

# TB 9-2320-360-13&P-2

---

## TECHNICAL BULLETIN

### OPERATOR'S, UNIT AND DIRECT SUPPORT MAINTENANCE MANUAL, INSTALLATION INSTRUCTIONS, AND REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL)

FOR

### CREW PROTECTION KIT

FOR

### TRUCK, TRACTOR, M1070P1, 8 X 8 HEAVY EQUIPMENT TRANSPORTER (HET) (NSN 2320-01-523-1054) (EIC: BD8)



DISTRIBUTION STATEMENT A - Approved for public release; distribution is unlimited.

---

HEADQUARTERS, DEPARTMENT OF THE ARMY

DECEMBER 2005



## WARNING SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions may cause serious injury or death to personnel. Also included are explanations of safety and hazardous materials icons used within this technical bulletin.



CHEMICAL - drops of liquid on hand shows that the material will cause burns or irritation to human skin or tissue.



EYE PROTECTION - person with goggles shows that the material will injure the eyes.



FIRE - flame shows that a material may ignite and cause burns.



FLYING PARTICLES - arrows bouncing off face with face shield shows that particles flying through the air will harm face.



HEAVY PARTS - hand with heavy object on top shows that heavy parts can crush and harm.



HEAVY PARTS - heavy object on human figure shows that heavy parts present a danger to life or limb.



VAPOR - human figure in a cloud shows that material vapors present a danger to life or health.

**FOR INFORMATION ON FIRST AID, REFER TO FM 4-25.11.**



**WARNING**

**ADHESIVES AND SEALANTS**

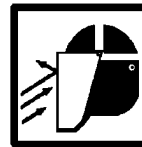


Use caution when using adhesives and sealants. Prolonged inhalation of vapors can cause lung irritation. Contact with skin can cause dermatitis. Wear gloves and safety goggles and use product in a well-ventilated area away from open flame. If ingested, keep individual calm and seek medical attention. DO NOT induce vomiting. If contact with skin or eyes is made, flush thoroughly with water. Dispose of cleanup rags IAW local policy and ordinances. Failure to follow this warning may cause injury to personnel.



**WARNING**

**COMPRESSED AIR**



Particles blown by compressed air are hazardous. DO NOT exceed 15 psi (103 kPa) nozzle pressure when drying parts with compressed air. Use a maximum of 30 psi (207 kPa) when cleaning components. DO NOT direct compressed air against human skin. Failure to follow this warning may result in injury or death to personnel. Make sure air stream is directed away from user and other personnel in the area. To prevent injury, user must wear protective goggles or face shield.



**WARNING**

**DRILLING AND RIVETING**

Eye protection is required when drilling and when using riveter to install rivets. Failure to follow this warning may cause injury to personnel.



**WARNING**

**HEAVY COMPONENTS**



Use caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

## WARNING

### HET OPERATION

Due to increased weight of HET with armor kit installed, operator should be aware of differences in vehicle driving characteristics and adjust his/her driving accordingly. Failure to do so may cause an accident and injury or death to personnel.



## WARNING

### SHARP EDGES

- Use caution when handling window glass. Glass can break unexpectedly during removal/installation procedure. Wear face shield, apron, and gloves. Failure to follow this warning may cause injury to personnel.
- Edges of metal armor panels may be sharp. Wear protective gloves when handling armor panels. Failure to follow this warning may cause injury to personnel.



## WARNING

### SOLVENT CLEANING COMPOUND



Solvent cleaning compound MIL-PRF-680 Type III is an environmentally compliant and low toxic material. However, it may be irritating to the eyes and skin. Use protective gloves and goggles. Use in well-ventilated areas. Keep away from open flames and other sources of ignition.

## WARNING

### THREAT PROTECTION

For proper threat protection, windshield ballistic glass must be correctly installed onto windshield armor frame. During installation, ensure that decal “INSTALL THIS SURFACE TOWARD THREAT” is located on outside of cab. Improperly installed windshield ballistic glass will not protect occupants. Failure to follow this warning may cause injury or death to personnel.

## WARNING

### WELDING NOT AUTHORIZED

To ensure survivability of personnel, welding repairs on armor kit are NOT authorized. If armor plates are damaged, they must be replaced. Failure to follow this warning may cause failure of armor, resulting in injury or death to personnel.



**LIST OF EFFECTIVE PAGES/WORK PACKAGES**

Date of issue for original manual is:

Original                      31 December 2005

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 22 AND TOTAL NUMBER OF WORK PACKAGES IS 46 CONSISTING OF THE FOLLOWING:

<b>Page/WP No.</b>	<b>*Change No.</b>
Cover/(Back Blank)	0
a to c/(d Blank)	0
A/(B Blank)	0
i to vi	0
WP 0001 00 to 0046 00	0
Index-1 to Index-4	0

\* Zero in this column indicates an original page or work package.

**A/(B Blank)**





TECHNICAL BULLETIN

**OPERATOR'S, UNIT AND DIRECT SUPPORT  
MAINTENANCE MANUAL, INSTALLATION INSTRUCTIONS, AND  
REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL)**

FOR

**CREW PROTECTION KIT**

FOR

**TRUCK, TRACTOR, M1070P1, 8 X 8  
HEAVY EQUIPMENT TRANSPORTER (HET)  
(NSN 2320-01-523-1054) (EIC: BD8)**

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028 (*Recommended Changes to Equipment Technical Publications*), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is <https://aeeps.ria.army.mil/>. The DA Form 2028 is located under the Public Applications section in the AEPS Public Home Page. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or e-mail your letter or DA Form 2028 directly to: AMSTA-LC-LMIT/TECH PUBS, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The e-mail address is: TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

**DISTRIBUTION STATEMENT A** - Approved for public release; distribution is unlimited.

**Table of Contents**

	<b>Page Number</b>
Warning Summary . . . . .	a
How to Use This Technical Bulletin . . . . .	v

## Table of Contents - Continued

	<b>Page Number</b>
<b>CHAPTER 1 GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND DATA, AND THEORY OF OPERATION</b>	
WP 0001 00 General Information . . . . .	0001 00-1
WP 0002 00 Equipment Description and Data. . . . .	0002 00-1
WP 0003 00 Theory of Operation . . . . .	0003 00-1
<b>CHAPTER 2 OPERATOR INSTRUCTIONS</b>	
WP 0004 00 Description and Use of Operator Controls . . . . .	0004 00-1
WP 0005 00 Operation Under Usual Conditions . . . . .	0005 00-1
WP 0006 00 Operation Under Unusual Conditions . . . . .	0006 00-1
WP 0007 00 Stowage and Decal/Data Plate Guide . . . . .	0007 00-1
<b>CHAPTER 3 OPERATOR MAINTENANCE INSTRUCTIONS</b>	
WP 0008 00 Operator Preventive Maintenance Checks and Services (PMCS) Introduction .	0008 00-1
WP 0009 00 Operator Preventive Maintenance Checks and Services (PMCS). . . . .	0009 00-1
WP 0010 00 Cleaning Ballistic Glass . . . . .	0010 00-1
<b>CHAPTER 4 UNIT MAINTENANCE INSTRUCTIONS</b>	
WP 0011 00 General Maintenance Instructions. . . . .	0011 00-1
WP 0012 00 Door Handle Assembly Replacement . . . . .	0012 00-1
WP 0013 00 Door Latch and Lock Pin Replacement. . . . .	0013 00-1
WP 0014 00 Door Ballistic Glass and Frame Assembly Replacement . . . . .	0014 00-1
WP 0015 00 Door Assembly Replacement . . . . .	0015 00-1
WP 0016 00 Door Latch Adjustment . . . . .	0016 00-1
WP 0017 00 Windshield Ballistic Glass and Windshield Armor Replacement. . . . .	0017 00-1
WP 0018 00 Seat Armor Replacement. . . . .	0018 00-1
WP 0019 00 Seatback Quick Release Bracket Replacement. . . . .	0019 00-1
WP 0020 00 Wheel Well Armor Replacement . . . . .	0020 00-1
WP 0021 00 Right-Side Firewall Armor Replacement . . . . .	0021 00-1
WP 0022 00 Left-Side Firewall Armor Replacement . . . . .	0022 00-1
WP 0023 00 Escape Hatch Assembly Maintenance. . . . .	0023 00-1
WP 0024 00 Roof Armor Replacement . . . . .	0024 00-1
WP 0025 00 Rear Cab Armor Maintenance. . . . .	0025 00-1
WP 0026 00 Right Cab Side (Front) Armor and Door Hinge Maintenance . . . . .	0026 00-1
WP 0027 00 Left Cab Side (Front) Armor and Door Hinge Maintenance . . . . .	0027 00-1
WP 0028 00 Right Cab Side (Rear) Armor Replacement . . . . .	0028 00-1
WP 0029 00 Left Cab Side (Rear) Armor Replacement . . . . .	0029 00-1
WP 0030 00 Left Blast Deflector Replacement . . . . .	0030 00-1
WP 0031 00 Right Blast Deflector Replacement. . . . .	0031 00-1
WP 0032 00 Center Blast Deflector Replacement . . . . .	0032 00-1
WP 0033 00 Step Armor Replacement . . . . .	0033 00-1
WP 0034 00 Doghouse Armor Replacement . . . . .	0034 00-1
WP 0035 00 Cab Mount Replacement. . . . .	0035 00-1
WP 0036 00 Spare Tire Pulley and Tire Mount Bracket Replacement . . . . .	0036 00-1
WP 0037 00 Spring Stop Replacement . . . . .	0037 00-1
WP 0038 00 Muffler Brackets Replacement . . . . .	0038 00-1

## Table of Contents - Continued

	<b>Page Number</b>
<b>CHAPTER 5 SUPPORTING INFORMATION</b>	
WP 0039 00 References . . . . .	0039 00-1
WP 0040 00 Maintenance Allocation Chart (MAC) Introduction . . . . .	0040 00-1
WP 0041 00 Maintenance Allocation Chart (MAC) . . . . .	0041 00-1
WP 0042 00 Expendable and Durable Items List . . . . .	0042 00-1
WP 0043 00 Torque Limits . . . . .	0043 00-1
WP 0044 00 Crew Protection Kit Installation Instructions . . . . .	0044 00-1
WP 0045 00 Field Maintenance (Unit and Direct Support Maintenance) Repair Parts and Special Tools Lists (RPSTL) Introduction . . . . .	0045 00-1
WP 0046 00 Field Maintenance (Unit and Direct Support Maintenance) Repair Parts and Special Tools Lists (RPSTL) . . . . .	0046 00-1

	<b>Illus/ Fig</b>	<b>Page</b>
<b>GROUP 33 SPECIAL PURPOSE KITS</b>		
3307 - SPECIAL PURPOSE KITS . . . . .		1-1
FIREWALL BRACKETS AND MOUNTING HARDWARE . . . . .	1	1-1
WINDSHIELD ARMOR KIT AND MOUNTING HARDWARE . . . . .	2	2-1
ROOF ARMOR KIT AND MOUNTING HARDWARE . . . . .	3	3-1
REAR ARMOR KIT AND MOUNTING HARDWARE . . . . .	4	4-1
LEFT SIDE PANEL ARMOR KIT AND MOUNTING HARDWARE . . . . .	5	5-1
RIGHT SIDE PANEL ARMOR KIT AND MOUNTING HARDWARE . . . . .	6	6-1
WHEEL WELL ARMOR KIT AND MOUNTING HARDWARE . . . . .	7	7-1
CENTER MINE BLAST ARMOR KIT AND MOUNTING HARDWARE . . . . .	8	8-1
DOGHOUSE ARMOR KIT AND MOUNTING HARDWARE . . . . .	9	9-1
RIGHT SIDE "A" PILLAR ARMOR KIT AND MOUNTING HARDWARE . . . . .	10	10-1
RIGHT SIDE FIREWALL ARMOR KIT AND MOUNTING HARDWARE . . . . .	11	11-1
LEFT SIDE FIREWALL ARMOR KIT AND MOUNTING HARDWARE . . . . .	12	12-1
LEFT SIDE "A" PILLAR ARMOR KIT AND MOUNTING HARDWARE . . . . .	13	13-1
LEFT SIDE MINE BLAST ARMOR KIT AND MOUNTING HARDWARE AND CAB MOUNT BUSHINGS . . . . .	14	14-1
RIGHT SIDE MINE BLAST ARMOR KIT AND MOUNTING HARDWARE . . . . .	15	15-1
SIDE STEP ARMOR KIT AND MOUNTING HARDWARE . . . . .	16	16-1
DOOR ASSEMBLY AND MOUNTING HARDWARE . . . . .	17	17-1
TRANSPARENT WINDSHIELD ARMOR KIT AND MOUNTING HARDWARE . . . . .	18	18-1
ESCAPE HATCH ARMOR KIT AND MOUNTING HARDWARE . . . . .	19	19-1
SEAT ARMOR PANEL AND MOUNTING HARDWARE . . . . .	20	20-1
SEAT BACK QUICK RELEASE BRACKET . . . . .	21	21-1
FINAL ASSEMBLY . . . . .	22	22-1
FRONT SUSPENSION BUMPER AND MUFFLER MOUNTS* . . . . .	23	23-1
TEMPLATES AND DRILL GUIDES . . . . .	24	24-1
NATIONAL STOCK NUMBER INDEX . . . . .		I-1
PART NUMBER INDEX . . . . .		I-5
Index . . . . .		Index 1



# HOW TO USE THIS TECHNICAL BULLETIN

## NOTE

If at any time you are unsure how to use this technical bulletin or you cannot locate the information you need, notify your supervisor.

## INTRODUCTION

1. This technical bulletin is designed to help you operate and maintain the HET Crew Protection Kit. It also provides installation instructions for the armor kit and includes the Repair Parts and Special Tools List (RPSTL).
2. This technical bulletin is written in work package format:
  - a. Chapters divide the technical bulletin into major categories of information (e.g., *General Information, Equipment Description and Data, and Theory of Operation; Operator Instructions; Operator Maintenance Instructions; Unit Maintenance Instructions; and Supporting Information*).
  - b. Each Chapter is divided into work packages, which are identified by a 6-digit number (e.g. 0001 00, 0002 00, etc.) located on the upper right-hand corner of each page. The work package page number (e.g. 0001 00-1, 0001 00-2, etc.) is located centered at the bottom of each page.
  - c. If a Change Package is issued to this technical bulletin, added work packages use the 5<sup>th</sup> and 6<sup>th</sup> digits of their number to indicate new material. For instance, work packages inserted between WP 0001 00 and WP 0002 00 are numbered WP 0001 01, WP 0001 02, etc.
3. Read through this technical bulletin to become familiar with its organization and contents before attempting to operate or maintain the armor kit.

## CONTENTS OF THIS TECHNICAL BULLETIN

1. A *Warning Summary* is located at the beginning of this technical bulletin. Become familiar with these warnings before operating or performing maintenance on the armor kit.
2. A *Table of Contents*, located in the front of the technical bulletin, lists all chapters and work packages in the publication.
  - a. The Table of Contents also provides *Reporting Errors and Recommending Improvements* information and DA Form 2028 addresses, for the submittal of corrections to this technical bulletin.
  - b. If you cannot find what you are looking for in the Table of Contents, refer to the alphabetical *Index* at the back of this technical bulletin.
3. Chapter 1, *General Information, Equipment Description and Data, and Theory of Operation*, provides general information on the technical bulletin and the armor kit.
4. Chapter 2, *Operator Instructions*, explains and illustrates all operator procedures for the armor kit: *Operation Under Usual Conditions* and *Operation Under Unusual Conditions*.
5. Chapter 3, *Operator Maintenance Instructions*, includes *Operator Preventive Maintenance Checks and Services (PMCS) Introduction, Operator Preventive Maintenance Checks and Services (PMCS)* and *Cleaning Ballistic Glass*.
6. Chapter 4, *Unit Maintenance Instructions* includes all unit maintenance tasks.
7. Chapter 5, *Supporting Information*, includes *References; Maintenance Allocation Chart (MAC) Introduction; Maintenance Allocation Chart (MAC); Expendable and Durable Items List; Torque Limits; Crew Protection Kit Installation Instructions; Repair Parts and Special Tools List (RPSTL) Introduction; and Repair Parts and Special Tools List (RPSTL)*.

**FEATURES OF THIS TECHNICAL BULLETIN**

1. WARNINGS, CAUTIONS, NOTES, subject headings, and other important information are highlighted in **BOLD** print as a visual aid.

**WARNING**

A WARNING indicates a hazard that may cause injury or death to personnel.

**CAUTION**

A CAUTION is a reminder of safety practices or directs attention to usage practices that may cause damage to equipment.

**NOTE**

A NOTE is a statement containing information that will make the procedures easier to perform.

2. Statements and words of particular interest may be printed in CAPITAL LETTERS to create emphasis.
3. Within a procedural step, reference may be made to another work package in this technical bulletin or to another manual. These references indicate where you should look for more complete information.
  - a. If you are told: "Refer to *Doghouse Armor Replacement* (WP 0034 00)," go to WP 0034 00 in this technical bulletin for instructions on this procedure.
  - b. If you are told: "For complete information on HET Operator PMCS, refer to TM 9-2320-360-10," go to *References* in WP 0039 00 for complete information on the cited reference.
4. Illustrations are placed after, and as close to, the procedural steps to which they apply. Callouts placed on the art are text or numbers.
5. Numbers located at lower right corner of art (e.g. 417-001; 417-002, etc.) are art control numbers and are used for tracking purposes only.
6. Technical instructions include metric units as well as standard units. For your reference, a *Metric Conversion Chart* is located on the inside back cover of the technical bulletin.

**CHAPTER 1**  
**GENERAL INFORMATION, EQUIPMENT**  
**DESCRIPTION AND DATA, AND THEORY OF OPERATION**





**SCOPE**

This technical bulletin is for your use in operating and performing Operator, Unit, and Direct Support (Field) Maintenance on the Crew Protection Kit installed on the M1070 Heavy Equipment Transporter (HET) Tractor Truck. This technical bulletin also covers installation instructions for the armor kit. The Repair Parts and Special Tools Lists (RPSTL) for the kit is also included.

**MAINTENANCE FORMS, RECORDS, AND REPORTS**

Department of the Army forms and procedures used for the equipment will be those prescribed by DA PAM 750-8, *Functional Users Manual for the Army Maintenance Management System (TAMMS)*, as contained in the Maintenance Management Update.

**REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)**

If your armor kit needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. If you have Internet access, the easiest and fastest way to report problems or suggestions is to go to <https://aeps.ria.army.mil/aepspublic.cfm> (scroll down and choose the "Submit Quality Deficiency Report" bar). The Internet form lets you choose to submit an Equipment Improvement Recommendation (EIR), or a Product Quality Deficiency Report (PQDR). You may also submit your information using an SF Form 368 (*Product Quality Deficiency Report*). You can send your SF Form 368 via e-mail, regular mail, or facsimile using the addresses/facsimile numbers specified in DA PAM 750-8, *Functional Users Manual for the Army Maintenance Management System (TAMMS)*. We will send you a reply.

**CORROSION PREVENTION AND CONTROL (CPC)**

1. Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.
2. While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem. If a corrosion problem is identified, it can be reported using SF Form 368 (*Product Quality Deficiency Report*). Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem. The form should be submitted to the address specified in DA PAM 750-8.

**DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE**

For destruction of Army materiel to prevent enemy use, refer to TM 750-244-6.

**PREPARATION FOR STORAGE OR SHIPMENT**

For preparation for storage or shipment of HET with CPK installed, refer to TM 9-2320-360-20.

**LIST OF ABBREVIATIONS/ACRONYMS**

**NOTE**

Refer to ASME Y14.38-1999 for standard abbreviations.

**ABBREVIATION/ACRONYMS**

**DEFINITION**

cm .....	Centimeter
CPK .....	Crew Protection Kit
CTIS .....	Central Tire Inflation System
GPS .....	Global Positioning System
HET .....	Heavy Equipment Transporter
IAW .....	In Accordance With

**LIST OF ABBREVIATIONS/ACRONYMS - CONTINUED**

IED .....	Improvised Explosive Device
kg .....	Kilogram
lb-ft .....	Pound Foot
lb-in. ....	Pound Inches
mm. ....	Millimeter
Nm. ....	Newton Meter
PLGR. ....	Precision Lightweight GPS Receiver
PMCS .....	Preventive Maintenance Checks and Services
P/N. ....	Part Number

**SAFETY, CARE, AND HANDLING**

Follow procedures, warnings, and cautions as written in this technical bulletin.

**END OF WORK PACKAGE**

---

**EQUIPMENT DESCRIPTION AND DATA**

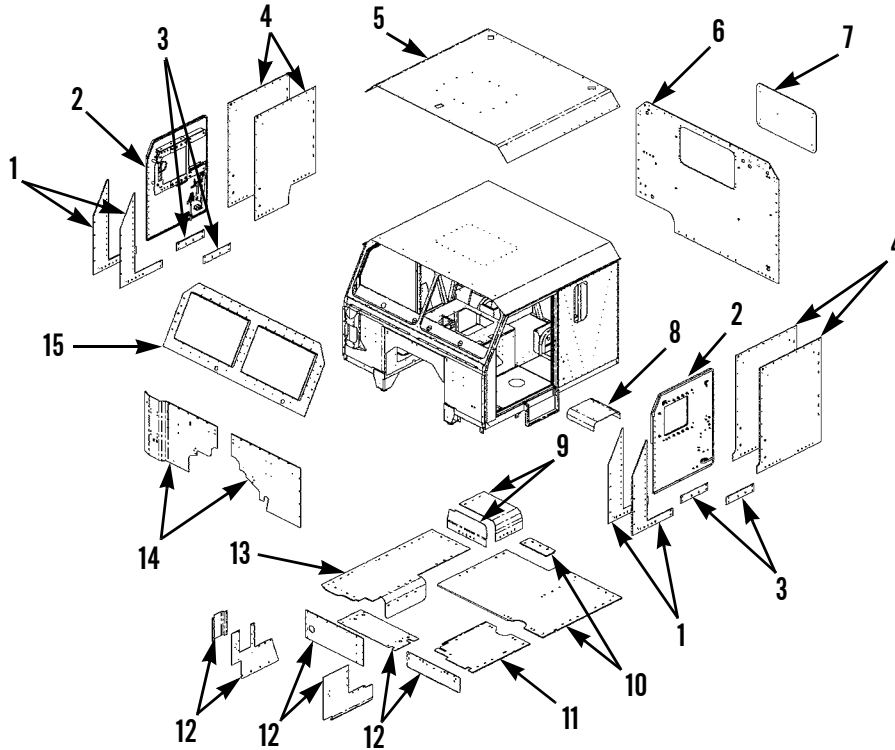
---

**0002 00*****EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES***

1. The Crew Protection Kit provides the M1070 Heavy Equipment Transporter (HET) Tractor Truck with improved protection.
2. The Crew Protection Kit consists of the following:
  - a. Left and right side armor: door assemblies, forward (“A” pillar) and rear side armor, and step armor;
  - b. Underbody armor: left, center, and right blast deflectors, doghouse, and wheel well armor panels;
  - c. Firewall, rear cab, and roof armor panels;
  - d. Windshield and side window ballistic glass; and
  - e. Armored escape hatch mounted to the rear cab armor panel.

**LOCATION AND DESCRIPTION OF MAJOR COMPONENTS**

The illustration below shows major armor kit components and their location in relation to the HET cab.



417-029

KEY	COMPONENT
1	Cab Side (Front) Armor Panels
2	Door Assembly
3	Step Armor Panels
4	Rear Side Armor Panels
5	Roof Armor
6	Rear Cab Armor Panel
7	Escape Hatch
8	Seat Armor Panel
9	Wheel Well Armor Panels
10	Center Blast Deflector
11	Left-side Blast Deflector
12	Doghouse Armor Panels
13	Right-side Blast Deflector
14	Firewall Armor Panels
15	Windshield Armor Panel (Shown Without Windshield Ballistic Glass)

## EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

**EQUIPMENT DATA**

1. Many components of the Crew Protection Kit are heavier than allowable for one or two persons to lift. To ensure personnel safety during maintenance of the armor kit, it is important to know the component part weights.
2. Table 1 below lists selected components of the armor kit, their weight, and total armor kit weight per vehicle.

**Table 1: Crew Protection Kit Components.**

COMPONENT DESCRIPTION	WEIGHT OF COMPONENT
Windshield Ballistic Glass	113 lb (51 kg) (Each)
Door Assembly, LH & RH	330 lb (150 kg)
Panel, Doghouse	52 lb (24 kg)
Panel, Doghouse, Bottom	32 lb (14 kg)
Panel, Doghouse, Left	46 lb (21 kg)
Panel, Doghouse, Lower	20 lb (9 kg)
Panel, Doghouse, Right	32 lb (14 kg)
Panel, Escape Hatch	83 lb (38 kg)
Panel, Firewall, Left	106 lb (48 kg)
Panel, Firewall, Right	113 lb (51 kg)
Panel, Mine Blast, Center	392 lb (178 kg)
Panel, Mine Blast, Center-rear	12 lb (5 kg)
Panel, Mine Blast, Left	134 lb (61 kg)
Panel, Mine Blast, Right	248 lb (112 kg)
Panel, Rear	445 lb (202 kg)
Panel, Roof	406 lb (184 kg)
Panel, Seat Armor	23 lb (10 kg)
Panel, Side, Aft: Left	125 lb (57 kg)
Panel, Side, Aft: Right	115 lb (52 kg)
Panel, Side, Aft: Left	120 lb (54 kg)
Panel, Side, Aft: Right	111 lb (50 kg)
Panel, Side, Forward: Right or Left	25 lb (11 kg)
Panel, Side, Forward: Right or Left	24 lb (11 kg)

**Table 1: Crew Protection Kit Components - Continued.**

COMPONENT DESCRIPTION	WEIGHT OF COMPONENT
Panel, Windshield	143 lb (65 kg)
Panel, Wheel Well, Upper	60 lb (27 kg)
Panel, Wheel Well, Lower	22 lb (10 kg)
Miscellaneous Components and Mounting Hardware	868 lb (397 kg)
<b>TOTAL WEIGHT OF CREW PROTECTION KIT</b>	<b>4,200 lb (1905 kg)</b>

**END OF WORK PACKAGE**

**GENERAL**

1. The Crew Protection Kit for the M1070 Heavy Equipment Transporter (HET) Tractor Truck consists of the following, as illustrated and described in the RPSTL (WP 0046 00):
  - a. Two armored doors
  - b. Roof armor
  - c. Ballistic glass
  - d. Four underbody and two wheel well blast deflectors
  - e. Six doghouse armored panels
  - f. Three firewall panels
  - g. Forward and rear size armor panels
  - h. One large rear cab armor panel
  - i. Rear armored escape hatch
2. This armored solution begins by securing a large armor roof panel in place from which the side and rear armor panels are hung. Additional support is provided by using brackets and GR8 fasteners that are connected to the lower frame rails of the cab. In addition, the underbody, wheel well, doghouse, firewall and front armor areas are all interconnected by a series of 90-degree joiner brackets strategically located throughout the design. This approach allows the entire armored system to be interdependent and thus distribute the support load and protection to the cab as effectively as possible.
3. The armored door assemblies are bolted to the existing door frames using a heavy-duty hinge design. They include sliding ballistic glass windows with combat locks on both the windows and doors.
4. For emergency situations, two quick-release bracket assemblies are incorporated into the backseat seat-back. When necessary, the release pins are easily removed allowing the seat-back to drop out of the way and allowing full access to the armored escape hatch mounted to the rear armor panel. The escape hatch is designed to be quickly disengaged using four over-center latches and pushed out, dropping to the ground no matter the position of the vehicle, providing a rapid exit.

**END OF WORK PACKAGE**





**CHAPTER 2**  
**OPERATOR INSTRUCTIONS**



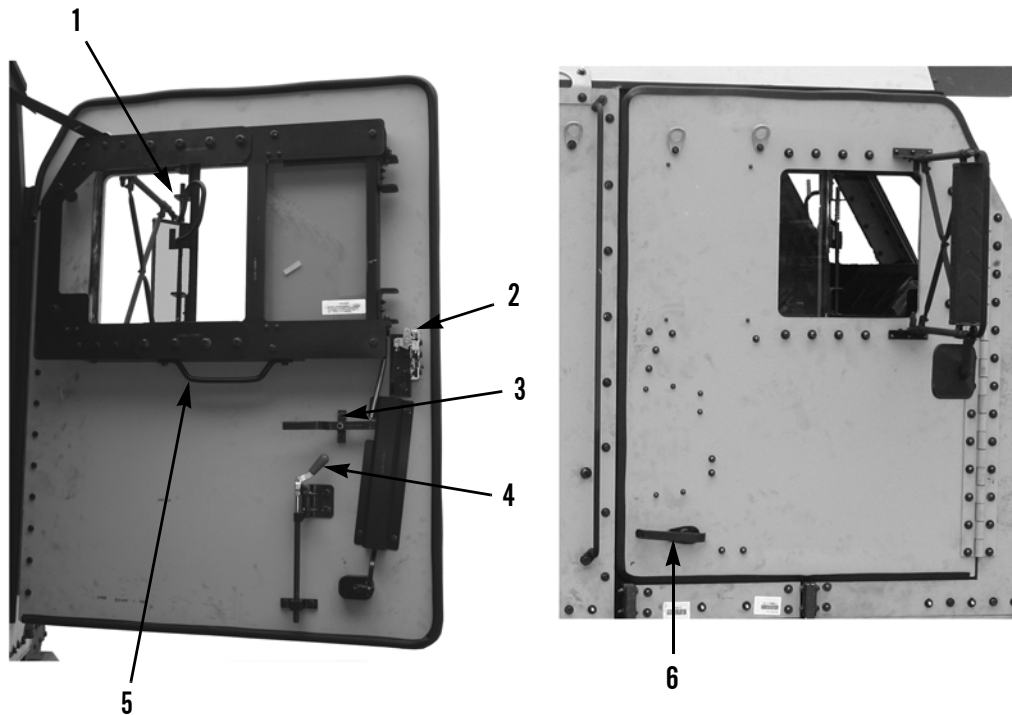
**DESCRIPTION AND USE OF OPERATOR CONTROLS**

**0004 00**

**GENERAL**

1. This work package describes all operator controls for the M1070 Heavy Equipment Transporter (HET) Tractor Truck Crew Protection Kit.
2. Do not attempt to operate the HET with Crew Protection Kit installed until becoming familiar with the location and function of all armor kit controls.

**OPERATOR CONTROLS**



417-036

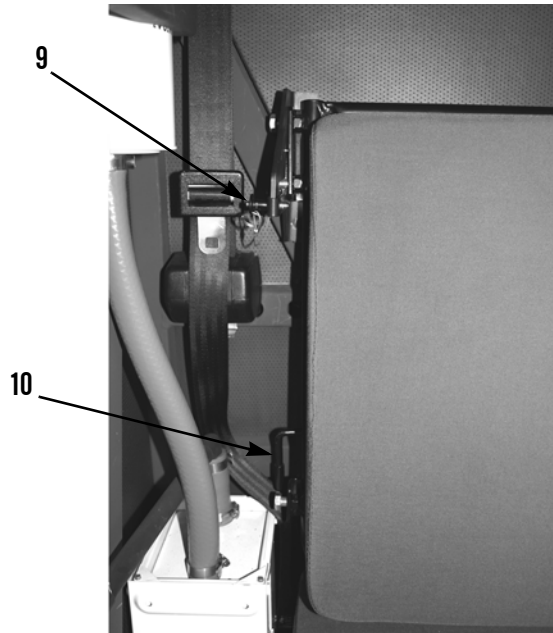
KEY	CONTROL OR INDICATOR	FUNCTION
1	Window Opening Handle	Lift up on handle and slide window to the rear to open window.
2	Latch	Secures side door closed.
3	Interior Door Handle	Allows driver or passenger side door to be opened from the inside.
4	Lock Pin	Slide rod rearward to lock side door. Slide rod forward to unlock side door.
5	Interior Door Grab Handle	Provides a hand hold for entering or exiting vehicle.
6	Exterior Door Handle	Allows driver or passenger side door to be opened from the outside.

OPERATOR CONTROLS - CONTINUED



KEY	CONTROL OR INDICATOR	FUNCTION
7	Grab Handle	Used to guide escape hatch during installation.
8	Escape Hatch Latch	Release four latches to remove escape hatch.

**OPERATOR CONTROLS - CONTINUED**



417-139

KEY	CONTROL OR INDICATOR	FUNCTION
9	Seatback Quick-Release Pin	Push button on pin and remove pin to release upper seatback latch.
10	Seatback Release Handle	Pull handle to unlatch seatback.

**END OF WORK PACKAGE**



---

**OPERATION UNDER USUAL CONDITIONS**

---

**0005 00****GENERAL**

1. This work package contains instructions for safely operating the M1070 Heavy Equipment Transporter (HET) Tractor Truck with Crew Protection Kit (CPK) installed.
2. Read and follow the procedures in *Operation Under Usual Conditions* in TM 9-2320-360-10 before operating with armor kit.

**INITIAL ADJUSTMENTS AND DAILY CHECKS****NOTE**

Refer to WP 0004 00 for the location and operation of operator controls.

Perform *Before* operation Preventive Maintenance Checks and Services (PMCS) before operating vehicle (WP 0008 00 and WP 0009 00).

**OPERATING HET****WARNING**

Due to increased weight of HET with armor kit installed, operator should be aware of differences in vehicle driving characteristics and adjust his/her driving accordingly. Failure to do so may cause an accident and injury or death to personnel.

**NOTE**

Increase in vehicle weight with armor kit installed does NOT include weight of A/C kit, suspension upgrades or cab mount upgrades.

1. With armor kit installed, vehicle is heavier than usual by approximately 3,698 lb (1,677 kg). Due to this increased weight, adjust driving to allow for greater stopping distance.
2. Vehicle may steer differently than without armor kit installed. Adjust vehicle speed accordingly and exercise caution.
3. Operate heater/air conditioning system as needed to ensure proper cab ventilation.
4. Maintain good visibility for operating personnel. Keep ballistic glass at side door windows and windshield clean. Follow cleaning instructions in *Cleaning Ballistic Glass* (WP 0010 00).

**END OF WORK PACKAGE**



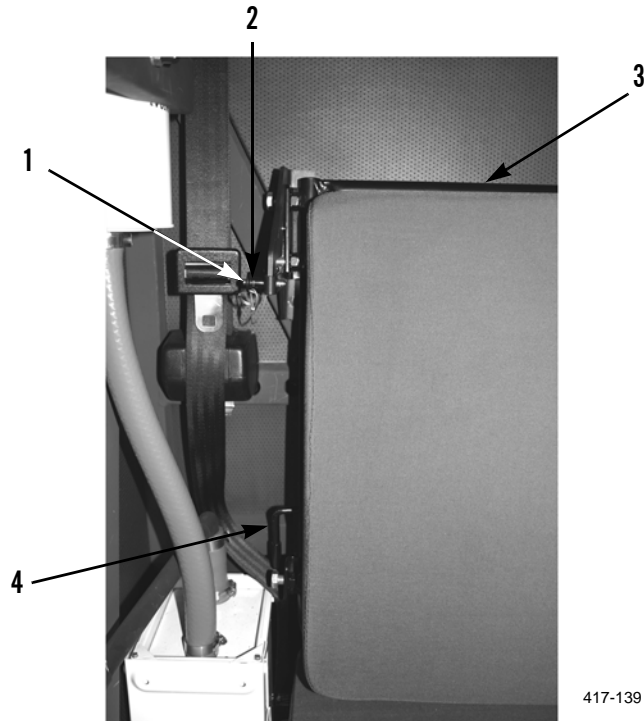


**OPERATION UNDER UNUSUAL CONDITIONS****0006 00**

Read and follow the procedures in *Operation Under Unusual Conditions* in TM 9-2320-360-10 before operating the M1070 Heavy Equipment Transporter (HET) Tractor Truck with armor kit installed.

**ESCAPE HATCH OPERATION**

1. Release rear seatback.
  - a. Push button (1) and remove quick release pins (2) on both sides of rear seatback.
  - b. Pull lower handle (4) on both sides of rear seatback.
  - c. Pull rear seatback (3) out from bottom and lower onto seat.



2. Release 4 escape hatch latches (6) and push escape hatch (5) outward.

**END OF WORK PACKAGE**



**GENERAL**

1. There is no stowage guide related to the Crew Protection Kit. Refer to TM 9-2320-360-10 for stowage guide specific to the M1070 Heavy Equipment Transporter (HET) Tractor Truck.
2. Refer to TM 9-2320-360-10 for data plates.

**STENCILS**

417-037

**END OF WORK PACKAGE**



**CHAPTER 3**  
**OPERATOR MAINTENANCE INSTRUCTIONS**



**GENERAL****NOTE**

- Information in this PMCS Introduction applies only to preventive maintenance checks and services for the Crew Protection Kit.
  - For information specific to the M1070 Heavy Equipment Transporter (HET) Tractor Truck, refer to the PMCS Introduction in TM 9-2320-360-10.
1. To ensure that the Crew Protection Kit is ready for operation at all times, it must be inspected on a regular basis so that defects may be found and corrected before they result in injury or death due to equipment failure.
  2. The PMCS Table in WP 0009 00 contains systematic instructions on inspections and services to be performed by the operator to keep your equipment in good operating condition and ready for its primary mission.

**EXPLANATION OF TABLE ENTRIES**

1. **Item Number (Item No.) Column.** Numbers in this column are for reference. When completing DA Form 2404 or DA Form 5988-E (*Equipment Inspection and Maintenance Worksheet*), include the item number for the check/service indicating a fault. Item numbers also appear in the order that you must perform checks and services for the interval listed.
2. **Interval Column.** This column tells you when you must perform the procedure in the procedure column.
  - a. *Before* procedures must be done immediately before you operate vehicle with Crew Protection Kit installed.
  - b. *After* procedures must be done immediately after operating vehicle with Crew Protection Kit installed.
  - c. *Weekly* procedures must be done once each week.
3. **Location, Item to Check/Service Column.** This column provides the location and item to be checked or serviced.

**NOTE**

The WARNINGS and CAUTIONS appearing in your PMCS table should always be observed. WARNINGS and CAUTIONS appear before applicable procedures. You must observe these WARNINGS to prevent injury or death to personnel, and CAUTIONS to prevent your equipment from being damaged.

4. **Procedure Column.** This column gives the procedure you must perform to check or service the item listed in the Item to Check/Service column, to know if the equipment is ready or available for its intended mission. You must perform the procedure at the time stated in the interval column.
5. **Not Fully Mission Capable If: Column.** Information in this column tells you what faults will keep your equipment from being capable of performing its primary mission. If you perform check/service procedures that show faults listed in this column, the equipment is not mission-capable. Follow standard operating procedures for maintaining the equipment or reporting equipment failure.

**GENERAL PMCS PROCEDURES**

1. Always perform PMCS in the same order so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.
2. If anything looks wrong and you can't fix it, write it on your DA Form 2404 or DA Form 5988-E. If you find something seriously wrong, IMMEDIATELY report it to your supervisor.
3. Before performing preventive maintenance, read all the checks required for the applicable interval and prepare all that is needed to make all the checks. You'll always need a rag (Item 6, WP 0042 00) or two.

---

**OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)  
INTRODUCTION - CONTINUED**


---

0008 00

**GENERAL PMCS PROCEDURES - CONTINUED****WARNING**

Solvent cleaning compound MIL-PRF-680 Type III is an environmentally compliant and low toxic material. However, it may be irritating to the eyes and skin. Use protective gloves and goggles. Use in well-ventilated areas. Keep away from open flames and other sources of ignition.

- a. **Keep It Clean.** Dirt, grease, oil and debris get in the way and may cover up a serious problem. Clean as you work and as needed. Use solvent cleaning compound (Item 2, WP 0042 00) on all metal surfaces. Use detergent (Item 4, WP 0036 00) and water when you clean rubber, plastic and painted surfaces.

When servicing this machine, performing maintenance, or disposing of materials such as engine coolant, hydraulic fluid, lubricants, battery acids or batteries, and CARC paint, consult your unit/local hazardous waste disposal center or safety office for local regulatory guidance. If further information is needed, please contact The Army Environmental Hotline at 1-800-872-3845.

- b. **Hazardous Waste Disposal.** Ensure all spills are cleaned up and disposed of IAW local policy and ordinances.
- c. **Rust and Corrosion.** Check metal parts for rust and corrosion. If any bare metal or corrosion exists, clean and apply a light coat of clean oil (Item 5, WP 0042 00). Report it to your supervisor.
- d. **Bolts, Rivnuts, Nuts and Screws.** Check bolts, rivnuts, nuts and screws for obvious looseness, missing, bent or broken condition. If you find one is loose, notify your supervisor.
- e. **Electric Wires and Connectors.** Look for cracked or broken insulation, bare wires and loose or broken connectors. Reconnect loose connectors. Ensure that wires are in good condition.

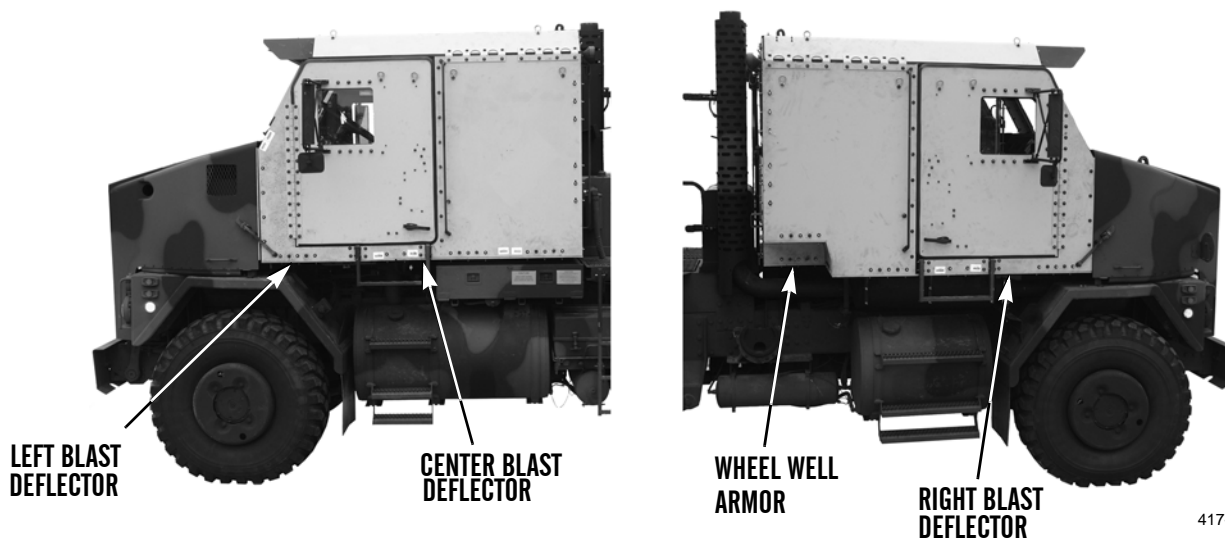
**CAUTION**

- Remove rings or other hard objects from hands before cleaning ballistic glass. DO NOT use hard, dirty or gritty cloths on ballistic glass. DO NOT apply water or detergent unless ballistic glass is cool and is protected from heating effects of sunlight. Failure to follow these instructions will damage ballistic glass.
  - Do not use bug spray or other aerosol sprays on or near ballistic glass. Failure to follow these instructions will damage ballistic glass.
- f. **Ballistic Glass.** Keep ballistic glass clean (WP 0010 00).

**END OF WORK PACKAGE**

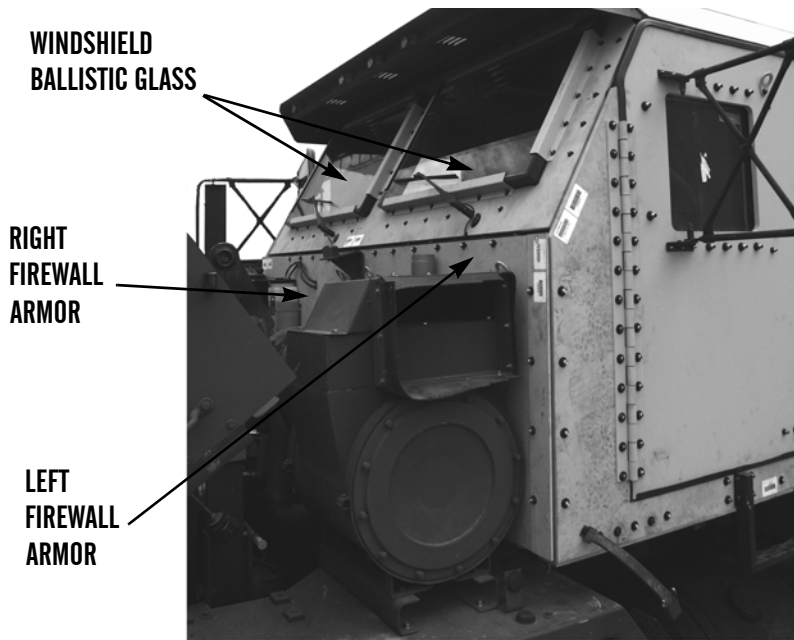


ITEM NO.	INTERVAL	LOCATION	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
		ITEM TO CHECK/SERVICE		
1	Before		<b>NOTE</b>	
		UNDER VEHICLE	<ul style="list-style-type: none"> <li>Perform PMCS for the M1070 Heavy Equipment Transporter (HET) Tractor Truck in TM 9-2320-360-10 BEFORE performing PMCS for the Crew Protection Kit.</li> <li>Review all WARNINGS, CAUTIONS, and NOTES before performing PMCS and operating the vehicle with armor kit.</li> <li>Perform all PMCS checks if:                             <ol style="list-style-type: none"> <li>You are the assigned operator but have not operated the vehicle with armor kit since the last weekly checks.</li> <li>You are operating the vehicle with armor kit for the first time.</li> </ol> </li> <li>Perform PMCS with vehicle parked on level ground, parking brake applied, transmission in N (Neutral), wheels blocked, and engine shut down.</li> </ul>	
		Blast Deflectors	<ol style="list-style-type: none"> <li>Inspect left, center, and right blast deflectors under vehicle for damage or loose or missing armor plates and mounting bolts.</li> <li>Inspect wheel well armor for damage or loose or missing armor plates and missing bolts.</li> </ol>	<p>Any blast deflector is damaged, loose, or missing or mounting bolts are loose or missing.</p> <p>Any blast deflector is damaged, loose, or missing or mounting bolts are loose or missing.</p>



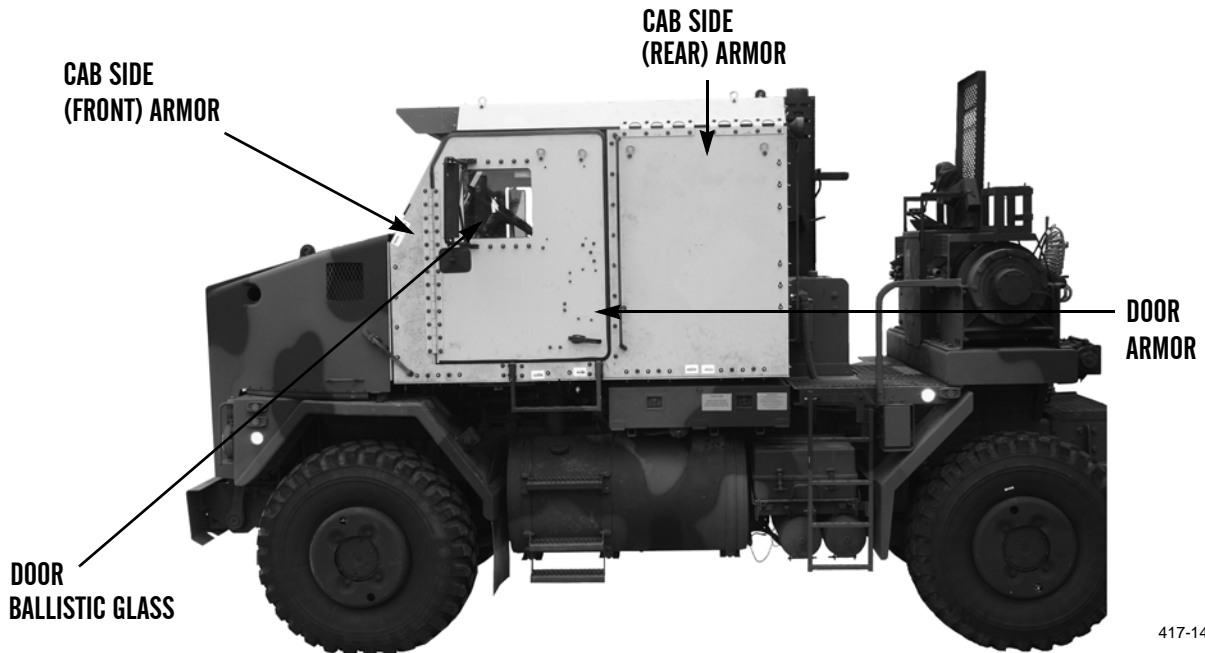
417-147

ITEM NO.	INTERVAL	LOCATION	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
		ITEM TO CHECK/ SERVICE		
2	Before	FRONT AND LEFT SIDE	a. Inspect left and right firewall armor panels for damaged, loose, or missing armor plates and mounting bolts.  b. Inspect windshield ballistic glass mounting hardware for damage, loose, or missing brackets and mounting bolts.  c. Inspect exterior surface of windshield ballistic glass for cracks, scratches, or pitting.  d. If dirty, clean windshield ballistic glass (WP 0010 00).	Any panel or armor plate is damaged, loose or missing, or mounting bolts are loose or missing.  Any windshield ballistic glass mounting hardware is damaged, loose, or missing, or mounting bolts are loose or missing.  Cracks, scratches, or pitting in the exterior layer of windshield ballistic glass that penetrates through to the inner layer.
		Firewall Armor/ Windshield Ballistic Glass		



417-148

ITEM NO.	INTERVAL	LOCATION	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
		ITEM TO CHECK/SERVICE		
3	Before	Side Armor (Left Side)	<p>a. Inspect side armor panels and door assembly for damaged, loose, or missing mounting hardware.</p> <p>b. Inspect exterior surface of door ballistic glass for cracks, scratches, or pitting.</p> <p>c. Open door and enter cab. Close door using grab handle. Lock door with lock pin. Make sure door closes properly and locks correctly (WP 0004 00).</p> <p>d. Make sure door ballistic glass can open, close, and securely lock.</p> <p>e. Inspect interior surface of door ballistic glass and windshield ballistic glass for cracks, scratches, or pitting.</p> <p>f. If dirty, clean door ballistic glass (WP 0010 00).</p> <p>g. Inspect seat armor for damage, loose, or missing armor plate or missing bolts.</p>	<p>Any side armor panel or door assembly is damaged or mounting hardware is loose or missing.</p> <p>Cracks, scratches or pitting in the exterior layer of door ballistic glass that penetrates through to the inner layer.</p> <p>Door binds or does not latch or lock.</p> <p>Door ballistic glass will not close or lock.</p> <p>Cracks, scratches, or pitting on the interior surface of the door ballistic glass or windshield ballistic glass.</p> <p>Seat armor is damaged or has loose or missing mounting hardware.</p>

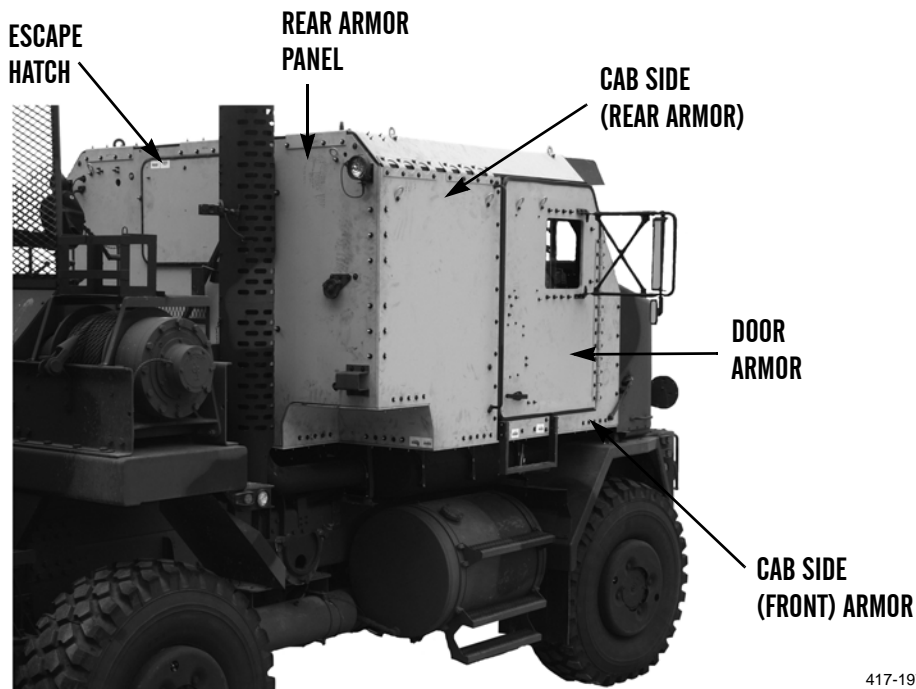


417-149

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

0009 00

ITEM NO.	INTERVAL	LOCATION	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
		ITEM TO CHECK/SERVICE		
4	Before	ROOF	a. Inspect roof armor for damage or missing components. b. Inspect roof mounting hardware for loose or missing components.	Roof armor is damaged.  Roof mounting hardware is loose or missing.
		Roof Armor		
5	Before	REAR AND RIGHT SIDE	a. Inspect rear cab armor for damage or loose or missing armor plates and mounting bolts. b. Inspect escape hatch for damage.	Rear cab armor is damaged, loose or missing, or mounting bolts are loose or missing.  Escape hatch is missing or damaged.
		Rear Cab Armor		



417-197

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

0009 00

ITEM NO.	INTERVAL	LOCATION	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
		ITEM TO CHECK/SERVICE		
6	Before	Side Armor (Right Side)	<p>a. Inspect side armor panels and door assembly for damage or loose or missing mounting hardware.</p> <p>b. Inspect exterior surface of door ballistic glass for cracks, scratches or pitting.</p> <p>c. Open door and enter cab. Close door using grab handle. Lock door with lock pin. Make sure door closes properly and locks correctly (WP 0004 00).</p> <p>d. Make sure door ballistic glass can open, close and securely lock.</p> <p>e. Inspect interior surface of door ballistic glass and windshield ballistic glass for cracks, scratches, or pitting.</p> <p>f. If dirty, clean door ballistic glass (WP 0010 00).</p>	<p>Any side armor panel or door assembly is damaged or mounting hardware is loose or missing.</p> <p>Cracks, scratches or pitting in the exterior layer of door ballistic glass that penetrates through to the inner layer.</p> <p>Door binds or does not latch or lock.</p> <p>Door ballistic glass will not close or lock.</p> <p>Cracks, scratches or pitting on the interior surface of the door ballistic glass or windshield ballistic glass.</p>
7	Before	Escape Hatch	<p>From inside the cab, check that escape hatch is centered in opening and securely latched closed. Ensure there is no damage to latches and latch mounting hardware (WP 0004 00).</p>	<p>Escape hatch will not latch closed or latches or latch mounting hardware is loose or missing.</p>
8	Before	Doghouse Armor	<p>Remove rear access cover of doghouse and inspect doghouse armor plates for damage or loose or missing mounting hardware.</p>	<p>Any doghouse armor plates are damaged or have loose or missing mounting hardware.</p>
9	Weekly	Front Suspension	<p>Inspect front suspension springs and mounting hardware for cracks, breaks, or loose or missing hardware and/or shackles. Notify your supervisor of any damage found.</p>	<p>Any cracks, breaks, or loose hardware or damage to suspension springs is noted.</p>
10	Weekly	Cab Mounts	<p>Inspect front and rear cab mounts for evidence of deterioration, over-compression, or loose mounting hardware. Notify your supervisor of any damage or looseness found.</p>	

## OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

0009 00

ITEM NO.	INTERVAL	LOCATION	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
		ITEM TO CHECK/SERVICE		
11	Weekly	Wheels and Wheel Rims	Remove wheel covers. Inspect wheel lug nuts and wheel rim bolts/nuts for looseness (e.g., polished surface, rust, or minor cracks around bolt and wheel mating surfaces). Notify your supervisor of any looseness found.	Two or more studs or nuts are missing from the same wheel.
12	Weekly	Armor Kit Mounting Hardware	Check all armor kit mounting hardware for loose or missing hardware. Notify your supervisor of any loose or missing mounting hardware found.	
13	Weekly	Escape Hatch	a. Check that escape hatch is centered in opening and securely latched closed. Ensure there is no damage to latches and latch mounting hardware.  b. Inspect for damage to escape hatch seal. Notify your supervisor of any damage found.	Escape hatch will not latch closed.
14	Weekly	Door Assemblies and Straps	Check both door assembly seals, hardware, and stop strap for damaged or loose components. Notify your supervisor of any damage found.	

END OF WORK PACKAGE

---

**CLEANING BALLISTIC GLASS**

**0010 00**

---

**THIS WORK PACKAGE COVERS**

Cleaning

---

**INITIAL SETUP**

**Maintenance Level**

Operator

**Materials/Parts**

- Detergent (Item 4, WP 0042 00)
- Rag, Wiping (Item 6, WP 0042 00)

**Equipment Conditions**

- Vehicle parked on level ground (TM 9-2320-360-10)
  - Parking/Emergency Brake applied (TM 9-2320-360-10)
  - Engine off (TM 9-2320-360-10)
  - If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)
- 

**CLEANING**

**CAUTION**

- Remove rings or other hard objects from hands before cleaning ballistic glass. **DO NOT** use hard, dirty or gritty cloths on ballistic glass. **DO NOT** apply water or detergent unless ballistic glass is cool and is protected from heating effects of sunlight. Failure to follow these instructions will damage ballistic glass.
- Do not use bug spray or other aerosol sprays on or near ballistic glass. Failure to follow these instructions will damage ballistic glass.

**NOTE**

Follow this procedure to clean inner plastic laminate surfaces of ballistic glass. Clean outside surfaces of ballistic glass as you would clean plain glass.

1. Add detergent to 1 gal. (3.8 L) of water as directed by manufacturer's label.
2. Saturate a soft, clean cloth with cleaning solution and lightly rub plastic surfaces.
3. Rinse off cleaning solution with damp, soft, clean cloth.

**END OF WORK PACKAGE**





**CHAPTER 4**  
**UNIT MAINTENANCE INSTRUCTIONS**



---

**GENERAL MAINTENANCE INSTRUCTIONS**

---

0011 00

**THIS WORK PACKAGE COVERS**

Scope	Standard Tool Requirements
Work Safety	Use of Thread Adhesive
General Information	Use of Sealant
Cleaning Instructions	Applying Torque
Inspection Instructions	Tagging Instructions
Painting Instructions	

---

**INITIAL SETUP****Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

**Materials/Parts**

Adhesive, Thread (Item 1, WP 0042 00)

Cleaning Compound, Solvent (Item 2, WP 0042 00)

Cloth, Abrasive (Item 3, WP 0042 00)

Detergent (Item 4, WP 0042 00)

**Materials/Parts - Continued**

Oil, Lubricating (Item 5, WP 0042 00)

Rag, Wiping (Item 6, WP 0042 00)

Tag, Marker (Item 9, WP 0042 00)

**References**

TB 43-0209

TB 43-0242

TM 9-2320-360-10

TM 9-247

---

**SCOPE**

1. These general maintenance instructions contain general shop practices and specific methods you must be familiar with to properly install and maintain the Crew Protection Kit.
2. Read and understand these practices and methods before starting maintenance tasks on the armor kit.

**WORK SAFETY**

1. Before starting a task, think about the risks and hazards to your safety as well as others. Wear protective gear such as safety goggles or lenses, face shield, safety shoes, and gloves. Protect yourself against injury.
2. Observe all WARNINGS and CAUTIONS.
3. When lifting heavy parts, have someone help you. Make sure that lifting equipment is working properly, that it is suitable for the task assigned, of sufficient load capacity, and is secured against slipping.
4. Always use power tools carefully.

---

**GENERAL MAINTENANCE INSTRUCTIONS - CONTINUED**

---

0011 00

**WORK SAFETY - CONTINUED**

5. Before beginning a procedure, ensure that the following conditions have been observed, unless otherwise specified:
  - a. Vehicle must be parked on level ground with parking/emergency brake applied (TM 9-2320-360-10).
  - b. Transmission must be in N (Neutral) (TM 9-2320-360-10).
  - c. Engine must be off (TM 9-2320-360-10).
  - d. If equipped, battery disconnect switch must be in OFF position (TM 9-2320-360-10).

**GENERAL INFORMATION**

1. Before beginning a task, find out how much teardown is needed to fix the equipment as described in this manual. Sometimes complete teardown is not necessary. Remove components only as far as necessary to replace damaged or broken parts.
2. All tags and forms attached to the equipment must be checked to learn the reason for removal from service. Check all Modification Work Orders (MWOs) and Technical Bulletins (TBs) for equipment changes and updates.
3. Replace all locknuts and lockwashers removed during procedure.
4. Inspect seals for damage. Replace seals if damaged.

**CLEANING INSTRUCTIONS**

1. **General.**
  - a. The importance of cleaning must be thoroughly understood by maintenance personnel. Great care and effort are required in cleaning. Dirt and foreign material are a constant threat to satisfactory maintenance.
  - b. The following should apply to all cleaning operations:
    - (1) Keep all related parts and components together. Do not mix parts.
    - (2) Clean all parts before inspection and before installation.
    - (3) To prevent contamination, hands should be kept free of accumulation of grease, which can collect dust, dirt, or grit.

**CLEANING INSTRUCTIONS - CONTINUED**2. **Cleaning Instructions.****WARNING**

- Solvent cleaning compound MIL-PRF-680 Type III is an environmentally compliant and low toxic material. However, It may be irritating to the eyes and skin. Use protective gloves and goggles. Use in well-ventilated areas. Keep away from open flames and other sources of ignition. Failure to follow this warning may result in injury to personnel.
  - Improper cleaning methods and use of unauthorized cleaning solvents may injure personnel and damage equipment. Refer to TM 9-247, *Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Related Materials Including Chemicals*, for correct information.
  - Fire extinguishers should be placed nearby when using solvent cleaning compound.
  - Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures.
  - Eye protection must be worn when cleaning with a wire brush. Flying rust and metal particles may cause injury.
  - Particles blown by compressed air are hazardous. DO NOT exceed 15 psi (103 kPa) nozzle pressure when drying parts with compressed air. Use a maximum of 30 psi (207 kPa) when cleaning components. DO NOT direct compressed air against human skin. Failure to follow this warning may result in injury or death. Make sure air stream is directed away from user and other personnel in the area. To prevent injury, user must wear protective goggles or face shield.
- a. Use solvent cleaning compound to clean any surface coated with grease or oil.
  - b. Clear out all drilled or tapped (threaded) holes with compressed air to remove dirt and solvent cleaning compound.
  - c. Wash externally exposed parts, not subject to grease and oil, with detergent and water. Rinse thoroughly and air dry.
  - d. Remove old sealing compound using a wire brush and solvent cleaning compound.
  - e. Clean all rusted surfaces using a wire brush and abrasive cloth.
  - f. After cleaning, cover or wrap all parts to protect them from dust and dirt. Any part that is subject to rust should be lightly coated with lubricating oil.

**INSPECTION INSTRUCTIONS**

1. **General.** All components and parts must be carefully inspected to determine if they are serviceable for reuse or if they must be replaced.
2. **Drilled and Tapped (Threaded) Holes.**
  - a. Inspect for wear, distortion (stretching), cracks, or any other damage in or around holes.
  - b. Inspect threaded areas for wear, distortion, or evidence of cross-threading.
  - c. If damage is noted, entire part should be replaced.
3. **Armor Plates.**
  - a. Inspect for breaks, cracks, dents, and rust damage.
  - b. Particularly check areas around studs, screw openings, and sharp corners.

**INSPECTION INSTRUCTIONS - CONTINUED****WARNING**

To ensure survivability of personnel, welding repairs on armor kit are NOT authorized. If armor plates are damaged, they must be replaced. Failure to follow this warning may cause failure of armor, resulting in injury or death to personnel.

- c. Replace any damaged armor plate. Do NOT repair by welding.
- 4. **Bolts and Screws.** Replace if threads are damaged, bent, loose, or stretched.
- 5. **Studs.** If studs are damaged, repair or replace as necessary.
- 6. **Rubber Seals.** Replace seal if damaged, cracked, or shows signs of excessive wear.

**PAINTING INSTRUCTIONS****CAUTION**

Whenever paint is applied, care must be taken to prevent covering up installation aid markings (**THIS SIDE UP**, up arrows ↑, etc.). These installation aid markings must be protected during paint application by using masking tape, paper, etc.

Parts must be painted in accordance with TB 43-0209, *Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment, and Materials Handling Equipment*, and TB 43-0242, *CARC Spot Painting*.

**STANDARD TOOL REQUIREMENTS**

- 1. The following are general practices regarding the use of tools:
  - a. Always use the proper tool kit and tools for the procedure being performed.
  - b. Ensure that tools are clean and lubricated to reduce wear and to prevent rust.
  - c. Keep track of tools. Do not be careless with them.
  - d. Return tools to toolbox when finished with repair or maintenance.
  - e. Return toolboxes and tools to tool storage when not in use.
  - f. Inventory tools before and after each use.
- 2. Some maintenance tasks may require special or fabricated tools. The "Initial Setup" of the procedure will specify any special or fabricated tools needed to perform that procedure. Use these special tools only for the maintenance procedures for which they are designed or called out. If you are unfamiliar with a required tool, see your supervisor.

**USE OF THREAD ADHESIVE****WARNING**

Use caution when using adhesives and sealants. Prolonged inhalation of vapors can cause lung irritation. Contact with skin can cause dermatitis. Wear gloves and safety goggles and use product in a well-ventilated area away from open flame. If ingested, keep individual calm and seek medical attention. DO NOT induce vomiting. If contact with skin or eyes is made, flush thoroughly with water. Dispose of cleanup rags IAW local policy and ordinances. Failure to follow this warning may cause injury to personnel.

Selected bolts and screws require use of adhesive during installation of the armor kit, or when replacing armor kit components. Generally, if no locking fastener (i.e., locknut or lockwasher) is used, thread adhesive is required.

---

**GENERAL MAINTENANCE INSTRUCTIONS - CONTINUED**

---

0011 00

**USE OF SEALANT**

1. When applying sealant, follow manufacturer's instructions on label of container.
2. Sealant should be applied with an even and continuous 1/4 inch bead along mating surfaces. Make semi-circular pattern around bolt holes and studs.

**APPLYING TORQUE**

1. When tightening fasteners, use torque value as specified in *Torque Limits* (WP 0043 00).
2. If a unique torque value is required, it will be provided in the procedural step of the task.

**TAGGING INSTRUCTIONS**

1. Use marker tags to identify all electrical wires and any other parts which may be hard to identify or replace later. Fasten tags to parts during removal by wrapping wire fasteners around or through parts and twisting ends together. Position tags out of the way during cleaning, inspection, and repair. Mark tags with a pencil, pen, or marker.
2. Whenever possible, identify electrical wires with the number of the terminal or wire to which it connects. If no markings can be found, tag both wires or wire and terminal, and use the same identifying mark for both. If you cannot tag a wire because it must fit through a small hole or you cannot reach it, write down the description of the wire and the point to which it connects or draw a simple diagram on paper. Be sure to write down enough information so you will be able to properly connect the wires during assembly. If you need to identify a loose wire, look for identifying number near end of the wire, stamped on a permanent metal tag. Compare the number to wire numbers on the appropriate electrical schematic.
3. Identify and tag other parts as required by name and installed location.

**END OF WORK PACKAGE**





---

**DOOR HANDLE ASSEMBLY REPLACEMENT**

---

**0012 00****THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP****Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (7)

**References**

WP 0011 00

**References - Continued**

WP 0016 00

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

---

**NOTE**

The following procedure is for left door assembly. Right door assembly is identical.

**DOOR HANDLE ASSEMBLY REPLACEMENT - CONTINUED**

0012 00

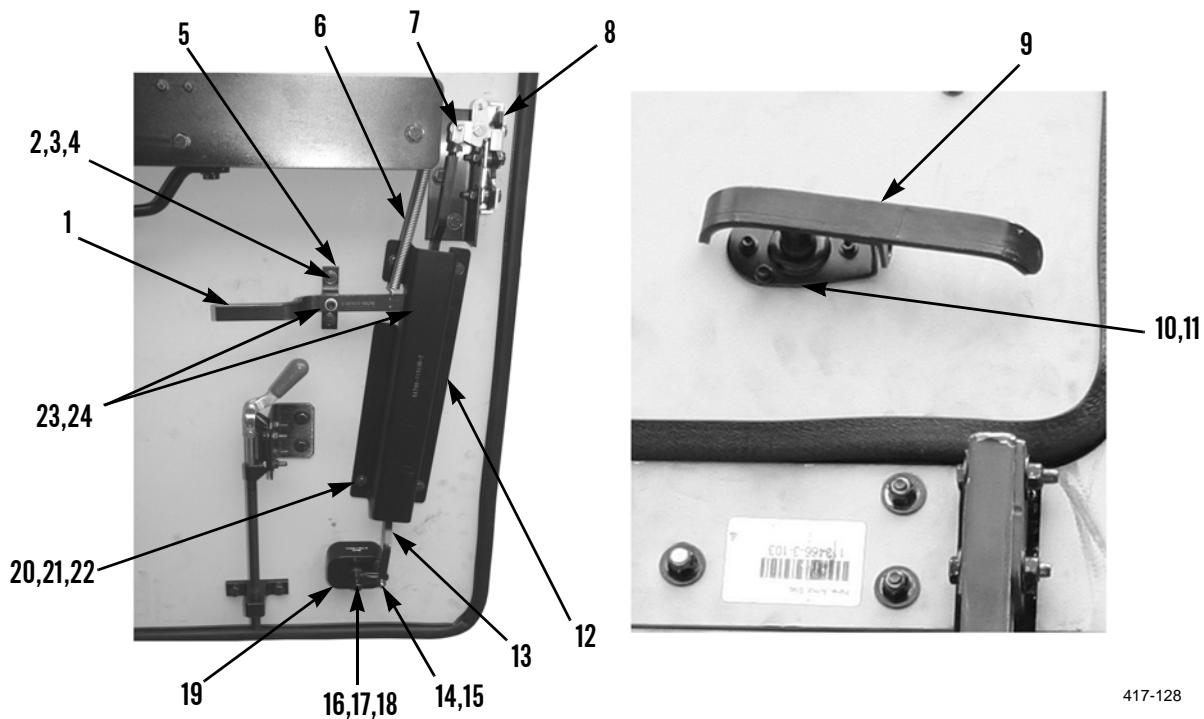
**REMOVAL**

1. Remove spring (6) from door.
2. Remove four locknuts (20), eight washers (21), four bolts (22), and door rod cover (12) from door. Discard locknuts.
3. Remove two bolts (23), washers (24), and door handle (1) from door linkage rod (13) and standoff (5).
4. Remove linkage clevis (7) from latch (8).
5. Remove locknut (14), bolt (15), and door linkage rod (13) from cam control (16). Discard locknut.
6. Loosen setscrew (17) and remove cam control (16) and five washers (18).

**NOTE**

Retain five washers inside spacer for installation.

7. Remove four bolts (10), washers (11), and exterior door handle (9) from door.
8. Remove door interior spacer (18) and linkage rod (13) from door.
9. Remove two locknuts (2) four washer (3), two bolts (4), and standoff (5) from door. Discard locknuts.



417-128

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

---

**DOOR HANDLE ASSEMBLY REPLACEMENT - CONTINUED**

---

**0012 00****INSTALLATION**

1. Install standoff (5), four washers (3), two bolts (4), and new locknuts (2) on door.
2. Position door interior spacer (19) and exterior door handle (9) on door and install four washers (11) and bolts (10) on door.
3. Position door linkage rod (13) on latch (8) and install linkage clevis (7).

**NOTE**

Make sure washers are present inside spacer before installing cam.

4. Install five washers (18) and cam control (16) on door handle (9) and tighten setscrew (17).
5. Install lower end on spacer (19) and install bolt (15) and new locknut (14).
6. Install door handle (1) on door linkage rod (13) and standoff (5) with two washers (24) and bolts (23).
7. Position door rod cover (12) on door and install eight washers (21) four bolts (22) and new locknuts (20).
8. Install spring (6) on door.
9. Verify correct operation of interior and exterior door handles.
10. If necessary, adjust door latch (WP 0016 00).

**END OF WORK PACKAGE**



---

**DOOR LATCH AND LOCK PIN REPLACEMENT**

---

**0013 00****THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP****Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (14)

**References**

WP 0011 00

**References - Continued**

WP 0016 00

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

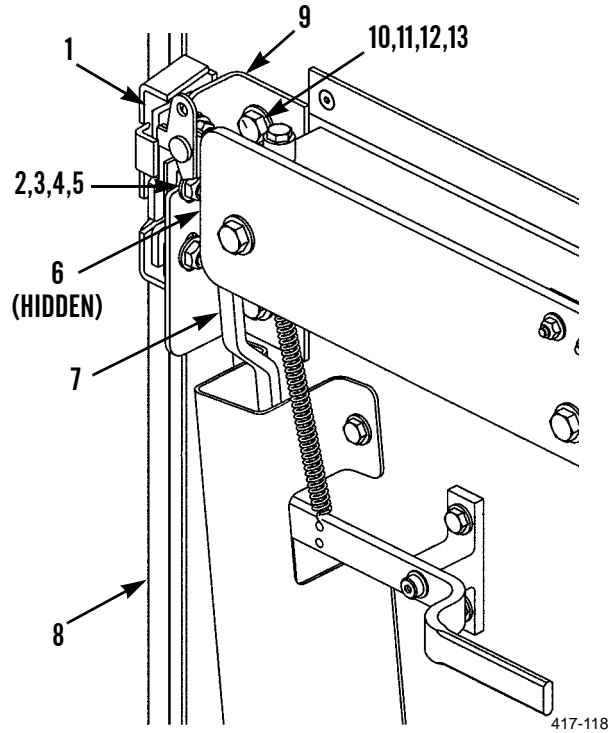
---

**NOTE**

The following procedure is for left door latch. Right door latch is identical.

**DOOR LATCH AND LOCK PIN REPLACEMENT - CONTINUED****0013 00****REMOVAL**

1. Open door assembly.
2. Remove linkage clevis (6) and position link rod (7) aside.
3. Remove three locknuts (2), washers (3), bolts (4), washers (5), and door latch (1) from door assembly (8). Discard locknuts.
4. Remove three locknuts (10), washers (11), bolts (12), washers (13), and bracket (9).

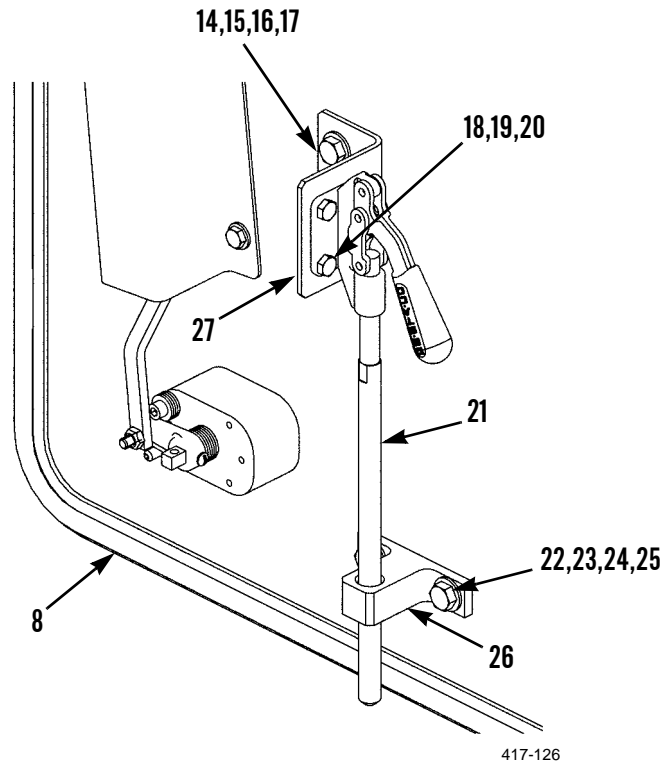


**DOOR LATCH AND LOCK PIN REPLACEMENT - CONTINUED**

0013 00

**REMOVAL - CONTINUED**

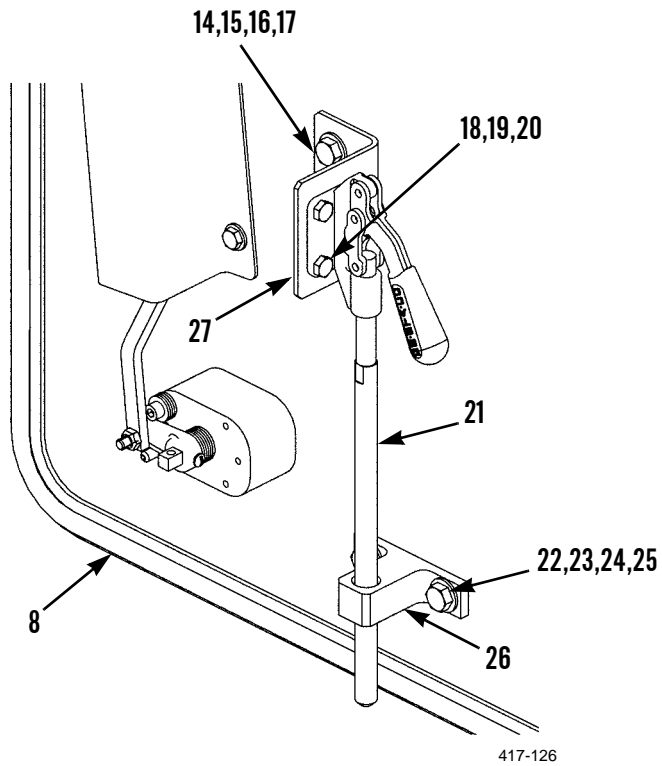
5. Remove four locknuts (20), washers (19), bolts (18), and lock pin (21) from bracket (27). Discard locknuts.
6. Remove two locknuts (17), washers (16), bolts (14), washers (15), and bracket (27) from door assembly (8). Discard locknuts.
7. Remove two locknuts (25), washers (24), bolts (22), washers (23), and retainer (26) from door assembly (8). Discard locknuts.

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**DOOR LATCH AND LOCK PIN REPLACEMENT - CONTINUED****0013 00****INSTALLATION**

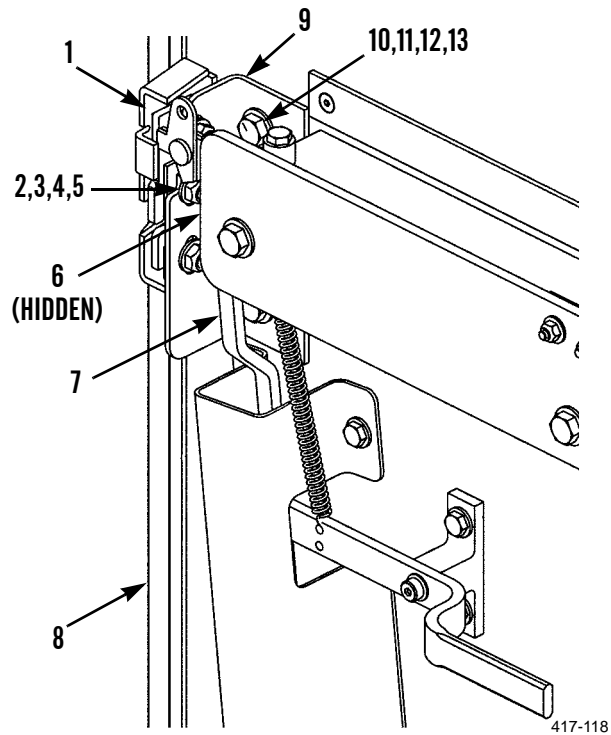
1. Install retainer (26), two washers (23), bolts (22), washers (24), and new locknuts (25) on door assembly (8).
2. Install bracket (27), two washers (15), bolts (14), washers (16), and new locknuts (17) on door assembly (8).
3. Install lock pin (21), four bolts (18), washers (19), and new locknuts (20) on brackets (27).





**DOOR LATCH AND LOCK PIN REPLACEMENT - CONTINUED****0013 00****INSTALLATION - CONTINUED**

4. Install bracket (9), three washers (13), bolts (12), washers (11), and new locknuts (10) on door assembly (8).
5. Install door latch (1), three washers (5), bolts (4), washers (3), and new locknuts (2).
6. Position link rod (7) on door latch (1), and install door linkage clevis (6).
7. Adjust door latch (WP 0016 00).

**END OF WORK PACKAGE**



---

**DOOR BALLISTIC GLASS AND FRAME ASSEMBLY REPLACEMENT**

---

0014 00

**THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP****Maintenance Level**

Unit

**Personnel Required**

Two

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknuts (35)

Parking/Emergency Brake applied (TM 9-2320-360-10)

**References**

WP 0011 00

WP 0013 00

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

---

**NOTE**

- The following procedure is for left door ballistic glass and frame assembly. Right door ballistic glass and frame assembly is identical.
- Remove door latch if only removing ballistic glass (WP 0013 00).

**REMOVAL**

1. Open door assembly and open door ballistic glass (5).
2. Remove locknut (6), bolt (7), and two washers (8). Discard locknut.
3. Lift handle (9) and rotate over bracket (10) toward hinge edge of door.
4. Remove bolt (1), spacer (2), locknut (3), and washer (4) from bottom channel (11). Discard locknut.

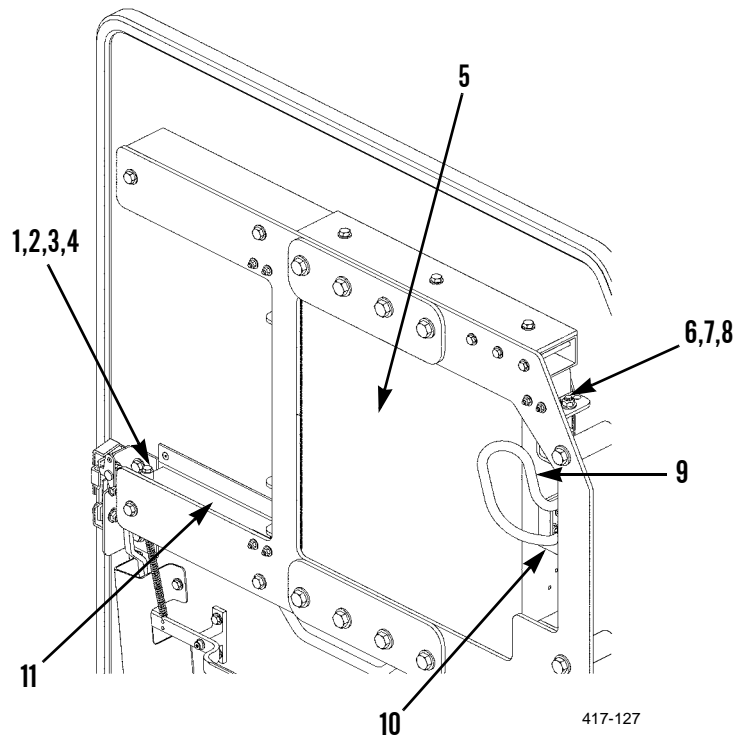
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Failure to follow this warning may result in injury to personnel.

**NOTE**

Door ballistic glass weighs 75 lb (34 kg).

5. With assistance, lift up on handle (9) and remove door ballistic glass (5) by sliding out end of channel (11).



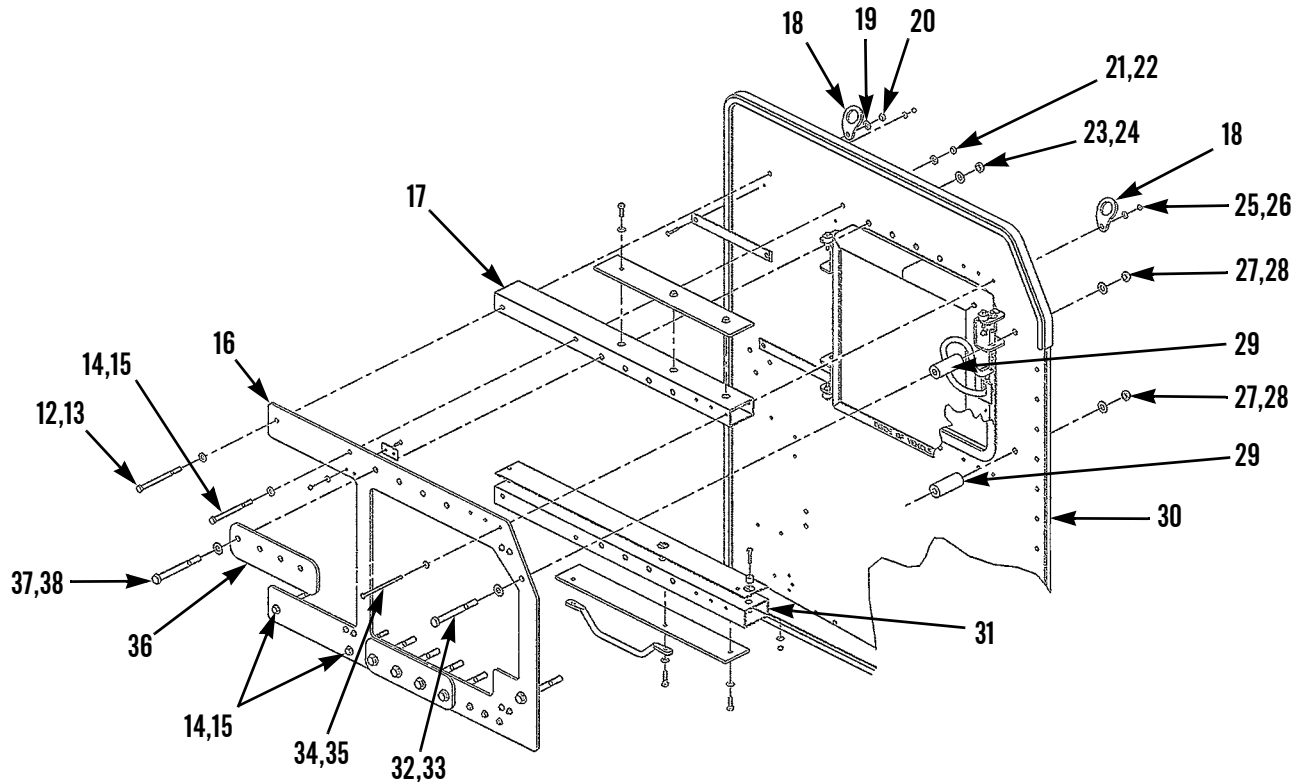
**REMOVAL - CONTINUED**

6. Remove two locknuts (27), washers (28), capscrews (32), washers (33), and sleeves (29) from door (30). Discard locknuts.
7. Remove eight locknuts (23), washers (24), bolts (37), washers (38), and two doublers (36) from retainer (16). Discard locknuts.
8. Remove six locknuts (25), washers (26), bolts (34), washers (35), and lifting eye (18) from door (30). Discard locknuts.
9. Remove locknut (20), washer (19), lifting eye (18), bolt (12), and washer (13) from retainer (16). Discard locknut.

**WARNING**

The following step will release the retainer and supports from the door. Use assistance to support components while removing the attaching hardware. Failure to follow this warning may cause injury to personnel.

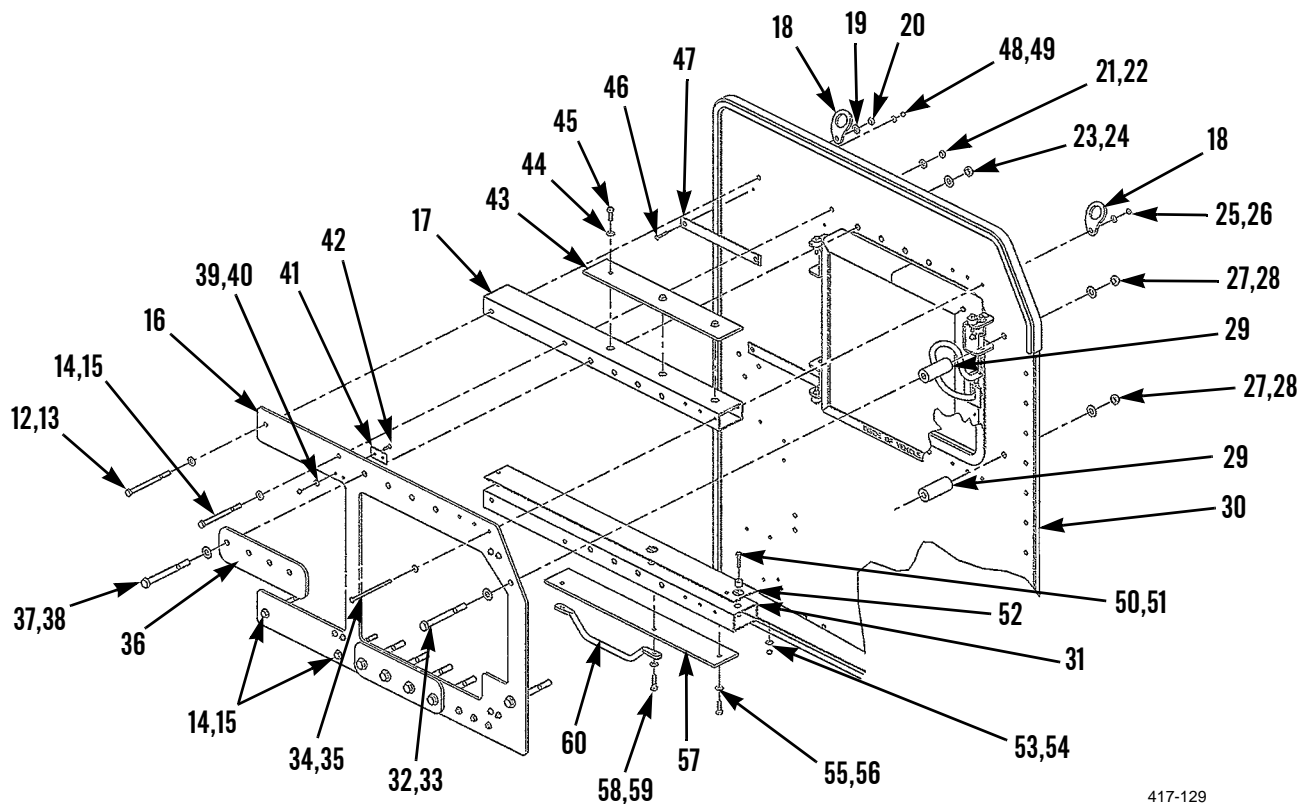
10. With assistance, remove three locknuts (21), washers (22), bolts (14), washers (15), retainer (16), support (17), and support (31) from door (30). Discard locknuts.



417-129

**REMOVAL - CONTINUED**

11. Remove three bolts (45), washers (44), and doubler (43) from support (17).
12. Remove bolt (55) and washer (56) from support (31).
13. Remove two capscrews (58), washers (59), handle (60), and doubler (57) from support (31).
14. Remove eight locknuts (39), washers (40), screws (42), and four ramps (41) from retainer (16). Discard locknuts.
15. Remove locknut (53), washer (54), capscrew (50), spacer (51), and guide (52) from support (31). Discard locknut.
16. Remove four locknuts (48), washers (49), screws (46), and two ramps (47) from door (30).



417-129

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Install two ramps (47), four screws (46), washers (49), and new locknuts (48) on door (30).
2. Install guide (52), spacer (51), capscrew (50), washer (54), and new locknut (53) on support (31).
3. Install four ramps (41), eight screws (42), washers (40), and new locknuts (39) on retainer (16).
4. Install doubler (57), handle (60), two washers (59), and capscrews (58) on support (31).
5. Install washer (56) and bolt (55) on support (31).
6. Install doubler (43), three washers (44), and bolts (45) on support (17).

***INSTALLATION - CONTINUED*****WARNING**

Use caution when handling heavy parts. Provide adequate support and use assistance during procedure. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

7. With assistance, install support (31), support (17), retainer (16), three washers (15), bolts (14), washers (22), and new locknuts (21) on door (30).
8. Install washer (13), bolt (12), lifting eye (18), washer (19), and new locknut (20) on retainer (16).
9. Install lifting eye (18), six washers (35), bolts (34), washers (26), and new locknuts (25) on door (30).
10. Install two doublers (36), eight washers (38), bolts (37), washers (24), and new locknuts (23) on retainer (16).
11. Install two sleeves (29), washers (33), capscrews (32), washers (28), and new locknuts (27) on door (30).

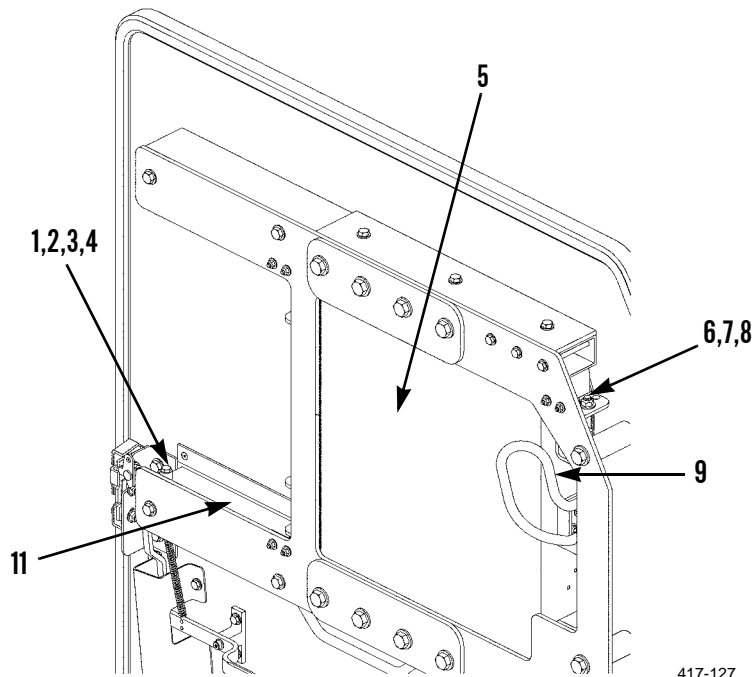
**INSTALLATION - CONTINUED****WARNING**

- For proper threat protection, ballistic glass must be correctly installed into frame. During installation, ensure that stencil marking “THIS SURFACE TOWARDS THREAT” is located on outside of cab. Improperly installed ballistic glass will not protect occupants. Failure to follow this warning may cause injury or death to personnel.
- Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Failure to follow this warning may result in injury to personnel.

**NOTE**

Door ballistic glass weighs 75 lb (34 kg).

12. With assistance, install door ballistic glass (5) by sliding in end of channel (11).
13. When door ballistic glass (5) in center position, lift handle (9) and rotate to original position.
14. Lift handle (9) out of center lock hole and close door ballistic glass (5).
15. Install spacer (2), bolt (1), washer (4), and nut (3) in bottom channel (11).
16. Install two washers (8), bolt (7), and new locknut (6).
17. If removed, install door latch (WP 0013 00).
18. Operate door ballistic glass (5) to verify correct operation.



417-127

**END OF WORK PACKAGE**



**DOOR ASSEMBLY REPLACEMENT**

**0015 00**

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

**INITIAL SETUP**

**Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Sling (Item 7, WP 0041 00)

Device, Lifting (500-lb capacity)

**Materials/Parts**

Adhesive, Thread (Item 1, WP 0042 00)

Rag, Wiping (Item 6, WP 0042 00)

Sealant, Urethane (Item 7, WP 0042 00)

Locknut (13)

**References**

WP 0004 00

WP 0011 00

WP 0016 00

**Personnel Required**

Two

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

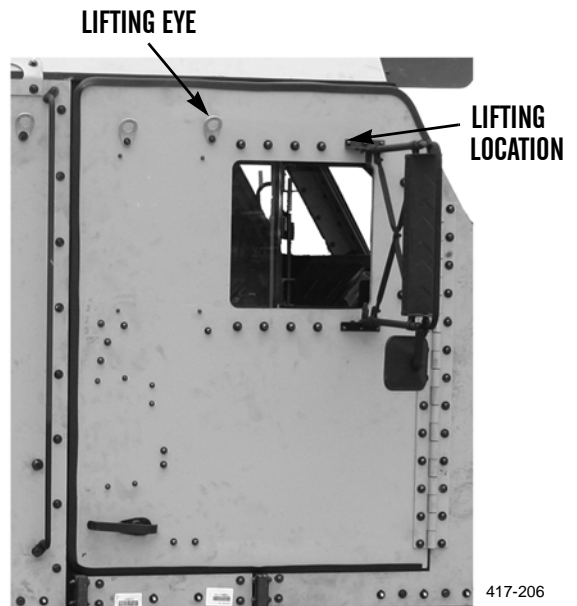
Rear View Mirror removed (TM 9-2320-360-20).

**NOTE**

The following procedure is for LH door assembly. RH door assembly is identical.

**REMOVAL**

1. Remove outside mirror and data plates from door assembly and set aside (TM 9-2320-360-20).
2. Relocate center lifting eye to top rear mirror bolt.

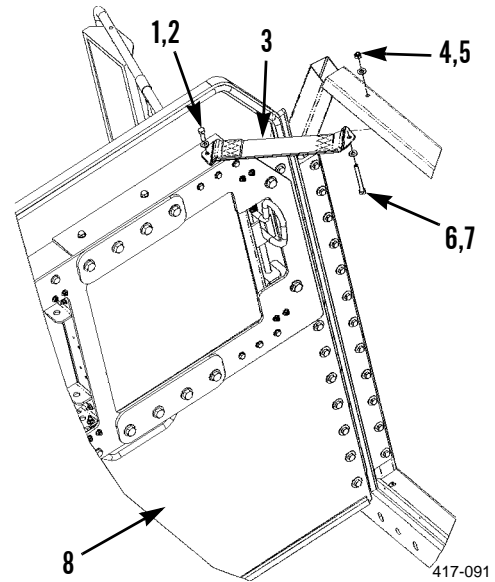


**DOOR ASSEMBLY REPLACEMENT - CONTINUED**

0015 00

**REMOVAL - CONTINUED**

3. Open door assembly and remove bolt (1), washer (2), and strap assembly (3) from top of door assembly (8).
4. If strap assembly (3) is damaged, remove locknut (4), washer (5), bolt (6), washer (7), and strap assembly (3) from door frame. Discard locknut.



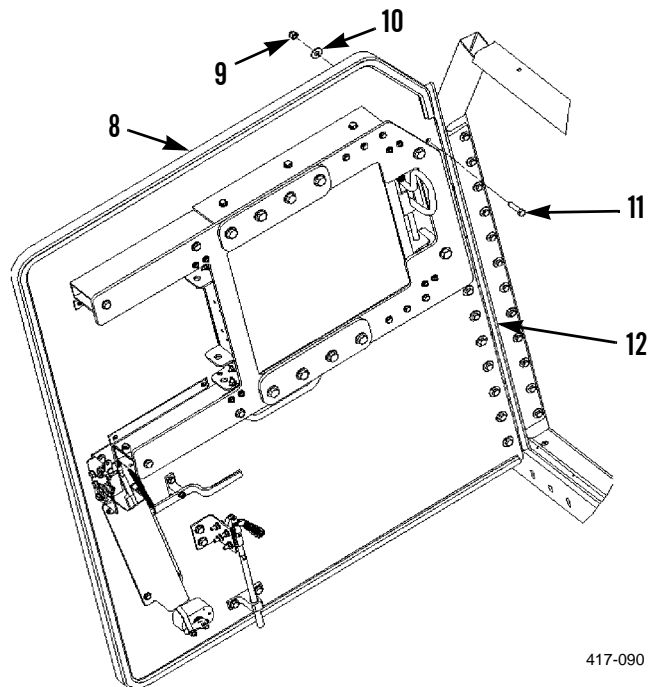
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Door assembly weighs 330 lb (150 kg).

5. Attach lifting device to lifting eyes or door assembly (8).
6. Remove 13 locknuts (9), washers (10), and bolts (11) from door assembly (8). Discard locknuts.
7. Use lifting device to remove door assembly (8) from hinge (12) and place on flat surface.
8. Remove lifting device from door assembly (8).



**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION****WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Door assembly weighs 330 lb (150 kg).

1. Attach lifting device to lifting eyes or door assembly (8).
2. Using lifting device, align holes in door assembly (8) with holes in hinge (12).
3. Install 13 bolts (11), washers (10), and new locknuts (9) on door assembly (8). Hand-tighten locknuts.

**NOTE**

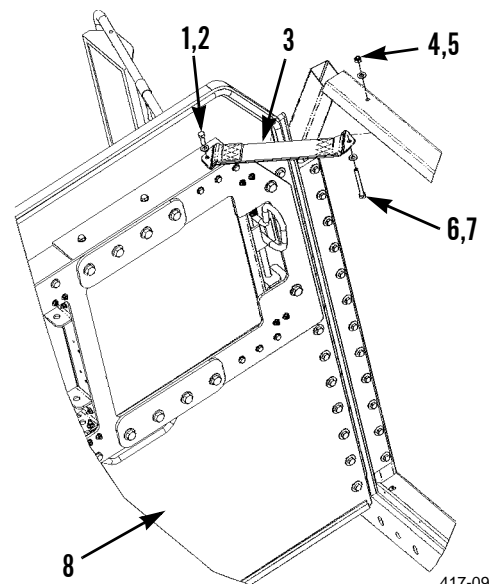
Make sure door closes and does not contact door sill.

4. Check alignment between door assembly (8) and cab opening. Adjust door assembly as necessary until alignment is correct.
5. Tighten 13 locknuts (9) to 35 lb-ft (47 Nm).
6. Remove lifting device from door assembly (8).

**NOTE**

Perform step 7 if strap assembly was removed from door frame.

7. Install strap assembly (3), washer (7), bolt (6), washer (5), and new locknut (4) on cab.
8. Install strap assembly (3), washer (2), and bolt (1) on door assembly (8).



417-091

---

**DOOR ASSEMBLY REPLACEMENT - CONTINUED**

---

**0015 00**

***INSTALLATION - CONTINUED***

9. Verify correct operation of door assembly (WP 0004 00).
10. Check alignment of striker and latch (WP 0016 00).
11. Install outside mirror and data plates on door assembly (TM 9-2320-360-20).
12. Relocate lifting eye to center top hole in door.

**END OF WORK PACKAGE**

---

**DOOR LATCH ADJUSTMENT**

**0016 00**

---

**THIS WORK PACKAGE COVERS**

Adjustment

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

**ADJUSTMENT****NOTE**

The latch can be centered in up/down direction by loosening three bolts (4). The latch can be centered in the in/out direction by loosening three bolts (6).

1. Disconnect spring (5) from window support (3).
2. Loosen three bolts (4) and adjust latching mechanism until striker is centered in the latching mechanism.

**NOTE**

Latch must be centered so that it contacts both the upper and lower dovetails on the striker mounting plate at approximately the same time.

3. Tighten bolts (4) to 18 lb-ft (24 Nm).
4. Loosen three bolts (6) and adjust latching mechanism until striker is centered in the latching mechanism.
5. Tighten bolts (6) to 35 lb-ft (47 Nm).
6. Disconnect the clevis end (2) from the latch (1).

**CAUTION**

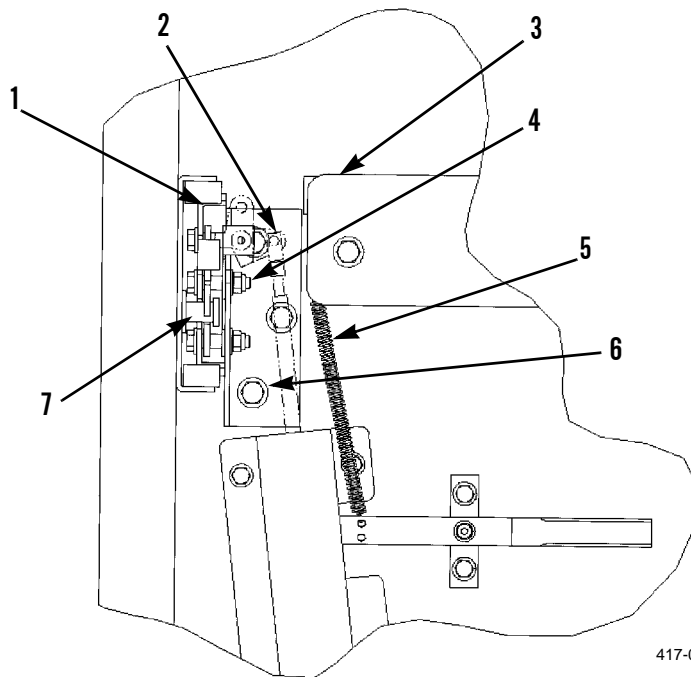
Adjust the clevis end in half-turn increments. The handle has limited range so this must be done carefully.

7. Adjust the clevis end (2) by turning it down or up in order to ensure the latch opens with slight downward pressure.
8. Connect clevis end (2) to latch (1).
9. Connect spring (5) to window support (3).

**NOTE**

The latching mechanism is a two-stage latch. Verify correct engagement in both positions.

10. Repeat steps 1 through 7 as required to ensure correct operation of latching mechanism.



417-092

**END OF WORK PACKAGE**

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Tools and Special Tools**

Device, Lifting (250 lb Minimum Capacity)

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Dispenser, Sealant (Item 2, WP 0041 00)

Link, Lifting (Item 5, WP 0041 00)

Sling, Nylon (Item 7, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Sealant, Urethane (Item 7, WP 0042 00)

Trim Seal (Item 11, WP 0042 00)

**Materials/Parts - Continued**

Locknut (16)

Lockwasher

**References**

WP 0010 00

WP 0011 00

**Personnel Required**

Two

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

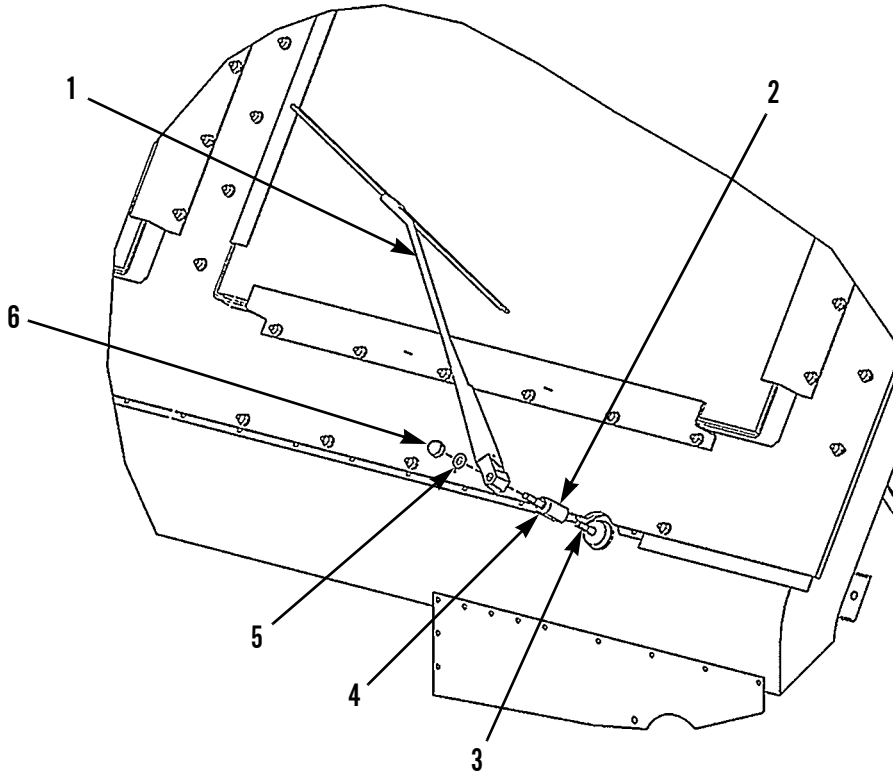
---

**NOTE**

The following procedure is for LH windshield ballistic glass. RH windshield ballistic glass is identical.

**REMOVAL**

1. Remove acorn nut (6) and lockwasher (5), and set aside wiper arm (1).
2. Loosen setscrew (4) and remove wiper extension (2) from wiper shaft (3).



417-024



**REMOVAL - CONTINUED**

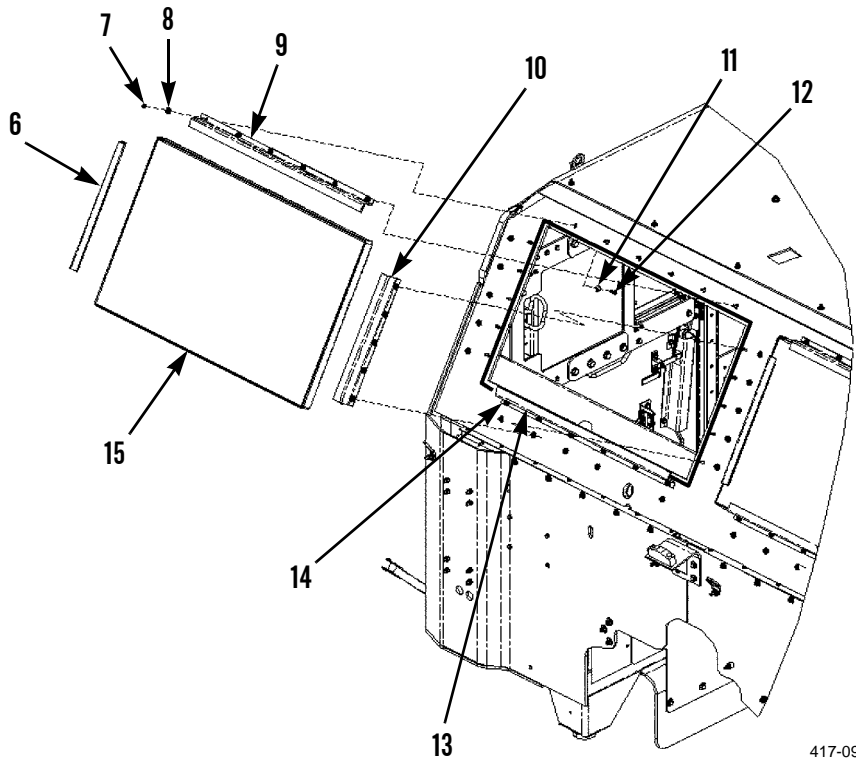
3. Remove 16 locknuts (7), washers (8), bolts (12), washers (11), and windshield brackets (6, 9, and 10) from windshield ballistic glass (15). Discard locknuts.
4. Loosen six locknuts (14) on windshield bracket (13).

**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Failure to follow this warning may cause injury or death to personnel.

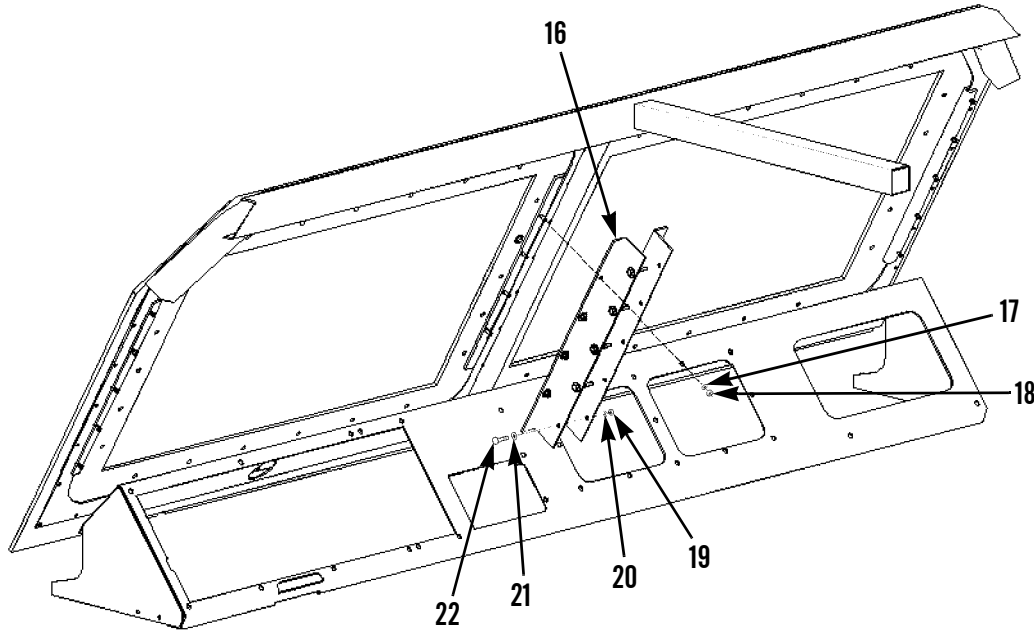
**NOTE**

- Remove ballistic glass by raising towards roof then lift out bottom.
  - Windshield ballistic glass weighs 113 lb (51 kg).
5. With assistance, remove windshield ballistic glass (15) from vehicle.



**REMOVAL - CONTINUED**

6. Remove right ballistic glass using the same procedure used for the left ballistic glass.
7. Remove five locknuts (19), washers (20), bolts (22), and washers (21) from windshield clamp brackets (16). Discard locknuts.
8. Remove eight locknuts (18), washers (17), and two windshield clamp brackets (16) from windshield center post. Discard locknuts.



417-212

**REMOVAL - CONTINUED**

9. Remove 30 locknuts (24) and washers (25) from windshield armor (27). Discard locknuts.
10. Install two lifting links (23) on center of windshield armor (27).
11. Attach sling and lifting device to lifting links (23).

