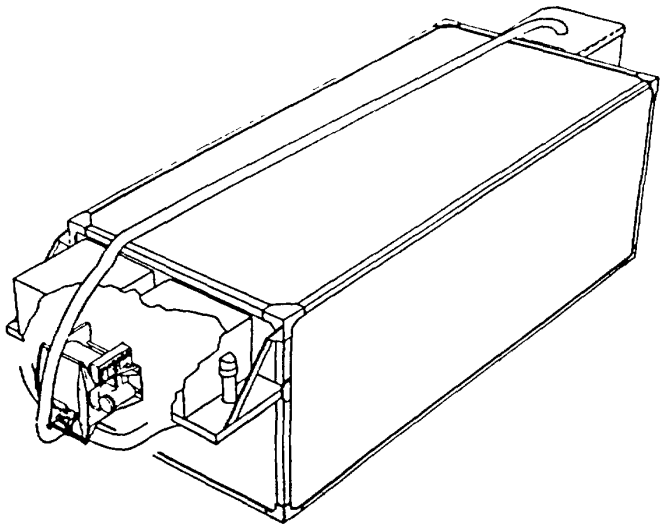
TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)



COLLECTIVE PROTECTION EQUIPMENT,
GUIDED MISSILE SYSTEM, PATRIOT
CONSISTING OF
ENTRANCE, PROTECTIVE, PRESSURIZED, COLLAPSIBLE, M14
(NSN 4240-01-105-5521);
FILTER UNIT, GAS-PARTICULATE, 400 CFM, 208 V, 400 Hz, M59
(NSN 4240-00-237-0223);
AND
INSTALLATION KIT, CBR, PROTECTIVE EQUIPMENT, PATRIOT M265
(NSN 4240-01-110-7617)

HEADQUARTERS, DEPARTMENT OF THE ARMY
30 NOVEMBER 1982

WARNINGS

High voltage Is used to power this equipment Before removing or installing power cable, be sure that POWER switch on compartment control module s set to OFF position and that the collective protection equipment power source is shut down to avoid personal injury or loss of life.

If filter unit Is operating, high voltage Is present at the 208V indicator socket on the power distribution unit Personal injury or loss of life may result If socket is contacted.

Do not remove covers to service components after toxic exposure without observing proper handling procedures.

Filter seals must be properly seated to prevent bypass of contaminated air:

- **Torque access cover bolts 180 to 200 inch-pounds to seat gas filter.**
- **Tighten inner cover retaining bar until sleeve is flush with top surface to seat particulate filter.**

CHANGE

NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 21 December 1989

ORGANIZATIONAL MAINTENANCE MANUAL
FOR
COLLECTIVE PROTECTION EQUIPMENT
GUIDED MISSILE SYSTEM, PATRIOT

1. The purpose of this change is to update guidance for disposal, handling, and storage of filters.

2. New or changed material is indicated by a vertical bar in the margin of the page. RPSTL listing changes are indicated by an asterisk to the left of the item number column adjacent to the line item.

3. Remove old pages and insert new pages as follows:

Remove Pages	Insert Pages
None	a/(b blank)
2-1 and 2-2	2-1 and 2-2
C-11 and C-12	C-11 and C-12

4. File this change sheet in front of the publication for reference purposes.

By Order of the Secretary of the Army:

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

Official:

WILLIAM J. MEEHAN II
Brigadier General, United States Army
The Adjutant General

Distribution:
To be distributed in accordance with DA Form 12-28, maintenance requirements for TM 3-4240-285-20&P.

WARNING

HEALTH/ENVIRONMENTAL HAZARD

Filters use ASC Whetlerite Carbon which contains Chromium VI. Chromium VI is a known carcinogen if inhaled or swallowed. Damaged or unusable filters are classified as hazardous waste:

DO NOT throw away damaged or unusable filters as ordinary trash.

DO turn in damaged or unusable filters to your hazardous waste management office or Defense Reutilization and Marketing Office (DRMO).

Filters are completely safe to handle and use if they are not damaged in such a way that carbon leaks from them. In unlikely event that carbon should leak, use protection such as a dust respirator to cover nose and mouth and put carbon in container such as self-sealing plastic bag; turn in to hazardous waste management office or DRMO.

Disposal of hazardous waste is restricted by the Resource Conservation and Recovery Act as amended (42 U.S.C.A sec 6901 et seq). Violation of these laws is subject to severe criminal penalties.

TECHNICAL MANUAL

TM 3-4240-285-20&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC 30 November 1982

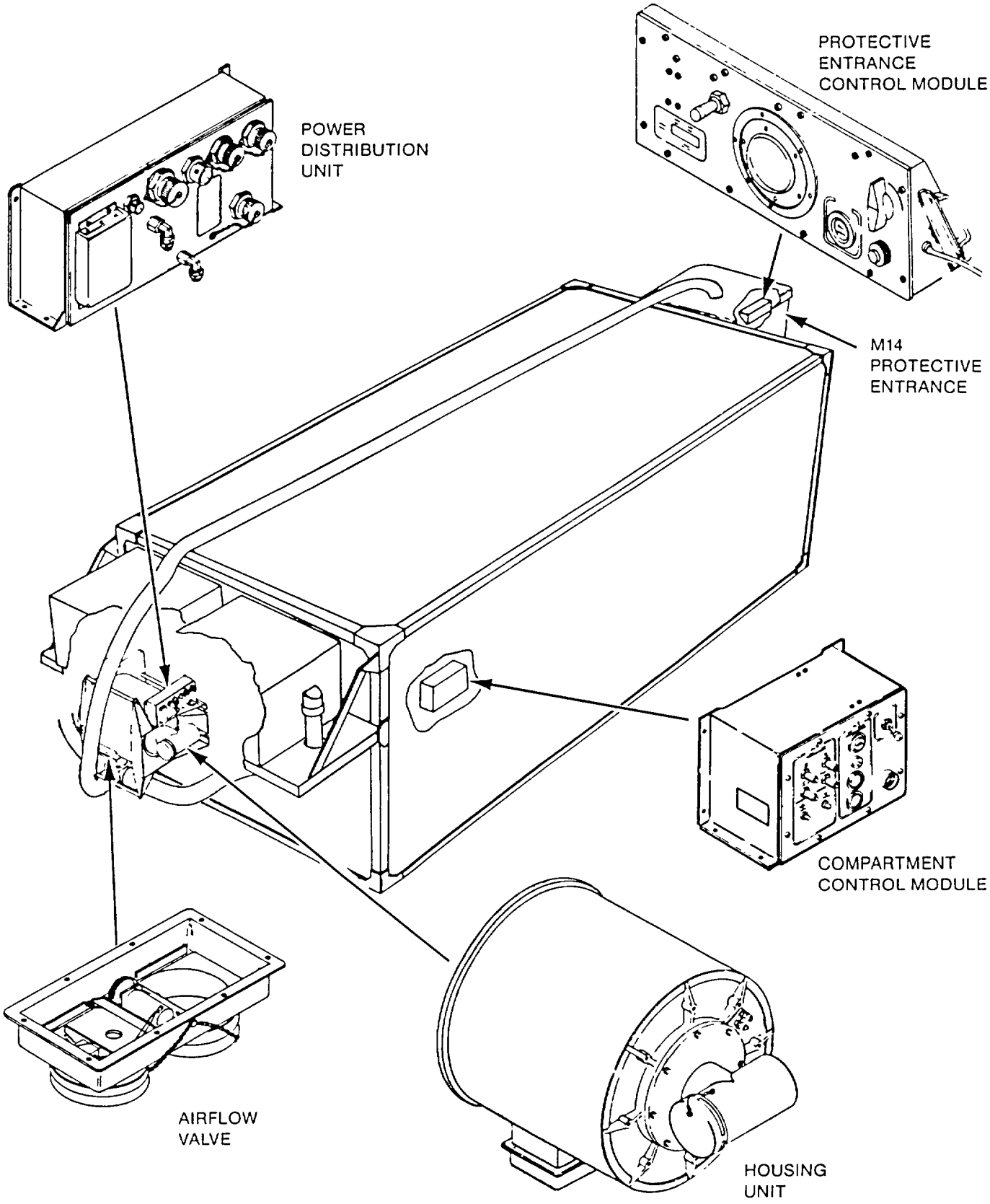
Organizational Maintenance Manual
(Including Repair Parts and Special Tools List)

COLLECTIVE PROTECTION EQUIPMENT, GUIDED MISSILE SYSTEM, PATRIOT CONSISTING OF ENTRANCE, PROTECTIVE, PRESSURIZED, COLLAPSIBLE, M14 (NSN 4240-01-105-5521); FILTER UNIT, GAS-PARTICULATE, 400 CFM, 208 V, 400 Hz, M59 (NSN 4240-00-237-0223); AND INSTALLATION KIT, CBR, PROTECTIVE EQUIPMENT, PATRIOT, M265 (NSN 4240-01-110-7617)

Current as of August 1982

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. Mall your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to Commander, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS-C, Aberdeen Proving Ground, MD 21010 A reply will be furnished to you.


PROTECTIVE
ENTRANCE
CONTROL MODULE
POWER
DISTRIBUTION
UNIT
M14
PROTECTIVE
ENTRANCE
COMPARTMENT
CONTROL MODULE
AIRFLOW
VALVE
HOUSING
UNIT

CHAPTER 1
INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE.

a. *Type of Manual'* Organizational maintenance, including the repair parts and special tools list.

b. *Model Numbers and Equipment Names-*

M14 protective entrance -
Protective entrance control module
M59 gas-particulate filter unit -
Housing unit
Airflow valve
Power distribution unit
Compartment control module
M285 installation kit

c. *Purpose of Equipment* Provides filtered air under positive pressure to field shelters

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System (TAMMS)

1-3. DESTRUCTION OF MATERIEL TO PREVENT ENEMY USE. Refer to TM 43-0002-31, Destruction of Chemical Weapons and Defense Equipment to Prevent Enemy Use.

1-4. PREPARATION FOR STORAGE OR SHIPMENT. Refer to TM 740-90-1 for administrative storage instructions.

1-5. NOMENCLATURE CROSS-REFERENCE LIST. Nomenclature cross-references used in this manual includes

Common Name	*Official Nomenclature*
M14 protective entrance	Entrance, Protective, Pressurized, Collapsible, M14
M59 gas-particulate filter unit	Filter Unit, Gas-Particulate, 400 CFM, 208 V, 400 Hz, M59
NM265 Installation kit	Installation Kit, M1265
Cable C5-19-6162-20	Cable Assembly, Special Purpose Electrical, C5-19-6162-20
Cable C5-19-6170-10	Cable Assembly, Special Purpose Electrical, C5-19-6170-10
Cable C5-19-6712	Cable Assembly, Special Purpose Electrical, C5-19-6712
Cable W90	Cable Assembly, Special Purpose Electrical, W90
Cable W91	Cable Assembly, Special Purpose Electrical, W91

1-6. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). If your collective protection equipment needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design Put it on an SF 368 (Quality Deficiency Report). Mall it to us at Commander, US Army Armament Materiel Readiness Command, ATTN. DRSAR-MAY-MA, Aberdeen Proving Ground, MD 21010. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

1-7. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

Characteristics

- Collective protection equipment (CPE) allows operation in a chemical/biological agent contaminated zone.
- The filter unit provides filtered air under positive pressure to the M14 protective entrance and to the PATRIOT shelter.
- Positive pressure prevents dangerous amounts of chemical and biological (CB) agents from entering the protected area.
- The M14 protective entrance, while under positive pressure, allows personnel to enter or leave without loss of positive pressure protection in the PATRIOT shelter.

Capabilities and Features

- Both the M14 protective entrance and the PATRIOT Shelter utilize control modules.
- Major components of the CPE may be attached or detached from the PATRIOT shelter without affecting the shelter operation.
- Modular design of CPE permits:
  a. Easy access to the major components for servicing and maintenance.
  b. Quick replacement of malfunctioning components.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

(A) PROTECTIVE ENTRANCE. Consists of:

- Shell assembly, which is in two halves, forms the roof and floor.
- Door assembly, when fully extended, provides access to the protective entrance. The door frame supports the front of the protective entrance.
- Two support assemblies, when fully extended, form rigid poles between the roof and the floor of the shell assembly. The support assemblies are located at the rear of the protective entrance.
- An impermeable fabric assembly attaches to the two halves of the shell assembly. When the fabric is fully extended, it forms the protective entrance walls.

(B) PROTECTIVE ENTRANCE CONTROL MODULE. Mounted in the roof of the shell assembly, provides white/or black-out red light, purge timing and low pressure warning for the protective entrance

(C) GAS-PARTICULATE FILTER UNIT. The filter unit housing contains the main fan, gas filters and particulate filters. Inner and outer access covers permit changing the filters.

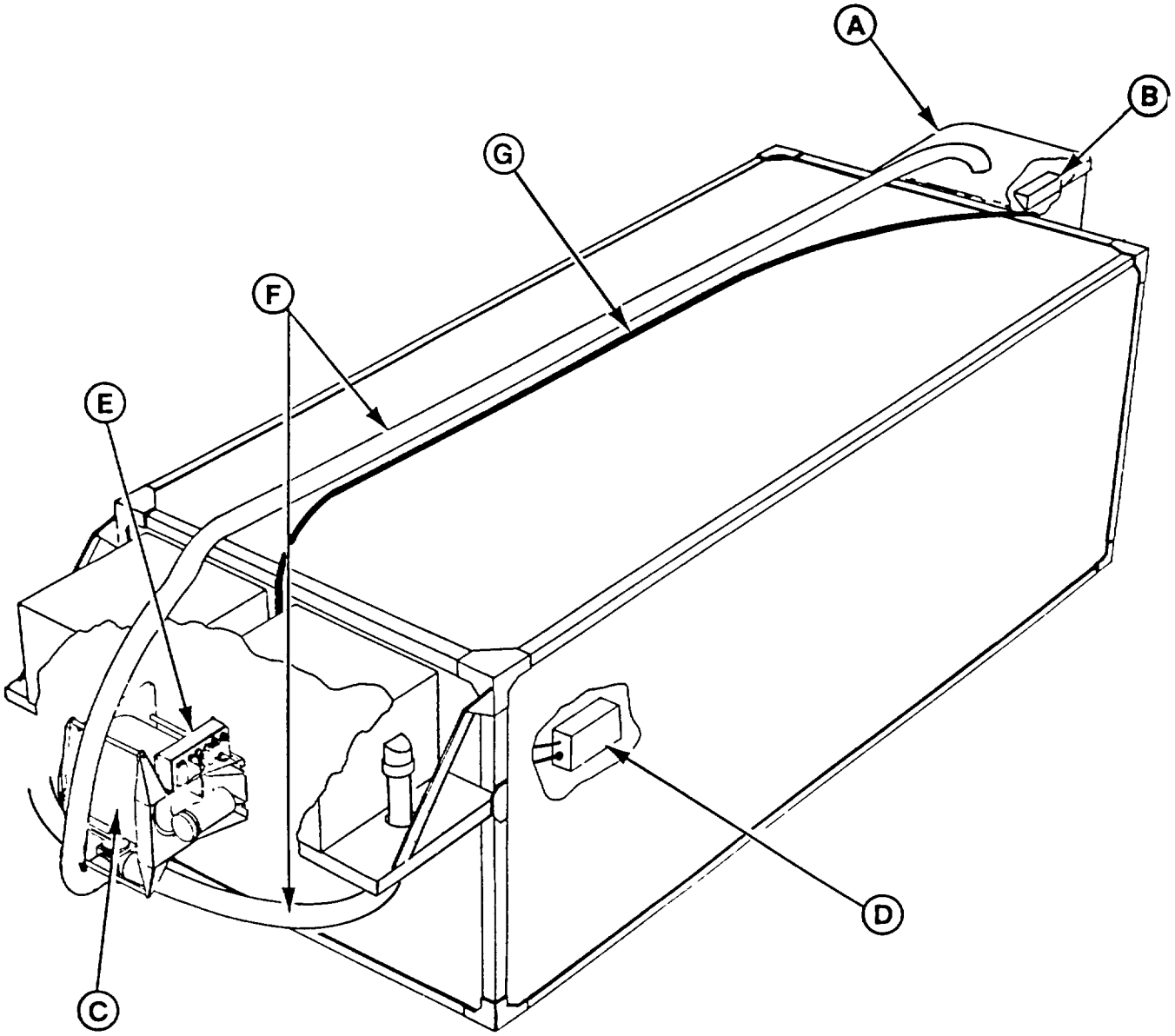
- The airflow valve, attached to the outside of the filter unit housing, controls the airflow between the filter unit, the shelter, and the protective entrance.

(D) COMPARTMENT CONTROL MODULE. Mounts inside the shelter and contains controls and indicators to operate the collective protection equipment.

(E) POWER DISTRIBUTION UNIT. Mounts on the outside of the shelter at the filter unit. It serves as the electrical power distribution center for the collective protection equipment.

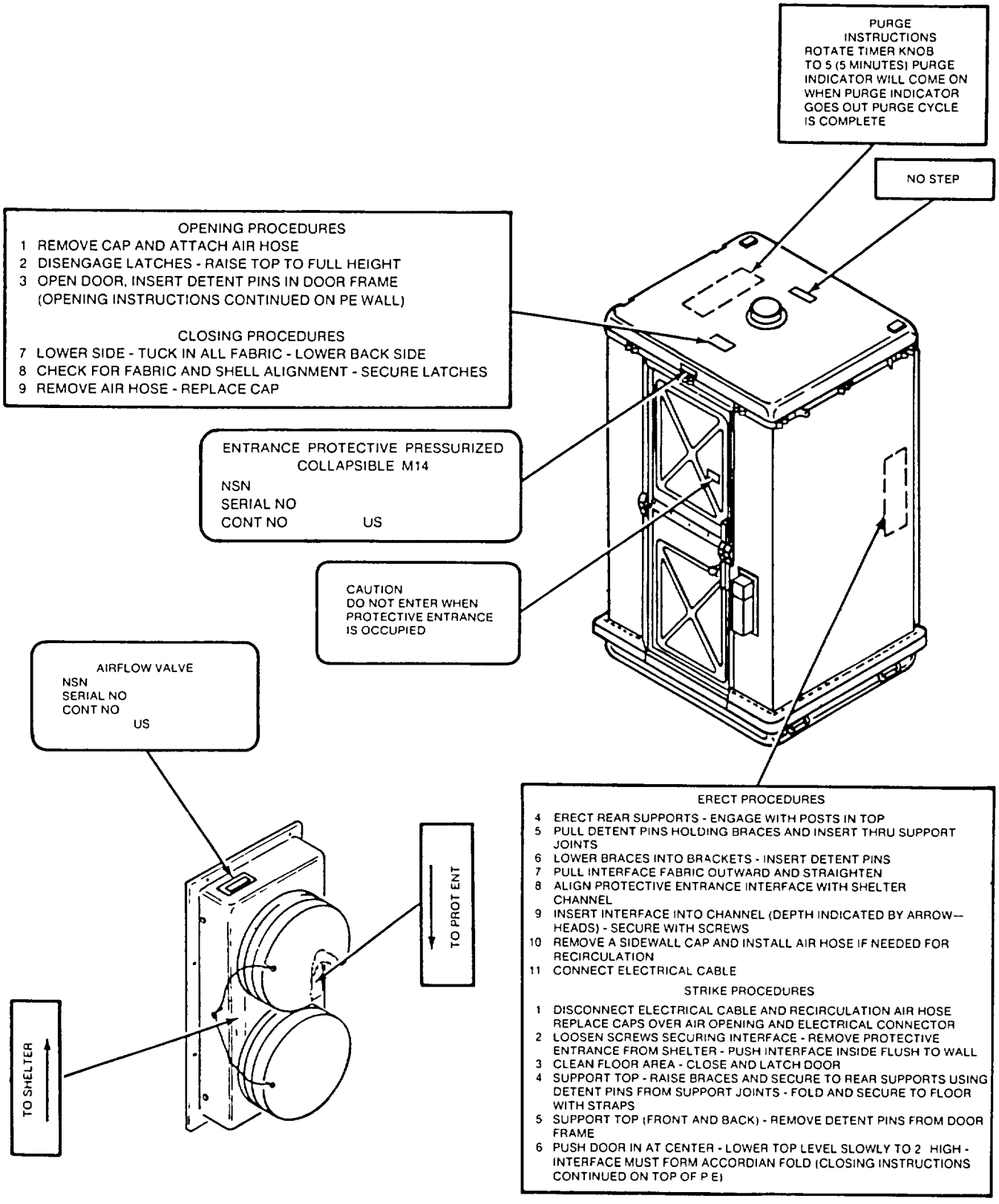
(F) AIRDUCT HOSE. Large diameter (6 In) impermeable fabric hose, in 6 foot sections, connects filter unit, shelter, and protective entrance for filtered air circulation.

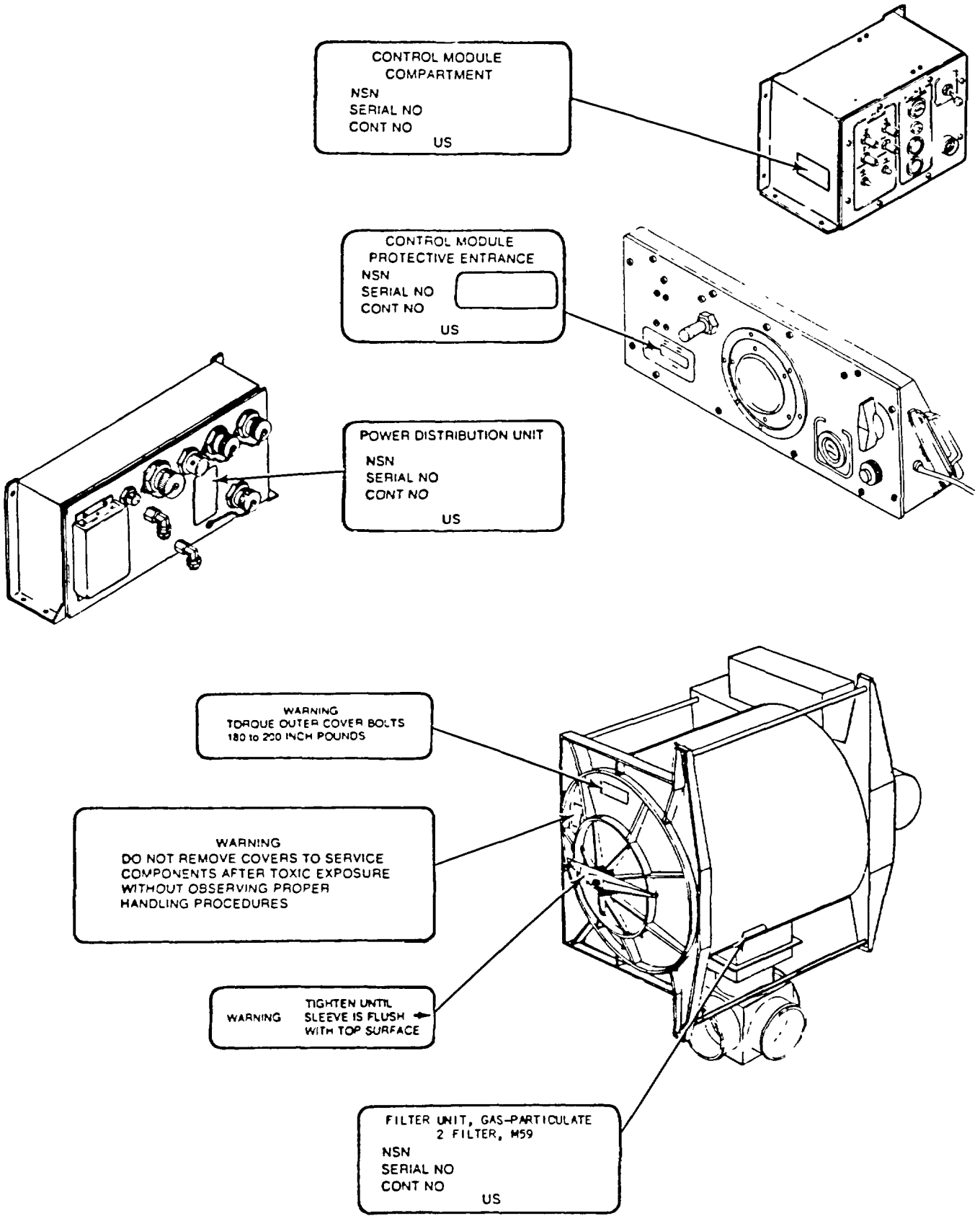
(G) SPECIAL PURPOSE ELECTRICAL CABLES. Five cables route electrical power and operating signals between the filter unit, power distribution unit, compartment control module, and protective entrance. (All cables are not shown)



MAJOR COMPONENTS

1-9. IDENTIFICATION, INSTRUCTION, AND WARNING PLATES.




CONTROL MODULE
COMPARTMENT
NSN
SERIAL NO
CONT NO
US
CONTROL MODULE
PROTECTIVE ENTRANCE
NSN
SERIAL NO
CONT NO
US
POWER DISTRIBUTION UNIT
NSN
SERIAL NO
CONT NO
US
WARNING
TORQUE OUTER COVER BOLTS
180 to 200 INCH POUNDS
WARNING
DO NOT REMOVE COVERS TO SERVICE
COMPONENTS AFTER TOXIC EXPOSURE
WITHOUT OBSERVING PROPER
HANDLING PROCEDURES
WARNING
TIGHTEN UNTIL
SLEEVE IS FLUSH
WITH TOP SURFACE
FILTER UNIT, GAS-PARTICULATE
2 FILTER, M59
NSN
SERIAL NO
CONT NO
US

1-10. EQUIPMENT DATA.

Dimensions and Weights of Collective Protection Equipment Components

Component	Length		Width		Height		Weight	
	Inch	CM	Inch	CM	Inch	CM	LB	Kg
M14 protective entrance								
packaged dimensions	49.3	125.22	43.3	109.98	12.5	31.75	145	65.8
erected dimensions	49.3	125.22	43.3	109.98	85.4	216.91	145	65.8
Protective entrance control module	16	40.64	6.75	17.14	5	12.70	7.5	3.40
M59 gas-particulate filter unit	34	86.4	36	91.40	32	81.30	256	116.1
Compartment control module	7.7	19.55	11.75	29.84	6.5	16.51	9	4.09
Power distribution unit	18.5	46.99	8.25	20.95	4.25	10.79	16	7.26
	Outer Dia		Inner Dia					
Particulate filter (each)	16.6	42.16	12	30.48	10	25.40	7.8	3.54
	Outer Dia		Inner Dia					
Gas filter (each)	21.4	54.35	16.7	42.41	10	25.40	37.8	17.1

Operating Power Requirements and Characteristics of Collective Protection Equipment Components

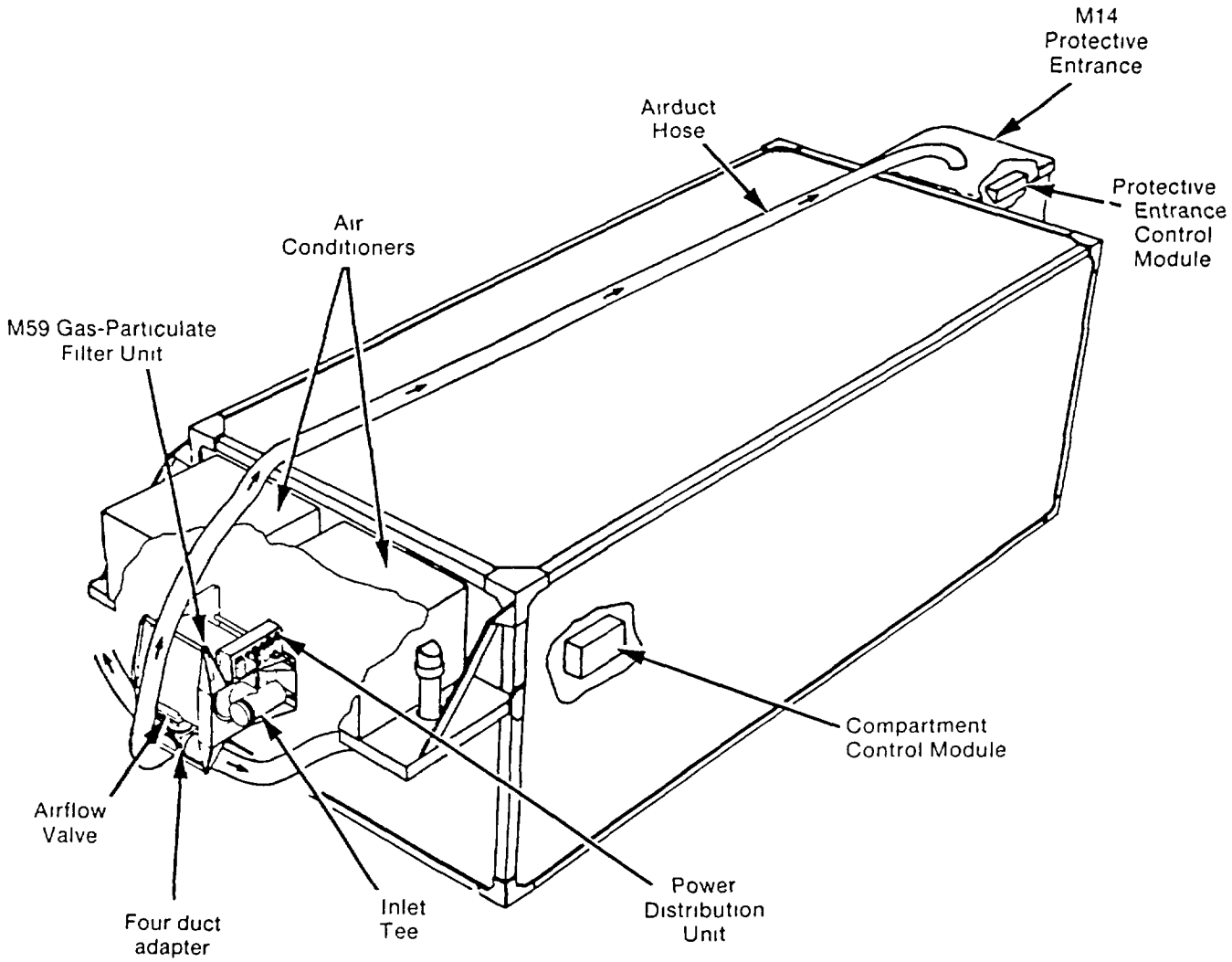
Component	Power Requirements	Input Voltage	Maximum Capacity	Airflow (cfm)
Protective entrance control module	2 amp at 28 V dc	28 V dc		
M59 gas-particulate filter unit	1700 Watts	208 V, 400 Hz, 3-phase		400 maximum
Airflow valve	1 amp max at 28 V dc			40 minimum at 20.0 in. wg
Power distribution unit		208 V, 400 Hz, 3-phase	3.5 kW	
Compartment control module	1 amp max at 28 V dc	28 V dc		
Particulate filters				400
Gas filters				400

Section III. PRINCIPLES OF OPERATION

I-II. AIR FILTERING AND PRESSURIZATION SYSTEM.

a. The M59 gas-particulate filter unit removes toxic gases and dust from the air supplied to the shelter and M14 protective entrance. The fan draws outside air through the air inlet and forces it into the filter unit. The fan forces filtered air from the filter unit to the airflow valve. The airflow valve directs filtered air to the shelter and M14 protective entrance. Airduct hoses deliver filtered air to the M14 protective entrance Filtered air enters the shelter through the air conditioner. Pressure sensing components in the compartment control module automatically adjust the airflow valve to maintain a positive pressure In the shelter.

b. The M14 protective entrance provides a pressurized transition area between the shelter and the outside contaminated zone. Personnel entering from the outside must wait five minutes within the protective entrance before entering the shelter. The flow of the filtered air purges contamination from the M14 protective entrance. The protective entrance control module contains the purge timer and a low-pressure warning indicator.



CHAPTER 2
MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

2-1. COMMON TOOLS AND EQUIPMENT. For authorized common tools and equipment, refer to the modified table of organization and equipment (MTOE) applicable to your unit.

2.2 SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT. No special tools, TMDE, or support equipment are required.

2.3 REPAIR PARTS. Repair parts are listed and illustrated in Appendix C of this manual.

Section II. SERVICE UPON RECEIPT

2.4 SERVICE UPON RECEIPT. Refer to the following operator's and organizational maintenance manuals as appropriate'

*TM 9-1430-600-12-1	Engagement Control Station
*TM 9-1430-602-12-1	Information Coordination Central
*TM 9-1430-604-12-1	Communication Relay Group

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2.5 PMCS PROCEDURES.

a. *General* The PMCS procedures are contained in following table. They are arranged in logical sequence requiring a minimum amount of time and motion on the part of the persons performing them and are arranged so that there will be a minimum interference between persons performing checks simultaneously on the same end item.

b. *Item Number Column.* Checks and services are numbered in chronological order regardless of interval. This column shall be used as a source of item numbers of the "TM Number" column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording results of PMCS.

c. *Item To Be Inspected Column.* The items listed in this column are divided into groups indicating the portion of the equipment of which they are a part, for example, "Filter Unit," "Protective Entrance." Under these groupings, the items to be inspected are identified by as few words, usually the common name, as will clearly identify the item, for example, "main fan assembly," "airflow valve."

d. *Procedures Column.* This column contains a brief description of the procedure by which the check is to be performed. It contains all the information required to accomplish the checks and services, including appropriate tolerances, adjustment limits, and instrument and gage readings.

* To be published

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) SEMIANNUAL SCHEDULE

NOTE

Perform checks and services in the order listed before you perform functional testing.

Item No.	Item To Be Inspected	Procedures
1	M59 gas-particulate filter unit	
	Filter housing outside surfaces	Inspect identification and instruction plates. You must be able to read them. Replace plates if necessary (p. 2-65 and 2-66).
		Inspect outside surfaces for rust, chipped paint, or bare metal on painted surfaces. Repaint or touchup as necessary (p. 2-65).
		Make sure that all parts are secure an d that there is no loose or missing hardware. Tighten loose hardware. Replace missing hardware.
	Main fan assembly cable	Inspect cable assembly for bare wires, broken insulation, broken or damaged connector. Replace damaged main fan assembly (p. 2-74)
	Airflow valve	Inspect valve for damage and loose mounting hardware. Replace missing mounting hardware. Replace damaged airflow valve (p. 2-76).
	Power distribution unit -	Inspect unit for loose or missing mounting hardware. Tighten loose hardware. Replace missing hardware.
		Inspect for damage or missing electrical covers. Replace power distribution unit if the covers are damaged or missing (p. 2-79).
	Gas-particulate filters	**WARNING** **DO NOT throw away damaged or unusable filters as ordinary trash.** **DO turn in damaged or unusable filters to your hazardous waste management office or Defense Reutilization and Marketing Office (DEMO).**
		Remove filters (p. 2-68) and check for physical or water damage.
		Inspect housing seal and inner cover gasket for damage. Replace seal or gasket if unserviceable (p. 2-69). Reinstall filters or install new filters (p. 2-70).
2	M265 installation kit	
	Special purpose electrical cable assemblies	Inspect cable assemblies for bare wires, broken insulation, broken or damaged connectors. Replace damaged cable assemblies (p. 2-83 through 2-95).
	Airduct hoses	Inspect airduct hoses for damage or missing clamps. Repair or replace airduct hoses if necessary (p. 2-96). Replace missing clamps.

Item No	Item To Be Inspected	Procedures
3	M14 protective entrance	Inspect Identification and instruction plates. You must be able to read them. Replace plates if necessary (p 2-51). Inspect outside surface for chipped paint or bare metal on painted surfaces. Repaint or touchup as necessary (p 2-56) Make sure that all parts are secure and that there is no loose or missing hardware. Tighten loose hardware (p. 2-50). Replace missing hardware.
4	Collective protection equipment	Perform functional testing (p. 2-3 through p 2-9)

Section IV. FUNCTIONAL TESTING

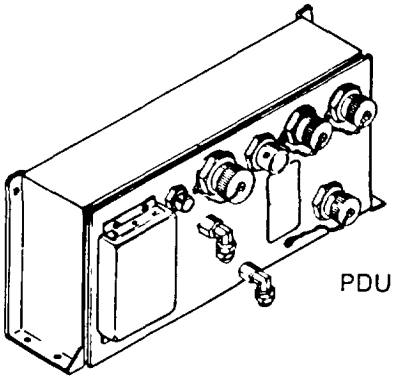
2-6. GENERAL. This section contains instructions for functional testing the collective protection equipment for shelter. These tests must be performed following installation of the equipment, and semiannually thereafter.

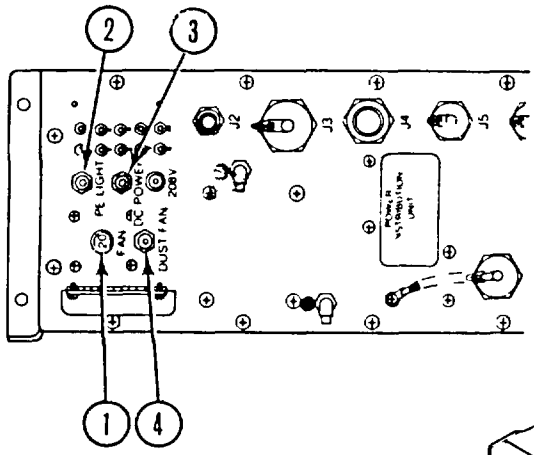
a. Preventive Maintenance Checks and Services (PMCS) Perform PMCS on page 2-1 before performing functional testing.

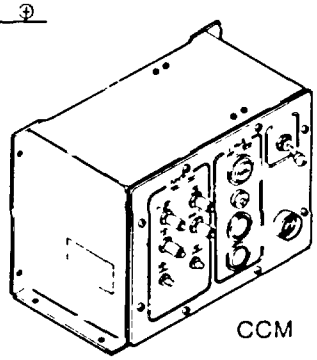
b. Troubleshooting Procedures. Refer to troubleshooting on page 2-10 for malfunctions and corrections.

2-7. FUNCTIONAL TEST.

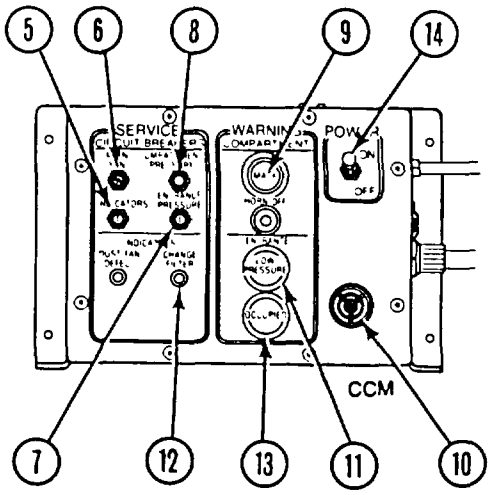
LOCATION	ITEM	ACTION	INDICATION/REMARKS
Power Circuit	Cables tight	Check that all connections are distribution unit is not used	Connector J6 on power
	Power source	Check that power Is supplied to power distribution unit.	
Power Distribution Unit (PDU)	Circuit breakers	Check that circuit breakers (1, 2, 3, and 4) are set Press to set	



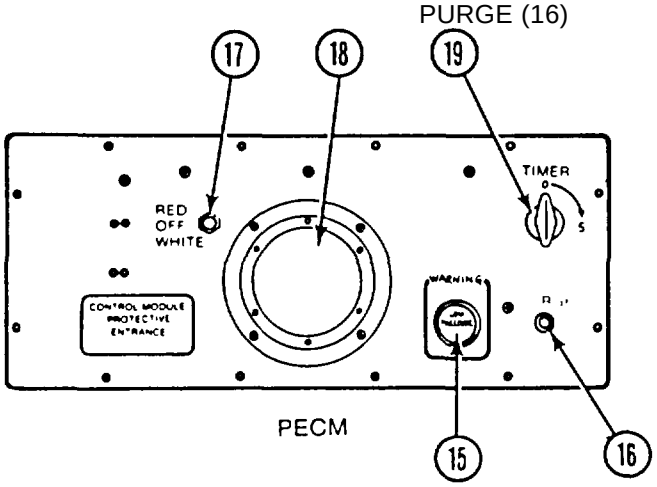


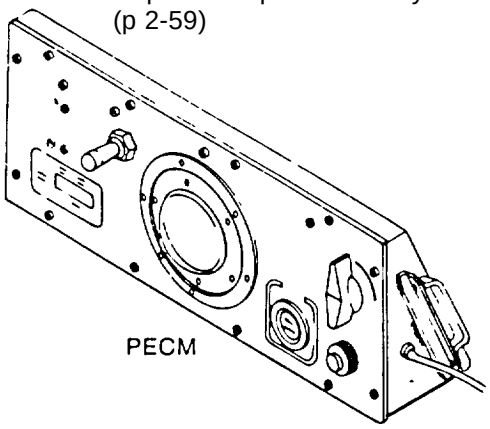


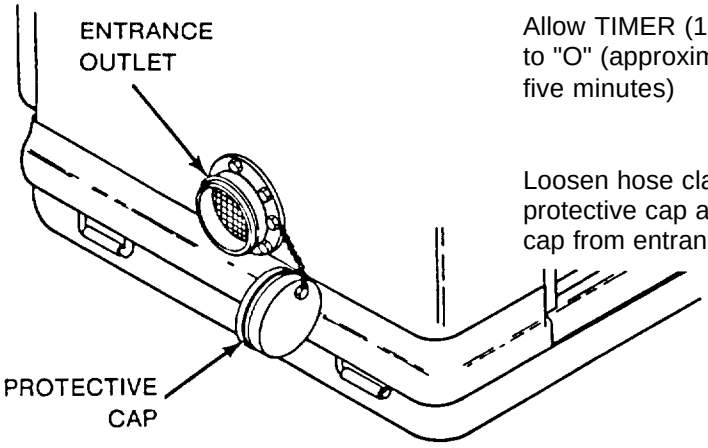
Compartment Control Module (CCM)		Set POWER switch (14) to OFF.	
	Circuit breakers	Check that circuit breakers (5, 6, 7, and 8) are set Press to set	
	Indicator lights	Press to test lamps MASK (9)	Light will flash and warning horn (10) will sound Replace lamp if necessary (p 2-82).
		ENTRANCE LOW PRESSURE (11)	Light will light when pressed Replace lamp if necessary (p 2-82)
		CHANGE FILTER (12)	Light will light when pressed Replace lamp if necessary (p 2-82)
		OCCUPIED (13)	Light will light when pressed Replace lamp If necessary (p 2-82)



LOCATION	ITEM	ACTION	INDICATION/REMARKS
Protective Entrance Control Module (PECM)	Indicator lights	Press to test lamps LOW PRESSURE (15)	Light will light when pressed Replace lamp if necessary (p 2-60)
		PURGE (16)	Light will light when pressed Replace lamp If necessary (p 2-59)
	Dome light	Set dome light switch (17) to WHITE	Dome light (18) will show white light Replace lamp if necessary (p 2-61)
		Set switch (17) to RED	Dome light (18) will show red light Replace lamp if necessary (p 2-61).
		Set Switch (17) to OFF	Dome light (18) will go off
	Timer	Rotate TIMER (19) fully clockwise	PURGE light (16) will light
			OCCUPIED light in compartment control module will light
		Allow TIMER (19) to return to "O" (approximately five minutes)	PURGE and OCCUPIED lights will go off
		Loosen hose clamp on protective cap and remove cap from entrance outlet	

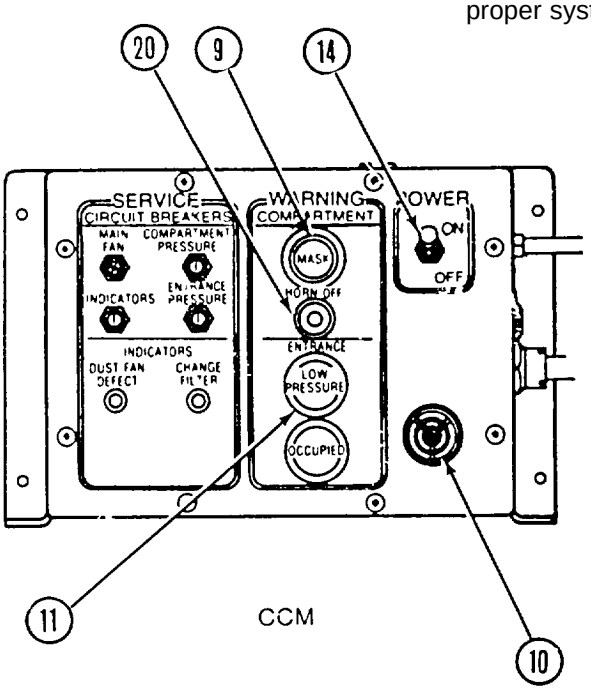






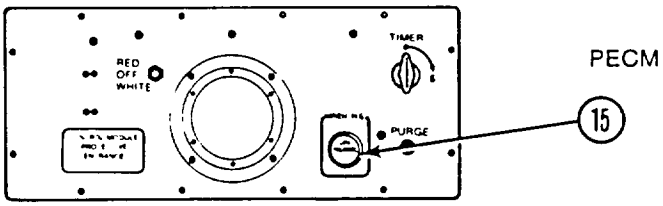
2-7. FUNCTIONAL TEST (CONT).

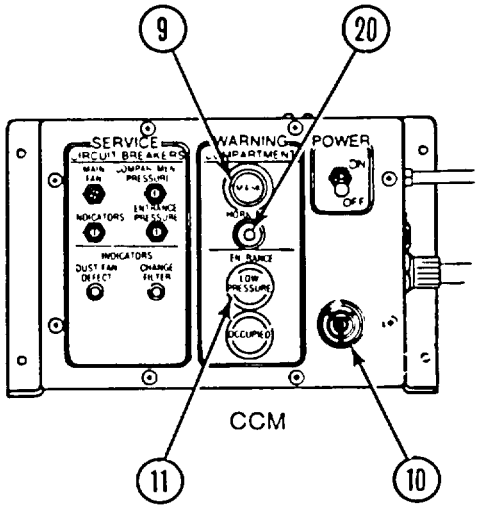
LOCATION	ITEM	ACTION	INDICATION/REMARKS
		Close shelter door and protective entrance door	
Compartment Control Module	Pressure circuit	Set POWER switch (14) to ON	Main fan must start and run MASK indicator light (9) will flash Warning horn (10) will sound until shelter Is pressurized (approximately 30 seconds)
		Allow horn to silence automatically This will indicate proper system operation,	MASK light (9) will go off and warning horn (10) will silence when proper shelter pressure is reached ENTRANCE LOW PRESSURE light (11) will light when filter unit is started and then go off when proper protective entrance pressure Is reached When loss of power to the collective protection equipment occurs with the compartment control module POWER switch In the ON position, the MASK light (9) will flash and warning horn (10) will sound
		Open shelter door	MASK light (9) will flash Warning horn (10) will sound
		Press HORN OFF button (20)	Button will stay in pressed position Warning horn will stop sounding MASK light (9) will light and stay on



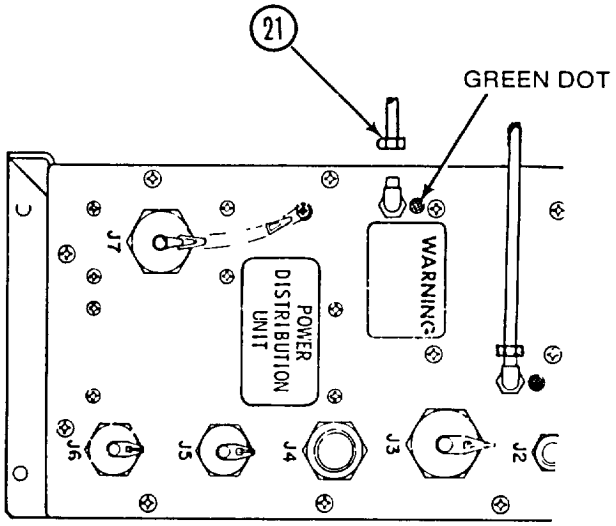
CCM

LOCATION	ITEM	ACTION	INDICATION/REMARKS
		Open protective entrance door	
Compartment Control Module	Pressure circuit		ENTRANCE LOW PRESSURE light (11) will light
Protective Entrance Control Module			LOW PRESSURE light (15) will light



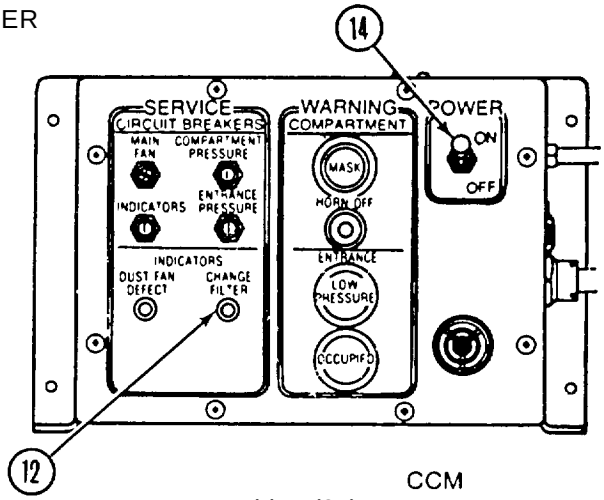


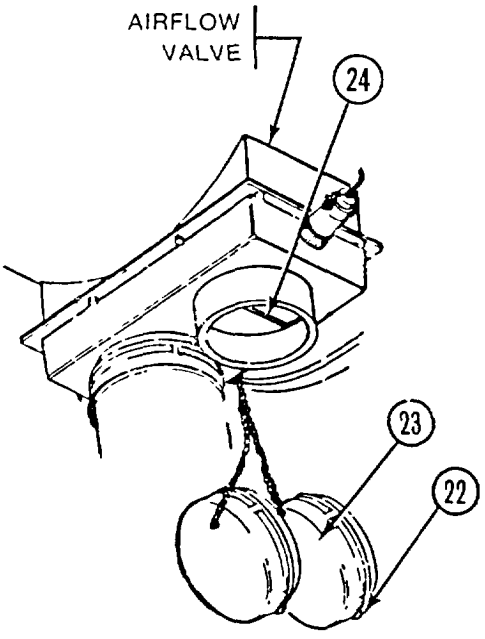
		Close protective entrance and shelter doors	Within 30 seconds ENTRANCE LOW PRESSURE light (11) will go off Also, the LOW PRESSURE light (15) on the protective entrance control module will go off. MASK light (9) will go off HORN OFF button (20) will reset
Power Distribution Unit	CHANGE FILTER Indicator light	Disconnect tubing (21) (green dot)	Filter unit must be operating



PDU

2-7. FUNCTIONAL TEST (CONT).

LOCATION	ITEM	ACTION	INDICATION/REMARKS
Compartment Control Module	CHANGE FILTER indicator light	 CCM	CHANGE FILTER light (12) will light
Power Distribution Unit		Reconnect tubing (21) (green dot) removed above Tighten finger tight	
Fan and Airflow Valve Housing Unit	Airflow valve	Close shelter and protective entrance doors	Filter unit must be operating
		Loosen hose clamp (22) on protective cap (23) and remove cap from outlet port marked TO PROT ENT	
		Open shelter and protective entrance doors	The sliding plate (24) in the airflow valve must move to completely close off the outlet marked TO PROT ENT
		Close shelter door	The sliding plate (24) in the airflow valve will move toward the port marked TO SHELTER This partly opens the port marked TO PROT ENT
		Turn off filter unit Set compartment control POWER switch (14) to OFF	Observe that sliding plate (24) marked TO PROT ENT is completely open (port marked TO SHELTER is closed).
		Replace protective cap (23) on port marked TO PROT ENT Tighten hose clamp (22)	

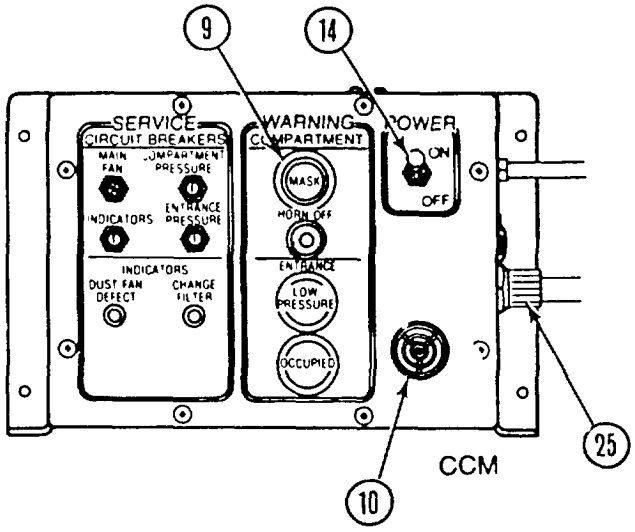


LOCATION	ITEM	ACTION	INDICATION/REMARKS

NOTE

If the following Indications are not obtained, the CCM batteries may need charging Operate the collective protective equipment for one-half hour and then repeat this check If indications are still not obtained, replace CCM (p 2-81)

Compartment Control Module	Loss of power warning system	Disconnect plug P1 (25)	
		Set POWER switch (14) to ON	MASK Light (9) will flash Warning horn (10) will sound
		Set POWER switch (14) to OFF	
		Reconnect plug P1 (25)	



Section V. TROUBLESHOOTING

2-8. GENERAL.

a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in your protective equipment. Each malfunction for an individual component, unit, or system is followed by a list of tests or inspections which will help you to determine corrective actions to take. You should perform the test/inspections and corrective actions in the order listed.

b. This manual cannot list all possible malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed (except when malfunction and cause are obvious) or is not corrected by listed corrective actions, notify your supervisor.

NOTE

When beginning a troubleshooting procedure, be sure power is on at the CCM and the power source.

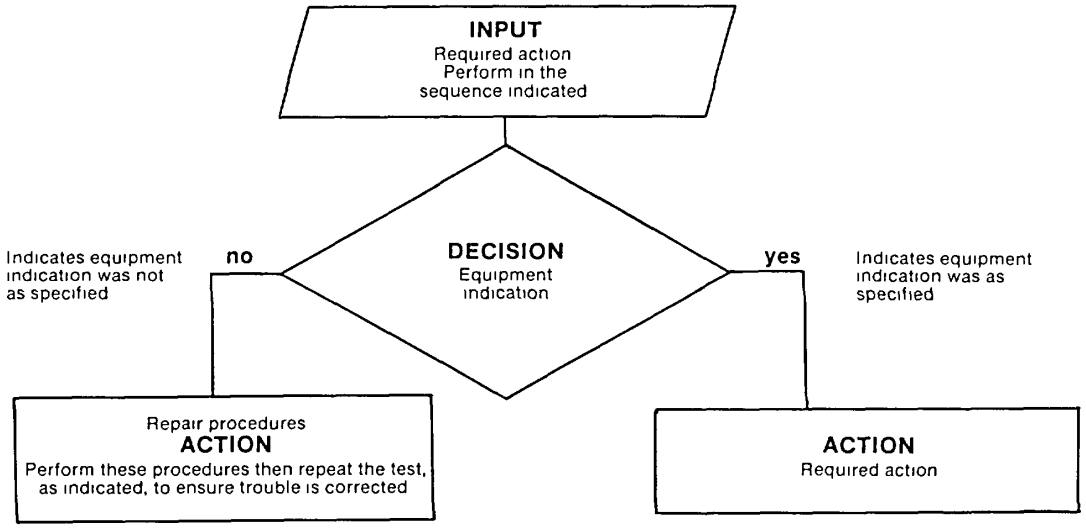
When measuring voltage at the power distribution unit (PDU), TP #10 is ground.

2-9. TROUBLESHOOTING PROCEDURES.

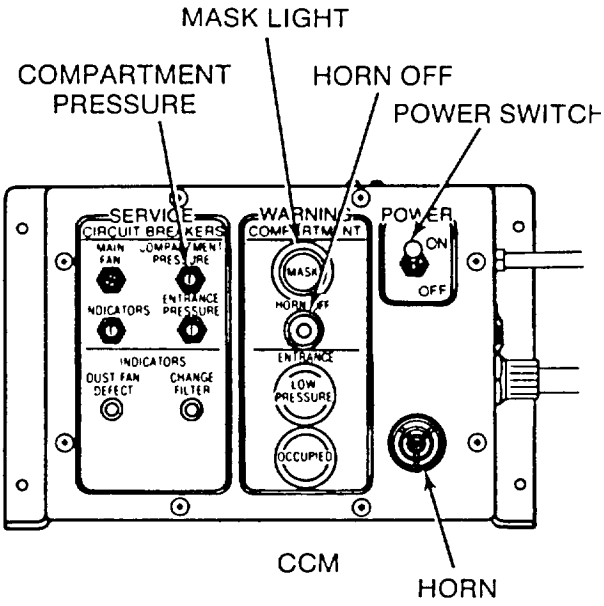
a. Perform functional test first. Then, use the symptom index for quick access to the troubleshooting procedures.

