CHAPTER 7
MAINTENANCE OF LAUNCHING-HANDLING RAIL

Section I. GENERAL

103. Scope
This chapter contains maintenance information covering the launching-handling rail (fig. 218) that is within the scope of field maintenance personnel. The scope of field maintenance is determined by the listing of field maintenance parts in TM 9-1440-250-35P/1 and the listing of special tools for field maintenance personnel in Department of the Army Supply Manual 9-4-4935-329-4.

104. References
Organizational maintenance of the launching-handling rail is covered in TM 9-1440-250-20. Schematic diagrams are furnished in TM 9-1440-251-20 and wiring diagrams are provided in TM 9-1440-250-35. General maintenance procedures are given in Chapter 4. Individual references to Chapter 4 are not made within this chapter. It is therefore especially important that personnel become familiar with the contents of Chapter 4.

105. General Precautions
The precautions in a and b below must be observed when performing any maintenance on the launching-handling rail.

a. Disconnect the launching-handling rail electrically from the launcher erecting beam or the loading rack test station by disconnecting the two rail power cable assemblies (fig. 224) and connecting them to the two connector shells provided on the rail.

b. When the launching-handling rail (fig. 4) is installed on a HERCULES monorail launcher, check that the MISSILE HYDR switch on the launcher control-indicator is in the OFF position and that the LAUNCHER switch is in the DOWN position.

Section II. MAINTENANCE OF LAUNCHING-HANDLING RAIL BODY

106. General
This section describes maintenance of the cover assembly (fig. 219), four guard assemblies, and two cover disks. The general precautions described in paragraph 105 must be observed when performing any maintenance on these items.

107. (Deleted)

108. Cover Assembly
A cover assembly (fig. 219) is attached to the right side of the rail body in front of the front guard assembly.

a. Removal. Remove cover assembly and gasket.

b. Installation. Install rubber and cork gasket and cover assembly.

c. Replace broken studs with cap screw MS35298-8, self-locking nut 9033925, and rivet AN427-3-6 as prescribed in (1) through (4) below.

(1) Using the cover assembly as a template, drill out the broken stud with a 7/64-inch drill bit.

(2) Remove the cover assembly and center the nut over the hole, using the cap screw to hold it in place.

(3) Using the nut as a template, drill the two rivet holes with a 3/8-inch drill bit. Remove all the burrs from the holes.

(4) Attach the nut to the rail with two %2-inch rivets.

109. Guard Assembly
Two front and two rear guard assemblies (fig. 219) are mounted on the four outriggers (fig. 218) on the rail body.

a. Removal. Remove guard assembly (fig. 219).

b. Installation. Install guard assembly.

110. Cover Disk
Two cover disks (fig. 219) are mounted on the rear end of the rail body on rail units 1081 through 1594.


b. Installation. Install cover disk.
Section III. MAINTENANCE OF LAUNCHING-HANDLING RAIL ELECTRICAL SYSTEM

111. General
This section describes maintenance of the components of the launching-handling rail electrical system. The general precautions described in paragraph 105 must be observed when performing maintenance on these items.

112. Missile-Away Switch
The missile-away switch (fig. 220), mounted on the left rear of the launching-handling rail includes a missile-away cable assembly which extends to the terminal board group (fig. 218).
Figure 220. Missile-away switch (1090 and subsequent) — removal and installation.
Figure 221. Missile-away switch—pullthrough line location.

Figure 222. Missile-away switch assembly (1081 through 1089)—disassembly and assembly.

a. Removal.

(1) Remove the cover assembly (fig. 219).

(2) Loosen connector assembly in bulkhead (fig. 223).

(3) Tape one end of a 25-foot pullthrough line (fig. 221) approximately 18 inches back from first terminal breakout point.

(4) Tie line in half-hitches (fig. 84) around cable assembly three or four times, spacing half-hitches three inches apart.

(5) Tape line to cable assembly after last half-hitch and tape terminals to line to form a taper at terminal end.

(6) Tie free end of line to any convenient part of rail to prevent accidental pullthrough (fig. 221).

(7) Remove five hexagon-head cap screws attaching switch to rail (fig. 220).

(8) Remove switch.

(9) Separate pullthrough line from cable assembly, leaving line in rail.

b. Disassembly. Disassemble switch (fig. 220) or switch assembly (fig. 222).

c. Assembly. Assemble switch (fig. 220) or switch assembly (fig. 222).
Figure 223. Missile-away cable assembly and channel—removal and installation.
Figure 223.1. Missile umbilical cable assemblies, cover plate, and conduit outlet covers—removal and installation.
d. Installation.

(1) Use pullthrough line in launching-handling rail to tie three or four half-hitches (fig. 84) approximately 18 inches back from end of missile away cable assembly (fig. 220).

(2) Tape end of line to cable assembly.

(3) Tape terminals to line to form a taper at terminal end.

(4) Pull cable assembly through rail (fig. 221), remove tape, and untie line.

(5) Refer to TM 9-1440-250-35 and make proper wire connections.

(6) Install cover assembly (fig. 219).

(7) Tighten connector assembly (fig. 223).

(8) Install switch on rail (fig. 220).

e. Adjustment. Adjust switch as described in TM 9-1440-250-20.

113. Missile Umbilical Cable Assemblies

Note. The key numbers shown in parentheses in this paragraph refer to figure 223.1 unless otherwise indicated.

The missile umbilical cable assembly (13) and missile umbilical wiring harness assembly (18) are located inside the launching-handling rail (20). Both provide for external connections at conduit outlet covers (14 and 17).

a. Removal.

(1) Remove cover assembly (fig. 219).

(2) Remove conduit outlet cover (14) and cover plate (4).

(3) Disconnect electrical leads from terminal blocks and remove missile umbilical cable assembly (13).

(4) Remove conduit outlet cover (17).

(5) Disconnect electrical leads from terminal blocks and remove missile umbilical wiring harness assembly (18).

b. Installation.

(1) Install conduit outlet cover (17) on missile umbilical wiring harness assembly (18).

(2) Install harness assembly (18).

(3) Install conduit outlet cover (14) on cover plate (4) and install on missile umbilical cable assembly (13).

(4) Install cable assembly (13).

(5) Refer to TM 9-1440-250-35 and make proper wiring connections.

(6) Install cover assembly (fig. 219).

114. Rail Power Cable Group

Two rail power cable assemblies (fig. 224), in their stowed position, are attached to the connector shells on the front left outrigger (fig. 218). They extend into the launching-handling rail through the conduit outlet covers (fig. 224) and forward to the terminal board group (fig. 218). Typical replacement procedures for either cable assembly are described in a through d below.

a. Removal.