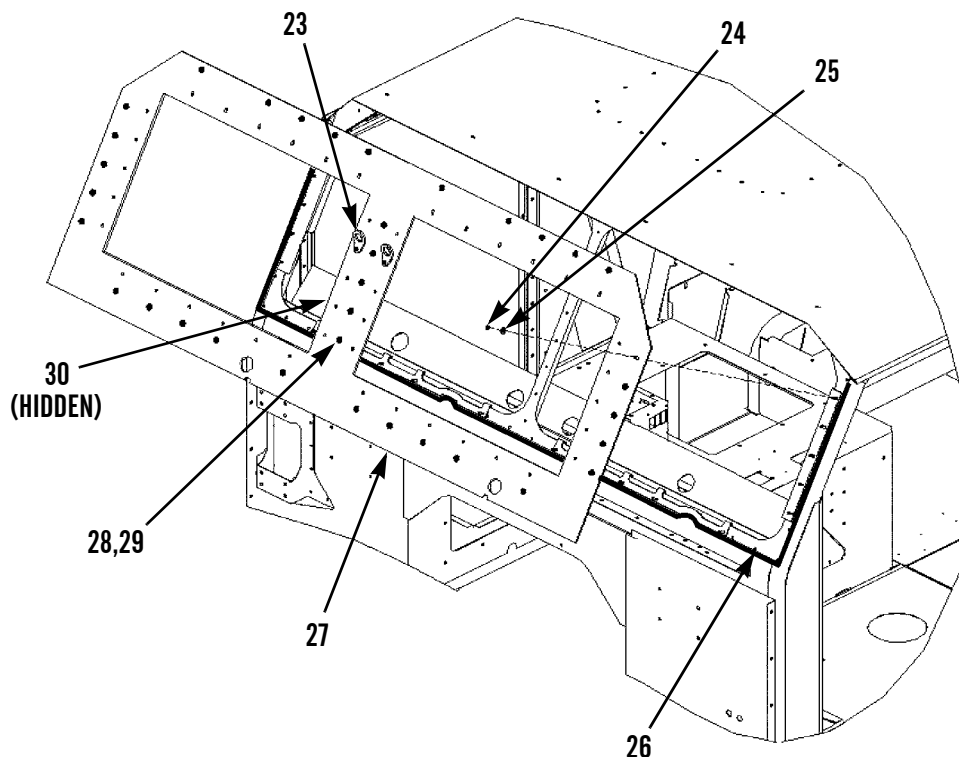
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Windshield armor weighs 143 lb (65 kg).

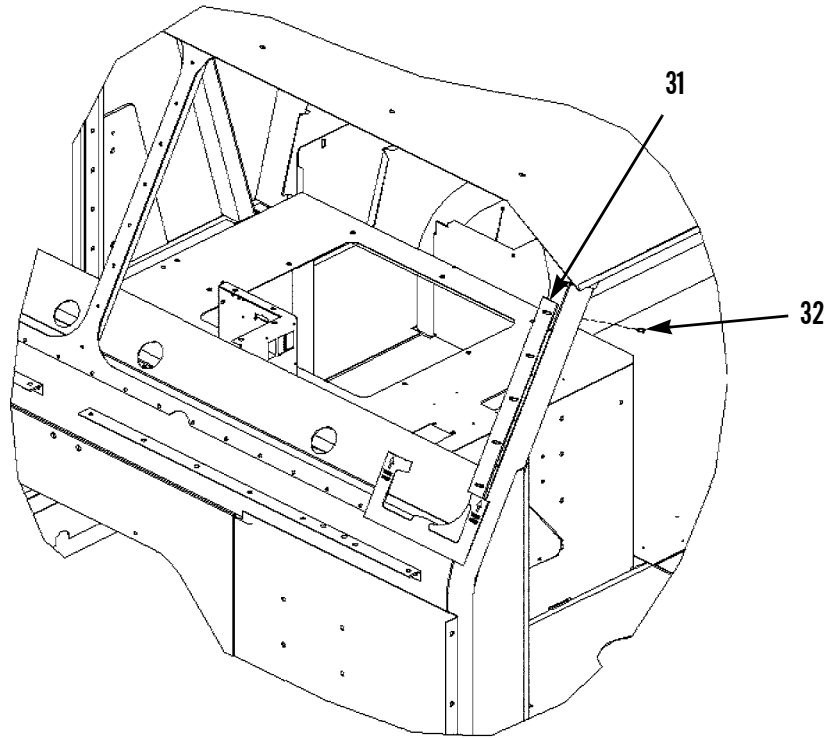
12. Using lifting device, remove windshield armor (27) from vehicle.
13. Remove five locknuts (28), washers (29), and stud plate (30) from windshield armor (27). Discard locknuts.
14. Remove sling, lifting device, and lifting links (23) from windshield armor (27). Discard locknuts.
15. Remove trim seal (26) from windshield frame.



417-211

**REMOVAL - CONTINUED**

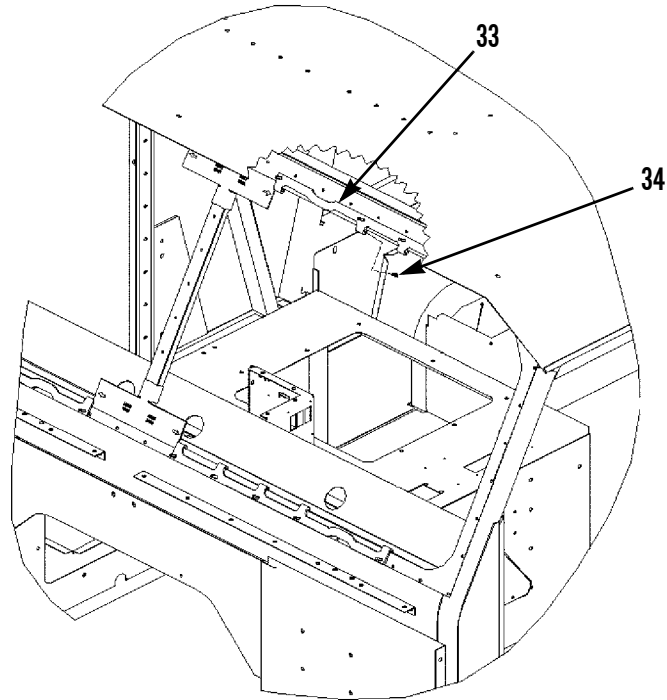
16. Mark location of two side windshield brackets (31) on windshield frame to aid installation.
17. Remove 10 screws (32) and 2 side windshield brackets (31) from windshield frame.



417-208

**REMOVAL - CONTINUED**

18. Mark location of four windshield brackets (33) on windshield frame to aid installation.
19. Remove 20 screws (34) and 4 windshield brackets (33) from windshield frame.



417-209

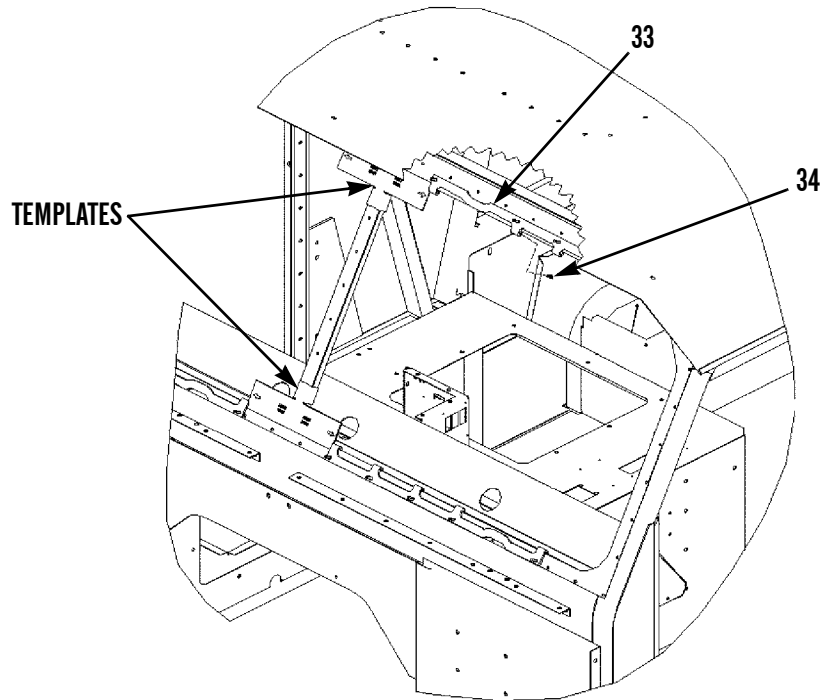
**CLEANING AND INSPECTION**

1. Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).
2. Ensure all existing sealant is removed from windshield armor frame.

**INSTALLATION****NOTE**

Use templates from CPK installation kit to position windshield brackets. If templates are not available, use marks made during removal.

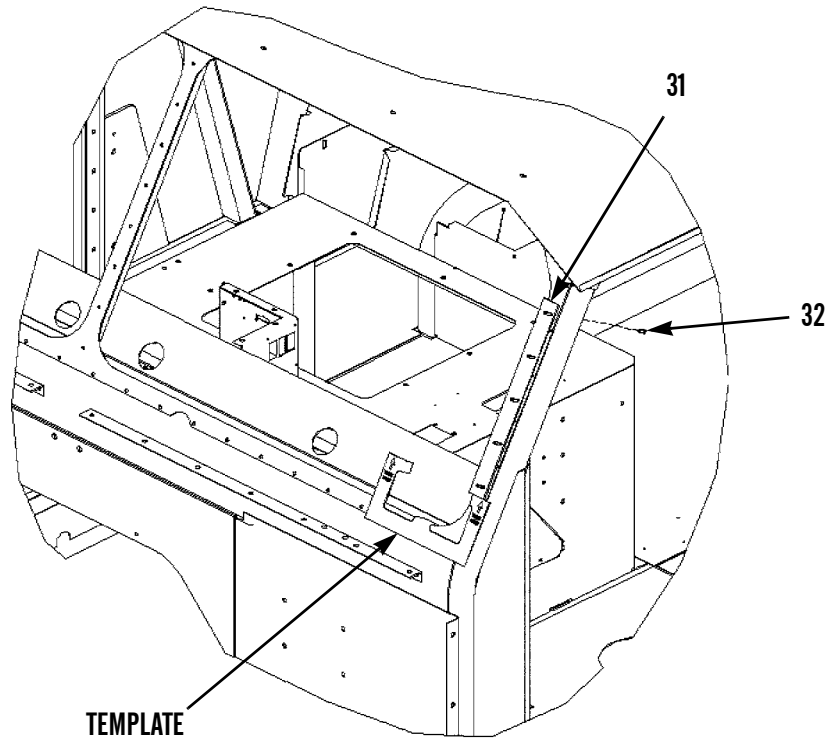
1. Using location marks made during removal, install 4 windshield brackets (33) and 20 screws (34) on windshield frame.



417-209

**INSTALLATION - CONTINUED**

- Using location marks made during removal, install 2 side windshield brackets (31) and 10 screws (32) on windshield frame.



417-208

**INSTALLATION - CONTINUED**

3. Install trim seal (26) on outside opening of windshield frame.
4. Install lifting links (23) on windshield armor (27).
5. Install stud plate (30), five washers (29), and new locknuts (28) on windshield armor (27).

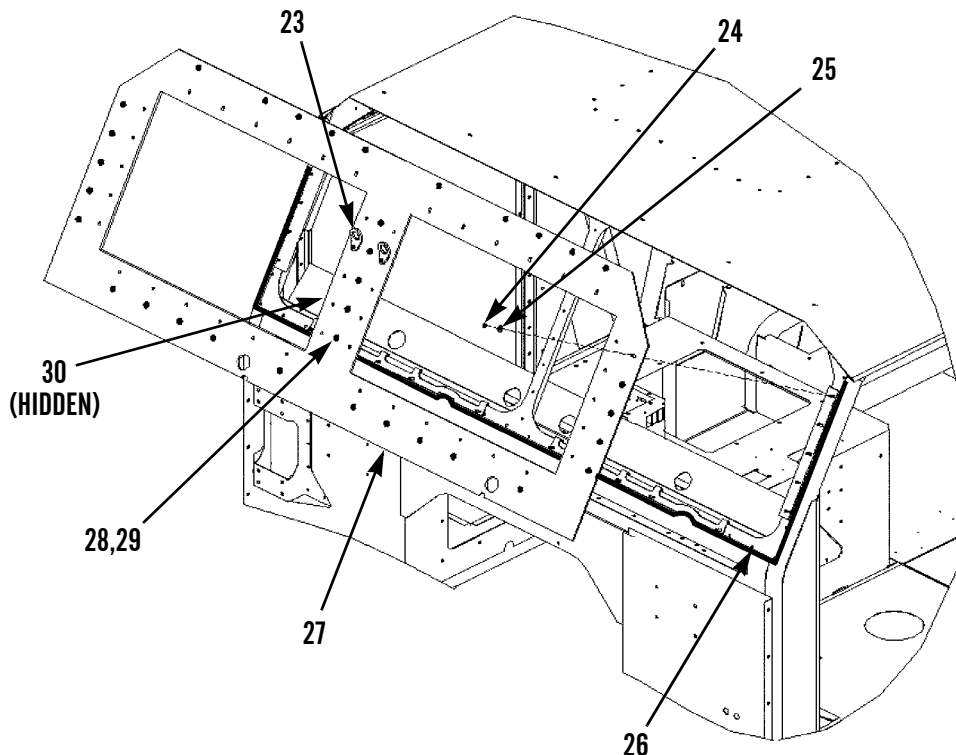
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Windshield armor weighs 143 lb (65 kg).

6. Attach sling and lifting device to two lifting links (23).
7. Using lifting device, install windshield armor (27) on vehicle.
8. Install 30 washers (25) and new locknuts (24) on windshield armor (27).
9. Remove sling, lifting device, and lifting links (23) from windshield armor (27).

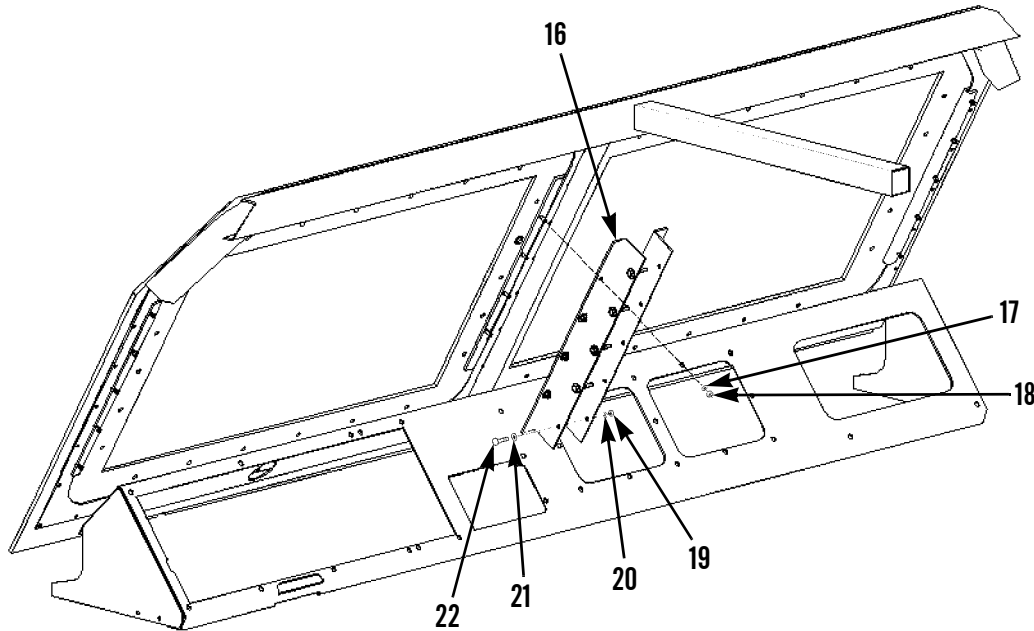


417-211



**INSTALLATION - CONTINUED**

10. Install two windshield clamp brackets (16), eight washers (17), and new locknuts (18) on windshield center post.
11. Install five washers (21), bolts (22), washers (20), and new locknuts (19) on windshield clamp brackets (16).



417-212

**WARNING**

Use caution when using adhesives and sealants. Prolonged inhalation of vapors can cause lung irritation. Contact with skin can cause dermatitis. Wear gloves and safety goggles and use product in a well-ventilated area away from open flame. If ingested, keep individual calm and seek medical attention. **DO NOT** induce vomiting. If contact with skin or eyes is made, flush thoroughly with water. Dispose of cleanup rags IAW local policy and ordinances. Failure to follow this warning may cause injury to personnel.

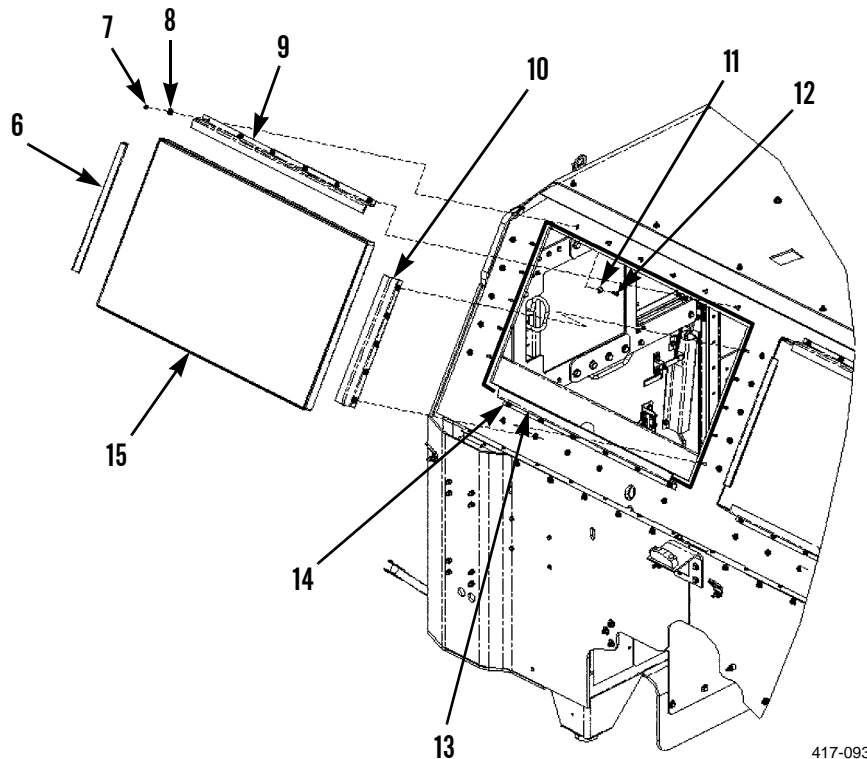
12. Apply sealant to outside opening of windshield armor.

**INSTALLATION - CONTINUED****WARNING**

- Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Failure to follow this warning may cause injury or death.
- For proper threat protection, ballistic glass must be correctly installed onto frame. During installation, ensure that decal marking “INSTALL THIS SURFACE TOWARDS THREAT” is located on outside of cab. Improperly installed windshield armor will not protect occupants. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

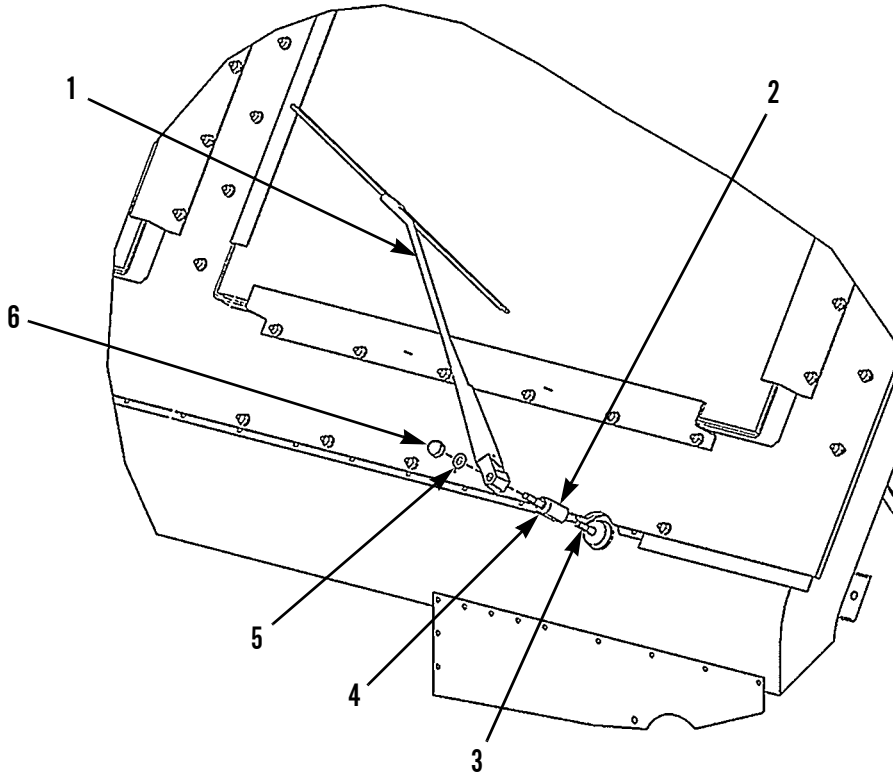
- Windshield ballistic glass weighs 113 lb (51 kg).
  - Slide ballistic glass towards roof then down into lower windshield bracket (13).
13. With assistance, position windshield ballistic glass (15) in lower windshield bracket (13), with INSTALL THIS SURFACE TOWARDS THREAT decal facing outward.
  14. Install windshield brackets (6, 9, and 10) on windshield frame.
  15. Install 16 washers (11), bolts (12), washers (8), and new locknuts (9). Tighten locknuts to 108 lb-in. (12 Nm).



417-093

**INSTALLATION - CONTINUED**

16. Install wiper extension (2) fully onto wiper shaft (3) and tighten setscrew (4).
17. Install windshield wiper arm (1) on wiper extension (2) with new lockwasher (5) and acorn nut (6).
18. Clean windshield ballistic glass IAW WP 0010 00.
19. Check windshield armor for leaks.



417-024

**END OF WORK PACKAGE**



**SEAT ARMOR REPLACEMENT**

**0018 00**

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

**INITIAL SETUP**

**Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (4)

**References**

WP 0011 00

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

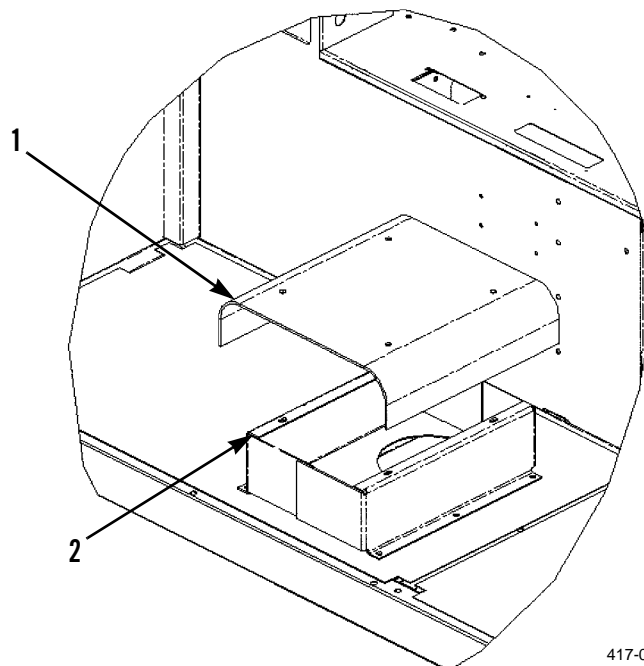
Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

Seat Assembly removed (TM 9-2320-360-20)

**REMOVAL**

Remove seat armor (1) from seat support (2).



417-094

---

**SEAT ARMOR REPLACEMENT - CONTINUED**

---

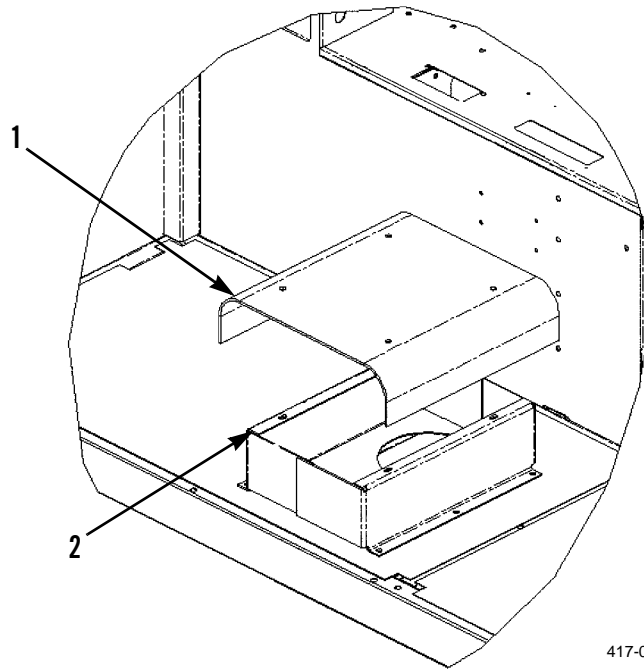
0018 00

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Install seat armor (1) on seat support (4).



417-094

2. Install seat assembly (TM 9-2320-360-20).

**END OF WORK PACKAGE**

---

**SEATBACK QUICK RELEASE BRACKET REPLACEMENT**

---

0019 00

**THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP****Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

**References**

WP 0011 00

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

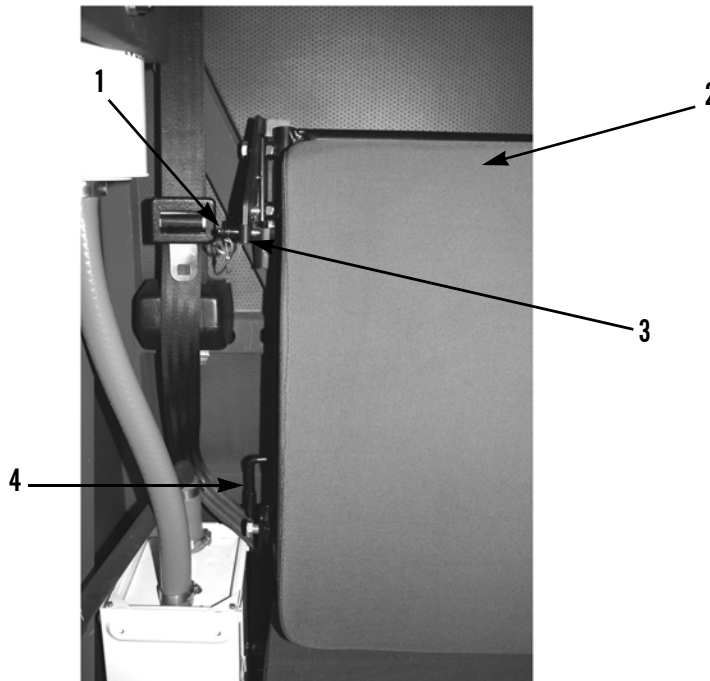
Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

---

**REMOVAL**

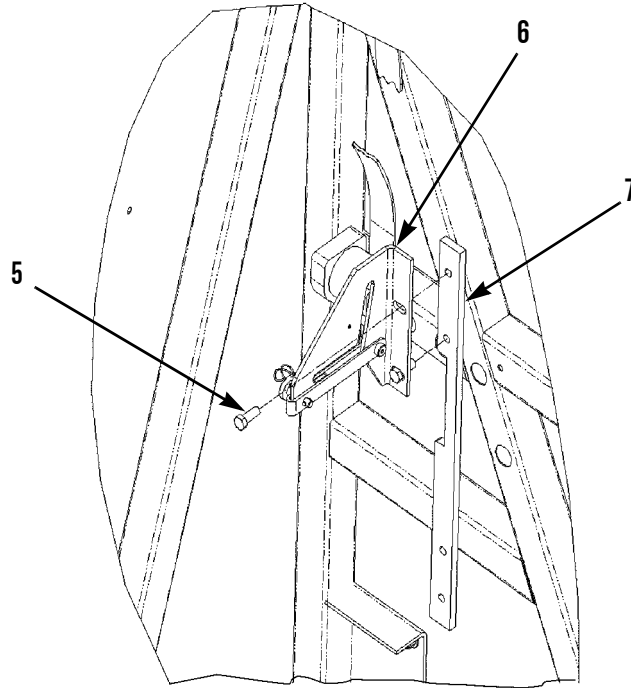
1. Remove two pins (1) and lower release bars (3).
2. Pull two lower release handles (4), pull outward on bottom of seatback (2), and lay seatback on rear seat.



417-139

**REMOVAL - CONTINUED**

3. Remove two bolts (5) and quick release bracket (6) from each seat support (7).



417-095

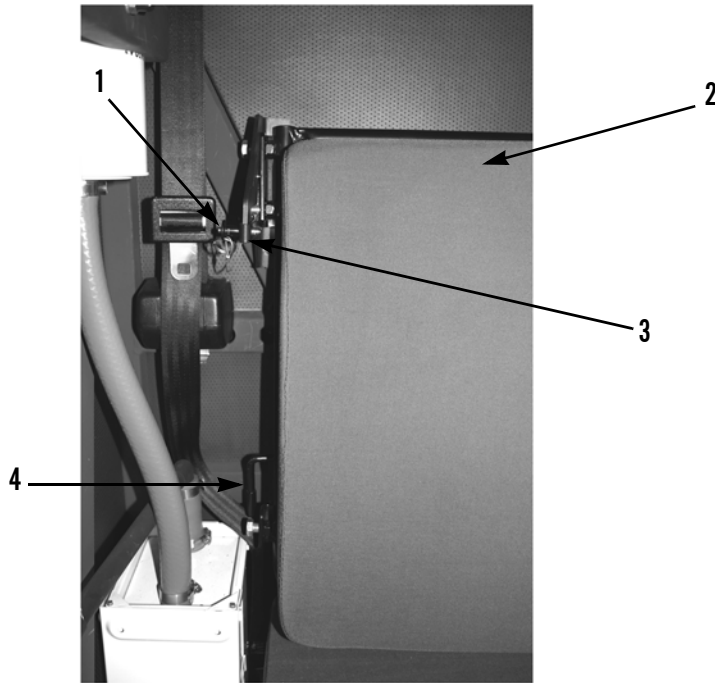
**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).



**INSTALLATION**

1. Install quick release bracket (6) and two bolts (5) on each seat support (7).
2. Position rear seatback (2) into quick release brackets (6), raise two release bars (3), and install two pins (1).
3. Push bottom of seatback (2) inward to engage bottom latches.



417-139

**END OF WORK PACKAGE**



---

**WHEEL WELL ARMOR REPLACEMENT**

**0020 00**

---

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (13)

**References**

WP 0011 00

WP 0032 00

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

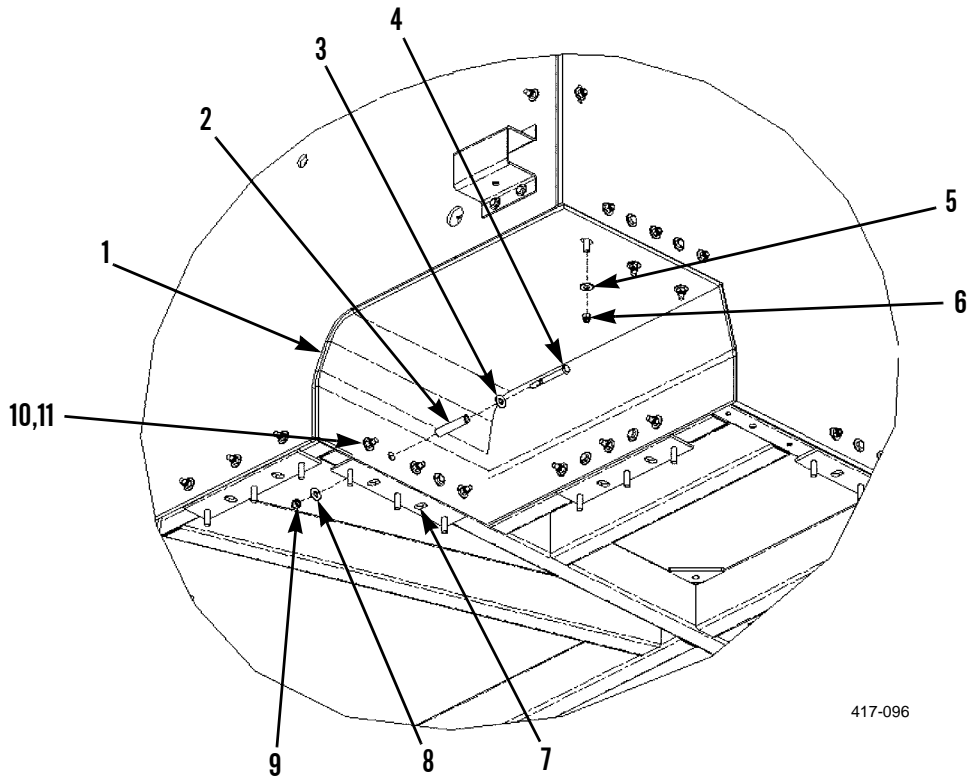
Right Blast Deflector removed (WP 0031 00)

Spare Tire removed (TM 9-2320-360-10)

---

**WHEEL WELL ARMOR REPLACEMENT - CONTINUED****0020 00****REMOVAL**

1. Lower center blast deflector as needed to gain access to two locknuts (9) (WP 0032 00).
2. Remove two bolts (4), washers (3), spacers (2), washers (8), and locknuts (9) from upper wheel well armor (1). Discard locknuts.
3. Remove three locknuts (6), washers (5), and upper wheel well armor (1) from vehicle. Discard locknuts.
4. Remove three locknuts (10), washers (11), and stud plate (7) from upper wheel well armor (1). Discard locknuts.

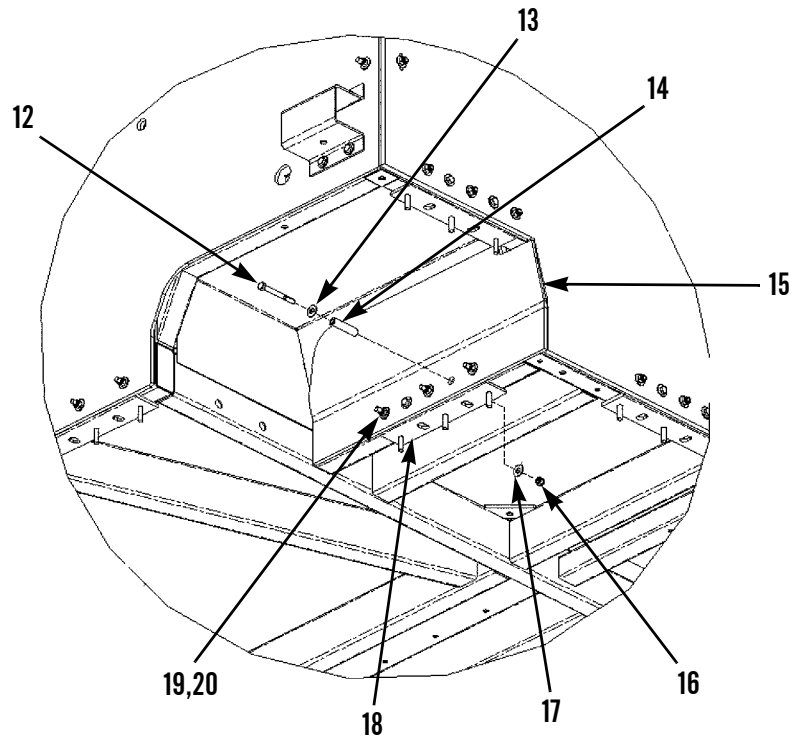


**WHEEL WELL ARMOR REPLACEMENT - CONTINUED**

0020 00

**REMOVAL - CONTINUED**

5. Remove two bolts (12), washers (13), spacers (14), locknuts (16), washers (17), and lower wheel well armor (15) from vehicle. Discard locknuts.
6. Remove three locknuts (19), washers (20), and stud plate (18) from lower wheel well armor (15). Discard locknuts.



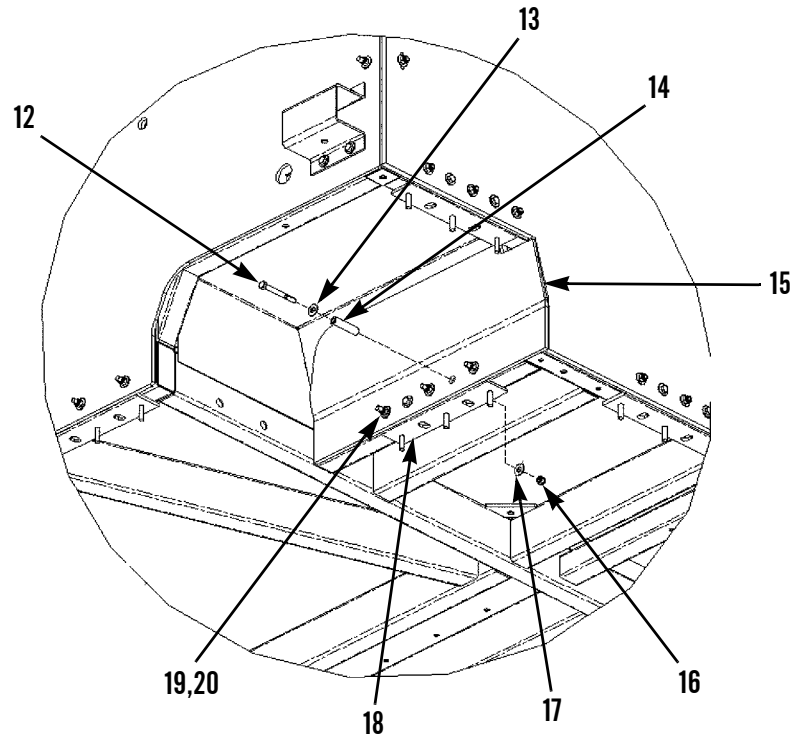
417-140

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**WHEEL WELL ARMOR REPLACEMENT - CONTINUED****0020 00****INSTALLATION**

1. Install stud plate (18), three washers (20), and new locknuts (19) on lower wheel well armor (15).
2. Install lower wheel well armor (15), two spacers (14), washers (13), bolts (12), washers (17), and new locknuts (16).



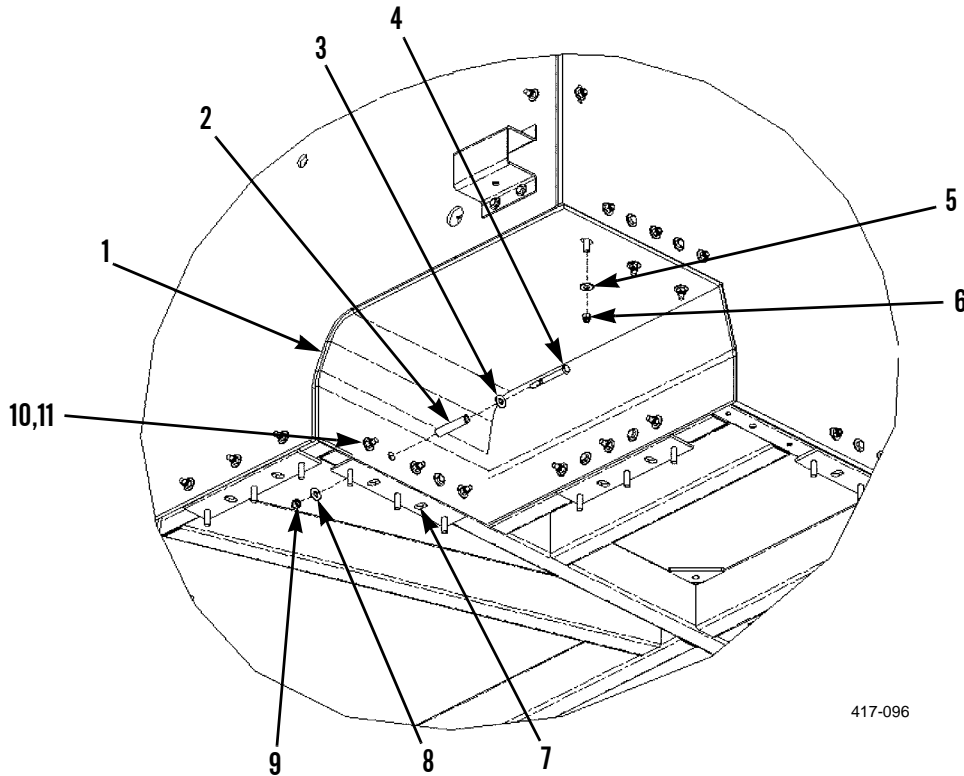
417-140

**WHEEL WELL ARMOR REPLACEMENT - CONTINUED**

0020 00

**INSTALLATION - CONTINUED**

3. Install stud plate (7), three washers (11), and new locknuts (10) on upper wheel well armor (1).
4. Install upper wheel well armor (1), three washers (5), and new locknuts (6).
5. Install two spacers (2), washers (3), bolts (4), washers (8), and new locknuts (9).



6. Install center blast deflector (WP 0032 00).
7. Install right blast deflector (WP 0031 00).
8. Install spare tire (TM 9-2320-360-10).

**END OF WORK PACKAGE**





---

**RIGHT-SIDE FIREWALL ARMOR REPLACEMENT**

**0021 00**

---

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Personnel Required**

Two

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Sling, Nylon (Item 7, WP 0041 00)

Device, Lifting (500-lb capacity)

Block, Wood (2 in. x 4 in. x 3 ft)

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

Windshield Washer Reservoir and Bracket removed (TM 9-2320-360-20)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (16)

Center Hood Bumper removed (TM 9-2320-360-20)

**References**

WP 0011 00

---

**REMOVAL**

1. Remove power steering reservoir from firewall (TM 9-2320-360-20). Do not disconnect steering hoses from steering reservoir.

**REMOVAL - CONTINUED**

2. Disconnect heater hose and heater control valve (11) from elbows at right firewall (TM 9-2320-360-20).
3. Disconnect heater control cable (18) from heater control valve (11).
4. Insert 2x4 block of wood (2) behind right firewall and power steering reservoir brackets.
5. Remove 8 locknuts (14), washers (15), 2 power steering brackets (16), and 24 washers (13) from right firewall (17). Discard locknuts.
6. Remove three locknuts (7), washers (8), bolts (9), and washers (10) from right firewall (17). Discard locknuts.
7. Attach sling and lifting device to lifting eyes (1) on right firewall (17).
8. Remove five locknuts (3), washers (4), and washer hose clamp (6) from right firewall (17). Discard locknuts.

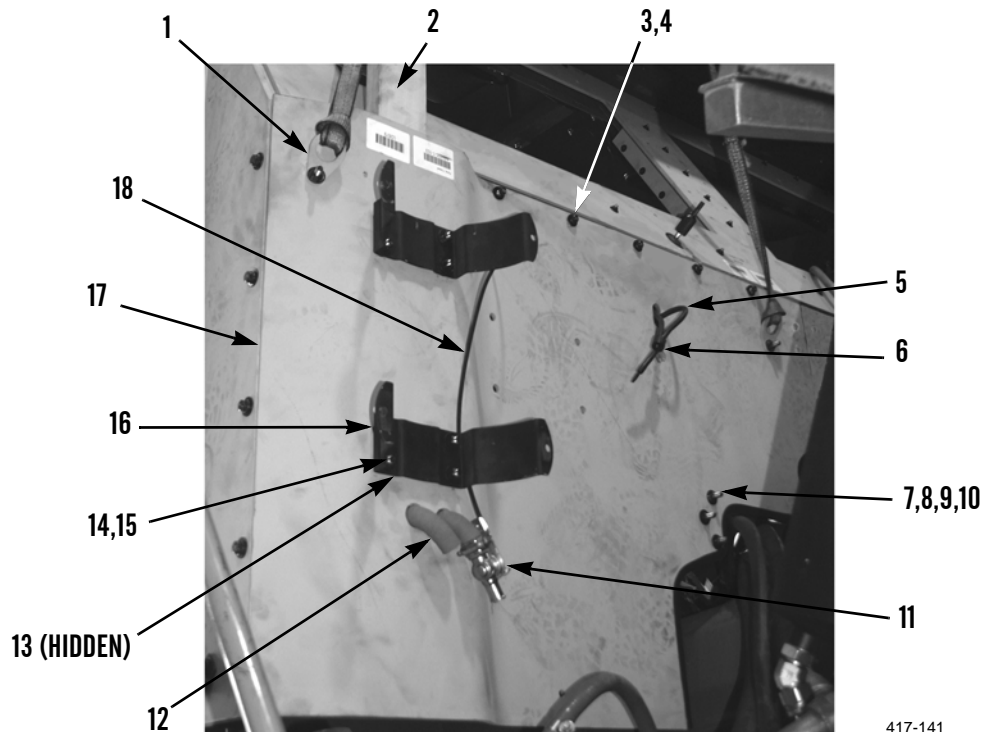


**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

- The right firewall weighs 113 lb (51 kg).
  - While removing right firewall, feed heater hose elbows (12), heater control cable (13), and washer hoses (5) through right firewall.
9. Using lifting device, remove right firewall (17) from vehicle.



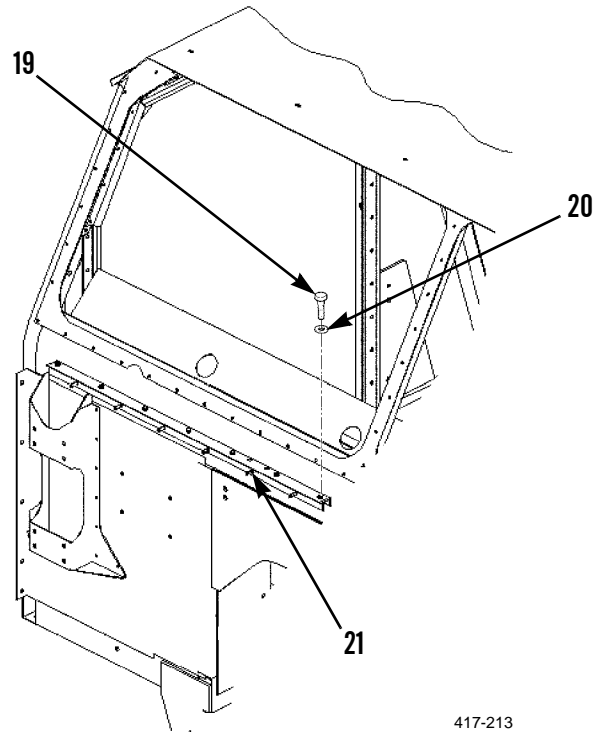
417-141

**RIGHT-SIDE FIREWALL ARMOR REPLACEMENT - CONTINUED**

0021 00

**REMOVAL - CONTINUED**

10. Remove seven bolts (19), washers (20), and firewall bracket (21) from firewall.



417-213

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Install firewall bracket (21), seven washers (20), and bolts (19) on firewall.

**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

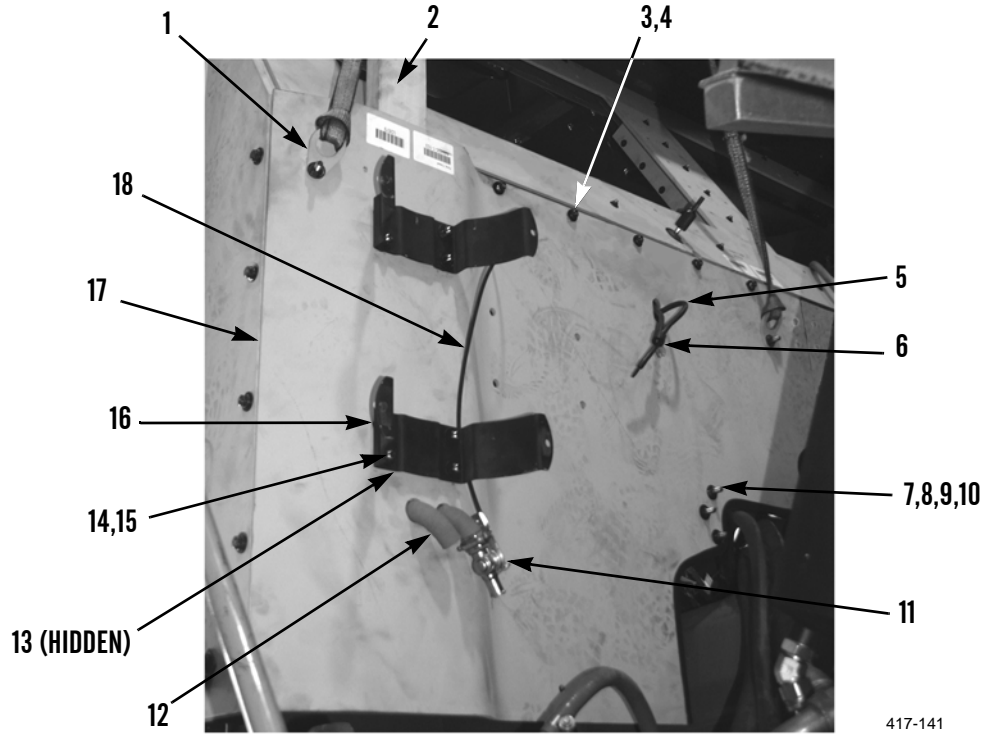
**NOTE**

The right firewall weighs 113 lb (51 Nm).

2. Using sling and lifting device, install right firewall (17) on vehicle.
3. Feed heater control cable (18), windshield washer hoses (5), and two heater hose elbows (12) through firewall (17).
4. Connect heater control cable (18) to heater control valve (11).
5. Install washer hose clamp (6), five washers (4), and new locknuts (3) on right firewall (17).

**INSTALLATION - CONTINUED**

6. Install three washers (10), bolts (9), washers (8), and new locknuts (7) on vehicle.
7. Install 24 washers (13), two power steering brackets (16), eight washers (15), and new locknuts (14).
8. Remove sling from lifting eyes (1) and 2x4 block of wood (2).
9. Install power steering reservoir on right firewall (TM 9-2320-360-20).
10. Connect heater hose and heater control valve (11) to heater hose elbows (12) (TM 9-2320-360-20).



11. Install windshield washer bracket and reservoir on right firewall (TM 9-2320-360-20).
12. Install center hood bumper (TM 9-2320-360-20).

**END OF WORK PACKAGE**

---

**LEFT-SIDE FIREWALL ARMOR REPLACEMENT**

---

**0022 00**

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Sling, Nylon (Item 7, WP 0041 00)

Device, Lifting (500-lb capacity)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (18)

**References**

WP 0011 00

WP 0027 00

**Personnel Required**

Two

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

If equipped, Ether Bottle removed (TM 9-2320-360-20)

Ether Bottle Hose disconnected (TM 9-2320-360-20)

Air Cleaner Assembly removed (TM 9-2320-360-20)

Center Hood Bumper removed (TM 9-2320-360-20)

Left Cab Side (Front) Armor removed (WP 0027 00)

---

**REMOVAL**

1. Remove locknut (2), washer (1), bolt (20), washer (21), loop clamp (22), and spacer (23) from left firewall (16).
2. Remove four locknuts (14), washers (15), plate (13), and bracket (12) from left firewall (16). Discard locknuts.
3. Remove three locknuts (18), washers (19), bolts (4), and washers (5). Discard locknuts.
4. Attach sling and lifting device to two lifting eyes (11) on left firewall (17).
5. Remove six locknuts (24) and washers (25) from left firewall (16). Discard locknuts.

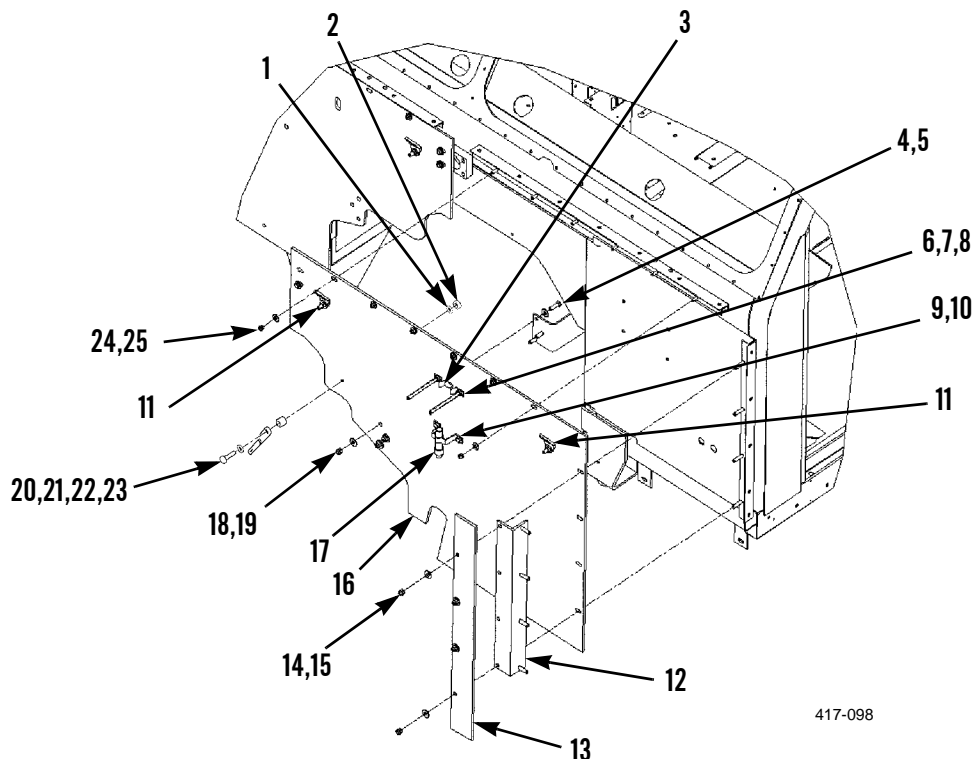
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

The left firewall weighs 106 lb (48 kg).

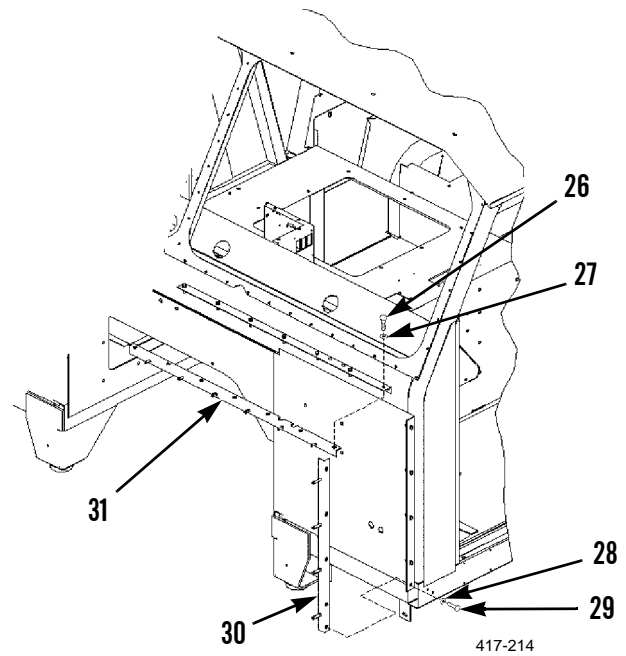
6. Using lifting device, remove left firewall (16) from vehicle.
7. Remove two locknuts (6), nuts (7), studs (8), and bracket (3) from left firewall (16). Discard locknuts.
8. Remove two locknuts (9), bolts (10), and bracket (17) from left firewall (16). Discard locknuts.



417-098

**REMOVAL - CONTINUED**

9. Remove seven bolts (26), washers (27), and firewall bracket (31) from firewall.
10. Remove five bolts (29), washers (28), and firewall bracket (30) from firewall.

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Install firewall bracket (30), five washers (28), and bolts (29) on firewall.
2. Install firewall bracket (31), seven washers (27), and bolts (26) on firewall.

**INSTALLATION - CONTINUED**

3. Install bracket (17), two bolts (10), and new locknuts (9) on left firewall (16).
4. Install bracket (3), two studs (8), nuts (7), and new locknuts (6) on left firewall (16).

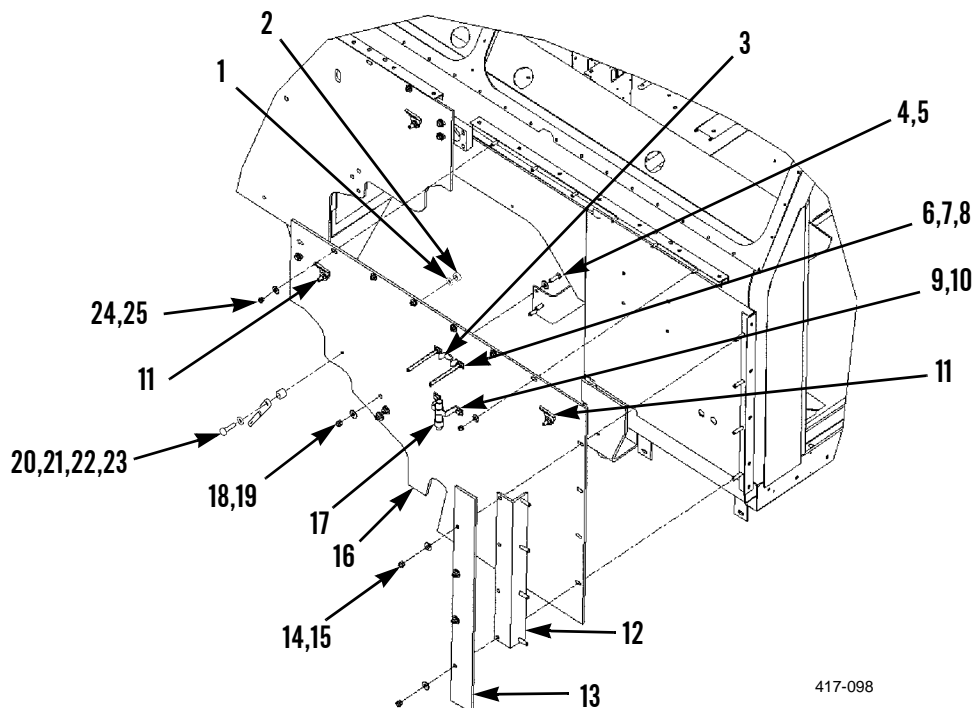
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

The left firewall weighs 106 lb (48 Nm).

5. Using lifting device, install left firewall (16) on vehicle.
6. Install six washers (25) and new locknuts (24) on left firewall (16).
7. Install three washers (5), bolts (4), washers (19), and new locknuts (18) on left firewall (16).
8. Install bracket (13), plate (14), four washers (15), and new locknuts (14) on left firewall (16).
9. Install spacer (23), loop clamp (22), washer (21), bolt (20), washer (1), and new locknut (2).



417-098



---

**LEFT-SIDE FIREWALL ARMOR REPLACEMENT - CONTINUED**

---

**0022 00**

***INSTALLATION - CONTINUED***

10. Connect ether bottle hose (TM 9-2320-360-20).
11. If removed, install ether bottle (TM 9-2320-360-20).
12. Install air cleaner assembly (TM 9-2320-360-20).
13. Install center hood bumper (TM 9-2320-360-20).
14. Install left cab side (front) armor (WP 0027 00).

**END OF WORK PACKAGE**



**ESCAPE HATCH ASSEMBLY MAINTENANCE**

**0023 00**

**THIS WORK PACKAGE COVERS**

Removal, Disassembly, Cleaning and Inspection, Assembly, Installation

**INITIAL SETUP**

**Maintenance Level**

Unit

**Personnel Required**

Two

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Locknut (10)

Engine off (TM 9-2320-360-10)

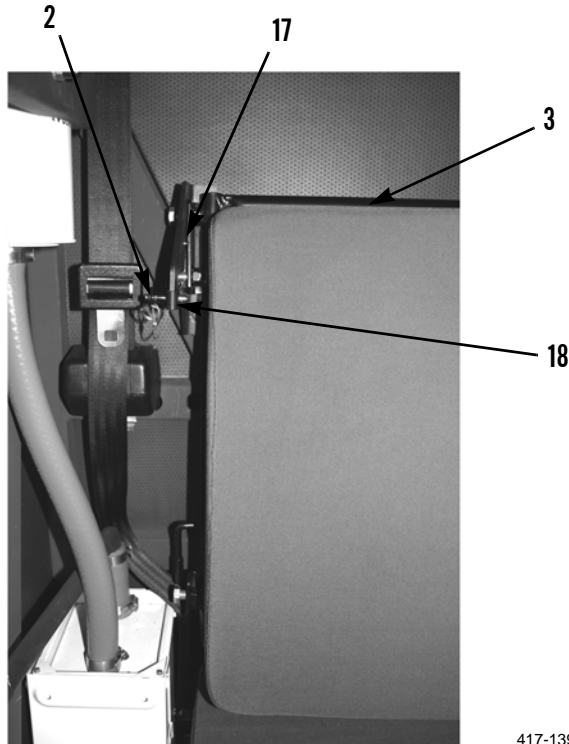
**References**

WP 0011 00

If equipped, Battery Disconnect switch in OFF position (TM 9-2320-360-10)

**REMOVAL**

1. Push button (1) and remove quick release pin (2) on both sides of rear seatback.
2. Pull lower handle (4) on both sides of rear seatback.
3. Pull rear seatback (3) out from bottom and lower onto seat.



417-139

**REMOVAL - CONTINUED****WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

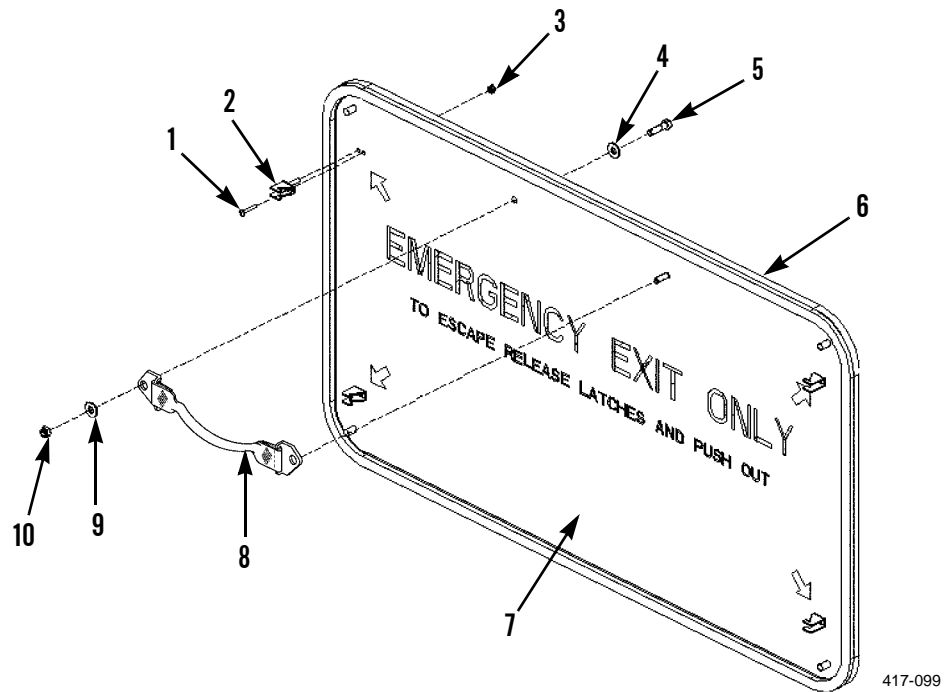
Escape hatch weighs 83 lb (38 kg).

4. With assistance, release four escape hatch latches (6) and remove escape hatch (5) from rear of vehicle.



**DISASSEMBLY**

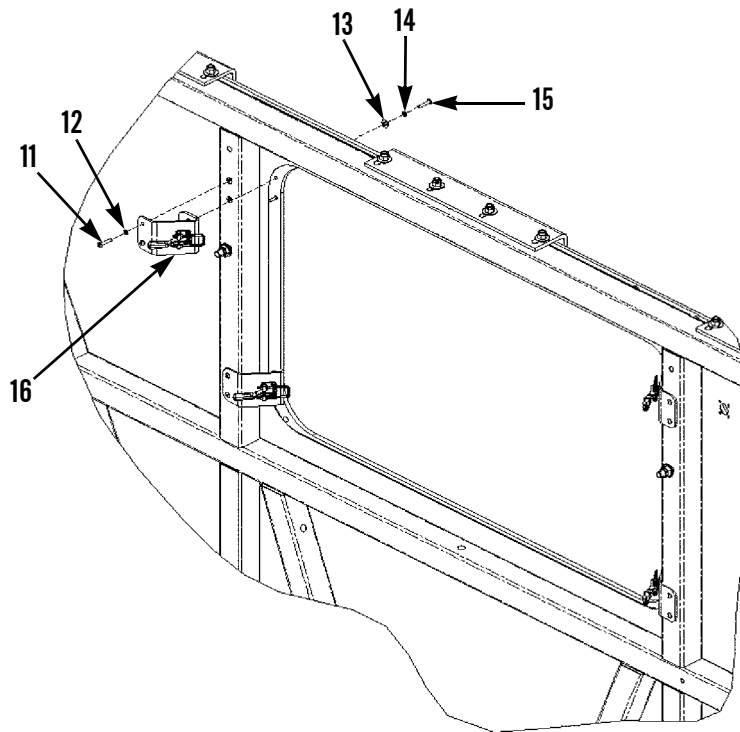
1. Remove eight screws (1), locknuts (3), and four catches (2) from escape hatch (7). Discard locknuts.
2. Remove two locknuts (10), washers (9), bolts (5), washers (4), and grab handle (8) from escape hatch (7). Discard locknuts.
3. If damaged, remove seal (6) from escape hatch (7).



**DISASSEMBLY - CONTINUED****CAUTION**

Use care when removing and installing bolts. Damage to threads (rivnut) may occur.

4. Remove eight bolts (11) and washers (12) from escape hatch latches (16).
5. Remove eight bolts (15), washers (14), washers (13), and four escape hatch latches (16).



417-100

**CLEANING AND INSPECTION**

1. Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).
2. Inspect escape hatch seal for damage. Replace seal if damaged.

**ASSEMBLY****CAUTION**

Use care when removing and installing bolts. Damage to threads (rivnut) may occur.

1. Install four escape hatch latches (16), eight washers (13), washers (14), and bolts (15).
2. Install eight washers (12) and bolts (11) on escape hatch latches (16).
3. Install grab handle (8), two washers (4), bolts (5), washers (9), and new locknuts (10) on escape hatch (7).
4. Install four catches (2), eight screws (1), and new locknuts (3) on escape hatch (7).

**INSTALLATION****WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

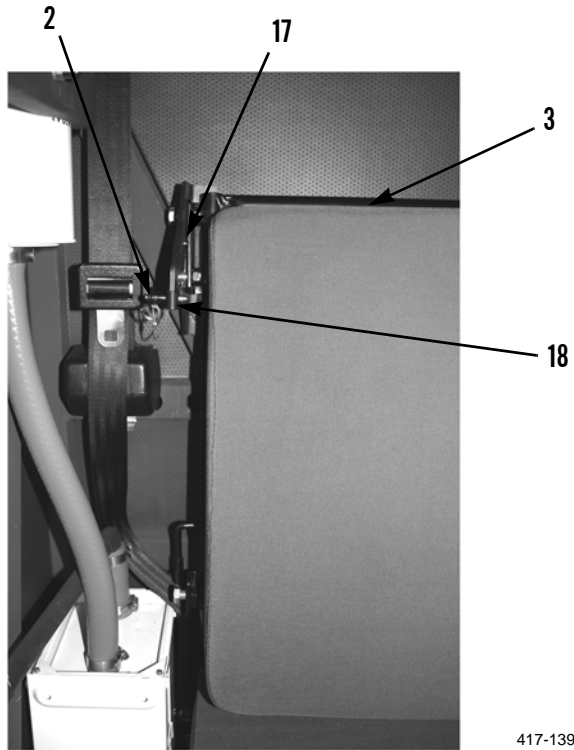
Escape hatch weighs 83 lb (38 kg).

1. With assistance, install escape hatch (7) and close four escape hatch latches (16).



***INSTALLATION - CONTINUED***

2. Position rear seatback (3) into quick release brackets (17), raise two release bars (18), and install two pins (2).
3. Push bottom of seatback (3) inward to engage bottom latches.



417-139

**END OF WORK PACKAGE**



---

**ROOF ARMOR REPLACEMENT**

**0024 00**

---

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Dispenser, Sealant (Item 2, WP 0041 00)

Sling, Nylon (Item 7, WP 0041 00)

Device, Lifting (1000-lb capacity)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Sealing compound, Urethane (Item 7, WP 0042 00)

Locknut (68)

**References**

WP 0011 00

**Personnel Required**

Two

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-364-10)

If equipped, Battery Disconnect switch in OFF position (TM 9-2320-360-10)

Beacon Light and Bracket removed (TM 9-2320-390-20)

---

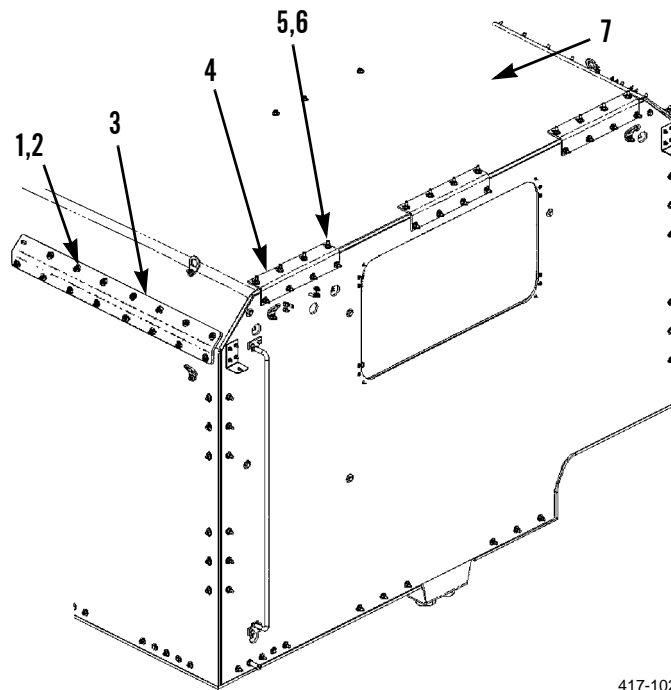
**REMOVAL****NOTE**

- Vehicle shown below has two long brackets (3). Some vehicles have four shorter brackets.
- Note location of washers for correct installation.

1. Remove 32 locknuts (1), washers (2), and two brackets (3) from the left and right edge of roof armor (7). Discard locknuts.
2. Remove 48 washers (2) from studs on left and right side of roof armor (7).
3. Remove 24 locknuts (5), washers (6), and three brackets (4) from the rear of roof armor (7). Discard locknuts.

**NOTE**

Reinstall one locknut on each stud plate. This will keep the stud plates attached to roof armor during removal.



417-102

4. Remove 12 locknuts (10) and washers (11) from center of roof armor (7). Discard locknuts.
5. Remove six locknuts (8) and washers (9) from front edge of roof armor (7). Discard locknuts.
6. Attach sling and lifting device to four lifting eyes (12) on roof armor (7).

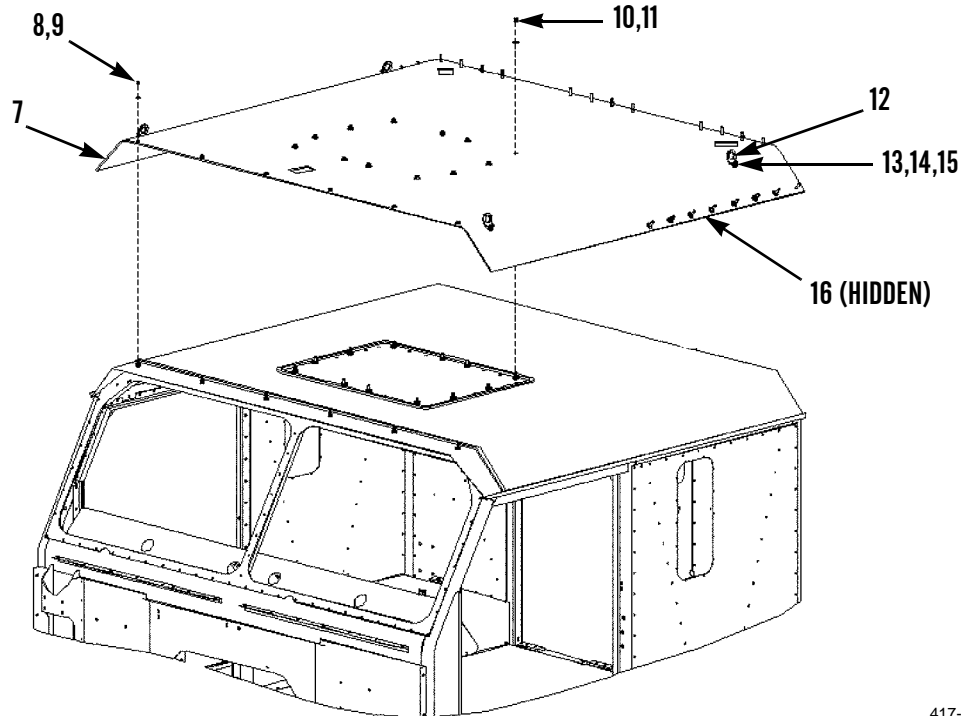
**REMOVAL - CONTINUED****WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Roof armor weighs 406 lb (184 kg).

7. Using lifting device, remove roof armor (7) from cab roof.
8. Remove seven locknuts (1) and stud plates (16) from roof armor (7). Discard locknuts.
9. Remove sling and lifting device from roof armor (7).
10. Remove four locknuts (13), washers (14), bolts (15), and lifting eyes (12) from roof armor (7).



417-101

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Install four lifting eyes (12), bolts (15), washers (14), and new locknuts (13) on roof armor (7).

**WARNING**

Use caution when using adhesives and sealants. Prolonged inhalation of vapors can cause lung irritation. Contact with skin can cause dermatitis. Wear gloves and safety goggles and use product in a well-ventilated area away from open flame. If ingested, keep individual calm and seek medical attention. DO NOT induce vomiting. If contact with skin or eyes is made, flush thoroughly with water. Dispose of cleanup rags IAW local policy and ordinances. Failure to follow this warning may cause injury to personnel.

2. Apply sealant (17) along front edge and around opening in center of existing roof panel.

**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Roof armor weighs 406 lb (184 kg).

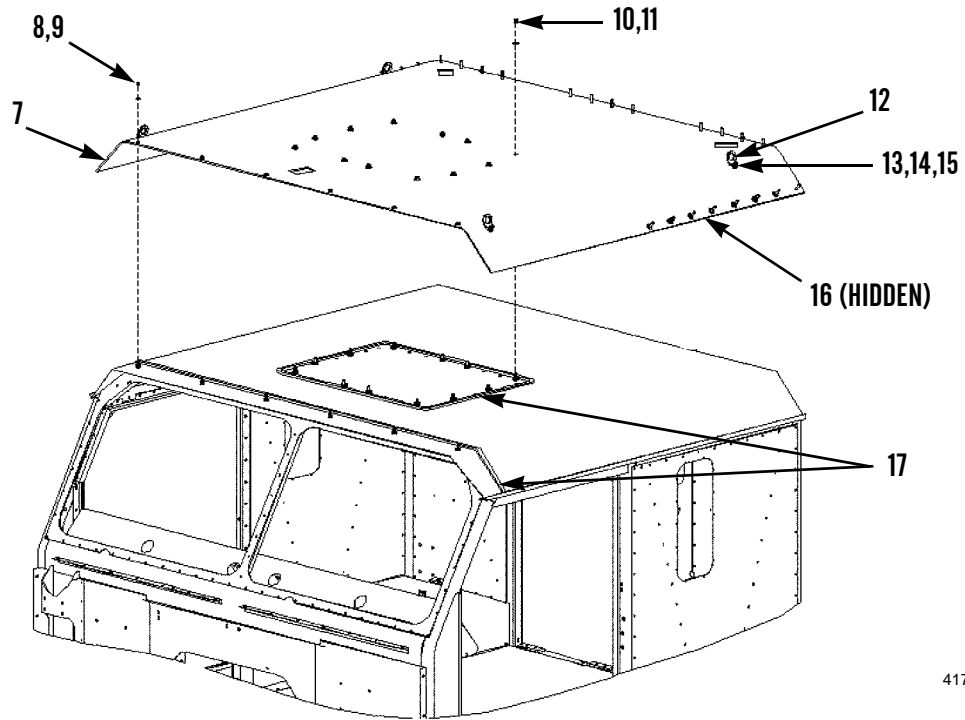
3. Attach sling and lifting device to four lifting eyes (12).

**NOTE**

Hold stud plates to roof armor with one loosely installed locknut on each stud plate.

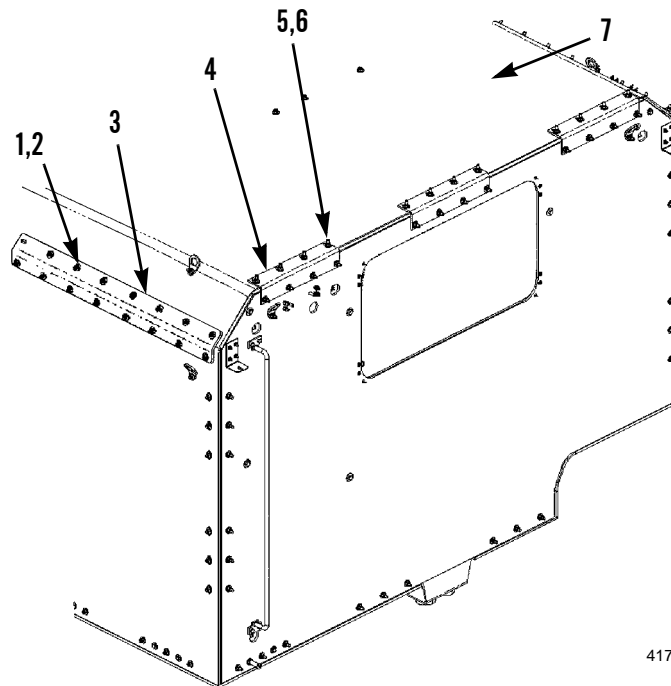
4. Using lifting device, raise roof armor (7) and install seven stud plates (16) on roof armor.
5. Using lifting device, install roof armor (7) on cab roof, aligning holes in roof armor with studs on cab roof.
6. Remove sling and lifting device from roof armor (7).
7. Install six washers (9) and new locknuts (8) on front edge of roof armor (7). Tighten locknuts to 9 lb-ft (12 Nm).
8. Install 12 washers (11) and new locknuts (10) in center of roof armor (7). Tight locknuts to 35 lb-ft (47 Nm).
9. Remove loosely installed locknuts on stud plates (13) and install three brackets (4), 24 washers (6), and new locknuts (5) on rear edge of roof armor (7). Tighten locknuts to 23 lb-ft (31 Nm).
10. Install 48 washers (2) on studs on left and right side of roof armor (3).

INSTALLATION - CONTINUED



417-101

11. Install two brackets (3), 64 washers (2), and 32 new locknuts (1) on right and left edge of roof armor (7). Tighten locknuts to 23 lb-ft (31 Nm).



417-102

12. Install beacon light and bracket (TM 9-2320-360-20).

**END OF WORK PACKAGE**



---

**REAR CAB ARMOR MAINTENANCE**

**0025 00**

---

**THIS WORK PACKAGE COVERS**

Removal, Disassembly, Cleaning and Inspection, Assembly, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Sling, Nylon (Item 7, WP 0041 00)

Device, Lifting (500-lb capacity)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (55)

**References**

WP 0011 00

WP 0032 00

**Personnel Required**

Two

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

Escape Hatch removed (WP 0023 00)

Beacon Light and Bracket removed (TM 9-2320-360-20)

Spare Tire removed (TM 9-2320-360-10)

Spare Tire Pulley and Tire Mount Bracket removed (WP 0036 00)

Exhaust Stack Support removed (TM 9-2320-360-20)

Rear Seat Belt Shoulder Straps removed (TM 9-2320-360-20)

---

**REAR CAB ARMOR MAINTENANCE - CONTINUED**

0025 00

**REMOVAL**

1. Lower center blast deflector to gain access to two locknuts (13) (WP 0032 00).
2. Remove 12 locknuts (1), washers (2), and roof panel brackets (3) from top of rear cab armor (6). Discard locknuts.
3. Remove six locknuts (4) and washers (5) from right edge of rear cab armor (6). Discard locknuts.
4. Remove nine locknuts (7) and washers (8) from bottom edge of rear cab armor (6). Discard locknuts.
5. Remove two locknuts (13), washers (12), spacers (9), washers (10), and bolts (11) from bottom edge of rear cab armor (6). Discard locknuts.
6. Install sling and lifting device on two lifting eyes (21).
7. Remove six locknuts (18) and washers (19) from left edge of rear cab armor (6). Discard locknuts.
8. Remove four locknuts (14), washers (15), bolts (17), spacers (16), and grab handle (20) from rear cab armor (6). Discard locknuts.

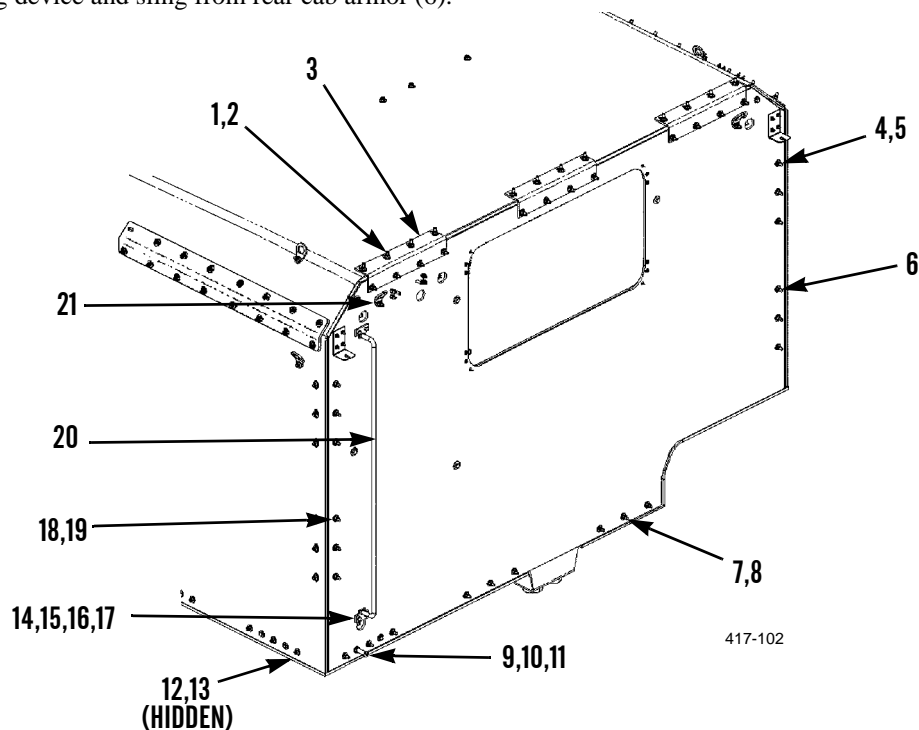
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Rear cab armor weighs 445 lb (202 kg).

9. Using lifting device, remove rear cab armor (6) from vehicle.
10. Remove lifting device and sling from rear cab armor (6).



417-102



**REAR CAB ARMOR MAINTENANCE - CONTINUED****0025 00****DISASSEMBLY**

1. Remove six nuts (22) and two antenna mounts (23) from rear cab armor (6).
2. Remove 12 locknuts (34), washers (35), three brackets (24), and stud plates (25) from rear cab armor (6). Discard locknuts.
3. Remove two locknuts (32), washers (33), lifting eyes (21), bolts (26), and washers (27) from rear cab armor (6). Discard locknuts.
4. Remove eight locknuts (30), washers (31), screws (28), and two light brackets (29) from rear cab armor (6). Discard locknuts.

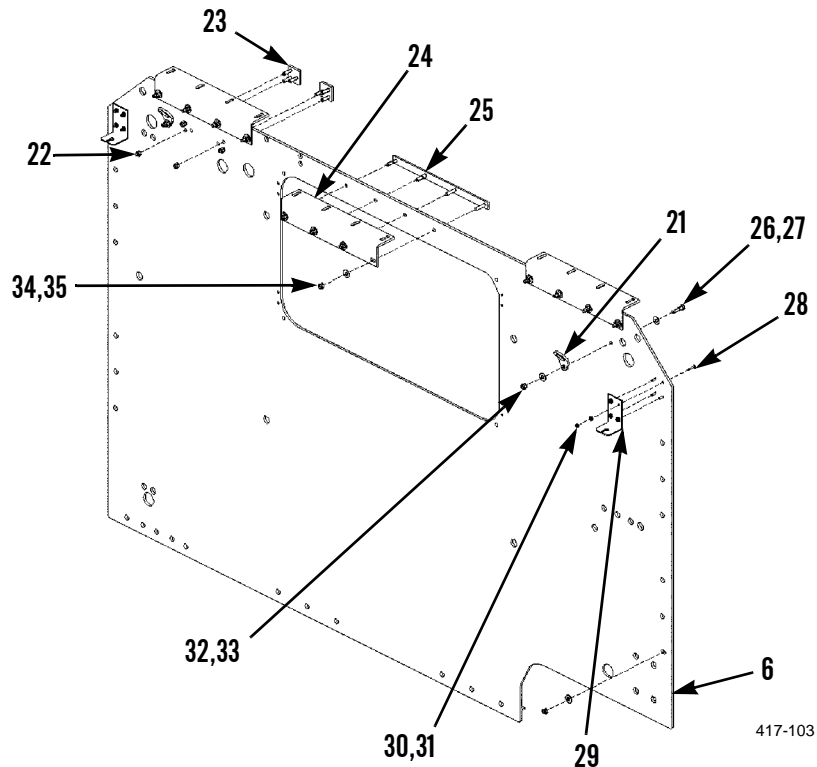
**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**ASSEMBLY****CAUTION**

DO NOT over torque locknuts on stud plates. Failure to follow this caution may cause damage to studs.

1. Install two light brackets (29), eight screws (28), washers (31), and new locknuts (30) on rear cab armor (6).
2. Install two lifting eyes (21), washers (27), bolts (26), washers (33), and new locknuts (32). Tighten locknuts to 35 lb-ft (48 Nm).
3. Install three brackets (24), stud plates (25), 12 washers (35), and new locknuts (34) on rear cab armor (6). Tighten locknuts to 23 lb-ft (31 Nm).
4. Install two antenna mounts (23) and six nuts (22) on rear cab armor (6). Tighten nuts to 27 lb-ft (37 Nm).



**INSTALLATION**

1. Install sling and lifting device to lifting eyes (21).

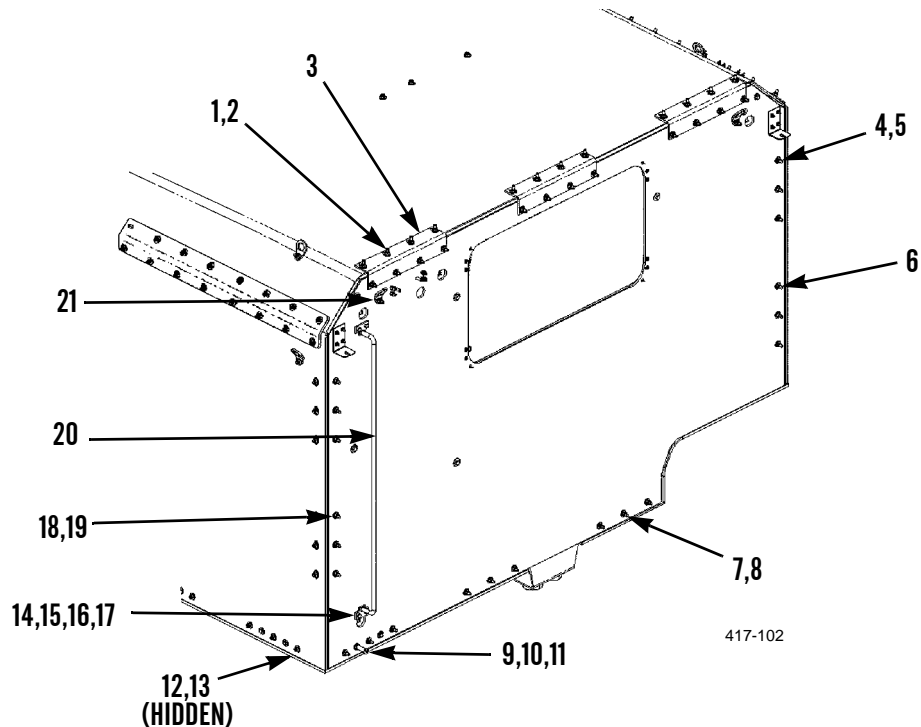
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Rear cab armor weighs 445 lb (202 kg).

2. Using lifting device, install rear cab armor (6) on vehicle.
3. Install six washers (19) and new locknuts (18) on rear cab armor (6). Tighten locknuts to 23 lb-ft (31 Nm).
4. Install nine washers (8) and new locknuts (7) on rear cab armor (6). Tighten locknuts to 23 lb-ft (31 Nm).
5. Install six washers (5) and new locknuts (4) on rear cab armor (6). Tighten locknuts to 23 lb-ft (31 Nm).
6. Install three roof panel brackets (3), 12 washers (2), and new locknuts (1) on rear cab armor (6). Tighten locknuts to 23 lb-ft (31 Nm).
7. Install two spacers (9), washers (10), bolts (11), washers (12), and new locknuts (13) on bottom edge of rear cab armor (6).
8. Install grab handle (20), four bolts (17), washers (15), and new locknuts (14) on rear cab armor (6).



417-102

---

**REAR CAB ARMOR MAINTENANCE - CONTINUED**

---

**0025 00**

***INSTALLATION - CONTINUED***

9. Install escape hatch (WP 0023 00).
10. Install beacon light and bracket (TM 9-2320-360-20).
11. Install center blast deflector (WP 0032 00).
12. Install spare tire pulley and tire mount bracket (WP 0036 00).
13. Install spare tire (TM 9-2320-360-10)
14. Install exhaust stack support (TM 9-2320-360-20)
15. Install rear grab handle (TM 9-2320-360-20).
16. Install rear seat belt shoulder straps (TM 9-2320-360-20).

**END OF WORK PACKAGE**



---

**RIGHT CAB SIDE (FRONT) ARMOR AND DOOR HINGE MAINTENANCE**

---

**0026 00**

**THIS WORK PACKAGE COVERS**

Removal, Disassembly, Cleaning and Inspection, Assembly, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Personnel Required**

Two

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)  
 Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)  
 Parking/Emergency Brake applied (TM 9-2320-360-10)  
 Engine off (TM 9-2320-360-10)  
 If equipped, Battery Disconnect switch in OFF position (TM 9-2320-360-10)  
 Right Door assembly removed (WP 0015 00)  
 Right Firewall Armor removed (WP 0021 00)  
 Right Step removed (WP 0033 00)  
 Right Blast Deflector removed (WP 0031 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)  
 Trim Seal (Item 11, WP 0042 00)  
 Locknut (26)  
 Lockwasher (4)

**References**

WP 0011 00

---

**REMOVAL**

1. Remove two bolts (5), washers (6), sleeve bushings (7), washers (9), and locknuts (8) from right cab side armor assembly (13). Discard locknuts.
2. Remove 12 bolts (4) from right cab side armor assembly (13).

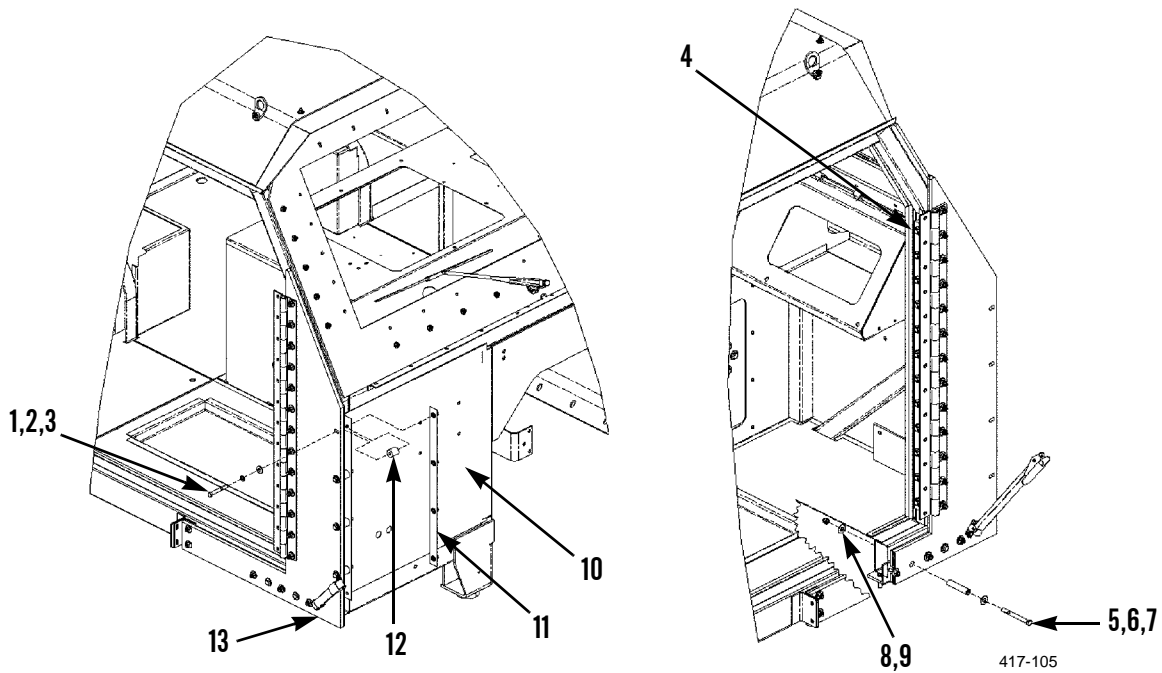
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

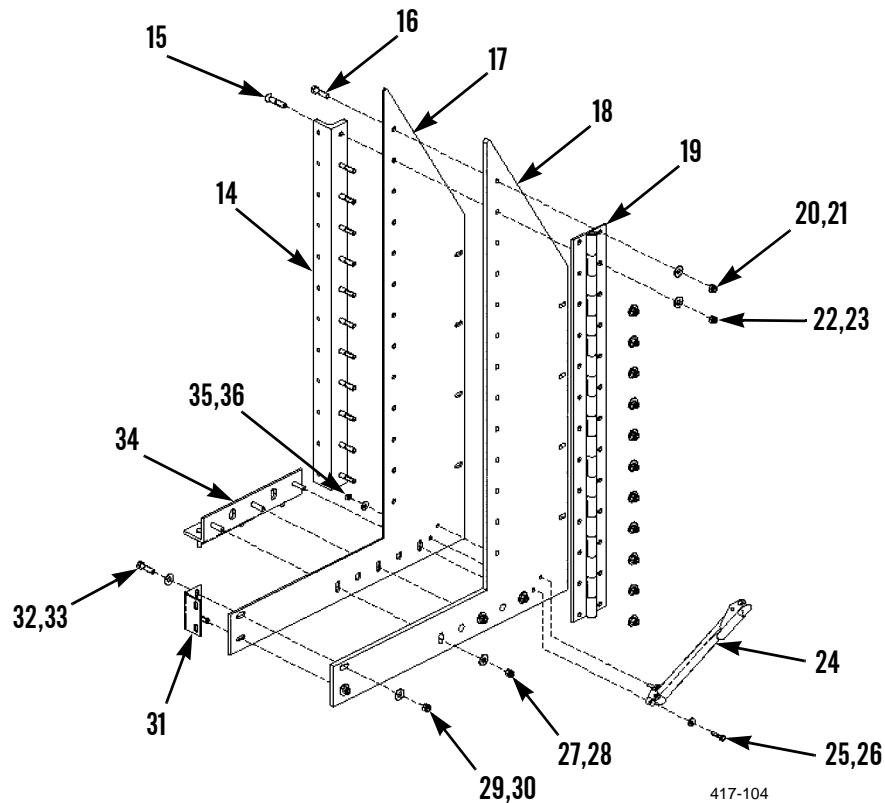
Cab side armor assembly weighs 80 lb (36 kg).

3. With assistance remove four bolts (1), lockwashers (2), washers (3), and right cab side armor assembly (13) from vehicle.
4. Remove spacers (12) and bracket (11) from firewall (10).



**DISASSEMBLY**

1. Remove locknut (20), washer (21), and bolt (16) from hinge (19). Discard locknut.
2. Remove 12 locknuts (22), washers (23), bolts (15), hinge (19), and bracket (14). Discard locknuts.
3. Remove two locknuts (35), washers (36), bolts (25), washers (26), and engine cover latch (24). Discard locknuts.
4. Remove two locknuts (29), washers (30), bolts (32), washers (33), and step bracket (31). Discard locknuts.
5. Remove three locknuts (27), washers (28), and bracket (34). Discard locknuts.
6. Separate hinge (19), bracket (14), inner side armor panel (17), and outer side armor panel (18).

**CLEANING AND INSPECTION**

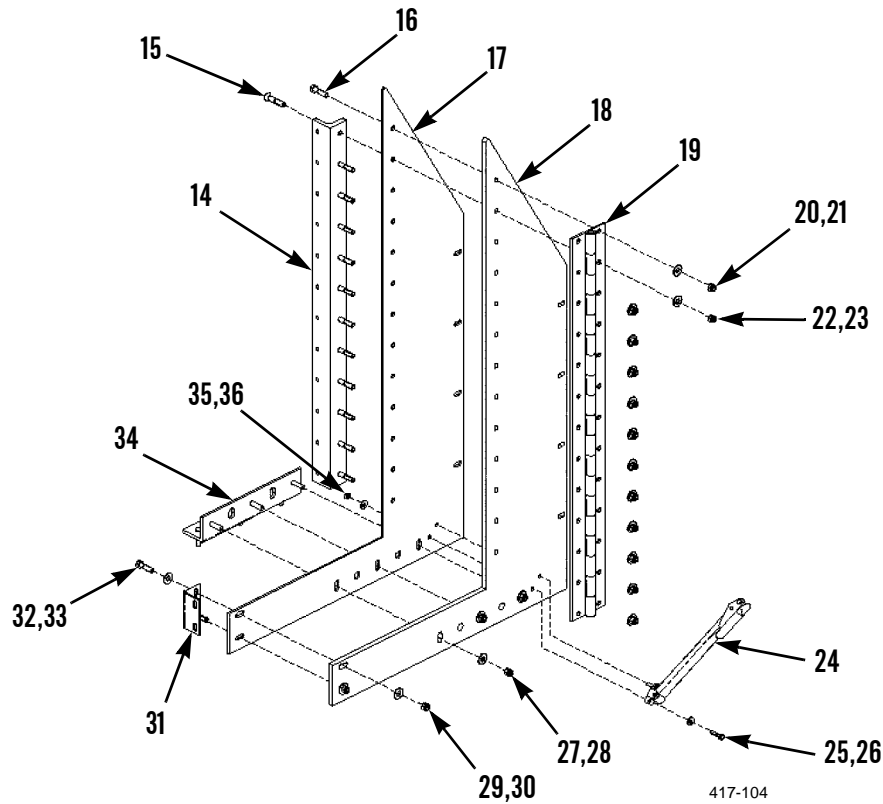
Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

## ASSEMBLY

**NOTE**

Make sure cab side armor is assembled in correct order and has correct orientation. Thicker armor panel (18) is installed on the outside of the thinner armor panel (17).

1. Assemble bracket (14), hinge (19), outer side armor panel (18), and inner side armor panel (17).
2. Install 12 bolts (15), washers (23), and new locknuts (22) on hinge (19). Tighten locknuts to 35 lb-ft (48 Nm).
3. Install bolt (16), washer (21), and new locknut (20) on hinge (19). Tighten locknut to 35 lb-ft (48 Nm).
4. Install engine cover latch (24), two washers (26), bolts (25), washers (36), and new locknuts (35). Tighten locknuts to 11 lb-ft (15 Nm).
5. Install bracket (34), three washers (28), and new locknuts (27).
6. Install step bracket (31), two washers (33), bolts (32), washers (30), and new locknuts (29). Hand-tighten locknuts.
7. Install trim seal on inner side armor panel (17) from top of bracket (14) to top of panel (17).





**INSTALLATION**

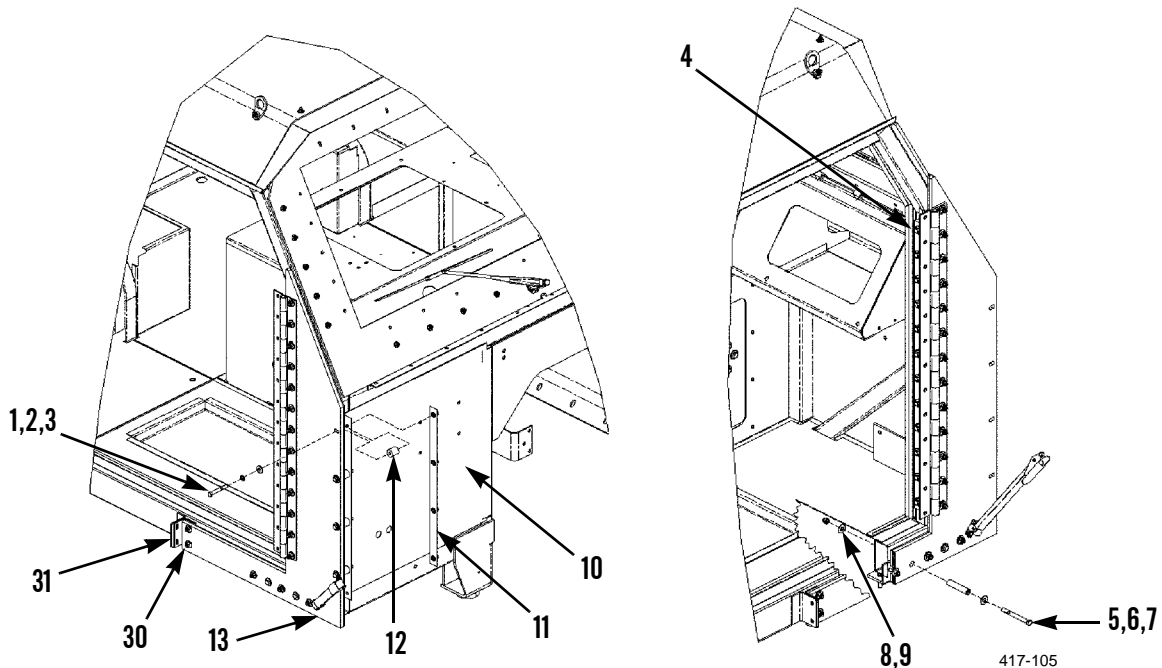
1. Use sealing compound to attach four spacers (12) to side of cab.

**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

- Side armor assembly weighs 80 lb (36 kg).
  - Make sure spacers are aligned with four bolt holes.
2. With assistance, install cab side armor assembly (13), four washers (3), new lockwashers (2), bolts (1), and bracket (11) on firewall (10). Tighten bolts to 23 lb-ft (31 Nm).
  3. Install two sleeve bushings (7), washers (6), bolts (5), washers (9), and new locknuts (8) on cab side armor assembly (13). Tighten locknuts to 35 lb-ft (48 Nm).
  4. Install 12 bolts (4) on cab side armor assembly (13). Tighten bolts to 18 lb-ft (24 Nm).
  5. Align bolt holes in bracket (31) and tighten two locknuts (30) to 35 lb-ft (48 Nm).



6. Install door assembly (WP 0015 00).
7. Install right firewall armor (WP 0021 00).
8. Install right step (WP 0033 00).
9. Install right blast deflector (WP 0031 00).

**END OF WORK PACKAGE**



---

**LEFT CAB SIDE (FRONT) ARMOR AND DOOR HINGE MAINTENANCE**

---

**0027 00**

**THIS WORK PACKAGE COVERS**

Removal, Disassembly, Cleaning and Inspection, Assembly, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Personnel Required**

Two

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)  
 Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)  
 Parking/Emergency Brake applied (TM 9-2320-360-10)  
 Engine off (TM 9-2320-360-10)  
 If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)  
 Left Door assembly removed (WP 0015 00)  
 Left Step removed (WP 0033 00)  
 Left Blast Deflector removed (WP 0030 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)  
 Trim Seal (Item 11, WP 0042 00)  
 Locknut (26)

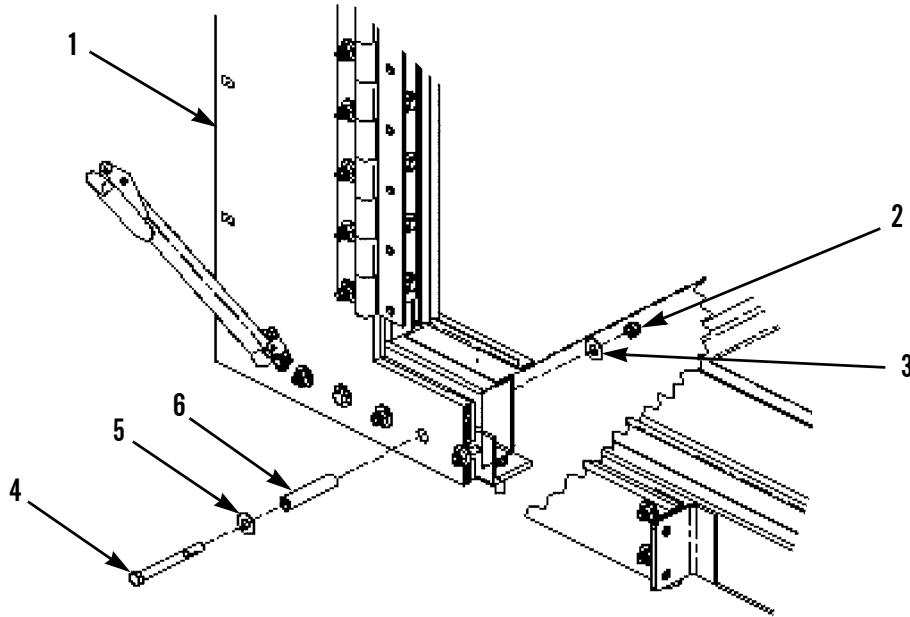
**References**

WP 0011 00

---

**REMOVAL**

1. Remove two locknuts (2), washers (3), bolts (4), washers (5), and sleeve bushings (6) from left cab side armor assembly (1). Discard locknuts.



417-216

**REMOVAL - CONTINUED**

- Remove 12 bolts (9) from left side cab armor assembly (1).

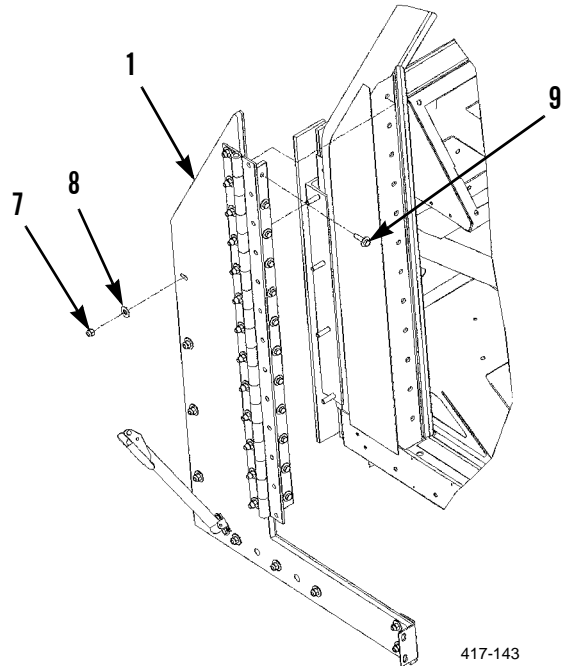
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Cab side armor assembly weighs 80 lb (36 kg).

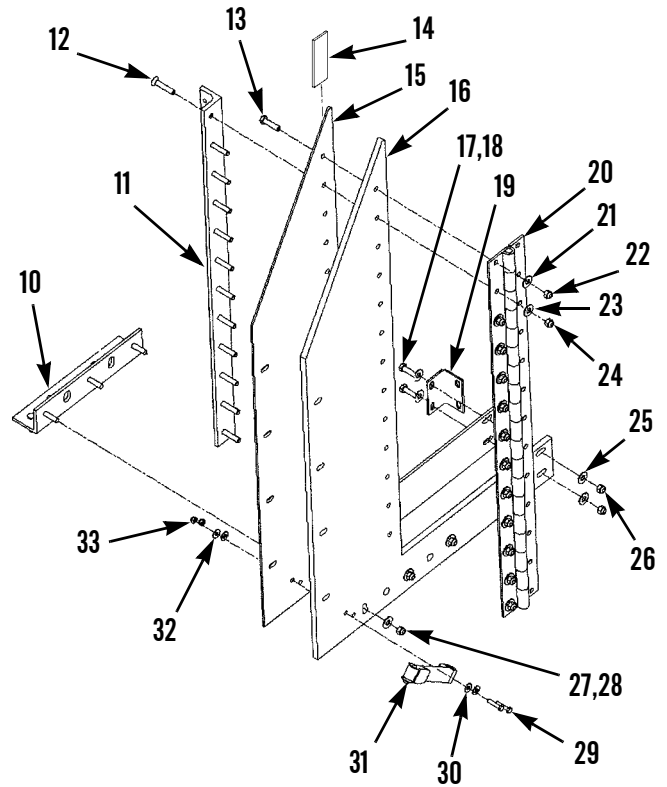
- With assistance, remove four locknuts (7), washers (8), and left cab side armor assembly (1) from vehicle. Discard locknuts.



417-143

**DISASSEMBLY**

1. Remove locknut (22), washer (21), and bolt (13) from hinge (20). Discard locknut.
2. Remove 12 locknuts (24), washers (23), bolts (12), hinge (20), and bracket (11). Discard locknuts.
3. Remove two locknuts (33), washers (32), bolts (29), washers (30), and engine cover latch (31). Discard locknuts.
4. Remove two locknuts (26), washers (25), bolts (17), washers (18), and step bracket (19). Discard locknuts.
5. Remove three locknuts (27), washers (28), and bracket (10). Discard locknuts.
6. Separate hinge (20), inner side armor panel (15), and outer side armor panel (16).
7. If damaged, remove trim seal (14) from inner side armor panel (15).



417-142

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**ASSEMBLY****NOTE**

- Make sure cab side armor is assembled in correct order and has correct orientation. Thicker armor panel (16) is installed on the outside of the thinner armor panel (15).
- Make sure all holes are aligned before tightening hardware.

1. Assemble hinge (20), outer side armor panel (16), inner side armor panel (15), and bracket (11).
2. Install 12 bolts (12), washers (23), and new locknuts (24) on hinge (20). Tighten locknuts to 35 lb-ft (48 Nm).
3. Install bolt (13), washer (21), and new locknut (22) on hinge (20). Tighten locknut to 35 lb-ft (48 Nm).
4. Install engine cover latch (31), two washers (30), bolts (29), washers (32), and new locknuts (33). Tighten locknuts to 11 lb-ft (15 Nm).
5. Install bracket (10), three washers (28), and new locknuts (27).
6. Install step bracket (19), two washers (18), bolts (17), washers (25), and new locknuts (26). Hand-tighten locknuts.
7. If removed, install trim seal (14) on inner side armor panel (15) from top of bracket (11) to top of inner side armor panel (15).

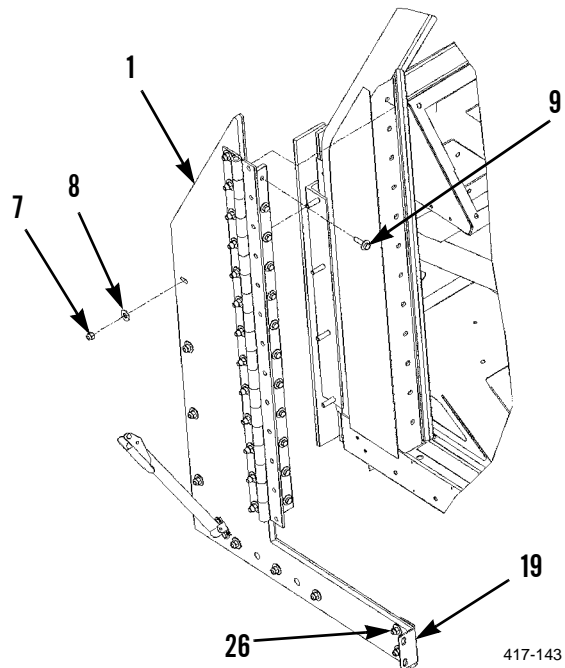
**INSTALLATION****WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

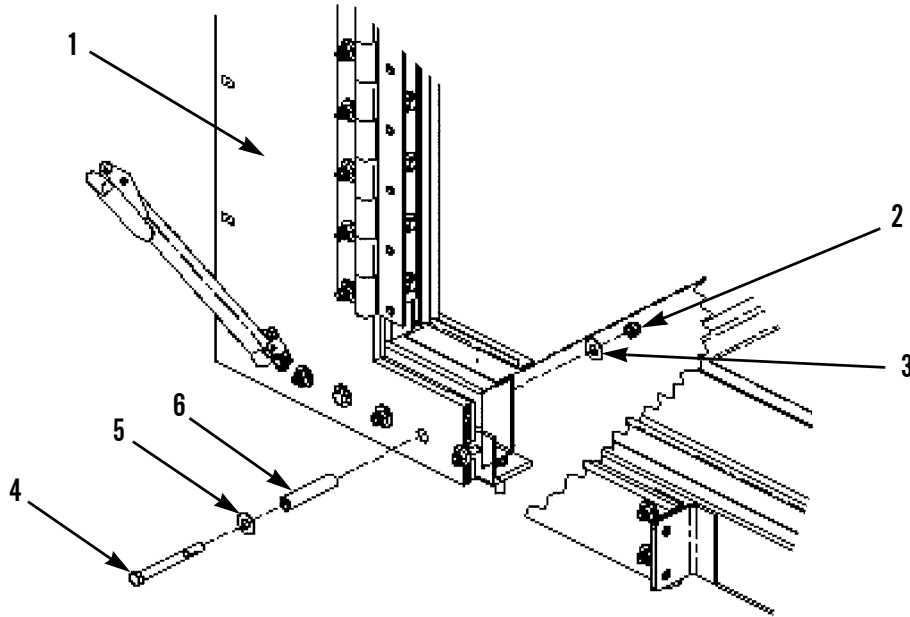
Side armor assembly weighs 80 lb (36 kg).

1. With assistance, install left cab side armor assembly (1), four washers (8), and new locknuts (7). Tighten locknuts to 23 lb-ft (31 Nm).
2. Install 12 bolts (9) on cab side armor assembly (1). Tighten bolts to 18 lb-ft (24 Nm).
3. Align bolts holes in bracket (19) and tighten two locknuts (26) to 35 lb-ft (48 Nm).



