar Warning Antenna - Removed

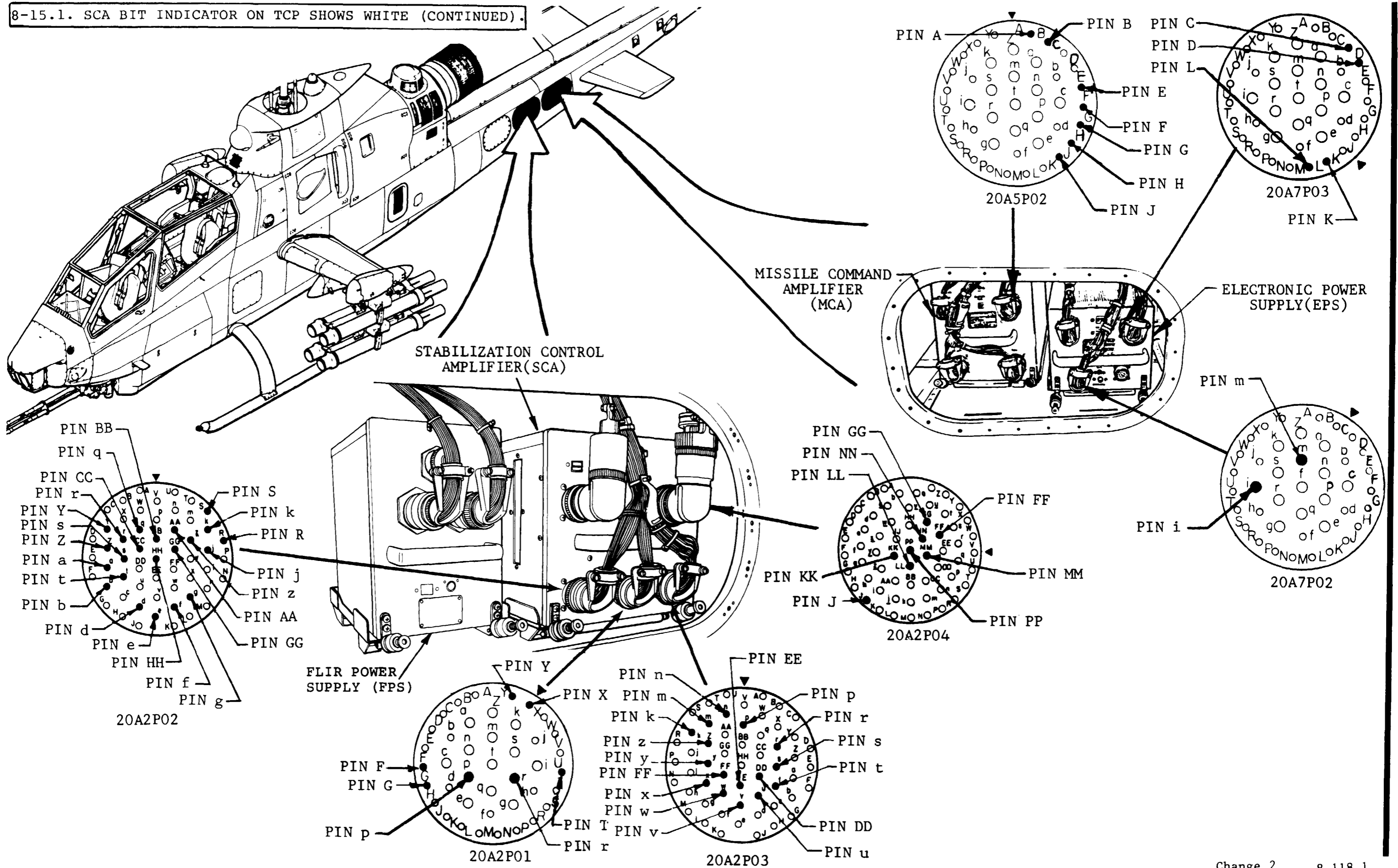
Left Side Control Linkage - Removed



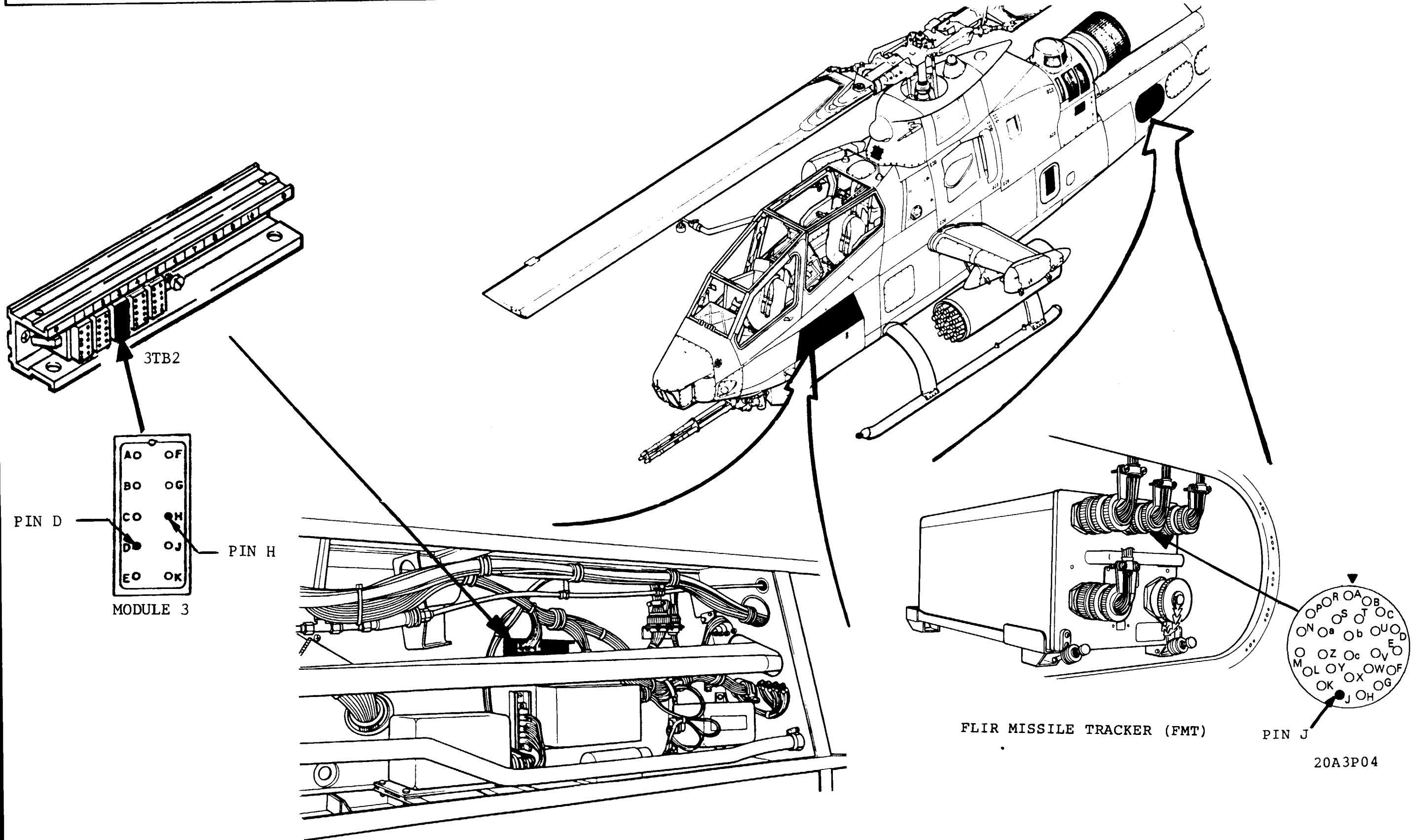
TCP (TOW CONTROL PANEL)



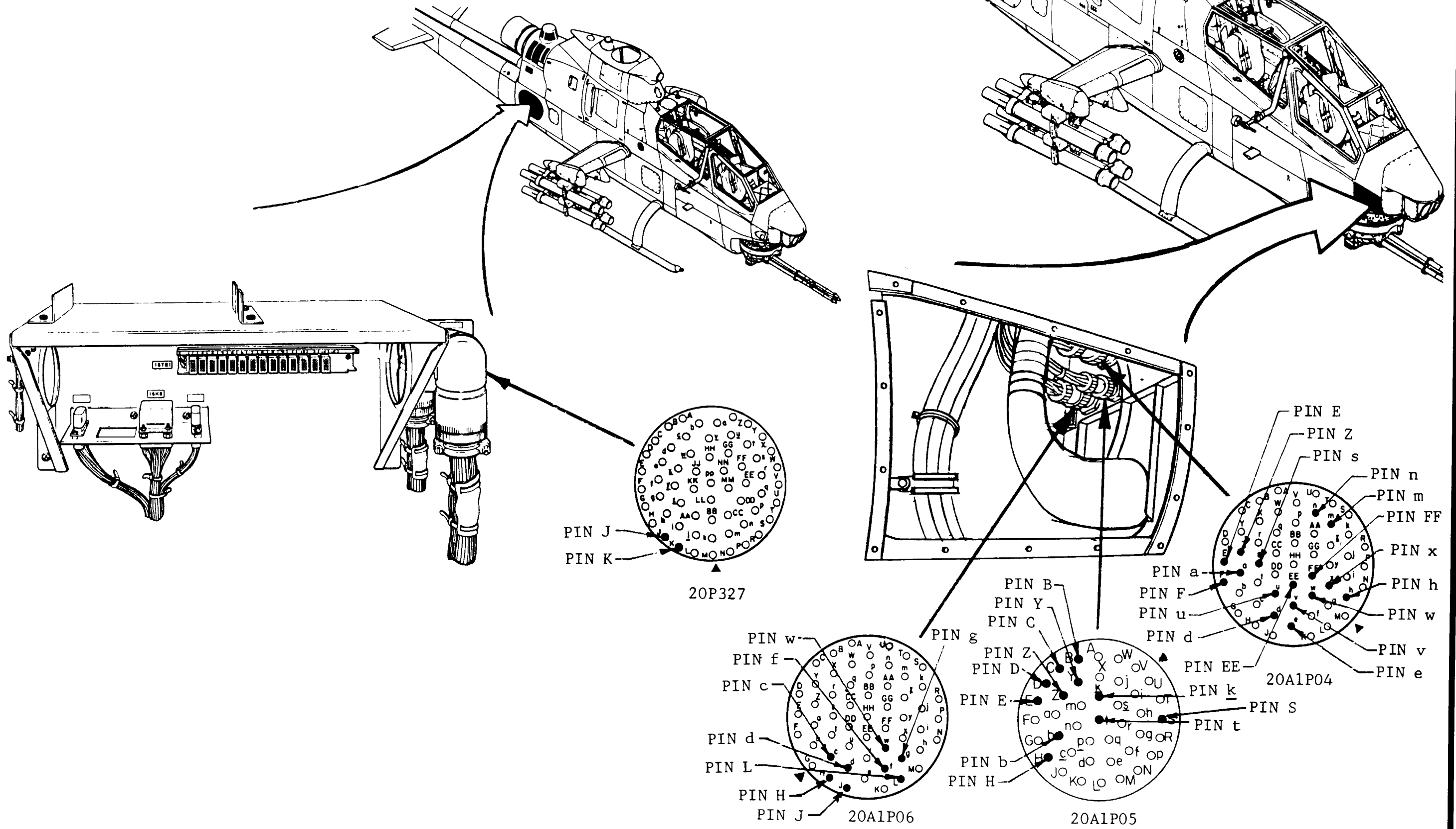
8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



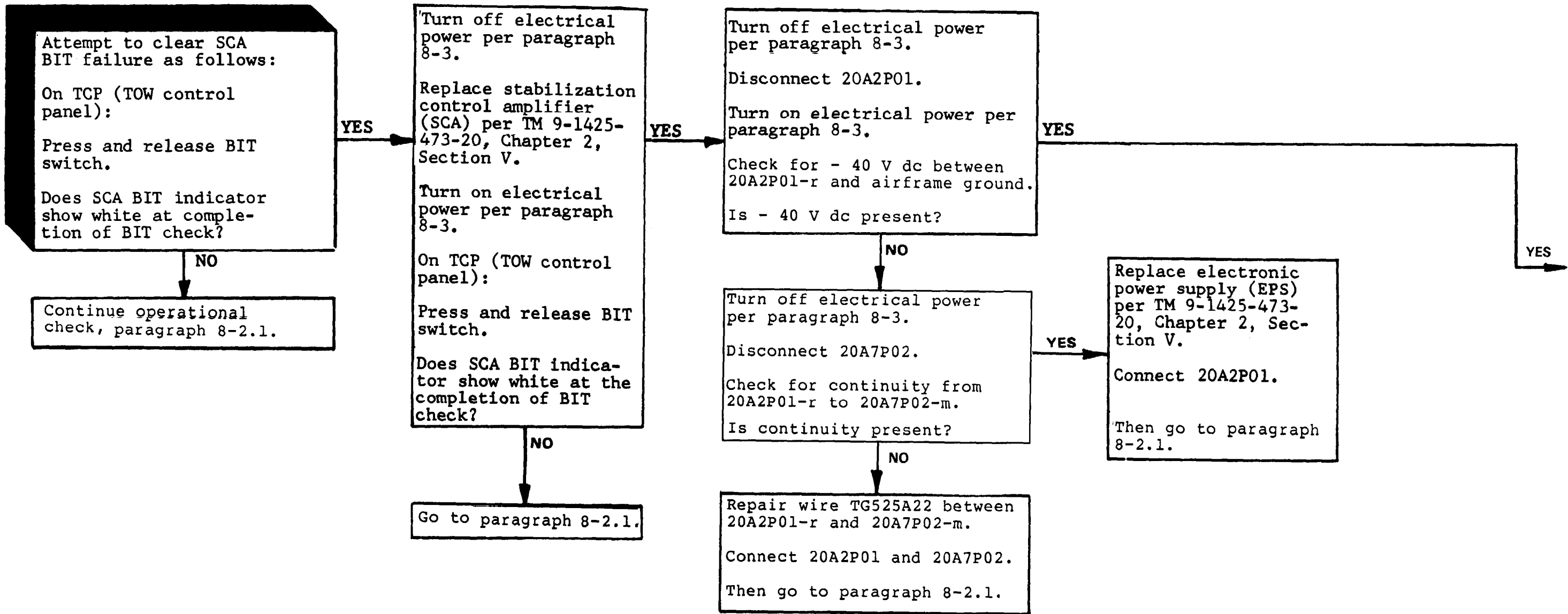
8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



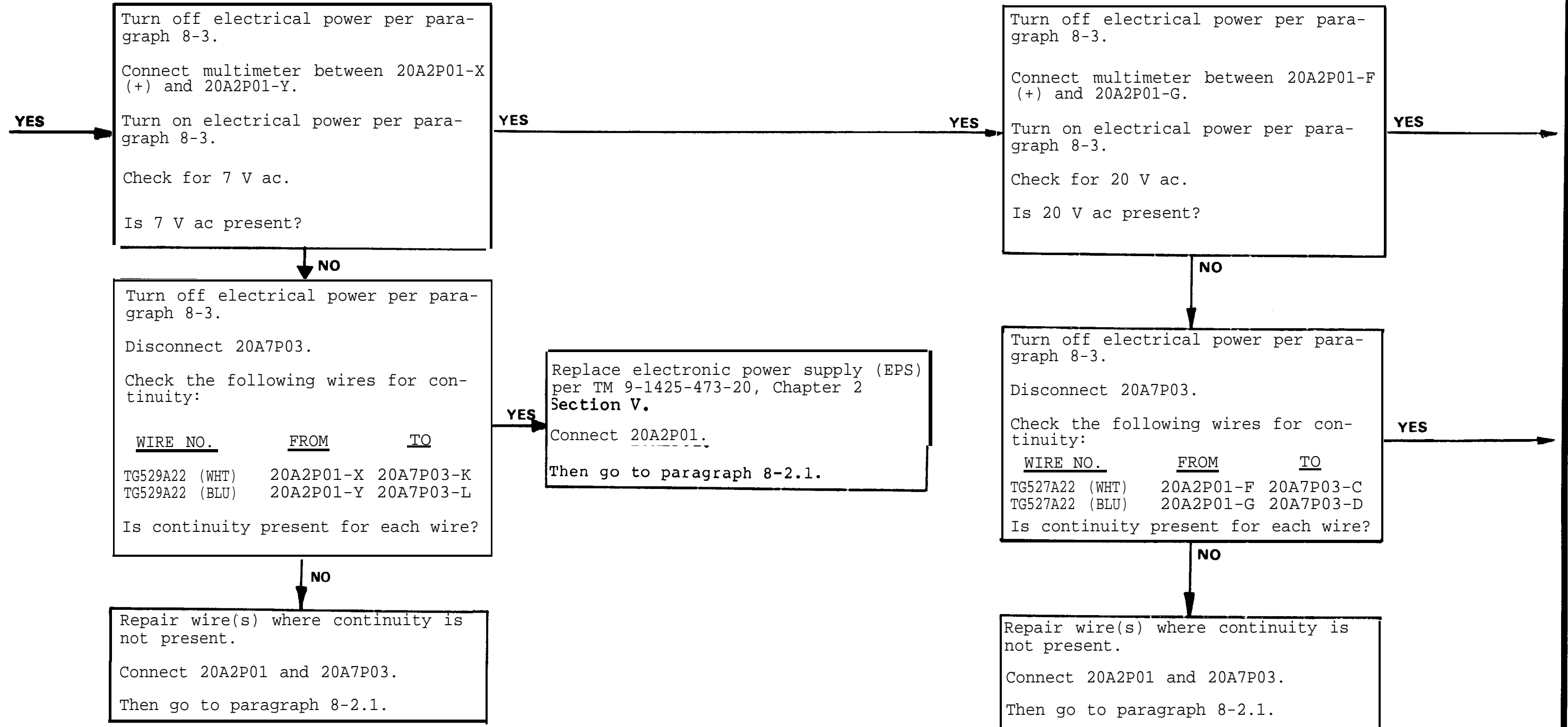
8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



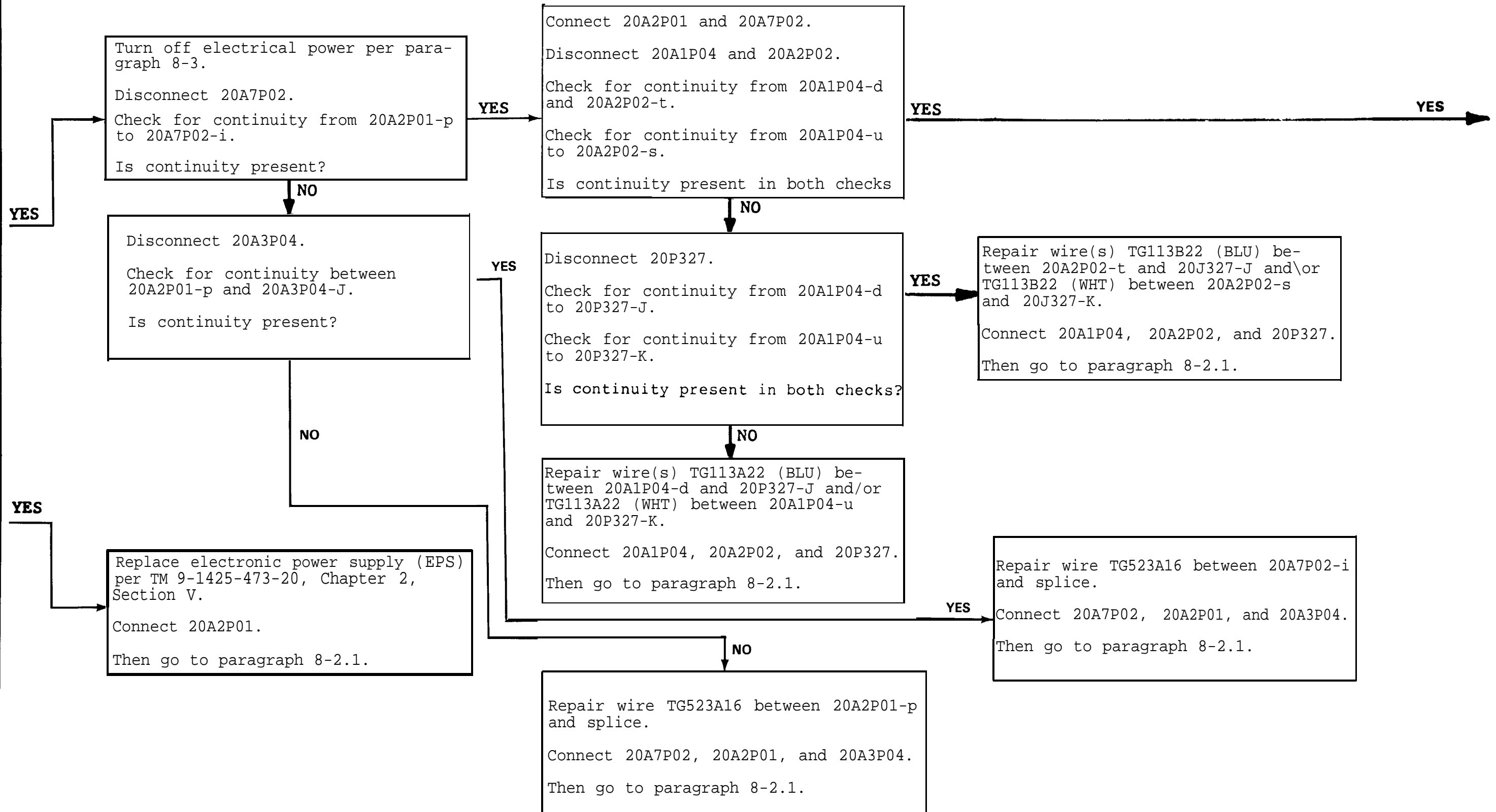
8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



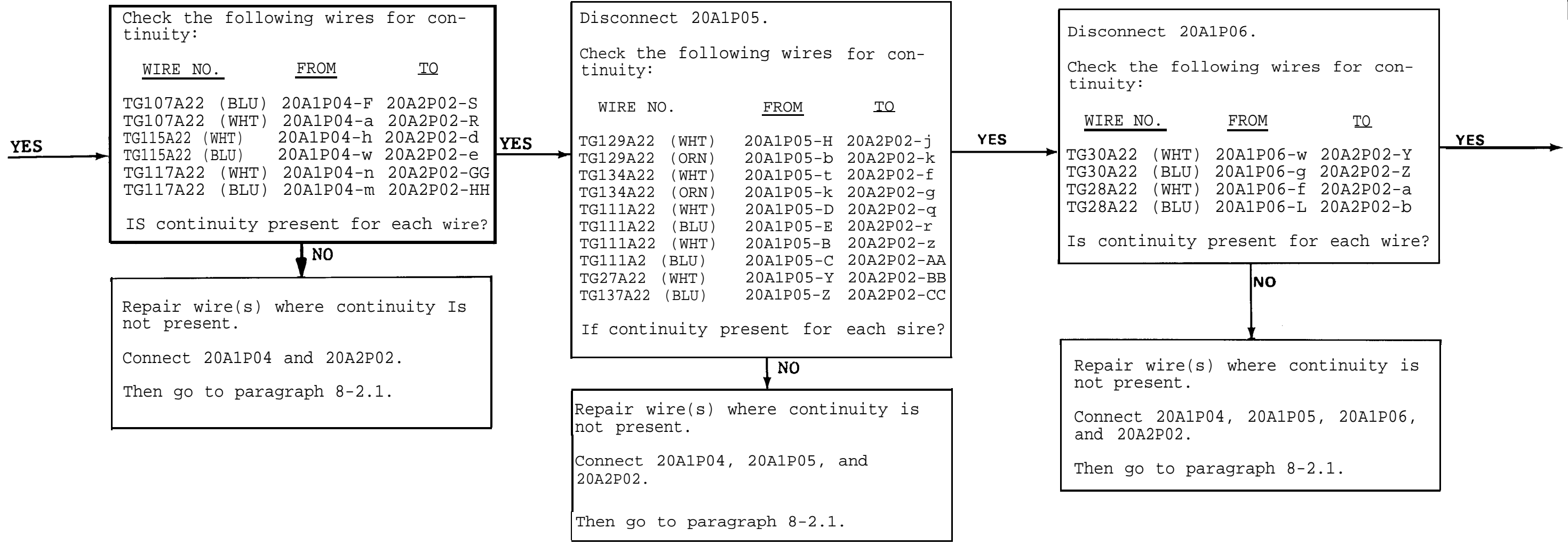
8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



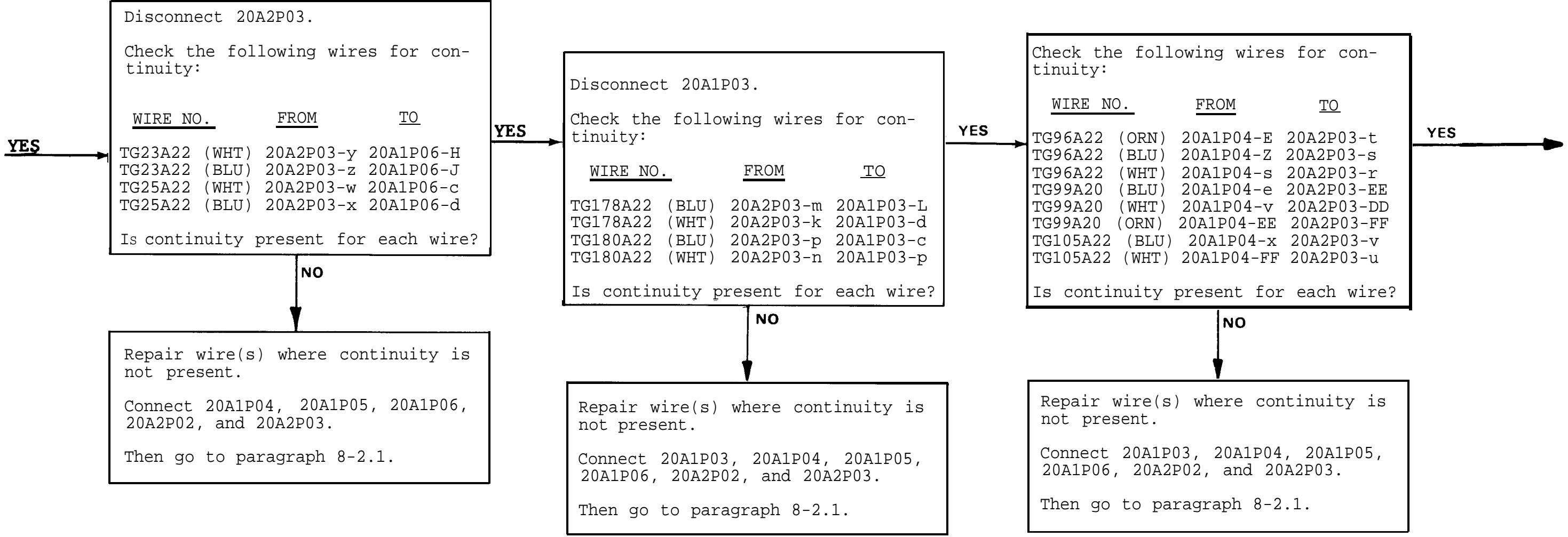
8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



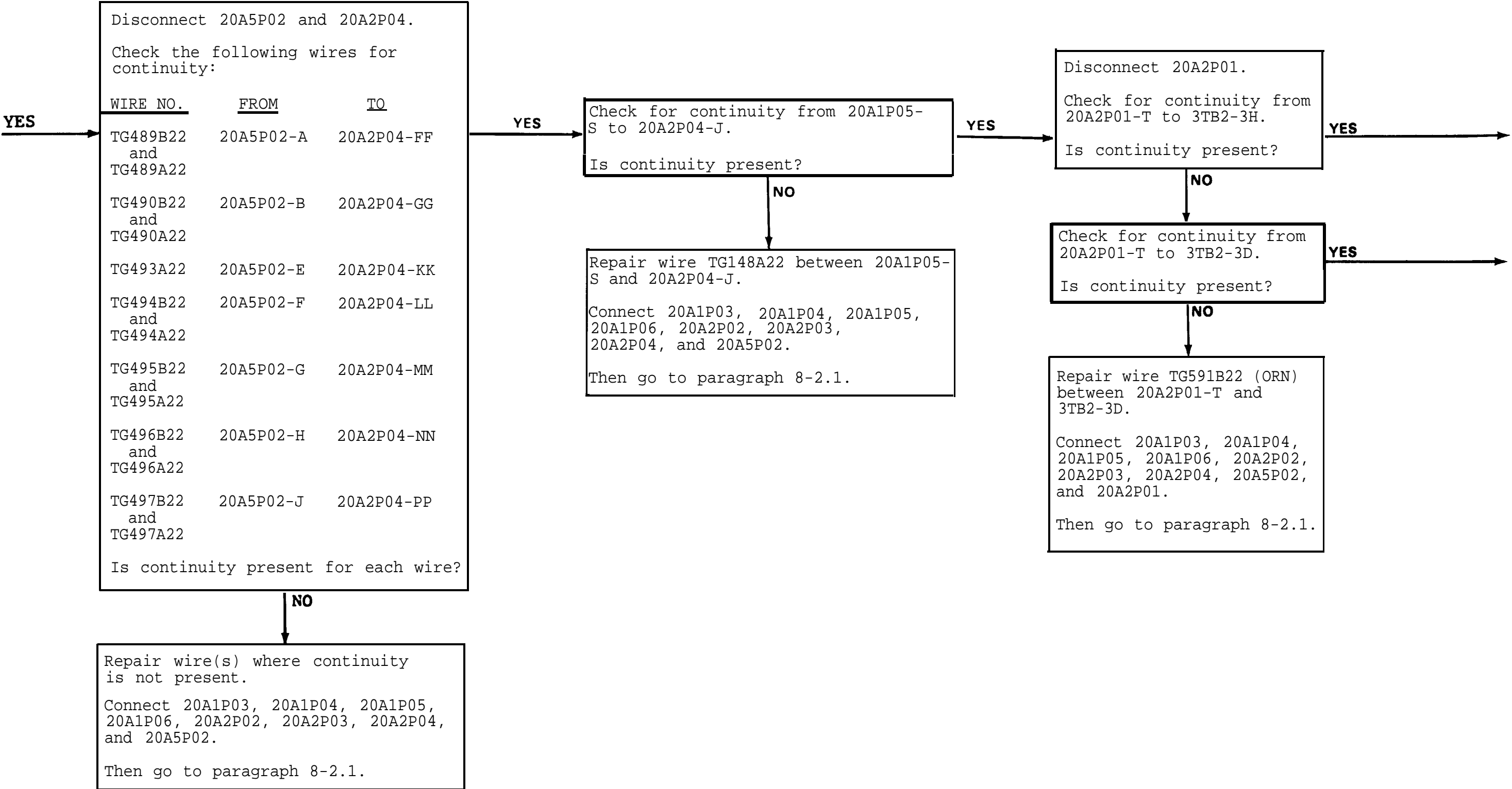
18-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



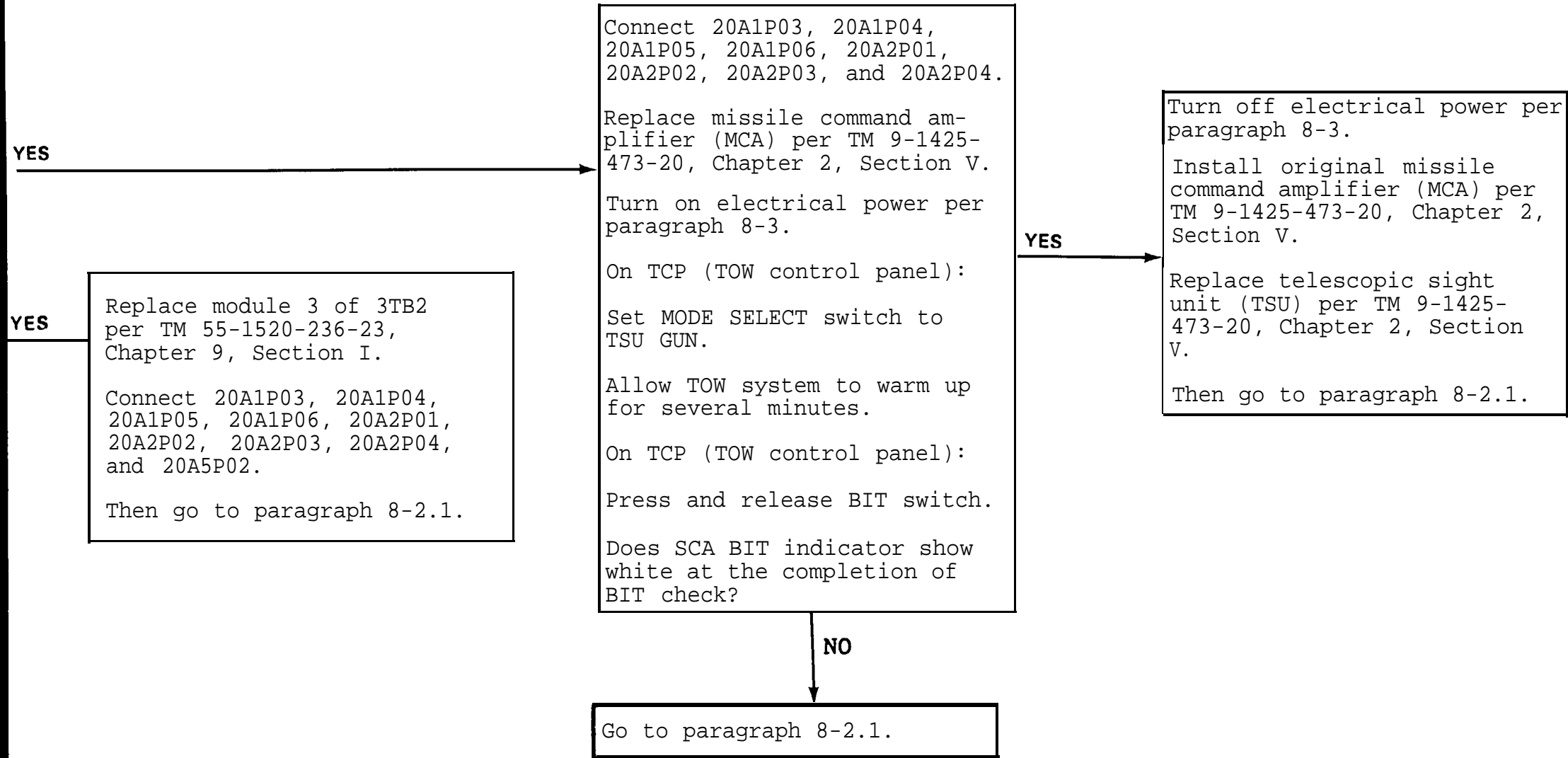
8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



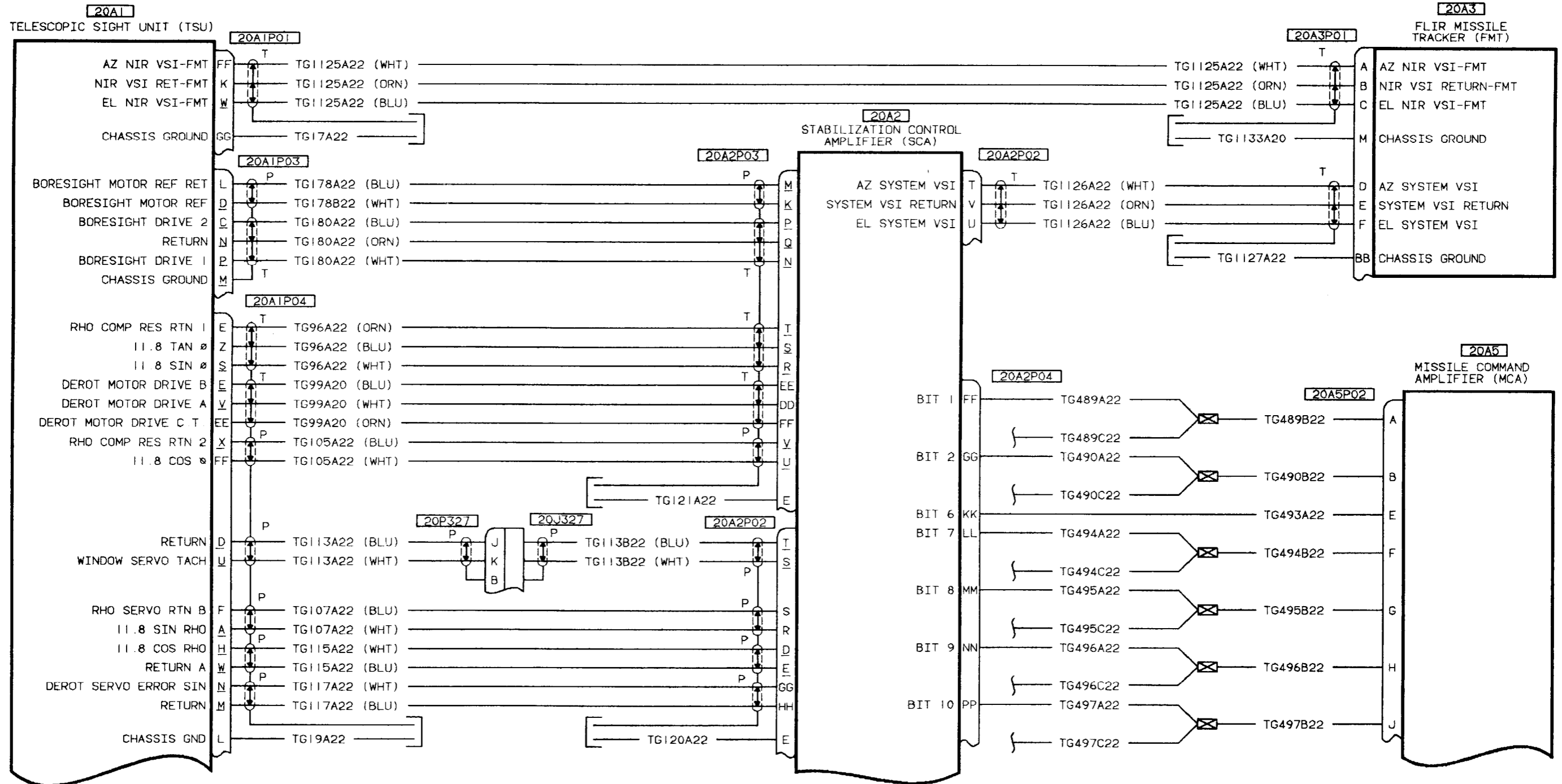
8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



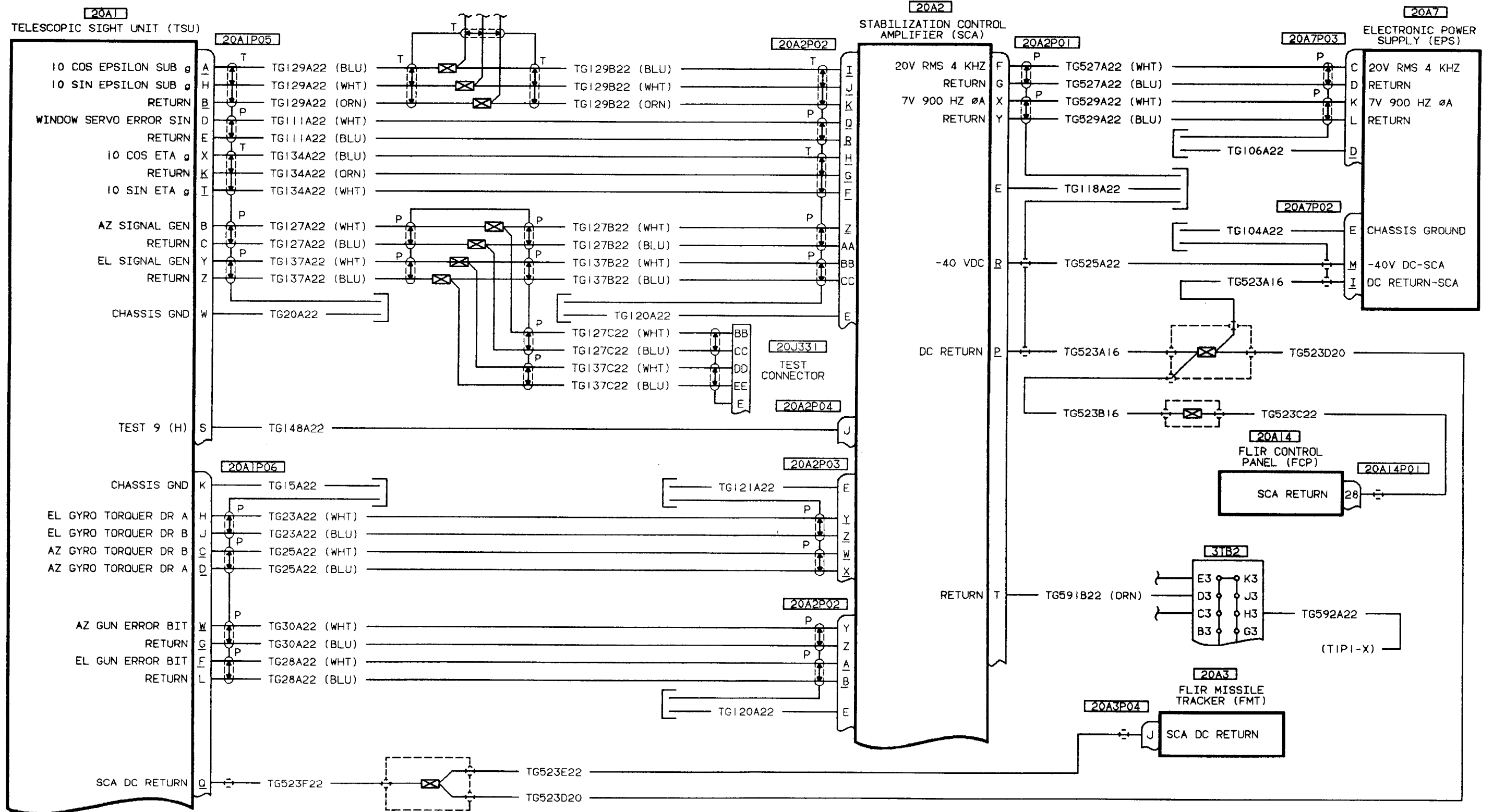
8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-15.1. SCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED.)



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8-16. MCA BIT INDICATOR ON TCP SHOWS WHITE.

INITIAL SETUP

Applicable Configuration
AH-1S **MC**

Tools/Test and Support Equipment
Multimeter

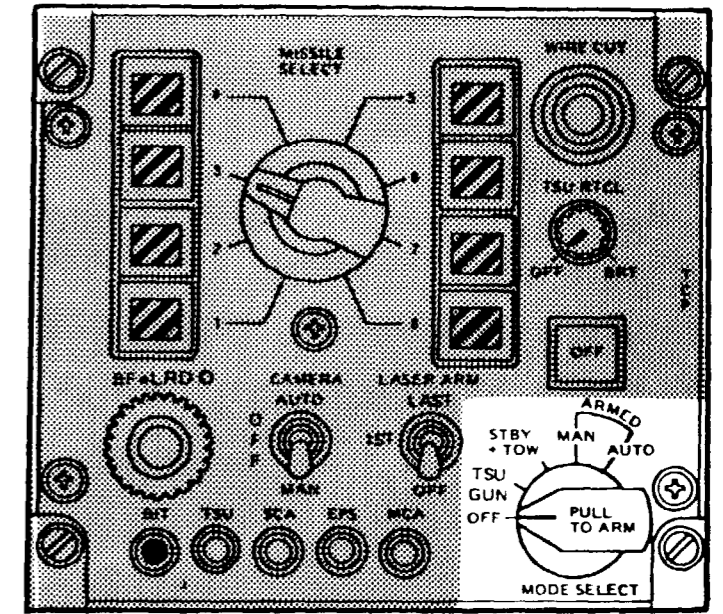
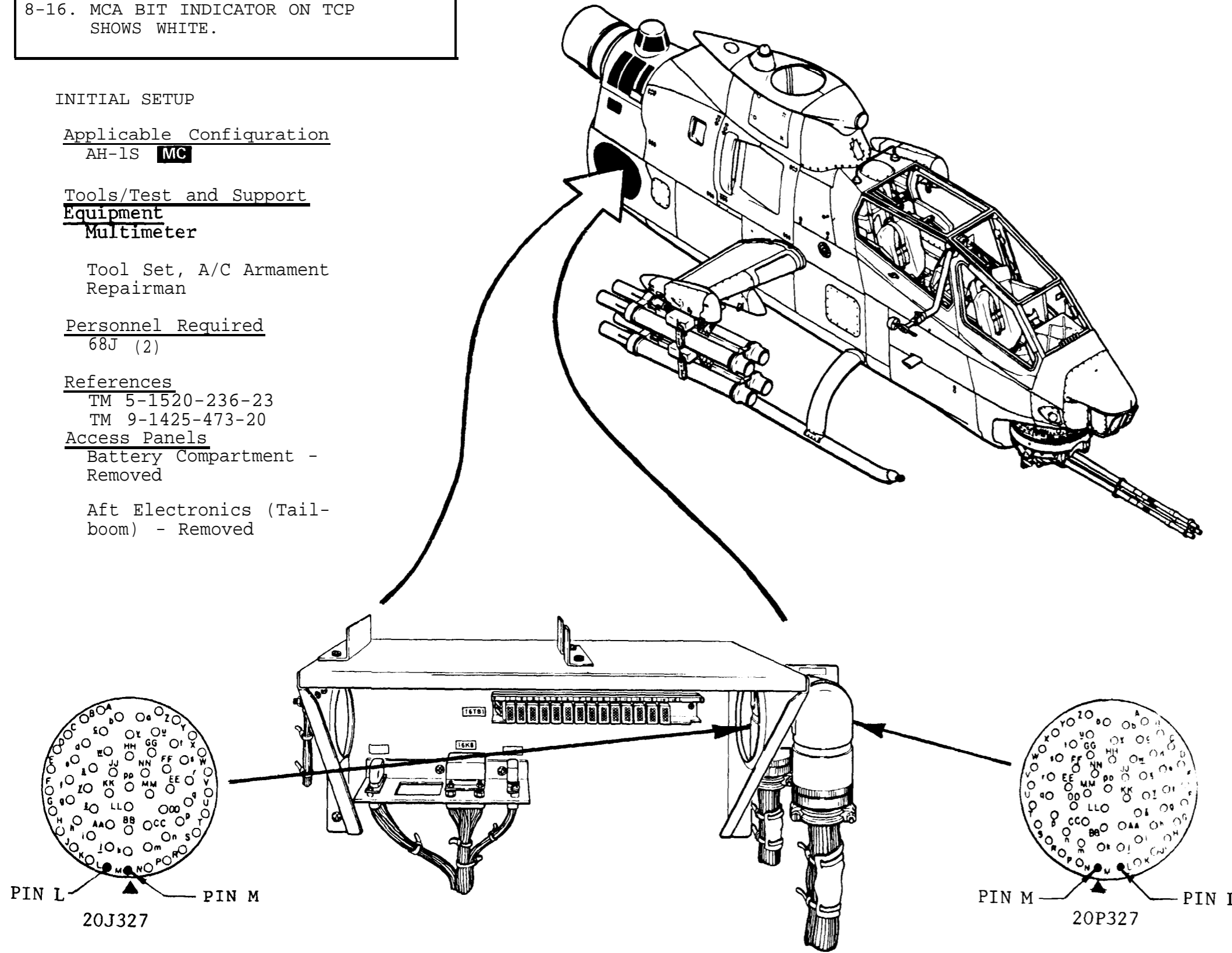
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

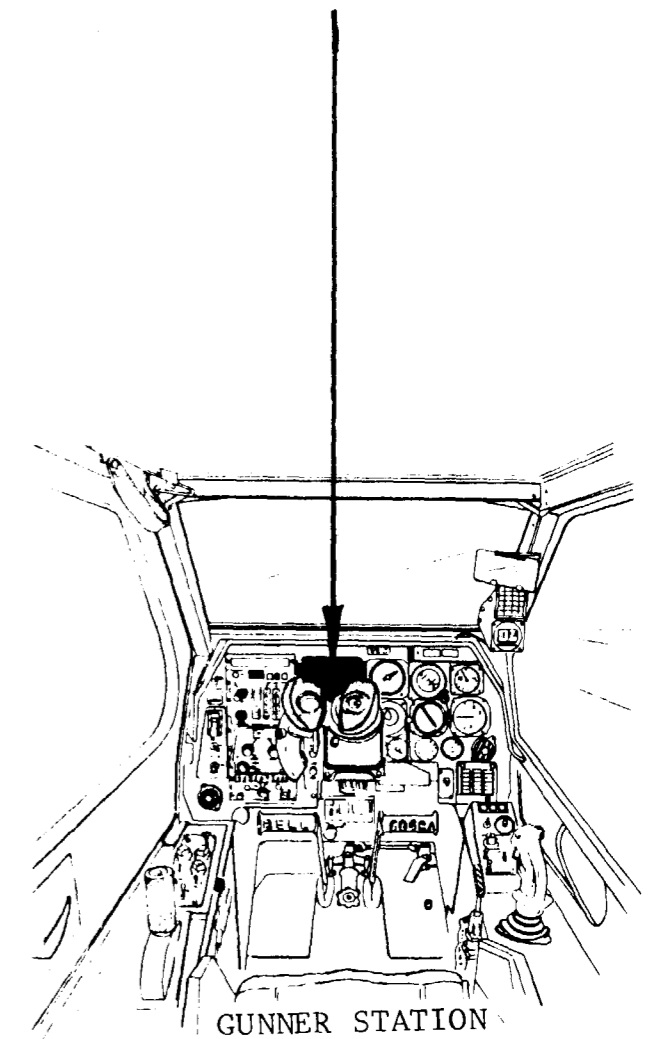
References
TM 5-1520-236-23
TM 9-1425-473-20

Access Panels
Battery Compartment - Removed

Aft Electronics (Tail-boom) - Removed

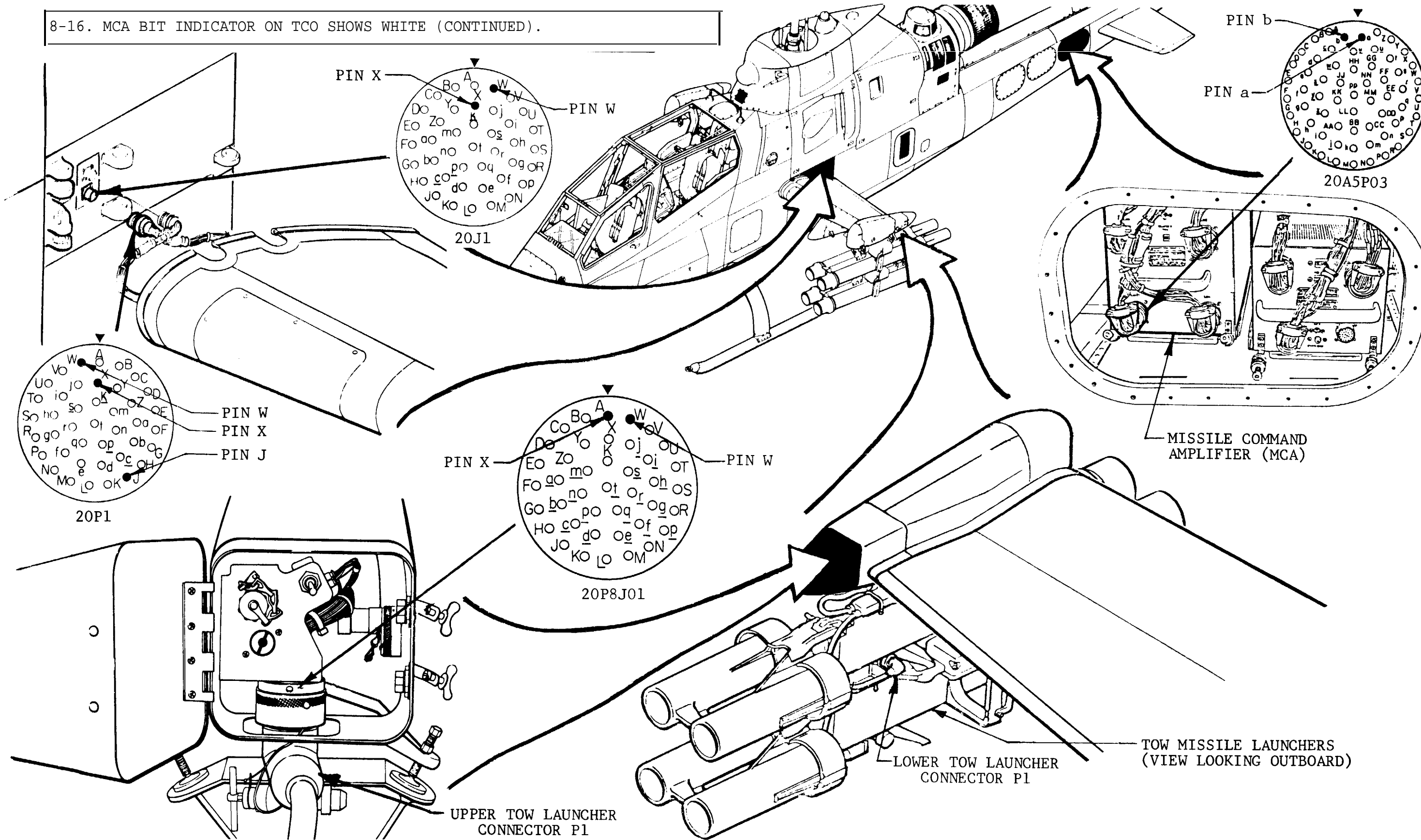


TCP (TOW CONTROL PANEL)

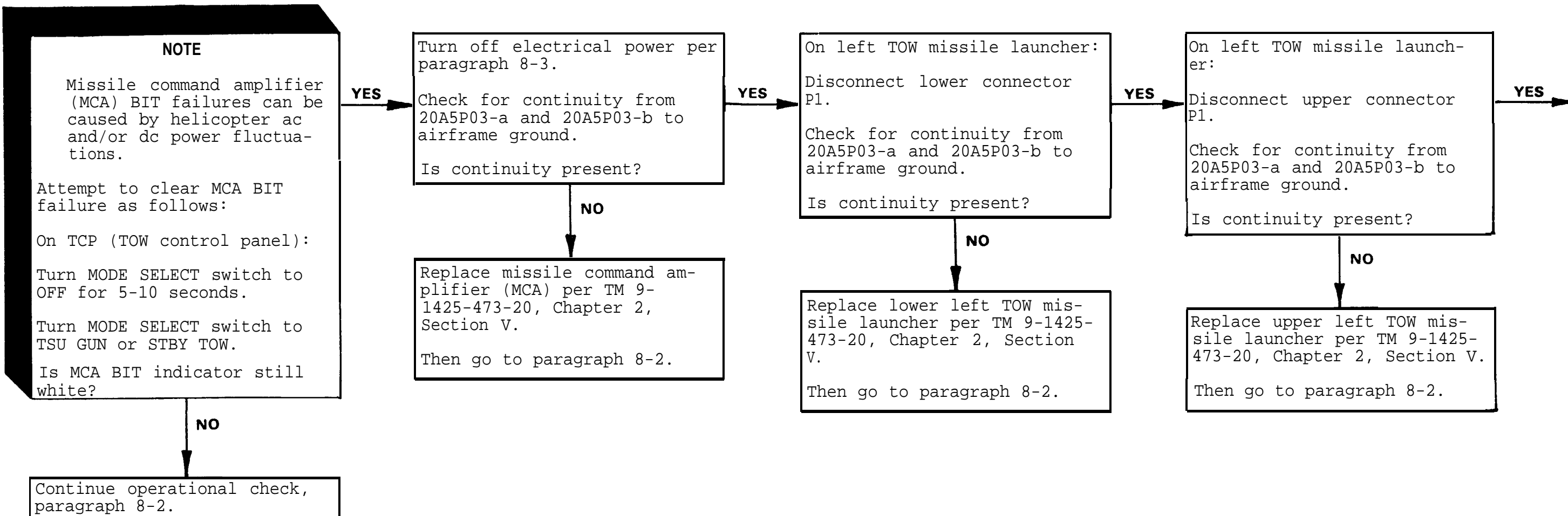


GUNNER STATION

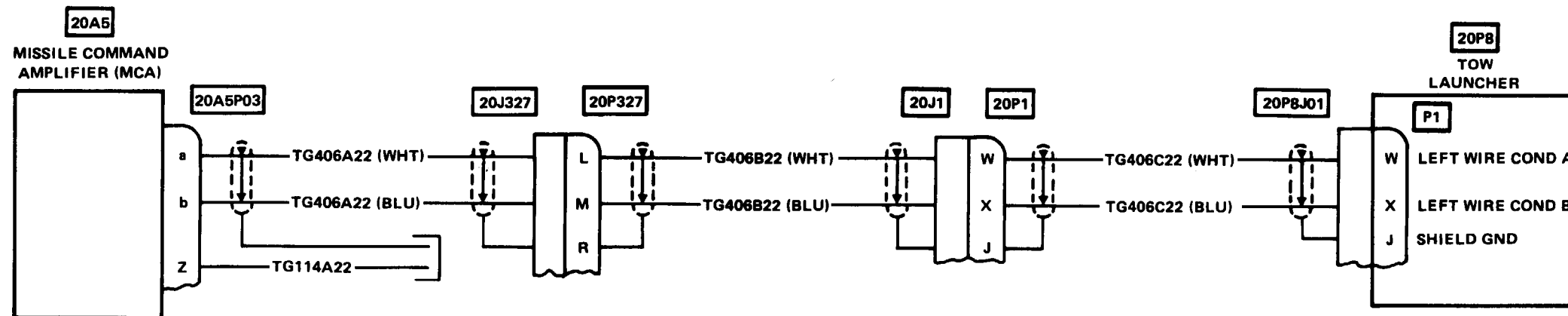
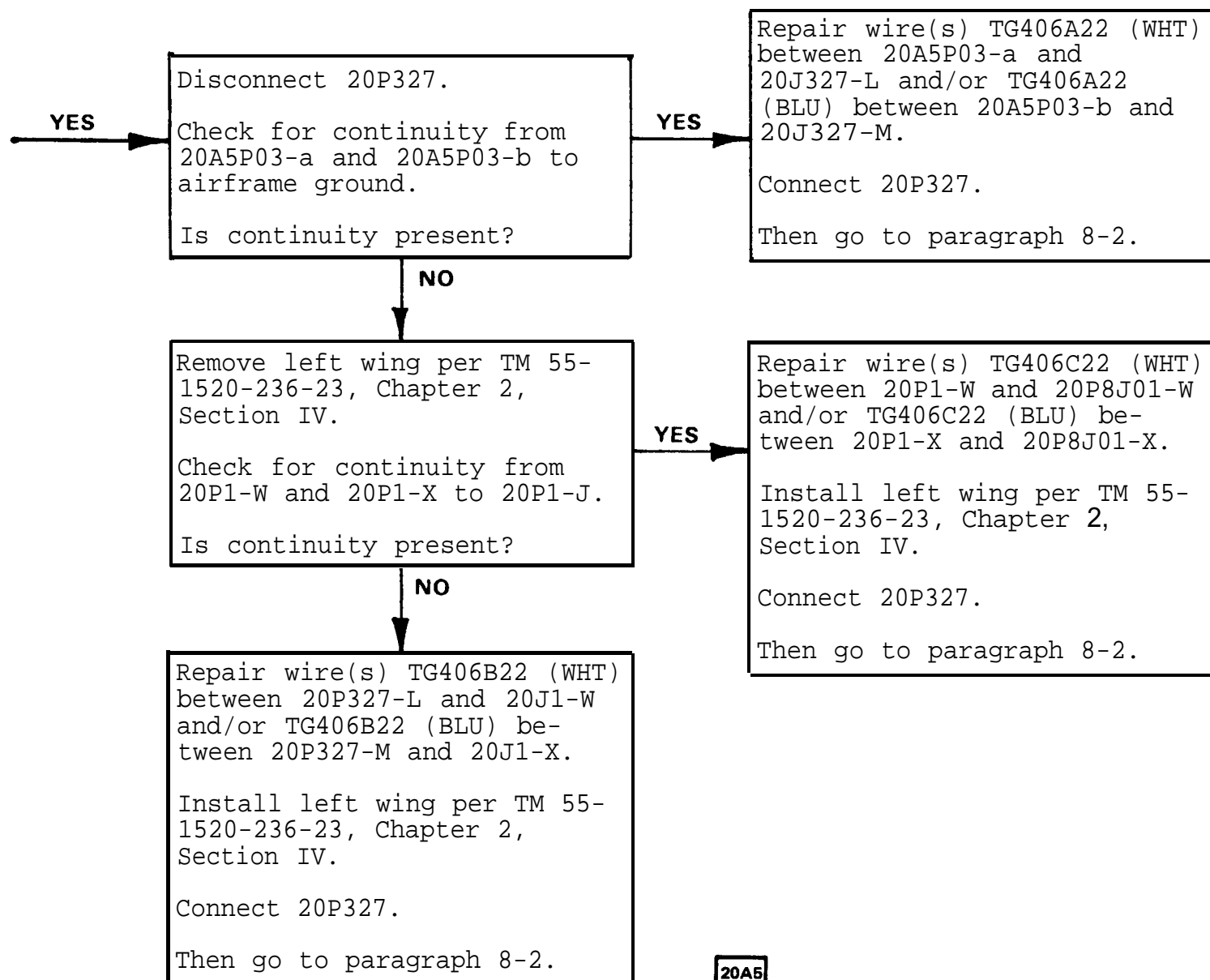
8-16. MCA BIT INDICATOR ON TCO SHOWS WHITE (CONTINUED).



8-16. MCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-16. MCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-16.1. MCA BIT INDICATOR ON SHOWS WHITE.

INITIAL SETUP

Applicable Configuration
AH-IS **MCN**

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

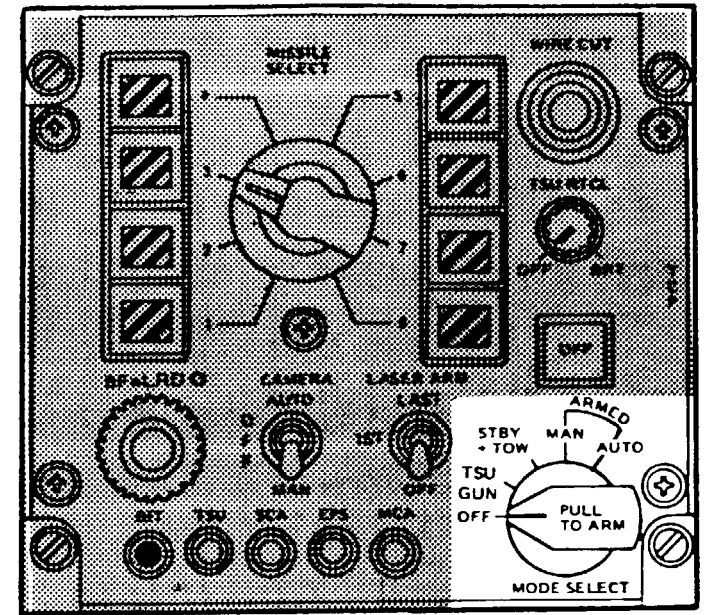
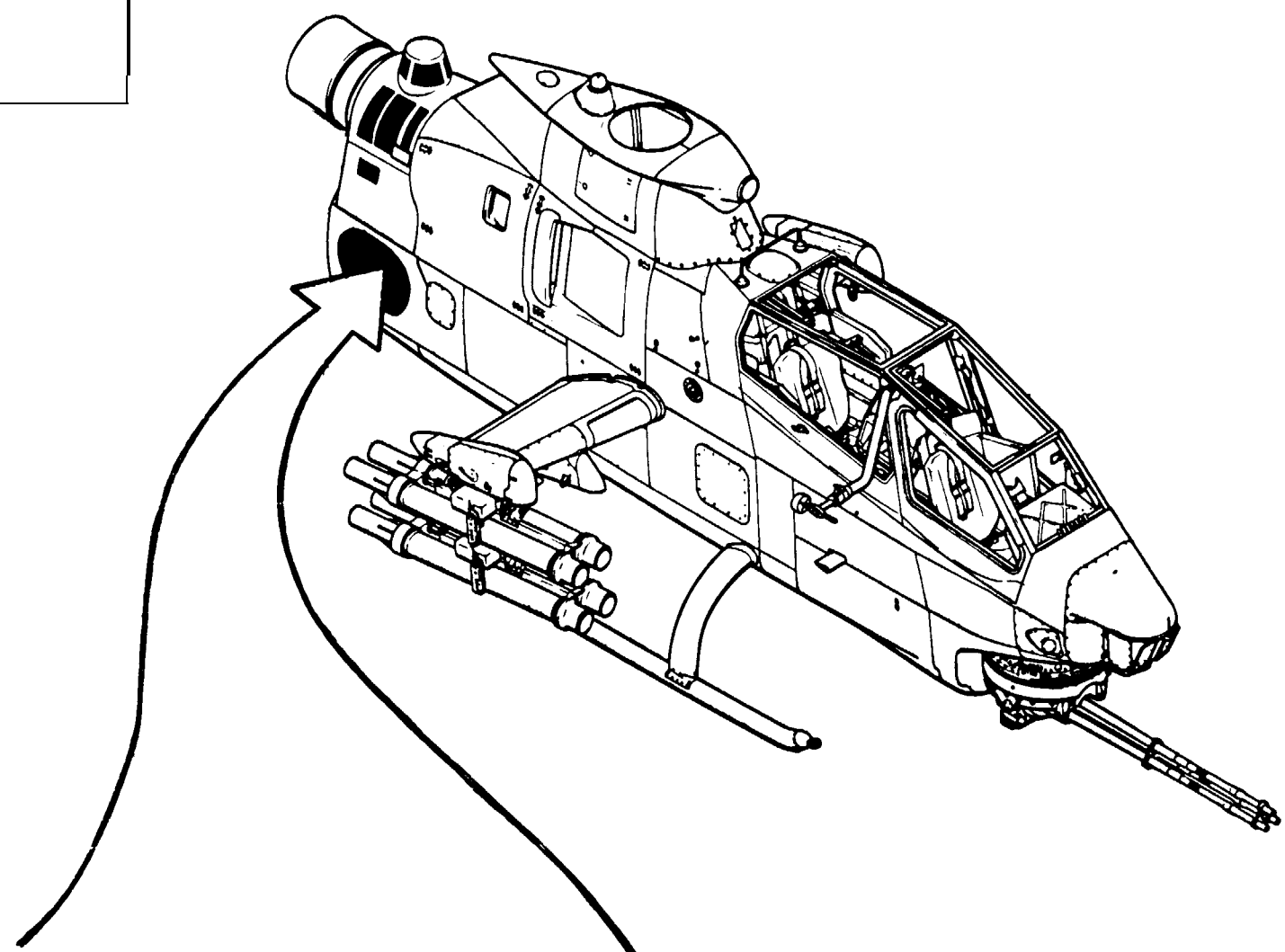
Personnel Required
68J (2)

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

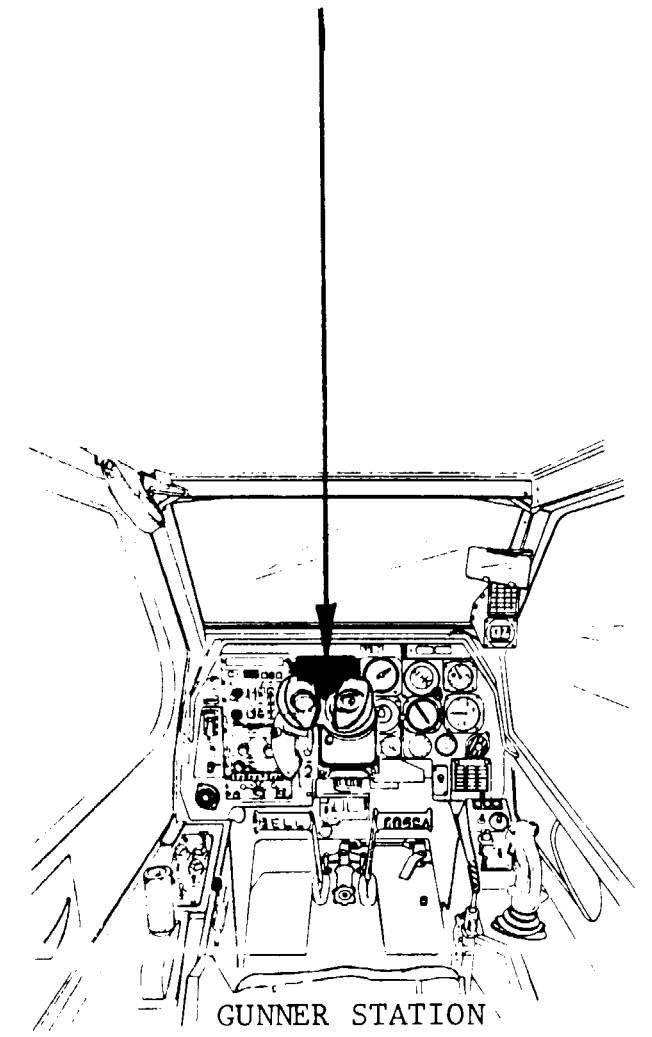
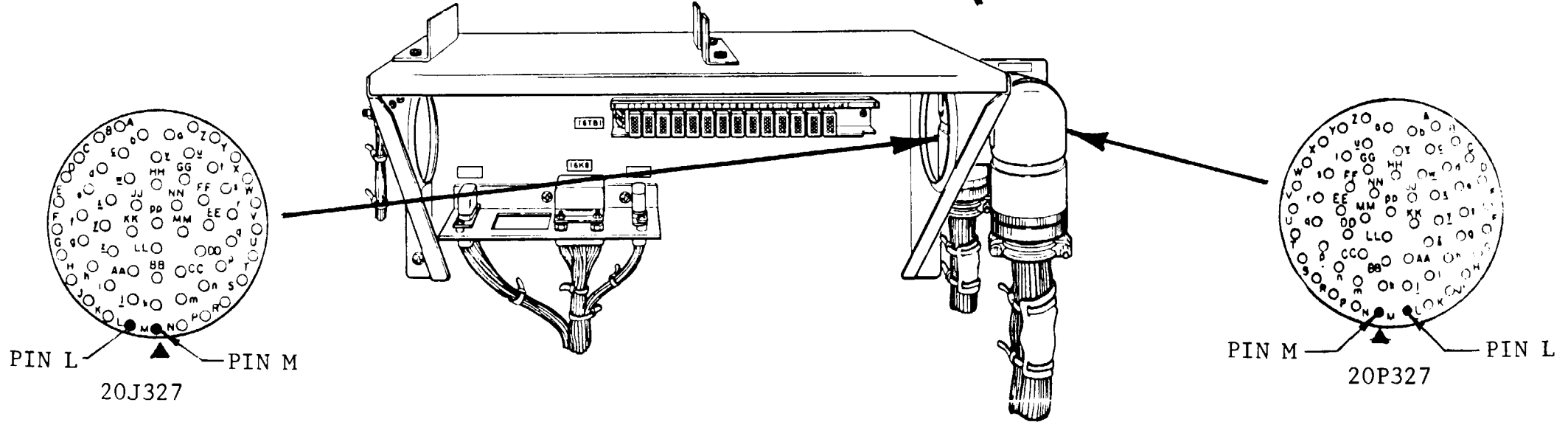
Access Panels
Battery Compartment - Removed

Aft Electronics (Tailboom) - Removed

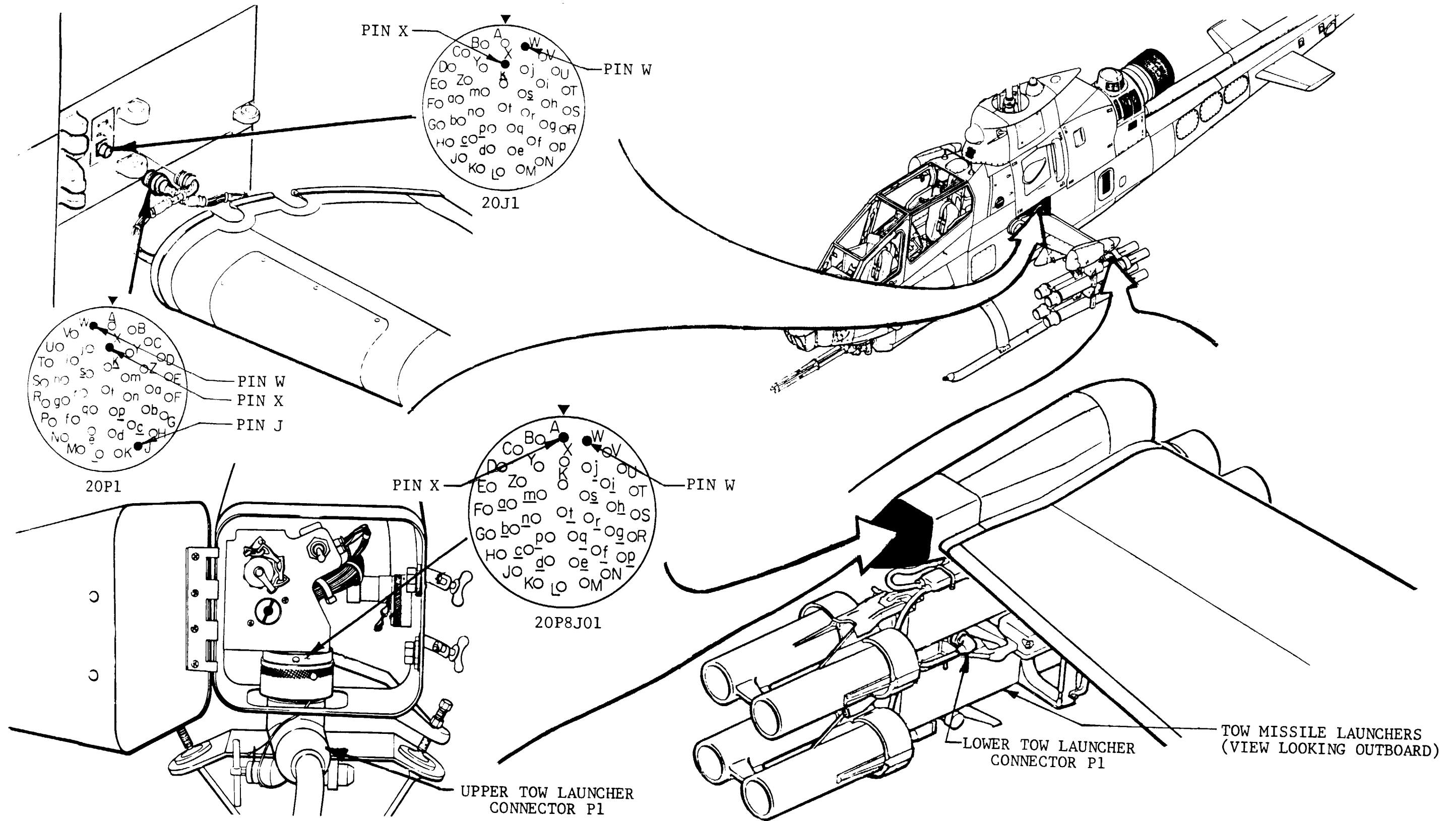
Forward Electronics (Tailboom) - Removed



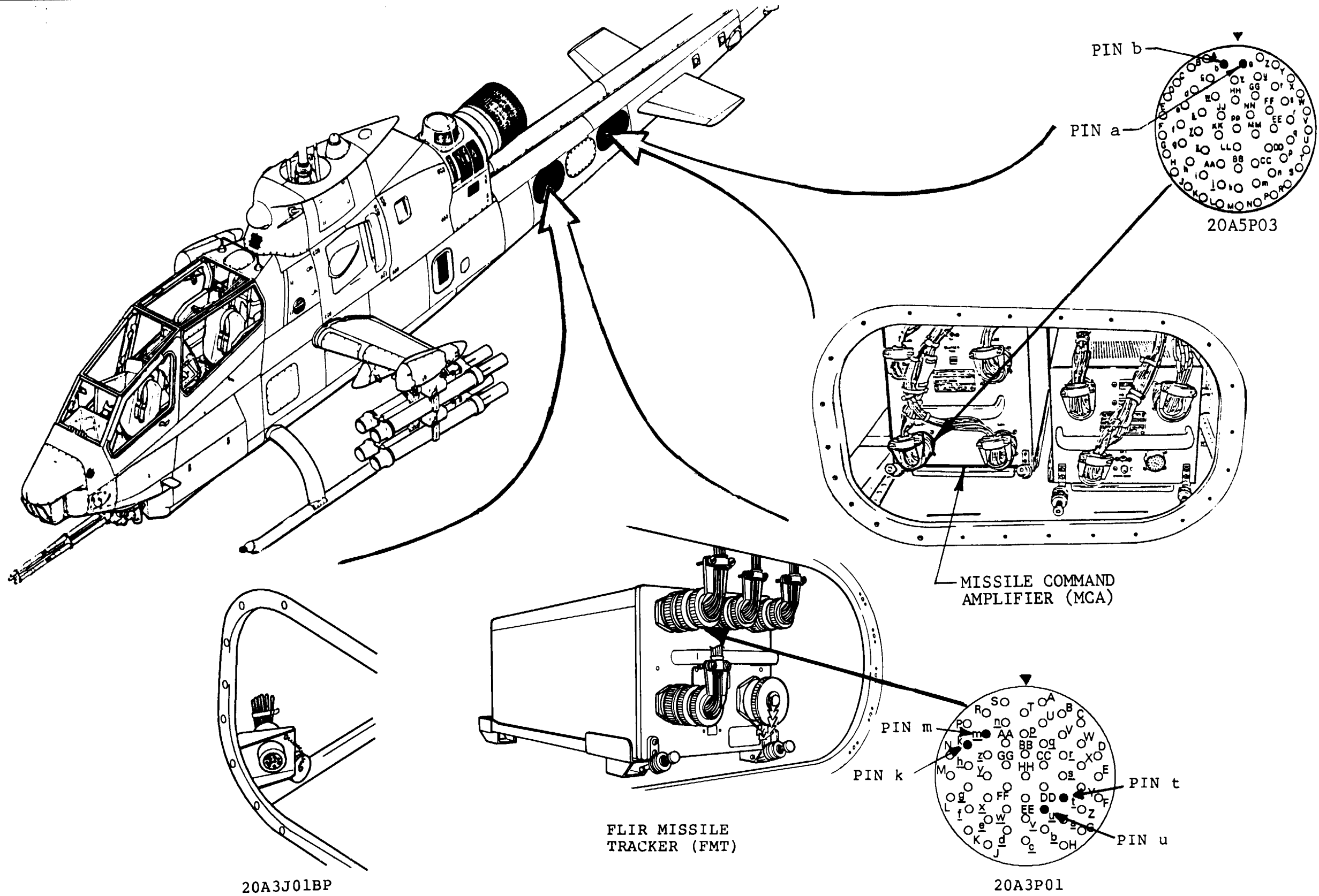
TCP (TOW CONTROL PANEL)



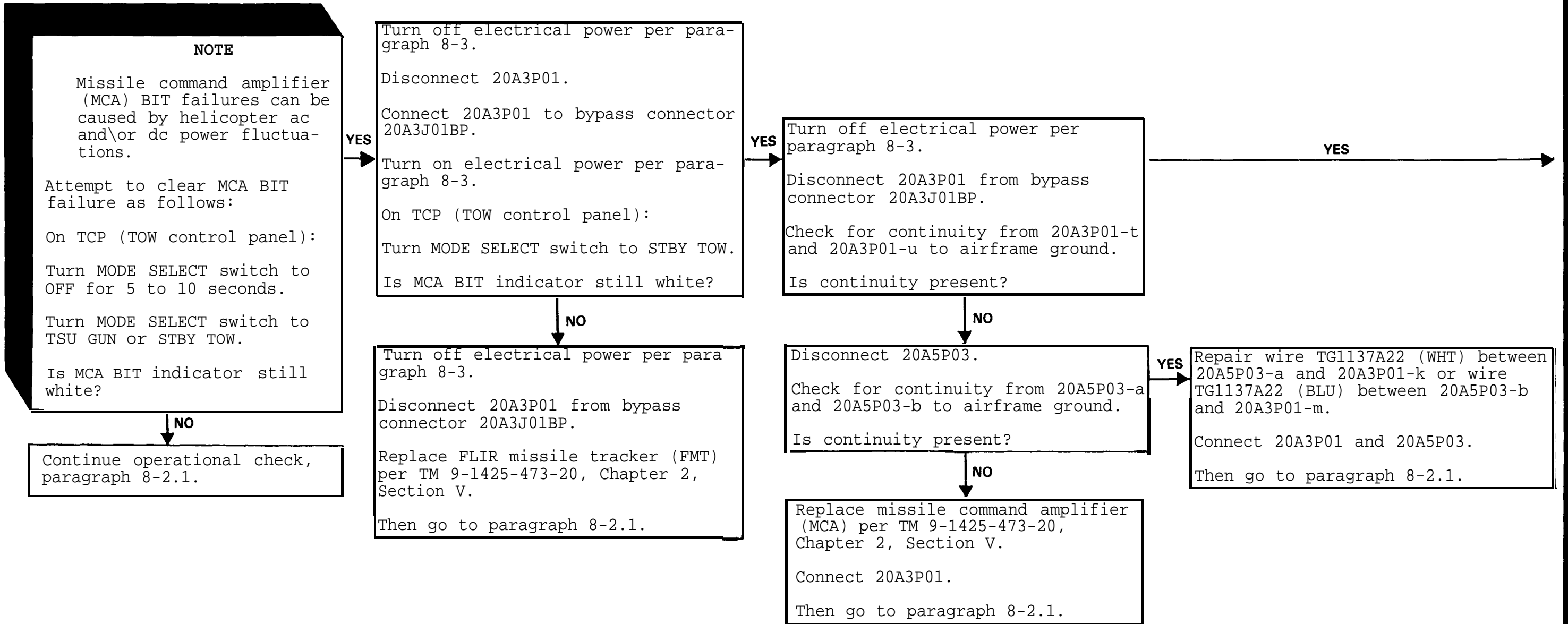
8-16.1. MCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



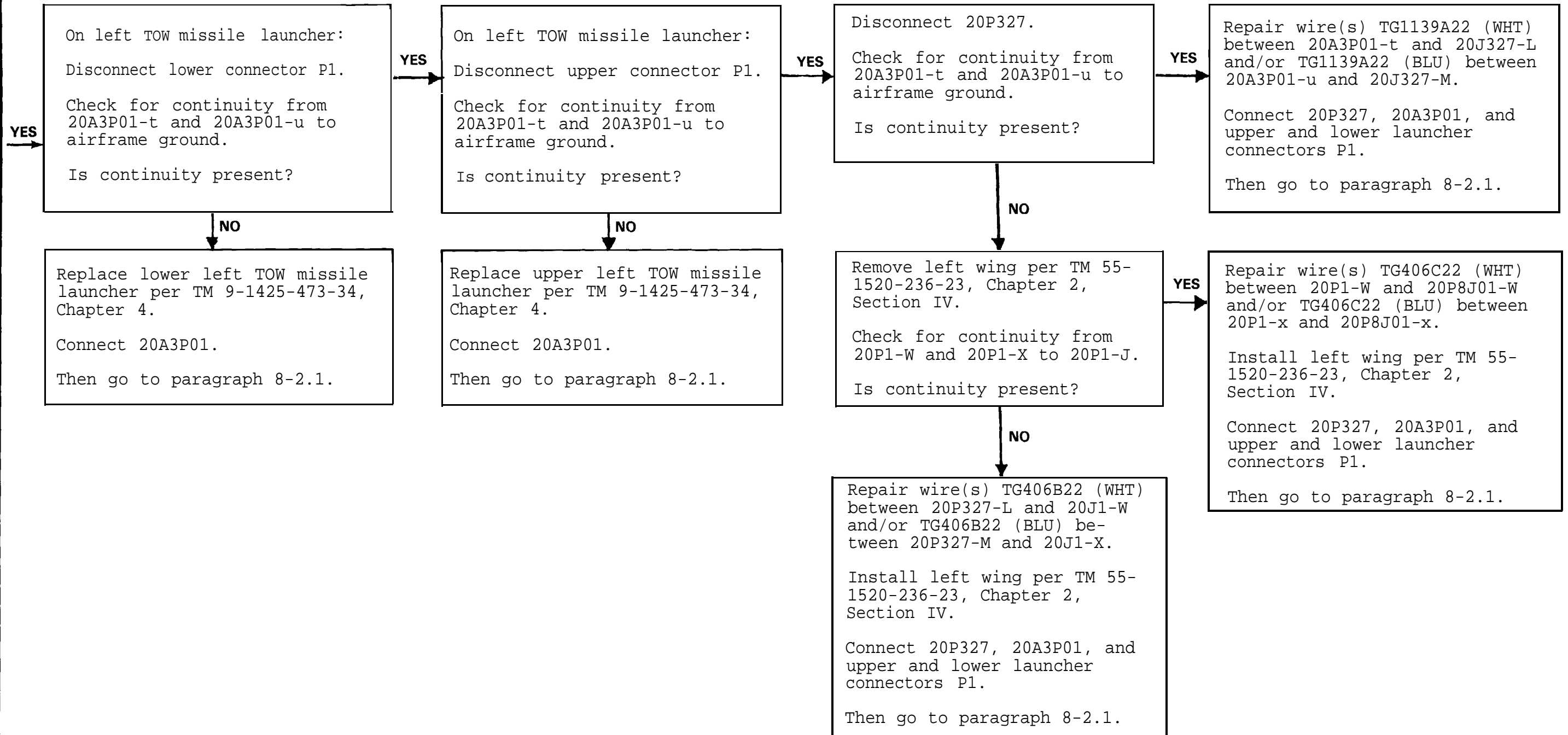
8-16.1. MCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



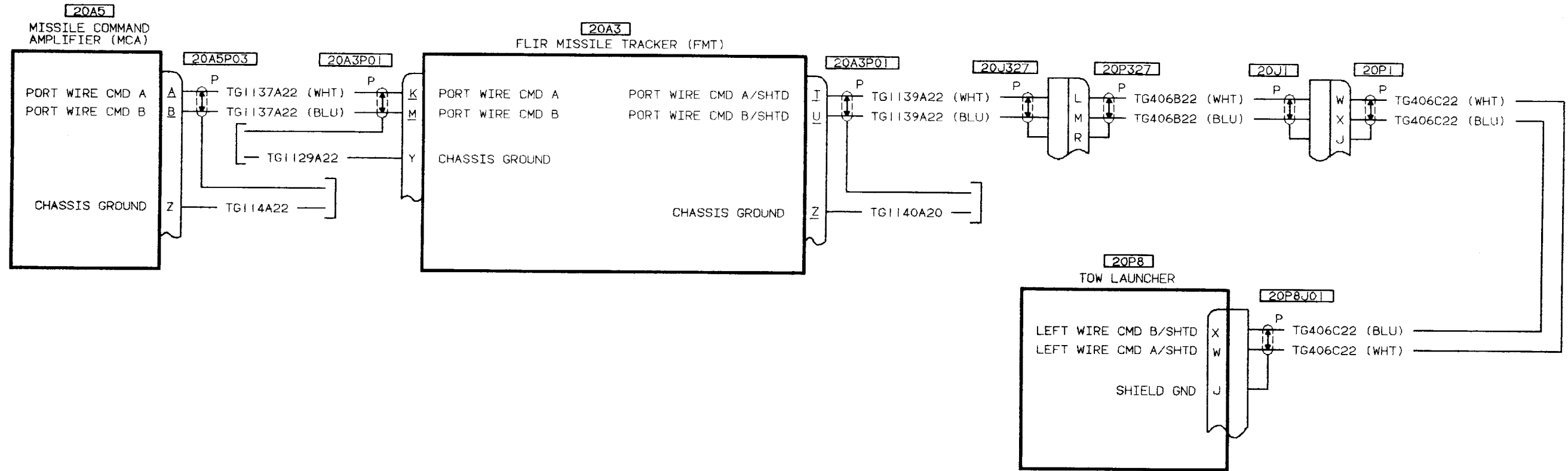
8-16.1. MCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-16.1. MCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



8-16.1. MCA BIT INDICATOR ON TCP SHOWS WHITE (CONTINUED).



209575-105

8-17. RETICLE IN TSU EYEPIECE
WILL NOT LIGHT.

INITIAL SETUP

Applicable Configuration

All

Tools/Test and Support

Equipment

Multimeter

Tool Set, A/C Armament
Repairman

Personnel Required

68J (2)

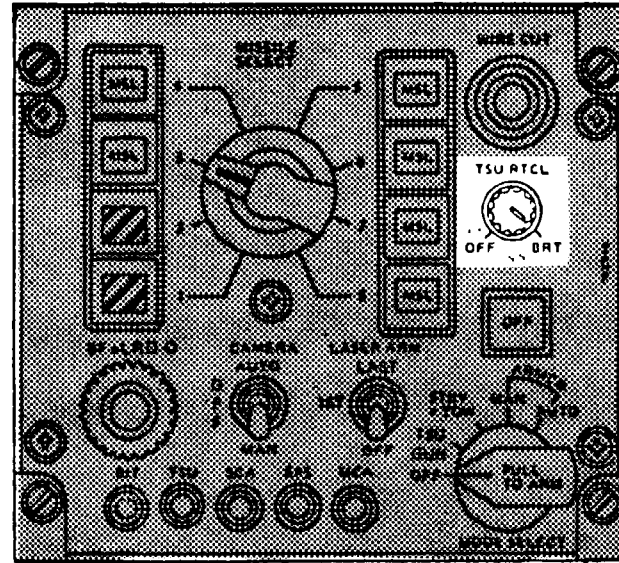
References

TM 9-1425-473-20

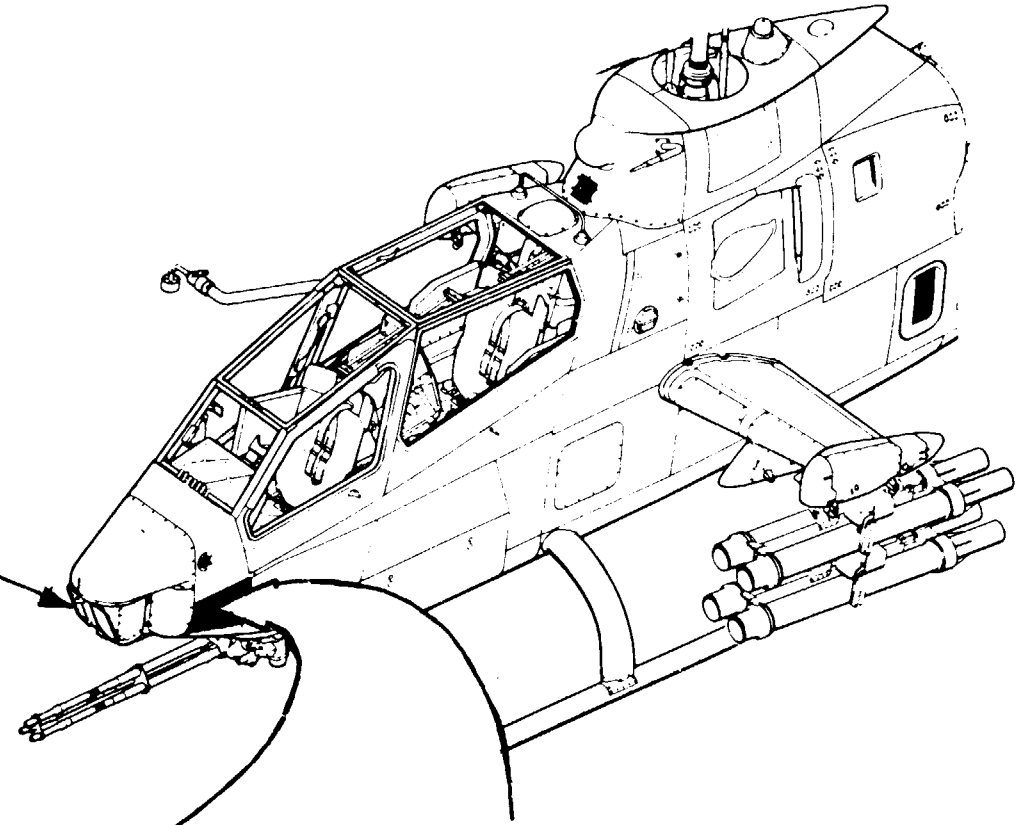
Access Panel

Left Forward Radar
Warning Antenna - Removed

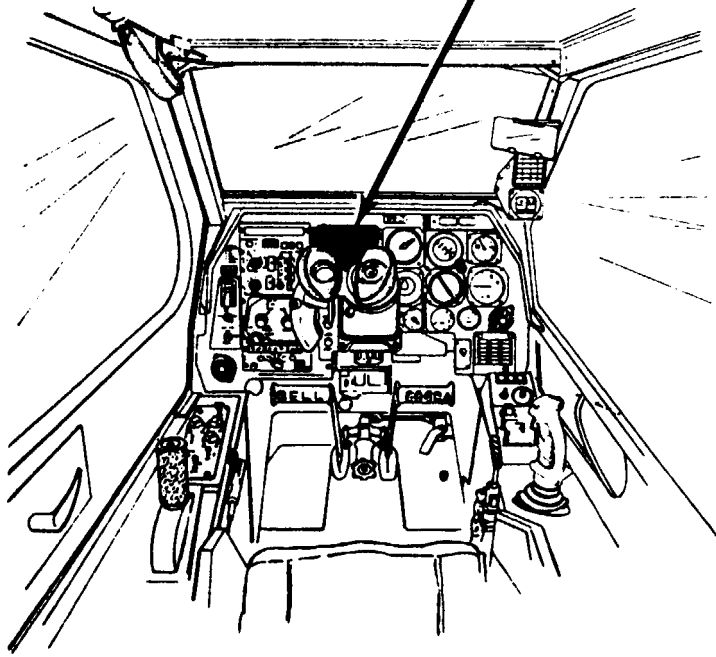
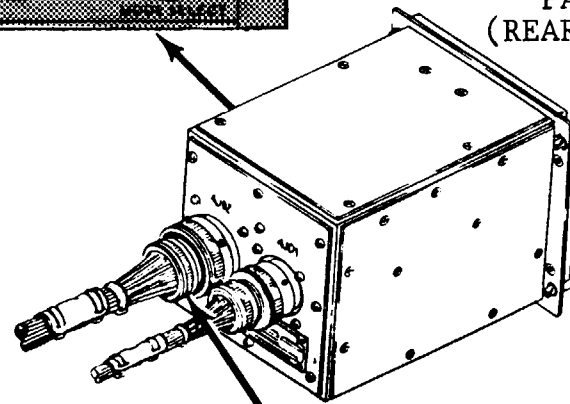
TCP (TOW CONTROL PANEL)



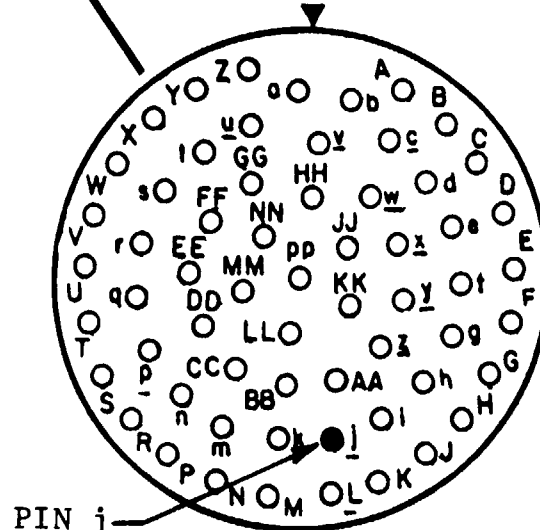
TELESCOPIC SIGHT
UNIT (TSU)



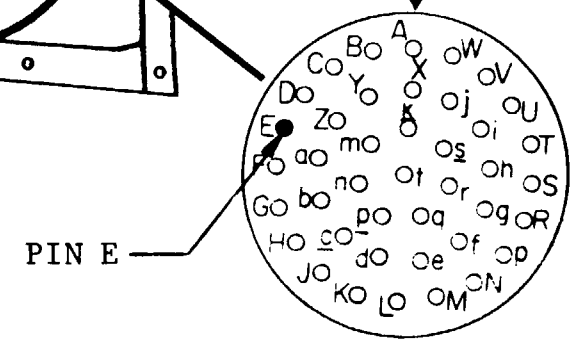
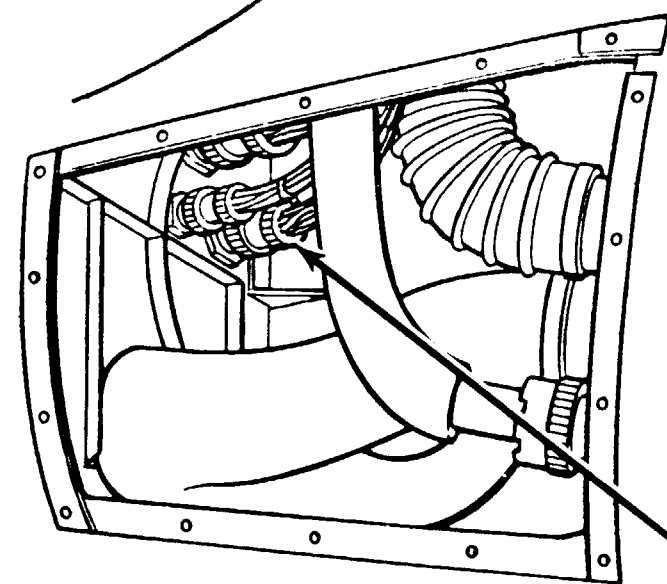
TCP
(TOW CONTROL
PANEL)
(REAR VIEW)



GUNNER STATION

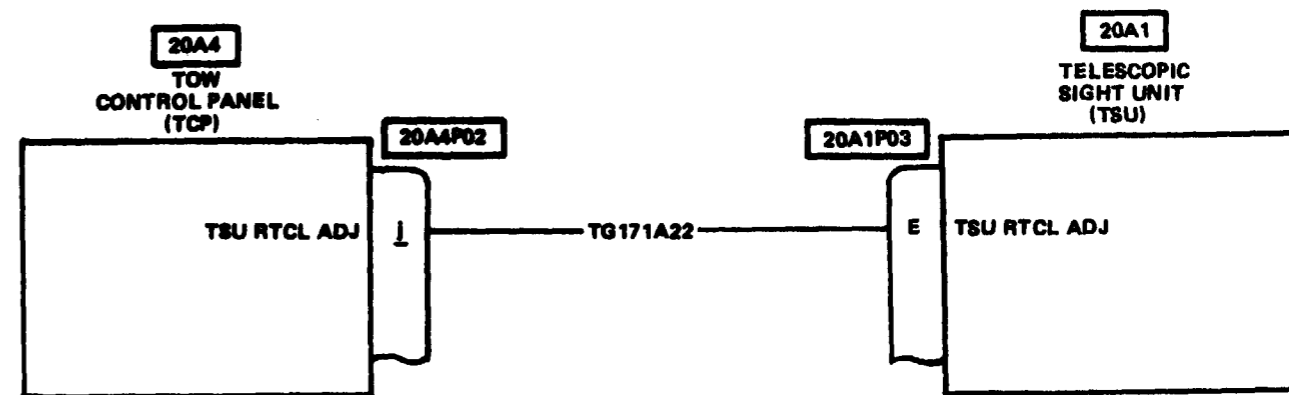
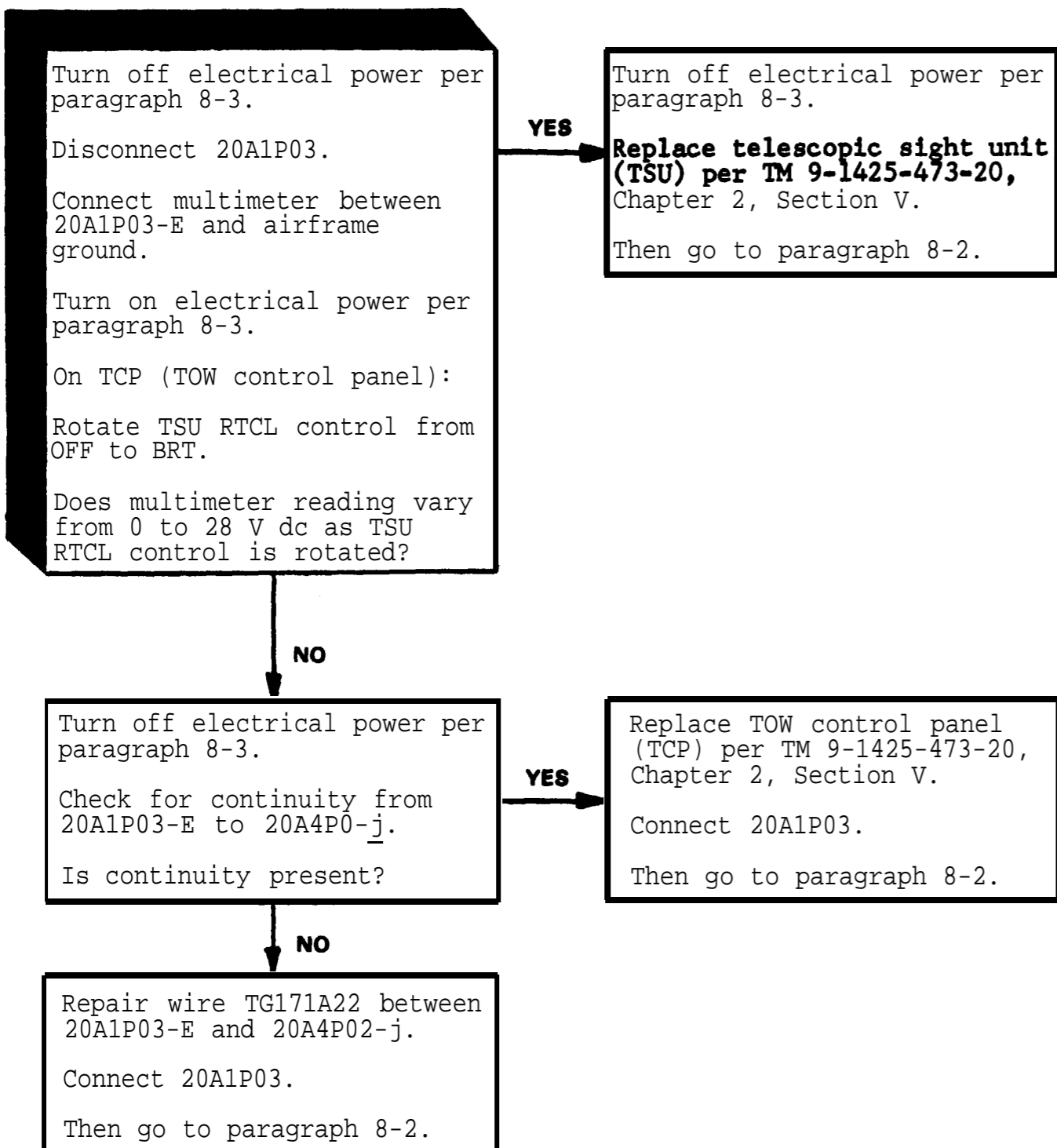


PIN j
20A4P02



PIN E
20A1P03

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



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

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

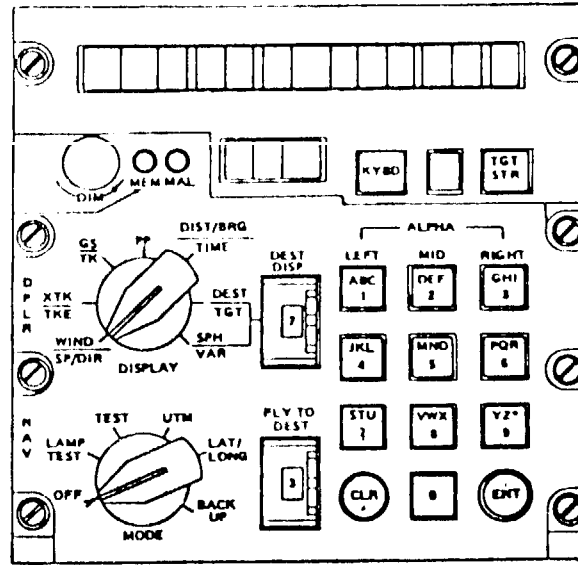
Personnel Required
68J (2)

References

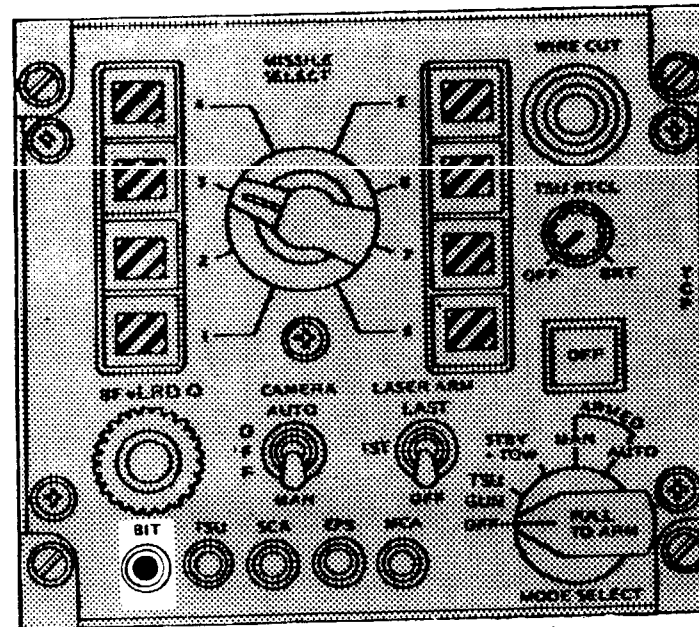
- TM 9-1425-473-20
- TM 9-1425-473-34
- TM 55-1520-236-23

Access Panels

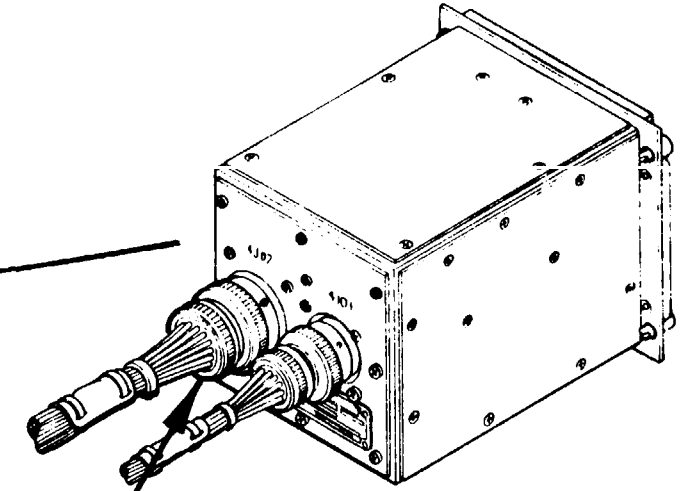
- Middle Electronics (Tailboom) - Removed
- Battery Compartment - Removed
- Forward Belly Armament and Lighting - Removed



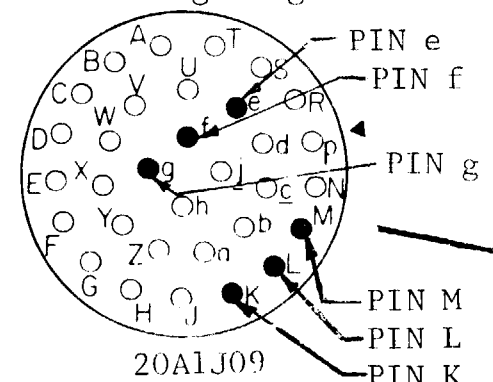
DPLR NAV CONTROL PANEL



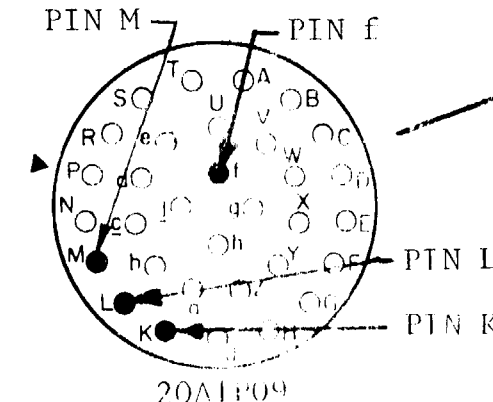
TCP (TOW CONTROL PANEL)



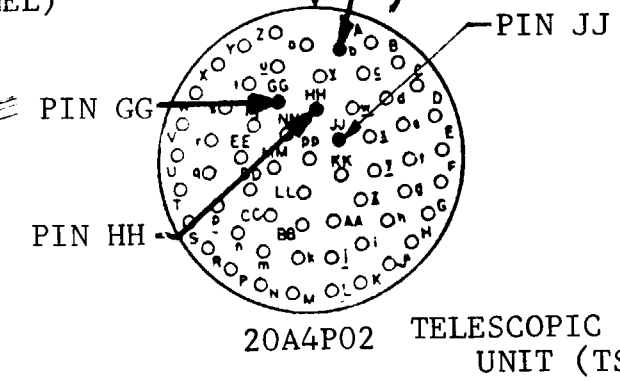
TCP (TOW CONTROL PANEL) (REAR VIEW)



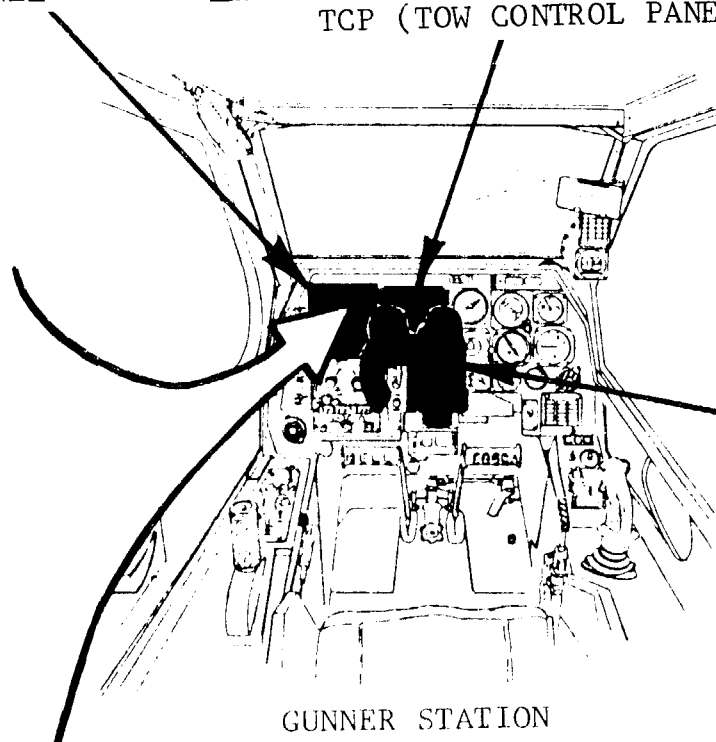
20A1J09



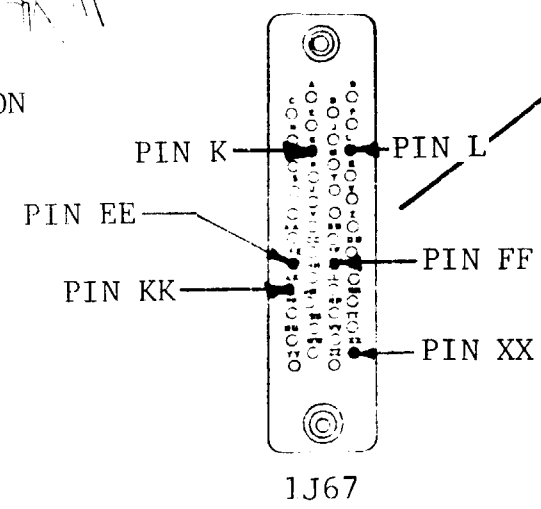
20A1P09



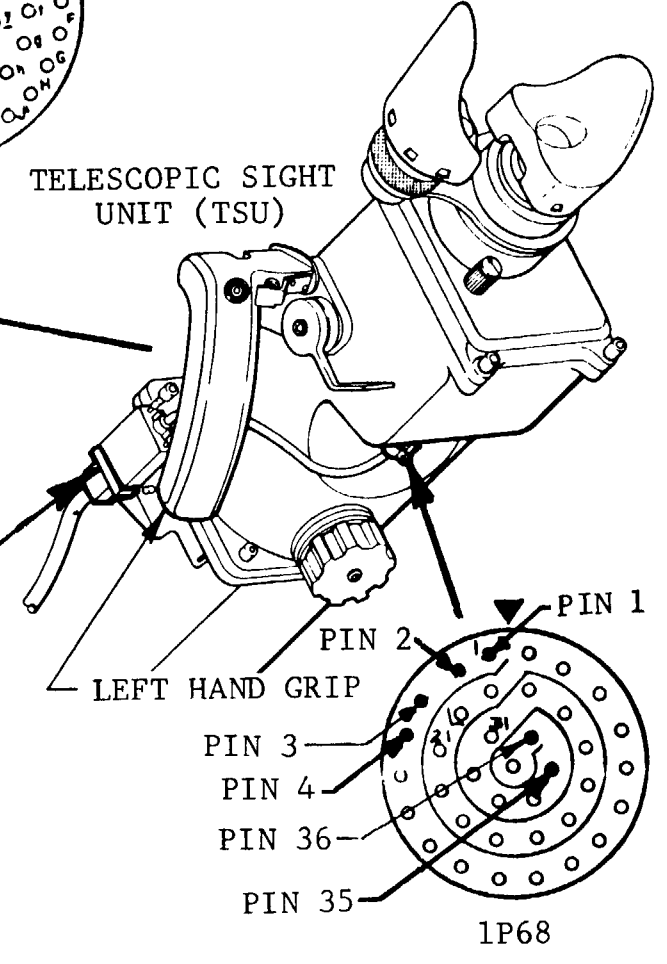
20A4P02 TELESCOPIC SIGHT UNIT (TSU)



GUNNER STATION

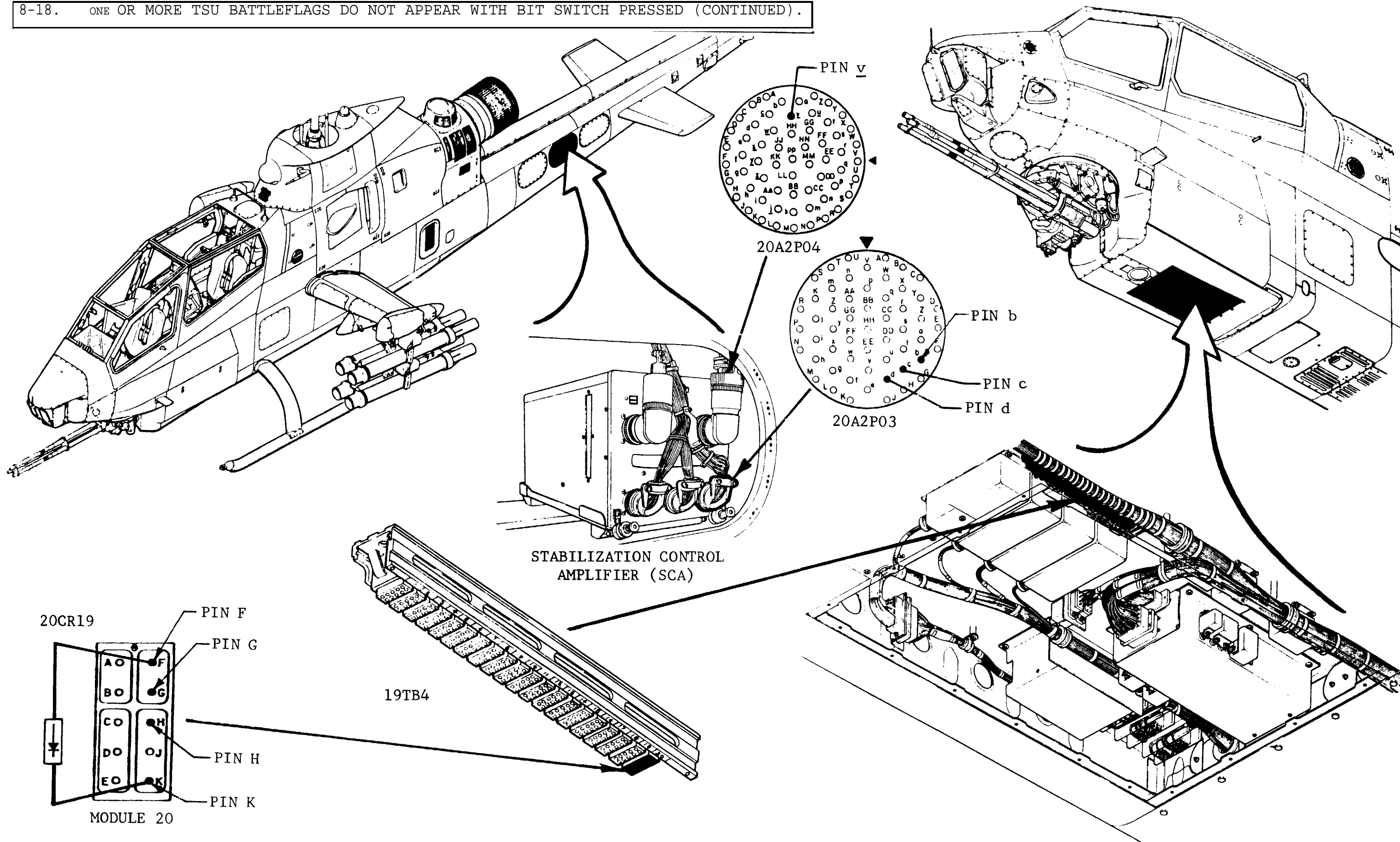


1J67

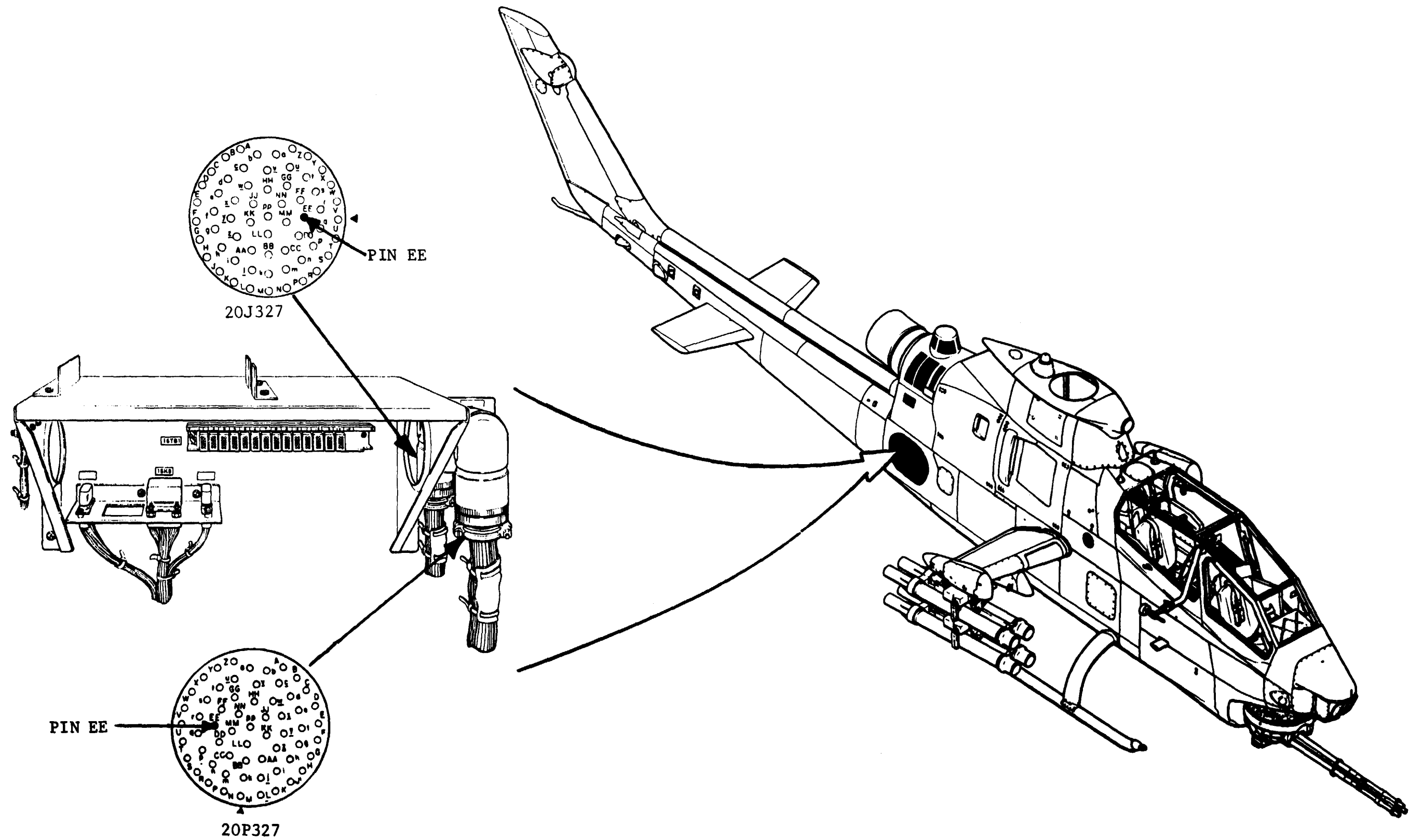


1P68

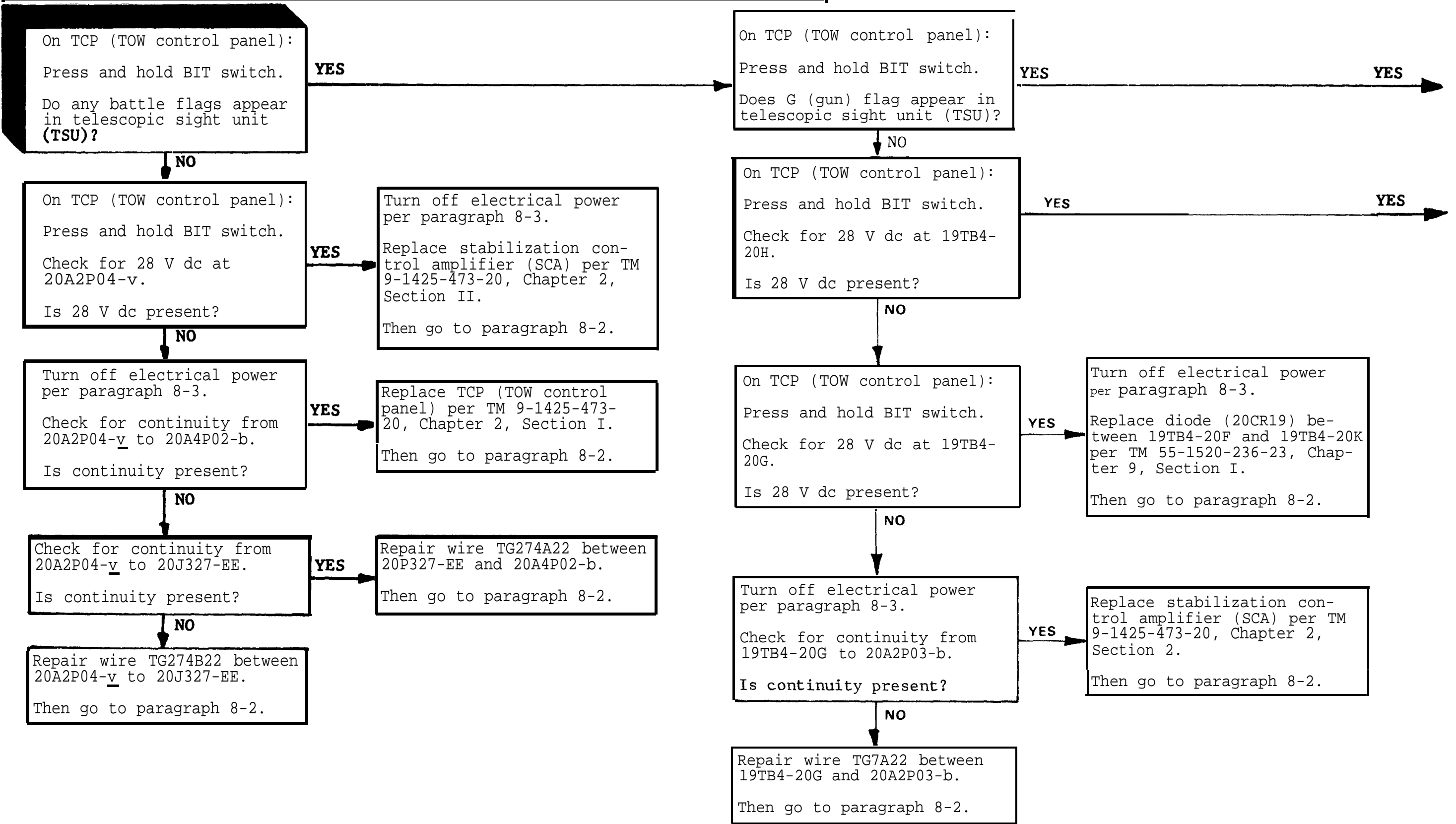
8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).



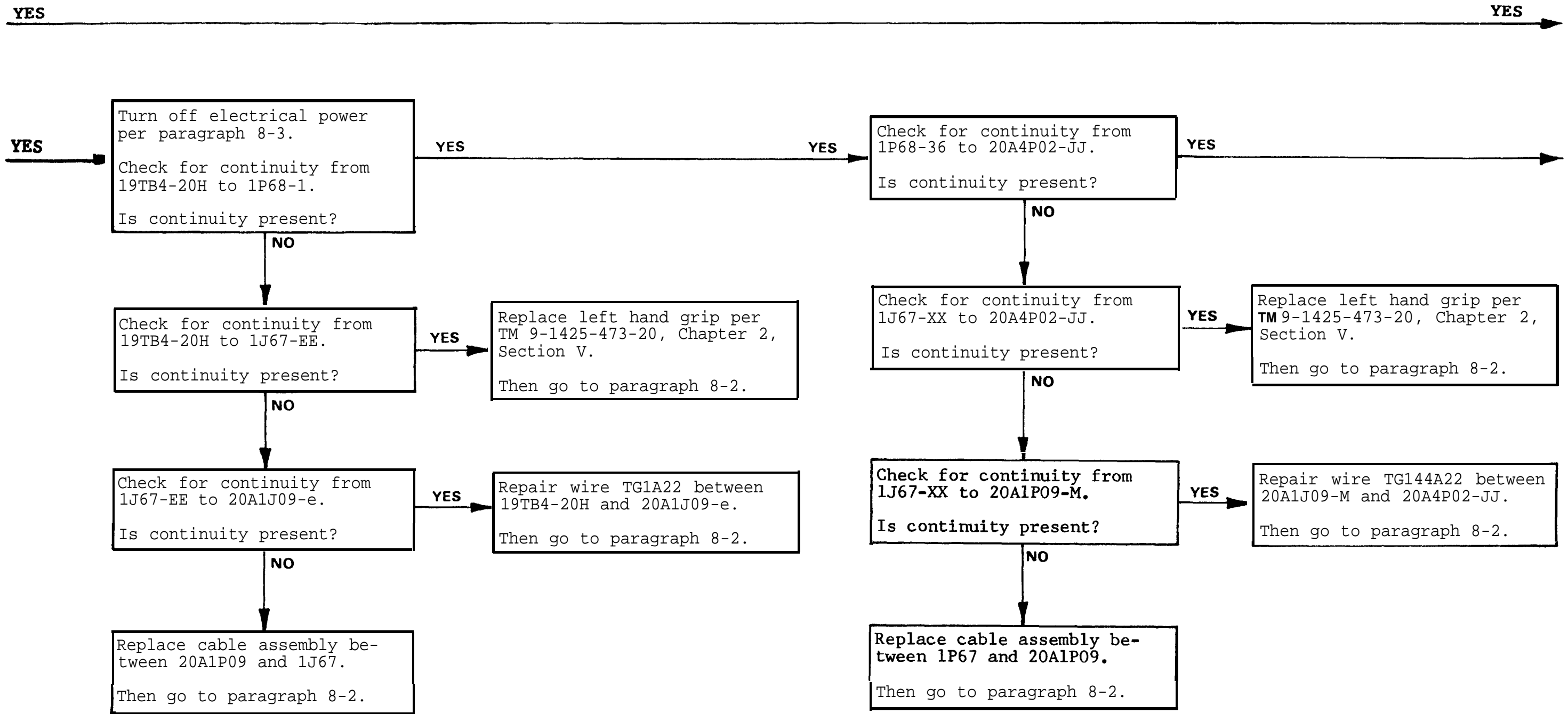
8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).



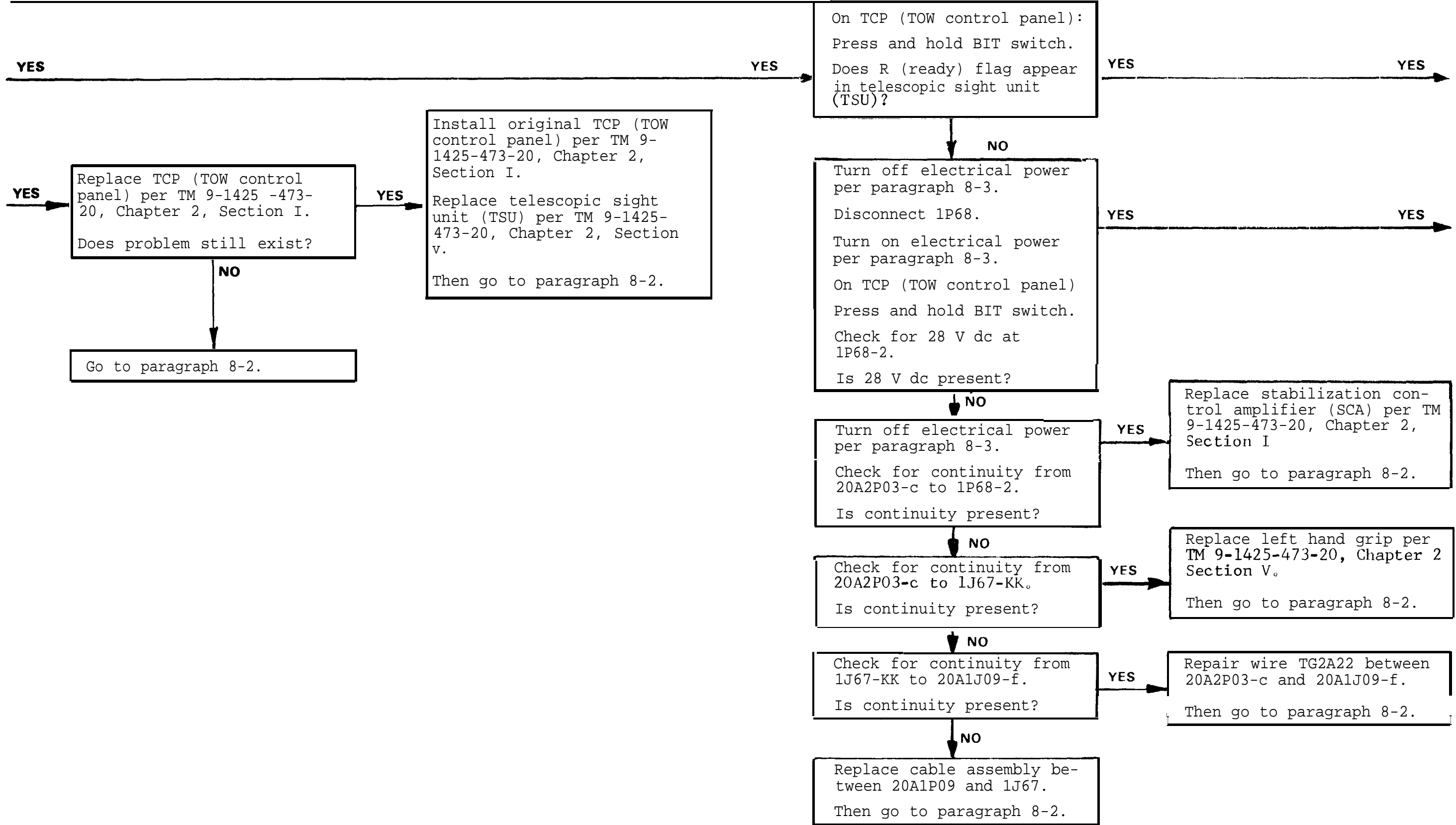
8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).



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

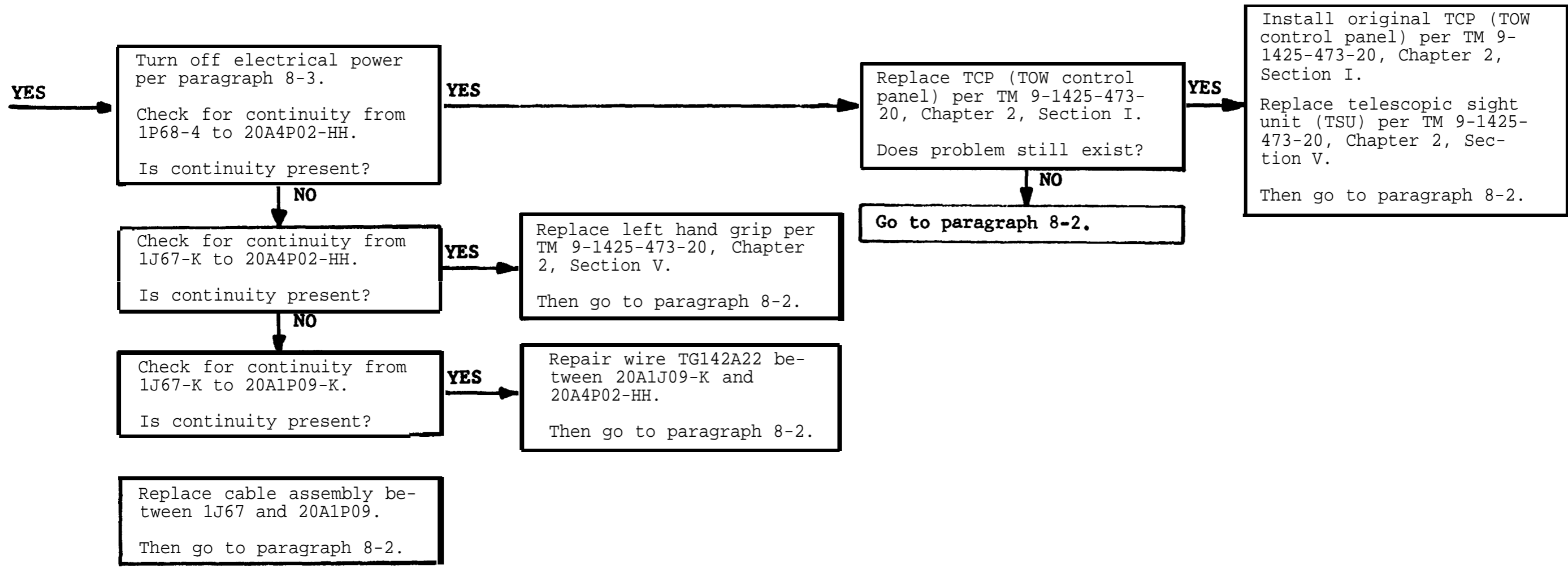


8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).

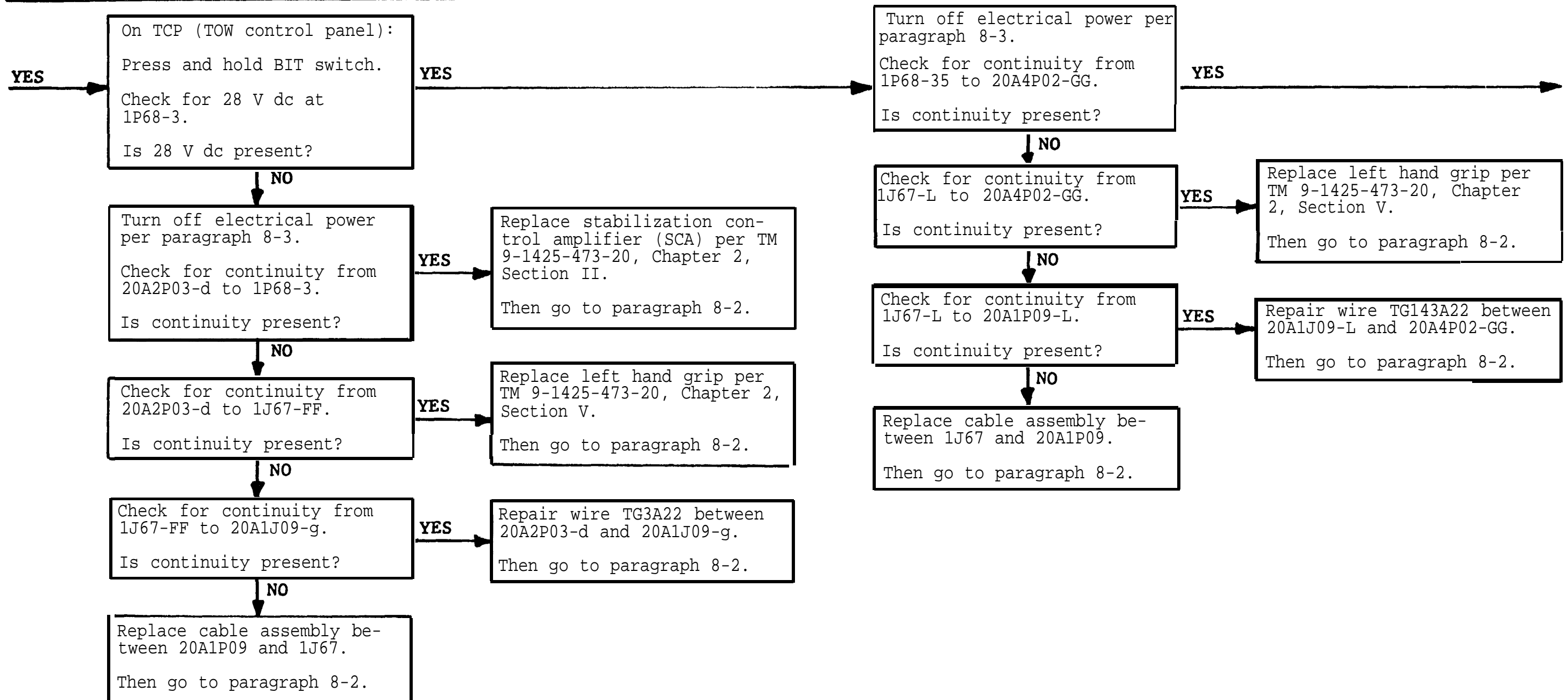


8-18. ONE OR MORE TSU BATTLEFLAGS DO NOT APPEAR WITH BIT SWITCH PRESSED (CONTINUED).