(1) Remove cover assembly (fig. 219).
DISASSEMBLY AND ASSEMBLY

RAIL POWER CABLE ASSY — 8167625
CONDUIT OUTLET COVER — 8022006
GASKET — 8022002
1/4-20 x 1 HEX-HD CAP SCREW — MS35291.8 (2)
1/4-20 x 3 HEX-HD CAP SCREW — 121979 (2)
1/4-IN LOCK WASHER — MS35338-25 (4)
1/4-20 HEX NUT — MS35690-405 (4)

CONNECTING LINK ROD — 8528769
CONNECTOR SHELLS

1/4-20 HEX NUT — MS35690-405 (2)
1/4-IN LOCK WASHER — MS35338-25 (2)
NEOPRENE GASKET — 8022002
1/4-20 x 1 HEX-HD CAP SCREW — MS35291.8 (2)

RAIL POWER CABLE GROUP

RAIL POWER CABLE ASSY — 8167605
BOX CONNECTOR ASSY — 8020622

LAUNCHING-HANDLING RAIL

Figure 224. Rail power cable group — removal and installation.
(2) Remove conduit outlet cover (fig. 224).
(3) Remove rail power cable group and connecting link rod.

b. Disassembly. Disconnect box connector assembly from outlet cover and remove outlet from cable assembly.

c. Assembly. Install conduit outlet cover on cable assembly and attach box connector assembly.

d. Installation.

(1) Insert wires of cable assembly through hole in launching-handling rail.
(2) Pull cable assembly through rail, refer to TM 9-1440-250-35, and make proper wiring connections.
(3) Install cable assembly and outlet cover.
(4) Install connecting link rod.
(5) Install plate (fig. 219) and cover assembly.

114.1. Guidance Set Cooling System Cable Assembly and Blower Relay

Note. The key numbers shown in parentheses in this paragraph refer to figure 224.1 unless otherwise indicated.

The guidance set cooling system cable assembly (8) and blower relay (12) are located inside the launching-handling rail (13). The cable assembly (8) extends from the blower assembly (9D, fig. 244.1) to the terminal board group (fig. 225). The cable assembly of the blower relay (12) extends to the terminal board group (fig. 225).

a. Removal of Guidance Set Cooling System Cable Assembly.

Note. The key numbers shown in parentheses in (1) through (4) below refer to figure 224.1.

(1) Remove cover assembly (fig. 219) and cover (3).
(2) Remove hexagon nuts (4) and lockwashers (5).
(3) Raise blower assembly and mount group (9) and disconnect guidance set cooling system cable assembly (6); loosen retaining bands (7).

(4) Remove blower assembly and mount group (9).

Note. The key numbers shown in parentheses in (5) through (8) below refer to figure 224.1.

(5) Disconnect cable assembly (8) from terminal board group (fig. 225).
(6) Remove loop clamp (4).
(7) Remove hexagon nuts (5), flat washer (6), and pan-head screws (7).
(8) Remove cable assembly (8).

b. Installation of Guidance Set Cooling System Cable Assembly.

Note. The key numbers shown in parentheses in (1) through (4) below refer to figure 224.1.

(1) Position guidance set cooling system cable assembly (8) in launching-handling rail (13).
(2) Install pan-head screws (7), flat washers (6), and hexagon nuts (5).
(3) Install loop clamp (4).
(4) Refer to TM 9-1440-250-35 and connect one end of cable assembly (8) to terminal board group (fig. 225).

Note. The key numbers shown in parentheses in (5) through (8) below refer to figure 224.1.

(5) Position blower assembly and mount group (9) in launching-handling rail (10).
(6) Raise blower assembly and mount group (9) and connect cable assembly (6); install hose (8) and tighten retaining bands (7).
(7) Secure blower assembly and mount group (9).
(8) Install cover assembly (fig. 219) and cover (3).

c. Removal of Blower Relay.

(1) Remove cover assembly (fig. 219).
(2) Disconnect cable assembly of blower relay (12) from terminal board group (fig. 225).
(3) Remove blower relay (12).

d. Installation of Blower Relay.
Figure 224.1. Guidance set cooling system cable assembly and blower relay — removal and installation.

1—No. 10-32 x 0.464 hex-hd shear bolt NAS1103-3
2—No. 10 lockwasher MS35338-43
3—No. 10 fl washer MS15795-208
4—Loop clamp MS21919G10
5—No. 10-32 self-locking hex nut NAS1021N3 (4)
6—No. 10 fl washer MS15795-208 (4)
7—No. 10-32 x ¾ pan-hd screw MS35207-58 (4)
8—Guidance set cooling system cable assembly 8521462
9—No. 10-32 x ¼ truss-hd screw MS35208-55 (3)
10—No. 10 lockwasher MS35338-43 (3)
11—No. 10 fl washer MS15795-208 (3)
12—Blower relay 8521464
13—Launching-handling rail

(1) Position blower relay (12) in launching-handling rail (13).
(2) Secure blower relay (12).
(3) Refer to TM 9-1440-250-35 and connect cable assembly of blower relay (12) to terminal board group (fig. 225).

115. Terminal Board Group

There are two terminal board groups (fig. 225) located inside the launching-handling rail. Each terminal board group consists of a bracket and five terminal board assemblies with bus bars.

a. Removal.

(1) Remove cover assembly (fig. 219).
(2) Remove wires of cable assemblies attached to terminal board group (fig. 225), as described in paragraph 38d.

Note. Removal of any terminal board assembly requires removal of terminal board group.

(3) Remove terminal board group.

b. Disassembly. Disassemble terminal board group.

c. Assembly. Assemble terminal board group.

d. Installation.

(1) Install terminal board group.
(2) Refer to TM 9-1440-250-35 and make proper wiring connections.

(3) Install cover assembly (fig. 219).

116. **Channel, Connector Assembly, Electrical Connector Shell, and Dummy Connector**

The channel (fig. 223) is located on the outside of the launching-handling rail near the outrigger (fig. 219) at the rear. The connector assembly (fig. 223) is located inside the rail.

**a. Channel.**

(1) Remove channel.

(2) Install channel.

**b. Connector Assembly.**

(1) **Removal.**

(a) Remove cover assembly (fig. 219).

(b) Loosen packing nut (fig. 223) of the connector assembly and pull cable assembly to the rear through bulkhead and connector assembly.

