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MARCH 1983
TECHNICAL MANUAL
DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE
FOR
FIGHTING VEHICLE, INFANTRY, M2
(2350-01-048-5920)
AND
FIGHTING VEHICLE, CAVALRY, M3
(2350-01-049-2695)
TURRET

REPORTING ERRORS AND RECOMMENDING IMPROVEMENT
You can help improve this manual. If you find any mistakes, or if you know 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, U.S. Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS, Rock Island, Illinois 61299. A reply will be sent to you.

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CHAPTER 6
MAINTENANCE OF ELECTRICAL INSTALLATION

Section I. MAINTENANCE OF DISTRIBUTION BOX

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REPAIR TURRET DISTRIBUTION BOX

DESCRIPTION

This task covers:

- Relays K6 thru K8, K10 thru K12: Remove (page 6-6). Install (page 6-7).
- Diodes CR1 thru CR5, CR3A thru CR5A: Remove (page 6-8). Install (page 6-9).
- Relays K16 thru K18: Remove (page 6-10). Install (page 6-11).
- Relay K14: Remove (page 6-12). Install (page 6-13).
- Relay K1: Remove (page 6-21). Install (page 6-22).
- Circuit Breaker CB1: Remove (page 6-24). Install (page 6-25).
- Circuit Breakers CB2 thru CB5: Remove (page 6-27). Install (page 6-28).
- Terminal Lug: Remove/Install (page 6-29).
- Jacks J2, J8: Remove (page 6-36). Install (page 6-37).
- Jack J15: Remove (page 6-42). Install (page 6-44).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Adjustable wrench, 15 inch — 5120-00-264-3793
- Hand crimping tool — 11707
- Hand crimping tool, 12-10 — MS3316-1
- Hand crimping tool, 8-4/0 — MY28
- Thermal wire stripper — 45-130
- Common soldering kit — PRC-150 A
- Socket, 3/4 inch drive, 1 13/16 inch — 5120-00-261-2826

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 9-2350-252-20-2
- TM 55-1500-323-25

Equipment Conditions:
- Turret distribution box on workbench

Materials/Parts:
- Insulating compound (Item 20, App B)
- Lock washer (10)

GO TO NEXT PAGE
NOTE
Wiring diagram (FO-1) will help you identify leads and terminals for all steps (1 thru 173).

**DIODES CR6 THRU CR22**

**REMOVE**

NOTE
Steps 1 thru 8 apply to diodes CR6 thru CR22. These diodes are removed and installed the same way.

Notice direction of cathode band before removing diode so diode can be installed in correct direction later.

1. REMOVE BOTTOM COVER (1) FROM BOX (2).
   a. Place box (2) upside down on workbench.
   b. Remove 10 screws (3), lock washers (4), washers (5), and bottom cover (1) from box (2). Discard lock washers.

2. REMOVE GASKET (6) FROM BOTTOM OF BOX (2). DISCARD GASKET.

3. UNSOLDER DIODE (7) FROM TERMINALS (8). See TM 55-1500-323-25. USE COMMON SOLDERING KIT.
INSTALL

NOTE
Make sure cathode band is in same direction as noted earlier during removal.

4. SOLDER DIODE (7) ON TERMINALS (8).
   See TM 55-1500-323-25. USE COMMON SOLDERING KIT AND THERMAL WIRE STRIPPER.

5. APPLY THIN COAT OF INSULATING COMPOUND TO INNER SIDE OF BOX AND ALL PARTS.

NOTE
Step 6 should be done only if gasket was removed in step 2.

6. INSTALL GASKET (6) ON BOTTOM OF BOX (2).
   a. Apply thin coat of adhesive EC2141 to one side of gasket (6) and mating surface of box (2). Let adhesive dry 10-20 minutes until tacky.
   b. Press side of gasket (6) with adhesive on box (2).

GO TO NEXT PAGE
7: INSTALL BOTTOM COVER (1) ON BOX (2).
   a. Position bottom cover (1) on box (2), and install 10 washers (3), new lock washers (4), and screws (5).

8. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

RELAYS K6 THRU K8, K10 THRU K12
REMOVE

NOTE
Steps 9 thru 18 apply to relays K6, K7, K8, and to K10, K11, K12. These relays are removed and installed the same way.

9. DO STEPS 1 AND 2.

10. REMOVE UPPER BRACKET (6) FROM BOX (2).
   a. Remove two screws (7), locknuts (8), and bracket (6) from box (2). Discard locknuts.
11. UNSOLDER LEADS (9) FROM TERMINALS (10) OF RELAY (11). TAG LEADS. See TM 55-1500-323-25. USE COMMON SOLDERING KIT.

12. REMOVE RELAY (11) FROM UPPER BRACKET (6).
   a. Remove two screws (12), locknuts (13), and relay (11) from bracket (6). Discard locknuts.

13. SOLDER JUMPER (14) BETWEEN TERMINALS (15) ON RELAY K12 (16) AS REQUIRED. See TM 55-1500-323-25 and wiring diagram (FO-1). USE COMMON SOLDERING KIT AND THERMAL WIRE STRIPPER.

14. INSTALL RELAY (11) ON UPPER BRACKET (6).
   a. Position relay (11) below bracket (6), and install two screws (12) and locknuts (13).

NOTE
Step 13 should be done only if new relay K12 is being installed.
16. INSTALL UPPER BRACKET (4) ON BOX (5).
   a. Position bracket (4) in box (5), and install two screws (6) and locknuts (7).

17. DO STEPS 5 THRU 7.

18. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

**DIODES CR1 THRU CR5, CR3A THRU CR5A**

**REMOVE**

**NOTE**

Steps 19 thru 25 apply to diodes CR1 thru CR5 and to CR3A thru CR5A. These diodes are removed and installed the same way.

Notice direction of cathode band before removing diode so diode can be installed in correct direction later.

19. DO STEPS 1 AND 2.

20. REMOVE UPPER BRACKET (4) FROM BOX (5).
   a. Remove two screws (6), locknuts (7), and bracket (4) from box (5). Discard locknuts.
21. UNSOLDER DIODE (8) FROM TERMINALS (9). See TM 55-1500-323-25. USE COMMON SOLDERING KIT.

22. SOLDER DIODE (8) ON TERMINALS (9). See TM 55-1500-323-25. USE COMMON SOLDERING KIT AND THERMAL WIRE STRIPPER.

23. INSTALL UPPER BRACKET (4) ON BOX (5).
   a. Position bracket (4) in box (5), and install two screws (6) and locknuts (7).

24. DO STEPS 5 THRU 7.

25. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

GO TO NEXT PAGE
RELAYS K16 THRU K18

REMOVE

NOTE

Steps 26 thru 36 apply to relays K16, K17, and K18. These relays are removed and installed the same way.

26. DO STEPS 1 AND 2.

27. REMOVE UPPER BRACKET (1) FROM BOX (2).
   a. Remove two screws (3), locknuts (4), and bracket (1) from box (2). Discard locknuts.

28. REMOVE LOWER BRACKET (5) FROM BOX (2).
   a. Remove two screws (6), washers (7), locknuts (8), and bracket (5) from box (2). Discard locknuts.

29. UNSOLDER LEADS (9) FROM TERMINALS (10) ON RELAY (11). TAG LEADS. See TM 55-1500-323-25. USE COMMON SOLDERING KIT.
30. **REMOVE RELAY (11) FROM LOWER BRACKET (5).**
   a. Remove two locknuts (12) and relay (11) from bracket (5). Discard locknuts.

31. **INSTALL RELAY (11) ON LOWER BRACKET (5).**
   a. Position relay (11) below bracket (5) and install two locknuts (12).

32. **SOLDER LEADS (9) ON TERMINALS (10) OF RELAY (11).** See TM 55-1500-323-25.
   USE COMMON SOLDERING KIT AND THERMAL WIRE STRIPPER.

33. **INSTALL LOWER BRACKET (5) ON BOX (2).**
   a. Position bracket (5) in box (2) and install two washers (7), screws (6), and locknuts (8).
34. INSTALL UPPER BRACKET (1) ON BOX (2).
   a. Position bracket (1) in box (2) and install two screws (3) and locknuts (4).

35. DO STEPS 5 THRU 7.

36. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

37. DO STEPS 1 AND 2.

38. REMOVE UPPER BRACKET (1) FROM BOX (2).
   a. Remove two screws (3), locknuts (4), and bracket (1) from box (2). Discard locknuts.

39. REMOVE LOWER BRACKET (5) FROM BOX (2).
   a. Remove two screws (6), washers (7), locknuts (8), and bracket (5) from box (2). Discard locknuts.

40. UNSOLDER LEADS (9) FROM TERMINALS (10) ON RELAY K14 (11). TAG LEADS. See TM 55-1500-323-25. USE COMMON SOLDERING KIT.
41. REMOVE RELAY K14 (11) FROM LOWER BRACKET (5).
   a. Remove four locknuts (12) and relay K14 (11) from bracket (5). Discard locknuts.

42. SOLDER JUMPER (13) BETWEEN TERMINALS A1 (14) AND X1 (15) ON RELAY K14 (11). See TM 55-1500-323-25. USE COMMON SOLDERING KIT.

43. INSTALL RELAY K14 (11) ON LOWER BRACKET (5).
   a. Insert relay K14 (11) in bracket (5) and install four locknuts (12).

44. SOLDER LEADS (9) ON TERMINALS (10) OF RELAY K14 (11). See TM 55-1500-323-25. USE COMMON SOLDERING KIT AND THERMAL WIRE STRIPPER.
46. INSTALL UPPER BRACKET (6) ON BOX (2).
   a. Position bracket (6) in box (2) and install two screws (7) and locknuts (8).

47. DO STEPS 5 THRU 7.

48. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

DIODE/RELAY PAIRS CR29/K2, CR30/K3, CR31/K4

REMOVE

NOTE

Steps 49 thru 57 apply to the following relay diode pairs:

- Relay K2 with diode CR29
- Relay K3 with diode CR30
- Relay K4 with diode CR31.

These pairs of relays and diodes are removed and installed the same way.

49. DO STEPS 1 AND 2.

50. REMOVE FOUR LEADS (9) FROM TWO LARGE TERMINALS (10) OF RELAY (11).
   a. Remove two nuts (12), lock washers (13), and washers (14) from two large terminals (10) of relay (11). Discard lock washers.
   b. Remove four leads (9) and two washers (15) from two large terminals (10) of relay (11). Tag leads.
51. REMOVE TWO LEADS (16) AND DIODE (17) FROM TWO SMALL TERMINALS (18) OF RELAY (11).
   a. Remove two nuts (19), lock washers (20), and washers (21) from two small terminals (18) of relay (11). Discard lock washers.
   b. Remove two leads (16), diode (17), and two washers (22) from two small terminals (18). Tag leads.

52. REMOVE RELAY (11) FROM CHASSIS (23).
   a. Remove two screws (24), lock washers (25), washers (26), and relay (11) from chassis (23). Discard lock washers.

53. INSTALL RELAY (11) ON CHASSIS (23).
   a. Position relay (11) on chassis (23), and install two washers (26), lock washers (25), and screws (24).
54. INSTALL TWO LEADS (1) AND DIODE (2) ON TWO SMALL TERMINALS (3) OF RELAY (4).
   a. Place two washers (5) and diode (2) on two small terminals (3) of relay (4).
   b. Place two leads (1) on two small terminals (3), and install two washers (6), lock washers (7), and nuts (8).

55. INSTALL FOUR LEADS (9) ON TWO LARGE TERMINALS (10) OF RELAY (4).
   a. Place two washers (11) and four leads (9) on two large terminals (10) of relay (4).
   b. Install two washers (12), lock washers (13), and nuts (14) on two large terminals (10).

56. DO STEPS 5 THRU 7.

57. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
DIODES CR25, CR27, CR28

REMOVE

16

NOTE
Steps 58 thru 65 apply to diodes CR25, CR27, and CR28. These diodes are removed and installed the same way.

58. DO STEPS 1 AND 2.

59. UNSOLDER LEAD(S) (15) FROM DIODE (16). TAG LEAD(S). See TM 55-1500-323-25. USE COMMON SOLDERING KIT.

INSTALL

16

60. REMOVE DIODE (16) FROM BOX (17).
   a. Remove locknut (18) from diode (16). Discard locknut.
   b. Remove diode (16) from box (17).

61. APPLY EPOXY ADHESIVE 4951 TO MATING SURFACE OF DIODE (16).

62. INSTALL DIODE (16) ON BOX (17).
   a. Insert diode (16) in box (17) and install locknut (18).

63. SOLDER LEAD(S) (15) ON DIODE (16). See TM 55-1500-323-25. USE COMMON SOLDERING KIT AND THERMAL WIRE STRIPPER.

64. DO STEPS 5 THRU 7.

65. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

GO TO NEXT PAGE
66. DO STEPS 1 AND 2.

67. REMOVE THREE LEADS (1) FROM LARGE TERMINAL (2) ON RELAY K1 (3).
   a. Remove nut (4), lock washer (5), washer (6), and three leads (1) from large terminal (2) on relay K1 (3). Discard lock washer.

68. REMOVE FOUR LEADS (7) FROM FOUR LARGE TERMINALS (8) ON RELAY K5 (9).
   a. Remove four nuts (10), lock washers (11), washers (12), leads (7), and washers (13) from four large terminals (8) on relay K5 (9). Tag leads. Discard lock washers.
69. REMOVE TWO LEADS (14) AND DIODE (15) FROM TWO SMALL TERMINALS (16) ON RELAY K5 (9).

a. Remove two nuts (17), lock washers (18), washers (19), and leads (14) from small terminals (16) on relay K5 (9). Tag leads. Discard lock washers.

b. Remove diode (15) and two washers (20) from small terminals (16) on relay K5 (9).

70. REMOVE RELAY K5 (9) FROM CHASSIS (21).

a. Remove two screws (22), lock washers (23), washers (24), and relay K5 (9) from chassis (21). Discard lock washers.

71. INSTALL RELAY K5 (9) ON CHASSIS (21).

a. Position relay K5 (9) on chassis (21), and install two washers (24), lock washers (23), and screws (22). Use mechanical fingers to hold screw in position.

GO TO NEXT PAGE
72. INSTALL DIODE (1) AND TWO LEADS (2) ON TWO SMALL TERMINALS (3) OF RELAY K5 (4).
   a. Place two washers (5) and diode (1) on two small terminals (3) of relay K5 (4).
   b. Place two leads (2) on two small terminals (3), and install two washers (6), lock washers (7), and nuts (8).

73. INSTALL FOUR LEADS (9) ON FOUR LARGE TERMINALS (10) OF RELAY K5 (4).
   a. Place four washers (11) and leads (9) on four large terminals (10) of relay K5 (4), and install four washers (12), lock washers (13), and nuts (14).
74. INSTALL THREE LEADS (14) ON LARGER TERMINAL (15) ON RELAY K1 (16).
   a. Place three leads (14) on large terminal (15) and install washer (17),
      lock washer (18), and nut (19).

75. DO STEPS 5 THRU 7.

76. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

77. DO STEPS 1 AND 2.

78. REMOVE FOUR LEADS (14) FROM TWO LARGE TERMINALS (15) ON RELAY K1 (16).
   a. Remove two nuts (19), lock washers (18), and washers (17) from large terminals (15) on relay K1 (16).
      Discard lock washers.
   b. Remove four leads (14) and two washers (20) from two four large terminals (15) on relay K1 (16). Tag leads.
79. REMOVE TWO LEADS (1) AND DIODE (2) FROM TWO SMALL TERMINALS (3) ON RELAY K1 (4).
   a. Remove two nuts (5), lock washers (6), washers (7), and leads (1) from two small terminals (3) on relay K1 (4). Tag leads. Discard lock washers.
   b. Remove diode (2) and two washers (8) from two small terminals (3) on relay K1 (10).

80. REMOVE RELAY K1 (4) FROM CHASSIS (9).
   a. Remove two screws (10), lock washers (11), washers (12), and relay K1 (4) from chassis (9). Discard lock washers.

81. INSTALL RELAY K1 (4) ON CHASSIS (9).
   a. Position relay K1 (4) on chassis (9), and install two washers (12), lock washers (11), and screws (10).
82. INSTALL DIODE (2) AND TWO LEADS (1) ON TWO SMALL TERMINALS (3) OF RELAY K1 (4).
   a. Place two washers (8) and diode (2) on two small terminals (3) of relay K1 (4).
   b. Place two leads (1) on small terminals (3), and install two washers (7), lock washers (6), and nuts (5).

83. INSTALL FOUR LEADS (9) ON TWO LARGE TERMINALS (10) OF RELAY K1 (4).
   a. Place two washers (11) and four leads (9) on two large terminals (10) of relay K1 (4), and install two washers (12), lock washers (13), and nuts (14).

84. DO STEPS 5 THRU 7.

85. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
86. DO STEPS 1 AND 2.

87. REMOVE LEAD 194 (1) FROM TERMINAL A1 (2) ON RELAY K1 (3).
   a. Remove nut (4), lock washer (5), washer (6), lead 194 (1), and washer (7) from terminal A1 (2) on relay K1 (3). Discard lock washer.

---

NOTE
Screw in circuit breaker CB4 must be discarded and replaced with machine screw MS 35208-243.

88. REMOVE BUS BAR (8) FROM CIRCUIT BREAKERS CB1 (9) AND CB4 (10).
   a. Remove nut (11), washer (12) and three leads (13) from bus bar (8).
   b. Remove screw (14) and lock washer (15) from bus bar (8) on circuit breaker CB1 (9). Discard lock washer.
   c. Remove screw (16), lock washer (17), and bus bar (8) from circuit breaker CB4 (10). Discard screw and lock washer.
89. REMOVE TWO LEADS (18) FROM CIRCUIT BREAKER CB1 (9).
   a. Remove screw (19), lock washer (20), washer (21), and two leads (18) from circuit breaker CB1 (9). Discard lock washer.

90. REMOVE CIRCUIT BREAKER CB1 (9) FROM CHASSIS (22).
   a. Remove two screws (23), lock washers (24), washers (25), and circuit breaker CB1 (9) from chassis (22). Discard lock washers.

91. INSTALL CIRCUIT BREAKER CB1 (9) ON CHASSIS (22).
   a. Position circuit breaker CB1 (9) on chassis (22), and install two washers (25), lock washers (24), and screws (23).

92. INSTALL TWO LEADS (18) ON CIRCUIT BREAKER CB1 (9).
   a. Install two leads (18), washer (21), lock washer (20), and screw (19) on circuit breaker CB1 (9).
93. INSTALL BUS BAR (1) ON CIRCUIT BREAKERS CB1 (2) AND CB4 (3).

a. Install one end of bus bar (1) on circuit breaker CB4 (3) with lock washer (4) and screw (5).

b. Install other end of bus bar (1) on circuit breaker CB1 (2) with lock washer (6) and screw (7).

c. Install three leads (8), washer (9) and nut (10) on bus bar (1).

94. INSTALL LEAD 194 (11) ON TERMINAL A1 (12) OF RELAY K1 (13).

a. Place washer (14) and lead 194 (11) on terminal A1 (12) of relay K1 (13) and install washer (15), lock washer (16), and nut (17).

95. DO STEPS 5 THRU 7.

96. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
CIRCUIT BREAKERS CB2 THRU CB5

NOTE
Steps 97 thru 107 apply to circuit breakers CB2, CB3, CB4, and CB5. These circuit breakers are removed and installed the same way.

Discard screw in circuit breaker CB4 and replace with machine screw MS35208-243.

97. DO STEPS 1 AND 2.

98. REMOVE BUS BAR (1) FROM CIRCUIT BREAKERS CB1 (2) AND CB4 (3).
   a. Remove nut (10), washer (9), and three leads (8) from bus bar (1).
   b. Remove screw (7) and lock washer (6) from bus bar (1) on circuit breaker CB1 (2). Discard lock washer.
   c. Remove screw (5), lock washer (4), and bus bar (1) from circuit breaker CB4 (3). Discard screw and lock washer.

99. REMOVE LEADS (18) FROM SEVEN OTHER TERMINALS (19) OF CIRCUIT BREAKERS CB2, CB3, CB4, AND CB5 (20).

100. REMOVE PANEL (23) WITH FOUR CIRCUIT BREAKERS (20) FROM CHASSIS (24).
   a. Remove four screws (25), lock washers (26), washers (27), and panel (23) from chassis (24). Discard lock washers.

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101. REMOVE CIRCUIT BREAKER (1) FROM PANEL (2).
   a. Remove two screws (3), lock washers (4), washers (5), and circuit breaker (1) from panel (2). Discard lock washers.

102. INSTALL CIRCUIT BREAKER (1) ON PANEL (2).
   a. Position circuit breaker (1) on panel (2) and install two washers (5), lock washers (4), and screws (3).

103. INSTALL PANEL (2) WITH FOUR CIRCUIT BREAKERS (1) ON CHASSIS (6).
   a. Position panel (2) on chassis (6) and install four washers (7), lock washers (8), and screws (9).

104. INSTALL BUS BAR (10) ON CIRCUIT BREAKERS CB1 (11) AND CB4 (12).
   a. Install one end of bus bar (10) on circuit breaker CB4 (12) with lock washer (13) and screw (14).
   b. Install other end of bus bar (10) on circuit breaker CB1 (11) with lock washer (15) and screw (16).
   c. Install three leads (17), washer (18), and nut (19) on bus bar (10).
105. INSTALL LEADS (20) ON SEVEN OTHER TERMINALS (21) OF CIRCUIT BREAKERS CB2, CB3, CB4, and CB5 (1).
   a. Install leads (20) on seven other terminals (21) of circuit breakers CB2, CB3, CB4, and CB5 (1) with seven lock washers (22) and screws (23).

106. DO STEPS 5 THRU 7.

107. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

108. DO STEPS 1 AND 2.

109. REPLACE CRACKED OR MISSING TERMINAL LUG. See TM 9-2350-252-20-2. REPAIR LEAD.

110. DO STEPS 5 THRU 7.

111. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

112. DO STEPS 1 AND 2.

NOTE
Jack J1 and its leads are removed and installed as a unit.

113. REMOVE BUS BAR (10) FROM CIRCUIT BREAKERS CB1 (11) AND CB4 (12).
   a. Remove nut (19), washer (18), and three leads (17) from bus bar (10).
   b. Remove screw (16) and lock washer (15) from bus bar (10) on circuit breaker CB1 (11). Discard lock washer.
   c. Remove screw (14), lock washer (13), and bus bar (10) from circuit breaker CB4 (12). Discard screw and lock washer.

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114. REMOVE THREE LEADS (1) FROM TERMINAL A2 (2) ON RELAY K1 (3).
   a. Remove nut (4), lock washer (5), washer (6), and three leads (1) from terminal A2 (2) on relay K1 (3). Tag leads. Discard lock washer.

115. REMOVE TWO LEADS (7) FROM BRACKET (8).
   a. Remove locknut (9), lock washer (10), washer (11), and two leads (7) from screw in bracket (8). Tag leads. Discard locknut and lock washer.
116. REMOVE FOUR LEADS (12) FROM TERMINAL 1 (13) ON TERMINAL BOARD TB1 (14).
   a. Remove nut (15), washer (16), and four leads (12) from terminal 1 (13) on terminal board TB1 (14). Tag leads.

117. REMOVE JACK J1 (17) WITH LEADS FROM BOX (18).
   a. Remove lock wire (19) from jam nut (20) on jack J1 (17). Discard lock wire.
   b. Remove jam nut (20) from jack J1 (17). Use adjustable wrench.
   c. Push jack J1 (17) into box (18) and remove jack J1 with leads.

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118. INSTALL JACK J1 (1) WITH LEADS IN BOX (2).
   a. Position jack J1 (1) with leads in box (2), and insert jack J1 through hole in box.
   b. Install jam nut (3) on jack J1 (1). Use adjustable wrench.
   c. Install lock wire (4) on jam nut (3).

119. INSTALL FOUR LEADS (5) ON TERMINAL 1 (6) OF TERMINAL BOARD TB1 (7).
   a. Place four leads (5) on terminal 1 (6) on terminal board TB1 (7), and install washer (8) and nut (9).

120. INSTALL TWO LEADS (10) ON BRACKET (11).
   a. Place two leads (10) on screw in bracket (11), and install washer (12), lock washer (13), and locknut (14).
121. INSTALL THREE LEADS (15) ON TERMINAL A2 (16) ON RELAY K1 (17).
   a. Place three leads (15) on terminal A2 (16) on relay K1 (17), and install washer (18), lock washer (19), and nut (20).

122. INSTALL BUS BAR (21) ON CIRCUIT BREAKERS CB4 (22) AND CB1 (23).
   a. Install one end of bus bar (21) on circuit breaker CB4 (22) with lock washer (24) and screw (25).
   b. Install other end of bus bar (21) on circuit breaker CB1 (23) with lock washer (26) and screw (27).
   c. Install three leads (28), washer (29), and nut (30) on bus bar (21).

123. DO STEPS 5 THRU 7.

124. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
NOTE
Jack J10 and its leads are removed and installed as a unit.

125. DO STEPS 1 AND 2.

126. REMOVE LEAD 194 (1) FROM TERMINAL A1 (2) ON RELAY K1 (3).
   a. Remove nut (4), lock washer (5), washer (6), lead 194 (1), and washer (7) from terminal A1 (2) on relay K1 (3). Discard lock washer.

127. REMOVE TWO LEADS (8) FROM BRACKET (9).
   a. Remove locknut (10), lock washer (11), washer (12), and two leads (8) from screw in bracket (9). Tag leads. Discard locknut and lock washer.

128. UNSOLDER LEAD J10-A (13) FROM JACK J10 (14). See page 4-2.1. USE COMMON SOLDERING KIT.
129. REMOVE JACK J10 (15) WITH LEADS FROM BOX (16).
   a. Remove lock wire (17) from jam nut (18) on jack J10 (15). Discard lock wire.
   b. Remove jam nut (18) from jack J10 (15). Use adjustable wrench.
   c. Push jack J10 (15) into box (16) and remove jack J10 with leads.

130. INSTALL JACK J10 (15) WITH LEADS IN BOX (16).
   a. Position jack J10 (15) with leads in box (16), and insert jack J10 through hole in box.
   b. Install jam nut (18) on jack J10 (15). Use adjustable wrench.
   c. Install lock wire (17) on jam nut (18).

131. SOLDER LEAD J10-A (19) ON JACK J10 (15). See page 4-2.1. USE COMMON SOLDERING KIT AND THERMAL WIRE STRIPPER.
132. INSTALL TWO LEADS (1) ON BRACKET (2).
   a. Place two leads (1) on screw in bracket (2), and install washer (3), lock washer (4), and locknut (5).

133. INSTALL LEAD 194 (6) ON TERMINAL A1 (7) OF RELAY K1 (8).
   a. Place washer (9) and lead 194 (6) on terminal A1 (7) of relay K1 (8), and install washer (10), lock washer (11), and nut (12).

134. DO STEPS 5 THRU 7.

135. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

JACKS J2, J8

NOTE
Steps 136 thru 142 apply to jacks J2 and J8. These jacks are removed and installed the same way.

136. DO STEPS 1 AND 2.

137. REMOVE JACK (13) FROM BOX (14).
   a. Remove lock wire (15) from jam nut (16) on jack (13). Discard lock wire.
   b. Remove jam nut (16) from jack (13), and push jack into box (14). Use adjustable wrench.
138. UNSOLDER LEADS (17) FROM TERMINALS OF JACK (13). TAG LEADS. See page 4-2.1. USE COMMON SOLDERING KIT.

139. SOLDER LEADS (17) ON TERMINALS OF JACK (13). See page 4-2.1. USE COMMON SOLDERING KIT AND THERMAL WIRE STRIPPER.

140. INSTALL JACK (13) ON BOX (14).
   a. Insert jack (13) through hole in box (14), and install jam nut (4). Use adjustable wrench.
   b. Install lock wire (15) on jam nut (16).

141. DO STEPS 5 THRU 7.

142. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
JACKS J3, J9

NOTE
Steps 143 thru 149 apply to jacks J3 and J9. These jacks are removed and installed the same way.

143. DO STEPS 1 AND 2.

144. REMOVE JACK (1) FROM BOX (2).
   a. Remove lock wire (3) from jam nut (4) on jack (1). Discard lock wire.
   b. Remove jam nut (4) from jack (1), and push jack into box (2). Use adjustable wrench.

NOTE
Correct tool for gage of wire must be used to remove contacts. Gage of wire on wiring diagram, (FO-1) will help you select correct tool.

145. REMOVE CONTACTS (5) FROM JACK (1). See page 4-2.7. USE CORRECT CONTACT TOOL.

146. INSTALL CONTACTS (5) ON JACK (1).
See page 4-2.7. USE CORRECT CONTACT TOOL AND CRIMPING TOOL.
147. INSTALL JACK (1) ON BOX (2).
   a. Insert jack (1) through hole in box (2), and install jam nut (4). Use adjustable wrench.
   b. Install lock wire (3) on jam nut (3).

148. DO STEPS 5 THRU 7.

149. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

JACKS J4 THRU J7, J11 THRU J14

NOTE
Steps 150 thru 158 apply to jacks J4 thru J7 and to jacks J11 thru J14. These jacks are removed and installed the same way.

150. REMOVE TOP COVER (6) FROM BOX (7).
   a. Place box (7) upright on workbench.
   b. Remove 10 screws (8), lock washers (9), washers (10), and top cover (6) from box (7). Discard lock washers.

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NOTE
Step 150 should be done only if gasket is too worn or damaged for further use.

151. REMOVE GASKET (1) FROM TOP OF BOX (2). DISCARD GASKET.

152. REMOVE JACK (3) FROM BOX (2).
   a. Remove lock wire (4) from jam nut (5) on jack (3). Discard lock wire.
   b. Remove jam nut (5) from jack (3), and push jack into box (2). Use adjustable wrench.
Correct tool for gage of wire must be used to remove contacts. Gage of wire on wiring diagram (FO-1) will help you select correct tool.

153. REMOVE CONTACTS (6) FROM JACK (3). TAG LEADS. See page 4-2.7. USE CORRECT CONTACT TOOL.

154. INSTALL CONTACTS (6) ON JACK (3). See page 4-2.7. USE CORRECT CONTACT TOOL AND CRIMPING TOOL.

155. INSTALL JACK (3) ON BOX (2).
   a. Insert jack (3) through hole in box (2), and install jam nut (5). Use adjustable wrench.
   b. Install lock wire (4) on jam nut (5).

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NOTE
Step 156 should be done only if gasket was removed in step 151.

156. INSTALL GASKET (1) ON TOP OF BOX (2).
   a. Apply thin coat of adhesive EC2141 on one side of gasket (1) and on mating surface of box (2). Let adhesive dry 10-20 minutes until tacky.
   b. Press side of gasket (1) with adhesive onto box (2).

157. INSTALL TOP COVER (3) ON BOX (2).
   a. Place top cover (3) on box (2), and install 10 washers (4), lock washers (5), and screws (6).

158. RETURN FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

159. DO STEPS 150 AND 151.

160. REMOVE PLUG (7) FROM JACK J15 (8).
   a. Unscrew ring (9) and remove plug (7) from jack J15 (8).
161. REMOVE CIRCUIT CARDS A3 (10), A6 (11), AND A7 (12) FROM GUIDES (13).

162. LOOSEN CIRCUIT CARD ASSEMBLY (14) FROM CHASSIS (15).
   a. Remove four screws (16), lock washers (17), and washers (18) from circuit card assembly (1) and chassis (15). Discard lock washers.
   b. Slide circuit card assembly (14) away from jack J15 (19).

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163. REMOVE JACK J15 (1) FROM CHASSIS (2).
   a. Remove jam nut (3) from jack J15 (1), and push jack J15 through chassis (2). Use 1 13/16 inch socket.

164. DO STEPS 1 AND 2.
   NOTE
Correct tool for gage of wire must be used to remove contacts. Gage of wire on wiring diagram (FO-1) will help you select correct lead.

165. REMOVE CONTACTS (4) FROM JACK J15 (1). See page 4-2.7. USE CORRECT CONTACT TOOL.

166. INSTALL CONTACTS (4) ON JACK J15 (1). See page 4-2.7. USE CORRECT CONTACT TOOL AND CRIMPING TOOL.

167. INSTALL JACK J15 (1) ON CHASSIS (2).
   a. Turn box on side.
   b. Insert jack J15 (1) through hole in chassis (2) and install jam nut (3). Use 1 13/16 inch socket.
168. INSTALL CIRCUIT CARD ASSEMBLY (5) ON CHASSIS (2).
   a. Align circuit card assembly (5) and chassis (2).
   b. Install four washers (6), lock washers (7), and screws (8) on circuit card assembly (5) and chassis (2).

169. INSTALL CIRCUIT CARDS A3 (9), A6 (10), AND A7 (11) ON GUIDES (12).

170. DO STEPS 5 THRU 7.

171. INSTALL PLUG (13) ON JACK J15 (1).
   a. Place box upright on workbench.
   b. Insert plug (13) in jack J15 (1), and screw down ring (14).

172. DO STEPS 156 AND 157.

173. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
REPLACE TURRET DISTRIBUTION BOX CIRCUIT CARDS A1 THRU A7

DESCRIPTION

This task covers: Remove (page 6-45). Install (page 6-46).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Circuit card extractor — 6126-528

Personnel Required:
- Tank Turret Repairer 45K10

Equipment Conditions:
- Turret distribution box on workbench

Materials/Parts:
- Circuit card
- Lock washer (10)

REMOVE

NOTE
Circuit cards A1 thru A7 are replaced the same way.

1. REMOVE TOP COVER (1) FROM BOX (2).
   a. Remove 10 screws (3), lock washers (4), washers (5), and top cover (1) from box (2). Discard lock washers.

2. REMOVE GASKET (6) FROM BOX (2). DISCARD GASKET.

NOTE
Step 2 should be done only if gasket is too worn or damaged for further use.

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1. **NOTE**
Only the circuit card that needs replacing should be removed. The diagram above shows the position of each circuit card.

3. **REMOVE CIRCUIT CARD (1) FROM TWO GUIDES (2). USE CIRCUIT CARD EXTRACTOR.**

4. **INSTALL NEW CIRCUIT CARD (1) IN TWO GUIDES (2).**
   a. Aline circuit card (1) with two guides (2).
   b. Press circuit card (1) into two guides (2) until fully seated in base circuit card assembly.

5. **INSTALL GASKET (3) ON BOX (4).**
   a. Apply thin coat of adhesive EC2141 to one side of gasket (3) and mating surface of box (4). Let adhesive dry 10-20 minutes until tacky.
   b. Press adhesive side of gasket (3) onto box (4).

**NOTE**
Step 5 should be done only if worn or damaged gasket was removed.
6. INSTALL TOP COVER (5) ON BOX (4).
   a. Position top cover (5) on box (4),
      and install 10 washers (6), new
      lock washers (7), and screws (8).

7. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
Section II. MAINTENANCE OF CIRCUIT CARD

REPAIR CIRCUIT CARD ASSEMBLY

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Circuit card extractor — 6126-528

Personnel Required:
- Tank Turret Repairer 45K10

Equipment Conditions:
- Turret distribution box on workbench

Materials/Parts:
- Nonelectrical wire (Item 27, App B)
- Epoxy adhesive
- Self-locking nut (4)
- Lock washer (13)
- Lock washer (10)
- Circuit card assembly

REPAIR

1. REMOVE TOP COVER (1) FROM BOX (2).
   a. Remove 10 screws (3), lock washers (4), washers (5), and top cover (1) from box (2). Discard lock washers.

2. REMOVE GASKET (6) FROM BOX (2). DISCARD GASKET.

NOTE
Wiring diagram (FO-1) will help you identify leads and terminals.

 NOTE
Step 2 should be done only if gasket is too worn or damaged for further use.
3. REMOVE LOCK WIRE (1) FROM EIGHT JAM NUTS (2) ON JACKS J4 THRU J7 AND J11 THRU J14 (3). DISCARD LOCK WIRE.

4. REMOVE CLAMP (4) FROM BOX (5) AND WIRING HARNESS (6).
   a. Remove locknut (7), screw (8), and washer (9) from clamp (4) and box (5). Discard locknut.
   b. Remove clamp (4) from wiring harness (6).

5. REMOVE SEVEN CIRCUIT CARDS (10) FROM GUIDES (11). USE CIRCUIT CARD EXTRACTOR.

6. REMOVE EIGHT JACKS J4 THRU J7 AND J11 THRU J14 (3) FROM BOX (5).
   a. Remove eight jam nuts (2) from jacks J4 thru J7 and J11 thru J14 (3).
   b. Push eight jacks J4 thru J7 and J11 thru J14 (3) out of holes in box (5).
7. REMOVE PLUG (12) FROM JACK J15 (13).
   a. Unscrew ring (14) and remove plug (12) from jack J15 (13).

8. REMOVE TWO POWER SUPPLIES (15) FROM BOX (5).
   a. Remove six screws (16), lock washers (17), and washers (18) from box (5) and from two power supplies (15). Discard lock washers.
   b. Place two power supplies (15) on wiring harness (6).

9. REMOVE THREE GROUND LEADS (19) FROM BOX (5).
   a. Remove three locknuts (20), ground leads (19), screws (21), lock washers (22), and washers (23) from box (5). Tag leads. Discard locknuts and lock washers.
10. REMOVE CIRCUIT CARD ASSEMBLY (1) FROM CHASSIS (2).
   a. Remove four screws (3), lock washers (4), and washers (5) from circuit card assembly (1) and chassis (2). Discard lock washers.
   b. Remove circuit card assembly (1) from chassis (2).

11. REMOVE 18 JACKS J16 THRU J33 (6) FROM PLUGS (7) ON CIRCUIT CARD ASSEMBLY (1).
   b. Remove 18 jacks J16 thru J33 (6) from plugs (7) on circuit card assembly (1). Place wiring harness (9) with components on workbench.

12. REMOVE TWO GUIDE PLATES (10) FROM CIRCUIT CARD ASSEMBLY (1).
   a. Remove eight screws (11), washers (12), two guide plates (10), and spacer plates (13) from circuit card assembly (1).
13. INSTALL TWO GUIDE PLATES (10) ON NEW CIRCUIT CARD ASSEMBLY (1).
   a. Install two spacer plates (13), guide plates (10), eight washers (12), and screws (11) on circuit card assembly (1).

14. INSTALL 18 JACKS J16 THRU J33 (6) ON PLUGS (7) ON CIRCUIT CARD ASSEMBLY (1).
   a. Insert 18 jacks J16 thru J33 (6) into plugs (7) on circuit card assembly (1).
   b. Evenly tighten 36 screws (8) on 18 jacks J16 thru J33 (6).

15. INSTALL CIRCUIT CARD ASSEMBLY (1) ON CHASSIS (2).
   a. Position circuit card assembly (1) on chassis (2).
   b. Install four washers (5), new lock washers (4), and screws (3) on circuit card assembly (1) and chassis (2).

CAUTION
Screws tightened unevenly may damage pins on jacks. Tighten screws evenly.
16. INSTALL THREE GROUND LEADS (1) ON BOX (2).
   a. Install three washers (3), new lock washers (4), screws (5), ground leads (1), and new locknuts (6) on box (2).

17. APPLY EPOXY ADHESIVE TO MATING SURFACES (7) OF TWO POWER SUPPLIES (8).

18. INSTALL TWO POWER SUPPLIES (8) ON BOX (2).
   a. Position two power supplies (8) inside box (2), and install six washers (9), new lock washers (10), and screws (11).