**INSTALLATION - CONTINUED**

4. Install two sleeve bushings (6), washers (5), bolts (4), washers (3), and new locknuts (2) on left cab side armor assembly (1). Tighten locknuts to 35 lb-ft (48 Nm).



417-216

5. Install left door assembly (WP 0015 00).
6. Install left step (WP 0033 00).
7. Install left blast deflector (WP 0030 00).

**END OF WORK PACKAGE**



---

**RIGHT CAB SIDE (REAR) ARMOR REPLACEMENT**

---

**0028 00****THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP****Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Sling, Nylon (Item 7, WP 0041 00)

Device, Lifting (500-lb capacity)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknuts (45)

**References**

WP 0011 00

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

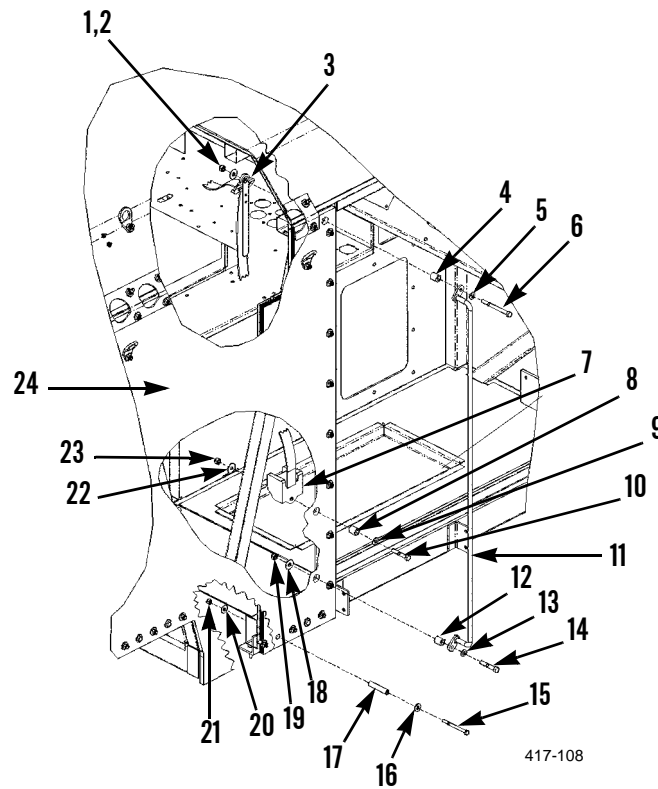
If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

Wheel Well armor removed (WP 0020 00)

---

**RIGHT CAB SIDE (REAR) ARMOR REPLACEMENT - CONTINUED****0028 00****REMOVAL**

1. Remove locknut (1), washer (2), upper seat belt support (3), bolt (6), washer (5), and spacer (4) from cab side (rear) armor (24). Discard locknut.
2. Remove locknut (23), washer (22), seat belt retractor (7), bolt (10), washer (9), and spacer (8) from cab side (rear) armor (24). Discard locknut.
3. Remove locknut (19), washer (18), bolt (14), washer (13), grab handle (11), and spacer (12) from cab side (rear) armor (24). Discard locknut.
4. Remove four locknuts (21), washers (20), bolts (15), washers (16), and sleeve bushings (17) from cab side (rear) armor (24). Discard locknuts.



**REMOVAL - CONTINUED**

5. Attach sling and lifting device to two lifting eyes (29).
6. Remove eight locknuts (25) and washers (26) from cab side (rear) armor (24). Discard locknuts.

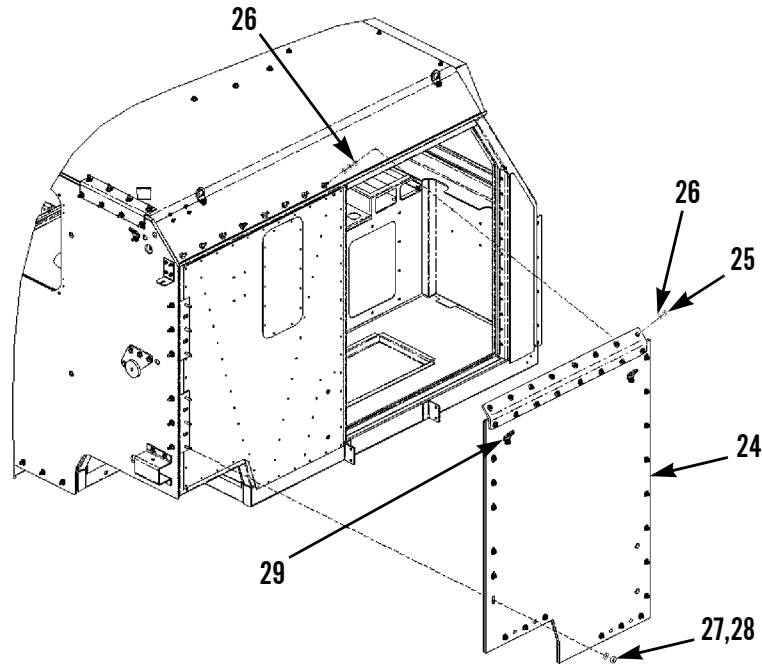
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Cab side (rear) armor weighs 240 lb (109 kg).

7. Remove six locknuts (27), washers (28), and cab side (rear) armor (24) from vehicle. Discard locknuts.
8. Remove 24 washers (26) from studs along right side of roof armor.
9. Remove sling and lifting device from right cab side (rear) armor (24).



417-106

**REMOVAL - CONTINUED****NOTE**

Vehicle shown has one long bracket. Some vehicles may have two short brackets.

10. Remove eight locknuts (38), washers (39), bolts (44), and bracket (37). Discard locknuts.

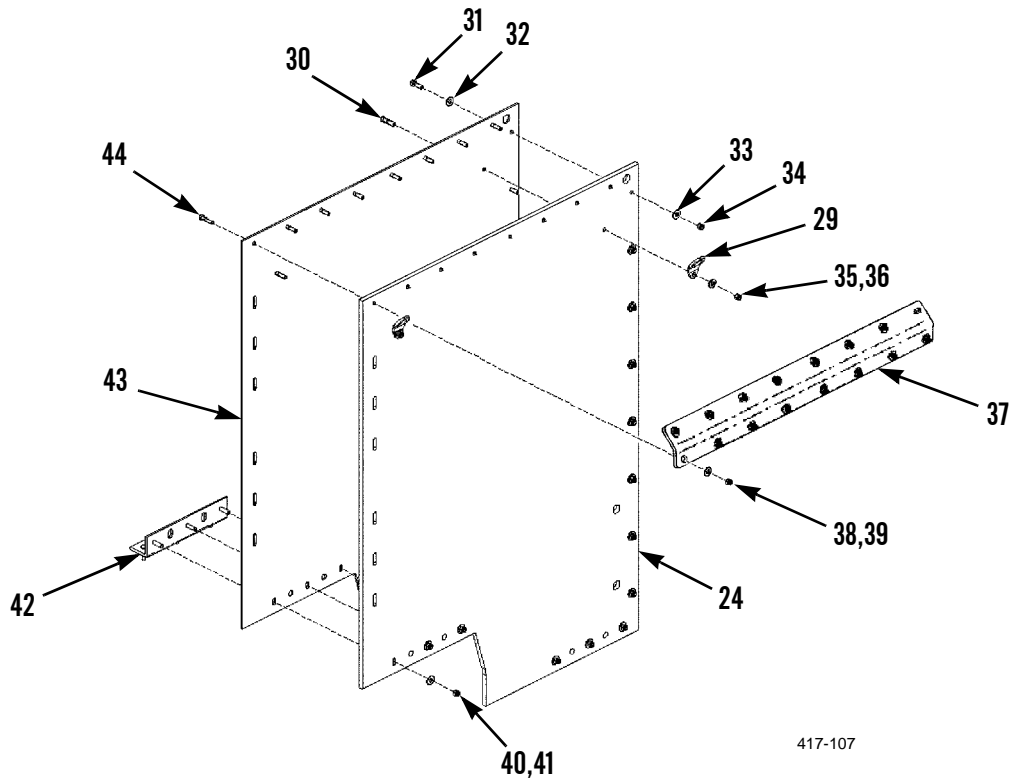
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Cab side (rear) armor weighs 240 lb (109 kg).

11. Remove two locknuts (35), washers (36), bolts (30), and lifting eyes (29). Discard locknuts.
12. Remove eight locknuts (34), washers (33), bolts (31), and washers (32) from cab side (rear) armor (24). Discard locknuts.
13. Remove six locknuts (40), washers (41), and two stud brackets (42) from cab side (rear) armor (24). Discard locknuts.
14. Separate cab side (rear) armor (24) from inner cab side armor (43).

**REMOVAL - CONTINUED****CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION****NOTE**

Thicker panel is on the outside of the thinner panel.

1. Position cab side (rear) armor (24) on outside of inner cab side armor (43) and align bolt holes.
2. Install two stud brackets (42), six washers (41), and new locknuts (40) on cab side (rear) armor (24 and 43).
3. Install eight washers (32), bolts (31), washers (33), and new locknuts (34). Tighten locknuts to 35 lb-ft (48 Nm).
4. Install two bolts (30), lifting eyes (29), washers (36), and new locknuts (35). Tighten locknuts to 35 lb-ft (48 Nm).
5. Install bracket (37), eight bolts (44), washers (39), and new locknuts (38). Tighten locknuts to 35 lb-ft (48 Nm).
6. Install 24 washers (26) on studs along right side of roof armor.

**INSTALLATION - CONTINUED****WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

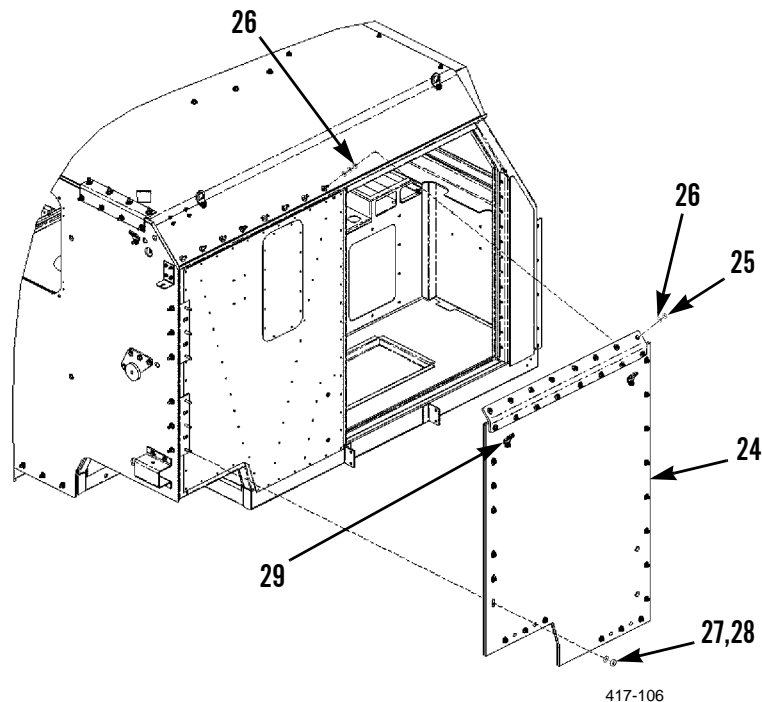
Cab side (rear) armor weighs 240 lb (109 kg).

7. Attach sling and lifting device to lifting eyes (29).

**NOTE**

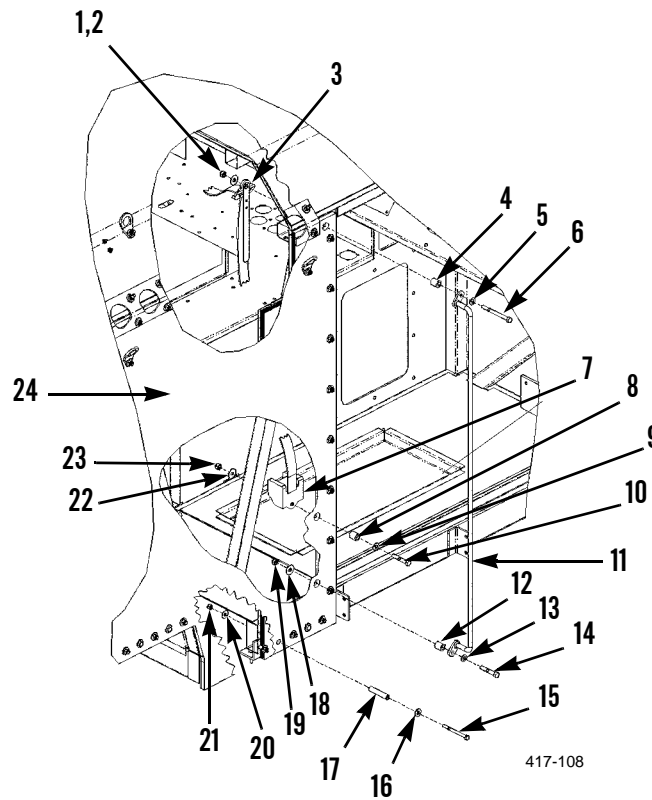
Position top edge of cab side (rear) armor panel below edge of roof.

8. Using lifting device, install cab side (rear) armor (24) on vehicle.
9. Install eight washers (26) and new locknuts (25). Tighten locknuts to 23 lb-ft (31 Nm).
10. Install six washers (28) and new locknuts (27) on cab side (rear) armor (24). Tighten locknuts to 23 lb-ft (31 Nm).



**RIGHT CAB SIDE (REAR) ARMOR REPLACEMENT - CONTINUED****0028 00****INSTALLATION - CONTINUED**

11. Install spacer (12), grab handle (11), washer (13), bolt (14), washer (18), and new locknut (19). Tighten locknut to 55 lb-ft (75 Nm).
12. Install spacer (4), grab handle (11), washer (5), bolt (6), upper seat belt support (3), washer (2), and new locknut (1). Tighten locknut to 7 lb-ft (10 Nm).
13. Install spacer (8), washer (9), bolt (10), seat belt retractor (7), washer (22), and new locknut (23). Tighten locknuts to 35 lb-ft (48 Nm).
14. Install four sleeve bushings (17), washers (16), bolts (15), washers (20), and new locknuts (21) on cab side (rear) armor (24). Tighten locknuts to 35 lb-ft (48 Nm).



15. Remove sling and lifting device from right cab side (rear) armor (24).
16. Install wheel well armor (WP 0020 00).

**END OF WORK PACKAGE**





---

**LEFT CAB SIDE (REAR) ARMOR REPLACEMENT**

---

0029 00

**THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP****Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Sling, Nylon (Item 7, WP 0041 00)

Device, Lifting (500-lb capacity)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknuts (45)

**References**

WP 0011 00

WP 0032 00

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

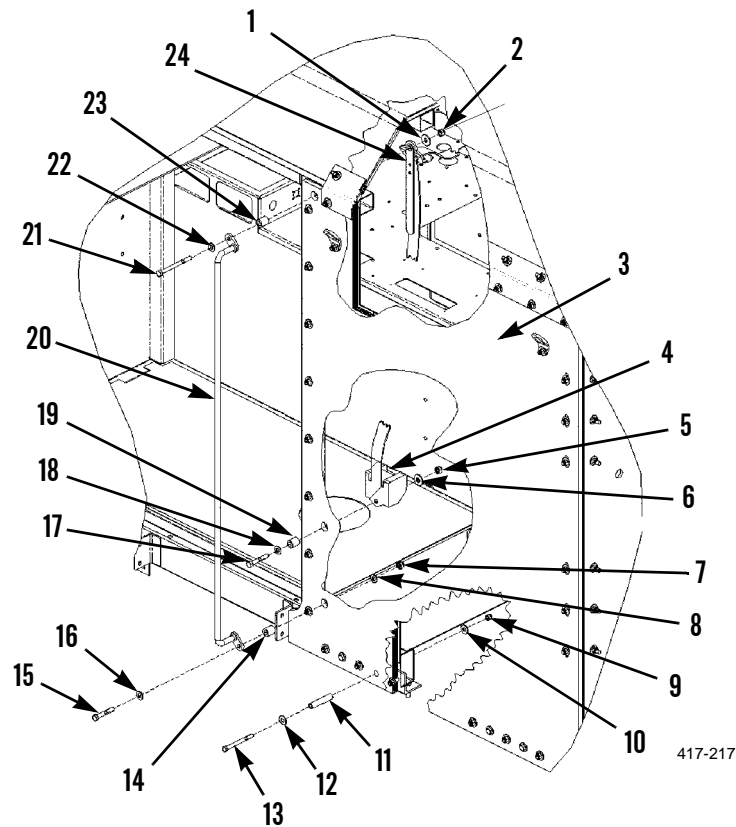
---

## LEFT CAB SIDE (REAR) ARMOR REPLACEMENT - CONTINUED

0029 00

**REMOVAL**

1. Lower center blast deflector as needed to gain access to two locknuts (9) (WP 0032 00).
2. Remove locknut (2), washer (1), upper seat belt support (24), bolt (21), washer (22), and spacer (23) from cab side (rear) armor (3). Discard locknut.
3. Remove locknut (5), washer (6), seat belt retractor (4), bolt (17), washer (18), and spacer (19) from cab side (rear) armor (3). Discard locknut.
4. Remove locknut (7), washer (8), bolt (15), washer (16), grab handle (20), and spacer (14) from cab side (rear) armor (3). Discard locknut.
5. Remove four locknuts (9), washers (10), bolts (13), washers (12), and sleeve bushings (11) from cab side (rear) armor (3). Discard locknuts.



**REMOVAL - CONTINUED**

6. Attach sling and lifting device to two lifting eyes (31).
7. Remove eight locknuts (25) and washers (26) from left cab side (rear) armor (3). Discard locknuts.

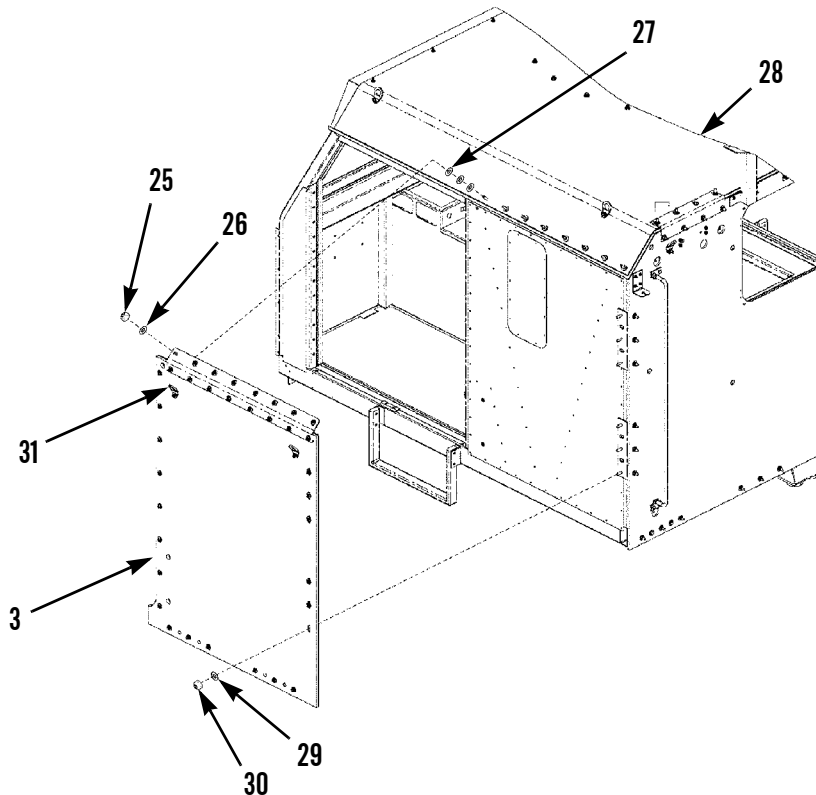
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Cab side (rear) armor weighs 240 lb (109 kg).

8. Remove six locknuts (30), washers (29), and cab side (rear) armor (3) from vehicle. Discard locknuts.
9. Remove 24 washers (27) from studs along left side of roof armor (28).
10. Remove sling and lifting device from left cab side (rear) armor (3).



417-146

## LEFT CAB SIDE (REAR) ARMOR REPLACEMENT - CONTINUED

0029 00

**REMOVAL - CONTINUED**

11. Remove eight locknuts (46), washers (45), bolts (40), and bracket (32). Discard locknuts.
12. Remove two locknuts (33), washers (34), bolts (39), and lifting eyes (31). Discard locknuts.
13. Remove eight locknuts (35), washers (36), bolts (38), and washers (37) from cab side (rear) armor (3). Discard locknuts.
14. Remove six locknuts (44), washers (43) and two stud brackets (42) from cab side (rear) armor (3). Discard locknuts.

**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

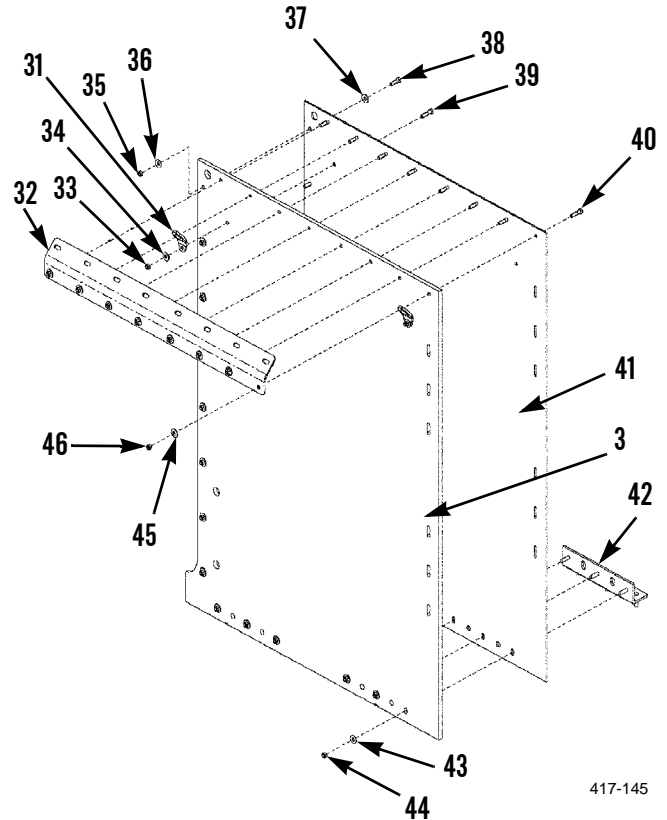
**NOTE**

Cab side (rear) armor weighs 240 lb (109 kg).

15. Separate outer cab side (rear) armor (3) from inner cab side armor (41).

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).



417-145

**INSTALLATION****WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

- Cab side (rear) armor weighs 240 lb (109 kg).
  - Thicker panel is on the outside of the thinner panel.
1. Position outer cab side (rear) armor (3) and inner cab side (rear) armor (41) together and align bolt holes.
  2. Install two stud brackets (42), six washers (43), and new locknuts (44) on cab side (rear) armor (41 and 3).
  3. Install eight washers (37), bolts (38), washers (36), and new locknuts (35). Tighten locknuts to 35 lb-ft (48 Nm).
  4. Install two bolts (39), lifting eyes (31), washers (34), and new locknuts (33). Tighten locknuts to 35 lb-ft (48 Nm).

**NOTE**

Vehicle shown has one long bracket (32). Some vehicles may have two short brackets.

5. Install bracket (32), eight bolts (40), washers (45), and new locknuts (46). Tighten locknuts to 35 lb-ft (48 Nm).

**INSTALLATION - CONTINUED**

6. Install 24 washers (27) on roof armor panel (28) (three washers on each stud).

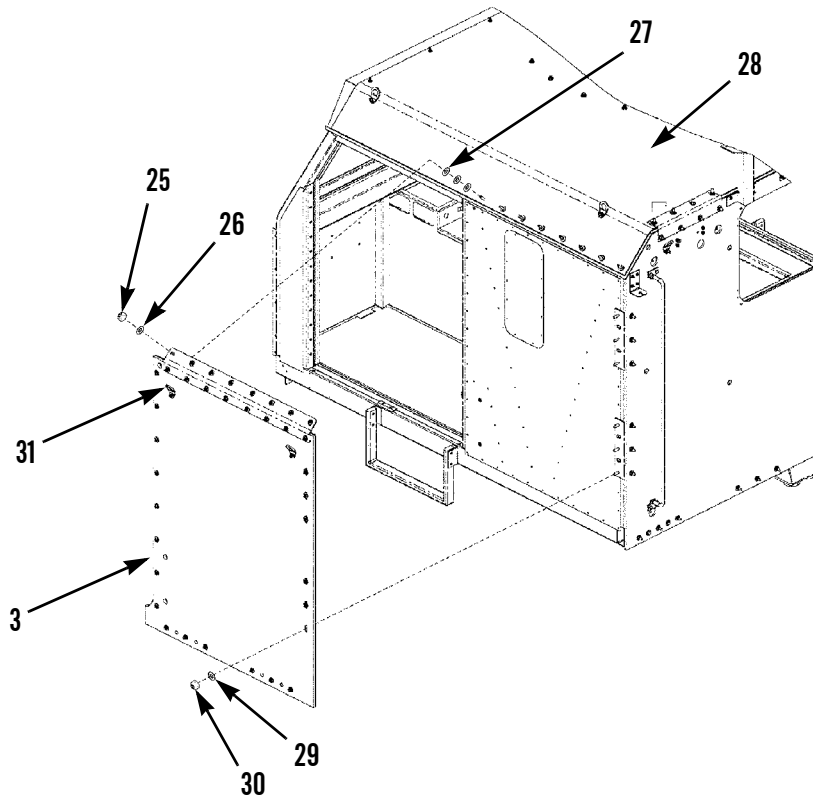
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Cab side (rear) armor weighs 240 lb (109 kg).

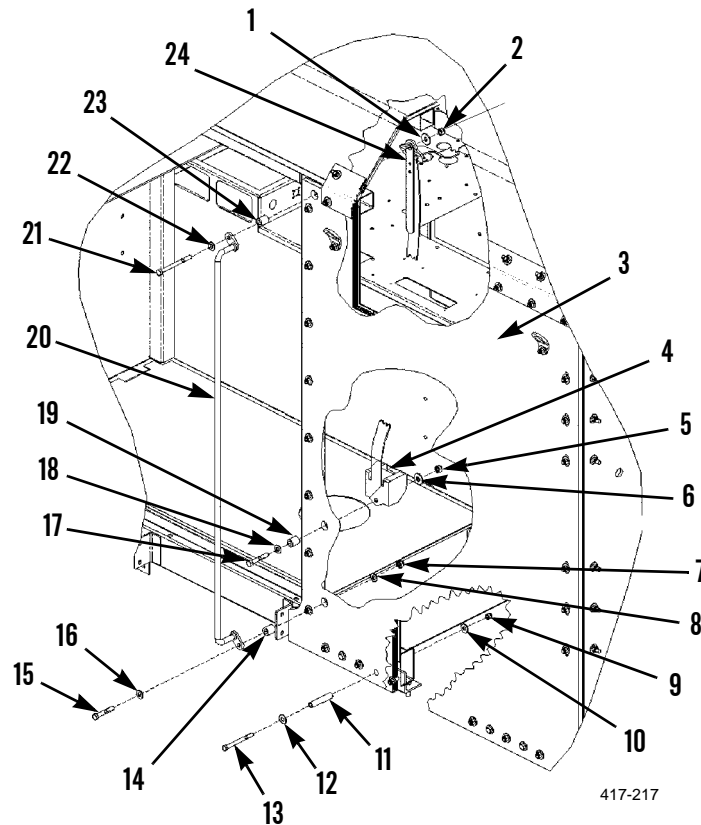
7. Attach sling and lifting device to lifting eyes (31).
8. Using lifting device, install cab side (rear) armor (3) on vehicle.
9. Install eight washers (26) and new locknuts (25). Tighten locknuts to 23 lb-ft (31 Nm).
10. Install six washers (29) and new locknuts (30) on cab side (rear) armor (3). Tighten locknuts to 23 lb-ft (31 Nm).



417-146

**LEFT CAB SIDE (REAR) ARMOR REPLACEMENT - CONTINUED****0029 00****INSTALLATION - CONTINUED**

11. Install spacer (14), grab handle (20), washer (16), bolt (15), washer (8), and new locknut (7). Tighten locknut to 55 lb-ft (75 Nm).
12. Install spacer (23), grab handle (20), washer (22), bolt (21), upper seat belt support (24), washer (1), and new locknut (1). Tighten locknut to 7 lb-ft (10 Nm).
13. Install spacer (19), washer (18), bolt (17), seat belt retractor (4), washer (6), and new locknut (5). Tighten locknut to 35 lb-ft (48 Nm).
14. Install four sleeve bushings (11), washers (12), bolts (13), washers (10), and new locknuts (9) on cab side (rear) armor (3). Tighten locknuts to 35 lb-ft (48 Nm).



15. Remove sling and lifting device from left cab side (rear) armor (3).
16. Install center blast deflector (WP 0032 00).

**END OF WORK PACKAGE**





---

**LEFT BLAST DEFLECTOR REPLACEMENT**

---

**0030 00****THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP****Maintenance Level**

Unit

**Personnel Required**

Two

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Device, Lifting (500-lb capacity)

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (14)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

**References**

WP 0011 00

Left Step removed (WP 0033 00)

---

**LEFT BLAST DEFLECTOR REPLACEMENT - CONTINUED**

0030 00

**REMOVAL**

1. Position lifting device under left blast deflector (18).
2. Remove bolt (14) and washer (15) from left blast deflector (18).
3. Remove locknut (4), washer (3), bolt (12), and washer (13). Discard locknut.
4. Remove four locknuts (16), washers (17), bolts (1), and washers (2) from left blast deflector (18). Discard locknuts.

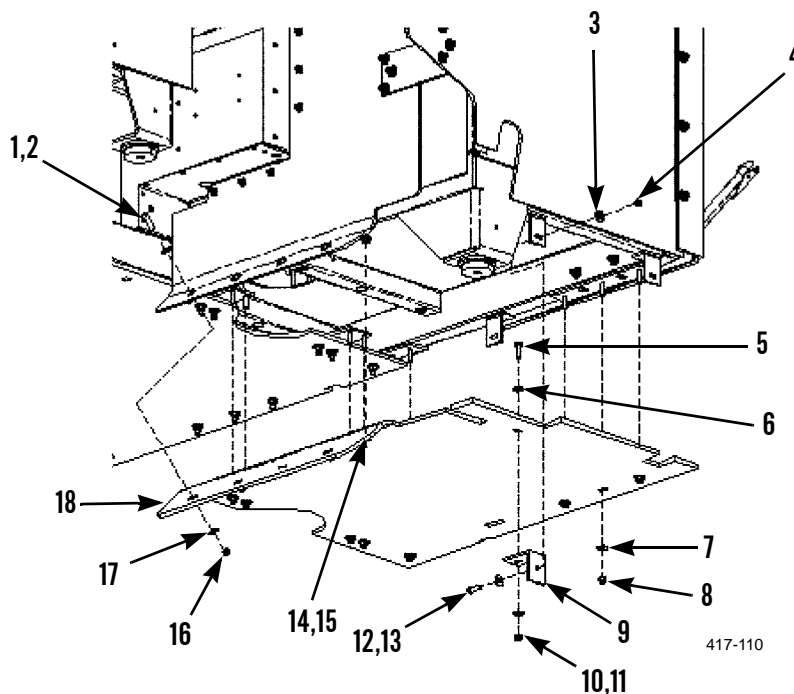
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Left side blast deflector weighs 134 lb (61 kg).

5. Remove eight locknuts (8), washers (7) and, using lifting device, lower left blast deflector (18) to gain access to bolt (5). Discard locknuts.
6. Remove locknut (10), washer (11), bolt (5), washer (6), and bracket (9) from left blast deflector (18). Discard locknut.
7. Using lifting device, remove left blast deflector (18) from vehicle.

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION****WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Left side blast deflector weighs 134 lb (61 kg).

1. Position lifting device under left blast deflector (18).
2. Using lifting device, position left blast deflector (18) under vehicle.
3. Install washer (6), bolt (5), bracket (9), washer (11), and new locknut (10) to left blast deflector (18).
4. Using lifting device, install left blast deflector (18), eight washers (7), and new locknuts (8).
5. Install four washers (2), bolts (1), washers (17), and new locknuts (16).
6. Install washer (13), bolt (12), washer (3), and new locknut (4).
7. Install washer (15) and bolt (14) on left blast deflector (18).
8. Install left step (WP 0033 00).

**END OF WORK PACKAGE**



---

**RIGHT BLAST DEFLECTOR REPLACEMENT**

**0031 00**

---

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Personnel Required**

Two

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Device, Lifting (500-lb capacity)

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (22)

Lockwashers (10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

**References**

WP 0011 00

Right Step removed (WP 0033 00)

Muffler removed (TM 9-2320-360-20)

---

**REMOVAL**

1. Position lifting device under right blast deflector (1).
2. Remove 12 locknuts (5) and washers (6) from right blast deflector (1). Discard locknuts.
3. Remove 10 bolts (4), lockwashers (3), and washers (2) from right blast deflector (1). Discard lockwashers.
4. Remove four locknuts (7), washers (8), bolts (10), and washers (9) from right blast deflector (1). Discard locknuts.

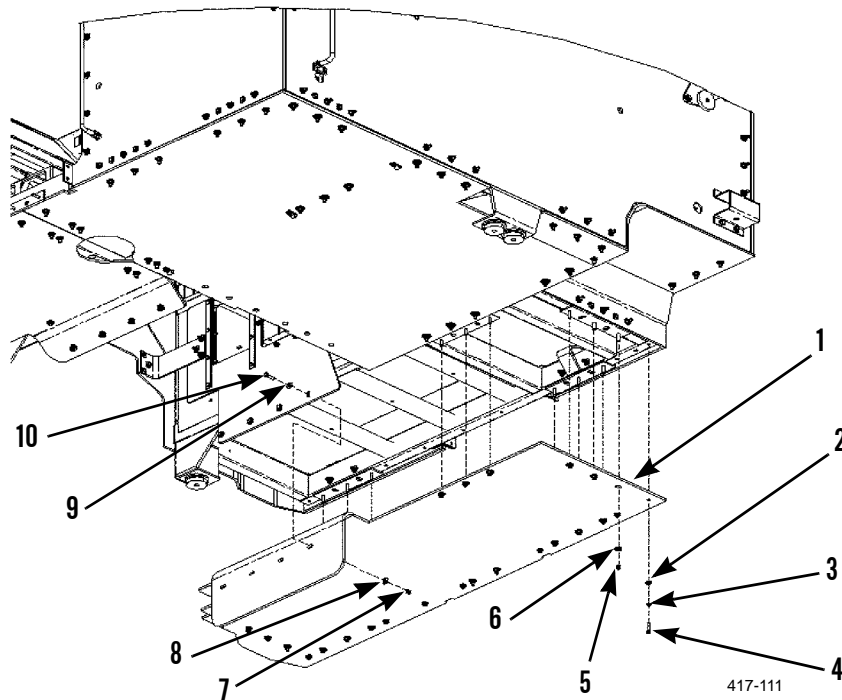
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Right side blast deflector weighs 248 lb (112 kg).

5. Using lifting device, remove right blast deflector (1) from vehicle.

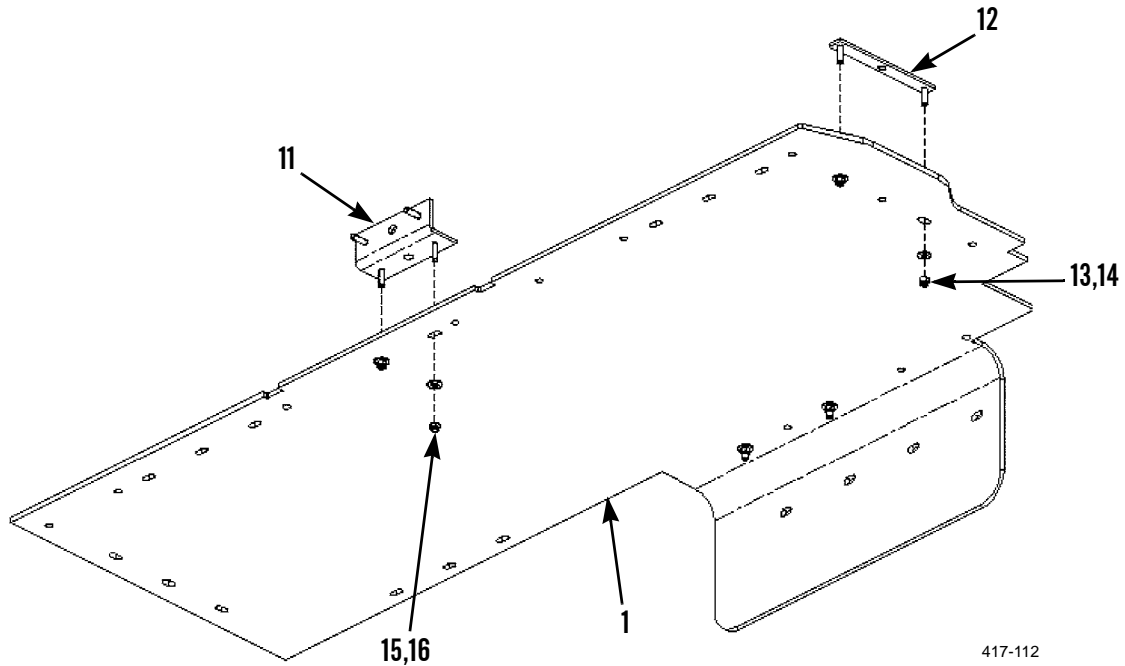


**RIGHT BLAST DEFLECTOR REPLACEMENT - CONTINUED**

0031 00

**REMOVAL - CONTINUED**

6. Remove two locknuts (15), washers (16), and step joiner bracket (11) from right blast deflector (1). Discard locknuts.
7. Remove four locknuts (13), washers (14), and two stud plates (12) from right blast deflector (1). Discard locknuts.

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Install two stud plates (12), four washers (14), and new locknuts (13) on right blast deflector (1). Tighten locknuts to 23 lb-ft (31 Nm).
2. Install step joiner bracket (11), two washers (16), and new locknuts (15) on right blast deflector (1). Tighten locknuts to 23 lb-ft (31 Nm).

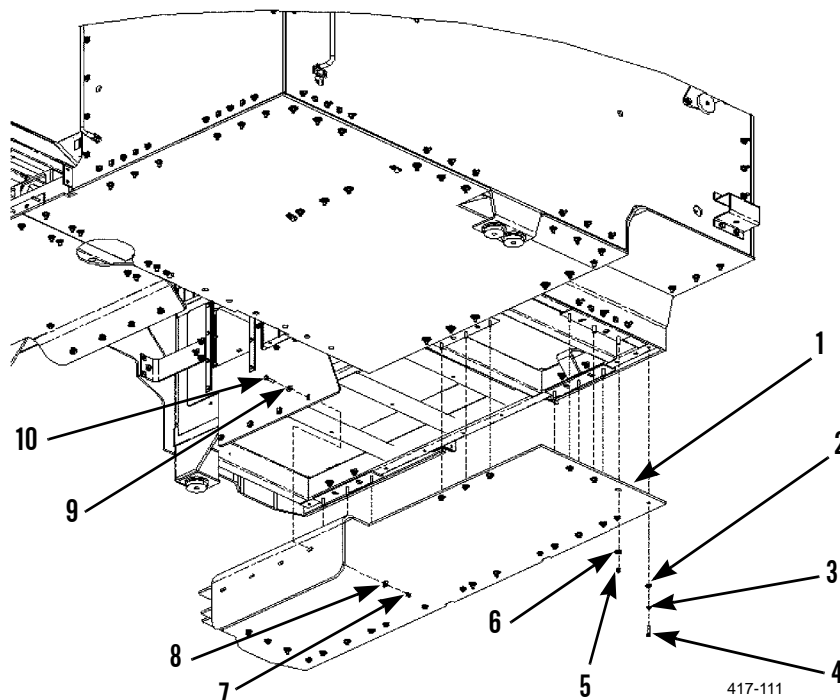
**INSTALLATION - CONTINUED****WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Right side blast deflector weighs 248 lb (112 kg).

3. Position lifting device under right blast deflector (1).
4. Using lifting device, install right blast deflector (1) on vehicle.
5. Install four washers (9), bolts (10), washers (8), and new locknuts (7) on right blast deflector (1).
6. Install 10 washers (2), new lockwashers (3), and bolts (4) on right blast deflector (1). Tighten bolts to 9 lb-ft (12 Nm).
7. Install 12 washers (6) and new locknuts (5) on right blast deflector (1). Tighten locknuts to 23 lb-ft (31 Nm).



8. Install muffler (TM 9-2320-360-20).
9. Install right step (WP 0033 00).

**END OF WORK PACKAGE**



**CENTER BLAST DEFLECTOR REPLACEMENT**

**0032 00**

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

**INITIAL SETUP**

**Maintenance Level**

Unit

**Personnel Required**

Two

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Device, Lifting (500-lb capacity)

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

Left Step removed (WP 0033 00)

Left Side Stowage Box removed (TM 9-2320-360-20)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (29)

Lockwashers (3)

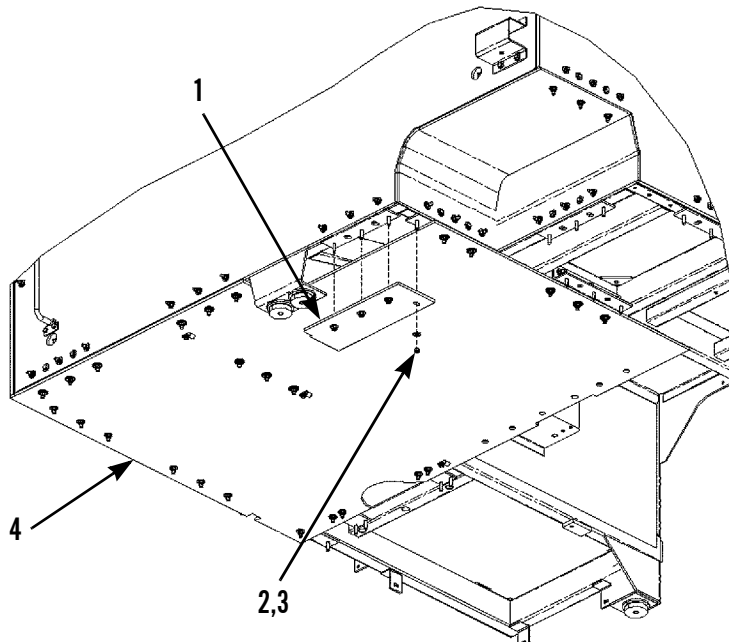
**References**

WP 0011 00

Exhaust Stack Support Brace removed (TM 9-2320-360-20)

**REMOVAL**

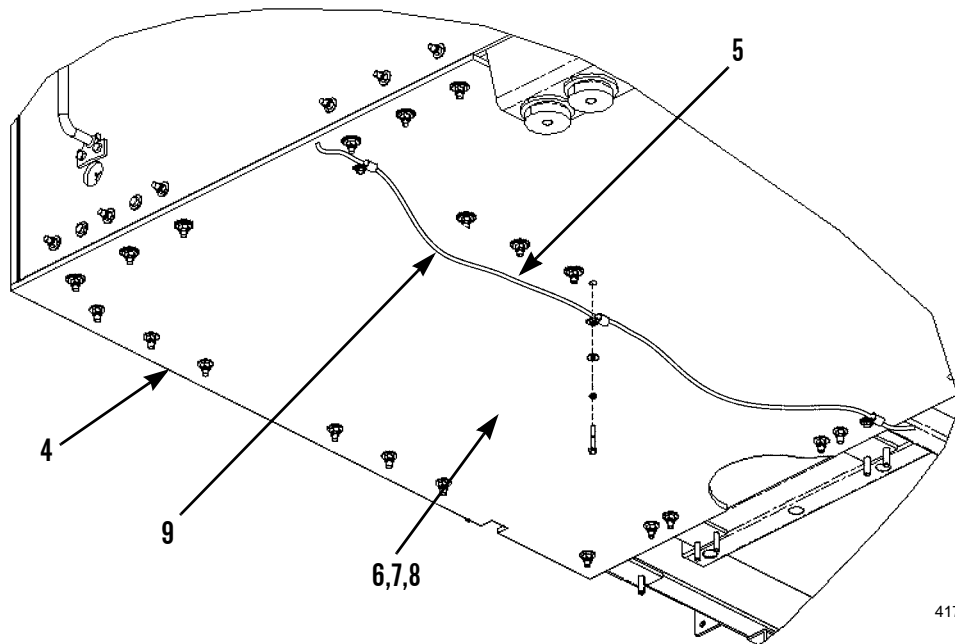
1. Remove four locknuts (2), washers (3), and plate (1) from center blast deflector (4). Discard locknuts.



417-113

**CENTER BLAST DEFLECTOR REPLACEMENT - CONTINUED****0032 00****REMOVAL - CONTINUED**

2. Remove three bolts (6), lockwashers (7), washers (8), and loop clamps (5) from center blast deflector (4). Discard lockwashers and lower electrical harness (9).
3. Position lifting device under center blast deflector (4).



**CENTER BLAST DEFLECTOR REPLACEMENT - CONTINUED**

0032 00

**REMOVAL - CONTINUED**

4. Remove six locknuts (17) and washers (18) from center blast deflector (4). Discard locknuts.
5. Remove 14 locknuts (10), washers (11), and washers (12) from center blast deflector (4). Discard locknuts.
6. Remove locknut (15) and washer (16) from center blast deflector (4). Discard locknut.
7. Remove four locknuts (13) and washers (14) from center blast deflector (4). Discard locknuts.

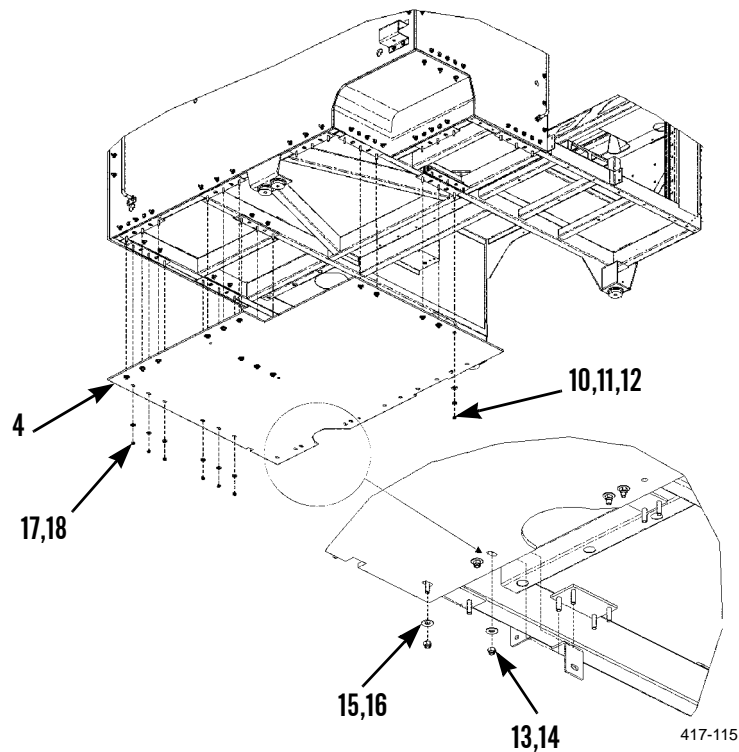
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Center blast deflector weighs 392 lb (178 kg).

8. Using lifting device, remove center blast deflector (4) from vehicle.

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Position lifting device under center blast deflector (4).

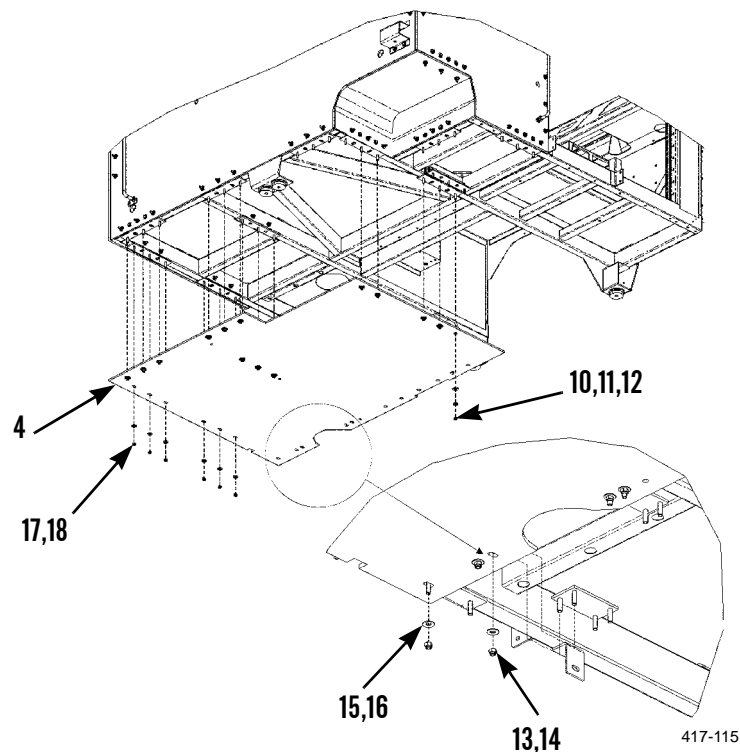
**WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

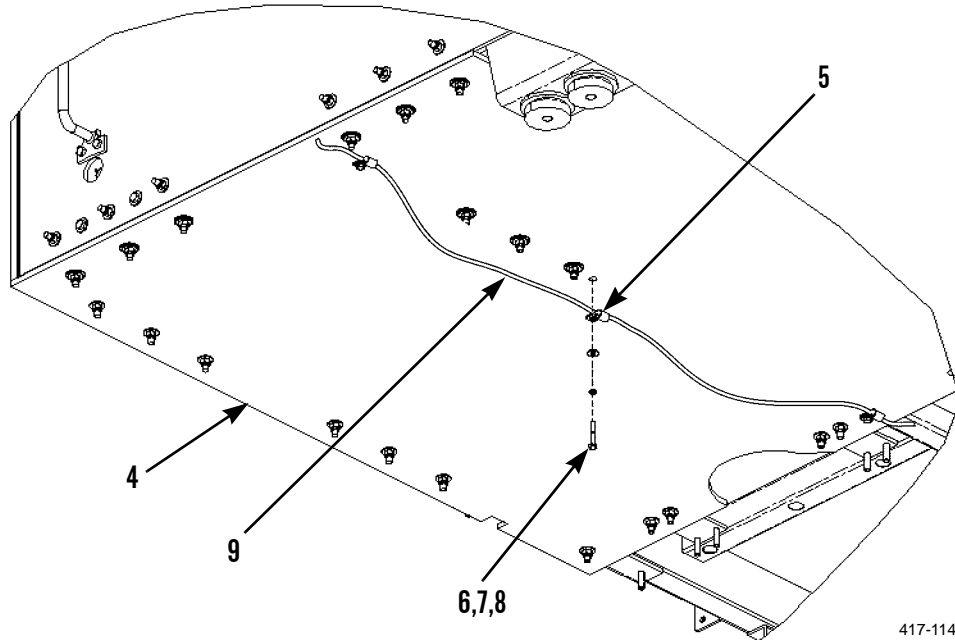
Center blast deflector weighs 392 lb (178 kg).

2. Using lifting device, install center blast deflector (4).
3. Install four washers (14) and new locknuts (13) on center blast deflector (4).
4. Install washer (16) and new locknut (15) on center blast deflector (4).
5. Install 14 washers (12), washers (11), and new locknuts (10) on center blast deflector (4). Tighten locknuts to 23 lb-ft (31 Nm).
6. Install six washers (18) and new locknuts (17) on center blast deflector (4). Tighten locknuts to 23 lb-ft (31 Nm).



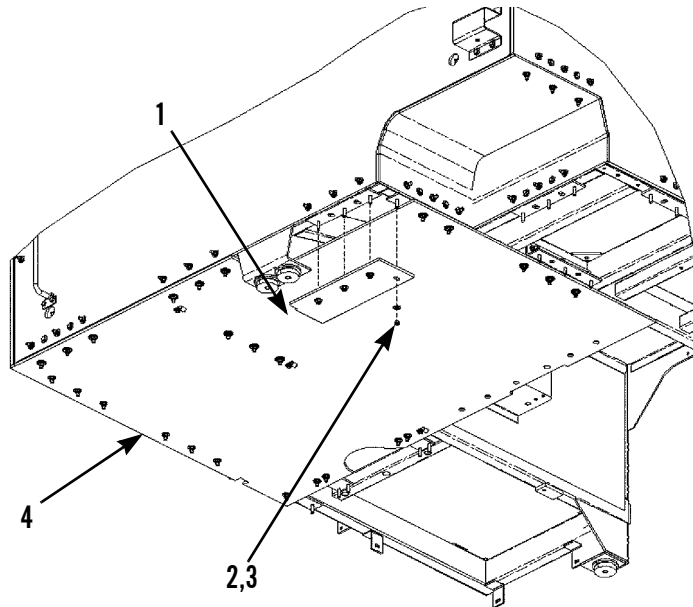
**INSTALLATION - CONTINUED**

7. Install electrical harness (9), three loop clamps (5), washers (8), new lockwashers (7), and bolts (6) on center blast deflector (4).



417-114

8. Install plate (1), four washers (3), and new locknuts (2) on center blast deflector (4). Tighten locknuts to 23 lb-ft (31 Nm).



417-113

9. Install exhaust stack support brace (TM 9-2330-360-20).
10. Install left side stowage box (TM 9-2320-360-20).
11. Install left step (WP 0033 00).

**END OF WORK PACKAGE**



---

**STEP ARMOR REPLACEMENT**

---

**0033 00****THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP****Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (10)

**References**

WP 0011 00

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

---

**NOTE**

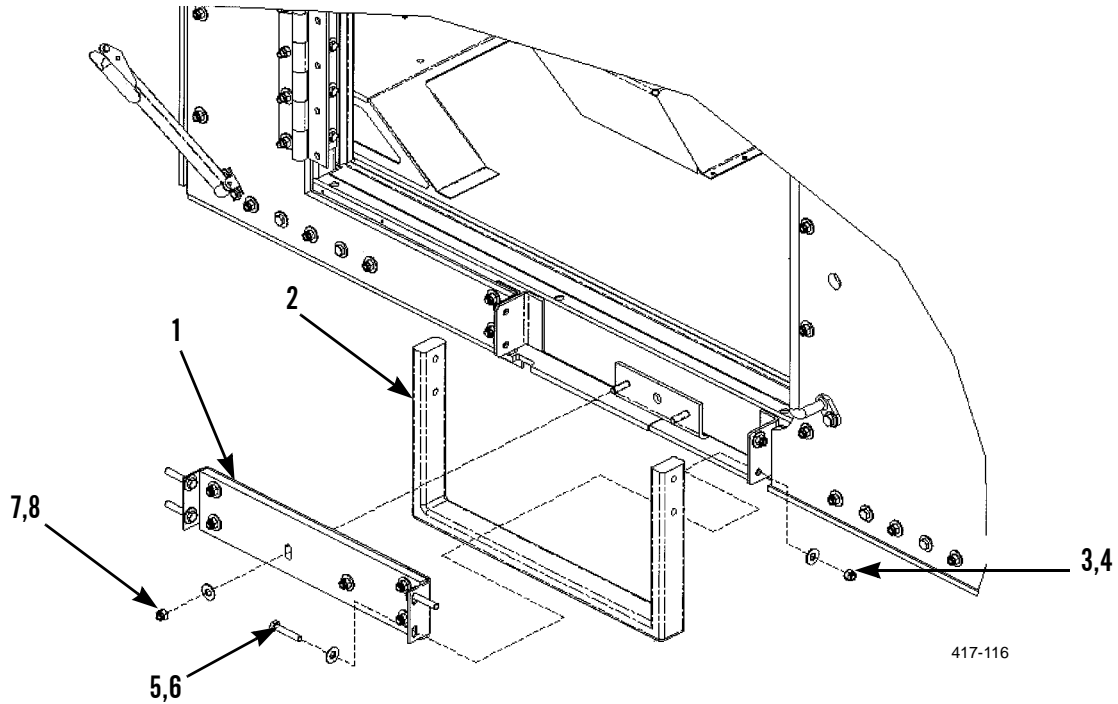
The following procedure is for left step armor. The right step armor is identical.

**STEP ARMOR REPLACEMENT - CONTINUED**

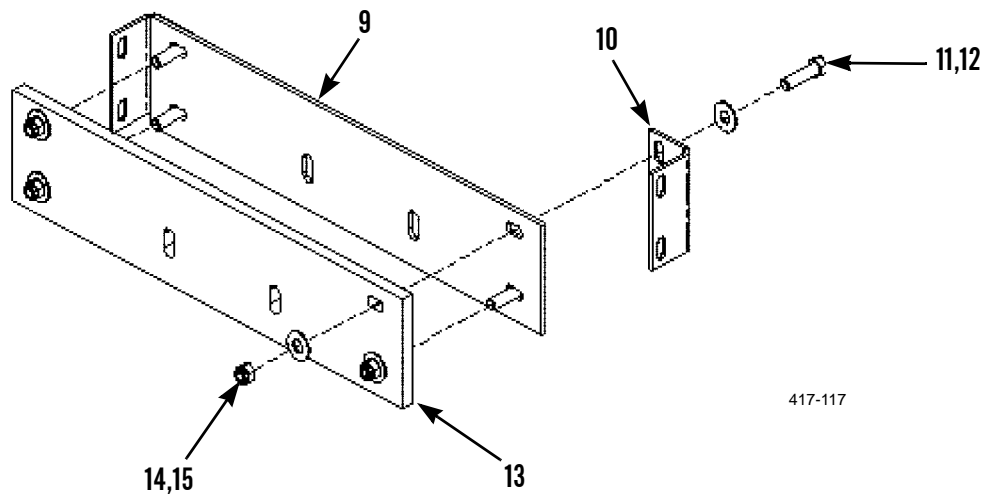
**0033 00**

**REMOVAL**

1. Remove four locknuts (3), washers (4), bolts (5), washers (6), and step (2) from vehicle. Discard locknuts.
2. Remove two locknuts (7), washers (8), and step armor (1). Discard locknuts.



3. Remove four locknuts (14), washers (15), bolts (11), and washers (12) from step armor plate (13). Discard locknuts.
4. Separate two brackets (10), step armor bracket (9), and step armor (13).





---

**STEP ARMOR REPLACEMENT - CONTINUED**

---

**0033 00****CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Align holes in two brackets (10), step armor bracket (9), and step armor (13).
2. Install four washers (12), bolts (11), washers (15), and new locknuts (14).
3. Install step armor (1), two washers (8), and new locknuts (7).

**NOTE**

Make sure step and step armor are mounted as low as possible to allow clearance between step and bottom of door.

4. Install step (2), four washers (6), bolts (5), washers (4), and new locknuts (3).

**END OF WORK PACKAGE**



---

**DOGHOUSE ARMOR REPLACEMENT**

---

0034 00

**THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP****Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (29)

Lockwasher (22)

**References**

WP 0011 00

**Personnel Required**

Two

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

Right Side and Rear Doghouse Covers removed (TM 9-2320-360-20)

Doghouse Internal Insulation and Mounting Hardware removed (TM 9-2320-360-20)

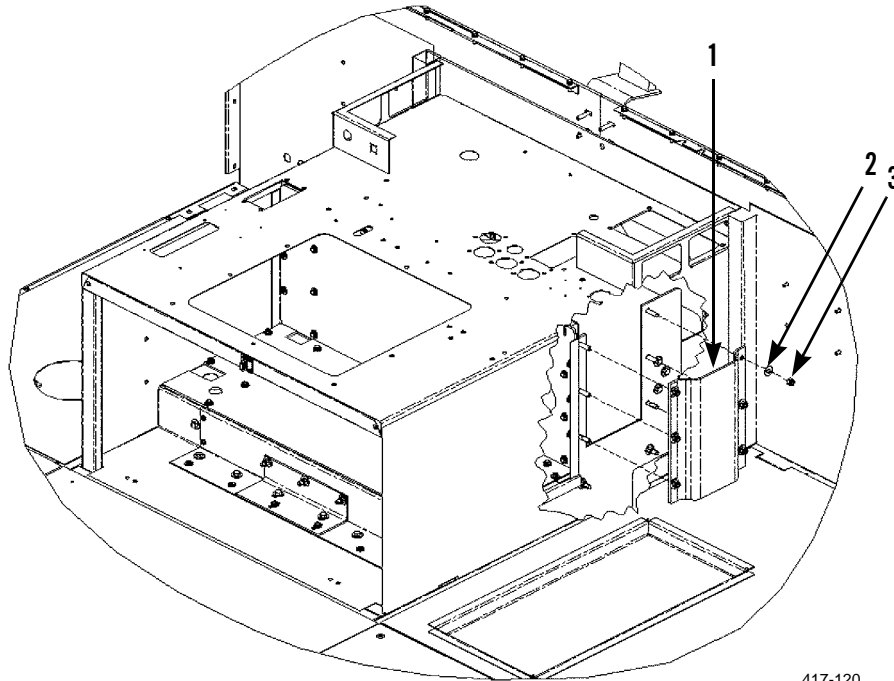
Transmission Shift and Transfer Case Linkage disconnected (TM 9-2320-360-20)

If equipped, Air Conditioning Unit removed (TB 9-2320-360-13&P-1)

---

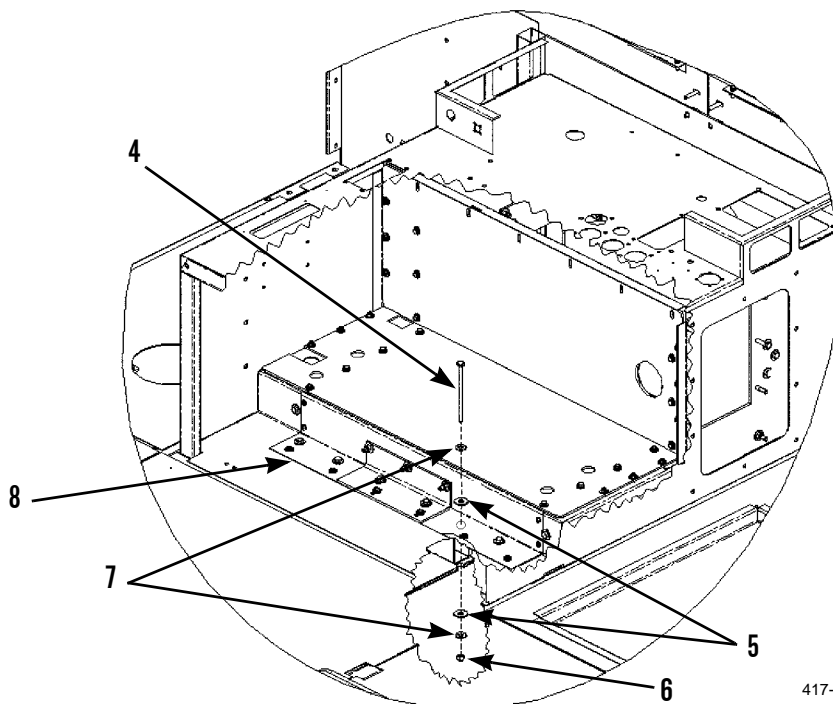
**REMOVAL**

1. Remove six locknuts (3), washers (2), and access panel (1) from vehicle. Discard locknuts.



417-120

2. With assistance, remove six locknuts (6), 12 washers (7), six bolts (4), and 10 washers (5) from floor panel (8). Discard locknuts.



417-121

## DOGHOUSE ARMOR REPLACEMENT - CONTINUED

0034 00

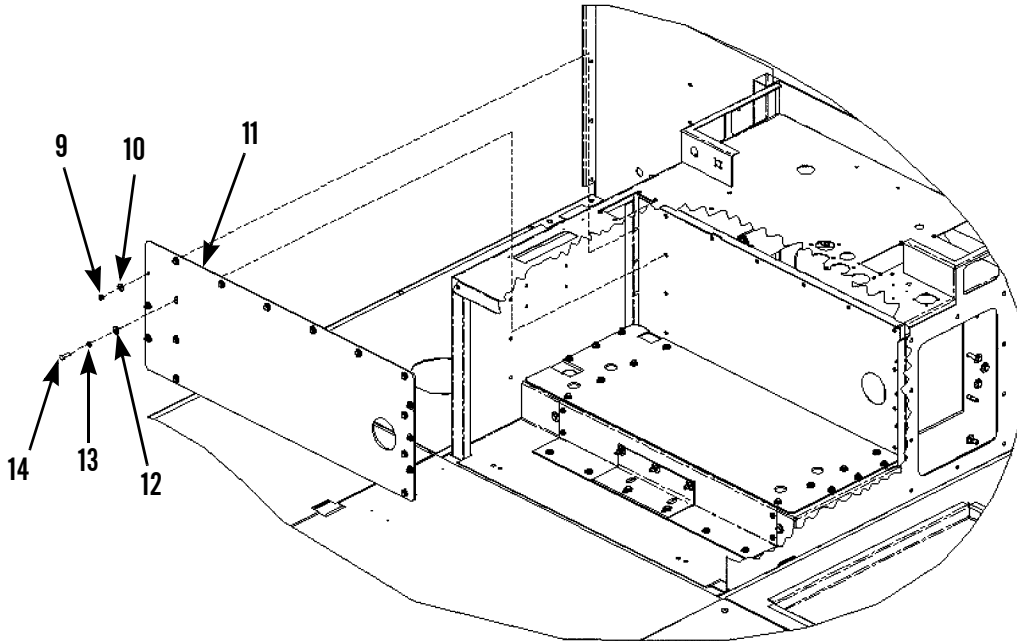
**REMOVAL - CONTINUED**

3. Remove six locknuts (9) and washers (10) from panel (11). Discard locknuts.

**NOTE**

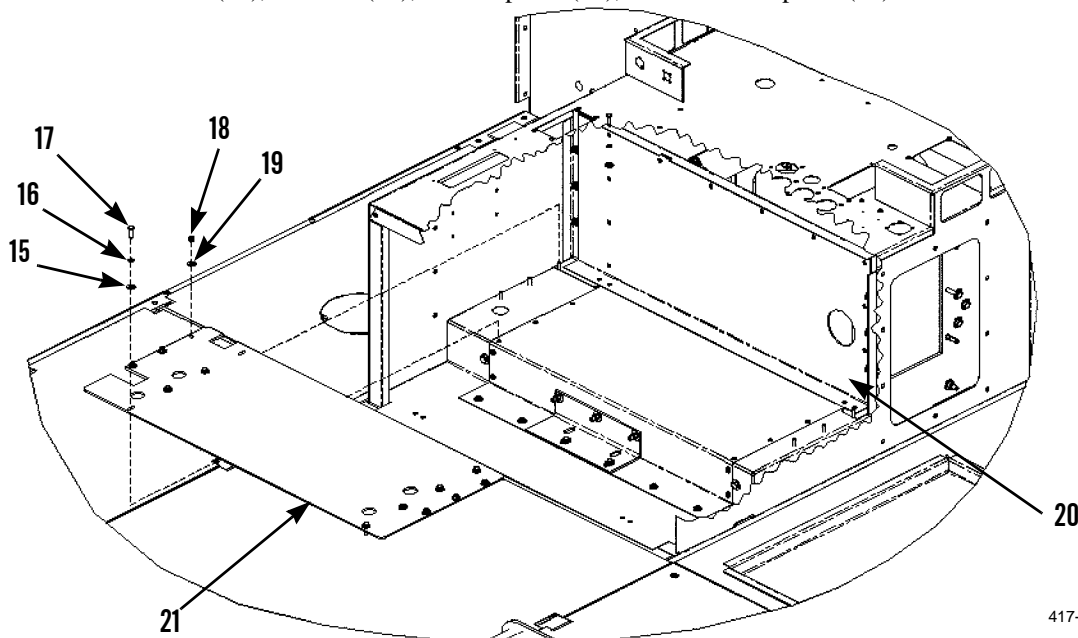
To remove panel (11) pull outward on top of panel.

4. Remove 12 bolts (14), lockwashers (13), washers (12), and panel (11) from doghouse. Discard lockwashers.



417-122

5. Remove eight bolts (17), lockwashers (16), and washers (15) from bottom panel (21). Discard lockwashers.
6. Remove six locknuts (18), washers (19), bottom panel (21), and back wall panel (20) from vehicle. Discard locknuts.



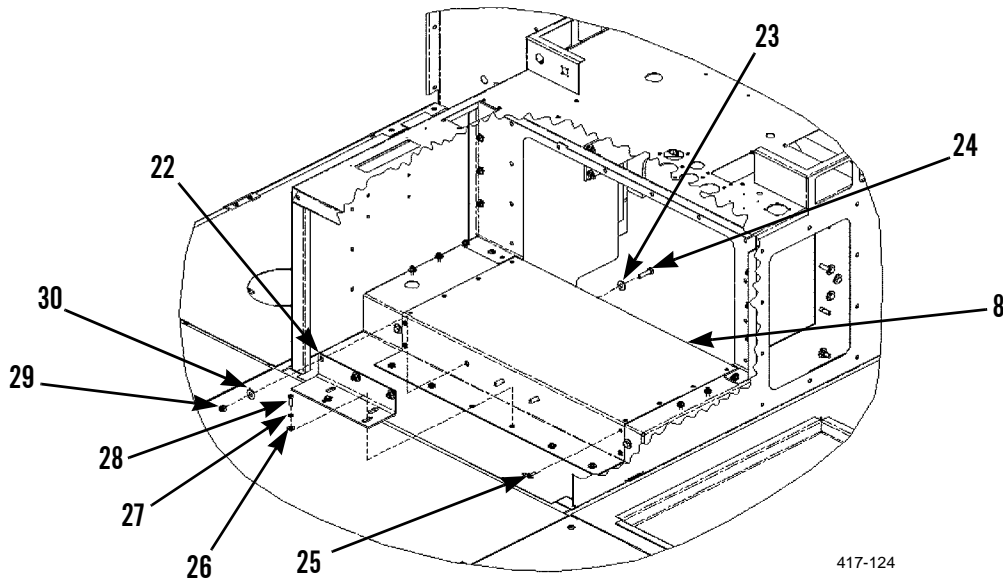
417-123

## DOGHOUSE ARMOR REPLACEMENT - CONTINUED

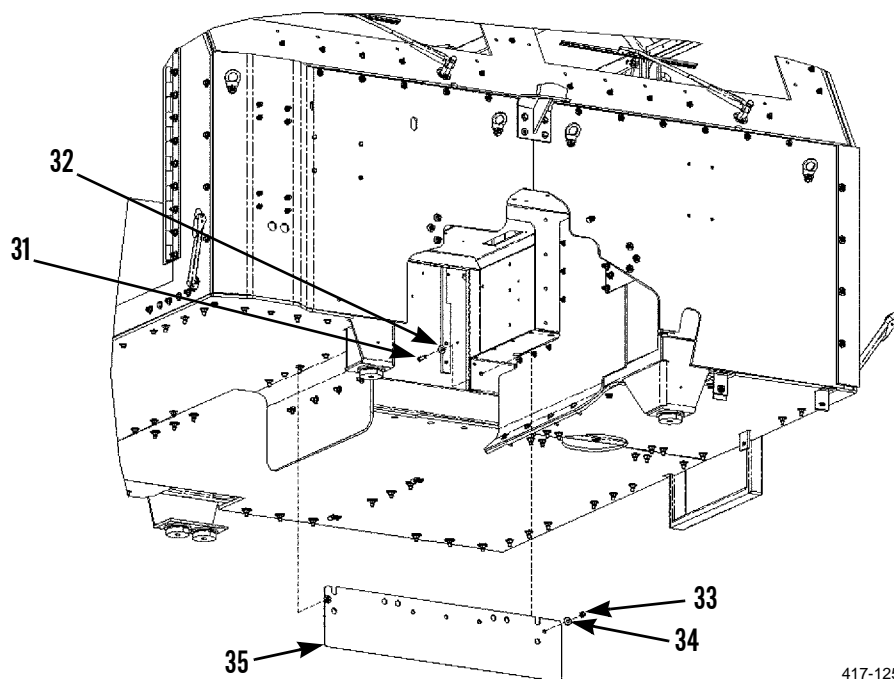
0034 00

**REMOVAL - CONTINUED**

7. Remove three locknuts (29), washers (30), bolts (24), and washers (23) from upper bracket (22). Discard locknuts.
8. Remove eight screws (25) from floor panel (8).
9. Remove two bolts (28), lockwashers (27), washers (26), upper bracket (22), and floor panel (8). Discard lockwashers.



10. Remove two locknuts (33), washers (34), bolts (31), washers (32), and lower panel (35). Discard locknuts.

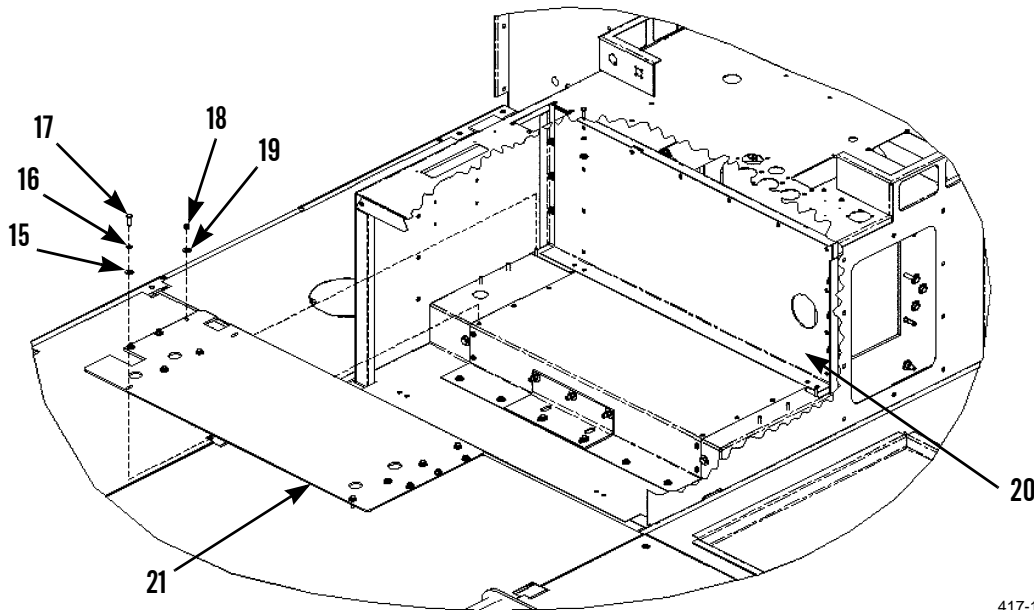


**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Install lower panel (35), two washers (32), bolts (31), washers (34), and new locknuts (33).
2. Install floor panel (8) and eight screws (25) in floor panel (8). Tighten screws to 84 lb-in. (10 Nm).
3. Install upper bracket (22), two washers (26), new lockwashers (27), and bolts (28). Tighten bolts to 84 lb-in. (10 Nm).
4. Install three washers (23), bolts (24), washers (30), and new locknuts (29) in upper bracket (22). Tighten locknuts to 35 lb-ft (48 Nm).
5. Install backwall panel (20), bottom panel (21), six washers (19), and new locknuts (18) on vehicle. Tighten locknuts to 84 lb-in. (10 Nm).
6. Install eight washers (15), new lockwashers (16), and bolts (17) in bottom panel (21). Tighten bolts to 84 lb-in. (10 Nm).

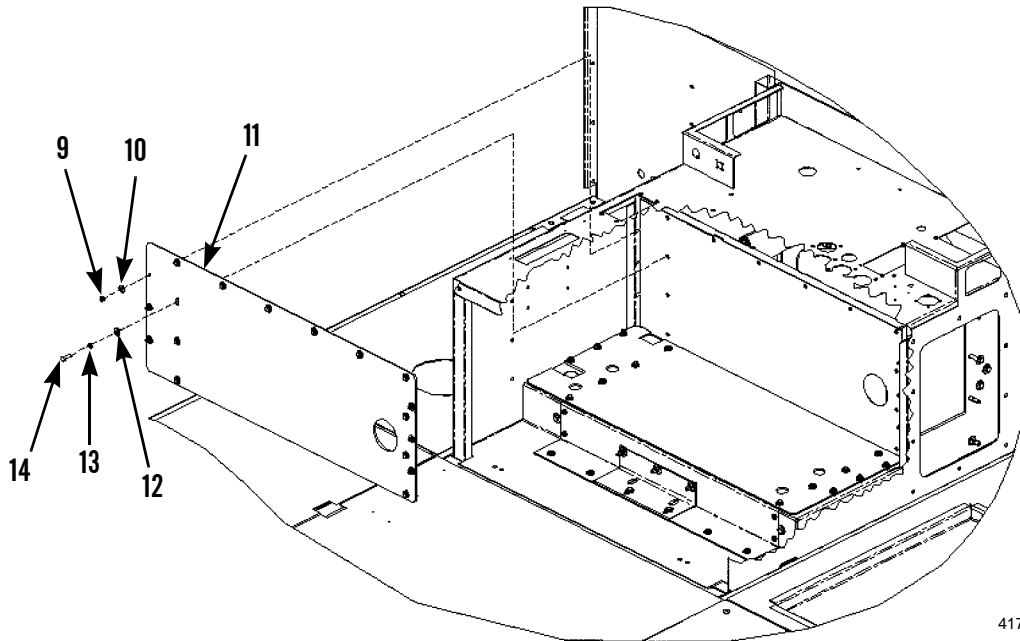


417-123

**INSTALLATION - CONTINUED****NOTE**

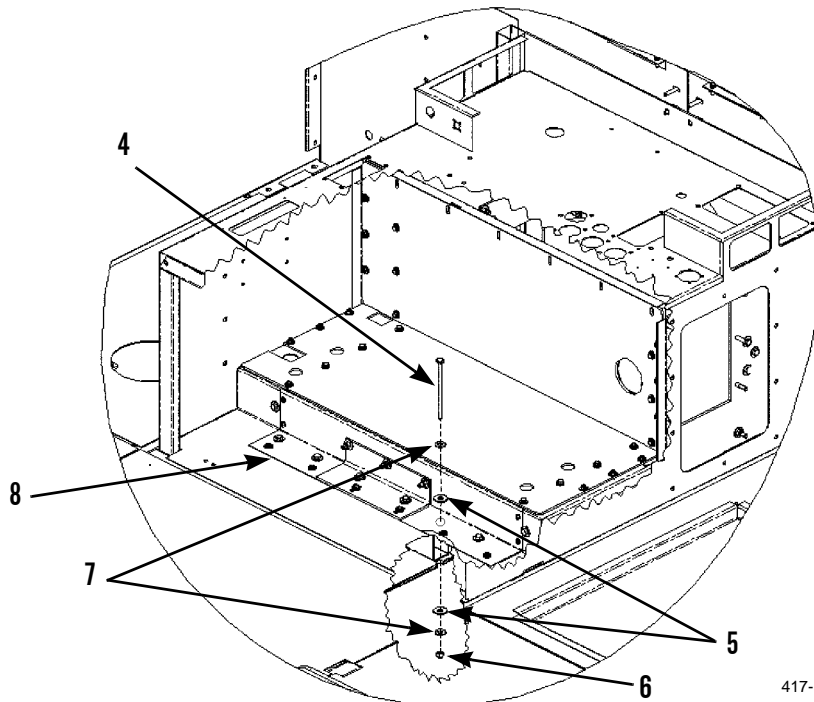
To install panel (11) position bottom edge in first, then push in top edge.

7. Install panel (11), 12 washers (12), new lockwashers (13), and bolts (14) in vehicle. Tighten bolts to 60 lb-in. (6.8 Nm).
8. Install six washers (10) and new locknuts (9) on panel (11). Tighten locknuts to 84 lb-in. (10 Nm).



417-122

9. With assistance, install 10 washers (5), six bolts (4), 12 washers (7), and six new locknuts (6) on floor panel (8). Tighten locknuts to 23 lb-ft (31 Nm).

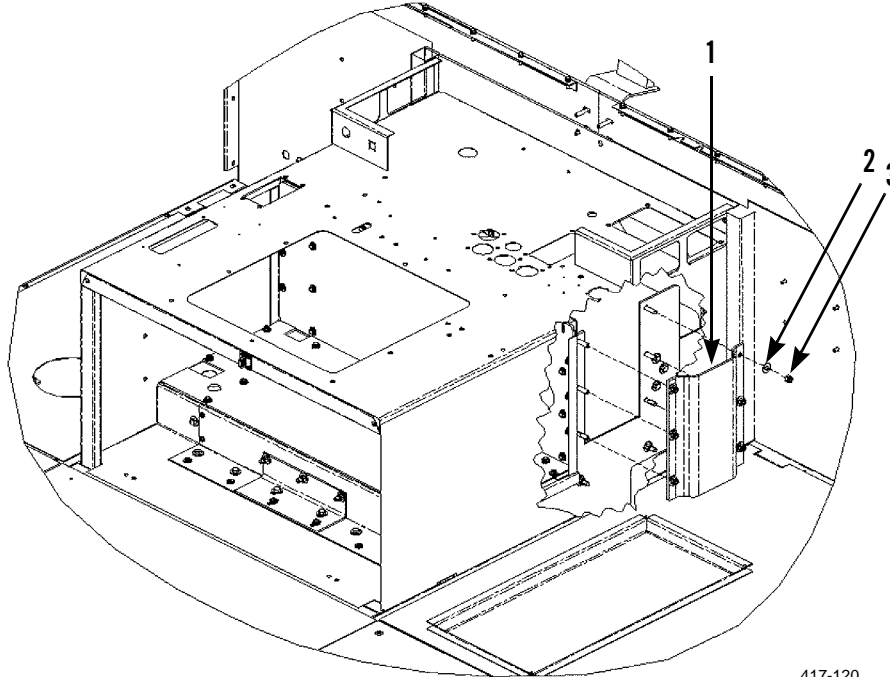


417-121



**INSTALLATION - CONTINUED**

10. Install access panel (1), six washers (2), and new locknuts (3) on vehicle. Tighten locknuts to 23 lb-ft (31 Nm).



417-120

11. Connect transmission shift and transfer case linkage (TM 9-2330-360-20).  
12. Install doghouse internal insulation and mounting hardware (TM 9-2330-360-20).  
13. If removed, install air conditioning unit (TB 9-2330-360-13&P-1).  
14. Install right side and rear doghouse covers (TM 9-2330-360-20).

**END OF WORK PACKAGE**



---

**CAB MOUNT REPLACEMENT**

**0035 00**

---

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Personnel Required**

Two

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

Device, Lifting (2,000-lb capacity)

Device, Lifting (5,000-lb capacity)

**Equipment Condition**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

**Materials/Parts**

Rag, wiping (Item 6, WP 0042 00)

Locknut (4)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

Spare Tire removed (TM 9-2320-360-20)

**References**

WP 0011 00

Muffler removed (TM 9-2320-360-20)

Inner Fender Guards removed (TM 9-2320-360-20)

---

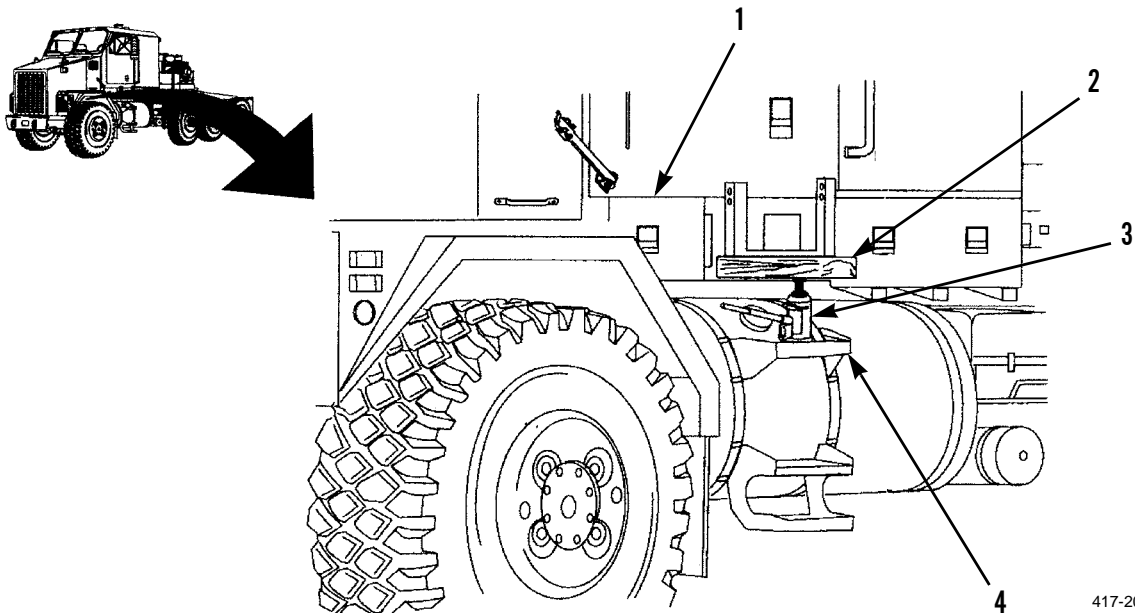
**REMOVAL****WARNING**

Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury or death to personnel.

**NOTE**

Cab with armor kit installed weighs 4,200 lb (1,905 kg).

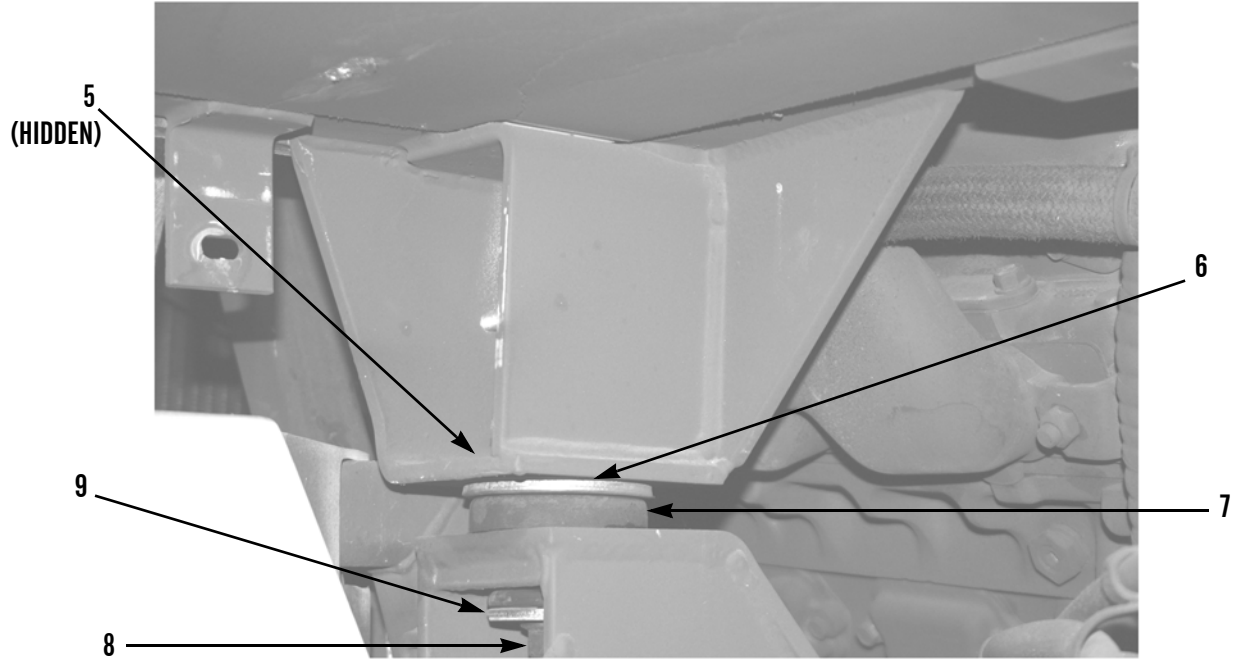
1. Attach lifting device to three original lifting eyes on roof of cab.
2. Using lifting device, raise cab to relieve pressure from cab mounts.
3. Position lifting device (3) and wooden blocks (2) on fuel tank step (4) and raise cab (1) high enough that cab mount (7) can be removed from seat.



417-200

**REMOVAL - CONTINUED**

4. Remove bolt (5), locknut (8), two washers (6 and 9), and cab mount (7). Discard locknut.



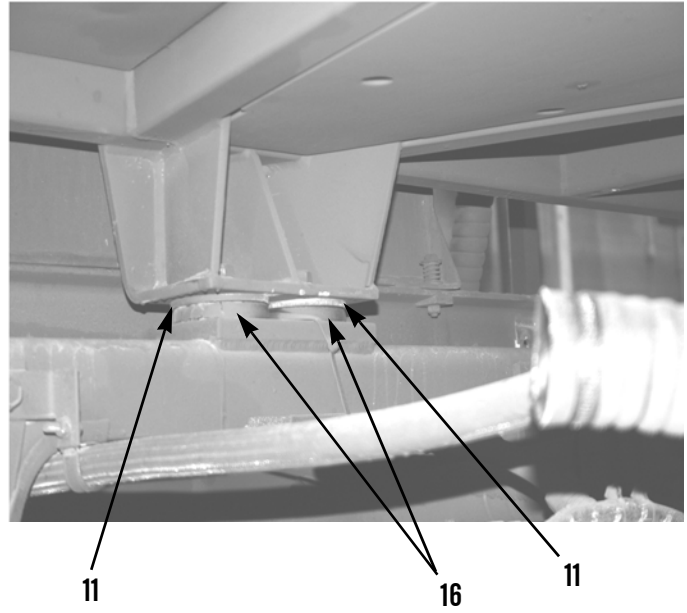
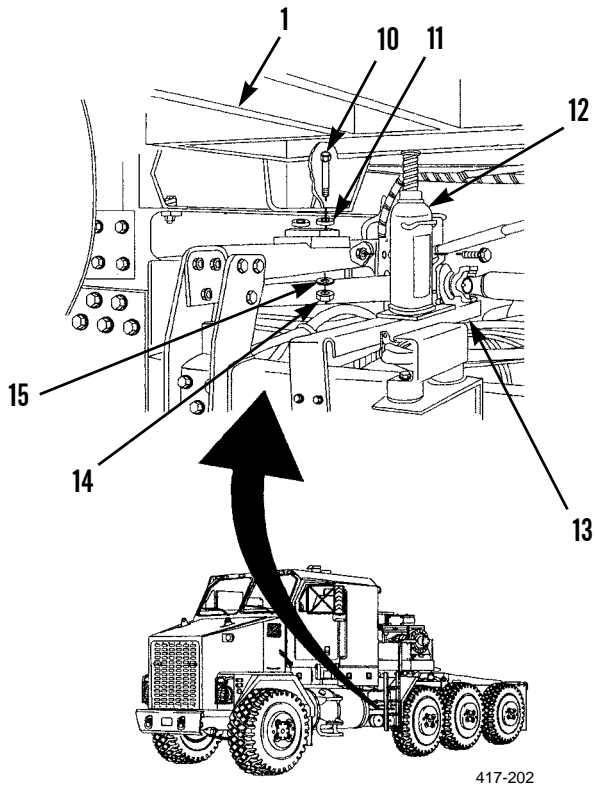
417-201

**CAB MOUNT REPLACEMENT - CONTINUED**

**0035 00**

**REMOVAL - CONTINUED**

5. Position lifting device (12) on PTO shaft support (13) and raise cab (1) high enough that cab mounts (16) can be removed from seat.
6. Remove two bolts (10), two locknuts (14), four washers (11 and 15), and two cab mounts (16). Discard locknuts.

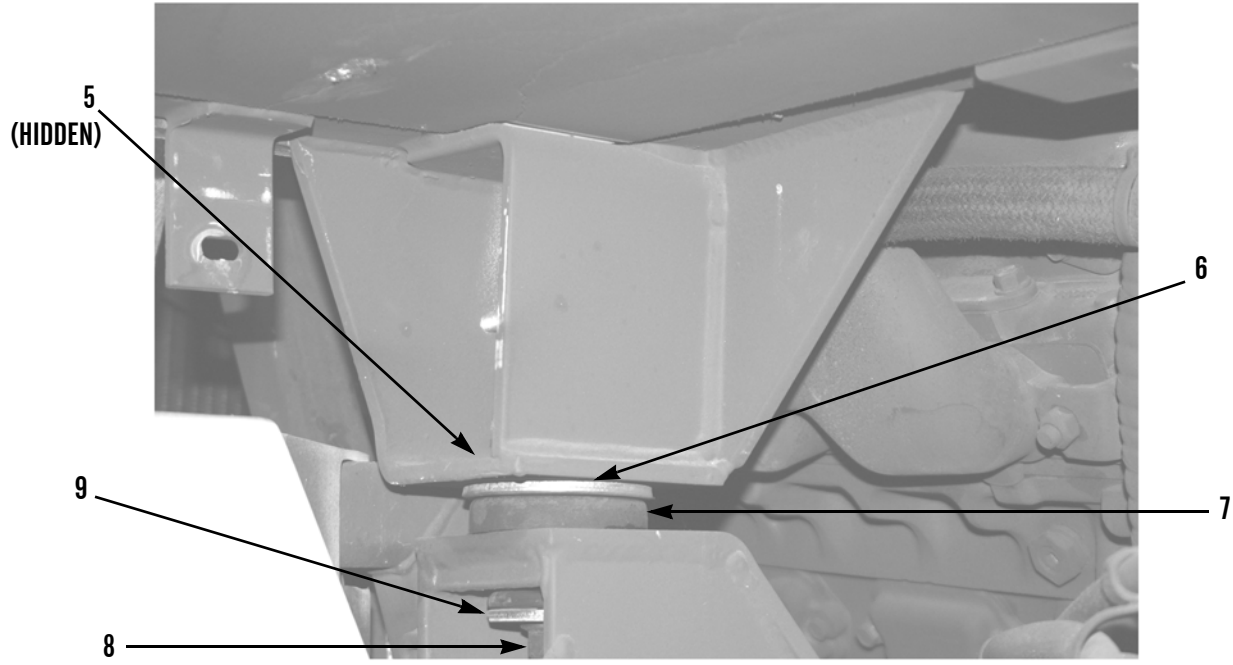


**CLEANING AND INSPECTION**

Clean parts and all parts IAW *General Maintenance Instructions* (WP 0011 00).

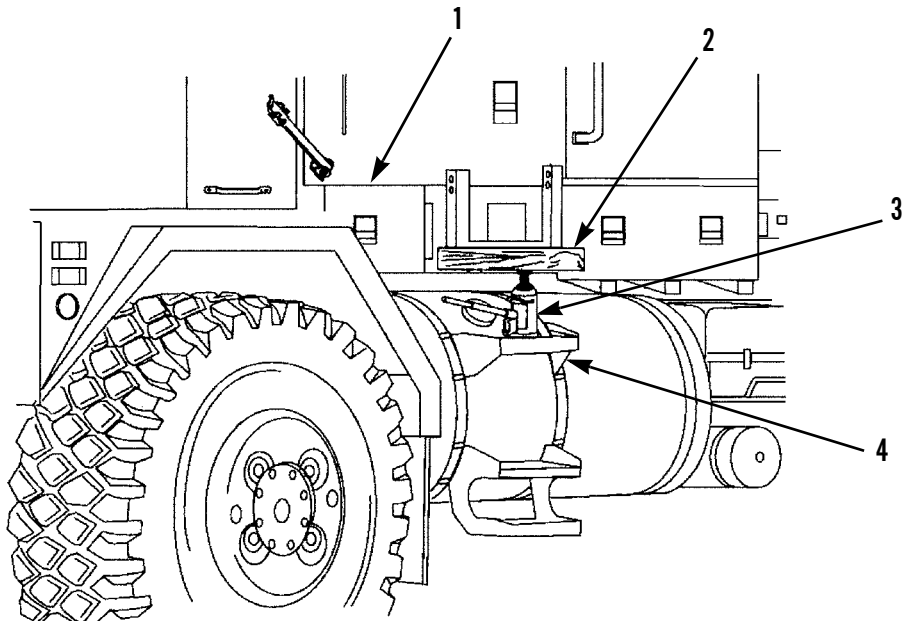
**INSTALLATION**

1. Install new cab mount (7), washers (6 and 9), bolt (5), and new locknut (8).



417-201

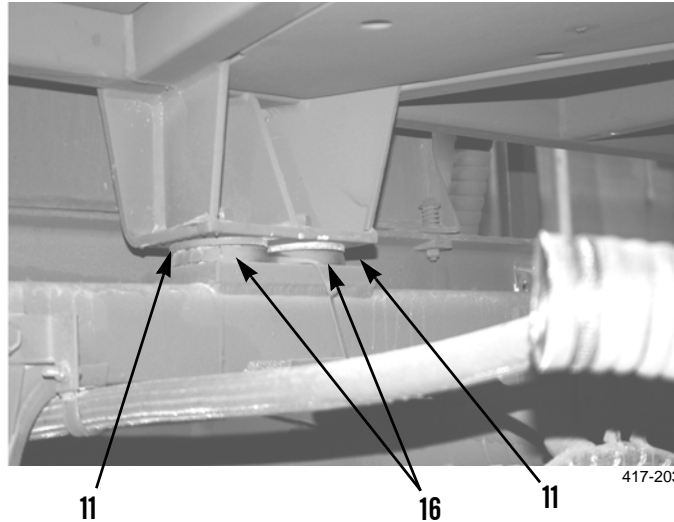
2. Lower cab (1) and remove lifting device (3) and wooden blocks (2).
3. Tighten locknuts (8) to 212 lb-ft (287 Nm).



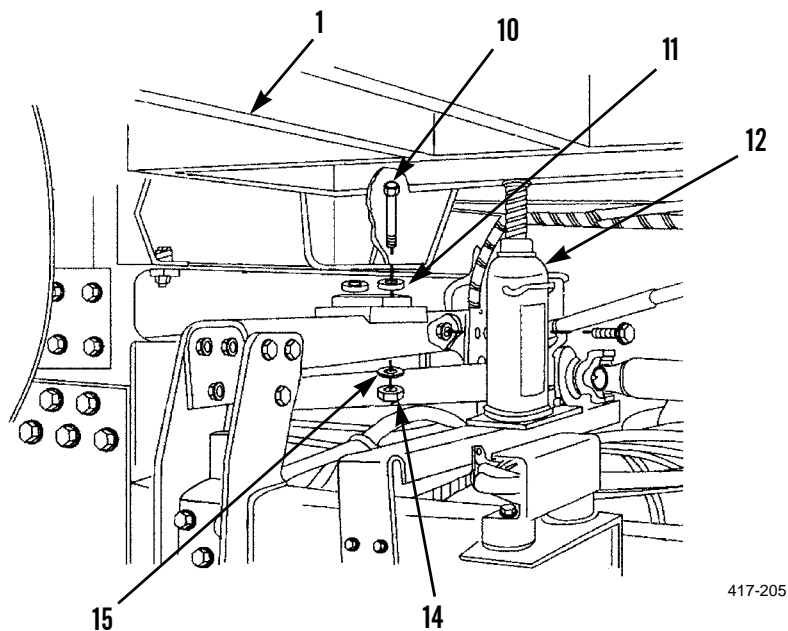
417-204

**INSTALLATION - CONTINUED**

4. Install two new cab mounts (16), four washers (11 and 15), two bolts (10), and new locknuts (14).



5. Lower cab (1) and remove lifting device (12).
6. Tighten locknuts (14) to 212 lb-ft (287 Nm).



7. Lower cab and remove lifting device from top of cab.
8. Install inner fender guards (TM 9-2320-360-20).
9. Install muffler (TM 9-2320-360-20).
10. Install spare tire (TM 9-2320-360-20).

**END OF WORK PACKAGE**



---

**SPARE TIRE PULLEY AND TIRE MOUNT BRACKET REPLACEMENT**

---

**0036 00**

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (8)

**References**

WP 0011 00

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

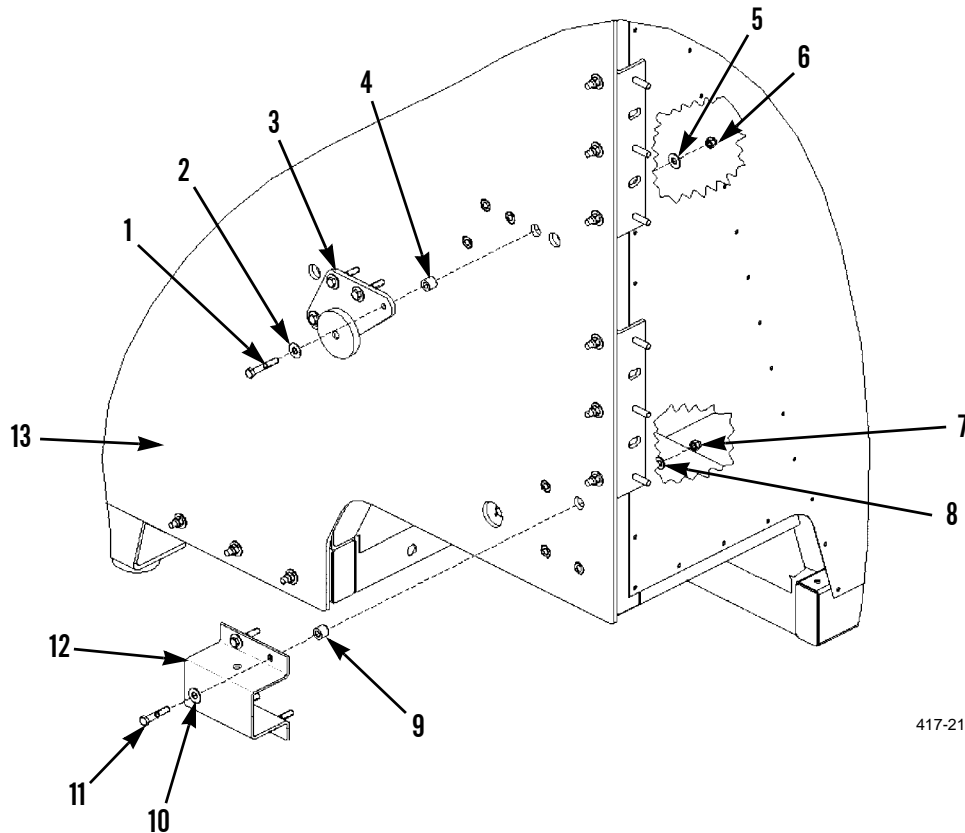
Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

---

**SPARE TIRE PULLEY AND TIRE MOUNT BRACKET REPLACEMENT - CONTINUED****0036 00****REMOVAL**

1. Remove four locknuts (6), washers (5), bolts (1), washers (2), spare tire pulley (3), and four spacers (4) from rear cab armor (13). Discard locknuts.
2. Remove four locknuts (7), washers (8), bolts (11), washers (10), tire mount bracket (12), and four spacers (9) from rear cab armor (13). Discard locknuts.

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Install four spacers (9), tire mount bracket (12), four washers (10), bolts (11), washers (8), and new locknuts (7) on rear cab armor (13). Torque locknuts to 35 lb-ft (48 Nm).
2. Install four spacers (4), spare tire pulley (3), four washers (2), bolts (1), washers (5), and new locknuts (6) on rear cab armor (13). Torque locknuts to 35 lb-ft (48 Nm).

**END OF WORK PACKAGE**

---

**SPRING STOP REPLACEMENT**

---

0037 00

**THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP****Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Shop Equipment, Common No. 1 (Item 6, WP 0041 00)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

Locknut (2)

Lockwasher

**References**

WP 0011 00

TM 9-2320-360-20

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

---

**REMOVAL****NOTE**

It is necessary to raise front of vehicle approximately 1.5 inches. This will allow enough clearance between chassis and axle to remove spring stop and bracket.

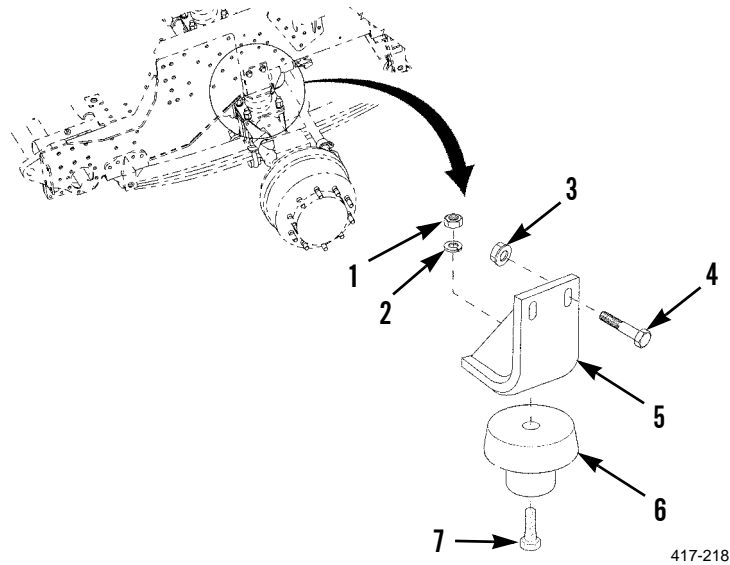
1. Raise front of vehicle approximately 1.5 inches (TM 9-2320-360-20).
2. Secure vehicle in raised position (TM 9-2320-360-20).

**SPRING STOP REPLACEMENT - CONTINUED**

0037 00

**REMOVAL - CONTINUED**

3. Remove nut (2), lockwasher (1), bolt (7), and spring stop (6) from spring stop bracket (5). Discard lockwasher.
4. Remove two locknuts (3), bolts (4), and spring stop bracket (5) from vehicle chassis. Discard locknuts.

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Install spring stop bracket (5), two bolts (4), and new locknuts (3) on vehicle chassis. Torque locknuts to 220 lb-ft (298 Nm).
2. Install spring stop (6), bolt (7), new lockwasher (1), and nut (2) on spring stop bracket (5). Torque nut to 110 lb-ft (149 Nm).
3. Lower vehicle to ground (TM 9-2320-360-20).

**END OF WORK PACKAGE**

---

**MUFFLER BRACKETS REPLACEMENT**

**0038 00**

---

**THIS WORK PACKAGE COVERS**

Removal, Cleaning and Inspection, Installation

---

**INITIAL SETUP**

**Maintenance Level**

Unit

**Tools and Special Tools**

Tool Kit, General Mechanic's (Item 8, WP 0041 00)

Device, Lifting (300 lb minimum capacity)

**Materials/Parts**

Rag, Wiping (Item 6, WP 0042 00)

**References**

WP 0011 00

**Equipment Conditions**

Vehicle parked on level ground (TM 9-2320-360-10)

Parking/Emergency Brake applied (TM 9-2320-360-10)

Engine off (TM 9-2320-360-10)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-360-10)

Muffler Shields removed (TM 9-2320-360-20)

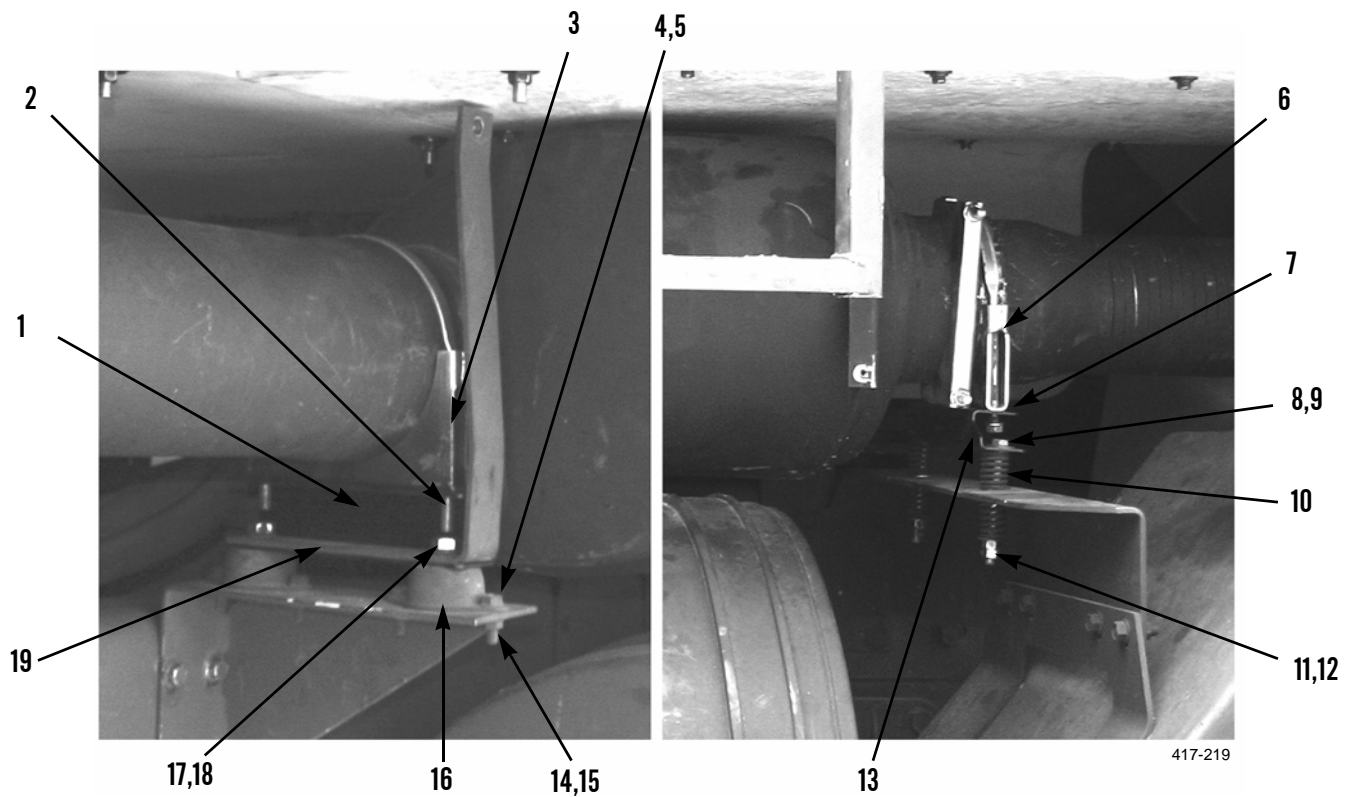
---

**MUFFLER BRACKETS REPLACEMENT - CONTINUED**

0038 00

**REMOVAL**

1. Using lifting device, support muffler.
2. Remove two nuts (2) and rear muffler clamp (3) from exhaust pipe.
3. Remove two bolts (17), washers (18), rear muffler bracket (1), and support bracket (19) from vehicle.
4. Remove four nuts (14), washers (15), bolts (4), washers (5), and two muffler bracket mounts (16) from vehicle.
5. Remove two nuts (7) and front muffler clamp (6) from exhaust pipe.
6. Remove four nuts (11), two washers (12), bolts (8), washers (9), four springs (10), and front muffler bracket (13) from vehicle.

**CLEANING AND INSPECTION**

Clean and inspect all parts IAW *General Maintenance Instructions* (WP 0011 00).

**INSTALLATION**

1. Install two washers (9), bolts (8), front muffler bracket (13), four springs (10), two washers (12), and four nuts (11) on vehicle.
2. Install front muffler clamp (6) and two nuts (7) on exhaust pipe and front muffler clamp (13).
3. Install two muffler bracket mounts (16), four washers (5), bolts (4), washers (15), and nuts (14) on vehicle.
4. Install rear muffler bracket (1), support bracket (19), two washers (18), and bolts (17) on muffler bracket mounts (16).
5. Install rear muffler clamp (3) and two nuts (2) on exhaust pipe and rear muffler bracket (1).
6. Remove lifting device from muffler.
7. Install muffler shields (TM 9-2320-360-20).

**END OF WORK PACKAGE**

**CHAPTER 5**  
**SUPPORTING INFORMATION**





**REFERENCES**

**0039 00**

**SCOPE**

This work package lists all publication indexes, forms, field manuals, technical bulletins, technical manuals, and other publications referenced in this manual and which apply to operation and maintenance of the Crew Protection Kit.

**PUBLICATION INDEXES**

The following indexes should be consulted frequently for latest changes or revisions and for new publications relating to material covered in this technical manual.

- Consolidated Army Publications and Forms Index. . . . . DA PAM 25-30
- Functional Users Manual for the Army Maintenance Management System (TAMMS) . . . . . DA PAM 750-8

**FORMS**

**NOTE**

Refer to DA PAM 750-8, *Functional Users Manual for the Army Maintenance Management System (TAMMS)*, for instructions on the use of maintenance forms.

- Equipment Inspection and Maintenance Worksheet . . . . . DA Form 2404, DA Form 5988-E
- Product Quality Deficiency Report. . . . . SF Form 368
- Recommended Changes to Publications and Blank Forms. . . . . DA Form 2028

**FIELD MANUALS**

- First Aid. . . . . FM 4-25.11

**TECHNICAL BULLETINS**

- CARC Spot Painting . . . . . TB 43-0242
- Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment,  
and Materials Handling Equipment . . . . . TB 43-0209

**TECHNICAL MANUALS**

- Direct Support and General Support Maintenance Manual for Truck,  
Tractor, M1070, 8 X 8, Heavy Equipment Transporter (HET) . . . . . TM 9-2320-360-34
- Materials Used for Cleaning, Preserving, Abrading and Cementing Ordnance Materiel, and  
Related Materials Including Chemicals . . . . . TM 9-247
- Operator’s Manual for Truck, Tractor, M1070, 8 X 8, Heavy Equipment Transporter (HET). . . . . TM 9-2320-360-10
- Procedures for Destruction of Tank-automotive Equipment to Prevent Enemy Use  
(U. S. Army Tank-automotive Command). . . . . TM 750-244-6
- Unit, Direct Support, and General Support Including Depot Maintenance RPSTL for Truck,  
Tractor, M1070, 8 x 8, Heavy Equipment Transporter (HET). . . . . TM 9-2320-360-24P
- Unit Maintenance Manual for Truck, Tractor, M1070, 8 x 8, Heavy Equipment Transporter (HET) . . . . . TM 9-2320-360-20

**OTHER PUBLICATIONS**

- Standard Abbreviations. . . . . ASME Y14.38-1999
- Army Medical Department Expendable/Durable Items . . . . . CTA 8-100
- Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items). . . . . CTA 50-970

**END OF WORK PACKAGE**



**THE ARMY MAINTENANCE SYSTEM**

1. This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.
2. The MAC immediately following this introduction designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown in the MAC (WP 0041 00) in column (4) as:

Field - includes subcolumns:

C - Operator/Crew

O - Unit

F - Direct Support

Sustainment - includes subcolumns:

H - General Support

D - Depot

3. The tools and test equipment requirements (immediately following the MAC) list the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.
4. The remarks (immediately following the tools and test equipment requirements) contain supplemental instructions and explanatory notes for a particular maintenance function.