(c) Remove connector assembly.

(2) **Installation.**

(a) Position connector assembly in hole in bulkhead.

(b) Loosen packing nut and insert wires of missile-away cable assembly.

(c) Pull cable assembly through connector assembly and bulkhead.

(d) Refer to TM 9-1440-250-35 and make proper wiring connections.

(e) Tighten packing nut.

(f) Install cover assembly (fig. 219).

**c. Electrical Connector Shell and Dummy Connector.**

*Note.* The key letters shown in parentheses in (1) and (2) below refer to figure 223.1.

(1) **Removal.**

(a) Remove electrical connector cover (1) from shell (15) and cover (16) from dummy connector (19).
Figure 225. Terminal board group – removal and installation – typical.
Section IV. MAINTENANCE OF LAUNCHING-HANDLING BREAKAWAY INSTALLATION

118. General

This section describes maintenance of the components of the launching-handling rail breakaway installation (fig. 218). The breakaway installation consists of a pivot group (fig. 227) and a bracket group (fig. 229). The general precautions described in paragraph 105 must be observed when performing any maintenance on these items.

Figure 228. (Deleted)
119. Pivot Group

Note. The key numbers shown in parentheses in a through d below refer to figure 227.

a. Removal.
   (1) Remove spring (1).
   (2) Remove pivot group (5).

b. Disassembly. Disassemble pivot group (5).

c. Assembly. Assemble pivot group (5).

d. Installation.
   (1) Install pivot group (5).

(2) Install extension helical spring (1).

120. Bracket Group

a. Removal (fig. 229). Remove bracket group.

b. Disassembly (fig. 230). Disassemble bracket group.

c. Assembly (fig. 230). Assemble bracket group.

d. Installation (fig. 229). Install bracket group.

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1 - Extension helical spring 8525274
2 - ¾-24 hexagon nut AN315-6R
3 - ¾-inch lockwasher MS35238-27
4 - ¾-24 x ¾ hexagon-head bolt AN6-7A
5 - Pivot group
A - Spring pin NAS561-4-9
B - Headed straight pin 9019300

C - Compression helical spring 9019275
D - ¾ x 1 cotter pin 583168
E - ¾-inch flat washer 502288
F - Angle bracket 8525317
G - Headed straight pin MS20392-7-95
H - Eyebolt 8526915
J - Pivot 8525316

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Figure 227. Removal and installation of the pivot group.
Section V. MAINTENANCE OF DECELERATOR SYSTEM COMPONENTS

121. General
This section describes the maintenance of the front and rear decelerators, (figs. 231 and 232), the hydraulic network, and the cork gasket for the hydraulic reservoir. The general precautions described in paragraphs 58 and 105 must be observed when performing any maintenance on these items. Refer to paragraph 37a for hydraulic fluid specifications.

122. Decelerator
A decelerator (fig. 218), covered by an individual guard, is located at each of the four outriggers. The procedures in a through c below are typical for both the front decelerator (fig. 231) and rear decelerator (fig. 232).

a. Removal.
(1) Remove two front guard assemblies (fig. 219).
(2) Provide a suitable container to catch hydraulic fluid from reservoir (figs. 231 and 232), disconnect tube assembly 8525234 from decelerator, and drain hydraulic fluid.
(3) Remove decelerator and cap open line.

b. Partial Disassembly (fig. 233).
(1) Remove pin and plug.
(2) Remove bushing group, retainer, and preformed packing.

Warning: When removing the head in the following step, use care to avoid bodily injury resulting from the spring-loaded piston and spring group.
(3) Remove head.
(4) Disassemble remaining parts of decelerator.

c. Assembly.
(1) Assemble decelerator.
(2) Torque hexagon nut of elbow to 300 pound-inches.

d. Inspection and Test. Test decelerator as prescribed in (1) and (2) below using hydraulic test stand 8523711 (fig. 234) filled with hydraulic fluid as prescribed in paragraph 37a.
(1) Pretest.
(a) Perform a visual inspection of the decelerator for completeness of assembly, and for nicks, scratches, or other damage.
(b) Prior to testing decelerator, warm up test stand as prescribed in paragraphs A, B, and C of Instruction Card 2001.
1—Spring pin—NAS561-4-9
2—Headed straight pin—9019300
3—Helical compression spring—9019275
4—3/16 x 1 cotter pin—583168
5—1/4-inch flat washer—502288
6—Bracket—8525317
7—Headed straight pin—MS20392-7-95
8—Eyebolt—8526915
9—Pivot—8525316

Figure 228. Pivot group—disassembly and assembly.
Section V. MAINTENANCE OF DECELERATOR SYSTEM COMPONENTS

121. General

This section describes the maintenance of the front and rear decelerators, (figs. 231 and 232), the hydraulic network, and the cork gasket for the hydraulic reservoir. The general precautions described in paragraphs 58 and 105 must be observed when performing any maintenance on these items. Refer to paragraph 37a for hydraulic fluid specifications.

122. Decelerator

A decelerator (fig. 218), covered by an individual guard, is located at each of the four outriggers. The procedures in a through c below are typical for both the front decelerator (fig. 231) and rear decelerator (fig. 232).

a. Removal.

(1) Remove two front guard assemblies (fig. 219).

(2) Provide a suitable container to catch hydraulic fluid from reservoir (figs. 231 and 232), disconnect tube assembly—8525254 from decelerator, and drain hydraulic fluid.

(3) Remove decelerator and cap open line.

b. Partial Disassembly (fig. 233).

(1) Remove pin and plug.

(2) Remove bushing group, retainer, and preformed packing.

Warning: When removing the head in the following step, use care to avoid bodily injury resulting from the spring-loaded piston and spring group.

(3) Remove head.

(4) Disassemble remaining parts of decelerator.

c. Assembly.

(1) Assemble decelerator.

(2) Torque hexagon nut of elbow to 300 pound-inches.

d. Inspection and Test. Test decelerator as prescribed in (1) and (2) below using hydraulic test stand—8523711 (fig. 234) filled with hydraulic fluid as prescribed in paragraph 37a.

(1) Pretest.

(a) Perform a visual inspection of the decelerator for completeness of assembly, and for nicks, scratches, or other damage.

(b) Prior to testing decelerator, warm up test stand as prescribed in paragraphs A, B, and C of Instruction Card 2001.
(2) **Acceptance test** (fig. 234).