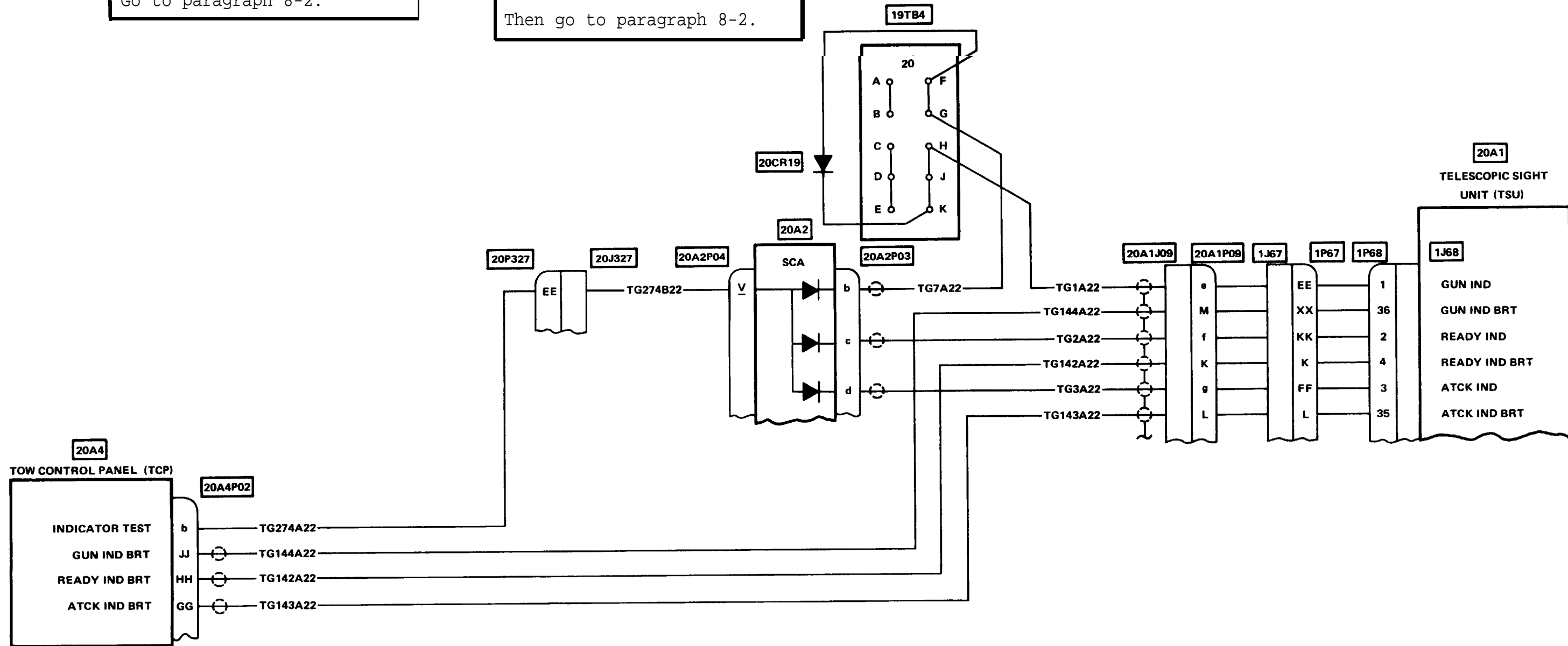
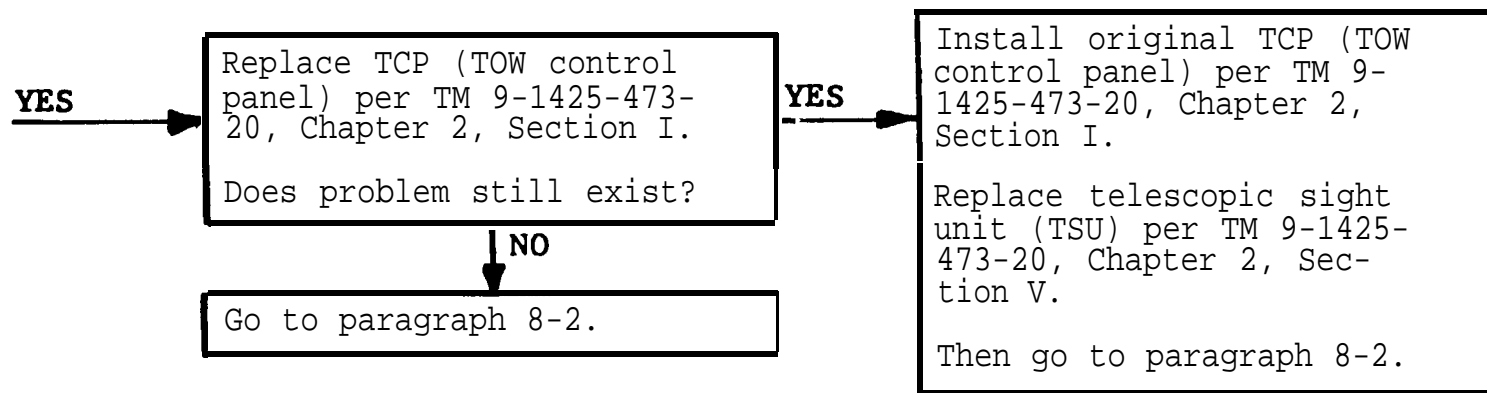
YES YES



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.)



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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 9-1090-206-12
TM 9-1425-473-20

Access Panels

Forward Belly Armament and Lighting - Removed

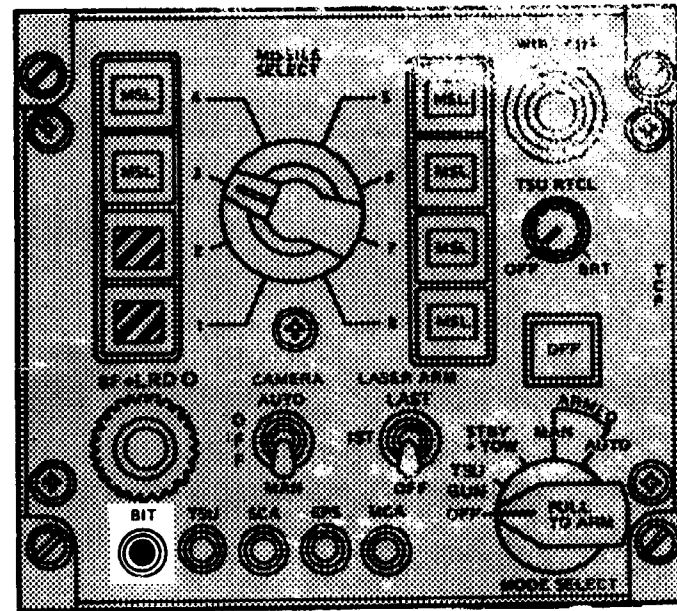
Intermediate Control Unit Removed

Middle Electronics (Tailboom) - Removed

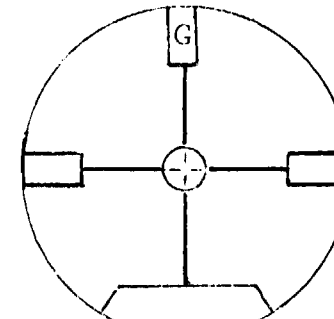
Aft Electronics (Tailboom) Remove

Battery Compartment - Removed

Right Forward Radar Warning Antenna - Removed



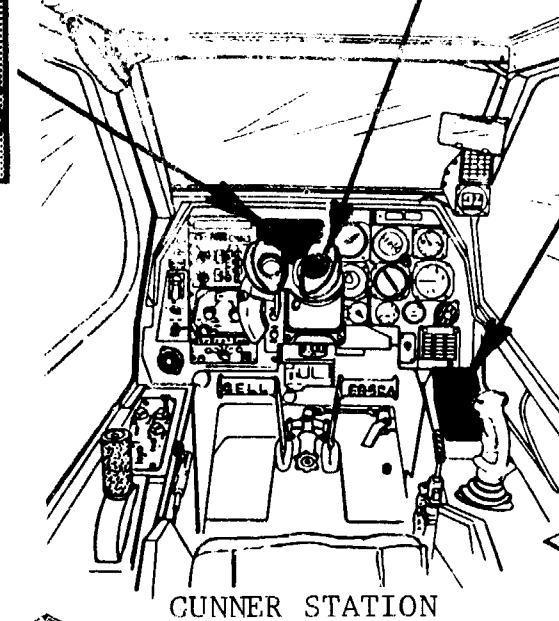
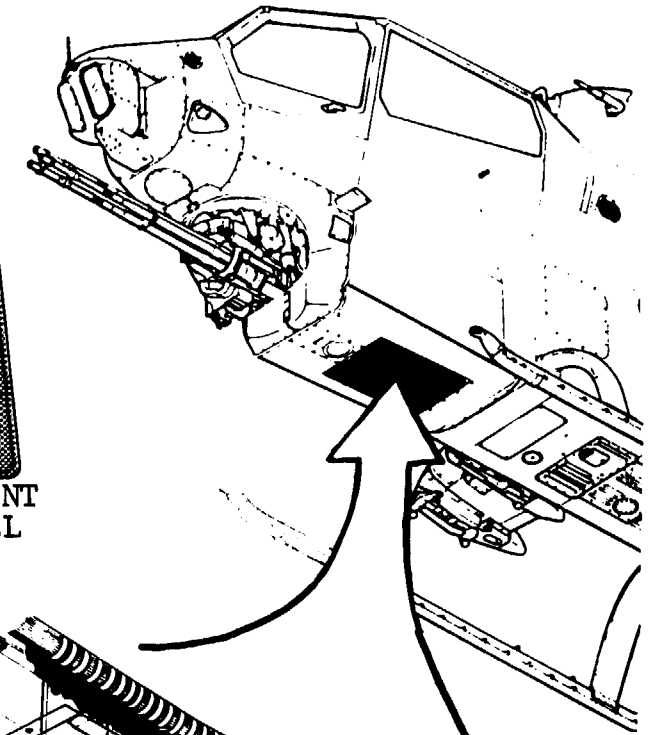
TCP (TOW CONTROL PANEL)



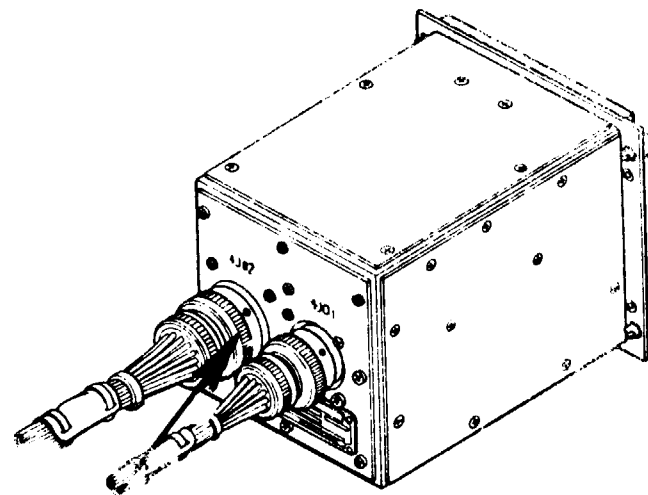
TSU EYEPIECE



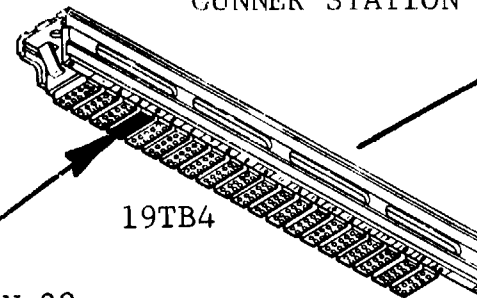
GUNNER ARMAMENT CONTROL PANEL



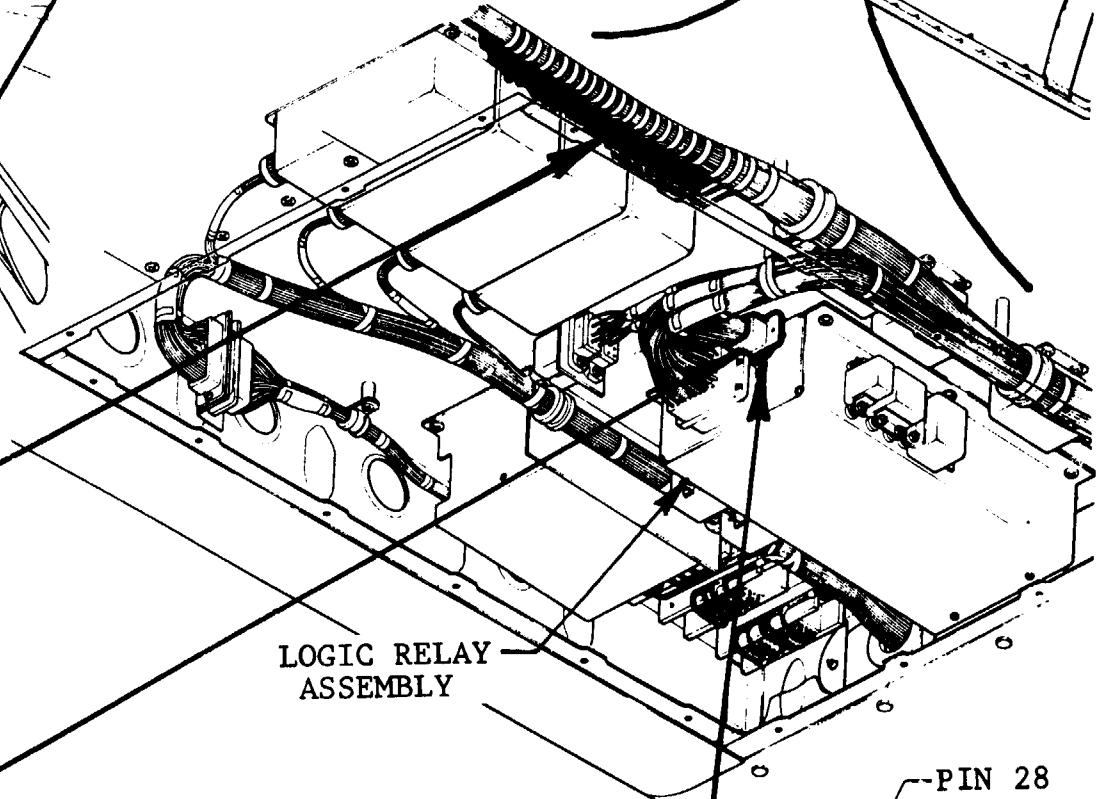
GUNNER STATION



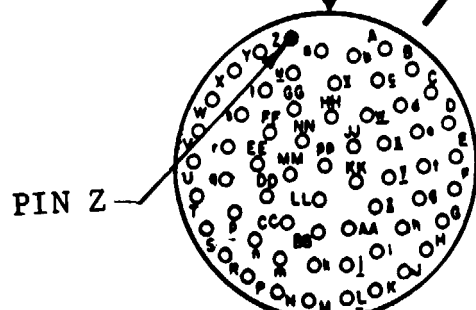
ICU (CONTROL PANEL) VIEW



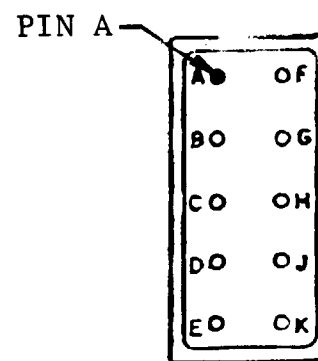
19TB4



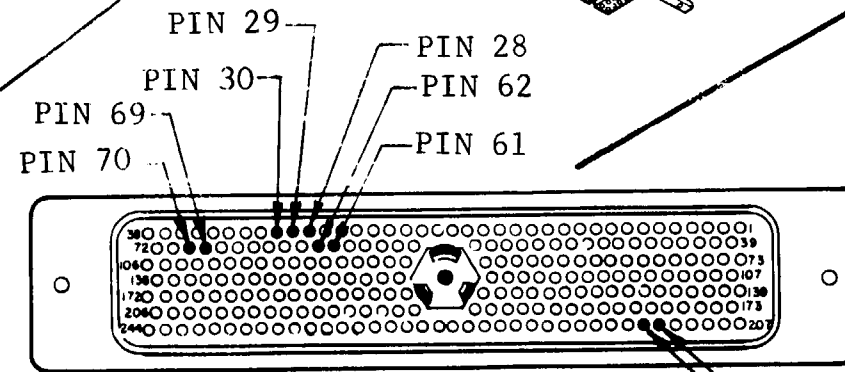
LOGIC RELAY ASSEMBLY



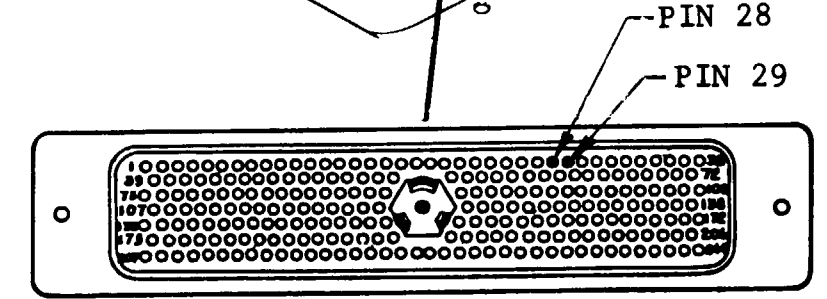
20A4P02



MODULE 4

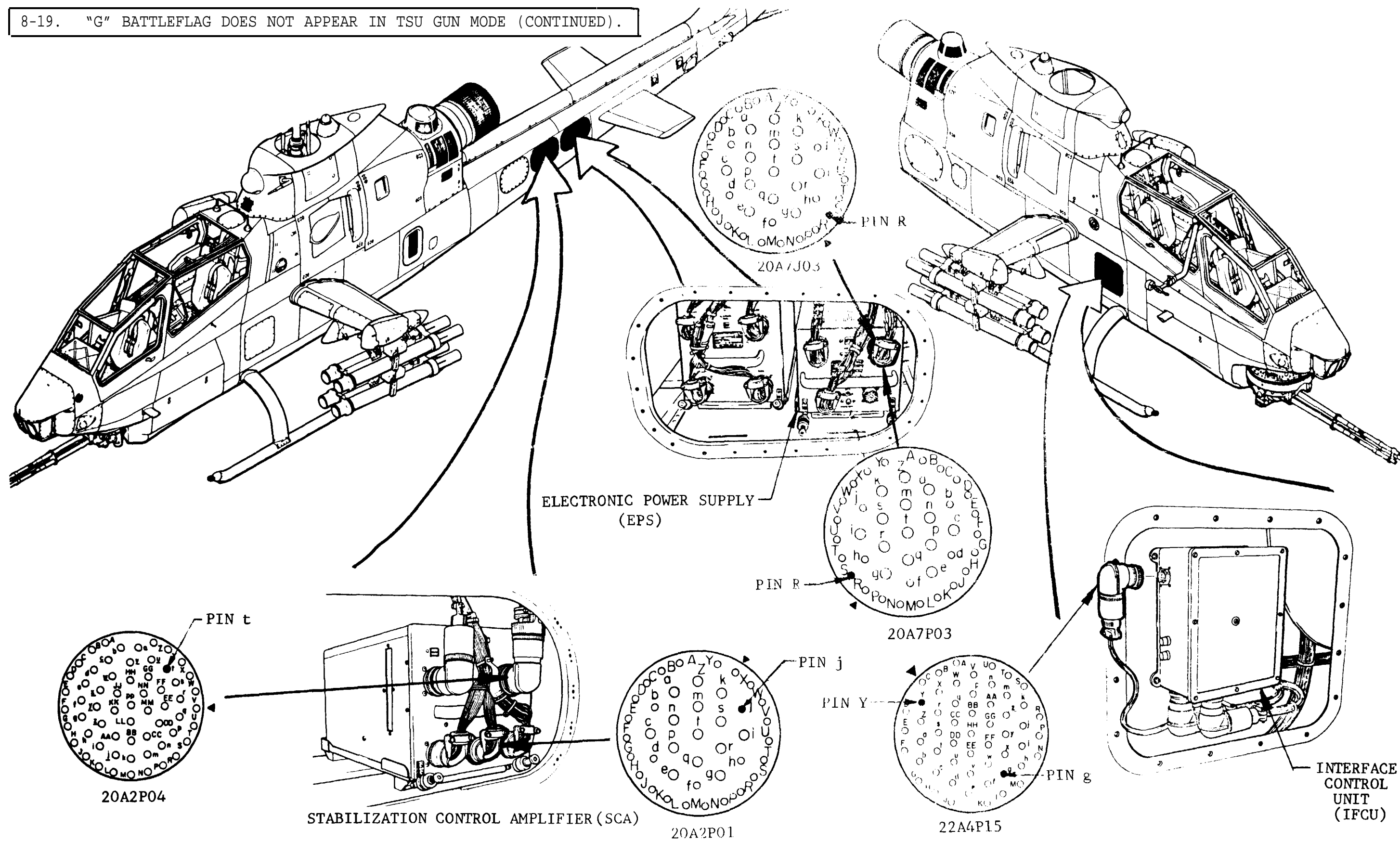


22A5P1 PIN 213 - PIN 212

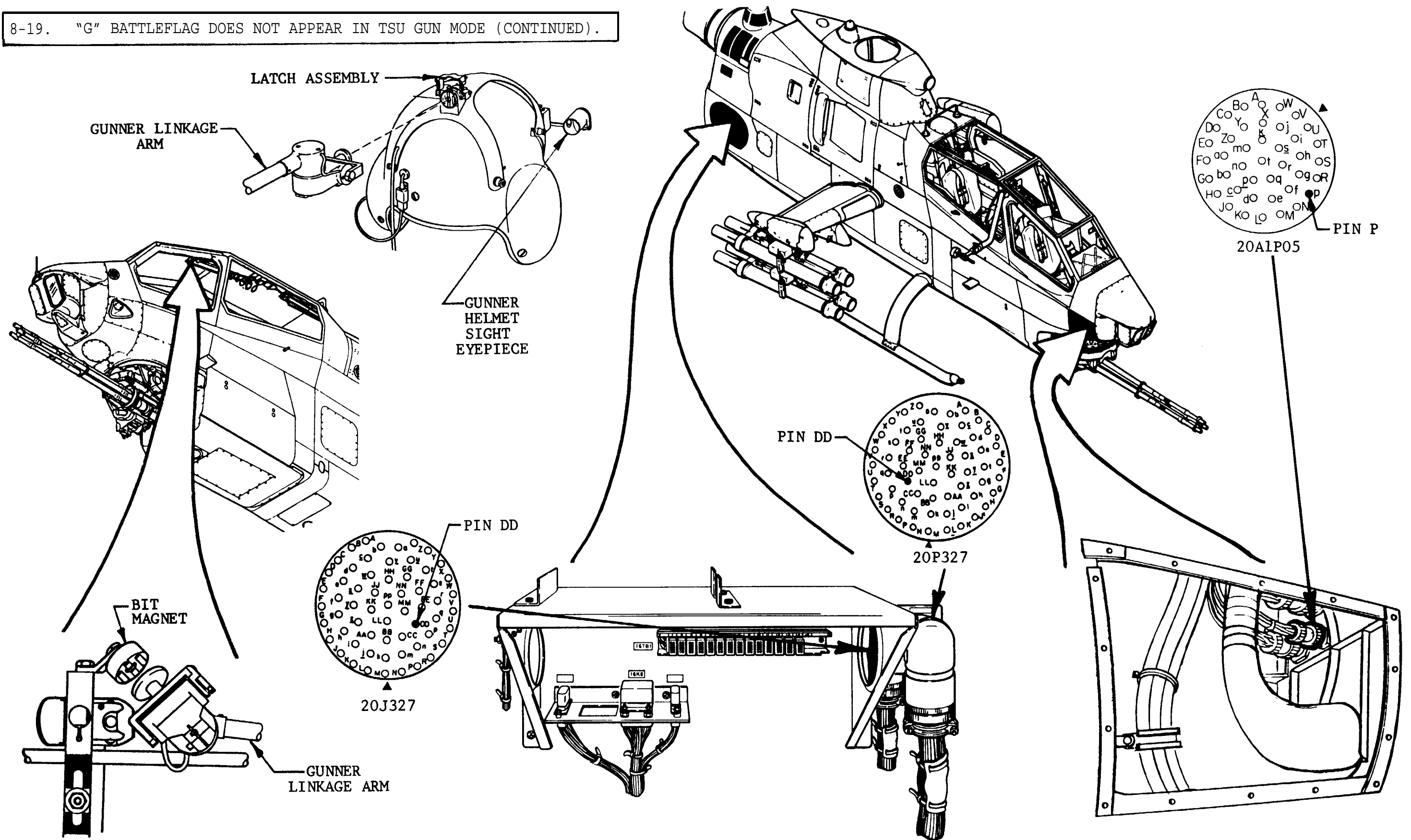


22A5J1

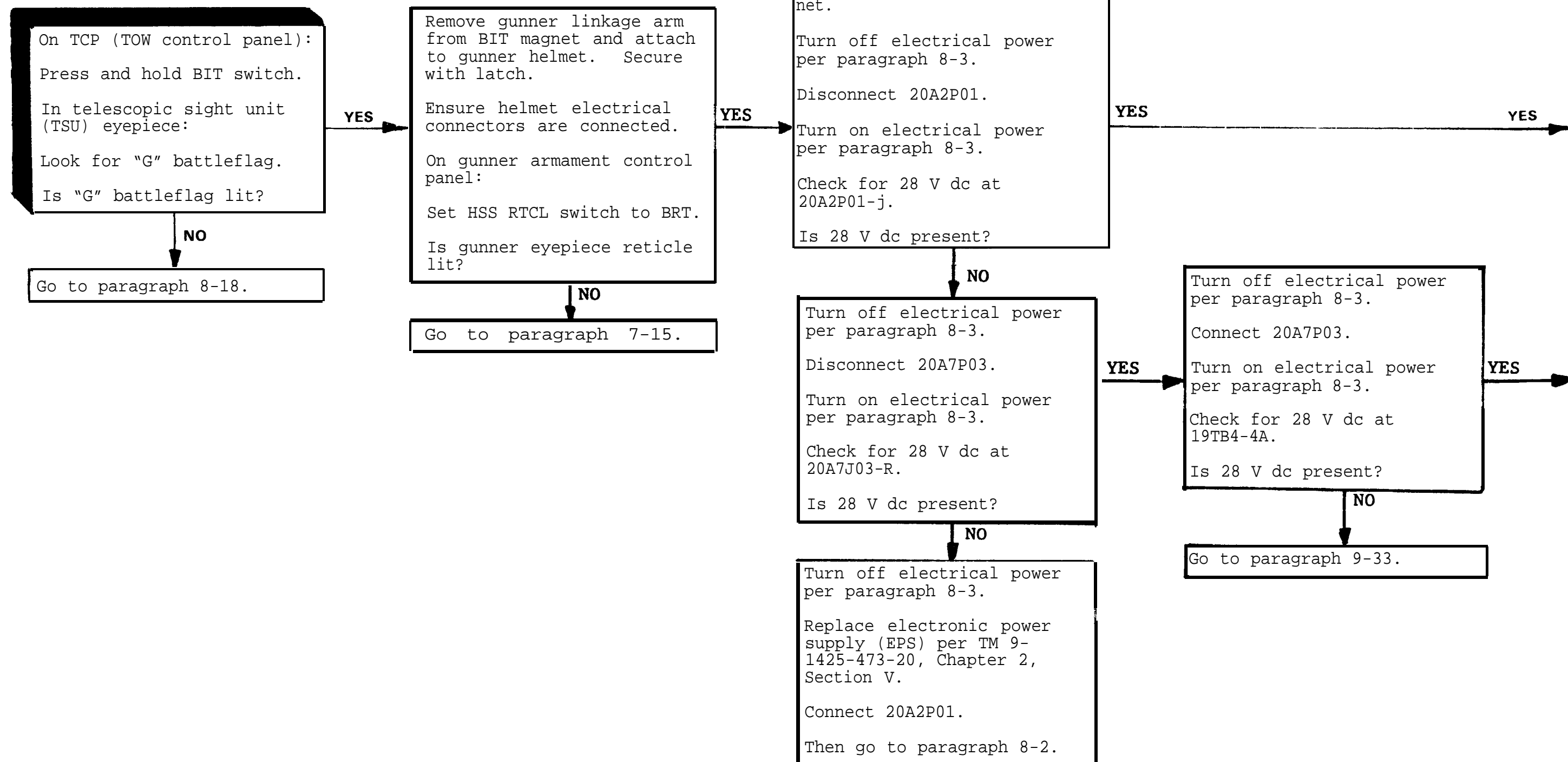
8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED).



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

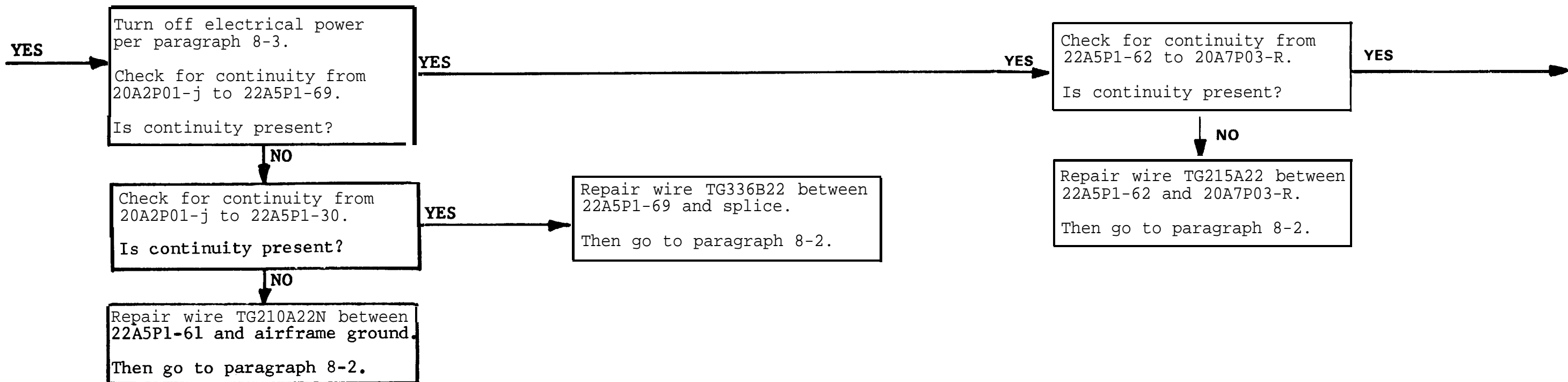


8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED).



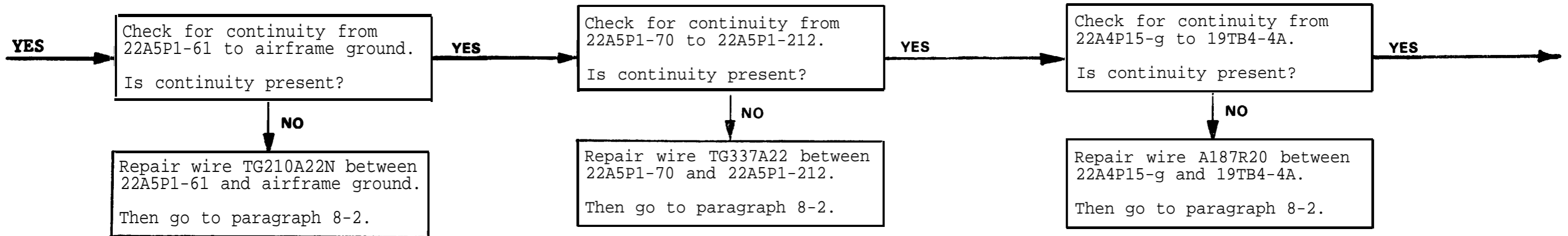
8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED).

YES YES



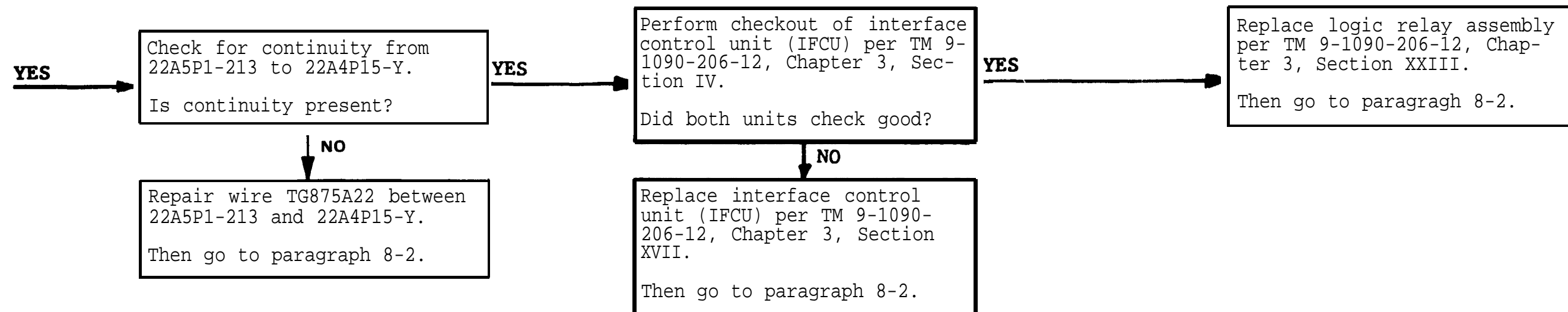
8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED.)

YES YES →

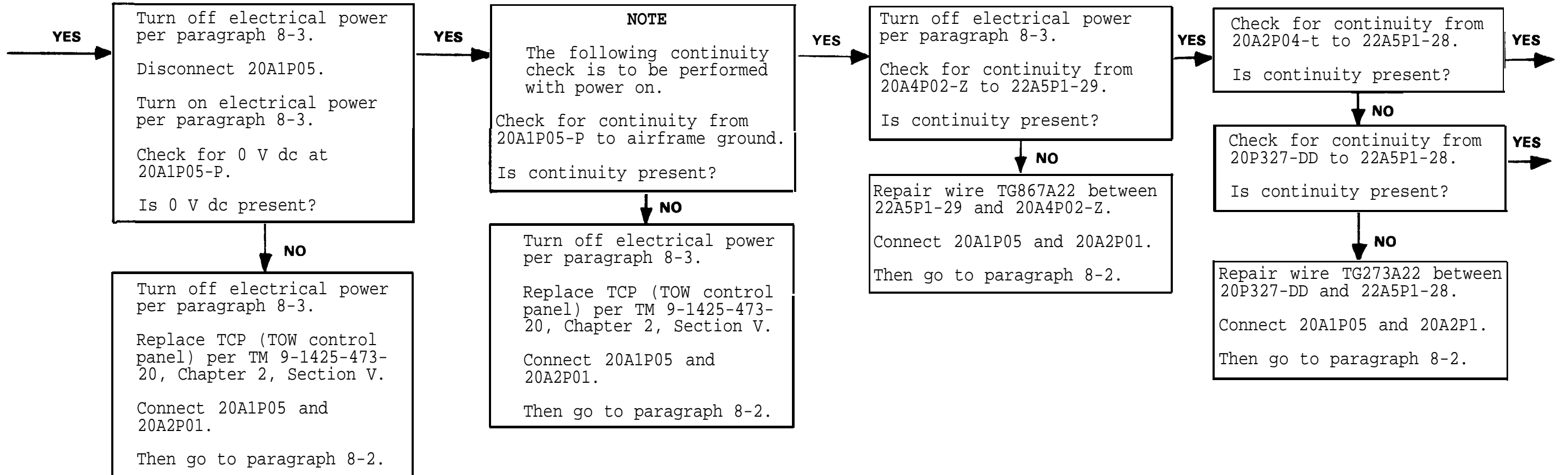


8-19. "G" BATTLEFLAG DOES NOT APPEAR IN TSU GUN MODE (CONTINUED).

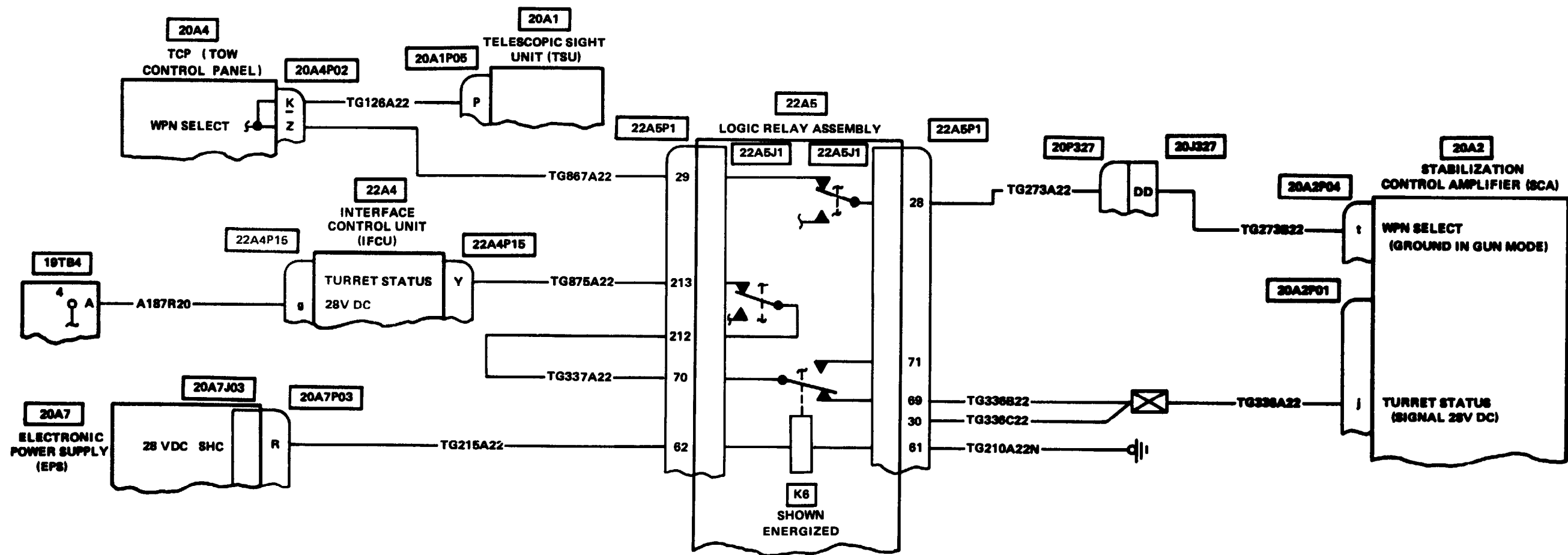
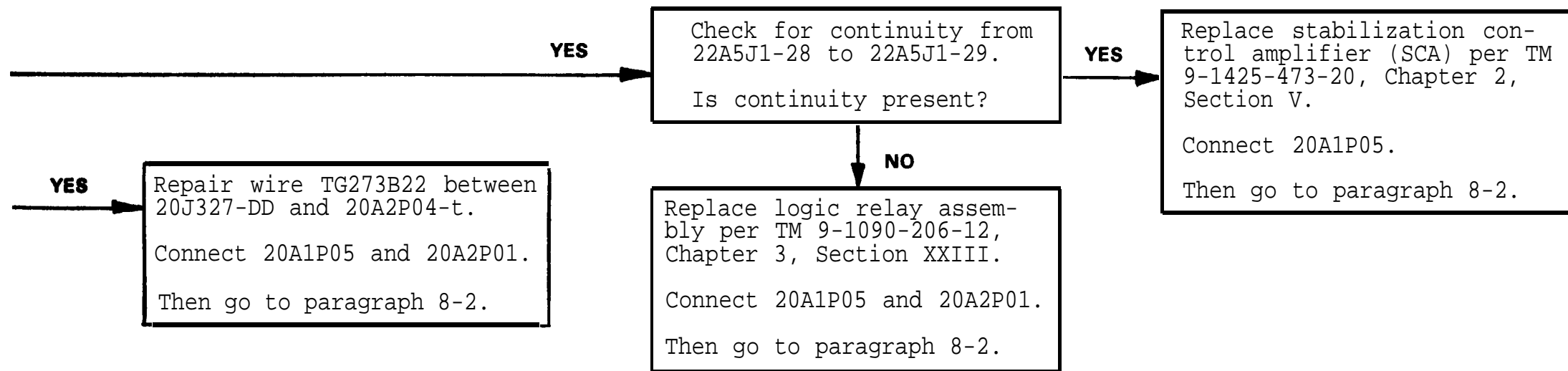
YES YES 



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



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



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

INITIAL SETUP

Applicable Configuration
All

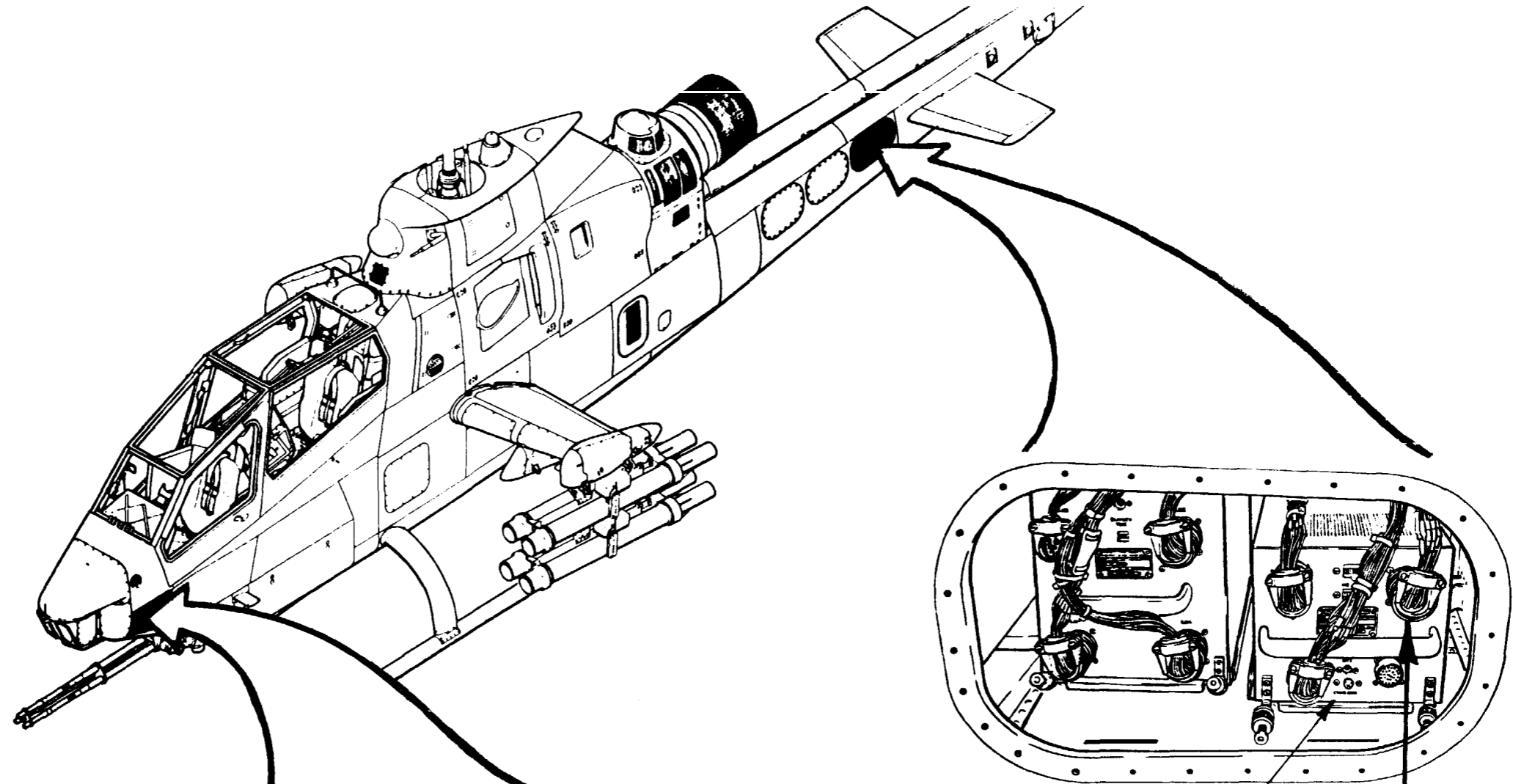
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

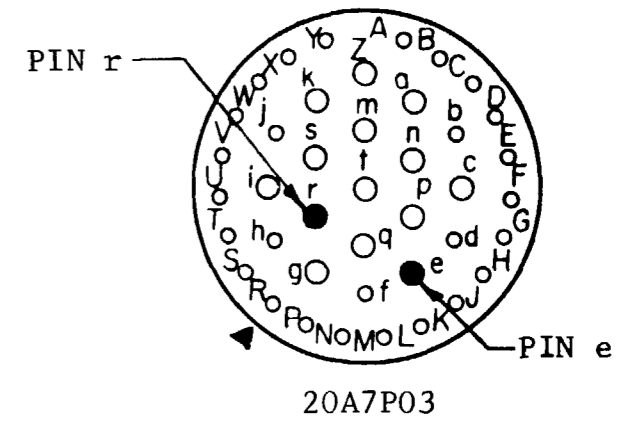
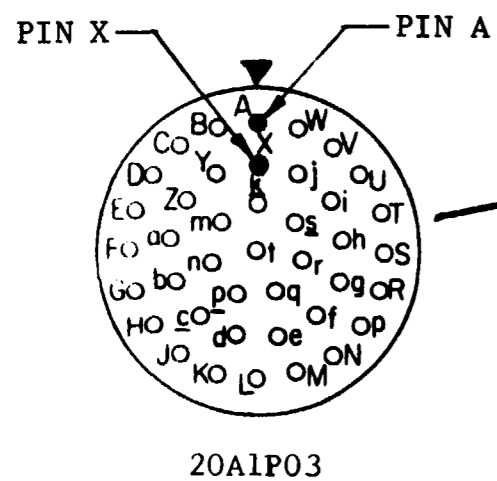
Personnel Required
68J (2)

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

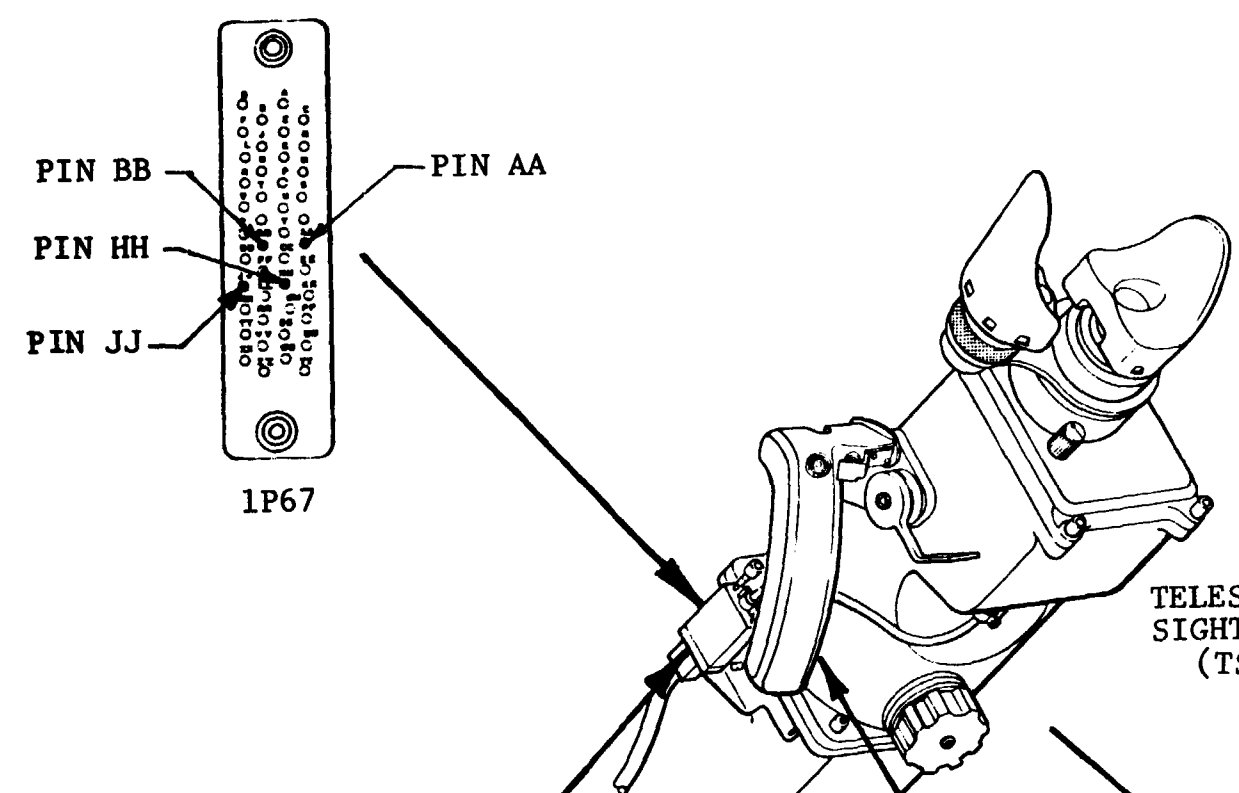
Access Panels
Aft Electronics (Tail-boom) - Removed
Left Side Forward Radar Warning Antenna-Removed



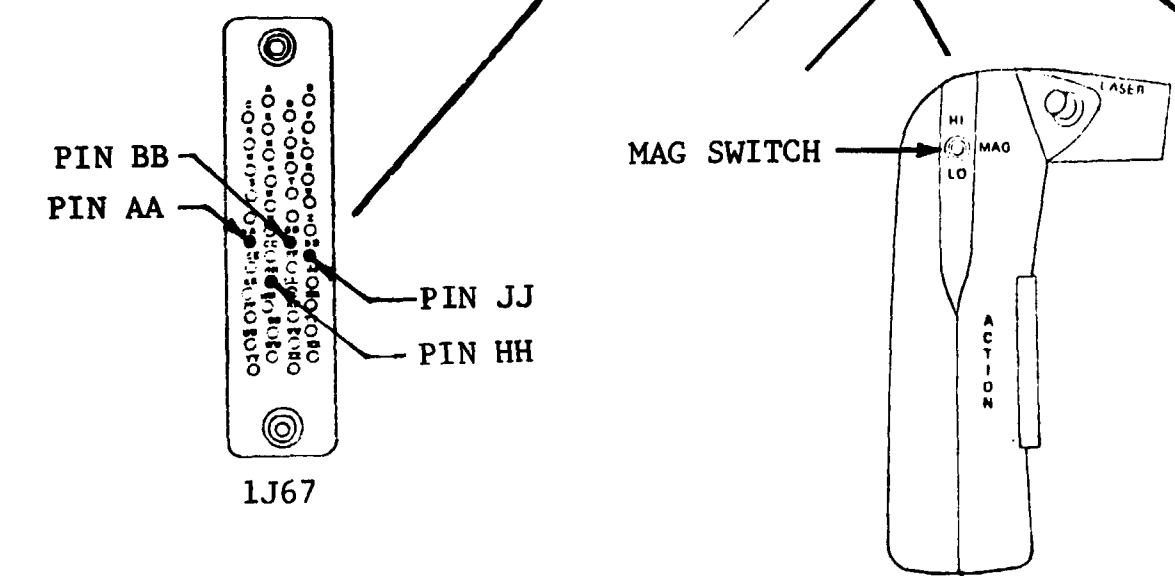
ELECTRONIC POWER SUPPLY (EPS)



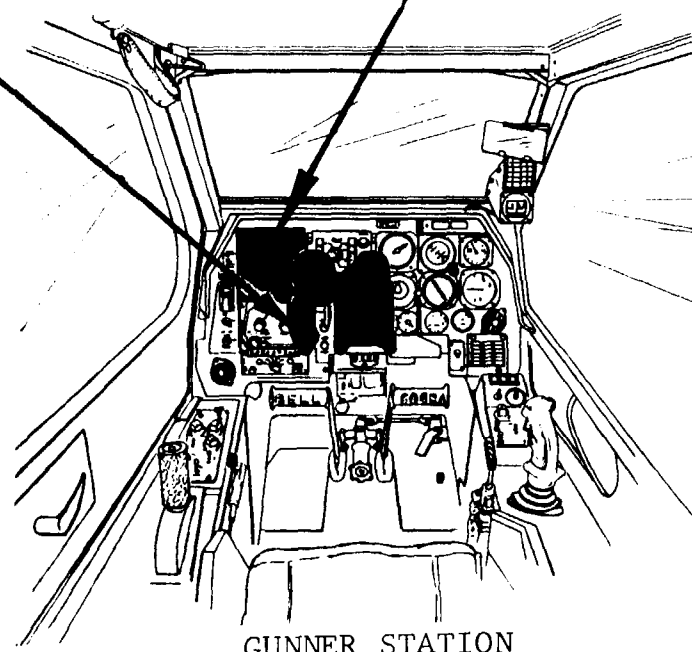
8-20. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION (CONTINUED).



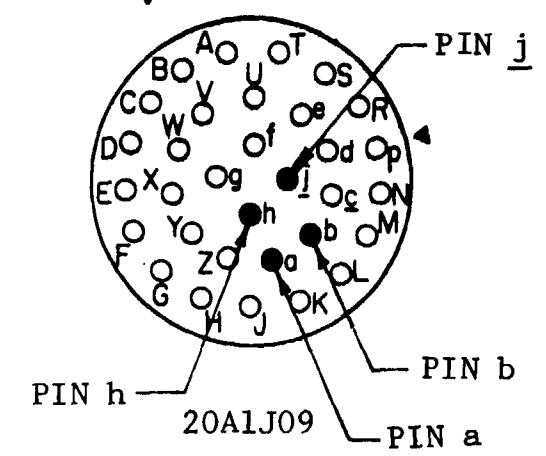
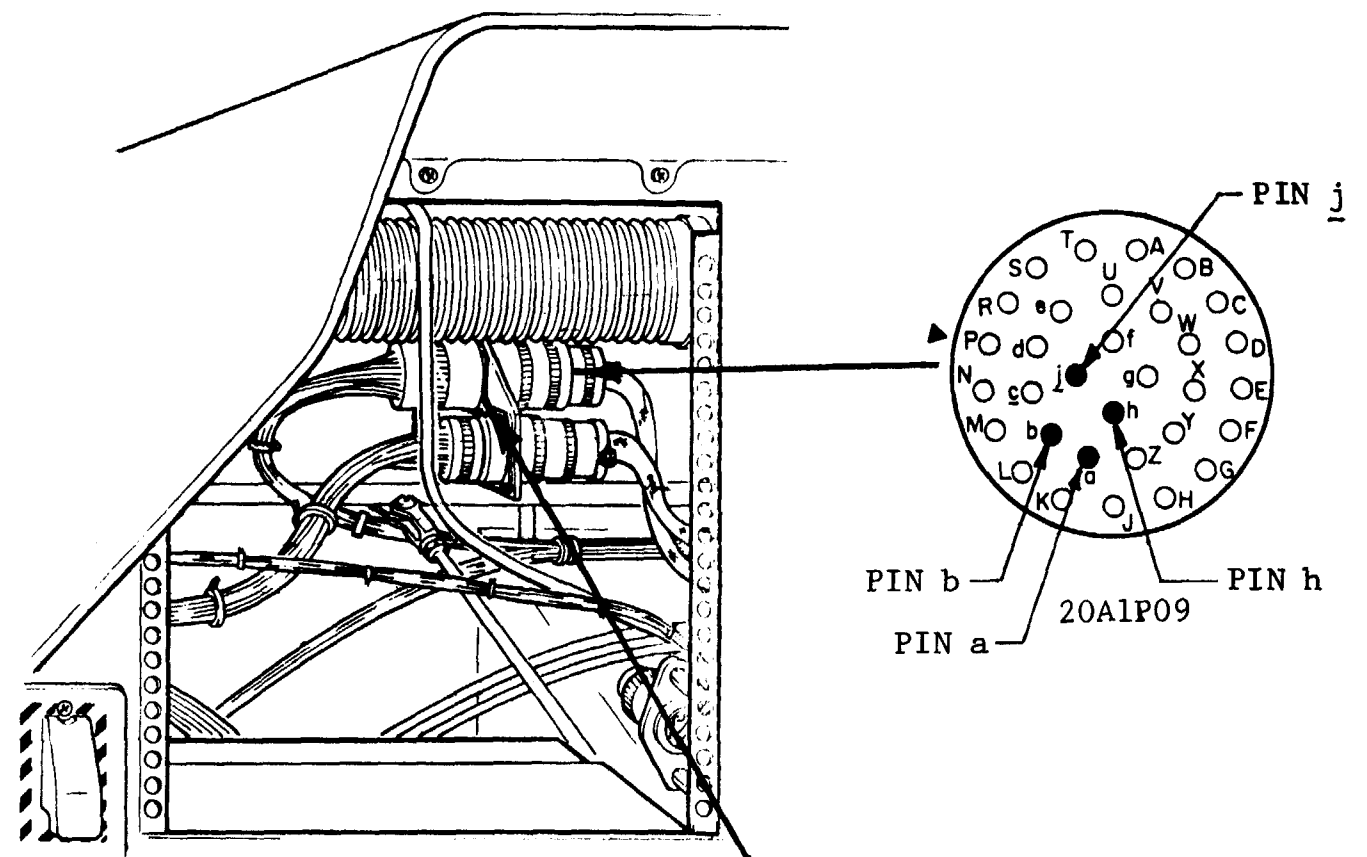
TELESCOPIC SIGHT UNIT (TSU)



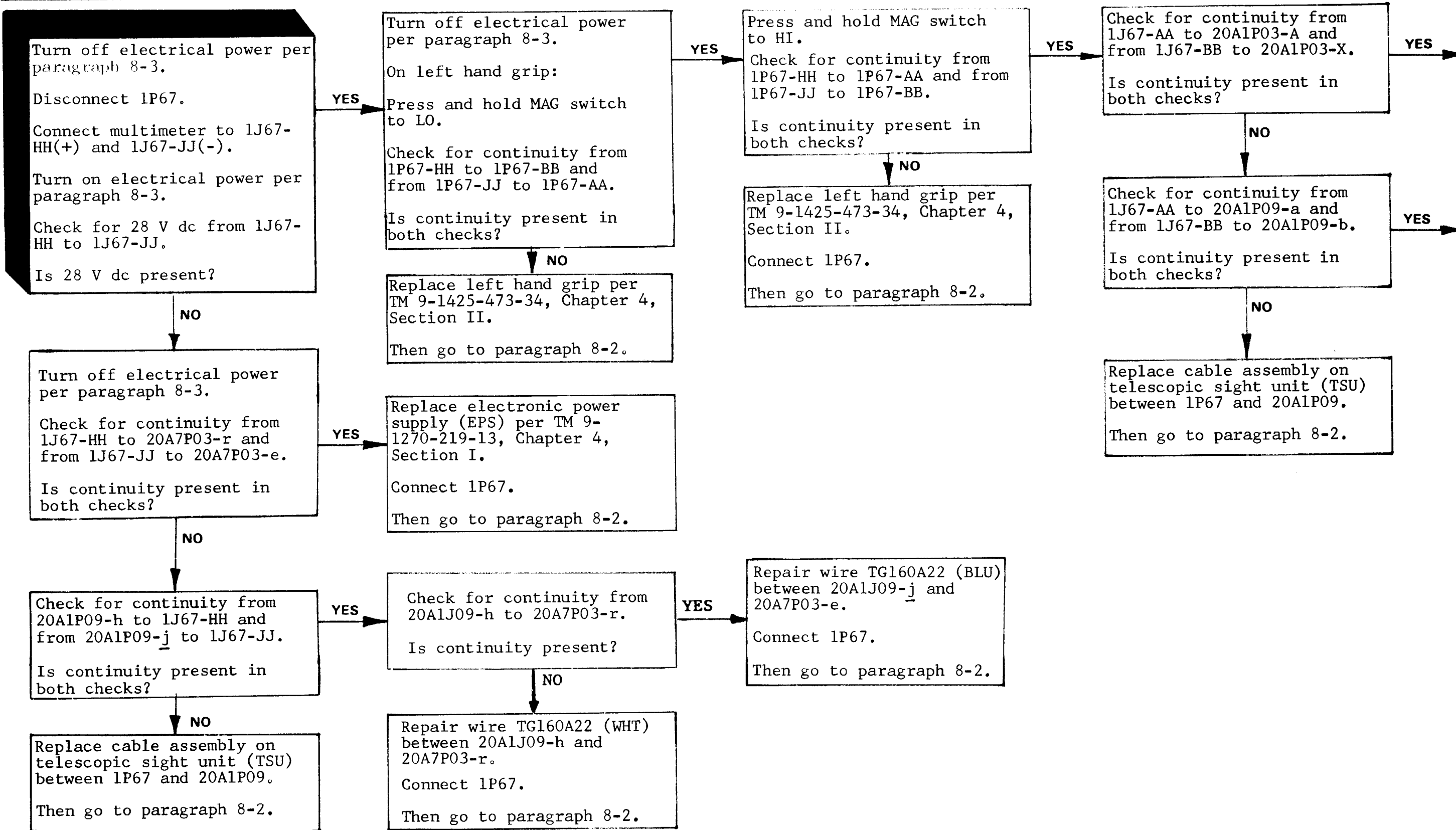
LEFT HAND GRIP



GUNNER STATION



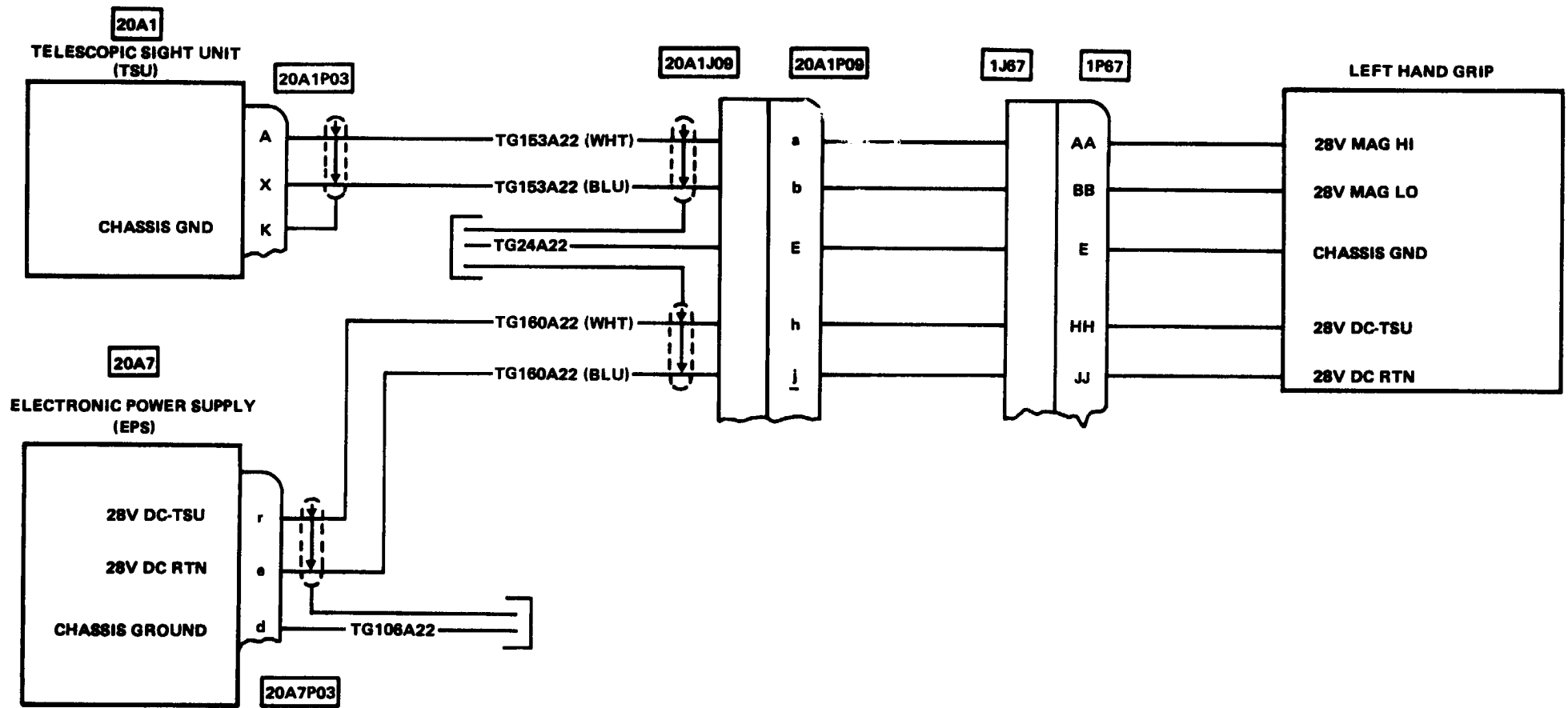
8-20. TSU IMAGE WILL NOT CHANGE IN MAGNIFICATION (CONTINUED).



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

YES → Replace telescopic sight unit (TSU) per TM 9-1425-43-20, Chapter 4, Section III.
Then go to paragraph 8-2.

YES → Repair wire TG153A22 (WHT) between 20A1J09-a and 20A1P03-A and or wire TG153A22 (BLU) between 20A1J09-b and 20A1P03-X.
Connect 1P67.
Then go to paragraph 8-2.



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 9-1090-206-12
TM 9-1425-473-20

Access Panels

Interface Control Unit - Removed

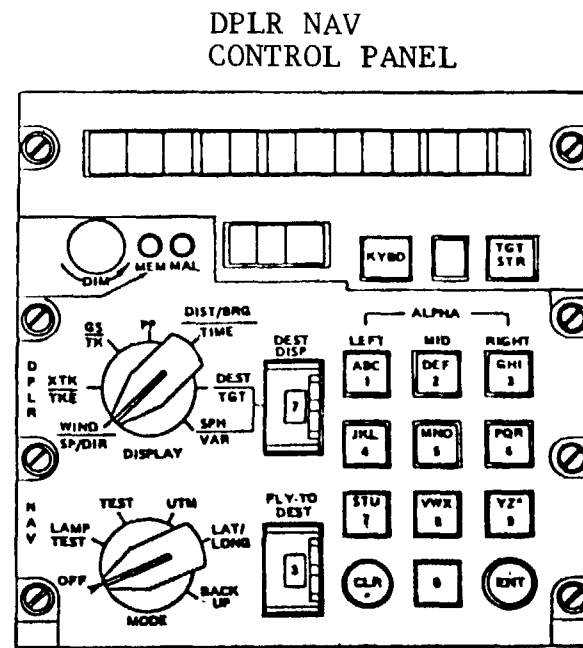
Logic Control Unit - Removed

Forward Belly Armament and Lighting - Removed

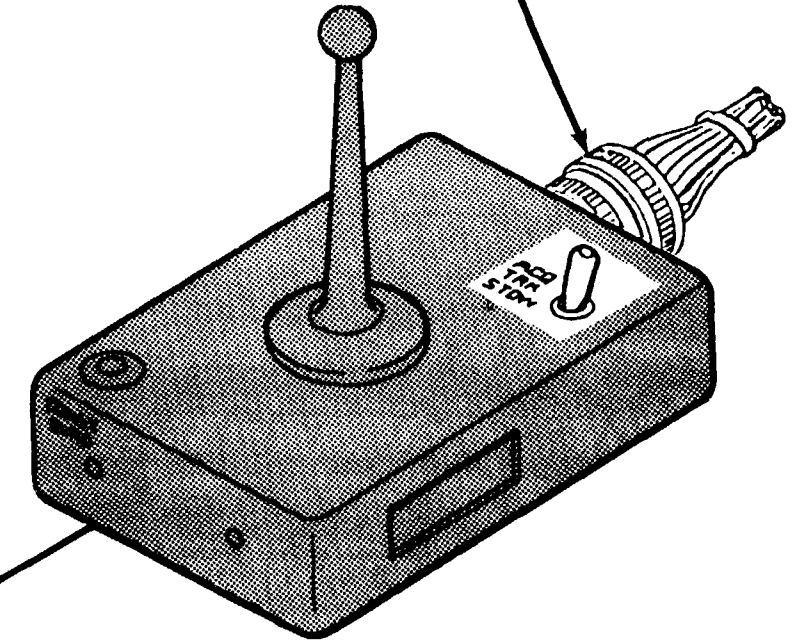
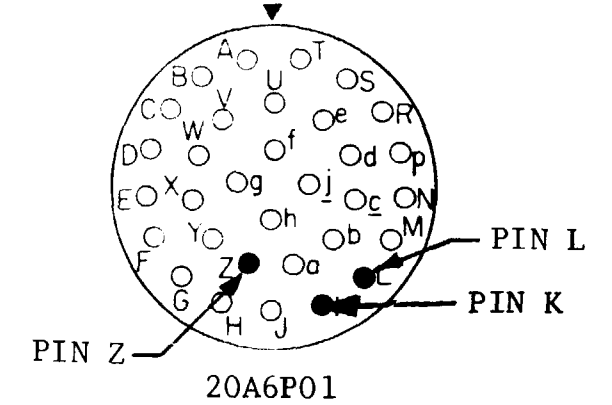
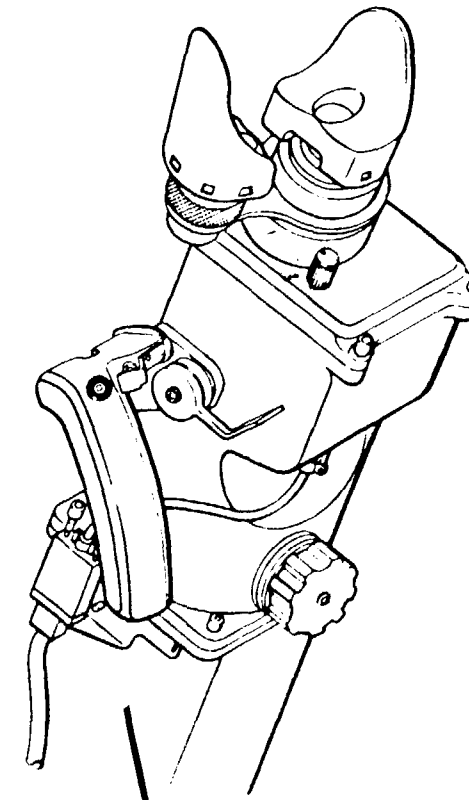
Middle Electronics (Tail-boom) - Removed

Left Forward Radar Warning Antenna - Removed

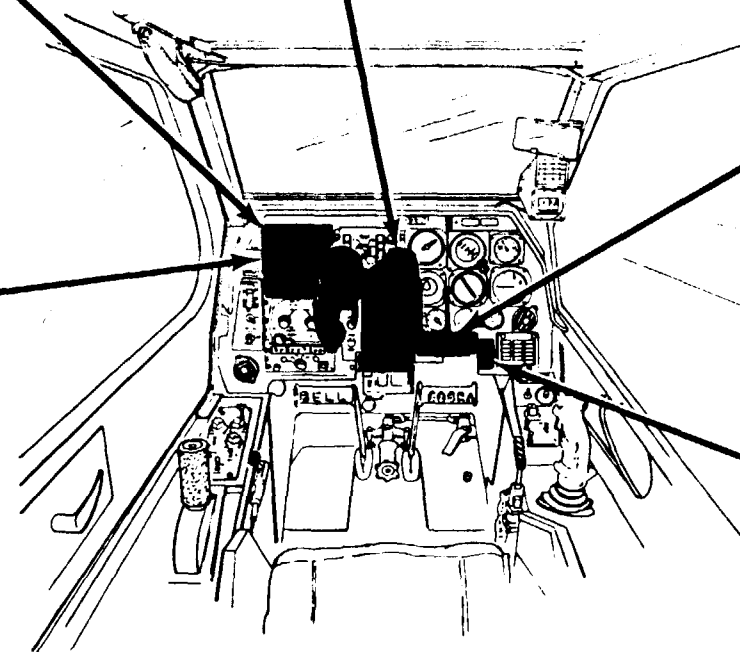
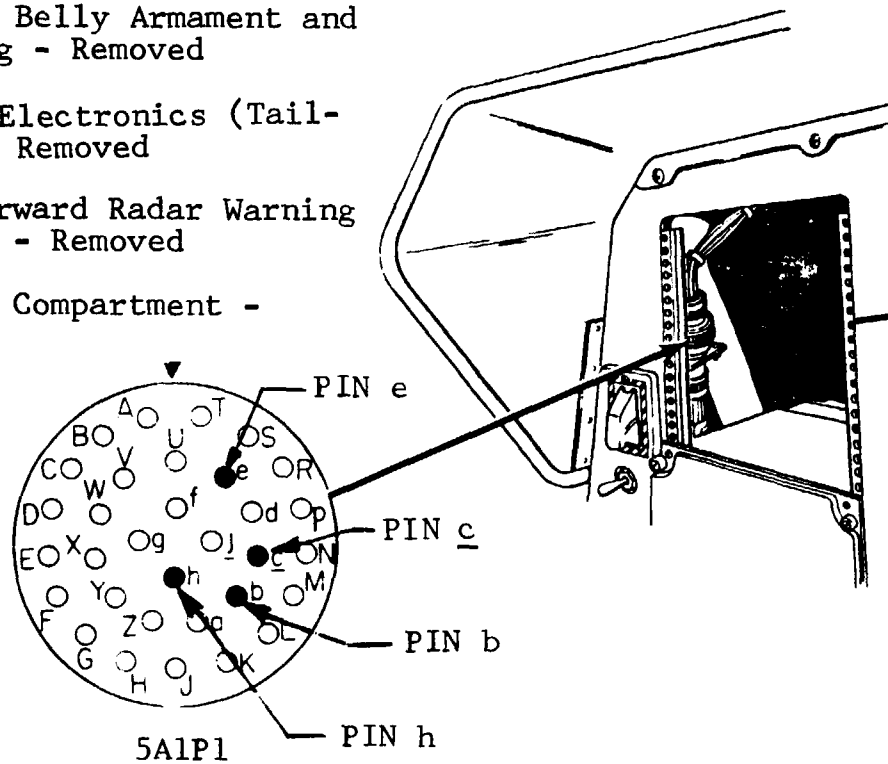
Battery Compartment - Removed



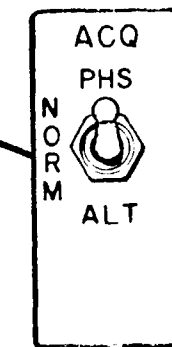
TELESCOPIC SIGHT UNIT (TSU)



SIGHT HAND CONTROL

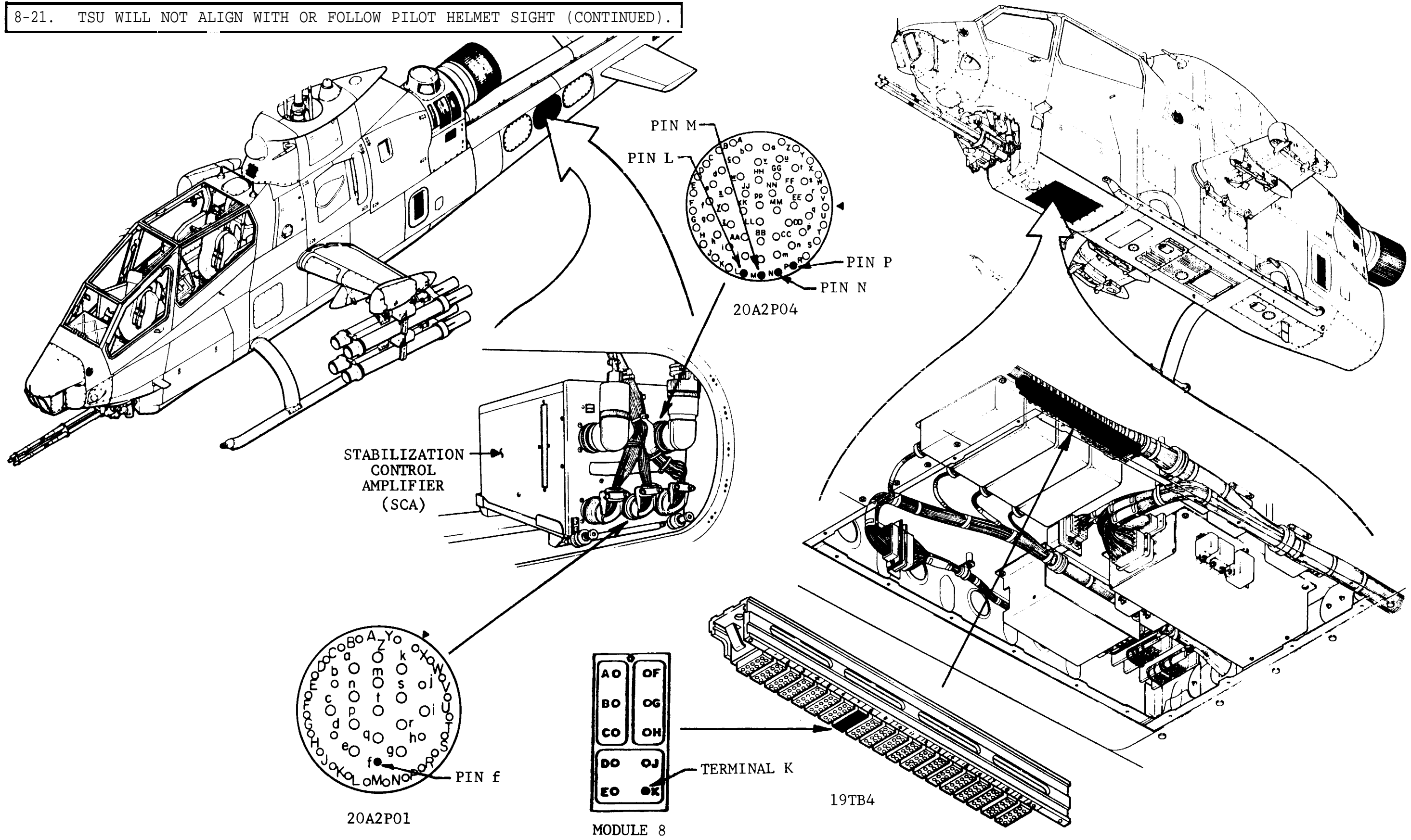


GUNNER STATION

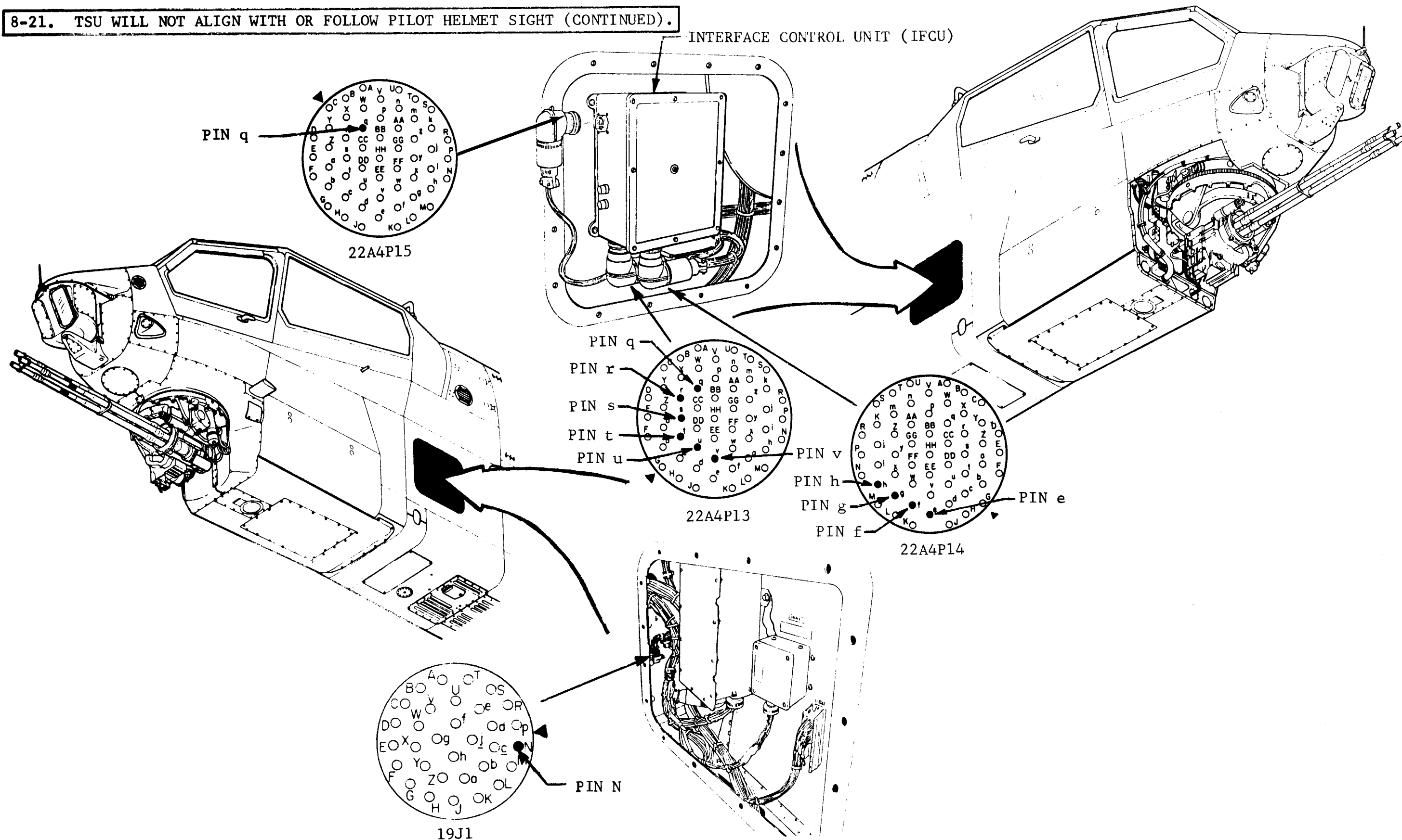


ACQ SWITCH

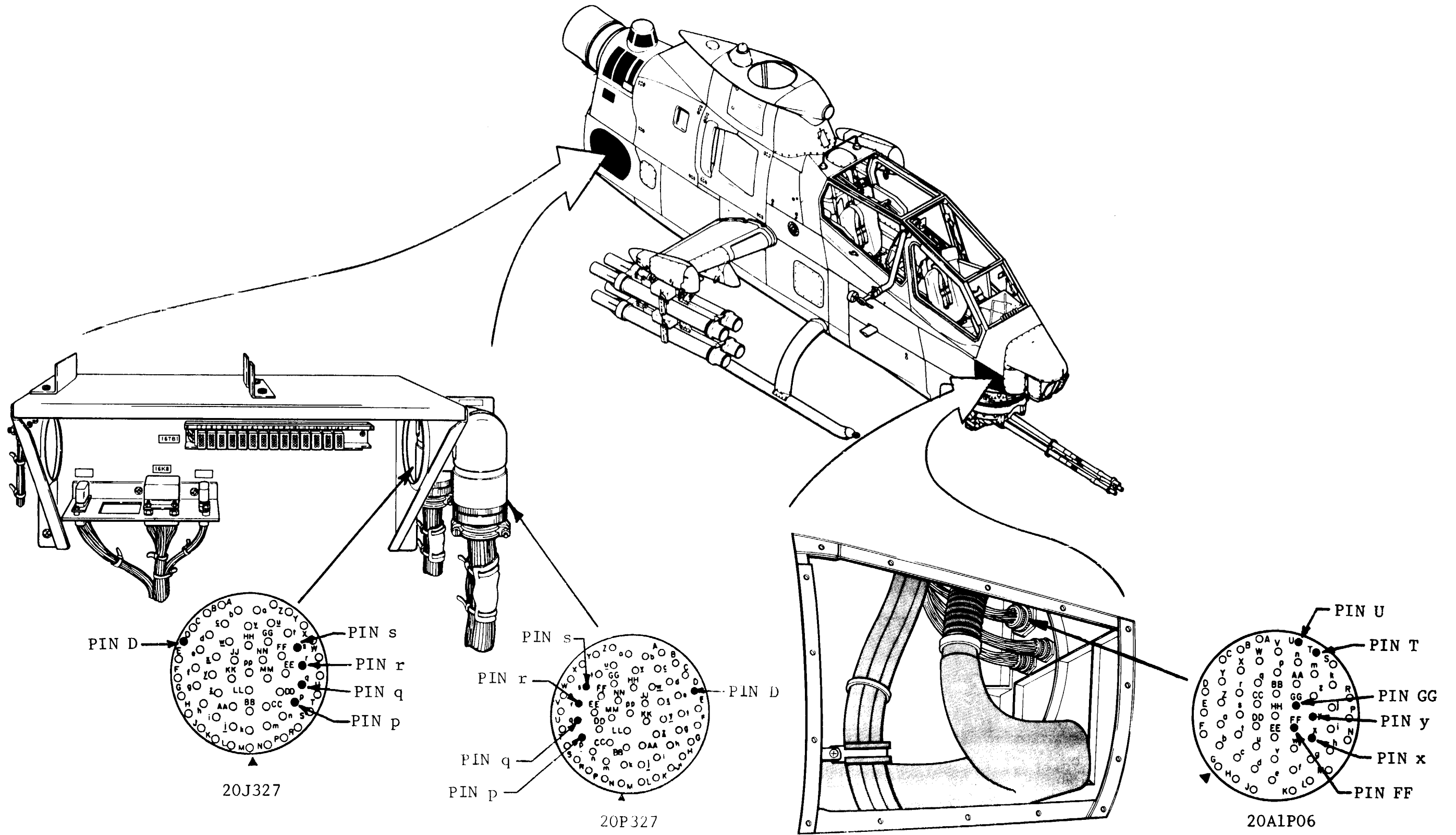
8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).



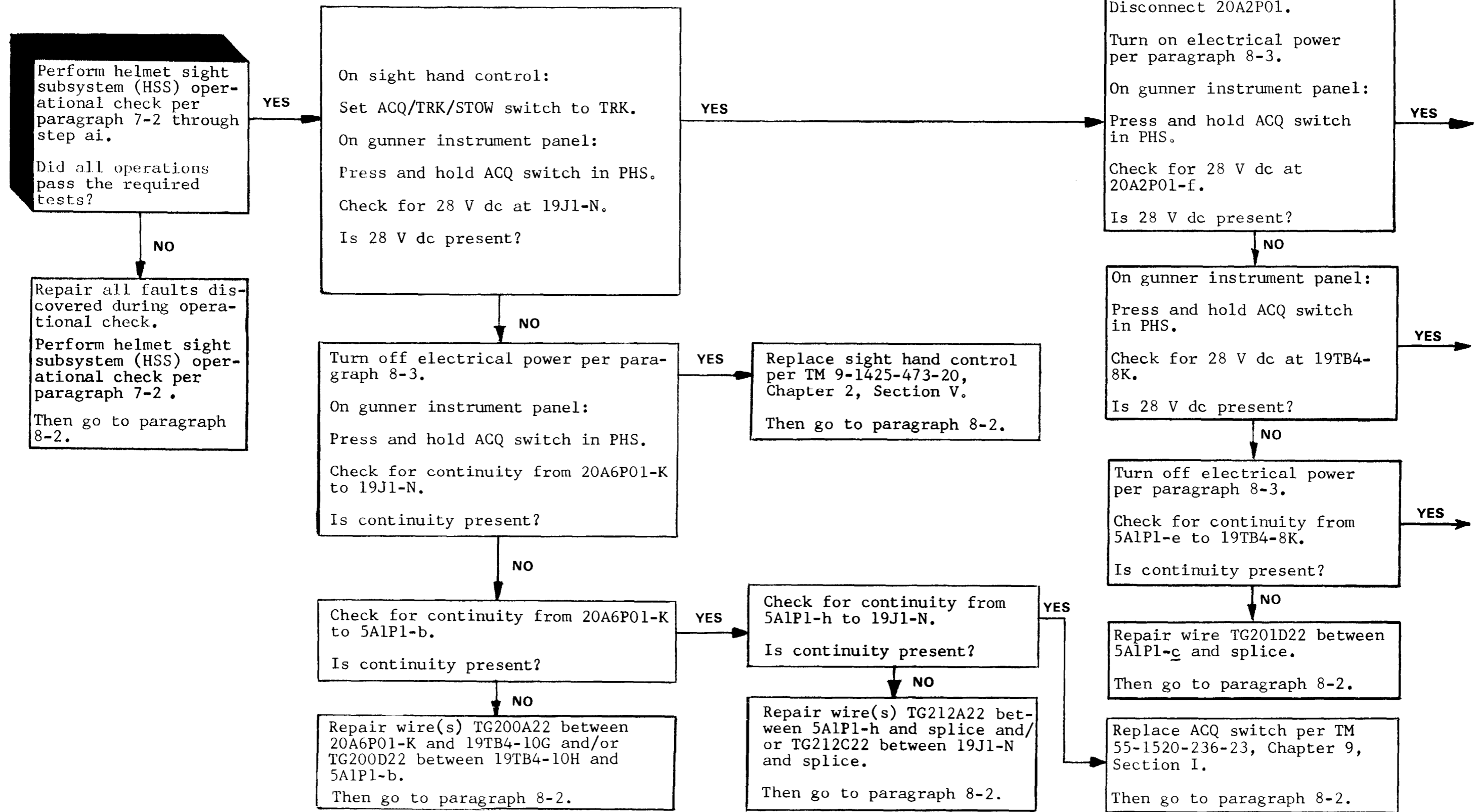
8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).



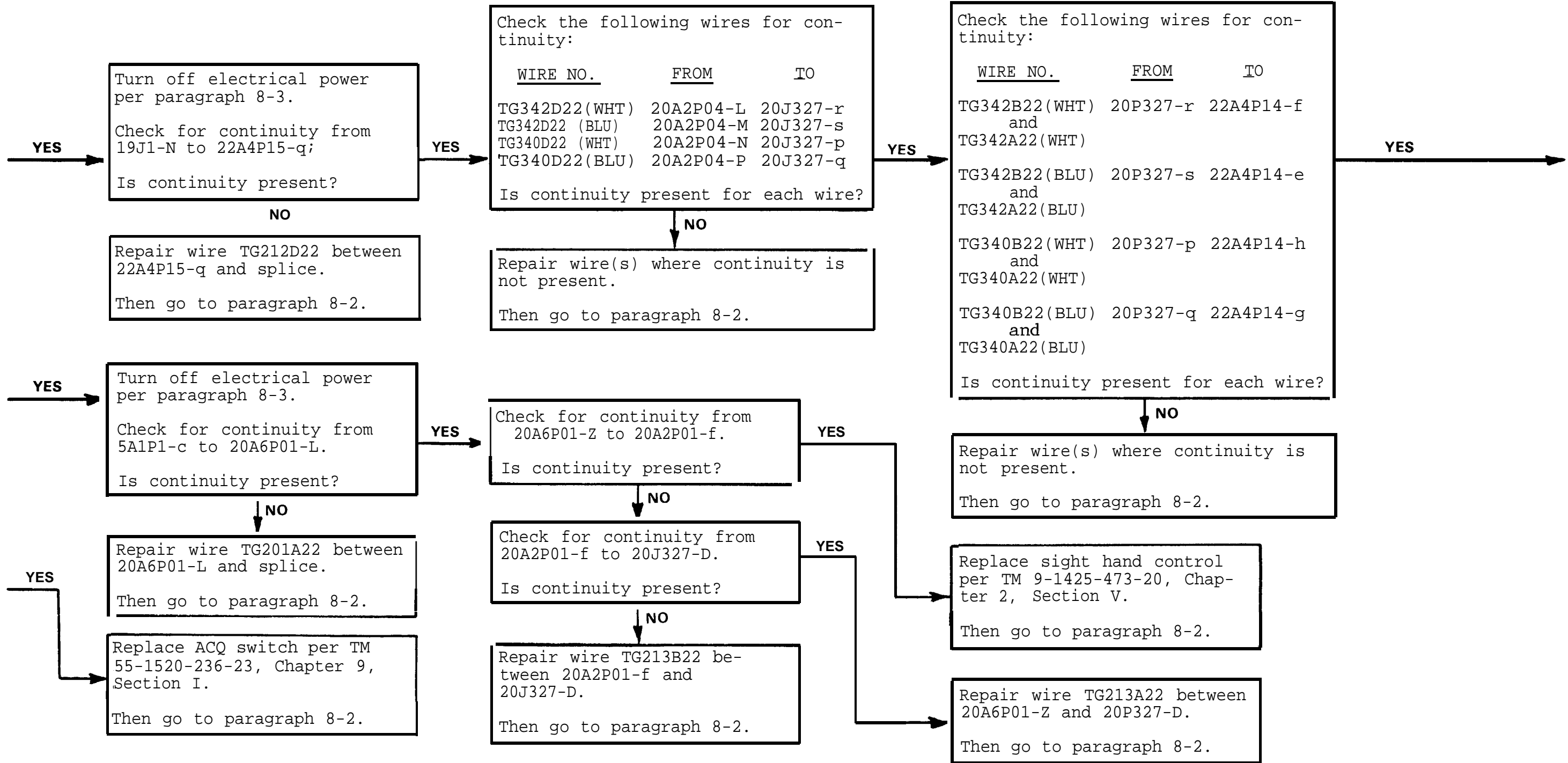
8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).



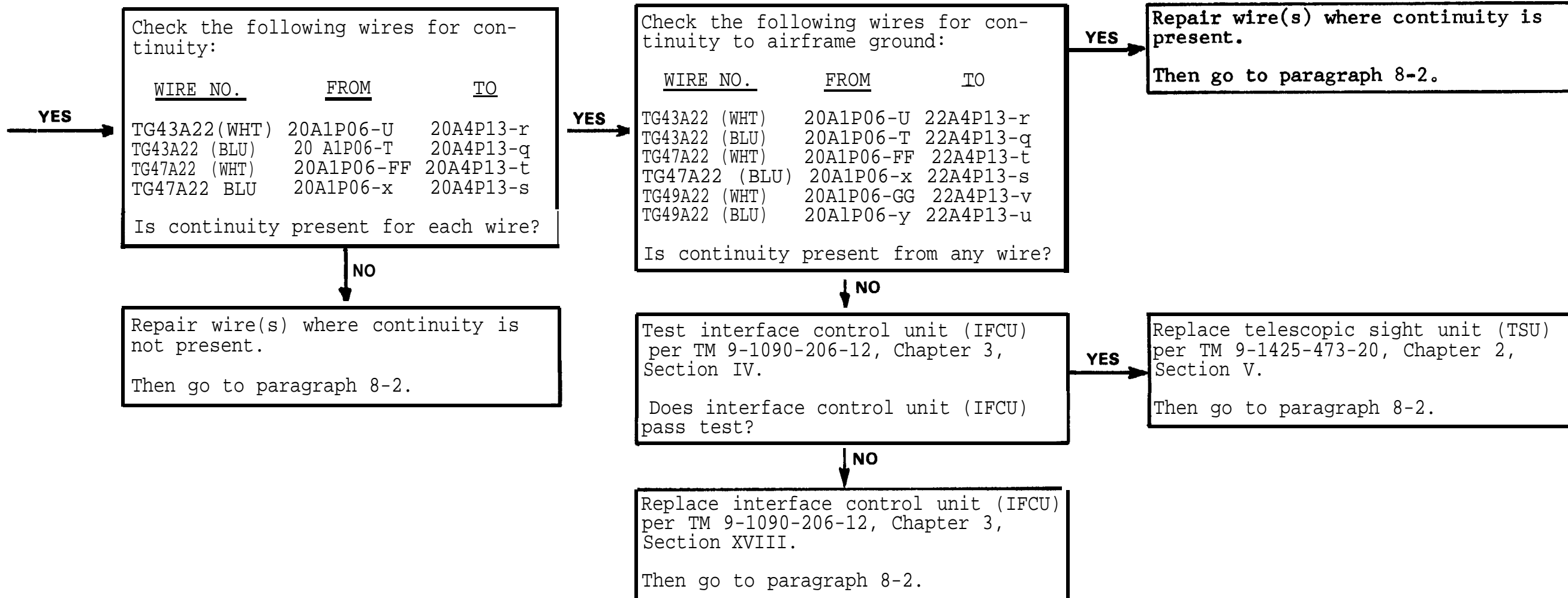
8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).



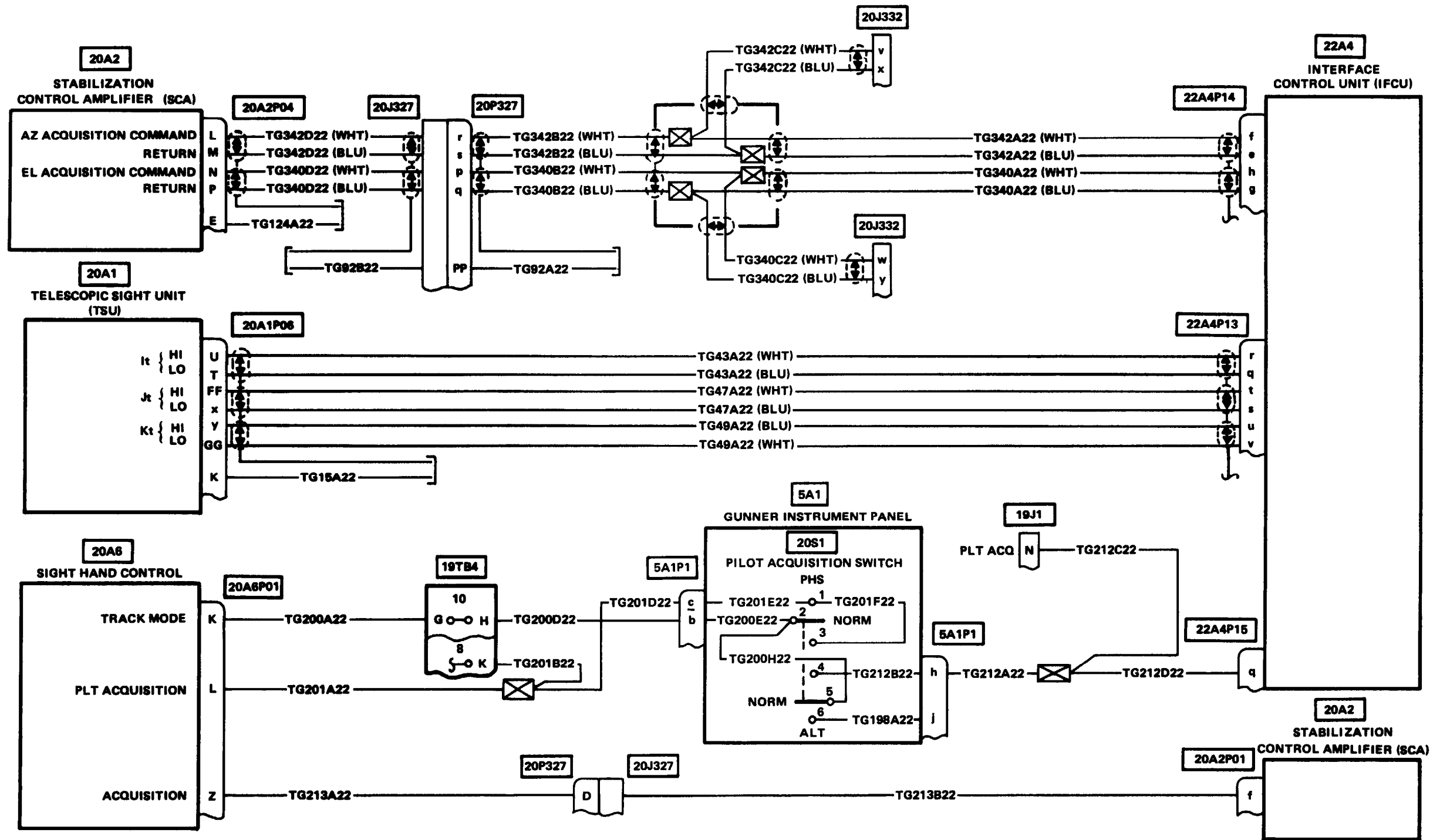
8-21. TSU WILL NOT ALIGN WITH OR FOLLOW PILOT HELMET SIGHT (CONTINUED).



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).



8-22. 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)

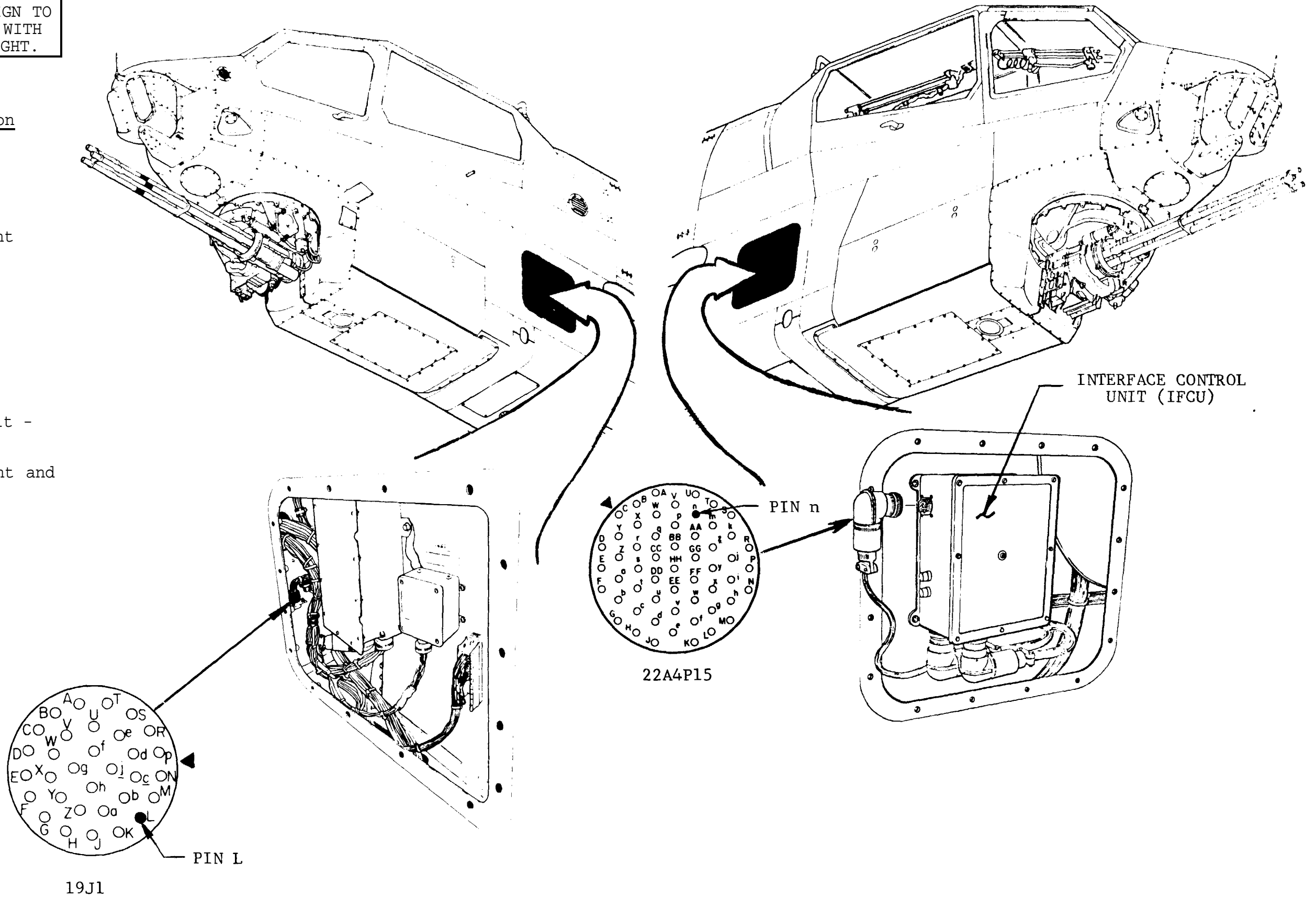
References
TM 9-1090-206-12
TM 9-1425-473-20

Access Panels

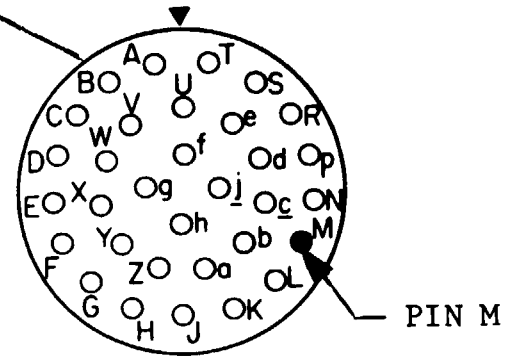
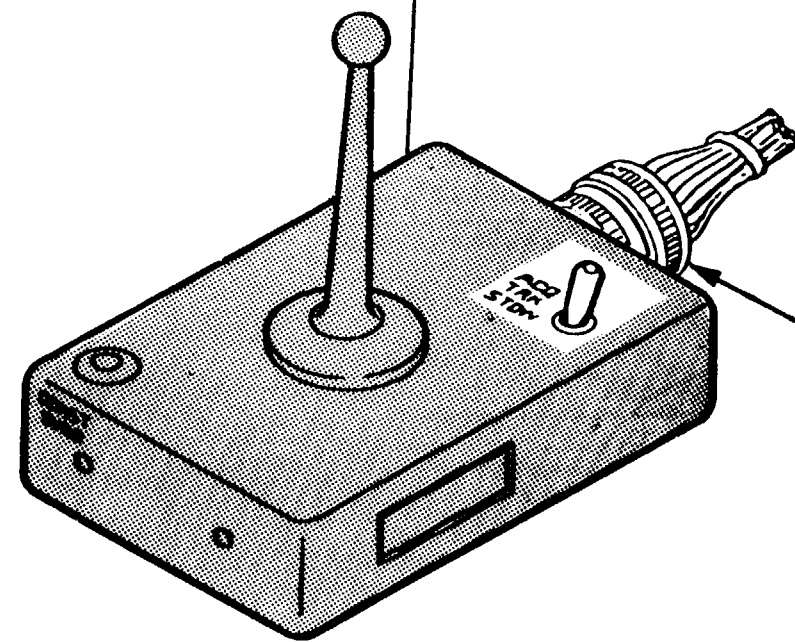
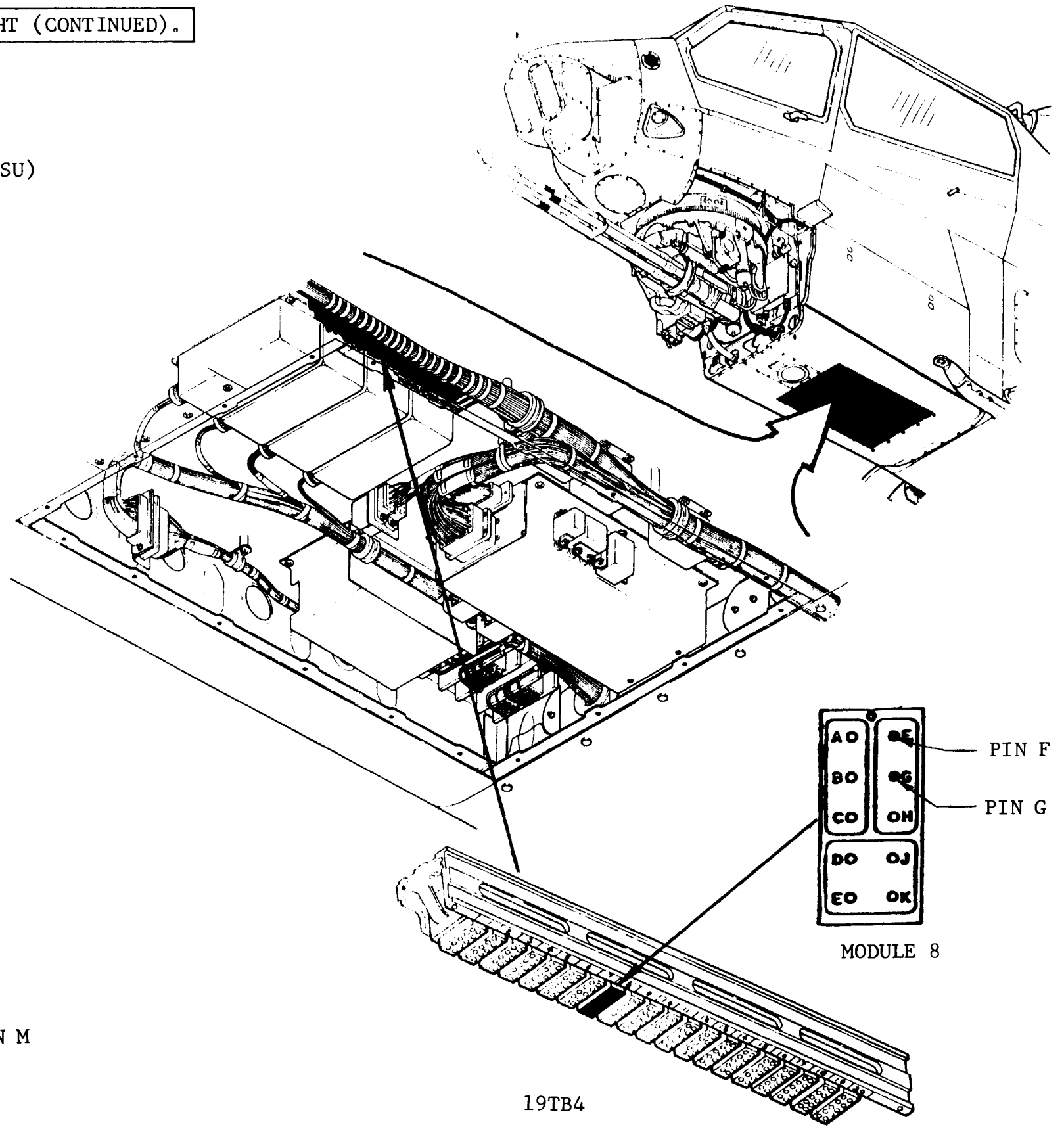
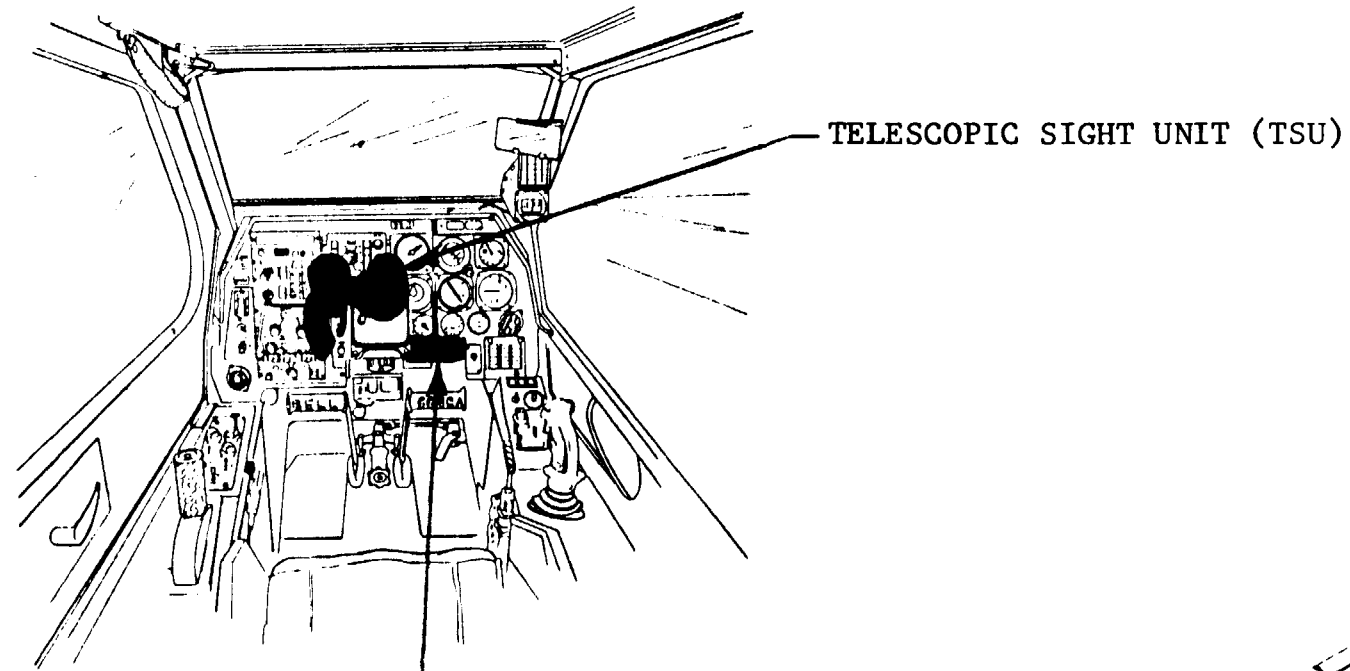
Interface Control Unit - Removed

Forward Belly Armament and Lighting - Removed

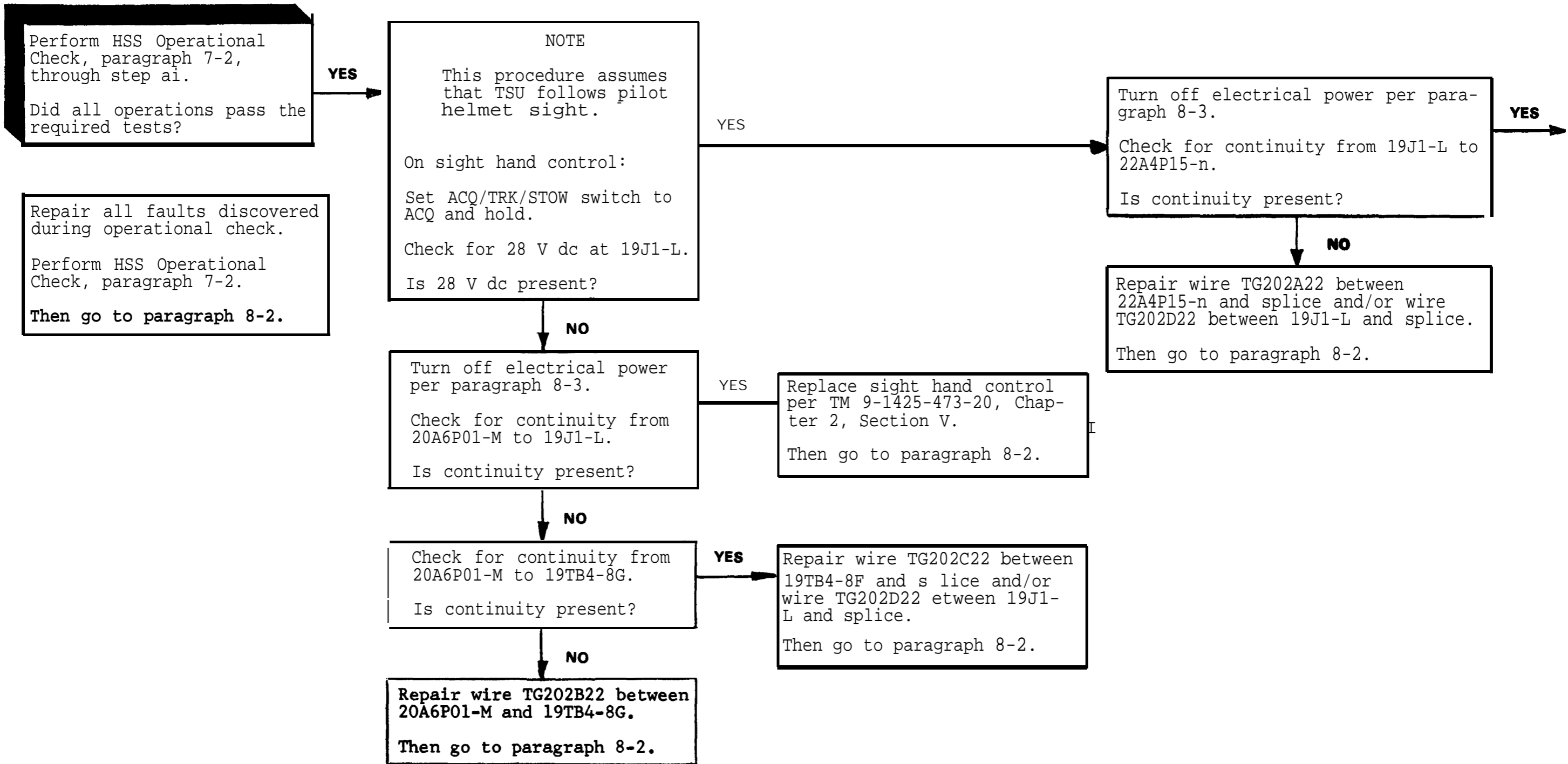
Logic Control Unit: - Removed



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



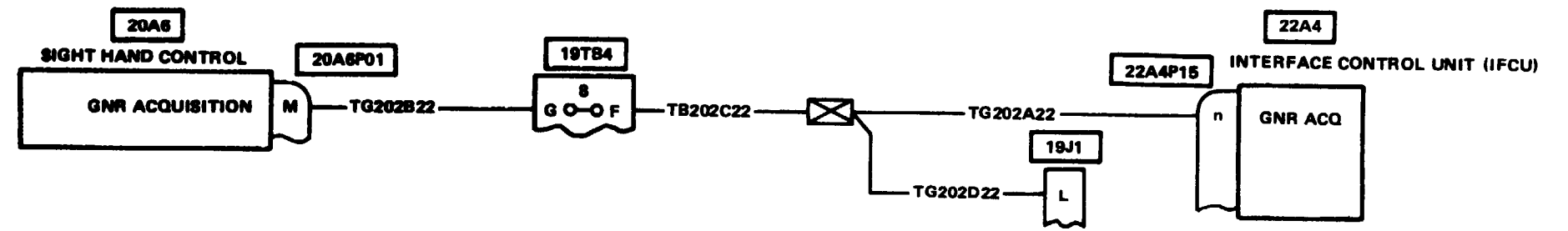
8-22. TSU WILL NOT ALIGN TO TARGET SELECTED WITH GUNNER HELMET SIGHT (CONTINUED).



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

YES

Replace interface control unit (IFCU) per TM 9-1090-206-12, Chapter 3, Section IV.
Then go to paragraph 8-2.



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

INITIAL SETUP

Applicable Configuration

Al 1

Tools/Test and Support Equipment

Multimeter

Tool Set, A/C Armament Repairman

Personnel Required

68J (2)

References

TM 9-1425-473-20

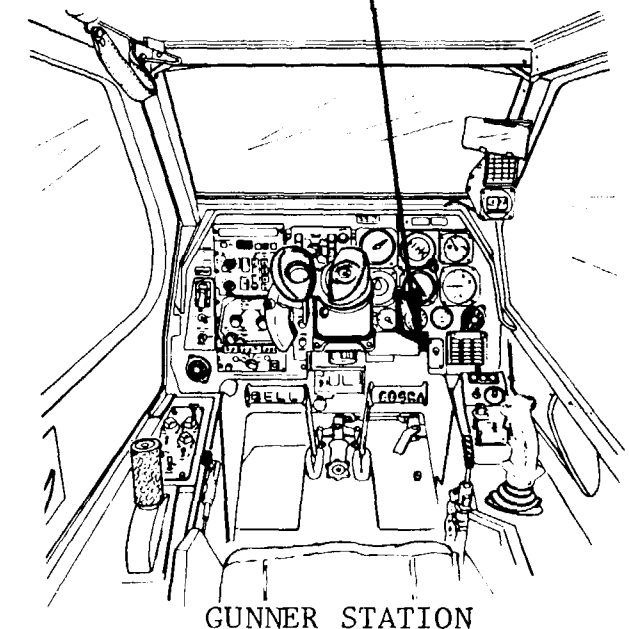
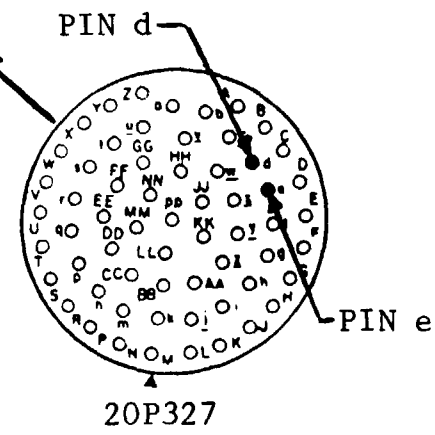
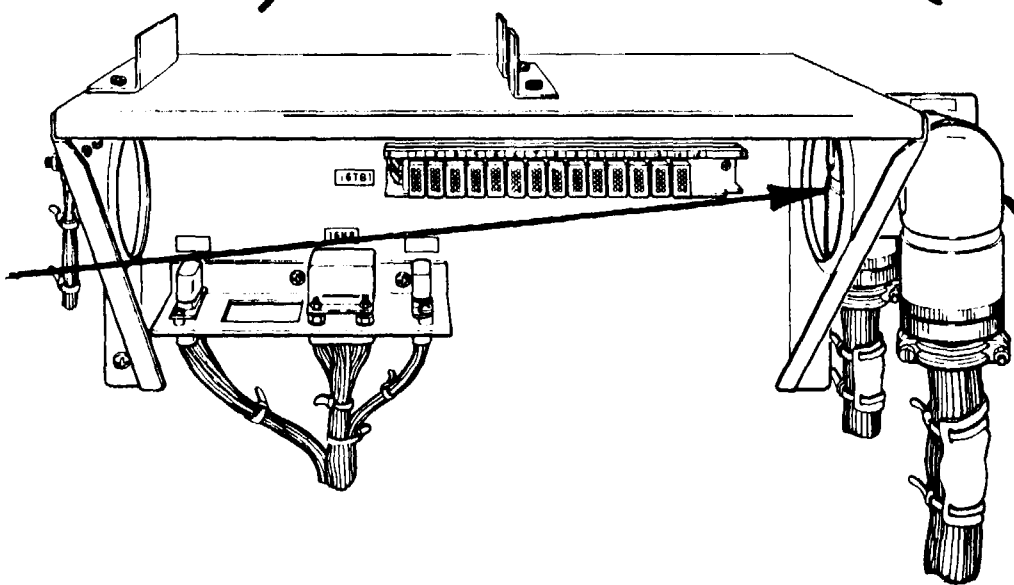
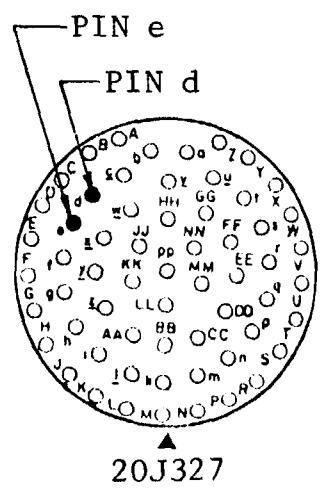
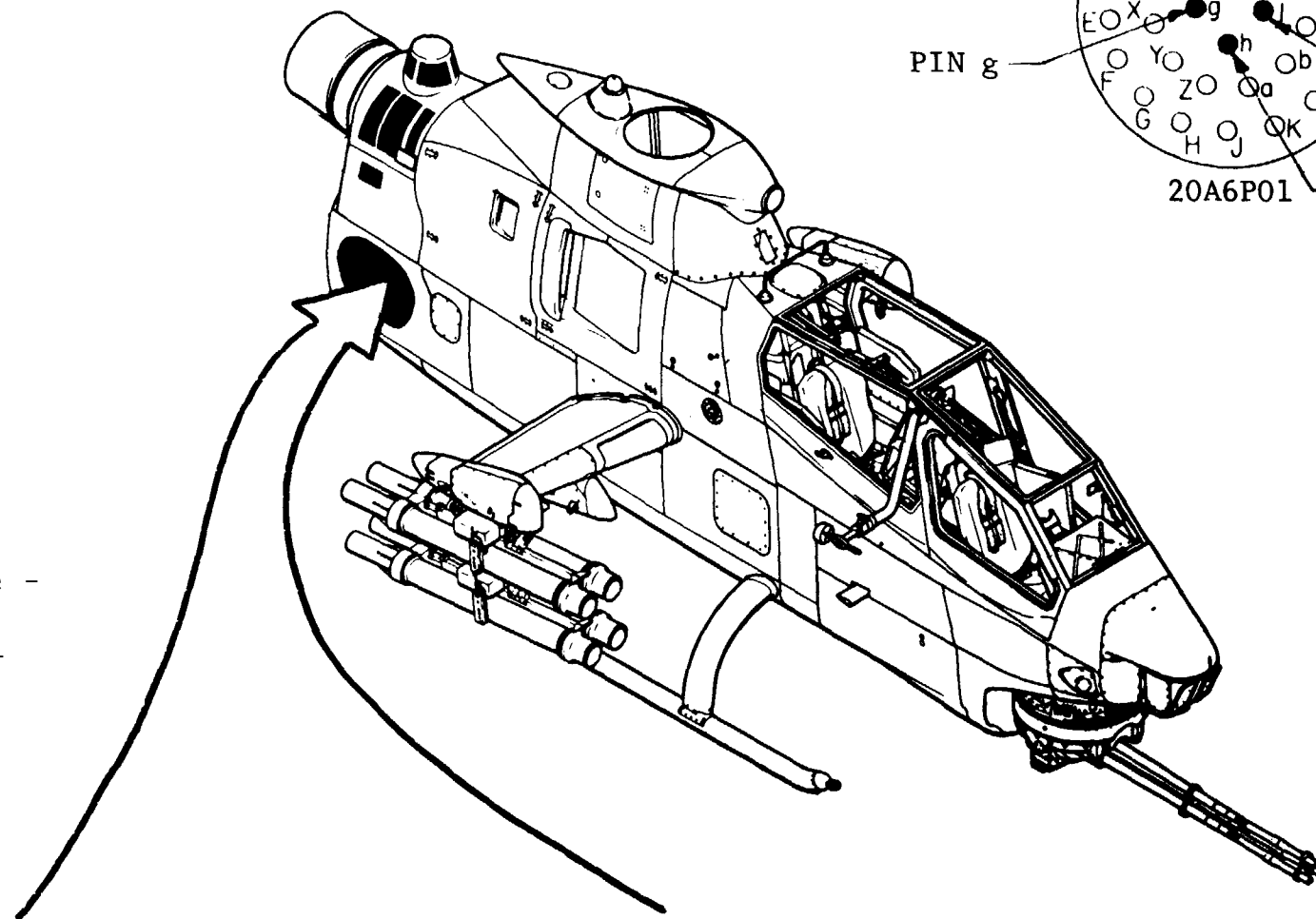
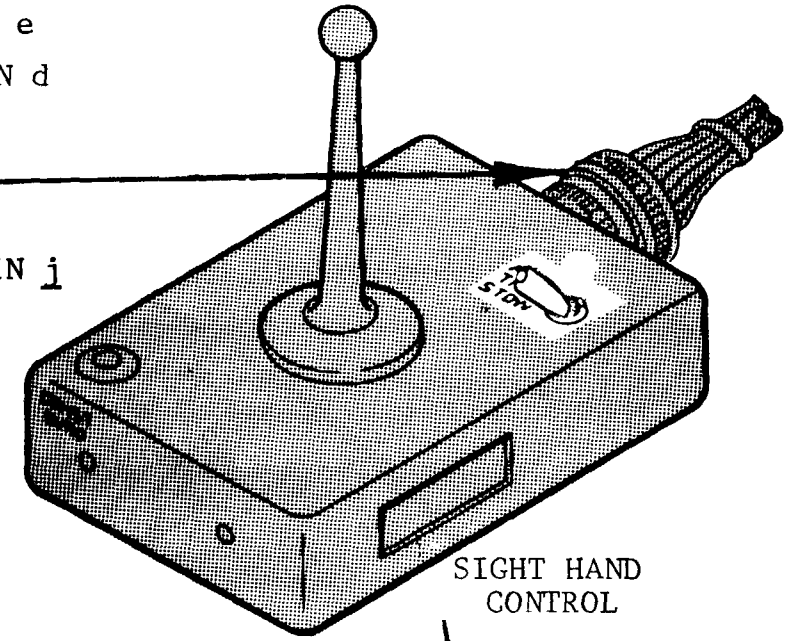
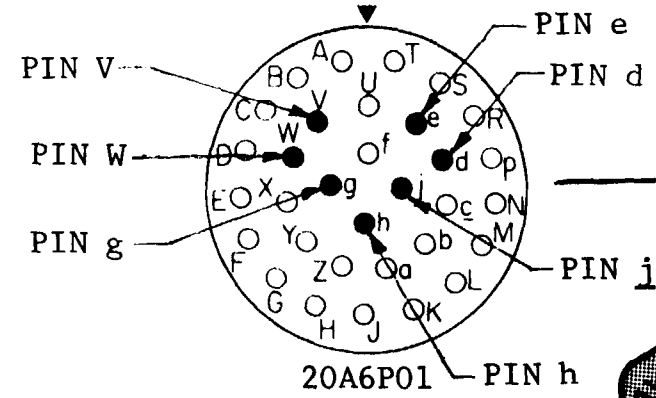
Access Panels

Battery Compartment - Removed

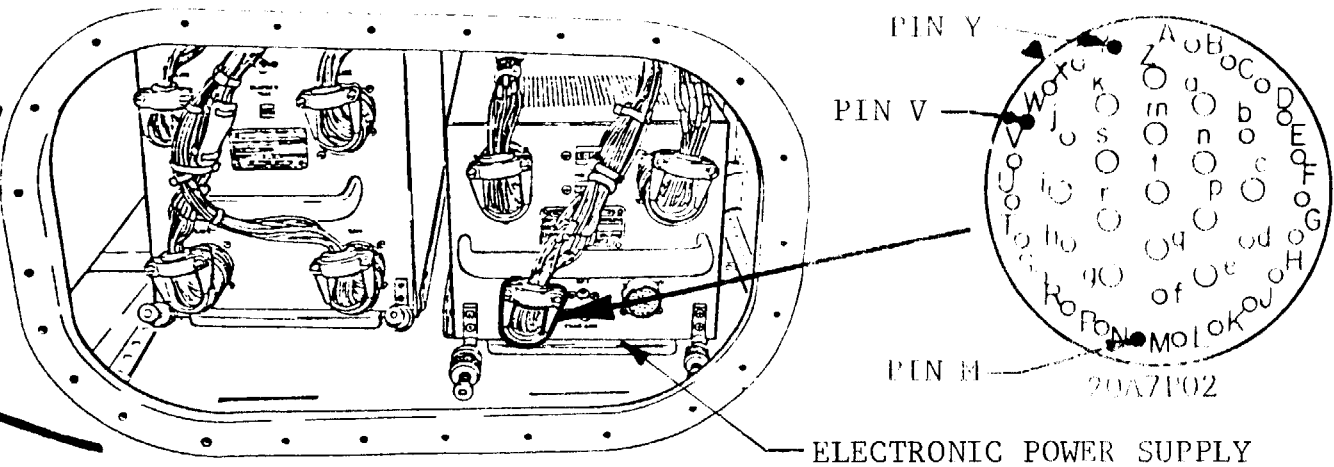
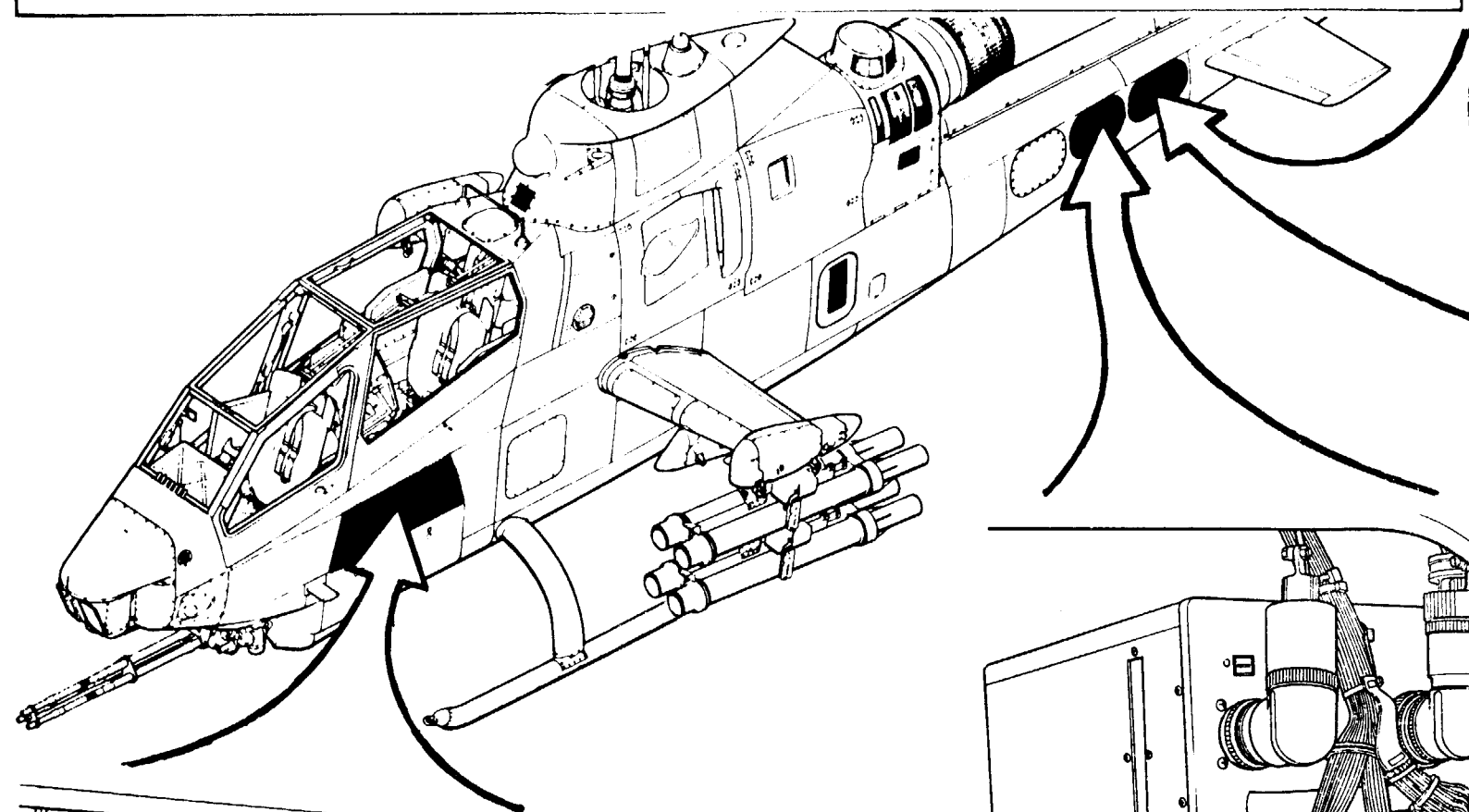
Left Side Control Linkage - Removed

Middle Electronics (Tail-boom) - Removed

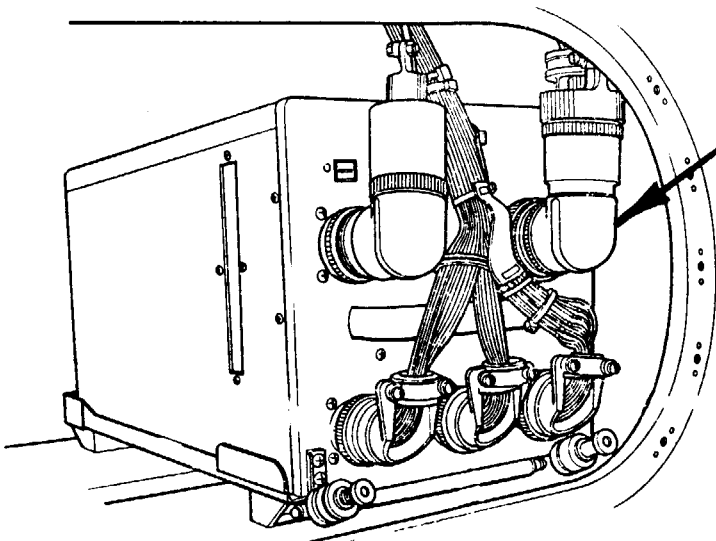
Aft Electronics (Tail-boom) - Removed



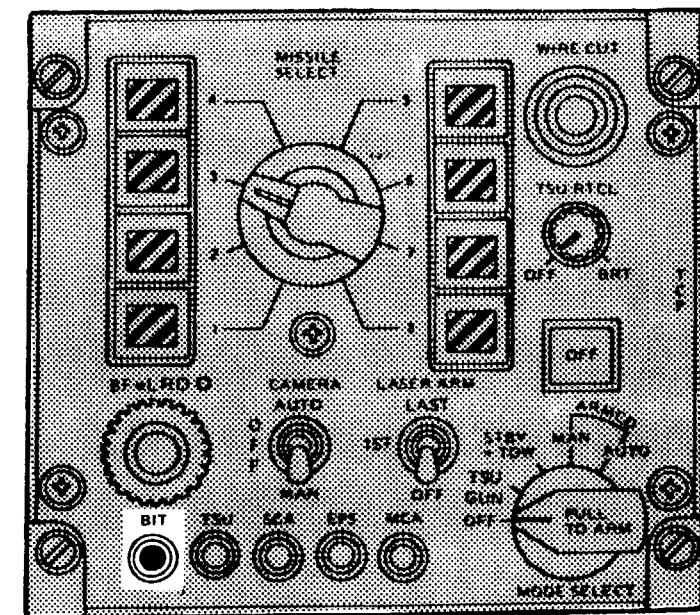
8-23. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).