**MAINTENANCE FUNCTIONS**

Maintenance functions are limited to and defined as follows:

1. **Inspect.** To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).
2. **Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.
3. **Service.** Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), preserve, drain, paint, or replenish fuel, lubricants, chemical fluids, or gases.
4. **Adjust.** To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
5. **Align.** To adjust specified variable elements of an item to bring about optimum or desired performance.
6. **Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. Calibration consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
7. **Remove/Install.** To remove and install the same item when required to perform service or other maintenance functions. Installation may be the act of emplacing or seating a spare, repair part, or module (component or assembly) into position in a manner to allow the proper functioning of an equipment or system.
8. **Replace.** To remove an unserviceable item and install a serviceable counterpart in its place. Replacement is authorized by the MAC and the assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.
9. **Repair.** Repair is the application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

**MAINTENANCE FUNCTIONS - CONTINUED****NOTE**

The following definitions are applicable to the "repair" maintenance function:

- Services - Inspecting, testing, service, adjustment, alignment, calibration, and/or replacement.
  - Fault location/troubleshooting - The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).
  - Disassembly/assembly - The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component, assigned a SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).
  - Actions - Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.
10. **Overhaul.** That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.
11. **Rebuild.** Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

**EXPLANATION OF COLUMNS IN THE MAC, TABLE 1**

1. **Column (1) - Group Number.** Column (1) lists Group numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA).
2. **Column (2) - Component/Assembly.** Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.
3. **Column (3) - Maintenance Function.** Column (3) lists the functions to be performed on the item listed in Column (2). (For a detailed explanation of these functions refer to "Maintenance Functions" outlined above).
4. **Column (4) - Maintenance Level.** Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as manhours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance levels are as follows:

Field:

C - Operator/Crew Maintenance  
 O - Unit Maintenance  
 F - Direct Support Maintenance

Sustainment:

H - General Support Maintenance  
 D - Depot Maintenance

**EXPLANATION OF COLUMNS IN THE MAC, TABLE 1 - CONTINUED****NOTE**

The "L" maintenance level is not included in column (4) of the MAC. Functions to this level of maintenance are identified by a work time figure in the "H" column of column (4), and an associated reference code is used in the REMARKS CODE column (6). This code is keyed to the remarks, and the SRA complete repair application is explained there.

5. **Column (5) - Tools and Equipment Reference Code.** Column (5) specifies, by code, common tool sets (not individual tools), common Test, Measurement, and Diagnostic Equipment (TMDE), special tools, special TMDE, and special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.
6. **Column (6) - Remarks Code.** When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries (Table 3).

**EXPLANATION OF COLUMNS IN THE TOOLS AND TEST EQUIPMENT REQUIREMENTS, TABLE 2**

1. **Column (1) - Tool or Test Equipment Reference Code.** The tool and test equipment reference code correlates with a code used in column (5) of the MAC.
2. **Column (2) - Maintenance Level.** The lowest level of maintenance authorized to use the tool or test equipment.
3. **Column (3) - Nomenclature.** Name or identification of the tool or test equipment.
4. **Column (4) - National Stock Number (NSN).** The NSN of the tool or test equipment.
5. **Column (5) - Tool Number.** The manufacturer's part number, model number, or type number.

**EXPLANATION OF COLUMNS IN THE REMARKS, TABLE 3**

1. **Column (1) - Remarks Code.** The code recorded in column (6) of the MAC.
2. **Column (2) - Remarks.** This column lists information pertinent to the maintenance function being performed as indicated in the MAC.

**END OF WORK PACKAGE**



MAINTENANCE ALLOCATION CHART (MAC)

0041 00

Table 1. MAC for the Crew Protection Kit .

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE	
			FIELD		SUSTAINMENT				
			UNIT		DS	GS			DEPOT
			C	O	F	H			D
33	<b>SPECIAL PURPOSE KITS</b>								
3307	Crew Protection Kit:	Install		30.0			1,2,3,4,5,6,7,8		
	Windshield Ballistic Glass (LH or RH and Armor)	Inspect	0.2					A	
		Service	0.2					B	
		Install		3.0			2,6,8		
		Replace		2.0			2,6,8		
	Firewall Armor (LH or RH)	Inspect	0.2					A	
		Install		2.0			5,6,7,8		
		Replace		2.0			5,6,7,8		
	Cab Side (Front) Armor (LH or RH)	Inspect	0.2					A	
		Install		4.0			3,4,5,6,7,8		
		Replace		1.0			3,4,5,6,7,8		
	Door Assembly	Inspect	0.2					A	
		Service	0.2					B	
		Install		1.5			5,6,7,8		
		Replace		1.5			5,6,7,8		
	Door Handle Assembly	Inspect	0.2					A	
		Replace		1.0			8		
	Door Latch and Lock Pin	Inspect	0.2					A	
		Replace		1.0			8		
	Door Ballistic Glass and Frame Assembly	Inspect	0.2					A	
		Service	0.2					B	
		Replace		2.0			8		
	Door Latch Adjustment	Inspect	0.2					A	
		Service		1.0			8		
	Doghouse Armor	Inspect	0.2					A	
		Install		8.0			6,8		
		Replace		3.0			6,8		

MAINTENANCE ALLOCATION CHART (MAC) - CONTINUED

0041 00

Table 1. MAC for the Crew Protection Kit - Continued.

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE	
			FIELD		SUSTAINMENT				
			UNIT		DS	GS			DEPOT
			C	O	F	H			D
	Rear Cab Armor	Inspect	0.2						A
		Install		3.0				2,5,6,7,8	
		Replace		2.0				2,5,6,7,8	
	Roof Armor	Inspect	0.2						A
		Install		2.0				5,6,7,8	
		Replace		1.5				5,6,7,8	
	Escape Hatch	Inspect	0.2						A
		Install		0.2				8	
		Replace		0.2				8	
	Step Armor (LH or RH)	Inspect	0.2						A
		Install		1.5				8	
		Replace		0.5				8	
	Seat Armor Panel	Inspect	0.2						A
		Install		0.5				8	
		Replace		0.5				8	
	Seatback Quick Release Bracket	Inspect	0.2						A
		Install		0.5				8	
		Replace		0.5				8	
	Wheel Well Armor	Inspect	0.2						A
		Install		2.0				8	
		Replace		1.5				8	
	Cab Side (Rear) Armor (LH or RH)	Inspect	0.2						A
		Install		3.0				6,7,8	
		Replace		1.5				6,7,8	
	Left Blast Deflector	Inspect	0.2						A
		Install		4.0				6,7,8	
		Replace		2.0				6,7,8	
	Right Blast Deflector	Inspect	0.2						A
		Install		2.0				6,7,8	
		Replace		1.0				6,7,8	
Center Blast Deflector	Inspect	0.2						A	
	Install		5.0				6,7,8		
	Replace		3.0				6,7,8		



MAINTENANCE ALLOCATION CHART (MAC) - CONTINUED

0041 00

Table 1. MAC for the Crew Protection Kit - Continued.

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT				
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
	Cab Mounts	Inspect	0.2						A
		Install		1.0				6,8	
		Replace		1.0				6,8	
	Tire Pulley	Inspect	0.2						A
		Install		1.0				8	
		Replace		1.0				8	
	Muffler Brackets	Inspect	0.2						A
		Install		1.0				8	
		Replace		1.0				8	
	Spring Stops	Inspect	0.2						A
		Install		0.5				6,8	
		Replace		0.5				6,8	

## MAINTENANCE ALLOCATION CHART (MAC) - CONTINUED

0041 00

Table 2. Tools and Test Equipment Requirements for the Crew Protection Kit.

(1) TOOLS OR TEST EQUIPMENT REFERENCE CODE	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL STOCK NUMBER (NSN)	(5) TOOL NUMBER (CAGEC)
1	O	Clamp, C: 2-1/2 In., 10 In. Size	5120-00-203-6432	5120-00-203-6432 (08292)
2	O	Dispenser, Sealant	5120-00-679-5655	101 (06798)
3	O	Drill Set, Twist: 33/64 to 3/4 In. in 1/64 In. Increments	5133-00-596-8088	B94.11M (05047)
4	O	Drill, Twist: 7/8 In.		91456 (16568)
5	O	Link, Bearing (Lifting)	5120-01-451-1401	1387575 (11083)
6	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 1, Less Power	4910-00-754-0654	SC 4910-95CLA74 (19204)
7	O	Sling, Nylon	2835-01-078-2081	4-8FTX2IN (91796)
8	O	Tool Kit, General Mechanic's: Automotive	5180-01-454-3787	12B470000 (59678)

Table 3. Remarks for the Crew Protection Kit.

(1) REMARKS CODE	(2) REMARKS
A	Refer to Operator PMCS.
B	Service by cleaning ballistic glass.

END OF WORK PACKAGE

---

**EXPENDABLE AND DURABLE ITEMS LIST**

---

**0042 00****SCOPE**

This work package lists expendable and durable items you will need to install, operate and maintain the Crew Protection Kit. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, *Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items)*, or CTA 8-100, *Army Medical Department Expendable/Durable Items*.

**EXPLANATION OF COLUMNS**

1. **Column (1) - Item Number.** This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the item [e.g., Apply sealing compound (Item 6, WP 0042 00)].
2. **Column (2) - Level.** This column identifies the lowest level of maintenance that requires the listed item.
  - C - Operator/Crew
  - O - Unit Maintenance
3. **Column (3) - National Stock Number.** This is the National Stock Number assigned to the item which you can use to requisition it.
4. **Column (4) - Description, CAGEC, and Part Number.** This provides the other information you need to identify the item.
5. **Column (5) - Unit of Measure (U/M).** This column shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

EXPENDABLE AND DURABLE ITEMS LIST - CONTINUED

0042 00

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION, CAGEC, AND PART NUMBER	(5) U/M
1	O	8040-01-250-3969	ADHESIVE: Thread (05972) 242  50 Milliliter Bottle	BT
2	C	6850-01-474-2318 6850-01-474-2320 6850-01-474-2321	CLEANING COMPOUND: Solvent, Type III (81349) MIL-PRF-680  1 Gallon Can 5 Gallon Can 55 Gallon Drum	CN CN DR
3	O	5350-00-584-4654	CLOTH, ABRASIVE (80204) ANSI B74.18  50 Sheet Package	PG
4	C	7930-00-282-9699 9140-00-286-5294 9140-00-286-5295 9140-00-286-5296	DETERGENT: General Purpose, Liquid (83421) 7930-00-282-9699  1 Gallon Can Bulk 5 Gallon Can 55 Gallon Drum	CN GL CN DR
5	C	9150-00-189-6727 9150-00-186-6668 9150-00-191-2772	OIL, LUBRICATING: OE/HDO-10 (81349) MIL-PRF-2104  1 Quart Can 5 Gallon Can 55 Gallon Drum	CN CN DR
6	C	7920-00-205-1711	RAG: Wiping (64067) A-A-431  50 Pound Bale	BL
7	O	8030-01-320-4710	SEALING COMPOUND: Urethane (52157) 051135-08609  10.5 Ounce Cartridge	CA
8	O	5975-01-379-4997	STRAP, TIEDOWN: Electrical Components (06383) PLT35-C-O  Package of 100	PK
9	O	9905-00-537-8954	TAG, MARKER (64067) 9905-00-537-8954  Bundle of 50	BD

EXPENDABLE AND DURABLE ITEMS LIST - CONTINUED

0042 00

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION, CAGEC, AND PART NUMBER	(5) U/M
10	O	7510-00-473-9513	TAPE: Pressure Sensitive Adhesive (81349) MIL-T-23397  60 Yard Roll	RL
11	O		TRIM SEAL (81349) X-275-HT	RL

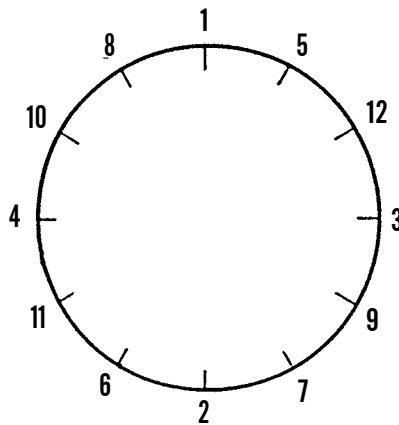


**SCOPE**

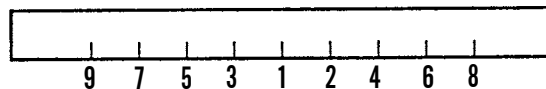
This work package lists standard torque values and provides general information for applying torque. Special torque values and tightening sequences are indicated in the maintenance procedures for applicable components.

**GENERAL**

1. Always use torque values listed in Tables 1 and 2 when a maintenance procedure does not give a specific torque value.
  - a. Table 1 provides torque limits for SAE standard fasteners.
  - b. Table 2 provides torque limits for metric fasteners.
2. Unless otherwise indicated, standard torque tolerance shall be  $\pm 10$  percent.
3. Torque values listed are based on clean, dry threads. Reduce torque by 10 percent when engine oil is used as a lubricant. Reduce torque by 20 percent if new plated capscrews are used.
4. If the maintenance procedures do not specify a tightening order, use the following guides:
  - a. Unless otherwise specified, lubricate threads of fasteners with clean oil (OE/HDO-10).
  - b. When tightening fasteners above 30 lb-ft (41 Nm), use the torque pattern but only tighten to 70 percent of final value (multiply final value by 0.7). Repeat pattern until final value is reached.
  - c. Tighten circular patterns using circular torque pattern and tighten straight patterns using straight torque pattern.



**CIRCULAR TORQUE PATTERN**



**STRAIGHT TORQUE PATTERN**

**CAUTION**

If replacement capscrews are of higher grade than originally supplied, use torque specifications for the original. This will prevent equipment damage due to overtightening.

**TORQUE LIMITS - CONTINUED**

**0043 00**

**Table 1. Torque Limits - SAE Standard Fasteners.**

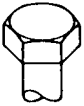


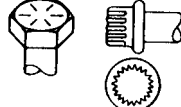
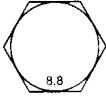
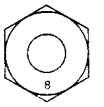
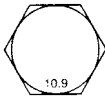
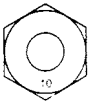
CURRENT USAGE	MUCH USED	MUCH USED	USED AT TIMES	USED AT TIMES
QUALITY OF MATERIAL	INDETERMINATE	MINIMUM COMMERCIAL	MEDIUM COMMERCIAL	BEST COMMERCIAL
SAE Grade Number	1 or 2	5	6 or 7	8
Cap Screw Head Markings				
Manufacturer's marks may vary				
These are all SAE Grade 5 (3 line)				
CAPSCREW BODY SIZE IN. - THREAD	TORQUE LB-FT (NM)	TORQUE LB-FT (NM)	TORQUE LB-FT (NM)	TORQUE LB-FT (NM)
1/4 20 28	5 (7) 6 (8)	8 (11) 10 (14)	10 (14)	12 (16) 14 (19)
5/16 18 24	11 (15) 13 (18)	17 (23) 19 (26)	19 (26)	24 (33) 27 (37)
3/8 16 24	18 (24) 20 (27)	31 (42) 35 (47)	34 (46)	44 (60) 49 (66)
7/16 14 20	28 (38) 30 (41)	49 (66) 55 (75)	55 (75)	70 (95) 78 (106)
1/2 13 20	39 (53) 41 (56)	75 (102) 85 (115)	85 (115)	105 (142) 120 (163)
9/16 12 18	51 (69) 55 (75)	110 (149) 120 (163)	120 (163)	155 (210) 170 (231)
5/8 11 18	83 (113) 95 (129)	150 (203) 170 (231)	167 (226)	210 (285) 240 (325)
3/4 10 16	105 (142) 115 (156)	270 (366) 295 (400)	280 (380)	375 (508) 420 (569)
7/8 9 14	160 (217) 175 (237)	395 (536) 435 (590)	440 (597)	605 (820) 675 (915)
1 8 14	235 (319) 250 (339)	590 (800) 660 (895)	660 (895)	910 (1234) 990 (1342)



Table 2. Torque Limits - Metric Fasteners.

TORQUE VALUES FOR METRIC THREAD FASTENERS WITH LUBRICATED* OR PLATED THREADS†				
Thread Diameter-Pitch				
	Class 8.8 Bolt	Class 8 Nut	Class 10.9 Bolt	Class 10 Nut
	Torque: lb-ft (Nm)		Torque: lb-ft (Nm)	
M6	5 (7)		7 (9)	
M8	12 (16)		17 (23)	
M8 x 1	13 (18)		18 (24)	
M10	24 (33)		34 (46)	
M10 x 1.25	27 (37)		38 (52)	
M12	42 (57)		60 (81)	
M12 x 1.5	43 (58)		62 (84)	
M14	66 (89)		95 (129)	
M14 x 1.5	72 (98)		103 (140)	
M16	103 (140)		148 (201)	
M16 x 1.5	110 (149)		157 (213)	
M18	147 (199)		203 (275)	
M18 x 1.5	165 (224)		229 (310)	
M20	208 (282)		288 (390)	
M20 x 1.5	213 (313)		320 (434)	
M22	283 (384)		392 (531)	
M22 x 1.5	315 (427)		431 (584)	
M24	360 (488)		498 (675)	
M24 x 2	392 (531)		542 (735)	
M27	527 (715)		729 (988)	
M27 x 2	569 (771)		788 (1068)	
M30	715 (969)		990 (1342)	
M30 x 2	792 (1074)		1096 (1486)	

\* All plated and unplated fasteners should be coated with oil before installation.

† Use these torque values if either the bolt or nut is lubricated or plated (zinc-phosphate conversion-coated, cadmium-plated, or waxed).

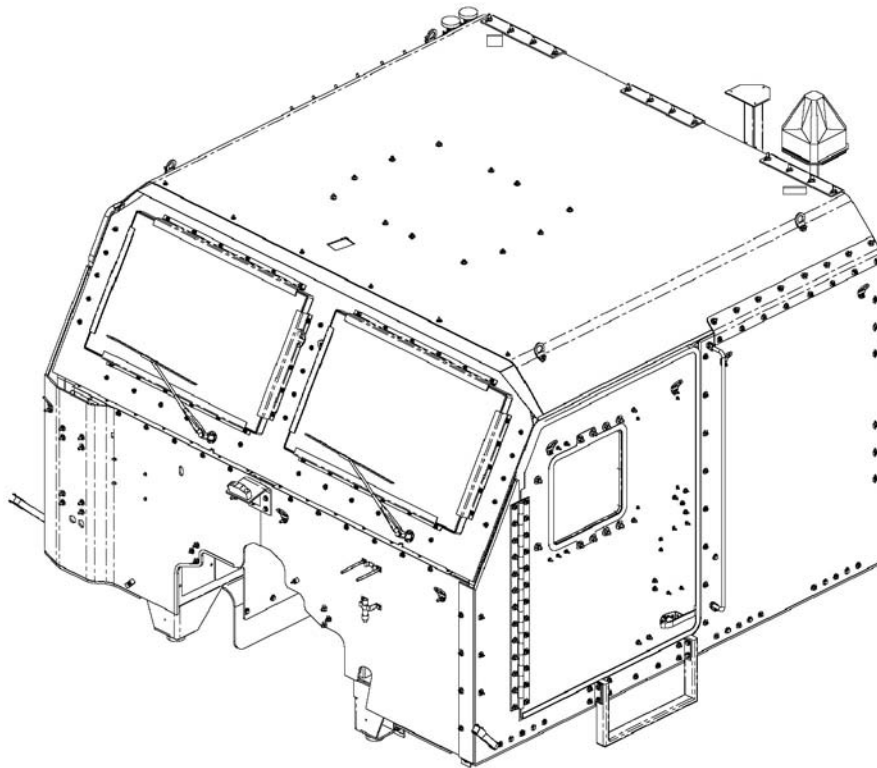
END OF WORK PACKAGE







**TECHNICAL MANUAL**  
**INSTALLATION INSTRUCTIONS**  
**FOR**  
**HEAVY EQUIPMENT TRANSPORTER (HET) ARMOR**  
**CREW PROTECTION KIT,**  
**APPLICABLE TO:**  
**TRUCK, TRACTOR, M1070, 8 X 8**



**PREPARED BY:**  
**Simula Aerospace and Defense Group, Inc.**  
**7822 South 46th Street, Phoenix, AZ 85044**

Prepared by:	Approved by:	Approved by:
/s/ Ryan Larson                      9/22/04	/s/ Jim Bussey                      9/22/04	/s/ Curt Parsons                      9/22/04
_____ Ryan Larson                      Date Design Engineer	_____ Jim Bussey                      Date ILS/R&M Engineer	_____ Curt Parsons                      Date Program Manager



<b>REVISIONS</b>				
<b>REV</b>	<b>CHANGED BY</b>	<b>DESCRIPTION</b>	<b>CM RELEASE</b>	<b>DATE</b>
-	-	Initial Release	J. Celis	23-Sept-04
A	J. Bussey	Revised per ECO 486067	J. Celis	18-Oct-04
B	G. Sprague	Revised per ECO 486427	K. Rodriguez	2-Dec-04
C	G. Sprague	Revised per ECO 486820	K. Rodriguez	4-Apr-05
D	G. Sprague	Revised per ECO 487693		29-Jun-05





## TABLE OF CONTENTS

### INSTALLATION INSTRUCTIONS FOR HEAVY EQUIPMENT TRANSPORTER (HET) ARMOR CREW PROTECTION KIT, APPLICABLE TO: TRUCK, TRACTOR, M1070, 8 X 8

TOC	TABLE OF CONTENTS	i
LOF	LIST OF FIGURES	iii
LOT	LIST OF TABLES	vi
CHAPTER 1	GENERAL INFORMATION	
1-1	Introduction .....	1-1
1-2	Crating and Uncrating .....	1-1
1-3	Safety Considerations .....	1-1
1-4	Warnings, Cautions, and Notes .....	1-2
1-5	Description .....	1-4
1-6	General .....	1-4
1-7	Parts List .....	1-5
1-8	Required Tools and Equipment .....	1-11
1-9	General Installation Instructions .....	1-12
1-10	Personnel Skill Level .....	1-12
CHAPTER 2	TEARDOWN	
2-1	Teardown Procedures.....	2-1
CHAPTER 3	INSTALLATION	
3-1	Installation Procedures Reference Index.....	3-1
3-2	Firewall Bracket Installation .....	3-3
3-3	Windshield Armor Panel Installation .....	3-5
3-4	Roof Armor Installation .....	3-13
3-5	Rear Armor Installation .....	3-18
3-6	Left Side Panel Armor Installation .....	3-33
3-7	Right Side Panel Armor Installation .....	3-43
3-8	Wheel Well Armor Installation .....	3-53
3-9	Center Mine Blast Armor Installation .....	3-63
3-10	Doghouse Armor Installation – Phase I .....	3-77
3-11	Right Side “A” Pillar Armor Installation .....	3-89
3-12	Right Side Firewall Armor Installation .....	3-99
3-13	Left Side Firewall Armor Installation .....	3-105

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

3-14	Left Side “A” Pillar Armor Installation .....	3-111
3-15	Left Side Mine Blast Armor Installation .....	3-117
3-16	Right Side Mine Blast Armor Installation .....	3-121
3-17	Left Side Step Armor Installation .....	3-127
3-18	Right Side Step Armor Installation .....	3-133
3-19	Doghouse Armor Installation – Phase II .....	3-137
3-20	Door Armor Installation .....	3-151
3-21	Windshield Transparent Armor Installation .....	3-163
3-22	Escape Hatch Armor Installation .....	3-169
3-23	Seat Armor Panel Installation .....	3-179
3-24	Backseat Quick-Release Installation .....	3-183
CHAPTER 4	FINAL ASSEMBLY	
4-1	Vehicle Final Assembly	4-1

## LIST OF FIGURES

### INSTALLATION INSTRUCTIONS

#### HEAVY EQUIPMENT TRANSPORTER (HET) ARMOR CREW PROTECTION KIT, APPLICABLE TO: TRUCK, TRACTOR, M1070, 8 X 8

FIGURE	TITLE	PAGE
1-1	HET Armor Crew Protection Kit Component Locations	1-3
3-1	Firewall Brackets Installation	3-4
3-2	Center Windshield Bracket onto Windshield Armor Panel Installation	3-6
3-3	Side Windshield Bracket Installation	3-7
3-4	Upper and Lower Windshield Brackets Installation	3-8
3-5	Apply Rubber Seal to Windshield Armor Panel	3-9
3-6	Windshield Armor Panel Installation	3-10
3-7	Install Windshield Clamp Brackets	3-11
3-8	Windshield Wiper Blade Modification and Wiper Arm Installation	3-12
3-9	Roof Panel Pre-Assembly	3-15
3-10	Roof Panel Mounting Studs and Spacers Installation	3-16
3-11	Roof Panel Installation	3-17
3-12	Rear Panel Pre-Assembly	3-21
3-13	Rear Panel Installation	3-23
3-14	Rear Seat Belt Assembly Installation	3-25
3-15	Tire Pulley Bracket and Tire Mount Bracket Installation	3-27
3-16	Beacon Light Bracket Assembly Installation	3-29
3-17	Match-Drill of Cab Frame Rail	3-31
3-18	Left Side Window Cover Installation	3-35
3-19	Left Aft Side Panels Pre-Assembly	3-37
3-20	Left Aft Side Panel Assembly Installation	3-39
3-21	Cab Frame Rail Sleeve Bushing and Grab Handle Installation	3-41
3-22	Right Side Window Cover Installation	3-45
3-23	Right Aft Side Panels Pre-Assembly	3-47
3-24	Right Aft Side Panel Assembly Installation	3-49
3-25	Cab Frame Rail Sleeve Bushing and Grab Handle Installation	3-51
3-26	Lower Wheel Well Panel Pre-Assembly	3-55
3-27	Match-Drill Cab Frame Rail	3-57
3-28	Cab Frame Rail Sleeve Bushings Installation	3-58
3-29	Upper Wheel Well Panel Pre-Assembly	3-59
3-30	Match-Drill Cab Frame Rail	3-61
3-31	Upper Wheel Well Panel Installation	3-62
3-32	Assemble Bottom Rear Brackets and Match-Drill Cab Frame Rail	3-65
3-33	Bottom Rear Bracket Installation	3-67
3-34	Match-Drill Cab Frame Rail	3-69

**M1070 HET ARMOR KIT****II113400****Rev. D**

<b>FIGURE</b>	<b>TITLE</b>	<b>PAGE</b>
3-35	Bottom Rear Bracket Installation	3-71
3-36	Center Mine Blast Panel Installation	3-63
3-37	Loop Clamp Re-installation	3-74
3-38	Center-Rear Mine Blast Panel Installation	3-75
3-39	Match-Drill Doghouse Floor Panel	3-78
3-40	Match-Drill Doghouse Floor Panel	3-79
3-41	Match-Drill Doghouse	3-81
3-42	Match-Drill Frame Rail	3-82
3-43	Doghouse Inner Bracket Installation	3-83
3-44	Doghouse Right Panel Pre-Assembly	3-85
3-45	Doghouse Right Panel Assembly Installation	3-86
3-46	Doghouse Left Panel Assembly Installation	3-87
3-47	Doghouse Left Panel Pre-Assembly	3-88
3-48	Right Side Panels Pre-Assembly	3-91
3-49	Right Side Panel Assembly Installation	3-93
3-50	Cab Frame Rail Sleeve Bushing Installation	3-95
3-51	Right-Inside Firewall Bracket Installation	3-97
3-52	Firewall Right Panel Pre-Assembly	3-100
3-53	Firewall Hood Spacer Installation	3-101
3-54	Power Steering Brackets Installation	3-102
3-55	Firewall Right Panel Assembly Installation (Sheet 1 of 2)	3-103
3-55	Firewall Right Panel Assembly Installation (Sheet 2 of 2)	3-104
3-56	Left Firewall Panel Pre-Assembly	3-106
3-57	Firewall Hood Spacer Bolt Removal	3-107
3-58	Left Firewall Panel Assembly Installation	3-109
3-59	Left Side Panels Pre-Assembly	3-113
3-60	Left Side Panel Assembly Installation	3-115
3-61	Cab Frame Rail Sleeve Bushing Installation	3-116
3-62	Left Mine Blast Panel Installation	3-119
3-63	Right Mine Blast Panel Pre-Assembly	3-123
3-64	Right Mine Blast Panel Assembly Installation	3-125
3-65	Left Step Panel Pre-Assembly	3-129
3-66	Left Step Panel Installation	3-131
3-67	Right Step Panel Pre-Assembly	3-134
3-68	Right Step Panel Installation	3-135
3-69	Doghouse Preparation	3-139
3-70	Doghouse Insulation Modification	3-140
3-71	Match-Drill for Doghouse Lower Panel	3-143
3-72	Doghouse Upper Bracket Installation	3-145
3-73	Doghouse Bottom Panel Installation	3-146
3-74	Doghouse Panel Installation	3-147
3-75	Doghouse/Center Mine Blast Panel Bolts Installation	3-148
3-76	Doghouse Access Panel Installation	3-149
3-77	Door Sill Block Installation	3-153
3-78	Door Installation	3-155
3-79	Door Striker and Striker Support Installation	3-157
3-80	Door Adjustment	3-159
3-81	Door Strap Assembly Installation	3-161
3-82	Windshield Mount Z-Channel Installation	3-165
3-83	Windshield Assembly Armor Installation	3-167
3-84	Escape Hatch Mounts Pre-Assembly	3-171
3-85	Escape Hatch Panel Pre-Assembly	3-173
3-86	Escape Hatch Mount Assemblies Installation	3-175

<b>FIGURE</b>	<b>TITLE</b>	<b>PAGE</b>
3-87	Escape Hatch Panel Assembly Installation	3-177
3-88	Seat Armor Panel Installation	3-181
3-89	Seatback Quick-Release Installation	3-185
4-1	Hood Bumper and Bracket Installation	4-4
4-2	Hood Clamping Catch and Button Press Point Spacer Installation	4-5
4-3	Re-installation of Power Steering Reservoir Assembly	4-6
4-4	Re-installation of Air-Cleaner Hose Strap	4-7
4-5	Installation of the Windshield Washer Reservoir	4-8
4-6	Vehicle Identification Plate Re-Attachment	4-9
4-7	Installation of the Mirror Brackets and Mirrors	4-10
4-8	Installation of Trim Seals Inside of Right Door Hinge Area	4-11
4-9	Installation of Trim Seals Inside of Left Door Hinge Area	4-12



## LIST OF TABLES

### INSTALLATION INSTRUCTIONS

### HEAVY EQUIPMENT TRANSPORTER (HET) ARMOR CREW PROTECTION KIT, APPLICABLE TO: TRUCK, TRACTOR, M1070, 8 X 8

<b>TABLE</b>	<b>TITLE</b>	<b>PAGE</b>
1-1	Armor Kit Weight	1-4
1-2	Parts List – HET Crew Protection Armor Kit, P/N 113400-1	1-5
1-3	Parts List – HET Fastener Kit, P/N 113480-1	1-7
1-4	Parts List – HET Fastener Kit, Extra, P/N 113482-1	1-9
1-5	Parts List – HET Template Kit, P/N 113481-1	1-10
1-6	Equipment and Materials Required to Install the HET Crew Protection Armor Kit	1-11





## **CHAPTER 1 GENERAL INFORMATION**

### **INSTALLATION INSTRUCTIONS**

#### **HEAVY EQUIPMENT TRANSPORTER (HET) ARMOR CREW PROTECTION KIT, APPLICABLE TO: TRUCK, TRACTOR, M1070, 8 X 8**

##### **Section I. General Information**

#### **1-1. INTRODUCTION**

This document provides the Installation Instructions for the Armor Crew Protection Kit (CPK, or the Kit) for the Heavy Equipment Transporter (HET) vehicle. This Kit, which was manufactured by Simula Aerospace and Defense Group, Inc. (Simula), is composed of various armor panels that can be easily attached and detached from the HET and stored when not required.

This Kit provides the HET with improved protection against mine blasts, improvised explosive devices (IEDs), light artillery fragments, and 7.62-mm Ball projectiles. The Kit consists of Right and Left Door and Rear Side IED protection, Underbody and Wheel-well Mine-Blast Deflectors, Firewall, Doghouse, Rear, and Roof Ballistic Coverings, Windshield and Side Window Transparent Armor, and an Armored Escape Hatch Assembly in the rear (see Figure 1-1).

#### **1-2. CRATING AND UNCRATING**

Each Kit is contained within multiple shipping containers. These containers provide the Kit's armor panels with protection and security when they are not installed on the HET. Because of the weight of the specific armor panels within the Kit, care should be taken during the removal of the panels from the containers or the replacement of the panels back into the containers. Two personnel and mechanical aids (hoist, forklift, etc.) are required during the removal / installation of the armor panels.

#### **1-3. SAFETY CONSIDERATIONS**

The weights of the majority of the components within the Kit are heavier than allowable for one or two personnel, and the metal armor components may have sharp edges. Appropriate lifting and safety equipment, manpower, and safety precautions shall be utilized to ensure that no injuries are incurred during the installation or removal of the armor panels onto the HET or during the removal or replacement of the panels into the shipping containers. Warnings, Cautions, and Notes are provided in these Installation Instructions, as appropriate, to advise the maintenance personnel of information necessary for the installation or removal of Kit components.

**1-4. WARNINGS, CAUTIONS, AND NOTES**

Warnings, Cautions, and Notes are included in these Installation Instructions to provide short, concise statements that emphasize critical or important information. Warnings, Cautions, and Notes precede the text that they affect, but follow the paragraph headings to which they apply. Warnings precede Cautions, and Cautions, in turn, precede Notes. A format example and an explanation of the function of each are provided below.

**WARNING**

**WARNINGS HIGHLIGHT AN OPERATING OR MAINTENANCE PROCEDURE, PRACTICE, CONDITION, STATEMENT, ETC., WHICH, IF NOT STRICTLY OBSERVED, COULD RESULT IN INJURY TO PERSONNEL OR LOSS OF LIFE.**

**CAUTION**

Cautions highlight an operating or maintenance procedure, practice, condition, statement, etc., which, if not strictly observed, could result in damage to, or destruction of, equipment, loss of mission effectiveness, or long-term health hazards to personnel.

**NOTE**

Notes highlight an essential operating or maintenance procedure, condition, or statement.

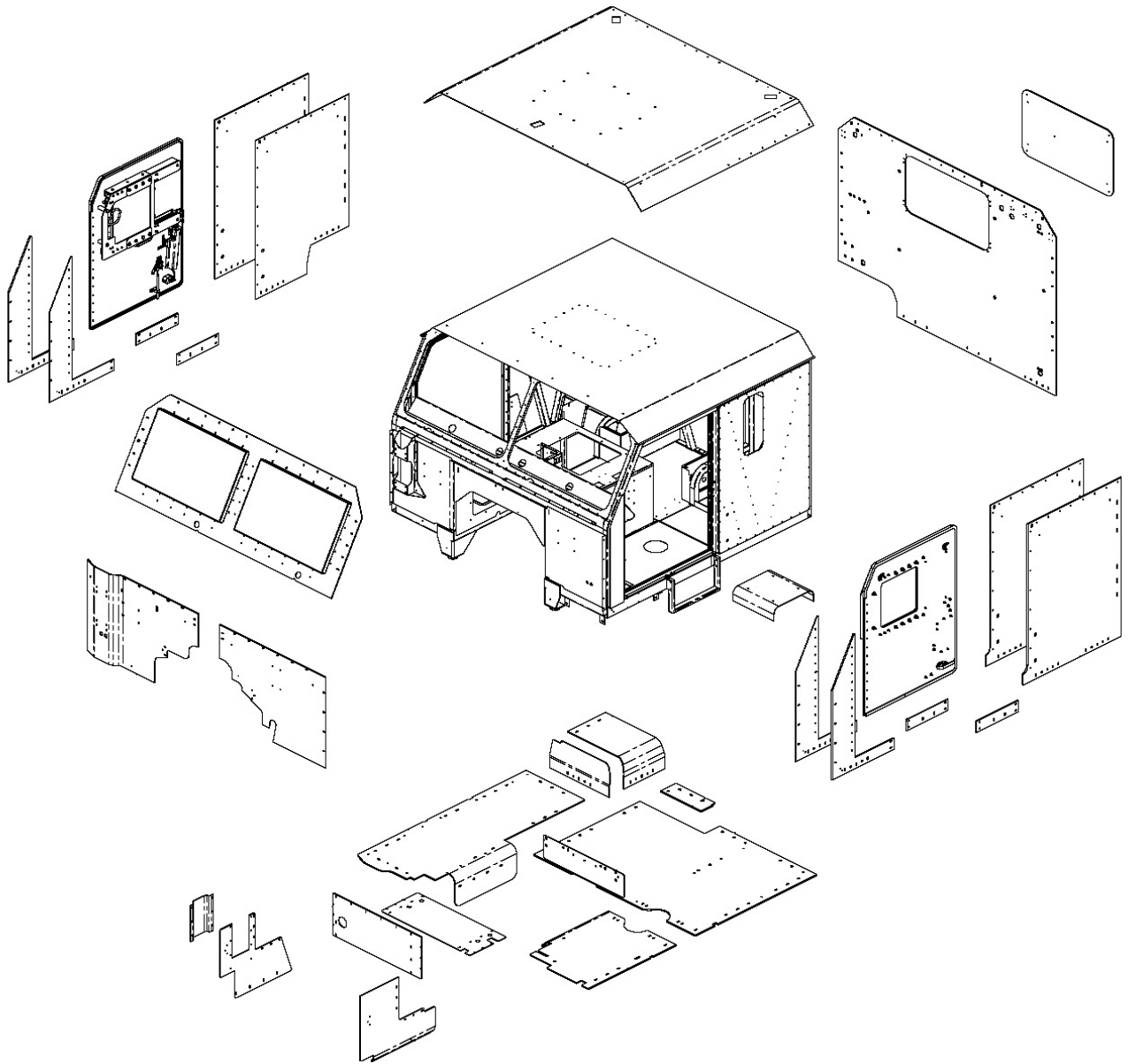


Figure 1-1. HET Armor Crew Protection Kit Components.

**1-5. DESCRIPTION**

The approximate weight of the HET Crew Protection Armor Kit is listed in Table 1-1.

<i>Table 1-1. Armor Kit Weight</i>		
<b>Part Nomenclature</b>	<b>P/N</b>	<b>Weight (lb)</b>
Kit, HET Crew Protection Armor	113400-1	4,200
<b>Total Kit Weight</b>		
<b>Total Weight of Removed Items</b>		<b>502</b>
<b>Total Weight Increase to Vehicle</b>		<b>*3,698</b>

\* Does not include weight of A/C kit, suspension upgrades, or cab mount upgrades.

**1-6. GENERAL**

The HET Crew Protection Armor Kit consists of two Armored Doors, Roof Armor, Transparent Windshield Armor, four Underbody and two Wheel-Well Blast Deflectors, six Doghouse Armored Panels, three Firewall Panels, Forward and Rear Side Armor Panels, one Large Rear Cab Armor Panel, and a Rear Armored Escape Hatch.

This armored solution begins by securing a large Armor Roof Panel in place from which the side and rear armor panels are hung. Additional support is provided by using brackets and GR8 fasteners that are connected to the lower frame rails of the cab. In addition, the Underbody, Wheel-Well, Doghouse, Firewall and Front Armor areas are all interconnected by a series of 90° Joiner Brackets strategically located throughout the design. This approach allows the entire armored system to be interdependent and thus distribute the support load and protection to the cab as effectively as possible.

The new Armored Door Assemblies are bolted to the existing door frames using a new, heavy-duty hinge design. They include sliding, transparent armored windows with combat locks on both the windows and doors.

For emergency situations, two new quick-release bracket assemblies were incorporated into the backseat seat-back. When necessary, the release pins are easily removed allowing the seat-back to drop out of the way and allowing full access to the Armored Escape Hatch mounted to the Rear Armor Panel. The Escape Hatch Assembly is designed to be quickly disengaged using four over-center latches and pushed out, dropping to the ground no matter the position of the vehicle, providing a rapid exit.

<b>1-7. PARTS LIST</b>
------------------------

The HET Armor Crew Protection Kit, P/N 113400-1, is composed of the components / kits listed in Table 1-2.

*Table 1-2. Parts List – HET Armor Crew Protection Kit, P/N 113400-1*

Item No.	Name (Weight of Major Armor Panels)	P/N	Quantity
1	PANEL, WINDSHIELD (143 LB)	113402-1	1
2	PANEL, DH, RIGHT (32 LB)	113404-1	1
3	PANEL, DH, LEFT (46 LB)	113405-1	1
4	PANEL, DOG HOUSE, LOWER (20 LB)	113407-1	1
5	HINGE, DOOR	113408-1	2
6	BRACKET, HINGE	113409-1	2
7	PANEL, SIDE, FORWARD (25 LB)	113411-1	1
8	PANEL, SIDE, FORWARD (25 LB)	113411-2	1
9	PANEL, SIDE, FORWARD (24 LB)	113411-3	1
10	PANEL, SIDE, FORWARD (24 LB)	113411-4	1
11	PANEL, SIDE, AFT (125 LB)	113412-1	1
12	PANEL, SIDE, AFT (115 LB)	113412-2	1
13	PANEL, SIDE, AFT (120 LB)	113412-3	1
14	PANEL, SIDE, AFT (111 LB)	113412-4	1
15	PANEL, ARMOR, ROOF-SIDE	113406-1	2
16	BRACKET, REAR PANEL	113414-1	3
17	BRACKET, 90-DEGREE JOINER	113415-1	16
18	PLATE, STUD	113416-1	12
19	BRACKET, DOGHOUSE UPPER	113417-1	1
20	BRACKET, PLGR ANTENNA MOUNT	113419-1	2
21	BRACKET, BOTTOM REAR	113420-1	1
22	BRACKET, BOTTOM, REAR	113420-3	1
23	BRACKET, BOTTOM FRONT	113421-1	1
24	BRACKET, MTS ANTENNA MOUNT	113422-1	1
25	BRACKET, MTS ANTENNA MOUNT	113422-3	1
26	PANEL, ESCAPE HATCH (83 LB)	113424-1	1
27	MOUNT, ESCAPE HATCH	113425-1	4
28	BRACKET, WINDSHIELD	113426-1	4
29	SPACER, FIREWALL RIGHT	113427-1	4
30	SPACER, FIREWALL HOOD	113428-1	1
31	DOOR ASSEMBLY, HET (330 LB)	113430-1	1
32	DOOR ASSEMBLY, HET (330 LB)	113430-2	1
33	BLOCK, DOOR SILL	113432-1	2
34	SPACER	113440-1	8
35	SPACER	113440-2	6
36	SPACER	113440-3	13
37	PANEL ROOF (406 LB)	113441-1	1
38	CATCH, ESCAPE HATCH	113443-1	4
39	BRACKET, REAR LIGHT	113444-1	2
40	PANEL, WHEEL WELL, UPPER (60 LB)	113449-1	1

**M1070 HET ARMOR KIT****II113400****Rev. D***Table 1-2. Parts List – HET Armor Crew Protection Kit, P/N 113400-1*

41	PANEL FIREWALL, LH	113450-1	1
42	PANEL, REAR (445)	113451-1	1
43	PANEL, WHEEL WELL, LOWER (22)	113453-1	1
44	PANEL, FIREWALL, RIGHT (113)	113455-1	1
45	PANEL, FIREWALL, LEFT (106)	113455-2	1
46	BRACKET, FIREWALL, LEFT OUTSIDE	113456-1	1
47	BRACKET, FIREWALL, LEFT INSIDE	113457-1	1
48	BRACKET, FIREWALL, RIGHT INSIDE	113458-1	1
49	BRACKET, FIREWALL, UPPER	113459-1	2
50	PANEL, MINE BLAST, LEFT (134)	113461-1	1
51	PANEL, MINE BLAST, CENTER-REAR (12)	113460-1	1
52	PANEL, MINE BLAST, CENTER (392)	113462-1	1
53	PANEL, MINE BLAST, RIGHT (248)	113463-1	1
54	PLATE, STUD, UNDERBODY	113464-1	2
55	BRACKET, ARMOR STEP	113465-1	6
56	PANEL, STEP	113466-1	2
57	PANEL, STEP	113466-3	2
58	PANEL, SEAT ARMOR (23 LB)	113467-1	1
59	PANEL, DOG HOUSE, BOTTOM (32)	113468-1	1
60	PANEL, DOG HOUSE (52)	113469-1	1
61	BRACKET, POWER STEERING	113471-1	4
62	BRACKET, STEP, JOINER	113472-1	2
63	SPACER	113473-1	3
64	BRACKET, DH FORWARD	113474-1	2
65	BUSHING, SLEEVE	113475-1	12
66	BUSHING, SLEEVE	113475-3	6
67	BUSHING, SLEEVE	113475-5	2
68	BUSHING SLEEVE	113475-7	2
69	BRACKET, DH INNER	113476-1	4
70	PANEL, DH, ACCESS	113477-1	1
71	BRACKET, LIFT	113478-1	14
72	COVER, WINDOW	113479-1	2
73	BRACKET, RELEASE ASSEMBLY	113485-1	1
74	BRACKET, RELEASE ASSEMBLY	113485-2	1
75	SPACER, CLAMPING, CATCH	113486-1	2
76	SPACER, BUTTON, PRESS POINT	113487-1	2
77	URETHANE, SEALANT	104302-1	AR
78	EXTENSION, WINDSHIELD WIPER SHAFT	111408-3	2
79	BRACKET, WINDSHIELD, SIDE MOUNTING	106734-7	2
80	Z-CHANNEL, WINDSHIELD MOUNT	113383-1	4
81	Z-CHANNEL, WINDSHIELD MOUNT	113383-3	4
82	BRACKET, CLAMP, WINDSHIELD	113385-1	2
83	ARMOR, WINDSHIELD ASSEMBLY (113 LB EACH)	113381-1	2
84	PLATE STUD WINDSHIELD	113384-1	1
85	SEAL, RUBBER	X-275-HT	AR
86	SUPPORT, STRIKER, DOOR	113327-1	2
87	STRAP ASSEMBLY, DOOR	113386-1	2

*Table 1-2. Parts List – HET Armor Crew Protection Kit, P/N 113400-1*

88	DECAL	104301-1	4
89	CLAMP	323	4
90	TRIM SEAL	103B375B3X5/16E	AR
91	HANDLE, GRAB	31-8BLK	1
92	TRIM SEAL	6100B3X1/16A	AR
93	TEMPLATE KIT	113481-1	1
94	FASTNER KIT	113480-1	1
95	SPARE FASTNER KIT	113482-1	1
96	INSTALLATION INSTRUCTION MANUAL	II113400-1	1
97	SEAL, RUBBER	X-103-HT	AR
98	TIE, CABLE	L-14-120-O-C	8
99	TRIM EDGE	1350B2-5/16-GRGB	AR
100	INSTALLATION INSTRUCTIONS, HET	II113400	1

The HET Fastener Kit, P/N 113480-1, consists of the components listed in Table 1-3.

*Table 1-3. Parts List – HET Fastener Kit, P/N 113480-1*

Item No.	Name	Description	Quantity
1	BOLT, HEX, GR 8	Ø.250-20 X 2.500 LONG, NOTE 4	4
2	BOLT, COUNTERSUNK, GR 8	Ø.375-16 X 1.750 LONG, NOTE 4	24
3	BOLT, HEX, GR 8	Ø.250-20 X 1.000 LONG, NOTE 4	85
4	BOLT, HEX, GR 8	Ø.250-20 X 1.250 LONG, NOTE 4	10
5	BOLT, HEX, GR 8	Ø.250-20 X 1.750 LONG, NOTE 4	9
6	BOLT, HEX, GR 8	Ø.250-20 X 2.250 LONG, NOTE 4	4
7	BOLT, HEX, GR 8	Ø.313-18 X 1.250 LONG, NOTE 4	3
8	BOLT, HEX, GR 8	Ø.313-18 X 2.250 LONG, NOTE 4	4
9	BOLT, HEX, GR 8	Ø.375-16 X 1.250 LONG, NOTE 4	48
10	BOLT, HEX, GR 8	Ø.375-16 X 1.500 LONG, NOTE 4	77
11	BOLT, HEX, GR 8	Ø.375-16 X 2.250 LONG, NOTE 4	4
12	BOLT, HEX, GR 8	Ø.375-16 X 2.000 LONG, NOTE 4	19
13	BOLT, HEX, GR 8	Ø.375-16 X 3.000 LONG, NOTE 4	8
14	BOLT, HEX, GR 8	Ø.375-16 X 6.000 LONG, NOTE 4	6
15	BOLT, HEX, GR 8	Ø.375-16 X 3.500 LONG, NOTE 4	8
16	BOLT, HEX, GR 8	Ø.375-16 X 4.000 LONG, NOTE 4	12
17	BOLT, HEX, GR 8	Ø.375-16 X 0.875 LONG, NOTE 4	1
18	BOLT, HEX, GR 8	Ø.438-14 X 2.500 LONG, NOTE 4	4
19	BOLT, HEX, GR 8	Ø.438-14 X 4.000 LONG, NOTE 4	8
20	BOLT, HEX, GR 8	Ø.438-14 X 4.500 LONG, NOTE 4	2
21	JAM NUT, HEX, GR 8	Ø.375-16, Ø.210 - Ø.227 THICK, NOTE 4	19
22	NUT, SELF-LOCKING	Ø.164-32, NOTE 4	16
23	NUT, SELF-LOCKING	Ø.190-24, NOTE 4	16
24	NUT, SELF-LOCKING, GR 8	Ø.250-20, NOTE 4	132
25	NUT, SELF-LOCKING, GR 8	Ø.312-18, NOTE 4	22
26	NUT, SELF-LOCKING, GR 8	Ø.375-16, NOTE 4	389

**M1070 HET ARMOR KIT****II113400****Rev. D**

<i>Table 1-3. Parts List – HET Fastener Kit, P/N 113480-1</i>			
27	NUT, SELF-LOCKING, GR 8	Ø.438-14, NOTE 4	14
28	INSERT, THREADED, STEEL	Ø.190-24 X .020 - .130 GRIP RANGE (AVK OR EQUIVALENT)	8
29	INSERT, THREADED, STEEL	Ø.312-18 X .027 - .150 GRIP RANGE (AVK OR EQUIVALENT)	6
30	BUTTON HEAD CAP SCREW, GR 8 OR EQUIVALENT	Ø.190-24 X 1.000 LONG, NOTE 4	32
31	SCREW, BUTTON HEAD CAP, GR8 OR EQUIVALENT	Ø.164-32 X Ø.500 LONG, NOTE 4	16
32	SCREW, SET, SQUARE HEAD	Ø.250-20 X Ø.500 LONG, NOTE 4	30
33	USS, WASHER, FLAT, N 10	Ø.250 ID, Ø.562 OD, NOTE 4	28
34	USS, WASHER, FLAT, GR 8, 1/4	Ø.312 ID, Ø.750 OD, NOTE 4	228
35	USS, WASHER, FLAT, GR 8, 5/16	Ø.375 ID, Ø.875 OD, NOTE 4	33
36	USS, WASHER, FLAT, GR 8, 3/8	Ø.438 ID, 1.000 OD, NOTE 4	595
37	USS, WASHER, FLAT, GR 8, 7/16	Ø.500 ID, 1.250 OD, NOTE 4	34
38	WASHER, SELF-LOCKING, GR 8	Ø.250 ID, NOTE 4	48
39	WASHER, SELF-LOCKING, GR 8	Ø.375 ID, NOTE 4	8
40	WASHER, HEAVY, SELF- LOCKING	Ø.193 ID, NOTE 4	16
41	SOCKET, HEAD-CAP SCREW, GR 8, OR EQUIVALENT	Ø.312-18 X 1.500 LONG, NOTE 4	6
42	SCREW, PAN HEAD, PHILLIPS, SELF-TAPPING	Ø.190 X Ø.500 LONG, NOTE 4	4
43	BOLT, HEX SERRATED FLANGE, GR 8	Ø.312-18 X 1.250 LONG, NOTE 4	24
44	SCREW, SOCKET HEAD, SHOULDER, GR 8 OR EQUIVALENT	Ø.312 X 1.000 LONG SHOULDER, NOTE 4	12
45	WASHER, SELF-LOCKING, GR 8	Ø.312 ID, NOTE 4	16
46	NUT, HEX, GR 8	Ø.250-20 ID, NOTE 4	6
47	SCREW, SET, SOCKET, CUP POINT	Ø.190-32 X Ø.312 LONG, NOTE 4	2
48	SCREW, PAN HEAD, PHILLIPS, SELF-TAPPING	Ø.165 X 1.750 LONG, NOTE 4	4
49	SCREW, SOCKET-HEAD CAP, GR8	Ø.375-16 X 1.500 LONG, NOTE 4	4
50	INSERT, THEADED, STEEL	Ø.375-16 X 0.027 - 0.150 GRIP RANGE	4
51	NUT, SELF-LOCKING, GR8	10-32, NOTE 4	4
52	BOLT, BUTTON HEAD CAP SCREW, GR8	Ø.375-16 X 1.250 LONG, NOTE 4	1
	NOTE 4: ZINC COAT PER ASTM-B633-85, COLOR BLACK, SERVICE CONDITION 3.		



The Fastener Kit, HET, Extra, P/N 113482-1, consists of the components listed in Table 1-4.


**NOTE**

This kit contains extra hardware to be used in place of lost or damaged hardware in the previously listed kit.

*Table 1-4. Parts List – HET Fastener Kit, Extra, P/N 113482-1*

Item No.	Name	Description	Quantity
1	SHCS, GR8	Ø.190-24 X 1.000 LONG, NOTE 4	2
2	BOLT, COUTNERSUNK, GR8	Ø.375-16 X 1.750 LONG, NOTE 4	3
3	BOLT, HEX, GR8	Ø.250-20 X 1.000 LONG, NOTE 4	8
4	BOLT, HEX, GR8	Ø.250-20 X 1.250 LONG, NOTE 4	2
5	BOLT, HEX, GR8	Ø.250-20 X 1.750 LONG, NOTE 4	2
6	BOLT, HEX, GR8	Ø.250-20 X 2.250 LONG, NOTE 4	1
7	BOLT, HEX, GR8	Ø.313-18 X 1.250 LONG, NOTE 4	1
8	BOLT, HEX, GR8	Ø.313-18 X 2.250 LONG, NOTE 4	1
9	BOLT, HEX, GR8	Ø.375-16 X 1.250 LONG, NOTE 4	4
10	BOLT, HEX, GR8	Ø.375-16 X 1.500 LONG, NOTE 4	6
11	BOLT, HEX, GR8	Ø.375-16 X 2.250 LONG, NOTE 4	1
12	BOLT, HEX, GR8	Ø.375-16 X 2.000 LONG, NOTE 4	2
13	BOLT, HEX, GR8	Ø.375-16 X 3.000 LONG, NOTE 4	2
14	BOLT, HEX, GR8	Ø.375-16 X 6.000 LONG, NOTE 4	1
15	BOLT, HEX, GR8	Ø.375-16 X 3.500 LONG, NOTE 4	1
16	BOLT, HEX, GR8	Ø.375-16 X 4.000 LONG, NOTE 4	2
17	BOLT, HEX, GR8	Ø.375-16 X 0.875 LONG, NOTE 4	1
18	BOLT, HEX, GR8	Ø.438-14 X 2.500 LONG, NOTE 4	1
19	BOLT, HEX, GR8	Ø.438-14 X 4.000 LONG, NOTE 4	1
20	BOLT, HEX, GR8	Ø.438-14 X 4.500 LONG, NOTE 4	1
21	JAM, NUT, HEX, GR8	Ø.375-16, .210-.227 THICK, NOTE 4	2
22	NUT, SELF-LOCKING	Ø.164-32, NOTE 4	3
23	NUT, SELF-LOCKING	Ø.190-24, NOTE 4	4
24	NUT, SELF-LOCKING, GR8	Ø.250-20, NOTE 4	15
25	NUT, SELF-LOCKING, GR8	Ø.312-18, NOTE 4	2
26	NUT, SELF-LOCKING, GR8	Ø.375-16, NOTE 4	30
27	NUT, SELF-LOCKING, GR8	Ø.438-14, NOTE 4	2
28	INSERT, THREADED, STEEL	Ø.190-24 X Ø.020 - Ø.130 GRIP (AVK OR EQUIVALENT)	2
29	INSERT, THREADED, STEEL	Ø.312-18 X Ø.027 - Ø.150 GRIP (AVK OR EQUIVALENT)	2
30	BHCS, GR8 OR EQUIVALENT	Ø.190-24 X 1.000 LONG, NOTE 4	6
31	BHCS, GR8 OR EQUIVALENT	Ø.164-32 X Ø.500 LONG, NOTE 4	3
32	SCREW, SET, SQUARE HEAD	Ø.250-20 X Ø.500 LONG, NOTE 4	4
33	WASHER, USS, FLAT, N 10	Ø.250 ID, Ø.562 OD, NOTE 4	5
34	WASHER, USS, FLAT, GR8, 1/4	Ø.312 ID, Ø.750 OD, NOTE 4	25

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

<i>Table 1-4. Parts List – HET Fastener Kit, Extra, P/N 113482-1</i>			
35	WASHER, USS, FLAT, GR8, 5/16	Ø.375 ID, Ø.875 OD, NOTE 4	5
36	WASHER, USS, FLAT, GR8, 3/8	Ø.438 ID, 1.000 OD, NOTE 4	52
37	WASHER, USS, FLAT, GR8, 7/16	Ø.500 ID, 1.250 OD, NOTE 4	3
38	WASHER, LOCK	Ø.250 ID, NOTE 4	7
39	WASHER, LOCK	Ø.375 ID, NOTE 4	4
40	WASHER, HEAVY, SELF-LOCKING	Ø.193 ID, NOTE 4	2
41	SOCKET, HEAD CAP SCREW, GR 8 OR EQUIVALENT	Ø.312-18 X 1.250 LONG, NOTE 4	1
42	BOLT, HEX, SERRATED FLANGE, GR 8	Ø.312-18 X 1.250 LONG, NOTE 4	1
43	SCREW, SOCKET HEAD SHOULDER, GR 8 OR EQUIVALENT	Ø.312 X 1.000 LONG SHOULDER, NOTE 4	1
44	WASHER, SELF-LOCKING, GR 8	Ø.312 ID, NOTE 4	2
45	NUT, HEX, GR 8	Ø.250-20 ID, NOTE 4	1
46	SCREW, SET, SOCKET, CUP POINT	Ø.190-32 X .312 LONG, NOTE 4,	1
47	SCREW, PAN HEAD, PHILLIPS, SELF-TAPPING	Ø.190 X Ø.500 LONG, NOTE 4	1
48	SCREW, PAN HEAD, PHILLIPS, SELF-TAPPING	Ø.165 X 1.75 LONG, NOTE 4	1
	 ZINC COAT PER ASTM-B633-85, COLOR BLACK, SERVICE CONDITION 3.		

The Template Kit, HET, P/N 113481-1, consists of the components listed in Table 1-5.

<i>Table 1-5. Parts List – HET Template Kit, P/N 113481-1</i>			
<b>Item No.</b>	<b>Name</b>	<b>P/N</b>	<b>Quantity</b>
1	WINDSHIELD TEMPLATE	107405-1	1
2	TEMPLATE, SIDE WINDSHIELD BRACKET	113495-1	1
3	TEMPLATE, DOGHOUSE, FLOOR	113496-1	1
4	BUSHING, DRILL	113497-1	1
5	BUSHING, DRILL	113497-3	1

**1-8. REQUIRED TOOLS AND EQUIPMENT**

The equipment and materials required to install the CPK onto the HET are listed in Table 1-6.

*Table 1-6. Equipment and Materials Required to Install the HET Crew Protection Kit*

<b>Description</b>	<b>Part Number</b>
Automotive General Mechanics Tool Kit	SC5180-90-N26
2.5-Ton Floor Jack	Commercially Available
8-in. C-Clamps	Commercially Available
Fork Lift / Overhead Hoist	Commercially Available
1/2-in. Drill	Commercially Available
1/4-in. Drill Bit	Commercially Available
5/16-in. Drill Bit – Long Bit, 6 in. min	Commercially Available
3/8-in. Drill Bit – Long Bit, 6 in. min	Commercially Available
1/2-in. Drill Bit	Commercially Available
5/8-in. Drill Bit	Commercially Available
7/8-in. Drill Bit	Commercially Available
21/32-in. Drill Bit	Commercially Available
17/32-in. Drill Bit	Commercially Available
25/64-in. Drill Bit	Commercially Available
3/16-in. Drill Bit	Commercially Available
19/64-in. Drill Bit	Commercially Available
Loctite 242 (Blue)	Commercially Available
Wire Ties	Commercially Available
Caulking Gun	Commercially Available
Lift Straps	Commercially Available
3/8-in.-Drive 0-90 ft-lb Torque Wrench	Commercially Available
1/2-in.-Drive 0-150 ft-lb Torque Wrench	Commercially Available
3/4-in.-Drive 0-280 ft-lb Torque Wrench	Commercially Available
5/16-in. – 18 Rivnut Installation Tool	AKPT518TAK or equivalent Commercially Available
3/8-in. – 16 Rivnut Installation Tool	AKPT616TAK or equivalent Commercially Available
10-24 Rivnut Installation Tool	AKPT1024TAK or equivalent Commercially Available

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

**1-9. GENERAL INSTALLATION INSTRUCTIONS**

These Installation Instructions provide the illustration directly after the text and will be on either the same page or the facing page, where practical.

Before beginning the assembly of a part, remove all corrosion-preventative compound (if any) as well as any accumulated foreign matter.

Selected screws and bolts require Loctite 242 during installation. These screws and bolts are identified in the installation instructions. Generally, if no locking fastener (i.e., locknut, lockwasher) is utilized, Loctite 242 is required.

All fastener torques are specified within the specific instructions for each component.

**1-10. PERSONNEL SKILL LEVEL**

The installation skill level required to complete the installation of the Kit shall be MOS 63S, Heavy Wheeled Vehicle Mechanic.

## CHAPTER 2 TEARDOWN

### Section I. TEARDOWN PROCEDURES

#### 2-1. Teardown Procedures

##### a. Vehicle Teardown

1. Apply parking brake and chock vehicle wheels per TM 9-2320-360-10.
2. Raise and secure vehicle hood per TM 9-2320-360-10.
3. Disconnect battery ground cable per TM 9-2320-360-20-2.
4. Remove roof mounted ventilator assembly per TM 9-2320-360-20-2.
5. Remove side mirrors and mirror brackets from doors per TM 9-2320-360-20-2. Retain mirrors and mirror brackets for reinstallation.
6. Remove doors and hinges from cab per TM 9-2320-360-20-2. Remove and retain (only) the vehicle identification plate (P/N 1805190) from driver's side door, for future mounting in different location.
7. Disconnect cab front clearance lights connector and remove cab sun visor and clearance light assembly per TM 9-2320-360-20-2. Retain cab sun visor and clearance light assembly for reinstallation.
8. Remove beacon light assembly per TM 9-2320-360-20-2. Retain beacon light assembly for reinstallation.
9. Remove work lights from rear of cab per TM 9-2320-360-20-2.
10. Grind off work light mounting brackets from rear of cab (new bolt-on brackets are included in armor kit).
11. Remove windshield washer reservoir and mounting bracket per TM 9-2320-360-20-2. Retain windshield washer reservoir and mounting bracket for reinstallation.
12. Remove windshield wiper arms per TM 9-2320-360-20-2. Do not disconnect washer hoses from wiper arms. Let wiper arms dangle from washer hose until reinstallation.
13. Remove windshield glass and seals per TM 9-2320-360-34-1.
14. Remove rear cab window and seal per TM 9-2320-360-34-1.
15. Remove air cleaner assembly per TM 9-2320-360-2. Retain air cleaner assembly for reinstallation.
16. Remove bolt from air cleaner hose strap on firewall per TM 9-2320-360-2.
17. Remove ether starting aid per TM 9-2320-360-2. Retain ether starting aid and fasteners for reinstallation.

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

18. Disconnect steering reservoir and brackets from firewall per TM 9-2320-360-2 and tie steering reservoir out of the way. Do not disconnect steering reservoir hoses.
19. Disconnect heater core coolant hoses after firewall elbows per TM 9-2320-360-2. Retain heater core coolant hoses for reinstallation.
20. Reverse connection of heater core coolant hose elbows (long end toward heater core, short end to pass through right firewall armor panel).
21. Remove hood bumper (hood rest) and bracket per TM 9-2320-360-20-2. Retain hood bumper and bracket for reinstallation.
22. Remove hood clamping catch and button press point per TM 9-2320-387-20-2. Retain hood clamping catch and button press point for reinstallation.
23. Remove radiator / hood baffle per TM 9-2320-360-20-2.
24. Remove left and right cab steps per TM 9-2320-360-20-2. Retain cab steps for reinstallation.
25. Remove spare tire per TM 9-2320-360-20-2.
26. Remove tire lift pulley and tire lift bracket per TM 9-2320-360-20-2. Retain tire lift pulley and tire lift bracket for reinstallation.
27. Remove cab vent windows per TM 9-2320-360-20-2.
28. Remove left and right grab handles per TM 9-2320-360-20-2. Retain grab handles for reinstallation.
29. Remove rear cab grab handle per TM 9-2320-360-20-2. Retain grab handle for reinstallation.
30. Remove driver and passenger seat belt retractors per TM 9-2320-360-20-2. Retain seat belt retractors for reinstallation.
31. Remove driver's seat from seat support per TM 9-2320-360-20-2. Retain seat for reinstallation.
32. Remove backseat seat back and seatback upper bracket per TM 9-2320-360-20-2. Retain backseat seat back and upper bracket fasteners for reinstallation.
33. Remove four rear seat seatbelts per TM 9-2320-360-20-2. Retain for reinstallation.
34. Remove tool box per TM 9-2320-360-2. Relocate all contents to rear stowage box. Refer to Chapter 4 Final Assembly, for new location of contents.
35. Remove stowage box per TM 9-2320-360-2. Retain stowage box for reinstallation.
36. Remove dog house cover access panel per TM 9-2320-360-20-2.
37. Remove dog house door access panel per TM 9-2320-360-20-2. Retain doghouse door access panel for reinstallation.

38. Disconnect central tire inflation hoses (CTIS) from manifold below driver's seat per TM 9-2320-360-2. (Be sure to properly bleed air pressure system and mark all disconnected lines for reconnection).
39. Remove muffler and muffler shield per TM 9-2320-360-2. Retain muffler and muffler shield for reinstallation.
40. Disconnect the three loop clamps that retain the battery cable from under the cab body. Retain loop clamps for reinstallation.
41. Remove tail pipe assembly and tail pipe support per TM 9-2320-360-20-2. Retain tail pipe assembly and tail pipe support for reinstallation.
42. Disconnect transmission shift and transfer case linkage in doghouse per TM 9-2320-360-2.
43. Disconnect the steering linkage in front of the firewall per TM-9-2230-360-20-2. Retain fasteners for reconnection.
44. Remove right-side heat shield panel from the bottom of the cab above the muffler per TM-9-2320-360-2.





## CHAPTER 3 INSTALLATION

### Section I. INSTALLATION PROCEDURES

#### 3-1 INSTALLATION PROCEDURES REFERENCE INDEX

REF. PARA.	TITLE	PAGE
3-2	Firewall Bracket Installation .....	3-3
3-3	Windshield Armor Panel Installation .....	3-5
3-4	Roof Armor Installation .....	3-13
3-5	Rear Armor Installation .....	3-18
3-6	Left Side Panel Armor Installation .....	3-33
3-7	Right Side Panel Armor Installation .....	3-43
3-8	Wheel Well Armor Installation. ....	3-53
3-9	Center Mine Blast Armor Installation. ....	3-63
3-10	Doghouse Armor Installation – Phase I .....	3-77
3-11	Right Side “A” Pillar Armor Installation .....	3-89
3-12	Right Side Firewall Armor Installation .....	3-99
3-13	Left Side Firewall Armor Installation .....	3-105
3-14	Left Side “A” Pillar Armor Installation .....	3-111
3-15	Left Side Mine Blast Armor Installation .....	3-117
3-16	Right Side Mine Blast Armor Installation. ....	3-121
3-17	Left Side Step Armor Installation .....	3-127
3-18	Right Side Step Armor Installation .....	3-133
3-19	Doghouse Armor Installation – Phase II .....	3-137
3-20	Door Armor Installation .....	3-151
3-21	Windshield Transparent Armor Installation .....	3-163
3-22	Escape Hatch Armor Installation .....	3-169
3-23	Seat Armor Panel Installation .....	3-179
3-24	Backseat Quick-Release Installation .....	3-183



**3-2. FIREWALL BRACKET INSTALLATION**

**TOOLS:**

General Mechanics Tool Kit:  
(NSN 5180-00-177-7033)

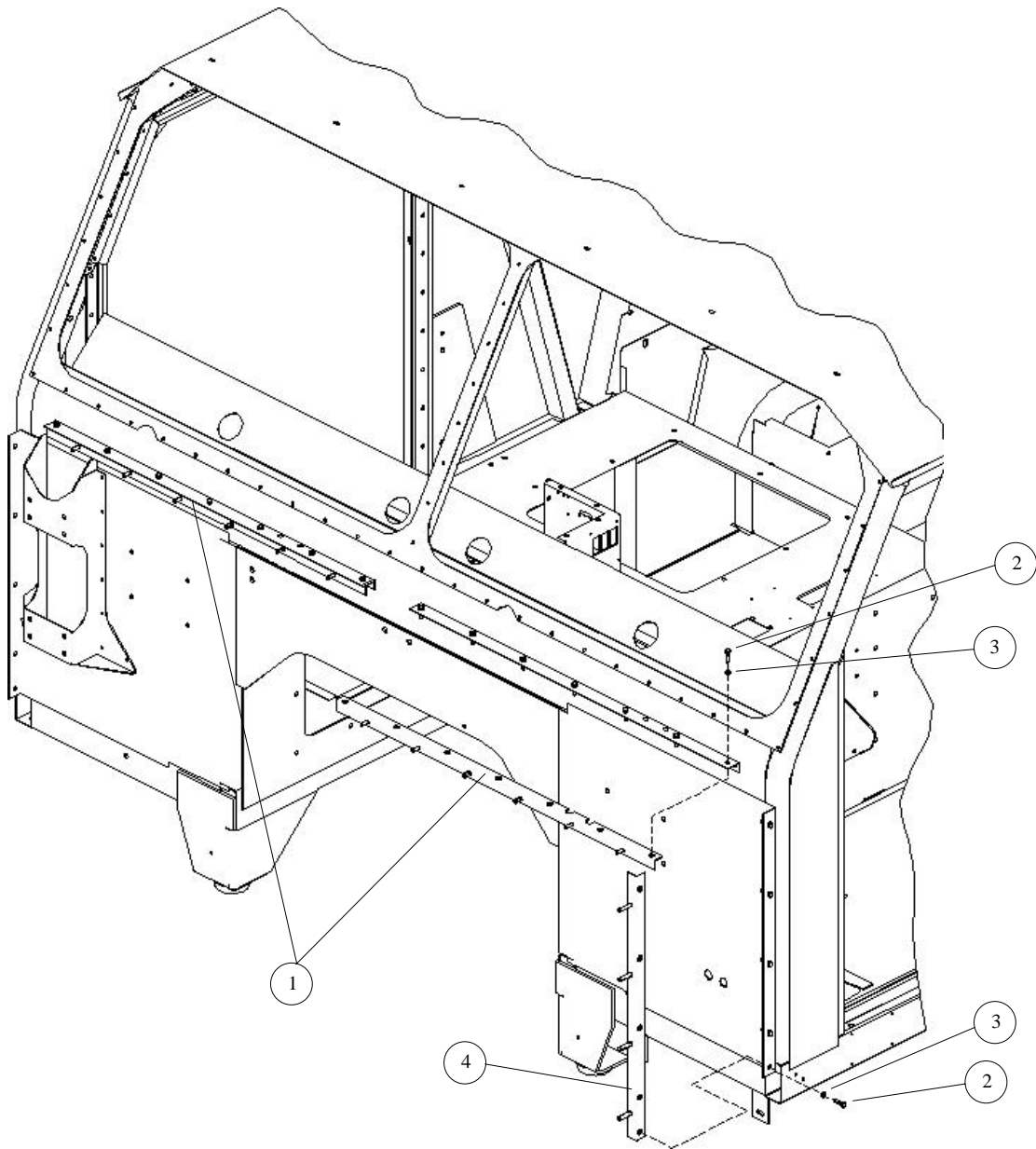
**MATERIAL/PARTS:**

---

<b>FIGURE</b>	<b>ITEM</b>	<b>PART NO.</b>	<b>NOMENCLATURE</b>	<b>QTY</b>
3-1	1	113459-1	BRACKET, UPPER FIREWALL	2
	2		BOLT, 1/4-20 X 1.000 INCH LONG, GR8	19
	3		LOCK WASHER, 1/4, GR8	19
	4	113457-1	BRACKET, LEFT INSIDE FIREWALL	1

**a. Installation**

1. Install firewall brackets as follows (see Figure 3-1):
  - a. Install two upper firewall brackets (1) into position against firewall and secure each with seven bolts (2) and lock washers (3). Torque bolts to 7 lb-ft.
  - b. Install one left inside firewall bracket (4) into position against driver's-side firewall and secure with five bolts (5) and lock washers (6). Torque bolts to 7 lb-ft.



**Figure 3-1. Firewall Brackets Installation.**

**3-3. WINDSHIELD ARMOR PANEL INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-2	1	113384-1	PLATE, STUD, WINDSHIELD	1
	2	113402-1	PANEL, WINDSHIELD	1
	3		LOCK NUTS, 1/4-20, GR8	5
	4		FLAT WASHER, 1/4, GR8	5
	5	113478-1	BRACKET, LIFT	2
	6		BOLT, 3/8-16 X 1.500 INCH, GR8	2
	7		FLAT WASHER, 3/8, GR8	2
	8		NUT, JAM, HEX 3/8-16	2
3-3	1	106734-7	BRACKET, WINDSHIELD, SIDE MOUNTING	2
	2	107405-1	TEMPLATE, WINDSHIELD BRACKET (PART OF KIT P/N 113481-1)	1
	3		SETSCREW, 1/4-20 X 0.500 LONG SQUARE	10
3-4	1	113426-1	BRACKET, WINDSHIELD	4
	2	113495-1	TEMPLATE, WINDSHIELD BRACKET (PART OF KIT P/N 113481-1)	1
	3		SETSCREW, 1/4-20 X 0.500 LONG SQUARE	20
3-5	1	275-HT	SEAL, RUBBER, 0.750 X 0.500	A/R
3-6	1		LOCK NUT, 1/4-20, GR8	30
	2		FLAT WASHER, 1/4, GR8	30
3-7	1	113385-1	BRACKET, WINDSHIELD CLAMP	2
	2		FLAT WASHER, 1/4, GR8	18
	3		LOCK NUT, 1/4-20, GR8	13
	4		BOLT, 1/4-20 X 1.750, GR8	5
3-8	1	111408-3	EXTENSION, WINDSHIELD WIPER SHAFT	2
	2		SCREW, SET, SOCKET, #10-32 X 0.312 INCH	2

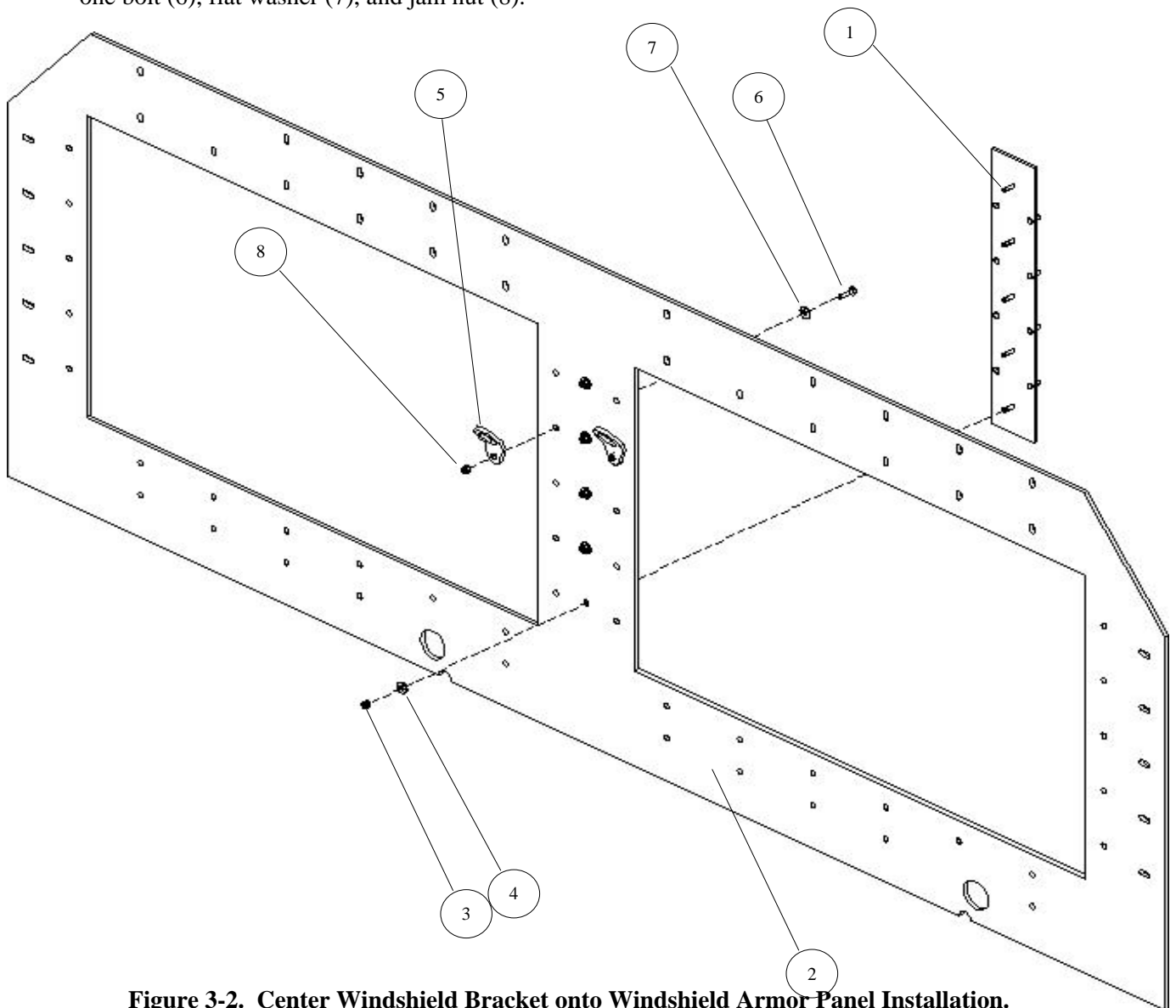
**a. Installation**

1. Install center windshield bracket onto windshield armor panel as follows (see Figure 3-2):
  - a. Install one center windshield bracket (1) onto windshield armor panel (2) and secure with five locknuts (3) and flat washers (4). Torque locknuts to 7 lb-ft.

**NOTE**

Lift brackets are intended for temporary use only and must be removed after windshield armor panel is installed.

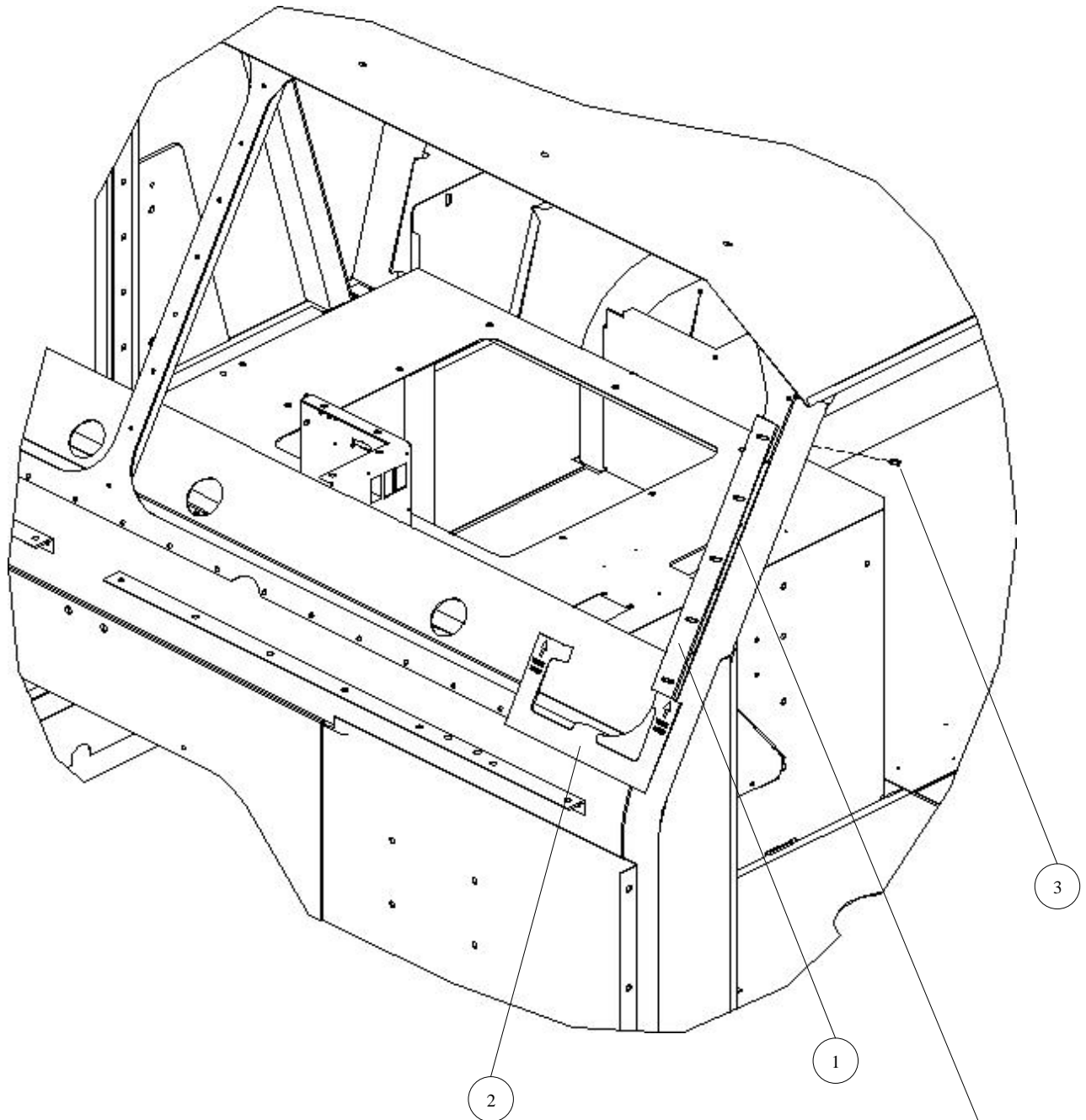
- b. Position two lift brackets (5) onto front surface of windshield armor panel (2) and secure each with one bolt (6), flat washer (7), and jam nut (8).



**Figure 3-2. Center Windshield Bracket onto Windshield Armor Panel Installation.**

2. Install side windshield brackets as follows (see Figure 3-3):

- a. Locate two side windshield brackets (1) against sides of cab windshield opening using template (2).
- b. Secure windshield brackets (1) to cab at locations determined by template (2) by tightening five setscrews (3) in each bracket (1). Add Loctite to threads.



**Figure 3-3. Side Windshield Bracket Installation.**

Repeat for passenger  
side of vehicle

# M1070 HET ARMOR KIT

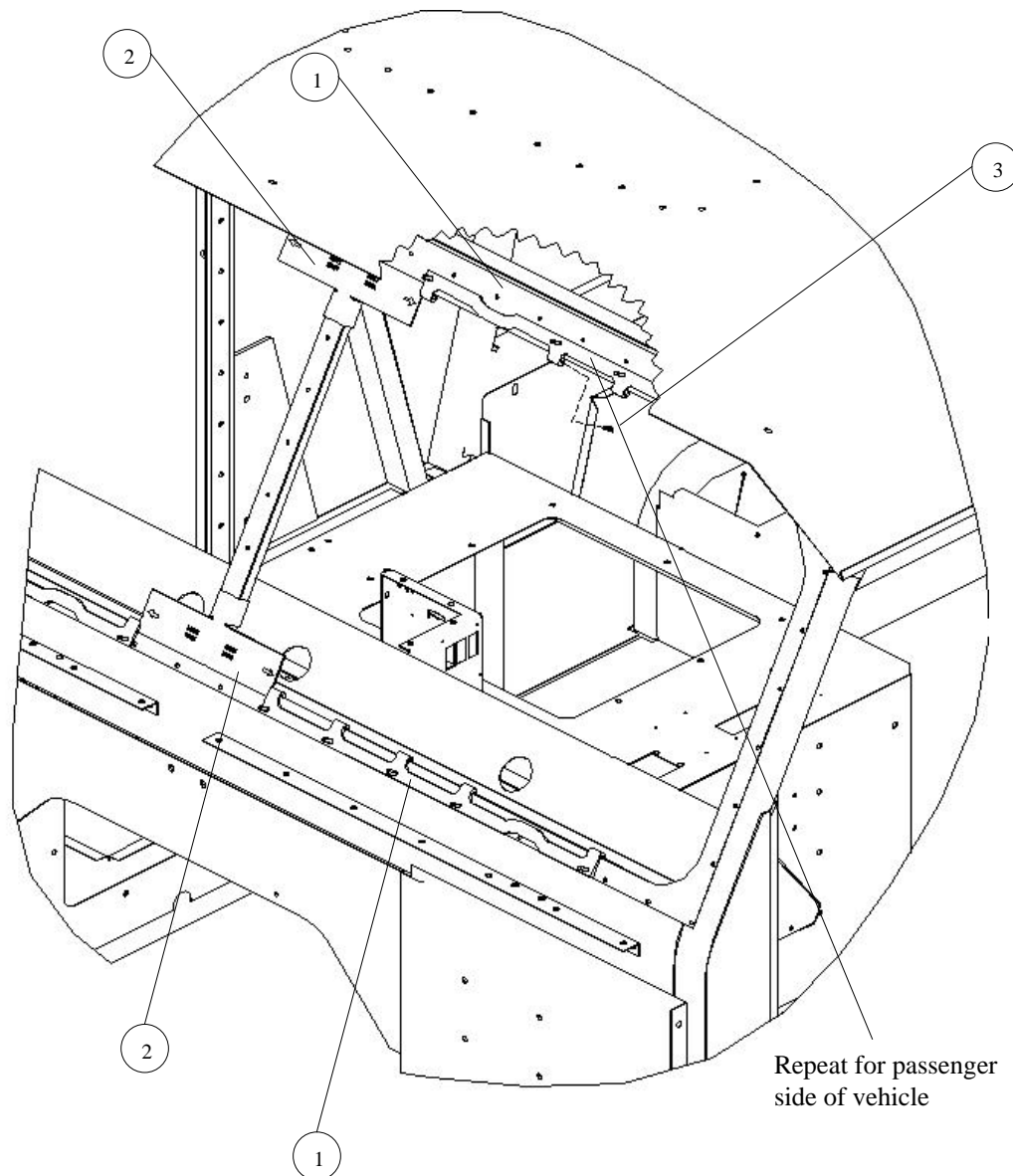
II113400

Rev. D

3. Install upper and lower windshield brackets as follows (see Figure 3-4):
  - a. Locate four windshield brackets (1) against upper and lower edges of cab windshield opening using template (2).
  - b. Secure upper windshield brackets (1) to cab at locations determined by template (2) by tightening five setscrews (3) in each bracket (1). Add Loctite to threads.
  - c. Secure lower windshield brackets (1) to cab at locations determined by template (2) by finger-tightening five setscrews (3) in each bracket (1).

### NOTE

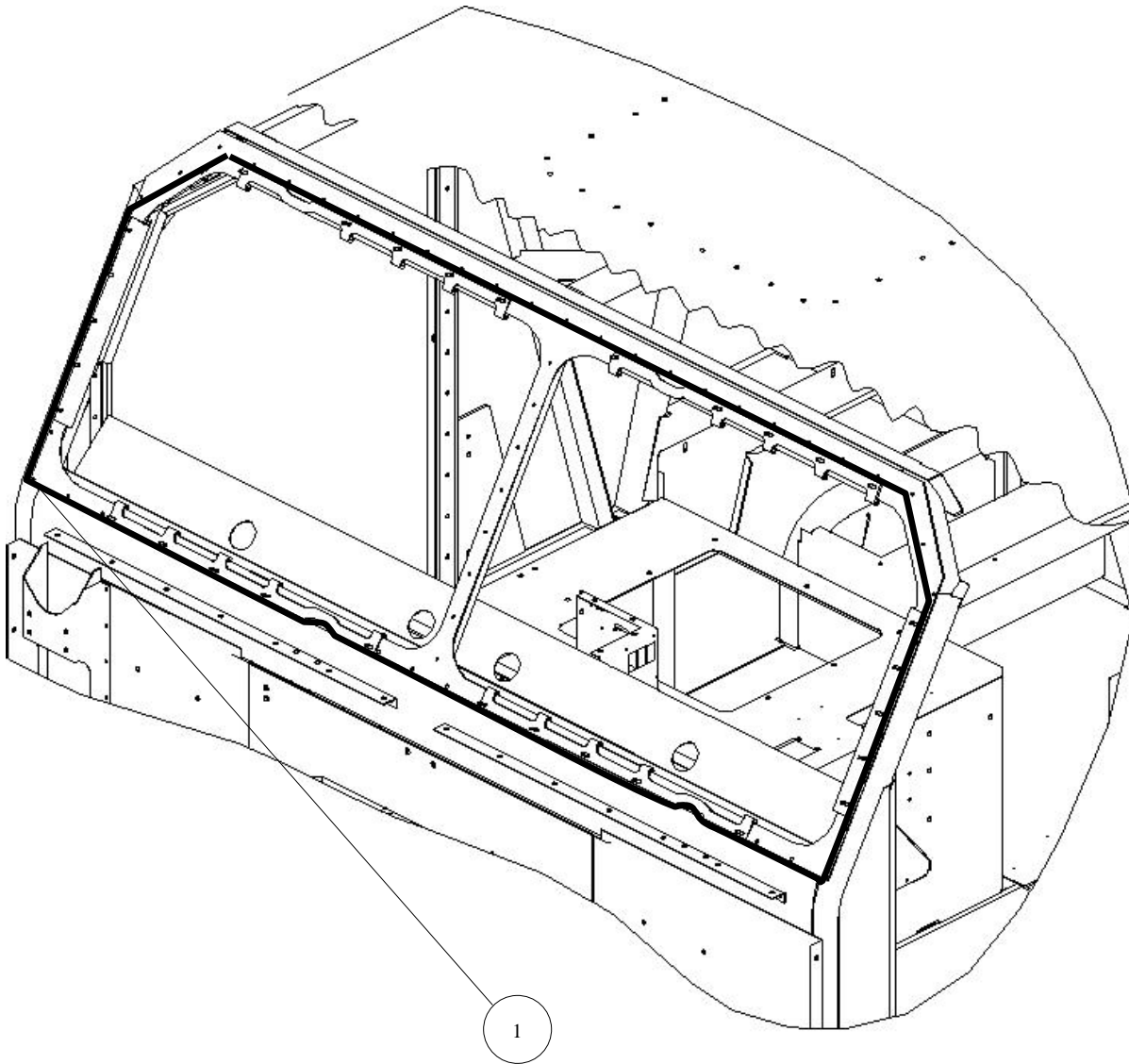
Care should be taken to ensure that brackets are installed with the studs perpendicular to the cab windshield frame.



**Figure 3-4. Upper and Lower Windshield Brackets Installation.**



4. Apply rubber seal to windshield armor panel as follows (see Figure 3-5):
  - a. Apply rubber seal (1) onto outside surface of cab windshield frame panel. (the total used will be approx. 20 ft 6 in.) Run stripping along edge of windshield bracket but not on top of them. The seal will make continuous 45-deg bends in the upper left and right corners, but should be cut in the lower left and right 90-deg corners. Use black urethane sealant around windshield wiper studs, if necessary.



**Figure 3-5. Apply Rubber Seal to Windshield Armor Panel.**

## M1070 HET ARMOR KIT

II113400

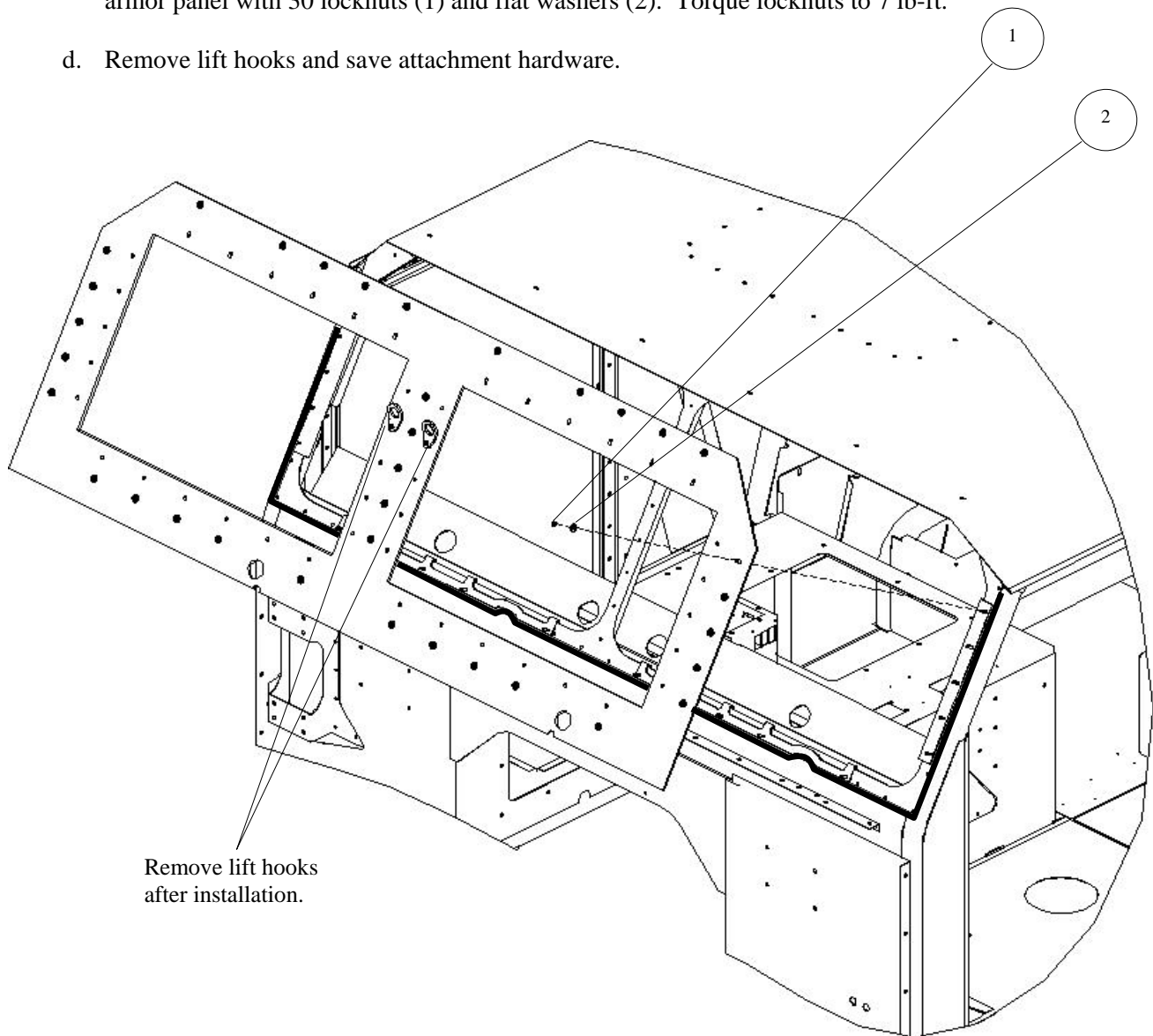
Rev. D

5. Install windshield armor panel as follows (see Figure 3-6):
  - a. Tape back the clearance light wires in the upper corner on the driver's side.
  - b. Using appropriate lifting device, equipment, and personnel, lift windshield armor panel assembly into position.

### CAUTION

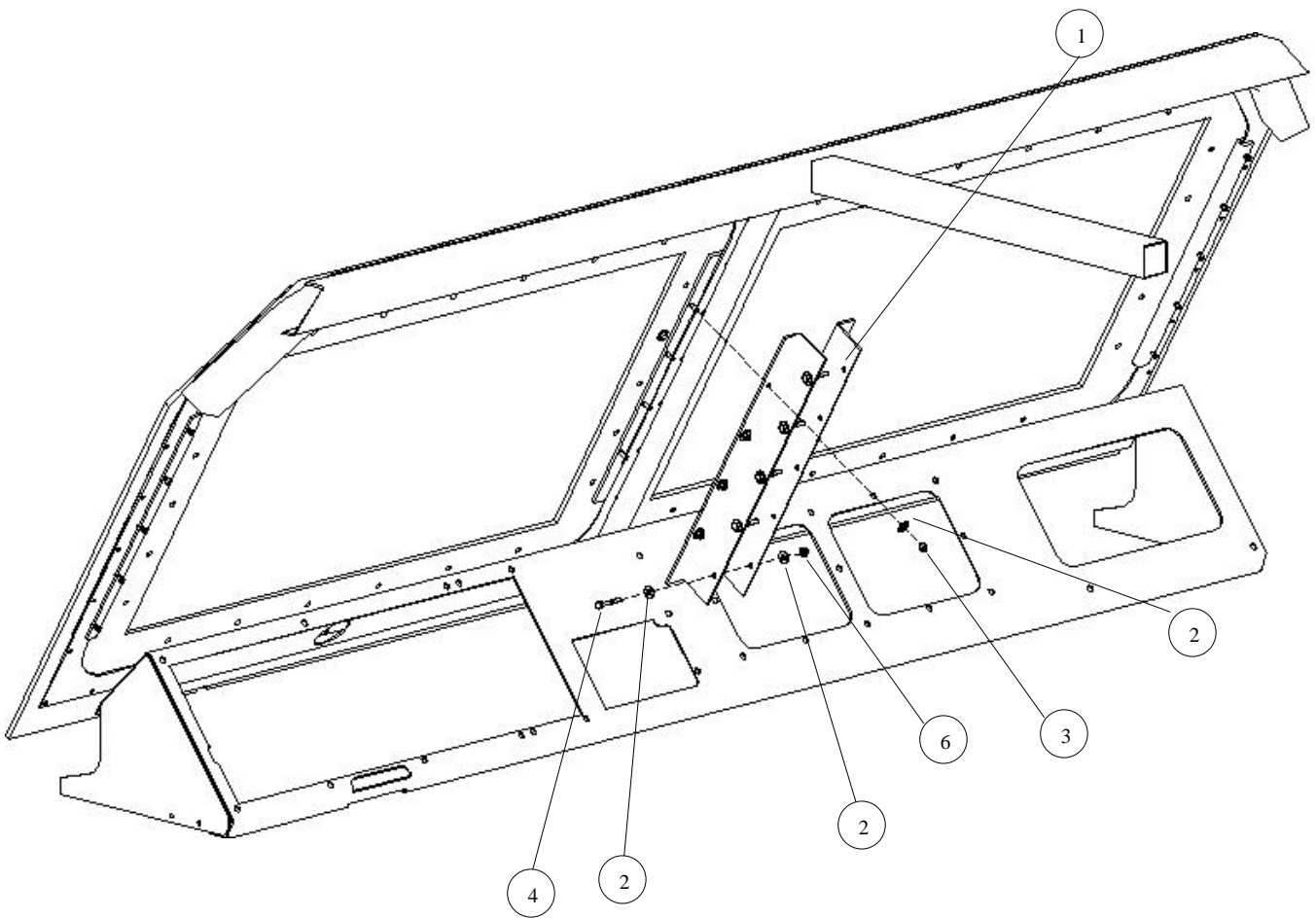
This operation requires teamwork and communication in order to properly align the slots and holes in the windshield armor panel onto the studs of the windshield brackets. DO NOT hammer on the studs, and do not use power impact wrenches to install the locknuts; damage to the studs may occur. Use light oil and hand tools to run the nuts down the studs.

- c. Once windshield armor panel is properly located on the windshield bracket studs, secure windshield armor panel with 30 locknuts (1) and flat washers (2). Torque locknuts to 7 lb-ft.
- d. Remove lift hooks and save attachment hardware.



**Figure 3-6. Windshield Armor Panel Installation.**

6. Install windshield clamp brackets as follows (see Figure 3-7):
  - a. Install two windshield clamp brackets (1) onto inside row of studs on windshield stud plate mounted on center post of windshield and secure each with four flat washers (2) and locknuts (3). Torque locknuts to 7 lb-ft.
  - b. Install five bolts (4), ten flat washers (5), and five locknuts (6). Torque locknuts to 9 lb-ft.
  - c. Torque windshield bracket setscrews to 7 lb-ft. For windshield bracket fasteners that cannot be accessed with a torque wrench, use the following guideline: Tighten the bolt to remove free play, mark the position, and then tighten it an additional 1/2 to 3/4 turn



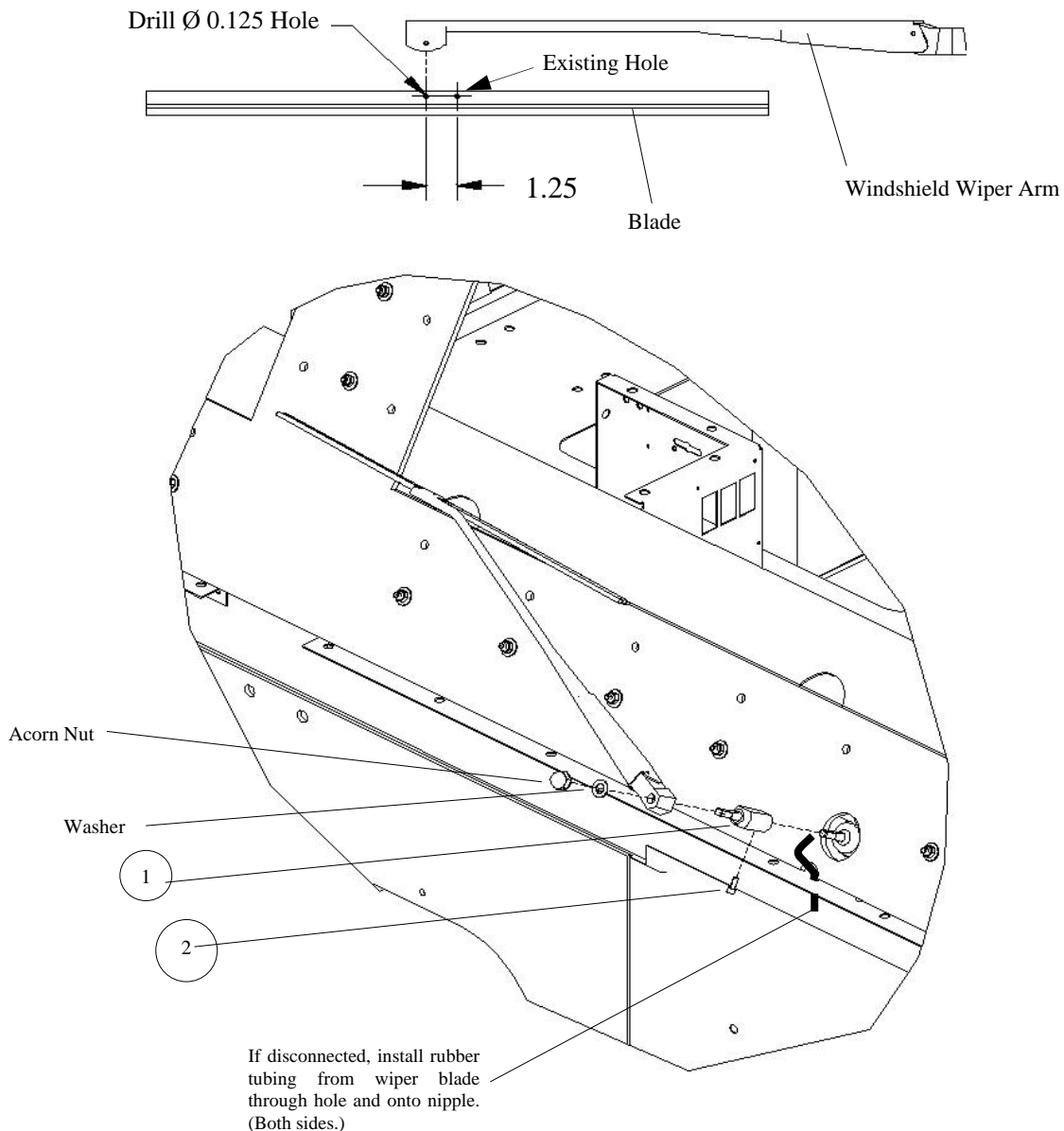
**Figure 3-7. Install Windshield Clamp Brackets.**

# M1070 HET ARMOR KIT

II113400

Rev. D

7. Modify windshield wiper blade and install windshield wiper arm as follows (see Figure 3-8):
  - a. Modify both wiper arm blades as shown (removed in Teardown, Chapter 2).
  - b. Install two windshield wiper shaft extensions (1) and secure each with one screw (2).
  - c. Install windshield wiper arms onto windshield wiper shaft extensions (1) and secure with acorn nuts and washers (removed in Teardown, Chapter 2) in accordance with TM 9-2320-360-20-2.
  - d. If previously disconnected, ensure left and right side windshield washer tubing is installed from wiper blades through hole and onto nipple. (This must be done prior to firewall panel assembly to ensure proper functionality.)



**Figure 3-8. Windshield Wiper Blade Modification and Wiper Arm Installation.**

**3-4. ROOF ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

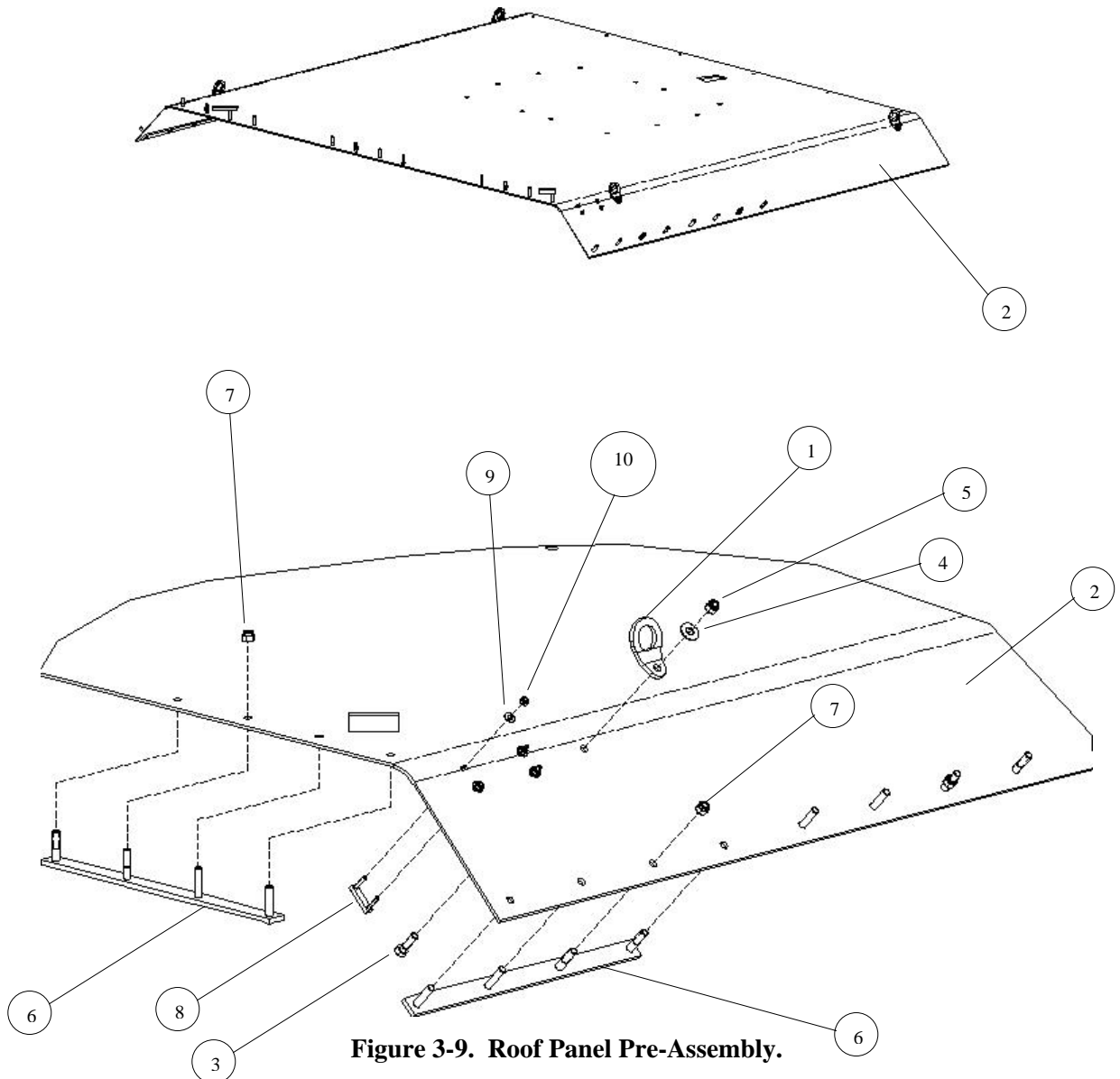
MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-9	1	113478-1	BRACKET, LIFT	4
	2	113441-1	PANEL, ROOF	1
	3		BOLT, 3/8-16 X 1.250 LONG, GR8	4
	4		FLAT WASHER, 3/8, USS	4
	5		LOCKNUT, 3/8-16, GR8	4
	6	113416-1	PLATE, STUD	7
	7		NUT, JAM, 3/8	7
	8	113419-1	BRACKET, PLGR ANTENNA MOUNT	2
	9		FLAT WASHER, #10, GR8	4
	10		LOCKNUT, #10-32, GR8	4
3-10	1		BOLT, 1/4-20 X 1.250 LONG, GR8	6
	2		FLAT WASHER, 1/4, GR8	24
	3		NUT, HEX, 1/4-20	6
	4		BOLT, 3/8-16 X 1.250 LONG, GR8	12
	5		FLAT WASHER, 3/8, USS	36
	6		NUT, JAM, 3/8-16	12
	7	275-HT	SEAL, RUBBER	AR
3-11	1		FLAT WASHER, 1/4, USS	6
	2		LOCKNUT, 1/4-20, GR8	6
	3		FLAT WASHER, 3/8, USS	12
	4		LOCKNUT, 3/8-16, GR8	12



**a. Installation**

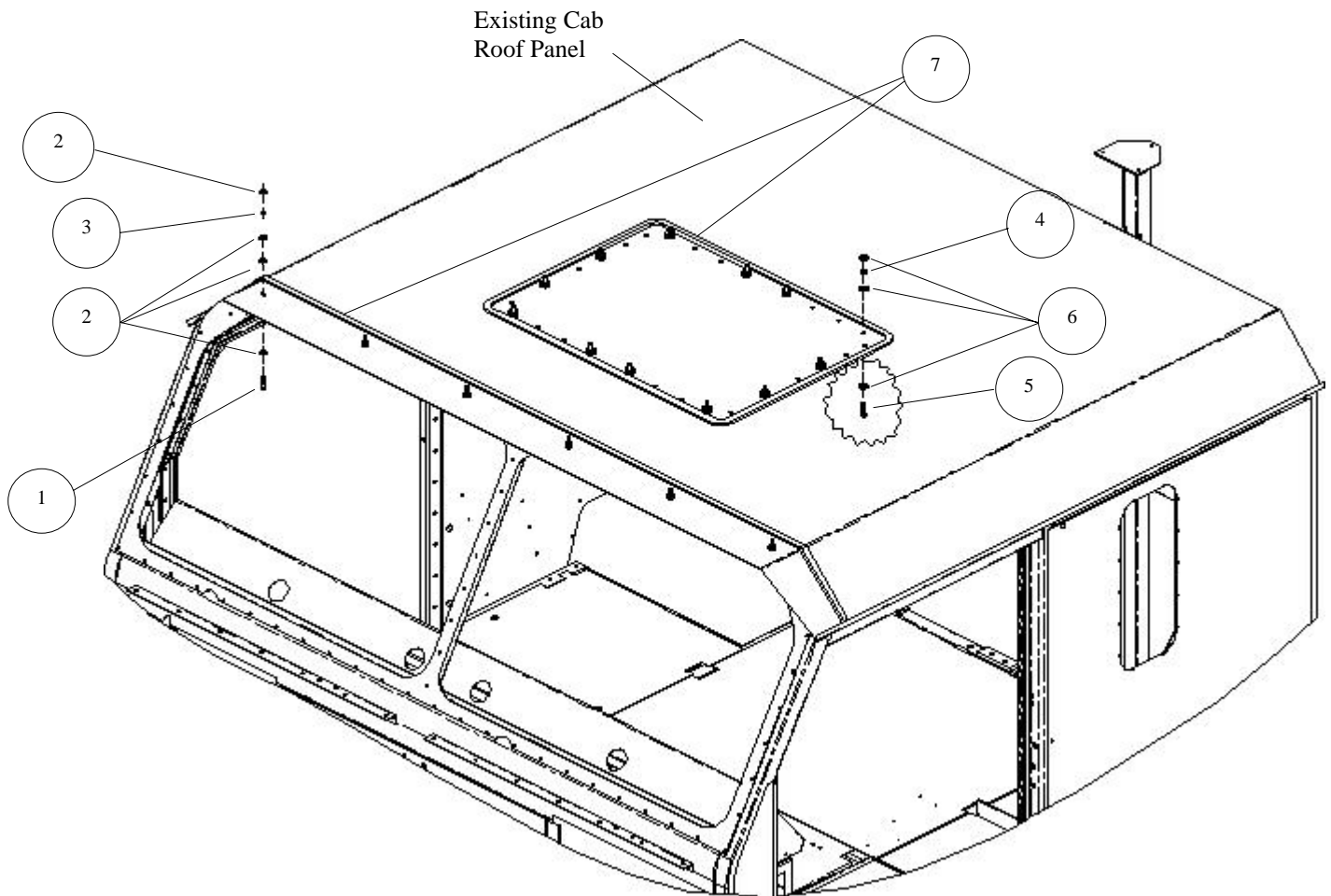
1. Install lift brackets, stud plates, and PLGR antenna mount brackets onto roof panel as follows (see Figure 3-9):
  - a. Install four lift brackets (1) onto roof panel (2) and secure each with one bolt (3), flat washer (4), and locknut (5). Torque locknuts to 35 lb-ft.
  - b. Install seven stud plates (6) onto roof panel (2) and secure each with one jam nut (7). Temporarily tighten jam-nuts (7).
  - c. Install two PLGR antenna mount brackets (8) and secure each with two flat washers (9) and locknuts (10). Ensure locknuts are snugged down, but do not torque further at this time.