   (a) Connect test hose assembly, test hose assembly reducer, two adapters, two bleed valve hose assemblies, bleed valve, reducer, and quick-disconnect coupling half; torque fittings to 300 pound-inches.

   (b) Attach coupling half to PRESSURE of the MOTOR PUMP SYSTEM on the panel of the test stand; connect the test hose assembly to the elbow on decelerator and torque coupling nut to 300 pound-inches.

   (c) Position test stand controls and perform acceptance test as prescribed in table XIII.

   (d) Disconnect coupling half, reducer, bleed valve hose assembly, adapters, bleed valve, test hose assembly reducer, and test hose assembly; stow in cabinet of test stand.

   (e) Position the decelerator, elbow down, so that all hydraulic fluid will drain into the sink. Cap elbow to prevent contamination.

**Installation.**

(1) Install decelerator (figs. 231 or 232).

(2) Remove protective cap from elbow of decelerator, connect tube assembly, and torque coupling nut to 150 pound-inches.
Figure 233. Decelerator – partial disassembly and assembly.
Table XIII. Decelerator Acceptance Test Using Hydraulic Test Stand – 8523711 – Continued.

<table>
<thead>
<tr>
<th>Control</th>
<th>Position</th>
<th>Reading/Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>g. RELIEF VALVE</td>
<td>Open</td>
<td>MANIFOLD TO RESERVOIR</td>
</tr>
<tr>
<td>h. PRESSURE TO MANIFOLD – MANIFOLD TO RESERVOIR</td>
<td>Depress STOP pushbutton</td>
<td>Close</td>
</tr>
<tr>
<td>i. PUMP MOTOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. GAGE B SHUTOFF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>k. Open bleed valve – 8169439 and allow fluid in hose to drain into sink.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(3) Fill hydraulic reservoir with hydraulic fluid as prescribed in paragraph 37a.

(4) Perform bleed procedure for decelerator as described in TM 9-1440-250-20.

(5) Install guard assembly (fig. 219).

123. Decelerator Hydraulic Network

Hydraulic networks are provided for both the front and rear decelerators (fig. 231 and 232). These networks consist of the necessary tube assemblies and fittings to provide a gravity source of hydraulic fluid from the hydraulic reservoir to their respective decelerators. The decelerator hydraulic network is independent of the launcher hydraulic systems.

a. Removal.

(1) Remove front or rear guard assembly (fig. 219) from decelerator hydraulic network to be replaced.

(2) Remove cover assembly to provide easier access to front decelerator network.

(3) Provide a suitable container to catch hydraulic fluid from reservoir (figs. 231 and 232), disconnect tube assembly – 8525234, and drain hydraulic fluid.

(4) Remove parts of network requiring replacement and cap all open lines.

b. Installation.

(1) Install adapter, tube tee, and elbow.

(2) Install tube assemblies and torque coupling nuts to the following specified values.

<table>
<thead>
<tr>
<th>Tube assembly</th>
<th>Torque value (pound-inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8525234</td>
<td>50</td>
</tr>
<tr>
<td>8525277</td>
<td>50</td>
</tr>
<tr>
<td>9029931</td>
<td>150</td>
</tr>
<tr>
<td>9029934</td>
<td>150</td>
</tr>
</tbody>
</table>

(3) Install cover assembly (fig. 219).

(4) Fill hydraulic reservoir (figs. 231 and 232) with hydraulic fluid, as prescribed in paragraph 37a.

(5) Perform bleed procedure for decelerator as described in TM 9-1440-250-20.

(6) Install guard assembly (fig. 219).

124. Cork Gasket

A cork gasket (figs. 231 and 232) is located between the top of each hydraulic reservoir and the inside top of the launching-handling rail. Typical removal and installation procedures are described in a and b below.

a. Removal.

(1) Remove guard assembly (fig. 219).

(2) Disconnect tube assembly (figs. 231 or 232) from front or rear decelerator and drain hydraulic fluid. Cap all open lines.

(3) Remove tube assembly from hydraulic reservoir.

(4) Remove reservoir and gasket.

b. Installation.

(1) Position gasket over mounting holes of hydraulic reservoir.

(2) Install reservoir.
(3) Install tube assembly between reservoir and tube tee. Torque coupling nut to 50 pound-inches.

(4) Connect tube assembly to decelerator. Torque coupling nut to 50 pound-inches.

(5) Fill reservoir with hydraulic fluid as prescribed in paragraph 37a.

(6) Perform bleed procedure for decelerator as described in TM 9-1440-250-20.

(7) Install guard assembly (fig. 219).
Section VI. MAINTENANCE OF LAUNCHING-HANDLING RAIL BRAKE

125. General.

This section describes maintenance of the brake operating mechanism and the brake components. The general precautions described in paragraph 105 must be observed when performing any maintenance on these items.

126. Brake Operating Mechanism

The linkage of the brake operating mechanism (figs. 235, 236, and 237) extends from the positioning handle (fig. 235) to the brake tube assembly (fig. 236) near the front decelerators (fig. 231), and to the stop and positioning tube assembly (fig. 237) near the rear decelerators (fig. 232).

a. Removal.

(1) Remove cover assembly (fig. 219) and plate.
(2) Remove extension spring (fig. 236) and spring (fig. 237).
(3) Remove square-head setscrews and hexagon nuts from stops (fig. 235).
(4) Remove positioning handle connector assembly (fig. 235) and rail arm connector assembly (figs. 235 and 236).
(5) Remove positioning handle (fig. 235) and hand crank.
(6) Remove rigid shaft.
(7) Remove lubrication fittings from pillow block plain bearing units.
(8) Remove two plain bearing units.
(9) Remove connector hand crank and missile launching rail arm.
(10) Remove sleeve bearing.
(11) Remove brake connector assembly (figs. 236 and 237).
(12) Remove lever assembly (fig. 237).
(13) Remove lubrication fitting from bearing.
(14) Remove bearing.

b. Installation.

(1) Install bearing.

(2) Install lubrication fitting on bearing.
(3) Install lever assembly.
(4) Install brake connector assembly (figs. 236 and 237).
(5) Install sleeve bearing (fig. 235).
(6) Install lubrication fitting on sleeve bearing.
(7) Install connector hand crank and missile launching rail arm.
(8) Install two pillow block plain bearing units.
(9) Install lubrication fittings on bearing units.
(10) Install rigid shaft.
(11) Install positioning handle and hand crank.
(12) Install positioning handle connector assembly (fig. 235) and rail arm connector assembly (figs. 235 and 236).
(13) Install \( \frac{1}{4} \)-13 x 3/4 square-head setscrews (fig. 235) on stops.
(14) Install extension spring (fig. 236) and spring (fig. 237).
(15) Install cover assembly (fig. 219) and plate.

c. Adjustment.