19. INSTALL PLUG (12) ON JACK J15 (13):
   a. Install plug (12) on jack J15 (13), and screw down ring (14).
20. INSTALL EIGHT JACKS J4 THRU J7 AND J11 THRU J14 (15) ON BOX (2).
   a. Insert eight jacks J4 thru J7 and J11 thru J14 (15) through holes in box (2).
   b. Install eight jam nuts (16) on jacks J4 thru J7 and J11 thru J14 (15).

21. INSTALL SEVEN CIRCUIT CARDS (17) IN GUIDES (18).
   a. Aline seven circuit cards (17) with proper guides (18).
   b. Press seven circuit cards (17) in guides (18) until fully seated.

22. INSTALL CLAMP (19) ON WIRING HARNESS (20) AND BOX (2).
   a. Position clamp (19) on wiring harness (20).
   b. Install washer (21), screw (22), and new locknut (23) on box (2) and clamp (19).
23. INSTALL NEW LOCK WIRE (1) BETWEEN EIGHT JAM NUTS (2) ON JACKS J11 THRU J14 AND J4 THRU J7 (3).

24. INSTALL GASKET (4) ON BOX (5).
   a. Apply thin coat of adhesive EC2141 on one side of gasket (4) and on mating surface of box (5). Let adhesive dry 10-20 minutes until tacky.
   b. Press adhesive side of gasket (4) onto box (5).

25. INSTALL TOP COVER (6) ON BOX (5).
   a. Position top cover (6) on box (5), and install 10 washers (7), new lock washers (8), and screws (9).

26. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
REPLACE LOGIC POWER SUPPLY

DESCRIPTION

This task covers: Remove (page 6-56.1). Install (page 6-56.2).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Bench top repair center — 6695-00-073-9492
- Thermal wire stripper — 45-130

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25

Materials/Parts:
- Heatsink compound
- Lock washer (3)
- Lock washer (10)
- Logic power supply

Equipment Conditions:
- Turret distribution box on workbench

REMOVE

NOTE

Both power supplies in turret distribution box are replaced the same way.

Wiring diagram (FO-1) will help you identify leads and terminals.

1. REMOVE TOP COVER (1) FROM BOX (2).
   a. Remove ten screws (3), lock washers (4), washers (5), and top cover (1) from box (2). Discard lock washers.

2. REMOVE GASKET (6) FROM BOX (2). DISCARD GASKET.

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3. REMOVE POWER SUPPLY (1) FROM BOX (2).
   a. Remove three screws (3), lock washers (4), washers (5) from box (2) and power supply (1). Discard lock washers.
   b. Remove power supply (1) from box (2).

4. UNSOLDER FOUR LEADS (6) FROM CIRCUIT CARD (7) ON POWER SUPPLY (1). TAG LEADS. See TM 55-1500-323-25. USE BENCH TOP REPAIR CENTER.

5. SOLDER FOUR LEADS (6) ON CIRCUIT CARD (7) ON NEW POWER SUPPLY (1). See TM 55-1500-323-25. USE BENCH TOP REPAIR CENTER AND WIRE STRIPPER.

6. APPLY HEATSINK COMPOUND TO MATING SURFACE (8) OF POWER SUPPLY (1).

7. INSTALL POWER SUPPLY (1) ON BOX (2).
   a. Position power supply (1) in box (2), and install three washers (2), new lock washers (4), and screws (3).
NOTE

Step 8 should be done only if gasket was removed.

8. INSTALL NEW GASKET (8) ON BOX (2).
   a. Apply thin coat of cement to one side of gasket (8) and mating surface (9) of box (2). Let dry 10-20 minutes until tacky.
   b. Press cemented side of gasket (8) on box (2).

9. INSTALL TOP COVER (10) ON BOX (2).
   a. Position top cover (1) on box (2), and install 10 washers (5), new lock washers (4), and screws (3).

10. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULTS.

END OF TASK

8-56.3 (6-56.4 blank)
## Section III. MAINTENANCE OF WEAPON CONTROL BOX

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...
REPAIR WEAPON CONTROL BOX

DESCRIPTION

This task covers:

Indicator Light: Repair (page 6-59).
ON/OFF Switch S11: Repair (page 6-64).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Thermal wire stripper — 45-130
- Common soldering kit — PRC-150

Materials/Parts:
- Lock washer (10)

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25

Equipment Conditions:
- Weapon control box on workbench

INDICATOR LIGHT

REPAIR

NOTE
All indicator lights in weapon control box are removed and installed the same way.

1. REMOVE CONTROL PANEL (1) FROM PANEL (2).
   a. Remove nine screws (3), washers (4), and control panel (1) from panel (2).

2. REMOVE PANEL (2) FROM BOX (5).
   a. Remove 10 screws (6), lock washers (7), and panel (2) from box (5). Discard lock washers.

GO TO NEXT PAGE
3. REMOVE GASKET (1) FROM BOX (2).
   a. Slip gasket (1) over panel (3). Discard gasket.

4. REMOVE CIRCUIT CARD (4) FROM PANEL (3).
   a. Remove four screws (5) and lock washers (6) from circuit card (4).
   b. Remove circuit card (4) and four spacers (7) from panel (3).

5. REMOVE TWO LEADS (8) OF BAD LIGHT (9) FROM WIRING HARNESS (10).
   a. Cut tape (11) and remove two leads (8) of bad light (9) from wiring harness (10). Discard tape.
6. UNSOLDER TWO LEADS (8) OF LIGHT (9) FROM CIRCUIT CARD (4). See TM 55-1500-323-25. USE SOLDERING KIT.

7. REMOVE LIGHT (9) FROM PANEL (3).
   a. Remove nut (12) from light (9).
   b. Remove light (9) with packing (13) from panel (3). Discard light and packing.

8. INSTALL LIGHT (9) ON PANEL (3).
   a. Install packing (13) on light (9).
   b. Insert light (9) through panel (3) and install nut (12).

GO TO NEXT PAGE
9. SOLDER TWO LEADS (1) OF LIGHT (2) ON CIRCUIT CARD (3). See TM 55-1500-323-25. USE SOLDERING KIT AND THERMAL WIRE STRIPPER.

10. APPLY THIN COAT OF AEROSOL INSULATING COMPOUND TO SOLDERED PARTS OF CIRCUIT CARD (3).

NOTE
Step 11 applies only if circuit card was removed to reach bad light.

11. INSTALL CIRCUIT CARD (3) ON PANEL (4).
   a. Position four spacers (5) and circuit card (3) on panel (4).
   b. Install four lock washers (6) and screws (7) on circuit card (3) and panel (4).

12. INSTALL TWO LEADS (1) OF LIGHT (2) IN WIRING HARNESS (8).
   a. Position two leads (1) of light (2) in wiring harness (8), and wrap with Scotch electrical tape (9).
NOTE
Step 13 applies only if worn or damaged gasket was removed.

13. INSTALL NEW GASKET (10) ON BOX (11).
   a. Apply thin coat of adhesive EC2141 to one side of gasket (10) and mating surface of box (11). Let adhesive dry 10-20 minutes until tacky.
   b. Slip gasket (10) with adhesive side towards box (11), over panel (4), and press on box.

14. INSTALL PANEL (4) ON BOX (11).
   a. Position panel (4) on box (11). Install 10 new lock washers (12) and screws (13).

15. INSTALL CONTROL PANEL (14) ON PANEL (4).
   a. Install control panel (14) on panel (4) with nine washers (15) and screws (16).

16. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

GO TO NEXT PAGE
ON/OFF SWITCH S11

REPAIR

17. DO STEPS 1 AND 2, AND STEP 3 IF NEEDED.

18. REMOVE THREE LEADS (1) FROM TWO TERMINALS OF SWITCH S11 (2).
   a. Remove two screws (3), lock washers (4), and three leads (1) from two terminals on switch S11 (2). Tag leads. Discard lock washers.

19. REMOVE SWITCH S11 (2) FROM PANEL (5).
   a. Remove nut (6), lock washer (7), and locking ring (8) from switch S11 (2). Discard lock washer and locking ring.
   b. Remove switch S11 (2) and packing with retainer (9) from panel (5). Discard switch S11 and packing with retainer.
20. INSTALL SWITCH S11 (2) ON PANEL (5).
   a. Install locking ring (8) on panel (5).
   b. Install packing with retainer (9) on switch S11 (2).
   c. Insert switch S11 (2) through panel (5) and install lock washer (7) and nut (6).

21. INSTALL THREE LEADS (1) ON TWO TERMINALS OF SWITCH S11 (2).
   a. Install three leads (1) on two terminals of switch S11 (2) with two lock washers (4) and screws (3).

22. DO STEP 13 IF NEEDED, AND STEPS 14 AND 15.

23. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
REPAIR WEAPON CONTROL BOX CIRCUIT CARD ASSEMBLY

DESCRIPTION

This task covers:

Variable resistor R1: Remove (page 6-67). Install (page 6-68).
Switch S2-S10 or S12: Remove (page 6-70). Install (page 6-70).
Terminal lug: Remove/Install (page 6-71).
Switch S1: Remove (page 6-71). Install (page 6-72).
Circuit card: Remove (page 6-74). Install (page 6-74).
Jack J1 or J2: Remove (page 6-75). Install (page 6-75).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Common soldering kit — PRC-150A
- Thermal wire stripper — 45-130

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 9-2350-252-20-2
- TM 55-1500-323-25

Materials/Parts:
- Lock washer (10)

Equipment Conditions:
- Weapon control box on workbench

NOTE
Wiring diagram (FO-8) will help you identify leads and terminals for all steps (1-51).

VARIABLE RESISTOR R1

REMOVE

1. REMOVE PANEL (1) FROM BOX (2).
   a. Remove 10 screws (3), lock washers (4), and panel (1) from box (2). Discard lock washers.

2. REMOVE GASKET (5) FROM BOX (2).
   a. Slip gasket (5) over panel (1). Discard gasket.

GO TO NEXT PAGE
3. REMOVE KNOB (1) FROM RESISTOR R1 (2).
   a. Loosen two screws (3) on knob (1).
   b. Pull knob (1) off resistor R1 (2).

4. REMOVE RESISTOR R1 (2) FROM BOX (4).
   a. Remove jam nut (5) and lock washer (6) from resistor R1 (2). Discard lock washer.
   b. Remove resistor R1 (2) from box (4).

5. UNSOLDER JUMPER (7) AND TWO LEADS (8) FROM TERMINALS (9) ON RESISTOR R1 (2). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING KIT.

6. SOLDER TWO LEADS (8) AND JUMPER (7) ON TERMINALS (9) ON RESISTOR R1 (2). See TM 55-1500-323-25. USE THERMAL WIRE STRIPPER AND SOLDERING KIT.
7. INSTALL RESISTOR R1 (2) ON BOX (4).
   a. Insert resistor R1 (2) through hole in box (4), and install lock washer (6) and nut (5).

8. INSTALL KNOB (1) ON RESISTOR R1 (2).
   a. Push and seat knob (1) on shaft of resistor R1 (2).
   b. Tighten two screws (3) on knob (1).

9. INSTALL GASKET (10) ON BOX (4).
   a. Apply thin coat of adhesive EC2141 on one side of gasket (10) and on mating surface of box (4). Let dry for 10-20 minutes until tacky.
   b. Slip cemented side of gasket (10) over panel (11) and toward box (4). Press gasket on box (4).

10. INSTALL PANEL (11) ON BOX (4).
    a. Install panel (11), 10 new lock washers (12), and screws (13) on box (4).

11. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

NOTE
Step 9 should be done only if worn or damaged gasket was removed in step 2.

GO TO NEXT PAGE
SWITCH S2-S10, OR S12

**REMOVE**

NOTE
Switches S2 thru S10, and switch S12 are removed and installed the same way.

12. DO STEP 1 AND, IF NEEDED, STEP 2.

13. UNSOLDER TWO LEADS (1) FROM TERMINALS (2) ON SWITCH (3). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING KIT.

**INSTALL**

14. REMOVE SWITCH (3) FROM PANEL (4).
   a. Remove boot with nut (5) from switch (3).
   b. Remove switch (3) from panel (4).
   c. Remove lockwasher (6) from switch (3). Discard lock washer.

15. INSTALL SWITCH (3) ON PANEL (4).
   a. Install lock washer (6) on switch (3).
   b. Insert switch (3) through panel (4), and install boot with nut (5).

16. SOLDER TWO LEADS (1) ON TERMINALS (2) OF SWITCH (3). See TM 55-1500-323-25. USE SOLDERING KIT AND THERMAL WIRE STRIPPER.

17. DO STEP 9, IF NEEDED, THEN DO STEP 10.

18. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
TERMINAL LUG

REMOVE/INSTALL

NOTE
All terminal lugs on switch S11 are removed and installed the same way.

19. DO STEP 1 AND, IF NEEDED, STEP 2.

20. REMOVE LEAD (7) WITH BAD TERMINAL LUG FROM SWITCH S11 (8).
   a. Remove screw (9), lock washer (10), and lead (7) from switch S11 (8).
      Tag lead.


22. INSTALL LEAD (7) WITH TERMINAL LUG ON SWITCH S11 (8).
   a. Position lead (7) on terminal of switch S11 (8), and install lock washer (10) and screw (9).

23. DO STEP 9, IF NEEDED, THEN DO STEP 10.

24. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

25. DO STEP 1 AND, IF NEEDED, STEP 2.

26. CUT TAPE (11) FROM WIRING HARNESS (12). DISCARD TAPE.

GO TO NEXT PAGE
27. REMOVE SWITCH S1 (1) FROM PANEL (2).
   a. Remove nut (3), lock washer (4), and tab washer (5) from switch S1 (1). Discard lock washer and tab washer.
   b. Remove switch S1 (1) from panel (2).
   c. Remove packing with retainer (6) from switch S1 (1). Discard packing with retainer.

28. UNSOLDER FOUR LEADS (7) ON SWITCH S1 (1) FROM CIRCUIT CARD (8). See TM 55-1500-323-25. USE SOLDERING KIT.

29. UNSOLDER OTHER TWO LEADS (9) ON SWITCH S1 (1) FROM TERMINAL 4 (11) OF SWITCH S3 (10). See TM 55-1500-323-25. USE SOLDERING KIT.

30. SOLDER FOUR LEADS (7) OF SWITCH S1 (1) ON CIRCUIT CARD (8). See TM 55-1500-323-25. USE SOLDERING KIT AND THERMAL WIRE STRIPPER.
31. SOLDER OTHER TWO LEADS (9) OF SWITCH S1 (1) ON TERMINAL 4 (11) OF SWITCH S3 (10). See TM 55-1500-323-25. USE SOLDERING KIT AND THERMAL WIRE STRIPPER.

32. INSTALL SWITCH S1 (1) ON PANEL (2).
   a. Install packing with retainer (6) on switch S1 (1).
   b. Insert switch S1 (1) through panel (2), and install tab washer (5), lock washer (4), and nut (3).

33. INSTALL SCOTCH ELECTRICAL TAPE (12) AROUND WIRING HARNESS (13).

34. APPLYTHINTOCOATAEROSOLINSULATINGCOMPOUNDTOTHENEW SOLDERED POINTSONBOTH SIDES OF CIRCUIT CARD (8).

35. DO STEP 9, IF NEEDED, THEN DO STEP 10.

36. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

GO TO NEXT PAGE
37. DO STEP 1 AND, IF NEEDED, STEP 2.

38. REMOVE CIRCUIT CARD (1) FROM PANEL (2).
   a. Remove four screws (3) and lock washers (4) from circuit card (1). Discard lock washers.
   b. Remove circuit card (1) and four spacers (5) from panel (2).

39. UNSOLDER ALL LEADS (6) FROM CIRCUIT CARD (1). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING KIT.

40. SOLDER ALL LEADS (6) ON CIRCUIT CARD (1). See TM 55-1500-323-25. USE SOLDERING KIT AND THERMAL WIRE STRIPPER.

41. APPLY THIN COAT OF AEROSOL INSULATING COMPOUND TO NEW SOLDERED POINTS ON BOTH SIDES OF CIRCUIT CARD (1).
42. INSTALL CIRCUIT CARD (1) ON PANEL (2).
   a. Position four spacers (5) and circuit card (1) on panel (2).
   b. Install four lock washers (4) and screws (3) on circuit card (1).

43. DO STEP 9, IF NEEDED, THEN DO STEP 10.

44. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

45. DO STEP 1 AND, IF NEEDED, STEP 2.

46. REMOVE JACK (7) FROM BOX (8).
   a. Remove nut (9) from jack (7), and push jack out of box (8).

47. UNSOLDER LEADS (10) FROM JACK (7) TAG LEADS. See page 4-2.1. USE SOLDERING KIT.

48. SOLDER LEADS (10) ON JACK (7). See page 4-2.1. USE SOLDERING KIT AND THERMAL WIRE STRIPPER.

GO TO NEXT PAGE
49. INSTALL JACK (1) ON BOX (2).
   a. Insert jack (1) through hole in box (2), and install jam nut (3).

50. DO STEP 9, IF NEEDED, THEN DO STEP 10.

51. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
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REPLACE ANNUNCIATOR INDICATOR LIGHTS

DESCRIPTION

This task covers: Remove (page 6-79). Install (page 6-81).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Thermal wire stripper — 45-130
- Common soldering kit — PRC-150A
- Acid swabbing brush — 7920-00-514-2417

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25

Equipment Conditions:
- Annunciator on workbench

Materials/Parts:
- Insulating compound (Item 20, App B)
- Oil varnish (Item 29, App B)
- Indicator light (2)
- Preformed packing (2)
- Lock washer (6)

REMOVE

1. REMOVE PLATE (1) FROM PANEL (2).
   a. Remove four screws (3) and plate (1) from panel (2).

2. REMOVE PANEL (2) FROM BOX (4).
   a. Remove six screws (5) and lock washers (6) from box (4). Discard lock washers.
   b. Remove panel (2) from box (4). Pry panel loose. Use flat-tip screwdriver (7).

GO TO NEXT PAGE
NOTE
Step 3 should be done only if gasket is too worn or damaged for further use.

3. REMOVE GASKET (1) FROM BOX (2). DISCARD GASKET.

4. REMOVE CIRCUIT CARD (3) FROM BOX (2).
   a. Remove four screws (4), washers (5), and circuit card (3) from box (2).

5. CUT TAPE (6) FROM LEADS (7). DISCARD TAPE.

6. UNSOLDER FOUR LEADS (7) OF TWO BAD LIGHTS (8) FROM CIRCUIT CARD (3). See TM 55-1500-323-25.
   USE SOLDERING KIT.

7. REMOVE TWO LIGHTS (8) FROM PANEL (9).
   a. Remove two jam nuts (10) from two lights (8).
   b. Remove two lights (8) with preformed packings (11) from panel (9). Discard two lights and preformed packings.
8. INSTALL TWO NEW LIGHTS (8) ON PANEL (9).
   a. Install two new preformed packings (11) on two lights (8).
   b. Insert two lights (8) through front of panel (9), and secure with two new jam nuts (10).

9. SOLDER FOUR LEADS (7) OF TWO LIGHTS (8) ON CIRCUIT CARD (3). See TM 55-1500-323-25. USE SOLDERING KIT AND THERMAL WIRE STRIPPER.

10. WRAP TAPE (6) AROUND LEADS (7).

11. APPLY THIN COAT OF INSULATING COMPOUND TO BOTH SIDES OF CIRCUIT CARD (3).

12. INSTALL CIRCUIT CARD (3) ON BOX (2).
   a. Install circuit card (3) on box (2) with four washers (5) and screws (4).

GO TO NEXT PAGE
13. APPLY OIL VARNISH TO INSIDE OF BOX (1) AND ALL PARTS. USE ACID SWABBING BRUSH.

**NOTE**
Step 14 should be done only if gasket was removed.

14. INSTALL NEW GASKET (2) ON BOX (1).
   a. Apply thin coat of adhesive EC2141 on one side of gasket (2) and mating surface of box (1). Let dry 10-20 minutes until tacky.
   b. Slip cemented side of gasket (2) over panel (3), and press on box (1).

15. INSTALL PANEL (3) ON BOX (1).
   a. Install panel (3) on box (1) with six new lock washers (4) and screws (5).

16. INSTALL PLATE (6) ON PANEL (3) WITH FOUR SCREWS (7).

17. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
REPLACE ANNUNCIATOR CIRCUIT CARD ASSEMBLY 2A6A1

DESCRIPTION

This task covers: Remove (page 6-83). Install (page 6-84).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Thermal wire stripper — 45-130
- Common soldering kit — PRC-150A
- Acid swabbing brush — 7920-00-514-2417

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25

Materials/Parts:
- Oil varnish (Item 29, App B)
- Insulating compound (Item 20, App B)
- Lock washer (6)
- Circuit card assembly

Equipment Conditions:
- Annunciator on workbench

REMOVE

1. REMOVE PLATE (1) FROM PANEL (2).
   a. Remove four screws (3) and plate (1) from panel (2).

2. REMOVE PANEL (2) FROM BOX (4).
   a. Remove six screws (5) and lock washers (6) from box (4). Discard lock washers.
   b. Remove panel (2) from box (4). Pry panel loose with flat-tip screwdriver (7).

GO TO NEXT PAGE
3. REMOVE GASKET (1) FROM BOX (2). DISCARD GASKET.

4. REMOVE CIRCUIT CARD (3) FROM BOX (2).
   a. Remove four screws (4), washers (5), and circuit card (3) from box (2).

NOTE
Step 3 applies only if gasket is too worn or damaged for further use.

5. CUT TAPE (6) FROM LEADS (7). DISCARD TAPE.

6. UNSOLDER 43 LEADS (7) FROM CIRCUIT CARD (3). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING KIT.

7. SOLDER 43 LEADS (7) ON NEW CIRCUIT CARD (3). See TM 55-1500-323-25. USE THERMAL WIRE STRIPPER AND SOLDERING KIT.

8. WRAP TAPE (6) AROUND LEADS (7).

NOTE
Wiring diagram (FO-3) will help you identify leads and terminals.
9. APPLY THIN COAT OF INSULATING COMPOUND TO BOTH SIDES OF CIRCUIT CARD (3).

10. INSTALL CIRCUIT CARD (3) ON BOX (2).
   a. Install circuit card (3) on box (2) with four washers (5) and screws (4).

11. APPLY OIL VARNISH TO INSIDE OF ANNUNCIATOR AND ALL PARTS. USE ACID SWABBING BRUSH.

NOTE
Step 12 applies if gasket was removed in step 3.

12. INSTALL NEW GASKET (1) ON BOX (2).
   a. Apply thin coat of adhesive EC2141 on one side of gasket (1) and on mating surface of box (2). Let dry 10-20 minutes until tacky.
   b. With cemented side of gasket (1) toward box (2), slip gasket over panel (8) and press onto box (2).

GO TO NEXT PAGE
13. INSTALL PANEL (1) ON BOX (2).
   a. Install panel (1) on box (2) with six new lock washers (3) and screws (4).

14. INSTALL PLATE (5) ON PANEL (1) WITH FOUR SCREWS (6).

15. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
REPLACE ANNUNCIATOR BOX JACK J1

DESCRIPTION

This task covers: Remove (page 6-87). Install (page 6-88).

INITIAL SETUP

Tools:
- Turret mechanic’s tool kit
- Thermal wire stripper — 45-130
- Common soldering kit — PRC-150A
- Acid swabbing brush — 7920-00-514-2417

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25

Equipment Conditions:
- Annunciator on workbench

Materials/Parts:
- Insulating compound (Item 20, App B)
- Oil varnish (Item 29, App B)
- Preformed packing
- Receptacle connector
- Lock washer (6)

REMOVE

1. REMOVE PANEL (1) FROM BOX (2).
   a. Remove six screws (3) and lock washers (4) from box (2). Discard lock washers.
   b. Remove panel (1) from box (2). Pry panel loose with flat-tip screwdriver (5).

   NOTE
   Step 2 should be done only if gasket is too worn or damaged for further use.

2. REMOVE GASKET (6) FROM BOX (2). DISCARD GASKET.
3. REMOVE JACK J1 (1) FROM BOX (2).
   a. Remove jam nut (3) from jack J1 (1).
   b. Remove jack J1 (1) and preformed packing (4) from box (2). Discard preformed packing.

4. UNSOLDER 11 LEADS (5) FROM JACK J1 (1). TAG LEADS. See page 4-2.1. USE SOLDERING KIT.

NOTE
Wiring diagram (FO-3) will help you identify leads on terminals.

5. SOLDER 11 LEADS (5) ON NEW JACK J1 (1). See page 4-2.1. USE SOLDERING KIT AND THERMAL WIRE STRIPPER.

6. INSTALL JACK J1 (1) ON BOX (2).
   a. Install new preformed packing (4) on jack J1 (1).
   b. Insert jack J1 (1) through box (2), and install new jam nut (3).
7. APPLY THIN COAT OF INSULATING COMPOUND TO BACK OF JACK J1 (1).

8. APPLY OIL VARNISH TO INSIDE OF ANNUNCIATOR AND ALL PARTS. USE ACID SWABBING BRUSH.

NOTE
Step 9 should be done only if gasket was removed.

9. INSTALL NEW GASKET (6) ON BOX (2).
   a. Apply thin coat of adhesive EC2141 to one side of gasket (6) and mating surface of box (2). Let dry 10-20 minutes until tacky.
   b. Slip cemented side of gasket (6) over panel (7), and press onto box (2).

10. INSTALL PANEL (7) ON BOX (2).
    a. Install panel (7) on box (2) with six new lock washers (8) and screws (9).

11. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
## Section V. MAINTENANCE OF TURRET CONTROL BOX

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REPAIR TURRET CONTROL BOX

DESCRIPTION

This task covers:
- Indicator light: Repair (page 6-93).
- Switch S1, S2, S3, or S4: Repair (page 6-97).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Common soldering kit — PRC150A
- Thermal wire stripper — 45-130
- Acid swabbing brush — 7920-00-514-2417

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25

Materials/Parts:
- Oil varnish (Item 29, App B)
- Lock washer (8)

Equipment Conditions:
- Turret control box on workbench

INDICATOR LIGHT

REPAIR

1. REMOVE CONTROL PANEL (1) FROM PANEL (2).
   a. Remove six screws (3), washers (4), and control panel (1) from panel (2).

2. REMOVE PANEL (2) FROM BOX (5).
   a. Remove eight screws (6) and lock washers (7) from panel (2). Discard lock washers.
   b. Pry panel (2) from box (5). Use flat tip screwdriver (8).

GO TO NEXT PAGE
3. REMOVE GASKET (1) FROM BOX (2).
   a. Slip gasket (1) over panel (3). Discard gasket.

4. REMOVE CIRCUIT CARD (4) FROM PANEL (3).
   a. Remove five screws (5) and washers (6) from circuit card (4).
   b. Remove circuit card (4) and five spacers (7) from panel (3).

5. CUT TAPE (8) THAT HOLDS TWO LEADS (9) OF LIGHT (10) IN WIRING HARNESS (11).
6. UNSOLDER TWO LEADS (9) OF LIGHT (10) FROM CIRCUIT CARD (4).
   See TM 55-1500-323-25. USE SOLDERING KIT.

7. REMOVE LIGHT (10) FROM PANEL (3).
   a. Remove jam nut (12) from light (10).
   b. Remove light (10) with preformed packing (13) from face of panel (3).
      Discard light and preformed packing.

8. INSTALL LIGHT (10) ON PANEL (3).
   a. Install preformed packing (13) on light (10).
   b. Insert light (10) through face of panel (3), and install jam nut (12).

9. SOLDER TWO LEADS (9) OF LIGHT (10) ON CIRCUIT CARD (4).
    See TM 55-1500-323-25. USE SOLDERING KIT AND THERMAL WIRE STRIPPER.

NOTE
Wiring diagram FO-8 will help you identify leads and terminals.
10. INSTALL CIRCUIT CARD (1) ON PANEL (2).
   a. Position five spacers (3) and circuit card (1) on panel (2). Install five washers (4) and screws (5).

11. WRAP TWO LEADS (6) OF LIGHT (7) AND WIRING HARNESS (8) WITH TAPE (9).

12. APPLY THIN COAT OF AEROSOL INSULATING COMPOUND TO SOLDERED AREA ON BOTH SIDES OF CIRCUIT CARD.

13. APPLY OIL VARNISH TO ALL PARTS INSIDE TURRET CONTROL BOX. USE ACID SWABBING BRUSH.

   NOTE
   Step 14 should be done only if worn or damaged gasket was removed in step 3.

14. INSTALL GASKET (10) ON BOX (11).
   a. Apply thin coat of adhesive EC 2141 on one side of gasket (10) and mating surface of box (11). Let adhesive dry 10-20 minutes until tacky.
   b. Slip cemented side of gasket (10) over panel (2) and press on box (11).
15. INSTALL PANEL (2) ON BOX (11).
   a. Install panel (2), eight new lock washers (12), and screws (13) on box (11).

16. INSTALL CONTROL PANEL (14) ON PANEL (2).
   a. Install control panel (14), six washers (15), and screws (16) on panel (2).

17. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

SWITCH S1, S2, S3, OR S4

REPAIR

NOTE
Turret power switch S1, turret drive system stabilization switch S2, fan switch S3, and TOW abort switch S4 are removed and installed the same way.

18. DO STEP 2, AND STEP 3 IF NEEDED.

19. REMOVE LEADS (17) FROM SWITCH (18).
   a. Remove screws (19), lock washers (20), and leads (17) from switch (18).
   Tag leads.

GO TO NEXT PAGE
20. REMOVE SWITCH (1) FROM PANEL (2).
   a. Remove jam nut (3), lock washer (4), and locking ring (5) from switch (1).
   b. Remove switch (1) with packing retainer (6) through back of panel (2). Discard switch and packing with retainer.

21. INSTALL SWITCH (1) ON PANEL (2).
   a. Install preformed packing with retainer (6) on switch (1).
   b. Install locking ring (5) on panel (2).
   c. Insert switch (1) through back of panel (2). Install lock washer (4) and jam nut (3).

22. INSTALL LEADS (7) ON SWITCH (1).
   a. Install leads (7) on switch (1) with lock washers (8) and screws (9).

23. DO STEP 13, STEP 14 IF NEEDED, AND STEP 15.

24. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
DESCRIPTION

This task covers:

- Circuit breaker CB1: Repair (page 6-99).
- Terminal lug: Repair (page 6-102).
- Jack J1 or J2: Repair (page 6-103).
- Circuit card A1: Repair (page 6-105).

INITIAL SETUP

Tools:
- Personnel Required: Tank Turret Repairer 45K10
- Turret mechanic's tool kit
- Thermal wire stripper — 45-130
- Common soldering kit — PRC 150-A
- Acid swabbing brush

References:
- TM 9-2350-252-20-2
- TM 55-1500-323-25

Materials/Parts:
- Lock washer (8)

Equipment Conditions:
- Turret control box on workbench

CIRCUIT BREAKER CB1

REPAIR

NOTE

Wiring diagram (F0-8) will help you identify leads and terminals.

1. REMOVE PANEL (1) FROM BOX (2).
   a. Remove eight screws (3) and lock washers (4) from panel (1). Discard lock washers.
   b. Pry panel (1) from box (2). Use flat-tip screwdriver (5).

2. REMOVE GASKET (6) FROM BOX (2).
   a. Slip gasket (6) over panel (1). Discard gasket.

GO TO NEXT PAGE
3. UNSOLDER LEADS (1) FROM CIRCUIT BREAKER CB1 (2). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING KIT.

4. REMOVE CIRCUIT BREAKER CB1 (2) FROM PANEL (3).
   a. Remove jam nut (4), lock washer (5), and locking ring (6) from circuit breaker CB1 (2). Discard lock washer.
   b. Remove circuit breaker CB1 (2) and packing with retainer (7) from back of panel (3).
5. INSTALL CIRCUIT BREAKER CB1 (2) ON PANEL (3).
   a. Install packing with retainer (7) on circuit breaker CB1 (2).
   b. Install new locking ring (6) on panel (3).
   c. Insert circuit breaker CB1 (2) through back of panel (3), and install lock washer (5) and jam nut (4).

6. SOLDER LEADS (1) ON CIRCUIT BREAKER CB1 (2). See TM 55-1500-323-25. USE SOLDERING KIT AND WIRE STRIPPER.

7. APPLY OIL VARNISH TO ALL PARTS INSIDE TURRET CONTROL BOX. USE ACID SWABBING BRUSH.

8. INSTALL GASKET (8) ON BOX (9).
   a. Apply thin coat of adhesive EC2141 to one side of gasket (8) and mating surface of box (9). Let adhesive dry 10-20 minutes until tacky.
   b. With cemented side of gasket (8) toward box (9), slip gasket over panel (3) and press onto box (9).

   NOTE
   Step 8 should be done only if worn or damaged gasket was removed in Step 2.

9. INSTALL PANEL (3) ON BOX (9).
   a. Install panel (3), eight new lock washers (10), and screws (11) on box (9).

10. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
NOTE
All terminal lugs on switches S1, S2, S3, and S4 are removed and installed the same way.

11. DO STEP 1 AND, IF NEEDED, STEP 2.

12. REMOVE LEAD (1) WITH BAD TERMINAL LUG FROM SWITCH (2).
   a. Remove screw (3), lock washer (4), and lead (1) from switch (2).


14. INSTALL LEAD (1) WITH TERMINAL LUG ON SWITCH (2).
   a. Install lead (1), lock washer (4), and screw (3) on switch (2).

15. DO STEP 7 AND, IF NEEDED, STEP 8. THEN DO STEP 9.

16. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
JACK J1 or J2

REPAIR

NOTE
Jacks J1 and J2 are removed and installed the same way.

17. DO STEP 1 AND, IF NEEDED, STEP 2.

18. REMOVE JACK (5) FROM BOX (6).
   a. Remove jam nut (7) from jack (5).
   b. Remove jack (5) from box (6).

19. CUT TAPE (8) FROM LEADS (9) NEAR JACK (5).

20. UNSOLDER LEADS (9) FROM JACK (5). TAG LEADS. See page 4-2.1. USE SOLDERING KIT.

GO TO NEXT PAGE
21. SOLDER LEADS (1) ON JACK (2). See page 4-2.1. USE SOLDERING KIT AND WIRE STRIPPER.

22. WRAP LEADS (1) WITH TAPE (3) NEAR JACK (2).

23. INSTALL JACK (2) ON BOX (4).
   a. Insert jack (2) through box (4) and install jam nut (5).

24. DO STEP 7 AND, IF NEEDED, STEP 8, THEN DO STEP 9.

25. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
26. DO STEP 1 AND, IF NEEDED, STEP 2.

27. UNSOLDER ALL LEADS (6) FROM CIRCUIT CARD (7). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING KIT.

28. REMOVE CIRCUIT CARD (7) FROM PANEL (8).
   a. Remove five screws (9), circuit card (7), and five spacers (10) from panel (8).

29. INSTALL CIRCUIT CARD (7) ON PANEL (8).
   a. Install five spacers (10), circuit card (7), and five screws (9) on panel (8).

30. SOLDER ALL LEADS (6) ON CIRCUIT CARD (7). See TM 55-1500-323-25. USE SOLDERING KIT AND WIRE STRIPPER.

GO TO NEXT PAGE
31. APPLY THIN COAT OF AEROSOL INSULATING COMPOUND TO SOLDERED AREA ON BOTH SIDES OF CIRCUIT CARD (1).

32. DO STEP 7 AND, IF NEEDED, STEP 8. THEN DO STEP 9.

33. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
Section VI. MAINTENANCE OF SERVICE LIGHT

REPAIR 25MM SERVICE LIGHT CONNECTOR 2A19

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Multimeter, URN 105C — 6625-00-999-6282

Equipment Conditions:
- 25mm service light connector on workbench

Personnel Required:
- Tank Turret Repairer 45K10

REPAIR

1. TEST ALL PINS FOR CONTINUITY. NOTE WIRES THAT FAIL. USE MULTIMETER.


WIRING DIAGRAM

END OF TASK
## Section VII. MAINTENANCE OF RELAY

### TASK INDEX

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REPAIR RELAY BOX ASSEMBLY 2A27

DESCRIPTION

This task covers:

- Circuit Breaker CB2: Remove (page 6-112). Install (page 6-114).
- Jack J1 or J2: Remove/Install (page 6-118).
- Circuit Breaker CB1 or CB3: Remove (page 6-119). Install (page 6-120).
- Resistor R1: Remove (page 6-121). Install (page 6-122).
- Relay K1 And Diode CR2: Remove (page 6-123). Install (page 6-124).
- Relay K3 And Diode CR3: Remove/Install (page 6-127).
- Plug P1: Remove/Install (page 6-130).
- Plug P2 or P3: Remove (page 6-131). Install (page 6-132).
- Terminal Lug: Remove/Install (page 6-133).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Thermal wire stripper 45-130
- Thermal knife — D5505
- Electric soldering tip — 6130
- Electric soldering iron — 3439-00-853-8760
- Acid swabbing brush — 7920-00-514-2417

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25
- TM 9-2350-252-20-2

Equipment Conditions:
- Relay box on workbench

Materials/Parts:
- Oil varnish (Item 20, App B)
- Nonelectrical wire (Item 27, App B)
NOTE
Wiring diagram (FO-2) will help you identify leads and terminals.

CIRCUIT BREAKER CB2

1. REMOVE COVER (1) FROM BOX (2).
   a. Remove 14 screws (3), washers (4), and cover (1) from box (2).

2. REMOVE GASKET (5) FROM BOX (2).
   DISCARD GASKET.

3. REMOVE LOCK WIRE (6) FROM THREE JAM NUTS (7). DISCARD LOCK WIRE.

4. REMOVE EIGHT SCREWS (8, 9) FROM BOX (2).
   a. Remove screw (8) and washer (10) from bottom corner of box (2) as shown. Mark this screw for later installation.
   b. Remove seven screws (9) and washers (11) from bottom of box (2).
5. REMOVE THREE JAM NUTS (7) FROM THREE JACKS (12).

6. LIFT MOUNTING BRACKET (13) FROM BOX (2) AND REMOVE THREE JACKS (12) FROM HOLES IN BOX.

7. REMOVE CIRCUIT BREAKER CB2 (14) FROM BOX (2).
   a. Remove jam nut (15), lock washer (16), plate (17), and tab washer (18) from circuit breaker CB2 (14). Discard lock washer, plate, and tab washer.
   b. Push circuit breaker CB2 (14) in box (2).
   c. Remove preformed packing (19) from circuit breaker CB2 (14). Discard preformed packing.
8. UNSOLDER THREE LEADS (1) FROM THREE TERMINALS (2, 3) ON CIRCUIT BREAKER CB2 (4). UNSOLDER JUMPER (5) FROM TWO TERMINALS (2). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING IRON.

9. SOLDER JUMPER (5) BETWEEN TERMINAL 2 AND TERMINAL 3 (2) ON CIRCUIT BREAKER CB2 (4). See TM 55-1500-323-25. USE SOLDERING IRON.

10. SOLDER THREE LEADS (1) ON THREE TERMINALS (2, 3) ON CIRCUIT BREAKER CB2 (4). See TM 55-1500-323-25. USE THERMAL WIRE STRIPPER AND SOLDERING IRON.

11. INSTALL CIRCUIT BREAKER CB2 (4) ON BOX (6).
   a. Install preformed packing (7) on circuit breaker CB2 (4).
   b. Insert circuit breaker CB2 (4) through hole in box (6).
   c. Install tab washer (8), plate (9), lock washer (10), and jam nut (11) on circuit breaker CB2 (4).
12. LOWER MOUNTING BRACKET (12) INTO BOX (6), AND INSERT THREE JACKS (13) THROUGH THREE HOLES IN BOX.