**Figure 3-9. Roof Panel Pre-Assembly.**

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

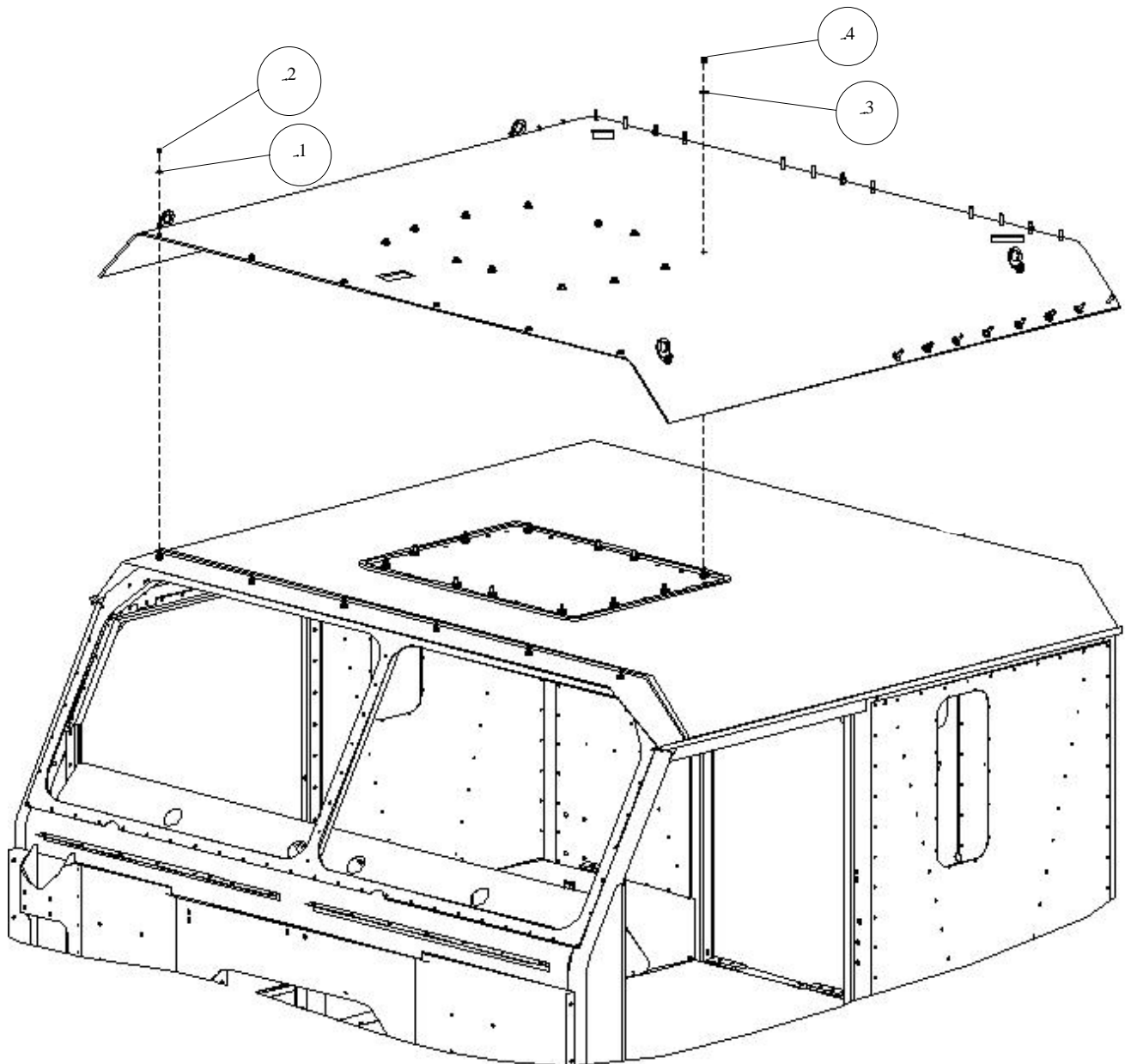
2. Install roof panel mounting studs and spacers as follows (see Figure 3-10):
  - a. Re-install cab sun visor. Replace back row of fasteners with 6 bolts (1), 12 flat washers (2), and 6 hex nuts (3) through the 6 slots of the existing cab roof panel as shown. Torque six hex nuts (3) to 9 lb-ft.
  - b. Install one flat washer (2) on top of each of the six hex nuts (3).
  - c. Install 12 bolts (5), 24 flat washers (6), and 12 jam nuts (4) to existing cab roof panel. Torque 12 jam nuts (4) to 35 lb-ft. Install one flat washer (6) onto each jam nut.
  - d. Apply a strip of rubber seal (7) to the outside perimeter of the center bolt pattern (120 in.) and along the rear of the cab sun visor (100 in.).



**Figure 3-10. Roof Panel Mounting Studs and Spacers Installation.**



3. Install roof panel as follows (see Figure 3-11):
  - a. Using appropriate lifting device, hardware, and personnel, lift roof panel assembly into position on top of cab roof. Verify equal spacing between roof panel and side gutters once in place.
  - b. Apply urethane sealant in 12 holes around protruding bolts and secure the roof panel assembly to the cab using six flat washers (1), six locknuts (2), twelve flat washers (3), and twelve locknuts (4). Torque six locknuts (2) to 9 lb-ft. Torque twelve locknuts (4) to 35 lb-ft.
  - c. Remove one jam nut from each of the seven stud plates on the roof panel once the roof panel has been placed into position.



**Figure 3-11. Roof Panel Installation.**

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

**3-5. REAR ARMOR INSTALLATION**

**TOOLS:**

General Mechanics Tool Kit:  
(NSN 5180-00-177-7033)

**MATERIAL/PARTS:**

<b>FIGURE</b>	<b>ITEM</b>	<b>PART NO.</b>	<b>NOMENCLATURE</b>	<b>QTY</b>
3-12	1	113414-1	BRACKET, REAR PANEL	3
	2	113416-1	PLATE, STUD	3
	3	113451-1	PANEL, REAR	1
	4		FLAT WASHER, 3/8, USS	35
	5		LOCKNUT, 3/8-16, GR8	37
	6	113415-1	BRACKET, 90-DEGREE JOINER	7
	7	113423-1	BRACKET, MTS ANTENNA MOUNT	1
	8	113423-3	BRACKET, MTS ANTENNA MOUNT	1
	9	113444-1	BRACKET, REAR LIGHT	2
	10		SCREW, BUTTON HEAD CAP, #10-24 X 1.000 LONG	8
	11		FLAT WASHER, #10, USS	8
	12		LOCKNUT, #10-24, GR8	8
	13	113478-1	BRACKET, LIFT	2
	14		BOLT, 3/8-16 X 1.500 LONG, GR8	2
3-13	1	6100B3X1/16A	TRIM SEAL	A/R
	2		FLAT WASHER, 3/8 ID, USS	12
	3		LOCKNUT, 3/8-16, GR8	12
3-14	1	113440-1	SPACER	8
	2		BOLT, 7/16-14 X 4.000 LONG, GR8	8
	3		FLAT WASHER, 7/16" ID, USS	8
	4		LOCKNUT, 7/16-14, GR8	8
3-15	1		BOLT, 3/8-16 X 2.250 LONG, GR8	4
	2		FLAT WASHER, 3/8, USS, GR8	16
	3	113440-3	SPACER	8
	4		LOCKNUT, 3/8-16, GR8	8
	5		BOLT, 3/8-16 X 2.000 LONG, GR8	4
3-16	1		BOLT, 3/8-16 X 2.000 LONG	3
	2		LOCK WASHER, 3/8	3
	3	113473-1	SPACER	3

---

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-17	1	113497-1	BUSHING, DRILL, 5/16 INCH, SHORT	1
	2	113497-3	BUSHING, DRILL, 5/16 INCH, LONG	1
	3	113475-3	BUSHING, SLEEVE	2
	4		BOLT, 3/8-16 X 3.500 LONG, GR8	2
	5		FLAT WASHER, 3/8, USS	8
	6		LOCKNUT, 3/8-16, GR8	6
	7		BOLT, 3/8-16 X 2.000 LONG, GR8	4
	8	113440-3	SPACER	4

---

## M1070 HET ARMOR KIT

II113400

Rev. D

### a. Installation

1. Pre-assemble rear panel as follows (see Figure 3-12):
  - a. Install three rear panel brackets (1) and three stud plates (2) onto rear panel (3) and secure each with four flat washers (4) and locknuts (5). Tighten. However, allow bracket to slide freely from side to side.
  - b. Install seven 90-degree joiner brackets (6) onto rear panel (3) and secure each with three flat washers (7) and locknuts (8). Do not tighten locknuts at this point.

#### NOTE

Joiner brackets may be installed just after the rear panel is hung on the roof studs in the next step.

- c. Install two rear light brackets (9) onto rear panel (3) and secure each with four screws (10), eight flat washers (11), and four locknuts (12).
- d. Install two lift brackets (13) onto rear panel (3) and secure each with one bolt (14), flat washer (4), and locknut (5). Torque locknut to 35 lb-ft.
- e. Install each MTS antenna mount bracket (7 and 8) onto rear panel (3) and secure each with locknuts (5). Torque nuts to 23 lb-ft.

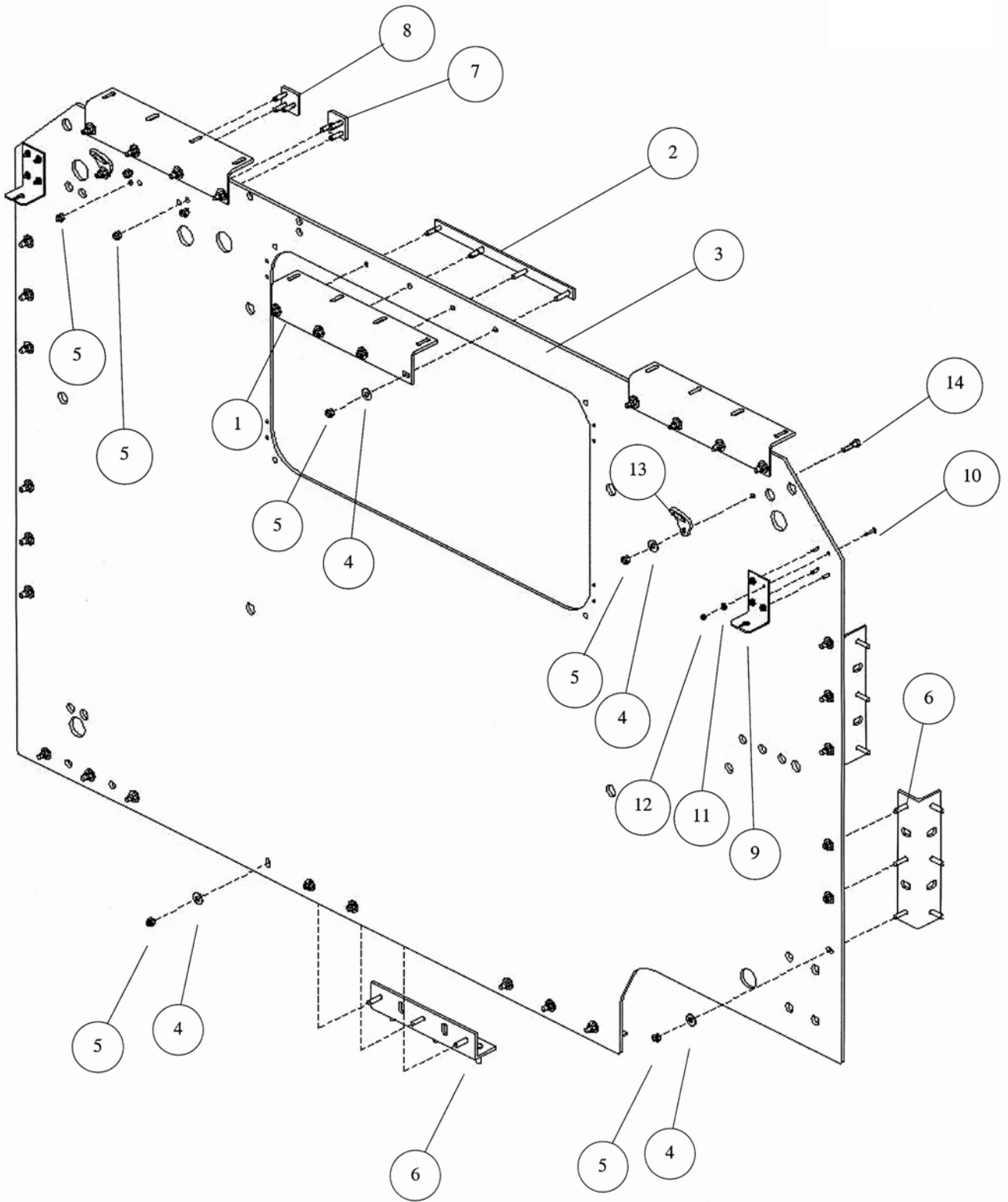


Figure 3-12. Rear Panel Pre-Assembly.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Install rear panel as follows (see Figure 3-13):

NOTE

Repositioning of 90-degree joiner brackets may be required to provide adequate clearance while mounting the rear panel assembly.

- a. Install trim-seal (1) around perimeter of rear window opening on vehicle. (Approx. 10 ft.)
- b. Using appropriate lifting device, hardware, and personnel, lift rear panel assembly into place onto cab.
- c. As rear panel assembly drops into position, align top slot rows of all rear panel brackets onto back row of  $\text{Ø}3/8$ -inch studs on the roof.

NOTE

Some adjustment is allowed to the left and right in the three rear panel brackets, if required. 90-deg joiner brackets may be inserted, as shown in Figure 3-12, if not previously installed.

- d. Verify that all holes in rear panel assembly are aligned with features on cab and that appropriate fasteners and spacers will assemble properly.
- e. Install 12 flat washers (2) and locknuts (3) onto studs on roof panel. Do not torque locknuts at this time.

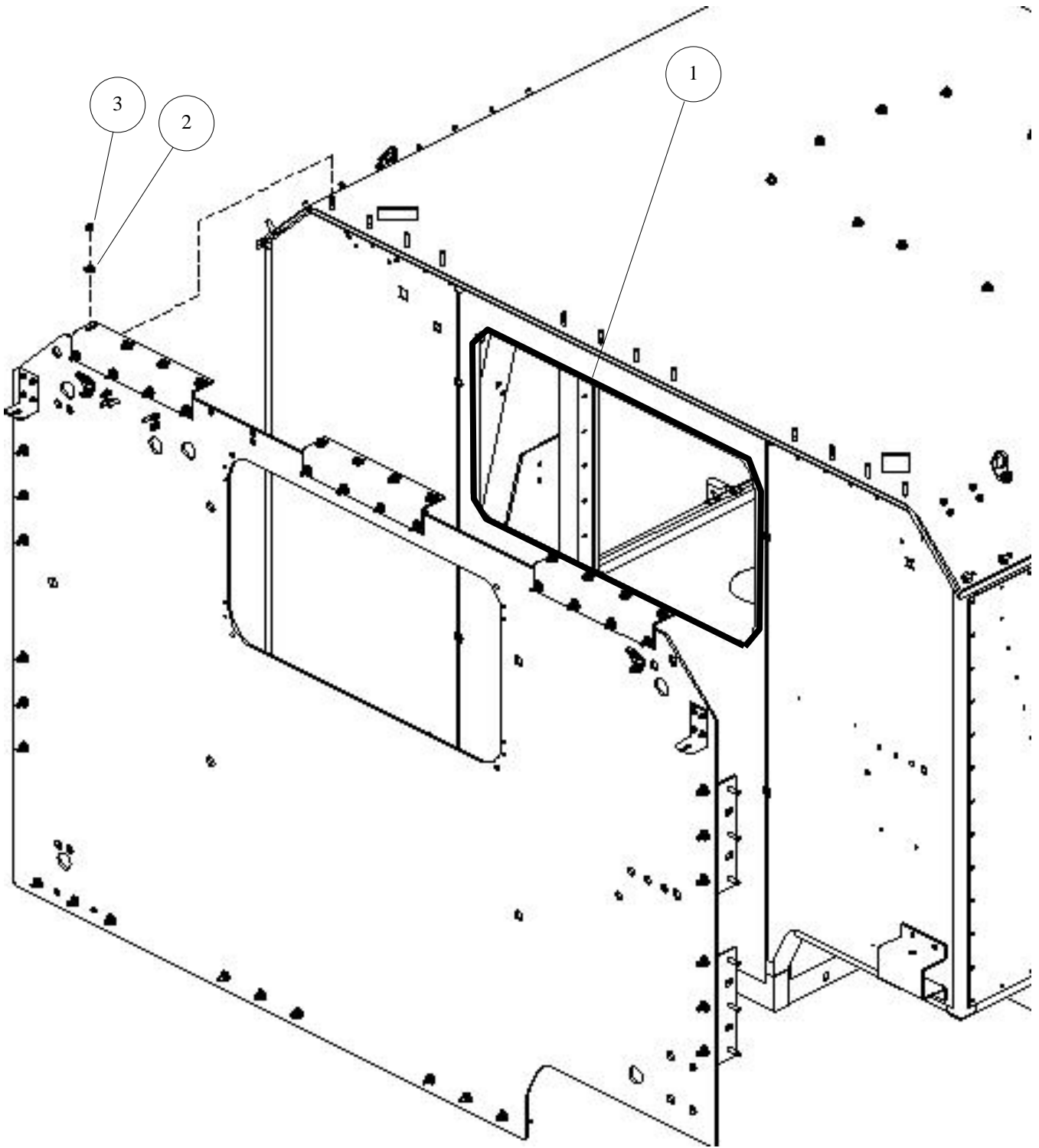


Figure 3-13. Rear Panel Installation.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

3. Install seat belt assemblies as follows (see Figure 3-14):
  - a. Re-install four upper seat belt assemblies and lower seat belt retractors through rear armor and cab using one bolt (2), one flat washer (3), one spacer (1), and one locknut (4) for each assembly. (Use original flat washers on the inside of vehicle.). Torque to 7 lb-ft.

**NOTE**

Ensure dowel on lower seat bolt retractors is aligned properly with slot (hole) in cab.



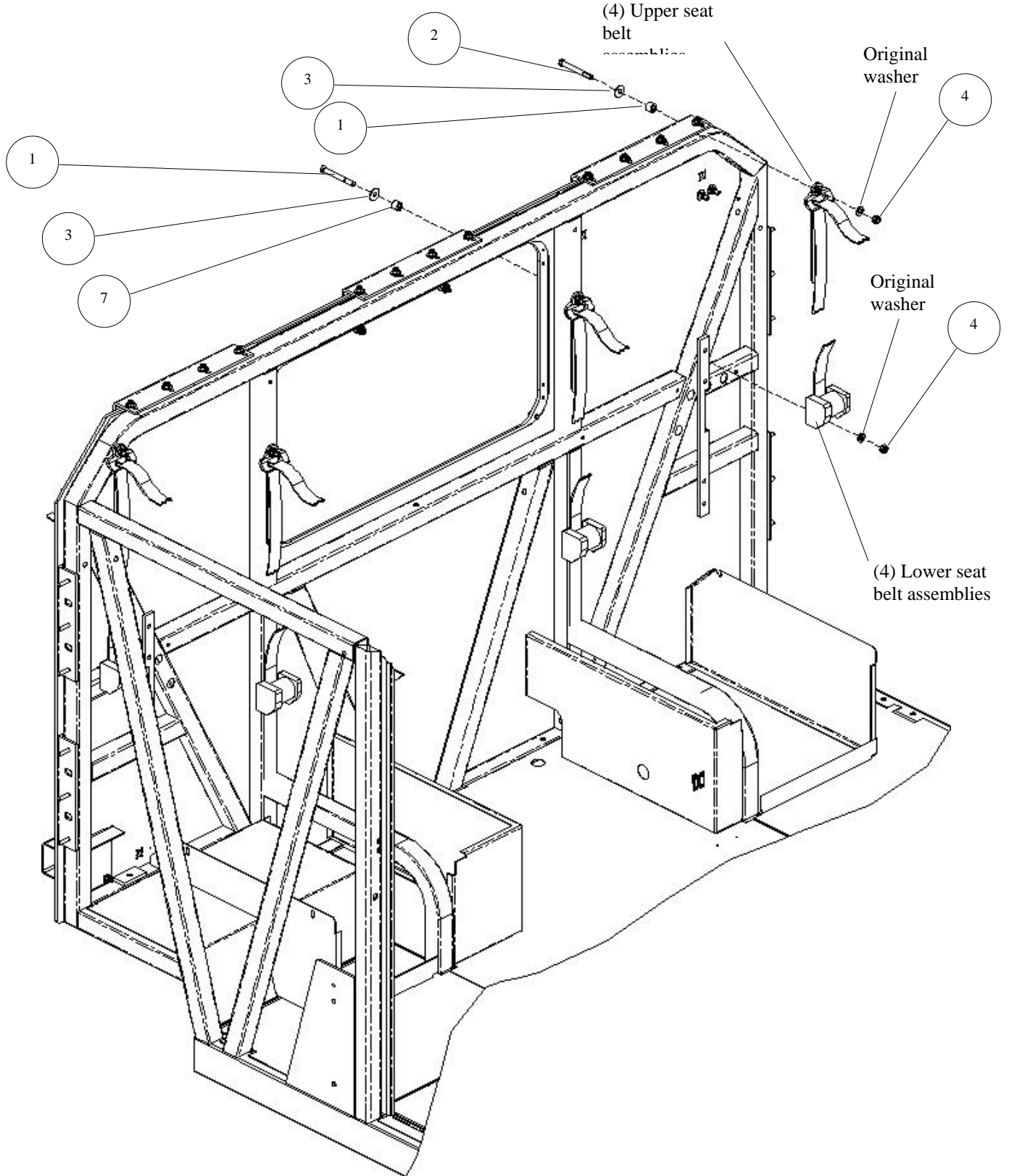


Figure 3-14. Rear Seat Belt Assembly Installation.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

4. Re-install the tire pulley and tire-mount bracket as shown (see Figure 3-15).
  - a. Re-install tire pulley bracket (retained from Teardown, Chapter 2) using four bolts (1), eight flat washers (2), four spacers (3), and four locknuts (4). Torque locknuts to 35 lb-ft.
  - b. Re-install tire mount bracket (retained from Teardown, Chapter 2) using four bolts (1), eight flat washers (2), four spacers (3), and four locknuts (4). Torque locknuts to 35 lb-ft.

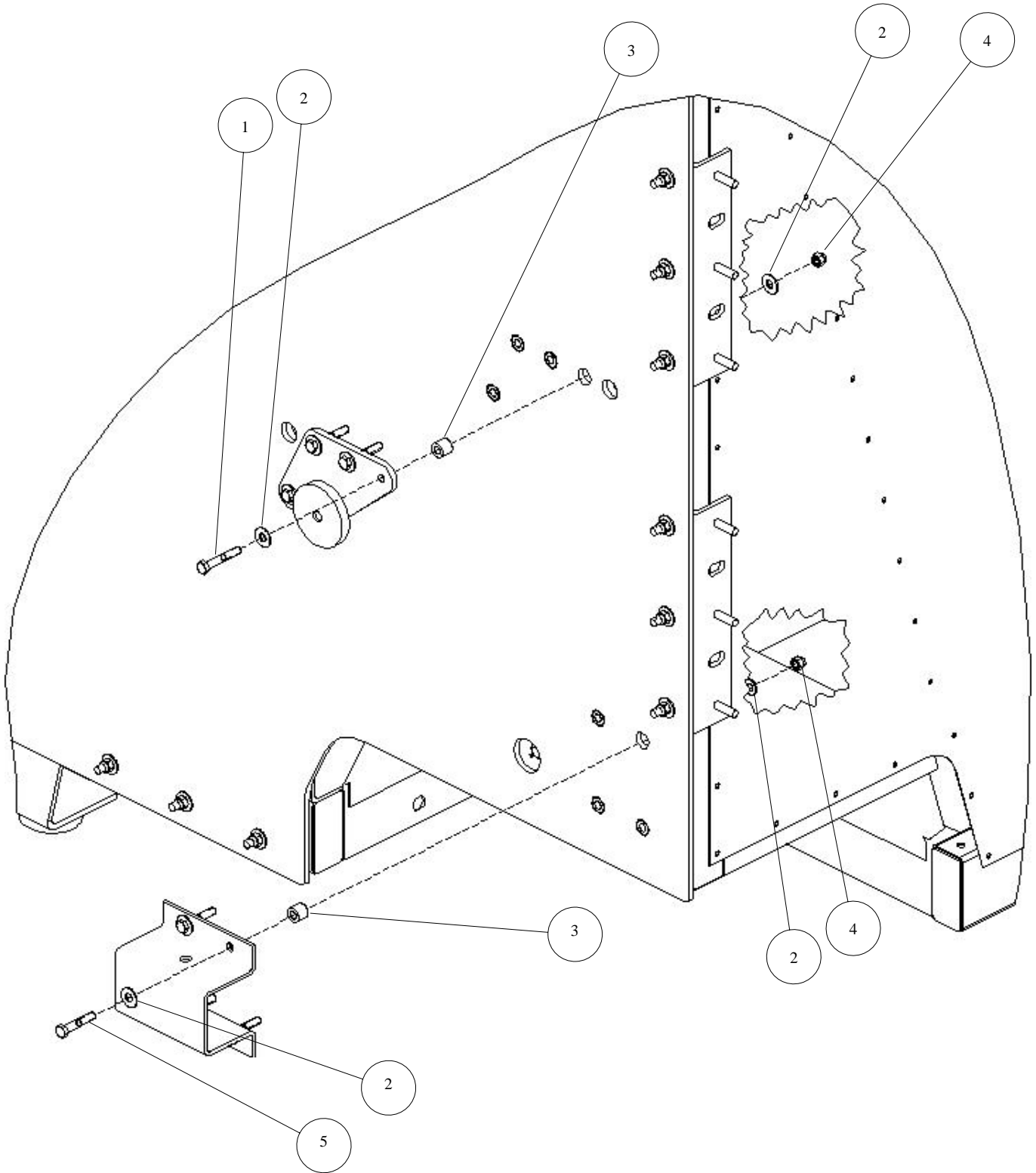


Figure 3-15. Tire Pulley Bracket and Tire Mount Bracket Installation.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

5. Install beacon light bracket as follows (see Figure 3-16):
  - a. Re-install beacon light bracket assembly (retained from Teardown, Chapter 2) using three bolts (1), three lock washers (2), and three spacers (3). Torque bolts to 23 lb-ft.
  - b. Slide all seven 90-degree joiner brackets firmly into position against cab and torque all 90-degree joiner locknuts to 23 lb-ft.
  - c. Torque locknuts on the top of the Rear Panel Bracket to 23 lb-ft.

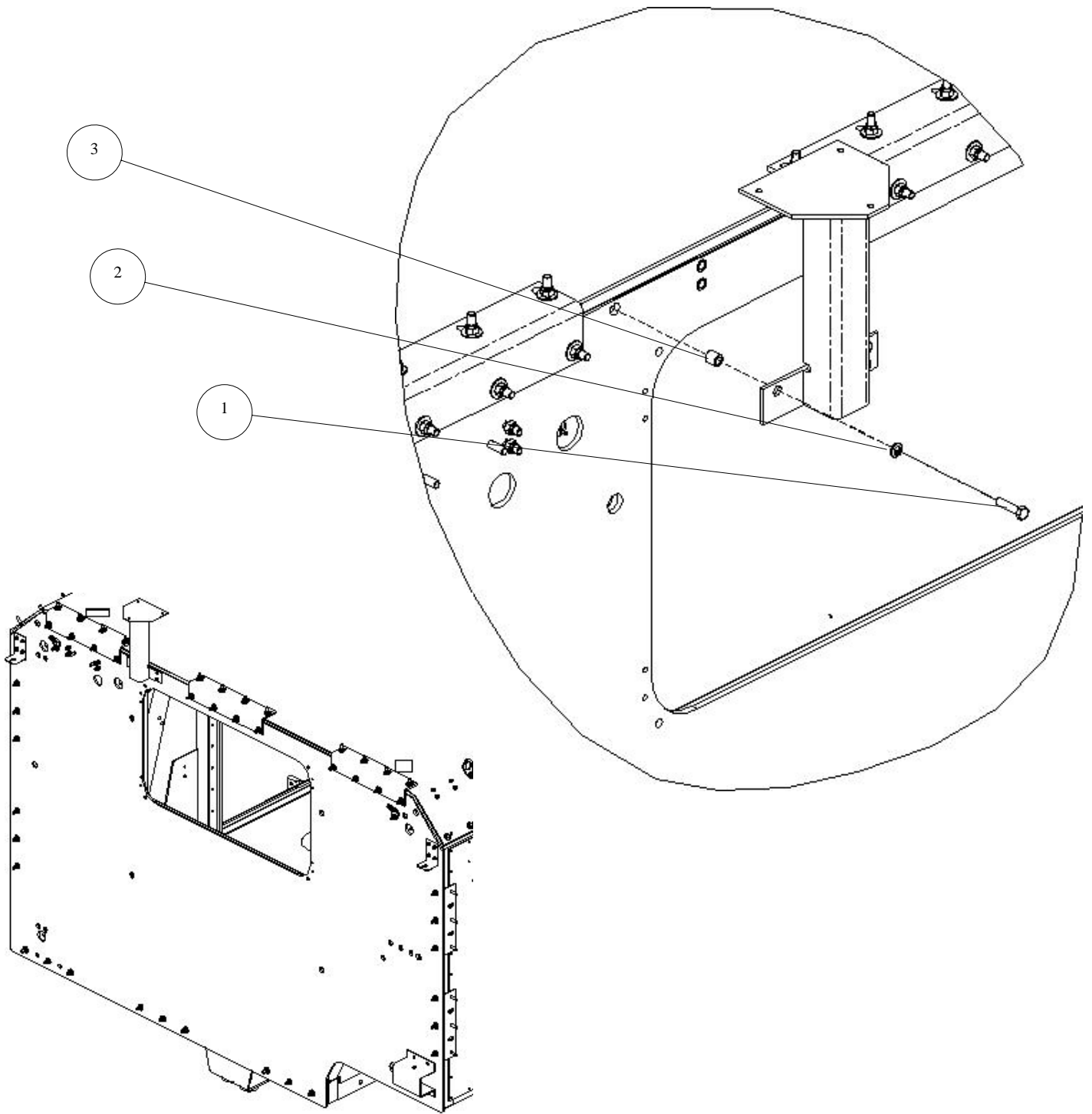


Figure 3-16. Beacon Light Bracket Assembly Installation.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

6. Match-drill cab frame rail and install sleeve bushings and grab handle as follows (see Figure 3-17):

**NOTE**

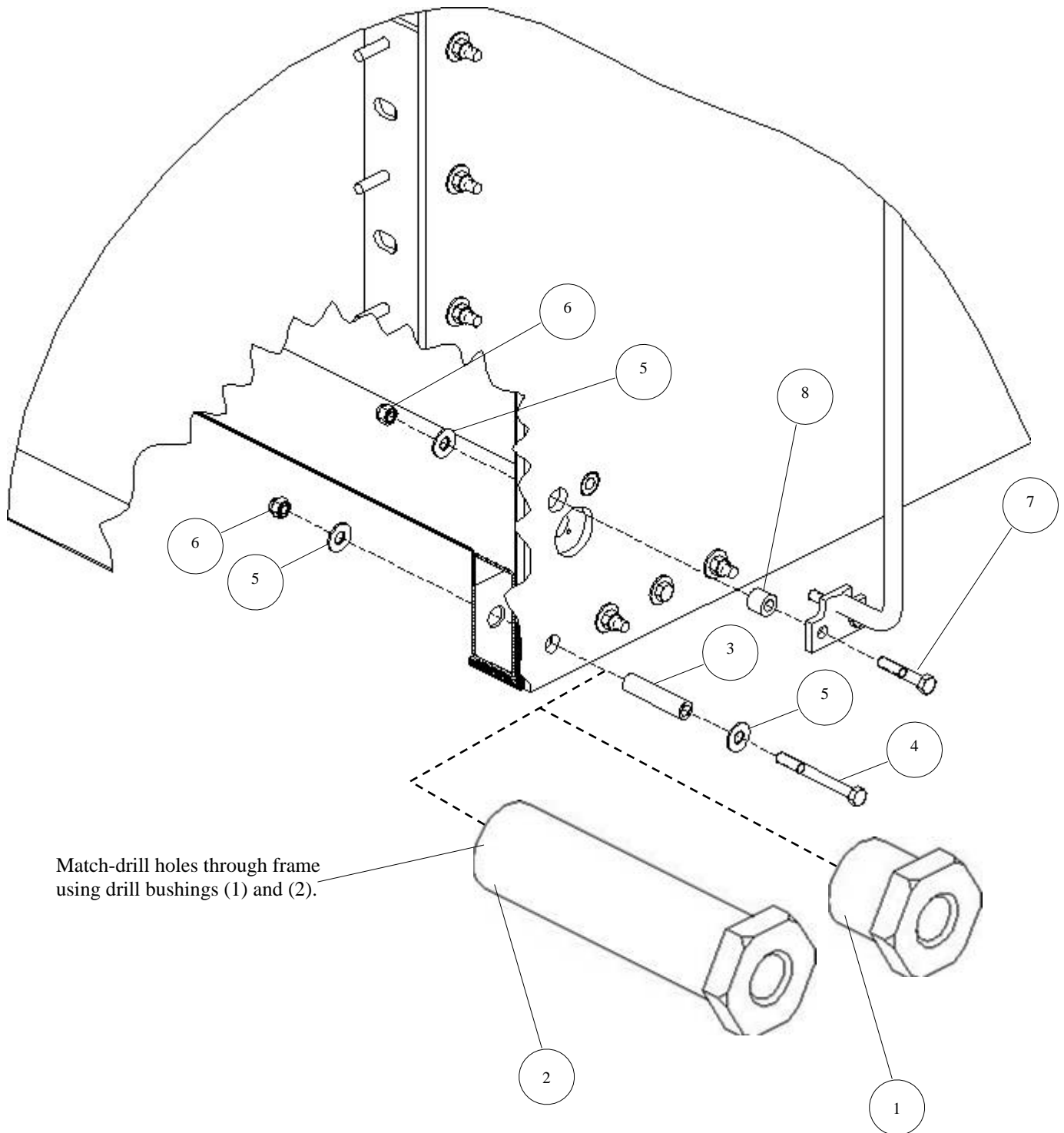
The following procedure is used for each of the holes shown in Figure 3-17.

- a. Place drill bushing (1) into hole in rear panel.
- b. Drill through the first wall of the cab frame rail using a short,  $\varnothing 5/16$ -inch drill bit.
- c. Remove drill bushing and enlarge the hole-size in the first wall of the cab frame rail to  $\varnothing 5/8$  inch.
- d. Install drill bushing (2) into hole and drill a hole through the second wall of the cab frame rail using a long  $\varnothing 5/16$ -inch drill bit.
- e. Remove drill bushing and enlarge hole in the second wall of the cab frame rail using a  $\varnothing 3/8$ -inch drill bit.

**NOTE**

The sleeve bushings (3) in the following step are used to keep the cab frame rail from collapsing.

- f. Install two sleeve bushings (3) and secure each with one bolt (4), two flat washers (5), and one locknut (6). Torque locknuts to 35 lb-ft.
- g. Re-install rear grab handle (retained from Teardown, Chapter 2) using four bolts (7), flat washers (5), spacers (8), and locknuts (6). Torque locknuts to 35 lb-ft.



**Figure 3-17. Match-Drill of Cab Frame Rail.**





**3-6. LEFT SIDE PANEL ARMOR INSTALLATION**

**TOOLS:**

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

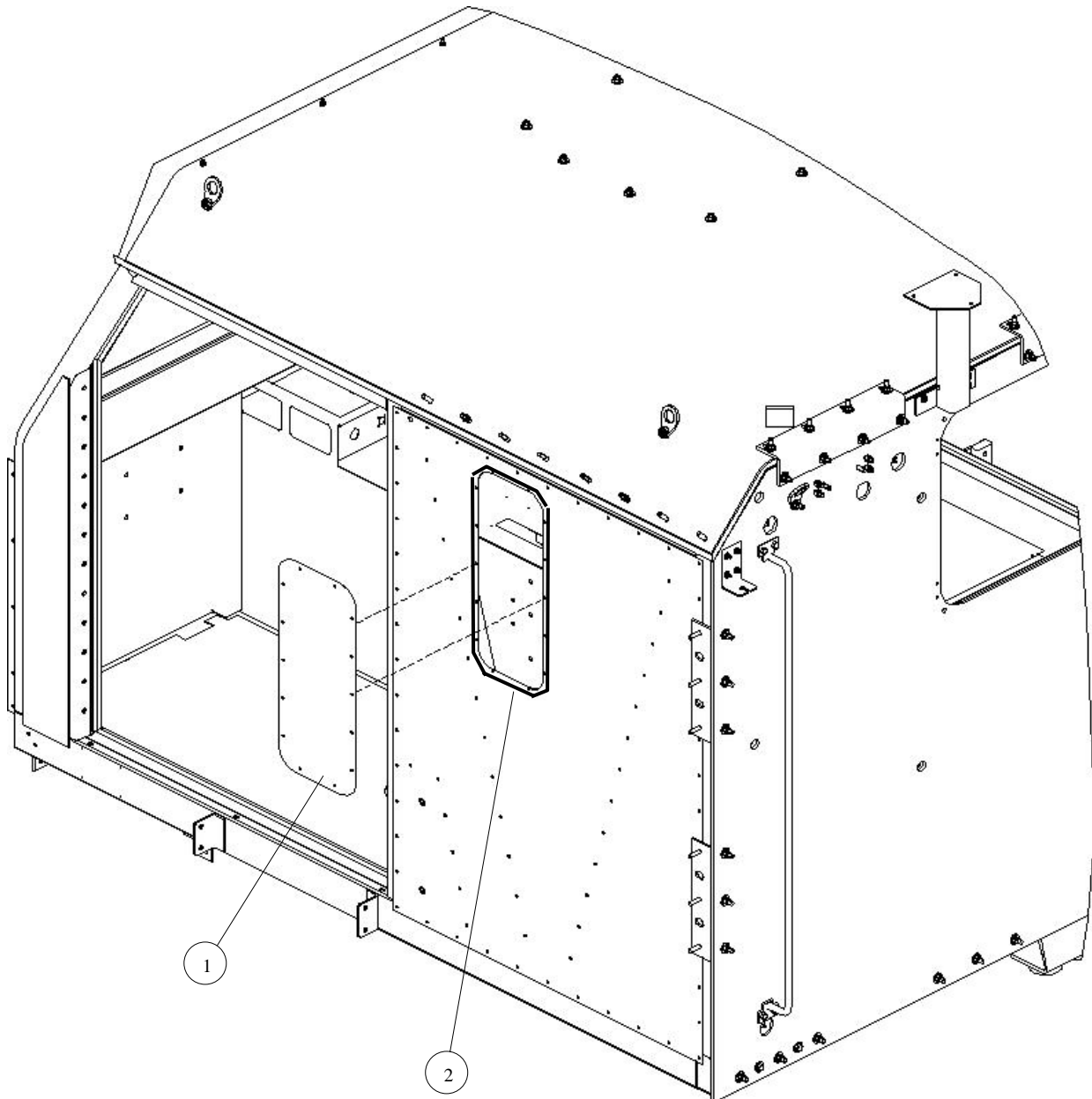
**MATERIAL/PARTS:**

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-18	1	113479-1	COVER, WINDOW	1
	2	104302-1	SEALANT, BLACK URETHANE	AR
3-19	1	113412-1	PANEL, SIDE AFT	1
	2	113412-3	PANEL, SIDE AFT	1
	3	113478-1	BRACKET, LIFT	2
	4		BOLT, 3/8-16 X 1.500 LONG, GR8	10
	5		FLAT WASHER, 3/8" ID, USS	32
	6		LOCKNUT, 3/8-16, GR8	24
	7	113406-1	PANEL, ARMOR, ROOF-SIDE	1
	8	113415-1	BRACKET, 90-DEGREE JOINER	2
	9		BOLT, 3/8-16 X 1.250 LONG, GR8	8
3-20	1		FLAT WASHER, 3/8, USS	30
	2		LOCKNUT, 3/8-16, GR8	14
3-21	1	113475-1	BUSHING, SLEEVE	4
	2		BOLT, 3/8-16 X 4.0 LONG, GR8	4
	3		FLAT WASHER, 3/8" ID, USS	10
	4		LOCKNUT, 3/8-16, GR-8	4
	5		BOLT, 7/16-14 X 4.500 LONG	1
	6		BOLT, 7/16-14 X 2.500 LONG	2
	7		FLAT WASHER, 7/16" ID, USS	1
	8	113440-2	SPACER	3
	9		LOCKNUT, 7/16-14, GR8	3



**a. Installation**

1. Install left window cover as follows (see Figure 3-18):
  - a. Apply a bead of black urethane sealant (2) around perimeter of left side window opening.
  - b. Install window cover (1) using original hardware (Retained from Teardown, Chapter 2).



**Figure 3-18. Left Side Window Cover Installation.**

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Pre-assemble left aft side panels as follows (see Figure 3-19):
  - a. Align left aft side panel (1) with left aft side panel (2) and install two lift brackets (3) and secure each with one bolt (4), flat washer (5), and locknut (6). Verify hole-alignments using drill bushings as gauge in holes marked "A". Torque bolts to 35 lb-ft.
  - b. Install the roof-side armor panel (7) onto left aft side panel assembly and secure it with eight bolts (4), flat washers (5), and locknuts (6). Torque bolts to 35 lb-ft.
  - c. Install two 90-degree joiner brackets (8) onto left aft side panel assembly and secure each with three flat washers (5) and locknuts (6). Do not tighten locknuts at this time.
  - d. Install eight bolts (9), sixteen flat washers (5), and eight locknuts (6) into left aft side panel assembly. Torque bolts to 35 lb-ft.

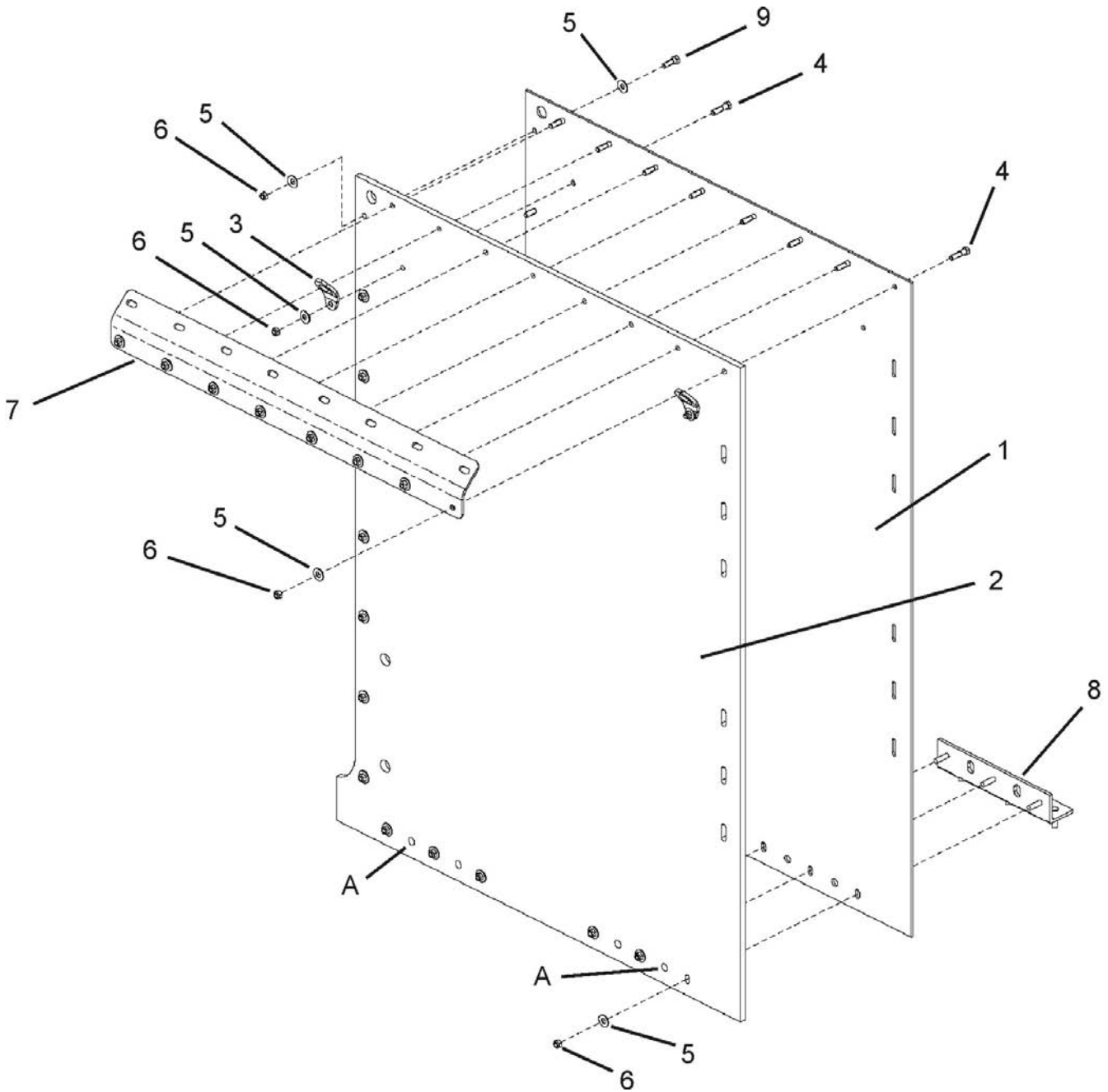


Figure 3-19. Left Aft Side Panels Pre-Assembly.

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

3. Install left aft side panel assembly as follows (see Figure 3-20):

### **NOTE**

Repositioning of 90-degree joiner brackets may be required to provide adequate clearance while mounting the left aft side panel assembly.

- a. Install 3 flat washers (1) onto each stud along left side of cab on the roof panel.
- b. Using appropriate lifting device, hardware, and personnel, lift left aft side panel assembly from cab lift brackets into position onto the cab.
- c. Verify holes in left aft side panel assembly for grab handle and seat belt attachments are aligned with holes in the cab.
- d. Slide both bottom 90-degree joiner brackets firmly up into position against cab frame rail and torque bracket locknuts to 23 lb-ft.
- e. Install six flat washers (1) and locknuts (2) onto the studs of the two 90-degree joiner brackets. Do not tighten locknuts at this time.
- f. Install eight flat washers (1) and locknuts (2) onto top row of studs connecting the 45-degree brackets to the roof armor. Do not tighten locknuts at this time.

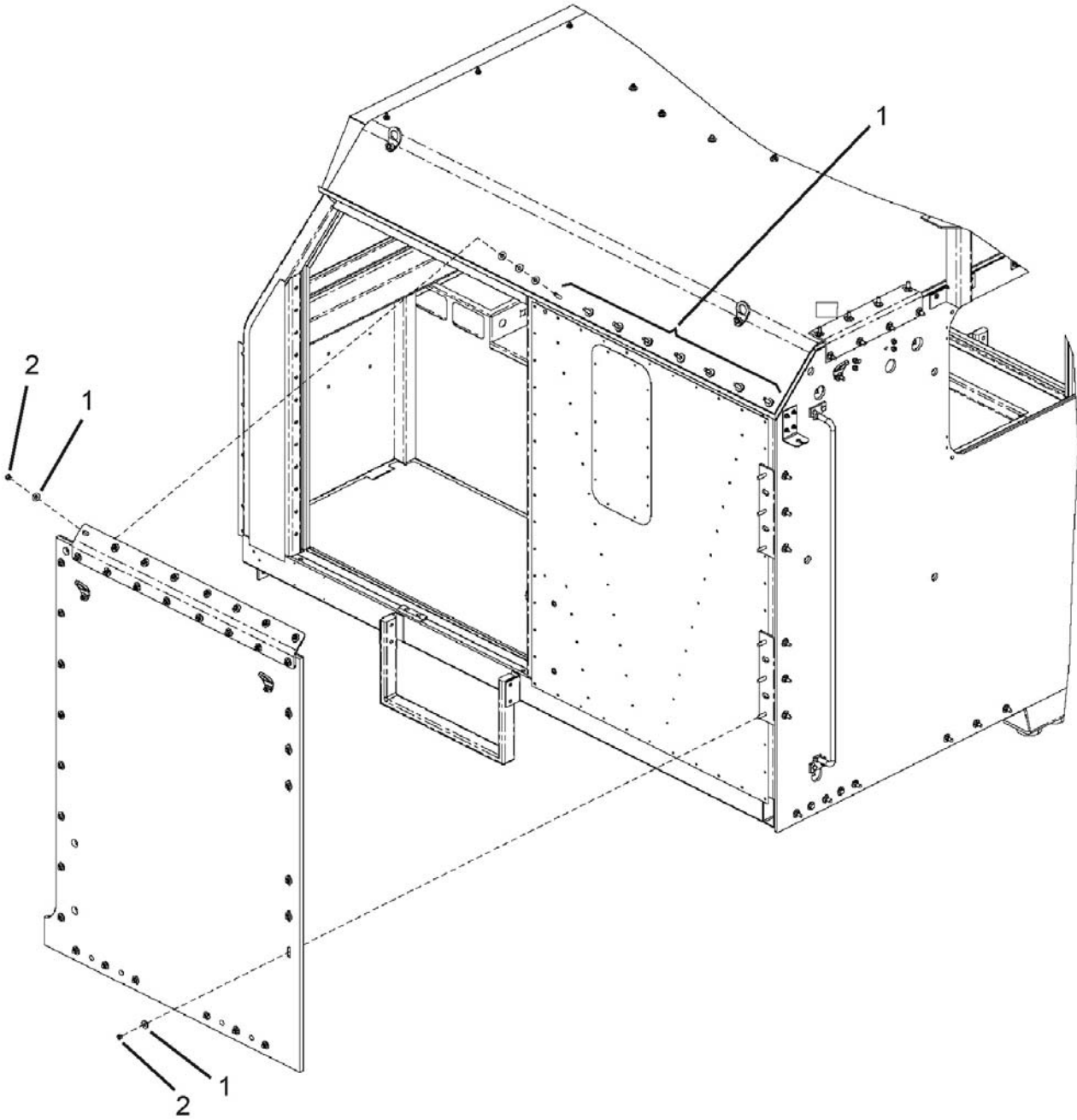


Figure 3-20. Left Aft Side Panel Assembly Installation.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

4. Install cab frame rail sleeve bushings, seat belt assemblies, and grab handle as follows (see Figure 3-21):

**NOTE**

The sleeve bushings (1) in the following step are used to keep the cab frame rail from collapsing.

- a. Re-install grab handle and seat belt assembly (retained from Teardown, Chapter 2) using one bolt (5), one bolt (6), two flat washers (7), two flat washers (3), two spacers (8), upper seat-belt assembly (retained from Teardown, Chapter 2), and two locknuts (9). Torque locknut on bolt (5) to 7 lb-ft. Torque locknut on bolt (6) to 55 lb-ft.
- b. Re-install lower seat-belt retractor (retained from Teardown, Chapter 2), using one bolt (6), one spacer (8), one flat washers (7), an original washer, and one locknut (9). Torque locknut to 55 lb-ft.
- c. Match-drill cab frame rail as described previously (see Figure 3-17)
- d. Install four sleeve bushings (1) as shown in Figure 3-22 and secure each with one bolt (2), two flat washers (3), and one locknut (4). Torque locknuts to 35 lb-ft.
- e. Tighten locknut installed in Steps e and f in the previous Step 3 to 23 ft-lb.

**NOTE**

Ensure dowel on lower seat bolt retractors is aligned properly with slot (hole) in cab.



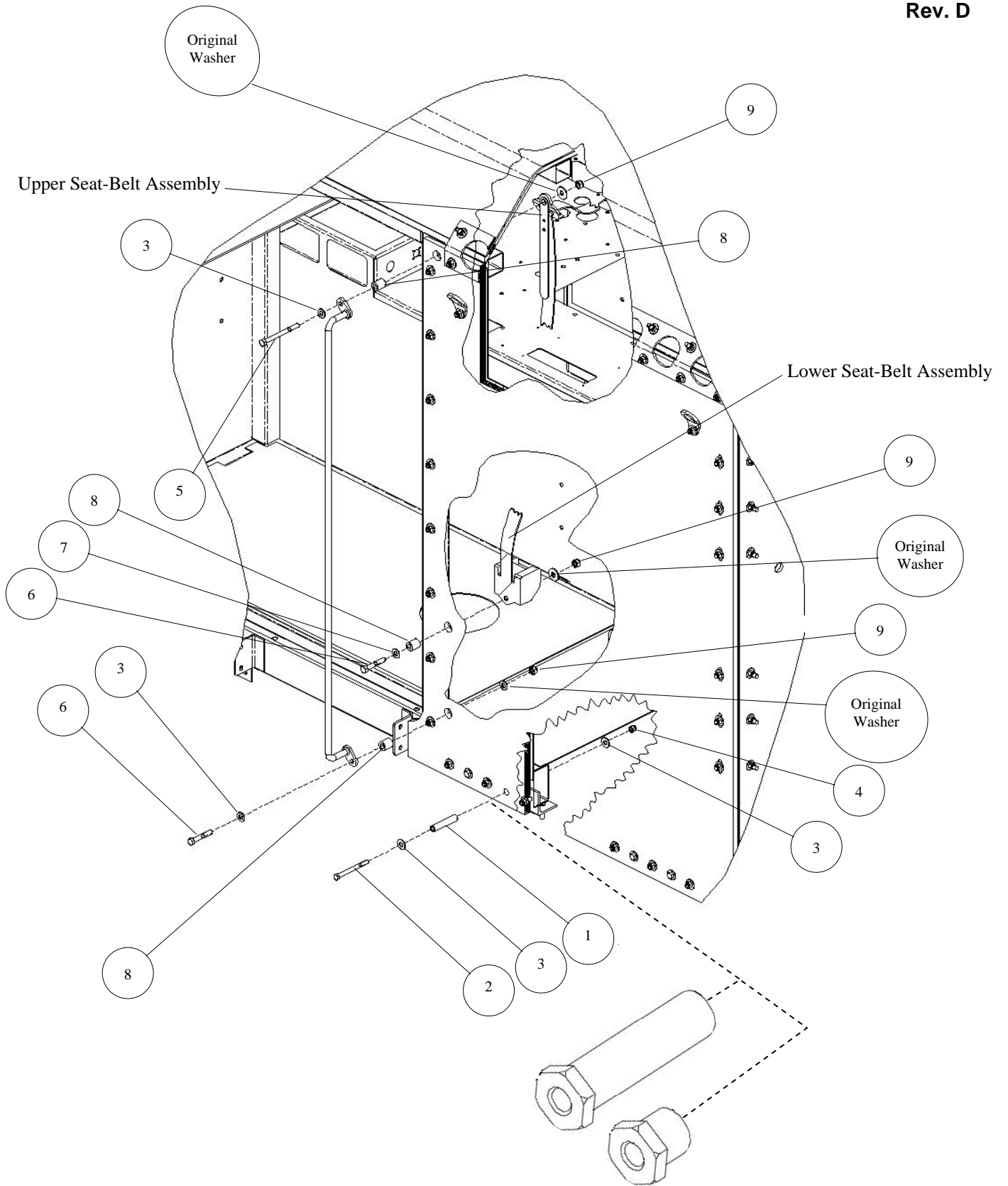


Figure 3-21. Cab Frame Rail Sleeve Bushing and Grab Handle Installation.



**3-7. RIGHT SIDE PANEL ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-22	1	113479-1	COVER, WINDOW	1
	2	103403-1	SEALANT, BLACK URETHANE	AR
3-23	1	113413-2	PANEL, SIDE AFT	1
	2	113413-4	PANEL, SIDE AFT	1
	3	113478-1	BRACKET, LIFT	2
	4		BOLT, 3/8-16 X 1.500 LONG, GR8	10
	5		FLAT WASHER, 3/8, USS	32
	6		LOCKNUT, 3/8-16, GR8	24
	7	113406-1	PANEL, ARMOR, ROOF-SIDE	1
	8	113415-1	BRACKET, 90-DEGREE JOINER	2
	9		BOLT, 3/8-16 X 1.250 LONG, GR8	8
3-24	1		FLAT WASHER, 3/8, USS	30
	2		LOCKNUT, 3/8-16, GR8	14
3-25	1	113475-1	BUSHING, SLEEVE	4
	2		BOLT, 3/8-16 X 4.000 LONG, GR8	4
	3		FLAT WASHER, 3/8, USS	8
	4		LOCKNUT, 3/8-16, GR8	4
	5		BOLT, 7/16-14 X 4.500" LONG	1
	6		BOLT, 7/16-14 X 2.500" LONG	2
	7		FLAT WASHER, 7/16" ID, USS	1
	8	113440-2	SPACER	3
	9		LOCKNUT, 7/16-14, GR8	3

**a. Installation**

1. Install right window cover as follows (see Figure 3-22):
  - a. Apply a bead of black urethane sealant (2) around perimeter of right side window opening.
  - b. Install window cover (1) using original hardware (Retained from Teardown, Chapter 2).

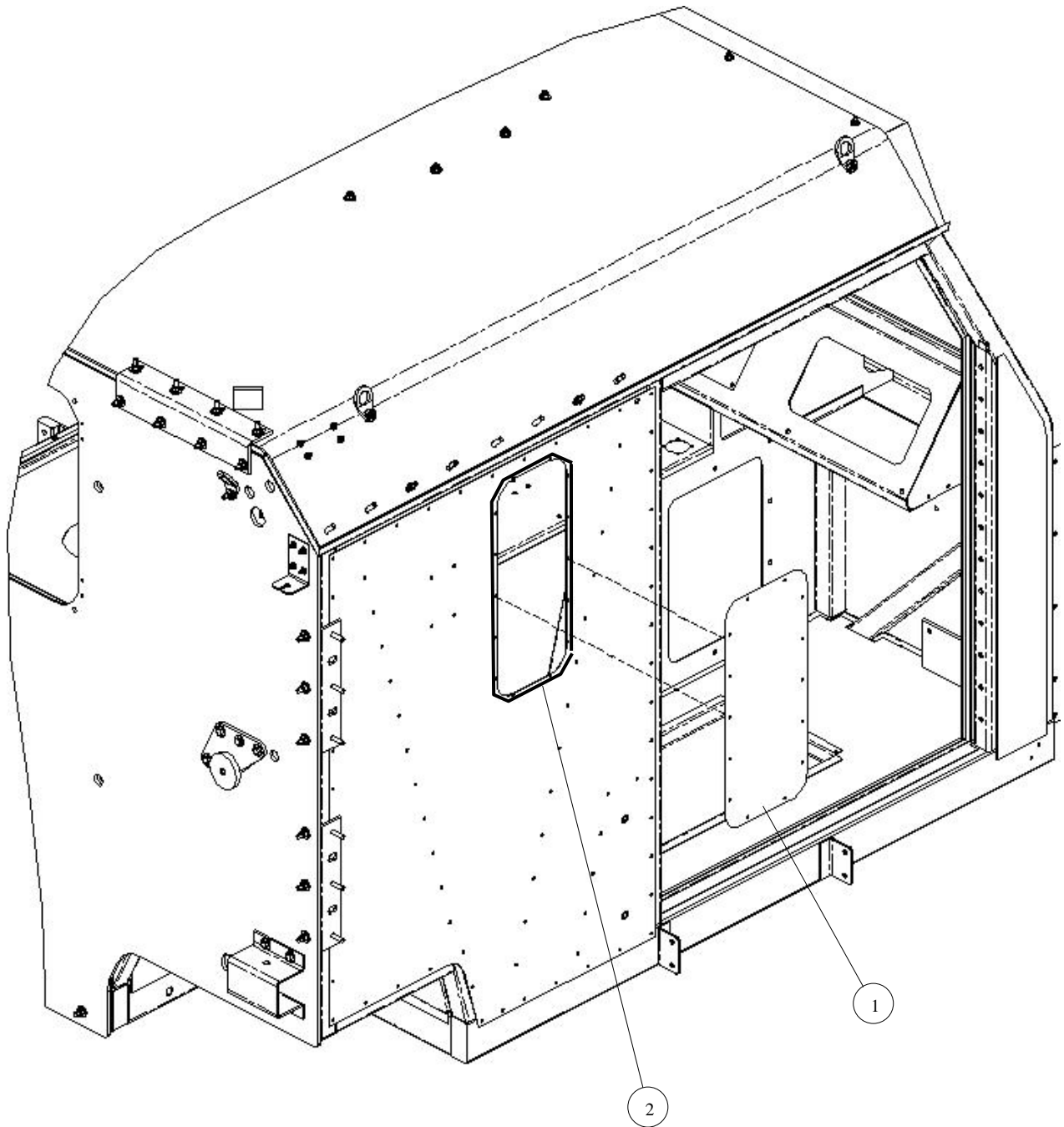


Figure 3-22. Right Side Window Cover Installation.

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Pre-assemble right aft side panels as follows (see Figure 3-23):
  - a. Align right aft side panel (1) with right aft side panel (2) and install two lift brackets (3) and secure each with one bolt (4), flat washer (5), and locknut (6). Verify hole-alignments using drill bushings as gauge. Torque bolts to 35 lb-ft.
  - b. Install roof-side armor panel (7) onto right aft side panel assembly and secure it with eight bolts (4), flat washers (5), and locknuts (6). Torque bolts to 35 lb-ft.
  - c. Install two 90-degree joiner brackets (8) onto left aft side panel assembly and secure each with three flat washers (5) and locknuts (6). Do not tighten locknuts at this time.
  - d. Install eight bolts (9), sixteen flat washers (5), and eight locknuts (6) into left aft side panel assembly. Torque bolts to 35 lb-ft.

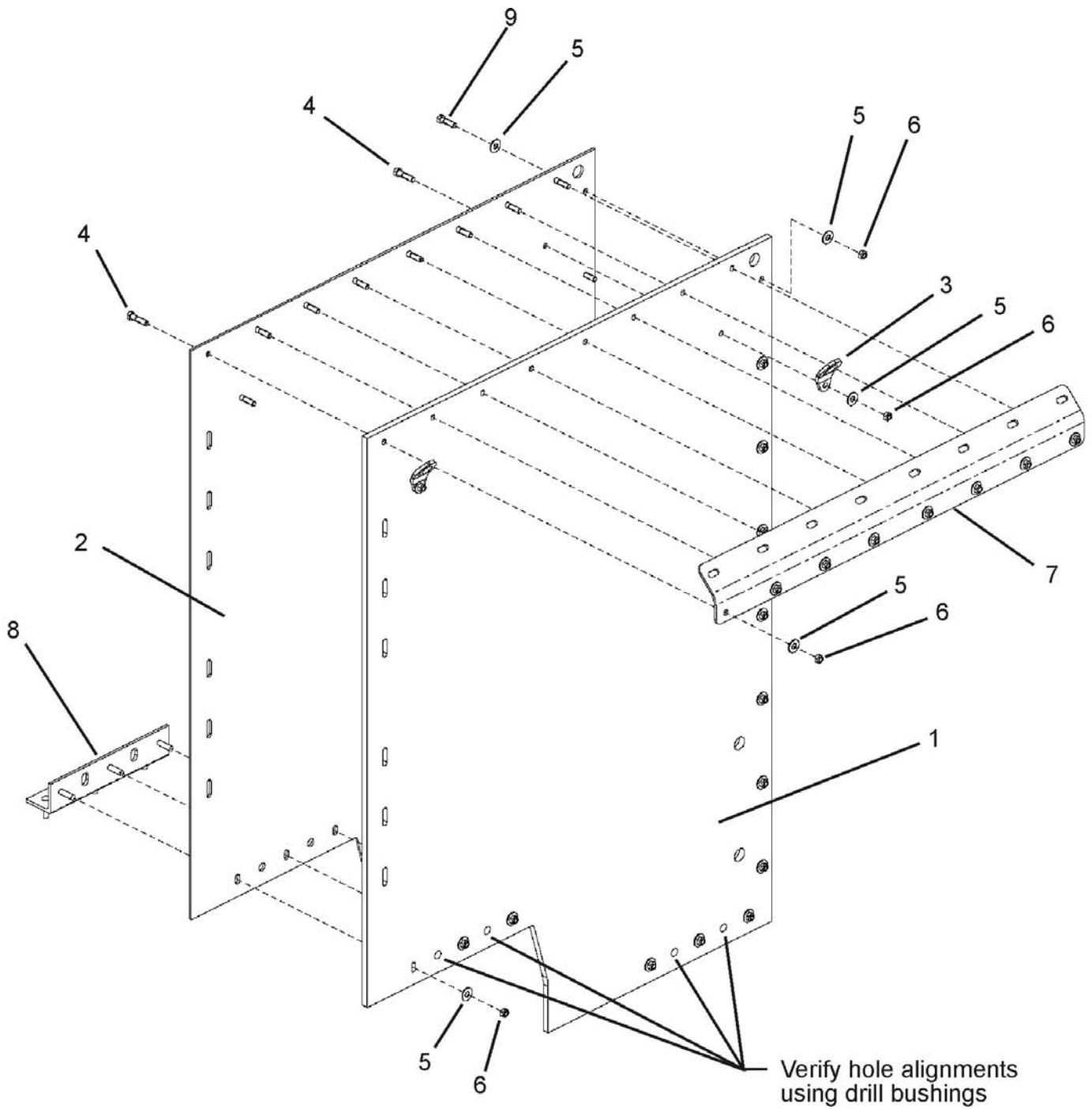


Figure 3-23. Right Aft Side Panels Pre-Assembly.

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

3. Install right aft side panel assembly as follows (see Figure 3-24):

**NOTE**

Repositioning of 90-degree joiner brackets may be required to provide adequate clearance while mounting the right aft side panel assembly.

- a. Install three flat washers (1) onto each stud along left side of cab on roof panel.
- b. Using appropriate lifting device, hardware, and personnel, lift right aft side panel assembly into position onto cab.
- c. Verify holes in right aft side panel assembly for grab handle and seat belt attachments are aligned with holes in cab.
- d. Slide both bottom 90-degree joiner brackets firmly into position against cab frame rail and torque bracket locknuts to 23 lb-ft.
- e. Install six flat washers (1) and locknuts (2) onto studs of two 90-degree joiner brackets. Do not tighten at this time.
- f. Install eight flat washers (1) and locknuts (1) onto top row of studs on roof armor. Do not tighten at this time.



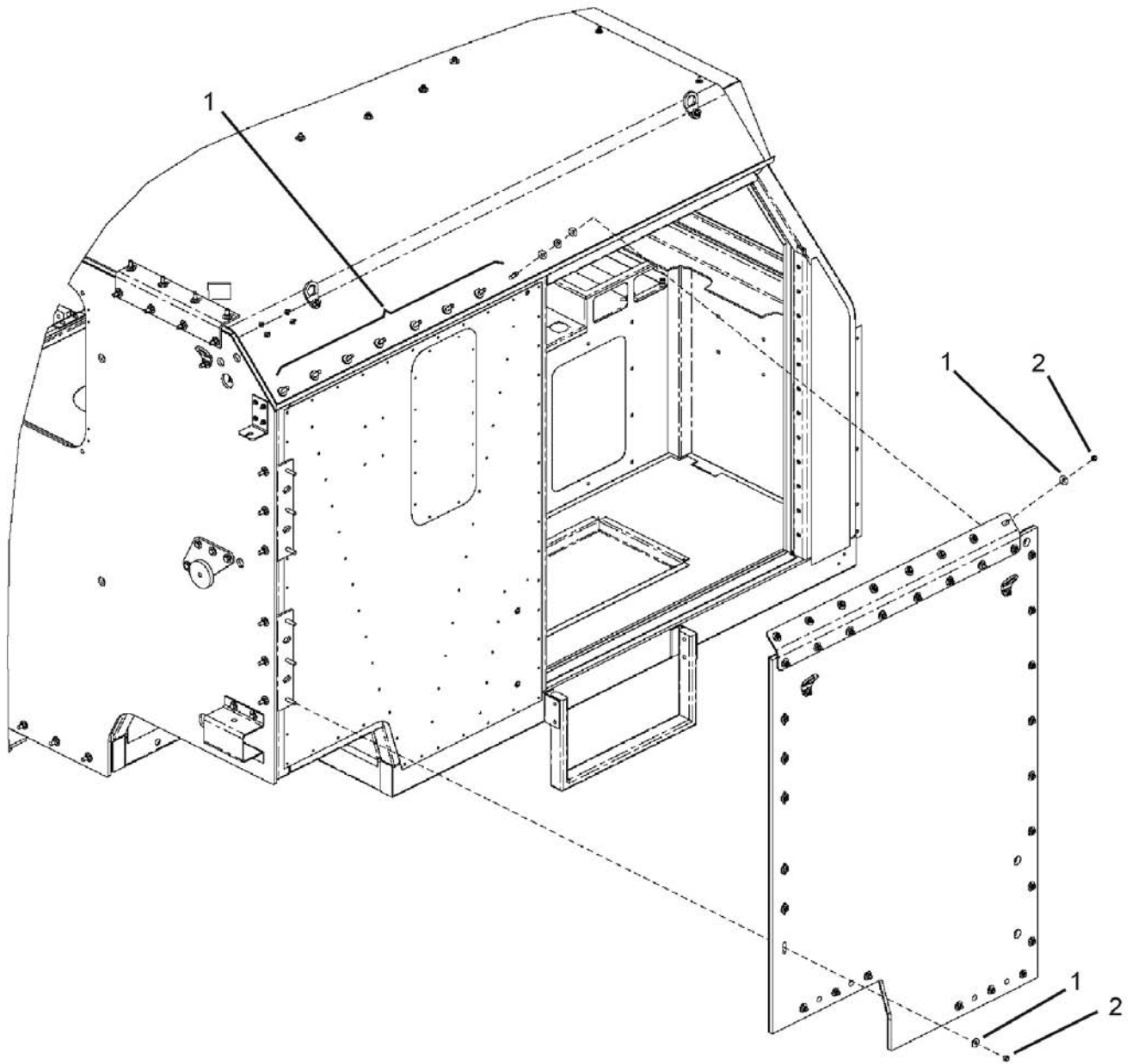


Figure 3-24. Right Aft Side Panel Assembly Installation.

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

4. Install cab frame rail sleeve bushings, grab handle, and seat belt assemblies as follows (see Figure 3-25):
  - a. Re-install grab handle and seat-belt assembly (retained from Teardown, Chapter 2) using one bolt (5), one bolt (6), two flat washers (3), two original washers, two spacers (8), upper seat-belt assembly (retained from Teardown, Chapter 2), and two locknuts (9). Torque locknut on bolt (5) to 7 lb-ft. Torque locknut on bolt (6) to 55 lb-ft.
  - b. Re-install lower seat-belt retractor (retained from Teardown, Chapter 2), using one bolt (6), one spacer (8), one flat washer (7), one original washer, and one locknut (9). Torque locknut to 55 lb-ft.

### **NOTE**

Ensure dowel on lower seat bolt retractors is aligned properly with slot (hole) in cab.

### **NOTE**

The sleeve bushings (1) in the following step are used to keep the cab frame rail from collapsing.

- c. Match drill using drill bushings as done for the right side aft armor panel installation.
- d. Install four sleeve bushings (1) as shown in Figure 3-22 and secure each with one bolt (2), two flat washers (3), and one locknut (4). Torque locknuts to 35 lb-ft.
- e. Torque locknuts installed in Steps e and f in previous Step 3 to 23 ft-lb.

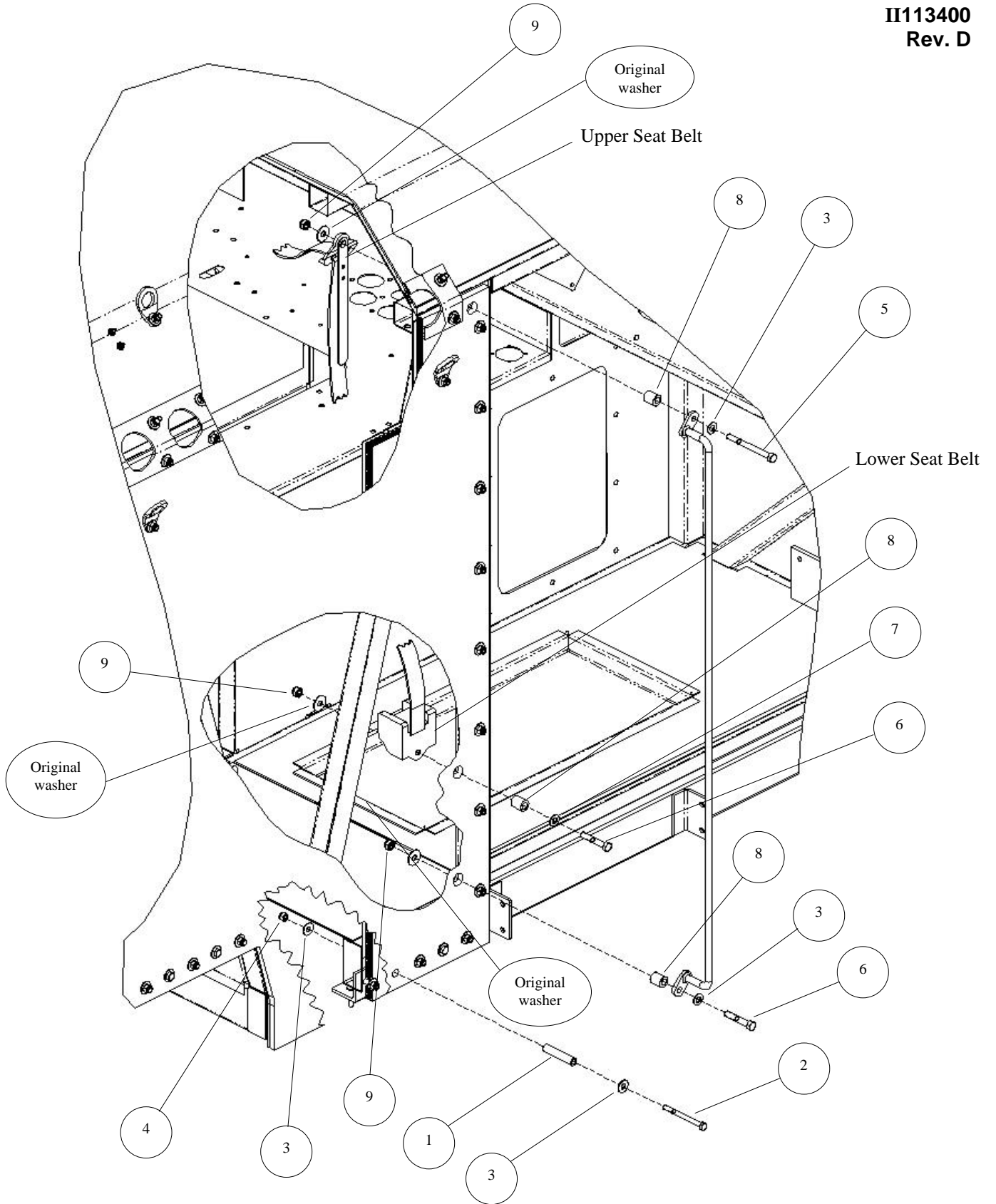


Figure 3-25. Cab Frame Rail Sleeve Bushing and Grab Handle Installation.



**3-8. WHEEL WELL ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

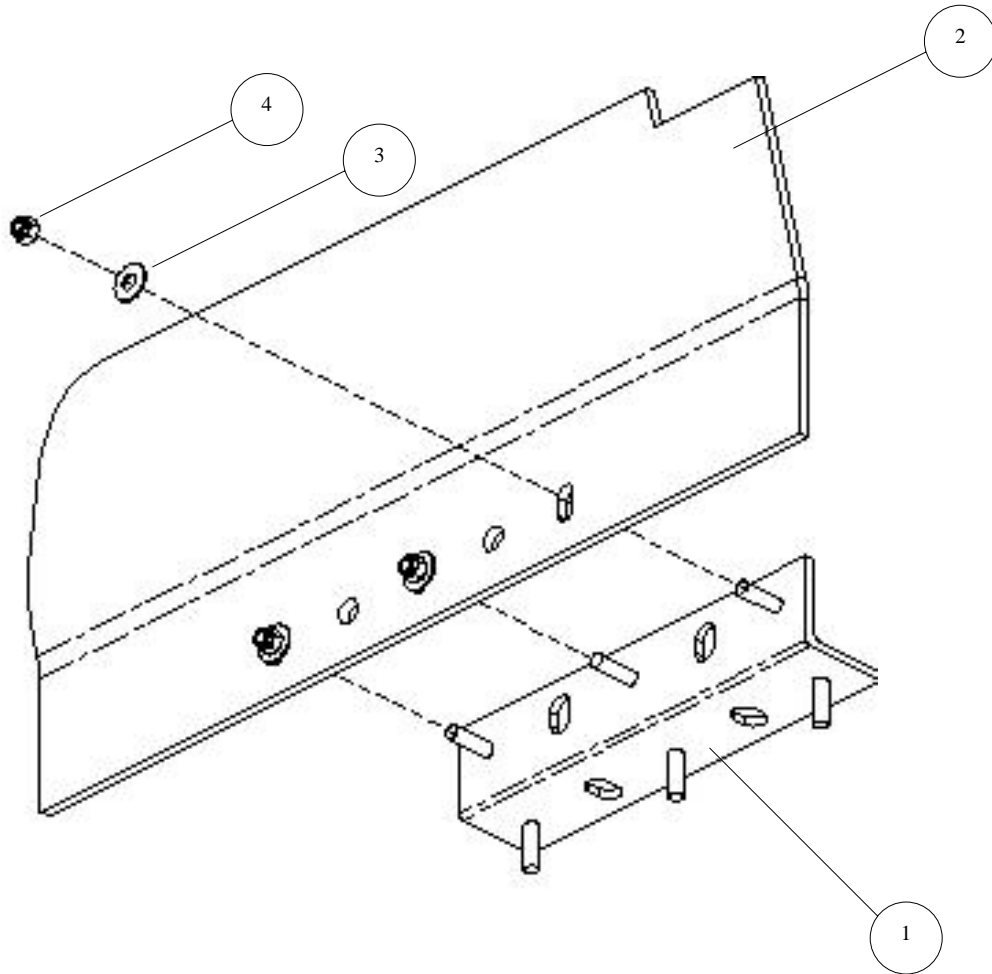
MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-26	1	113415-1	BRACKET, 90-DEGREE JOINER	1
	2	113453-1	PANEL, LOWER WHEEL WELL	1
	3		FLAT WASHER, 3/8, USS	3
	4		LOCKNUT, 3/8-16, GR8	3
3-27	1	113497-1	BUSHING, DRILL, 5/16 INCH, SHORT	REF
	2	113497-3	BUSHING, DRILL, 5/16 INCH, LONG	REF
3-28	1	113475-3	BUSHING, SLEEVE	2
	2		BOLT, 3/8-16 X 3.500 LONG, GR8	2
	3		FLAT WASHER, 3/8, USS	4
	4		LOCKNUT, 3/8-16, GR8	2
3-29	1	113415-1	BRACKET, 90-DEGREE JOINER	1
	2	113449-1	PANEL, UPPER WHEEL WELL	1
	3		FLAT WASHER, 3/8, USS	3
	4		LOCKNUT, 3/8-16, GR8	3
3-30	1	113497-1	BUSHING, DRILL, 5/16 INCH, SHORT	REF
	2	113497-3	BUSHING, DRILL, 5/16 INCH, LONG	REF
3-31	1	113475-3	BUSHING, SLEEVE	2
	2		BOLT, 3/8-16 X 3.500 LONG, GR8	2
	3		FLAT WASHER, 3/8, USS	7
	4		LOCKNUT, 3/8-16, GR8	5



**a. Installation**

1. Pre-assemble lower wheel well panel as follows (see Figure 3-26):
  - a. Install one 90-degree joiner bracket (1) onto lower wheel well panel (2) and secure with three flat washers (3) and locknuts (4). Do not tighten locknuts.



**Figure 3-26. Lower Wheel Well Panel Pre-Assembly.**

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Match-drill cab frame rail as follows (see Figure 3-27):
  - a. Raise and hold lower wheel well panel assembly firmly against cab frame rail surfaces and push 90-degree joiner bracket firmly against bottom cab frame rail surfaces. (Clamp down to hold in position.) Torque locknuts on 90-degree joiner bracket to 23 lb-ft.

**NOTE**

The following procedure is used for each of the holes shown in Figure 3-27.

- b. Place drill bushing (1) into hole in lower wheel well panel.
- c. Drill through first wall of cab frame rail using a short  $\text{Ø}5/16$ -inch drill bit.
- d. Remove drill bushing and enlarge hole-size in first wall of cab frame rail to  $\text{Ø}5/8$  inch.
- e. Install drill bushing (2) into hole and drill a hole through second wall of cab frame rail using a long  $\text{Ø}5/16$ -inch drill bit.
- f. Remove drill bushing and enlarge hole in second wall of the cab frame rail using a long  $\text{Ø}3/8$ -inch drill bit.



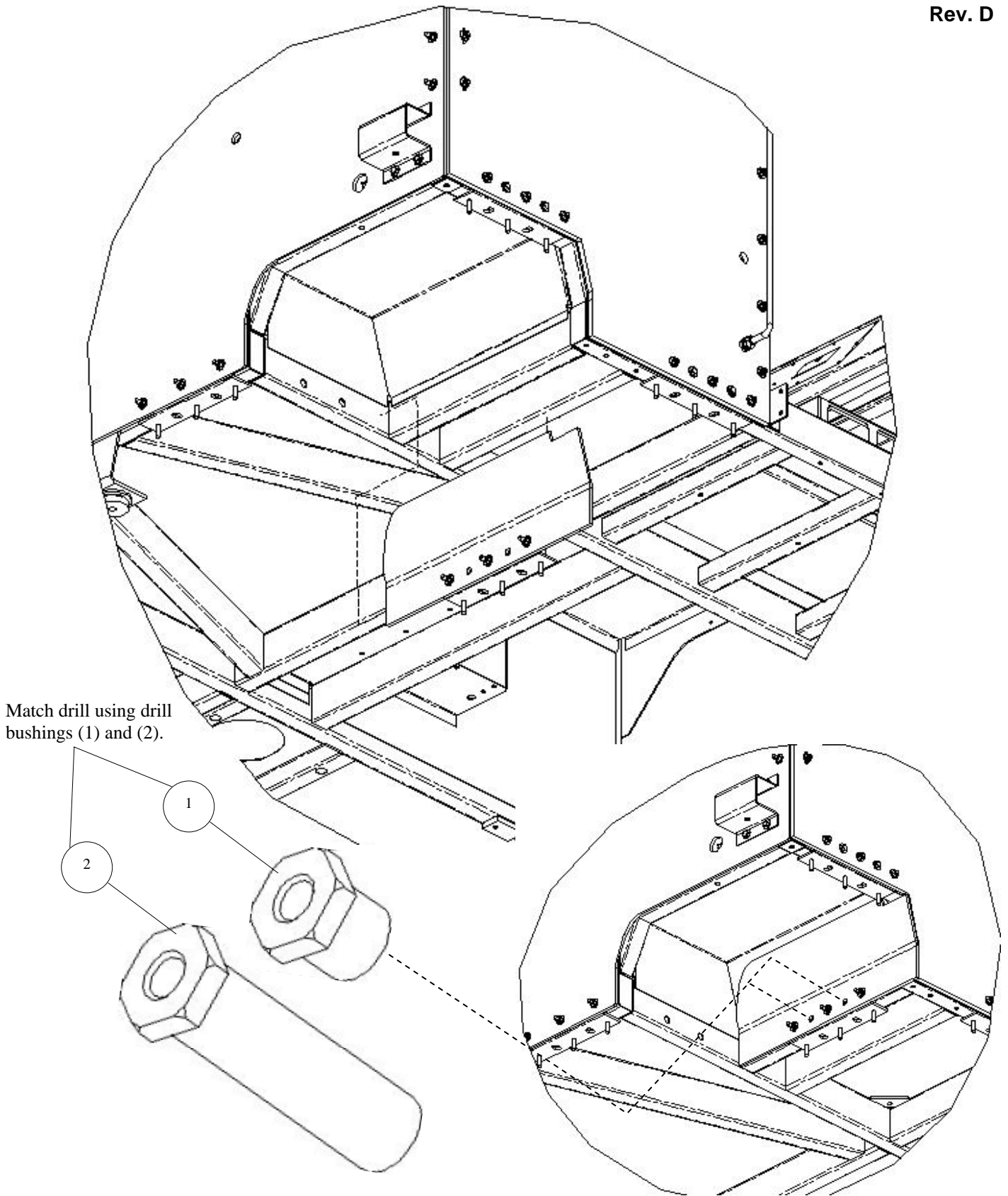
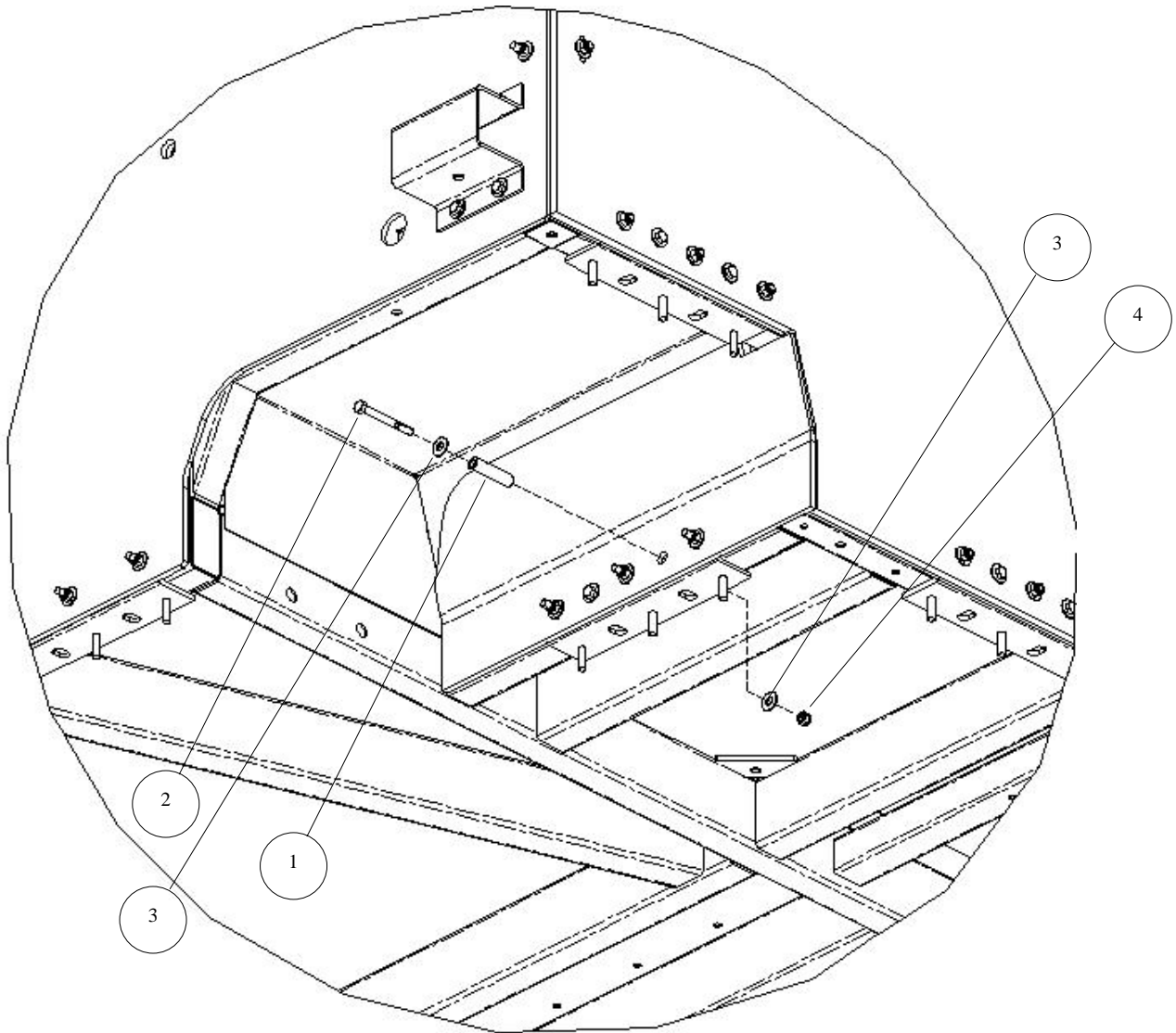


Figure 3-27. Match-Drill Cab Frame Rail.

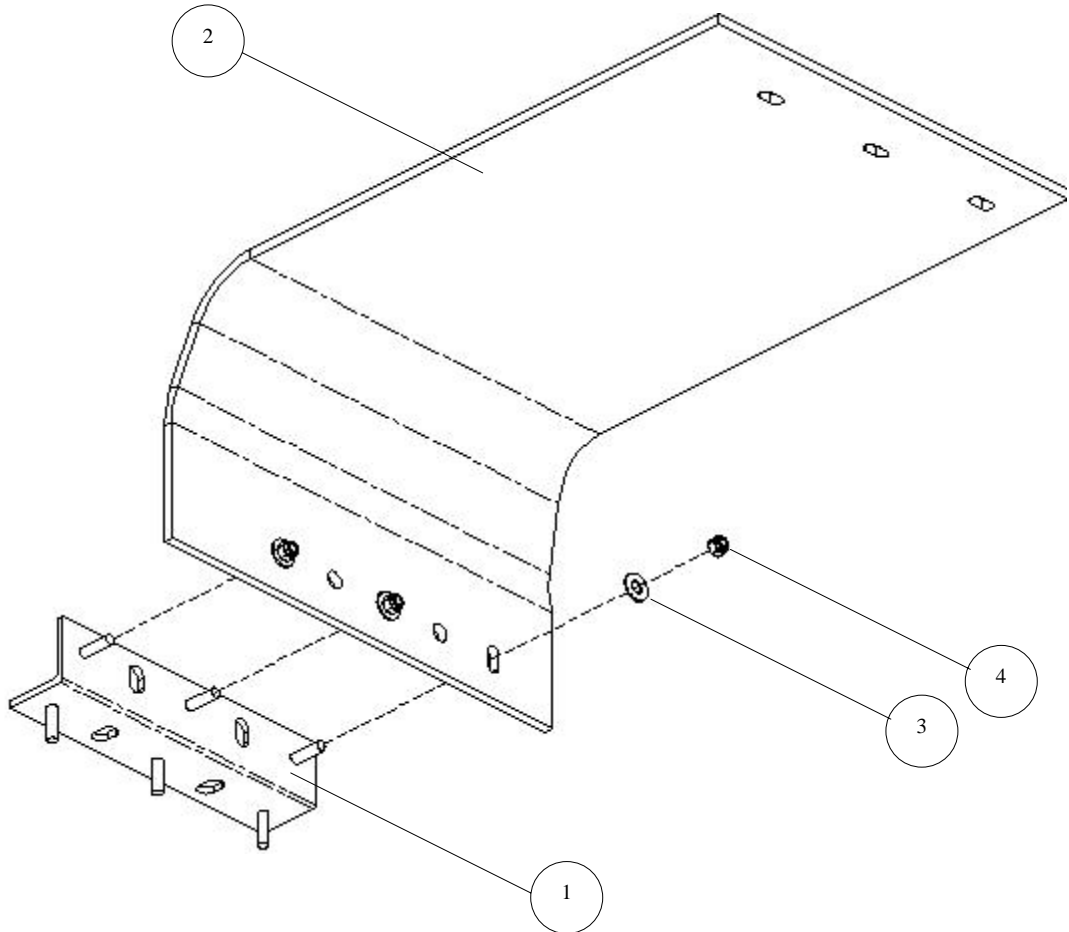
**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

3. Install cab frame rail sleeve bushings as follows (see Figure 3-28):
  - a. Install two sleeve bushings (1) and secure each with one bolt (2), two flat washers (3), and one locknut (4). Torque locknuts to 35 lb-ft.



**Figure 3-28. Cab Frame Rail Sleeve Bushings Installation.**

4. Pre-assemble upper wheel well panel as follows (see Figure 3-29):
  - a. Install one 90-degree joiner bracket (1) onto upper wheel well panel (2) and secure with three flat washers (3) and locknuts (4). Do not tighten locknuts.



**Figure 3-29. Upper Wheel Well Panel Pre-Assembly.**

5. Match-drill cab frame rail as follows (see Figure 3-30):

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

- a. Raise and hold upper wheel well panel assembly firmly against cab underbody while aligning the studs and slots and pushing the 90-degree joiner bracket firmly against bottom cab frame rail surfaces.

**NOTE**

The following procedure is used for each of the holes shown in Figure 3-30.

- b. Place drill bushing (1) into hole in upper wheel well panel.
- c. Drill through first wall of cab frame rail using a short,  $\varnothing 5/16$ -inch drill bit.
- d. Remove drill bushing and enlarge the hole-size in first wall of cab frame rail to  $\varnothing 5/8$  inch.
- e. Install drill bushing (2) into hole and drill a hole through second wall of cab frame rail using a long,  $\varnothing 5/16$ -inch drill bit.
- f. Remove drill bushing and enlarge hole in second wall of cab frame rail using a long  $\varnothing 3/8$ -inch drill bit.

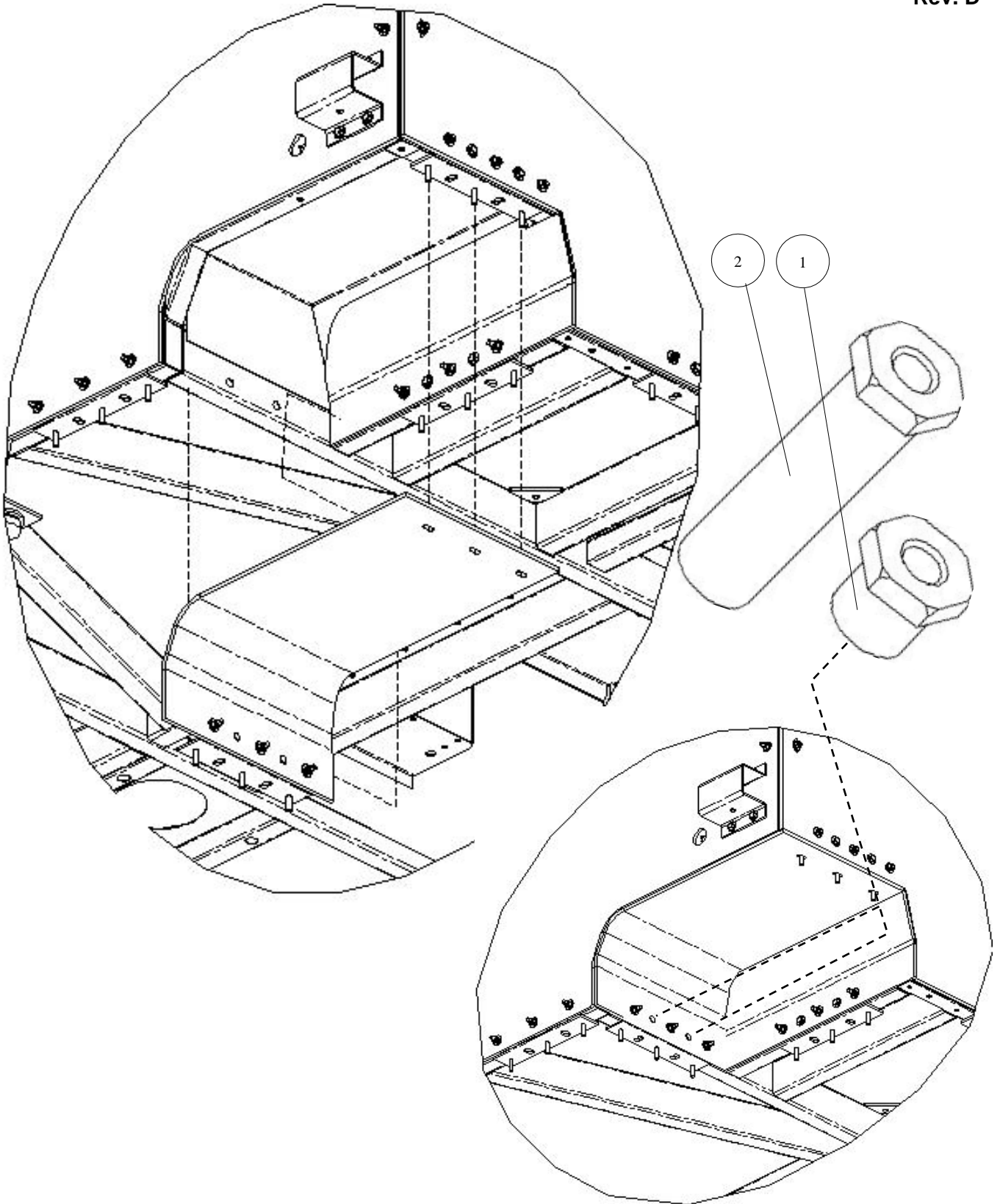


Figure 3-30. Match-Drill Cab Frame Rail.

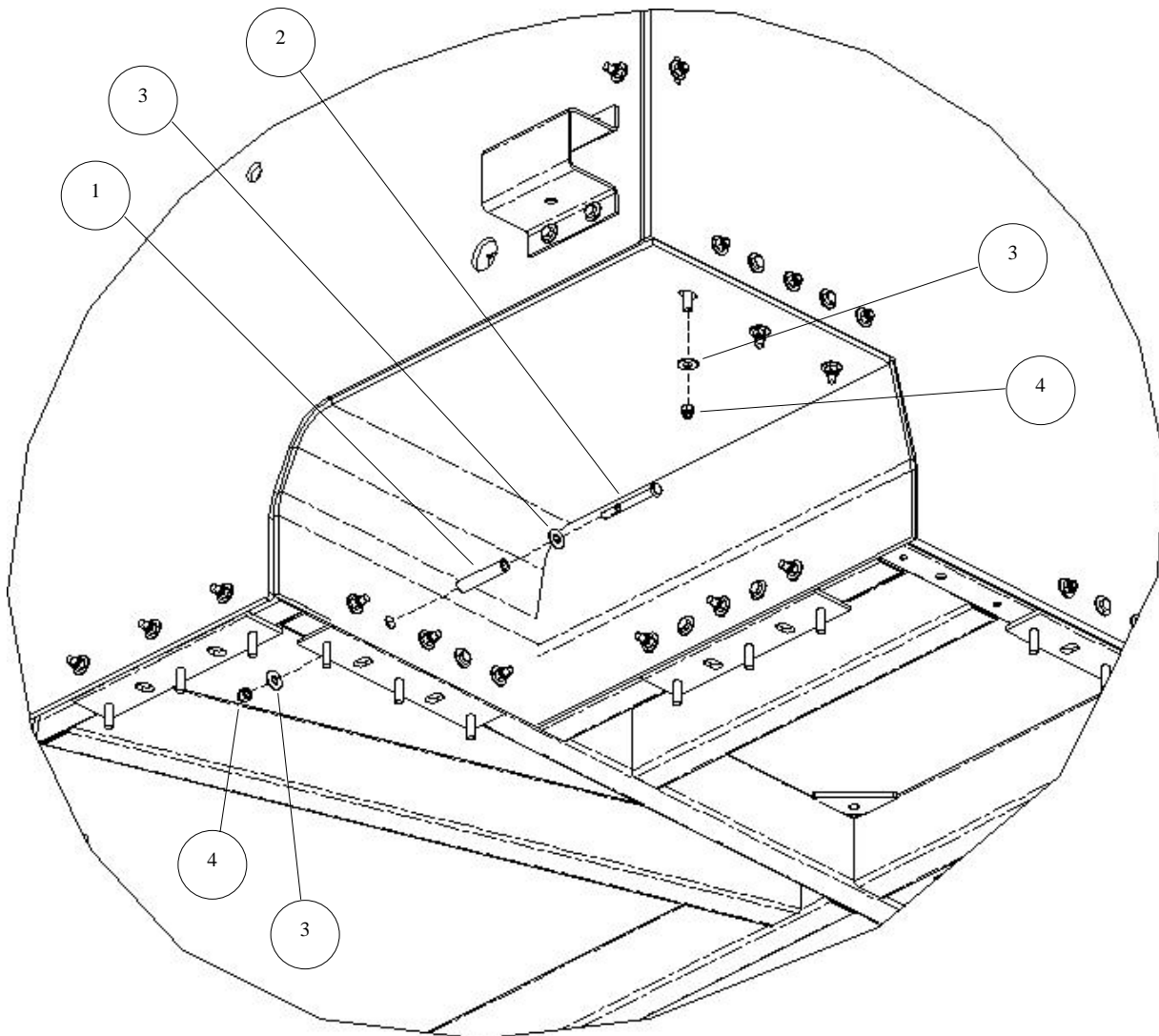
**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

6. Install cab frame rail sleeve bushings as follows (see Figure 3-31):
- a. Slide 90-degree joiner bracket firmly back into position against cab frame rail and torque bracket locknuts to 23 lb-ft.

**NOTE**

The sleeve bushings (1) in the following step are used to keep the cab frame rail from collapsing.

- b. Install two sleeve bushings (1) and secure each with one bolt (2), two flat washers (3), and one locknut (4). Torque locknuts to 35 lb-ft.
- c. Secure upper wheel well panel to lower wheel well panel using three flat washers (3) and locknuts (4). Torque locknuts to 23 lb-ft.



**Figure 3-31. Upper Wheel Well Panel Installation.**

**3-9. CENTER MINE BLAST ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-32	1	113415-1	BRACKET, 90-DEGREE JOINER	1
	2	113420-3	BRACKET, BOTTOM, REAR	1
	3		FLAT WASHER, 3/8, USS	3
	4		LOCKNUT, 3/8 – 16, GR8	3
	5	113497-1	BUSHING, DRILL, 5/16 INCH, SHORT	REF
	6	113497-3	BUSHING, DRILL, 5/16 INCH, LONG	REF
3-33	1	113475-5	BUSHING, SLEEVE	2
	2		BOLT, 3/8-16 X 3.500 LONG, GR8	2
	3		FLAT WASHER, 3/8, USS	4
	4		LOCKNUTS, 3/8-16, GR8	2
3-34	1	113420-1	BRACKET, BOTTOM REAR	1
	2	113497-1	BUSHING, DRILL, 5/16 INCH, SHORT	REF
	3	113497-3	BUSHING, DRILL, 5/16 INCH, LONG	REF
3-35	1	113475-7	BUSHING, SLEEVE	2
	2		BOLT, 3/8-16 X 3.000 LONG, GR8	2
	3		FLAT WASHER, 3/8, USS	4
	4		LOCKNUTS, 3/8-16, GR8	2
3-36	1	113463-1	PANEL, CENTER MINE BLAST	1
	2	113471-1	BRACKET, POWER STEERING	2
	3		FLAT WASHER, 3/8, USS	25
	4		LOCKNUTS, 3/8-16, GR8	25
	5	113472-1	BRACKET, STEP JOINER	1
	6		FLAT WASHER, 7/16, USS	14
3-37	1		BOLT, 1/4-20 X 1.750 LONG, GR8	3
			FLAT WASHER, 1/4, USS	3
			LOCK WASHER, 1/4 ID	3
3-38	1	113460-1	PANEL, CENTER-REAR MINE BLAST	1
	2		FLAT WASHER, 3/8, USS	4
	3		LOCKNUTS, 3/8-16, GR8	4

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

**a. Installation**

1. Assemble bottom rear brackets and match-drill cab frame rail as follows (see Figure 3-32):
  - a. Assemble 90° joiner bracket (1) to bottom rear bracket (2) using three flat washers (3) and locknuts (4), as shown in Figure 3-32.
  - b. Place bracket assembly into position firmly up into the right corner against the frame walls, as shown. Secure using clamps.

**NOTE**

The following procedure is used for each of the holes shown in Figure 3-32.

- c. Place drill bushing (5) into hole of bottom rear bracket (2).
- d. Drill through first wall of cab frame rail using a short,  $\text{Ø}5/16$ -inch drill bit.
- e. Remove drill bushing and enlarge the hole-size in first wall of cab frame rail to  $\text{Ø}5/8$  inch.
- f. Install drill bushing (6) into hole and drill a hole through second wall of cab frame rail using a long,  $\text{Ø}5/16$ -inch drill bit.
- g. Remove drill bushing and enlarge hole in second wall of cab frame rail using a long,  $\text{Ø}3/8$ -inch drill bit.



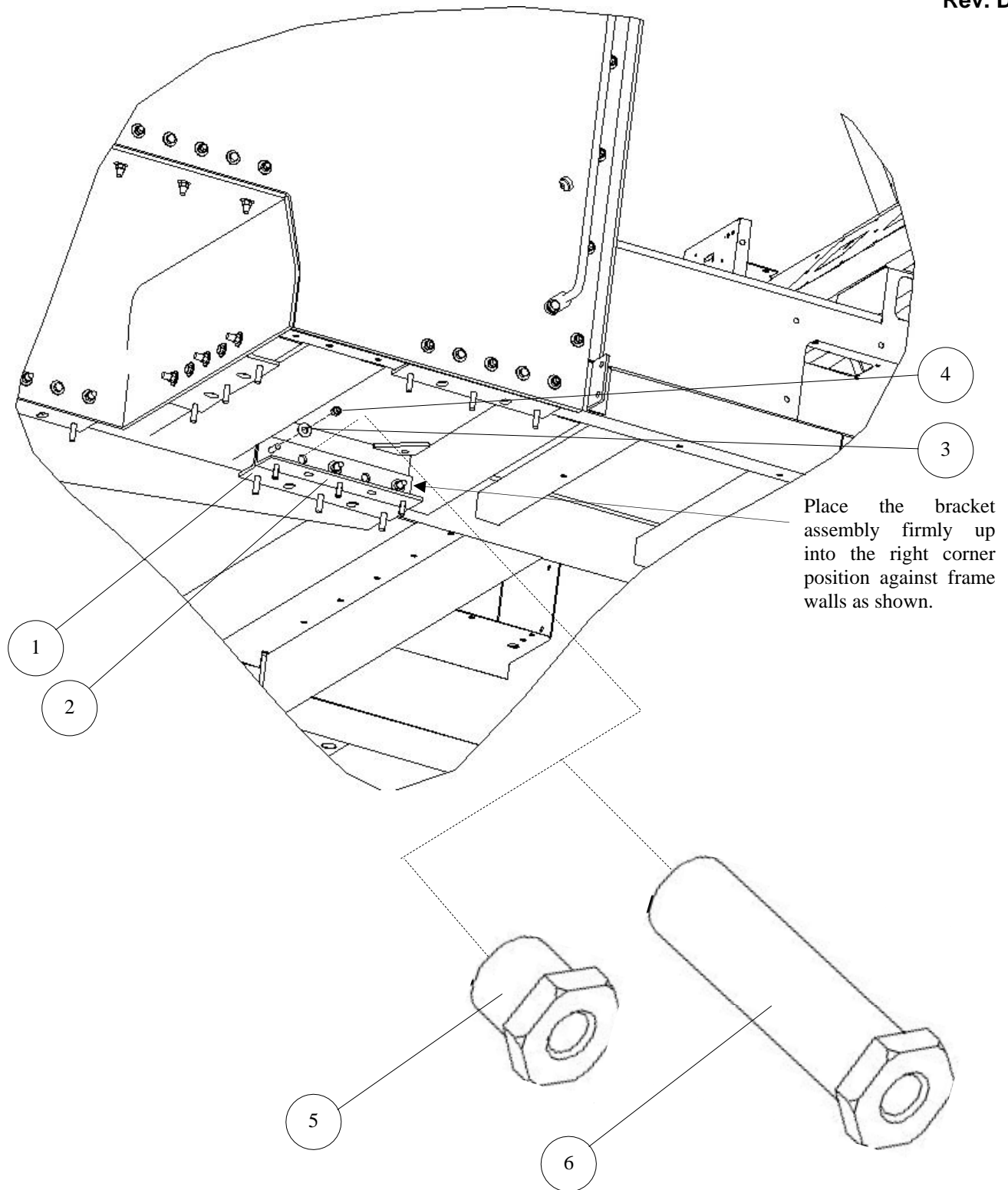


Figure 3-32. Assemble Bottom Rear Brackets and Match-Drill Cab Frame Rail.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Fasten bottom rear bracket assembly to frame as follows (see Figure 3-33):
  - a. Fasten the bottom rear bracket assembly into place against bottom frame rails by installing two sleeve bushings (1) and securing with two bolts (2), four flat washers (3), and two locknuts (4). Torque bolts to 35 lb-ft.
  - b. Remove clamps.

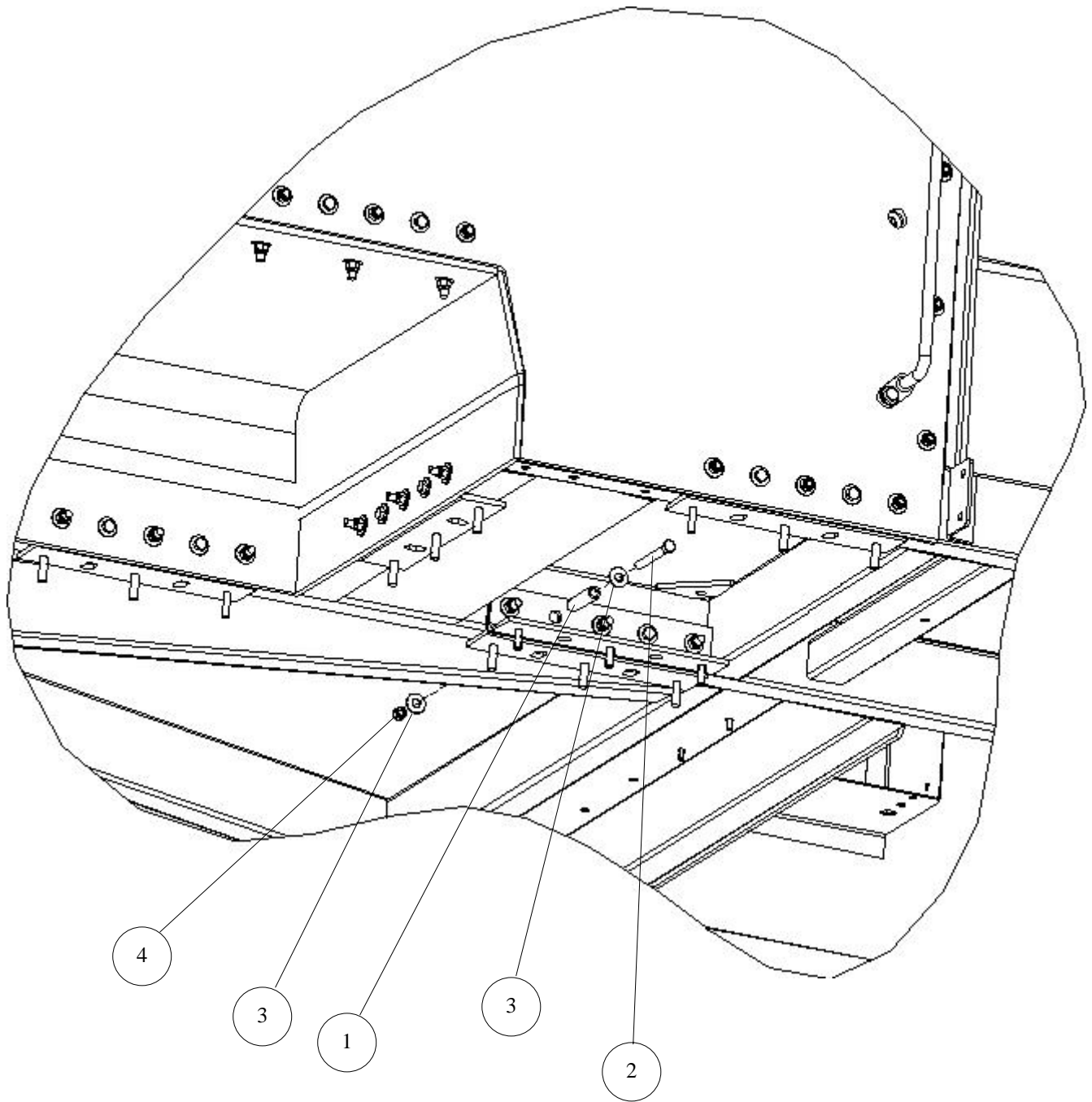


Figure 3-33. Bottom Rear Bracket Installation.