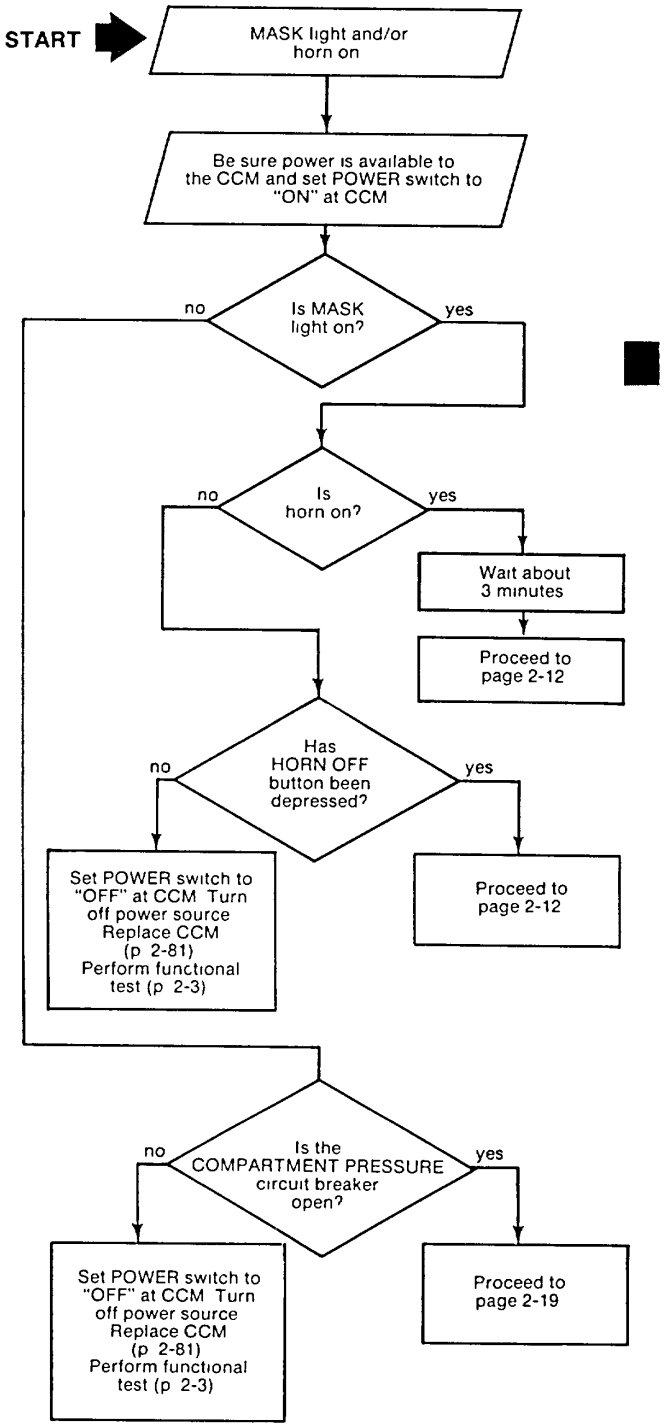
SYMPTOM INDEX

b. The following describes the use of the troubleshooting charts.



1. MASK LIGHT FLASHING AND/OR WARNING HORN SOUNDING

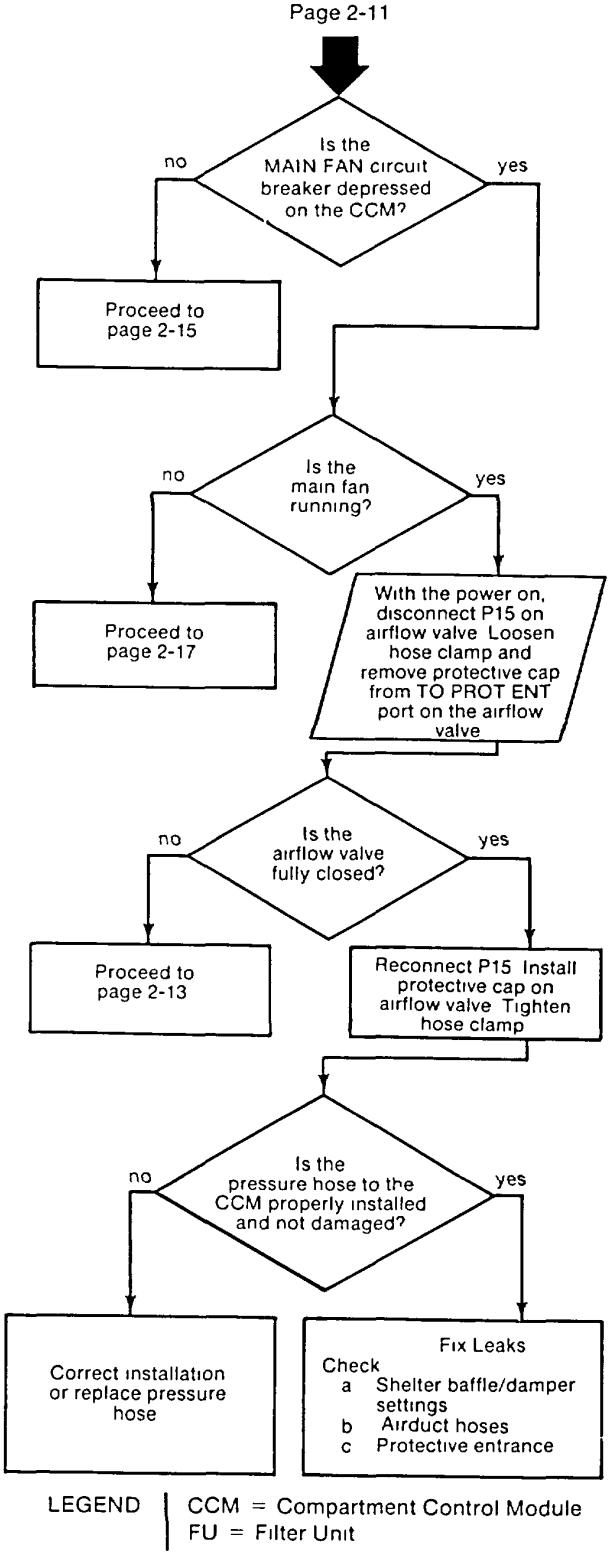


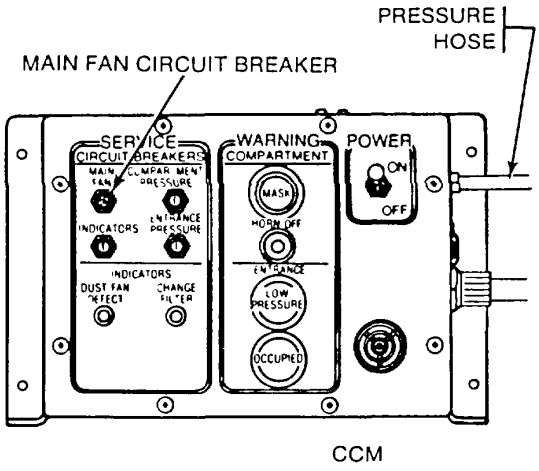


LEGEND
CCM = Compartment Control Module

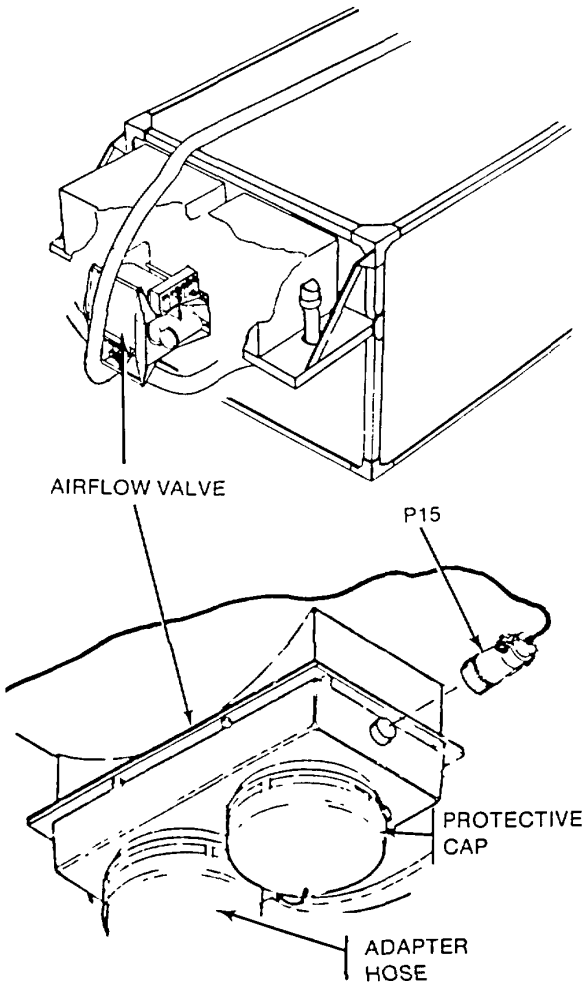
1. MASK LIGHT FLASHING AND/OR WARNING HORN SOUNDING (CONT).

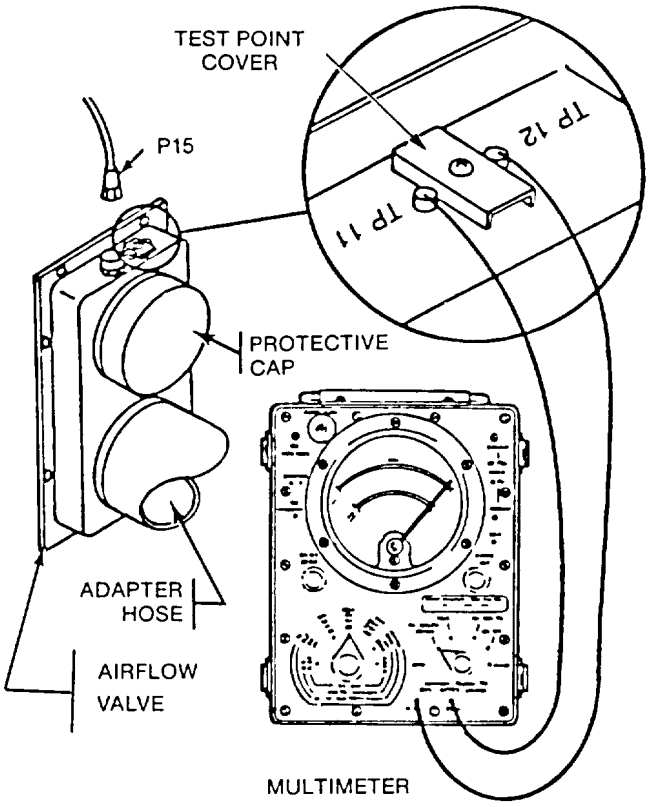
Page 2-11

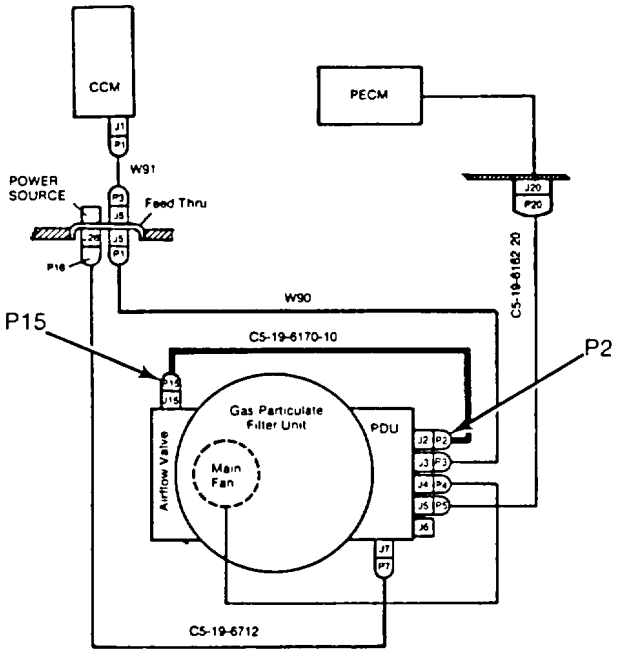




CCM

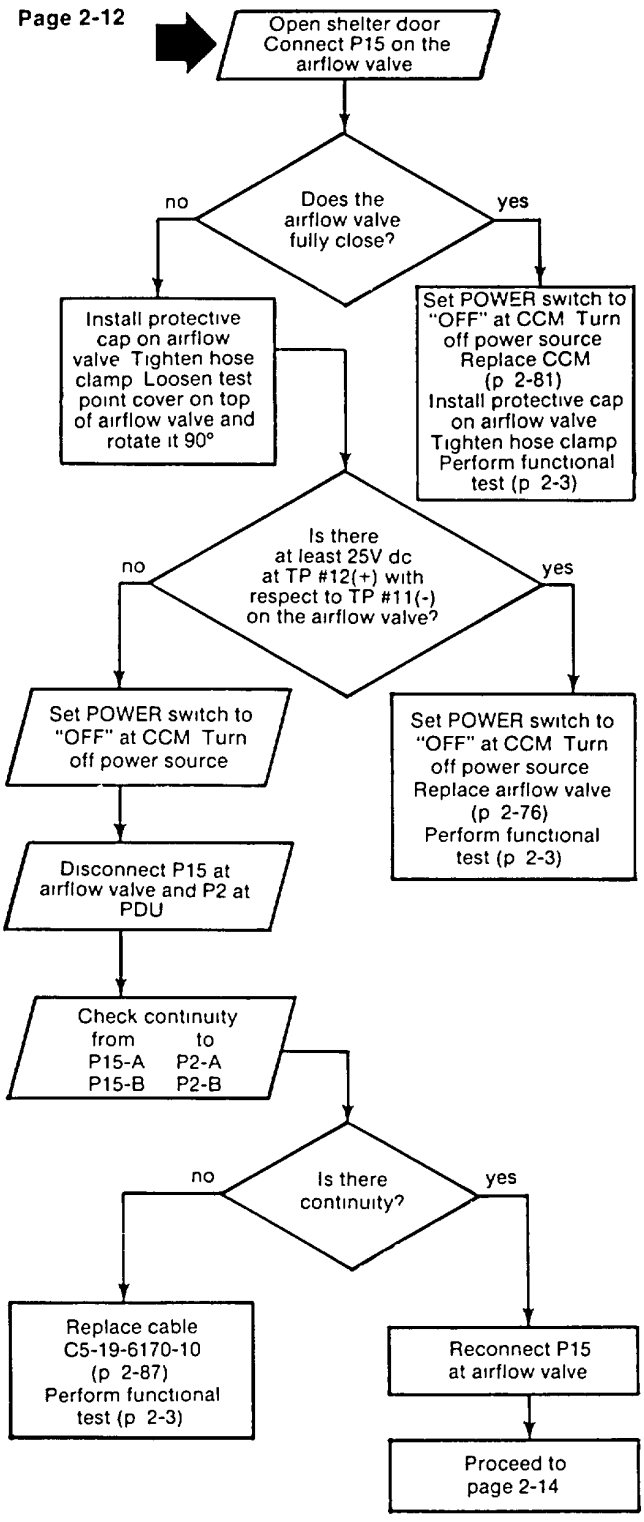






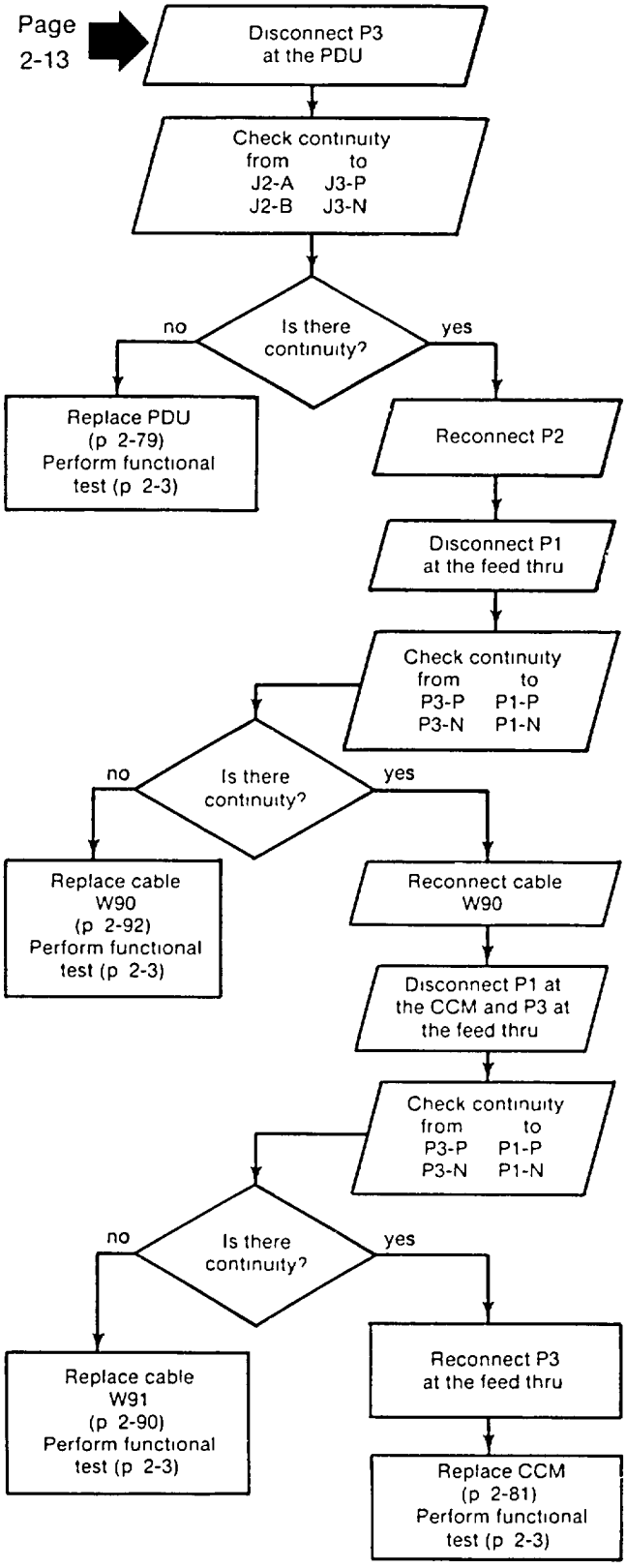
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

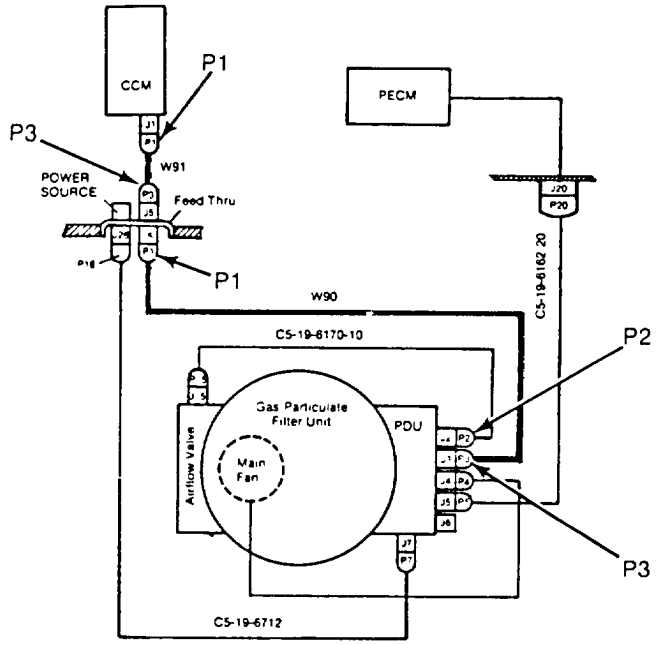
Page 2-12



CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point

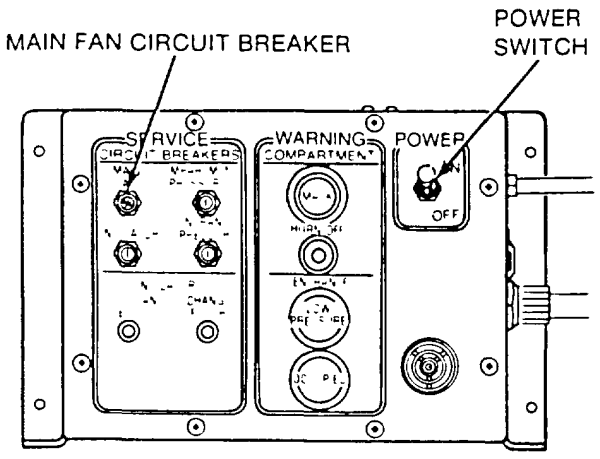
1. MASK LIGHT FLASHING AND/OR WARNING HORN SOUNDING (CONT)



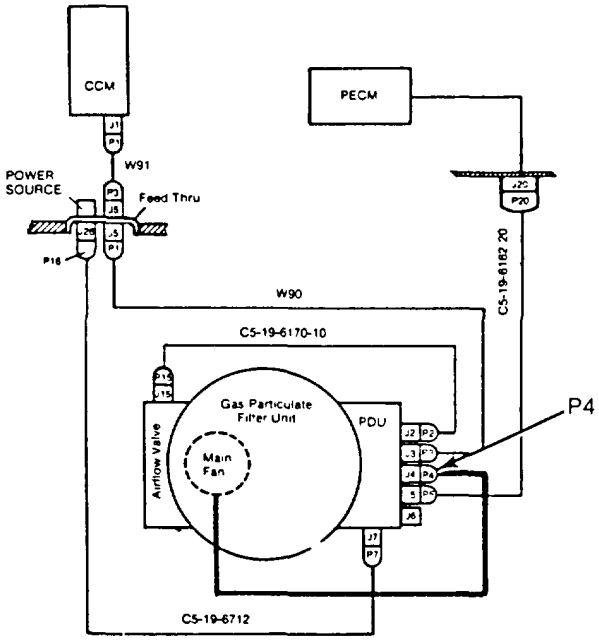


SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

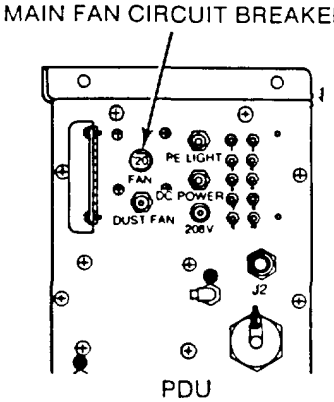
LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit



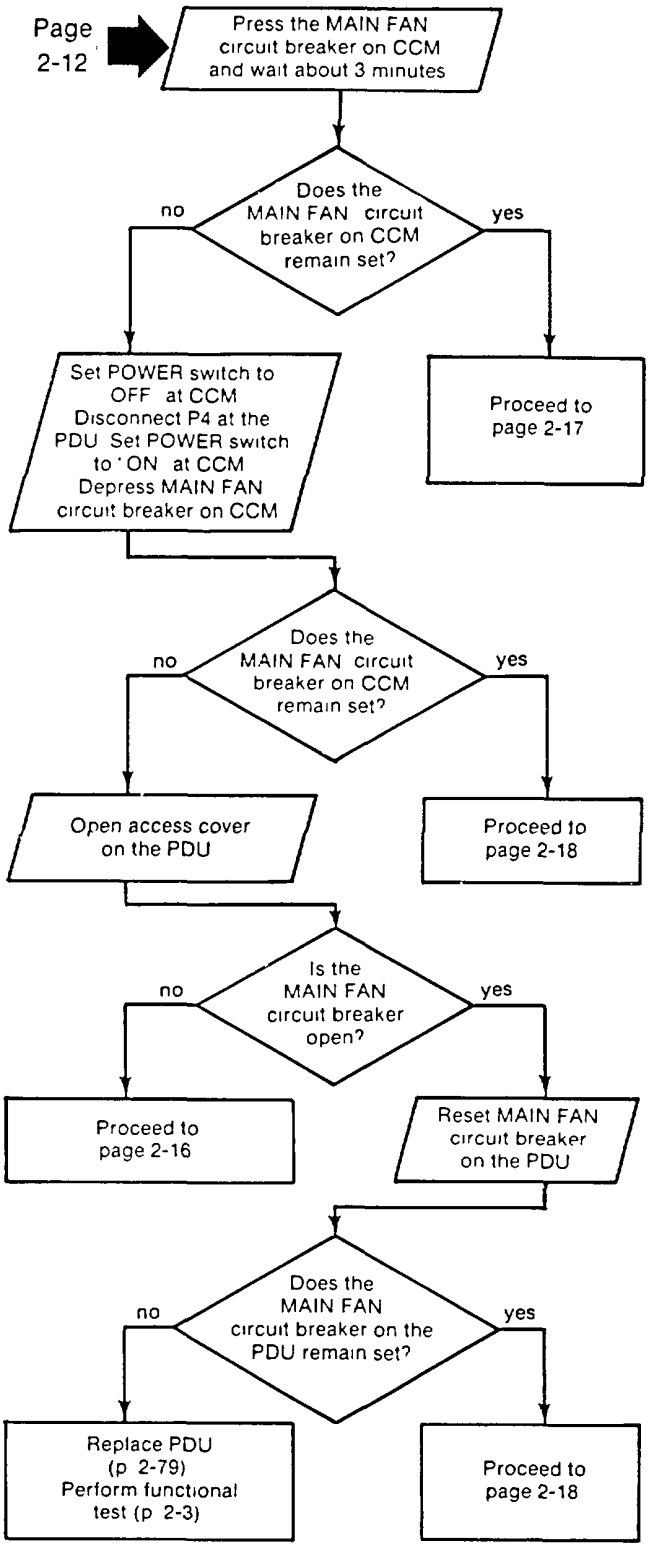
CCM



SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

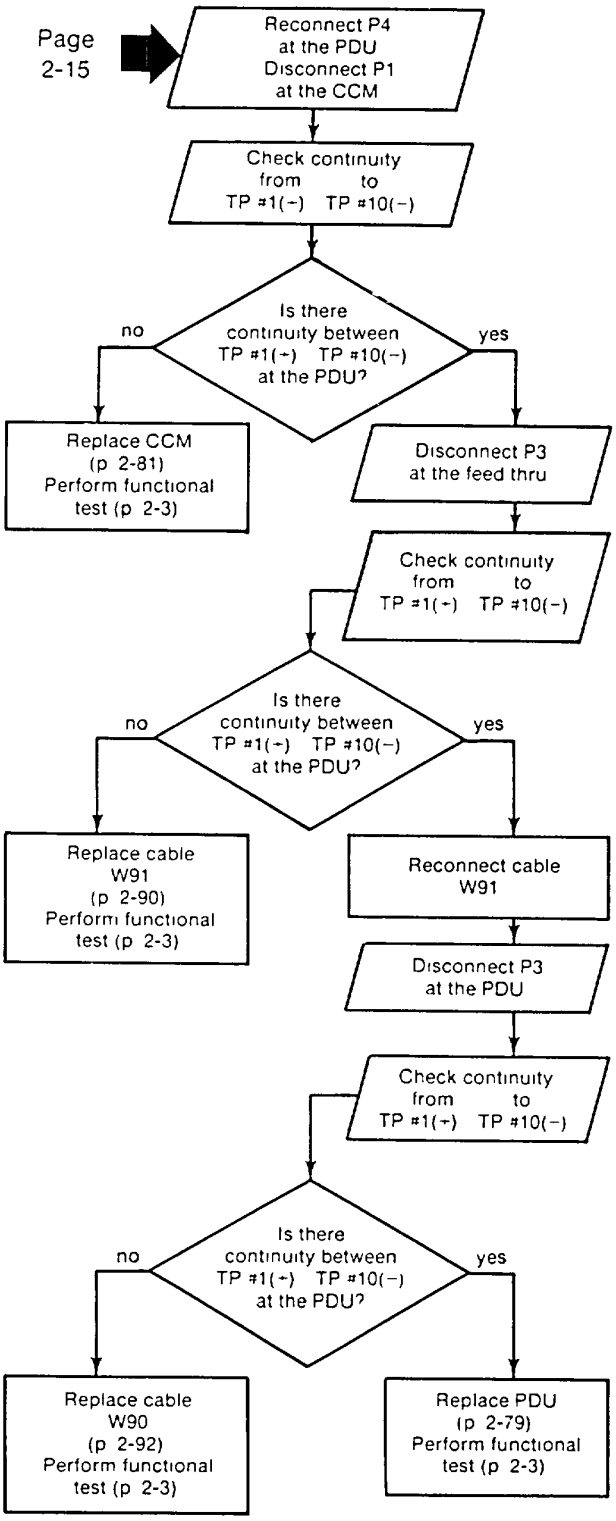


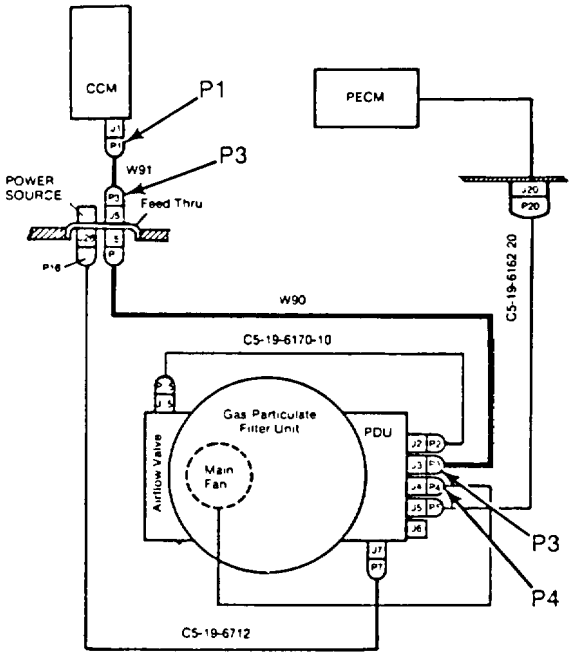
PDU



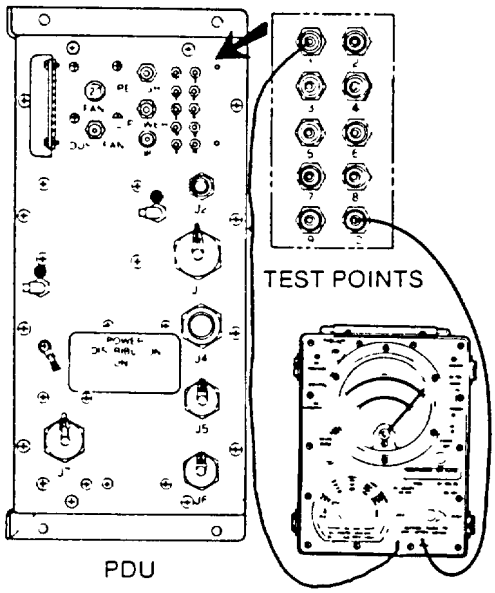
LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit

1. MASK LIGHT FLASHING AND/OR WARNING HORN SOUNDING (CONT).



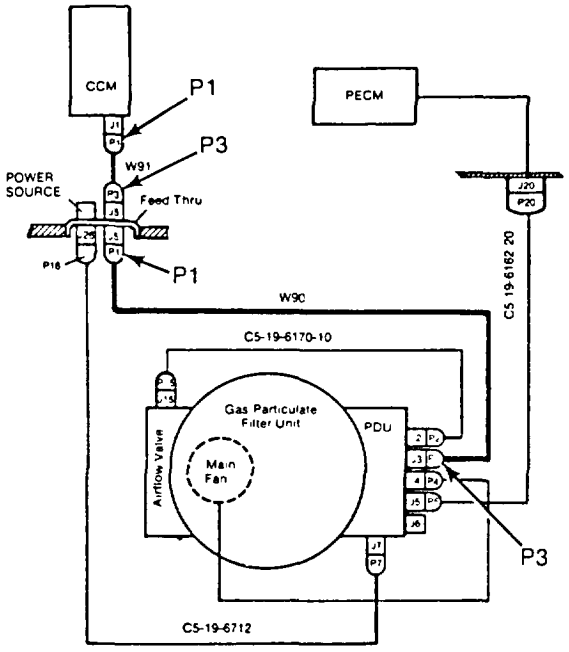


SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

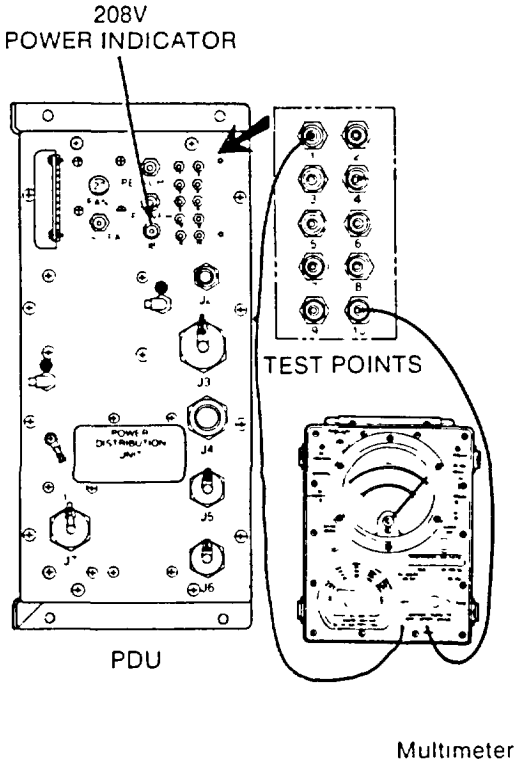


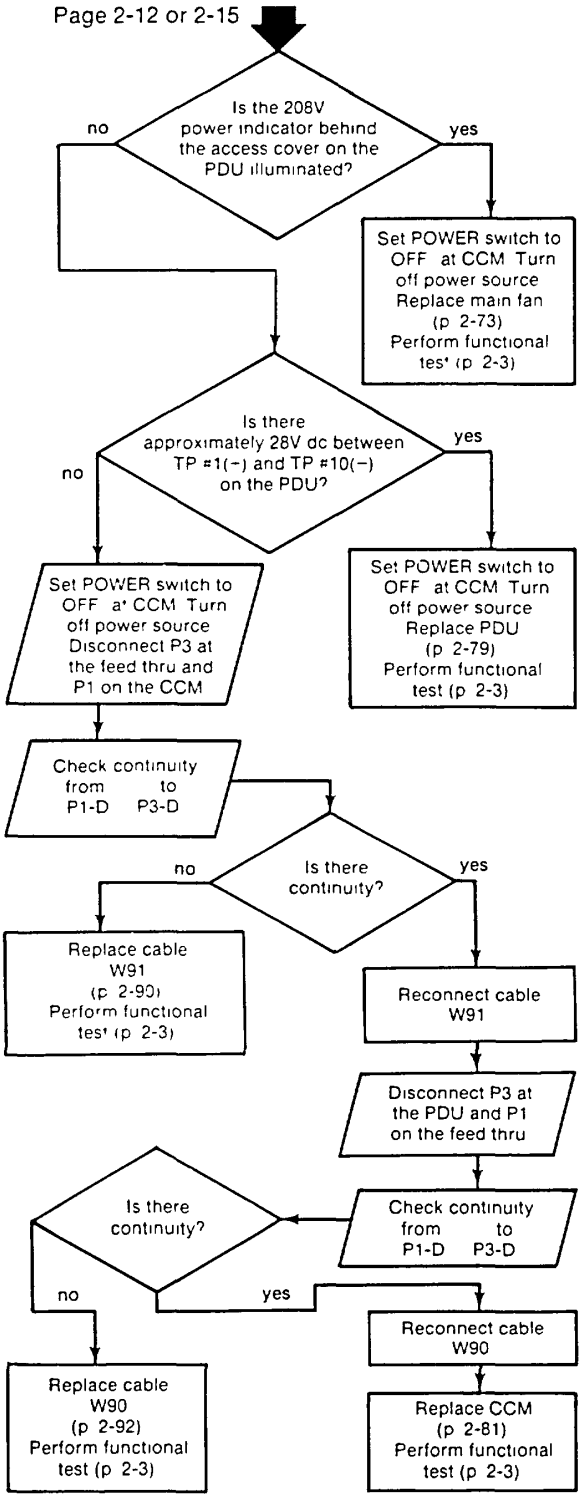
MULTIMETER

LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point



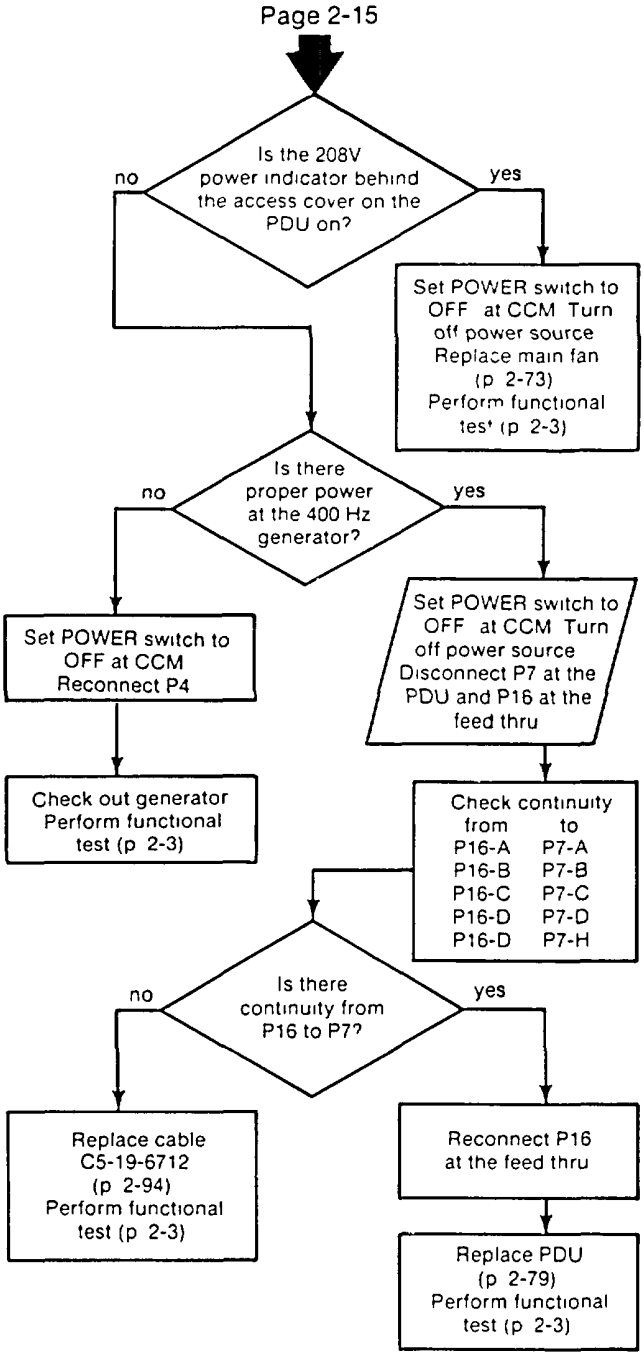
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

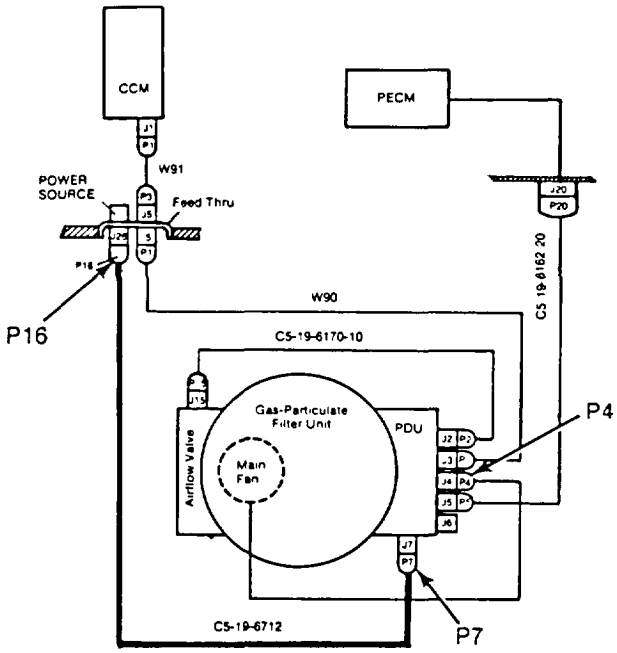




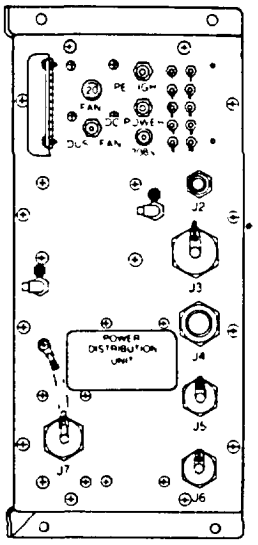
LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point

1. MASK LIGHT FLASHING AND/OR WARNING HORN SOUNDING (CONT)



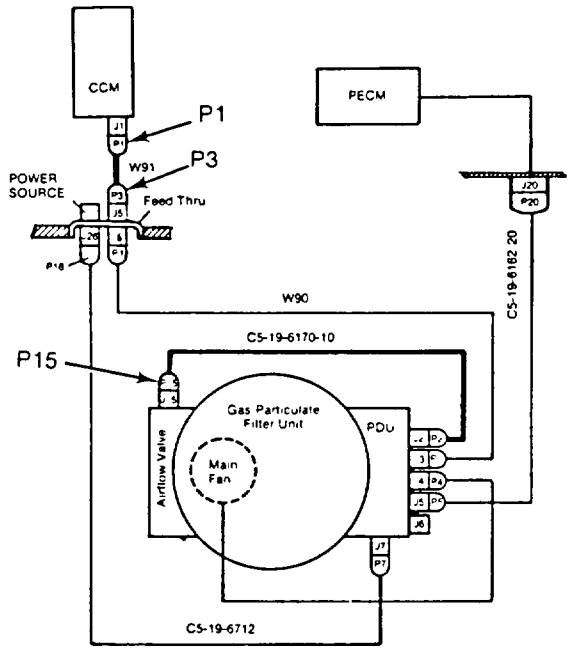


SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM



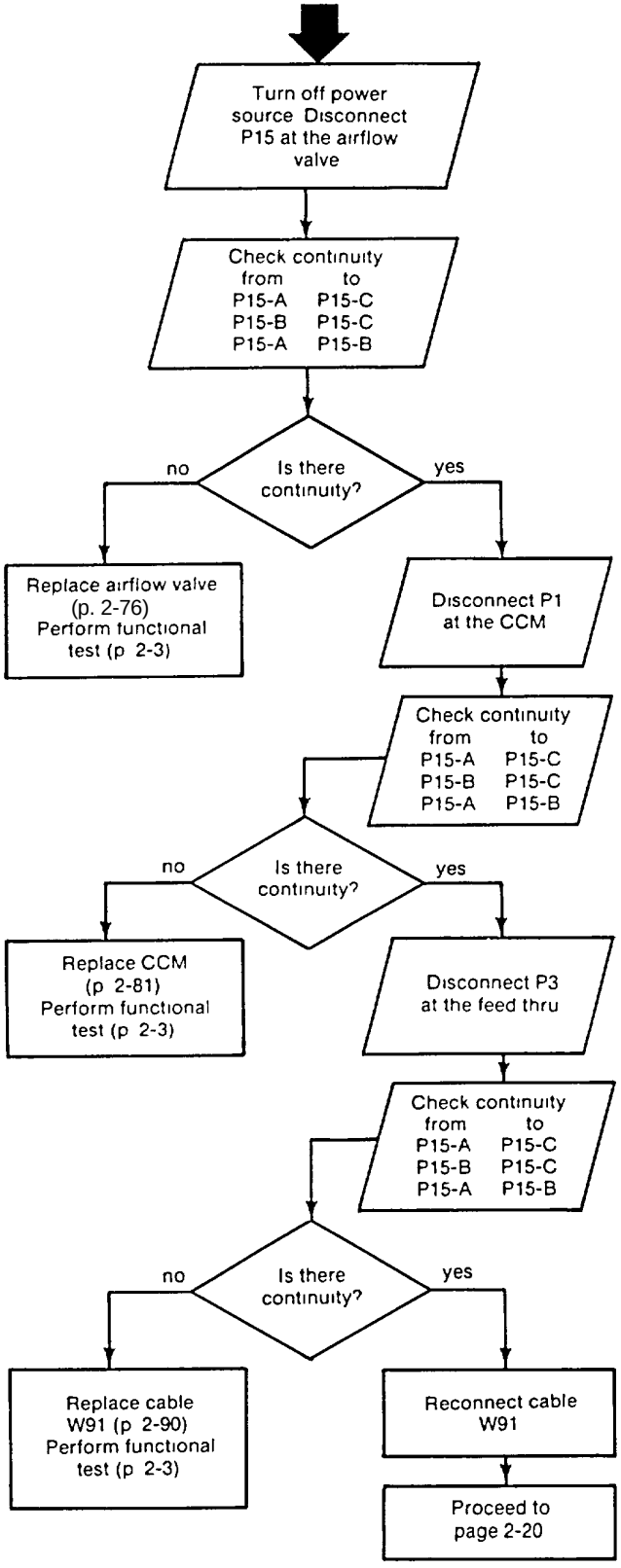
PDU

LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit



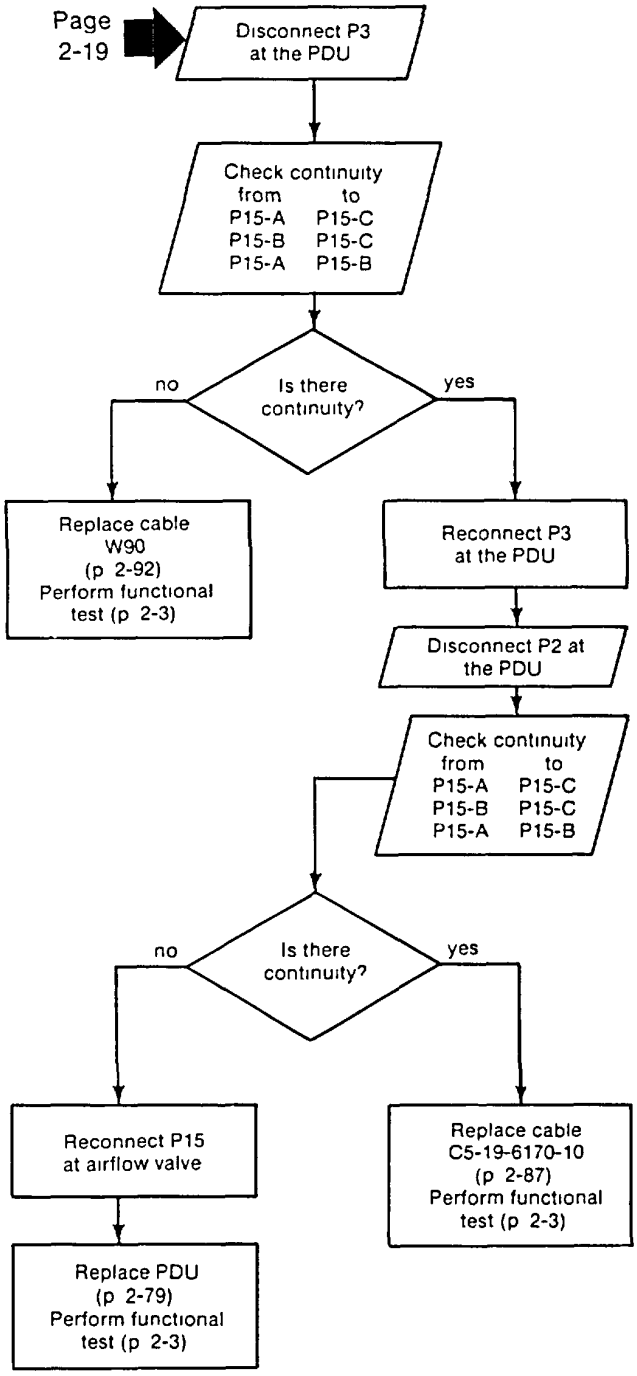
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

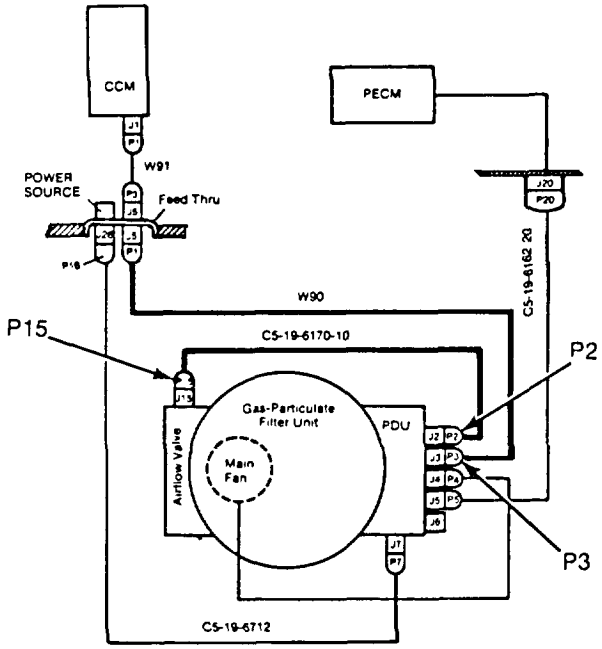
Page 2-11



LEGEND
CCM = Compartment Control Module

1. MASK LIGHT FLASHING AND/OR WARNING HORN SOUNDING (CONT).

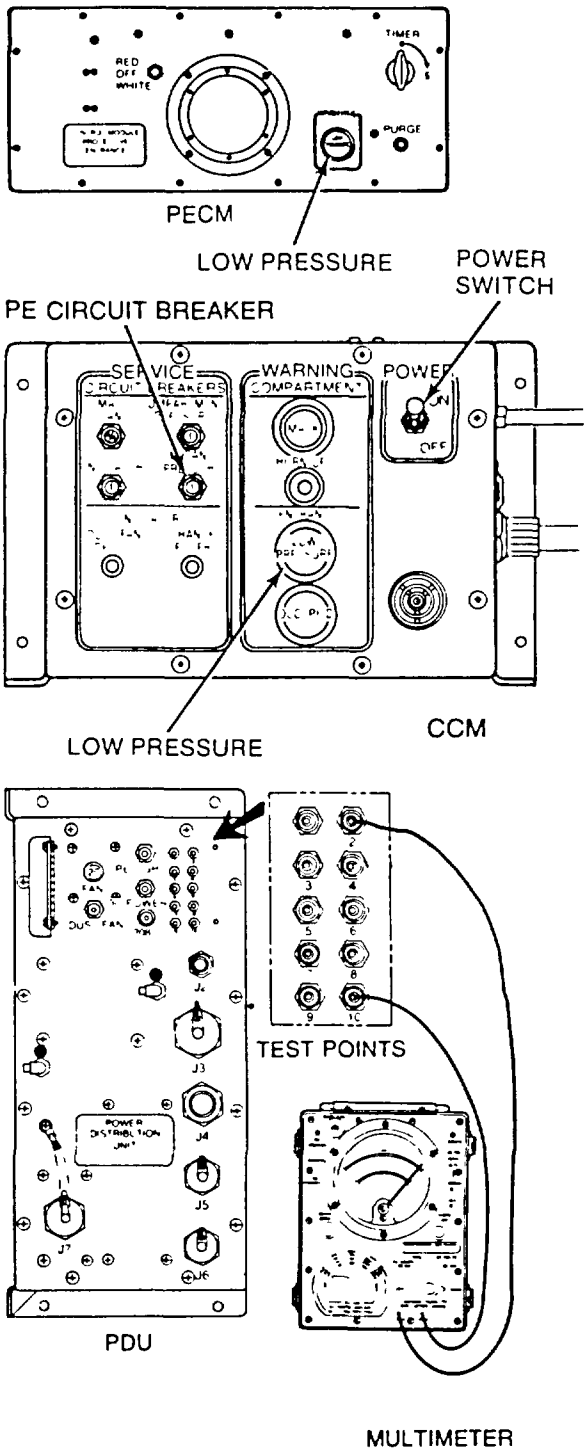


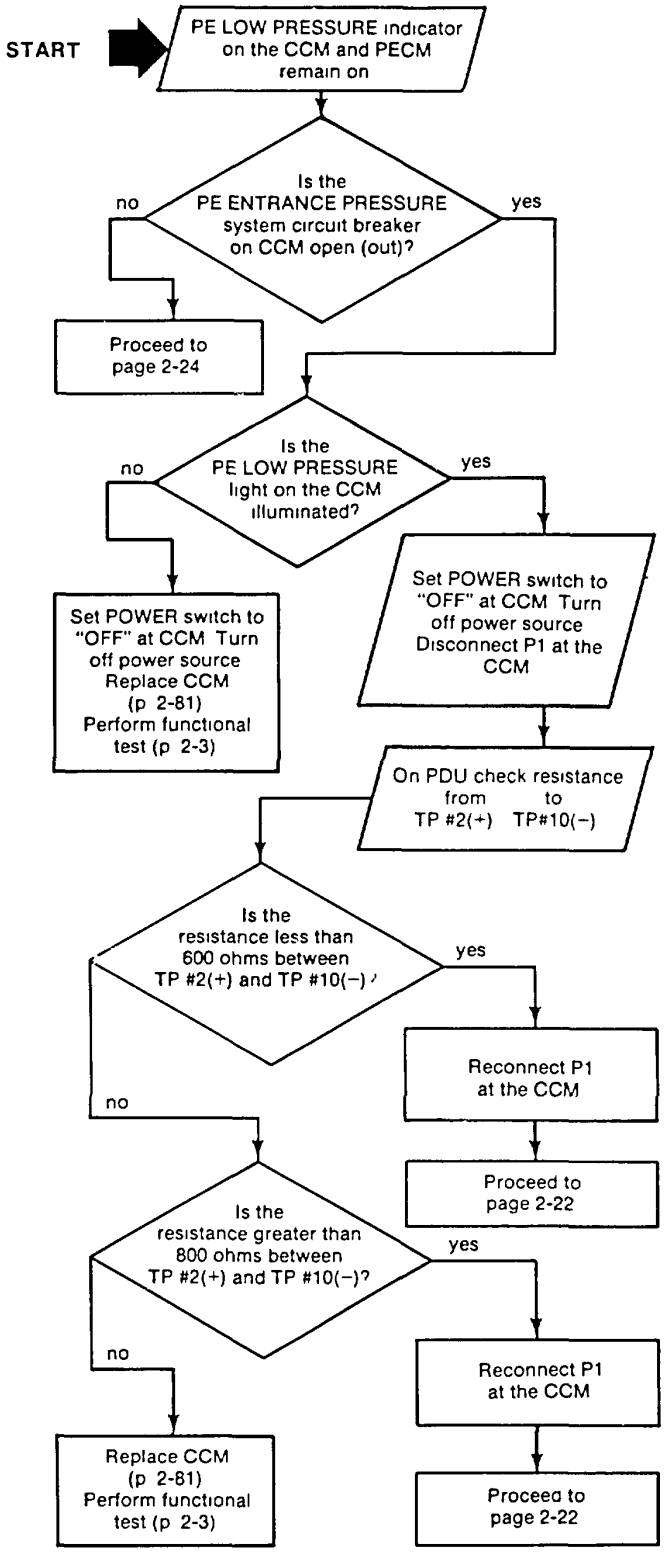


SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

LEGEND
PDU = Power Distribution Unit

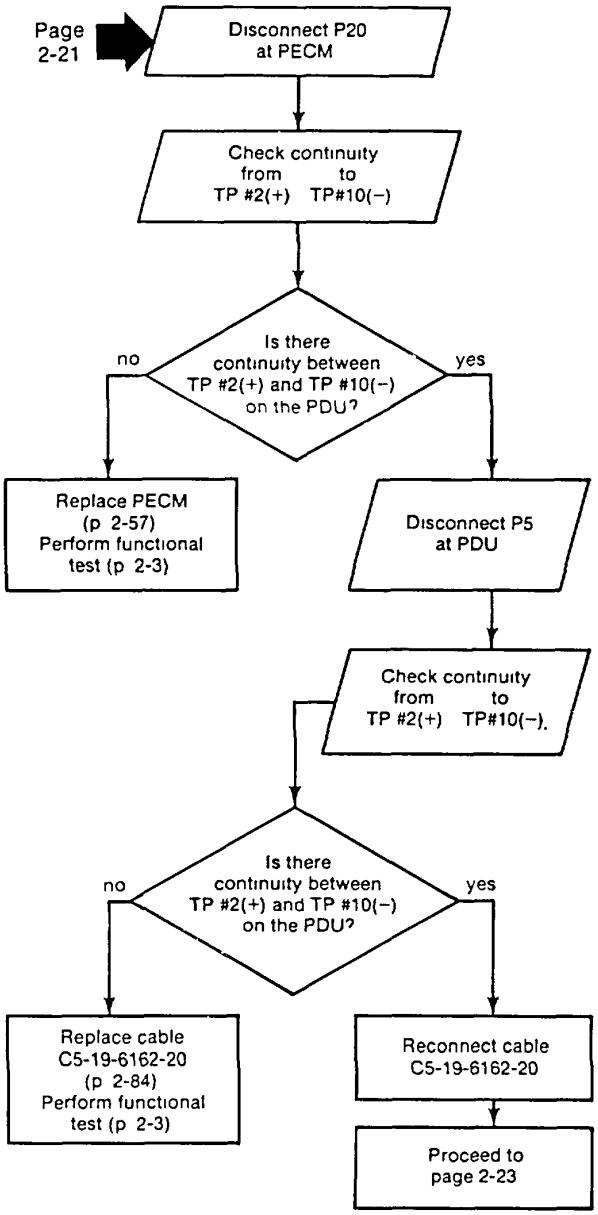
2. PROTECTIVE ENTRANCE LOW PRESSURE LIGHTS ON.

