TM 11-5855-217-35

TECHNICAL MANUAL

DS,GS,AND DEPOT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

SEARCHLIGHT SET INFRARED AN/VSS-3

(NSN 5855-00-058-1293)

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HEADQUARTERS, DEPARTMENT OF THE ARMY
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NO. 2

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WASHINGTON, DC, *1 June 1983*

Direct Support, General Support, and Depot Maintenance Manual
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SEARCHLIGHT SET, INFRARRD AN/VSS-3 (NSN 5855-00-058-1293)

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NG: None

USAR: None

For explanation of abbreviations used, see AR 310-50.

WARNING

DEATH or SERIOUS INJURY may result from hazards in this equipment, unless the proper safety measures are observed. READ AND OBSERVE the warnings concerning the following hazards in this equipment:

40,000V—is present on xenon lamp electrodes and igniter unit terminals during lamp ignition.

3,000V— is present on booster-starter and igniter during lamp ignition.

120V dc—is present on booster-starter and capacitor bank during lamp ignition.

+28V dc—is present in and around the searchlight case, control box, remote control box and power cable even after equipment shut down.

WARNING

Do not turn off the vehicle power source until the exhaust blower has stopped.

WARNING

Do not look directly into the searchlight when it is in operation. The high, intense visible or infrared light may cause blindness.

Do not operate the searchlight in the compact beam visible or infrared mode while personnel are within 200 meters of the beam path.

Personnel may suffer temporary flash blindness at ranges in excess of 200 meters when the searchlight is operated in either the compact beam or spread beam visible or infrared mode.

WARNING

Use extreme care in handling the high-pressure xenon lamp. Avoid touching the quartz envelope of the xenon lamp.

WARNING

Always disconnect the searchlight power cable before opening the searchlight case. When the main power cable is connected to the searchlight case, 28 volts dc is present between the cable and internal components of the searchlight. Any contact with the case and internal components can produce electrical shock and injury to personnel.

WARNING

The exhaust blower must always operate whenever the searchlight is in operation to protect the equipment from damage. Do not operate the searchlight if the exhaust blower does not operate.

WARNING

Handle the spare xenon lamp with care. This lamp is contained in a plastic holder which is necessary for installation and removal of the lamp. The container is not intended to serve as a safety container for the lamp. Avoid exposing the container with spare lamp to shock and rough treatment which can result in explosion and injury to personnel.

TECHNICAL MANUAL
No. 11-5855-217-35

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 27 *July 1971*

DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS

SEARCHLIGHT SET, INFRARED AN/VSS-3 (NSN 5855-00-058-1293)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, NJ 07703.

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			Paragraph	*Page*
CHAPTER	1.	INTRODUCTION		
CHAPTER	2.	SEARCHLIGHT SET SYSTEM THEORY		
SECTION	I.	Preliminary Block Diagram Data	2-1-2-2	2-1
	II.	Block Diagram Discussion	2-3-2-6	2-2,2-3
CHAPTER	3.	POWER CONTROL GROUP		
SECTION	I.	Introduction	3-1,3-2	3-1,3-2
	II.	Circuit Function	3-3-3-11	3-2,3-3
CHAPTER	4.	LAMP IGNITION AND ARC-SUSTAINING GROUP		
SECTION	I.	Introduction	4-1,4-2	4-1
	II.	Circuit Functioning of Xenon Lamp and Associated Components	4-3-4-8	4-4-4-7
	III.	Circuit Functioning of Lamp Ignition Circuits	4-9-4-12	4-7,4-8
	IV.	Circuit Functioning of Lamp Arc-Sustaining Circuits	4-13,4-14	4-8,4-8
CHAPTER	5.	MODE CONTROL GROUP		
SECTION	I.	Introduction	5-1,5-2	5-1
	II.	Circuit Functioning of Mode Control Circuit	5-3-5-5	5-1,5-2
CHAPTER	6.	COOLING SYSTEM GROUP		
SECTION	I.	Introduction	6-1,6-2	6-1,6-2
	II.	Component Functioning of Cooling System Components	6-3-6-5	6-2,6-3
CHAPTER	7.	GENERAL MAINTENANCE INFORMATION		
SECTION	I.	Introduction	7-1-7-8	7-1-7-3
	II.	Tools and Test Equipment Required for Field and Depot Maintenance of Searchlight Set, Infrared AN/VSS-3	7-9,7-10	7-3,7-4
	III.	Special Cleaning Procedures	7-11-7-17	7-4,7-5
CHAPTER	8.	TROUBLESHOOTING AND REPAIR OF THE SEARCHLIGHT SET		
SECTION	I.	Troubleshooting Based on Starting Procedure	8-1-8-6	8-1,8-2
	II.	Control Box Troubleshooting and Repair	8-7-8-12	8-6-8-8
	III.	Remote Control Box Troubleshooting and Repair	8-13-8-16	8-9,8-10
	Iv.	Searchlight Troubleshooting and Repair	8-17-8-20	8-10,8-11
	V.	Heat Exchanger Troubleshooting and Repair	8-21-8-24	8-13
	VI.	Power Cable Troubleahooting and Repair	8-25-8-27	8-14
	VII.	Searchlight Set Adjustment Procedure	8-28-8-30	8-14-8-16
CHAPTER	9.	REPLACEMENT PROCEDURES FOR SEARCHLIGHT SET COMPONENTS		
SECTION	I.	Introduction	9-1	9-1
	II.	Replacement Procedures for Control Box Components	9-2-9-4	9-1-9-8
	III.	Replacement Procedures for Remote Control Box Components	9-5,9-6	9-8,9-9
	IV.	Replacement Procedures for Searchlight Components	9-7,9-8	9-11,9-13
	V.	Replacement Procedure for Heat Exchanger components	9-9,	9-22

			Paragraph	Page
CHAPTER 10.		DEPOT INSPECTION STANDARDS		
SECTION	I.	General	10-1-10-3	10-1
	II.	Test Procedures	10-4,10-5	10-1-10-3
APPENDIX	A.	REFERENCES		A-1
	B.	REPAIR PARTS AND SPECIAL TOOLS LIST		B-1
		INDEX		I-1

LIST OF ILLUSTRATIONS

Fig. No.	Title	Page
2-1	Searchlight set block diagram	2-1
3-1	Power control group block diagram	3-1
3-2	Simplified schematic diagram of CIRCUIT TEST switch, position 2	3-4
3-3	Simplified schematic diagram of CIRCUIT TEST switch, position 3	3-4
3-4	Simplified schematic diagram of CIRCUIT TEST switch, position 4	3-5
3-5	Simplified schematic diagram of CIRCUIT TEST switch, position 5	3-5
3-6	Simplified schematic diagram of CIRCUIT TEST switch, position 6	3-6
3-7	Simplified schematic diagram of CIRCUIT TEST switch, position 7	3-6
4-1	Lamp ignition group block diagram	4-2
4-2	Lamp arc-sustaining group block diagram	4-3
4-3	Lamp ionization diagram	4-4
4-4	Reflector effect on beam	4-5
4-5	Measurement of beam width	4-6
4-6	Infrared filter	4-7
5-l	Limit switch diagram, in off mode	5-3
5-2	Limit switch diagram in infrared mode	5-4
5-3	Limit switch diagram, to visible from infrared mode	5-4
5-4	Limit switch diagram, visible retie	5-5
5-5	Limit switch diagram, to infrared from visible mode	5-5
5-6	Limit switch diagram, to off from visible mode	5-6
5-7	Searchlight beam control diagram	5-7
6-1	Temperature control group block diagram	6-1
6-2	Rear cover assembly	6-2
6-3	Heat sink tube cross section	6-3
6-4	Heat exchanger airflow	6-4
8-l	Cabling diagram for cable connections	8-15
9-1	Control box, (lees cover and printed circuit board)	9-2
9-2	Control, searchlight set C-7905 /VSS-3 (control box)	9-5
9-3	Printed board circuit card	9-7
9-4	Test setup for printed circuit board test	9-6
9-5	Remote control box, exterior view	9-9
9-6	Remote control box, exploded view	9-10
9-7	Searchlight set, IR (control box)	9-12
9-6	Searchlight assembly, exploded view	9-15
9-9	Searchlight assembly, case removed	9-19
9-10	Searchlight assembly	9-20
9-11	Focus assembly, searchlight	9-21
9-12	Heat exchanger	9-23
9-13	Heat exchanger, exploded view	9-25
9-14	Blower wheel shroud	9-26
9-15	1 kW Searchlight set schematic	Back of manual
9-16	1 kW Searchlight wiring diagram	9-28
9-17	Control box wiring diagram	Back of manual
9-18	Remote control box wiring diagram	9-29
10-1	Test setup for lamp cooling and thermostatic switch setting	10-2
10-2	Test setup for light tightness, angular visual security, and beam characteristics test	10-3
10-3	Target setup for angular visual security test	10-4
10-4	Test setup for beam characteristics test	10-5
10-5	Resistor-inductor-capacitor color code chart	Back of manual

CHAPTER 1
INTRODUCTION

1-1. Scope

a. This manual covers direct support, general support, and depot maintenance for Searchlight Set, Infrared AN/VSS-3. It includes instructions appropriate to direct support, general support, and depot maintenance for troubleshooting, testing, aligning, and repairing the equipment, replacing maintenance parts. It also lists tools, materials, and test equipment authorized for direct and general support and depot maintenance.

b. Complete technical maintenance information for this equipment includes TM 11-5855-217-12, and TM 11-5855-217-12-2.

1–2. Consolidated Index of Army Publications and Blank Forms

Refer to the latest issue of DA Pam 310-1 to determine whether there are new editions, changes or additional publications pertaining to the equipment.

1-3. Maintenance Forms, Records, and Reports

a. Reports of Maintenance and Unsatisfactory equipment. 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).

b. Report of Packaging and Handling Deficiencies. Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73/AFR 400-54/ MCO 4430.3E.

c. Discrepancy in Shipment Report (DISREP) (SF 361. Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33B/AFR 75-18/MCO P4610.19C/DLAR 4500.15.

1-4. General Information

a. Components that have been assigned cumbersome nomenclature and are mentioned frequently in the manual are sometimes referred to by common names. The common names assigned to these components are listed in TM 11-5855-217-12.

b. Reference designators, which are assigned to each part, indicate the type and location of the part. The reference designator indicates in which major component, assembly or subassembly a part is located. Reference designators assigned to sections of the searchlight set are listed in paragraph 7-4.

c. Broken lines on illustrations represent mechanical connections. Solid lines indicate electrical connections.

CHAPTER 2

SEARCHLIGHT SET SYSTEM THEORY

Section I. PRELIMINARY BLOCK DIAGRAM DATA

2-1. Purpose of Block Diagram

The purpose of the searchlight set block diagram, figure 2-1, is to graphically illustrate functional interrelationships of the major components, assemblies, and parts of the searchlight set.

2-2. Grouping of Components and Assemblies

The searchlight set is divided into groups, according to function, for block diagram explanation. The function groups, important components with-

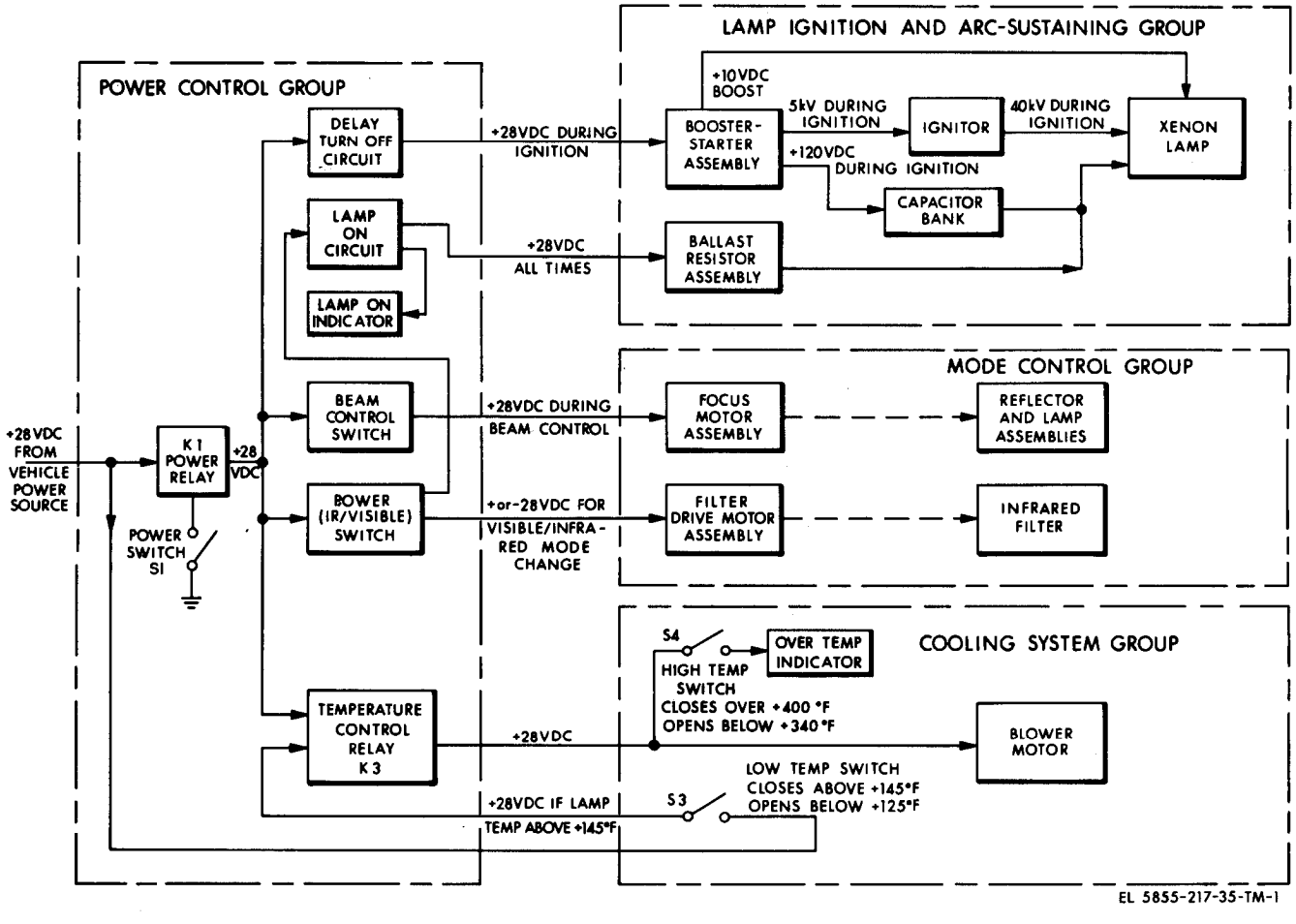


Figure 2-1. Searchlight set block diagram.

in each group, and a brief explanation of each group's purpose follows.

a. Power Control Group. The power control group includes switches and indicators located on the front panel of the control box and remote control box, electronic timers located on the printed circuit board within the control box, and relays inside the control box. The power control group receives power from the vehicle power source, conditions the voltage, and supplies various voltage outputs to each of the other function groups.

b. Lamp Ignition and Arc-Sustaining Group. The lamp ignition and arc-sustaining group includes the capacitor bank, booster-starter, igniter, ballast resistor, and xenon lamp. This group receives voltage from the power control group and supplies the high voltage and current necessary to ignite the xenon lamp. Upon lamp ignition, the group maintains a nearly-constant dc voltage across the lamp to sustain the arc discharge of the xenon lamp. The lamp arc discharge is the source of the light for the searchlight set.

c. Mode Control Group. This group includes the focus motor assembly, reflector and lamp assemblies, the filter drive motor assembly, and the infrared filter. Upon command from the power control group, through the power or beam switch, the group changes the searchlight's mode of operation.

d. Cooling System Group. The cooling system group includes the blower assembly, the high and low temperature switches, and the OVER TEMP indicator. This group provides air-to-air cooling of the searchlight and warns the operator if the searchlight is dangerously overheated by lighting the OVER TEMP indicator.

Section II. BLOCK DIAGRAM DISCUSSION

2-3. Power Control Group

The power control group receives +22 to 28 volts dc from the vehicle power source through the power relay K1. Relay K1 is actuated by the power switch S-1. Relay K1 distributes power to the following:

a. Delay Turn-Off Circuit. During lamp ignition, the delay turn-off circuit applies +28 volts dc to the booster-starter for approximately 7 seconds. If the xenon lamp does not ignite within this 7 seconds, the delay turn-off circuit removes power from the booster-starter. This prevents continuous operation of the ignition circuits in the event that the xenon lamp is inoperative. If the lamp ignites, the delay turn-off circuit continues to apply +28 volts dc for an additional 4 seconds to assure complete lamp ignition. At the end of 4 seconds, the delay turn-off circuit removes power from the booster-starter.

b. Lamp-On Circuit. After lamp ignition, the lamp-on circuit supplies +28 volts dc to the LAMP ON indicator.

c. Beam Switch. The beam switch applies +28 volts dc to the focus motor to cause the beamwidth mode change.

d. Power Switch. The power switch applies power to the lamp, and a positive or negative 28 volts dc to the filter drive motor assembly during mode change. For visible light modes of operation, the power switch supplies a positive 28 volts dc to the motor. For infrared light modes, the power switch supplies a negative 28 volts dc to the motor. Reversing the voltage polarity reverses the filter drive motor direction of travel.

e. Temperature Control Relay. The temperature control relay (K3) supplies +28 volts dc to the blower motor upon power turn-on, and applies power to the motor after turnoff if the temperature is above 145°F.

f. Remote Control Box. The remote control box includes a power switch, beam switch, a LAMP-ON indicator, and an OVER TEMP indicator all of which are wired in parallel with the respective controls on the control box. Remote control is enabled by the REMOTE/LOCAL switch located on the front panel of the control box.

2-4. Lamp Ignition and Arc-Sustaining Group

The booster-starter receives +28 volts dc from the delay turn-off circuit upon power turn-on. The

booster-starter charges the capacitor bank to + 120 volts dc. When the capacitor bank reaches + 120 volts dc, the booster-starter switches the + 120 volts dc charging current off the transfers 3,000 volts to the igniter. The igniter steps up the voltage to 40,000 volts and applies it to the xenon lamp. When the lamp gas ionizes, the capacitor bank discharges through the xenon lamp. As the capacitor bank discharges, the booster-starter supplies a boost voltage of + 10 volts dc which is added to the +28 volts dc and applied across the lamp until the lamp stabilizes. After lamp ignition, the delay turn-off circuit removes +28 volts dc from the booster-starter and a nearly constant dc voltage is maintained across the xenon lamp through the ballast resistor and lamp-on circuit. The capacitor bank remains connected across the lamp to aid in filtering out battery voltage fluctuations.

2-5. Mode Control Group

a. During beamwidth mode changes, the focus motor assembly receives +28 volts dc from the beam switch. In the compact beam mode, the focus motor assembly locates the xenon lamp at the focal point of the reflector. During spread beam mode operation, the focus motor assembly moves the xenon lamp a short distance away from the focal point to defocus the beam. The focus motor assembly also flexes the lower edge of the reflector to achieve a “rising sun” pattern in the beam.

b. During infrared/visible mode changes, the filter drive motor assembly receives a positive or negative 28 volts dc from the power switch. The filter drive motor assemby controls the position of the infrared filter. In infrared light operation, the filter drive motor assembly receives a negative 28 volts dc from the power switch. The filter drive motor then positions the infrared filter completely around the xenon lamp thereby blocking transmission of visible light and allowing infrared light to pass. In visible light operation, the filter drive motor receives a positive 28 volts dc from the power switch reversing the motor’s direction of travel. The filter drive motor assembly then retracts the infrared filter from around the xenon lamp removing the obstruction to the transmission of visible light.

2-6. Cooling System Group

a. When the searchlight set is turned on, the main power relay (Kl) energizes and supplies power to the blower motor through the temperature control relay (K3). After the ambient temperature of the searchlight reaches + 145°F (63 °C), the thermal switch (S3) closes, bypassing relay K1 and powering the blower motor through relay K3.

b. When the searchlight set is turned off, the blower motor continues to operate through K3 until ambient temperature drops to + 125°F (52° C). At this temperature, thermal switch S3 opens deenergizing K3 which then switches the blower motor back to K1. Since K1 is deenergized, the blower motor shuts off until the searchlight set is turned on again.

c. The thermal switch (S4) controls the lighting of the OVER TEMP indicator. If the ambient temperature exceeds + 400°F (193°C), S4 closes, turning on the OVER TEMP indicator. After the OVER TEMP indicator lights, it is the responsibility of the operator to turn off the equipment until the blower motor can cool the components. Switch S4 will not open until the ambient temperature drops below + 340°F (160°C). When S4 opens, the OVER TEMP indicator is extinguished indicating to the operator that the equipment is cool enough to operate without damage.

NOTE

The OVER TEMP indicator is also extinguished by turning off the searchlight set power.

CHAPTER 3

POWER CONTROL GROUP

Section I. INTRODUCTION

3-1. General

a. The power control group receives power from the external power source, conditions the voltage, and supplies various outputs to the temperature control group, lamp ignition group, lamp arc-sustaining group, and the searchlight function group. The power control group switches power from the lamp ignition group, after lamp ignition, to the lamp arc-sustaining group. Included in the power control group is a circuit test section to facilitate troubleshooting, switches to control searchlight operation, and indicators to monitor searchlight operations.

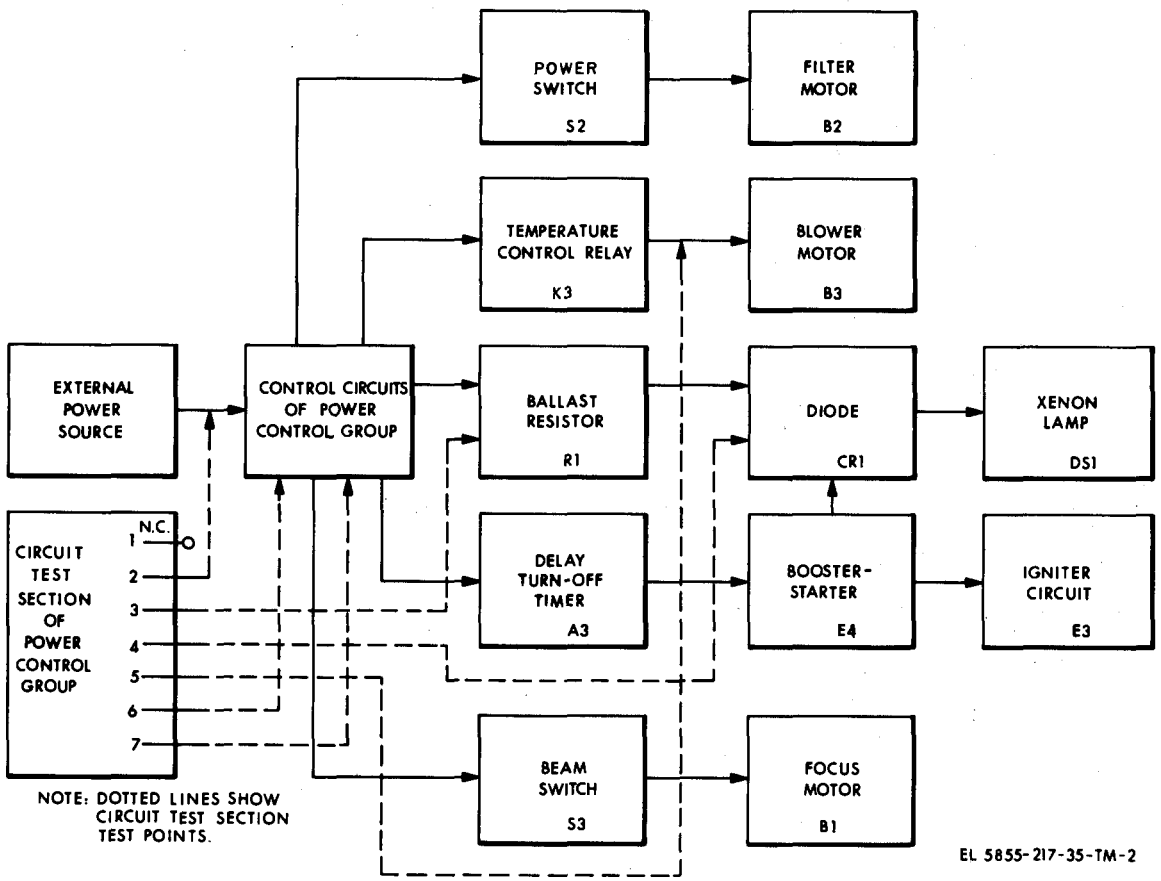


Figure 3-1. Power control group block diagram.

b. The relationship between the power control group with respect to other functional groups of the searchlight set is shown in figure 3-1 and described in paragraph 3-2.

3-2. Block Diagram Discussion
(fig. 3-1.)

The power control group performs seven basic functions within the searchlight set. The functions are as follows:

(1) Distributes power to the various circuits in the searchlight set.

(2) Controls and monitors searchlight set operation.

(3) Times the application of the ignition voltage across the xenon lamp and turns off the ignition circuits if the lamp fails to ignite.

(4) Times the application of boosted battery voltage across the xenon lamp after ignition and turns off the booster-starter 4 seconds after lamp ignition.

(5) Switches power to the xenon lamp from the lamp ignition group to the arc-sustaining group after lamp ignition.

(6) Provides for remote searchlight set operation by the remote control box.

(7) Provides a circuit test section to facilitate troubleshooting of the searchlight set.

Section II. CIRCUIT FUNCTIONS

3-3. Power Distribution

Voltage of +22 to 28 volts dc power is supplied to the searchlight set from an external power source, usually a vehicle power supply. Power is distributed by the power control group to the following units:

(1) To the main power relay (K1). Relay K1 is actuated by the VISIBLE/INFRA RED/OFF switch (2A1S2). The main power relay starts the elapsed time meter (Ml), turns on the blower motor (B3) through the temperature control relay (K3), and supplies voltage to the booster-starter (1A2E4) unit through the delay turn-off circuit (2A1A3).

(2) To the xenon lamp (1A2DS1) through the ballast resistor (1A3R1) and diode (1A2CR1) after xenon lamp ignition.

(3) To the focus motor (B1) through the beam switch (2 A1S3).

(4) To the infrared filter motor (B2) through the VISIBLE/INFRA RED/OFF switch (2A1S2).

(5) To the blower motor (B3) through the temperature control relay (K3).

3-4. Delay Turn-Off Circuit

The delay turn-off circuit consists of two timers. One, the delay turn-off timer, and two, the booster-starter timer.

a. The delay turn-off timer includes transistors and associated circuit elements including resistors and capacitors which set the time constant of the timer at approximately 7 seconds. When the searchlight set is-turned on, power is applied to R16 and C2 in the timer circuit and to the booster-starter through the contacts of the booster power relay (K2). If the xenon lamp does not ignite within 7 seconds after turn-on, Q3 fires and in turn fires Q5. When Q5 fires, relay K2 energizes and removes power from the booster-starter. This prevents continuous operation of the booster-starter and igniter circuit in the event the xenon lamp is inoperative.

b. If the lamp does ignite within 7 seconds after power turn-on, the delay turn-off timer is reset through S4 through resistor R17 and diode CR9.

c. The booster-starter timer consists of transistors Q1, Q4, and associated circuit elements ineluding resistor R2 and capacitor C1 which sets the time constant of Q1 ‘to approximately 4 seconds. After the xenon lamp is ignited, the booster-starter starts timing to keep the booster-starter on for 4

seconds. At the end of 4 seconds, Q1 fires which fires Q4 and energizes K2 thereby removing input power from the booster-starter unit.

NOTE

Either the delay turn-off timer or the booster-starter timer will energize K2 to shut off the booster-starter.

d. Zener diode CR7 and resistor R12 form an 18 volts dc voltage regulator so that the time constant of the timers will not change as the input voltage fluctuates between +22 and 28 volts dc.

3-5. Lamp-On Circuit

A signal from the lamp-on circuit signifies when the xenon lamp has ignited. When current increases through the lamp, a set of contacts closes to light the LAMP ON indicator (DS1) and start the timer in the delay turn-off circuit.

3-6. Beam Control Switch

The beam control switch (2A1S3) supplies positive (+) input power to the focus motor through the focus motor contol switch (S5). The beam control switch supplies positive (+) input power in either the COMPACT or SPREAD BEAM position.

3-7. Power Switch

The power switch (2A1S2) actuates the main power relay (K1) in either the INFRA RED or the VISIBLE position. One side of the coil of relay K1 is permanently connected to the positive (+) power input. The other side of the coil connects to switch 2A1S2. When 2A1S2 is in the INFRA RED or the VISIBLE position, the ground side of the relay K1 coil is connected to the circuit ground which completes the path through the relay coil and energizes relay K1. Switch 2A1S2 also selects the mode of operation by controlling the infrared falter motor. In the INFRA RED position, circuit ground is connected to the positive (+) side of the filter motor through 2A1S2, 2A1S1, and the normally closed (NC) contacts of the limit switch (1A2S1). In the VISIBLE position, positive (+) input power is connected to the + side of the filter motor through 2A1S2, 2A1S1, and the NC contacts of 1A2S1.

3-8. Temperature Control Circuit

The temperature control circuit monitors the ambient temperature of the xenon lamp. If the ambient temperature is below 140° F, power for the blower motor is taken through the power relay (K1) in the power distribution circuit. The blower motor operates to provide cooling as soon as power is applied to the system. When the temperature exceeds 140°F, temperature control relay (K3) is energized and the control circuit bypasses the power relay and takes its power directly from the vehicle source. When the system is turned off, the blower motor continues to operate until the temperature reaches 125° F. At this temperature, the control circuit reverts to the power relay (K1). Since the power relay is deenergized, the blower motor shuts down until the searchlight is turned on again.

3-9. Lamp Ignition and Arc-Sustaining Group Switching Circuit

At power turn-on, the capacitor bank (C1 through C6) is charged to 120 volts by the booster-starter unit. The diode (CR 1) provides isolation between the capacitor bank and the input voltage. A boost voltage from the booster-starter unit is added to the input voltage and is applied across the diode during the lamp ignition period. When the lamp ignites, the capacitor bank discharges through the arc and starts the 4-second timer. After 4 seconds, the booster-starter is turned off. Power is then supplied to the lamp through the ballast resistor (1A3R1) to sustain the lamp arc.

3-10. Remote Controls and Indicators

The remote controls and indicators, located in the remote control box, duplicate the corresponding controls in the control box. They are an OVER TEMP and a LAMP ON indicator, a beam switch, and a power switch. Operation of these controls and indicators are identical to the respective controls and indicators mounted in the control box. Operation of the remote controls and indicators is enabled whenever the REMOTE/LOCAL switch in the control box is in the REMOTE position.

3-11. Circuit Test Section

The circuit test section consists of CIRCUIT TEST switch 2A1S4, indicator lamp DS3, and test circuit formed by zener diode CR5, resistors R5, R6, and

R7, and transistor Q2. The sharp regulation of CR5 (zener action) lights DS3 if voltage in the circuit selected through S5 is more positive than +22 volts dc. Switch S5 is a 7- position switch. Position one is not used for the circuit test section and is labeled OPERATING POSITION. The circuits checked by the individual positions of the CIRCUIT TEST switch' are listed in table I and are shown in the simplified schematic diagram, figures 3-2 through 3-7. An indicator lamplights if the voltage level in the circuit under testis at a satisfactory level.

Table I. Circuit Test Switch Positions for Circuit Checks

CIRCUIT TEST switch position	*Circuit checked*
1	operating position
2	Input voltage at least +22 volts dc
3	Ballast resistor continuity
4	Diode CR1, output voltage
5	voltage to blower motor
6	Control box-searchlight connec-
7	Input voltage and power relay

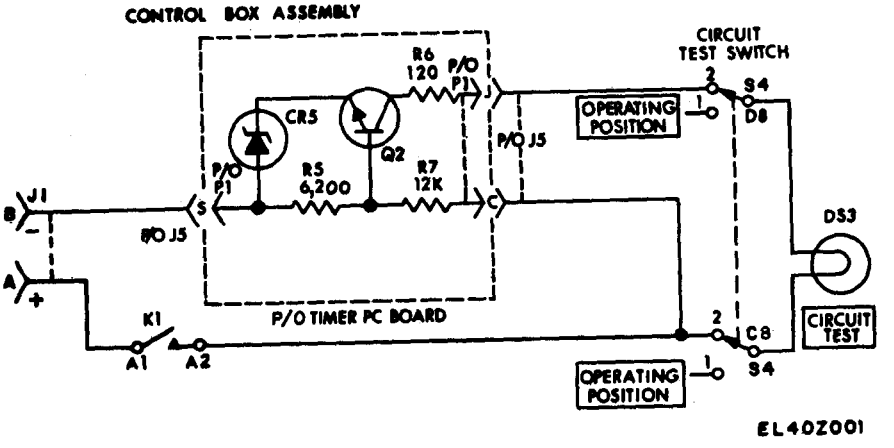


Figure 3-2. Simplified schematic diagram of CIRCUIT TEST switch, position 2.

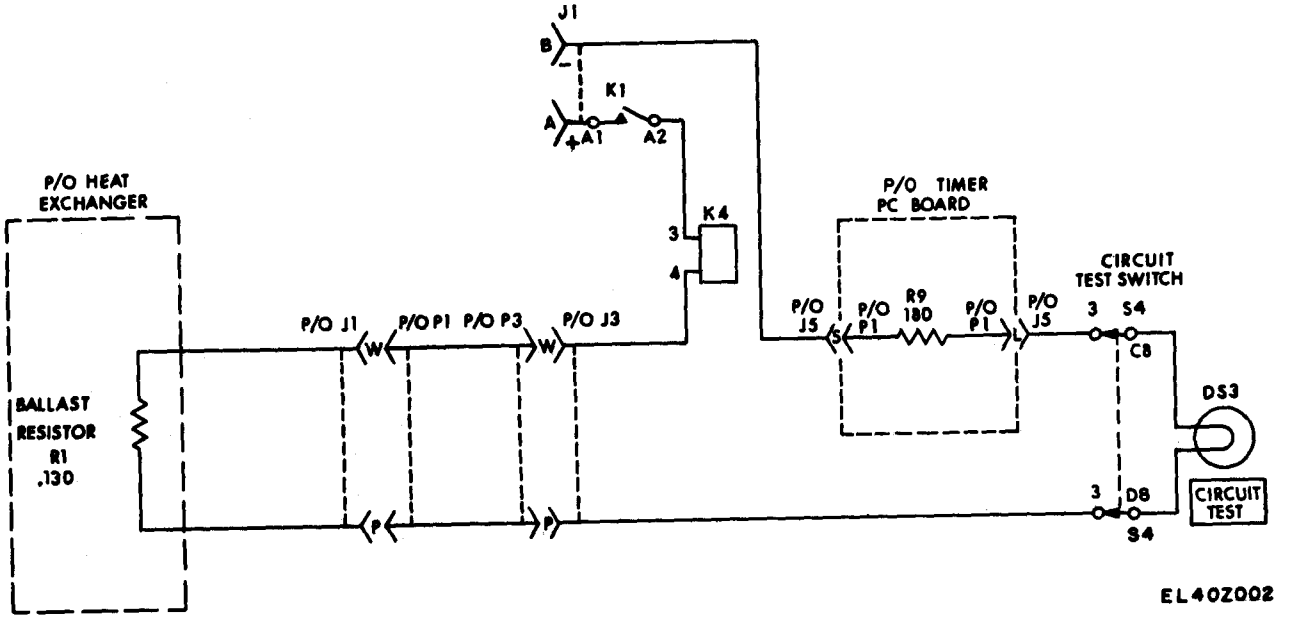


Figure 3-3. Simplified schematic diagram of CIRCUIT TEST switch, position 3.

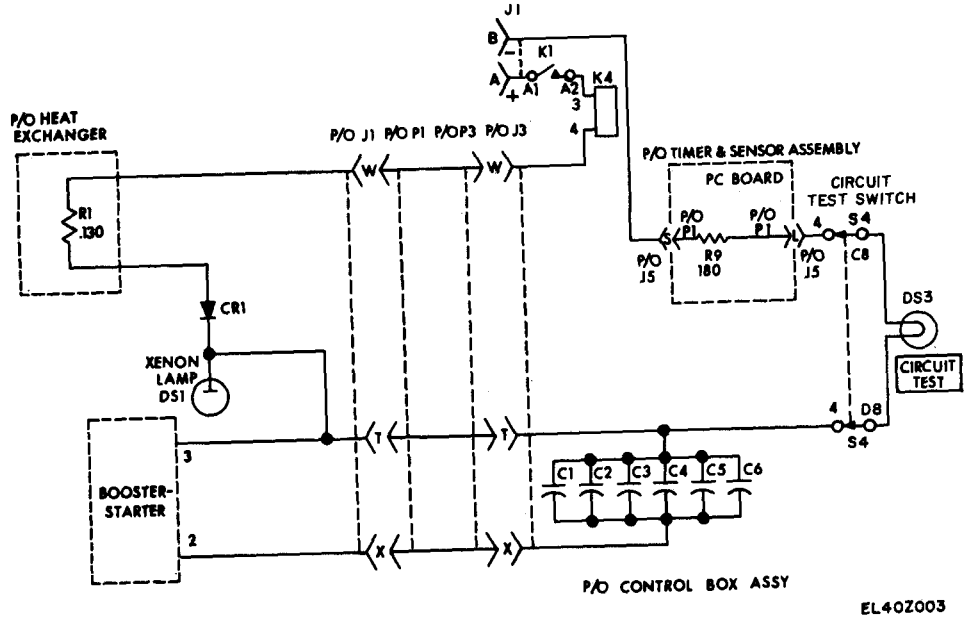


Figure 3-4. Simplified schematic diagram of CIRCUIT TEST switch, position 4.

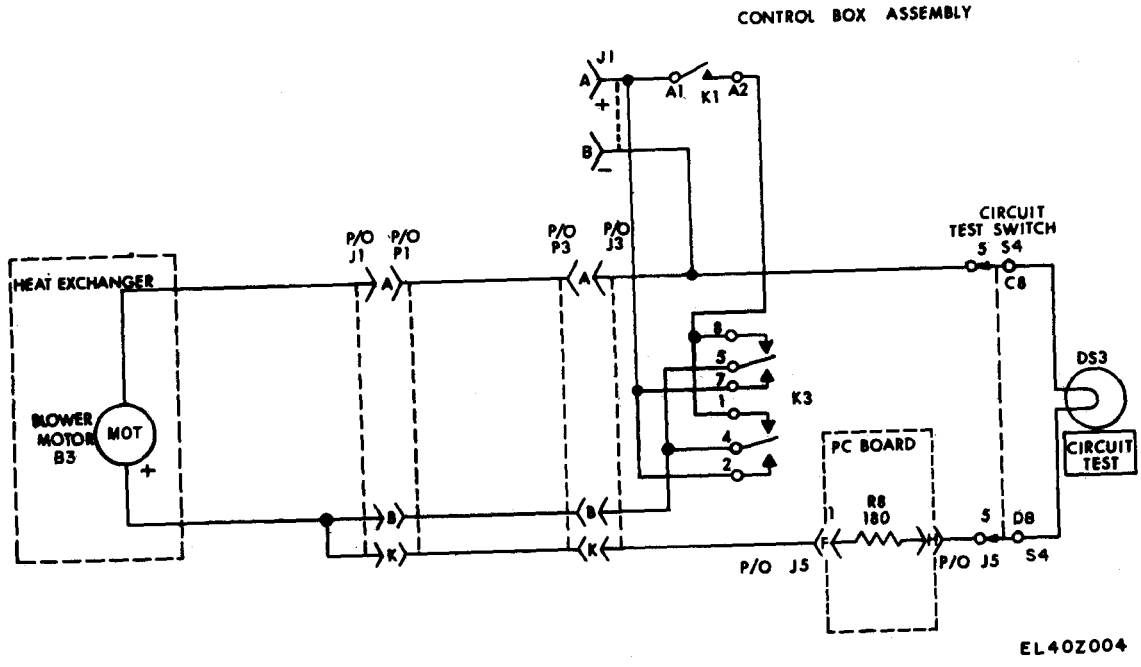


Figure 3-5. Simplified schematic diagram of CIRCUIT TEST switch, position 5.

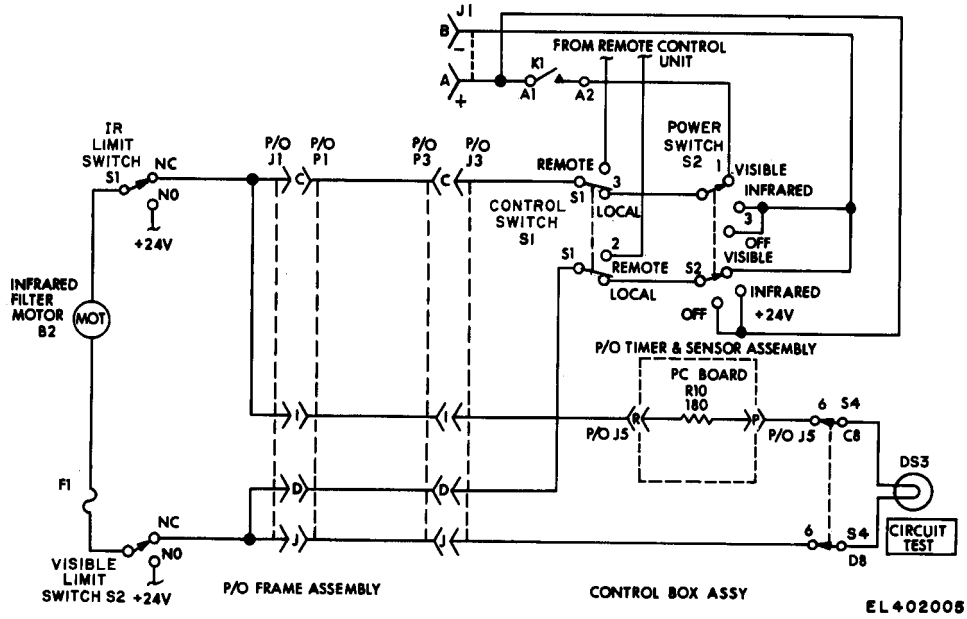


Figure 3-6. Simplified schematic diagram of CIRCUIT TEST switch, position 6.

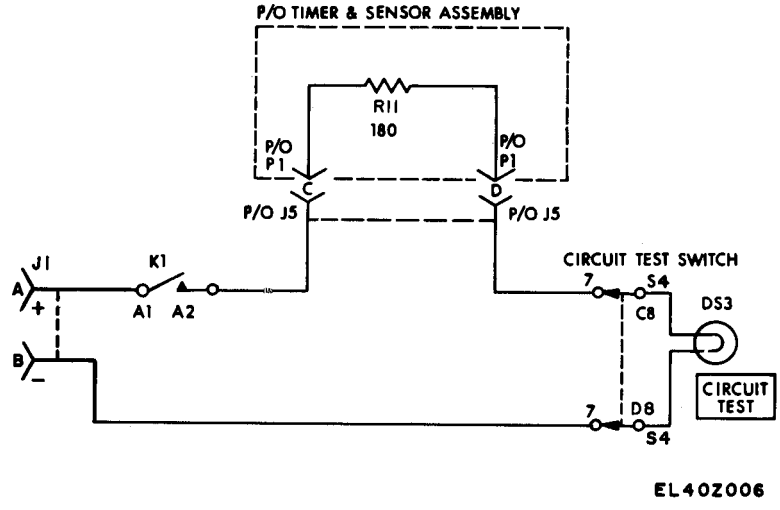


Figure 3-7. Simplified schematic diagram of CIRCUIT TEST switch, position 7.

CHAPTER 4

LAMP IGNITION AND ARC-SUSTAINING GROUP

Section I. INTRODUCTION

N O T E

Replace XENON lamp at the end of 300 hours operation.

4-1. General

The lamp ignition and arc-sustaining group is used to supply the high voltage and current necessary to ignite the xenon lamp. Also, the group maintains a nearly-constant voltage, after lamp ignition, across the xenon lamp to sustain the arc. For lamp ignition, the group consists of a booster-starter, igniter, the capacitor bank (C1 through C6), and the booster-starter turn-off relay (K2). For lamp arc-sustaining, the group consists of the ballast resistor (R1) and the capacitor bank (C1 through C6).

4-2. Block Diagram Discussion

(figure 4-1 and 4-2)

The booster-starter receives +28V dc from the delay turn-off circuit upon power turn on. The booster-starter charges the capacitor bank to +120V dc. When the capacitor bank reaches +120V dc, the booster-starter switches the +120V de charging current off and transfers 3,000 volts to the igniter. The igniter steps up the voltage to 40,000 volts and applies it to the xenon lamp. When the lamp gas ionizes, the capacitor bank discharges through the xenon lamp. As the capacitor bank discharges, the booster-starter supplies a boost voltage of +10 volts dc which is added to the +28V dc and applied across the lamp until the lamp stabilizes. After ignition, the delay turn-off circuit removes +28V dc from the booster-starter and a nearly-constant de voltage is maintained across the xenon lamp through the ballast resistor and lamp on circuit. The capacitor bank is connected across the lamp to aid in filtering out battery voltage fluctuations.

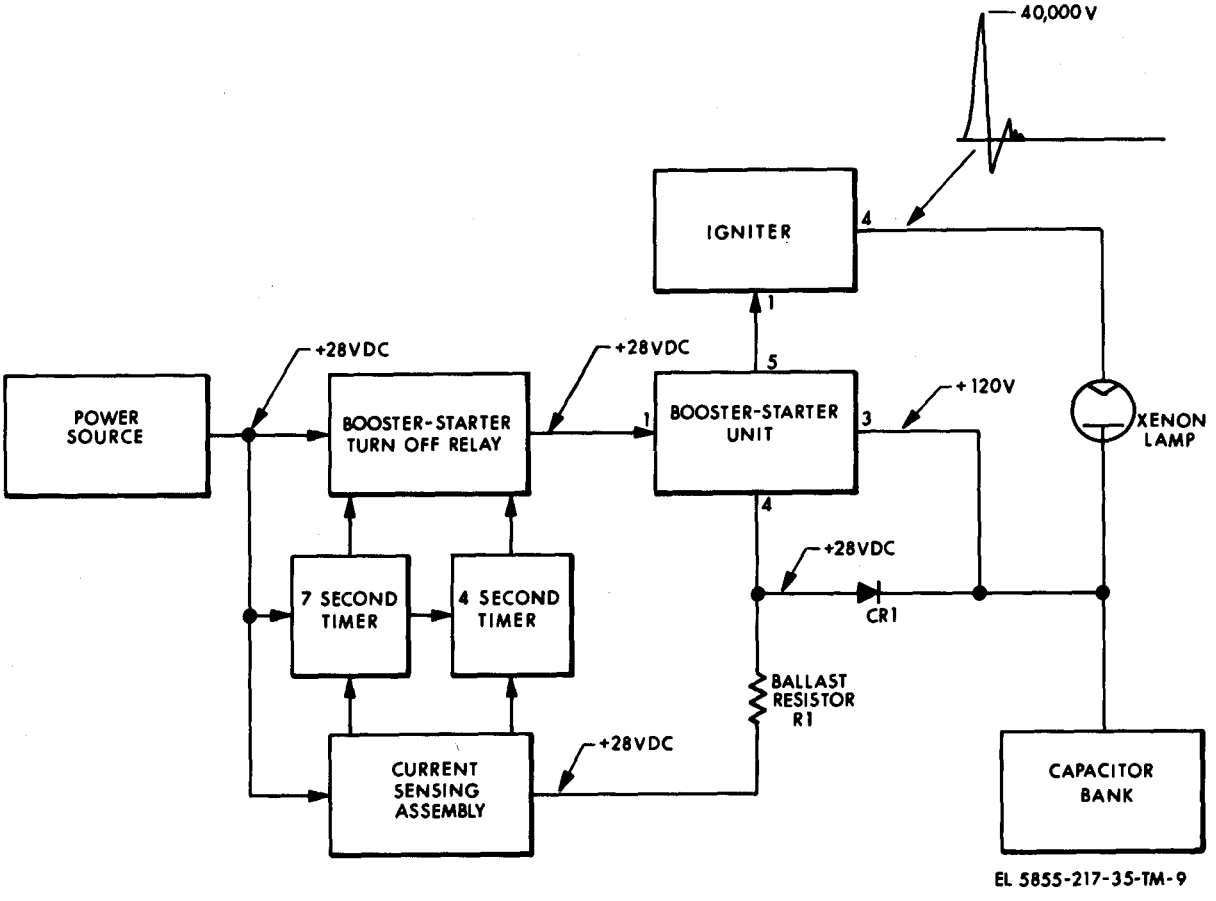


Figure 4-1. Lamp ignition group block diagram.

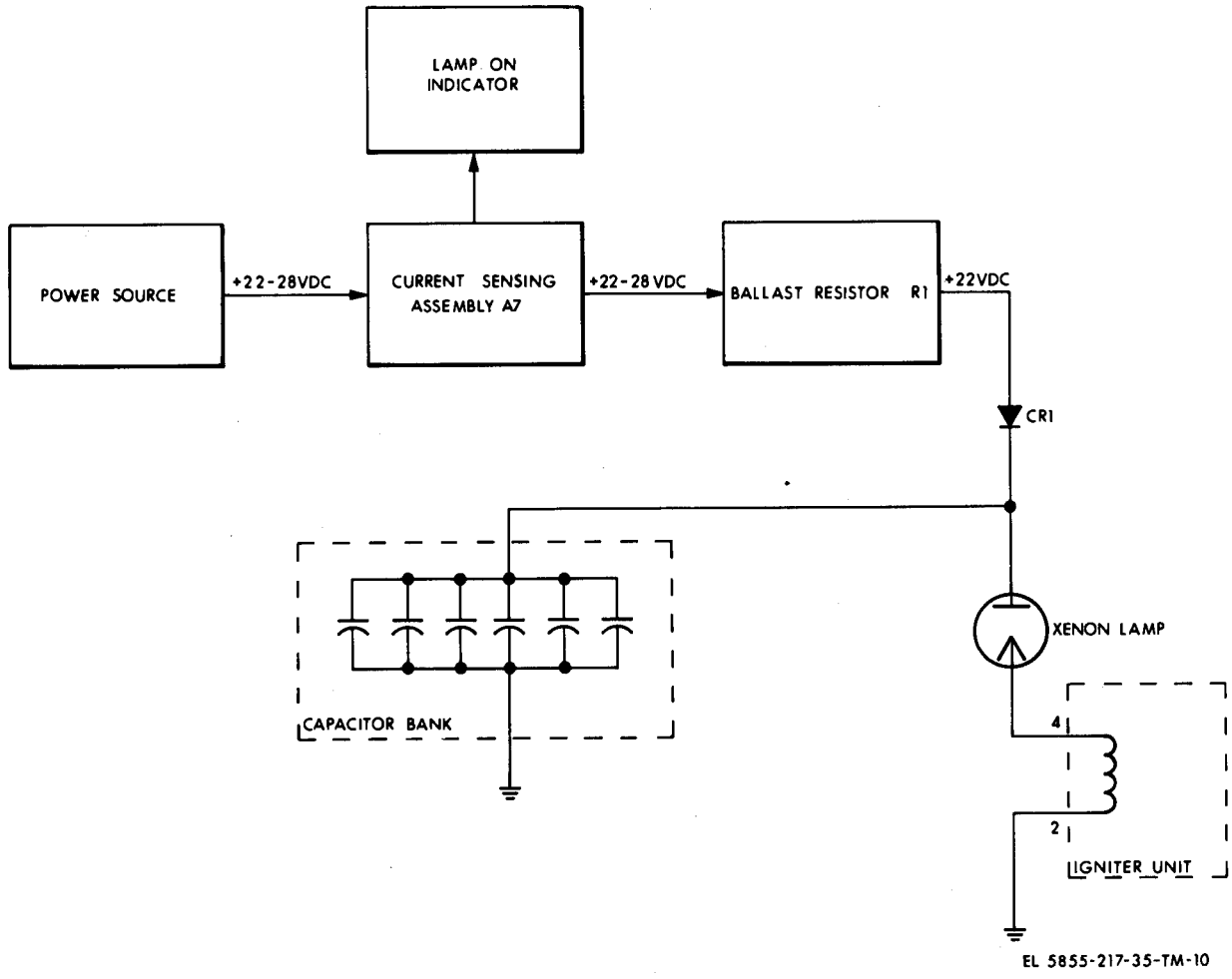


Figure 4-2. Lamp arc-sustaining group block diagram.

Section II. CIRCUIT FUNCTIONING OF XENON LAMP AND ASSOCIATED COMPONENTS

4-3. Arc Lamp Theory
(figure 4-3)

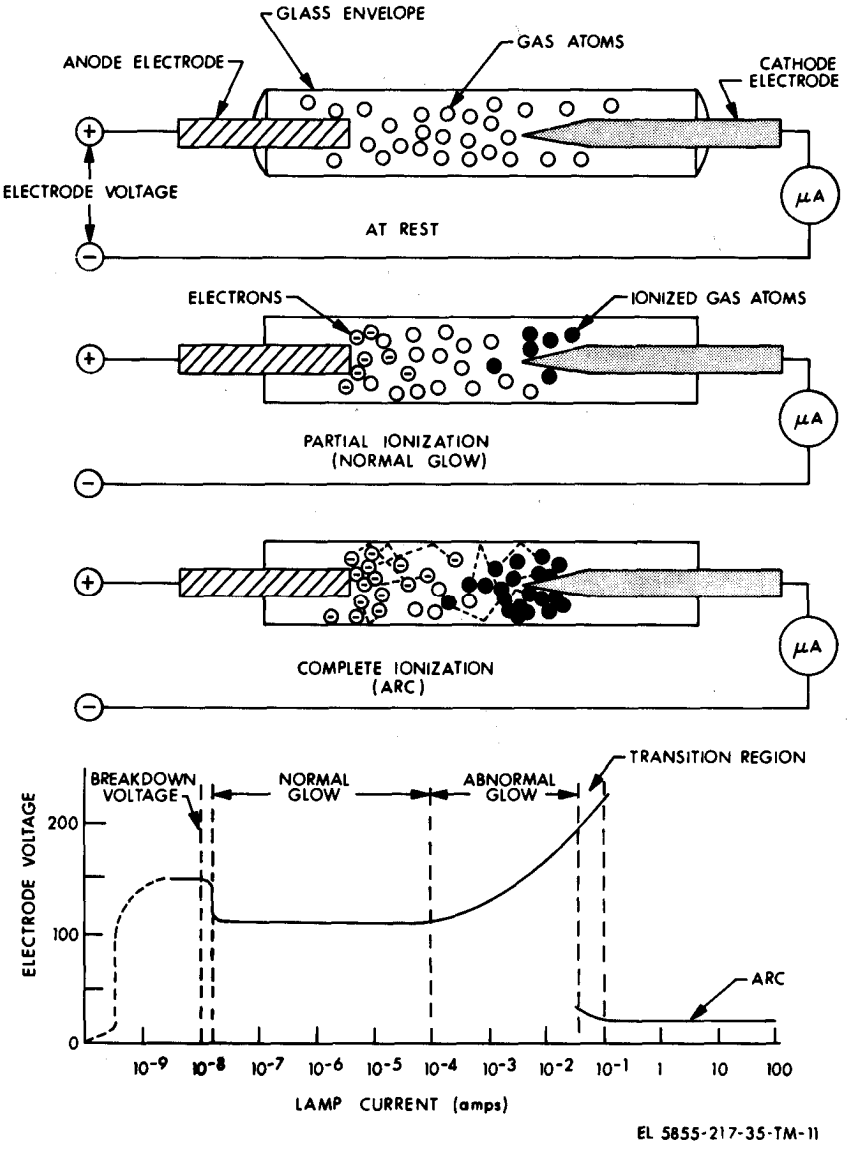


Figure 4-3. Lamp ionization diagram.

a. In general, arc lamps may be described as glass or quartz tubes, filled with gas under pressure, with an electrode sealed into each end of the tube. The electrodes are not touching but are mounted in the arc lamp chamber with a fixed distance between them. At rest, the gas atoms are randomly distributed throughout the arc chamber. If a voltage is applied across the electrodes, the electrons will be attracted to the positive electrode and the gas ions will be attracted to the negative electrode.

b. As the electrode voltage is raised, the current through the lamp increases rapidly because the electrons being attracted towards the positive elec-

trode have gained enough energy to ionize a large number of gas atoms and subsequently create more current carriers. At some value of electrode voltage, the current through the lamp increases rapidly and the voltage drop across the lamp decreases. The value of electrode voltage at which this occurs is the breakdown voltage of the gas, and the gas has broken into a self-maintaining discharge called a glow. (Figure 4-3.)

c. If the current is not limited through the lamp, it will continue to increase almost instantaneously, causing the lamp to produce an abnormal glow. The current and voltage will finally reach a transition region where the voltage will drop to a low value and the current will increase to some high value and the discharge becomes an arc. In essence, the arc is a discharge of electricity between the electrodes using the gas ions and electrons as a path.

4-4. Xenon Lamp

The searchlight set uses a 1 kW xenon lamp for its source of illumination. The lamp is filled with xenon gas under high pressure. The gas is pressurized to approximately 7 atmospheres at rest and increases to 27 atmospheres during operation. At sea level, one atmosphere is 14.7 lb/in.^{2} at 15°C. The xenon lamp produces light energy that closely approximates natural sunlight both in spectral distribution (color) and temperature.

4-5. Reflector

a. The parabolic mirror reflector collects the light energy emitted by the xenon lamp, focuses the light, and reflects it in the form of a narrow beam.

b. The lamp is mounted so that it may be moved axially by the focus motor to defocus the light beam in the spread beam mode of operation.

c. The reflecting surface of the reflector is coated with rhodium, a material with very good reflective properties. Any dulling of this surface will reduce the amount of reflected light energy. Therefore, extreme care should be taken when cleaning and/or replacing the reflector. Also, any distortion of the reflector will defocus the light beam. In the spread beam mode of operation, the bottom edge of the reflector is purposely flexed to achieve a "rising sun" pattern in the beam.

4-6. Reflector Effect on Beam

(figure 4-4)

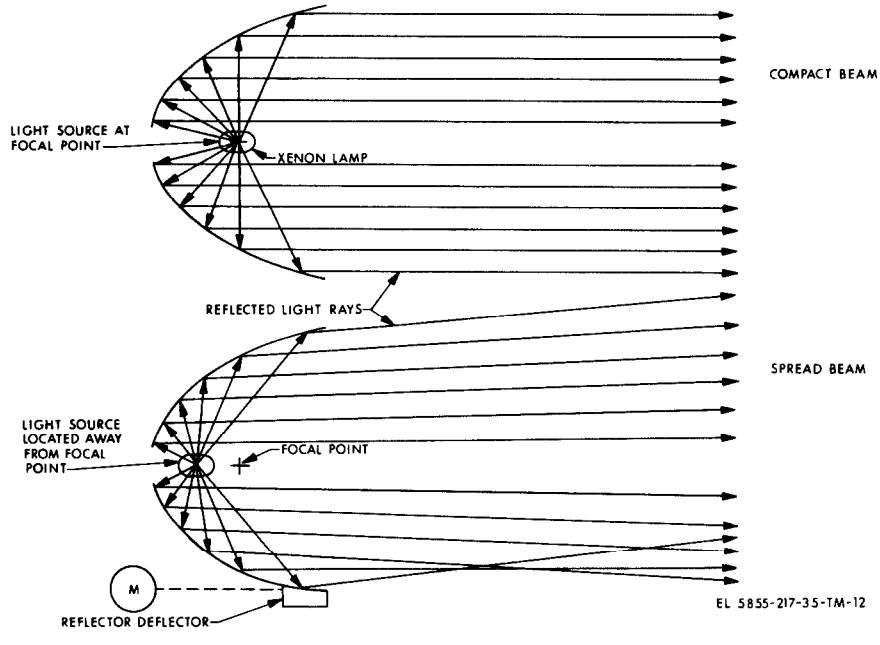


Figure 4-4. Reflector effect on beam.

The parabolic mirror reflector gathers light rays from the xenon lamp and focuses the rays into a beam. The most efficient location for the light source (xenon lamp) is the focal point of the reflector. When the light source is located at the focal point, the reflected light rays are nearly parallel. As the lamp is moved back from the focal point, the light rays are spread because of the change in the angle of incidence (angle at which a light ray from the lamp strikes the reflector). For any light ray, the angle of incidence and the angle of reflection are always equal. Therefore, as the light source is moved back from the focal point, the angles become less resulting in a spread light beam. The light rays that strike the flexed lower portion of the parabolic mirror reflector are reflected in a manner that distorts the circular cone of light into a "rising sun" pattern.