**M1070 HET ARMOR KIT**

**II113400**

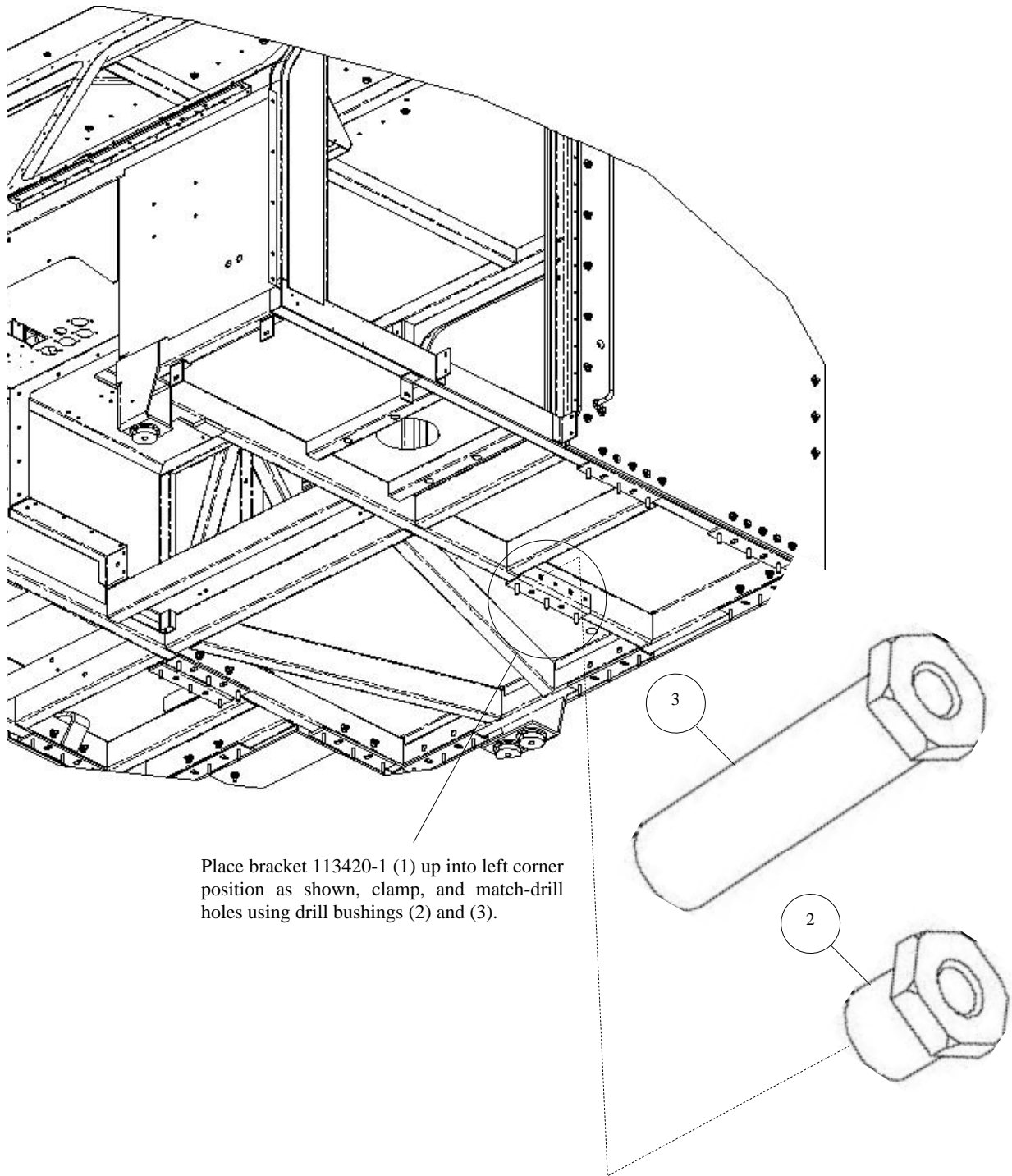
**Rev. D**

3. Match-drill cab frame rail as follows (see Figure 3-34):
  - a. Raise and hold bottom rear bracket (1) into place, tight in corner, against frame rail surfaces. Use clamps, as necessary.

**NOTE**

The following procedure is used for each of the holes shown in Figure 3-34.

- b. Place drill bushing (2) into hole in bottom rear bracket (1).
- c. Drill through first wall of cab frame rail using a short,  $\text{Ø}5/16$ -inch drill bit.
- d. Remove drill bushing and enlarge hole-size in first wall of cab frame rail to  $\text{Ø}5/8$  inch.
- e. Install drill bushing (3) into hole and drill a hole through second wall of cab frame rail using a long,  $\text{Ø}5/16$ -inch drill bit.
- f. Remove drill bushing and enlarge hole in second wall of cab frame rail using a long,  $\text{Ø}3/8$ -inch drill bit.



Place bracket 113420-1 (1) up into left corner position as shown, clamp, and match-drill holes using drill bushings (2) and (3).

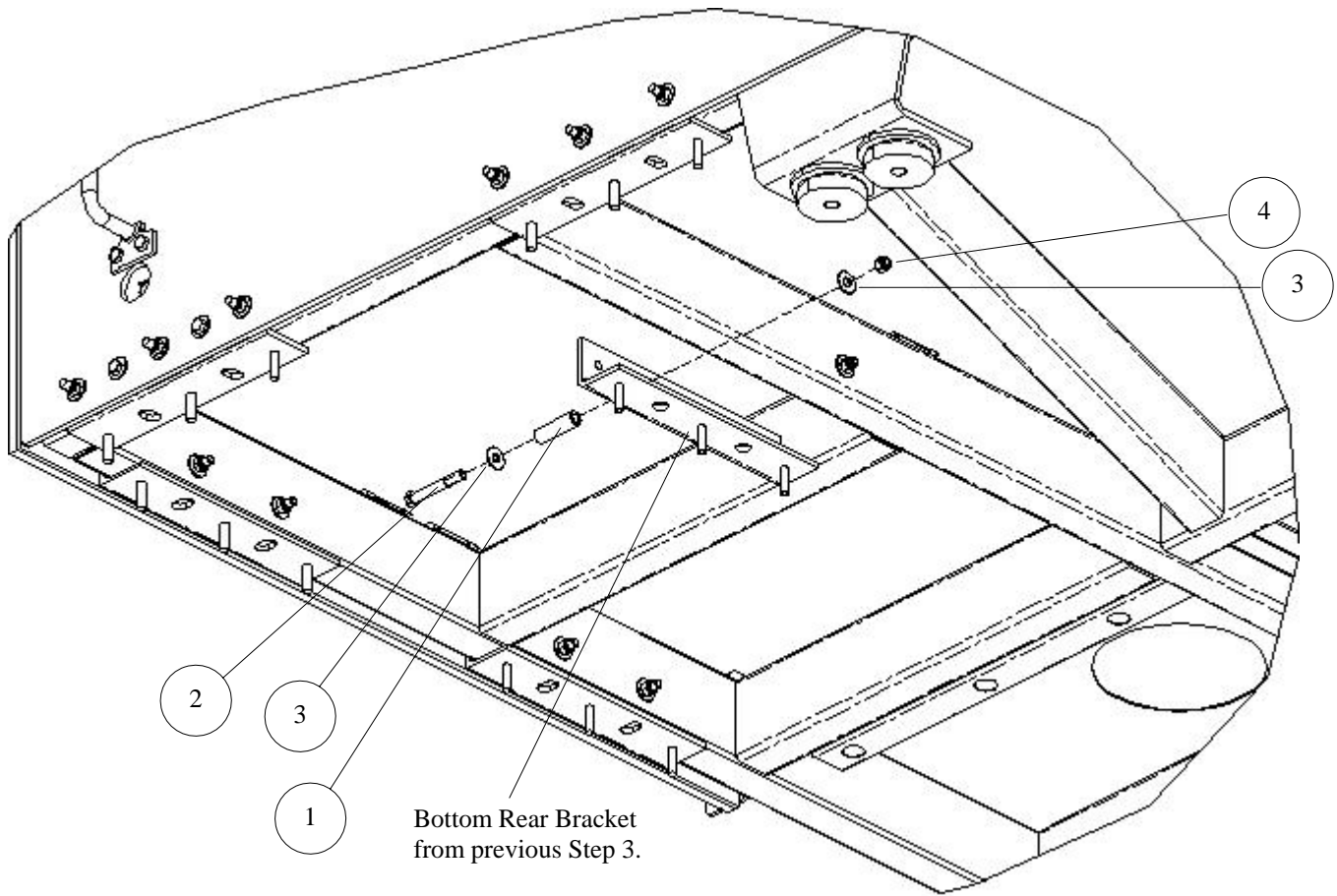
**Figure 3-34. Match-Drill Cab Frame Rail.**

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

4. Install bottom rear bracket as follows (see Figure 3-35):
  - a. Install bottom rear bracket and two sleeve bushings (1) and secure with two bolts (2), four flat washers (3), and two locknuts (4). Torque lock nuts to 35 lb-ft.



**Figure 3-35. Bottom Rear Bracket Installation.**

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

5. Install center mine blast panel, power steering brackets, and step joiner bracket as follows (see Figure 3-36):

### **CAUTION**

The center mine blast panel (1) is extremely heavy and the assembly area is very tight (The illustration below does not show everything). Ensure that the center mine blast panel is supported at all times to prevent personnel injury.

- a. Lift center mine blast panel (1) and move into position using a forklift or other suitable device. Align panel slots and holes with bracket studs while carefully raising panel into position against bottom of cab frame.

### **CAUTION**

Do not pry or hammer on the studs that support the center mine blast panel or they can be damaged (i.e., broken off). Care must be taken to properly align the panel so that it fits over each of the studs before raising it into place on the vehicle.

- b. Prior to completely raising panel into position against cab frame, allow sufficient space to install two power steering brackets (2) and secure each to center mine blast panel (1) with two flat washers (3) and locknuts (4). Do not tighten locknuts.
- c. In addition, install one step joiner bracket (5) and secure to center mine blast panel with one flat washer (3) and locknut (4). Do not tighten locknut.
- d. Secure center mine blast panel (1) with six flat washers (3) and locknuts (4); and fourteen 3/8-inch flat washers (3), 7/16 inch flat washers (6), and locknuts (4). Torque locknuts to 23 lb-ft.

### **NOTE**

The vehicle may be equipped with a C4ISR Kit. If so, a coaxial cable will pass through the floor of the cab and travel up along the exhaust support at the rear of the cab. This cable must be re-routed so that it passes between the center mine blast panel and the rear cab mount.



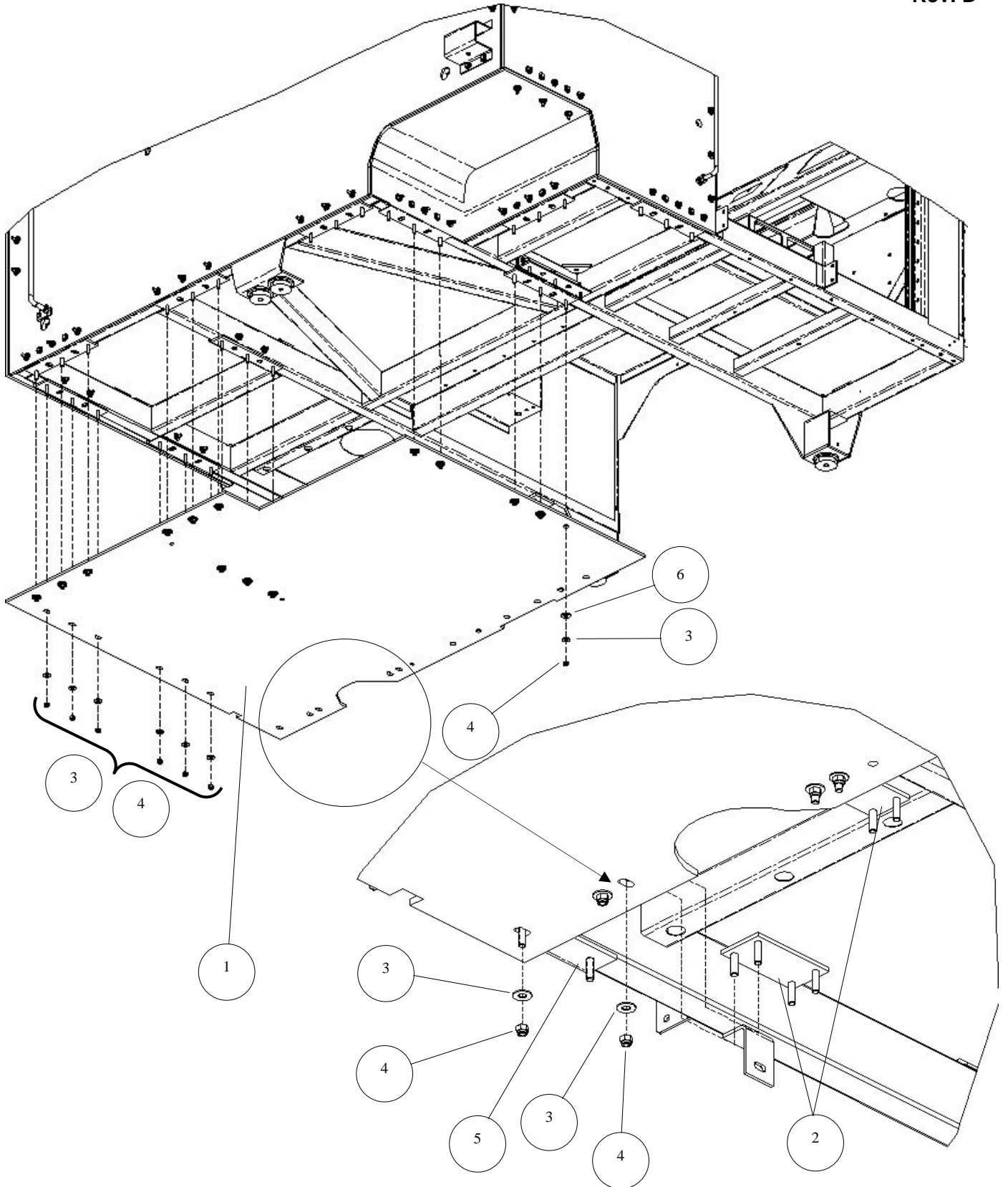
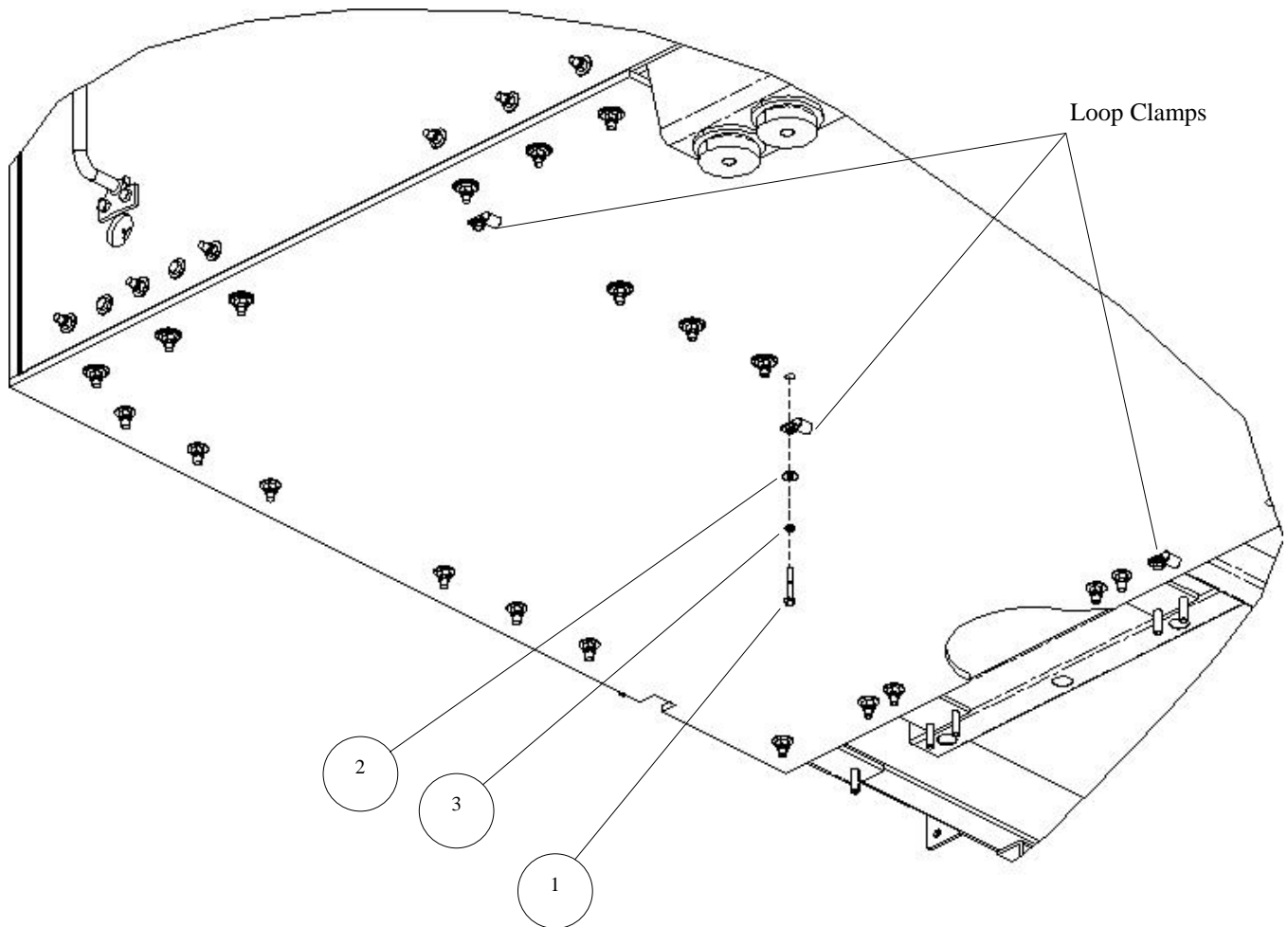


Figure 3-36. Center Mine Blast Panel Installation.

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

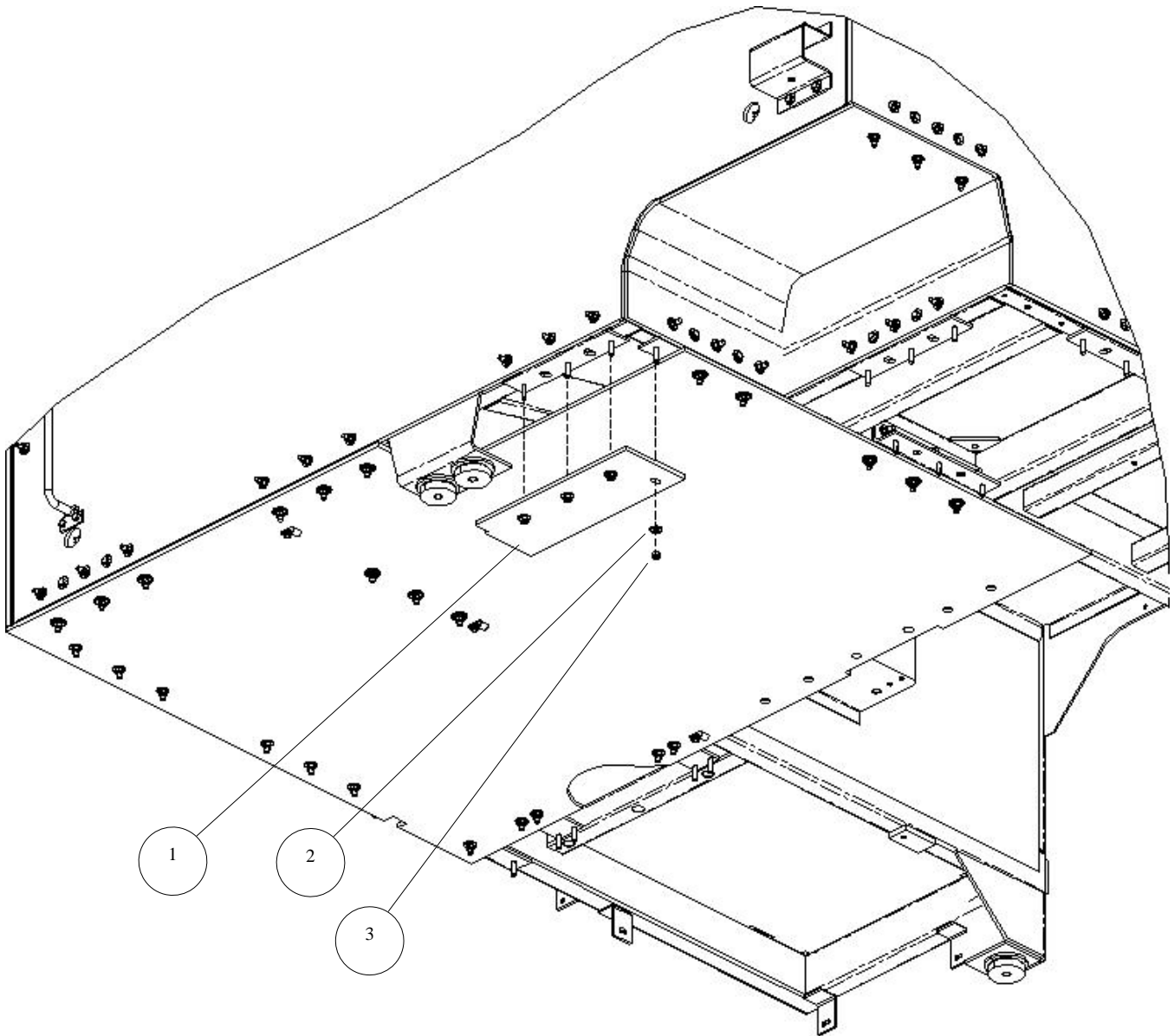
6. Re-install three loop clamps as follows (see Figure 3-37):
  - a. Reinstall three loop clamps (removed in Teardown, Chapter 2) and secure each with one bolt (1), flat washers (2), and lock washers (3).



**Figure 3-37. Loop Clamp Re-installation.**

7. Install center-rear mine blast panel as follows (see Figure 3-38):

- a. Install center-rear mine blast panel (1) and secure with four flat washers (2) and locknuts (3). Torque to 23 lb-ft.



**Figure 3-38. Center-Rear Mine Blast Panel Installation.**



**3-10. DOGHOUSE ARMOR INSTALLATION – PHASE I**

TOOLS:

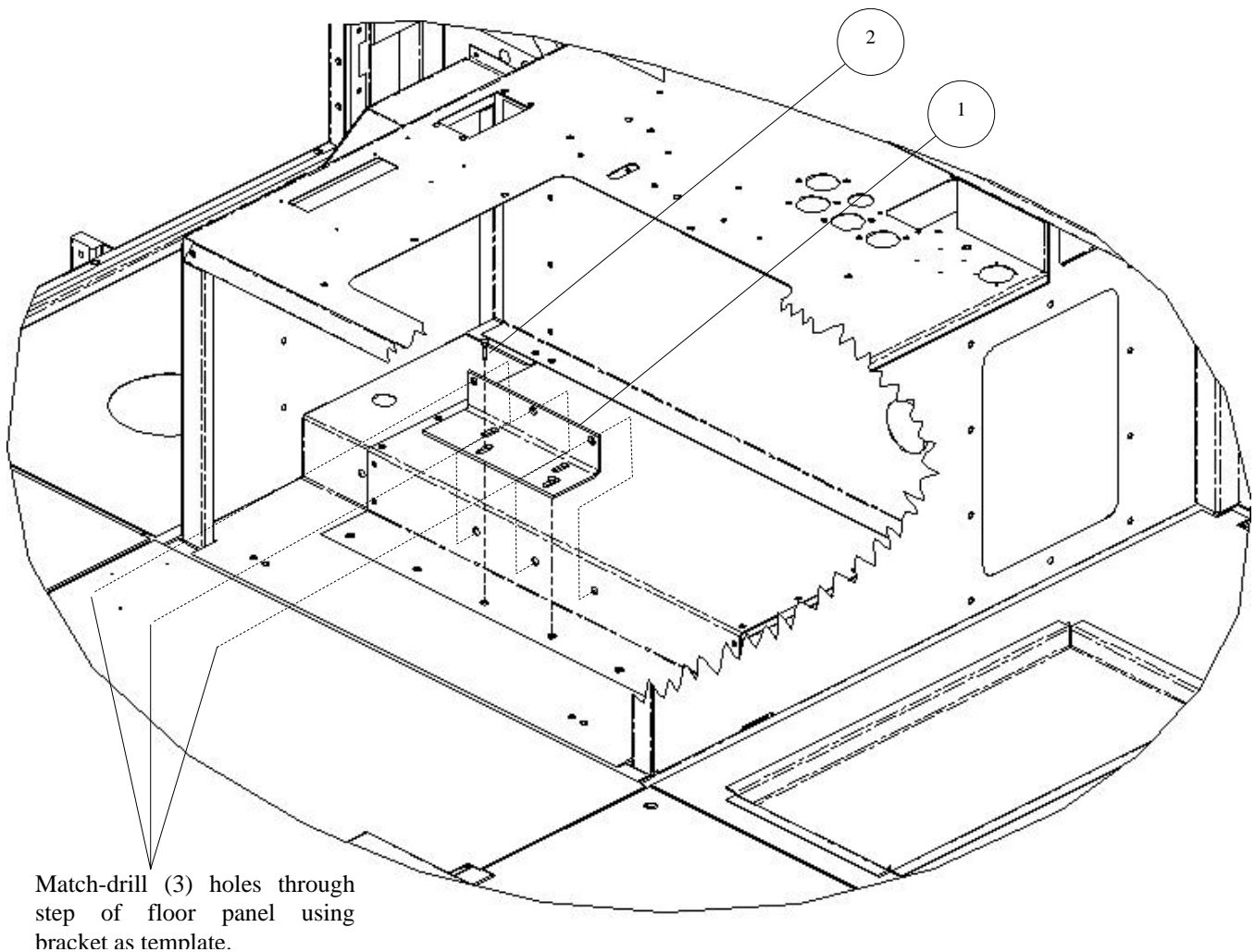
General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-39	1	113417-1	BRACKET, DOGHOUSE UPPER	1
	2		BOLT, 1/4-20 X 1.000 LONG, GR8	2
3-40	1	113496-1	TEMPLATE, DOGHOUSE FLOOR	1
3-41	1	113468-1	PANEL, DOGHOUSE BOTTOM	1
	2		BOLT, 1/4-20 X 1.000 LONG, GR8	20
	3	113469-1	PANEL, DOGHOUSE	1
3-42	1	113497-3	BUSHING, DRILL 3/8	REF
3-43	1	113476-1	BRACKET, DOGHOUSE INNER	4
	2		FLAT WASHER, 1/4, USS	12
	3		LOCKNUT, 1/4-20, GR8	12
3-44	1	113474-1	BRACKET, DOGHOUSE FORWARD	1
	2	113404-1	PANEL, DOGHOUSE RIGHT	1
	3		BOLT, 3/8-16 X 1.250 LONG, GR8	3
	4		FLAT WASHER, 3/8, USS	5
	5		LOCKNUT, 3/8-16, GR8	5
	6	113416-1	PLATE, STUD	2
3-45	1		FLAT WASHER, 1/4, USS	6
	2		LOCKNUT, 1/4-20, GR8	6
3-46	1	113474-1	BRACKET, DOGHOUSE FORWARD	1
	2	113405-1	PANEL, DOGHOUSE LEFT	1
	3		BOLT, 3/8-16 X 1.250 LONG, GR8	3
	4		FLAT WASHER, 3/8, USS	3
	5		LOCKNUT, 3/8-16, GR8	3
3-47	1		FLAT WASHER, 1/4, USS	6
	2		LOCKNUT, 1/4-20, GR8	6

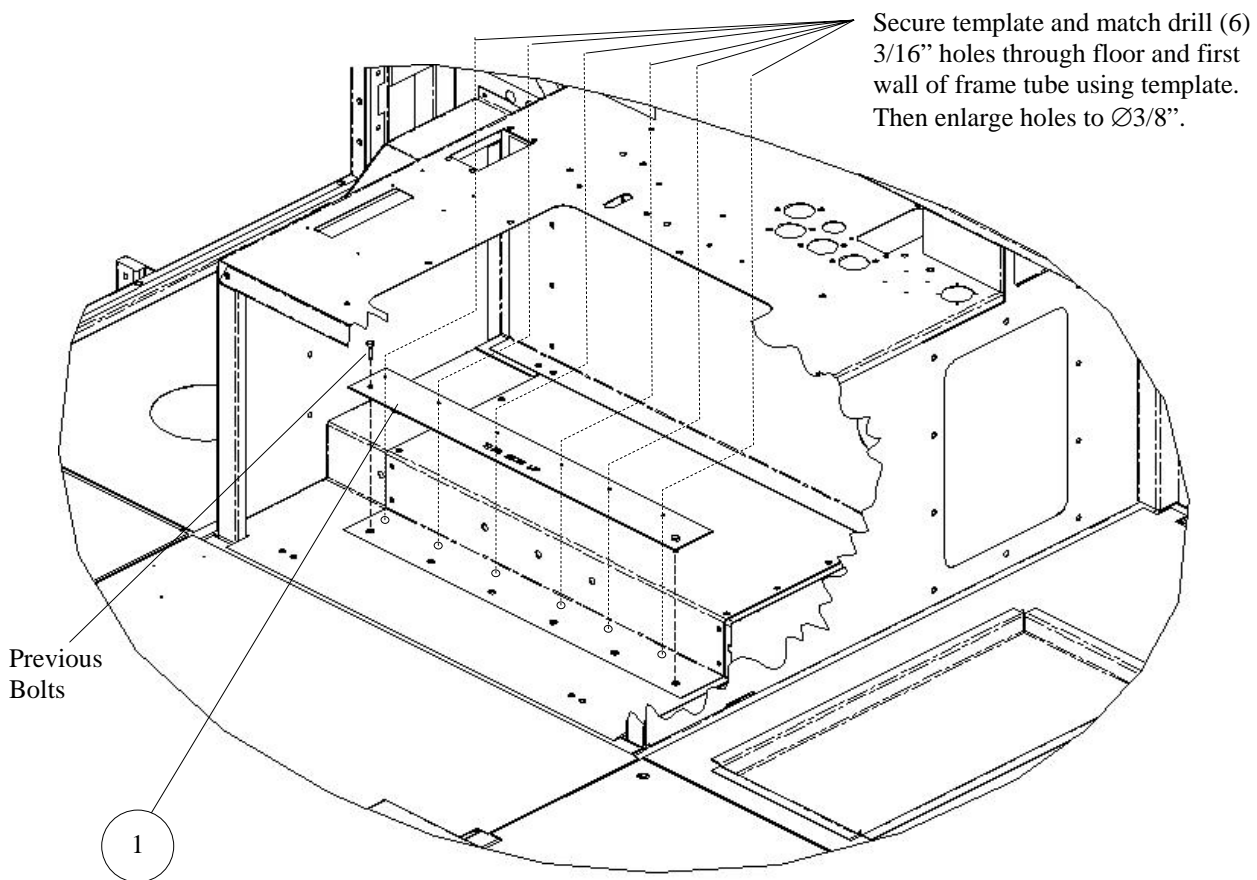
**a. Installation**

1. Match-drill doghouse floor panel as follows (see Figure 3-39):
  - a. Install one upper doghouse bracket (1) into position against the doghouse floor panel, aligning two back slots in the bracket (1) with two middle holes in floor panel and secure with two bolts (2). Tighten bolts for temporary use.
  - b. Using upper doghouse bracket (1) as a template, match drill three 1/2-inch holes into the vertical step of the doghouse floor panel.
  - c. Remove two bolts (2) and upper doghouse bracket (1) and set aside for future use.



**Figure 3-39. Match-Drill Doghouse Floor Panel.**

2. Match-drill doghouse floor panel as follows (see Figure 3-40):
  - d. Position doghouse floor template (1) onto doghouse floor panel and temporarily secure with two bolts (removed in previous step) at back-outer corners. Tighten bolts for temporary use.
  - e. Drill six 3/16-inch holes through top row of holes in template through doghouse floor panel and through first wall of bottom frame rail.
  - f. Remove two bolts and template.
  - g. Enlarge six holes through doghouse floor panel and through first wall of bottom frame rail to 3/8 inch.



**Figure 3-40. Match-Drill Doghouse Floor Panel.**

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

3. Match-drill doghouse as follows (see Figure 3-41):
  - a. Remove eight screws securing the top surface of doghouse floor panel. Do not remove doghouse floor panel.
  - b. Install doghouse bottom panel (1) onto doghouse floor panel and temporarily secure with eight bolts (2). Tighten bolts for temporary use.
  - c. Remove 12 screws securing doghouse back-wall panel. Do not remove doghouse back-wall panel.
  - d. Install doghouse panel (3) against doghouse back-wall panel and secure with 12 bolts (2). Tighten bolts for temporary use.

### **NOTE**

As necessary, temporarily remove the transmission shift box and ventilation louvers located on top of the doghouse console, as they may interfere with this installation inside the doghouse. Re-install during final assembly.

- e. Using doghouse bottom panel (1) and doghouse panel (3) as templates, match-drill twelve 9/32-inch holes through outer left and right row of holes in both armor panels and through cab skin panels.
- f. Remove all 20 bolts, doghouse bottom armor panel (1), and doghouse armor panel (3) from vehicle.



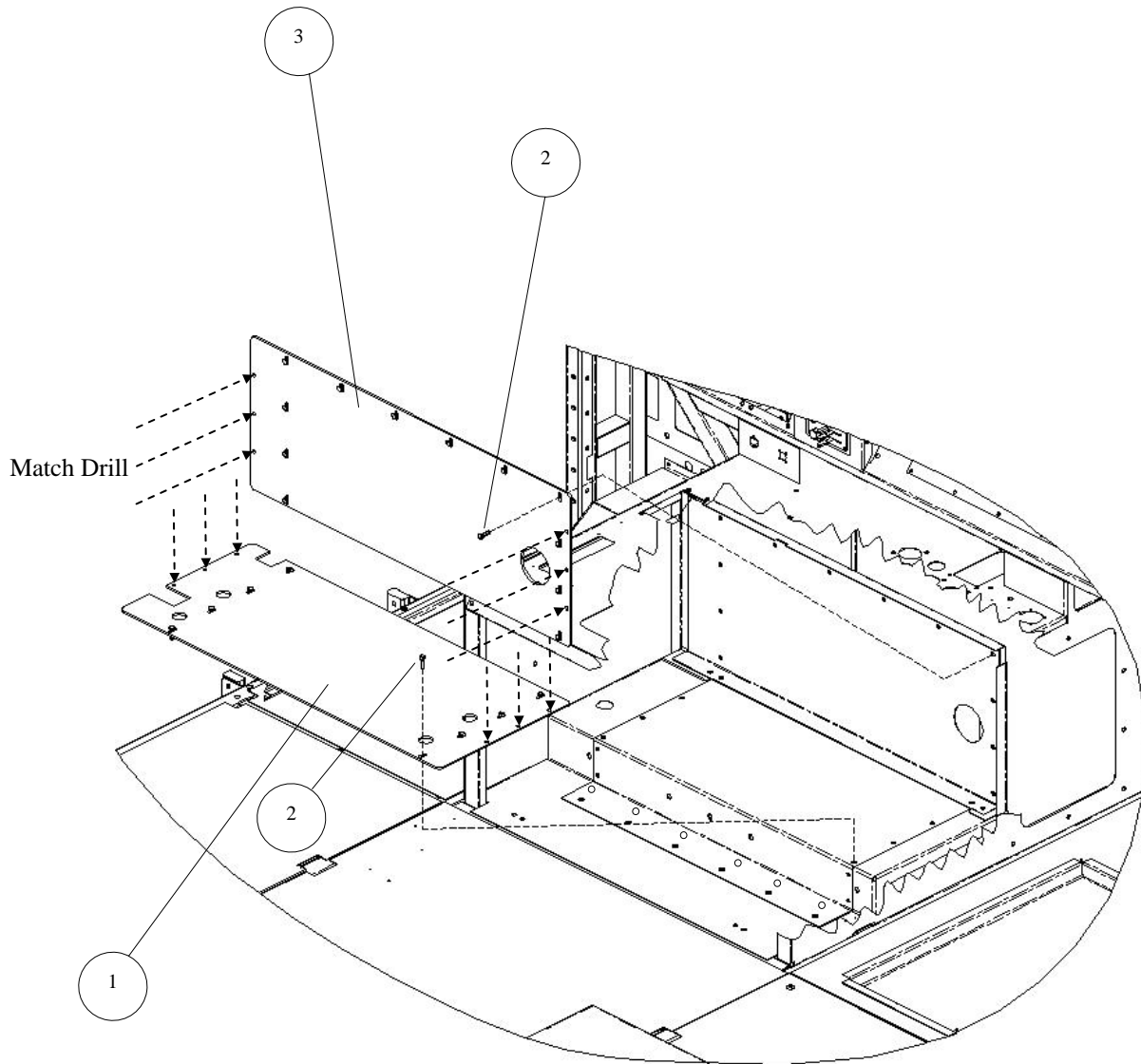


Figure 3-41. Match-Drill Doghouse.

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

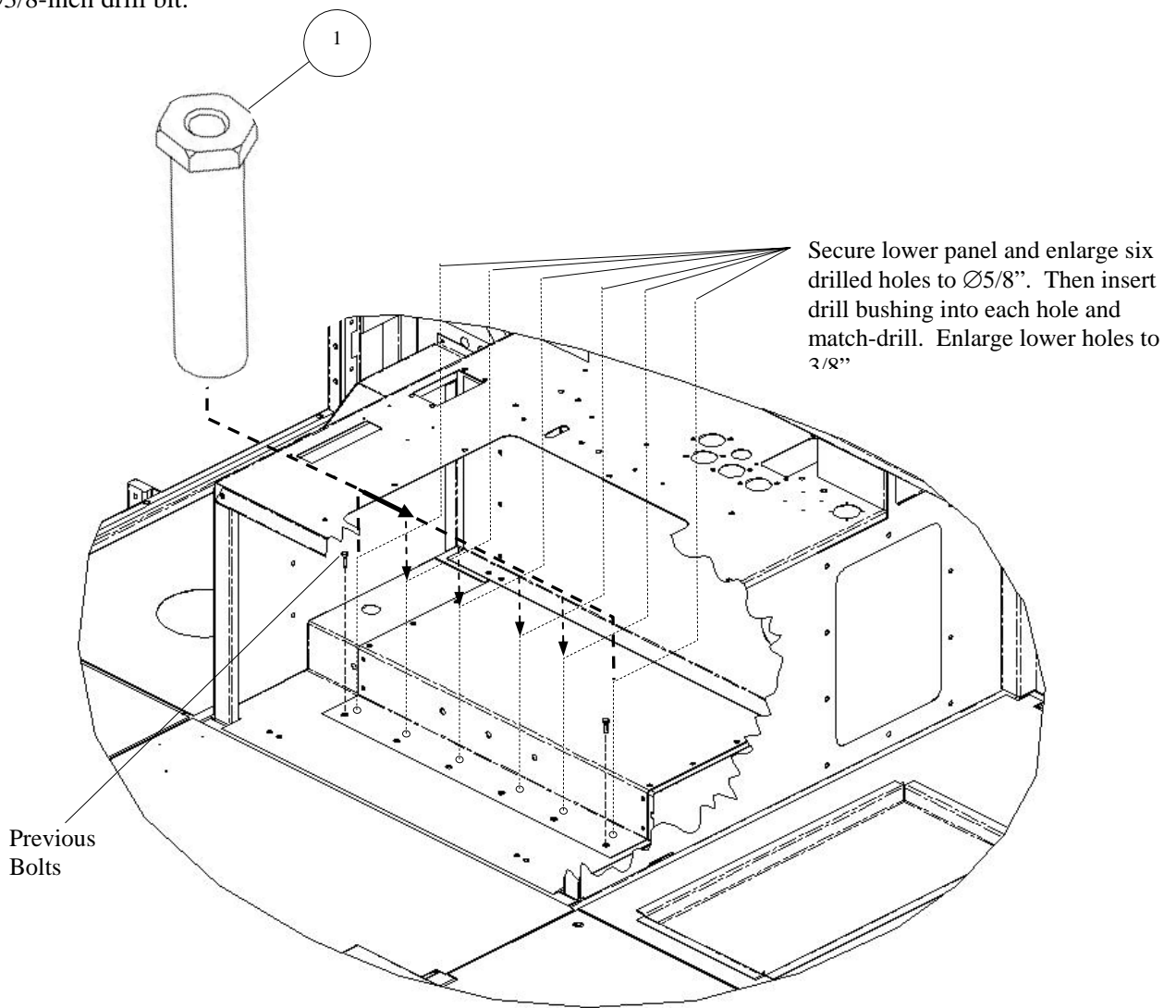
4. Match-drill frame rail as follows (see Figure 3-42):

- a. Secure doghouse floor panel using previous bolts as shown and enlarge six  $\text{\O}3/8$ -inch holes, previously drilled in Step 2, to  $\text{\O}5/8$  inch.

**NOTE**

The following procedure is used for each of the six holes shown in Figure 3-42.

- b. Install drill bushing (1) into hole and drill a hole through second wall of cab frame rail using a long,  $\text{\O}5/16$ -inch drill bit.
- c. Remove drill bushing and enlarge bottom hole (not seen) in second wall of cab frame rail using a long,  $\text{\O}3/8$ -inch drill bit.

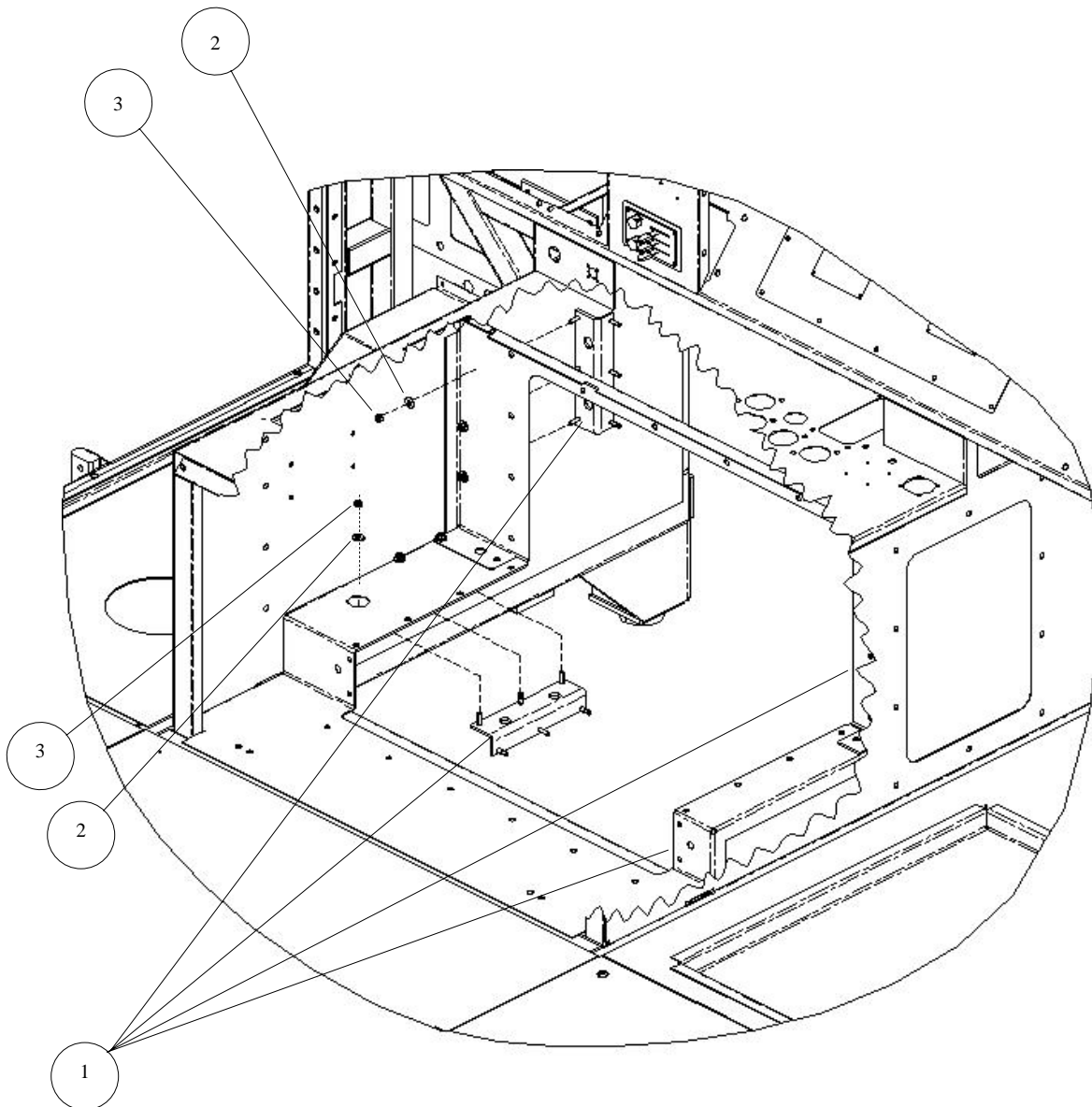


**Figure 3-42. Match-Drill Frame Rail.**

5. Install doghouse inner brackets as follows (see Figure 3-43):
  - a. Remove doghouse floor panel and doghouse back-wall panels as well, and retain for future use.
  - b. Install four doghouse inner brackets (1) (into previously drilled holes from Step 2.) and secure each with three flat washers (2) and locknuts (3). Torque locknuts to 23 lb-ft.

**NOTE**

Special attention is required to obtain proper orientation of brackets. Studs on long-side of each bracket are aligned with pre-drilled holes in all for instances shown.



**Figure 3-43. Doghouse Inner Bracket Installation.**

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

6. Pre-assemble doghouse right panel assembly as follows (see Figure 3-44):
  - a. Install one doghouse forward bracket (1) onto doghouse right panel (2) and secure with three bolts (3), three flat washers (4), and three locknuts (5). Torque locknuts to 35 lb-ft.
  - b. Install two stud plates (6) onto doghouse right panel (2) and secure each with only one flat washer (4) and locknut (5) (at the bottom studs as shown). Torque locknut to 23 lb-ft.

### **NOTE**

Doghouse forward bracket (1) may be installed after the doghouse right panel assembly is installed on the vehicle (after Step 7), as it may ease the process of installation, since this is a very tight area for assembly.

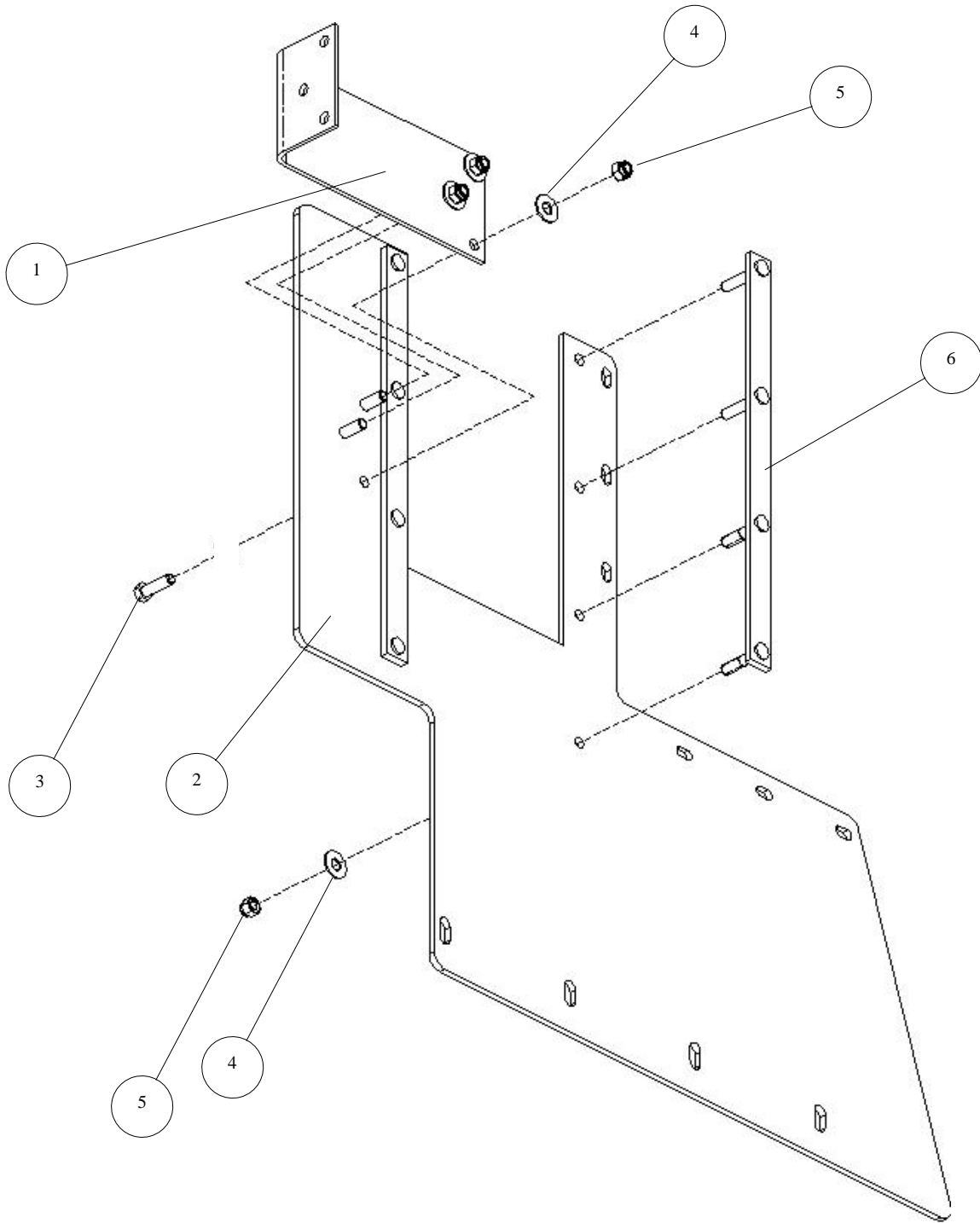
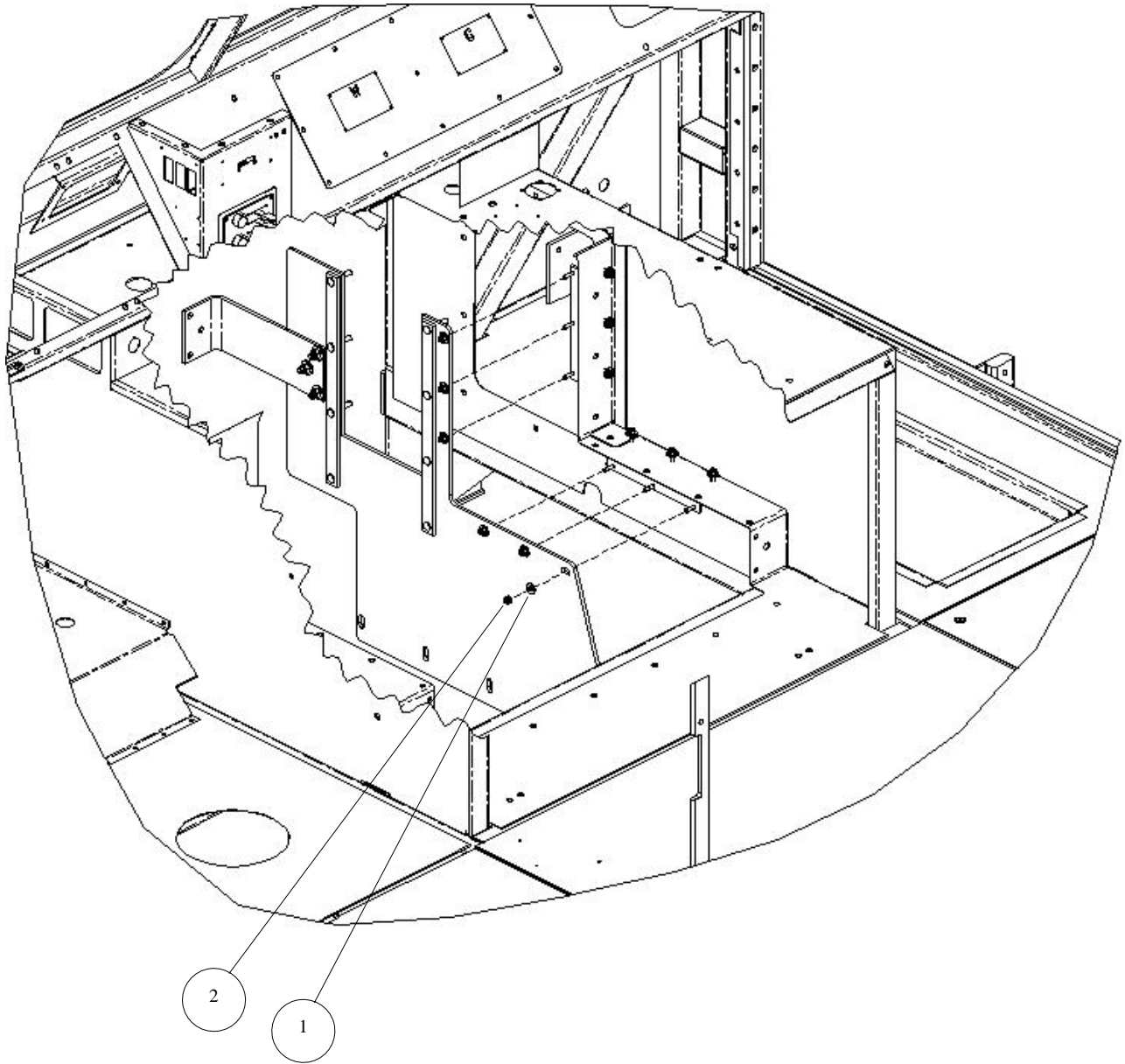


Figure 3-44. Doghouse Right Panel Pre-Assembly.

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

7. Install doghouse right panel assembly as follows (see Figure 3-45):
  - a. Install doghouse right panel assembly into doghouse and secure to doghouse inner brackets with six flat washers (1) and locknuts (2). Torque locknuts to 7 lb-ft.

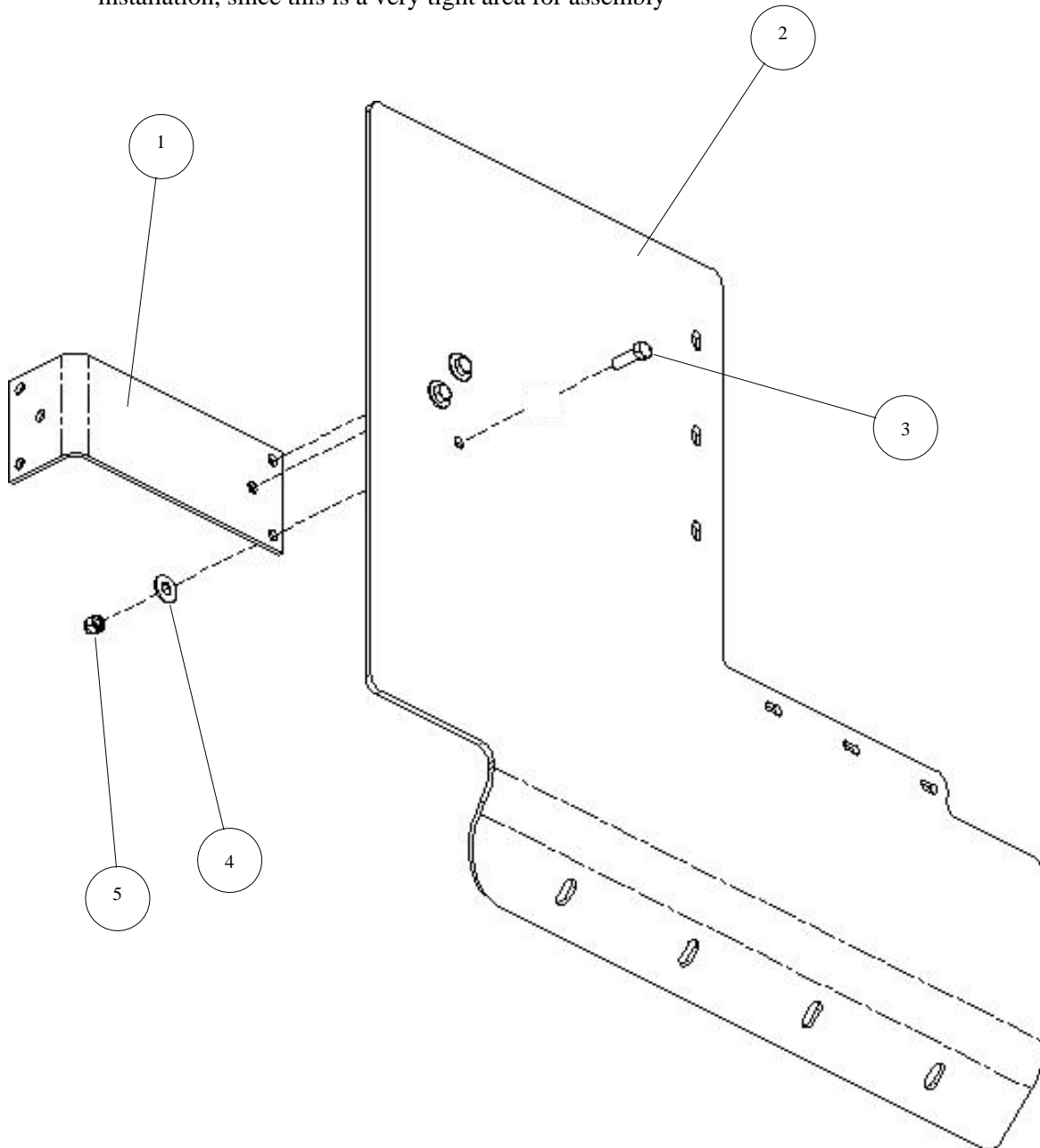


**Figure 3-45. Doghouse Right Panel Assembly Installation.**

8. Pre-assemble doghouse left panel assembly as follows (see Figure 3-46):
- a. Install one doghouse forward bracket (1) onto doghouse left panel (2) and secure with three bolts (3), three flat washers (4), and three locknuts (5). Torque locknuts to 35 lb-ft.

**NOTE**

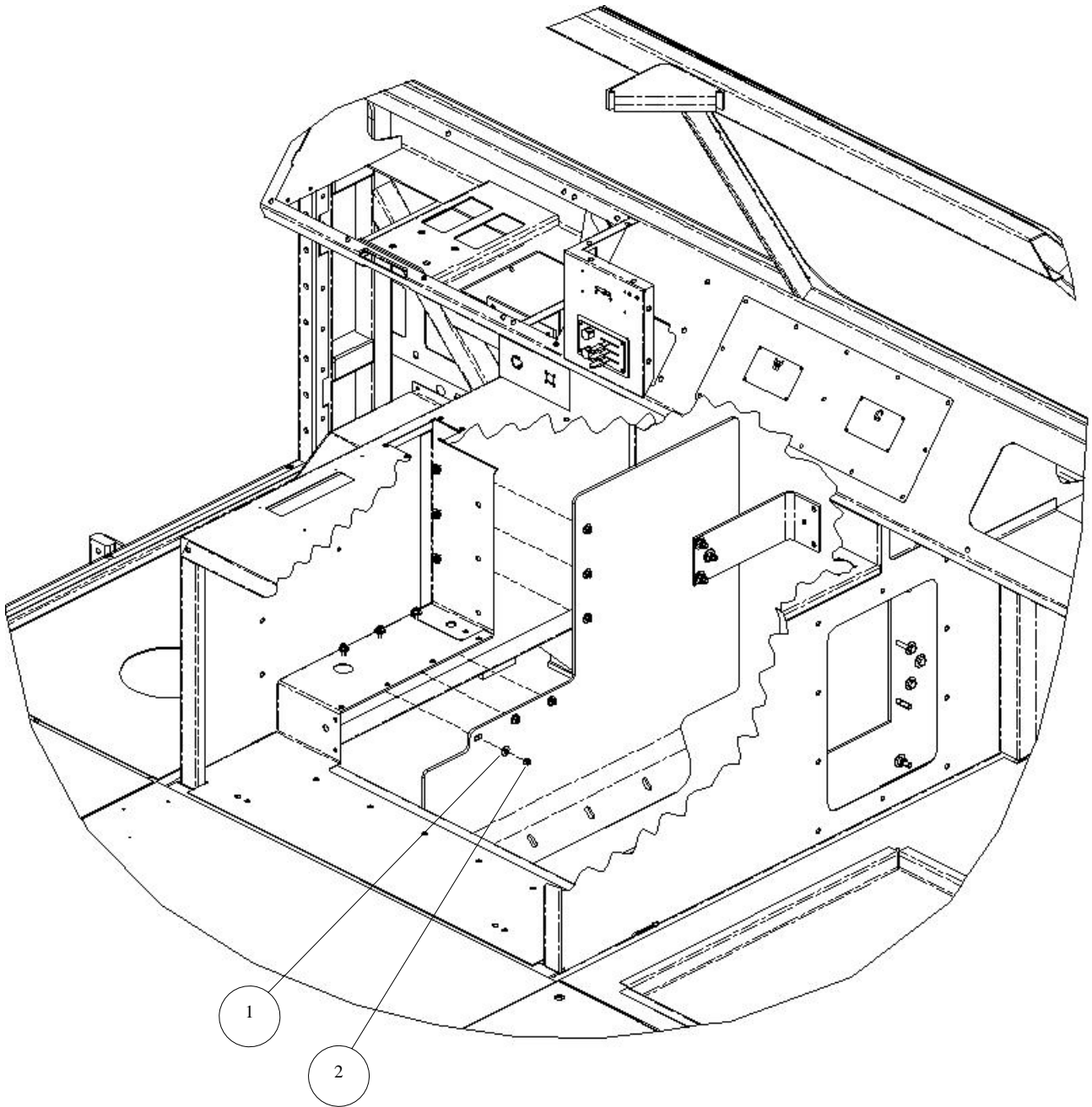
Doghouse forward bracket (1) may be installed after the doghouse left panel assembly is installed on the vehicle (after Step 9), as it may ease the process of installation, since this is a very tight area for assembly



**Figure 3-46. Doghouse Left Panel Assembly Installation.**

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

9. Install doghouse left panel assembly as follows (see Figure 3-47):
  - a. Install doghouse left panel assembly into doghouse and secure to doghouse inner brackets with six flat washers (1) and locknuts (2). Torque locknuts to 7 lb-ft.



**Figure 3-47. Doghouse Left Panel Pre-Assembly.**



**3-11. RIGHT SIDE "A" PILLAR ARMOR INSTALLATION**

**TOOLS:**

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

**MATERIAL/PARTS:**

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-48	1	113411-2	PANEL, FORWARD, SIDE	1
	2	113411-4	PANEL, FORWARD, SIDE	1
	3	113408-1	HINGE, DOOR	1
	4	113409-1	BRACKET, HINGE	1
	5		BOLT, COUNTERSUNK, 3/8-16 X 2.000 LONG, GR8	12
	6		FLAT WASHER, 3/8, USS	20
	7		LOCKNUT, 3/8-16, GR8	18
	8		BOLT, 3/8-16 X 1.500 LONG, GR8	3
	9	113465-1	BRACKET, ARMOR STEP	1
	10	113415-1	BRACKET, 90-DEGREE JOINER	1
	11		BOLT, 1/4-20 X 1.250 LONG, GR8	2
	12		FLAT WASHER, 1/4, USS	4
	13		LOCKNUT, 1/4-20, GR8	2
	14	X-275-HT	TRIM SEAL	A/R
3-49	1		BOLT, HEX-FLANGE 5/16-18 X 1.250 LONG, GR8	12
3-50	1		BUSHING, SLEEVE	2
	2		BOLT, 3/8-16 X 4.000 LONG, GR8	2
	3		FLAT WASHER, 3/8, USS	4
	4		LOCKNUT, 3/8-16, GR8	2
3-51	1	113458-1	BRACKET, RIGHT-INSIDE FIREWALL	1
	2	113427-1	SPACER, RIGHT FIREWALL	4
	3		BOLT, 3/8-16 X 3.000 LONG, GR8	4
	4		FLAT WASHER, 3/8, USS	4
	5		LOCK WASHER, 3/8 ID	4

## M1070 HET ARMOR KIT

II113400

Rev. D

### a. Installation

1. Pre-assemble right side panels as follows (see Figure 3-48):

#### NOTE

Ensure that door hinge (3) is oriented as shown in Figure 3-48, and align holes marked "A" with drill bushings.

- a. Align right forward side panel (1) with right forward side panel (2) and install door hinge (3) and hinge bracket (4) and secure with 12 bolts (5), flat washers (6), locknuts (7), one bolt (8), one washer (6), and one locknut (7). Torque locknuts to 35 lb-ft.
- b. Install armor step bracket (9) and secure with two bolts (8), four flat washers (6), and two locknuts (7). Torque locknuts to 35 lb-ft.
- c. Install one 90-degree joiner bracket (10) and secure with three flat washers (6) and locknuts (7). Do not tighten locknuts at this time.
- d. Install hood clamping catch (retained from Teardown, Chapter 2) and secure with two bolts (11), flat washers (12), and locknuts (13). Torque locknuts to 11 lb-ft.
- e. Apply trim seal (14) to the assembly from the top of the hinge bracket (4) to the top of the left forward side panel (1).

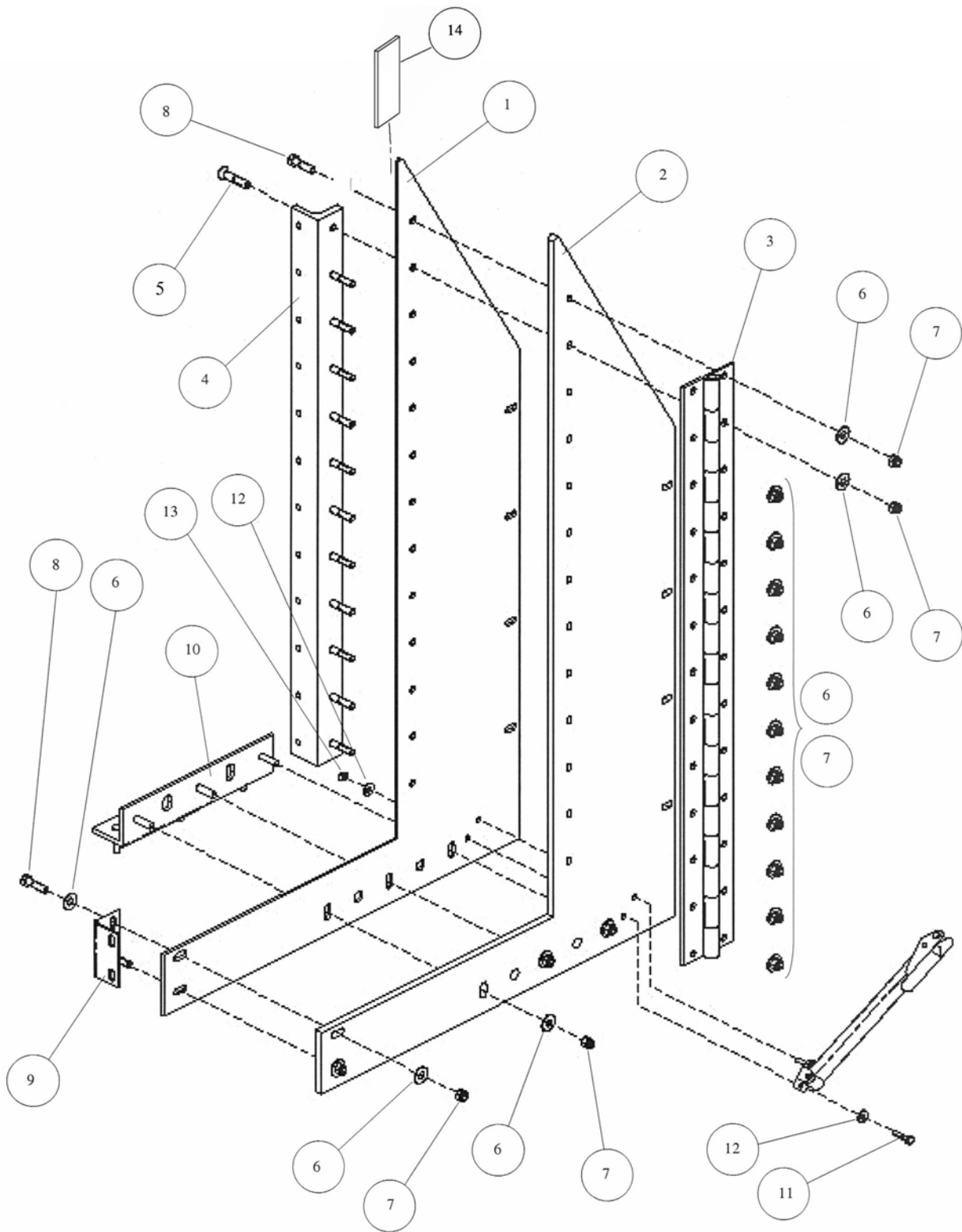


Figure 3-48. Right Side Panels Pre-Assembly.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Install right side panel assembly as follows (see Figure 3-49):

**NOTE**

Repositioning of 90-degree joiner bracket may be required to provide adequate clearance while mounting the right side panel assembly.

- a. Using appropriate lifting device, hardware, and personnel, lift right side panel assembly into position onto cab and secure with twelve bolts (1). Torque bolts to 18 lb-ft.
- b. Slide 90-degree joiner bracket firmly into position against cab frame rail and torque bracket locknuts to 23 lb-ft.

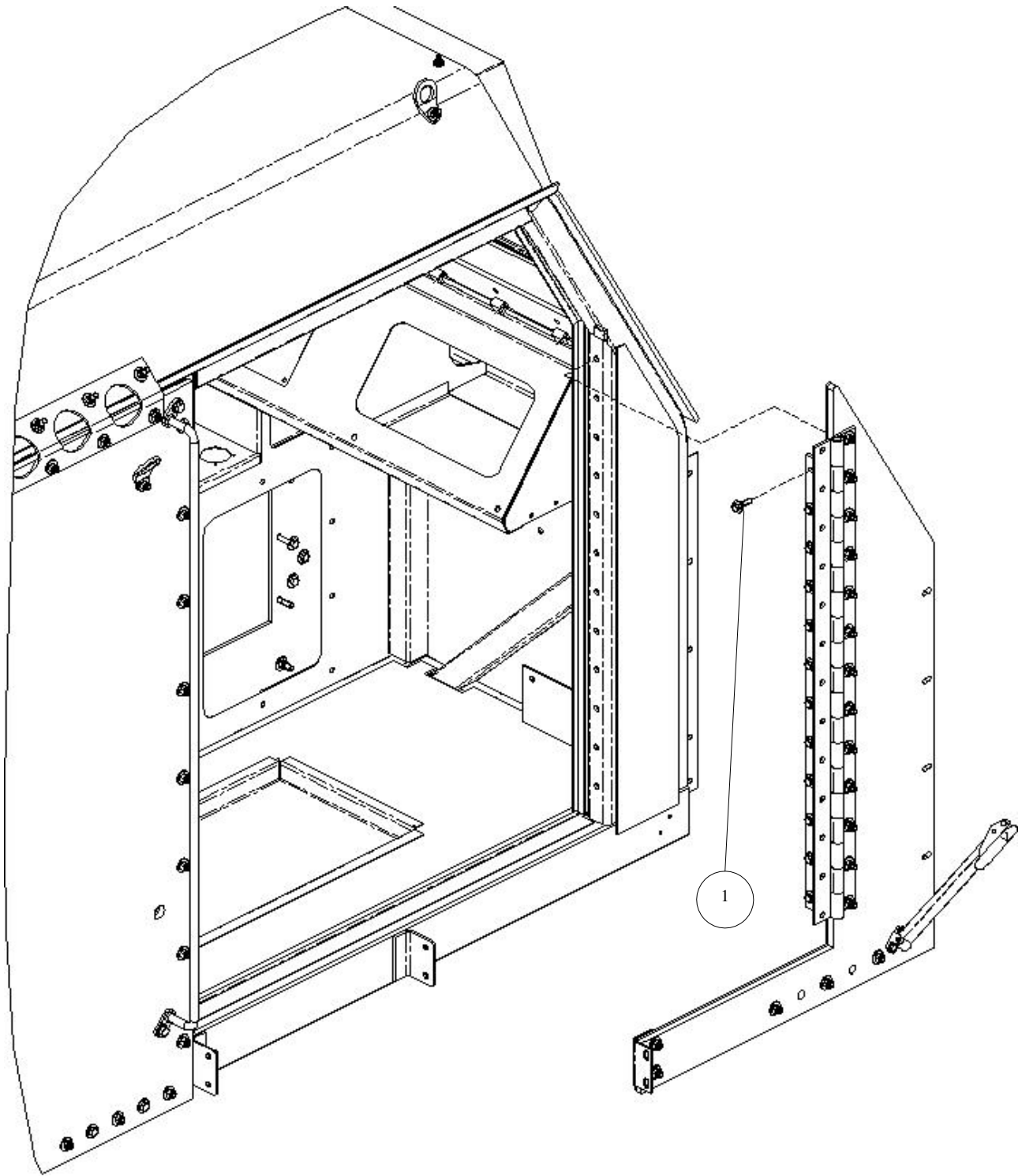


Figure 3-49. Right Side Panel Assembly Installation.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

3. Install cab frame rail sleeve bushings as follows (see Figure 3-50):
  - a. Match drill for sleeve bushings using drill bushings and standard procedure.

**NOTE**

The sleeve bushings (1) in the following step are used to keep the cab frame rail from collapsing.

- b. Install two sleeve bushings (1) and secure each with one bolt (2), two flat washers (3), and one locknut (4). Torque locknuts to 35 lb-ft.

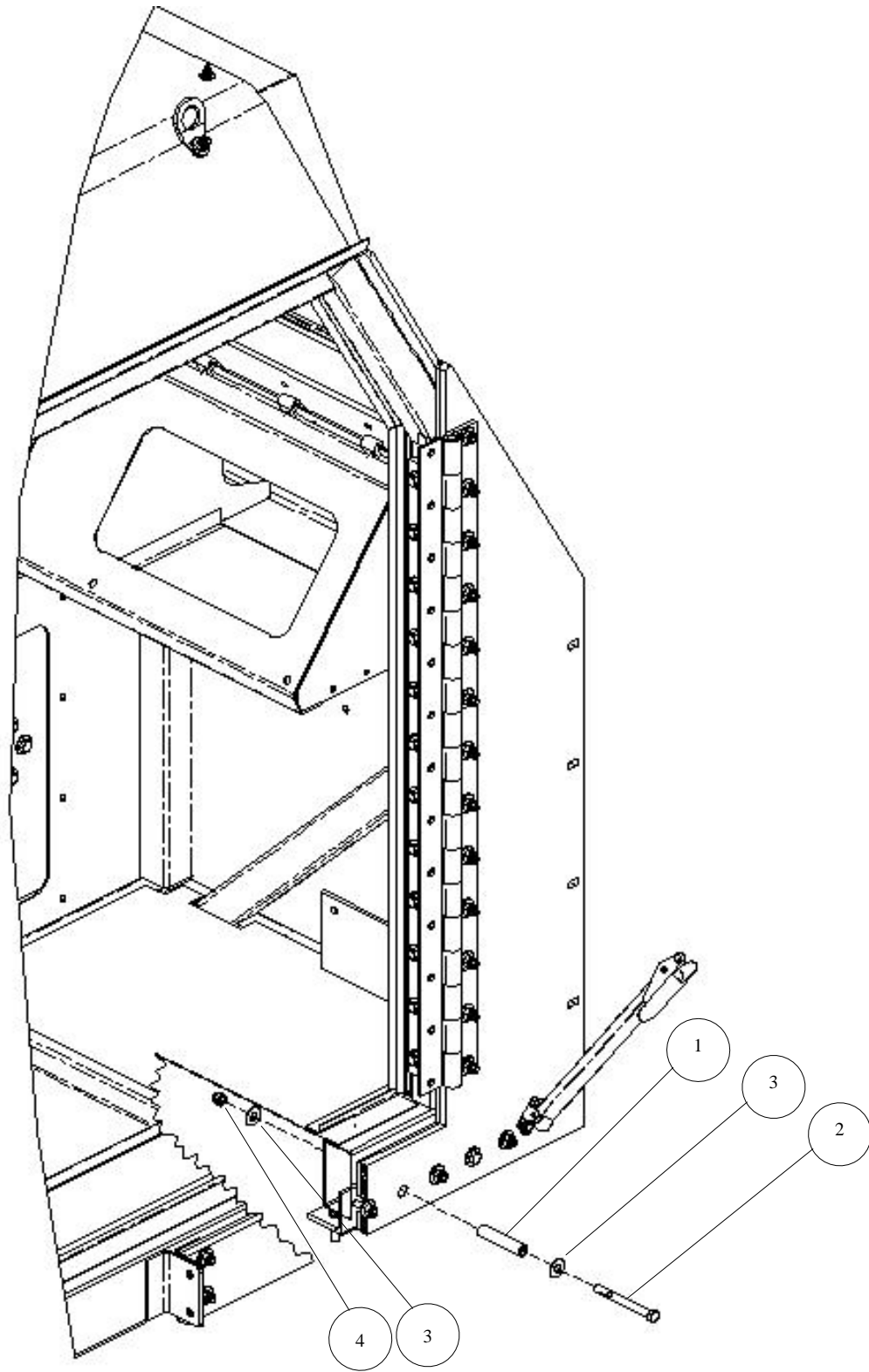


Figure 3-50. Cab Frame Rail Sleeve Bushing Installation.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

4. Install right-inside firewall bracket as follows (see Figure 3-51):
  - a. Install one right-inside firewall bracket (1) and four right firewall spacers (2) and secure with four bolts (3), flat washers (4), and lock washers (5). Torque bolts to 23 lb-ft.



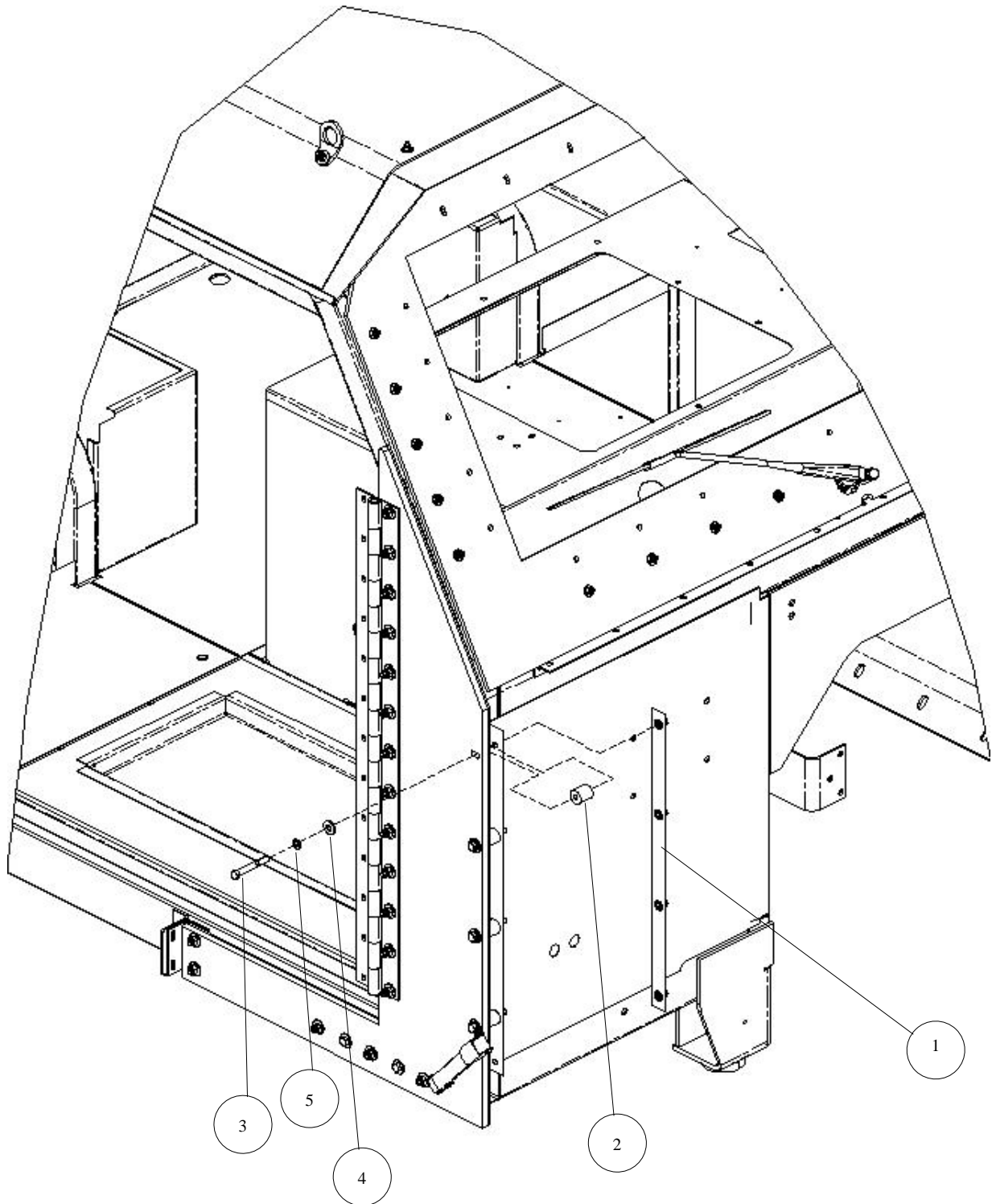


Figure 3-51. Right-Inside Firewall Bracket Installation.



**3-12. RIGHT SIDE FIREWALL ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

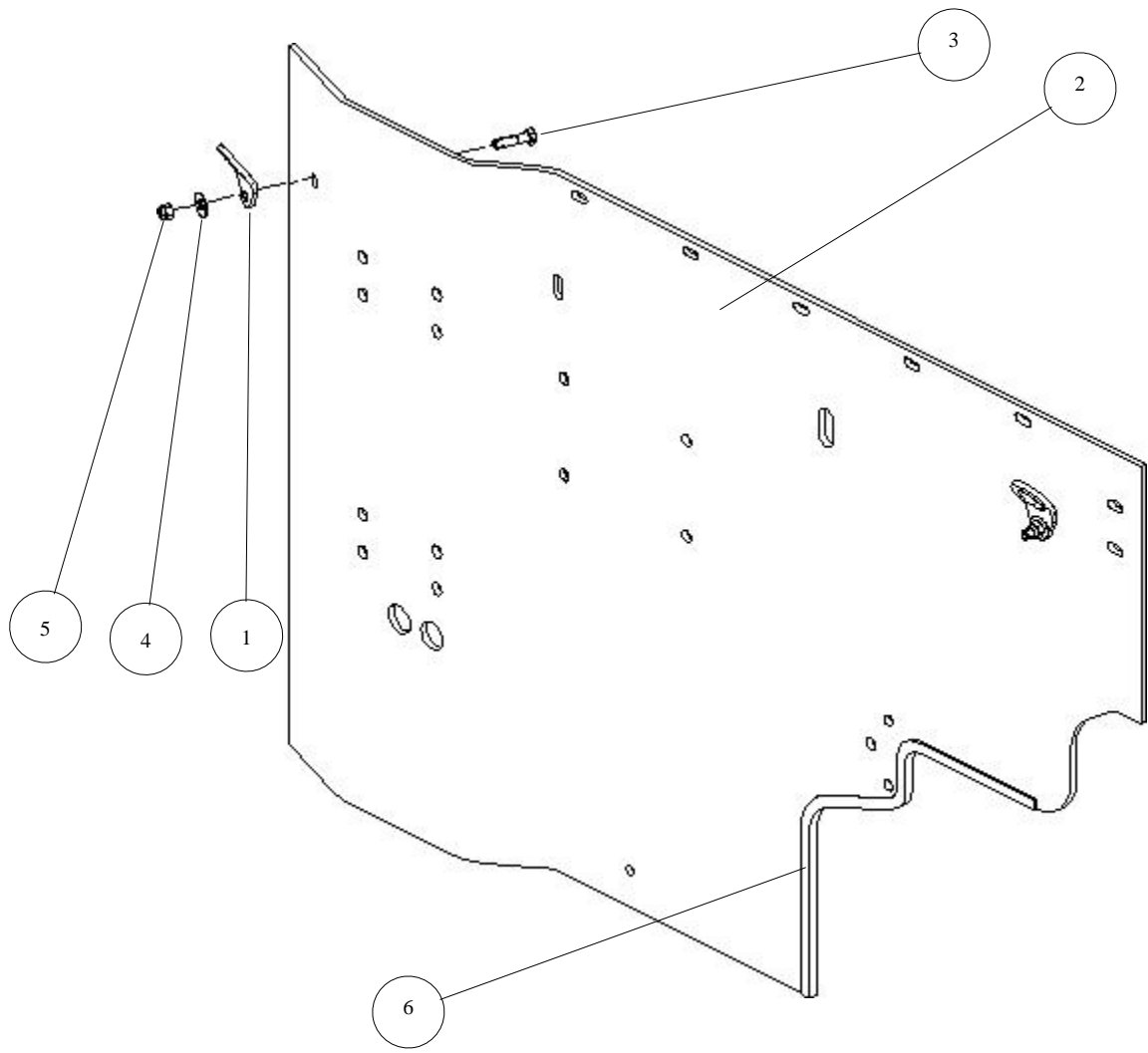
MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-52	1	113478-1	BRACKET, LIFT	2
	2	113455-1	PANEL, RIGHT FIREWALL	1
	3		BOLT, 3/8-16 X 1.500 LONG, GR8	2
	4		FLAT WASHER, 3/8, USS	2
	5		LOCKNUT, 3/8-16, GR8	2
	6	1350-5/16	EDGE , TRIM	1
3-53	1	113428-1	SPACER, FIREWALL HOOD	1
	2		BOLT, 5/16-18 X 2.500 LONG, GR8	2
	3		FLAT WASHER, 5/16, USS	2
	4		LOCK WASHER, 5/16 ID	2
3-54	1	113471-1	BRACKET, POWER STEERING	2
3-55	1		FLAT WASHER, 3/8, USS	14
	2		LOCKNUT, 3/8-16, GR8	11
	3		BOLT, 3/8-16 X 1.500 LONG, GR8	3
	4		FLAT WASHER, 5/16, USS	7
	5		LOCKNUT, 5/16, GR8	5
	6		BOLT, 5/16-18 X 2.500 LONG, GR8	2
	7		LOCK WASHER, 5/16	2

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

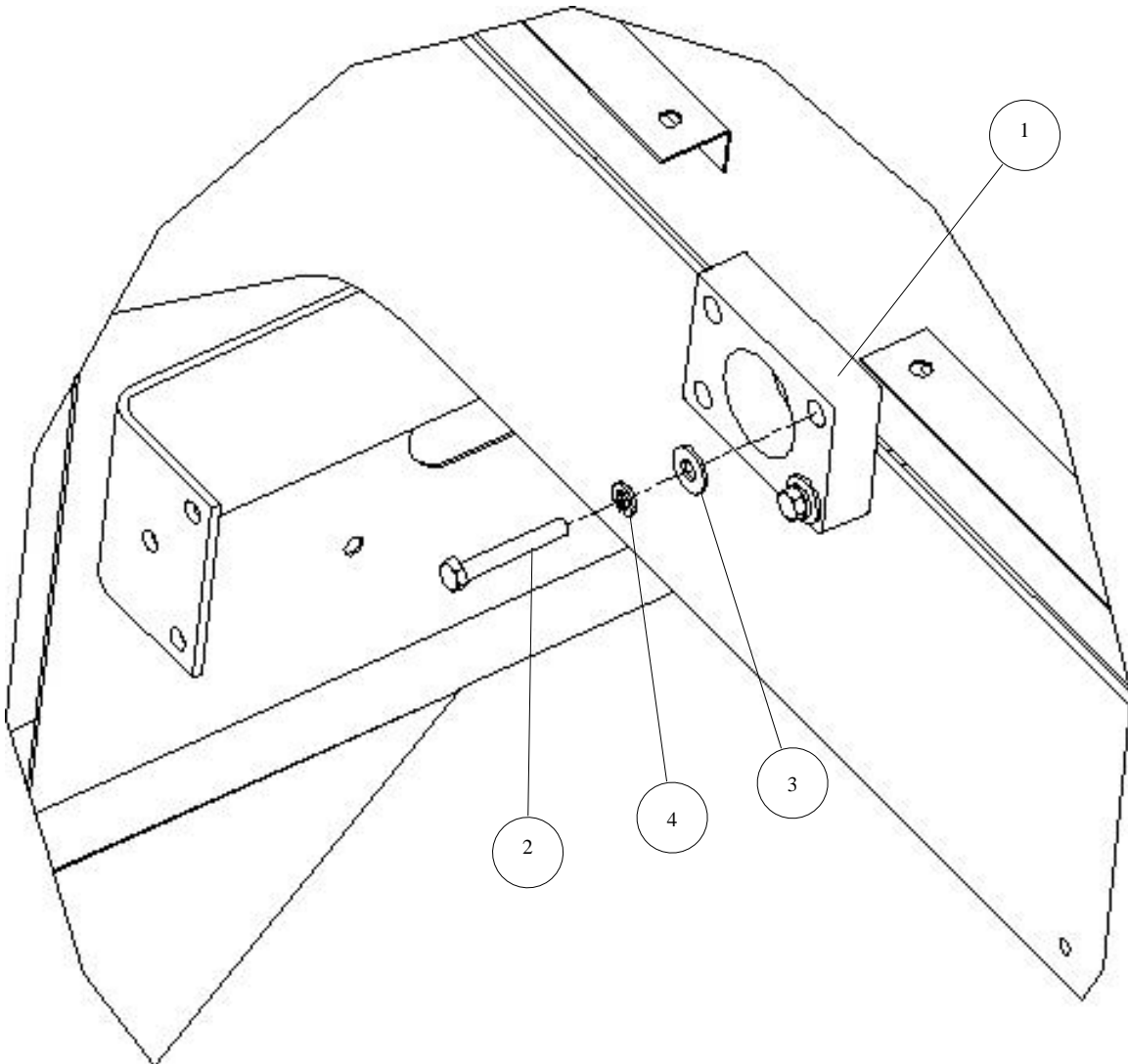
**a. Installation**

1. Pre-assemble firewall right panel as follows (see Figure 3-52):
  - a. Install two lift brackets (1) onto firewall right panel (2) and secure each with one bolt (3), flat washer (4), and locknut (5). Torque locknut to 35 lb-ft.
  - b. Install edge trim (6).



**Figure 3-52. Firewall Right Panel Pre-Assembly.**

2. Install firewall hood spacer as follows (see Figure 3-53):
  - a. Install one firewall hood spacer (1) onto firewall and temporarily secure with two bolts (2), flat washers (3), and lock washers (4). Hand-tighten bolts.



**Figure 3-53. Firewall Hood Spacer Installation.**

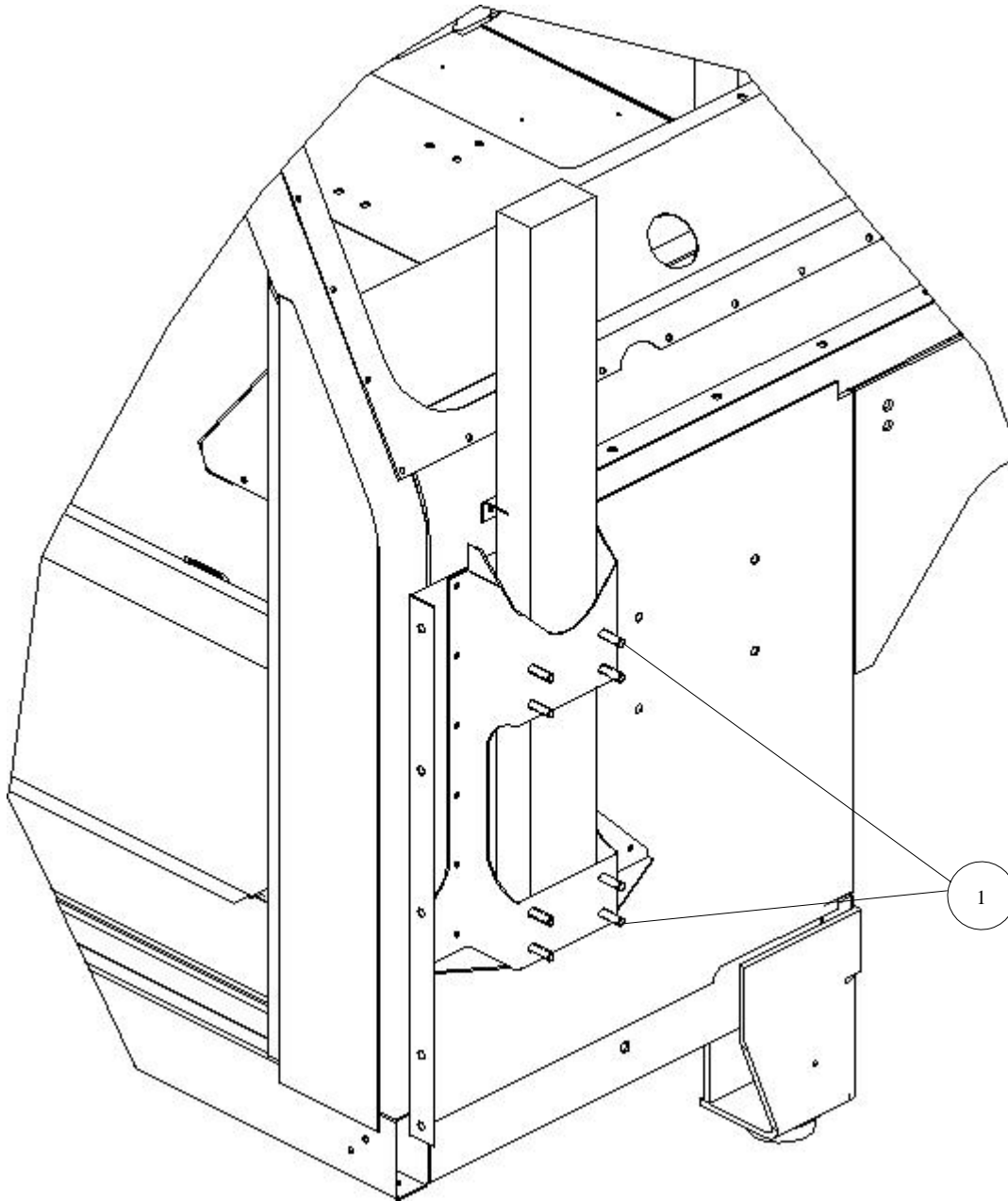
**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

3. Install power steering brackets as follows (see Figure 3-54):

**NOTE**

A two-by-four may be used to hold the power steering brackets (1) in place during armor installation.

- a. Install two power steering brackets (1) into holes in vehicle power steering bracket on firewall. Do not use fasteners to secure power steering brackets (1).



**Figure 3-54. Power Steering Brackets Installation.**

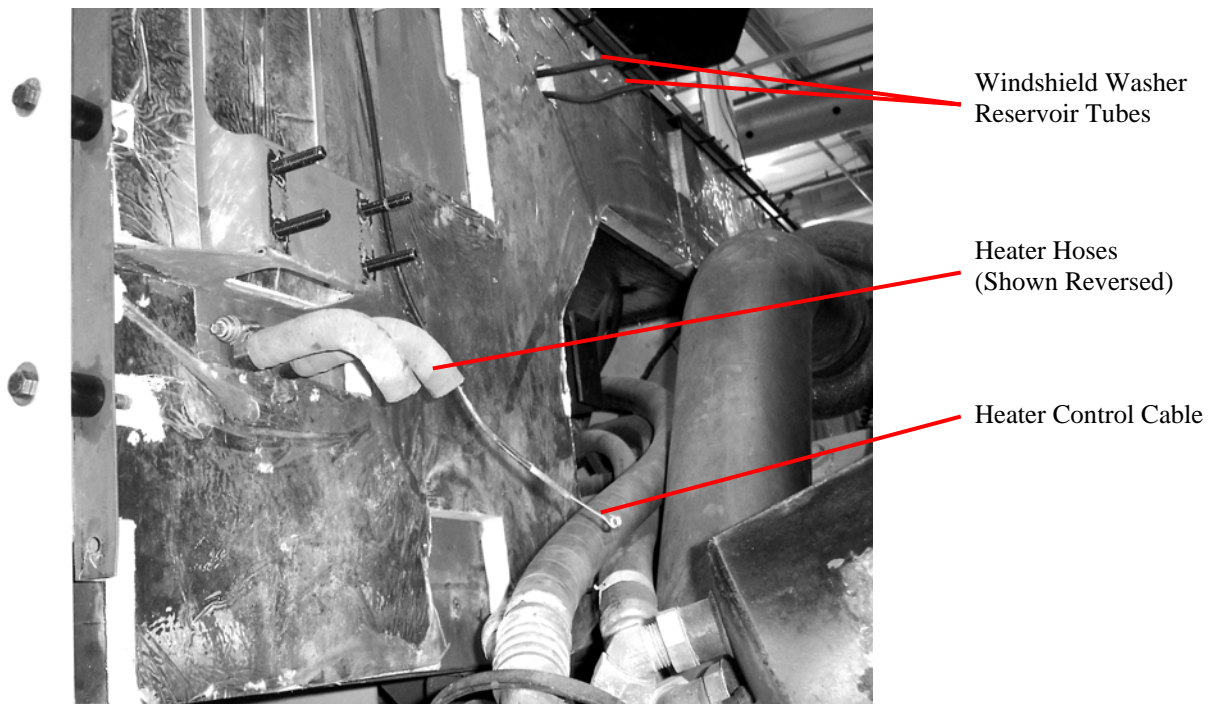
4. Install right firewall panel assembly as follows (see Figure 3-55):

**NOTE**

Prior to installation of the right firewall panel assembly, the heater hose elbows (protruding from the firewall) must be reversed. The long end of the rubber hoses must be connected to the elbow so that the short end of the elbow will extend out far enough to pass through the right firewall panel assembly.

Power steering hoses may need to be adjusted and secured in order to provide as much relief from the firewall armor panels as possible.

- a. Using appropriate lifting device, hardware, and personnel, lift right firewall panel assembly into position onto the cab and pass two heater hoses, heater control cable, and windshield washer reservoir tubes through right firewall panel assembly.
- b. Ensure right firewall panel assembly is correctly positioned and secure to power steering bracket studs using eight flat washers (1) and locknuts (2). Do not tighten locknuts at this time.
- c. Install three bolts (3), six flat washers (4), and three locknuts (5) to connect doghouse bracket to firewall. Torque bolts to 35 ft-lb.
- d. Install two bolts (6), lock washers (7), and flat washers (8). Torque bolts to 23 ft-lb.
- e. Install five flat washers (9) and locknuts (10). Torque locknuts to 13 ft-lb.



**Figure 3-55. Firewall Right Panel Assembly Installation (Sheet 1 of 2).**

M1070 HET ARMOR KIT  
II113400  
Rev. D

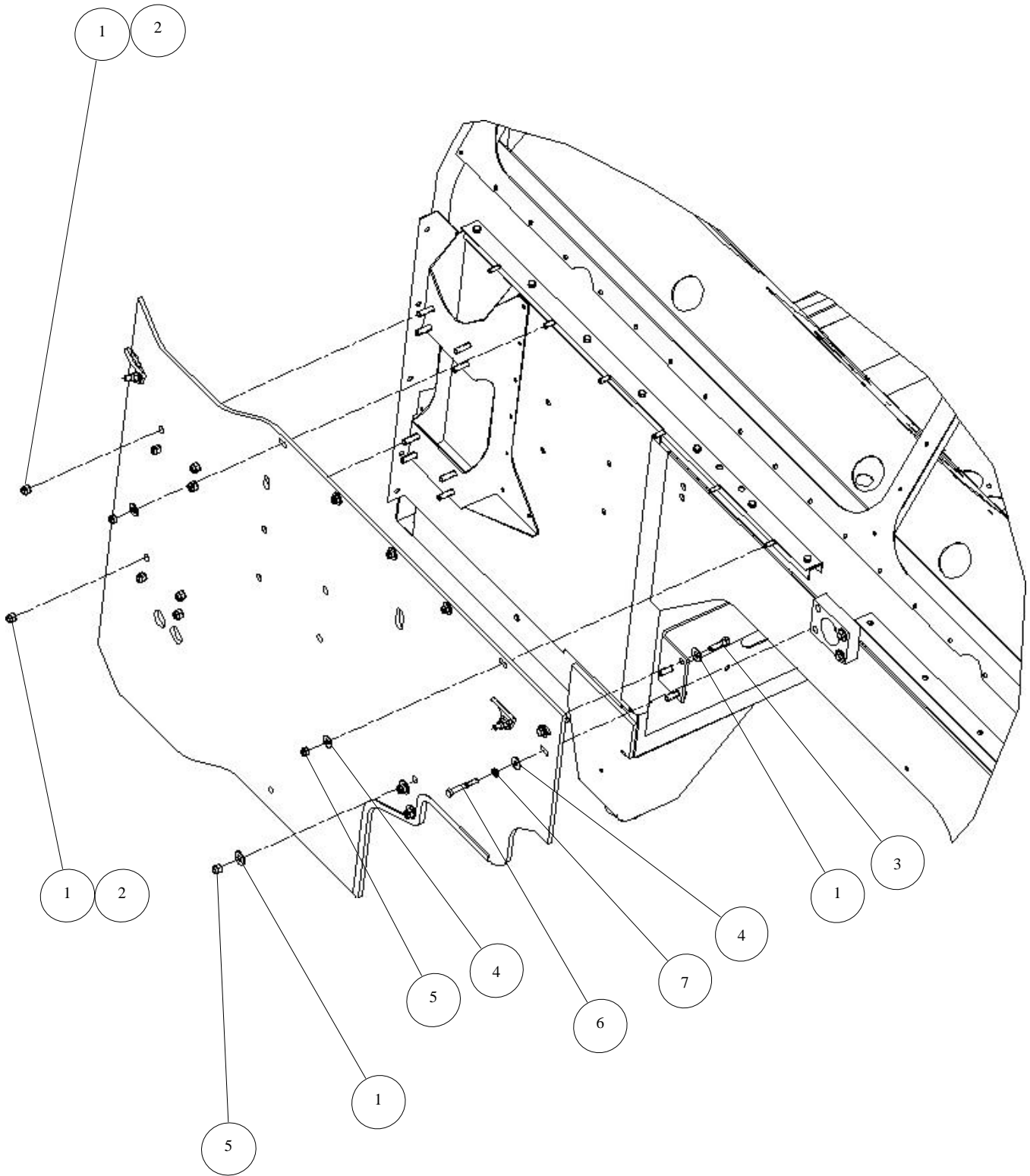


Figure 3-55. Firewall Right Panel Assembly Installation (Sheet 2 of 2).



**3-13. LEFT SIDE FIREWALL ARMOR INSTALLATION**

TOOLS:

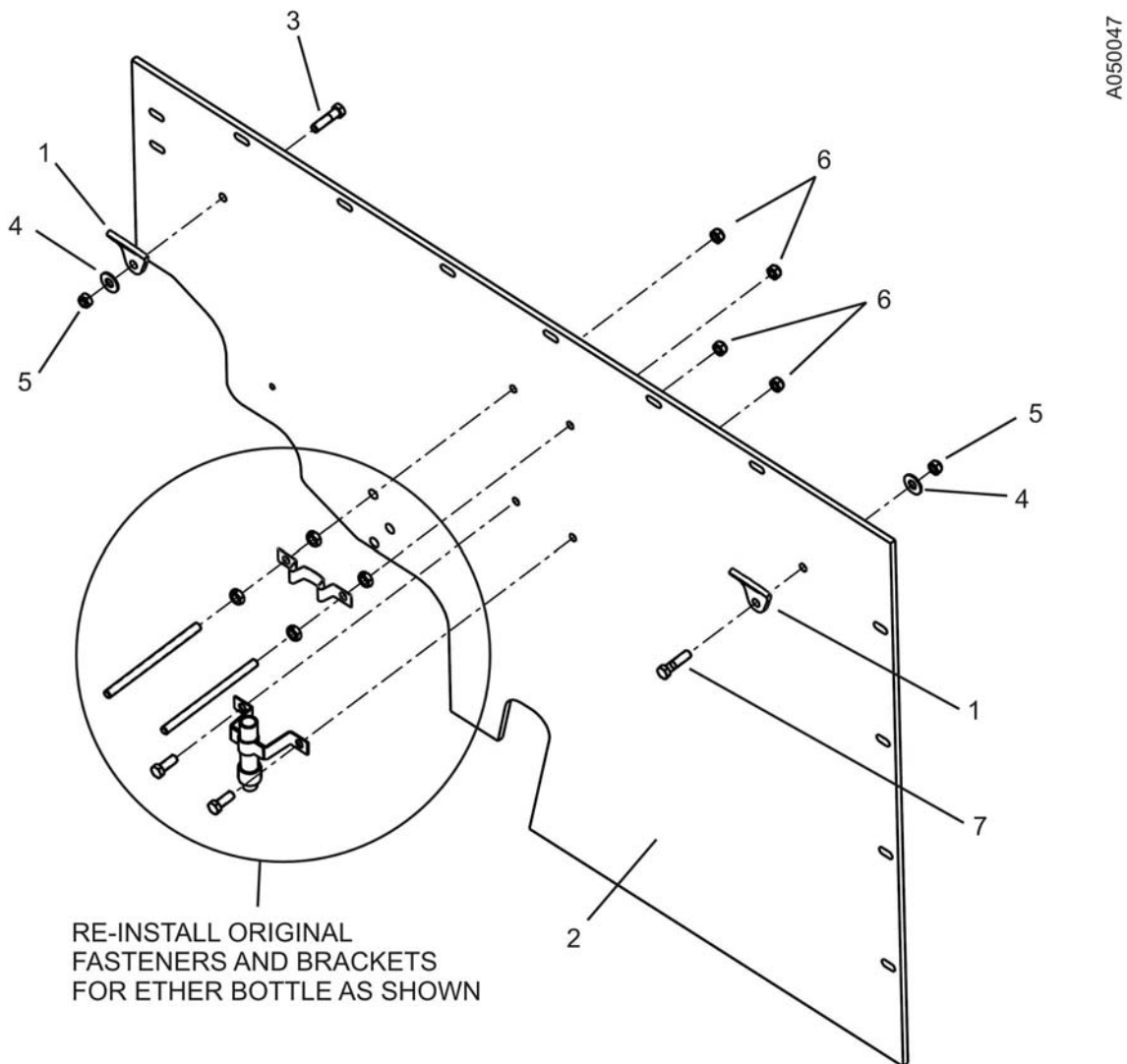
General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-56	1	113478-1	BRACKET, LIFT	2
	2	113455-2	PANEL, LEFT FIREWALL	1
	3		BOLT, 3/8-16 X 1.500 LONG, GR8	1
	4		FLAT WASHER, 3/8, USS	2
	5		LOCKNUT, 3/8-16, GR8	2
	6		LOCKNUT, 5/16-18, GR8	4
	7		BOLT, BHCS, 3/8-16 x 1.250 LONG	1
3-57		NONE		
3-58	1		FLAT WASHER, 5/16, USS	6
	2		LOCKNUT, 5/16-18, GR8	6
	3		BOLT, 3/8-16 X 1.250 LONG, GR8	3
	4		FLAT WASHER, 3/8, USS	6
	5		LOCKNUT, 3/8-16, GR8	3
	6	113450-1	PANEL, LEFT-HAND FIREWALL	1
	7	113456-1	BRACKET, LEFT-OUTSIDE FIREWALL	1
	8		FLAT WASHER, 3/8, USS	4
	9		LOCKNUT, 3/8-16, GR8	4

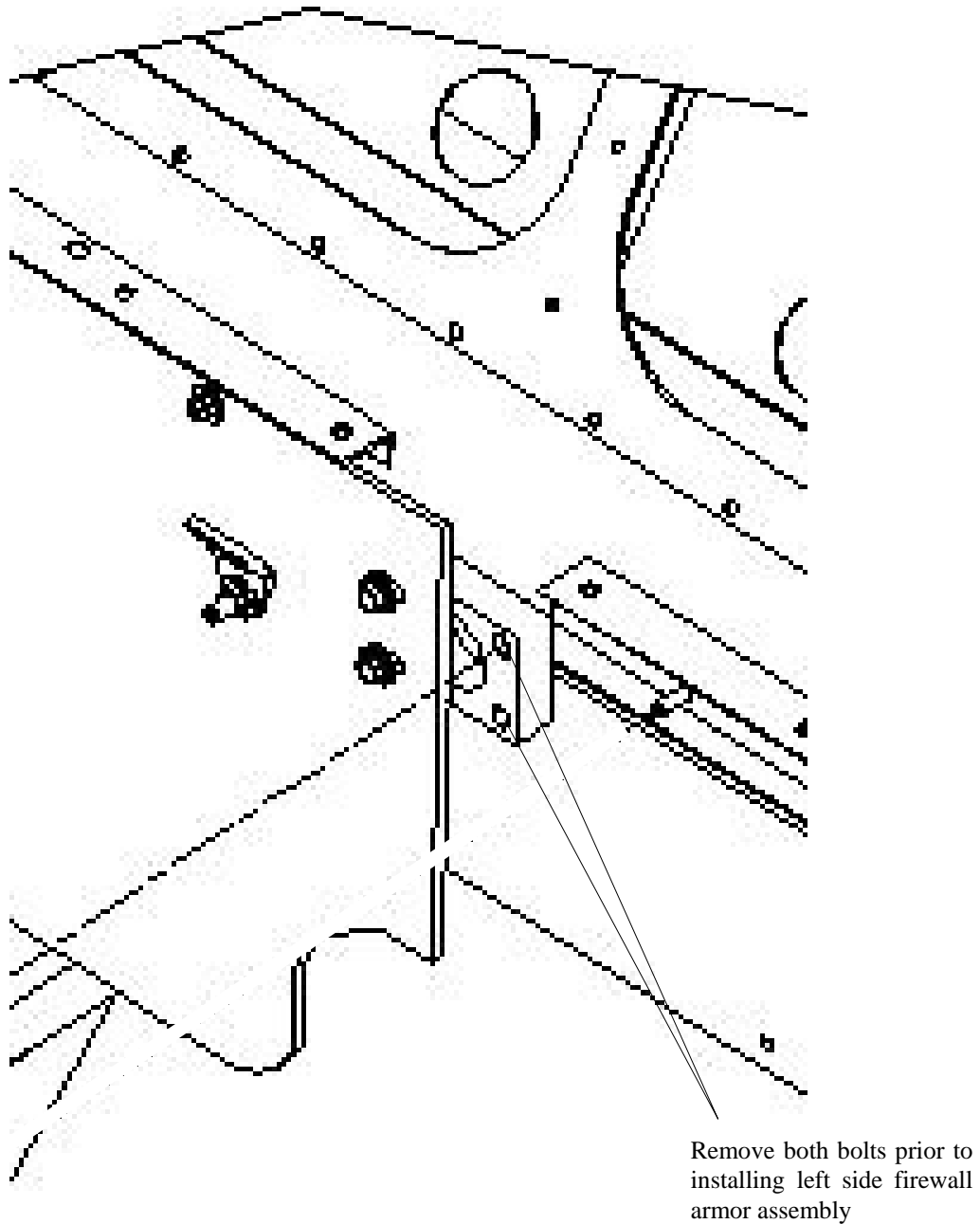
**a. Installation**

1. Pre-assemble left firewall panel as follows (see Figure 3-56):
  - a. Install two lift brackets (1) onto left firewall panel (2) and secure the inboard side with one bolt (3), flat washer (4), and locknut (5) and the outboard side with one bolt (7), flat washer (4), and locknut (5). Torque locknuts to 35 lb-ft.
  - b. Re-install ether bottle brackets and fasteners as shown. Use two new locknuts (6) to hold the all-threads on the backside of the firewall armor panel.



**Figure 3-56. Left Firewall Panel Pre-Assembly.**

2. Remove bolts from firewall hood spacer as follows (see Figure 3-57):
  - a. Remove two bolts, flat washers, and lock washers (temporarily installed during Right Side Firewall Armor Installation, Paragraph 3-12, Step 2) attaching the firewall hood spacer onto firewall. The will be re-installed in the next step.