13. INSTALL THREE JAM NUTS (14) ON THREE JACKS (13).

14. INSTALL EIGHT SCREWS (15, 16) ON BOX (6).
   a. Install washer (17) and screw (15) marked earlier in bottom of box (6).
   b. Install seven washers (18) and screws (16) in bottom of box (6).

15. INSTALL NEW LOCK WIRE (19) BETWEEN THREE JAM NUTS (14).

GO TO NEXT PAGE
WARNING
Varnish can burn. Use in well ventilated area. Keep away from heat and flame. Do not smoke.

16. APPLY THIN COAT OF OIL VARNISH ON NEWLY INSTALLED PART. USE ACID SWABBING BRUSH.

NOTE
Step 17 should be done only if worn or damaged gasket was removed.

17. INSTALL GASKET (1) ON BOX (2).
   a. Apply thin coat of adhesive EC2141 to one side of gasket (1) and mating surface of box (2). Let adhesive dry 10-20 minutes, until tacky.
   b. Press cemented side of gasket (1) on box (2).

18. INSTALL COVER (3) ON BOX (2).
   a. Install cover (3), 14 washers (4), and screws (5) on box (2).

19. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

20. DO STEPS 1 THRU 6.

21. UNSOLDER TWO LEADS (6) FROM TWO TERMINALS (7) OF LIGHT ASSEMBLY DS1 (8). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.
22. REMOVE LIGHT ASSEMBLY DS1 (8) FROM BOX (2).
   a. Remove locknut (9) and washer (10) from light assembly DS1 (8). Discard locknut.
   b. Remove light assembly DS1 (8) and preformed packing (11) from bottom of box (2). Discard preformed packing and light assembly DS1.

23. INSTALL LIGHT ASSEMBLY DS1 (8) ON BOX (2).
   a. Install preformed packing (11) on light assembly DS1 (8).
   b. Insert light assembly DS1 (8) through box (2) and install washer (10) and locknut (9).

24. SOLDER TWO LEADS (6) ON TERMINALS (7) OF LIGHT ASSEMBLY DS1 (8). See TM 55-1500-323-25. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.

25. DO STEPS 12 THRU 18.

26. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

GO TO NEXT PAGE
**JACK J1 OR J2**

**REMOVE**

**NOTE**
Jacks J1 and J2 are removed and installed the same way.

27. DO STEPS 1 THRU 6.

28. UNSOLDER LEADS (1) FROM SOLDER SOCKETS (2) IN JACK (3). TAG LEADS. See page 4-2.7. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.

**INSTALL**

29. SOLDER LEADS (1) ON SOLDER SOCKETS (2) IN JACK (3). See page 4-2.7. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.

30. DO STEPS 12 THRU 18.

31. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

**JACK J3**

**REMOVE**

32. DO STEPS 1 THRU 6.

33. REMOVE CONTACTS (4) FROM JACK J3 (5) AND LEADS (6). TAG LEADS. See page 4-2.7.
34. INSTALL CONTACTS (4) ON LEADS (6) AND JACK J3 (5). See page 4-27.

35. DO STEPS 12 THRU 18.

36. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

---

CIRCUIT BREAKER CB1 OR CB3

REMOVE

NOTE
Circuit breakers CB1 and CB3 are removed and installed the same way.

37. DO STEPS 1 THRU 7.

38. UNSOLDER TWO LEADS (7) FROM TERMINALS (8) ON LIGHT ASSEMBLY DS1 (9). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.

39. REMOVE TWO LEADS (10) FROM TWO TERMINALS (11) ON CIRCUIT BREAKER (12).
   a. Remove two screws (13), washers (14), and leads (10) from two terminals (11) on circuit breaker (12). Tag leads.
40. REMOVE POWER SUPPLY INDICATOR A3 (1) FROM BRACKET (2).
   a. Remove two screws (3) from power supply indicator A3 (1) and bracket (2).
   b. Move power supply indicator A3 (1) away from two access holes (4) in bracket (2).

41. REMOVE CIRCUIT BREAKER (5) FROM BRACKET (2).
   a. Remove two screws (6), washers (7), and circuit breaker (5) from bracket (2).

42. INSTALL CIRCUIT BREAKER (5) ON BRACKET (2).
   a. Position circuit breaker (5) on bracket (2), and install two washers (7) and screws (6).

43. APPLY EPOXY ADHESIVE 4951 TO MATING SURFACE OF POWER SUPPLY INDICATOR A3 (1).

44. INSTALL POWER SUPPLY INDICATOR A3 (1) ON BRACKET (2).
   a. Position power supply indicator A3 (1) on bracket (2) and install two screws (3).
45. INSTALL TWO LEADS (6) ON TWO TERMINALS (7) ON CIRCUIT BREAKER (5).
   a. Install two leads (6), washers (8), and screws (9) on two terminals (7) on circuit breaker (5).

46. SOLDER TWO LEADS (10) ON TWO TERMINALS (11) ON LIGHT ASSEMBLY DS1 (12). See TM 55-1500-323-25. USE THERMAL WIRE STRIPPER AND SOLDERING IRON.

47. DO STEPS 11 THRU 18.

48. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

49. DO STEPS 1 THRU 7, AND 38.

50. REMOVE RESISTOR R1 (13) FROM BRACKET (2).
   a. Remove two locknuts (14), screws (15), washers (16), and resistor R1 (13) from bracket (2). Discard locknuts.

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51. UNSOLDER FOUR LEADS (1) FROM TWO TERMINALS (2) ON RESISTOR R1 (3). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING IRON.

52. SOLDER FOUR LEADS (1) ON TWO TERMINALS (2) OF RESISTOR R1 (3). See TM 55-1500-323-25. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.

53. INSTALL RESISTOR R1 (3) ON BRACKET (4).
   a. Position resistor R1 (3) on bracket (4), and install two washers (5), screws (6), and locknuts (7).

54. DO STEPS 11, 24, AND 12 THRU 18.

55. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
56. DO STEPS 1 THRU 7, AND 38.

57. REMOVE DIODE CR2 (8) AND THREE LEADS (9) FROM TERMINALS X1 (10) AND X2 (11) OF RELAY K1 (12).
   a. Remove two nuts (13) and lock washers (14) from terminals X1 (10) and X2 (11) of relay K1 (12).
   b. Remove diode CR2 (8), three leads (9), and two washers (15) from terminals X1 (10) and X2 (11). Tag leads.

58. REMOVE FIVE LEADS (16) FROM TERMINALS B2 (17) AND A2 (18) OF RELAY K1 (12).
   a. Remove two nuts (19), lock washers (20), five leads (16), and two washers (21) from terminals B2 (17) and A2 (18) of relay K1 (12). Tag leads.

59. REMOVE DIODE CR1 LEAD (22) AND BUS BAR (23) FROM TERMINALS B1 (24) AND A1 (25) OF RELAY K1 (12).
   a. Remove two nuts (26) and lock washers (27) from terminals B1 (24) and A1 (25) of relay K1 (12).
   b. Remove diode CR1 lead (22) from terminal B1 (24). Tag lead.
   c. Remove bus bar (23) and two washers (27) from terminals B1 (23) and A1 (25).

GO TO NEXT PAGE
60. REMOVE TWO GROUND LEADS (1) AND RELAY K1 (2) FROM BRACKET (3).
   a. Remove two nuts (4), lock washers (5), washers (6), and ground leads (1) from two screws (7) in relay K1 (2). Tag leads. Discard lock washers.
   b. Remove two washers (8), nuts (9), washers (10), screws (7), and relay K1 (2) from bracket (3).

61. INSTALL RELAY K1 (2) AND TWO GROUND LEADS (1) ON BRACKET (3).
   a. Position relay K1 (2) on bracket (3), and install two screws (7), washers (10), nuts (9), and washers (8).
   b. Install two ground leads (1) on screws (7) with two washers (6), lock washers (5), and nuts (4).

   a. Install two washers (15) on terminals A1 (13) and B1 (14) of relay K1 (2).
   b. Place bus bar (11) between terminals A1 (13) and B1 (14).
   c. Place diode CR1 lead (12) on terminal B1 (14).
   d. Install two lock washers (16) and nuts (17) on terminals A1 (13) and B1 (14).
63. INSTALL FIVE LEADS (18) ON TERMINALS A2 (19) AND B2 (20) OF RELAY K1 (2).
   a. Install two washers (21) on terminals A2 (19) and B2 (20) of relay K1 (4).
   b. Place five leads (18) on terminals A2 (19) and B2 (20). Install two lock washers (22) and nuts (23).

64. INSTALL THREE LEADS (24) AND DIODE CR2 (25) ON TERMINALS X2 (26) AND X1 (27) OF RELAY K1 (2).
   a. Install two washers (28) on terminals X2 (26) and X1 (27) of relay K1 (2).
   b. Place three leads (24) and diode CR2 (25) on terminals X2 (26) and X1 (27).
   c. Install two lock washers (29) and nuts (30) on terminals X2 (26) and X1 (27).

65. DO STEPS 11, 24, AND 12 THRU 18.

66. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

67. DO STEPS 1 THRU 7 AND 38.

68. UNSOLDER FIVE LEADS (31) FROM TERMINALS (32) ON RELAY K2 (33). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.

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69. REMOVE RELAY K2 (1) FROM BRACKET (2).
   a. Remove four locknuts (3), washers (4), and relay K2 (1), from bracket (2).
      Discard locknuts.

70. INSTALL RELAY K2 (1) ON BRACKET (2).
   a. Position relay K2 (1) in bracket (2) and install four washers (4) and locknuts (3).

71. SOLDER FIVE LEADS (5) ON TERMINALS (6) ON RELAY K2 (1). See TM 55-1500-323-25. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.

72. DO STEPS 11, 24, AND 12 THRU 18.

73. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
74. DO STEPS 1 THRU 7, AND 38.

75. UNSOLDER SIX LEADS (7) AND JUMPER (8) FROM TERMINALS (9) ON RELAY K3 (10). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.

76. REMOVE THREE LEADS (11) AND RELAY K3 (10) FROM BRACKET (2).
   a. Remove four locknuts (12), three leads (11), and four washers (13) from four terminals (14) on relay K3 (10). Discard locknuts. Tag leads.
   b. Remove relay K3 (10) from bracket (2).

77. UNSOLDER DIODE CR3 (15) FROM TWO TERMINALS (16) ON BRACKET (2). See TM 55-1500-323-25. USE SOLDERING IRON.

78. SOLDER DIODE CR3 (15) ON TWO TERMINALS (16) ON BRACKET (2). See TM 55-1500-323-25. USE SOLDERING IRON.

NOTE
Before removing diode CR3, note position of dark band.

NOTE
Install diode CR3 with dark band in same position as when removed.

GO TO NEXT PAGE
79. INSTALL RELAY K3 (1) AND THREE LEADS (2) ON BRACKET (3).
   a. Position relay K3 (1) in bracket (3).
   b. Install four washers (4), three leads (2), and four locknuts (5) on four terminals (6) of relay K3 (1).

80. SOLDER JUMPER (7) AND SIX LEADS (8) ON TERMINALS (9) OF RELAY K3 (1). See TM 55-1500-323-25. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.

81. DO STEPS 11, 24, AND 12 THRU 18.

82. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

83. DO STEPS 1 THRU 7, AND 38.

84. REMOVE DIODE CR1 LEAD (10) FROM TERMINAL B1 (11) ON RELAY K1 (12).
   a. Remove nut (13), lock washer (14), and diode CR1 lead (10) from terminal B1 (11) of relay K1 (12).
85. REMOVE DIODE CR1 (15) FROM BRACKET (16).
   a. Remove nut (17), lock washer (18), two leads (19), lock washer (20), and insulated washer (21) from terminal under diode CR1 (15). Tag leads. Discard lock washers.
   b. Remove diode CR1 (15) from bracket (16).

86. INSTALL DIODE CR1 (15) ON BRACKET (16).
   a. Install diode CR1 (15) on bracket (16).
   b. Install insulated washer (21), lock washer (20), two leads (19), lock washer (18), and nut (17) on terminal under diode CR1 (15).

87. INSTALL DIODE CR1 LEAD (22) ON TERMINAL B1 (23) OF RELAY K1 (24).
   a. Place diode CR1 lead (22) on terminal B1 (23) of relay K1 (24), and install lock washer (25) and nut (26).

88. DO STEPS 11, 24, AND 12 THRU 18.

89. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
90. DO STEPS 1 AND 2.

91. REMOVE CIRCUIT CARD A1 (1) FROM BRACKET (2).
   a. Remove four screws (3) and washers (4) from circuit card A1 (1).
   b. Remove circuit A1 (1) and four spacers (5) from bracket (2).

92. REMOVE PLUG P1 (6) FROM JACK A1J1 (7) ON CIRCUIT CARD A1.
   a. Evenly loosen two screws (8) on plug P1 (6).

93. UNSOLDER 17 LEADS (9) FROM PLUG P1 (6). TAG LEADS. See page 4-2.7. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.

94. SOLDER LEADS (9) ON PLUG P1 (6). See page 4-2.7. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.
95. INSTALL PLUG P1 (6) ON JACK A1J1 (7) ON CIRCUIT CARD A1 (1).
   b. Evenly tighten two screws (8) on plug P1 (6).

96. INSTALL CIRCUIT CARD A1 (1) ON BRACKET (2).
   a. Position four spacers (5) and circuit card A1 (1) on bracket (2).
   b. Install four washers (4) and screws (3) in circuit card A1 (1).

97. DO STEPS 16 THRU 18.

98. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

PLUG P2 OR P3

REMOVE

NOTE

Plugs P2 and P3 are replaced the same way. Plug P2 is on power supply indicator A2. Plug P3 is on power supply indicator A3.

99. DO STEPS 1 THRU 7, AND 38.

100. REMOVE POWER SUPPLY INDICATOR (10) FROM BRACKET (2).
   a. Remove two screws (11) from power supply indicator (10) and bracket (2).

GO TO NEXT PAGE
90. DO STEPS 1 AND 2.

91. REMOVE CIRCUIT CARD A1 (1) FROM BRACKET (2).
   a. Remove four screws (3) and washers (4) from circuit card A1 (1).
   b. Remove circuit A1 (1) and four spacers (5) from bracket (2).

92. REMOVE PLUG P1 (6) FROM JACK A1J1 (7) ON CIRCUIT CARD A1.
   a. Evenly loosen two screws (8) on plug P1 (6).

93. UNSOLDER 17 LEADS (9) FROM PLUG P1 (6). TAG LEADS. See page 4-2.7. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.

94. SOLDER LEADS (9) ON PLUG P1 (6). See page 4-2.7. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.
CAUTION
Screws tightened unevenly can damage pins on jack. Tighten screws evenly.

95. INSTALL PLUG P1 (6) ON JACK A1J1 (7) ON CIRCUIT CARD A1 (1).
   b. Evenly tighten two screws (8) on plug P1 (6).

96. INSTALL CIRCUIT CARD A1 (1) ON BRACKET (2).
   a. Position four spacers (5) and circuit card A1 (1) on bracket (2).
   b. Install four washers (4) and screws (3) in circuit card A1 (1).

97. DO STEPS 16 THRU 18.

98. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

NOTE
Plugs P2 and P3 are replaced the same way. Plug P2 is on power supply indicator A2. Plug P3 is on power supply indicator A3.

99. DO STEPS 1 THRU 7, AND 38.

100. REMOVE POWER SUPPLY INDICATOR (10) FROM BRACKET (2).
   a. Remove two screws (11) from power supply indicator (10) and bracket (2).

GO TO NEXT PAGE
CAUTION
Screws loosened unevenly may damage pins on jack. Loosen screws evenly.

101. REMOVE PLUG (1) FROM JACK (2) ON POWER SUPPLY INDICATOR (3).
   a. Turn power supply indicator (3) to reach plug (1).
   b. Evenly loosen two screws (4) on plug (1).
   c. Pull plug (1) from jack (2) on power supply indicator (3).

NOTE
To reach plug P3, it may be necessary to loosen nut on terminal A2 of relay K1.

102. UNSOLDER 12 LEADS (5) FROM PLUG (1). TAG LEADS. See page 4-2.7. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.

INSTALL

CAUTION
Screws tightened unevenly can damage pins on jack. Tighten screws evenly.

103. SOLDER 12 LEADS (5) ON PLUG (1). See page 4-2.7. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.

104. INSTALL PLUG (1) ON JACK (2) ON POWER SUPPLY INDICATOR (3).
   a. Push plug (1) on jack (2) on power supply indicator (3).
   b. Evenly tighten two screws (4) on plug (1).
105. APPLY EPOXY ADHESIVE 4951 TO MATING SURFACE OF POWER SUPPLY INDICATOR (3).

106. INSTALL POWER SUPPLY INDICATOR (3) ON BRACKET (6).
   a. Position power supply indicator (3) on bracket (6) and install two screws (7).

107. DO STEPS 11, 24, AND 12 THRU 18.

108. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

TERMINAL LUG

REMOVE/INSTALL

109. DO STEPS 1 AND 2.

110. REPLACE CRACKED OR MISSING TERMINAL LUG. REPAIR LEAD. See TM 9-2350-252-20-2.

111. DO STEPS 16 THRU 18.

112. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
REPLACE POWER SUPPLY INDICATOR

DESCRIPTION

This task covers: Remove (page 6-139). Install (page 6-142).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Acid swabbing brush — 7920-00-514-2417
- Thermal knife — D5505
- Electric solder tip — 6130
- Thermal wire stripper — 45-130
- Common soldering kit — PRC-150A

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25

Equipment Conditions:
- Relay box on workbench

Materials/Parts:
- Oil varnish (Item 29, App B)
- Non-electrical wire (Item 27, App B)
- Epoxy adhesive
- Power supply indicator assembly

REMOVE

NOTE

Both power supply indicators, A2 and A3, are replaced in the same way.

1. REMOVE COVER (1) FROM BOX (2).
   a. Remove 14 screws (3), washers (4), and cover (1) from box (2).

2. REMOVE GASKET (5) FROM BOX (2).

   DISCARD GASKET.

GO TO NEXT PAGE
3. REMOVE LOCK WIRE (1) FROM THREE JAM NUTS (2). DISCARD LOCK WIRE.

4. REMOVE EIGHT SCREWS (3) AND WASHERS (4) FROM BOTTOM OF BOX (5).
   a. Remove screw (3) and washer (4) from corner of bottom of box (5). Mark this screw for installation later.
   b. Remove seven other screws (3) and washers (4) from bottom of box (5).

5. REMOVE THREE JAM NUTS (6) FROM JACKS J1, J2, AND J3 (7) ON BOX (5).

NOTE
Screws on bottom of box are taken out first in step 4. This allows mounting bracket inside box to be moved to allow removal of jacks J1, J2, and J3.
6. LIFT MOUNTING BRACKET (8) FROM BOX (5).

7. REMOVE THREE JACKS J1, J2, and J3 (7) FROM HOLES IN BOX (5).

8. UNSOLDER TWO LEADS (9) FROM TERMINALS (10) OF LIGHT ASSEMBLY DS1 (11). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING KIT, THERMAL KNIFE, AND SOLDER TIP.

9. REMOVE CIRCUIT BREAKER CB2 (12) FROM BOX (5).
   a. Remove jam nut (13), lock washer (14), positioning plate (15), and tab washer (16) from circuit breaker CB2 (12).
   b. Push circuit breaker CB2 (12) into box (5).
10. REMOVE MOUNTING BRACKET (1) WITH COMPONENTS FROM BOX (2).

11. REMOVE POWER SUPPLY INDICATOR (3) FROM MOUNTING BRACKET (1).
   a. Remove two screws (4) and power supply indicator (3) from mounting bracket (1).

CAUTION
Screws loosened unevenly may damage pins on plug. Loosen screws evenly.

12. REMOVE PLUG (5) FROM JACK (6) ON POWER SUPPLY INDICATOR (3).
   a. Turn power supply indicator (3) to reach plug (5).
   b. Evenly loosen two screws (7) on plug (5).
   c. Pull plug (5) from jack (6) on power supply indicator (3).

CAUTION
Screws tightened unevenly may damage pins on plug. Tighten screws evenly.

13. INSTALL PLUG (5) ON JACK (6) ON NEW POWER SUPPLY INDICATOR (3).
   a. Push plug (5) on jack (6) on power supply indicator (3).
   b. Evenly tighten two screws (7) on plug (5).
14. APPLY EPOXY ADHESIVE TO MATING SURFACE OF POWER SUPPLY INDICATOR (3).

15. INSTALL POWER SUPPLY INDICATOR (3) ON MOUNTING BRACKET (1).
   a. Position power supply indicator (3) on mounting bracket (1).

16. INSTALL TWO SCREWS (4) IN MOUNTING BRACKET (1) AND POWER SUPPLY INDICATOR (3).

17. INSTALL THREE JACKS J1, J2, AND J3 (8) IN HOLES IN BOX (9).
   a. Place mounting bracket (1) with components in box (2), and insert three jacks (8) through holes in box (9).

GO TO NEXT PAGE
18. INSTALL EIGHT WASHERS (1, 2) AND SCREWS (3, 4) IN BOTTOM OF BOX (5).
   a. Install washer (1) and marked screw (from step 4a) (3) on corner of bottom of box (5).
   b. Install seven other washers (2) and screws (4) in box (5).

19. INSTALL CIRCUIT BREAKER CB2 (6) ON BOX (5).
   a. Insert circuit breaker CB2 (6) through hole in box (5).
   b. Install tab washer (7), positioning plate (8), lock washer (9), and jam nut (10) on circuit breaker CB2 (6).

20. SOLDER TWO LEADS (11) ON TERMINALS (12) OF LIGHT ASSEMBLY DS1 (13). See TM 55-1500-323-25. USE THERMAL WIRE STRIPPER AND SOLDERING KIT.
21. INSTALL JAM NUTS (14) ON JACKS J1, J2, AND J3 (15) ON BOX (5).

22. INSTALL NEW LOCK WIRE (16) BETWEEN THREE JAM NUTS (14).

23. APPLY THIN COAT OF OIL VARNISH TO NEW PARTS. USE ACID SWABBING BRUSH.

NOTE
Step 24 applies only if worn or damaged gasket was removed in step 2.

24. INSTALL GASKET (16) ON BOX (5).
   a. Apply thin coat of adhesive EC2141 on one side of gasket (16) and mating surface of box (5). Let dry 10-20 minutes until tacky.
   b. Press cemented side of gasket (16) on box (5).
25. INSTALL COVER (1) ON BOX (2).
   a. Install cover (1), 14 washers (3), and screws (4) on box (2).

26. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
74. DO STEPS 1 THRU 7, AND 38.

75. UNSOLDER SIX LEADS (7) AND JUMPER (8) FROM TERMINALS (9) ON RELAY K3 (10). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.

a. Remove four locknuts (12), three leads (11), and four washers (13) from four terminals (14) on relay K3 (10). Discard locknuts. Tag leads.

b. Remove relay K3 (10) from bracket (2).

76. REMOVE THREE LEADS (11) AND RELAY K3 (10) FROM BRACKET (2).

77. UNSOLDER DIODE CR3 (15) FROM TWO TERMINALS (16) ON BRACKET (2). See TM 55-1500-323-25. USE SOLDERING IRON.

78. SOLDER DIODE CR3 (15) ON TWO TERMINALS (16) ON BRACKET (2). See TM 55-1500-323-25. USE SOLDERING IRON.

NOTE
Before removing diode CR3, note position of dark band.

NOTE
Install diode CR3 with dark band in same position as when removed.
79. INSTALL RELAY K3 (1) AND THREE LEADS (2) ON BRACKET (3).
   a. Position relay K3 (1) in bracket (3).
   b. Install four washers (4), three leads (2), and four locknuts (5) on four terminals (6) of relay K3 (1).

80. SOLDER JUMPER (7) AND SIX LEADS (8) ON TERMINALS (9) OF RELAY K3 (1). See TM 55-1500-323-25. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.

81. DO STEPS 11, 24, AND 12 THRU 18.

82. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

83. DO STEPS 1 THRU 7, AND 38.

84. REMOVE DIODE CR1 LEAD (10) FROM TERMINAL B1 (11) ON RELAY K1 (12).
   a. Remove nut (13), lock washer (14), and diode CR1 lead (10) from terminal B1 (11) of relay K1 (12).
85. REMOVE DIODE CR1 (15) FROM BRACKET (16).
   a. Remove nut (17), lock washer (18), two leads (19), lock washer (20), and insulated washer (21) from terminal under diode CR1 (15). Tag leads. Discard lock washers.
   b. Remove diode CR1 (15) from bracket (16).

86. INSTALL DIODE CR1 (15) ON BRACKET (16).
   a. Install diode CR1 (15) on bracket (16).
   b. Install insulated washer (21), lock washer (20), two leads (19), lock washer (18), and nut (17) on terminal under diode CR1 (15).

87. INSTALL DIODE CR1 LEAD (22) ON TERMINAL B1 (23) OF RELAY K1 (24).
   a. Place diode CR1 lead (22) on terminal B1 (23) of relay K1 (24), and install lock washer (25) and nut (26).

88. DO STEPS 11, 24, AND 12 THRU 18.

89. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

GO TO NEXT PAGE
90. DO STEPS 1 AND 2.

91. REMOVE CIRCUIT CARD A1 (1) FROM BRACKET (2).
   a. Remove four screws (3) and washers (4) from circuit card A1 (1).
   b. Remove circuit A1 (1) and four spacers (5) from bracket (2).

92. REMOVE PLUG P1 (6) FROM JACK A1J1 (7) ON CIRCUIT CARD A1.
   a. Evenly loosen two screws (8) on plug P1 (6).

93. UNSOLDER 17 LEADS (9) FROM PLUG P1 (6). TAG LEADS. See page 4-2.7. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.

94. SOLDER LEADS (9) ON PLUG P1 (6). See page 4-2.7. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.
96. INSTALL CIRCUIT CARD A1 (1) ON BRACKET (2).
   a. Position four spacers (5) and circuit card A1 (1) on bracket (2).
   b. Install four washers (4) and screws (3) in circuit card A1 (1).

97. DO STEPS 16 THRU 18.

98. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

99. DO STEPS 1 THRU 7, AND 38.

100. REMOVE POWER SUPPLY INDICATOR (10) FROM BRACKET (2).
   a. Remove two screws (11) from power supply indicator (10) and bracket (2).

NOTE
Plugs P2 and P3 are replaced the same way. Plug P2 is on power supply indicator A2. Plug P3 is on power supply indicator A3.

PLUG P2 OR P3
REPLACE
101. REMOVE PLUG (1) FROM JACK (2) ON POWER SUPPLY INDICATOR (3).
   a. Turn power supply indicator (3) to reach plug (1).
   b. Evenly loosen two screws (4) on plug (1).
   c. Pull plug (1) from jack (2) on power supply indicator (3).

102. UNSOLDER 12 LEADS (5) FROM PLUG (1). TAG LEADS. See page 4-2.7. USE SOLDERING IRON, THERMAL KNIFE, AND SOLDERING TIP.

103. SOLDER 12 LEADS (5) ON PLUG (1). See page 4-2.7. USE SOLDERING IRON AND THERMAL WIRE STRIPPER.

104. INSTALL PLUG (1) ON JACK (2) ON POWER SUPPLY INDICATOR (3).
   a. Push plug (1) on jack (2) on power supply indicator (3).
   b. Evenly tighten two screws (4) on plug (1).
105. APPLY EPOXY ADHESIVE 4951 TO MATING SURFACE OF POWER SUPPLY INDICATOR (3).

106. INSTALL POWER SUPPLY INDICATOR (3) ON BRACKET (6).
   a. Position power supply indicator (3) on bracket (6) and install two screws (7).

107. DO STEPS 11, 24, AND 12 THRU 18.

108. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

TERMINAL LUG

REMOVE/INSTALL

109. DO STEPS 1 AND 2.

110. REPLACE CRACKED OR MISSING TERMINAL LUG. REPAIR LEAD. See TM 9-2350-252-20-2.

111. DO STEPS 16 THRU 18.

112. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
REPLACE POWER SUPPLY INDICATOR

DESCRIPTION

This task covers: Remove (page 6-139). Install (page 6-142).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Acid swabbing brush — 7920-00-514-2417
- Thermal knife — D5505
- Electric solder tip — 6130
- Thermal wire stripper — 45-130
- Common soldering kit — PRC-150A

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25

Equipment Conditions:
- Relay box on workbench

Materials/Parts:
- Oil varnish (Item 29, App B)
- Nonelectrical wire (Item 27, App B)
- Epoxy adhesive
- Power supply indicator assembly

NOTE
Both power supply indicators, A2 and A3, are replaced in the same way.

1. REMOVE COVER (1) FROM BOX (2).
   a. Remove 14 screws (3), washers (4), and cover (1) from box (2).
2. REMOVE GASKET (5) FROM BOX (2).
   DISCARD GASKET.

GO TO NEXT PAGE
3. REMOVE LOCK WIRE (1) FROM THREE JAM NUTS (2). DISCARD LOCK WIRE.

NOTE
Screws on bottom of box are taken out first in step 4. This allows mounting bracket inside box to be moved to allow removal of jacks J1, J2, and J3.

4. REMOVE EIGHT SCREWS (3) AND WASHERS (4) FROM BOTTOM OF BOX (5).
   a. Remove screw (3) and washer (4) from corner of bottom of box (5). Mark this screw for installation later.
   b. Remove seven other screws (3) and washers (4) from bottom of box (5).

5. REMOVE THREE JAM NUTS (6) FROM JACKS J1, J2, AND J3 (7) ON BOX (5).
NOTE
Mounting bracket should be lifted to allow removal of jacks J1, J2 and J3.

6. LIFT MOUNTING BRACKET (8) FROM BOX (5).

7. REMOVE THREE JACKS J1, J2, and J3 (7) FROM HOLES IN BOX (5).

8. UNSOLDER TWO LEADS (9) FROM TERMINALS (10) OF LIGHT ASSEMBLY DS1 (11). TAG LEADS. See TM 55-1500-323-25. USE SOLDERING KIT, THERMAL KNIFE, AND SOLDER TIP.

9. REMOVE CIRCUIT BREAKER CB2 (12) FROM BOX (5).
   a. Remove jam nut (13), lock washer (14), positioning plate (15), and tab washer (16) from circuit breaker CB2 (12).
   b. Push circuit breaker CB2 (12) into box (5).
10. REMOVE MOUNTING BRACKET (1) WITH COMPONENTS FROM BOX (2).

11. REMOVE POWER SUPPLY INDICATOR (3) FROM MOUNTING BRACKET (1).
   a. Remove two screws (4) and power supply indicator (3) from mounting bracket (1).

12. REMOVE PLUG (5) FROM JACK (6) ON POWER SUPPLY INDICATOR (3).
   a. Turn power supply indicator (3) to reach plug (5).
   b. Evenly loosen two screws (7) on plug (5).
   c. Pull plug (5) from jack (6) on power supply indicator (3).

13. INSTALL PLUG (5) ON JACK (6) ON NEW POWER SUPPLY INDICATOR (3).
   a. Push plug (5) on jack (6) on power supply indicator (3).
   b. Evenly tighten two screws (7) on plug (5).

CAUTION
Screws loosened unevenly may damage pins on plug. Loosen screws evenly.

CAUTION
Screws tightened unevenly may damage pins on plug. Tighten screws evenly.
14. APPLY EPOXY ADHESIVE TO MATING SURFACE OF POWER SUPPLY INDICATOR (3).

15. INSTALL POWER SUPPLY INDICATOR (3) ON MOUNTING BRACKET (1).
   a. Position power supply indicator (3) on mounting bracket (1).

16. INSTALL TWO SCREWS (4) IN MOUNTING BRACKET (1) AND POWER SUPPLY INDICATOR (3).

17. INSTALL THREE JACKS J1, J2, AND J3 (8) IN HOLES IN BOX (9).
   a. Place mounting bracket (1) with components in box (2), and insert three jacks (8) through holes in box (9).

GO TO NEXT PAGE
18. INSTALL EIGHT WASHERS (1, 2) AND SCREWS (3, 4) IN BOTTOM OF BOX (5).
   a. Install washer (1) and marked screw (from step 4a) (3) on corner of bottom of box (5).
   b. Install seven other washers (2) and screws (4) in box (5).

19. INSTALL CIRCUIT BREAKER CB2 (6) ON BOX (5).
   a. Insert circuit breaker CB2 (6) through hole in box (5).
   b. Install tab washer (7), positioning plate (8), lock washer (9), and jam nut (10) on circuit breaker CB2 (6).

20. SOLDER TWO LEADS (11) ON TERMINALS (12) OF LIGHT ASSEMBLY DS1 (13). See TM 55-1500-323-25. USE THERMAL WIRE STRIPPER AND SOLDERING KIT.
21. INSTALL JAM NUTS (14) ON JACKS J1, J2, AND J3 (15) ON BOX (5).

22. INSTALL NEW LOCK WIRE (16) BETWEEN THREE JAM NUTS (14).

23. APPLY THIN COAT OF OIL VARNISH TO NEW PARTS. USE ACID SWABBING BRUSH.

NOTE
Step 24 applies only if worn or damaged gasket was removed in step 2.

24. INSTALL GASKET (16) ON BOX (5).
   a. Apply thin coat of adhesive EC2141 on one side of gasket (16) and mating surface of box (5). Let dry 10-20 minutes until tacky.
   b. Press cemented side of gasket (16) on box (5).

GO TO NEXT PAGE
25. INSTALL COVER (1) ON BOX (2).
   a. Install cover (1), 14 washers (3), and screws (4) on box (2).

26. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
REPLACE RELAY BOX CIRCUIT CARD ASSEMBLY A1

DESCRIPTION

This task covers: Remove (page 6-147). Install (page 6-148).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Personnel Required:
- Tank Turret Repairs 45K10

Materials/Parts:
- Insulating compound (Item 20, App B)
- Circuit card assembly

Equipment Conditions:
- Relay box on workbench

REMOVE

1. REMOVE COVER (1) FROM BOX (2).
   a. Remove 14 screws (3), washers (4), and cover (1) from box (2).

2. REMOVE GASKET (5) FROM BOX (2). DISCARD GASKET.

NOTE
Step 2 should be done only if gasket is too worn or damaged for further use.

GO TO NEXT PAGE
3. REMOVE CIRCUIT CARD A1 (1) FROM MOUNTING BRACKET (2).
   a. Remove four screws (3) and washers (4) from circuit card A1 (1) and mounting bracket (2).
   b. Remove circuit card A1 (1) and four spacers (5) from mounting bracket (2).

   CAUTION
   Screws loosened unevenly may damage pins on jack on circuit card. Loosen screws evenly.

4. REMOVE PLUG P1 (6) FROM JACK (7) ON CIRCUIT CARD A1 (1).
   a. Loosen two screws (8) on plug P1 (6) evenly.
   b. Pull plug P1 (6) from jack (7) on circuit card A1 (1).

   CAUTION
   Screws tightened unevenly may damage pins on jack on circuit card. Tighten screws evenly.

5. INSTALL PLUG P1 (6) ON JACK (7) ON NEW CIRCUIT CARD A1 (1).
   b. Tighten two screws (8) on plug P1 (6) evenly.
6. INSTALL CIRCUIT CARD A1 (1) ON MOUNTING BRACKET (2).
   a. Position four spacers (5) and circuit card A1 (1) on mounting bracket (2).
   b. Install four washers (4) and screws (3) on circuit card A1 (1) and mounting bracket (2).

7. APPLY THIN COAT OF INSULATING COMPOUND TO CIRCUIT CARD A1 (1).

---

NOTE
Step 8 should be done only if gasket was removed in step 2.

8. INSTALL NEW GASKET (9) ON BOX (10).
   a. Apply thin coat of adhesive EC2141 to one side of gasket (9) and mating surface of box (10). Let adhesive dry 10-20 minutes until tacky.
   b. Press adhesive side of gasket (9) against box (10).

9. INSTALL COVER (11) ON BOX (10).
   a. Install cover (11), 14 washers (12), and screws (13) on box (10).

10. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
### Section VIII. MAINTENANCE OF CABLE

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REPAIR GUN WIRING HARNESS 2W10

INITIAL SETUP

Tools:  Turret mechanic's tool kit

References:  TM 9-2350-252-20-2

Personnel Required:  Tank Turret Repairer 45K10

Equipment Conditions:  Gun wiring harness 2W10 on workbench

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


GO TO NEXT PAGE
REPAIR WIRING HARNESS 2W6

INITIAL SETUP

Tools:
Turret mechanic's tool kit

Equipment Conditions:
Wiring harness 2W6 on workbench

Personnel Required:
Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

END OF TASK
REPAIR WIRING HARNESS 2W2

INITIAL SETUP

Tools:
Turret mechanic's tool kit

Equipment Conditions:
Wiring harness 2W2 on workbench

Personnel Required:
Tank Turret Repairer 45K10

REPAIR

1. HOOK-UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.

4. REPAIR PLUGS 2W1P1, 2W1P2, and 2W1P4. See task: REPAIR/REPLACE MULTI-PIN JACK/PLUG, FRONT and REAR RELEASE, page 4-2.7.


GO TO NEXT PAGE
END OF TASK
REPAIR WIRING HARNESS 2W1

INITIAL SETUP

Tools:
Turret mechanic's tool kit

References:
TM 9-2350-252-20-2

Personnel Required:
Tank Turret Repairer 45K10

Equipment Conditions:
Wiring harness 2W1 on workbench

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


REPAIR WIRING HARNESS 2W5

INITIAL SETUP

Tools:
Turret mechanic's tool kit

Equipment Conditions:
Wiring harness 2W5 on workbench

Personnel Required:
Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.

4. REPAIR PLUG 2W5P1, 2W5P2, 2W5P3, 2W5P4, and 2W5P5. See task: REPAIR/REPLACE MULTIPIN JACK/PLUG, FRONT AND REAR RELEASE, page 4-2.7.

5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

GO TO NEXT PAGE
REPAIR WIRING HARNESS 2W4

INITIAL SETUP

Tools:  
Turret mechanic's tool kit

Equipment Conditions:  
Wiring harness 2W4 on workbench

Personnel Required:  
Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.
REPAIR WIRING HARNESS 2W3

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Equipment Conditions:
- Wiring harness 2W3 on workbench

Personnel Required:
- Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

WIRING DIAGRAM

END OF TASK
REPAIR WIRING HARNESS 2W9

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 9-2350-252-20-2

Equipment Conditions:
- Wiring harness 2W9 on workbench

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


7. REPAIR LEADS 2W9E1, 2W9E2, 2W9E3, and 2W9E4. See TM 9-2350-252-20-2.

REPAIR WIRING HARNESS 2W17

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Equipment Conditions:
- Wiring harness 2W17 on workbench

Personnel Required:
- Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.
WIRING DIAGRAM

END OF TASK
REPAIR WIRING HARNESS 2W201

INITIAL SETUP

Tools: Turret mechanic's tool kit

Equipment Conditions: Wiring harness 2W201 on workbench

Personnel Required: Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.

4. REPAIR PLUGS 2W201P1, 2W201P2, AND JACK 2W201J1. See task: REPAIR/REPLACE MULTI-PIN JACK/PLUG, FRONT AND REAR RELEASE, page 4-2.7.