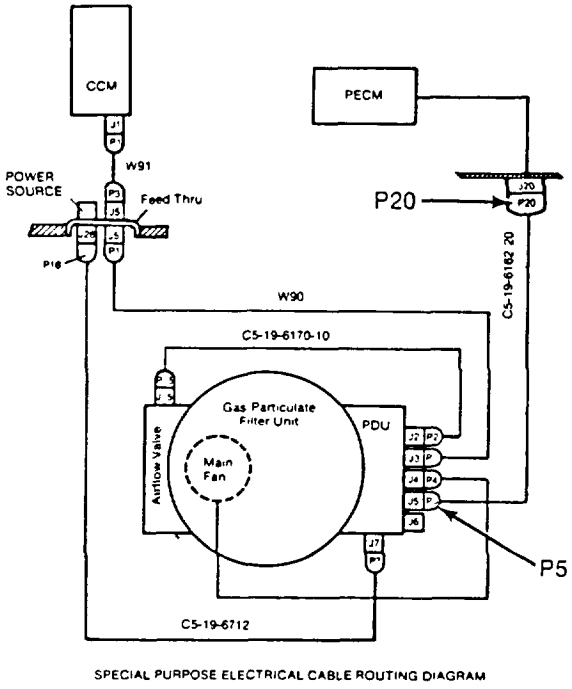




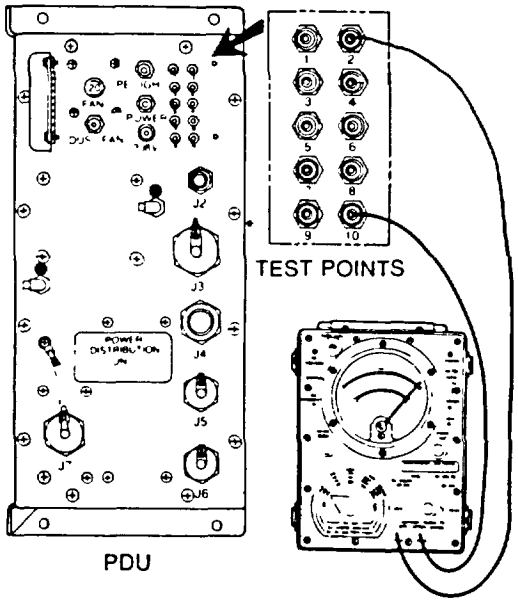
LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
PE = Protective Entrance
PECM = Protective Entrance Control Module
TP = Test Point

2. PROTECTIVE ENTRANCE LOW PRESSURE LIGHTS ON (CONT).

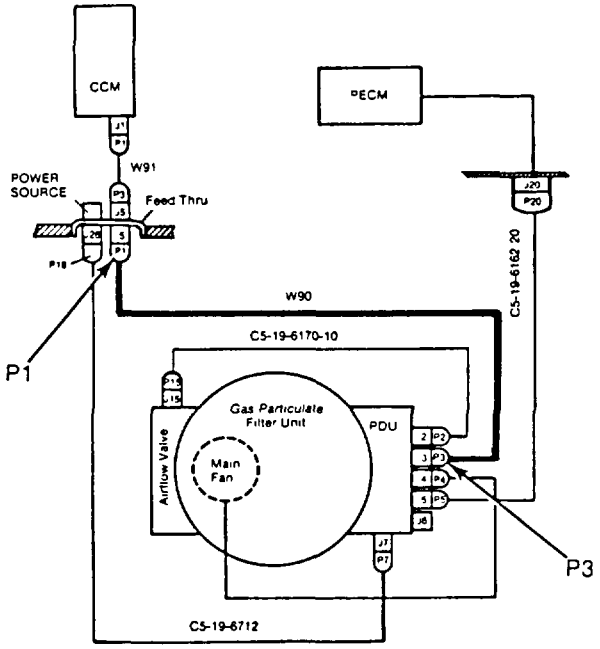




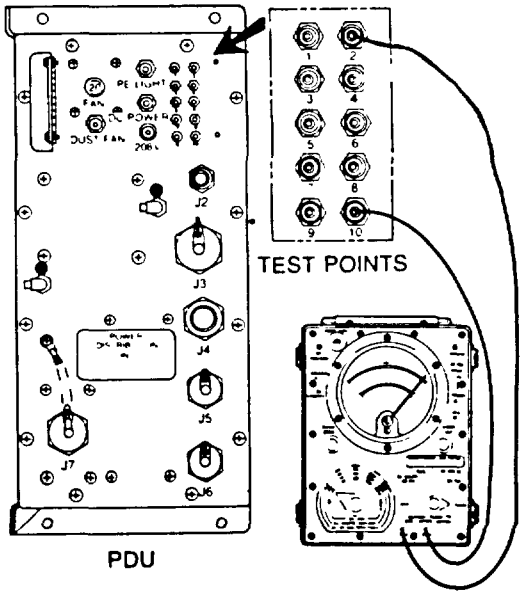
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM



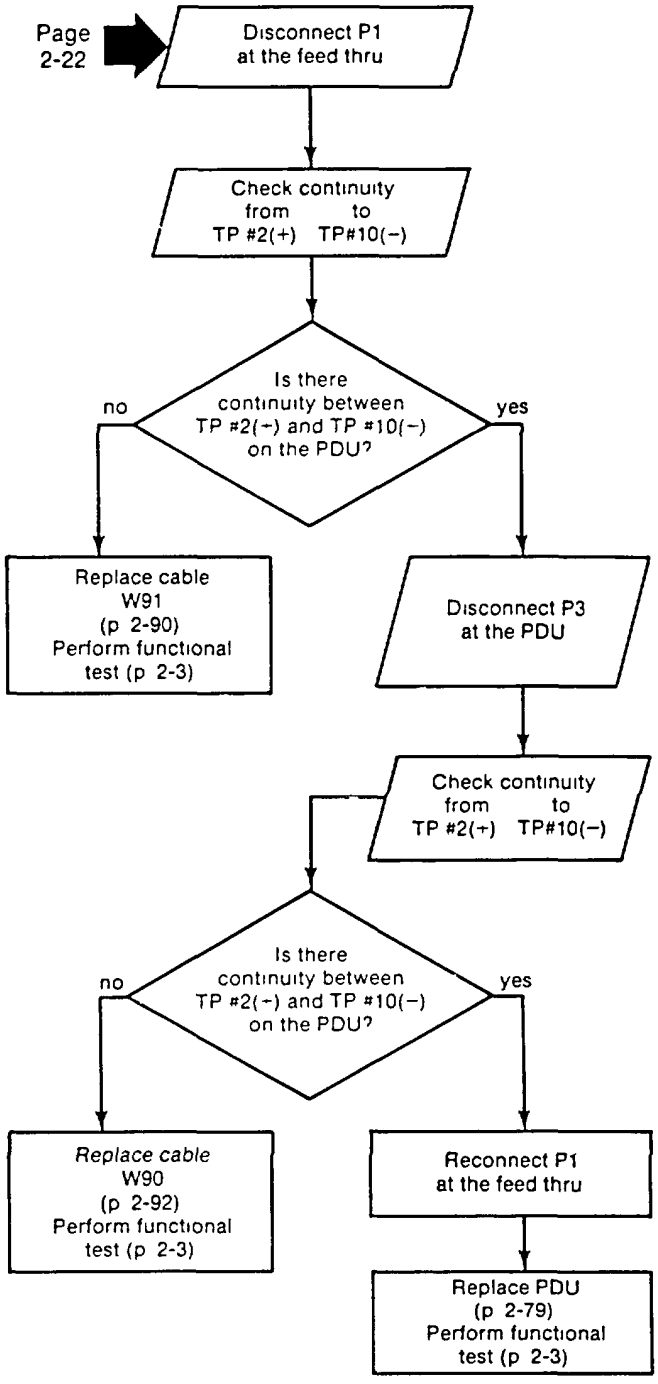
LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point



SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

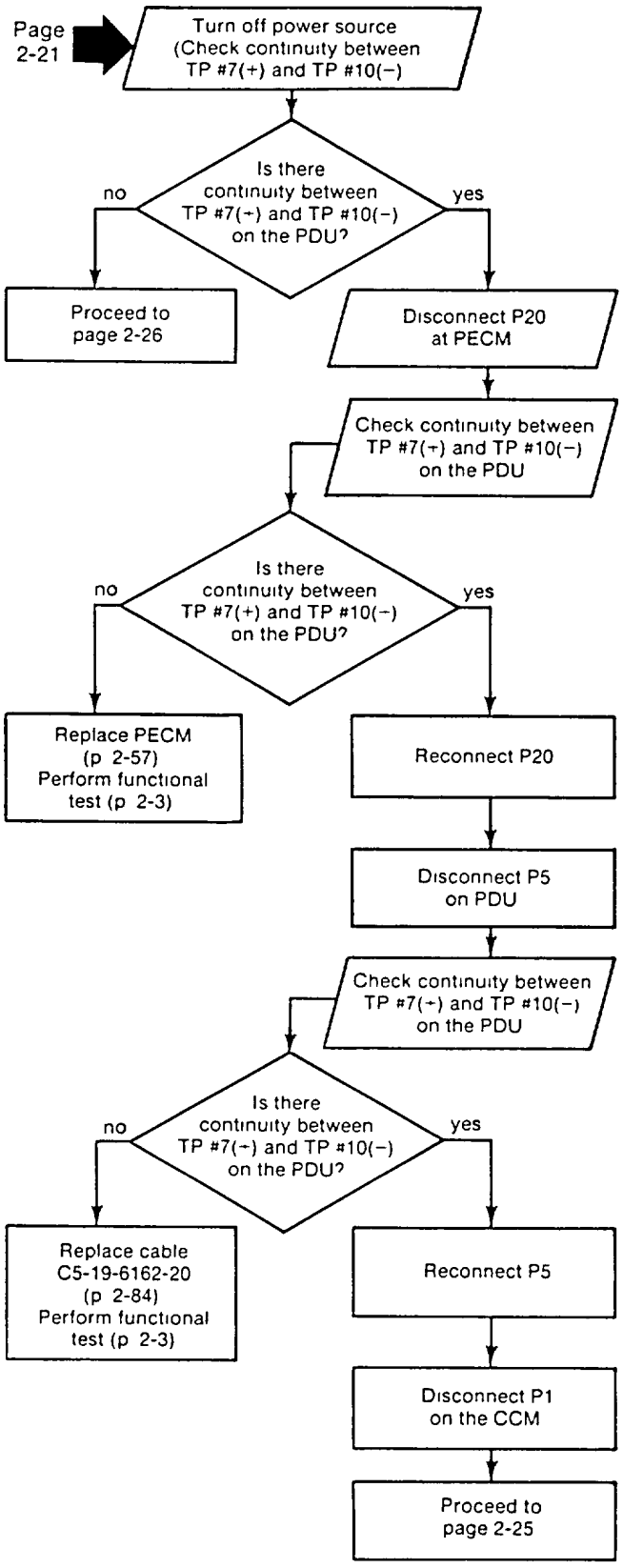


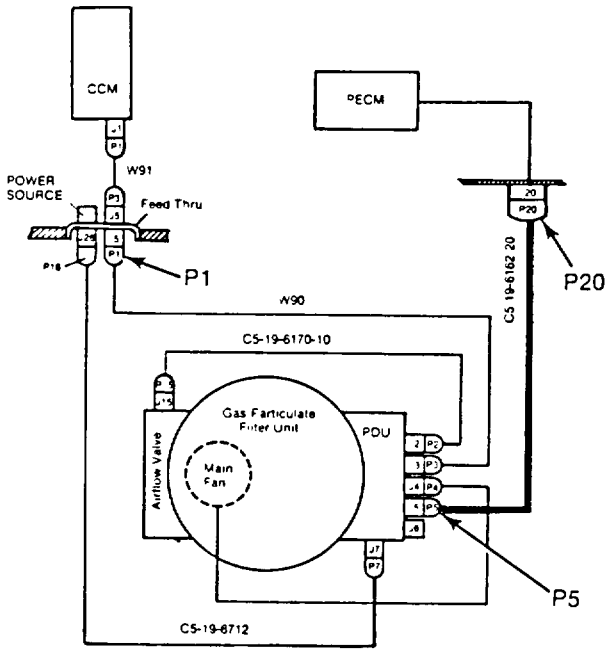
MULTIMETER



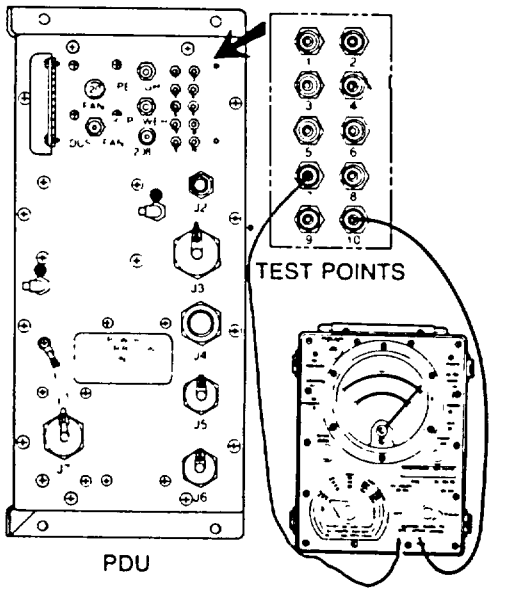
LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point

2. PROTECTIVE ENTRANCE LOW PRESSURE LIGHTS ON (CONT).



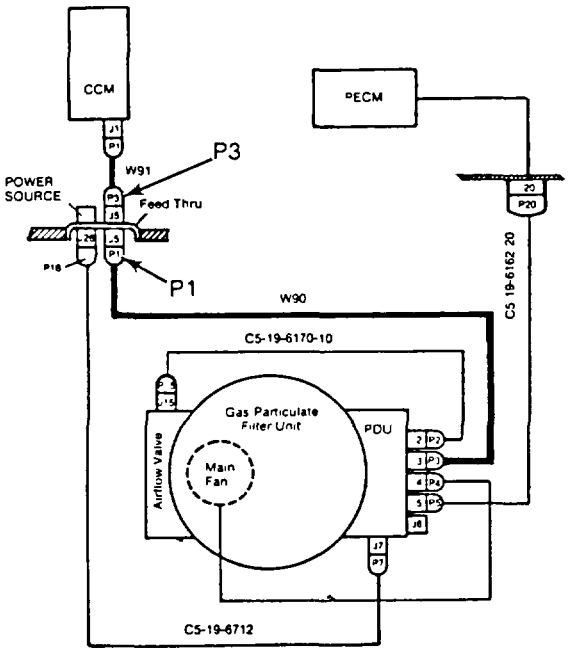


SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

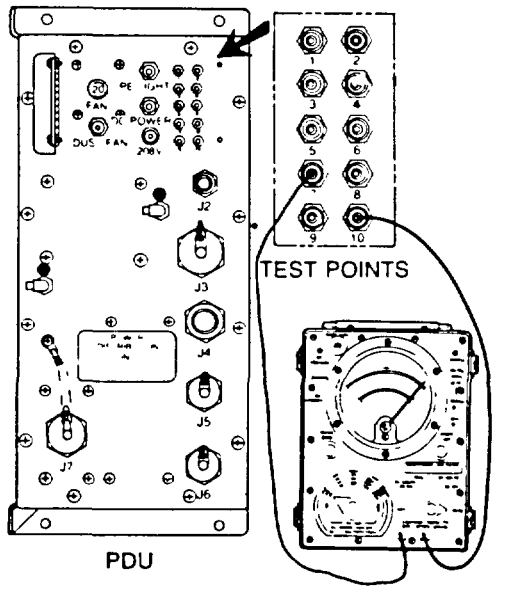


MULTIMETER

LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit

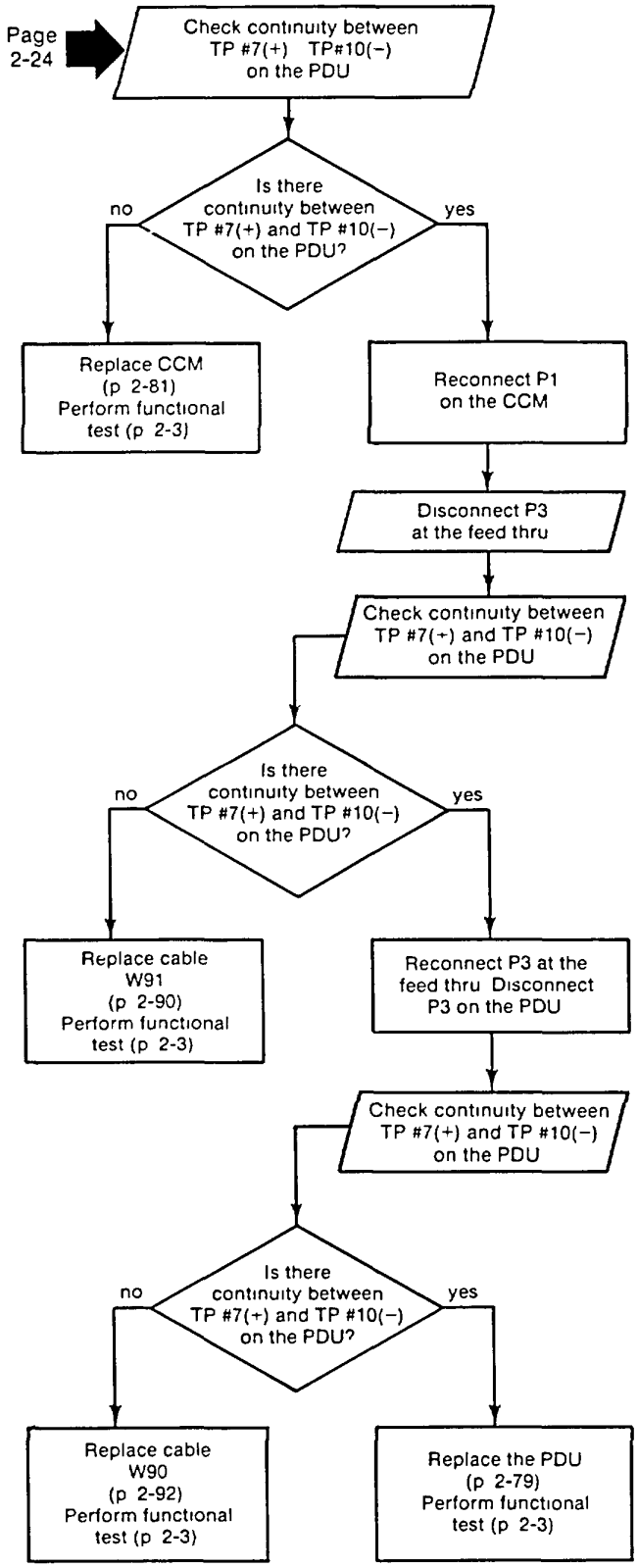


SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

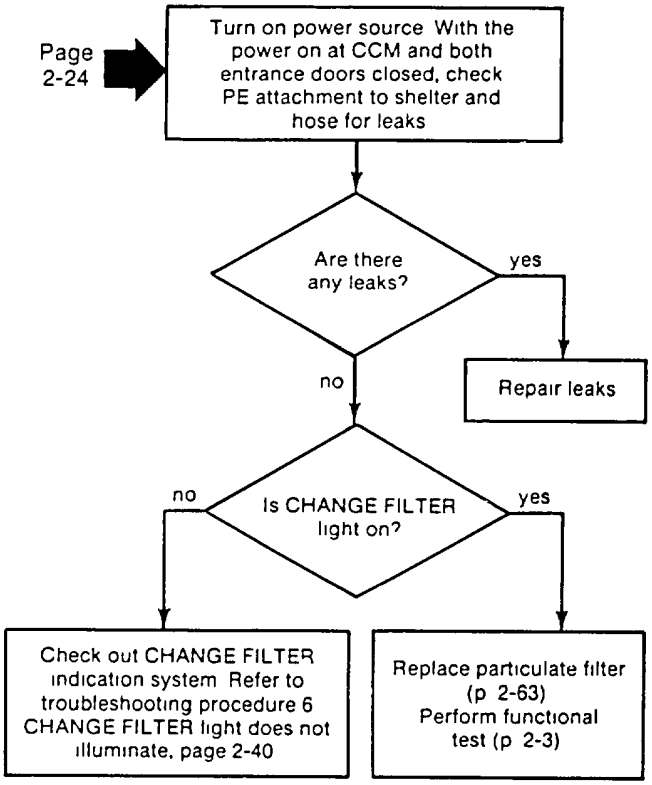


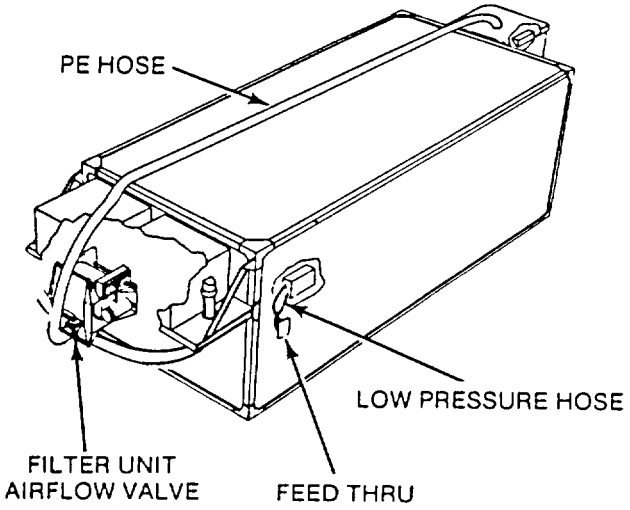
MULTIMETER

LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point



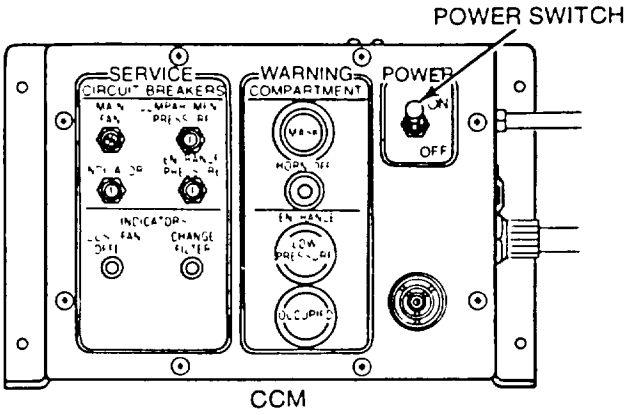
2. PROTECTIVE ENTRANCE LOW PRESSURE LIGHTS ON (CONT).

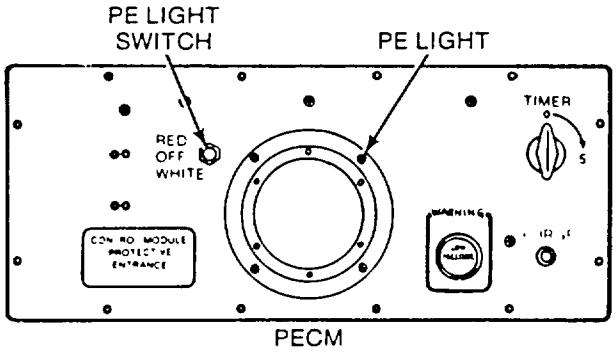


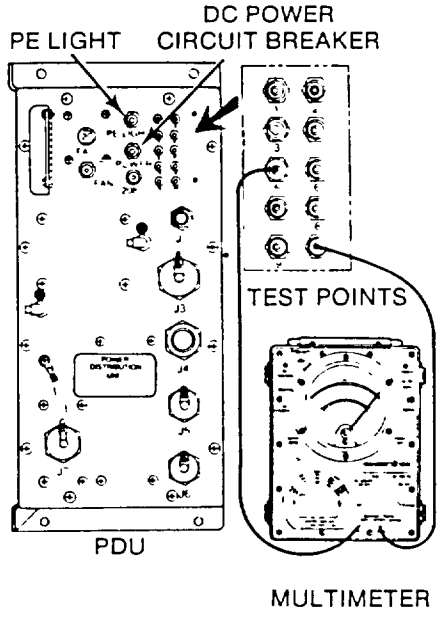


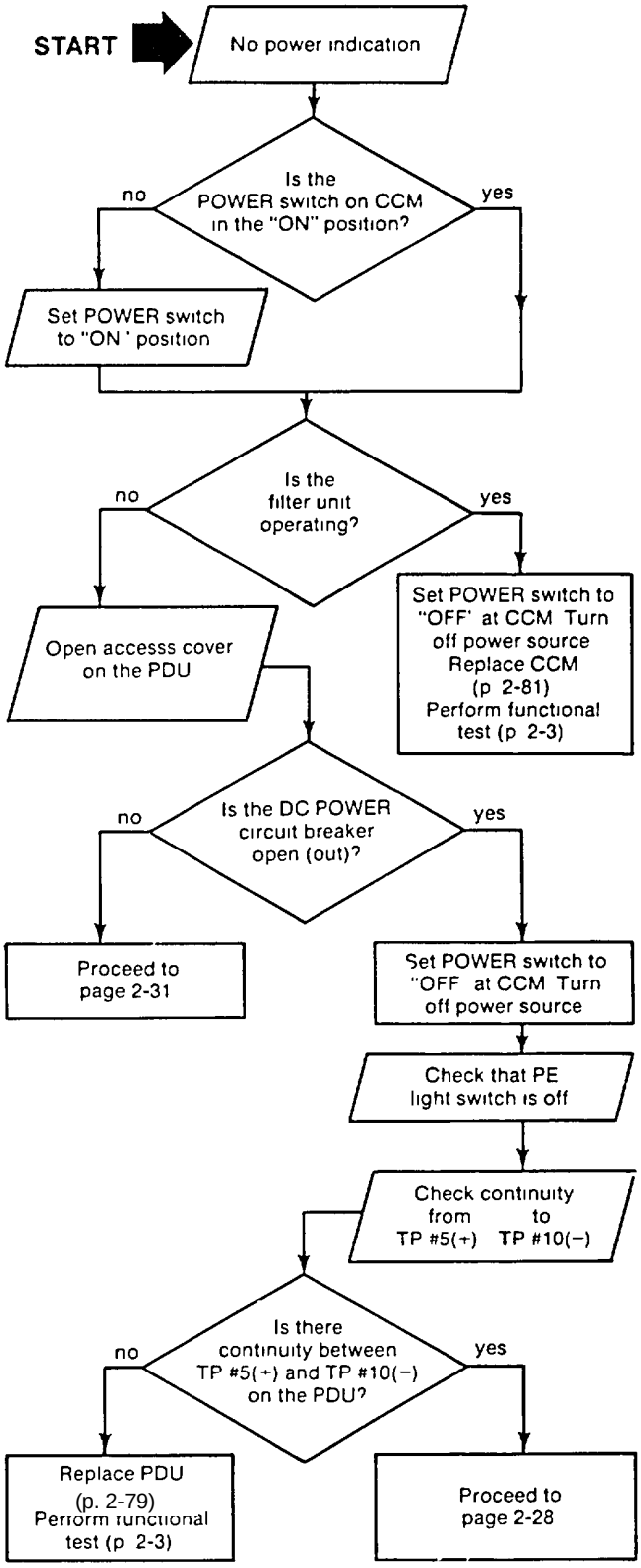
LEGEND
CCM = Compartment Control Module
PE = Protective Entrance

3. NO POWER INDICATION (ALL INDICATOR LIGHTS DO NOT ILLUMINATE WHEN PRESSED TO TEST.)



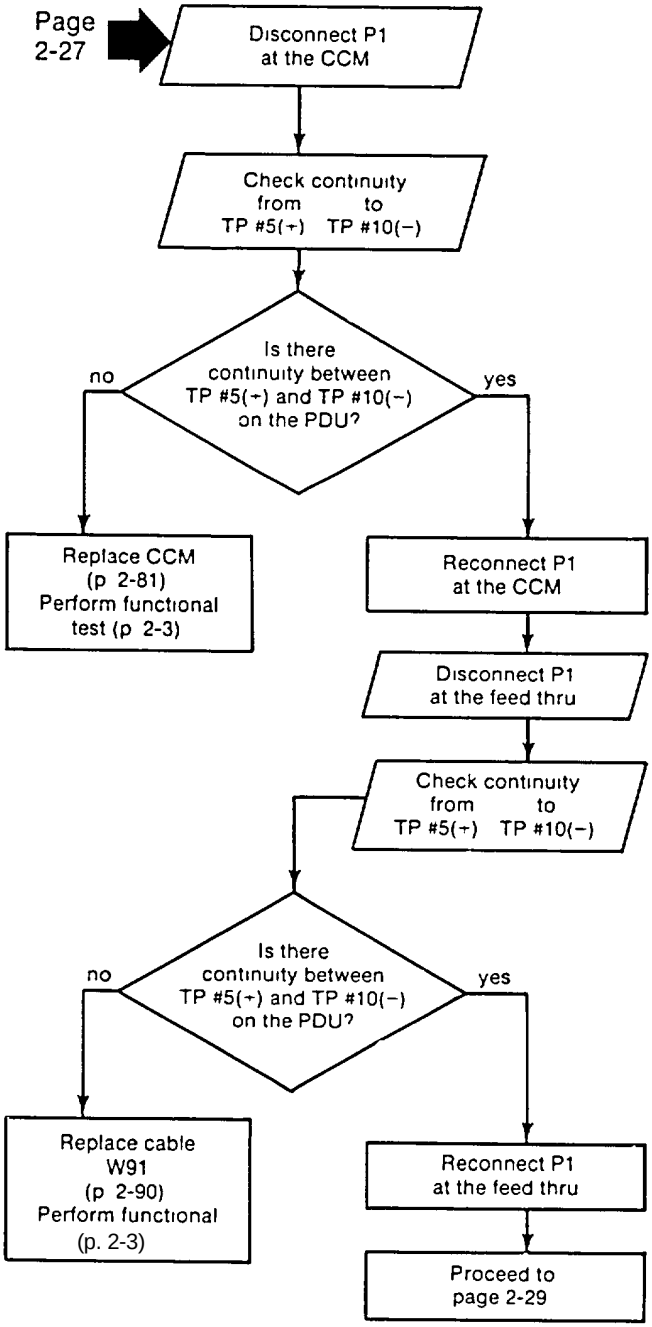


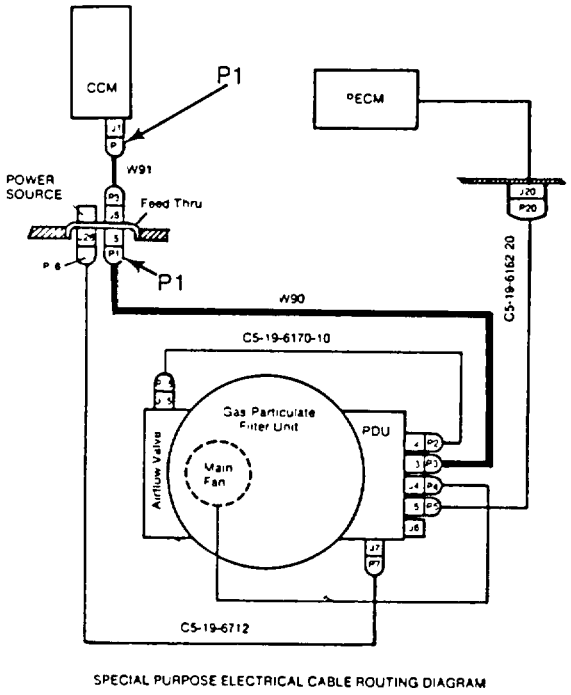




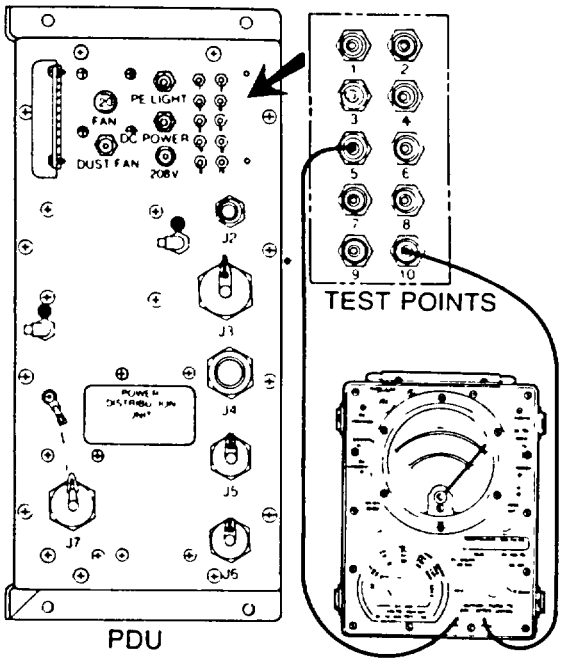
LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
PE = Protective Entrance
PECM = Protective Entrance Control Module
TP = Test Point

3. NO POWER INDICATION (ALL INDICATOR LIGHTS DO NOT ILLUMINATE WHEN PRESSED TO TEST) (CONT)

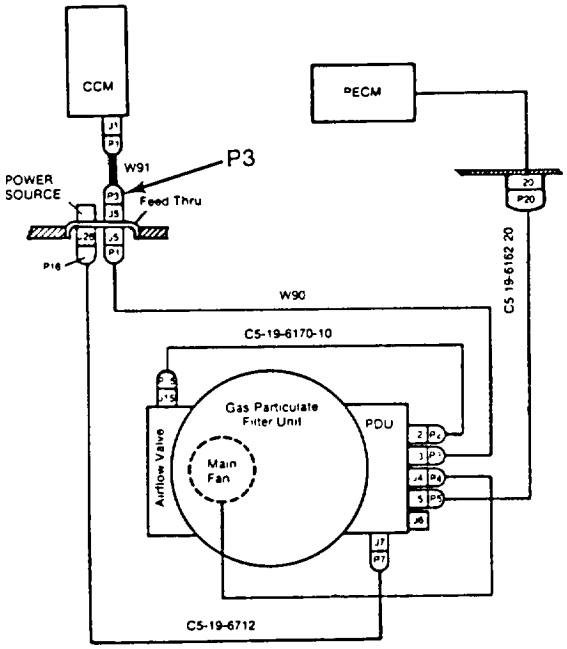




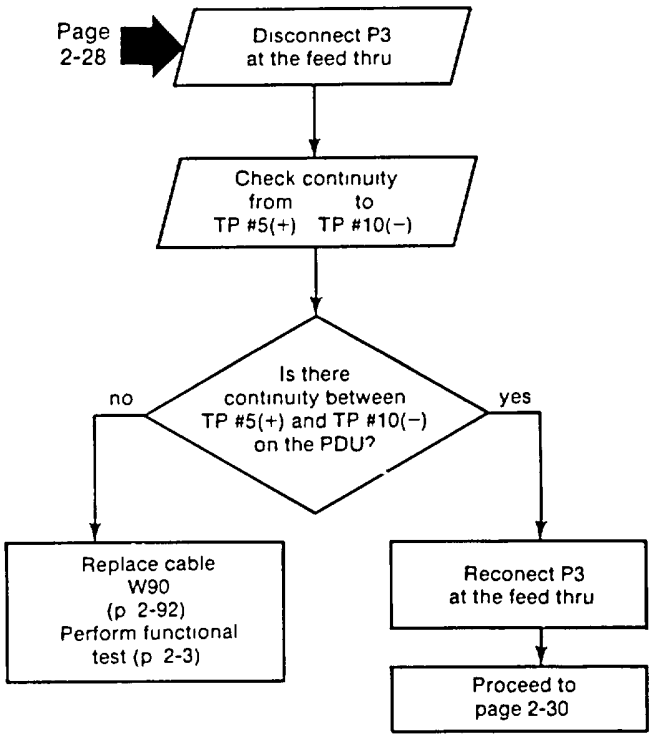
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM



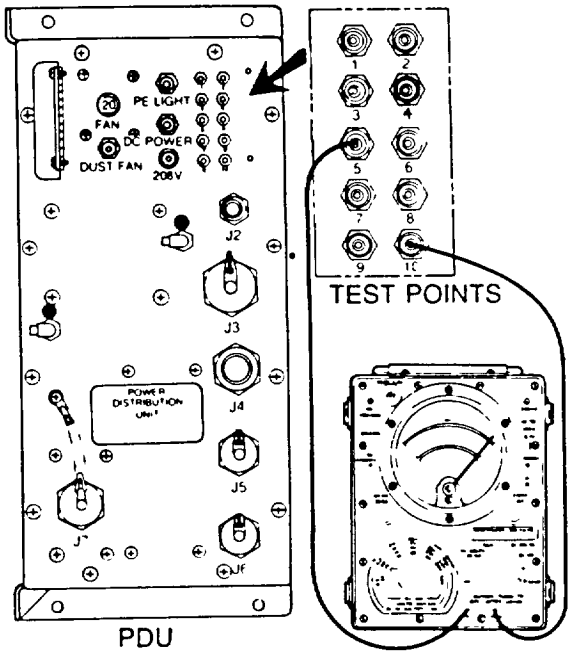
LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point



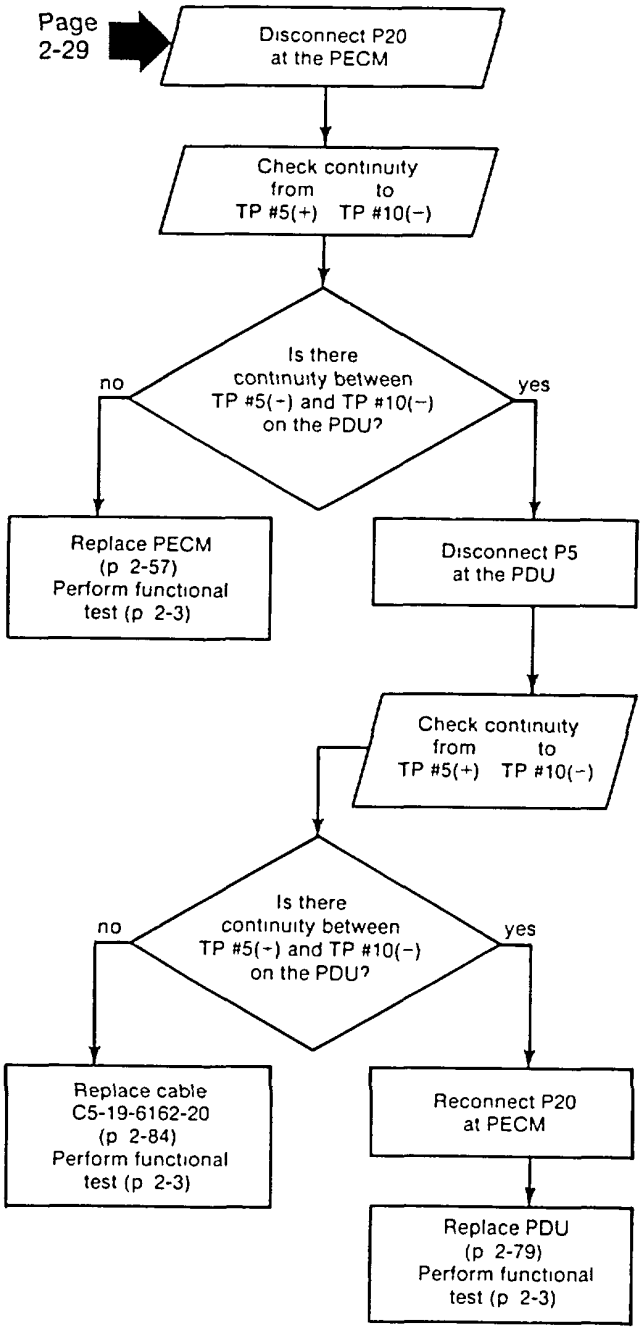
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

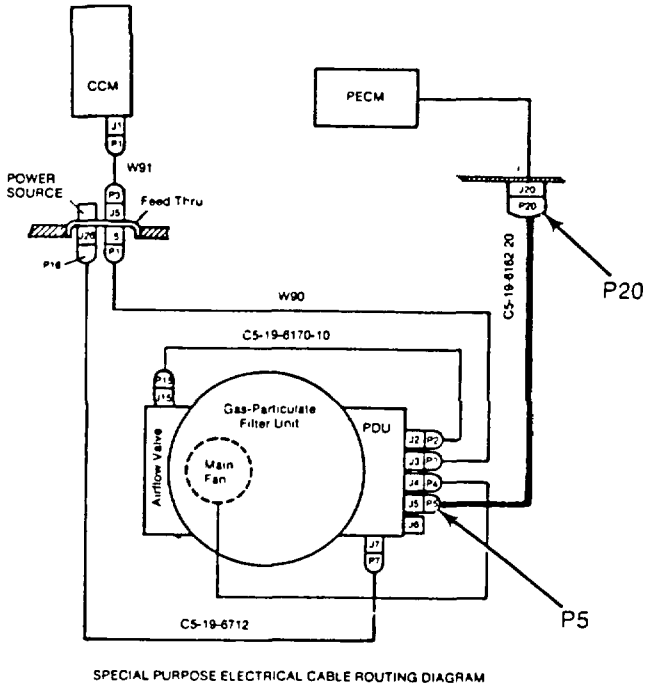


LEGEND
PDU = Power Distribution Unit
TP = Test Point

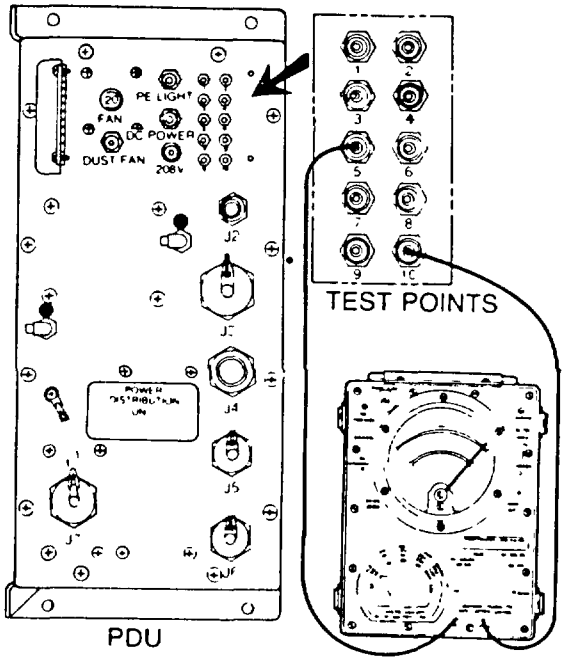


3. NO POWER INDICATION (ALL INDICATOR LIGHTS DO NOT ILLUMINATE WHEN PRESSED TO TEST) (CONT)

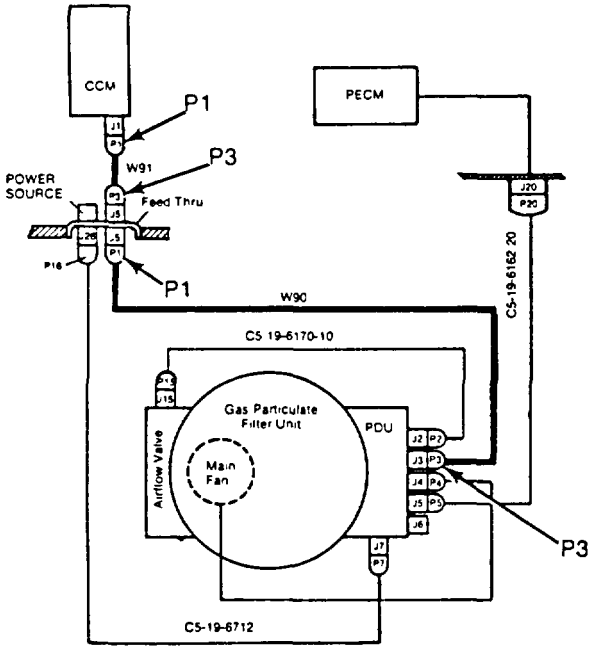




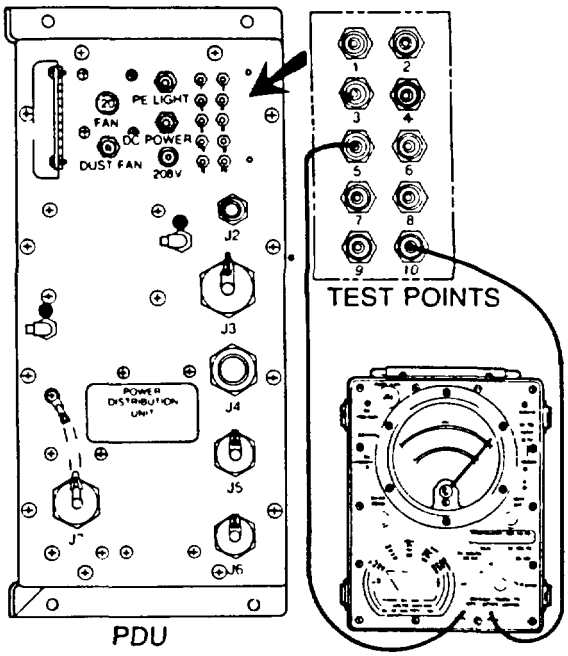
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM



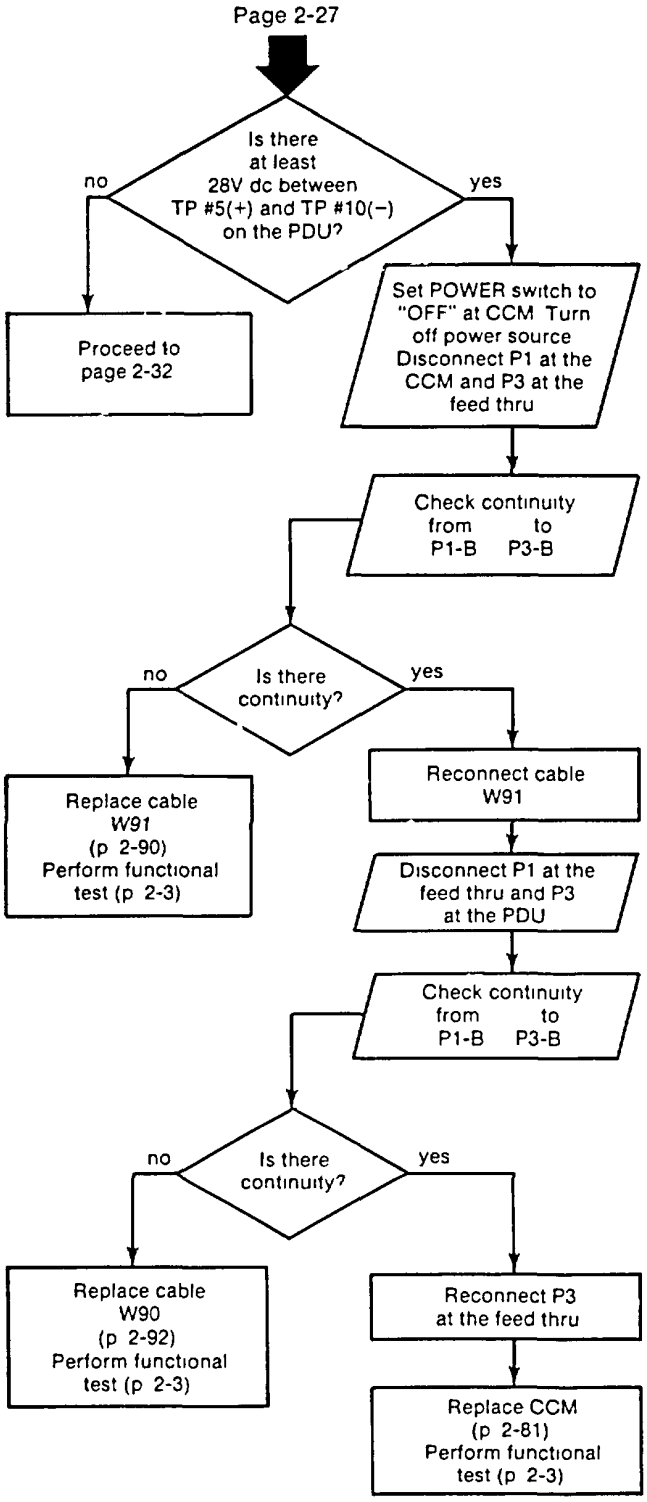
LEGEND
PDU = Power Distribution Unit
PECM = Protective Entrance Control Module
TP = Test Point



SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

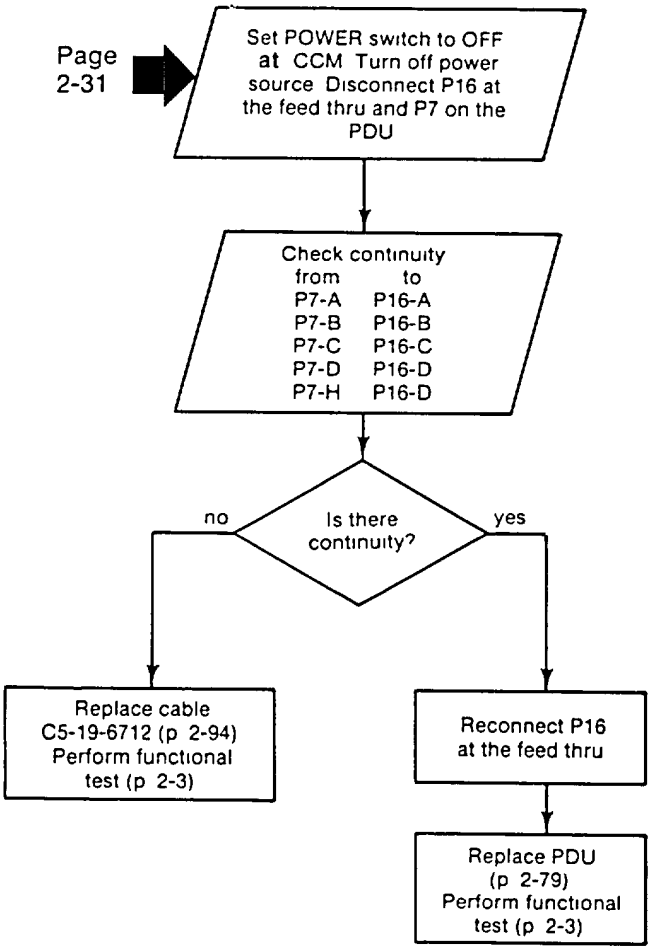


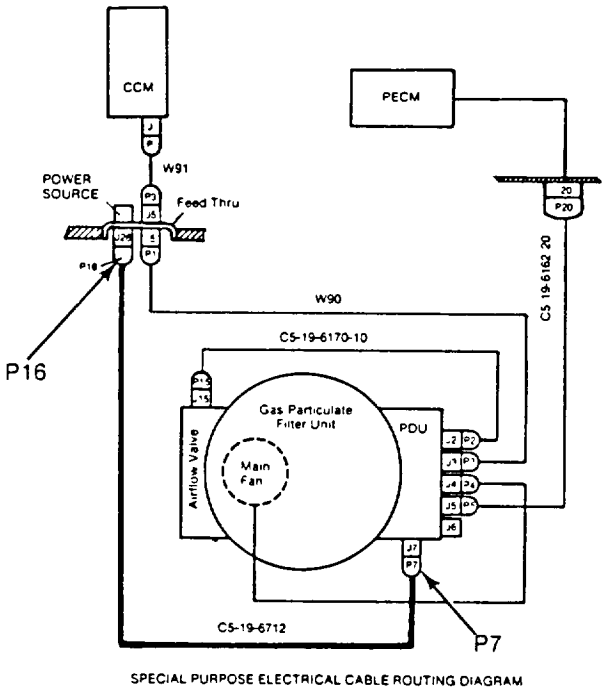
MULTIMETER



LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point

3. NO POWER INDICATION (ALL INDICATOR LIGHTS DO NOT ILLUMINATE WHEN PRESSED TO TEST) (CONT).

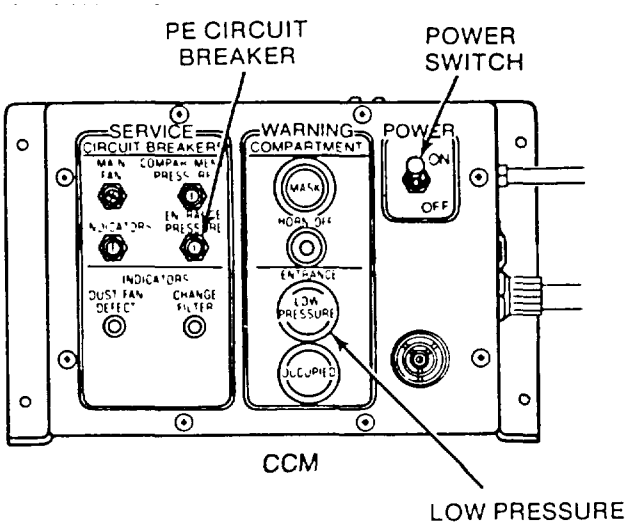


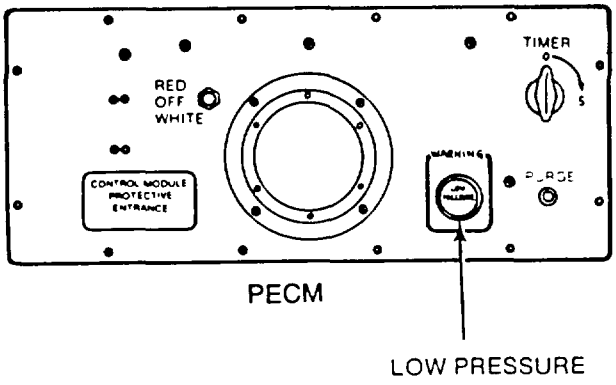


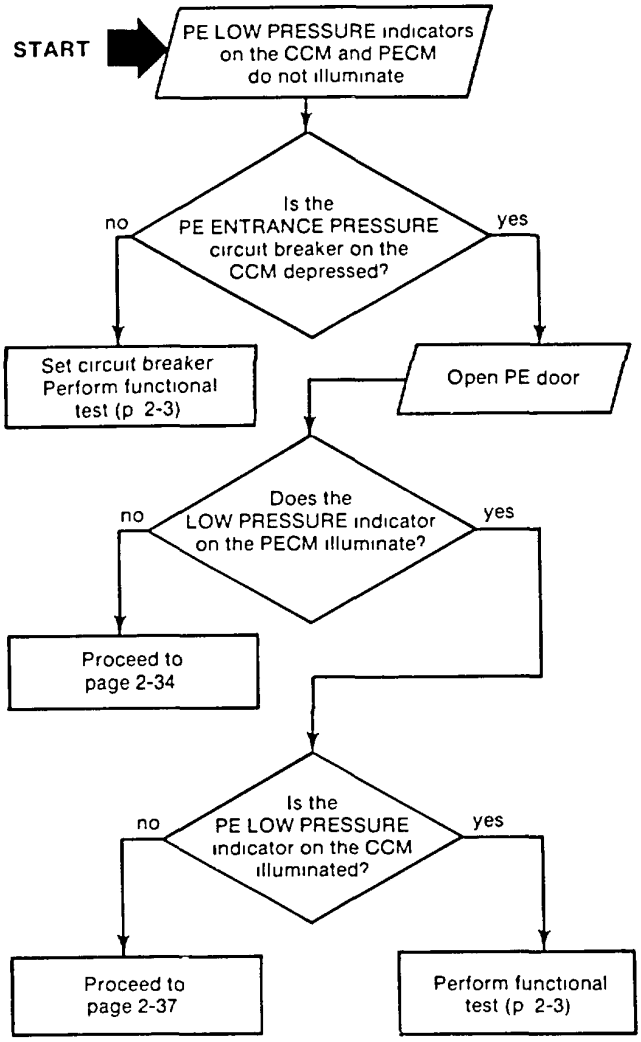
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

LEGEND
PDU = Power Distribution Unit

4. PROTECTIVE ENTRANCE LOW PRESSURE LIGHTS WILL NOT COME ON.

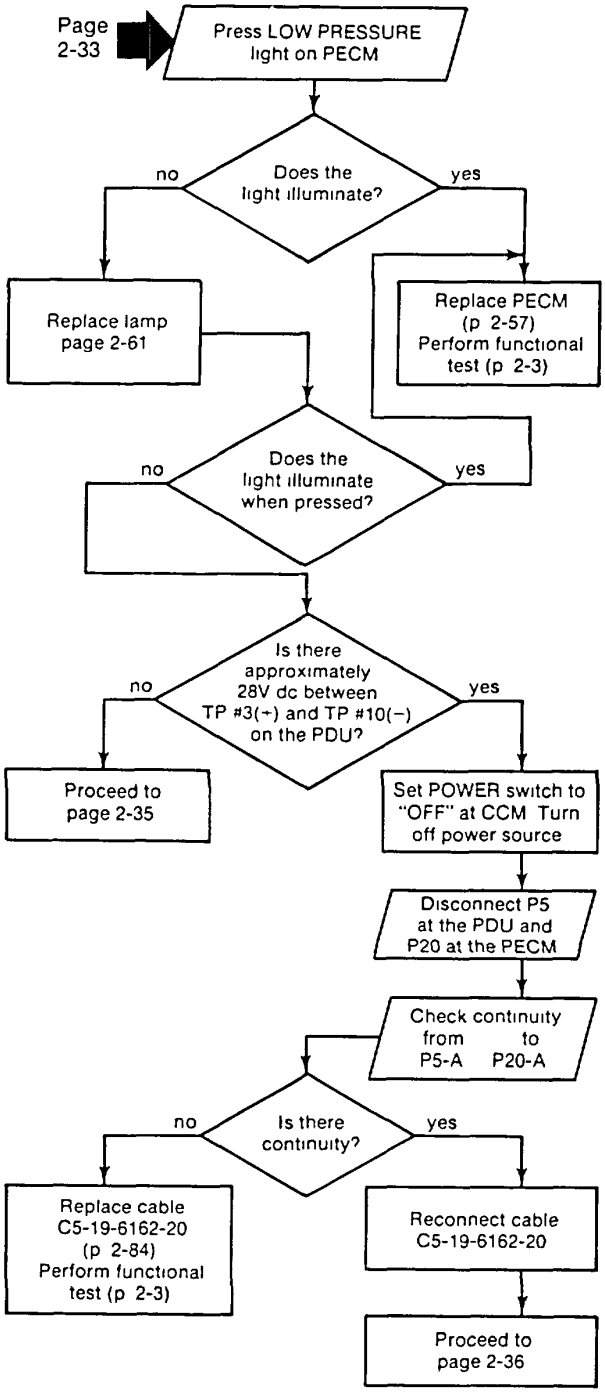


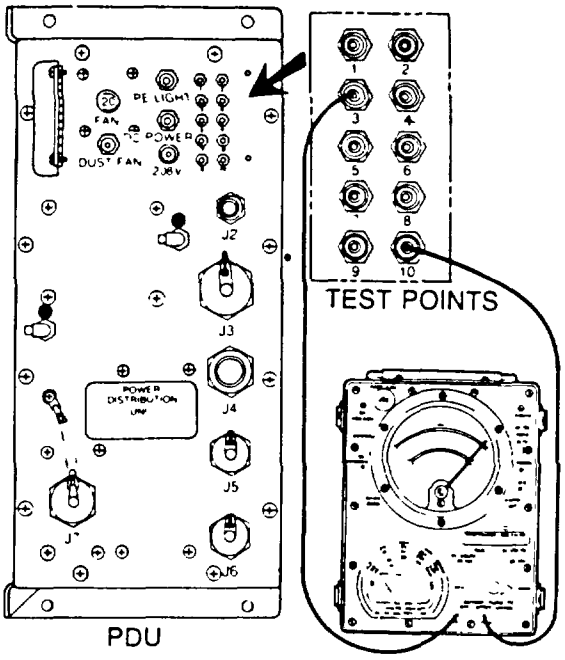


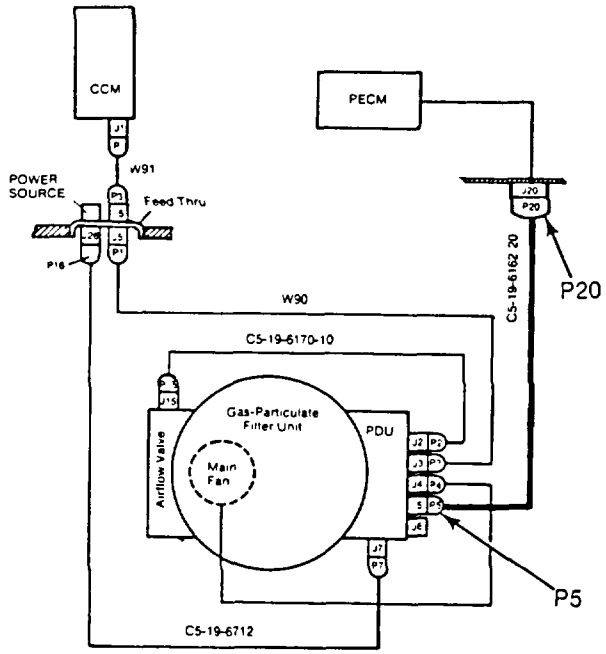


LEGEND
CCM = Compartment Control Module
PE = Protective Entrance
PECM = Protective Entrance Control Module