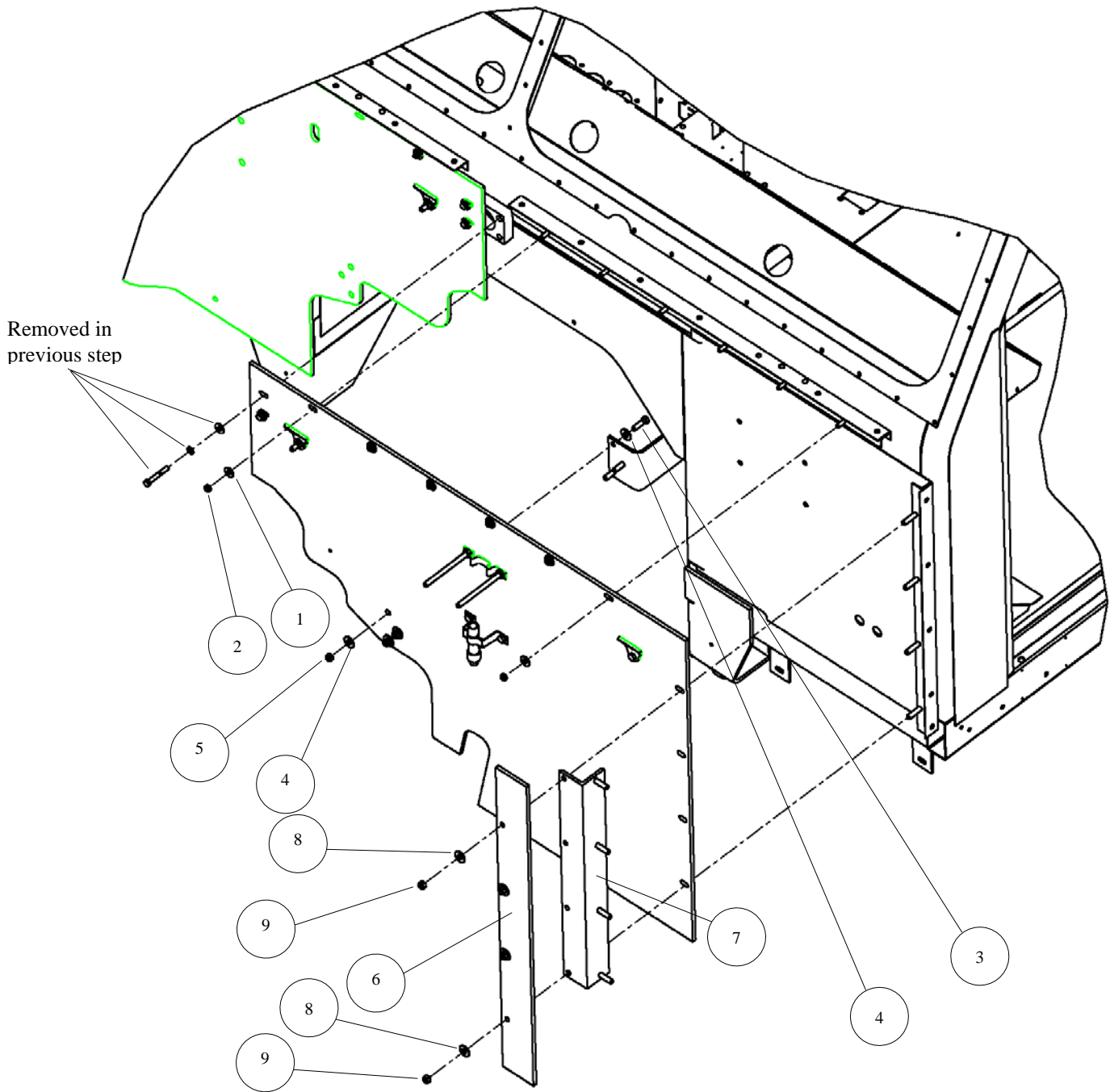
**Figure 3-57. Firewall Hood Spacer Bolt Removal.**

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

3. Install left firewall panel assembly as follows (see Figure 3-58):
  - a. Using appropriate lifting device, hardware, and personnel, lift left firewall panel assembly into position onto the cab.
  - b. Ensure that left firewall panel assembly is correctly positioned and secure to studs using six flat washers (1) and locknuts (2). Torque locknuts to 18 lb-ft.
  - c. Install three bolts (3), six flat washers (4), and three locknuts (5). Torque locknuts to 35 lb-ft.
  - d. Install left-hand firewall panel (6) and firewall left-outside bracket (7) and secure with four flat washers (8) and locknuts (9). Torque locknuts to 23 lb-ft.
  - e. Re-install two bolts (10), lock washers (11), and flat washers (12) removed in the previous Step 2. Torque to 13 lb-ft.



**Figure 3-58. Left Firewall Panel Assembly Installation.**



**3-14. LEFT SIDE "A" PILLAR ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-59	1	113411-1	PANEL, FORWARD, SIDE	1
	2	113411-3	PANEL, FORWARD, SIDE	1
	3	113408-1	HINGE, DOOR	1
	4	113409-1	BRACKET, HINGE	1
	5		BOLT, COUNTERSUNK, 3/8-16 X 2.000 LONG, GR8	12
	6		FLAT WASHER, 3/8, USS	20
	7		LOCKNUT, 3/8-16, GR8	18
	8		BOLT, 3/8-16 X 1.500 LONG, GR8	3
	9	113465-1	BRACKET, ARMOR STEP	1
	10	113415-1	BRACKET, 90-DEGREE JOINER	1
	11		BOLT, 1/4-20 X 1.250 LONG, GR8	2
	12		FLAT WASHER, 1/4, USS	4
	13		LOCKNUT, 1/4-20, GR8	2
	14	X-275-HT	TRIM SEAL	A/R
3-60	1		BOLT, 5/16-18 X 1.250 LONG, GR8	12
	2		FLAT WASHER, 3/8, USS	4
	3		LOCKNUT, 3/8-16, GR8	4
3-61	1	113475-1	BUSHING, SLEEVE	2
	2		BOLT, 3/8-16 X 4.00 LONG, GR8	2
	3		FLAT WASHER, 3/8, USS	4
	4		LOCKNUT, 3/8-16, GR8	2

## M1070 HET ARMOR KIT

II113400

Rev. D

### a. Installation

1. Pre-assemble left side panels as follows (see Figure 3-59):

#### NOTE

Ensure door hinge (3) is oriented as shown in Figure 3-59.

Align holes marked "A" with drill bushings.

- a. Align left forward side panel (1) with left forward side panel (2) and install door hinge (3) and hinge bracket (4) and secure with 12 bolts (5), flat washers (6), locknuts (7), one bolt (8), one flat washer (6), and one locknut (7). Torque locknuts to 35 lb-ft.
- b. Install armor step bracket (9) and secure with two bolts (8), four flat washers (6), and two locknuts (7). Torque locknuts to 35 lb-ft.
- c. Install one 90-degree joiner bracket (10) and secure with three flat washers (6) and locknuts (7). Do not tighten locknuts at this time.
- d. Install hood clamping catch (retained from Teardown, Chapter 2) and secure with two bolts (11), four flat washers (12), and two locknuts (13). Torque locknuts to 9 lb-ft.
- e. Apply trim seal (14) to the assembly from the top of the hinge bracket (4) to the top of the left forward side panel (1).



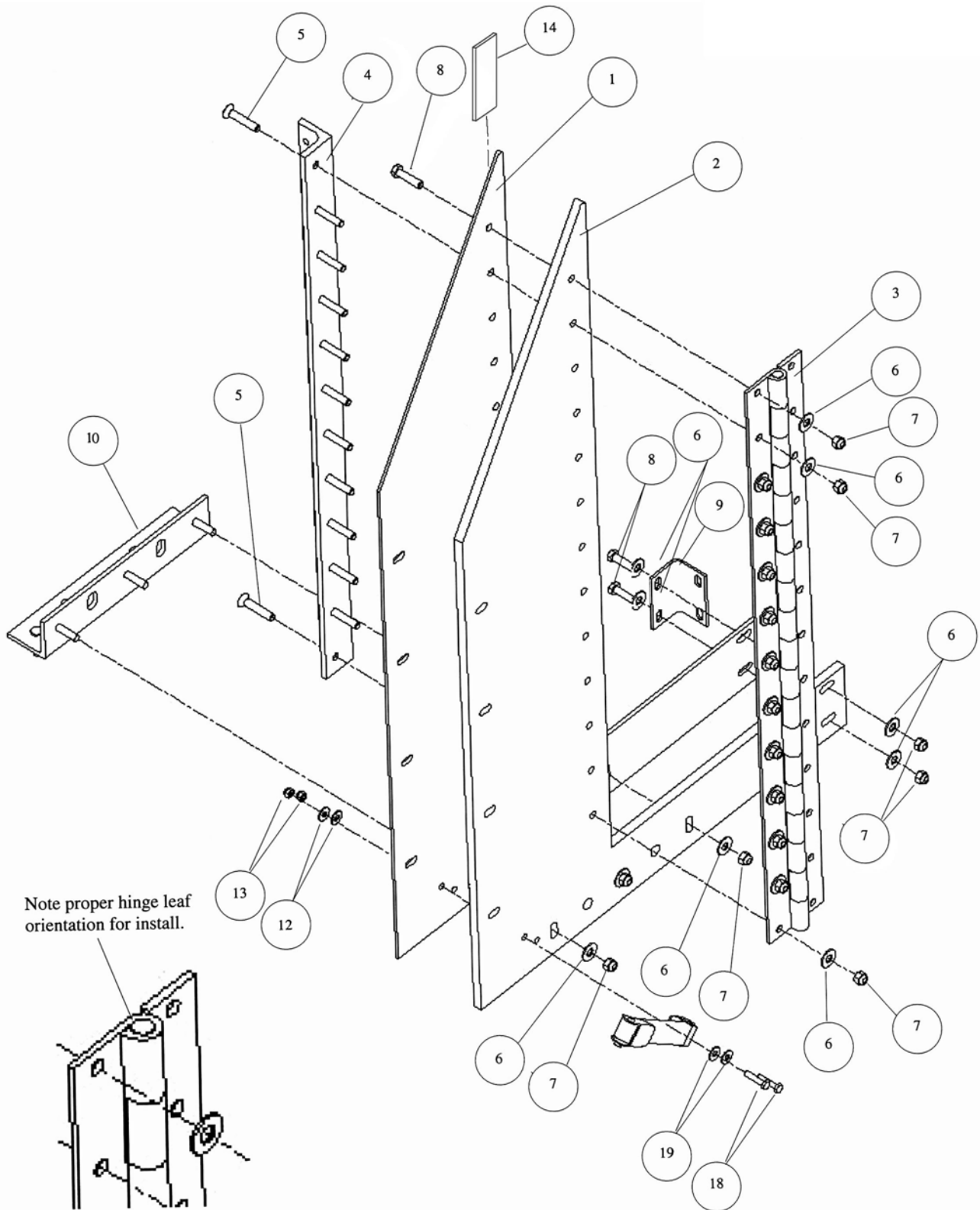


Figure 3-59. Left Side Panels Pre-Assembly.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

1. Install left side panel assembly as follows (see Figure 3-60):

**NOTE**

Repositioning of 90-degree joiner bracket may be required to provide adequate clearance while mounting the left side panel assembly.

- a. Using appropriate lifting device, hardware, and personnel, lift left side panel assembly into position onto the cab and secure with 12 bolts (1). Torque bolts to 18 lb-ft.
- b. Install four flat washers (2) and locknuts (3). Torque locknuts to 23 lb-ft.
- c. Slide 90-degree joiner bracket firmly into position against cab frame rail and torque bracket locknuts to 23 lb-ft.

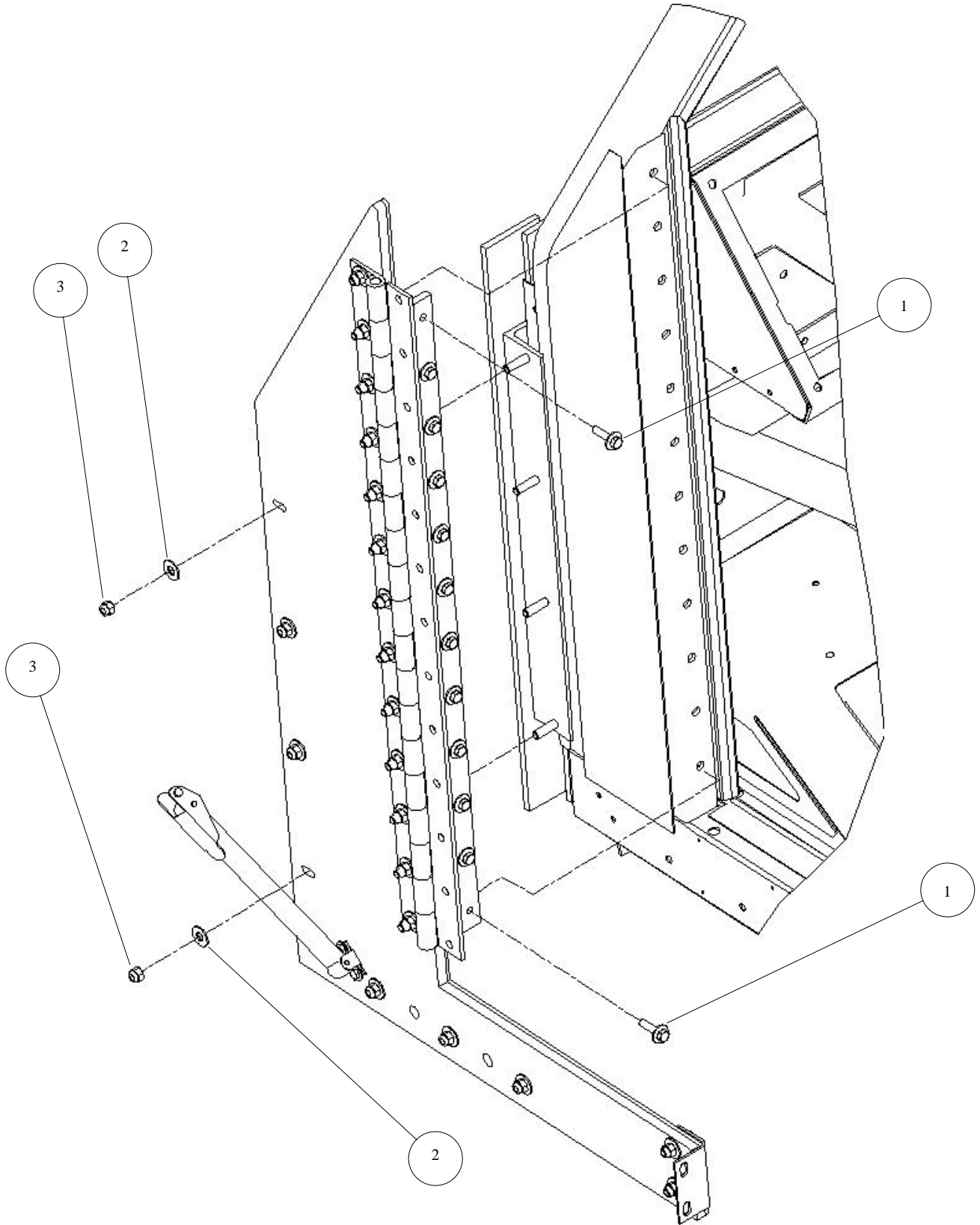


Figure 3-60. Left Side Panel Assembly Installation.

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

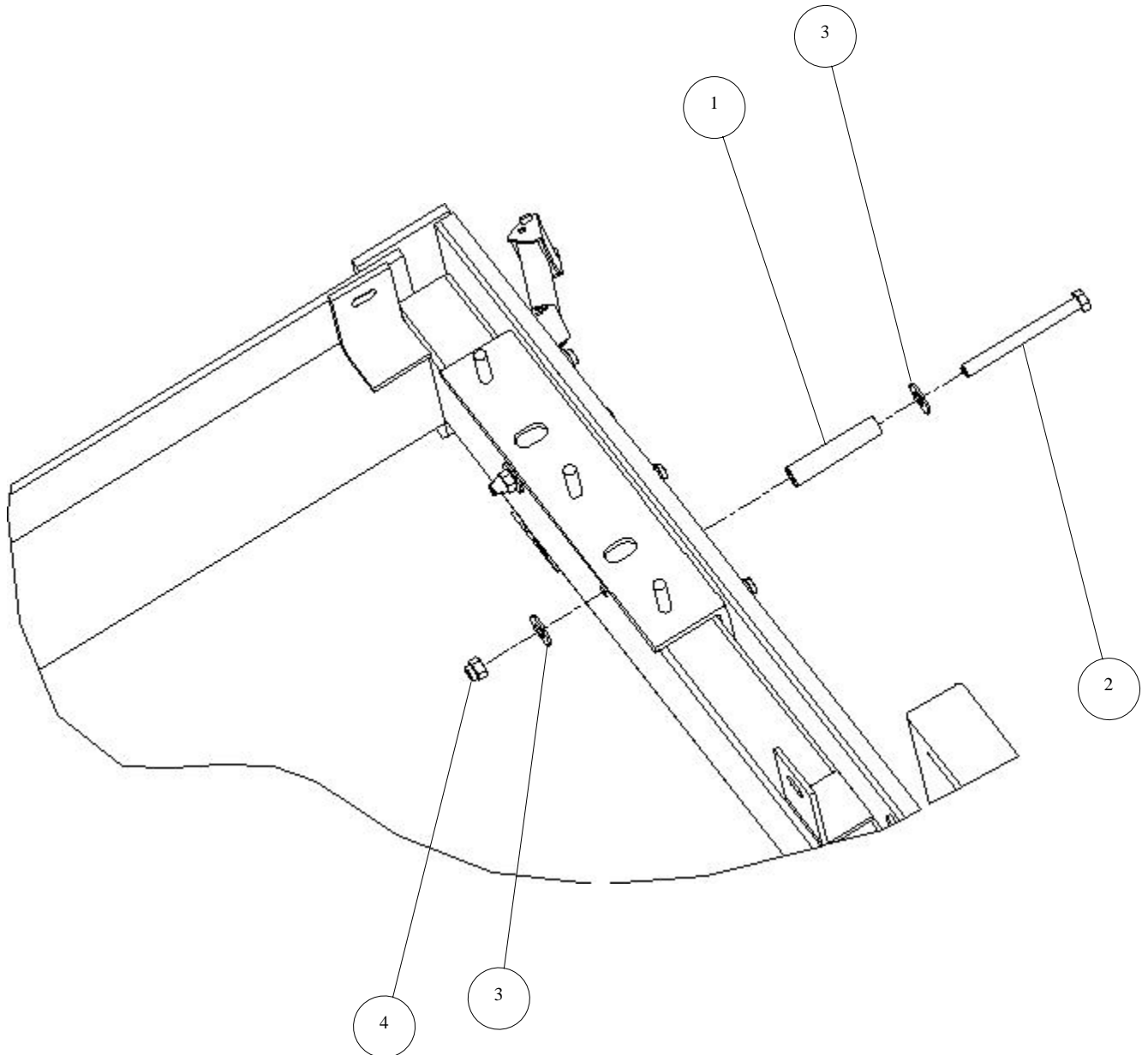
Install cab frame rail sleeve bushings as follows (see Figure 3-61):

- a. Match-drill for sleeve bushings using drill bushings and standard procedure.

**NOTE**

The sleeve bushings (1) in the following step are used to keep the cab frame rail from collapsing.

- b. Install two sleeve bushings (1) and secure each with one bolt (2), two flat washers (3), and one locknut (4). Torque locknuts to 35 lb-ft.



**Figure 3-61. Cab Frame Rail Sleeve Bushing Installation.**

**3-15. LEFT SIDE MINE BLAST ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
(NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-62	1	113461-1	PANEL, MINE BLAST, LEFT	1
	2	113421-1	BRACKET, BOTTOM FRONT	1
	3		BOLT, 3/8-16 X 1.250 LONG, GR8	2
	4		FLAT WASHER, 3/8, USS	21
	5		LOCKNUT, 3/8-16, GR8	14
	6		BOLT, 3/8-16 X 0.875 LONG, GR8	1
	7		BOLT, 3/8-16 X 1.500 LONG, GR8	4
	8		LOCKWASHER, 3/8	1

**a. Installation**

1. Pre-assemble and install left mine blast panel as follows (see Figure 3-62):

- a. Raise the left mine blast panel (1) into place under vehicle using a forklift or other suitable lifting device.

**NOTE**

This operation requires sufficient space between the vehicle and the left mine blast panel (1) to install bottom front bracket (2).

- b. Prior to raising the panel completely up against the vehicle frame, install one bottom front bracket (2) onto left mine blast panel (1) and secure with one bolt (3), two flat washers (4), and one locknut (5). Torque locknut to 35 lb-ft.

**NOTE**

This operation requires significant teamwork and communication in order to properly align and position the slots and holes in the left mine blast panel (1).

- c. Align slots in left mine blast panel (1) with all previously installed brackets and raise left mine blast panel into place.
- d. Apply Loctite to threads of one bolt (6).
- e. Secure left mine blast panel (1) to vehicle with one bolt (6) and one flat washer (4); one bolt (3), two flat washers (4), and one locknut (5); four bolts (7), eight flat washers (4), and four locknuts (5); and eight locknuts (5) and flat washers (4). Torque all bolts and locknuts to 23 lb-ft.

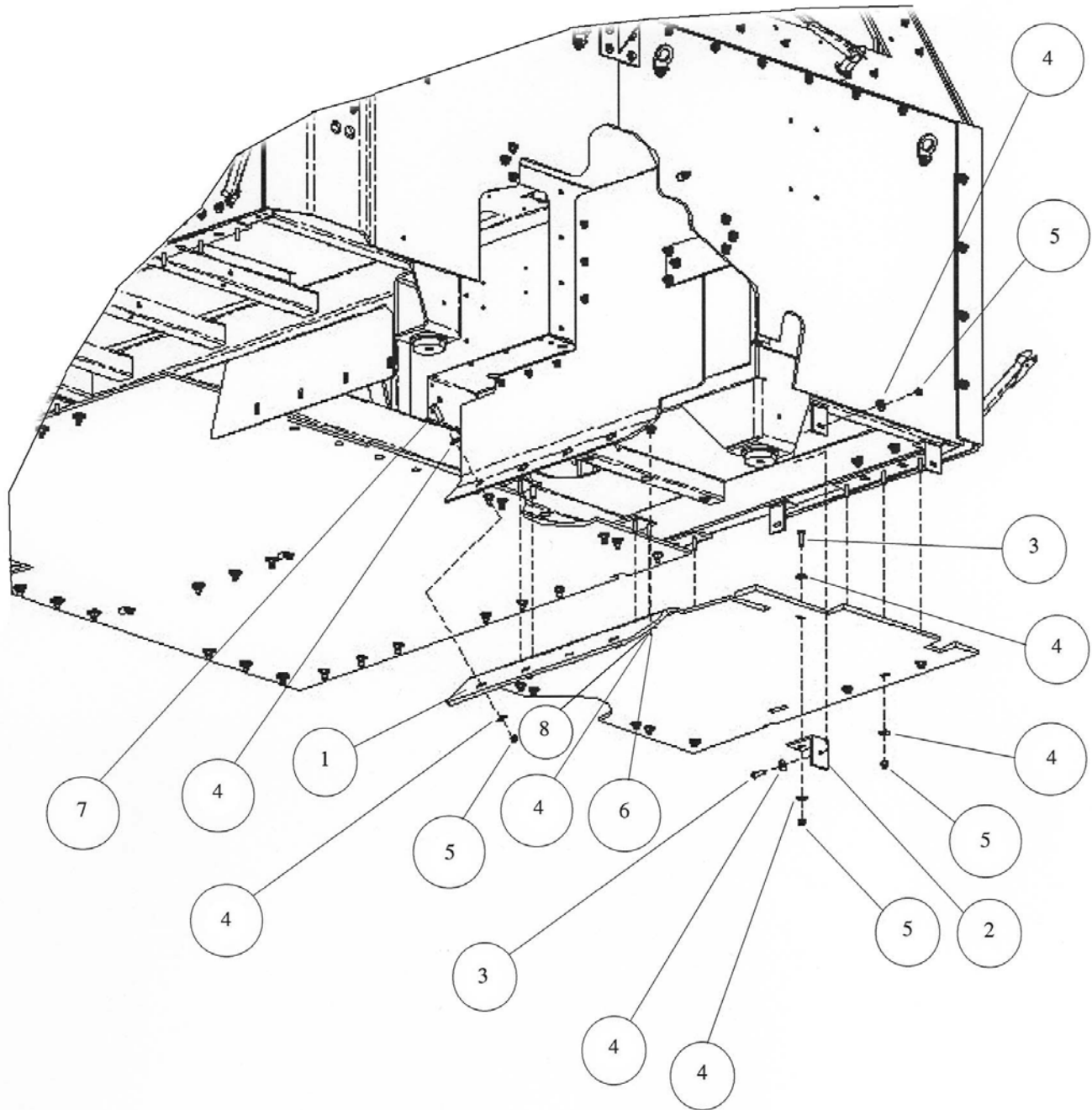


Figure 3-62. Left Mine Blast Panel Installation.





**3-16. RIGHT SIDE MINE BLAST ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

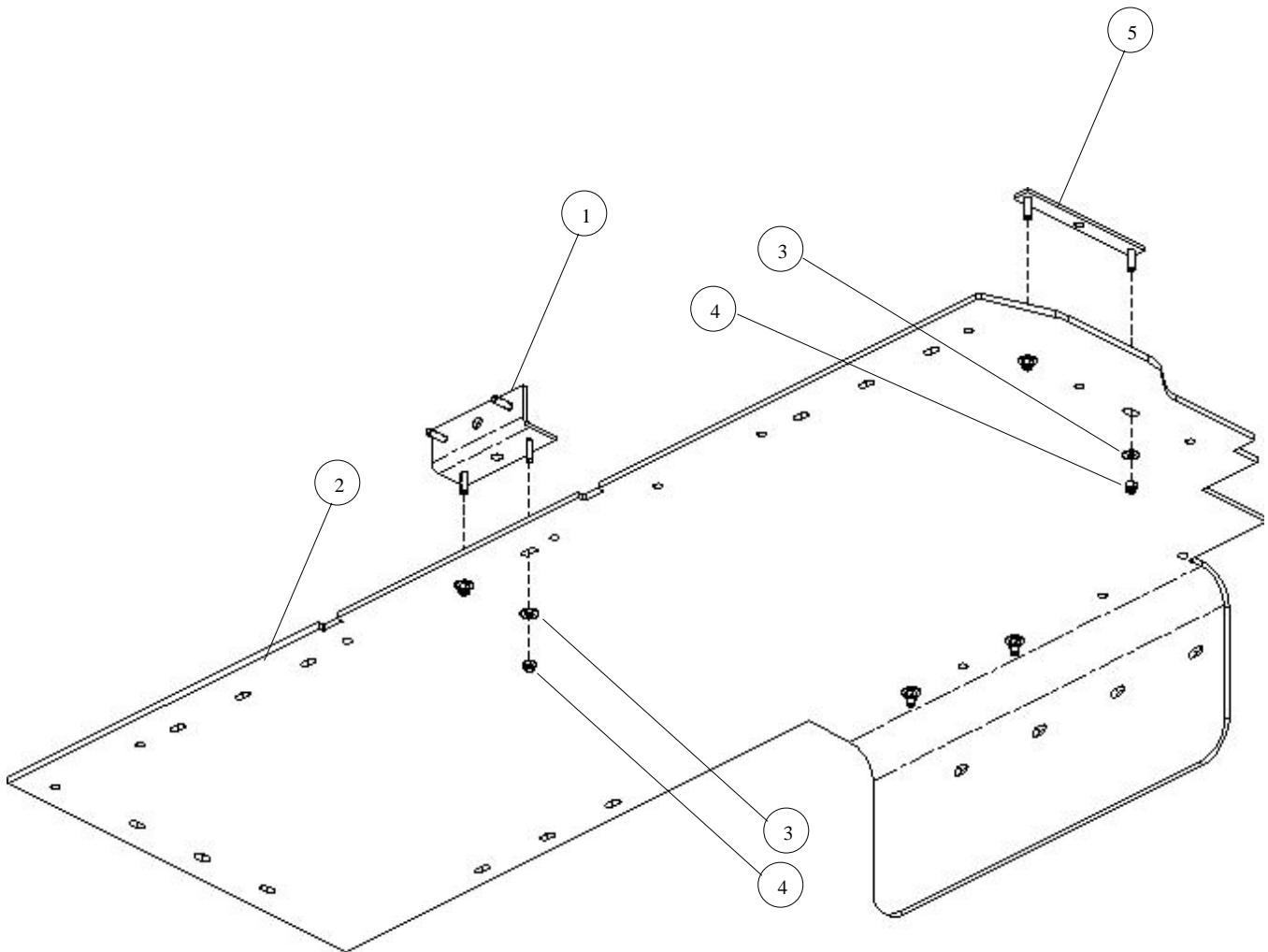
MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-63	1	113472-1	BRACKET, STEP JOINER	1
	2	113463-1	PANEL, MINE BLAST, RIGHT	1
	3		FLAT WASHER, 3/8, USS	6
	4		LOCKNUT, 3/8-16, GR8	6
	5	113464-1	STUD PLATE, UNDERBODY	2
3-64	1		FLAT WASHER, 3/8, USS	20
	2		LOCKNUT, 3/8-16, GR8	16
	3		BOLT, SOCKET-HEAD SHOULDER 5/16-18 X 1.000 LONG, GR8	10
	4		FLAT WASHER, 5/16, USS	10
	5		LOCK WASHER, 5/16 ID	10
	6		BOLT, 3/8-16 X 1.500 LONG, GR8	4



**a. Installation**

1. Pre-assemble right mine blast panel as follows (see Figure 3-63):
  - a. Install one step joiner bracket (1) onto right mine blast panel (2) and secure with two flat washers (3) and locknuts (4). Torque locknuts to 23 lb-ft.
  - b. Install two underbody stud plates (5) onto right mine blast panel (2) and secure each with two flat washers (3) and locknuts (4). Torque locknuts to 23 lb-ft.



**Figure 3-63. Right Mine Blast Panel Pre-Assembly.**

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Install right mine blast panel assembly as follows (see Figure 3-64):

NOTE

This operation requires significant teamwork and communication in order to properly align and position the slots and holes in the right mine blast panel assembly.

- a. Place right mine blast panel assembly under vehicle using a forklift or other suitable lifting device.
- b. Align slots in right mine blast panel assembly with all previously installed brackets and raise right mine blast panel assembly into place.
- c. Secure right mine blast panel assembly to vehicle with 12 flat washers (1) and locknuts (2) and 12 socket-head shoulder bolts (3), flat washers (4), and lock washers (5). Torque locknuts (2) to 23 lb-ft and socket-head shoulder bolts (3) to 9 lb-ft.
- d. Secure right mine blast panel assembly to doghouse right panel with four bolts (6), eight flat washers (1), and 4 lock nuts (2). Torque the locknuts to 35 ft-lb.

NOTE

Ensure all 12 socket-head shoulder bolts are installed before tightening the locknuts.

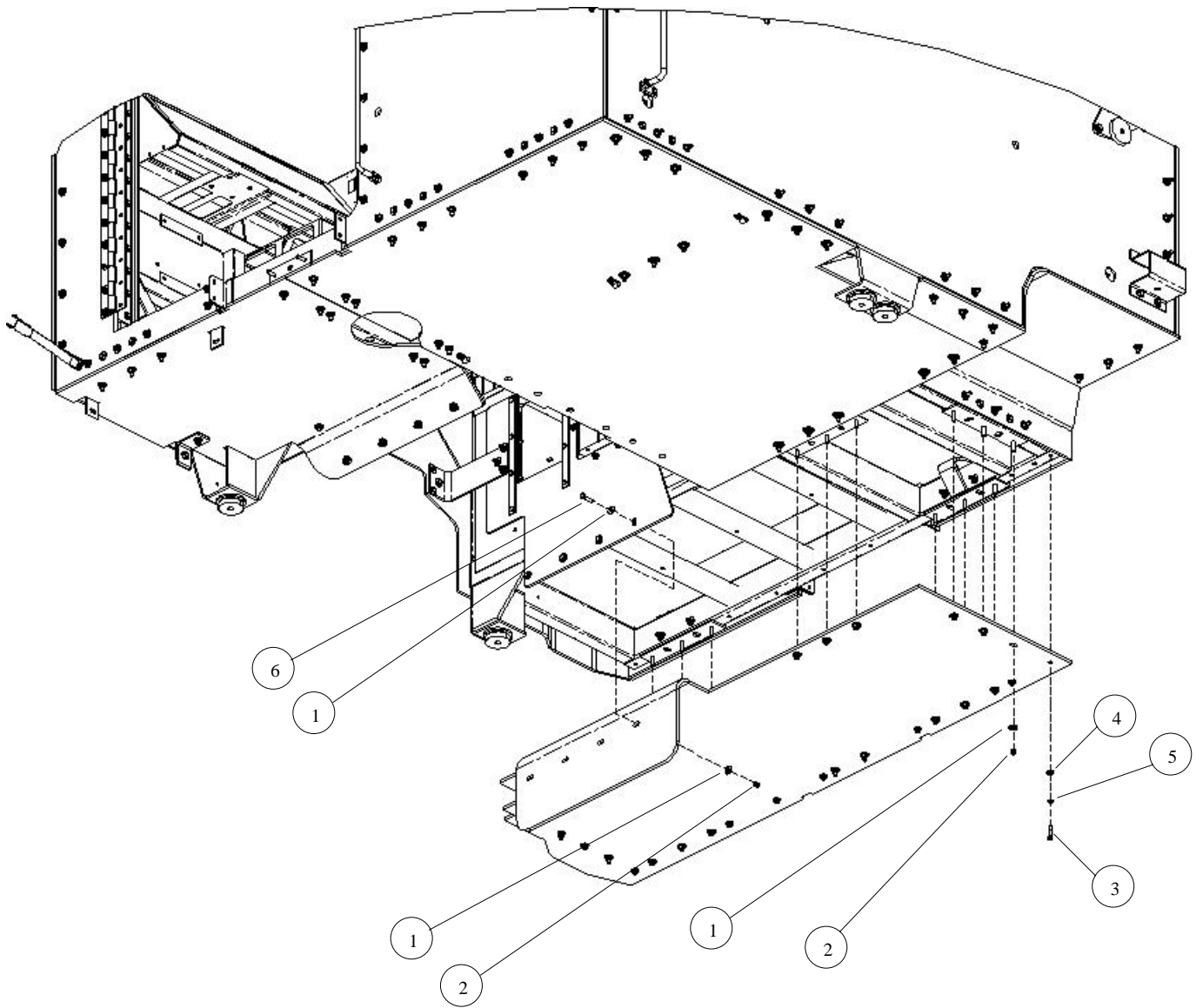


Figure 3-64. Right Mine Blast Panel Assembly Installation.



**3-17. LEFT SIDE STEP ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

MATERIAL/PARTS:

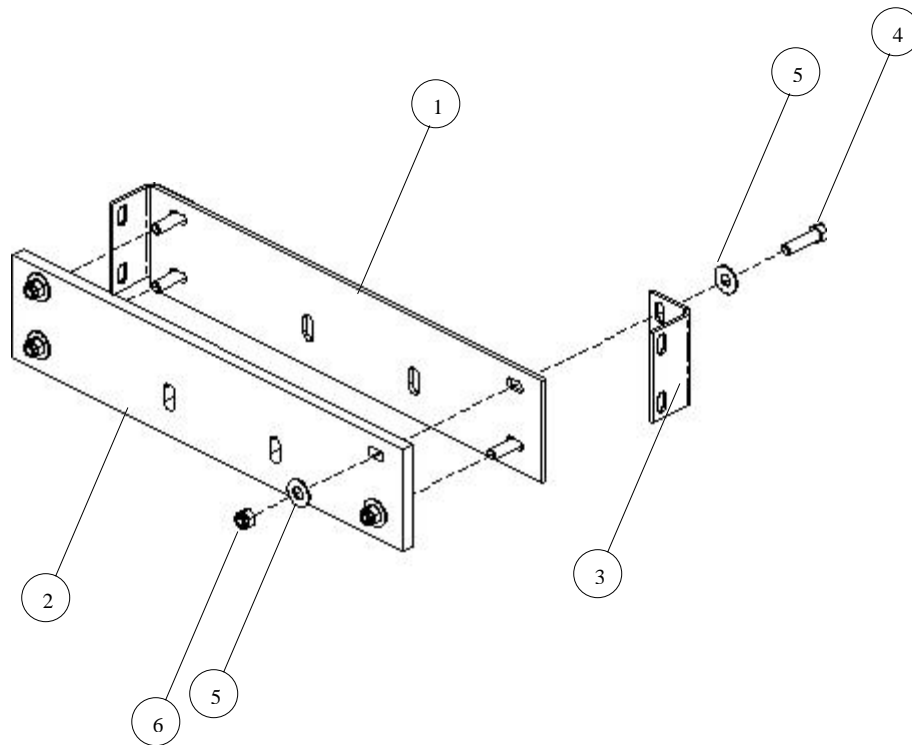
FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-65	1	113466-1	PANEL , STEP	1
	2	113466-3	PANEL, STEP	1
	3	113465-1	BRACKET, ARMOR STEP	2
	4		BOLT, 3/8-16 X 1.500 LONG, GR8	4
	5		FLAT WASHER, 3/8, USS	8
	6		LOCKNUT, 3/8-16, GR8	4
3-66	1		BOLT, 3/8-16 X 2.000 LONG, GR8	4
	2		FLAT WASHER, 3/8, USS	10
	3		LOCKNUT, 3/8-16, GR8	6





**a. Installation**

1. Pre-assemble left step panels as follows (see Figure 3-65):
  - a. Align left step panel (1) with left step panel (2) and install two armor step brackets (3) and secure each with two bolts (4), four flat washers (5), and two locknuts (6). Torque locknuts to 35 lb-ft.



**Figure 3-65. Left Step Panel Pre-Assembly.**

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Install left step panel assembly as follows (see Figure 3-66):
  - a. Enlarge outer four holes in cab step to  $\varnothing 5/8$ ". This allows the position of the step to be lowered slightly during re-installation for necessary clearance of the new armored door seal. The top edge of step brackets should be trimmed down approximately 1/8 in. along edges marked "A" in Figure 3-66.
  - b. Install left step panel assembly into position with original cab step, between welded step brackets on cab frame and against step joiner bracket and secure with four bolts (1), eight flat washers (2), and four locknuts (3). Torque locknuts to 35 lb-ft.
  - c. Install two flat washers (2) and locknuts (3) onto studs of step joiner bracket. Torque locknuts to 23 lb-ft. (Be sure to lower the position of the cab step.)

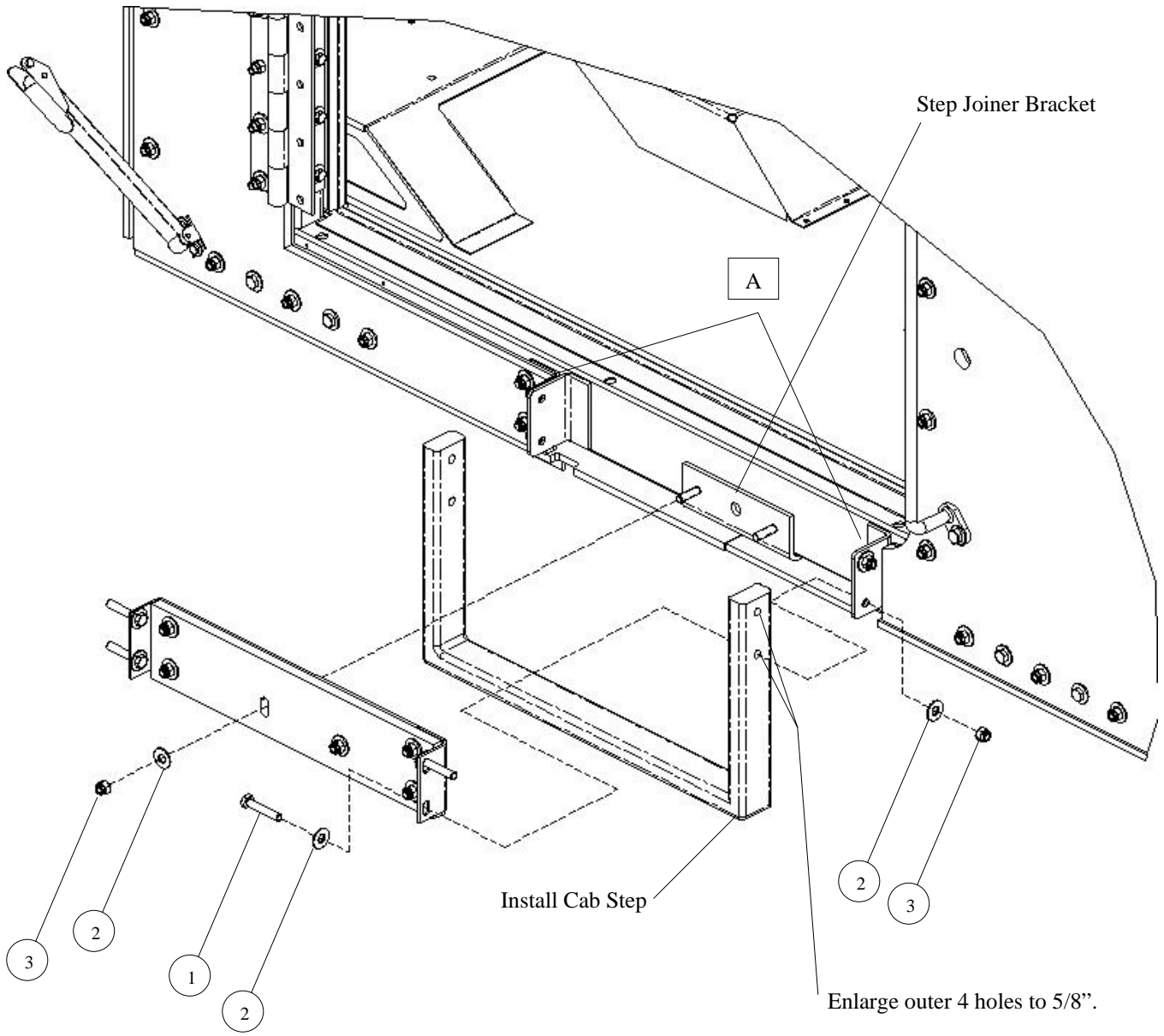


Figure 3-66. Left Step Panel Installation.



**3-18. RIGHT SIDE STEP ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
(NSN 5180-00-177-7033)

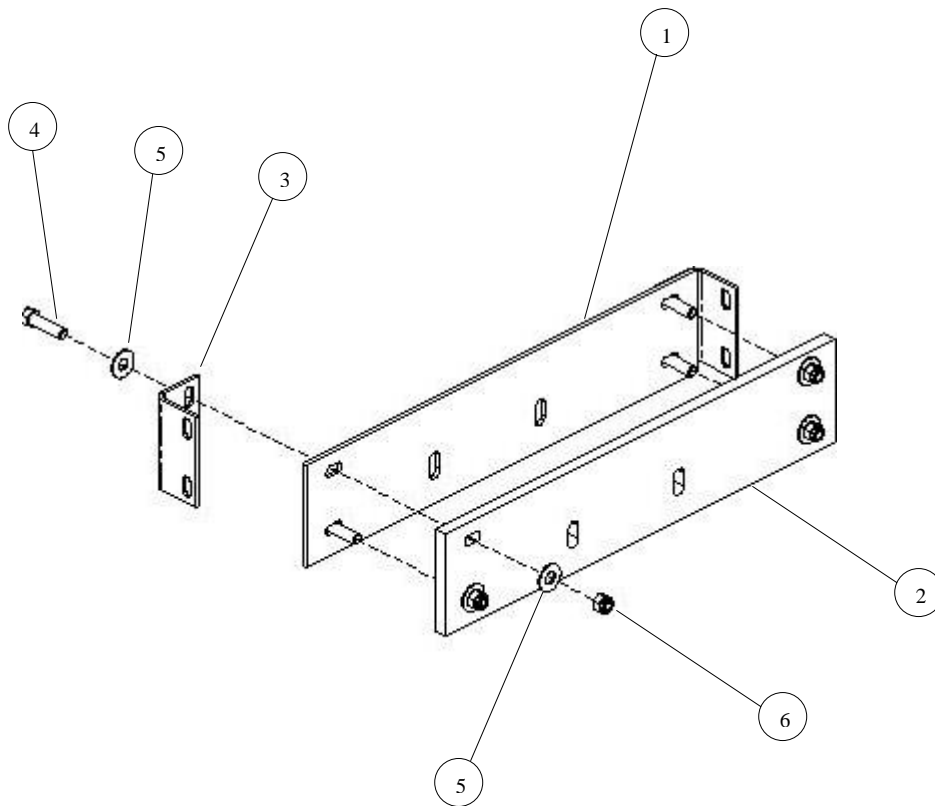
MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-67	1	113466-1	PANEL, STEP	1
	2	113466-3	PANEL, STEP	1
	3	113465-1	BRACKET, ARMOR STEP	2
	4		BOLT, 3/8-16 X 1.500 LONG, GR8	4
	5		FLAT WASHER, 3/8, USS	8
	6		LOCKNUT, 3/8-16, GR8	4
3-768	1		BOLT, 3/8-16 X 2.000 LONG, GR8	4
	2		FLAT WASHER, 3/8, USS	10
	3		LOCKNUT, 3/8-16, GR8	6

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

**a. Installation**

1. Pre-assemble right step panels as follows (see Figure 3-67):
  - a. Align right step panel (1) with right step panel (2) and install two armor step brackets (3) and secure each with two bolts (4), four flat washers (5), and two locknuts (6). Torque locknuts to 35 lb-ft.



**Figure 3-67. Right Step Panel Pre-Assembly.**

2. Install right step panel assembly as follows (see Figure 3-68):
  - a. Enlarge outer four holes in cab step to  $\text{Ø}5/8''$ . This allows the position of the step to be lowered slightly during re-installation for necessary clearance of the new armored door seal. In addition, it may be necessary to trim the step brackets as shown in Figure 3-68.
  - b. Install right step panel assembly into position with original cab step, between welded step brackets on cab frame and against step joiner bracket and secure with four bolts (1), eight flat washers (2), and four locknuts (3). Torque locknuts to 35 lb-ft.
  - c. Install two flat washers (2) and locknuts (3). Torque locknuts to 23 lb-ft. (Be sure to lower the position of the cab step.)

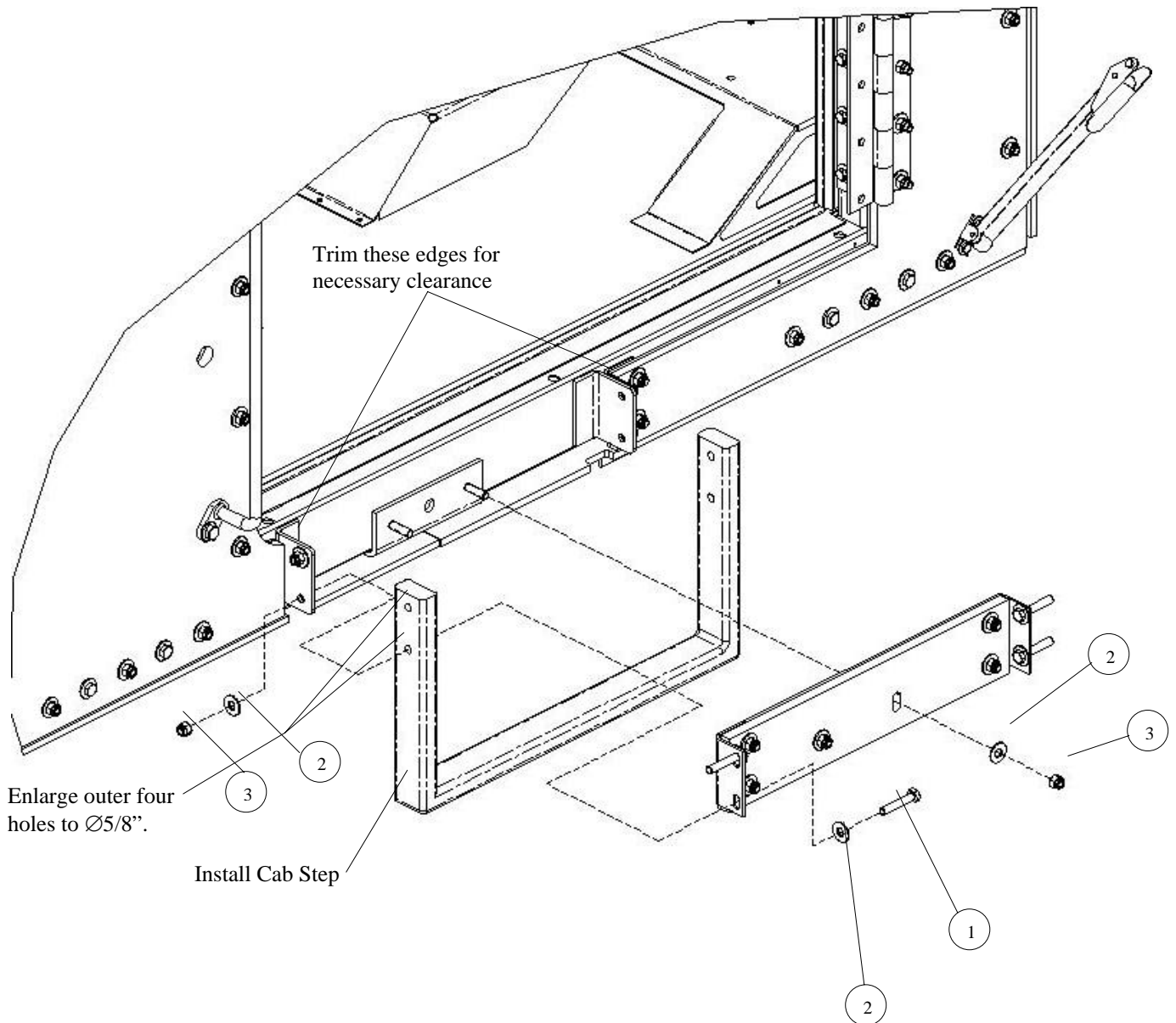


Figure 3-68. Right Step Panel Installation.





**3-19. DOGHOUSE ARMOR INSTALLATION – PHASE II**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-69			NONE	
3-70			NONE	
3-71	1	113407-1	PANEL, DOGHOUSE LOWER	1
	2		BOLT, 3/8-16 X 1.250 LONG, GR8	2
	3		FLAT WASHER, 3/8, USS	4
	4		LOCKNUT, 3/8-16, GR8	2
3-72	1	113417-1	BRACKET, DOGHOUSE UPPER	1
	2		BOLT, .250-20 X 1.000 LONG, GR8	2
	3		FLAT WASHER, 1/4, USS	2
	4		LOCK WASHER, 1/4 ID	2
	5		BOLT, 3/8-16 X 1.500 LONG, GR8	3
	6		FLAT WASHER, 3/8, USS	6
	7		LOCKNUT, 3/8-16, GR8	3
3-73	1	113468-1	PANEL, BOTTOM DOGHOUSE	1
	2		FLAT WASHER, 1/4, USS	Ref
	3		LOCKNUT, 1/4-20, GR8	Ref
	4		BOLT, 1/4-20 X 1.000 LONG, GR8	8
	5		FLAT WASHER, 1/4, USS	8
	6		LOCK WASHER, 1/4 ID	8
3-74	1	113469-1	PANEL, DOGHOUSE	1
	2		FLAT WASHER, 1/4, USS	Ref
	3		LOCKNUT, 1/4-20, GR8	Ref
	4		BOLT, 1/4-20 X 1.000 LONG, GR8	12
	5		FLAT WASHER, 1/4, USS	12
	6		LOCK WASHER, 1/4 ID	12
3-75	1		BOLT, 3/8-16 X 6.000 LONG, GR8	6
	2		FLAT WASHER, 3/8, USS	12
	3		FLAT WASHER, 7/16, USS	10
	4		LOCKNUT, 3/8-16, GR8	6

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

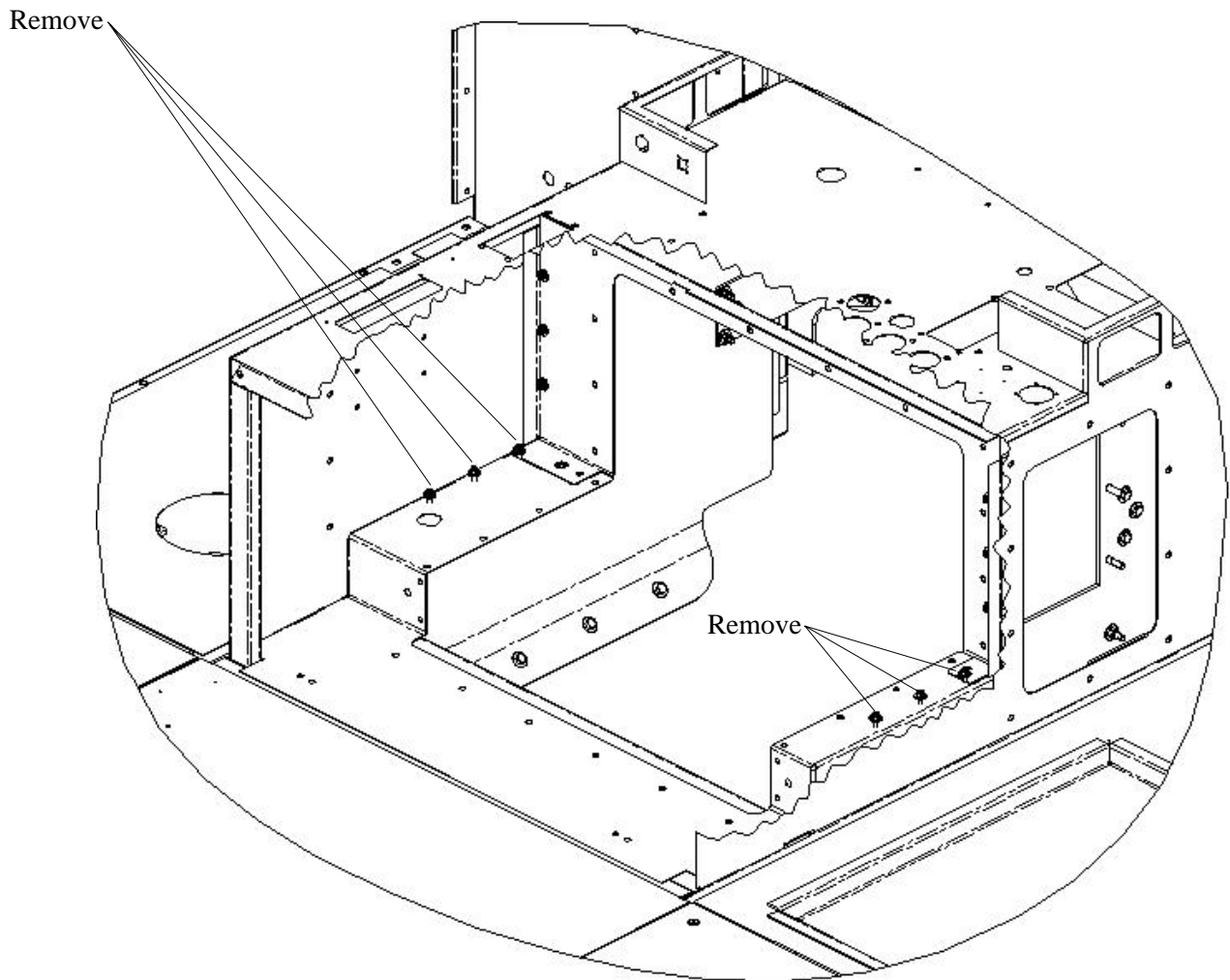
---

<b>FIGURE</b>	<b>ITEM</b>	<b>PART NO.</b>	<b>NOMENCLATURE</b>	<b>QTY</b>
3-76	1	113477-1	PANEL, DOGHOUSE ACCESS	1
	2		FLAT WASHER, 3/8, USS	6
	3		LOCKNUT, 3/8-16, GR8	6

---

**a. Installation**

1. Prepare doghouse as follows (see Figure 3-69):
  - a. Remove 6 flat washers and locknuts from the doghouse inner brackets, as shown. Retain for reinstallation.



**Figure 3-69. Doghouse Preparation.**

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Modify doghouse insulation as follows (see Figure 3-70):
  - a. Using a sharp knife, modify doghouse insulation as shown in Figure 3-70.



**Figure 3-70. Doghouse Insulation Modification.**



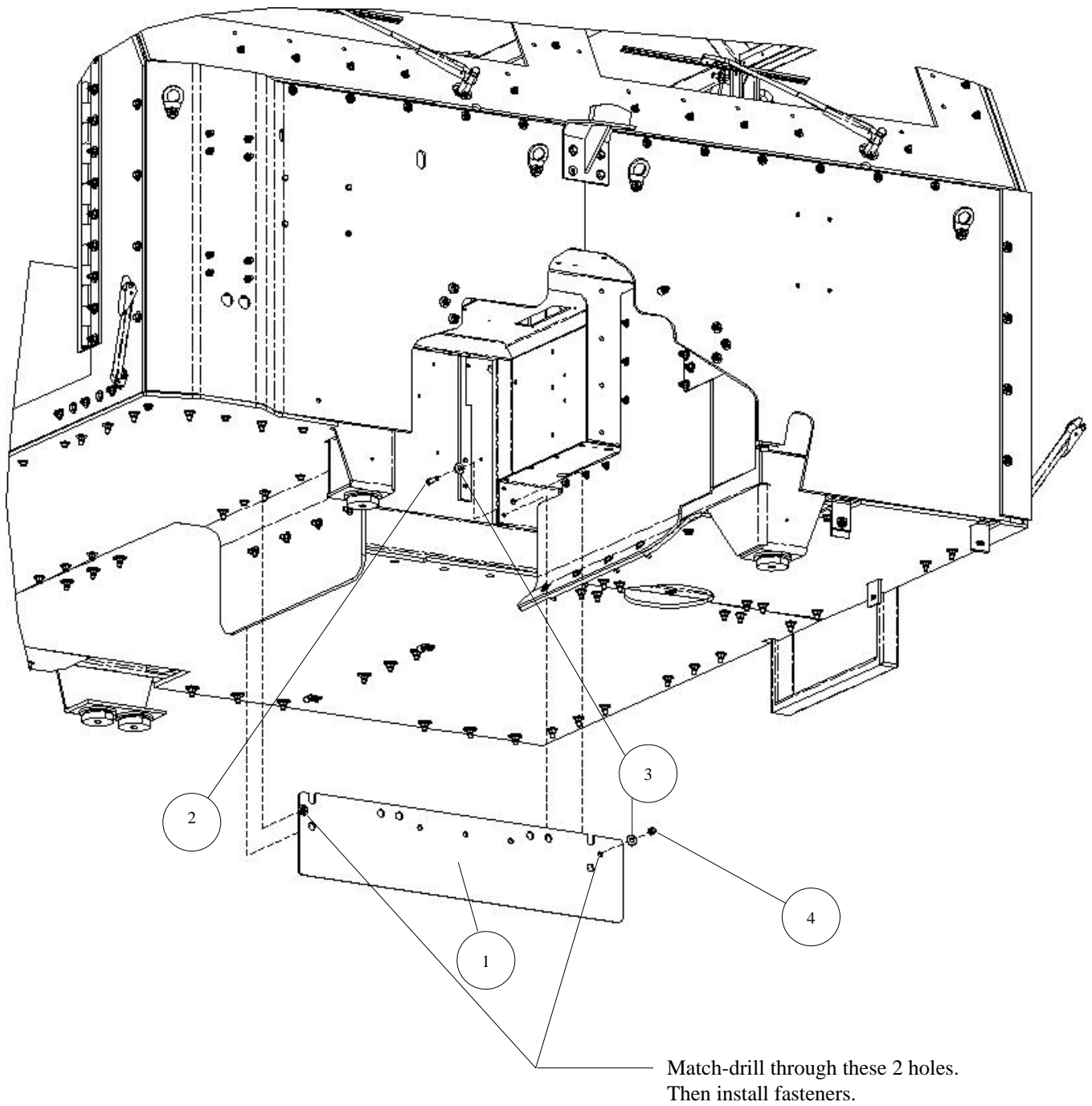
**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

3. Match-drill for doghouse lower panel as follows (see Figure 3-71):
  - a. Position the doghouse lower panel (1) inside the doghouse, aligning the clearance holes and slots with the four upset nuts on the vertical wall of the step.

**NOTE**

The doghouse lower panel (1) will hang from the back of the upset nuts in the following step.

- b. Using the left and right outermost holes, match-drill two  $\text{Ø}3/8$ -inch holes through vehicle skin.
- c. Secure doghouse lower panel (1) to step with two bolts (2), four flat washers (3), and two locknuts (4).



**Figure 3-71. Match-Drill for Doghouse Lower Panel.**

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

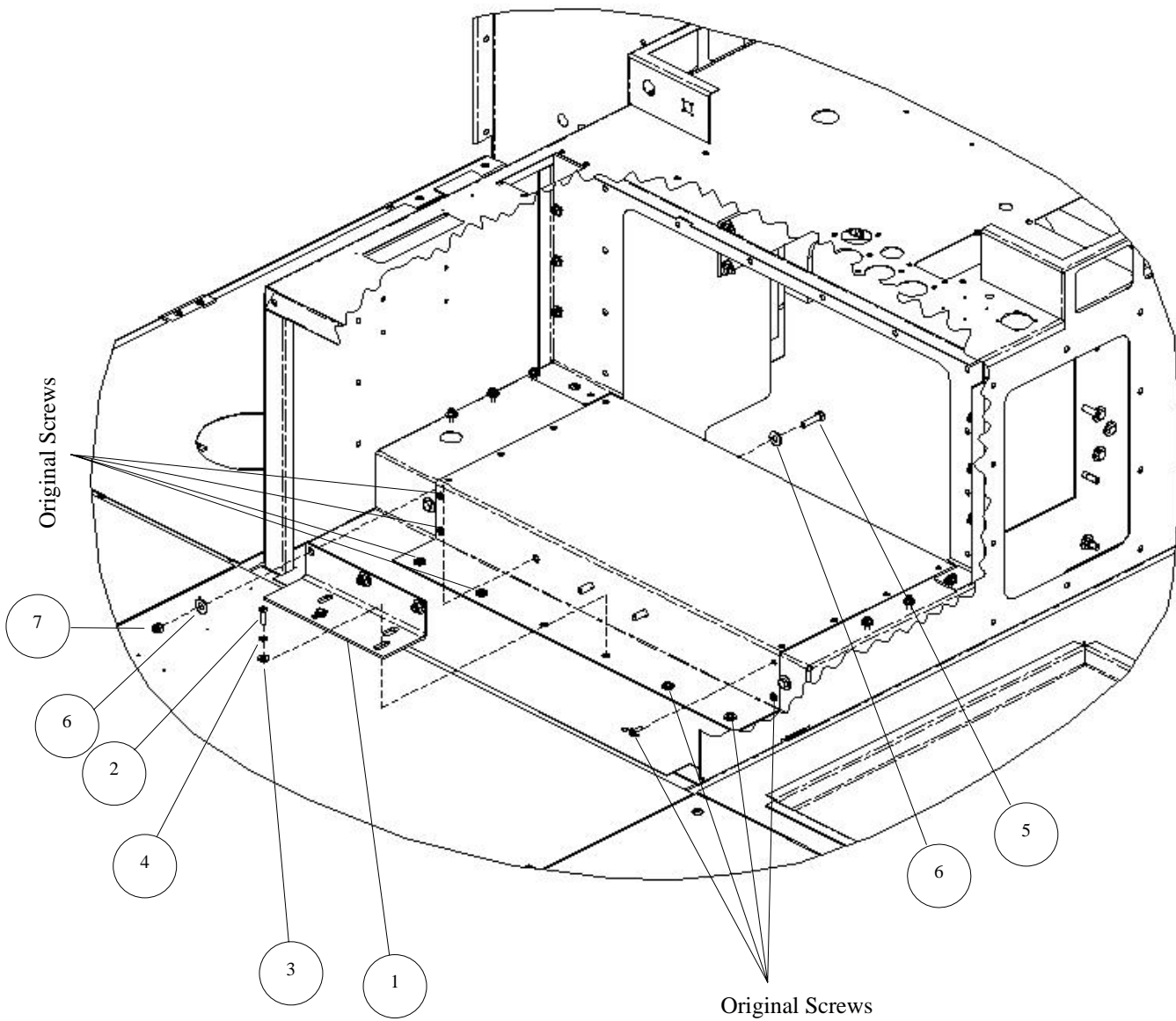
4. Install doghouse upper bracket as follows (see Figure 3-72):
  - a. Install original doghouse floor panel (retained from Doghouse Armor Installation Phase I, Paragraph 3-10, Step 3) and secure with original four screws (1/4-20 X 0.750 Long Screws). Torque screws to 6 lb-ft.
  - b. Install doghouse upper bracket (1) and secure with two bolts (2), flat washers (3), and lock washers (4). Torque bolts to 7 lb-ft.
  - c. Install original bolts (retained from Doghouse Armor Installation Phase I, Paragraph 3-10) to finish securing the original doghouse floor panel. Torque bolts to 7 lb-ft.

**NOTE**

The following step will require two technicians.

- d. Install three bolts (5), six flat washers (6), and three locknuts (7). Torque locknuts to 35 lb-ft.

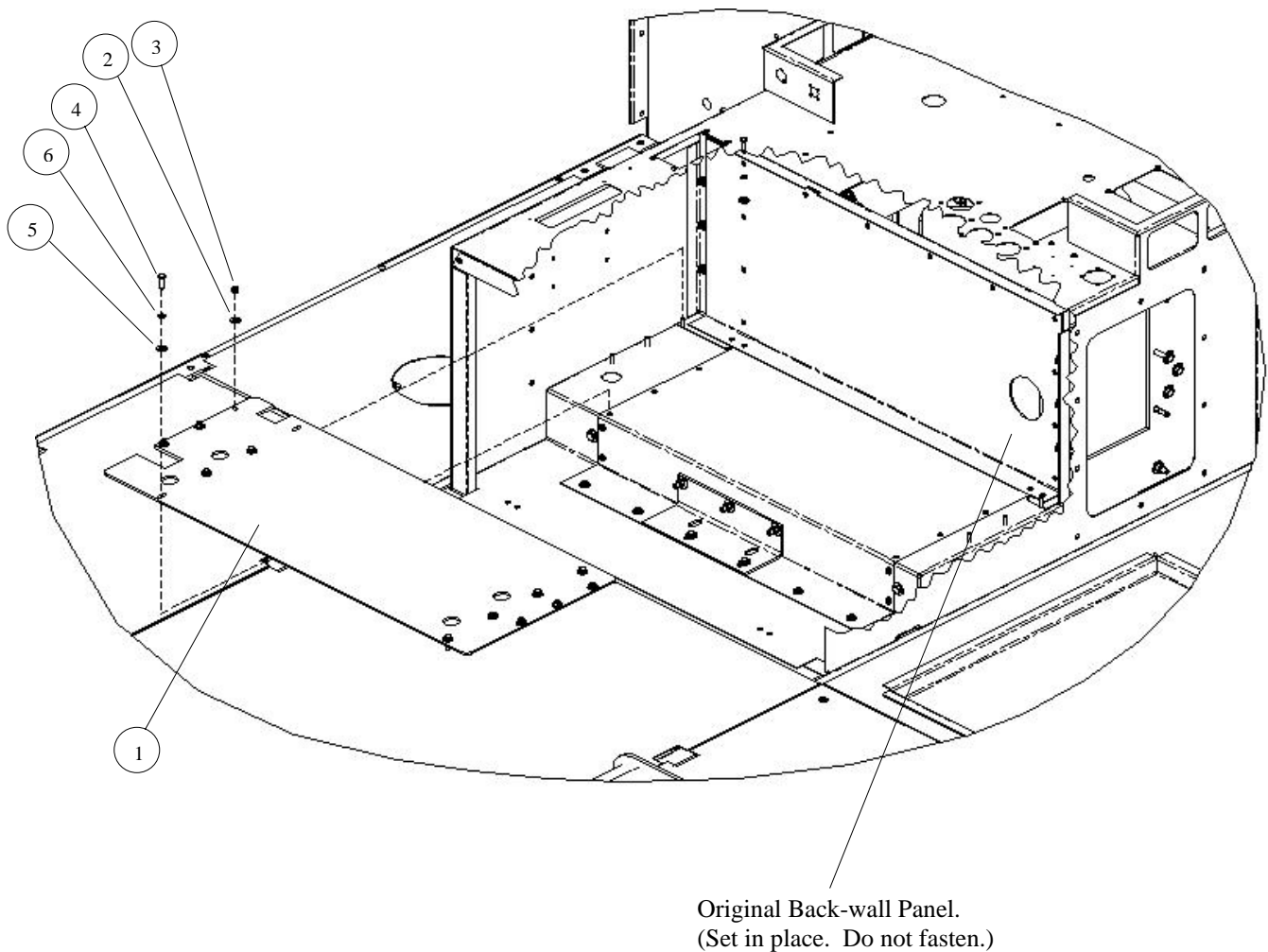




**Figure 3-72. Doghouse Upper Bracket Installation.**

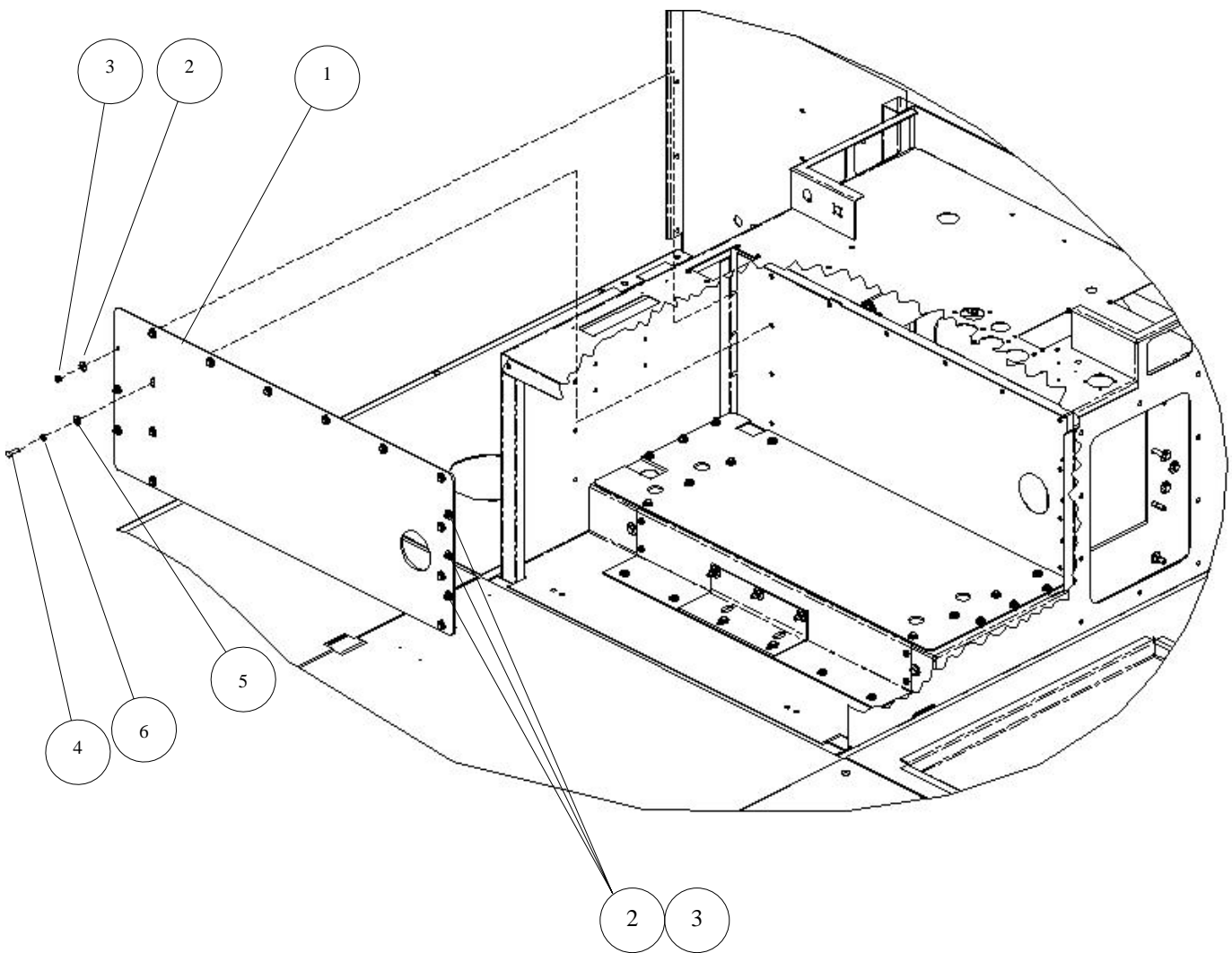
**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

5. Install doghouse bottom panel as follows (see Figure 3-73):
  - a. Install original doghouse back-wall panel (retained from Doghouse Armor Installation Phase I, Paragraph 3-10).
  - b. Install doghouse bottom panel (1) and align the six left and right outer holes to the mounting studs.
  - c. Secure the doghouse bottom panel (1) by reinstalling six flat washers (2) and six locknuts (3) removed in Step 1. Torque locknuts to 7 lb-ft.
  - d. Install eight bolts, (4), flat washers (5), and lock washers (6). Torque bolts to 7 lb-ft.



**Figure 3-73. Doghouse Bottom Panel Installation.**

6. Install doghouse panel as follows (see Figure 3-74):
  - a. Temporarily remove 6 flat washers and locknuts (2) and (3), and install doghouse panel (1) and align the six left and right outer holes to the mounting studs.
  - b. Secure the doghouse panel (1) with six flat washers (2) and locknuts (3), removed in Step 1. Torque locknuts to 7 lb-ft.
  - c. Install 12 bolts (4), flat washers (5), and lock washers (6). Torque bolts to 5 lb-ft.

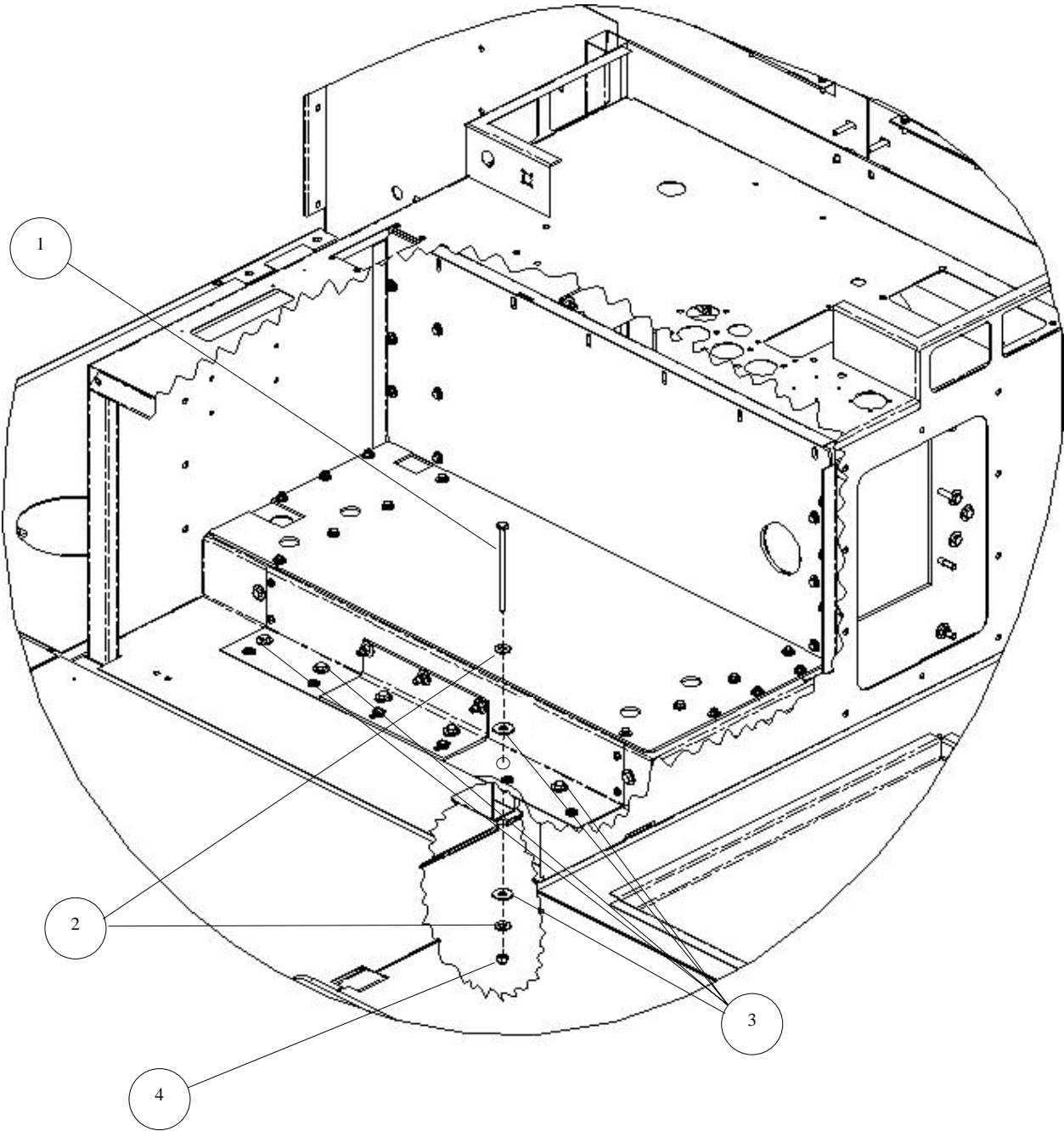


**Figure 3-74. Doghouse Panel Installation.**

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

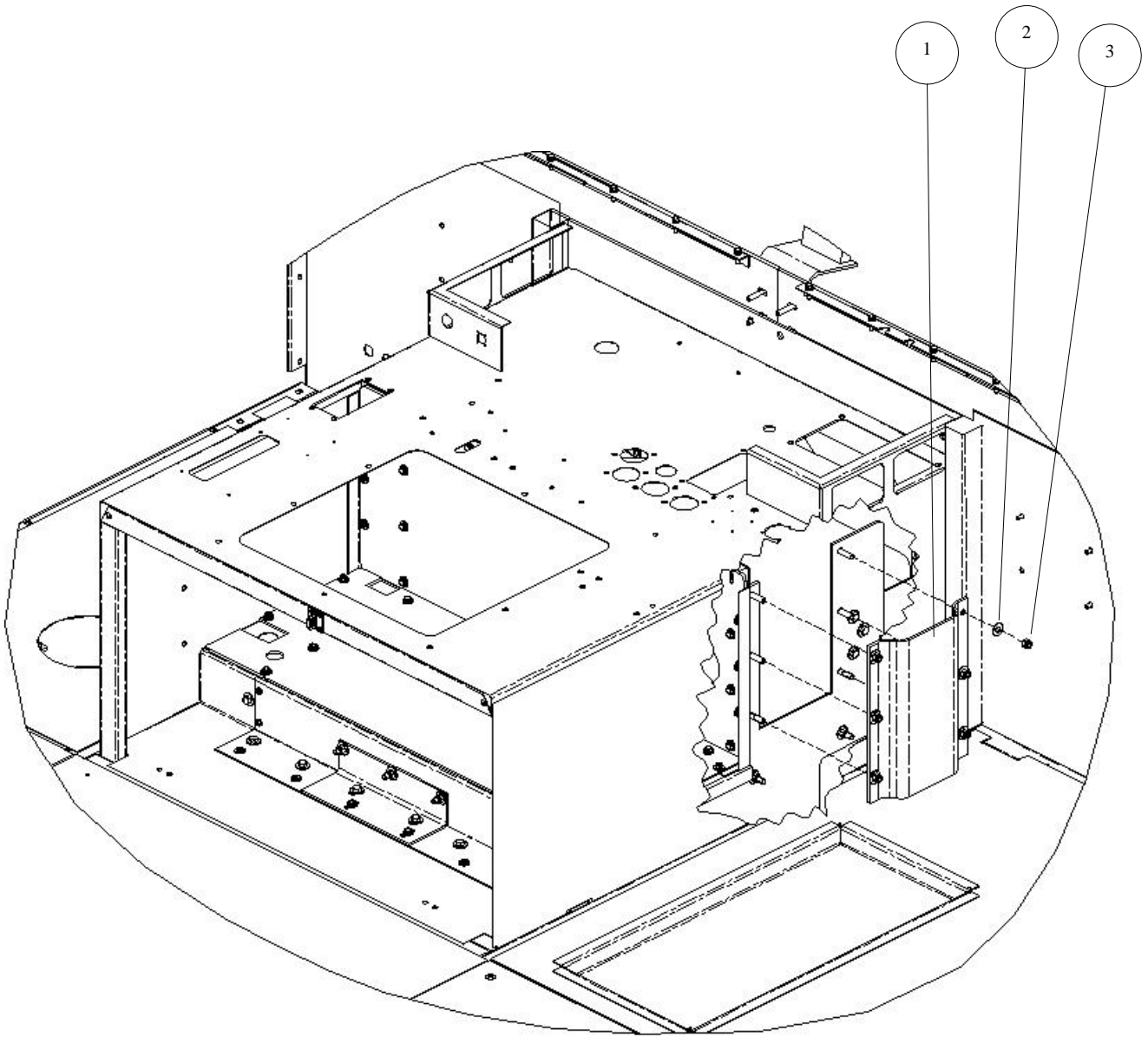
7. Install doghouse / center mine blast panel bolts as follows (see Figure 3-75):

- a. Install six bolts, (1), 12 flat washers (2), ten 7/16" flat washers (4), and six locknuts (3) through previously drilled holes to secure the doghouse panel to the center mine blast panel. Torque bolts to 23 lb-ft.



**Figure 3-75. Doghouse/Center Mine Blast Panel Bolts Installation.**

8. Install Doghouse Access Panel as follows (see Figure 3-76).
  - a. Install doghouse access panel (1) onto studs using six flat washers (2) and locknuts (3). Torque nuts to 23 lb-ft



**Figure 3-76. Doghouse Access Panel Installation.**



**3-20. DOOR ARMOR INSTALLATION**

**TOOLS:**

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

**MATERIAL/PARTS:**

**NOTE**

Left and right door armor installation is identical. Left side is shown in this procedure. Ensure the correct left / right components are being installed.

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-77	1	113432-1	BLOCK, DOOR SILL	2
	2		UPSET NUT, 5/16-18	6
	3		SCREW, SOCKET-HEAD CAP, 5/16-18 X 1.500 LONG	6
3-78	1	113430-1	DOOR ASSEMBLY, HET LEFT	1
	1	113430-2	DOOR ASSEMBLY, HET RIGHT	1
	2		BOLT, 3/8-16 X 1.500 LONG, GR8	26
	3		FLAT WASHER, 3/8, USS	26
	4		LOCKNUT, 3/8-16, GR8	26
3-79	1	113327-1	SUPPORT, DOOR STRIKER	2
	2		UPSET NUT, 3/8-16	4
	3		SCREW, SOCKET-HEAD CAP, 3/8-16 X 1.500 LONG, GR8	4
3-80		NONE		
3-81	1	113386-1	STRAP ASSEMBLY, DOOR	2
	2		BOLT, 3/8-16 X 3.000 LONG, GR8	2
	3		FLAT WASHER, 3/8, USS	4
	4		LOCKNUT, 3/8, GR8	2

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

**a. Installation**

1. Install door sill block as follows (see Figure 3-77):
  - a. Install door sill block (1) onto door frame and position flush to “B” pillar and outside surface as shown in Figure 3-77. Clamp in place
  - b. Carefully transfer three hole-locations to door frame by match drilling the holes with a 21/64-inch bit.
  - c. Remove door sill block (1).
  - d. Open the three holes to  $\varnothing 17/32$ -inch in the door frame at locations drilled in Step b.
  - e. Install three upset nuts (2) into door frame.
  - f. Apply Loctite 222 to threads of three screws (3).
  - g. Install door sill block (1) and secure with three screws (3). Torque screws to 13 lb-ft.
  - h. Repeat Step 1 on opposite side of vehicle.



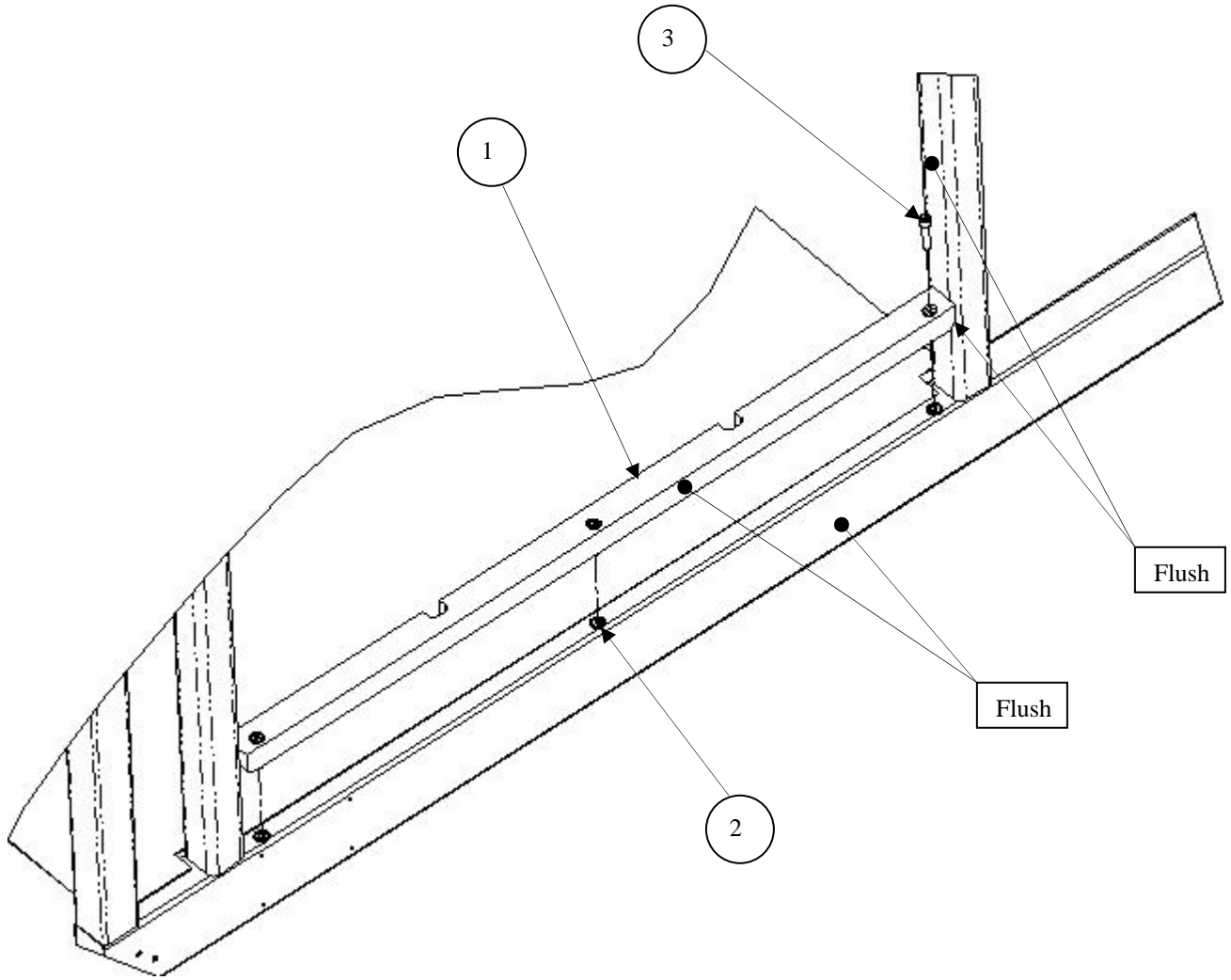


Figure 3-77. Door Sill Block Installation.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Install doors as follows (see Figure 3-78):
  - a. Using a forklift or other suitable lifting device, raise and align door (1) at a right angle to cab.
  - b. Secure door (1) to hinge using 13 bolts (2), 13 flat washers (3), and 13 locknuts (4). Torque locknuts to 35 lb-ft.
  - c. Repeat Step 2 on opposite side of vehicle.

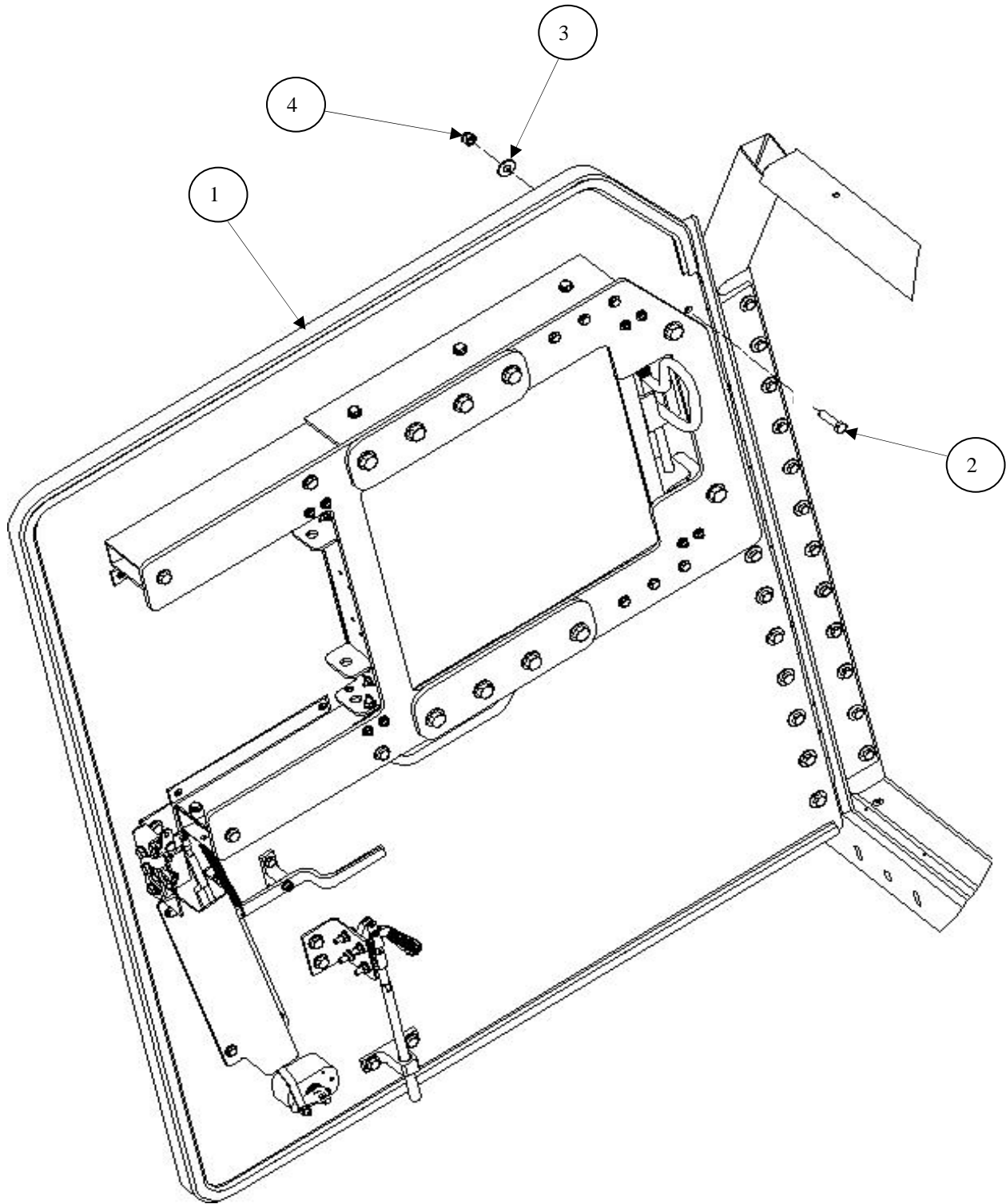


Figure 3-78. Door Installation.

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

3. Install door striker and door striker support as follows (see Figure 3-79):
  - a. Install striker and striker mounting plate (provided with door assembly) onto “B” pillar using existing nut in “B” pillar.
  - b. Position and align striker support (1) against bottom of striker mounting plate and transfer two hole-locations to “B” pillar.
  - c. Remove door striker support (1) from “B” pillar.
  - d. Drill two  $\text{Ø}17/32$ -inch holes through first wall of “B” pillar.
  - e. Install two upset nuts (2) into “B” pillar.
  - f. Install door striker support (1) and secure with two screws (3). Torque to 23 lb-ft.
  - g. Repeat Step 3 on opposite side of vehicle.

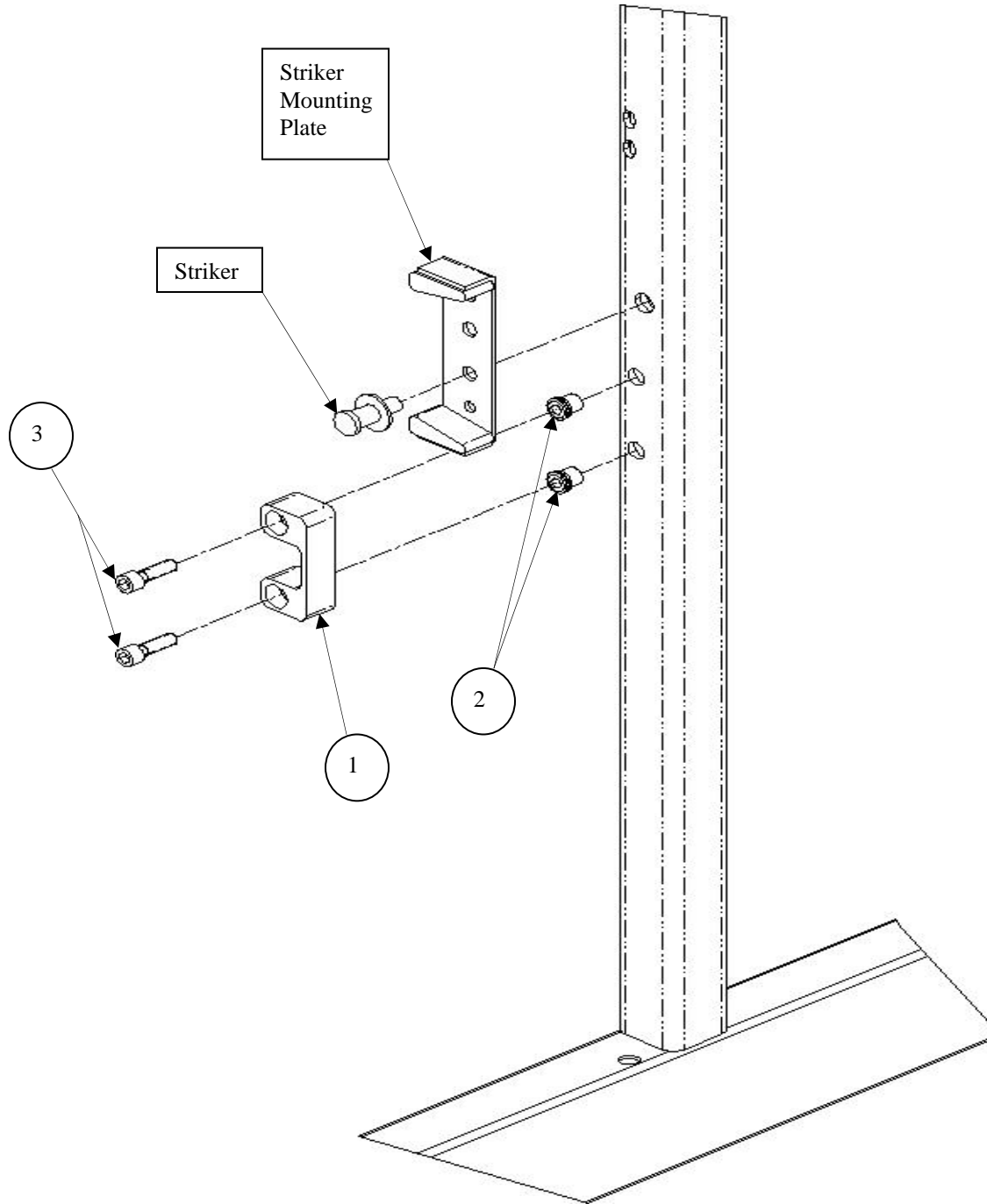


Figure 3-79. Door Striker and Striker Support Installation.

## M1070 HET ARMOR KIT

II113400

Rev. D

4. Adjust door as follows (see Figure 3-80):

### NOTE

The object of this door adjustment procedure is to center the door striker in the latching mechanism. The latch can be centered in up / down direction by loosening Bolts A, as shown in Figure 3-80. The latch can be centered in the fore / aft direction by loosening Bolts B, as shown in Figure 3-80. The latch may also be shimmed out from the door skin by adding more washers between the latch and door for each of the bolts labeled "B". This can help to prevent or fix a problem with the door sticking.

- a. Disconnect spring from window support.
- b. Loosen Bolts A (as shown in Figure 3-80) and adjust latching mechanism as required to center striker in the latching mechanism.

### NOTE

Latch must be centered so that it contacts both the upper and lower dovetails on the striker mounting plate at approximately the same time.

- c. Torque Bolts A (as shown in Figure 3-80) to 18 lb-ft.
- d. Loosen Bolts B as shown in Figure 3-80) and adjust latching mechanism as required to center striker in the latching mechanism.
- e. Torque Bolts B (as shown in Figure 3-80) to 35 lb-ft.
- f. Adjust the clevis end that attaches the latch to the door rod by disconnecting the clevis and turning it down or up in order to ensure the latch opens when the handle is turned. The handle has a limited range of motion, so this must be done carefully.
- g. Reconnect spring to window support.

### NOTE

The latching mechanism is a two-stage latch. Ensure proper engagement is possible for both positions.

- h. Repeat process as required to ensure proper engagement of latching mechanism to striker and that the handle opens the latch without difficulty.
- i. Repeat Step 4 on opposite side of vehicle.

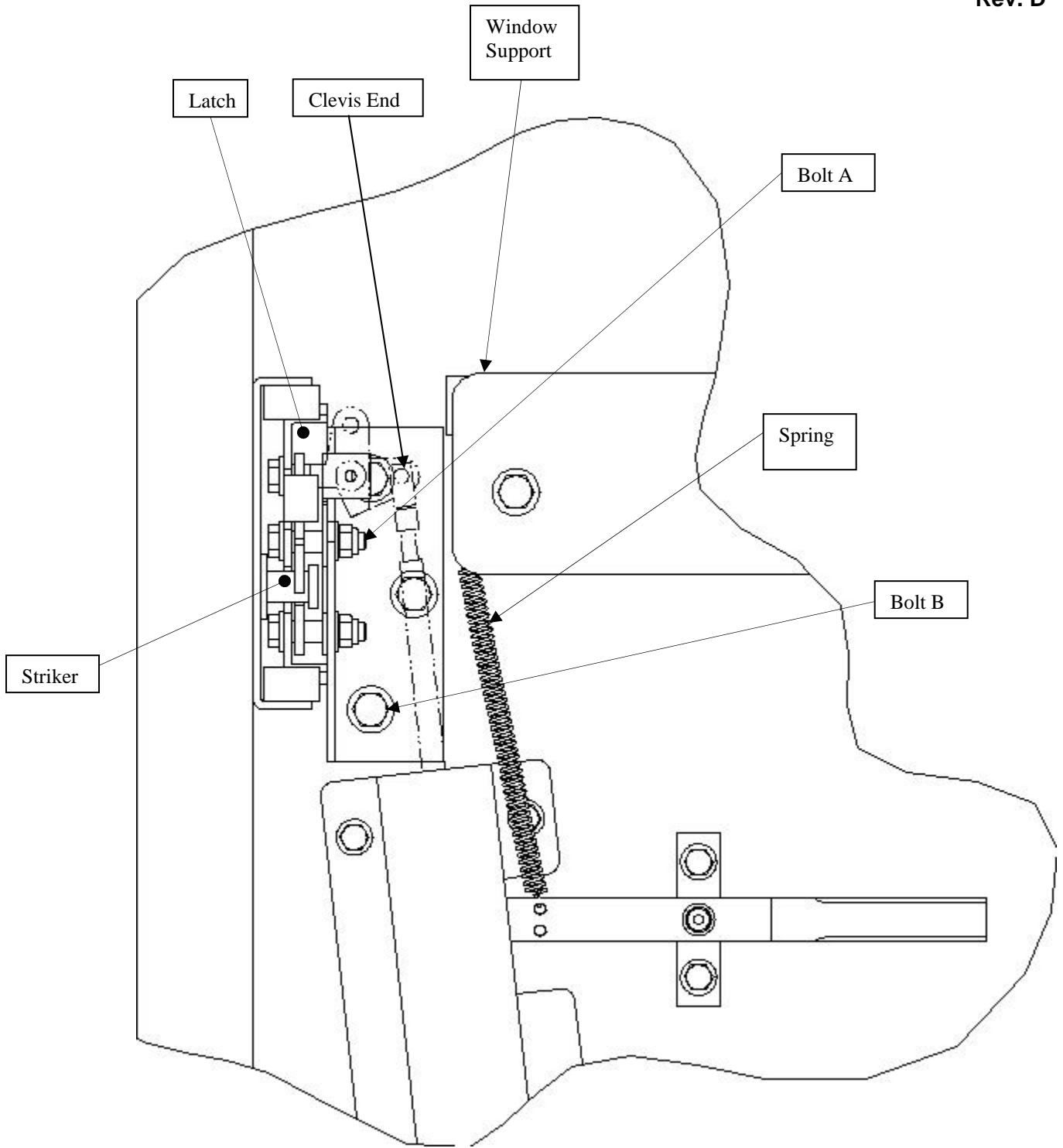


Figure 3-80. Door Adjustment.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

5. Install door strap assembly as follows (see Figure 3-81):
  - a. Remove one existing bolt and washer from top of door as shown in Figure 3-81.
  - b. Install door strap assembly (1) onto door and secure to door with one bolt and washer removed in previous step. Torque bolt to 13 lb-ft.
  - c. Locate and drill one  $\varnothing 11/32$ -inch hole into door opening frame as shown in Figure 3-81.
  - d. Secure loose end of door strap assembly (1) to door opening frame and secure with one bolt (2), two flat washers (3), and one locknut (4). Torque locknut to 18 lb-ft.
  - e. Repeat Step 5 on opposite side of vehicle.



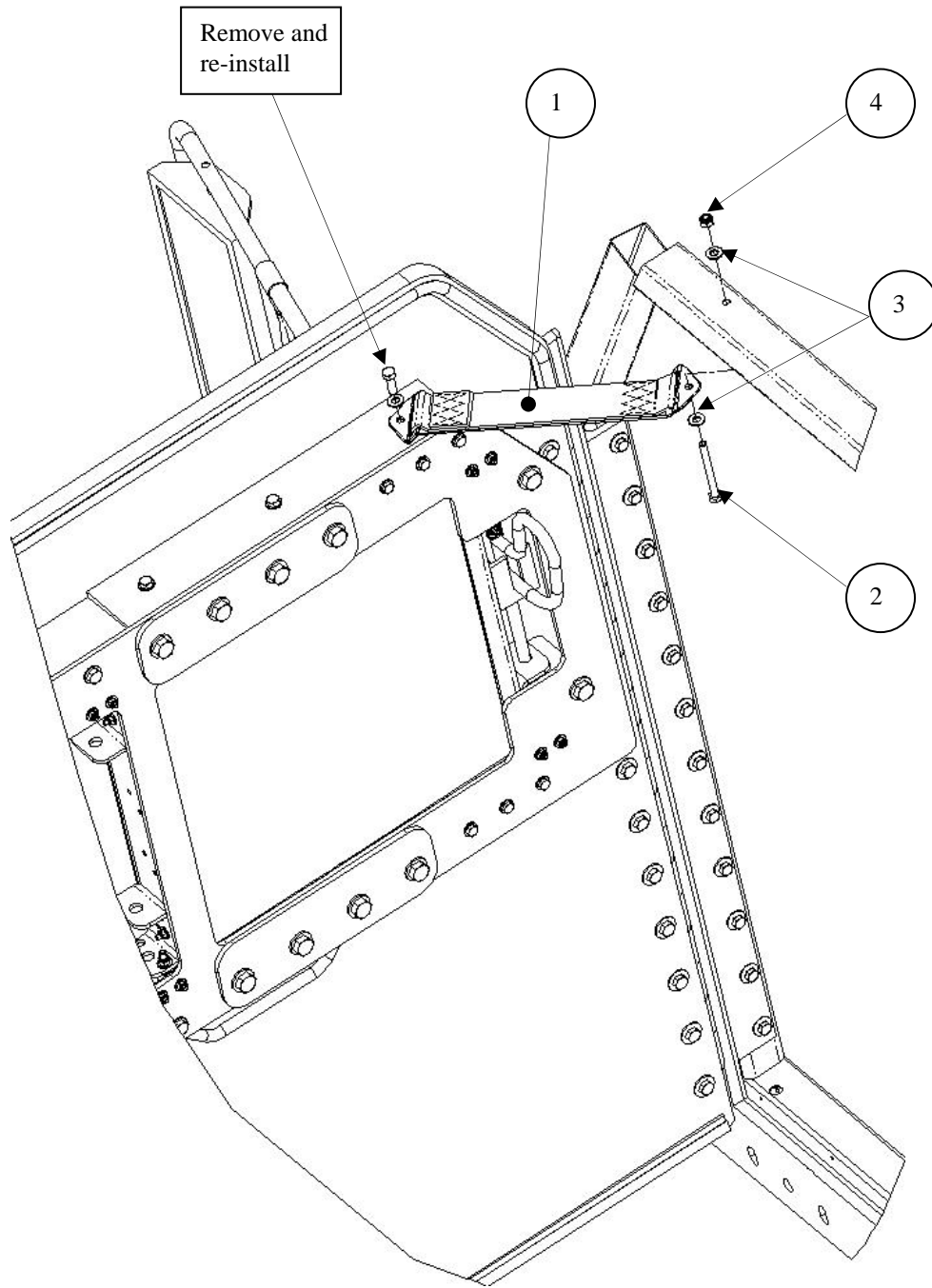


Figure 3-81. Door Strap Assembly Installation.



**3-21. WINDSHIELD TRANSPARENT ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-82	1	113383-1	Z-CHANNEL, WINDSHIELD MOUNT	2
	2		BOLT, 1/4-20 X 1.00 LONG, GR8	12
	3		FLAT WASHER, 1/4, USS	24
	4		LOCKNUT, 1/4-20, GR8	12
3-83	1	104302-1	SEALANT, BLACK URETHANE	A/R
	2	113381-1	ARMOR, WINDSHIELD ASSEMBLY	2
	3	113383-3	Z-CHANNEL, WINDSHIELD MOUNT	4
	4	113383-1	Z-CHANNEL, WINDSHIELD MOUNT	2
	5		BOLT, 1/4-20 X 1.000 LONG, GR8	32
	6		FLAT WASHER, 1/4, USS	64
	7		LOCKNUT, 1/4-20, GR8	32

**a. Installation**

1. Install windshield mount Z-channel as follows (see Figure 3-82):
  - a. Install two windshield mount Z-channels (1) at bottom of each (left and right) windshield cutout in windshield armor panel and secure each with six bolts (2), 12 flat washers (3), and six locknuts (4). Leave locknuts loose.

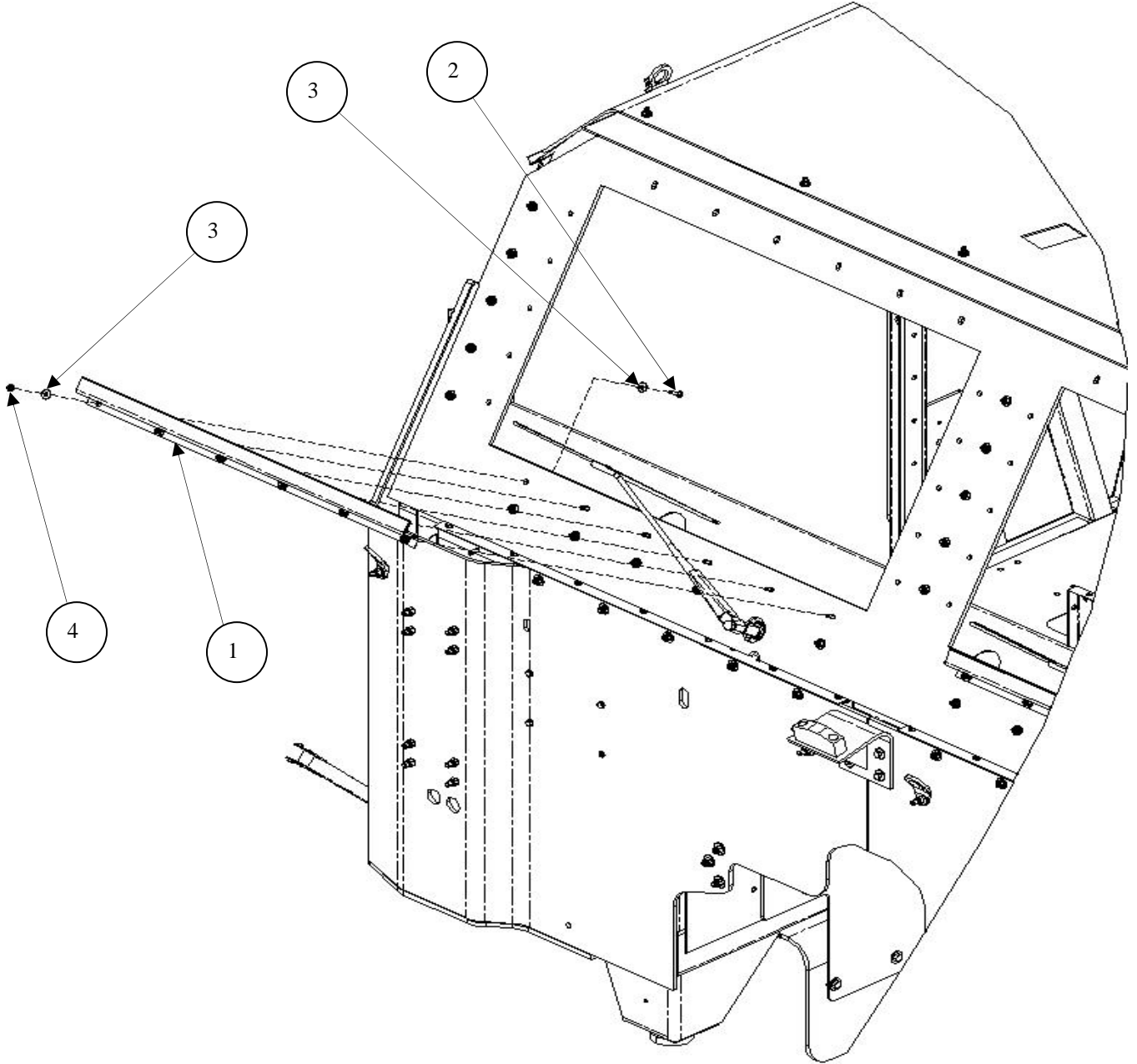


Figure 3-82. Windshield Mount Z-Channel Installation.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Install windshield assembly armor as follows (see Figure 3-83):
  - a. Apply a  $\text{Ø}3/8$ -inch thick bead of black urethane sealant (1) around the perimeter of the window cut out.
  - b. Install one windshield assembly armor (2) onto previously installed windshield mount Z-channel and install two side windshield mount Z-channels (3) and one upper windshield mount Z-channel (4) and secure each with the remaining 16 bolts (5), 32 flat washers (6), and 16 lock nuts (7). Torque lock nuts to 9 lb-ft.

**NOTE**

Urethane sealant must be applied to the bolt locations on the upper Z-channels in order to achieve a proper environmental seal.

- c. Wipe and clean excessive urethane sealant after installation and cut away excess urethane sealant after it cures sufficiently.
- d. Repeat Step 2 on opposite side.

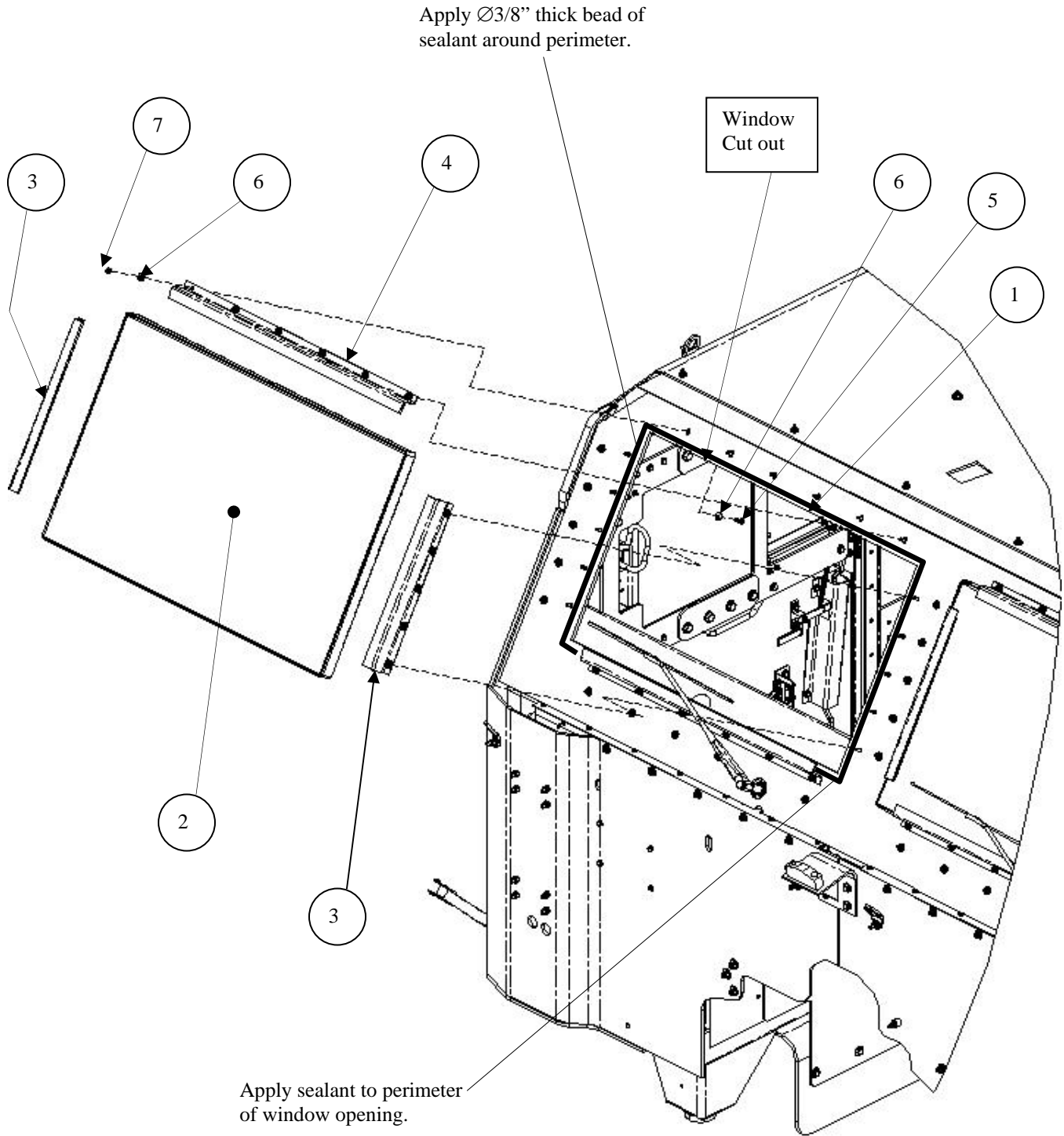


Figure 3-83. Windshield Assembly Armor Installation.