4-7. Measurement of Beamwidth

(figure 4–5)

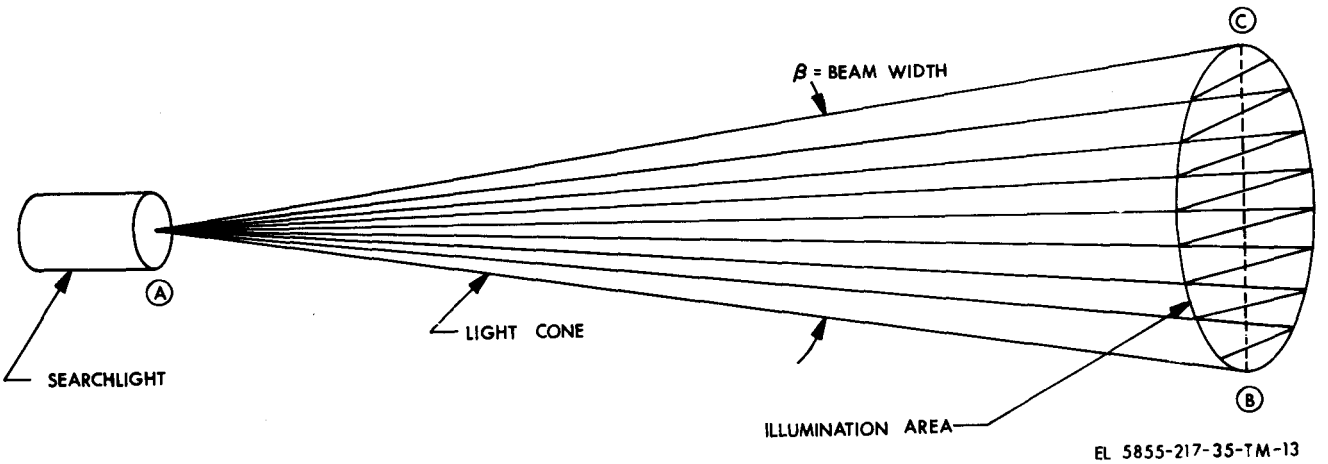


Figure 4-5. Measurement of beamwidth.

a. The light beam, produced by the searchlight, is approximately a circular cone. The inscribed angle of the cone is defined as beamwidth. Since beamwidth is an angle, the unit of measurement is degrees.

b. To estimate the diameter of the illuminated area, at a given distance away from the searchlight, the following formula is useful:

The tangent of beam angle (ß) times the distance between the searchlight and object to be illuminated (AB) equals the diameter of the illuminated area (BC).

Or mathematically:
(tan ß) (AB) ~ BC

Example:
Lß = 1°
AB = 100 meters
(tan ~ (AB) ~ BC
(0.01746) (100m) = 1.746 meters or roughly 2 meters.

The above formula only yields an approximation of illumination area diameter since there is light diffusion and beam distortion due to a variety of causes. Among them, the "rising sun" pattern during the spread beam operation.

4-8. Infrared Filter

(figure 4-6)

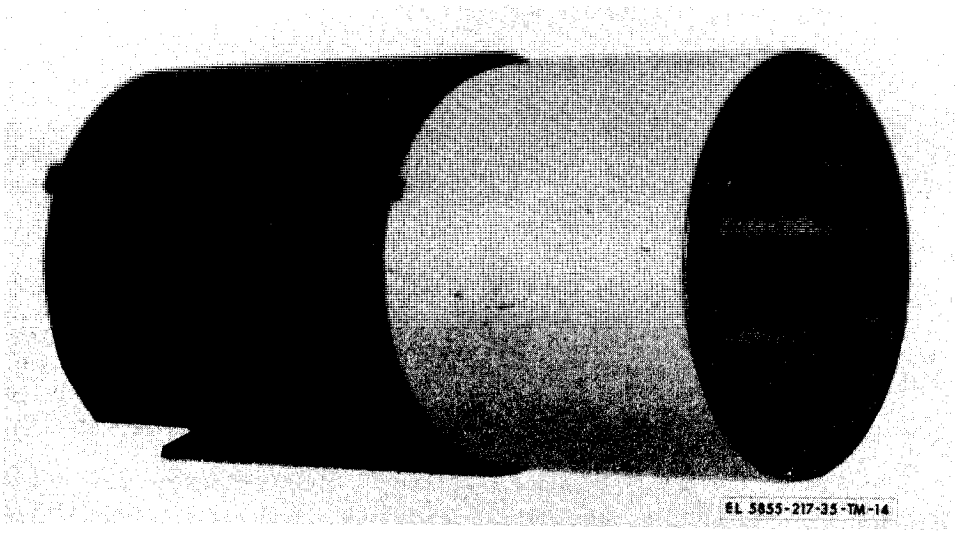


Figure 4-6. Infrared filter.

a. The infrared filter used in the searchlight set is a hollow cylinder which fits over the xenon lamp and blocks the transmission of light energy with wave lengths in the visible light spectrum. The visible light spectrum, those light waves which may be detected by the unaided human eye, includes light waves between 380 and 740 nanometers (10^{-9} meters) in length.

b. The infrared filter motor (B2), in the mode control group, drives the infrared filter completely over the xenon lamp during infrared modes of operation. In visible modes of operation, the infrared filter motor retracts the filter thereby removing the obstruction to visible light being emanated by the xenon lamp.

Section III. CIRCUIT FUNCTIONING OF LAMP IGNITION CIRCUITS

4-9. Booster-Starter

The booster-starter circuit receives input power from the delay turn-off circuit and produces three outputs.

(1) A 120V open-circuit voltage

(2) A 10V booster voltage

(3) A 3500 volt signal to the igniter circuit

The 120 volts charges a capacitor bank. Once the capacitor bank is charged, the booster-starter circuit adds 10 volts to the input voltage and provides 3500 volts to power the igniter circuit. The booster voltage is applied during the ignition period to insure that the lamp ignites at low voltage inputs. After a 4-second delay, this 10-volt boost voltage is removed from the circuit.

4-10. Igniter

The igniter circuit receives a 3500-volt input from the boster-starter circuit. This voltage is stepped up to approximately 40,000 volts which is applied to the xenon lamp. The high voltage ionizes the gases within the lamp to provide a low resistance path between the anode and the cathode. The low resistance path discharges the capacitor bank to assist in providing ignition of the xenon lamp. After capacitor discharge, the line and boost voltage sustain ignition.

4-11. Capacitor Bank

The capacitor bank is charged to 120 volts by the booster-starter circuit. This charging occurs during the first 1.5 seconds after power turn-on. When the xenon lamp gases are ionized by the igniter, the lamp discharges the capacitor bank. During continuous operation, the capacitor bank remains connected across the lamp to aid in filtering voltage variations.

4-12. Sequence of Operation During Lamp Ignition

Sequence of operation	*Circuit operation*
1	Power on.
2	Power to relay K2, but K2 does not energize.
3	Power to pin 1 of booster-starter.
4	Power to 7-second timer; timer starts.
5	Capacitor bank starts charging to +120V supplied by pin 3 of the booster-starter.
6	Capacitor bank reaches 120V.
7	Reed switch in the booster-starter transfers 3500V to pin 1 of the igniter.
8	A capacitor in the igniter charges to 3500V.
9	Capacitor in the igniter discharges across the spark gap through transformer creating 40,000 volts across the lamp electrodes.
10	Xenon gas ionizes.
11	Capacitor bank discharges through the lamp.
12a	If the lamp ignites, the 7-second timer is reset.
12b	If the lamp does not ignite 7 seconds after power turn-on, relay K2 is energized by the timer removing power from the booster-starter if the lamp is defective.
13	Aa the capacitor bank discharges through the lamp, the booster-starter supplies boost voltage of + 10V which is added to the battery voltage and applies across the lamp until the lamp stabilizes.
14	Current flows through the coil of the current sensing switch K4 , resetting the 7-second timer and starting the 4-second timer.
15	After 4 seconds, relay K2 is energized by the 4-second timer removing power to the booster-starter and the igniter.

Section IV. CIRCUIT FUNCTIONING OF LAMP ARC-SUSTAINING CIRCUITS

4-13. Ballast Resistor

The ballast resistor (Rl) is a length of metal strip made of a special alloy formulated to offer nearly-constant linear electrical resistance (ohms per unit length). The ballast resistor is located in the heat exchanger case assembly and is mounted in the air duct so that air currents will carry away the heat radiated by the ballast resistor. The electrical resistance of the ballast resistor is 0.130 ohm. After ignition, the ballast resistor maintains a nearly-constant +22 volts dc across the xenon lamp.

4-14. Capacitor Bank

The capacitor bank consists of six 360 microfarad capacitors (C1 through C6) that are connected in parallel to give a total capacitance of 2160 microfarads. These capacitors are connected across the xenon lamp to filter out battery voltage variations. The capacitor bank is also used to supply a high-surge current to the xenon lamp during lamp ignition.

CHAPTER 5

MODE CONTROL GROUP

Section I. INTRODUCTION

5-1. General

The searchlight function group changes the searchlight beam output from infrared to visible light and varies the beamwidth between the limits of 1° to 7°. Primarily, the searchlight has four operating modes: infrared compact beam, visible compact beam, infrared spread beam, and visible spread beam. However, the beam switch on the control box is spring-loaded and can be adjusted to produce a light beam in between the compact and spread beam modes of operation.

5-2. Modes of Operation

The searchlight set modes of operation are as follows:

a. The searchlight produces a compact beam which originates at the xenon lamp and is projected into a focused beam by the parabolic mirror reflector. The center of the light source (xenon lamp) is located approximately at the center of the parabolic mirror reflector assembly focal point.

b. Spread beam search operation is obtained by relocating the position of the xenon lamp with the focus drive motor (B1). This causes the center of the light source to be a short distance (approximately 0.2 inch) away from the focal point of the parabolic mirror reflection. The focus drive motor also flexes the bottom edge of the reflector to achieve a rising sun pattern in spread beam operation.

c. For infrared operation, the infrared filter is positioned completely around the xenon lamp and blocks the transmission of visible light. The filter motor (B2) controls the position of the infrared filter.

d. For visible light operation, B2 retracts the infrared filter thereby removing the obstruction to visible light.

e. Compact and spread beam modes of operation are the same for visible and infrared light transmission. The reflected light rays are produced at the deflection points which are a function of the distance between the light source and the reflector focal point.

f. The beam switch, located on the front panel of the control box, is spring-loaded and can be adjusted to achieve a variable beam in between the compact and spread beamwidths.

Section II. CIRCUIT FUNCTIONING OF MODE CONTROL CIRCUITS

5-3. Infrared Filter Assembly

a. The infrared filter motor (B2) controls the position of the infrared filter. In the visible mode of operation, the motor retracts the filter to allow the passage of visible light. In the infrared mode of operation, the motor reverses direction and drives the filter completely over the xenon lamp. When the equipment is turned off, the filter motor places the infrared filter around the lamp to act as a

shield in case the lamp explodes and to prevent accidental visual light emission when the searchlight is turned on again.

b. Switch S1 and S2 are limit switches actuated by mechanical stops mounted on the infrared filter drive gear. In the INFRA RED position, S1 is actuated, connecting contact C (common) to the NO (normally open) contact. In the VISIBLE position, S2 is actuated, connecting contact C to the NO contact. During mode change, both switches are in the C to NC position. (Figures 5-2 through 5-6.)

5-4. Focus Motor Assembly

a. The focus motor assembly controls the searchlight beamwidth in either the infrared or visible mode. In the compact beam mode of operation, the xenon lamp is located at the focal point of the parabolic mirror reflector. In the spread beam mode of operation, the focus motor moves the xenon lamp a short distance away from the reflector focal point and flexes the bottom of the reflector.

b. The focus motor assembly consists of focus motor B1, fuse F2, limit switch A1S5, reflector-deflector subassembly, and mechanical linkage for xenon lamp positioning.

c. Focus motor B1 is controlled by switch A2S3 in the control and test group. Two eccentrics, one on either end of the motor shaft, translate the rotary motion of B1 to back and forth motion to move the lamp and reflector-deflector axially. Wafer switch S5 is also mounted on the motor shaft. Focus motor (B1) only turns in one direction.

5-5. Mode Switching Table

The mode switching table (table II) explains the method of mode switching used in the searchlight set. The action column in the table lists the action, by the operator, on the control switches. The result column lists the automatic switching that takes place, during mode change, as a result of the listed action. The reference figure column references figures that illustrate the corresponding action and result.

Table II. Mode Switching

Action	*Result*	*Reference figure*
None	Searchlight set is off. Infrared filter covers xenon lamp, Power switch S2, Control switch S1, Infrared limit switch S1 and Visible limit switch S2 is in normal off position. K1 relay is also deenergized.	5-1
Power switch S2, switching to INFRARED (from OFF)	Searchlight set is on. Infrared filter covers lamp. Infrared limit switch S 1 to pin NO. K1 energized Positive power through the power switch S2-pin 9 to S2-pin 8, Control switch S1-pin 3 to pin 1D, Visible limit switch S-2, pin NC to pin C, (F1) and one side of filter motor. Since other side of B2 is also connected to positive power through IR limit switch S1 pin NO to CR3. Voltage across motor B2 is zero and motor does not turn.	5-2
Power switch S2 to VISIBLE	At start: Filter covers lamp, Infrared limit switch S1 is actuated by mechanical stop. Positive power is supplied to B2 through K1-A1, K1-A2, power switch S2-pin 1 to S2-pin 2, Control switch S1-pin 3 to S1-pin 1C and IR limit switch S1-pin NC.	5-3
	Negative power supplied to B2 through Visible limit switch S2-pin C, to S1-pin NC, Control switch S1-pin 1D to pin 3, Power switch S2-pin 8 to S2-pin 7. Voltage across motor: Motor starts to turn.	
	During filter retraction, B2 turns, mechanical stop releases IR limit switch S1 and switches positive power to motor through IR limit switch S1-pin C to S1-pin NC, Control switch S1-pin 1C to S1-pin 3, and Power switch S2-pin 2 to S2-pin 1, K1-A2 and K1-A1.	
	Filter completely retracted; mechanical stop actuates visible limit switch S2. Negative power is removed from motor (-); motor (-) is connected to positive power through Visible limit switch S2-pin NC. Since both sides of B2 are connected to positive, voltage across B2 is zero and motor stops. Searchlight is in the visible mode.	5-4

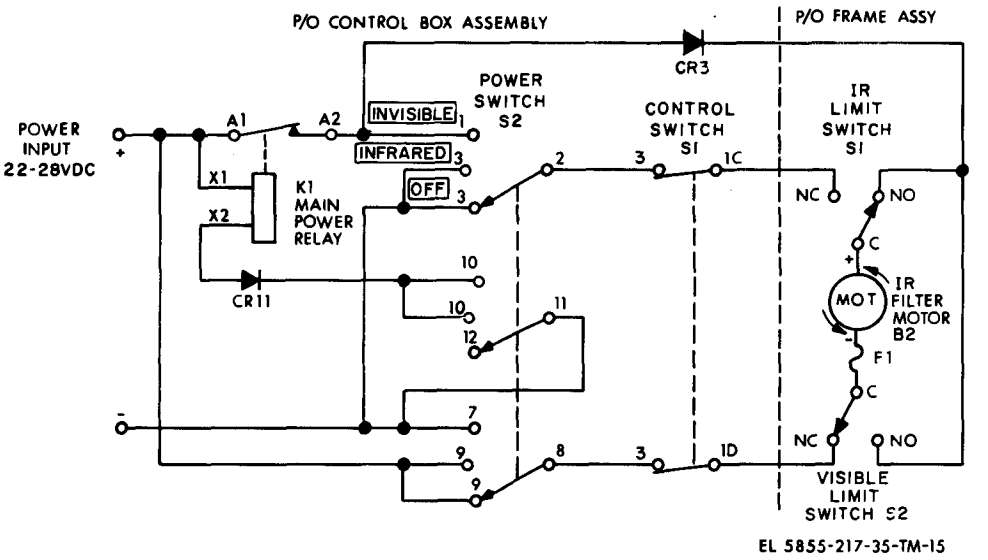


Figure 5-1. Limit switch diagram, in off mode.

Table II. Mode Switching - continued

Action	*Result*	*Reference figure*
Power switch S2 to INFRARED (from VISIBLE)	At start: filter retracted, visible limit switch S2 actuated by mechanical stop. Positive power supplied to B2 (-) through F1, visible limit switch S2-pin C to S2-pin NO, CR3, K1A2 and K1Al. Negative power supplied through IR limit switch S1-pin C and pin NC, control switch S1-pin 1C, and S1-pin 3, and power switch S2-pin 2, and S2-pin 3. Voltage across motor; motor starts to turn. *Filter starts to cover lamp.* B2 turns: mechanical stop releases visible limit switch S2; visible limit switch S2 switches positive power to B2 through visible limit switch S2-pin C and S2-pin NC, control switch S1-pin ID and S1-pin 3, power switch S2-pin 8 and S2-pin 9.	5–5
	Filter completed covers lamp. Mechanical stop actuates IR limit switch S1 removing negative power stopping motor. Searchlight is in infrared mode.	5–2
Power switch S2 to OFF (from VISIBLE)	*At start:* filter retracted visible limit switch S2 actuated by mechanical stop. Negative power supplied to B2(+) through IR limit switch S1-pin C, to S1-pin NC, Control Switch S1-pin 1C to S1-pin 3 and power switch S2-pin 2 to S2-pin 3. Since it is necessary to pass through the INFRARED position, positive power is momentarily supplied to B2 (-) through Fl, visible limit switch S2-pin C to S2-pin NC, CR3, and K1A2, visible limit switch S2 is released by mechanical stop; power switch S2 is now in OFF position. Relay K1 deenergizes *Filter Starts to cover lamp.* Positive power is supplied to B2(-) through visible limit switch S2-pin C to S2-pin NC, Control switch S1-pin 1D to S1-pin 3. Power switch S2-pin 8 to S2-pin 9. B2 turns.	5–6
	Filter completely covers lamp. Mechanical stop actuates IR limit switch S1 removing negative power from B2 (+). B2 stops. Searchlight is now turned off and filter covers lamp.	5-1

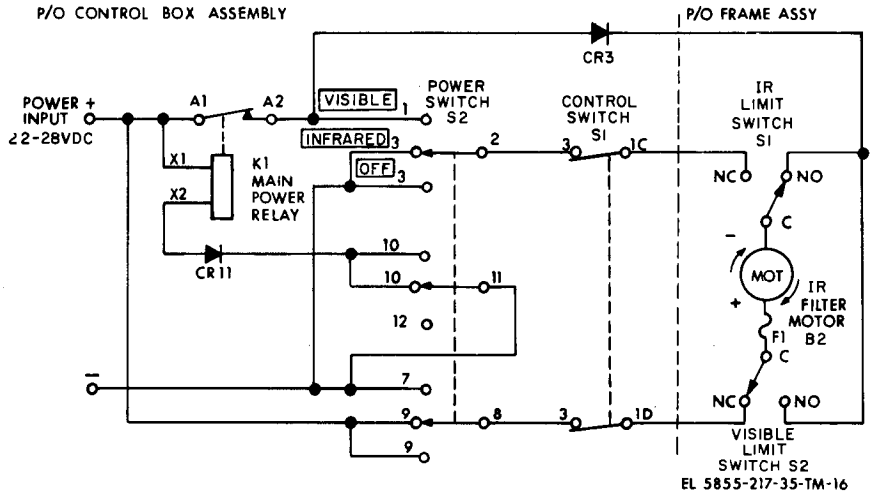


Figure 5-2. Limit switch diagram in infrared mode.

Table II. Mode Switching-continued

Action	*Result*	*Reference figure*	*Action*	
SPREAD BEAM/ COMPACT BEAM switch in COMPACT BEAM position	Xenon lamp located at approximately the focal point of reflector. Reflector-deflector not engaging reflector. S5 has broken positive power connection.	5-7A	COMPACT BEAM switch in SPREAD BEAM position	(+) through S5-1, S5-2, S3-1, S3-2, S1-3, S1-1G, K1-A2, K1-A1. B1 rotates; top eccentric moves xenon lamp away from focal point. Bottom eccentric pushes reflector-deflector against reflector.
SPREAD BEAM/	Positive power supplied to B1	5-7B		

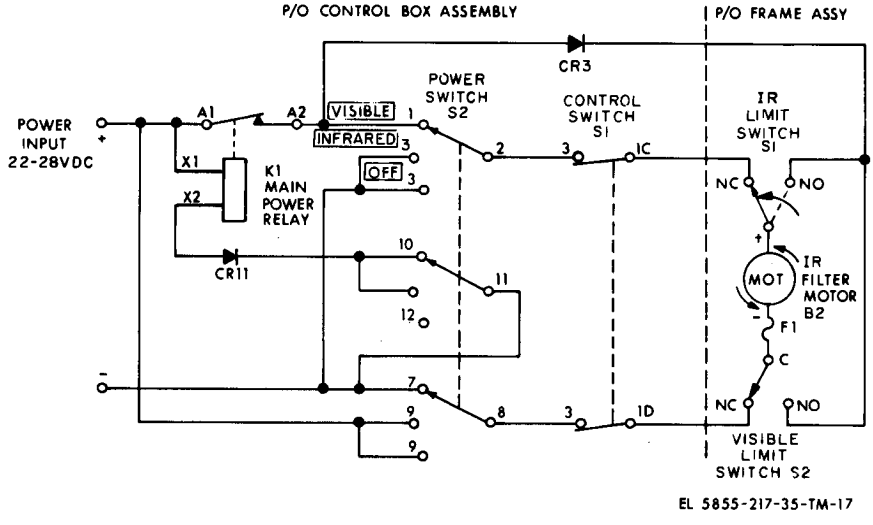


Figure 5-3. Limit switch diagram, to visible from infrared mode.

Table II. Mode Switching-continued

Action	Result	Reference figure
	Wafer switch S5 rotates with B1. Motor continues to rotate until contacts between S5-2 and S5-1 are broken.	
S5 breaks between contact 2 and 1	B1 stops, leaving S5-1 connected to S5-3. Xenon lamp is moved to the limit of travel away from the focal point. Reflector-deflector flexes bottom of reflector. Beam will stay spread until S3 is moved to COMPACT position.	5-7C
SPREAD BEAM/	Positive power supplied to B1 through S5-1, S5-3, S3-3, S3-2, S1-3, S1-lG, K1-A2, K1-A1. B1 repositions the xenon lamp at focal point and retracts reflector-deflector from the reflector allowing reflector to return to original shape (a parabola). Motor continues to run until contact is broken between S5-1 and S5-3.	5-7B
COMPACT BEAM switch to COMPACT BEAM (from SPREAD BEAM)		
S5 breaks between contacts 1 and 3	B1 stops. Searchlight has returned to compact beam configuration.	5-7A

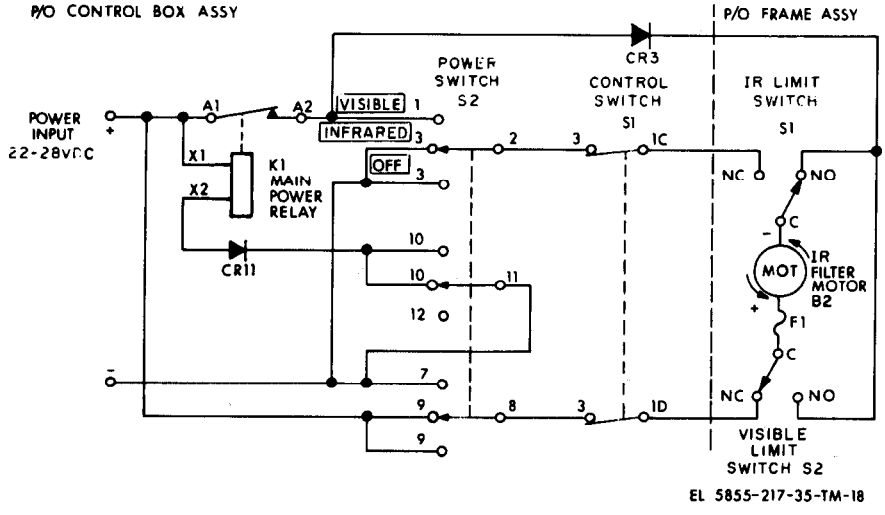


Figure 5-4. Limit switch diagram, visible mode.

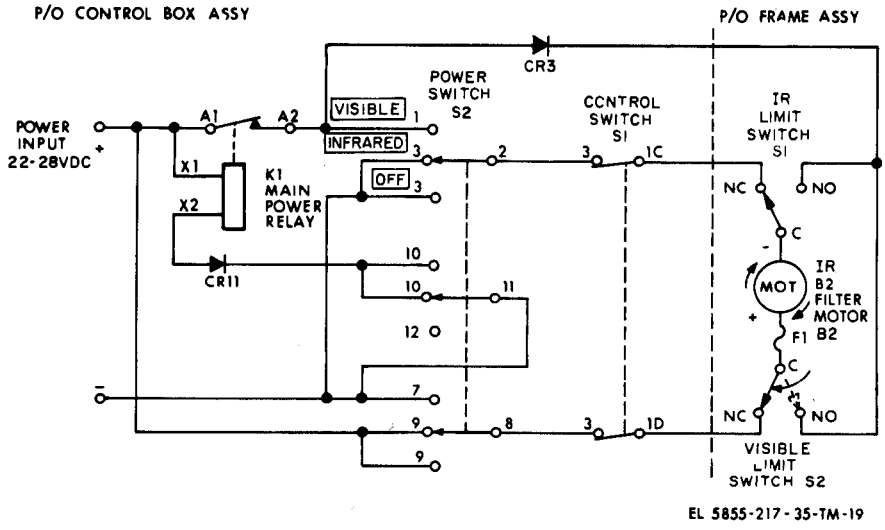


Figure 5—5. Limit switch diagram, to infrared from visible mode.

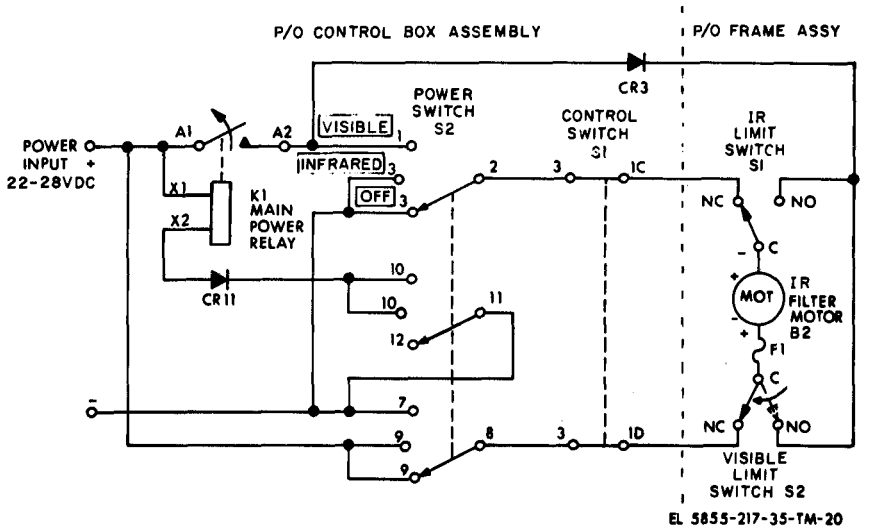


Figure 5-6. Limit switch diagram, to off from visible mode.

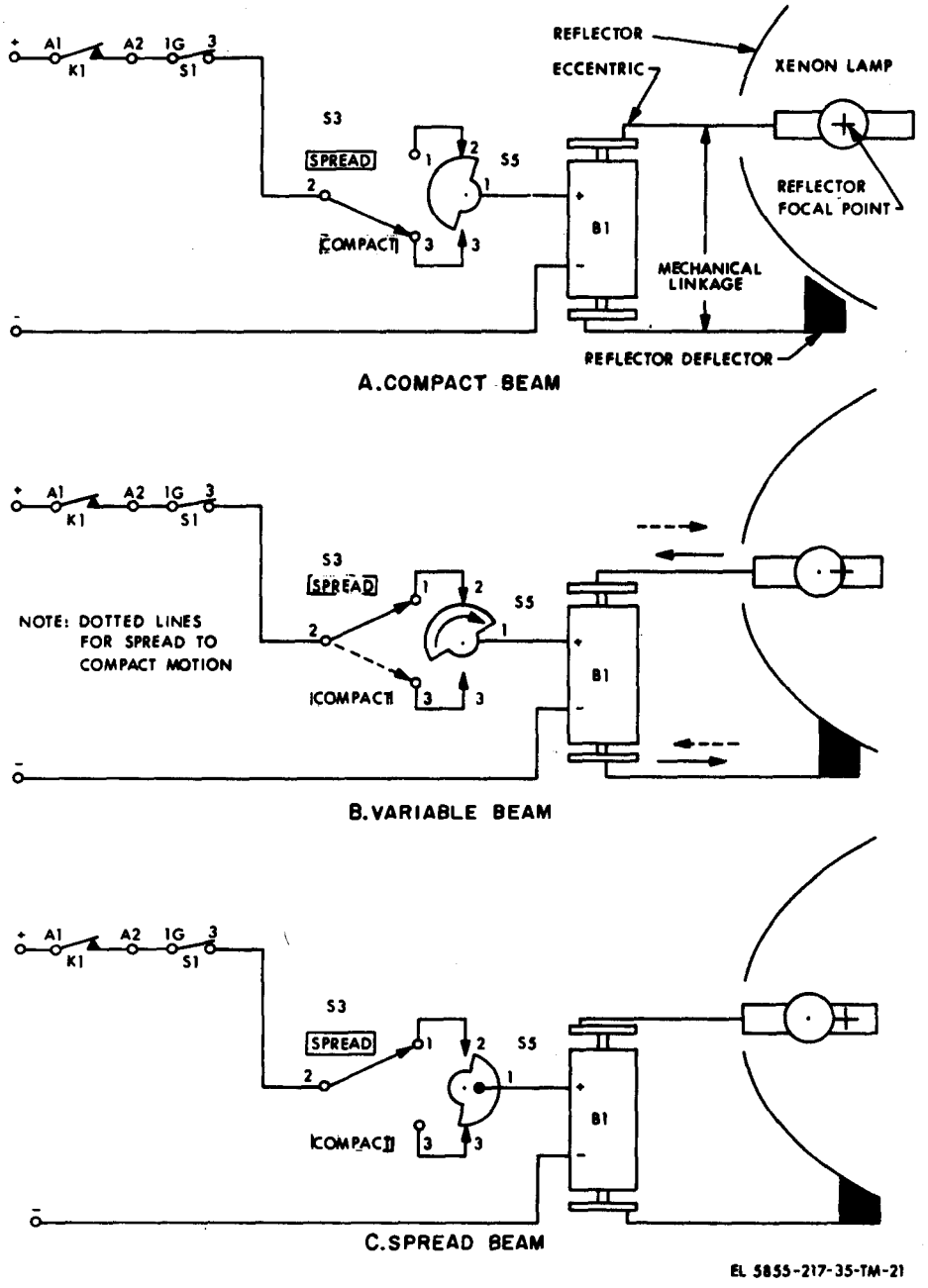


Figure 5–7. Searchlight beam control diagram.

CHAPTER 6

COOLING SYSTEM GROUP

Section I. INTRODUCTION

6-1. General

The cooling system group provides air-to-air cooling of the searchlight and monitors the ambient temperature of the xenon lamp. If the temperature of the lamp is too high, the cooling system group warns the operator of the oven-temperature condition by lighting the OVER TEMP indicator located on the front panel of either the control box or the remote control box whichever is in use. The temperature control group includes the heat exchanger assembly, blower motor assembly, thermostatic switches, and the OVER TEMP indicator.

6-2. Block Diagram Discussion

(figure 6–1)

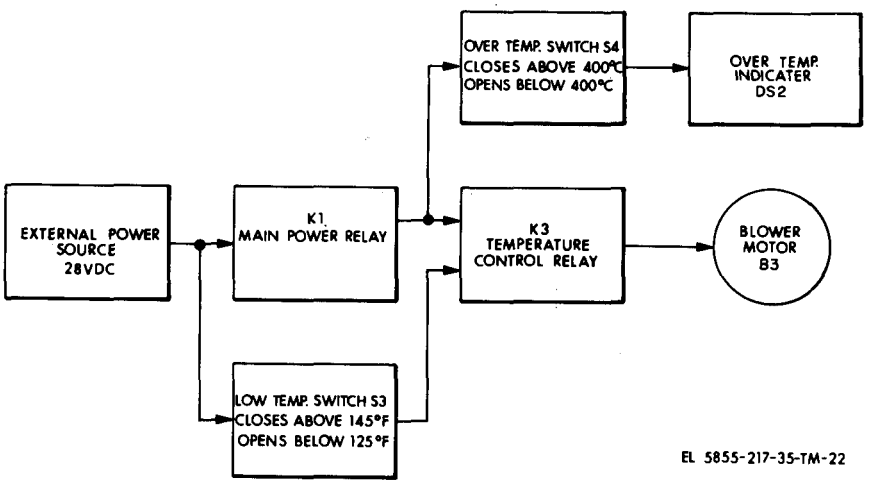


Figure 6-1. Temperature control group block diagram.

a. When the searchlight set is turned on, the main power relay (2A1K1) energizes and supplies power to the blower motor (1A3B3) through the temperature control relay (2A1K3). After the ambient temperature of the searchlight reaches +145°F, the thermal switch (1A2S3) closes, bypassing relay 2A1K1 and powering the blower motor through relay 2A1K3 directly from the external power source.

b. When the searchlight set is turned off, the blower motor continues to operate until ambient temperature drops to + 125° F. At this temperature, thermal switch 1A2S3 opens, deenergizing 2A1K3 which switches the blower motor back to 2A1K1. Since 2A1K1 is deenergized, the blower motor shuts off until the searchlight set is turned on again.

c. The thermal switch (1A2S4) controls the lighting of the OVER TEMP indicator. If the ambient temperature exceeds +400° F, switch S4 closes turning on the OVER TEMP indicator. After the OVER TEMP indicator lights, it is the operator's responsibility to turn off the equipment until the blower motor can cool the components. Switch 1A2S4 will not open until the ambient temperature drops below +340°F. When switch 1A2S4 opens, the OVER TEMP indicator is extinguished indicating to the operator that the equipment is cool enough to operate without damage.

NOTE

The OVER TEMP indicator is also extinguished by turning off the searchlight set power.

Section II. COMPONENT FUNCTIONING OF COOLING SYSTEM COMPONENTS

6-3. Heat Exchanger Assembly

a. The heat exchanger assembly is located in the rear cover assembly, figure 6-2. The heat exchanger assembly provides air-to-air cooling of the searchlight interior through finned heat sink tubes located in the rear cover assembly. The assembly consists of two blower wheels driven by the blower motor (1A3B3); eight hollow finned heat sink tubes, a plenum chamber, and air ducts to direct the air flow.

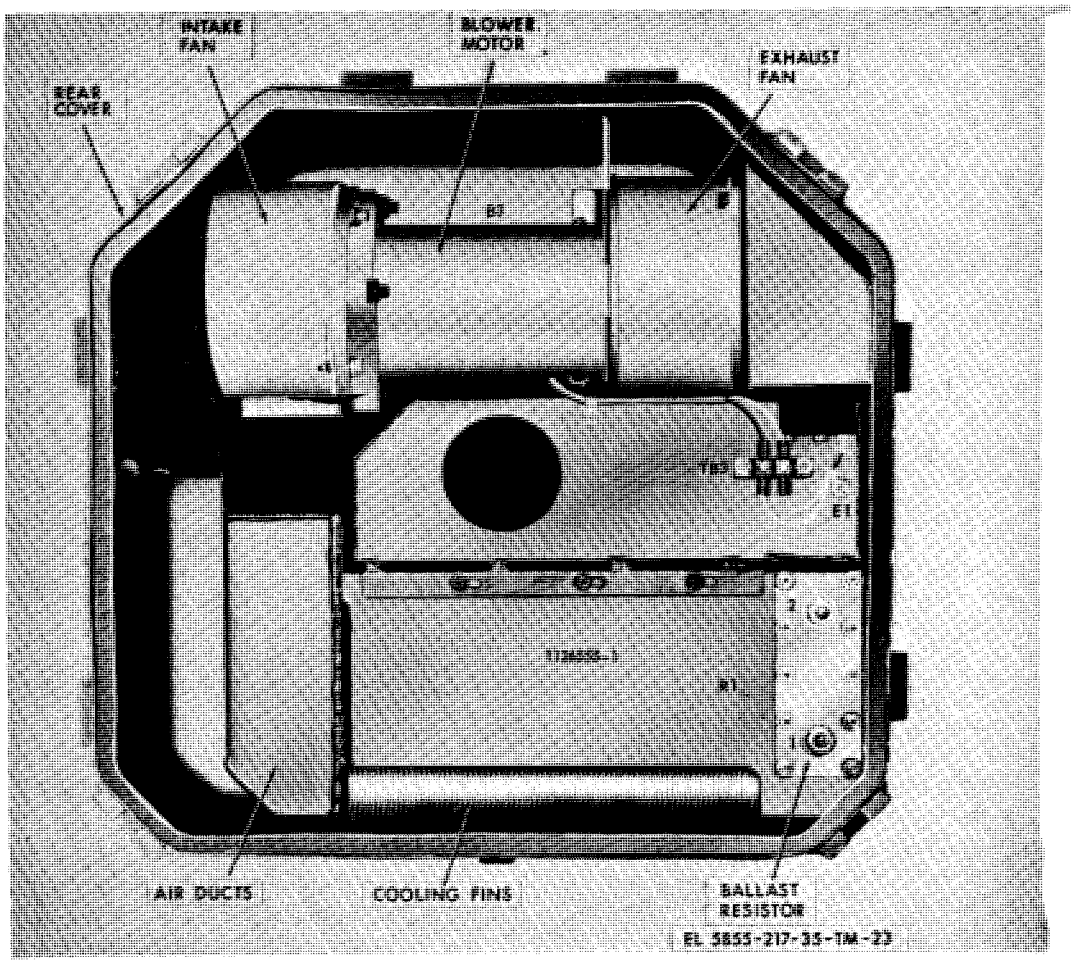


Figure 6-2. Rear cover assembly.

b. Outside cool air is drawn into the searchlight through the intake duct by a blower wheel. The outside air is then forced through the heat sink tubes and out the exhaust duct by the blower wheel thus carrying away heat radiated into the air flow by the inside wall of the heat sink tubes (figure 6-3) .

c. Inside air is drawn into the plenum chamber by the other blower wheel. From the plenum chamber, the air is directed around the xenon lamp and heat sink tubes. Heat from the interior air is absorbed by the heat sink tubes and radiated out the inner wall of the tubes as shown in figure 6—4.

6-4. Blower Motor Assembly

a. The blower motor (B3) is a dc motor which turns at 7500 revolutions per minute (rPm) plus or minus 1000 rpm. A 5 amp steady-state. current is required for operation. Power for the blower motor is supplied through the temperature control relay (K3) from the main power relay (K1). After the ambient lamp temperature has reached +145°F, the low temperature thermostat (S3) closes, bypassing K1 and powering the blower motor directly from the vehicle power supply through K3.

b. Two blower wheels, one mounted on each end of the motor shaft, circulate air through the cooling system as shown in figure 6-4 and described-in paragraphs *6-3a, b, c.*

6-5. Thermostatic Switches

The high and low temperature switches (S3 and S4) (thermostats) are mounted inside the biped support next to the xenon lamp. Each thermostat contains a set of switch contacts actuated by temperature. Switch S3 closes on temperature rise at 145°F ±5° and opens on temperature fall at 125°F ±8°. Switch S4 closes on temperature fall at 340°F ±18°F. Switch S3 bypasses the main power relay and, when the searchlight set is turned off, continues to supply power to the blower motor until the blower motor can cool the searchlight. Whenever the equipment overheats, switch S4 turns on the OVER TEMP indicator which is located on the front panel of the control box.

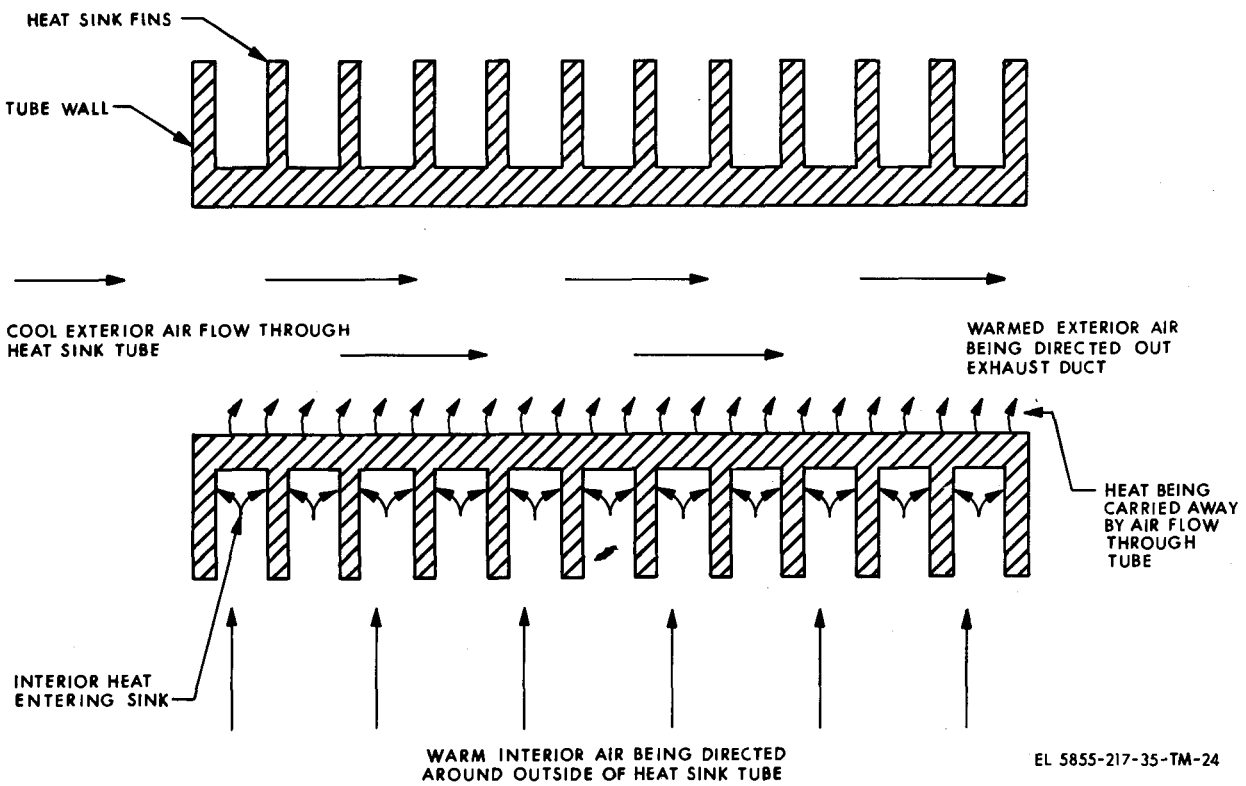


Figure 6-3. Heat sink tube cross section.

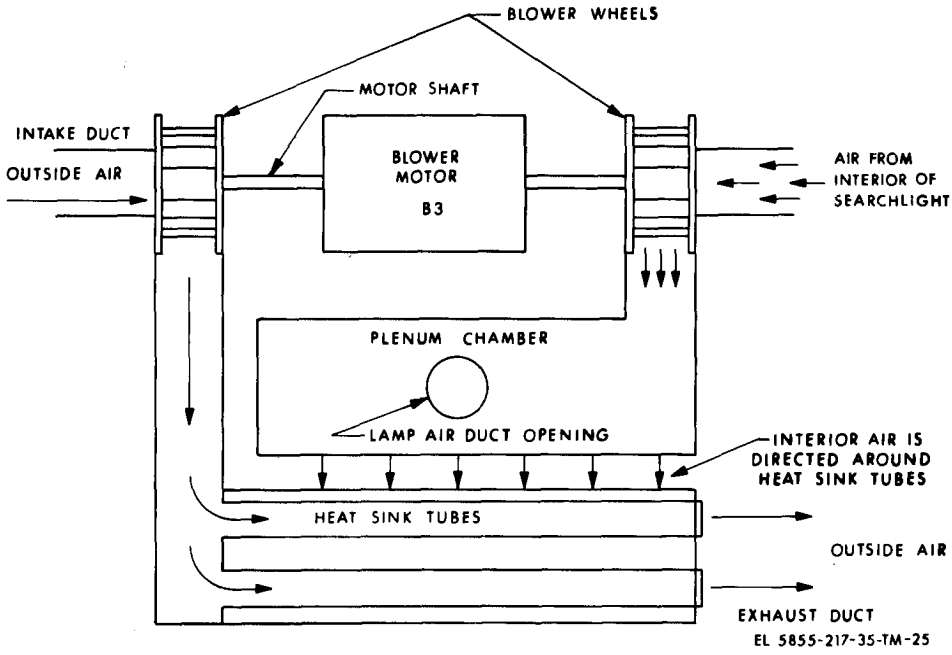


Figure 6-4. Heat exchanger airflow.

CHAPTER 7

GENERAL MAINTENANCE INFORMATION

NOTE

This chapter contains information pertinent to field and depot maintenance. The amount of repair that can be performed by units having field and depot maintenance responsibility is limited by the tools, test equipment, replacement parts that are available, and the skill of the individual repairman.

Section I. INTRODUCTION

7-1. Scope

a. The information contained in this chapter is presented to aid the repairman in detecting abnormal operation, locating and correcting the cause of the abnormal operation, and checking the serviceability of repaired equipment in the minimum amount of time. Instructions for performing preventive maintenance of the searchlight set are contained in the organizational maintenance manual, TM 11-5855-217-12. This information is to be used to keep the searchlight in suitable working order so that breakdowns and needless interruptions in operation will be minimized.

b. Troubleshooting charts contained in this part of the manual indicate normal and abnormal operation and reference paragraphs that contain further troubleshooting and repair procedures to be followed in the event of abnormal operation. When required, preliminary control settings or equipment preparation for troubleshooting procedures are listed immediately before the troubleshooting chart to which they apply.

c. The troubleshooting charts contained in this chapter, along with the location (by paragraph number) of the charts, are listed below:

Chart	*Chart location*
Troubleshooting chart based on starting procedure	paragraph 8-6
Control box symptom troubleshooting chart	paragraph 8-12
Searchlight symptom troubleshooting chart	paragraph 8–20
Heat exchanger symptom troubleshooting chart	paragraph 8-24

Each troubleshooting chart, with the exception of the troubleshooting chart based on starting procedure, covers a major component of the searchlight set.

d. The following information is included to aid in correcting equipment trouble causing faulty operation.

(1) Corrective measures are given in each troubleshooting chart.

(2) Instructions for the removal and replacement of parts are given in Chapter 9.

(3) Instructions for performing adjustment procedures after removal and replacement of parts in the searchlight will be found in paragraphs 8-28 through 8-30.

e. To check the serviceability of repaired items of equipment, perform the operating checks sequence of the weekly preventive maintenance checks and services chart located in the operator and organizational maintenance manual, TM 11-5855-217-12.

7-2. Troubleshooting Techniques

a. Introduction. To locate and repair a trouble quickly and with a minimum of labor, it is necessary to use a systematic technique. It is seldom possible to observe an abnormal condition and immediately diagnose the cause. Generally, it is necessary to follow a detailed sequence of checks, observations, and measurements to properly isolate and correct the cause of malfunctions. The technique to be used in troubleshooting the searchlight set is commonly referred to as sectionalization, localization, and isolation. The resistor-capacitor color code chart (fig. 10-5) aids in identifying color coded resistors and capacitors.

b. Sectionalization. The first step in the logical search for trouble causing parts is to sectionalize the trouble to a particular major component of the searchlight set. Sectionalization can be accomplished through visual and operational checks and measurements contained in the troubleshooting chart based on starting procedure. (Refer to paragraph 8–6.)

c. Localization. After sectionalization, the troubleshooting chart based on starting procedure will refer to a major component troubleshooting chart or section. The referenced troubleshooting chart or section will localize the trouble to a portion of the major component.

d. Isolation. After trouble has been localized to a portion of the major component, use visual inspection, voltage and resistance measurements, and parts substitution to isolate the defective part.

7-3. Troubleshooting Data

a. General. In addition to the troubleshooting charts, other troubleshooting data are supplied to help the repairman rapidly locate trouble. The following types of troubleshooting data are supplied and should be consulted when necessary.

b. Searchlight Set Block Diagram. Chapter 2 contains a block diagram and a discussion of the functions of the groups illustrated on the block diagram. By observing the symptoms of trouble and reasoning possible causes, it is often possible to trace the cause of faulty operation to a particular block. Each block functionally represents certain circuits and their interrelationships.

c. Cabling Diagram. A diagram of the power cable shows the wiring between connection pins. This diagram is useful in checking cable continuity.

d. Complete Wiring and Schematic Diagrams. Complete wiring and schematic diagrams are provided for the searchlight set. These diagrams show all electrical interconnections between the major components and identify the various terminal connections. The diagrams are useful when troubleshooting and isolating circuit problems.

e. Reference Designation Location Chart. To aid in parts location, a block of reference designation numbers and letters has been assigned to each section of the searchlight set. This reference designator location chart may be found in paragraph 7–4.

7-4. Reference Designation Data

To aid in parts location, a block of reference designators has been assigned to major components, assemblies and subassemblies of the searchlight set. *For example,* cable connector J1 on the support assembly, is designated as 1A2J1. The following chart lists the block of reference designators assigned to major components, assemblies, and subassemblies.

Reference designator	*Equipment description*
1	Searchlight. Infrared, MX-8272/VSS-3
1A1	Housing, Searchlight Subassembly
1A2	Support Assembly, Searchlight
2	Control. Searchlight Set C-7905/VSS-3 (control box)
2A1	Control Subassembly
2A1A3	Circuit Card Assembly, Timer-CB
3	Control. Searchlight Set C-7906/VSS-3 (remote control box)
4W	Cable Assembly, Power, Electric, CX–11893/VSS–3

7-5. Voltage and Resistance Measurements

a. Voltage and resistance measurements are an aid in determining circuit conditions and in evaluating clues during the course of troubleshooting.

NOTE

The voltage measurements are approximate values that may be used in determining normal circuit operation. Resistance measurements should be made with 100,000 ohms per volt meter. The primary function of a resistance check is to determine that there is electrical continuity between the component circuits.

b. Observe the following precautions before making resistance checks:

(1) Turn off input power.

(2) Discharge high-voltage capacitors inside control box by placing 1,000-ohm resistor across pins B and T of connector J3 at the control box front panel.

(3) After completing resistance checks, make sure all electrical cabling has been properly connected before turning on power.

c. Disconnect the power cable that connects the control box to the searchlight before checking resistances and voltages in side the control box or the remote control box.

7-6. Cable Check and Repair

a. Continuity. When measuring for continuity, the ohmmeter leads sometimes are not long enough to be connected to the cable end. The following procedure is given as a convenient method for determining the condition of a cable.

(1) Place a resistor of known value (50,000 ohms or more) from one end of the cable to ground.

(2) Connect ohmmeter leads between the cable and ground at other end of cable.

(3) If meter indicates approximately 50,000 ohms, the cable has continuity.

(4) If meter indicates infinite resistance, the cable is open.

(5) If meter indicates zero resistance, the cable is shorted to ground.

(6) If meter indicates much less than 50,000 ohms, but not necessarily zero, the cable has dc leakage path to ground.

NOTE

Measure the resistance of each cable wire that is connected to the cable harness connector.

b. Repair. The power cable cannot be repaired; it must be replaced. Clean connector pins with alcohol and a stiff bristle brush.

7-7. Parts Substitution

a. Do not substitute parts indiscriminately. Substitute only when all of the following conditions are satisfied:

(1) The trouble has been isolated to a specific subassembly or part.

(2) All voltage readings are normal.

(3) All resistance readings are normal.

b. When all other possibilities of trouble are ruled out, substitute a known good part for the one which is suspected of being defective.

7-8. Intermittent Troubles

a. If the operation of a part is intermittently faulty, the trouble may be difficult to locate when the part is functioning normally. Such trouble can often be found by lightly tapping the suspect part, or parts, with a nonmetallic pencil or insulated rod and, at the same time, observing the resistance or voltage measurement, that is suspected of being incorrect.

b. Intermittent operation can be caused by loose connections, broken wires, or parts with internal defects. Sometimes intermittent troubles can be located by observing erratic behavior of one of the controls.

Section II. TOOLS AND TEST EQUIPMENT REQUIRED FOR FIELD AND DEPOT MAINTENANCE OF SEARCHLIGHT SET, INFRARED AN/VSS-3

7-9. Tools and Materials Required

The following tools and materials are not supplied with the searchlight set, but are required for field and general maintenance of the searchlight set.

Quantity	*Tool/Material*
1	Dental mirror
1	Long-nose pliers
1	Blade-type screwdriver
1	Phillips-type screwdriver
1	Box of optical tissue

1 ..... Electric drill
1 ..... Soldering iron, 20-watt max
1 ..... Solder roll (SN 60/40)
1 ..... Wrench. adjustable to 3/8-in.
1 ..... Socket wrench set
1 .....Pair of white gloves
1 ..... Drill bit, l/16-in., +0.003, -0.000
1 ..... Drill bit, l/8-in., +0.003, -0.000
A/R ..... Denatured alcohol or acetone

7-10. Test Equipment Required

The following test equipment is required for troubleshooting the searchlight set when using the troubleshooting chart based on the starting procedure.

Test equipment	*Common name*	*Technical manual/FSN*
Multimeter AN/USM–223	Multimeter	6625–999–7465
Power Supply PP–1656/G	Power supply	6130-985-8130
Stopwatch	Stopwatch	6645–719–8760
Tool Kit TK–100/G	Tool kit	5180-605-0079
Leather Blacksmith Apron	Leather apron	8415–234–9254
Faceshield	Faceshield	4240–965–1 269
Asbestos Gloves	Asbestos gloves	8415–564–5191

Section III. SPECIAL CLEANING PROCEDURES

7-11. Scope

a. This section contains the information necessary to perform effective cleaning procedures on the searchlight set. To ensure best performance, cleaning procedures should be performed under the best attainable conditions of cleanliness. Even though special cleaning procedures do not require the use of cleanroom facilities, they should be performed in a clean environment.

NOTE
All parts are to be cleaned after disassembly so that they may be inspected for serviceability prior to reassembly.

b. Paragraph 7-12 covers materials required for cleaning; paragraph 7-13 covers cleaning of exterior surfaces; paragraph 7-14 covers cleaning of the interior; paragraph 7-15 covers cleaning of electrical connections; paragraph 7-16 covers cleaning of interconnecting cables; and paragraph 7-17 covers cleaning of optical surfaces.

7-12. Materials Required

The following materials are required to perform the special cleaning procedures found in this section:

a. Soft, clean cloth

b. Soft-bristled brush

c. Lens-tissue (FSN7920 965–1709)

d. Soap water (USP)

e. Nonabrasive detergent solution

f. Distilled water

g. Toluene (ASTM 842), or equivalent

h. Acetone (chemically pure), hexane, isopropyl alcohol, or equivalent approved solvents

i. Low-pressure air hose

j. Low-pressure water hose

7-13. Cleaning Exterior Surfaces

a. General

CAUTION
Avoid cleaning exterior surface with a powerful stream of water such as that from a

high-pressure hose even though the heat exchanger case assembly is considered to be weatherproofed when attached to the searchlight.

(1) Wash the exterior with a low-pressure hose or by using buckets of fresh water.

(2) If dirt is difficult to remove, use a damp cloth or sponge and mild soap. Then, flush with fresh water and wipe surface completely dry.

(3) When the exterior surface contains only dust or loose dirt, wipe the surface with a clean soft cloth.

(4) Remove grease, fungus, and ground-in dirt from the surface by using a cloth dampened (not wet) with diluted isoproply alcohol. Then, flush exterior surface with fresh water and wipe dry.

b. Cleaning Metal Surfaces. Painted metal surfaces may be cleaned with toluene (ASTM 842) or equivalent. Unpainted metal surfaces may be cleaned with acetone (chemically pure), hexane, isopropyl alcohol, or equivalent approved solvents. Proceed as follows:

CAUTION

Solvents shall be used in a well ventilated room. Care shall be taken to avoid solvent contact with personnel.

(1) Saturate a soft, clean cloth with appropriate solvent and wipe surfaces to be cleaned making certain that surface is-thoroughly wetted.

CAUTION

Do not dip cloth into solvent supply. Use clean cloths as necessary.

(2) Wipe solvent-wetted surfaces dry using a soft, clean, dry cloth.

CAUTION

Surfaces must be wiped dry. Solvent must not be allowed to evaporate from surfaces.

7-14. Cleaning Interior Surfaces

Clean interior surfaces with a soft-bristled brush or dry, clean cloth. Remove any foreign material (dirt, grease, metal particles. Take care not to damage any internal components.

CAUTION

Do not use water or ethyl alcohol on the interior of control box, remote control box or searchlight frame. Do not clean indicator light lens with" ethyl alcohol. Never submerge in water or solvent.

7-15. Cleaning Electrical Connections

WARNING

To be usable for cleaning, the compressed air source must limit the nozzle pressure to no more than 29 pounds per square inch gauge (PSIG). Goggles must be worn at all times while cleaning with compressed air.

Remove loose dust, lint, and other foreign material from the electrical assemblies such as terminal boards, etc., using low-pressure compressed air.

NOTE

If compressed air is not available, a soft-bristled brush may be used to carefully remove loose foreign matter.

Remove corrosion from soldered connections and electrical contacts using ethyl alcohol (USP) and a small bristle brush. Blow loosened corrosion materials away with low-pressure compressed air.

7-16. Cleaning interconnecting Cables

Using a soft wet cloth, wipe rubber cable body free of mositure and dirt.

Clean adapter and connector pins with ethyl alcohol and stiff brush.

Wipe adapter body and face with clean soft cloth and ethyl alcohol. Dip female connector into clean water to remove deeply imbedded dirt.

7-17. Clening Optical Surfaces

To clean the searchlight lens, infrared filter, and mirror, proceed as follows:

CAUTION

Wiping or bruching must be performed carefully in order to avoid scratching or otherwise darnaging surfaces.

a. Form a pad of lens tissue (FSN7920 %5-1709) saturated with soap water (USP) and wipe the surface with gradual even strokes.

CAUTION

Swab or tissue should not be dipped into water supply, and should be discarded when soiled.

b. Foreign material that is not removed by soap and water may be removed with a nonabrasive detergent solution.

c. Remove loose lint or dust from surfaces with low-pressure compressed air or soft lens brush.

CHAPTER 8

TROUBLESHOOTING AND REPAIR OF THE SEARCHLIGHT SET

Section I. TROUBLESHOOTING BASED ON STARTING PROCEDURE

8-1. General

The troubleshooting chart based on starting procedure (paragraph 8-6) will aid in detecting abnormal operation of the searchlight set and in locating faulty parts that cause abnormal operation.

a. Follow the step-by-step starting procedure while carefully observing the normal indications listed for each step.

b. If the normal indications are not obtained, observe the abnormal indications and check the *abnormal indications* column for the particular abnormal indication obtained.

c. Perform the checks or refer to the component symptom troubleshooting charts listed in the *corrective measures* column for the particular abnormal indication obtained.

d. Replace faulty parts before continuing with subsequent procedures in the troubleshooting chart .

8-2. Reference Data

The following data is supplied as an aid to the repairman during troubleshooting.

Data	*Reference*
Fuses	Paragraph 8–3
Control box troubleshooting and repair	Paragraph 8–7 to 8–12
Remote control box troubleshooting and repair	Paragraph 8–13 to 8–16
Searchlight troubleshooting and repair	Paragraph 8–17 to 8–20
Heat exchanger troubleshooting and repair	Paragraph 8-21 to 8-24
Power cable troubleshooting and repair	Paragraph 8–25 to 8–27
Replacement procedures for control box components	Paragraph 9-2 to 9-3
Printed circuit board test	Paragraph 9–4
Replacement procedures for remote control box components	Paragraph 9–5 to 9–6
Replacement procedures for searchlight components	Paragraph 9–7 to 9–8
Replacement procedures for heat exchanger components	Paragraph 9–9

8-3. Fuses

The following chart lists the fuses used in the power distribution system of the searchlight set. The chart indicates the rating, use, indication of blown fuse, and location of fuses within the searchlight set.

CAUTION

Always replace a blown fuse with one with the same rating. If a replacement fuse blows, do not install another fuse until the trouble has been remedied.

Fuse	Rating		Blown fuse indication	Location
	Volts	Amp		
F1	250	1 amp slow blow	Searchlight will not switch modes from infrared to VISUAL	Inside rear of searchlight assembly (heat exchanger assembly must be unlatched for access to fuses, para 9—8)
F2	250	1 amp slow blow	Mode change motor will not operate	Inside rear of searchlight assembly (unlatch heat exchanger assembly, paragraph 9—8)

8-4. Preliminary Checks and Adjustments

a. Additional damage will be caused if power is applied to equipment in which a complete or partial short circuit exists. When any of the following conditions apply, check for short circuits before applying power to the equipment.

(1) A replaced fuse that has blown.

(2) Smoke observed coming from a component.

(3) Overheated parts observed or smelled.

(4) A defective component being serviced apart from other components of the searchlight and the nature of the trouble is not known.