5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.
### Wiring List

#### Table 1: Wiring List

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END OF TASK

6-168.4
REPAIR WIRING HARNESS 2W202

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Equipment Conditions:
- Wiring harness 2W202 on workbench

Personnel Required:
- Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

GO TO NEXT PAGE
END OF TASK
REPAIR SWITCH WIRING HARNESS 2A39

INITIAL SETUP

Tools:  
- Turret mechanic's tool kit
- Multimeter, URM-105C — 6625-00-999-6282

Personnel Required:  
- Tank Turret Repairer 45K10

Equipment Conditions:
- Switch wiring harness 2A39 on workbench

REPAIR

1. TEST ALL PINS FOR CONTINUITY. NOTE WIRES THAT FAIL. USE MULTIMETER.


WIRING DIAGRAM

END OF TASK
REPAIR WIRING HARNESS 2W12

INITIAL SETUP

Tools:
Turret mechanic's tool kit

References:
TM 9-2350-252-20-2

Personnel Required:
Tank Turret Repairer 45K10

Equipment Conditions:
Wiring harness 2W12 on workbench

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


END OF TASK
REPAIR COMMANDER’S INTERCOM WIRING HARNESS 2A41

INITIAL SETUP

Tools:
Turret mechanic’s tool kit

Personnel Required:
Tank Turret Repairer 45K10

Equipment Conditions:
TOW resolver wiring harness on workbench

REPAIR


WIRING DIAGRAM

END OF TASK
REPAIR WIRING HARNESS 2W203

INITIAL SETUP

Tools:
Turret mechanic's tool kit

Equipment Conditions:
Wiring harness 2W203 on workbench

Personnel Required:
Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

GO TO NEXT PAGE
Section IX. MAINTENANCE OF TURRET POSITION INDICATOR

REPAIR TURRET POSITION INDICATOR 2A8/2A9

DESCRIPTION

This task covers:

Indicator light: Remove (page 6-177). Install (page 6-179).
Circuit card: Remove (page 6-182). Install (page 6-182).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Hand wire stripper — 5120-00-268-4224
- Electric soldering iron — 3439-00-853-8760
- Acid swabbing brush — 7920-00-514-2417

Materials/Parts:
- Insulating compound (Item 20, App B)
- Oil varnish (Item 29, App B)
- Lock washer (3)

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25

Equipment Conditions:
- Turret position indicator on workbench

NOTE

Turret position indicators 2A8 and 2A9 are repaired the same way.

Wiring diagram (FO-7) will help you identify leads and terminals for all steps.

INDICATOR LIGHT

REMOVE

NOTE

All indicator lights in turret position indicator are removed and installed the same way.

1. REMOVE PANEL (1) FROM PLATE (2).
   a. Remove four screws (3), washers (4), and panel (1) from plate (2).
2. REMOVE BRACKET (1) FROM BOX (2).
   a. Remove three nuts (3), lock washers (4), washers (5), and bracket (1) from box (2). Discard lock washers.

3. REMOVE BOX (2) FROM PLATE (6).
   a. Remove seven screws (7) and washers (8) from box (2).
   b. Pry box (2) away from plate (6) with flat-tip screwdriver (9).

4. REMOVE GASKET (10) FROM BOX (2).
   DISCARD GASKET.

5. REMOVE CIRCUIT CARD (11) FROM PLATE (6).
   a. Remove four screws (12), washers (13), circuit card (11), four washers (14), and spacers (15) from plate (6).

NOTE
Step 4 applies only if gasket is too worn or damaged for further use.
6. CUT TAPE (16) FROM 28 LEADS (17) OF 14 LIGHTS (18). DISCARD TAPE.


8. REMOVE BAD LIGHT (19) FROM PLATE (6).
   a. Remove jam nut (20) from light (19).
   b. Remove light (19) with preformed packing (21) from plate (6). Discard light and preformed packing.

9. INSTALL LIGHT (19) ON PLATE (6).
   a. Install preformed packing (21) on light (19).
   b. Insert light (19) with preformed packing (21) through plate (6), and install jam nut (20).

GO TO NEXT PAGE
10. SOLDER TWO LEADS (1) OF LIGHT ON CIRCUIT CARD (2). See TM 55-1500-323-25. USE WIRE STRIPPER AND ELECTRIC SOLDERING IRON.

11. APPLY THIN COAT OF INSULATING COMPOUND TO SOLDERED AREA ON BOTH SIDES OF CIRCUIT CARD (2).

12. WRAP SCOTCH ELECTRICAL TAPE (5) AROUND 28 LEADS (3) FROM 14 LIGHTS (4).

13. INSTALL CIRCUIT CARD (2) ON PLATE (6).
   a. Position four spacers (7) and washers (8) on plate (6).
   b. Position circuit card (2) on spacers (7) and washers (8), and install four washers (9) and screws (10).
14. APPLY THIN COAT OF OIL VARNISH TO INSIDE OF BOX AND ALL PARTS. USE ACID SWABBING BRUSH.

**NOTE**
Step 15 applies only if worn or damaged gasket was removed in step 4.

15. INSTALL GASKET (11) ON BOX (12).
   a. Apply thin coat of adhesive EC2141 to one side of gasket (11) and to mating surface of box (12). Let dry 10-20 minutes until tacky.
   b. With cemented side of gasket (11) toward box (12), slip gasket over plate (6) and press onto box (12).

16. INSTALL BOX (12) ON PLATE (6).
   a. Install box (12) on plate (6) with seven washers (13) and screws (14).

17. INSTALL BRACKET (15) ON BOX (12).
   a. Position bracket (15) on box (12), and install three washers (16), new lock washers (17) and nuts (18).

GO TO NEXT PAGE
18. INSTALL PANEL (1) ON PLATE (2).
   a. Position panel (1) on plate (2), and install four washers (3) and screws (4).

19. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

20. DO STEPS 2 THRU 6.

21. UNSOLDER 36 LEADS (5) FROM CIRCUIT CARD (6). TAG LEADS.
    See TM 55-1500-323-25. USE ELECTRIC SOLDERING IRON.

22. SOLDER 36 LEADS (5) ON CIRCUIT CARD (6). See TM 55-1500-323-25. USE WIRE STRIPPER AND ELECTRIC SOLDERING IRON.
23. APPLY THIN COAT OF INSULATING COMPOUND TO SOLDERED AREA ON BOTH SIDES OF CIRCUIT CARD (6).

24. TIE TOGETHER 28 LEADS (5) FROM 14 LIGHTS (7). USE SCOTCH ELECTRICAL TAPE (8).

25. INSTALL CIRCUIT CARD (6) ON PLATE (2).
   a. Position four spacers (9) and washers (10) on plate (2).
   b. Position circuit card (6) on four spacers (9) and washers (10), and install four washers (11) and screws (12).

26. DO STEPS 14 THRU 17.

27. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

GO TO NEXT PAGE
28. DO STEPS 2 THRU 4.

29. REMOVE JACK J1 (1) FROM BOX (2).
   a. Remove jam nut (3) from jack J1 (1), and push jack J1 through box (2).

30. UNSOLDER EIGHT LEADS (4) FROM JACK J1 (1). TAG LEADS. See page 4-2.1. USE ELECTRIC SOLDERING IRON.

31. SOLDER EIGHT LEADS (4) ON JACK J1 (1). See page 4-2.1. USE ELECTRIC SOLDERING IRON AND WIRE STRIPPER.

32. INSTALL JACK J1 (1) ON BOX (2).
   a. Insert jack J1 (1) through box (2) and install jam nut (3).

33. DO STEPS 14 THRU 17.

34. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
# CHAPTER 7

## MAINTENANCE OF 25MM GUN

### Section I. MAINTENANCE OF ROTOR

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REPLACE 25MM GUN ROTOR

DESCRIPTION

This task covers: Remove (page 7-3). Install (page 7-17).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Nylon sling, 25 ft — PD101-96
- Combination wrench, 7/8 inch by 15/16 inch — 5120-00-187-7131
- Copper hand hammer, 3 lb — 5120-00-902-0089
- Torque wrench, 3/4 drive, 0-600 ft-lb — 5120-00-221-7983
- Socket 3/4 inch drive, 15/16 inch — 5120-00-181-6813
- Wrecker truck M816 — 2320-00-051-0489
- 25 mm rotor alignment pin (2) (Item 2, App C)
- Set-up level — 12295582
- Level support — 12295583

Materials/Parts:
- Sealing Compound (Item 34, App B)
- Sealing Compound (Item 31, App B)
- Nonelectrical wire (Item 27, App B)
- Self-locking screw (8)
- Self-locking nut
- Cap screw and nut
- 25mm gun rotor
- Tank Turret Repairer 45K10
- Helper (H)

References:
- TM 9-2350-252-10-1
- TM 9-2350-252-10-2
- TM 9-2350-252-20-2

Equipment Conditions:
- Engine stopped (TM 9-2350-252-10-1)
- Turret shut down (TM 9-2350-252-10-2)

REMOVE

1. REMOVE INTEGRATED SIGHT UNIT. See TM 9-2350-252-20-2.
2. REMOVE 25MM GUN BARREL. See TM 9-2350-252-10-2.
5. REMOVE COAX MACHINE GUN. See TM 9-2350-252-10-2.
7. REMOVE COAX ROTOR SHIELD. See TM 9-2350-252-20-2.

GO TO NEXT PAGE
8. REMOVE SHIELD (1) FROM TURRET.
   a. Remove five screws (2), washers (3), and shield (1) from turret. Have helper assist.

9. UNLOCK ANTIROTATION MECHANISM (4).
   a. Pull up handle (5) to unlock position on antirotation mechanism (4) on mount (6).

NOTE
Mount must be removed at an angle so that antirotation mechanism clears 25mm rotor.

10. REMOVE MOUNT (6) FROM GUN ROTOR (7).
    a. Remove four screws (8) and mount (6) from rotor (7). Have helper assist.
11. REMOVE TOP AND BOTTOM SHIELDS (9, 10) FROM TURRET.
   a. Remove four screws (11), washers (12), and top shield (9) from turret.
   b. Remove four screws (13), washers (14), and bottom shield (10) from turret.

12. REMOVE RIGHT AND LEFT SHIELDS (15, 16) FROM TURRET.
   a. Remove five screws (17), washers (18), and left shield (15) from turret.
   b. Remove five screws (19), washers (20) and right shield (16) from turret.

NOTE
Number and type of shims should be noted for installation later. Elevate or depress rotor as needed. See TM 9-2350-252-10-2.

13. REMOVE TOP AND BOTTOM BUMPERS (21,22) FROM GUN ROTOR (7).
   a. Remove six screws (23) and washers (24) from top and bottom bumpers (21, 22).
   b. Remove top and bottom bumpers (21, 22) and two shims (25) from gun rotor (7).

14. REMOVE 7.62MM AMMO FLEX CHUTE.
    See TM 9-2350-2520-20-2.

GO TO NEXT PAGE
15. REMOVE CRADLE (1) FROM COAX ROTOR (2).
   a. Remove locknut (3), washer (4), and cradle (1) from mount (5) on coax rotor (2). Discard locknut.

16. REMOVE GUARD (6) FROM TURRET.
   a. Remove four screws (7), washers (8), and guard (6) from turret.

17. REMOVE FAN CABLE (9) FROM GUN ROTOR (10).
   a. Remove two screws (11) from two clamps (12, 13) on gun rotor (10).
   b. Spread open two clamps (12, 13), and remove fan cable (9) and cable 2W12 (14) from gun rotor (10).
18. REMOVE FAN CABLE (9) FROM CABLE 2W12 (14).
   a. Remove jack 2A10-(15) on fan cable (9) from plug 2W12P1-(16).
   b. Remove plug 2A10 + (17) on fan cable (9) from jack 2W12P2 + (18).

19. REMOVE FAN (19) FROM RIGHT JOURNAL (20).
   a. Remove five screws (21) and fan (19) from right journal (20).

20. REMOVE JACK 2W12J4 (22) FROM COAX ROTOR (2).
   a. Remove lock wire from jack 2W12J4 (22). Discard lock wire.
   b. Remove nut (23) and jack 2W12J4 (22) from bracket (24) on coax rotor (2).
21. REMOVE CABLE 2W12 (1) FROM COAX ROTOR (2).
   a. Remove two screws (3) and cable 2W12 (1) from two clamps (4) on coax rotor (2).

22. REMOVE PLUG 2W10P3 (5) FROM JACK 2W12J1 (6).

23. REMOVE CABLE 2W12 (1) FROM TURRET.
   a. Remove nut (7) and jack 2W12J1 (6) from bracket (8) on gun rotor (9).
   b. Remove cable 2W12 (1) from turret.

24. REMOVE BRACKET (8) FROM GUN ROTOR (9).
   a. Remove two screws (10) and bracket (8) from gun rotor (9).


27. REMOVE AMMO CHUTE GUARD (11) FROM TURRET.
   a. Remove screw (12) from clamp (13) on turret.
   b. Remove three screws (14), washers (15), and ammo chute guard (11) from turret.

NOTE
Gun rotor may have to be moved in order to remove screws from resolver.

28. REMOVE RESOLVER (15) FROM LEFT BEARING RETAINER (16).
   a. Remove two screws (17) and resolver (15) from pin (18) on left bearing retainer (16).

GO TO NEXT PAGE
29. REMOVE CAM (1) AND SPACER (2) FROM LEFT BEARING RETAINER (3).
   a. Remove two screws (4), washers (5), cam (1), and spacer (2) from left bearing retainer (3).

30. REMOVE PLUG 2W303P4 (6) FROM JACK 2A208J1 (7).

31. REMOVE CABLE 2W303 (8) AND CABLE 2W10 (9) FROM GUN ROTOR (10).
   a. Remove four screws and (11) clamps (12) from cable 2W303 (8).
   b. Remove four screws (11) and clamps (12) from cable 2W303 (8) and cable 2W10 (9).
   c. Remove screw (13), washer (14), and ground cable 2W10-139 (15) from gun rotor (10).
   d. Push cable 2W303 (8) and cable 2W10 (9) through 25mm cover (16) into turret.
CAUTION
Gyro block can be damaged easily. Use care when removing gyro block from gun rotor.

32. REMOVE GYRO BLOCK (17) FROM GUN ROTOR (10).
   a. Remove four screws (18) and cover (19) from gyro block (17).
   b. Remove four screws (20), gyro block (17), and mounting plate (21) from gun rotor (10).

33. REMOVE CHUTE COVER (22) FROM GUN ROTOR (10).
   a. Remove eight screws (23), washers (24), two retainers (25), and chute cover (22) from gun rotor (10).

GO TO NEXT PAGE
34. REMOVE 25MM COVER (1) FROM GUN ROTOR (2).
   a. Remove 19 screws (3), washers (4), 5 retainers (5), and 25mm cover (1) from gun rotor (2).

35. REMOVE AP SEAL (6) FROM RIGHT JOURNAL (7).
   a. Remove four screws (8), AP retainer (9), and AP seal (6) from right journal (7).

36. REMOVE HE SEAL (10) FROM RIGHT JOURNAL (7).
   a. Remove four screws (11), HE retainer (12), and HE seal (10) from right journal (7).
37. ELEVATE ROTOR MANUALLY UNTIL FULLY ELEVATED. See TM 9-2350-252-10-2.

38. JOIN SLING (13) TO COAX ROTOR (14).

NOTE
There are five long screws securing coax rotor. There are three short screws servicing journal shield.

39. REMOVE COAX ROTOR (14) FROM TURRET.
   a. (H) Remove five screws (15) from coax rotor (14).
   b. Lift coax rotor (14) until front is clear of turret. Turn coax rotor to right until boresight control (16) will clear turret. Lift coax rotor from turret. Have helper assist. Use wrecker.
   c. Place coax rotor (14) on workbench with boresight control (16) up. Have helper assist. Use wrecker.

40. REMOVE SLING (13) FROM COAX ROTOR (14).

41. MANUALLY TRAVERSE TURRET TO 2900 MILS. See TM 9-2350-252-10-2.

42. MANUALLY DEPRESS 25MM ROTOR UNTIL FULLY DEPRESSED. See TM 9-2350-252-10-2.

43. LOCK COMPRESSED SPRING IN EQUILIBRATOR (17).
   a. (H) Install capscrew (18) and nut (19) in equilibrator (17).

44. REMOVE EQUILIBRATOR CABLE GUARD (20) FROM TURRET.
   a. Remove three screws (21), washers (22), and equilibrator cable guard (20) from turret.

GO TO NEXT PAGE
45. ELEVATE 25MM ROTOR MANUALLY TO 500 MILS. See TM 9-2350-252-10-2.

46. REMOVE WIRE ROPE (1) FROM PLATE (2).

47. MANUALLY DEPRESS 25MM ROTOR UNTIL FULLY DEPRESSED. See TM 9-2350-252-10-2.

48. MANUALLY TRAVERSE TURRET TO 3500 MILS. See TM 9-2350-252-10-2.

WARNING
25mm gun rotor could swing down and injure you. Fully depress 25mm gun rotor against mechanical stop before you disengage pinion gear.

49. DISENGAGE PINION GEAR (3) FROM SPUR GEAR (4).
   a. (H) Loosen nut (5) on drive unit (6) until pinion gear (3) is disengaged from spur gear (4). Use combination wrench.
50. REMOVE SPUR GEAR (4) FROM GUN ROTOR (7).
   a. Remove six screws (8), washers (9), and spur gear (4) from gun rotor (7).

51. ATTACH SLING (10) TO GUN ROTOR (7). TAKE UP SLACK IN SLING. USE WRECKER.

52. REMOVE BEARING RETAINER (11) FROM RIGHT JOURNAL (12).
   a. Remove eight screws (13) and bearing retainer (11) from right journal (12).

53. REMOVE JOURNAL SHIELD (14) FROM RIGHT JOURNAL (12).
   a. Remove three screws (15) and journal shield (14) from right journal (12).

GO TO NEXT PAGE
NOTE
Journal and bearing should be marked for proper alinement in later installation.

54. REMOVE BEARING RETAINER (1) FROM LEFT JOURNAL (2).
   a. Mark a line across bearing retainer (1) and left journal (2).
   b. Remove eight lock screws (3) and bearing retainer (1) from left journal (2). Discard five lock screws and save three to free gun rotor from right and left journals.

55. FREE GUN ROTOR (4) FROM RIGHT JOURNAL (5).
   a. Install three lock screws (3) in jack screw holes (6).
   b. Tighten three lock screws (3) two turns in triangular pattern until gun rotor (4) is free from right journal (5). Remove lock screws from right journal. Discard two lock screws.

56. FREE GUN ROTOR (4) FROM LEFT JOURNAL (2).
   a. Install lock screw (3) in jack screw hole (7).
   b. Tighten lock screw (3) until gun rotor (4) is free from left journal (2). Remove screw (3) from left journal. Discard lock screw.

57. REMOVE GUN ROTOR (4) FROM TURRET.
   a. Lift and remove gun rotor (4) from turret. Have helper guide gun rotor. Use wrecker.
   b. Place gun rotor (4) on workbench. Have helper guide gun rotor.

58. REMOVE SLING (8) FROM GUN ROTOR (4).
59. REMOVE RIGHT JOURNAL (5) WITH BEARING (9) FROM TURRET. USE HAMMER.

60. REMOVE LEFT JOURNAL (2) WITH BEARING (10) FROM TURRET. USE HAMMER.

NOTE
When installing journal, make sure hammer strikes surfaces of journal and bearing.

61. INSTALL LEFT JOURNAL (2) WITH BEARING (10) IN TURRET. USE HAMMER.

62. INSTALL RIGHT JOURNAL (5) WITH BEARING (9) IN TURRET UNTIL JOURNAL IS FLUSH WITH TRUNNION (11). USE HAMMER.

GO TO NEXT PAGE
63. JOIN SLING (1) TO NEW GUN ROTOR (2).

64. INSTALL GUN ROTOR (2) IN TURRET USE WRECKER.
   a. Lift and position gun rotor (2) in turret. Have helper guide gun rotor.
   b. Aline cutaway (3) in gun rotor (2) with cutaway (4) in right journal (5).
   c. Aline screw holes in right journal (5) and gun rotor with two alinement pins (6). Insert alinement pins opposite each other in right journal and gun rotor.
   d. Aline screw holes in left journal (7) and gun rotor (2) with two alinement pins (8). Insert alinement pins opposite each other in left journal and gun rotor.

65. INSTALL BEARING RETAINER (9) ON LEFT JOURNAL (7).
   a. Place bearing retainer (9) on left journal (7) with resolver pin (10) aligned with resolver.
   b. Aline left journal (7) with bearing retainer (9) using marks made in step 54. Install eight new lock screws (11) in bearing retainer (7) finger tight. Remove two alinement pins from step 64.

66. REMOVE SLING (1) FROM GUN ROTOR (2).
67. INSTALL SPACER (12) AND CAM (13) ON LEFT BEARING RETAINER (14).
   a. Apply sealing compound (Item 34) to threads of two screws (15).
   b. Apply sealing compound (Item 31) to threads of two screws (15).
   c. Install spacer (12), cam (13), two washers (16), and screws (15) on left bearing retainer (14).
   d. TORQUE TWO SCREWS (15) TO 300-324 IN-LB (346-373 CMKG).

68. INSTALL JOURNAL SHIELD (17) ON RIGHT JOURNAL (5).
   a. Apply sealing compound (Item 34) to threads of three screws (18).
   b. Apply sealing compound (Item 31) to threads of three screws (18).

69. INSTALL BEARING RETAINER (19) ON RIGHT JOURNAL (5).
   a. Apply sealing compound (Item 34) to threads of eight screws (20).
   b. Apply sealing compound (Item 31) to threads of eight screws (20).
   c. Install bearing retainer (19) on right journal (5) with eight screws (20). Remove two alignment pins (6) from right journal (5).
   d. TORQUE EIGHT SCREWS (18) TO 300-324 IN-LB (346-373 CMKG).
70. ATTACH SLING (1) TO COAX ROTOR (2).

71. INSTALL COAX ROTOR (2) IN TURRET.
   b. (H) Aline coax rotor (2) with gun rotor (3) screw holes. Place two alignment pins (4) in end screw holes of coax rotor.
   c. (H) Apply sealing compound (Item 34) to threads of five screws (5).
   d. (H) Apply sealing compound (Item 31) to threads of five screws (5).
   e. (H) Install five screws (5) on coax rotor (1). Remove alignment pins (4) as necessary. Tighten screws finger tight.

72. REMOVE SLING (1) FROM COAX ROTOR (2).

73. TORQUE FIVE SCREWS (5) ON COAX ROTOR (2) TO 300-324 IN-LB (346-373 CMKG).
74. INSTALL EQUILIBRATOR CABLE GUARD (6) ON TURRET.
   a. Apply sealing compound (Item 34) to threads of three screws (7).
   b. Apply sealing compound (Item 31) to threads of three screws (7).
   c. Install equilibrator cable guard (6) on turret with three washers (8) and screws (7).
   d. TORQUE THREE SCREWS (7) TO 73-79 IN-LB (84-91 CMKG). USE TORQUE WRENCH.

75. TORQUE SEVEN SCREWS (9) ON LEFT BEARING RETAINER (10) TO 300-324 IN-LB (346-373 CMKG).

76. INSTALL SPUR GEAR (11) ON GUN ROTOR (37).
   a. Apply sealing compound (Item 34) to threads of six screws (12).
   b. Apply sealing compound (Item 31) to threads of six screws (12).
   c. Install spur gear (11) on gun rotor (3) with six washers (13) and screws (12).
   d. TORQUE SIX SCREWS (12) TO 432-456 IN-LB (498-525 CMKG).
77. ENGAGE PINION GEAR (1) ON SPUR GEAR (2).
   a. (H) Tighten nut (3) on drive unit (4) until gap between washers (5) is .042-.045 inch (1.1-1.2mm) on both sides. Use combination wrench.


79. INSTALL WIRE ROPE (6) ON PLATE (7).

80. MANUALLY DEPRESS 25MM GUN ROTOR UNTIL FULLY DEPRESSED. See TM 9-2350-252-10-2.

81. UNLOAD SPRING IN EQUILIBRATOR (8).
   a. (H) Remove nut (9) and cap screw (10) from equilibrator (8).
82. CHECK FOR PROPER OPERATION OF COAX ROTOR AND 25MM GUN ROTOR. See TM 9-2350-252-10-2.
   a. Fully elevate and depress coax and 25mm gun rotors. Check rotors for binding and resistance.
   b. If rotors do not operate properly, repeat steps 37 thru 57 and 64 thru 82.

83. TRAVERSE TURRET TO 6400 MILS. See TM 9-2350-252-10-2.

84. INSTALL TOP AND BOTTOM BUMPERS (11, 12) ON GUN ROTOR (13).
   a. Apply sealing compound (Item 34) to threads on six screws (14).
   b. Apply sealing compound (Item 31) to threads on six screws (14).
   c. Install two shims (15) and top and bottom bumpers (11, 12) on gun rotor (13) with six washers (16) and screws (14).

85. INSTALL LEFT AND RIGHT SHIELDS (17, 18) ON TURRET.
   a. Apply sealing compound (Item 34) to threads of 10 screws (19, 20).
   b. Apply sealing compound (Item 31) to threads of 10 screws (19, 20).
   c. Install left shield (17), five washers (21), and screws (19) on turret.
   d. Install right shield (18), five washers (22), and screws (20) on turret.

86. TORQUE 10 SCREWS (19, 20) ON RIGHT AND LEFT SHIELDS (17, 18) TO 300-324 IN-LB (346-373 CMKG).
87. INSTALL BOTTOM AND TOP SHIELDS (1, 2) ON TURRET.
   a. Apply sealing compound (Item 34) to threads of eight screws (3, 4).
   b. Apply sealing compound (Item 31) to threads of eight screws (3, 4).
   c. Install bottom shield (1) on turret with four washers (5) and screws (3).
   d. Install top shield (2) on turret with four washers (6) and screws (4).

88. INSTALL MOUNT (7) ON GUN ROTOR (8).
   a. Apply sealing compound (Item 34) to threads of four screws (9).
   b. Apply sealing compound (Item 31) to threads of four screws (9).
   c. Install mount (7) on gun rotor (8) with four screws (9). Have helper assist.
   d. TORQUE FOUR SCREWS (9) TO 171-189 FT-LB (24-26 MKG). USE TORQUE WRENCH.
89. ADJUST LEVEL (10).
   a. Loosen thumbscrew (11) on level (10) below 0° level (12).
   b. Position level (10) on turret mounting surface (13) of ISU.
   c. Rotate knob (14) on level (10) until 0° level (12) bubble centers.
   d. Tighten thumbscrew (11) below 0° level (12).

90. INSTALL SUPPORT (15) IN END OF GUN MOUNT (7).
   a. Install support (15) in end of gun mount (7).
   b. Tighten three thumbscrews (16) on support (15).

91. INSTALL LEVEL (10) ON SUPPORT (15).
   a. Position magnetic surface of level (10) on support (15) as shown.

92. ELEVATE OR DEPRESS 25MM GUN ROTOR MANUALLY AS NEEDED TO CENTER BUBBLE IN 0° LEVEL (12). See TM 9-2350-252-10-2.
93. MARK 0 MILS REFERENCE POINT (1) ON GUN ROTOR (2).
   a. Mark 0 mils reference point (1) on gun rotor (2) within + 1.75 mils of pointer (3) on equilibrator cable guard (4).

94. REMOVE LEVEL (5) AND SUPPORT (6) FROM GUN MOUNT (7).
   a. Remove level (5) from support (6).
   b. Loosen three thumbscrews (8), and remove support (6) from gun mount (7).

95. ADJUST GUN ELEVATION DRIVE VARIABLE RESISTOR. See task: REPLACE GUN ELEVATION DRIVE VARIABLE RESISTOR, page 5.83.

96. INSTALL HE SEAL (9) ON RIGHT JOURNAL (10).
   a. Apply sealing compound (Item 34) to threads of four screws (11).
   b. Apply sealing compound (Item 31) to threads of four screws (11).
   c. Install HE seal (9), HE retainer (12), and four screws (11) on right journal (10).

97. INSTALL AP SEAL (13) ON RIGHT JOURNAL (10).
   a. Apply sealing compound (Item 34) to threads of four screws (14).
   b. Apply sealing compound (Item 31) to threads of four screws (14).
   c. Install AP seal (13), AP retainer (15), and four screws (14) on right journal (10).
98. INSTALL 25MM COVER (16) ON GUN ROTOR (2).

a. Apply sealing compound (Item 34) to threads of 19 screws (17).

b. Apply sealing compound (Item 31) to threads of 19 screws (17).

c. Install 25mm cover (16) and left and right side retainers (18) on rotor (2) with nine washers (19) and screws (17). Tighten screws finger tight.

d. Install top, bottom, and small retainers (20, 21, 22) on gun rotor (2) with ten washers (19) and screws (17). Tighten screws finger tight.

GO TO NEXT PAGE
99. TIGHTEN AND TORQUE 19 SCREWS (1) ON 25MM COVER (2) TO 73-79 IN-LB (84-91 CMKG).

100. INSTALL CHUTE COVER (3) ON GUN ROTOR (4).
   a. Apply sealing compound (Item 34) to threads of eight screws (5).
   b. Apply sealing compound (Item 31) to threads of eight screws (5).
   c. Install two retainers (6), eight washers (7), and screws (5) on gun rotor (4).
   d. TORQUE EIGHT SCREWS (5) TO 73-79 IN-LB (84-91 CMKG).

CAUTION
Gyro block can be damaged easily. Use care when installing gyro block.

101. INSTALL GYRO BLOCK (8) ON GUN ROTOR (4).
   a. Apply sealing compound (Item 34) to threads on four screws (9).
   b. Apply sealing compound (Item 31) to threads on four screws (9).
   c. Install mounting plate (10) and gyro block (8) on gun rotor (4) with four screws (9).
   d. TORQUE FOUR SCREWS (9) TO 73-79 IN-LB (84-91 CMKG).
   e. Install cover (11) on gyro block (8) with four screws (12).
102. INSTALL CABLE 2W10 (13) ON GUN ROTOR (4).
   a. Insert cable 2W10 (13) and cable 2W303 (14) through 25mm cover (15).
   b. Apply sealing compound (Item 34) to threads on screw (16).
   c. Apply sealing compound (Item 31) to threads on screw (16).
   d. Install clamp (17) with cable 2W10 (13) on gun rotor (4) with screw (16).

103. INSTALL GROUND CABLE 2W10-139 (18) ON GUN ROTOR (4).
   a. Apply sealing compound (Item 34) to threads of screw (19).
   b. Apply sealing compound (Item 31) to threads of screw (19).
   c. Install ground cable 2W10-139 (18) on gun rotor (4) with washer 20 and screw (19).

104. INSTALL PLUG 2W303P4 (21) ON JACK 2A208J1 (22).
105. INSTALL CABLE 2W303 (1) ON GUN ROTOR (2).
   a. Apply sealing compound (Item 34) to threads on eight screws (3).
   b. Apply sealing compound (Item 31) to threads on eight screws (3).
   c. Install four clamps (4) with cable 2W10 (5) and cable 2W303 (1) on gun rotor (2) with four screws (3).
   d. Install four clamps (4) with cable 2W303 (1) on gun rotor (2) with four screws (3).

106. INSTALL RESOLVER (6) ON LEFT BEARING RETAINER (7).
   a. Apply sealing compound (Item 34) to threads of two screws (8).
   b. Apply sealing compound (Item 31) to threads of two screws (8).
   c. Install resolver (9) on pin (10) on left bearing retainer (11) with two screws (8).
   d. TORQUE TWO SCREWS (8) TO 300-324 IN-LB (300-324 CMKG).

108. INSTALL AMMO CHUTE GUARD (12) ON TURRET.
   a. Apply sealing compound (Item 34) to threads of three screws (13).
   b. Apply sealing compound (Item 31) to threads of three screws (13).
   c. Install ammo chute guard (12) on turret with three washers (14) and screws (13).
   d. Install screw (15) in clamp (16) on turret.


111. INSTALL BRACKET (17) ON GUN ROTOR (18).
   a. Apply sealing compound (Item 34) to threads of two screws (19).
   b. Apply sealing compound (Item 31) to threads of two screws (19).
   c. Install bracket (17) on gun rotor (18) with two screws (19).
   d. TORQUE TWO SCREWS (19) TO 73-79 IN-LB (84-91 CMKG).

GO TO NEXT PAGE
112. INSTALL JACK 2W12J1 (1) ON GUN ROTOR (2).
   a. Install jack 2W12J1 (1) on bracket (3) on gun rotor (2) with nut (4).
   b. Insert other end of cable 2W12 (5) through right journal (6).

113. INSTALL PLUG 2W10P3 (7) ON JACK 2W12J1 (1).

114. INSTALL CABLE 2W12 (5) ON COAX ROTOR (8).
   a. Apply sealing compound (Item 34) to threads of two screws (9).
   b. Apply sealind compound (Item 31) to threads of two screws (9).
   c. Install two clamps (10) with cable 2W12 (5) on coax rotor (8) with two screws (9).

115. INSTALL JACK 2W12J4 (11) ON COAX ROTOR (8).
   a. Install jack 2W12J4 (11) and nut (12) on bracket (13) on coax rotor (8).
   b. Install new lock wire on jack 2W12J4 (11).
116. INSTALL FAN (14) ON RIGHT JOURNAL (6).
   a. Apply sealing compound (Item 34) to threads of five screws (15).
   b. Apply sealing compound (Item 31) to threads of five screws (15).
   c. Push fan cable (16) through right journal (6) into gun rotor (2). Install fan (14) on right journal with five screws (15).
   d. TORQUE FIVE SCREWS (15) TO 300-324 IN-LB (346-373 CMKG).

117. INSTALL FAN CABLE (16) ON CABLE 2W12 (5).
   a. Install jack 2A10-(17) of fan cable (16) on plug 2W12P2-(18).
   b. Install jack 2A10 + (19) of fan cable (16) on plug 2W12P1 + (20).

118. INSTALL FAN CABLE (16) ON GUN ROTOR (2).
   a. Apply sealing compound (Item 34) to threads of two screws (21).
   b. Apply sealing compound (Item 31) to threads of two screws (21).
   c. Install two clamps (22, 23) on cable 2W12 (5) and fan cable (16).
   d. Install two clamps (22, 23) on gun rotor (2) with two screws (21).
119. INSTALL GUARD (1) ON TURRET.
   a. Apply sealing compound (Item 34) to threads of four screws (2).
   b. Apply sealing compound (Item 31) to threads of four screws (2).
   c. Install guard (1) on turret with four washers (3) and screws (2).
   d. TORQUE FOUR SCREWS (2) TO 264-288 IN-LB (304-332 CMKG).

120. INSTALL CRADLE (4) ON COAX ROTOR (5).
   a. Install cradle (4) on mount (6) on coax rotor (5) with washer (7) and new locknut (8).
   b. TORQUE LOCKNUT (8) TO 171-189 FT-LB (24-26 MKG). USE TORQUE WRENCH AND SOCKET.

121. INSTALL 7.62MM AMMO FLEX CHUTE.
    See TM 9-2350-252-20-2.
122. INSTALL SHIELD (9) ON TURRET.
   a. Apply sealing compound (Item 34) to threads of five screws (10).
   b. Apply sealing compound (Item 31) to threads of five screws (10).
   c. Install shield (9) on turret with five washers (11) and screws (10). Have helper assist.
   d. TORQUE FIVE SCREWS (10) TO 300-324 IN-LB (346-373 CMKG).

123. INSTALL COAX ROTOR SHIELD. See TM 9-2350-252-20-2.

124. INSTALL SECONDARY FOLDING SIGHT ASSEMBLY. See TM 9-2350-252-10-2.

125. INSTALL COAX MACHINE GUN. See TM 9-2350-252-10-2.


129. INSTALL INTEGRATED SIGHT UNIT. See TM 9-2350-252-20-2.

130. BORESIGHT 25MM GUN. See TM 9-2350-252-10-2.

131. BORESIGHT COAX MACHINE GUN. See TM 9-2350-252-10-2.

END OF TASK
REPAIR 25MM GUN ROTOR JOURNAL AND BEARING ASSEMBLY

INITIAL SETUP

Tools:

- Hand operated arbor press — 3444-00-449-7295

Equipment Conditions:

- 25mm gun rotor journal with ball bearing on workbench

Personnel Required:

- Track Veh Rep 63H10

REPAIR

NOTE
Left and right journals and bearings are repaired the same way.

1. REMOVE BEARING (1) FROM JOURNAL (2).
   a. Place journal (2) and bearing (1) on arbor press.
   b. Press bearing (1) from journal (2).
   c. Remove bearing (1) and journal (2) from arbor press.

2. INSTALL BEARING (1) ON JOURNAL (2).
   a. Position bearing (1) on journal (2).
   b. Place journal (2) with bearing (1) on arbor press, with bearing below journal.
   c. Press bearing (1) onto journal (2).
   d. Remove journal (2) with bearing (1) from arbor press.

END OF TASK
Section II. MAINTENANCE OF GUN RESOLVER

REPAIR GUN RESOLVER ELECTRICAL JACK 2A33

INITIAL SETUP

Tools:
Turret mechanic’s tool kit

Equipment Conditions:
Gun resolver wiring harness on workbench

Personnel Required:
Tank Turret Repairer 45K10

REPAIR

NOTE
Only jack J1 on gun resolver wiring harness can be repaired.


WIRING DIAGRAM

END OF TASK
**INITIAL SETUP**

**Tools:**
- Turret mechanic’s tool kit
- External relieved body screw — 12294540

**Personnel Required:**
- Tank Turret Repairer 45K10

**Materials/Parts:**
- Nonelectrical wire (Item 27, App B)
- Primer, grade N (Item 34, App B)
- Sealant, grade A (Item 31, App B)
- Spring pin
- Cotter pin

**Equipment Conditions:**
- Equilibrator on workbench

**REPAIR**

1. **INSTALL EQUILIBRATOR HOUSING (1) IN VISE.**

**NOTE**
Capscrew and nut are not installed after removal in this task. They should be kept with equilibrator for installation in vehicle later.

2. **UNLOAD SPRING IN HOUSING (1).**
   a. Thread body screw (2) in cap (3) until capscrew (4) is loose in housing (1).
   b. Remove nut (5) and capscrew (4) from housing (1).
   c. Remove body screw (2) from cap (3).

**GO TO NEXT PAGE**
3. REMOVE PULLEY (1) FROM HOUSING (2).
   a. Remove cotterpin (3), washer (4), pin (5), and pulley (1) from housing (2). Discard cotterpin.

4. REMOVE CAP (6) FROM HOUSING (2).
   a. Remove springpin (7) from cap (6). Discard spring pin.
   b. Remove cap (6) from housing (2).

5. REMOVE HOUSING (2) FROM VISE.

6. REMOVE RETAINER (8) WITH WIRE ROPE (9), AND SPRING (10), FROM HOUSING (2).
   a. Tilt housing (2) down until retainer (8) with wire rope (9) and spring (10) slide out of housing.

7. REMOVE SPRING (10) FROM RETAINER (8).

8. INSTALL RETAINER (8), WITH WIRE ROPE (9), IN VISE.
9. REMOVE WIRE ROPE (9) FROM RETAINER (8).
   a. Remove lock wire from nut (11) on wire rope (9). Discard lock wire.
   b. Loosen nut (11) and remove wire rope (9) from insert (12) on retainer (8).