(1) Depress hand crank (fig. 235) or positioning handle until brake tube assembly (fig. 236) and stop and positioning tube assembly (fig. 237) are released and movement of the launching-handling rail is possible. Adjust square-head setscrew (fig. 235) at the rear to allow holding the handle at RELEASE, and tighten the hexagon nut of the square-head setscrew.

(2) Raise crank until brake tube assembly and positioning tube assembly are locked on stops; adjust setscrew at the front while holding crank in place, and tighten the nut of the setscrew.

underneath the launching-handling rail at the front.

a. Removal.

(3) Remove both front decelerators (fig. 231) as described in paragraph 122a.
Section VII. MAINTENANCE OF THE LAUNCHING-HANDLING RAIL
STOP AND POSITIONING TUBE ASSEMBLY

128. General
This section describes maintenance of the stop and positioning tube assembly (fig. 237). The general precautions described in paragraph 105 must be observed when performing any maintenance on this item.

129. Stop and Positioning Tube Assembly
The stop and positioning tube assembly is located underneath the launching-handling rail.

a. Removal.
(1) Position the launching-handling rail against the loading rack stops (fig. 56).
(2) Remove the two rear guard assemblies (fig. 219).
(3) Remove both rear decelerators (fig. 232) as described in paragraph 122a.
(4) Disconnect the rod end connector assembly (fig. 237) from the stop and positioning tube assembly.
(5) Remove the stop and positioning tube assembly.

b. Disassembly. Disassemble the stop and positioning tube assembly (fig. 229).
c. Assembly. Assemble the stop and positioning tube assembly.
d. Installation.
(1) Position the stop and positioning tube assembly (fig. 237) on the launching-handling rail and attach the rod end connector assembly.
(2) Install the rear decelerators (fig. 232) as described in paragraph 122e.
(3) Install the two rear guard assemblies (fig. 219).

Section VIII. MAINTENANCE OF THE LAUNCHING-HANDLING RAIL
HOOK ASSEMBLIES

130. General
This section describes maintenance of the hook assemblies (fig. 218). The general precautions described in paragraph 105 must be observed when performing any maintenance on these items.

131. Hook Assemblies
Two hook assemblies (fig. 240) are located beneath and on each side of the four outriggers of the launching-handling rail. Typical removal, disassembly, assembly, and installation procedures are described in a through d below.

a. Removal.
Note. The four decelerators (fig. 218) offer interference to the removal of four of the eight hook assemblies. Perform steps (1) and (2) below if removal of one of these hook assemblies is required.
(1) Remove the front or rear guard assembly (fig. 219) as required.
(2) Remove the front or rear decelerator as described in paragraph 122a.

Note. The key numbers shown in parentheses in steps (3) through (7) below refer to figure 240.
(3) Remove the bumper (2).
(4) Remove the launching-handling rail as described in paragraph 36e (1).
(5) Remove the two pins (3) with retaining rings (4).

Note. The two foremost hook assemblies, where applicable, require a shim (7) to insure correct actuation of the elevator warning device. The other six hook assemblies contain a setscrew (5).
(6) Remove the shim or the setscrew.
(7) Remove the hook assembly (8).

b. Disassembly. Disassemble the hook assembly (fig. 240).
c. Assembly. Assemble the hook assembly (fig. 240).
d. Installation.
Note. The key numbers shown in parentheses in steps (1) through (3) below refer to figure 240.
(1) Attach the shim (7) or install the setscrew (5).
(2) Position the hook assembly (8) on the launching-handling rail and install the two pins (3) with retaining rings (4).
(3) Install the bumper (2).
(4) Install the launching-handling rail as described in paragraph 36e (2).
(5) Install the decelerator as described in paragraph 122e.
(6) Install the guard assembly (fig. 219).
Figure 236. Brake operating mechanism — removal and installation — Continued.

127. Brake Tube Assembly

The brake tube assembly (fig. 236) is located underneath the launching-handling rail at the front.

a. Removal.

(1) Position launching-handling rail against loading rack stops (fig. 56).

(2) Remove two front guard assemblies (fig. 219).

(3) Remove both front decelerators (fig. 231) as described in paragraph 122a.
Section VII. MAINTENANCE OF THE LAUNCHING–HANDLING RAIL
STOP AND POSITIONING TUBE ASSEMBLY

128. General
This section describes maintenance of the stop and positioning tube assembly (fig. 237). The general precautions described in paragraph 105 must be observed when performing any maintenance on this item.

129. Stop and Positioning Tube Assembly
The stop and positioning tube assembly is located underneath the launching-handling rail.
a. Removal.
(1) Position the launching-handling rail against the loading rack stops (fig. 56).
(2) Remove the two rear guard assemblies (fig. 219).
(3) Remove both rear decelerators (fig. 232) as described in paragraph 122a.

Section VIII. MAINTENANCE OF THE LAUNCHING–HANDLING RAIL
HOOK ASSEMBLIES

130. General
This section describes maintenance of the hook assemblies (fig. 218). The general precautions described in paragraph 105 must be observed when performing any maintenance on these items.

131. Hook Assemblies
Two hook assemblies (fig. 240) are located beneath and on each side of the four outriggers of the launching-handling rail. Typical removal, disassembly, assembly, and installation procedures are described in a through d below.
a. Removal.
Note. The four decelerators (fig. 218) offer interference to the removal of four of the eight hook assemblies. Perform steps (1) and (2) below if removal of one of these hook assemblies is required.
(1) Remove the front or rear guard assembly (fig. 219) as required.
(2) Remove the front or rear decelerator as described in paragraph 122a.
Note. The key numbers shown in parentheses in steps (3) through (7) below refer to figure 240.
(3) Remove the bumper (2).
(4) Remove the launching-handling rail as described in paragraph 36c(1).
(5) Remove the two pins (3) with retaining rings (4).
Note. The two foremost hook assemblies, where applicable, require a shim (7) to insure correct actuation of the elevator warning device. The other six hook assemblies contain a setscrew (5).
(6) Remove the shim or the setscrew.
(7) Remove the hook assembly (8).
b. Disassembly. Disassemble the hook assembly (fig. 240).
c. Assembly. Assemble the hook assembly (fig. 240).
d. Installation.
Note. The key numbers shown in parentheses in steps (1) through (3) below refer to figure 240.
(1) Attach the shim (7) or install the setscrew (5).
(2) Position the hook assembly (8) on the launching-handling rail and install the two pins (3) with retaining rings (4).
(3) Install the bumper (2).
(4) Install the launching-handling rail as described in paragraph 36c(2).
(5) Install the decelerator as described in paragraph 122e.
(6) Install the guard assembly (fig. 219).
Table XIII. Decelerator Acceptance Test Using Hydraulic Test Stand – 8522711 – Continued.