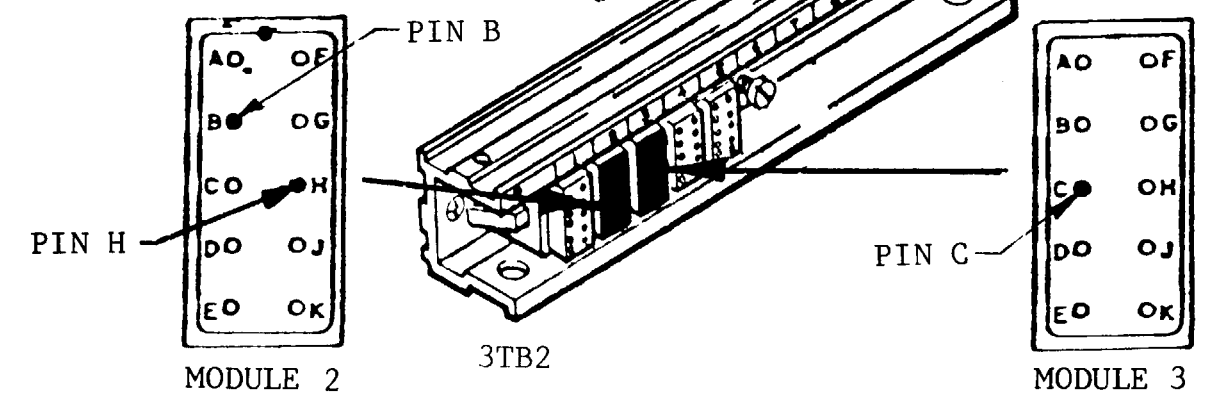
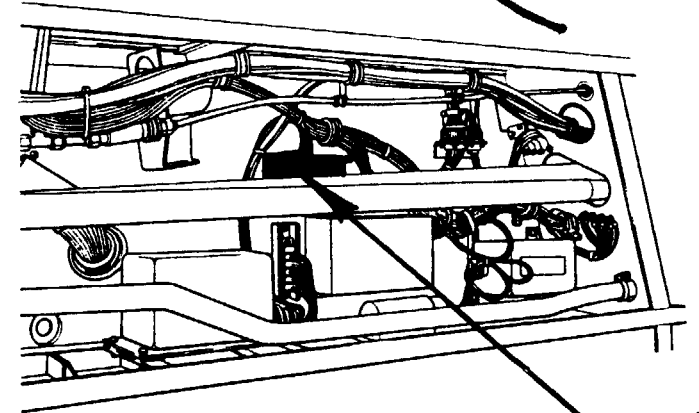
ELECTRONIC POWER SUPPLY (EPS)



STABILIZATION CONTROL AMPLIFIER (SCA)



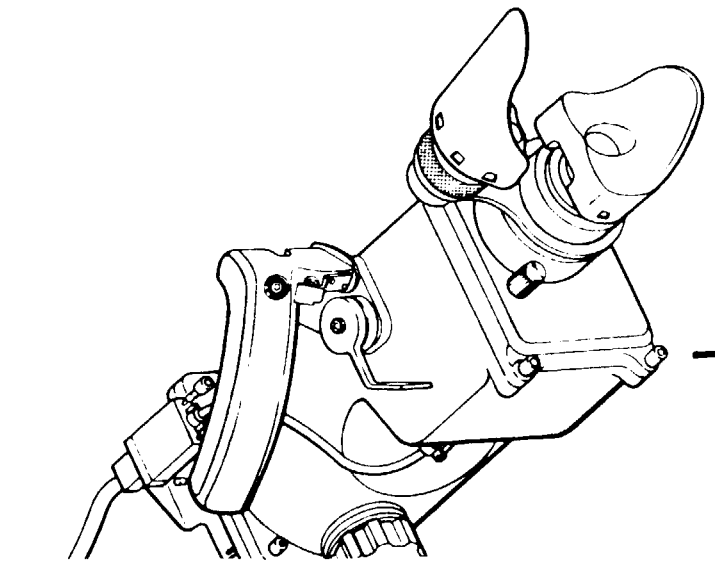
TCP (TOW CONTROL PANEL)



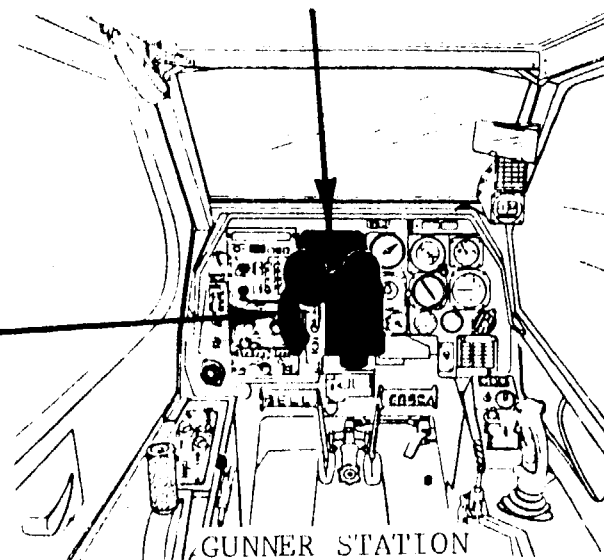
MODULE 2

3TB2

MODULE 3

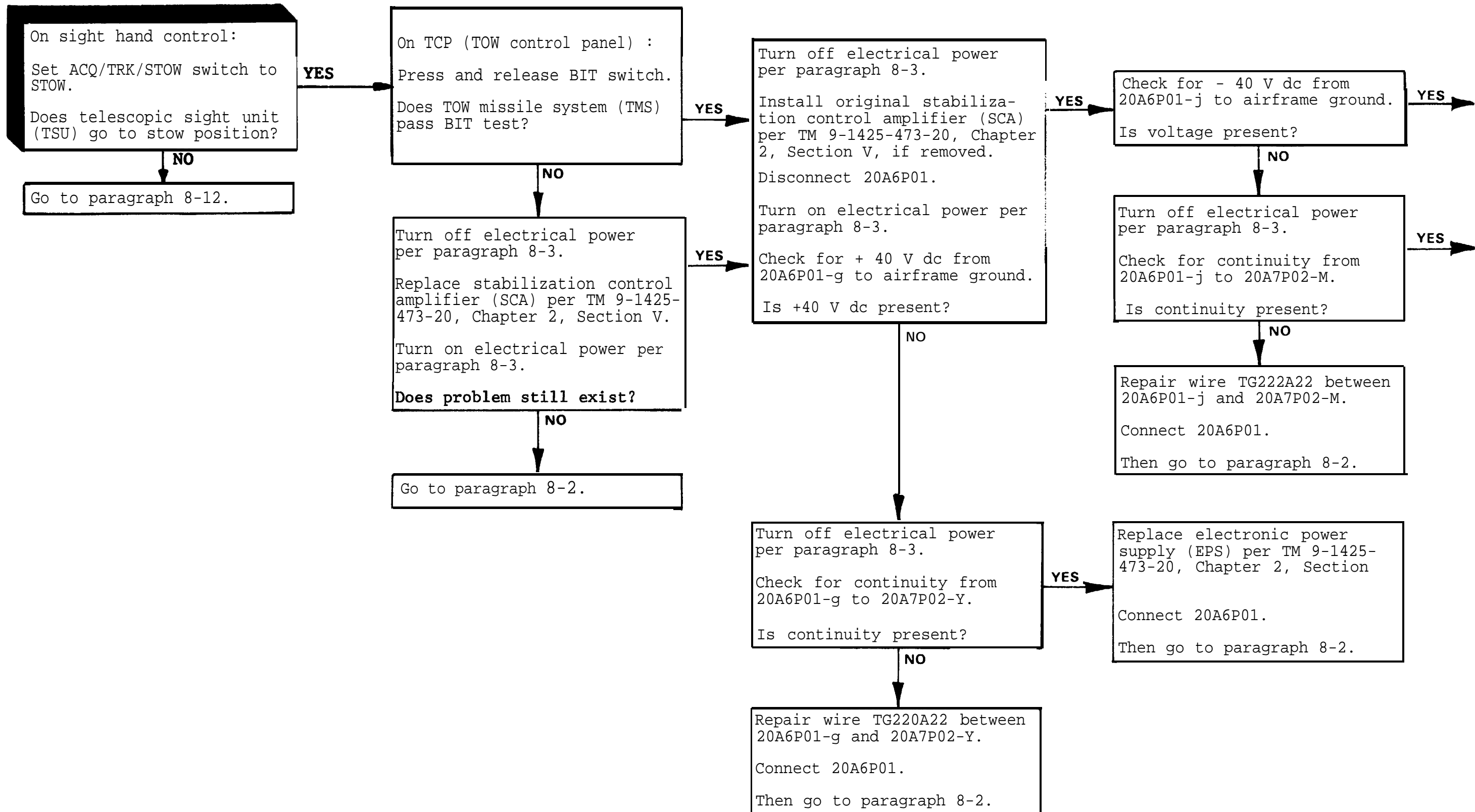


TELESCOPIC SIGHT UNIT (TSU)

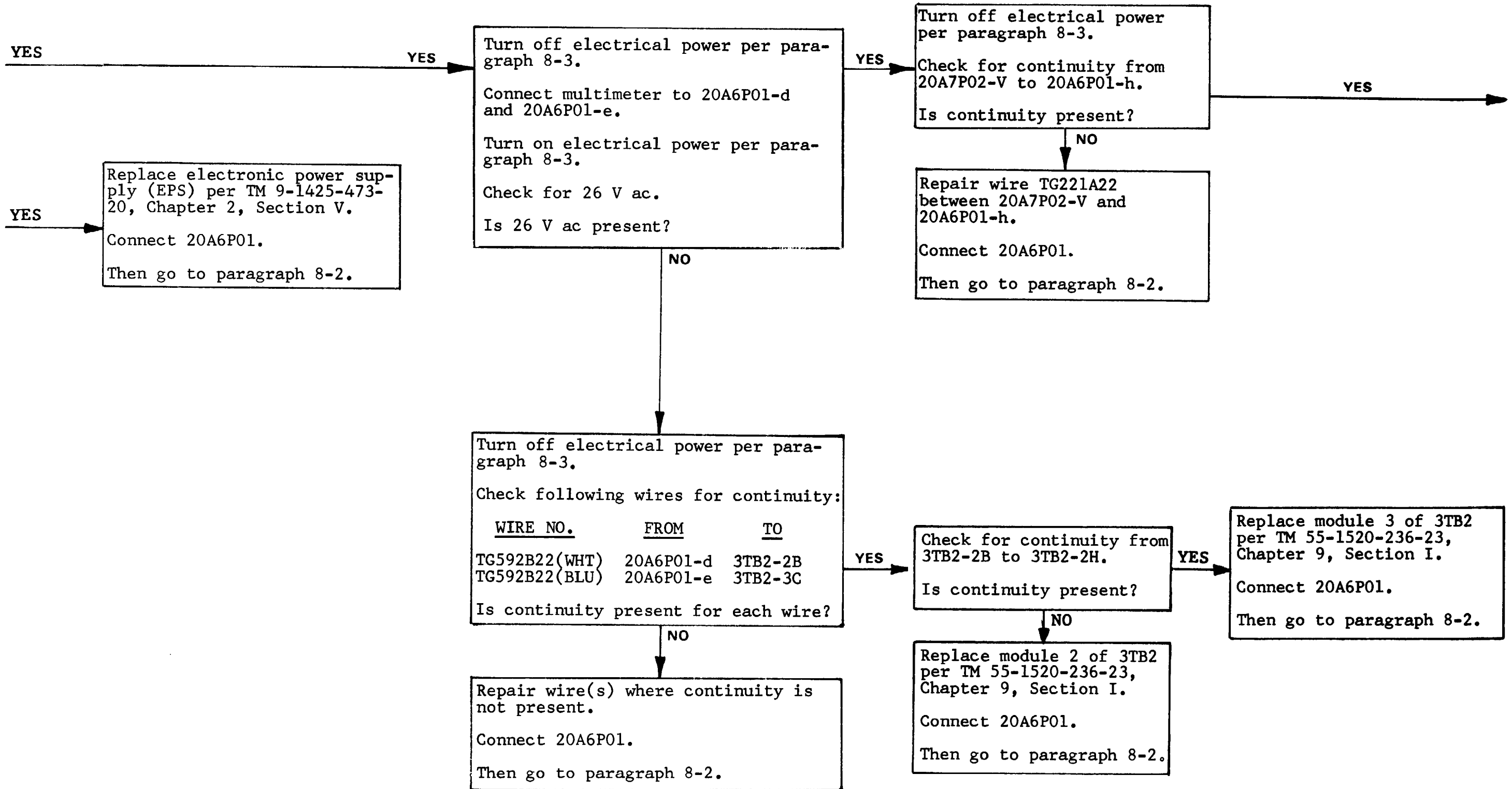


GUNNER STATION

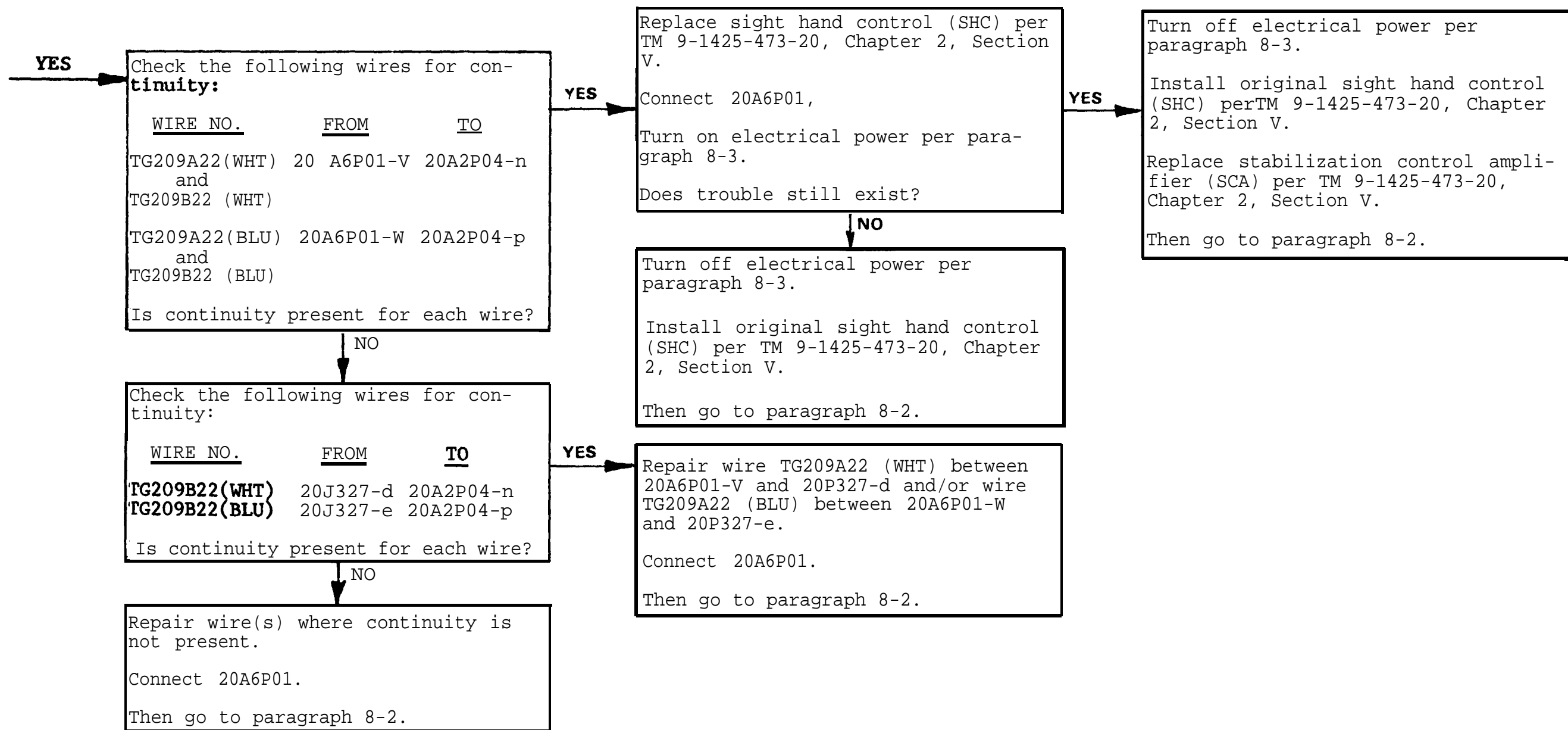
8-23. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).



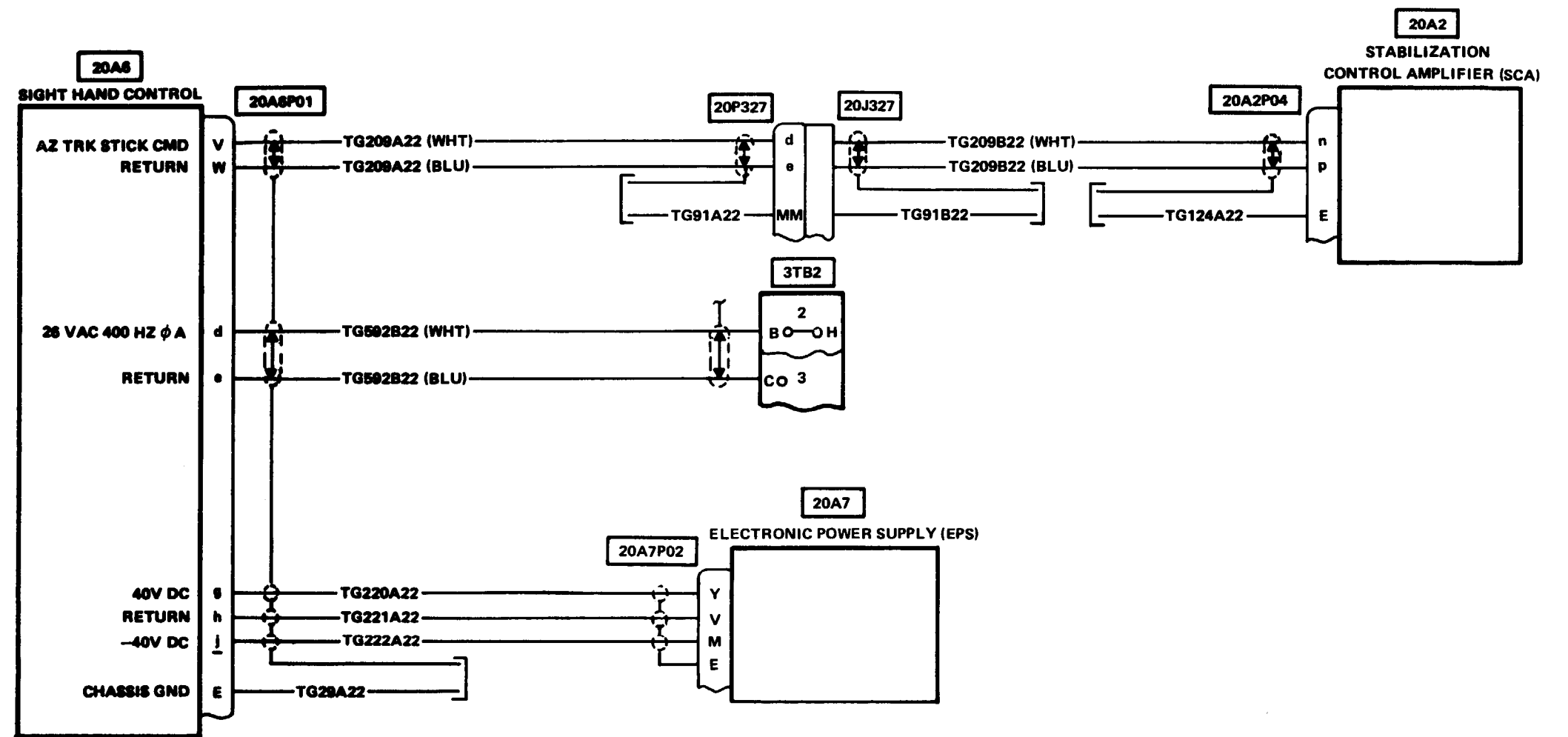
8-23. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN AZIMUTH (CONTINUED).



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



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



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

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

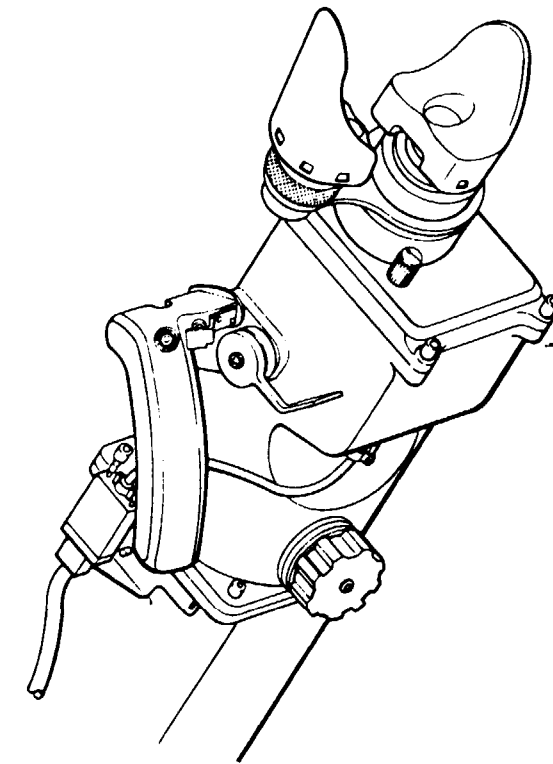
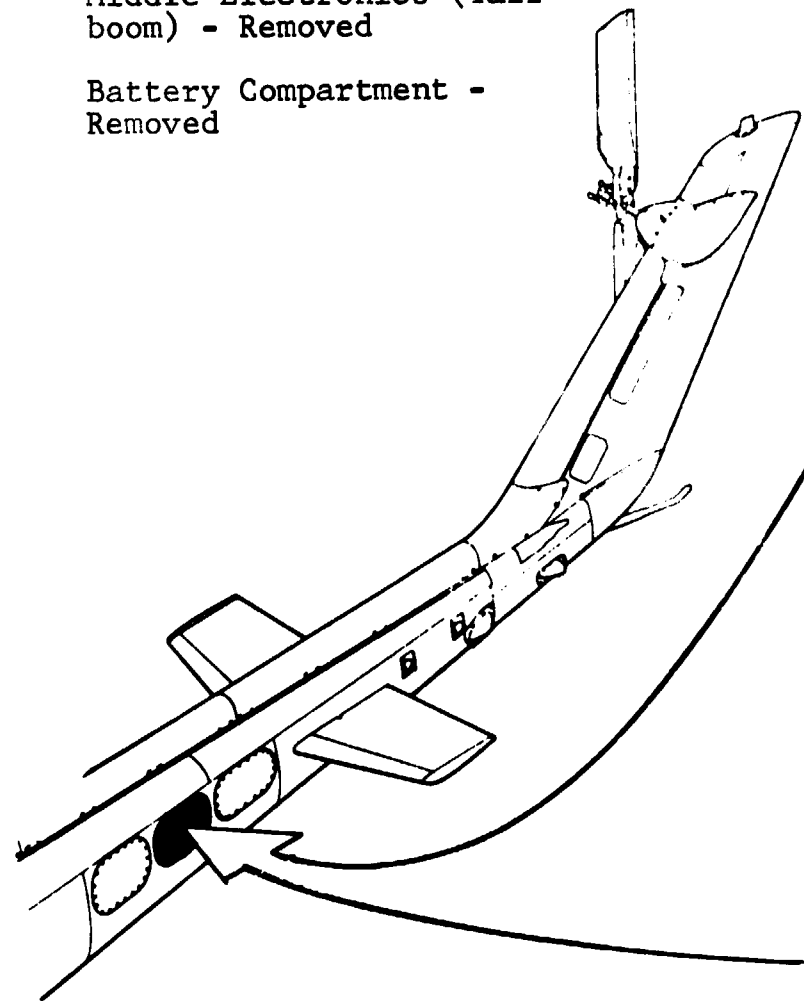
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

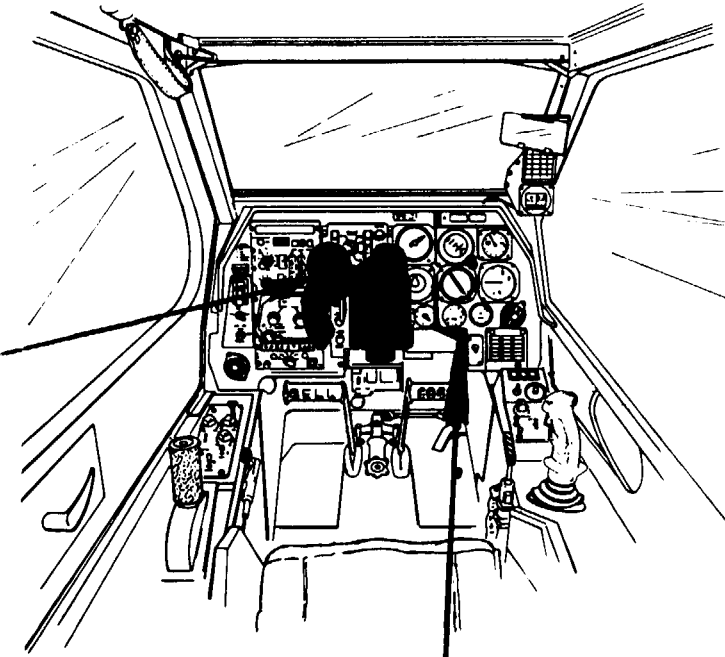
References
TM 9-1425-473-20

Access Panels
Middle Electronics (Tail-boom) - Removed

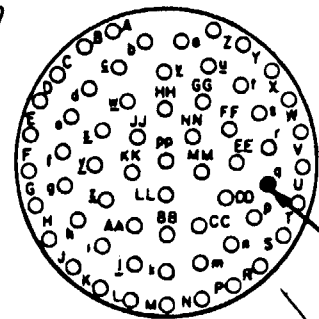
Battery Compartment - Removed



TELESCOPIC SIGHT UNIT (TSU)



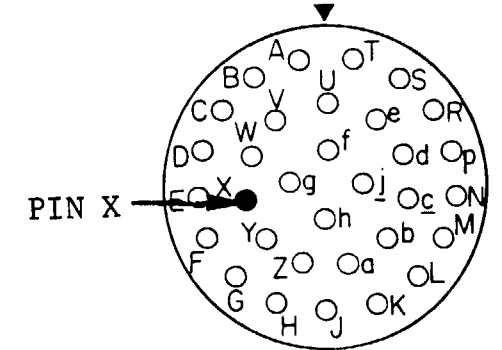
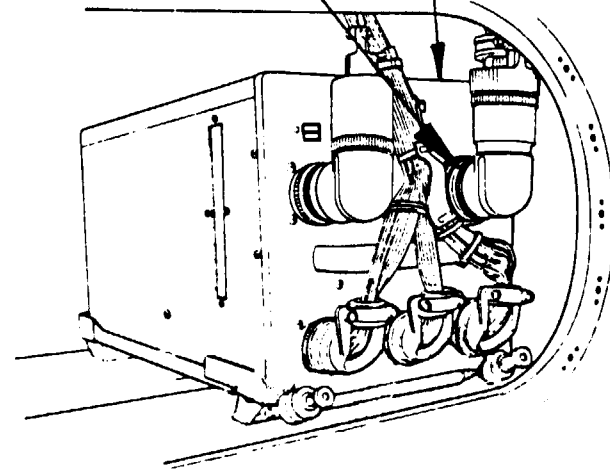
GUNNER STATION



PIN q

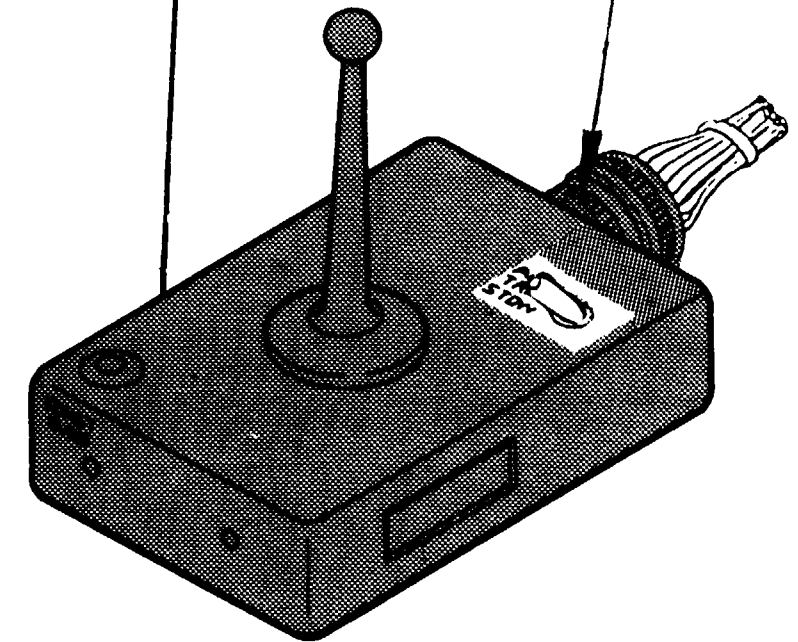
20A2P04

STABILIZATION CONTROL AMPLIFIER (SCA)



PIN X

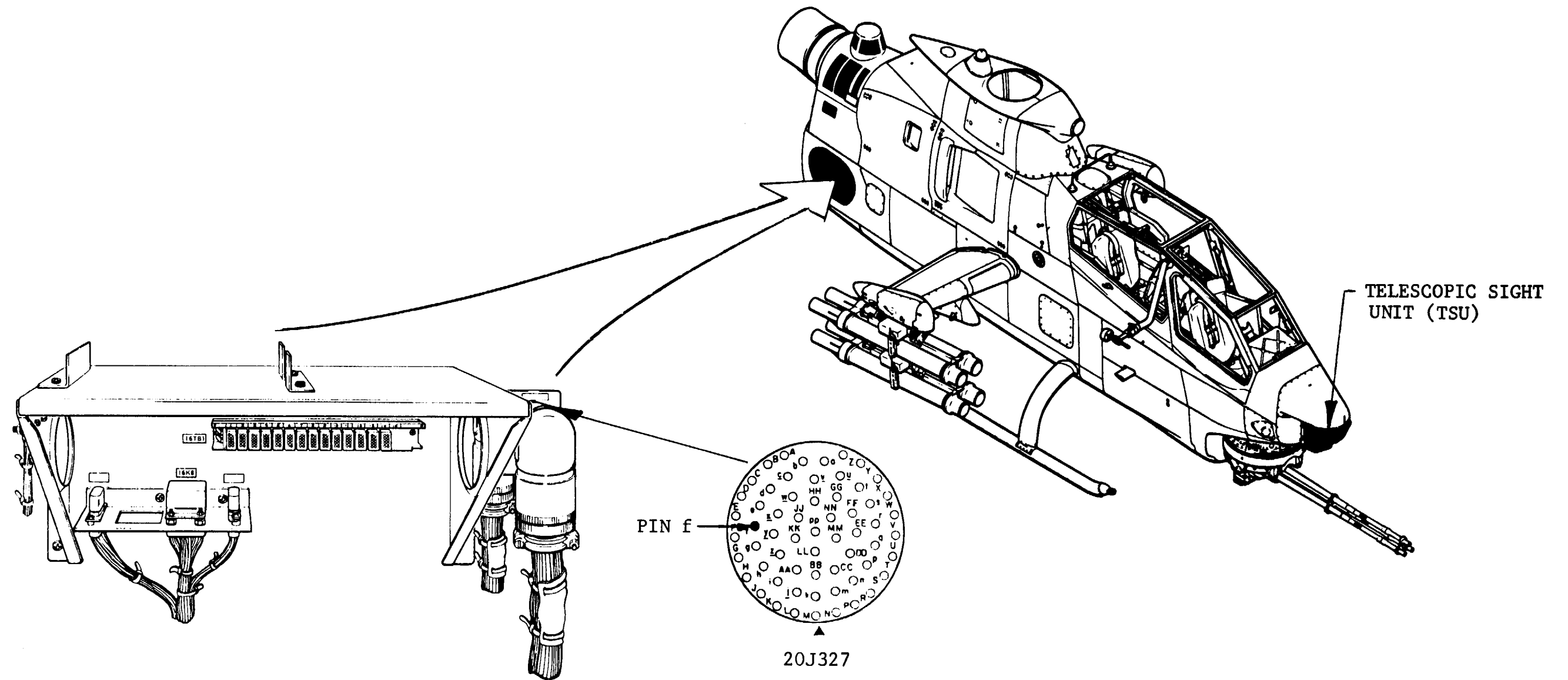
20A6P01



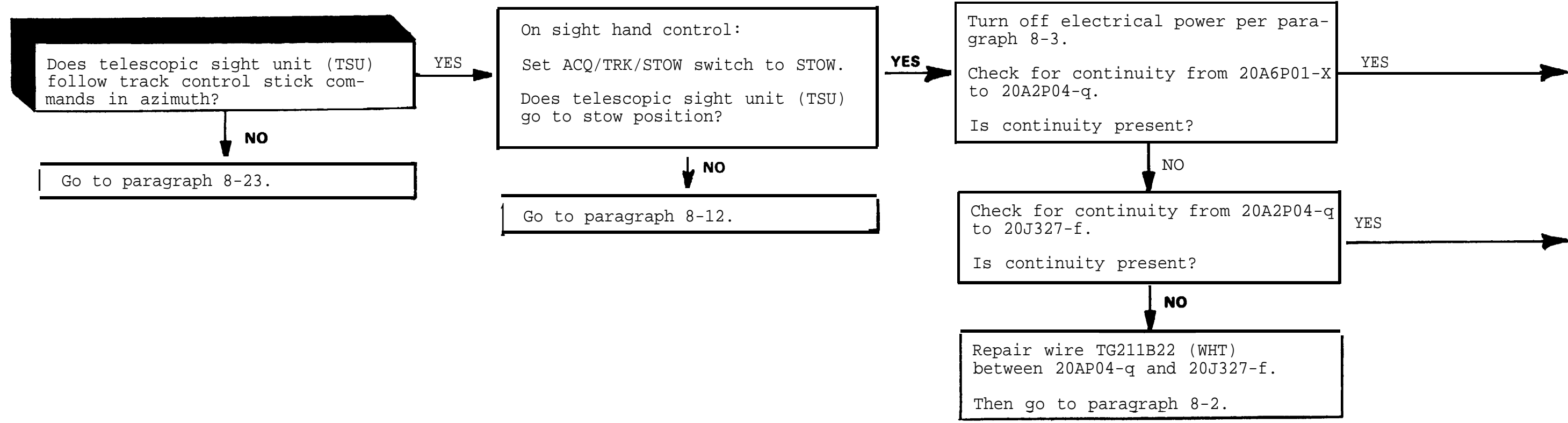
SIGHT HAND CONTROL

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

(CONTINUED).



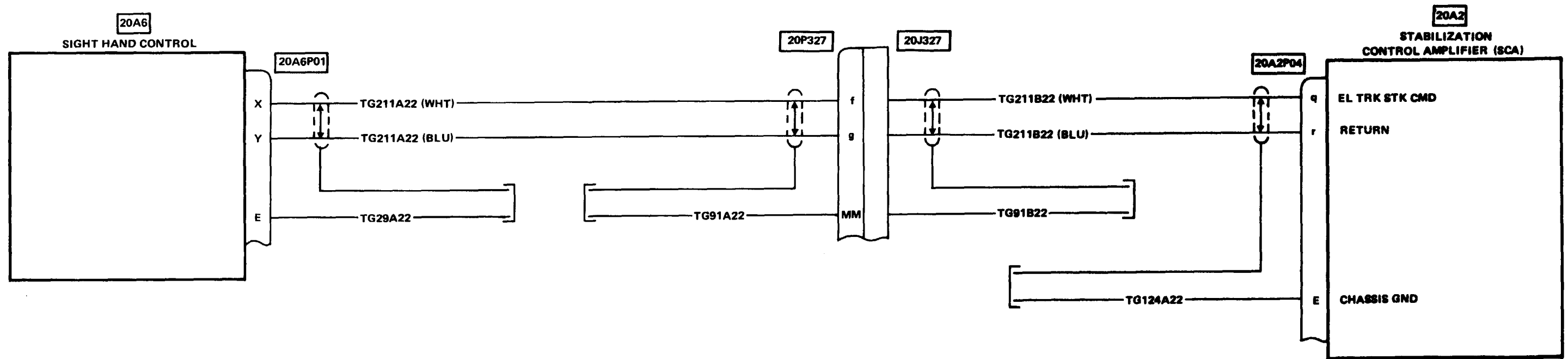
8-24. TSU WILL NOT FOLLOW TRACK CONTROL STICK COMMANDS IN ELEVATION (CONTINUED).



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.



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

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

References

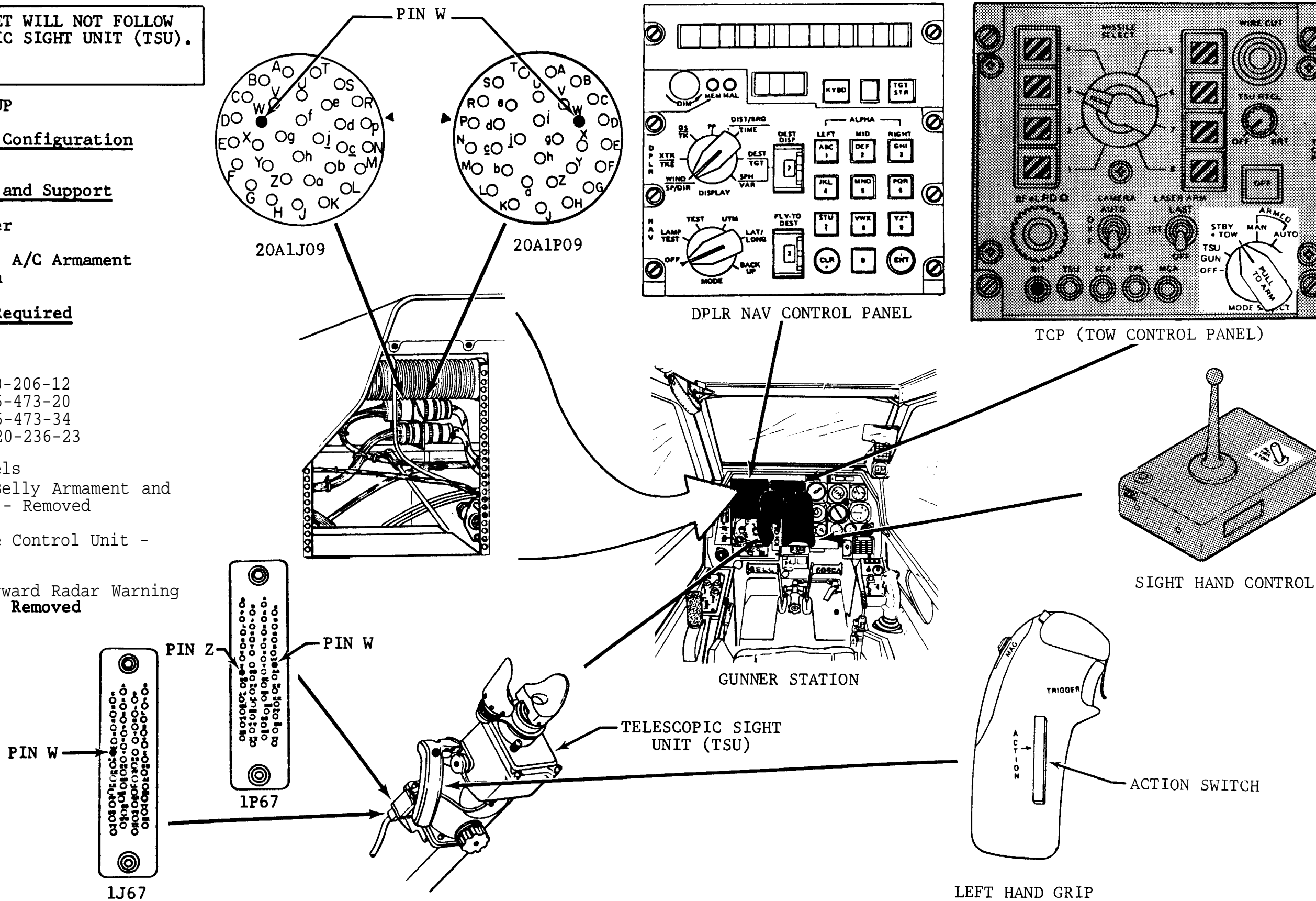
- TM 9-1090-206-12
- TM 9-1425-473-20
- TM 9-1425-473-34
- TM 55-1520-236-23

Access Panels

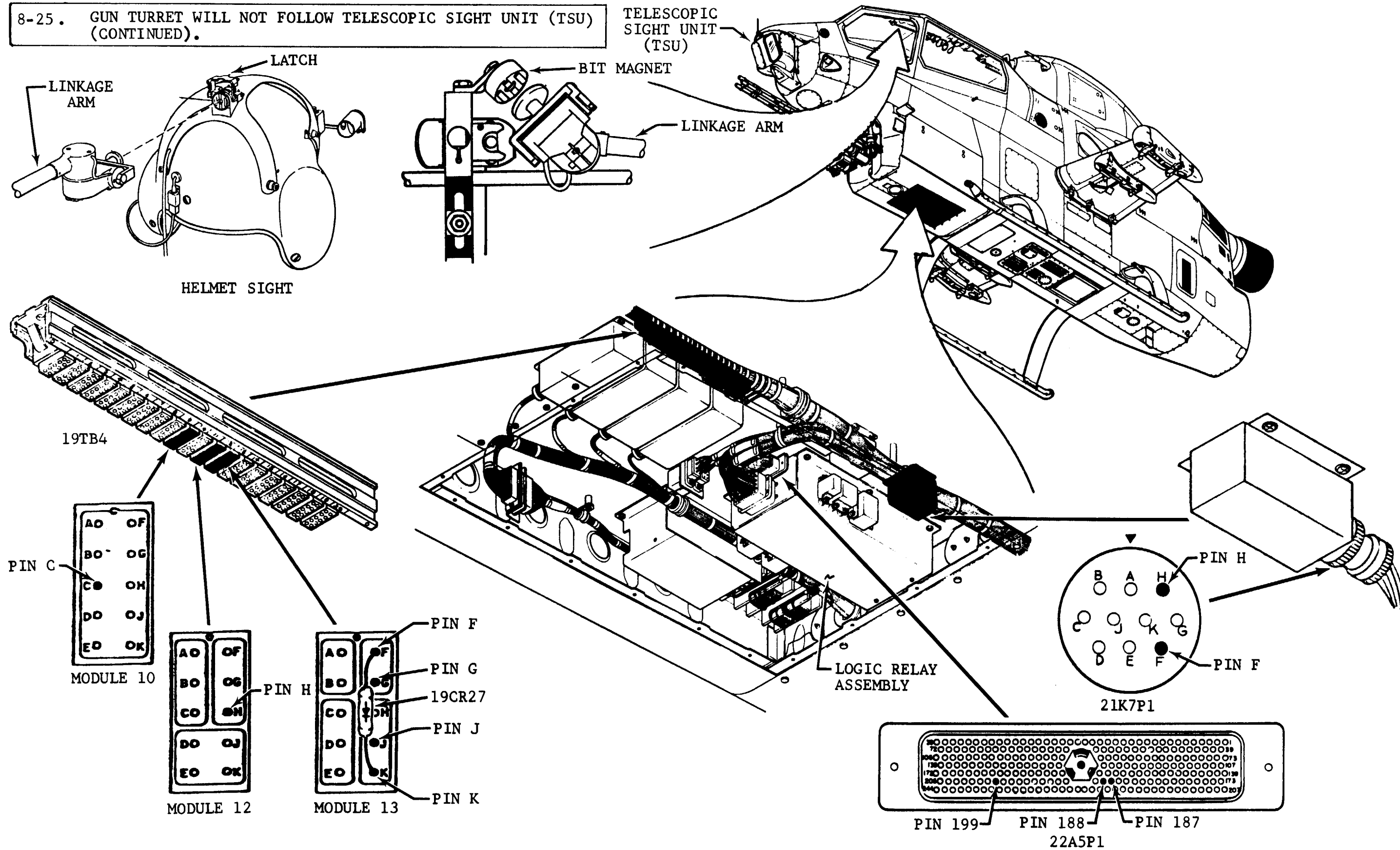
Forward Belly Armament and Lighting - Removed

Interface Control Unit - Removed

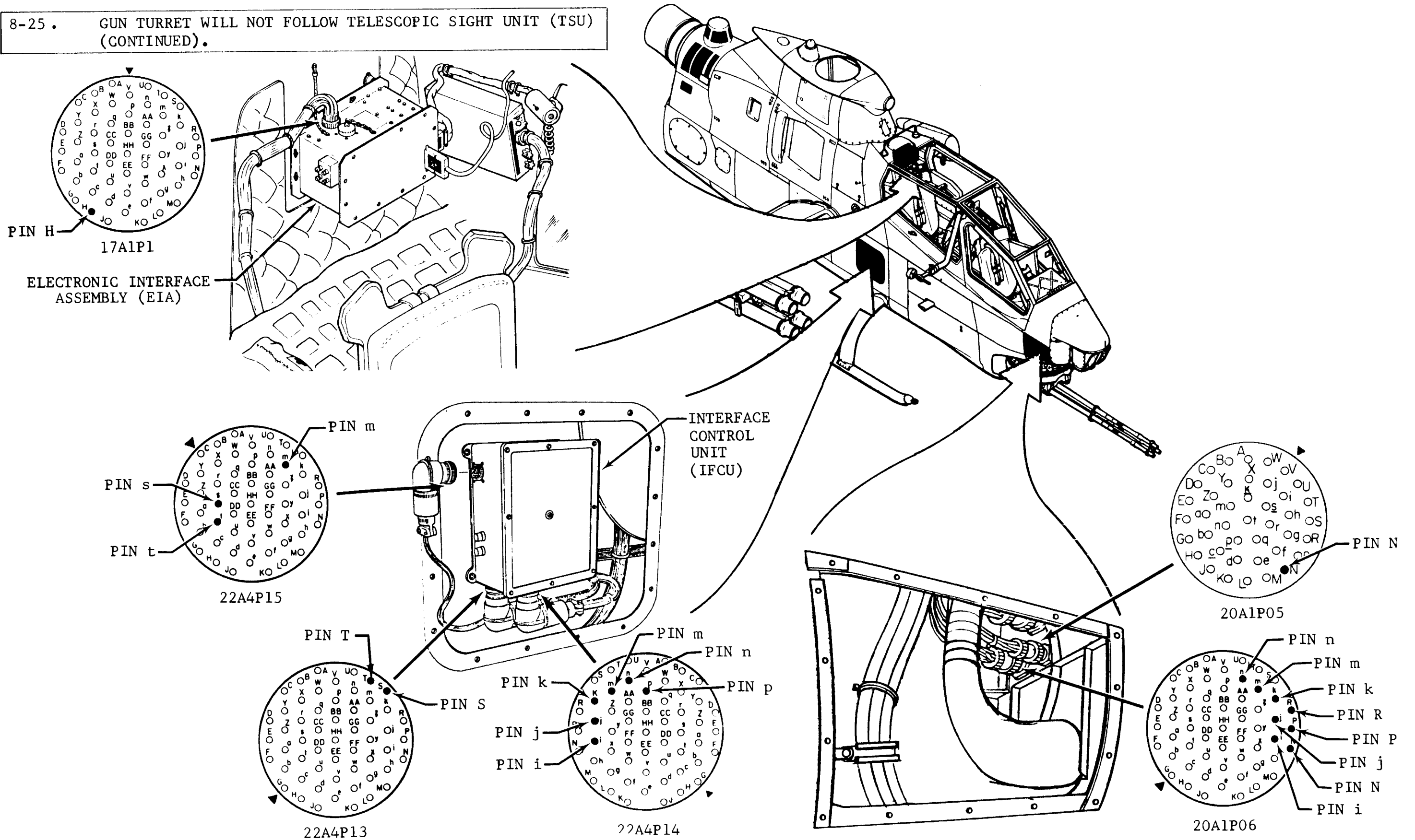
Right Forward Radar Warning Antenna - Removed



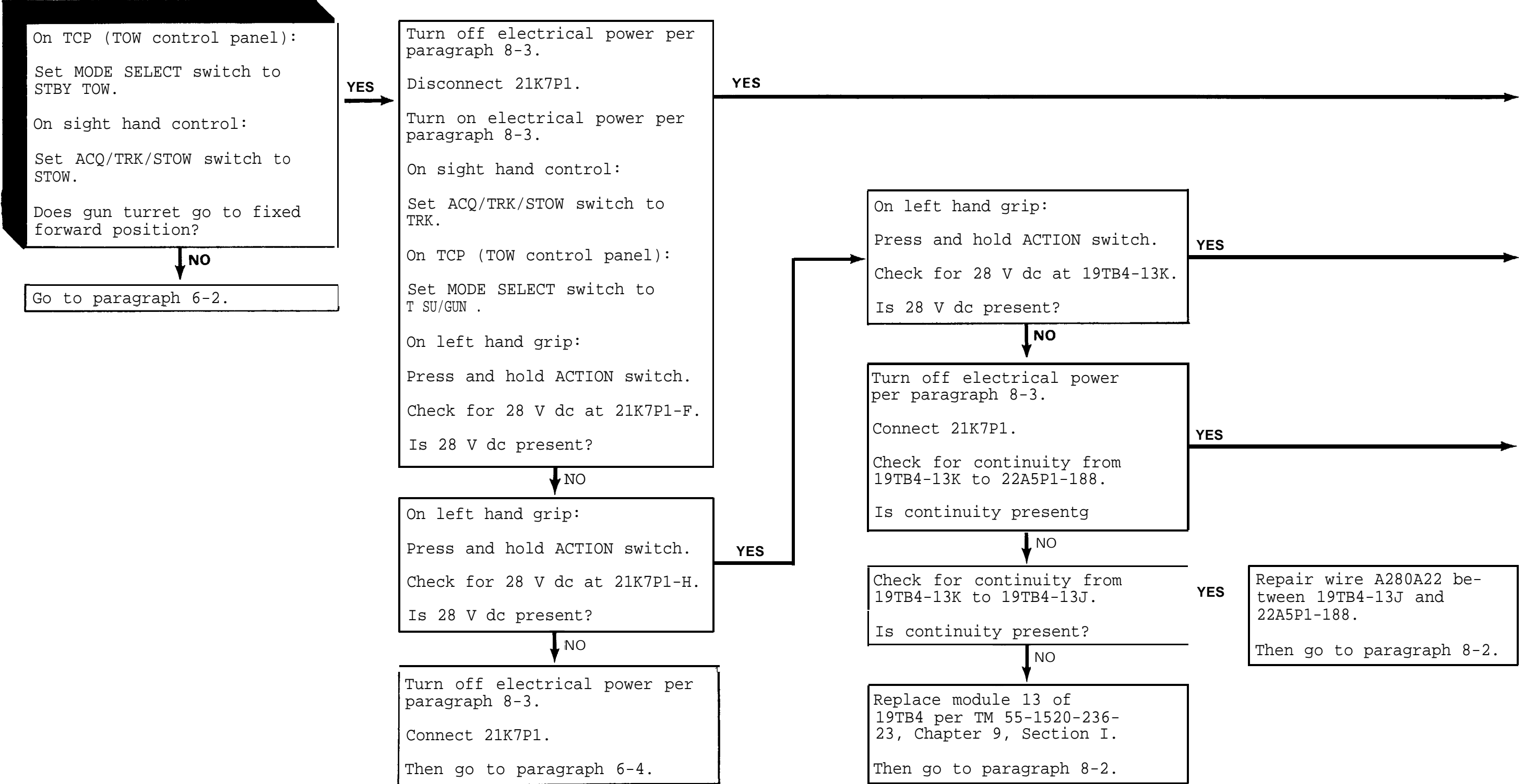
8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU) (CONTINUED).



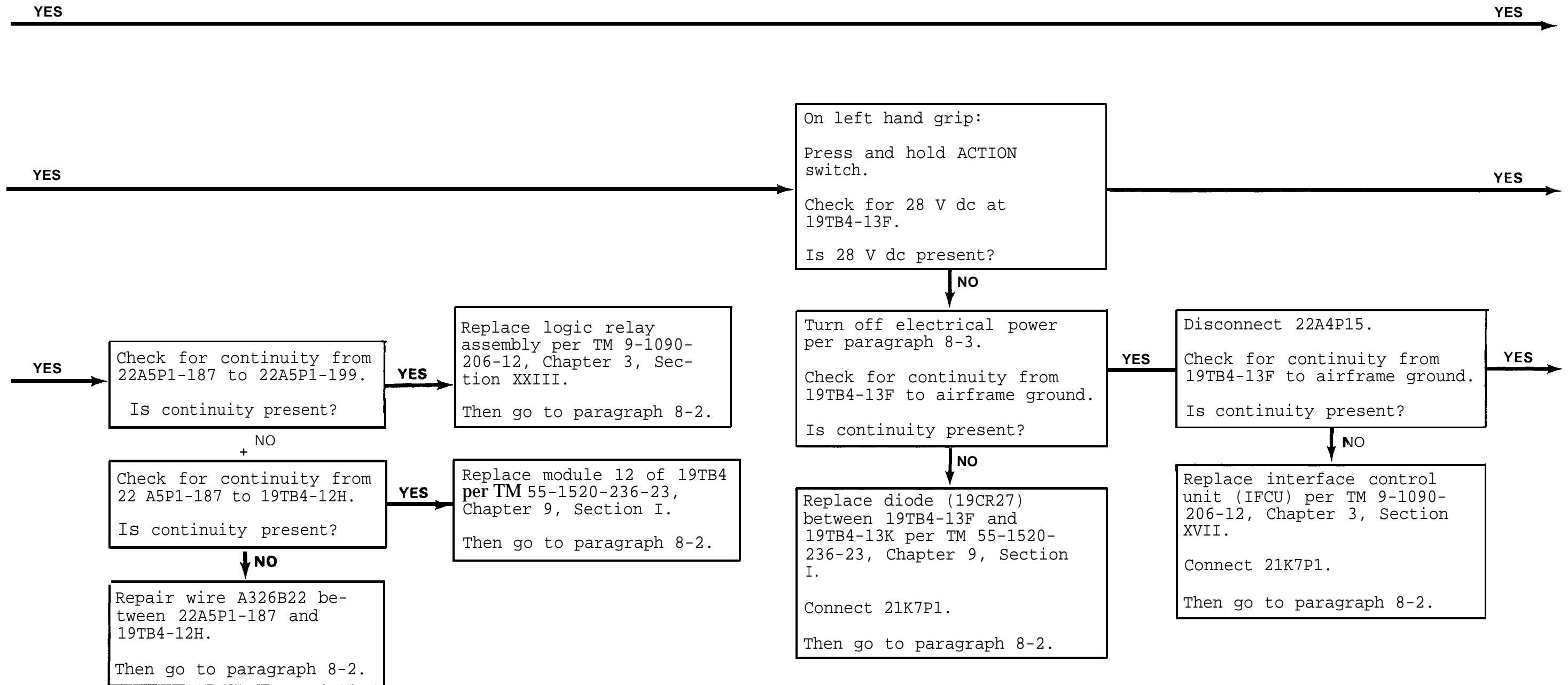
8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



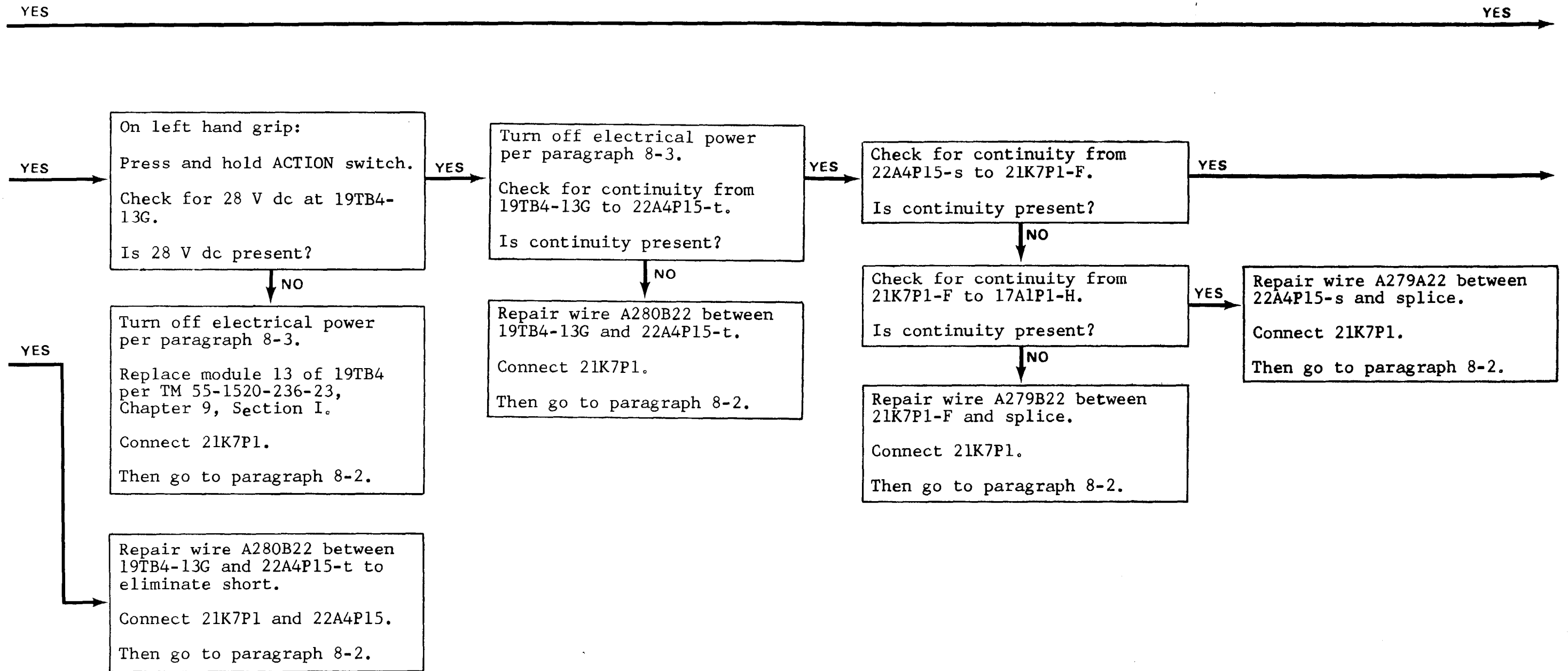
8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



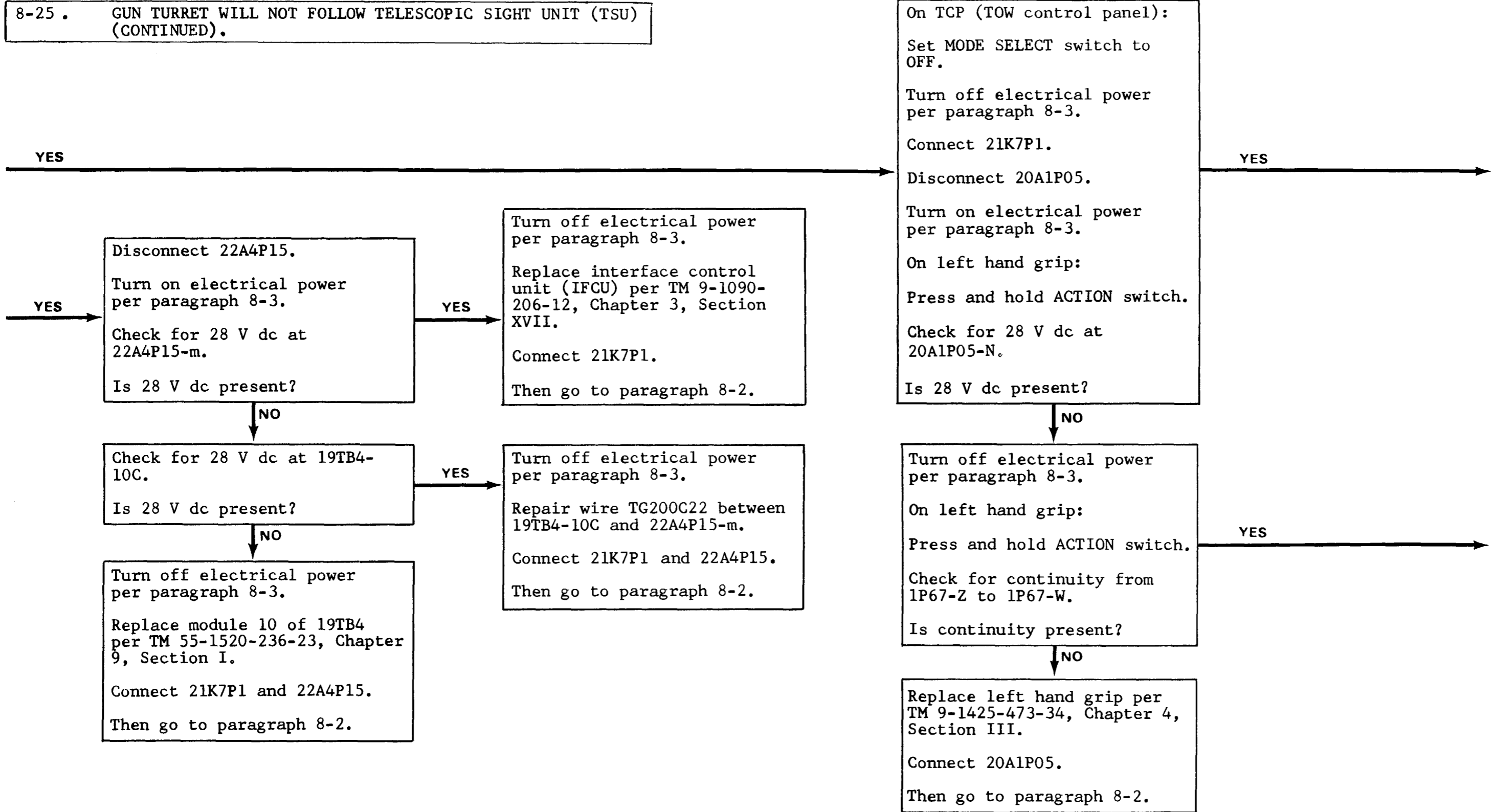
8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED) .



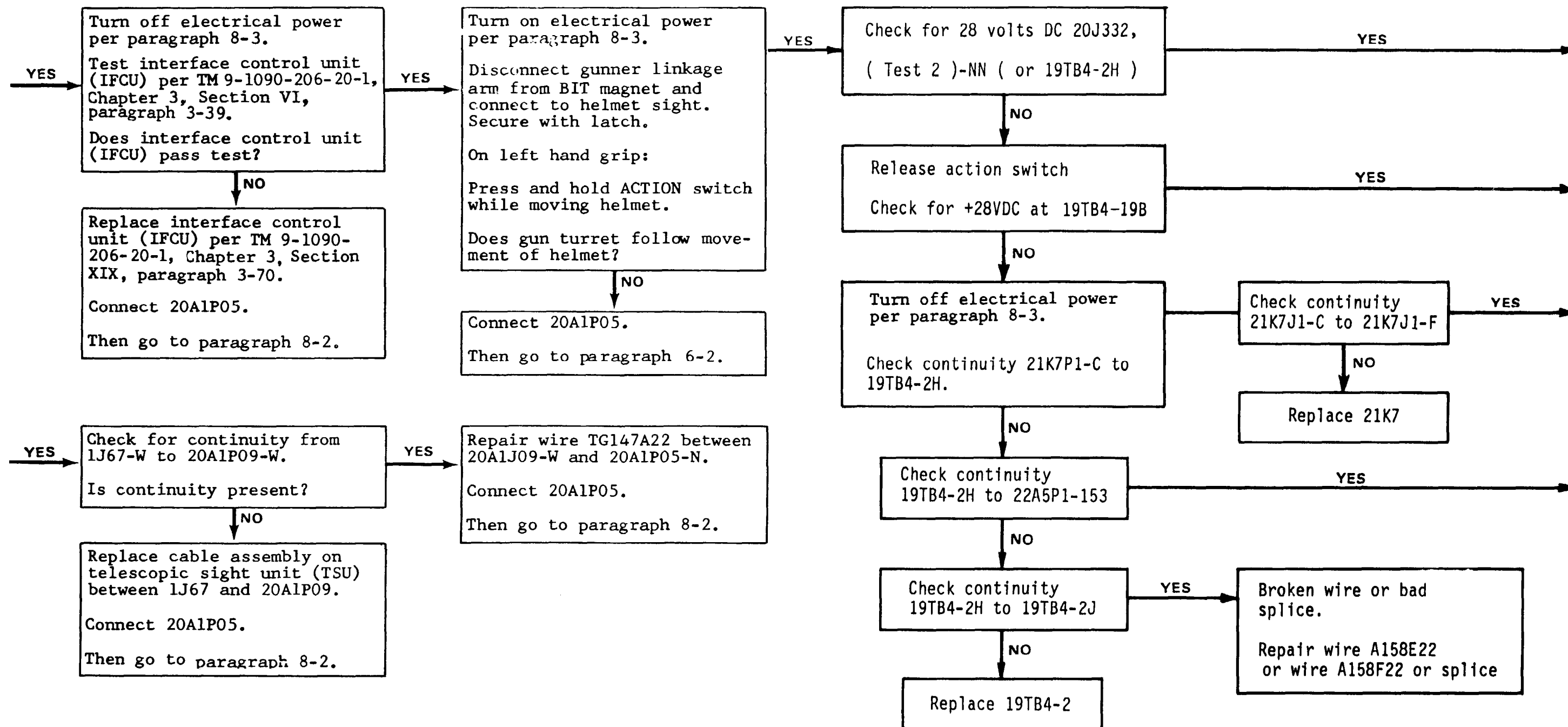
8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



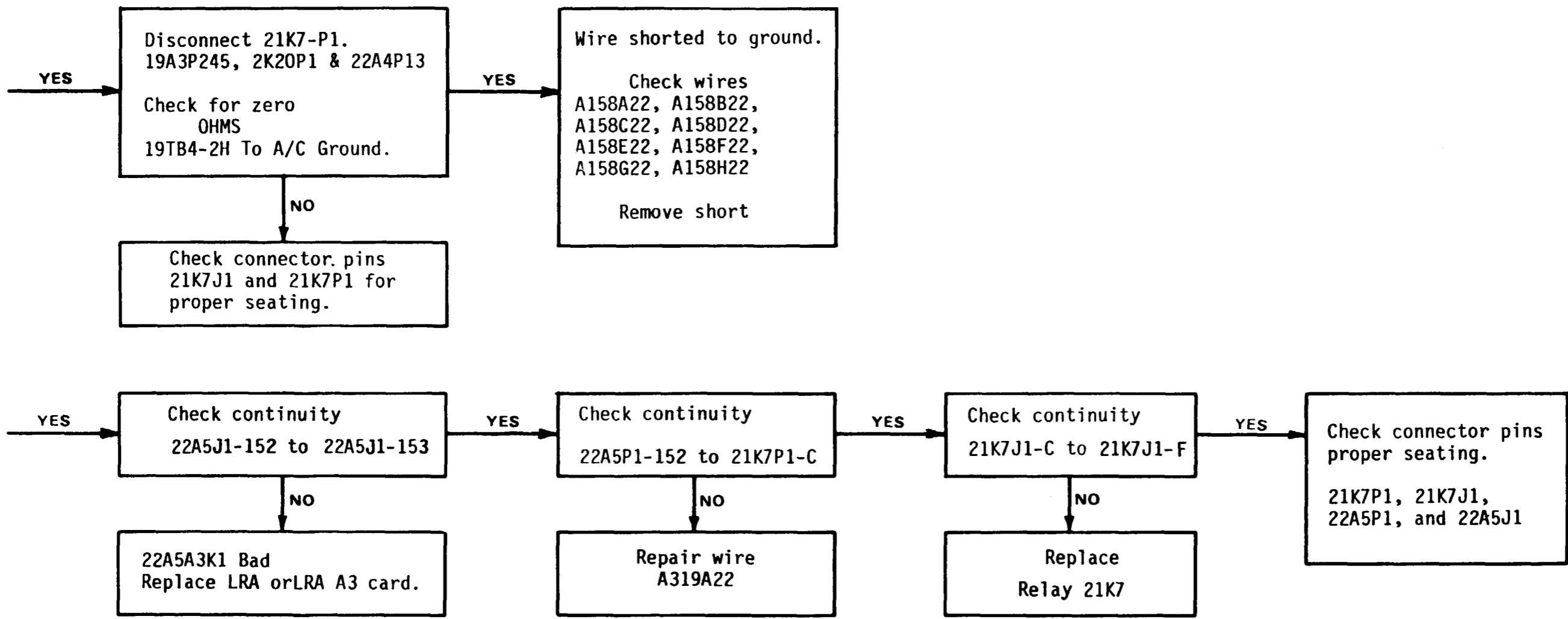
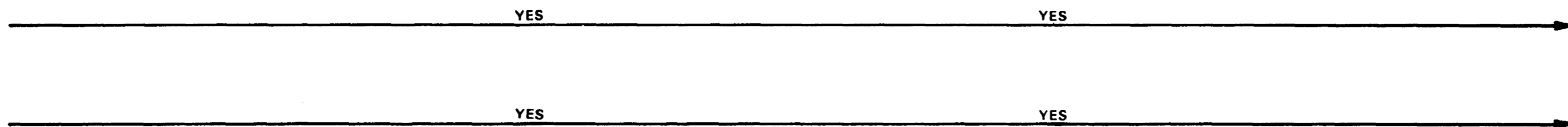
8-25 . GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



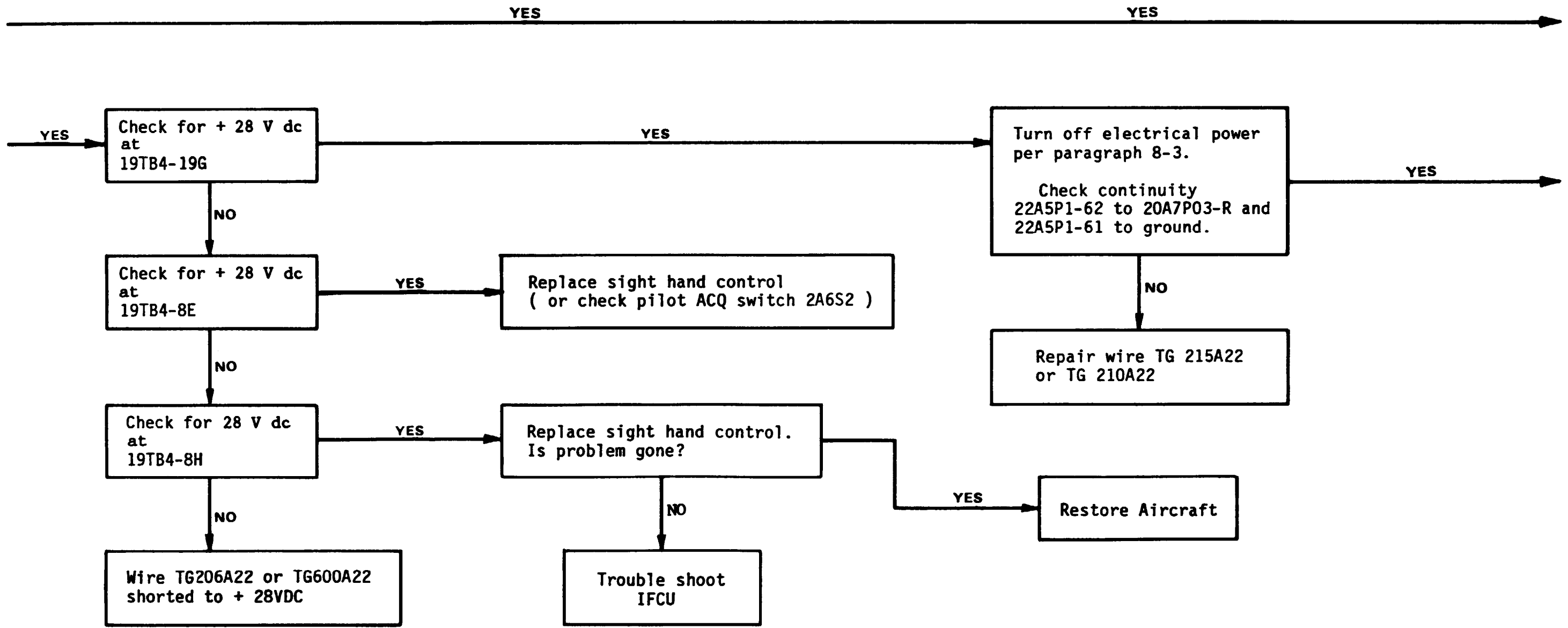
8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



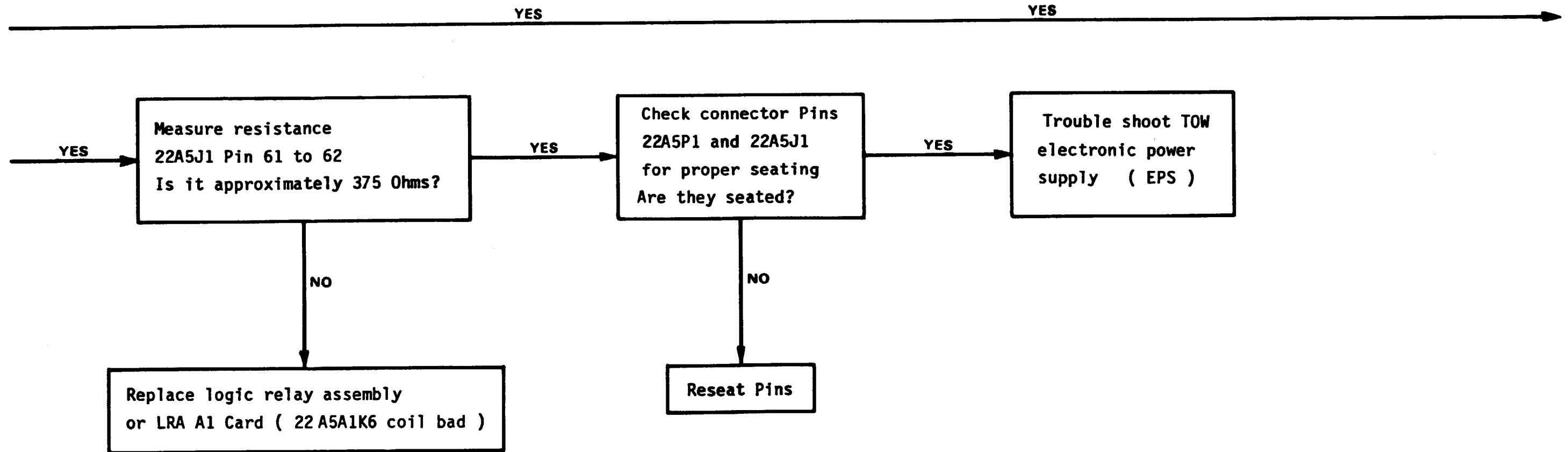
8-25 . GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



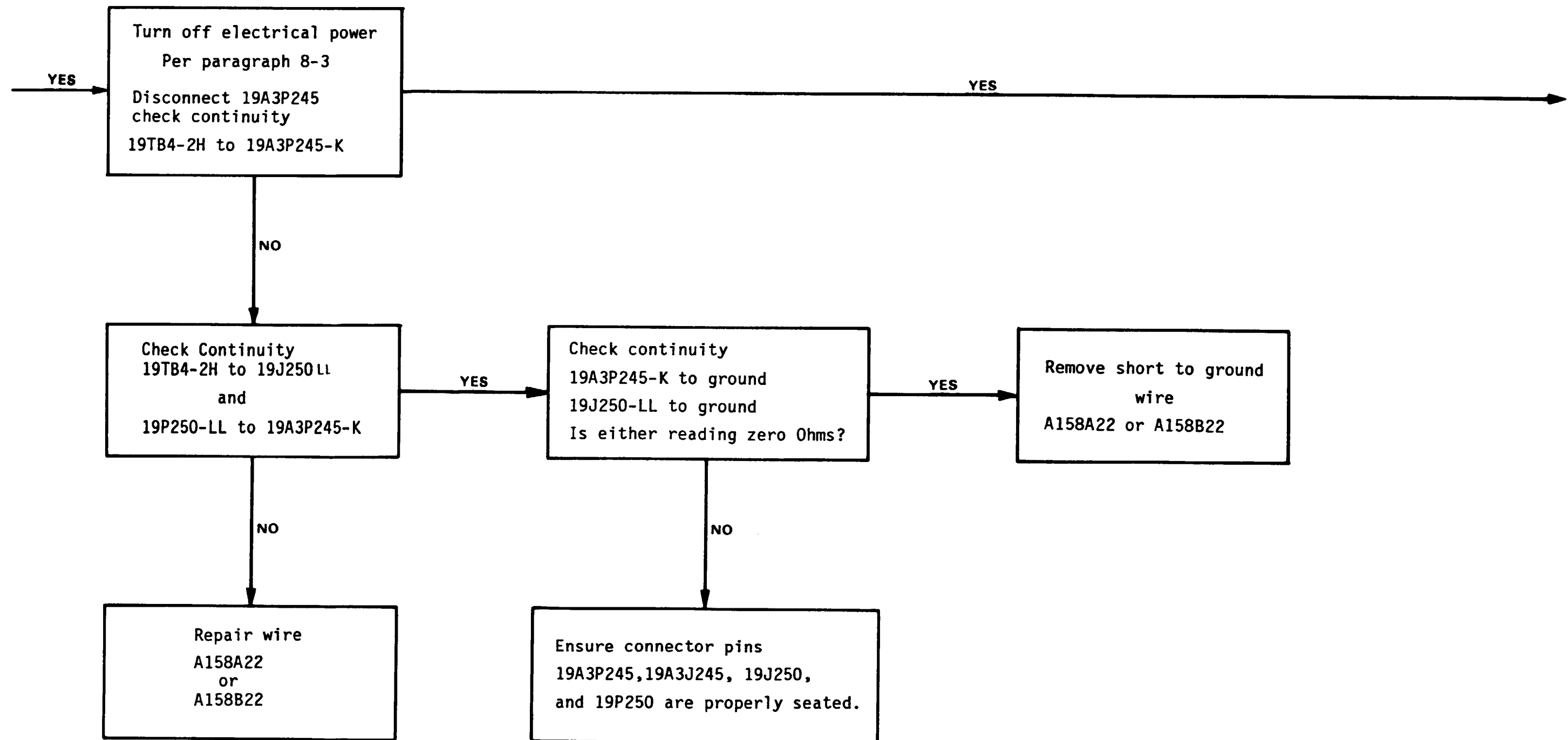
8-25 . GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



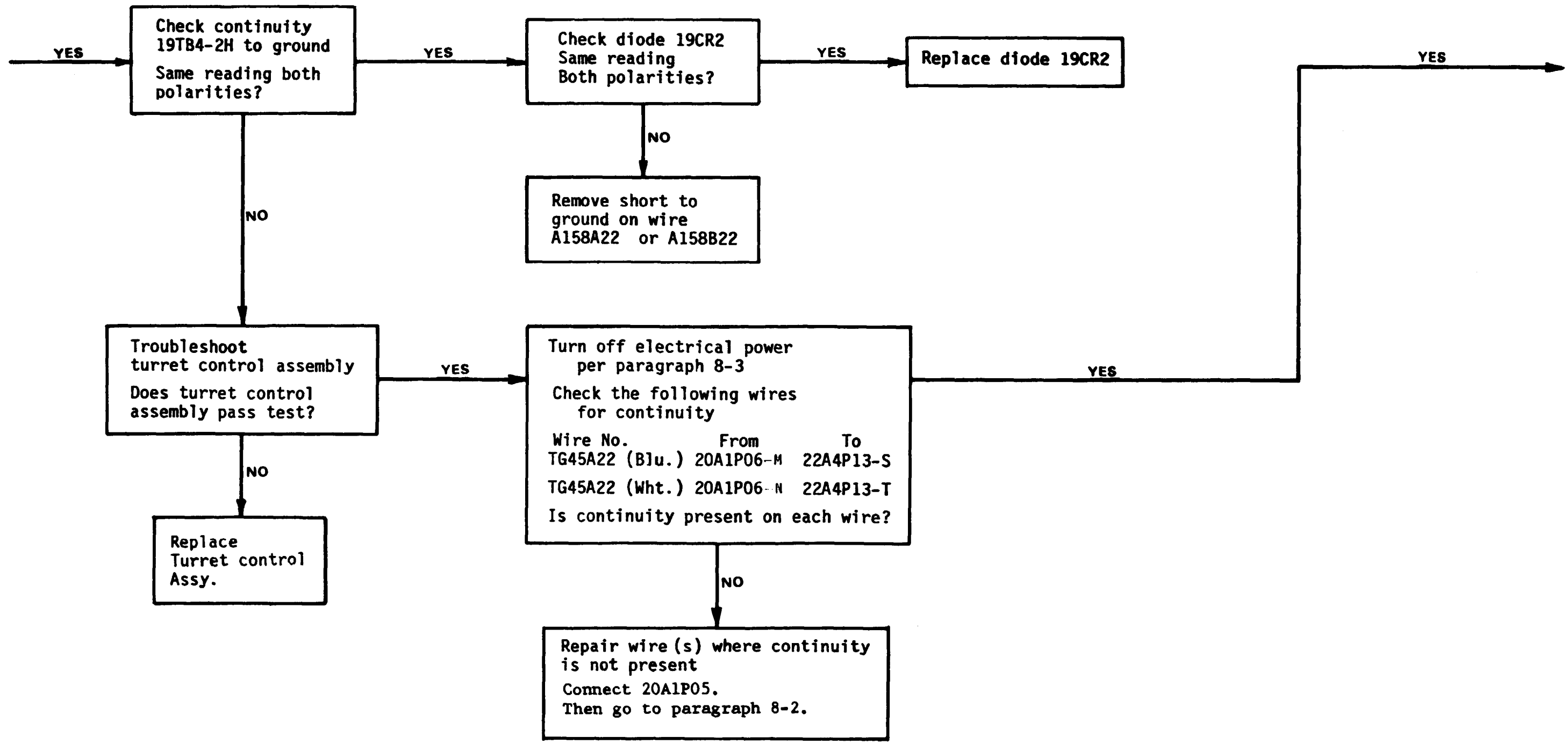
8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



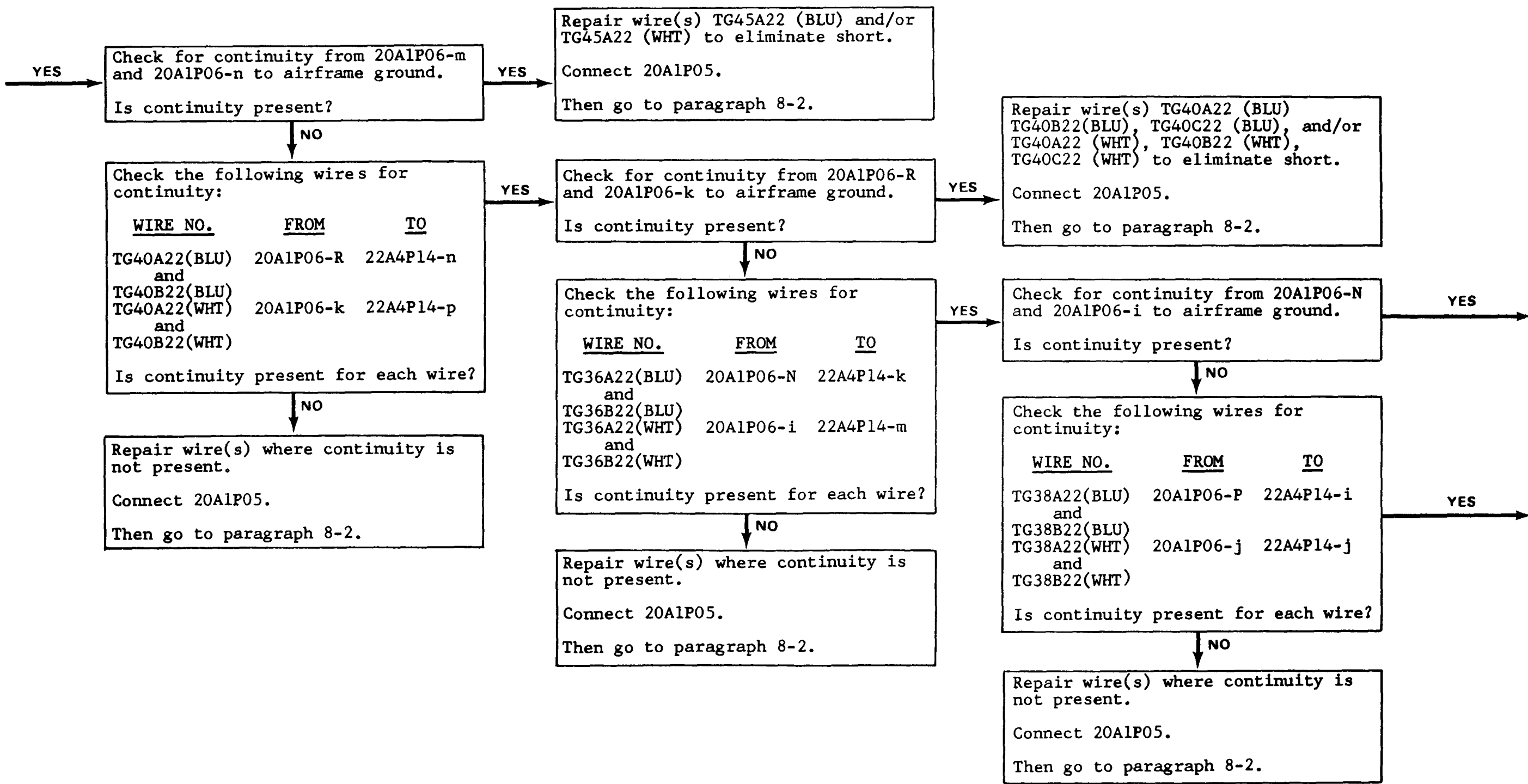
8-25. GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



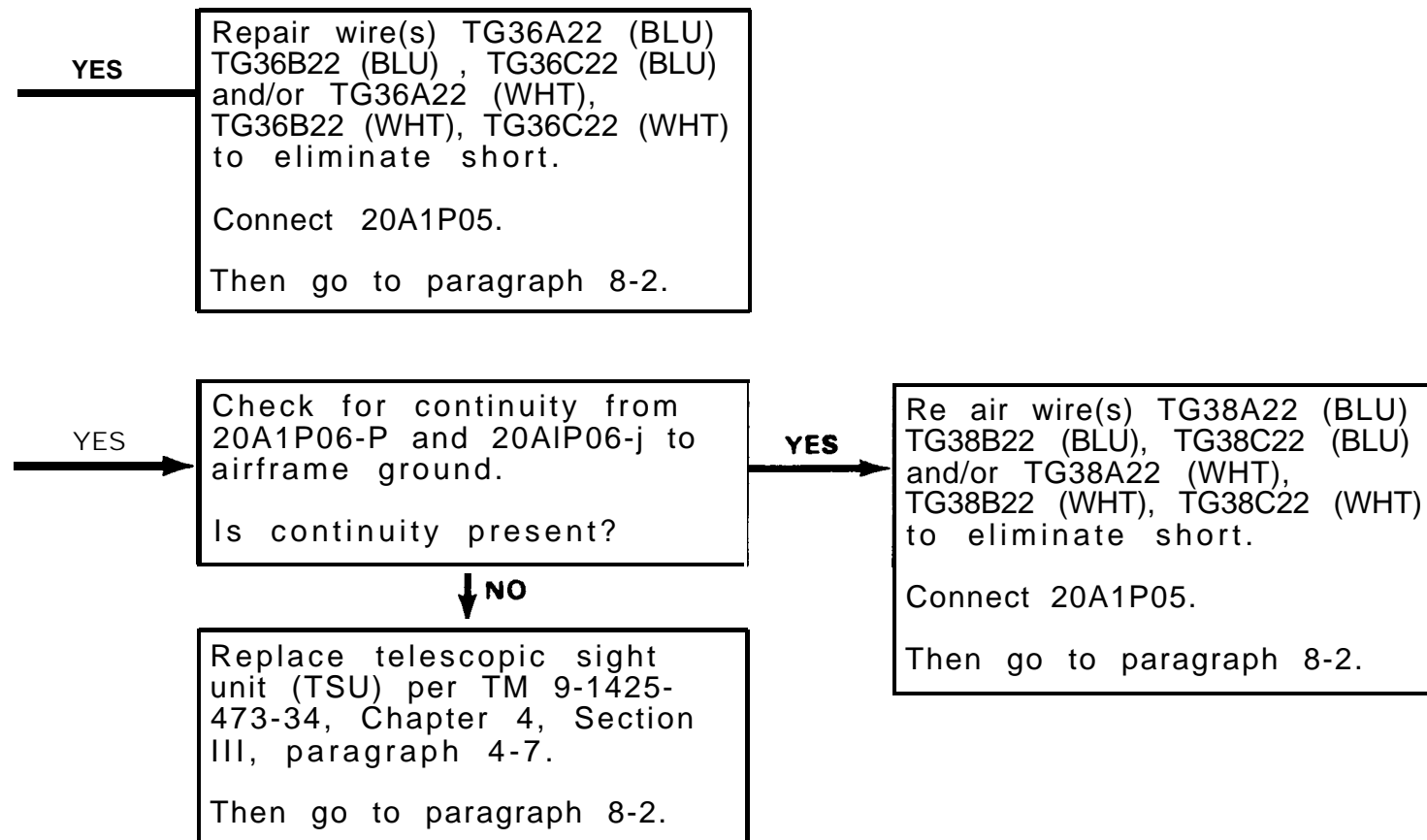
8-25 . GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



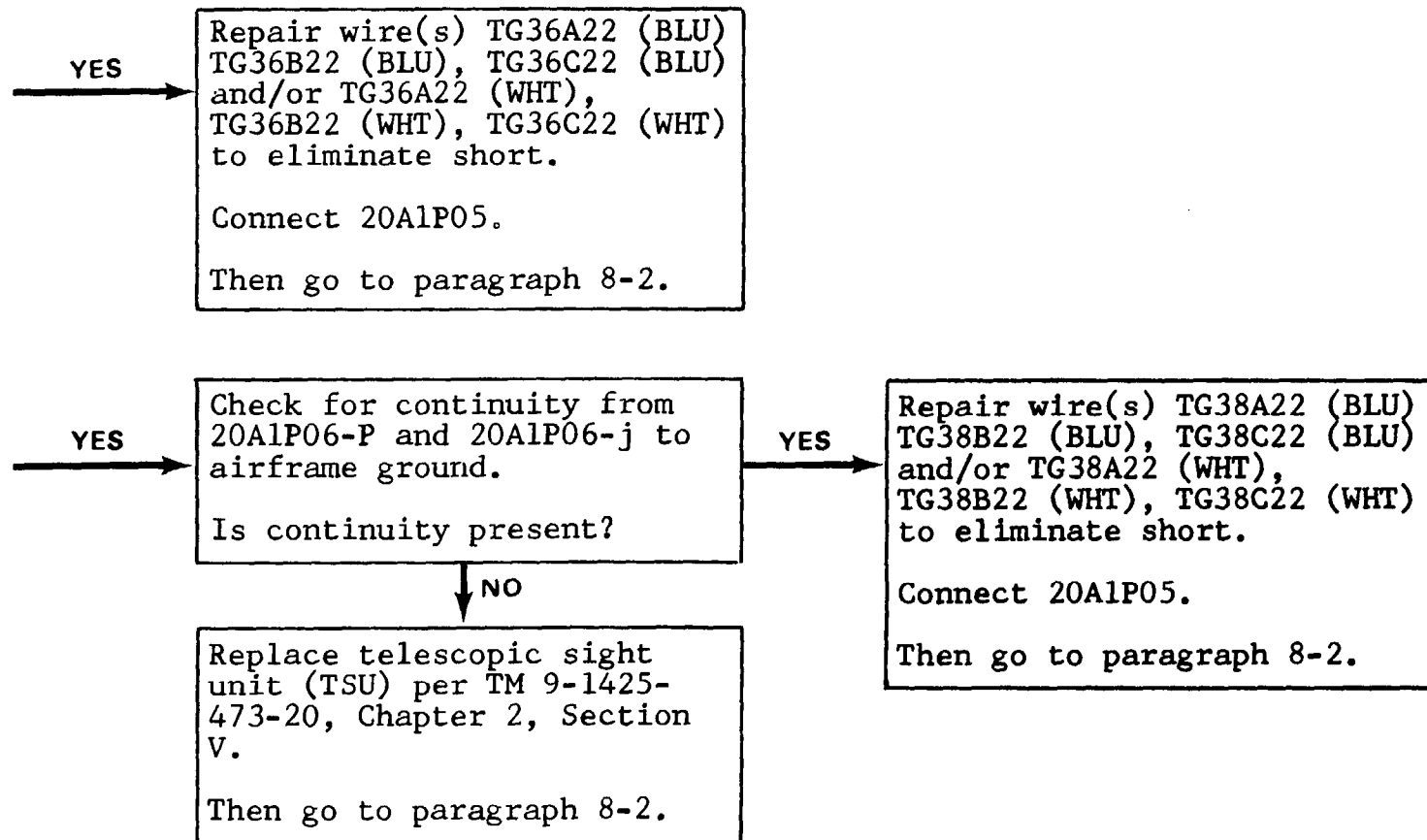
8-25 . GUN TURRET WILL NOT FOLLOW TELESCOPIC SIGHT UNIT (TSU)
(CONTINUED).



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



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



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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

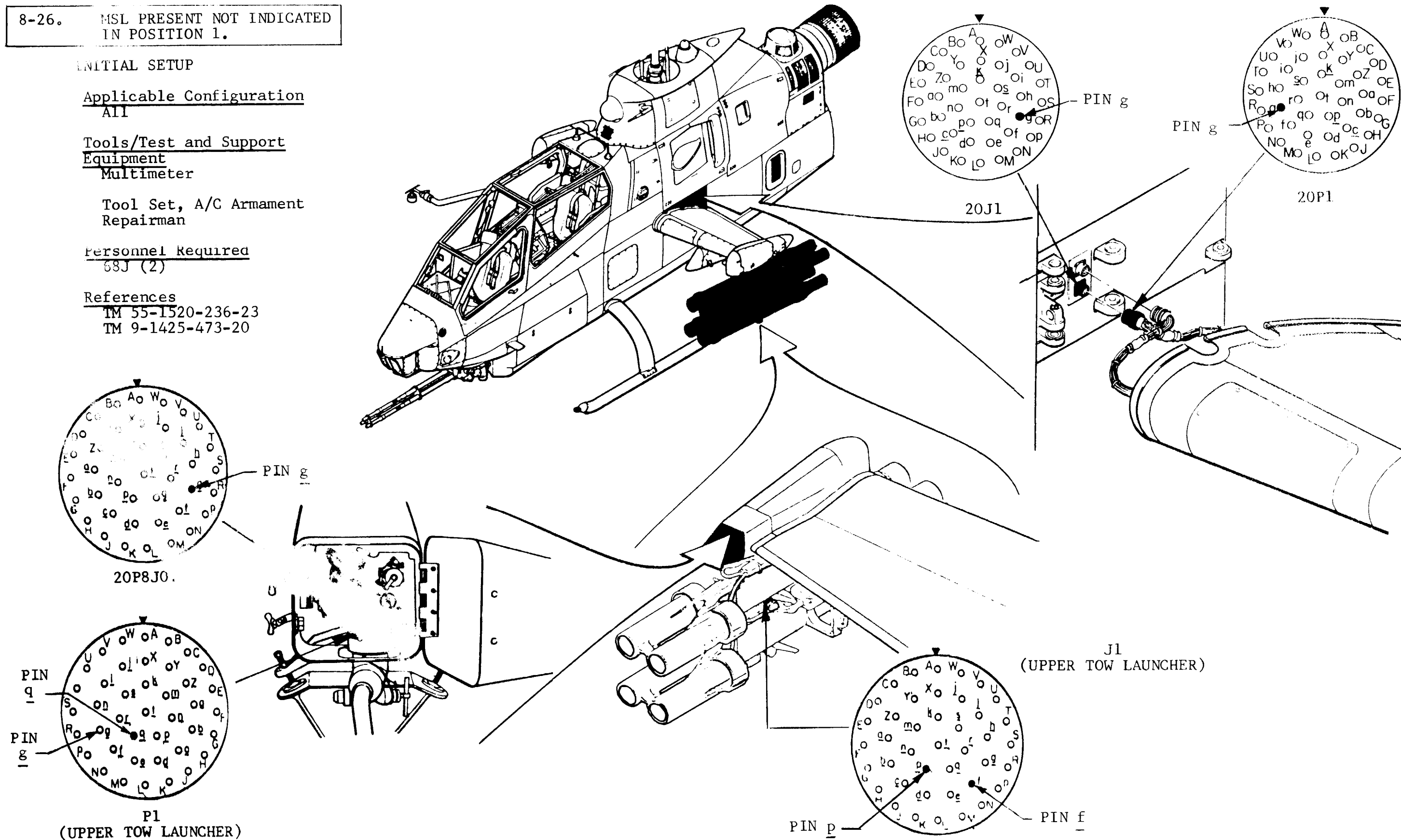
Personnel Required

68J (2)

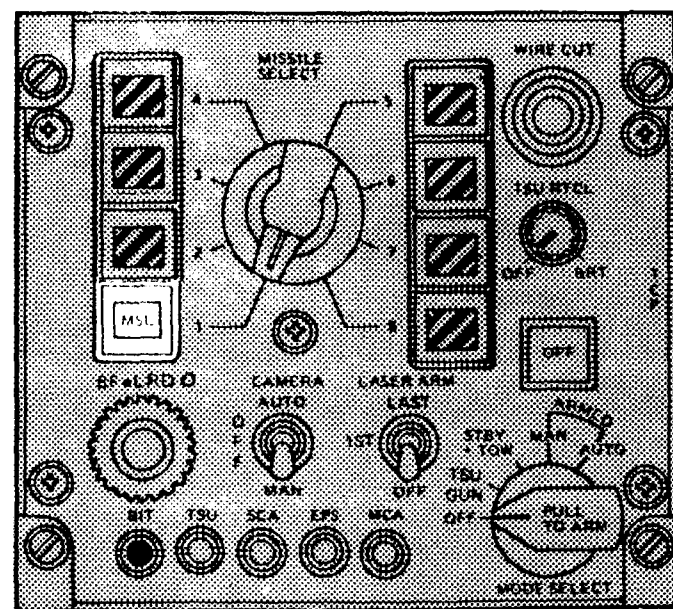
References

TM 55-1520-236-23

TM 9-1425-473-20

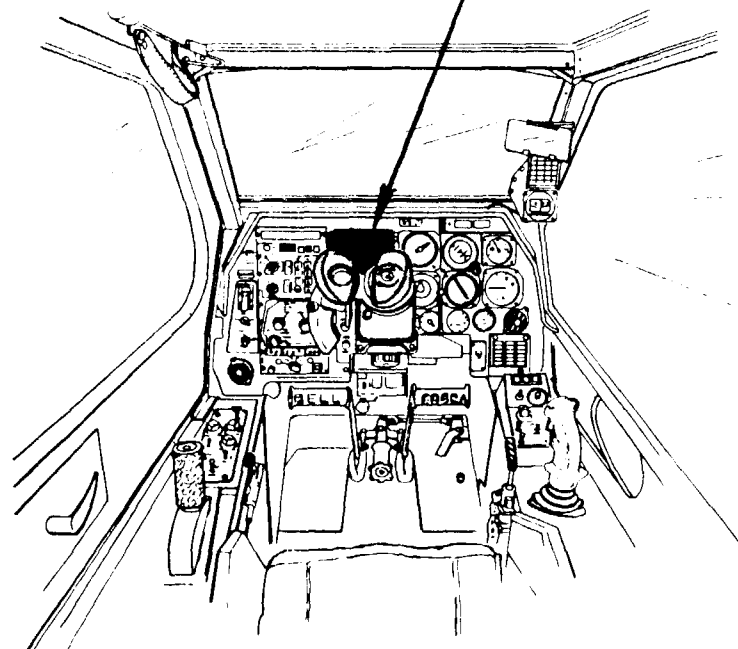
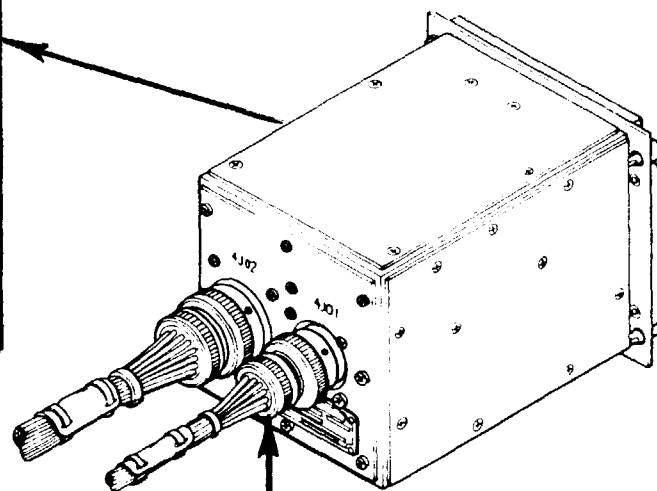


8-26. MSL PRESENT NOT INDICATED IN POSITION 1 (CONTINUED).

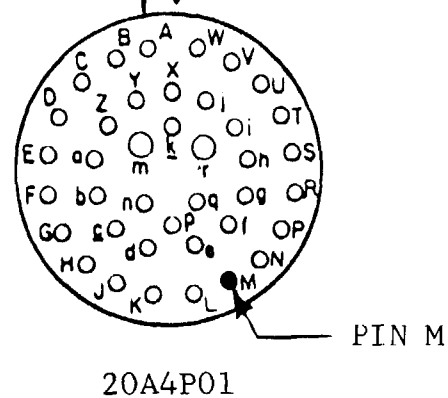


TCP (TOW CONTROL PANEL)

TCP (TOW CONTROL PANEL)
(REAR VIEW)



GUNNER STATION



PIN M

20A4P01

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

NO

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

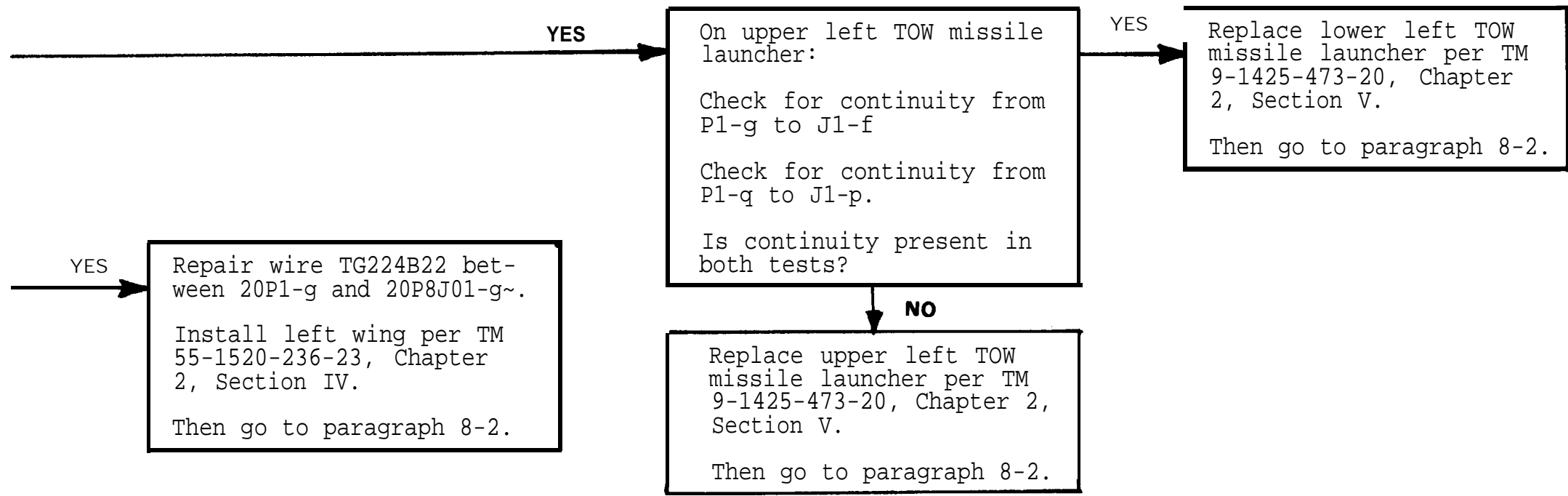
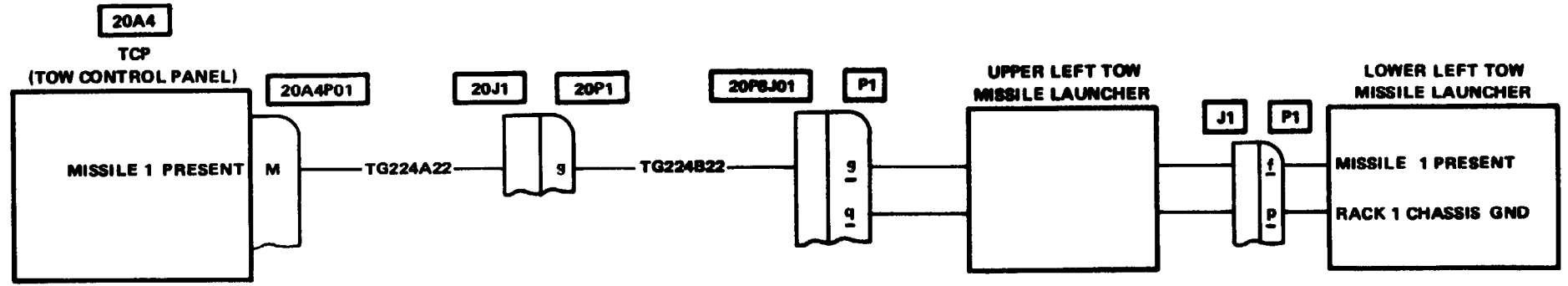
Repair wire TG224A22 between 20A4P01-M and 20J1-g.

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 to paragraph 8-2.



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

INITIAL SETUP

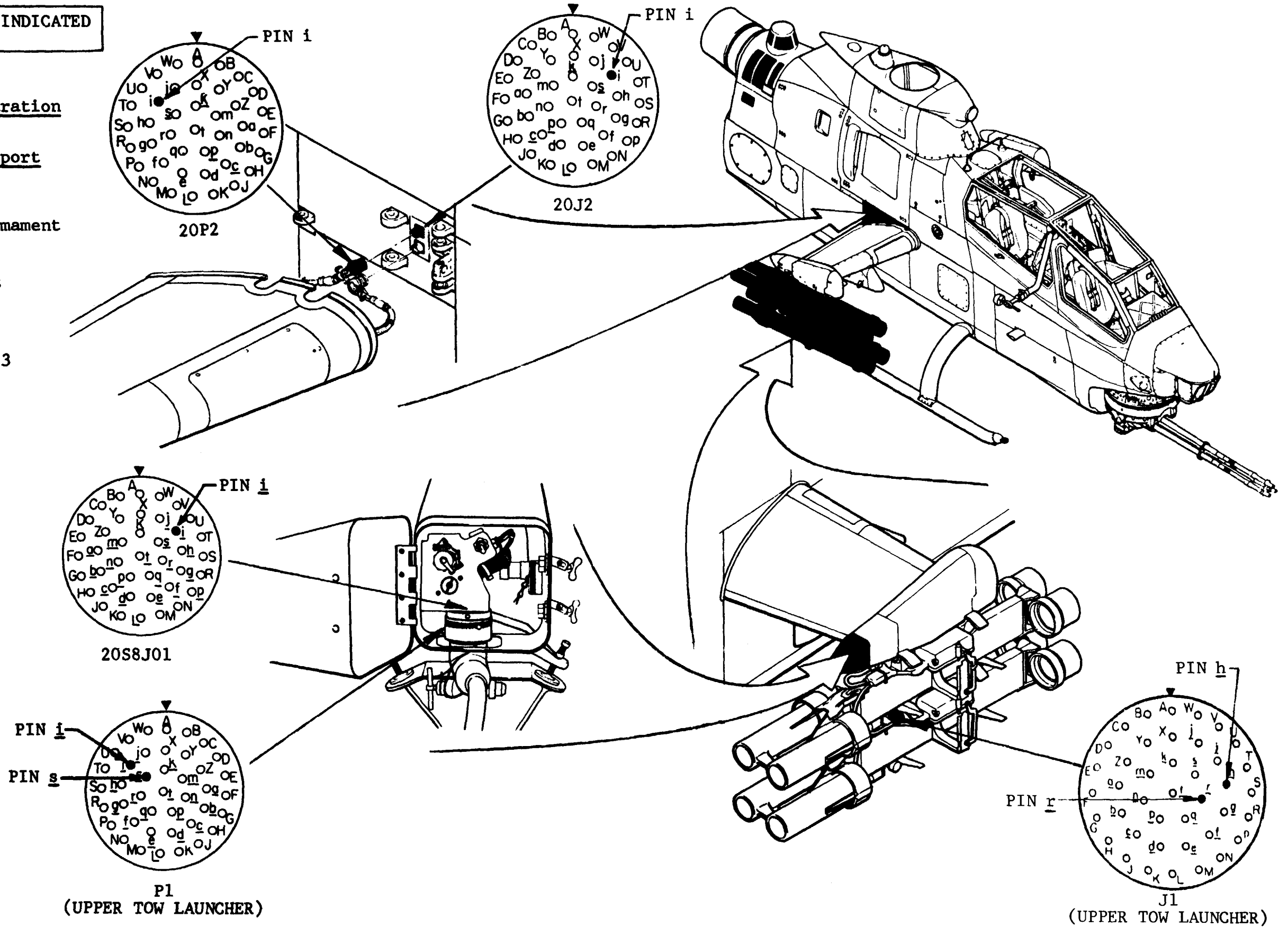
Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

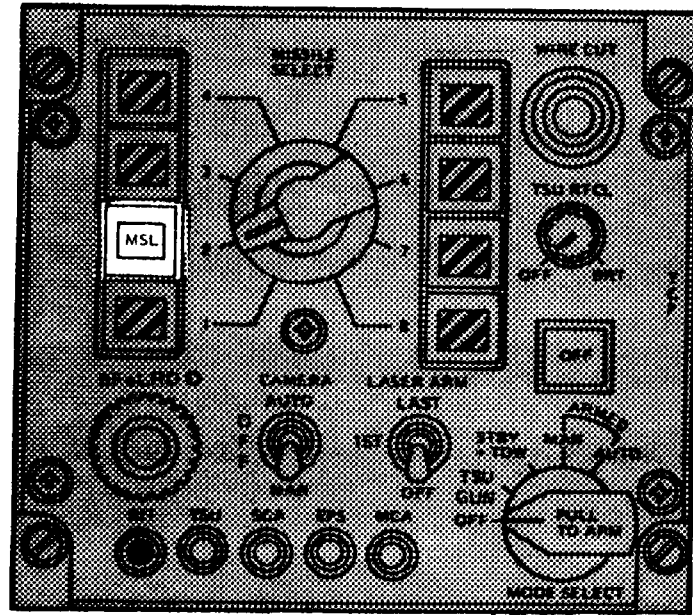
Tool Set, A/C Armament Repairman

Personnel Required
68J (2)

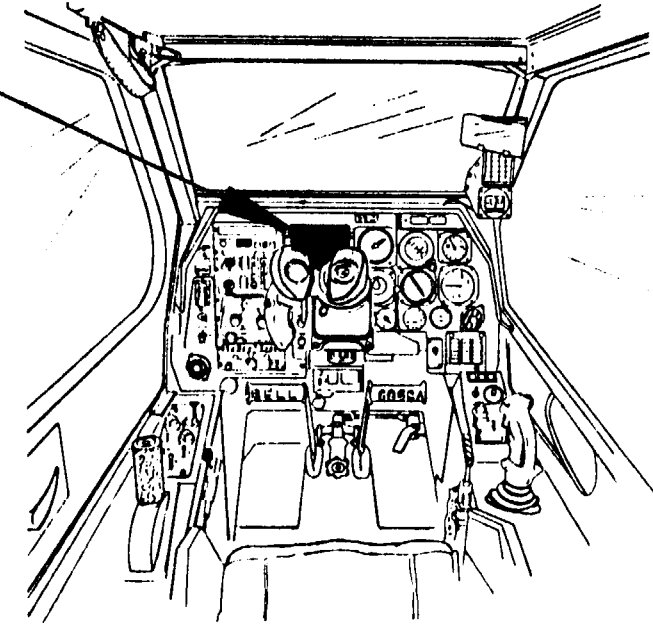
References
TM 9-1425-473-20
TM 55-1520-236-23



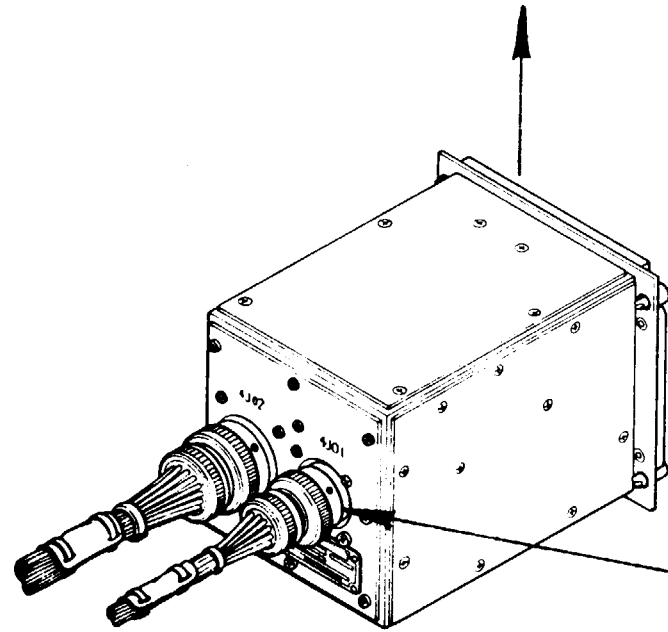
8-27. MSL PRESENT NOT INDICATED IN POSITION 2 (CONTINUED).



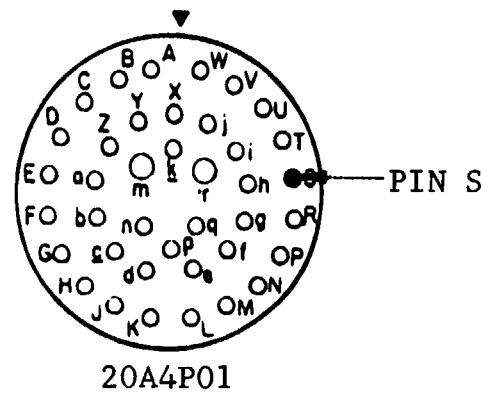
TCP (TOW CONTROL PANEL)



GUNNER STATION



TCP (TOW CONTROL PANEL)
(REAR VIEW)



20A4P01

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

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) ?

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 P1-s to J1-r.
 Is continuity present in both tests?

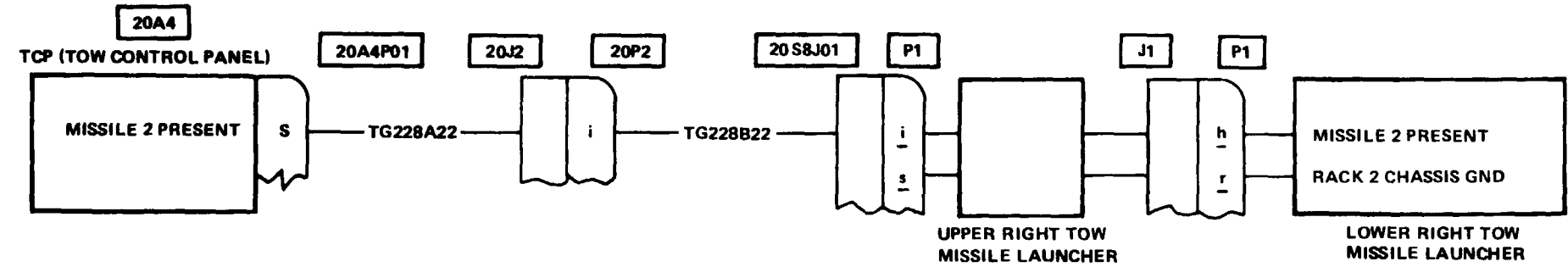
Replace lower right TOW missile launcher per TM 9-1425-473-20, Chapter 2, Section V,
 Then go to paragraph 8-2.

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

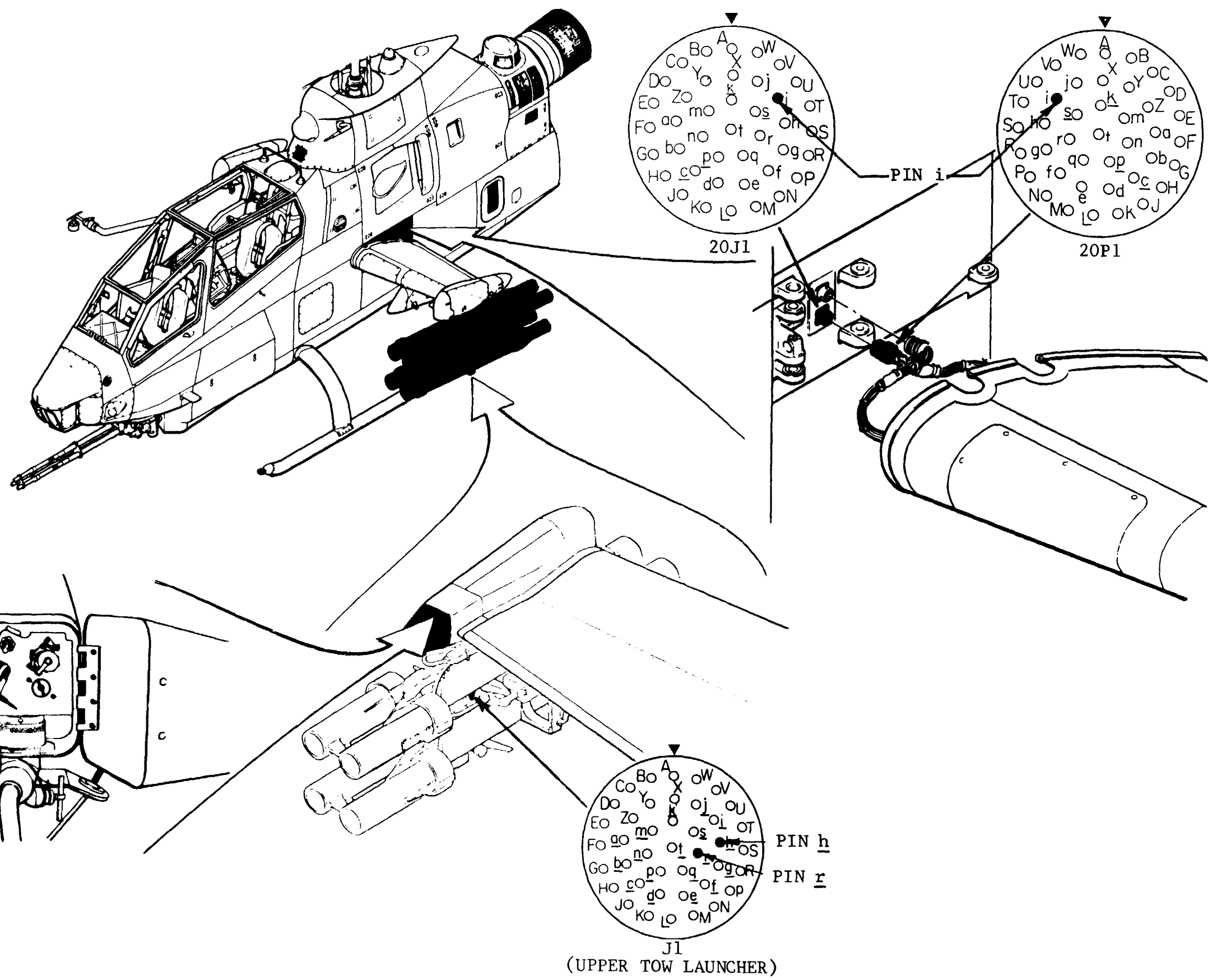
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament
Repairman

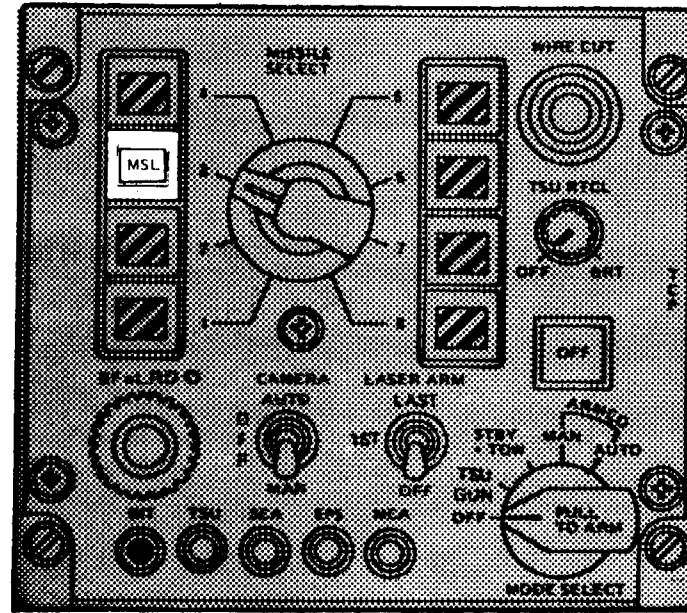
Personnel Required
68J (2)

References

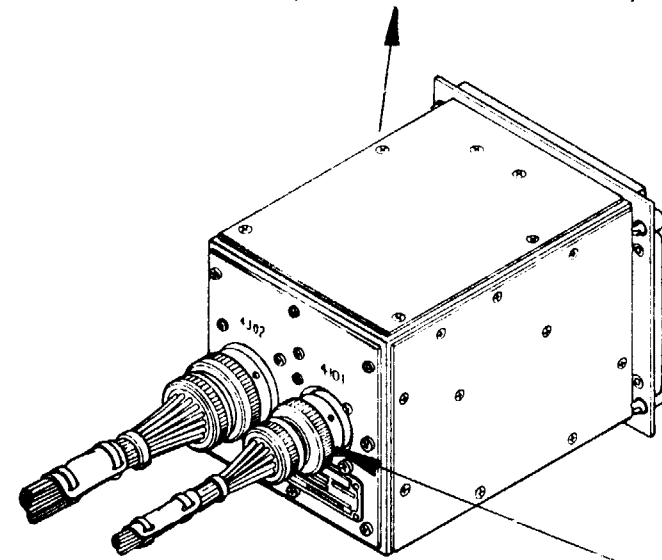
- TM 55-1520-236-23
- TM 9-1425-473-20
- TM 9-1425-473-34



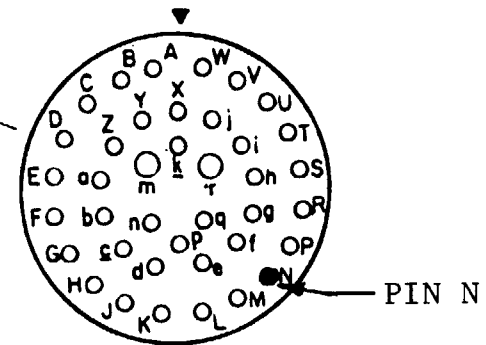
8-28. MSL PRESENT NOT INDICATED IN POSITION 3 (CONTINUED).



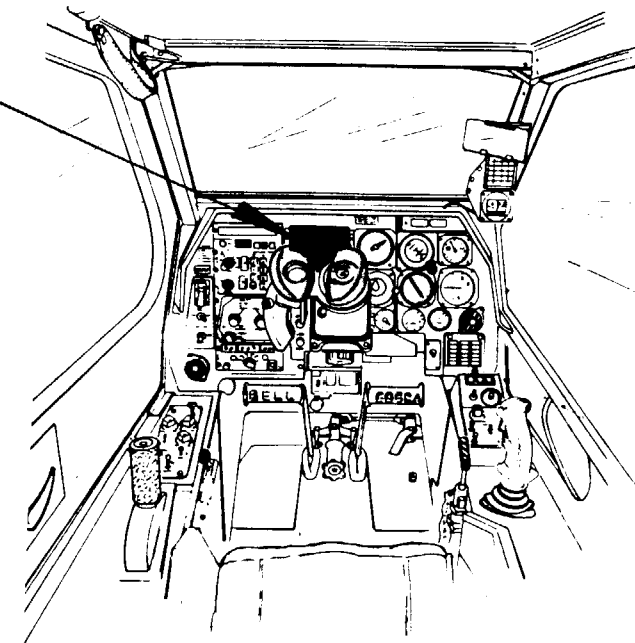
TCP (TOW CONTROL PANEL)



TCP (TOW CONTROL PANEL)
(REAR VIEW)

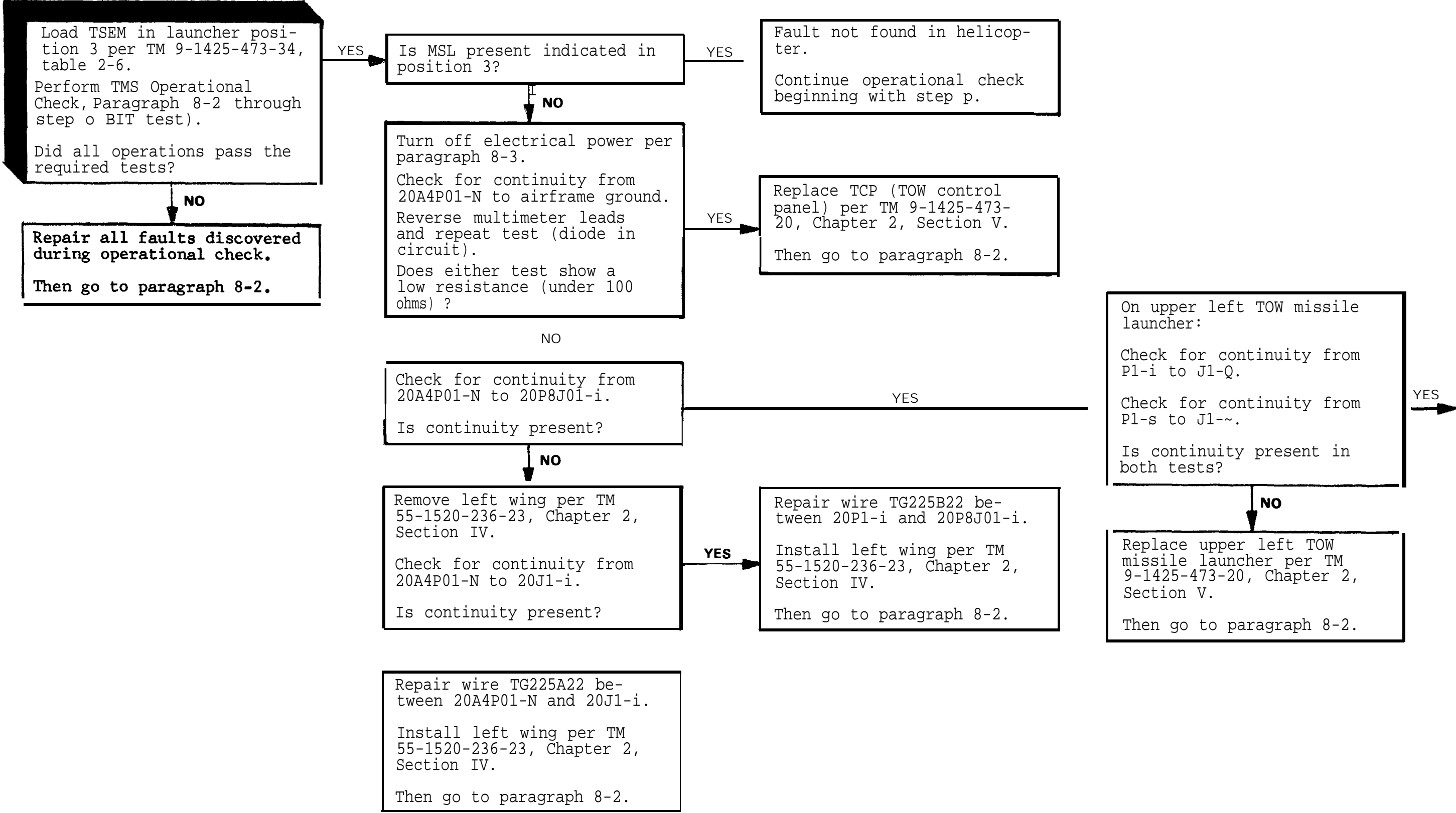


20A4P01



GUNNER STATION

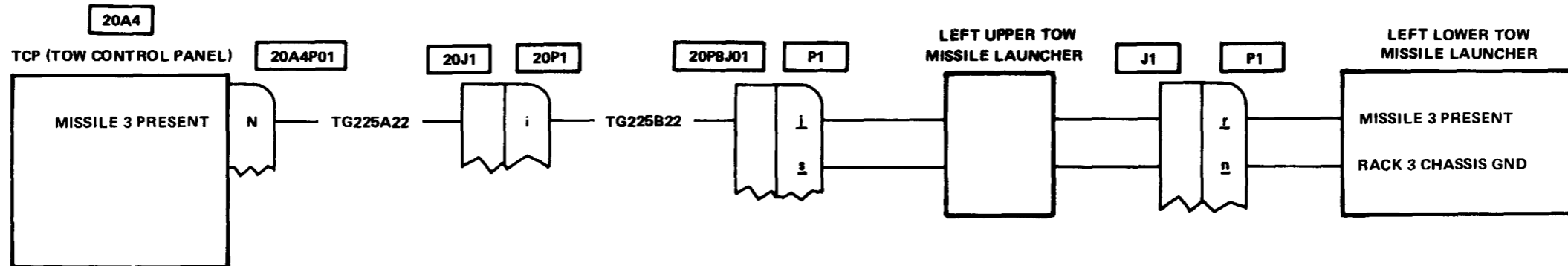
8-28. MSL PRESENT NOT INDICATED IN POSITION 3 (CONTINUED).



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

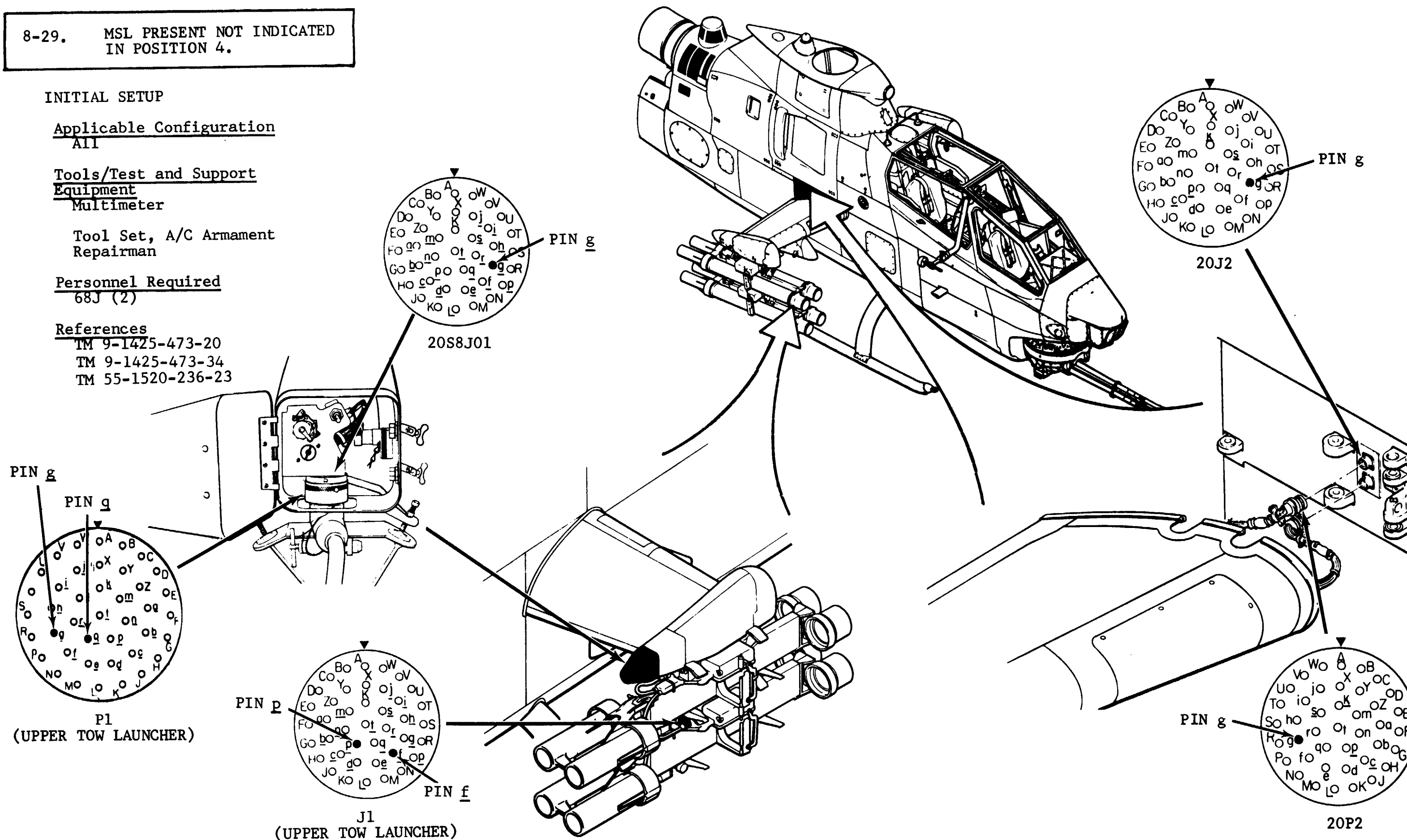
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament
Repairman

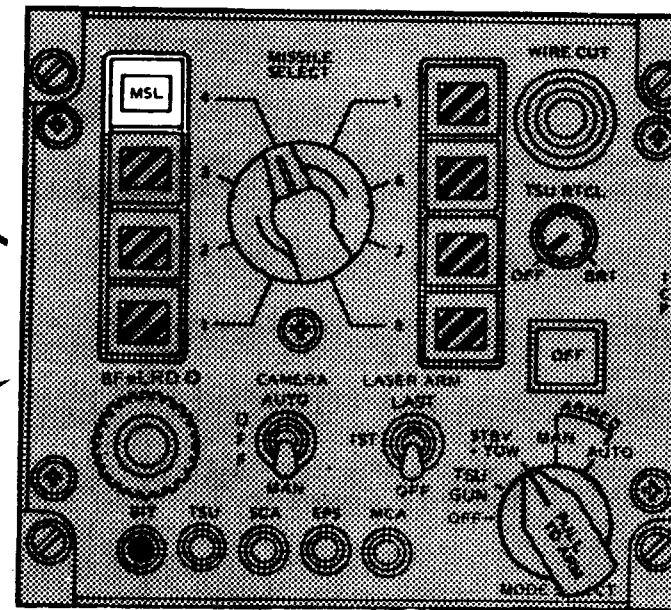
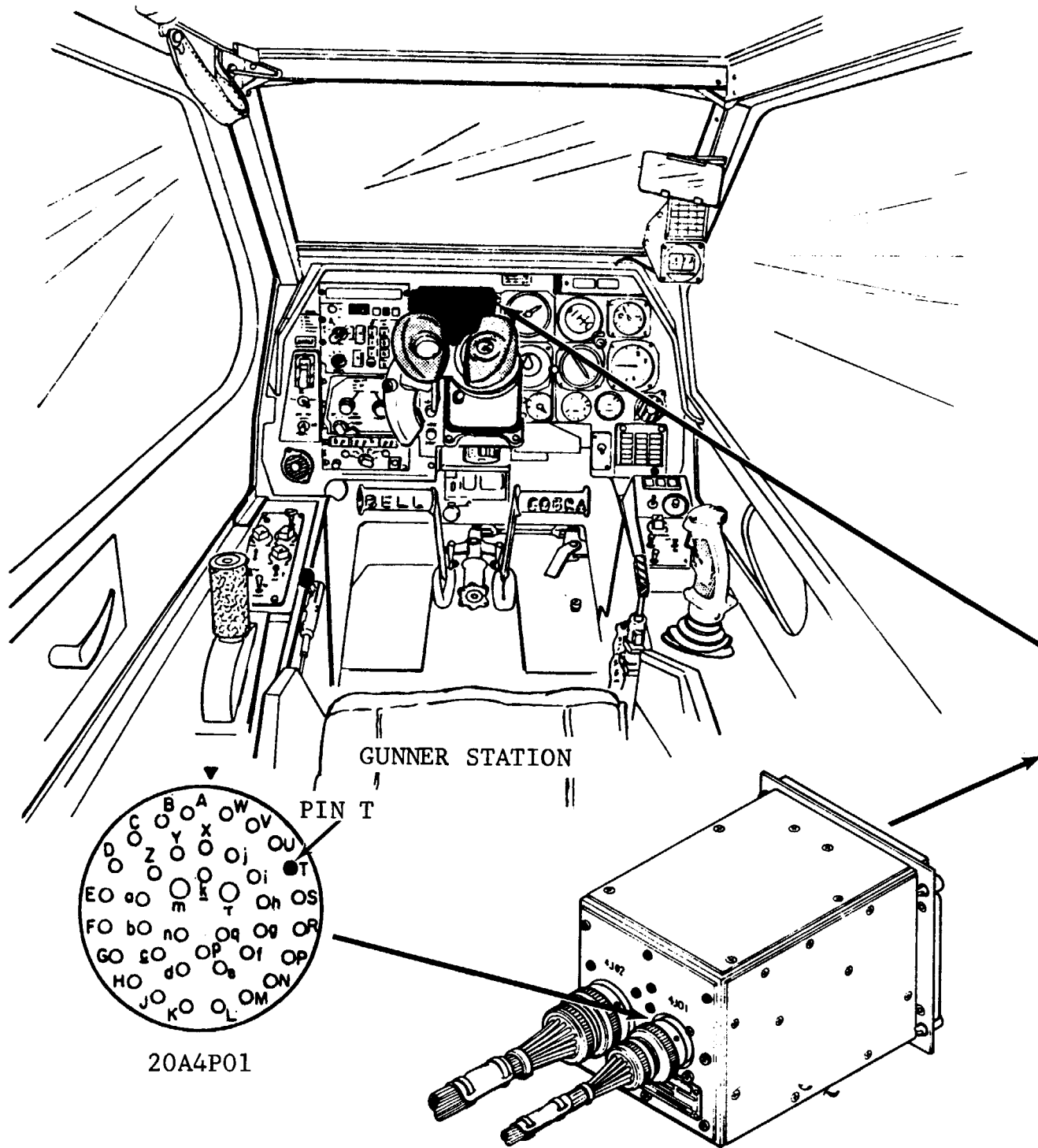
Personnel Required
68J (2)

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)

TCP (TOW CONTROL PANEL)
(REAR VIEW)

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).

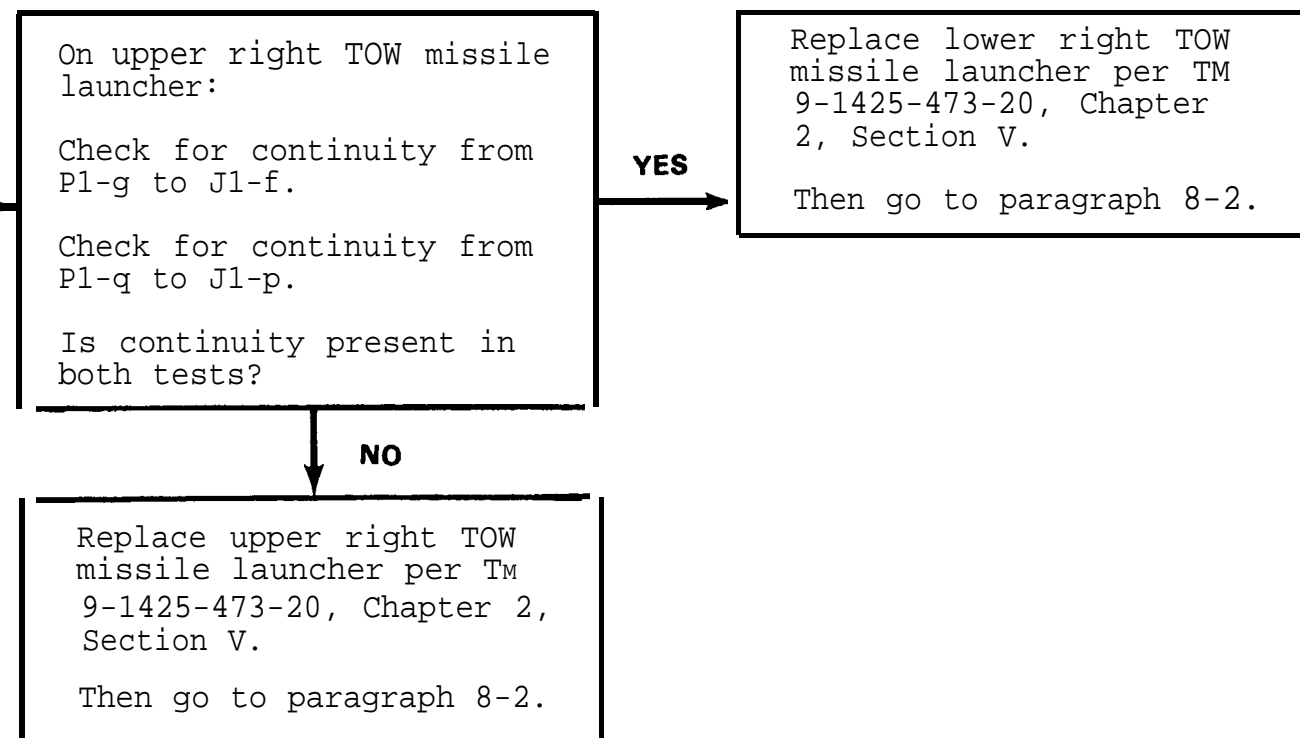
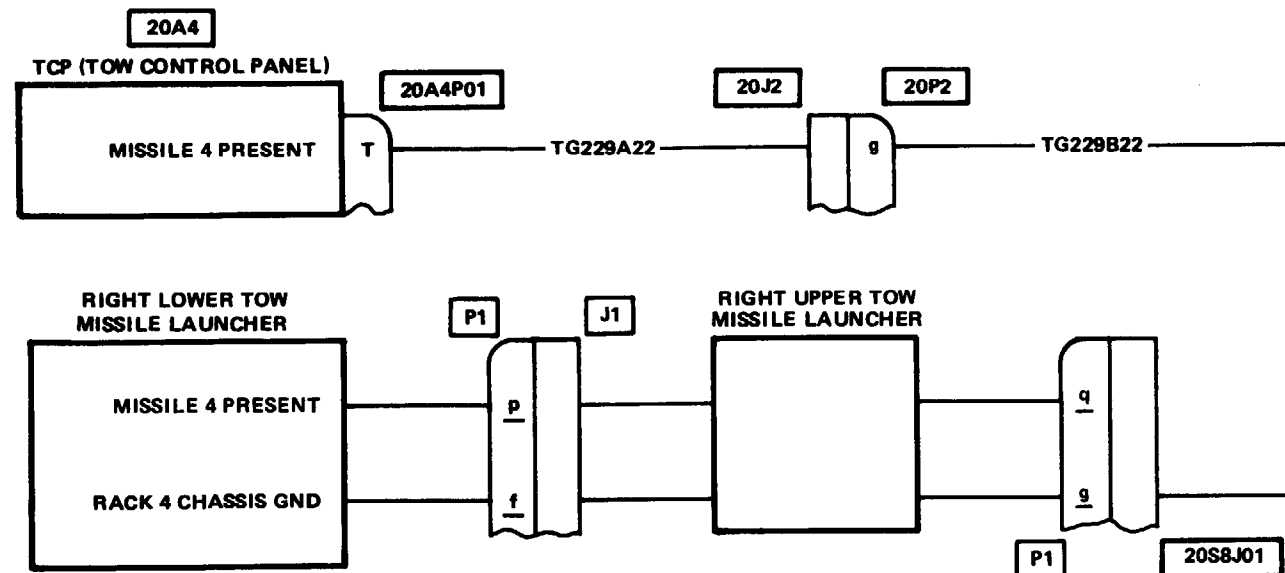
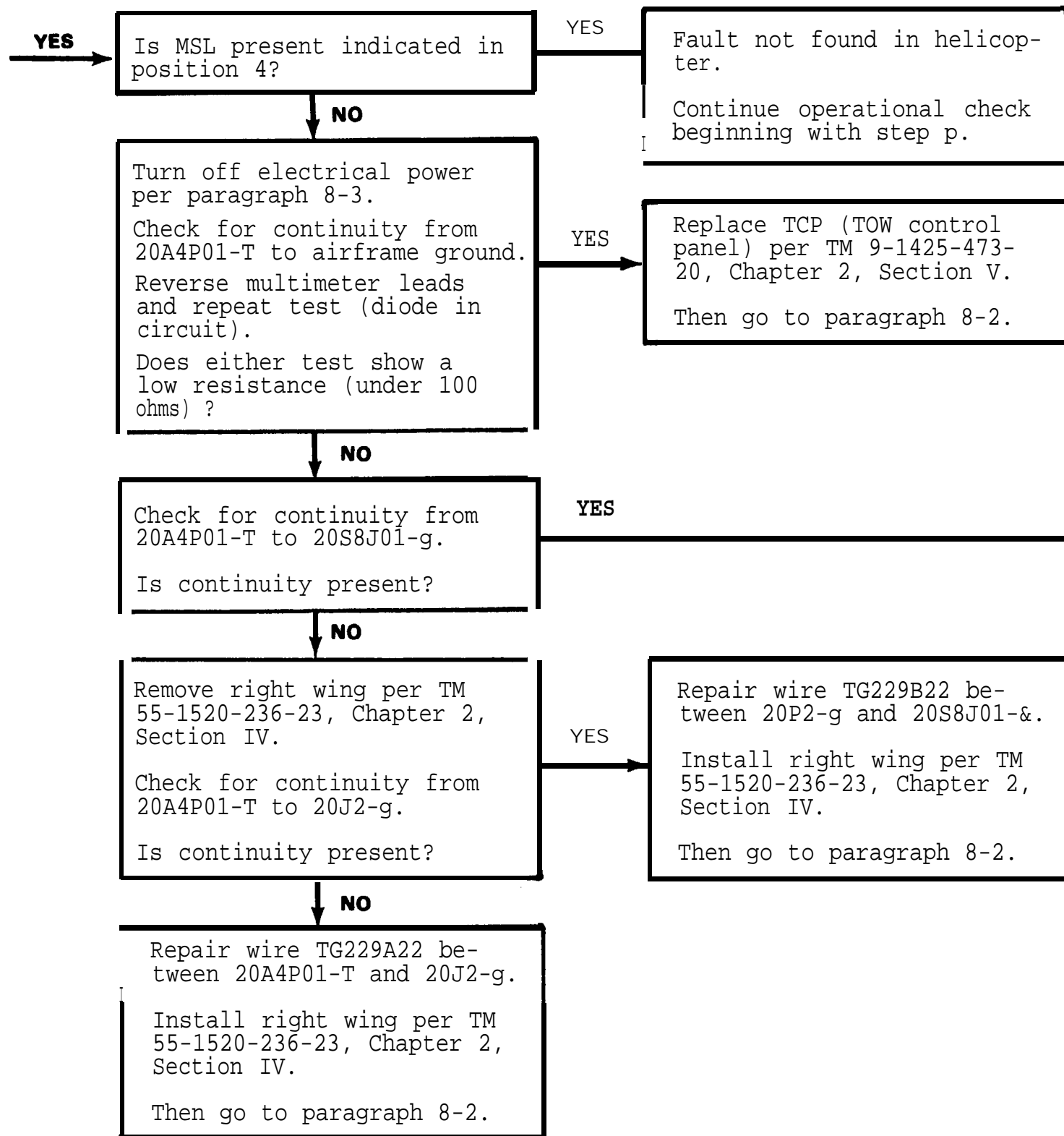
Did all operations pass the required tests?