10. REMOVE INSERT (12) FROM RETAINER (8).

11. REMOVE RETAINER (8) FROM VISE.

12. MEASURE FREE LENGTH OF SPRING.
   a. If free length of spring is not 33-35 inches (84-89 cm), replace spring.

13. INSTALL RETAINER (8) IN VISE.

14. INSTALL INSERT (12) IN RETAINER (8).
   a. Apply primer to threads on insert (12).
   b. Apply sealant to threads on insert (12).
   c. Install insert (12) in retainer (8).

GO TO NEXT PAGE
15. INSTALL WIRE ROPE (1) ON RETAINER (2).
   a. Apply primer to threads on wire rope (1).
   b. Apply sealant to threads on wire rope (1).
   c. Install wire rope (1) in insert (3) on retainer (2).

16. MEASURE LENGTH OF WIRE ROPE (1).
   a. Measure length of wire rope (1) from spring seat on retainer (2) to ball (4).
   b. If wire rope length is 49 inches (124 cm), go to step 17b below.
   c. If wire rope length is not 49 inches (124 cm), go to step 17a below.

17. ADJUST LENGTH OF WIRE ROPE (1).
   a. Turn terminal (5) until length of wire rope (1) is 49 inches (124 cm).
   b. Tighten nut (6) against insert (3).
   c. Install new lock wire on nut (6).
18. REMOVE RETAINER (2) WITH WIRE ROPE (1) FROM VISE.

19. INSTALL SPRING (7) AND WIRE ROPE (1) WITH RETAINER (2), IN HOUSING (8).
   a. Insert spring (7) in housing (8).
   b. Place housing (8) with spring (7) on ground with pulley end down.
   c. Thread wire rope (1) through spring (7) and housing (8).
   d. Pull wire rope (1) from pulley end of housing (8) until retainer (2) is seated on spring (7).

20. INSTALL HOUSING (8) IN VISE.

21. INSTALL CAP (9) ON HOUSING (8).
   a. Screw cap (9) on housing (8) until last threads (10) on housing are barely visible through hole (11) in cap (9).
   b. Install new spring pin (12) in cap (9).

22. INSTALL PULLEY (13) ON HOUSING (8).
   a. Install pulley (13), pin (14), washer (15), and new cotter pin (16) on housing (8).

23. REMOVE HOUSING (8) FROM VISE.

   NOTE
   Capscrew and nut should be kept with equilibrator for installation in vehicle later. The spring in equilibrator is loaded at that time.

END OF TASK
## TASK INDEX

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REPLACE 25MM AMMO CAN ROLLER

DESCRIPTION

This task covers: Remove (page 7-47). Install (page 7-48).

INITIAL SETUP

Tools:
- Turret mechanic’s tool kit

Materials/Parts:
- Ammunition roller
- Cotter pin

Equipment Conditions:
- Engine stopped (TM 9-2350-252-10-1)
- Turret shut down (TM 9-2350-252-10-2)

Personnel Required:
- Tank Turret Repairer 45K10

REMOVE

1. REMOVE 25MM AMMO CAN. See task: REPLACE 25MM AMMO CAN, page 7-49.

2. REMOVE COTTER PIN (1) AND WASHER (2) FROM STRAIGHT PIN (3). DISCARD COTTER PIN.

3. REMOVE STRAIGHT PIN (3) FROM AMMO CAN (4) AND ROLLER (5).

GO TO NEXT PAGE
4. REMOVE ROLLER (1) FROM AMMO CAN (2).

5. POSITION NEW ROLLER (1) IN AMMO CAN (2).

6. INSERT STRAIGHT PIN (3) THROUGH AMMO CAN (2) AND ROLLER (1).

7. INSTALL WASHER (4) AND NEW COTTER PIN (5) ON STRAIGHT PIN (3).

8. CHECK THAT ROLLER MOVES FREELY.


END OF TASK
REPLACE 25MM AMMO CAN

DESCRIPTION

This task covers: Remove (page 7-49). Install (page 7-55).

INITIAL SETUP

Tools:
- Turret mechanic’s tool kit

Materials/Parts:
- Primer, grade N (Item 34, App B)
- Sealant, grade A (Item 31, App B)
- Lock washer (2)
- Self-locking nut (2)
- Ammunition box magazine

Personnel Required:
- Tank Turret Repairer 45K10
- Helper (H)

References:
- TM 9-2350-252-10-1
- TM 9-2350-252-10-2
- TM 9-2350-252-20-2

Equipment Conditions:
- Engine stopped (TM 9-2350-252-10-1)
- Turret shut down (TM 9-2350-252-10-2)

REMOVE


2. REMOVE CHUTE (1) FROM AP AMMO CAN EXIT (2) AND PUSH CHUTE CLEAR OF AMMO CAN.
   a. Unlatch two latches (3) and pull chute (1) up and out of AP ammo can exit (2).
   b. Push chute (3) up and clear of ammo can.

3. REMOVE CHUTE (4) FROM HE AMMO CAN EXIT (5) AND PUSH CHUTE CLEAR OF AMMO CAN.
   a. Unlatch two latches (6) and pull chute (4) up and out of HE ammo can exit (5).
   b. Push chute (4) up and clear of ammo can.

GO TO NEXT PAGE
NOTE
Two doors in step 4 are removed the same way.

4. REMOVE TWO DOORS (1) FROM AMMO CAN (2).
   a. Turn handle (3), lift door (1), and remove from ammo can (2).

5. REMOVE AP DOOR (4) FROM AMMO CAN (2).
   a. Turn handle (5) left.
   b. Lift AP door (4) from ammo can (2).


8. REMOVE AMMO_SELECTOR SWITCH BOX ASSEMBLIES. See TM 9-2350-252-20-2.

9. REMOVE TURRET TOOL CASE.
   See TM 9-2350-252-20-2.

7-50
WARNING
Retainer can spring out and injure you. Hold retainer until last screw is removed, then remove slowly.

10. REMOVE COVER (6) AND 25MM AMMO RETAINER (7) FROM MOUNT (8).
   a. Remove three screws (9), cover (6), and retainer (7) from mount (8).

11. REMOVE HE/AP AMMO FORWARDERS.
    See TM 9-2350-252-20-2.

12. PLACE WOOD BLOCKS (10) UNDER AMMO CAN (2) FOR SUPPORT. HAVE HELPER ASSIST.

13. REMOVE FOUR SCREWS (11) AND WASHERS (12) FROM AMMO CAN (2) AND BOTTOM OF SUPPORT (13).

15. REMOVE FOUR SCREWS (1), WASHERS (2), AND GROUND STRAP (3) FROM COMMAND GUIDANCE ELECTRONIC BOX (4).

16. REMOVE INTERCOM SWITCH (5) FROM TURRET BASKET (6).
   a. Move command guidance electronic box (4) as needed to remove intercom switch (5).
   b. Remove two screws (7), washers (8), and intercom switch (5) from turret basket (6).
17. REMOVE THREE SCREWS (9, 10) AND WASHERS (11, 12) FROM AMMO CAN AND TWO BRACKETS (13, 14) ON TURRET BASKET (6).
   a. Remove two screws (9) and washers (11) from ammo can and bracket (13) on left side of turret basket (6).
   b. Remove screw (10) and washer (12) from ammo can and bracket (14).

18. REMOVE SIX SCREWS (15) AND WASHERS (16) FROM AMMO CAN AND RIGHT SIDE OF TURRET BASKET (6). HAVE HELPER HOLD AMMO CAN IN PLACE.
19. REMOVE THREE SCREWS (1, 2, 3) AND GROUND STRAP (4) FROM ELECTRONIC CONTROL ASSEMBLY (5) AND SUPPORT (6).
   a. Remove screw (1) and washer (7) from top of electronic control assembly (5) and support (6).
   b. Remove locknut (8), screw (2), washer (9), two lock washers (10), and ground strap (4) from left leg of support (6). Discard locknut and lock washers.
   c. Remove locknut (11), screw (3), and two washers (12) from right leg of support (6). Discard locknut.

20. REMOVE SCREW (13) AND WASHER (14) FROM AMMO CAN (15) AND OUTSIDE OF TURRET BASKET (16). HAVE HELPER HOLD AMMO CAN IN PLACE.
21. REMOVE AMMO CAN (15) FROM BETWEEN TURRET BRACKET (16) AND SUPPORT (6):
   a. Lower ammo can (15) onto wood blocks (17).
   b. Move cables (18) clear of ammo can (15).
   c. (H) Pull electronic control assembly (5) slightly away from ammo can (15).
   d. Remove ammo can (15) from between turret basket (16) and support (6).
      Have helper assist.
   e. Remove wood blocks (17).

22. REMOVE ROLLER FROM AMMO CAN.
    See task: REPLACE 25MM AMMO CAN ROLLER, page 7-47.

23. INSTALL ROLLER IN NEW AMMO CAN.
    See task: REPLACE 25MM AMMO CAN ROLLER, page 7-47.

24. POSITION NEW AMMO CAN (15) BETWEEN SUPPORT (6) AND TURRET BASKET (16).
    a. Move cables (18) clear of ammo can (15).
    b. (H) Pull electronic control assembly (5) slightly away from ammo can (15).
    c. Slide ammo can (15) between turret basket (16) and support (6). Have helper assist.
    d. Place wood blocks (17) under ammo can (15) for support. Have helper assist.
25. INSTALL WASHER (1) AND SCREW (2) ON AMMO CAN (3) AND OUTSIDE OF TURRET BASKET (4).

   a. (H) Align holes in ammo can (3) and turret basket (4). Have helper hold ammo can in place.
   b. Install washer (1) and screw (2) on ammo can (3) from outside of turret basket (4).

26. INSTALL GROUND STRAP (5) AND THREE SCREWS (6, 7, 8) ON ELECTRONIC CONTROL ASSEMBLY (9) AND SUPPORT (10).

   a. Install washer (11) and screw (6) on top of electronic control assembly (9) and support (10). Do not tighten screw.
   b. Install two washers (12), screw (7), and new locknut (13) on right leg of support (10). Do not tighten screw.
   c. Install two new lock washers (15) and ground strap (5) on screw (8). Insert screw through support (10) and install washer (14) and new locknut (16).
   d. Tighten three screws (6, 7, 8).
27. INSTALL SIX WASHERS (17) AND SCREWS (18) ON RIGHT SIDE OF TURRET BASKET (4) AND AMMO CAN. HAVE HELPER HOLD AMMO CAN IN PLACE.

28. INSTALL THREE WASHERS (19, 20) AND SCREWS (21, 22) ON TWO BRACKETS (23, 24) OF TURRET BASKET (4) AND INTO AMMO CAN.
   a. Install two washers (19) and screws (21) on bracket (23) on left side of turret basket (4) and into ammo can.
   b. Install washer (20) and screw (22) on bracket (24) and into ammo can.

GO TO NEXT PAGE
29. INSTALL INTERCOM SWITCH (1) ON TURRET BASKET (2).
   a. Move command guidance electronic box (3) as needed to install intercom switch (1).
   b. Install intercom switch (1), two washers (4), and screws (5) on turret basket (2).

30. INSTALL GROUND STRAP (6), FOUR WASHERS (7) AND SCREWS (8) ON COMMAND GUIDANCE ELECTRONIC BOX (3).


32. INSTALL FOUR WASHERS (9) AND SCREWS (10) ON BOTTOM OF SUPPORT (11) AND AMMO CAN (12).

33. INSTALL HE/AP AMMO FORWARDERS. See TM 9-2350-252-20-2.
34. INSTALL 25MM AMMO RETAINER (13) AND COVER (14) ON MOUNT (15).
   a. Apply primer to threads of three screws (16).
   b. Apply sealant to threads of three screws (16).
   c. Rotate retainer (13) past detent (17) and hold in preload position.
   d. Install retainer (13) and cover (14) on mount (15) with three screws (16).

35. INSTALL TURRET TOOL CASE.
    See TM 9-2350-252-20-2.

36. INSTALL AMMO SELECTOR SWITCH BOX ASSEMBLIES. See TM 9-2350-252-20-2.


38. INSTALL AP PHOTOELECTRIC CONTROL. See TM 9-2350-252-20-2.

39. INSTALL AP DOOR (18) ON AMMO CAN (12).
    a. Turn handle (19) left and place AP door (18) on ammo can (12).
    b. Turn handle (19) right.
NOTE
Two doors in step 40 are installed the same way.

40. INSTALL TWO DOORS (1) ON AMMO CAN (2).
   a. Place door (1) in bracket (3) on ammo can (2) with handle (4) open.
   b. Turn handle (4) to secure door (1).

41. JOIN CHUTE (5) TO HE AMMO CAN EXIT (6).
   a. Aline chute (5) with HE ammo can exit (6).
   b. Push down on chute (5) until it locks in place and pull up to make sure latches (7) are locked.

42. JOIN CHUTE (8) TO AP AMMO CAN EXIT (9).
   a. Aline chute (8) with AP ammo can exit (9).
   b. Push down on chute (8) until it locks in place and pull up to make sure latches (10) are locked.


END OF TASK
REPAIR 25MM HE AMMO CHUTE

INITIAL SETUP

Tools: Turret mechanic's tool kit

Equipment Conditions: 25mm HE ammo chute on workbench

Personnel Required: Tank Turret Repairer 45K10

REPAIR

NOTE
If entrance end fitting is damaged, do steps 3 thru 6 to replace entrance end fitting.

If exit end fitting is damaged, do steps 1, 2, 7, and 8 to replace exit end fitting.

When performing steps 1 and 2 to remove damaged exit end fitting, damaged link is exit end fitting.

All links of HE ammo chute are replaced the same way.

1. BEND UP FOUR FOLDING TABS (1) OF DAMAGED LINK (2). USE FLAT-TIP SCREWDRIVER (3).
   a. Bend up two folding tabs (1) of damaged link (2).
   b. Turn chute (4) over, and bend up two more folding tabs (1) of damaged link (2).

2. SEPARATE CHUTE (4) AT DAMAGED LINK (2).
   a. Bend chute (4), and remove four folding tabs (1) of damaged link (2) from four tabholders (5). Pry with flat-tip screwdriver (3) to remove folding tabs from tabholders.
   b. Separate chute (4) at damaged link (2).

GO TO NEXT PAGE
3. BEND UP FOUR FOLDING TABS (1) OF LINK (2) NEXT TO DAMAGED LINK (3).

   USE FLAT-TIP SCREWDRIVER (4).

   a. Bend up two folding tabs (1) of link (2) next to damaged link (3).

   b. Turn chute (5) over, and bend up two more folding tabs (1) of link (2) next to damaged link (3).

4. REMOVE DAMAGED LINK (3) FROM CHUTE (5).

   a. Bend chute (5), and remove four folding tabs (1) from four tabholders (6) of damaged link (3). Pry with flat-tip screwdriver (4) to remove folding tabs from tabholders.

   b. Remove damaged link (3) from chute (5).

NOTE
When performing steps 3 and 4 to remove damaged entrance end fitting, damaged link is entrance end fitting.

5. INSTALL NEW LINK (3) ON CHUTE (5).

   a. Aline six straight tabs (7) of last link (2) on chute (5) with six slots (8) in new link (3).

   b. Bend chute (5), and insert two folding tabs (1) in two tabholders (6) of new link (3). Insert six straight tabs (7) into six slots (8) in new link.

   c. Turn chute (5) over. Bend chute, and insert two folding tabs (1) in two tabholders (6) of new link (3).

   d. Push up on folding tabs (1), and pull out on links (3, 2) to ensure proper installation.

6. PINCH TIGHT FOUR FOLDING TABS (1) ON LAST LINK (2).

NOTE
When performing steps 5 and 6 to install new entrance end fitting, new link is the entrance end fitting.
NOTE
When performing steps 7 and 8 to install new exit end fitting, new link is exit end fitting.

7. JOIN CHUTE (5) AT NEW LINK (3).
   a. Aline six straight tabs (9) of new link (3) with slots (10) in other last link (11) of chute (5).
   b. Bend chute (5), and insert two folding tabs (12) in two tabholders (13) of other last link (11). Insert six straight tabs (9) into six slots (10) in other last link.
   c. Turn chute (5) over. Bend chute, and insert two folding tabs (12) in two tabholders (13) of other last link (11).
   d. Push up on folding tabs (12), and pull out on links (3, 11) to ensure proper installation.

8. PINCH TIGHT FOUR FOLDING TABS (12) ON NEW LINK (3).

END OF TASK
REPAIR 25MM AP AMMO CHUTE

INITIAL SETUP

Tools:
Turret mechanic’s tool kit

Personnel Required:
Tank Turret Repairer 45K10

Equipment Conditions:
25mm AP ammo chute on workbench

REPAIR

NOTE
If entrance end fitting is damaged, do steps 3 thru 6 to replace entrance end fitting.

If exit end fitting is damaged, do steps 1, 2, 7, and 8 to replace exit end fitting.

When performing steps 1 and 2 to remove damaged exit end fitting, damaged link is exit end fitting.

All links of AP ammo chute are replaced the same way.

1. BEND UP FOUR FOLDING TABS (1) OF DAMAGED LINK (2). USE FLAT-TIP SCREWDRIVER (3).
   a. Bend up two folding tabs (1) of damaged link (2).
   b. Turn chute (4) over, and bend up two more folding tabs (1) of damaged link (2).

GO TO NEXT PAGE
2. SEPARATE CHUTE (1) AT DAMAGED LINK (2).
   a. Bend chute (1), and remove four folding tabs (3) of damaged link (2) from four tabholders (4). Pry with flat-tip screwdriver (5) to remove folding tabs from tabholders.
   b. Separate chute (1) at damaged link (2).

NOTE
When performing steps 3 and 4 to remove damaged entrance end fitting, damaged link is entrance end fitting.

3. BEND UP FOUR FOLDING TABS (3) OF LINK (6) NEXT TO DAMAGED LINK (2). USE FLAT-TIP SCREWDRIVER (5).
   a. Bend up two folding tabs (3) of link (6) next to damaged link (2).
   b. Turn chute (1) over, and bend up two more folding tabs (3) of link (6) next to damaged link (2).

4. REMOVE DAMAGED LINK (2) FROM CHUTE (1).
   a. Bend chute (1), and remove four folding tabs (3) from four tabholders (4) of damaged link (2). Pry with flat-tip screwdriver (5) to remove folding tabs from tabholders.
   b. Remove damaged link (2) from chute (1).
NOTE
When performing steps 5 and 6 to install new entrance end fitting, new link is the entrance end fitting.

5. INSTALL NEW LINK (2) ON CHUTE (1).
   a. Aline six straight tabs (7) of last link (6) on chute (1), with six slots (8) in new link (2).
   b. Bend chute (1), and insert two folding tabs (3) in two tabholders (4) of new link (2). Insert six straight tabs (7) into six slots (8) in new link.
   c. Turn chute (1) over. Bend chute, and insert two folding tabs (3) in two tabholders (4) of new link (2).
   d. Push up on folding tabs (3), and pull out on links (2,6) to ensure proper installation.

6. PINCH TIGHT FOUR FOLDING TABS (3) ON LAST LINK (6).

NOTE
When performing steps 7 and 8 to install new exit end fitting, new link is exit end fitting.

7. JOIN CHUTE (1) AT NEW LINK (2).
   a. Aline six straight tabs (9) of new link (2) with slots (10) in other last link (11) of chute (1).
   b. Bend chute (1), and insert two folding tabs (12) in two tabholders (13) of other last link (11). Insert six straight tabs (9) into six slots (10) in other last link.
   c. Turn chute (1) over. Bend chute, and insert two folding tabs (12) in two tabholders (13) of other last link (11).
   d. Push up on folding tabs (12) and pull out on links (2,11) to ensure proper installation.

8. PINCH TIGHT FOUR FOLDING TABS (12) ON NEW LINK (2).

END OF TASK
# Chapter 8

## MAINTENANCE OF TOW

### Section I. MAINTENANCE OF TOW ROTOR

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REPLACE TOW ROTOR ASSEMBLY

DESCRIPTION

This task covers: Remove (page 8-3) Install (page 8-20).

INITIAL SETUP

Tools:

- Turret mechanic's tool kit
- M816 wrecker — 2320-00-051-0489
- Nylon sling 25 foot — PD101-96
- TOW rotor guide pin (3) — 12298668
- TOW rotor spacer (3) — 122986669
- TOW rotor removal screw (3) — 12298670
- TOW rotor puller screw (3) — 12298671
- Toggle flanged nut (3) — 15303
- Combination wrench, 13/16 inch — 5120-00-187-7129

Lock washer (2)
Self-locking hex nut (2)
Lock washer (2)
TOW rotor assembly
Nonelectrical wire (Item 27, App B)
Wooden blocks

Personnel Required:

- Tank Turret Repairer 45K10
- Helper (H)

References:

- TM 9-2350-252-10-1
- TM 9-2350-252-10-2
- TM 9-2350-252-20-2

Materials/Parts:

- Grease (Item 18, App B)
- Sealing compound (Item 34, App B)
- Sealing compound (Item 31, App B)
- Lock washer

Equipment Conditions:

- Engine stopped (TM 9-2350-252-10-1)
- Turret shut down (TM 9-2350-252-10-2)

REMOVE

1. REMOVE INTEGRATED SIGHT UNIT. See TM 9-2350-252-20-2.


6. MANUALLY TRAVERSE TURRET TO 6200 MILS. See TM 9-2350-252-10-2.

7. REMOVE LEFT SHIELD (1) FROM TURRET BASKET (2).
   a. Remove two screws (3), lock washers (4), washers (5), and left shield (1) from turret basket (2). Discard lock washers.

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9. REMOVE CABLE 2W104 (1) FROM THREE CLAMPS (2).
   a. Remove three screws (3) from three clamps (2) under turret floor.
   b. Remove cable 2W104 (1) from three clamps (2).

10. REMOVE PLUG 2W104P2 (4) FROM JACK 2J03 (5) ON COMMAND GUIDANCE ELECTRONIC BOX (6).
11. REMOVE CABLE 2W104 (1) FROM UNDER TURRET FLOOR.
   a. Pull cable 2W104 (1) and plug 2W104P2 (4) through grommet (7) on turret basket (8).

12. REMOVE CABLE 2W104 (1) FROM SIX CLAMPS (9).
   a. Remove six screws (10) from six clamps (9) inside turret.
   b. Remove cable 2W104 (1) from six clamps (9).

13. PUSH CABLE 2W104 (1) UP THROUGH OPENING BEHIND GUNNER'S SEAT INTO TURRET.


GO TO NEXT PAGE
15. REMOVE CABLE 2A30 (1) FROM FOUR CLAMPS (2, 3).
   a. Remove one screw (4) from clamp (3).
   b. Remove cable 2A30 (1) from four clamps (2, 3).

CAUTION
Cables can get damaged. Make sure all cables are clear of hull before you traverse turret.

16. MANUALLY TRAVERSE TURRET TO 3600 MILS. See TM 9-2350-252-10-2.

17. (H) REMOVE CABLE 2W306 (5) FROM AMMO BOX SUPPORT (6).
   a. Remove screw (7) from clamp (8) on ammo box support (6).
   b. Remove cable 2W306 (5) from clamp (8).
18. (H) REMOVE PLUG 2W306P7 (9) FROM JACK 2A200J7 (10) OF ELECTRONIC CONTROL BOX (11).

19. REMOVE CABLE 2W306 (5) FROM TURRET WALL.
   a. Remove one screw (12) from clamp (13) inside turret wall.
   b. Remove cable 2W306 (5) from four clamps (13, 14):

20. PULL CABLE 2W306 (5) AND PLUG 2W306P7 (9) INTO TURRET.

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9. REMOVE CABLE 2W104 (1) FROM THREE CLAMPS (2).
   a. Remove three screws (3) from three clamps (2) under turret floor.
   b. Remove cable 2W104 (1) from three clamps (2).

10. REMOVE PLUG 2W104P2 (4) FROM JACK 2J03 (5) ON COMMAND GUIDANCE ELECTRONIC BOX (6).
11. REMOVE CABLE 2W104 (1) FROM UNDER TURRET FLOOR.
   a. Pull cable 2W104 (1) and plug 2W104P2 (4) through grommet (7) on turret basket (8).

12. REMOVE CABLE 2W104 (1) FROM SIX CLAMPS (9).
   a. Remove six screws (10) from six clamps (9) inside turret.
   b. Remove cable 2W104 (1) from six clamps (9).

13. PUSH CABLE 2W104 (1) UP THROUGH OPENING BEHIND GUNNER'S SEAT INTO TURRET.


GO TO NEXT PAGE
15. REMOVE CABLE 2A30 (1) FROM FOUR CLAMPS (2, 3).
   a. Remove one screw (4) from clamp (3).
   b. Remove cable 2A30 (1) from four clamps (2, 3).

CAUTION
Cables can get damaged. Make sure all cables are clear of hull before you traverse turret.

16. MANUALLY TRAVERSE TURRET TO 3600 MILS. See TM 9-2350-252-10-2.

17. (H) REMOVE CABLE 2W306 (5) FROM AMMO BOX SUPPORT (6).
   a. Remove screw (7) from clamp (8) on ammo box support (6).
   b. Remove cable 2W306 (5) from clamp (8).
18. (H) REMOVE PLUG 2W306P7 (9) FROM JACK 2A200J7 (10) OF ELECTRONIC CONTROL BOX (11).

19. REMOVE CABLE 2W306 (5) FROM TURRET WALL.
   a. Remove one screw (12) from clamp (13) inside turret wall.
   b. Remove cable 2W306 (5) from four clamps (13, 14):

20. PULL CABLE 2W306 (5) AND PLUG 2W306P7 (9) INTO TURRET.

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22. REMOVE TOW LAUNCHER FRONT ARMOR. See TM 9-2350-252-20-2.

23. MANUALLY RAISE TOW LAUNCHER TO FIRING POSITION. See TM 9-2350-252-10-2.


25. CLOSE COVER (1) ON ARMOR (2).
   a. Close cover (1) on armor (2) and install two washers (3) and screws (4).

26. MANUALLY TRAVERSE TURRET TO 4800 MILS. See TM 9-2350-252-10-2.

27. ATTACH SLING (5) TO ARMOR (6).
   a. Attach sling (5) to armor (6) as shown. Take up slack in sling. Use wrecker. Have helper assist.
28. REMOVE CABLE 2W104 (7) FROM BASEPLATE (8).
   a. Remove three screws (9), washers (10), clamps (11), and cable 2W104 (7) from baseplate (8).

29. REMOVE SHIELD (12) FROM TOW LIFT (13).
   a. Remove four screws (14) and shield (12) from TOW lift (13).

30. REMOVE GROUND CABLE (14) FROM TOW LIFT (13).
   a. Remove two screws (15), lock washers (16), and ground cable (14) from TOW lift (13). Discard lock washers.


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32. REMOVE BOTTOM OF TOW LIFT (1) FROM TURRET.
   a. Remove locknut (2) and screw (3) from bottom of TOW lift (1). Discard locknut.
   b. Pull TOW lift (1) away from turret.

33. REMOVE PLUG 2W306P1 (4) FROM JACK 2A200J1 (5) ON TOW LIFT (1).

34. REMOVE TOW MANUAL LIFT CABLE (6) FROM FACEPLATE (7).
   a. Loosen jam nut (8), and unscrew knob (9) from TOW manual lift cable (6).
   b. Remove jam nut (8), nut (10), and lock washer (11) from TOW manual lift cable (6). Discard lock washer.
   c. Remove TOW manual lift cable (6) from faceplate (7).
35. REMOVE TOP OF TOW LIFT (1) FROM BASEPLATE (12). HAVE HELPER ASSIST.
   a. Remove locknut (13) and screw (14) from top of TOW lift (1). Discard locknut.
   b. Remove TOW lift (1) from baseplate (11).

36. REMOVE CABLE 2W104 (15) FROM FACEPLATE (7).
   a. Remove screw (16), washer (17), clamp (18), and cable 2W104 (15) from faceplate (7).
37. REMOVE BRACKET (1) FROM FACEPLATE (2).
   a. Remove three screws (3), washers (4), and bracket (1) from faceplate (2).

38. REMOVE CABLE 2W104 (5) AND PLUG 2W104P2 (6) FROM TURRET THROUGH UPPER HOLE IN FACEPLATE (2).

39. REMOVE CABLE 2W306 (7) FROM FACEPLATE (2).
   a. Remove two screws (8), washers (9), clamps (10), and cable 2W306 (7) from faceplate (2).

40. REMOVE BRACKET (11) FROM FACEPLATE (2).
   a. Remove three screws (12), washers (13), and bracket (11) from faceplate (2).
41. REMOVE CABLE 2W306 (7) AND PLUG 2W306P7 (14) FROM TURRET THROUGH LOWER HOLE IN FACEPLATE (2).

NOTE
Three of twelve screws removed are used as jack screws.

42. REMOVE FACEPLATE (2) WITH ARMOR (15) FROM TOW ROTOR (16). USE WRECKER AND SLING.
   a. Remove twelve jack screws (17) and washers (18) from faceplate (2).
   b. Install three jack screws (17) in jack screw holes (19) in faceplate (2).
   c. Tighten three jack screws (17) evenly until faceplate (2) is free from TOW rotor (16).
   d. Remove faceplate (2) from TOW rotor (16). Place faceplate (2) and armor (15) on wooden blocks. Have helper assist.
   e. Remove three jack screws (17) from faceplate (2).

43. REMOVE WRECKER AND SLING FROM FACEPLATE (2) AND ARMOR (15). HAVE HELPER ASSIST.
44. REMOVE PLUG 2W304P1 (1) FROM JACK 2A203J1 (2) ON TOW ELEVATION DRIVE (3).

45. REMOVE PLUG 2W101P2 (4) FROM JACK 2A34J1 (5) OF RESOLVER.

46. REMOVE JACK 2A34J1 (5) OF RESOLVER FROM BRACKET (6).
   a. Remove lock wire (7) from jack 2A34J1 (5). Discard lock wire.
   b. Remove jam nut (8) and jack 2A34J1 (5) from bracket (6).

47. REMOVE CABLE 2A34 (9) OF RESOLVER FROM THREE CLAMPS (10).
48. REMOVE RESOLVER (11) FROM MOUNT (12).
   a. Mark resolver (11) and mount (12) to reinstall later.
   b. Remove setscrew (13) from shaft of resolver (11).
   c. Remove three screws (14), cleats (15), and resolver (11) from mount (12).

49. REMOVE PLUG 2W302P3 (16) FROM JACK J3 (17) ON TOW ELEVATION DRIVE (3).

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50. MANUALLY ELEVATE TOW LAUNCHER TO ACCESS UPPER SCREW (1) IN SPUR GEAR (2). See TM 9-2350-252-10-2.

51. REMOVE UPPER SCREW (1) AND WASHER (3) FROM SPUR GEAR (2).

52. MANUALLY DEPRESS TOW LAUNCHER TO ACCESS CENTER SCREW (4) IN SPUR GEAR (2) AND SPINDLE SCREW (5). See TM 9-2350-252-10-2.

53. REMOVE CENTER SCREW (4) AND WASHER (6) FROM SPUR GEAR (2).

54. REMOVE SPINDLE SCREW (5) AND WASHER (7) FROM SPINDLE (8).

55. MANUALLY DEPRESS TOW LAUNCHER TO ACCESS BOTTOM SCREW (9) IN SPUR GEAR (2). See TM 9-2350-252-10-2.

56. REMOVE BOTTOM SCREW (9) AND WASHER (10) FROM SPUR GEAR (2).
57. REMOVE SPUR GEAR (2) FROM SPINDLE (8).
   a. Turn handwheel (11) back until last tooth of spur gear (2) is free.
   b. Remove spur gear (2) from spindle (8).

58. REMOVE 12 SCREWS (12) AND WASHERS (13) FROM TOW ROTOR (14).

59. INSTALL THREE REMOVAL SCREWS (15) IN THREE REMOVAL SCREW HOLES (16) ON TOW ROTOR (14).
60. INSTALL THREE GUIDE PINS (1) ON TURRET EQUALLY SPACED BETWEEN THREE REMOVAL SCREWS (2).

61. INSTALL THREE SPACERS (3) ON TURRET MACHINED SURFACE (4).
   a. Tighten three removal screws (2) evenly until screws cannot be turned any further.
   b. Back out one removal screw (2). Install spacer (3) between removal screw and turret machined surface (4).
   c. Tighten removal screw (2) until spacer (3) is snug.
   d. Repeat substeps b and c above until three spacers are installed.

62. FREE TOW ROTOR (5) FROM TURRET.
   a. Tighten three removal screws (2) evenly until TOW rotor (5) is free from turret and resting on three guide pins (1).
   b. Remove three removal screws (2) and spacers (3) from TOW rotor (5).

NOTE
If TOW rotor binds in turret bore, measure clearance between TOW rotor and turret machined surface. Take three measurements at equal distances from each other. Tighten appropriate removal screw(s) until all three clearance measurements are the same.
63. ATTACH SLING TO TOW ROTOR (5). HAVE HELPER ASSIST.

64. REMOVE TOW ROTOR (5) FROM TURRET. USE WRECKER.
   a. Remove TOW rotor (5) from three guide pins (1) on turret. Place TOW rotor on workbench. Have helper assist.

65. REMOVE SLING FROM TOW ROTOR (5). HAVE HELPER ASSIST.

66. REMOVE MOUNT (6) FROM TRUNNION (7).
   a. Mark mount (6) and trunnion (7) for installation.
   b. Remove 12 screws (8), washers (9), and mount (6) from trunnion (7).

67. REMOVE ROLLER GUIDE (10) FROM SWITCH (11).
   a. Remove lock wire (12) from switch (11). Discard lock wire.
   b. Remove lock ring (13) from roller guide (10).
   c. Loosen nut (14) on switch (11). Use 13/16 inch combination wrench.
   d. Remove roller guide (10), nut (15), and lock washer (16) from switch (11).

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68. REMOVE SWITCH (1) WITH NUT (2) AND KEY WASHER (3) FROM BRACKET (4).

69. REMOVE BRACKET (4) FROM MOUNT (5).
   a. Remove two screws (6) and bracket (4) from mount (5).

70. INSTALL BRACKET (4) ON MOUNT (5).
   a. Apply sealing compound (Item 34) to threads of two screws (6).
   b. Apply sealing compound (Item 31) to threads of two screws (6).
   c. Install bracket (4), slot up, on mount (5) with two screws (6).

71. INSTALL SWITCH (1) ON BRACKET (4).
   a. Insert switch (1) with nut (2) and key washer (3) in bracket (4).
NOTE
Lock wire is installed on switch after switch is adjusted in step 86.

72. INSTALL ROLLER GUIDE (7) ON SWITCH (1).
   a. Install lock washer (8), nut (9), and roller guide (7) on switch (1). Use 13/16 inch combination wrench.
   b. Install lock ring (10) on roller guide (7).

73. INSTALL MOUNT (11) ON TRUNNION (12) OF NEW TOW ROTOR.
   a. Place mount (11) on trunnion (12) with marks aligned.
   b. Apply sealing compound (Item 34) to threads of 12 screws (13).
   c. Apply sealing compound (Item 31) to threads of 12 screws (13).
   d. Install 12 washers (14) and screws (13) on mount (11).

74. CROSS TORQUE 12 SCREWS (13) ON MOUNT (11) TO 73-79 IN-LB (84-91 CMKG). TORQUE SCREWS IN THIS ORDER: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.

75. APPLY GREASE TO TURRET BORE (15) AND MATING SURFACE (16) ON TOW ROTOR (17).

76. ATTACH SLING TO TOW ROTOR (17). HAVE HELPER ASSIST.

77. POSITION TOW ROTOR (17) ON THREE GUIDE PINS (18) ON TURRET. USE WRECKER.
   a. Lift and position TOW rotor (17) on three guide pins (18) with dowel pin (19) and dowel pin hole (20) aligned. Have helper assist.

78. REMOVE SLING FROM TOW ROTOR (17). HAVE HELPER ASSIST.

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If TOW rotor binds in turret bore, measure clearance between TOW rotor and turret machined surface. Take three measurements at equal distances from each other. Tighten appropriate toggle nut(s) until all three clearance measurements are the same.

80. INSTALL TOW ROTOR (3) IN TURRET.
   a. Tap TOW rotor (3) evenly until started in turret bore.
   b. Install three toggle nuts (4) on three puller screws (1).
   c. Tighten three toggle nuts (4) evenly until TOW rotor (3) is seated in turret bore.
   d. Remove three toggle nuts (4) from three puller screws (1).

79. INSTALL THREE PULLER SCREWS (1) EQUALLY SPACED BETWEEN THREE GUIDE PINS (2) HOLDING TOW ROTOR (3).

81. REMOVE THREE PULLER SCREWS (1) FROM TOW ROTOR (3).

82. REMOVE THREE GUIDE PINS (2) FROM TOW ROTOR (3).
83. INSTALL 12 WASHERS (5) AND SCREWS (6) ON TOW ROTOR (3).
   a. Apply sealing compound (Item 34) to threads of 12 screws (6).
   b. Apply sealing compound (Item 31) to threads of 12 screws (6).
   c. Install 12 washers (5) and screws (6) on TOW rotor (3).

84. TORQUE 12 SCREWS (6) TO 32-34 FT-LB (4-5 MKG). TORQUE SCREWS IN THIS ORDER: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.

85. COARSE ADJUST TOW ELEVATION VARIABLE RESISTOR. See TM 9-2350-252-20-2.

86. POSITION SPUR GEAR (7) ON SPINDLE (8).
   a. Position spur gear (7) on spindle (8).
   b. Turn handwheel (9) forward until holes in spur gear (7) and spindle (8) are aligned.

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NOTE

Holes in spur gear and spindle must be aligned to torque bottom screw.

87. INSTALL WASHER (1) AND BOTTOM SCREW (2) ON SPUR GEAR (3).

a. Apply sealing compound (Item 34) to threads of bottom screw (2).

b. Apply sealing compound (Item 31) to threads of bottom screw (2).

c. Install washer (1) and bottom screw (2) on spur gear (3). Tighten screw finger tight.

d. TORQUE BOTTOM SCREW (2) TO 151-166 FT-LB (21-23 MKG).

88. MANUALLY DEPRESS TOW LAUNCHER UNTIL CENTER SCREW (4) AND SPINDLE SCREW CAN BE INSTALLED ON SPUR GEAR (3). See TM 9-2350-252-10-2.

89. INSTALL WASHER (5) AND CENTER SCREW (4) ON SPUR GEAR (3).

a. Apply sealing compound (Item 34) to threads of center screw (4).

b. Apply sealing compound (Item 31) to threads of center screw (4).

c. Install washer (5) and center screw (4) on spur gear (3). Tighten screw finger tight.
90. INSTALL WASHER (6) AND SPINDLE SCREW (7) ON SPINDLE (8).
   a. Apply sealing compound (Item 34) to threads of spindle screw (7).
   b. Apply sealing compound (Item 31) to threads of spindle screw (7).
   c. Install washer (6) and spindle screw (7) on spindle (8).
   d. TORQUE SPINDLE SCREW (7) TO 32-36 FT-LB (4-5 MKG).

91. MANUALLY ELEVATE TOW LAUNCHER UNTIL UPPER SCREW (9) CAN BE INSTALLED IN SPUR GEAR (3). See TM 9-2350-252-10-2.

92. INSTALL WASHER (10) AND UPPER SCREW (9) ON SPUR GEAR (3).
   a. Apply sealing compound (Item 34) to threads of upper screw (9).
   b. Apply sealing compound (Item 31) to threads of upper screw (9).
   c. Install washer (10) and upper screw (9) on spur gear (3).
   d. TORQUE UPPER SCREW (9) TO 151-166 FT-LB (21-23 MKG).