4. PROTECTIVE ENTRANCE LOW PRESSURE LIGHTS WILL NOT COME ON (CONT).

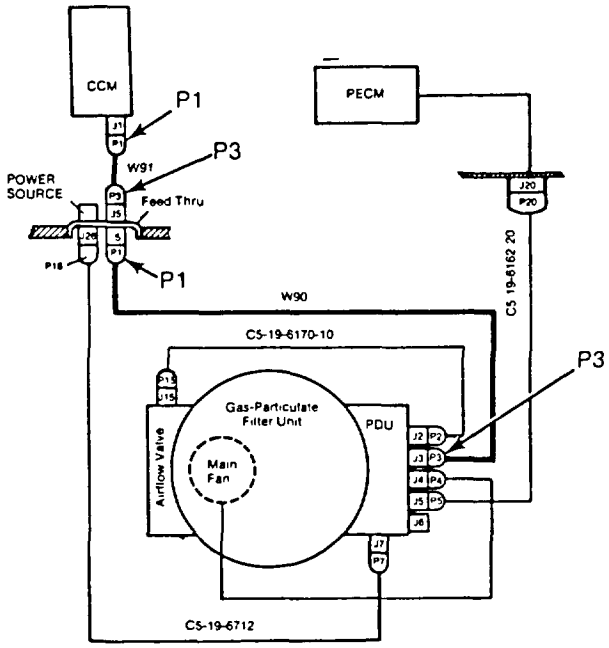




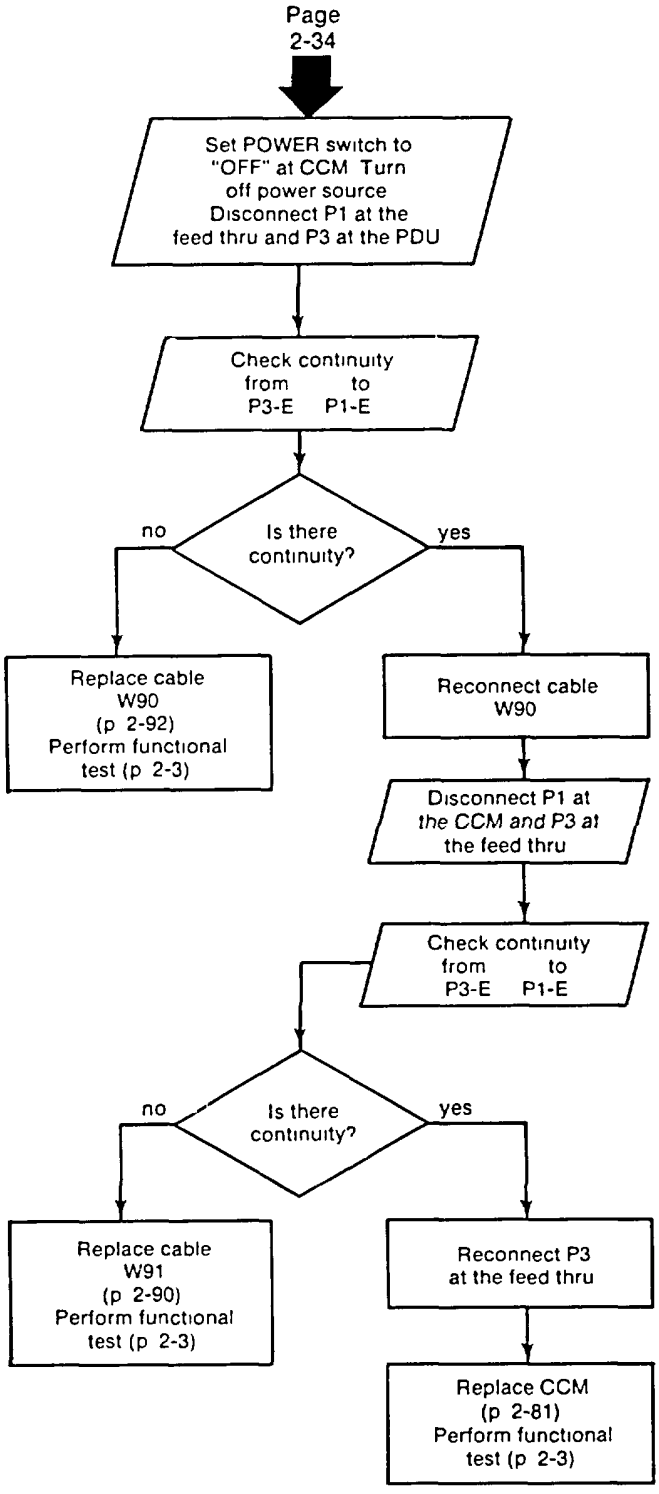


SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

LEGEND
PDU = Power Distribution Unit
PE = Protective Entrance
PECM = Protective Entrance Control Module
TP = Test Point

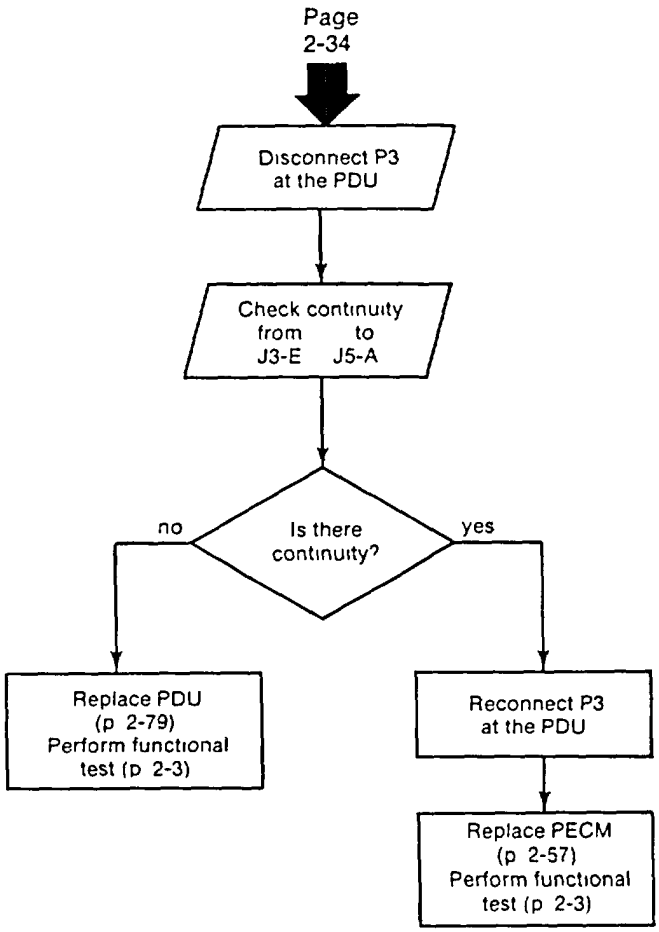


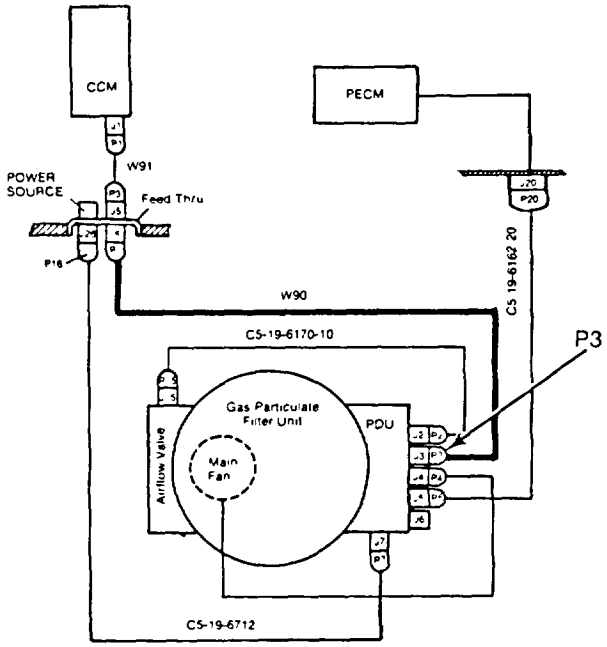
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM



LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit

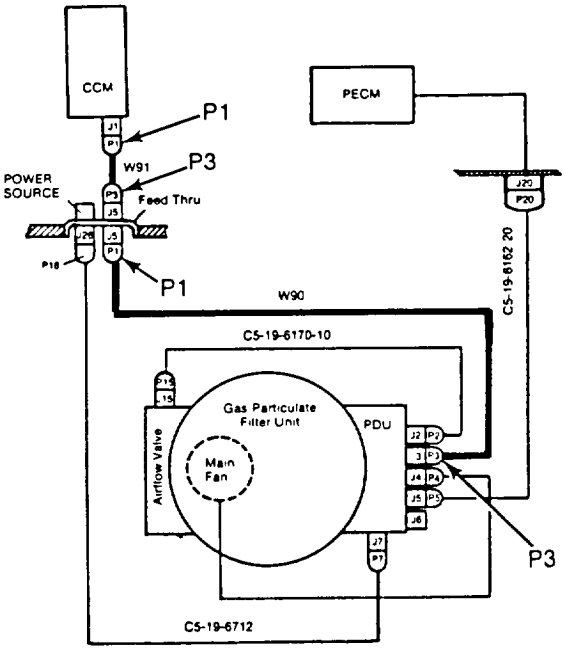
4. PROTECTIVE ENTRANCE LOW PRESSURE LIGHTS WILL NOT COME ON (CONT).



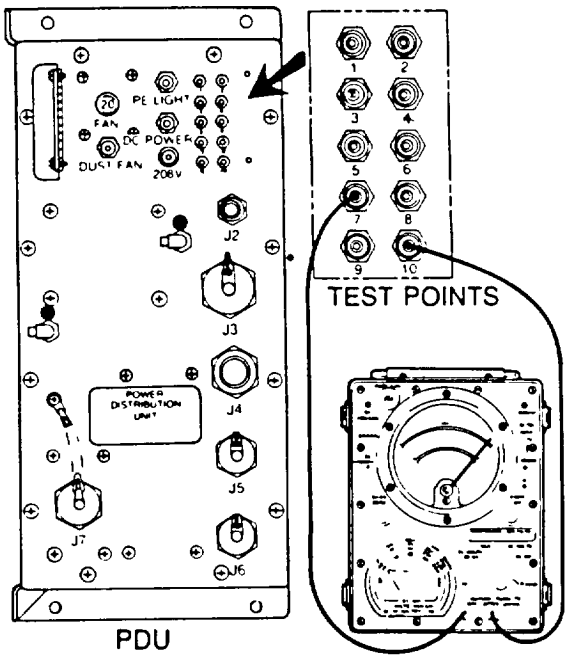


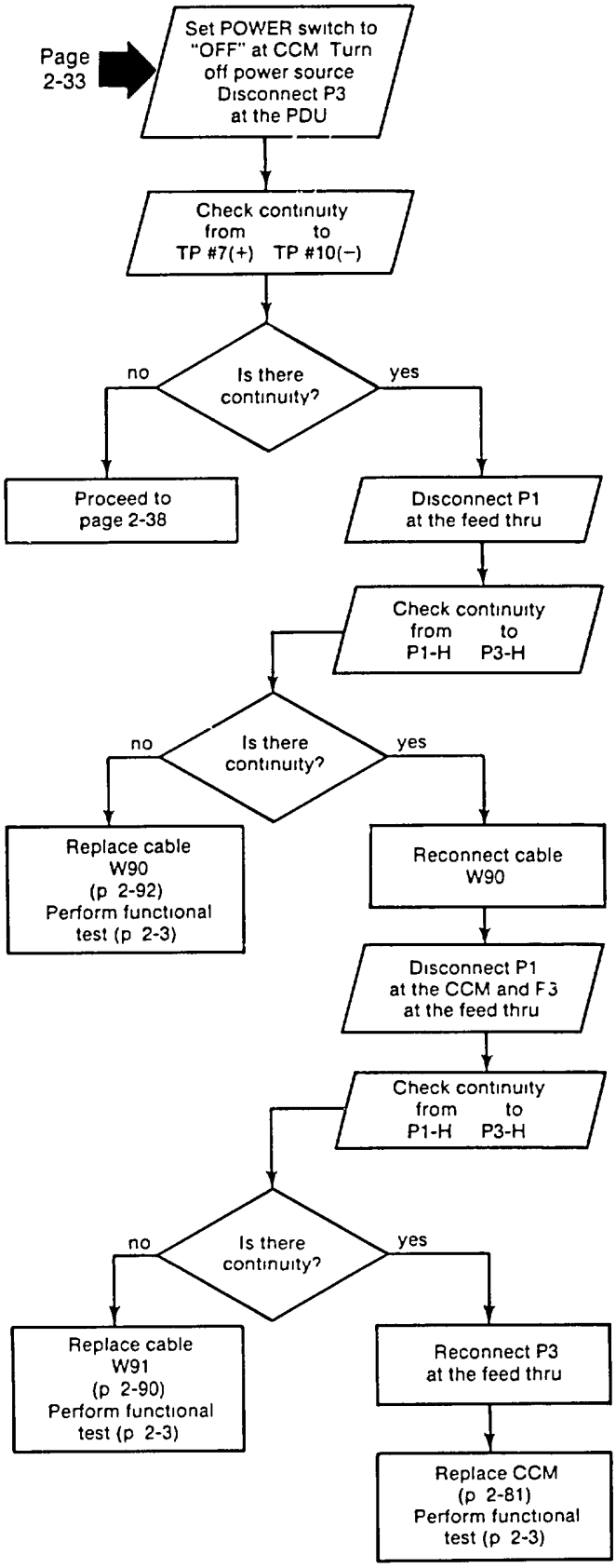
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

LEGEND
PDU = Power Distribution Unit
PECM = Protective Entrance Control Module



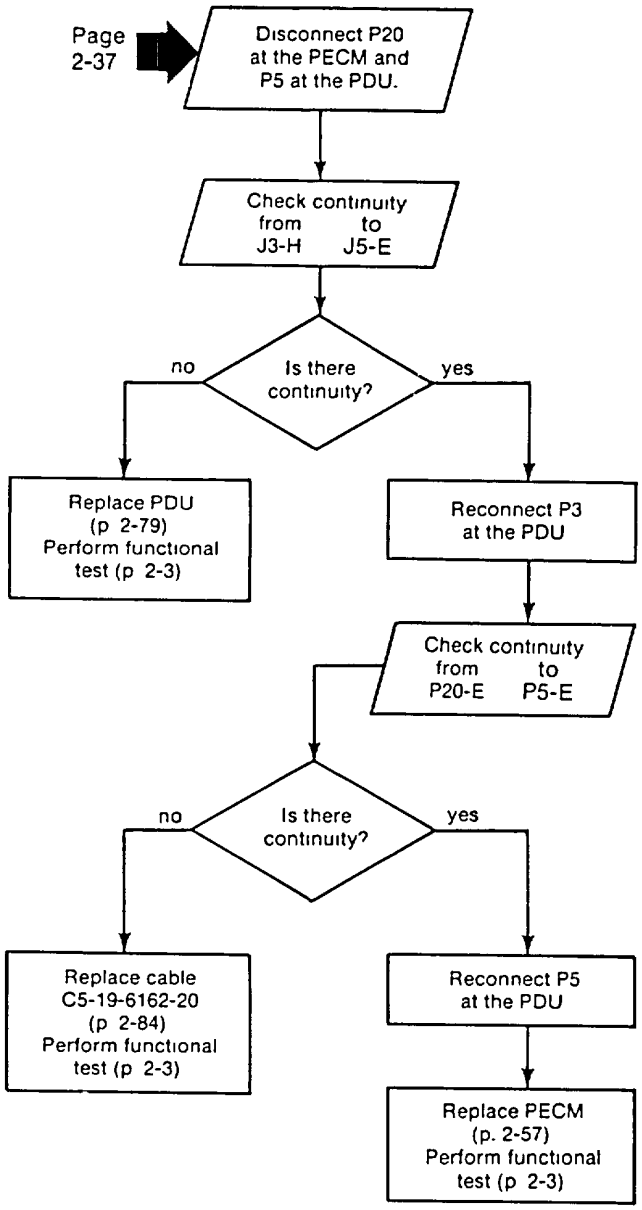
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

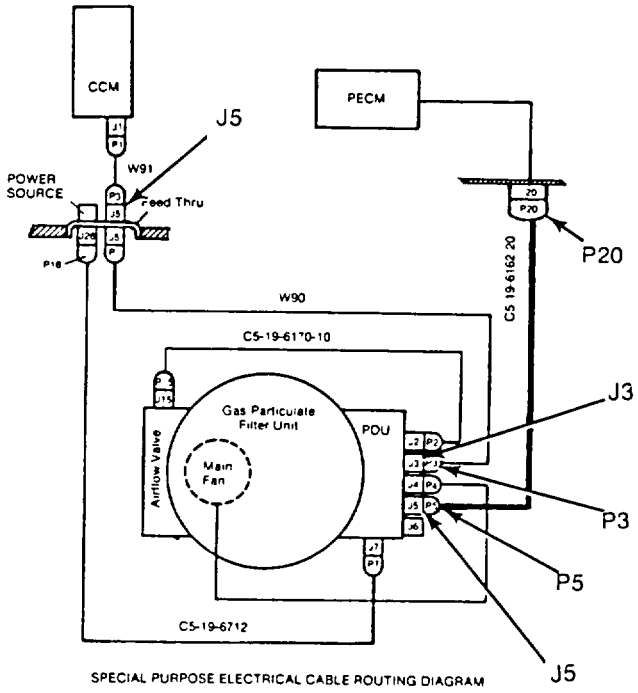




LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point

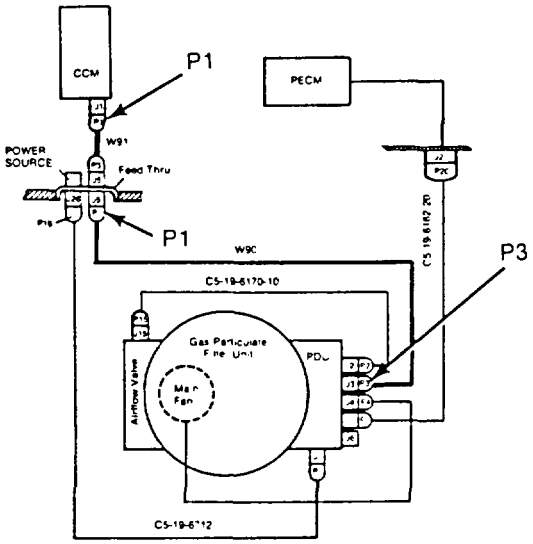
4. PROTECTIVE ENTRANCE LOW PRESSURE LIGHTS WILL NOT COME ON (CONT).



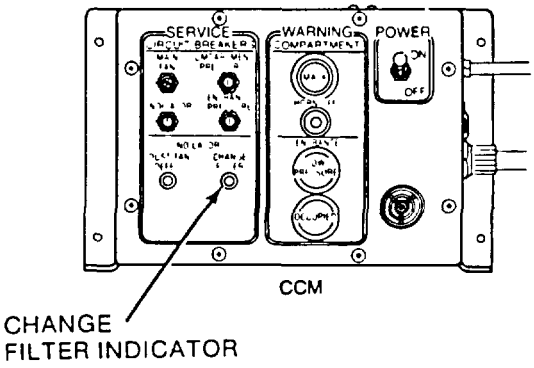


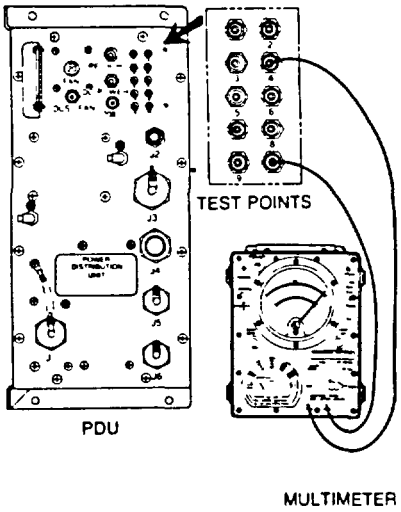
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

LEGEND
PDU = Power Distribution Unit
PECM = Protective Entrance Control Module

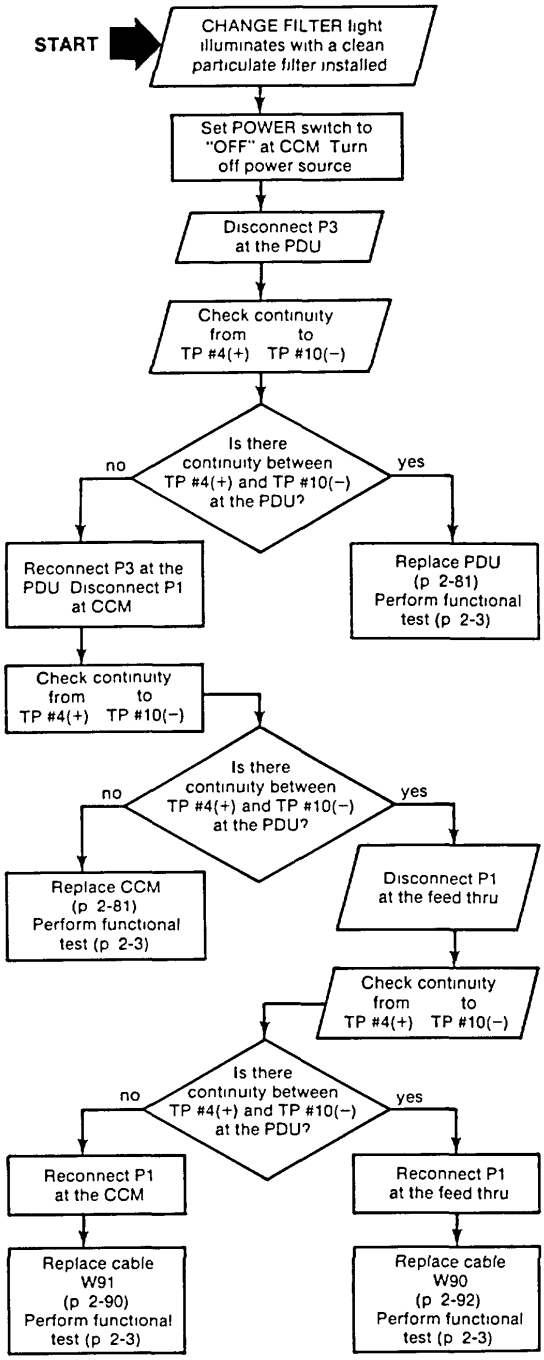


SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM



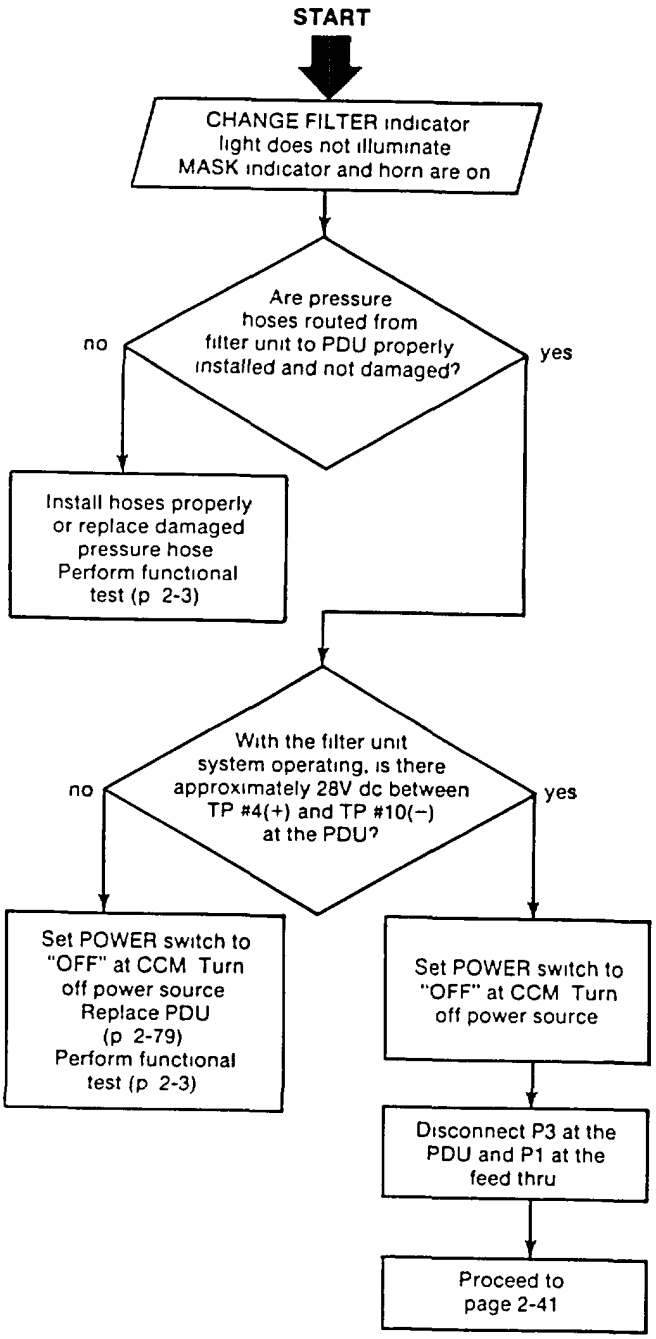


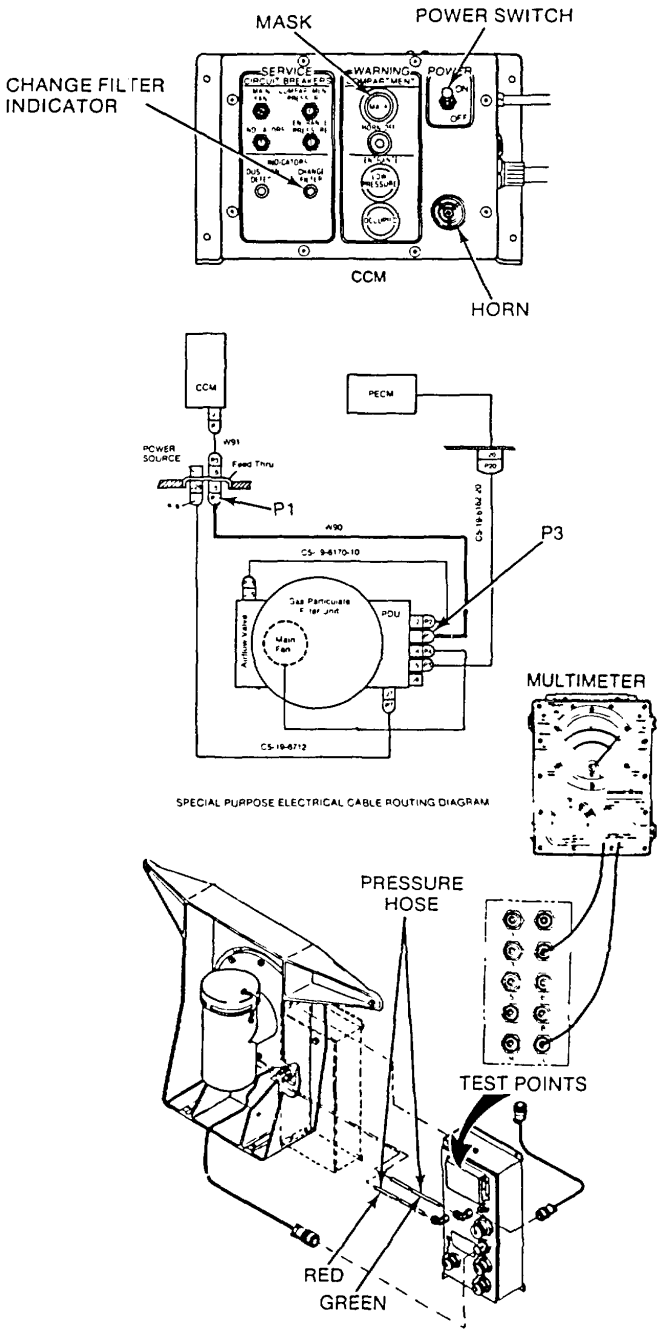
5. CHANGE FILTER LIGHTS WITH CLEAN FILTER



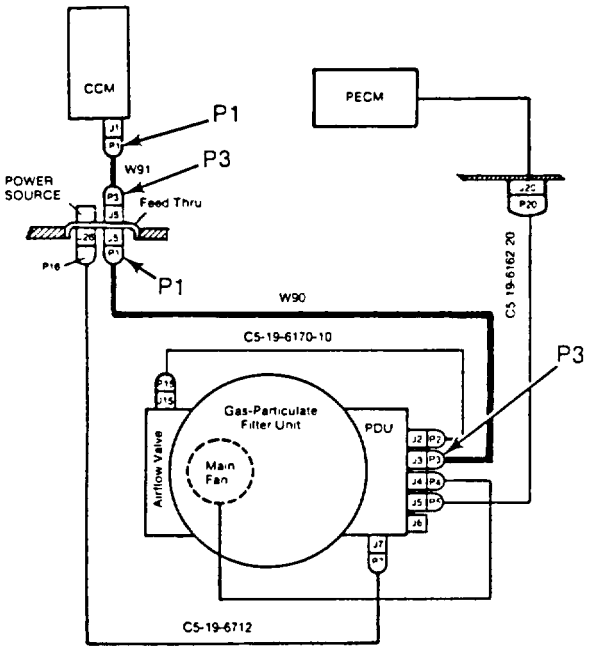
LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point

6. CHANGE FILTER LIGHT DOES NOT LIGHT.

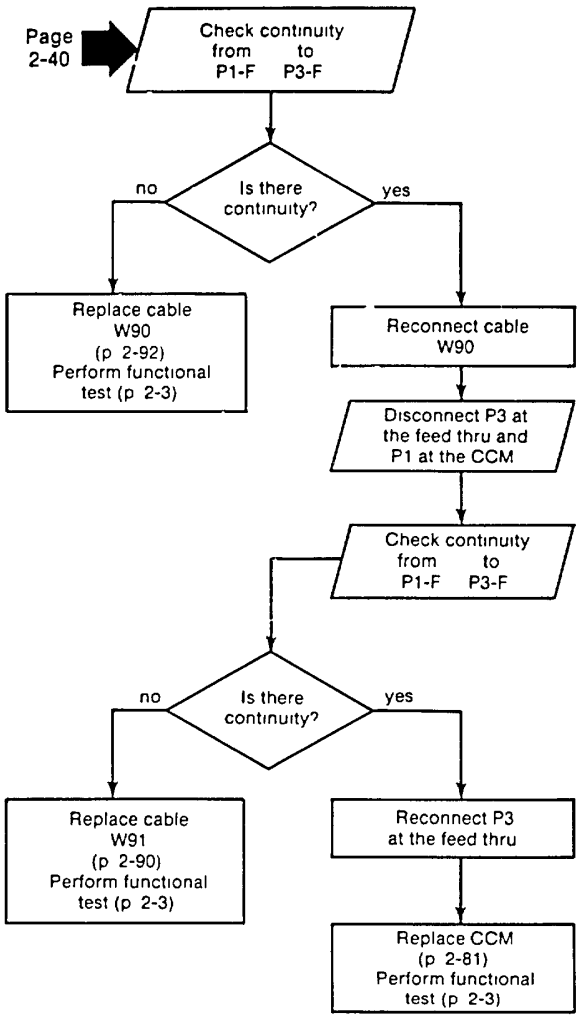




LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point

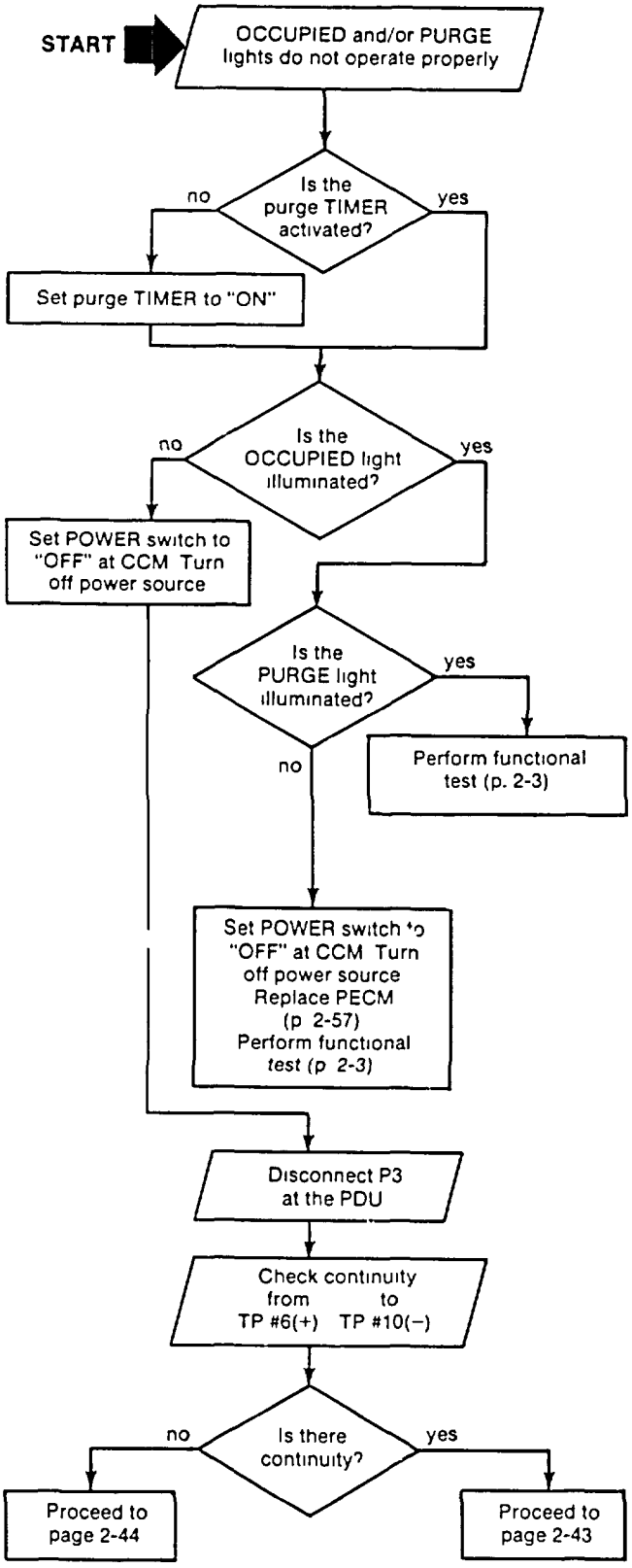


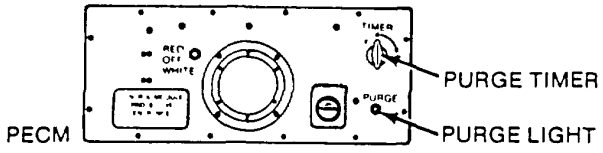
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

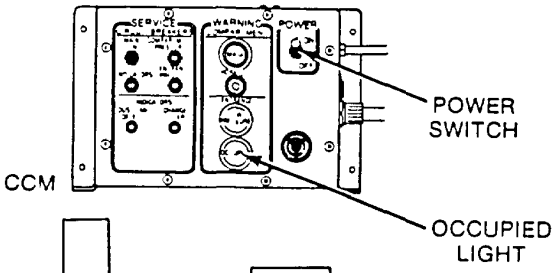


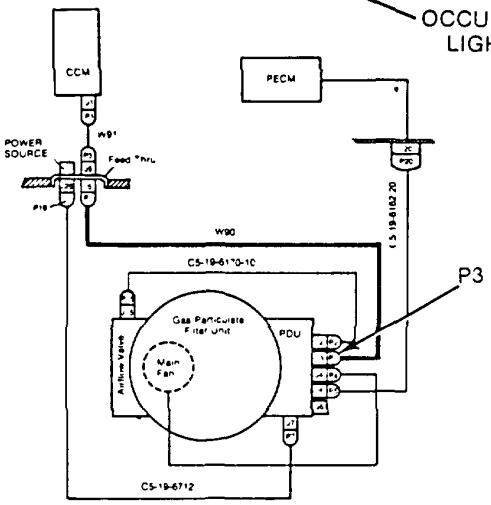
LEGEND
CCM = Compartment Control Module

7. OCCUPIED AND PURGE LIGHTS DO NOT OPERATE PROPERLY.

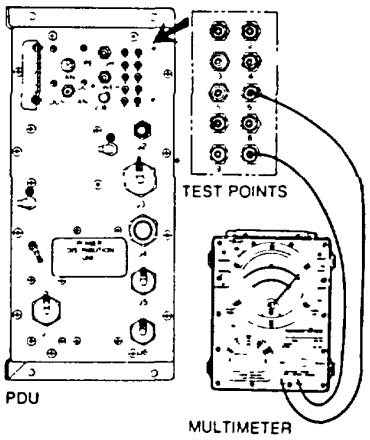




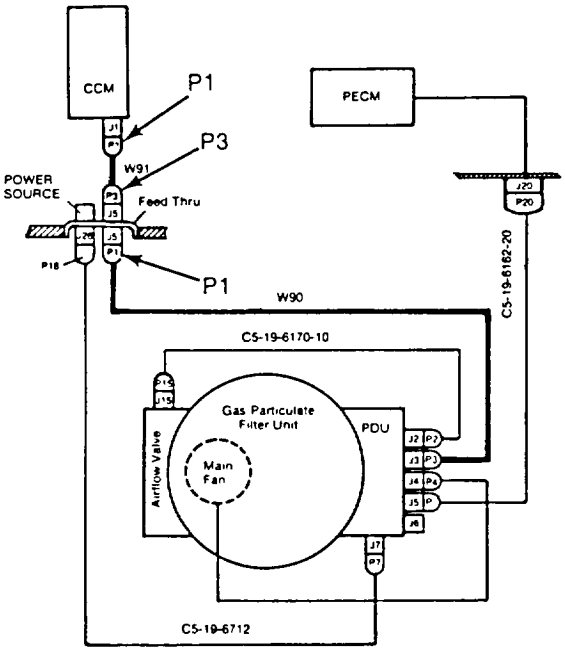




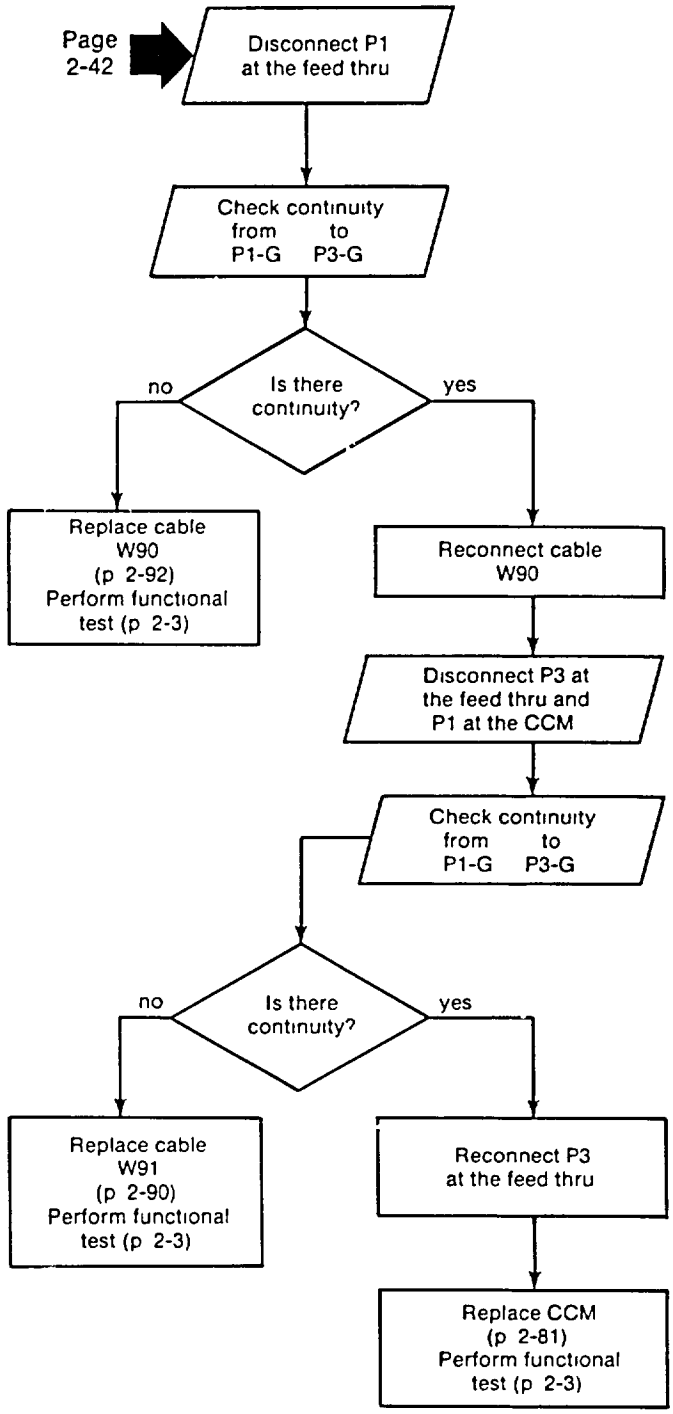
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM



LEGEND
PDU = Power Distribution Unit
PECM = Protective Entrance Control Module
TP = Test Point

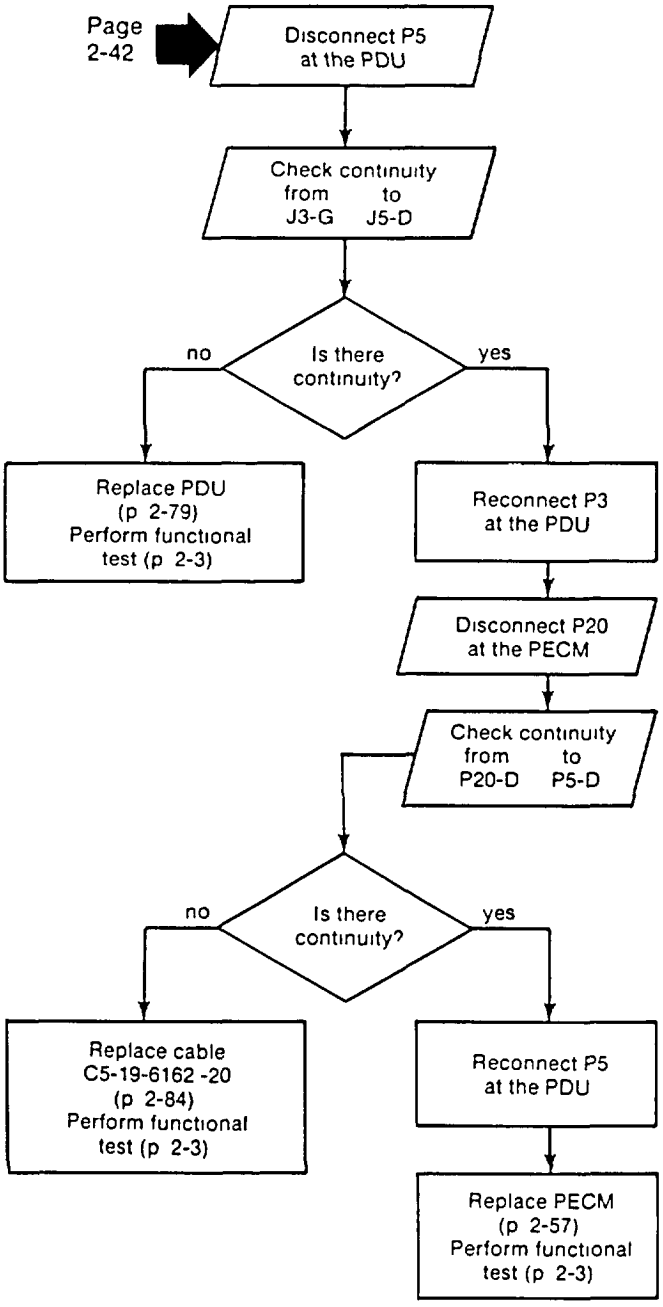


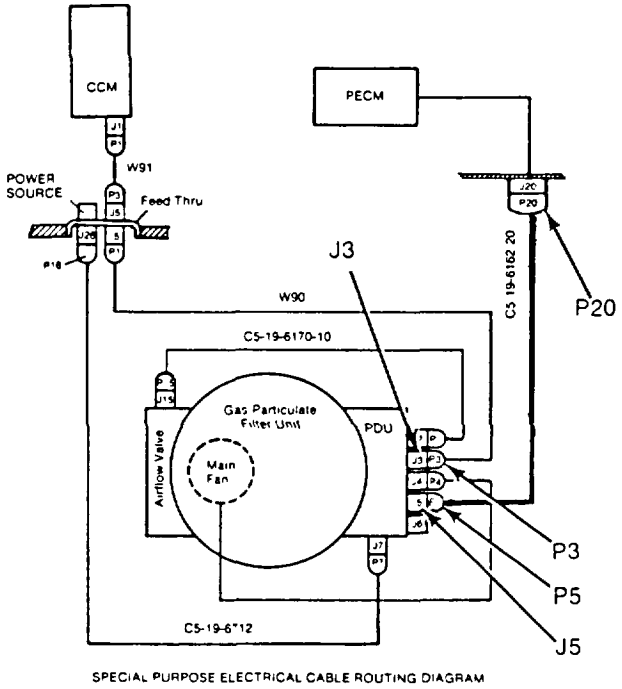
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM



LEGEND
CCM = Compartment Control Module

7. OCCUPIED AND PURGE LIGHTS DO NOT OPERATE PROPERLY (CONT)

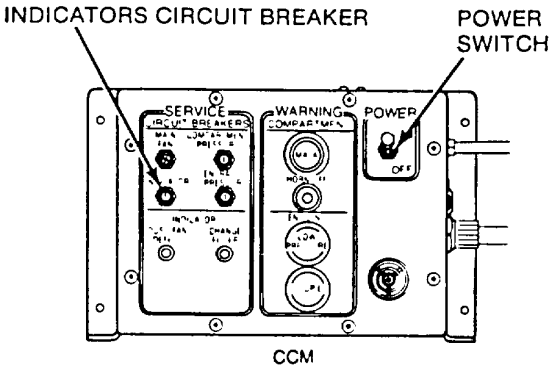


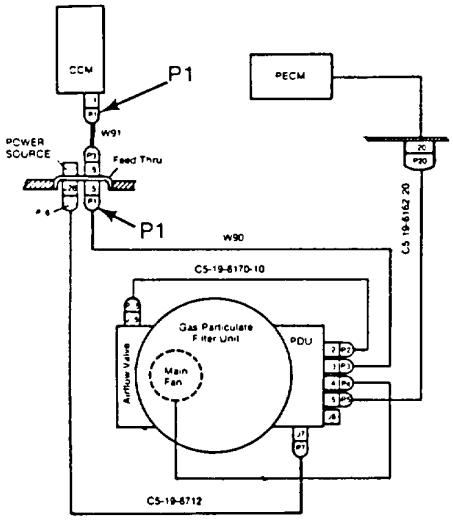


SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

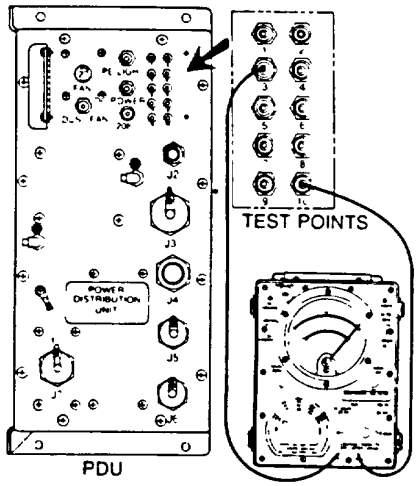
LEGEND
PDU = Power Distribution Unit
PECM = Protective Entrance Control Module

8. INDICATORS CIRCUIT BREAKER TRIPS.

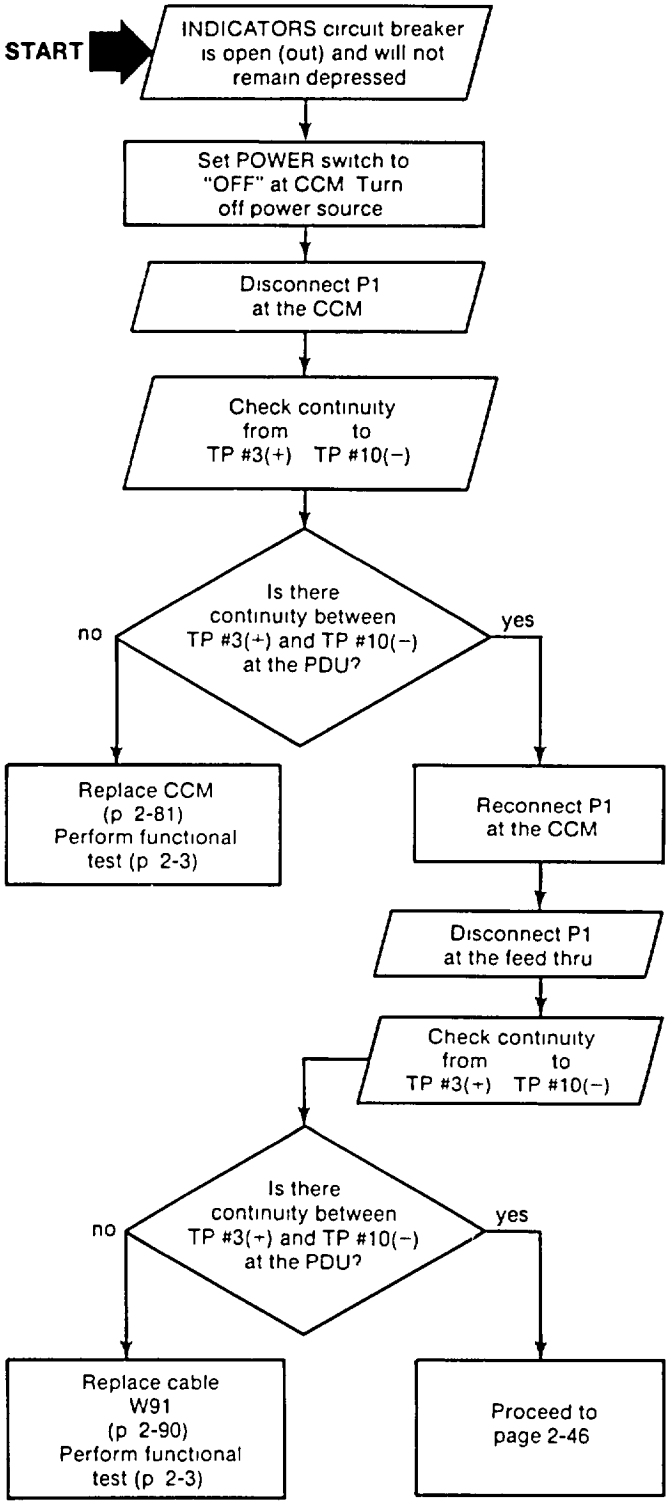




SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

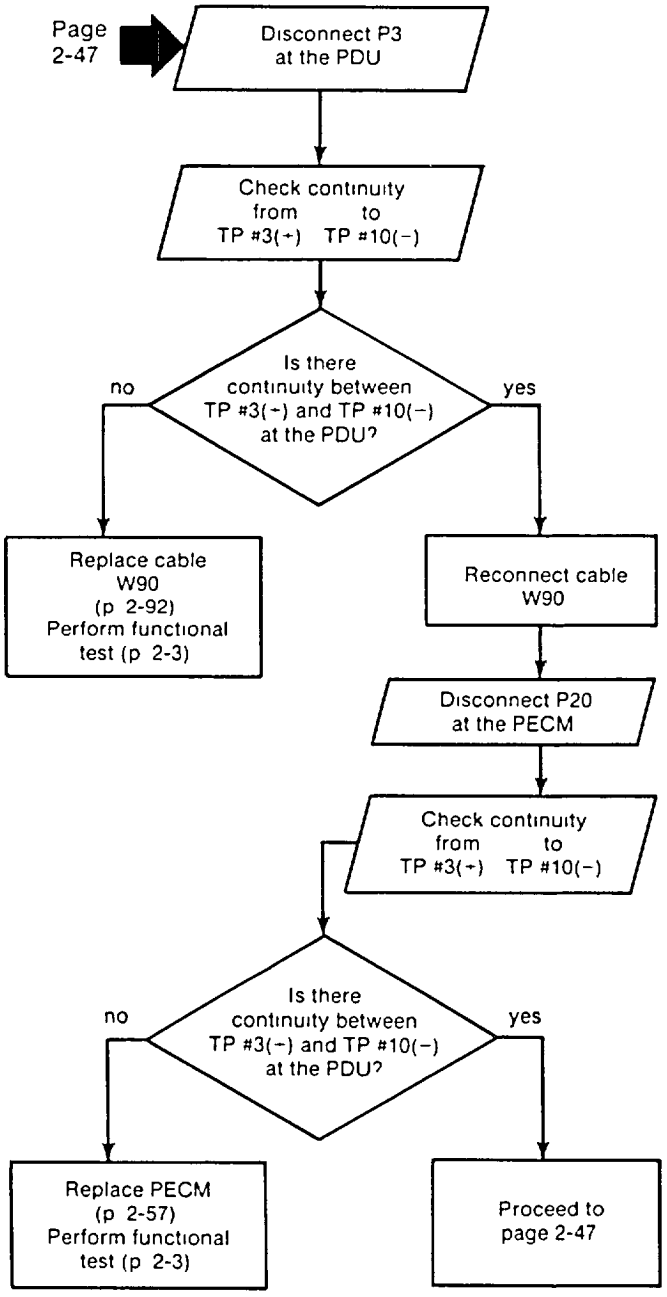


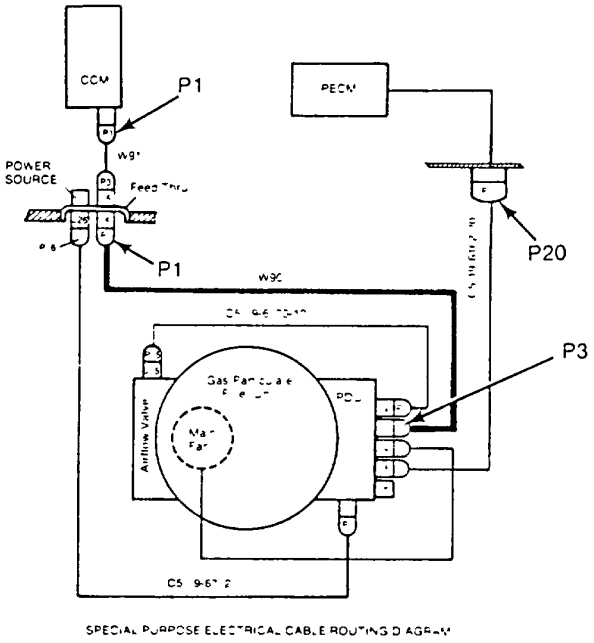
MULTIMETER



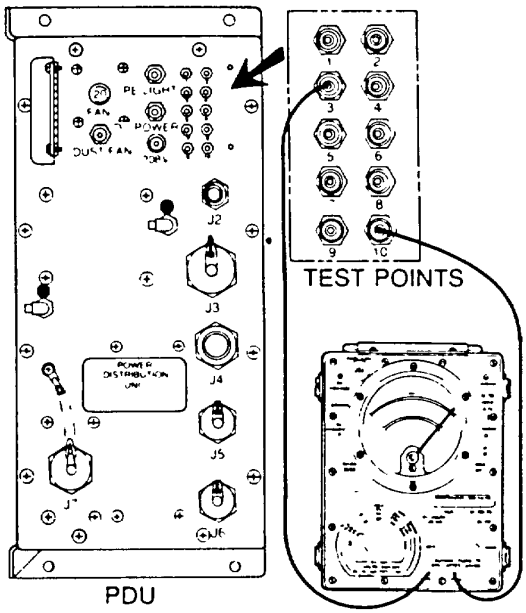
LEGEND
CCM = Compartment Control Module
PDU = Power Distribution Unit
TP = Test Point