<table>
<thead>
<tr>
<th>Control</th>
<th>Position</th>
<th>Reading/Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>g. RELIEF VALVE</td>
<td>Open</td>
<td>------------------</td>
</tr>
<tr>
<td>h. PRESSURE TO MANIFOLD – MANIFOLD TO RESERVOIR</td>
<td>MANIFOLD TO RESERVOIR</td>
<td></td>
</tr>
<tr>
<td>i. PUMP MOTOR</td>
<td>Depress STOP pushbutton</td>
<td></td>
</tr>
<tr>
<td>j. GAGE B SHUTOFF</td>
<td>Close</td>
<td></td>
</tr>
<tr>
<td>k. Open bleed valve – 8169439 and allow fluid in hose to drain into sink</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(3) Fill hydraulic reservoir with hydraulic fluid as prescribed in paragraph 37a.
(4) Perform bleed procedure for decelerator as described in TM 9-1440-250-20.
(5) Install guard assembly (fig. 219).

123. Decelerator Hydraulic Network

Hydraulic networks are provided for both the front and rear decelerators (figs. 231 and 232). These networks consist of the necessary tube assemblies and fittings to provide a gravity source of hydraulic fluid from the hydraulic reservoir to their respective decelerators. The decelerator hydraulic network is independent of the launcher hydraulic systems.

a. Removal.

(1) Remove front or rear guard assembly (fig. 219) from decelerator hydraulic network to be replaced.
(2) Remove cover assembly to provide easier access to front decelerator network.
(3) Provide a suitable container to catch hydraulic fluid from reservoir (figs. 231 and 232), disconnect tube assembly — 8525234, and drain hydraulic fluid.
(4) Remove parts of network requiring replacement and cap all open lines.

b. Installation.

(1) Install adapter, tube tee, and elbow.
(2) Install tube assemblies and torque coupling nuts to the following specified values.

<table>
<thead>
<tr>
<th>Tube assembly</th>
<th>Torque value (pound-inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8525234</td>
<td>50</td>
</tr>
<tr>
<td>8525277</td>
<td>50</td>
</tr>
<tr>
<td>9029931</td>
<td>150</td>
</tr>
<tr>
<td>9029934</td>
<td>150</td>
</tr>
</tbody>
</table>
(3) Install cover assembly (fig. 219).
(4) Fill hydraulic reservoir (figs. 231 and 232) with hydraulic fluid, as prescribed in paragraph 37a.
(5) Perform bleed procedure for decelerator as described in TM 9-1440-250-20.
(6) Install guard assembly (fig. 219).

124. Cork Gasket

A cork gasket (figs. 231 and 232) is located between the top of each hydraulic reservoir and the inside top of the launching-handling rail. Typical removal and installation procedures are described in a and b below.

a. Removal.

(1) Remove guard assembly (fig. 219).
(2) Disconnect tube assembly (figs. 231 or 232) from front or rear decelerator and drain hydraulic fluid. Cap all open lines.
(3) Remove tube assembly from hydraulic reservoir.
(4) Remove reservoir and gasket.

b. Installation.

(1) Position gasket over mounting holes of hydraulic reservoir.
(2) Install reservoir.
(3) Install tube assembly between reservoir and tube tee. Torque coupling nut to 50 pound-inches.

(4) Connect tube assembly to decelerator. Torque coupling nut to 50 pound-inches.

(5) Fill reservoir with hydraulic fluid as prescribed in paragraph 37a.

(6) Perform bleed procedure for decelerator as described in TM 9-1440-250-20.

(7) Install guard assembly (fig. 219).
Section VI. MAINTENANCE OF LAUNCHING-HANDLING RAIL BRAKE

125. General.
This section describes maintenance of the brake operating mechanism and the brake components. The general precautions described in paragraph 105 must be observed when performing any maintenance on these items.

126. Brake Operating Mechanism
The linkage of the brake operating mechanism (figs. 235, 236, and 237) extends from the positioning handle (fig. 235) to the brake tube assembly (fig. 236) near the front decelerators (fig. 231), and to the stop and positioning tube assembly (fig. 237) near the rear decelerators (fig. 232).

a. Removal.
(1) Remove cover assembly (fig. 219) and plate.
(2) Remove extension spring (fig. 236) and spring (fig. 237).
(3) Remove square-head setscrews and hexagon nuts from stops (fig. 235).
(4) Remove positioning handle connector assembly (fig. 235) and rail arm connector assembly (figs. 235 and 236).
(5) Remove positioning handle (fig. 235) and hand crank.
(6) Remove rigid shaft.
(7) Remove lubrication fittings from pillow block plain bearing units.
(8) Remove two plain bearing units.
(9) Remove connector hand crank and missile launching rail arm.
(10) Remove sleeve bearing.
(11) Remove brake connector assembly (figs. 236 and 237).
(12) Remove lever assembly (fig. 237).
(13) Remove lubrication fitting from bearing.
(14) Remove bearing.

b. Installation.
(1) Install bearing.
(2) Install lubrication fitting on bearing.
(3) Install lever assembly.
(4) Install brake connector assembly (figs. 236 and 237).
(5) Install sleeve bearing (fig. 235).
(6) Install lubrication fitting on sleeve bearing.
(7) Install connector hand crank and missile launching rail arm.
(8) Install two pillow block plain bearing units.
(9) Install lubrication fittings on bearing units.
(10) Install rigid shaft.
(11) Install positioning handle and hand crank.
(12) Install positioning handle connector assembly (fig. 235) and rail arm connector assembly (figs. 235 and 236).
(13) Install ¼-13 x ¾ square-head setscrews (fig. 235) on stops.
(14) Install extension spring (fig. 236) and spring (fig. 237).
(15) Install cover assembly (fig. 219) and plate.

c. Adjustment.
(1) Depress hand crank (fig. 235) or positioning handle until brake tube assembly (fig. 236) and stop and positioning tube assembly (fig. 237) are released and movement of the launching-handling rail is possible. Adjust square-head setscrew (fig. 235) at the rear to allow holding the handle at RELEASE, and tighten the hexagon nut of the square-head setscrew.
(2) Raise crank until brake tube assembly and positioning tube assembly are locked on stops; adjust setscrew at the front while holding crank in place, and tighten the nut of the setscrew.
Figure 235. Brake operating mechanism – removal and installation.
127. Brake Tube Assembly

The brake tube assembly (fig. 236) is located underneath the launching-handling rail at the front.

a. Removal.