93. CHECK TORQUE OF BOTTOM SCREW (2) ON SPUR GEAR (3). IF NEEDED, TORQUE BOTTOM SCREW TO 151-166 FT-LB (21-23 MKG).

GO TO NEXT PAGE
94. MANUALLY DEPRESS TOW LAUNCHER TO ACCESS CENTER SCREW (1) ON SECTOR GEAR (2). See TM 9-2350-252-10-2.

95. TORQUE CENTER SCREW (1) ON SECTOR GEAR (2) TO 151-166 FT-LB (21-23 MKG).

96. INSTALL PLUG 2W302P3 (3) ON JACK J3 (4) ON TOW ELEVATION DRIVE (5).

97. FINE ADJUST TOW ELEVATION VARIABLE RESISTOR. See TM 9-2350-252-20-2.

---

NOTE
Set screw is installed on resolver shaft after resolver is adjusted in step 99.

98. INSTALL RESOLVER (6) ON MOUNT (7).
   a. Position resolver (6) on mount (7) with marks alined.
   b. Install three cleats (8) and screws (9) on mount (7).

100. ADJUST SENSITIVE SWITCH. See TM 9-2350-252-20-2.

101. PLACE CABLE 2A34 (10) OF RESOLVER IN THREE CLAMPS (11).

102. INSTALL JACK 2A34J1 (12) OF RESOLVER ON BRACKET (13).
   a. Install jack 2A34J1 (12) and jam nut (14) on bracket (13).
   b. Install new lockwire (15) on jack 2A34J1 (12).

103. INSTALL PLUG 2W101P2 (16) ON JACK 2A34J1 (12) OF RESOLVER.

104. INSTALL PLUG 2W304P1 (17) ON JACK 2A203J1 (18) ON TOW ELEVATION DRIVE (19).

GO TO NEXT PAGE
105. ATTACH SLING (1) AND WRECKER TO FACEPLATE (2) AND ARMOR (3). HAVE HELPER ASSIST.

106. INSTALL FACEPLATE (2) WITH ARMOR (3) ON TOW ROTOR (4).
   a. Apply sealing compound (Item 34) to threads of 12 screws (5).
   b. Apply sealing compound (Item 31) to threads of 12 screws (5).
   c. Position faceplate (2) on TOW rotor (4) with dowel pin and dowel pin hole aligned.
   d. Install 12 washers (6) and screws (5) on faceplate (2).

107. TORQUE 12 SCREWS (5) TO 32-34 FT-LB (4-5 MKG). TORQUE SCREWS IN THIS ORDER: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.

108. INSERT PLUG 2W306P7 (7) AND CABLE 2W306 (8) THROUGH LOWER HOLE IN FACEPLATE (2).
109. POSITION CABLE 2W306 (8) IN TURRET.
   a. Pull plug 2W306P7 (7) and cable 2W306 (8) through TOW rotor (4).
   b. Loop cable 2W306 (8) to right between TOW rotor (4) and mount (9).
   c. Pull cable 2W306 (8) out and over rear spoke of mount (9) into turret.

110. INSTALL BRACKET (10) ON FACEPLATE (2).
   a. Apply sealing compound (Item 34) to threads of three screws (11).
   b. Apply sealing compound (Item 31) to threads of three screws (11).
   c. Install bracket (10), three washers (12), and screws (11) on faceplate (2).
   d. TORQUE THREE SCREWS (11) TO 73-79 IN-LB (84-91 CMKG).
111. INSTALL CABLE 2W306 (1) ON FACEPLATE (2).
   a. Apply sealing compound (Item 34) to threads of two screws (3).
   b. Apply sealing compound (Item 31) to threads of two screws (3).
   c. Install cable 2W306 (1) and two clamps (4) on faceplate (2) with two washers (5) and screws (3).

112. INSTALL CABLE 2W306 (1) IN CLAMP (6).

113. INSERT PLUG 2W104P2 (7) AND CABLE 2W104 (8) THROUGH UPPER HOLE IN FACEPLATE (2).
114. PLACE CABLE 2W104 (8) IN TURRET.
   a. Pull plug 2W104P2 (7) and cable 2W104 (8) through TOW rotor (9).
   b. Pull cable 2W104 (7) out and over rear spoke of mount (10) and into turret.

115. INSTALL BRACKET (11) ON FACEPLATE (2).
   a. Apply sealing compound (Item 34) to threads of three screws (12).
   b. Apply sealing compound (Item 31) to threads of three screws (12).
   c. Install bracket (11), three washers (13), and screws (12) on faceplate (2).
   d. TORQUE THREE SCREWS (12) TO 73-79 IN-LB (84-91 CMKG).

GO TO NEXT PAGE
116. INSTALL CABLE 2W104 (1) ON FACEPLATE (2).
   a. Place cable 2W104 (1) and clamp (3) on faceplate (2), and install washer (4) and screw (5).

117. INSTALL TOP OF TOW LIFT (6) ON BASEPLATE. HAVE HELPER ASSIST.
   a. Install top of tow lift (6) on baseplate with screw (7) and new locknut (8).
   b. TORQUE LOCKNUT (8) TO 30-40 FT-LB (4-6 MKG).
118. INSTALL PLUG 2W306P1 (9) ON JACK 2A200J1 (10) ON TOW LIFT (6).

119. INSTALL TOW MANUAL LIFT CABLE (11) ON FACEPLATE.
   a. Insert TOW manual lift cable (11) through faceplate (2), and install new lock washer (12), nut (13), and jam nut (14).
   b. Screw knob (15) on TOW manual lift cable (11), and tighten jam nut (14) against knob.

120. INSTALL BOTTOM OF TOW LIFT (6) ON TURRET.
   a. Position TOW lift (6) on turret. Have helper assist.
   b. Install bottom of TOW lift (6) on turret with screw (16) and new locknut (17).
   c. TORQUE LOCKNUT (18) TO 30-40 FT-LB (4-6 MKG).

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122. INSTALL GROUND CABLE (8) ON TOW LIFT (7).
   a. Install ground cable (8), two new lock washers (9), and screws (10) on TOW lift (7).

123. INSTALL SHIELD (11) ON TOW LIFT (7).
   a. Apply sealing compound (Item 34) to threads of four screws (12).
   b. Apply sealing compound (Item 31) to threads of four screws (12).
   c. Install shield (11) and four screws (12) on TOW lift (7).
124. INSTALL CABLE 2W104 (13) ON BASEPLATE (14).
   a. Apply sealing compound (Item 34) to threads of three screws (15).
   b. Apply sealing compound (Item 31) to threads of three screws (15).
   c. Install cable 2W104 (13) and three clamps (16) on baseplate (14) with three washers (17) and screws (15).
   d. TORQUE THREE SCREWS (15) TO 73-79 IN-LB (84-91 CMKG).

125. REMOVE SLING (18) FROM ARMOR (19). HAVE HELPER ASSIST.

126. MANUALLY TRAVERSE TURRET TO 5600 MILS. See TM 9-2350-252-20-2.
127. OPEN COVER (1) ON ARMOR (2).
   a. Remove two screws (3) and washers (4) from cover (1).
   b. Open cover (1). Have helper assist.

128. INSTALL TOW LAUNCHER ASSEMBLY.
   See TM 9-2350-252-20-2.

129. MANUALLY LOWER TOW LAUNCHER TO STOW POSITION. See TM 9-2350-252-10-2.

130. INSTALL TOW LAUNCHER FRONT ARMOR. See TM 9-2350-252-20-2.

131. MANUALLY TRAVERSE TURRET TO 3600 MILS. See TM 9-2350-252-10-2.

132. PUSH PLUG 2W306P7 (5) AND CABLE 2W306 (6) OUT OF TURRET.

CAUTION
Cables can get damaged. Make sure all cables are clear of hull before you traverse turret.

133. INSTALL PLUG 2W306P7 (5) ON JACK 2A200J7 (7) ON ELECTRONIC CONTROL BOX (8).
134. INSTALL CABLE 2W306 (6) ON AMMO BOX SUPPORT (9).
   a. Install cable 2W306 (6) in clamp (10) with screw (11).

135. INSTALL CABLE 2W306 (6) ON TURRET WALL.
   a. Place cable 2W306 (6) in three clamps (12, 13) and install one screw (14) in clamp (12).

136. PLACE CABLE 2A30 (15) IN FOUR CLAMPS (16, 17).
   a. Place cable 2A30 (15) in four clamps (16, 17) and install one screw (18) on clamp (16).

137. INSTALL PLUG 2A3CP1 (19) ON JACK 2W6J1 (20).
138. MANUALLY TRAVERSE TURRET TO 6200 MILS. See TM 9-2350-252-10-2.

139. PUSH CABLE 2W104 (1) OUT OF TURRET.
   a. Position cable 2W104 (1) along turret.
   b. Push plug 2W104P2 (2) and cable 2W104 (1) down through opening behind gunner's seat post (3) and out of turret.

140. INSTALL CABLE 2W104 (1) IN SIX CLAMPS (4).
   a. Install cable 2W104 (1) in six clamps (4) inside turret.
   b. Install cable 2W104 (1) and six clamps (4) on turret with six screws (5).
141. PLACE CABLE 2W104 (1) UNDER TURRET FLOOR.
   a. Push plug 2W104P2 (2) and cable 2W104 (1) through grommet (6) on turret basket (7).
   b. Pull cable 2W104 (1) under turret floor.

142. INSTALL PLUG 2W104P2 (2) ON JACK 2J03 (8) OF COMMAND GUIDANCE ELECTRONIC BOX (9).
143. INSTALL CABLE 2W104 (1) IN THREE CLAMPS (2).
   a. Install cable 2W104 (1) in three clamps (2) under turret floor.
   b. Install cable 2W104 (1) and three clamps (2) under turret floor with three screws (3).

144. INSTALL CENTER, STEP, AND GUNNER'S FLOOR PLATES. See TM 9-2350-252-20-2.

145. INSTALL LEFT SHIELD (4) ON TURRET BASKET (5).
   a. Install left shield (4), two new lock washers (6), and screws (7) on turret basket (5).

146. INSTALL 25MM AMMO CHUTE GUARD. See TM 9-2350-252-20-2.


150. INSTALL INTEGRATED SIGHT UNIT. See TM 9-2350-252-20-2.

151. BORESIGHT TOW LAUNCHER. See TM 9-2350-252-10-2.

152. CHECK OPERATION OF TOW LAUNCHER. See TM 9-2350-252-10-2.

END OF TASK
REPAIR TOW ROTOR ASSEMBLY

INITIAL SETUP

Tools:
- Turret mechanic’s tool kit
- Arbor press, 60 ton — 3440-449-7295
- TOW rotor removal screw (3) — 12298670
- Brass punch — 5120-00-239-0038
- TOW rotor torque tool — 12307524
- Outside micrometer caliper — 5120-00-221-1929
- Wooden blocks (Item 1, App C)
- Bearing removal plate (Item 5, App C)

Materials/Parts:
- Sealing compound (Item 34, App B)

Materials/Parts (cont):
- Sealing compound (Item 31, App B)
- Oil seal (2)
- Retaining ring

Personnel Required:
- Tank Turret Repairer 45K10
- Helper (H)

Equipment Conditions:
- TOW rotor assembly on workbench

REPAIR

1. REMOVE ARM (1) FROM BEARING RETAINER (2).
   a. Remove eight screws (3), washers (4), and arm (1) from bearing retainer (2).

2. REMOVE MOUNT (5) FROM TRUNNION (6).
   a. Mark mount (5) and trunnion (6) for later use.
   b. Remove 12 screws (7), washers (8), and mount (5) from trunnion (6).

GO TO NEXT PAGE
3. REMOVE SEAL (1) FROM MOUNT (2). DISCARD SEAL.

4. REMOVE RETAINING RING (3) FROM MOUNT (2). DISCARD RETAINING RING.

5. REMOVE BEARING RETAINER (4) WITH BEARING (5) FROM MOUNT (2).

6. REMOVE BEARING (5) FROM BEARING RETAINER (4). USE ARBOR PRESS.
8. REMOVE RETAINER (9) FROM SPINDLE (10).
   a. Install three removal screws (11) in three removal screw holes (12) in retainer (9).
   b. Tighten three removal screws (11) evenly until retainer (9) is free of spindle (10).
   c. Remove retainer (9) from spindle (10).
   d. Remove three removal screws (11) from retainer (9).

7. REMOVE SEVEN SHORT SCREWS (6), ONE LONG SCREW (7), AND EIGHT WASHERS (8) FROM RETAINER (9).

9. REMOVE SHIM PACK (13) FROM SPINDLE (10).

10. REMOVE SEAL RETAINER (14) FROM TRUNNION (15).
    a. Place rotor on workbench with trunnion flange (16) up.
    b. Remove 12 screws (17) and washers (18) from seal retainer (14).
    c. Pry seal retainer (14) off trunnion (15). Use flat-tip screwdriver (19).
12. REMOVE SPINDLE (3) FROM TRUNNION (4).
   a. Place rotor on arbor press with trunnion flange (5) down.
   c. Remove trunnion (4) and spindle (3) from arbor press.

11. REMOVE SEAL (1) FROM SEAL RETAINER (2). DISCARD SEAL.

13. REMOVE BEARING CONE (6) FROM SPINDLE (3).
   a. Tap bearing cone (6) free of spindle (3). Tap in even pattern using brass punch.

14. REMOVE BEARING CONE (6) FROM TRUNNION (4).
15. REMOVE TWO BEARING CUPS (7) FROM TRUNNION (4).
   a. Tap bearing cup (7) free of trunnion (4). Tap in even pattern using brass punch.
   b. Turn trunnion (4) over, and repeat substep a above to remove second bearing cup.

16. INSTALL TWO BEARING CUPS (7) IN TRUNNION (4).
   a. Hold bearing cup (7) level with trunnion (4).
   b. Tap bearing cup (7) until seated in trunnion (4). Tap in even pattern using brass punch.
   c. Turn trunnion (4) over, and repeat substeps a and b above to install second bearing cup.

17. INSTALL BEARING CONE (6) ON SPINDLE (3).
   a. Place spindle (3) on wooden blocks with outer face down.
   b. Place bearing cone (6) on spindle (3) with tapered end up.
   c. Tap bearing cone (6) evenly until seated on spindle (3).

18. INSTALL SPINDLE (3) IN TRUNNION (4).
   a. Place trunnion (4) on spindle (3) with trunnion flange (5) down. Push trunnion on spindle.
19. INSTALL BEARING CONE (1) IN TRUNNION (2).
   a. Place bearing cone (1) between spindle (3) and trunnion (2) with tapered end of cone down.
   b. Tap bearing cone (1) evenly until seated in trunnion (2).

20. INSTALL RETAINER (4) ON SPINDLE (3).
   a. Position wooden blocks so that only trunnion flange (5) is supported.
   b. Install retainer (4), eight washers (6), seven short screws (7), and one long screw (8) on spindle (3). Do not tighten.

21. INSTALL TOW ROTOR TORQUE TOOL (9) ON RETAINER (4).
   a. Install TOW rotor torque tool (9) on retainer (4). Finger tighten three screws (10).
Before spindle rotation resistance is measured, spindle must be turned several times in both directions to ensure proper seating of bearings.

22. MEASURE SPINDLE ROTATION RESISTANCE.
   a. Turn spindle (3) several times in both directions.
   b. Rotate spindle (3) to the right to measure resistance. Use torque wrench.
   c. If resistance is from 25-55 in-lb (29-63 cm/kg), go to step 24.
   d. If resistance is less than 25 in-lb (29 cm/kg), go to next step.
   e. If resistance is greater than 55 in-lb (63 cm/kg), do steps 24, 26, and 27.

23. INCREASE SPINDLE ROTATION RESISTANCE.
   a. Tighten eight screws (11) on retainer (4) until snug.
   b. Repeat step 22.

24. REMOVE TOW ROTOR TORQUE TOOL (9) FROM RETAINER (4).
   a. Loosen three screws (10), and remove TOW rotor torque tool (9) from retainer (4).
25. MEASURE GAP (1) BETWEEN INNER EDGES OF RETAINER (2) AND SPINDLE (3).

26. REMOVE SEVEN SHORT SCREWS (4), ONE LONG SCREW (5), AND EIGHT WASHERS (6) FROM RETAINER (2).

27. REMOVE RETAINER (2) FROM SPINDLE (3).
   a. Install three removal screws (7) in three removal screw holes (8) in retainer (2).
   b. Tighten three removal screws (7) evenly until retainer (2) is free of spindle (3).
   c. Remove retainer (2) from spindle (3).
   d. Remove three removal screws (7) from retainer (2).
   e. If spindle rotation resistance is more than 55 in-lb (63 cmkg), repeat steps 12 thru 14 and 17 thru 22. If not, go to step 28.

28. MEASURE THICKNESS OF SHIM PACK (9). USE MICROMETER CALIPER.

29. COMPARE MEASUREMENTS TAKEN IN STEPS 25 AND 28.
   a. Add or subtract shims until thickness of shim pack (9) is equal to gap between retainer (2) and spindle (3).

30. INSTALL SHIM PACK (9) ON SPINDLE (3).

31. INSTALL RETAINER (2) ON SPINDLE (3).
   a. Position wooden blocks so that only trunnion flange (10) is supported.
   b. Install retainer (2), eight washers (11), seven short screws (12), and one long screw (13) on spindle (3). Tighten screws evenly.
32. TORQUE EIGHT SCREWS (14) ON RETAINER (2).
   a. (H) Hold spindle (3) in place.
   b. CROSS TORQUE EIGHT SCREWS (14) TO 384-408 IN-LB (442-470 CMKG).

33. INSTALL TOW ROTOR TORQUE TOOL (15) ON RETAINER (2).
   a. Install TOW rotor torque tool (15) on retainer (2). Finger tighten three screws (16).

NOTE
Shims are added to decrease resistance and removed to increase resistance.
Before spindle rotation resistance is measured, spindle must be turned several times in both directions to ensure proper seating of bearing.

34. MEASURE SPINDLE ROTATION RESISTANCE.
   a. Turn spindle (3) several times in both directions.
   b. Rotate spindle (3) to the right to measure resistance. Use torque wrench.
   c. If resistance is from 25-55 in-lb (29-63 cmkg), go to step 41.
   d. If resistance is more than 55 in-lb (63 cmkg), do steps 35 thru 37, 39, and 40.
   e. If resistance is less than 25 in-lb (29 cmkg), do steps 35 thru 38, and 40.

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35. REMOVE TOW ROTOR TORQUE TOOL (1) FROM RETAINER (2).
   a. Loosen three screws (3), and remove TOW rotor torque tool (1) from retainer (2).

36. REMOVE RETAINER (2) FROM SPINDLE (4).
   a. Remove seven short screws (5), one long screw (6), and eight washers (7) from retainer (2).
   b. Install three removal screws (8) in three removal screw holes (9) in retainer (2).
   c. Tighten three removal screws (8) evenly until retainer (2) is free of spindle (4).
   d. Remove retainer (2) from spindle (4).
   e. Remove three removal screws (8) from retainer (2).

37. REMOVE SHIM PACK (10) FROM SPINDLE (4).

38. REMOVE ONE SHIM LAYER (11) FROM SHIM PACK (10).

39. INSTALL ONE SHIM LAYER (11) ON SHIM PACK (10).

40. DO STEPS 30 THRU 34.

41. REMOVE TOW ROTOR TORQUE TOOL (1) FROM RETAINER (2).
   a. Loosen three screws (3), and remove TOW rotor torque tool (1) from retainer (2).
NOTE
Screws are removed in an alternating order to maintain pressure on shim pack.

42. INSTALL EIGHT SCREWS (12) ON RETAINER (2).
   a. Remove four screws (12) and washers (13) from retainer (2). Remove every other screw and washer.
   b. Apply sealing compound (Item 34) to threads of four screws (12).
   c. Apply sealing compound (Item 31) to threads of four screws (12).
   d. Install four washers (13) and screws (12) on retainer (2).
   e. Repeat substeps a thru e for other four screws (12).
   f. TORQUE EIGHT SCREWS (12) TO 384-408 IN-LB (442-470 CMKG).

43. INSTALL NEW SEAL (14) IN SEAL RETAINER (2).

44. INSTALL SEAL RETAINER (15) ON TRUNNION (16).
   a. Place TOW rotor (17) on workbench with trunnion flange (18) up.
   b. Apply sealing compound (Item 34) to threads of 12 screws (19).
   c. Apply sealing compound (Item 31) to threads of 12 screws (19).
   d. Install seal retainer (15), 12 washers (20), and screws (19) on trunnion (16).

45. CROSS TORQUE 12 SCREWS (19) TO 73-79 IN-LB (84-91 CMKG).

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46. INSTALL BEARING (1) IN BEARING RETAINER (2). USE ARBOR PRESS.

47. INSTALL BEARING RETAINER (2) WITH BEARING (1) ON MOUNT (3). USE ARBOR PRESS.

48. INSTALL NEW RETAINING RING (4) ON MOUNT (3).

49. INSTALL NEW SEAL (5) ON MOUNT (3).
50. INSTALL MOUNT (3) ON TRUNNION (6).
   a. Place mount (3) on trunnion (6) with marks aligned.
   b. Apply sealing compound (Item 34) to threads of 12 screws (7).
   c. Apply sealing compound (Item 31) to threads of 12 screws (7).
   d. Install 12 washers (8) and screws (7) on mount (3) and trunnion (6).

51. CROSS TORQUE 12 SCREWS (7) ON MOUNT (3) TO 73-79 IN-LB (84-91 CMKg).

52. INSTALL ARM (9) ON BEARING RETAINER (2).
   a. Place arm (9) on bearing retainer (2) with fingers (10) in lugs (11) on spindle (12).
   b. Apply sealing compound (Item 34) to threads of eight screws (13).
   c. Apply sealing compound (Item 31) to threads of eight screws (13).
   d. Install eight washers (14) and screws (13) on arm (9) and bearing retainer (2).

END OF TASK
REPAIR TOW ROTOR SWITCH ASSEMBLY

INITIAL SETUP

Tools:
Turret mechanic’s tool kit

Equipment Conditions:
TOW rotor switch assembly on workbench

Personnel Required:
Tank Turret Repairer 45K10

REPAIR


END OF TASK
REPAIR TOW LAUNCHER WIRING HARNESS 2W104

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Equipment Conditions:
- TOW launcher wiring harness 2W104 on workbench

Personnel Required:
- Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.

4. REPAIR PLUGS 2W104P1 AND 2W104P2. See task: REPAIR/REPLACE MULTI-PIN JACK/PLUG FRONT AND REAR RELEASE, page 4-2.7.

5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

GO TO NEXT PAGE
REPAIR TOW RESOLVER ELECTRICAL JACK

INITIAL SETUP

Tools:
Turret mechanic's tool kit

Equipment Conditions:
TOW resolver wiring harness on workbench

Personnel Required:
Tank Turret Repairer 45K10

REPAIR

NOTE
Only jack J1 can be repaired on TOW resolver wiring harness.


END OF TASK
### Section II. MAINTENANCE OF TOW CONTROL BOX AND PANEL

#### TASK INDEX

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REPLACE TOW CONTROL BOX INDICATOR PANEL LIGHTS

DESCRIPTION

This task covers: Remove (page 8-63). Install (page 8-66).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit
- Acid swabbing brush — 7920-00-514-2417
- Electric soldering iron — 3439-00-853-8760
- Thermal wire stripper — 45-130

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 55-1500-323-25

Materials/Parts:
- Oil varnish (Item 29, App B)
- Insulating compound (Item 20, App B)
- Electrical tape (Item 14, App B)
- Lock washer (9)
- Indicator light
- Preformed packing

Equipment Conditions:
- TOW control box on workbench

REMOVE

NOTE
All indicator lights in TOW control box are removed and installed the same way.

1. REMOVE PANEL (1) FROM MOUNT (2).
   a. Remove six screws (3) and panel (1) from mount (2).

2. REMOVE BRACKET (4) FROM BOX (5).
   a. Remove four nuts (6), washers (7), and bracket (4) from box (5).

GO TO NEXT PAGE
3. REMOVE MOUNT (1) FROM BOX (2).
   a. Remove nine screws (3) and lock washers (4) from box (2). Discard lock washers.
   b. Remove mount (1) from box (2). Use flat-tip screwdriver (5) to pry mount loose.

4. REMOVE GASKET (6) FROM BOX (2).
   DISCARD GASKET.

NOTE
Step 4 should be done only if gasket is too worn or damaged for further use.

5. REMOVE CIRCUIT CARD A1 (7) FROM BOX (2).
   a. Remove three screws (8), two insulator discs (9), circuit card A1 (7), and three insulator discs (10) from box (2).

NOTE
Washers removed in step 5 will be installed in same position later. Note position of washers.
6. CUT TAPE (11) FROM LEADS (12) OF INDICATOR LIGHT. DISCARD TAPE.

7. UNSOLDER TWO LEADS (12) OF BAD INDICATOR LIGHT FROM CIRCUIT CARD A1 (7). See TM 55-1500-323-25. USE ELECTRIC SOLDERING IRON.

8. REMOVE BAD INDICATOR LIGHT (13) FROM MOUNT (1).
   a. Remove jam nut (14) from indicator light (13).
   b. Remove indicator light (13) with pre-formed packing (15) and two leads (12) from mount (1). Discard indicator light with preformed packing.
9. INSTALL NEW INDICATOR LIGHT (1) ON MOUNT (2).
   a. Install new preformed packing (3) on indicator light (1).
   b. Insert two leads (4) and indicator light (1) through mount (2).
   c. Install new jam nut (5) on indicator light (1).

10. SOLDER TWO LEADS (4) OF INDICATOR LIGHT ON CIRCUIT CARD A1 (6).
    See TM 55-1500-323-25. USE THERMAL WIRE STRIPPER AND ELECTRIC SOLDERING IRON.

11. APPLY THIN COAT OF INSULATING COMPOUND ON SOLDERED AREA ON BOTH SIDES OF CIRCUIT CARD A1 (6).

12. INSTALL CIRCUIT CARD A1 (6) ON BOX (7).
    a. Position three insulator discs (8) on bottom of circuit card A1 (6).
    b. Position circuit card A1 (6) on box (7), and install two insulator discs (9) and three screws (10).
13. WRAP LEADS (11) OF INDICATOR LIGHT (1) WITH TAPE (12).

14. APPLY OIL VARNISH TO INSIDE OF TOW CONTROL BOX AND ALL PARTS. USE ACID SWABBING BRUSH.

NOTE
Step 15 should be done only if gasket was removed.

15. INSTALL GASKET (13) ON BOX (7).
   a. Apply thin coat of adhesive EC2141 to one side of gasket (13) and mating surface of box (7). Let adhesive dry 10-20 minutes until tacky.
   b. Slip gasket (13) over mount (2) and press cemeted side of gasket on box (7).

16. INSTALL MOUNT (2) ON BOX (7).
   a. Install mount (2) on box (7) with nine new lock washers (14) and screws (15).

GO TO NEXT PAGE
17. INSTALL BRACKET (1) ON BOX (2).
   a. Install bracket (1) on box (2) with four washers (3), and nuts (4).

18. INSTALL PANEL (5) ON MOUNT (6).
   a. Install panel (5) on mount (6) with six screws (7).

19. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
REPAIR TOW CONTROL BOX

DESCRIPTION

This task covers:

Switches S2 thru S5: Remove (page 8-73). Install (page 8-73).
Switch S1: Remove (8-74). Install (page 8-75).
Diodes CR1 thru CR8: Remove (page 8-78). Install (page 8-78).

INITIAL SETUP

Tools:

- Turret mechanic's tool kit
- Electric soldering iron — 3439-00-853-8760
- Thermal wire stripper — 45-130
- Acid swabbing brush — 7920-00-514-2417

Personnel Required:

Tank Turret Repairer 45K10

References:

TM 55-1500-323-25

Materials/Parts:

- Oil varnish (Item 29, App B)
- Lock washer (9)

Equipment Conditions:

TOW control box on workbench

NOTE

Wiring diagram (FO-4) will help you identify leads and terminals for all steps, 1-48.

JACK J1

REMOVE

1. REMOVE BRACKET (1) FROM BOX (2).

   a. Remove four nuts (3), washer (4), and bracket (1) from box (2).

GO TO NEXT PAGE
2. REMOVE MOUNT (1) FROM BOX (2).
   a. Remove nine screws (3) and lock washers (4) from box (2). Discard lock washers.
   b. Remove mount (1) from box (2). Use flat-tip screwdriver (5) to pry mount loose.

3. REMOVE GASKET (6) FROM BOX (2). DISCARD GASKET.

4. REMOVE CIRCUIT CARD A1 (7) FROM BOX (2).
   a. Remove three screws (8), two insulator disks (9), circuit card A1 (7), and three insulator disks (10) from box (2).

5. REMOVE JACK J1 (11) FROM BOX (2).
   a. Remove jam nut (12) from jack J1 (11) and push jack J1 through box (2).
   b. Remove preformed packing (13) from jack J1 (11). Discard preformed packing.

NOTE
Washers removed in Step 4 will be installed in same position later. Position of washers must be noted.
6. UNSOLDER 26 LEADS (14) FROM JACK J1 (11). TAG LEADS. See page 4-2.1. USE ELECTRICAL SOLDERING IRON.

7. SOLDER 26 LEADS (14) ON JACK J1 (11). See page 4-2.1. USE THERMAL WIRE STRIPPER AND ELECTRIC SOLDERING IRON.

8. INSTALL JACK J1 (11) ON BOX (2).
   a. Install preformed packing (13) on jack J1 (11).
   b. Insert jack J1 (11) through box (2), and install jam nut (12).

9. INSTALL CIRCUIT CARD A1 (7) ON BOX (2).
   a. Install three insulator disks (10), circuit card A1 (7), two insulator disks (9), and three screws (8) on box (2).
10. APPLY OIL VARNISH TO INSIDE OF TOW CONTROL BOX, (1) AND ALL PARTS. USE ACID SWABBING BRUSH.

11. INSTALL GASKET (2) ON BOX (1).
   a. Apply thin coat of adhesive EC2141 to one side of gasket (2) and mating surface of box (1). Let dry 10-20 minutes until tacky.
   b. Slip gasket (2) over mount (3) and press cemented side of gasket on box (1).

12. INSTALL MOUNT (3) ON BOX (1).
   a. Install mount (3) on box (1) with nine new lock washers (4) and screws (5).

13. INSTALL BRACKET (6) ON BOX (1).
   a. Install bracket (6) on box (1) with four washers (7) and nuts (8).

14. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.
NOTE
Steps 15 thru 21 apply to switches S2, S3, S4, and S5.

15. DO STEPS 1 THRU 3.

16. REMOVE PUSH SWITCH (9) FROM MOUNT (3).
   a. Remove jam nut with boot (10) from push switch (9). Keep jam nut with boot.
   b. Remove push switch (9) from mount (3).
   c. Remove lock washer (11) from push switch (9). Discard lock washer.

17. UNSOLDER FOUR LEADS (12) FROM PUSH SWITCH (9). TAG LEADS. See TM 55-1500-323-25. USE ELECTRIC SOLDERING IRON.

18. SOLDER FOUR LEADS (12) ON PUSH SWITCH (9). See TM 55-1500-323-25. USE THERMAL WIRE STRIPPER AND ELECTRIC SOLDERING IRON.
NOTE
Jam nut with boot, removed in step 16, is used to secure push switch to panel.

19. INSTALL PUSH SWITCH (1) ON MOUNT (2).
   a. Install lock washer (3) on push switch (1).
   b. Insert push switch (1) through back of mount (2). Install jam nut with boot (4).

20. DO STEPS 10 THRU 13.

21. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

22. DO STEPS 1 THRU 3.

23. REMOVE PANEL (5) FROM MOUNT (2).
   a. Remove six screws (6) and panel (5) from mount (2).
24. REMOVE TOGGLE SWITCH S1 (7) FROM MOUNT (2).
   a. Remove jam nut (8), lock washer (9), and lock ring (10) from toggle switch S1 (7). Discard lock washer and lock ring.
   b. Remove toggle switch S1 (7) from mount (2).
   c. Remove jam nut (11) from toggle switch S1 (7).

25. UNSOLDER FIVE LEADS (12) FROM TOGGLE SWITCH S1 (7). TAG LEADS. See TM 55-1500-323-25. USE ELECTRIC SOLDERING IRON.

26. SOLDER FIVE LEADS (12) ON TOGGLE SWITCH S1 (7). See TM 55-1500-323-25. USE THERMAL WIRE STRIPPER AND ELECTRIC SOLDERING IRON.
27. INSTALL TOGGLE SWITCH S1 (1) ON MOUNT (2).
   a. Install jam nut (3) on toggle switch S1 (1).
   b. Insert toggle switch S1 (1) through mount (2).
   c. Install lock ring (4), lock washer (5), and jam nut (6) on toggle switch S1 (1).

28. INSTALL PANEL (7) ON MOUNT (2).
   a. Install panel (7) on mount (2) with six screws (8).

29. DO STEPS 10 THRU 13.

30. TURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

31. DO STEPS 1 THRU 3.

   NOTE
   Washers removed in step 32 will be installed in same position later. Position of washers must be noted.

32. REMOVE CIRCUIT CARD A1 (9) FROM BOX (10).
   a. Remove three screws (11), two insulator disks (12), circuit card A1 (9), and three insulator disks (13) from box (10).
33. UNSOLDER 44 LEADS (14) FROM CIRCUIT CARD A1 (9). TAG LEADS. See TM 55-1500-323-25. USE ELECTRIC SOLDERING IRON.

34. SOLDER 44 LEADS (14) ON CIRCUIT CARD A1 (9). See TM 55-1500-323-25. USE ELECTRIC SOLDERING IRON AND THERMAL WIRE STRIPPER.

35. APPLY THIN COAT OF AEROSOL INSULATING COMPOUND TO SOLDERED AREA ON BOTH SIDES OF CIRCUIT CARD A1 (9).

36. INSTALL CIRCUIT CARD A1 (9) ON BOX (10).
   a. Install three insulator disks (13), circuit card A1 (9), two insulator disks (12), and three screws (11) on box (10).

37. DO STEPS 10 THRU 13.

38. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

GO TO NEXT PAGE
DIODES CR1 THRU CR8

**REMOVE**

**NOTE**
Steps 39 thru 46 apply to diodes CR1 thru CR8. On some vehicles, circuit card A1 will not have diodes and these steps will not be done.

39. DO STEPS 1 THRU 3.

**NOTE**
Washers removed in step 40 will be installed in same position later. Position of washers must be noted.

40. REMOVE CIRCUIT CARD A1 (1) FROM BOX (2).
   a. Remove three screws (3), two insulator disks (4), circuit card A1 (1), and three insulator disks (5) from box (2).

41. UNSOLDER DIODE (6) FROM CIRCUIT CARD A1 (1). MARK DIRECTION OF DIODE. See TM 55-1500-323-25. USE SOLDERING IRON.

42. MATCH DIODE DIRECTION AND SOLDER DIODE (6) ON CIRCUIT CARD A1 (1). See TM 55-1500-323-25. USE THERMAL WIRE STRIPPER AND SOLDERING IRON.
43. APPLY THIN COAT OF AEROSOL INSULATING COMPOUND TO SOLDERED AREA ON BOTH SIDES OF CIRCUIT CARD A1 (1).

44. INSTALL CIRCUIT CARD A1 (1) ON BOX (2).
   a. Install three insulator disks (5), circuit card A1 (1), two insulator disks (4), and three screws (3) on box (2).

45. DO STEPS 10 THRU 13

46. RETURN TO FVS LRU TROUBLESHOOTING. VERIFY NO FAULT.

END OF TASK
### Section III. MAINTENANCE OF POWER CONVERTER UNIT

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REPLACE EMI FILTER ASSEMBLY

DESCRIPTION

This task covers: Remove (page 8-80.1). Install (page 8-80.2).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Personnel Required:
- Tank Turret Repairer 45K10

Equipment Conditions:
- Power control unit on workbench

Materials/Parts:
- Non-electrical wire (Item 27, App B)
- Grease (Item 43, App B)
- Preformed packing (3)
- EMI filter assembly

REMOVE

1. REMOVE SWITCHING REGULATOR ASSEMBLY. See task: REPLACE SWITCHING REGULATOR ASSEMBLY, page 8-80.11.

   CAUTION
   Jacks may crack or break if jackscrews are not loosened by alternate one-half turns.

2. REMOVE HARNESS JACK (1) FROM BOARD ASSEMBLY (2).
   a. Loosen two jackscrews (3) by alternate one-half turns.
   b. Remove harness jack (1) from board assembly (2).

GO TO NEXT PAGE
3. REMOVE LOCK WIRE (1) FROM THREE JAM NUTS (2). DISCARD LOCK WIRE.

4. REMOVE EMI FILTER ASSEMBLY (3) FROM POWER CONVERTER UNIT (4).
   a. Remove three jam nuts (2) and EMI filter assembly (3) from power converter unit (4).

5. REMOVE THREE PREFORMED PACKINGS (5) FROM JACKS J1 (6), J2 (7), AND J3 (8). DISCARD PREFORMED PACKINGS.

6. INSTALL THREE NEW PREFORMED PACKINGS (5) ON JACKS J1 (6), J2 (7), AND J3 (8) ON NEW EMI FILTER ASSEMBLY (3).
8. INSTALL NEW EMI FILTER ASSEMBLY (3) IN POWER CONVERTER UNIT (4).
   a. Install EMI filter assembly (3) and three jam nuts (2) on power converter unit (4).
   b. TORQUE THREE JAM NUTS (2) TO 10-11 FT-LB (1-2 MKG).

7. APPLY THIN COAT OF GREASE TO THREE PREFORMED PACKINGS (5) ON JACKS J1 (6), J2 (7), AND J3 (8).

CAUTION
Jacks may crack or break if jackscrews are not tightened by alternate one-half turns.

10. INSTALL HARNESS JACK (9) ON BOARD ASSEMBLY (10).
   a. Install harness jack (9) on board assembly (10).
   b. Tighten two jackscrews (11) by alternate one-half turns.

9. INSTALL NEW LOCK WIRE (1) ON THREE MOUNTING NUTS (2).

11. INSTALL SWITCHING REGULATOR ASSEMBLY. See task: REPLACE SWITCHING REGULATOR ASSEMBLY, page 8-80.11.

END OF TASK
REPAIR POWER CONVERTER UNIT

INITIAL SETUP

Tools:
Turret mechanic's tool kit

Personnel Required:
Tank Turret Repairer 45K10

Equipment Conditions:
Power converter unit on workbench

REPAIR

NOTE
Step 1 should be done only if captive screw needs replacing.

Captive screw on vent screw side of power converter unit requires one lock washer.

1. REMOVE DAMAGED CAPTIVE SCREW (1) FROM POWER CONVERTER UNIT (2).
   a. Remove captive screw (1), lock washer (3), and washer (4) from power converter unit (2). Discard captive screw and lock washer.

GO TO NEXT PAGE
2. REMOVE DAMAGED VENT SCREW (3) FROM POWER CONVERTER UNIT (2). Discard vent screw and preformed packing.

3. REMOVE DAMAGED NAMEPLATE (1) FROM POWER CONVERTER UNIT (2). Discard nameplate.

NOTE
Step 3 should be done only if vent screw needs replacing.

4. REMOVE GENERATOR ASSEMBLY. See task: REPLACE AC GENERATOR ASSEMBLY, page 8-80.19.

5. REMOVE LINEAR REGULATOR II ASSEMBLY. See task: REPLACE LINEAR REGULATOR II ASSEMBLY, page 8-80.21.


7. REMOVE CONVERTER ASSEMBLY. See task: REPLACE CONVERTER ASSEMBLY, page 8-80.17.

8. REMOVE SWITCHING REGULATOR ASSEMBLY. See task: REPLACE SWITCHING REGULATOR ASSEMBLY, page 8-80.11.
CAUTION
Jacks may crack or break if jackscrews are not loosened by alternate one-half turns.