NO

Repair all faults discovered during the operational check.

Then go to paragraph 8-2.

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



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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)

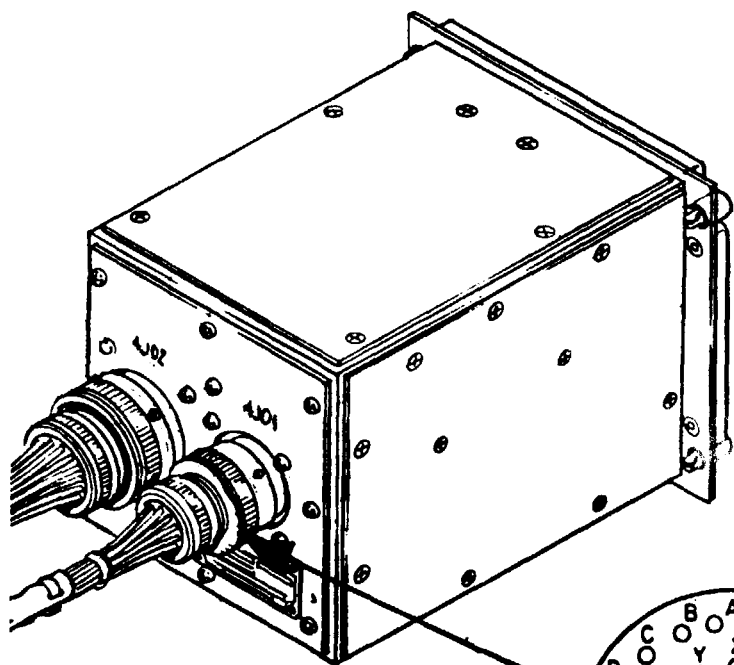
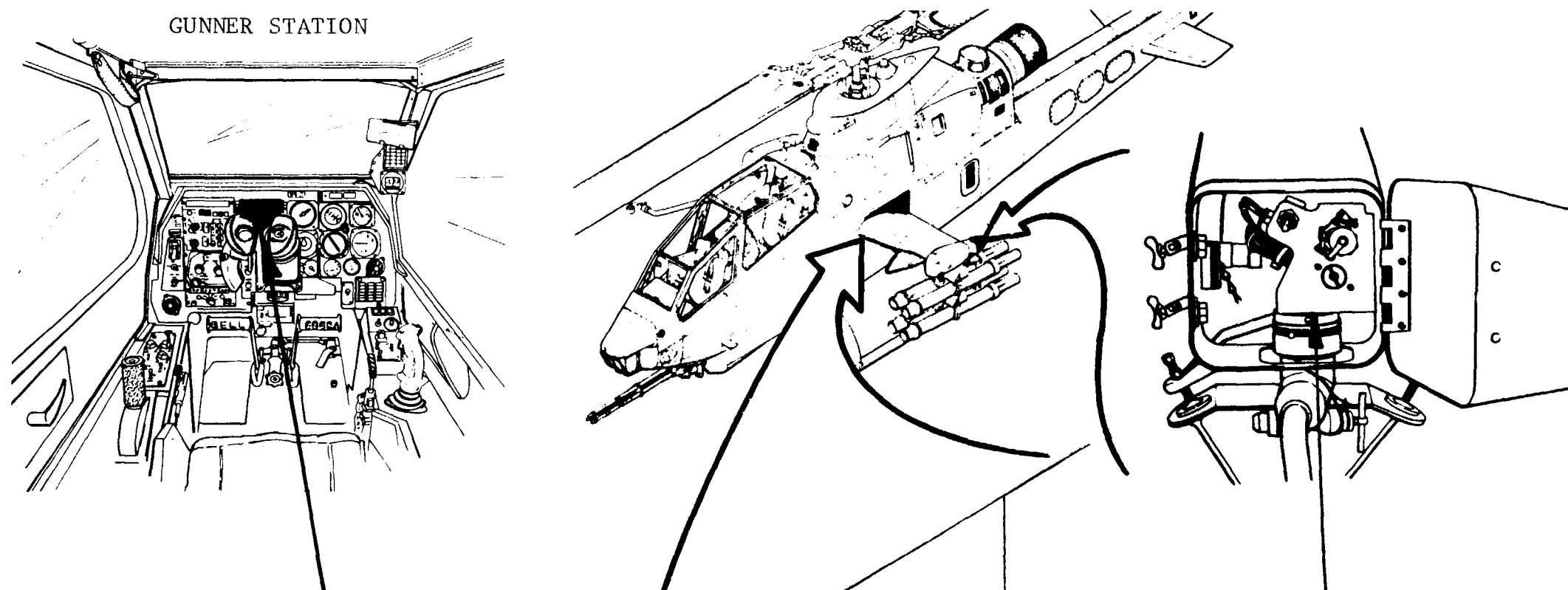
References

TM 55-1520-236-23

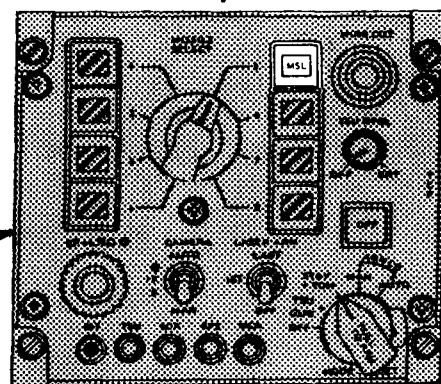
TM 9-1425-473-20

TM 9-1425-473-34

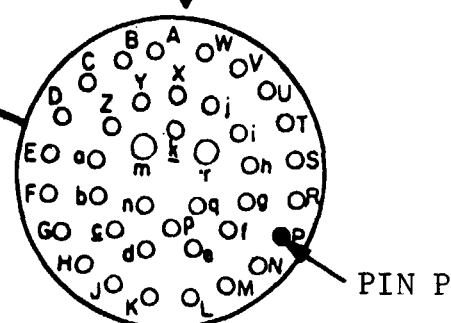
GUNNER STATION



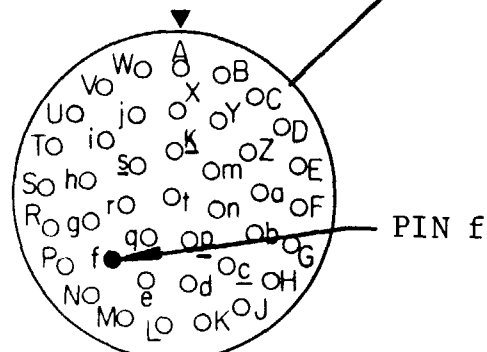
TCP (TOW CONTROL PANEL)
(REAR VIEW)



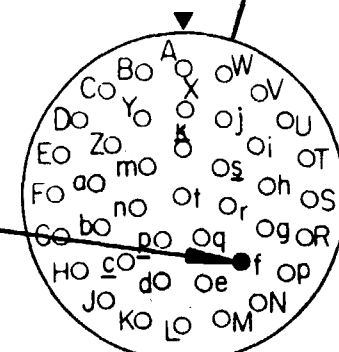
TCP (TOW CONTROL PANEL)



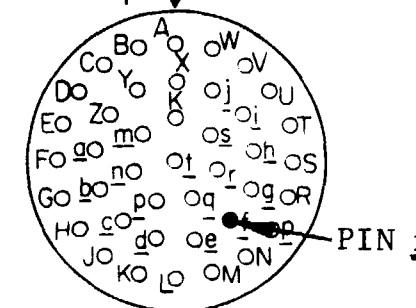
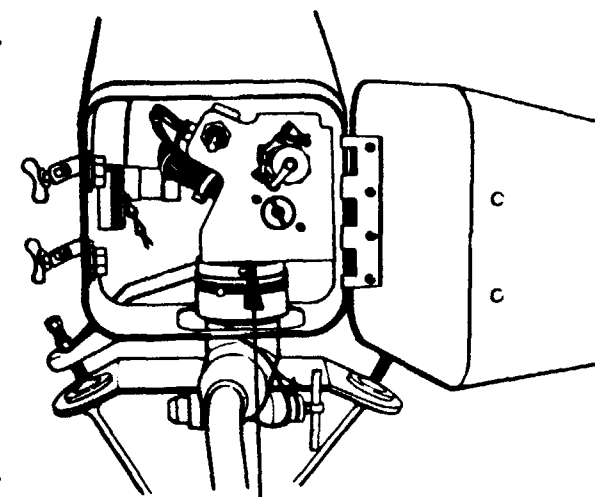
20A4P01



20J1

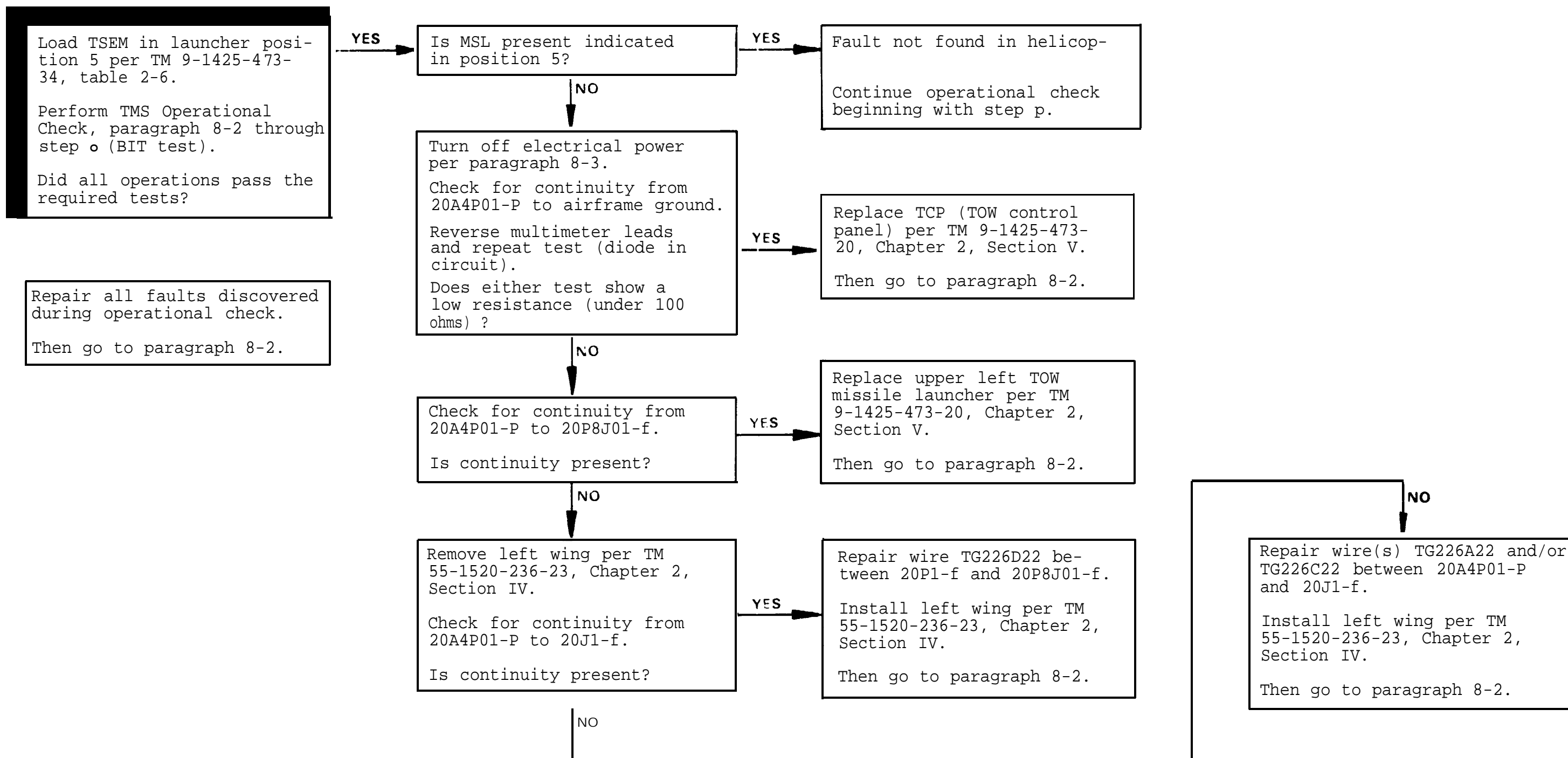


20P1

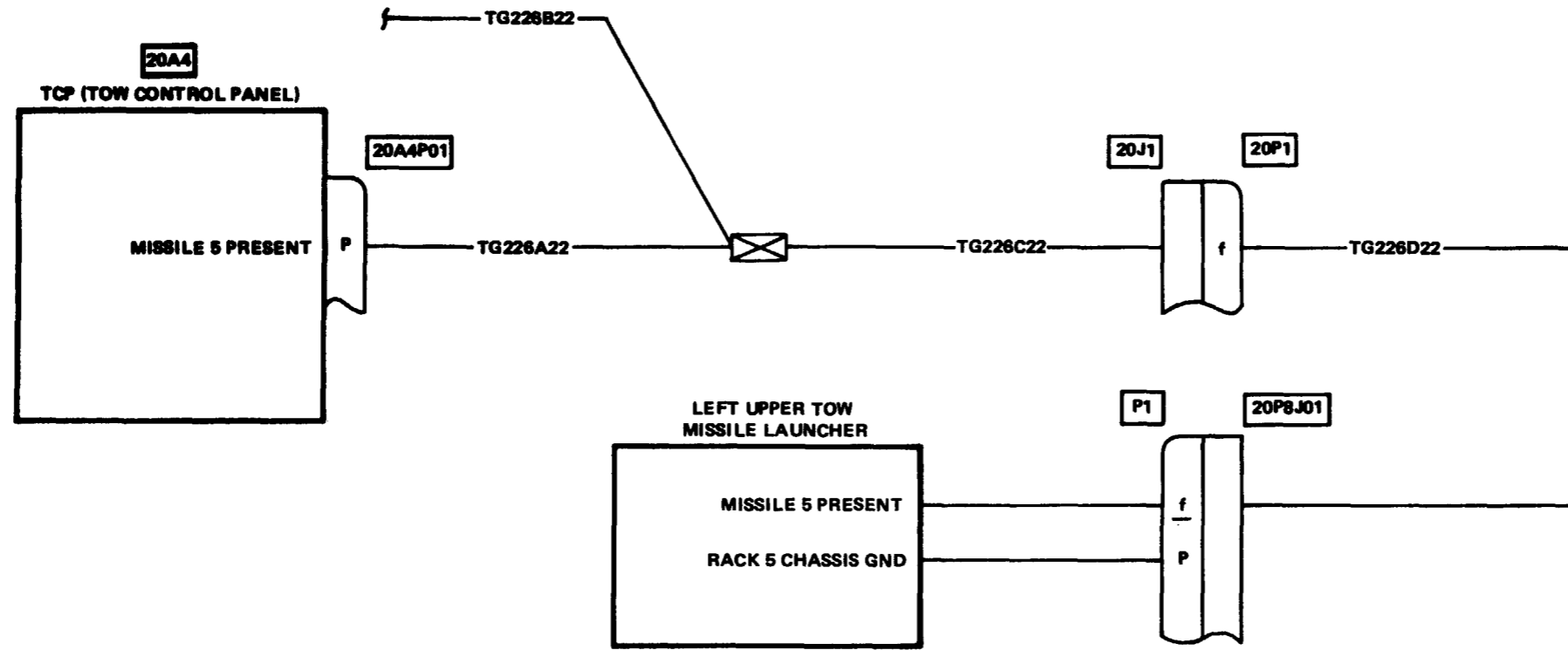


20P8J01

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



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

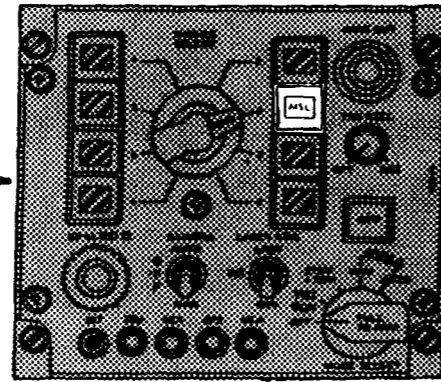
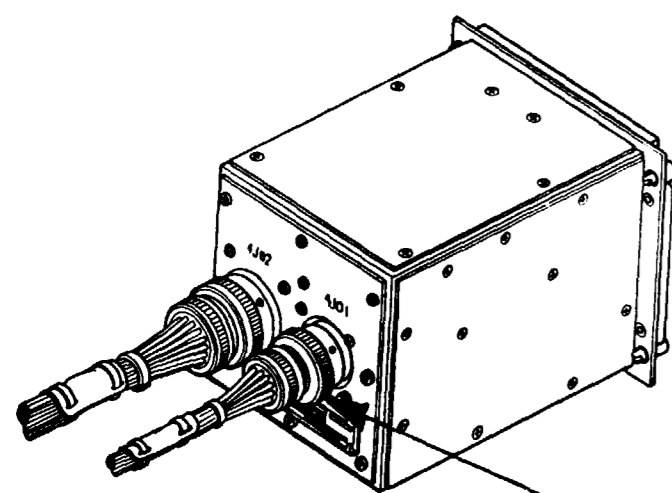
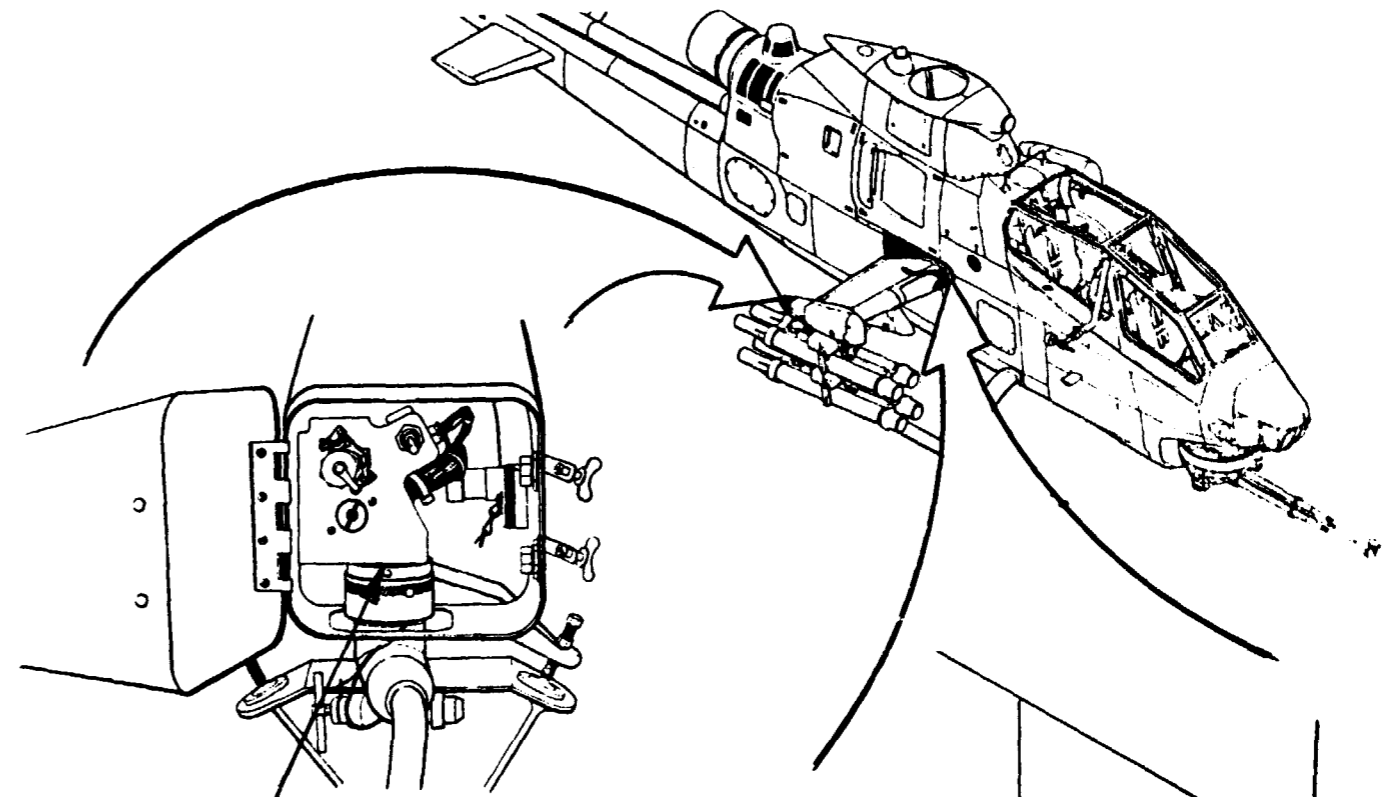
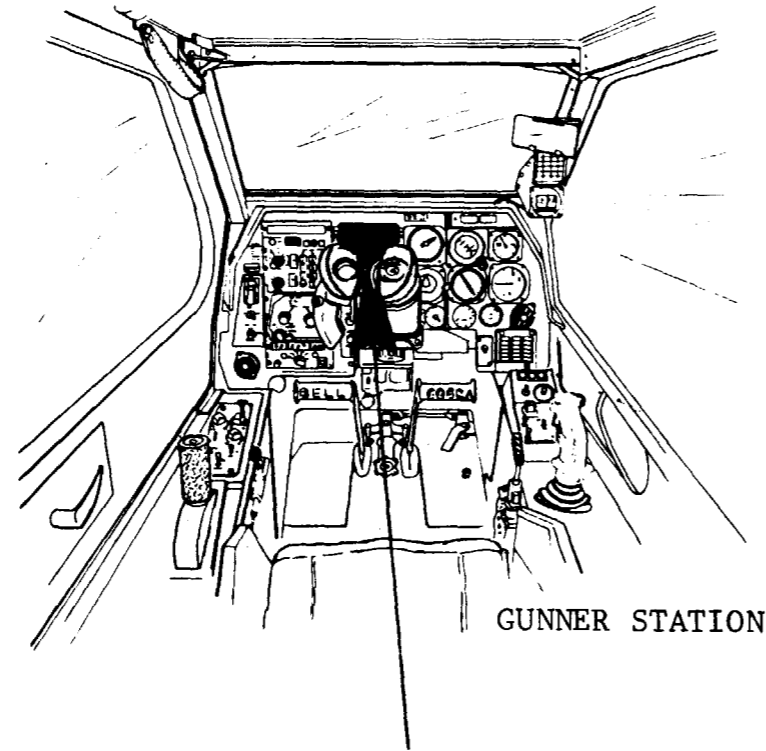
Tools/Test and Support
Equipment
Multimeter

Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

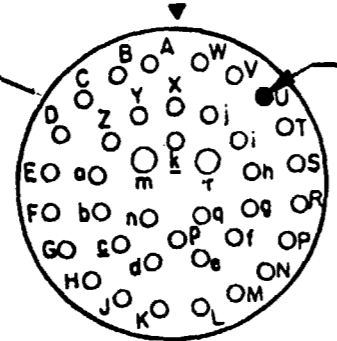
References

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



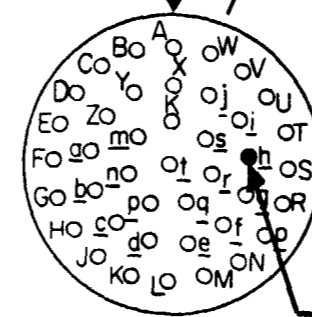
TCP (TOW CONTROL PANEL)

TCP (TOW CONTROL PANEL)
(REARVIEW)



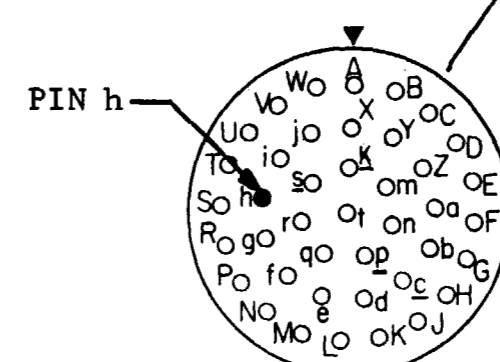
20A4P01

PIN U



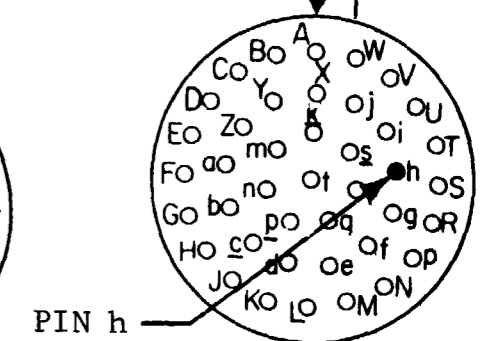
20S8J01

PIN h



20P2

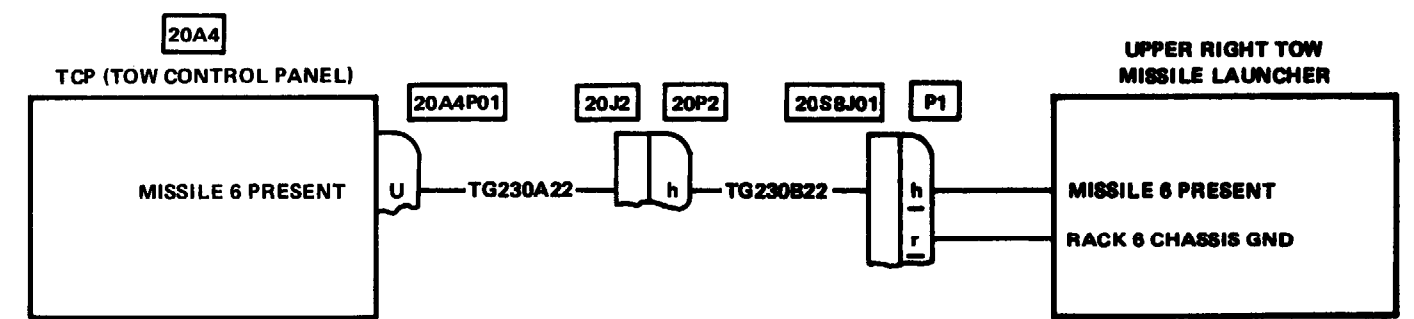
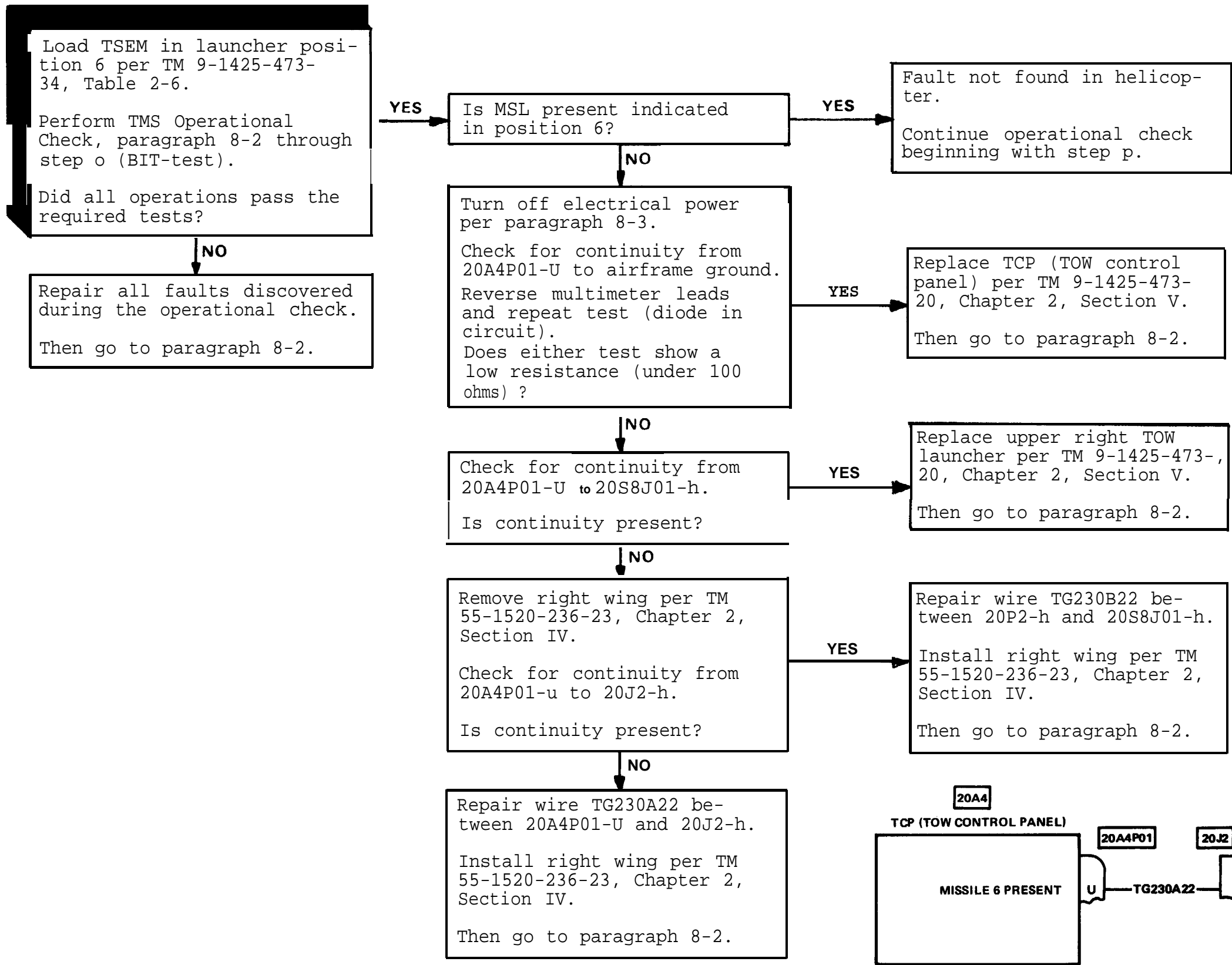
PIN h



20J2

PIN h

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



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

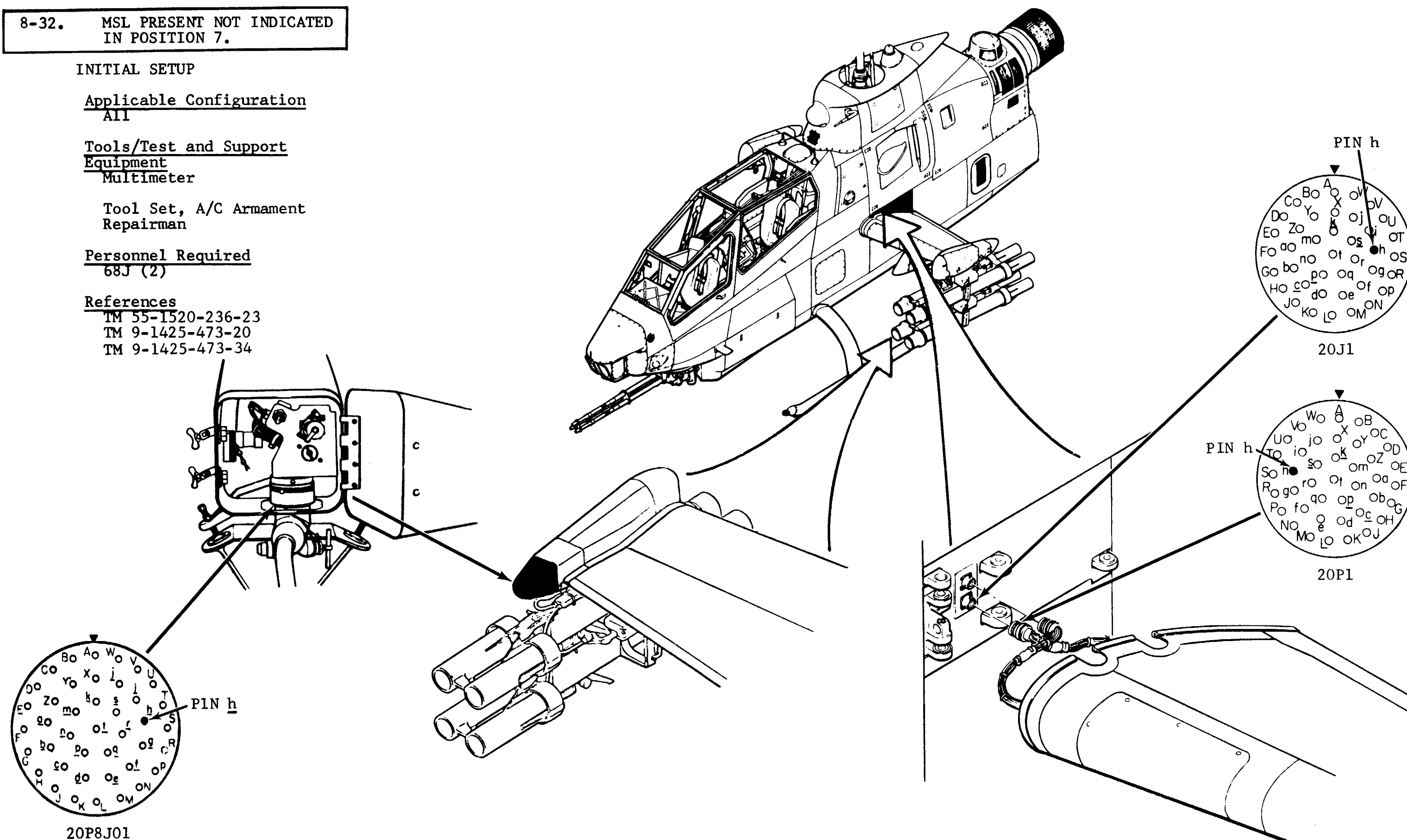
68J (2)

References

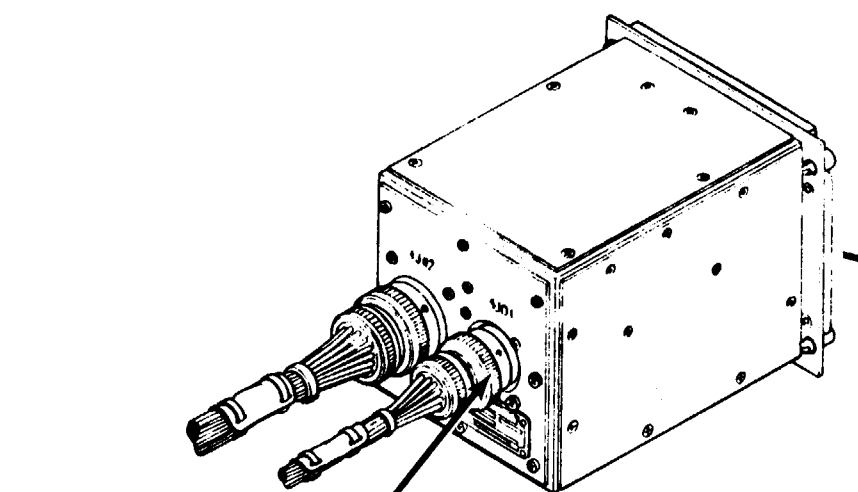
TM 55-1520-236-23

TM 9-1425-473-20

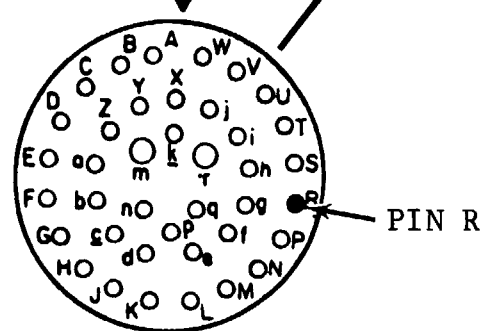
TM 9-1425-473-34



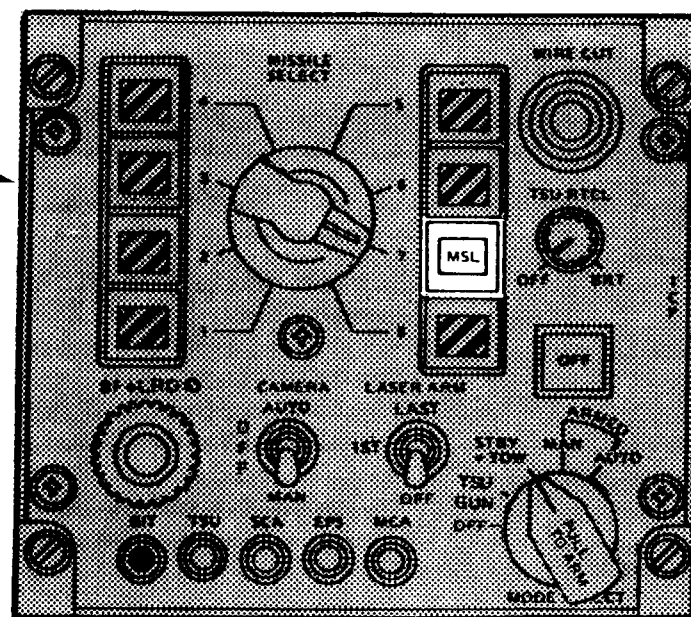
8-32. MSL PRESENT NOT INDICATED IN POSITION 7 (CONTINUED).



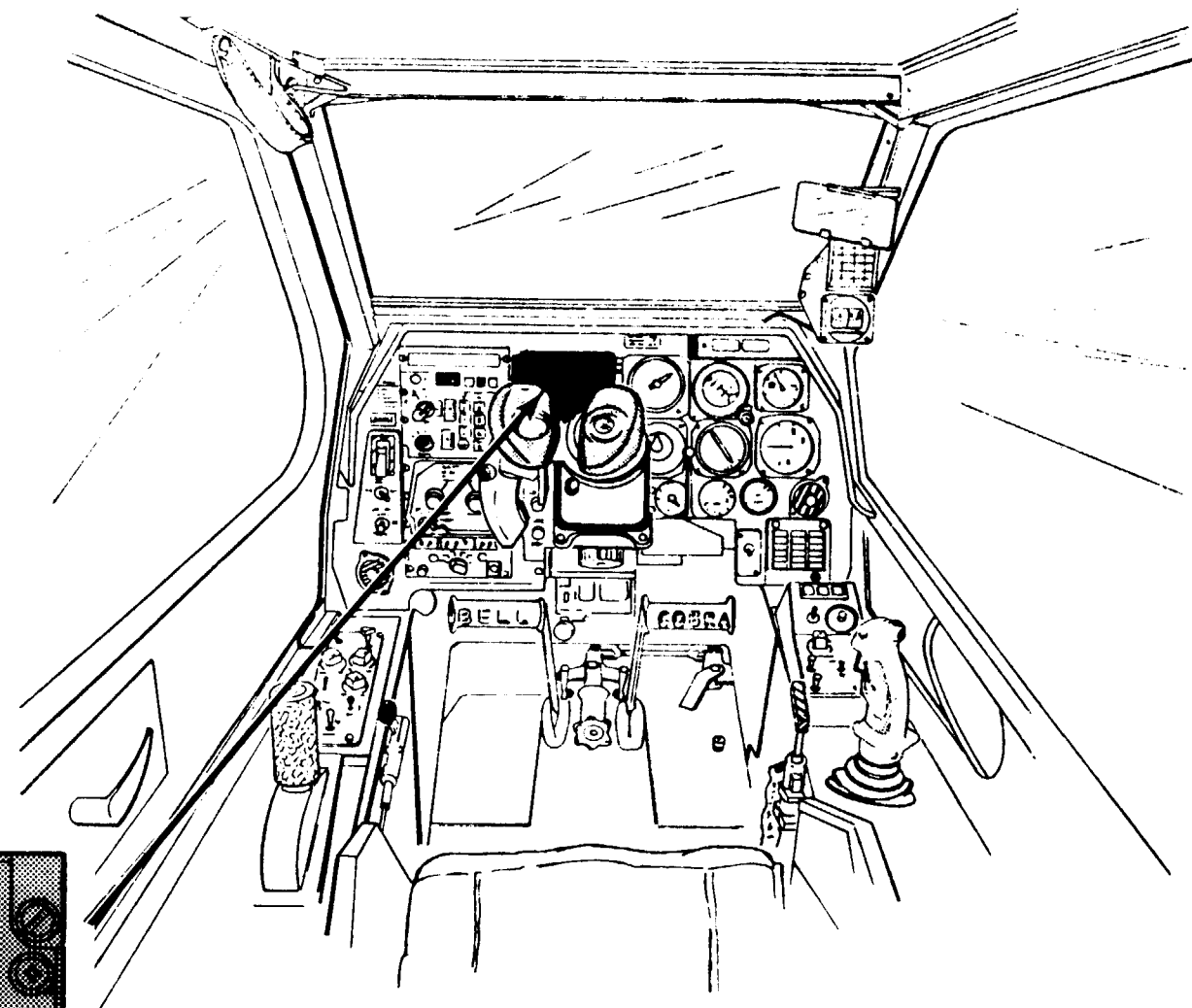
TCP (TOW CONTROL PANEL)
(REAR VIEW)



20A4P01

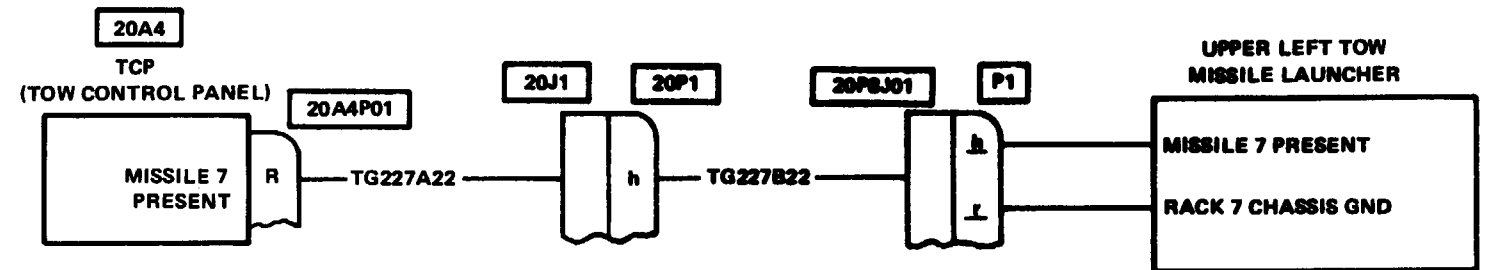
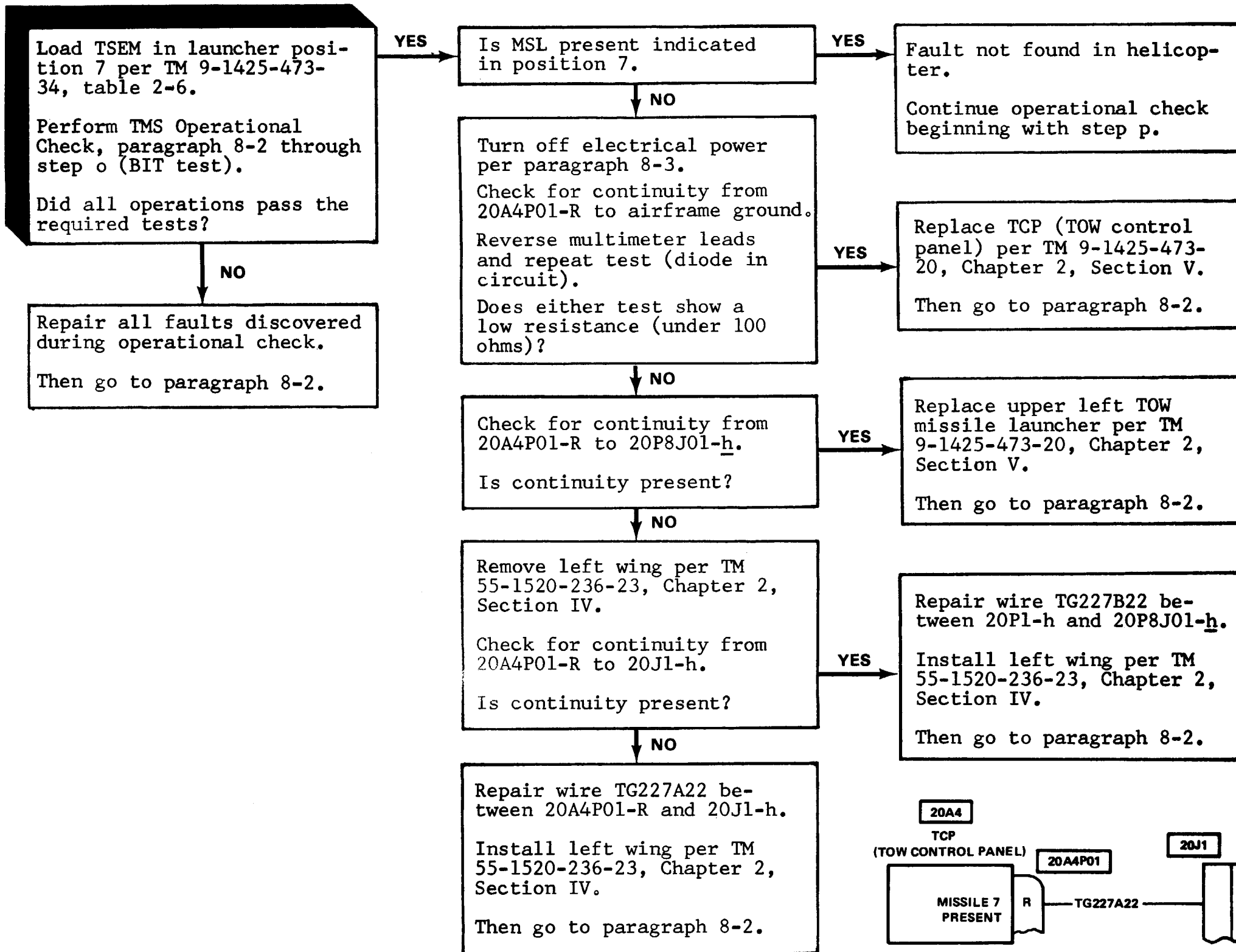


TCP (TOW CONTROL PANEL)



GUNNER STATION

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



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

INITIAL SETUP

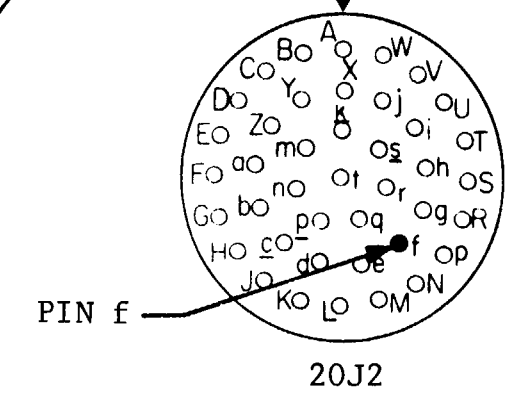
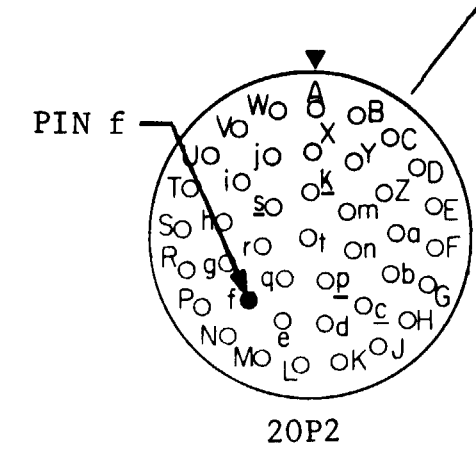
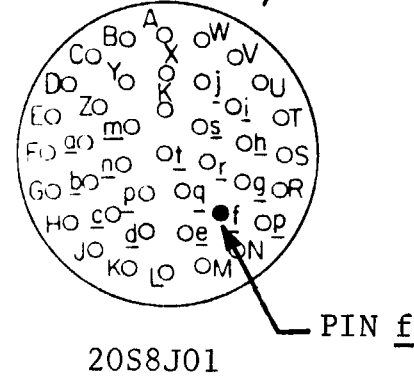
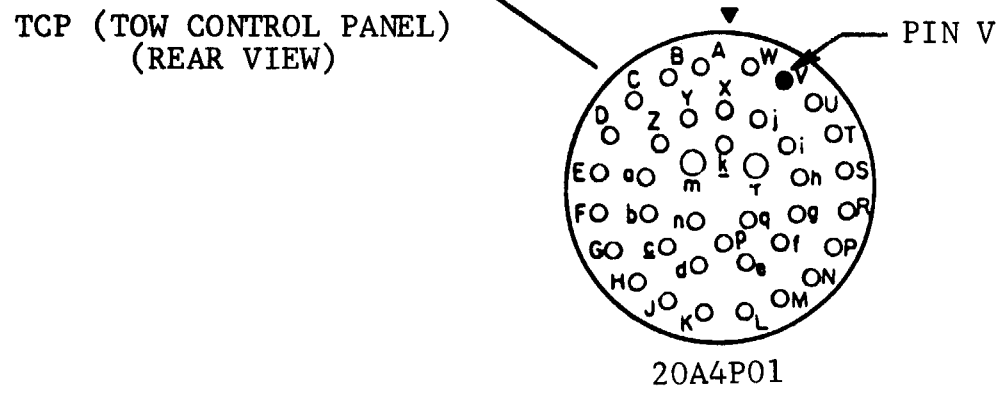
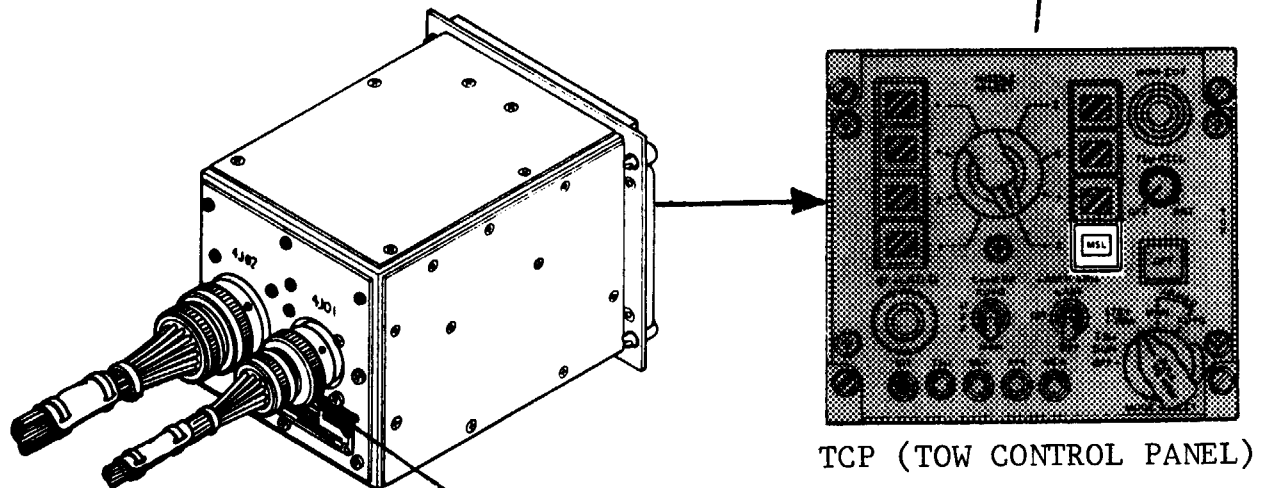
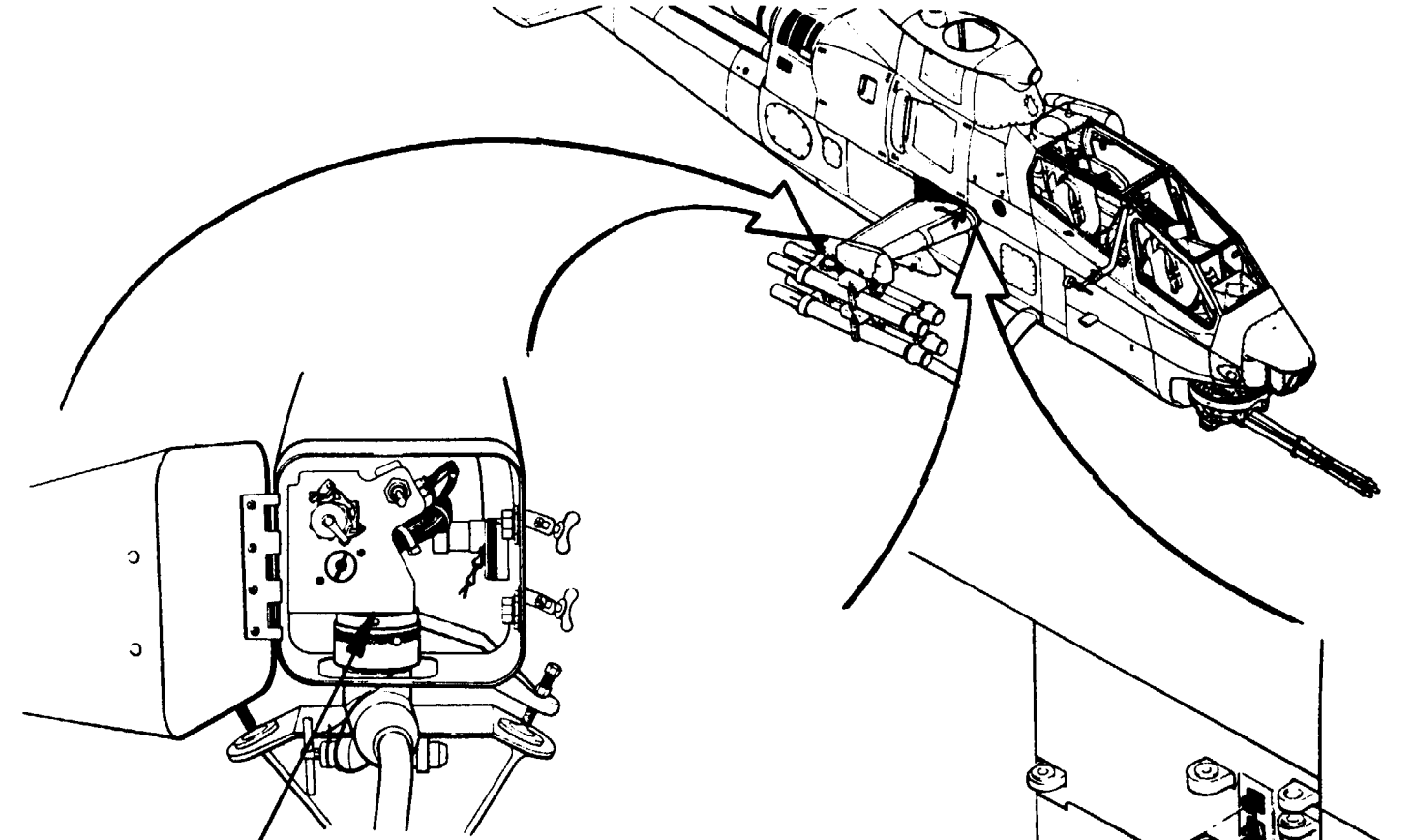
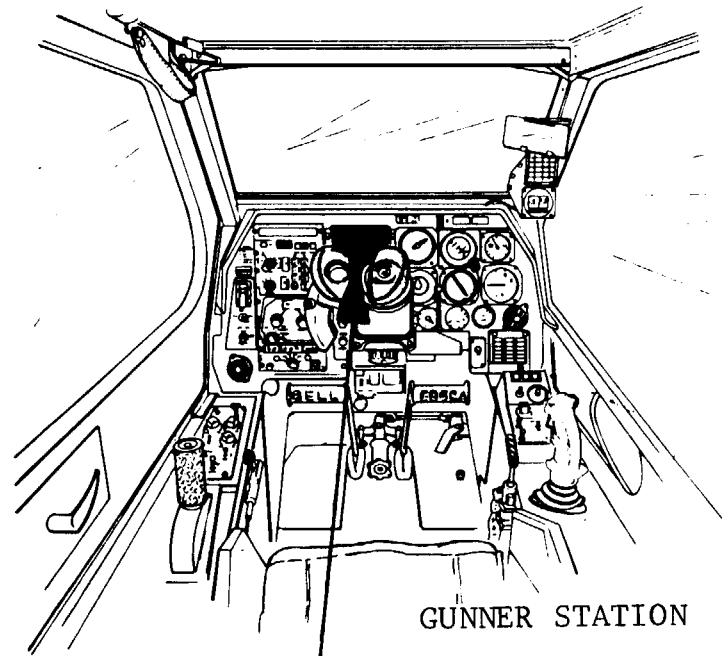
Applicable Configuration
All

Tools/Test and Support
Equipment
Multimeter

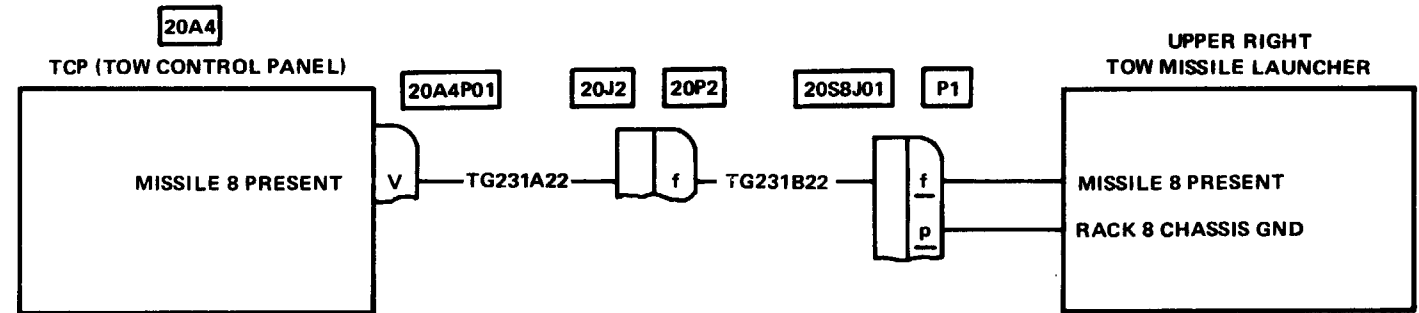
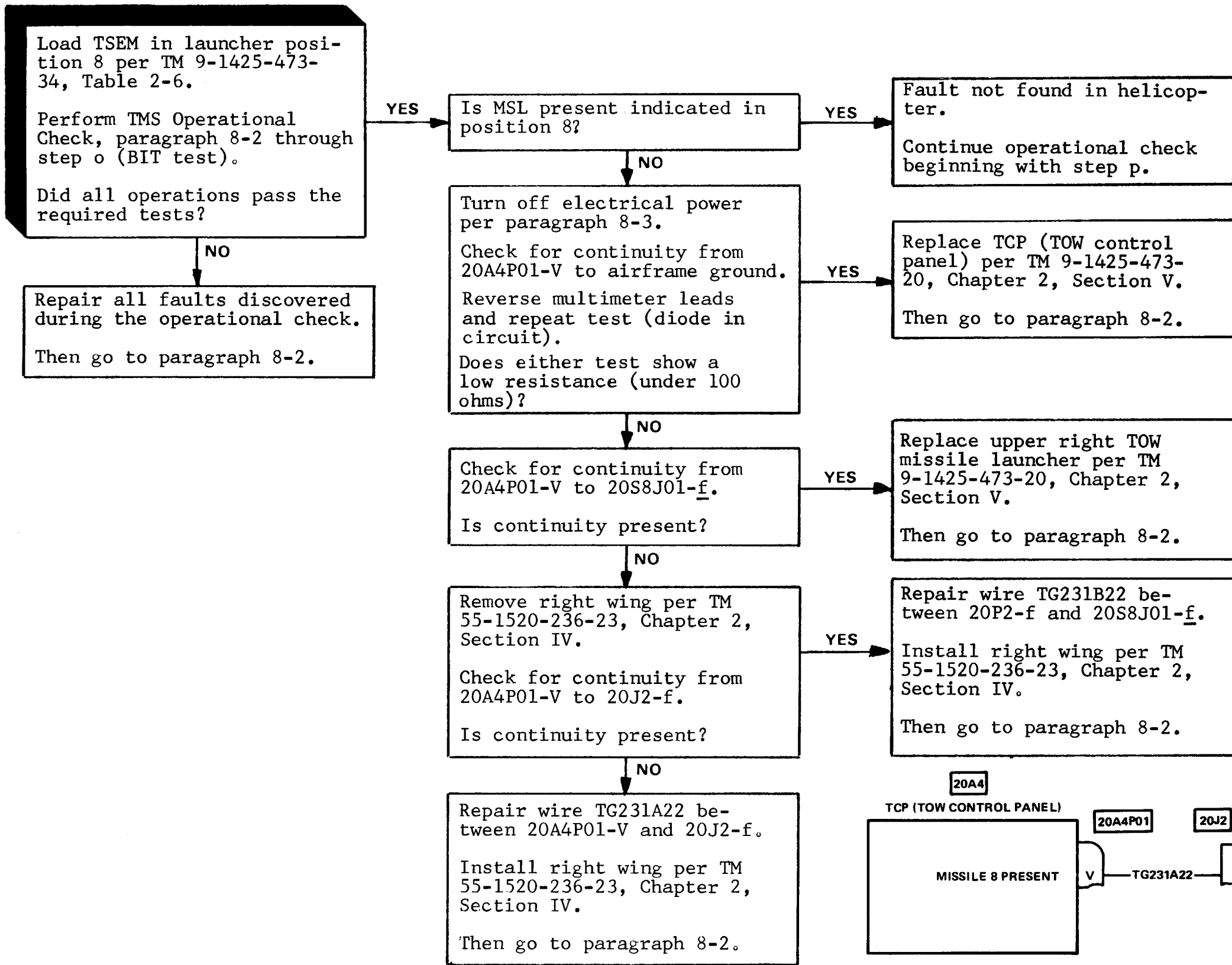
Tool Set, A/C Armament
Repairman

Personnel Required
68J (2)

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



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



8-34. LEFT 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

Battery Compartment - Removed

Radar Altimeter Antenna - Removed

Forward Belly Armament and Lighting - Removed

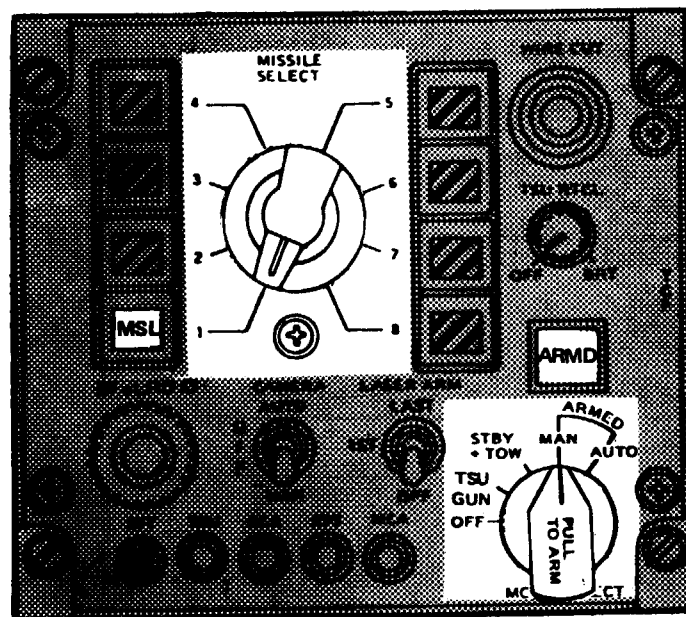
Left Ammo Compartment Door - Open

Servo Electronic Control Unit - Removed

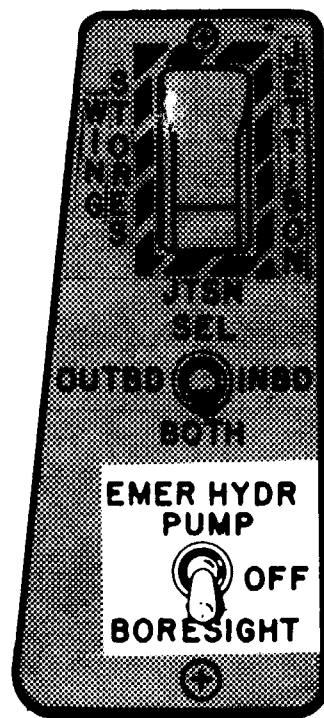
Middle Electronics (Tailboom) - Removed

Left Outboard Pylon Fairing - Removed

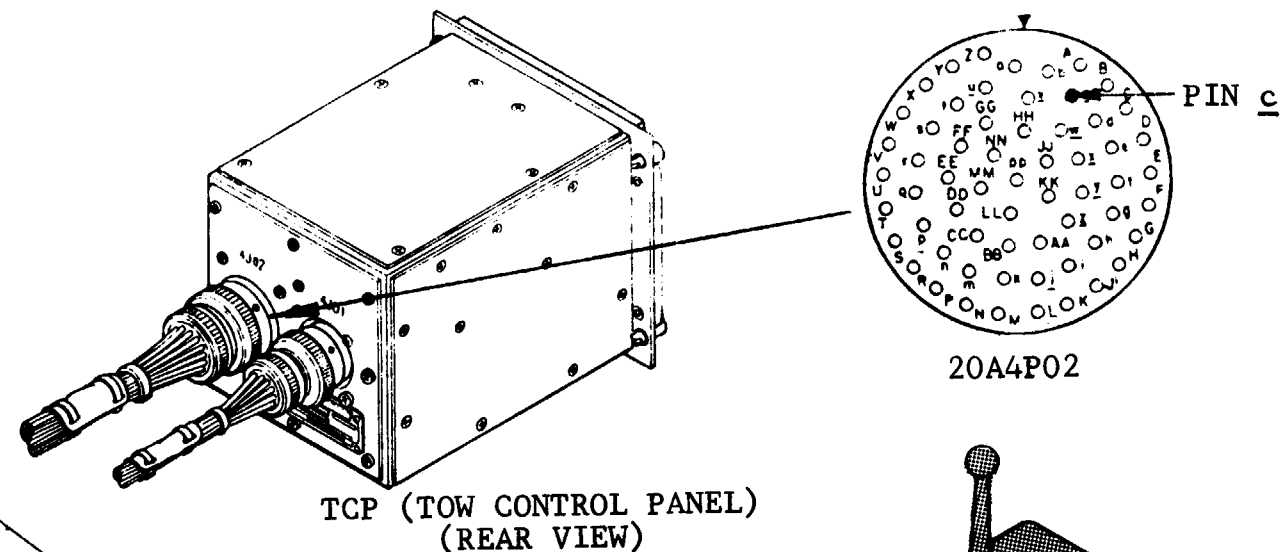
A. TROUBLESHOOTING LOGIC PART ONE.



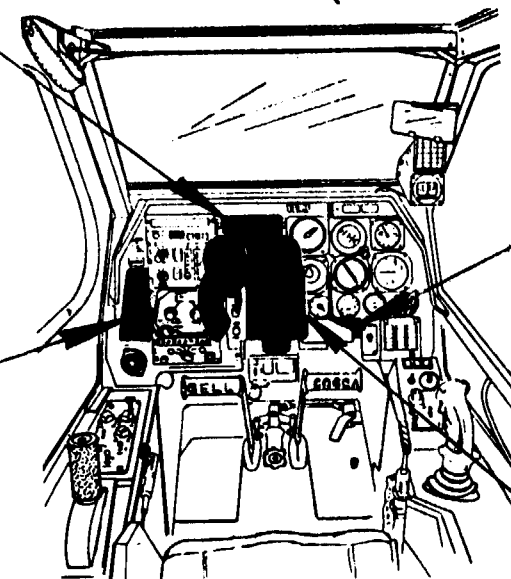
TCP (TOW CONTROL PANEL)



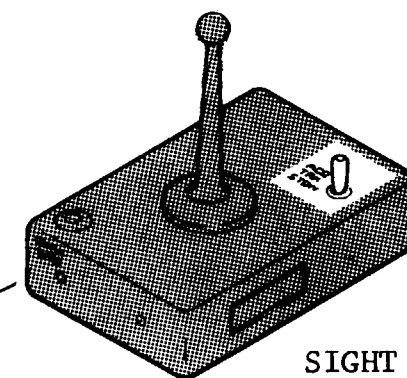
SWITCH PANEL



TCP (TOW CONTROL PANEL) (REAR VIEW)

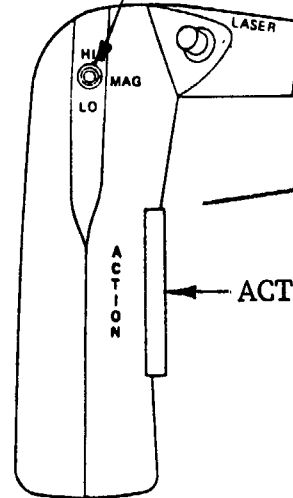


GUNNER STATION



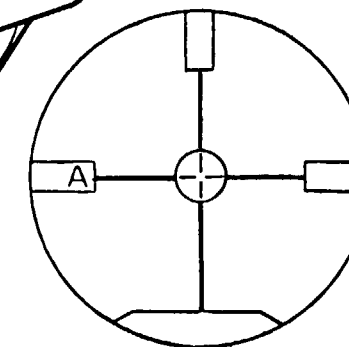
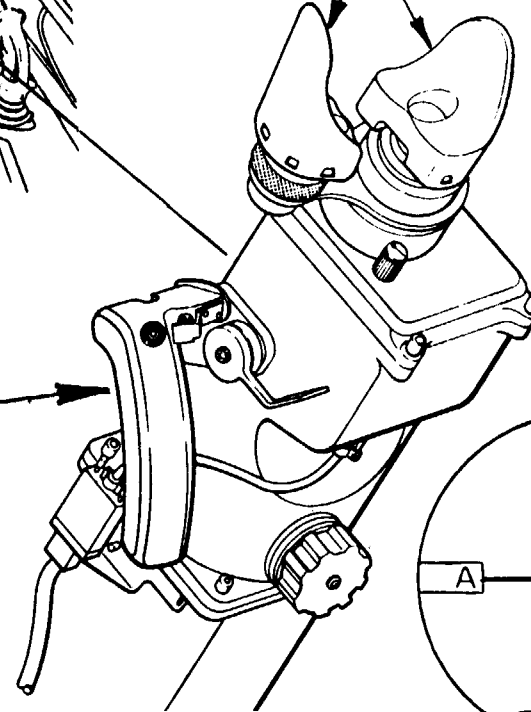
SIGHT HAND CONTROL

MAG SWITCH



LEFT HAND GRIP

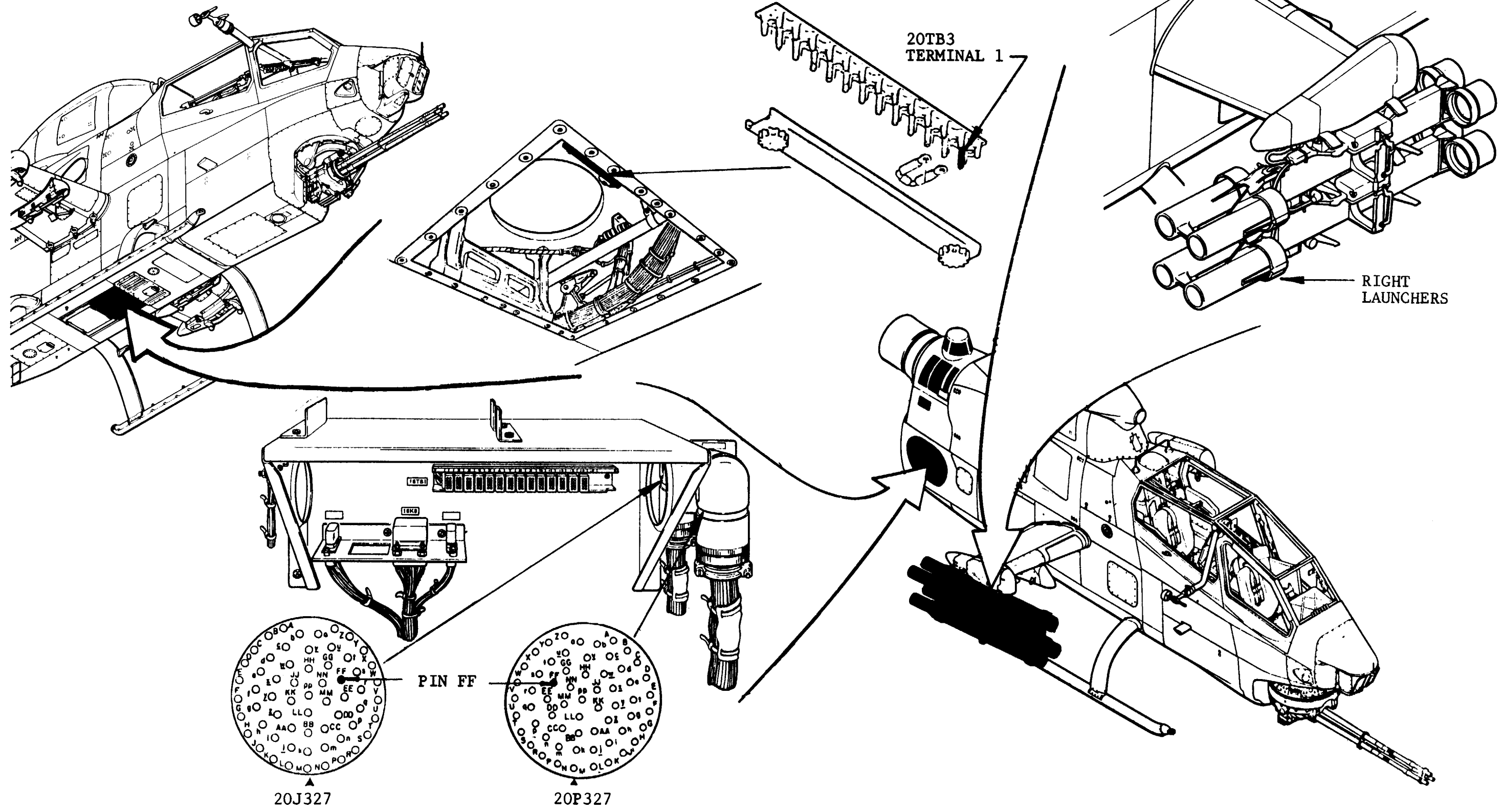
ACTION SWITCH



TSU EYEPIECE

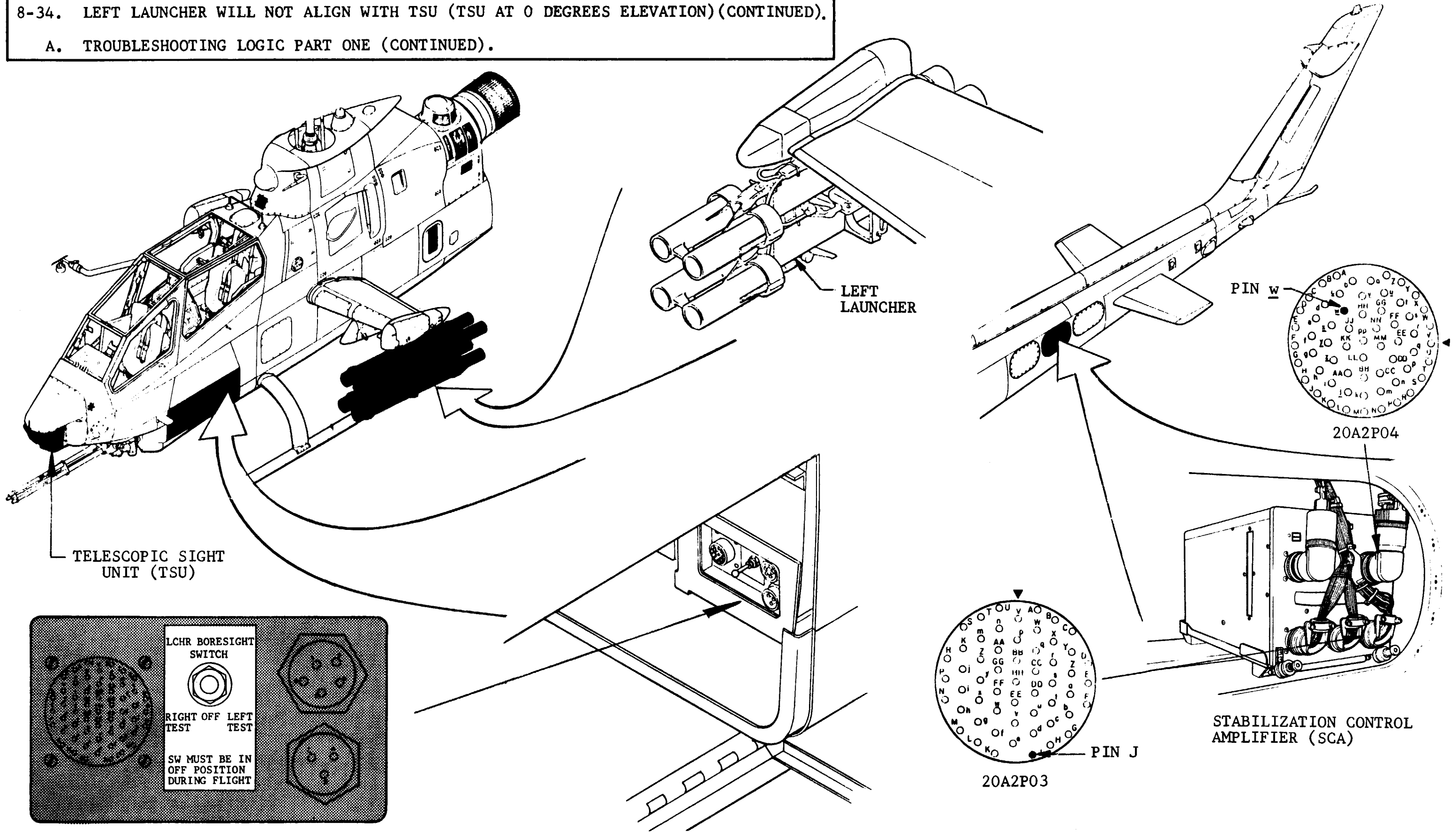
EYEPIECE

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

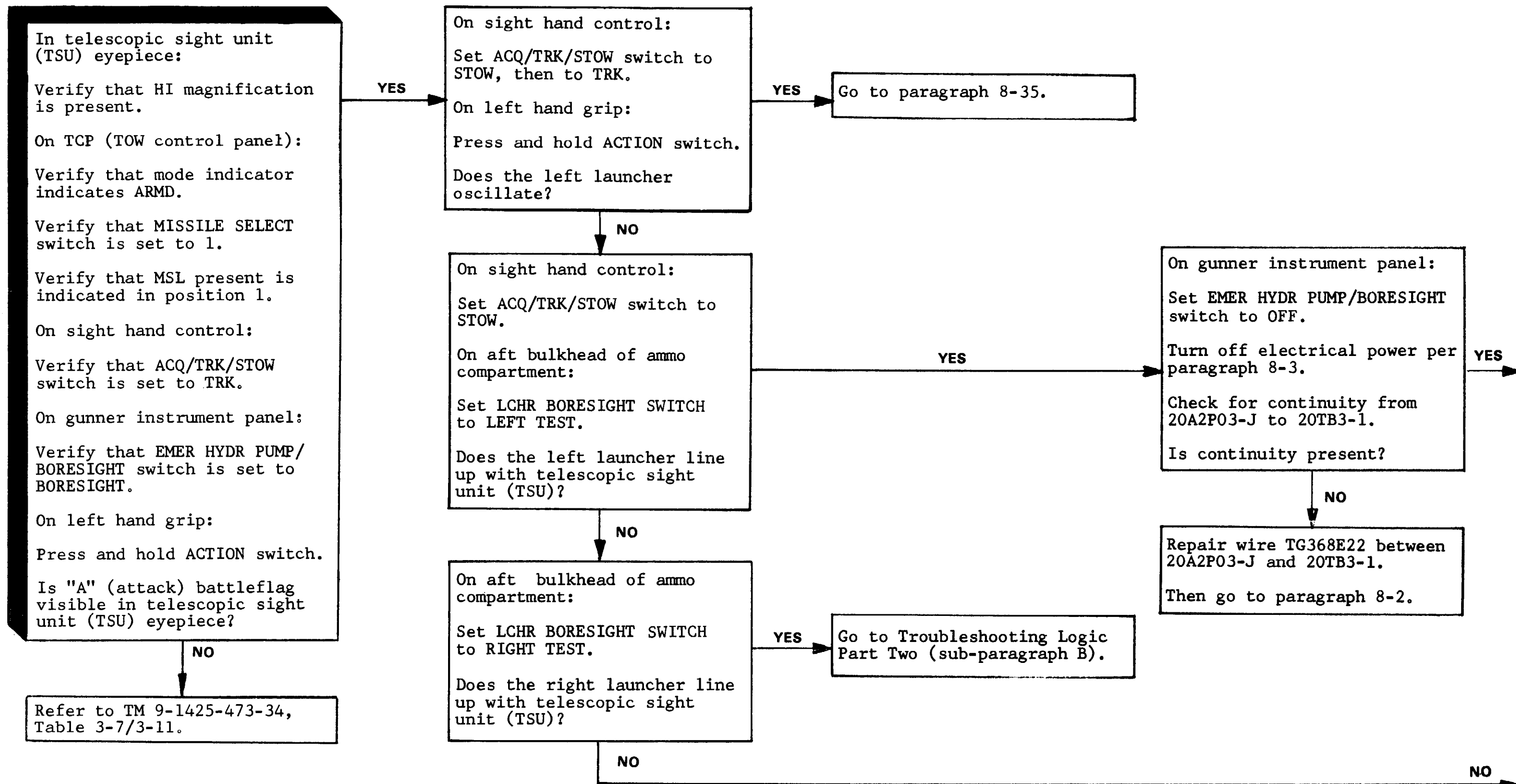


8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

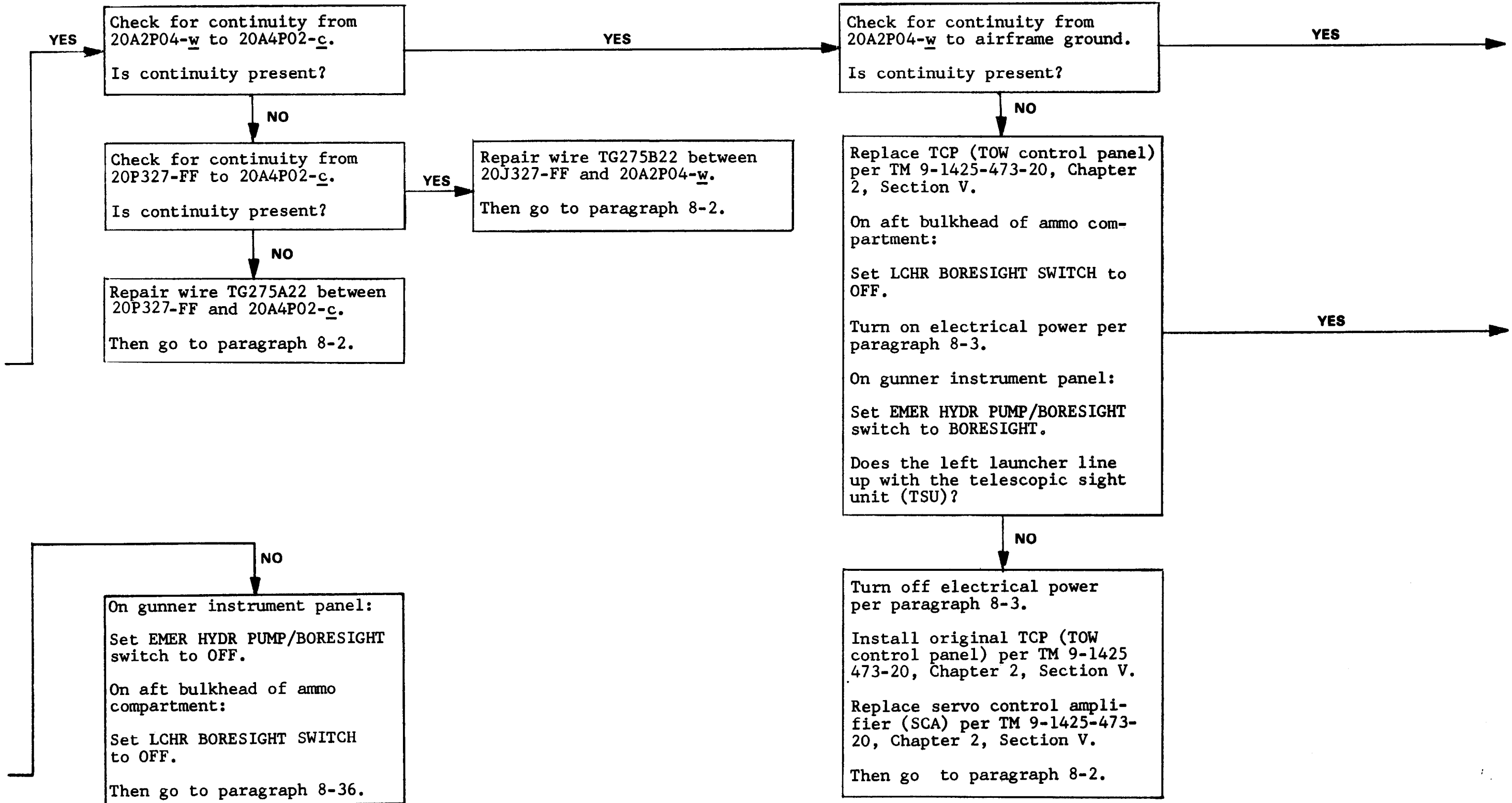
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



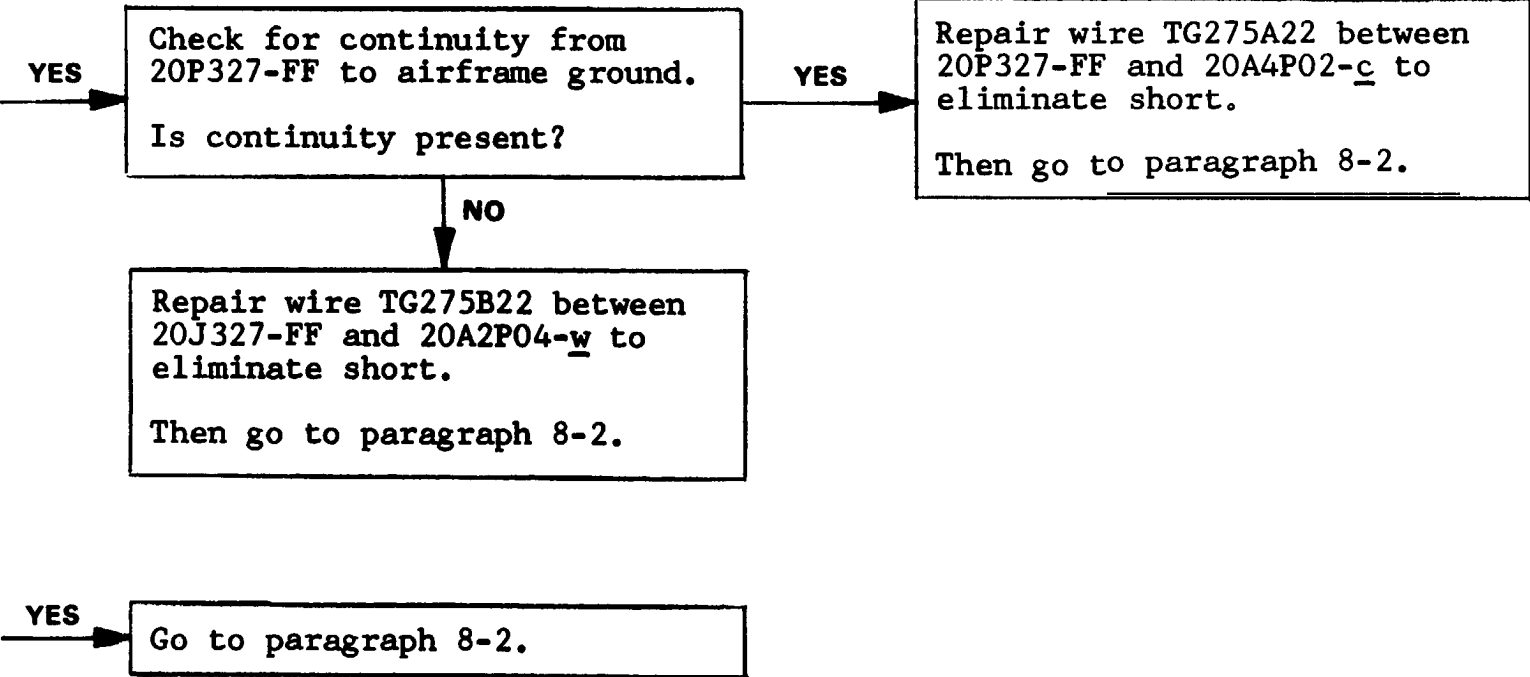
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION)(CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



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



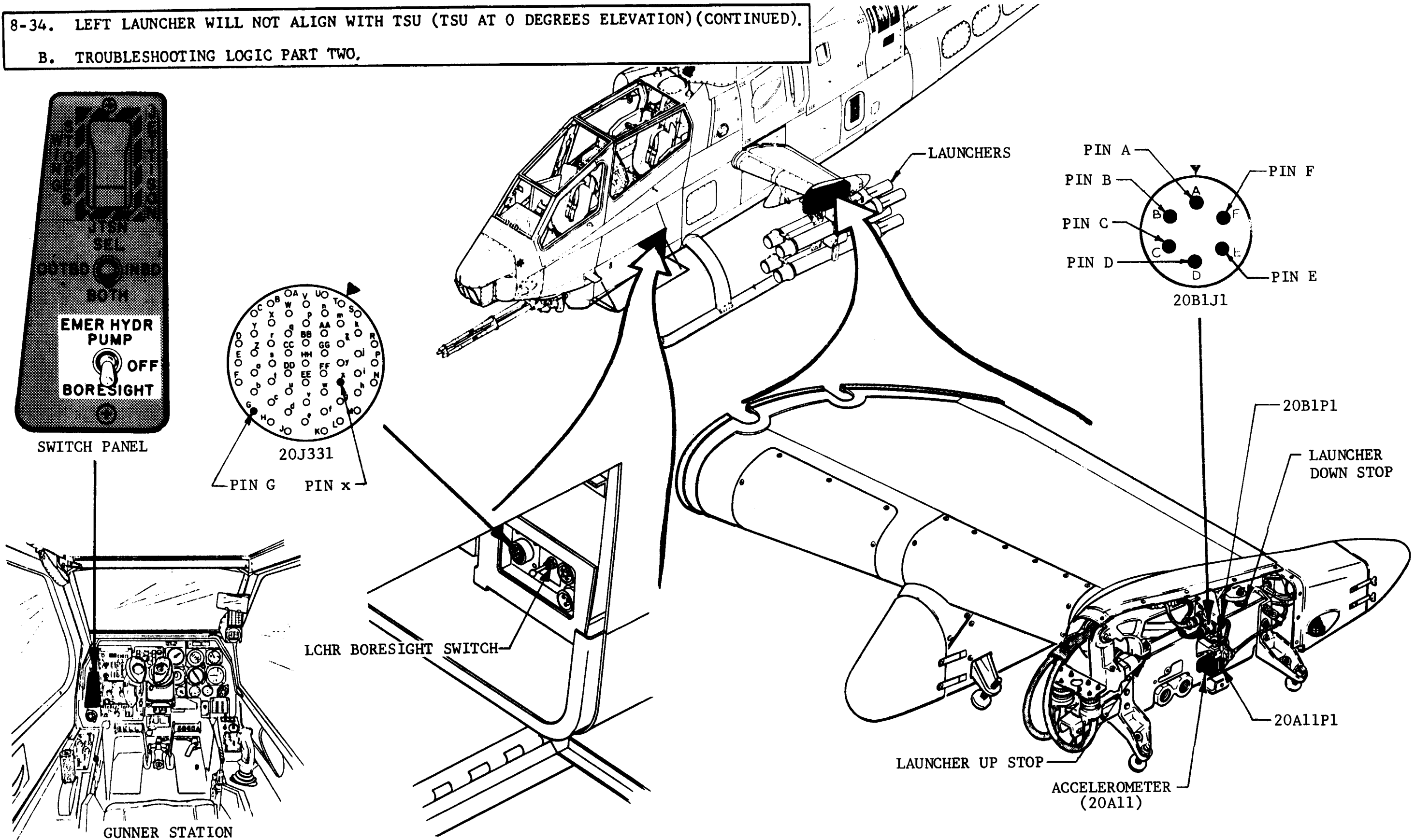
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



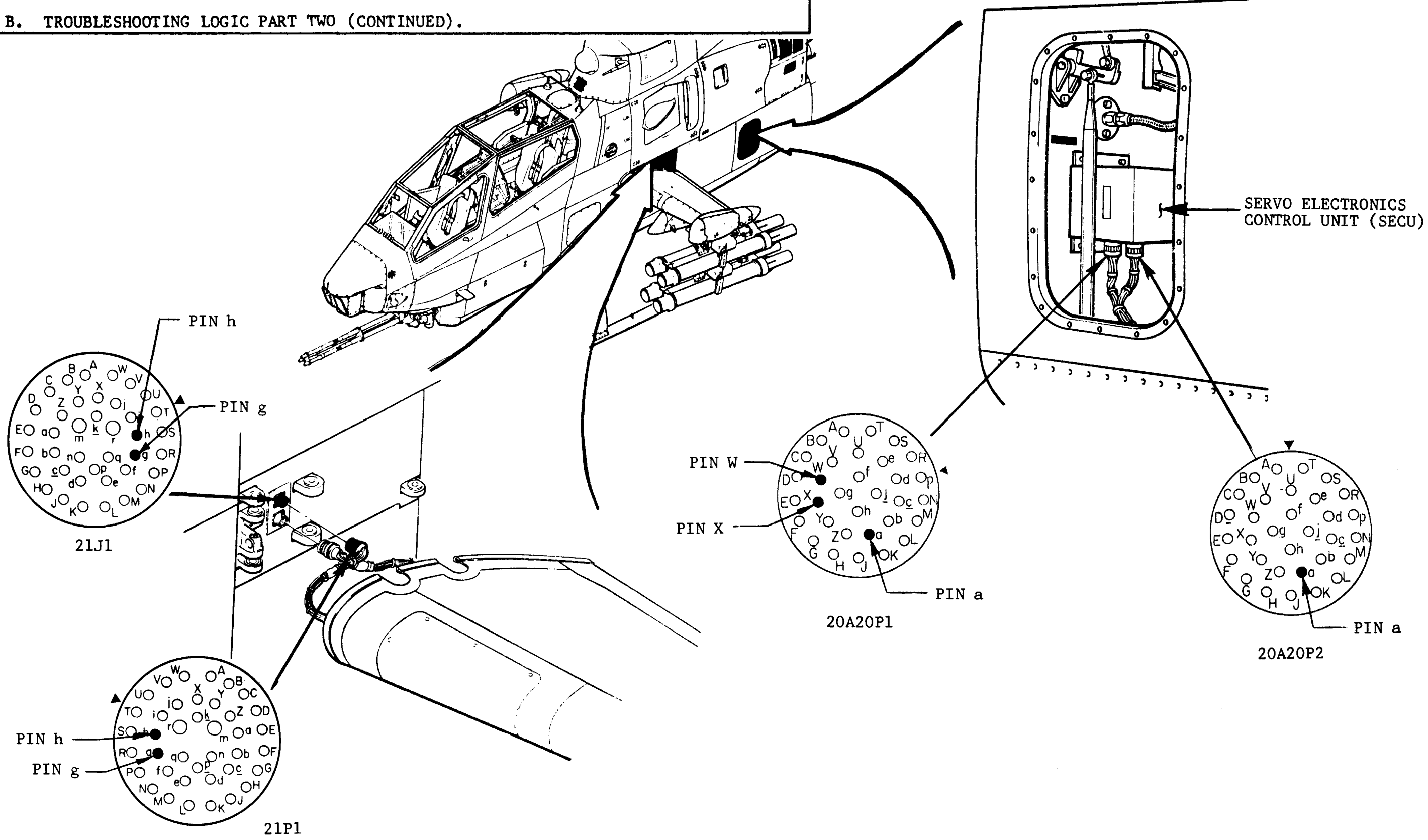
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8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

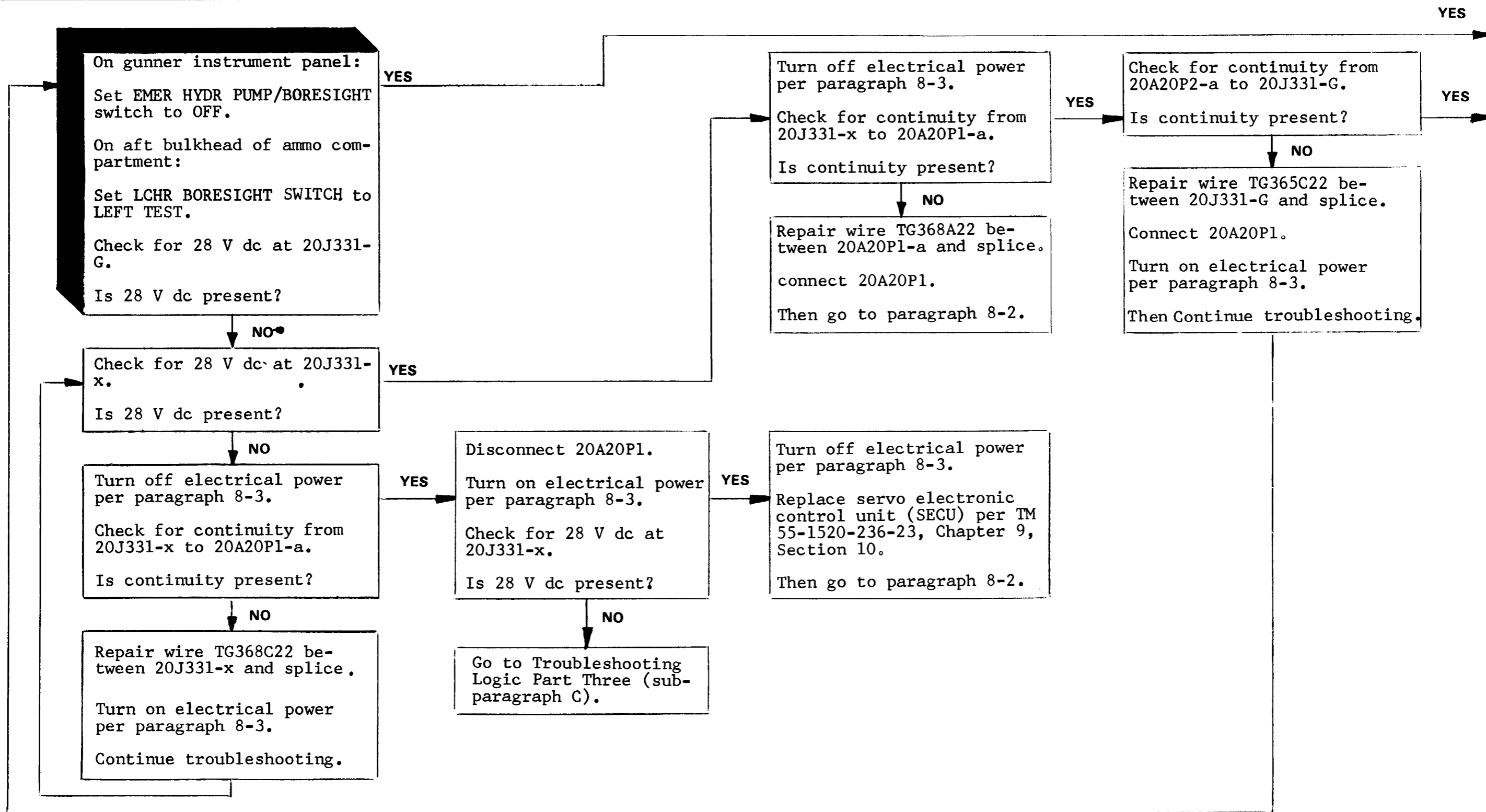
B. TROUBLESHOOTING LOGIC PART TWO.



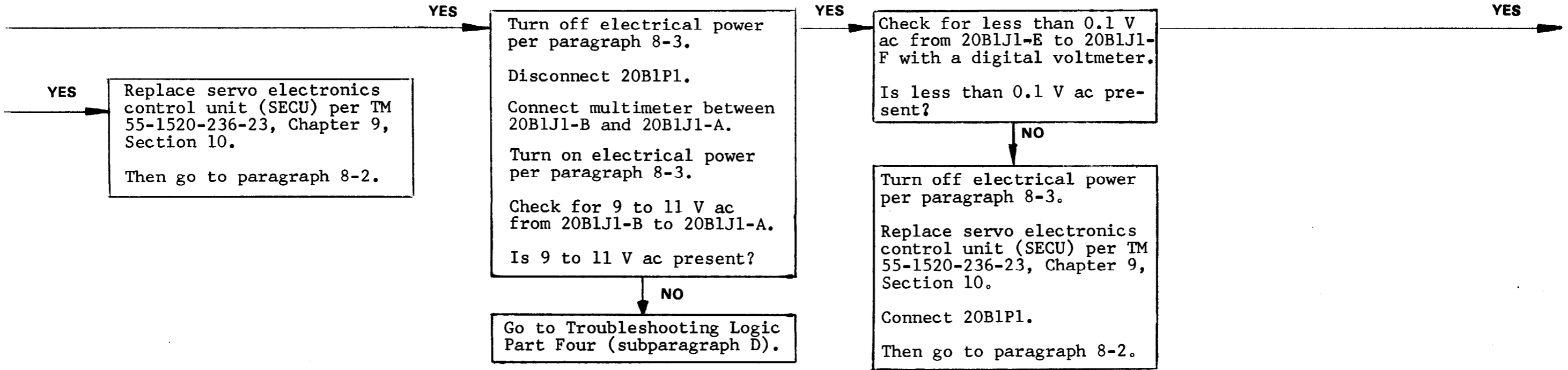
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



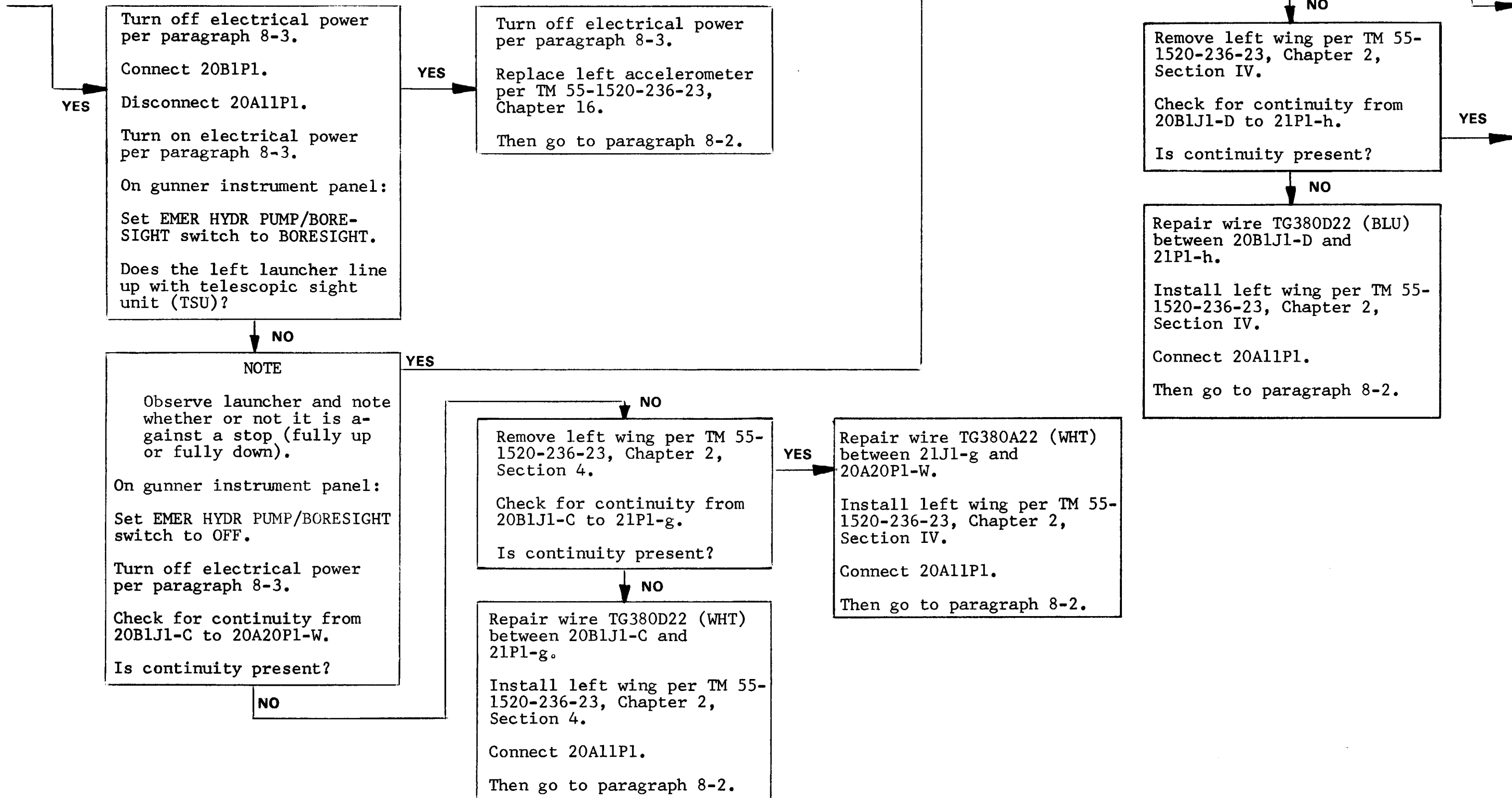
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



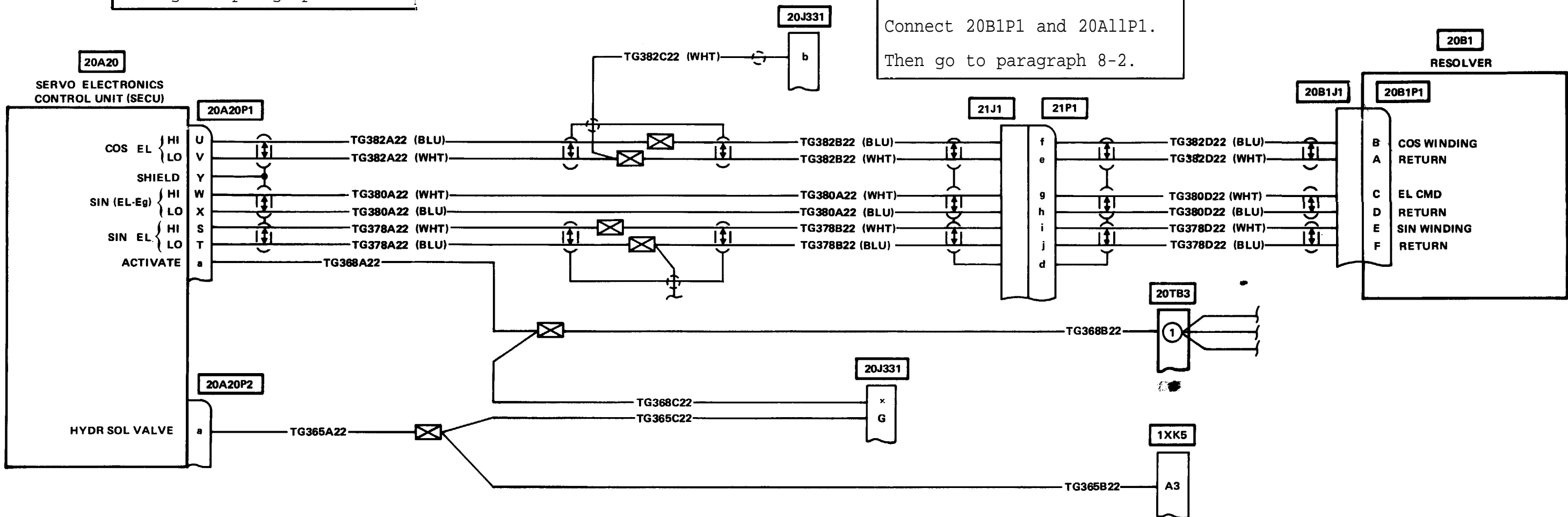
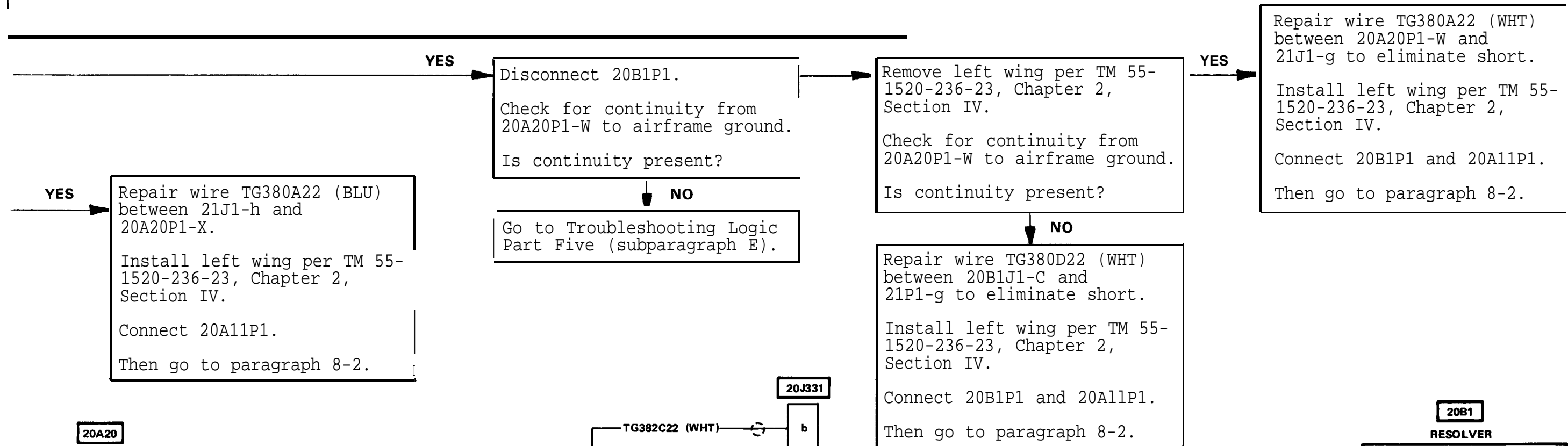
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



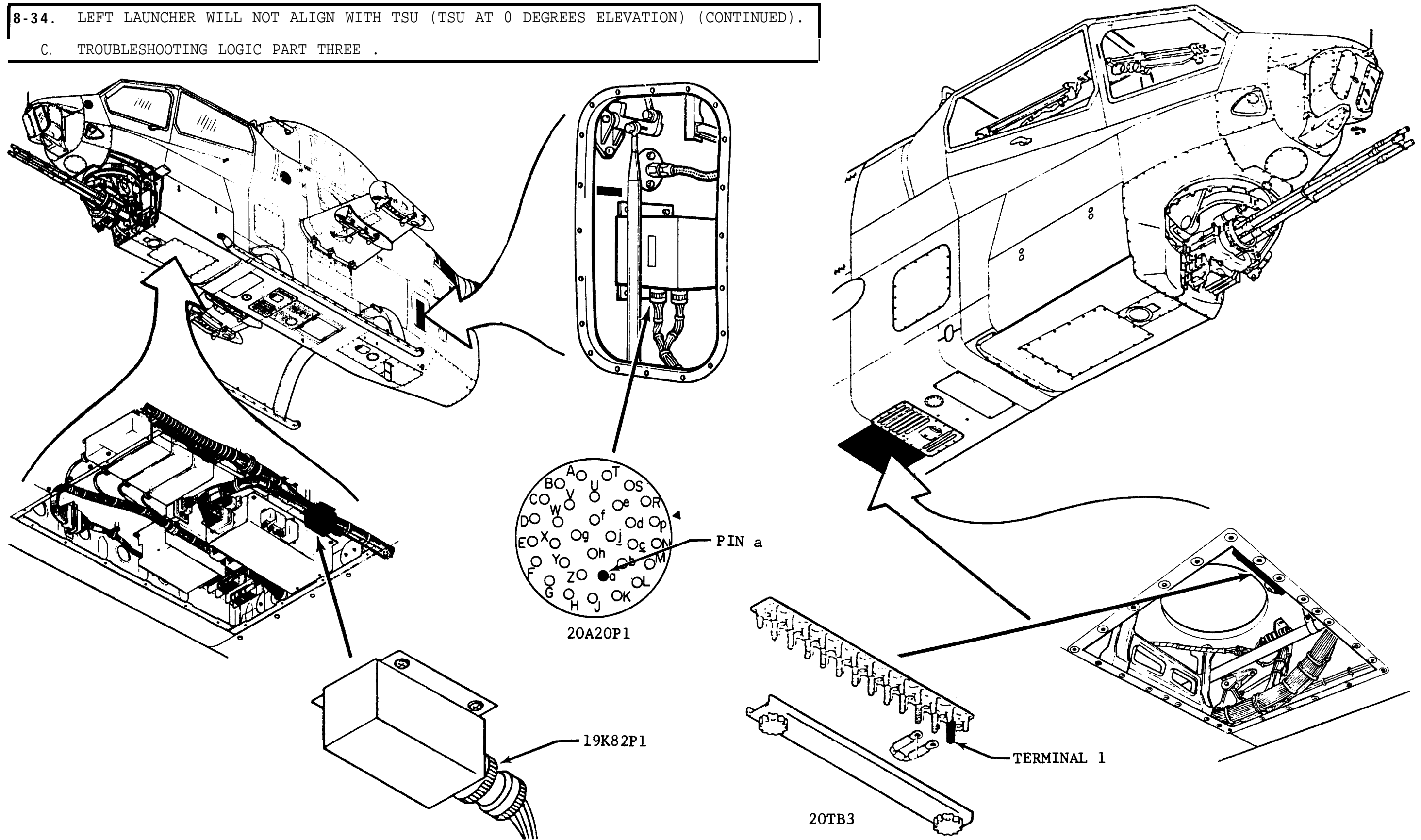
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



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

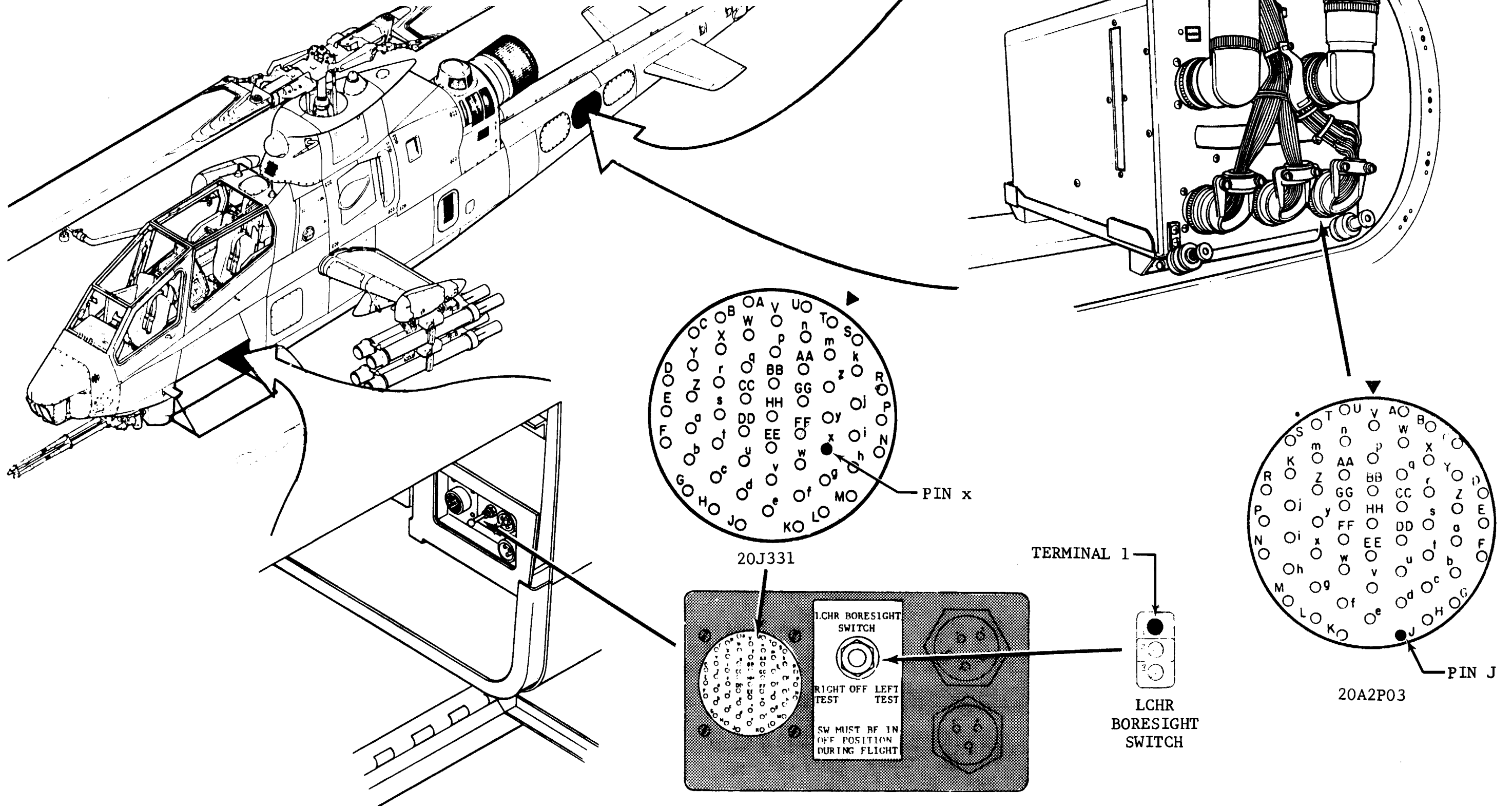


8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
C. TROUBLESHOOTING LOGIC PART THREE .



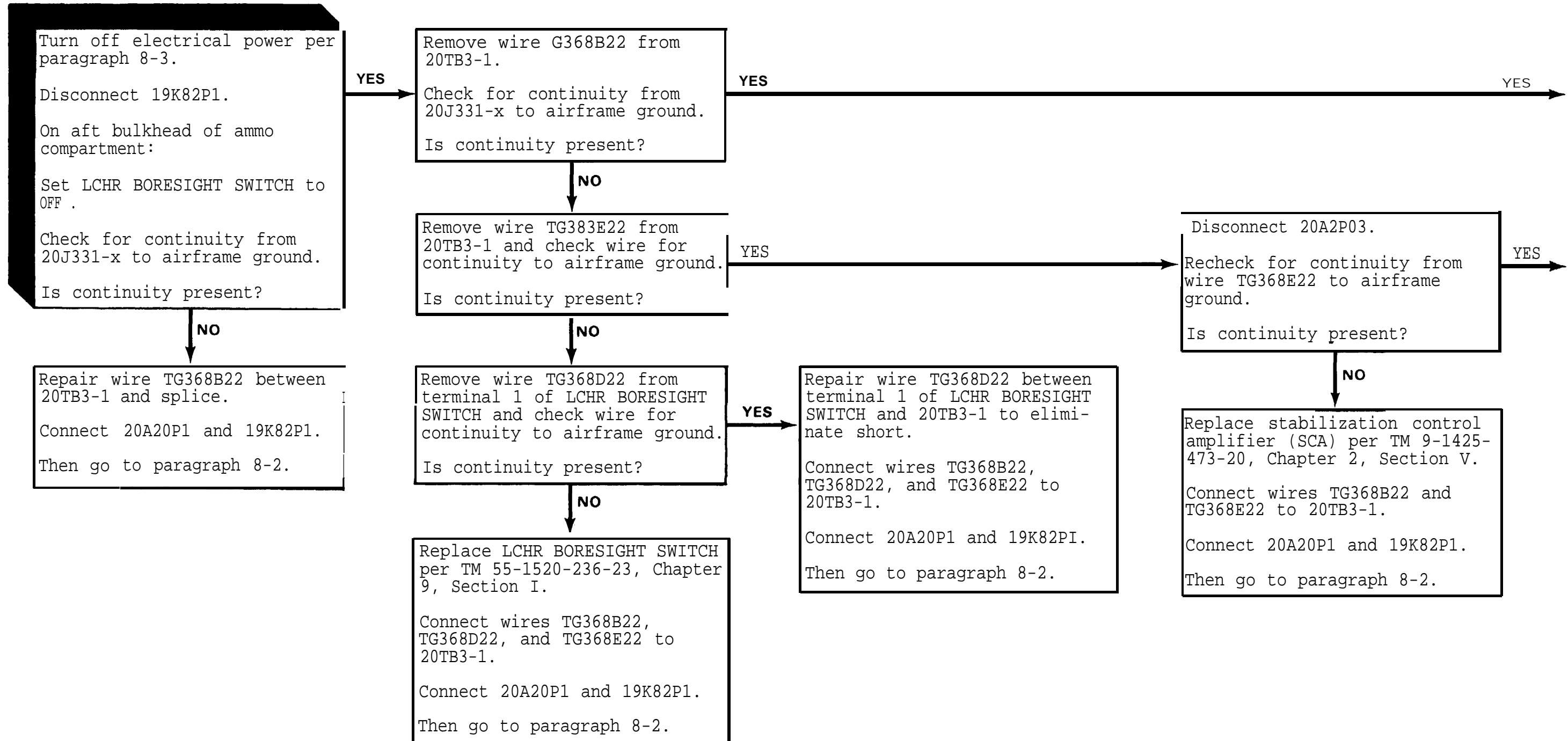
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

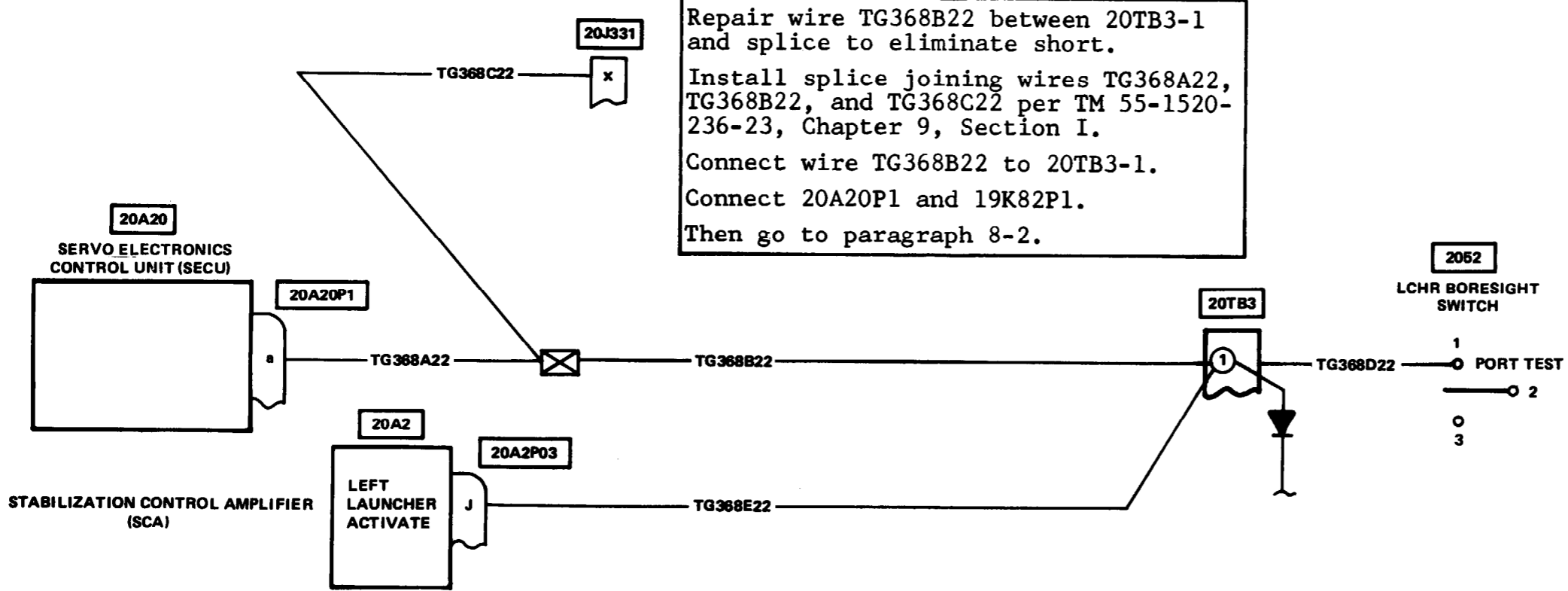
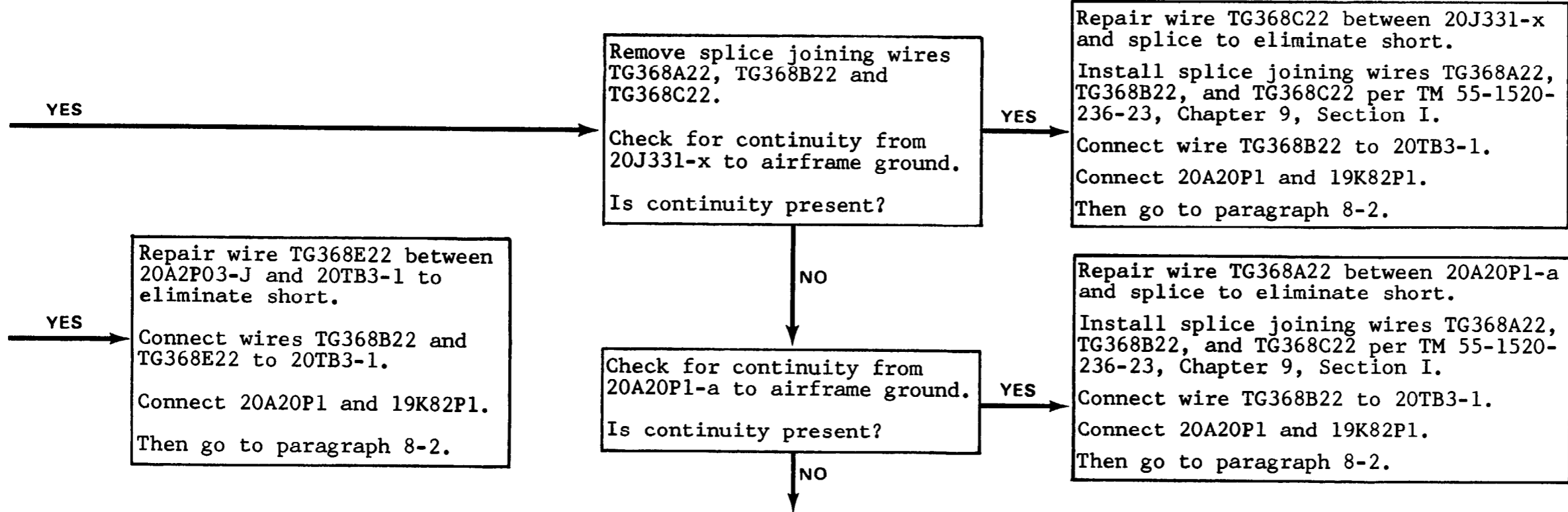


8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

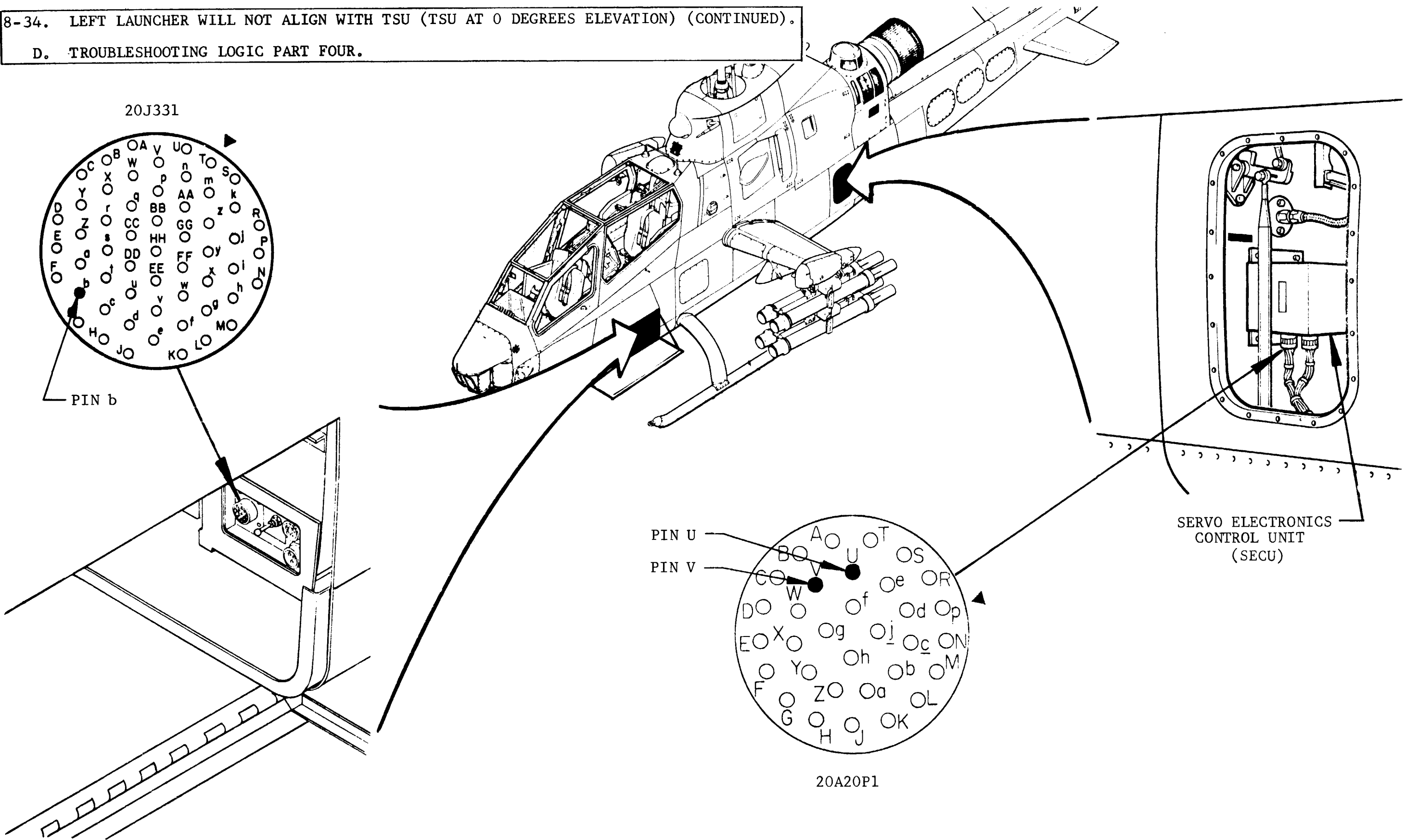
C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

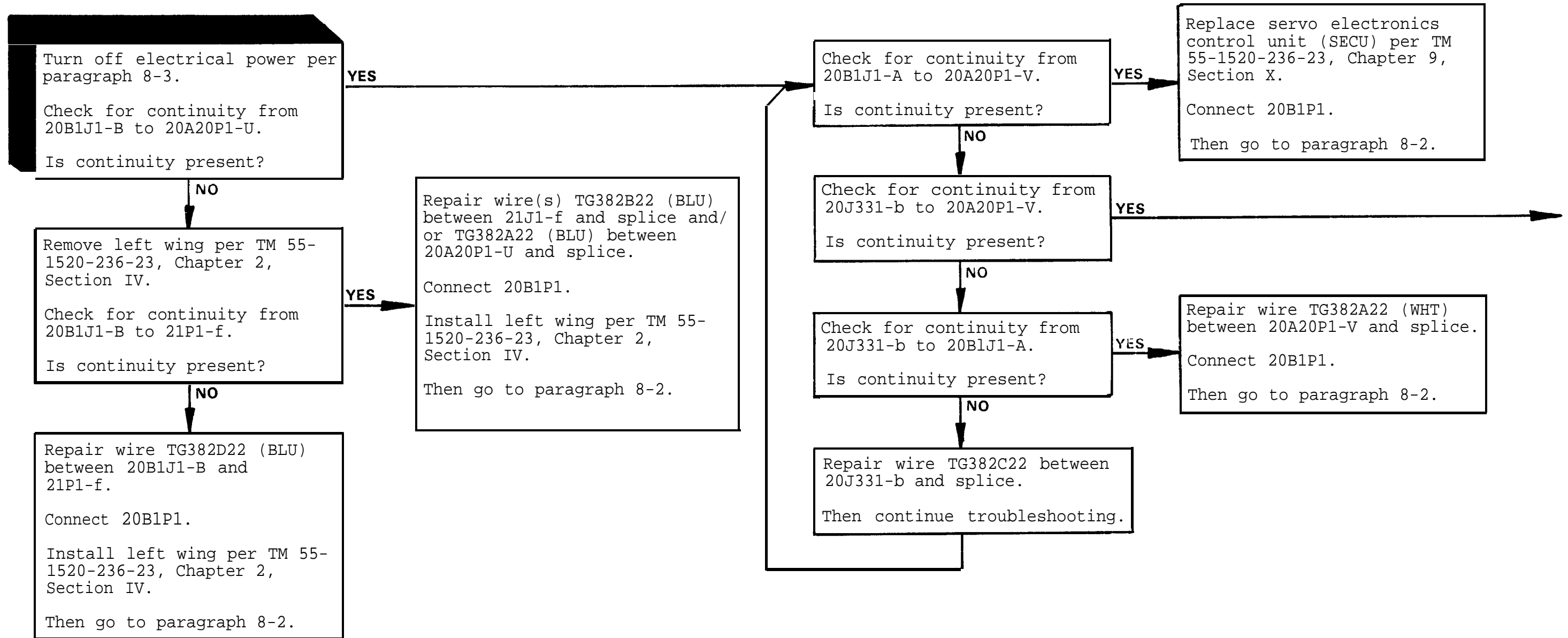


8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
D. TROUBLESHOOTING LOGIC PART FOUR.