(1) Position launching-handling rail against loading rack stops (fig. 56).

(2) Remove two front guard assemblies (fig. 219).

(3) Remove both front decelerators (fig. 231) as described in paragraph 122a.
Figure 237. Brake operating mechanism - removal and installation - Continued.

(4) Remove brake tube assembly and locking ring (fig. 236).

b. Disassembly (fig. 238). Disassemble brake tube assembly.

c. Assembly.

(1) Assemble brake tube assembly.

Note. Spring—8530890 must be installed with control cam—8530897 and spring—8530904 with control cam—8530898.

(2) Check cams for freedom from binding.

d. Installation.

(1) Position brake tube assembly (fig. 236) in launching-handling rail and attach locking ring.

(2) Install locking ring.

(3) Install front decelerators (fig. 231) as described in paragraph 122e.

(4) Install two front guard assemblies (fig. 219).
Figure 238. Brake tube assembly – disassembly and assembly.
Section VII. MAINTENANCE OF THE LAUNCHING–HANDLING RAIL
STOP AND POSITIONING TUBE ASSEMBLY

128. General
This section describes maintenance of the stop and positioning tube assembly (fig. 237). The general precautions described in paragraph 105 must be observed when performing any maintenance on this item.

129. Stop and Positioning Tube Assembly
The stop and positioning tube assembly is located underneath the launching-handling rail.

a. Removal.
(1) Position the launching-handling rail against the loading rack stops (fig. 56).
(2) Remove the two rear guard assemblies (fig. 219).
(3) Remove both rear decelerators (fig. 232) as described in paragraph 122a.
(4) Disconnect the rod end connector assembly (fig. 237) from the stop and positioning tube assembly.
(5) Remove the stop and positioning tube assembly.

b. Disassembly. Disassemble the stop and positioning tube assembly (fig. 239).
c. Assembly. Assemble the stop and positioning tube assembly.
d. Installation.
(1) Position the stop and positioning tube assembly (fig. 237) on the launching-handling rail and attach the rod end connector assembly.
(2) Install the rear decelerators (fig. 232) as described in paragraph 122e.
(3) Install the two rear guard assemblies (fig. 219).

Section VIII. MAINTENANCE OF THE LAUNCHING–HANDLING RAIL
HOOK ASSEMBLIES

130. General
This section describes maintenance of the hook assemblies (fig. 218). The general precautions described in paragraph 105 must be observed when performing any maintenance on these items.

131. Hook Assemblies
Two hook assemblies (fig. 240) are located beneath and on each side of the four outriggers of the launching-handling rail. Typical removal, disassembly, assembly, and installation procedures are described in a through d below.

a. Removal.

Note. The four decelerators (fig. 218) offer interference to the removal of four of the eight hook assemblies. Perform steps (1) and (2) below if removal of one of these hook assemblies is required.

(1) Remove the front or rear guard assembly (fig. 219) as required.
(2) Remove the front or rear decelerator as described in paragraph 122a.

Note. The key numbers shown in parentheses in steps (3) through (7) below refer to figure 240.
(3) Remove the bumper (2).
(4) Remove the launching-handling rail as described in paragraph 36c (1).
(5) Remove the two pins (3) with retaining rings (4).

Note. The two foremost hook assemblies, where applicable, require a shim (7) to insure correct actuation of the elevator warning device. The other six hook assemblies contain a setscrew (5).

(6) Remove the shim or the setscrew.
(7) Remove the hook assembly (8).

b. Disassembly. Disassemble the hook assembly (fig. 240).
c. Assembly. Assemble the hook assembly (fig. 240).
d. Installation.

Note. The key numbers shown in parentheses in steps (1) through (3) below refer to figure 240.
(1) Attach the shim (7) or install the setscrew (5).
(2) Position the hook assembly (8) on the launching-handling rail and install the two pins (3) with retaining rings (4).
(3) Install the bumper (2).
(4) Install the launching-handling rail as described in paragraph 36c (2).
(5) Install the decelerator as described in paragraph 122e.
(6) Install the guard assembly (fig. 219).
Figure 239. Stop and positioning tube assembly — disassembly and assembly.
1—No. 10-24 x 7/8 fl-hd screw MS35192-54 (4)
2—Bumper 8167495
3—Pin 8525255 (2)
4—Retaining ring 583280 (2)
5—7/8 x 3/4 fl-pt setscrew MS51026-62
6—7/8 x 3/4 fl-hd screw MS24668-11
7—Shim 9977158

8—Hook assembly 8525259
A—7/8 x 3/4 cup-pt setscrew MS51018-63
B—7/8 x 3/4 dog-pt setscrew MS51042-46
C—Pin 8525257
D—3/4-id x 1 1/4-od x 0.063 thk fl washer 8167026
E—Roller 8167019
F—Hook 8825268

1 Used on six hook assemblies
2 Used on two foremost hook assemblies

Figure 240. Hook assembly—removal, disassembly, assembly, and installation—typical.
Section IX. MAINTENANCE OF LAUNCHING-HANDLING RAIL INCHING DEVICE

132. General
This section describes maintenance of the driver wheel housing assembly (fig. 241), driver wheel assembly, and a handwheel comprising each of the two inching devices (fig. 218). Inching devices are located inside the outriggers at the right front and left rear. The general precautions described in paragraph 105 must be observed when performing any maintenance on these items.

133. Driver Wheel Housing Assembly
Typical procedures for removal and installation of the driver wheel housing assembly are described in a through d below.

a. Removal.
   (1) Remove launching-handling rail as described in paragraph 36c(1).
   (2) Remove handwheel (fig. 241).
   (3) Remove driver wheel housing assembly.

b. Disassembly. Disassemble the driver wheel housing assembly.

c. Assembly.
   (1) Install two sleeve bearings in a housing.
      Caution: Keep the two bearings aligned and avoid burring or chipping.
   (2) Install lubrication fitting in spur gear shaft.
   (3) Assemble remaining parts of housing assembly.

d. Installation.
   (1) Position housing assembly in launching-handling rail.