(5) Abnormal symptoms, reported from operational tests which indicate partial or complete short circuits.

b. Before using the troubleshooting chart based on starting procedure (paragraph 8—6), check with the operator for indications of the location of trouble. Check the electrical cabling of the set for tight connections and undamaged cables and receptacles. Refer to TM 11-5855-217-12 for preliminary equipment operating instructions.

8-5. Preliminary Control Settings

Before performing the troubleshooting procedure given in the troubleshooting chart based on starting procedure, place the searchlight set controls, located on the control box, to the positions indicated by the following table:

Switch or control.	*Preliminary position*
VISIBLE/INFRARED/OFF switch, S2	OFF (down)
CIRCUIT TEST switch, S5	OPERATING POSITION (position 1)
LOCAL/REMOTE control switch, S1	LOCAL
COMPACT/SPREAD beam switch, S3	COMPACT

8-6. Troubleshooting Chart Based on Starting Procedure

Step	*Procedure*	*Normal indications*	*Abnormal indications*	*Corrective Measures*
1	Set power switch to INFRARED position. (Refer to TM 11-5855-217-12 for location of controls and indicators.)	Blower motor operates; Xenon lamp ignites; LAMP ON indicator lights.	Xenon lamp remains off	a. Set CIRCUIT TEST switch to position 7 (input power test). If CIRCUIT TEST indicator does not light, check the following: (1) Vehicle power on. (2) Input power cable properly connected. (3) Disconnect input power cable and measure vehicle power between pin A and B on cable. (4) Relay K1 in control box fails to actuate; refer to control box relay actuation check (paragraph 8-11).
				b. If CIRCUIT TEST indicator lights, check the following: (l) Power cable continuity (paragraph 8–26).
			Xenon lamp remains off	Set CIRCUIT TEST switch to position 2 (input voltage level). If CIRCUIT TEST indicator does not light, check following:
			Blower motor operates	(1) Vehicle power source greater than +22V dc. If vehicle power source is greater than 22V dc, circuit test section is

Step	Procedure	Normal indications	Abnormal indications	Corrective Measures
				defective. Refer to paragraph 8–7 through 8–12.
				Note. If CIRCUIT TEST indicator lights, perform next troubleshooting step to isolate the trouble.
			Xenon lamp lights; LAMP ON indicator does not light.	*a.* Replace indicator lamp in LAMP ON housing located on front panel.
				b. If LAMP ON indicator still does not light, refer to control box symptom troubleshooting chart (paragraph 8–12).
2	Set CIRCUIT TEST switch to position No. 2 (input power)	CIRCUIT TEST indicater lights	CIRCUIT TEST indicater does not light	If xenon lamp ignites, circuit test section is defective. Replace CIRCUIT TEST indicator bulb.
				If xenon lamp does not ignite, use circuit test section to isolate trouble by performing step 3.
3	Set CIRCUIT TEST switch to position 3 (ballast resister)	CIRCUIT TEST indicator lights	CIRCUIT TEST indicater does not light.	Shut off searchlight set by setting power switch to OFF position. Disconnect the power cable at the searchlight. Measure resistance of ballast resistor with multimeter between P and W of 1A2J1. Resistance should be approximately 0.130Ω). If resistance is correct, check the power cable continuity. (Refer to paragraph 8–26.) Check control box wiring. (Refer to paragraph 8–7 through 8–12.)
				If resistance is incorrect, remove heat exchanger (paragraph 9–8).
				Remove one lead on ballast resistor mounting board and measure resistance of ballast resistor. If resistance is still incorrect, change ballast resistor. If resistance is approximately 0.130Ω, perform continuity checks on connecting wires back to P and W of 1A2J1 until trouble is found. Refer to schematic diagram.
4	Set CIRCUIT TEST switch to position 4 (switching diode)	CIRCUIT TEST indicater lighta	CIRCUIT TEST indicater does not light	*a.* Shut off searchlight set.
				b. Disconnect power cable at searchlight.
				c. With multimeter, measure resistance between P and T of 1A2J1. Resistance should be 50Ω ±5Ω and 500 KΩ minimum. Reverse leads and measure again to obtain both values.
				If resistance reading is incorrect, remove searchlight support from searchlight housing. (Refer to paragraph 9-8.) Remove screw mounted terminal on diode CR1. Check resistance of diode directly across CR1. Replace CR1 if incorrect. If resistance is correct, perform continuity

Step	Procedure	Normal indications	Abnormal indications	Corrective Measures
				measurements on connecting wires back to P and T of 1A2J1 until trouble is found.
5	Set CIRCUIT TEST switch to position 5 (blower motor voltage)	CIRCUIT TEST indicater lights	CIRCUIT TEST indicater does not light	If blower is operating, CIRCUIT TEST section is defective. Replace CIRCUIT TEST indicator bulb. If still defective, refer to paragraph 8-10. If blower is not operating perform the following sequence: (1) Shut off searchlight set. (2) Remove heat exchanger. (Refer to paragraph 9-8.) (3) Disconnect blower motor leads TB3 1 and 2. (4) Using clip leads connected to vehicle power source, apply power directly to blower motor input leads, TB3 1 and 2. Blower motor should operate. If blower motor does not run, replace blower motor as a unit. If blower motor runs, perform continuity checks on connecting wires until trouble is found. (Refer to schematic diagram of searchlight set.)
6	Set CIRCUIT TEST switch to position 6 (searchlight to control box connector check)	CIRCUIT TEST indicater lights	CIRCUIT TEST indicater does not light	Perform continuity check on power cable and connectors (paragraph 8-26).
7	Set CIRCUIT TEST switch to position 7 (input power)	CIRCUIT TEST indicater lights	CIRCUIT TEST indicater does not light	If xenon lamp is on, CIRCUIT TEST section is defective. Replace CIRCUIT TEST indicator bulb. If still defective, check CIRCUIT TEST continuity (paragraph 8-10). If xenon lamp remains off, check the following: (1) Vehicle power ON. (2) Input power cable properly connected. (3) Disconnect input power cable and measure vehicle power between A and B on the cable. (4) Relay K1 in control box actuates. (Refer to paragraph 8–11.)
8	Set power switch to VISIBLE position	Searchlight output changes from infrared to visilble light	Searchlight output remains infrared light	Measure voltage at control box J4-C to A. Should be +20 volts dc minimum. *a.* If voltage is correct, turn searchlight set off by placing power switch of OFF position. Perform the following procedure: (1) Disconnect the power cable. (2) Short circuit J1-X to J1-T at searchlight case momentarily to discharge capacitor. (3) Measure resistance between JID and JIC at searchlight.

Step	Procedure	Norm al indications	Abnormal indications	Corrective Measures
				Resistance should be 20Ω ±5Ω. (4 If resistance indicates open, replace fuse F1 (paragraph 8-3). (5 If resistance is correct, refer to paragraph 8-11 to 8-20 for further troubleshooting information. *b.* If voltage is incorrect (less than +20 volts dc) 2A1A3CR3 diode on printed circuit board in control box is defective. Replace diode or replace printed circuit board.
9	Set beam switch to SPREAD BEAM position	Searchlight beam widens to a spread	Searchlight beam does not spread	Measure voltage at J4 on control box F to A, should be 22 to 28 volts dc. a. If voltage is correct, perform the following procedure: (1) Shut off searchlightset. (2) Disconnect the power cable. (3) Measure resistance at 1A2J1 from E to F and from E to G. If both measurements indicate an open, replace fuse F2. Refer to paragraph 8-3 for fuse replacement. (4 Refer to paragraph 8-17 to 8-20 for further troubleshooting information. *b.* If voltage is incorrect, trouble probably is in control box. Refer to paragraph 8-7 to 8-12 for further troubleshooting information.
10	Set beam switch to COMPACT BEAM	Searchlight beam narrows to a compact beam	Searchlight beam does not return to a compact beam	Measure voltage at J4 on control box G to A; should be 22 to 28 volts dc. a. If voltage is correct, perform the following procedure: (1) Shut off searchlight set. (2) Disconnect the power cable. (3) Measure resistance at 1A2J1 from E to F and from E to G. If both measurements indicate open, replace fuse F2 (paragraph 8-3). (4) Refer to paragraph 8-17 to 8-21 for further troubleshooting information. *b.* If voltage is incorrect, trouble probably is in control box. Refer to paragraph 8-7 to 8-12 for further troubleshooting information.

Step	Procedure	Normal indications	Abnormal indications	Corrective Measures
11	Set power switch to INFRARED position	Searchlight output returns to infrared output	Searchlight output remains visible	Measure voltage at J4 on control box A to D. should be +20 volts dc minimum. If voltage is correct, trouble is in searchlight support assembly. Refer to paragraph 8-18 to 8-21 for further troubleshooting information. If voltage is incorrect, trouble is in control box. Refer to paragraph 8-7 to 8-12 for further troubleshooting information.
12	Set REMOTE/LOCAL switch to REMOTE position. Repeat steps 8, 9, 10, and 11 with REMOTE LOCAL switch in REMOTE position	Same as steps 8, 9, 10 and 11	Same as steps 8, 9, 10 and 11	If searchlight does not work normally in REMOTE operation but does work normally in LOCAL operation, trouble may be localized to the following: (1) REMOTE/LOCAL switch in control box. Refer to paragraph 8-10 for switch continuity check. (2) Interconnecting wiring between remote control box and control box. (3) Remote control box. Refer to paragraph 8-13 to 8-16.

Section II. CONTROL BOX TROUBLESHOOTING AND REPAIR

8-7. General

The control box of the searchlight set contains all of the controls and indicators in the searchlight set except for the duplicate controls and indicators located in the remote control box. The capacitor bank, control relays, CIRCUIT TEST section, delay turn-off circuit, elapsed time meter, and lamp-on circuit are also located in the control box. Instructions for troubleshooting these circuits or components and isolating trouble to a particular component may be found in the control box symptom troubleshooting chart. The troubleshooting chart lists symptoms of trouble, possible cause of trouble, procedures to follow to isolate trouble to a particular cause, and corrective action to be taken to isolate trouble.

8-8. Reference Data

The following data is supplied as an aid to the repairman during troubleshooting of the control box.

Reference	Data
Chapter 2	Block diagram
Figure 2–1	Searchlight set block diagram
Paragraph 8–10	Control box, switch test procedure
Paragraph 8–11	Control box relay actuation test
Paragraph 8–12	Control box symptom troubleshooting chart
Paragraph 9–2 and 9–3	Replacement procedure for control box components

8-9. Voltage and Resistance Measurements

a. Voltage and resistance measurements are an aid in determining tine circuit conditions and in evaluating clues in the course of troubleshooting. Carefully read the notes, cautions, and warnings associated with each component prior to measuring the voltages and resistances.

b. Observe the following precautions when measuring voltages greater than 5000 volts.

(1) Turn off the searchlight set.

(2) Discharge the capacitor bank by shorting pin T and pin X at J3 on the control box.

(3) Connect the multimeter leads to the test points.

(4) Step away from the multimeter.

(5) Turn on the searchlight set.

(6) Note the multimeter reading.

(7) Turn off the searchlight set.

(8) Discharge the capacitor bank again.

(9) Remove the multimeter leads.

8-10. Control Box Switch Test procedures

a. Before performing switch continuity checks, prepare the control box for checks by performing the following procedures:

(1) Turn off the power to searchlight set.

(2) Disconnect all interconnecting cables to the control box.

(3) Discharge capacitor bank by momentarily connecting a 500 ohm 10 watt resistor from J4-A to J4-T.

b. If an open circuit is found, refer to the schematic diagram of the searchlight set and measure continuity of the switch contacts directly across switch. If the switch is good, check connecting wiring back to the measurement point to find the open circuit. If the switch contacts are open, replace switch as a unit. Refer to paragraphs 9-2 and 9-3 for replacement procedures for the control box components.

Switch Continuity Checkout Chart

Switch checked	Switch position	Measure continuity	
		From	To
S1 (REMOTE/LOCAL switch)	REMOTE	J2–A	TB2–21
		J2–B	J3–N
		J2-C	J3-C
		J2–D	TB2–6
		J2–H	J3–D
		J2–I	TB2–22
	LOCAL	J3-C	J1-B
		J3-D	J3-R
		J3-M	S3-2
S2 (VISIBLE/ INFRA RED/ OFF switch)	OFF	J1-A	J3-D
		J1-B	J3-C
	INFRA RED	J1-B	TB2-22
	VISIBLE	J1-B	J3-D
		J3-C	TB2-6
S3 (COMPACT/ SPREAD BEAM switch)	Hold in SPREAD BEAM	J3-F	TB2-6
	COMPACT BEAM	J3-G	TB2-6
S4 (CIRCUIT TEST switch)	2, 3, 4, 5, 6, 7	J3-A	J5-B
	2	J5-C	J5-J
	3	J3-P	J5-L
	4	J3-T	J5-L
	5	J3-A	J5-H
	6	J3-J	J5-P
	7	J3-A	J5-D

Switch Continuity heckout Chart—cor nued

Note. Before continuing the procedure, remove printed circuit board 2A1A3, and temporarily short lamps DS3-1 to DS3-2 with an alligator clip or short piece of wire.

8-11. Control Box Relay Actuation Check

Before starting the relay actuation check, prepare equipment by performing the following procedure.

(1) Turn off the search light set.

(2) Disconnect the input power cable and the interconnecting cable between the searchlight and control box.

(3) Set S2 to the INFRA RED position and S4 to position 2.

(4) Connect the negative side (-) of the vehicle power source to TB1–1.

(5) Connect a long clip lead to the positive side (+) of the vehicle power source. This + lead will be used to actuate the relays.

Component	*Procedure*
K2	Connect + lead to K2–3. Check for + voltage between J3-A(-) and K2-2(+); J3-A(-) and K2-7(+).

K3 Connect + lead to J3-V. Check for continuity between J3-R and J3-B.
K1 Connect + lead to K1-X1. Connect a long clip lead between TB1-1 and K1-X2. Check continuity between K1-A1 and K1-A2.

NOTE

Before performing the control box troubleshooting, prepare the control box by performing the following procedure:

(1) Turn off the searchlight set.

(2) Disconnect the input power cable at J1 on the control box.

(3) Remove the control box cover to expose the interior of the control box.

(4) Set the control box switches to the following positions:

Power switch to OFF

Beam switch to COMPACT

REMOTE/LOCAL switch to LOCAL

CIRCUIT TEST switch to OPERATING POSITION

(5) Reconnect the input power cable.

WARNING

High voltage is present inside the control box and on the cable connectors during operation. Accidental contact may cause serious injury or death. Always shut off power and disconnect the input power cable before attempting any removal or replacement of parts or disassembly of the control box.

8-12. Control Box Symptom Troubleshooting Chart

S	*Possible cause*	*To isolate trouble to a particular cause*	*Corrective action*
Searchlight does not turn on; blower does not operate. CIRCUIT TEST indicator does not light.	*a.* No power input; vehicle power supply off or defective.	Measure input power at A and B of J1. Be sure vehicle power supply is on.	Turn on vehicle power supply, troubleshoot vehicle power supply if no voltage is present at J1-A to J1-B.
	b. Defective power switch S2.	*a.* Attempt remote turn-on. If searchlight set turns on from remote control box, power switch S2 is defective.	*a.* Check continuity of power switch S2 (paragraph 8–10). *b.* Replace switch S2, if defective (paragraph 9–2 and 9–3).
	c. Defective relay K1.	Connect a jumper between K1-X2 terminal to J1-B. Measure voltage across K1-A2 (+) J1-B.	*a.* If voltage is not present across K1-A1 to J1-B, replace K1. *b.* If voltage is present across K1-A1 to J1-B, replace switch S2 (paragraph 9-2 and 9-3).
No arcing or flickering at xenon lamp (blower operates)	*a.* Defective timer circuit; starting time too short.	Turn off searchlight set. Disconnect cable from J3. Connect VOM between TB2-2 and TB2-9. Turn on power and time circuit with a watch.	If delay is less than 6 seconds, replace P.C. board (paragraph 9-2 and 9-3).
	b. Defective capacitor in capacitor bank.	*a.* Measure voltage across capacitor bank J4-A to J4-T. If voltage is below +22 volt dc, a shortened capacitor may be present.	*a.* Replace defective capacitor (paragraph 9-2 and 9-3).

Symptom	Possible cause	To isolate trouble to a particular cause	Corrective action
		b. Disconnect each capacitor until defective capacitor is found. Be certain to turn off searchlight set before disconnecting each suspected capacitor.	*b.* Replace capacitor.
	c. Defective booster starter.	Measure capacitor bank voltage from J4-A to J4-T. Voltage should be +100V nominal. If not, refer to paragraphs 8—17 to 8—20 for checkout of booster-starter unit.	Replace booster.
	d. Defective igniter circuit.	Refer to paragraphs 8–17 to 8—20 for further troubleshooting information.	
Xenon lamp flashes but does not remain on.	*a.* Defective ballast resistor.	*a.* Check ballast resistor with CIRCUIT TEST circuits. Refer to step 3, troubleshooting chart based on starting procedure.	*a.* Repair or replace ballast resistor as required.
		b. Check control box wiring continuity.	*b.* Repair defective wiring.
Xenon lamp lighta; LAMP ON indicator does not light.	*a.* Defective indicator bulb.	*a.* None.	*a.* Replace bulb.
	b. Broken wires on lamp holder or current sensing assembly A7.	*b.* Check continuity of connecting wires.	*b.* Repair broken wires.
	c. Contacts of A7 broken or defective.	*c.* After xenon lamp is on, measure voltage across A7-1 to A7-2.	*c.* If voltage is present, replace A7.

Section III. REMOTE CONTROL BOX TROUBLESHOOTING AND REPAIR

8-13. General

a. The remote control box duplicates controls and indicators found in the control box. If an abnormal condition is found during troubleshooting baaed on starting procedure, step 12 (paragraph 8-6), the trouble may be localized to the remote control box or the interconnecting cable.

b. Trouble in the remote control box may best be isolated by making a series of switch continuity checks, paragraph 8-16. When an abnormal continuity check is found, perform the troubleshooting procedure given in paragraph 8-15.

8-14. Reference Data

The following data is supplied as an aid to the repairman during troubleshooting of the remote control box.

Reference	*Data*
Paragraph 8-6	Troubleshooting chart based on starting procedure
Paragraph 8-15	Troubleshooting procedure
Paragraph 8-16	Remote control box switch test procedures
Paragraph 9-5 to 9-6	Replacement procedures for remote control box components

8-15. Troubleshooting Procedure

Remove remote control box mounting cover. Refer to disassembly instructions, paragraph 9-5 and 9-6.

a. Inspect wiring for burned, broken or shorted wires and bent, loose or broken terminals.

b. Inspect inside of remote control box housing for the presence of foreign objects that may cause short circuits. These objects could be pieces of

solder, wire trimmings, metal particles or small metal parts.

c. Inspect jack J1 and wire terminations for proper connection.

d. Check resistance from one end of wire through the fork crimp-on terminal to the metal fork attached to the wire termination point. This test assures that the crimp-on terminal lug is not crimped to the wire insulation only, and is attached to the metal conductor.

NOTE

Before performing switch continuity checks, disconnect the interconnecting cable between the control box and remote control box.

8-16. Remote Control Box Switch Test Procedures

Switch checked	*Switch position*	*Measure continuity From*	*To*
S1 (VISIBLE/ INFRA RED/ OFF switch)	OFF	J1-C	J1-J
		J1-G	J1-H
	INFRA RED	J1-J	J1-I
		J1-G	J1-H
		J1-C	J1-J
	VISIBLE	J1-C	J1-G
		J1-J	J1-H
		J1-J	J1-I
S2 (COMPACT-SPREAD BEAM switch)	COMPACT	J1-A	J1-E
	SPREAD	J1-D	J1-F

Section IV. SEARCHLIGHT TROUBLESHOOTING REPAIR

8-17. General

All cautions and warnings must be observed when troubleshooting and repairing the searchlight set to insure the safety of personnel.

WARNING

Extremely high voltages exist in the searchlight assembly during operation. Accidental contact with these voltages may cause personal injury or death. When servicing the searchlight assembly, observe the following precautions:

(1) Disconnect the interconnecting cable from the control box.

(2) Short circuit J1 pin T to J1 pin X before performing any testing or adjustments to the searchlight frame.

(3) Wear face mask, leather gloves, and leather jacket when replacing the xenon lamp.

8-18. Reference Data

The following data is supplied as an aid to the repairman during troubleshooting of the searchlight.

Reference	*Data*
Paragraph 8-3	Fuses. location
Chapter 2	Searchlight set, block diagram
Paragraph 9-5 to 9-6	Replacement procedures for searchlight components

8-19. DC Resistance of Cable

Refer to the schematic diagram of the searchlight set. Before making resistance measurements at cable connector, prepare the equipment by performing the following procedure:

(1) Set searchlight set to COMPACT beam mode.

(2) Turn off searchlight set.

(3) Disconnect cable at J1 of searchlight.

(4) Short J1-T to J1-X at seachlight with an alligator clip or short piece of wire.

(5) Measure the resistance between the cable connector pins on J1 and verify the results are as specified.

DC RESISTANCE AT CABLE CONNECTOR

J1 Connector pins From	*To*	*Normal resistance*
A	B	10 ohms max.
C	I	0.5±0.5 ohm
C	J	20±5 ohms
D	J	0.5±0.5 ohm
D	H	500K ohms min.
E	F	20±5 ohms
E	G	500 K ohms min.
M	P	40 K ohms and 500 K ohms min. (measure, then reverse test probes and measure again to obtain both values)

J1 Connector pins From	To	Normal resistance
N	W	50K ohms min.
P	W	0.2 ohm max.
P	T	50±5 ohms and 500K ohms min. (measure, reverse test probes and measure again)
R	V	40K ohms min.
T	X	7K ±1K ohms and 35K ±3K ohms mea. sure, reverse test probes and measure again)

8-20. Searchlight Symptom Troubleshooting Chart

Symptom	Possible Cause	To isolate trouble to a particular cause	Corrective action
Xenon lamp flickers but remains off; blower operates.	a. Defective timer circuit.	a. Refer to control box troubleshooting and repair (paragraph 8-7 to 8-12).	
	b. Defective capacitor bank.	b. Refer to control box troubleshooting and repair (paragraph 8-7 to 8-12).	
	c. Defective booster-starter.	c. Measure capacitor bank voltage from J4-A to T at control box. Should be 100 volts nominal. If voltage is below +100V dc, the booster-starter is defective.	Replace booster-starter.
	d. Defective igniter.	d. Bring fluorescent lamp in proximity to high voltage line. Lamp should glow.	Replace igniter if lamp does not glow.
Xenon lamp flashes, but does not remain on.	a. Defective ballast resistor.	a. Check ballast resistor. Refer to step 3, paragraph 8-6.	a. Replace ballast resistor.
	b. Defective switching diode, 1A2CR3.	b. Check diode. Refer to step 4, paragraph 8-6.	b. Replace diode.
	c. Shorted or open wires in searchlight assembly.	c. Perform resistance checks and visual inspection on suspect wiring.	c. Repair or replace defective wiring.
Cannot switch between INFRA RED and VISIBLE mode	a. Blown fuse F1.	a. Check fuse F1. Refer to paragraph 8-3 for location of fuse.	a. Replace Fuse F1.
	b. Defective limit switch 1A2S2.	b. Shut off searchlight set. c. Disconnect interconnecting cable. d. Rem ove searchlight support assembly from searchlight case (paragraph 9-7). e. Check that mechanical stops Ml and M2 are engaging one of the two limit switches S1 or S2. f. Measure resistance of switch contacts S1-C to S1-NO and S1-C to S1-NC. If S1 is engaged by Ml, switch contacts S1-C and S1-NO should he closed; contacts S1-C and S1-NC should be open. If S1 is not engaged by Ml, S1-C to S1-NO should be open; S1-C to S1-NC should be closed.	b, Replace defective switch.

Symptom	*Possible Cause*	*To isolate trouble to a particular cause*	*Corrective action*
		g. Measure resistance of switch contacts S2-C to S2-NO and S2-C to S2-NC. If S2 is engaged by M2, switch contacts S2-C and S2-NO should be closed; contacts S2-C and S2-NC should be open. If S2 is not engaged by M2, S2-C to S2-NO should be open; S2-C to S2-NC should be closed. ***h.*** Push in switch not engaged by a stop and verify proper function.	
	c. Defective filter motor.	*a.* Shut off searchlight set. ***b.*** Disconnect interconnecting cable. ***c.*** Remove searchlight support assembly from search-1 i g ht housing (paragraph 9-7). *d.* Measure resistance to infrared filter drive motor from 1A2 TB2-6 to 1A2 TB2-7. Resistance should be 20 ±5 ohms.	Replace infrared filter drive motor if motor winding does not measure 20 ±5 ohms.
	d. Diode 1A2 CR3 open.	Check diode. Refer to step 4, paragraph 8-6.	Replace diode.
	e. Foreign material between infrared filter drive gear and gear rack on infrared filter.	*a.* Shut off searchlight set. ***b.*** Remove interconnecting cable. c. Rem ove searchlight support from searchlight housing (paragraph 9-7). ***d.*** Blow foreign material from gear rack and drive gear with high pressure air hose.	Clean gear rack and drive gear.
Searchlight beam width does not vary in COMPACT or SPREAD BEAM operation.	*a*. Blown fuse F2.	a. Check fuse. Refer to step 10, paragraph 8-6.	Replace fuse F2.
	b. Defective SPREAD/ COMPACT beam switch	***b.*** Refer to control box troubleshooting and repair, paragraph 8-7 to 8-12.	
	c. Defective focus motor limit switch 1A2S5.	*c.* Shut off searchlight set. ***d.*** Disconnect interconnecting cable. ***e.*** Rem ove searchlight support assembly from search-1 ight housing (paragraph 9–7). ***f.*** Short 1A2 TB2-4 to 1A2 TB2-5. ***g.*** Connect +24 volts dc from dc power source as follows: +24 volts dc to 1A2 TB2-4 and 5. Return to 1A2 TB2-3. ***h.*** Motor will rotate. If motor does not rotate, connect +24 volts dc to 1A2 TB2-2. If motor still does not rotate, replace motor.	Replace switch 1A2S5 or focus motor as required.

Section V. HEAT EXCHANGER TROUBLESHOOTING AND REPAIR

8-21. General

a. The heat exchanger contains the blower motor assembly, rear cover assembly and ballast resistor assembly.

b. Once a trouble has been sectionalized to the heat exchanger, locate the trouble symptom in the symptom column of paragraph 8-24. Possible causes of trouble are listed in the possible cause column. To isolate the trouble to one of the possible causes listed, follow the instructions given in the to isolate trouble to a particular cause column. Once the particular cause of trouble has been isolated, perform the indicated action in the corrective action column.

8-22. Reference Data

The following data is supplied as an aid to the repairman during troubleshooting of the rear cover assembly.

Reference	*Data*
Chapter 2	Searchlight set, block diagram
Paragraph 9–7 and 9–8	Replacement procedure for rear cover components
Paragraph 8–23	Voltage and resistance measurements
Paragraph 8–24	Heat exchanger symptom troubleshooting chart
Paragraph 8—28 to 3—30	Searchlight set adjustment procedures

8-23. Voltage and Resistance Measurements

a. Voltage measurements

(1) To measure voltages on the heat exchanger it is necessary to prepare the equipment by using the following procedure:

(a) Shut off searchlight set power.

(b) Unlatch heat exchanger.

(c) Leaving wires to heat exchanger connetted, lower heat exchanger to work surface.

(d) Turn on searchlight set power.

CAUTION

Do not operate searchlight set for an extended period of time with heat exchanger removed. Without air-to-air cooling provided by the heat exchanger, the searchlight will overheat and possible damage to equipment may result. Leave power on only long enought to note voltage reading.

(2) The test points and normal voltage indications at the test point are as follows.

NOTE

All measurements are to be made with multimeter.

Test point	*Normal voltage indications*
TB3-1 to TB3-2 (+)	22 to 28V dc
Ballast resistor terminals 1 to 2	5.5 dc ±1.5V dc approximately

b. Resistance measurements

CAUTION

To measure resistance on the heat exchanger, turn off power and discharge capacitor bank by shorting pin T and X of J4 at the control box. Disconnect the power cable.

Test point	*Normal dc resistance*
TB3-1 to TB3-2	High resistance
Ballast resistor terminals 1 to 2	0.130W ±l0% approximately

8-24. Heat Exchanger Symptom Troubleshooting Chart

Symptom	*Possible Cause*	*To isolate trouble to a particular cause*	*Corrective action*
Blower motor does not operate.	*a.* No voltage to blower motor.	Check voltage to blower motor. Refer to step 5, paragraph 8–6.	

Symptom	*Possible Cause*	*To isolate trouble to a particular cause*	*Corrective action*
	b. Defective blower motor B3.	Check voltage to blower motor. Refer to step 5, paragraph 8-6.	Replace blower motor if required.
	c. Shorted capacitor in filter 1A3 FL1.	*a.* Shut off searchlight set. *b.* Disconnect interconnecting cable. *c.* R e move heat exchanger. Leave wires to heat exchanger connected. *d.* Remove wires to F11 at 1A3 TB3-1 and 2. *e.* Replace heat exchanger. *f.* Connect interconnecting cable. *g.* Turn on searchlight set. If blower operates, replace 1A3 FL1 as a unit.	Replace FL1, if required.

Section VI. POWER CABLE TROUBLESHOOTING AND REPAIR

8-25. General

a. Refer to paragraph 7-6, cable check and repair, before attempting to perform a continuity check of the power cable.

b. Substitution of a known good cable for the suspected defective cable will quickly prove or disprove cable serviceability.

c. If no known good cable is available, or for some other reason the suspect cable is to be checked, measure continuity from pin to pin on the cable. Use a multimeter and follow the procedure in paragraph 8-26.

8-26. Power Cable Continuity Check

To perform a continuity check on the power cable, follow the step-by-step procedure below. For cable connections, see figure 8—1 cabling diagram.

	Procedure
1	Turn off searchlight set.
2	Disconnect power cable at searchlight assembly.
3	Disconnect power cable at control box assembly.
4	Remove power cable from vehicle (if practical).
5	Bend cable in a U-shape so that both cable connectors are easily accessible.
6	With a multimeter set at the lowest resistance scale, measure cable resistance from pin to slug starting with A to A, B to B, C to C, etc. (Figure 8-1.)
7	If an open is discovered, replace cable.
8	If the cable checks good, but is still suspect, measure from pin to plug; bend and twist cable to find any intermittent opens.

8-27. Repair of Power Cable

The power cable, which connects the searchlight to the control box, cannot be repaired. If, after continuity checking, the power cable is determined to be faulty, it must be replaced.

Section VII. SEARCHLIGHT SET ADJUSTMENT PROCEDURES

8-28. General

a. After removing and replacing certain parts contained in the focus motor assembly or the infrared filter assembly it is necessary to readjust connecting parts to assure proper functioning of the searchlight set.

b. Removal, replacement or disassembly of any mechanical part that affects the adjustment of either the focus motor assembly (including the reflector-deflector assembly) or the infrared filter assembly will make readjustments necessary.

c. Some of the parts that necessitate readjustments to be made after their removal, replacement or disassembly are listed below. Also listed is the adjustment procedure to be performed.

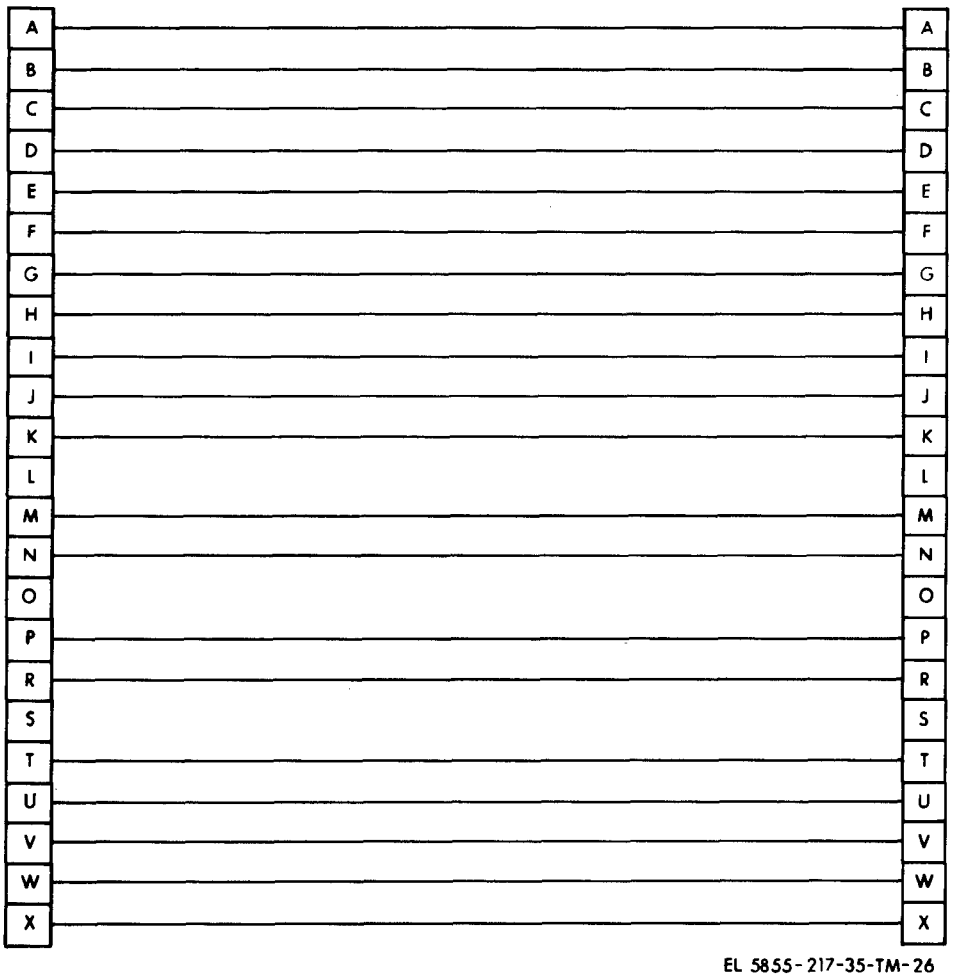


Figure 8-1. Cabling diagram for cable connections.

Part Removed	*Adjustment Procedure Necessary*
Limit switches S1 and S2	Infrared filter assembly
Infrared filter motor	Infrared filter assemblv
Infrared filter	Infrared filter assembly
Reflector drive mechanism including limit switch S5 and focus motor	Focus motor assembly

8-29. Adjustment of Infrared Filter Assembly

Perform the following step-by-step procedure in the order given. (See figure 9-8 for location of parts and numbered references.)

Step	*Procedure*
1	Assure that the infrared filter is positioned against the biped assembly (7, figure 9–8)

Note. The following steps are required if the infrared filter is positioned without the use of electrical power. Refer to figure 9—8 for identification of parts.

a. Loosen the two bolts (141) holding switch bracket (139) to bracket assembly (137).

b. Loosen the two screws (62) on motor bracket (57) until spur gear (51) no longer engages gear rack on filter assembly (32).

c. Position the infrared filter against the biped assembly (7).

d. Tighten the bolts and screws that were loosened in step la and lb.

2 Verify that the vertical sleeve spacer (55) engages the pushbutton of the forward limit switch (140).

3 Connect ohmmeter between S1-1-C common and S1-2 norm open terminals.

Step	Procedure
4	Adjust the nuta on the collar of S1 to position the switch in and out of the switch bracket until the switch just changes to the closed state. Tighten the mounting nuts.
5	Observe the ohmmeter for an indication of zero resistance.
6	Disconnect the ohmmeter from S1.
7	Connect a jumper between TB2-8 and 9.
8	Adjust the power supply for +10 volts dc.
9	Turn the power supply off and make the following connections. Power supply + to TB2-8 and 9 Power supply - to TB2-10
10	Observe the infrared filter and turn on the power supply until the filter is fully retracted. (About 1/4 in. of filter will remain protruding from the reflector retaining ring.) ***Note.*** **If the infrared filter is stopped by the limit switch at some partially retracted position, do not turn the power supply off, but proceed as follows:** *a.* Adjust the mounting nuts on the collar of S2 to position the switch farther out of the switch bracket (139, figure 9-8). *b.* For each new position of S2, the infrared filter will retract a little more. *c.* When the infrared filter is 0.015 in. from the rear lamphouse cover, disconnect the power supply and tighten the mounting nuts on S2. *d.* Proceed to step 14.
11	If the infrared filter is fully retracted, but was not stopped by use of the limit switch, disconnect the power supply.
12	Connect an ohmmeter between S2-10 norm open and S2-11 common terminals.
13	Adjust the mounting nuts on the collar of S2 to position the switch closer to switch bracket (139, figure 9-8) until the ohmmeter indicates a closed switch. Continue to move the limit switch to a position just a little more than that required to open the switch.
14	Connect the power supply as follows: Power supply + to TB2-10 and 9 Power supply - to TB2-8
15	Turn the power supply on and observe that the infrared filter travels to the biped assembly.
16	By the use of a dental mirror, check the seating of the infrared filter to the biped. In operation, the infrared filter should strike the biped without forceful contact.
17	Disconnect the power supply and measure the resistance of S1-1-C common and S1-2 norm open terminals. Assure the resistance is zero ohms.
18	Connect the power supply as follows: Power supply + TB2-8 and 9 Power supply - TB2-10
19	Turn the power supply on and observe the infrared filter motor retracts the infrared filter until about 1/4 in. of filter is protruding from the retaining ring on the reflector.
20	Disconnect the power supply and measure S2-10 norm open and S2-11 common terminals to verify the switch is closed.
21	Remove the two screws (141) holding the limit switch mounting bracket (139) to the resilient mount bracket (137).
22	Tighten mounting lock nuts (138) on the limit switches (140).
23	Align the holes in the limit switch mounting bracket to the holes in the resilient mount assembly.
24	Insert and tighten the mounting screws.

8-30. Adjustment of Focus Motor Assembly

Perform the following adjustment procedure in the order given.

Step	Procedure
1	Remove heat exchanger from searchlight (paragraph 9-7).
2	Provide forced air cooling to the xenon lamp.
3	Turn searchlight set on in visible mode.
4	Set the COMPACT/SPREAD switch to COMPACT.
5	Select a target area to focus the searchlight, (approximately 100 feet)
6	Adjust setscrew (1, figure 9—9) to obtain a sharp focused spot on the target.
7	Set the power switch to OFF and allow the searchlight to cool.
8	Remove the power cable from J1 at the searchlight.
9	Short circuit J1-X to J1-T.
10	Remove the searchlight housing (paragraph 9–7).
11	Remove mounting screw (4) on switch S5, figure 9–8.
12	Remove flexing rod (2, figure 9–10) from switch S5.
13	Adjust the flexing rod to obtain a clearance of .008 ±.002 inches between the reflector and deflector plate. This clearance must occur when B2 is mounted on limit switch S5.
14	Replace reflector rod on switch S5.
15	Replace the heat exchanger case assembly.
16	Connector the power cable to J1. ***Note:*** **This completes the adjustment procedure for the focus motor.**

CHAPTER 9

REPLACEMENT PROCEDURES FOR SEARCHLIGHT SET COMPONENTS

Section I. INTRODUCTION

9-1. General

a. Replacement procedures for searchlight set components contained in this chapter are to be used as a guide for repairing the searchlight set. A section is alloted to each major component of the searchlight set. The major components and the section containing replacement procedures for each major component are listed below:

(1) Control box Section II

(2) Remote control box Section III

(3) Searchlight assembly Section IV

(4) Heat exchanger Section V

b. To remove and replace a part contained in a major component, refer to the section covering that major component, locate the part to be replaced in the removal and replacement chart, and perform the procedure in the order given. Refer to the figures listed in the reference column for location of parts.

c. Retain all reusable parts, such as mounting brackets and hardware, and inspect adjacent pints for signs of wear or damage.

WARNING

Remove all power from the searchlight set and disconnect input power cable before attempting any replacement procedures. Discharge capacitor bank.

d. Read and perform the preliminary procedures listed in each section before performing any replacement procedures.

Section II. REPLACEMENT PROCEDURES FOR CONTROL BOX COMPONENTS

9-2. General

Before proceeding to the replacement procedures listed in paragraph 9-3, prepare the control box for parts replacement by performing the following step-by-step procedure:

a. Disconnect the interconnecting cables at the control box.

b. Short J4-A to J4-T at the control box to discharge the capacitor bank.

c. Remove the four mounting bolts holding control box in vehicle.

d. Remove the twelve screws in the mounting plate.

e. Remove mounting plate and gasket from control box to expose interior of the control box.

NOTE

Refer to figure 9-1 for location of parts in control box. Refer to figure 9-2 for exploded view of control box.

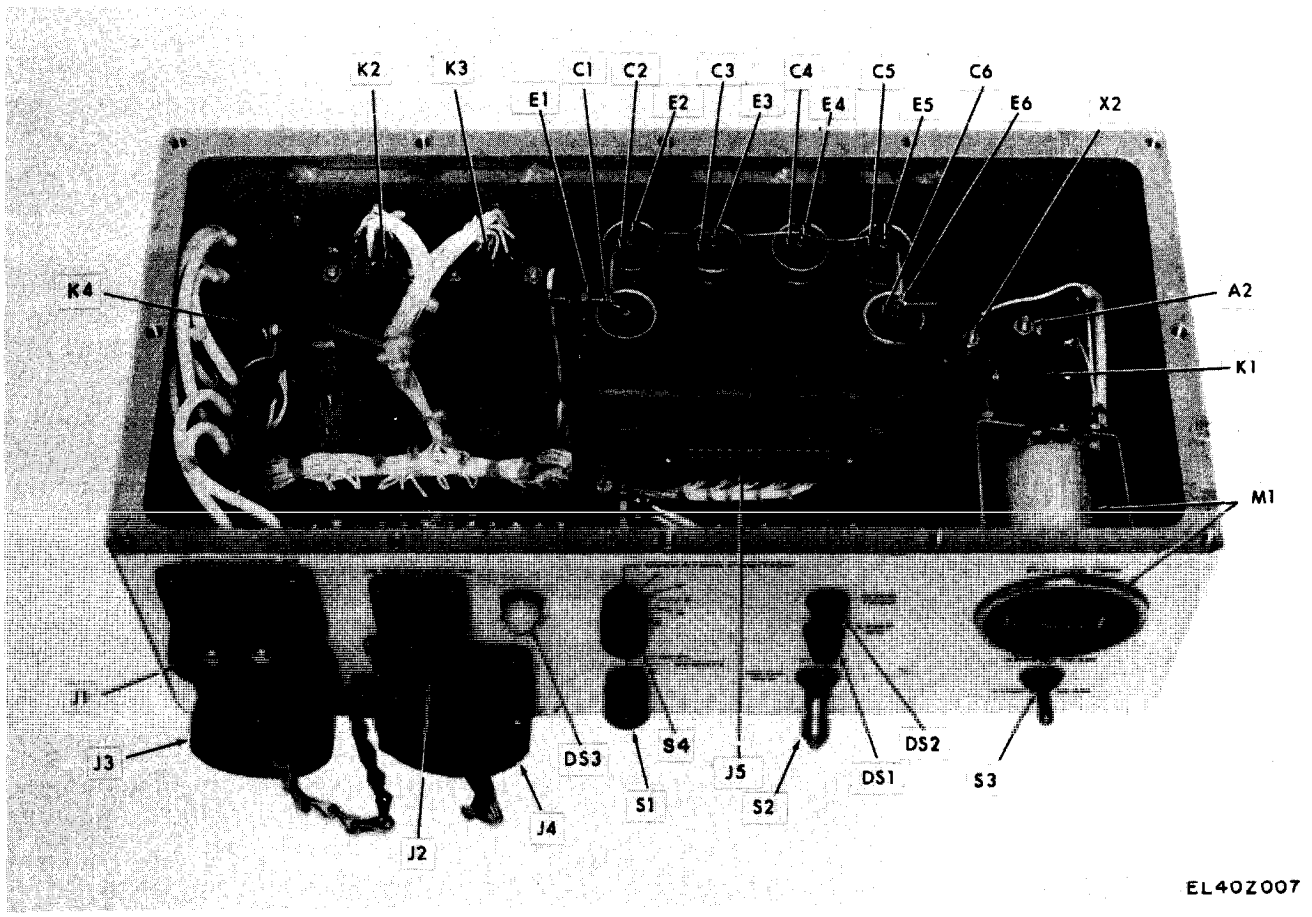


Figure 9-1. Control box (less cover and printed circuit board).

9-3. Removal and Replacement of Parts in Control Box

The directions in *a* through *t* cover the removal and replacement of the parts in the control box.

a. Removing S1 REMOTE/LOCAL Switch (figure 9-2). To remove S1 REMOTE/LOCAL switch from the control box, proceed as follows:

(1) Remove knob (95) from rotary switch (97) by loosening allen setscrew in knob.

(2) Unscrew switch mounting nuts (96) on front panel (138),

(3) Push switch (97) through mounting hole in front panel and remove switch. (Be careful not to break the connecting wires.)

(4) Note and tag each connecting wire location to aid in reassembly.

(5) Unsolder wires and remove switch.

b. Replacing S1 REMOTE/LOCAL Switch (figure 9-2). To replace S1 REMOTE/LOCAL switch in the control box, proceed as follows:

(1) Solder tagged connecting wires onto switch (97).

(2) Push switch shaft through mounting hole in front panel (138).

(3) Correctly align switch in mounting hole.

(4) Install mounting nut (%) over switch shaft.

(5) Replace knob (95).

c. Removing S2 VISIBLE/INFRARED/OFF Switch (figure 9-2). To remove S2 VISIBLE/INFRARED/OFF switch from the control box, proceed as follows:

(1) Set toggle switch (82) to INFRARED (center) position.

(2) Remove mounting nut (79), key washer (81) and seal (80) from switch shaft with a deep socket.

(3) Push switch through mounting hole in front panel (138).

(4) Note and tag each connecting wire location.

(5) Unscrew terminal screws on switch terminals enough to allow removal of forked wire terminals.

(6) Remove wires.

(7) Remove switch.

d. Replacing S2 VISIBLE/INFRARED/OFF Switch (figure 9–2). To replace S2 VISIBLE/INFRARED/OFF switch in the control box, proceed as follows:

(1) Install each wire and tighten the terminal screws.

(2) Push toggle switch (82) through mounting hole in front panel (138).

(3) Install keying washer (81), seal (80) and mounting nut (79) over toggle and tighten mounting nut.

e. Removing S3 COMPACT/SPREAD Beam Switch (figure 9-2). To remove S3 COMPACT/SPREAD beam switch from the control box, proceed as follows:

(1) Set toggle switch (78) to the center position.

(2) Remove mounting nut (75), seal (76) and keying washer (77).

(3) Push toggle through mounting hole.

(4) Note and tag each wire location.

(5) Unsolder the connecting wires.

(6) Remove switch.

f. Replacing S3 COMPACT/SPREAD Beam Switch (figure 9–2). To replace S3 COMPACT/SPREAD beam switch in the control box, proceed as follows:

(1) Solder connecting wires onto switch.

(2) Install toggle switch (78) through rear of front panel (138). mounting hole.

(3) Install keying washer (75), seal (76) and mounting nut (77). Then, tighten mounting nut.

g. *Removing DS1, DS2, DS3 (Indicators) (figure 9-2).* To remove the indicators (84), (88) and (99) from the control box, proceed as follows:

(1) Note and tag each connecting wire location.

(2) Unsolder wires on back of indicator housing (85), (100) and (89).

(3) Unscrew and remove mounting nut (86), (90), (101) and washers from real of panel (138).

(4) Push on rear of indicator housing until housing drops out front of panel (138).

h. Replacing DS1, DS2, DS3 (Indicators) (figure 9-2). To replace the indicators (84), (88) and (99) in the control box, proceed as follows:

(1) Install housing in mounting hole on the front panel.

(2) Install mounting nut over the rear of the housing.

(3) Resolder connecting wires.

i. Removing Elapsed Time Meter (figure 9-2). To remove the elapsed time meter (74) from the control box, proceed as follows:

(1) Unscrew attaching part (69, 70, 71) on meter studs.

(2) Remove U-shaped mounting bracket (72).

(3) Loosen meter terminal nuts.

(4) Tag and remove connecting wires.

(5) Remove meter (74) and gasket (73).

1 Control mounting plate, MP1
2 Machine screw, H1—12
3 Control gasket, MP2
4 Identification plate, MP3
5 Drive screw, H2—4
6 Hexagon plain nut, A1H58—3, A1H40—3,
7 Plain washer, A1H59—3, A1H12—3
8 Lockwasher, A1H60—3, A1H31—3
9 Armature relay, A1K2, A1K3
10 Relay bracket, A1MP3
11 Machine screw, A1H48—4
12 Lockwasher, A1H26—4
13 Flat washer, A1H8—4
14 Machine screw, A1H51—2,
15 Safety shield, A1A4
16 Shield bracket, A1A6MP1, A1A5MP1
17 Clinch self-locking nut, A1A6MP2, A1A5MP2
18 Machine screw A1H45—5
19 Lockwasher, A1H18—4
20 Plain washer, A1H3—4
21 Capacitor mounting bracket, A1A2
22 Machine screw, A1H45—A
23 Lockwasher, A1H18—4
24 Plain washer, A1H3—4
25 Timer-CB circuit card, A1A3
26 Solid rivet, A1A2H13—2, A1A2H14—2
27 Circuit board retainer, A1A2MP14, A1A2MP15
28 Machine screw, A1A2H17—2
29 Lockwasher, A1A2H16—2
30 Flat washer, A1A2H15—2
31 Sleeve spacer, A1MP16
32 Solid rivet, A1A2H1—2 thru A1A2H12—2
33 Spring clip, A1A2MP2 thru A1A2MP13—2
34 Machine screw, A1H52—10
35 Insulated feedthrough terminal, A1A2E1—E10
36 Insulated feedthrough terminal, A1A2E—102—E103
37 Electrolytic fixed capacitor, A1A2C1 thru A1A2C6
38 Machine screw, A1H42—2
39 Lockwasher, A1H17—2, flat washer, A1H2—2
40 Electrical connector, A1J5
41 Hexagon plain nut, A1H37—2, A1H36—4
42 Machine screw, A1H47—8
43 Lockwasher, A1H23—8, AH22—20
44 Terminal board, A1TB2
45 Identification marker, A1MP24
46 Machine screw(art of terminal board, 20 required)
47 Lock washer, A22—20
48 Terminal link, A1MP21, A1MP22
49 Machine screw, A1H43—4
50 Lockwasher, A1H25—4
51 Flat washer, A1H7—4
52 Terminal board, A1TB1
53 Machine screw, A1H53—2
54 Lock washer, A1H29—2
55 Circuit breaker, A1CB1
56 Identification marker A1MP25
57 Terminal board bracket, A1MP8
58 Machine screw, A1H49—2
59 Lockwasher, A1H33—2
60 Flat washer, A1H14—2
61 Solenoid relay, A1K1
62 Machine screw, A1H46—4
63 Lockwasher, A1H21—4
64 Flat washer, A1H5—4
65 Terminal board, A1TB3
66 Identification marker, A1TB3
67 Machine screw, A1H47—8
68 Lockwasher, A1H2—8, and flat washer A1H6—8
69 Hexagon plain nut (part of meter, A1M1)
70 Lock washer (part of meter, A1M1)
71 Plain washer (part of meter, A1M1)
72 Meter bracket (part of meter, A1M1)
73 Meter gasket, A1MP2
74 Time totalizing meter, A1M1
75 Hexagon plain nut(art of switch, A1S3)
76 Washer Key, A1A2MP1
77 Packing with retainer A1MP19
78 Toggle switch, A1S3
79 Hexagon plain nut (part of switch, A1S2)
80 Washer key A1MP20
81 Washer flat A1MP13
82 Toggle switch, A1S2
83 Indicator light lens A1MP17
84 Incandescent lamp, A1DS1
85 Indicator light housing, A1MP28
86 Hexagon plain nut (part of A1MP28)
87 Indicator light lens, A1MP16
88 Incandescent lamp, A1DS2
89 Indicator housing, A1MP29
90 Hexagon plain nut (part of A1MP29)
91 Knob, A1MP14
92 Hexagon plain nut (part of A1S4)
93 Lockwasher (part of A1S4)
94 Rotary switch, A1S4
95 Knob, A1MP15
96 Hexagon plain nut (part of A1S1)
97 Rotary switch, A1S1
98 Indicator light lens, A1MP18
99 Incandescent lamp, A1DS3
100 Indicator light housing, A1MP27
101 Hexagon plain nut(prt of A1MP27)
102 Machine screw, A1H44—2
103 Lockwasher, A1H20—2, and plain washer A1H4—2
104 Electrical connector cover chain (part of A1MP9)
105 Electrical connector cover chain (part of A1MP9)
106 Rivet, recessed thread, A1MP27
107 Electrical connector cover, A1MP11
108 Machine screw, A1H44—2, lockwasher, A1H20—2, and flat washer, A1H4—2
109 Electrical receptacle connector, A1J4
110 Connector gasket, A1MP7
111 Hexagon plain nut, A1H39—4
112 Lockwasher, A1H28—4
113 Flat washer, A1H10—4
114 Flat washer, A1H4—2
115 Machine screw, A1H56—4
116 Electrical connector cover chain (part of A1MP9)
117 Electrical connector cover, A1MP10
118 Machine screw, A1H54—4
119 Electrical receptacle connector, A1J2
120 Connector gasket, A1MP4
121 Hexagon plain nut, A1H36—4
122 Lockwasher, A1H16—4
123 Flat washer, A1H1—4
124 Electrical connector cover, A1MP9
125 Machine screw, A1H57—4
126 Electrical receptacle connector, A1J3
127 Connector gasket, A1MP6
128 Hexagon plain nut, A1H41—4
129 Flat W asher, A1H13—4
130 Lock washer, A1H32—4
131 Machine screw, A1H55—4
132 Electrical receptacle connector, A1J1
133 Connector Gasket, A1MP5
134 Hexagon plain nut, A1H38—4
135 Flat washer, A1H9—4
136 Lock washer, A1H27—4
137 Diode A1CR11
138 Front panel

NOTE

Partial reference designations are shown. For complete designation, prefix each item (reference designation) with assembly designation 2.

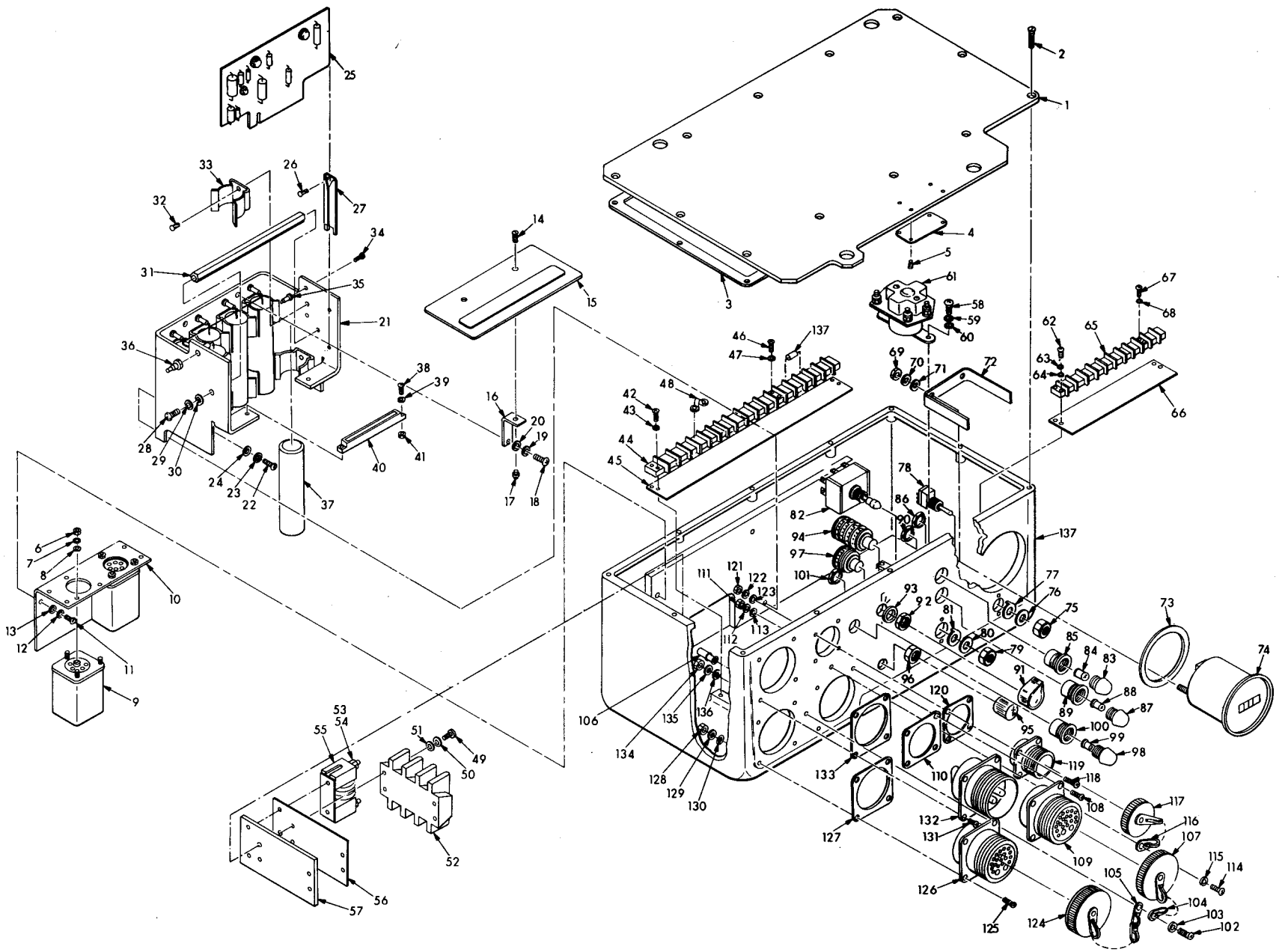


Figure 9—2. Control, searchlight set C—7905/VSS—3 (control box).

j. Replacing Elapsed Time Meter (figure 9-2). To replace the elapsed time meter (74) in the control box, proceed as follows:

(1) Install elapsed time meter (74) and gasket (73) through mounting hole in front panel.

(2) Install the tagged wires on the meter terminals.

(3) Install U-shaped bracket (72) over the meter studs.

(4) Install attaching part (69, 70, 71) on meter studs.

k. Removing Cable Connectors (Jl, J2, J3, J4) (figure 9-2). To remove the cable connector J1 (132) from the control box, proceed as follows:

(1) Note and tag each connecting wire location.

(2) Unsolder connecting wires.

(3) Unscrew and remove four sets of mounting screws (131), nuts (134), lockwashers (135) and washer (136).

(4) Remove connector and gasket from front panel (138) mounting hole. Remove J2, J3 and J4 in same manner.

l. Replacing Cable Connectors (J1, J2, J3, J4) (figure 9-2). To replace the cable connector J1 (132) in the control box, proceed as follows:

(1) Install connector (132) and gasket (133) in mounting hole of front panel.

(2) Install mounting screws (131), nuts (134), and washers (135), and (136) in mounting holes of connector.

(3) Solder connector wires to connector.

(4) Replace J2, J3, and J4 in same manner.

m. Removing S4 CIRCUIT TEST Switch (figure 9-2). To remove S4 CIRCUIT TEST switch (94) from the control panel, proceed as follows:

(1) Remove knob (91) from rotary switch (94) by loosening two allen setscrews in knob.

(2) Unscrew and remove mounting nut (92) and washer (93) on the switch shaft.

(3) Push switch out rear of front panel (138).

(4) Note and tag the connecting wire locations.

(5) Unsolder and remove the connecting wires.

n. Replacing S4 CIRCUIT TEST Switch (figure 9-2). To replace S4 CIRCUIT TEST switch (94) in the control panel, proceed as follows:

(1) Solder wires onto switch.

(2) Install switch (94) in mounting hole through rear of front panel (138).

(3) Install mounting washer (93) and nut (92) over the switch shaft.

(4) Install switch knob (91).

o. Removing K2 and K3 Relays (figure 9-2). To remove K2 and K3 relays (9) from the control box, proceed as follows:

(1) Note and tag connecting wire locations.

(2) Unsolder connecting wires.

(3) Unscrew mounting nuts and washers (6, 7, and 8) from relay mounting studs.

(4) Remove relay (9) from relay bracket (10).

p. Replacing K2 and K3 Relays (figure 9–2). To replace K2 and K3 (9) relays in the control box, proceed as follows:

(1) Install relay (9) in relay bracket (10) with relay mounting studs through holes in bracket.

(2) Install mounting nuts and washers (8, 7, and 6) on relay studs.

(3) Solder connecting wires onto relay terminals.

q. Removing K1 Relay (figure 9-2). To remove K1 relay (61) from the control box, proceed as follows:

(1) Note and tag connecting wire locations.

(2) Remove connecting wires from relay terminals.

(3) Unscrew and remove mounting screws and washers (58, 59 and 60) on bottom mounting plate of relay.