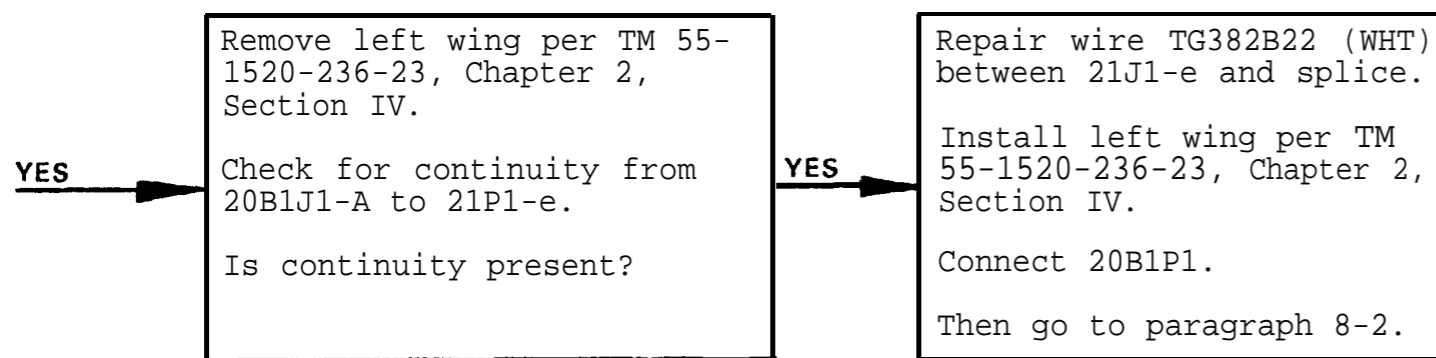


8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

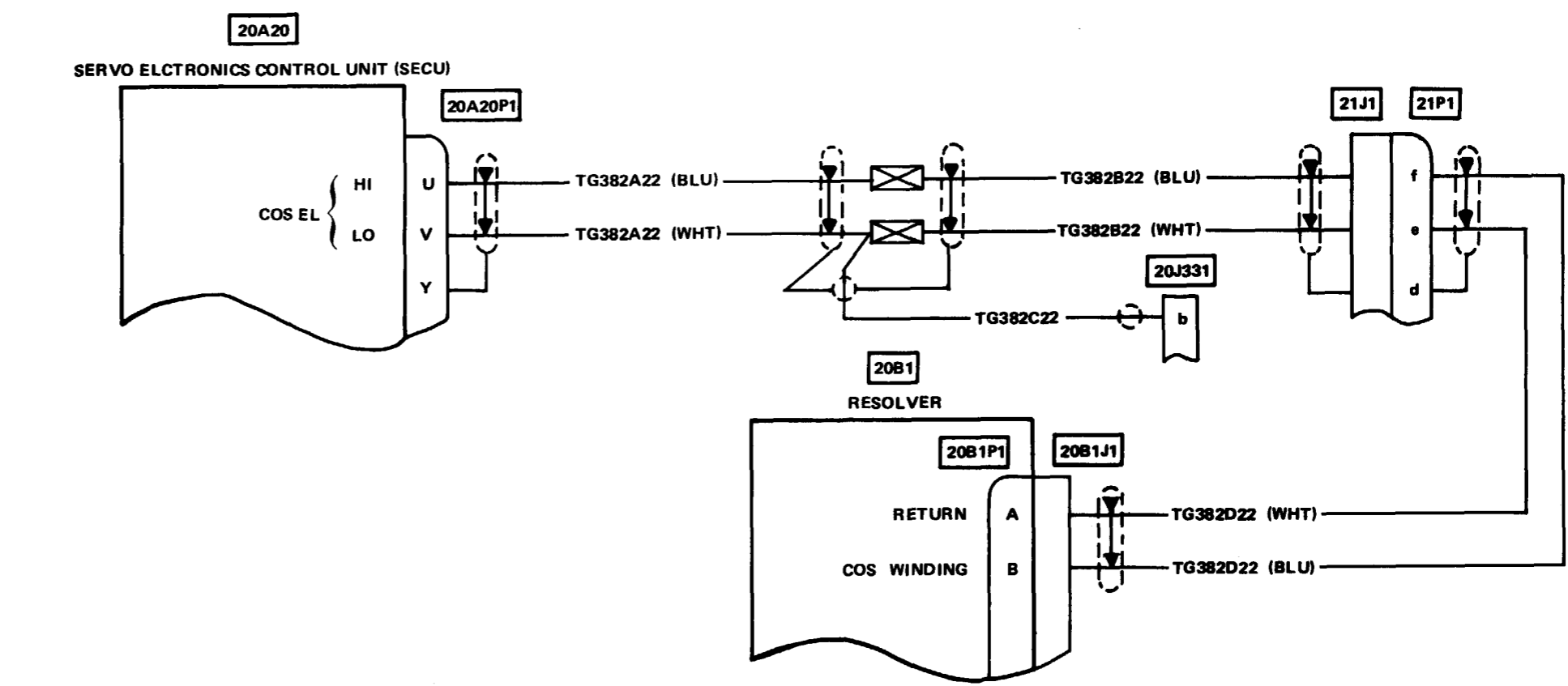
D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



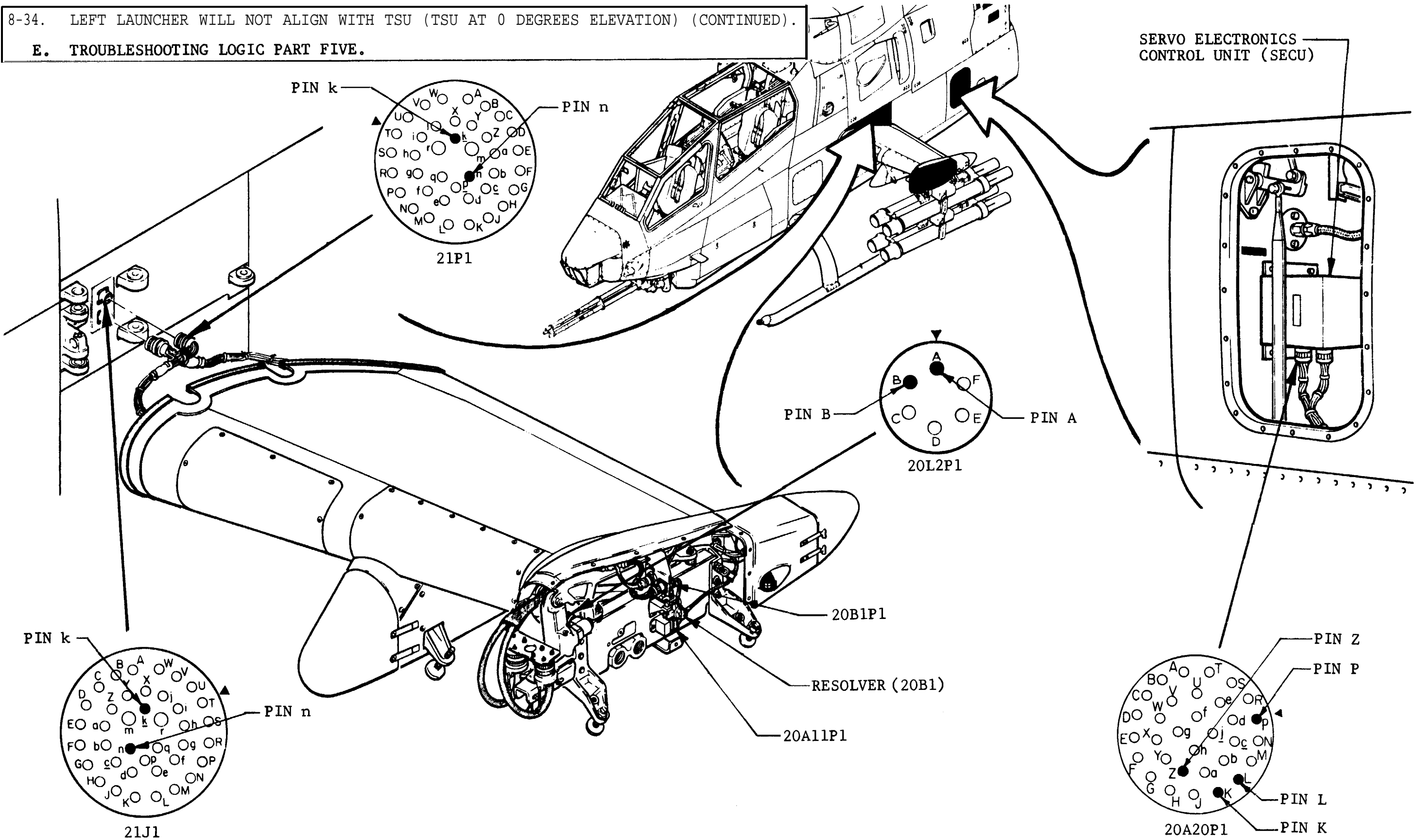
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



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.

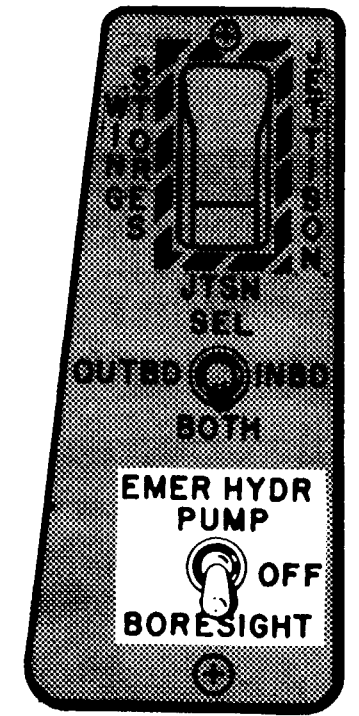
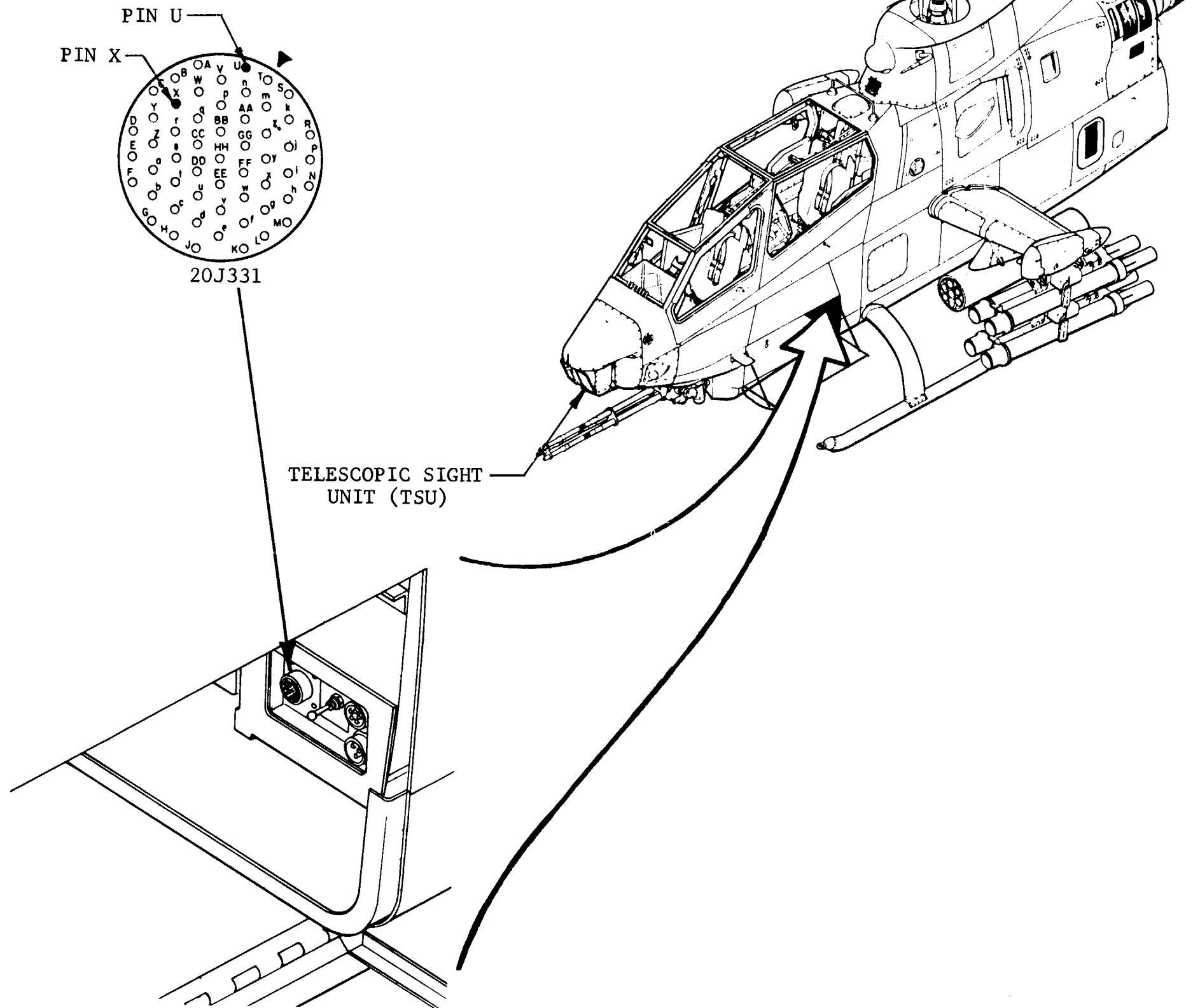


8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
E. TROUBLESHOOTING LOGIC PART FIVE.

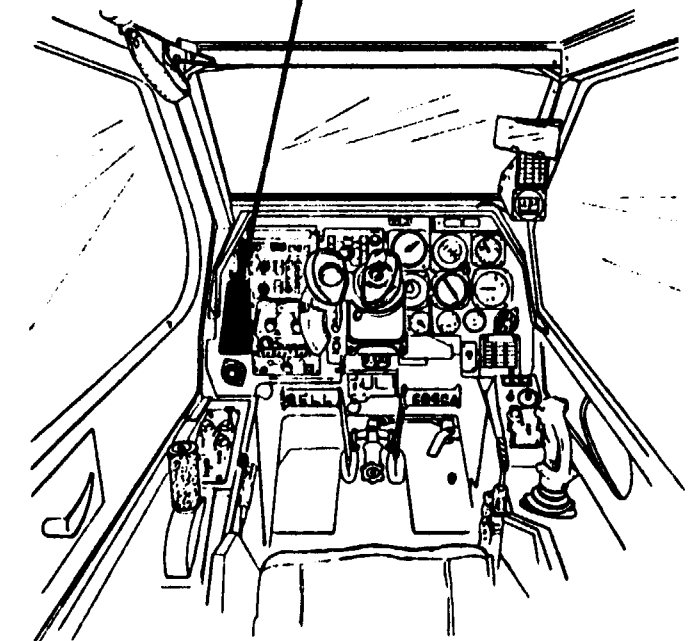


8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

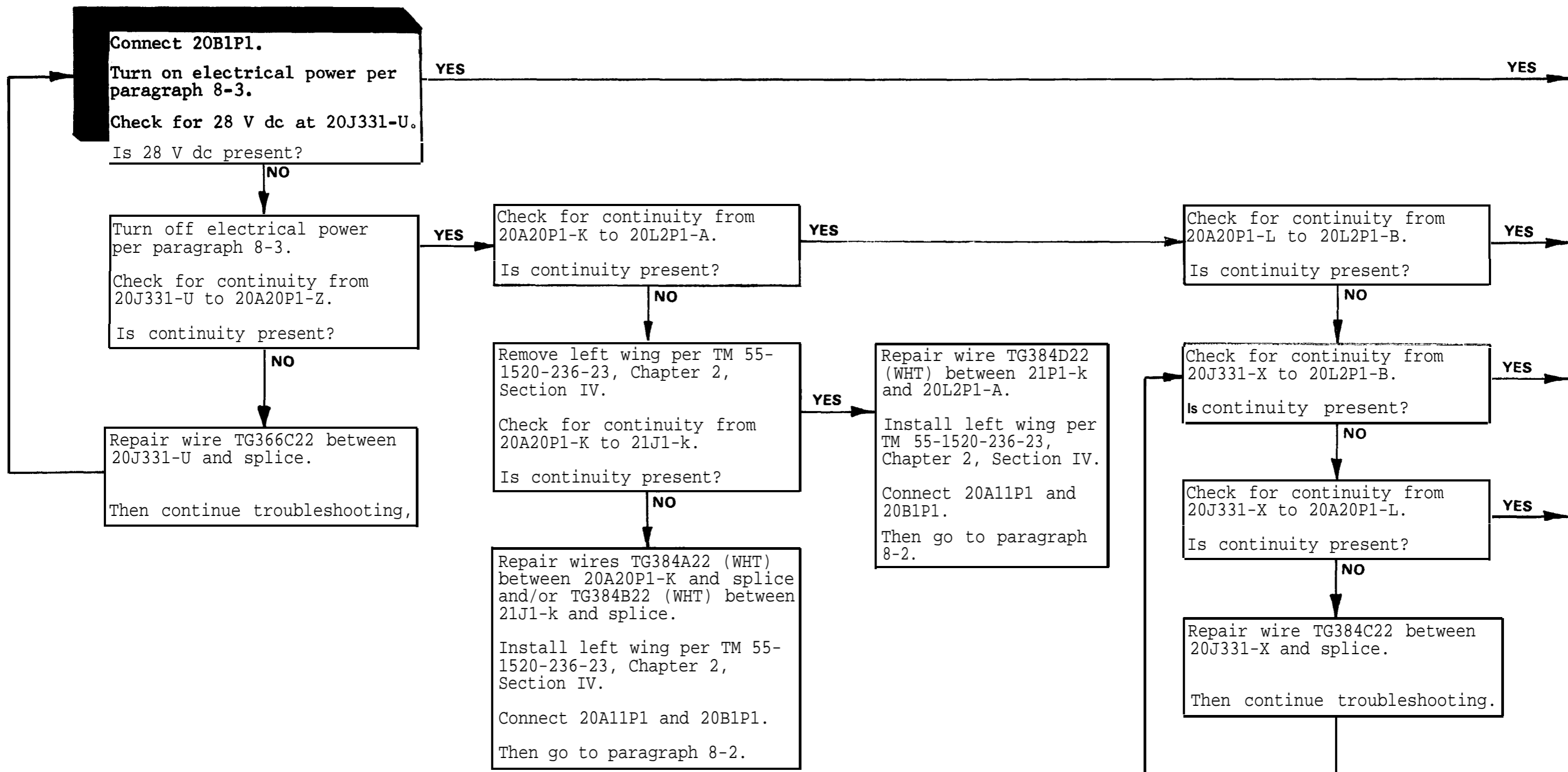


SWITCH PANEL

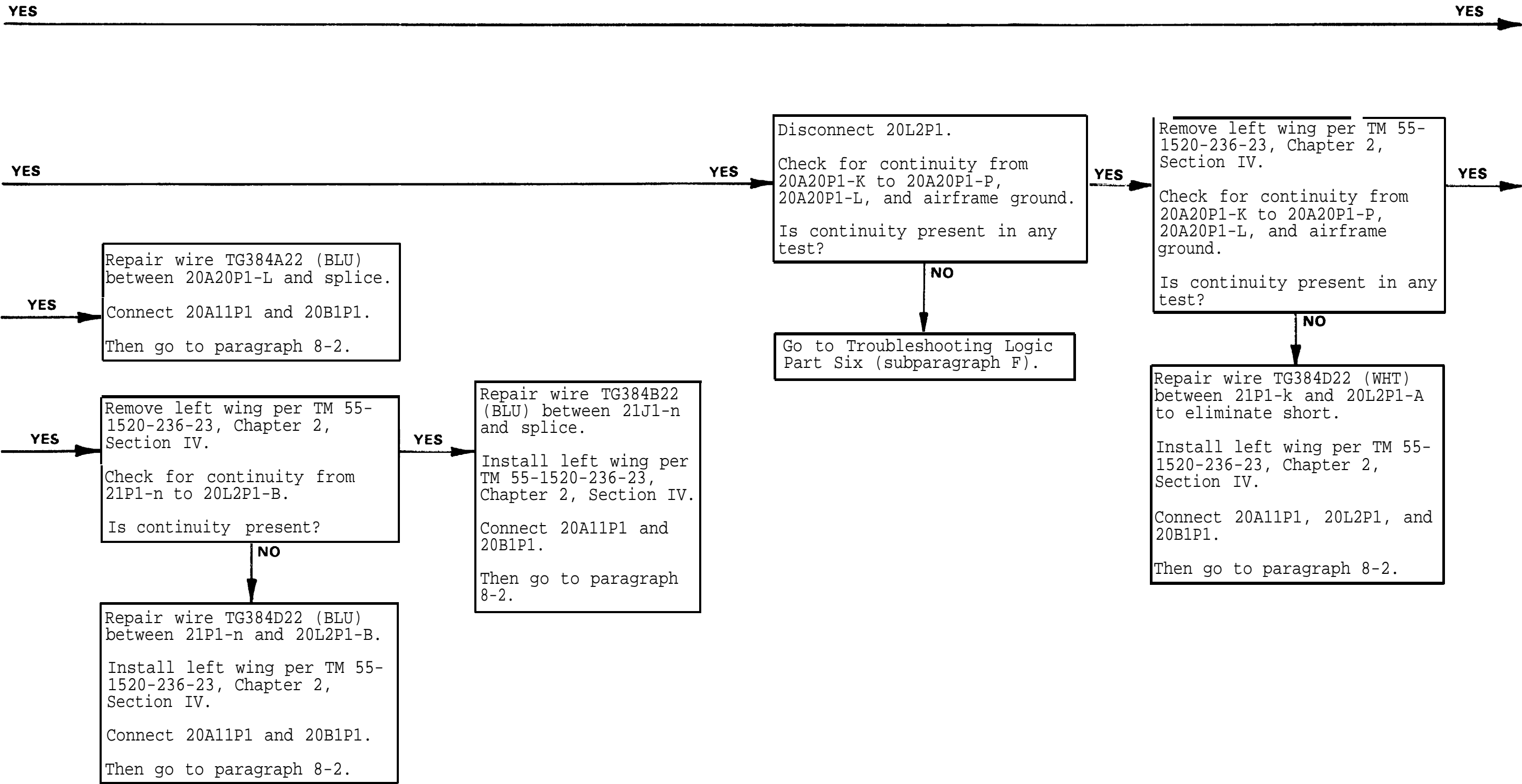


GUNNER STATION

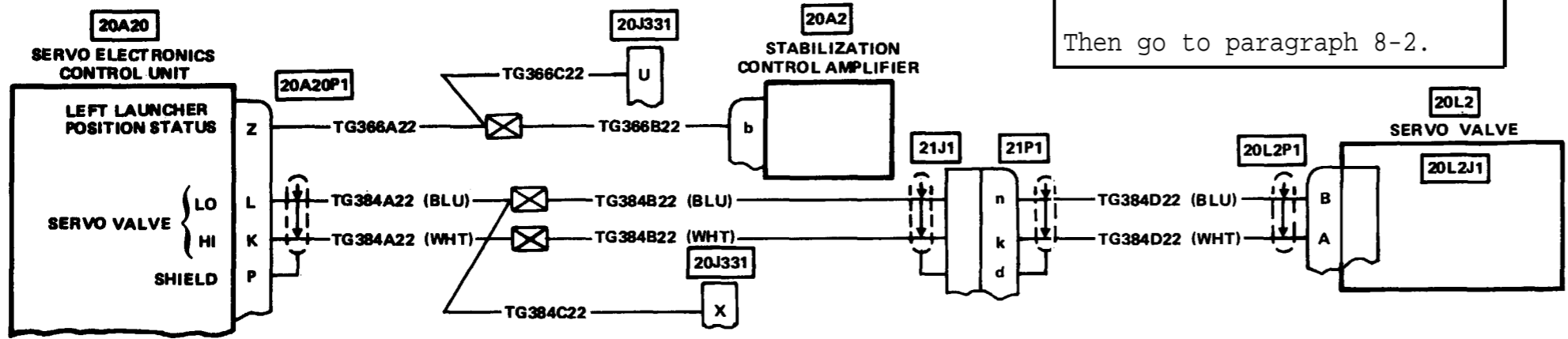
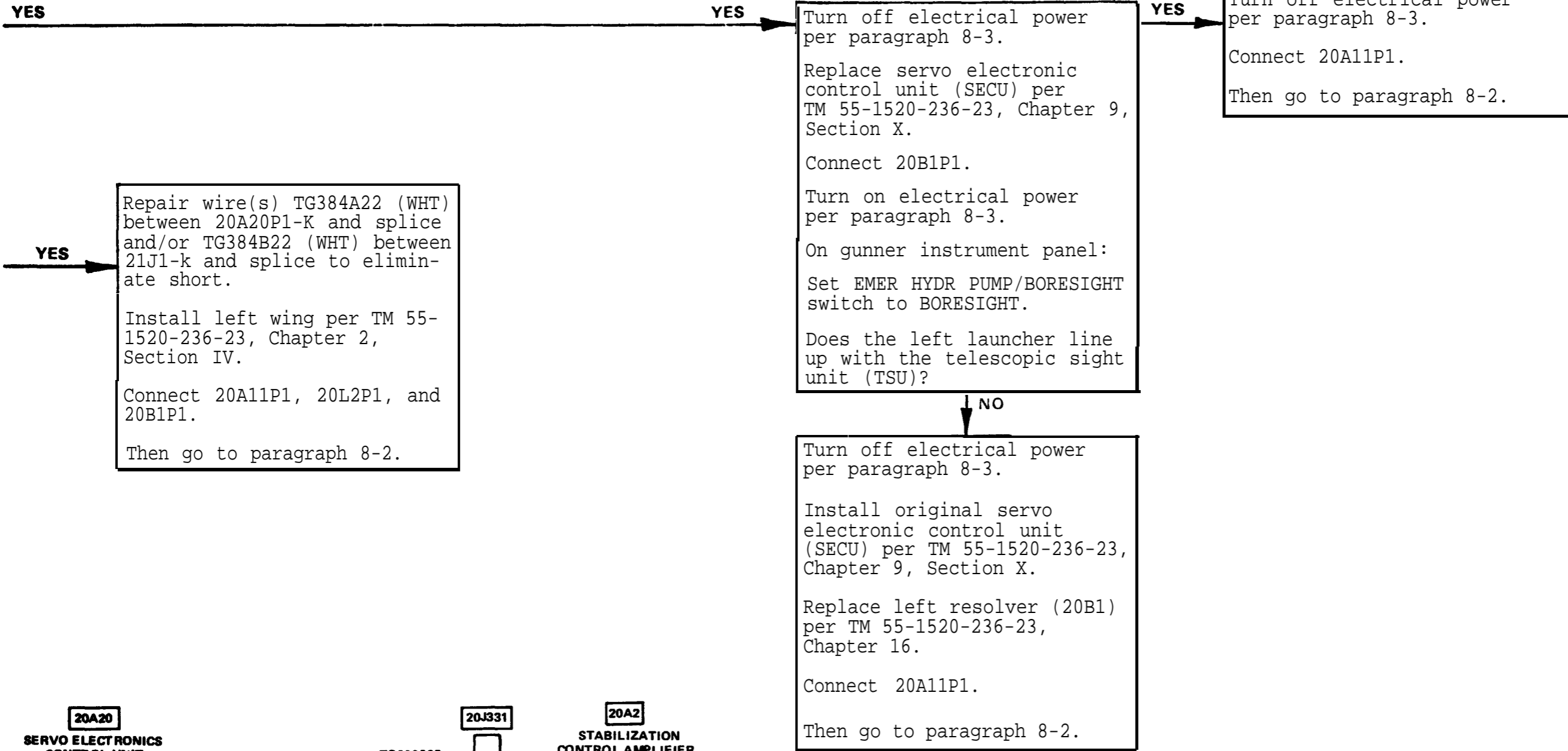
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

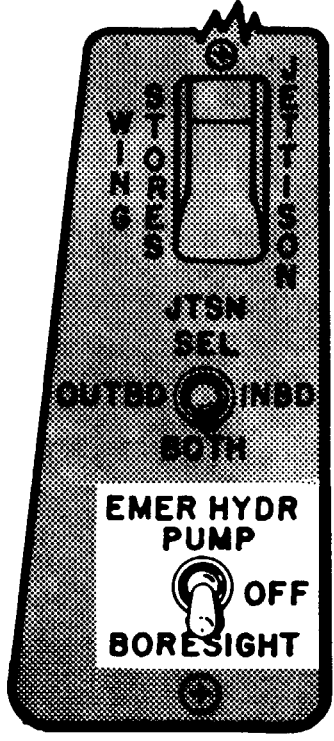


8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREE ELEVATION) (CONTINUED).
 E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

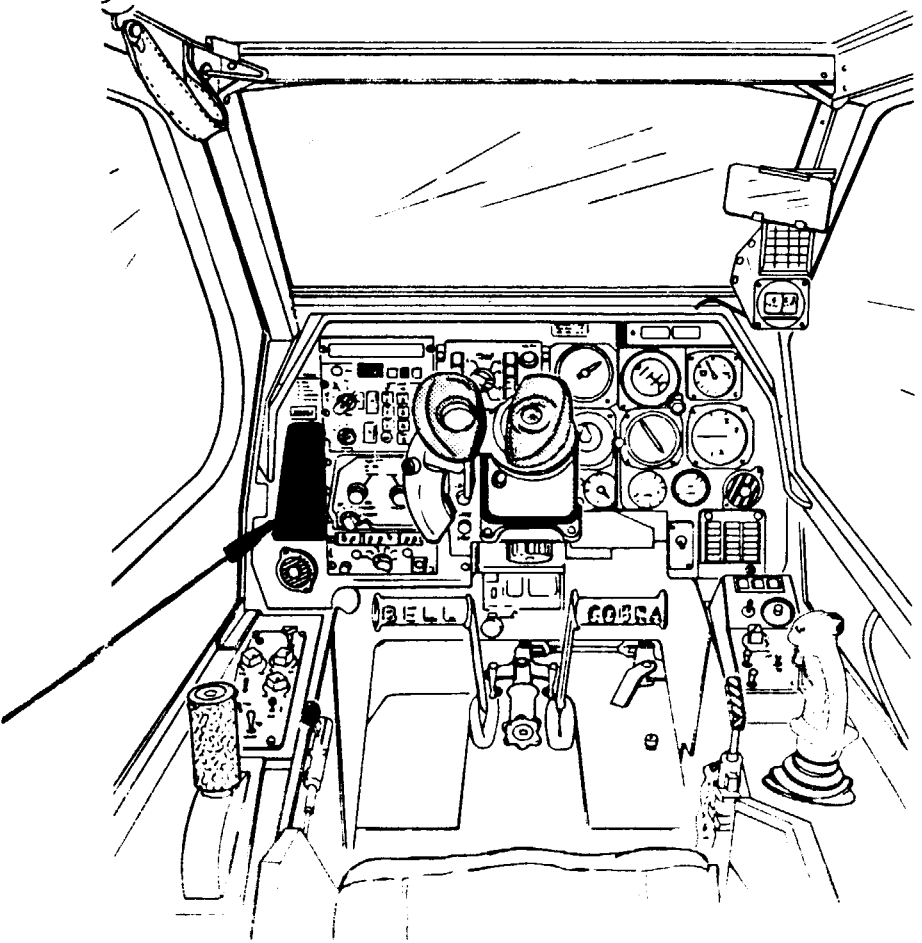


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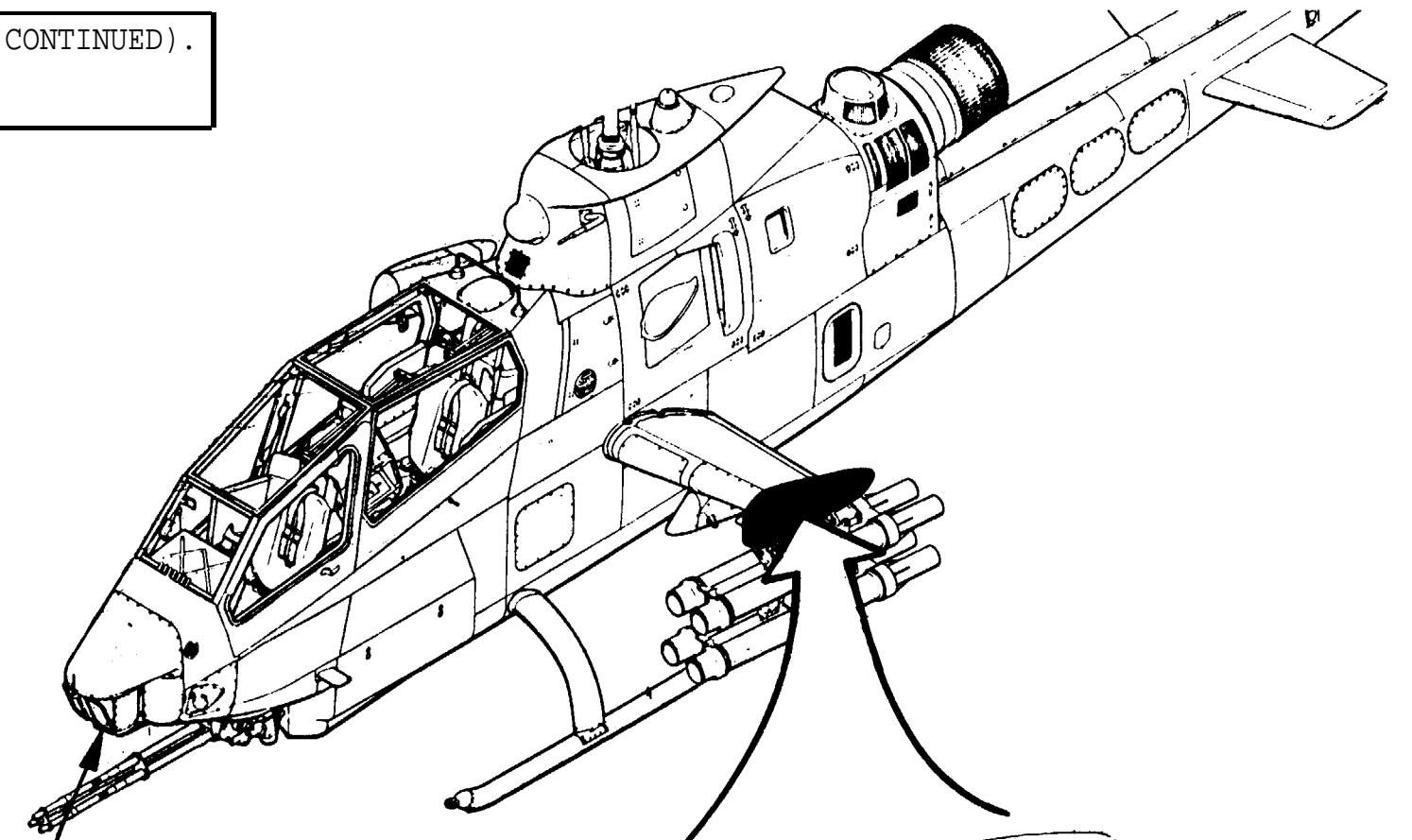
8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
F. TROUBLESHOOTING LOGIC PART SIX.



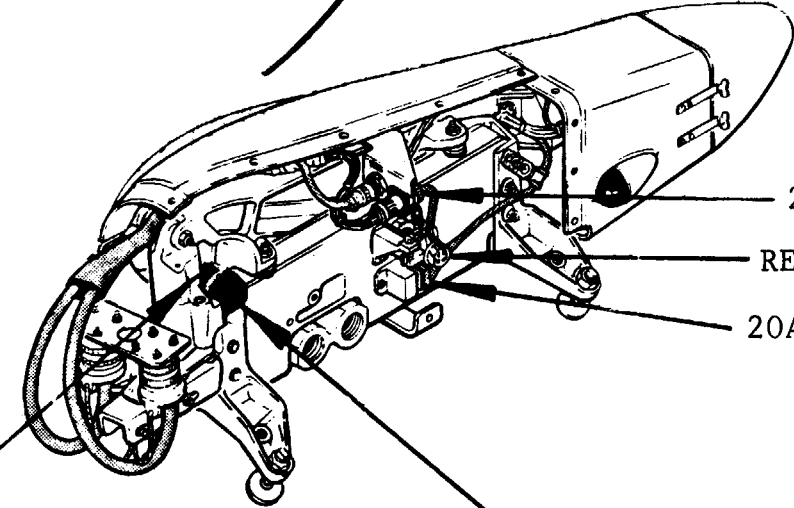
SWITCH PANEL



GUNNER STATION

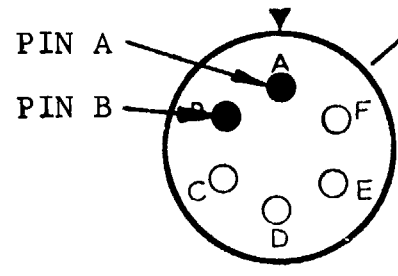


TELESCOPIC SIGHT UNIT (TSU)



- 20B1P1
- RESOLVER 20B1
- 20A11P1

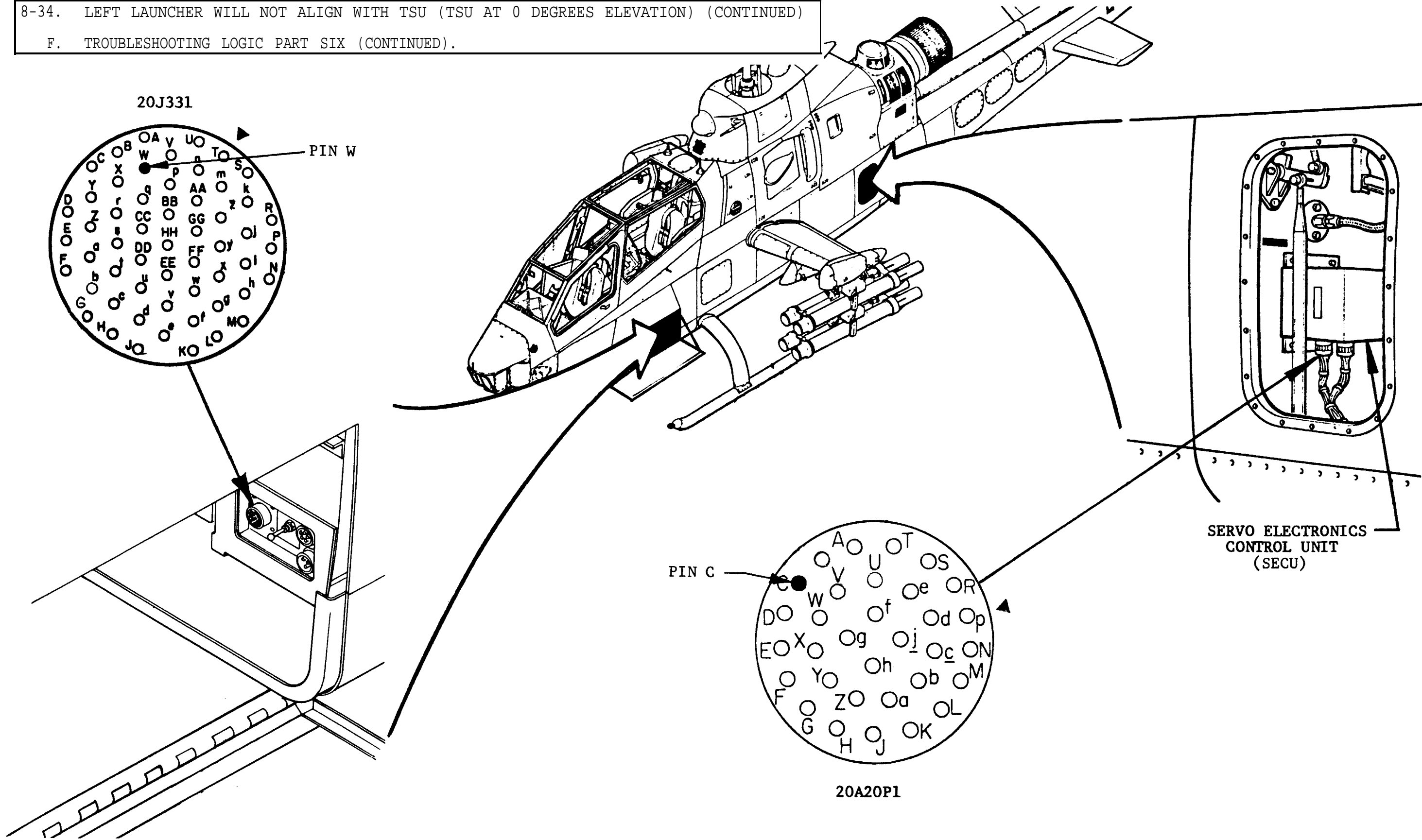
SERVO VALVE (20L2)



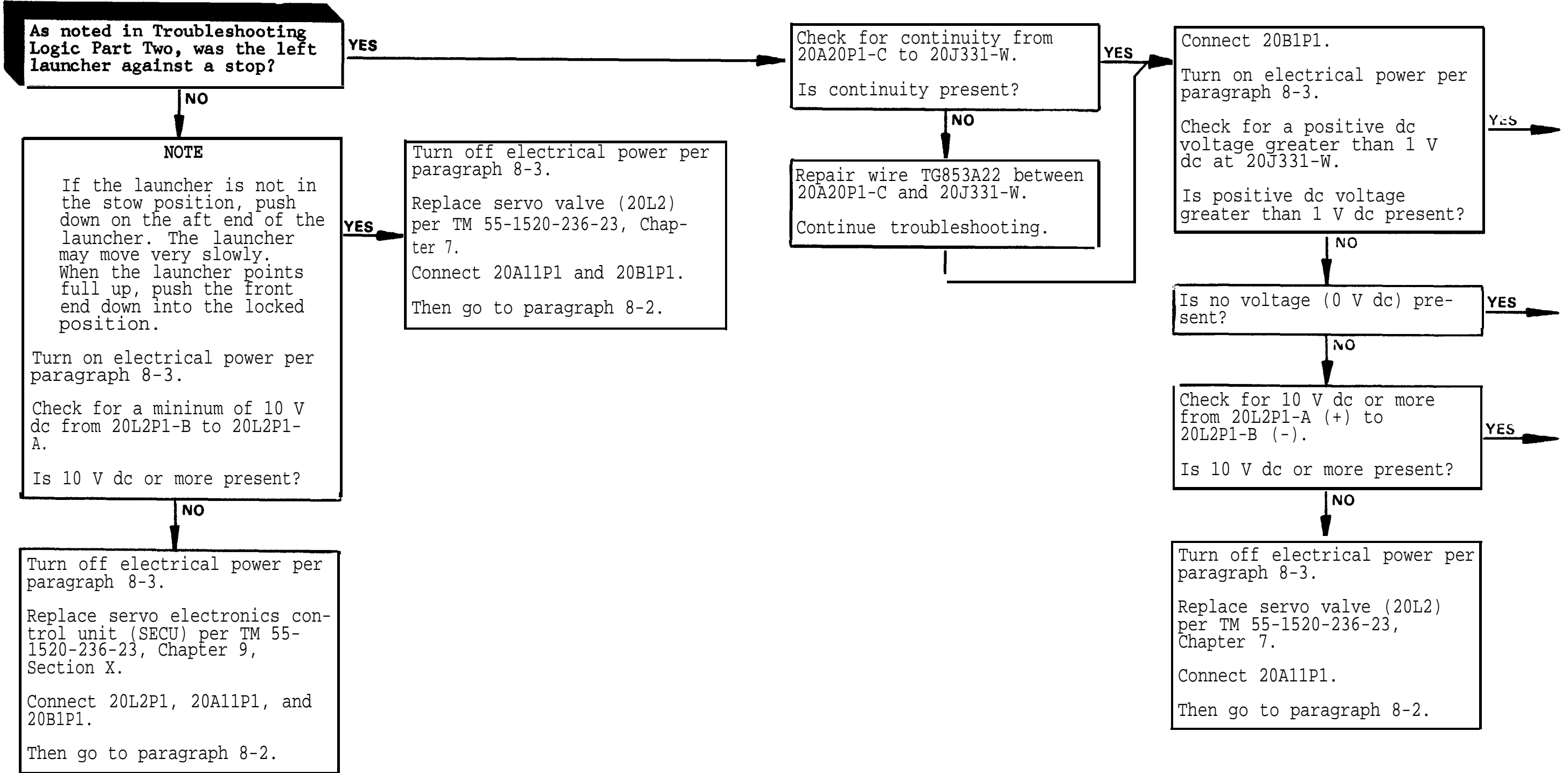
20L2P1

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

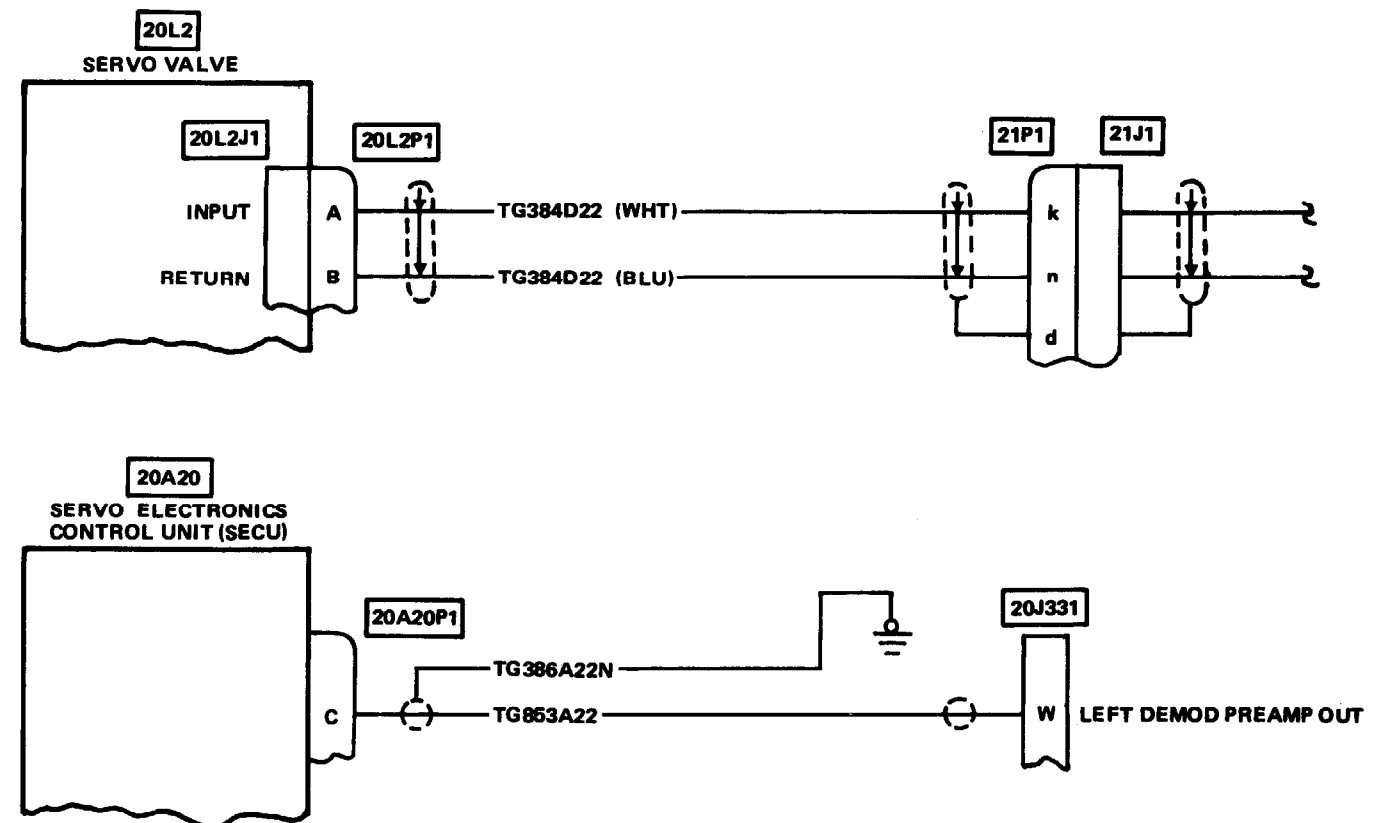
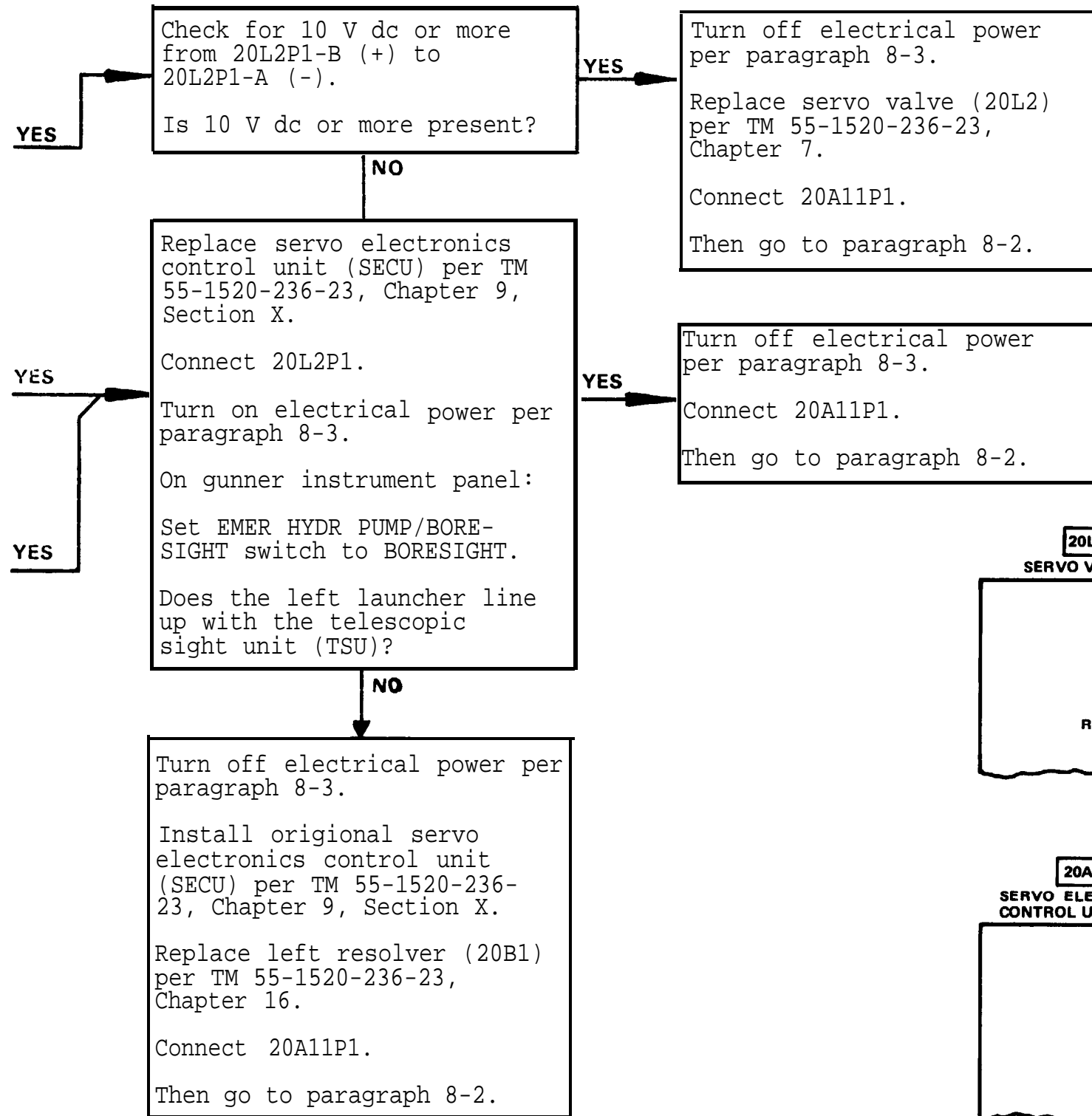
F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).



8-34. LEFT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).



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
55-1520-236-23

Access Panels

Servo Electronic Control Unit - Removed

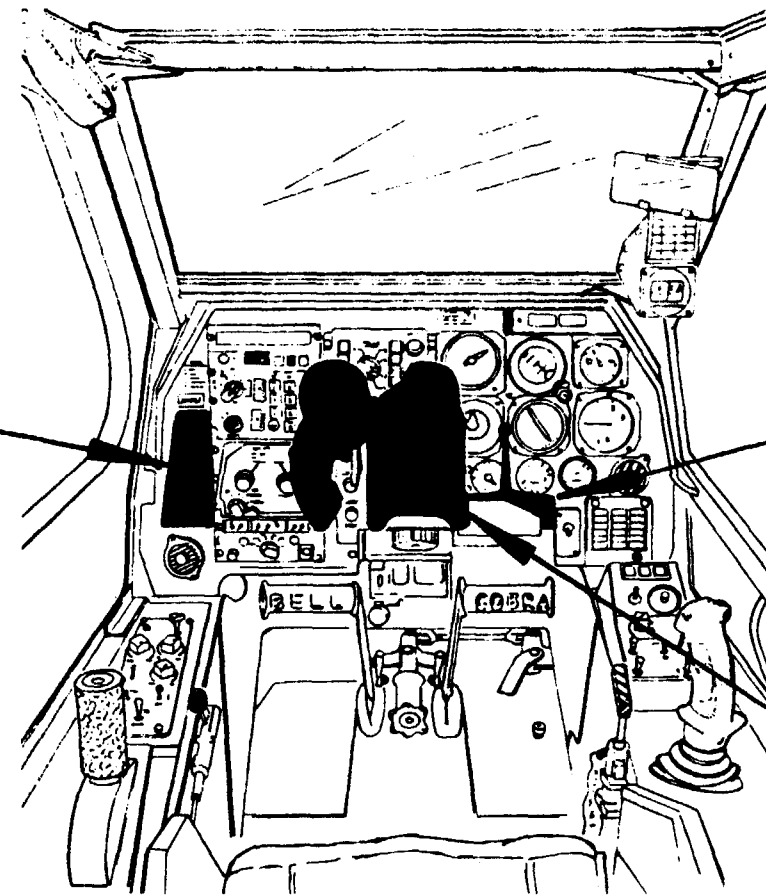
Right Outboard Pylon Fairing - Removed

Left Outboard Pylon Fairing - Removed

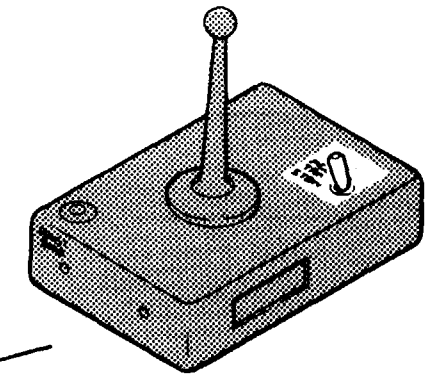
Left Ammo Compartment Door - Open



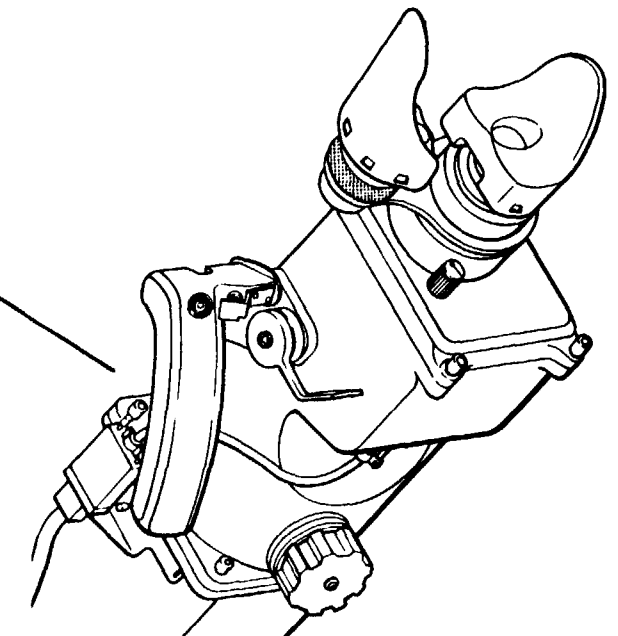
SWITCH PANEL



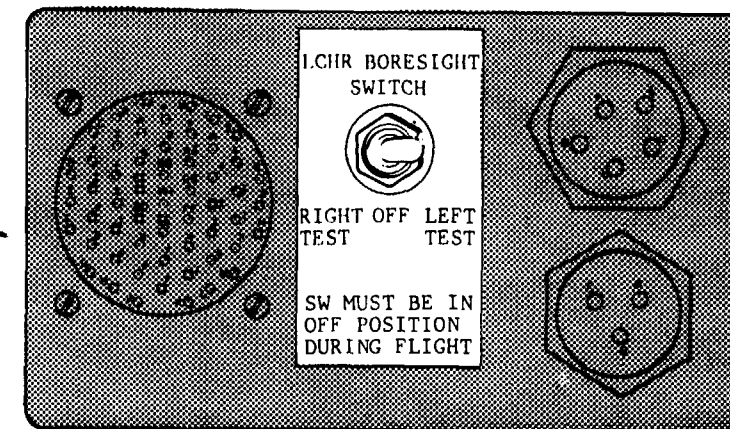
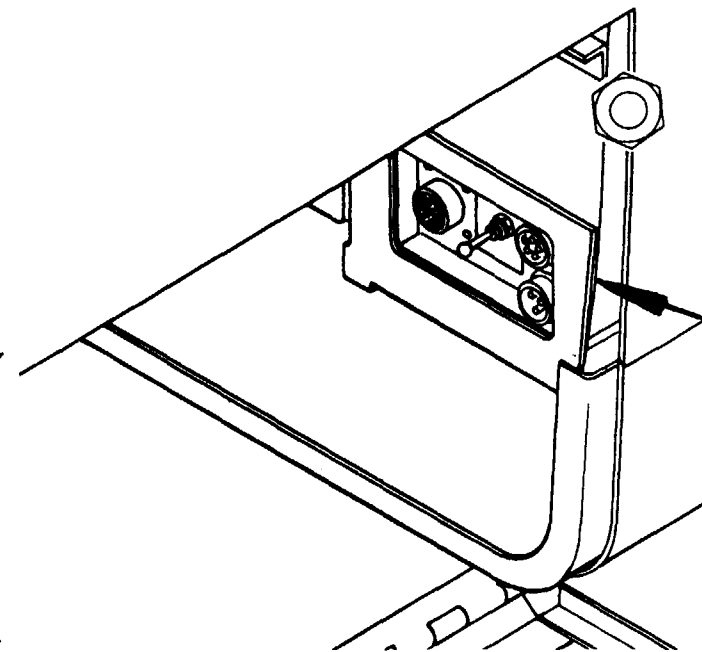
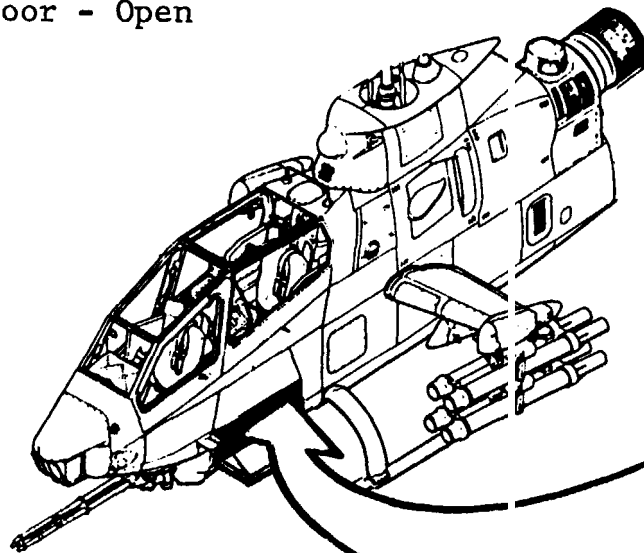
GUNNER STATION



SIGHT HAND CONTROL

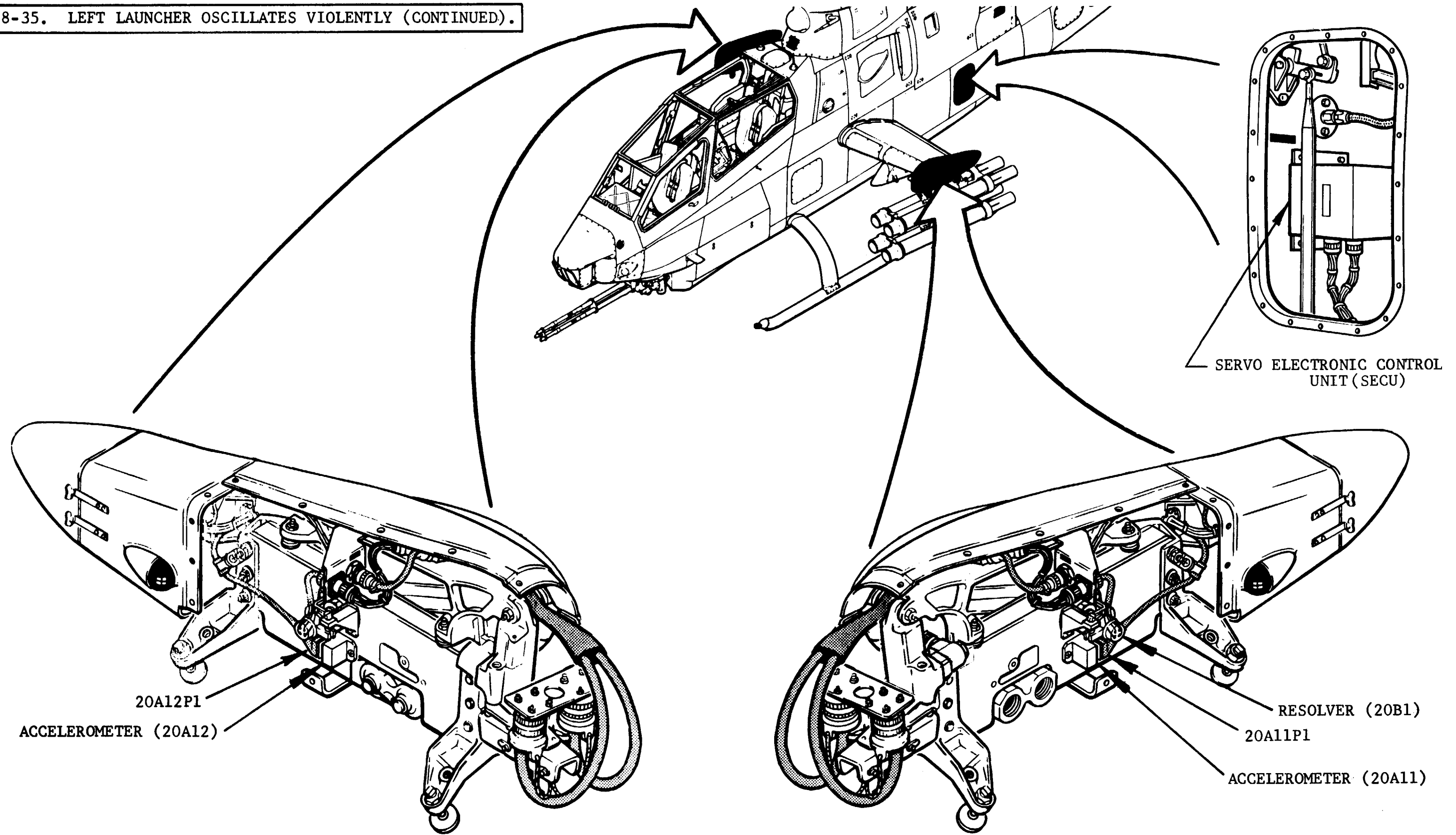


TELESCOPIC SIGHT UNIT (TSU)



LCHR BORESIGHT SWITCH

8-35. LEFT LAUNCHER OSCILLATES VIOLENTLY (CONTINUED).

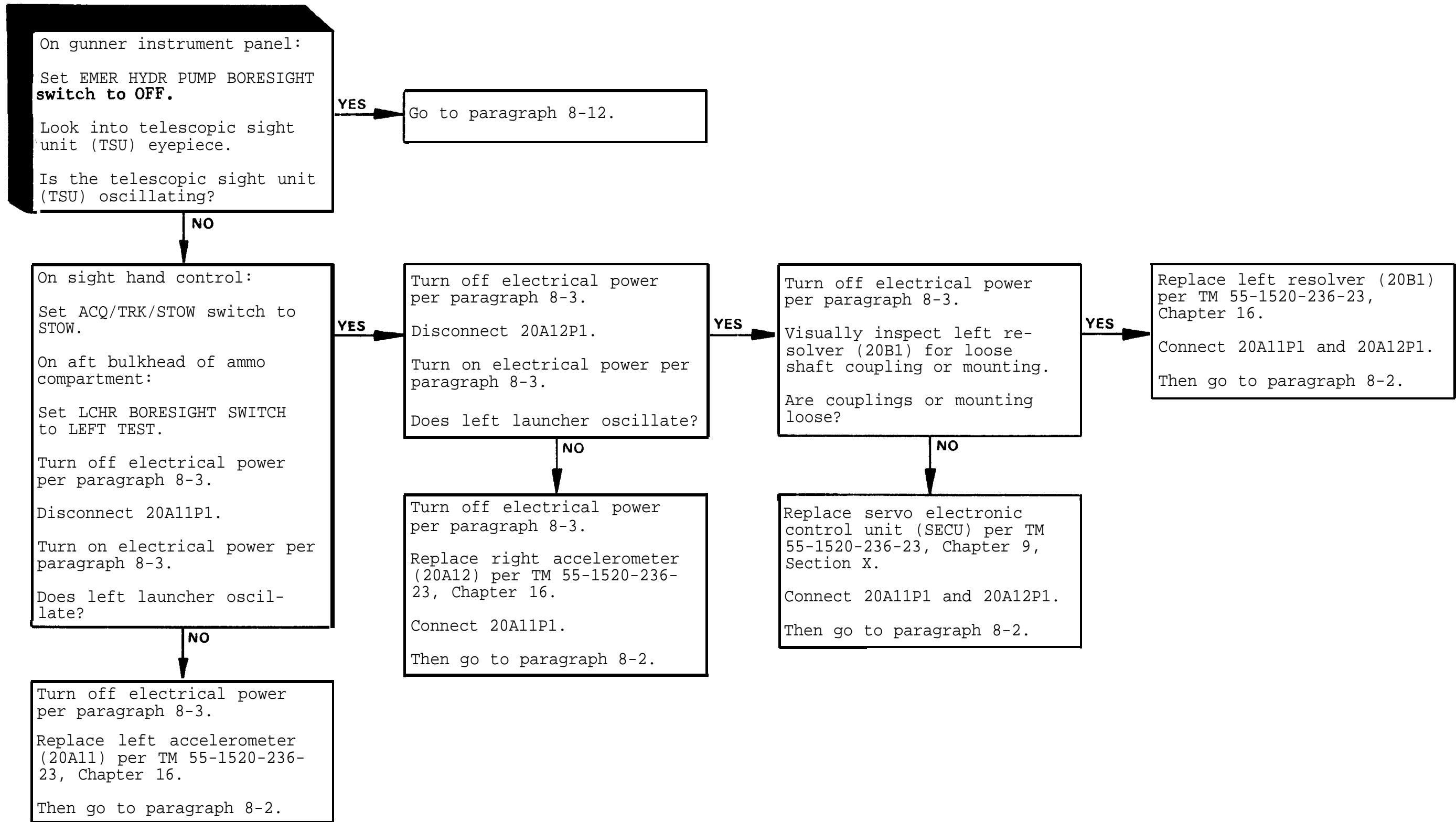


20A12P1
ACCELEROMETER (20A12)

SERVO ELECTRONIC CONTROL
UNIT (SECU)

RESOLVER (20B1)
20A11P1
ACCELEROMETER (20A11)

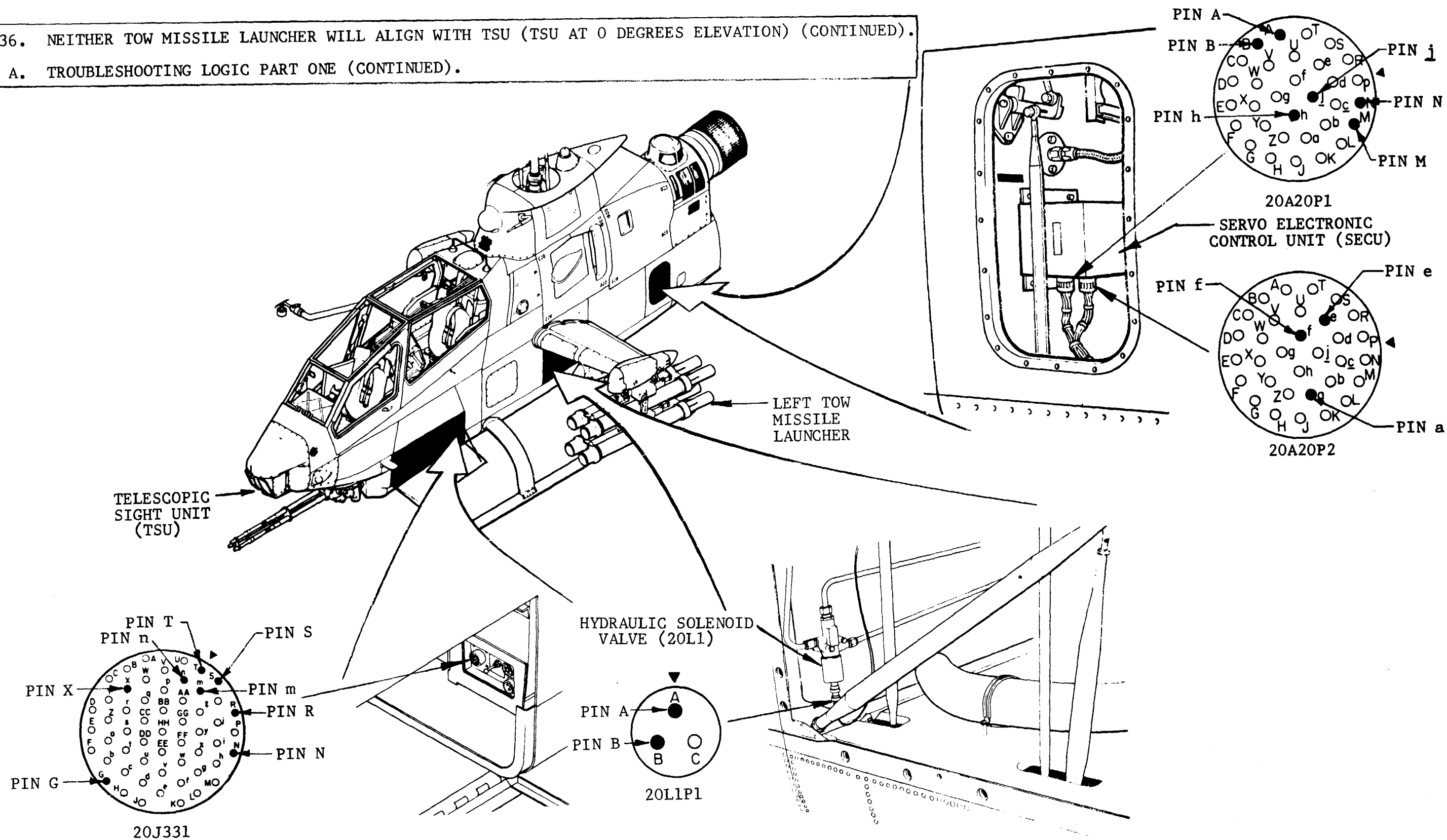
8-35. LEFT LAUNCHER OSCILLATES VIOLENTLY (CONTINUED).



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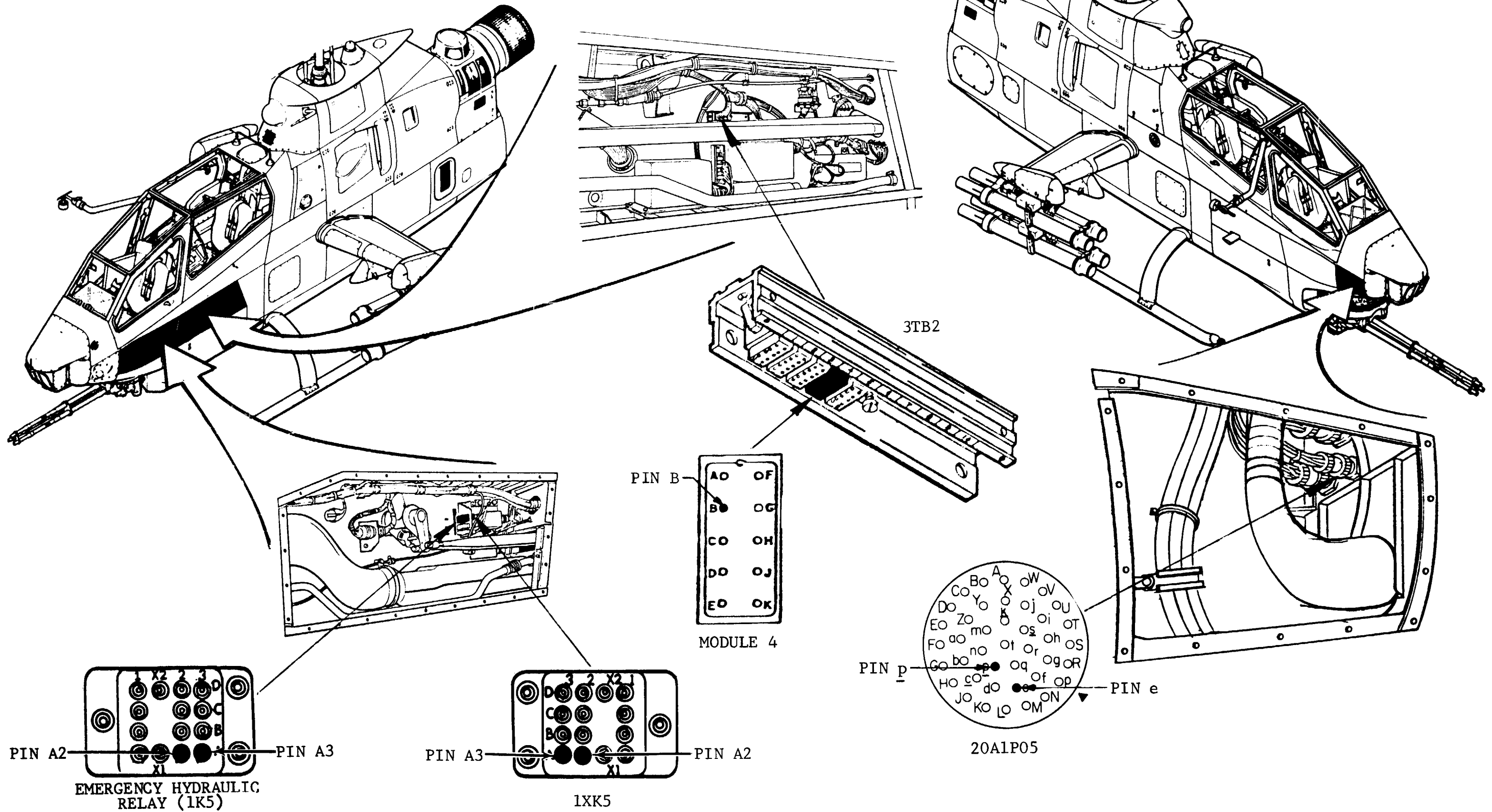
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



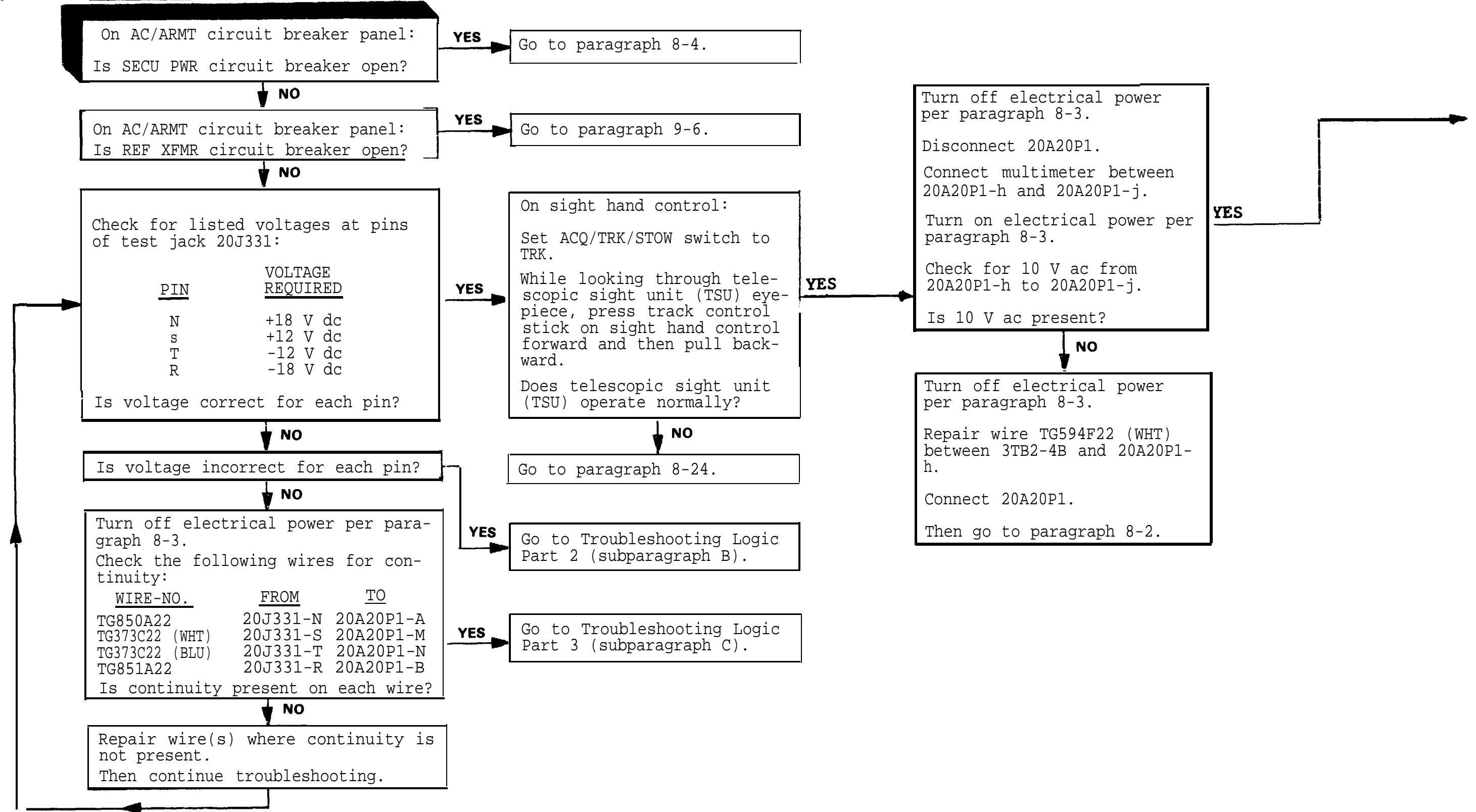
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU' (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



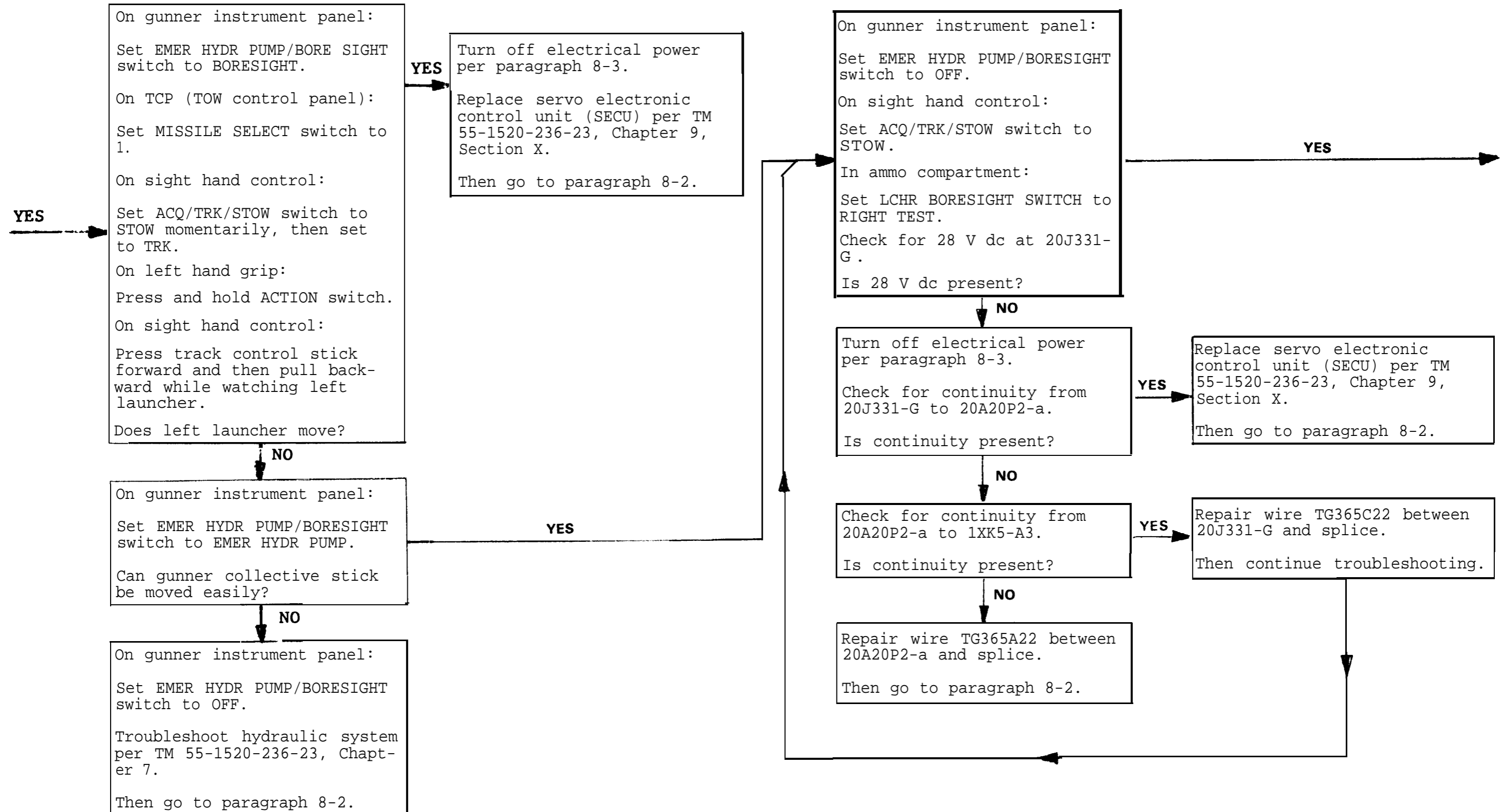
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGH WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

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).



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

Turn off electrical power per paragraph 8-3.
 Disconnect 20L1P1.
 Turn on electrical power per paragraph 8-3.
 Check for 28 V dc at 20L1P1-A.
 Is 28 V dc present?

Turn off electrical power per paragraph 8-3.
 Remove emergency hydraulic relay (1K5) per TM 55-1520-236-23, Chapter 9, Section 1.
 Check for continuity from 1K5-A2 to 1K5-A3.
 Is continuity present?

Replace emergency hydraulic relay (1K5) per TM 55-1520-236-23, Chapter 9, Section I.
 Connect 20L1P1.
 Then go to paragraph 8-2.

YES

Turn off electrical power per paragraph 8-3.
 Check for continuity from 20L1P1-B to airframe ground.
 Is continuity present?

Repair wire TG572A22N between 20L1P1-B and airframe ground.
 Then go to paragraph 8-2.

YES

Turn on electrical power per paragraph 8-3.
 Check for 28 V dc at 1XK5-A3.
 Is 28 V dc present?

Turn off electrical power per paragraph 8-3.
 Repair wire TG365B22 between 1XK5-A3 and splice.
 Connect 20L1P1.
 Then go to paragraph 8-2.

YES

Repair wire TG370A22 between 1XK5-A2 and 20L1P1-A.
 Connect 20L1P1.
 Then go to paragraph 8-2.

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?

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?

Turn off electrical power per paragraph 8-3.
 Check for continuity from 20A20P2-e to 20A1P05-p and from 20A20P2-f to 20A1P05-e.
 Is continuity present in both checks?

Check for continuity from 20A20P2-e to 20J331-m and from 20A20P2-f to 20J331-n.
 Is continuity present in both checks?

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.

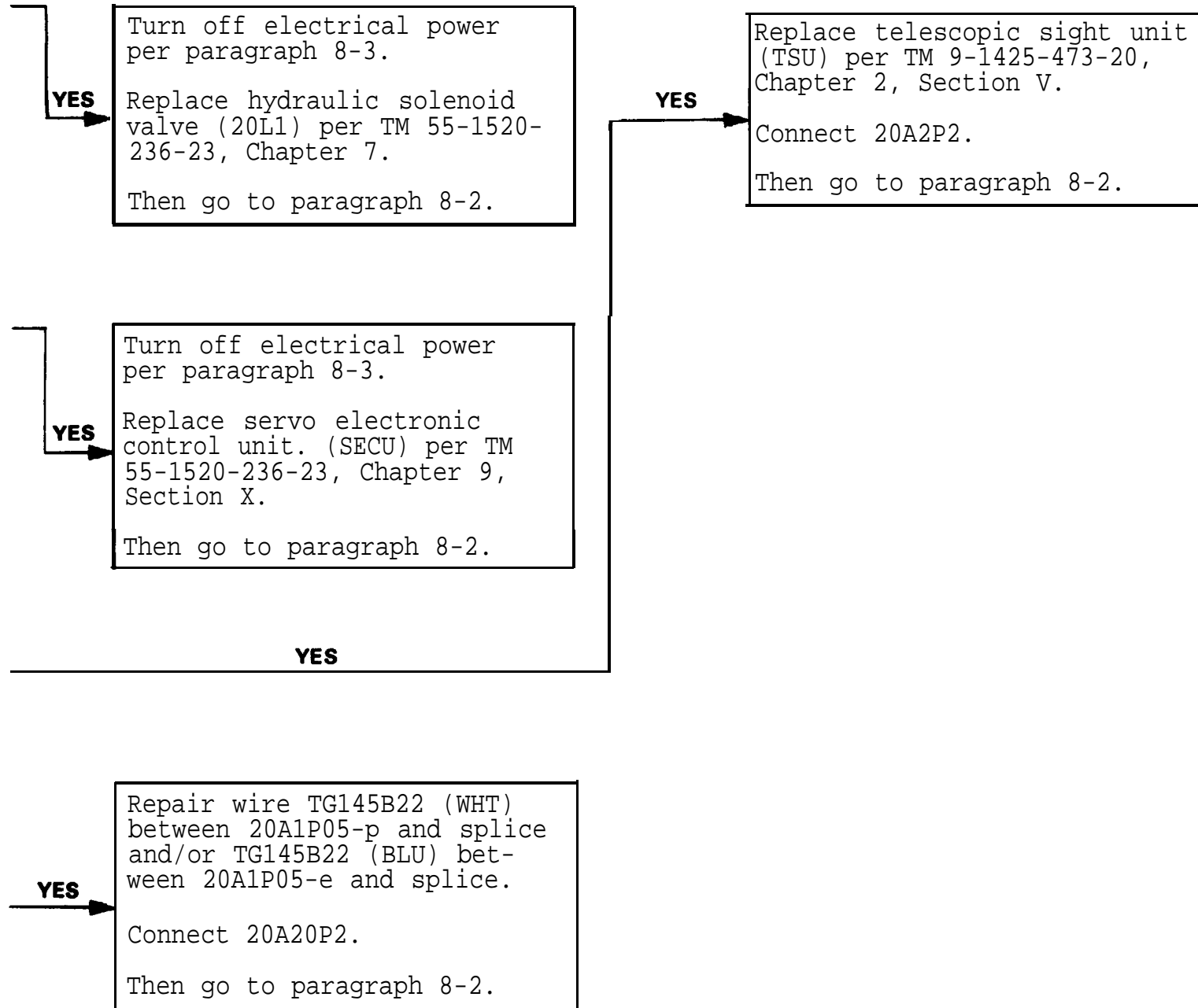
YES

YES

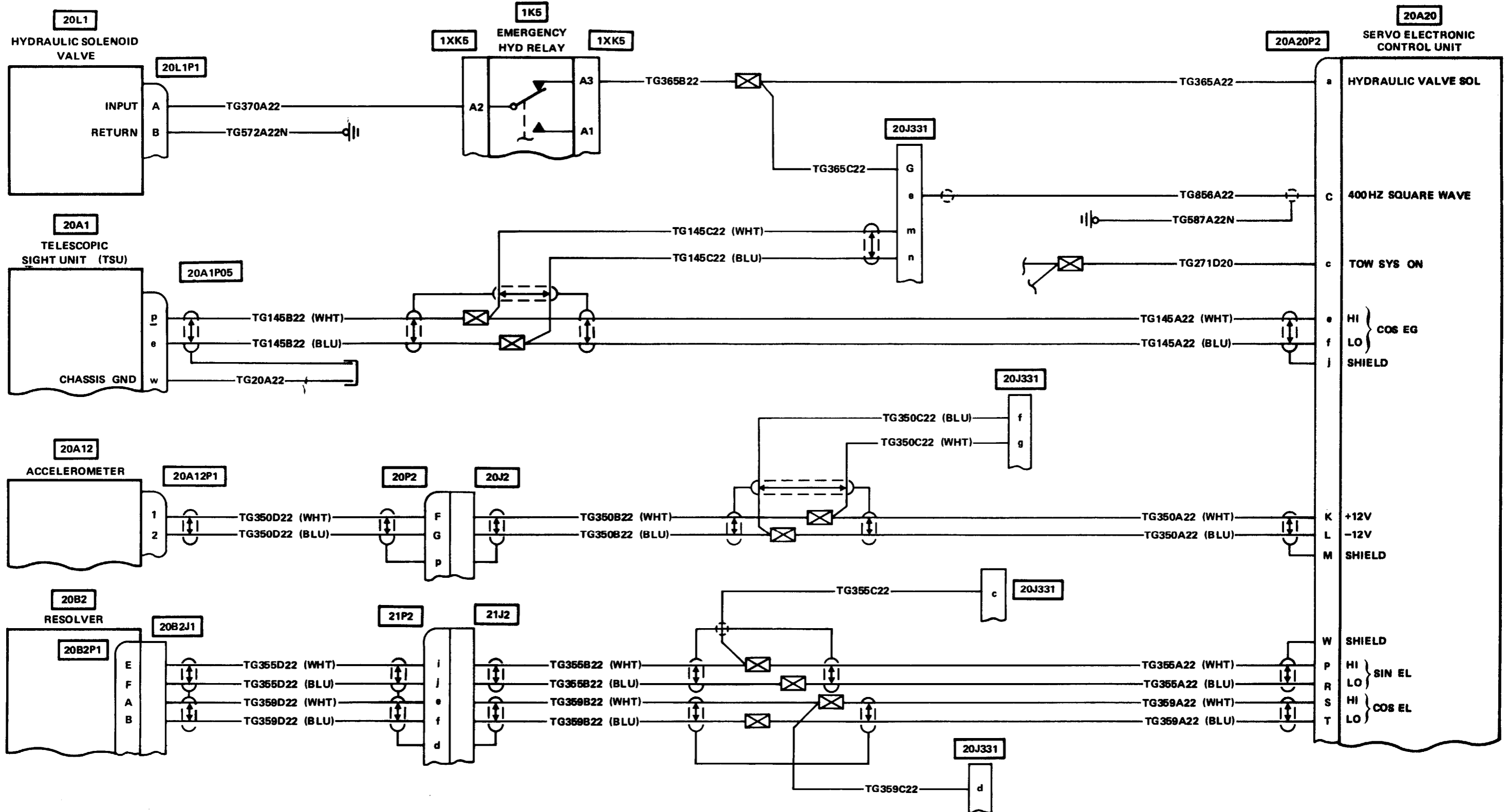
YES

YES

8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

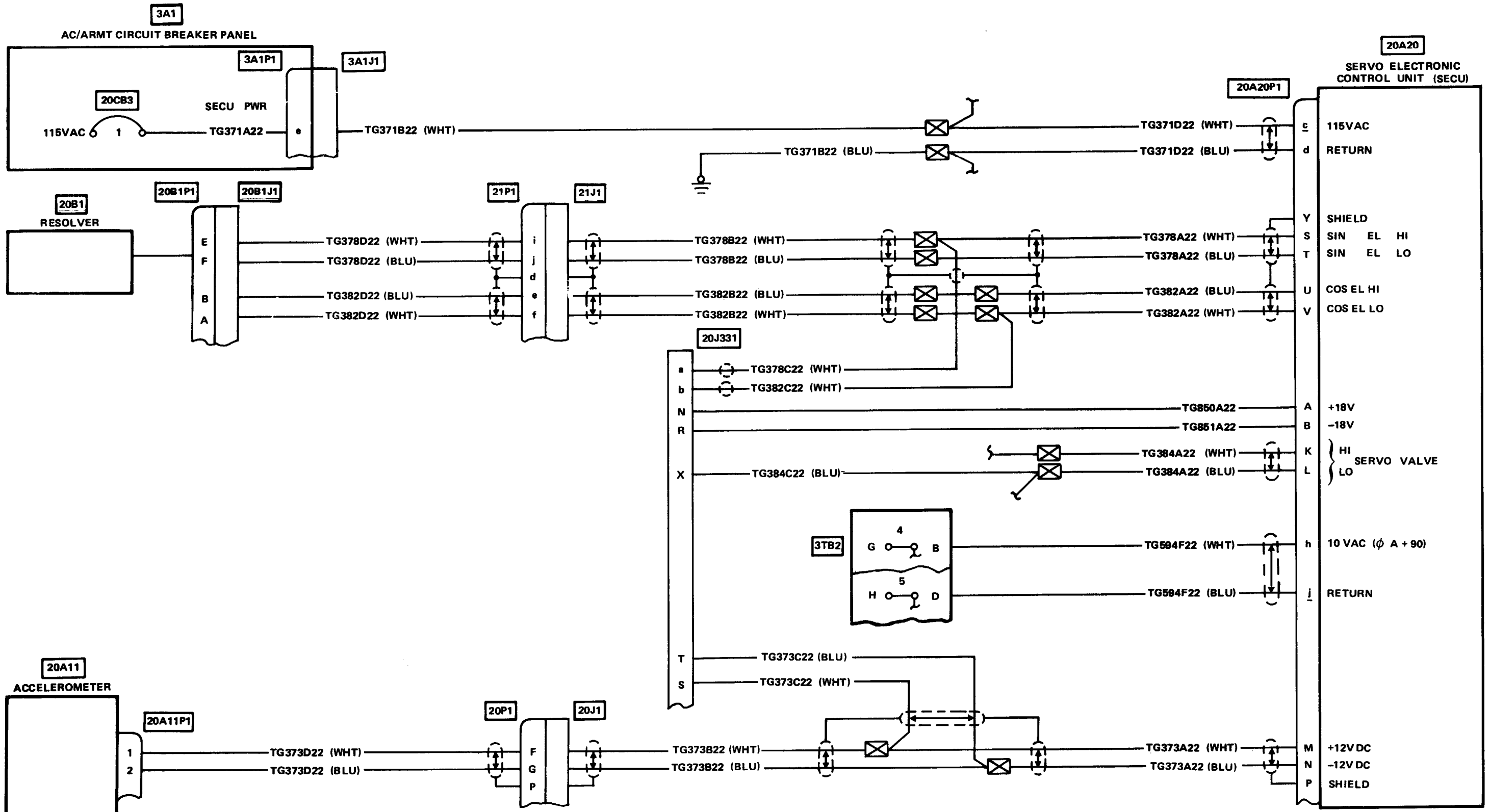


8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TUS AT 0 DEGREES ELEVATION) (CONTINUED).

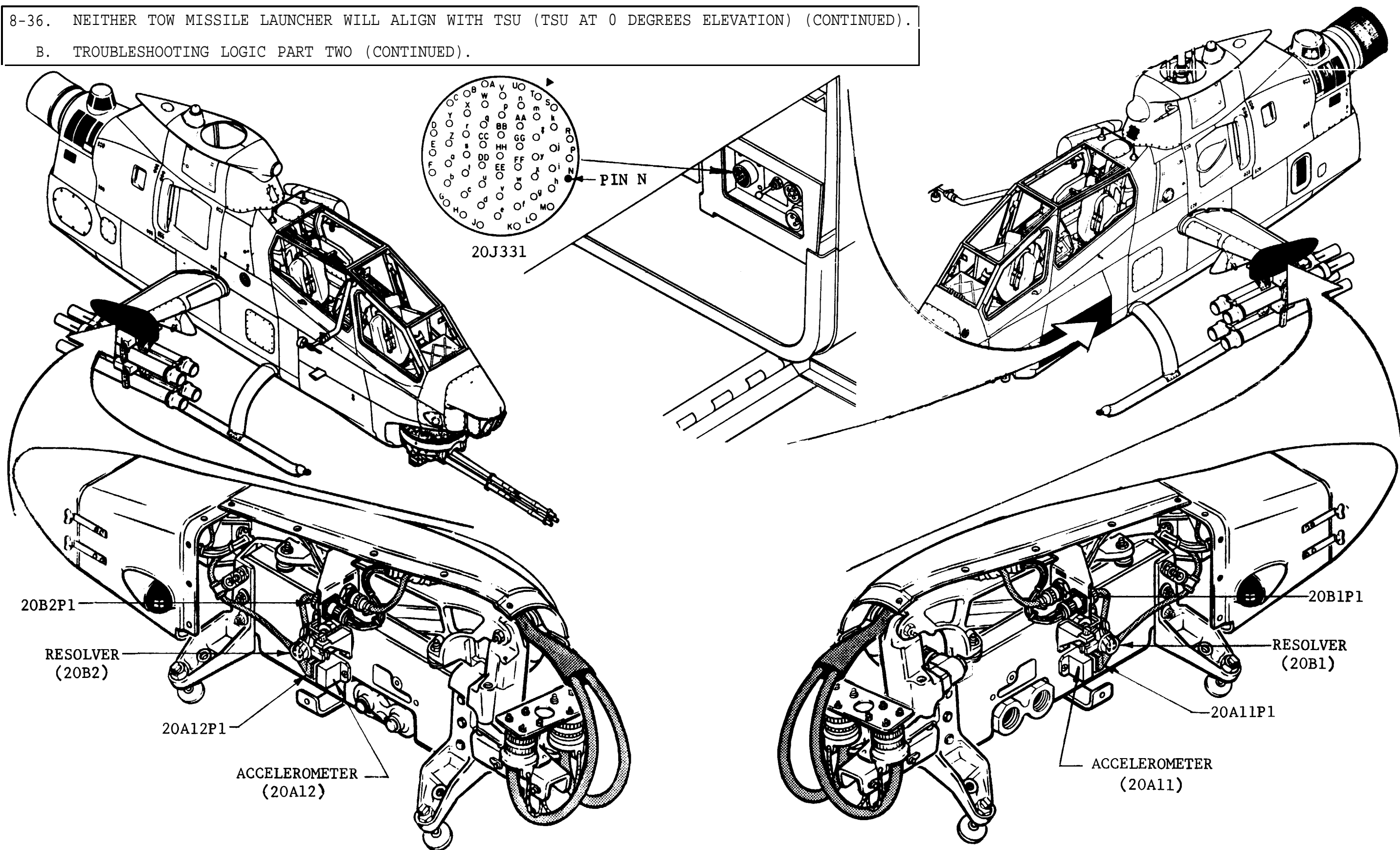
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



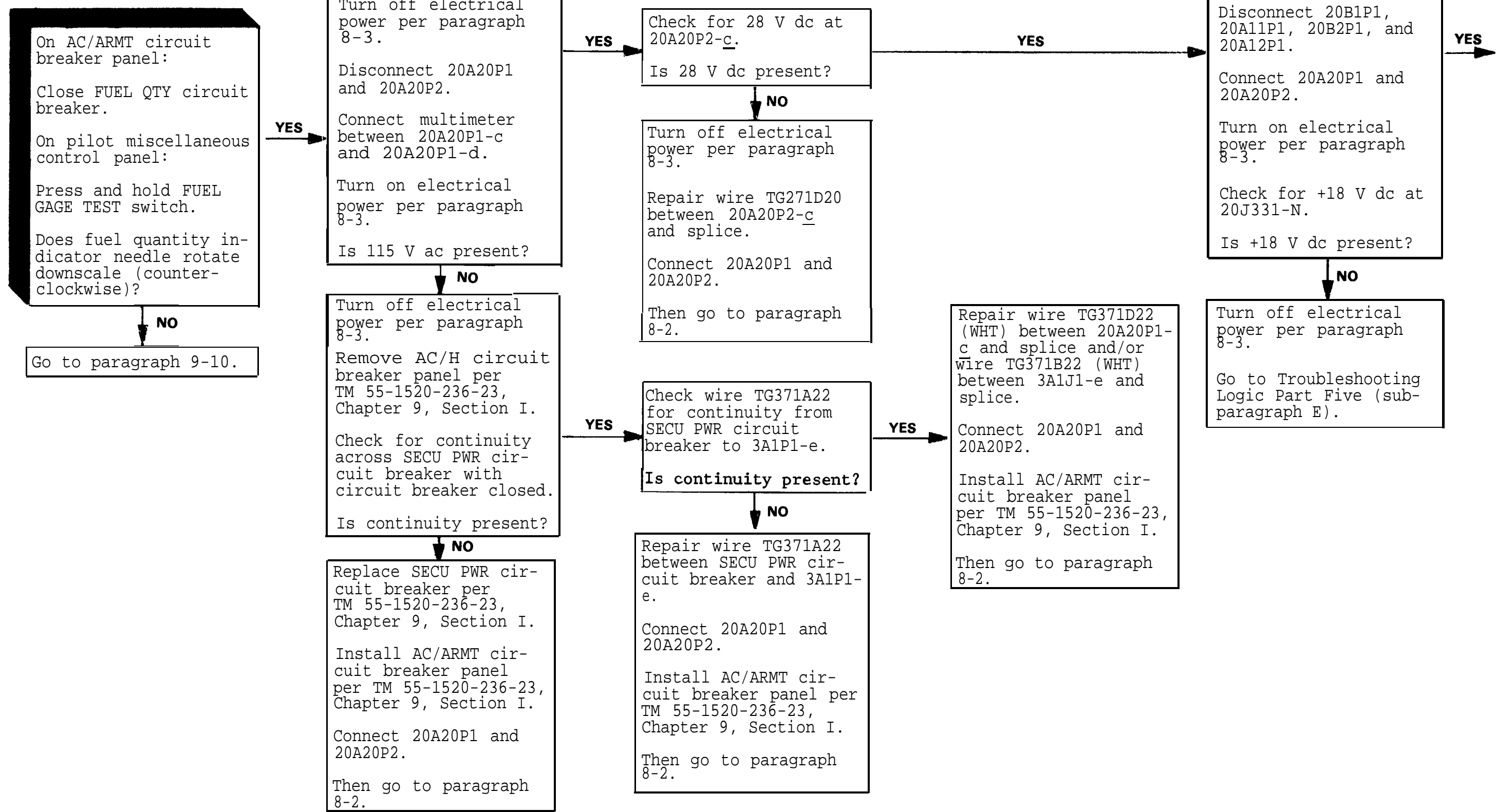
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8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

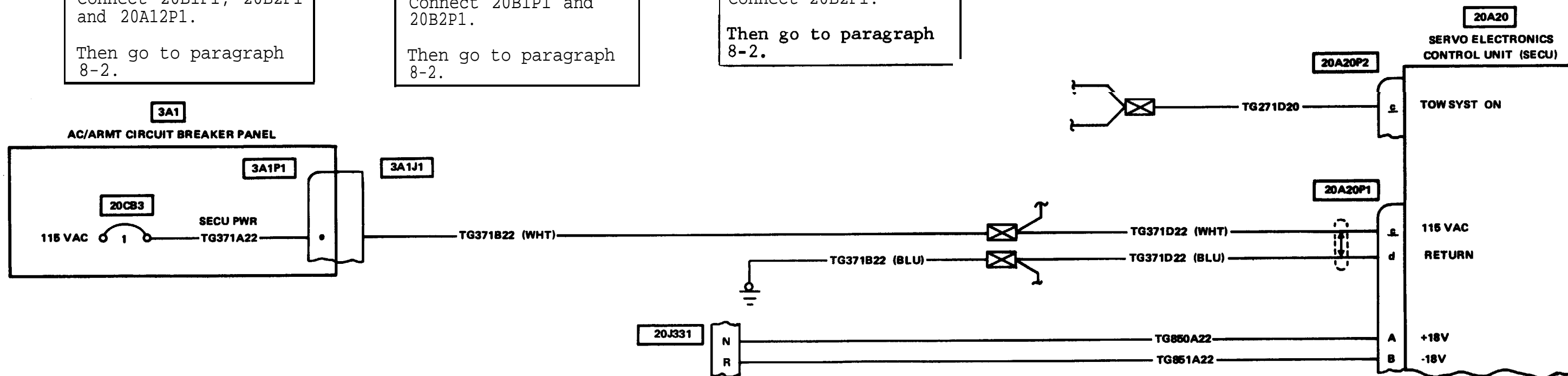
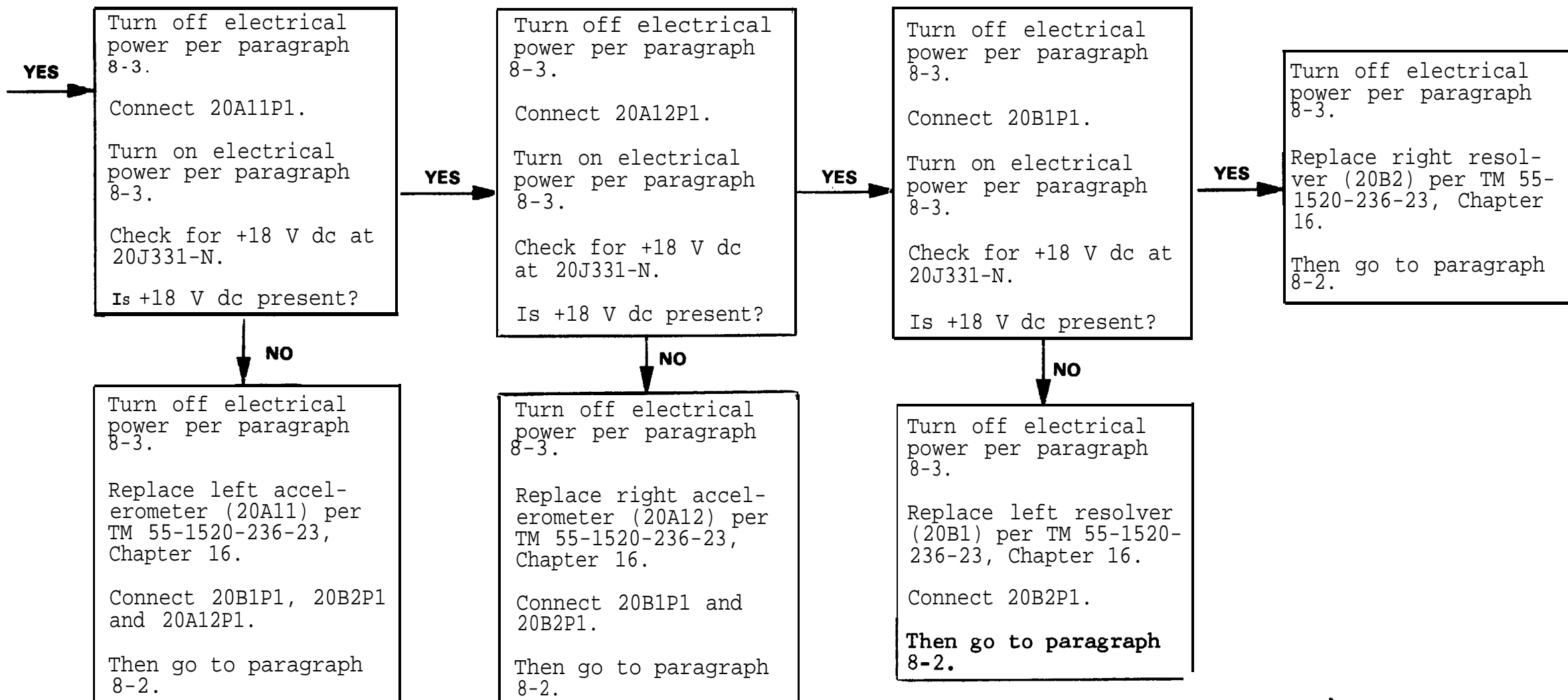
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

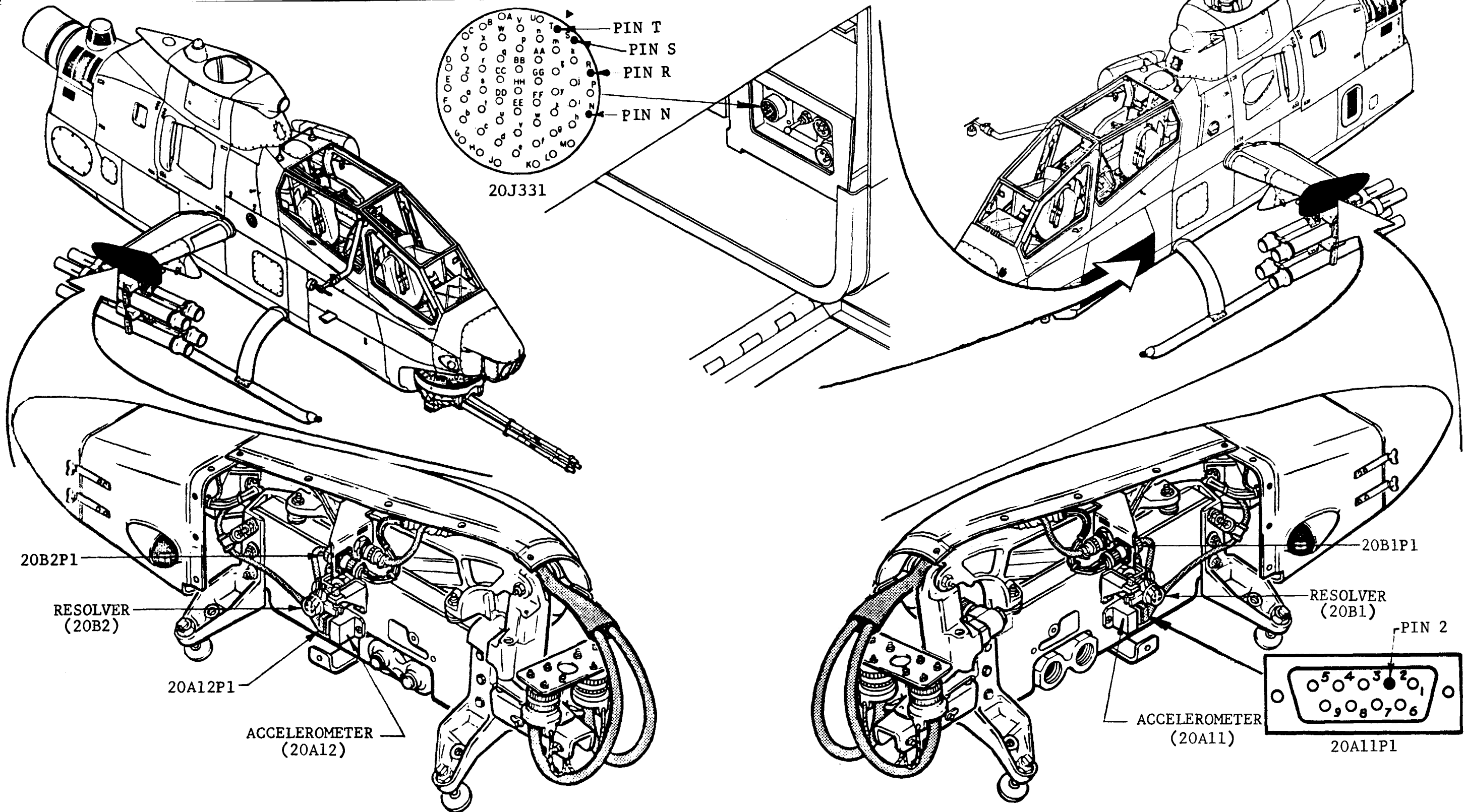


8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



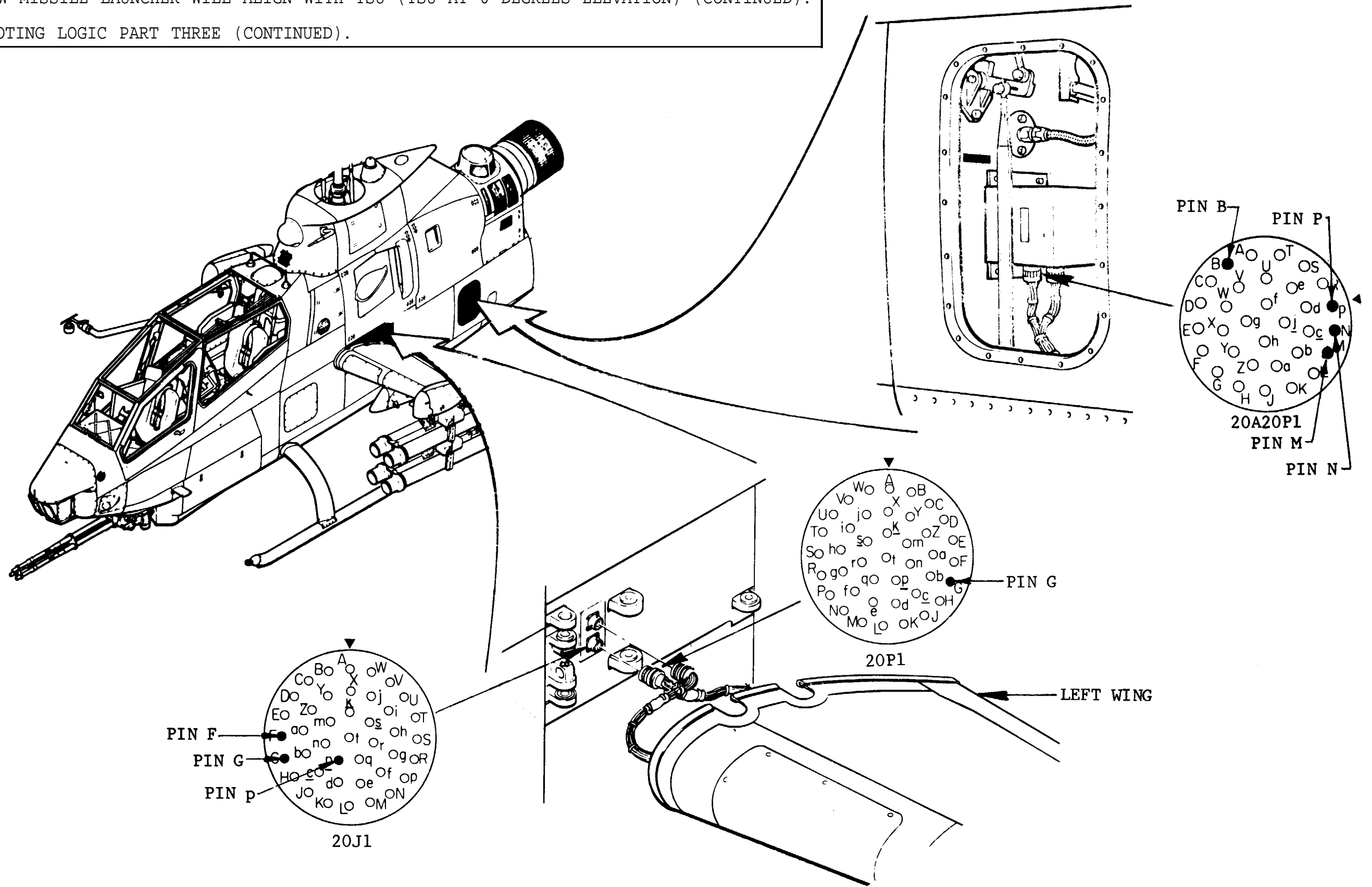
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE.

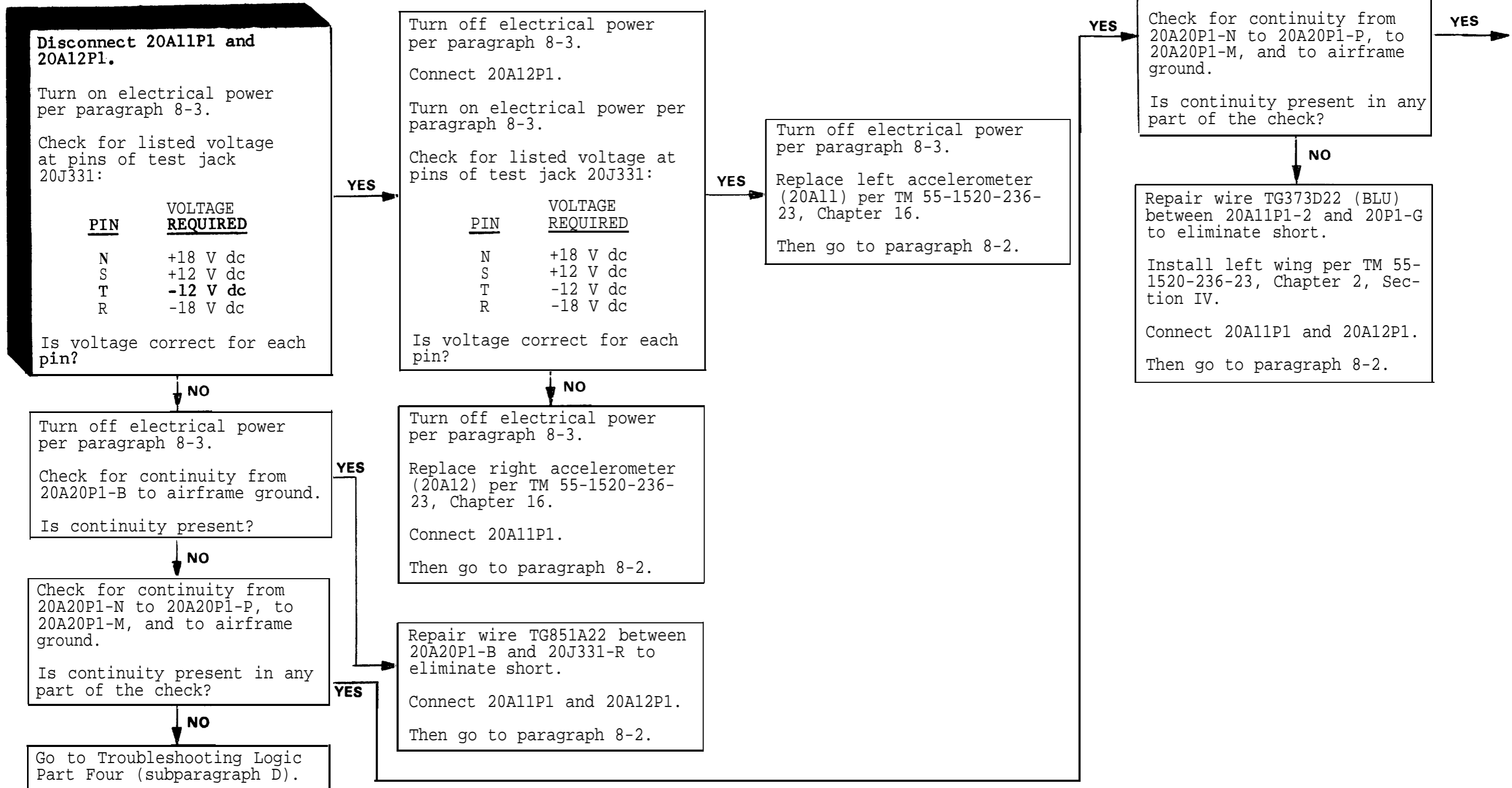


8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

c. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).

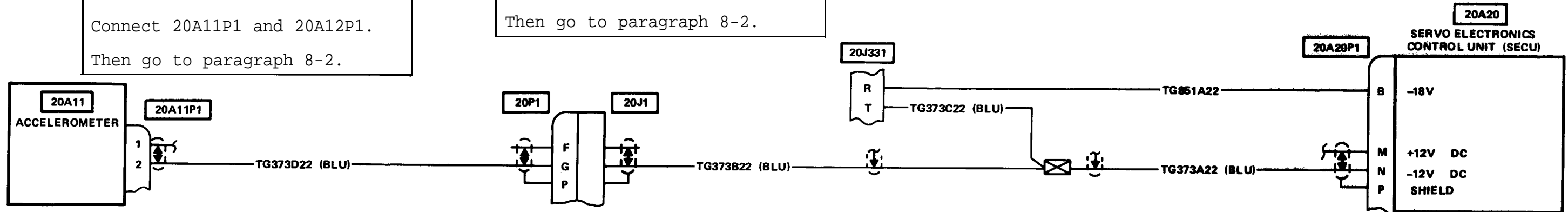
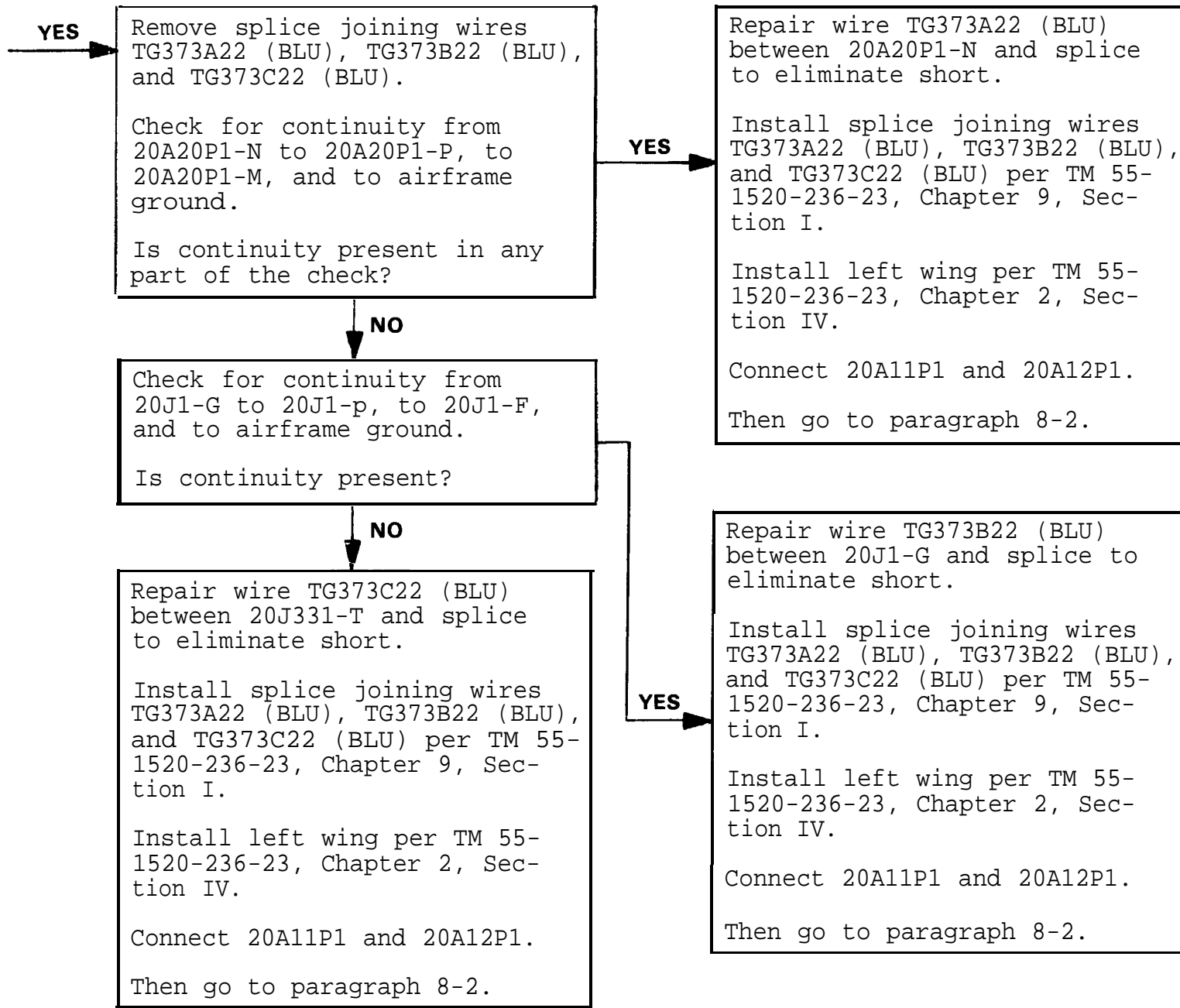


8-36 NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 c. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



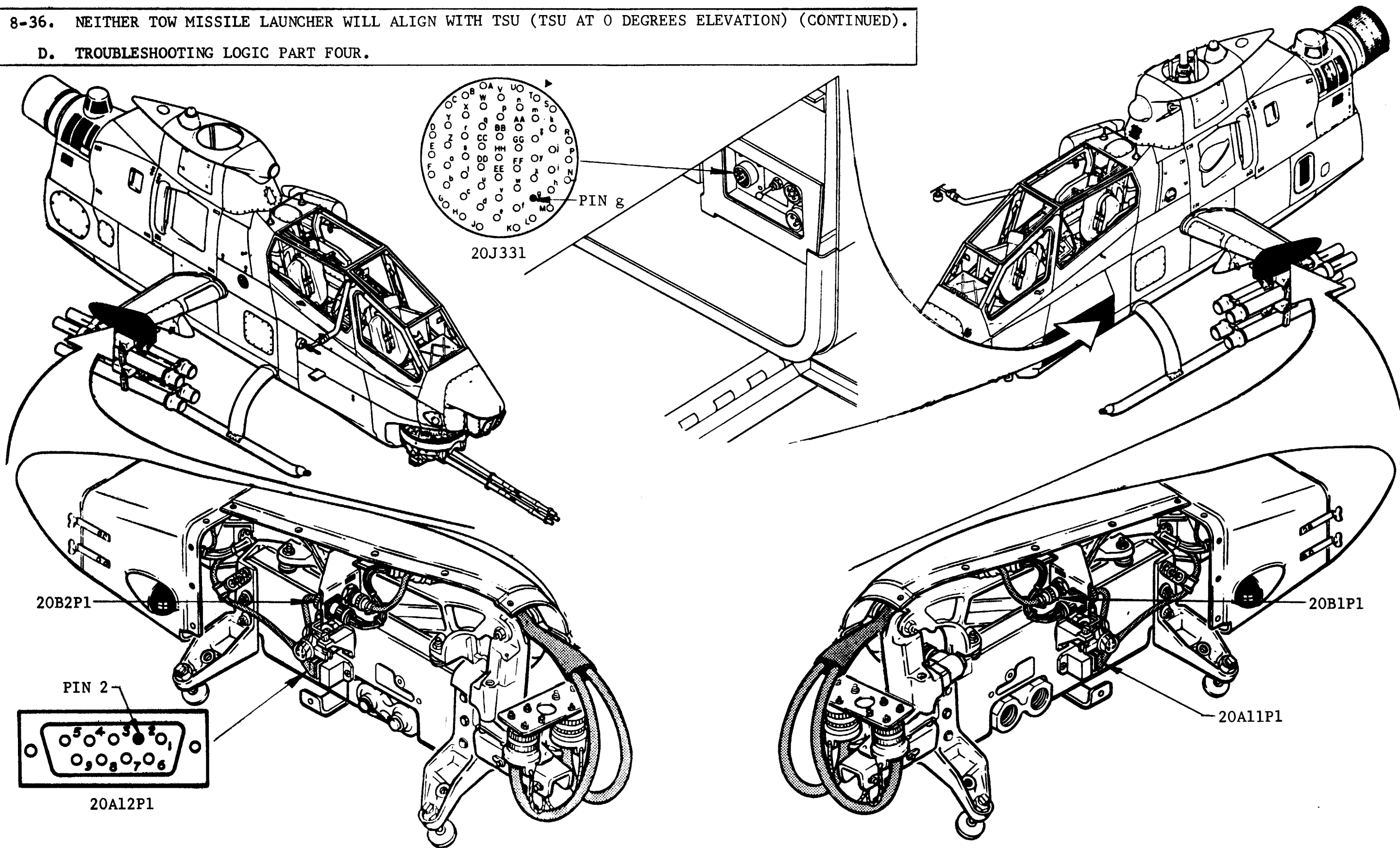
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



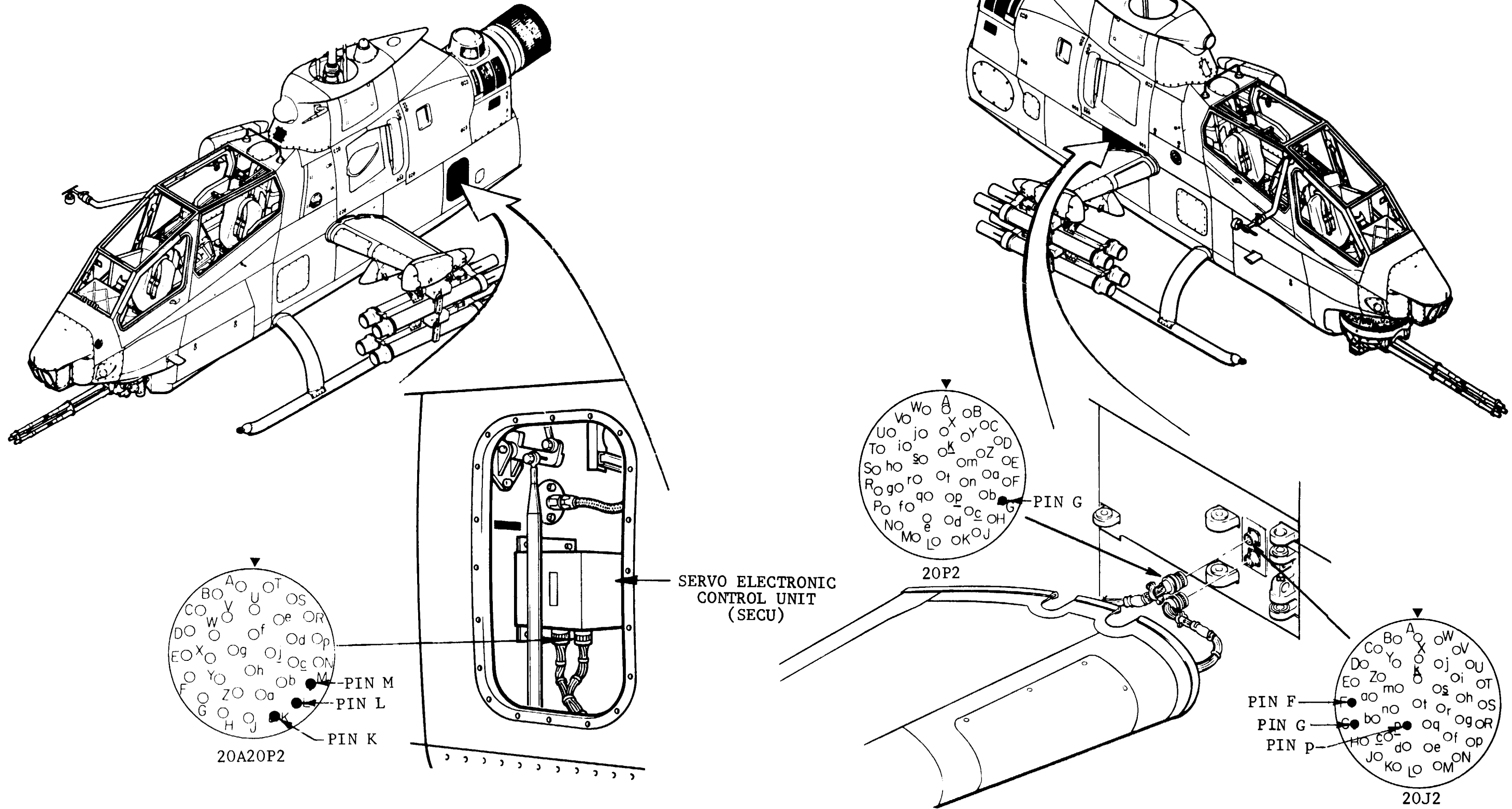
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR.



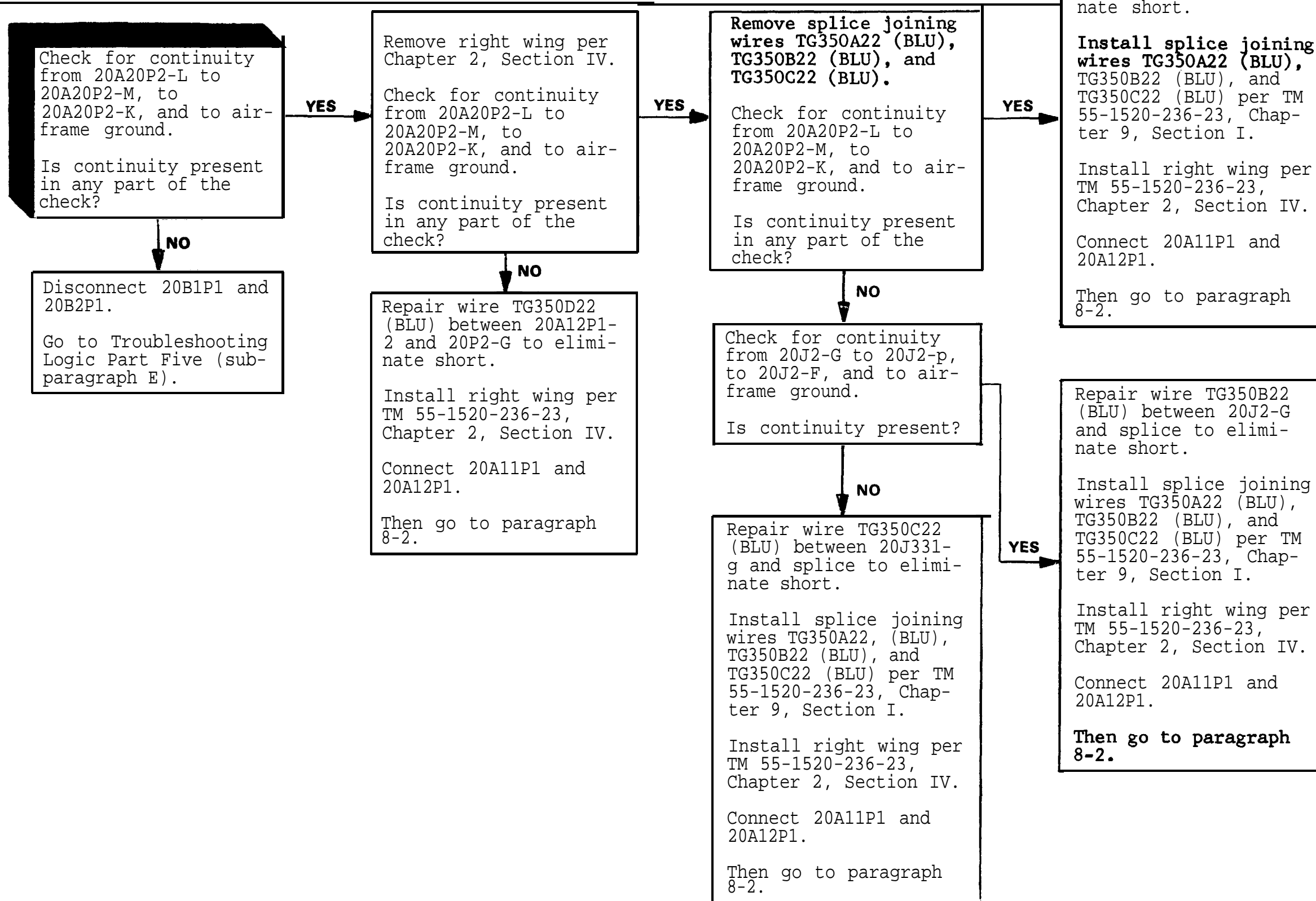
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED)

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



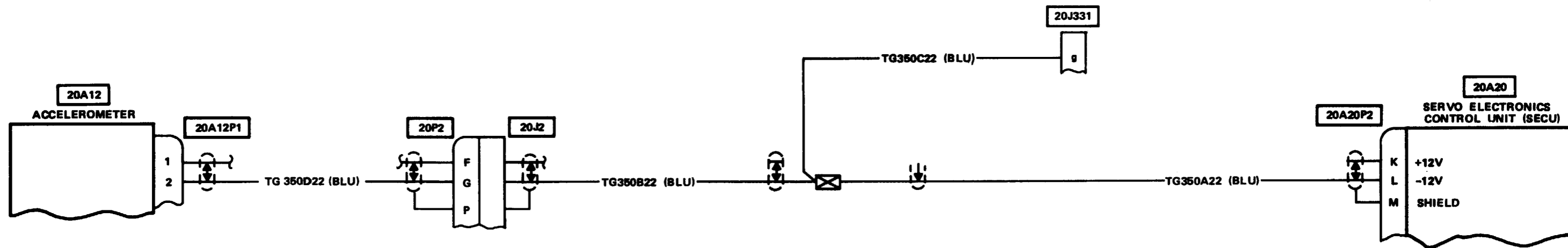
8-36 NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

D. TROUBLESHOOTING **LOGIC** PART FOUR (CONTINUED).



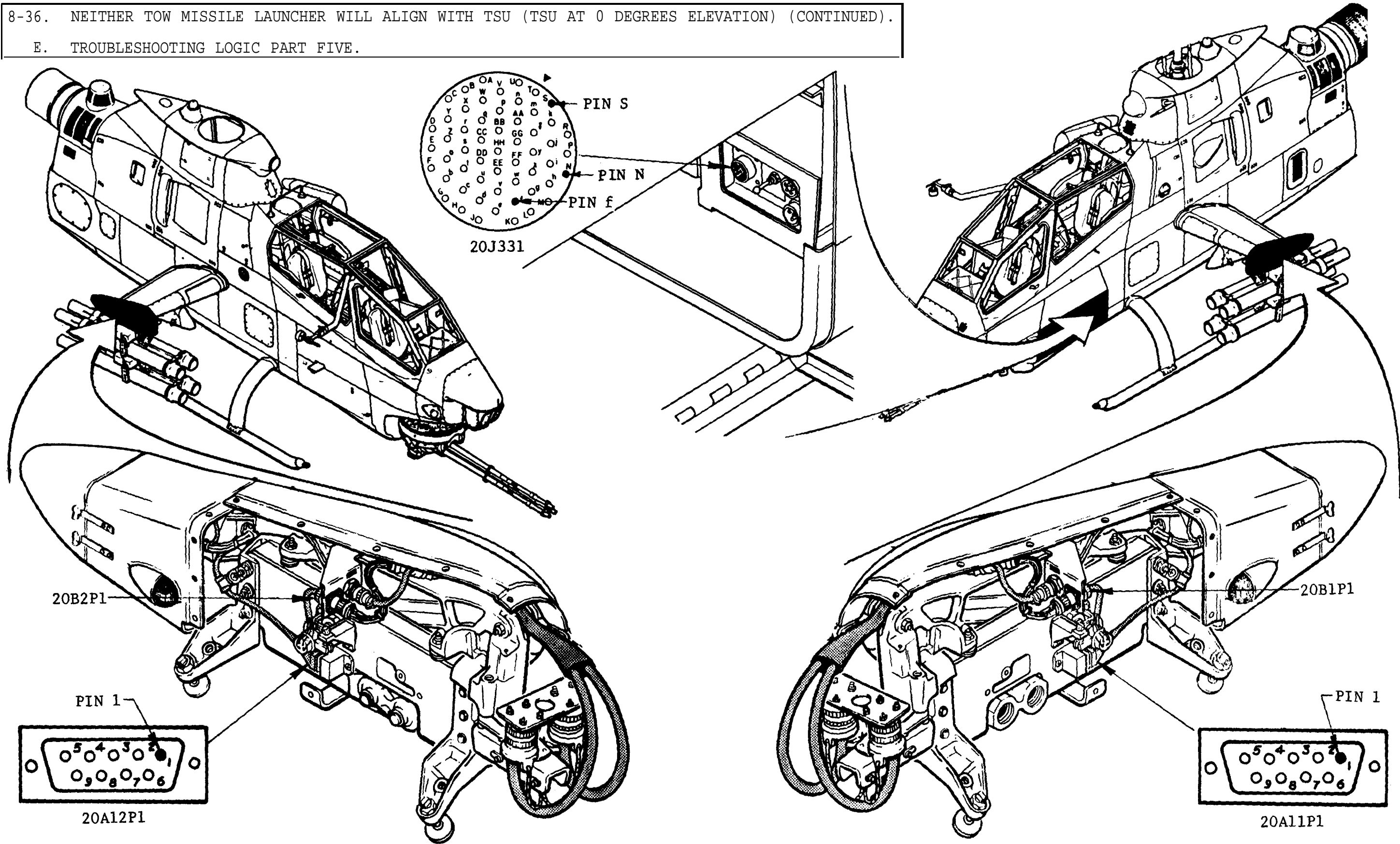
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).