9. REMOVE HARNESS JACK (5) FROM BOARD ASSEMBLY (6).
   a. Loosen two jackscrews (7) by alternate one-half turns.
   b. Remove harness jack (5) from board assembly (6).

10. REMOVE BOARD ASSEMBLY (6) FROM POWER CONVERTER UNIT (2).
    a. Remove six screws (8) from board assembly (6).
    b. Lift board assembly (6) from power converter unit (2).

11. INSTALL BOARD ASSEMBLY (6) IN POWER CONVERTER UNIT (2).
    a. Place board assembly (6) in power converter unit (2).
    b. Install six screws (8) in board assembly (6).
    c. TORQUE SIX SCREWS (8) TO 9-10 IN-LB (10-12 CMKG).

NOTE
Jacks may crack or break if jackscrews are not tightened by alternate one-half turns.

12. INSTALL HARNESS JACK (5) ON BOARD ASSEMBLY (6).
    a. Install harness jack (5) on board assembly (6).
    b. Tighten two jackscrews (7) by alternate one-half turns.

GO TO NEXT PAGE
13. INSTALL SWITCHING REGULATOR ASSEMBLY. See task: REPLACE SWITCHING REGULATOR ASSEMBLY page 8-80.11.


15. INSTALL LINEAR REGULATOR I ASSEMBLY. See task: REPLACE LINEAR REGULATOR I ASSEMBLY, page 8-80.25.


17. INSTALL GENERATOR ASSEMBLY. See task: REPLACE AC GENERATOR ASSEMBLY, page 8-80.19.

NOTE
Step 18 should be done only if vent screw was removed in step 3.

18. INSTALL VENT SCREW (1) ON POWER CONVERTER UNIT (2).
   a. Apply thin coat of grease (APIEZON L) to preformed packing (3).
   b. Install preformed packing (3) and vent screw (1) on power converter unit (2).
   c. Tighten vent screw (1).
   d. TORQUE VENT SCREW (1) TO 18-20 IN-LB (21-23 CMKG).

NOTE
Step 19 should be done only if nameplate was removed in step 2.

19. INSTALL NAMEPLATE (4) ON POWER CONVERTER UNIT (2).
   a. Apply solvent PD680 to adhesive side of nameplate (4).
   b. Attach nameplate (4) to power converter unit (2).

WARNING
Solvent fumes can burn and could poison you. Read warning on front page of this manual.
Note
Step 20 should be done only if captive screw was removed in step 1.

20. INSTALL CAPTIVE SCREW (5) IN POWER CONVERTER UNIT (2).
   a. Install washer (6), lock washer (7), and captive screw (5) in power converter unit (2).


End of Task
REPLACE SWITCHING REGULATOR ASSEMBLY

DESCRIPTION

This task covers: Remove (page 8-80.11). Install (page 8-80.12).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Personnel Required:
- Tank turret repairer 45K10

Materials/Parts:
- Switching regulator assembly

Equipment Conditions:
- Power converter unit on workbench

REMOVE

1. REMOVE COVER ASSEMBLY. See task: REPAIR COVER ASSEMBLY, page 8-80.13.

2. REMOVE REGULATOR ASSEMBLY (1) FROM POWER CONVERTER UNIT (2).
   a. Loosen four screw assemblies (3).
   b. Remove regulator assembly (1) from power converter unit (2).

GO TO NEXT PAGE
Step 3 should be done only if screw assembly needs replacing.

3. REMOVE DAMAGED SCREW ASSEMBLY (1) FROM REGULATOR ASSEMBLY (2).
   a. Remove screw assembly (1), preformed packing (3), and washer (4) from regulator assembly (2). Discard preformed packing.

4. INSTALL SCREW ASSEMBLY (1) IN NEW REGULATOR ASSEMBLY (2).
   a. Install washer (4), preformed packing (3), and screw assembly (1) in regulator assembly (2).

5. INSTALL REGULATOR ASSEMBLY (2) IN POWER CONVERTER UNIT (5).
   a. Install regulator assembly (2) in power converter unit (5).
   b. Tighten four screw assemblies (1).
   c. TORQUE FOUR SCREW ASSEMBLIES (1) TO 9-11 IN-LB (10-13 CMKG).


END OF TASK
1. REMOVE COVER ASSEMBLY (1) FROM POWER CONTROL UNIT (2).
   a. Loosen 10 captive screws (3).
   b. Remove cover assembly (1) from power control unit (2).
NOTE
Step 2 should be done only if captive screw(s) is damaged.

2. REMOVE DAMAGED CAPTIVE SCREW(S) (1) FROM COVER ASSEMBLY (2). DISCARD CAPTIVE SCREW(S).

NOTE
Step 3 should be done only if preformed packing is too damaged for further use.

3. REMOVE DAMAGED PREFORMED PACKING (3) FROM COVER ASSEMBLY (2). DISCARD PREFORMED PACKING.

NOTE
Steps 4 and 5 should be done only if pads are too damaged for further use.

4. REMOVE DAMAGED PADS (4) FROM COVER ASSEMBLY (2). DISCARD PADS.

5. INSTALL PADS (4) ON COVER ASSEMBLY (2).
   a. Apply adhesive (Type 1, MIL-A-46146) to one side of pads (4).
   b. Apply adhesive (Type 1, MIL-A-46146) to surface of cover assembly (2). Allow adhesive to dry for 2 to 3 minutes.
   c. Press adhesive coated side of pads (4) onto cover assembly (2).
6. INSTALL PREFORMED PACKING (3) ON COVER ASSEMBLY (2).
   a. Apply adhesive (Type 1, MIL-A-46146) to groove (5) in cover assembly (2).
   b. Apply adhesive (Type 1, MIL-A-46146) to preformed packing (3). Allow adhesive to dry for 2 to 3 minutes.
   c. Press preformed packing (3) into groove (5).

7. INSTALL CAPTIVE SCREW(S) (1) ON COVER ASSEMBLY (2).

8. APPLY THIN COAT OF GREASE TO PREFORMED PACKING (3) ON COVER ASSEMBLY (2).

9. INSTALL COVER ASSEMBLY (2) ON POWER CONTROL UNIT (6).
   a. Install cover assembly (2) on power control unit (6).
   b. Tighten 10 captive screws (1).
   c. TORQUE 10 CAPTIVE SCREWS (1) TO 9-11 IN-LB (10-13 CMKG).

END OF TASK
REPLACE CONVERTER ASSEMBLY

DESCRIPTION

This task covers: Remove (page 8-80.17). Install (page 8-80.18).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Personnel Required:
- Tank turret repairer 45K10

Equipment Conditions:
- Power converter unit on workbench

REMOVE

1. REMOVE COVER ASSEMBLY. See task: REPAIR COVER ASSEMBLY, page 8-80.13.

2. REMOVE CONVERTER ASSEMBLY (1) FROM POWER CONVERTER UNIT (2).
   a. Loosen four screw assemblies (3).
   b. Remove coverter assembly (1) from power converter unit (2).

GO TO NEXT PAGE
3. REMOVE DAMAGED SCREW ASSEMBLY (1) FROM CONVERTER ASSEMBLY (2).
   a. Remove screw assembly (1), preformed packing (3), and washer (4) from converter assembly (2). Discard preformed packing.

4. INSTALL SCREW ASSEMBLY (1) IN CONVERTER ASSEMBLY (2).
   a. Install washer (4), preformed packing (3), and screw assembly (1) in converter assembly (2).

5. INSTALL CONVERTER ASSEMBLY (2) IN POWER CONVERTER UNIT (5).
   a. Install converter assembly (2) in power converter unit (5).
   b. Tighten four screw assemblies (1).
   c. TORQUE FOUR SCREW ASSEMBLIES (1) TO 9-11 IN-LB (10-13 CMKG).


END OF TASK
REPLACE AC GENERATOR ASSEMBLY

DESCRIPTION

This task covers: Remove (page 8-80.19). Install (page 8-80.20).

INITIAL SETUP

Tools: Turret mechanic's tool kit

Personnel Required: Tank Turret Repairer 45K10

Materials/Parts: AC generator assembly

Equipment Conditions: Power control unit on workbench

REMOVE

1. REMOVE COVER ASSEMBLY. See task: REPAIR COVER ASSEMBLY, page 8-80.13.

2. REMOVE AC GENERATOR ASSEMBLY (1) FROM POWER CONVERTER UNIT (2).
   a. Loosen four screw assemblies (3).
   b. Remove AC generator assembly (1) from power converter unit (2).

GO TO NEXT PAGE
3. REMOVE DAMAGED SCREW ASSEMBLY (1) FROM AC GENERATOR ASSEMBLY (2).
   a. Remove screw assembly (1), preformed packing (3), and washer (4) from AC generator assembly (2). Discard preformed packing.

4. INSTALL SCREW ASSEMBLY (1) IN NEW AC GENERATOR ASSEMBLY (2).
   a. Install washer (4), preformed packing (3), and screw assembly (1) in AC generator assembly (2).

5. INSTALL AC GENERATOR ASSEMBLY (2) IN POWER CONVERTER UNIT (5).
   a. Install AC generator assembly (2) in power converter unit (5).
   b. Tighten four screw assemblies (1).
   c. TORQUE FOUR SCREW ASSEMBLIES (1) TO 9-11 IN-LB (10-13 CMKG).


END OF TASK
REPLACE LINEAR REGULATOR II ASSEMBLY

DESCRIPTION

This task covers: Remove (page 8-80.21). Install (page 8-80.22).

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Personnel Required:
- Tank turret repairer 45K10

Equipment Conditions:
- Power converter unit on workbench

REMOVE

1. REMOVE COVER ASSEMBLY. See task: REPAIR COVER ASSEMBLY, page 8-80.13.

2. REMOVE LINEAR REGULATOR II ASSEMBLY (1) FROM POWER CONVERTER UNIT (2).
   a. Loosen two screw assemblies (3).
   b. Remove linear regulator II assembly (1) from power converter unit (2).

GO TO NEXT PAGE
3. REMOVE DAMAGED SCREW ASSEMBLY (1) FROM REGULATOR ASSEMBLY (2).
   a. Remove screw assembly (1), preformed packing (3), and washer (4) from regulator assembly (2). Discard preformed packing.

4. INSTALL SCREW ASSEMBLY (1) IN REGULATOR ASSEMBLY (2).
   a. Install washer (4), preformed packing (3), and screw assembly (1) on regulator assembly (2).

5. INSTALL LINEAR REGULATOR II ASSEMBLY (5) IN POWER CONVERTER UNIT (6).
   a. Install linear regulator II assembly (5) in power converter unit (6).
   b. Tighten two screw assemblies (1).
   c. TORQUE TWO SCREW ASSEMBLIES (1) TO 9-11 IN-LB (10-13 CMKG).


END OF TASK
REPLACE LINEAR REGULATOR I ASSEMBLY

DESCRIPTION

This task covers: Remove (page 8-80.25). Install (page 8-80.26).

INITIAL SETUP

Tools: Turret mechanic's tool kit

Personnel Required: Tank Turret Repairer 45K10

Materials/Parts: Linear regulator I assembly

Equipment Conditions: Power converter unit on workbench

REMOVE

1. REMOVE COVER ASSEMBLY. See task: REPAIR COVER ASSEMBLY, page 8-80.13.

2. REMOVE REGULATOR ASSEMBLY (1) FROM POWER CONVERTER UNIT (2).
   a. Loosen two screws assemblies (3).
   b. Remove regulator assembly (1) from power converter unit (2).

GO TO NEXT PAGE
Step 3 should be done only if screw assembly needs replacing.

3. REMOVE DAMAGED SCREW ASSEMBLY (1) FROM REGULATOR ASSEMBLY (2).
   a. Remove screw assembly (1), preformed packing (3), and washer (4) from regulator assembly (2). Discard preformed packing and screw assembly.

Step 4 should be done only if screw assembly was removed in step 3.

4. INSTALL SCREW ASSEMBLY (1) IN NEW REGULATOR ASSEMBLY (2).
   a. Install washer (4), preformed packing (3), and screw assembly (1) in regulator assembly (2).

5. INSTALL REGULATOR ASSEMBLY (2) IN POWER CONVERTER UNIT (5).
   a. Install regulator assembly (2) in power converter unit (5).
   b. Tighten two screw assemblies (1).
   c. TORQUE TWO SCREW ASSEMBLIES (1) TO 9-11 IN-LB (10-13 CMKg).


END OF TASK
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REPAIR WIRING HARNESS 2W16

INITIAL SETUP

Tools:
- Turret mechanic’s tool kit

Personnel Required:
- Tank Turret Repairer 45K10

References:
- TM 9-2350-252-20-2

Equipment Conditions:
- Wiring harness 2W16 on workbench

REPAIR

1. HOOK-UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


END OF TASK
**INITIAL SETUP**

**Tools:**
Turret mechanic's tool kit

**Equipment Conditions:**
Wiring harness 2W101 on workbench

**Personnel Required:**
Tank Turret Repairer 45K10

**REPAIR**

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.
REPAIR WIRING HARNESS 2W103

INITIAL SETUP

Tools:
Turret mechanic's tool kit

Equipment Conditions:
Wiring harness 2W103 on workbench

Personnel Required:
Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.

4. REPAIR FIVE PLUGS 2W103P1, 2W103P2, 2W103P3, 2W103P4, 2W103P5, AND JACK 2W103J1. See task: REPAIR/REPLACE MULTI-PIN JACK/PLUG, FRONT AND REAR RELEASE, page 4-2.7.

5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

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REPAIR WIRING HARNESS 2W102

INITIAL SETUP

Tools:
- Turret mechanic's tool kit

Equipment Conditions:
- Wiring harness 2W102 on workbench

Personnel Required:
- Tank Turret Repairer 45K10

REPAIR

1. HOOK UP STE-M1/FVS TO 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

2. PERFORM TEST 2390. NOTE WIRES THAT FAILED TEST.

3. PERFORM TEST 2391. NOTE WIRES THAT FAILED TEST.


5. REMOVE STE-M1/FVS FROM 24V POWER SOURCE. See task: REMOVE/HOOK-UP STE-M1/FVS TEST SET FROM SLAVE, page 5-733.

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# CHAPTER 9
## MAINTENANCE OF BACKUP SIGHT
### Section I. MAINTENANCE OF BACKUP SIGHT
#### OUTER HEAD ASSEMBLY

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REPLACE OUTER HEAD SEAL

DESCRIPTION

This task covers: Remove (page 9-3). Install (page 9-4).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment

Personnel Required:
- FC Instrument Rep 41C

Materials/Parts:
- Grease
- Self-locking washer (4)
- Preformed packing

Equipment Conditions:
- Back-up sight on workbench

REMOVE

1. REMOVE TELESCOPE ASSEMBLY (1) FROM OUTER HEAD ASSEMBLY (2).
   a. Remove four screws (3), lock washers (4), and washers (5) from telescope assembly (1). Discard lock washers.
   b. Lift telescope assembly (1) from outer head assembly (2).

2. REMOVE PREFORMED PACKING (6) FROM TELESCOPE ASSEMBLY (1). DISCARD PREFORMED PACKING.

GO TO NEXT PAGE
3. INSTALL NEW PREFORMED PACKING (1) ON TELESCOPE ASSEMBLY (2).
   a. Apply thin film of grease to preformed packing (1).
   b. Install preformed packing (1) on telescope assembly (2).

4. INSTALL TELESCOPE ASSEMBLY (2) IN OUTER HEAD ASSEMBLY (3).
   a. Aline outer head (3) to telescope assembly (2).
   b. Insert telescope assembly (2) into outer head assembly (3).
   c. Install four washers (4), new lockwashers (5), and screws (6) on telescope assembly (2).

5. RETURN TO FVS TROUBLESHOOTING.
   VERIFY NO FAULTS.

END OF TASK
REPLACE OUTER HEAD WINDOW/SEAL

DESCRIPTION

This task covers: Remove (page 9-7). Install (page 9-8).

INITIAL SETUP

Tools:
- Instrument and fire control system
- Repair shop equipment

Personnel Required:
- FC Instrument Rep 41C

Materials/Parts:
- Primer
- Grease
- Sealing Compound
- Window
- Seal

Equipment Conditions:
- Backup sight on workbench

REMOVE

1. REMOVE WINDOW FRAME (1) FROM OUTER HEAD ASSEMBLY (2).
   a. Remove five screws (3) and window frame (1) from outer head assembly (2).

2. REMOVE WINDOW (4) AND SEAL (5) FROM WINDOW FRAME (1).
   a. Lift out window (4) with seal (5) from window frame (1).
   b. Remove seal (5) from window (4).

GO TO NEXT PAGE
3. INSTALL NEW WINDOW (1) AND NEW SEAL (2) ON WINDOW FRAME (3).
   a. Apply thin film of grease to seal (2).
   b. Install seal (2) on window (1).
   c. Install window (1) with seal (2) in window frame (3).

4. INSTALL WINDOW FRAME (3) ON OUTER HEAD ASSEMBLY (4).
   a. Apply primer to five screws (5). Allow to dry.
   b. Apply sealing compound to five screws (5).
   c. Install window frame (3) and five screws (5) on outer head assembly (4).

5. RETURN TO FVS TROUBLESHOOTING. VERIFY NO FAULTS FOUND.

END OF TASK
REPLACE OUTER HEAD VALVE STEM AND PACKING

DESCRIPTION

This task covers: Remove (page 9-9). Install (page 9-10).

INITIAL SETUP

Tools: Instrument and fire control system repair shop equipment

Personnel Required: FC Instrument Rep 41C

Equipment Conditions: Back-up sight on workbench

Materials/Parts:

- Primer
- Sealing compound
- Grease
- Valve stem
- Preformed packing
- Retaining ring
- Lock washer (4)

REMOVE

1. REMOVE TELESCOPE ASSEMBLY (1) FROM OUTER HEAD ASSEMBLY (2).
   a. Remove four screws (3), lock washers (4), and washers (5) from telescope assembly (1). Discard lock washers.
   b. Lift telescope assembly (1) from outer head assembly (2).

GO TO NEXT PAGE
3. REMOVE VALVE STEM (4) FROM OUTER HEAD (2).
   a. Remove retaining ring (5) from valve stem (4). Discard retaining ring.
   b. Remove valve stem (4) from outer head (2).
   c. Remove preformed packing (6) from valve stem (4).

2. REMOVE WINDOW FRAME (1) FROM OUTER HEAD ASSEMBLY (2).
   a. Remove five screws (3) and window frame (1) from outer head assembly (2).

INSTALL

4. INSTALL NEW VALVE STEM (4) ON OUTER HEAD (2).
   a. Apply thin film of grease to new preformed packing (6).
   b. Install preformed packing (6) on valve stem (4).
   c. Install valve stem (4) in outer head (2).
   d. Install new retaining ring (5) on valve stem (4).

5. INSTALL WINDOW FRAME (1) ON OUTER HEAD ASSEMBLY (2).
   a. Apply primer to five screws (3) and allow primer to dry.
   b. Apply sealing compound to five screws (3).
   c. Install window frame (1) and five screws (3) on outer head assembly (2).
6. INSTALL TELESCOPE ASSEMBLY (7) ON OUTER HEAD ASSEMBLY (2).
   a. Aline outer head assembly (2) with telescope assembly (7).
   b. Insert telescope assembly (7) into outer head assembly (2).
   c. Install four washers (8), new lock washers (9), and screws (10) on telescope assembly (7).

7. RETURN TO FVS TROUBLESHOOTING.
   VERIFY NO FAULTS FOUND.

END OF TASK
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REPLACE LENS JOURNAL ASSEMBLY AND SEALS

DESCRIPTION

This task covers: Remove (page 9-13). Install (page 9-14).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment

Personnel Required:
- FC Instrument Rep 41C

Materials/Parts:
- Adhesive
- Grease
- Lock washer (4)
- Preformed packing
- Quad ring seal
- Quad ring seal (2)

Equipment Condition:
- Backup sight on workbench

REMOVE

NOTE
Eyepiece housing must be in commander's position for removal of upper split ring.

1. REMOVE UPPER SPLIT RING (1) FROM EYEPIECE HOUSING ASSEMBLY (2).
   a. Remove four screws (3) and lock washers (4) from eyepiece housing assembly (2). Discard lock washers.
   b. Lift upper split ring (1) off eyepiece housing assembly (2).

2. PULL EYEPIECE HOUSING ASSEMBLY (2) AND LENS JOURNAL ASSEMBLY (5) FROM LOWER HOUSING ASSEMBLY (6).

GO TO NEXT PAGE
3. PULL LENS JOURNAL ASSEMBLY (1) FROM EYEPIECE HOUSING ASSEMBLY (2).

4. REMOVE LOWER SPLIT RING (3) AND QUAD RING SEAL (4) FROM EYEPIECE HOUSING ASSEMBLY (2).
   a. Remove lower split ring (3) and quad ring seal (4) from eyepiece housing assembly (2).
   b. Remove quad ring seal (4) from lower split ring (3). Discard quad ring seal.

5. REMOVE PREFORMED PACKING (5) AND TWO QUAD RING SEALS (6) FROM LENS JOURNAL ASSEMBLY (1). DISCARD PREFORMED PACKING AND TWO QUAD RING SEALS.

6. INSPECT LENS JOURNAL ASSEMBLY (1).
   a. Inspect lens journal assembly for damaged optics.
   b. Replace lens journal assembly (1) if defective.

7. INSTALL NEW PREFORMED PACKING (5) AND TWO NEW QUAD RING SEALS (6) ON LENS JOURNAL ASSEMBLY (1).
   a. Apply thin film of grease to preformed packing (5).
   b. Apply thin film of grease to two quad ring seals (6).
   c. Install preformed packing (5) and two quad ring seals (6) on lens journal assembly (1).
8. INSTALL LENS JOURNAL ASSEMBLY (1) ON LOWER HOUSING ASSEMBLY (7).
   a. Place lens journal assembly (1) on lower housing assembly (7).
   b. Aline screw holes in lens journal assembly (1) with screw holes in lower housing assembly (7).

9. INSTALL NEW QUAD RING SEAL (4) ON LOWER SPLIT RING (3).
   a. Apply adhesive to groove (8) of lower split ring (3).
   b. Install quad ring seal (4) on lower split ring (3).

10. INSTALL QUAD RING SEAL (4) AND LOWER SPLIT RING (3) ON EYEPIECE HOUSING ASSEMBLY (2).
    a. Apply grease to flange (9) on eyepiece housing assembly (2).
    b. Apply thin film of grease to quad ring seal (4).
    c. Install quad ring seal (4) and split ring (3) over flange (9) on eyepiece housing assembly (2).
11. INSTALL UPPER SPLIT RING (1) ON EYEPIECE HOUSING ASSEMBLY (2).

**NOTE**
Eyepiece housing must be in commander's position for proper installation.

12. INSTALL EYEPIECE HOUSING ASSEMBLY (2) ON LENS JOURNAL ASSEMBLY (3).
   a. Push eyepiece housing assembly (2) onto lens journal assembly (3).
   b. Rotate upper and lower split rings (1, 4) to align screw holes in upper and lower split rings with screw holes in lower housing assembly (5).
   c. Install four screws (6) and new lock washers (7) through upper and lower split rings (1, 4) into lower housing assembly (5).

13. RETURN TO FVS TROUBLESHOOTING. VERIFY NO FAULTS FOUND.

END OF TASK
Section III. MAINTENANCE OF BACKUP SIGHT EYEPIECE HOUSING ASSEMBLY

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REPLACE EYEPIECE HOUSING MIRRORS/SEALS

DESCRIPTION

This task covers: Remove (page 9-19). Install (page 9-20).

INITIAL SETUP

Tools:

- Instrument and fire control system repair shop equipment

Personnel Required:

- FC Instrument Rep 41C

Materials/Parts:

- Primer
- Sealing compound
- Grease
- Mirror
- Preformed packing
- Washers (3)

Equipment Conditions:

- Backup sight on workbench

REMOVE

NOTE
There are two eyepiece mirrors and seals. Removal of both mirrors and seals is the same.

1. REMOVE MIRROR (1) FROM EYEPIECE HOUSING ASSEMBLY (2).
   a. Remove three screws (3) from mirror (1).
   b. Remove mirror (1) and three washers (4) from eyepiece housing assembly (2). Discard washers.

GO TO NEXT PAGE
3. INSTALL NEW PREFORMED PACKING (1) ON NEW MIRROR (2).
   a. Apply thin film of grease to preformed packing (1).
   b. Install preformed packing (1) on mirror (2).

2. REMOVE PREFORMED PACKING (1) FROM MIRROR (2). DISCARD PREFORMED PACKING.

NOTE
There are two eyepiece mirrors and seals. Installation of both mirrors and seals is the same.

4. INSTALL MIRROR (2) ON EYEPIECE HOUSING ASSEMBLY (3).
   a. Apply primer to three screws (4). Allow to dry.
   b. Apply sealing compound to three screws (4).
   c. Place three new washers (5) and mirror (2) on eyepiece housing assembly (3).
   d. Install three screws (4) on eyepiece housing assembly (3).

5. RETURN TO FVS TROUBLESHOOTING. VERIFY NO FAULTS FOUND.

END OF TASK
REPLACE EYEPIECE ASSEMBLY SEAL

DESCRIPTION

This task covers:

Remove (page 9-25). Install (page 9-26).

INITIAL SETUP

Tools:

- Instrument and fire control system repair shop equipment
- Dioptometer — 768031
- Socket head key — 5120-01-043-2279

Personnel Required:

- FC Instrument Rep 41C

References:

- TM 9-2350-252-20-2

Materials/Parts:

- Grease
- Preformed packing

Equipment Conditions:

- Backup sight on workbench

REMOVE

1. REMOVE OPERATOR EYECUP. See TM 9-2350-252-20-2.

2. MEASURE AND RECORD POSITION OF EYEPIECE ASSEMBLY (1).
   a. Turn flange (2) to right as far as possible.
   b. Measure and record distance (3) between flange (2) and eyepiece housing assembly (4).

3. REMOVE EYEPIECE ASSEMBLY (1) FROM EYEPIECE HOUSING ASSEMBLY (4).
   a. Loosen lock screw (5) on eyepiece housing assembly (4). Use socket head key.
   b. Turn flange (2) to left until eyepiece assembly (1) can be removed from eyepiece housing assembly (4).

GO TO NEXT PAGE
4. REMOVE PREFORMED PACKING (1) FROM EYEPIECE HOUSING ASSEMBLY (2).

5. INSTALL NEW PREFORMED PACKING (1) IN EYEPIECE HOUSING ASSEMBLY (2).
   a. Apply thin film of grease to preformed packing (1).
   b. Install preformed packing (1) in eyepiece housing assembly (2).

6. TURN FLANGE (3) TO RIGHT UNTIL FLANGE HITS SLEEVE (4).

7. INSTALL EYEPIECE ASSEMBLY (5) ON EYEPIECE HOUSING ASSEMBLY (2).
   a. Screw eyepiece assembly (5) into eyepiece housing assembly (2) to distance recorded in step 2.
   b. Turn flange (3) right until white mark (6) is at -4 1/2 diopters.
   c. Tighten lock screw (7) on eyepiece housing assembly (2). Use socket head key.
8. SET DIOPTOMETER (8) DIOPTER SETTING TO 0 (9).

9. FOCUS BACKUP SIGHT (10) WITH DIOPTOMETER (8).
   a. Move flange (3) so that white mark (6) is pointing to 0.
   b. Set diophtometer (8) against eyepiece assembly lens (11).
   c. Rotate flange (3) until backup sight reticle is in sharp focus.
   d. Remove dioptometer (8) from eyepiece assembly lens (11).

GO TO NEXT PAGE
NOTE
If white mark on flange is within $\pm 1/4$ diopter of 0, diopter focus is adjusted correctly. Go to step 11.

If white mark on flange is more than $\pm 1/4$ diopter from 0, diopter focus is not adjusted correctly. Go to step 10.

10. ADJUST DIOPTER FOCUS.
   a. Note distance of white mark (1) from 0.
   b. Loosen lock screw (2) on eyepiece housing assembly (3). Use socket head key.
   c. Turn flange (4) toward 0 and continue past 0 until flange hits sleeve (5).
   d. Continue to turn flange (4) until white mark (1) moves two times the distance noted in step 10a.
   e. Tighten lock screw (2) on eyepiece housing assembly (3). Use socket head key.
   f. Check adjustment of diopter focus. Go back to step 9.


END OF TASK
REPLACE EYEPiece AIR VALVE ASSEMBLY

DESCRIPTION

This task covers: Remove (page 9-31). Install (page 9-32).

INITIAL SETUP

Tools:
Instrument and fire control systems repair shop equipment

Personnel Required:
FC Instrument Rep 41C

Equipment Conditions:
Backup sight on workbench

Materials/Parts:
Prime
Sealing compound
Cap
Core
Nut
Valve stem
Strap

REMOVE

1. REMOVE VALVE STEM (1) FROM EYEPiece HOUSING ASSEMBLY (2).
   a. Remove cap (3) from valve stem (1).
   b. Remove nut (4) and strap (5) from valve stem (1).
   c. Remove valve stem (1) and core (6) from eyepiece housing assembly (2).

GO TO NEXT PAGE
2. INSTALL NEW AIR VALVE ASSEMBLY (1) IN EYEPiece HOUSING ASSEMBLY (2).
   a. Install new core (3) in new valve stem (4).
   b. Apply primer to threads of valve stem (4). Allow primer to dry.
   c. Apply sealing compound to threads of valve stem (4).
   d. Install valve stem (4) in eyepiece housing assembly (2). Tighten valve stem until snug.
   e. Place one end of new strap (5) on valve stem (4).
   f. Install new nut (6) on valve stem (4). Tighten nut against strap (5).
   g. Place other end of strap (5) and new cap (7) on valve stem (4). Tighten cap until snug on strap.

3. RETURN TO FVS TROUBLESHOOTING. VERIFY NO FAULTS FOUND.

END OF TASK
REPLACE LOCK LEVER SPRING

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment

Materials/Parts:
- Grease
- Spring
- Dowel pin

Personnel Required:
- FC Instrument Rep 41C

Equipment Conditions:
- Backup sight on workbench

REMOVE

NOTE
Eyepiece housing assembly should be in gunner's position for removal and installation of lock lever.

1. REMOVE LOCK LEVER (1) AND SPRING (2) FROM EYEPIECE HOUSING ASSEMBLY (3).
   a. Remove dowel pin (4) from eyepiece housing assembly (3). Discard dowel pin.
   b. Remove lock lever (1) and spring (2) from eyepiece housing assembly (3).

INSTALL

NOTE
Dowel pin is tapered and can only be inserted from one direction.

2. INSTALL NEW SPRING (2) AND LOCK LEVER (1) ON EYEPIECE HOUSING ASSEMBLY (3).
   a. Apply thin film of grease to hole in lock lever (1).
   b. Place spring (2) and lock lever (1) on eyepiece housing assembly (3).
   c. Install new dowel pin (4) through lock lever (1) until flush with eyepiece housing assembly (3).

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REPLACE INNER STRUCTURE FLANGED BEARINGS

DESCRIPTION

This task covers: Remove (page 9-41). Install (page 9-43).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment
- Socket head screw — NAS 1351-08-24
- Pin splitter — 12309717

Personnel required:
- FC Instrument Rep 41C

References:
- TM 9-2350-252-20-2

Materials/Parts:
- Flanged bearings (2)
- Taper pin
- Self-locking washers (4)
- Retaining ring

Equipment conditions:
- Back-up sight on work bench

REMOVE

1. REMOVE TELESCOPE ASSEMBLY (1) FROM OUTER HEAD ASSEMBLY (2).
   a. Remove four screws (3), lock washers (4), and washers (5) from telescope assembly (1). Discard lock washers.
   b. Lift telescope assembly (1) from outer head assembly (2).

GO TO NEXT PAGE
CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

2. REMOVE DRIVE BAND (1) FROM SPRING ANCHOR (2).
   a. Install screw (3) through inner structure assembly (4) and into spring anchor (2). Tighten screw until drive band (1) is loose. Use socket head screw.
   b. Remove retaining ring (5) from spring anchor (2). Discard retaining ring.
   c. Remove drive band ends (1) from pin (6).
   d. Remove screw (3) from spring anchor (2) and inner structure assembly (4).

3. REMOVE MIRROR (7) AND PULLEY ASSEMBLY (8) FROM INNER STRUCTURE ASSEMBLY (4).
   a. Close tabs on taper pin (9) and tap taper pin out of pulley assembly (8). Discard taper pin.
   b. Pull mirror (7) from inner structure assembly (4).
   c. Remove pulley assembly (8) from inner structure assembly (4).
4. REMOVE TWO BEARINGS (10) FROM INNER STRUCTURE ASSEMBLY (4).

5. INSTALL TWO NEW BEARINGS (10) ON INNER STRUCTURE ASSEMBLY (4).

6. INSTALL MIRROR (7) AND PULLEY ASSEMBLY (8) ON INNER STRUCTURE ASSEMBLY (4).
   a. Place pulley assembly (8) between bearings (10).
   b. Push shaft (11) of mirror (7) through inner bearing (10), pulley assembly (8), and outer bearing (10).
   c. Align hole in mirror shaft (11) with hole in pulley assembly (8).
   d. Tap new taper pin (9) through holes in mirror shaft (11) and pulley assembly (8). Spread tabs of taper pin. Use pin splitter.

GO TO NEXT PAGE
CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

7. INSTALL DRIVE BAND (1) ON SPRING ANCHOR (2).
   a. Install screw (3) through inner structure assembly (4) and into spring anchor (2). Tighten screw until drive band (1) is loose. Use socket head screw.
   b. Place drive band ends (1) on pin (5).
   c. Install new retaining ring (6) on pin (5).
   d. Remove screw (3) from spring anchor (2) and inner structure assembly (4) to tighten drive band (1).

8. INSTALL TELESCOPE ASSEMBLY (7) ON OUTER HEAD ASSEMBLY (8).
   a. Align outer head assembly (8) with telescope assembly (7).
   b. Insert telescope assembly (7) into outer head assembly (8).
   c. Install four washers (9), new lock washers (10), and screws (11) on telescope assembly (7).


END OF TASK
REPLACE OBJECTIVE LENS CELL ASSEMBLY

DESCRIPTION

This task covers: Remove (page 9-45). Install (page 9-48).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment
- Variable range collimator and fixture — L36NC
- Pin splitter — 12309716
- Socket head screw — NAS 1351-08-24

Personnel Required:
- FC Instrument Rep 41C

References:
- Instrument and firecontrol system repair shop equipment
- TM 9-2350-252-20-2

Equipment Conditions:
- Backup sight on work bench

Materials/Parts:
- Primer
- Sealing compound
- Objective lens cell assembly
- Taper pin
- Lock washer (4)
- Lock washer (5)
- Retaining ring

REMOVE

1. REMOVE TELESCOPE ASSEMBLY (1) FROM OUTER HEAD ASSEMBLY (2).
   a. Remove four screws (3), lock washers (4), and washers (5) from telescope assembly (1). Discard lock washers.
   b. Lift telescope assembly (1) from outer head assembly (2).
CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

2. REMOVE DRIVE BAND (1) FROM SPRING ANCHOR (2).
   a. Install screw (3) through inner structure assembly (4) into spring anchor (2). Tighten screw until drive band (1) is loose. Use socket head screw.
   b. Remove retaining ring (5) from spring anchor (2). Discard retaining ring.
   c. Remove drive band ends (1) from pin (6).
   d. Remove screw (3) from spring anchor (2) and inner structure assembly (4).

3. REMOVE INNER STRUCTURE ASSEMBLY (4) FROM LOWER HOUSING ASSEMBLY (7).
   a. Loosen lock screw (8) in lower housing assembly (7). Push in on lock screw to release eccentric shaft (9).
   b. Remove five screws (10) and lock washers (11) from inner structure assembly (4). Discard lock washers.
   c. Remove inner structure assembly (4) from lower housing assembly (7).
4. REMOVE MIRROR (12), AND PULLEY ASSEMBLY (13) FROM INNER STRUCTURE ASSEMBLY (4).
   a. Close tabs on taper pin (14) and tap out taper pin from pulley assembly (15). Discard taper pin.
   b. Pull mirror (12) from inner structure assembly (4).
   c. Remove pulley assembly (15) from inner structure assembly (4).

5. REMOVE OBJECTIVE LENS CELL ASSEMBLY (16) FROM INNER STRUCTURE ASSEMBLY (4).
   a. Measure and record depth at which objective lens cell assembly (16) is mounted in inner structure assembly (4).
   b. Remove setscrew (17) and locking plug (18) from inner structure assembly (4).
   c. Remove objective lens cell assembly (16) from inner structure assembly (4).
6. INSTALL NEW OBJECTIVE LENS CELL ASSEMBLY (1) IN INNER STRUCTURE ASSEMBLY (2).
   a. Install objective lens cell assembly (1) into inner structure assembly (2).
   b. Adjust depth of objective lens cell assembly (1) to that recorded in step 5.

NOTE
Collimator should be set at 316 meters.

7. INSTALL INNER STRUCTURE ASSEMBLY (2) IN COLLIMATION FIXTURE (3).
   a. Attach inner structure assembly (2) to collimation fixture (3).
   b. Set variable range collimator to 316 meters.
   c. Check that collimator reticle and backup sight reticle are offset.
8. SET DEPTH OF OBJECTIVE LENS CELL ASSEMBLY (1).
   a. Look through collimator eyepiece (4). Move head slightly side to side.
   b. Adjust objective lens cell assembly (1) in or out for minimum parallax.
   c. Check that adjustment did not change. Repeat steps 7 and 8 if necessary.

9. INSTALL LOCKING PLUG (5) AND SETSCREW (6) ON INNER STRUCTURE ASSEMBLY (2).
   a. Apply primer to setscrew (6). Allow to dry.
   b. Apply sealing compound to setscrew (6).
   c. Install locking plug (5) and setscrew (6) on inner structure assembly (2).

10. CHECK ADJUSTMENT OF OBJECTIVE LENS CELL ASSEMBLY (1).
    a. Look through collimator eyepiece (4).
    b. Check that adjustment of objective lens cell assembly (1) did not change when setscrew (6) was installed.
    c. If adjustment of objective lens cell (1) did not change, remove inner structure assembly (2) from collimation fixture (3). Go to step 11.
    d. If adjustment of objective lens cell (1) changed, remove setscrew (6) and repeat steps 8, 9, and 10.
11. INSTALL MIRROR (1) AND PULLEY ASSEMBLY (2) ON INNER STRUCTURE ASSEMBLY (3).
   a. Place pulley assembly (2) between bearings (4).
   b. Push shaft (5) of mirror (1) through inner bearing (4), pulley assembly (2), and outer bearing (4).
   c. Align hole in mirror shaft (5) with hole in pulley assembly (2).
   d. Tap new taper pin (6) through holes in mirror shaft (5) and pulley assembly (2). Spread tabs of taper pin (6). Use pin splitter.

CAUTION
Drive band can be easily creased, nicked or kinked. Use care when handling drive band.