(4) Remove relay (K1).

r. Replacing K1 Relay (figure 9-2). To replace K1 relay (61) in the control box, proceed as follows:

(1) Install relay with mounting screws and washers (58, 59, and 60) through relay mounting plate holes.

(2) Install connecting wires.

s. Removing Printed Circuit Board 2A1A3 (figure 9-2). To remove the printed circuit board (25) from the control box, proceed as follows:

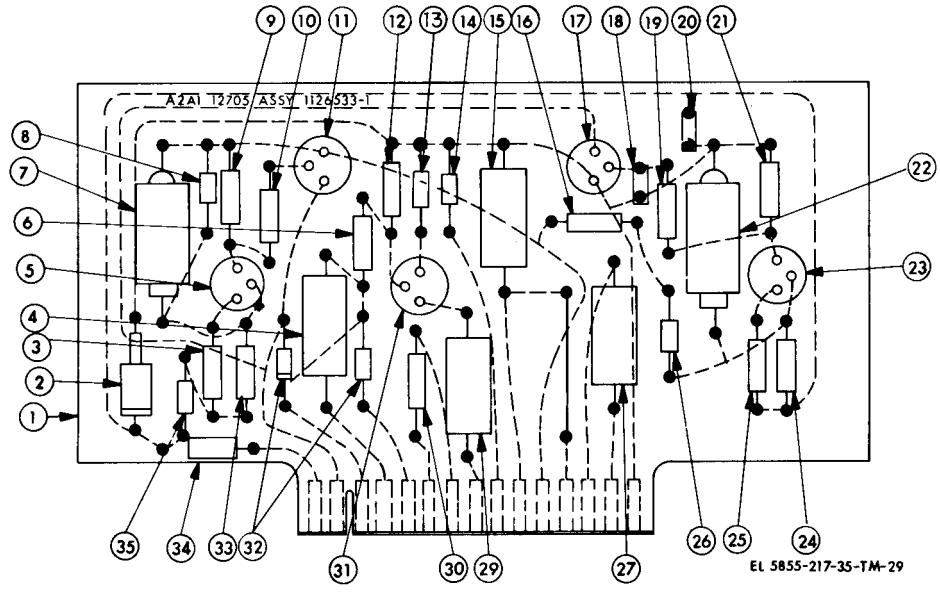
(1) Remove screw (14) from cover (15) and remove cover.

(2) Grasp top corners of PC board (25) and pull straight up while rocking board back and forth.

t. Replacing Printed Circuit Board 2A1A3 (figure 9—2). To replace the printed circuit board (25) in the control box, proceed as follows:

(1) Align edges of board (component side facing front panel) with mounting clips (27).

(2) Slide board down mounting clips until board is firmly seated in board connector (40).



1 Printed Wiring, A3PC1
2 Diode, Zener, A3CR7
3 Resistor Fixed, A3R1
4 Resistor Fixed, A3R11
5 Transistor, A3Q1
6 Resistor Fixed, A3R7
7 Capacitor, Fixed A3C1
8 Diode, A3CR8
9 Resistor, Fixed, A3R4
10 Resistor Fixed, A3R3
11 Transistor, A3Q4
12 Resistor Fixed, A3R5
13 Diode, Zener A3CR5
14 Diode, A3CR6
15 Resistor Fixed, A3R9
16 Resistor Fixed, A3R17
17 Transistor, A3Q5
18 Capacitor Fixed, A3C4
19 Resistor Fixed, A3R15
20 Capacitor Fixed, A3C3
21 Resistor Fixed, A3R14
22 Capacitor Fixed, A3C2
23 Transistor, A3Q3
24 Resistor Fixed, A3R16
25 Resistor Fixed, A3R18
26 Diode, A3CR9
27 Resistor Fixed, A3R10
29 Resistor Fixed, A3R6
30 Resistor Fixed, A3R8
31 Transistor, A3Q2
32 Diode, A3CR2—CR3
33 Resistor, A3R2
34 Resistor A3R12
35 Diode A3CR10

NOTE

Partial reference designations are shown. For complete designation, prefix each item (reference designation) with assembly designation 2A1.

Figure 9-3. Printed Board Circuit Card.

(3) Install cover (15) and screws (14) in place.

u. Testing Printed Circuit Board 2A1A3 (figure 9-3). To test printed circuit board 2A1A3, follow the procedure in paragraph 9-4.

9-4. Printed Circuit Board Test

To perform a test on the printed circuit board, a printed circuit board tester and power supply is needed. The power supply must meet the following output specifications.

Voltage	20 to 28V dc
Maximum current	1.0 amperes
Ripple	5%
Regulation	5%

Perform the test setup for the printed circuit board in accordance with the following steps.

(1) Connect the test equipment as shown in figure 9–4.

(2) Adjust the power supply to obtain 24V dc±3 volts.

(3) Turn off the power supply and insert the printed circuit board (PCB) 1126533-1 in the text fixture connector.

Perform the following test procedure for the printed circuit board. Insure that expected results are attained as indicated. Sequentially set switch S1 to the positions indicated and verify the results are as specified.

Switch position	*Result*
7	Indicator glows immediately
6	Indicator glows immediately
5	Indicator glows immediately
4	Indicator glows immediately
3	Indicator glows after 7 ±1 second delay
2	Indicator glows after 4 ±1 second delay
1	Indicator glows immediately

With selector switch S1 in position 1, lower the power supply voltage until the test fixture indicator is extinguished. Verify the power supply voltage is 20V dc ±1V.

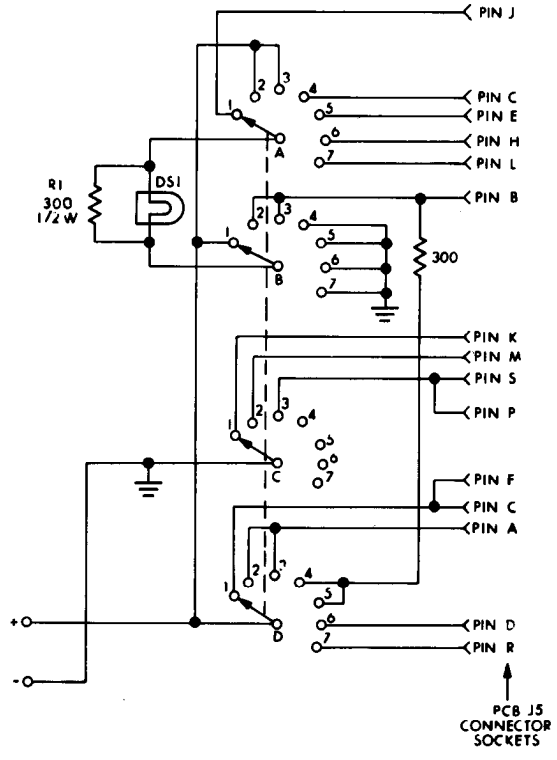


Figure 9-4. Test setup for printed circuit board test.

Section III. REPLACEMENT PROCEDURES FOR REMOTE CONTROL BOX COMPONENTS

9-5. General

Before proceeding to the replacement procedures listed in paragraph 9-6, prepare the remote control box for parts replacement by performing the following step-by-step procedure:

a. Disconnect interconnecting cable from control box to remote control box at the remote control box.

b. Remove four mounting bolts and washers holding the remote control box to vehicle.

c. Remove six screws and washers holding mounting cover to the remote control box.

d. Remove mounting plate and gasket from remote control box to expose the interior of the remote control box.

NOTE

When removing wires be sure to note wire location and tag wires to aid replacement. Before assembling remote control box, thoroughly clean gasket surfaces on mounting plate and remote control box. Use new gasket if available.

Refer to figure 9-5 for location of parts in the remote control box. Refer to figure 9-6 for specific parts called out in paragraph 9-6.

9-6. Removal and Replacement of Parts in Remote Control Box

a. Removing and Replacing Jack J1 (figure 9-6). To remove jack J1 (3) from the remote control box (l), proceed as follows:

(1) Unsolder and remove wires from rear of jack J1 (3).

(2) Unscrew and remove the four mounting screws (4), washers (20), and lockwashers (21) holding J1 (3) to remote control box (1).

(3) Remove jack (3) and gasket (5) from housing by pushing on rear of jack.

(4) To replace part, perform removal procedure in reverse order.

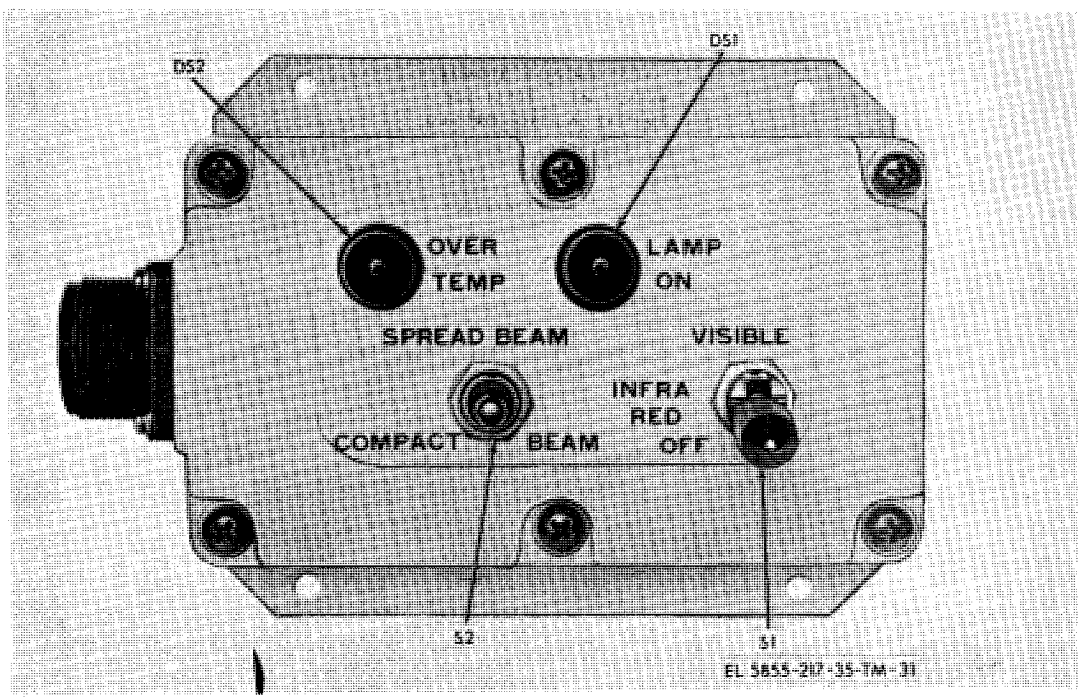
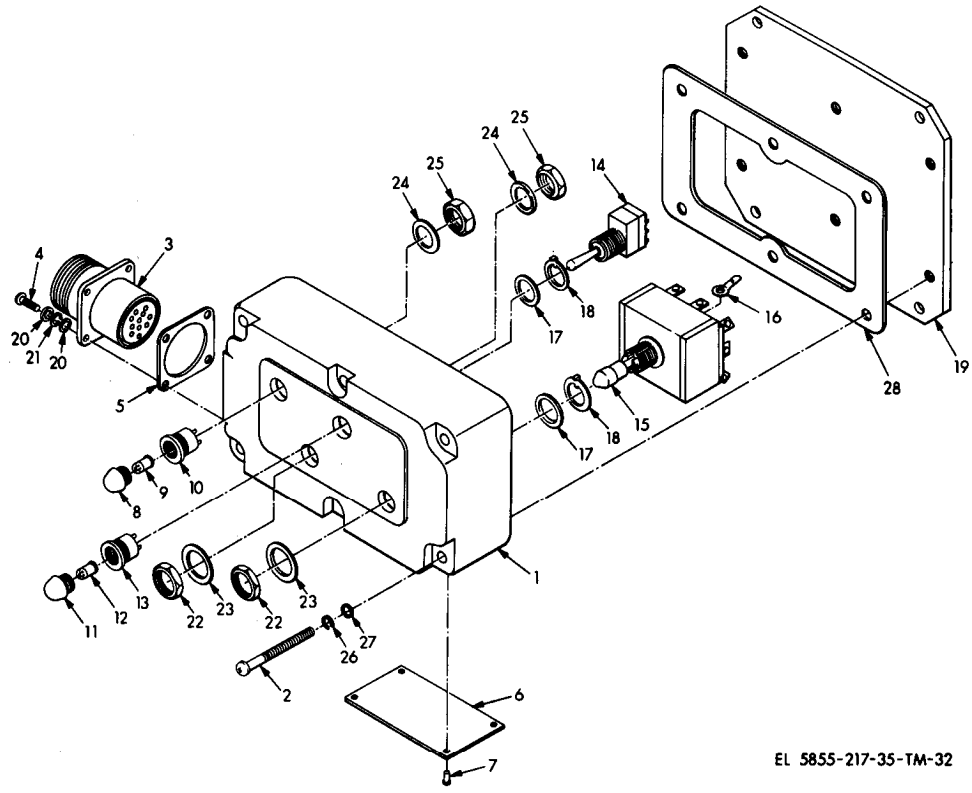


Figure 9-5. Remote control box, exterior view.



1 Control Housing, MP1
2 Machine screw, H3—6
3 Electrical receptacle connector, J1
4 Machine screw, H4—4
5 Connector gasket, MP4
6 Identification plate, MP9
7 Drive screw, H8—4
8 Indicator light lens, MP7
9 Incandescent lamp, DS2
10 Indicator light housing, MP11
11 Indicator light lens, MP8
12 Incandescent lamp, DS1
13 Indicator light housing, MP10
14 Toggle 1P2T switch, S2
15 Toggle 4P3T switch, S1
16 Lug terminal, E1—E12
17 Packing with retainer, MP5, MP6
18 Key washer (part of switch)
19 Control mounting plate, MP2
20 Flat washer, packing with retainer, H2—4, H7—4
21 Lock washer, H5—4
22 Nut (part of switch)
23 Flat washer (part of switch)
24 Flat washer, (part of housing)
25 Nut (part of housing)
26 Lockwasher, H6—6
27 Flat washer, H1—6
28 Mounting plate gasket, MP3

NOTE

Partial reference designations are shown. For complete designation, prefix each item (reference designation) with assembly designation 3.

Figure 9—6. Remote control box, exploded view.

b. Removing and replacing Visible/InPared/Off Switch S1 (figure 9-6). To remove switch S1 (14) from the remote control box, proceed as follows:

(1) Unscrew terminal screws on back of switch enough to allow removal of forked wire terminals and remove wires.

(2) With toggle in the center position, use a deep socket to unscrew and remove switch mounting nut (22) and star washer (23).

(3) Push toggle through mounting hole in housing and remove switch (14) washer (17) and key washer (18) from rear of housing (1).

(4) To replace part, perform removal procedure in reverse order.

c. Removing and Replacing Spread Beam/Compact Beam Switch S2 (figure 9-6). To remove beam switch S2 (15) from the remote control box, proceed as follows:

(1) Unsolder and remove wires on back of switch.

(2) With toggle at the center position use a deep socket to unscrew and remove switch mounting nut (22) and star washer (23).

(3) Push toggle through mounting hole in housing (1) and remove switch (15) washer (17) and keying washer (18) from back of housing.

(4) To replace part, perform removal procedure in reverse order.

d. Removing and Replacing OVER TEMP or LAMP ON Indicators (figure 9-6). To remove OVER TEMP or LAMP ON indicator (9), (12) from the remote control box, proceed as follows:

(1) Unscrew end remove colored indicator light lens (8, 11) and bulb (9, 12) from front of control box housing.

(2) Unsolder and remove wires on back of indicator light housings (10, 13).

(3) Unscrew and remove mounting nut (25) and washer (24).

(4) Push on rear of indicator light housing until housing drops out front of remote control box housing.

(5) To replace part, perform removal procedure in reverse order.

e. Removing and Replacing Indicator Bulb (figure 9-6).

(1) To remove, pull bulbs (9, 12) straight out of colored indicator light lens (8, 11) with fingernail or suitable tool.

(2) To replace part, insert bulb in colored indicator light lens until bulb snaps in place.

Section IV. REPLACEMENT PROCEDURES FOR SEARCHLIGHT COMPONENTS

9-7. General

Before proceeding to the replacement procedures listed in paragraph 9-8, prepare the searchlight assembly by removing the searchlight housing.

a. Removing Searchlight Housing (figure 9-7)

(1) Disconnect the interconnecting cable to connector 1A2J1 (16).

(2) Short circuit connector 1A2J1 (16) pins T and X.

(3) Release the seven latches (25) holding the heat exchanger (18) to the outer case (l).

(4) Remove the blower motor wires connected to TB3 terminals 1A and 2A on heat exchanger (18).

(5) Remove the wires connected to the ballast resistor terminal.

(6) Remove the nut (13) lockwasher (14) and washer (15) holding connect 1A2J1 (16).

(7) Push the connector (16) and gasket (17) back inside the outer case.

(8) Stand the searchlight on its back with the lens facing up.

(9) Unscrew the rear mounting bolt (3) and washer (4) located by each handle.

(10) Unscrew and remove the two mounting bolts (5) and washers (6, 7, 8) on the bottom outside edges of the case directly behind the searchlight lens.

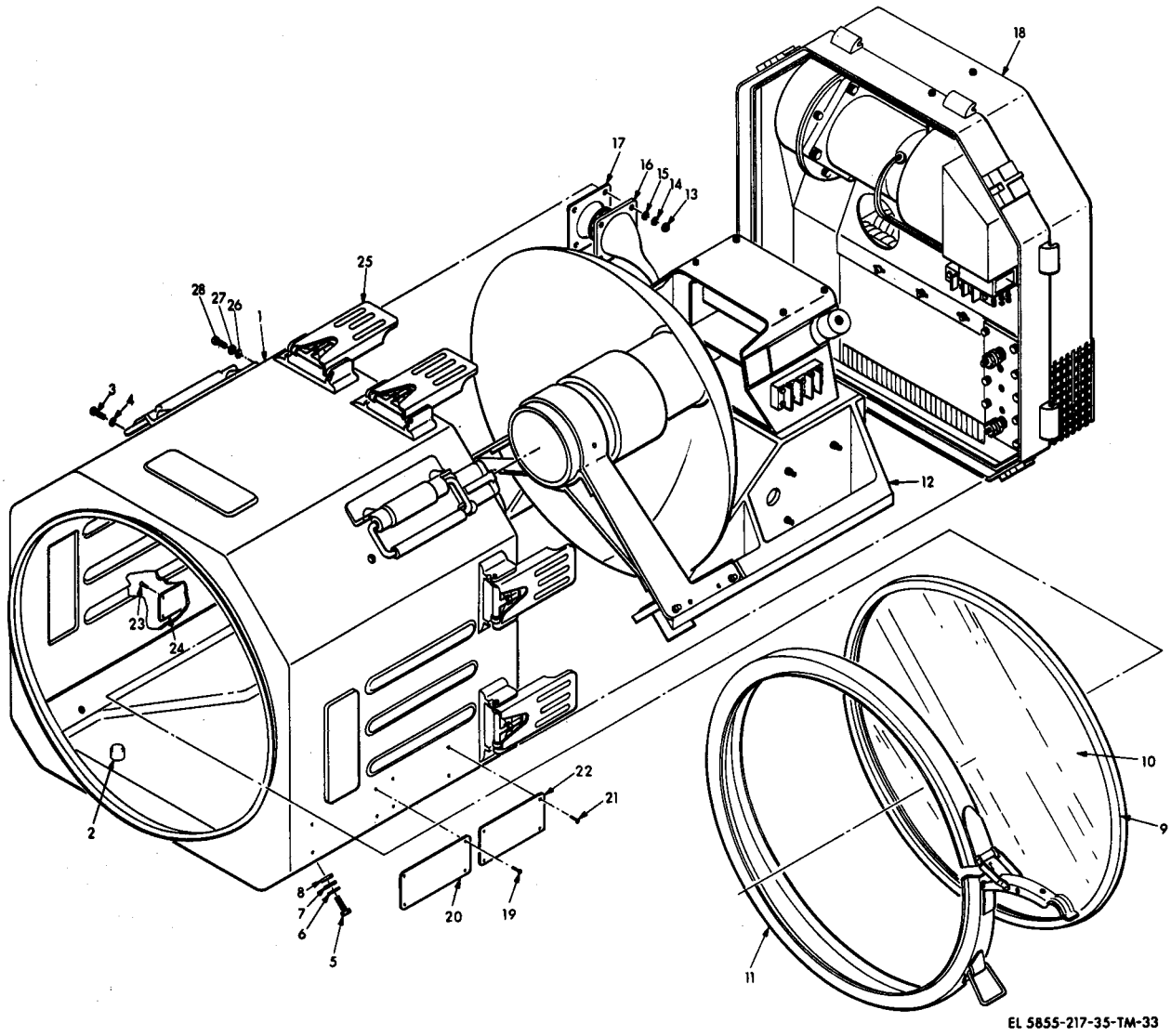
(11) The outer case is now free from the searchlight frame. Pull the outer case directly up while looking through the searchlight lens for any unusual obstructions.

(12) As the rear of the outer case approaches the reflector, the outer case must be tilted forward toward the bottom of the searchlight.

(13) Store the outer case in a safe place when the outer case is free of the searchlight frame,

***Note*: Refer to the last item in paragraph 9—8 for searchlight housing replacement procedure.**

See figure 9-8 for location of parts in searchlight.



1 Housing, searchlight subassembly, 1A1
2 Screw thread insert, 1A1MP9—4
3 Machine screw, 1H1—4
4 Flat washer, 1H2—4
5 Cap screw, 1H1—4
6 Flat washer, 1H2—4
7 Lockwasher, 1H4—4
8 Seal washer, 1H3—4
9 Seal, rubber channel, 1MP7
10 Window, searchlight, 1MP5
11 Coupling, clamp, grooved, 1MP6
12 Support assembly, searchlight, 1A2
13 Hexagon plain nut, 1H10—4
14 Seal washer, 1H9—4
15 Lockwasher, 1H11—4
16 Connector, receptacle, electrical, 1A2J1
17 Connector, gasket, 2A1MP5
18 Heat exchanger-case assembly, 1A3
19 Rivet, self sealing, 1H5—4
20 Plate, instruction, 1MP1
21 Rivet, self-sealing, 1H6—4
22 Plate, instruction, 1MP2
23 Rivet, self-sealing, 1H7—4
24 Plate, identification, 1MP3
25 Catch, clamping, 1A1MP2—thru 1A1MP6, 1A1MP13, 1A1MP1
26 Seal, Part of Washer no. 27
27 Washer, flat, 1H8—4
28 Screw, machine, 1H7—4

Figure 9–7. Searchlight set, IR (control box).

9-8. Removal and Replacement of Parts in Searchlight

WARNING

Before attempting to remove or replace the xenon lamp (5), wear a safety mask, leather gloves and leather jacket.

a. Removing Xenon Lamp (figure 9-8). To remove the xenon lamp (5) from the searchlight, proceed as follows:

(1) Unscrew and remove four screws (1) and washers (2, 3) in front lamp holder assembly.

(2) Remove front lamp support clip (4) by pulling away from searchlight.

(3) Use the xenon lamp holder as a tool and insert the holder through the hole in the biped assembly.

(4) Slide the xenon lamp holder over the xenon lamp (5) (figure 9-8).

(5) Unscrew the xenon lamp (5) by turning the lamp holder in a counterclockwise direction.

(6) Remove the xenon lamp (5) by pulling out through the biped (7) center piece.

(7) Store the xenon lamp in a safe place.

b. Replacing Xenon Lamp (figure 9-8). To replace the xenon lamp (5) in the searchlight, proceed as follows:

(1) Use the xenon lamp holder as a tool to install the new lamp.

(2) Slide the xenon lamp (5) through the bipod assembly (7) into the lamp housing.

(3) Thread the xenon lamp into the cradle assembly (41) by turning lamp in a clockwise direction.

(4) Remove lamp holder from xenon lamp.

(5) Slide the lamp support clip (4) over xenon lamp (5).

(6) Align screw mounting holes in lamp support clip with holes in biped assembly (7).

(7) Insert mounting screws (1) and washers (2, 3) and tighten. Be sure to replace wire terminal underneath mounting screw.

c. Removing Switching Diode 1A2 CR1 (figure 9-8). To remove switching diode CR1 (96) from the searchlight, proceed as follows:

(1) Remove terminals wires from diode by removing attaching parts (97, 98, 99, 100).

(2) Unscrew mounting nut (94) and washer (95) and remove wires.

(3) Remove diode CR1 (96)

d. Replacing Switching Diode CR1 (figure 9-8). To replace switching diode CR1 (96) in the searchlight, proceed as follows:

(1) Insert the threaded terminal end of the diode (96) through the mounting hole provided on the searchlight support (92).

(2) Sequentially place the following items over the threaded terminal stud on the diode:

Quantity	*Item*
1	Flat washer (part of diode)
1	Terminal lug, medium size
1	Terminal lug, small size
1	Lockwasher (103)
1	Mounting nut (102)

(3) Tighten mounting nut to assure a good rigid mechanical and electrical fit.

(4) Install terminal wires to diode and install parts (97, 98, 99, 100).

e. Removing Infrared Filter Motor Limit Switches S1 and S2 (figure 9-8). To remove switches S1 and S2 (140) from the searchlight, proceed as follows:

(1) Disconnect and tag wires from switches (140).

(2) Remove mounting bolts (141) holding switch bracket (139) to bracket assembly (137).

(3) Remove switches and switch bracket from bracket assembly (137).

1 Screw, machine, H25—4
2 Washer, lock, H67—4
3 Washer, flat, H36—4
4 Lamp support holder assembly, A12
5 Xenon lamp, DS1
6 Spring pin, MP44
7 Lamp support bipod assembly, A10
8 Socket head cap screw, H28—4
9 Loop clamp, MP40, MP41
10 Washer, lock and flat, H85—4, H44—4
11 Bipod plate spacer, MP16, MP17
12 Spring pin, MP45
13 Screw, machine, H16—1
14 Loopclamp, MP24
15 Washer, flat, H39—1
16 Washer, lock, H72—1
17 Clinch self-locking nut, A10MP2
18 Thermostatic switch, S3
19 Thermostatic switch, S4
20 Filter retaining ring, A10MP1
21 Screw, socket head cap, H26—6
22 Washer, lock H61—6
23 Washer, flat, H96—6
24 Screw, socket head cap, A11H1—8
25 Reflector retaining ring, A11MP3
26 Reflector, A11MP1
27 Light reflector adapter, A11MP2
28 Infrared filter subassembly, A8A1
29 Infrared filter, A8A1FL1
30 Preformed packing, A8A1MP1 through A8A1MP6
31 Filter sleeve, A8MP1
32 Infrared filter assembly, A8
33 Screw, machine, H15—4
34 Washer, lock, H71—4
35 Washer, flat, H49—4
36 Lamp air inlet, MP22
37 Gasket, MP23
38 Adapter retainer, H1—1
39 Adapter bearing block, MP1
40 Nylon locking pellet, MP2
41 Lamp holder adapter assembly, A2
42 Lamp cradle assembly, A1
43 Screw, machine, H14—2
44 Washer, lock, H70—2
45 Washer, flat, H48—2
46 Lamp housing assembly, A7
47 Machine screw, H14—2
48 Screw thread insert, A7MP2—10
49 Screw, socket head cap, MP48
50 High voltage bushing insulator, MP20
51 Spur gear, MP14
52 Spring pin, H4—1
53 Screw, socket head cap, H103—1, H104—1
54 Washer, lock, H62—1, H63—1
55 Sleeve spacer, MP42, MP43
56 Screw, machine, H100—4
57 Filter motor bracket, MP15
58 Motor unit, A13
59 Nut, hex, plain, H102—4
60 Washer, lock, H101—4
61 Washer, flat, H64—4
62 Screw, machine, H30—1
63 Washer, flat, H45—2
64 Laminated shim, MP21
65 Focus motor plate spacer, MP2
66 Screw, shoulder, H5-4
67 Searchlight focus assembly, A4
68 Screw, socket head cap, H27—4
69 Washer, flat, H41—4
70 Washer, lock, H82—4
71 Spring pin, H106—1
72 Rigid connecting link, MP5
73 Rod end plain bearing, A6MP1
74 Spring pin, A6MP3
75 Deflector shaft threaded pin, A6MP1
76 Nut, plain, hexagon, MP49
77 Rod end plain bearing, MP30
78 Screw, socket head cap, H32—1
79 Washer, lock, H87—1
80 Washer, flat, H46—1
81 Screw, socket head cap, H29—1
82 Washer, flat, H34—1
83 Deflection bracket plate spacer, MP7
84 Retaining ring, H99—1
85 Deflector assembly (welded), MP3
86 Screw, machine, A5H1—1
87 Connecting link bearing block assembly, A5
88 Screw, socket head cap, H3—2
89 Washer, lock, H66—2
90 Washer, flat, H35—2
91 Screw thread insert, A9MP3—4
92 Searchlight support, A9
93 Screw thread insert, A9MP1—2
94 Nut (part of diode)
95 Washer (part of diode)
96 Diode semiconductor device, CR1
97 Screw, machine, H31—1
98 Nut, plain, hexagon, H91—1
99 Washer, lock, H88—1
100 Washer, flat, H47—1
101 Instruction marker, MP4
102 Hexagon extended washer, nut, H105—3
103 Washer H107—3
104 Booster-starter assembly, E4
105 Instruction marker, MP26
106 Insulated feedthrough terminal, E2, E1
107 Hexagon plain nut, H92—2 H93—2
108 Spring tension clip, MP51, MP52
109 Paper dielectric fixed capacitor, C1
110 Screw, socket head cap, H1—1, H2—1
111 Washer, flat, H97—1, H98—1
112 Limiter bracket, MP18, MP19
113 Rubber grommet, MP54
114 Socket head cap screw, H24—4
115 Screw, machine, H7—1, H6—1
116 Washer, lock, H69—1, H68—1
117 Washer, flat, A2H38—1, A2H37—1
118 Cartridge fuse, F1, F2
119 Screw, machine, H10—1 through H13—1
120 Washer, lock, H75—1 through H78—1
121 Flat washer, H51—1 through H54—1
122 Fuse holder, XF1, XF2, MP31, MP32
123 Machine screw, H9—1
124 Lockwasher, H83—1
125 Flat washer, A2H59—1
126 Loop clamp, MP33, MP34
127 Machine screw, lock and flat washer, H8—1, H82—1, A2H58—1
128 Machine screw, H22—4
129 Flat washer, H60—12
130 Hexagon plain nut, H94—8
131 Lockwasher, H89—8
132 Flat washer, H60—12
133 Machine screw, H17—2, H18—2
134 Hex plain nut, H94—8
135 Lockwasher, H89—8
136 Flat washer, H60—12
137 Resilient mount bracket assembly, A2A3
138 Nut (part of limit switch) no number
139 Limit switch bracket, MP6
140 Limit switch, S1, S2
141 Socket head cap screw, H33—2
142 Center hole
143 Hex plain nut, H94—8
144 Lockwasher, H89—8
145 Flat washer, H60—12
146 Solid rivet, A3H1—2, A3H2—2
147 Plate self-locking nut, A3MP14
148 Resilient mount, MP10 through MP13
149 Self-locking nut, A3MP13
150 Machine screw, H23—4
151 Hex plain nut, H90—4
152 Lockwasher, H84—4
153 Flat washer, H43—4
154 Lamp igniter, E3
155 Instruction marker, MP27
156 Screw thread insert, A3MP2—7 A3MP9—4
157 Rubber grommet, MP35 thru MP39
158 Machine screw, H19—1
159 Lockwasher, H81—1
160 Flat washer, H57—1
161 Loop clamp, MP53
162 Machine screw, H21—4
163 Lockwasher, H74—4
164 Flat washer, H40—4
165 Terminal board, TB1
166 Identification marker, MP29
167 Machine screw, H20—4
168 Lockwasher, H73—4
169 Flat washer, H50—4
170 Terminal board, TB2
171 Identification marker, MP28
172 Cartridge fuse, F1, F2 (Spares)
173 Machine screw, H10—1 thru H13—1
174 Lockwasher, H75—1 thru H78—1
175 Flat washer, H51—1 thru H54—1
176 Fuse holder, XF1, XF2, MP31, MP32

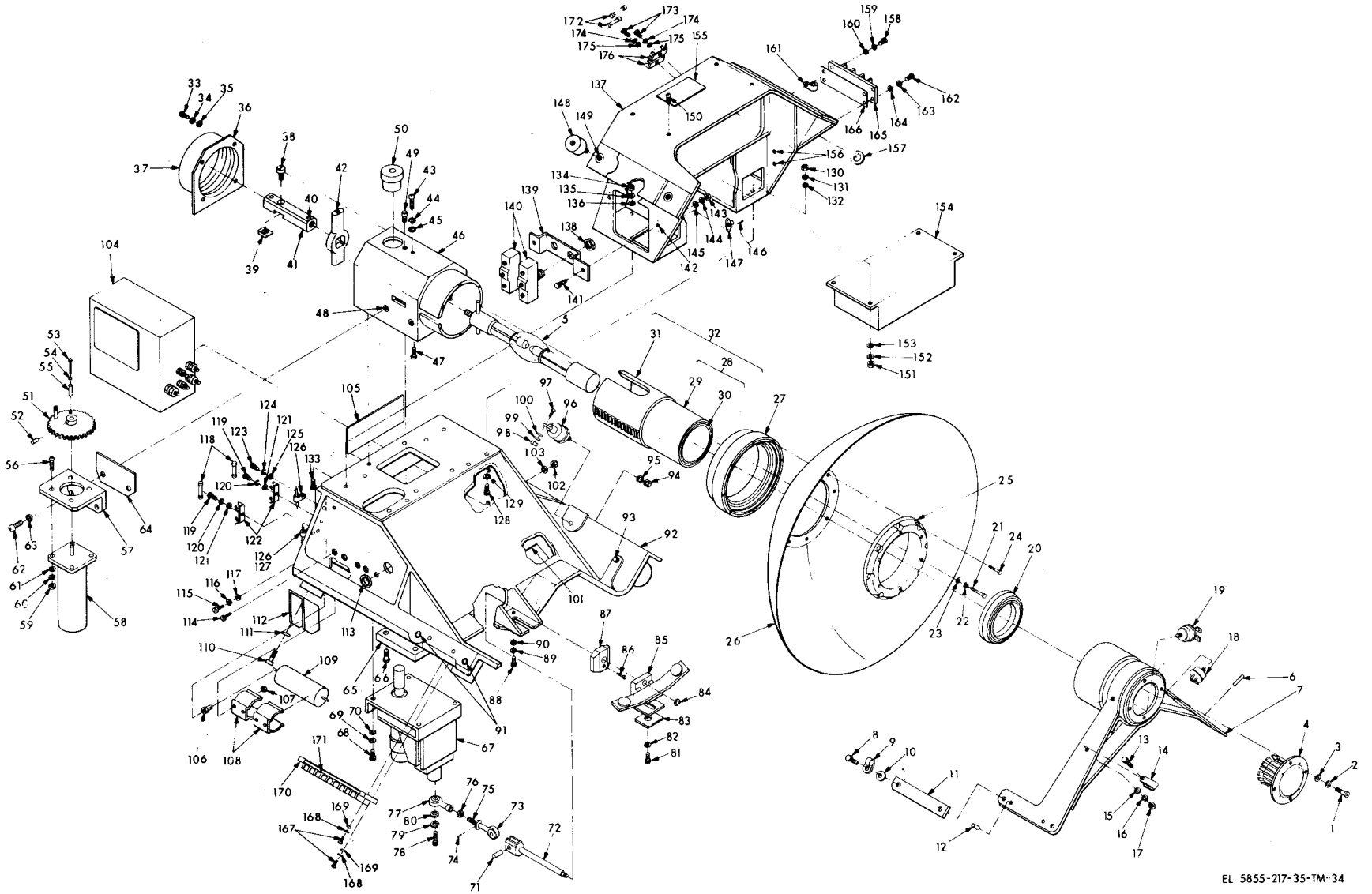


Figure 9—8. Searchlight assembly, exploded view.

(4) Remove mounting nuts (138) from switch collar.

(5) Remove switches (140) from switch bracket (139).

f. Replacing Infrared Filter Motor Limit Switches S1 and S2 (figure 9-8). TO replace switches S1 and S2 from the searchlight, proceed as follows:

(1) Thread one mounting nut (138) three-quarters the way down each switch collar (140).

(2) Position the limit switches (140) on the switch bracket (139) so that the normally closed terminal will be pointing down when the switch bracket is mounted to the frame assembly.

(3) Thread the additional mounting nut on to each switch collar. Do not tighten the nuts more than finger tight.

(4) Perform adjustment of filter assembly using procedure in paragraph 8-29.

g. Removing Infrared Filter Motor (58) (figure 9-8). To remove IR filter motor (58) from the searchlight, proceed as follows:

(1) Remove IR filter motor limit switches S1 and S2 by performing removal procedure described in paragraph 9-8e.

(2) Remove and tag wires from bottom of filter motor (58).

(3) Remove the two mounting screws (62) and washer (63) holding the bracket (57) to the lamp housing assembly (46) by passing a wrench through the access hole.

(4) Remove the filter motor (58), filter motor bracket (57) and gasket (64) through the access hole.

h. Replacing Infrared Filter Motor (58) (figure 9-8). To replace IR filter motor (58) in the searchlight, proceed as follows:

(1) Slide the infrared filter assembly (32) out of the reflector until the filter contacts the biped assembly.

(2) Rotate the filter motor gear until the two vertical arms on the gear are located next to the lamp housing assembly (46).

(3) Rotate the gear about a quarter turn so that the forward vertical arm will be in a position to contact the push button on the forward switch (140).

(4) Engage the gear (51) on the filter motor (58) to the gear teeth on the side of the infrared filter (29).

(5) Align the holes in the motor mounting plate (57) to the holes in the lamp housing (46).

(6) Insert the motor mounting bolts (62) and washers (63) and tighten.

(7) Perform infrared filter adjustment procedure in accordance with paragraph 8–29.

i. Removing Thermal Switches S3 and S4 (figure 9—8). To remove thermal switches S3 (18) and S4 (19) from the searchlight, proceed as follows :

NOTE

The thermal switches are located inside the biped assembly (7).

(1) Remove xenon lamp by performing removal procedure described in paragraph 9-8a.

(2) Unsolder and tag the wires to the thermal switches.

(3) Unscrew the thermal switch which is stud mounted to the inside of the biped assembly.

(4) Remove the thermal switch from the biped assembly (7).

j. Replacing Thermal Switches S3 and S4 (figure 9-8). To replace thermal switches S3 (18) and S4 (19) in the searchlight proceed, as follows:

NOTE

Replacement cannot be made with xenon lamp installed.

(1) Face the front of the searchlight and screw the mounting stud of thermal switch S3 (18) into the mounting hole on the right side of the biped assembly.

(2) Screw the mounting stud of thermal switch S4 (19) into the mounting hole on the left side of the biped assembly.

(3) Using an ohmmeter, measure from the following pins on 1J1 to the wires inside the biped assembly. As each wire is identified, connect the wire to the proper terminal of S3 or S4 as shown below.

J1-N to S4-1	J1-R to S3-1
J1-W to S4-2	J1-V to S3-2

(4) Solder the wires to S3 and S4.

(5) Darken any bright surfaces with opaque ceramic paint to prevent light reflections from occurring.

k. Removing Biped (figure 9-8). To remove the biped (7) from the searchlight, proceed as follows:

(1) Remove xenon lamp (5) by performing removal procedure described in paragraph 9-8, a.

(2) Remove cable clamps.

(3) Remove screws and washers (8 and 10) and spacer plate (11).

(4) Pry the biped assembly (7) off the alignment pins on one side and then the other side of the searchlight support (92).

(5) Remove the biped assembly (7) from the searchlight support (92).

l. Replacing Biped (figure 9-8). To replace the biped (7) in the searchlight, proceed as follows:

(1) Position the biped assembly (7) to align one leg to the alignment pins on the searchlight support (92).

(2) Seat the biped assembly legs on the alignment pins located on the searchlight support (92).

(3) Place spacer plate (11) on the biped assembly (7).

(4) Replace cable and secure with cable clamps.

(5) Tighten all mounting bolts.

(6) Peform infrared filter adjustment procedure in accordance with paragraph 8—29.

m. Removing Reflector (figure 9-8). To remove the reflector (26) from the searchlight, proceed as follows:

CAUTION

Do not touch shiny surface of reflector. Dulling of reflecting surface by dirt, grease, or finger acids will reduce searchlight output drastically.

(1) Remove xenon lamp (5) by performing removal procedure described in paragraph 9-8, a.

(2) Remove biped assembly (7) by performing removal procedure described in paragraph 9-8, k.

(3) Electrically drive the infrared filter (29) back until it is flush with the reflector retaining ring (25) by applying +24V dc to TB2-6 and TB2-7.

(4) Remove socket-headed cap screws (24).

(5) Remove the mirror reflector (26) by very gently twisting and pulling until the reflector comes free. Be careful not to apply excessive pressure to mirror.

n. Replacing Reflector (figure 9-8). To replace the reflector (26) in the searchlight, proceed as follows :

(1) Position the reflector over the infrared filter (29).

(2) Align the screw holes in the reflector with the screw holes in lamp housing assembly (46).

(3) Insert the socket head cap screw (24) into the screw holes.

(4) Tighten the screws.

CAUTION

Do not touch the infrared filter with bare hands. Finger acids will cause light leakage through filter. Wear soft cotton or linen gloves during removal and replacement procedures.

o. Removing Infrared Filter (figure 9-8). To remove the infrared filter (32) from the searchlight, proceed as follows.

(1) Remove xenon lamp (5) by performing removal procedure described in paragraph 9-8a.

(2) Remove biped assembly (7) by performing removal procedure described in paragraph 9-8k.

(3) Remove reflector (26) by performing procedure in paragraph 9-8, m.

(4) Remove infrared filter motor (58) by performing procedure in paragraph 9-8g.

(5) Pull the infrared filter (29) out through the lamp housing (46) toward the front of the searchlight.

(6) Store the infrared filter in a safe place.

p. Replacing Infrared Filter (figure 9-8). To replace infrared filter (29), follow removal procedure in reverse order. Adjust filter and filter motor by performing procedure in paragraph 8-29.

NOTE

Before turning off power to searchlight, place the searchlight in the COMPACT beam mode.

q. Removing Reflector Drive Mechanism Including Limit Switch S5 and Focus Motor (67). To remove the reflector drive mechanism from the searchlight, proceed as follows:

(1) Remove four mounting screws (2) (figure 9-9).

(2) Remove rear cover plate (3) (figure 9-9).

(3) Place the searchlight assembly on its back with the reflector pointing up.

(4) Remove retaining screw (4) (figure 9-10).

(5) Remove wires from focus motor terminals (6), (figure 9-10).

(6) Remove wires from focus motor terminals (7), (figure 9-10).

(7) Tag and unsolder the wires from wafer switch S5.

(8) Remove and tag wires on focus motor.

(9) Remove mounting screws (3), (5), (8) and (9) (figures 9–10).

(10) Place the searchlight frame back to its normal position as shown in figure 9—9.

(11) Remove the socket head cap screw (49) (figure 9–8) directly ahead of high voltage bushing insulator (50) (figure 9—8). Removal of the socket head cap screw provides an access hole for a screw driver.

(12) Pass a narrow blade screw driver through the access hole in the top of the lamp housing (46) (figure 9-8). Unscrew the retaining screw (38) holding the eccentric to the dovetail block (39) (figure 9-8).

(13) Remove the focus motor (5) (figure 9-9) and wafer switch S5 (figure 9-10) from the searchlight frame.

(14) To remove wafer switch S5, loosen setscrew (2) (figure 9-11) on deflector eccentric, and drive out spring pin (3) (figure 9-11).

(15) Remove deflector eccentric (1) (figure 9-11) from deflection shaft (9) (figure 9-11).

(16) Remove the two wafer switch mounting screws on S5 (6) (figure 9-11).

(17) Remove wafer switch S5 (4) (figure 9-11).

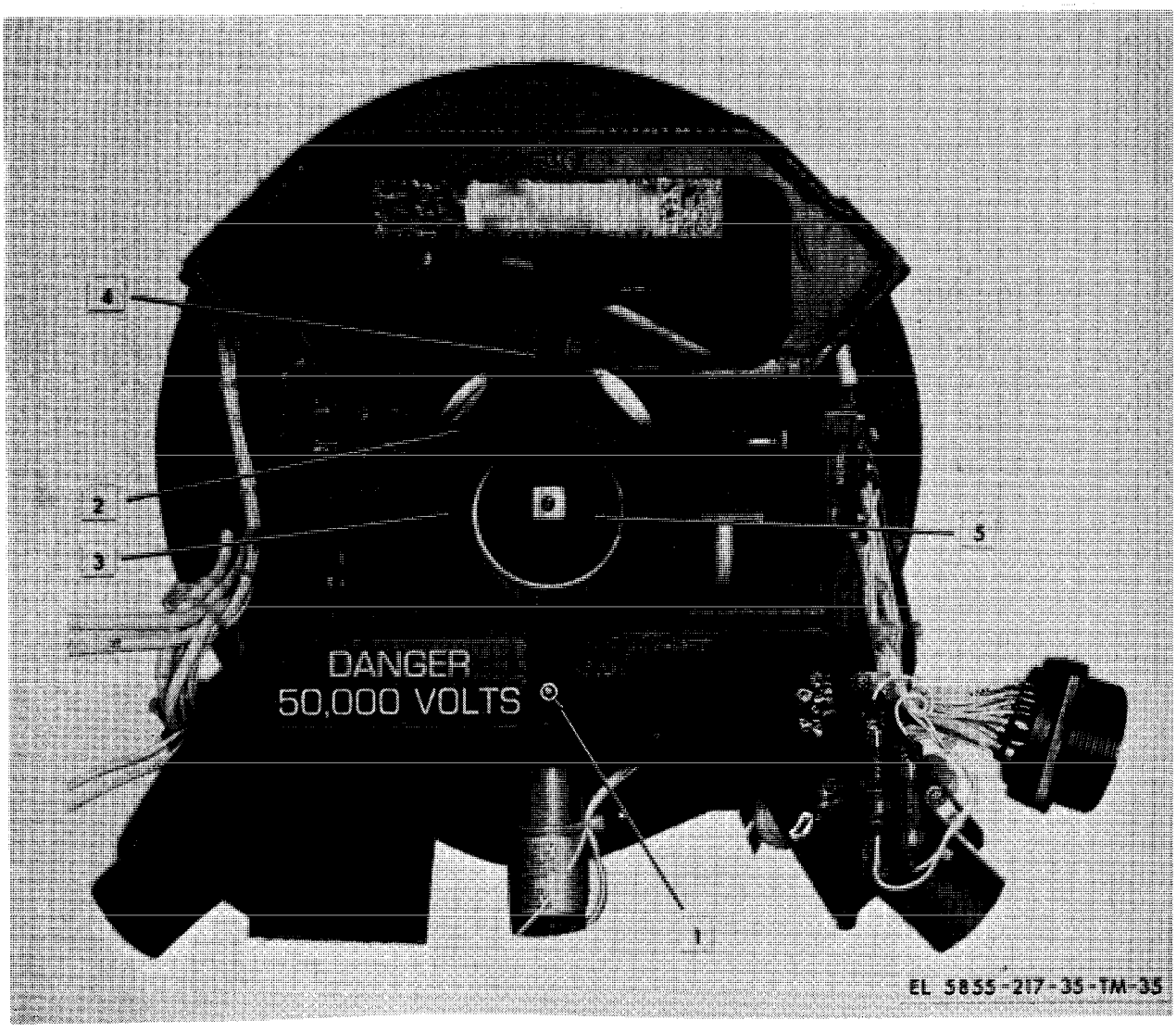
(18) Remove and tag wires on limit switch.

r. Replacing Reflector Drive Mechanism Including Wafer Switch S5 and Focus Motor B1 (figure 9-11). To replace the reflector drive mechanism in the searchlight, proceed as follows:

(1) Place wafer switch (4) over deflection shaft (9).

(2) Insert two sleeve spacers (5) under wafer switch wafer (4) and install mounting screws (6) through sleeve spacers.

(3) Place deflector eccentric (1) over deflection shaft (9).



1 Focus adjustment setscrew
2 Rear cover plate mounting screws
3 Rear cover plate
4 High voltage busing insulator
5 Searchlight focus motor assembly

Figure 9-9. Searchlight assembly, case removed.

(4) Insert setscrew (2) (figure 9-11) through deflector eccentric (1) and deflection shaft (9).

(5) Refer to figure 9-10 andorient motor and switch as shown.

(6) Insert the motor, mounting plate, and wafer switch into the searchlight frame taking care to align focus cam control with the hole in the bottom of the lamp housing (46) (figure 9-8).

(7) Align focus cam control with dovetail block (38) (figure 9-8).

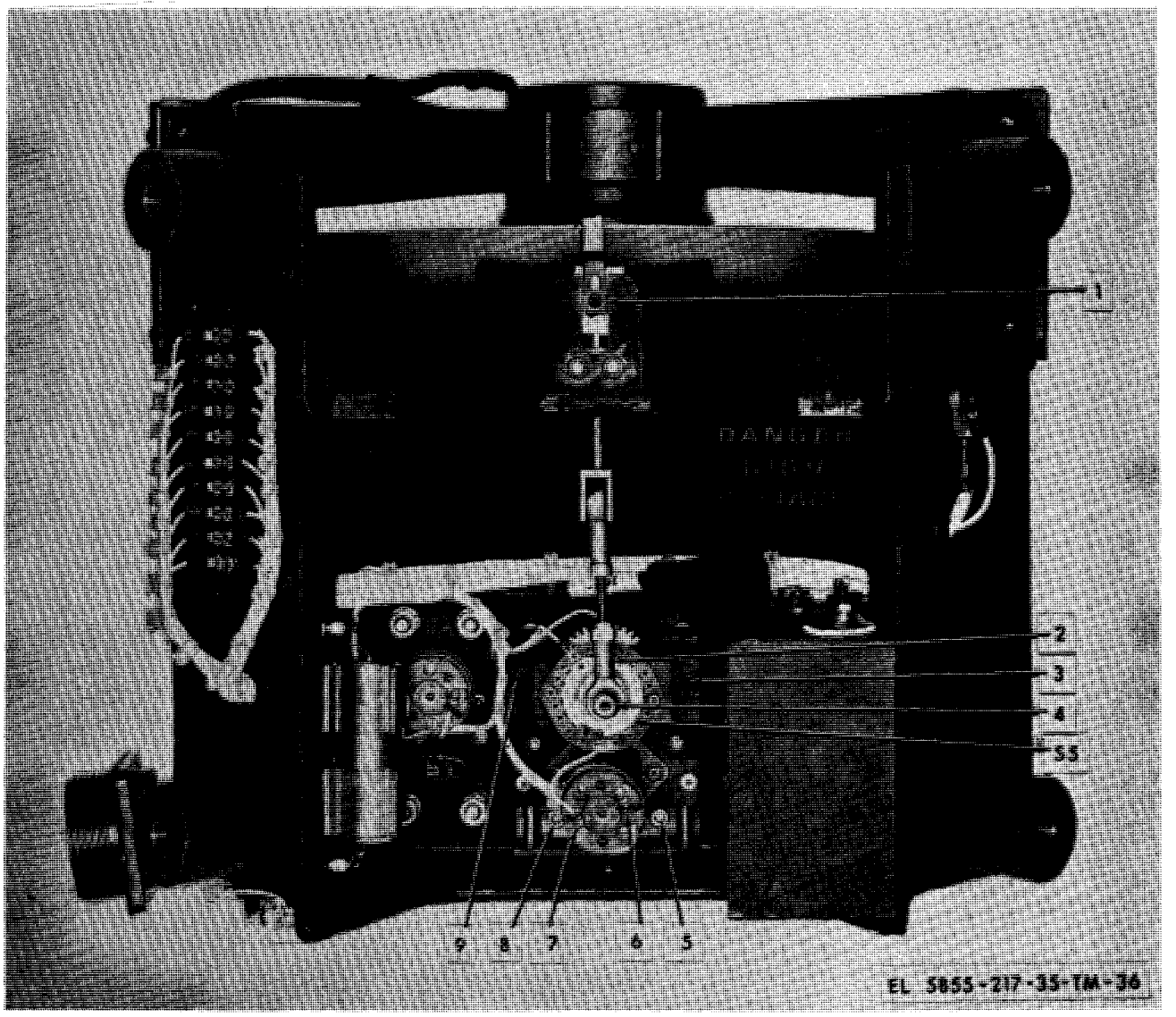
(8) Align the mounting holes (3), (5), (8) and (9) (figure 9-10) with the holes in the searchlight frame.

(9) Insert mounting screws through holes in the mounting plate and tighten.

(10) Insert the retaining screw into top of dovetail block and into cam control and tighten.

(11) Align mounting holes in rear cover plate (3) (figure 9-9) as shown in figure.

(12) Insert mounting bolts (2) (figure 9-9) and tighten.



1 Deflection bracket cap screw
2 Deflection rod
3 Mounting screw
4 Retaiing screw
5 Mounting screw
6 Focus motor wire terminal
7 Focus motor wire terminal
8 Mounting screw
9 Mounting screw

Figure 9-10. Searchlight assembly.

(13) Connect and solder to the limit switch terminals the wires that were removed during disassembly.

(14) Connect the wires to the terminals on the focus motor (6) and (7) (figure 9-10).

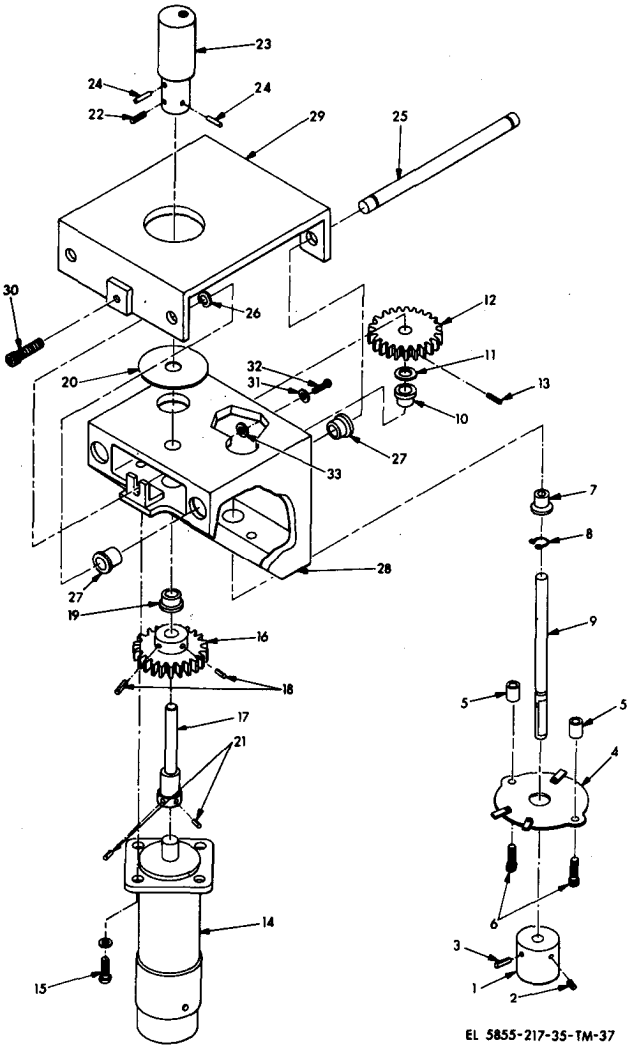
(15) Perform focus motor assembly adjustment procedure in accordance with paragraph 8-30.

s. Removing Booster-Starter Assembly (figure 9-8). To remove the booster-starter assembly from the searchlight, proceed as follows:

(1) Remove reflector drive mechanism following procedure in paragraph 9-8 q.

(2) On booster-starter assembly (104) (figure 9-8) remove and tag connecting wires.

(3) Unscrew and remove mounting nuts and washers (102, and 103).



1 Deflector eccentric, A4MP1
2 Setscrew, A4HI1—1
3 Spring pin, A4H7—1
4 Rotary switch, A4S5
5 Sleeve spacer, A4H—2
6 Socket head cap-screw, A4H12—2
7 Sleeve bearing, A4MP11
8 Retaining ring, A4H6—1
9 Deflection shaft, A4MP8
10 Sleeve bearing A4MP12
11 Shim washer, A4MP19
12 Spur gear, A4MP10
13 Spring pin, A4H9—1
14 Motor unit, A4A3
15 Socket head cap screw and flat washer, A4H13—4, A4H1—1 A4H1—1
16 Spur gear, A4MP7
17 Motor extension shaft, A4MP4
18 Setscrews, H14—2
19 Sleeve bearing, A4MP13
20 Focus motor shim, A4MP3
21 Spring pins, A4H10—1, A4H8—1
22 Setscrew, A4H14—2
23 Focus eccentric, A4MP2
24 Spring pin, A4H16—2
25 Focus motor guide shaft, A4MP5, A4MP6
26 Retaining ring, A4HH—2, A4H5—2
27 Sleeve bearing, A4MP14 thru A4MP17
28 Focus housing assembly, A4A2
29 Double angle bracket assembly, A4A1
30 Adjusting screw, A4MP9
31 Flat washer, A4H3—1
32 Screw, A4H15—1
33 Shim, A4MP18

NOTE

Partial reference designations are shown. For complete designation, prefix each item (reference designation) with assembly designation 1A2.

Figure 9-11. Focus assembly, searchlight.

(4) Pull booster-starter assembly away from searchlight support.

t. Replacing Booster-Starter Assembly (figure 9-8.). To replace the booster-starter assembly, proceed as follows:

(1) Orient booster-starter (104) so that threaded mounting studs pass through mounting holes in machining frame.

(2) Install and tighten mounting nuts (102) and washers (103).

(3) Install reflector drive mechanism following procedure in paragraph *9-8n.*

(4) Install wires on their proper terminals.

u. Removing Igniter Unit (figure 9-8). To remove igniter unit from the searchlight, proceed as follows:

(1) Remove and tag connecting wires.

(2) Unscrew and remove mounting nuts (151), washers (153, 152) and screw (150).

(3) Remove igniter unit (154).

v. *Replacing Igniter Unit (figure 9-8).* To replace igniter unit in the searchlight, proceed as follows:

(1) Mount igniter unit (154) to bracket assembly (137).

(2) Install and tighten mounting nuts, (151) washers (152, 153) and screw (150).

(3) Install wires on their proper terminals.

w. Replacing Searchlight Housing (figure 9-7). To replace the searchlight housing, proceed as follows:

(1) Mount the rear resilient mounts (148) on the searchlight bracket assembly (137) (figure 9-8).

(2) Place the searchlight frame on its back with the reflector facing up.

(3) Lower searchlight housing (1) over the searchlight frame assembly (12, figure 9-7).

(4) Observe the movement of housing through the searchlight window. Look for any obstructions which might stop housing from being lowered over frame assembly.

(5) Place housing and frame assembly in its normal position.

(6) Fit the connector 1A2J1 (16) and gasket (17) into the connector mounting hole.

(7) Align the mounting holes in the connector with the mounting holes in housing.

(8) Insert the mounting screw (28) and washer (27) into holes and place flat washer (15), lockwasher (14), and nut (13) on each bolt. Tighten each nut to the mounting bolt.

(9) Insert the two mounting bolts (3) and washers (4) below lifting handles. Tighten the mounting bolts.

(10) Insert the two mounting bolts (5, 6,7, 8) in the front bottom outer edges of the searchlight housing. Then, tighten the mounting bolts.

9-9. Removal and Replacement of Parts in Heat Exchanger

a. Removing Ballast Resistor (figures 9-12 *and 9-13).* To remove the ballast resistor (R1) from the heat exchanger, proceed as follows:

(1) Disconnect wires leading from searchlight housing to ballast resistor assembly (R1) (figure 9-12) and tag.

(2) Remove ten socket head screws (45), and washers (4) (figure 9-13) and lift ballast resistor assembly (R1) straight up and out of the rear cover assembly housing.

(3) Remove ballast resistor assembly gasket (42) (figure 9-13).

(4) To remove resistance element (40) (figure 9-13) from ballast resistor mounting board (43) (figure 9-13) remove socket head cap screws (51), washers (38), and hex head nuts (37).

b. Replacing Ballast Resistor (R1) (figures 9-12 *and 9-13).* To replace

(1) Position resistance element (40) on mounting board (43) (figure 9-13).

(2) Secure resistance element (40) (figure 9-13) with socket head cap screws (51), washers (38) and three hex head nuts (37).

(3) Place gasket (42) (figure 9-13) onto face of heat exchanger and align with screw holes. Insure that gasket and facing area is clean of dirt and other foreign elements.

(4) Carefully place ballast resistor assembly (R1) (figure 9–12) into position and align with the ten mounting screw holes. Use threaded rod to hold backup plate in place.