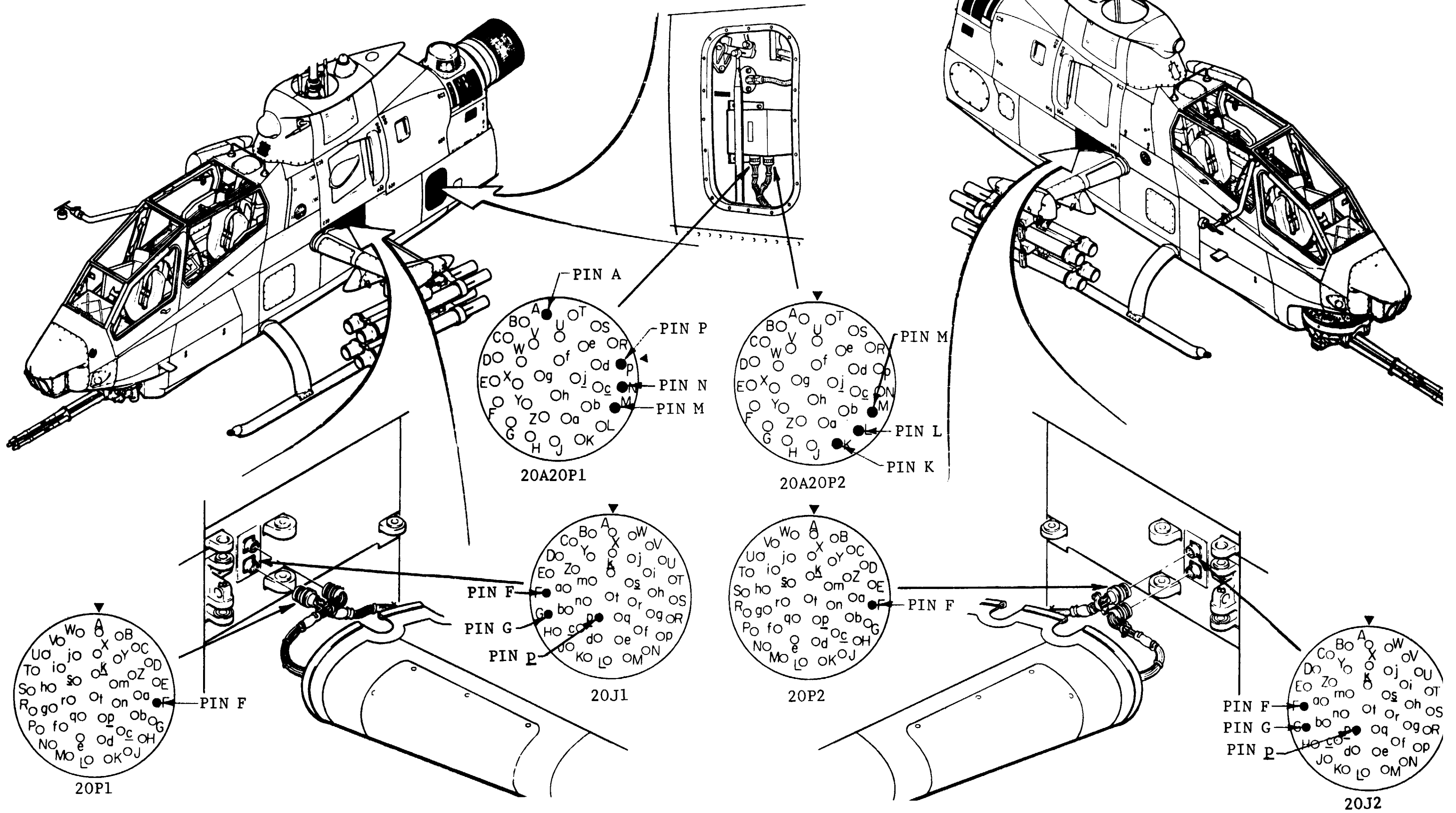


8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

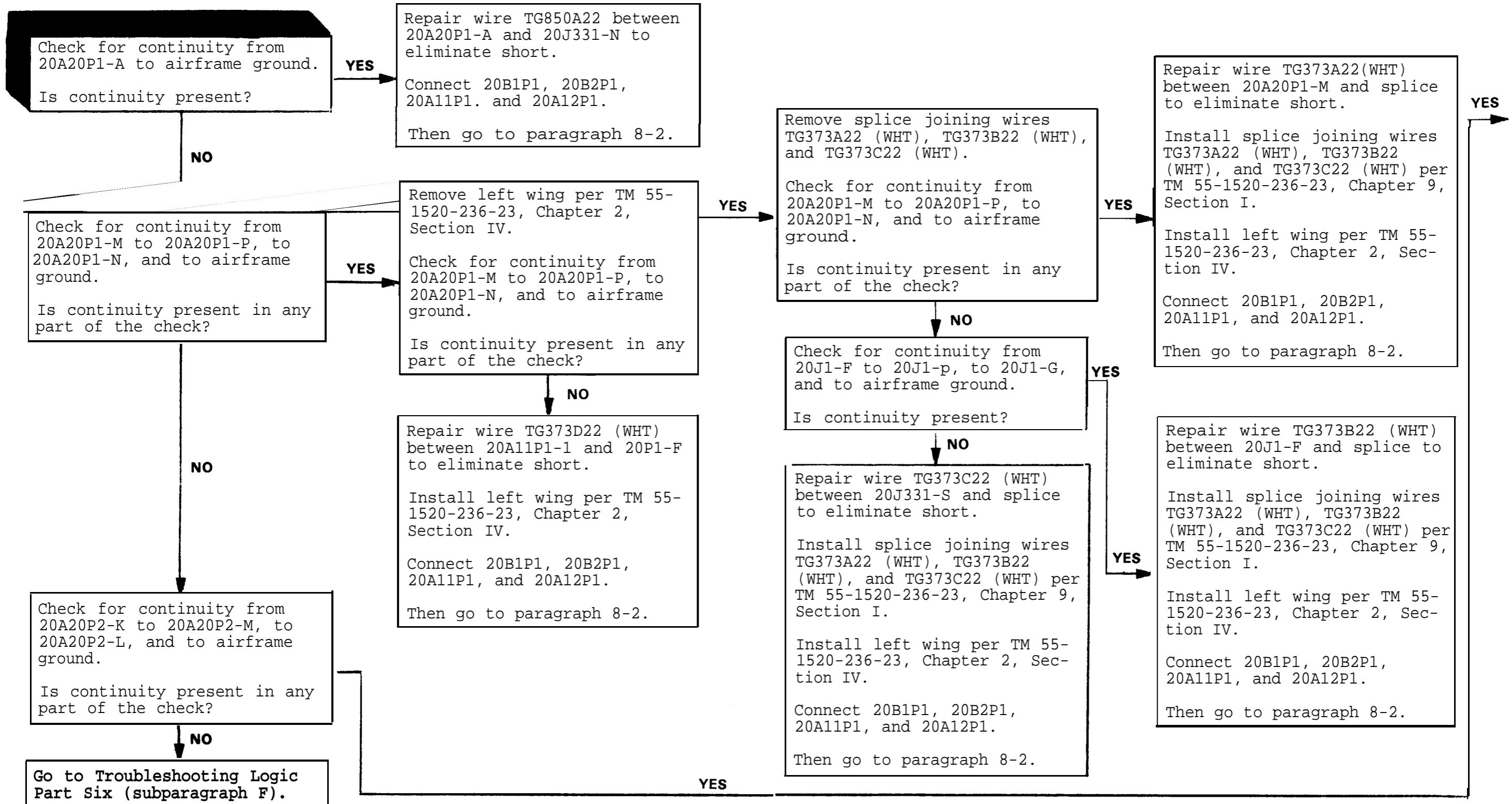
E. TROUBLESHOOTING LOGIC PART FIVE.



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

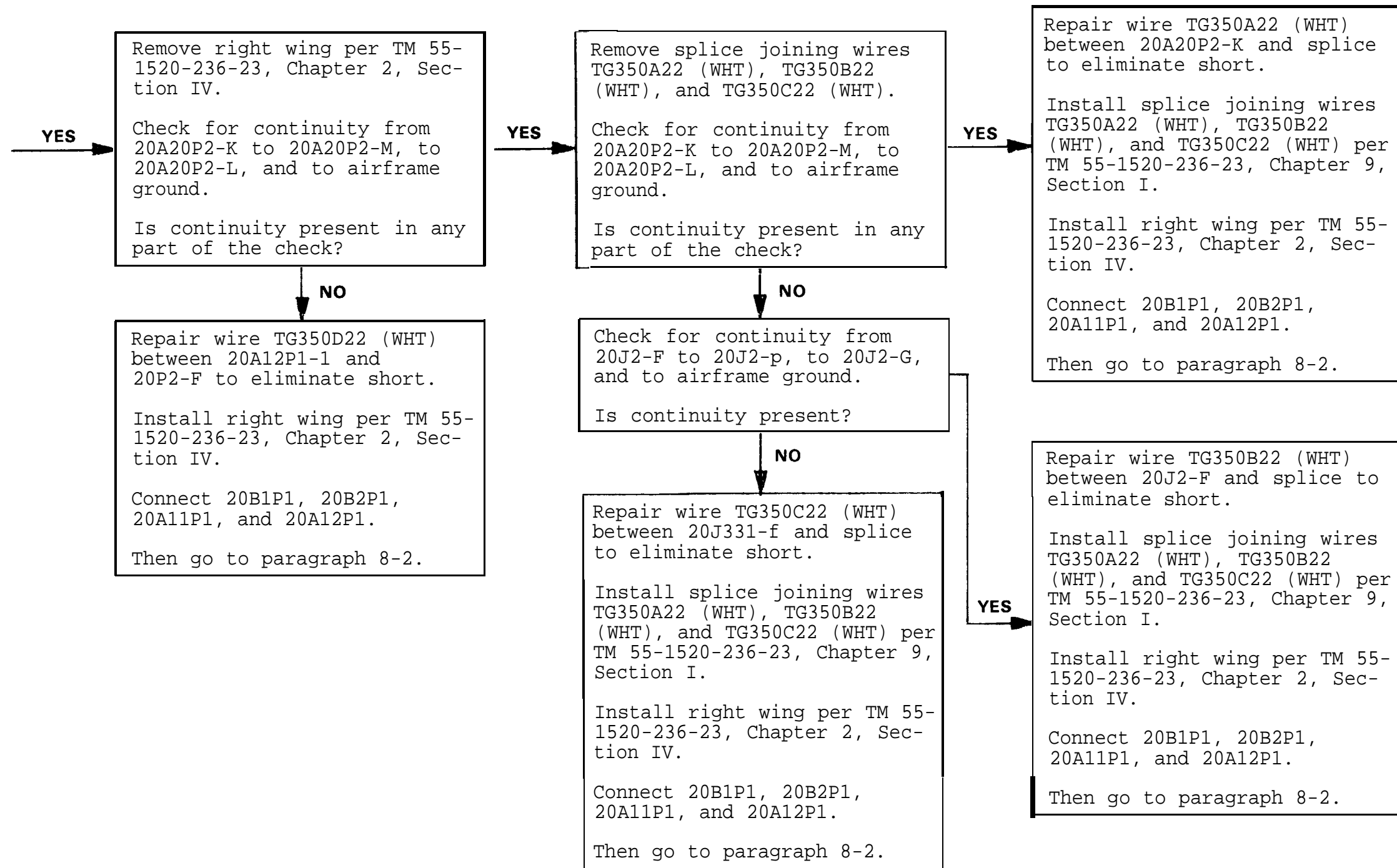


8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

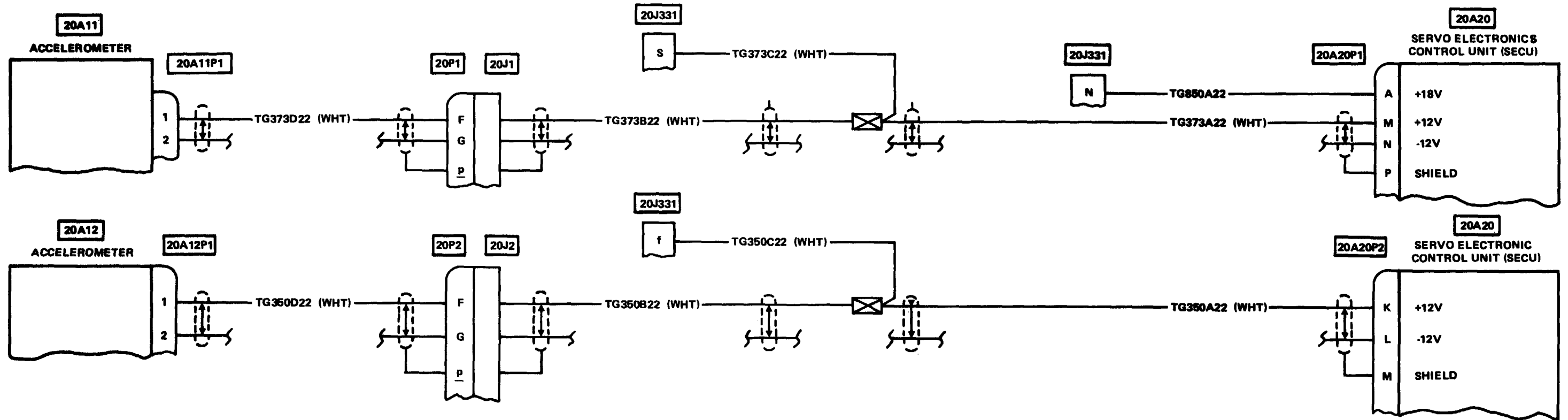


8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



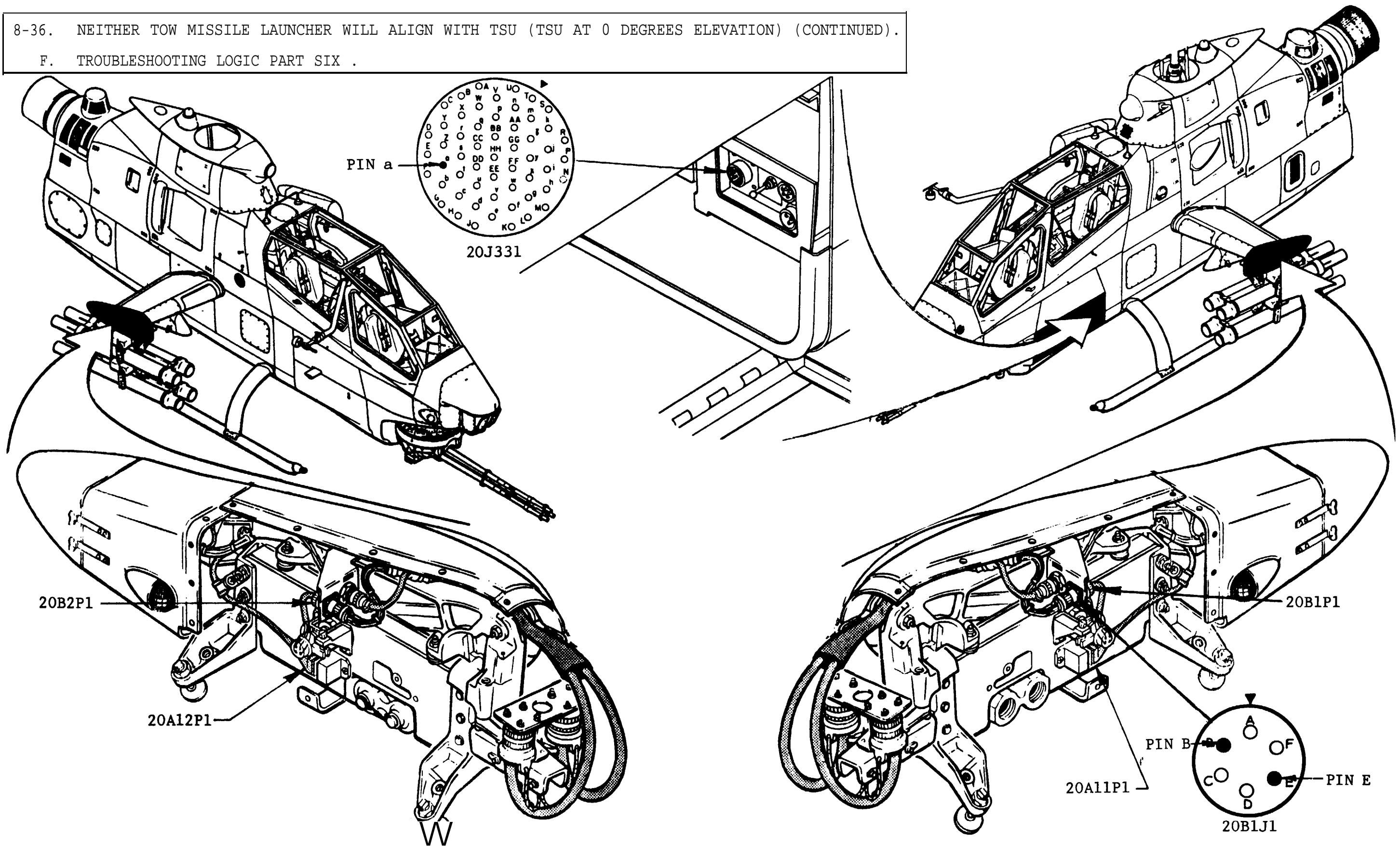
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



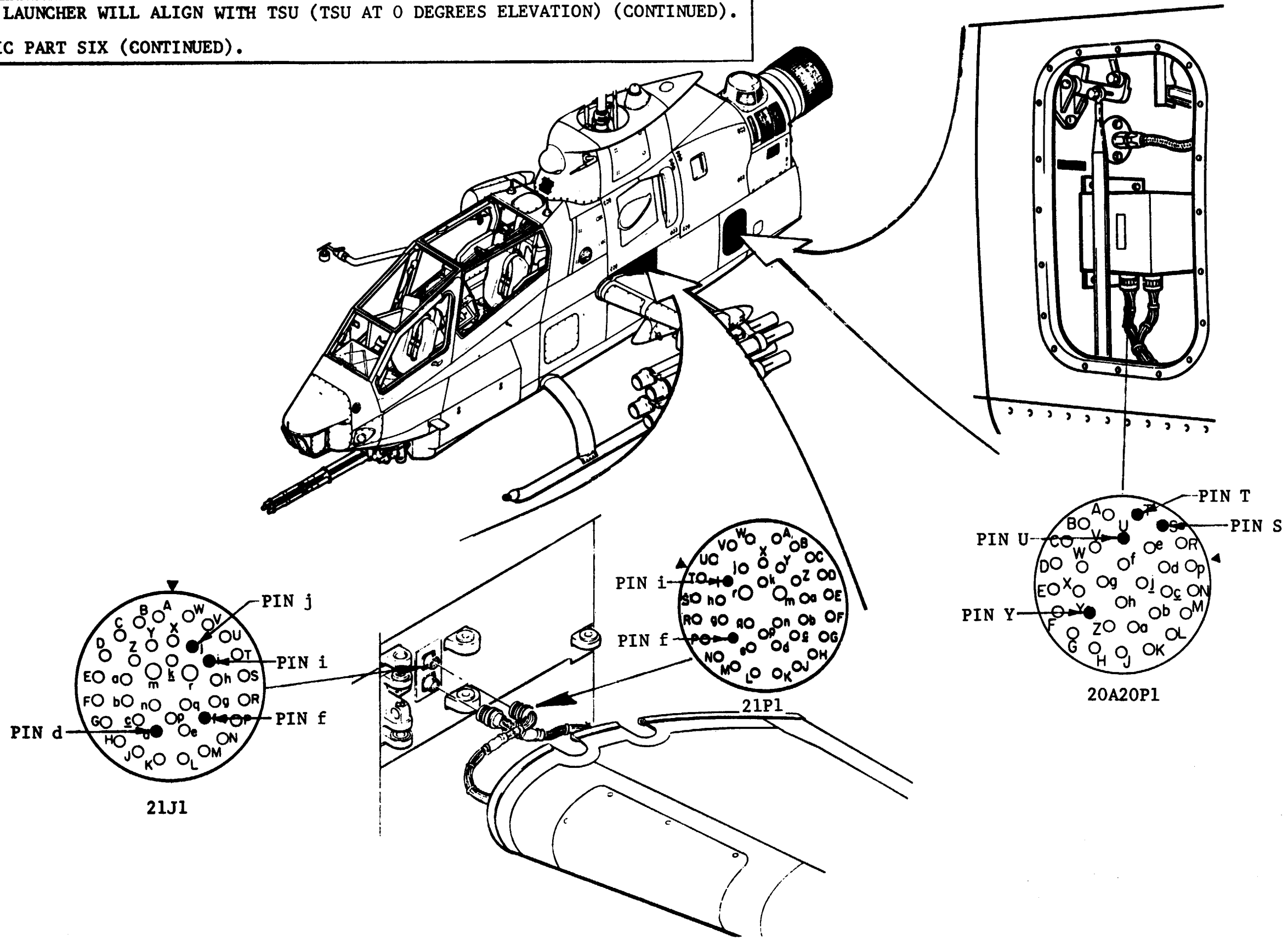
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8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

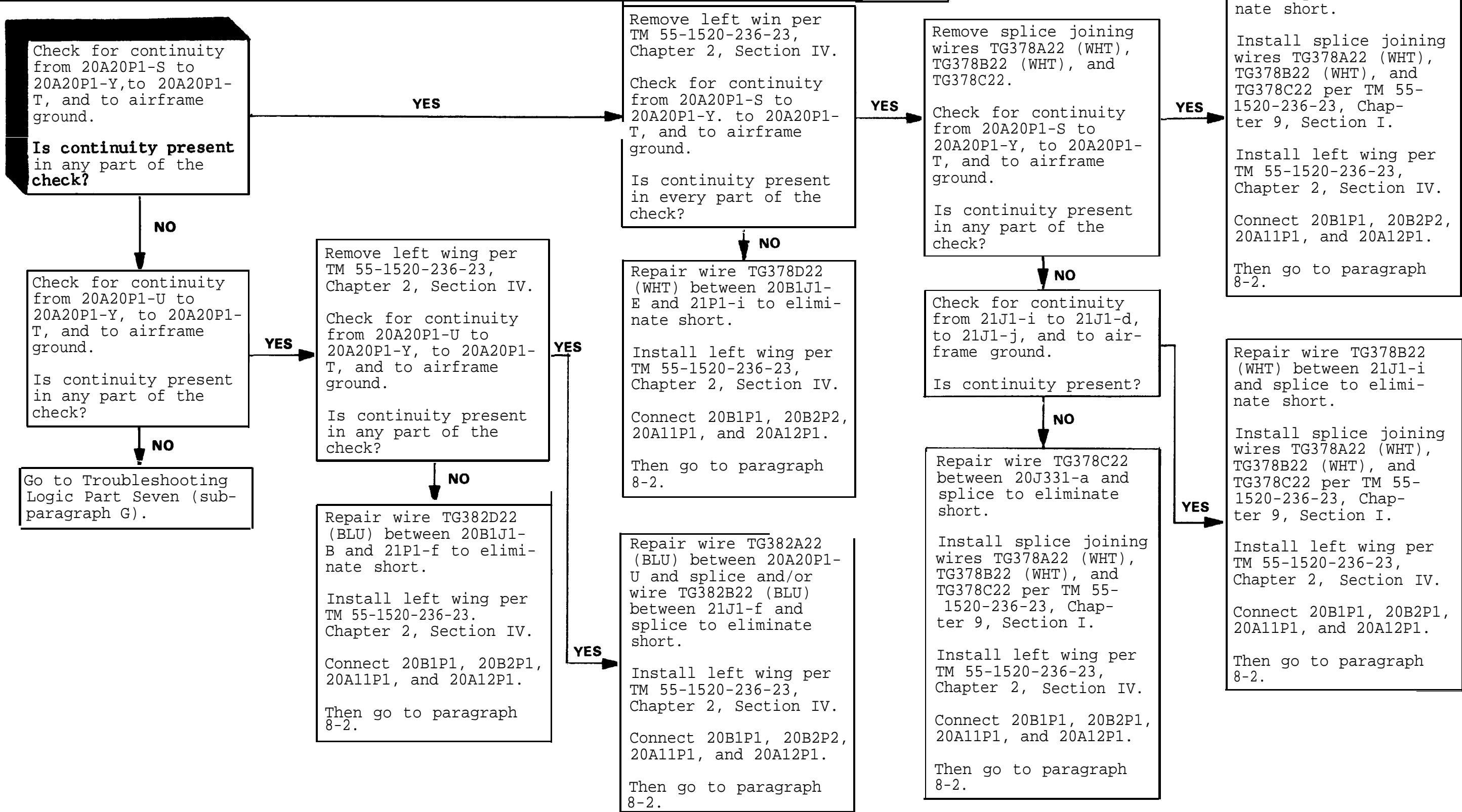
F. TROUBLESHOOTING LOGIC PART SIX .



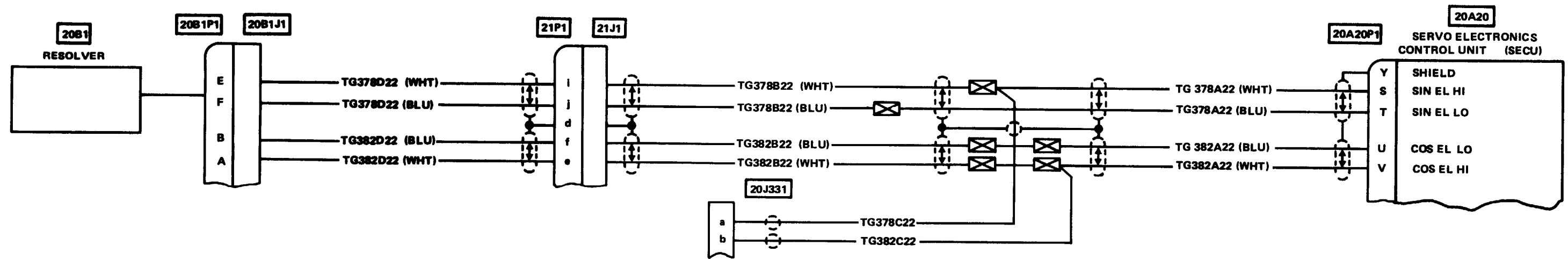
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).



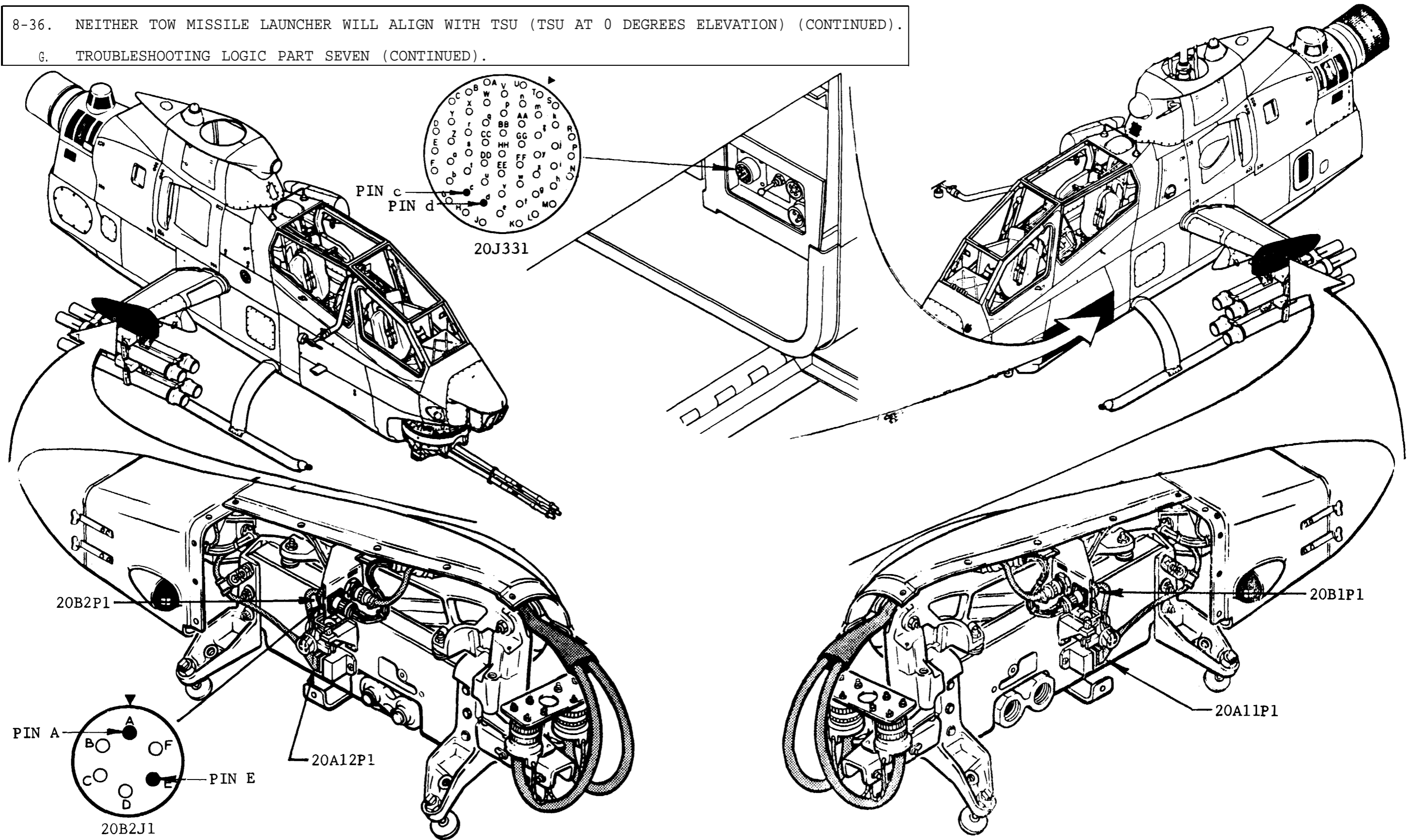
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).

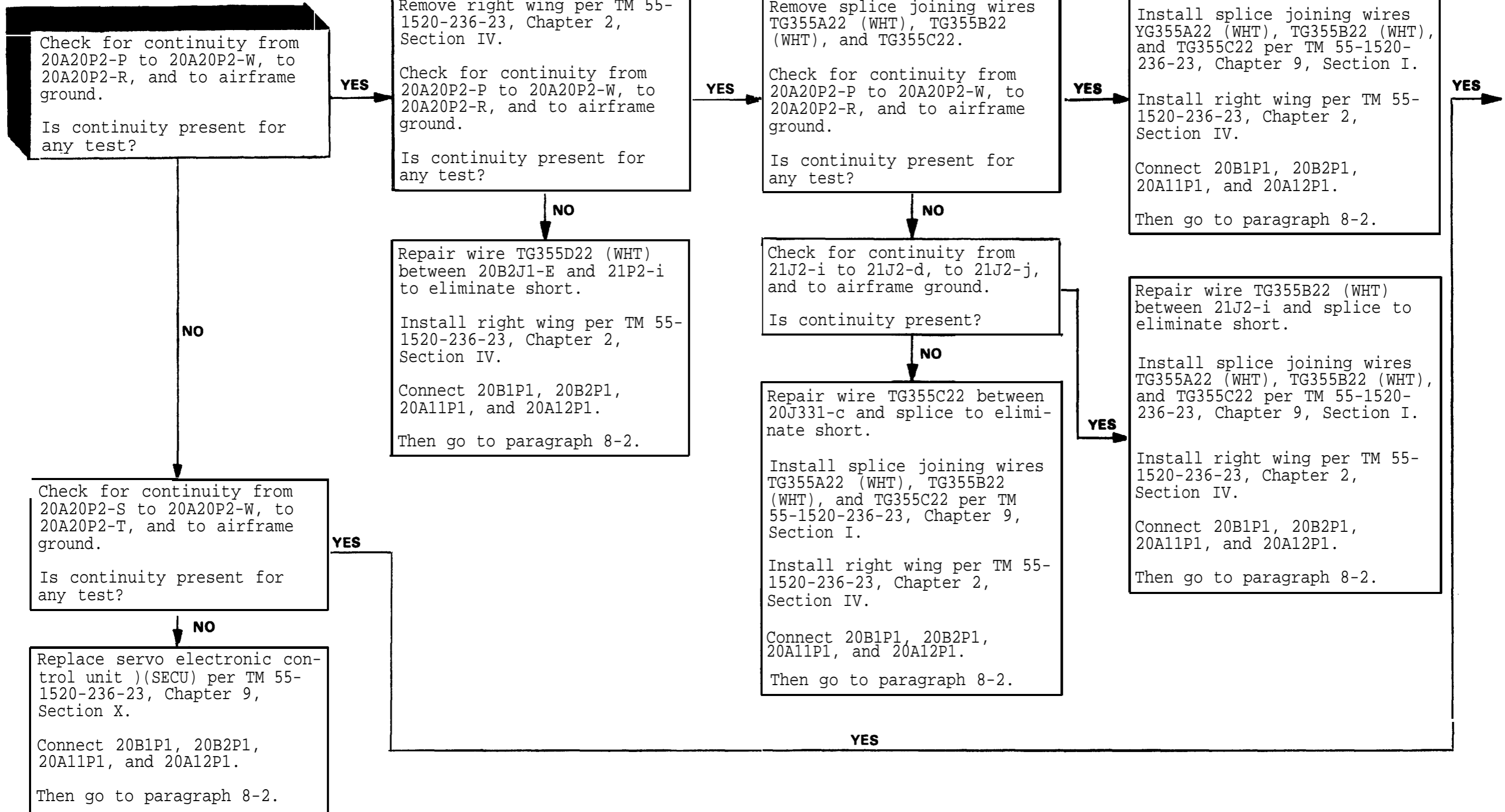


8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
G. TROUBLESHOOTING LOGIC PART SEVEN (CONTINUED).



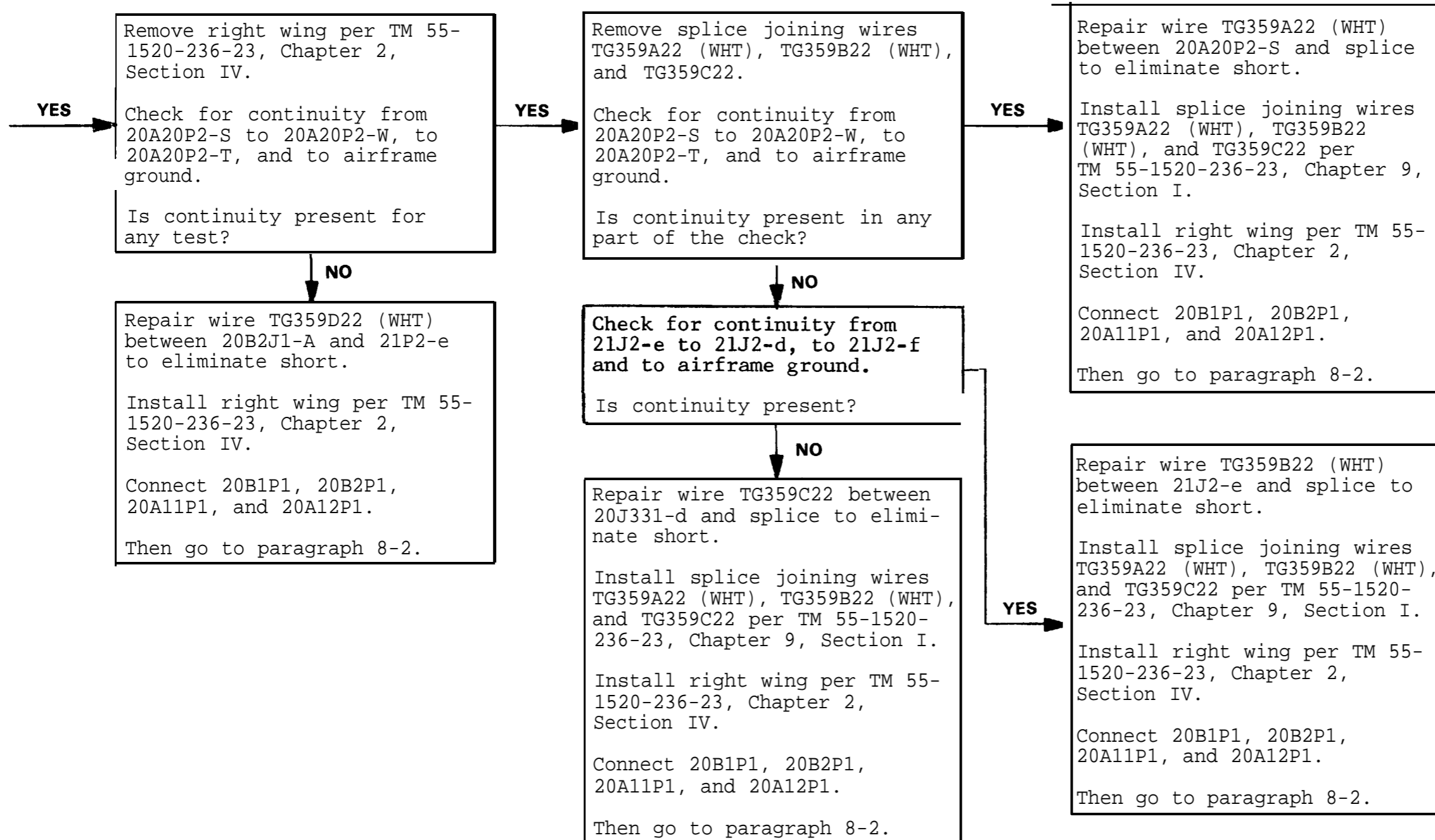
8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

G. TROUBLESHOOTING LOGIC PART SEVEN (CONTINUED).

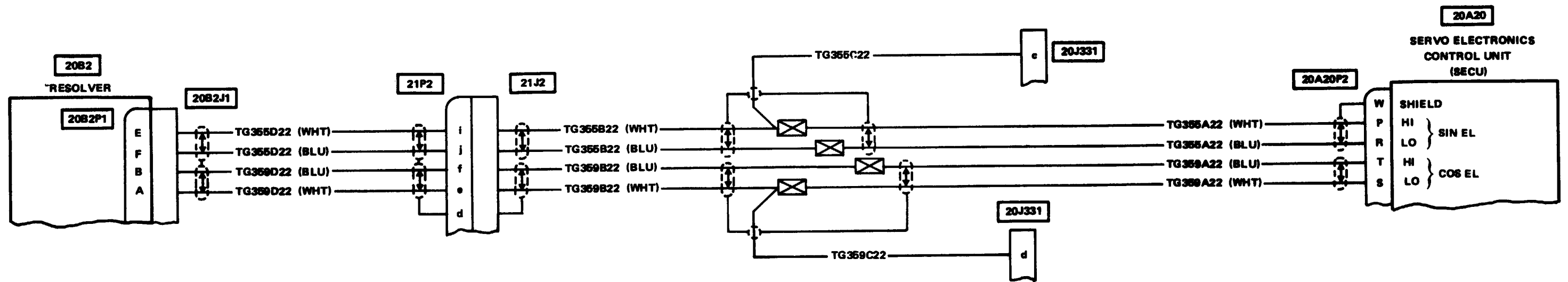


8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

G. TROUBLESHOOTING LOGIC PART SEVEN (CONTINUED).



8-36. NEITHER TOW MISSILE LAUNCHER WILL ALIGN WITH TSU (TSU 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

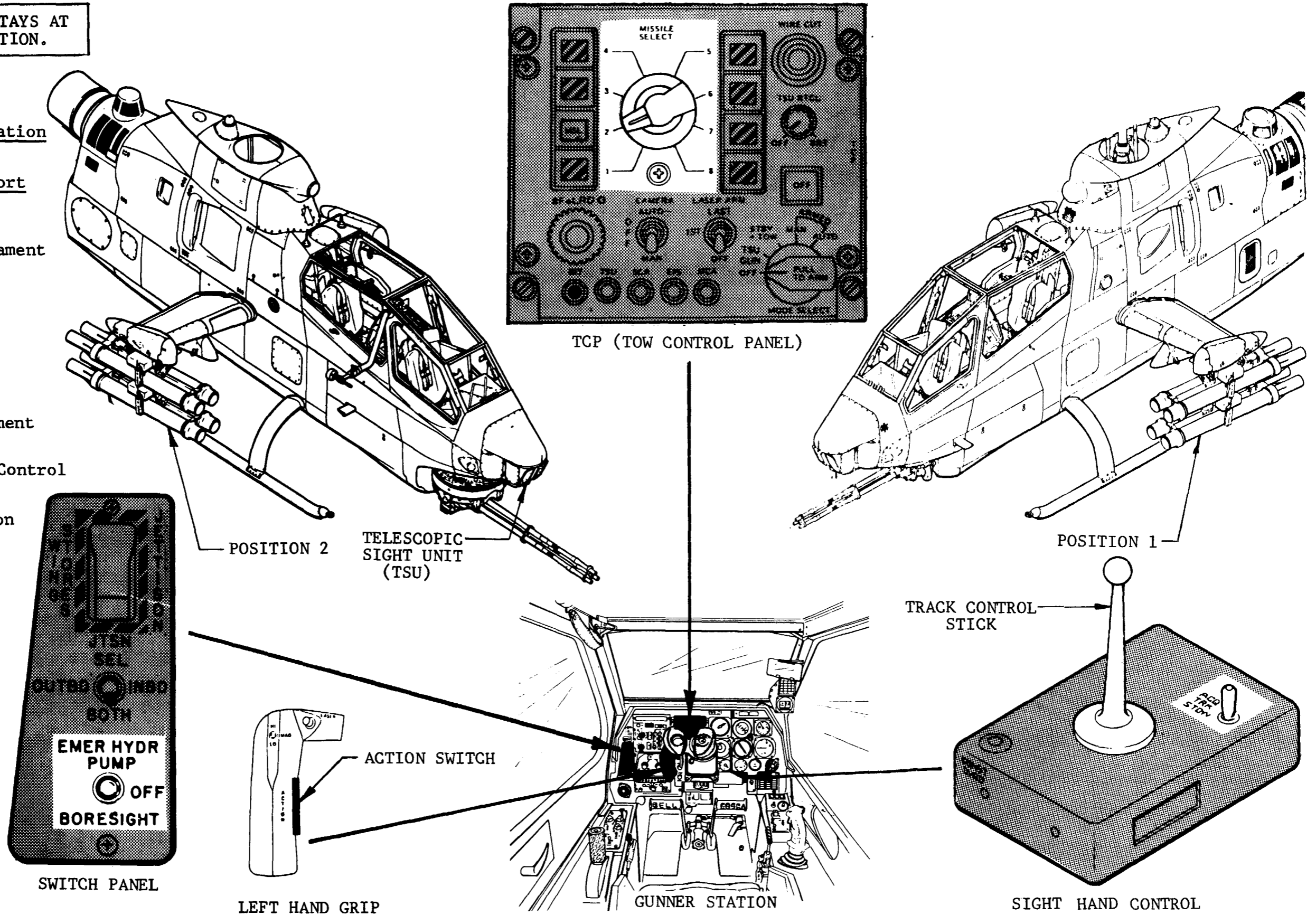
Tools/Test and Support Equipment
Multimeter

Tool Set, A/C Armament Repairman

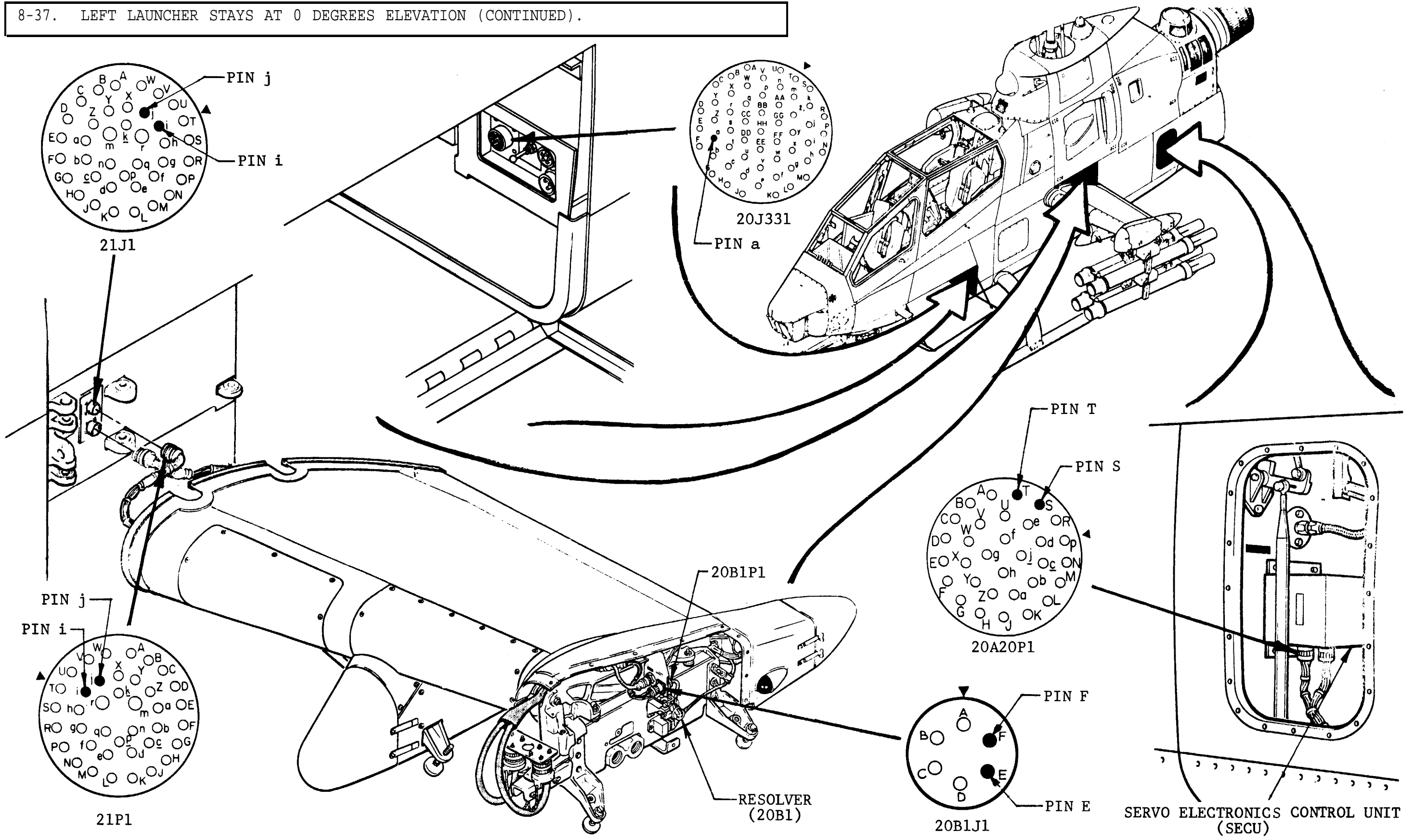
Personnel Required
68J (2)

References
TM 55-1520-236-23
TM 11-1520-236-23

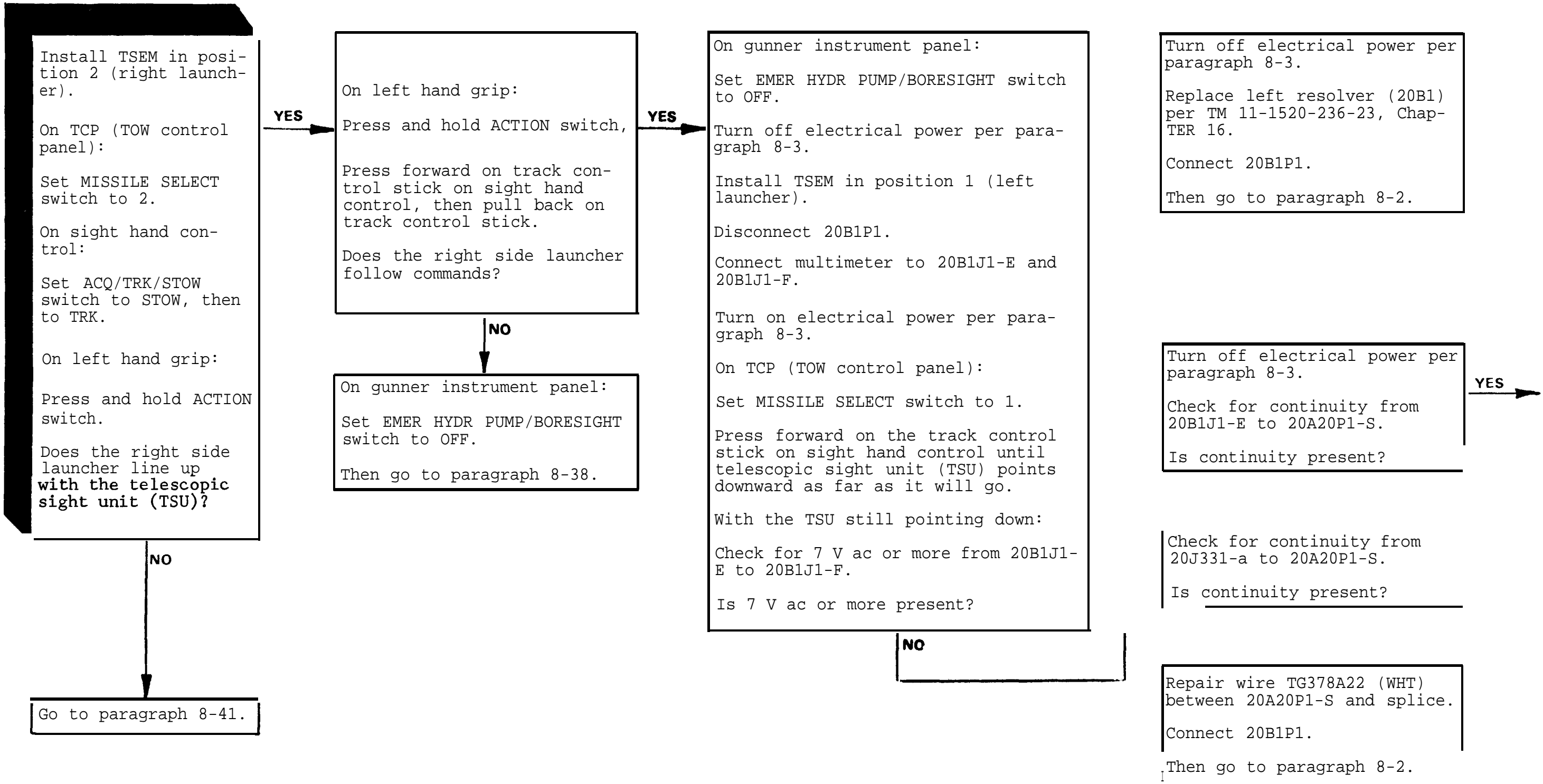
Access Panels
Left Ammo Compartment Door - Open
Servo Electronic Control Unit - Removed
Left Outboard Pylon Fairing - Removed



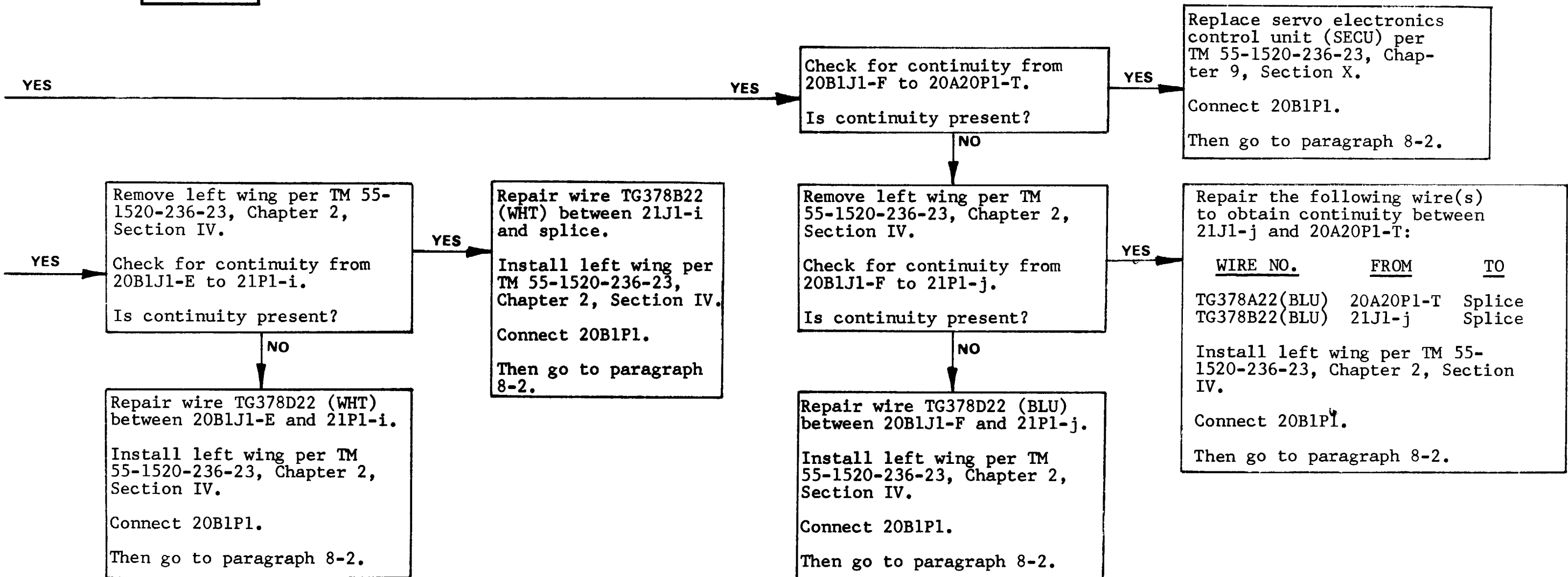
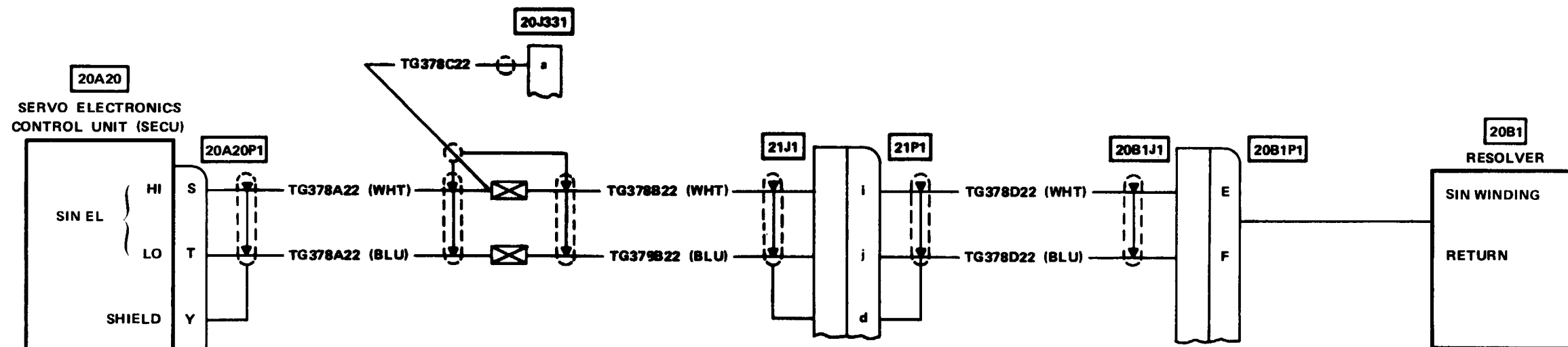
8-37. LEFT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



8-37. LEFT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



8-37. LEFT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



8-38. NEITHER LAUNCHER WILL MOVE FROM 0 DEGREES ELEVATION.

INITIAL SETUP

Applicable Configuration
All

Tools/Test and Support Equipment
Multimeter

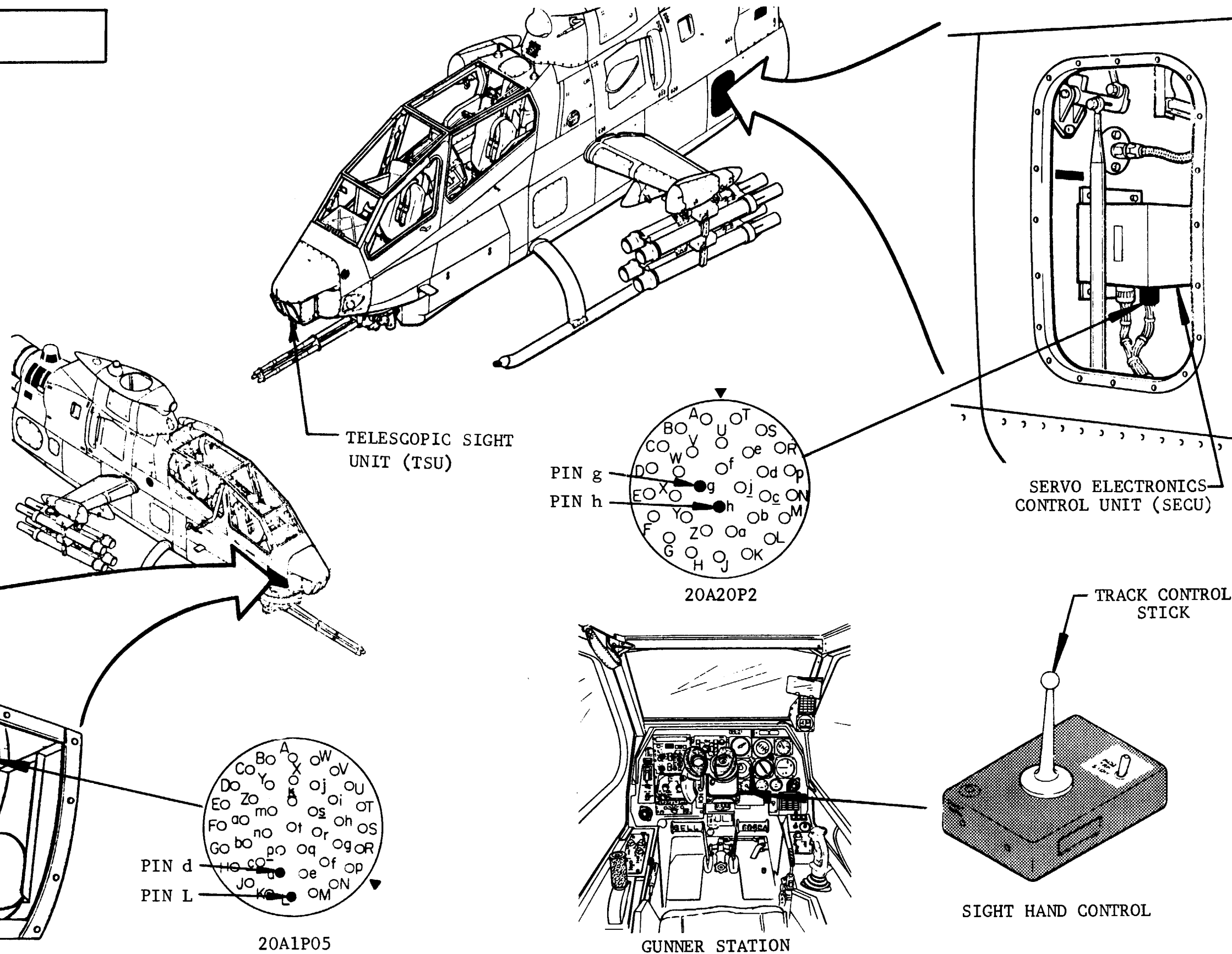
Tool Set, A/C Armament Repairman

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



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)	20A1P05-d	20A20P2-g
TG141E11 (BLU) and TG141A22 (BLU)	20A1P05-L	20A20P2-h

Is continuity present for all wires?

YES

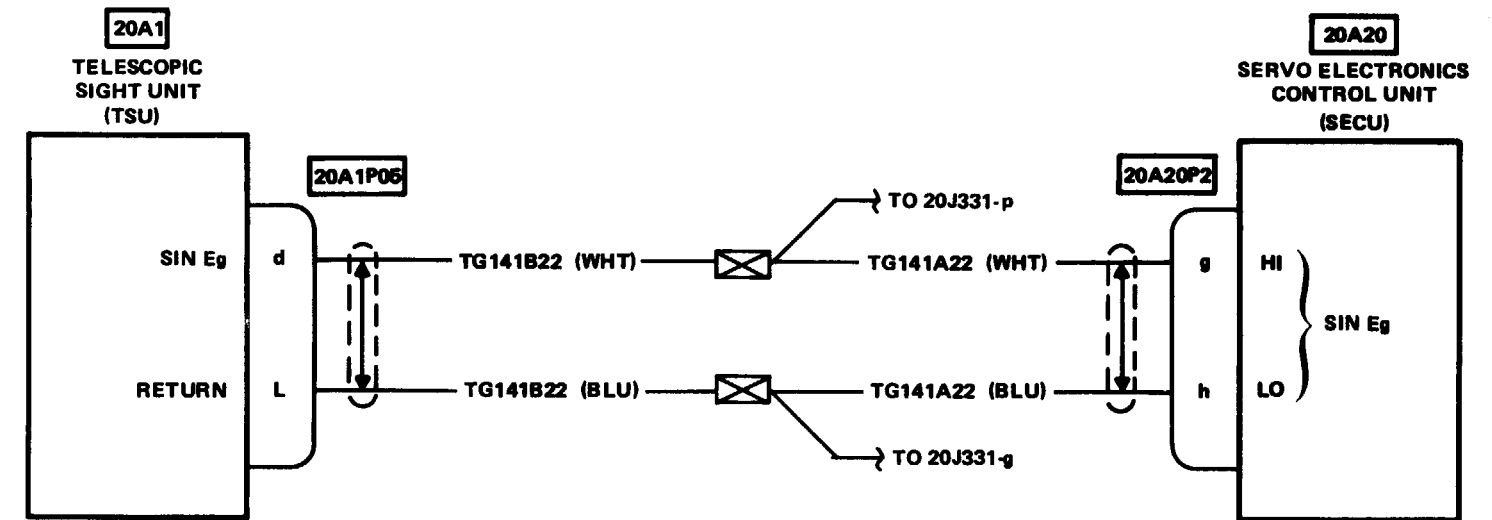
Replace telescopic sight unit (TSU) per TM 9-1425-473-34, Chapter 4, Section III.

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)

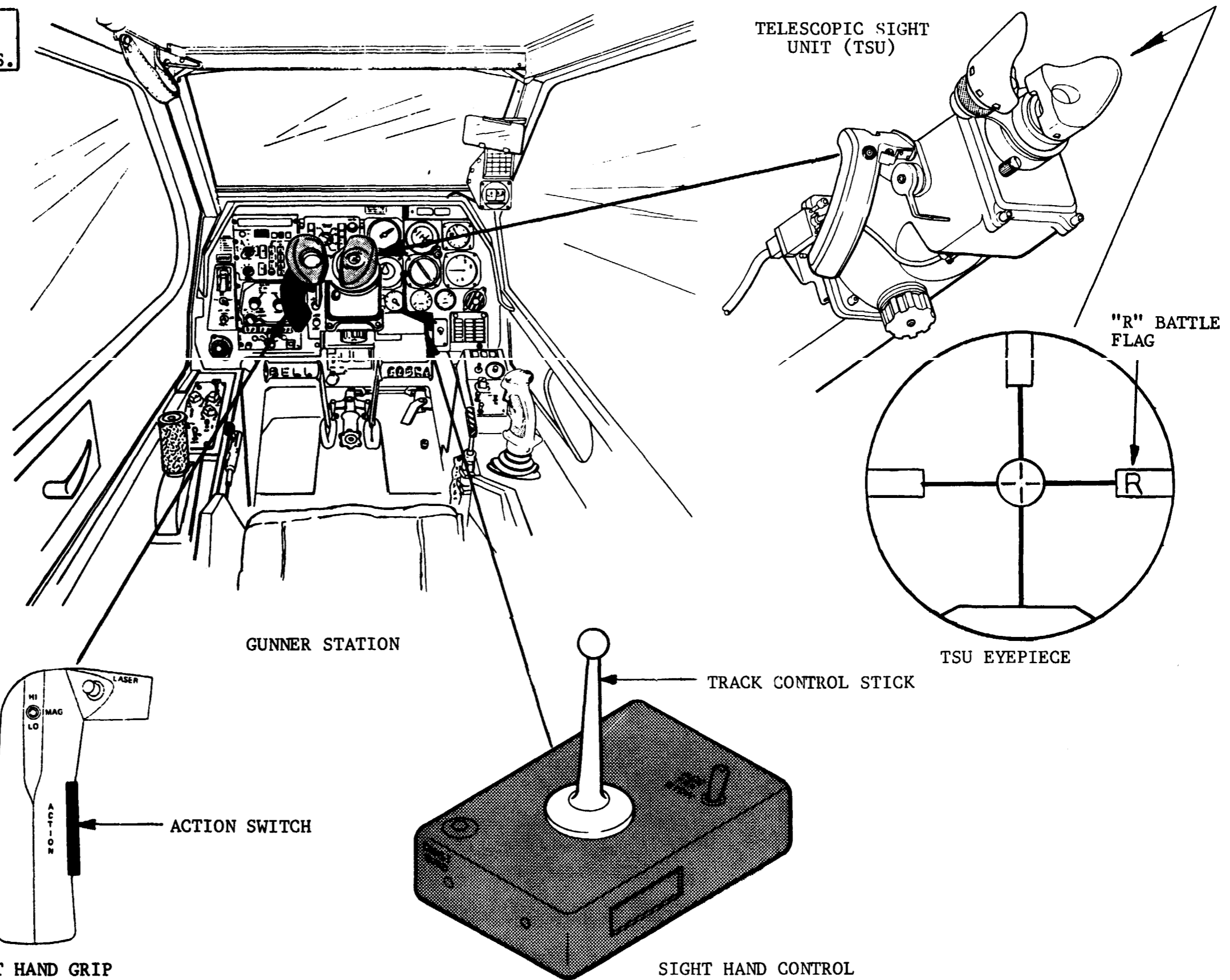
References
TM 55-1520-236-23
TM 9-1425-473-20

Access Panels

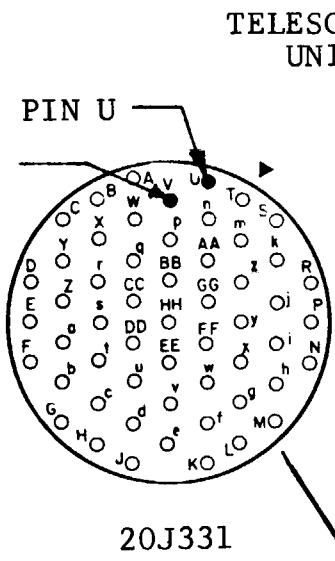
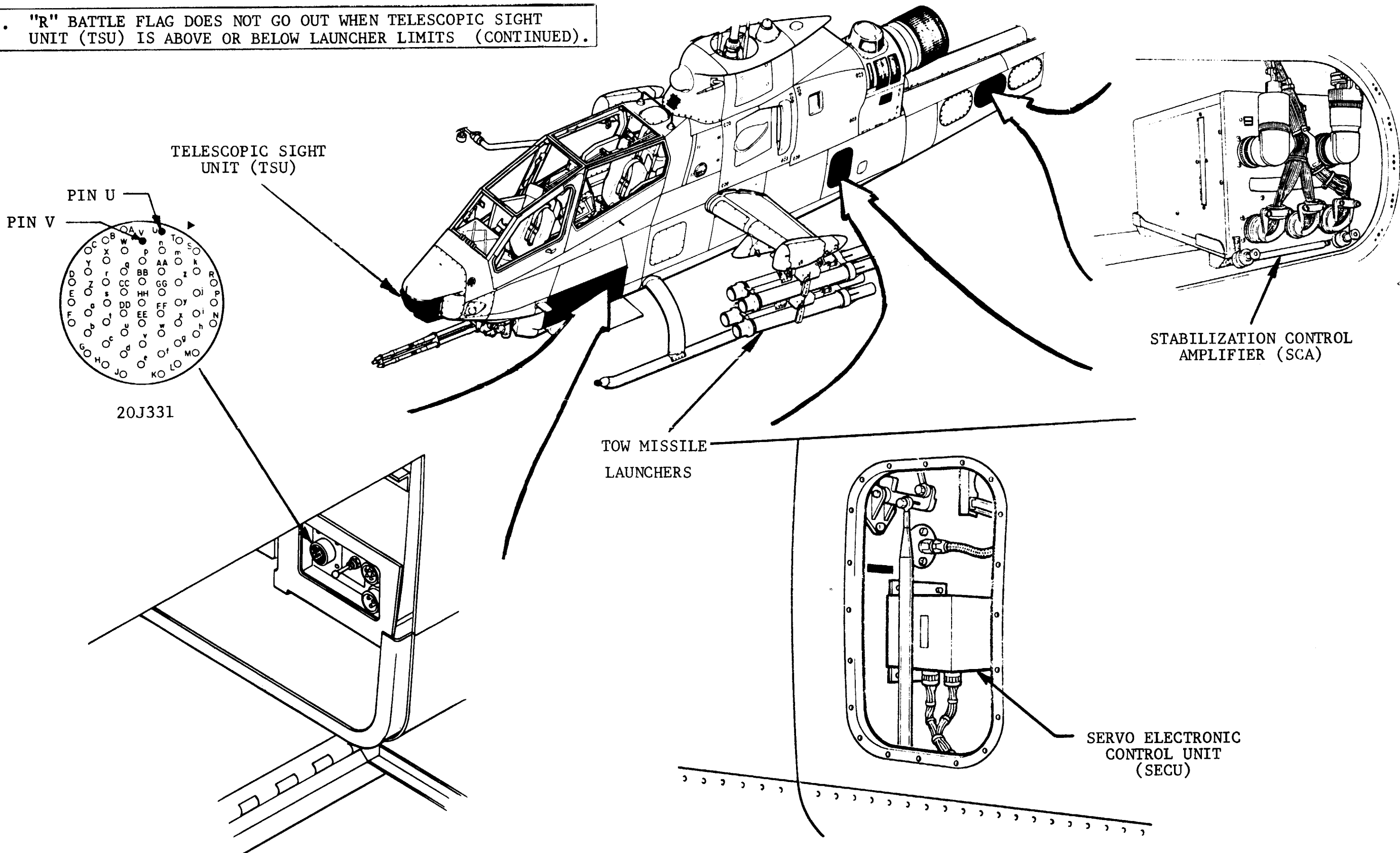
Ammo Compartment Left Door - Open

Servo Electronic Control Unit - Removed

Middle Electronics (Tail-boom) -Removed



8-39. "R" BATTLE FLAG DOES NOT GO OUT WHEN TELESCOPIC SIGHT UNIT (TSU) IS ABOVE OR BELOW LAUNCHER LIMITS (CONTINUED).



SERVO ELECTRONIC CONTROL UNIT (SECU)

8-39. "R" BATTLE FLAG DOES NOT GO OUT WHEN TELESCOPIC SIGHT UNIT (TSU) IS ABOVE OR BELOW LAUNCHER LIMITS. (CONTINUED).

On left hand grip:
 Press and hold ACTION switch.

On right 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 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) moves to full up or full down position.

Check for 28 V dc 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.

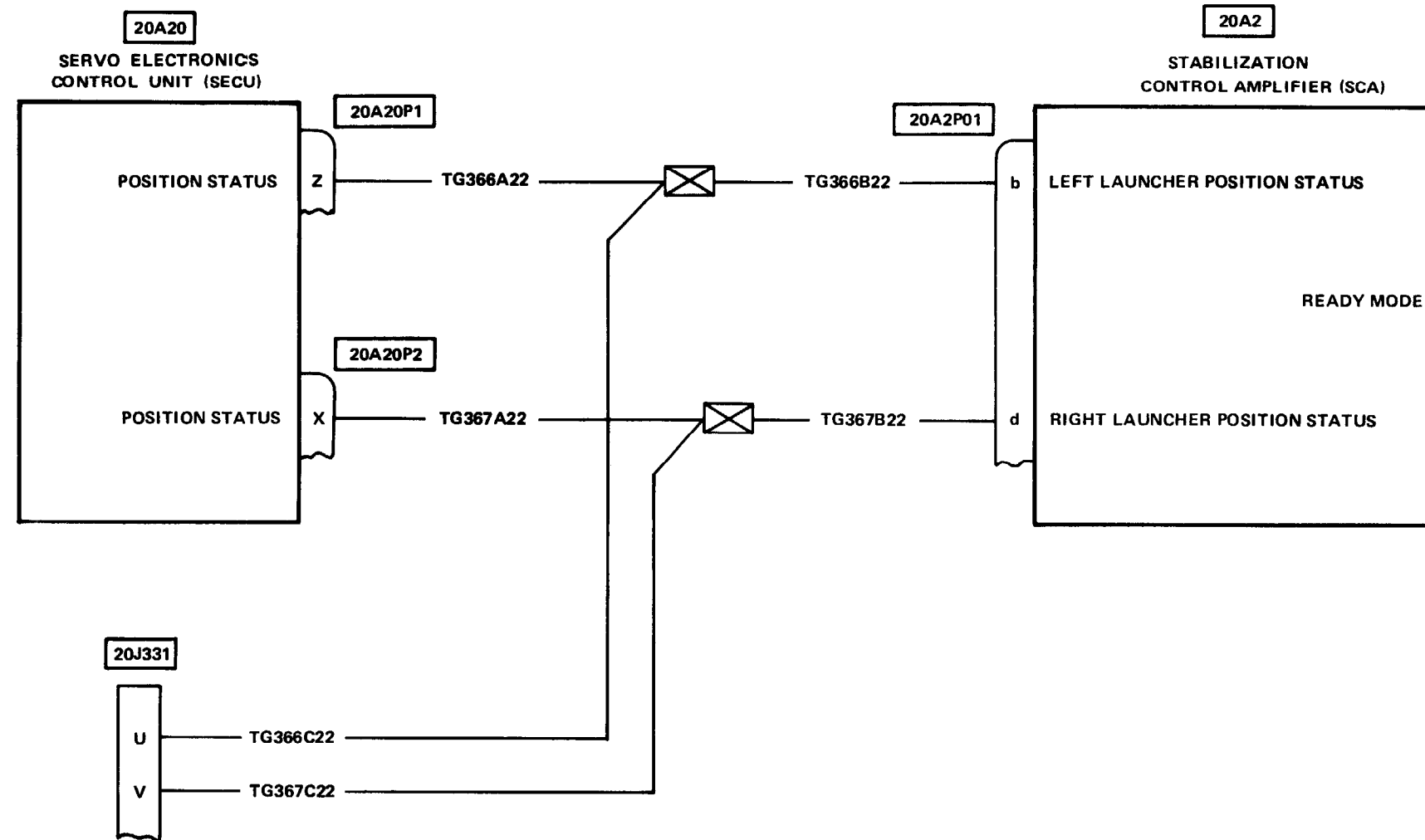
NO

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

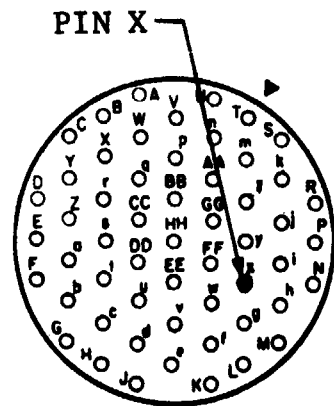
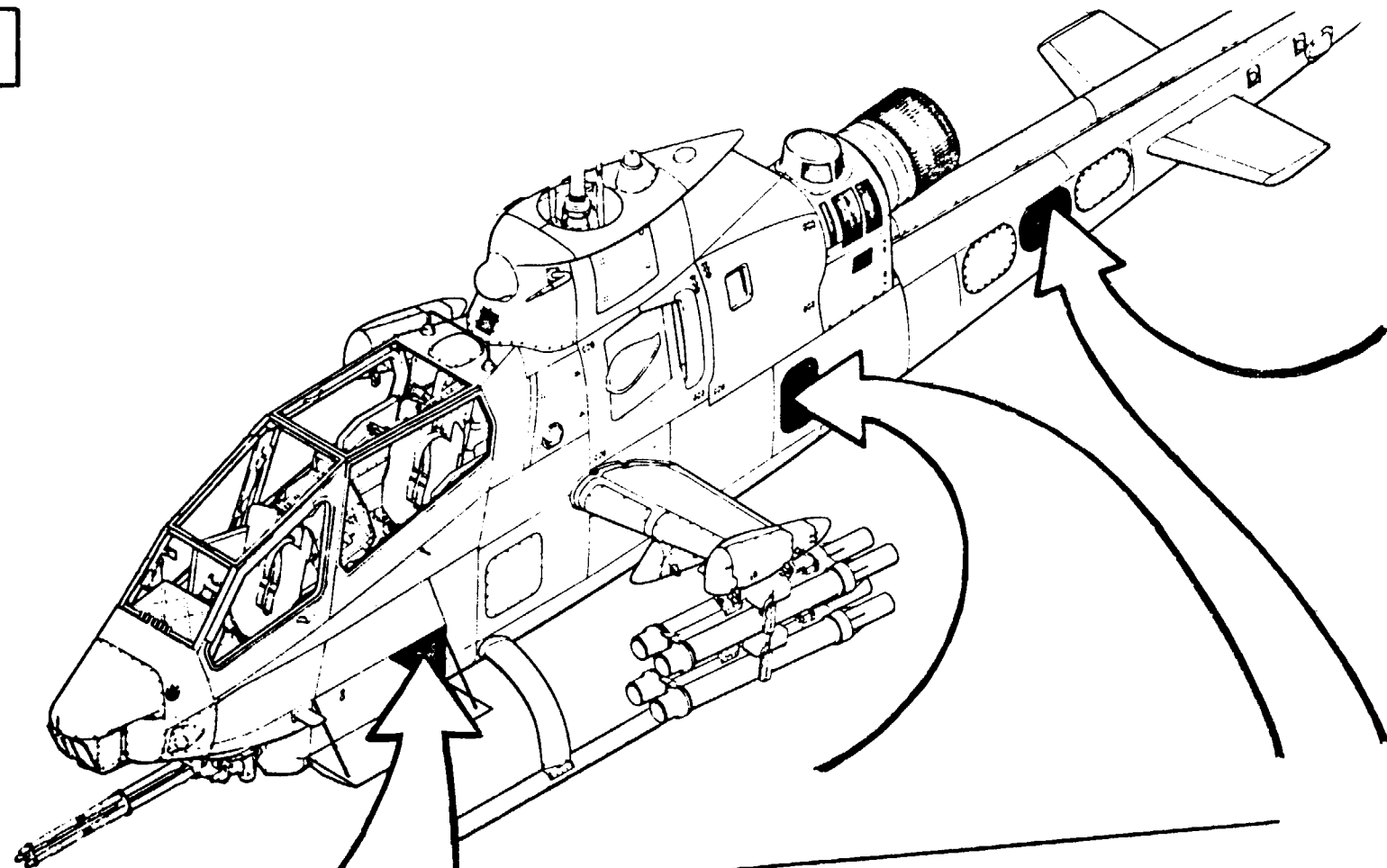
TM 9-1425-473-20
TM 55-1520-236-23

Access Panels

Left Ammo Compartment Door - Open

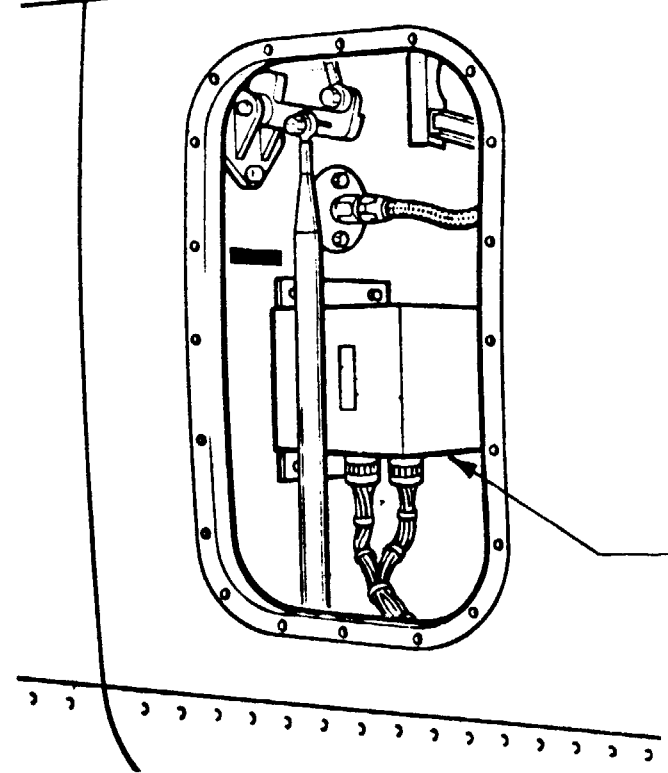
Servo Electronic Control Unit - Removed

Middle Electronics (Tailboom) - Removed

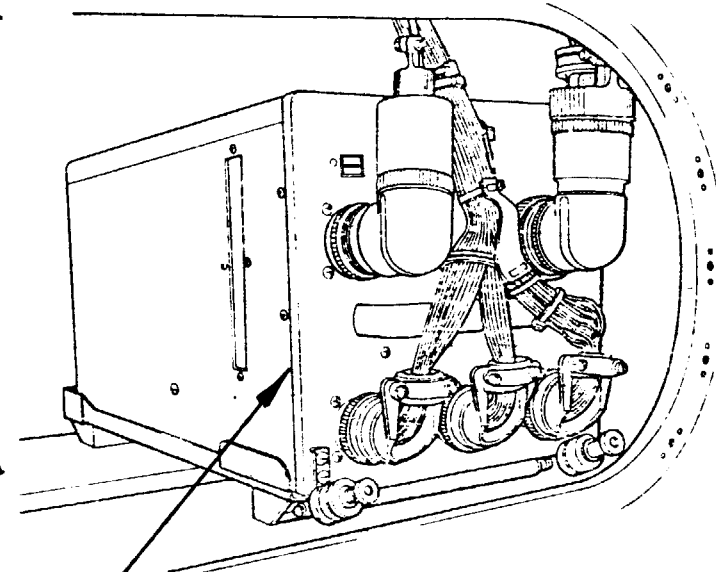


20J331

LCHR BORESIGHT SWITCH

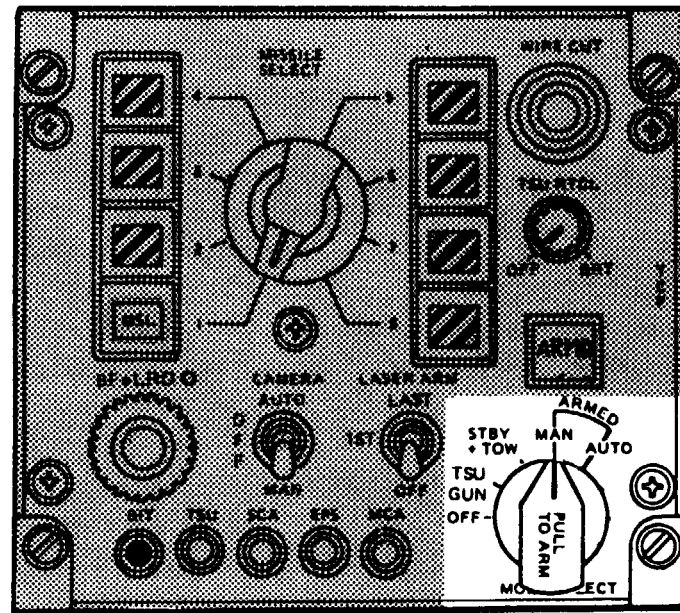


SERVO ELECTRONICS CONTROL UNIT (SECU)

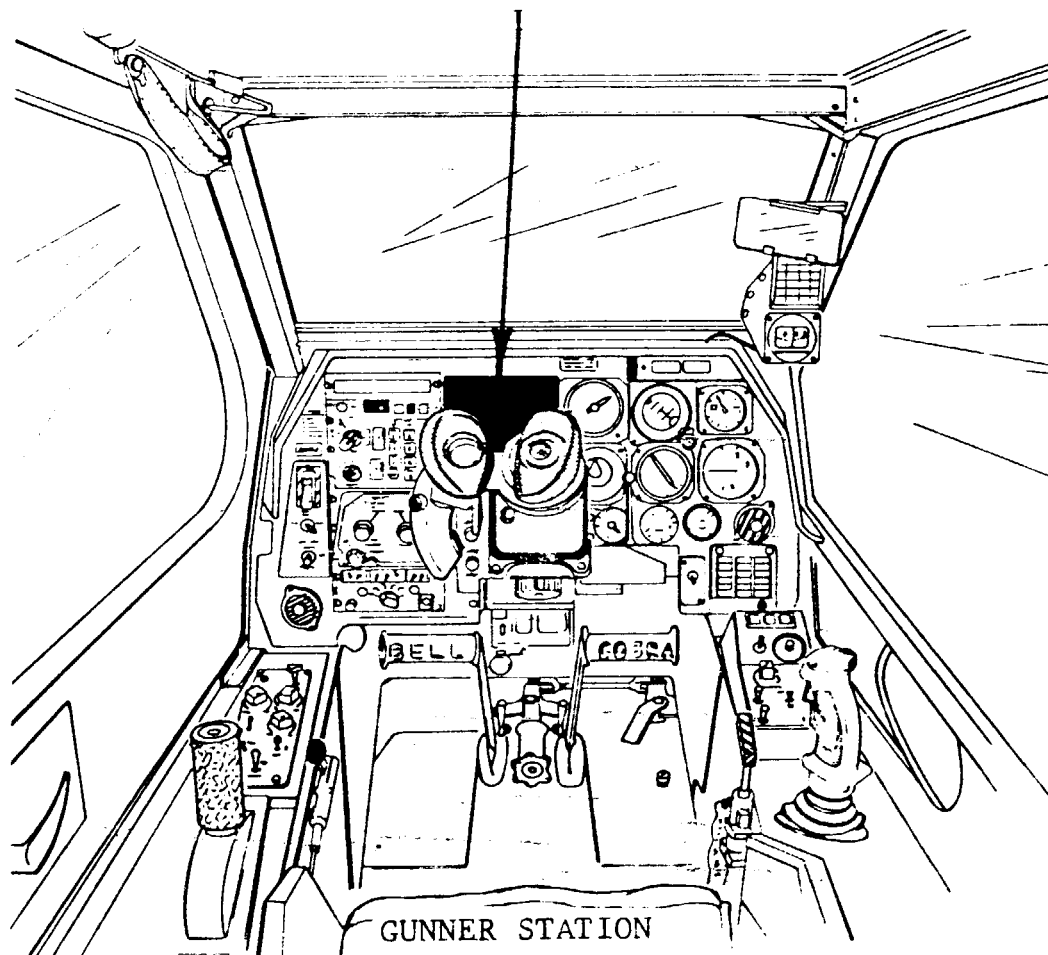


STABILIZATION CONTROL AMPLIFIER (SCA)

8-40. LEFT TOW LAUNCHER WILL NOT STOW (CONTINUED).



TCP (TOW CONTROL PANEL)



GUNNER STATION

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.

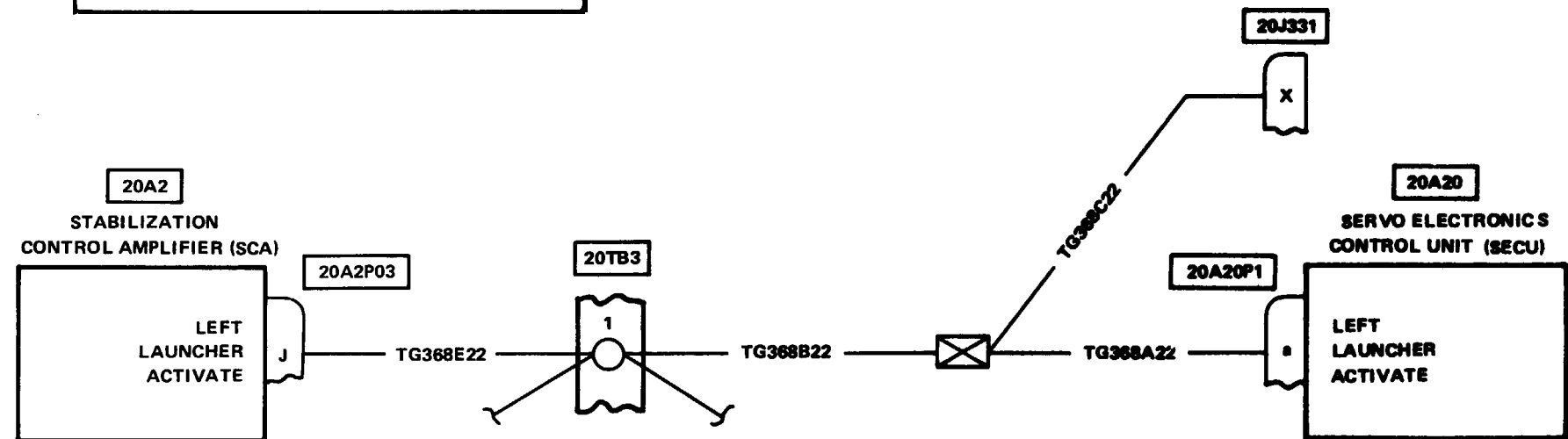
Then go to paragraph 8-2.

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

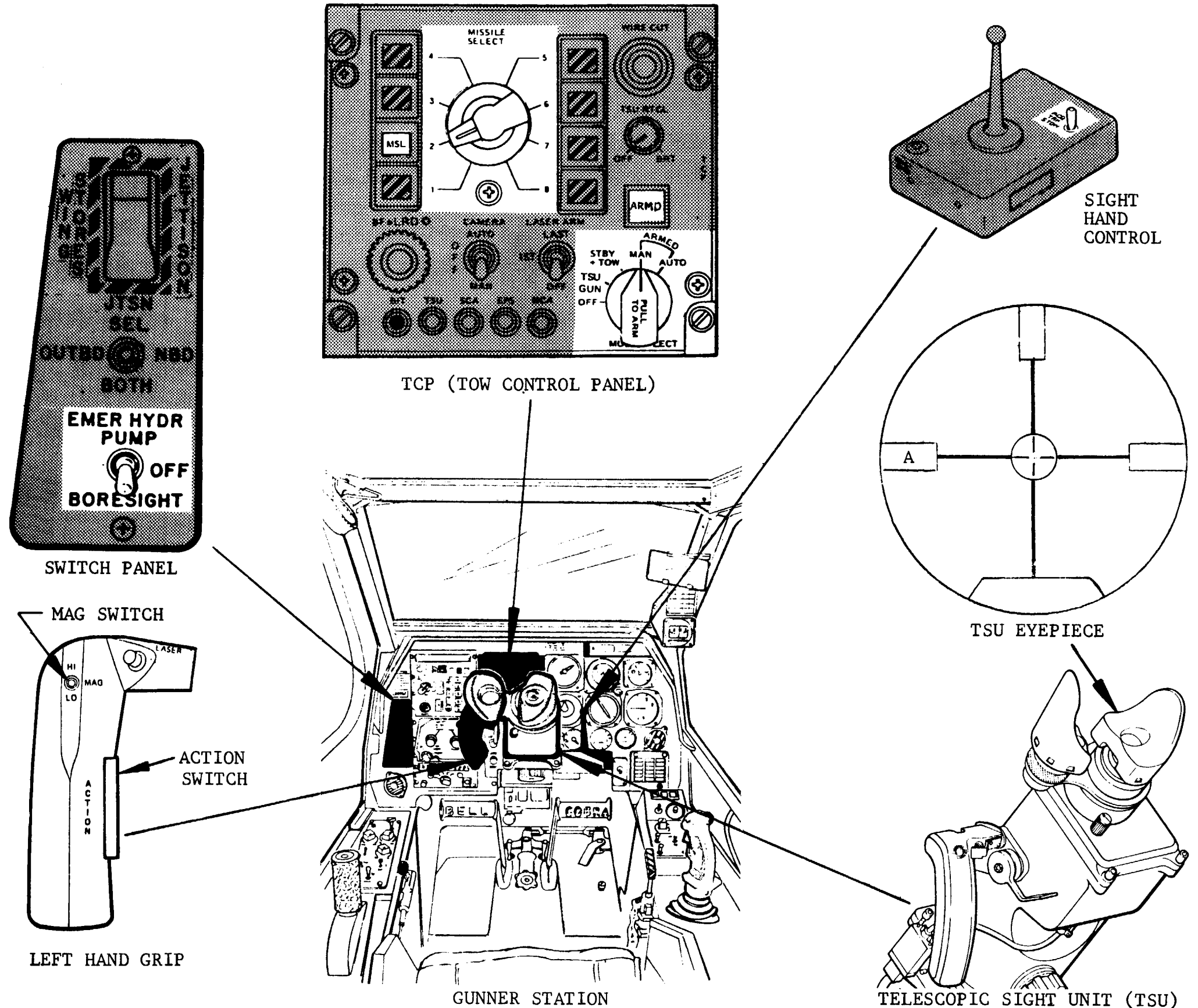
Servo Electronics Control Unit - Removed

Forward Belly Armament and Lighting - Removed

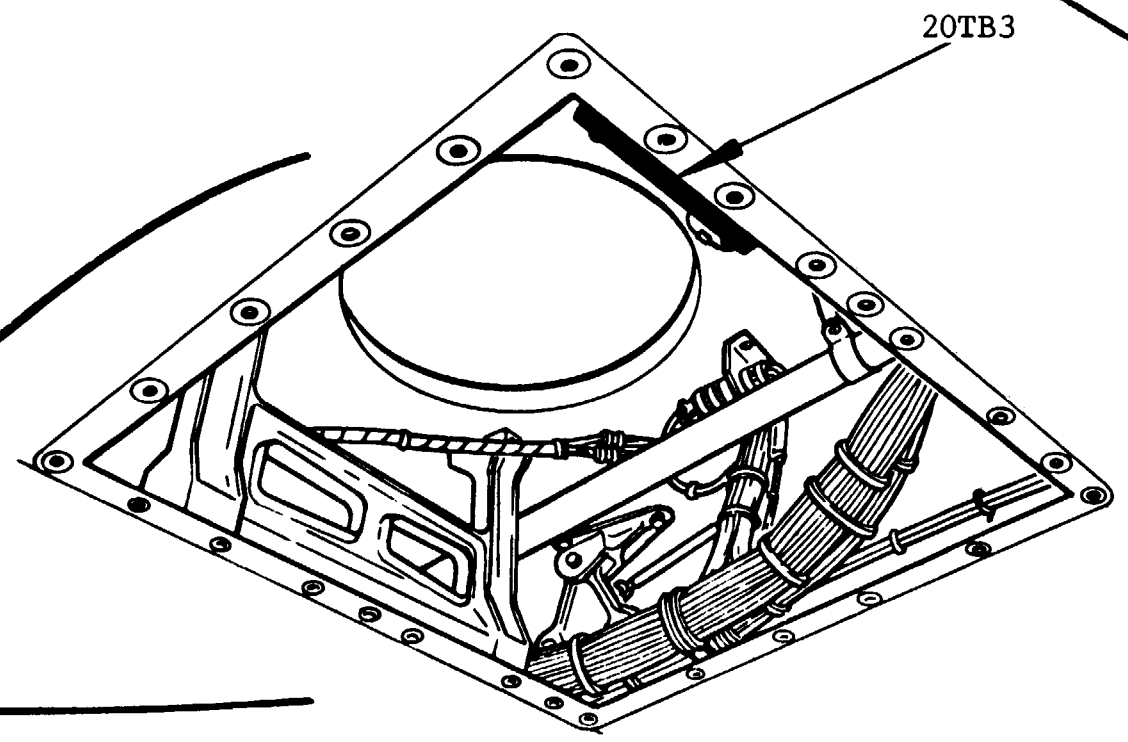
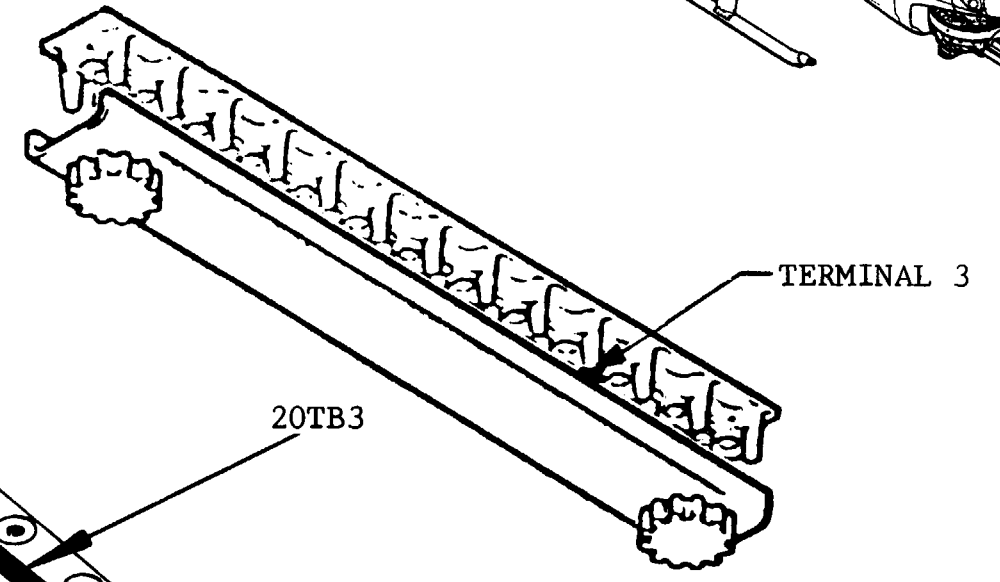
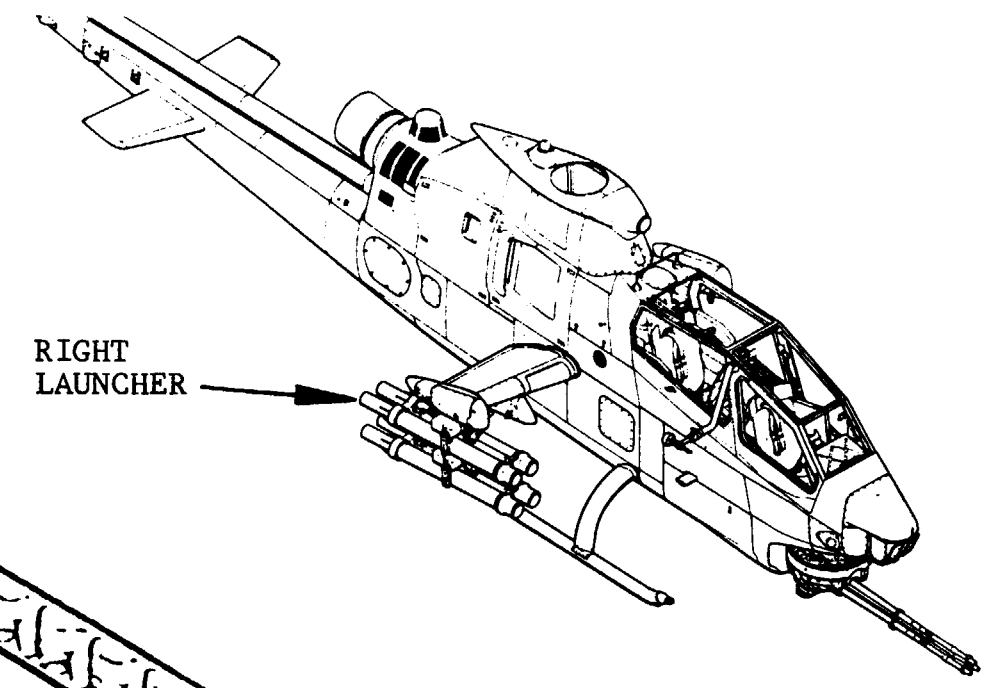
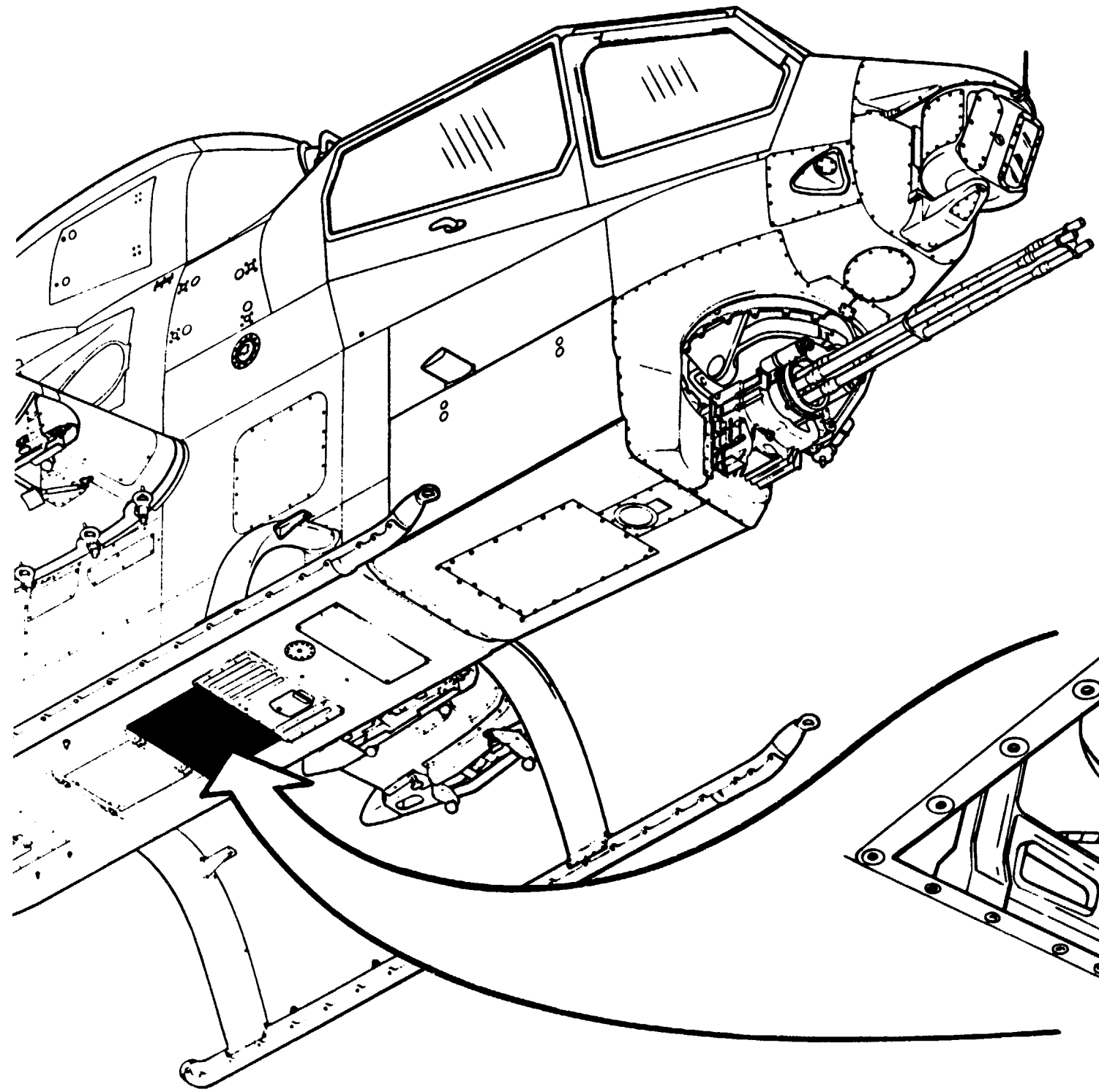
Radar Altimeter Antenna - Removed

Left Outboard Pylon Fairing - Removed

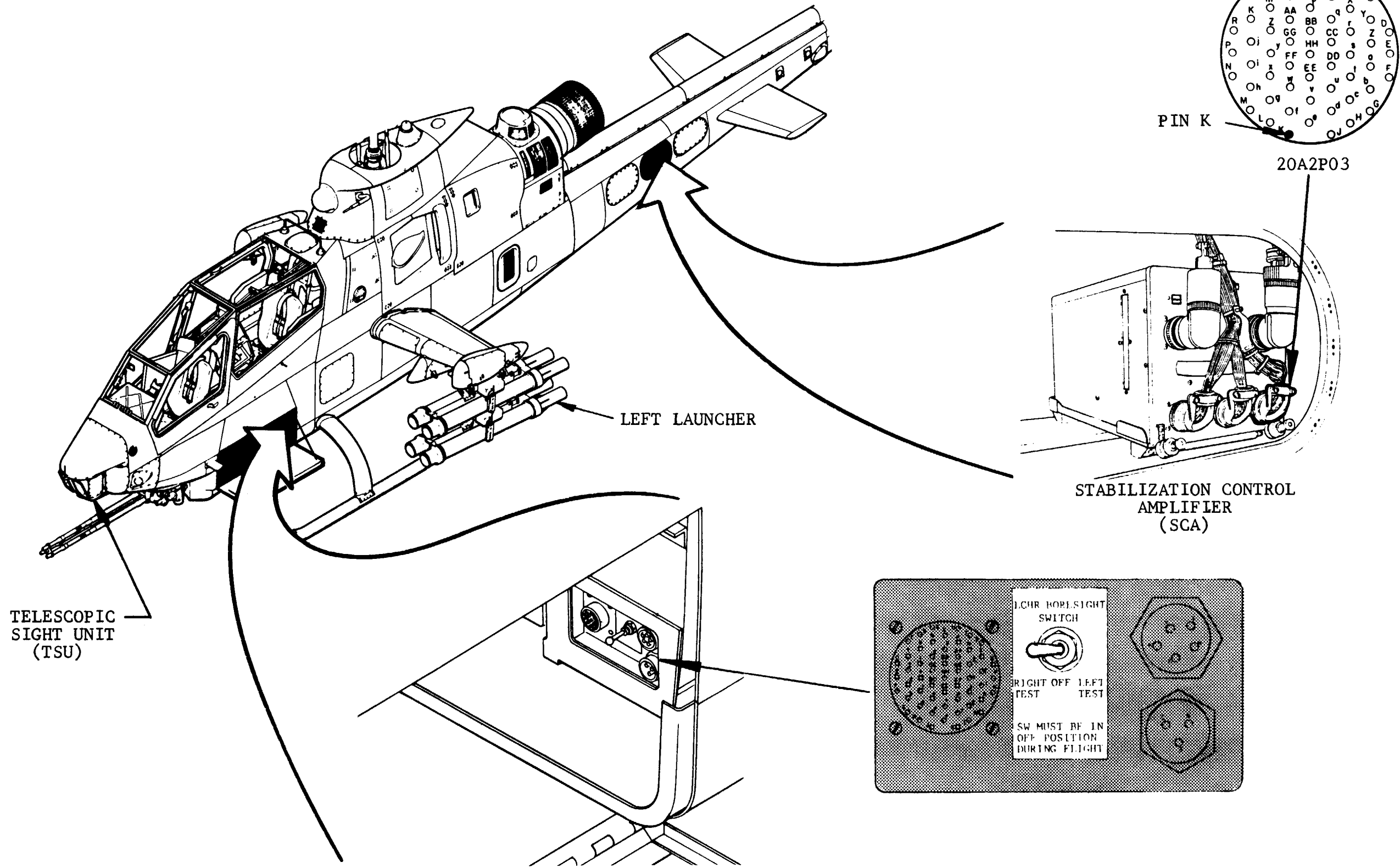
A. TROUBLESHOOTING LOGIC PART ONE.



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

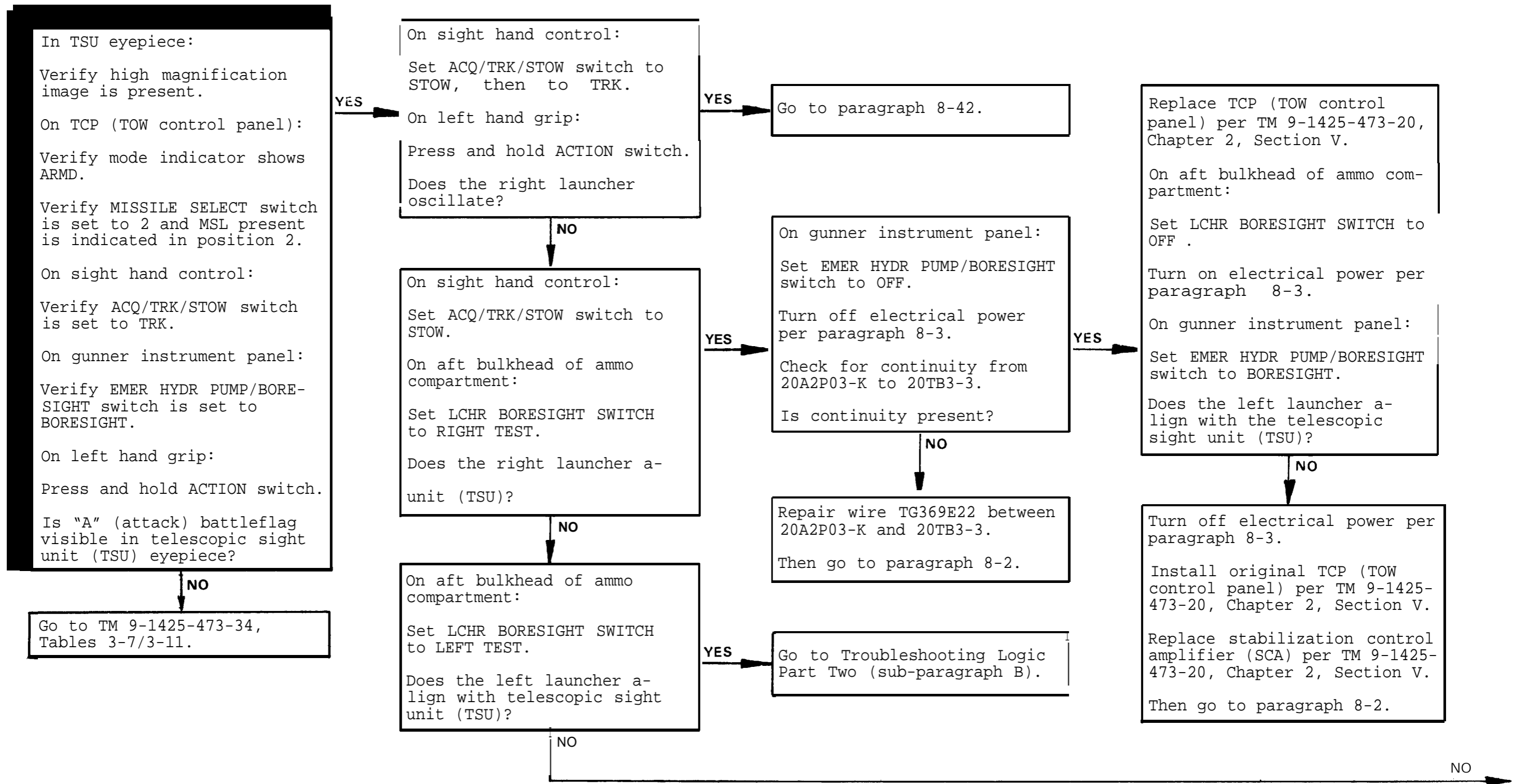


8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

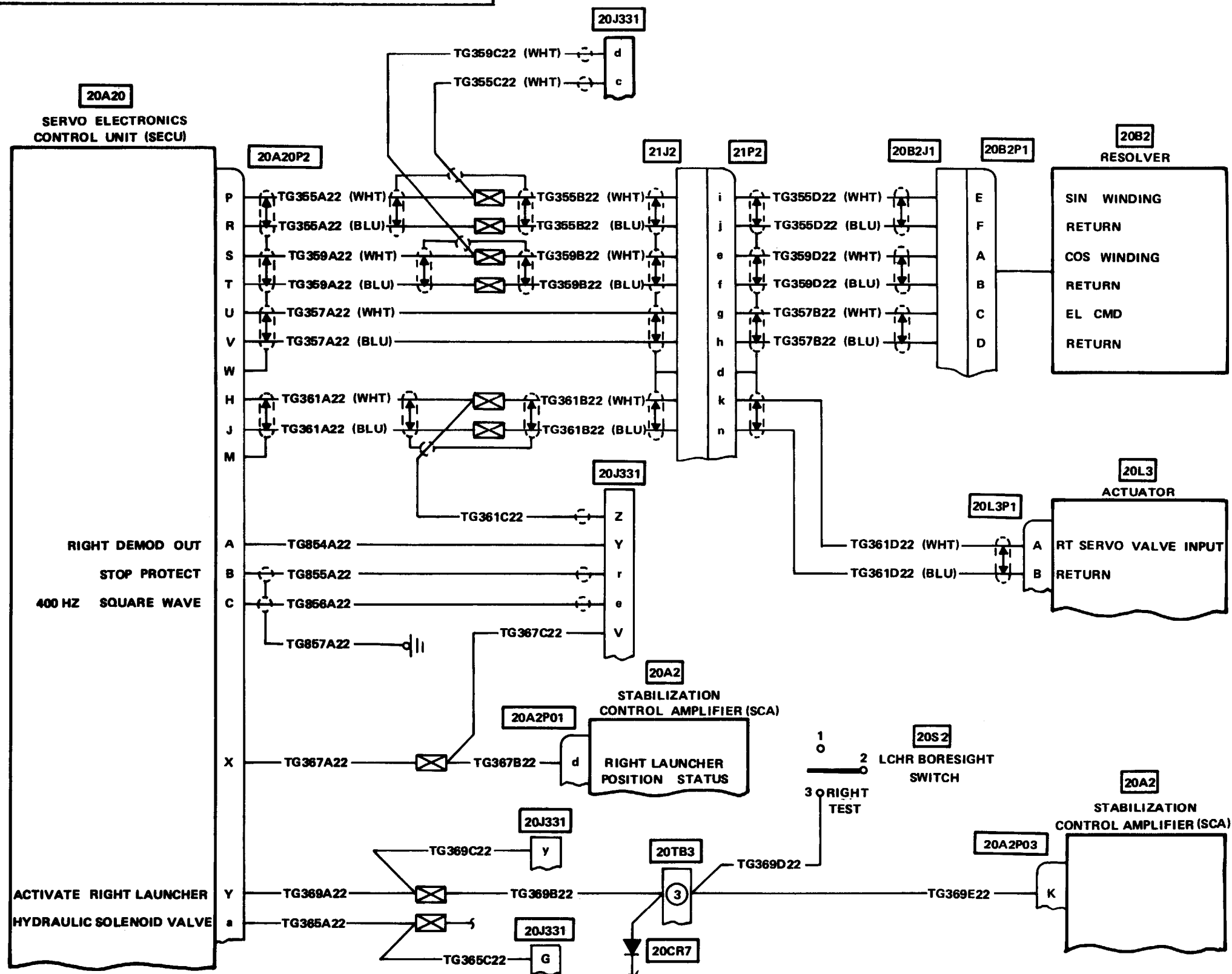
A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED) .



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 A. TROUBLESHOOTING LOGIC PART ONE (CONTINUED).

YES → Go to paragraph 8-2.

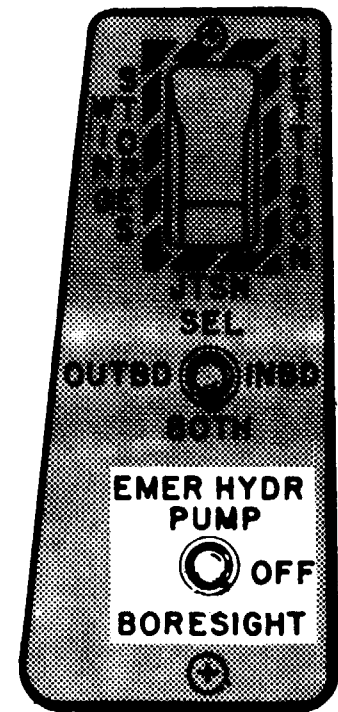
NO →
 On gunner instrument panel:
 Set EMER HYDR PUMP/BORESIGHT switch to OFF.
 On aft bulkhead of ammo compartment:
 Set LCHR BORESIGHT SWITCH to OFF.
 Then go to paragraph 8-36.



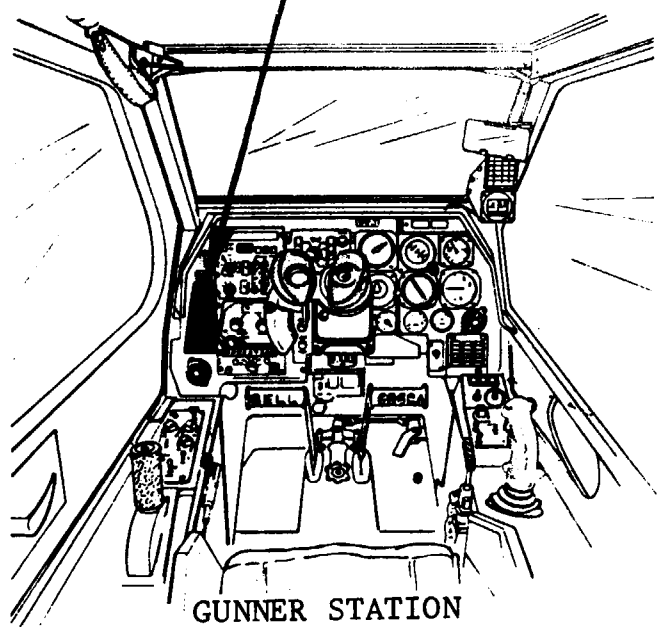
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8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

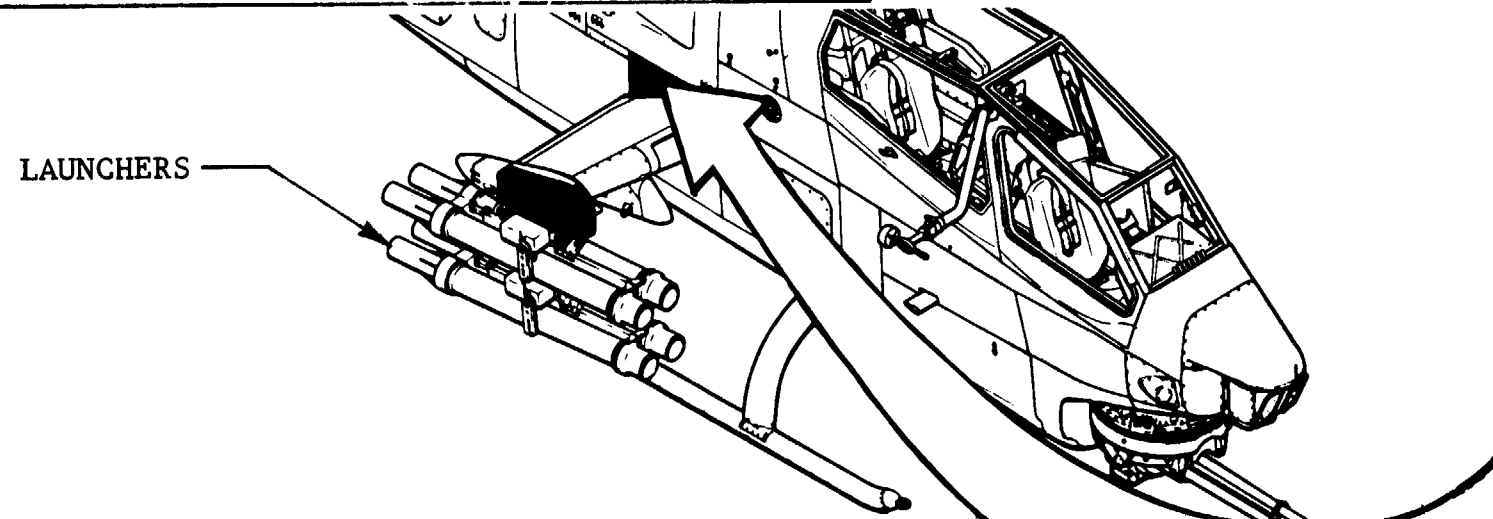
B. TROUBLESHOOTING LOGIC PART TWO.



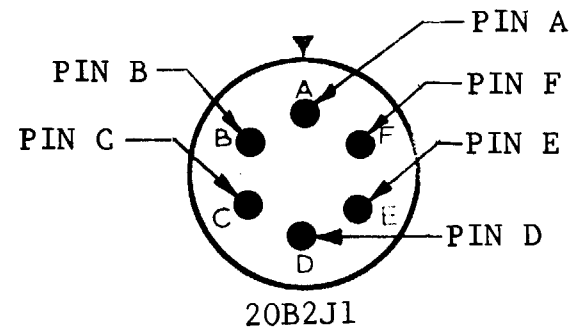
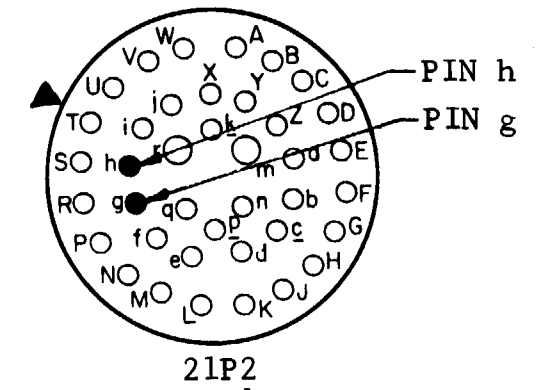
SWITCH PANEL



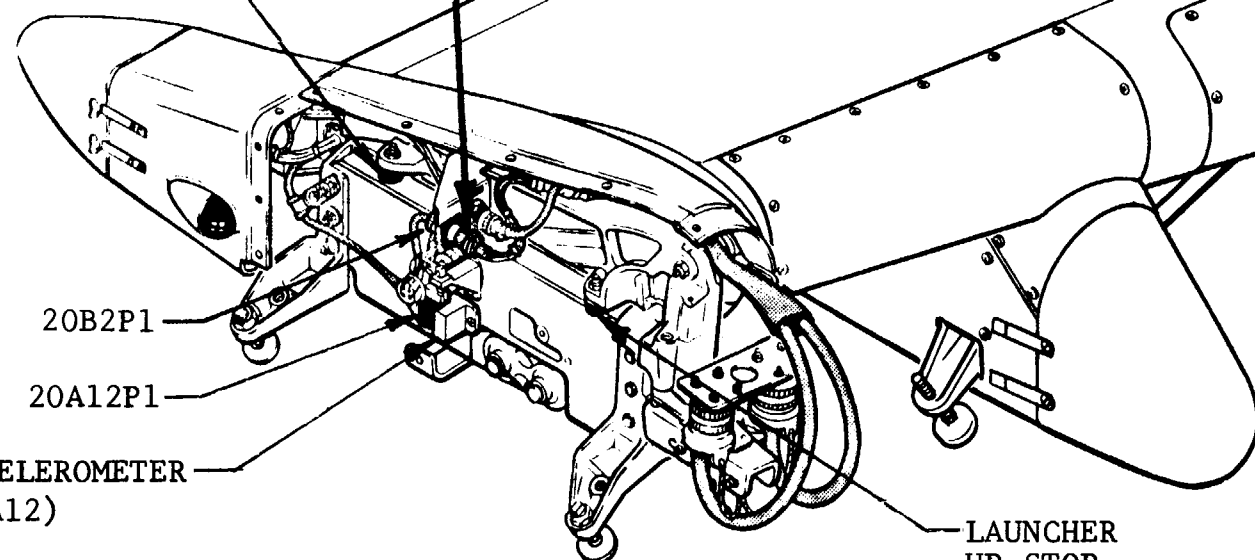
GUNNER STATION



LAUNCHERS



LAUNCHER DOWN STOP

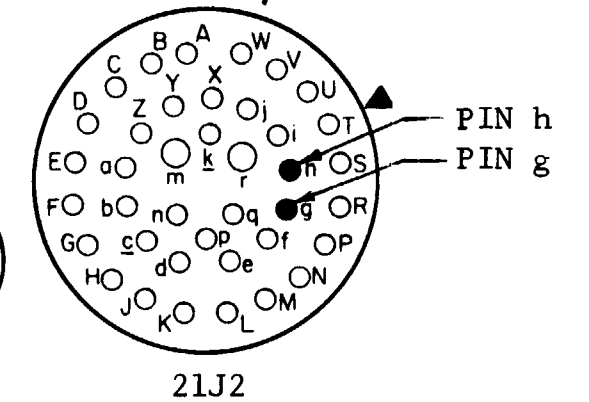


20B2P1

20A12P1

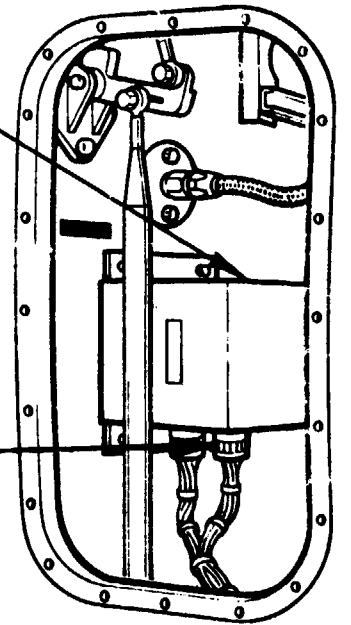
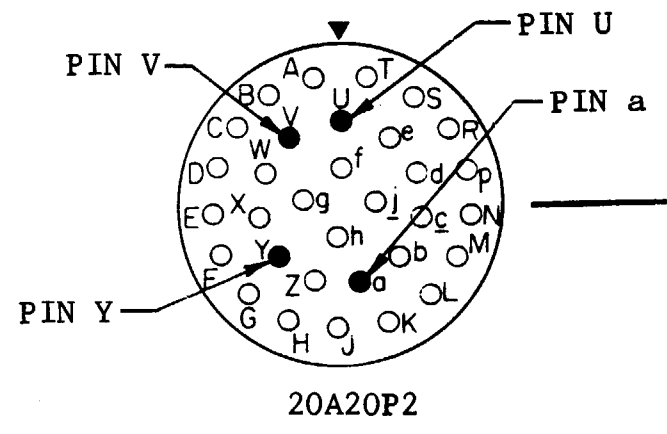
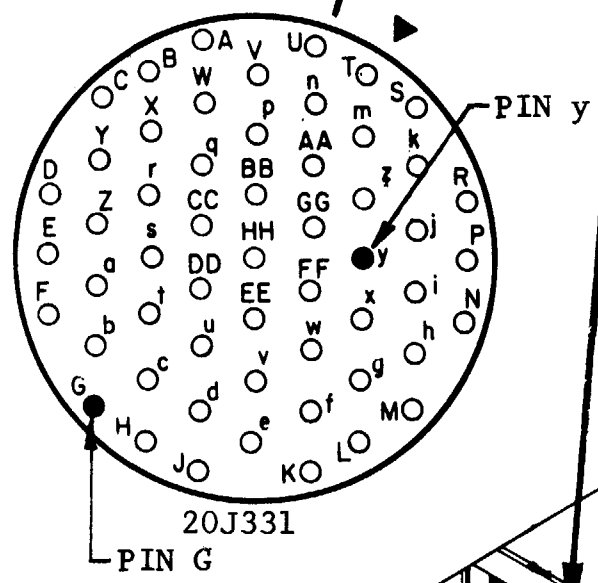
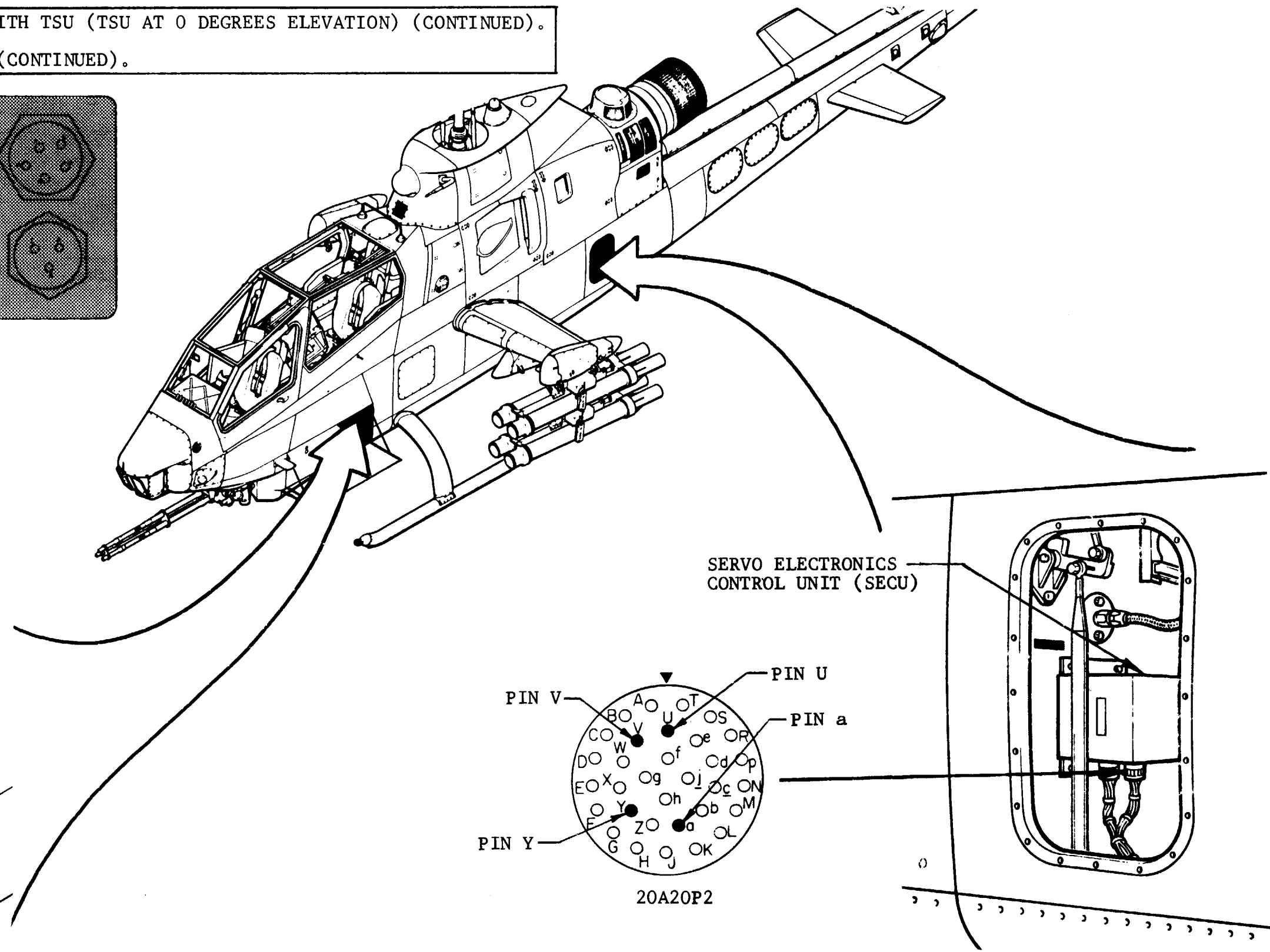
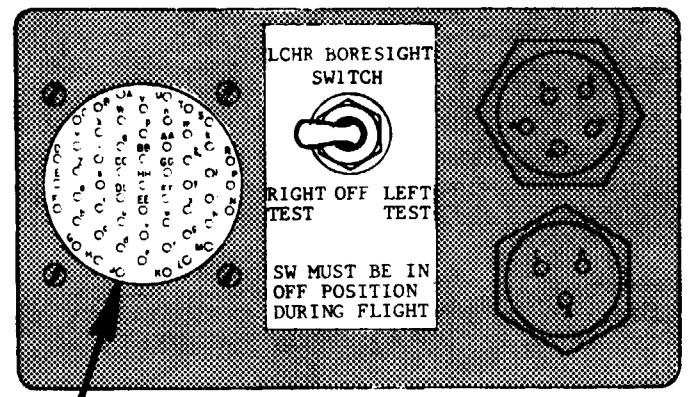
RIGHT ACCELEROMETER (20A12)

LAUNCHER UP STOP

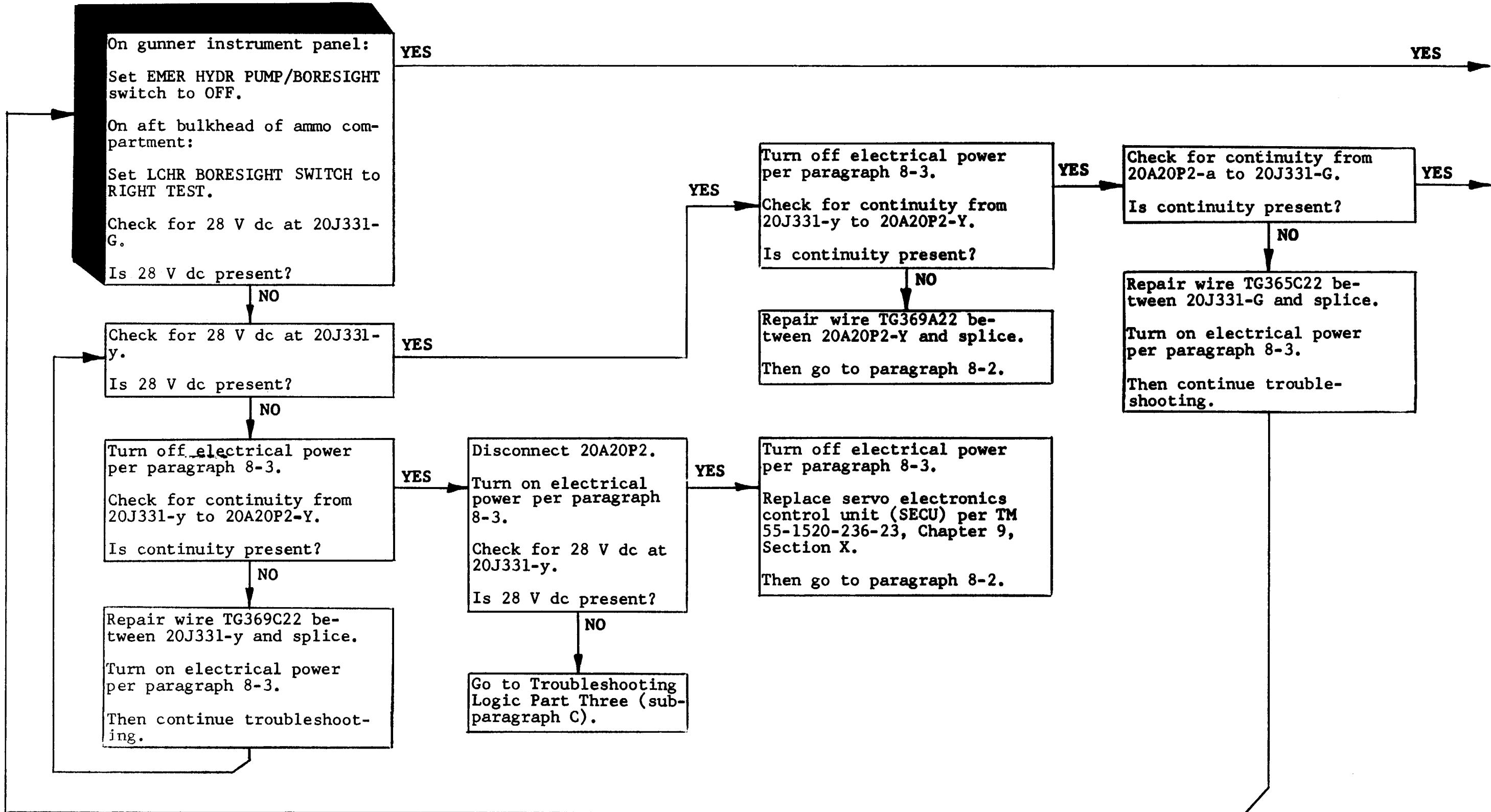


8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

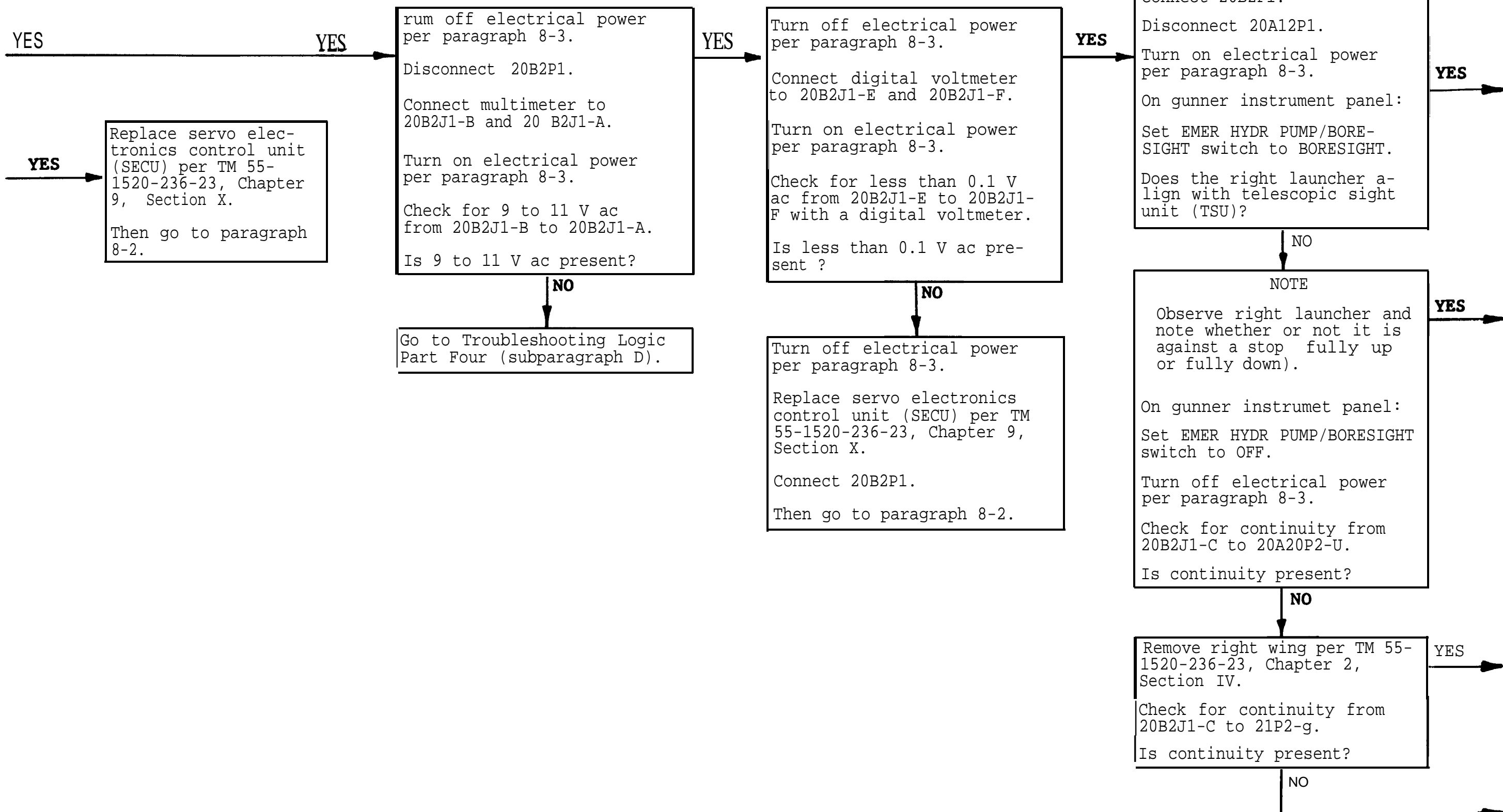
B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



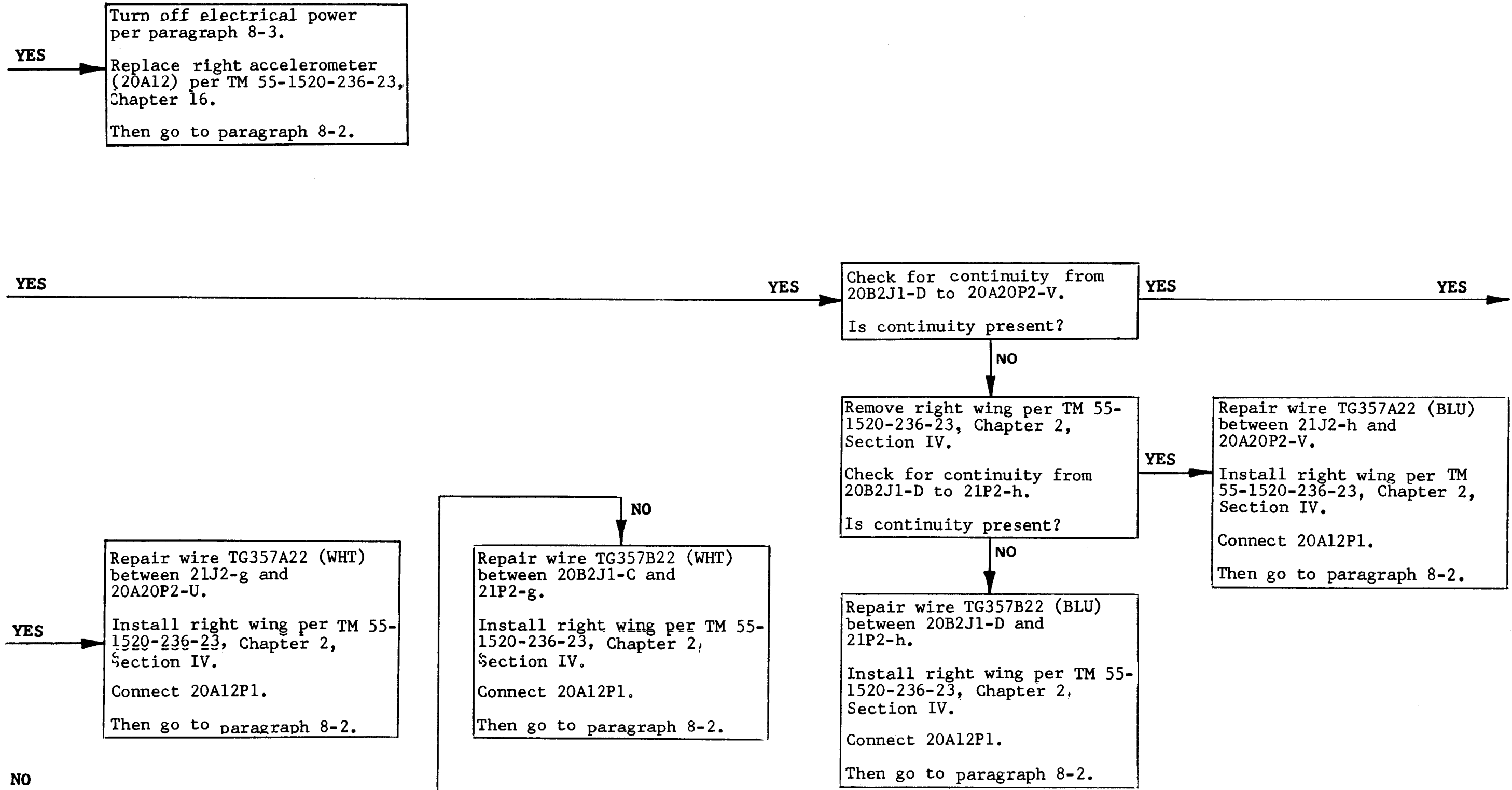
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

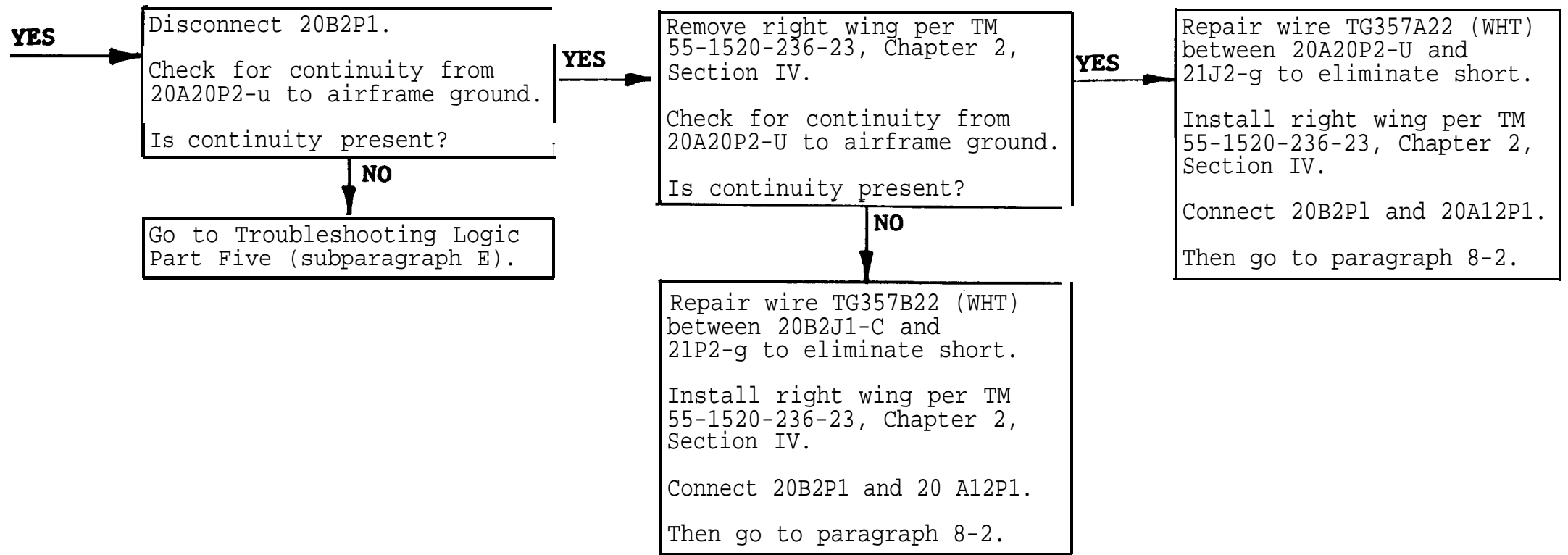
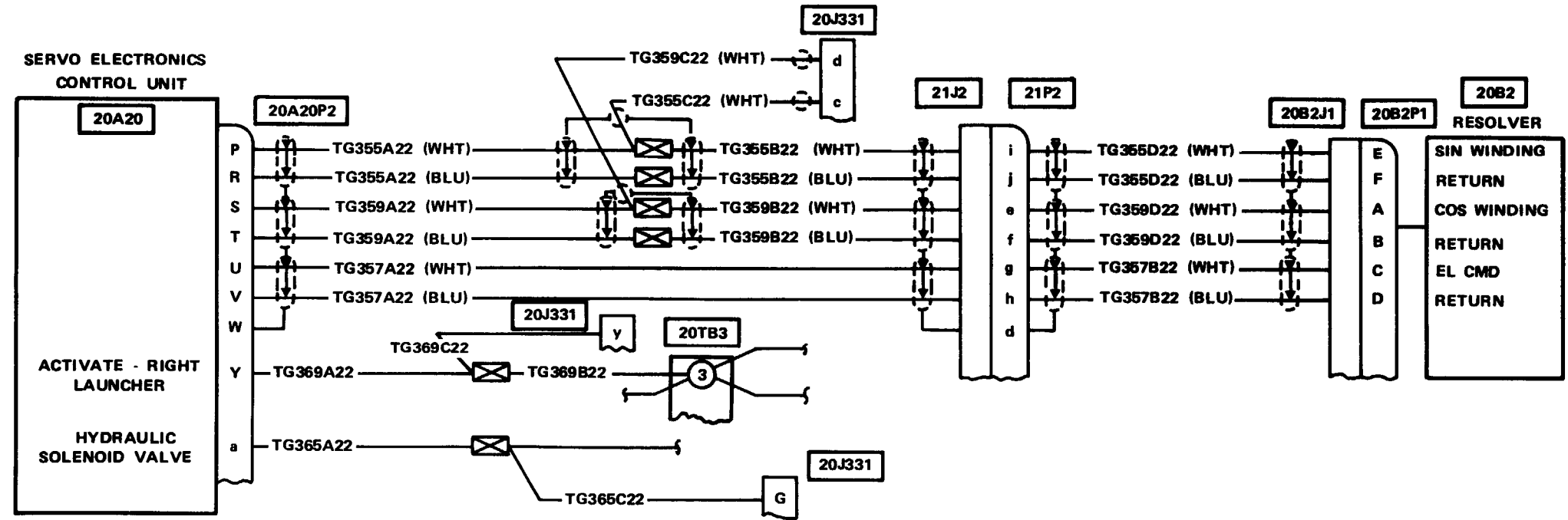


8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).