8. INDICATORS CIRCUIT BREAKER TRIPS (CONT).

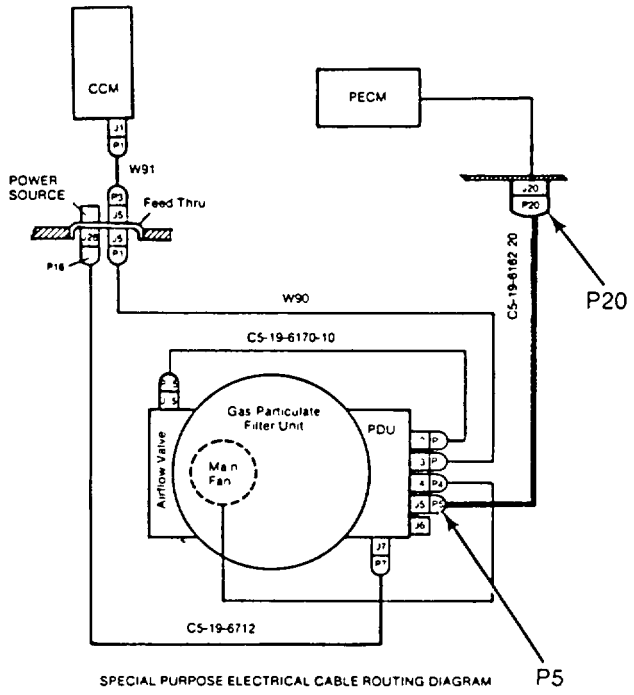




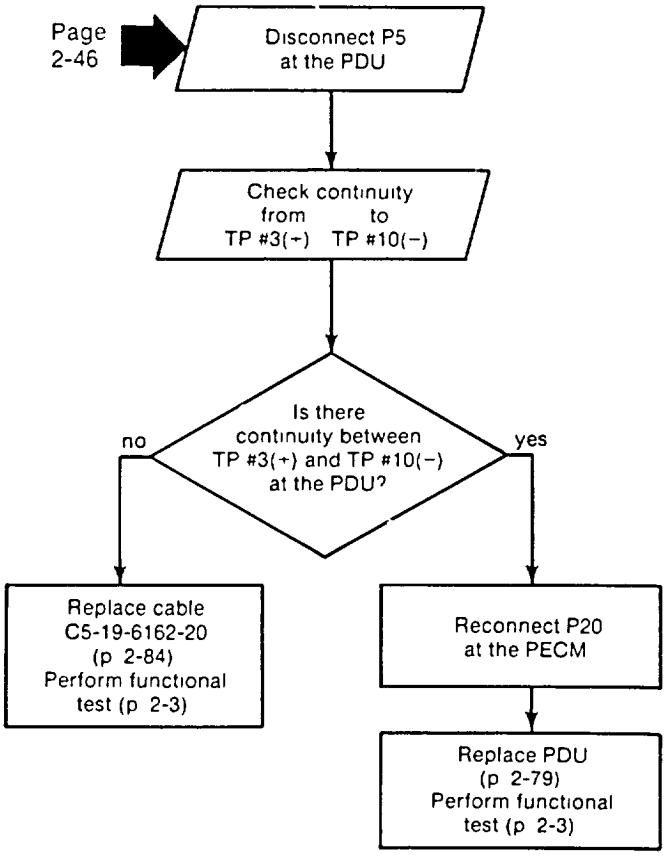
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

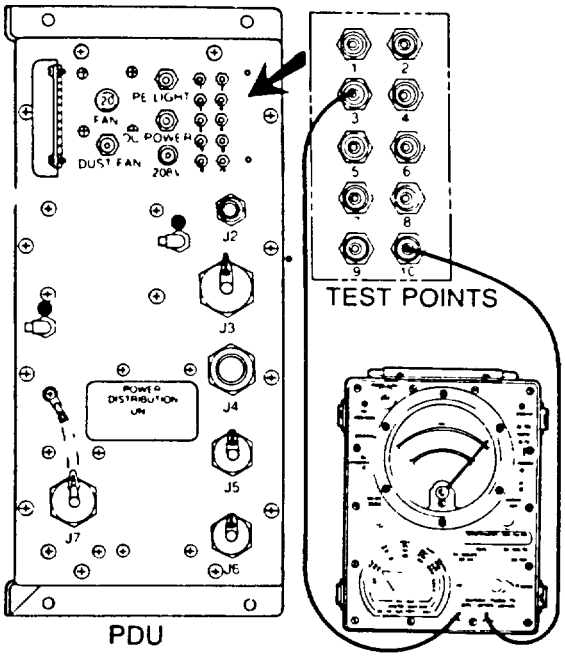


LEGEND
PDU = Power Distribution Unit
PECM = Protective Entrance Control Module
TP = Test Point



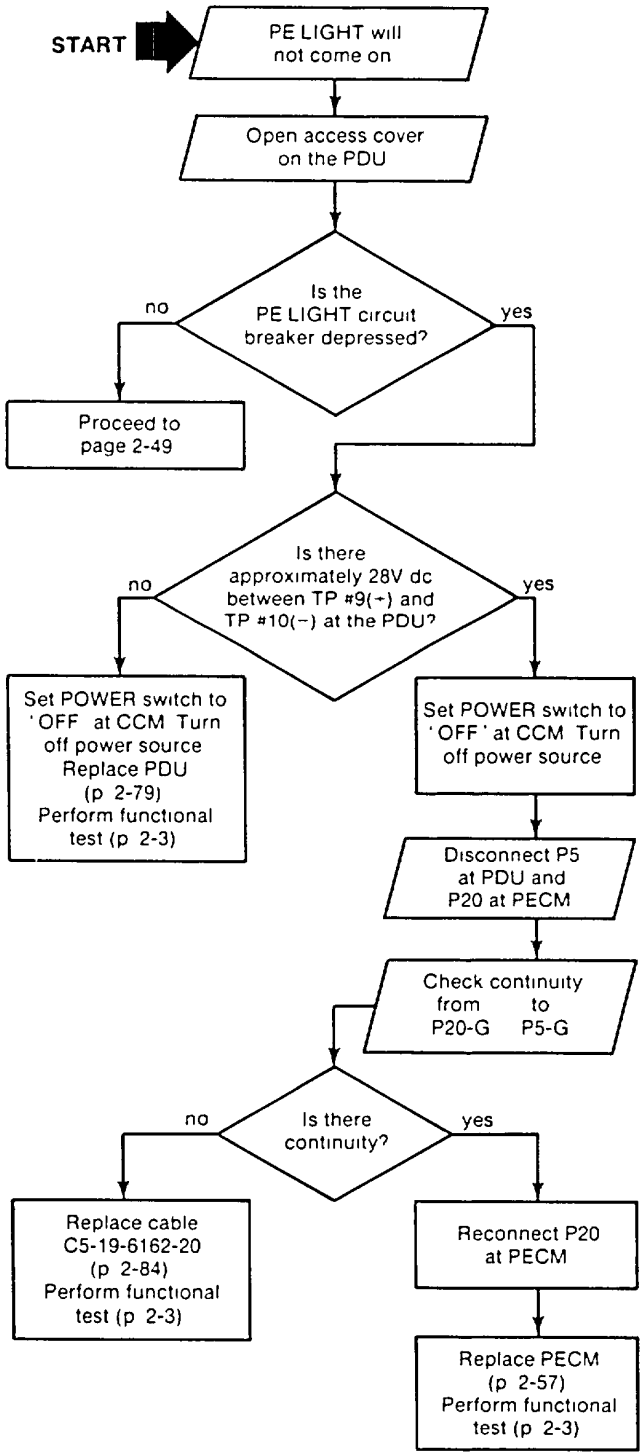
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

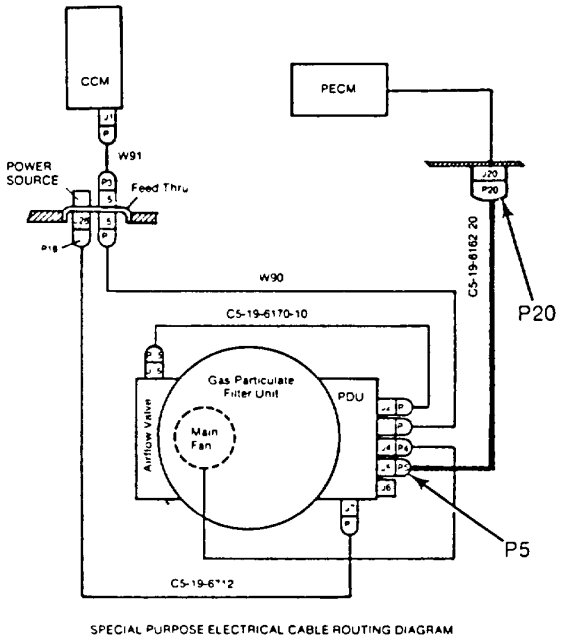




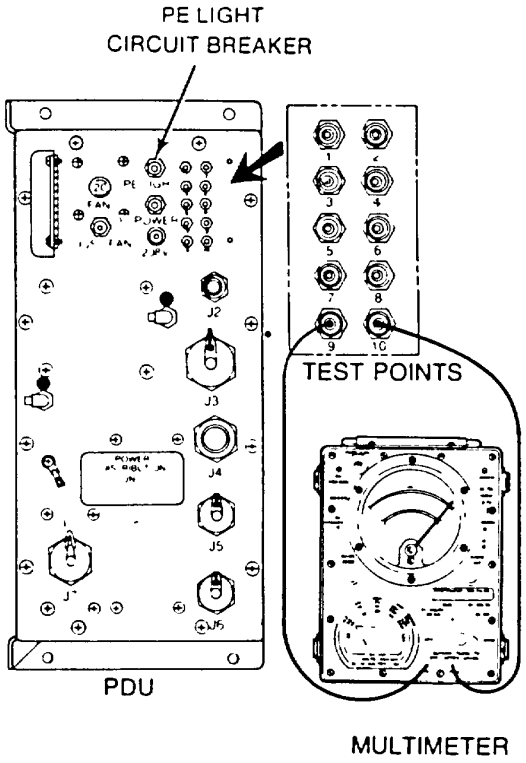
LEGEND
PDU = Power Distribution Unit
TP = Test Point

9. PROTECTIVE ENTRANCE DOME LIGHT DOES NOT COME ON.

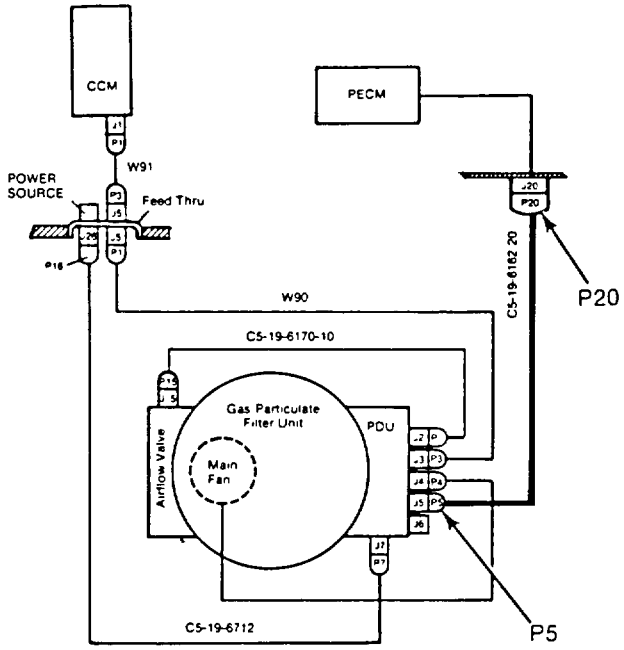




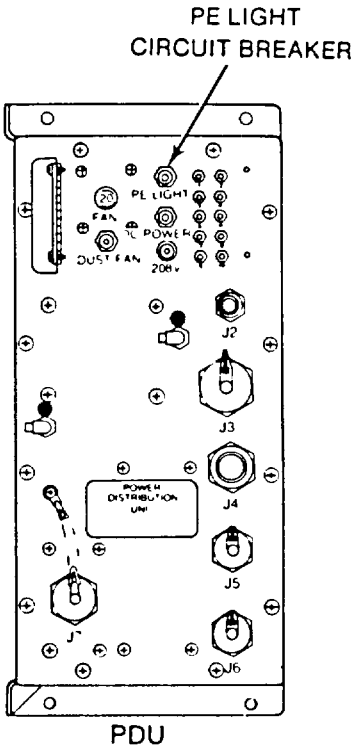
SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM



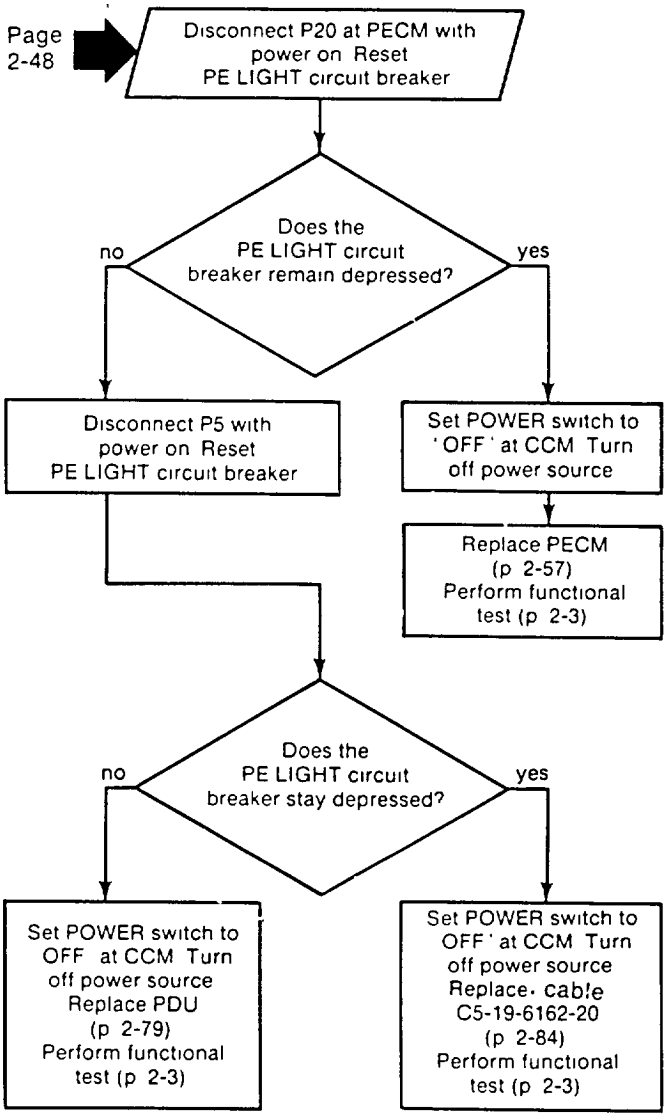
LEGEND
PDU = Power Distribution Unit
PE = Protective Entrance
PECM = Protective Entrance Control Module
TP = Test Point



SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM



PDU



LEGEND
PDU = Power Distribution Unit
PE = Protective Entrance
PECM = Protective Entrance Control Module

Section VI. MAINTENANCE PROCEDURES FOR M14 PROTECTIVE ENTRANCE

2-10. GENERAL. These Instructions are for use by organizational maintenance personnel. They apply to:
M14 protective entrance
Protective entrance control module

2-11. M14 PROTECTIVE ENTRANCE - MAINTENANCE INSTRUCTIONS.

This task covers

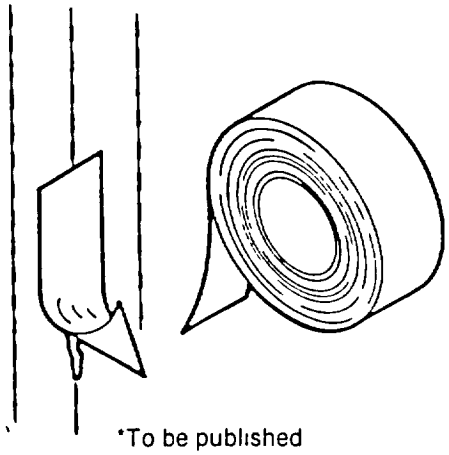
a. Replacement
b. Repair
c. Removal
d. Installation
e. Disassembly
f. Reassembly
g. Painting

INITIAL SETUP

Tools
General Mechanics Tool Kit
SC 5180-90-CL-N26

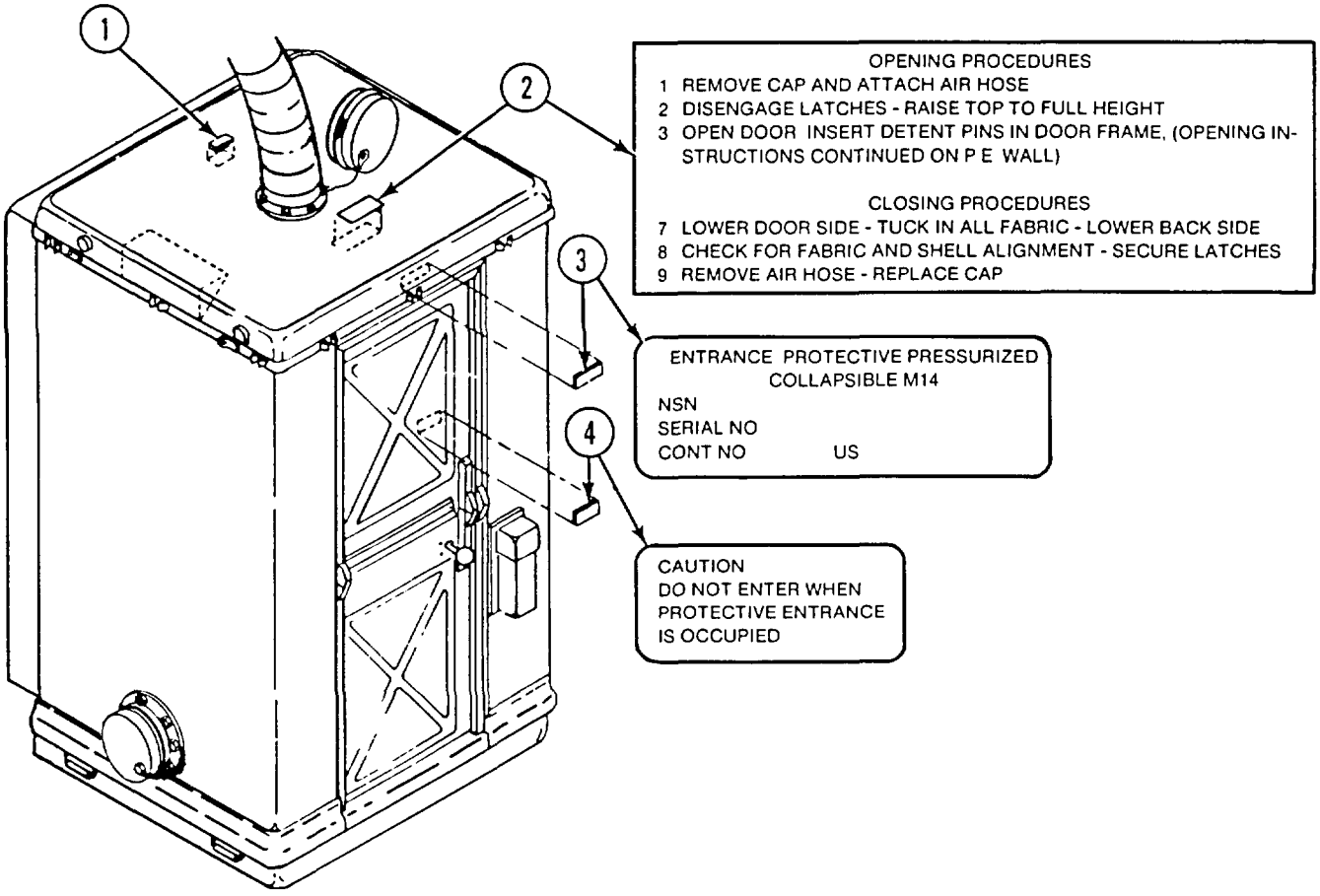
References
*TM 9-1430-600-12-1 Engagement Control Station
*TM 9-1430-602-12-1 Information Coordination Central
*TM 9-1430-604-12-1 Communication Relay Group

LOCATION	ITEM	ACTION
REPLACEMENT		
PATRIOT	M14 protective entrance	Refer to TM 9-1430-600-12-1, TM 9-1430-602-12-1, or TM 9-1430-604-12-1, for protective entrance replacement instructions
REPAIR		
M14 Protective Entrance (PE)	Impermeable wall fabric	Repair tears or silts Clean damaged area using rags (item 6, app D) and dry-cleaning solvent (Item 4. app D). Cut a piece of tape (item 7, app D) about four inches longer than the tear or silt. Position tape over the tear or silt and press firmly In place. Apply tape to the inside of the protective entrance impermeable fabric wall If necessary for added strength, crossed strips of tape may be used.



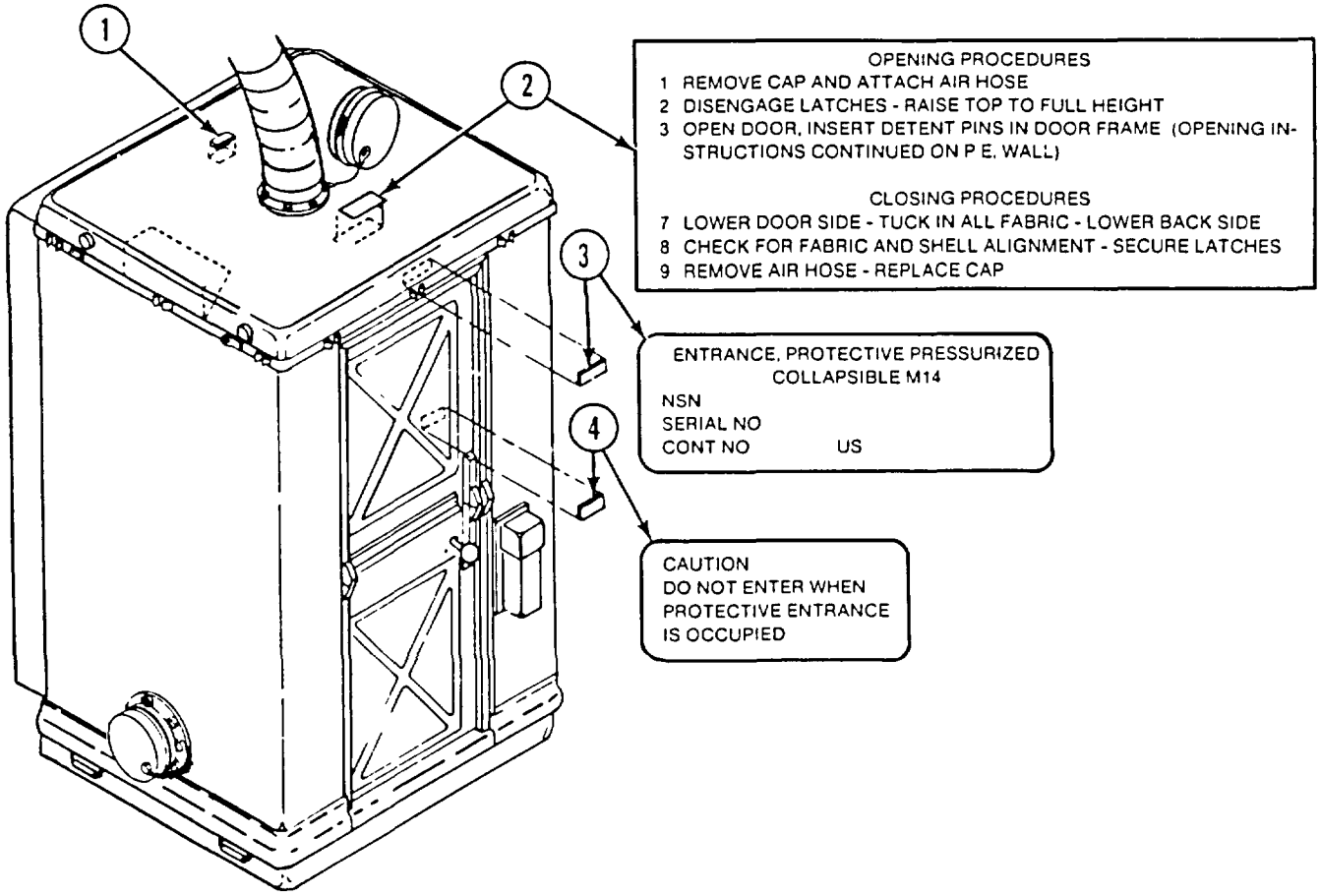
*To be published

LOCATION	ITEM	ACTION
REMOVAL		
M14 Protective Entrance	Instruction plates (1, 2, and 4) and Identification plate (3)	Pick up edge of plate with sharp tool.
		Pull plate completely off the mounting surface.



2-11. M14 PROTECTIVE ENTRANCE - MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION
INSTALLATION	Instruction plates (1, 2, and 4) and Identification plate (3)	Thoroughly clean mounting surface with dry-cleaning solvent (item 4. app D). Surface must be free of all contamination such as oil, grease, dirt, or any foreign matter. Peel back paper from adhesive back of instruction or Identification plate. Mount plate and apply pressure to plate surface.



LOCATION	ITEM	ACTION

REMOVAL

M14 Protective Entrance Airduct Inlet

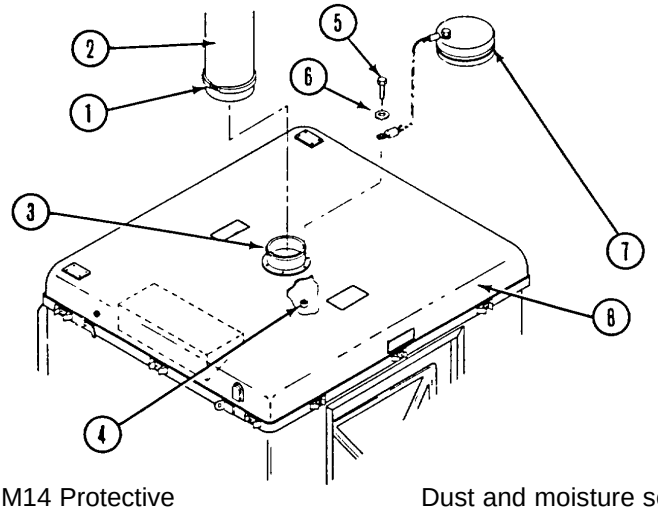
Dust and moisture seal protective cap

Loosen hose clamp (1) Remove airduct hose (2) from inlet (3).

Reach through inlet and hold nut (4) with wrench.

Remove screw (5) from nut (4), washer (6), and cable loop on cap (7) from inlet (3).

Remove cap (7) from protective entrance (8).



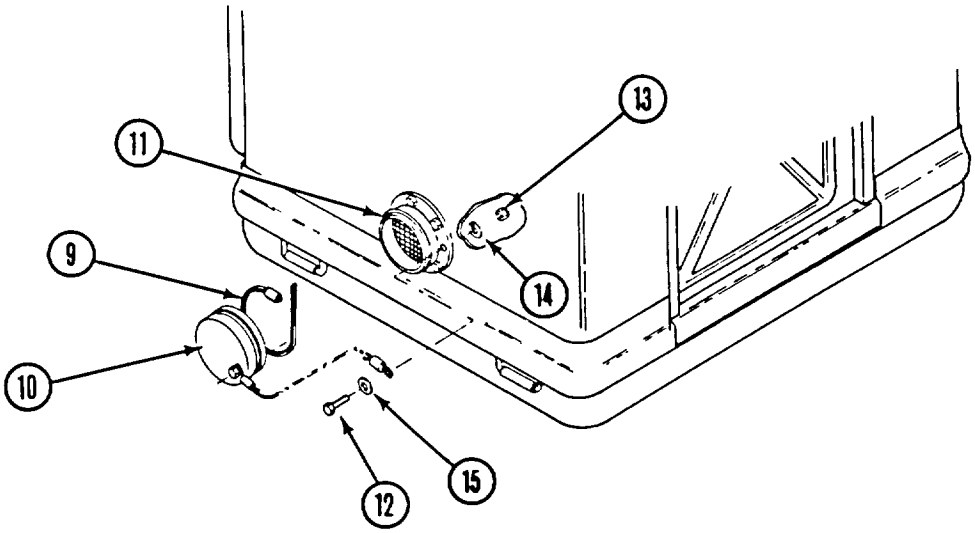
M14 Protective Entrance Airduct Outlet

Dust and moisture seal protective cap

Loosen hose clamp (9). Remove protective cap (10) from outlet (11).
Hold screw (12) with a wrench.

From Inside PE, unscrew nut (13) and remove washer (14).

Remove screw (12), washer (15) and cable loop on cap (10) from protective entrance.

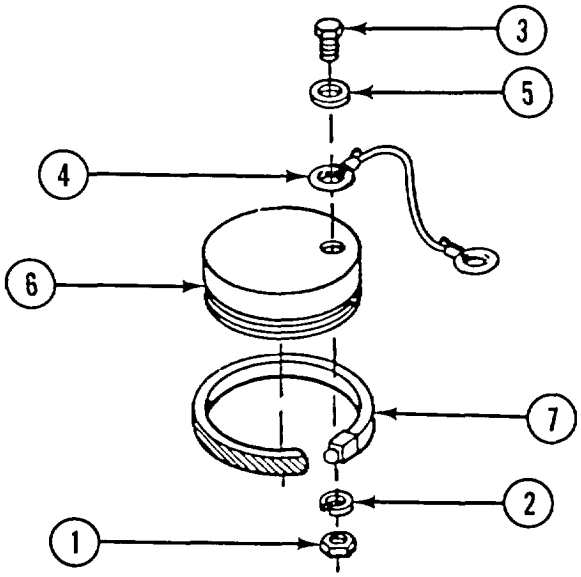


2-11. M14 PROTECTIVE ENTRANCE - MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION

DISASSEMBLY

	Dust and moisture seal protective cap	Unscrew nut (1). Remove washer (2), screw (3), support cable (4), and washer (5) from rubber cap (6). Unscrew adjustment screw on hose clamp (7) and remove from rubber cap (6).



REPAIR

	Support cable	Fabricate support cable (fig E-1, app E).

REASSEMBLY

	Dust and moisture seal protective cap	Install hose clamp (7) In groove In rubber cap (6). Turn adjustment screw lust enough to keep clamp in place. Secure support cable (4) to rubber cap (6) with screw (3), washer (5), washer (2), and nut (1).

LOCATION	ITEM	ACTION

INSTALLATION

M14 Protective Entrance Airduct Inlet

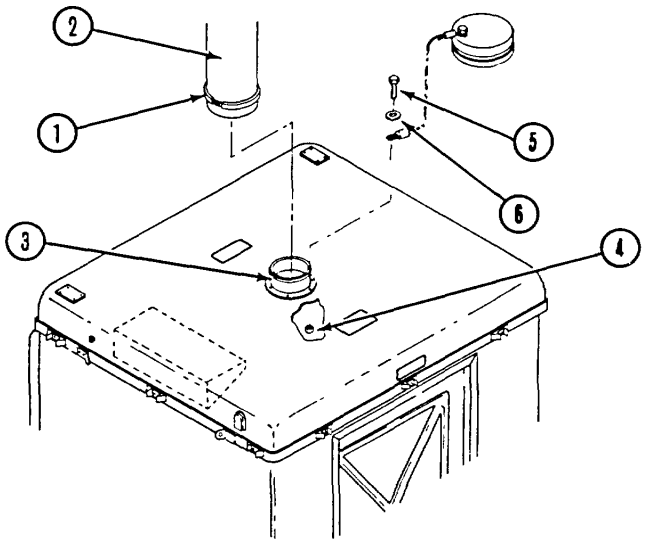
Dust and moisture seal protective cap

Place screw (5) through washer (6), support cable loop and hole at base of airduct inlet (3).

Reach through airduct inlet and install nut (4). Tighten securely.

Place airduct hose (2) on airduct inlet (3).

Tighten hose clamp (1) securely.



M14 Protective Entrance Airduct Outlet

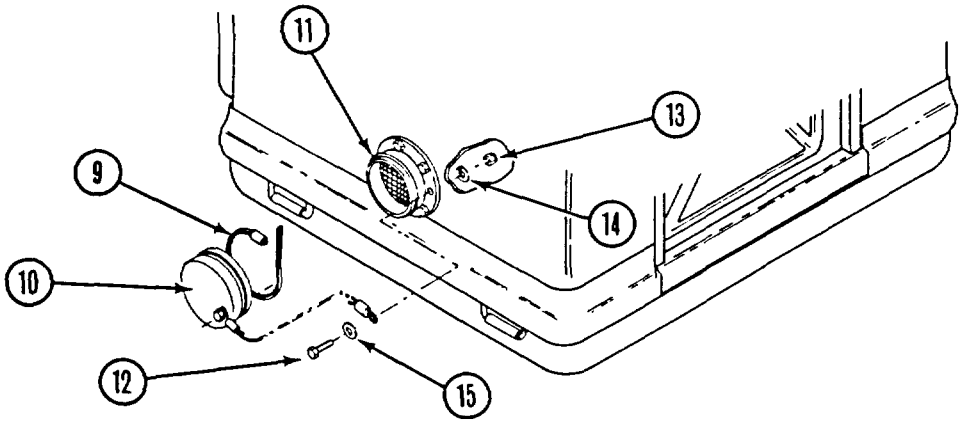
Dust and moisture seal protective cap

Install screw (12) and washer (15) with support cable loop.

From inside PE, install washer (14) and nut (13) on screw (12). Tighten securely.

Place protective cap (10) on airduct outlet (11).

Tighten hose clamp (9) securely.



2-11. M14 PROTECTIVE ENTRANCE - MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION

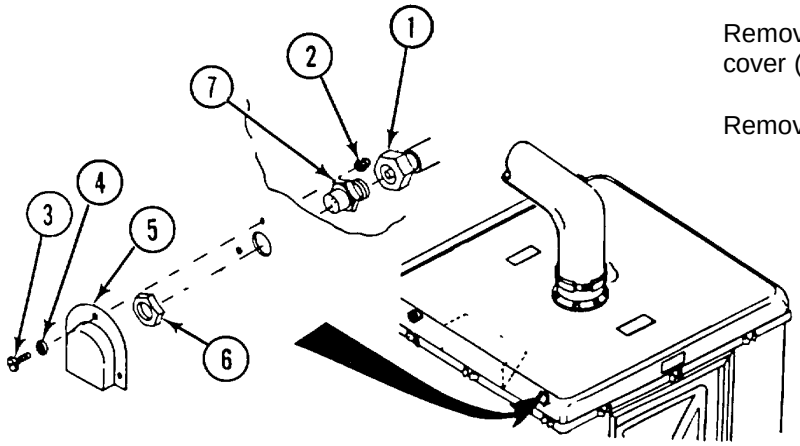
REMOVAL

M14 Protective Entrance — Static port adapter

Disconnect hose adapter (1).

Remove three nuts (2), screws (3), washers (4), and cover (5).

Remove nut (6) and static port adapter (7).



INSTALLATION

Install static port adapter (7) and nut (6). Tighten securely.

Install cover (5) using screws (3), washers (4), and nuts (2).

Connect hose adapter (1) to static port adapter (7). Tighten securely.

PAINTING

M14 Protective Entrance — Painted surfaces

Touch-up painting of metal surfaces is authorized:

Clean surface to be painted using rags (item 6, app D) and dry-cleaning solvent (item 4, app D).

Paint surfaces with one coat of primer (item 5, app D).

Paint surfaces of equipment mounted outside of the protective entrance with aliphatic polyurethane coating (item 2, app D).

NOTE

Refer to TM 43-0139 for painting Instructions for field use

2-12. M14 PROTECTIVE ENTRANCE CONTROL MODULE - MAINTENANCE INSTRUCTIONS.

This task covers
a. Removal
b. Repair
c. Installation
d. Disassembly
e. Reassembly

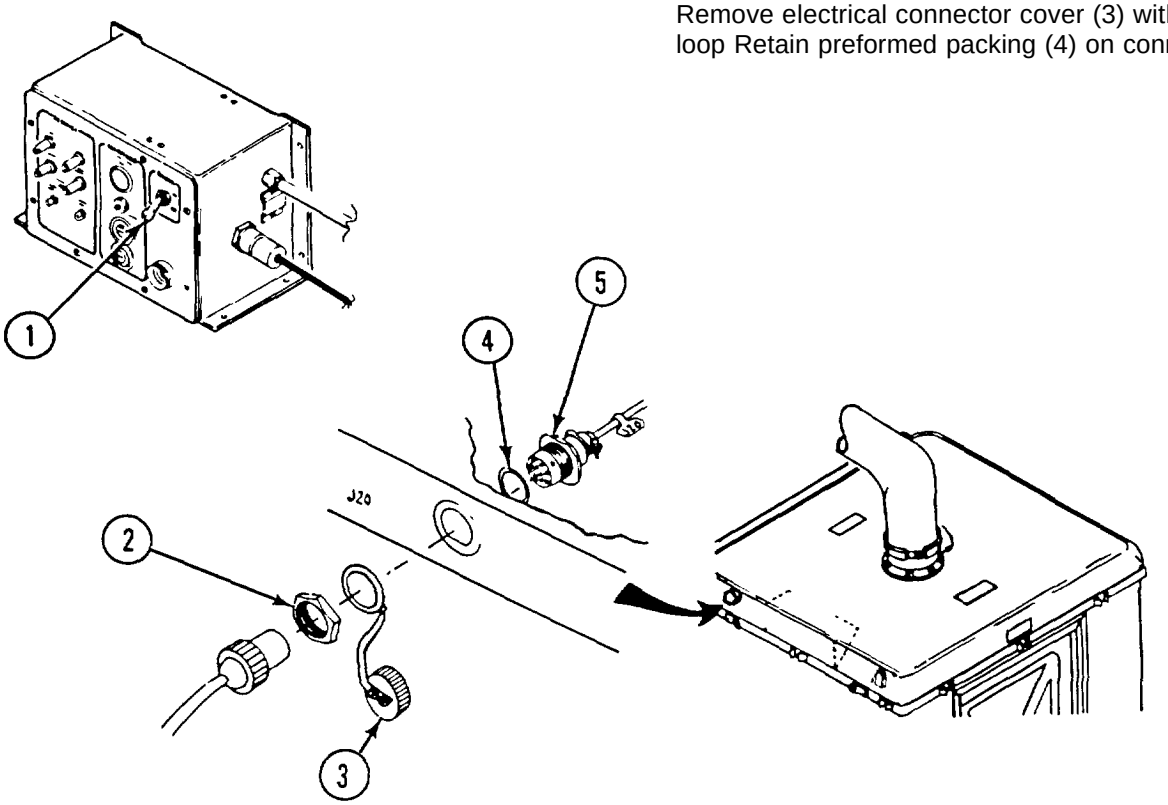
INITIAL SETUP

Tools
General Mechanics Tool Kit SC 5180-90-CL-N26

LOCATION	ITEM	ACTION

REMOVAL

M14 Protective Entrance	Protective entrance control module (PECM)	Set POWER switch (1) on compartment control module to OFF, Shut down power source.
		Disconnect electrical cable plug P20 from outside of protective entrance (PE) and remove nut (2).
		Remove electrical connector cover (3) with chain and loop Retain preformed packing (4) on connector (5).



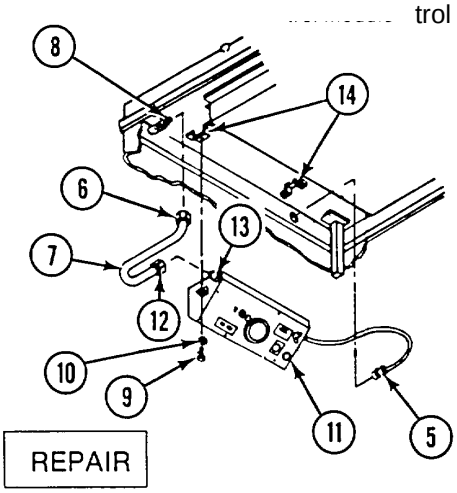
2-12. M14 PROTECTIVE ENTRANCE CONTROL MODULE - MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION

REMOVAL (CONT)

M14 Protective Entrance

Protective entrance control module



REPAIR

Hose

Disconnect adapter (6) on hose (7) from adapter (8).

Remove screws (9) and washers (10).

Remove protective entrance control module (11) from inside the protective entrance.

CAUTION

Hold coupling on protective entrance control module with a wrench to prevent it from turning.

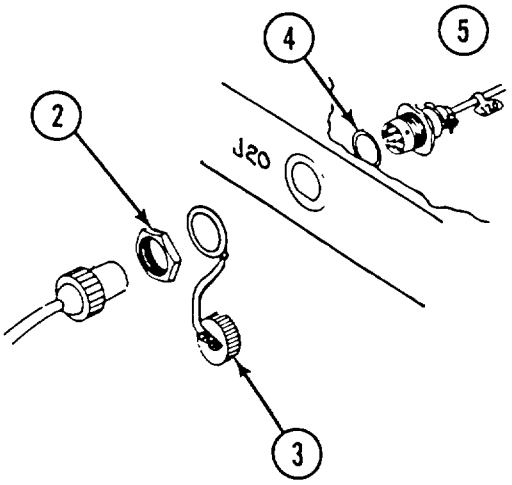
Disconnect adapter (12) on hose (7) from adapter (13) on protective entrance control module.

Fabricate replacement hose (7) (fig E-3A, app E). Cut adapters (6 and 12) from hose and insert adapters in new hose.

INSTALLATION

M14 Protective Entrance

Protective entrance control module



Install hose on protective entrance control module. Hold adapter (13) with a wrench and tighten adapter (12).

Position protective entrance control module (11) against brackets (14) in protective entrance.

Install screws (9) thru washers (10) and into brackets (14). Tighten securely.

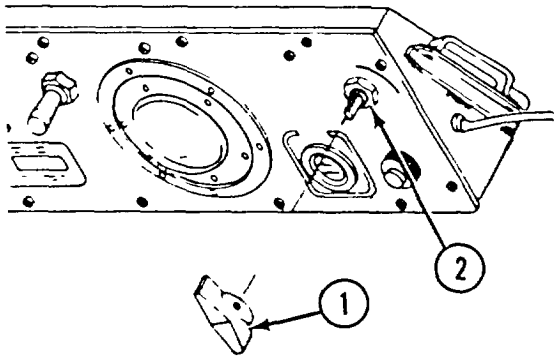
Install adapter (6) on adapter (8) and tighten.

Install electrical cable connector J20 (5) with preformed packing (4) in protective entrance from the inside.

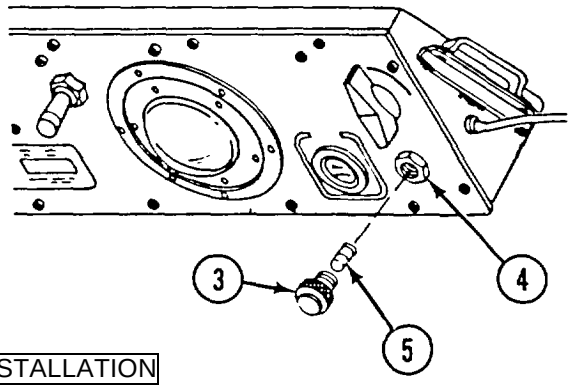
From the outside, install loop of connector cover (3) and nut (2) on electrical cable connector J20 (5). Tighten nut securely.

Reconnect electrical cable plug P20.

LOCATION	ITEM	ACTION
REMOVAL		
Protective Entrance Control Module	Knob	Pull knob (1) from timer shaft (2).



INSTALLATION		
		Aline knob pointer with 0 on panel Push knob (1) on timer shaft (2).
REMOVAL		
Protective Entrance Control Module	PURGE indicator lamp	Unscrew indicator light (3) from indicator light base (4) Pull out lamp (5) from indicator light (3).



INSTALLATION		Insert Indicator lamp (5) in indicator light (3). Install indicator light (3) in light base (4).

2-12. M14 PROTECTIVE ENTRANCE CONTROL MODULE - MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION

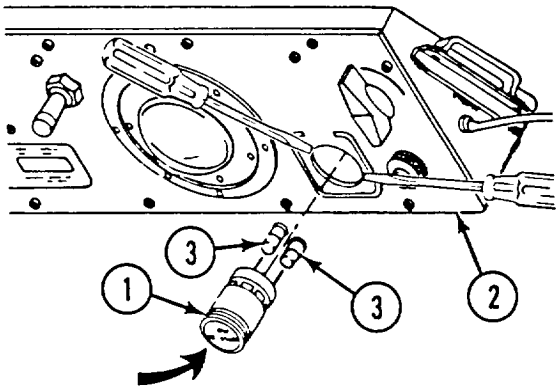
REMOVAL

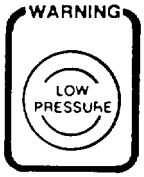
Protective Entrance Control Module

LOW PRESSURE lamp

Using two screwdrivers, gently pry lens (1) from panel (2).

Remove lamps (3) from lens (1).





INSTALLATION

Insert lamps (3) In lens (1) Insert lens (1) into panel (2) as shown in detail A. Press lens into panel until It snaps into place.

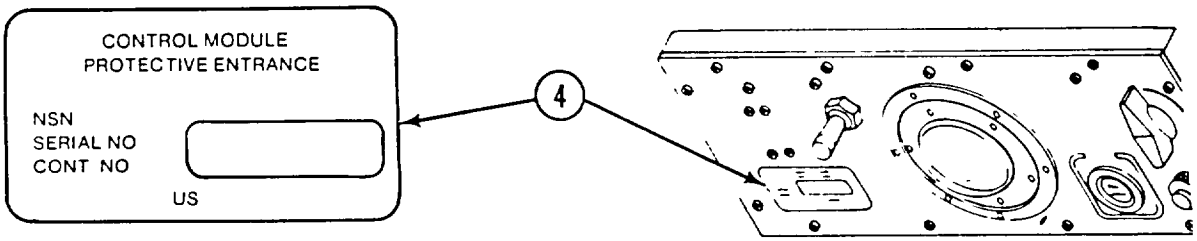
REMOVAL

Protective Entrance Control Module

Identification plate

Lift edge of plate (4) with a sharp tool.

Pull plate completely off the mounting surface.



INSTALLATION

Thoroughly clean mounting surface with dry-cleaning solvent (Item 4, app D). Mounting surface must be free of all contamination such as oil, grease, dirt, or any foreign matter

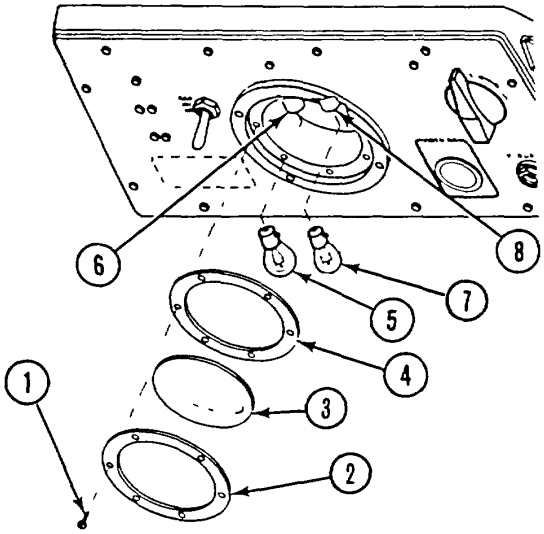
Peel back adhesive paper from plate back.

Mount the plate and apply pressure to the plate surface.

LOCATION	ITEM	ACTION

DISASSEMBLY

Protective Entrance Control Module	Dome light	Remove screws (1), retainer (2), light lens (3) and dome light gasket (4). Remove red lamp (5) by pressing In on the bulb and rotating it counterclockwise. Pull red lamp from socket (6). Remove clear lamp (7) by pressing in on the bulb and rotating It counterclockwise. Pull clear lamp from socket



REPAIR

	Lamps, screws, lens, and dome light gasket	Replace if unserviceable.

REASSEMBLY

Protective Entrance Control Module	Dome light	Insert red lamp (5) In socket (6). Aline studs in lamp base with slot in socket Press in and turn red lamp clockwise until It locks in place. Insert clear lamp (7) in socket (8). Aline studs in lamp base with slot in socket. Press in and turn clear lamp clockwise until It locks in place. Place gasket (4) on dome light lens (3). Place retainer (2) on gasket and aline screw holes. Position assembly in place and Install screws (1). Tighten securely.

Section VII. MAINTENANCE PROCEDURES FOR M59 GAS-PARTICULATE FILTER UNIT

2-13. GENERAL. These instructions are for use by organizational maintenance personnel. They apply to:
M59 gas-particulate filter unit
Housing unit
Main fan
Airflow valve
Power distribution unit
Compartment control module

2-14. M59 GAS-PARTICULATE FILTER UNIT - MAINTENANCE INSTRUCTIONS.

This task covers

a. Installation
b. Removal
c. Repair
d. Painting

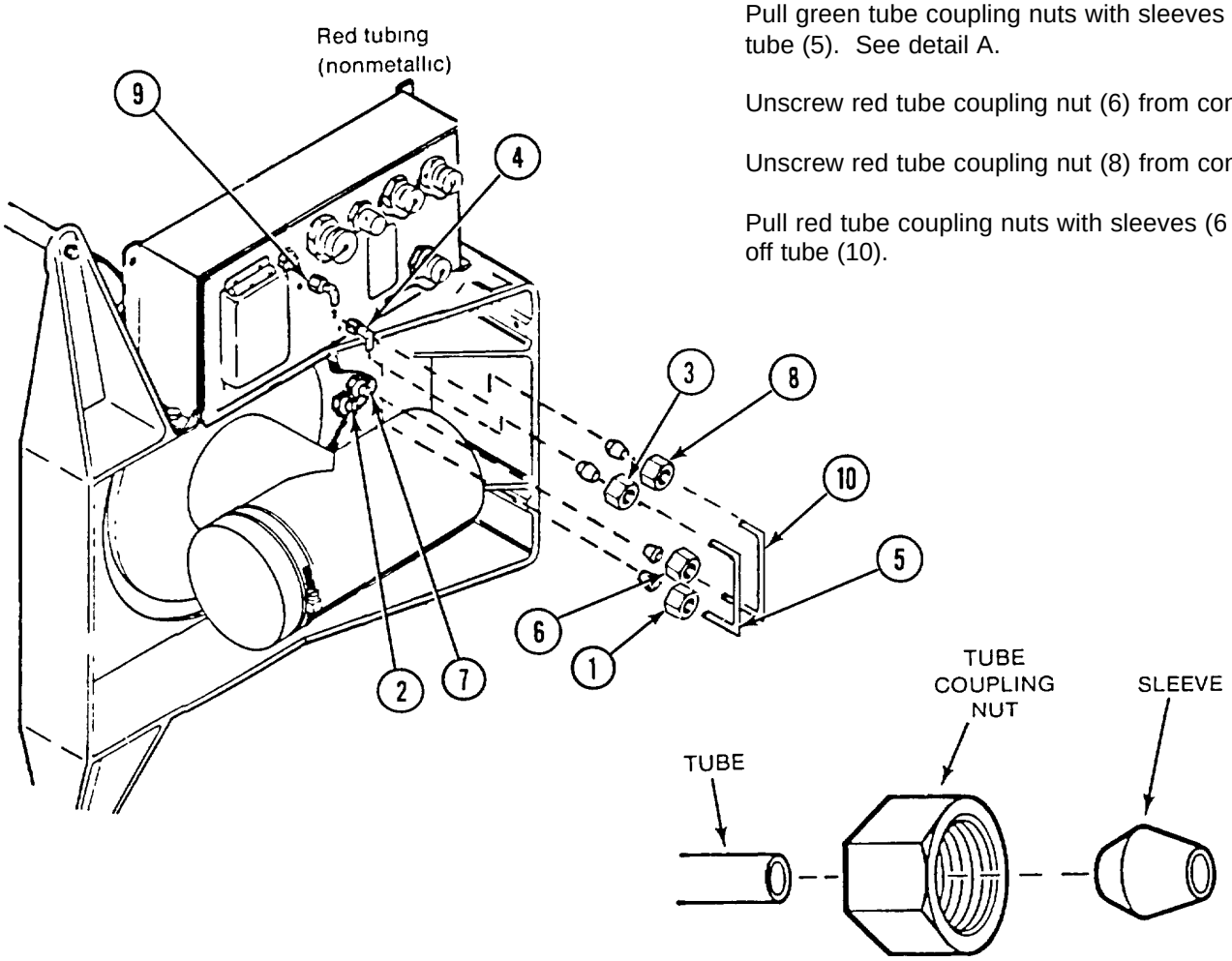
INITIAL SETUP

Tools
General Mechanics Tool Kit SC5180-90-CL-N26

LOCATION	ITEM	ACTION

REMOVAL

M59 Gas-Particulate Filter Unit/Power Distribution Unit	Green tubing (nonmetallic)	Unscrew green tube coupling nut (1) from connector (2). Unscrew green tube coupling nut (3) from connector (4). Pull green tube coupling nuts with sleeves (1 and 3) off tube (5). See detail A. Unscrew red tube coupling nut (6) from connector (7). Unscrew red tube coupling nut (8) from connector (9). Pull red tube coupling nuts with sleeves (6 and 8) off tube (10).



DETAIL A

REPAIR

	Tubing (nonmetallic)	Fabricate tubing. Refer to appendix E, figure E-2.

2-14. M59 GAS-PARTICULATE FILTER UNIT- MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION

INSTALLATION

M59 Gas-Particulate Filter Unit/Power Distribution Unit

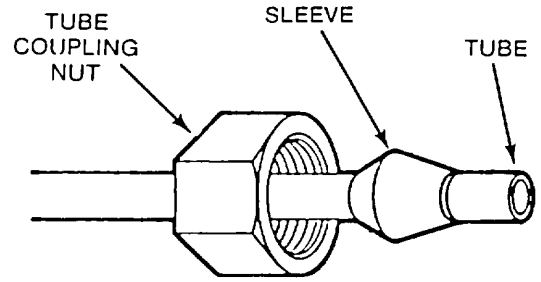
Red tubing (nonmetallic)

Push red tube coupling nuts (6 and 8) with sleeves on red tube (10). See detail A.

Push one end of tube (10) into connector (7) and one end Into connector (9) RED dot on power distribution unit indicates connector (9).

Push red tube coupling nut (6) with sleeve onto connector (7) and hand tighten.

Push red tube coupling nut (8) with sleeve onto connector (9) and hand tighten.



DETAIL A

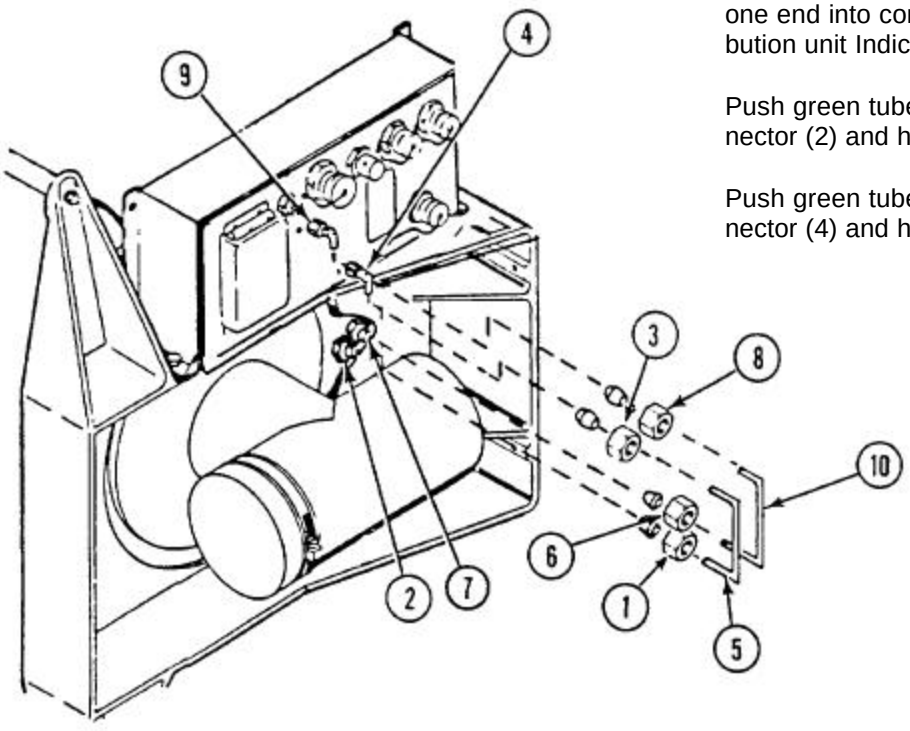
Green tubing (nonmetallic)

Push green tube coupling nuts (1 and 3) with sleeves on green tube (5). See detail A.

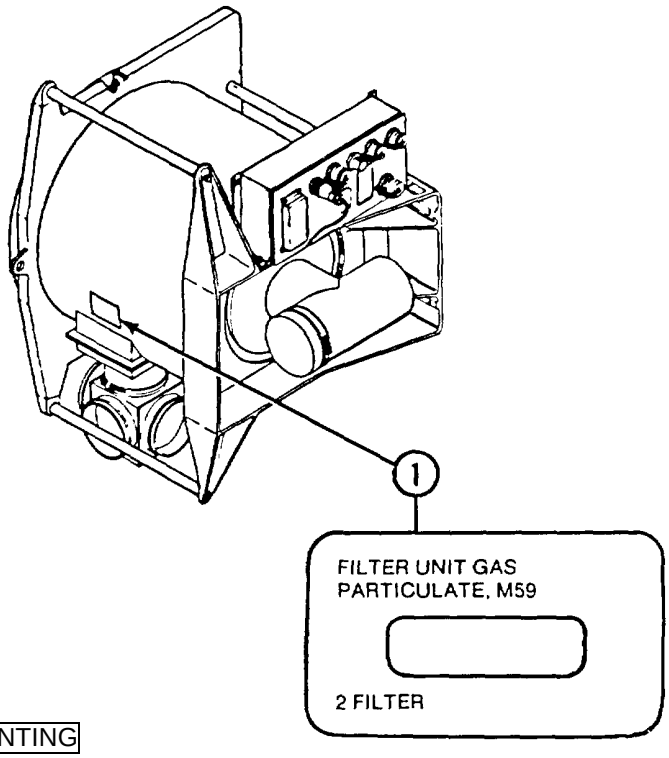
Push one end of green tube (5) into connector (2) and one end into connector (4) GREEN dot on power distrinbution unit Indicates connector (4).

Push green tube coupling nut (1) with sleeve onto connector (2) and hand tighten.