12. INSTALL INNER STRUCTURE ASSEMBLY (3) IN LOWER HOUSING ASSEMBLY (7).
   a. Spread drive band ends (8) and set inner structure assembly (3) in lower housing assembly (7).
   b. Install five new lock washers (9) and screws (10) on inner structure assembly (3).
   c. Tighten lock screw (11) on lower housing assembly (7).
CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

13. INSTALL DRIVE BAND (8) ON SPRING ANCHOR (12).
   a. Install screw (13) through inner structure assembly (3) and into spring anchor (12). Tighten screw until drive band (8) is loose. Use socket head screw.
   b. Place drive band ends (8) on pin (14).
   c. Install new retaining ring (15) on pin (14).
   d. Remove screw (13) from spring anchor (12) through inner structure assembly (3) to tighten drive band (8).

14. INSTALL TELESCOPE ASSEMBLY (16) ON OUTER HEAD ASSEMBLY (17).
    a. Aline outer head (17) with telescope assembly (16).
    b. Insert telescope assembly (16) into outer head assembly (17).
    c. Install four washers (18), new lock washers (19), and screws (20) on telescope assembly (16).

15. SERVICE BACKUP SIGHT. See TM 9-2350-252-20-2.

END OF TASK
REPLACE RETICLE MOUNT ASSEMBLY SPRINGS

DESCRIPTION

This task covers: Remove (page 9-49). Install (page 9-50).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment

Personnel Required:
- FC Instrument Rep 41C

References:
- TM 9-2350-252-20-2

Materials/Parts:
- Grease
- Spring (2)
- Spring
- Reticle mount assembly
- Retaining ring

Equipment Conditions:
- Backup sight on workbench

REMOVE


   NOTE
Spring and plunger can be easily lost. Use care when removing eccentric shaft.

2. REMOVE ECCENTRIC SHAFT (1) FROM INNER STRUCTURE ASSEMBLY (2).
   a. Remove retaining ring (3) and washer (4) from eccentric shaft (1). Discard retaining ring.
   b. Remove eccentric shaft (1) from inner structure assembly (2).

GO TO NEXT PAGE
NOTE
Springs and plungers can be easily lost. Use care when removing reticle mount assembly.

3. REMOVE RETICLE MOUNT ASSEMBLY (1) FROM INNER STRUCTURE ASSEMBLY (2).
   a. Slide reticle mount assembly (1) from inner structure assembly (2).
   b. Remove three plungers (3, 4) and three springs (5, 6) from reticle mount assembly (1). Discard springs.

4. INSTALL NEW RETICLE MOUNT ASSEMBLY (1) ON INNER STRUCTURE ASSEMBLY (2).
   a. Apply thin film of grease to reticle mount assembly (1) and inner structure assembly (2).
   b. Install two new springs (6) and plungers (4) in reticle mount assembly (1). Hold plungers in place with fingers.
   c. Slide reticle mount assembly (1) into inner structure assembly (2).
5. INSTALL ECCENTRIC SHAFT (7) ON INNER STRUCTURE ASSEMBLY (2).
   a. Place new spring (5) and plunger (3) in slot of reticle mount assembly (1).
   b. Push plunger (3) back and install eccentric shaft (7) through reticle mount assembly (1).
   c. Install washer (8) on eccentric shaft (7).
   d. Install new retaining ring (9) on eccentric shaft (7).


7. SERVICE BACKUP SIGHT. See TM 9-2350-252-20-2.

END OF TASK
REPLACE MIRROR AND PULLEY ASSEMBLY

DESCRIPTION

This task covers: Remove (page 9-55). Install (page 9-57).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment
- Socket head screw — NAS 1351-08-24
- Pin splitter — 12309717

Personnel Required:
- FC Instrument Rep 41C
- Helper

References:
- TM 9-2350-252-20-2

Materials/Parts:
- Lock washer (4)
- Lock washer (2)
- Taper pin
- Mirror and pulley assembly
- Retaining ring

Equipment Conditions:
- Backup sight on workbench

REMOVE

1. REMOVE TELESCOPE ASSEMBLY (1) FROM OUTER HEAD ASSEMBLY (2).
   a. Remove four screws (3), lock washers (4), and washers (5) from telescope assembly (1). Discard lock washers.
   b. Lift telescope assembly (1) from outer head assembly (2).

2. REMOVE COUNTERWEIGHT (6) FROM MIRROR (7).
   a. Remove two screws (8), lock washers (9), and counterweight (6) from mirror (7). Discard lock washers.
CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

3. REMOVE DRIVE BAND (1) FROM SPRING ANCHOR (2).
   a. Install screw (3) through inner structure assembly (4) and into spring anchor (2). Tighten screw until drive band (1) is loose. Use socket head screw.
   b. Remove retaining ring (5) from spring anchor (2). Discard retaining ring.
   c. Remove drive band ends (1) from pin (6).
   d. Remove screw (3) from spring anchor (2) and inner structure assembly (4).

4. REMOVE MIRROR (7) AND PULLEY ASSEMBLY (8) FROM INNER STRUCTURE ASSEMBLY (4).
   a. Close tabs on taper pin (9) and tap out taper pin from pulley assembly (8). Discard taper pin.
   b. Pull mirror (7) from inner structure assembly (4).
   c. Remove pulley assembly (8) from inner structure assembly (4).
NOTE
Mirror and pulley assembly is a matched set.

5. INSTALL NEW MIRROR (7) AND PULLEY ASSEMBLY (8) ON INNER STRUCTURE ASSEMBLY (4). HAVE HELPER ASSIST.
   a. Place pulley assembly (8) between two bearings (10).
   b. Push shaft (11) of mirror (7) through inner bearing (10), pulley assembly (8), and outer bearing (9).
   c. Align hole in mirror shaft (11) with hole in pulley assembly (8).
   d. Tap new taper pin (9) through holes in mirror (7) and pulley assembly (8). Spread tabs of taper pin. Use pin splitter.

CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

6. INSTALL DRIVE BAND (1) ON SPRING ANCHOR (2).
   a. Install screw (3) through inner structure assembly (4) and into spring anchor (2). Tighten screw until drive band (1) is loose. Use socket head screw.
   b. Place drive band ends (1) on pin (6).
   c. Install new retaining ring (5) on pin (6).
   d. Remove screw (3) from spring anchor (2) and inner structure assembly (4) to tighten drive band (1).

GO TO NEXT PAGE
8. INSTALL TELESCOPE ASSEMBLY (5) ON OUTER HEAD ASSEMBLY (6).
   a. Aline outer head assembly (6) with telescope assembly (5).
   b. Insert telescope assembly (5) into outer head assembly (6).
   c. Install four washers (7), new lock washers (8), and screws (9) on telescope assembly (5).


END OF TASK
REPLACE BAND COMPRESSION SPRING

DESCRIPTION

This task covers: Remove (page 9-61). Install (page 9-63).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment
- Socket head screw — NAS 1351-08-24
- Pin splitter — 12309717
- Spring compressor — 12309716

Personnel Required:
- FC Instrument Rep 41C

References:
- TM 9-2350-252-20-2

Materials/Parts:
- Primer
- Sealing compound
- Self-locking washers (4)
- Spring
- Taper pin
- Retaining ring

Equipment Conditions:
- Backup sight on workbench

REMOVE

1. REMOVE TELESCOPE ASSEMBLY (1) FROM OUTER HEAD ASSEMBLY (2).
   a. Remove four screws (3), lock washers (4), and washers (5) from telescope assembly (1). Discard lock washers.
   b. Lift telescope assembly (1) from outer head assembly (2).

GO TO NEXT PAGE
CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

2. REMOVE DRIVE BAND (1) FROM SPRING ANCHOR (2).
   a. Install screw (3) through inner structure assembly (4) and into spring anchor (2). Tighten screw until drive band (1) is loose. Use socket head screw.
   b. Remove retaining ring (5) from spring anchor (2). Discard retaining ring.
   c. Remove drive band ends (1) from pin (6).
   d. Remove screw (3) from spring anchor (2) and inner structure assembly (4).

3. REMOVE MIRROR (7) AND PULLEY ASSEMBLY (8) FROM INNER STRUCTURE ASSEMBLY (4).
   a. Close tabs on taper pin (9) and tap taper pin out of pulley assembly (8).
   b. Pull mirror (7) from inner structure assembly (4).
   c. Remove pulley assembly (8) from inner structure assembly (4).
4. REMOVE COMPRESSION SPRING (10) FROM PULLEY ASSEMBLY (8).
   a. Remove shoulder screw (11) from spring anchor (2).
   b. Remove spring anchor (2) from pulley assembly (8).
   c. Remove compression spring (10) from pulley assembly (8).

5. INSTALL NEW COMPRESSION SPRING (10) ON PULLEY ASSEMBLY (8).
   a. Place compression spring (10) in pulley assembly (8).
   b. Compress spring (10) enough to place spring anchor (2) in position. Use spring compressor.
   c. Apply primer to shoulder screw (11). Allow to dry.
   d. Apply sealing compound to shoulder screw (11).
   e. Install shoulder screw (11) in spring anchor (2).
6. INSTALL MIRROR (1) AND PULLEY ASSEMBLY (2) ON INNER STRUCTURE ASSEMBLY (3).
   a. Place pulley assembly (2) between two bearings (4).
   b. Push shaft (5) of mirror (1) through inner bearing (4), pulley assembly (2), and outer bearing (4).
   c. Align hole in mirror shaft (5) with hole in pulley assembly (2).
   d. Tap new taper pin (6) through holes in mirror shaft (5) and pulley assembly (2). Spread tabs of taper pin. Use pin splitter.

CAUTION

Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

7. INSTALL DRIVE BAND (7) ON SPRING ANCHOR (8).
   a. Install screw (9) through inner structure assembly (3) and into spring anchor (8). Tighten screw until drive band (7) is loose. Use socket head screw.
   b. Place drive band ends (7) on pin (10).
   c. Install new retaining ring (11) on pin (10).
   d. Remove screw (9) from spring anchor (8) and inner structure assembly (3) to tighten drive band (7).
8. INSTALL TELESCOPE ASSEMBLY (12) ON OUTER HEAD ASSEMBLY (13).
   a. Aline outer head assembly (13) with telescope assembly (12).
   b. Insert telescope assembly (12) into outer head assembly (13).
   c. Install four washers (14), new lock washers (15), and screws (16) on telescope assembly (12).


END OF TASK
REPLACE AZIMUTH ADJUST SEAL

DESCRIPTION

This task covers: Remove (page 9-67). Install (page 9-69).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment
- Socket head screw — NAS 1351-08-24

Personnel Required:
- FC Instrument Rep 41C

Equipment Conditions:
- Backup sight on workbench

Materials/Parts:
- Preformed packing
- Lock washer (5)
- Lock washer (4)
- Retaining ring

REMOVE

1. REMOVE TELESCOPE ASSEMBLY (1) FROM OUTER HEAD ASSEMBLY (2).
   a. Remove four screws (3), lock washers (4), and washers (5) from telescope assembly (1). Discard lock washers.
   b. Lift telescope assembly (1) from outer head assembly (2).

GO TO NEXT PAGE
CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

2. REMOVE DRIVE BAND (1) FROM SPRING ANCHOR (2).
   a. Install screw (3) through inner structure (4) and into spring anchor (2). Tighten screw until drive band is loose. Use socket head screw.
   b. Remove retaining ring (5) from spring anchor (2). Discard retaining ring.
   c. Remove drive band ends (1) from pin (6).

3. REMOVE INNER STRUCTURE ASSEMBLY (4) FROM LOWER HOUSING ASSEMBLY (7).
   a. Loosen lock screw (8) in lower housing assembly (7). Push in on lock screw to release eccentric shaft (9).
   b. Remove five screws (10) and lock washers (11) from inner structure assembly (6). Discard lock washers.
   c. Remove inner structure assembly (4) from lower housing assembly (7).
5. INSTALL NEW PREFORMED PACKING (12) ON ECCENTRIC SHAFT (9).
   a. Apply thin film of grease to preformed packing (12).
   b. Install preformed packing (12) on eccentric shaft (9).

4. REMOVE PREFORMED PACKING (12) FROM ECCENTRIC SHAFT (9). DISCARD PREFORMED PACKING.

CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

6. INSTALL INNER STRUCTURE ASSEMBLY (4) IN LOWER HOUSING ASSEMBLY (8).
   a. Spread drive band ends (1) and set inner structure (4) in lower housing assembly (7).
   b. Install five new lock washers (11) and screws (10) in lower housing assembly (7).
   c. Tighten lock screw (8) on lower housing assembly (7).
CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

7. INSTALL DRIVE BAND (1) IN SPRING ANCHOR (2).
   a. Place drive band ends (1) over pin (3) on spring anchor (2).
   b. Install new retaining ring (4) on pin (3).
   c. Remove screw (5) from spring anchor (2) and inner structure (6) to tighten drive band (1).

8. INSTALL TELESCOPE ASSEMBLY (7) ON OUTER HEAD ASSEMBLY (8).
   a. Align outer head assembly (8) to telescope assembly (7).
   b. Insert telescope assembly (7) into outer head assembly (8).
   c. Install four washers (9), new lock washers (10), and screws (11) on telescope assembly (7).

9. RETURN TO FVS TROUBLESHOOTING. VERIFY NO FAULTS FOUND.

END OF TASK
## Section V. MAINTENANCE OF BACKUP SIGHT
### LOWER HOUSING ASSEMBLY

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REPLACE DRIVE BAND

DESCRIPTION

This task covers: Remove (page 9-75). Install (page 9-78).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment
- Socket head screw — NAS 1351-08-24
- Torque wrench — TQS-050-FU

Personnel Required:
- FC Instrument Rep 41C

References:
- TM 9-2350-252-20-2

Materials/Parts:
- Lock washer (5)
- Lock washer (4)
- Drive band
- Lock washer
- Retaining ring

Equipment Conditions:
- Backup sight on work bench

REMOVE

1. REMOVE TELESCOPE ASSEMBLY (1) FROM OUTER HEAD ASSEMBLY (2).
   a. Remove four screws (3), lock washers (4), and washers (5) from telescope assembly (1). Discard lock washers.
   b. Lift telescope assembly (1) from outer head assembly (2).

GO TO NEXT PAGE
CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

2. REMOVE DRIVE BAND (1) FROM SPRING ANCHOR (2).
   a. Install screw (3) through inner structure (4) and into spring anchor (2). Tighten screw until drive band is loose. Use socket head screw.
   b. Remove retaining ring (5) from spring anchor (2). Discard retaining ring.
   c. Remove drive band ends (1) from pin (6).

3. REMOVE INNER STRUCTURE ASSEMBLY (7) FROM LOWER HOUSING ASSEMBLY (8).
   a. Loosen lock screw (9) in lower housing assembly (8). Push in on lock screw (9) to release eccentric shaft (10).
   b. Remove five screws (11) and lock washers (12) from inner structure assembly (7). Discard lock washers.
   c. Remove inner structure assembly (7) from lower housing assembly (8).
CAUTION
Drive band can be easily damaged. Do not pull drive shaft when pulling flange away from lower housing assembly.

4. LOOSEN FLANGE (13) ON LOWER HOUSING ASSEMBLY (8).
   a. Loosen three screws (14) in flange (13).
   b. Pull flange (13) away from lower housing assembly (8).

NOTE
Note position of drive band around pulley for proper installation later.

5. REMOVE DRIVE BAND (1) FROM DRIVE SHAFT (15).
   a. Rotate drive shaft (15) to gain access to screw (16).
   b. If drive shaft (15) cannot be rotated to get to screw (16), repeat step 4 until shaft will rotate.
   c. Remove screw (16) and lock washer (17) from drive band (1). Discard lock washer.
   d. Pull out drive band (1) from drive shaft (15) and lower housing assembly (8).

GO TO NEXT PAGE
CAUTION
Drive band can be easily creased, kinked, or nicked. Use care when handling drive band.

6. INSTALL NEW DRIVE BAND (1) ON DRIVE SHAFT (2).
   a. Slide drive band (1) under drive shaft (2).
   b. Rotate drive shaft (2) to gain access to screw hole (3).
   c. Install drive band (1), new lock washer (4), and screw (5) on drive shaft (2).
   d. TORQUE SCREW (5) TO 3-4 IN-LB (3-4 CMKG). USE TORQUE WRENCH.

CAUTION
Drive band can be easily damaged. Do not push drive shaft when pushing flange against lower housing assembly.

7. SECURE FLANGE (6) TO LOWER HOUSING ASSEMBLY (7).
   a. Rotate drive shaft (2) until ends of drive band (1) are equal.
   b. Push flange (6) against lower housing assembly (7).
   c. Tighten three screws (8) on flange (6).
8. INSTALL INNER STRUCTURE ASSEMBLY (9) IN LOWER HOUSING ASSEMBLY (7).
   a. Spread drive band ends (1) and set inner structure assembly (9) in lower housing assembly (7).
   b. Install five new lock washers (10) and screws (11) on inner structure assembly (9).
   c. Tighten lock screw (12) on lower housing assembly (7).

9. INSTALL DRIVE BAND (1) ON SPRING ANCHOR (13).
   a. Place drive band ends (1) over pin (14) on spring anchor (13).
   b. Install new retaining ring (15) on pin (14).
   c. Remove screw (16) from spring anchor (13) and inner structure (9) to tighten drive band (1).
10. INSTALL TELESCOPE ASSEMBLY (1) ON OUTER HEAD ASSEMBLY (2).
   a. Aline outer head assembly (2) to telescope assembly (1).
   b. Insert telescope assembly (1) into outer head assembly (2).
   c. Install four washers (3), new lock washers (4), and screws (5) on telescope assembly (1).


END OF TASK
REPLACE DRIVE SHAFT FLANGE SEALS

DESCRIPTION
This task covers: Remove (page 9-79). Install (page 9-80).

INITIAL SETUP
Tools:
Instrument and fire control system repair shop equipment

Personnel Required:
FC Instrument Rep 41C

Equipment Conditions:
Back-up sight on workbench

Materials/Parts:
Sealing compound
Grease
Primer
Quad ring seal
Preformed packing
Lock washer (3)

REMOVE

CAUTION
Drive band can be damaged. Do not pull drive shaft when removing flange.

1. REMOVE FLANGE (1) FROM LOWER HOUSING ASSEMBLY (2).
a. Remove three screws (3), lock washers (4), and washers (5) from flange (1). Discard lock washers.
b. Remove flange (1) from lower housing assembly (2).

2. REMOVE SEAL (6) AND PREFORMED PACKING (7) FROM FLANGE (1).
a. Remove seal (6) from flange (1). Discard seal.
b. Remove preformed packing (7) from flange (1). Discard preformed packing.

GO TO NEXT PAGE
3. INSTALL NEW PREFORMED PACKING (1) AND NEW SEAL (2) ON FLANGE (3).
   a. Apply thin film of grease to preformed packing (1) and seal (2).
   b. Install preformed packing (1) on flange (3).
   c. Install seal (2) in flange (3).

4. INSTALL FLANGE (3) ON LOWER HOUSING ASSEMBLY (4).
   a. Slide flange (3) onto drive shaft (5).
   b. Apply primer to screws (6). Allow primer to dry.
   c. Apply sealing compound to screws (6).
   d. Install three washers (7), new lock washers (8), and screws (6) on flange (3).

5. RETURN TO FVS TROUBLESHOOTING. VERIFY NO FAULTS FOUND.

END OF TASK
DESCRIPTION

This task covers: Remove (page 9-85). Install (page 9-86).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment

Personnel Required:
- FC Instrument Rep 41C

References:
- TM 9-2350-252-20-2

Materials/Parts:
- Primer
- Sealing compound
- Flanged bearing (2)
- Lock washer (3)

Equipment Conditions:
- Back-up sight on workbench

REMOVE

1. REMOVE DRIVE BAND FROM DRIVE SHAFT. See task: REPLACE DRIVE BAND, page 9-75.

2. REMOVE DRIVE SHAFT FLANGE (1) FROM LOWER HOUSING ASSEMBLY (2).
   a. Remove three screws (3), lock washers (4), and washers (5) from drive shaft flange (1). Discard lock washers.
   b. Remove drive shaft flange (1) from lower housing assembly (2).

GO TO NEXT PAGE
3. REMOVE DRIVE SHAFT (1) FROM LOWER HOUSING ASSEMBLY (2).
   a. Remove drive shaft (1) from lower housing assembly (2).
   b. Remove bearing (3) from drive shaft (1).

4. REMOVE BEARING (4) FROM LOWER HOUSING ASSEMBLY (2).

5. INSTALL NEW BEARING (4) ON LOWER HOUSING ASSEMBLY (2).
   a. Install new bearing (3) on drive shaft (1).
   b. Install drive shaft (1) on lower housing assembly (2).

6. INSTALL DRIVE SHAFT (1) ON LOWER HOUSING ASSEMBLY (2).
7. INSTALL DRIVE SHAFT FLANGE (5) ON LOWER HOUSING ASSEMBLY (2).
   a. Slide drive shaft flange (5) onto drive shaft (1).
   b. Apply primer to screws (6). Allow primer to dry.
   c. Apply sealing compound to screws (6).
   d. Install three washers (7), new lock washers (8), and screws (6) on drive shaft flange (5).

8. INSTALL DRIVE BAND ON DRIVE SHAFT. See task: REPLACE DRIVE BAND, page 9-75.


END OF TASK
REPLACE LOWER HOUSING MIRROR/SEAL

DESCRIPTION

This task covers: Remove (page 9-91). Install (page 9-92).

INITIAL SETUP

Tools:
- Instrument and fire control system repair shop equipment

Personnel Required:
- FC Instrument Rep 41C

Materials/Parts:
- Grease
- Primer
- Sealing compound
- Preformed packing
- Washer (3)

Equipment Conditions:
- Back-up sight on work bench

REMOVE

1. REMOVE MIRROR (1) FROM LOWER HOUSING ASSEMBLY (2).
   a. Remove three screws (3) from mirror (1).
   b. Remove mirror (1) and three washers (4) from lower housing assembly (2). Discard washers.

2. REMOVE PREFORMED PACKING (5) FROM MIRROR (1). DISCARD PREFORMED PACKING.

GO TO NEXT PAGE
3. INSTALL NEW PREFORMED PACKING (1) ON MIRROR (2).
   a. Apply thin film of grease to preformed packing (1).
   b. Install preformed packing (1) on mirror (2).

4. INSTALL MIRROR (2) ON LOWER HOUSING ASSEMBLY (3).
   a. Apply primer to screws (4). Allow to dry.
   b. Apply sealing compound to screws (4).
   c. Place three new washers (5) and mirror (2) on lower housing assembly (3).
   d. Install three screws (4) in mirror (2) and lower housing assembly (3).

5. RETURN TO FVS TROUBLESHOOTING. VERIFY NO FAULTS FOUND.

END OF TASK
Section VI. BACKUP SIGHT PERFORMANCE CHECKS

BACKUP SIGHT PERFORMANCE CHECKS

INITIAL SETUP

Personnel Required:
FC Instrument Rep 41C

Equipment Conditions:
Backup sight on workbench

CHECK

1. CHECK IMAGE.
   a. Set up backup sight. View through eyepiece at convenient target.
   b. Image is sharp and clear or fuzzy (lenses fogged).
   c. Reticle is sharp and clear and can be focused.

2. CHECK DIOPTER SETTING.
   a. Focus on reticle.
   b. Diopter setting of eyepiece should agree with operator's known diopter setting.

3. CHECK FOR PARALLAX.
   a. View reticle.
   b. Move head slightly side to side. Reticle should not appear to move.

4. CHECK ELEVATION DRIVE SHAFT (1).
   a. Rotate elevation drive shaft (1) back and forth to stops.
   b. View through eyepiece should follow shaft motion smoothly.

5. CHECK HORIZONTAL ADJUST.
   a. Loosen horizontal adjust lock screw (2) on lower housing assembly (3) and push on lock screw.
   b. Rotate horizontal adjust screw left and right approximately one turn. There should be no lost motion to reticle response.
   c. Tighten lock screw (2) on lower housing assembly (3).

END OF TASK
# CHAPTER 10

MAINTENANCE OF TURRET

Section I. GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

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<tr>
<td>Replace Traverse Drive Mounting Inserts</td>
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</tr>
</tbody>
</table>
REPLACE TRAVERSE DRIVE MOUNTING INSERTS

DESCRIPTION

This task covers: Remove (page 10-3). Install (page 10-4).

INITIAL SETUP

Tools:

Turret mechanic's tool kit
Portable drill, 3/4 inch — 5130-00-473-6228
Tap wrench, 1/4-1 1/8 inch — 5120-00-289-0537
Screw extractor set — 5120-00-610-1888
Threaded tap, 3/4 inch, 10NC — 5136-00-729-5702
Bearing installer — 12292592-8
Counterbore set — 5133-00-378-3814

Personnel Required:
Tank Turret Repairer 45K10

References:
TM 9-2350-252-10-1
TM 9-2350-252-10-2
TM 9-2350-252-20-2

Equipment Conditions:
Engine stoppe (TM 9-2350-252-10-1)
Turret shut down (TM 9-2350-252-10-2)

Materials/Parts:
Screw thread insert

REMOVE

1. REMOVE TRAVERSE DRIVE MOTOR.
   See TM 9-2350-252-20-2.

2. REMOVE TRAVERSE DRIVE GEARBOX.
   See TM 9-2350-252-20-2.

   NOTE
   All traverse drive mounting inserts and lock rings are replaced the same way.

3. REMOVE INSERT (1) FROM PLATE (2).
   a. Drill out lock ring (3) to depth of counterbore (4) of insert (1). Use drill-
      and counterbore (5) slightly smaller than diameter of inner serrations (6).
   b. Remove insert (1) and lock ring (3) from plate (2). Use screw extractor (7).

GO TO NEXT PAGE
INSTALL

CAUTION
Damage to insert may result if lock ring is driven more than 0.02 inch (0.05 cm) from top of insert.

4. INSTALL NEW INSERT (1) IN PLATE (2).
   a. Clean threads of insert hole (3). Use tap wrench and threaded tap.
   b. Install insert (1) in insert hole (3) with top (4) of insert 0.01-0.06 inch (0.03-0.15 cm) from edge of plate (2).
   c. Place bearing installer (5) on lock ring (6). Tap bearing installer until lock ring is 0-0.02 inch (0-0.05 cm) from top (4) of insert.

5. INSTALL TRAVERSE DRIVE GEARBOX.
   See TM 9-2350-252-20-2.

6. INSTALL TRAVERSE DRIVE MOTOR.
   See TM 9-2350-252-20-2.

END OF TASK
APPENDIX A
REFERENCES

SCOPE

This appendix lists all forms, manuals, technical manuals and miscellaneous publications referenced in this manual.

FORMS

See TM 38-750 for current maintenance forms and records.

FIELD MANUALS

First Aid for Soldiers ................................................................. FM 21-11

TECHNICAL MANUALS

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

Direct Support and General Support Maintenance,
Repair Parts and Special Tools List for
Fighting Vehicle, Infantry M2 (2350-01-048-5920)
and Fighting Vehicle, Cavalry, M3
(2350-01-049-2695), Turret ...................................................... TM 9-2350-252-34P-2

Direct Support and General Support Maintenance
Manual for Integrated Sight Unit (1005-01-096-5151) .................... TM 9-1240-394-34

Direct Support and General Support Maintenance
Manual for TOW Subsystem consisting of: TOW
Launcher Assembly (1440-01-085-5517) and
Command Guidance Electronics (1440-01-085-5521) ................... TM 9-1425-474-34

Inspection, Care and Maintenance of Antifriction Bearings .................. TM 9-214

Installation Practice for Aircraft Electric
and Electronic Wiring ................................................................. TM 55-1500-323-25

Materials Used for Cleaning, Preserving, Abrading,
and Cementing Ordnance Materiel ............................................ TM 9-247

Operator's Manual for Fighting Vehicle, Infantry,
M2 (2350-01-048-5920) and Fighting Vehicle, Cavalry
M3 (2350-01-049-2695), Hull ..................................................... TM 9-2350-252-10-1
TECHNICAL MANUALS (cont)


Organizational Maintenance for Fighting Vehicle Infantry M2 (2350-01-048-5920) and Fighting Vehicle, Cavalry, M3 (2350-01-049-2695), Turret ............................................. TM 9-2350-252-20-2

Procedures for Destruction of Electronics Materiel to Prevent Enemy Use ............................................. TM 750-244-2

Procedures for Destruction of Conventional Ammunition and Improved Conventional Munitions to Prevent Enemy Use .............................................................. TM 750-244-5-1

Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use ............................................. TM 750-244-6

Procedures for Destruction of Equipment In Federal Supply Classifications 1000, 1005, 1010, 1520, 2530, 5590, 5595 to Prevent Enemy Use .............................................................. TM 750-244-7

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

Theory and Application of Welding ............................................. TM 9-237

Transportability Guidance, Fighting Vehicle, Infantry, M2 (2350-01-048-5920) and Fighting Vehicle, Cavalry, M3 (2350-01-049-2695) ............................................. TM 55-2350-252-14

MISCELLANEOUS PUBLICATIONS

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

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

SCOPE

This appendix lists expendable supplies and materials you will need to maintain the turret of the IFV and CFV. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

EXPLANATION OF COLUMNS

a. Column 1 — Item Number. This number is assigned to the entry in the listing and is referenced in the Materials/Parts section of the task to identify the material (e.g., “Automotive grease (Item 9, App. B)”).

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

   O — Organizational Maintenance
   F — Direct Support Maintenance
   H — General Support Maintenance

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

d. Column 4 — Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

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

ILLUSTRATED LIST OF MANUFACTURED ITEMS

Section I. INTRODUCTION

This appendix tells you how to make items authorized to be manufactured or fabricated at direct support maintenance.

All bulk materials needed for manufacture of an item are listed. A part number or specification number may be given.

Section II. INDEX OF MANUFACTURED ITEMS

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<td>Turret Alignment Pins</td>
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<td>4</td>
<td>Bearing Removal Pin</td>
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<td>5</td>
<td>Bearing Removal Plate</td>
<td>C-4</td>
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</tbody>
</table>
Materials:
1. Wood blocks

Notes:
1. Fabricate from wood.
2. All dimensions are in inches.
   a. 1 block — 6 x 3 1/2 x 3 1/2
   b. 1 block — 6 x 1 1/2 x 5
   c. 1 block — 3 x 1/2 x 5
3. Blocks are nailed together as shown.

Item 1 — Turret Blocks
**Item 2 — 25mm Rotor Alignment Pins**

**Materials:**
Steel, ASTM, A582, Type 303, 3/8 inch diameter.

**Notes:**
1. Fabricate from 3/8 inch diameter steel.
2. Cut dowel 7 1/2 inches long.
3. Use thread cutting die to provide 16 threads per inch (coarse).
4. Cut slot for flat-tip screwdriver at top.

**Item 3 — Turret Alignment Pins**

**Materials:**
Screw, cap hexagon — MS90725-124

**Notes:**
1. Fabricate from screw — MS90725-124
2. Cut 4 inches long
3. Cut slot for flat-tip screwdriver at top.
Materials:
Brass Stock

1. Fabricate from 1/2 inch diameter brass stock.
2. Cut 1 inch long.

Item 4 — Bearing Removal Pin

Materials:
Steel Plate

Notes:
1. Fabricate from steel plate with dimensions shown. All dimensions are in inches.

Item 5 — Bearing Removal Plate
APPENDIX D

PIN AND SOCKET ARRANGEMENTS FOR PLUGS AND JACKS

Section I. INTRODUCTION

SCOPE

This appendix is to be used as support in performing troubleshooting and maintenance tasks involving plugs and jacks utilized in the turret of the IFV and CFV. Section II contains an index of the plugs and jacks and the number of their corresponding diagrams in this appendix. Section III contains the diagrams of the pin arrangements and the socket arrangements for the plugs and jacks.

EXPLANATION OF SECTION II

Section II contains the Index of Plugs and Jacks. The first column of the index is a listing of the plugs and jacks in alphabetical sequence by the name indicated in the troubleshooting or maintenance task. Plugs and jacks that are indicated by numbers are listed in numerical sequence after the alphabetical listings. The second column of the index indicates the diagram number corresponding to each listing.

EXPLANATION OF SECTION III

Section III contains the diagrams of the pin and socket arrangements for the plugs and jacks. On the left side of the page is a diagram of the pin arrangement of a plug or a jack. To the left of each pin arrangement diagram is a list of the plugs and jacks in the turret which have that pin arrangement. On the right side of the page is a diagram of the socket arrangement of a plug or a jack. To the right of each socket arrangement diagram is a list of the plugs and jacks in the turret which have that socket arrangement.
## Section II. INDEX OF PLUGS AND JACKS

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<td>AP Low Ammo Sensor 2A21, P1</td>
<td>Jack 46</td>
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<td>AP Switch 2A23, J1</td>
<td>Plug 25</td>
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<td>Battery Disconnect Box 2A27, J1</td>
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<td>Battery Disconnect Box 2A27, J2</td>
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<td>Jack 11</td>
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<td>Jack 41</td>
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<tr>
<td>ac</td>
<td>alternating current</td>
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<tr>
<td>ammo</td>
<td>ammunition</td>
</tr>
<tr>
<td>amp</td>
<td>amperage/ampere</td>
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<tr>
<td>ANP</td>
<td>annunciator panel</td>
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<tr>
<td>app</td>
<td>appendix</td>
</tr>
<tr>
<td>AZ</td>
<td>azimuth</td>
</tr>
<tr>
<td>°C</td>
<td>degrees Celsius</td>
</tr>
<tr>
<td>CFV</td>
<td>Cavalry Fighting Vehicle</td>
</tr>
<tr>
<td>CGE</td>
<td>Command Guidance Electronics</td>
</tr>
<tr>
<td>CHS</td>
<td>commander's handstation</td>
</tr>
<tr>
<td>cm</td>
<td>centimeter</td>
</tr>
<tr>
<td>cmkg</td>
<td>centimeter kilogram</td>
</tr>
<tr>
<td>DA</td>
<td>Department of the Army</td>
</tr>
<tr>
<td>dc</td>
<td>direct current</td>
</tr>
<tr>
<td>DSESTS</td>
<td>Direct Support Electrical System test Set</td>
</tr>
<tr>
<td>ECA</td>
<td>electronic control assembly</td>
</tr>
<tr>
<td>EIA</td>
<td>ECA interface assembly</td>
</tr>
<tr>
<td>EIR</td>
<td>Equipment Improvement Recommendations</td>
</tr>
<tr>
<td>EI</td>
<td>elevation</td>
</tr>
<tr>
<td>elec</td>
<td>electrical</td>
</tr>
<tr>
<td>°F</td>
<td>degrees Fahrenheit</td>
</tr>
<tr>
<td>FM</td>
<td>field manual</td>
</tr>
<tr>
<td>ft-lb</td>
<td>foot-pound</td>
</tr>
<tr>
<td>GHS</td>
<td>gunner's handstation</td>
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<tr>
<td>H</td>
<td>helper</td>
</tr>
<tr>
<td>IFV</td>
<td>Infantry Fighting Vehicle</td>
</tr>
<tr>
<td>in</td>
<td>inch</td>
</tr>
<tr>
<td>in-lb</td>
<td>inch-pound</td>
</tr>
<tr>
<td>ISU</td>
<td>Integrated Sight Unit</td>
</tr>
<tr>
<td>LRU</td>
<td>lowest replaceable unit</td>
</tr>
<tr>
<td>MALF</td>
<td>malfunction</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Definition</td>
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<td>--------------</td>
<td>---------------------------------------------------------------------------</td>
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<tr>
<td>MIL</td>
<td>military</td>
</tr>
<tr>
<td>mkg</td>
<td>meter-kilogram</td>
</tr>
<tr>
<td>mm</td>
<td>millimeter</td>
</tr>
<tr>
<td>NBC</td>
<td>nuclear/biological/chemical</td>
</tr>
<tr>
<td>PCU</td>
<td>power converter unit</td>
</tr>
<tr>
<td>pwr</td>
<td>power</td>
</tr>
<tr>
<td>rep</td>
<td>repair</td>
</tr>
<tr>
<td>RYA</td>
<td>relay assembly</td>
</tr>
<tr>
<td>sec</td>
<td>second</td>
</tr>
<tr>
<td>STAB</td>
<td>stabilization</td>
</tr>
<tr>
<td>STE/M1/FVS</td>
<td>simplified test equipment/Abrams Battle Tank/Fighting Vehicle System</td>
</tr>
<tr>
<td>SW</td>
<td>switch</td>
</tr>
<tr>
<td>Sys</td>
<td>system</td>
</tr>
<tr>
<td>TCB</td>
<td>turret control box</td>
</tr>
<tr>
<td>TDB</td>
<td>turret distribution box</td>
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<tr>
<td>TM</td>
<td>technical manual</td>
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<td>TPI</td>
<td>turret position indicator</td>
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<td>TOW</td>
<td>tube-launched, optically-tracked, wire-guided, antitank missile</td>
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<tr>
<td>TWB</td>
<td>TOW control box</td>
</tr>
<tr>
<td>V</td>
<td>volts</td>
</tr>
<tr>
<td>vdc</td>
<td>volt direct current</td>
</tr>
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<td>WCB</td>
<td>weapon control box</td>
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<td>abrasives</td>
<td>harsh, rough</td>
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<tr>
<td>burs</td>
<td>a rough area remaining on metal after it has been cast, cut, or drilled</td>
</tr>
<tr>
<td>caustic</td>
<td>corrode or dissolve by chemical action</td>
</tr>
<tr>
<td>chase</td>
<td>a groove cut</td>
</tr>
<tr>
<td>crocus</td>
<td>a variety of iron oxide, used in the form of an abrasive powder for polishing</td>
</tr>
<tr>
<td>ferrous</td>
<td>contains iron</td>
</tr>
<tr>
<td>hone</td>
<td>sharpen, enlarge, smooth out</td>
</tr>
<tr>
<td>nonferrous</td>
<td>does not contain iron</td>
</tr>
<tr>
<td>races</td>
<td>a groovelflike part in which a moving part slides or rolls</td>
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<tr>
<td>scored</td>
<td>grooved, scratched, notched</td>
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IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Step 8. The bracket (7) is shown mounted on the turret. But the installation occurs in step 10. Please change illustration in step 8.

Step 3. Cable (3) has five wires, not four. Please fix illustration.

Step 3. The torque is shown as "66-68 FT-LB (66-68 MKG)." Correct one or the other.

Step 4. The shim called out as item 5 is a lock washer. Please change. The same part is called out correctly in step 8.

HENRY JAMES, PFC (241) 344-1776

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U.S. Army Armament Materiel Readiness Command
ATTN: DRSAR-MAS
Rock Island, Illinois 61299
## THE METRIC SYSTEM AND EQUIVALENTS

### LINEAR MEASURE
- 1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
- 1 Meter = 100 Centimeters = 1000 Millimeters = 3.2808 Feet = 1.0936 Yards
- 1 Kilometer = 1000 Meters = 0.621 Miles

### SQUARE MEASURE
- 1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
- 1 Sq Meter = 10,000 Sq Centimeters = 10.7639 Sq Feet = 1.196 Square Yards
- 1 Sq Kilometer = 1,000,000 Sq Meters = 0.3861 Sq Miles

### CUBIC MEASURE
- 1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
- 1 Cu Meter = 1,000,000 Cu Centimeters = 35.315 Cu Feet

### WEIGHS
- 1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
- 1 Kilogram = 1000 Grams = 2.2046 Pounds
- 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.102 Short Tons

### LIQUID MEASURE
- 1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
- 1 Liter = 1000 Milliliters = 3.381 Fluid Ounces

### APPROXIMATE CONVERSION FACTORS

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