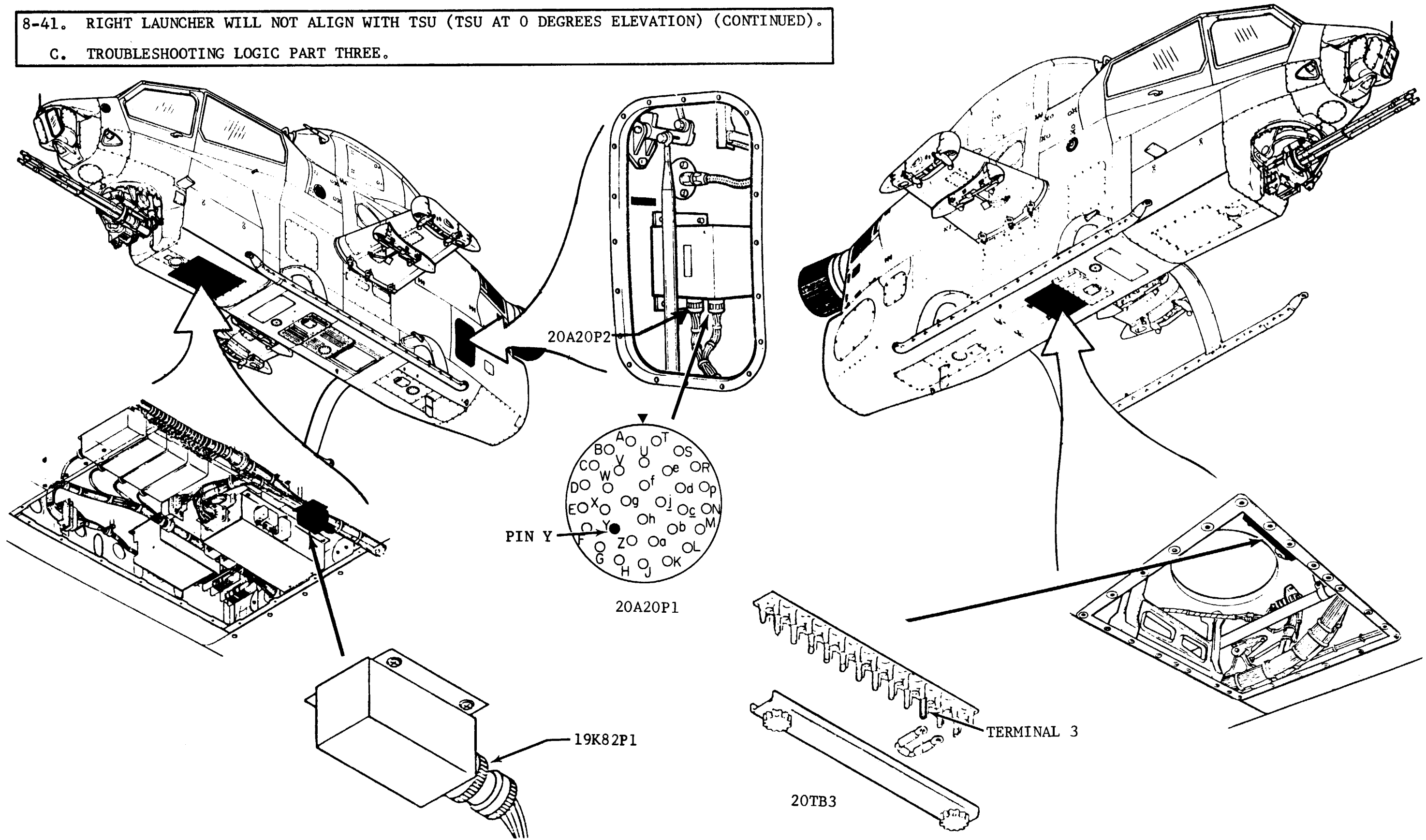
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED)

B. TROUBLESHOOTING LOGIC PART TWO (CONTINUED).

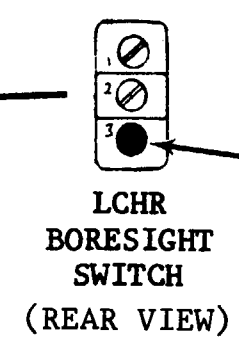
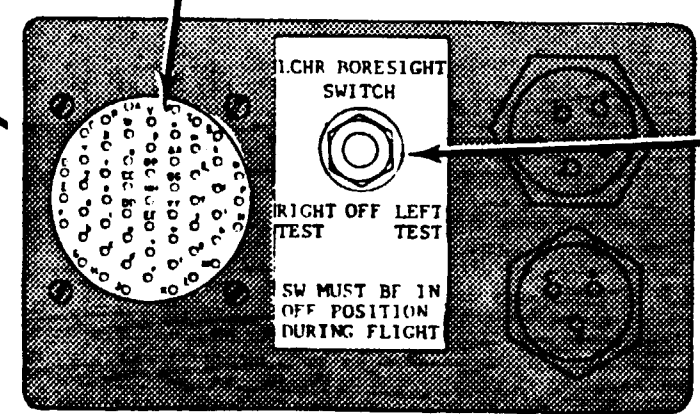
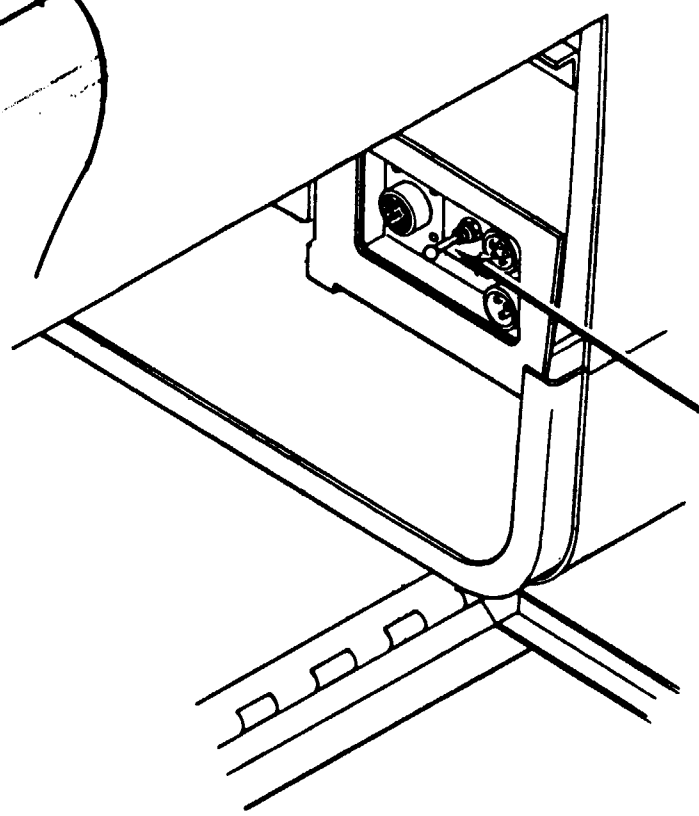
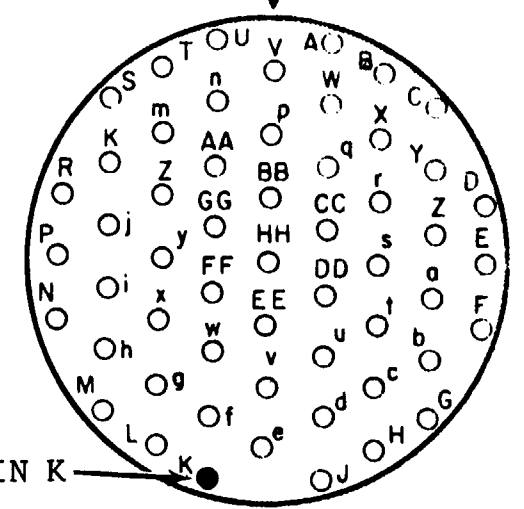
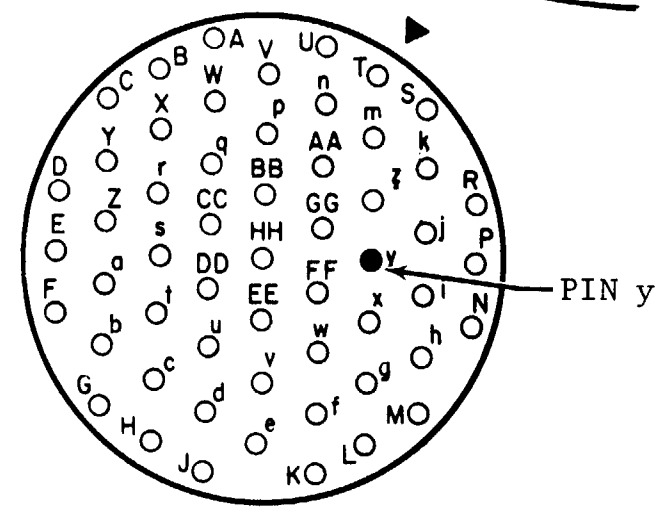
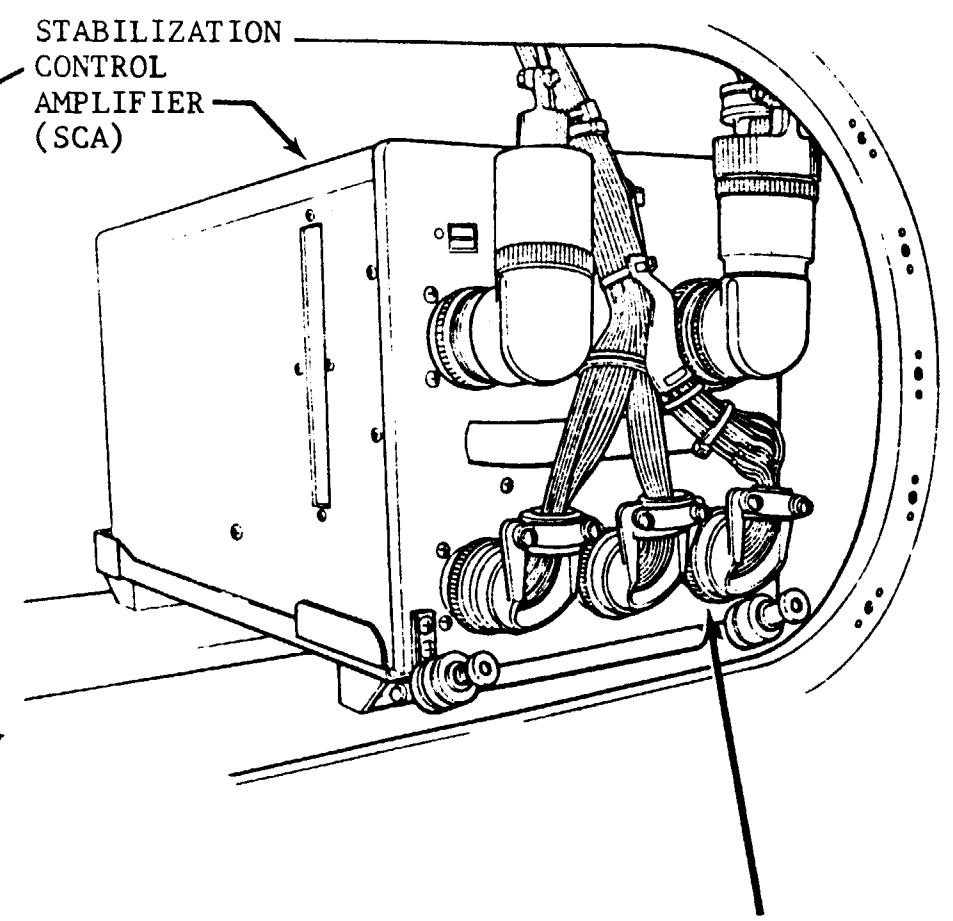
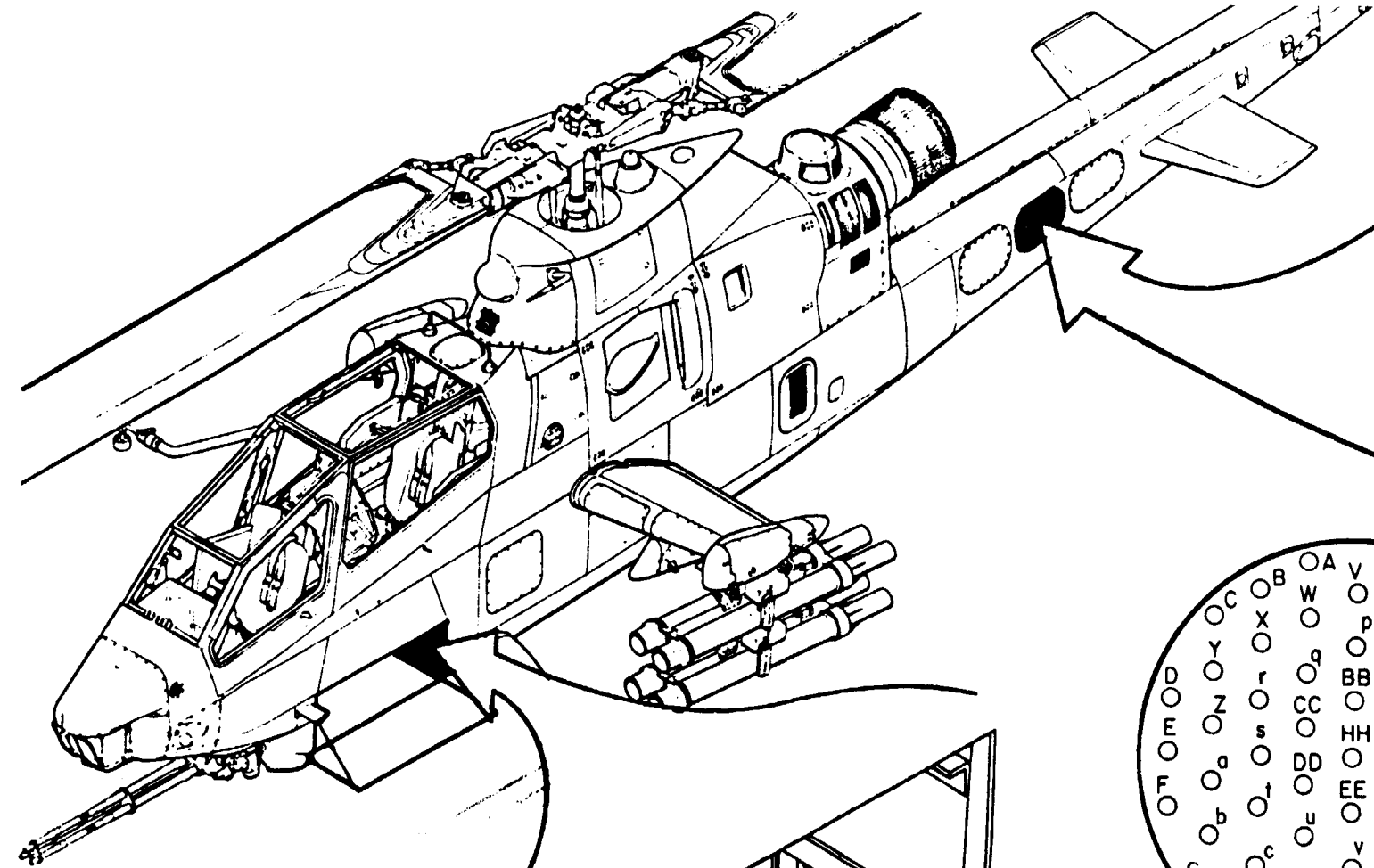


8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

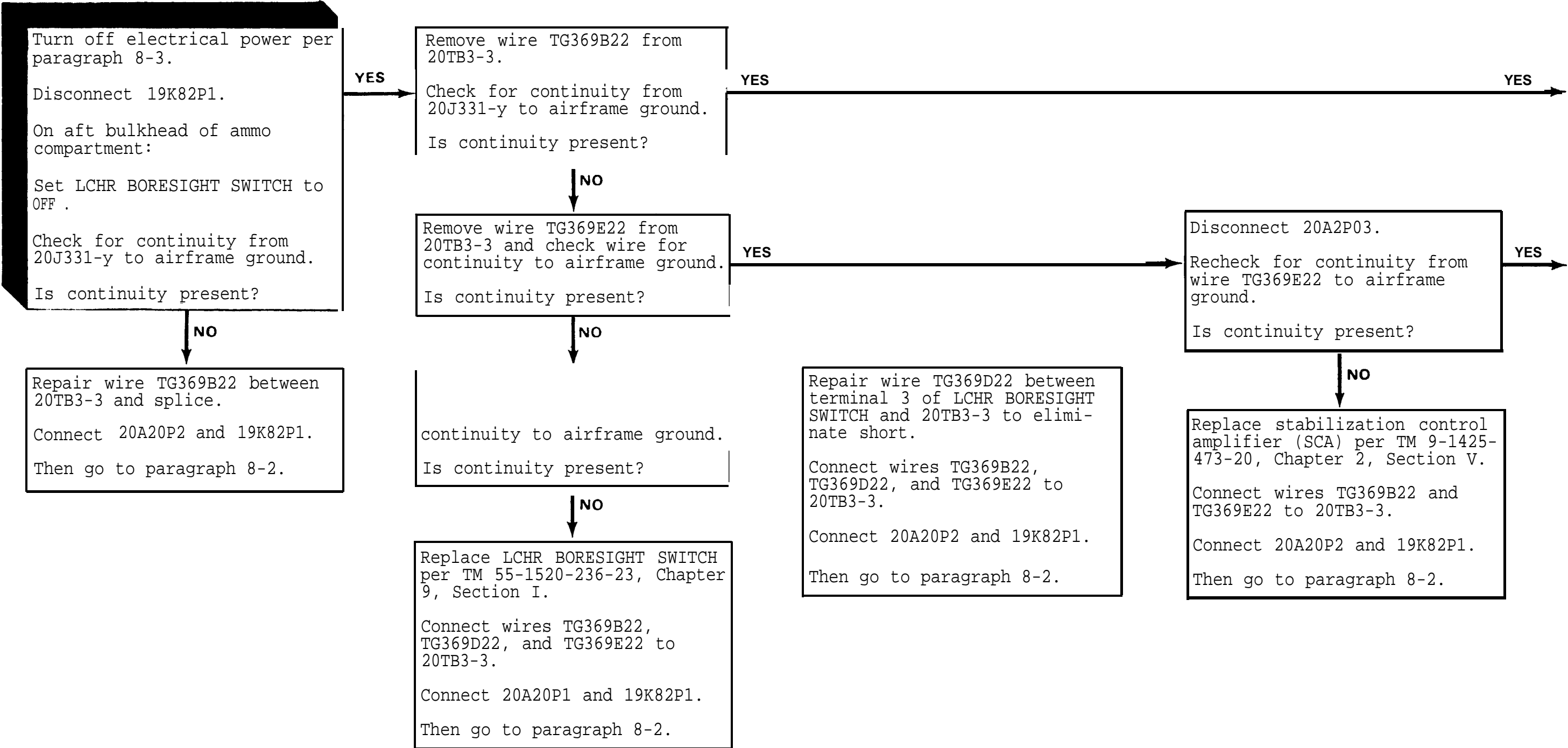
C. TROUBLESHOOTING LOGIC PART THREE.



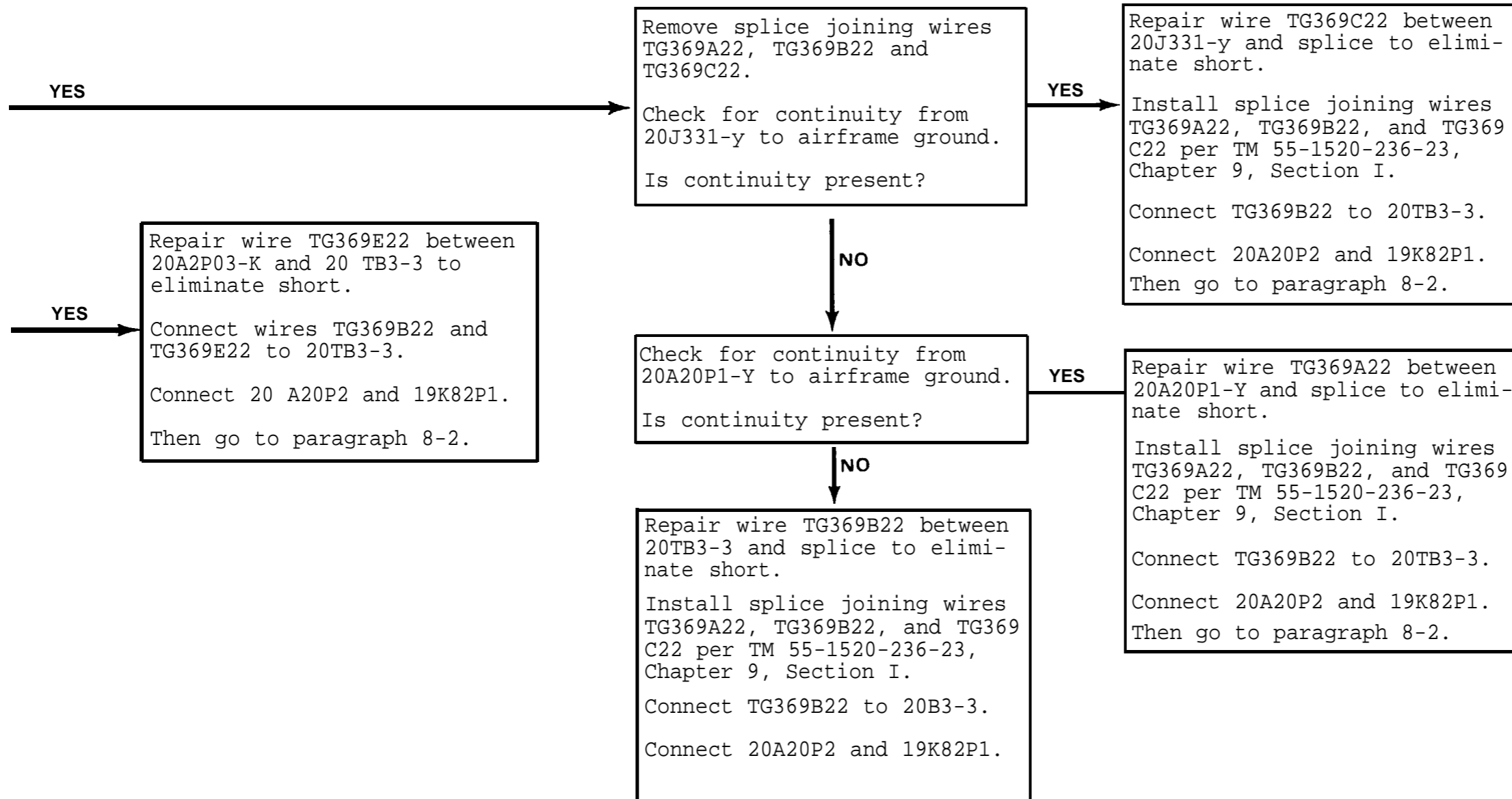
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



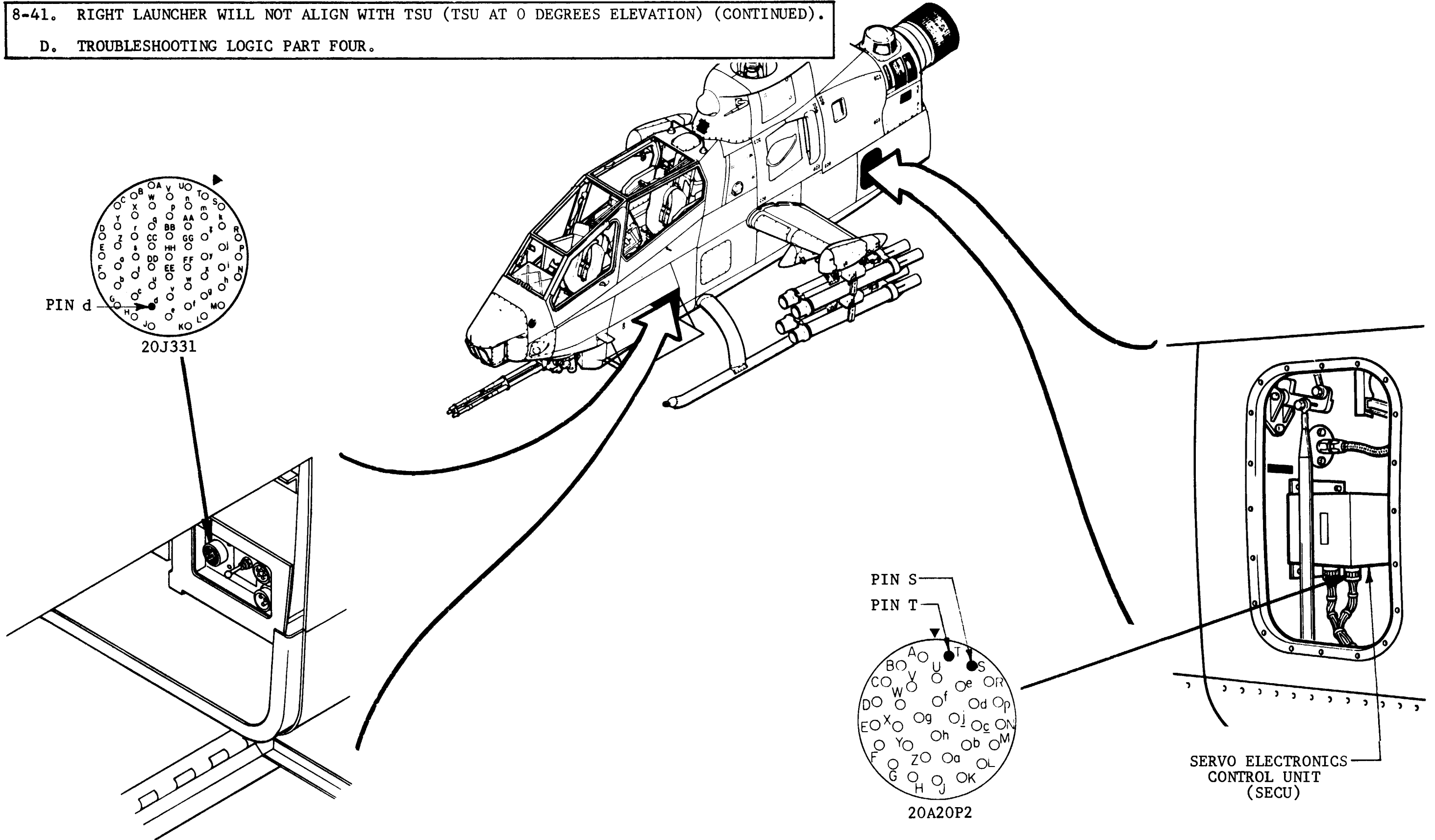
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



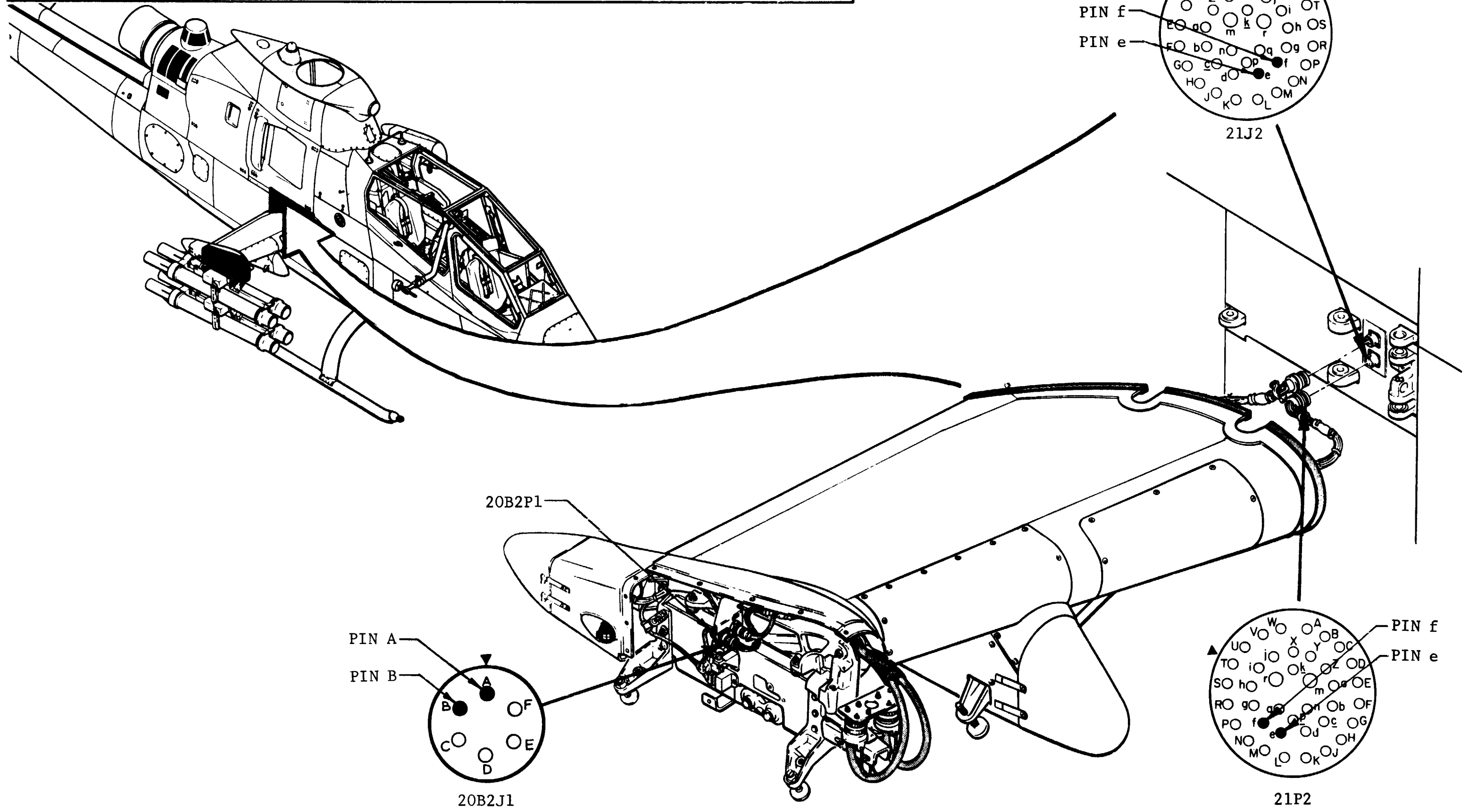
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 C. TROUBLESHOOTING LOGIC PART THREE (CONTINUED).



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
D. TROUBLESHOOTING LOGIC PART FOUR.

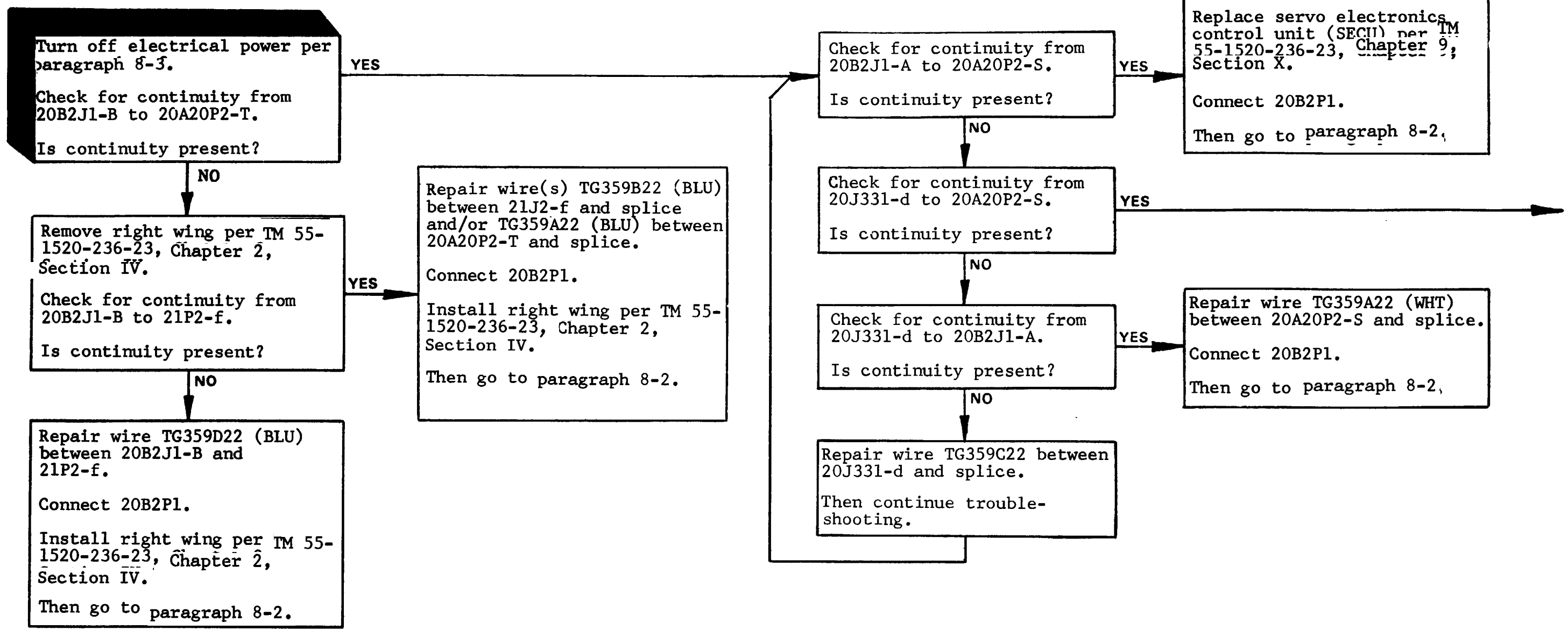


8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).

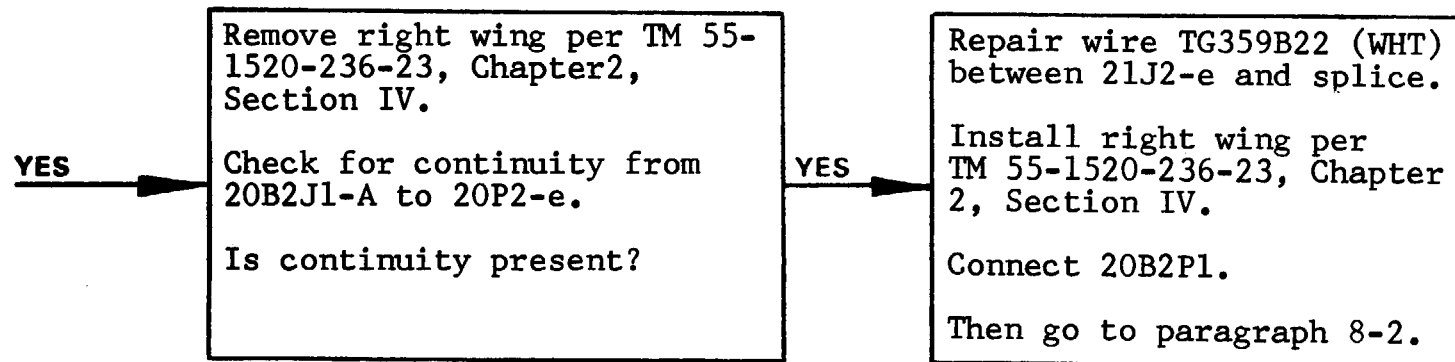


8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

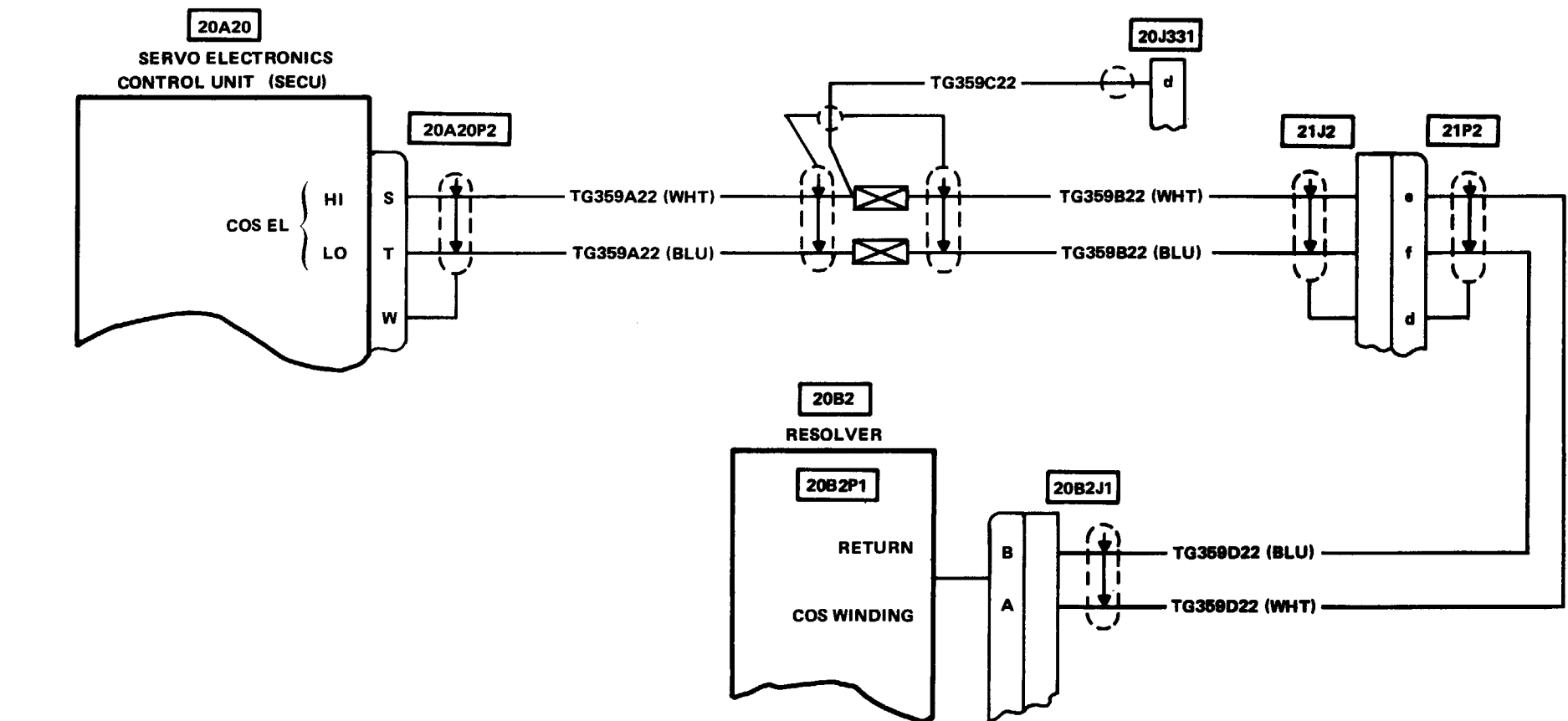
D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



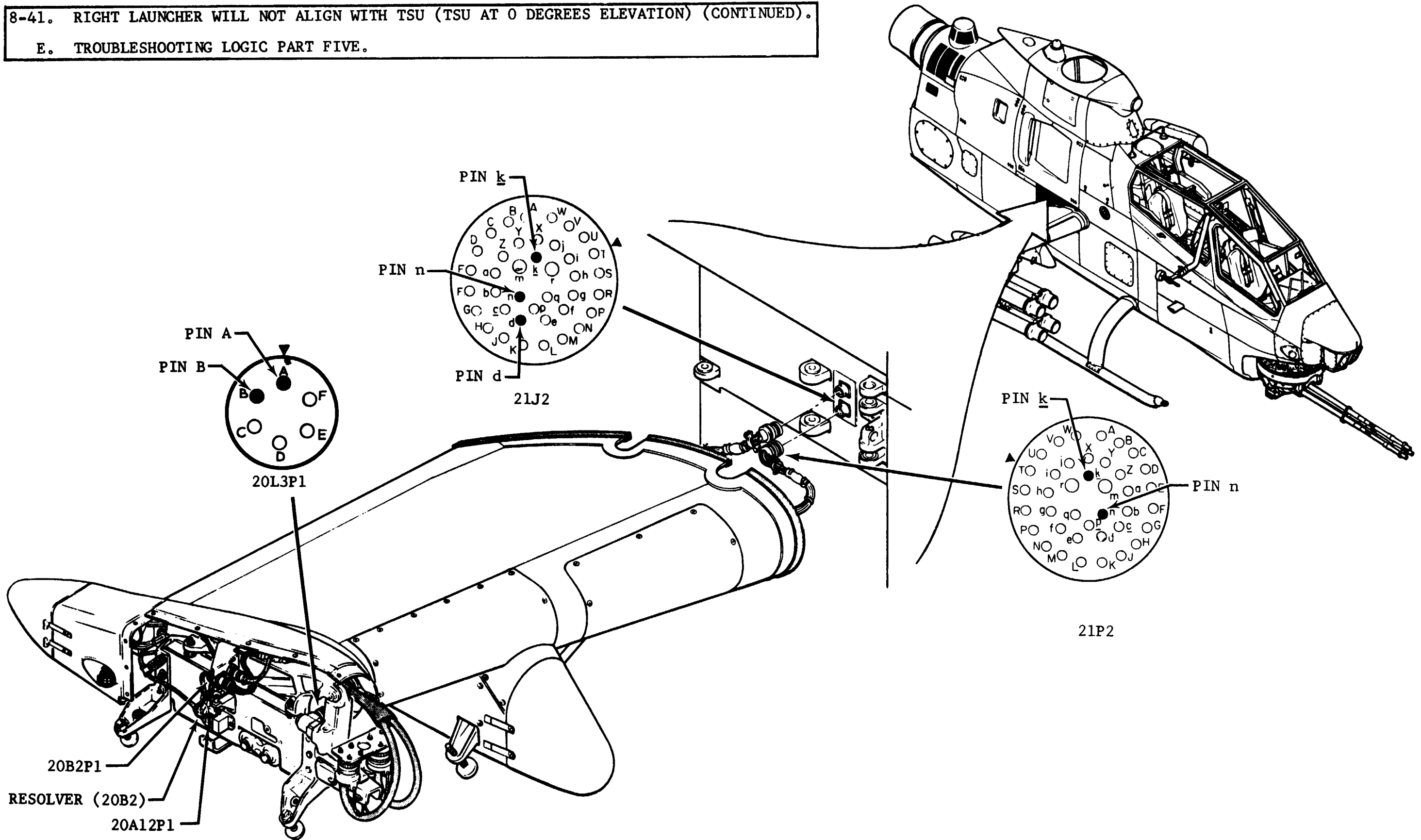
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 D. TROUBLESHOOTING LOGIC PART FOUR (CONTINUED).



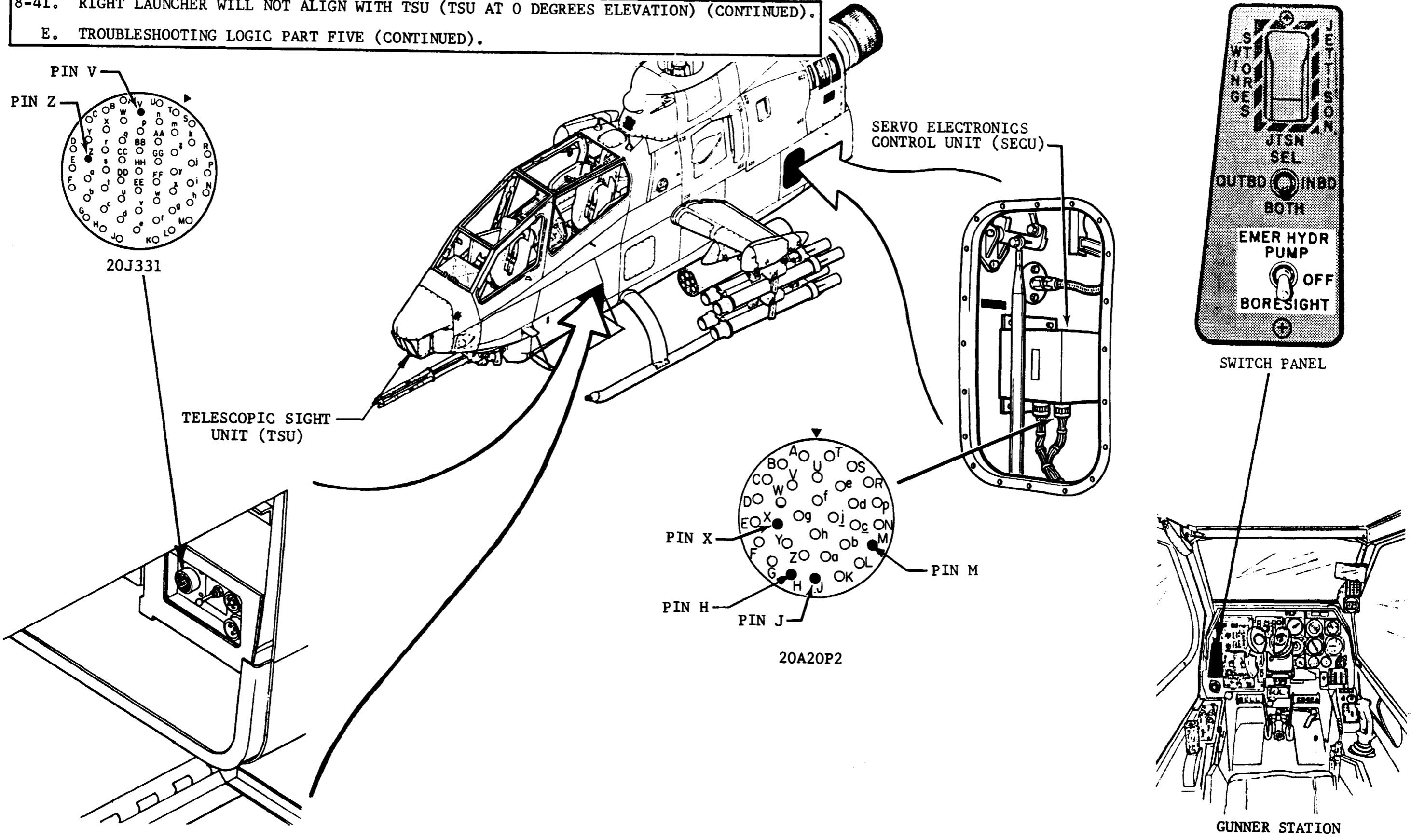
Repair wire TG359D22 (WHT) between 20B2J1-A and 21P2-e.
 Connect 20B2P1.
 Install right wing per TM 55-1520-236-23, Chapter 2, Section IV.
 Then go to paragraph 8-2.



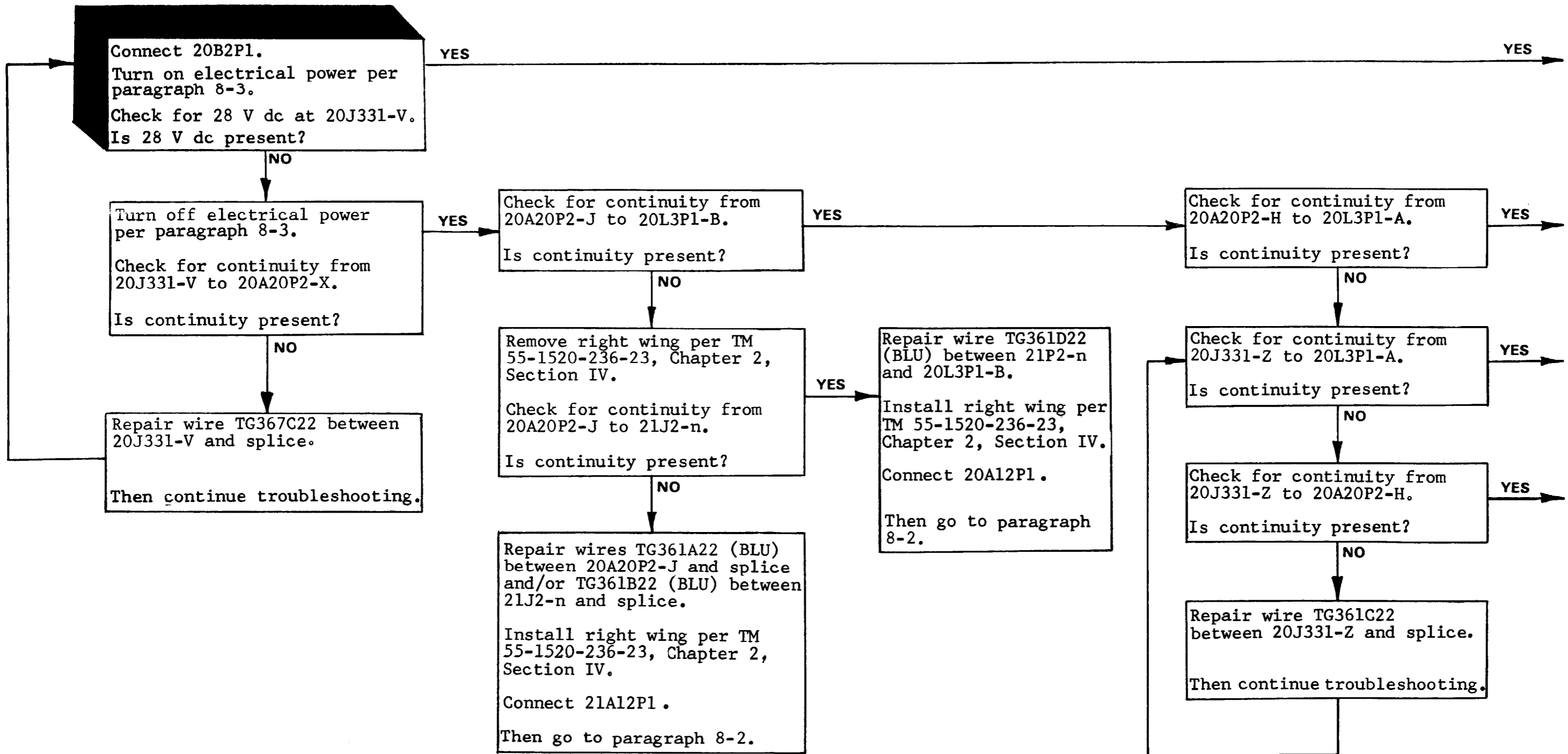
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 E. TROUBLESHOOTING LOGIC PART FIVE.



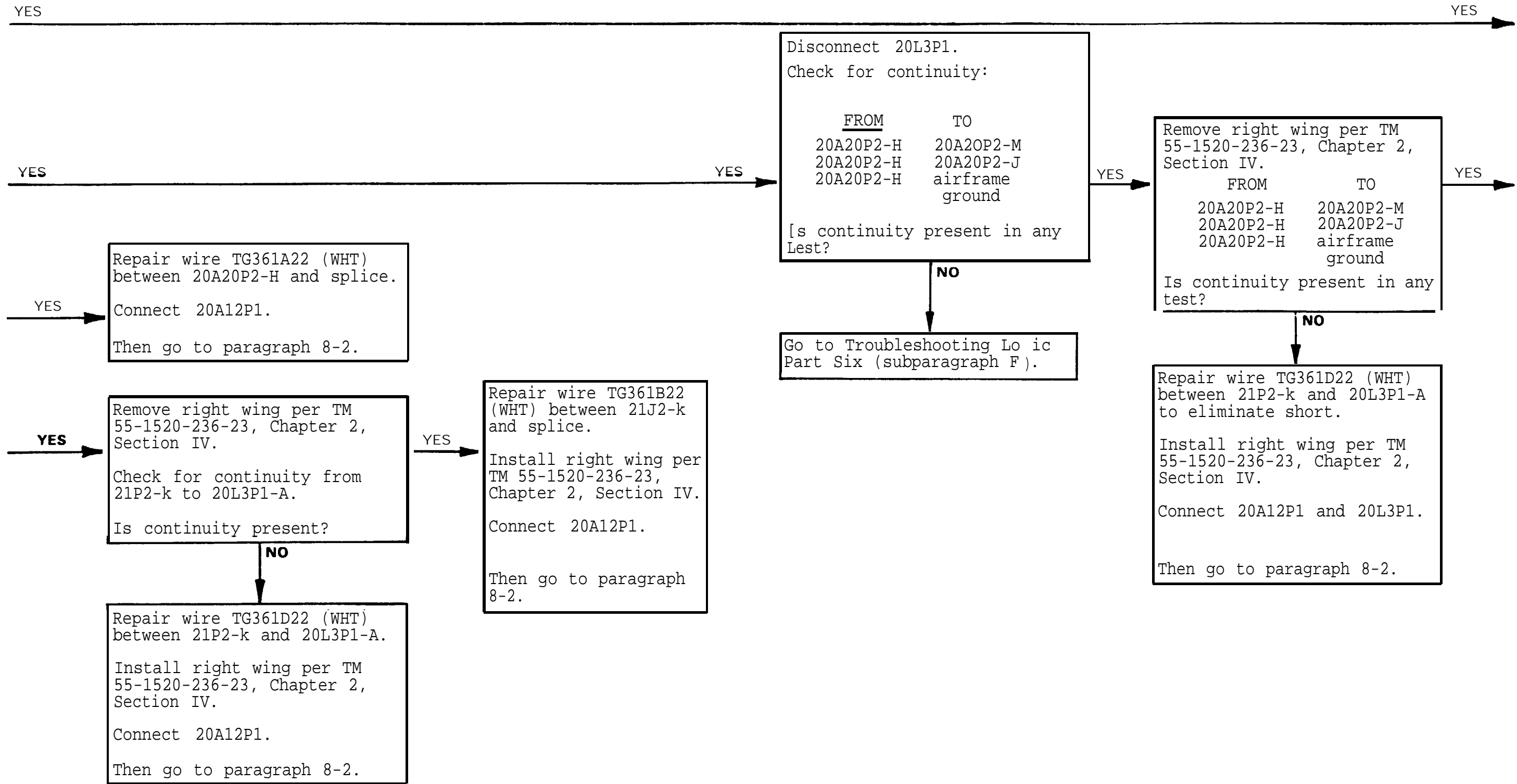
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



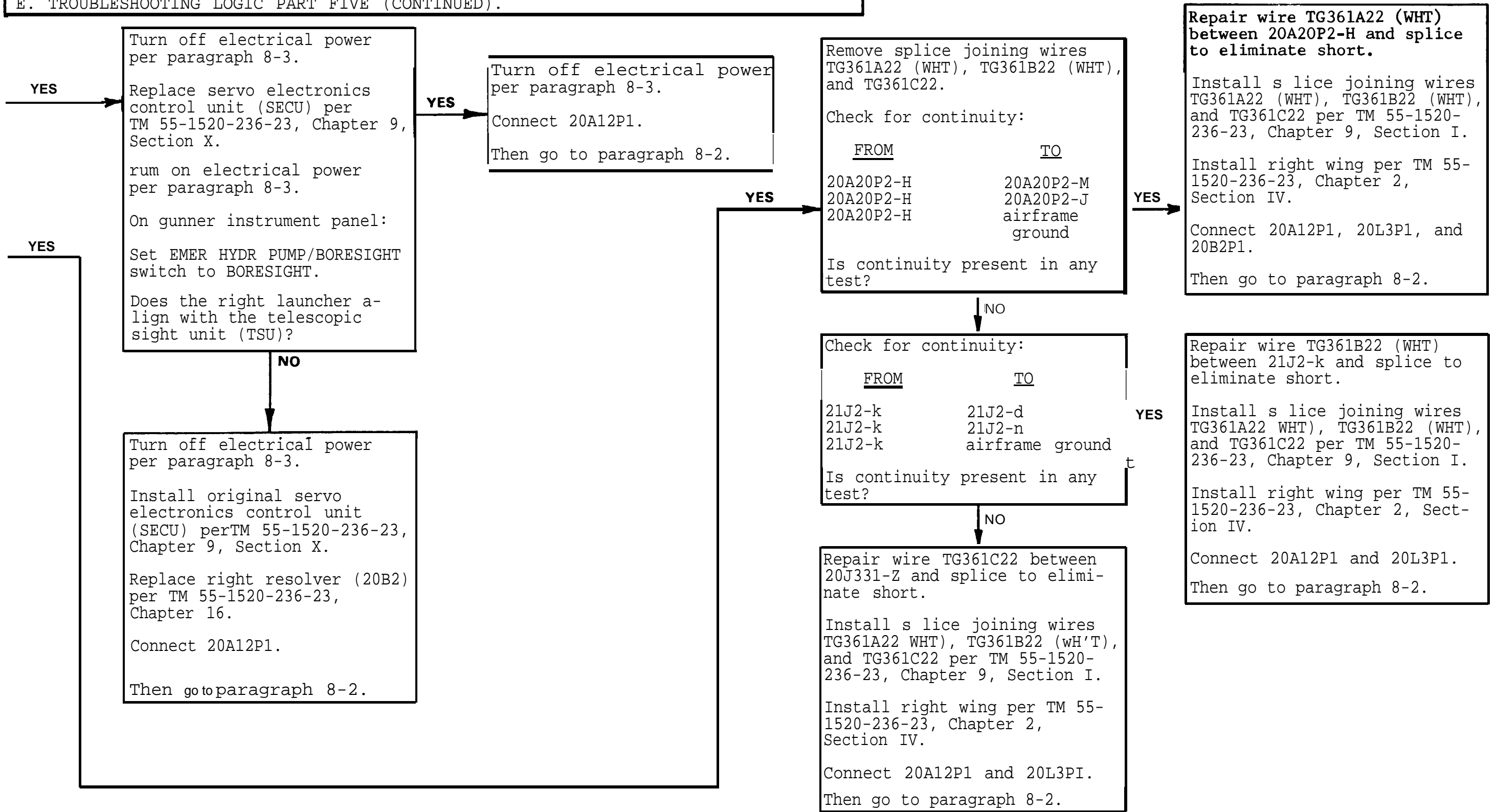
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).



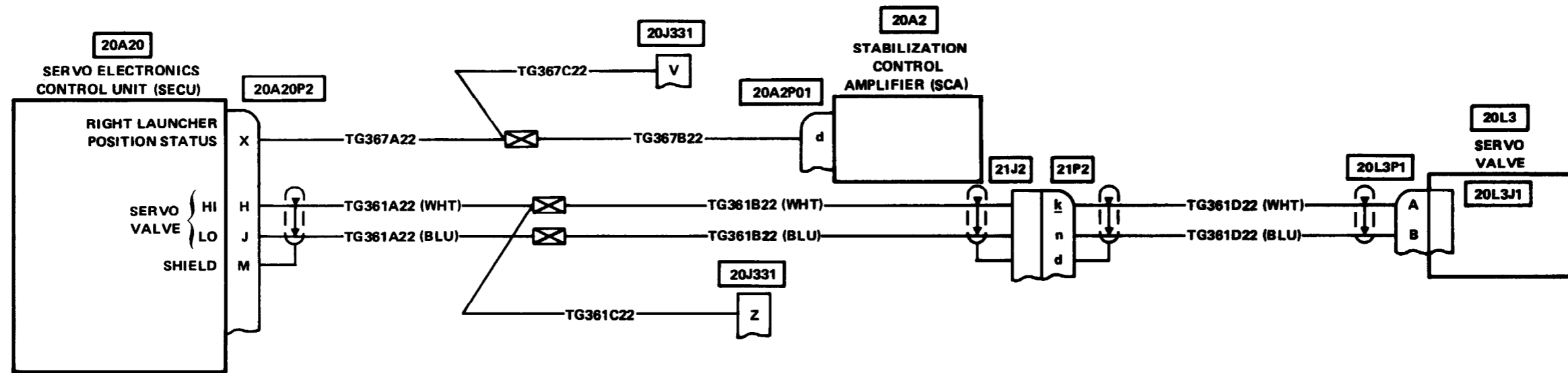
8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED), -



8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

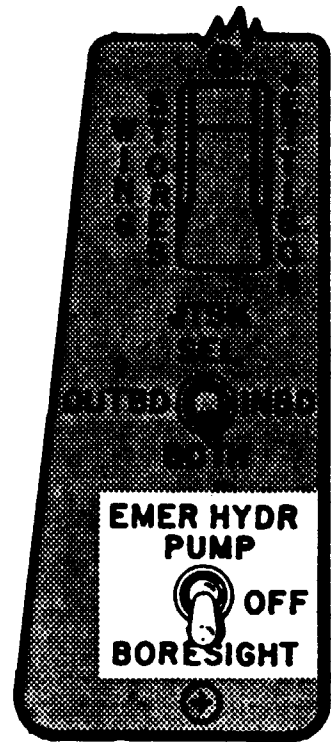


8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).
 E. TROUBLESHOOTING LOGIC PART FIVE (CONTINUED).

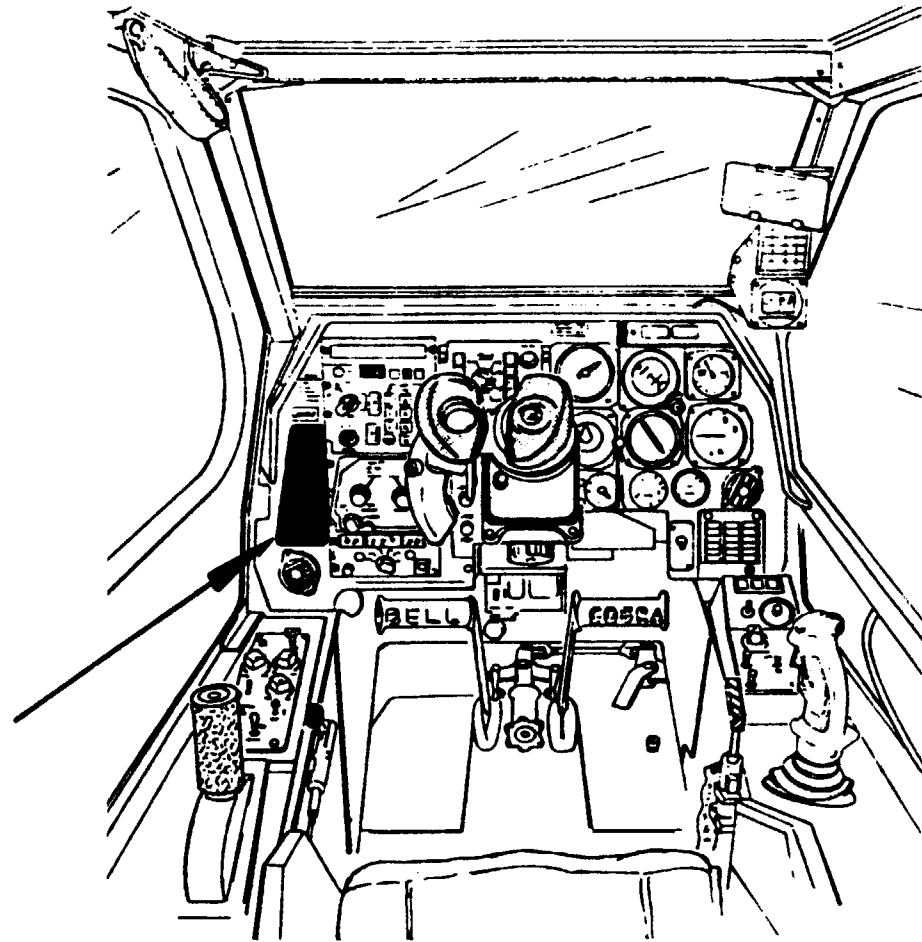


8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

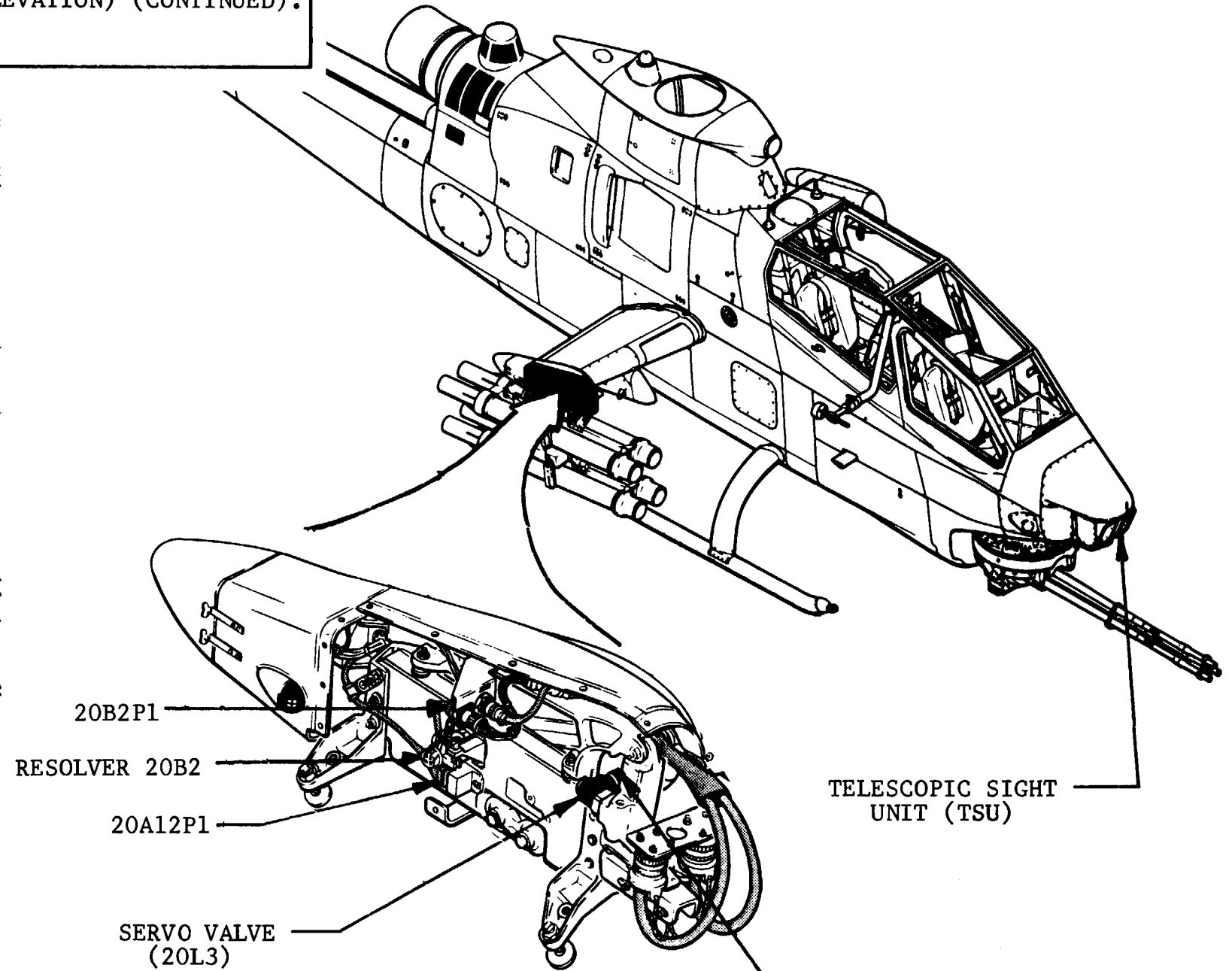
F. TROUBLESHOOTING LOGIC PART SIX.



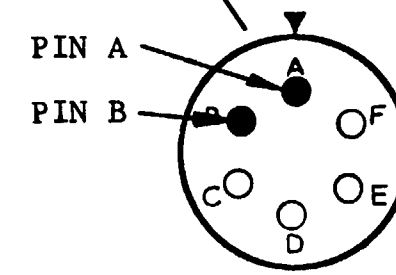
SWITCH PANEL



GUNNER STATION



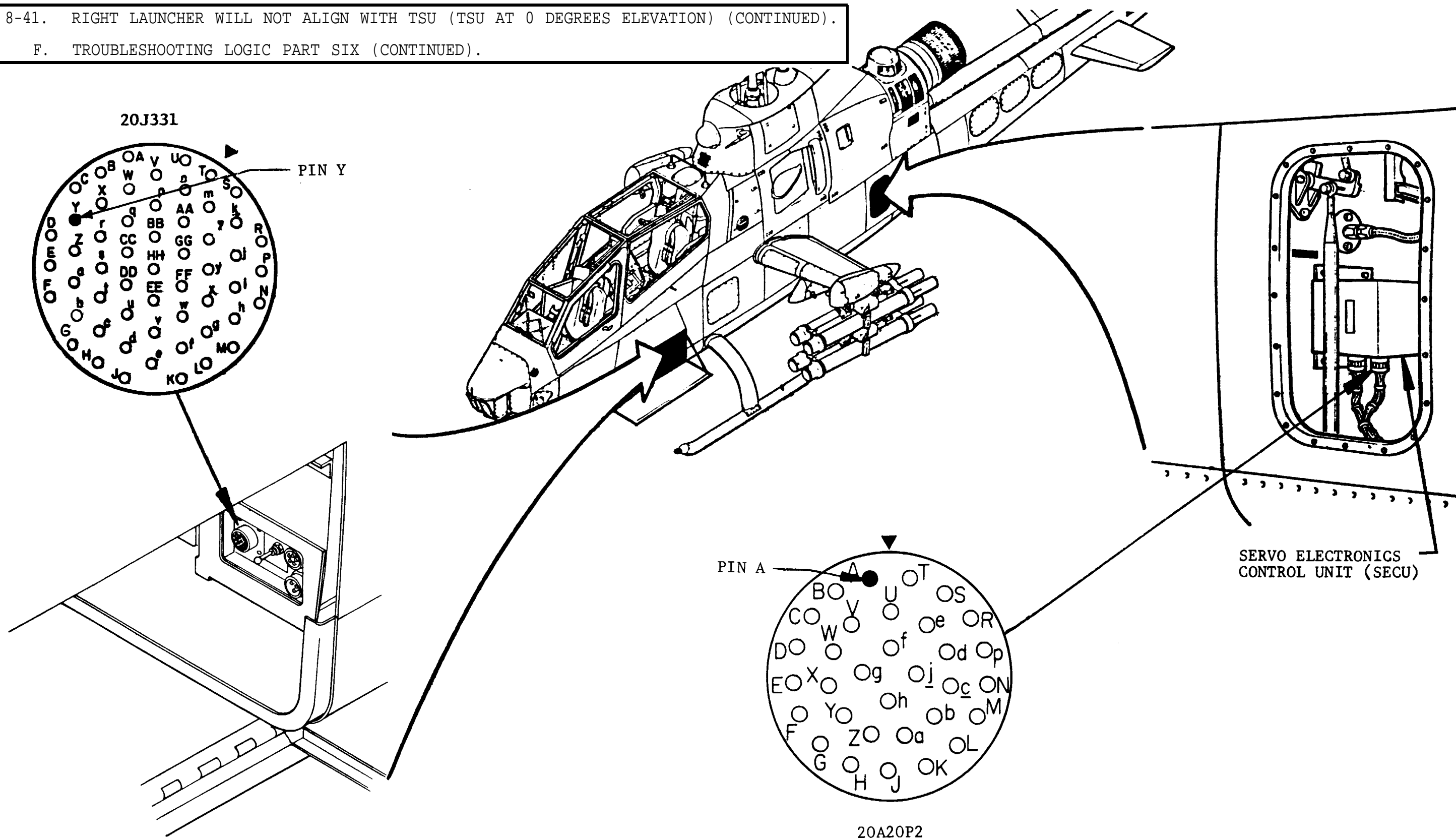
TELESCOPIC SIGHT UNIT (TSU)



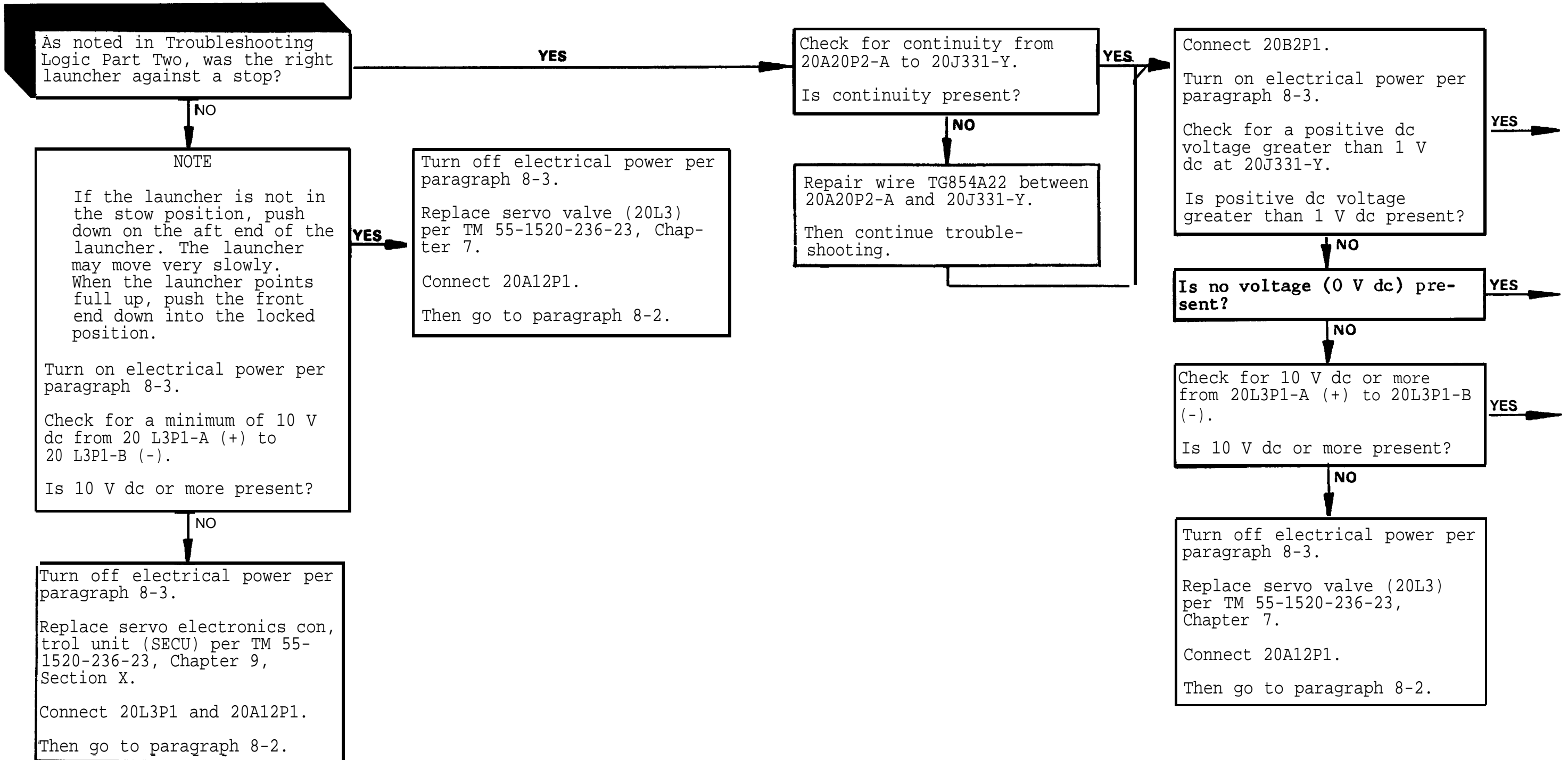
20L3P1

8-41. RIGHT LAUNCHER WILL NOT ALIGN WITH TSU (TSU AT 0 DEGREES ELEVATION) (CONTINUED).

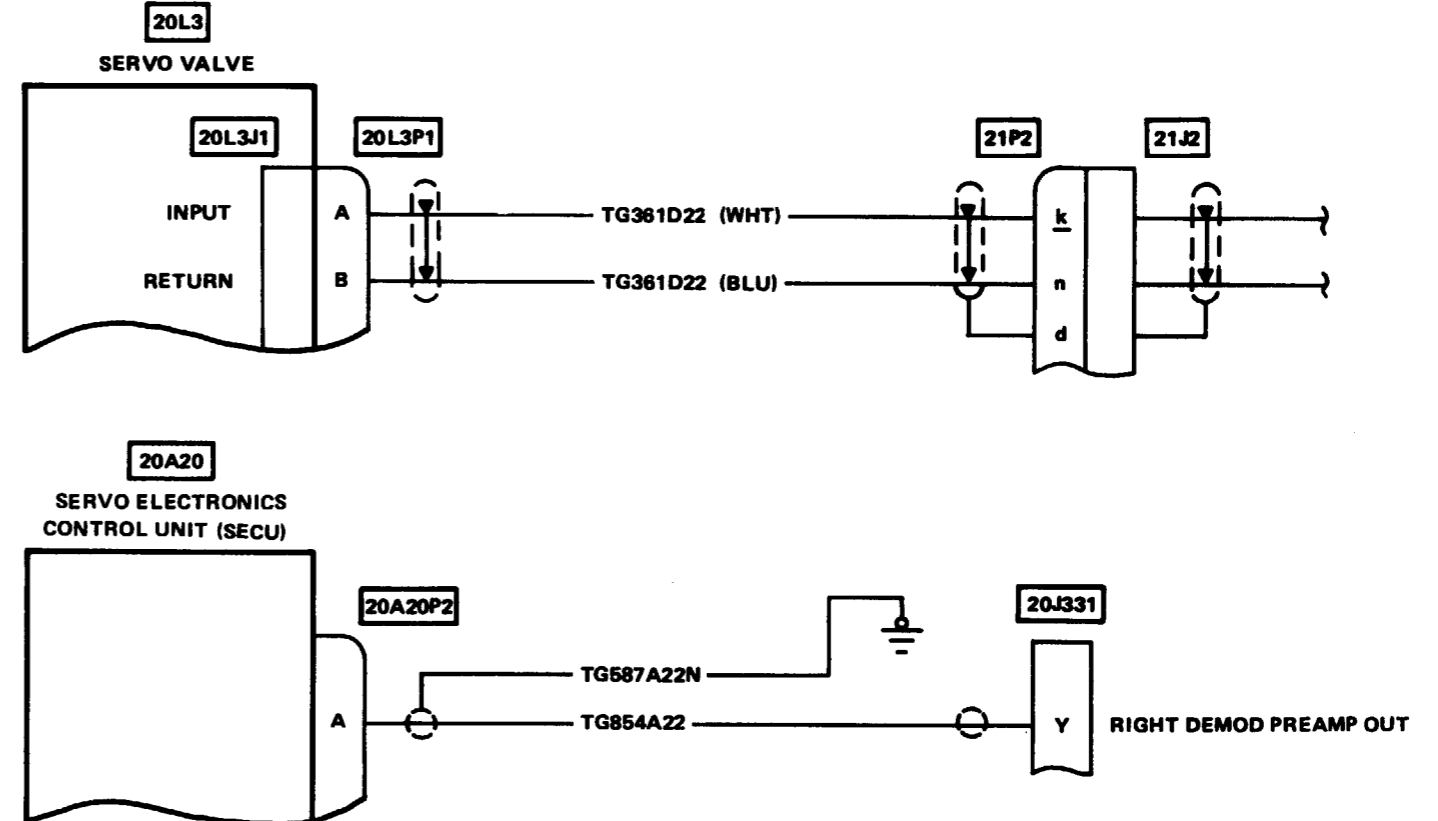
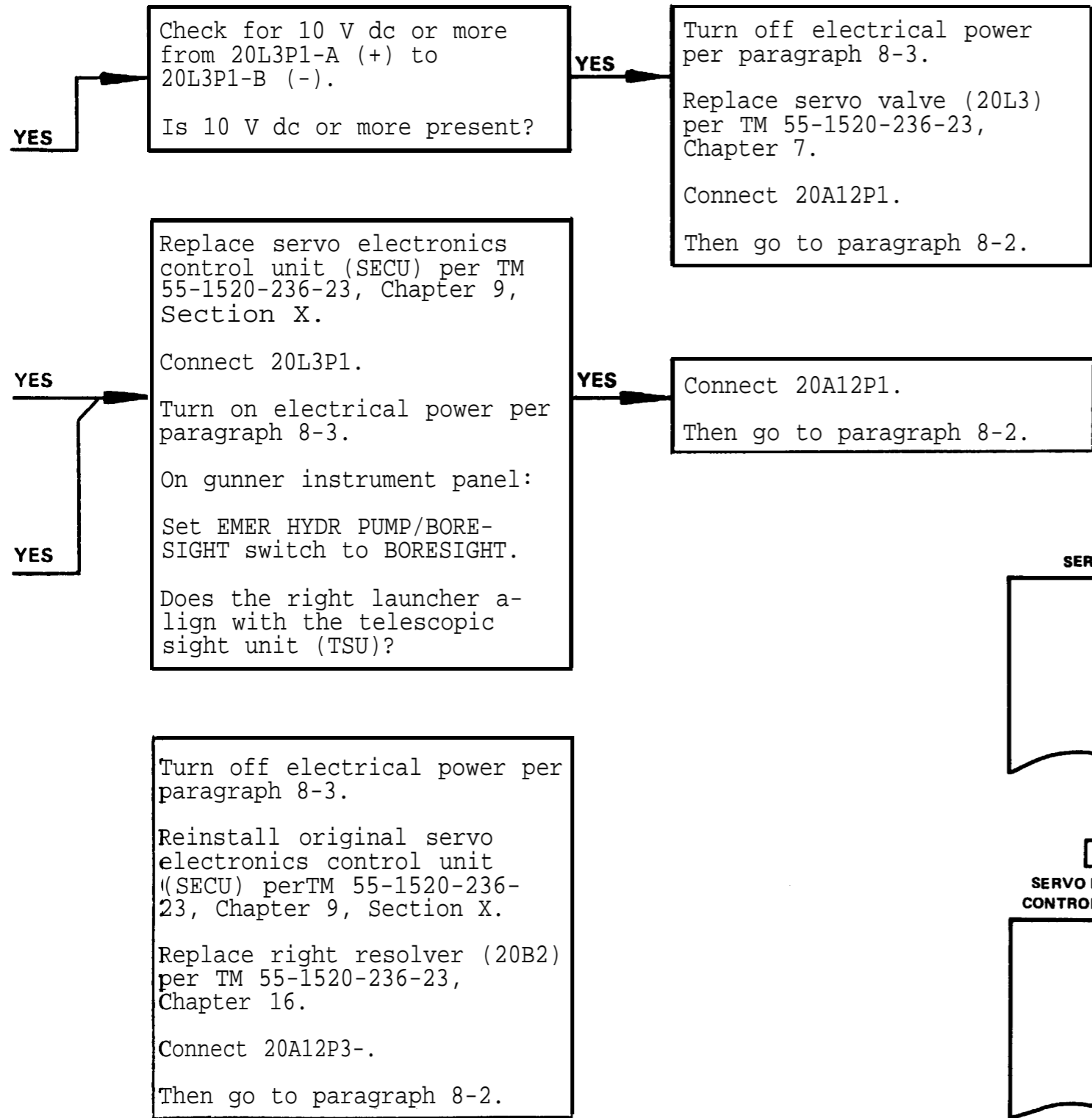
F. TROUBLESHOOTING LOGIC PART SIX (CONTINUED).



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).



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)

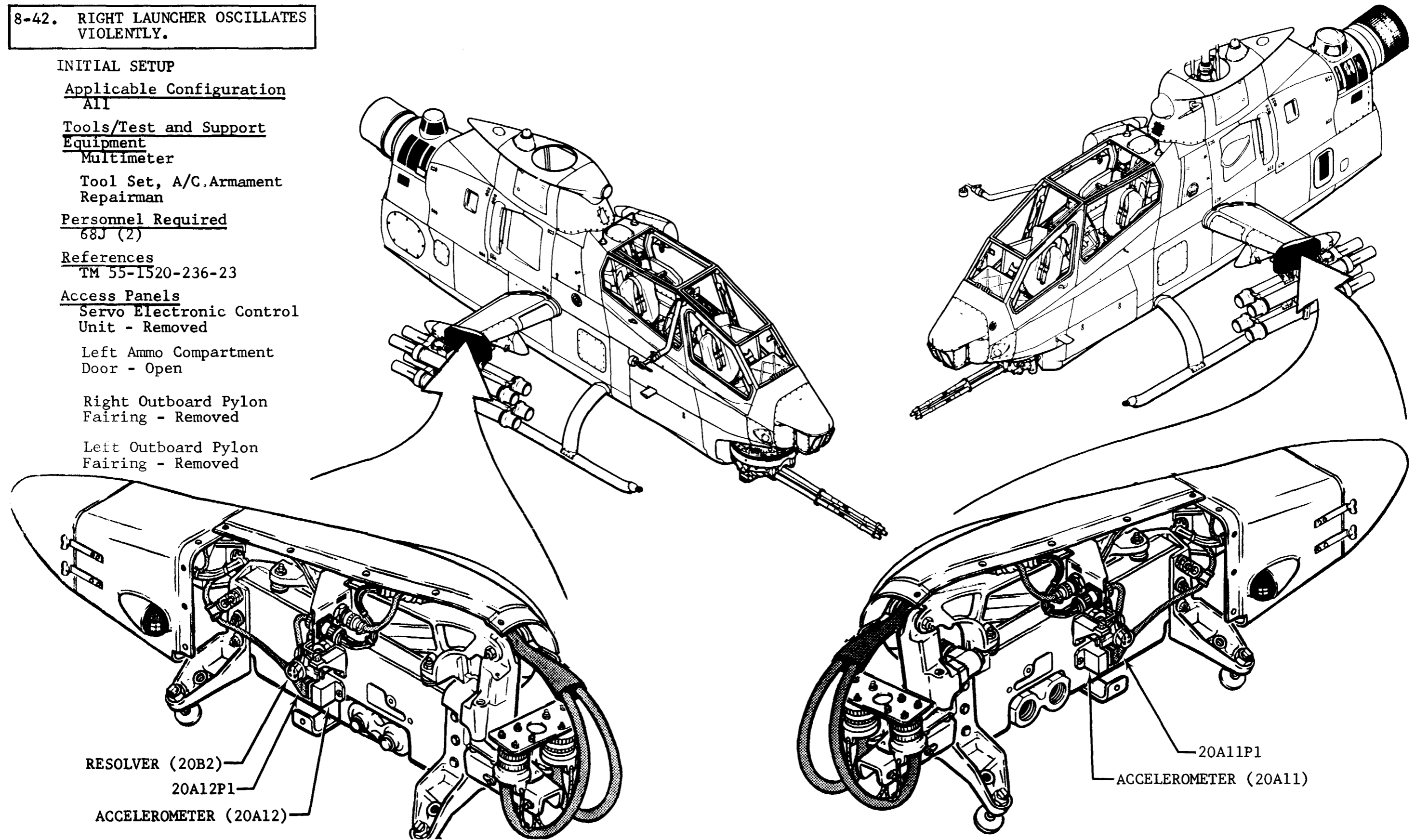
References
TM 55-1520-236-23

Access Panels
Servo Electronic Control
Unit - Removed

Left Ammo Compartment
Door - Open

Right Outboard Pylon
Fairing - Removed

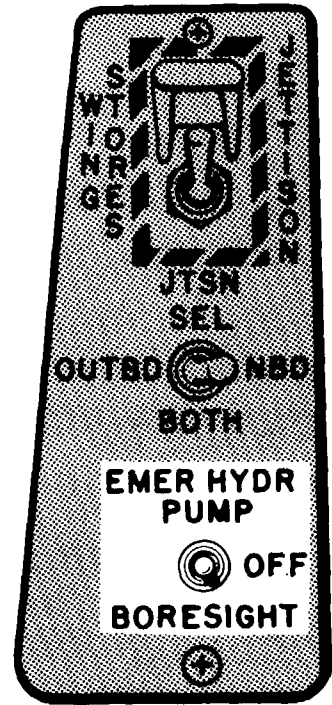
Left Outboard Pylon
Fairing - Removed



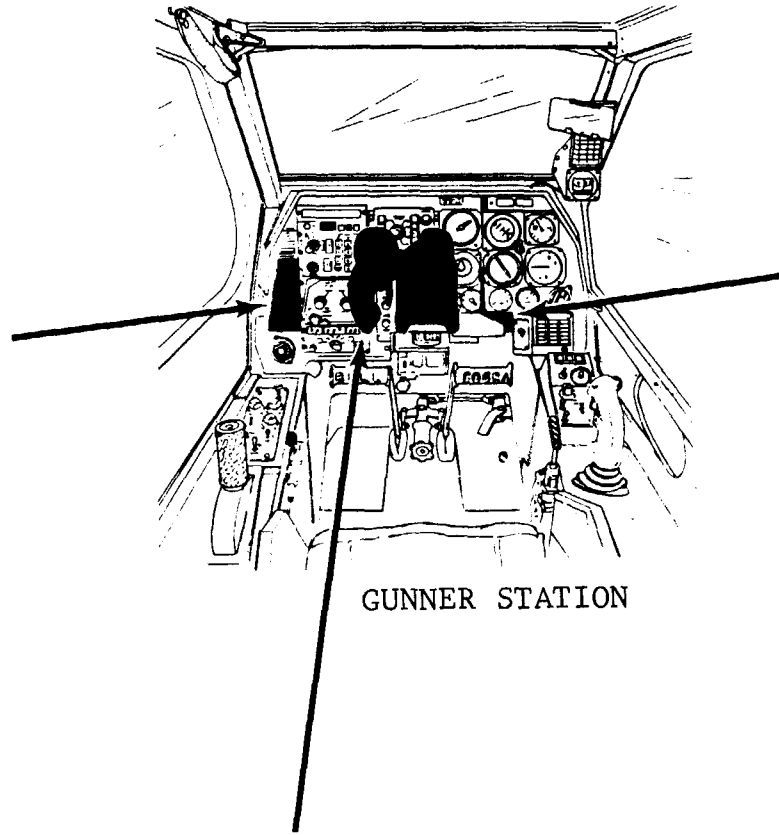
RESOLVER (20B2)
20A12P1
ACCELEROMETER (20A12)

20A11P1
ACCELEROMETER (20A11)

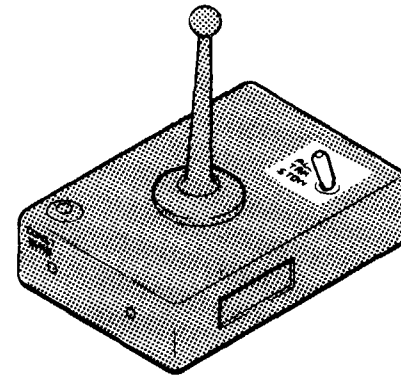
8-42. RIGHT LAUNCHER OSCILLATES VIOLENTLY (CONTINUED).



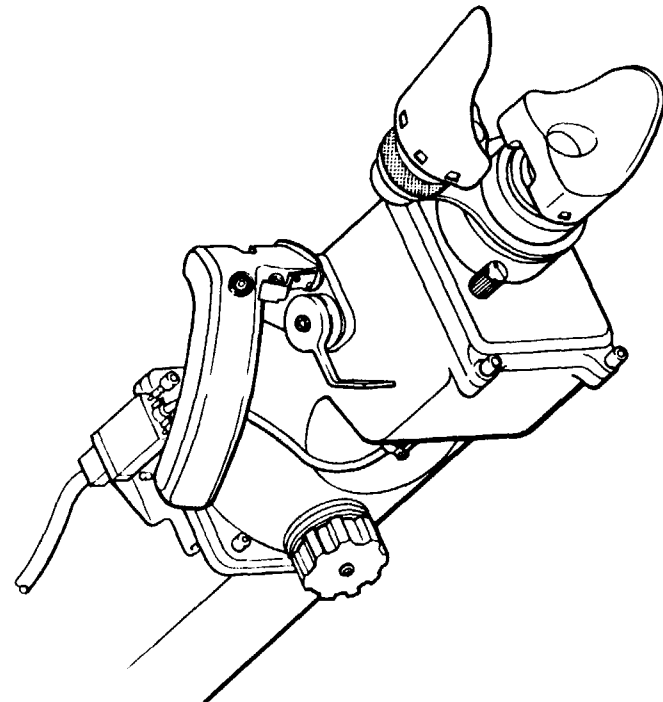
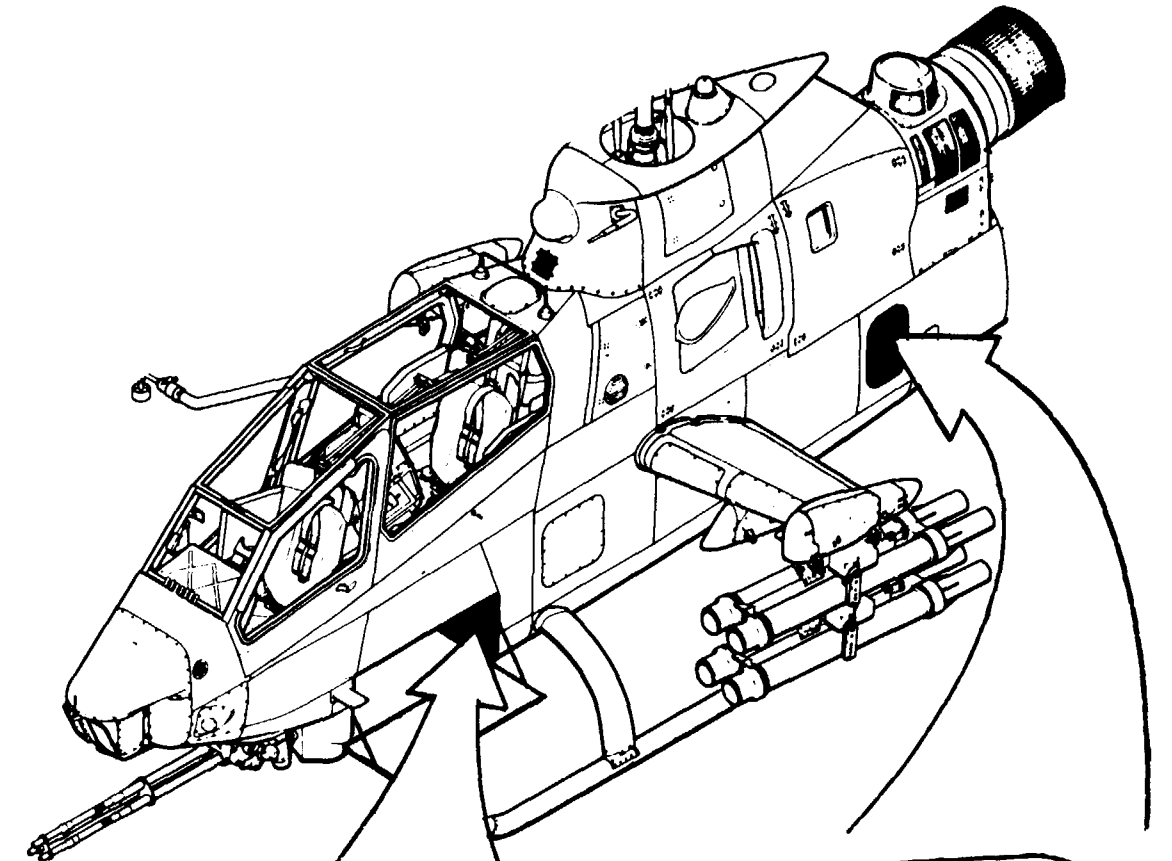
SWITCH PANEL



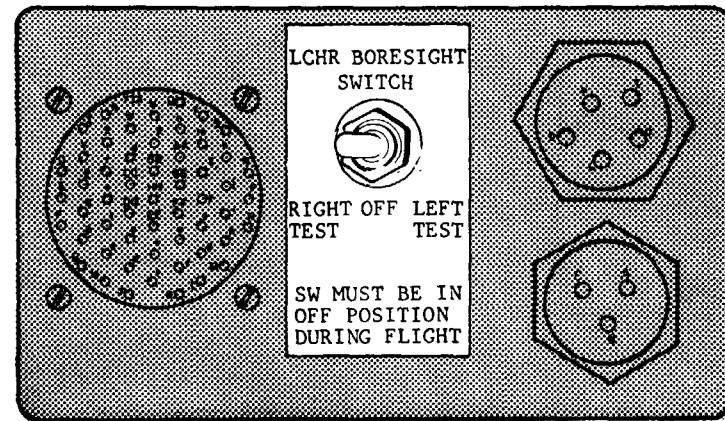
GUNNER STATION



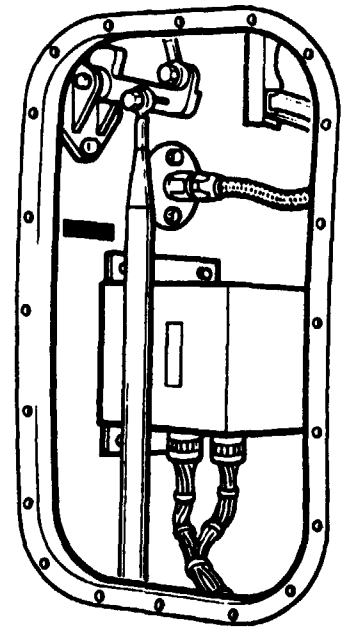
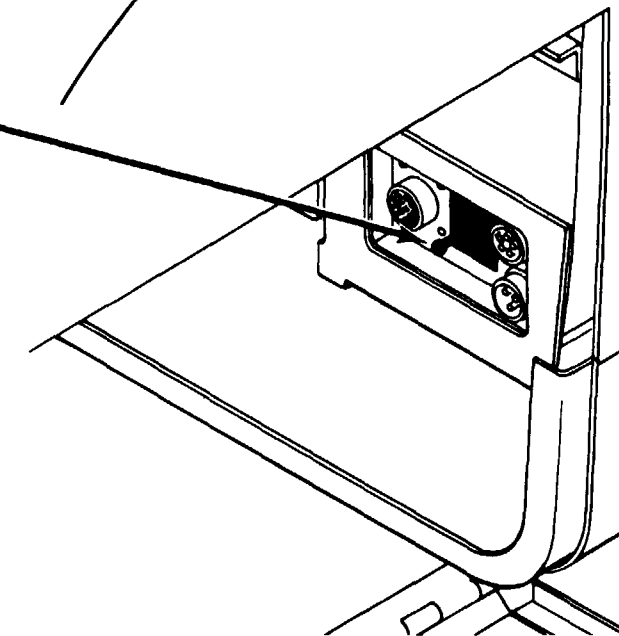
SIGHT HAND CONTROL



TELESCOPIC SIGHT UNIT (TSU)

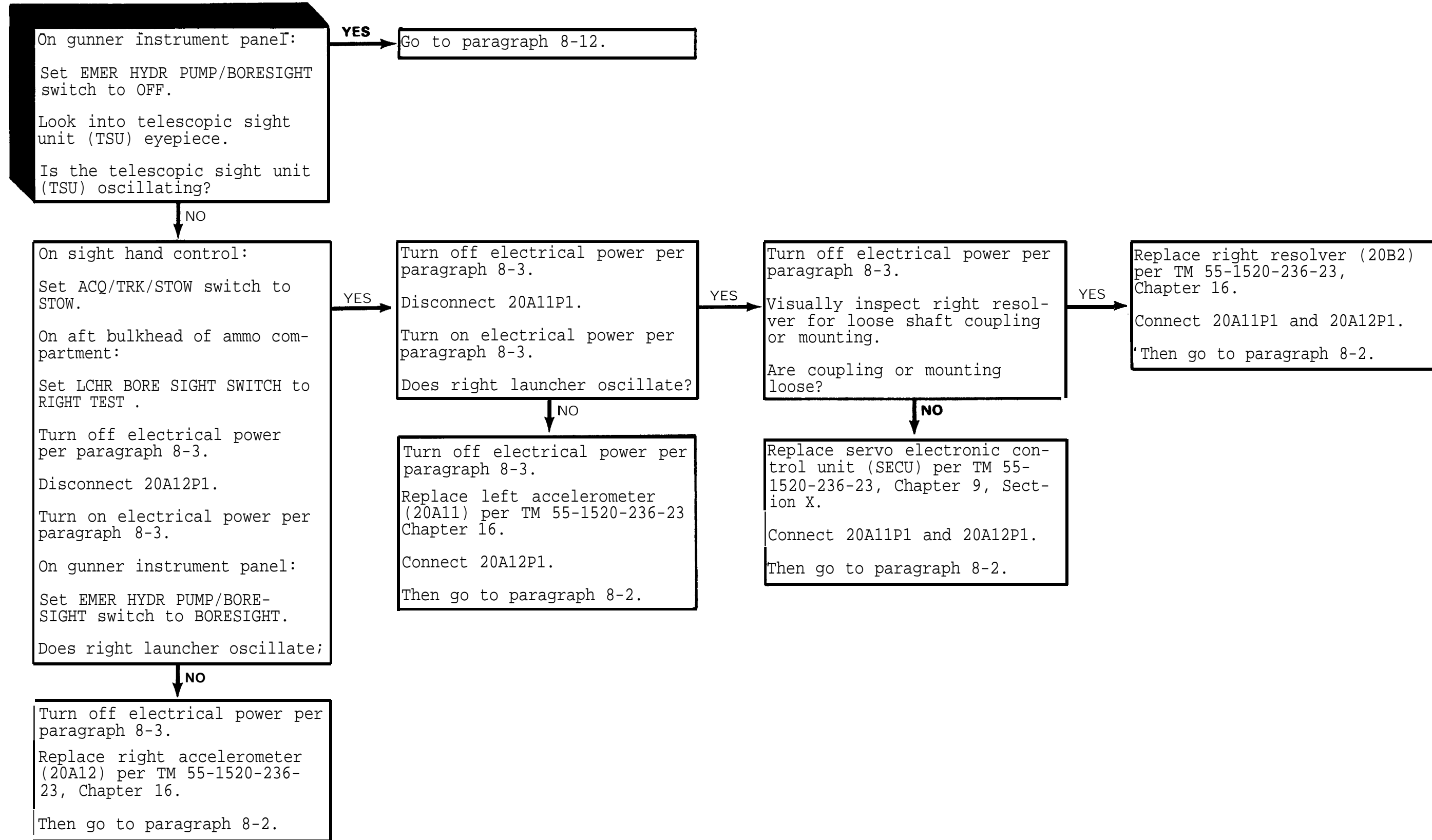


LCHR BORESIGHT SWITCH



SERVO ELECTRONICS CONTROL UNIT (SECU)

8-42. RIGHT LAUNCHER OSCILLATES VIOLENTLY (CONTINUED).



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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

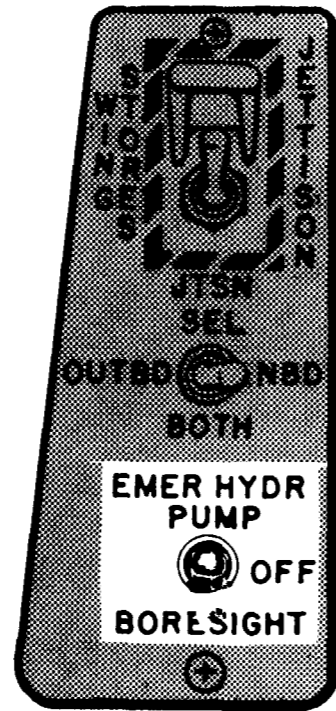
Personnel Required
68J (2)

References
TM 11-1520-236-23
TM 55-1520-236-23

Access Panels
Ammo Compartment Left
Door - Open

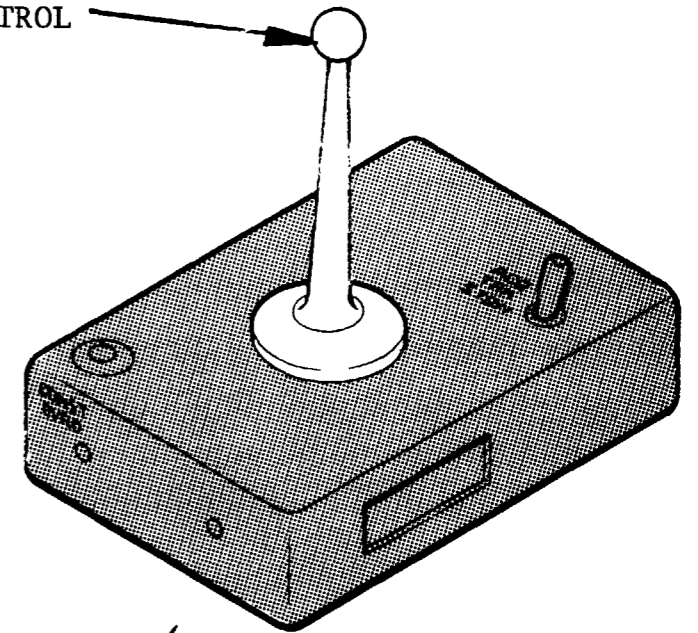
Servo Electronics Control
Unit - Removed

Right Outboard Pylon
Fairing - Removed

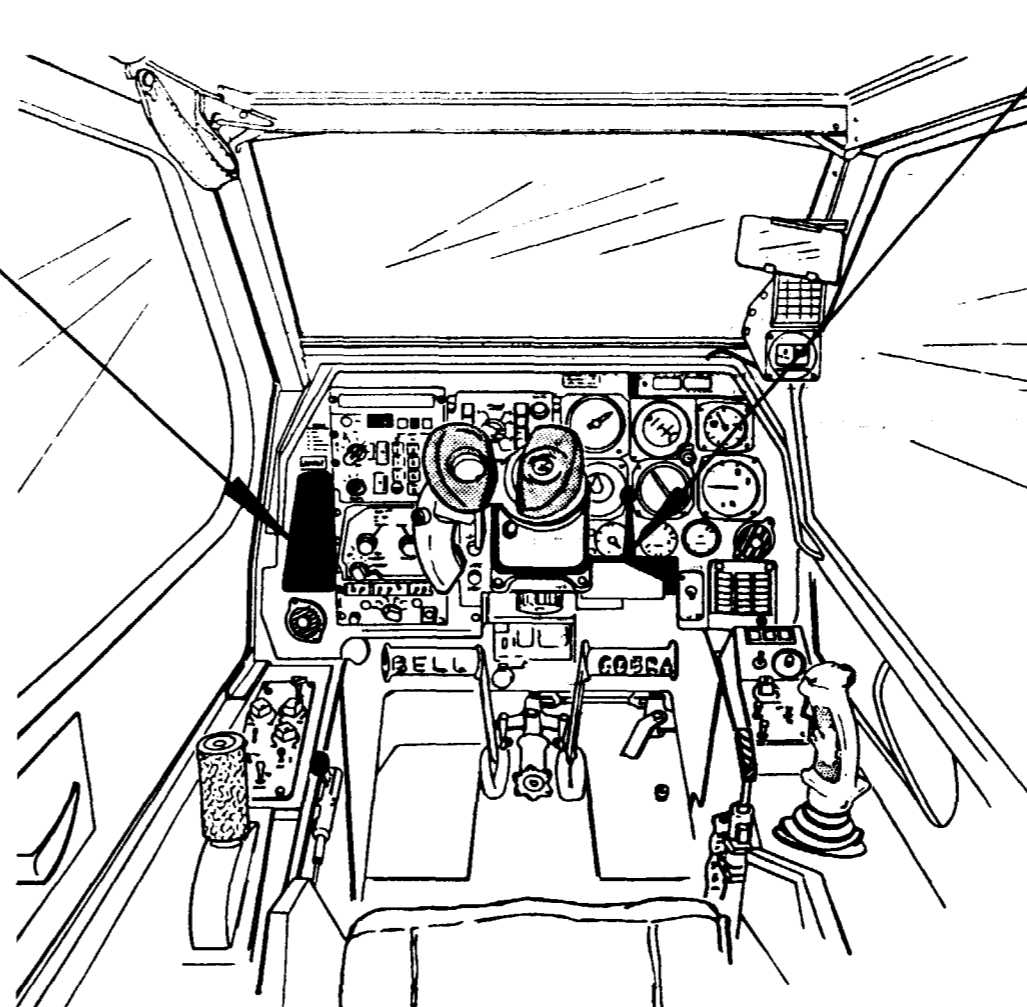


SWITCH PANEL

TRACK CONTROL
STICK

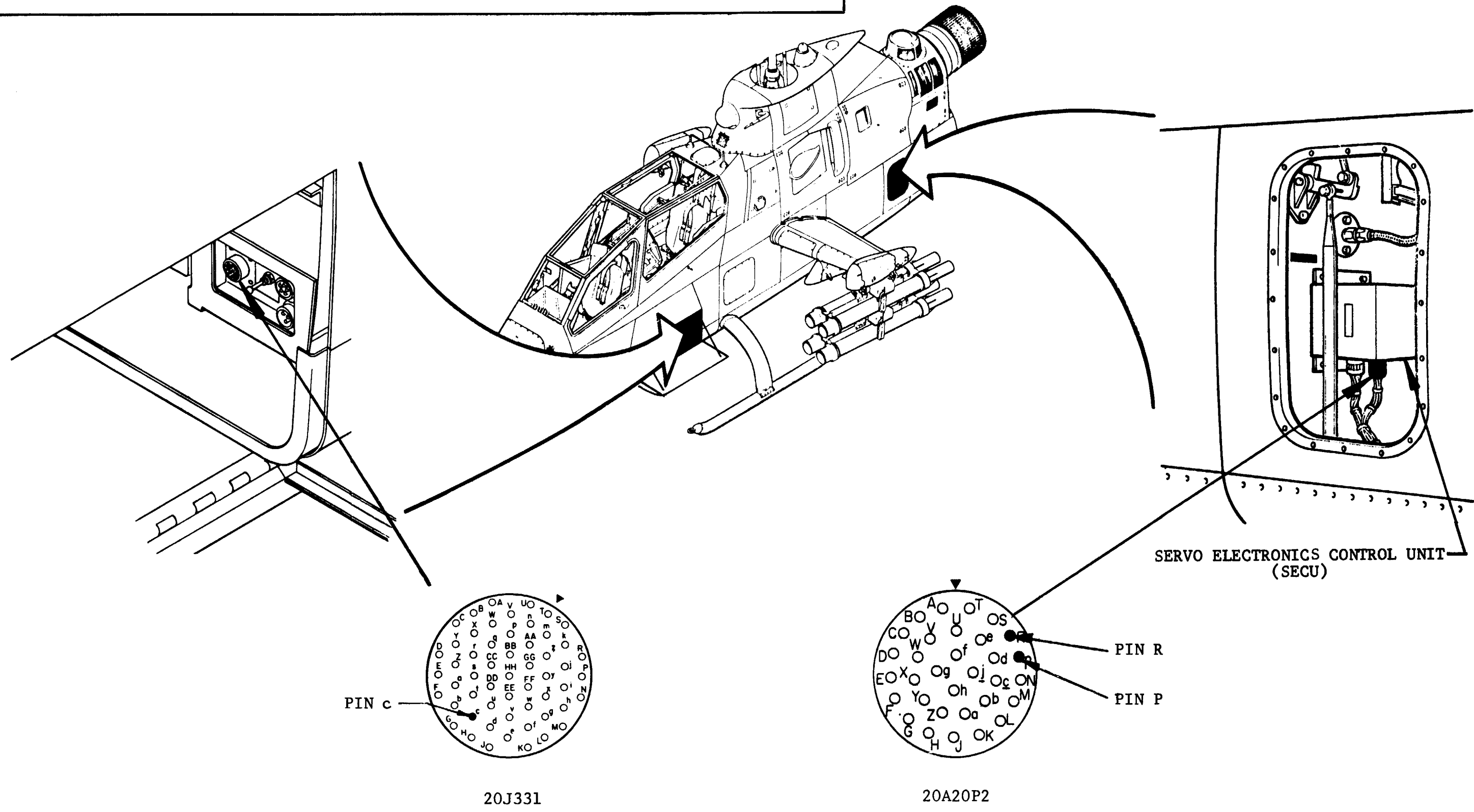


SIGHT HAND CONTROL

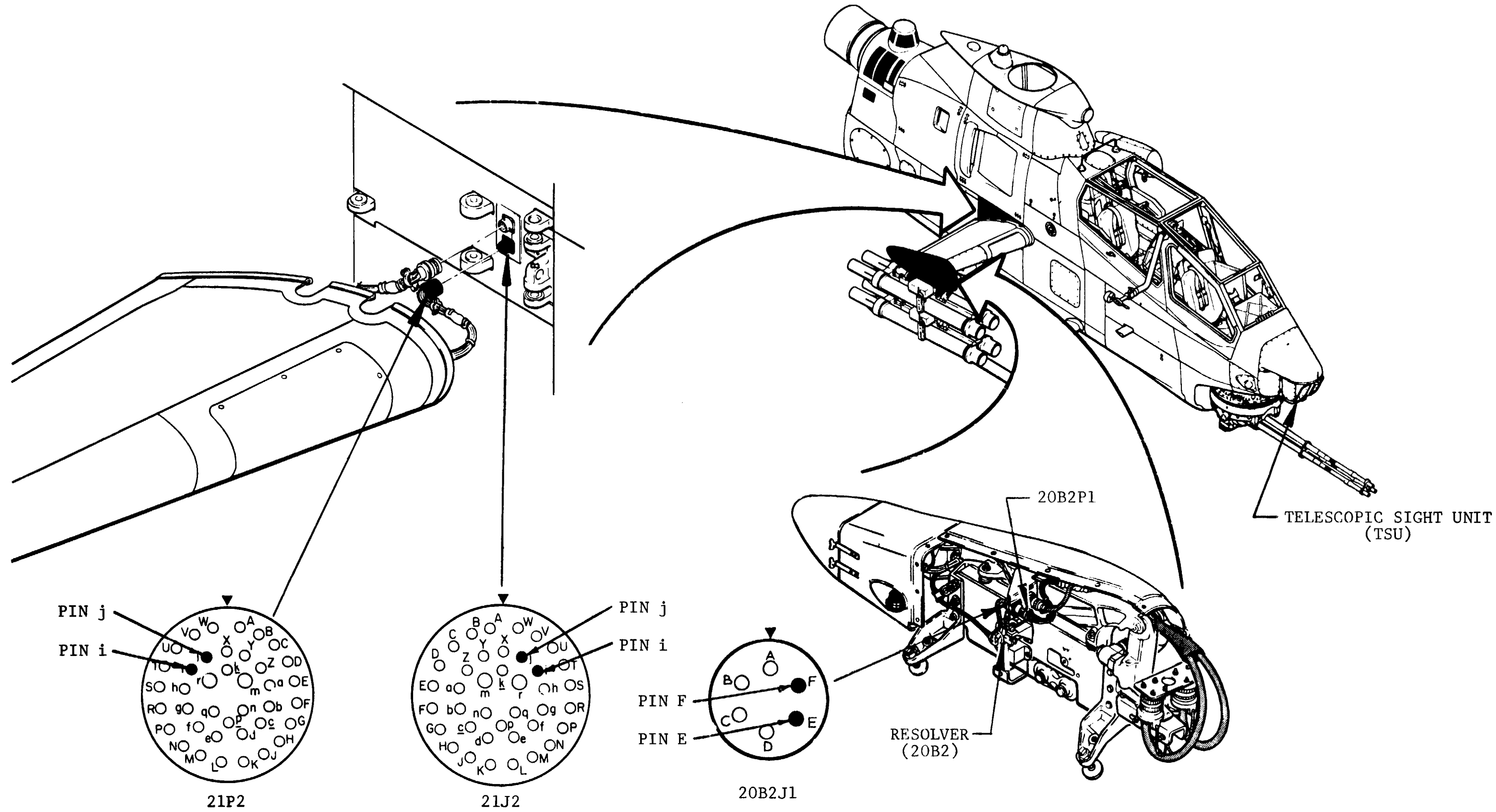


GUNNER STATION

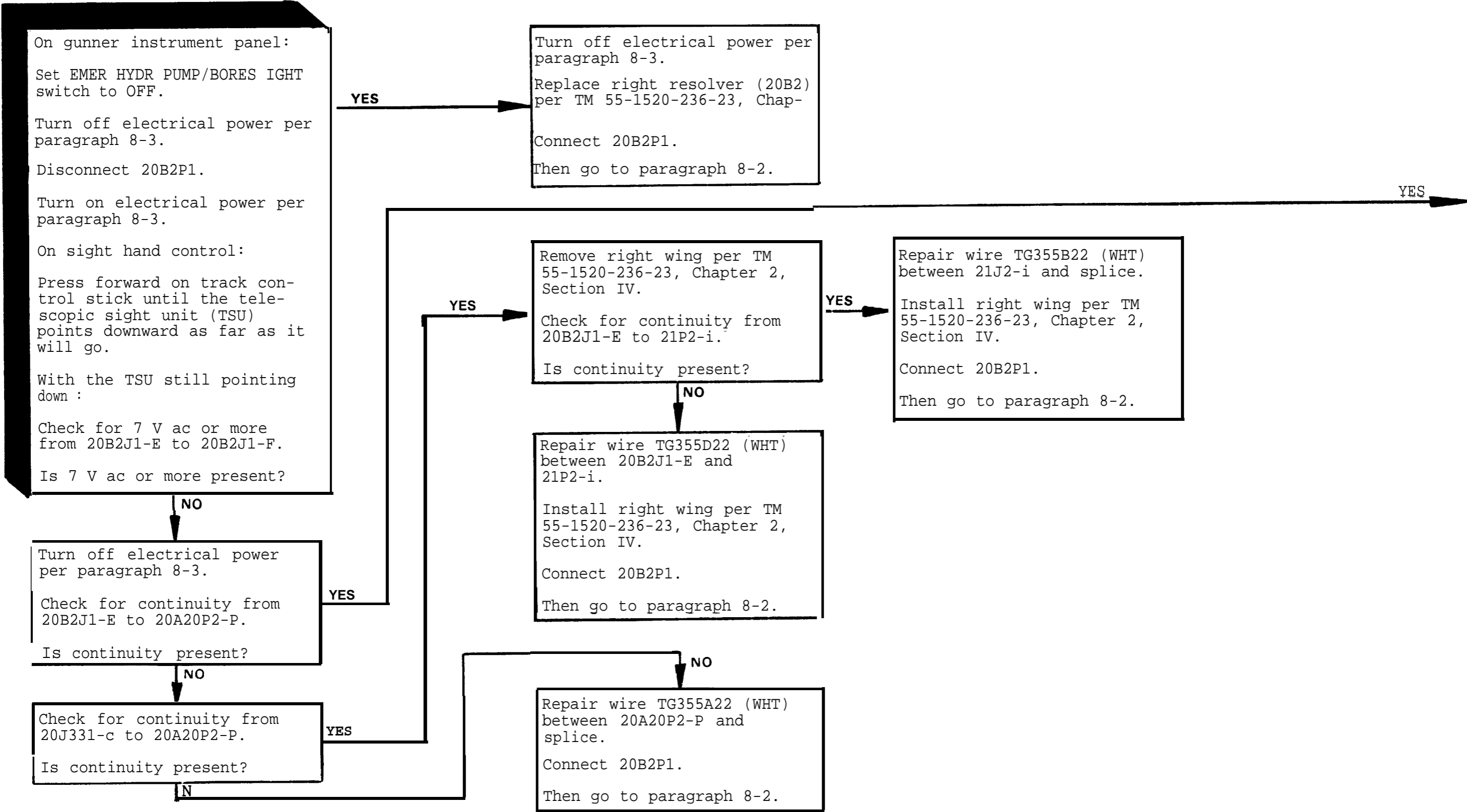
8-43. RIGHT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



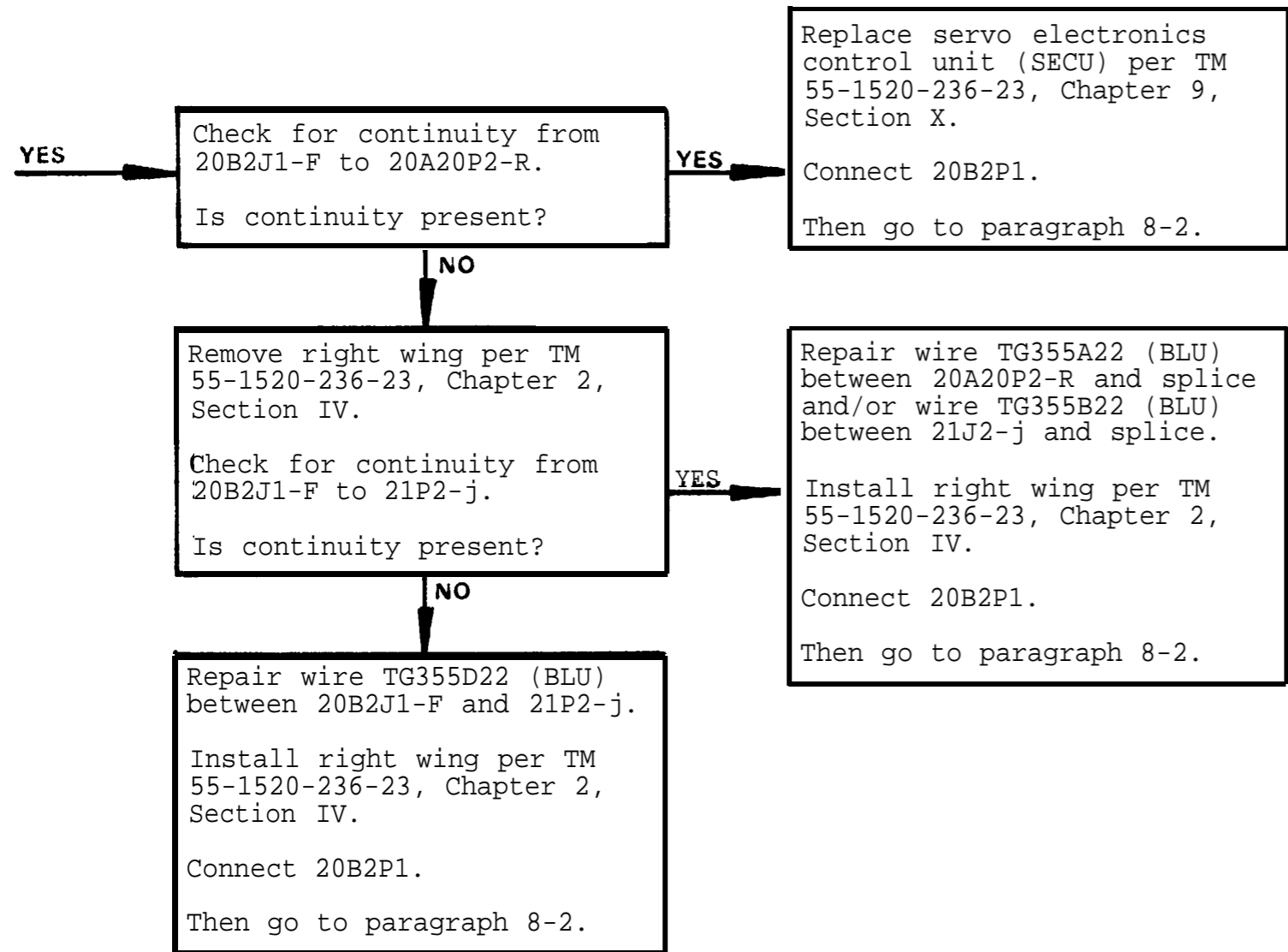
8-43. RIGHT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



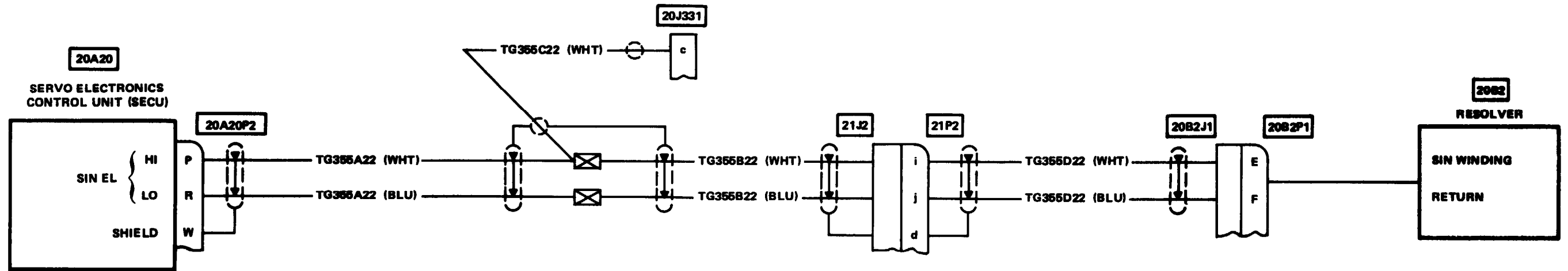
8-43. RIGHT LAUNCHER STAYS AT 0 DEGREES ELEVATION (CONTINUED).



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

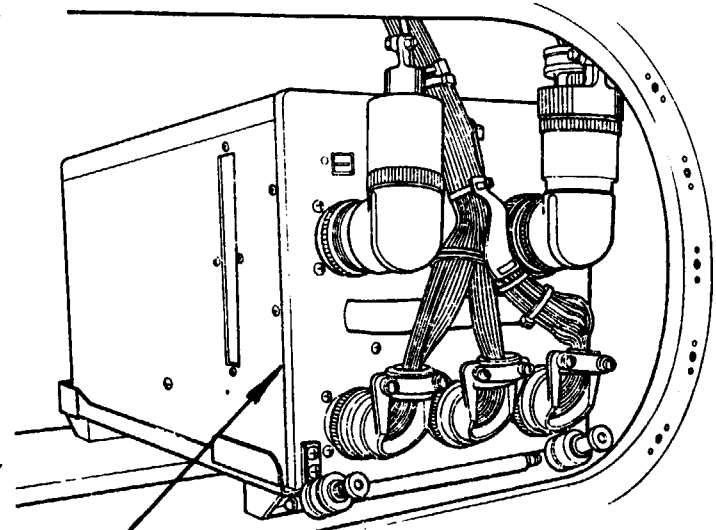
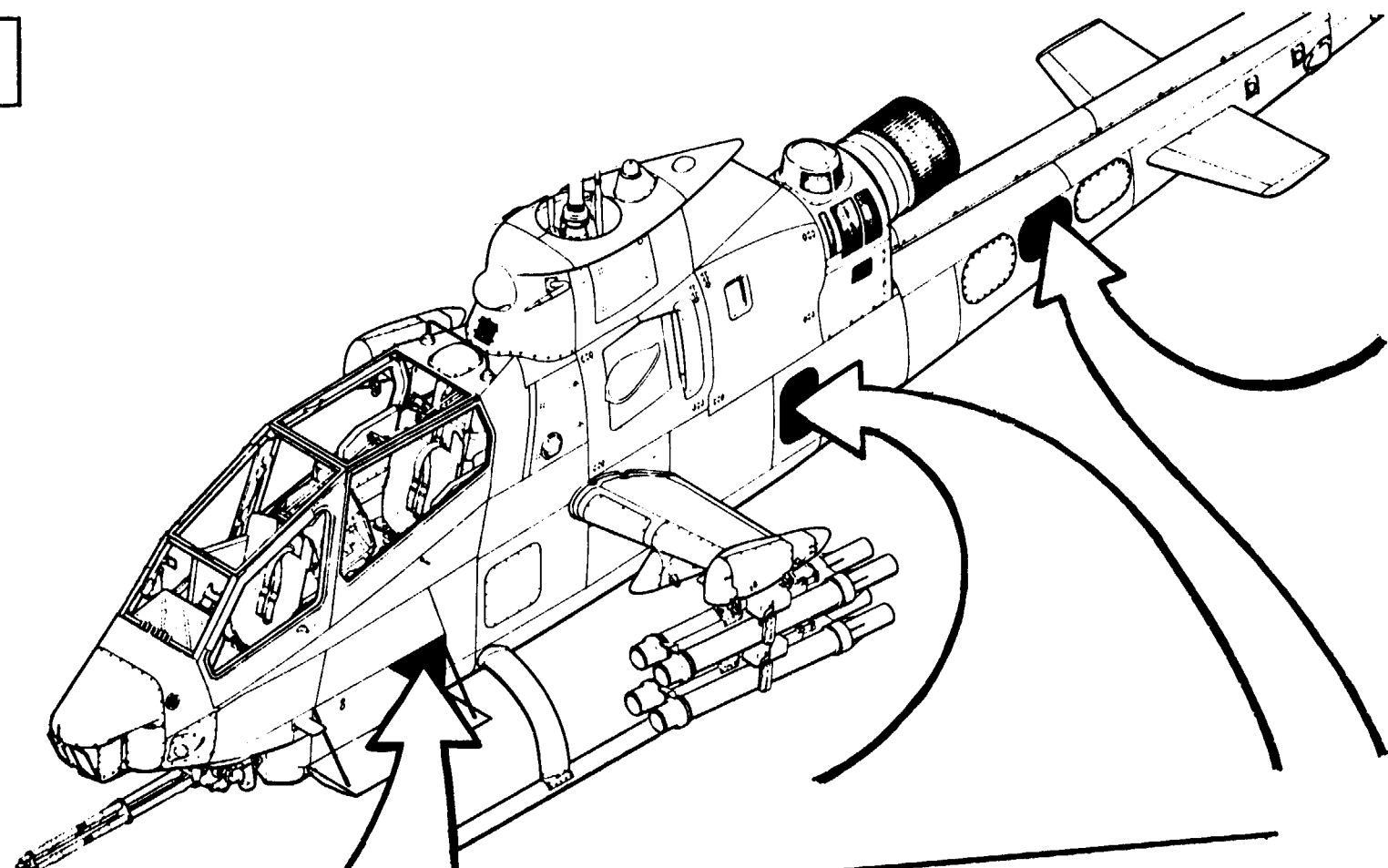
Personnel Required
68J (2)

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

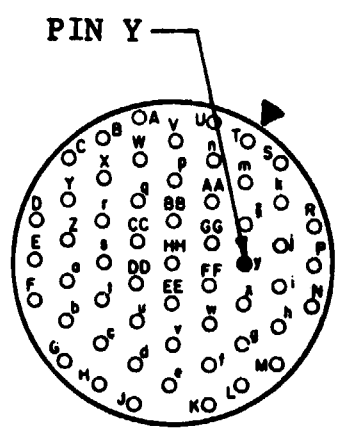
Access Panels
Left Ammo Compartment Door - Open

Servo Electronic Control Unit - Removed

Middle Electronics (Tailboom) - Removed

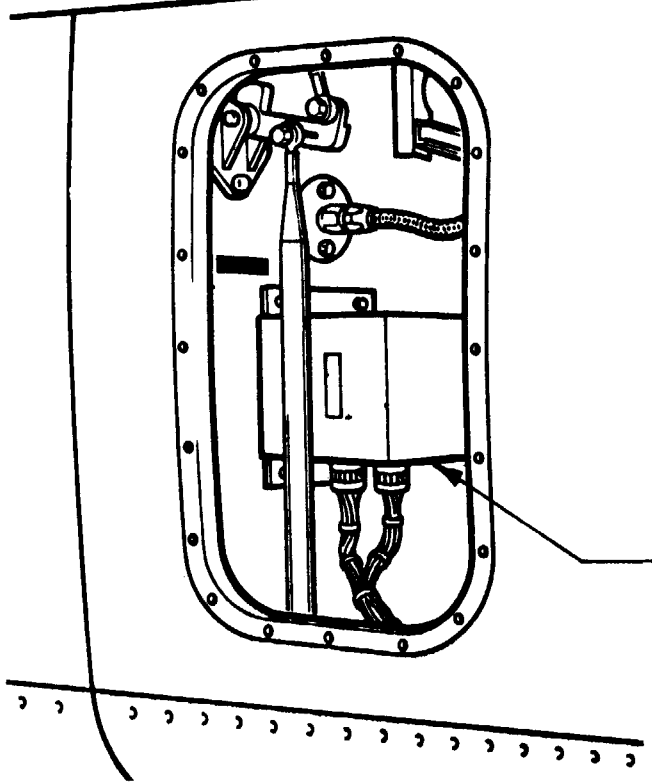


STABILIZATION CONTROL AMPLIFIER (SCA)



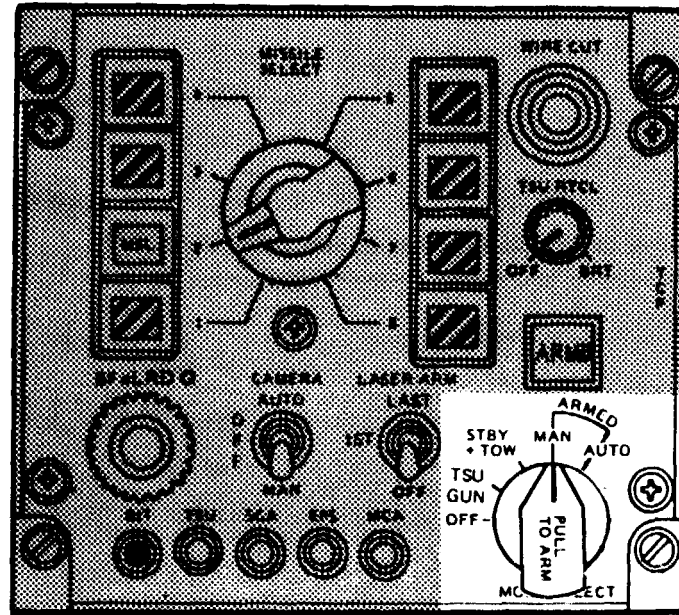
20J331

LCHR BORESIGHT SWITCH

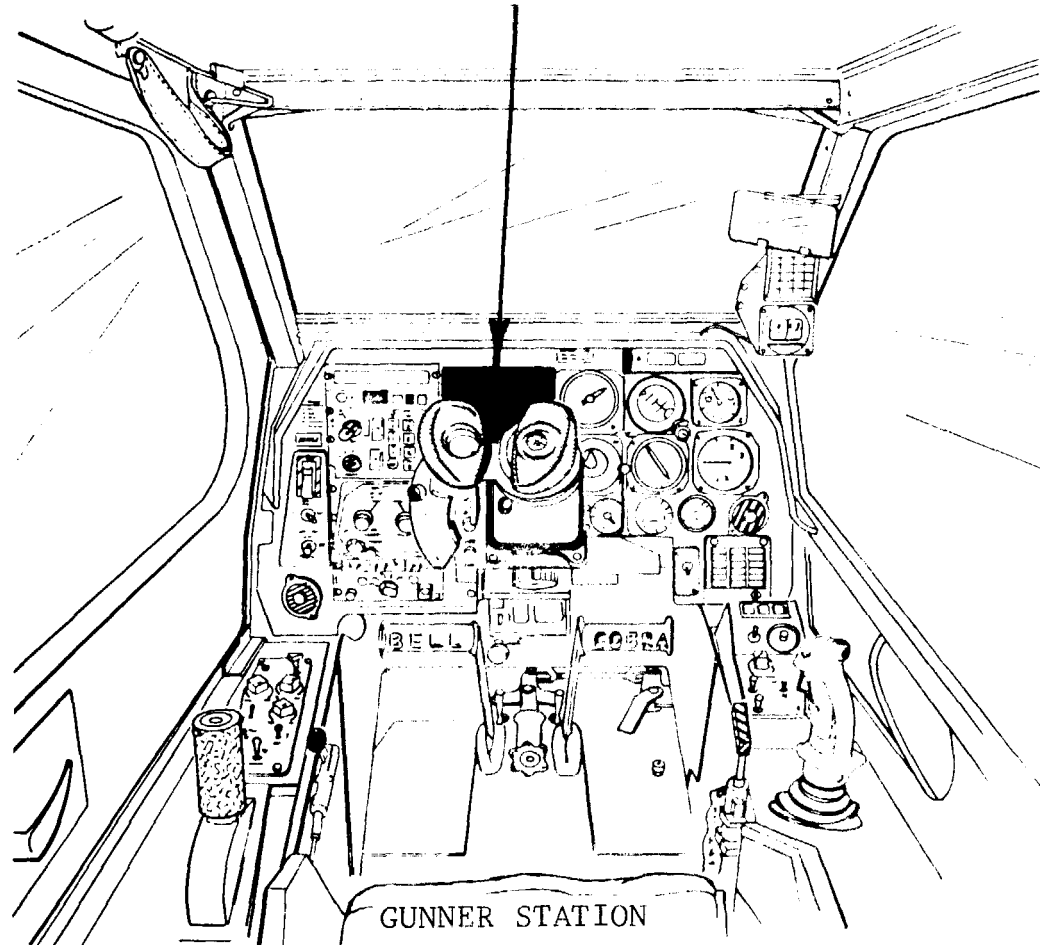


SERVO ELECTRONIC CONTROL UNIT (SECU)

18-44. RIGHT TOW LAUNCHER WILL NOT STOW (CONTINUED).