Push green tube coupling nut (3) with sleeve onto connector (4) and hand tighten.



2-14. M59 GAS-PARTICULATE FILTER UNIT- MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION
REMOVAL		
M59 Gas-Particulate Filter Unit	Identification plate	Lift edge of plate with a sharp tool. Pull plate completely off the mounting surface.
INSTALLATION		
		Thoroughly clean mounting surface with dry-cleaning solvent (item 4, app D). Mounting surface must be free of all contamination such as oil, grease, dirt or any foreign matter. Peel back paper from adhesive backing on plate (1). Mount plate (1) and apply pressure to plate surface.
PAINTING		
	Filter housing, compartment control module and power distribution unit	Touch-up painting is authorized. Thoroughly clean the surfaces to be repainted. Use rags (item 6, app D) and dry-cleaning solvent (item 4, app D). Paint surfaces with one coat of primer (Item 5, app D). Paint primed surfaces with aliphatic polyurethane coating (item 2, app D). **NOTE** **Refer to TM 43-0139 for painting instructions for field use.**

2-15. HOUSING UNIT MAINTENANCE INSTRUCTIONS.

This task covers

a. Removal
b. Disassembly
c. Repair
d. Reassembly
e. Installation

INITIAL SETUP

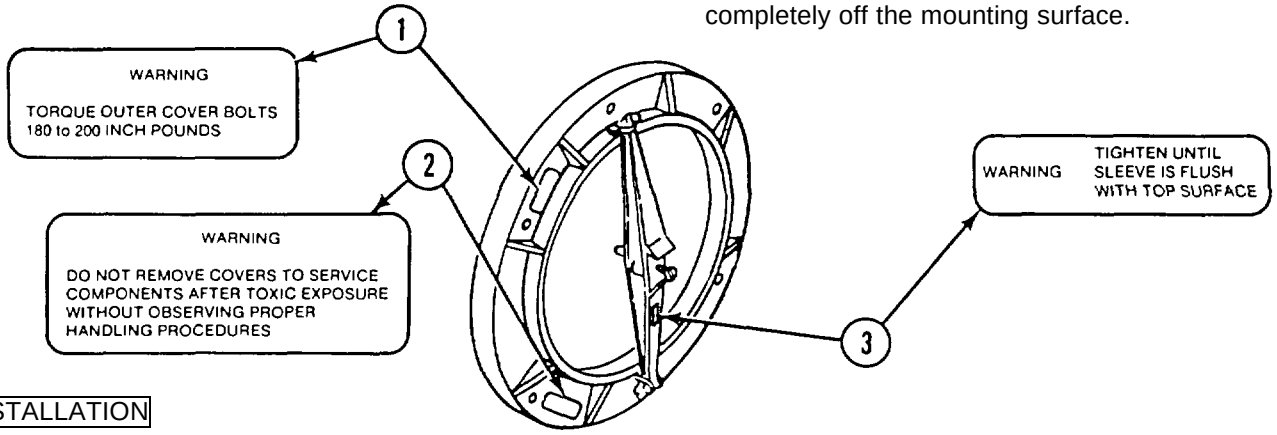
Tools
General Mechanics Tool Kit
SC 5180-90-CL-N26
Torque wrench 0-500 inch-pounds

General Safety Instructions
The unit commander or senior officer in charge of maintenance personnel assigned to remove and dispose of the contaminated gas and particulate filters must prescribe the necessary protective clothing (TM 10-277) to be worn during this operation. He must also prescribe the necessary safety measures to be followed including the decontamination operation (TM 3-220) that must be performed before the new filters are installed.

LOCATION	ITEM	ACTION

REMOVAL

Access cover	Instruction plates	Lift edge of plates (1, 2 or 3) with a sharp tool. Pull plates completely off the mounting surface.



INSTALLATION

Thoroughly clean mounting surface with dry-cleaning solvent (item 4. app D). Mounting surface must be free of all contamination such as oil, grease, dirt or any foreign matter.

Peel back paper from adhesive backing on plates (1, 2. or 3).

Mount the plates (1, 2, or 3) and apply pressure to the plate surface.

LOCATION	ITEM	ACTION

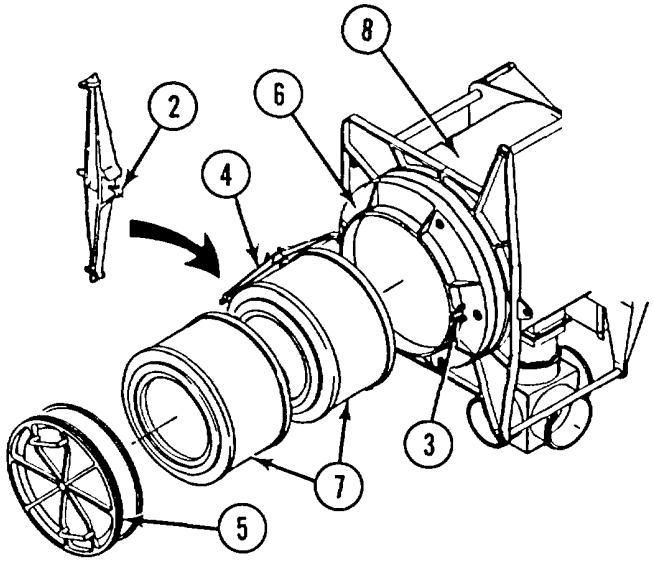
REMOVAL

NOTE

The unit commander or senior officer in charge of maintenance personnel assigned to remove and dispose of the contaminated gas and particulate filters must prescribe the necessary protective clothing (TM 10-277) to be worn during this operation. He must also prescribe the necessary safety measures to be followed Including the decontamination operation (TM 3-220) that must be performed before the new filters are installed .

Housing unit

Particulate filters



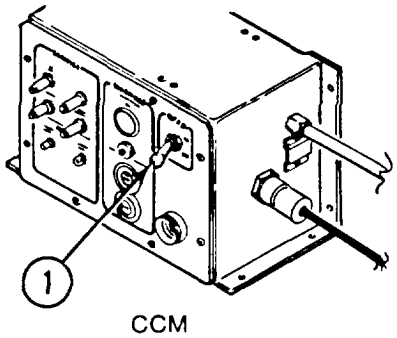
Set POWER switch (1) on compartment control module to OFF.

Loosen screw (2).

Pull catch (3) outward and swing retaining bar (4) away from inner cover (5).

Using handles, pull inner cover (5) from access cover (6).

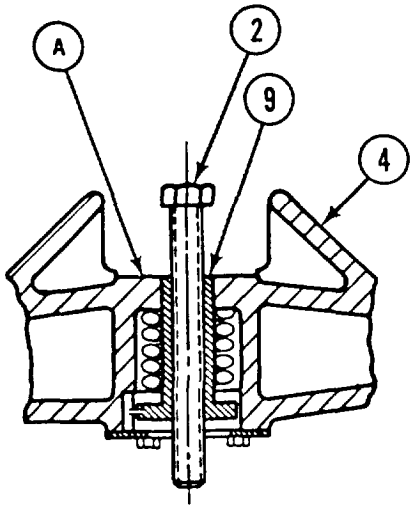
Pull two particulate filters (7) from filter housing (8).



CCM

INSTALLATION

Particulate filters



Place the particulate filters (7) in filter housing (8), either end first.

Grasp inner cover by the handles and place it in the access cover (6).

Swing retaining bar (4) up across Inner cover and engage end of bar with catch (3).

WARNING

Filter seals must be properly seated to prevent bypass of contaminated air.

Tighten screw (2) until sleeve (9) is flush with top surface (A) of retaining bar (4).

2-15. HOUSING UNIT - MAINTENANCE INSTRUCTIONS (CONT).

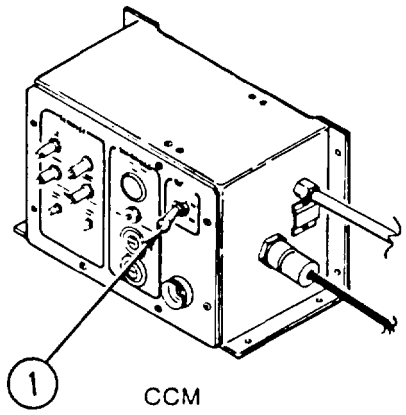
LOCATION	ITEM	ACTION

REMOVAL

NOTE

The unit commander or senior officer in charge of maintenance personnel assigned to remove and dispose of the contaminated gas and particulate filters must prescribe the necessary protective clothing (TM 10-277) to be worn during this operation. He must also prescribe the necessary safety measures to be followed including the decontamination operation (TM 3-220) that must be performed before the new filters are Installed.

Housing unit	Gas and particulate filters	Set POWER switch (1) on the compartment control module to OFF.

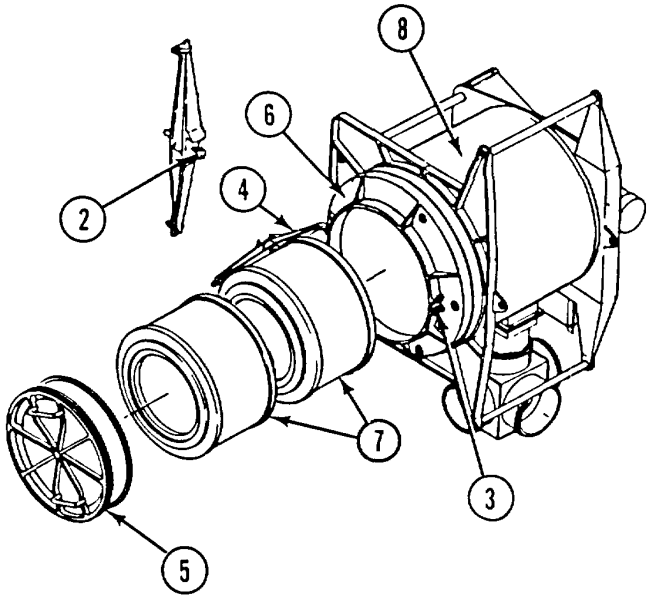


Loosen screw (2).

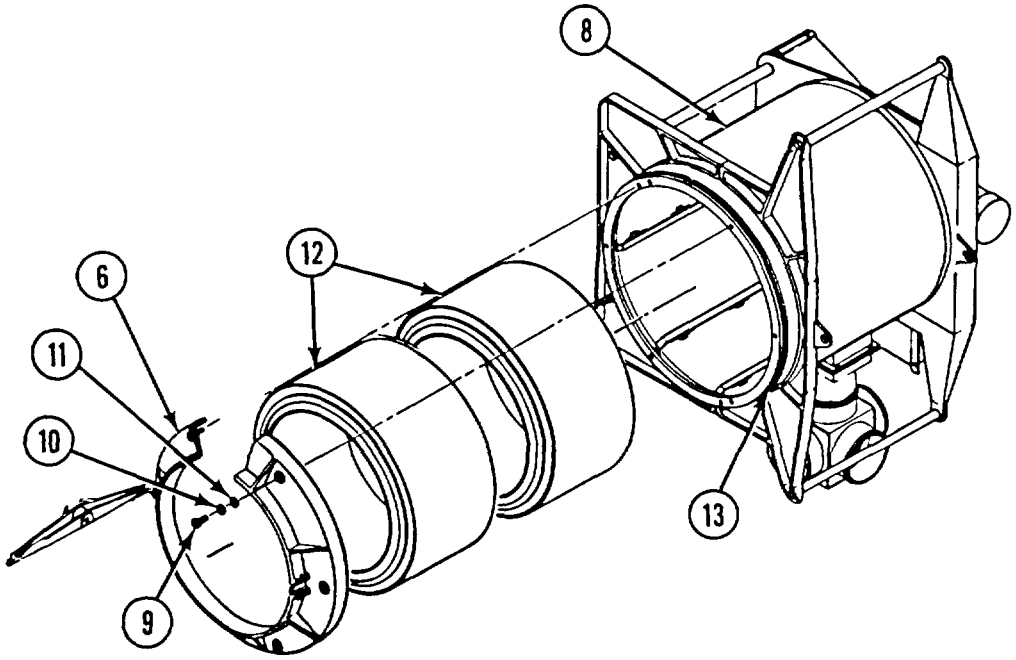
Pull catch (3) outward and swing retaining bar (4) away from inner cover (5).

Using handles, pull inner cover (5) from access cover (6).

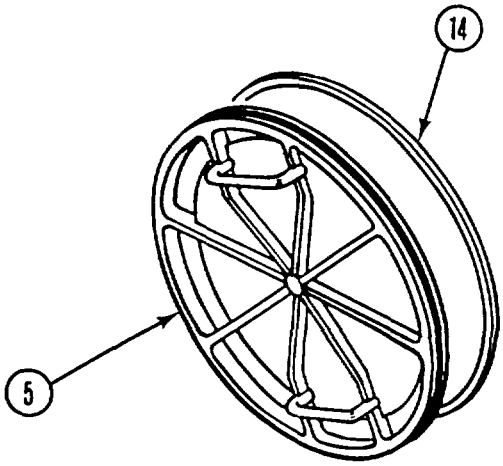
Pull the two particulate filters (7) from filter housing (8).



LOCATION	ITEM	ACTION
REMOVAL (CONT)		
Housing Unit filters	Gas and particulate	Remove screws (9), aluminum washer (10), and washer (11). Pull access cover (6) from housing (8). Pull the two gas filters (12) from filter housing (8).



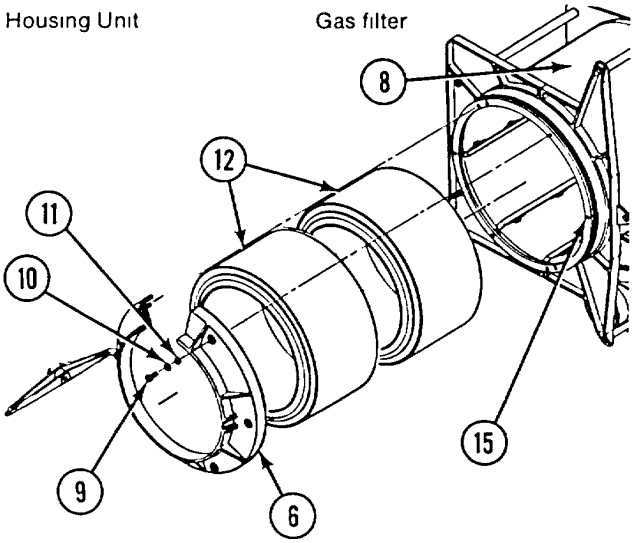
REPAIR		
Filter Housing/ Inner Cover	Seals	Replace access cover seal (13) on filter housing or seal (14) on Inner cover (5) if unserviceable. Remove seal from groove. Clean groove using solvent (Item 4, app D). Install seal in groove and butt ends using adhesive (item 1, app D).



2-15. HOUSING UNIT -MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION

INSTALLATION



Place the two gas filters (12) in filter housing (8), either end first.

Position access cover (6) on filter housing. Align guide pin with guide hole (15). Push access cover (6) into place.

NOTE

To prevent binding of outer access cover against filter housing rim, screws must be tightened alternately in a criss-cross pattern.

Install washers (11), aluminum washers (10), and screws (9) finger tight.

WARNING

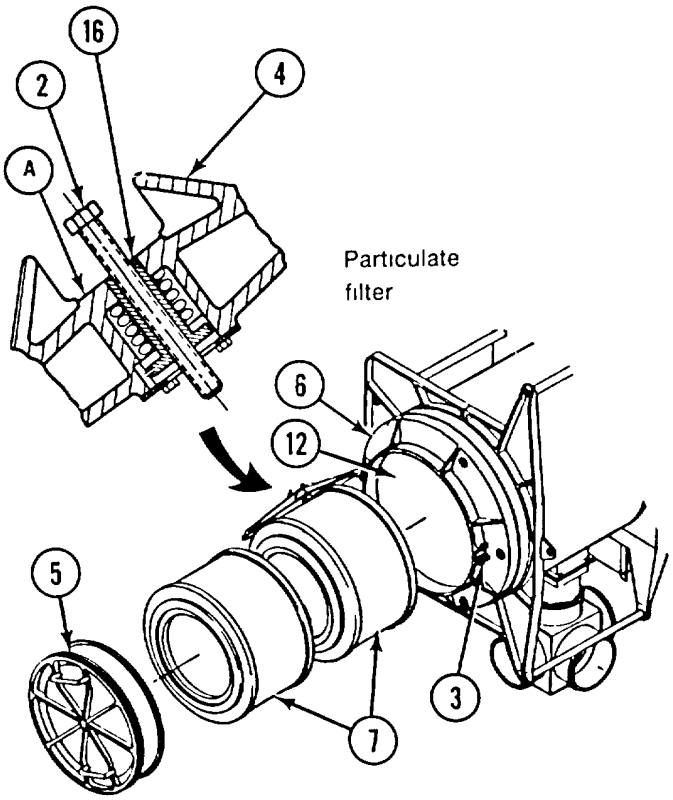
Filter seals must be properly seated to prevent b/pass of contaminated air.

CAUTION

Be sure to observe torque values for the torque wrench being used.

Preliminary torque. In a crisscross pattern, torque screws to 8-10 foot-pounds (100 - 125 inch-pounds).

Final torque. In a crisscross pattern, torque screws to 15-16 foot-pounds (180 - 200 inch-pounds).



Place the two particulate filters (7) in gas filters (12) either end first.

Grasp inner cover (5) by the handles and place it in the access cover (6).

Swing retaining bar (4) up across inner cover and engage end of bar with catch (3).

WARNING

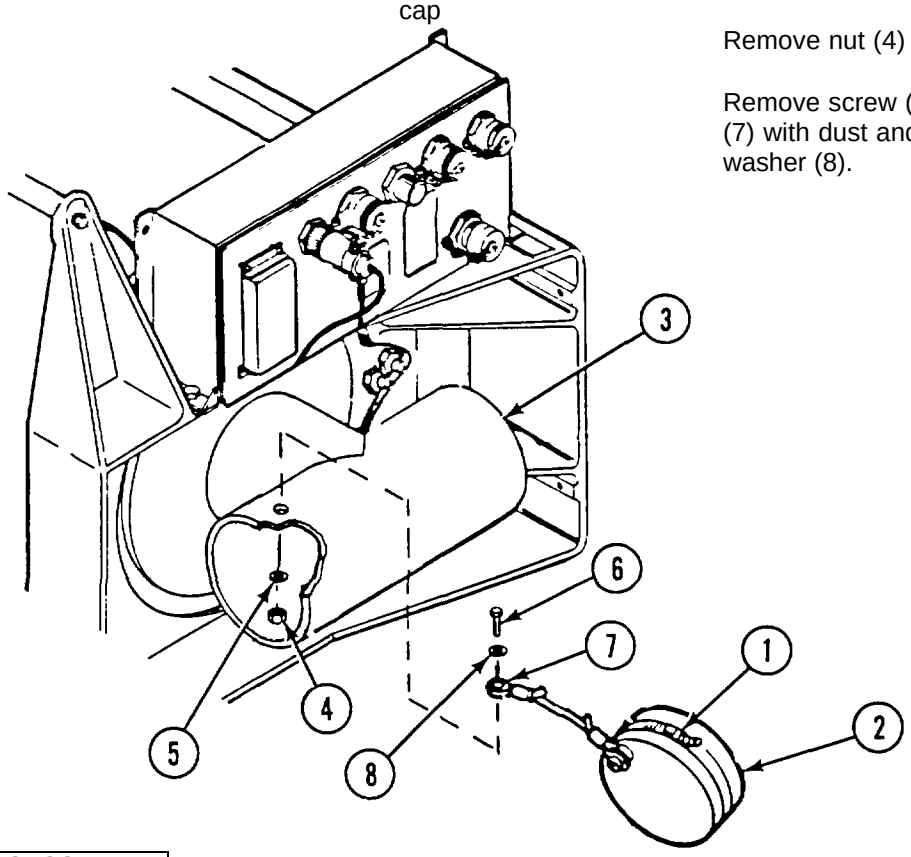
Filter seals must be properly seated to prevent bypass of contaminated air.

Tighten screw (2) until sleeve (16) is flush with top surface (A) of retaining bar (4).

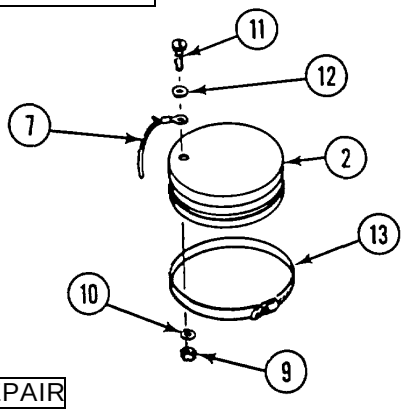
LOCATION	ITEM	ACTION

REMOVAL

Housing Unit	Dust and moisture seal protective cap	Loosen moisture seal protective cap adjusting screw (1) and remove protective cap (2) from inlet tee (3).
		Remove nut (4) and washer (5) from screw (6).
		Remove screw (6) from inlet tee (3), loop of support cable (7) with dust and moisture seal protective cap (2), and washer (8).



DISASSEMBLY



Remove nut (9) and washer (10) from screw (11).

Remove screw (11) from rubber cap (2), loop of support cable (7), and washer (12).

Remove hose clamp (13) from rubber cap (2).

REPAIR

	Support cable	Fabricate support cable Refer to appendix E, figure E-1.

2-15. HOUSING UNIT -MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION

REASSEMBLY

Insert screw (11) in washer (12), loop of support cable (7) and hole In rubber cap (2).

Install washer (10) and nut (9). Tighten securely.

Install hose clamp (13) in groove In rubber cap (2).

INSTALLATION

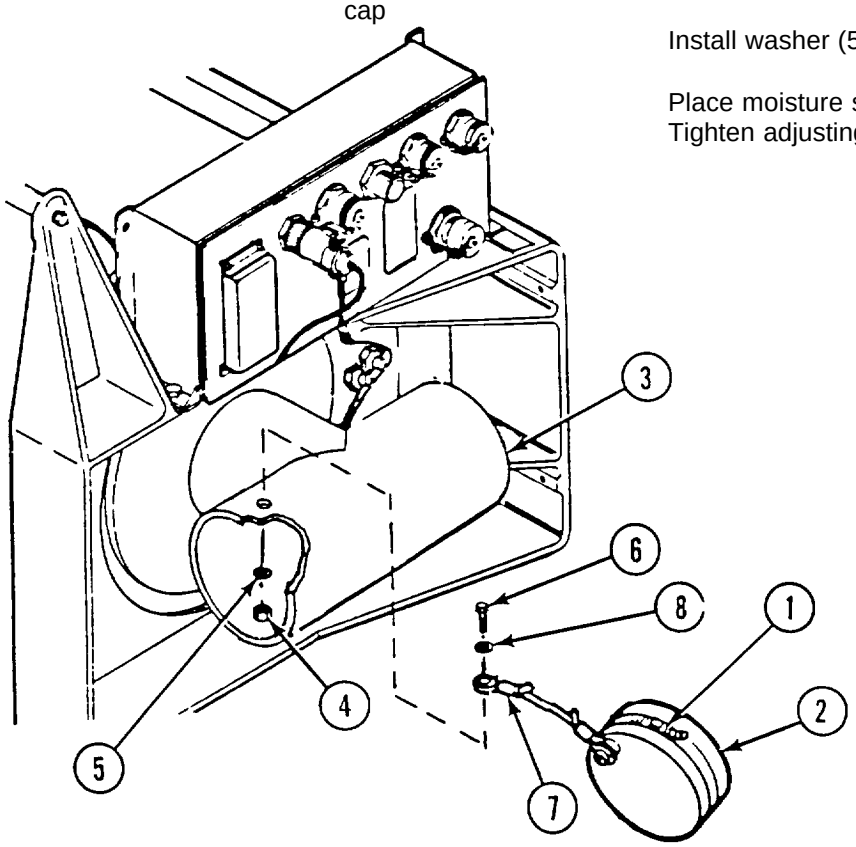
Housing Unit

Dust and moisture seal protective cap

Insert screw (6) in washer (8), loop of support cable (7), and hole In inlet tee (3).

Install washer (5) and nut (4). Tighten securely.

Place moisture seal protective cap (2) on inlet tee (3) Tighten adjusting screw (1).



2-16. MAIN FAN - MAINTENANCE INSTRUCTIONS.

This task covers.

a. Removal
b. Installation

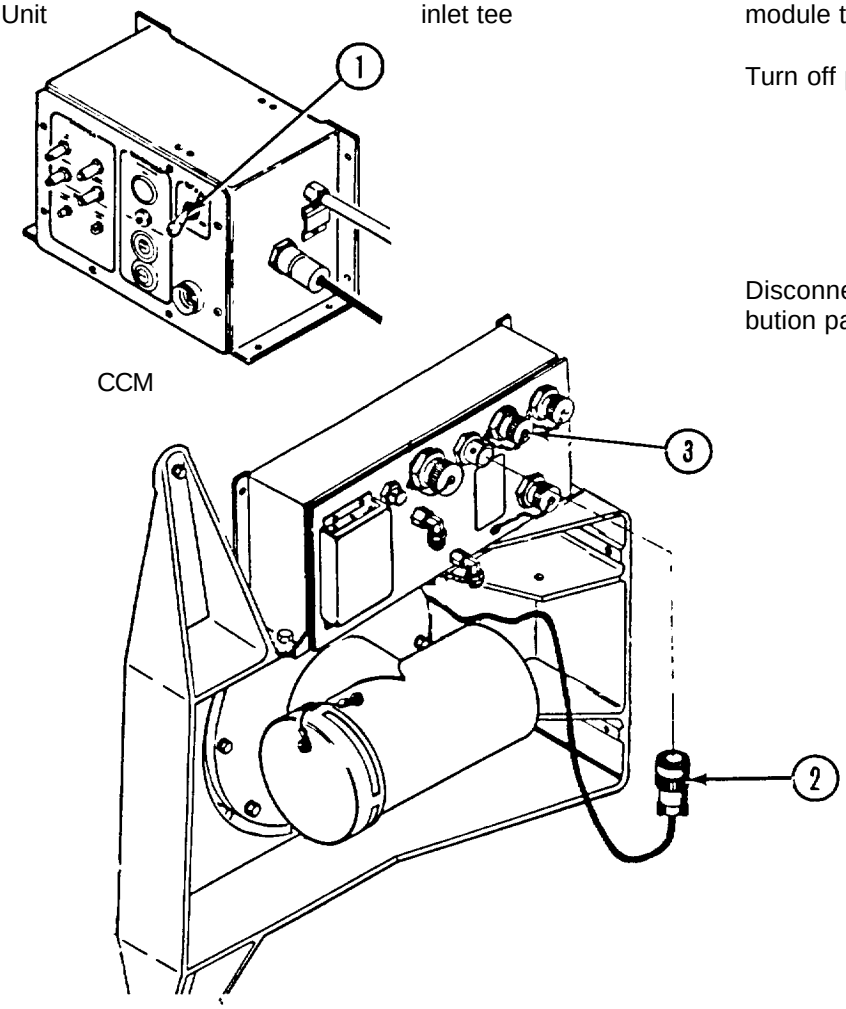
INITIAL SETUP

Tools
General Mechanics Tool Kit
SC 5180-90-CL-N26

LOCATION	ITEM	ACTION

REMOVAL

Housing Unit	Main fan/ inlet tee	Set POWER switch (1) on compartment control module to OFF. Turn off power source.
CCM		Disconnect electrical cable plug P4 (2) from power distribution panel connector J4 (3).

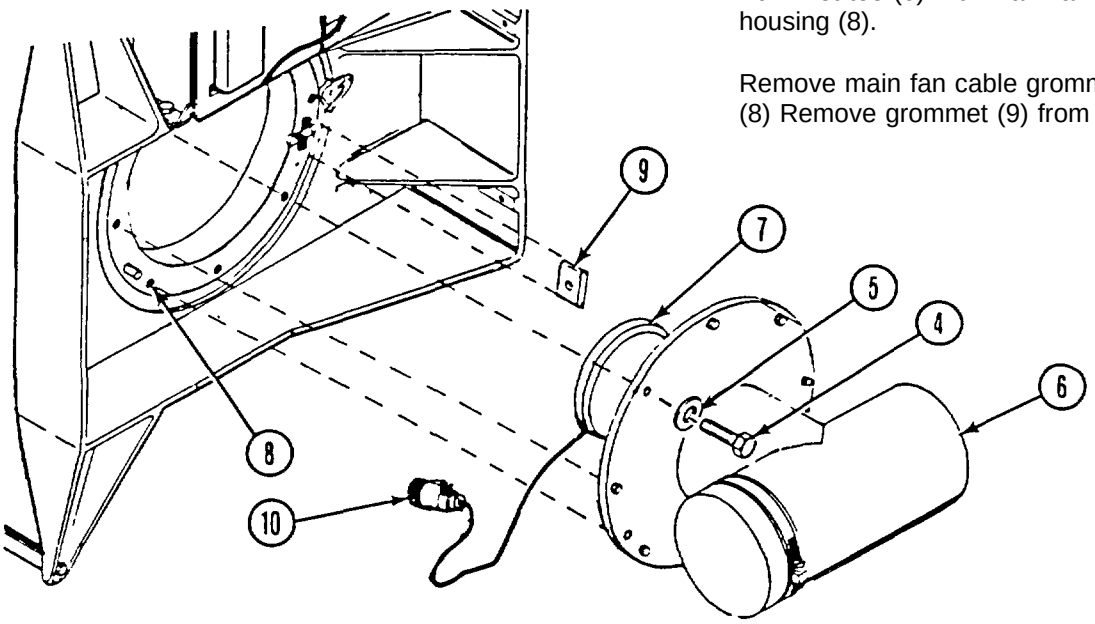


2-16. MAIN FAN-MAINTENANCE INSTRUCTIONS (CONT).

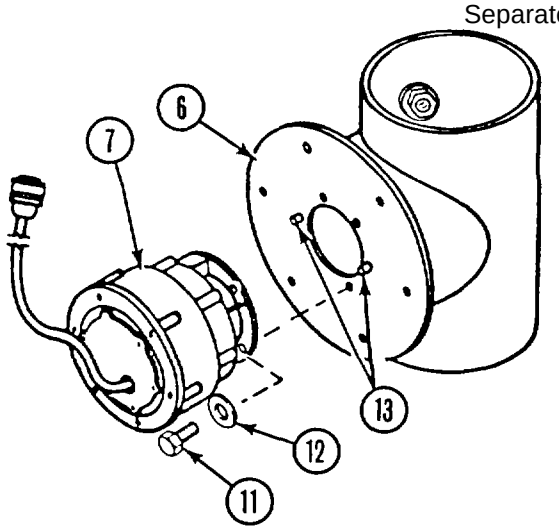
LOCATION	ITEM	ACTION

REMOVAL (CONT)

Housing Unit	Main fan/ inlet tee	Remove screws (4) and washers (5). Pull Inlet tee (6) with main fan (7) attached from filter housing (8). Remove main fan cable grommet (9) from filter housing (8) Remove grommet (9) from electrical cable (10).



Inlet Tee	Main fan	Remove screws (11) and washers (12). Separate main fan (7) from inlet tee (6).



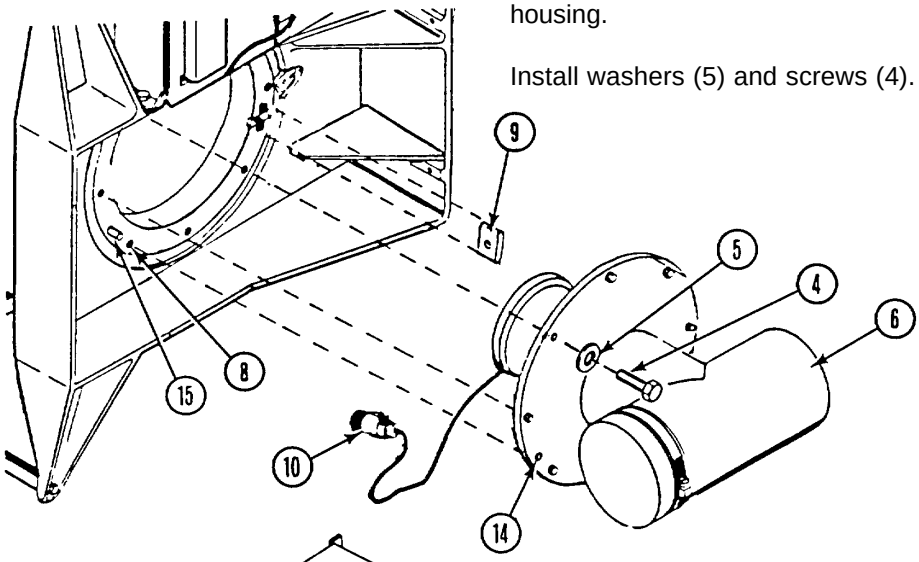
INSTALLATION

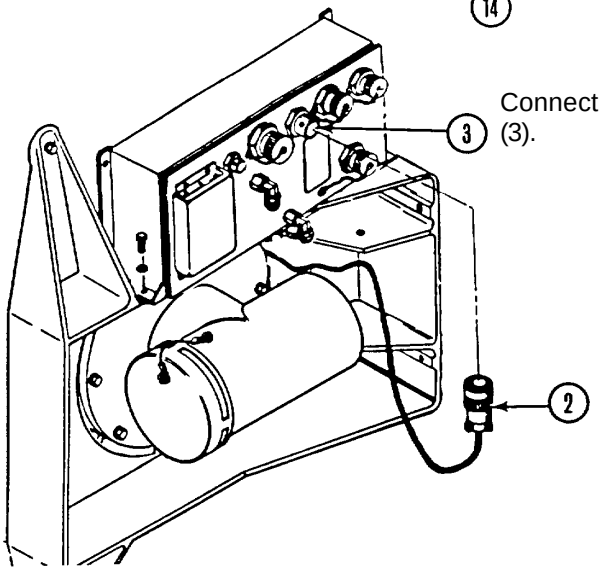
Inlet Tee	Main fan	Position main fan (7) up to inlet tee (6) Aline guide pins (13) on inlet tee with guide pin holes in main fan. Push main fan against inlet tee. Install washers (12) and screws (11). Tighten securely.

LOCATION	ITEM	ACTION

INSTALLATION (CONT)

Housing Unit	Main fan/ inlet tee	Install grommet (9) on cable (10) about 10 inches from motor.
		Position inlet tee (6) up to filter housing (8)
		Install grommet (9) in slot In face of filter housing (8) with slit away from housing
		Aline guide pin hole (14) with guide pin (15). Push inlet tee against filter housing.
		Install washers (5) and screws (4). Tighten securely





Connect electrical cable plug P4 (2) to power distribution panel connector J4 (3).

2-17. AIRFLOW VALVE - MAINTENANCE INSTRUCTIONS.

This task covers

a. Removal
b. Disassembly
c. Repair
d. Reassembly
e. Installation

INITIAL SETUP

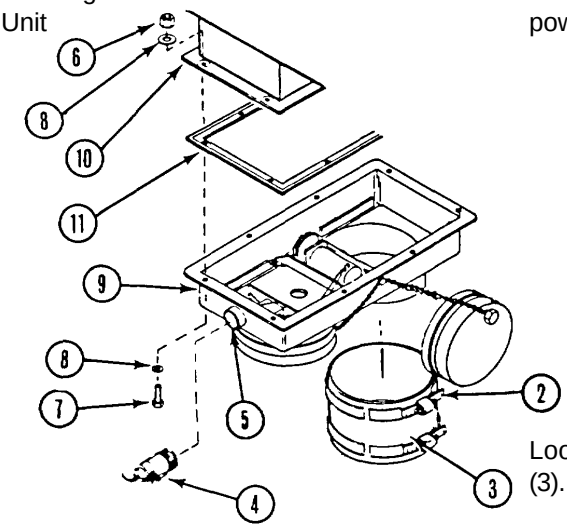
Tools
General Mechanics Tool Kit
SC 5180-90-CL-N26

LOCATION	ITEM	ACTION

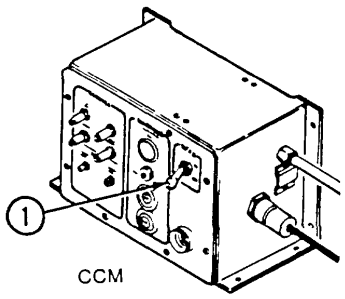
REMOVAL

Housing Unit

Airflow valve



Set POWER switch (1) on compartment control module to OFF. Turn off power source.



Loosen hose clamp adjusting screw (2) and remove adapter mounting hose (3).

Disconnect electrical plug P15 (4) from airflow valve connector J15 (5).

Remove nuts (6), screws (7), and washers (8).

Separate airflow valve (9) from filter unit (10).

REPAIR

Gasket

Replace airflow valve gasket (11) if unserviceable.

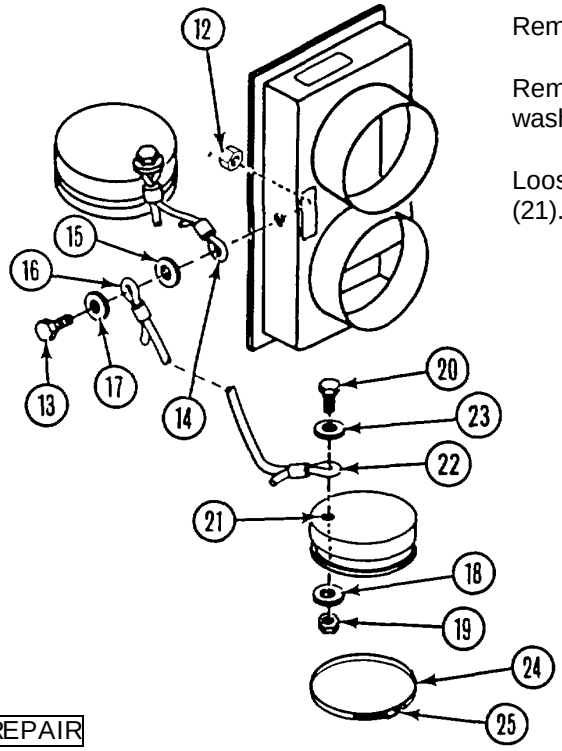
Remove gasket from flange on airflow valve.

Clean flange using dry-cleaning solvent (item 4, app D).

Peel back paper from adhesive back.

Install gasket

LOCATION	ITEM	ACTION
DISASSEMBLY		
Airflow Valve	Dust and moisture seal protective cap	Remove nut (12) from screw (13). Remove screw (13), support cable loop (14), washer (15), support cable loop (16), and washer (17).
		Remove nut (18) and washer (19) from screw (20).
		Remove screw (20) from rubber cap (21), support cable loop (22), and washer (23).
		Loosen adjusting screw (25), and remove hose clamp (24) from rubber cap (21).
REPAIR		
	Support cable	Fabricate support cable. Refer to appendix E, figure E-1.
REASSEMBLY		
Airflow Valve	Dust and moisture seal protective cap	Install screw (20) in washer (23), loop of support cable (22), hole in rubber cap (21), washer (19), and nut (18). Tighten nut securely.
		Install hose clamp (24) in groove in rubber cap (21). Tighten adjusting screw (25) slightly.
		Install screw (13) in washer (17), loop of support cable (16), washer (15), support cable (14), hole in airflow valve, and nut (12). Tighten nut securely.

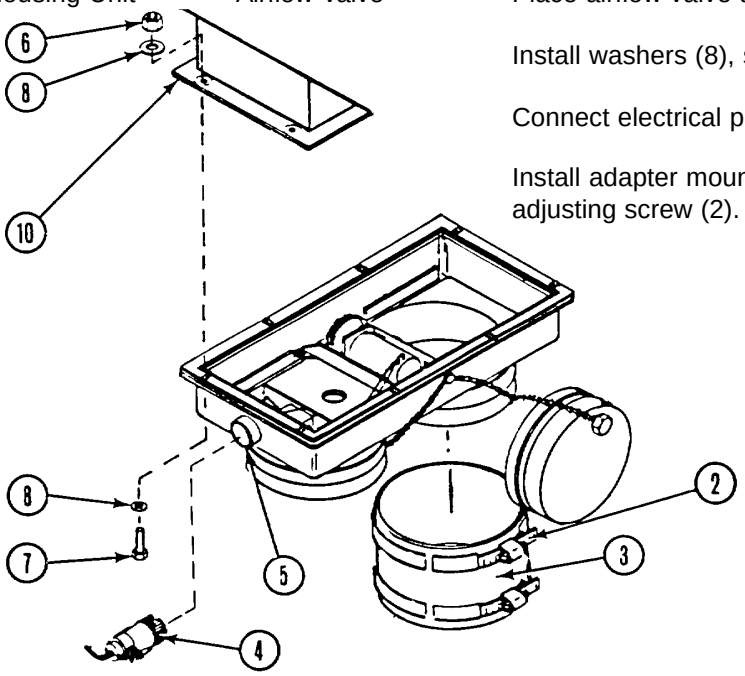


2-17. AIRFLOW VALVE - MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION

INSTALLATION

Housing Unit — Airflow valve



Place airflow valve against filter housing (10). Align screw holes.

Install washers (8), screws (7), and nuts (6). Tighten securely.

Connect electrical plug P15 (4) to airflow valve connector J15 (5).

Install adapter mounting hose (3) on airflow valve. Tighten hose clamp adjusting screw (2).

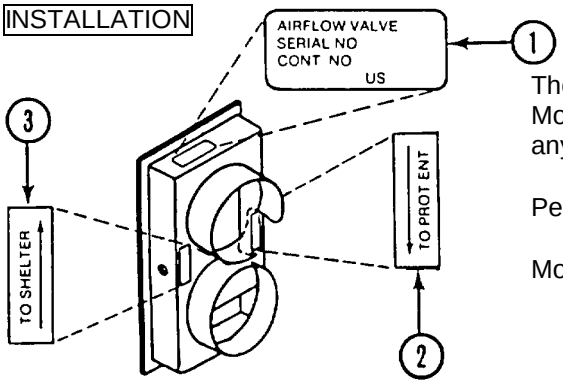
REMOVAL

Airflow Valve — Identification plate and instruction plates

Lift edge of plate (1, 2, or 3) with a sharp tool.

Pull plate completely off the mounting surface.

INSTALLATION



Thoroughly clean mounting surface with dry-cleaning solvent (item 4, app D). Mounting surface must be free of all contamination such as oil, grease, dirt or any foreign matter.

Peel back paper from adhesive backing on plate.

Mount plate and apply pressure to plate surface.

2-18. POWER DISTRIBUTION UNIT - MAINTENANCE INSTRUCTIONS.

This task covers:

a. Removal

b. Installation

INITIAL SETUP

Tools
General Mechanics Tool Kit
SC 5180-90-CL-N26

General Safety Instructions
If filter unit is operating, 208V is present at the Indicator lamp socket.

LOCATION	ITEM	ACTION

REMOVAL

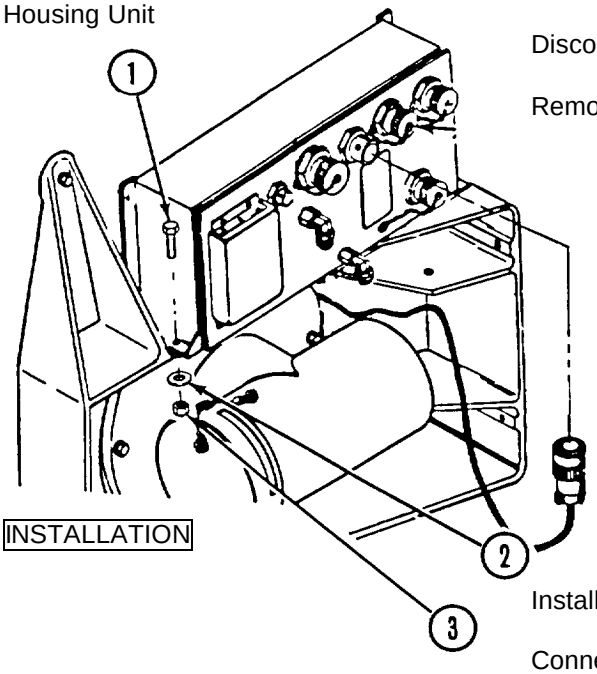
PATRIOT Housing Unit

Power distribution unit

Turn off power source

Disconnect cables from PDU.

Remove bolts (1), washers (2), and nuts (3)



INSTALLATION

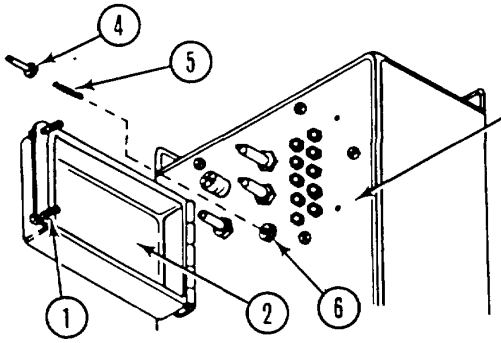
Install power distribution unit using bolts (1), washers (2), and nuts (3).

Connect cables to PDU.

Turn power source on.

2-18. POWER DISTRIBUTION UNIT- MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION
REMOVAL		
Power Distribution Panel	Glow lamp	Loosen screws (1).



Open access cover (2) on power distribution panel (3).

Unscrew lens (4).

WARNING

If filter unit is operating, 208 V is present at the indicator lamp socket

Remove glow lamp (5) from indicator lamp socket (6).

INSTALLATION

Insert glow lamp (5) in lens (4).

Screw lens (4) into indicator lamp socket (6).

Close access cover (2) against panel (3) and secure with screws (1).

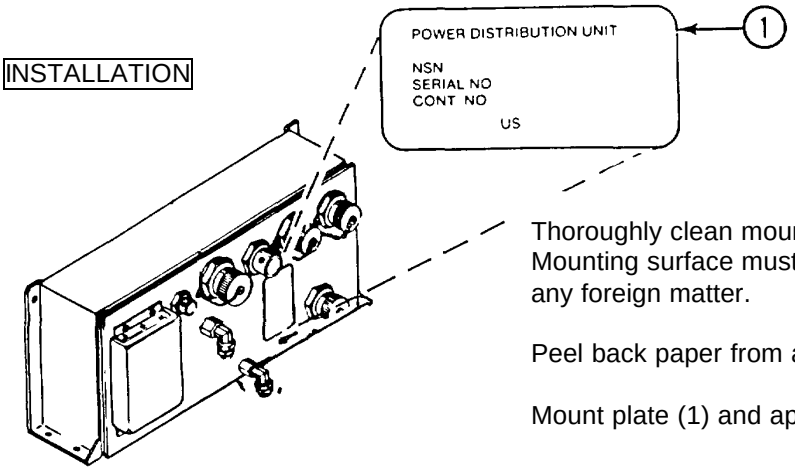
REMOVAL

Power Distribution Panel — Identification plate

Lift edge of plate (1) with a sharp tool.

Pull plate completely off the mounting surface.

INSTALLATION



Thoroughly clean mounting surface with dry-cleaning solvent (Item 4, app D). Mounting surface must be free of all contamination such as oil, grease, dirt or any foreign matter.

Peel back paper from adhesive backing on plate (1).

Mount plate (1) and apply pressure to plate surface.

2-19. COMPARTMENT CONTROL MODULE - MAINTENANCE INSTRUCTIONS.

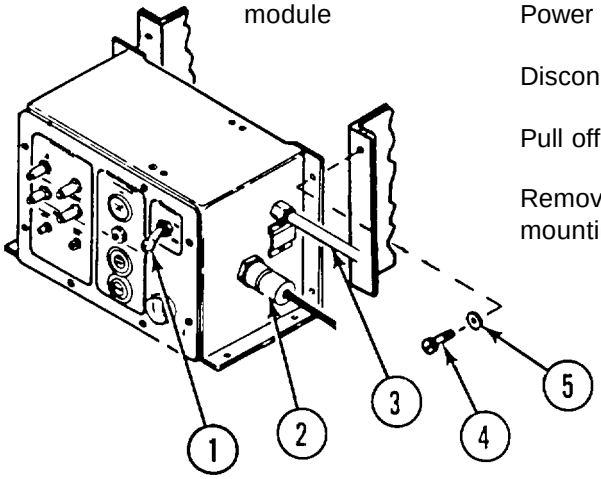
This task covers

a. Removal
b. Repair
c. Installation

INITIAL SETUP

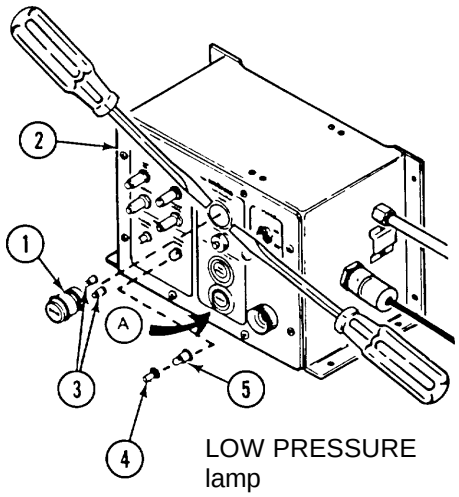
Tools
General Mechanics Tool Kit
SC 5180-90-CL-N26

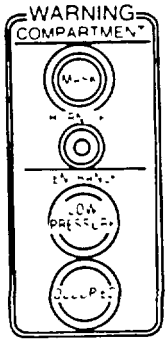
LOCATION	ITEM	ACTION
REMOVAL		
PATRIOT	Compartment control module	Set POWER switch (1) on compartment control module to OFF. Turn off Power at source. Disconnect electrical cable plug P1 (2) from compartment control module. Pull off pressure hose (3). Remove screws (4), washers (5), and compartment control module from mounting brackets.
REPAIR		
	Hose	Fabricate replacement hose (fig E-3B, app E).
INSTALLATION		
	Compartment control module	Place compartment control module against mounting brackets and aline with screw holes. Install washers (4) and screws (5). Tighten securely. Install pressure hose (3). Connect electrical cable plug P1 (2) to connector J1 on compartment control module.



2-19. COMPARTMENT CONTROL MODULE - MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION
REMOVAL		
Compartment Control Model	MASK lamp panel (2)	Using two screwdrivers, gently pry lens (1) from control panel (2).
		NOTE **Observe the location of lamps in the lens. Lamps must be re-installed in the same sockets.**
		Pull lamps (3) from lens (1)
	LOW PRESSURE lamp	Same as MASK lamp.
	OCCUPIED lamp	Same as MASK lamp.
	CHANGE FILTER lamp	Unscrew lens (4). Remove lamp (5).
INSTALLATION		
	MASK lamp	Insert lamps (3) into lens (1). Use the same lamp sockets that lamps were removed from.
		Insert lens (1) into control panel (2), as shown in detail A. Press lens into panel until it snaps into place.
	LOW PRESSURE lamp	Same as MASK lamp.
	OCCUPIED lamp	Same as MASK lamp.
	CHANGE FILTER lamp	Insert lamp (5) into lens (4).
		Screw lens (4) into control panel (2).





DETAIL (A)

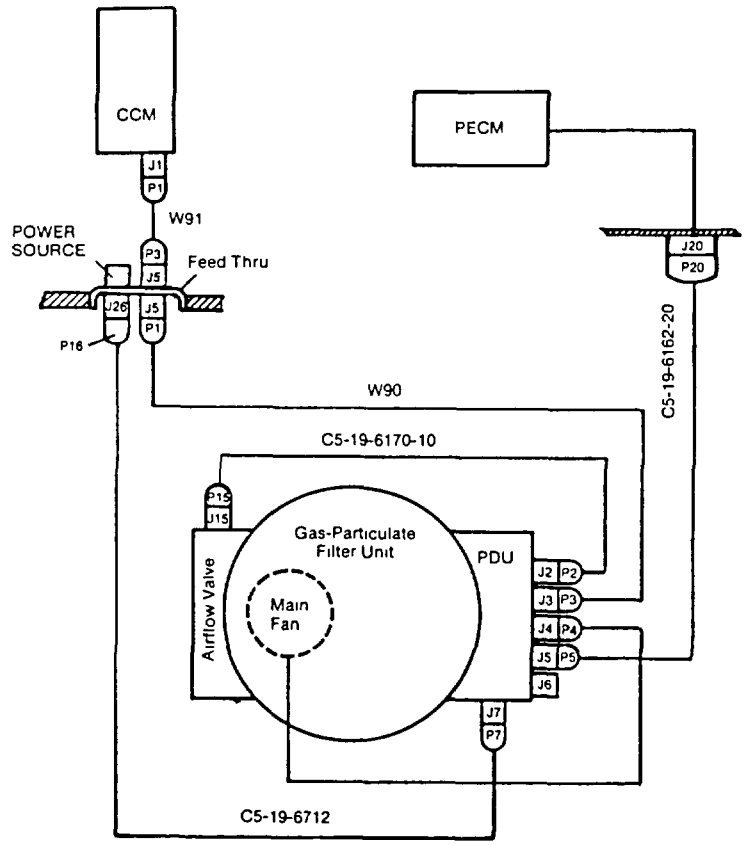
Section VIII. MAINTENANCE PROCEDURES FOR M265 INSTALLATION KIT

2-20. GENERAL. These instructions are for use by organizational maintenance personnel. They apply to:
Cables
Airduct hoses
Transition

2-21. CABLE - MAINTENANCE INSTRUCTIONS.

NOTE:

Use The Cable Routing Diagram Below To Locate Each of The Five Cables



SPECIAL PURPOSE ELECTRICAL CABLE ROUTING DIAGRAM

2-22. CABLE C5-19-6162-20 - MAINTENANCE INSTRUCTIONS.

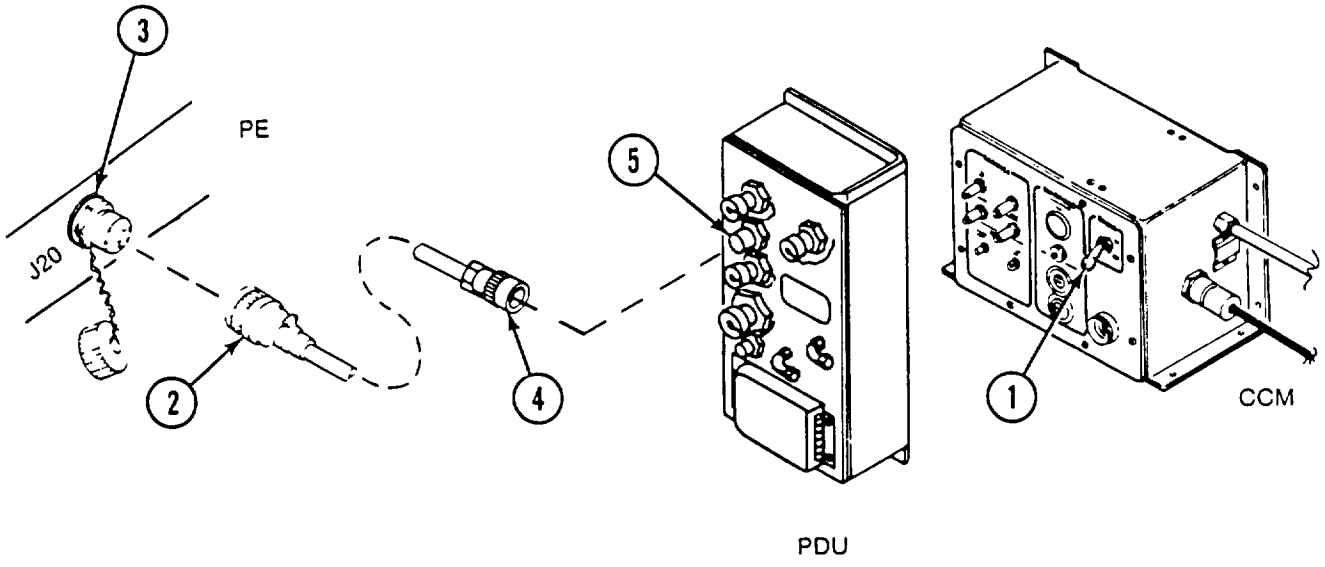
This task covers:

a. Removal
b. Test
c. Replace
d. Installation

INITIAL SETUP

Test Equipment
Multimeter

LOCATION	ITEM	ACTION
REMOVAL		
M14 Protective Entrance and Power Distribution Unit	Cable C5-19-6162-20	Set compartment control module POWER switch (1) to OFF. Shut down power source. Disconnect electrical cable plug P20 (2) from protective entrance connector J20 (3). Disconnect electrical cable plug P5 (4) from power distribution unit connector J5 (5).



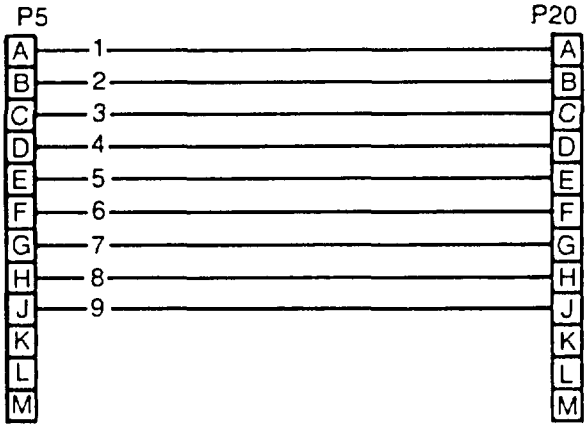
LOCATION	ITEM	ACTION

TEST

Cable C5-19-6162-20 Check continuity of each wire between P5 and P20.

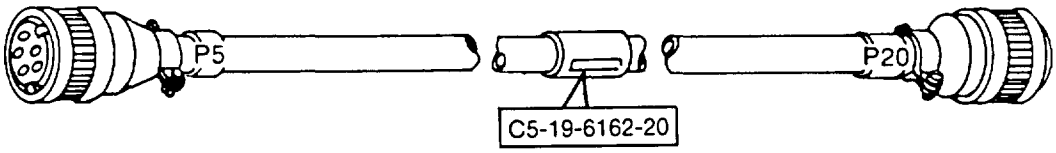
NOTE

Use multimeter and cable C5-19-6162-20 wiring diagram.