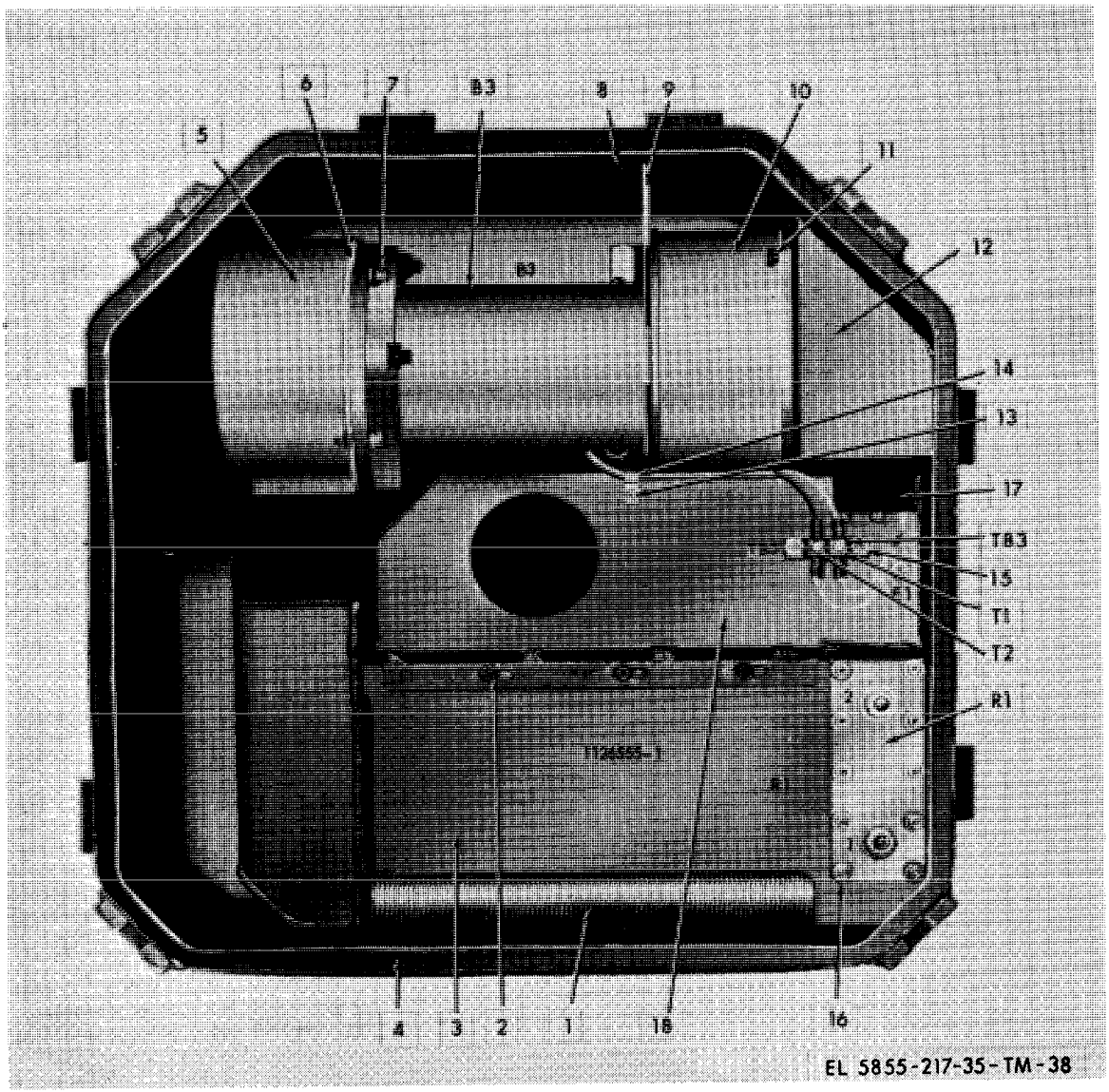
(5) For snug fit, evenly tighten all ten socket head screws (45) (figure 9-13) around the ballast resistor assembly mounting board (42) (figure 9-13).

c. Removing Plenum Chamber (figure 9-13). To remove the plenum chamber (11) from the heat exchanger, proceed as follows:

(1) Remove three socket head cap screws (8) and washers (7) and one socket head cap screw (6) washer (5) and clamps (4) holding plenum chamber (11) in place.

(2) Carefully lift plenum chamber straight up from and out of the rear cover assembly.

d. Replacing Plenum Chamber (figure 9-13). To



1 Heat sink tube
2 Socket head cap screw and washer
3 Heat exchanger assembly
4 Rear cover gasket
5 Blower housing
6 Motor mounting plate and gasket
7 Socket head cap screw; washer and sealing washer
8 Blower motor mounting bracket bolt
9 Blower motor mounting bracket
10 Blower wheel shroud assembly
11 Socket head cap screw and washer
12 Plenum assembly
13 Cable clamp screw and washer
14 Cable clamp
15 Terminal board mounting screw and washer
16 Ballast resistor assembly mounting screw
17 Filter assembly
18 Plenum chamber

Figure 9-12. Heat exchanger.

replace the plenum chamber (11) on the heat exchanger, proceed as follows:

(1) Carefully position plenum chamber (11) into heat exchanger.

(2) Replace three socket head cap screws (8), and washers (7) and tighten.

(3) Replace one socket head cap screw (6) washer (5) and clamps (4) and tighten.

e. Removing Blower Motor (figure 9-13). To remove the blower motor (23) from the heat exchanger, proceed as follows:

(1) Remove plenum chamber (11) (para

9-9c) and blower motor wires terminal board (1).

(2) Remove four socket head screws (52) and washers (53) from blower motor B3 flange.

(3) Remove cap head screws (30) and (34).

(4) Remove cap head screw (20) and washer (19).

(5) Remove blower motor.

f. Replacing Blower Motor (figure 9-13). To replace blower motor (23) on heat exchanger, proceed as follows:

(1) Install blower motor (23) into rear cover (31).

(2) Align shim (26) with inside holes on rear cover (31).

(3) Install cap head screws (30) through shim (23) in blower motor (23) and tighten.

(4) Install cap head screw (34) into blower shroud assembly (11, figure 9-14).

(5) Install cap head screws (20) and washers (19) through shroud and into rear cover (31) and tighten.

(6) Install cap head screw (52) and washers (53) into blower motor flange and tighten.

(7) Install blower motor wires to terminal board (1).

(8) Install plenum chamber as described in paragraph 9-10d.

g. Removing Blower Wheel (Exposed) (figure 9-14). To remove blower wheel (1) from blower motor, proceed as follows:

(1) Remove blower motor assembly from rear cover assembly (para 9-10e).

(2) Insert wrench between vanes of exposed blower wheel (1) and loosen setscrew. Note that blower wheel hub end is flush with motor shaft end.

(3) Slide exposed blower wheel off motor shaft.

h. Replacing Blower Wheel (Exposed) (figure 9-14). To replace blower wheel (1) on blower motor, proceed as follows:

CAUTION

Insure that blower wheel does not touch any blower housing screw heads following installation.

(1) Slide exposed blower wheel (1) onto motor shaft. Note that blower wheel hub end is flush with the motor shaft end.

(2) Insert wrench between vanes of blower wheel and then tighten setscrew.

i. Removing Blower Wheel (Covered) (figure 9-14). To remove blower wheel (14) from blower motor, proceed as follows:

(1) Remove blower motor assembly from rear cover assembly (para 9-10e)

(2) Insert hex wrench through rectangular aperture in blower housing and vanes of blower wheel and loosen setscrew.

(3) Slide blower wheel (14) off motor shaft.

j. Replacing Blower Wheel (Covered) (figure 9-14). To replace blower wheel (14) on blower motor, proceed as follows:

CAUTION

Insure that blower wheel does not touch any blower housing screw heads following installation.

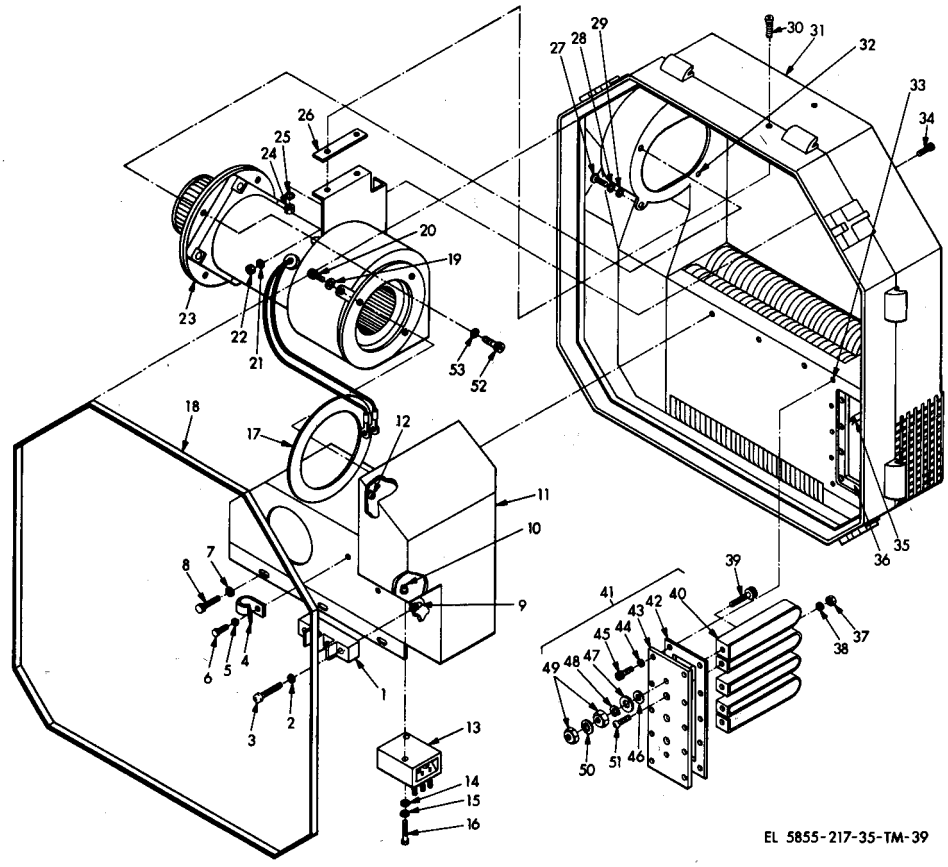
(1) Slide blower wheel onto motor shaft.

(2) Insert hex wrench through vanes of blower wheel and tighten setscrew.

k. Removing Blower Motor (figure 9-14). To remove blower housing (8) from shroud assembly, proceed as follows:

(1) Remove blower motor assembly from rear cover assembly (para 9-10e).

(2) Note position of blower motor to mount-

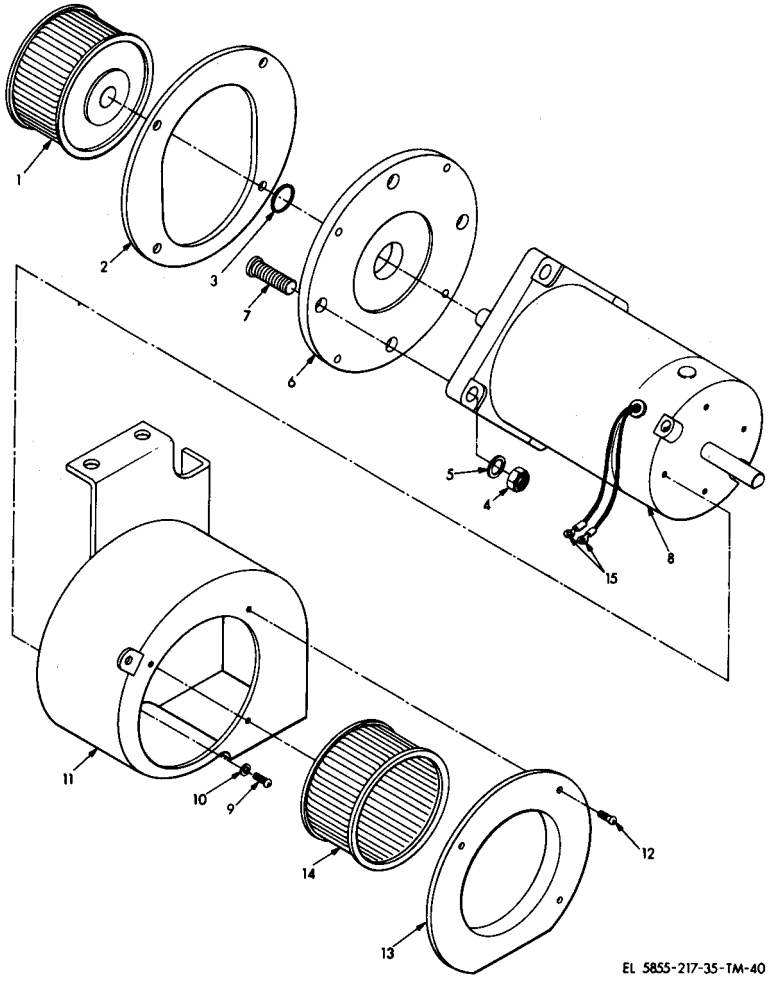


1 Terminal board, TB—3
2 Flat washer, H11—2
3 Machine screw, H3—2
4 Retaining strap, MP1
5 Flat washer, H12—1
6 Machine screw, H4—1
7 Flat washer, H14—3
8 Machine screw, H5—3
9 Clinch self-locking nut, A3MP1, A3MP2, A3MP3
10 Blind rivet nut, MP6—11
11 Heat exchanger plenum assembly, A3
12 Blind rivet nut, A3MP5
13 Capacitor case assembly, C1
14 Flat washer, H15—2
15 Lockwasher, H14—2
16 Panhead screw, H16—2
17 Blower wheel shroud gasket, MP3
18 Rubber special shape section, MP4
19 Flat washer, H17—1
20 Socket head cap screw, H7—1
21 Flat washer, H21—2
22 Hexagon self-locking nut, H2—2
23 Centrifugal fan assembly, A4
24 Hexagon self-locking nut, H2—2
25 Flat washer, H20—2
26 Shim, MP2
27 Cap screw, H8—4
28 Lockwasher, H16—4
29 Flat washer, H20—2, H21—2
30 Machine screw, H19—4
31 Heat exchanger ducting assembly, A2
32 Screw thread insert, A2MP1—4
33 Clinch self-locking nut, A2MP5, A2MP6
34 Machine screw, H19—4
35 Screw thread insert (weldment part of A2)
36 Ballast resistor plate support (weldment part of A2)
37 Hexagon plain nut, A1H8—3
38 Lockwasher, A1H6—3
39 Socket head cap screw, A1H1—2
40 Resistance element, A1R1
41 Ballast resistor assembly, A1
42 Ballast resistor gasket, A1MP2
43 Plate insulator, A1MP1
44 Seal and flat washer, H9—10, H13—10
45 Socket head cap screw, H6—10
46 Washer, A1H3—2
47 Flat washer, A1H4—2
48 Lockwasher, A1H5—2
49 Hexagon plain nut, A1H2—4
50 Packing with retainer, A1H7—2
51 Machine screw, A1H9—4
52 Cap screw, H8—4
53 Flat washer, H20—2, H21—2

NOTE

Partial reference designations are shown. For complete designation, prefix each item (reference designation) with assembly designation 1A3.

Figure 9-13. Heat exchanger, exploded view.



1 Blower wheel, A4MP3 Blower wheel, A4MP3
2 Motor mounting plategasket, A4MP4
3 Preformed packing, A4MP6
4 Self-locking nut, A4H3—4
5 Flat washer, A4H5—4
6 Motor mounting plate assembly, A4A1
7 Self-locking stud, A4A1MP2 thru A4A1MP5
8 Direct current motor. A4A2
9 Machine screw, A4H2—4
10 Flat washer, A4H4—4
11 Blower wheel shroud assembly, A4MP5
12 Machine screw, A4H1—3
13 Instrument retaining ring, A4MP1
14 Blower wheel, A4MP2
15 Lug terminal, A4E1, A4E2

NOTE

Partial reference designations are shown. For complete designation, prefix each item (reference designation) with assembly designation 1A3.

Figure 9-14. Blower wheel shroud,

ing bracket, i.e., wires and brushes near top of assembly.

(3) Remove blower wheel (para 9-10i).

(4) Remove four screws (9, 10) inside shroud attaching it to motor (8).

m. Replacing Blower Motor (figure 9-14). To replace blower housing (8) on shroud assembly, proceed as follows:

(1) Note position of blower motor to mounting bracket, i.e., wires and brushes near top of assembly.

(2) Replace four screws (9, 10) inside shroud attaching it and motor housing (8).

(3) Install blower wheel (para 9-10j).

n. Removing Flange (figure 9-14). To remove flange (6) from motor (8) proceed as follows:

(1) Remove blower motor assembly from rear cover assembly (para 9-10e).

(2) Remove blower wheel (para 9-10g).

(3) Remove four nuts (4) and washers (5) from studs (7) on flange (6) and separate flange from motor (8).

p. Replacing Flange (figure 9-14). To replace flange (6) on motor (8), proceed as follows:

(1) Replace four nuts (4) and washers (5) on studs (7) on flange (6) and secure through motor flange (8).

(2) Insure gasket (2) is in place and replace blower wheel (para 9-10j).

NOTE

As an aid in troubleshooting, the overall schematic for the searchlight set, figure 9-13, and wiring diagrams for the searchlight, control box, and remote control box, figures 5-14 through 5-16, are included in this manual.

Figure 9-15. 1 kW Searchlight set schematic,
(Located in back of manual.)

Figure 9-17. Control box wiring diagram,
(Located in back of manual.)

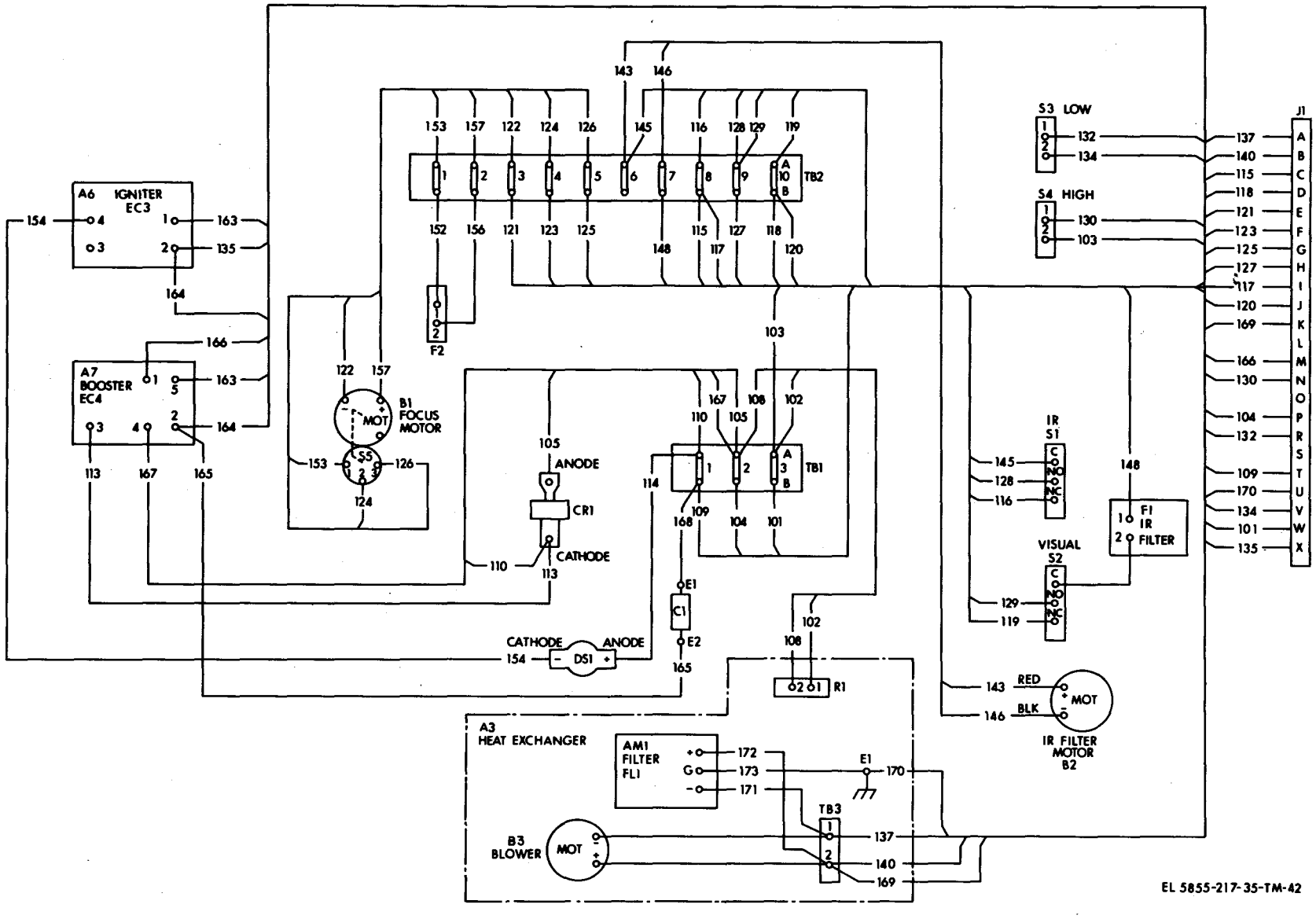


Figure 9—16. 1 kW Searchlight wiring diagram.

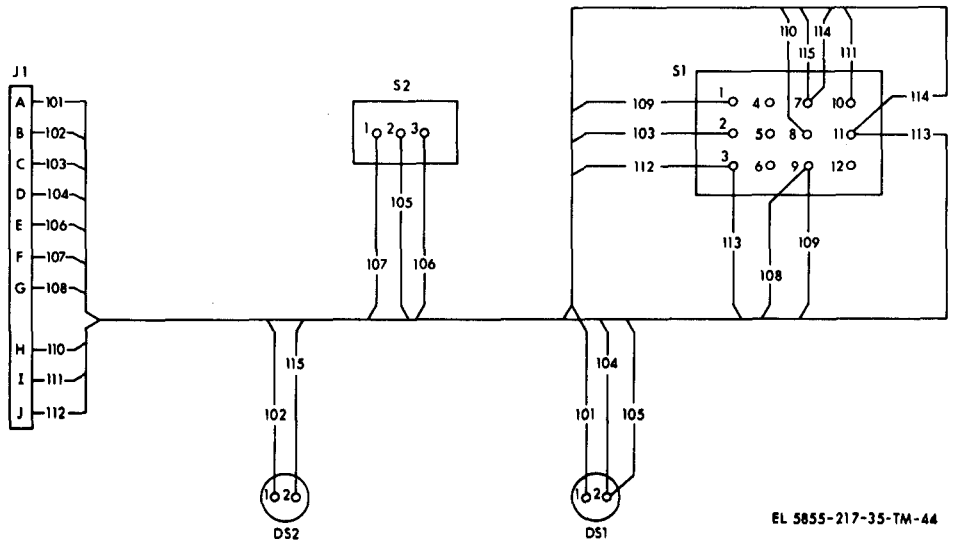


Figure 9-18. Remote control box wiring diagram.

CHAPTER 10

DEPOT INSPECTION STANDARDS

Section I. GENERAL

10-1. Applicability of Depot Inspection Standards

Searchlight Set, Infrared AN/VSS-3 must be tested thoroughly after rebuild or repair to assure that it meets adequate performance standards for return to stock and reissue. Use the tests described in this chapter to measure the performance of the repaired searchlight set. It is mandatory that equipment to be reissued, or returned to stock for reissue, meets all of the performance standards given in this chapter.

10-2. Applicable References

a. Repair Standards. Applicable procedures of the Signal Corps depot performing this test and its general standards for repaired signal equipment.

b. Technical Publications: The technical publications applicable to this equipment are listed below:

Equipment and Subject	*Publication*
Operator and Organizational Maintenance Manual Searchlight Set, Infrared AN/VSS-3	TM 11-5855-217-12
DS, GS, and Depot Maintenance Manual Searchlight Set, Infrared AN/VSS-3	TM 11-5855-217-35

c. Modification Work Orders. Perform all modification work orders applicable to this equipment before performing tests specified. DA Pam 310-4 lists all available MWO'S.

10-3. Test Equipment Required

The following test equipment, or suitable equivalents, will be used to determine compliance with this standard.

Nomenclature	*Parameters*
power Supply, PP-1656/G FSN 6130–985–8130	0 to 30 volts dc at 60 amperes
Photometer	Capable of measuring 10^{-5} footcandles
Zero length range photometer with recording console	Capable of measuring 60 X 10^{6} foot-candles
Paint	High temperature opaque ceramic
Calibrated wheel	Calibrated in feet or yards per revolution
Tape measure	100 feet
Temperature recorder	Thermocouples with range 80°F to 500°F
Temco temperature chamber	Adequate physical size to hold searchlight and control box with a temperature range of 80° F to 115°F

Section II. TEST PROCEDURES

10-4. Lamp Cooling and Thermostatic Switch Settings

To test the searchlight set for adequate lamp cooling and proper thermostatic switch function, perform the following step-by-step procedure.

Step No.	*Procedure*
1	Be sure that no input power is applied to searchlight set.
2	Remove searchlight window.
3	Remove cover plate from searchlight biped. Warning. The xenon lamp contains gas under high pressure. Wear safety goggles, gloves and

Step No.	Procedure
	leather apron when installing thermocouple. Use extreme caution to avoid physical contact with the xenon lamp.
4	Position thermocouple within the biped next to the xenon lamp.
6	Pass the thermocouple wires through the mounting screw holes in the cover plate.
6	Mount the biped cover plate to the biped allowing the thermocouple wires to exit through the screw hole.
7	Paas the thermocouple wires between the searchlight window gasket and the searchlight window.
8	Remove the searchlight heat exchanger, but do not disconnect any wires. Lay the heat exchanger next to the searchlight with the heat exchanger interior facing up.
9	Connect test equipment as shown in figure 10-1. *Warning:* Do not look directly into the visible or infrared searchlight beam without the use of sefet y goggles. Serious eye damage may result.
10	Set OFF-INFRARED-VISIBLE switch to VISIBLE.
11	Observe xenon lamp ignites within 3 seconds and continues to operate. Verify blower in heat exchanger is operating and air is blowing up and not around xenon lamp.
12	Observe OVER TEMP indicator and turn off searchlight when OVER TEMP indicator glows.
13	Observe the temperature recorder and verify the temperature is 400 ±18°F.
14	Verify the blower motor in the heat exchanger continues to operate with OFF-INFRARED-VISIBLE switch in OFF position.
15	Mount the heat exchanger to the searchlight case.
16	Observe the temperature recorder and verify the temperature decreases.
17	When the temperature reaches 365° F, turn on the searchlight set.
18	Observe the OVER TEMP indicator glows.
19	Observe the temperature recorder and OVER TEMP indicator. Verify that the OVER TEMP indicator extinguishes when temperature reaches 340 ±18°F.
20	Turn off the searchlight set.
21	Observe blower motor continues to operate until temperature reaches 125 ±8°F.
22	Remove the searchlight window.
23	Remove the thermocouple.
24	Replace the biped cover and the searchlight window.
25	Place the fully assembled searchlight and the control box inside the temperature chamber.
26	Connect the remote control cable between the remote control box and the control box in the temperature chamber.
27	Adjust the temperature chamber for 115°F b4°F.
28	Turn on the searchlight set and operate for 1 hour.
29	Observe the OVER TEMP indicator and verify the indicator remains extinguished throughout the l-hour period.
30	Turn off the searchlight set and remove the searchlight and the control box from temperature chamher.
31	Allow xenon lamp to cool until blower motor shuts down. Turn off power supply and disconnect cables.

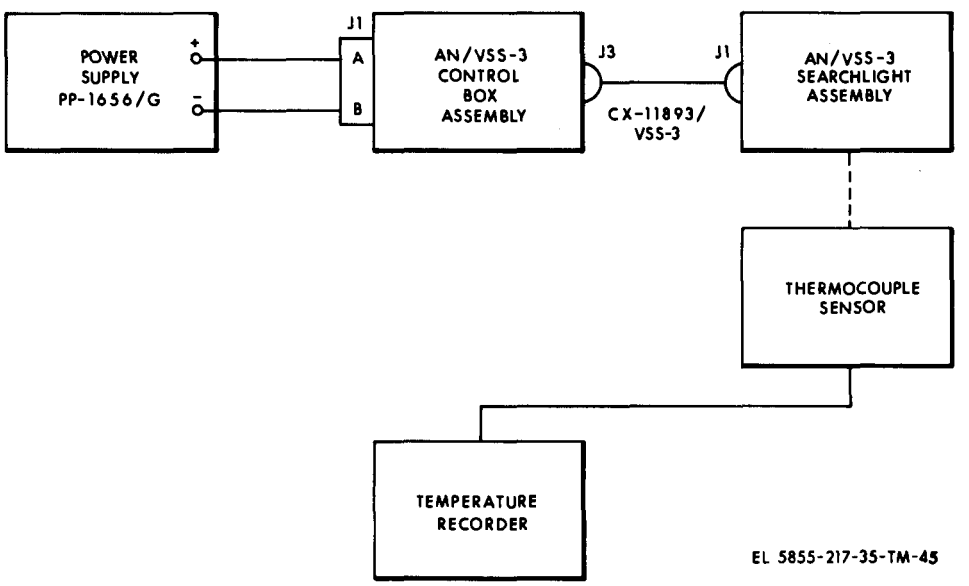


Figure 10-1. Test setup for lamp cooling and thermostatic switch settings.

10-5. Light Tightness Test

NOTE

This test requires three observers with normal or corrected 20/20 vision.

A ventilated room which can be blacked out to a maximum light level of 10-5 footcandles and has minimum dimensions of 26 X 45 feet is required for this test. Perform the step-by-step procedure below.

Step No.	*Procedure*
1	Be sure no input power is applied to the searchlight Set.
2	Remove the searchlight window.
	Warning: The xenon lamp contains gas under high pressure. Wear safety goggles, gloves and leather apron when working around or on the searchlight during this teat.
3	Mount the searchlight on the searchlight holding fixture.
4	Arrange the searchlight and associated equipment at one end of the test room.
5	Place the paint brush adjacent to the open can of opaque high temperature ceramic paint.
6	Connect the equipment as shown in figure 10-2.
7	Adjust the power supply for -28V dc ±0.5V.
8	Black out the test room.
9	Using the photometer, measure the light level in the test room. Verify that the light level is 10^{-5} footcandles or less.
10	The three observers shall enter the darkened test room and wait a minimum of 30 minutes. This is to allow for eyes to adapt to the dark.
11	The three observers shall position themselves a minimum of 25 feet away from the front of the searchlight.
12	Turn on and operate the searchlight set in the infrared mode.
13	The test technician shall rotate the searchlight 180° vertically and horizontally while the observers watch for pinholes in the filter.
14	Pin holes which permit passage of visible light shall be marked with opaque ceramic paint.
	Caution: Use only enough paint to mask the pinhole. Do not drop paint on the mirror reflector.
15	When all visible light has been masked, turn off the searchlight set.
16	Any evidence of visible light by two of the observers after applying opaque ceramic paint shall constitute failure of the test.
17	Turn on lights in the room and allow searchlight to cool.
18	Measure the total area masked on the filter. Verify the masked area is less than 0.1 percent of the total filter area, or less than 0.2 percent of the usable zone.
19	Disconnect all equipment and replace the searchlight case window.

10-6. Angular Visual Security Test

a. Use the calibrated wheel to lay out a 1000 meter (1103 yards) target range (figure 10-3).

b. Align the searchlight along the optical center line of the 1000-meter course.

c. Connect the equipment as shown in figure 10-2.

NOTE

The angular visual security test must be performed at night.

d. Use the photometer to verify that the light level is equal to or less than 2 X 10^{-5} footcandles.

e. Three persons shall dark-adapt their eyes for 30 minutes while the searchlight is temperature stabilizing in the infrared compact mode.

WARNING

Do not look directly into the visible or infrared searchlight beam without the use of

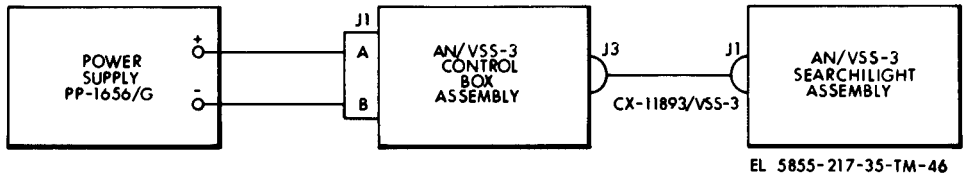


Figure 10-2. Test setup for light tightness, angular visual security, and beam characteristics test.

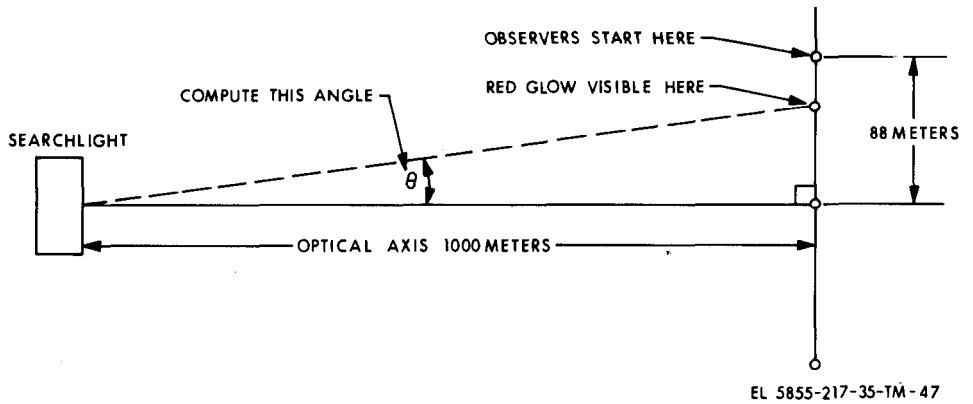


Figure 10-3. Target setup for angular visual security test.

safety goggles. Serious eye damage may result.

f. The three observers shall move toward the optical axis from a point 88 meters off axis as shown in figure 10-3. The point at which the red glow becomes visible shall be marked and the angle, with respect to the searchlight axis, shall be calculated.

g. Repeat step *f* starting 88 meters (97 yards) on the other side of the optical axis.

h. Turn off the searchlight set and compute the angle (θ) as shown in figure 10-3. The combined total of *f* and *g* shall not be greater than 5°.

i. Allow the xenon lamp to cool until the blower motor shuts down. Turn off power supply and disconnect equipment.

10-7. Beam Characteristics Test

a. Install the searchlight on the zero length photometer as shown in figure 10-4.

b. Assure the inner and outer surfaces of the searchlight case window are clean.

c. Adjust the power supply for 28V dc ±0.5V.

d. Verify sufficient paper and proper operation of the recording console.

WARNING

Do not look directly into the visible or infrared searchlight beam without the use of safety goggles. Serious eye damage may result.

e. Turn on the searchlight set in visible compact mode.

f. Focus the searchlight on the parabolic mirror.

g. Position the photometer to intercept the focal point of the parabolic mirror.

h. Place the searchlight set in the infrared mode and allow a 2-hour warmup period.

i. Start the automatic recording instruments on the zero length photometric system.

j. Switch the searchlight set to the visible compact mode and sweep the parabolic mirror with the searchlight.

k. Place the searchlight set to the visible spread beam mode.

l. Start the automatic recording instruments and sweep the parabolic mirror with the searchlight.

m. Turn off the searchlight set and allow blower to continue cooling.

n. Remove the chart paper from the recording console and verify the results displayed on the chart paper are as follows:

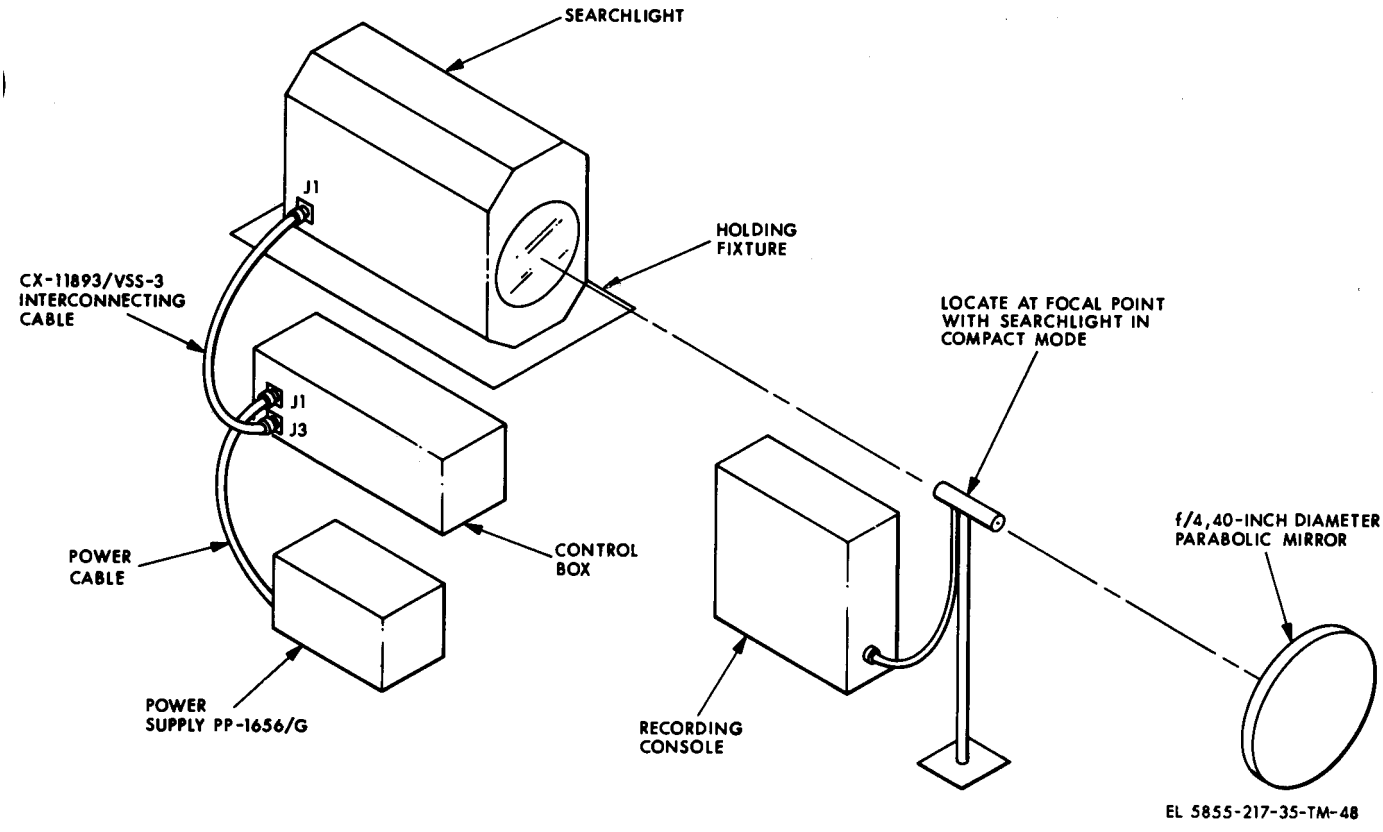


Figure 10-4. Test setup for beam characteristics test.

Compact Mode:

Beam width between 10% points: 1. 00 minimum
Peak beam candlepower: Equal to or greater than 50 X 10^6 footcandles

Spread Mode:

Beam width between 10% points: 7°-0.7°
Beam holing as a percent of peak: Equal to or less than 30%

o. When the blower shuts down, turn off the power supply and disconnect cables.

Figure 10-5. Resistor-inductor-capacitor color code chart.
(Located in back of manual.)

APPENDIX A

REFERENCES

The following is a list of applicable references available to direct support, general support, and depot maintenance personnel of the Searchlight Set, Infrared AN/VSS-3:

DA Pam 310-1	Consolidated Index of Army Publications and Blank Forms.
TM 11-5855-217-12	Operator and Organizational Maintenance Manual Including Repair Parts and Special Tools List: Searchlight Set, Infrared AN/VSS-3 (NSN 5855-00-058-1293).
TM 11-5855-217-12-2	Operator's and Organizational Maintenance Manual Searchlight Set, Infrared AN/VSS-3 (NSN 5855-00-058-1293) and Searchlight Set, Infrared AN/VSS-3A (NSN 5855-00-177-3529), (NSN 5855-00-405-0404).

APPENDIX B

DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

B-1. Scope

This appendix lists repair parts, special tools, and test equipment required for the performance of direct support, general support, and depot maintenance of the AN/VSS-3.

B-2. General

This Repair Parts and Special Tools List is divided into the following sections.

a. Repair Parts—Section II. A list of repair parts authorized for the performance of maintenance at the direct support, general support, and depot level.

b. Special Tools, Test and Support Equipment-Section III. N/A

c. Federal Stock Number and Reference Number Index-Section IV. A list of Federal stock numbers in ascending numerical sequence followed by a list of reference numbers (manufacturers part number) in ascending alpha-numeric sequence, cross-referenced to the item sequence numbers.

d. Index-Reference Designation-Cross-Re ference to Item Sequence Number-Section V. A list of reference designations in ascending alpha-numeric sequence cross-referenced to item sequence of the Repair Parts List.

B-3. Explanation of Columns

The following provides an explanation of columns in the tabular lists of Sections II, III, and IV:

a. Source, Maintenance, and Recoverability Codes (SMR), Column 1.

(1) Source code, indicates the selection status and source for the listed item. Source codes used are:

(a) Code "P"-applied to high mortality repair parts which are procured by, stocked in, and supplied from the military supply system and which are not considered insurance type items.

(b) Code "PI"-applied to low mortality repair parts which are procured by, stocked in, and supplied from, the military supply system.

(c) Code "G"-applied to major assemblies which are procured with PEMA funds for initial issue only and are used as exchange assemblies at direct and general support maintenance level. These assemblies will not be stocked above general support maintenance level or returned to depot supply level.

(d) Code "M"-applied to repair pints which are not procured or stocked as separate supply items but are to be manufactured at the indicated maintenance levels. The lowest maintenance level authorized to manufacture the item will be entered in the second digit position of the source code.

(e) Code "A"-applied to repair parts which are not procured or stocked as separate supply items but are to be assembled from two or more individually procured and stocked supply items at the indicated maintenance level. The lowest maintenance level authorized to assembled the item will be entered in the second digit position of the source code.

(f) Code "C"-applied to repair parts authorized for local procurement. If not obtainable from local procurement, such repair parts will be requisitioned through normal supply channels.

(g) Code "X"—applied to parts and assemblies which are not procured or stocked, the mortality rate of which is normally below that of the applicable end item, and the failure of which would result in retirement of the end item form service,

(h) Code "X1"applied to repair parts which are not procured or stocked, the requirement for which will be filled by use of next higher procured and stocked assembly or component.

(i) Code "X2'' -applied to repair parts which are not procured or stocked, the requirement for which will be filled through cannibalization and salvage sources.

(j) Code ''Z'' -applIed to obsolete repair parts no longer stocked or procured.

(2) Maintenance code, indicates the lowest category of maintenance authorized to install the listed item. The maintenance level codes are:

Code	*Explanation*
0	Organizational maintenance
F	Direct support maintenance
H	General support maintenance
D	Depto maintenance

(3) Recoverability code, indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. Recoverability codes are:

(a) Code "R"-applied to repair parts and assemblies which are repaired at direct and general support maintenance levels, These repair parts which are not economically reparable at depot level will be recovered at the direct and general support maintenance levels and will be replaced from supply on an exchange basis.

(b) Code "S"-repair parts and assemblies which are economically repairable at DSU and GSU activities and which normally are furniched by supply on an exhange basis. When items are determined by a GSU to be uneconomically repairable, they will be evacuated to a depot for evaluation and analysis before final disposition.

(c) Code "T"-applied to high dollar value repair parts which are subject to special handling and are most economically repaired, overhauled, or rebuilt at depot maintenance level. These repair parts will be recovered at the depot maintenance level and will be replaced from supply on an exchange basis.

(d) Code "U"-applied to repair parts specifically selected for salvage because of precious metal content, critical materials; high-dollar value, reusable casing or casting material, etc. These repair parts will be recovered at the maintenance level prescribed by the commodity command.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description, Column 3. This column indicates the Sequence number, Indenture code, Federal item name and any additional description of the item required. A sequence number followed by letter "D" shows item as deleted, A part number or other reference number is followed by the applicable five-digit Federal supply code for manufacturers in parentheses.

d. Unit of Measure (U/M), Column 4. A two character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Incorporated in Unit, Column 5. This column indicates the quantity of the item used in the assembly group, A''V" appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated (e.g., shims, spacers, etc).

f. 30-Day DS/GS Maintenance Allowances, Columns 6 and 7.

NOTE

Allowances in GS column are for GS maintenance only,

(1) The allowance columns are divided into three subcolumns. Indicated in each subcolumn, opposite the first appearance of each item, is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have the letters "REF" in the applicable allowance columns, Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

(2) The quantitative allowances for DS/GS levels of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

(3) Determination of the total quantity of parts required for maintenance of more than 100 of these equipments can be accomplished by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column. *Example,* authorized allowance for 51-100 equipments is 40; for 150 equipments multiply 40 by 1.50 or 60 parts required.

g. l-Year Allowances Per 100 Equipment/Contingency Planning Purposes, Column 8. This column indicates opposite the first appearance of each item the total quantity required for distribution and contingency planning purposes. The range of iterns indicates total quantities of all authorized items required to provide for adequate support of 100 equipments for one year.

h. Depot Maintenance Allowance Per 100 Equipments, Column 9. This column indicates opposite the first appearance of each item, the total quantity

authorized for depot maintenance of 100 equipments. Subsequent appearances of the same item will have the letters, "REF" in the allowance column. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

i. Illustration, Column 10. This column is divided as follows.

(1) Figure Number, Column 10a. Indicates the figure number of illustration in which the item is shown.

(2) Item Number, Column 10b. Indicates the callout number or reference designation used to reference the item in the illustration.

B-4. Special Information

a. The basis of issue for authorized special tools, test and support equipment is the number of end items of equipment supported and the number of maintenance personnel allocated to perform the required maintenance.

b. Parts which require manufacture or assembly at a category higher than the authorized for installation will indicate in the source column the higher category.

c. The following publications pertain to Searchlight Set, Infrared AN/VSS-3 and its components.

TM 11-5855-217-12	Operator and Organizational Maintenance Manual
TM 11-5855-217-12-2	Operator's and Organizational Maintenance Manual Searchlight Set, Infrared AN/VSS-3 (NSN 5855-00-058-1293) and Searchlight Set, Infrared AN/VSS-3A (NSN 5855-00-177-3529); (NSN 5855-00-405-0404).
TM 11-5855-217-12-20P	Organizational Maintenance Repair Parts and Special Tools List
TM 11-5855-217-35	Direct Support, General Support, and Depot Maintenance Manual

B-5. How to Locate Repair Parts

a. When Federal Stock Number or Reference Number is unknown:

(1) *First.* Find the illustration covering the assembly group to which the repair part belongs.

(2) *Second.* Identify the repair part on the illustration and note the complete reference designation used to call out the item.

(3) *Third.* Using the Reference Designation Cross-Reference to Item Sequence Number Index (Section V), find the reference designation and note the item sequence number listed.

(4) *Fourth.* Locate the item sequence number in the Repair Parts List (Section II).

b. Federal Stock Number or Reference Number is known.

(1) *First.* Using the Index of Federal Stock Numbers and Reference Numbers, (Section IV) find the pertinent federal stock number or reference number. This index is in ascending FSN sequence followed by a list of reference numbers in Alpha-Numeric sequence, cross-referenced to the item sequence number.

(2) *Second.* Note the item sequence number shown opposite the Federal Stock Number or Reference Number.

(3) *Third.* Locate the item sequence number in the Repair Parts List (Section II).

c. When the Reference Designation is known:

(1) *First.* Locate the reference designation in the Reference Designation Cross-Reference to Item Sequence Number index.

(2) *Second.* Note the item sequence number shown opposite the reference designation.

(3) *Third,* Locate the item sequence number in the Repair Parts List (Section II).

B-6. Abbreviations

Abbreviations	*Explanation*
cd-or	cadmium-or
zn-pltd	zinc-plated
MOD	MODEL
opn	opening
rd-hd	round head

B-7. Federal Supply Codes for Manufacturing

Code	*Manufacturer*
00141	Pic Design Corporation, 477 Atlanta Ave., East Rockaway, N.Y. 11518
00656	Aerovox Corp., 740 Belleville Ave., New Bedford, Mass. 02745
01139	General Electric Co., Silicone Products Dept., Waterford, N.Y. 12188
02101	VARO Inc., Electrokinetics Division, P.O. Box 1500, Santa Barbara, Calif. 93103
02310	Abscoa Industries, 1071 W. Arbor Vitae St., Inglewood Calif. 90301
02697	Parker Seal Co., Division of Parkerhannifiri Corp. 2360 Palumbo Drive, Lexington, Ky. 40509
03038	Longlok Corp., 4101 Redwood Ave., Los Angeles, Calif. 90066
03355	E.V. Roberts and Associates, Inc., 9601 Jefferson Blvd., Culver City, Calif. 92030
03481	B.F. Goodrich Co., Aerospace and Defense Products Div., Akron, Ohio
04713	Motorola Semiconductor Products Inc., 5005 East McDowell Road, Phoenix, Ariz. 85008
04946	Standard Wire and Cable Co., 3440 Overland Ave., Los Angeles, Calif. 90034

Code	Manufacturer
05301	Engelhard Industries, Baker Platinum Dept., 700 Blair Rd., Carteret, N.J. 07008
06540	Amatom Elecatronic, Hardware Division of Mite Corp., 81 Rockdale Ave., New Rochelle, N.Y. 10802
07047	Ross Milton Co., The 511 Second Street Pike, Southampton, Pa., 18966
07707	USM Corp., Fastener Division, 510 River Road, Shelton, Corm. 06485
12143	Bendix Corp., The Electrical Components Div., Santa Ana Plant, 1001 S. Grand Ave., Santa Am, Calif. 92701
12324	Stake Fastener Co., 1710 N. Potrero Ave., South El Monte, Calif. 91733
12705	Electrooptical Systems, Division of Xerox Corp., 300 North Halstead St., Pasadena, Calif. 91107
15291	Adjustable Bushing Corp., 11905 Vose St., North Hollywood, Calif. 91605
18915	Birtcher Corp., The Industrial Division, 745 Monterey Pass Rd., Monterey Park, Calif. 91754
19738	Avdel Corp., 70 Fredrick St., Hackensack, N.J. 07601
21335	Fafnir Bearing Co., Division of Textron Inc., 37 Booth St., New Britain, Corm. 06050
25072	Western Airmotive Inc., P.O. Box 2445 Airport Station, Oakland, Calif. 94614
27191	Cutlerhammer Inc., Power Distribution and Control Div., 4201 N. 27th St., Milwaukee, Wis., 53216
31356'.	JBT Instruments Inc., 424 Chapel St., P.O. Box 1818, New Haven, Corm. 06508
35344	Leach Corp., Relay Division, 5915 Avalon Blvd., Los Angeles, Calif. 90003
44655	Ohmite Mfg. Co., 3601 W. Howard St., Skokie, 111.60076
46384	Penn Engineering and Mfg. Corp., Old Easton Highway, Doylestown, Pa. 18901
56289	Sprague Electric Co., North Adams, Mass. 01247
59730	Thomas and Betts Co., 36 Butler St., Elizabeth, N.J. 07207
70318	Allnetal Screw Products Co., Inc., 821 Stewart Ave., Garden City, N.Y, 11530
71041	Boston Gear Works, Div. of North American Rockwell Corp., 14 Hayward St., Quincy, Mass. 02171
71286	Rex Chain Belt Inc., Camloc Div., 22 Spring Valley Rd., Paramus, N.J. 07652
71785	Cinch Mfg. Co., and Howard B. Jones Div., 1026 S. Homan Ave.. Chicago, 111.60624
73134	Heim Universal Division of North American Rockwell Corp., 60 Round Hill Rd., Fairfield, Corm. 06430
74400	John Hobbs, W. Ash St. and Yale Blvd., Springfield, Ill.
75237	Kaynar Co., The Division of Reiner Industries Inc., 7875 Telegraph Road, Pico Rivers, Calif. 90660
75915	Littlefuse Inc., 800E Northwest Hwy., Des Plaines, Ill. 60016
76005	Lord Manufacturing Co., Division of Lord Corp., 1635 West 12th St., Erie, Pa. 16512
79136	Waldes Kohinoor Inc., 47-16 Austel Place, Long Island City, N.Y. 11101
80063	Army Electronics Command Procurement and Production Directorate, Fort Monmouth, N.J. 07703
80201	Chicago Rawhide Mfg. Co., 1301 Elston Ave., Chicago, Ill. 60622
80205	National Aerospace Standards, Committee Aerospace Industries Association of America Inc., 1725 Des Sales N. W., Washington, D.C. 20036
81348	Federal Specification Promulgated by General Servoces Administration
81349	Military Specifications Promulgated by Standardization Div. Directorate of Logistic Service DSA
82647	Texas Instruments Inc., Control Products Division, 34 Forest St., Attleboro, Mass. 02703
83330	Herman H. Smith Inc., 812 Snediker Ave., Brooklyn, N.Y. 11207
88044	Aeronautical Standards Group, Dept. of Navy and Air Force, Silver Spring, MD.
86928	Seastrom Mfg. Co. Inc., 701 Sonora Ave., Glendale, Calif. 91201
91929	Honeywell Inc., Micro Switch Division, Chicago and Spring Streets, Freeport, Ill. 61032
96881	Thomson Industries, Inc., 1029 Plandome Rd., Manhasset, N.Y. 11030
96906	Military Standards Promulgated by Standardization Div. Directorate of Logistic Services DSA
98003	Nielsen Hardware Corp., 770 Weathersfield Ave., Hartford, Corm.
98270	Iowa Sheet Metal Contractors Inc., 2601 Bell, Des Moines, Iowa
98278	Microdot Inc., 220 Pasadena Ave., South Pasadena, Calif. 91030

(Next printed page is B-5.)