Section X. MAINTENANCE OF LAUNCHING-HANDLING RAIL IDLER WHEEL ASSEMBLY

135. General
This section describes maintenance of the launching-handling rail idler wheel assemblies (fig. 242). The general precautions described in paragraph 105 must be observed when performing any maintenance on this item.
Figure 241. Inching device – removal and installation – typical.
1/4-20 x 1/2 HEX-HD CAP SCREW — 120706 (2)

1/4-IN. LOCK WASHER — MS35339-25 (2)

HOLDER — 8167445

AXLE — 8167418

1.015-IN-ID FL WASHER — AN960 C1616L (AS REQUIRED)

1.015-IN-ID FL WASHER — AN960 C1616L (AS REQUIRED)

IDLER WHEEL ASSY — 8167416 (2)

LAUNCHING-HANDLING RAIL

**Figure 212. Idler wheel assembly – removal and installation – typical.**
136. Idler Wheel Assembly
The idler wheel assemblies are located in the outriggers (fig. 218) at the left front and right rear. Typical procedures for removal and installation of the idler wheel assemblies (fig. 242) are described in a and b below.

a. Removal.
   (1) Remove launching-handling rail as described in paragraph 36c(1).
   (2) Remove hook assembly (fig. 240) from idler wheel assembly requiring replacement as described in paragraph 131a.
   (3) Remove idler wheel assembly (fig. 242).

b. Installation.
   (1) Install idler wheel assembly.
   (2) Install hook assembly (fig. 240) as described in paragraph 131d.
   (3) Install launching-handling rail as described in paragraph 36c(2).

Section XI. MAINTENANCE OF RAIL RELEASE ASSEMBLY

137. General
This section describes maintenance of the rail release assembly (fig. 243). The general precautions described in paragraph 105 must be observed when performing any maintenance on this item.

138. Rail Release Assembly
The release assembly is attached to the front end of the launching-handling rail.

Note. The key numbers shown in parentheses in a through d below refer to figure 243.


b. Disassembly.
   (1) Remove cotter pin (4A), two knobs (4B), and washer (4C) from holder (4E).

(2) Remove holder (4E) from coupling (4P).

(3) Remove shear bolt (4H) and thumb-screw (4D).

(4) Remove two setscrews (4J) and two headed straight pins (4K).

(5) Remove yoke assembly (4L).

(6) Remove headless straight pin (4N) and two sleeve bushings (4Q) from yoke assembly (4L).

(7) Remove four sleeve bearings (4M) and two lubrication fittings (4R) from yoke assembly (4L).

(8) Remove two headless straight pins (4T) from bracket assembly (4CC).

Figure 243. Rail release assembly—removal and installation—legend.
Figure 243. Rail release assembly - removal and installation.
c. Assembly.

(1) Install two lubrication fittings on yoke assembly (4L).

(2) Position two headless straight pins in bracket assembly (4CC) and install with four spring pins and four flat washers.

(3) Position pin in release assembly housing (4X), insert spring and flat washer, and retain these parts by installing spring pin in pin.

(4) Install release assembly housing on bracket assembly (4CC) with two hexagon-head cap screws and two lockwashers.

(5) Install four sleeve bearings and two sleeve bushings in yoke assembly (4L).

(6) Install yoke assembly (4L) on bracket assembly (4CC) with two headed straight pins, and secure pins with setscrews and lockwire.

(7) Position coupling on yoke assembly (4L) and install headless straight pin.

(8) Rotate pin and install holder (4E).

(9) Install flat washer, two knobs, and cotter pin on holder (4E).

(10) Install shear bolt on yoke assembly (4L) with lockwasher and hexagon nut.

(11) Install thumbscrew on yoke assembly (4L).
d. Installation.

(1) Position rail release assembly (4) on launching-handling rail (5) and secure top of release assembly to rail with hexagon-head cap screws (3), lockwashers (2), and hexagon nuts (1).

(2) Secure bottom of release assembly (4) to rail (5) with hexagon-head cap screws (3), lockwashers (2), and hexagon nuts (1).

Section XII. MAINTENANCE OF GUIDANCE SET COOLING SYSTEM

139.1. General

This section covers maintenance of the guidance set cooling system. The general precautions described in paragraph 105 must be observed when performing any maintenance on this system.

139.2 Guidance Set Cooling System


Note. The key numbers shown in parentheses in (1) through (4) below refer to figure 244.1.

(1) Remove cover (3).

(2) Remove blower assembly and mount group (9) as described in paragraph 114.1a (2) through (4).

(3) Remove hose (8).

(4) Remove mounts (9C).

Note. The key numbers shown in parentheses in (5) through (7) below refer to figure 244.2.

(5) Remove hose assembly (4).

(6) Remove mounting plate (12) and pipe (13).

(7) Remove bracket (17).

b. Installation of Guidance Set Cooling System.

Note. The key numbers shown in parentheses in (1) through (3) below refer to figure 244.2.

(1) Install bracket (17).

(2) Install pipe (13) and mounting plate (12).

(3) Install hose assembly (4).

Note. The key numbers shown in parentheses in (4) through (7) below refer to figure 244.1.

(4) Install mounts (9C) on blower assembly (9D).

(5) Position hose (8) inside launching-handling rail (10).

(6) Install blower assembly and mount group (9) as described in paragraph 114.1b (5) through (7).

(7) Install cover (3).

(3) Torque hexagon nuts at top of release assembly and hexagon-head cap screws at bottom of release assembly to 1,100 pound-inches.

139. Stop and Positioning Bolt

A stop and positioning bolt (fig. 244) is installed on each side of the launching-handling rail for the purpose of properly aligning the rocket motor cluster on the rail. Refer to TM 9-1440-250-20 for adjustment of bolt.
Figure 244.1. Guidance set cooling system—removal and installation.

1—¼-28 x ¾ hex-hd cap screw MS35298-5 (10)
2—0.281-in-id fl washer MS15795-210 (10)
3—Cover 9034320
4—¼-20 hex nut MS35690-402 (4)
5—¼-in. lockwasher MS35338-44 (4)
6—Guidance set cooling system cable assembly
7—Retaining band
8—Hose 9025044
9—Blower assembly and mount group
A—¼-20 hex nut MS35690-402 (4)
B—¼-20 lockwasher MS35338-44 (4)
C—Mount 9025243 (4)
D—Blower assembly 9031878
10—Launching-handling rail
Figure 244.2. Guidance set cooling system—removal and installation—Continued.