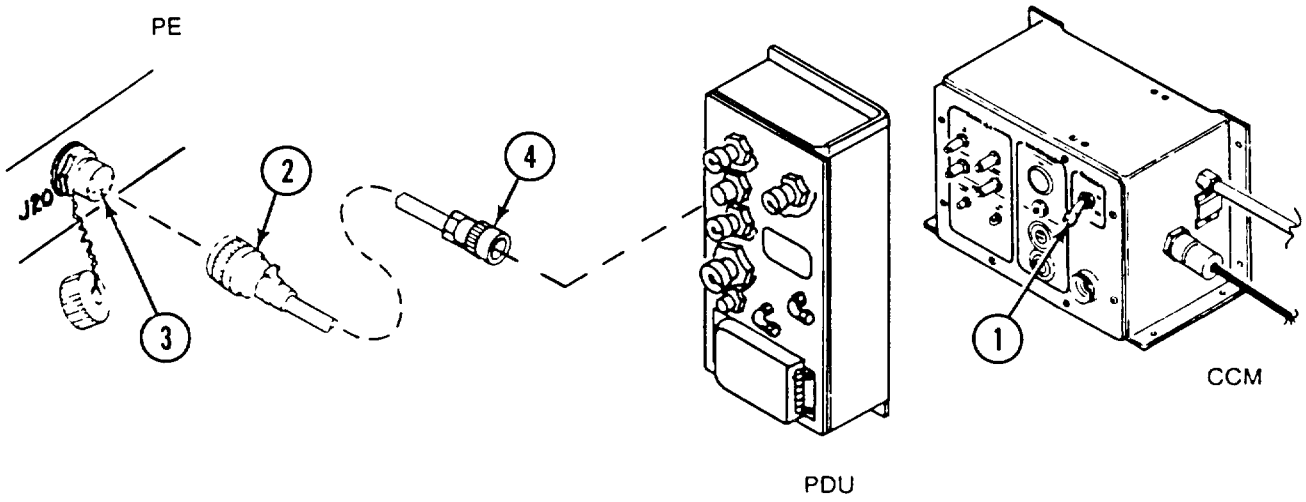
C5-19-6162-20
CABLE ASSEMBLY WIRING DIAGRAM

Cable C5-19-6162-20 Replace cable If it fails continuity check.



2-22. CABLE C5-19-6162-20 - MAINTENANCE INSTRUCTIONS (CONT).

LOCATION	ITEM	ACTION
INSTALLATION		
M14 Protective Entrance and Power Distribution Unit	Cable C5-19-6162-20	Set POWER switch (1) on compartment control module to OFF. Turn off power source. Connect electrical cable plug P5 (4) to power distribution unit connector J5 (5). Connect electrical cable plug P20 (2) to protective entrance connector J20 (3).



2-23. CABLE C5-19-6170-10 - MAINTENANCE INSTRUCTIONS.

This task covers

a. Removal
b. Test
c. Replace
d. Installation

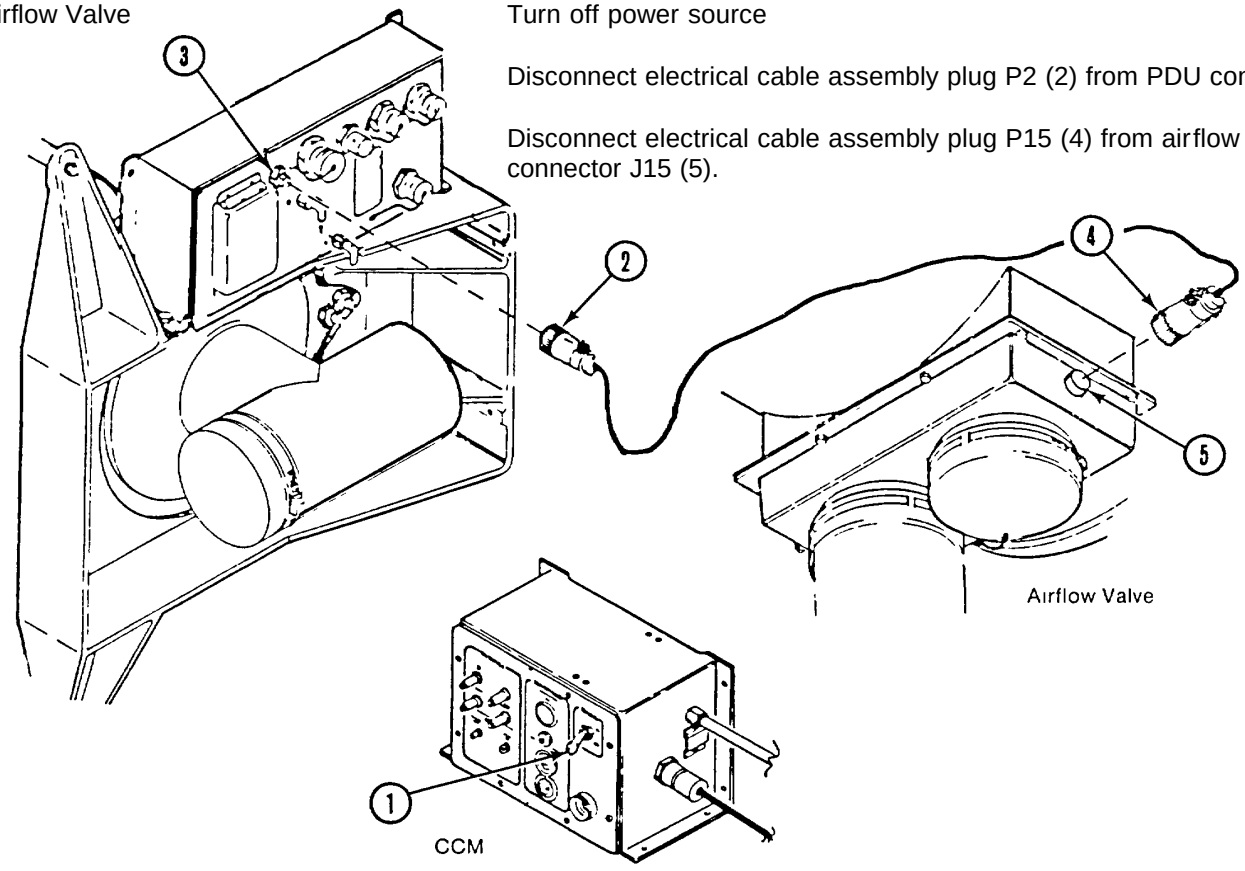
INITIAL SETUP

Test Equipment
Multimeter

LOCATION	ITEM	ACTION

REMOVAL

Power Distribution Unit and Airflow Valve	Cable C5-19-6170-10	Set compartment control module POWER switch (1) to OFF. Turn off power source Disconnect electrical cable assembly plug P2 (2) from PDU connector J2 (3). Disconnect electrical cable assembly plug P15 (4) from airflow value connector J15 (5).



2-23. CABLE C5-19-6170-10- MAINTENANCE INSTRUCTIONS (CONT).

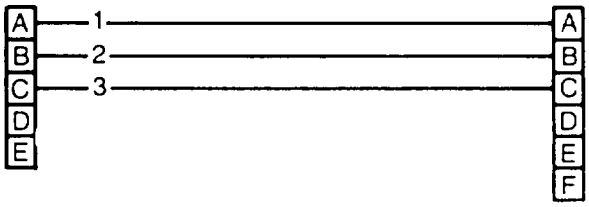
LOCATION	ITEM	ACTION

TEST

Power Distribution Unit and Airflow Valve	Cable C5-19-6170-10	Check continuity of each wire between P2 and P15.

NOTE

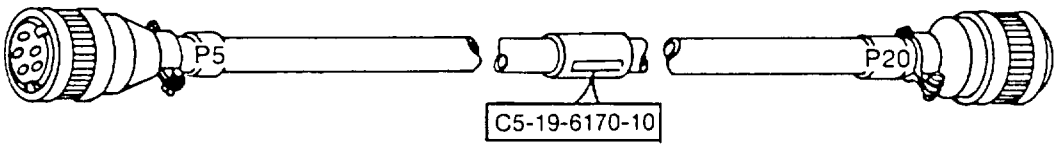
Use multimeter and cable C5-19-6170-10 wiring diagram.



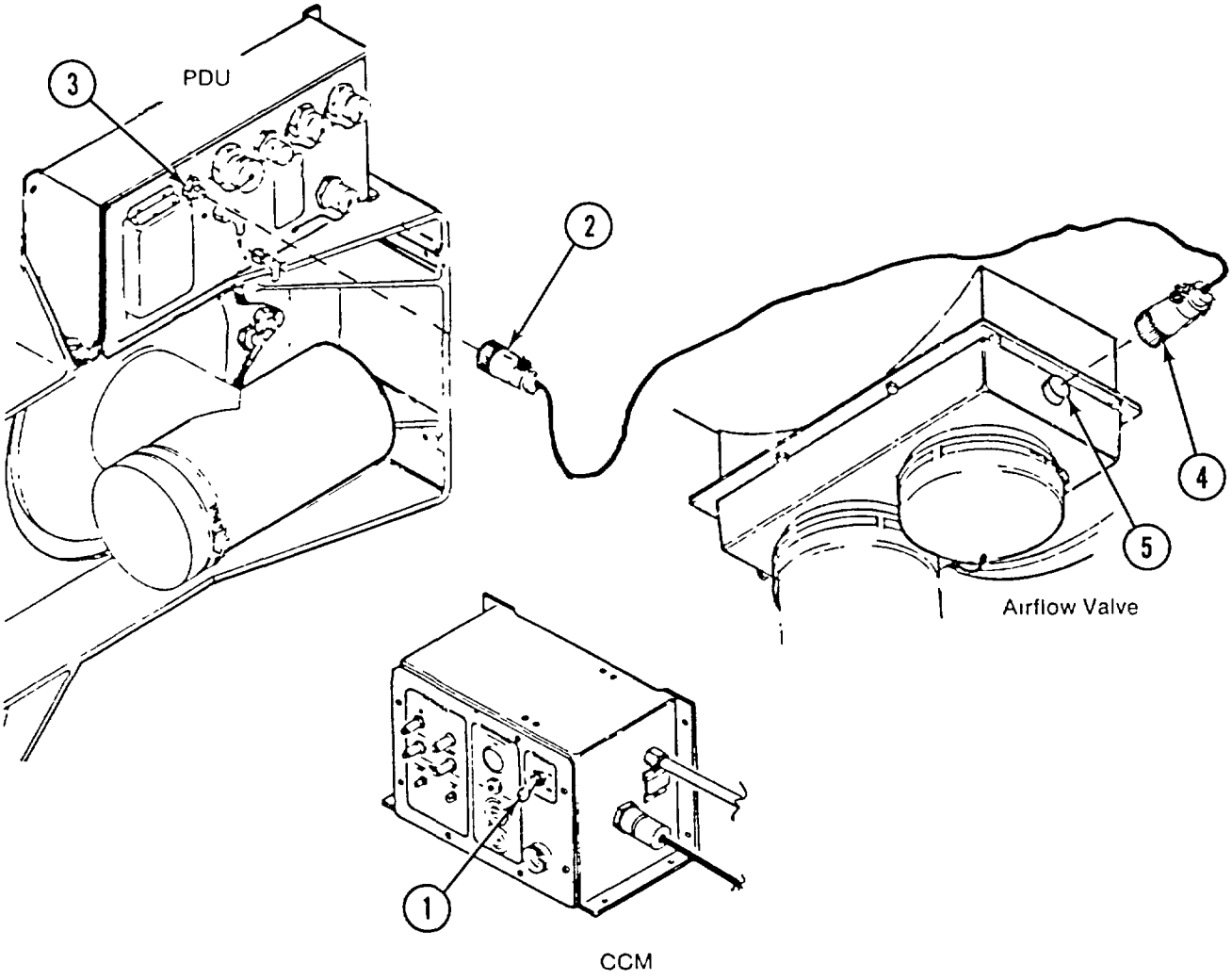
C5-19-6170-10
CABLE WIRING DIAGRAM

REPLACE

Power Distribution Unit and Airflow Valve	Cable C5-19-6170-10	Replace cable If it falls continuity check.



LOCATION	ITEM	ACTION
INSTALLATION		
Power Distribution Unit and Airflow Valve	Cable C5-19-6170-10	Set POWER switch (1) on compartment control module to OFF. Turn off power source. Connect electrical cable assembly plug P15 (4) to airflow valve connector J15 (5). Connect electrical cable assembly plug P2 (2) to power distribution unit connector J2 (3).



2-24. CABLE W91 - MAINTENANCE INSTRUCTIONS.

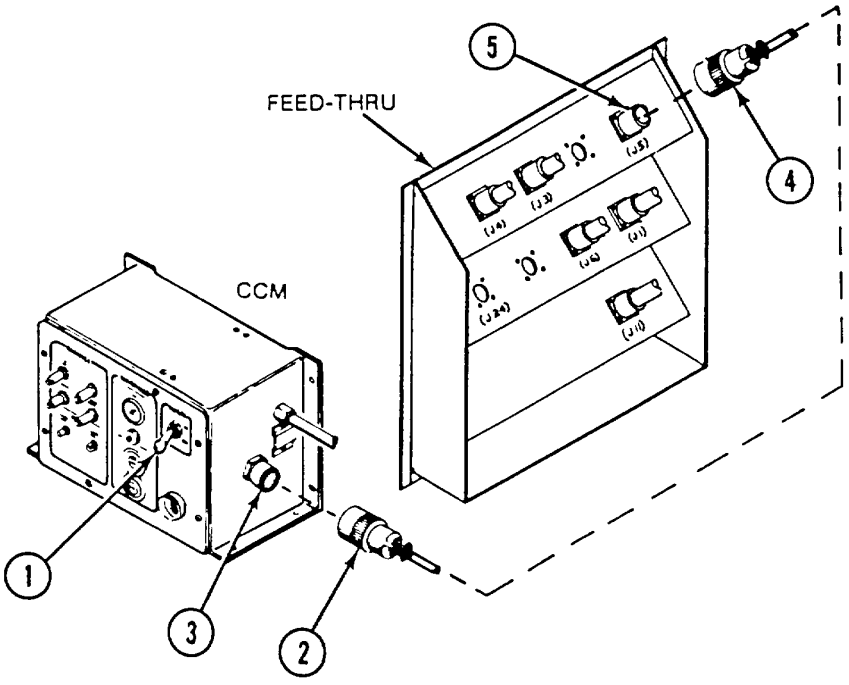
This task covers

a. Removal
b. Test
c. Replace
d. Installation

INITIAL SETUP

Test Equipment
Multimeter

LOCATION	ITEM	ACTION
REMOVAL		
Compartment Control Module and Feed-Thru Connector	Cable W91	Set compartment control module POWER switch (1) to OFF. Turn off power source.
		Disconnect electrical cable assembly plug P1 (2) from compartment control module connector J1 (3).
		Disconnect electrical cable assembly plug P3 (4) from feed-thru connector J5 (5).



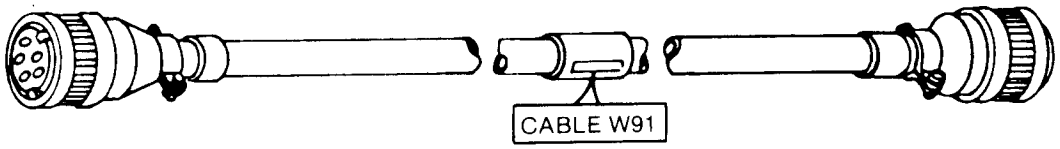
TEST

Check continuity of each wire between P1 and P3

LOCATION	ITEM	ACTION

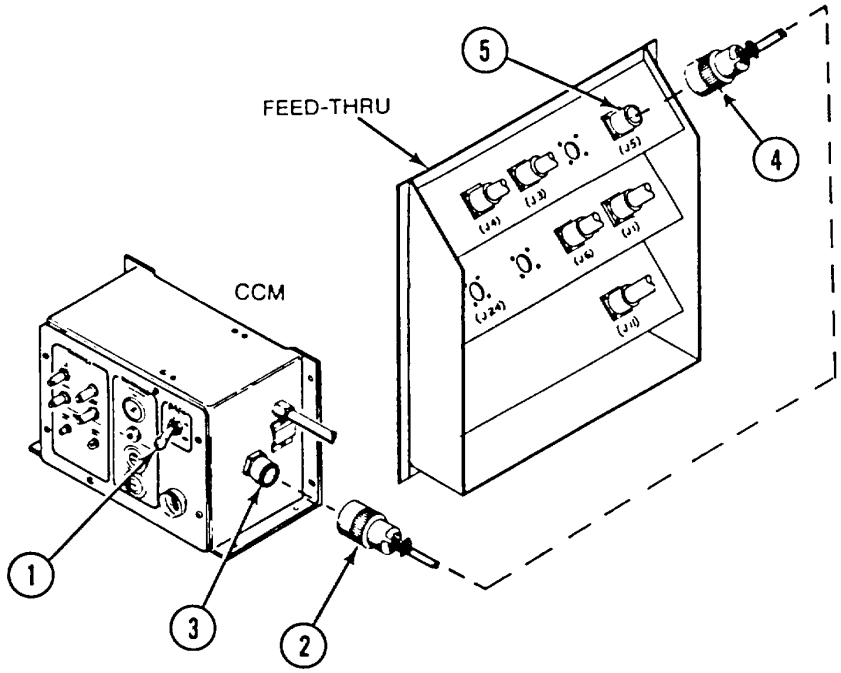
REPLACE

Compartment Control Module and Feed-Thru Connector	Cable W91	Replace cable if it fails continuity check.



INSTALLATION

Compartment Control Module and Feed-Thru Connector	Cable W91	Set compartment control module POWER switch (1) to OFF. Turn off power source. Connect electrical cable assembly plug P3 (4) to feed-thru connector J5 (5). Connect electrical cable assembly plug P1 (2) to compartment control module connector J1 (3).



2-25. CABLE W90 - MAINTENANCE INSTRUCTIONS.

This task covers

a. Removal
b. Test
c. Replace
d. Installation

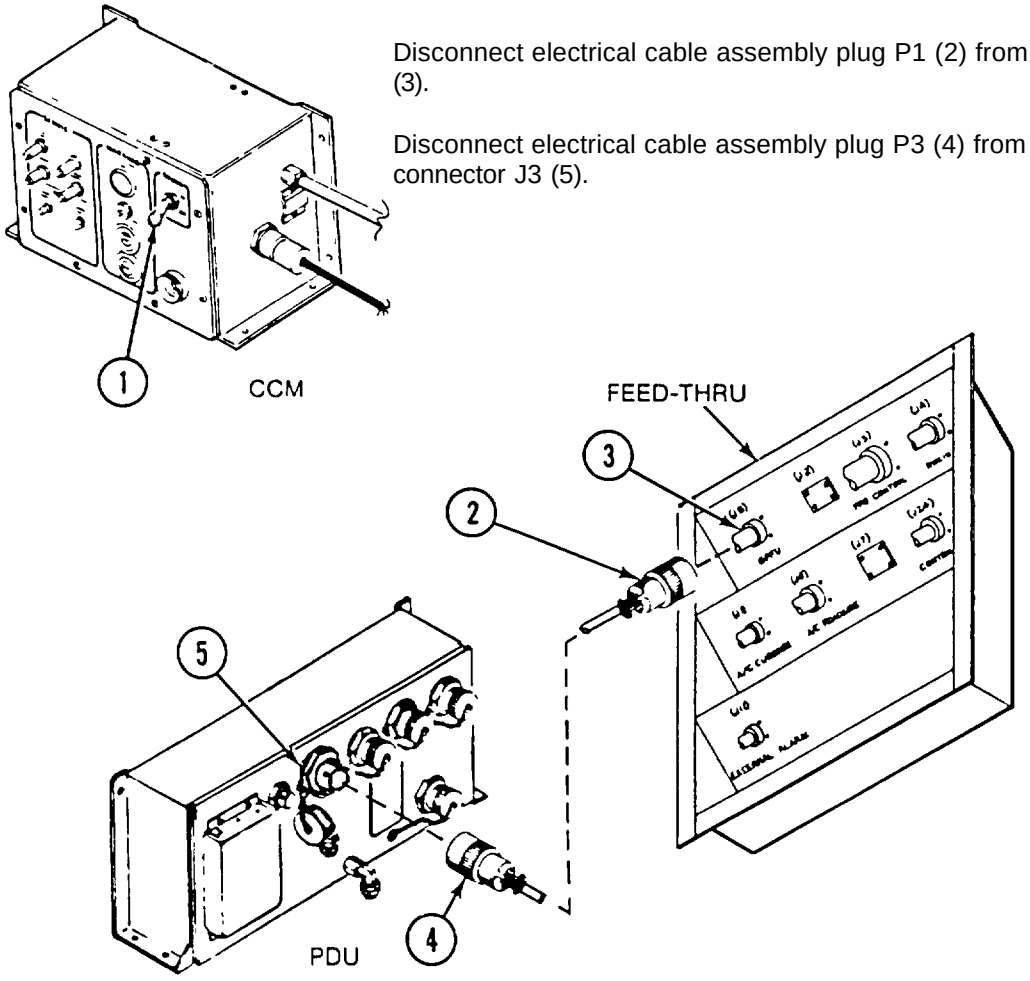
INITIAL SETUP

Test Equipment
Multimeter

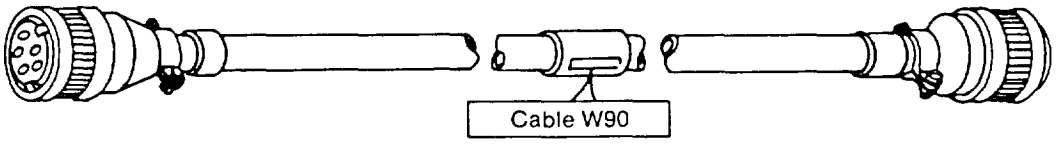
LOCATION	ITEM	ACTION

REMOVAL

Power Distribution Unit and Feed-Thru Connector	Cable W90	Set compartment control module POWER switch (1) to OFF. Turn off power source. Disconnect electrical cable assembly plug P1 (2) from feed-thru connector J5 (3). Disconnect electrical cable assembly plug P3 (4) from power distribution unit connector J3 (5).



LOCATION	ITEM	ACTION
TEST		
		Check continuity of each wire between P1 and P3.
REPLACE		
Power Distribution Unit and Feed-Thru Connector	Cable W90	Replace cable If it falls continuity check.



INSTALLATION		
Power Distribution Unit and Feed-Thru Connector	Cable W90	Set compartment control module POWER switch (1) to OFF. Turn off power source. Connect electrical cable assembly plug P3 (4) to power distribution unit connector J3 (5). Connect electrical cable assembly plug P1 (2) to feed-thru connector J5 (3)

2-26. C5-19-6712 - MAINTENANCE INSTRUCTIONS.

This task covers

a. Removal
b. Test
c. Replace
d. Installation

INITIAL SETUP

Test Equipment
Multimeter

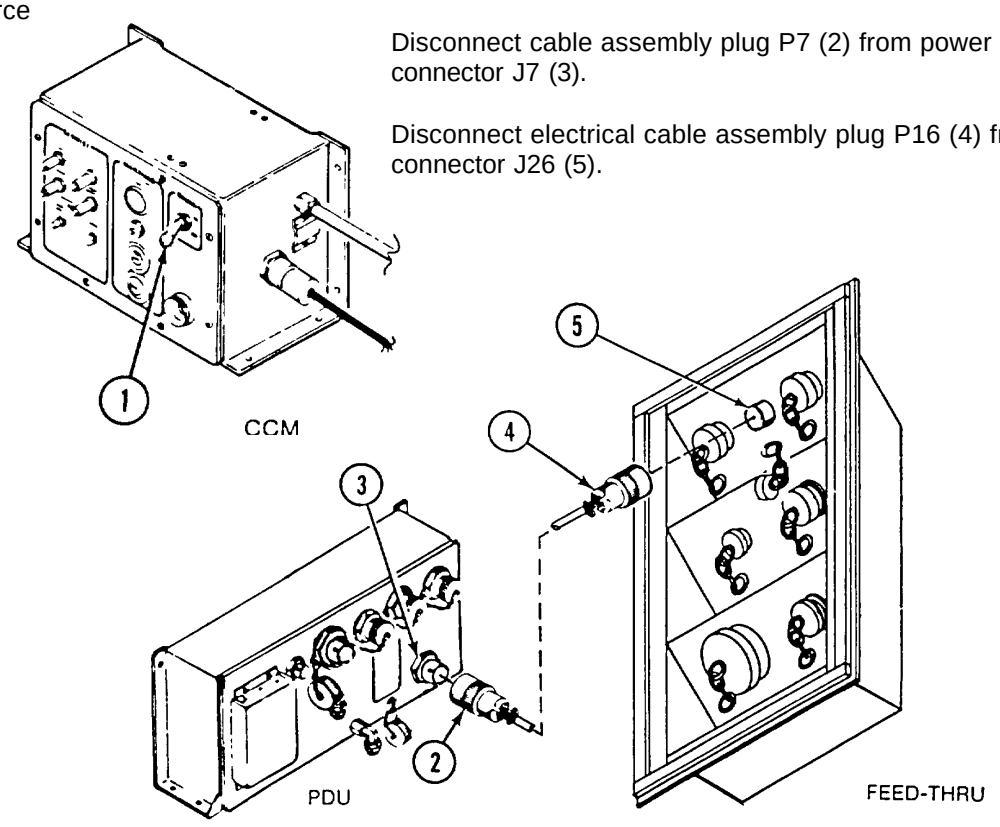
LOCATION	ITEM	ACTION

REMOVAL

WARNING

Before removing power cable, be sure that POWER switch on compartment control Is set to OFF position and that the collective protection equipment power source is shut down to avoid injury or loss of life.

Power Distribution Unit and Power Source Connector	Cable C5-19-6712	Set compartment control module POWER switch (1) to OFF. Turn off power source.
		Disconnect cable assembly plug P7 (2) from power distribution unit connector J7 (3).
		Disconnect electrical cable assembly plug P16 (4) from power source connector J26 (5).



LOCATION	ITEM	ACTION

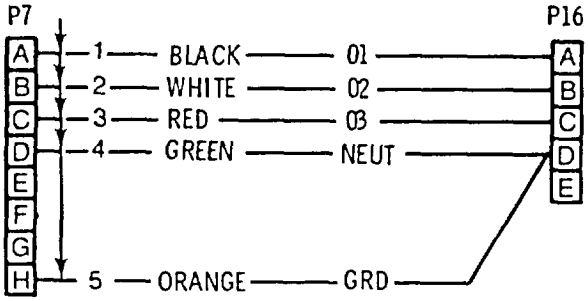
TEST

Power Distribution Unit and Power Source Connector

Check continuity of each wire between P7 and P16.

NOTE

Use multimeter and cable C5-19-6712 wiring diagram.



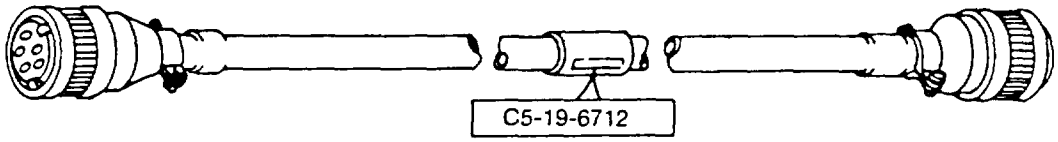
C5-19-6712
CABLE WIRING DIAGRAM

REPLACE

Power Distribution Unit and Power Connector

Cable C5-19-6712

Replace cable If It falls continuity check



INSTALLATION

WARNING

Before removing power cable, be sure that POWER switch on compartment control is set to OFF position and that the collective protection equipment power source is shut down to avoid injury or loss of life.

Power Distribution Unit and Power Source Connector

Cable C5-19-6712

Set compartment control module POWER switch (1) to OFF. Turn off power source.

Connect electrical cable assembly plug P16 (4) to power source connector J26 (5) at feed-thru.

Connect electrical cable assembly plug P7 (2) to power distribution unit connector J7 (3).

2-27. AIRDUCT HOSES - MAINTENANCE INSTRUCTIONS.

This task covers:

a. Removal
b. Replace/Repair
c. Installation

INITIAL SETUP

Tools
General Mechanics Tool Kit
SC 5180-90-CL-N26

LOCATION	ITEM	ACTION

REMOVAL

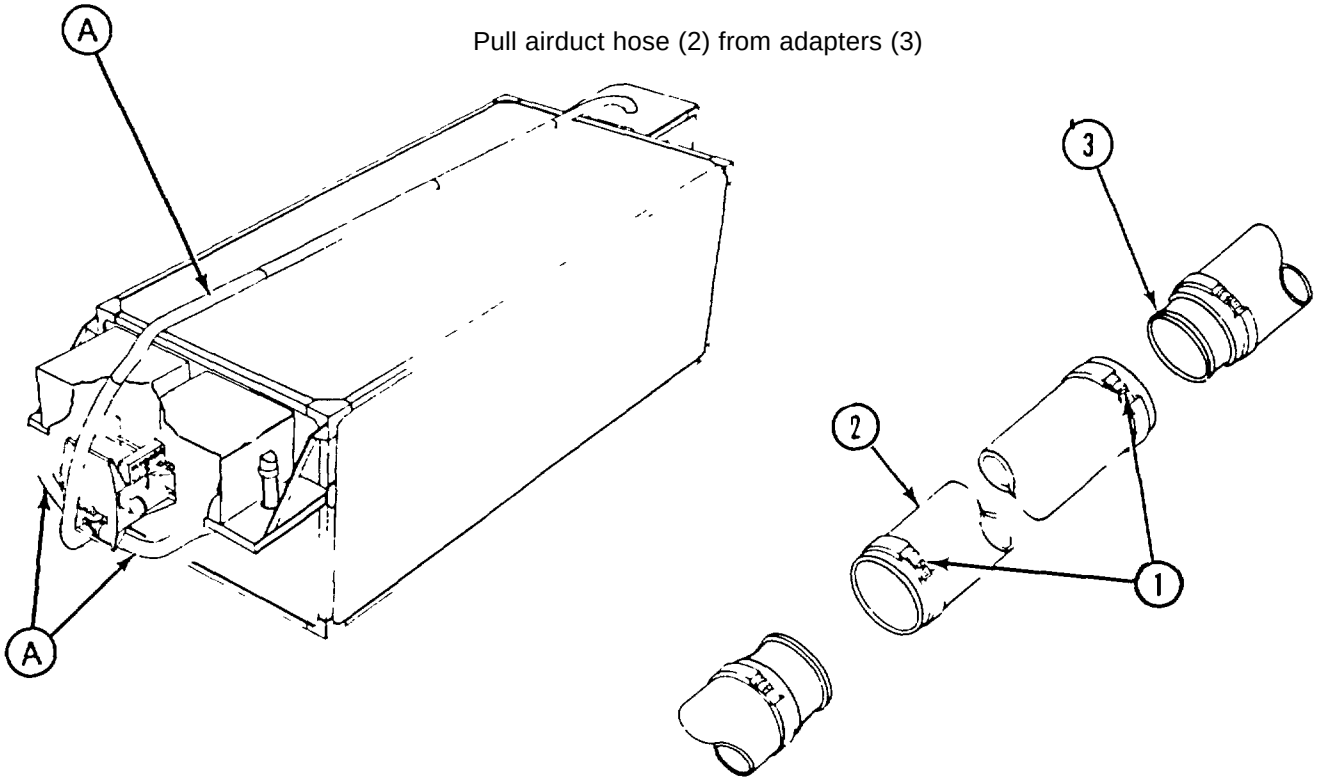
PATRIOT — Airduct hoses

NOTE

Nine airduct hoses A are 6 ft long. Each airduct hose section can be removed or installed as explained below.

Loosen hose clamp adjusting screws (1)

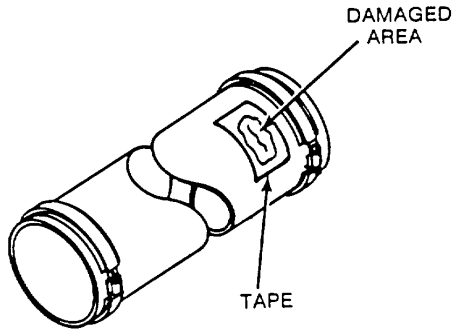
Pull airduct hose (2) from adapters (3)



LOCATION	ITEM	ACTION

REPLACE/REPAIR

PATRIOT | Airduct hoses | Replace if not repairable.



Repair:

Clean damaged areas using rags and dry-cleaning solvent (Item 4, app D).

Cut a piece of tape (item 7, app D) 4 inches longer than the slit or tear.

Apply the tape over the damaged area leaving 2 inches of tape beyond the tear or silt at each end

Press tape firmly in place.

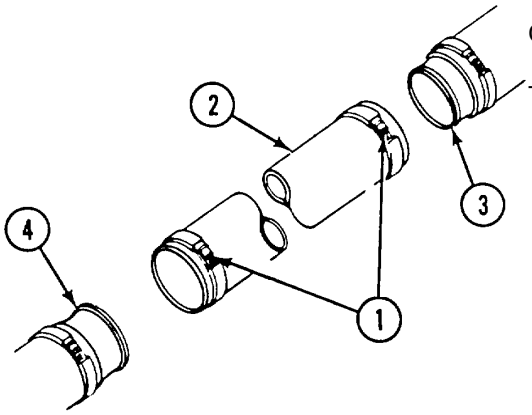
INSTALLATION

PATRIOT | Airduct hose

NOTE

Each airduct hose section has an arrow for flow direction. When installing hoses, make sure arrows are pointed in the direction of flow. Refer to page 1-8.

Push each end of airduct hose (2) over adapters (3 and 4).



Check that edge of hose Is pushed against the bead of the adapter.

Tighten hose clamp adjusting screws (1) securely.

2-28. FOUR DUCT ADAPTER - MAINTENANCE INSTRUCTIONS.

This task covers:

a. Removal
b. Replace/Repair
c. Installation

INITIAL SETUP

Tools
General Mechanics Tool Kit
SC 5180-90-CL-N26

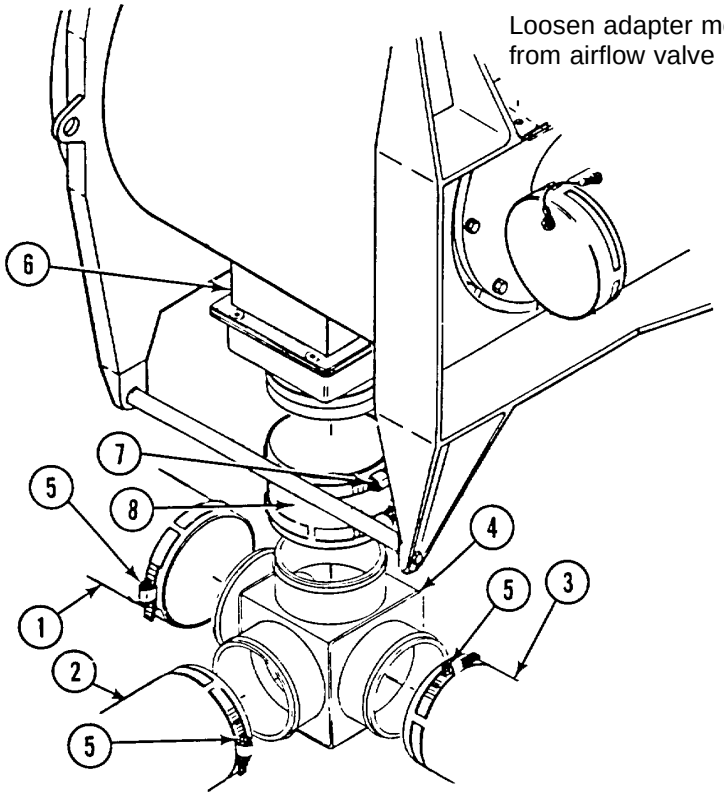
LOCATION	ITEM	ACTION

REMOVAL

Airflow Valve — Four duct adapter

Loosen hose clamp adjusting screws (5). Pull air duct hoses (1), (2) and (3) from adapter (4).

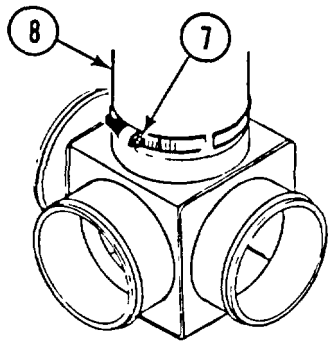
Loosen adapter mounting hose clamp adjusting screws (7). Pull adapter (4) from airflow valve (6). Pull adapter mounting hose (8) from adapter.



LOCATION	ITEM	ACTION

REPLACE/REPAIR

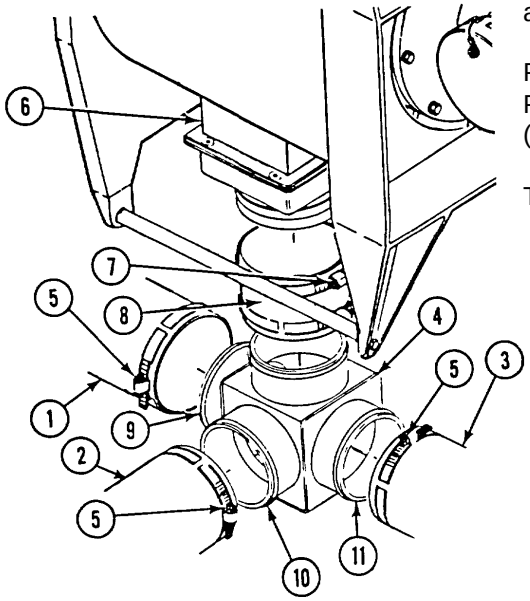
Airflow Valve — Mounting hose — Replace if defective.



Loosen clamp (7) to remove mounting hose (8). Install replacement hose and clamp unit.

INSTALLATION

Airflow Valve — Four duct adapter — Place adapter mounting hose (8) over top port (9) on adapter (4). Tighten adapter clamp adjusting screw (7) securely. Place adapter mounting hose in airflow valve port marked TO SHELTER (6).



Place air duct hoses (1) (2) and (3) over adapter ducts (9) (10) and (11). Place PE air duct hose (1) over duct (9). Place air conditioner air duct hoses (2 and 3) over ducts (10) and (11).

Tighten hose clamp adjusting screws (5) securely.

APPENDIX A
REFERENCES

The following publications are related to information contained in this manual.

A-1. TECHNICAL MANUALS.

TM 3-220 ..... Chemical, Biological and Radiological (CBR) Decontamination

*TM 9-1430-600-12-1 ..... Operation and Organizational Maintenance Instructions, Engagement Control Station, Guided Missile, Truck Mounted, AN/MSQ-104 (XO-1)

*TM 9-1430-602-12-1 ..... Operation and Organizational Maintenance Instructions, Information and Coordination Central, Guided Missile, Truck Mounted, AN/MSQ-116 (XO-1)

*TM 9-1430-604-12-1 ..... Operation and Organizational Maintenance Instructions, Communications Relay Group, Guided Missile, Truck Mounted, AN/MRC-137 (XO-1)

TM 10-277 ..... Chemical, Toxicological and Missile Fuel Handlers Protective Clothing

TM 38-750 ..... The Army Maintenance Management System (TAMMS)

TM 43-0002-31 ..... Destruction of Chemical Weapons and Defense Equipment to Prevent Enemy Use

TM 43-0139 ..... Painting Instructions for Field Use

TM 740-90-1 ..... Administrative Storage of Equipment

A-2. COMMON TABLE OF ALLOWANCES.

CTA 50-970 ..... Expendable Items (Except Medical Class V Repair Parts and Heraldic Items)

A-3. SUPPLY BULLETIN.

SB 708-41/42 ..... Federal Supply Code for Manufacturers; United States and Canada - Name to Code and Code to Name

A-4. SUPPLY CATALOG.

SC 5180-90-CL-N26 ..... Took Kit, General Mechanics, Automotive

*To be published

APPENDIX B
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. GENERAL.

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance categories.

b. The maintenance allocation chart (MAC) in Section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.

c. Section III lists the special tools and test equipment required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS. Maintenance functions will be limited to and defined as follows:

a. *Inspect*. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. *Test*. To verify serviceability by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. *Service*. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. *Adjust*. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. *Aline*. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. *Calibrate*. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. *Install*. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. *Replace*. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. *Repair*. The application of maintenance services[1] or other maintenance actions[2] to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. *Overhaul*. That maintenance effort (service/ action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

[1] Services - inspect, test, service, adjust, aline, calibrate, or replace.
[2] Actions - welding, grinding, riveting, straightening, facing, remachining, or resurfacing

k. *Rebuild*. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc) considered in classifying Army equipments/components.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II.

a. *Column 1, Group Number*. Column 1 lists functional group code numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. *Column 2, Component/Assembly*. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. *Column 3, Maintenance Function*. Column 3 lists the functions to be performed on the item listed in Column 2. (For detailed explanation of these functions. see paragraph B-2.)

d. *Column 4, Maintenance Category.* Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate work time figures will be shown for each category. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance categories are as follows:

C Operator or crew.
O Organizational maintenance.
F Direct support maintenance.
H General support maintenance.
D Depot maintenance.

e. *Column 5, Tools and Equipment*. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. *Column 6, Remarks*. This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III.

a. *Column 1, Reference Code*. The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

b. *Column 2, Maintenance Category*. The lowest category of maintenance authorized to use the tool or test equipment.

c. *Column 3, Nomenclature*. Name or identification of the tool or test equipment.

d. *Column 4, National Stock Number*. The National stock number of the tool or test equipment.

e. *Column 5, Tool Number*. The manufacturer's part number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.

a. *Column 1, Reference Code*. The code recorded In column 6, Section II.

b. *Column 2, Remarks*. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

SECTION II MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT.	(6) REMARKS
			C	O	F	H	D		
0100	M14 PROTECTIVE ENTRANCE	Inspect		0.1					
		Test		0.2				4	
		Replace		0.5					A
		Repair		0.2				1	
0110	PROTECTIVE ENTRANCE CONTROL MODULE	Test			0.5			4, 5, 6,8, 9, 10, 11, 12, 13, 14	
		Replace		0.3				1	
		Repair		0.1	0.3			1,2	
0200	M59 GAS-PARTICULATE FILTER UNIT	Inspect		0.5					
		Test		0.2				4	
		Repair		1.0				1,3	
0210	HOUSING UNIT	Repair		0.5				1	
0211	MAIN FAN	Replace		0.5				1	
		Repair					1.0		B
0212	AIRFLOW VALVE	Test			0.2			4, 5, 12	
		Replace		0.3				1	
		Repair		0.4	0.5			1, 2	
0220	POWER DISTRIBUTION UNIT	Replace		0.2				1	
		Repair			0.1			2	
0221	POWER DISTRIBUTION PANEL	Test			0.5			4, 5, 6, 7, 9,10,11, 12, 13	
		Repair		0.1	2.0			1,2	
0230	COMPARTMENT CONTROL MODULE	Test			0.5			4, 5, 6, 8, 9, 10, 11, 12, 13	
		Replace		0.2				1	
		Repair		0.1	0.2			1, 2	
0300	M265 INSTALLATION KIT	Test		0.2				4	
		Inspect		0.1					
		Repair		0.3					

Section III TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL NATO STOCK NUMBER	TOOL. NUMBER
1	O	TOOL KIT, GENERAL MECHANICS	5180-00-177-7003	SC 5180-90-CL-N26
2	F	TOOL KIT, ELECTRONIC EQUIPMENT	5180-00-610-8177	SC 5180-91-CL-R07
3	O	WRENCH, TORQUE	5120-00-247-2536	
4	O	MULTIMETER	6625-01-092-1197	Model 260-7P
5	F	POWER SUPPLY, DIRECT CURRENT	6130-00-408-4962 (or equivalent)	
6	F	GAGE, DIFFERENTIAL, DIAL INDICATING, 0-6 inches (H20)	6685-00-087-6331	
7	F	RESISTOR, 680 OHM, ±5%, 2 WATT	5905-00-256-0390	
8	F	RESISTOR, 100 OHM ± 10% WATT	5905-00-752-6460	
9	F	SYRINGE, HYPODERMIC	6515-00-754-0412	
10	F	TEE, HOSE	4730-00-082-5402	
11	F	TUBING, NONMETALLIC	4720-00-059-5819	
12	F	LEAD SET, TEST	6625-00-395-9313	CX-1331A/U
13	F	LEAD SET, TEST	6625-00-444-4041	
14	F	ADAPTER, PIPE TO HOSE	4730-00-782-5582	

Section IV. REMARKS

REFERENCE CODE	REMARKS
A	Removed and installed by crew
B	Depot to accumulate for future repair/disposition

APPENDIX C
REPAIR PARTS
AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

C-1. SCOPE. This manual lists spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE), and other special support equipment required for performance of organizational maintenance of the collective protection equipment. It authorizes the requisitioning and issue of spares and repair parts as indicated by the source and maintenance codes.

C-2. GENERAL. This Repair Parts and Special Tools List is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in numeric sequence, with the parts in each group listed in figure and item number sequence. Bulk materials are listed in NSN sequence.

b. Section III. Special Tools List. Not applicable.

c. Section IV. National Stock Number and Part Number Index. A list, in National item identification number (NIIN) sequence, of all National stock numbers (NSN) appearing in the listings, followed by a list in alphameric sequence of all parts numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

C-3. EXPLANATION OF COLUMNS.

a. Illustration. This column is divided as follows:

(1) Figure Number. Indicates the figure number of the illustration on which the item is shown.

(2) *Item Number.* The number used to identify item called out in the illustration.

b. Source, Maintenance, and Recoverability (SMR) Codes.

(1) Source Code. Source codes indicate the manner of acquiring support items for maintenance, repair, or overhaul of end items. Source codes are entered in the first and second positions of the Uniform SMR Code format as follows:

Code	*Definition*
PA	Item procured and stocked for anticipated or known usage.
PB	Item procured and stocked for insurance purpose because essentiality dictates that a minimum quantity be available in the supply system.
PC	Item procured and stocked and which otherwise would be coded PA except that it is deteriorative in nature.
PD	Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent or additional initial issues or outfittings. Not subject to automatic replenishment.
PE	Support equipment procured and stocked for initial issue or outfitting to specified maintenance repair activities.
PF	Support equipment which will not be stocked but which will be centrally procured on demand.
PG	Item procured and stocked to provide for sustained support for the life of the equipment. It is applied to an item peculiar to the equipment which, because of probable discontinuance or shutdown of production facilities, would prove uneconomical to reproduce at a later time.

Code	*Definition*
KD	An item of a depot overhaul/repair kit and not purchased separately. Depot kit defined as a kit that provides items required at the time of overhaul or repair.
KF	An item of a maintenance kit and not purchased separately. Maintenance kit defined as a kit that provides an item that can be replaced at organizational or intermediate levels of maintenance.
KB	Item included in both a depot overhaul/repair kit and a maintenance kit.
MO	Item to be manufactured or fabricated at organizational level.
MF	Item to be manufactured or fabricated at the direct support maintenance level.
MH	Item to be manufactured or fabricated at the general support maintenance level.
MD	Item to be manufactured or fabricated at the depot maintenance level.
AO	Item to be assembled at organizational level.
AF	Item to be assembled at direct support maintenance level.
AH	Item to be assembled at general support maintenance level.
AD	Item to be assembled at depot maintenance level.
XA	Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
XB	Item is not procured or stocked. If not available through salvage, requisition.
XC	Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
XD	A support item that is not stocked. When required, item will be procured through normal supply channels.

NOTE

Cannibalization or salvage may be used as a source of supply for any items coded above except those coded XA.

(2) *Maintenance Code.* Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the Uniform SMR Code format as follows:

(a) The maintenance code entered in the third position will indicate the lowest maintenance level authorized to remove, replace, and use the support item. The maintenance code entered in the third position will indicate one of the following levels of maintenance:

Code	*Application/Explanation*
C	Crew or operator maintenance performed within organizational maintenance.
O	Support item is removed, replaced, used at the organizational level.
F	Support item is removed, replaced, used at the direct support level.
H	Support item is removed, replaced, used at the general support level.
D	Support items that are removed, replaced, used at depot, mobile depot, or specialized repair activity only.

(b) The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes.

Code	*Application/Explanation*
O	The lowest maintenance level capable of complete repair of the support item is the organizational level.
F	The lowest maintenance level capable of complete repair of the support item is the direct support level.

Code	*Application/Explanation*
H	The lowest maintenance level capable of complete repair of the support item is the general support level.
D	The lowest maintenance level capable of complete repair of the support item is the depot level.
L	Repair restricted to specialized repair activity.
Z	Nonrepairable. No repair is authorized.
B	No repair is authorized The item may be reconditioned by adjusting, lubricating, etc., at the user level. No parts or special tools are procured for the maintenance of this item.

(3) *Recoverability Code*. Recoverability codes are assigned to support items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the Uniform SMR Code format as follows:

Recoverability Codes	*Definition*
Z	Nonrepairable item. When unserviceable, condemn and dispose at the level indicated in position 3.
O	Reparable item. When uneconomically reparable, condemn and dispose at organizational level.
F	Reparable item. When uneconomically reparable, condemn and dispose at the direct support level.
H	Reparable item. When uneconomically reparable, condemn and dispose at the general support level.
D	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level.

Recoverability Codes	*Definition*
L	Reparable item. Repair, condemnation, and disposal not authorized below depot/specialized repair activity level.
A	Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. *National Stock Number.* Indicates the National stock number assigned to the item and which will be used for requisitioning.

d. Federal Supply Code for Manufacturer (FSCM). The FSCM is a 5-digit numeric code listed in SB 708-42 which is used to identify the manufacturer, distributor, or Government agency, etc.

e. *Part Number.* Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

When a stock numbered item is requisitioned, the item received may have a different part number than the part being replaced.

f. *Description.* Indicates the Federal item name and, if required, a minimum description to identify the item.

g. *Unit of Measure (U/M).* Indicates the standard of the basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr, etc). When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

h. *Quantity Incorporated in Unit.* Indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable, (e.g., shims, spacers, etc).

C-4. SPECIAL INFORMATION.

a. Usable on codes are shown In description column. Uncoded items are applicable to all models.

b. Detailed manufacturing Instructions for items source coded to be manufactured or fabricated are found in Appendix E of this manual. Bulk materials required to manufacture items are listed in the bulk material group of this appendix.

c. Action change codes indicated In the left hand margin of the listing page denote the following:

N Indicates an added item

C Indicates a change In data.

R Indicates a change in NSN only.

C-5. HOW TO LOCATE REPAIR PARTS.

a. When National Stock Number or Part Number is Unknown:

(1) *First*. Using the table of contents determine the functional group within which the item belongs. This Is necessary since illustrations are prepared for functional groups, and listings are divided into the same groups.

(2) *Second*. Find the Illustration covering the functional group to which the item belongs.

(3) *Third*. Identify the item on the illustration and note the illustration figure and item number of the Item.

(4) *Fourth*. Using the Repair Parts Listing, find the figure and item number noted on the illustration.

b. When National Stock Number or Part Number is Known:

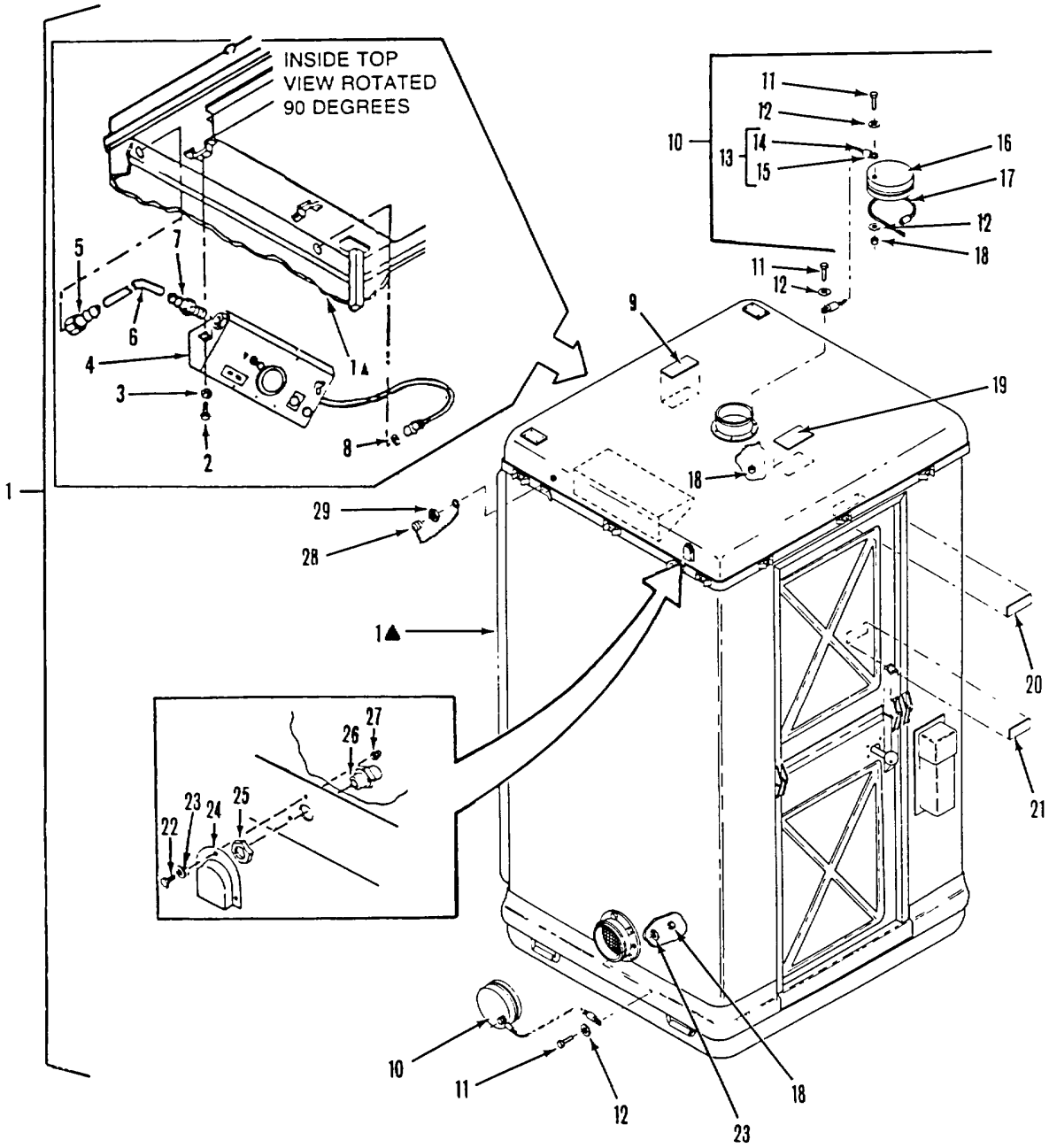
(1) *First.* Using the Index of National Stock Numbers and Part Numbers, find the pertinent National stock number or part number. This index is in NIIN sequence followed by a list of part numbers In alphameric sequence, cross-referenced to the illustration figure number and item number.

(2) Second. After finding the figure and item number, locate the figure and item number in the repair parts list.

ABBREVIATIONS.