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) SM COD	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE O CODE	(4) UNI OF EA	(5) QT IC NI	(6) D: LO	30-DAY D: ALLO (b) 1- 1-20	(a)	(b (a 21-1-2	(7) 30-DAY GS MAIN ALLOWANCE (b 1-1	(c 1-1	(8) Y LWI TOI EQU NTG	(10) TRATI((b)	(a) FI NC	ILLUSTRATIONS (b) ITEM NO. OR REFERENCE DESIGNATION
--O	5855-058-1293	A001 A SEARCHLIGHT SET, IR AN/VSS-3 : 1126924-3 ; (12705)											)-	
--O	5995-135-0081	A002 B CABLE ASSEMBLY , PWR , ELECTRICAL : 1126831-1; (12705)	EA	1		2	3	1	1	1	4C			4W
X1-O		A003 C ADAPTER , POTTING : 10-242067-285 ; (12143)	EA	1										4WMP2
X1-O		A004 C ADAPTER , POTTING : SAME AS A00 3	EA	1										4WMP1
X2-F	9905-114-1334	A005 C BAND, MARKER, BLANK: MS39020-31 ; (96906)	EA	1										4WMP5
X2-F	9905-114-1334	A006 C BAND, MARKER, BLANK: SAME AS A005	EA	1										4 WMP6
X2-F	9905-114-1334	A007 C BAND, MARKER, BLANK: SAME AS A005	EA	1										4WMP7
X2-F	9905-114-1334	A008 C BAND, MARKER, BLANK: SAME AS A005	EA	1										4WMP8
X1-O		A009 C CONNECTOR, PLUG, ELECTRICAL: 10-107632-6P; (12143)	EA	1										4WP2
X1-O		A010 C CONNECTOR, PLUG, ELECTRICAL: 10-107632-6S ; (12143)	EA	1										4WP1
X1-O		A011 C MOLD, POTTING, ELECTRICAL CONNECTOR : 10-130999-28 ; (12143)	EA	1										4WMP4
X1-O		A012 C MOLD, POTTING, ELECTRICAL CONNECTOR: SAME AS A011	EA	1										4WMP3
P--O-	855-135-0155	A013 B CONTROL, SCHLT SET C-7905/VSS-3 1126833-3 ; (12705)	EA	1	1	3	5	1	1	1	59		-2	2
--O	305-269-2803	A014 * SCREW, CAP, HEXAGON HEAD : MS90726-60 ; (96906)	EA	4	*	1	1	*	1	1	16			E4-4
--O	310-061-1258	A015 * WASHER, LOCK: MS45904-76 ; (96906)	EA	4	*	1	1	*	1	1	16			E5-4
X1-O-		A016 C CONTROL SUBASSEMBLY : 1126557-3 ; (12705)	EA	1										2A1
—H		A017 D BRACKET , RELAY : 1126556-1 ; (12705)	EA	1									-2	2A1MP3
X2-F	305-054-6670	A018* SCREW, MACHINE: MS51957-45 ; (96906)	EA	4									-2	2A1H48-4
X2-F	310-880-5978	A019 * WASHER, FLAT: MS15795-807 ; (96906)	EA	4									-2	2A1H8-4
X2-F	310-933-8119	A020* WASHER, LOCK: MS35338-137; (96906)	EA	4									-2	2A1H26-4
—H		A021 D BRACKET , TERMINAL BOARD: 1126562-1 ; (12705)	EA	L									-2	2A1MP8
—H		A022 D BRACKET ASSEMBLY , CAPACITOR : 1126550-3 ; (12705)	EA	L									-2	2A1A2
X2-F	305-959-0382	A023* SCREW, MACHINE : MS16995-17 ; (96906)	A										-2	2A1H45-4
X2-F	310-722-5998	A024 * WASHER , FLAT : MS15795-805 ; (96906)	A										-2	A1H3-4
X2-F	310-929-6395	A025 * WASHER , LOCK : MS35338-136 ; (96906)	A										-2	A1H18-4

SECTION II REPAIR PARTS FOR DIRECT SUPPORT GENERAL SUPPORT. AND DE| OT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC UNIT	(6) 30-DAY DS MAI ALLOWANCE (a) 1-2 (b) 21-5 (c) 1-	30-I GS MAINT LOWANCE (a) 1-20 (b) 1-5 (c) 1-10	(8) YR LWPE 100 EQUI NTGC	(9) EPO AI N LWPI 100 QUI	ILLUSTRATIONS (a) FI(NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
--H		\026 E BRACKET , MOUNTING, CAPACITOR: 1126549-3;(12705)	EA	1					9-2	2A1A2MP1
X2-F	5340-951-1532	\027 E CLIP, SPRING TENSION: MS17160-36 ; (96906)	EA	1					9-2	2A1A2MP2
X2-F	5320-619-0498	\028 * RIVET, SOLID: MS20426A4-4 ; (96906)	EA	2					9-2	2A1A2H1-2
X2-F	5340-951-1532	\029 E CLIP, SPRING TENSION: SAME AS A027	EA	1					9-2	2A1A2MP3
X2-F	5320-619-0498	\030 * RIVET, SOLID: SAME AS A028	EA	2					9-2	2A1A2H2-2
X2-F	5340-951-1532	.031 E CLIP, SPRING TENSION: SAME AS A027	EA	1					9-2	2A1A2MP4
X2-F	5320-619-0498	.032* RIVET , SOLID: SAME AS A028	EA	2					9-2	2A1A2H3-2
X2-F	5340-951-1532	.033 E CLIP, SPRING TENSION : SAME AS A027	EA	1					9-2	2A1A2MP5
X2-F	5320-619-0498	.034 * RIVET, SOLID: SAME AS A028	EA	2					9-2	2A1A2H4-2
X2-F	5340-951-1532	.035 E CLIP, SPRING TENSION : SAME AS A027	EA	1					9-2	2A1A2MP6
X2-F	5320-619-0498	.036 * RIVET, SOLID : SAME AS A028	EA	2					9-2	2A1A2H5-2
X2-F	5340-951-1532	.037 E CLIP, SPRING TENSION: SAME AS A027	EA	1					9-2	2A1A2MP7
X2-F	5320-619-0498	.038 * RIVET , SOLID : SAME AS A028	EA	2					9-2	2A1A2H6-2
X2-F	5340-951-1532	039 E CLIP, SPRING TENSION: SAME AS A027	EA	1					9-2	2A1A2MP8
X2-F	5320-619-0498	040 * RIVET, SOLID: SAME AS A028	EA	2					9-2	2A1A2H7-2
X2-F	5340-951-1532	041 E CLIP, SPRING TENSION: SAME AS A027	EA	1					9-2	2A1A2MP9
X2-F	5320-619-0498	042 * RIVET , SOLID : SAME AS A028	EA	2					9-2	2A1A2H8-2
X2-F	5340-951-1532	043 E CLIP, SPRING TENSION: SAME AS A027	EA	1					9-2	2A1A2MP10
X2-F	5320-619-0498	044 * RIVET, SOLID: SAME AS A028	EA	2					9-2	2A1A2H9-2
X2-F	5340-951-1532	045 E CLIP, SPRING TENSION: SAME AS A027	EA	1					9-2	2A1A2MP11
X2-F	5320-619-0498	046 * RIVET, SOLID: SAME AS A028	EA	2					9-2	2A1A2H10-2
X2-F	5340-951-1532	047 E CLIP, SPRING TENSION: SAME AS A027	EA	1					9-2	2A1A2MP12
X2-F	5320-619-0498	048 * RIVET, SOLID: SAME AS A028	EA	2					9-2	2A1A2H11-2
X2-F	5340-951-1532	049 E CLIP, SPRING TENSION: SAME AS A027	EA	1					9-2	2A1A2MP13
X2-F	5320-619-0498	050 * RIVET, SOLID: SAME AS A028	EA	2					9-2	2A1A2H12-2

SECTION II REPAIR PARTS FOR DIRECT SUPPORT. GENERAL SUPPORT. AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALWPER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALWPER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
--F	5910-177-4415	A050A E CAPACITOR , FIXED , ELECTROLYTIC : 601D367F150JT4; (56289)	EA	1	1	2	3	1	1	1	46	30	9-2	2A1C1
--F	5910-177-4415	A050B E CAPACITOR, FIXED , ELECTROLYTIC : SAME AS A050A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-2	2A1C2
--F	5910-177-4415	A050C E CAPACITOR, FIXED, ELECTROLYTIC : SAME AS A050A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-2	2A1C3
--F	5910-177-4415	A050E E CAPACITOR, FIXED , ELECTROLYTIC : SAME AS A050A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-2	2A1C4
--F	5910-177-4415	A050F E CAPACITOR, FIXED , ELECTROLYTIC : SAME AS A050A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-2	2A1C5
--F	5910-177-4415	A050G E CAPACITOR , FIXED, ELECTROLYTIC : SAME AS A0 50A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-2	2A1A2C6
--F	5970-177-4350	A050H E TERMINAL FEEDTHRU : 6156; (98270)	EA	10	1	2	3	1	1	1	33	20	9-2	2A1A2E1-E10
2-F		A050I E STANDOFF : 8428-55-1037-7; (06540)	EA	1										2A1A2MP16
2-F	5310-595-6772	A050J * WASHER , FLAT : MS15795-808 ; (96906)	EA	2										2A1A2H1 5-2
2-F	5310-933-8120	A050K * WASHER , LOCK: MS35338-138 ; (96906)	EA	2										2A1A2H16-2
2-F	5305-059-3657	A050L* SCREW, PAD HEAD: MS51958-61 ; (96906)	EA	2										2A1A2H17-2
2-F		A050M E TERMINAL FEED: FT9 ; (96906)	EA	2									9-2	2A1A2E102 , E103
2-F		A050N E WIRE, BUS: QQW343 ; (81348)	FT	1										2A1A2M17
2-F	5999-992-9958	A051 E RETAINER, CIRCUIT BOARD: 15B5-3 ; (18915)	EA	1									9-2	2A1A2MP14
2-F	5320-655-4757	A052* RIVET, SOLID: MS20426A3-4 ; (96906)	EA	2									9-2	2A1A2H13-2
2-F	5999-992-9958	A053 E RETAINER, CIRCUIT BOARD: SAME AS A051	EA	1									9-2	2A1A2MP15
2-F	5320-655-4757	A054* RIVET, SOLID: SAME AS A052	EA	2									9-2	2A1A2H14-2
--H		A055 D BRACKET ASSEMBLY , SHIELD : 1126570-1 ; (12705)	EA	1									9-2	2A1A6
1-H		A056 E BRACKET, ANGLE: 1126570-3 ; (12705)	EA	1										2A1A6MP1
2-H	5310-944-7629	A057 E NUT, SELF-LOCKING , CLINCH : K7001-04-6; (75237)	EA	1									9-2	2A1A6MP2
--H		A058 D BRACKET ASSEMBLY SHIELD: SAME AS A055	EA	1									9-2	2A1A5
1-H		A059 E BRACKET, ANGLE : SAME AS A056	EA	1										2A1A5MP1
2-H	5310-944-7629	A060 E NUT , SELF-LOCKING , CLINCH: SAME AS A057		1									9-2	2A1A5MP2
		A061D												
		A062D												

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF ISSUE	(5) QTY INCL IN UNIT	(6) 10-DAY DS MAINT ALLOWANCE (a) -20	(b) -50	(c) -100	(7) 10-DAY GS MAINT ALLOWANCE (a) -20	(b) 21-50	(c) 100	(8) DEPOT MAINT WKMNSHP HRS PER 100 QUIP (TGO)	(9) DEPOT MAINT WKMNSHP HRS PER 100 QUIP	ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
		A063D												
		A064D												
		A065D												
		A066D												
--F	5855-247-7219	A067 D CIRCUIT BREAKER : 28C4-1-10A; (82647)	EA	1	1	1	1	1	1	1	12	5	-2	2A1CB1
2-F	5305-763-6962	A068 * SCREW, MACHINE : MS51959-27 ; (96906)	EA	2									-2	2A1H53-2
2-F	5310-933-8119	A069 * WASHER, LOCK: SAME AS A020	EA	2									-2	2A1H29-2
--F	5330-081-2340	A069A * COMPOUND SEAL: MILS22473GRADEAA ; (81349)	PT	1	1	1	1	1	1	1	5	2		2A1CB1MP1-1
--F-	5855 -245-8447	A070 D CIRCUIT CARD ASSEMBLY, TIMER , CB : 1126533-1 ; (12705)	EA	1	1	3	5	1	1	1	59	36	-2	2A1A3
--D	5910-105 -1924	A071 E CAPACITOR, FIXED , CERAMIC DIEL : CK06BX223K; (81349)	EA	1							13	6	-3	2A1A3C 3
--D	5910-105-1924	A072 E CAPACITOR, FIXED , CERAMIC DIEL : SAME AS A071	EA	1							REF	REF	-3	2A1A3C4
--D	5910-926-8217	A073 E CAPACITOR, FIXED, ELECTROLYTIC: CSR13F476K; (81349)	EA	1							13	6	-3	2A1A3C1
--D	5910-926-8217	A074 E CAPACITOR, FIXED, ELECTROLYTIC: SAME AS A073	EA	1							REF	REF	-3	2A1A3C2
--D	5961-929-3715	A075 E MOUNTING PAD, TRANSISTOR: 10007 ; (07047)	EA	1							13	6		2A1A3MP1
--D	5961-929-3715	A076 E MOUNTING PAD , TRANSISTOR : SAME AS A075	EA	1							REF	REF		2A1A3MP2
--D	5961-929-3715	A077 E MOUNTING PAD, TRANSISTOR: SAME AS A075	EA	1							REF	REF		2A1A3MP3
--D	5961-907-8275	A078 E MOUNTING PAD, TRANSISTOR: 10026 ; (07047)	EA	1							10	4		2A1A3MP4
--D	5961-907-8275	A079 E MOUNTING PAD, TRANSISTOR: SAME AS A078	EA	1							REF	REF		2A1A3MP5
1-D		A080 E PRINTED WIRING BOARD TIMER , CB : 112652 8-1 ; (12705)	EA	1									-3	2A1A3PC1
--D	5905-279-3502	A081 E RESISTOR, FIXED, COMPOSITION: RC20GF123J ; (81349)	EA	1							5	2	-3	2A1A3R7
--D	5905-279-3514	A082 E RESISTOR, FIXED, COMPOSITION : RC20GF181J ; (81349)	EA	1							5	2	-3	2A1A3R8
--D	5905-279-2674	A083 E RESISTOR, FIXED , COMPOSITION : RC20GF201J ; (81349)	EA	1							5	2	-3	2A1A3R12
--D	5905-279-3519	A084 E RESISTOR, FIXED , COMPOSITION : RC20GF220J; (81349)	EA	1							10	4	-3	2A1A3R3
--D	5905-279-3519	A085 E RESISTOR, FIXED , COMPOSITION : SAME AS A084	EA	1							REF	REF	-3	2A1A3R15
--D	5905-299-1965	A086 E RESISTOR, FIXED, COMPOSITION: RC20GF301J; (81349)	EA	1							13	6		2A1A3R1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF EAS	(5) QTY INCL IN UNIT	(6) 10-DAY DS MAINT ALLOWANCE a) -20	b) -5(	c) -10	(7) 10-DAY GS MAINT ALLOWANCE (a) -20	b) -5(	c) 10(	(8) DEPOT MAINT WORK REQUIREMENT 100 EQUIP TGC	(9) DEPOT MAINT WORK REQUIREMENT 100 EQUIP	(10) ILLUSTRATIONS a) FIG NO.	(b) ITEM NO OR REFERENCE DESIGNATION
P--D	05-299-1965	A087 E RESISTOR, FIXED , COMPOSITION : SAME AS A086	EA	1							EF	EF	3	2A1A3R17
P--D	05-299-1965	A088 E RESISTOR, FIXED, COMPOSITION: SAME AS A086	EA	1							EF	EF	3	2A1A3R18
P--D	05-252-4018	A089 E RESISTOR, FIXED, COMPOSITION : RC20GF470J ; (81349)	EA	1							10	4	3	2A1A3R4
P--D	05-252-4018	A090 E RESISTOR , FIXED , COMPOSITION : SAME AS A089	EA	1							EF	EF	3	2A1A 3R 1 4
P--D	05-279-2673	A091 E RESISTOR, FIXED, COMPOSITION: RC20GF622J; (81349)	EA	1							5	2	3	2A1A3R5
P--D	05-279-2596	A092 E RESISTOR,FIXED, COMPOSITION: RC42GF121J ; (81349)	EA	1							5	2	3	2A1A3R6
P--D	05-256-0412	A093 E RESISTOR,FIXED, COMPOSITION: RC42GF181J; (81349)	EA	1							13	6	3	2A1A3R9
P--D	05-256-0412	A094 E RESISTOR,FIXED, COMPOSITION : SAME AS A093	EA	1							EF	EF	3	2A1A3R10
P--D	05-256-0412	A095 E RESISTOR, FIXED , COMPOSITION : SAME AS A093	EA	1							EF	EF	3	2A1A3R11
P--D	05-882-5298	A096 E RESISTOR, FIXED, FILM: RN60E1003F ; (81349)	EA	1							5	2	3	2A1A3R16
P--D	05-088-3349	A097 E RESISTOR, FIXED, FILM: RN60E6812F ; (81349)	EA	1							5	2	3	2A1A3R2
P--D	05-916-7562	A098 E RESISTOR , FIXED , WIRE WOUND : 4427-995-3A; (44655)	EA	1							5	2	3	2A1A3R13
P--D	61-855-1065	A099 E SEMICONDUCTOR DEVICE , DIODE : 1N3026B ; (04713)	EA	1							5	2	3	2A1A3CR7
P--D	61-722-1480	A100 E SEMICONDUCTOR DEVICE, DIODE: 1N4005 ; (04713)	EA	1							27	14	3	2A1A3CR2
P--D	61-722-1480	A101 E SEMICONDUCTOR DEVICE, DIODE: SAME AS A100	EA	1							EF	EF		2A1A3CR3
P--D	61-722-1480	A102 E SEMICONDUCTOR DEVICE, DIODE: SAME AS A100	EA	1							EF	EF	3	2A1A3CR6
P--D	61-722-1480	A103 E SEMICONDUCTOR DEVICE, DIODE: SAME AS A100	EA	1							EF	EF	3	2A1A3CR8
P--D	61-722-1480	A104 E SEMICONDUCTOR DEVICE, DIODE: SAME AS A100	EA	1							EF	EF	3	2A1A3CR9
P--D	61-722-1480	A105 E SEMICONDUCTOR DEVICE, DIODE: SAME AS A100	EA	1							EF	EF	3	2A1A3CR10
P--D	61-018-9194	A106 E SEMICONDUCTOR DEVICE, DIODE: 1N4734A; (04713)	EA	1							5	2	3	2A1A3CR5
P--D	61-892-0988	A107 E TRANSISTOR: 2N1597 ; (04713)	EA	1							10	4	3	2A1A3Q4
--D	961-892-0988	A108 E TRANSISTOR: SAME AS A107	EA	1							REF	REF	3	2A1A3Q5
--D	961-902-1177	A109 E TRANSISTOR: 2N2646 ; (04713)	EA	1							10	4	-3	2A1A3Q1
--D	961-902-1177	A110 E TRANSISTOR : SAME AS A109	EA	1							REF	REF	-3	2A1A3Q3
--D	5961-054-0045	A111 E TRANSISTOR: JAN2N1177 (81349)	EA	1							5	2	-3	2A1A3Q2

SETION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION — REFERENCE NUMBER & MFR. CODE — USABLE ON CODE	(4) UNIT OF EAS	(5) QTY INCL UNIT	(6) O-DAY DS MAINT ALLOWANCE a) -20	b) -5(	c) -10	(7) O-(GS MAINT OWANCE a) -20	b) -5(	c) -10	(8) YR WPEI OO UIF GC)	(9) POT L NT WPE OO UIF	ILLUSTRATIONS a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P--F	5935-813-4364	A112 E CONNECTOR, RECEPTACLE, ELEC : MS3102R18-1S ; (96906)	EA	1	*	*	*	*	*	*	5	2	-2	2A1J2
P2-F	5310-934-9748	A113* NUT, PLAIN, HEXAGON: MS35649-244 ; (96906)	EA	4									-2	2A1H36-4
P--F	5305-732-9205	A114 * SCREW, SELF-SEALING : R4-40X5-8 ; (02310)	EA	4	*	1	1	*	1	1	16	8	-2	2A1H54-4
P2-F	5310-595-6211	A115 * WASHER, FLAT: MS15795-803 ; (96906)	EA	4									-2	2A1H1-4
P2-F	5310-933-8118	A116 * WASHER , LOCK : MS35338-135 ; (96906)	EA	4									-2	2A1H16-4
	5935-855-4416	A117 D CONNECTOR , RECEPTACLE , ELEC : MS3102R32-5P; (96906)	EA	1	*	*	*	*	*	*	5	2	-2	2A1J1
P2-F	5310-934-9759	A118 * NUT, PLAIN, HEXAGON: MS35649-284 ; (96906)	EA	4									-2	2A1H38-4
P--F	5305-933-9269	A119 * SCREW, SELF-SEALING : R8-32X3-4 ; (02310)	EA	4	1	1	2	1	1	1	27	15	-2	2A1H55-4
P2-F	5310-880-5978	A120 * WASHER , FLAT : SAME AS A019	EA	4									-2	2A1H9-4
P2-F	5310-933-8119	A121 * WASHER , LOCK: SAME AS A020	EA	4									-2	2A1H27-4
P--F	5935-991-7233	A122 D CONNECTOR , RECEPTACLE , ELEC : MS3102R32-6S; (96906)	EA	1	*	*	*	*	*	*	5	2	-2	2A1J4
P2-F	5310-934-9759	A123 * NUT, PLAIN, HEXAGON: SAME AS A118	EA	4									-2	2A1H39-4
P--F	5305-933-9269	A124 * SCREW, SELF-SEALING : SAME AS A119	EA	4	REF	REF	EF	EF	EF	EF	EF	EF	-2	2A1H56-4
P2-F	5310-880-5978	A125 * WASHER, FLAT: SAME AS A019	EA	4									-2	2A1H10-4
P2-F	5310-933-8119	A126 * WASHER, LOCK: SAME AS A020	EA	4									-2	2A1H28-4
P--F	5935-901-7008	A127 D CONNECTOR, RECEPTACLE , ELEC : 251-15-30-160 ; (71785)	EA	1	1	1	1	1	1	1	5	2		2A1J5
P2-F	5310-934-9748	A128 * NUT, PLAIN, HEXAGON: SAME AS A113	EA	2									-2	2A1H37-2
P2-F	5305-054-5652	A129 * SCREW, MACHINE: MS51957-18; (96906)	EA	2									-2	2A1H42-2
P2-F	5310-595-6211	A130 * WASHER, FLAT: SAME AS A115	EA	2									-2	2A1H2-2
P2-F	5310-933-8118	A131 * WASHER , LOCK: SAME AS A116	EA	2									-2	2A1H17-2
P--F	5935-683-2470	A132 D CONNECTOR, RECEPTACLE , ELEC : 10-107232-6S ; (12143)	EA	1	*	*	*	*	*	*	5	2	-2	2A1J3
P2-F	5310-934-9765	A133 * NUT, PLAIN, HEXAGON : MS35650-304 ; (96906)	EA	4									-2	2A1H41-4
P--F	5305-855-2991	A134* SCREW, SELF-SEALING: R10-32X3-4 ; (02310)	EA	4	*	1	1	*	1	1	16	8	-2	2A1H57-4
P2-F	5310-595-6772	A135 * WASHER , LOCK : SAME AS A050J	EA	4									-2	2A1H13-4
P2-F	5310-933-8120	A136* WASHER , LOCK: SAME AS A050K	EA	4									-2	2A1H32-4

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
X2-O	5935-615-2305	A137 D COVER, ELECTRICAL CONNECTOR: MS17349N28B; (96906)	EA	1									9-2	2A1MP9
X2-O	5305-054-6652	A138 * SCREW, MACHINE: MS51957-28; (96906)	EA	1									9-2	2A1H44-2
X2-O	5310-722-5998	A139 * WASHER, FLAT: SAME AS A024	EA	1									9-2	2A1H4-2
X2-O	5310-929-6395	A140 * WASHER , LOCK : SAME AS A025	EA	1									9-2	2A1H20-2
X2-O	5935-581-2889	A141 D COVER, ELECTRICAL CONNECTOR: MS25043-32C; (96906)	EA	1									9-2	2A1MP11
X2-O	5935-500-5008	A142 D COVER, ELECTRICAL CONNECTOR: MS25043-18C; (96906)	EA	1									9-2	2A1MP10
X2-O	5305-054-6652	A143* SCREW, MACHINE: SAME AS A138	EA	1									9-2	2A1H44-2
X2-O	5310-722-5998	A144 * WASHER, FLAT: SAME AS A024	EA	1									9-2	2A1H4-2
X2-O	5310-929-6395	A145 * WASHER, LOCK: SAME AS A025	EA	1									9-2	2A1H20-2
P--F	5330-143-7626	A146 D GASKET, CONNECTOR: 1127018-1; (12705)	EA	1	*	*	1	*	*	1	10	4	9-2	2A1MP4
P--F	5330-143-7662	A147 D GASKET , CONNECTOR : 1127019-1 ; (12705)	EA	1	*	1	1	*	1	1	16	8	9-2	2A1MP5
P--F	5330-143-7662	A148 D GASKET , CONNECTOR : SAME AS A147	EA	1	REF	REF	REF	REF	REF	REF	REF			2A1MP6
P--F	5330-143-7662	A149 D GASKET, CONNECTOR: SAME AS A147	EA	1	REF	REF	REF	REF	REF	REF	REF			2A1MP7
P--F	5855-133-9249	A150 D GASKET , METER : 1126970-1; (12705)	EA	1	*	*	*	*	*	*	5			2A1MP2
(--F		A151 D HOUSING, CONTROL SUBASSEMBLY: 1126951-3 ; (12705)	EA	1										2A1A1
(2-F	5340-995-6873	A152 E INSERT, SCREW THREAD: T62L57; (03038)	EA	13										2A1A1MP1-13
(2-F	5340-027-5737	A153 E INSERT, SCREW THREAD : T02L57 ; (03038)	EA	2										2A1A1MP2-14
(2-H		A154 E NUT, BLIND RIVET: SS6B160 ; (03481)	EA	1										2A1A1MP28
(2-H		A155 E NUT, BLIND RIVET: SAME AS A154	EA	1										2A1A1MP29
(2-H	5330-060-9601	A156 E PACKING WITH RETAINER: NAS1598C08R; (80205)	EA	1										2A1A1MP30
(2-H	5330-060-9601	A157 E PACKING WITH RETAINER : SAME AS A156	EA	1										2A1A1MP31
?--F	6210-176-4928	A158 D HOUSING, INDICATOR, LIGHT: LH89-1; (25072)	EA	1	*	1	2	*	1	1	19			2A1MP27
?--F	6210-176-4928	A159 D HOUSING, INDICATOR, LIGHT: SAME AS A158	EA	1	REF	REF	REF	REF	REF	REF	REF			2A1MP28
?--F	6210-176-4928	A160 D HOUSING , INDICATOR , LIGHT: SAME AS A158	EA	1	REF	REF	REF	REF	REF	REF	REF			2A1MP29
?--O	5355-994-3435	A161 D KNOB: MS91528-1E2B ; (96906)	EA	1	*	*		*		*	5			2A1MP15

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC I UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-5	(c) 1-100	(7) 30-DAY GS ALLOW (a) 1-20	(b) 21-5	INT (c) -10	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
--O	5355-556-0145	A162 D KNOB: MS91528-1K2B; (96906)	EA	1	*	*	*	*	*	*	5	2	9-2	2A1MP14
--O	6240-851-4352	A163 D LAMP, INCANDESCENT: MS25237-330; (96906)	EA	1	*	1	2	*	1	1	19	10	9-2	2A1DS3
--O	6240-155-7836	A164 D LAMP, INCANDESCENT: MS25237-327 ; (96906)	EA	1	1	3	5	1	1	1	59	40	9-2	2A1DS1
--O	6240-155-7836	A165 D LAMP, INCANDESCENT: SAME AS A164	EA	1	REF	REF	REF	REF	REF	EF	REF	REF	9-2	2A1DS2
--O	6210-176-4955	A166 D LENS, INDICATOR LIGHT: LC35GT2; (25072)	EA	1	*	*	1	*	*	1	10	4	9-2	2A1MP16
--O	6210-176-4954	A167 D LENS, INDICATOR LIGHT: LC35RT2 ; (25072)	EA	1	*	*	1	*	*	1	10	4	9-2	2A1MP17
--O	6210-176-4956	A168 D LENS, INDICATOR LIGHT: LC35WT2; (25072)	EA	1	*	*	*	*	*	*	5	2	9-2	2A1MP18
2-F	5940-999-7091	A169 D LINK, TERMINAL CONNECTING: 422-13-11-026; (71785)	EA	1									9-2	2A1MP21
2-F	5940-999-7091	A170 D LINK, TERMINAL CONNECTING : SAME AS A169	EA	1									9-2	2A1MP22
2-F	5305-054-5647	A170A * SCREW, MACHINE: MS51957-13; (96906)	EA	4										2A1MP26
3-F		A171 D MARKER, IDENTIFICATION : 363-11-10-010 ; (71785)	EA	1										2A1MP23
3-F		A172 D MARKER , IDENTIFICATION : 363-11-23-010 ; (71785)	EA	1									9-2	2A1MP24
4-F		A173 D MARKER, IDENTIFICATION: 366-11-03-011 ; (71785)	EA	1									9-2	2A1MP25
--F	6645-566-0720	A174 D METER, TIME TOTALIZING : M5601 ; (74400)	EA	1			1	*	1			5	9-2	2A1M1
		A175D												
		A176D												
2-F	5330-574-6704	A177 D PACKING WITH RETAINER : 32-341 ; (27191)	EA	1									9-2	2A1MP19
2-F	5330-574-6704	A178 D PACKING WITH RETAINER : SAME AS A177	EA	1									9-2	2A1MP20
--F		A179 D RELAY, ARMATURE: 1126521; (12705)	EA	1		1	2	1	1	1	19	10	9-2	2A1K2
2-F	5310-934-9759	A180* NUT, PLAIN, HEXAGON: SAME AS A118	EA	3									9-2	2A1H58-3
2-F	5310-880-5978	A181 * WASHER , FLAT : SAME AS A019	EA	3									9-2	2A1H59-3
2-F	5310-933-8119	A182 * WASHER , LOCK : SAME AS A020	EA	3									9-2	2A1H60-3
--F		A183 D RELAY, ARMATURE : SAME AS A179	EA	1		REF	REF	REF	REF	REF	REF	REF	9-2	2A1K3
2-F	5310-934-9759	A184 * NUT, PLAIN, HEXAGON : SAME AS A118	EA	3									9-2	2A1H40-3
2-F	5310-880-5978	A185* WASHER , FLAT : SAME AS A019	EA	3									9-2	2A1H12-3

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

ODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE — USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-D			30-DAY GS MAINT ALLOWANCE			(8) I YR LWPI 100 EQUI NTG(	(9) EPOT AINT LWPER 100 QUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
					(a) 1-20			(a) -	(b) 21-50	(c) 51-10				
!-F	5310-933-8119	A186 * WASHER, LOCK: SAME AS A020	EA	3									9-2	2A1H31-3
·-F	5945-257-0317	A187 D RELAY, SOLENOID: 7064-758; (35344)	EA	1	1			1	1	1	19	10	9-2	2A1K1
!-F	5305-059-3656	A188* SCREW, MACHINE: MS51958-60 ; (96906)	EA	2									9-2	2A1H49-2
!-F	5310-595-6772	A189* WASHER , FLAT : SAME AS A050J	EA	2									9-2	2A1H14-2
!-F	5310-933-8120	A190 * WASHER , LOCK: SAME AS A050K	EA	2									9-2	2A1H33-2
·-H		A191 D SHIELD ASSEMBLY , SAFETY , CONTROL: 1126571-1 ; (12705)	EA	1									9-2	2A1A4
!-F	5305-225-6400	A192 * SCREW, MACHINE: MS2469303 ; (96906)	EA	2									9-2	2A1H51-2
·-D		A193 E MARKER, INSTRUCTION: 1126572-1 ; (12705)	EA	1										2A1A4MP4
L-H		A194 E SHIELD, SAFETY : 1126571-3 ; (12705)	EA	1										2A1A4MP1
!-F		A195 E SPACER , PLATE : 1126571-5 ; (12705)	EA	1										2A1A4MP2
!-F		A196 E SPACER , PLATE : SAME AS A195	EA	1										2A1A4MP3
!-F	5940-113-8179	A197 D TERMINAL , LUG : MS25036-107 ; (96906)	EA	1										2A1E101
!-F	5305-054-6652	A198 * SCREW, PAN HEAD: SAME AS A138	EA	1										2A1H61-1
!-F	5310-929-6395	A199* WASHER , LOCK: SAME AS A025	EA	1										2A1H62-1
!-F	5310-722-5998	A200* WASHER , FLAT : SAME AS A024	EA	1										2A1H63-1
·-F	5930-177-2757	A201 D SWITCH, ROTARY: V71074NSR05 ; (31356)	EA	1	1			1	1	1	12	5	9-2	2A1S4
·-F	5930-177-2758	A202 D SWITCH, ROTARY: V74022NSR05 ; (31356)	EA	1	1			1	1	1	12	5	9-2	2A1S1
·-F	5930-682-0757	A203 D SWITCH, TOGGLE , 1P2T : MS90310-311 ; (96906)	EA	1	1			1	1	1	19	10	9-2	2A1S3
·-F	5930-126-1220	A204 D SWITCH, TOGGLE, 4P3T: 8906K1626 ; (27191)	EA	1	1			1	1	1	19	10	9-2	2A1S2
!-F		A205 * WASHER, FLAT: 5710-96-63 ; (86928)	EA	1										2A152MP1
		A206D												
		A207D												
		A208D												
!-F	5940-204-8966	A209 D TERMINAL, LUG: MS25036-102 ; (96906)	EA	60										2A1E13-E72
X2-F	5940-143-4771	A210 D TERMINAL, LUG: MS25036-103 ; (96906)	EA	4										2A1E73-E76

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
X2-F	5940-283-5280	A211 D TERMINAL, LUG: MS25036-106;(96906)	EA	14										2A1E77-E90
X2-F	5940-143-4780	A212 D TERMINAL, LUG : MS25036-108 ; (96906)	EA	2										2A1E91-E92
X2-F	5940-143-5284	A213 D TERMINAL, LUG: MS25036-115 ; (96906)	EA	8										2A1E93-E100
X2-F	5940-117-1024	A214 D TERMINAL BOARD : 356-11-03-001 ; (71785)	EA	1									9-2	2A1TB1
X2-F	5305-057-0510	A215 * SCREW, MACHINE : MS51957-33; (96906)	EA	4									9-2	2A1H43-4
X2-F	5310-722-5998	A216 * WASHER , FLAT : SAME AS A024	EA	4									9-2	2A1H7-4
X2-F	5310-929-6395	A217 * WASHER , LOCK: SAME AS A025	EA	4									9-2	2A1H25-4
X2-F	5310-933-8120	A218 * WASHER, LOCK : SAME AS A050K	EA	6										2A1H34-6
X2-F	5940-229-9669	A219 D TERMINAL BOARD: 353-11-10-001; (71785)	EA	1									9-2	2A1TB3
X2-F	5305-054-6655	A220 * SCREW, MACHINE : MS51957-31;(96906)	EA	4									9-2	2A1H46-4
X2-F	5310-722-5998	A221 * WASHER, FLAT : SAME AS A024	EA	4									9-2	2A1H5-4
X2-F	5310-929-6395	A222 * WASHER, LOCK: SAME AS A025	EA	4									9-2	2A1H21-4
X2-F	5310-929-6395	A223 * WASHER, LOCK: SAME AS A025	EA	20									9-2	2A1H22-20
X2-F	5940-143-4833	A224 D TERMINAL BOARD: 353-11-23-001 ; (71785)	EA	1									9-2	2A1TB2
X2-F	5305-05 4-6655	A225 * SCREW, MACHINE: SAME AS A220	EA	8									9-2	2A1H47-8
X2-F	5310-773-7624	A226 * WASHER , FLAT : NAS620C6; (80205)	EA	6									9-2	2A1H6-8
X2-F	5310-929-6395	A227 * WASHER, LOCK: SAME AS A025	EA	8									9-2	2A1H23-8
X2-F	5310-929-6395	A228 * WASHER, LOCK: SAME AS A025	EA	42										2A1H24-42
X2-F	5310-924-5968	A229 D WASHER, KEY: MS25081-1 ; (96906)	EA	1									9-2	2A1MP12
X2-F	5310-924-5968	A230 D WASHER, KEY: SAME AS A229	EA	1									9-2	2A1MP13
X--F	5961-722-1480	A230A D SEMICONDUCTOR DEVICE , DIODE : SAME AS A100	EA	1	*	*	*	*	*	*	5	2	9-2	2A1CR11
X--F	8030-081-2340	A230B * COMPOUND , SEAL: SAME AS A069A	PT	1	REF	REF	REF	REF	REF	REF	REF	REF		2A1MP30-1
X2-F		A230C D WIRE, ELECTRICAL: MILW16878TYPEE22AWG; (81349)	FT	2										2A1W1
X2-F		A230E D WIRE, ELECTRICAL: MILW16878TYPEE16AWG; (81349)	FT	2										2A1W2
X2-F		A230F D WIRE, ELECTRICAL: MILW16878TYPEE8AWG ; (81349)	FT	2										2A1W3

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) (1-20)	(b) (21-50)	(c) (1-10)	(7) 30-DAY GS MAINT ALLOWANCE (a) (1-20)	(b) (1-50)	(c) (1-10)	(8) YR MAINT MAN HR PER 100 EQUIP (TAMMC)	(9) DEPOT MAINT MAN HR PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG. NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
2-F		A230G D TIES, CABLE: TY24M; (59730)	EA	2										2A1MP31
2-F		A230H D TIES, CABLE: TY23M; (59730)	EA	2										2A1MP32
--F	855-134-0527	A231 C GASKET, CONTROL: 1126941-1; (12705)	EA	1						1	12	5	1-2	2MP2
--D		A232 C PLATE, IDENTIFICATION: 1126985-2; (12705)	EA	1									1-2	2MP3
2-F	305-175-3230	A233 • SCREW, DRIVE: MS21318-14; (96906)	EA	4									1-2	2H2-4
0-F		A234 C PLATE, MOUNTING, CONTROL: 1126940-3; (12705)	EA	1									J-2	2MP1
2-F	305-071-1323	A235 • SCREW, MACHINE: MS51960-66; (96906)	EA	12									1-2	2H1-12
--0	855-135-0154	A236 B CONTROL, SCHLI SET C-7906 /VSS-3: 1126834-1; (12705)	EA	1				1	1	1	22	12		3
--0	305-983-6651	A237 • SCREW, SOCKET HEAD: MS16998-27; (96906)	EA	4			1	*	1	1	16	8		H2-4
--0	31[illegible]-721-780	A238 * WASHER, LOCK: MS35[illegible]; (96906)	EA	4			1	*	1	1	16	8		H3-4
--F	935-721-0490	A239 C CONNECTOR, RECEPTACLE, ELEC: MS3102R18-1P, (96906)	EA	1	*	*	*	*	*	*	5	2	1-6	3J1
2-F	305-054-5651	A240 • SCREW, MACHINE: MS51957-17; (96906)	EA	4									1-6	3H4-4
2-F	310-933-8118	A241 • WASHER, LOCK: SAME AS A116	EA	4									1-6	3H5-4
2-F	310-595-6425	A242 • WASHER, FLAT: AN960C4L; (88044)	EA	4									1-6	3H2-4
2-F	330-828-4749	1243 *PACKING WITH RETAINER: NAS1598C04R; (80205)	EA	4									1-6	3H7-4
--F	330-143-7626	944 C GASKET, CONNECTOR: SAME AS ~1.46	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	1-6	3MP4
--F	330-134-3097	A245 C GASKET, PLATE, MOUNTING: 1126919-1; (12705)	EA	1	*	1	1	*	1	1	12	5	1-6	3MP3
P-		A246 C HOUSING, CONTROL: 1126922-1; (12705)	EA	1									1-6	3MP1
-F	210-176-4928	A247 C ROUSING, INDICATOR LIGHT: SAME AS A158	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	1-6	3MP10
-F	210-176-4928	A248 C HOUSING, INDICATOR LIGHT: SAME AS A158	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	1-6	3MP11
-0	240-155-7836	A249 C LAMP, INCANDESCENT: SAME AS A164	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	1-6	3DS1
--0	240-155-7836	A250 C LAMP INCANDESCENT: SAME AS A164	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	1-6	3DS2
-0	210-176-4955	A251 C LENS, INDICATOR LIGHT: SAME AS A166	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	1-6	3MP8
-0	210-176-4954	A252 C LENS, INDICATOR LIGHT: SAME AS A167	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	1-6	3MP7
-F	330-806-8769	A253 C PACKING WITH RETAINER: MS25196-1; (96906)	EA	1									1-6	3MP5

SECTION II REPAIR PARTS FOR DIRECT SUPPORT ENERAL SUPPORT. AND DEPOT MAINTENANCE (Continued)

(1) SM CODI	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE OI CODE	(4) JNIT OF MEAS	(5) QTY NC I INIT	(6) 30-DAY DS MAINT ALLOWANCE (a) L-2(	(b) :1-5	(c) :1-10	(7) 30- GS MAI NT LOWANCE (a) L-2(	(b) :1-5	(c) 1-10	(8) YR LW PE 100 :QUI VTGC	(9) EPO' AIN' LWPE 100 :QUI	ILLUSTRATIONS (a) FI G NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
C2-F	5330-806-8769	A254 C PACKING WITH RETAINER : SAME AS A253	EA	1									)-6	3MP6
CD-F		A255 C PLATE, IDENTIFICATION: 1126985-1 ; (12705)	EA	1									)-6	3MP9
C2-F	5305-253-5609	A256 * SCREW, DRIVE: MS21318-13; (96906)	EA	4									)-6	3H8-4
CD-F		A257 C PLATE , MOUNTING , CONTROL : 1126921-1 ; (12705)	EA	1									)-6	3MP2
C2-F	5305-050-9236	A258 * SCREW, MACHINE: MS51957-70 ; (96906)	EA	6									)-6	3H3-6
C2-F	5310-167-0801	A259 * WASHER , FLAT : AN960C10 ; (88044)	EA	6									)-6	3H1-6
C2-F	5310-933-8120	A260 * WASHER , LOCK : SAME AS A050K	EA	6									)-6	3H6-6
'--F	5930-682-0757	A261 C SWITCH, TOGGLE 1P2T : SAME AS A203	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	)-6	3S2
'--F	5930-126-1220	A262 C SWITCH, TOGGLE 4P3T : SAME AS A204	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	)-6	3S1
C2-F	5940-813-0698	A263 C TERMINAL , LUG : MS25036-101 ; (96906)	EA	12									)-6	3E1-E12
'--O	5975-123-1527	A264 B COVER, SEARCHLIGHT: 1127001-1 ; (12705)	EA	1	1	2	3	1	1	1	33	20		MP1
'--O	6250-134-1757	A265 B HOLDER, LAMP: 1126904-1 ; (12705)	EA	1	1	1	1	1	1	1	5	2		MP2
'--O	6230-168-0153	A266 B LAMP AND HOLDER ASSEMBLY : 1122328-1 ; (12705)	EA	1	21	48	91	5	12	25	095	000		A1
'--O	6250-134-1757	A267 C HOLDER, LAMP: SAME AS A265	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		A1MP1
C1-O		A268 C LAMP, XENON: 936271; (05301)	EA	1										A1DS1
'--O	5855-135-0162	A269 B MOUNT, SEARCHLIGHT : 1122311-1 ; (12705)	EA	1	1	1	1	1	1	1	5	2		MP2
'--O	5305-716-8186	A270 * SCREW, CAP, HEXAGON: MS90726-110 ; (96906)	EA	4	1	1	1	1	1	1	16	8		H7-4
'--O	5310-767-9425	A271 * WASHER, FLAT: MS15795-818 ; (96906)	EA	4	1	1	1	1	1	1	16	8		H6-4
'--O	5340-143-0356	A272 * PIN, QUICK RELEASE: EGP8E24L8 ; (15291)	EA	3	1	1	2	1	1	1	27	15		H1-3
'--O-	5855-135-0156	A273 B SEARCHLIGHT, IR MX-8272/VSS-3 1126835-3 ; (12705)	EA	1										1
'--O	5340-134-3339	A274 C COUPLING, CLAMP, GROOVED: 1127662-1; (12705)	EA	1	1	1	2	1	1	1	19	10	)-7	1MP6
'--F	5330-143-7662	A275 C GASKET , CONNECTOR : SAME AS A147	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		1MP4
H-F-		A276 C HEAT EXCHANGER , CASE ASSEMBLY : 1126555-1 ; (12705)	EA	1									)-7	1A3
--F	5905-134-9846	A277 D BALLAST RESISTOR ASSEMBLY: 1126971-7 ; (12705)	EA	1	1	1	1	1	1	1	12	5	-1:	1A3A1
2-F	5305-990-6381	A278 * SCREW, CAP, SOCKET HEAD : MS16995-19 ; (96906)	EA	10									-1:	1A3H6-10

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION — REFERENCE NUMBER & MFR. CODE — USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
-F	5310-531-9514	A279 * WASHER , FLAT : AN960C6; (88044)	EA	10									9-13	1A3H13-10
-F	5330-229-3666	A280 * WASHER , SEAL : 7500-6; (02697)	EA	10									9-13	1A3H9-10
-F		A281 E GASKET, BALLAST RESISTOR: 1127661-1 ; (12705)	EA	1									9-13	1A3A1MP2
-F		A282 E INSULATOR, PLATE: 1127681-3 ; (12705)	EA	1									9-13	1A3A1MP1
-F		A283 E RESISTANCE ELEMENT : 1126971-21 ; (12705)	EA	1									9-13	1A3A1R1
-F	5310-822-0077	A284 * NUT, PLAIN, HEXAGON: MS25082B4 ; (96906)	EA	4									9-13	1A3A1H2-4
-F	5310-934-9748	A285 * NUT, PLAIN, HEXAGON: SAME AS A113	EA	3									9-13	1A3A1H8-3
-F	5330-927-0068	A286 * PACKING WITH RETAINER: NAS1598C4R ; (80205)	EA	2									9-13	1A3A1H7-2
-F		A287 * SCREW, CAP, SOCKET HEAD : 1126599-1 ; (12705)	EA	2									9-13	1A3A1H1-2
-F	5305-763-7822	A288 * SCREW, MACHINE : MS51959-14 ; (96906)	EA	3									9-13	1A3A1H9-3
-F	5310-045-5210	A289 * WASHER, FLAT: MS15795-910;(96906)	EA	2									9-13	1A3A1H3-2
-F	5310-022-8834	A290 * WASHER , LOCK : MS35333-108 ; (96906)	EA	2									9-13	1A3A1H5-2
-F	5310-933-8118	A291 * WASHER, LOCK: SAME AS A116	EA	3									9-13	1A3A1H6-3
-F	5310-933-8121	A292 * WASHER, LOCK: MS35338-139 ; (96906)	EA	2									9-13	1A3A1H4-2
-F		A292AE CAPACITOR ASSEMBLY : 1126594; (12705)	EA	1								5	9-13	1A3A1C1
-F	5310-929-6395	A292B * WASHER, LOCK: SAME AS A025	EA	2									9-13	1A3A1H14-2
-F	5310-531-9514	A292C* WASHER, FLAT: SAME AS A279	EA	2									9-13	1A3A1H15-2
-F	5305-054-6660	A292E* SCREW, PAN HEAD: MS51957-36; (96906)	EA	2									9-13	1A3A1H16-2
-F	5855-245-8460	A293 D DUCTING ASSEMBLY HEAT EXCHANGER : 1126546-7 ; (12705)	EA	1								2	9-13	1A3A2
-F	5340-178-8116	A294 E INSERT SCREW THREAD : MS51830-103L ; (96906)	EA	4									9-13	1A3A2MP1-4
-F		A295 E COVER , REAR : 1126551-1 ; (12705)	EA	1										1A3A2MP5
-F		A296 E NUTSERT : 9505-06; (19738)	EA	5									9-13	1A3A2MP6-11
-F-S		A297 D FAN ASSEMBLY CENTRIFUGAL: 1128364-7 ; (12705)	EA	1									9-13	1A3A4
-F	5310-926-1835	A298 * NUT, SELF-LOCKING, HEXAGON : MS21083C3 ; (96906)	EA	4									9-13	1A3H2-2
-F	5305-052-6456	A299 * SCREW, CAP, SOCKET HEAD : MS16996-10 ; (96906)	EA	1									9-13	1A3H7-1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF EAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) -20	(b) -50	(c) -10	(7) 0-DAY GS MAINT ALLOWANCE (a) -20	(b) -50	(c) -10	(8) YR WP TOO QUI ITG	PER	(10) ILLUSTRA (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
C2-F	305-990-6381	A300 * SCREW, CAP, SOCKET HEAD: SAME AS A278	EA	4									9-13	1A3H8-4
C2-F		A301 * SCREW, MACHINE : MS3213-34; (96906)	EA	4									9-13	1A3H19-4
C2-F		A302 * SCREW, SEALING: MS3213-35; (96906)	EA	2									9-13	1A3H20-2
C2-F	310-167-0801	A303* WASHER, FLAT: SAME AS A259	EA	2									9-13	1A3H21-2
C2-F	310-167-0812	A304* WASHER, FLAT: AN960C10L ; (88044)	EA	1									9-13	1A3H17-1
C2-F	310-531-9514	A305 * WASHER, FLAT: SAME AS A279	EA	4										1A3H15-4
C2-F	310-929-6395	A306 * WASHER, LOCK: SAME AS A025	EA	7									9-13	1A3H16-4
C2-F	330-229-3666	A307 * WASHER , SEAL : SAME AS A280	EA	3										1A3H10-3
P--F	330-143-7650	A308 E GASKET, MOUNTING PLATE, MOTOR: 1126564-1 ; (12705)	EA	1	1	1	1	1	1	1	12		9-14	1A3A4MP4
P--F-	105-135-0020	A309 E MOTOR, DIRECT CURRENT: 20504-5; (02101)	EA	1	1	1	1	1	1	1	12		9-14	1A3A4A2
P--F	310-177-1162	A310* NUT, SELF-LOCKING, HEXAGON: 50FKC420 ; (70318)	EA	4	*	1	1	*	1	1	16		9-14	1A3A4H3-4
C2-F	305-054-6654	A311 * SCREW, MACHINE: MS51957-30; (96906)	EA	4									9-14	1A3A4H2-4
C2-F	310-515-7449	A312 * WASHER, FLAT: AN960C416L ; (88044)	EA	4									9-14	1A3A4H5-4
C2-F	310-05 4-0041	A313 * WASHER, FLAT: NAS620C6L ; (80205)	EA	4									9-14	1A3A4H4-4
P--F	105-490-5787	A314 F ARMATURE , MOTOR : 78320 ; (02101)	EA	1	1	1	1	1	1	1	12			1A3A4A2E1
P--F	110-554-3979	A315 F BEARING, BALL, ANNULAR : P38KDDFS381 ; (21335)	EA	1	1	1	1	1	1	1	12			1A3A4A2MP1
P--F	110-554-3979	A315A F BEARING, BALL, ANNULAR : SAME AS A315	EA	1	REF	REF	REF	EF	EF	EF	REF			1A3A4A2MP2
P--F	977-9 43-7206	A316 F BUSH, ELECTRICAL CONTACT: 77032 ; (02101)	EA	1	1	2	3	1	1	1	33			1A3A4A2E2
P--F	977-943-7206	A316A F BUSH, ELECTRICAL CONTACT: SAME AS A316	EA	1	REF	REF	REF	EF	EF	EF	REF			1A3A4A2E3
P--F	330-148-8592	A317 E PACKING, PREFORMED : 524572; (80201)	EA	1	*	1	1	*	1	1	12		9-14	1A3A4MP6
4--D		A318 E PLATE ASSEMBLY , MOUNTING , MOTOR: 1126575-1; (12705)	EA	1									9-14	1A3A4A1
K1-D		A319 F PLATE, MOUNTING : 1126577-1 ; (12705)	EA	1										1A3A4A1MP1
K1-D		A320 F STUD, SELF-LOCKING: FHS1-420-16 ; (46384)	EA	1									9-14	1A3A4A1MP2
K1-D		A321 F STUD, SELF-LOCKING: SAME AS A320	EA	1									9-14	1A3A4A1MP3
K1-D		A322 F STUD, SELF-LOCKING: SAME AS A320	EA	1									9-14	1A3A4A1MP4

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
K1-D		A323 F STUD , SELF-LOCKING : SAME AS A320	EA	1									9-14	1A3A4A1MP5
M--H		A324 E RING, RETAINING, INSTRUMENT: 1126538-1; (12705)	EA	1									9-14	1A3A4MP1
K2-F	5305-066-7326	A325 * SCREW, MACHINE: MS24693C24; (96906)	EA	3									9-14	1A3A4H1-3
P--F	5855-245-8459	A326 E SHROUD ASSEMBLY , BLOWER WHEEL : 1126544-1; (12705)	EA	1	1	1	1	1	1	1	5	2	9-14	1A3A4MP5
K2-F	5940-557-4398	A327 E TERMINAL , LUG : MS25036-148; (96906)	EA	1									9-14	1A3A4E1
K2-F	5940-557-4398	A328 E TERMINAL, LUG: SAME AS A327	EA	1									9-14	1A3A4E2
P--F	4140-134-4240	A329 E WHEEL , BLOWER : 1127667-5; (12705)	EA	1			1	1	1	1	12	5	9-14	1A3A4MP2
P--F	5305-882-6031	A329A * SCREW, SET: MS51032-62; (96906)	EA	1			1	1	1	1	10	4		1A3A4MP2-H1
P--F	4140-134-4242	A330 E WHEEL, BLOWER: 1127667-7 ; (12705)	EA	1			1	1	1	1	12	5	9-14	1A3A4MP3
P--F	5305-882-6031	A330A* SCREW, SET: SAME AS A329A	EA	1			REF	REF	REF	REF	REF	REF		1A3A4MP3-H1
P--F	5330-143-7624	A331 D GASKET , SHROUD , BLOWER WHEEL: 1127660-1 ; (12705)	EA	1			2	1	1	1	19	10	9-13	1A3MP3
P--F	5855-245-8465	A332 D PLENUM ASSEMBLY , HEAT EXCHANGER: 1127686-5; (12705)	EA	1			1	1	1	1	5	2	9-13	1A3A3
C2-F	5305-054-6652	A333 * SCREW, MACHINE: SAME AS A138	EA	3									9-13	1A3H5-3
C2-F	5310-531-9514	A334 * WASHER, FLAT: SAME AS A279	EA	3									9-13	1A3H14-3
C1-F	/	A335 E NUT, BLIND RIVET: SS10K80 ; (03481)	EA	1									9-13	1A3A3MP5
C2-F	5310-944-7629	A336 E NUT, SELF-LOCKING, CLINCH: SAME AS A057	EA	1									9-13	1A3A3MP1
C2-F	5310-944-7629	A337 E NUT, SELF-LOCKING, CLINCH: SAME AS A057	EA	1									9-13	1A3A3MP2
C2-F	5310-944-7629	A338 E NUT, SELF-LOCKING, CLINCH: SAME AS A057	EA	1									9-13	1A3A3MP3
C1-F		A339 E PLENUM: 1127686-7 ; (12705)	EA	1										1A3A3MP4
P--F	5330-143-7706	A340 D SEAL, RUBBER SPCL SHAPED SECTION: 1126589-1; (12705)	EA				2	1	1	1	19	10	9-13	1A3MP4
P--F	8040-828-7385	A340A* ADHESIVE: RTV103 ; (01139)	PT	1			1	1	1	1	5	2		1A3MP6-1
C2-F		A340B D PLATE, BEARING: 1126517-1; (12705)	EA											1A3MP5
MH-F		A341 D SHIM: 1126547-1; (12705)	EA	1									9-13	1A3MP2
C2-F		A342 D STRAP, RETAINING: 1471; (83330)	EA	1									9-13	1A3MP1
C2-F	5305-054-5648	A343 * SCREW, MACHINE: MS51957-14; (96906)	EA	1									9-13	1A3H4-1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) CMDN CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN	(6) 30-DAY DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30-DAY GS MAINT ALLOWANCE (a)	(b)	(c)	(8) QTY INC IN QUANTITY	(9) MAINT LWP QUANTITY	(10) ILLUSTRATIONS (a) FIG NO	(b) ITEM NO. OR REFERENCE DESIGNATION
X2-F	5310-632-672	A344 * WASHER, FLAT: AN960C4; (88044)	EA	1									9-1	1A3H12-1
X2-F		A345 D TERMINAL BOARD: 352-15-02-001; (71785)	EA	1									9-1	1A3TB3
X2-F	5305-054-565	A346 * SCREW, MACHINE: SAME AS A129	EA	2									9-1	1A3H3-2
X2-F		A347 * WASHER, FLAT: NAS620C4; (80205)	EA	2									9-1	1A3H11-2
P2-F-S	5855-134-056	A348 C HOUSING, SEARCHLIGHT SUBASSEMBLY: 1126552-1; (12705)	EA	1				2	2	2	5	2	9-7	1A1
P--D	5340-134-349	A349 D CATCH, CLAMPING: ZPZ045; (98003)	EA	1							19	10	9-7	1A1MP2
P--D	5340-134-349	A350 D CATCH, CLAMPING: SAME AS A349	EA	1							REF	REF	9-7	1A1MP3
P--D	5340-134-349	A351 D CATCH, CLAMPING: SAME AS A349	EA	1							REF	REF	9-7	1A1MP4
P--D	5340-134-349	A352 D CATCH, CLAMPING: SAME AS A349	EA	1							REF	REF	9-7	1A1MP5
P--D	5340-134-349	A353 D CATCH, CLAMPING: SAME AS A349	EA	1							REF	REF	9-7	1A1MP6
M--D		A354 D CATCH, CLAMPING: 1126596-3; (12705)	EA	1									9-7	1A1MP13
P--D	5340-134-349	A355 D CATCH, CLAMPING: 51L51-2AA; (71286)	EA	1							5	2	9-7	1A1MP1
P--D	5340-134-348	A356 D HANDLE, BAIL: 955LS2RG; (98003)	EA	1							10	4		1A1MP7
P--D	5340-134-348	A357 D HANDLE, BAIL: SAME AS A356	EA	1							REF	REF		1A1M
X2-F	5340-678-330	A358 D INSERT, SCREW THREAD: MS21209F8-15; (96906)	EA	4									9-7	1A1MP9-4
--D		A359 C PLATE, IDENTIFICATION: 1126985-3; (12705)	EA	1									9-7	MP3
X2-F		A360 * RIVET, SELF-SEALING: AD42AH; (07707)	EA	4									9-7	H7-4
MD-F		A361 C PLATE INSTRUCTION: 1122403-1; (12705)	EA	1									9-7	MP2
X2-F		A362 * RIVET, SELF-SEALING: SAME AS A360	EA	4									9-7	H6-4
MD-F		A363 C PLATE, INSTRUCTION: 1122404-1; (12705)	EA	1									9-7	MP1
X2-F		A364 * RIVET, SELF-SEALING: SAME AS A360	EA	4									9-7	H5-4
P--F	330-143-7718	A365 C SEAL, RUBBER CHANNEL: 1128350-1; (12705)	EA	1	1	1	2	*	1	1	19	10	9-7	MP7
X--F-S		A366 C SUPPORT ASSEMBLY, SEARCHLIGHT: 1122360-3; (12705)	EA	1									9-7	A2
X2-F	305-269-2801	A367 * SCREW, CAP, HEXAGON HEAD: MS90726-58; (96906)	EA	4									9-7	H1-4
X2-F	310-773-7618	A368 * WASHER, FLAT: MS15795-814; (96906)	EA	4									9-7	H2-4

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT .WPE 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
(2-F	5310-98 4-7042	A369* WASHER , LOCK : MS35338-141 ; (96906)	EA	4									9-7	1H4-4
(2-F	5330-874-3744	A370* WASHER , SEAL : 7500-3-8 ; (02697)	EA	4									9-7	1H3-4
?--F	5855-245-8448	A371 D ADAPTER ASSEMBLY , LAMPHOLDER : 1126510-1 ; (12705)	EA	1	1	1	1	1	1	1	5	2	9-8	1A2A2
(2-F		A372* SETSCREW: MS18066-8 ; (96906)	EA	1										1A2H95-1
(1-F		A373 E ADAPTER, LAMPHOLDER: 1126510-3 ; (12705)	EA	1										1A2A2MP1
(1-F		A374 E INSERT, SCREW THREAD: 1126510-5; (12705)	EA	1										1A2A2MP2
F-		A375 D BEARING , PLAIN , ROD END: HFR3; (73134)	EA	1									9-8	1A2MP30
(2-F	5305-959-1909	A376 * SCREW, CAP, SOCKET HEAD : MS16996-11 ; (96906)	EA	1									9-8	1A2H32-1
(2-F	5310-167-0812	A377* WASHER, FLAT : SAME AS A304	EA	1									9-8	1A2H46-1
(2-F	5310-933-8120	A378 * WASHER , LOCK: SAME AS A050K	EA	1									9-8	1A2H87-1
'--F-R	5855-134-0543	A379 D BIPOD ASSEMBLY , LAMP SUPPORT : 1126926-1 ; (12705)	EA	1	1	1	2	1	1	1	19	10	9-8	1A2A10
(2-F	5305-958-6517	A380* SCREW, CAP, SOCKET HEAD: MS16996-12 ; (96906)	EA	4									9-8	1A2H28-4
(2-F	5310-167-0812	A381 * WASHER, FLAT: SAME AS A304	EA	4									9-8	1A2H44-4
(2-F	5310-933-8120	A382 * WASHER , LOCK : SAME AS A050K	EA	4									9-8	1A2H85-4
'--F	5340-799-1336	A383 E RING , RETAINING, FILTER: 1122330-1 ; (12705)	EA	1	1	1	1	1	1	1	13	6	9-8	1A2A10MP1
'--F	8040-145-0450	A384 * ADHESIVE: RTV156; (01139)	OZ	1	1	1	1	1	1	1	5	2		1A2A10MP3-1
2-F	5310-813-2812	A385 E NUT, SELF-LOCKING, CLINCH: K7000-06-9 ; (75237)	EA	1									9-8	1A2A10MP2
--F	5855-245-8450	A386 D BLOCK, BEARING ADAPTER : 1126505-1 ; (12705)	EA	1	1	1	1	1	1	1	5	2	9-8	1A2MP1
--F	5305-795-8591	A387* SCREW, MACHINE : 1126509-1 ; (12705)	EA	1	1	1	1	1	1	1	5	2	9-8	1A2H1-1
--F	5855-245-8449	A388 D BLOCK ASSEMBLY, BEARING CONN LINK: 1126535-1 ; (12705)	EA	1	1	1	1	1	1	1	5	2	9-8	1A2A5
2-F	5305-068-5414	A389 * SCREW, CAP, SOCKET HEAD: MS16995-11 ; (96906)	EA	2									9-8	1A2H3-2
2-F	5310-632-6721	A390* WASHER, FLAT : SAME AS A344	EA	2									9-8	1A2H35-2
2-F	5310-933-8118	A391 * WASHER, LOCK: SAME ASA116	EA	2									9-8	1A2H66-2
1-F		A392 E BEARING, SLEEVE: 5L7F ; (96881)	EA	1										1A2A5MP2
2-F	5305 -054-5636	A393 * SCREW, MACHINE: MS51957-2 ; (96906)	EA	1										1A2A5H1-1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
1-F		A394 E BLOCK, BEARING : 1126535-7 ; (12705)	EA	1										1A2A5MP1
H-F		A395 D BRACKET , ELECTRICAL SWITCH: 1126568-1 ; (12705)	EA	1									9-8	1A2MP6
2-F	5305-959-1909	A396 * SCREW, CAP, SOCKET HEAD : SAME AS A376	EA	2									9-8	1A2H33-2
2-F	5310-167-0812	A397 * WASHER, FLAT: SAME AS A304	EA	2										1A2H42-2
2-F	5310-933-8120	A398 * WASHER, LOCK: SAME AS A050K	EA	2										1A2H83-2
F-		A399 D BRACKET , LIMITER : 1126582-1 ; (12705)	EA	1									9-8	1A2MP18
2-F	5305-016-8257	A400 * SCREW, CAP, SOCKET HEAD : MS16996-39 ; (96906)	EA	1									9-8	1A2H1-1
2-F	5310-183-4355	A401 * WASHER , FLAT : AN960C616L ; (88044)	EA	1									9-8	1A2H97-1
2-F	5310-984-7042	A401A * WASHER , LOCK SPLIT: SAME AS A369	EA	1									9-8	1A2H98-1
F-		A402 D BRACKET , LIMITER : SAME AS A399	EA	1									9-8	1A2MP19
2-F	5305-016-8257	A403* SCREW, CAP, SOCKET HEAD: SAME AS A400	EA	1									9-8	1A2H2-1
2-F	5310-183-4355	A404 * WASHER, FLAT : SAME AS A401	EA	1									9-8	1A2H98-1
H-F		A405 D BRACKET , MOTOR , FILTER : 1126943-1 ; (12705)	EA	1									9-8	1A2MP15
2-F	5305-059-3658	A406 * SCREW, MACHING : MS51958-62 ; (96906)	EA	2									9-8	1A2H30-1
2-F	5310-167-0812	A407 * WASHER, FLAT : SAME AS A304	EA	2									9-8	1A2H45-2
2-F	5310-933-8120	A408 * WASHER , LOCK : SAME AS A050K	EA	2										1A2H86-2
2-F		A409 D BRACKET ASSY , MOUNT, RESILIENT: 1126590-1 ; (12705)	EA	1									9-8	1A2A3
2-F	5310-250-9477	A410 * NUT, PLAIN, HEXAGON ; MS35649-2254 ; (96906)	EA	8									9-8	1A2H94-8
2-F	5305-988-7615	A411 * SCREW, CAP, SOCKET HEAD : MS16995-51 ; (96906)	EA	4									9-8	1A2H24-4
2-F	5305-719-5017	A412 * SCREW, MACHINE : MS51959-82 ; (96906)	EA	4									9-8	1A2H22-4
2-F	5310-764-9564	A413 * WASHER, FLAT: NAS620C416L; (80205)	EA	12									9-8	1A2H60-12
2-F	5310-933-8121	A414 * WASHER , LOCK : SAME AS A292	EA	8									9-8	1A2H89-8
2-F		A415 E FASTENER : SF12G6CBB5D ; (12324)	EA	7										1A2A3MP1
2-F	5320-234-1557	A415A E RIVET: MS20426A3-6 ; (96906)	EA	4										1A2A3H2-4
2-F	5310-779-6625	A415B E NUT , SELF-LOCKING , PLATE : MS21060L3 ; (96906)	EA	2										1A2A3 H3-2