TCP (TOW CONTROL PANEL)



GUNNER STATION

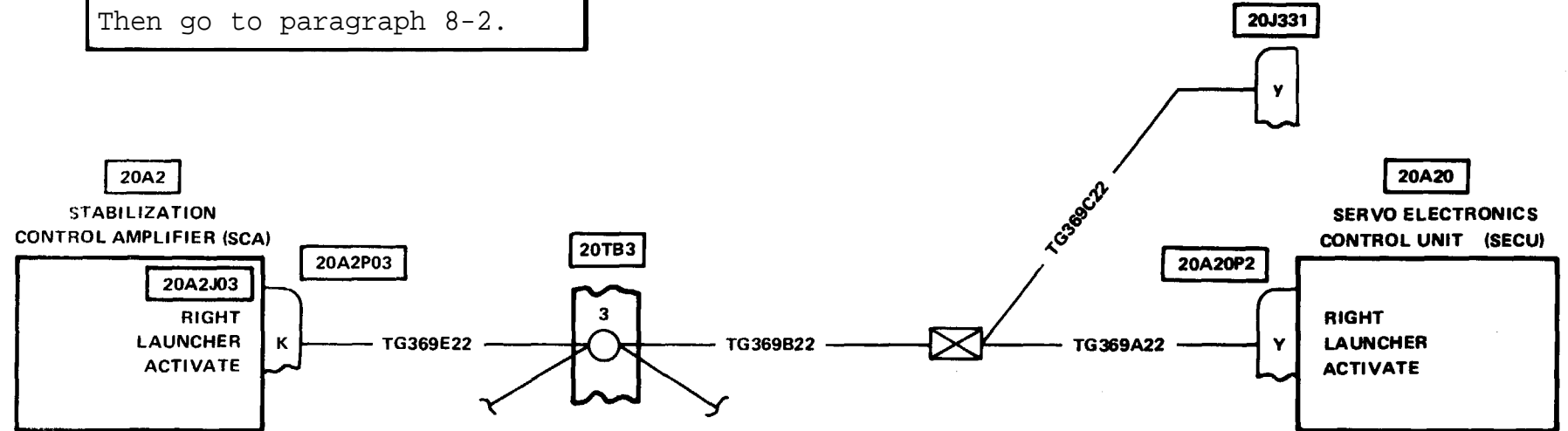
On TCP (TOW control panel):
 Verify MODE SELECT switch is set to ARMED MAN.
 On aft bulkhead of ammo compartment:
 Verify LCHR BORES LIGHT SWITCH is set to OFF.
 Check for 28 V dc at 20 J331-Y.
 Is 28 V dc present?

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

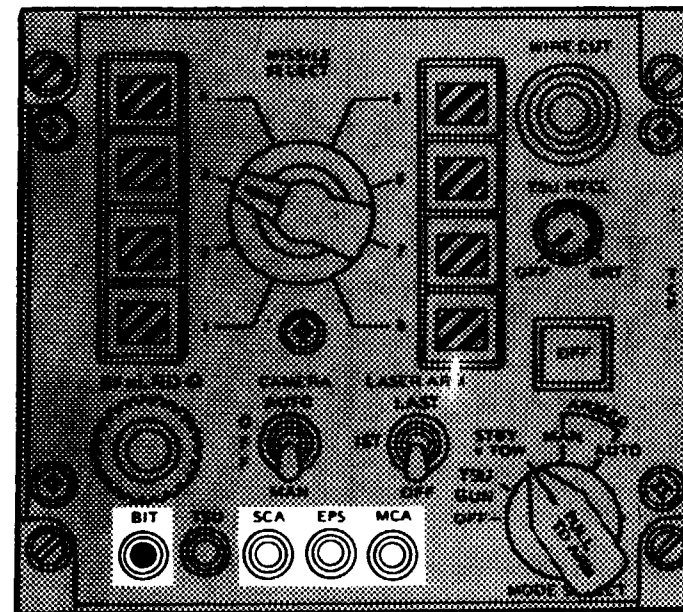
Tool Set, A/C Armament
Repairman

Personnel Required

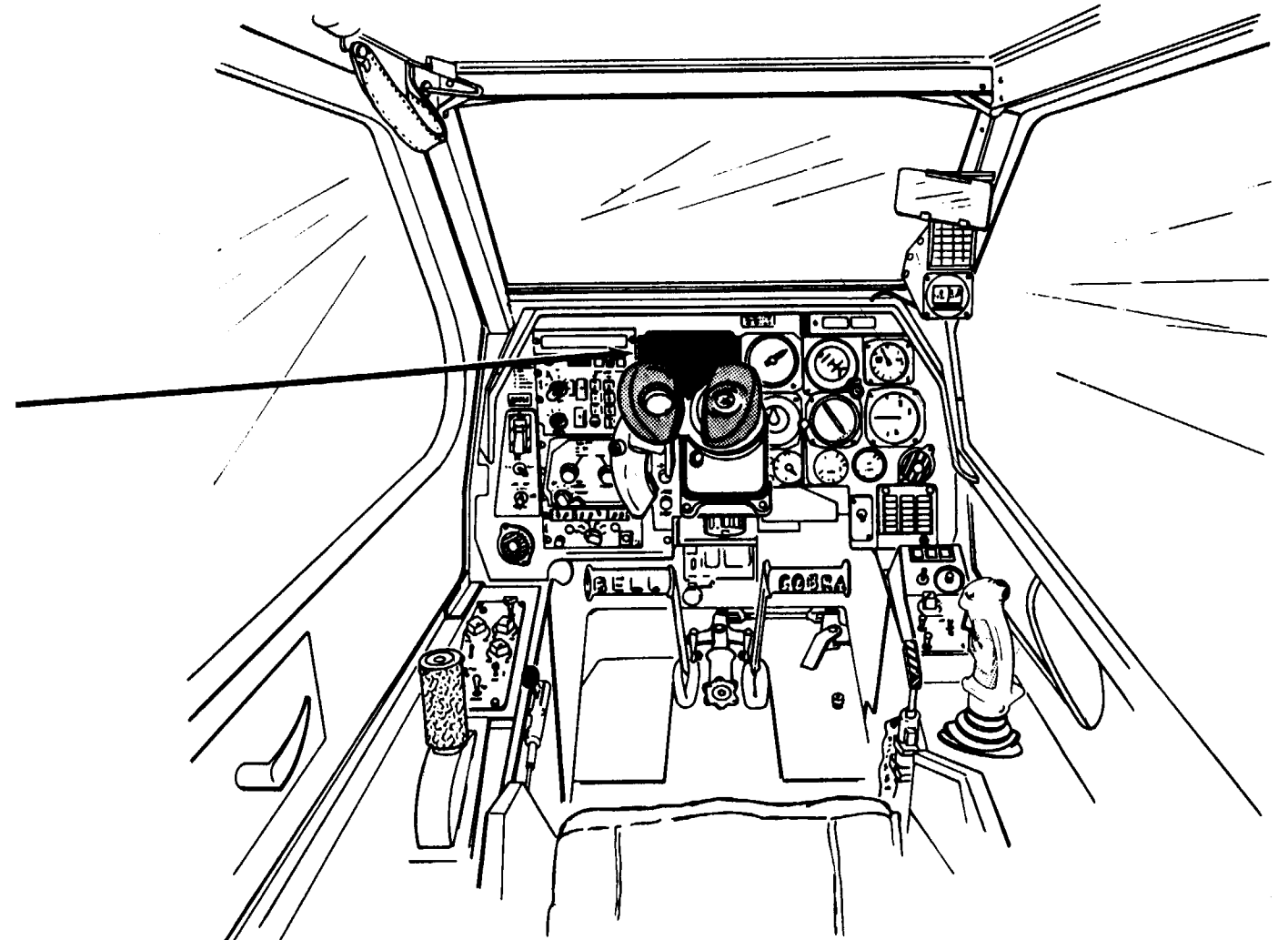
68J (1)

References

TM 9-1425-473-20

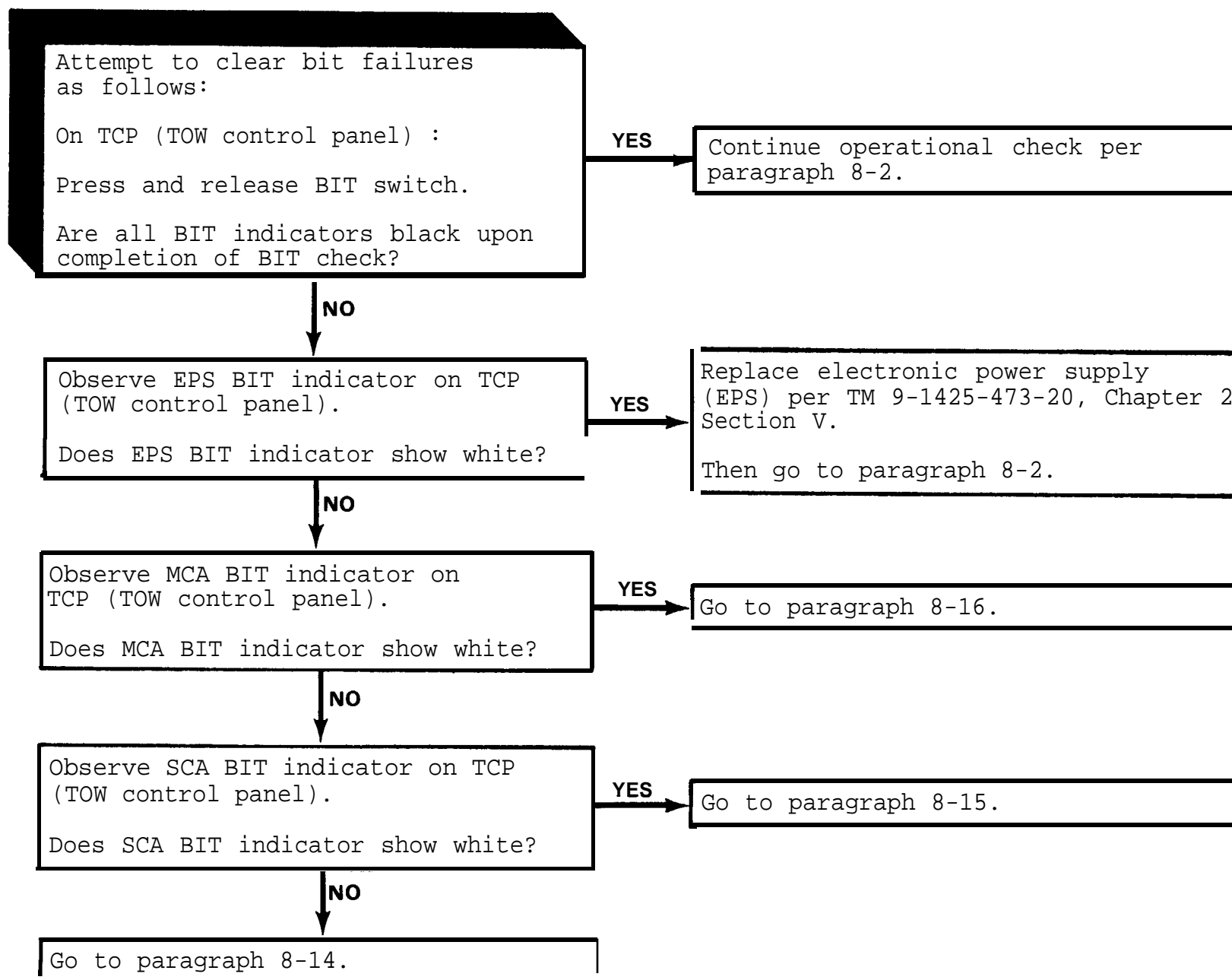


TCP (TOW CONTROL PANEL)



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

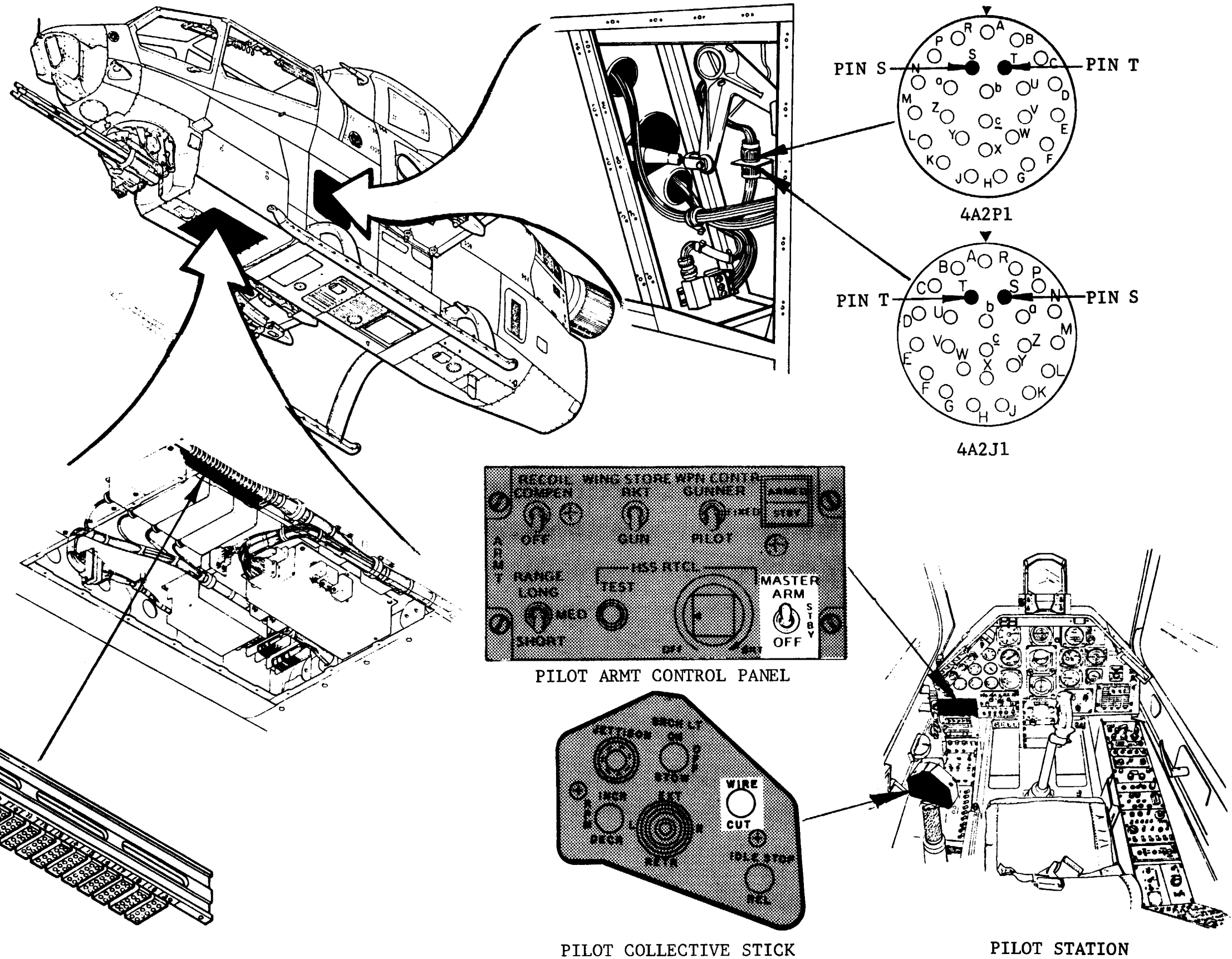
Access Panels

Forward Belly Armament and Lighting - Removed

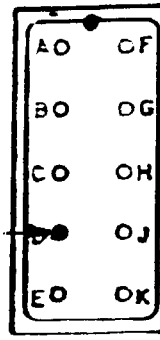
Aft Left Side Control Linkage - Removed

Left Wing Fairing Access Door - Open

Right Wing Fairing Access Door - Open



PIN D



19TB4

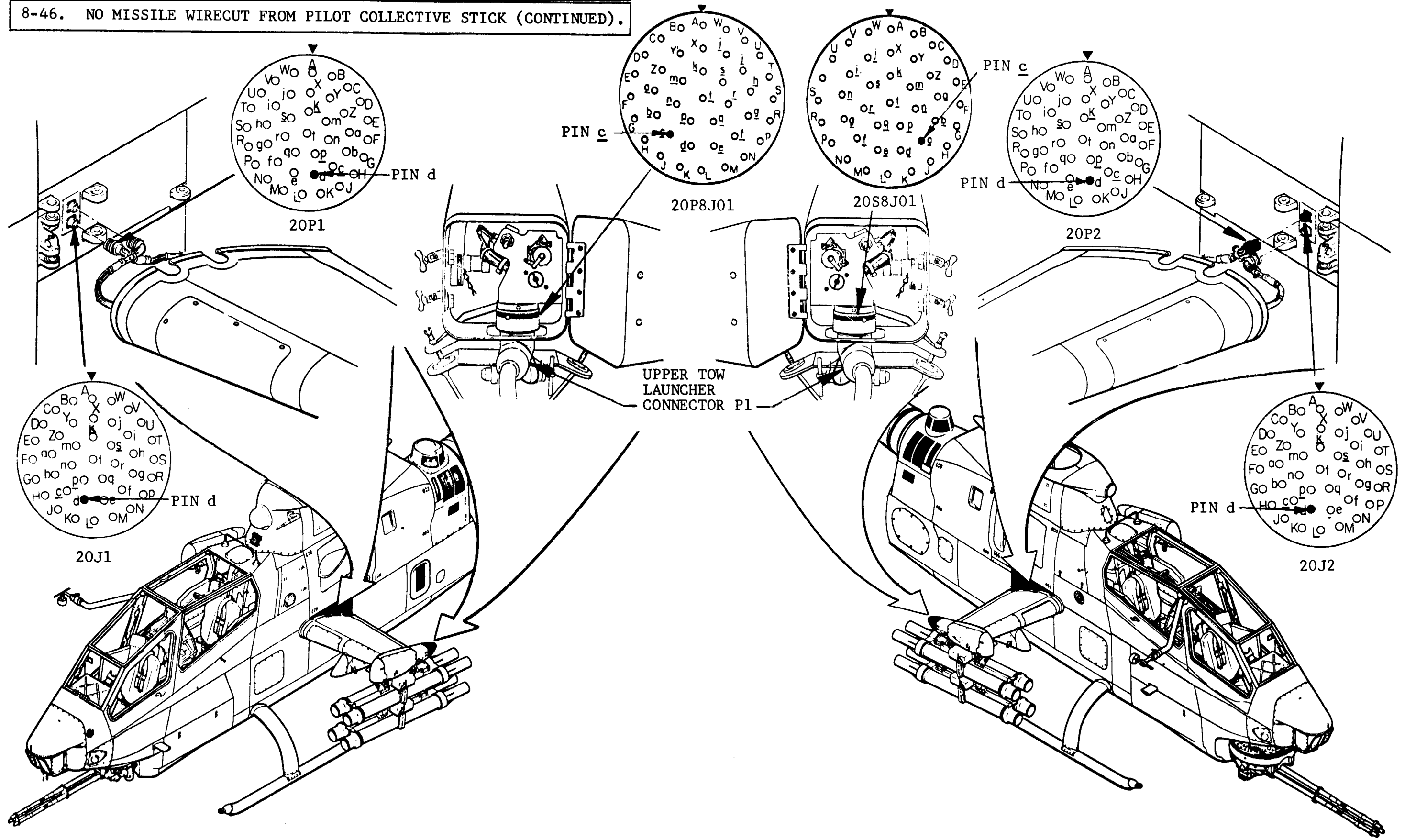
MODULE 5

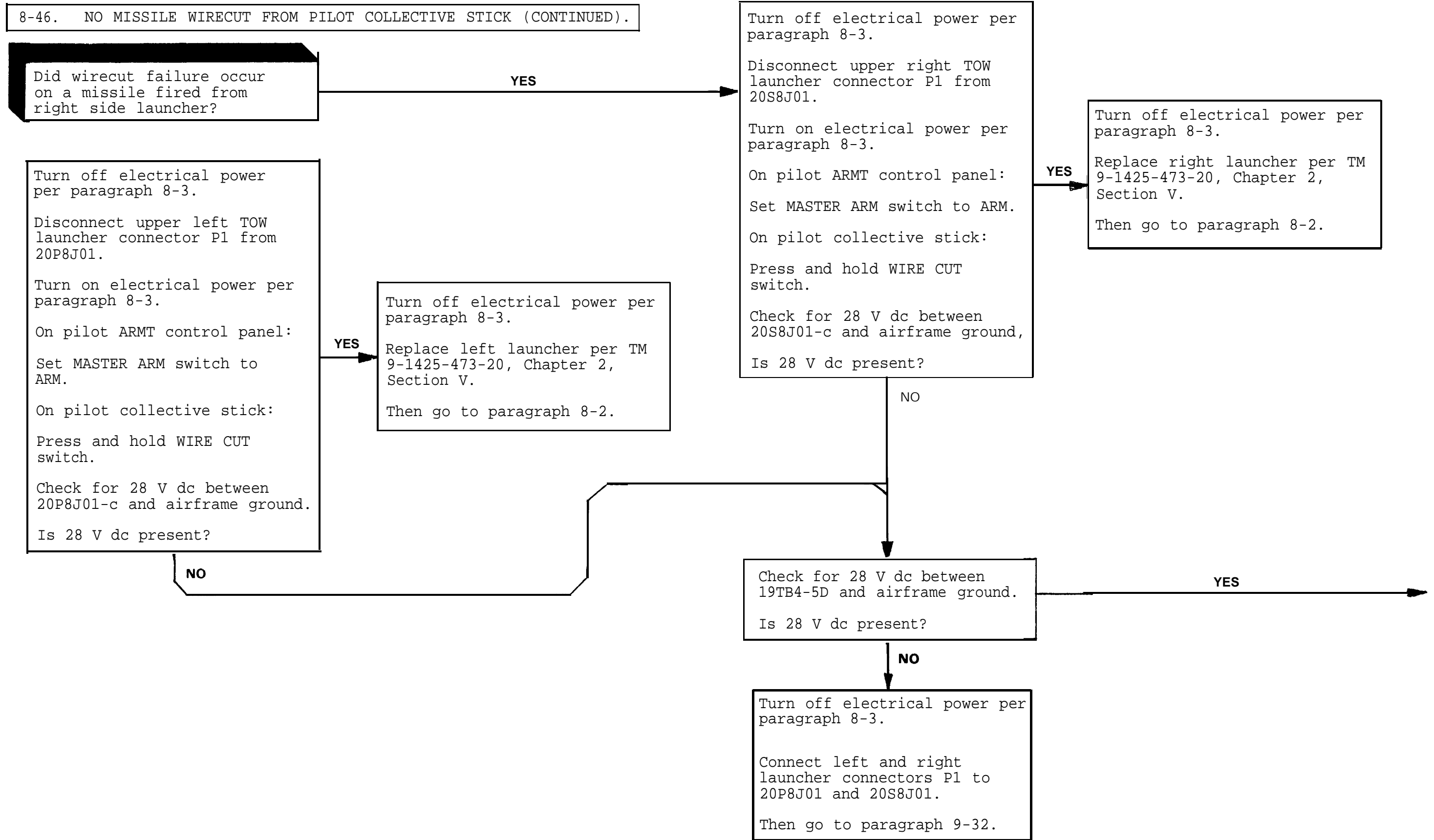
PILOT ARMT CONTROL PANEL

PILOT COLLECTIVE STICK

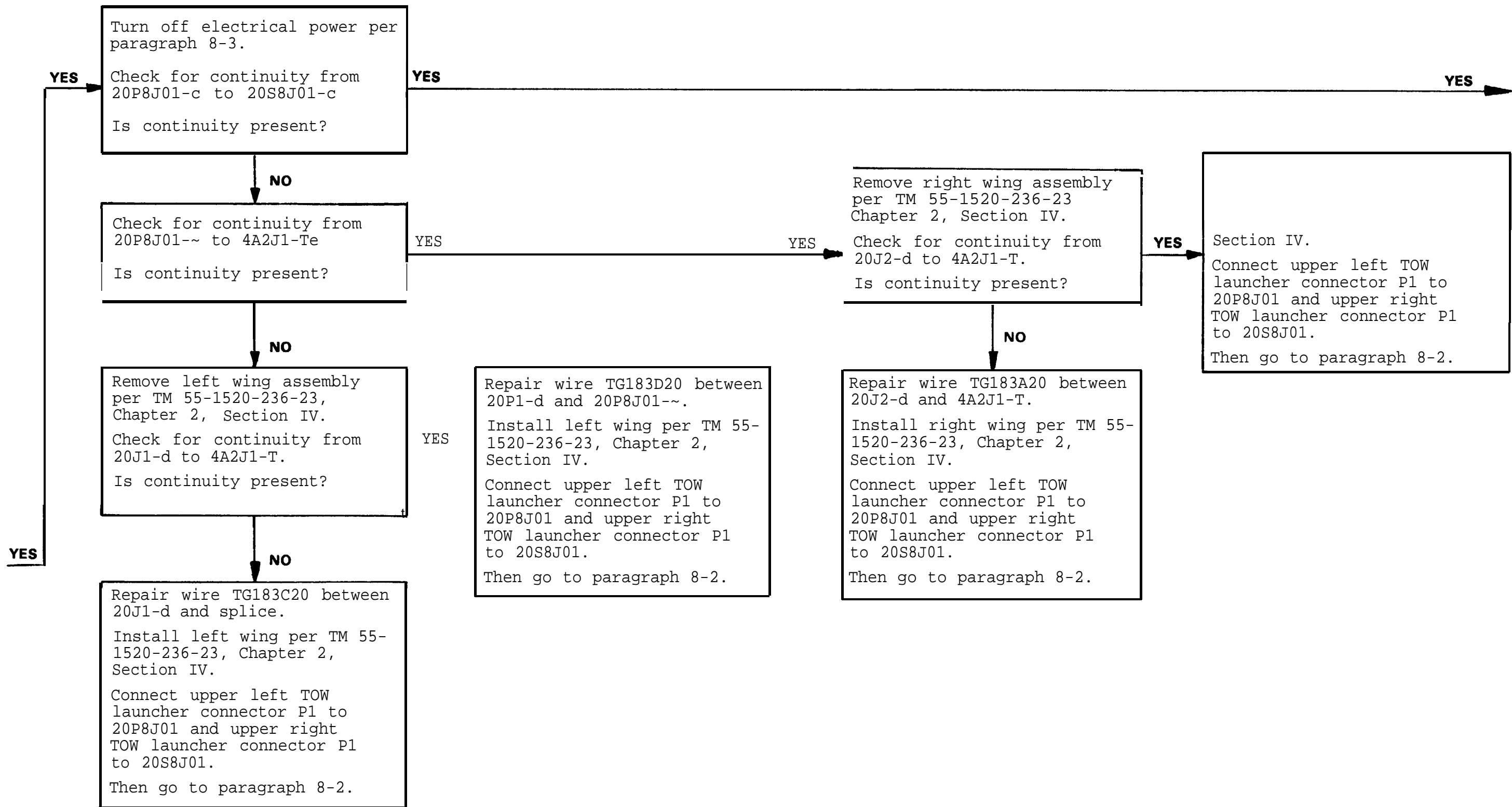
PILOT STATION

8-46. NO MISSILE WIRECUT FROM PILOT COLLECTIVE STICK (CONTINUED).

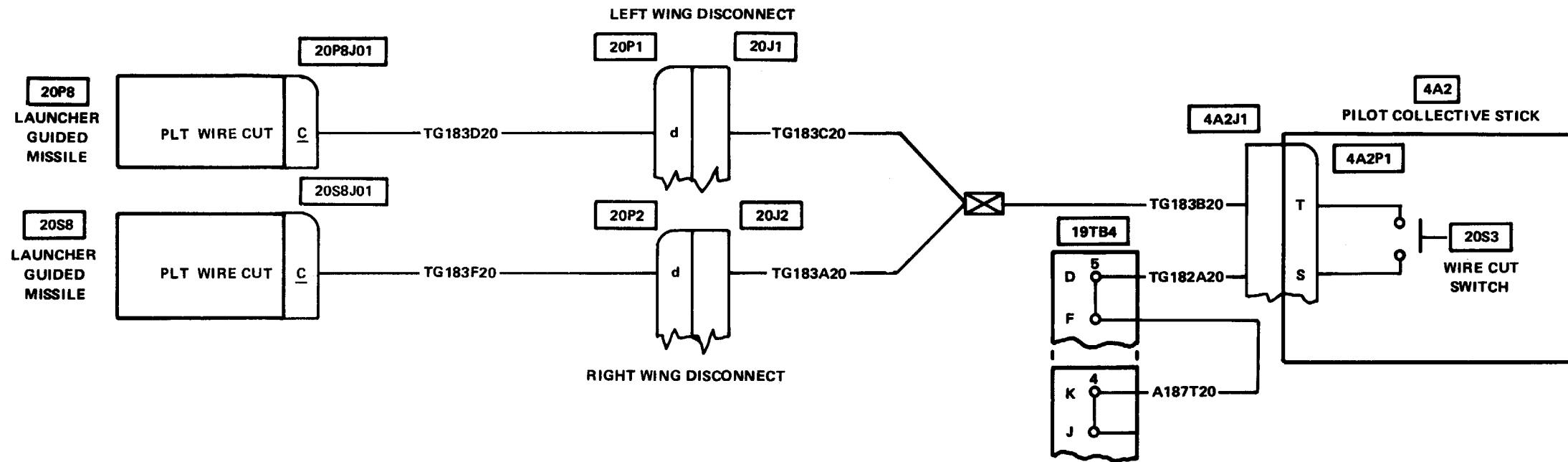
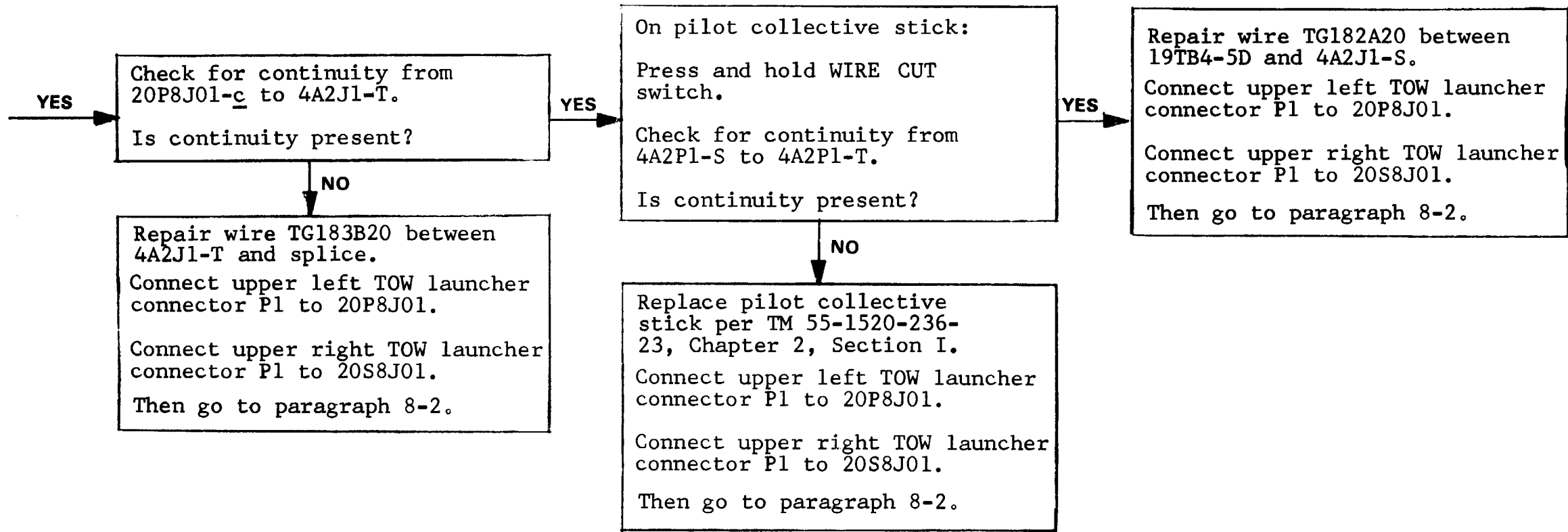




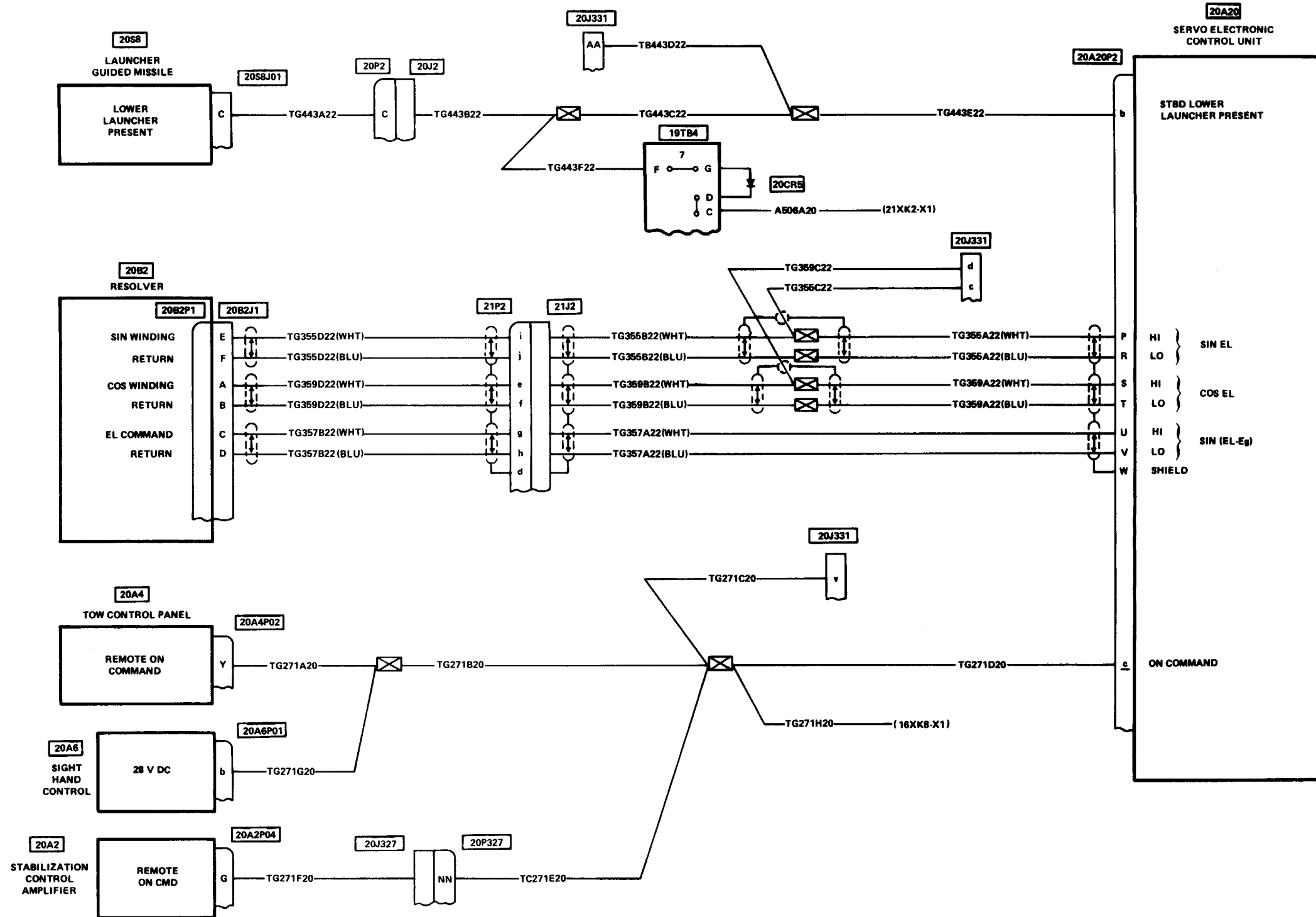
8-46. NO MISSILE WIRECUT FROM PILOT COLLECTIVE STICK (CONTINUED).



8-46. NO MISSILE WIRECUT FROM PILOT COLLECTIVE STICK (CONTINUED).

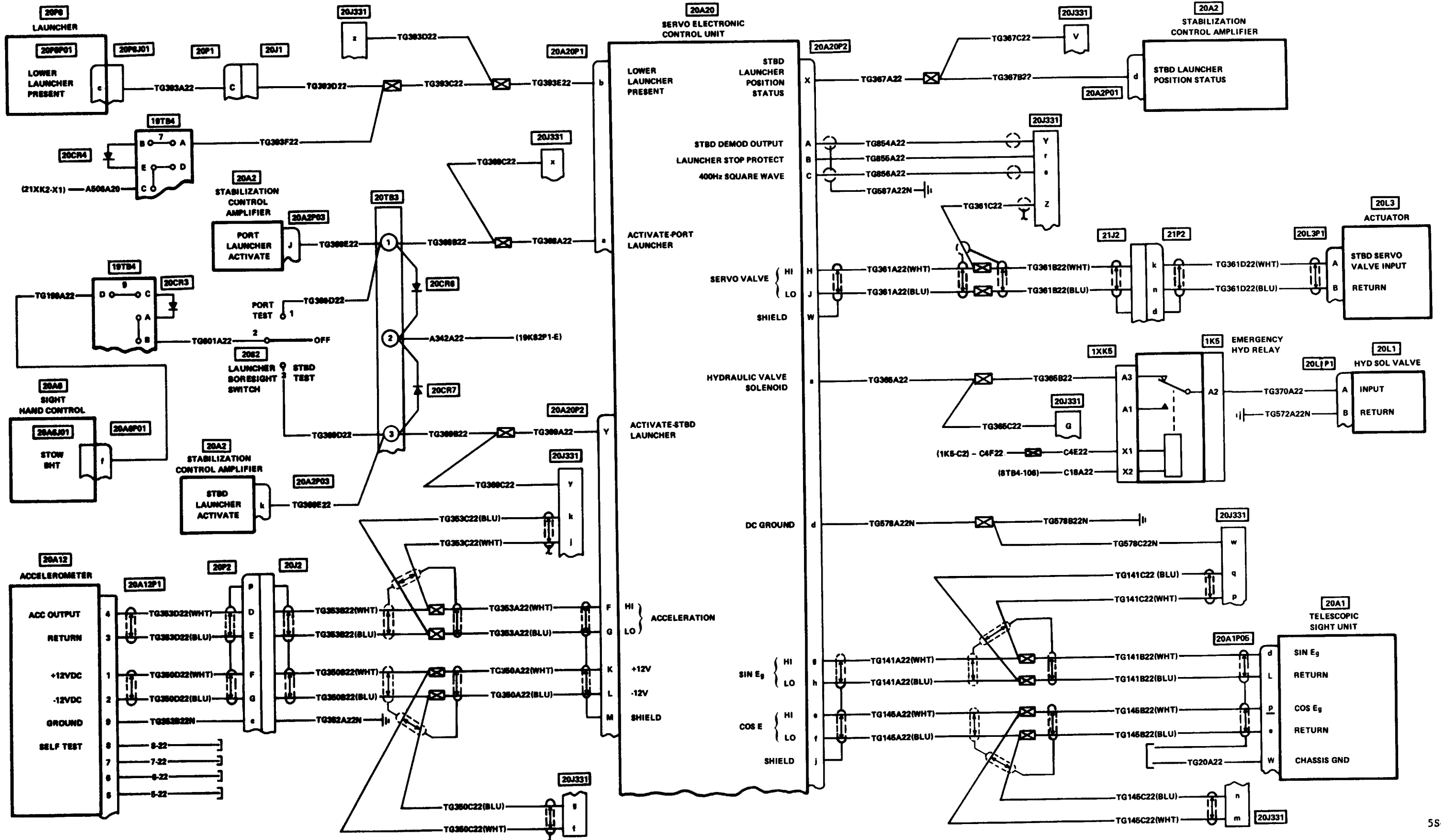


LAUNCHER ARTICULATION (SECU) (Sheet 1 of 7)

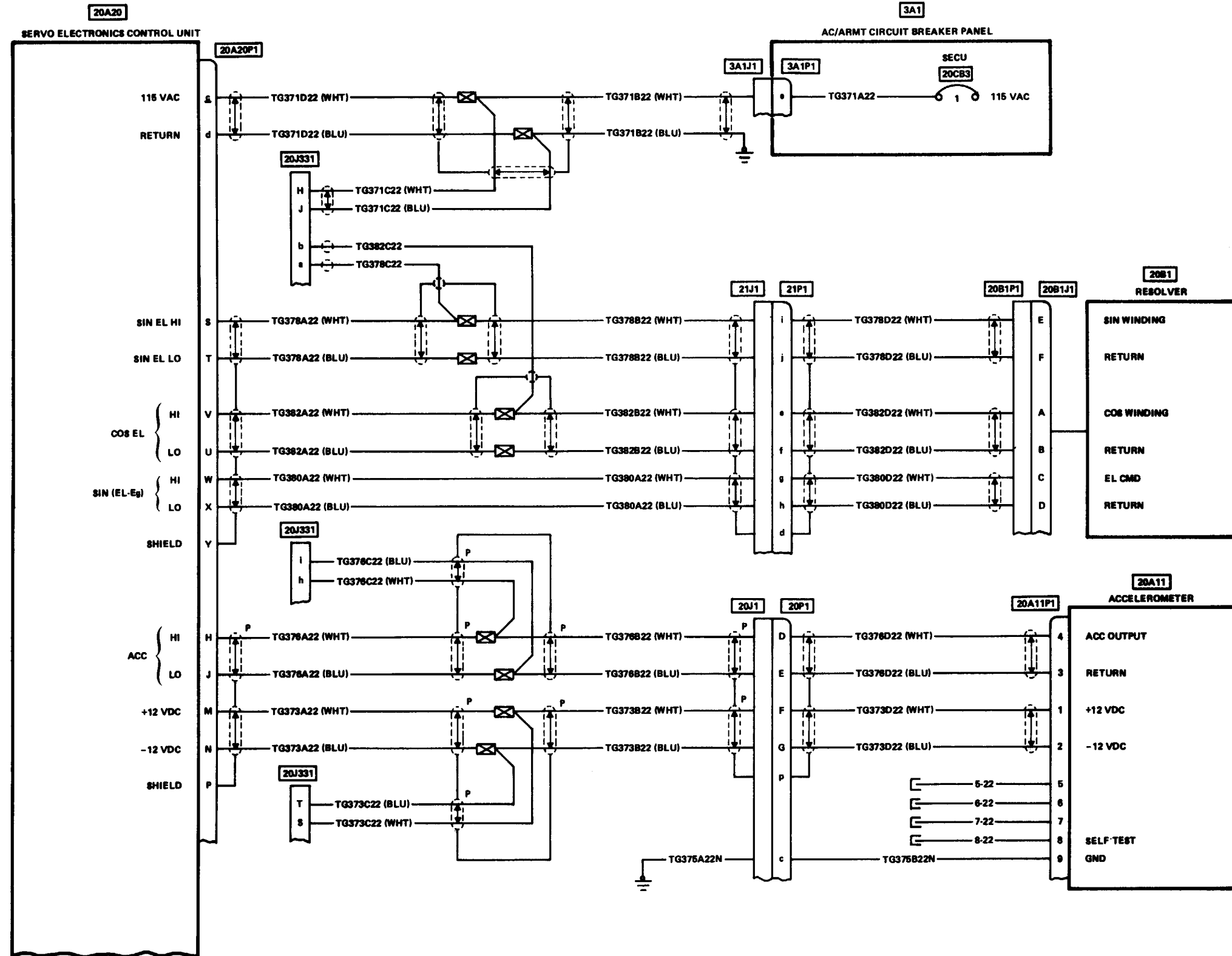


5S-A41

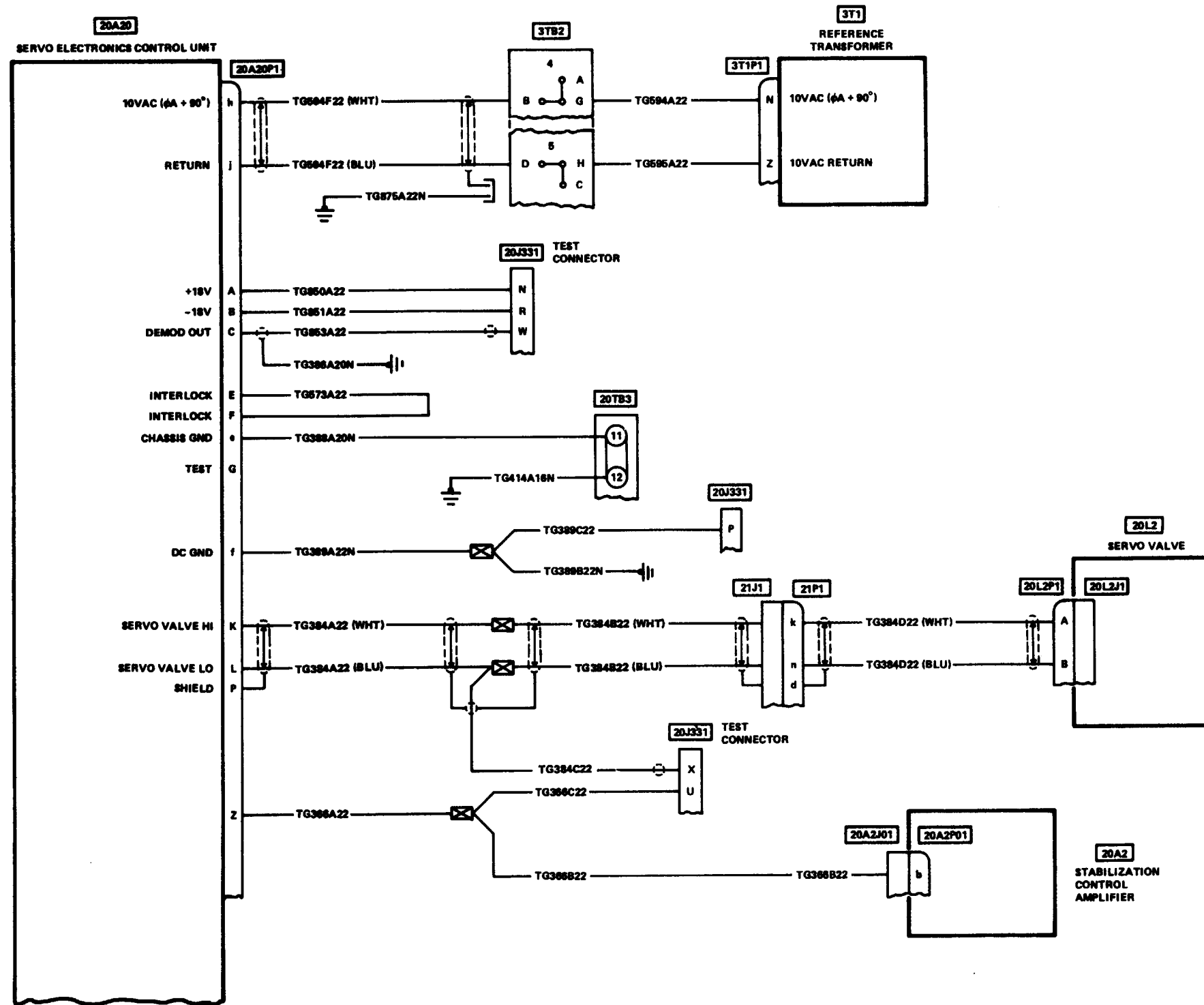
LAUNCHER ARTICULATION (SECU) (Sheet 2 of 7)



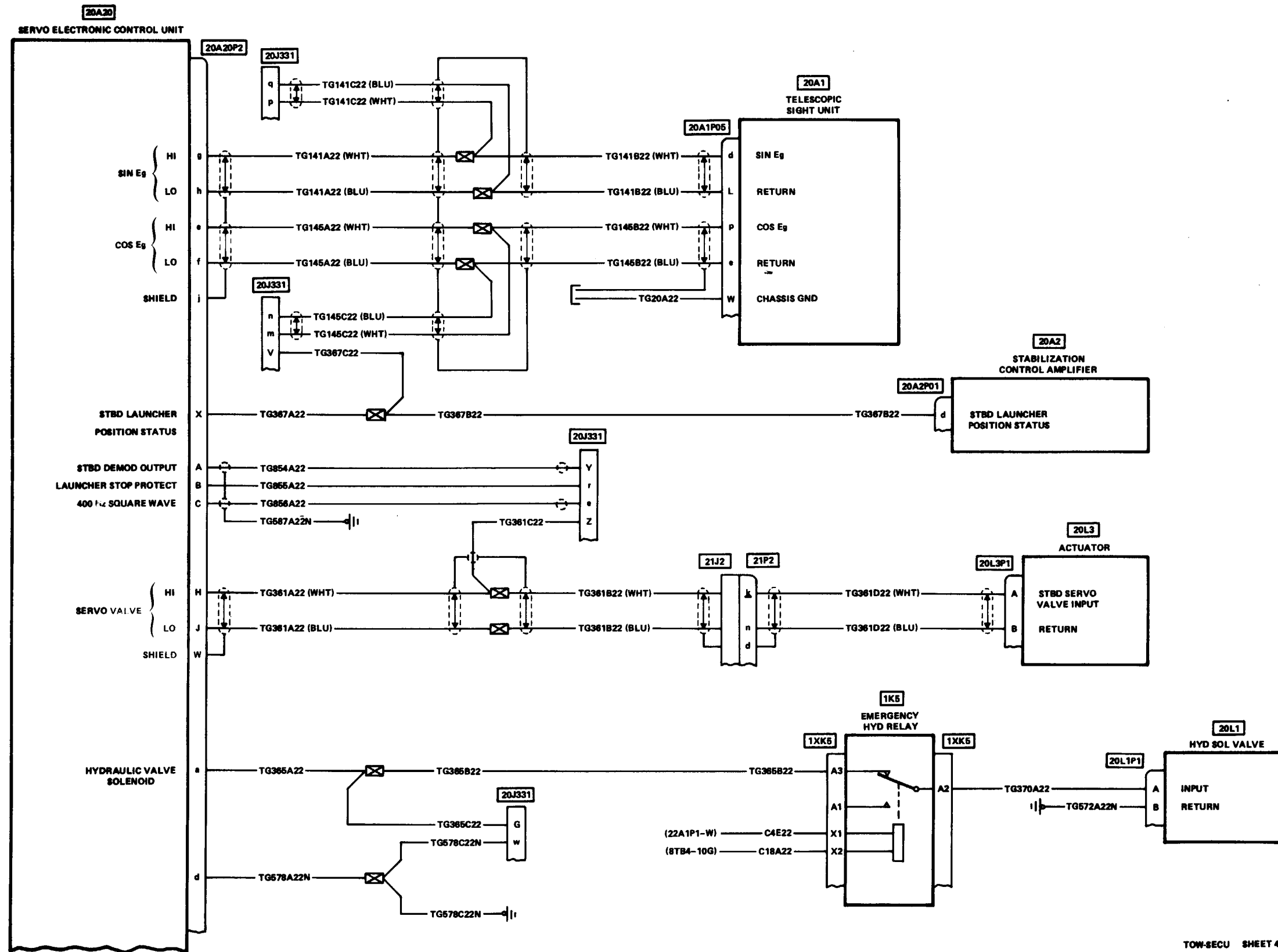
LAUNCHER ARTICULATION (SECU) (Sheet 3 of 7)



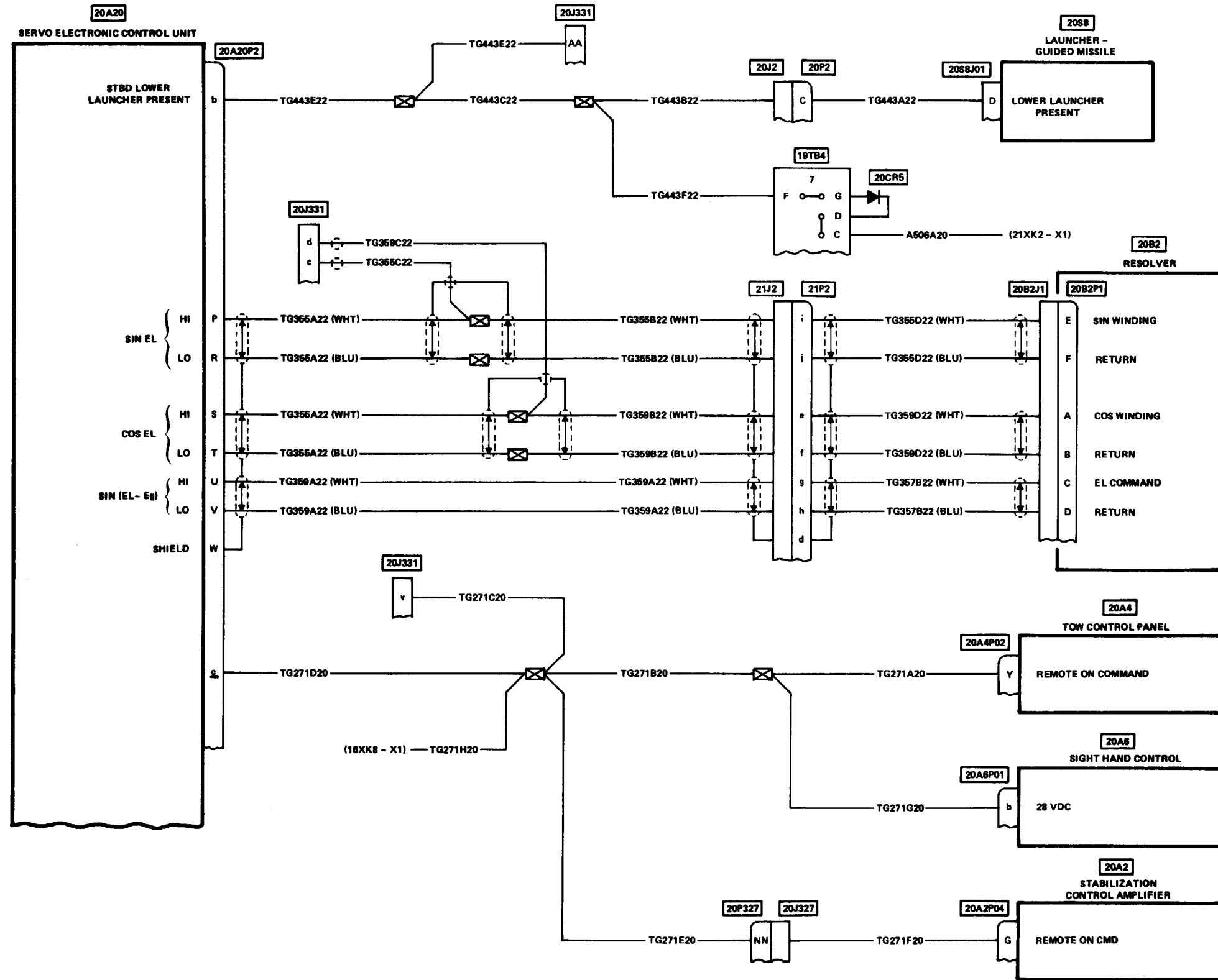
LAUNCHER ARTICULATION (SECU) (Sheet 4 of 7)



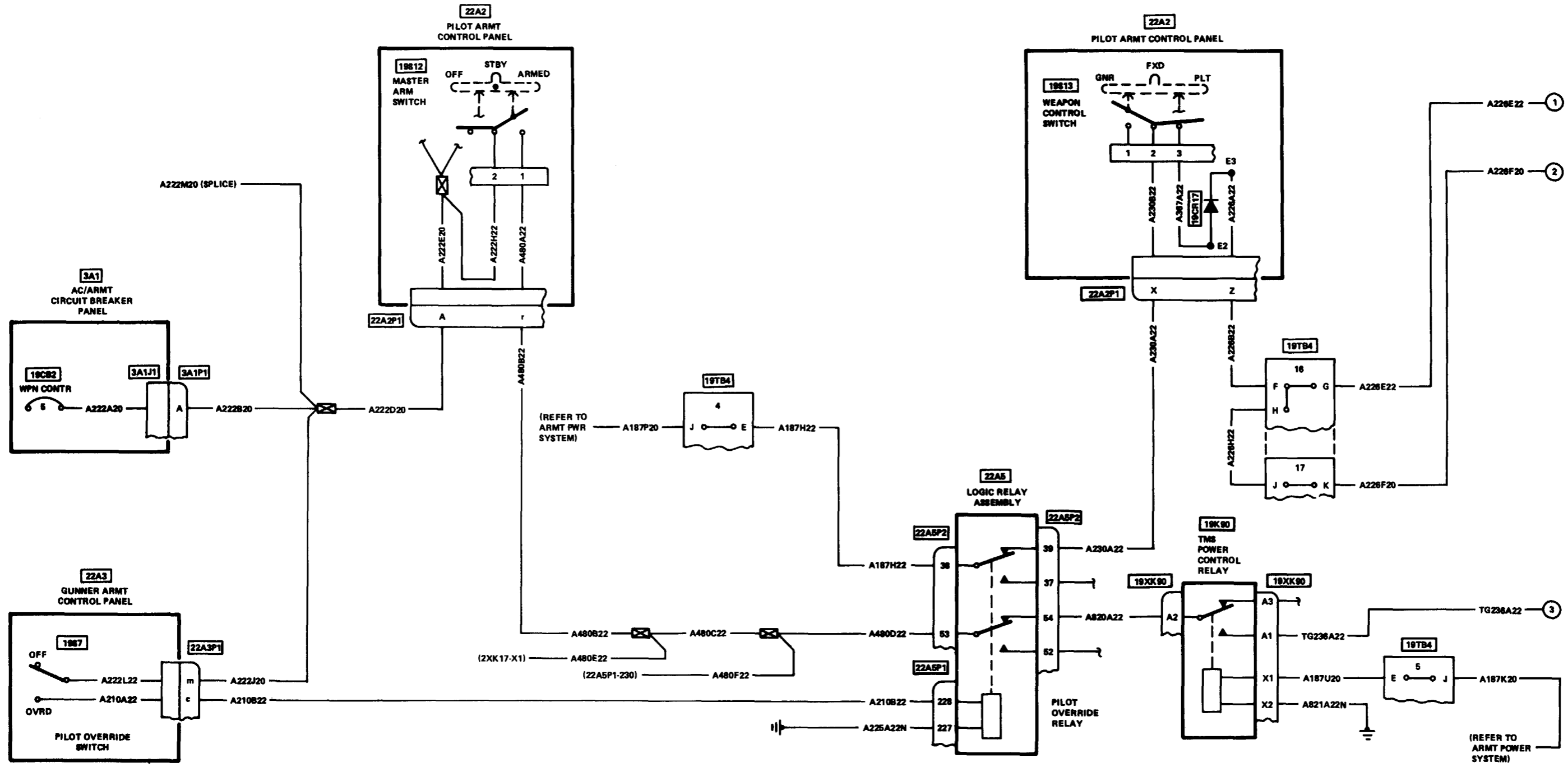
LAUNCHER ARTICULATION (SECU) (Sheet 6 of 7)



LAUNCHER ARTICULATION (SECU) (Sheet 7 of 7)

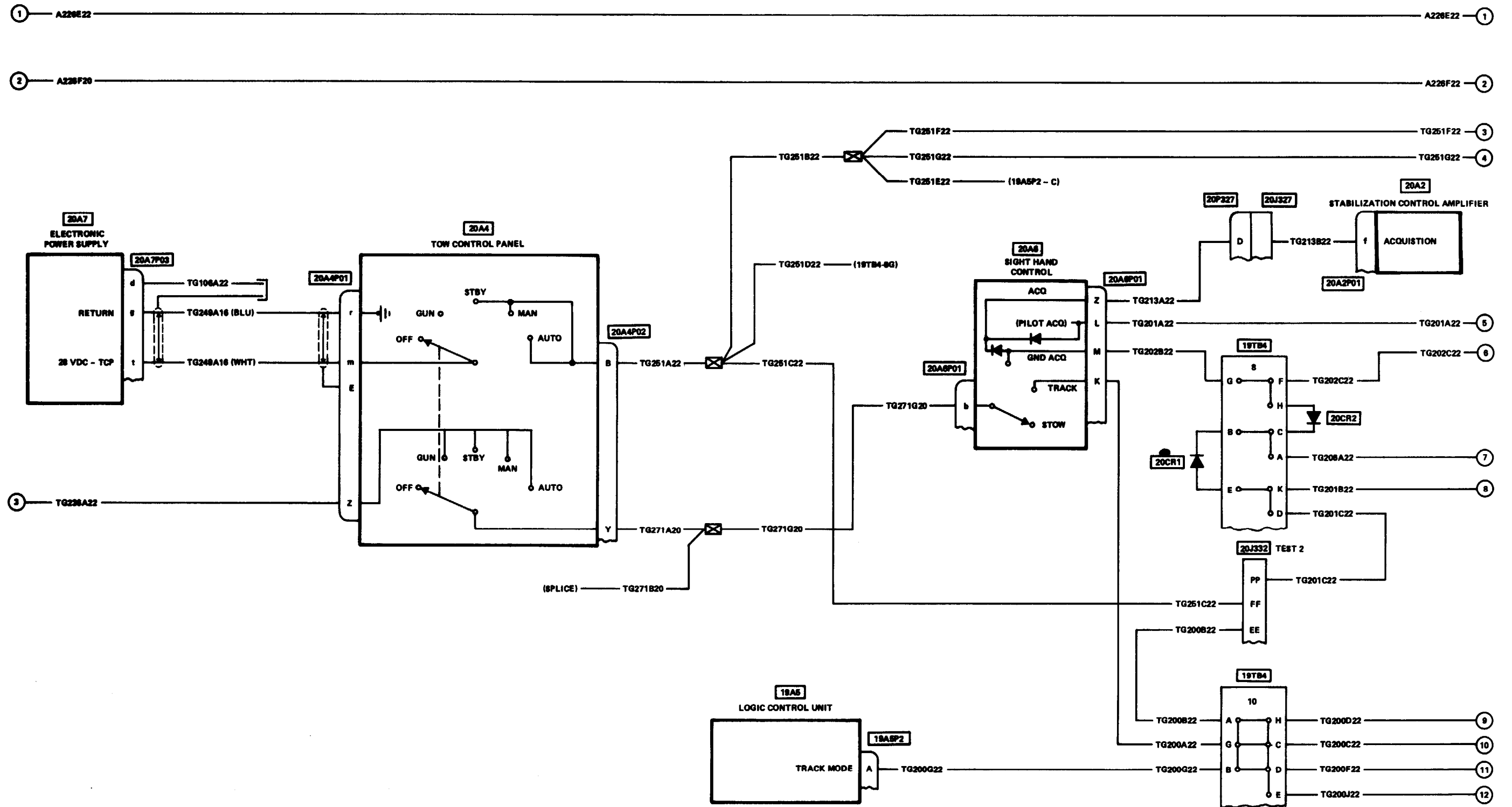


ACQUISITION CONTROL (Sheet 1 of 4)



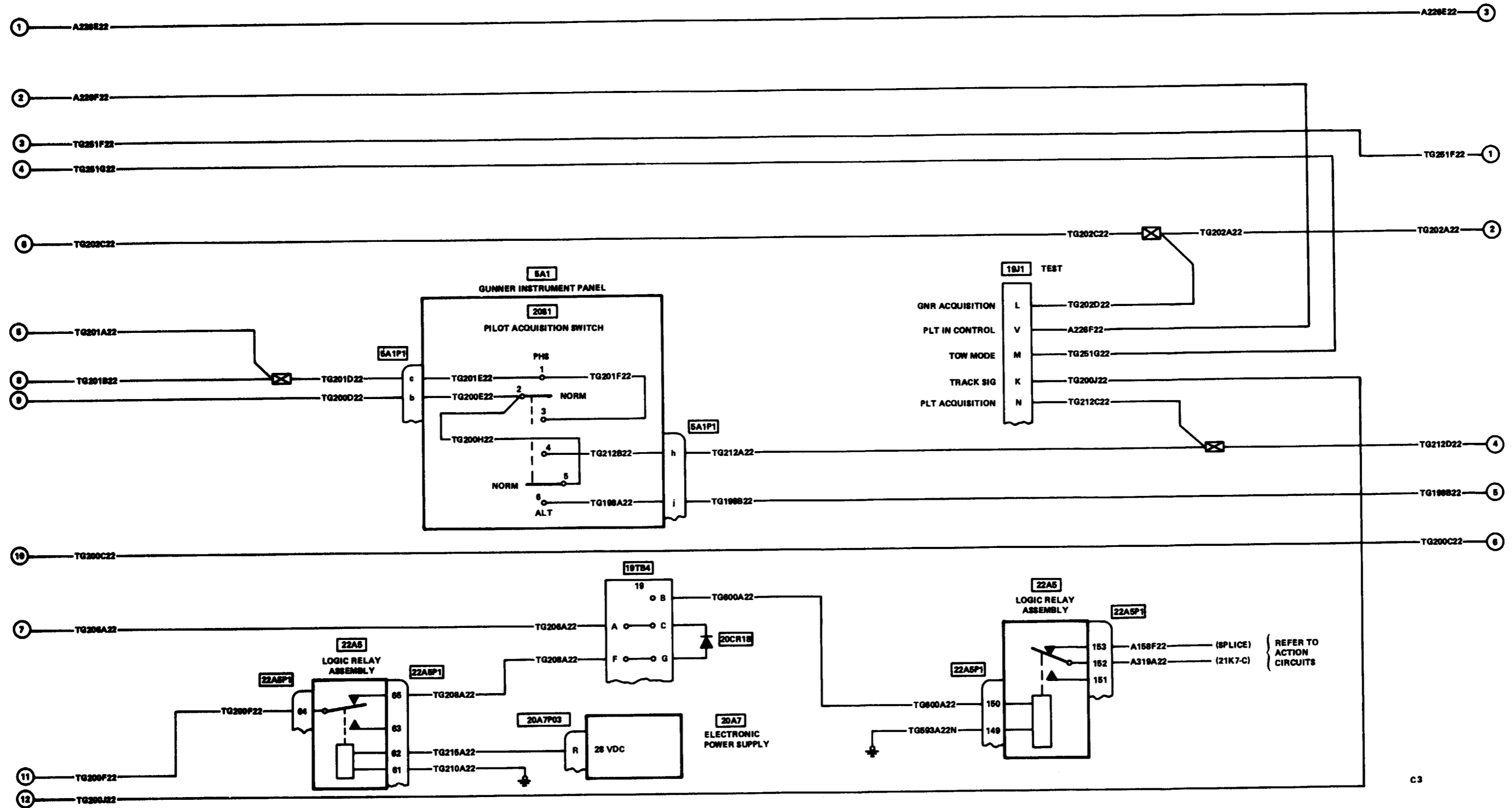
C 1

ACQUISITION CONTROL (Sheet 2 of 4)

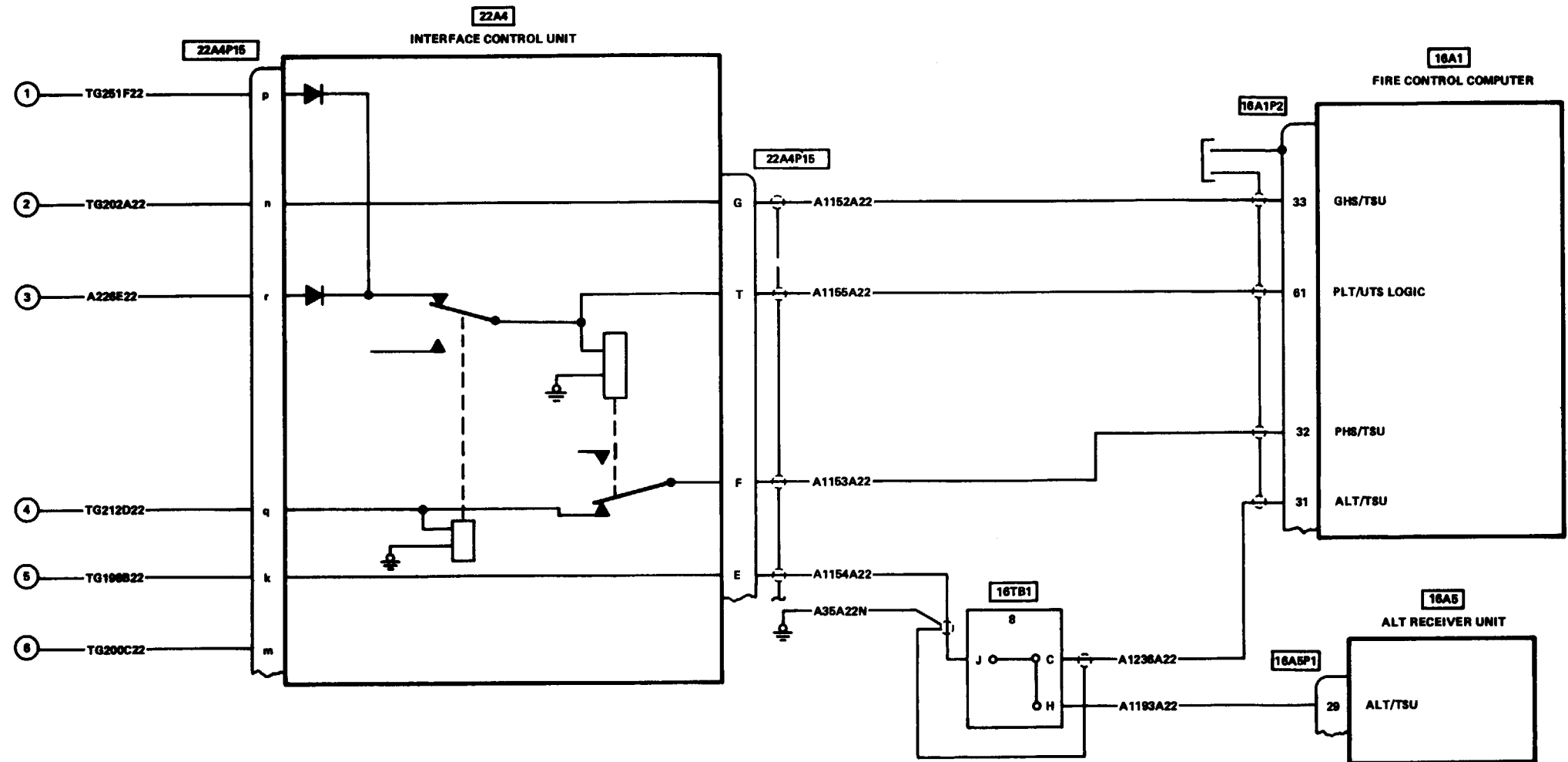


C2

ACQUISITION CONTROL (Sheet 3 of 4)

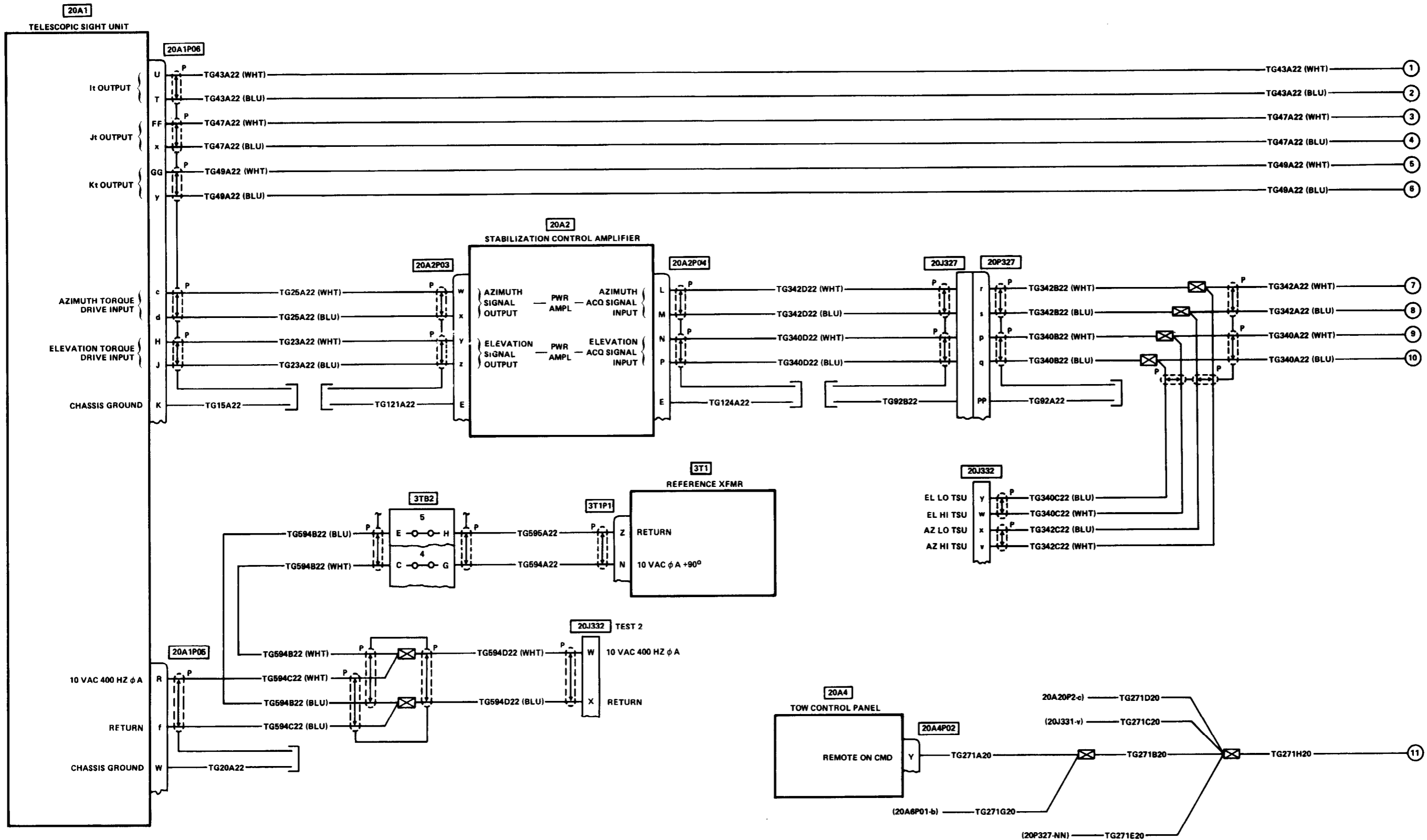


ACQUISITION CONTROL (Sheet 4 of 4)

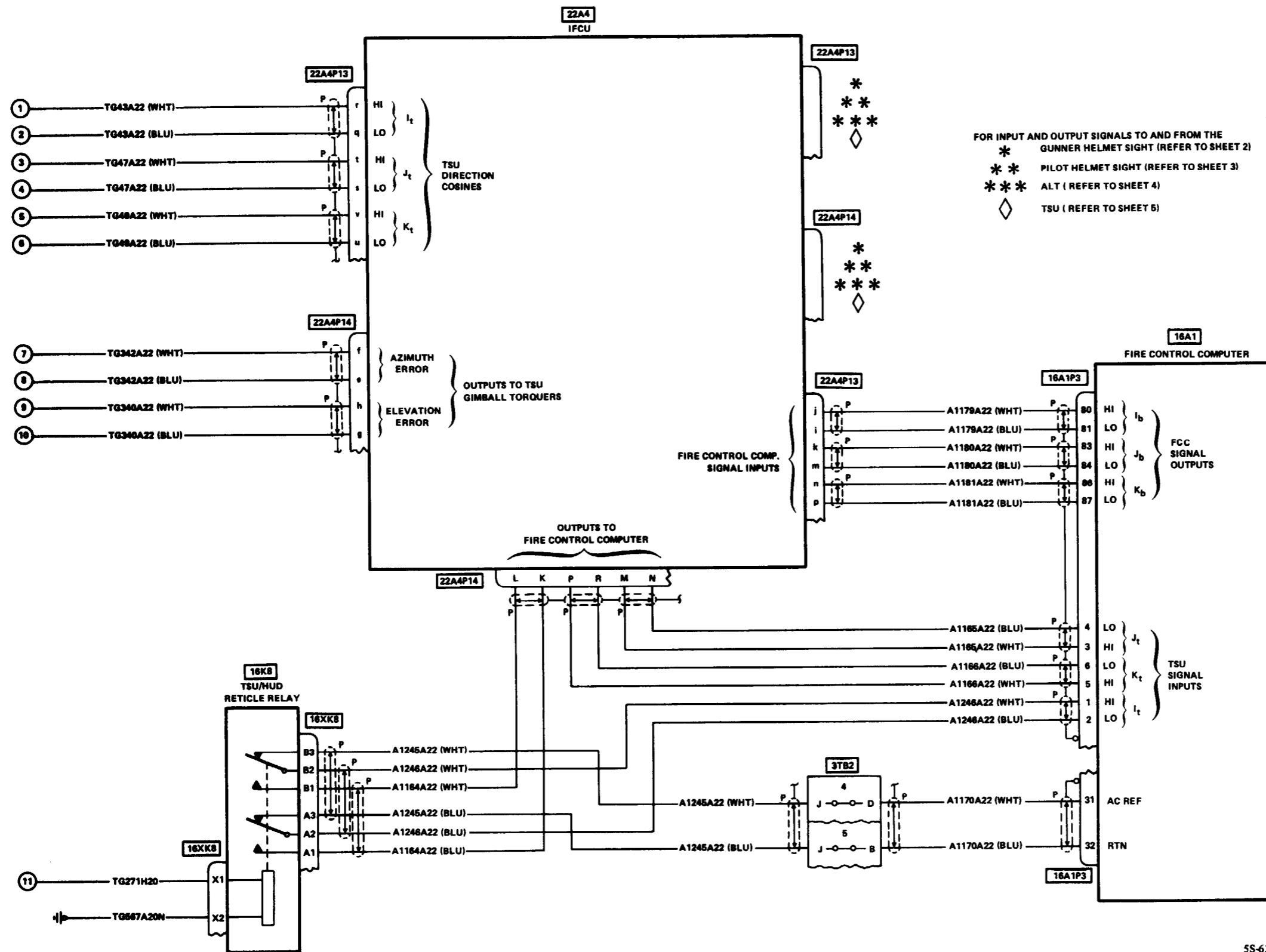


C4

ACQUISITION DRIVE SIGNALS (Sheet 1 of 5)

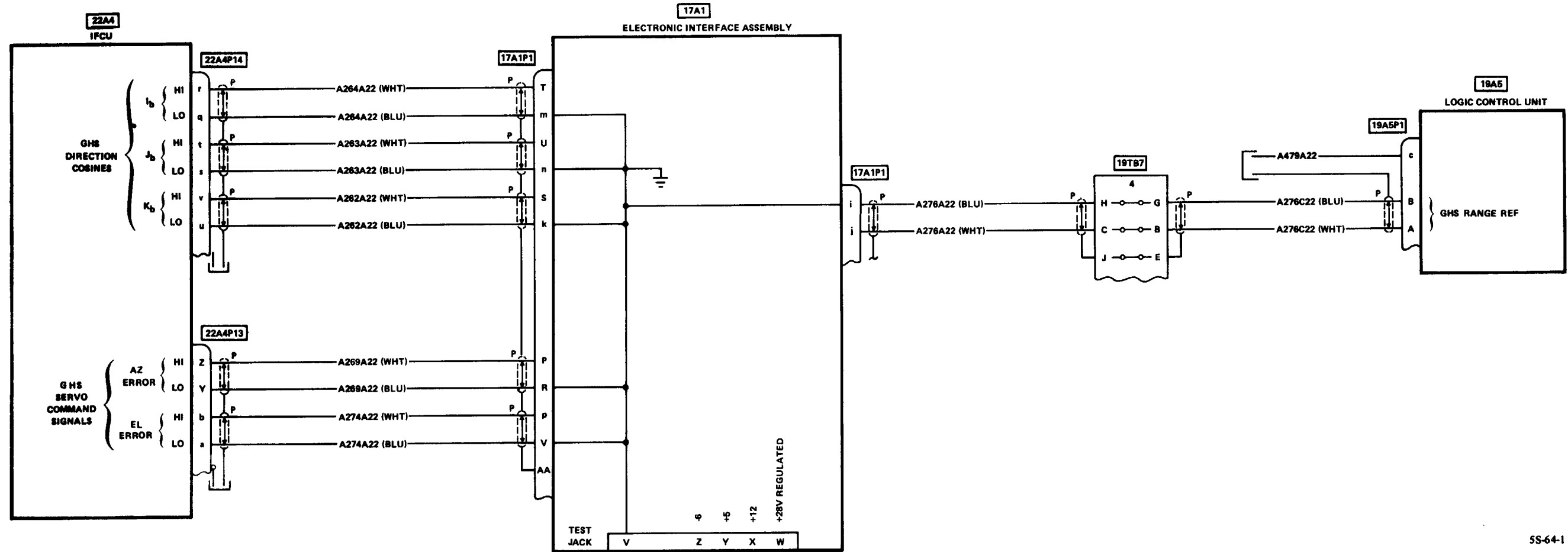


ACQUISITION DRIVE SIGNALS (Sheet 2 of 5)



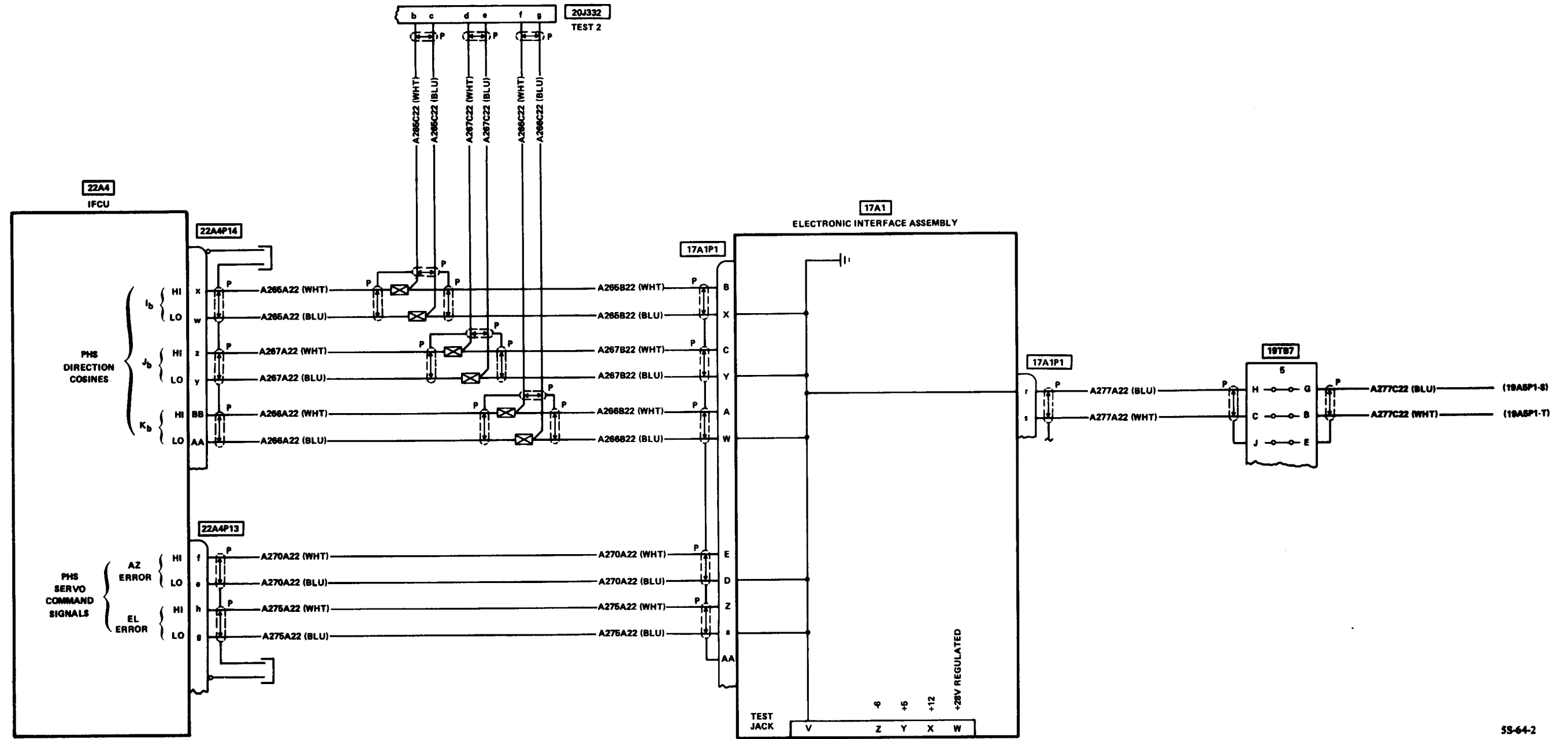
55-63-2

ACQUISITION DRIVE SIGNALS (Sheet 3 of 5)



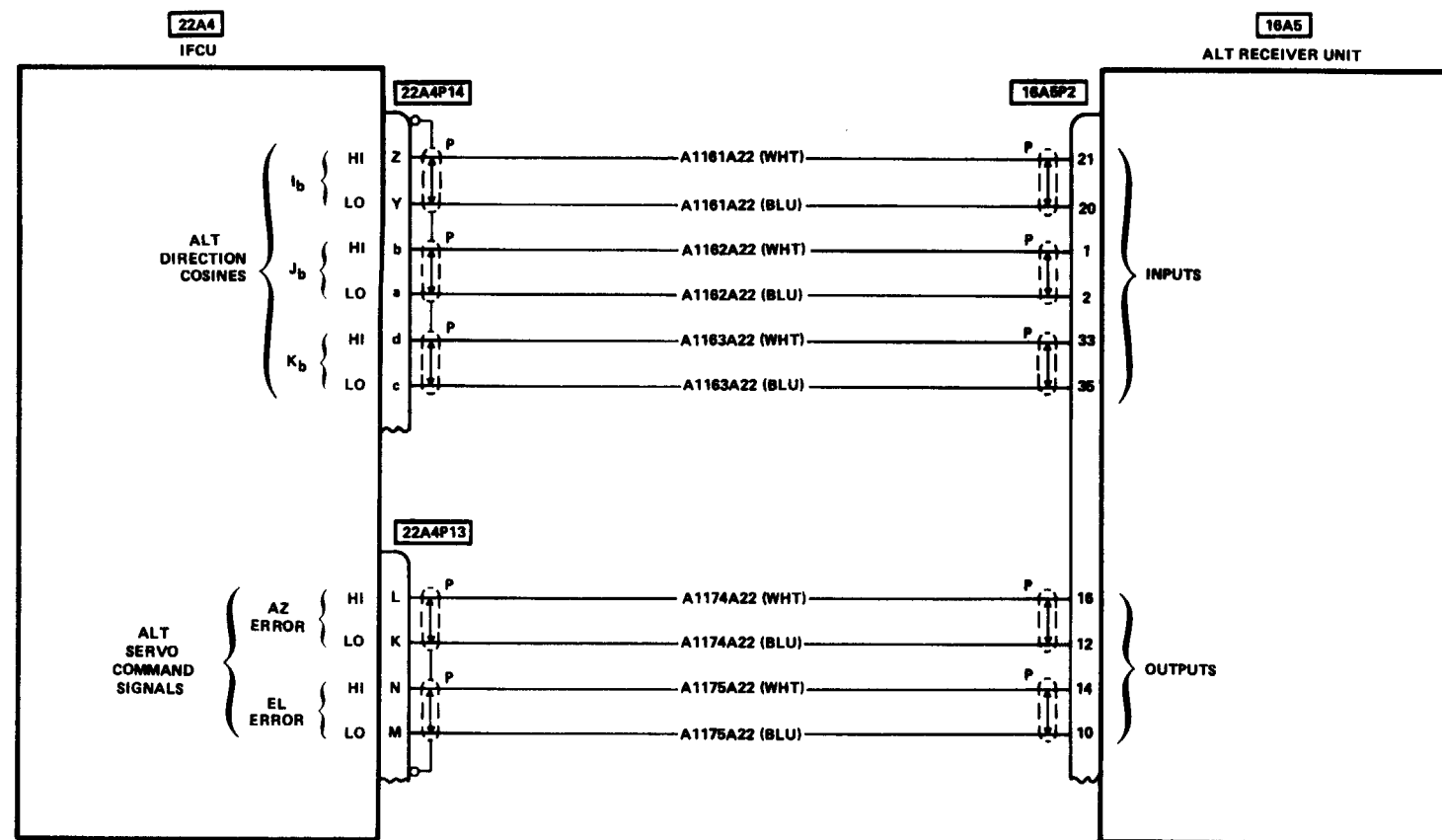
55-64-1

ACQUISITION DRIVE SIGNALS (Sheet 4 of 5)



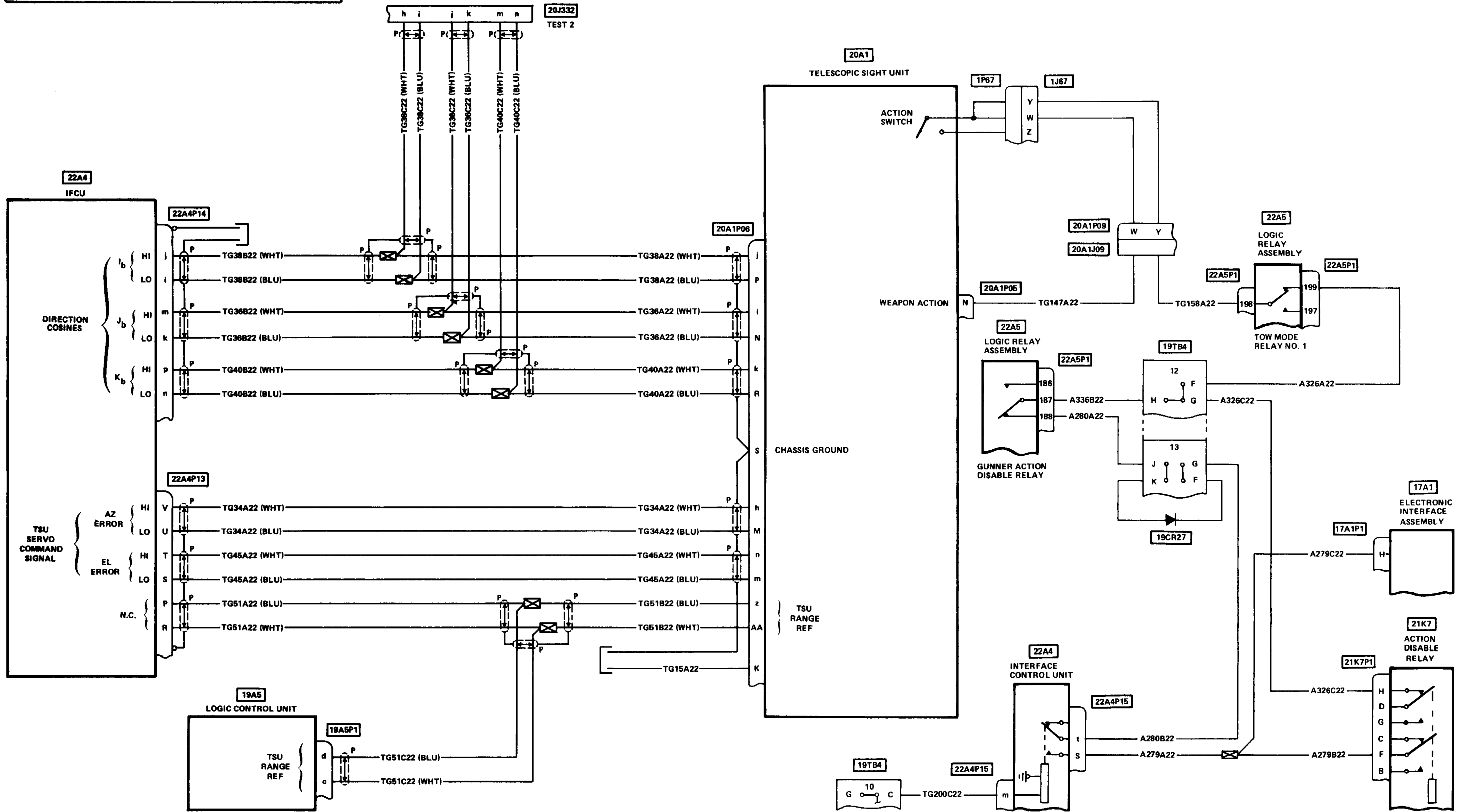
SS-64-2

ACQUISITION DRIVE SIGNALS (Sheet 5 of 5)

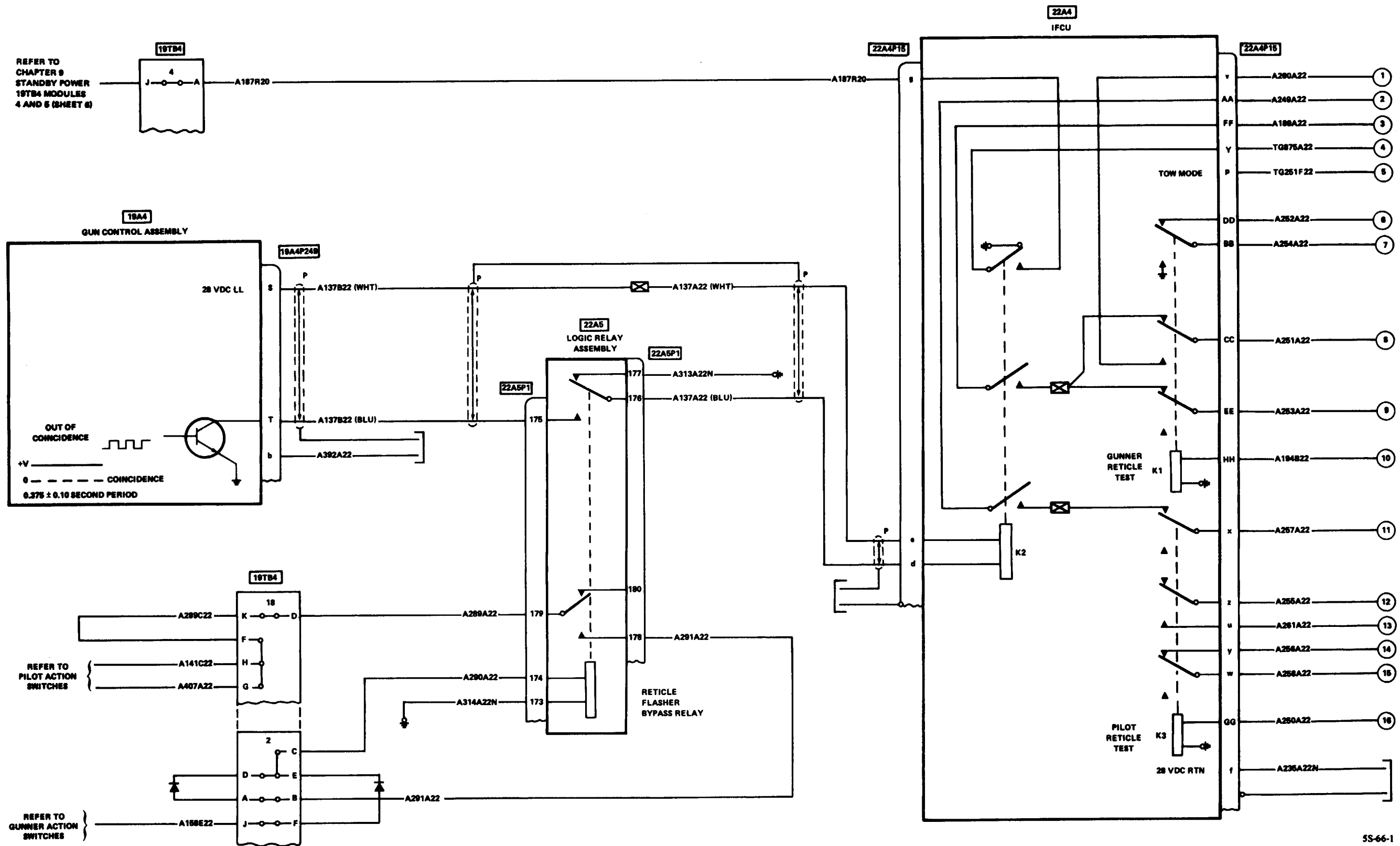


55-64-3

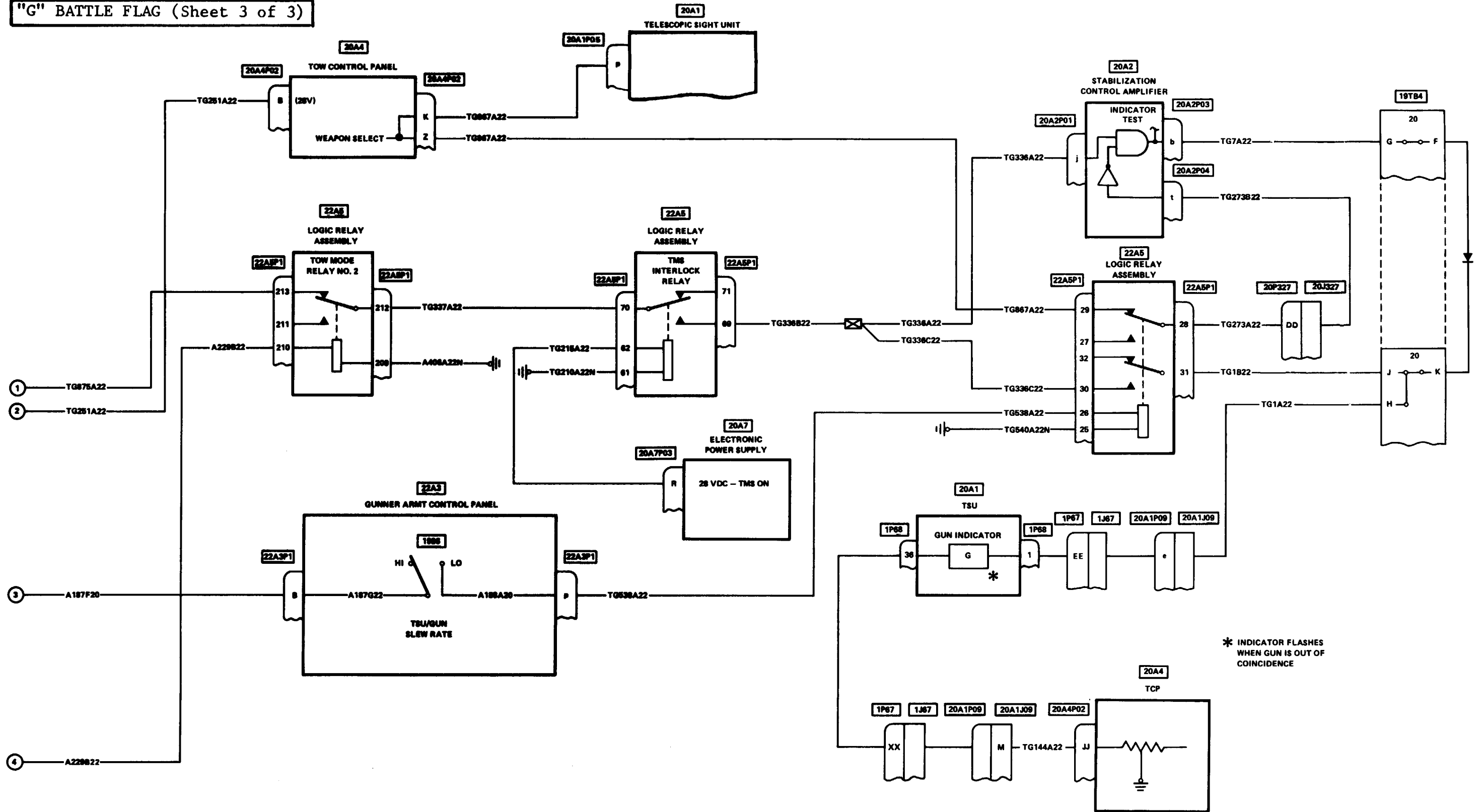
TURRET DRIVE SIGNALS (TSU TO IFCU)



"G" BATTLE FLAG (Sheet 1 of 3)

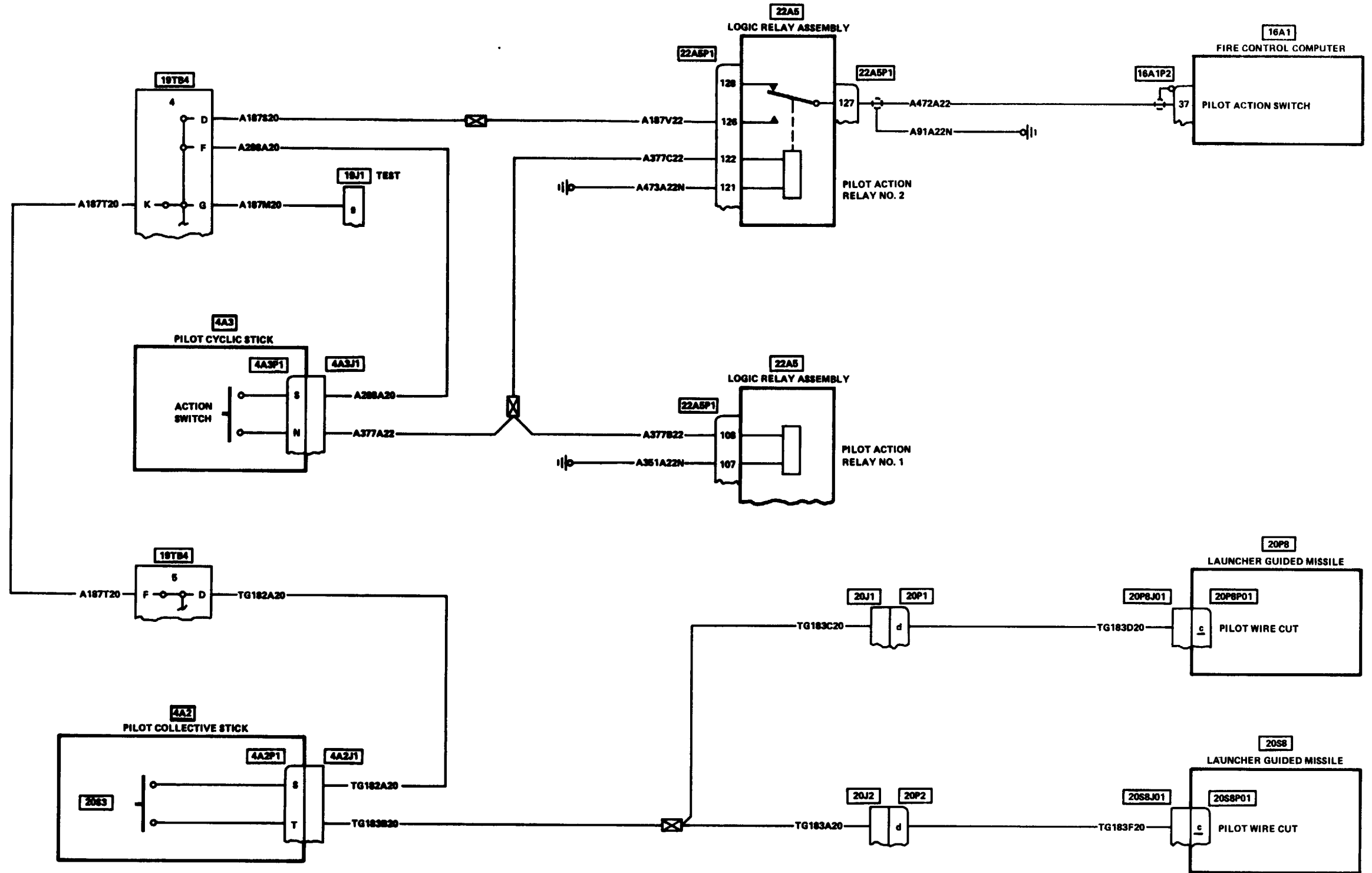


"G" BATTLE FLAG (Sheet 3 of 3)

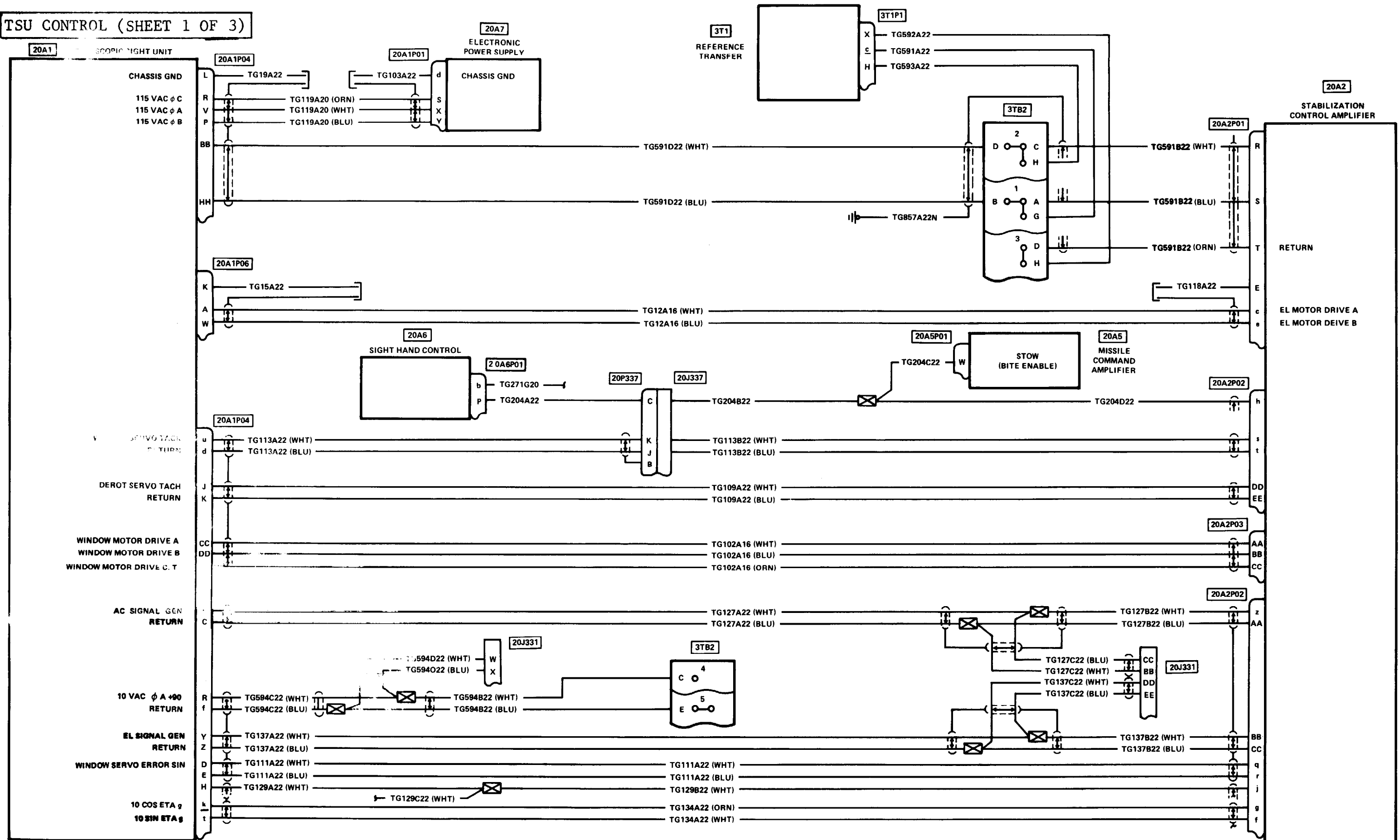


* INDICATOR FLASHES WHEN GUN IS OUT OF COINCIDENCE

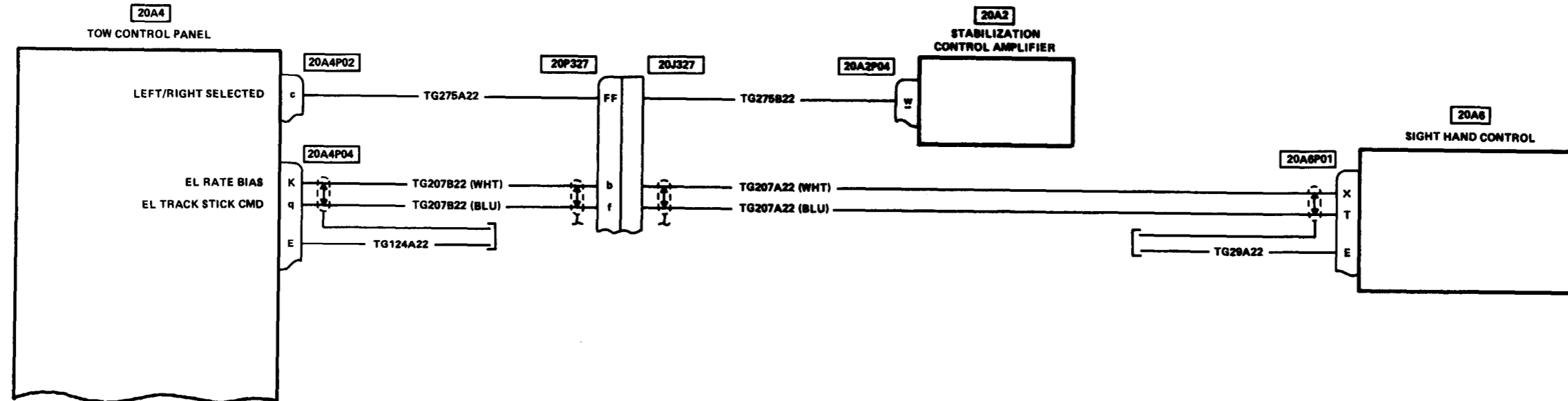
PILOT WIRE CUT



TSU CONTROL (SHEET 1 OF 3)

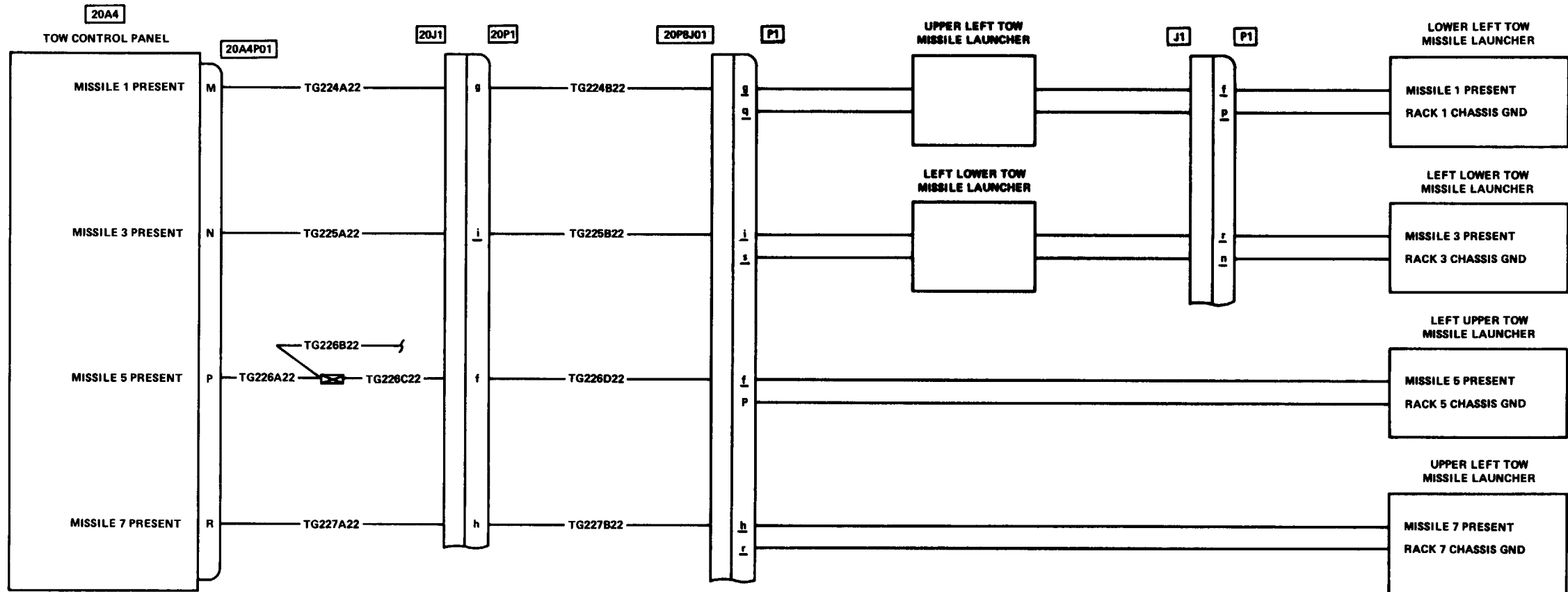


TSU CONTROL (SHEET 3 OF 3)



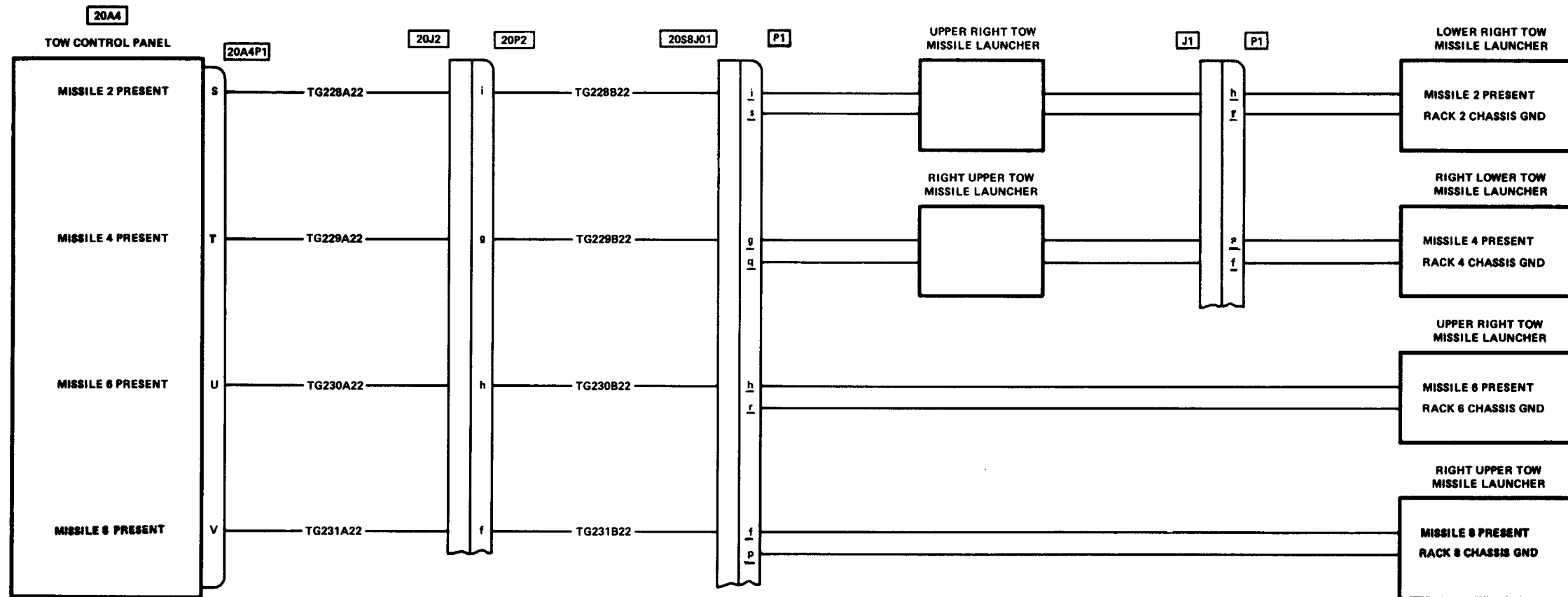
55-102

MISSILE PRESENT (SHEET 1 OF 2)

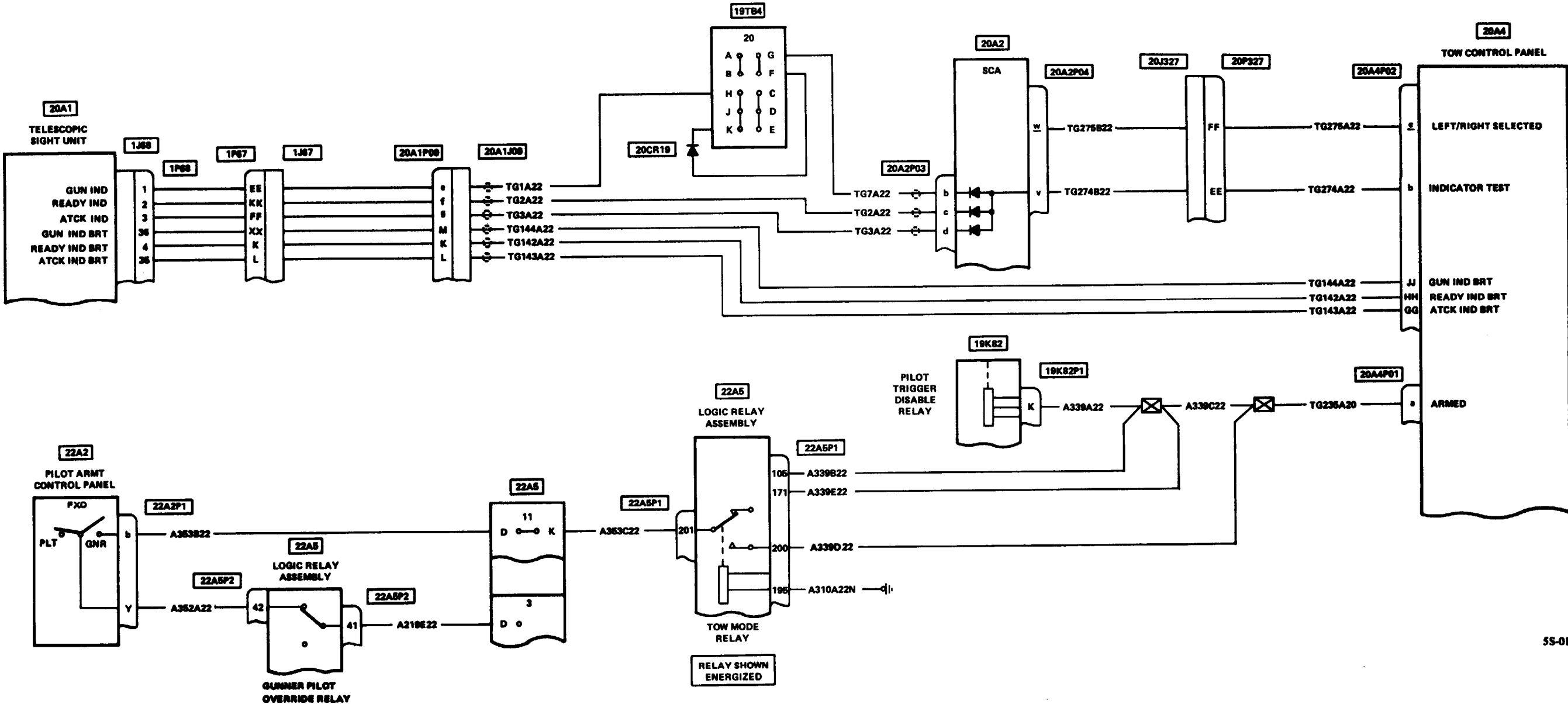


5S-3

MISSILE PRESENT (SHEET 2 OF 2)

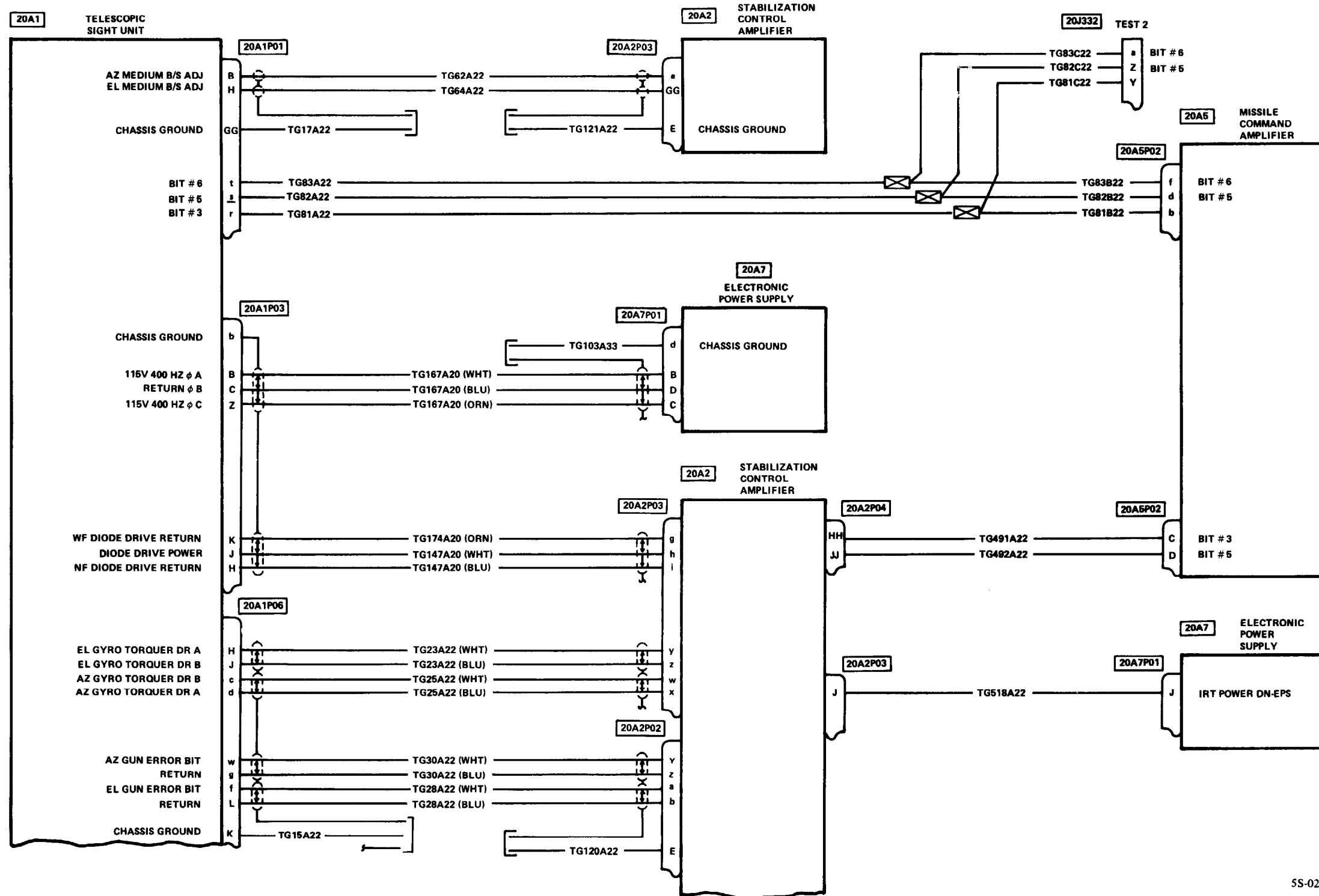


TCP BIT AND INDICATION (SHEET 1 OF 4)

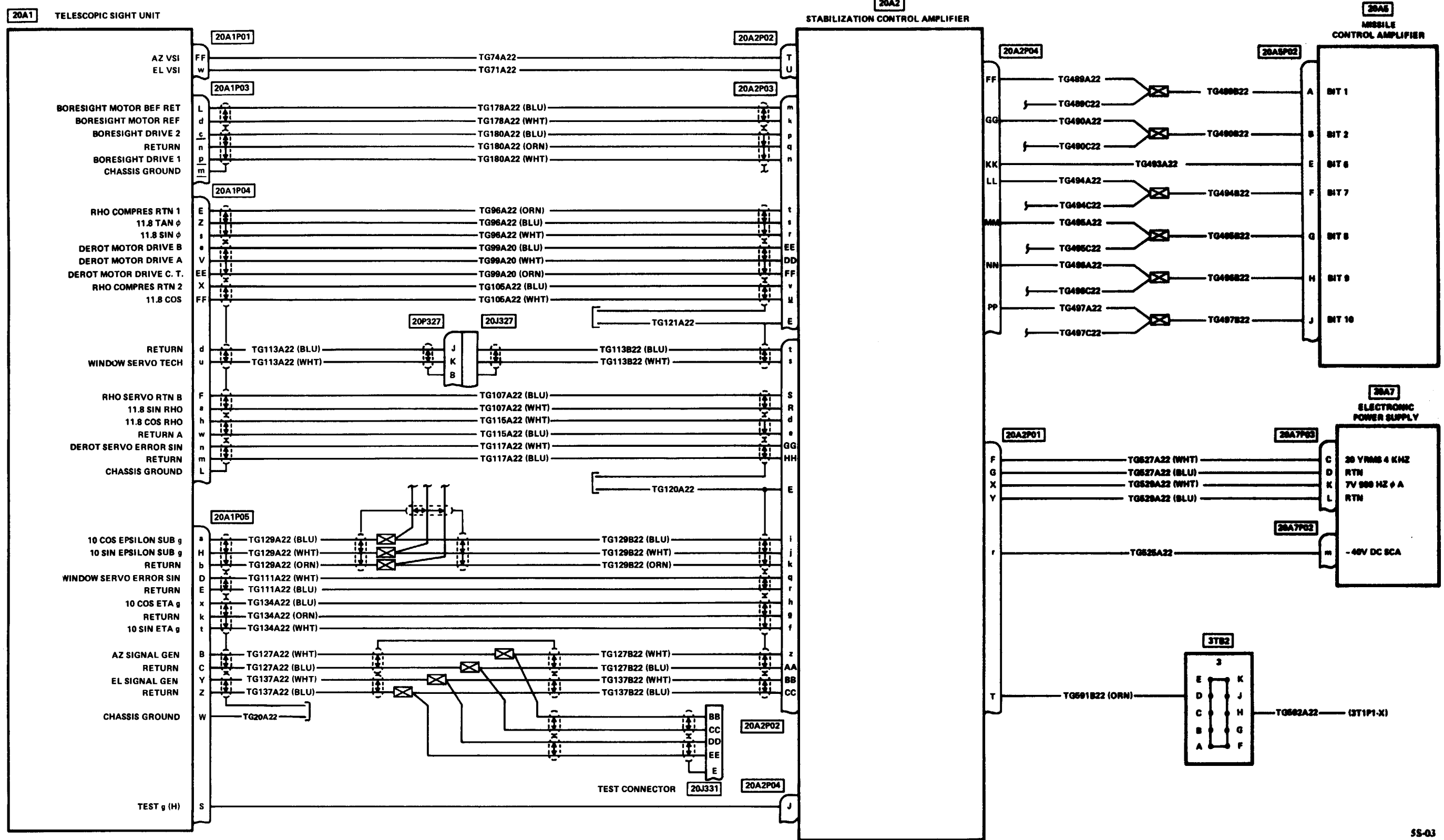


55-01

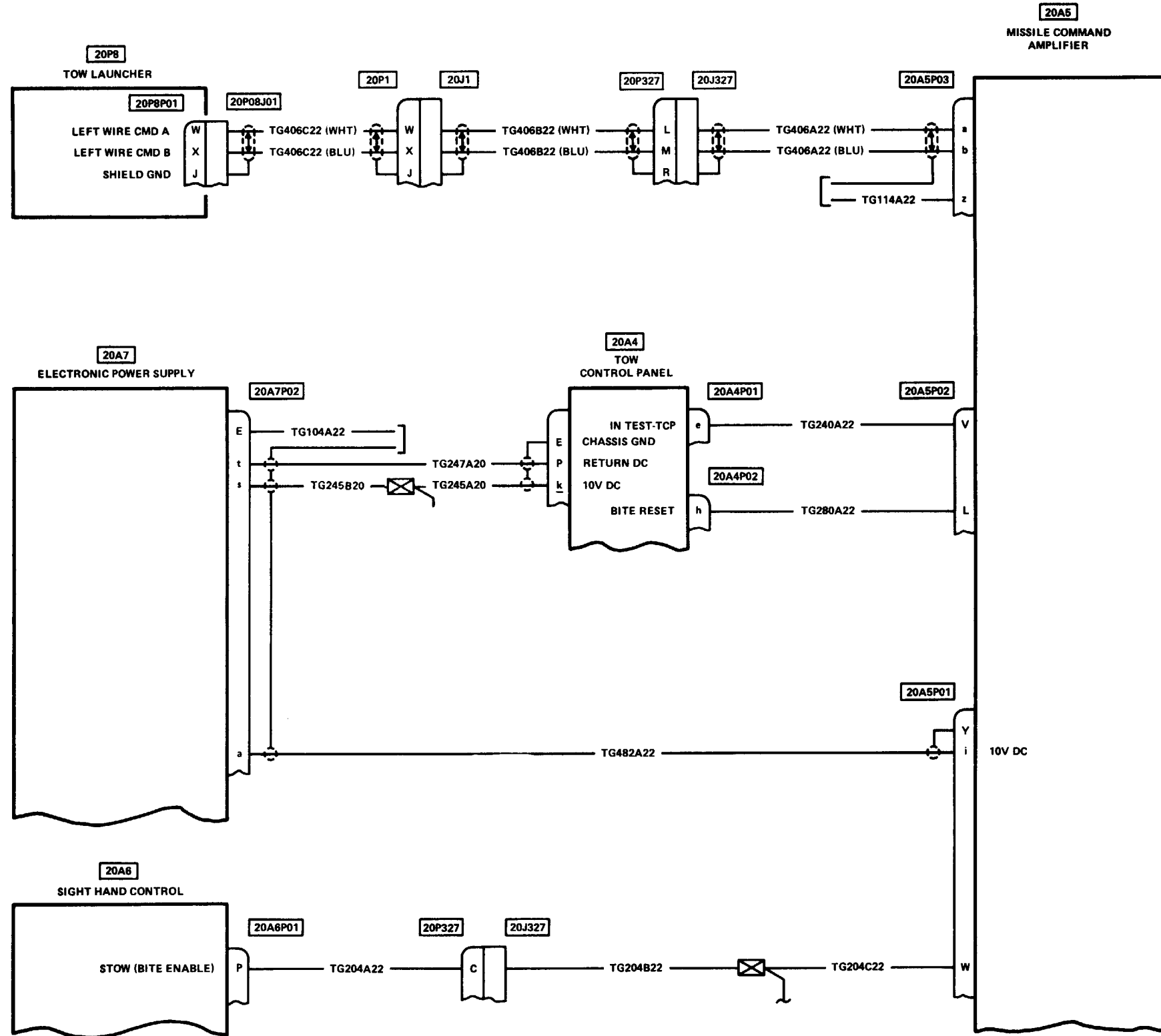
TCP BIT AND INDICATION (SHEET 2 OF 4)



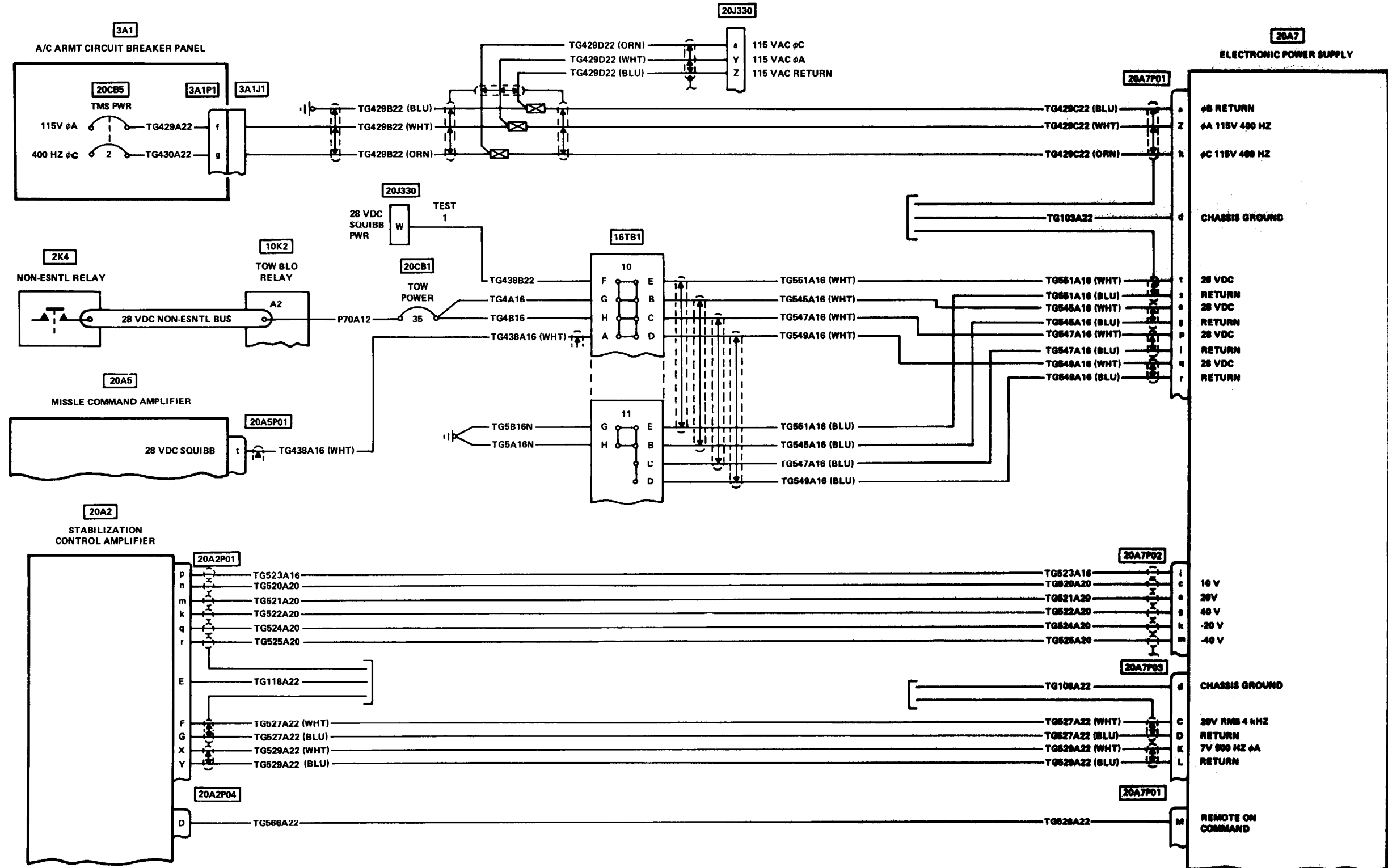
TCP BIT AND INDICATION (SHEET 3 OF 4)



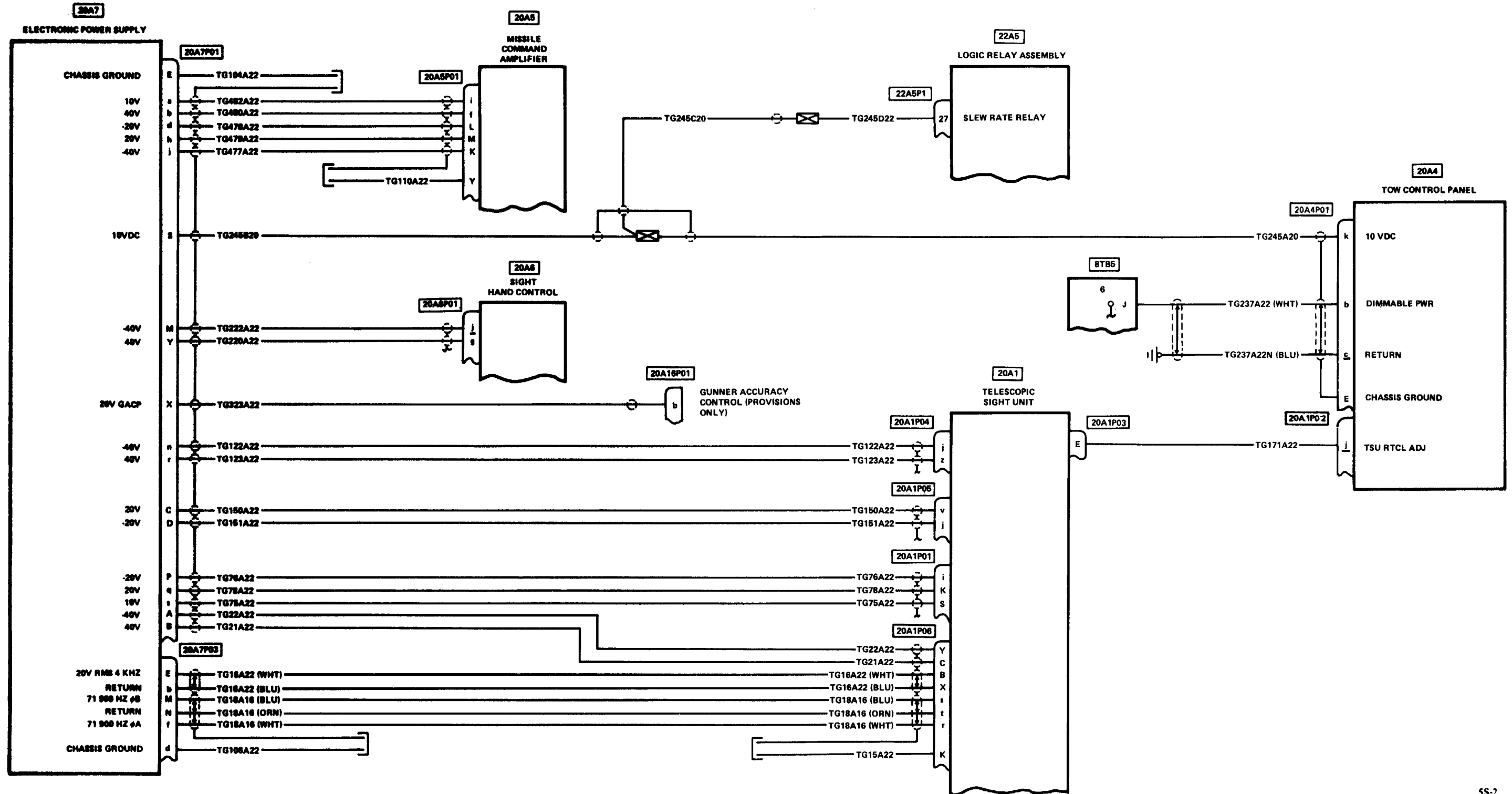
TCP BIT AND INDICATION (SHEET 4 OF 4)



ELECTRONIC POWER SUPPLY AND LIGHTING (SHEET 1 OF 2)



ELECTRONIC POWER SUPPLY AND LIGHTING (SHEET 2 OF 2)



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. LEONARDWOOD, MD 63108

DATE SENT

PUBLICATION NUMBER
TM 55-1520-236-T-2

PUBLICATION DATE
15 June 1983

PUBLICATION TITLE AH-1S (MC)
INTEGRATED ARMAMENT

BE EXACT... PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
6	2-1 a		
B1		4-3	
125	line 20		

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

In line 6 of paragraph 2-1 a the manual states the engine has 6 Cylinders. The engine on 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 by NSN 2 910-00-762-3001. 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

DA FORM 2028-2
1 JUL 79

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DRST5-M Overprint 1, 1 Nov 80

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PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO

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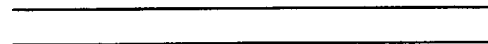
TEAR ALONG PERFORATED LINE

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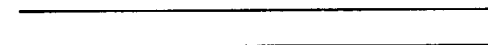
COMMANDER
U.S. ARMY AVIATION AND TROOP COMMAND
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ST. LOUIS, MO 63120-1798

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PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO	

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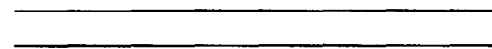
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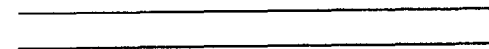
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TEAR ALONG PERFORATED LINE

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 decigrams = .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 milliliters = .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	$\frac{5}{9}$ (after subtracting 32)	Celsius temperature	°C
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