Abbreviation	*Explanation*
CF	cubic feet per minute
dia	diameter
hd	head
hex	hexagon
in	inch
id	inside diameter
lg	long
IFG	manufactured
mtg	mounting
NPS	National Pipe Standard
nom	nominal
no	number
oa	overall
od	outside diameter
porm	plus or minus
PSI	pounds per square inch
thk	thick
thd	thread
UNC	United National Coarse
UNF	United National Fine
w/	with

Section II REPAIR PARTS LIST



▲ FURNISHED WITH BASIC ITEM

Figure C-1. M14 protective entrance

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODES	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0100 M14 PROTECTIVE ENTRANCE		
						E5-19-6201 50		
C-1	1	PAOOO	4240-01-105-5521	81361	E5-19-6201-50	ENTRANCE, PROTECTIVE PRESSURIZED M14	EA	1
C-1	2	PAOZZ	5305-00-179-8946	96906	MS51849-66	SCREW, MACHINE HEX HD. NO. 10-32 UNF-2A, 3/4 IN. LG	EA	3
C-1	3	PAOZZ	5310-00-045-3296	96906	MS35338-43	WASHER, LOCK SPRING, NO. 10 NOM SIZE	EA	3
C-1	4	PAOFF	4240-01-115-0996	81361	E5-19-6641	CONTROL MODULE, PROTECTIVE ENTRANCE	EA	1
C-1	5	PAOZZ	4730-01-050-7540	30327	KF03-0FRV	ADAPTER, STRAIGHT, PIPE TO HOSE	EA	1
C-1	6	MOOZZ		81361	E5-19-6441-74	HOSE, NONMETALLIC, LOW PRESSURE MFD FROM 4720-00-065-8602	EA	1
C-1	7	PAOZZ	4730-01-017-5119	30327	KF03-02PS	ADAPTER, STRAIGHT, PIPE TO HOSE	EA	1
C-1	8	PAOZZ	5330-00-250-0236	96906	MS29513-024	PACKING, PREFORMED	EA	1
C-1	9	PAOZZ	9905-01-068-2368	81361	5-19-6657	PLATE, INSTRUCTION NO STEP	EA	1
C-1	10	PAOOO	5340-01-048-6327	81361	C5-19-6145	CAP, PROTECTIVE, DUST AND MOISTURE SEAL	EA	2
C-1	11	PAOZZ	5305-00-115-9934	96906	MS51849-55	SCREW, MACHINE HEX HD, STL, 8-32 UNC-2A, 5/8 IN. LG	EA	3
C-1	12	PAOZZ	5310-00-765-3197	96906	MS27183-41	WASHER, FLAT .188 IN. ID. .438 IN. OD. .049 IN THR	EA	5
C-1	13	AOOOO			CL-2-FANDCL-2-C-	CABLE, SUPPORT	EA	2
C-1	14	PAOZZ	4030-00-878-8693	99862	CL2F	FERRULE, WIRE ROPE	EA	4
C-1	15	MOOZZ		99862	CL-2-C-8, 0	CABLE, NYLON 8 IN. LG. MFD FROM 4010-00-069-51BC	EA	2
C-1	16	XAOZZ		81361	C5-19-6309	CAP, RUBBER	EA	2
C-1	17	PAOZZ	4730-00-908-6294	96906	MS35842-16	CLAMP, HOSE 4-1/8 TO 7 IN. DIA RANGE	EA	2
C-1	18	PAOZZ	5310-00-811-3494	96906	MS21044N08	NUT, SELF-LOCKING, HEXAGON NO. 8-32 UNJC-3B	EA	3
C-1	19	PAOZZ	9905-01-049-1385	81361	C5-19-6175	PLATE, INSTRUCTION “PARTIAL LEGEND” OPENING PROCEDURE	EA	1
C-1	20	PAOZZ	9905-01-128-5825	81361	C5-19-6316-13	PLATE IDENTIFICATION ENTRANCE, PROTECTIVE, PRESSURIZED COLLAPSIBLE, M14	EA	1
C-1	21	PAOZZ	9905-01-048-2790	81361	B5-19-6238	PLATE, INSTRUCTION CAUTION DO NOT ENTER WHEN PROTECTIVE ENTRANCE IS OCCUPIED	EA	1
C-1	22	PAOZZ	5305-00-115-9406	96906	MS51049-53	SCREW, MACHINE HEX HD, STL. 8-32 UNC-2A X .38 IN. LG	EA	3
C-1	23	PAOZZ	5310-00-045-3299	96906	MS35338-42	WASHER, LOCK SPRING, NO. 8	EA	3
C-1	24	PAOZZ	4240-01-049-084	81361	C5-19-6236	COVER, PROTECTIVE, TUBING CONNECTION	EA	1
C-1	25	PAOZZ	5310-00-897-6081	96906	MS35691-32	NUT, PLAIN, HEXAGON JAM 7/16-20UNF-2B	EA	1
C-1	26	PAOZZ	4730-01-067-9332	81361	C5-19-6654	ADAPTER, PIPE TO TUBE 1/4NPS, 7/16-20UNF-2A	EA	1
C-1	27	PAOZZ	5310-00-928-9821	96906	MS246792-	NUT, PLAIN, CAP NO. 8-32 UNC-2B	EA	3
C-1	28	PAOZZ	5935-00-990-5580	96906	MS3181-14N	COVER, ELECTRICAL CONNECTOR	EA	1
C-1	29	PAOZZ	5310-00-435-8983	96906	MS3186-43	NUT, PLAIN, HEXAGON 1-20UNEF-2B	EA	1

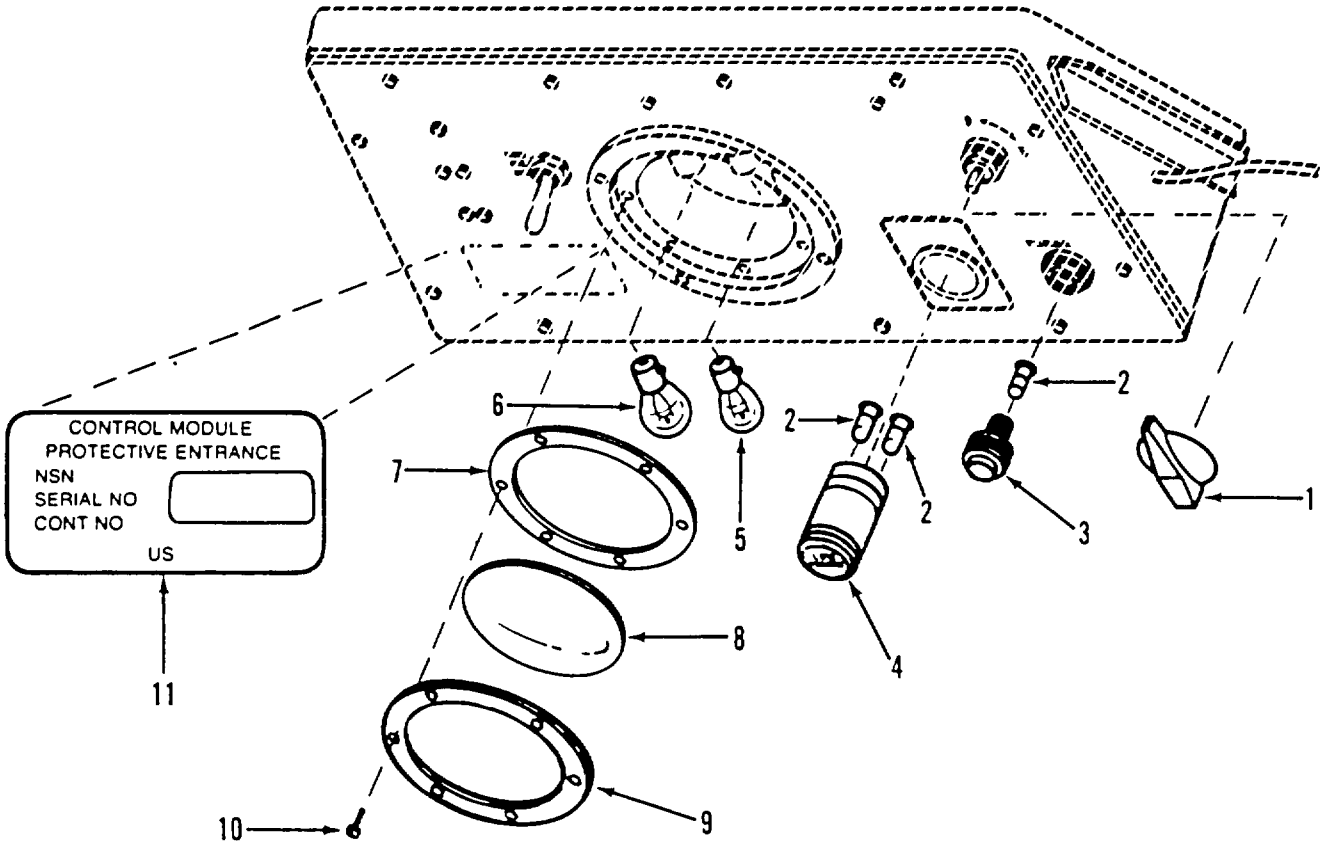


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Figure C-2. Protective entrance control module

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODES	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0110 PROTECTIVE ENTRANCE CONTROL MODULE E5-19 6641		
C-2	1	PAOZZ	5355-00-821-5225	79919	K35B1	KNOB	EA	1
C-2	2	PAOZZ	6240-00-763-7744	96906	MS25237-387	LAMP INCANDESCENT TRANSPARENT WHITE	EA	3
C-2	3	XAOZZ			MS25041-8	LENS	EA	1
				96906	LENS ONLY			
C-2	4	XAOZZ		04426	44-601	LIGHT, MODULE	EA	1
C-2	5	PAOZZ	6240-00-155-7784	96906	MS35478-307	LAMP, INCANDESCENT TRANSPARENT WHITE LIGHT EMITTED	EA	1
C-2	6	PAOZZ	6240-00-155-7932	96906	MS25235-R311	LAMP, INCANDESCENT TRANSLUCENT, RED LIGHT OMITTED	EA	1
C-2	7	PAOZZ	5330-00-143-8571	96906	MS25358-6	GASKET DOME LIGHT	EA	1
C-2	8	PAOZZ	6220-00-283-9732	96906	MS25358-4	LENS, LIGHT	EA	1
C-2	9	XAOZZ		96906	MS25358-5	RETAINER LIGHT	EA	1
C-2	10	PAOZZ	5305-00-889-2999	96906	MS35206-217	SCREW, MACHINE PAN HD, NO. 4-40 UNC-2A 1/2 INL LG	EA	6
C-2	11	PAOZZ	9905-01-128-5826	81361	C5-19-6316-8	PLATE, INDENTIFICATION CONTROL MODULE PROTECTIVE ENTRANCE	EA	1

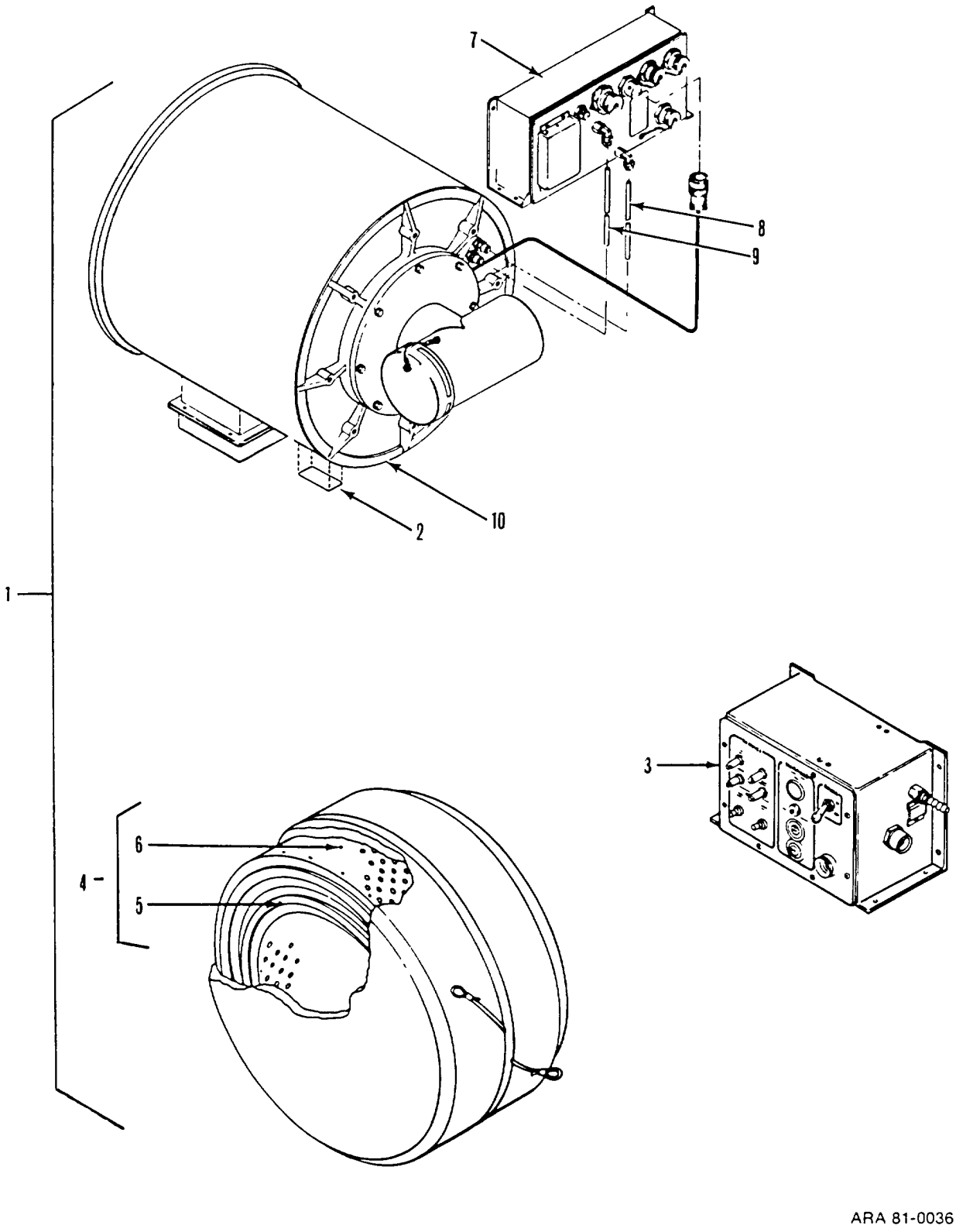

Figure C-3. M59 gas-particulate filter unit

	(1) ILLUSTRATION (a) FIG NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODES	(7) U/M	(8) QTY INC IN UNIT
							GROUP 0200 M59 GAS PARTICULATE FILTER UNIT E5-19-6699		
*	C-3	1	PAOOA	4240-00-237-0223	81361	E5-29-6699	FILTER UNIT, GAS-PARTICULATE: 2 FILTER, M59	EA	1
	C-3	2	PAOZZ	9905-01-128-5824	81361	C5-19-6316-14	PLATE IDENTIFICATION FILTER UNIT, GAS-PARTICULATE, 2 FILTER M59	EA	1
	C-3	3	PAOFF	1240-01-057-3378	81361	E5-19-6376	CONTROL MODULE UNIT	EA	1
	C-3	4	PAOZA	4240-01-067-5605	81361	5-19-6718	FILTER SET, GAS PARTICULATE	EA	2
	C-3	5	PAOZA	4240-01-066-3266	81361	D5-19-6262	FILTER, PARTICULATE	EA	2
	C-3	6	XAOZA		81361	D5-19-6368	FILTER, GAS	EA	2
	C-3	7	PAOFF	4240-01-068-8645	81361	E5-19-6387	POWER DISTRIBUTION UNIT, GAS PARTICULATE FILTER SYSTEM	EA	1
	C-3	8	MOOZZ		81361	E5-19-6699-7	TUBING NONMETALLIC 1/4 IN. OD. GREEN, MFD FROM 4720010530316	EA	1
	C-3	9	MOOZZ		81361	E5-19-6699-6	TUBING NONMETALLIC 1/4 IN. OD. RED, MFD FROM 4720009960381	EA	1
	C-3	10	XBOFF	4240-01-114-3213	81361	E5-19-6308-20	HOUSING UNIT, FAN-VALVE COLLECTOR, 2 FILTER	EA	1

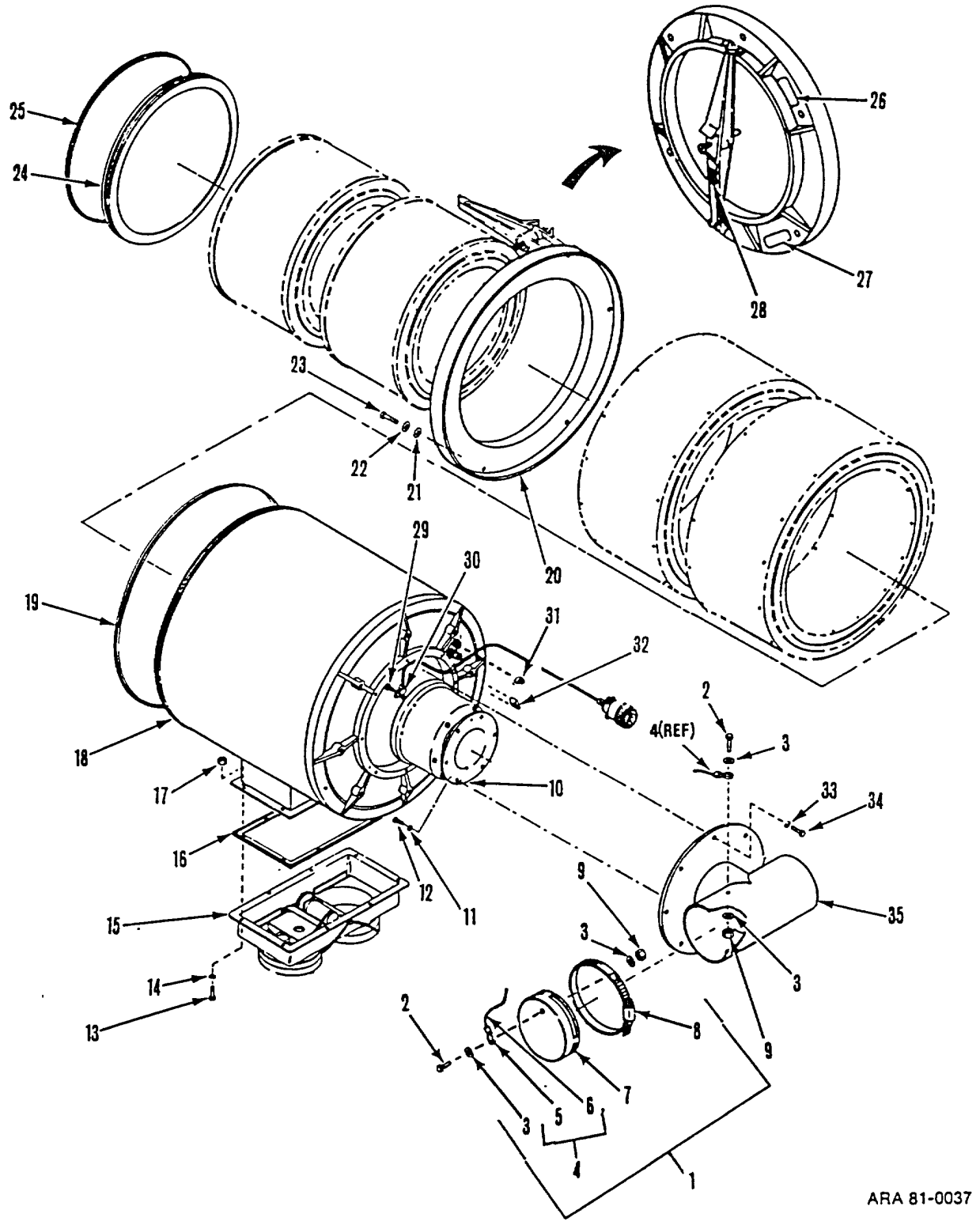

Figure C-4. Housing unit

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(1) ILLUSTRATION (a) FIG NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODES	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0210 HOUSING UNIT		
						D5 19-6308-20		
C-4	1	PAOOO	5340-01-048-6327	81361	C5-19-6145	CAP PROTECTIVE, DUST AND MOISTURE SEAL	EA	1
C-4	2	PAOZZ	5305-00-115-9934	96906	MS51849-55	SCREW, MACHINE, HEX HD STL 8-32 UNC-2A X 5/8 IN. LG	EA	2
C-4	3	PAOZZ	5310-00-765-3197	96906	MS27183-41	WASHER, FLAT .188 IN. I.D., .438 IN O D. .049 IN. THK	EA	4
C-4	4	AOOOO		99862	CL-2-FANDCL-2-C-8.0	CABLE, SUPPORT	EA	1
C-4	5	PAOZZ	4030-00-878-8693	99862	CL2F	FERRULE, WIRE ROPE	EA	2
C-4	6	MOOZZ		99862	CL-2-C-8.0	CABLE, NYLON, 8 IN. LG. MFD FROM 4010000695180	EA	1
C-4	7	XAOZZ		81361	C5-19-6309	CAP, RUBBER	EA	1
C-4	8	PAOZZ	4730-00-908-6294	96906	MS35842-16	CLAMP, HOSE, 4-1/8 TO 7 IN. DIA RANGE	EA	1
C-4	9	PAOZZ	5310-00-811-3494	96906	MS21044N08	NUT, SELF-LOCKING, HEXAGON 8-32 UNJC-3B	EA	2
C-4	10	PAODD	4140-01-107-2246	81361	E5-19-6317-10	FAN, VANEAXIAL 400 CFM	EA	1
C-4	11	PAOZZ	5310-00-809-4058	96906	MS27183-10	WASHER, FLAT .281 IN I.D. .625 IN. O. D. .065 IN. THK	EA	6
C-4	12	PAOZZ	5305-00-068-0513	96906	MS9072706 B	SCREW, CAP, HEXAGON HEAD 1/4-28UNF-2A. 3/4 IN. LG	EA	6
C-4	13	PAOZZ	5305-00-824-7363	80205	NAS1096-3-12	SCREW, MACHINE HEX HD .190-32 UNF-3A X .750 LG	EA	8
C-4	14	PAOZZ	5310-00-014-5850	96906	MS27163-42	WASHER, FLAT, .219 IN. I.D. .500 IN. O. D., .049 IN. THK	EA	8
C-4	15	PAOFF	4240-01-055-1493	81361	E5-19-6136	VALVE, AIRFLOW	EA	1
C-4	16	PAOZZ	5330-01-088-4442	81361	5-19-6348	GASKET, VALVE	EA	1
C-4	17	PAOZZ	5310-00-877-5797	96906	MS21044N3	NUT, SELF-LOCKING, HEXAGON, NO. 10-32 UNJF-3B	EA	8
C-4	18	XBOZZ	4240-01-105-5393	81361	E5-19-6121	HOUSING, GAS-PARTICULATE, 2 FILTER	EA	1
C-4	19	PAOZZ	5330-01-069-9824	81361	C5-19-5687-2	SEAL, RUBBER SPECIAL SHAPED SECTION	EA	1
C-4	20	XBOZZ		81361	E5-19-6128	COVER, ACCESS, OUTER	EA	1
C-4	21	PAOZZ	5310-00-080-6004	96906	MS27184-14	WASHER, FLAT .406 IN. ID. .812 IN. OD. .065 IN. THK	EA	6
C-4	22	PAOZZ	5310-00-187-2400	88044	AN960PD616	WASHER, FLAT .390 IN. ID. .625 IN. OD. .063 IN. THK	EA	6
C-4	23	PAOZZ	5305-00-269-3240	96906	MS90727-64	SCREW, CAP, HEXAGON HEAD 3/8-24 UNF-2A, 1-1/2 IN LG	EA	6
C-4	24	XBOZZ		81361	D5-19-6260	COVER, INNER	EA	1
C-4	25	PAOZZ	5330-01-068-0515	81361	C5-19-5687-1	SEAL, RUBBER SPECIAL SHAPED SECTION	EA	1
C-4	26	PAOZZ	9905-01-067-8634	81361	B5-19-6134	PLATE, INSTRUCTION WARNING TORQUE OUTER COVER BOLTS 180 TO . 200 INCH POUNDS	EA	1
C-4	27	PAOZZ	9905-01-066-3084	81361	C5-19-6135	PLATE, INSTRUCTION WARNING DO NOT REMOVE COVERS TO SERVICE COMPONENTS AFTER TOXIC EXPOSURE WITHOUT OBSERVING PROPER HANDLING PROCEDURES	EA	1
C-4	28	PAOZZ	9905-01-050-7557	81361	B5-19-6133	PLATE, INSTRUCTION WARNING TIGHTEN UNTIL SLEEVE IS FLUSH WITH TOP SURFACE	EA	1
C-4	29	PAOZZ	5305-00-180-4966	96906	MS51849-64	SCREW, MACHINE, HEX HD. NO. 10-32UNF-2A 1/2 IN. LG	EA	1
C-4	30	PAOZZ	5340-01-032-6929	96906	MS9352-06	CLAMP, LOOP CUSHIONED 7/16 IN. NOM TUBE OD.	EA	1
C-4	31	PAOZZ	4730-00-817-1891	30327	261P1-4	NUT, TUBE COUPLING 1/4 IN. TUBE OD. 3/8-20 THD SIZE W/SLEEVE	EA	2
C-4	32	PAOZZ	5365-01-057-7379	81361	B5-19-6347	BUSHING, RUBBER	EA	1
C-4	33	PAOZZ	5310-00-081-4219	96906	MS27183-12	WASHER, FLAT, .344 IN. ID. .688 IN. OD. .065 IN. THK	EA	8
C-4	34	PAOZZ	5305-00-051-4075	96906	MS90727-33	SCREW, CAP, HEXAGON HEAD 5/16 UNF-2A, 7/8 IN. LG	EA	8
C-4	35	PAOZZ	4730-01-108-2625	81361	D5-19-6401-20	TEE, FLANGE TO HOSE	EA	1

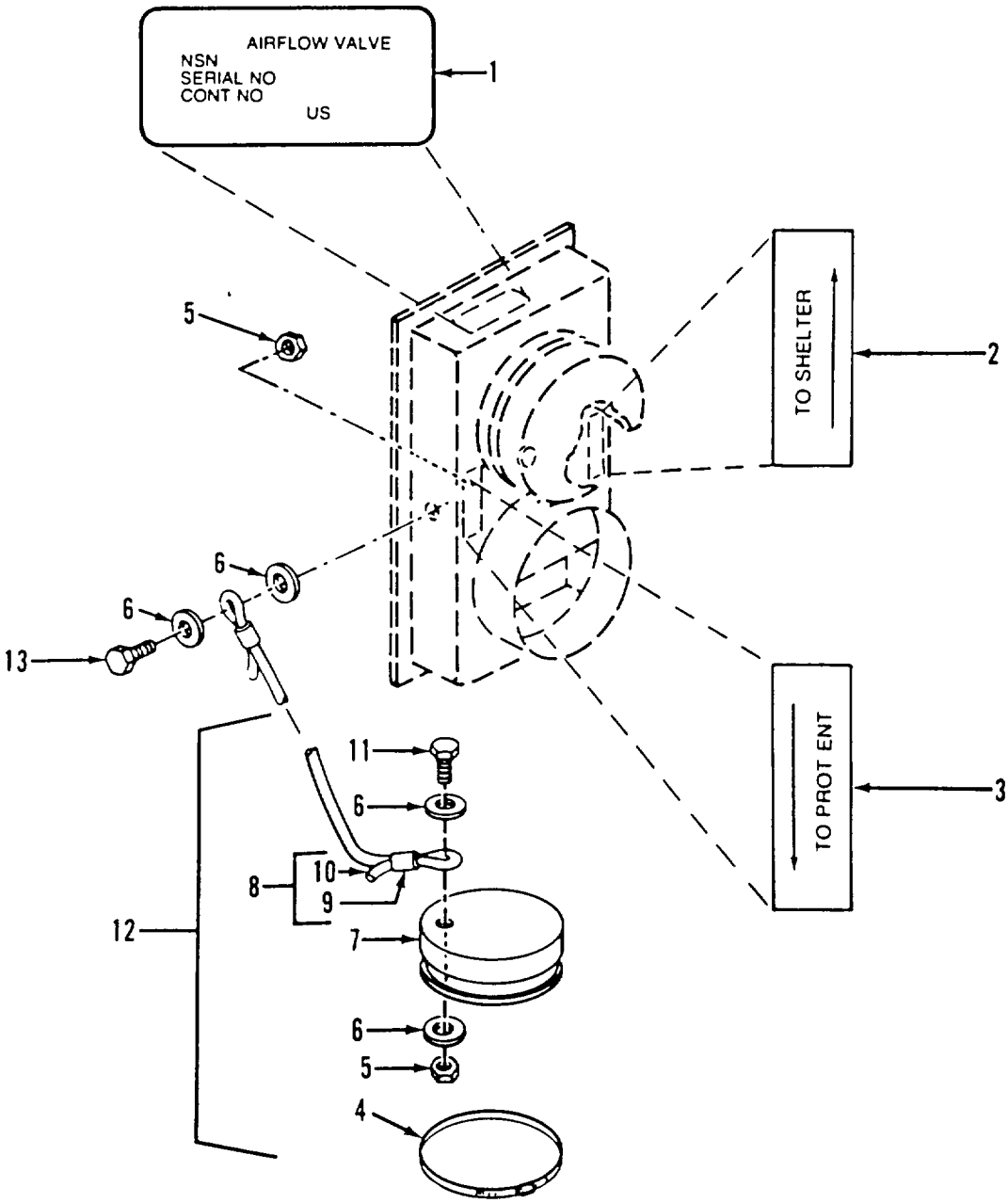

Figure C-5. Airflow valve

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODES	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0212 AIRFLOW VALVE		
						E5-19-6136		
C-5	1	PAOZZ	9905-01-065-9382	81361	C5-19-6149	PLATE, IDENTIFICATION AIRFLOW VALVE	EA	1
C-5	2	PAOZZ	9905-01-051-0186	81361	B5-19-6147	PLATE, INSTRUCTION TO SHELTER	EA	1
C-5	3	PAOZZ	9905-01-050-7556	81361	B5-19-6148	PLATE, INSTRUCTION TO PROT ENT	EA	1
C-5	4	PAOZZ	4730-00-908-6294	96906	MS35842-16	CLAMP, HOSE 4-1/8 TO 7 IN. DIA RANGE	EA	2
C-5	5	PAOZZ	5310-00-811-3494	96906	MS21044N08	NUT, SELF-LOCKING, HEXAGON NO. 8-32 UNJC-3B	EA	3
C-5	6	PAOZZ	5310-00-765-3197	96906	MS27183-41	WASHER, FLAT .188 IN. ID. .438 IN. OD. .049 IN. THK	EA	6
C-5	7	XAOZZ		81361	C5-19-6309	CAP, RUBBER	EA	2
C-5	8	AOOOO		99862	CL-2-FANDCL-2-C-8.0	CABLE, SUPPORT	EA	2
C-5	9	PAOZZ	4030-00-878-8693	99862	CL2F	FERRULE, WIRE ROPE	EA	4
C-5	10	MOOZZ		99062	CL-2-C-8.0	CABLE, NYLON 8 IN. LG. MFD FROM 4010-00-069-5180	EA	2
C-5	11	PAOZZ	5305-00-115-9934	96906	MS51849-55	SCREW, MACHINE HEX HD. NO. 8-32 UNC-2A 5/8 IN. LG	EA	2
C-5	12	PAOOO	5340-01-048-6327	81361	C5-19-6145	CAP, PROTECTIVE, DUST AND MOISTURE SEAL	EA	2
C-5	13	PAOZZ	5305-00-157-5621	96906	MS51849-56	SCREW, MACHINE HEX HD. NO. 8-32 UNC-2A, 3/4 IN. LG	EA	1

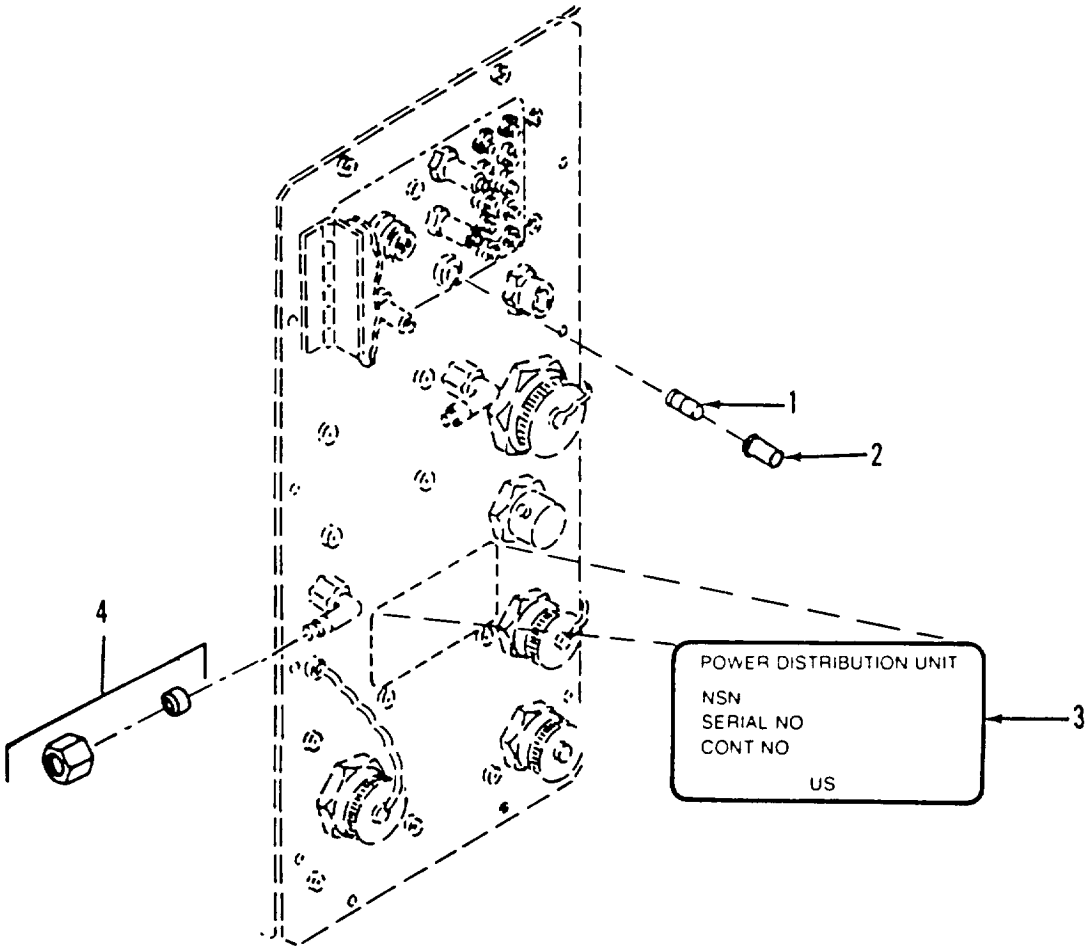

Figure C-6. Power distribution panel

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODES	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0221 POWER DISTRIBUTION PANEL		
						E5-19-6391		
C-6	1	PAOZZ	6240-00-892-4420	81349	M15098/11-001	LAMP, GLOW	EA	1
C-6	2	XAOZZ			PTL-A1(3-C7A)	LENS.....	EA	1
				07137	LENS ONLY			
C-6	3	PAOZZ	9905-01-065-3065	81361	C5-19-6316-6	PLATE, IDENTIFICATION POWER DISTRIBUTION UNIT.....	EA	1
C-6	4	PAOZZ	4730-00-817-1891	30327	261P1-4	NUT, TUBE COUPLING 1/4 IN. TUBE OD. 3/8-24 THD SIZE. W/SLEEVE.....	EA	2

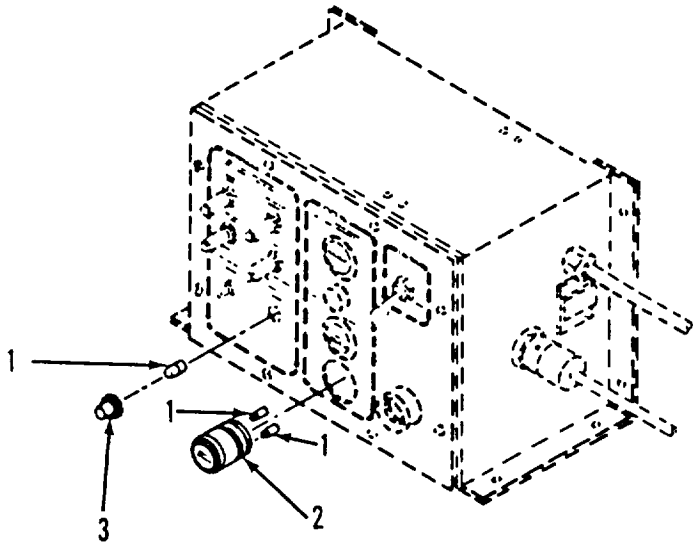

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Figure C-7. Compartment control module

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODES	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0230 COMPARTMENT CONTROL MODULE		
						E5-19-6376		
C-7	1	PAOZZ	6240-00-763-7744	96906	MS25237-387	LAMP, INCANDESCENT TRANSPARENT, WHITE LIGHT EMITTED	EA	8
C-7	2	XAOZZ		04426	44-601	LIGHT, MODULE.....	EA	
C-7	3	XAOZZ			MS25041-B	LENS.....	EA	2
				96906	LENS ONLY			

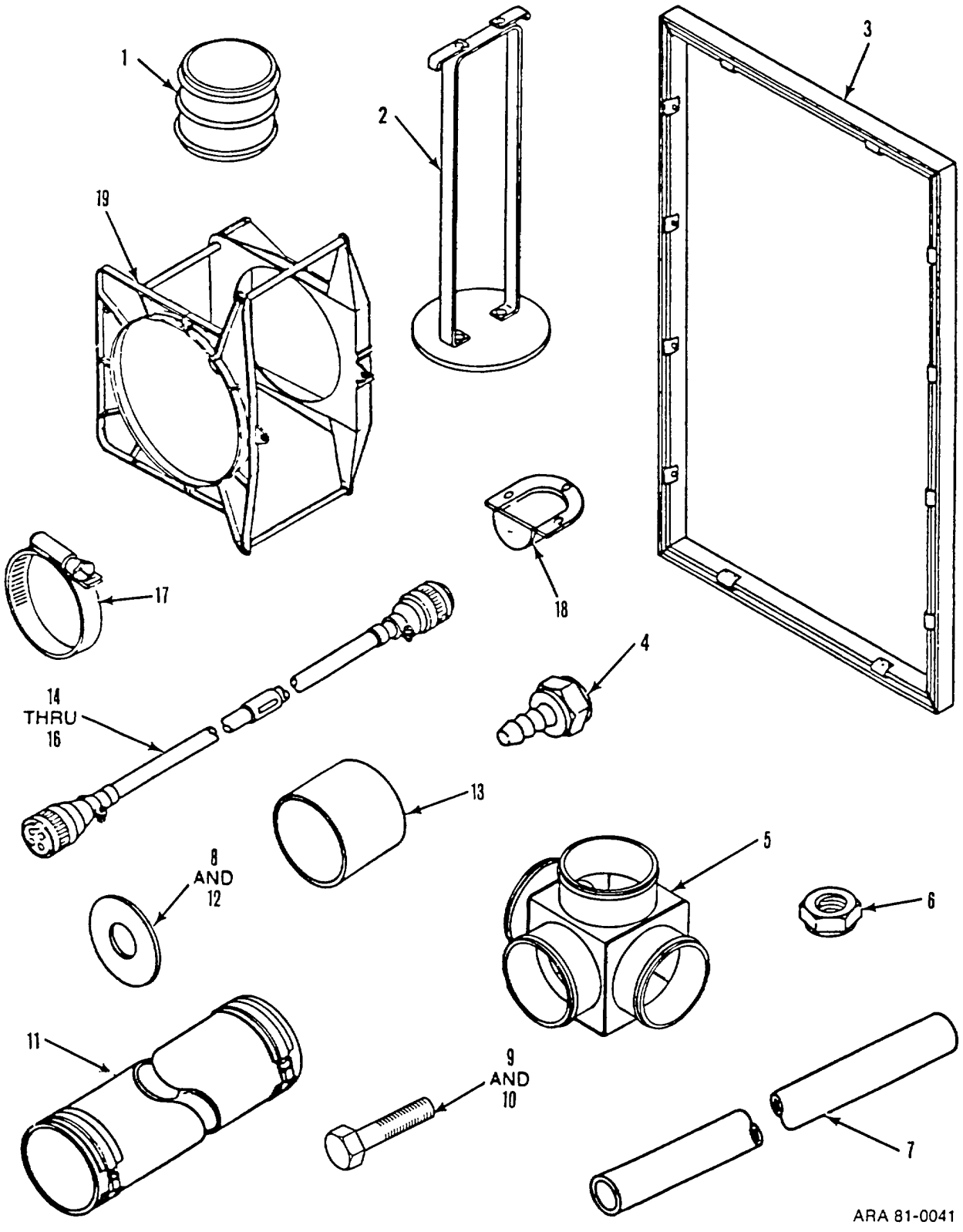

Figure C-8. M265 installation kit

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODES	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0300 M265 INSTALLATION KIT		
						PL5-19-6707		
C-8	1	PAOZZ	4730-01-049-0805	81361	C5-19-6182	COUPLING, AIR DUCT	EA	6
C-8	2	PAOZZ	4240-01-052-3783	81361	C5-19-6180	HOLDER, STORAGE, AIR DUCT	EA	8
C-8	3	PAOZZ	4240-01-061-7233	81361	E5-19-5908	FRAME, INTERFACE, ENTRANCE	EA	1
C-8	4	PAOZZ	4730-01-134-6603	11649	B-4-MHC-39	ADAPTER, STRAIGHT, PIPE 1/4 PIPE X 3/16 ID HOSE	EA	1
C-8	5	PAOZZ	4240-01-131-5206	81361	E5-19-6686	ADAPTER, AIR DUCT FOUR DUCT	EA	1
C-8	6	PAOZZ	5310-00-088-0553	96906	MS21044N5	NUT, SELF-LOCKING, HEXAGON 5/16-24UNJF-3B	EA	4
C-8	7	MOOZZ		81361	PL5-19-6707-13	HOSE, LOW PRESSURE, MFD FROM 4720000658682	EA	1
C-8	8	PAOZZ	5310-00-080-6004	96906	MS27183-14	WASHER, FLAT STEEL, .406 IN. ID. .812 IN. O. D. .065 IN THK	EA	8
C-8	9	PAOZZ	5306-00-543-4436	96906	MS35308-337	BOLT, MACHINE HEX HD. STEEL, 5/16-24 UNF-2A X 1.375 LG	EA	4
C-8	10	PAOZZ	5305-0-680-4262	96906	MS35308-360	SCREW, CAP, HEXAGON HEAD 3/8-24UNF-2A X 1.000 IN. LG	EA	8
C-8	11	PAOZZ	4720-01-074-9220	81361	C5-19-6181-10	HOSE, AIR DUCT 6 IN. ID. 72 IN. O/A LG	EA	9
C-8	12	PAOZZ	5310-00-081-4219	96906	MS27183-12	WASHER, FLAT .344 IN. ID. .688 IN. OD. .065 IN. THK	EA	4
C-8	13	PAOZZ	4720-01-106-4602	81361	B5-19-6716	HOSE, NONMETALLIC 6.000 IN. ID. 4.000 IN. LG. 50 PSI	EA	1
C-8	14	PAOZZ	4240-01-111-4649	81361	C5-19-6162-20	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL 240 IN. NOM LG. EXCLUDING-TERMINATIONS	EA	1
C-8	15	PAOZZ	4240-01-114-2976	81361	C5-19-6712-10	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL 72 IN. NOM. LG EXCLUDING TERMINATIONS	EA	1
C-8	16	PAOZZ	4240-01-067-8376	81361	5-19-6170-10	CABLE ASSEMBLY, SPECIAL PURPOSE, ELECTRICAL 54 IN. NOM. LG EXCLUDING TERMINATIONS	EA	1
C-8	17	PAOZZ	4730-00-908-6294	96906	MS35842-16	CLAMP, HOSE LOW PRESSURE	EA	2
C-8	18	PAOZZ	4240-01-049-0804	81361	C5-19-6236	COVER, PROTECTIVE, TUBING CONNECTION	EA	1
C-8	19	PAOZZ	4240-01-129-0836	81361	D5-19-6290-20	STAND, FILTER UNIT	EA	1

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION USABLE ON CODES	(7) U/M	(8) QTY INC IN UNIT
						GROUP 0500 BULK SUPPLIES		
BULK		PAOZZ	4010-00-069-5180	99862	CL2C	CABLE, NYLON COVERED NYLON COVERED	FT	4
BULK		PAOZZ	4720-00-065-8682	30327	C403	HOSE, NONMETALLIC LOW PRESSURE, RUBBER 3/16 IN. NOM. ID	FT	3
BULK		PAOZZ	4720-00-996-0381	30327	44P RED	TUBING, NONMETALLIC PLASTIC, 1/4 IN. OD. .040 IN. WALL THK RED	FT	5
BULK		PAOZZ	4720-01-053-0316	30327	44P GREEN	TUBING, NONMETALLIC PLASTIC, 1/4 IN. OD. .040 IN. WALL THK GREEN	FT	5

Section III SPECIAL TOOLS AND EQUIPMENT LIST

Not applicable

Section IV NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5310-00-014-5850	C-4	14	4730-00-908-6294	C-8	17
5310-00-045-3296	C-1	3	5310-00-928-9821	C-1	27
5310-00-045-3299	C-1	23	5935-00-990-5580	C-1	28
5305-00-051-4075	C-4	34	4720-00-996-0381	BULK	
4720-00-065-8682	BULK		4730-01-017-5119	C-1	7
5305-00-068-0513	C-4	12	5340-01-032-6929	C-4	30
4010-00-069-5180	BULK		9905-01-048-2790	C-1	21
5310-00-080-6004	C-4	21	5340-01-048-6327	C-1	10
5310-00-080-6004	C-8	8	5340-01-048-6327	C-4	1
5310-00-081-4219	C-4	33	5340-01-048-6327	C-5	12
5310-00-081-4219	C-8	12	5340-01-049-0804	C-1	24
5310-00-088-0553	C-8	6	4240-01-049-0804	C-8	18
5305-00-115-9406	C-1	22	4730-01-049-0805	C-8	1
5305-00-115-9934	C-1	11	9905-01-049-1385	C-1	19
5335-00-115-9934	C-4	2	4730-01-050-7540	C-1	5
5305-00-115-9934	C-5	11	9905-01-050-7556	C-5	3
5330-00-143-8571	C-2	7	9905-01-050-7557	C-4	28
6240-00-155-7784	C-2	5	0905-01-051-0186	C-5	2
6240-03-155-7932	C-2	6	4240-01-052-3783	C-8	2
5305-00-157-5621	C-5	13	4720-01-053-0316	BULK	
5305-00-179-6946	C-1	2	4240-01-055-1493	C-4	15
5305-00-180-4966	C-4	29	4240-01-057-3378	C-3	2
5310-00-187-2400	C-4	22	5265-01-057-7379	C-4	32
4240-00-237-0223	C-3	1	4240-01-061-7233	C-8	3
5330-00-260-0236	C-1	8	9905-01-065-3065	C-6	3
5305-00-269-3240	C-4	23	9905-01-065-9382	C-5	1
6220-00-283-9732	C-2	8	9905-01-066-3084	C-4	27
5310-00-435-8983	C-1	29	4240-01-066-3266	C-3	5
5306-00-543-4436	C-8	9	4240-01-067-5605	C-3	4
5305-00-680-4262	C-8	10	4240-01-067-8376	C-8	16
6240-00-763-7744	C-2	2	9905-01-067-8634	C-4	26
6240-00-763-7744	C-7	1	4730-01-067-9232	C-1	26
5310-00-765-3197	C-1	12	5330-01-068-0515	C-4	25
5310-00-765-3197	C-4	3	9905-01-068-2368	C-1	9
5310-00-765-3197	C-5	6	4240-01-0s6-8645	C-3	7
5310-00-809-4058	C-4	11	5330-01-056-9824	C-4	19
5310-00-811-3494	C-1	18	4720-01-074-9220	C-8	11
5310-00-811-3494	C-4	9	5330-01-088-4442	C-4	16
5310-00-811-3494	C-5	5	4240-01-105-5393	C-4	18
4730-00-817-1891	C-4	31	4240-01-105-5521	C-1	1
4730-00-817-1891	C-6	4	4720-01-106-4602	C-8	13
5355-00-821-5225	C-2	1	4140-01-107-2246	C-4	10
5305-00-624-7363	C-4	13	4730-01-108-2625	C-4	35
5310-00-677-5797	C-4	17	4240-01-111-4649	C-8	14
4030-00-876-8693	C-1	14	4240-01-114-2976	C-8	15
4030-00-878-8693	C-4	5	4240-01-114-3213	C-3	10
4030-00-878-8693	C-5	9	4240-01-115-0996	C-1	4
5305-00-889-2999	C-2	10	9905-01-128-5824	C-3	2
6240-00-892-4420	C-6	1	9905-01-128-5825	C-1	20
5310-00-897-6081	C-1	25	9905-01-128-5826	C-2	11
4730-00-908-6294	C-1	17	4240-01-129-0836	C-8	19
4730-00-908-6294	C-4	8	4240-01-131-5206	C-8	5
4730-00-908-6294	C-5	4	4730-01-134-6603	C-8	4

FSCM	PART NUMBER		FIGURE NO.	ITEM NO.
88044	AN960PD616		C-4	22
11649	B-4-MHC-39		C-8	4
81361	B5-19-6133		C-4	28
81361	B5-19-6134		C-4	26
81361	B5-19-6147		C-5	2
81361	B5-19-6148		C-5	3
81361	B5-19-6238		C-1	21
81361	B5-19-6347		C-4	32
81361	B5-19-6716		C-8	13
99862	CL-2-C-8.0		C-1	15
99962	CL-2-C-8.0		C-4	6
99862	CL-2-C-8.0		C-5	10
99862	CL-2-FANDCL-2-C-8.0		C-1	13
99862	CL-2-FANDCL-2-C-8.0		C-4	4
99862	CL-2-FANDCL-2-C-8.0		C-5	8
99862	CL2C		BULK	
99862	CL2F		C-1	14
99862	CL2F		C-4	5
99862	CL2F		C-5	9
30327	C403		BULK	
81361	C5-19-5687-1		C-4	25
81361	C5-19-5687-2		C-4	19
81361	C5-19-6135		C-4	27
81361	C5-19-6145		C-1	10
81361	C5-19-6145		C-4	1
81361	C5-19-6145		C-5	12
81361	C5-19-6149		C-5	1
81361	C5-19-6162-20		C-8	14
81361	C5-19-6175		C-1	19
81361	C5-19-6180		C-8	2
81361	C5-19-6181-10		C-8	11
81361	C5-19-6182		C-8	1
81361	C5-19-6236		C-1	24
81361	C5-19-6236		C-8	18
81361	C5-19-6309		C-1	16
81361	C5-19-6309		C-4	7
81361	C5-19-6309		C-5	7
81361	C5-19-6316-13		C-1	20
81361	C5-19-6316-14		C-3	2
81361	C5-19-6316-6		C-6	3
81361	C5-19-6316-8		C-2	11
81361	C5-19-6654		C-1	26
81361	C5-19-6712-10		C-8	15
81361	D5-19-6260		C-4	24

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FSCM	PART NUMBER		FIGURE NO.	ITEM NO.
81361	D5-19-6262		C-3	5
81361	D5-19-6290-20		C-8	19
81361	D5-19-6368		C-3	6
81361	D5-19-6401-20		C-4	35
81361	E5-19-5908		C-8	3
81361	E5-19-6121		C-4	18
81361	E5-19-6128		C-4	20
81361	E5-19-6136		C-4	15
81361	E5-19-6201-50		C-1	1
81361	E5-19-6308-20		C-3	10
81361	E5-19-6317-10		C-4	10
81361	E5-19-6376		C-3	3
81361	E5-19-6387		C-3	7
81361	E5-19-6641		C-1	4
81361	E5-19-6641-74		C-1	6
81361	E5-19-6686		C-8	5
81361	E5-19-6699		C-3	1
81361	E5-19-6699-6		C-3	9
81361	E5-19-6699-7		C-3	8
30327	KC03-02PS		C-1	7
30327	KF03-04RV		C-1	5
79919	K35B1		C-2	1
96906	MS21044N08		C-1	18
96906	MS21044N08		C-4	9
96906	MS21044N08		C-5	5
96906	MS21044N3		C-4	17
96906	MS21044N5		C-8	6
96906	MS24679-2		C-1	27
96906	MS25041-8	LENS ONLY	C-2	3
96906	MS25041-8	LENS ONLY	C-7	3
96906	MS25235-R311		C-2	6
96906	MS25237-387		C-2	2
96906	MS25237-387		C-7	1
96906	MS25358-4		C-2	8
96906	MS25358-5		C-2	9
96906	MS25358-6		C-2	7
96906	MS27183-10		C-4	11
96906	MS27183-12		C-4	33
96906	MS27183-12		C-8	12
96906	MS27183-14		C-4	21
96906	MS27183-14		C-8	8
96906	MS27183-41		C-1	12
96906	MS27183-41		C-4	3
96906	MS27183-41		C-5	6
96906	MS27183-42		C-4	14
96906	MS29513-024		C-1	8
96906	MS3181-14N		C-1	28
96906	MS3186-43		C-1	29
96906	MS35206-217		C-2	10
96906	MS35308-337		C-8	9
96906	MS35308-360		C-8	10
96906	MS35338-42		C-1	23
96906	MS35338-43		C-1	3
96906	MS35478-307		C-2	S
96906	MS35691-32		C-1	25
96906	MS35842-16		C-1	17
96906	MS35842-16		C-4	8
96906	MS35842-16		C-5	4
96906	MS35842-16		C-8	17
96906	MS51849-53		C-1	22
96906	MS51849-55		C-1	11
96906	MS51849-55		C-4	2
96906	MS51849-55		C-5	11
96906	MS51849-56		C-5	13
96906	MS51849-64		C-4	29
96906	MS51849-66		C-1	2
96906	MS90727-33		C-4	34
96906	MS90727-6		C-4	12
96906	MS90727-64		C-4	23
96906	MS9352-06		C-4	30
81349	M15098/11-001		C-6	1
83205	NAS1096-3-12		C-4	13
81361	PL5-19-6707-13		C-8	7
07137	PTL-A1(3-C7A)	LENS ONLY	C-6	2
30327	261P1-4		C-4	31
30327	261P1-4		C-6	4
04426	44-601		C-2	4
04426	44-601		C-7	2
33327	44P GREEN		BULK	
33327	44P RED		BULK	
81361	5-19-6170-10		C-8	16
81361	5-19-6348		C-4	16
81361	5-19-6657		C-1	9
81361	5-19-6718		C-3	4

APPENDIX D
EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I INTRODUCTION

D-1. SCOPE. This appendix lists expendable supplies and materials you will need to operate and maintain the collective protection equipment. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts and Heraldic Items)

D-2. EXPLANATION OF COLUMNS.

a. *Column 1 - Item Number.* This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e g. "Use dry-cleaning solvent, item 2, app D").

b. *Column 2 - Level* This column identifies the lowest level of maintenance that requires the listed item.

O - Organizational Maintenance

F - Direct Support Maintenance

c. *Column 3 . National Stock A Number.* This is the National stock number assigned to the item, use it to request or requisition the item

d. *Column 4* - Description Indicates the Federal item name and, if required, a description to identify the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses, if applicable

e. *Column 5* - Unit of Measure (U/M) Indicates the measure used in performing the actual maintenance function This measure is expressed by a two-character alphabetical abbreviation (e g, ea, n , pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements

Section II EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U M
1	0		ADHESIVE, BONDING VULCANIZED MMM-A-121 (81348)	
		8040-00-165-8614	1 qt can	QT
2	0		ALIPHATIC POLYURETHANE COATING low reflective, chemical agent resistant MIL-C-46168 (MR)	
		8010-01-055-2319	1 gal cntnr	EA
3	0	7920-00-514-2417	BRUSH, ACID SWABBING: horsehair bristle, 5.750 length HB643	EA

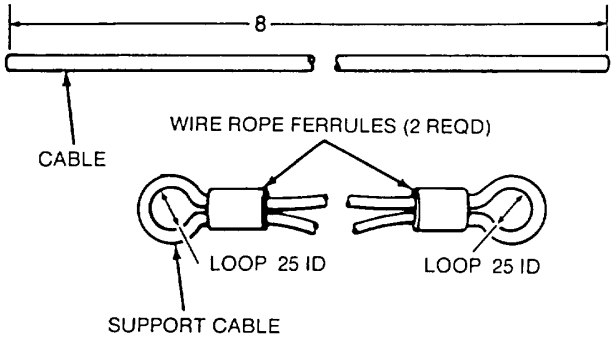
(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U M
4	0		DRY-CLEANING SOLVENT:	EA
			P-D-680	
		6850-00-664-5685	1 qt cntr	EA
		6850-00-281-1985	1 gal cntr	EA
5	0		PRIMER: class 2	
			MIL-P-23377	
		8010-00-142-9279	Kit	EA
6	0		RAG, WIPING: cotton designed for general purpose use	
			DDD-R-30 (81348)	
		7920-00-205-1711	50 lb bale	EA
7	0		TAPE: olive drab, class 1, 3" wide	
			PP-T-60	
		7510-00-663-3738	Roll	EA

APPENDIX E
ILLUSTRATED LIST OF MANUFACTURED ITEMS

E-1. INTRODUCTION.

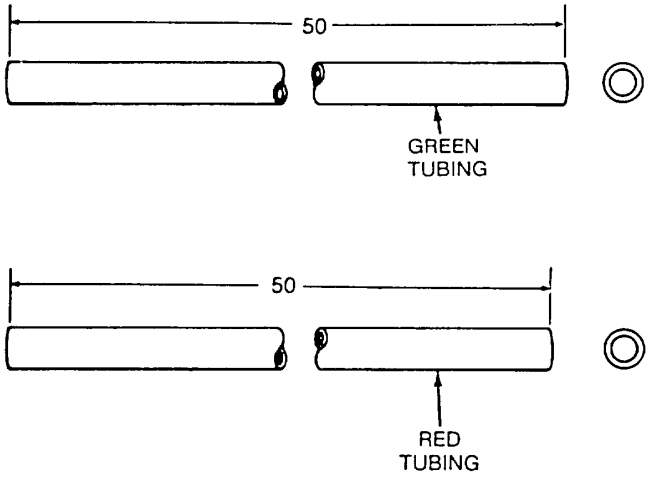
a. This appendix includes complete instructions for making items authorized to be manufactured or fabricated at organizational maintenance level.

b. National stock number in a tabular list of the illustration lists all bulk materials needed for manufacture of an item



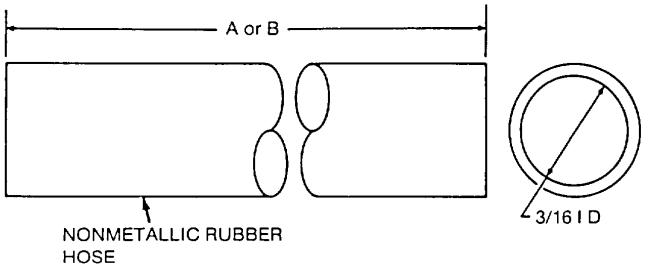
NOTES
1. FABRICATE SUPPORT CABLE FROM NSN 4010-00-069-5180 STOCK.
2. CRIMP WIRE ROPE FERRULES (NSN 4030-00-878-8693) ON CABLE AS SHOWN.
3. ALL DIMENSIONS ARE IN INCHES.

Figure E-1. Support cable



NOTES
1. FABRICATE GREEN NONMETALLIC TUBING FROM NSN 4720-01-053-0316 STOCK
2. FABRICATE RED NONMETALLIC TUBING FROM NSN 4720-00-996-0381 STOCK
3. ALL DIMENSIONS ARE IN INCHES

Figure E-2. Nonmetallic tubing



NOTES
1. FABRICATE FROM NSN 4720-00-065-8682 STOCK.
2. ALL DIMENSIONS ARE IN INCHES

	LENGTH
A	12
B	22

Figure E-3. Rubber hose

ALPHABETICAL INDEX

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BE EXACT PIN-POINT WHERE IT IS				IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT
PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO	
1-1	1-4			ITEM 1. LINE 12. Change "Rock Island, IL 61201" to read, "Aberdeen Proving Ground, MD 21010." REASON: Wrong address.
2-28	2-12			ITEM 2. Test equipment. Add, "28V dc power supply capable of delivery 2 amps" REASON: Incomplete information.
2-43	2-14			ITEM 3. Add callout "20" to the shaft slinger in the illustration. REASON: Callout missing from illustration.

SAMPLE

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER	SIGN HERE
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Chief of Staff

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