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

MR DE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC I UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-5	(c) 1-10	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
		A416D												
		A417D												
		A418D												
		A419D												
		A420D												
	5320-234-1556	A421 * RIVET, SOLID: MS20426A3-5; (96906)	EA	2										1A2A3H2-2
		A422 D CAPACITOR , FIXED, PAPER DIEL : P323ZND; (00656)	EA	1			1	1	1	1	5	2	9-8	1A2C1
	5340-068-3544	A423 D CLAMP, LOOP: MS9353-04; (96906)	EA	1									9-8	1A2MP40
	5340-068-3544	A424 D CLAMP , LOOP : SAME AS A423	EA	1									9-8	1A2MP41
F	6115-065-8530	A425 D CLAMP, LOOP : TY535M; (59730)	EA	1									9-8	1A2MP33
F	5305-054-6654	A426 * SCREW, MACHINE: SAME AS A311	EA	1									9-8	1A2H9-1
F	5310-773-7624	A427 * WASHER , FLAT : SAME AS A226	EA	1									9-8	1A2H59-1
F	5310-929-6395	A428 * WASHER , LOCK: SAME AS A025	EA	1									9-8	1A2H83-1
F	6115-065-8530	A429 D CLAMP, LOOP: SAME AS A425	EA	1									9-8	1A2MP34
F	5305-054-6654	A430 * SCREW, MACHINE: SAME AS A311	EA	1									9-8	1A2H8-1
F	5310-773-7624	A431 * WASHER, FLAT: SAME AS A226	EA	1									9-8	1A2H58-1
F	5310-929-6395	A432 * WASHER, LOCK: SAME AS A025	EA	1									9-8	1A2H82-1
F	6115-065-8530	A433 D CLAMP, LOOP: SAME AS A425	EA	1									9-8	1A2MP53
F	5305-054-6654	A434 * SCREW, MACHINE: SAME AS A311	EA	1									9-8	1A2H19-1
F	5310-773-7624	A435* WASHER , FLAT : SAME AS A226	EA	1									9-8	1A2H57-1
F	5310-929-6395	A436 * WASHER , LOCK: SAME AS A025	EA	1									9-8	1A2H81-1
H		A437 D CLAMP, LOOP: 1128312-1; (12705)	EA	1									9-8	1A2MP24
F	5305-054-6654	A438 * SCREW , MACHINE : SAME AS A311	EA	1									9-8	1A2H16-1
F	5310-531-9514	A439 * WASHER , FLAT : SAME AS A279	EA	1									9-8	1A2H39-1
F	5310-929-6395	A440 * WASHER , LOCK: SAME AS A025	EA	1									9-8	1A2H72-1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) OF MEA	(5) QTY NC UNIT	(6) 30 / (a) 1-	(6) DS LOW / (b) 21-	(6) IN E / (c) 1-1	(7) 30-DAY GS MAIN ALLOWANCE (a) 1-	(b) 1-	(c) 1-1	(8) LW TO EQU NTS	(9) EPO AIN LWP 100 QUI	(10) ILLUSTRATIONS (a) FI NO	(b) ITEM NO. OR REFERENCE DESIGNATION
2-F	5340-951-153	A441 D CLIP, SPRING TENSION: SAME AS A027	EA	1									9-	1A2MP51
2-F	5310-680-662	A442 * NUT, PLAIN, HEXAGON: MS25082-1 ; (96906)	EA	2									9-	1A2H92-2
2-F	5305-054-665	A443 * SCREW, MACHINE: SAME AS A311	EA	2									9-	1A2H17-2
2-F	5310-773-762	A444 * WASHER, FLAT: SAME AS A226	EA	2										1A2H55-2
2-F	5310-929-639	A445 * WASHER, LOCK: SAME AS A025	EA	2										1A2H79-2
2-F	5340-951-153	A446 D CLIP, SPRING TENSION: SAME AS A027	EA	1									)-1	1A2MP52
2-F	5310-680-662	A447 * NUT , PLAIN, HEXAGON: SAME AS A442	EA	2									)-1	1A2H93-2
2-F	5305 -054-665	A448 * SCREW, MACHINE : SAME AS A311	EA	2									)-1	.A2H18-2
2-F	5310-773-762	A449 * WASHER, FLAT: SAME AS A226	EA	2										.A2H56-2
2-F	5310-929-639	A450 * WASHER, LOCK: SAME AS A025	EA	2										.A2H80-2
-F-	5855-245-845	A451 D BOOSTER STARTER ASSEMBLY : 112655 4-1 ; (12705)	EA	1	1	2	3	1	1	1	40	25	)-8	.A2E4
2-F	5310-934-976	A452 * NUT, PLAIN , HEXAGON : SAME AS A133	EA	3									)-8	.A2H105-3
2-F	5310-167-081	A452A * WASHER, FLAT: SAME AS A304	EA	3									)-8	A2H107-3
2-F	5310-933-812	A452B * WASHER, LOCK: SAME AS A050K	EA	3										A2H108-3
-F	5975-553-715	A452C D NIPPLE, RUBBER: MS25171-2S ; (96906)	EA	2	*	*	1	*	*	1	10	4		A2E4MP1
2-F		A452E D WIRE, HIGH VOLTAGE: 1130-21 ; (04946)	EA	1										A2E4W2
-F	5855-245-845	A453 D CONNECTOR LINK, RIGID: 1126534-1; (12705)	EA	1	1	1	1	1	1	1	5	2	-8	A2MP5
-F	5315-584-657	A454 * PIN, SPRING: MS171588; (96906)	EA	1	1	1	1	1	1	1	5	2	-8	A2H106-1
-F	5935-817-267	A455 D CONNECTOR, RECEPTACLE, ELECTRICAL: 10-107232-6P ; (12143)	EA	1	1	1	1	1	1	1	5	2	-7	A2J1
-F	5310-934-976	A456 * NUT, PLAIN, HEXAGON : SAME AS A133	EA	4									-7	H10-4
-F	5305-059-366	A457 * SCREW, MACHINE: MS51958-64; (96906)	EA	4									-7	H7-4
-F	5310-167-080	458 * WASHER, FLAT: SAME AS A259	EA	4									-7	H8-4
-F	5310-933-812	458A * WASHER, LOCK: SAME AS A050K	EA	4									-8	H82-4
-F	5820-999-919	459 * WASHER, SEAL: 7500-10 ; (02697)	EA	4									-7	H9-4
-F	5855-135-014	460 D CRADLE ASSEMBLY, LAMP : 1122337-1 ; (12705)	EA	1	1	1	1	1	1	1	5	2	-8	12A1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
PAOZZ	5305-054-6654	*SCREW, MACHINE: SAME AS A311												A2H14-2
PAOZZ	5310-773-7624	* WASHER, FLAT: SAME AS A226												A2H48-2
PAOZZ	5310-929-6395	* WASHER, LOCK: SAME AS A025												A2H70-2
PAOZZ		E CRADLE, LAMP: 1122337-3 ; (12705)												A2A1MP1
PAOZZ	5340-558-8826	E INSERT , SCREW THREAD : MS21209C0620 ; (96906)												A2A1MP2
XAOZZ	5855-245-8453	D DEFLECTOR ASSEMBLY WELDED : 1126529 -7 ; (12705)			1		1	1	1					A2MP3
PAOZZ	5340-903-7567	* RING, RETAINING : MS16624-18 ; (96906)												A2H99-1
PAOZZ	5305-959-0379	* SCREW, CAP, SOCKET HEAD : MS16995-10 ; (96906)												A2H29-1
PAOZZ	5305-068-5276	* SCREW, CAP, SOCKET HEAD : MS16995-9 ; (96906)												A2H29-1
PAOZZ	5310-632-6721	* WASHER , FLAT : SAME AS A344												A2H34-1
PAOZZ	5310-933-8118	* WASHER, LOCK: SAME AS A116												A2H65-1
XAOZZ	5855-134-0534	D FILTER ASSEMBLY, INFRARED : SCD647000; (80063)			1		2	1	1					A2A8
PAOZZ		E FILTER SUBASSEMBLY, INFRARED: 1126995-1 ; (12705)												A2A8A1
PAOZZ		F FILTER, INFRARED : 1122352-1; (12705)												A2A8A1FL1
PAOZZ		F PACKING, PREFORMED : 2-230 S613-6 ; (02697)												A2A8A1MP1
PAOZZ		F PACKING, PREFORMED : 2-332S613-6 ; (02697)												A2A8A1MP2
PAOZZ		F PACKING, PREFORMED : 2-145 S613-6 ; (02697)												A2A8A1MP3
PAOZZ		F PACKING, PREFORMED : 2-144 S613-6 ; (02697)												A2A8A1MP4
PAOZZ		F PACKING, PREFORMED : 2-38S613-6 ; (02697)												A2A8A1MP5
PAOZZ		F PACKING, PREFORMED : 2-37S613-6 ; (02697)												A2A8A1MP6
PAOZZ		E SLEEVE, FILTER: 1126913-1 ; (12705)												A2A8MP1
XAOZZ	5855-245-8461	D FOCUS ASSEMBLY, SEARCHLIGHT: 1126530-3; (12705)			*		*	2	2					A2A4
PAOZZ	5305-958-6517	* SCREW, CAP, SOCKET HEAD: SAME AS A380												A2H27-4
PAOZZ	5310-933-8120	* WASHER , LOCK : SAME AS A050K												A2H82-4
PAOZZ	5310-167-0812	* WASHER, FLAT: SAME AS A304												A2H41-4

SECTION II REPAIR PARTS FOR DIRECT SUPPORT. GENERAL SUPPORT. AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
[2-F	3120-324-6424	A485 E BEARING, SLEEVE: FB46-2; (71041)	EA	1									9-11	1A2A4MP11
›.-F		A485A * LOCTITE : 43; (03355)	EA	1	1	1	1	1	1	1	5	2		1A2A4MP11MP1
[2-F	3120-324-6424	A486 E BEARING, SLEEVE: SAME AS A485	EA	1									9-11	1A2A4MP12
›--F		A486A * LOCTITE : SAME AS A485A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		1A2A4MP12MP1-1
[2-F	3120-324-6424	A487 E BEARING , SLEEVE : SAME AS A485	EA	1									9-11	1A2A4MP13
›--F		A487A * LOCTITE : SAME AS A485A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		1A2A4MP13MP1-1
[2-F	3120-324-6424	A488 E BEARING , SLEEVE: SAME AS A485	EA	1									9-11	1A2A4MP14
›--F		A488A *LOCTITE : SAME AS A485A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		1A2A4MP14MP1-1
[2-F	3120-324-6424	A489 E BEARING , SLEEVE: SAME AS A485	EA	1									9-11	1A2A4MP15
›--F		A489A * LOCTITE : SAME AS A485A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		1A2A4MP15MP1-1
[2-F	3120-324-6424	A490 E BEARING , SLEEVE : SAME AS A485	EA	1									9-11	1A2A4MP16
›--F		A490A * LOCTITE: SAME AS A485A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		1A2A4MP16MP1-1
[2-F	3120-324-6424	A491 E BEARING, SLEEVE: SAME AS A485	EA	1									9-11	1A2A4MP17
›--F		A491A* LOCTITE : SAME AS A485A	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		1A2A4MP17MP1-1
›--D		A492 E BRACKET ASSEMBLY , GEAR : 1126515-7 ; (12705)	EA	1									9-11	1A2A4A1
1-F		A493 F BRACKET ANGLE: 1126515-3 ; (12705)	EA	1										1A2A4A1MP1
2-F		A494 F INSERT : MS51830-202L; (96906)	EA	1										1A2A4A1MP2-1
1-F		A494A F PAD, BRACKET: 1126515-5 ; (12705)	EA	1										1A2A4A1MP3
--F	5855-134-0548	A495 E ECCENTRIC, DEFLECTOR : 1126934-1; (12705)	EA	1	1	1	1	1	1	1	5	2	9-11	1A2A4MP1
--F	5315-619-1351	A496* PIN, SPRING : MS171500 ; (96906)	EA	1	1	1	1	1	1	1	5	2	9-11	1A2A4H7-1
2-F	5305-655-9246	A497 * SETSCREW: MS51021-10 ; (96906)	EA	1									9-11	1A2A4H11-1
--F	5855-245-8462	A498 E ECCENTRIC, FOCUS : 1126511-1 ; (12705)	EA	1	1	1	1	1	1	1	5	2	9-11	1A2A4MP2
--F		A499 * PIN, SPRING: MS171496 ; (96906)	EA	2	1	1	1	1	1	1	10	4	9-11	1A2A4H16-2
2-F	5305-800-7261	A500 * SETSCREW: MS51021-9 ; (96906)	EA	2									9-11	1A2A4H14-2
-F	5855-245-8463	A501 E GEAR, SPUR: 1126506-1 ; (12705)	EA	1	1	1	1	1	1	1	5	2	9-11	1A2A4MP7

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR. CODE	DESCRIPTION	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(3 51-10	(7) 0-DAY GS MAINT ALLOWANCE a) -20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP NTGCY	(9) DEPOT MAINT ALWPE 100 EQUIP	(10) ILLUSTRATIONS a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
-F	15-297-0836	A502	• PIN, SPRING: MS171498; (96906)		EA	1	1	1	1	1	1	1	10	4	-11	1A2A4H8-1
-F	55 -245-8464	A503 E	GEAR, SPUR: 1126506-3; (12705)		EA	1	1	1	1	1	1	1	5	2	-11	1A2A4MP10
-F	15-297-0836	A504	• SPRING: SAME AS A502		EA		REF	REF	REF	REF	REF	REF	REF	REF	-11	1A2A4H9-1
-F	55-2 45-8466	A505 E	HOUSING ASSEMBLY, FOCUS: 1126591-1; (12705)		EA	1	1	1	1	1	1	1	5	2	-11	1A2A4A2
-F		A506 F	ALUMINUM ALLOY ANGLE: 1126591-5; (12705)		EA	1										1A2A4A2MP2
-F	115-291-5471	A507	• PIN, SPRING: MS171431; (96906)		EA	1	1	1	1	1	1	1	5	2		1A2A4A2H1-1
-F		A508 F	HOUSING: 1126591-3; (12705)		EA											1A2A4A2MP1
-F	140-443-5878	A509 F	INSERT, SCREW THREAD: MS51830-102L; (96906)		EA	6										1A2A4A2MP3-6
-F	05-135-0019	A510 E	MOTOR, DIRECT CURRENT: 1126597-1; (12705)		EA	1	*	1	2	*	1	1	19	10	-11	1A2A4A3
-F	05 -959-0379	A511	• SOCKET HEAD: SAME AS A468		EA	4									-11	1A2A4H13-4
-F	110-595-6211	A512	• WASHER, FLAT: SAME AS A115		EA	4									-11	1A2A4H1-1
-F		A513 F	MOTOR, DIRECT CURRENT: 1122346-1; (12705)		EA	1										1A2A3A43B1
-F	05-054-5635	A514 F	SCREW, MACHINE: MS51957-1; (96906)		EA	1										1A2A4A3MP1
-F	05 -795-8592	A515 E	SCREW, ADJUSTING: 1126502-3; (12705)		EA	1	1	1	1					2	-11	1A2A4MP9
		A516D														
		A517D														
-F		A518 E	SHAFT, DEFLECTION: 1126504-1; (12705)		EA	1									-11	1A2A4MP8
-F	140-803-7307	A519	• RING, RETAINING: 5100-25; (79136)		EA	1									-11	1A2A4H6-1
-F		A520 E	SHAFT, EXTENSION, MOTOR: 1126508-1; (12705)		EA	1									9-11	1A2A4MP4
-F	315-271-3045	A521	• PIN, SPRING: MS171497; (96906)		EA	1	1	1	1	1	1	1	5	2	-11	1A2A4H10-1
-F		A522 E	SHAFT, GUIDE, FOCUS MOTOR: 1126507-1; (12705)		EA	1									9-11	1A2A4MP5
-F	340-852-4329	A523	• 5144-25; (79136)		EA	2									-11	1A2A4H4-2
-F		A524 E	SHAFT, WIDE, FOCUS MOTOR: SAME AS A522		EA	1									-11	1A2A4MP6
-F	340-852-4329	A525	• RING, RETAINING: SAME AS A523		EA	2									9-11	1A2A4H5-2
		A526D														

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
D-F		A527 E SHIM, FOCUS MOTOR: 1126580-1 ; (12705)	EA	1									9-11	1A2A4MP3
'--F	5930-134-5642	A528 E SWITCH, ROTARY: 112 8349-1 ; (12705)	EA	1	1	1	1	1	1	1	12	5	9-11	1A2A4S5
'2-F	5305-068-5414	A529 * SCREW, CAP , SOCKET HEAD : SAME AS A389	EA	2									9-11	1A2A4H12-2
'2-F	5340-016-8318	A530 * SPACER, SLEEVE : 8481; (83330)	EA	2									9-11	1A2A4H2-2
'--F	5365-17 7-3920	A531 E WASHER, SHIM: 5722-27-2A; (86928)	EA	1	1	1	1	1	1	1	5	2	9-11	1A2A4MP19
'--O	5920-295-9602	A532 D FUSE, CARTRIDGE: 313001; (75915)	EA	1	1	2	3	1	1	1	33	20	9-8	1A2F1
'--O	5920-295-9602	A533 D FUSE, CARTRIDGE: SAME AS A532	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	1A2F2
'--F	5920-1 42-7437	A534 D FUSEHOLDER : 357001; (75915)	EA	1	1	1	1	1	1	1	10	4	9-8	1A2XF1
'2-F	5305-054-6654	A535 * SCREW, MACHINE : SAME AS A311	EA	1									9-8	1A2H12-1
'2-F	5310-773-7624	A536 * WASHER, FLAT: SAME AS A226	EA	1									9-8	1A2H53-1
'2-F	5310-929-6395	A537 * WASHER, LOCK: SAME AS A025	EA	1									9-8	1A2H77-1
'--F	5920-142-7437	A538 D FUSEHOLDER : SAME AS A534	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	1A2XF2
'2-F	5305-054-6654	A539 * SCREW, MACHINE : SAME AS A311	EA	1									9-8	1A2H11-1
'2-F	5310-773-7624	A540 * WASHER, FLAT: SAME AS A226	EA	1									9-8	1A2H52-1
'2-F	5310-929-6395	A541 * WASHER , LOCK: SAME AS A025	EA	1									9-8	1A2H76-1
'--F	5920-142-7437	A542 D FUSHOLDER : SAME AS A534	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	1A2MP31
'2-F	5305-054-6654	A543 * SCREW, MACHINE: SAME AS A311	EA	1									9-8	1A2H10-1
'2-F	5310-773-7624	A544 * WASHER , FLAT : SAME AS A226	EA	1									9-8	1A2H51-1
'2-F	5310-929-6395	A545 * WASHER , LOCK: SAME AS A025	EA	1									9-8	1A2H75-1
'--F	5920-1 42-7437	A546 D FUSEHOLDER : SAME AS A534	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	1A2MP32
'2-F	5305-05 4-6654	A547 * SCREW, MACHINE : SAME AS A311	EA	1									9-8	1A2H13-1
'2-F	5310-773-7624	A548 * WASHER, FLAT: SAME AS A226	EA	1									9-8	1A2H54-1
'2-F	5310-929-6395	A549 * WASHER , LOCK: SAME AS A025	EA	1									9-8	1A2H78-1
'--F	5330-143-7617	A550 D GASKET: 1127666-1; (12705)	EA	1	1	1	2	1	1	1	19	10	9-8	1A2MP23
'--F	8040-145-0450	A551 * ADHESIVE: SAME AS A384	OZ	1	REF	REF	REF	REF	REF	REF	REF	REF		1A2MP58

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE — USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INCL IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30-DAY GS MAINT ALLOWANCE (a)	(b)	(c)	(8) MAINT LEVEL EQUIP MTGC	(9) DEPOT MAINT LEVEL EQUIP	ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P--F	3020-122-0627	A552 D GEAR, SPUR: 1126942-1; (12705)	EA	1	1	1	1	1	1	1	12	5	9-8	LA2MP14
P--F		A553* PIN, SPRING: MS171526; (96906)	EA	1	1	1	1	1	1	1	5	2	9-8	LA2H4-1
		A554D												
P--F	5325-276-6082	A555 D GROMMET, RUBBER: MS35489-43; (96906)	EA	1	1	1	2	1	1	1	19	10	9-8	LA2MP35
P--F	5325-276-6082	A556 D GROMMET, RUBBER: SAME AS A555	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	LA2MP36
P--F	5325-276-6082	A557 D GROMMET, RUBBER: SAME AS A555	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	LA2MP37
P--F	5325-276-6082	A558 D GROMMET, RUBBER: SAME AS A555	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	LA2MP38
P--F	5325-276-6082	A559 D GROMMET, RUBBER: SAME AS A555	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	LA2MP39
P--O	5855-245-8452	A560 D HOLDER ASSEMBLY, LAMP SUPPORT: 1128310-1; (12705)	EA	1	1	1	2	1	1	1	19	10	9-8	LA2A12
P--O	5305-054-5648	A561* SCREW, MACHINE: SAME AS A343	EA	4	*	1	1	*	1	1	16	8	9-8	LA2H25-4
P--O	5310-632-6721	A562 * WASHER, FLAT: SAME AS A344	EA	4	*	1	1	*	1	1	16	8	9-8	LA2H36-4
P--O	5310-933-8118	A563* WASHER, LOCK: SAME AS A116	EA	4	*	1	1	*	1	1	16	8	9-8	LA2H67-4
1-O		A564 E CLIP, LAMP SUPPORT: 1122322-1; (12705)	EA	1										LA2A12MP1
1-O		A565 E RING, LAMP SUPPORT: 1128308-1; (12705)	EA	1										LA2A12MP2
1-O		A566* RIVET, SOLID: MS20470B2-2; (96906)	EA	4										LA2A12H1-4
P--F	5855-245-8456	A567 D HOUSING ASSEMBLY, LAMP: 1126561-1; (12705)	EA	1	1	1	1	1	1	1	5	2	9-8	LA2A7
2-F	5305-813-5486	A568 * SCREW, SHOULDER: 4327; (00141)	EA	4									9-8	LA2H5-4
1-F		A569 E HOUSING, LAMP: 1126561-3; (12705)	EA	1										LA2A7MP1
2-F		A570 E INSERT, SCREW THREAD: MS51831-201; (96906)	EA	10									9-8	LA2A7MP2-10
P--F	5855-134-0550	A571 D IGNITER, LAMP: 1126553-3; (12705)	EA	1	1	2	3	1	1	1	33	20	9-8	LA2E3
2-F	5310-655-6930	A572* NUT, PLAIN, HEXAGON: MS25082-3; (96906)	EA	4									9-8	LA2H90-4
2-F	5305-059-3660	A573 * SCREW, MACHINE: SAME AS A457	EA	4									9-8	LA2H23-4
2-F	5310-167-0812	A574 * WASHER, FLAT: SAME AS A304	EA	4									9-8	LA2H43-4
2-F	5310-933-8120	A575 * WASHER, LOCK: SAME AS A050K	EA	4									9-8	LA2H84-4
P--F	5855-245-8457	A576 D INLET, AIR, LAMP: 1127010-1; (12705)	EA	1	1	1	1	1	1	1	5	2	9-8	LA2MP22

SECTION II REPAIR PARTS FOR DIRECT SUPPORT GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION — REFERENCE NUMBER & MFR. CODE — USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN	(6) 30-DAY DS MAINT ALLOWANCE (a)	(b)	(c)	(7) 30-DAY GS MAINT ALLOWANCE (a)	(b)	(c)	(8) YR LWP 100 EQUIP TGC	(9) DEPOT MAINT LWP 100 EQUIP	ILLUSTRATIONS (a) FIG NO	(b) ITEM NO. OR REFERENCE DESIGNATION
PAOZF	5305-054-6651	A577 * SCREW, MACHINE: SAME AS A311	EA	4									2-8	1A2H15-4
PAOZF	5310-773-7621	A578 * WASHER, FLAT: SAME AS A226	EA	4									2-8	1A2H49-4
PAOZF	5310-929-6395	A579 * WASHER, LOCK: SAME AS A025	EA	4									2-8	1A2H71-4
PAOZF	5970-134-6476	A580 D INSULATOR, BUSHING, HIGH VOLTAGE: 1126988-1; (12705)	EA	1		1	1	1	1	1	5	2	2-8	1A2MP20
PAOZO	6230-168-0153	A581 D LAMP AND HOLDER ASSEMBLY: SAME AS A266	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		A1
PAOZO	6250-134-1757	A582 E HOLDER, LAMP: SAME AS A265	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		MP2
PAOZO		A583 E LAMP, XENON: SAME AS A268	EA	1									2-8	1A2DS1
PAOZF		A584 D MARKER, IDENTIFICATION: SAME AS A171	EA	1									2-8	1A2MP28
PAOZF		A585 D MARKER, IDENTIFICATION: 366-11-03-010; (71785)	EA	1									2-8	1A2MP29
PAOZF		A586 D MARKER, INSTRUCTION: 1126573-1; (12705)	EA	1										1A2MP25
PAOZF		A587 D MARKER, INSTRUCTION: 1126574-1; (12705)	EA	1									-8	1A2MP4
PAOZF		A588 D MARKER, INSTRUCTION: 1129403-1; (12705)	EA	1									2-8	1A2MP26
PAOZF		A589 D MARKER, INSTRUCTION: SAME AS A588	EA	1									2-8	1A2MP27
PAOZF	2105-135-0019	A590 D MOTOR, DIRECT CURRENT: SAME AS A510	EA	1	REF	REF	EF	EF	EF	EF	EF	EF	2-8	1A2A13
PAOZF	5310-939-0849	A591 * NUT, HEXAGON, SELF-LOCKING: MS21083C04; (96906)	EA	4									2-8	1A2H104-4
PAOZF	5305-068-6605	A592 * SCREW, MACHINE: MS24693C6; (96906)	EA	4									-8	1A2H100-4
		A593D												
PAOZF	5310-933-8118	A594 * WASHER, LOCK: SAME AS A116	EA	4									-8	1A2H64-4
PAOZF		A595 E MOTOR, DIRECT CURRENT: SAME AS A513	EA	1										1A2A13B1
PAOZF	5305-054-5635	A596 E SCREW, MACHINE: SAME AS A514	EA	1										1A2A13MP1
PAOZF		A597 D MOUNT, RESILIENT: J14269-1; (76005)	EA	1	1	1	1	1	1	1	16	8	-8	1A2MP10
PAOZF		A598 D MOUNT, RESILIENT: SAME AS A597	EA	1	REF	REF	EF	EF	EF	EF	EF	EF	-8	1A2MP11
PAOZF		A599 D MOUNT, RESILIENT: SAME AS A597	EA	1	REF	REF	EF	EF	EF	EF	EF	EF	-8	1A2MP12
PAOZF	5310-810-1786	A599A * NUT, SELF-LOCKING: MS21042-6; (96906)	EA	2										1A2MP56
PAOZF	5310-183-4355	A599B * WASHER, FLAT: SAME AS A401	EA	2										1A2MP57

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT ALW PER 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
P--F		A600 D MOUNT, RESILIENT: SAME AS A597	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	1A2MP13
C2-F	5310-810-1786	A600A * NUT, SELF-LOCKING: SAME AS A599A	EA	2										1A2MP54
C2-F	5310-183-4355	A600B * WASHER, FLAT: SAME AS A401	EA	2										1A2MP55
C2-F	5310-655-6930	A601 D NUT, PLAIN, HEXAGON: SAME AS A572	EA	1									9-8	1A2MP49
P--F	5315-616-4811	A602 D PIN, SPRING: MS171524; (96906)	EA	1	*	1	1	*	1	1	16	8	9-8	1A2MP44
P--F	5315-616-4811	A603 D PIN, SPRING: SAME AS A602	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	1A2MP45
P--F	5315-616-4811	A604 D PIN, SPRING: SAME AS A602	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		1A2MP46
P--F	5315-616-4811	A605 D PIN, SPRING: SAME AS A602	EA	1	REF	REF	REF	REF	REF	REF	REF	REF		1A2MP47
P--F	5855-135-0139	A606 D REFLECTOR ASSEMBLY SEARCHLIGHT: 1126588-1;(12705)	EA	1			3	1	1	1	33	20		1A2A11
C2-F		A607 * SCREW, CAP, SOCKET HEAD: NAS1351C01-5;(80205)	EA	6									9-8	1A2H26-6
C2-F	5310-804-0141	A608* WASHER, FLAT: MS15795-801;(96906)	EA	6									9-8	1A2H96-6
C2-F		A609 * WASHER, LOCK: NAS1676C1;(80205)	EA	6									9-8	1A2H61-6
C1-F		A610 E ADAPTER, REFLECTOR, LIGHT: 1126566-1; (12705)	EA	1									9-8	1A2A11MP2
C1-F		A611 E REFLECTOR: 1122341-7;(12705)	EA	1									9-8	1A2A11MP1
C1-F		A612 E RING, RETAINING, INSTRUMENT: 1126567-1;(12705)	EA	1									9-8	1A2A11MP3
C2-F	5305-068-5414	A613 * SCREW, CAP, SOCKET HEAD: SAME AS A389	EA	8									9-8	1A2A11H1-8
C2-F	5305-457-6886	A614 D SCREW, CAP, SOCKET HEAD: MS16995-61;(96906)	EA	1									9-8	1A2MP48
P--F	5961-134-6864	A615 D SEMICONDUCTOR DEVICE, DIODE: MR1217SL;(04713)	EA	1								2	9-8	1A2CR1
C2-F	5310-655-6930	A616* NUT, PLAIN, HEXAGON: SAME AS A572	EA	1									9-8	1A2H91-1
C2-F	5305-059-3658	A617 * SCREW, MACHINE: SAME AS A406	EA	1									9-8	1A2H31-1
C2-F	5310-167-0812	A618* WASHER, FLAT: SAME AS A304	EA	1									9-8	1A2H47-1
C2-F	5310-933-8120	A619* WASHER, LOCK: SAME AS A050K	EA	1									9-8	1A2H88-1
P--F	5855-245-8454	A620 D SHAFT ASSEMBLY, DEFLECTOR: 1126537-1; (12705)	EA	1								2		1A2A6
C1-F		A621 E BEARING, PLAIN, ROD END: SAME AS A375	EA	1									9-8	1A2A6MP2
C2-F	5315-734-5592	A622 E PIN, SPRING: MS171433;(96906)	EA	1									9-8	1A2A6MP3

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF EAS	(5) QTY INC IN UNIT	(6) 30-I (a) 1-20	(6) DS / LOWAI (b) 1-50	(6) INT E (c) 1-10(	(7) 30-I (a) 1-20	(7) GS LOW/ (b) 1-5(	(7) INT (c) -100	(8) YR LWPE TOO EQUI NTGC	(9) EPOT AINT LWPER TOO QUIP	(10) ILLUSTRATIONS (a) FIG NO.	(10) (b) ITEM NO. OR REFERENCE DESIGNATION
X1-F		\623 E PIN, THREADED, DEFLECTOR SHAFT: 1126537-3; (12705)	EA	1									9-8	LA2A6MP1
P--F	365-134-3340	\624 D SHIM, LAMINATED: 1126994-1 ; (12705)	EA	1	1	1	1	1	1	1	5	2	9-8	LA2MP21
MH-F		\625 D SPACER , PLATE , BIPOD : 1126578-1 ; (12705)	EA	1									9-8	LA2MP16
MH-F		\626 D SPACER, PLATE, BIPOD : SAME AS A625	EA	1									9-8	LA2MP17
MH-F		\627 D SPACER, PLATE, DEFLECTOR BRACKET: 1126579-1; (12705)	EA	1									9-8	LA2MP7
MD-F		\628 D SPACER, PLATE, FOCUS MOTOR: 1126514-1 ; (12705)	EA	1									9-8	LA2MP2
P--F	365-142-6895	\629 D SPACER, SLEEVE: 8525; (83330)	EA	1	1	1	1	1	1	1	10	4	9-8	LA2MP42
X2-F	305-988-7605	\630 * SCREW, CAP, SOCKET HEAD: MS16995-29 ; (96906)	EA	1									9-8	LA2H103-1
X2-F	310-933-8119	\631 * WASHER, LOCK: SAME AS A020	EA	1									9-8	LA2H62-1
P--F	365-142-6895	\632 D SPACER, SLEEVE: SAME AS A629	EA	1	REF	REF	REF	REF	EF	EF	REF	EF	9-8	LA2MP43
X2-F	305-988-7605	\633 * SCREW , CAP , SOCKET HEAD: SAME AS A630	EA	1									9-8	LA2H104-1
X2-F	310-933-8119	\634 * WASHER, LOCK: SAME AS A020	EA	1									9-8	LA2H63-1
XF-		\635 D SUPPORT, SEARCHLIGHT : 1126925-3 ; (12705)	EA	1									9-8	LA2A9
X2-F	340-783-9139	\635A E INSERT, SCREW THREAD : MS51830-204L; (96906)	EA	4									9-8	LA2A9MP1-2
X2-F	340-021-3495	\636 E INSERT, SCREW THREAD ; MS51830-201L ; (96906)	EA	4									9-8	LA2A9MP3-4
P--F	930-241-8954	\637 D SWITCH, SENSITIVE: BZ2RQ1A2 ; (91929)	EA	1	1	1	1	1	1	1	13	6	9-8	LA2S1
--F	930-241-8954	\638 D SWITCH, SENSITIVE: SAME AS A637	EA	1	REF	REF	REF	REF	EF	EF	REF	EF	9-8	LA2S2
--F	930-191-9358	\639 D SWITCH, THERMOSTATIC: 1126911-1 ; (12705)	EA	1	1	1	1	1	1	1	12	5	9-8	LA2S3
--F	040-145-0450	\639A * ADHESIVE: SAME AS A384	PT	1	REF	REF	REF	REF	EF	EF	REF	EF		LA2S3MP1-1
P--F	585-191-9357	\640 D SWITCH, THERMOSTATIC : 1126911-11 ; (12705)	EA	1	1	1	1	1	1	1	5	2	9-8	LA2S4
P--F	040-145-0450	\640A * ADHESIVE : SAME AS A384	PT	1	REF	REF	REF	REF	EF	EF	REF	EF		LA2S4MP1-1
P--F	970-177-4350	\641 D TERMINAL , FEEDTHRU , INSULATED : SAME AS A050H	EA	1	REF	REF	REF	REF	EF	EF	REF	EF	9-8	LA2E2
X2-F	305-054-5649	\642 * SCREW, MACHINE: MS51957-15 ; (96906)	EA	1									9-8	LA2H7-1
X2-F	310-632-6721	\643 * WASHER, FLAT: SAME AS A344	EA	1									9-8	LA2H38-1
X2-F	310-933-8118	\644 * WASHER , LOCK: SAME AS A116	EA	1									9-8	LA2H69-1

SECTION II REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (Continued)

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR. CODE / USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR ALW PER 100 EQUIP CNTGCY	(9) DEPOT MAINT WPE 100 EQUIP	(10) ILLUSTRATIONS (a) FIG NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
--F	5970-177-4350	A645 D TERMINAL, FEEDTHRU , INSULATED : SAME AS A050H	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-8	1A2E1
2-F	5305 -05 4-5649	A646* SCREW, MACHINE: SAME AS A642	EA	1									9-8	1A2H6-1
2-F	5310-632-6721	A647 * WASHER, FLAT: SAME AS A344	EA	1									9-8	1A2H37-1
2-F	5310 -933-8118	A648* WASHER , LOCK : SAME AS A116	EA	1									9-8	1A2H68-1
2-F	5940-813-0698	A649 D TERMINAL, LUG: SAME AS A263	EA	34										1A2E5-E38
2-F	5940-143-4771	A650 D TERMINAL, LUG: SAME AS A210	EA	2										1A2E39 , E40
2-F	5940-113-8179	A651 D TERMINAL, LUG: SAME AS A197	EA	2										1A2E41 , E42
2-F	5940-143-4780	A652 D TERMINAL, LUG: SAME AS A212	EA	4										1A2E43-E46
2-F	5940-143-5284	A653 D TERMINAL, LUG: SAME AS A213	EA	8										1A2E47-E54
2-F	5940-114-1305	A654 D TERMINAL, LUG: MS25036-116 ; (96906)	EA	3										1A2E55-E57
2-F	5940-283-5280	A655 D TERMINAL, LUG: SAME AS A211	EA	3										1A2E58-E60
2-F	5940-143-4774	A656 D TERMINAL, LUG: MS25036-153 ; (96906)	EA	5										1A2E61-E65
2-F	5940-230-0515	A657 D TERMINAL, LUG: MS25036-154 ; (96906)	EA	3										1A2E66-E68
2-F	5940-117-1024	A658 D TERMINAL BOARD: SAME AS A214	EA	1									9-8	1A2TB1
2-F	5305-054-6656	A659* SCREW, MACHINE: MS51957-32; (96906)	EA	4									9-8	1A2H21-4
2-F	5310-531-9514	A660* WASHER , FLAT : SAME AS A279	EA	4									9-8	1A2H40-4
2-F	5310-929-6395	A661* WASHER , LOCK: SAME AS A025	EA	4									9-8	1A2H74-4
2-F	5940-229-9669	A662 D TERMINAL BOARD: SAME AS A219	EA	1									9-8	1A2TB2
2-F	5305-054-6655	A663 * SCREW, MACHINE : SAME AS A220	EA	4									9-8	1A2H20-4
2-F	5310-773-7624	A664* WASHER, FLAT : SAME AS A226	EA	4									9-8	1A2H50-4
2-F	5310-929-6395	A665* WASHER , LOCK : SAME AS A025	EA	4									9-8	1A2H73-4
--F		A665A D WASHER , LAMINATED : 5722-21-4A; (86928)	EA	1	1	1	1	1	1	1	5	2		1A2H93-1
--F	5855-134-0138	A666 C WINDOW, SEARCHLIGHT: 1122370-1; (12705)	EA	1	1	1	2	1	1	1	19	10	9-7	1MP5
--F	5330-143-7718	A667 C SEAL, RUBBER CHANNEL : SAME AS A365	EA	1	REF	REF	REF	REF	REF	REF	REF	REF	9-7	1MP7
--F	8040-145-0450	A668 C ADHESIVE : SAME AS A384	OZ	1	REF	REF	REF	REF	REF	REF	REF	REF		1MP8

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER
3020-122-0627	A552
3110-554-3979	A315
3110-554-3979	A315A
3120-324-6424	A485
3120-324-6424	A486
3120-324-6424	A487
3120-324-6424	A488
3120-324-6424	A489
3120-324-6424	A490
3120-324-6424	A491
4140-13 4-4240	A329
4140-134-4242	A330
5305-016-8257	A400
5305-016-8257	A403
5305-050-9236	A258
5305-052-6456	A299
5305-054-5635	A514
5305-05 4-5635	A596
5305-054-5636	A393
5305-05 4-5647	A170A
5305-054-5648	A343
5305-054-5648	A561
5305-054-5649	A642
5305-054-5649	A646
5305-054-5651	A240
5305-05 4-5652	A129
5305-054-5652	A346
5305-054-6652	A138
5305-054-6652	A143
5305-054-6652	A198
5305-05 4-6652	A333
5305-054-6654	A311
5305-054-6654	A426
5305-054-6654	A430
5305-054-6654	A434
5305-054-6654	A438
5305-054-6654	A443
5305-05 4-6654	A448
5305-05 4-6654	A461
5305-054-6654	A535
5305-054-6654	A539
5305-054-6654	A543
5305-05 4-6654	A547
5305-054-6654	A577
5305-054-6655	A220
5305-054-6655	A225
5305-05 4-6655	A663
5305-054-6656	A659
5305-054-6670	A018
5305-054-6660	A292E
5305-057-0510	A215
5305-059-3656	A188
5305-059-3657	A050L
5305-059-3658	A406
5305-059-3658	A617
5305-059-3660	A457
5305-059-3660	A573
5305-066-7326	A325
5305-068-5276	A468A
5305-068-5414	A389
5305-068-5414	A529
5305-068-5414	A613
5305-068-6605	A592
5305-071-1323	A235
5305-175-3230	A233
5305-225 -6400	A192
5305-253-5609	A256
5305-269-2801	A367
5305-269-2803	A014
5305-457-6886	A614
5305-655 -9246	A497
5305-716-8186	A270
5305-719-5017	A412
5305-732-9205	A114
5305-763-6962	A068
5305-763-7822	A288
5305 -795-8591	A387
5305-795-8592	A515
5305-800-7261	A500
5305-813-5486	A568
5305-855-2991	A134
5305-882-6031	A329A
5305-882-6031	A330A
5305-933-9269	A119
5305-933-9269	A124
5305-958-6517	A380
5305-958-6517	A482
5305-959-0379	A468
5305-959-0379	A511
5305-959-0382	A023
5305-959-1909	A376
5305-959-1909	A396
5305-983-6651	A237
5305-988-7605	A630
5305-988-7605	A633
5305-988-7615	A411
5305-990-6381	A278
5305-990-6381	A300
5310-022-8834	A290
5310-045-5210	A289
5310-054-0041	A313
5310-061-1258	A015
5310-167-0801	A259
5310-167-0801	A303
5310-167-0801	A458
5310-167-0812	A304
5310-167-0812	A377
5310-167-0812	A381
5310-167-0812	A397
5310-167-0812	A407
5310-167-0812	A4 52A
5310-167-0812	A484
5310-167-0812	A574
5310-167-0812	A6 18

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER
5310-177-1162	A310
5310-183-4355	A401
5310-183-4355	A404
5310-183-4355	A599B
5310-183-4355	A600B
5310-250-9477	A410
5310-515-7449	A312
5310-531-9514	A279
5310-531-9514	A292C
5310-531-9514	A305
5310-531-9514	A334
5310-531-9514	A439
5310-531-9514	A660
5310-595-6211	A115
5310-595-6211	A130
5310-595-6211	A512
5310-595-6425	A242
5310-595-6772	A050J
5310-595-6772	A135
5310-595-6772	A189
5310-632-6721	A344
5310-632-6721	A390
5310-632-6721	A469
5310-632-6721	A562
531 0-632-6721	A643
5310-632-6721	A647
5310-655-6930	A572
5310-655-6930	A601
5310-655-6930	A616
5310-680-6627	A442
531 0-680-6627	A447
5310-721-7809	A238
5310-722-5998	A024
5310-722-5998	A139
5310-722-5998	A144
5310-722-5998	A200
5310-722-5998	A216
5310-722-5998	A221
5310-76 4-9564	A413
5310-767-9425	A271
5310-773-7618	A368
5310-773-7624	A226
5310-773-7624	A427
5310-773-7624	A431
5310-773-7624	A435
531 0-773-7624	A444
5310-773-7624	A449
5310-773-7624	A462
531 0-773-7624	A536
531 0-773-7624	A540
5310-773-7624	A544
5310-773-7624	A548
5310-773-7624	A578
5310-773-7624	A664
5310-779-6625	A415B
5310-804-0141	A608
5310-810-1786	A599A
5310-810-1786	A600A
5310-813-2812	A385
5310-822-0077	A284
5310-880-5978	A019
5310-880-5978	A120
5310-880-5978	A125
531 0-880-5978	A181
5310-880-5978	A185
5310-924-5968	A229
5310-924-5968	A230
5310-926-1835	A298
5310-929-6395	A025
5310-929-6395	A140
5310-929-6395	A145
5310-929-6395	A199
5310-929-6395	A217
5310-929-6395	A222
5310-929-6395	A223
5310-929-6395	A227
5310-929-6395	A228
5310-929-6395	A292B
5310-929-6395	A306
5310-929-6395	A428
5310-929-6395	A432
5310-929-6395	A436
5310-929-6395	A440
5310-929-6395	A445
5310-929-6395	A450
5310-929-6395	A463
5310-929-6395	A537
5310-929-6395	A541
5310-929-6395	A545
5310-929-6395	A549
5310-929-6395	A579
5310-929-6395	A661
5310-929-6395	A665
5310-933-8118	A116
5310-933-8118	A131
5310-933-8118	A241
5310-933-8118	A291
5310-933-8118	A391
5310-933-8118	A470
5310-933-8118	A563
5310-933-8118	A594
5310-933-8118	A644
5310-933-8118	A648
5310-933-8119	A020
5310-933-8119	A069
5310-933-8119	A121
5310-933-8119	A126
5310-933-8119	A182
5310-933-8119	A186
5310-933-8119	A631
5310-933-8119	A634
5310-933-8120	A050K
5310-933-8120	A136
5310-933-8120	A190

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER
5310-933-8120	A218
5310-933-8120	A260
5310-933-8120	A378
5310-933-8120	A382
5310-933-8120	A398
5310-933-8120	A408
5310-933-8120	A452B
5310-933-8120	A458A
5310-933-8120	A483
5310-933-8120	A575
5310-933-8120	A619
5310-933-8121	A292
5310-933-8121	A414
5310-93 4-9748	A113
5310-934-9748	A128
5310-934-9748	A285
5310-934-9759	A118
5310-934-9759	A123
5310-934-9759	A180
5310-934-9759	A184
5310-934-9765	A133
5310-934-9765	A452
5310-934-9765	A456
5310-939-0849	A591
5310-944-7629	A057
5310-944-7629	A060
5310-944-7629	A336
5310-94 4-7629	A337
5310-944-7629	A338
5310-984-7042	A369
5310-984-7042	A401A
5315-271-3045	A521
5315-291-5471	A507
5315-297-0836	A502
5315-297-0836	A504
5315-584-6574	A454
5315-616-4811	A602
5315-616-4811	A603
5315-616-4811	A604
5315-616-4811	A605
5315-619-1351	A496
5315-734-5592	A622
5320-234-1556	A421
5320-234-1557	A415A
5320-619-0498	A028
5320-619-0498	A030
5320-619-0498	A032
5320-619-0498	A034
5320-619-0498	A036
5320-619-0498	A038
5320-619-0498	A040
5320-619-0498	A042
5320-619-0498	A044
5320-619-0498	A046
5320-619-0498	A048
5320-619-0498	A050
5320-655-4757	A052
5320-655-4757	A054
5325-276-6082	A555
5325-276-6082	A556
5325-276-6082	A557
5325-276-6082	A558
5325-276-6082	A559
5330-060-9601	A156
5330-060-9601	A157
5330-134-3097	A245
5330-143-7617	A550
5330-143-7624	A331
5330-143-7626	A146
5330-143-7626	A244
5330-143-7650	A308
5330-143-7662	A147
5330-143-7662	A148
5330-143-7662	A149
5330-143-7662	A275
5330-143-7706	A340
5330-143-7718	A365
5330-143-7718	A667
5330-148-8592	A317
5330-229-3666	A280
5330-229-3666	A307
5330-574-6704	A177
5330-574-6704	A178
5330-806-8769	A253
5330-806-8769	A254
5330-828-4749	A243
5330-874-3744	A370
5330-927-0068	A286
5340-016-8318	A530
5340-021-3495	A636
5340 -027-5737	A153
5340-068-3544	A423
5340-068-3544	A424
5340-134-3339	A274
5340-134-3489	A356
5340-134-3489	A357
5340-134-3490	A355
5340-134-3491	A349
5340-134-3491	A350
5340-134-3491	A351
5340-134-3491	A352
5340-134-3491	A353
5340-143-0356	A272
5340-178-8116	A294
5340-443-5878	A509
5340-558-8826	A465
5340-678-3309	A358
5340-783-9139	A635A
5340-799-1336	A383
5340-803-7307	A519
5340-852-4329	A523
5340-852-4329	A525
5340-903-7567	A467
5340-951-1532	A027

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK	ITEM SEQUENCE
5340-951-1532	A029
5340-951-1532	A031
5340-951-1532	A033
5340-951-1532	A035
5340-951-1532	A037
5340-951-1532	A039
5340-951-1532	A041
5340-951-1532	A043
5340-951-1532	A045
5340-951-1532	A047
5340-951-1532	A049
5340-951-1532	A441
5340-951-1532	A446
5340-995-6873	A152
5355-556-0145	A162
5355-994-3435	A161
5365-134-3340	A624
5365-142-6895	A629
5365-142-6895	A632
5365-177-3920	A531
5820-999-9193	A459
5855-058-1293	A001
5855-133-9249	A150
5855-13 4-0527	A231
5855-134-0534	A471
5855-134-0543	A379
5855-134-0548	A495
5855-134-0550	A571
5855-13 4-0569	A348
5855-135-0138	A666
5855-135-0139	A606
5855-135-0143	A460
5855-135-0154	A236
5855-135-0155	A013
5855-135-0156	A273
5855-135-0162	A269
5855-245-8447	A070
5855-245-8448	A371
5855- 245-8449	A388
5855-245-8450	A386
5855-245-8451	A451
5855-245-8452	A560
5855-245-8453	A466
5855-245-8454	A620
5855-245-8456	A567
5855-245-8457	A576
5855-245-8458	A453
5855-245-8459	A326
5855 -245-8460	A293
5855-245-8461	A481
5855-245-8462	A498
5855-245-8463	A501
5855-245-8464	A503
5855 -245-8465	A332
5855-245-8466	A505
5855 -247-7219	A067
5905-088-3349	A097
5905-134-9846	A277
5905-252-4018	A089
5905-252-4018	A090
5905-256-0412	A093
5905-256-0412	A094
5905-256-0412	A095
5905-279-2596	A092
5905-279-2673	A091
5905-279-2674	A083
5905-279-3502	A081
5905-279-3514	A082
5905-279-3519	A084
5905-279-3519	A085
5905-299-1965	A086
5905-299-1965	A087
5905-299-1965	A088
5905-882-5298	A096
5905-916-7 562	A098
5910-105-1924	A071
5910-105-1924	A072
5910-177-4415	A0 5 0A
5910-177-4415	A050B
5910-177-4415	A050C
5910-177-4415	A050E
5910-177-4415	A050F
591 0-177 -4415	A050G
5910-926-8217	A073
5910-926-8217	A074
5920-142-7437	A534
5920-142-7437	A538
5920 -142-7437	A542
5920-142-7437	A546
5920-295-9602	A532
5920-295-9602	A533
5930-126-1220	A204
5930-126-1220	A262
5930-134-5642	A528
5930-177-2757	A201
5930-177-2758	A202
5930-191-9358	A639
5930-241-8954	A637
5930-241-8954	A638
5930-682-0757	A203
5930-68 2-0757	A261
5935-500-5008	A142
5935-581-2889	A141
5935-615-2305	A137
5935 -683 -2470	A132
5935-721-0490	A239
5935-813-4364	A112
5935-817-2679	A455
5935-855-4416	A117
5935-901-7008	A127
5935-991-7233	A122
5940-113-8179	A197
5940 -113 -8179	A651
5940-114-1305	A654

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER
5940-117-1024	A214
5940-117-1024	A658
5940-143-4771	A210
5940-143-4771	A650
5940-143-4774	A656
5940-143-4780	A212
5940-143-4780	A652
5940-143-4833	A224
5940-143-5284	A213
5940-143-5284	A653
5940-204-8966	A209
5940-229-9669	A219
5940-229-9669	A662
5940-230-0515	A657
5940-283-5280	A211
5940-283-5280	A655
5940-557-4398	A327
5940-557-4398	A328
5940-813-0698	A263
5940-813-0698	A649
5940-999-7091	A169
5940-999-7091	A170
5945-257-0317	A187
5961-018-9194	A106
5961-134-6864	A615
5961-722-1480	A100
5961-722-1480	A101
5961-722-1480	A102
5961-722-1480	A103
5961-722-1480	A104
5961-722-1480	A105
5961-722-1480	A230A
5961-855-1065	A099
5961-892-0988	A107
5961-892-0988	A108
5961-902-1177	A109
5961-902-1177	A110
5961-907-8275	A078
5961-907-8275	A079
5961-929-3715	A075
5961-929-3715	A076
5961-929-3715	A077
5961-934-0040	A111
5970-134-6478	A580
5970-177-4350	A050H
5970-177-4350	A641
5970-177-4350	A645
5975-123-1527	A264
5975-553-7151	A452C
5977-943-7206	A316
5977-943-7206	A316A
5995-135-0081	A002
5999-992-9958	A051
5999-992-9958	A053
6105-135-0019	A510
6105-135-0019	A590
6105-135-0020	A309
6105-490-5787	A314
6115-065-8530	A425
6115-065-8530	A429
6115-065-8530	A433
6210-176-4928	A158
6210-176-4928	A159
6210-176-4928	A160
6210-176-4928	A247
6210-176-4928	A248
6210-176-4954	A167
6210-176-4954	A252
6210-176-4955	A166
6210-176-4955	A251
6210-176-4956	A168
6230-168-0153	A266
6230-168-0153	A581
6240-155-7836	A164
6240-155-7836	A165
6240-155-7836	A249
6240-155-7836	A250
6240-851-4352	A163
6250-134-1757	A265
6250-134-1757	A267
6250-134-1757	A582
6645-566-0720	A174
6685-191-9357	A640
8030-081-2340	A069A
8030-081-2340	A230B
8040-145-0450	A384
8040-145-0450	A551
8040-145-0450	A639A
8040-145-0450	A640A
8040-145-0450	A668
8040-828-7385	A340A
9905-114-1334	A005
9905-114-1334	A006
9905-114-1334	A007
9905-114-1334	A008

REF NO.	MFG CO.	ITEM SEQ. NO.
AD42AH	07707	A360
AD42AH	07707	A362
AD42AH	07707	A364
AN960C10	88044	A259
AN960C10	88044	A303
AN960C10	88044	A458
AN960C10L	88044	A304
AN960C10L	88044	A377
AN960C10L	88044	A381
AN960C10L	88044	A397
AN960C10L	88044	A407
AN960C10L	88044	A452A
AN960C10L	88044	A484
AN960C10L	88044	A574
AN960C10L	88044	A618
AN960C4	88044	A344
AN960C4	88044	A390
AN960C4	88044	A469

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
AN960C4	88044	A562
AN960C4	88044	A643
AN960C4	88044	A647
AN960C4L	88044	A242
AN960C416L	88044	A312
AN960C6	88044	A279
AN960C6	88044	A292C
AN960C6	88044	A305
AN960C6	88044	A334
AN960C6	88044	A439
AN960C6	88044	A660
AN960C616L	88044	A401
AN960C616L	88044	A404
AN960C616L	88044	A599B
AN960C616L	88044	A600B
BZ2RQ1A2	91929	A637
BZ2RQ1A2	91929	A638
CK06BX223K	81349	A071
CK06BX223K	81349	A072
CSR13F476K	81349	A073
CSR13F476K	81349	A074
EGP8E24L8	15291	A272
FB46-2	71041	A485
FB46-2	71041	A486
FB46-2	71041	A487
FB46-2	71041	A488
FB46-2	71041	A489
FB46-2	71041	A490
FB46-2	71041	A491
FHS1-420-16	46384	A320
FHS1-420-16	46384	A321
FHS1-420-16	46384	A322
FHS1-420-16	46384	A323
FT9	96906	A050M
HFR3	73134	A375
HFR3	73134	A621
J14269-1	76005	A597
J14269-1	76005	A598
J14269-1	76005	A599
J14269-1	76005	A600
K7000-06-9	75237	A385
K7001-04-6	75237	A057
K7001-04-6	75237	A060
K7001-04-6	75237	A336
K7001-04-6	75237	A337
K7001-04-6	75237	A338
LC35GT2	25072	A166
LC35GT2	25072	A251
LC35RT2	25072	A167
LC35RT2	25072	A252
LC35WT2	25072	A168
LH89-1	25072	A158
LH89-1	25072	A159
LH89-1	25072	A160
LH89-1	25072	A247
LH89-1	25072	A248
MILS22473GRADEAA	81349	A069A
MILS22473GRADEAA	81349	A230B
MI LW16878TYPEE16AWG	81349	A230E
MILW16878TYPEE22AWG	81349	A230C
MILW16878TYPEE8AWG	81349	A230F
MR1217SL	04713	A615
MS15795-801	96906	A608
MS15795-803	96906	A115
MS15795-803	96906	A130
MS15795-803	96906	A512
MS15795-805	96906	A024
MS15795-805	96906	A139
MS15795-805	96906	A144
MS15795-805	96906	A200
MS15795-805	96906	A216
MS15795-805	96906	A221
MS15795-807	96906	A019
MS15795-807	96906	A120
MS15795-807	96906	A125
MS15795-807	96906	A181
MS15795-807	96906	A185
MS15795-808	96906	A050J
MS15795-808	96906	A135
MS15795-808	96906	A189
MS15795-814	96906	A368
MS15795-818	96906	A271
MS15795-910	96906	A289
MS16624-18	96906	A467
MS16995-10	96906	A468
MS16995-10	96906	A511
MS16995-11	96906	A389
MS16995-11	96906	A529
MS16995-11	96906	A613
MS16995-17	96906	A023
MS16995-19	96906	A278
MS16995-19	96906	A300
MS16995-29	96906	A630
MS16995-29	96906	A633
MS16995-51	96906	A411
MS16995-61	96906	A614
MS16995-9	96906	A468A
MS16996-10	96906	A299
MS16996-11	96906	A376
MS16996-11	96906	A396
MS16996-12	96906	A380
MS16996-12	96906	A482
MS16996-39	96906	A400
MS16996-39	96906	A403
MS16998-27	96906	A237
MS171431	96906	A507
MS171433	96906	A622
MS171496	96906	A499
MS171497	96906	A521
MS171498	96906	A502
MS171498	96906	A504

SECTION II INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.
MS171500	96906	A496
MS171524	96906	A602
MS171524	96906	A603
MS171524	96906	A604
MS171524	96906	A605
MS171526	96906	A553
MS171588	96906	A454
MS17160-36	96906	A027
MS17160-36	96906	A029
MS17160-36	96906	A031
MS17160-36	96906	A033
MS17160-36	96906	A035
MS17160-36	96906	A037
MS17160-36	96906	A039
MS17160-36	96906	A041
MS17160-36	96906	A043
MS17160-36	96906	A045
MS17160-36	96906	A047
MS17160-36	96906	A049
MS17160-36	96906	A441
MS17160-36	96906	A446
MS17349N28B	96906	A137
MS18066-8	96906	A372
MS20426A3-4	96906	A052
MS20426A3-4	96906	A054
MS20426A4-4	96906	A028
MS20426A4-4	96906	A030
MS20426A4-4	96906	A032
MS20426A4-4	96906	A034
MS20426A4-4	96906	A036
MS20426A4-4	96906	A038
MS20426A4-4	96906	A040
MS20426A4-4	96906	A042
MS20426A4-4	96906	A044
MS20426A4-4	96906	A046
MS20426A4-4	96906	A048
MS20426A4-4	96906	A050
MS20426A3-5	96906	A421
MS20426A3-6	96906	A415A
MS20470B2-2	96906	A566
MS21042-6	96906	A599A
MS21042-6	96906	A600A
MS21060L3	96906	A415B
MS21083C04	96906	A591
MS21083C3	96906	A298
MS21209C0620	96906	A465
MS21209F8-15	96906	A358
MS21318-13	96906	A256
MS21318-14	96906	A233
MS24693C24	96906	A325
MS24693C3	96906	A192
MS24693C6	96906	A592
MS25036-101	96906	A263
MS25036-101	96906	A649
MS25036-102	96906	A209
MS25036-103	96906	A210
MS25036-103	96906	A650
MS25036-106	96906	A211
MS25036-106	96906	A655
MS25036-107	96906	A197
MS25036-107	96906	A651
MS25036-108	96906	A212
MS25036-108	96906	A652
MS25036-115	96906	A213
MS25036-115	96906	A653
MS25036-116	96906	A654
MS25036-148	96906	A327
MS25036-148	96906	A328
MS25036-153	96906	A656
MS25036-154	96906	A657
MS25043-18C	96906	A142
MS25043-32C	96906	A141
MS25081-1	96906	A229
MS25081-1	96906	A230
MS25082-1	96906	A442
MS25082-1	96906	A447
MS25082-3	96906	A572
MS25082-3	96906	A601
MS25082-3	96906	A616
MS25082B4	96906	A284
MS25171-2S	96906	A452C
MS25196-1	96906	A253
MS25196-1	96906	A254
MS25237-327	96906	A164
MS25237-327	96906	A165
MS25237-327	96906	A249
MS25237-327	96906	A250
MS25237-330	96906	A163
MS3102R18-1P	96906	A239
MS3102R18-1S	96906	A112
MS3102R32-5P	96906	A117
MS3102R32-6S	96906	A122
MS3213-34	96906	A301
MS3213-35	96906	A302
MS35333-108	96906	A290
MS35338-135	96906	A116
MS35338-135	96906	A131
MS35338-135	96906	A241
MS35338-135	96906	A291
MS35338-135	96906	A391
MS35338-135	96906	A470
MS35338-135	96906	A563
MS35338-135	96906	A594
MS35338-135	96906	A644
MS35338-135	96906	A648
MS35338-136	96906	A025
MS35338-136	96906	A140
MS35338-136	96906	A145
MS35338-136	96906	A199
MS35338-136	96906	A217
MS35338-136	96906	A222

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.
MS35338-136	96906	A223
MS35338-136	96906	A227
MS35338-136	96906	A228
MS35338-136	96906	A292B
MS35338-136	96906	A306
MS35338-136	96906	A428
MS35338-136	96906	A432
MS35338-136	96906	A436
MS35338-136	96906	A440
MS35338-136	96906	A445
MS35338-136	96906	A450
MS35338-136	96906	A463
MS35338-136	96906	A537
MS35338-136	96906	A541
MS35338-136	96906	A545
MS35338-136	96906	A549
MS35338-136	96906	A579
MS35338-136	96906	A661
MS35338-136	96906	A665
MS35338-137	96906	A020
MS35338-137	96906	A069
MS35338-137	96906	A121
MS35338-137	96906	A126
MS35338-137	96906	A182
MS35338-137	96906	A186
MS35338-137	96906	A631
MS35338-137	96906	A634
MS35338-138	96906	A050K
MS35338-138	96906	A136
MS35338-138	96906	A190
MS35338-138	96906	A218
MS35338-138	96906	A260
MS35338-138	96906	A378
MS35338-138	96906	A382
MS35338-138	96906	A398
MS35338-138	96906	A408
MS35338-138	96906	A452B

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.
MS35338-138	96906	A458A
MS35338-138	96906	A483
MS35338-138	96906	A575
MS35338-138	96906	A619
MS35338-139	96906	A292
MS35338-139	96906	A414
MS35338-141	96906	A369
MS35338-141	96906	A401A
MS35340-43	96906	A238
MS35489-43	96906	A555
MS35489-43	96906	A556
MS35489-43	96906	A557
MS35489-43	96906	A558
MS35489-43	96906	A559
MS35649-2254	96906	A410
MS35649-244	96906	A113
MS35649-244	96906	A128
MS35649-244	96906	A285
MS35649-284	96906	A118
MS35649-284	96906	A123
MS35649-284	96906	A180
MS35649-284	96906	A184
MS35650-304	96906	A133
MS35650-304	96906	A452
MS35650-304	96906	A456
MS39020-31	96906	A005
MS39020-31	96906	A006
MS39020-31	96906	A007
MS39020-31	96906	A008
MS45904-76	96906	A015
MS51021-10	96906	A497
MS51021-9	96906	A500
MS51032-62	96906	A329A
MS51032-62	96906	A330A
MS51830-102L	96906	A509
MS51830-103L	96906	A294
MS51830-201L	96906	A636

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.
MS51830-202L	96906	A494
MS51830-204L	96906	A635A
MS51831-201	96906	A570
MS51957-1	96906	A514
MS51957-1	96906	A596
MS51957-13	96906	A170A
MS51957-14	96906	A343
MS51957-14	96906	A561
MS51957-15	96906	A642
MS51957-15	96906	A646
MS51957-17	96906	A240
MS51957-18	96906	A129
MS51957-18	96906	A346
MS51957-2	96906	A393
MS51957-28	96906	A138
MS51957-28	96906	A143
MS51957-28	96906	A198
MS51957-28	96906	A333
MS51957-30	96906	A311
MS51957-30	96906	A426
MS51957-30	96906	A430
MS51957-30	96906	A434
MS51957-30	96906	A438
MS51957-30	96906	A443
MS51957-30	96906	A448
MS51957-30	96906	A461
MS51957-30	96906	A535
MS51957-30	96906	A539
MS51957-30	96906	A543
MS51957-30	96906	A547
MS51957-30	96906	A577
MS51957-31	96906	A220
MS51957-31	96906	A225
MS51957-31	96906	A663
MS51957-32	96906	A659
MS51957-33	96906	A215
MS51957-36	96906	A292E

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.
MS51957-45	96906	A018
MS51957-70	96906	A258
MS51958-60	96906	A188
MS51958-61	96906	A050L
MS51958-62	96906	A406
MS51958-62	96906	A617
MS51958-64	96906	A457
MS51958-64	96906	A573
MS51959-14	96906	A288
MS51959-27	96906	A068
MS51959-82	96906	A412
MS51960-66	96906	A235
MS90310-311	96906	A203
MS90310-311	96906	A261
MS90726-110	96906	A270
MS90726-58	96906	A367
MS90726-60	96906	A014
MS91528-1E2B	96906	A161
MS91528-1K2B	96906	A162
MS9353-04	96906	A423
MS9353-04	96906	A424
45601	74400	A174
NAS1351C01-5	80205	A607
NAS1598C04R	80205	A243
NAS1598C08R	80205	A156
NAS1598C08R	80205	A157
NAS1598C4R	80205	A286
NAS1676C1	80205	A609
NAS620C4	80205	A347
NAS620C416L	80205	A413
NAS620C6	80205	A226
NAS620C6	80205	A427
NAS620C6	80205	A431
NAS620C6	80205	A435
NAS620C6	80205	A444
NAS620C6	80205	A449
NAS620C6	80205	A462

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.
NAS620C6	80205	A536
NAS620C6	80205	A540
NAS620C6	80205	A544
NAS620C6	80205	A548
NAS620C6	80205	A578
NAS620C6	80205	A664
NAS620C6L	80205	A313
P323ZND	00656	A422
P38KDDFS381	21335	A315
P38KDDFS381	21335	A315A
QQW343	81348	A050N
RC20GF123J	81349	A081
RC20GF181J	81349	A082
RC20GF201J	81349	A083
RC20GF220J	81349	A084
RC20GF220J	81349	A085
RC20GF301J	81349	A086
RC20GF301J	81349	A087
RC20GF301J	81349	A088
RC20GF470J	81349	A089
RC20GF470J	81349	A090
RC20GF622J	81349	A091
RC42GF121J	81349	A092
RC42GF181J	81349	A093
RC42GF181J	81349	A094
RC42GF181J	81349	A095
RN60E1003F	81349	A096
RN60E6812F	81349	A097
RTV103	01139	A340A
RTV156	01139	A384
RTV156	01139	A551
RTV156	01139	A639A
RTV156	01139	A640A
RTV156	01139	A668
R10-32X3-4	02310	A134
R4-40X5-8	02310	A114
R8-32X3-4	02310	A119

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.
R8-32X3-4	02310	A124
SCD647000	80063	A471
SS10K80	03481	A335
SS6B160	03481	A154
SS6B160	03481	A155
SF12G6CBB5D	12324	A415
TY23M	59730	A230H
TY24M	59730	A230G
TY535M	59730	A425
TY535M	59730	A429
TY535M	59730	A433
T02L57	03038	A153
T62L57	03038	A152
V71074NSR05	31356	A201
V74022NSR05	31356	A202
ZPZ045	98003	A349
ZPZ045	98003	A350
ZPZ045	98003	A351
ZPZ045	98003	A352
ZPZ045	98003	A353
1N3026B	04713	A099
1N4005	04713	A100
1N4005	04713	A101
1N4005	04713	A102
1N4005	04713	A103
1N4005	04713	A104
1N4005	04713	A105
1N4005	04713	A230A
1N4734A	04713	A106
10-107232-6P	12143	A455
10-107232-6S	12143	A132
10-107632-6P	12143	A009
10-107632-6S	12143	A010
10-130999-28	12143	A011
10-130999-28	12143	A012
10-242067-285	12143	A003
10-242067-285	12143	A004

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.
10007	07047	A075
10007	07047	A076
10007	07047	A077
10026	07047	A078
10026	07047	A079
1122311-1	12705	A269
1122322-1	12705	A564
1122328-1	12705	A266
1122328-1	12705	A581
1122330-1	12705	A383
1122337-1	12705	A460
1122337-3	12705	A464
1122341-7	12705	A611
1122346-1	12705	A513
1122346-1	12705	A595
1122352-1	12705	A473
1122360-3	12705	A366
1122370-1	12705	A666
1122403-1	12705	A361
1122404-1	12705	A363
1126502-3	12705	A515
1126504-1	12705	A518
1126505-1	12705	A386
1126506-1	12705	A501
1126506-3	12705	A503
1126507-1	12705	A522
1126507-1	12705	A524
1126508-1	12705	A520
1126509-1	12705	A387
1126510-1	12705	A371
1126510-3	12705	A373
1126510-5	12705	A374
1126511-1	12705	A498
1126514-1	12705	A628
1126515-3	12705	A493
1126515-5	12705	A494A
1126515-7	12705	A492
1126517-1	12705	A340B
1126521	12705	A179
1126521	12705	A183
112652 8-1	12705	A080
1126529-7	12705	A466
1126530-3	12705	A481
1126533-1	12705	A070
1126534-1	12705	A453
1126535-1	12705	A388
1126535-7	12705	A394
1126537-1	12705	A620
1126537-3	12705	A623
1126538-1	12705	A324
1126544-1	12705	A326
1126546-7	12705	A293
1126547-1	12705	A341
1126549-3	12705	A026
1126550-3	12705	A022
1126551-1	12705	A295
1126552-1	12705	A348
1126553-3	12705	A571
1126554-1	12705	A451
1126555-1	12705	A276
1126556-1	12705	A017
1126557-3	12705	A016
1126561-1	12705	A567
1126561-3	12705	A569
1126562-1	12705	A021
1126564-1	12705	A308
1126566-1	12705	A610
1126567-1	12705	A612
1126568-1	12705	A395
1126570-1	12705	A055
1126570-1	12705	A058
1126570-3	12705	A056
1126570-3	12705	A059
1126571-1	12705	A191
1126571-3	12705	A194
1126571-5	12705	A195
1126571-5	12705	A196
1126572-1	12705	A193
1126573-1	12705	A586
1126574-1	12705	A587
1126575-1	12705	A318
1126577-1	12705	A319
1126578-1	12705	A625
1126578-1	12705	A626
1126579-1	12705	A627
1126580-1	12705	A527
1126582-1	12705	A399
1126582-1	12705	A402
1126588-1	12705	A606
1126589-1	12705	A340
1126590-1	12705	A409
1126591-1	12705	A505
1126591-3	12705	A508
1126591-5	12705	A506
1126594	12705	A292A
1126596-3	12705	A354
1126597-1	12705	A510
1126597-1	12705	A590
1126599-1	12705	A287
1126831-1	12705	A002
1126833-3	12705	A013
1126834-1	12705	A236
1126835-3	12705	A273
1126904-1	12705	A265
1126904-1	12705	A267
1126904-1	12705	A582
1126911-1	12705	A639
1126911-11	12705	A640
1126913-1	12705	A480
1126919-1	12705	A245
1126919-1	12705	A257

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER	ITEM SEQUENCE NUMBER	
REF NO.	MFG CO.	ITEM SEQ. NO.
1126922-1	12705	A246
1126924-3	12705	A001
1126925-3	12705	A635
1126926-1	12705	A379
1126934-1	12705	A495
1126940-3	12705	A234
1126941-1	12705	A231
1126942-1	12705	A552
1126943-1	12705	A405
1126951-3	12705	A151
1126970-1	12705	A150
1126971-21	12705	A283
1126971-7	12705	A277
1126985-1	12705	A255
1126985-2	12705	A232
1126985-3	12705	A359
1126988-1	12705	A580
1126994-1	12705	A624
1126995-1	12705	A472
1127001-1	12705	A264
1127010-1	12705	A576
1127018-1	12705	A146
1127018-1	12705	A244
1127019-1	12705	A147
1127019-1	12705	A148
1127019-1	12705	A149
1127019-1	12705	A275
1127660-1	12705	A331
1127661-1	12705	A281
1127662-1	12705	A274
1127666-1	12705	A550
1127667-5	12705	A329
1127667-7	12705	A330
1127681-3	12705	A282
1127686-5	12705	A332
1127686-7	12705	A339
1128308-1	12705	A565
1128310-1	12705	A560
1128312-1	12705	A437
1128349-1	12705	A528
1128350-1	12705	A365
1128350-1	12705	A667
1128364-7	12705	A297
1129403-1	12705	A588
1129403-1	12705	A589
1130-21	04946	A452E
1471	83330	A342
15B5-3	18915	A051
15B5-3	18915	A053
2-1448613-6	02697	A477
2-1458613-6	02697	A476
2-2308613-6	02697	A474
2-3328613-6	02697	A475
2-378613-6	02697	A479
2-388613-6	02697	A478
2N1597	04713	A107
2N1597	04713	A108
2N2646	04713	A109
2N2646	04713	A110
2N1711	81349	A111
2SC4-1-10A	82647	A067
20504-5	02101	A309
251-15-30-160	71785	A127
313001	75915	A532
313001	75915	A533
32-341	27191	A177
32-341	27191	A178
352-15-02-001	71785	A345
353-11-10-001	71785	A219
353-11-10-001	71785	A662
353-11-23-001	71785	A224
356-11-03-001	71785	A214
356-11-03-001	71785	A658
357001	75915	A534
357001	75915	A538
357001	75915	A542
357001	75915	A546
363-11-10-010	71785	A171
363-11-10-010	71785	A584
363-11-23-010	71785	A172
366-11-03-010	71785	A585
366-11-03-011	71785	A173
422-13-11-026	71785	A169
422-13-11-026	71785	A170
43	03355	A485A
43	03355	A486A
43	03355	A487A
43	03355	A488A
43	03355	A489A
43	03355	A490A
43	03355	A491A
4327	00141	A568
4427-995-3A	44655	A098
5L7F	96881	A392
50FKC420	70318	A310
51L51-2AA	71286	A355
5100-25	79136	A519
5144-25	79136	A523
5144-25	79136	A525
524572	80201	A317
5710-96-63	86928	A205
5722-21-4A	86928	A665A
5722-27-2A	86928	A531
601D367F150JT4	56289	A050A
601D367F150JT4	56289	A050B
601D367F150JT4	56289	A050C
601D367F150JT4	56289	A050E
601D367F150JT4	56289	A050F
601D367F150JT4	56289	A050G
6156	98270	A050H
6156	98270	A641

SECTION IV INDEX-FEDERAL STOCK NUMBER & REFERENCE NUMBER CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (Continued)

FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER	FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER	FEDERAL STOCK NUMBER		ITEM SEQUENCE NUMBER
REF NO.	MFG CO.	ITEM SEQ. NO.	REF NO.	MFG CO.	ITEM SEQ. NO.	REF NO.	MFG CO.	ITEM SEQ. NO.
6156	98270	A645						
7064-758	35344	A187						
7500-10	02697	A459						
7500-3-8	02697	A370						
7500-6	02697	A280						
7500-6	02697	A307						
77032	02101	A316						
77032	02101	A316A						
78320	02101	A314						
3428-55-1037-7	06540	A050I						
3481	83330	A530						
3525	83330	A629						
3525	83330	A632						
3906K1626	27191	A204						
3906K1626	27191	A262						
936271	05301	A268						
936271	05301	A583						
9505-06	19738	A296						
955LS2RG	98003	A356						
955LS2RG	98003	A357						

SECTION V INDEX-REFERENCE DESIGNATION CROSS-REFERENCE TO ITEM SEQUENCE NUMBER

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
A1	A266
A1	A581
A1DS1	A268
A1MP1	A267
H1-3	A272
H2-4	A237
H3-4	A238
H4-4	A014
H5-4	A015
H6-4	A271
H7-4	A270
MP1	A264
MP2	A265
MP2	A269
MP2	A582
1	A273
1A1	A348
1A1MP1	A355
1A1MP13	A354
1A1MP2	A349
1A1MP3	A350
1A1MP4	A351
1A1MP5	A352
1A1MP6	A353
1A1MP7	A356
1A1MP8	A357
1A1MP9-4	A358
1A2	A366
1A2A1	A460
1A2A1MP1	A464
1A2A1MP2	A465
1A2A10	A379
1A2A10MP1	A383
1A2A10MP2	A385
1A2A10MP3-1	A384
1A2A11	A606
1A2A11H1-8	A613
1A2A11MP1	A611
1A2A11MP2	A610
1A2A11MP3	A612
1A2A12	A560
1A2A12H1-4	A566
1A2A12MP1	A564
1A2A12MP2	A565
1A2A13	A590
1A2A13B1	A595
1A2A13MP1	A596
1A2A2	A371
1A2A2MP1	A373
1A2A2MP2	A374
1A2A3	A409
1A2A3H2-2	A421
1A2A3H2-4	A415A
1A2A3H3-2	A415B
1A2A3MP1	A415
1A2A4	A481
1A2A4A1	A492
1A2A4A1MP1	A493
1A2A4A1MP2-1	A494
1A2A4A1MP3	A494A
1A2A4A2	A505
1A2A4A2H1-1	A507
1A2A4A2MP1	A508
1A2A4A2MP2	A506
1A2A4A2MP3-6	A509
1A2A4A3	A510
1A2A4A3B1	A513
1A2A4A3MP1	A514
1A2A4H1-1	A512
1A2A4H10-1	A521
1A2A4H11-1	A497
1A2A4H12-2	A529
1A2A4H13-4	A511
1A2A4H14-2	A500
1A2A4H16-2	A499
1A2A4H2-2	A530
1A2A4H4-2	A523
1A2A4H5-2	A525
1A2A4H6-1	A519
1A2A4H7-1	A496
1A2A4H8-1	A502
1A2A4H9-1	A504
1A2A4MP1	A495
1A2A4MP10	A503
1A2A4MP11	A485
1A2A4MP11MP1	A485A
1A2A4MP12	A486
1A2A4MP12MP1-1	A486A
1A2A4MP13	A487
1A2A4MP13MP1-1	A487A
1A2A4MP14	A488
1A2A4MP14MP1-1	A488A
1A2A4MP15	A489
1A2A4MP15MP1-1	A489A
1A2A4MP16	A490
1A2A4MP16MP1-1	A490A
1A2A4MP17	A491
1A2A4MP17MP1-1	A491A
1A2A4MP19	A531
1A2A4MP2	A498
1A2A4MP3	A527
1A2A4MP4	A520
1A2A4MP5	A522
1A2A4MP6	A524
1A2A4MP7	A501
1A2A4MP8	A518
1A2A4MP9	A515
1A2A4S5	A528
1A2A5	A388
1A2A5H1-1	A393
1A2A5MP1	A394
1A2A5MP2	A392
1A2A6	A620
1A2A6MP1	A623

SECTION v INDEX-REFERENCE DESIGNATION
CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (CONTINUED)

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
1A2A6MP2	A621
1A2A6MP3	A622
1A2A7	A567
1A2A7MP1	A569
1A2A7MP2-10	A570
1A2A8	A471
1A2A8A1	A472
1A2A8A1FL1	A473
1A2A8A1MP1	A474
1A2A8A1MP2	A475
1A2A8A1MP3	A476
1A2A8A1MP4	A477
1A2A8A1MP5	A478
1A2A8A1MP6	A479
1A2A8MP1	A480
1A2A9	A635
1A2A9MP1-2	A635A
1A2A9MP3-4	A636
1A2CR1	A615
1A2C1	A422
1A2DS1	A583
1A2E1	A645
1A2E10	A649
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1A2E12	A649
1A2E13	A649
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1A2E4	A451
1A2E4MP1	A452C
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1A2E68	A657
1A2E7	A649
1A2E8	A649
1A2E9	A649
1A2F1	A532
1A2F2	A533
1A2H1-1	A387
1A2H1-1	A400
1A2H10-1	A543
1A2H100-4	A592
1A2H102-4	A591
1A2H103-1	A630
1A2H104-1	A633
1A2H105-3	A452
1A2H106-1	A454
1A2H107-3	A452A
1A2H108-3	A452B
1A2H11-1	A539
1A2H12-1	A535
1A2H13-1	A547
1A2H14-2	A461
1A2H15-4	A577
1A2H16-1	A438
1A2H17-2	A443
1A2H18-2	A448
1A2H19-1	A434
1A2H2-1	A403

SECTION V INDEX-REFERENCE DESIGNATION CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (CONTINUED)

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
1A2H20-4	A663
1A2H21-4	A659
1A2H22-4	A412
1A2H23-4	A573
1A2H24-4	A411
1A2H25-4	A561
1A2H26-6	A607
1A2H27-4	A482
1A2H28-4	A380
1A3H29-1	A468
1A2H29-1	A468A
1A2H3-2	A389
1A2H30-1	A406
1A2H31-1	A617
1A2H32-1	A376
1A2H33-2	A396
1A2H34-1	A469
1A2H35-2	A390
1A2H36-4	A562
1A2H37-1	A647
1A2H38-1	A643
1A2H39-1	A439
1A2H4-1	A553
1A2H40-4	A660
1A2H41-4	A484
1A2H42-2	A397
1A2H43-4	A574
1A2H44-4	A381
1A2H45-2	A407
1A2H46-1	A377
1A2H47-1	A618
1A2H48-2	A462
1A2H49-4	A578
1A2H5-4	A568
1A2H50-4	A664
1A2H51-1	A544
1A2H52-1	A540
1A2H53-1	A536
1A2H54-1	A548
1A2H55-2	A444
1A2H56-2	A449
1A2H57-1	A435
1A2H58-1	A431
1A2H59-1	A427
1A2H6-1	A646
1A2H60-12	A413
1A2H61-6	A609
1A2H62-1	A631
1A2H63-1	A634
1A2H64-4	A594
1A2H65-1	A470
1A2H66-2	A391
1A2H67-4	A563
1A2H68-1	A648
1A2H69-1	A644
1A2H7-1	A642
1A2H70-2	A463
1A2H71-4	A579
1A2H72-1	A440
1A2H73-4	A665
1A2H74-4	A661
1A2H75-1	A545
1A2H76-1	A541
1A2H77-1	A537
1A2H78-1	A549
1A2H79-2	A445
1A2H8-1	A430
1A2H80-2	A450
1A2H81-1	A436
1A2H82-1	A432
1A2H82-4	A483
1A2H83-1	A428
1A2H83-2	A398
1A2H84-4	A575
1A2H85-4	A382
1A2H86-2	A408
1A2H87-1	A378
1A2H88-1	A619
1A2H89-8	A414
1A2H9-1	A426
1A2H90-4	A572
1A2H91-1	A616
1A2H92-2	A442
1A2H93-1	A665A
1A2H93-2	A447
1A2H94-8	A410
1A2H95-1	A372
1A2H96-6	A608
1A2H97-1	A401
1A2H98-1	A401A
1A2H98-1	A404
1A2H99-1	A467
1A2J1	A455
1A2MP1	A386
1A2MP10	A597
1A2MP11	A598
1A2MP12	A599
1A2MP13	A600
1A2MP14	A552
1A2MP15	A405
1A2MP16	A625
1A2MP17	A626
1A2MP18	A399
1A2MP19	A402
1A2MP2	A628
1A2MP20	A580
1A2MP21	A624
1A2MP22	A576
1A2MP23	A550
1A2MP24	A437
1A2MP25	A586
1A2MP26	A588
1A2MP27	A589
1A2MP28	A584

SECTION v INDEX-REFERENCE DESIGNATION
CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (CONTINUED)

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
1A2MP29	A585
1A2MP3	A466
1A2MP30	A375
1A2MP31	A542
1A2MP32	A546
1A2MP33	A425
1A2MP34	A429
1A2MP35	A555
1A2MP36	A556
1A2MP37	A557
1A2MP38	A558
1A2MP39	A559
1A2MP4	A587
1A2MP40	A423
1A2MP41	A424
1A2MP42	A629
1A2MP43	A632
1A2MP44	A602
1A2MP45	A603
1A2MP46	A604
1A2MP47	A605
1A2MP48	A614
1A2MP49	A601
1A2MP5	A453
1A2MP51	A441
1A2MP52	A446
1A2MP53	A433
1A2MP54	A600A
1A2MP55	A600B
1A2MP56	A599A
1A2MP57	A599B
1A2MP58	A551
1A2MP6	A395
1A2MP7	A627
1A2S1	A637
1A2S2	A638
1A2S3	A639
1A2S3MP1-1	A639A
1A2S4	A640
1A2S4MP1-1	A640A
1A2TB1	A658
1A2TB2	A662
1A2XF1	A534
1A2XF2	A538
1A3	A276
1A3A1	A277
1A3A1C1	A292A
1A3A1H1-2	A287
1A3A1H14-2	A292B
1A3A1H15-2	A292C
1A3A1H16-2	A292E
1A3A1H2-4	A284
1A3A1H3-2	A289
1A3A1H4-2	A292
1A3A1H5-2	A290
1A3A1H6-3	A291
1A3A1H7-2	A286
1A3A1H8-3	A285
1A3A1H9-3	A288
1A3A1MP1	A282
1A3A1MP2	A281
1A3A1R1	A283
1A3A2	A293
1A3A2MP1-4	A294
1A3A2MP5	A295
1A3A2MP6-11	A296
1A3A3	A332
1A3A3MP1	A336
1A3A3MP2	A337
1A3A3MP3	A338
1A3A3MP4	A339
1A3A3MP5	A335
1A3A4	A297
1A3A4A1	A318
1A3A4A1MP1	A319
1A3A4A1MP2	A320
1A3A4A1MP3	A321
1A3A4A1MP4	A322
1A3A4A1MP5	A323
1A3A4A2	A309
1A3A4A2E1	A314
1A3A4A2E2	A316
1A3A4A2E3	A316A
1A3A4A2MP1	A315
1A3A4A2MP2	A315A
1A3A4E1	A327
1A3A4E2	A328
1A3A4H1-3	A325
1A3A4H2-4	A311
1A3A4H3-4	A310
1A3A4H4-4	A313
1A3A4H5-4	A312
1A3A4MP1	A324
1A3A4MP2	A329
1A3A4MP2H1	A329A
1A3A4MP3	A330
1A3A4MP3H1	A330A
1A3A4MP4	A308
1A3A4MP5	A326
1A3A4MP6	A317
1A3H10-3	A307
1A3H11-2	A347
1A3H12-1	A344
1A3H13-10	A279
1A3H14-3	A334
1A3H15-4	A305
1A3H16-4	A306
1A3H17-1	A304
1A3H19-4	A301
1A3H2-2	A298
1A3H20-2	A302
1A3H21-2	A303
1A3H3-2	A346
1A3H4-1	A343

SECTION V INDEX-REFERENCE DESIGNATION CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (CONTINUED)

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
1A3H5-3	A333
1A3H6-10	A278
1A3H7-1	A299
1A3H9-4	A300
1A3H9-10	A280
1A3MP1	A342
1A3MP2	A341
1A3MP3	A331
1A3MP4	A340
1A3MP5	A340B
1A3MP6-1	A340A
1A3TB3	A345
1H1-4	A367
1H10-4	A456
1H2-4	A368
1H3-4	A370
1H4-4	A369
1H5-4	A364
1H6-4	A362
1H7-4	A360
1H7-4	A457
1H8-4	A458
1H82-4	A458A
1H9-4	A459
1MP1	A363
1MP2	A361
1MP3	A359
1MP4	A275
1MP5	A666
1MP6	A274
1MP7	A365
1MP7	A667
1MP8	A668
2	A013
2A1	A016
2A1A1	A151
2A1A1MP1-13	A152
2A1A1MP2-14	A153
2A1A1MP28	A154
2A1A1MP29	A155
2A1A1MP30	A156
2A1A1MP31	A157
2A1A2	A022
2A1A2C6	A050G
2A1A2E1	A050H
2A1A2E10	A050H
2A1A2E102	A050M
2A1A2E103	A050M
2A1A2E11	A050H
2A1A2E12	A050H
2A1A2E13	A050H
2A1A2E2	A050H
2A1A2E3	A050H
2A1A2E4	A050H
2A1A2E5	A050H
2A1A2E6	A050H
2A1A2E7	A050H
2A1A2E8	A050H
2A1A2E9	A050H
2A1A2H1-2	A028
2A1A2H10-2	A046
2A1A2H11-2	A048
2A1A2H12-2	A050
2A1A2H13-2	A052
2A1A2H14-2	A054
2A1A2H15-2	A050J
2A1A2H16-2	A050K
2A1A2H17-2	A050L
2A1A2H2-2	A030
2A1A2H3-2	A032
2A1A2H4-2	A034
2A1A2H5-2	A036
2A1A2H6-2	A038
2A1A2H7-2	A040
2A1A2H8-2	A042
2A1A2H9-2	A044
2A1A2MP1	A026
2A1A2MP10	A043
2A1A2MP11	A045
2A1A2MP12	A047
2A1A2MP13	A049
2A1A2MP14	A051
2A1A2MP15	A053
2A1A2MP16	A050I
2A1A2MP2	A027
2A1A2MP3	A029
2A1A2MP4	A031
2A1A2MP5	A033
2A1A2MP6	A035
2A1A2MP7	A037
2A1A2MP8	A039
2A1A2MP9	A041
2A1A2M17	A050N
2A1A3	A070
2A1A3CR10	A105
2A1A3CR2	A100
2A1A3CR3	A101
2A1A3CR5	A106
2A1A3CR6	A102
2A1A3CR7	A099
2A1A3CR8	A103
2A1A3CR9	A104
2A1A3C1	A073
2A1A3C2	A074
2A1A3C3	A071
2A1A3C4	A072
2A1A3MP1	A075
2A1A3MP2	A076
2A1A3MP3	A077
2A1A3MP4	A078
2A1A3MP5	A079
2A1A3PC1	A080
2A1A3Q1	A109
2A1A3Q2	A111

SECTION v INDEX-REFERENCE DESIGNATION
CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (CONTINUED)

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
2A1A3Q3	A110
2A1A3Q4	A107
2A1A3Q5	A108
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2A1A3R10	A094
2A1A3R11	A095
2A1A3R12	A083
2A1A3R13	A098
2A1A3R14	A090
2A1A3R15	A085
2A1A3R16	A096
2A1A3R17	A087
2A1A3R18	A088
2A1A3R2	A097
2A1A3R3	A084
2A1A3R4	A089
2A1A3R5	A091
2A1A3R6	A092
2A1A3R7	A081
2A1A3R8	A082
2A1A3R9	A093
2A1A4	A191
2A1A4MP1	A194
2A1A4MP2	A195
2A1A4MP3	A196
2A1A4MP4	A193
2A1A5	A058
2A1A5MP1	A059
2A1A5MP2	A060
2A1A6	A055
2A1A6MP1	A056
2A1A6MP2	A057
2A1CB1	A067
2A1CB1MP1-1	A069A
2A1CR11	A230A
2A1C1	A050A
2A1C2	A050B
2A1C3	A050C
2A1C4	A050E
2A1C5	A050F
2A1DS1	A164
2A1DS2	A165
2A1DS3	A163
2A1E100	A213
2A1E101	A197
2A1E13	A209
2A1E14	A209
2A1E15	A209
2A1E16	A209
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2A1E72	A209
2A1E73	A210
2A1E74	A210
2A1E75	A210
2A1E76	A210
2A1E77	A211
2A1E78	A211

SECTION v INDEX-REFERENCE DESIGNATION
CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (CONTINUED)

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
2A1E79	A211
2A1E80	A211
2A1E81	A211
2A1E82	A211
2A1E83	A211
2A1E84	A211
2A1E85	A211
2A1E86	A211
2A1E87	A211
2A1E88	A211
2A1E89	A211
2A1E90	A211
2A1E91	A212
2A1E92	A212
2A1E93	A213
2A1E94	A213
2A1E95	A213
2A1E96	A213
2A1E97	A213
2A1E98	A213
2A1E99	A213
2A1H1-4	A115
2A1H10-4	A125
2A1H12-3	A185
2A1H13-4	A135
2A1H14-2	A189
2A1H16-4	A116
2A1H17-2	A131
2A1H18-4	A025
2A1H2-2	A130
2A1H20-2	A140
2A1H20-2	A145
2A1H21-4	A222
2A1H22-20	A223
2A1H23-8	A227
2A1H24-42	A228
2A1H25-4	A217
2A1H26-4	A020
2A1H27-4	A121
2A1H28-4	A126
2A1H29-2	A069
2A1H3-4	A024
2A1H31-3	A186
2A1H32-4	A136
2A1H33-2	A190
2A1H34-6	A218
2A1H36-4	A113
2A1H37-2	A128
2A1H38-4	A118
2A1H39-4	A123
2A1H4-2	A139
2A1H4-2	A144
2A1H40-3	A184
2A1H41-4	A133
2A1H42-2	A129
2A1H43-4	A215
2A1H44-2	A138
2A1H44-2	A143
2A1H45-4	A023
2A1H46-4	A220
2A1H47-8	A225
2A1H48-4	A018
2A1H49-2	A188
2A1H5-4	A221
2A1H51-2	A192
2A1H53-2	A068
2A1H54-4	A114
2A1H56-4	A124
2A1H55-4	A119
2A1H57-4	A134
2A1H58-3	A180
2A1H59-3	A181
2A1H6-8	A226
2A1H60-3	A182
2A1H61-1	A198
2A1H62-1	A199
2A1H63-1	A200
2A1H7-4	A216
2A1H8-4	A019
2A1H9-4	A120
2A1J1	A117
2A1J2	A112
2A1J3	A132
2A1J4	A122
2A1J5	A127
2A1K1	A187
2A1K2	A179
2A1K3	A183
2A1MP10	A142
2A1MP11	A141
2A1MP12	A229
2A1MP13	A230
2A1MP14	A162
2A1MP15	A161
2A1MP16	A166
2A1MP17	A167
2A1MP18	A168
2A1MP19	A177
2A1MP2	A150
2A1MP20	A178
2A1MP21	A169
2A1MP22	A170
2A1MP23	A171
2A1MP24	A172
2A1MP25	A173
2A1MP26	A170A
2A1MP27	A158
2A1MP28	A159
2A1MP29	A160
2A1MP3	A017
2A1MP30-1	A230B

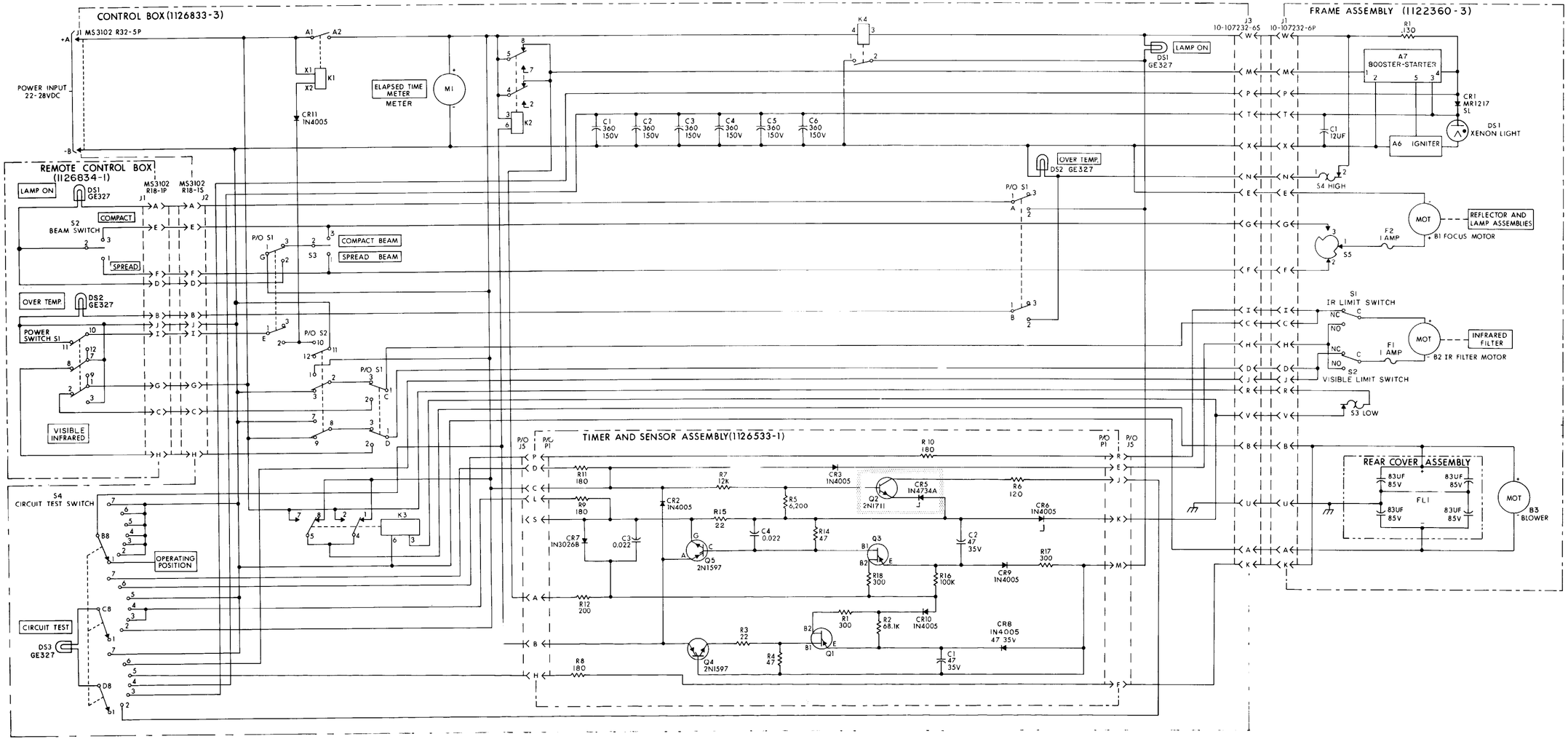
SECTION V INDEX-REFERENCE DESIGNATION
CROSS-REFERENCE TO ITEM SEQUENCE NUMBER (CONTINUED)

REFERENCE DESIGNATION	ITEM SEQUENCE NUMBER
2A1MP31	A230G
2A1MP32	A230H
2A1MP4	A146
2A1MP5	A147
2A1MP6	A148
2A1MP7	A149
2A1MP8	A021
2A1MP9	A137
2A1M1	A174
2A1S1	A202
2A1S2	A204
2A1S3	A203
2A1S4	A201
2A1TB1	A214
2A1TB2	A224
2A1TB3	A219
2A1W1	A230C
2A1W2	A230E
2A1W3	A230F
2A152MP1	A205
2H1-12	A235
2H2-4	A233
2MP1	A234
2MP2	A231
2MP3	A232
3	A236
3DS1	A249
3DS2	A250
3E1	A263
3E10	A263
3E11	A263
3E12	A263
3E2	A263
3E3	A263
3E4	A263
3E5	A263
3E6	A263
3E7	A263
3E8	A263
3E9	A263
3H1-6	A259
3H2-4	A242
3H3-6	A258
3H4-4	A240
3H5-4	A241
3H6-6	A260
3H7-4	A243
3H8-4	A256
3J1	A239
3MP1	A246
3MP10	A247
3MP11	A248
3MP2	A257
3MP3	A245
3MP4	A244
3MP5	A253
3MP6	A254
3MP7	A252
3MP8	A251
3MP9	A255
3S1	A262
3S2	A261
4W	A002
4WMP1	A004
4WMP2	A003
4WMP3	A012
4WMP4	A011
4WMP5	A005
4WMP6	A006
4WMP7	A007
4WMP8	A008
4WP1	A010
4WP2	A009

INDEX

	Paragraph	Page
Adjustments:		
General	8-28	8-14
of infrared filter assembly	8-29	8-15
of focus motor assembly	8-30	8-16
Ballast resistor:		
Operation	2-4	2-2
Troubleshooting	8-6, 8-24	8-2, 8-13
Replacement	9-10	
Beam switch. (See SPREAD BEAM-COMPACT BEAM switch):		
Operation	2-3	2-2
Test procedures	8-10	8-7
Troubleshooting	8-12	8-8
Replacement	9-1, 9-3	9-1, 9-2
Block diagram (figure 2-1)	2-1	2-1
Purpose	2-2	2-2
Grouping of components for	2-3-	2-2,
Discussion	2-6	2-3
Booster-Starter:		
Operation	2-1, 2-4	2-1, 2-2
Troubleshooting	8-2	8-1
Replacement	9-8	9-13
Blower wheels, replacement of	9-9	9-22
Cable Assembly, Power, Electrical, CX–11893/VSS-3 (See Power cable figure 4-1)		
Troubleshooting	8-19	8-10
General check and repair	7-6, 8-25	7-3, 8-14
Continuity check	8-26	8-14
Repair	8-27	8-14
Capacitor bank:		
Operation	2-4	2-2
Troubleshooting	8-7 , 8-12	8-6, 8-8
Replacement	9-3	9-2
Circuit-card assembly:		
Troubleshooting	8-6, 8-12	8-2, 8-8
Replacement	9-3	9-2
Control box (See CONTROL, SEARCHLIGHT SET C-7905/VSS-3:		
Troubleshooting	8-7- 8-12	8-6- 8-8
Replacement of parts in	9-2, 9-3	9-1, 9-2
Control, Searchlight Set C-7905/VSS-3 (See Control Box)		
Control, Searchlight Set C-7906/VSS-3 (See Control Box)		
Operation	2-3	2-2
Troubleshooting	8-13- 8-16	8-9- 8-10
Replacement of parts in	9-5, 9-6	9-8, 9-9
Control settings, preliminary	8-5	8-2
Control switch (See LOCAL/REMOTE switch)		
Cooling system group:		
Grouping of	2-2	2-1
Operation	2-6	2-3
Focus motor assembly:		
Operation	2-5	2-3
Troubleshooting	8-6, 8-20	8-2, 8-11
Adjustments	8-3	8-1
Replacement of parts in	9-8	9-13
Fuses, replacement of	8-3	8-1
Igniter:		
Operation	2-4	2-2
Troubleshooting	8-6, 8-20	8-2, 8-11
Replacement	9-8	9-13
Infrared filter:		
Operation	2-5	2-3
Replacement	9-8	9-13
Infrared filter assembly:		
Operation	2-5	2-3
Adjustment	8-28, 8-29	8-14, 8-15
Checkout	8-29	8-15
Replacement	9-8	9-13
Intermittent troubles	7-8	7-3
Lamp ignition and arc-sustaining group:		
Grouping of	2-2	2-1
Operation	2-4	2-2
Limit switches, infrared filter:		
Troubleshooting	8-20	8-11
Replacement	9-8	9-13
Limit switch, focus motor assembly:		
Troubleshooting	8-20	8-11
Replacement	9-8	9-13

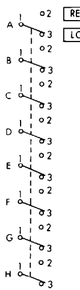
	Paragraph	Page
LOCAL/REMOTE switch (Control switch):		
Operation	2-3	2-2
Troubleshooting	8-6, 8-12	8-2, 8-8
Test procedures	8-10	8-7
Replacement	9-3	9-2
Maintenance:		
Scope of	7-1	7-1
General	1-1	1-1
Major components:		
Block diagram grouping	2-2	2-1
Reference designators	7-4	7-2
Mode control group:		
Grouping of	2-2	2-1
Operation	2-5	2-3
Motor, blower:		
Operation	2-6	2-3
Troubleshooting	8-24	8-13
Replacement	9-9	9-22
Motor, focus assembly:		
Operation	2-5	2-3
Troubleshooting	8-6, 8-20	8-2, 8-11
Adjustment	8-30	8-16
Replacement of parts in	9-8	9-13
Motor, infrared filter drive		
Operation	2-5	2-3
Troubleshooting	8-6, 8-20	8-2, 8-11
Replacement	9-8	9-13
Parta:		
Substitution	7-7	7-3
Replacement of, in control box	9-3	9-2
Replacement of, in remote control box	9-6	9-9
Replacement of, in searchlight	9-8	9-13
Replacement of, in heat exchanger		
Replacements of, general	9-9	9-22
Plenum assembly, replacement	9-1 9-9	9-1 9-22
Power control group:		
General	2-2	2-1
Operation	2-3	2-2
Preliminary checks and adjustments	8-4	8-2
Preliminary control settings	8-5	8-2
Publications, indexes of	1-2	1-1
Reference designators:		
General	1-4	1-1
Location chart	7-4	7-2
Reflector:		
Operation	2-5	2-3
Replacement	9-8	9-13
Relay, delay turn off:		
Operation	2-3	2-2
Troubleshooting	8-6, 8-12	8-2, 8-8
Actuation test	8-11	8-7
Replacement	9-3	9-2
Relay, power:		
Operation	2-3	2-2
Troubleshooting	8-6, 8-12	8-2, 8-8
Actuation test	8-11	8-7
Replacement	9-3	9-2
Relay, temperature control:		
Operation	2-3	2-2
Troubleshooting	8-6, 8-12	8-2, 8-8
Actuation test	8-11	8-7
Replacement	9-3	9-2
Remote control box (See Control, Searchlight Set C-7906/VSS-3)		
Schematic, Searchlight Set (figure 9-13)		
Searchlight (See Searchlight Infrared MX–8272/VSS-3)		
Searchlight Infrared MX-8272/VSS-3 (Searchlight):		
Troubleshooting	8-6 8-17, 8-20	8-2, 8-10, 8-11
Replacement of parts in	9-7 , 9-8	9-11, 9-13
SPREAD BEAM-COMPACT BEAM switch (See Beam switch)		
Switches, temperature-controlled	2-6	2-3
Switch test procedures:		
Control box switches	8-10	8-7
Remote control box switches	8-16	8-10
Filter limit switches	8-20	8-11
Test equipment required	7-10	7-4
Tools and Materials required	7-9	7-3
Troubleshooting:		
Based on starting procedure	8-1 - 8-6	8-1 , 8-2
Techniques	7-2	7-2
Data	7-3	7-2
Of control box	8-7- 8-12	8-6- 8-8
Of printed circuit board	9-5	9-8
Of remote control box	8-13- 8-16	8-9, 8-10
Of searchlight	8-17- 8-20	8-10, 8-11
Of heat exchanger	8-21- 8-24	8-13
Of power cable	8-25- 8-27	8-14
Wiring Diagrams, (figure 9-14 through 9-16)		
Xenon lamp assembly:		
Operation	2-5, 2-6	2-3
Troubleshooting	8-6, 8-20	8-2, 8-11
Replacement	9-8	9-13



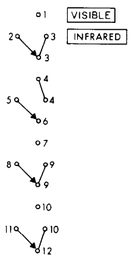
NOTES

1. ▭ INDICATES EQUIPMENT MARKING.
2. SPARE RECEPTACLE 2J4 (NOT USED), WHICH IS CONNECTED IN PARALLEL TO RECEPTACLE 2J3 IS NOT SHOWN.
3. UNUSED SECTIONS OF SWITCHES ARE NOT SHOWN.
4. PREFIX COMPONENT REFERENCE DESIGNATIONS IN TIMER AND SENSOR ASSEMBLY WITH 2A1
5. PREFIX ALL REMAINING COMPONENTS WITH 2A1
6. ALL MISCELLANEOUS TIE POINTS ARE NOT SHOWN ON THIS SCHEMATIC SUCH AS TERMINAL STRIPS (TB-) AND MOUNTING TERMINALS FOR CAPACITORS (E1-E12).

CONTROL SWITCH 1S1:



POWER SWITCH 1S2 OR 3S1:



EL40Z008

Figure 9-15. 1 k W Searchlight set schematic.

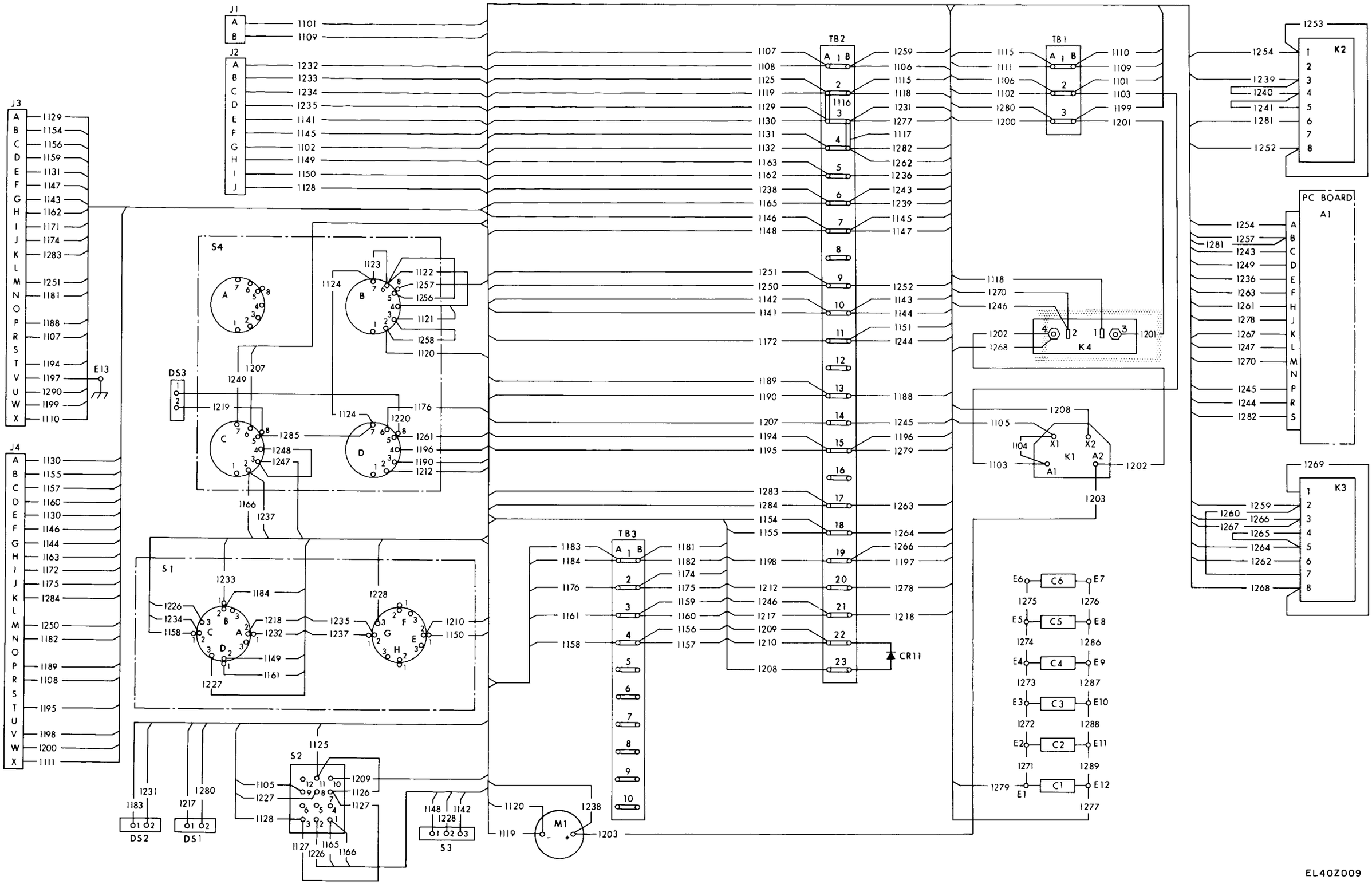
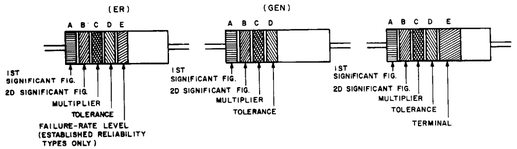


Figure 9-17. Control box wiring diagram.



COLOR CODE MARKING FOR COMPOSITION TYPE RESISTORS.

COLOR-CODE MARKING FOR FILM-TYPE RESISTORS.

TABLE I
COLOR CODE FOR COMPOSITION TYPE AND FILM TYPE RESISTORS.

BAND A		BAND B		BAND C		BAND D		BAND E		
COLOR	FIRST SIGNIFICANT FIGURE	COLOR	SECOND SIGNIFICANT FIGURE	COLOR	MULTIPLIER	COLOR	RESISTANCE TOLERANCE (PERCENT)	COLOR	FAILURE RATE LEVEL	TERM.
BLACK	0	BLACK	0	BLACK	1			BROWN	M	
BROWN	1	BROWN	1	BROWN	10			RED	P	
RED	2	RED	2	RED	100			ORANGE	R	
ORANGE	3	ORANGE	3	ORANGE	1,000			YELLOW	S	
YELLOW	4	YELLOW	4	YELLOW	10,000	SILVER	±10 (COMP. TYPE ONLY)	WHITE		SOLDERABLE
GREEN	5	GREEN	5	GREEN	100,000	GOLD	±5			
BLUE	6	BLUE	6	BLUE	1,000,000	RED	±2 (NOT APPLICABLE TO ESTABLISHED RELIABILITY).			
PURPLE (VIOLET)	7	PURPLE (VIOLET)	7							
GRAY	8	GRAY	8	SILVER	1.01					
WHITE	9	WHITE	9	GOLD	0.1					

BAND A — THE FIRST SIGNIFICANT FIGURE OF THE RESISTANCE VALUE (BANDS A THRU D SHALL BE OF EQUAL WIDTH.)

BAND B — THE SECOND SIGNIFICANT FIGURE OF THE RESISTANCE VALUE.

BAND C — THE MULTIPLIER (THE MULTIPLIER IS THE FACTOR BY WHICH THE TWO SIGNIFICANT FIGURES ARE MULTIPLIED TO YIELD THE NOMINAL RESISTANCE VALUE.)

BAND D — THE RESISTANCE TOLERANCE.

BAND E — WHEN USED ON COMPOSITION RESISTORS, BAND E INDICATES ESTABLISHED RELIABILITY FAILURE-RATE LEVEL. ON FILM RESISTORS, THIS BAND SHALL BE APPROXIMATELY 1-1/2 TIMES THE WIDTH OF OTHER BANDS, AND INDICATES TYPE OF TERMINAL.

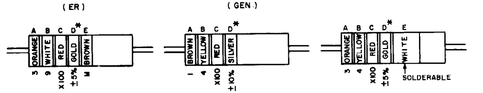
RESISTANCES IDENTIFIED BY NUMBERS AND LETTERS (THESE ARE NOT COLOR CODED)

SOME RESISTORS ARE IDENTIFIED BY THREE OR FOUR DIGIT ALPHA NUMERIC DESIGNATORS. THE LETTER R IS USED IN PLACE OF A DECIMAL POINT WHEN FRACTIONAL VALUES OF AN OHM ARE EXPRESSED. FOR EXAMPLE:

2R7 = 2.7 OHMS 10R0 = 10.0 OHMS

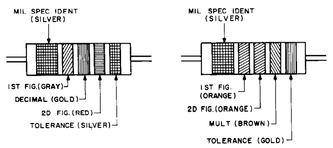
FOR WIRE-WOUND-TYPE RESISTORS COLOR CODING IS NOT USED, IDENTIFICATION MARKING IS SPECIFIED IN EACH OF THE APPLICABLE SPECIFICATIONS.

EXAMPLES OF COLOR CODING



* IF BAND D IS OMITTED, THE RESISTOR TOLERANCE IS ±20% AND THE RESISTOR IS NOT MIL-STD.

A. COLOR CODE MARKING FOR MILITARY STANDARD RESISTORS.



COLOR CODING FOR TUBULAR ENCAPSULATED R.F. CHOKES. AT A, AN EXAMPLE OF THE CODING FOR AN 8.2UH CHOKE IS GIVEN. AT B, THE COLOR BANDS FOR A 330UH INDUCTOR ARE ILLUSTRATED.

TABLE 2
COLOR CODING FOR TUBULAR ENCAPSULATED R.F. CHOKES.

COLOR	SIGNIFICANT FIGURE	MULTIPLIER	INDUCTANCE TOLERANCE (PERCENT)
BLACK	0	1	
BROWN	1	10	1
RED	2	100	2
ORANGE	3	1,000	3
YELLOW	4		
GREEN	5		
BLUE	6		
VIOLET	7		
GRAY	8		
WHITE	9		
NONE			20
SILVER			10
GOLD	DECIMAL POINT		5

MULTIPLIER IS THE FACTOR BY WHICH THE TWO COLOR FIGURES ARE MULTIPLIED TO OBTAIN THE INDUCTANCE VALUE OF THE CHOKE COIL.

B. COLOR CODE MARKING FOR MILITARY STANDARD INDUCTORS.

CAPACITORS, FIXED, VARIOUS-DIELECTRICS, STYLES CM, CN, CY, AND CB.

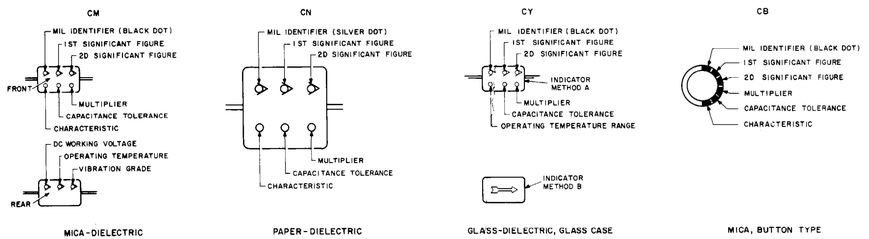


TABLE 3 — FOR USE WITH STYLES CM, CN, CY AND CB.

COLOR	MIL ID	1ST SIG FIG.	2D SIG FIG.	MULTIPLIER[1]	CAPACITANCE TOLERANCE[2]				CHARACTERISTIC[3]				DC WORKING VOLTAGE	OPERATING TEMP. RANGE	VIBRATION GRADE
					CM	CN	CY	CB	CM	CN	CB		CM	CY, CM	CM
BLACK	CM, CY, CB	0	0	1			±20%	±20%		A				-55°TO+70°C	10-55HZ
BROWN		1	1	10					B	E	B				
RED		2	2	100	±2%		±2%	±2%	C					-55°TO+85°C	
ORANGE		3	3	1,000		±30%			D		D		300		
YELLOW		4	4	10,000					E					-55°TO+125°C	10-2,000HZ
GREEN		5	5		±5%				F				500		
BLUE		6	6											-55°TO+150°C	
PURPLE (VIOLET)		7	7												
GREY		8	8												
WHITE		9	9												
GOLD				0.1			±5%	±5%							
SILVER	CN				±10%	±10%	±10%	±10%							

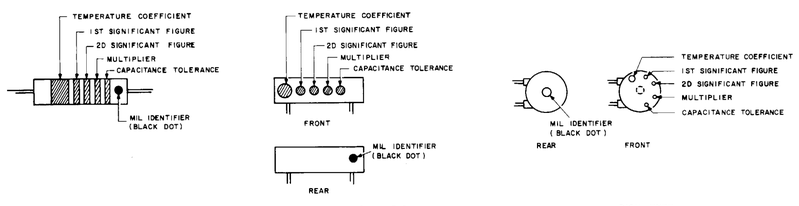


TABLE 4 — TEMPERATURE COMPENSATING, STYLE CC.

COLOR	TEMPERATURE COEFFICIENT[4]	1ST SIG FIG.	2D SIG FIG.	MULTIPLIER[1]	CAPACITANCE TOLERANCE		MIL ID
					CAPACITANCES OVER 10 UUF	CAPACITANCES 10 UUF OR LESS	
BLACK	0	0	0	1		±2.0 UUF	CC
BROWN	-30	1	1	10	±1%		
RED	-80	2	2	100	±2%	±0.25 UUF	
ORANGE	-150	3	3	1,000			
YELLOW	-220	4	4				
GREEN	-330	5	5		±5%	±0.5 UUF	
BLUE	-470	6	6				
PURPLE (VIOLET)	-750	7	7				
GREY		8	8	0.01			
WHITE		9	9	0.1	±10%		
GOLD	+100					±1.0 UUF	
SILVER							

1. THE MULTIPLIER IS THE NUMBER BY WHICH THE TWO SIGNIFICANT (SIG) FIGURES ARE MULTIPLIED TO OBTAIN THE CAPACITANCE IN UUF.
2. LETTERS INDICATE THE CHARACTERISTICS DESIGNATED IN APPLICABLE SPECIFICATIONS: MIL-C-5, MIL-C-250, MIL-C-11272B, AND MIL-C-10950C RESPECTIVELY.
3. LETTERS INDICATE THE TEMPERATURE RANGE AND VOLTAGE-TEMPERATURE LIMITS DESIGNATED IN MIL-C-11015D.
4. TEMPERATURE COEFFICIENT IN PARTS PER MILLION PER DEGREE CENTIGRADE.

C. COLOR CODE MARKING FOR MILITARY STANDARD CAPACITORS.

ESC-FM 4113-69

Figure 10-5. Resistor-inductor-capacitor color code chart.

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The Adjutant General.

Distribution:

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USASA (2)
CNGB (1)
USACDC (2)
USACDCCEA (1)
USACDCCEA
Ft Huachuca (1)
USAMB (10)
USAMC (1)
CONARC (5)
OS Maj Cored (5)
LOGCOMD (2) except
2nd LOGCOMD (10)
Armies (5) except
8th USA (15)
USARV (20)
USAARENBD (2)
USAECOM (10)
MAAG (1)
USARMIS (1)
USAARMS (5)
USAOC&S (3)
USAFAS (5)
USAIS (5)
USAES (3)
USATC Armor (2)
USACDCEC (10)
SigFLDMS (1)
Army Depots (1) except
LEAD (7)
TOAD (50)
SAAD (5)
ATAD (5)
GENDEP (2)
Sig Dep (3)
Sig Sec GENDEP (3)
Units org under fol TOE:
(2 cys ea)
11-158
11-500(AA-AC)

NG: None
USAR: None
For explanation of abbreviations used, see AR 310-50.

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THE METRIC SYSTEM AND EQUIVALENTS

NEAR MEASURE

. Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 lb.
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

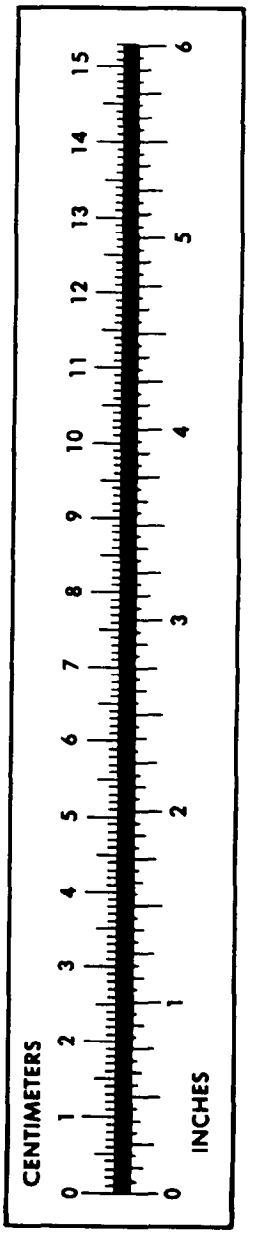
TEMPERATURE

5/9(°F - 32) = °C
212° Fahrenheit is evuivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5C° + 32 =°F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
ıts	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
lometers per Liter	Miles per Gallon	2.354
meters per Hour	Miles per Hour	0.621



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