**3-22. ESCAPE HATCH ARMOR INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
 (NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-84	1	323	CLAMP, DESTACO	4
	2	113425-1	MOUNT, ESCAPE HATCH	4
	3		SCREW, BUTTON-HEAD CAP, #8 - 32 X 0.500 LONG	16
	4		LOCKNUT, #8 - 32	16
3-85	1	113443-1	CATCH, ESCAPE HATCH	4
	2	113424-1	PANEL, ESCAPE HATCH	1
	3		SCREW, BUTTON-HEAD CAP, #10 - 24 X 1.000 LONG, GR8	8
	4		LOCKNUT, #10 - 24	8
	5	103B375B3X5/16E	SEAL, TRIM-LOK BULB (APPROXIMATELY 10 FT)	AR
	6	113423-1	HANDLE, GRAB	1
	7		BOLT, 5/16-18 X 1.250 LONG, GR8	2
	8		FLAT WASHER, 5/16, USS	4
	9		LOCKNUT, 5/16-18, GR8	2
3-86	1		SCREW, BUTTON-HEAD CAP, #10 - 24 X 1.000 LONG, GR8	16
	2		LOCK WASHER, 0.190 ID	16
	3		FLAT WASHER, 0.190, USS	16
	4	ALS4-1024-130	UPSET NUT, #10 - 24 X 0.130	8
3-87		NONE		

**a. Installation**

1. Pre-assemble escape hatch mounts as follows (see Figure 3-84):
  - a. Install one Destaco clamp (1) to each of the four escape hatch mounts (2) and secure each with four screws (3) and locknuts (4). Torque locknuts to 36 lb-inch.

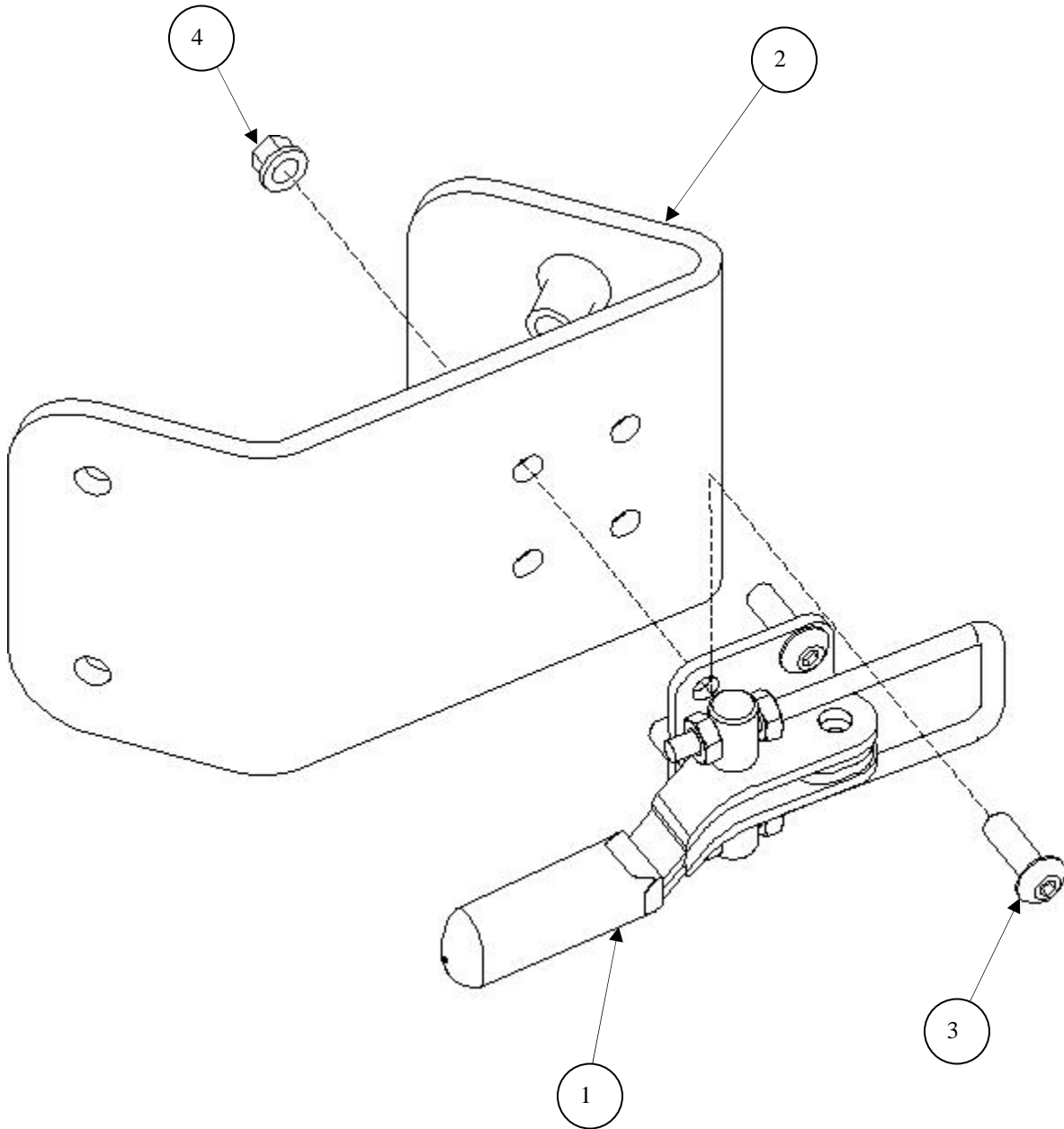


Figure 3-84. Escape Hatch Mounts Pre-Assembly.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

2. Pre-assemble escape hatch panel as follows (see Figure 3-85):

- a. Install four escape hatch catches (1) onto escape hatch panel (2) and secure each with two screws (3) and locknuts (4).

**NOTE**

The Destaco clamps may come with silver catches.  
These should be discarded in favor of the 113443-1 black catches.

- b. Install Trim-Lok bulb seal (5) around perimeter of escape hatch panel (2).
- c. Install one grab handle (6) onto escape hatch panel (2) and secure with two bolts (7), four flat washers (8), and locknuts (9). Torque locknuts to 18 lb-ft.

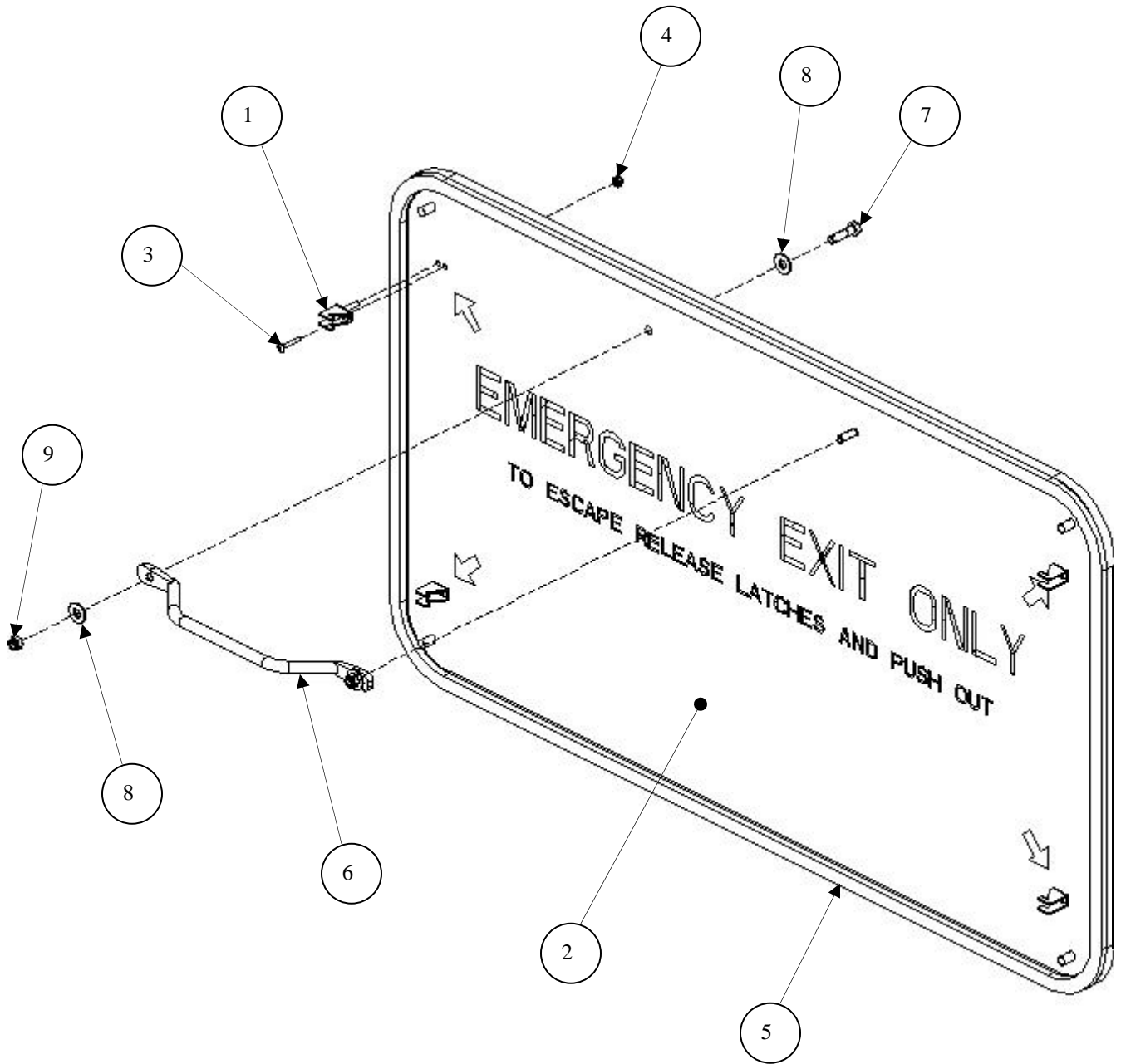


Figure 3-85. Escape Hatch Panel Pre-Assembly.

## **M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

3. Install escape hatch mount assemblies as follows (see Figure 3-86):
  - a. Install four escape hatch mount assemblies onto four corners of opening in rear panel and secure each with two screws (1), lock washers (2), and flat washers (3). Tighten but do not torque screws.
  - b. Match-drill two 3/16-inch pilot holes through each of four escape hatch mount assemblies.
  - c. Remove four escape hatch mount assemblies by removing two screws (1), lock washers (2), and flat washers (3) from each.
  - d. Enlarge eight pilot holes to  $\varnothing 19/64$  inch.
  - e. Install eight threaded inserts (4).
  - f. Re-install four escape hatch mount assemblies onto four corners of opening in rear panel and secure each with four screws (1), lock washers (2), and flat washers (3). Torque screws to 32 lb-inch.

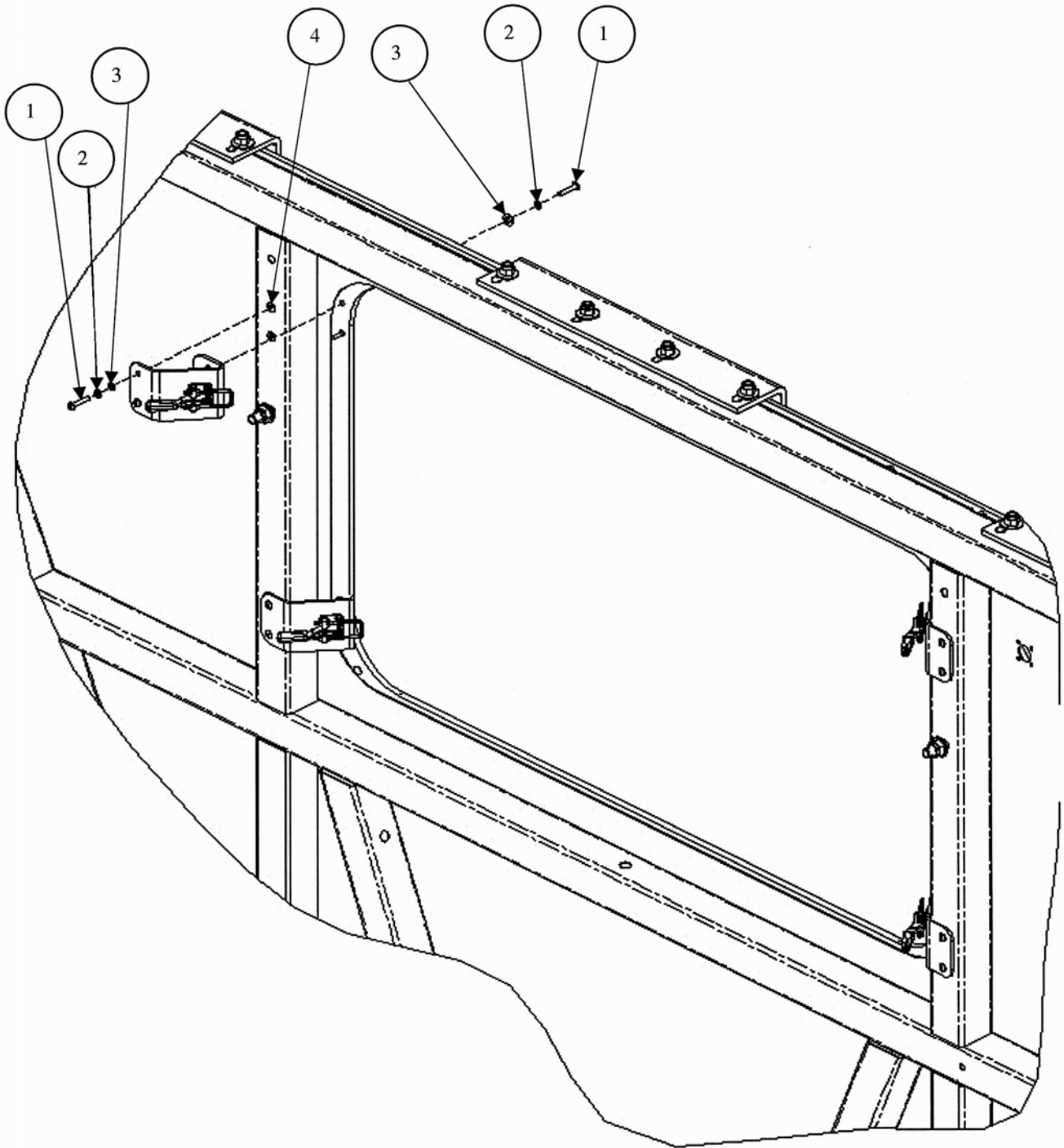


Figure 3-86. Escape Hatch Mount Assemblies Installation.

**M1070 HET ARMOR KIT**

**II113400**

**Rev. D**

4. Install escape hatch panel assembly as follows (see Figure 3-87):
  - a. Carefully lift and position escape hatch panel assembly against rear panel and align four welded studs on escape hatch panel assembly with four holes in rear panel.
  - b. Latch and clamp escape hatch panel assembly securely against rear panel using four Destaco clamps mounted inside cab.
  - c. Adjust grip length of the Destaco clamps as required to provide adequate compression of escape hatch panel assembly seal.

**NOTE**

The Escape Hatch stud ends should end up approximately flush with the inside surface of the rear armor panel when the clamps are secured.



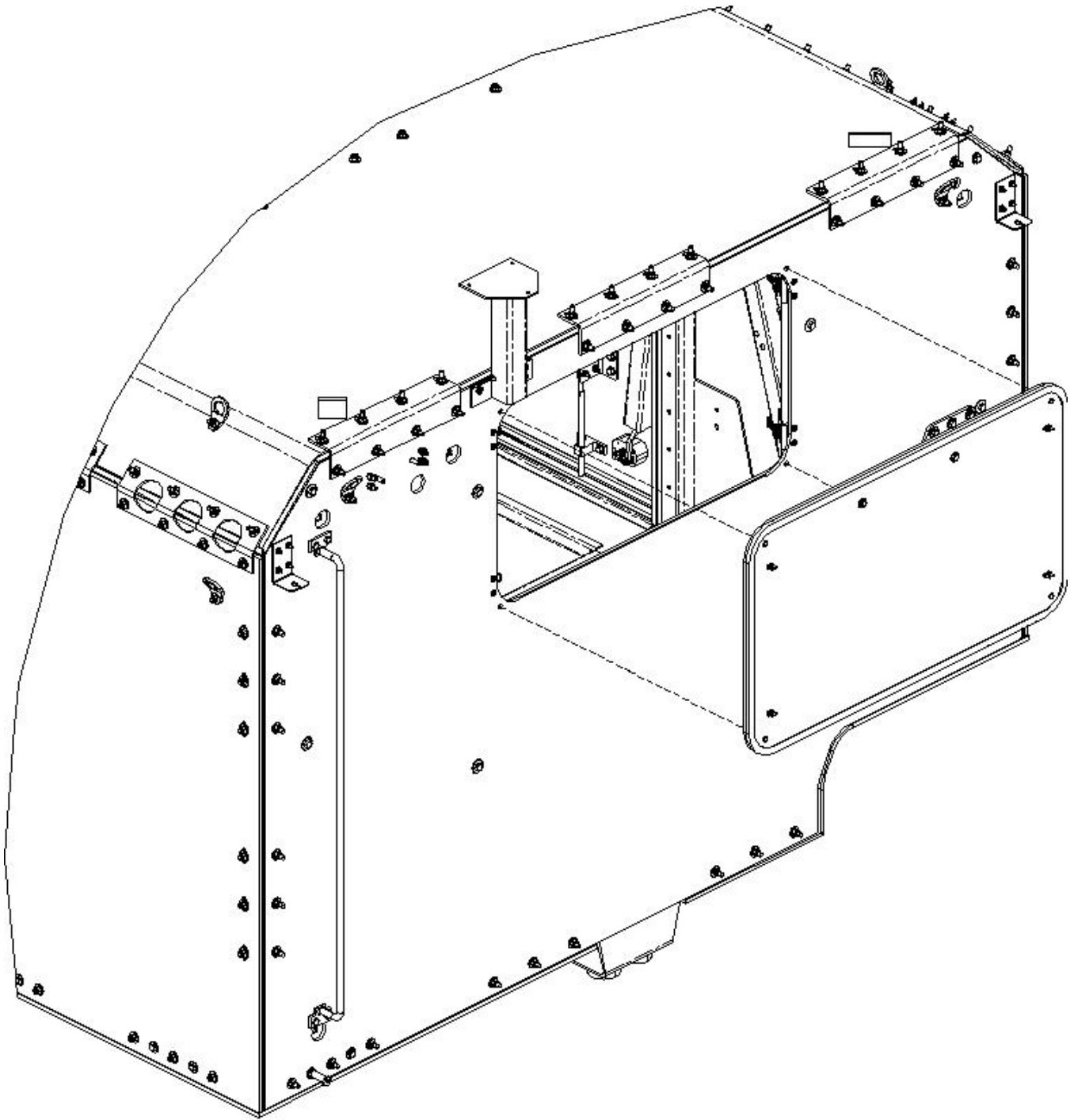


Figure 3-87. Escape Hatch Panel Assembly Installation.



**3-23. SEAT ARMOR PANEL INSTALLATION**

TOOLS:

General Mechanics Tool Kit:  
(NSN 5180-00-177-7033)

MATERIAL/PARTS:

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
3-88	1	113467-1	PANEL, SEAT ARMOR	1
	2		LOCKNUT, 5/16-18, GR8	4

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

**a. Installation**

1. Install seat armor panel as follows (see Figure 3-88):
  - a. Install seat armor panel (1) onto the driver's-side seat support bracket.
  - b. Install the driver's seat assembly (retained from Teardown, Chapter 2) per TM 9-2320-360-2.
  - c. Align holes in seat armor panel (1), driver's side seat support bracket, and driver's seat assembly and secure all three with original four bolts and washers (retained from Teardown, Chapter 2) and new locknuts (2). Torque locknuts to 20 lb-ft.

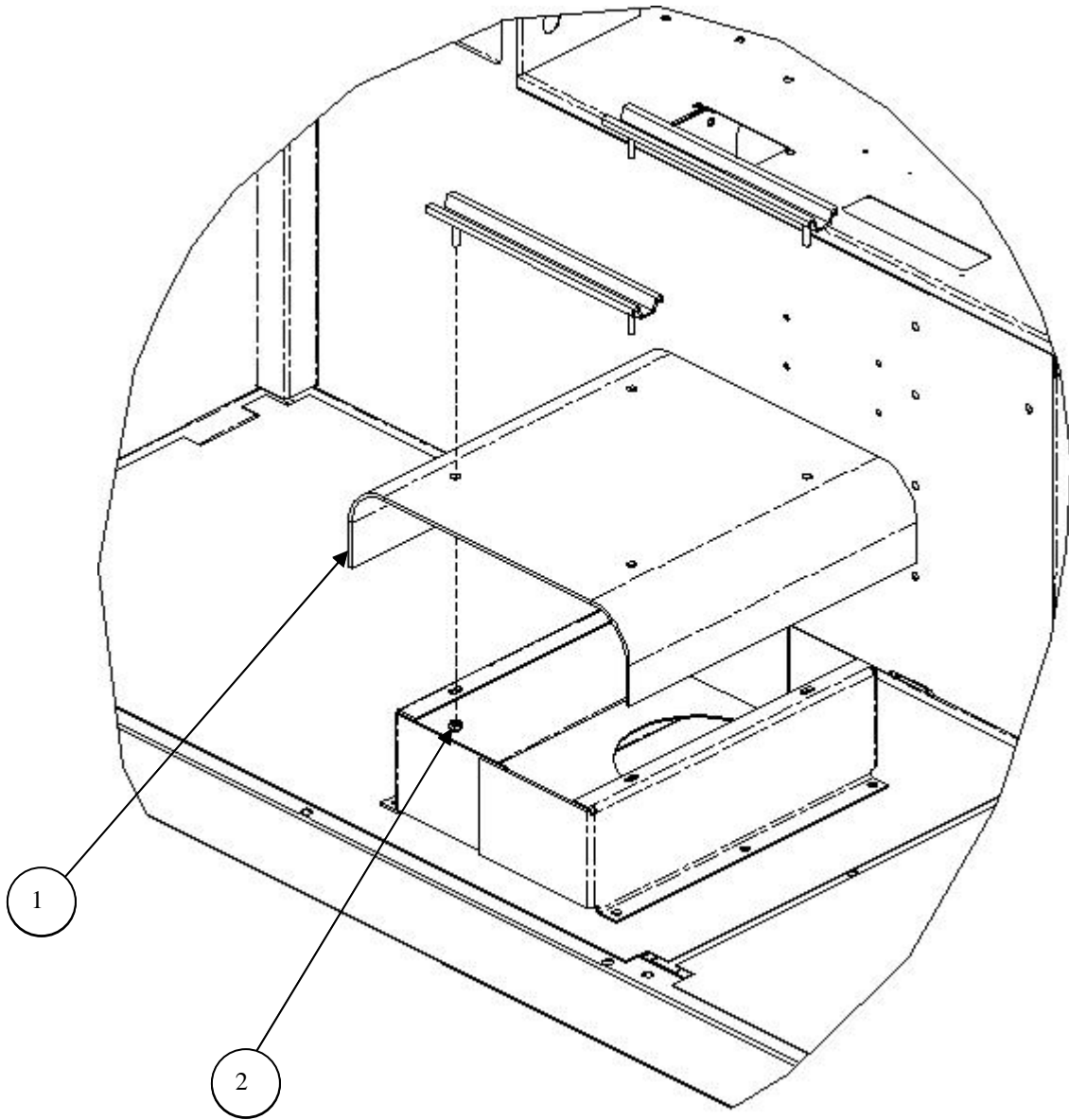


Figure 3-88. Seat Armor Panel Installation.



**3-24. SEATBACK QUICK-RELEASE INSTALLATION**

**TOOLS:**

General Mechanics Tool Kit:  
(NSN 5180-00-177-7033)

**MATERIAL/PARTS:**

---

<b>FIGURE</b>	<b>ITEM</b>	<b>PART NO.</b>	<b>NOMENCLATURE</b>	<b>QTY</b>
3-89	1	113485-1	BRACKET, RELEASE ASSEMBLY, LEFT	1
	2	113485-2	BRACKET, RELEASE ASSEMBLY, RIGHT	1

---

**a. Installation**

1. Install seat back quick-release as follows (see Figure 3-89):
  - a. Remove two bolts and seat back frame guide from both sides of the rear cab wall. Retain bolts for re-installation.
  - b. Install one left release assembly bracket (not shown) (1) and one right release assembly bracket (2) and secure each with bolts removed in previous step.
  - c. Remove both quick release pins allowing quick-release bars to rotate downward.
  - d. Re-install backseat seat back into upright position through slots and re-assemble quick-release bars and pins.



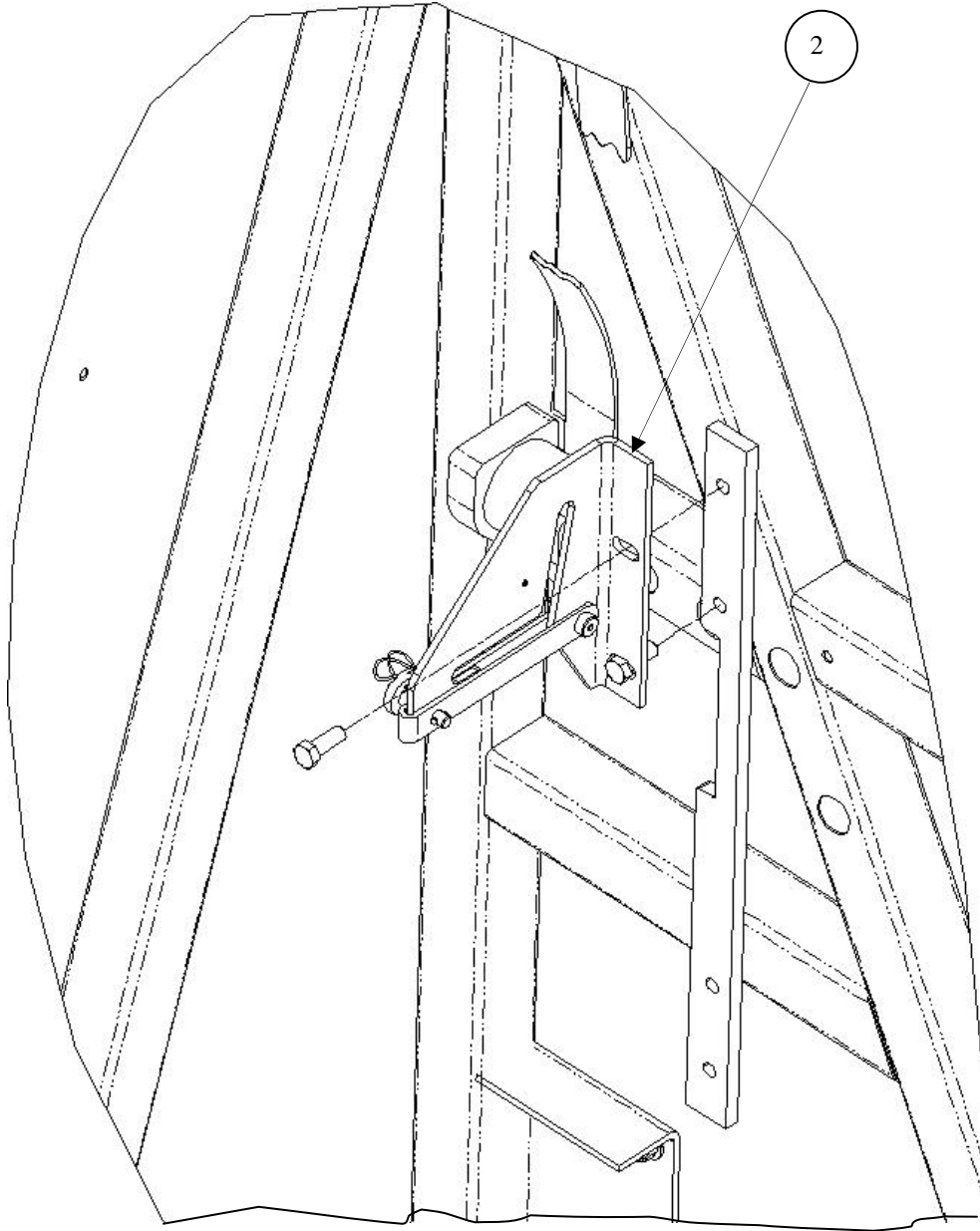


Figure 3-89. Seat Back Quick-Release Installation.



## CHAPTER 4 FINAL ASSEMBLY

### Section I. FINAL ASSEMBLY

<b>4-1. VEHICLE FINAL ASSEMBLY</b>
------------------------------------

**TOOLS:**

SEE TM 9-2320-360-SERIES

**MATERIAL/PARTS:**

FIGURE	ITEM	PART NO.	NOMENCLATURE	QTY
4-1			NONE	
4-2	1	113486-1	SPACER, CLAMPING CATCH	2
	2	113487-1	SPACER, BUTTON PRESS POINT	2
	3		¼"-20 X 2.250" LONG HEX BOLT, GR8	4
	4		¼"-20 LOCKNUT, GR8	4
	5		#8 X 1.750" LONG SELF-TAPPING SCREWS	4
4-3	1		FLAT WASHER, 3/8" ID, USS	24
4-4	1		HEX BOLT, ¼-20 X 1.750" LONG, GR8	1
	2	113440-3	SPACER	1
	3		FLAT WASHER, ¼" ID, USS	1
	4		LOCKNUT, ¼-20, GR8	1
4-5	1		HEX BOLT, ¼-20 X 2.250" LONG, GR8	4
	2		LOCK WASHER, ¼" ID, GR8	4
4-6	1		SCREW, PAN HEAD, PHILLIPS SELF-TAPPING, Ø.190 X 0.500 INCH LONG	4
4-7			NONE	
4-8	1	X-103-HT	TRIM SEAL	A/R
4-9	1	X-103-HT	TRIM SEAL	A/R



**a. Installation**

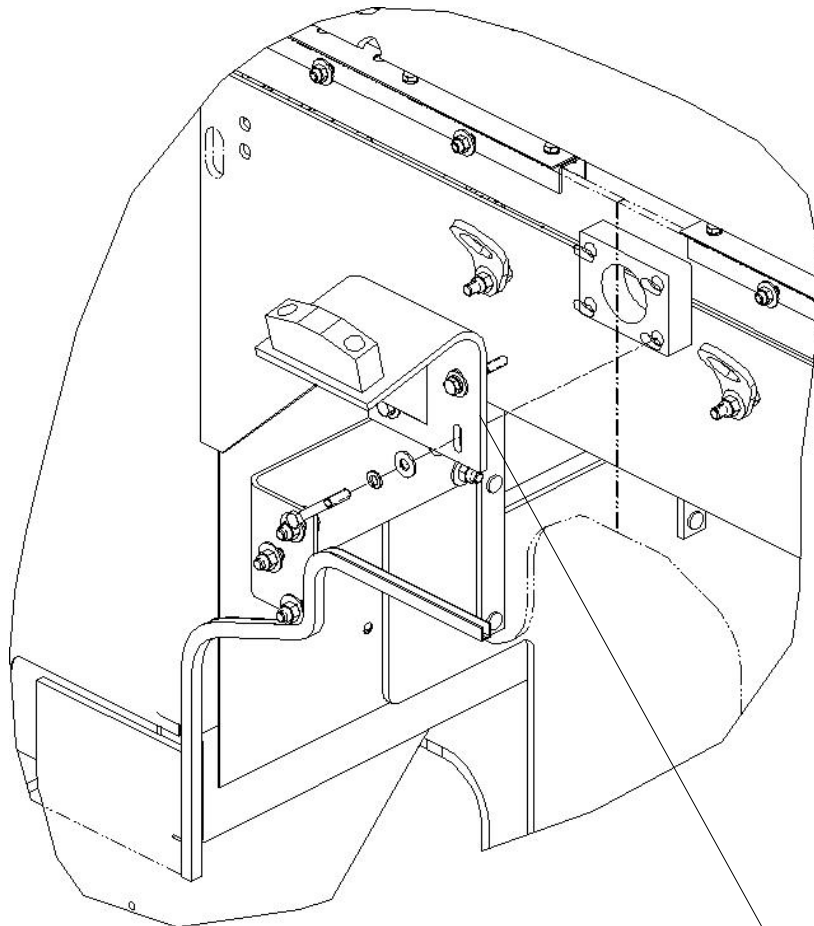
NOTE

Unless otherwise stated, use all original fasteners from teardown to re-install the components that are mentioned throughout this section.

1. Install tail pipe assembly and tail pipe support (retained from Teardown, Chapter 2) per TM 9-2320-360-20-2.
2. Install muffler and muffler shield (retained from Teardown, Chapter 2) per TM 9-2320-360-2.
3. Connect central tire inflation hoses (CTIS) to manifold below driver's seat per TM 9-2320-360-2.
4. Install doghouse door access panel (retained from Teardown, Chapter 2) per TM 9-2320-360-20-2.
5. Install stowage box (retained from Teardown, Chapter 2) per TM 9-2320-360-2.

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

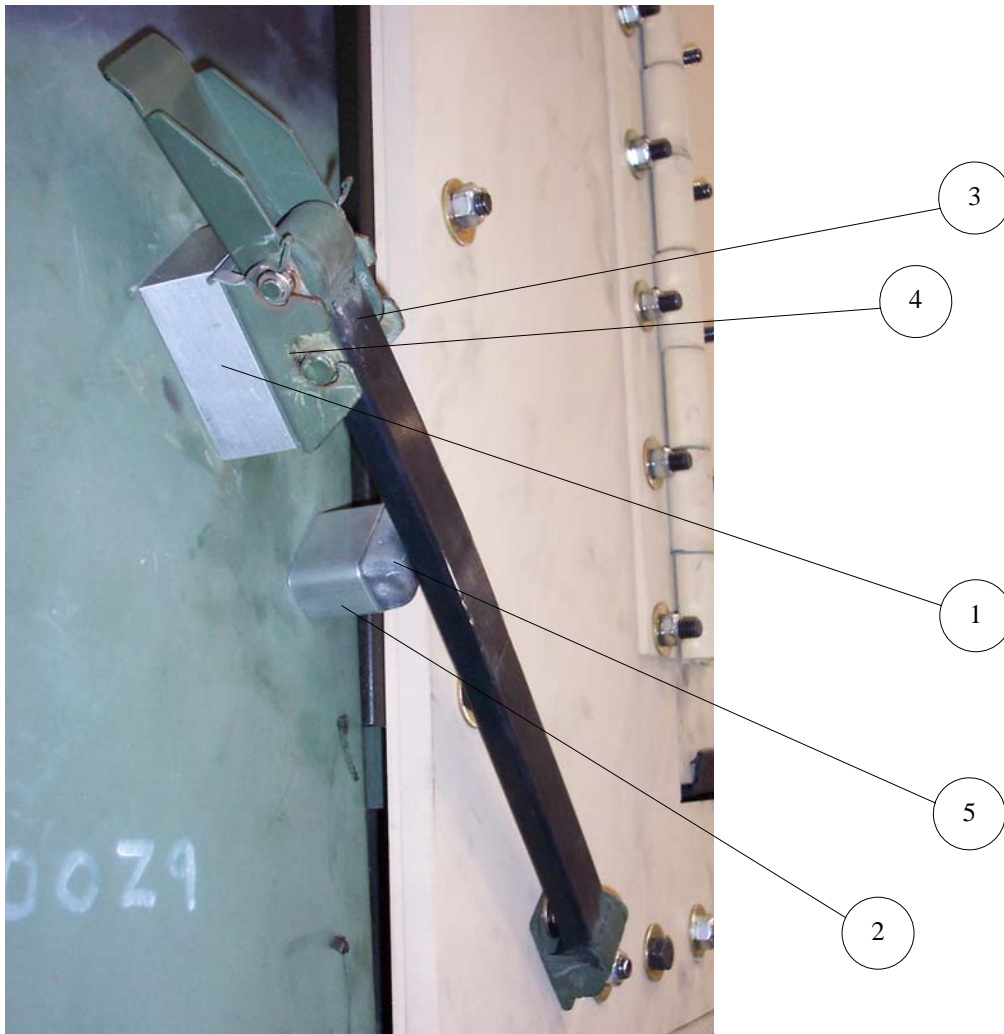
6. Install hood bumper (hood rest) and bracket (retained from Teardown, Chapter 2) per TM 9-2320-360-20-2, as shown in Figure 4-1.



Remove fasteners and re-install hood bumper and bracket, as shown, using same fasteners.

**Figure 4-1. Hood Bumper and Bracket Installation.**

7. Install Clamping Catch and Button Press Point Spacers to hood as shown. (See Figure 4-2)
- a. Disconnect Clamping Catch and Button Press Point components as per TM 9-2320-360-2.
- b. Insert Clamping Catch Spacer (1) and Button Press Point Spacer (2) and re-install components from 7.a. using new fasteners: longer bolts (3), locknuts (4), and screws (5). (Fasteners not seen, as components are shown assembled in Figure 4.2.)



**Figure 4-2. Hood Clamping Catch and Button Press Point Spacer Installation**

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

8. Connect heater core coolant hoses (disconnected in Teardown, Chapter 2) to firewall elbows per TM 9-2320-360-2.
9. Re-install power steering reservoir and brackets (tied out of the way in Teardown, Chapter 2) onto firewall per the following procedure. (See Figure 4-3)
  - a. Temporarily remove the eight 3/8-16 GR8 locknuts and USS flat washers securing power steering brackets to firewall panel.
  - b. Assemble three 3/8-inch USS flat washers (1) onto each of the eight studs protruding from the firewall and power-steering bracket.
  - c. Install power steering reservoir assembly onto studs and then secure using eight 3/8-inch USS flat washers, and eight 3/8-inch-16 GR8 locknuts, removed from step 9.a, as per TM 9-2320-360-2.

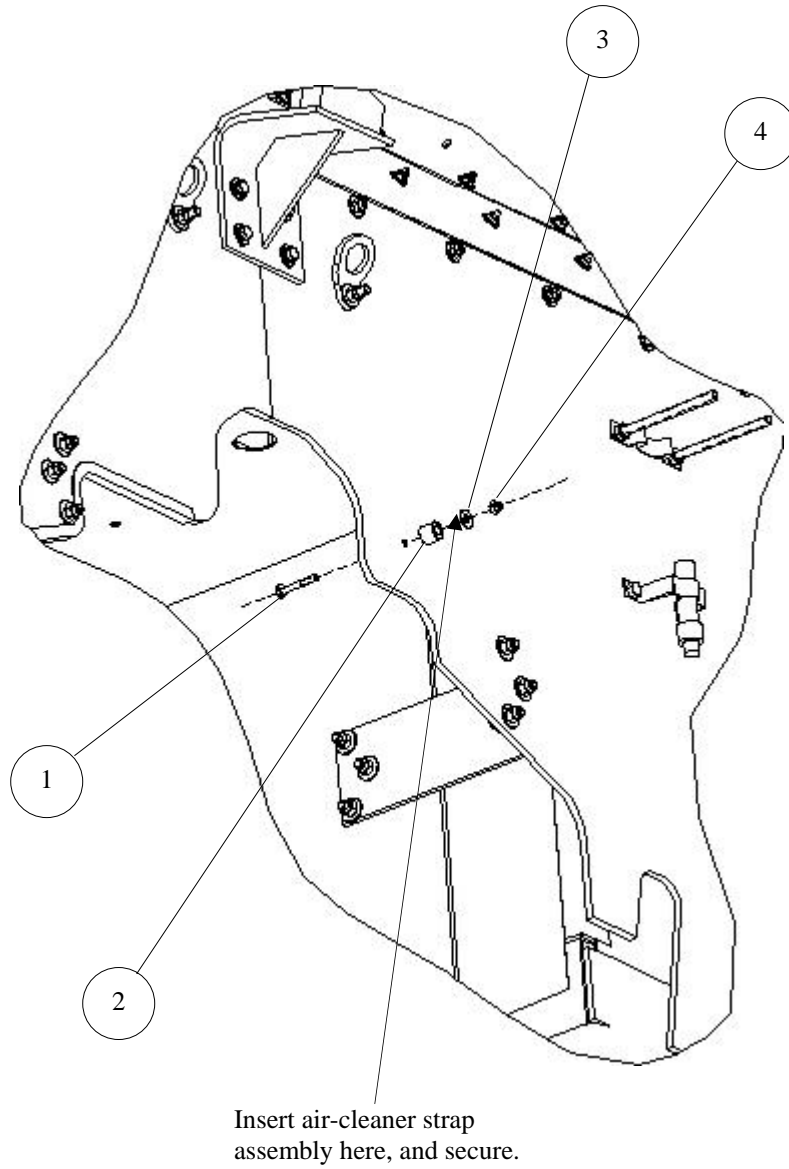


Step 9b.  
Install 3 flat washers (1) onto each of the 8 studs from steering reservoir bracket. (Washers used for required stand-off.)

**Figure 4-3. Re-installation of Power Steering Reservoir Assembly**



10. Install bolt (1), stand-off (2), flat washer (3), and locknut (4), and secure air cleaner hose strap (not shown) to firewall per TM 9-2320-360-2. (See Figure 4-4.)



**Figure 4-4. Re-installation of Air-Cleaner Hose Strap**

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

11. Install ether starting aid (retained from Teardown, Chapter 2) per TM 9-2320-360-2.
12. Install air cleaner assembly (retained from Teardown, Chapter 2) per TM 9-2320-360-2.
13. Install windshield washer reservoir and mounting bracket (retained from Teardown, Chapter 2) per TM 9-2320-360-20-2, as shown in Figure 4-5. Use four 1/4-20 X 2.250 long GR8 bolts (1), and four 1/4-20 lock washers (2).



**Figure 4-5. Installation of the Windshield Washer Reservoir.**

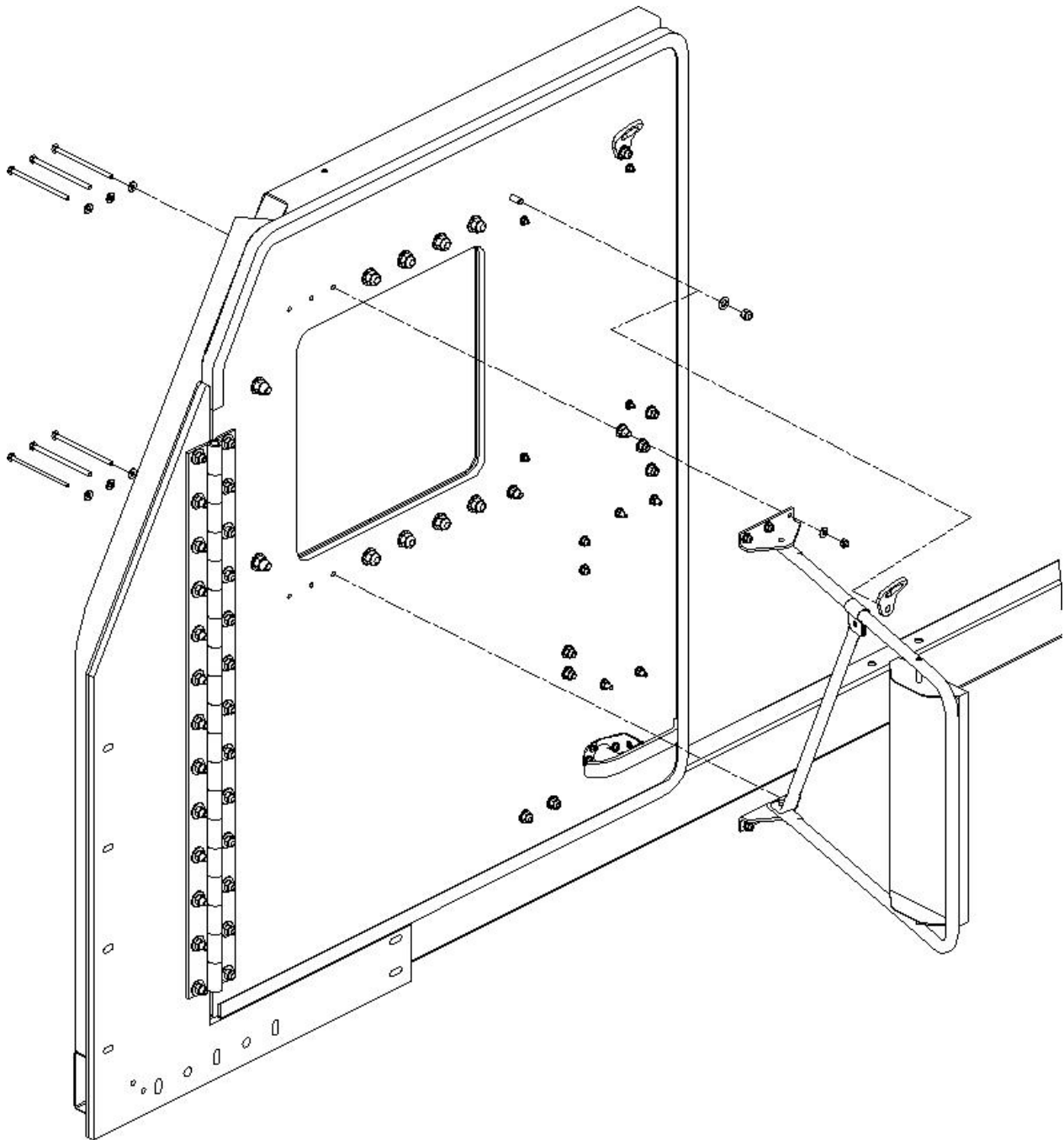
14. Install windshield wiper arms (retained from Teardown, Chapter 2) per TM 9-2320-360-20-2.
15. Install beacon light assembly (retained from Teardown, Chapter 2) per TM 9-2320-360-20-2.
16. Install work lights (retained from Teardown, Chapter 2) onto rear of cab per TM 9-2320-360-20-2.
17. Install the vehicle identification plate (P/N 1805190) (Retained from Teardown, Chapter 2) onto dash panel near glove-box as shown in Figure 4-6. Attach using four #10 x 0.500 inch Phillips Pan-head Self-Tapping screws (1).



**Figure 4-6. Vehicle Identification Plate Re-Attachment.**

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

18. Install left and right side mirror brackets and mirrors onto doors per TM 9-2320-360-20-2 as shown in Figure 4-7. (Left-side is shown. Repeat procedures for right side.)
- a. Disconnect lift bracket and move to new location as shown.
  - b. Remove bolts, washers, and nuts, and use to reconnect side-mirror assembly as shown.



**Figure 4-7. Installation of the Mirror Brackets and Mirrors.**

19. Apply trim seals to right door hinge and behind right forward armor panel assembly, as shown in Figure 4-8.

1. Apply adhesive side of trim seal (1) to area inside of right door hinge, from top to bottom along the side of right forward panel assembly, from point A to B, as shown. Seal will compress when door is closed.

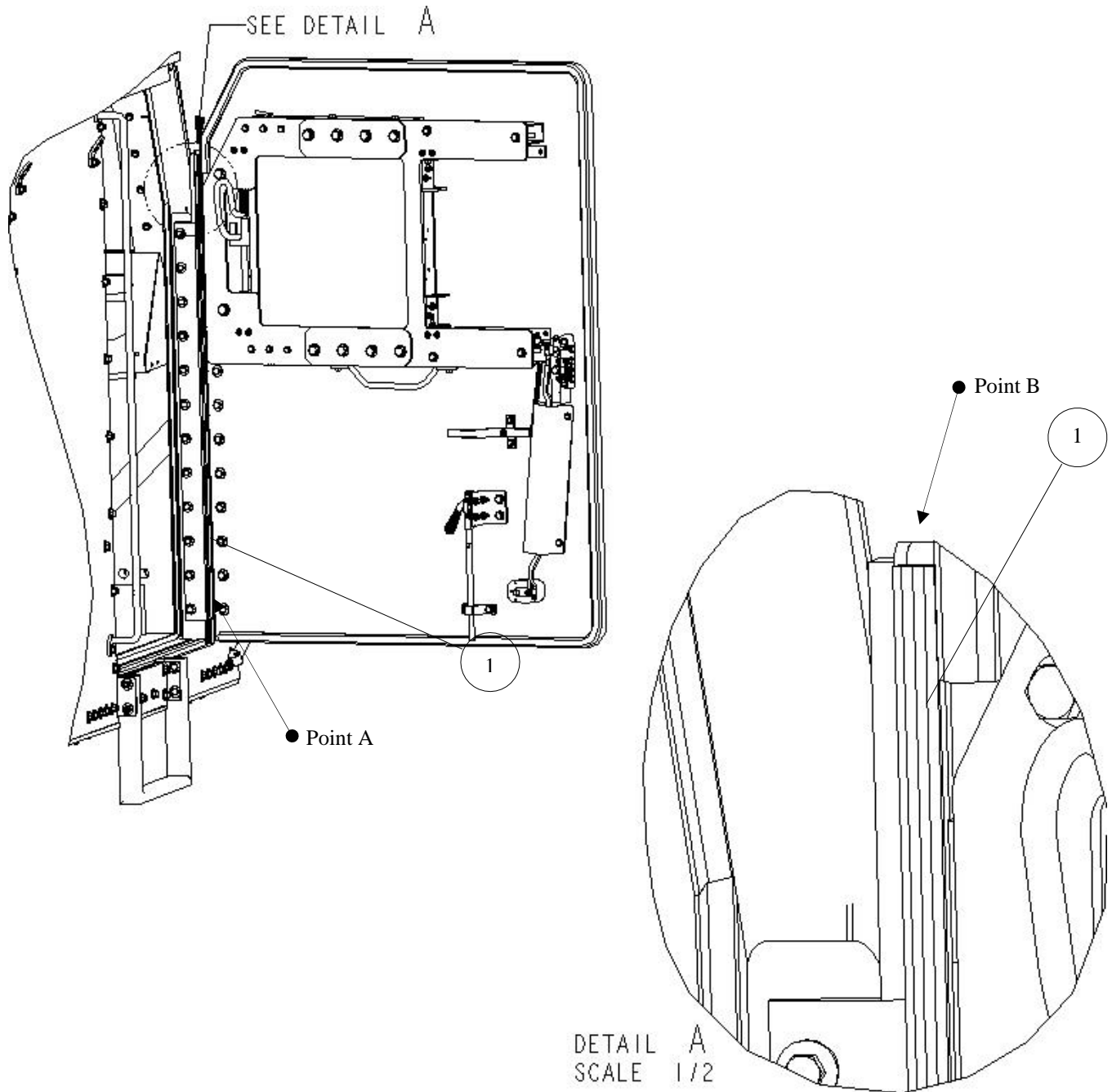
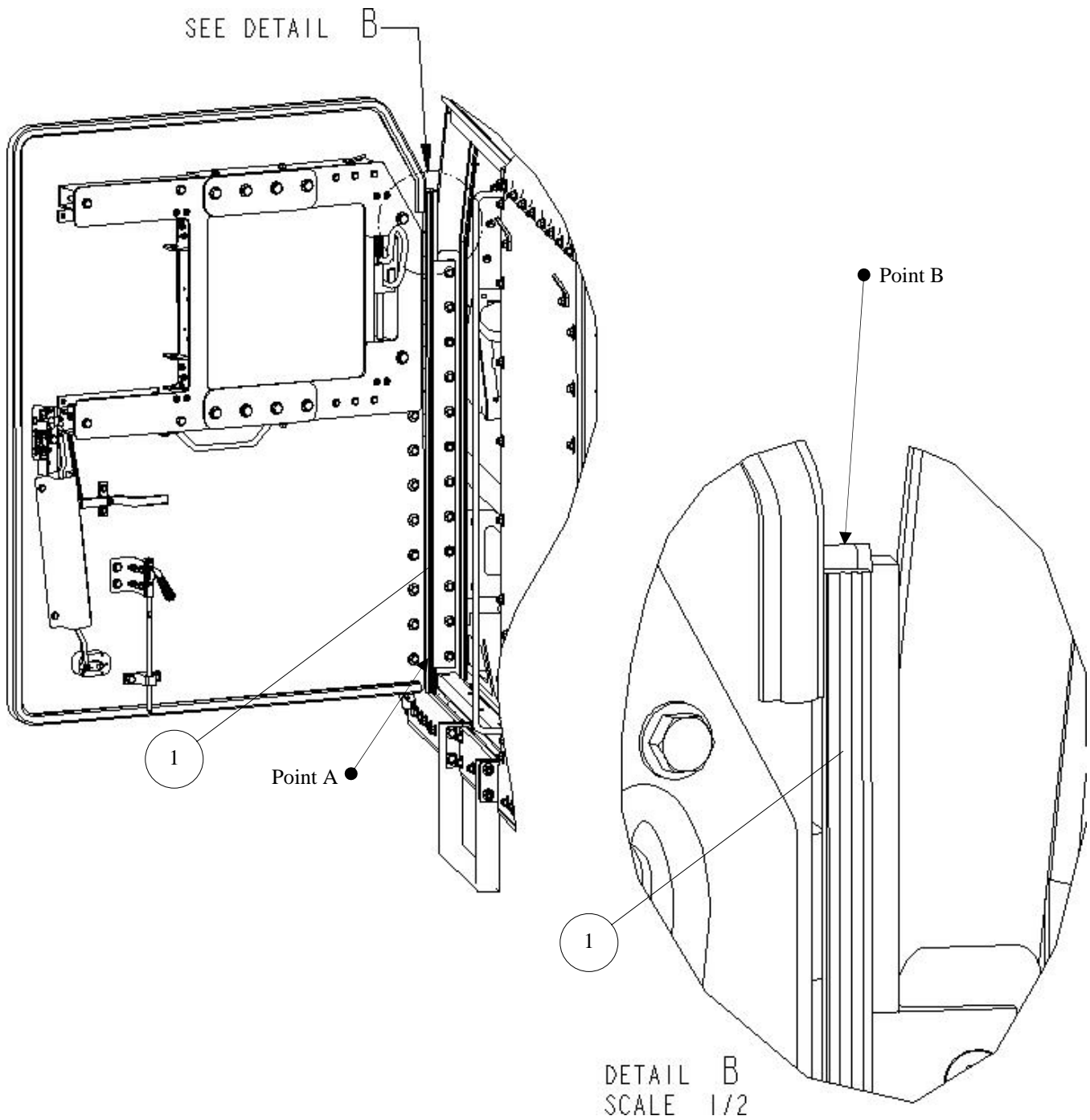


Figure 4-8. Installation of Trim Seals Inside of Right Door Hinge Area.

**M1070 HET ARMOR KIT**  
**II113400**  
**Rev. D**

20. Apply trim seals to left door hinge and behind left forward armor panel assembly, as shown in Figure 4-9.

1. Apply adhesive side of trim seal (1) to area inside of left door hinge, from top to bottom along the side of left forward panel assembly, from point A to B, as shown. Seal will compress when door is closed.



**Figure 4-9. Installation of Trim Seals Inside of Left Door Hinge Area.**

21. Connect battery ground cable per TM 9-2320-360-20-2.
22. Secure against frame-rails (using tie-wire) any loose or hanging wire-harnesses inside cab, as necessary.
23. Reconnect transfer case and transmission shift linkage inside the doghouse per TM-2320-360-20-2.
24. Reconnect steering linkage per TM-2320-360-20-2.
25. Lower and secure vehicle hood per TM 9-2320-360-10.
26. Release parking brake and remove wheel chocks per TM 9-2320-360-10.
27. Contents from front stowage box will need to be redistributed. Suggest relocating to the main stowage box. The two work lights and work light harnesses may possibly be relocated to the dog house stowage area or the large AC stowage box, if so equipped.
28. Perform vehicle checkout per TM 9-2320-360-10 and troubleshoot as required per TM 9-232-360-Series.





**FIELD MAINTENANCE (UNIT AND DIRECT SUPPORT MAINTENANCE) REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL) INTRODUCTION**

0045 00

**SCOPE**

This RPSTL lists and authorizes spares and repair parts for performance of Field level maintenance of the Heavy Equipment Transport (HET). It authorizes the requisitioning, issue, and disposition of spares and repair parts as indicated by the source, maintenance, and recoverability (SMR) codes.

**GENERAL**

In addition to the Introduction work package, this RPSTL is divided into the following work packages:

- a. **Repair Parts Lists Work Package.** Work package containing lists of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. This work package also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Repair parts kits are listed separately in their own functional group. Items listed are shown on the associated illustrations.
- b. **Special Tools List Work Package.** There are no special tools for the HET Armor Kit.
- c. **Cross-Reference Indexes Work Package.** There are two cross-reference indexes in this RPSTL: National Stock Number Index and Part Number Index.

**EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS**

- a. **Item No. (Column 1).** Indicates the number used to identify items called out in the illustration.
- b. **SMR Code (Column 2).** The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout:

SOURCE CODE	MAINTENANCE CODE		RECOVERABILITY CODE
XXxxx	xxXXx		xxxxX
1st two positions	3rd position	4th position	5th position
How you get an item.	Who can install, replace, or use the item.	Who can do complete repair* on the item.	Who determines disposition action on an unserviceable item.

\* *Complete Repair:* Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

**FIELD MAINTENANCE (UNIT AND DIRECT SUPPORT MAINTENANCE) REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL) INTRODUCTION - CONTINUED**

0045 00

**EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS - CONTINUED**

- (1) **Source Code.** The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

<u>Code</u>	<u>Application/Explanation</u>
PA PB PC PD PE PF PG	<p>Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the maintenance category indicated by the code entered in the third position of the SMR code.</p> <p style="text-align: center;"><i>Items coded PC are subject to deterioration.</i></p> <p>.....</p>
KD KF KB	<p>Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.</p> <p>.....</p>
MO - Made at Unit/ AVUM level MF - Made at DS/AVIM Level MH - Made at GS Level ML - Made at SRA MD - Made at Depot	<p>Items with these codes are not to be requested/requisitioned individually. They must be made from bulk materiel which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk materiel group work package of the RPSTL. If the item is authorized to you by the third position of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.</p> <p>.....</p>
AO-Assembled by Unit/ AVUM level AF-Assembled by DS/ AVIM level AH-Assembled by GS level AL-Assembled by SRA AD-Assembled by Depot	<p>Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the third position of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.</p>
XA	Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below).
XB	If an item is not available from salvage, order it using the CAGEC and P/N.
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
XD	Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and P/N given, if no NSN is available.

**NOTE**

Cannibalization of controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

**FIELD MAINTENANCE (UNIT AND DIRECT SUPPORT MAINTENANCE) REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL) INTRODUCTION - CONTINUED**

**0045 00**

**EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS - CONTINUED**

- (2) **Maintenance Code.** Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:
  - (a) Third Position. The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following levels of maintenance:

<u>Code</u>	<u>Application/Explanation</u>
C. . . . .	Crew or Operator maintenance done within Field/AVUM maintenance.
O . . . . .	Unit Level/AVUM maintenance can remove, replace, and use the item.
F. . . . .	Direct Support/AVIM maintenance can remove, replace, and use the item.
H . . . . .	General Support maintenance can remove, replace, and use the item.
L . . . . .	Specialized Repair Activity (SRA) can remove, replace, and use the item.
D . . . . .	Depot Maintenance can remove, replace, and use the item.

- (b) Fourth Position. The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (perform all authorized repair functions).

**NOTE**

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

<u>Code</u>	<u>Application/Explanation</u>
O . . . . .	Unit/AVUM is the lowest level that can do complete repair of the item.
F. . . . .	Direct Support/AVIM is the lowest level that can do complete repair of the item.
H . . . . .	General Support is the lowest level that can do complete repair of the item.
L. . . . .	Specialized Repair Activity (SRA) is the lowest level that can do complete repair of the item.
D . . . . .	Depot is the lowest level that can do complete repair of the item.
Z. . . . .	Nonreparable. No repair is authorized.
B. . . . .	No repair is authorized. No parts or special tools are authorized for the maintenance of a "B"-coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

**FIELD MAINTENANCE (UNIT AND DIRECT SUPPORT MAINTENANCE) REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL) INTRODUCTION - CONTINUED**

**0045 00**

**EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS - CONTINUED**

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

<u>Code</u>	<u>Application/Explanation</u>
Z. . . . .	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
O . . . . .	Reparable item. When uneconomically repairable, condemn and dispose of the item at the Unit level maintenance.
F. . . . .	Reparable item. When uneconomically repairable, condemn and dispose of the item at Direct Support level.
H . . . . .	Reparable item. When uneconomically repairable, condemn and dispose of the item at General Support level.
D . . . . .	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are not authorized below depot level.
L. . . . .	Reparable item. Condemnation and disposal of item not authorized below Specialized Repair Activity (SRA).
A . . . . .	Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

- c. **NSN - (Column 3).** The NSN for the item is listed in this column.
- d. **CAGEC (Column 4).** The Commercial and Government Entity Code (CAGEC) is a five-digit code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.
- e. **PART NUMBER (Column 5).** Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

**NOTE**

When you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered.

- f. **DESCRIPTION AND USABLE ON CODE (UOC) (Column 6).** This column includes the following information:
  - (1) The Federal item name and, when required, a minimum description to identify the item.
  - (2) P/Ns of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.
  - (3) Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.
  - (4) The statement END OF FIGURE appears just below the last item description in column (6) for a given figure in both the repair parts list and special tools list work packages.

**FIELD MAINTENANCE (UNIT AND DIRECT SUPPORT MAINTENANCE) REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL) INTRODUCTION - CONTINUED**

0045 00

**EXPLANATION OF COLUMNS IN THE REPAIR PARTS LISTS - CONTINUED**

- g. **QTY (Column 7).** The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, subfunctional group, group or an assembly. A “V” appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

**EXPLANATION OF CROSS-REFERENCE INDEXES WORK PACKAGE FORMAT AND COLUMNS**

- a. **National Stock Number (NSN) Index Work Package.**
  - (1) **STOCK NUMBER Column.** This column lists the NSN by National Item Identification Number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN (i.e., NSN 5305-01-674-1467). When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.
  - (2) **FIG. Column.** This column lists the number of the figure where the item is identified/located. The figures are in numerical order in WP 0046 00.
  - (3) **ITEM Column.** The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.
- b. **Part Number (P/N) Index Work Package.** Part numbers in this index are listed in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).
  - (1) **PART NUMBER Column.** Indicates the P/N assigned to the item.
  - (2) **FIG. Column.** This column lists the number of the figure where the item is identified/located in the repair parts list and special tools list work packages.
  - (3) **ITEM Column.** The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

**SPECIAL INFORMATION**

- a. **Usable On Code (UOC).** The UOC appears in the lower left corner of the DESCRIPTION column heading. Usable on codes are shown as “UOC:” in the Description Column (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the UOC’s used in the RPSTL are:

<u>Code</u>	<u>Used On</u>
LTH	Heavy Equipment Transport (HET)

- b. **Associated Publications.** The publication(s) listed below pertain to the Heavy Equipment Transport (HET) and its components:

<b>Publication</b>	<b>Short Title</b>
TM 9-2320-360 Series . . . . .	Series of Manuals for the HET

---

**FIELD MAINTENANCE (UNIT AND DIRECT SUPPORT MAINTENANCE) REPAIR PARTS  
AND SPECIAL TOOLS LISTS (RPSTL) INTRODUCTION - CONTINUED**

---

**0045 00**

**HOW TO LOCATE REPAIR PARTS**

a. **When National Stock Number is Known.**

- (1) **First.** If you have the NSN, look in the STOCK NUMBER column of the NSN index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.
- (2) **Second.** Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

b. **When Part Number is Known.**

- (1) **First.** If you have the P/N and not the NSN, look in the PART NUMBER column of the P/N index work package. Identify the figure and item number.
- (2) **Second.** Look up the item on the figure in the applicable repair parts list work package.

**ABBREVIATIONS**

For standard abbreviations see ASME Y14.38-1999, *Abbreviations and Acronyms*.

<b><u>Abbreviations</u></b>	<b><u>Explanation</u></b>
NIIN .....	National Item Identification Number (consists of the last 9 digits of the NSN)
RPSTL .....	Repair Parts and Special Tools Lists
SMR .....	Source, Maintenance, and Recoverability Code
TMDE .....	Test, Measurement, and Diagnostic Equipment

**END OF WORK PACKAGE**



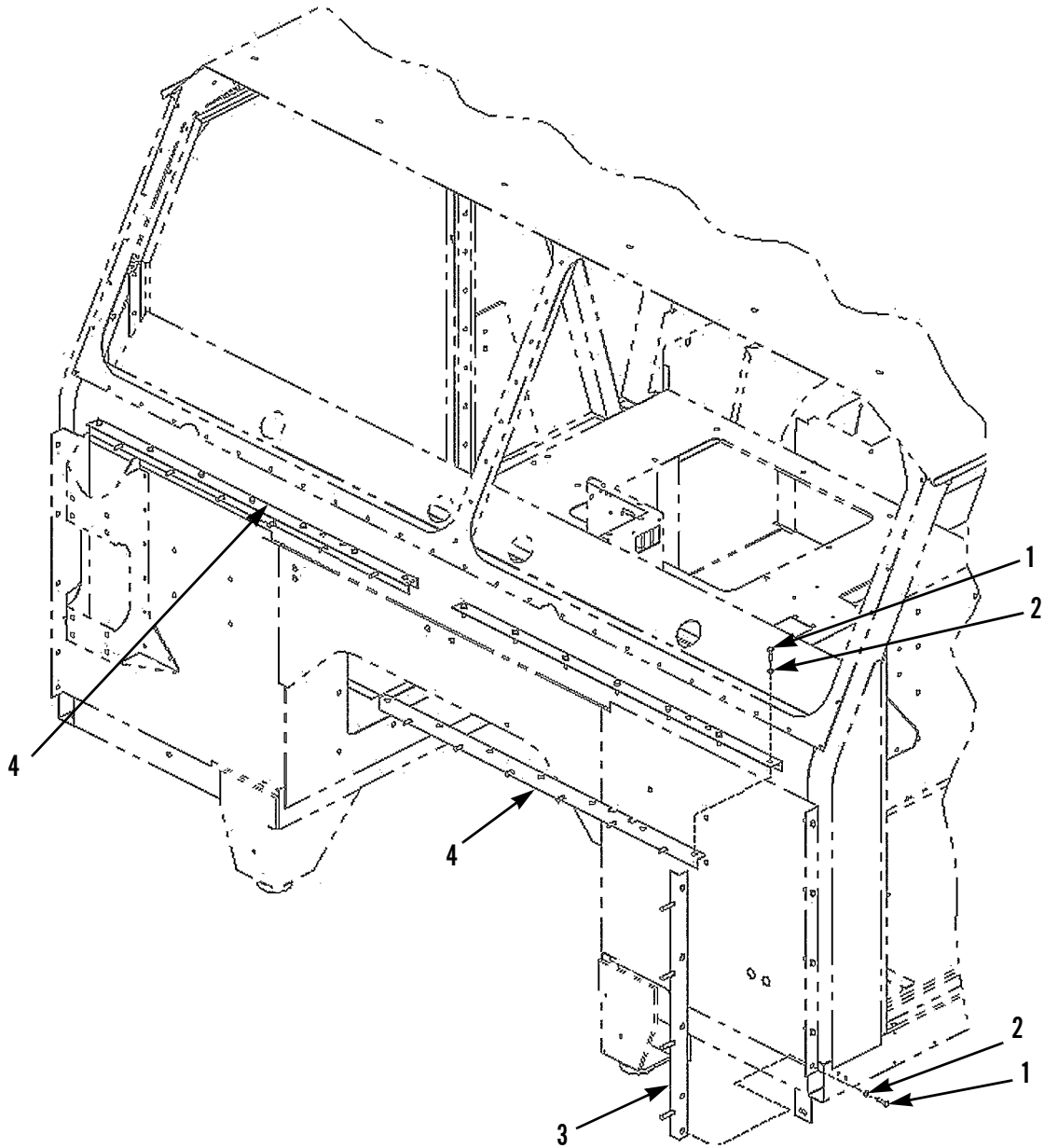


Figure 1. Firewall Brackets and Mounting Hardware



(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
					GROUP 33 SPECIAL PURPOSE KITS	
					GROUP 3307 SPECIAL PURPOSE KITS	
					FIG. 1 FIREWALL BRACKETS AND MOUNTING HARDWARE	
1	PAOZZ	5305002253843	80204	B1821BH025C100N	SCREW,CAP,HEXAGON H.....	19
2	PAOZZ	5310005825965	80205	MS35338-44	WASHER,LOCK.....	19
3	PAOZZ	2590015340399	54786	113457-1-103	BRACKET,VEHICULAR C LEFT INSIDE....	1
4	PAOZZ	2590015340458	54786	113459-1-103	BRACKET,VEHICULAR C UPPER.....	2

END OF FIGURE



1  
2-18

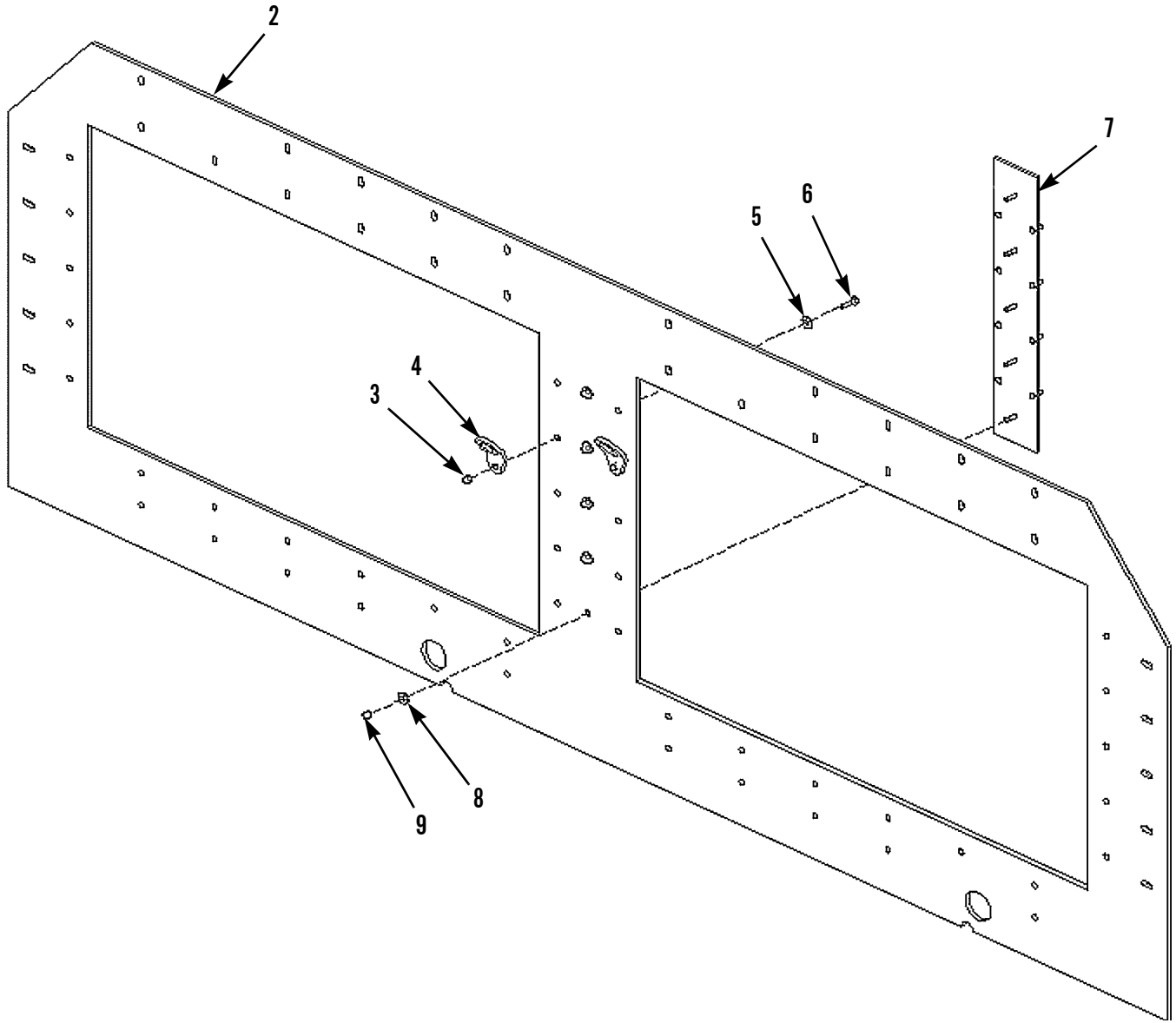


Figure 2. Windshield Armor Kit and Mounting Hardware (Sheet 1 of 4)

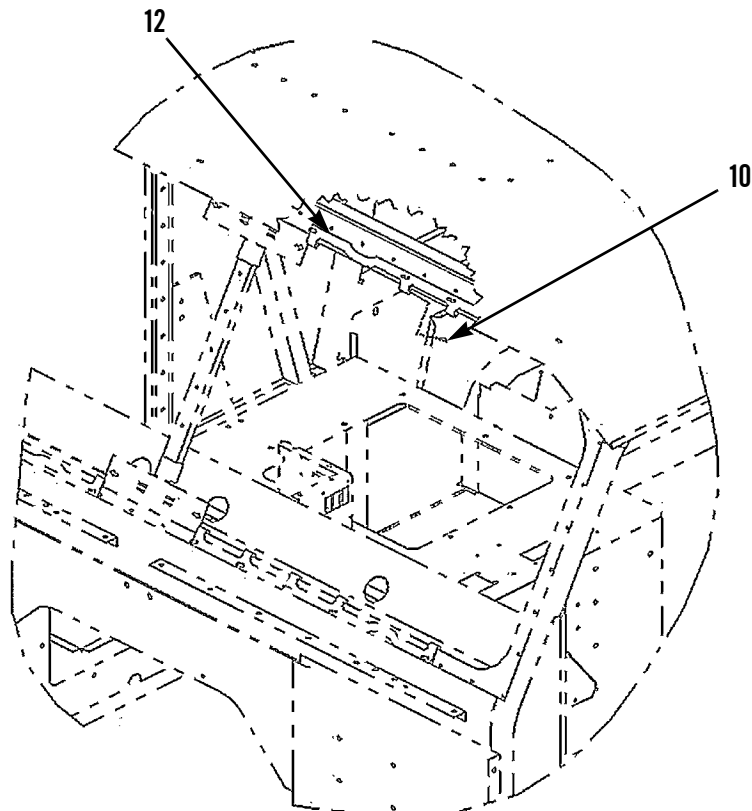
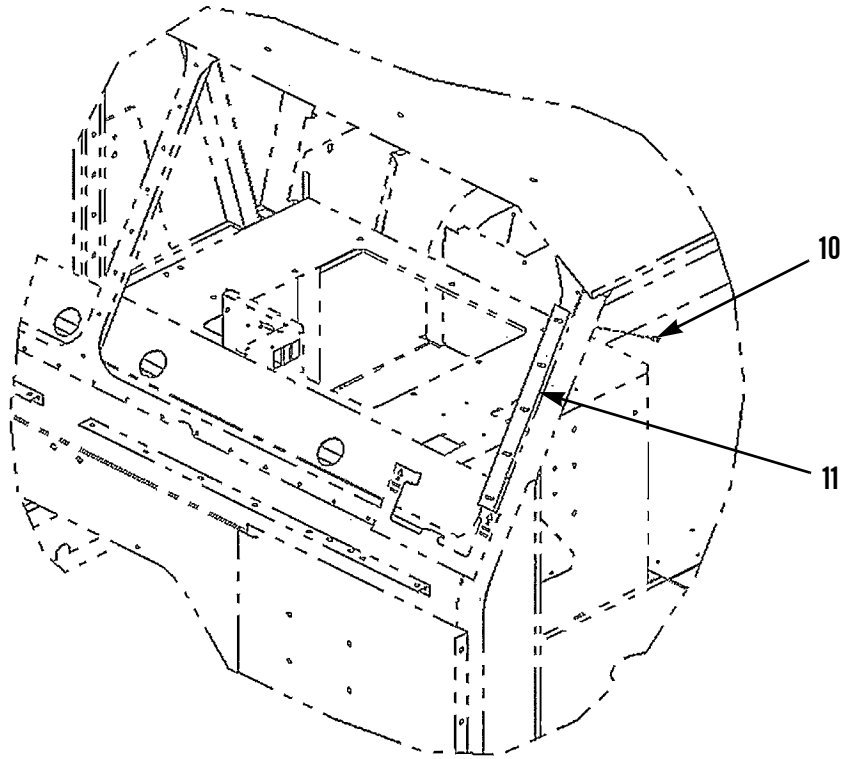


Figure 2. Windshield Armor Kit and Mounting Hardware (Sheet 2 of 4)

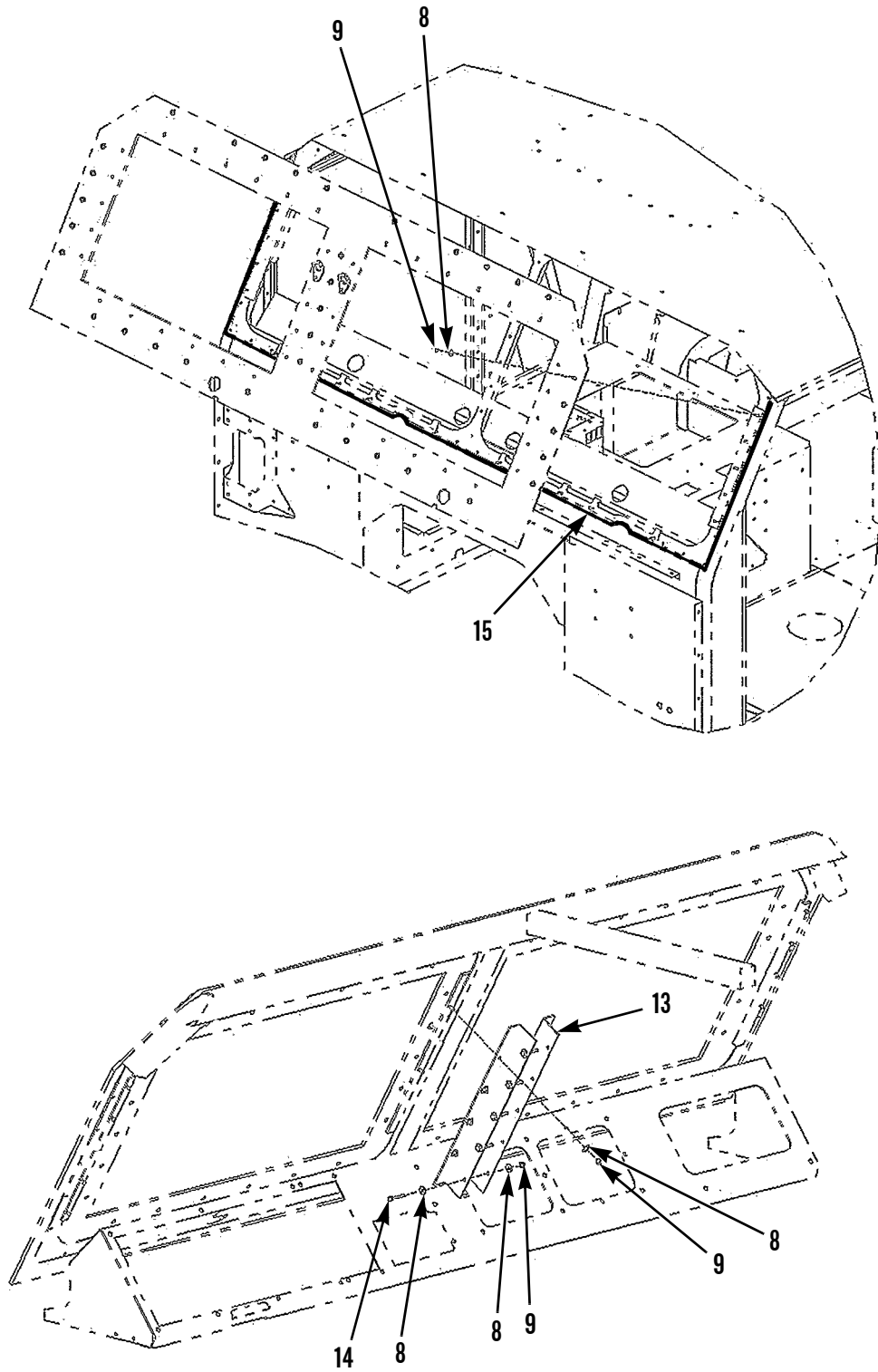


Figure 2. Windshield Armor Kit and Mounting Hardware (Sheet 3 of 4)

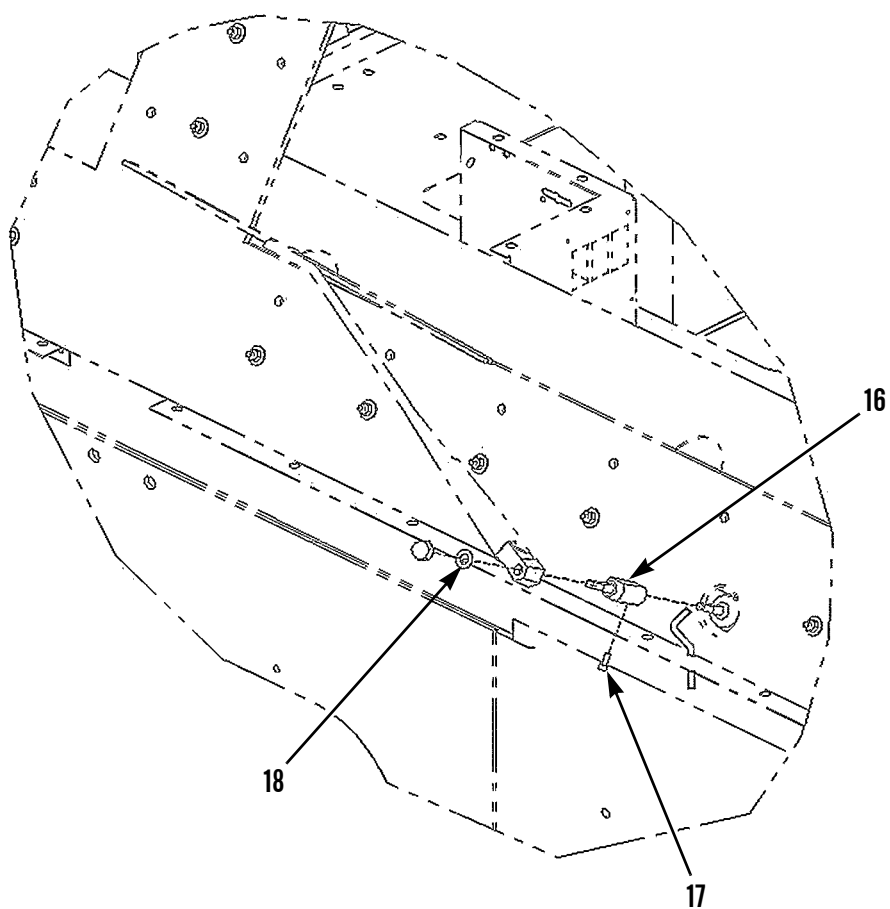


Figure 2. Windshield Armor Kit and Mounting Hardware (Sheet 4 of 4)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 2 WINDSHIELD ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285128	54786	113870-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	2540015344054	54786	113402-1-103	.ARMOR,SUPPLEMENTAL,.....	1
3	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	2
4	PAOZZ	2590015339774	54786	113478-1-103	.BRACKET,VEHICULAR C.....	2
5	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	2
6	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	2
7	PAOZZ	5340015321814	54786	113384-1-103	.PLATE,MOUNTING.....	1
8	PAOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT.....	53
9	PAOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT,SELF-LOCKING,HE.....	48
10	PAOZZ	5305015340032	39428	91410A537	.SETSCREW.....	30
11	PAOZZ	2590015321423	54786	106734-7-103	.BRACKET,VEHICULAR C SIDE MOUNTING.	2
12	PAOZZ	2590015340449	54786	113426-1-103	.BRACKET,VEHICULAR C.....	4
13	PAOZZ	2590015315017	54786	113385-1-103	.BRACKET,VEHICULAR C.....	2
14	PAOZZ	5305000712510	80204	B1821BH025C175N	.SCREW,CAP,HEXAGON H.....	5
15	PAOZZ	5330015341386	54786	X-275-HT	.SEAL CUT TO FIT-APPROX. 20 FEET, 6 INCHES.....	V
16	PAOZZ	5365015319624	54786	111408-3	.SPACER,SLEEVE.....	2
17	PAOZZ	5305013532008	53711	593-6405224 E 116	.SETSCREW.....	2
18	PAOZZ	5310001800277	18876	541844	.WASHER,LOCK.....	2

END OF FIGURE

1  
2-16

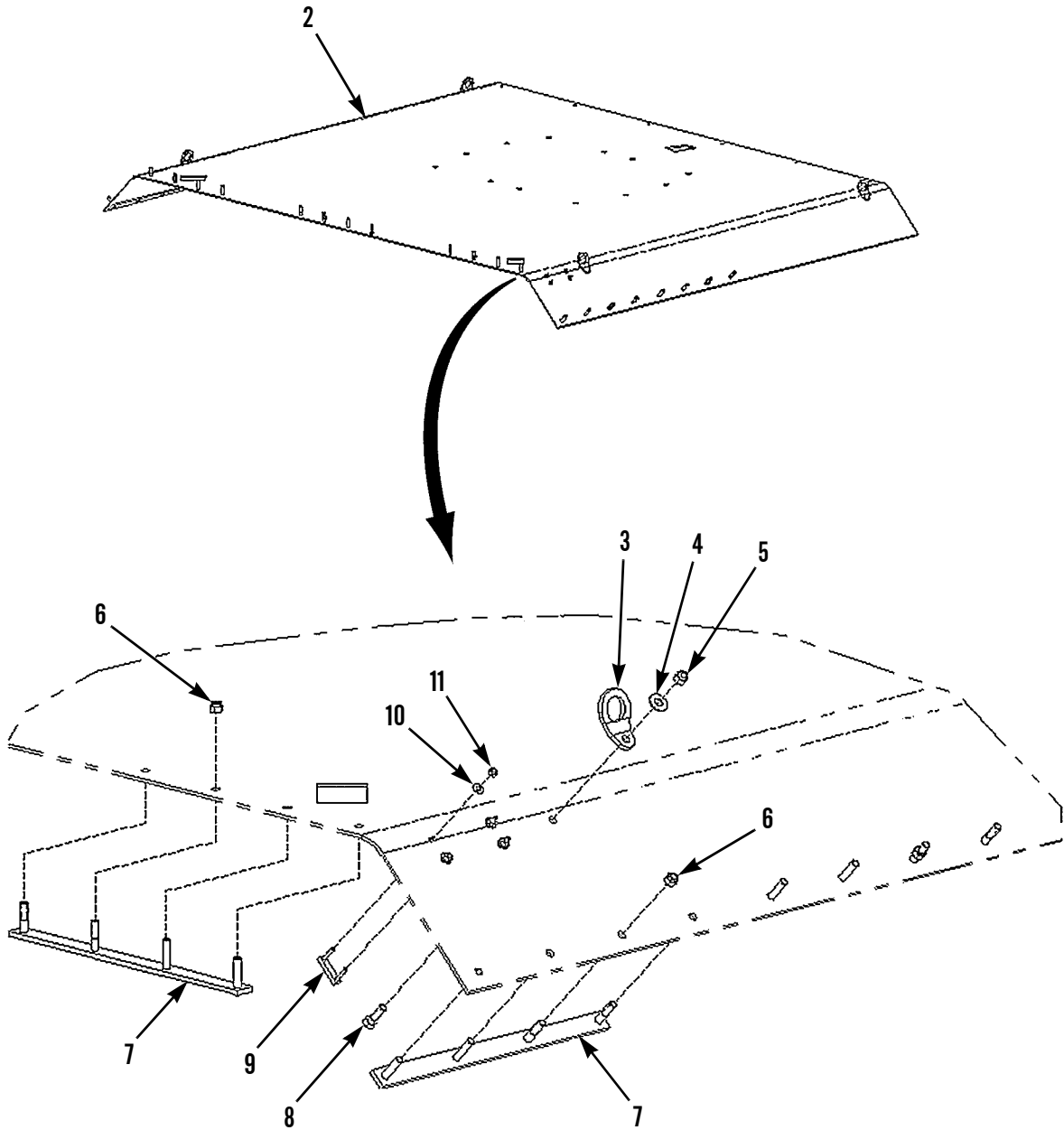


Figure 3. Roof Armor Kit and Mounting Hardware (Sheet 1 of 3)



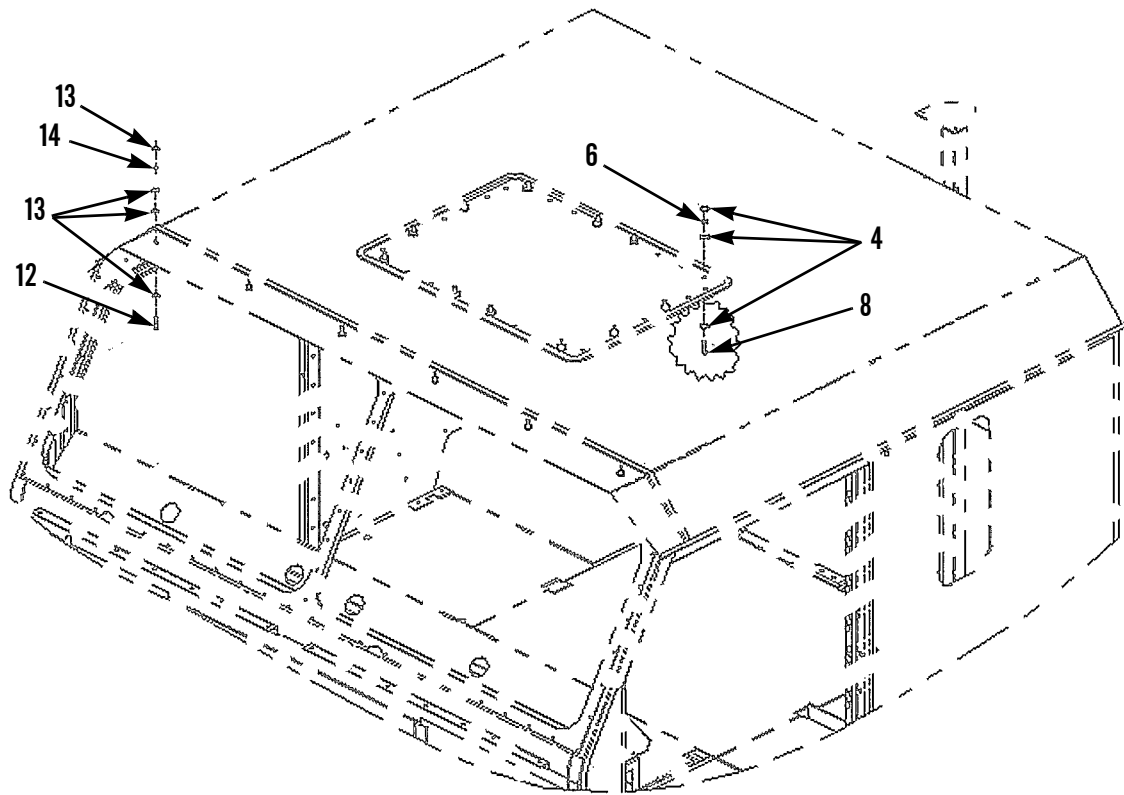


Figure 3. Roof Armor Kit and Mounting Hardware (Sheet 2 of 3)

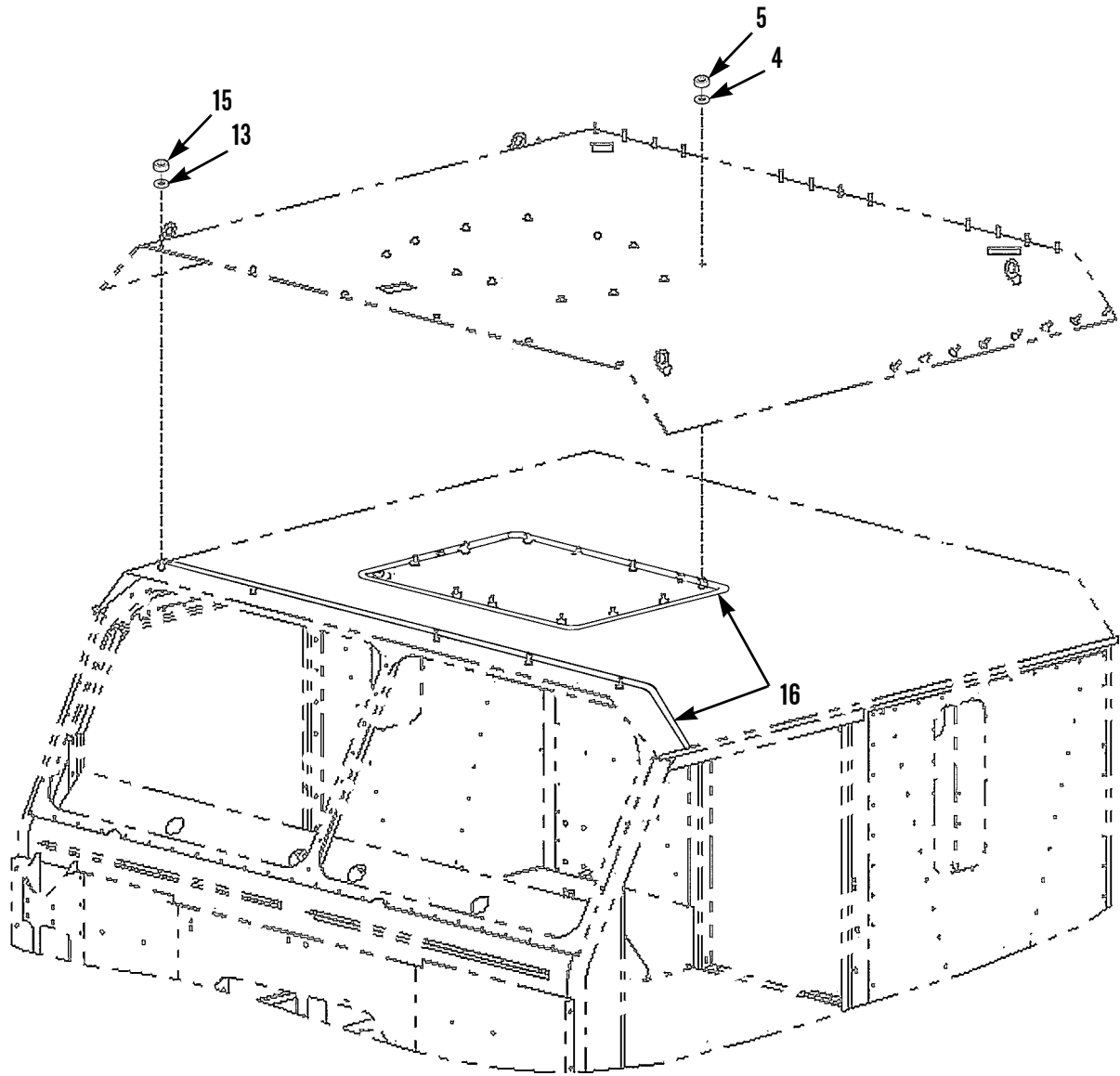


Figure 3. Roof Armor Kit and Mounting Hardware (Sheet 3 of 3)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 3 ROOF ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285136	54786	113871-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	2540015340406	54786	113441-1-103	.ARMOR,SUPPLEMENTAL,.....	1
3	PAOZZ	2590015339774	54786	113478-1-103	.BRACKET,VEHICULAR C.....	4
4	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	52
5	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	16
6	PAOZZ	5310014675662	9F512	333-16011	.NUT,PLAIN,HEXAGON.....	19
7	PAOZZ	2590015344015	54786	113416-1	.BRACKET,VEHICULAR C.....	7
8	PAOZZ	5305000680511	80204	B1821BH038C125N	.SCREW,CAP,HEXAGON H.....	16
9	PAOZZ	2590015339795	54786	113419-1	.BRACKET,VEHICULAR C.....	2
10	PAOZZ	5310008098544	96906	MS27183-7	.WASHER,FLAT.....	4
11	PAOZZ	5310012627899	39428	91839A235	.NUT,SELF-LOCKING,SL.....	4
12	PAOZZ	5305000680509	80204	B1821BH025C125N	.SCREW,CAP,HEXAGON H.....	6
13	PAOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT.....	30
14	PAOZZ	5310007616882	96906	MS51967-2	.NUT,PLAIN,HEXAGON.....	6
15	PAOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT,SELF-LOCKING,HE.....	6
16	PAOZZ	5330015341386	54786	X-275-HT	.SEAL CUT TO FIT-120 INCHES FOR OUTSIDE PERIMETER OF THE CENTER BOLT PATTERN AND 100 INCHES FOR REAR OF THE CABSUN VISOR.....	V

END OF FIGURE



1  
2-27

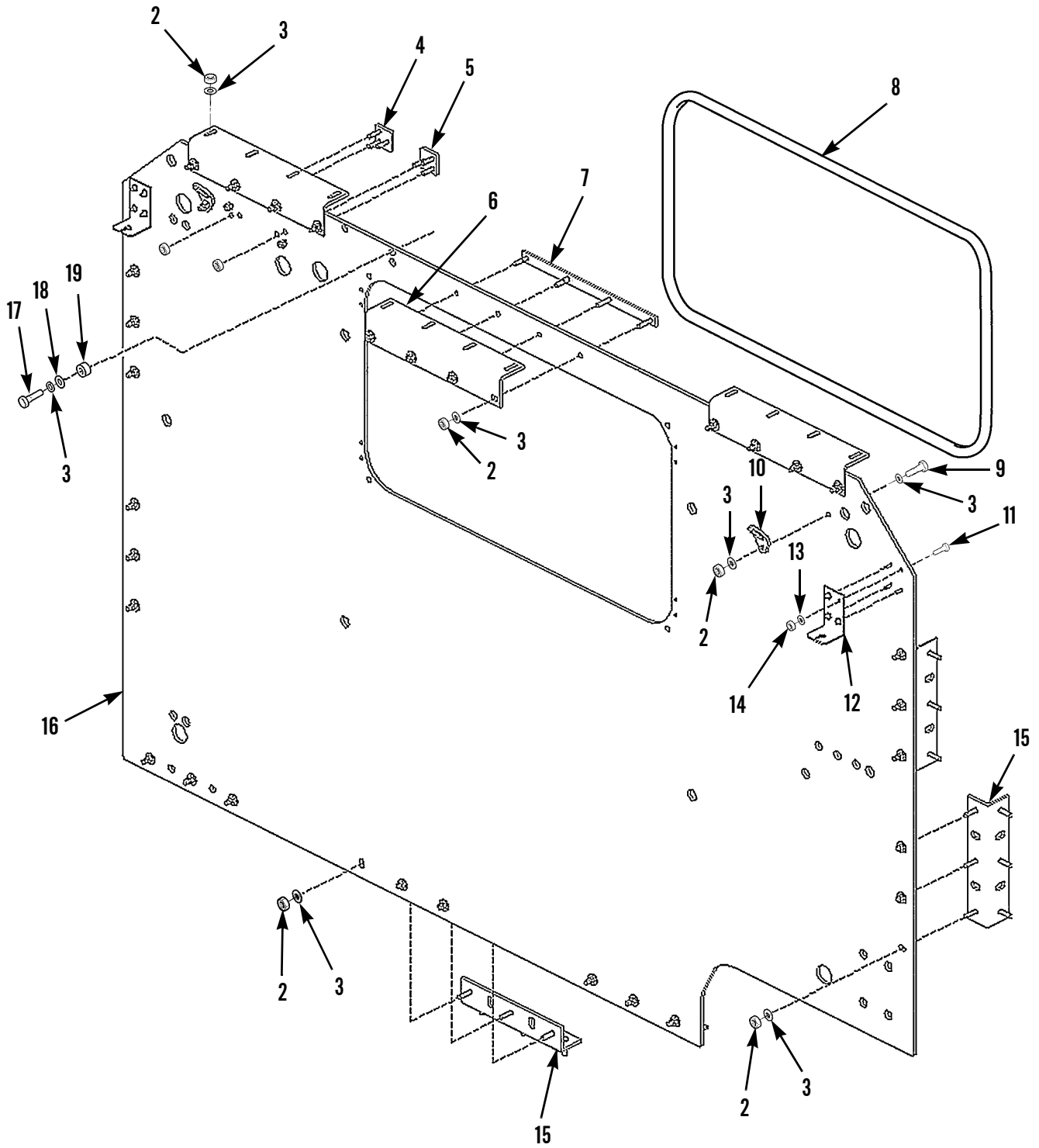


Figure 4. Rear Armor Kit and Mounting Hardware (Sheet 1 of 4)

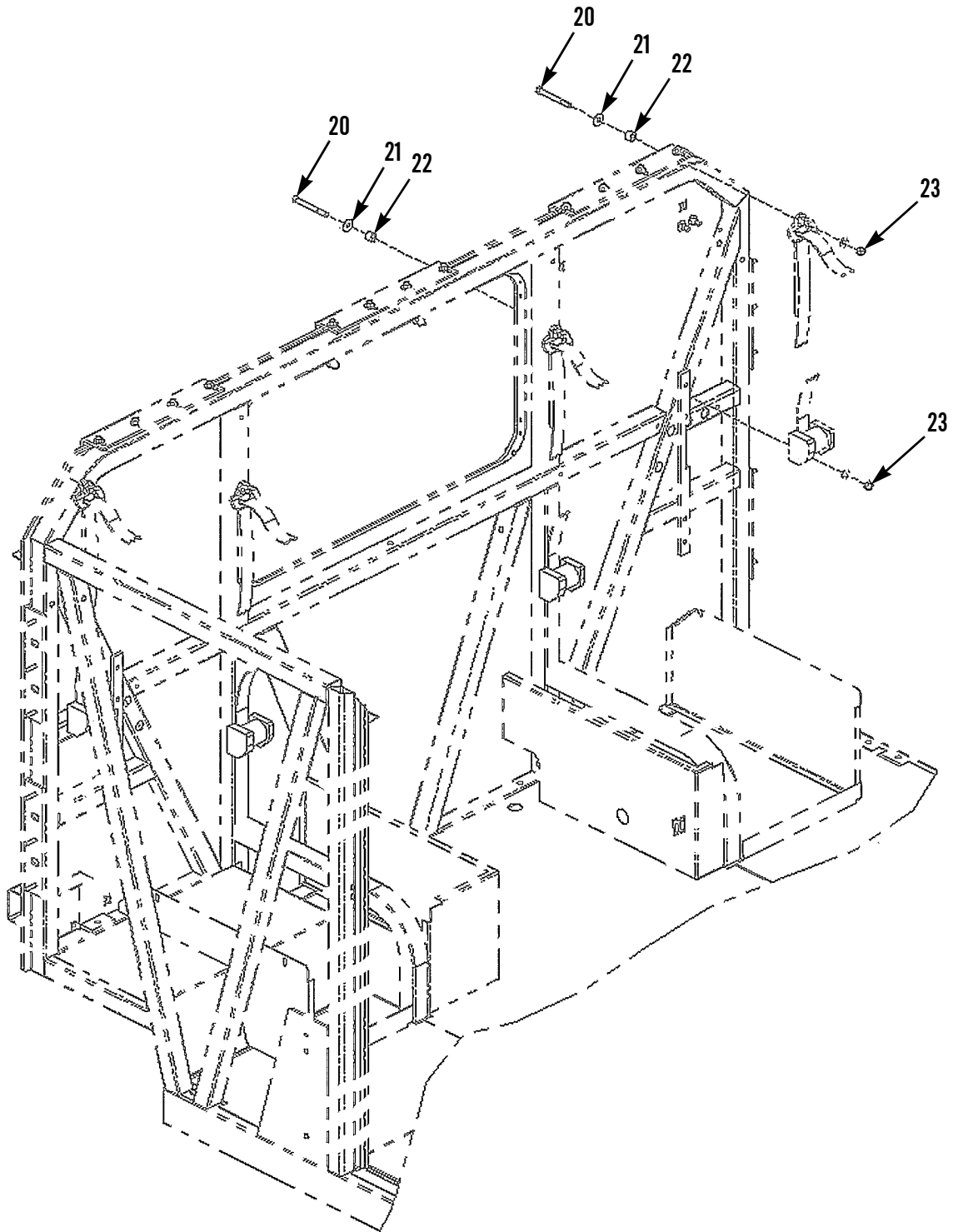


Figure 4. Rear Armor Kit and Mounting Hardware (Sheet 2 of 4)

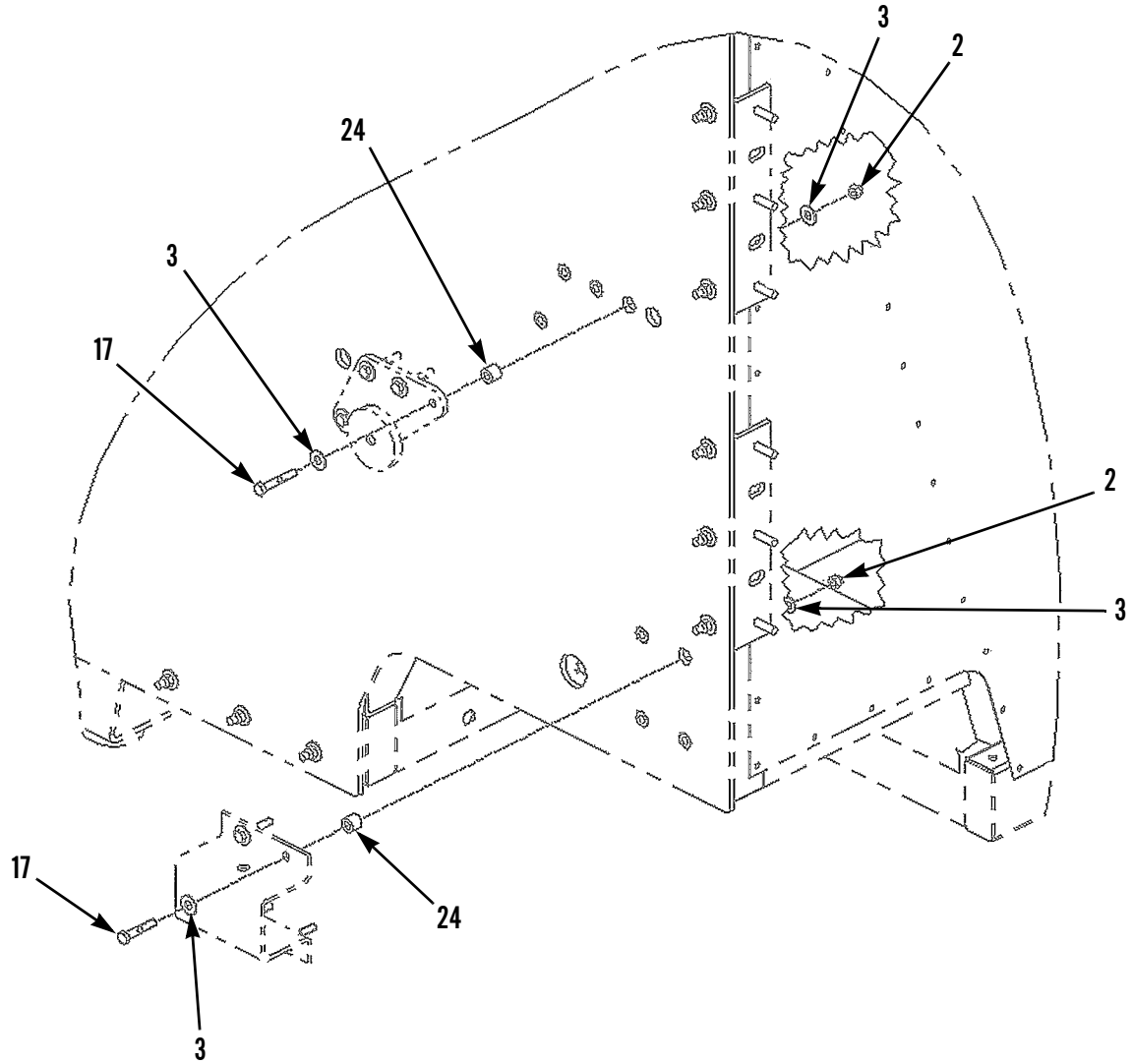


Figure 4. Rear Armor Kit and Mounting Hardware (Sheet 3 of 4)

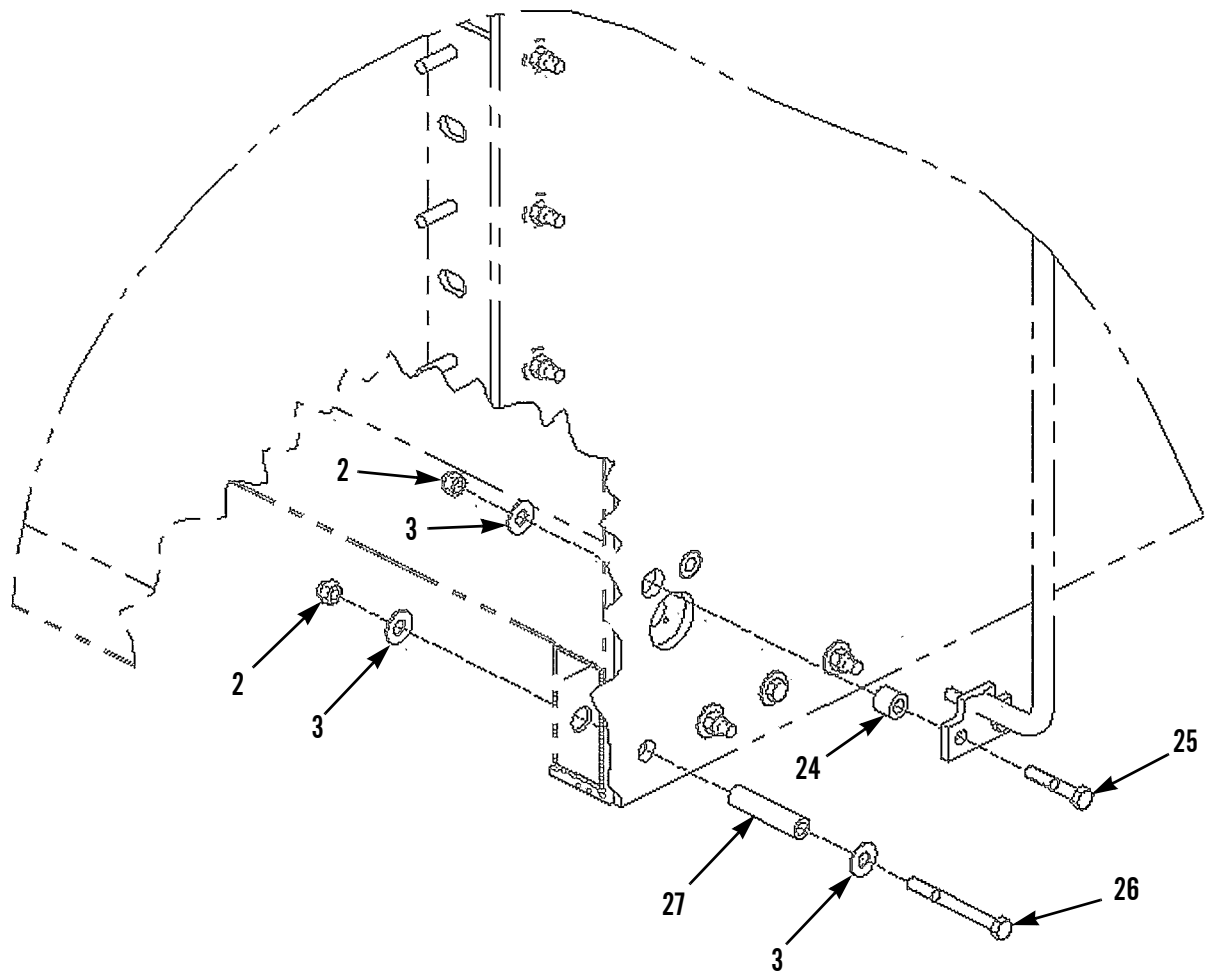


Figure 4. Rear Armor Kit and Mounting Hardware (Sheet 4 of 4)



(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 4 REAR ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285137	54786	113872-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	63
3	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	71
4	PAOZZ	2590015339797	54786	113422-3	.BRACKET,VEHICULAR C.....	1
5	PAOZZ	2590015344044	54786	113422-1	.BRACKET,VEHICULAR C.....	1
6	PAOZZ	2590015340445	54786	113414-1-103	.BRACKET,VEHICULAR C.....	3
7	PAOZZ	2590015344015	54786	113416-1	.BRACKET,VEHICULAR C.....	3
8	PAOZZ	5330015344053	54786	6100B3X1/16A	.SEAL CUT TO FIT-APPROX. 10 FEET... V	3
9	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	2
10	PAOZZ	2590015339774	54786	113478-1-103	.BRACKET,VEHICULAR C.....	2
11	PAOZZ	5305011696026	39428	91259A542	.SCREW,CAP,SOCKET HE.....	8
12	PAOZZ	2590015340370	54786	113444-1	.BRACKET,VEHICULAR C.....	2
13	PAOZZ	5310008098544	96906	MS27183-7	.WASHER,FLAT.....	8
14	PAOZZ	5310012627899	39428	91839A235	.NUT,SELF-LOCKING,SL.....	16
15	PAOZZ	2590015344011	54786	113415-1	.BRACKET,VEHICULAR C.....	7
16	PAOZZ	2540015339811	54786	113451-1-103	.ARMOR,SUPPLEMENTAL,.....	1
17	PAOZZ	5305006388920	80204	B1821BH038C225N	.SCREW,CAP,HEXAGON H.....	4
18	PAOZZ	5310006379541	72452	1459-68	.WASHER,LOCK.....	8
19	PAOZZ	5365015339918	54786	113473-1	.SPACER,SLEEVE.....	3
20	PAOZZ	5305000712063	80204	B1821BH044C400N	.SCREW,CAP,HEXAGON H.....	8
21	PAOZZ	5310008094061	96906	MS27183-15	.WASHER,FLAT.....	8
22	PAOZZ	5365015344058	54786	113440-1	.SPACER,SLEEVE.....	8
23	PAOZZ	5310002416659	81349	M45913/3-7CG8C	.NUT,SELF-LOCKING,HE.....	8
24	PAOZZ	5365015339921	54786	113440-3	.SPACER,SLEEVE.....	12
25	PAOZZ	5305007829489	80204	B1821BH038C200N	.SCREW,CAP,HEXAGON H.....	11
26	PAOZZ	5305007813927	80204	B1821BH038C350N	.SCREW,CAP,HEXAGON H.....	2
27	PAOZZ	5365015340895	54786	113475-3	.SPACER,SLEEVE.....	2

END OF FIGURE



1  
2-18

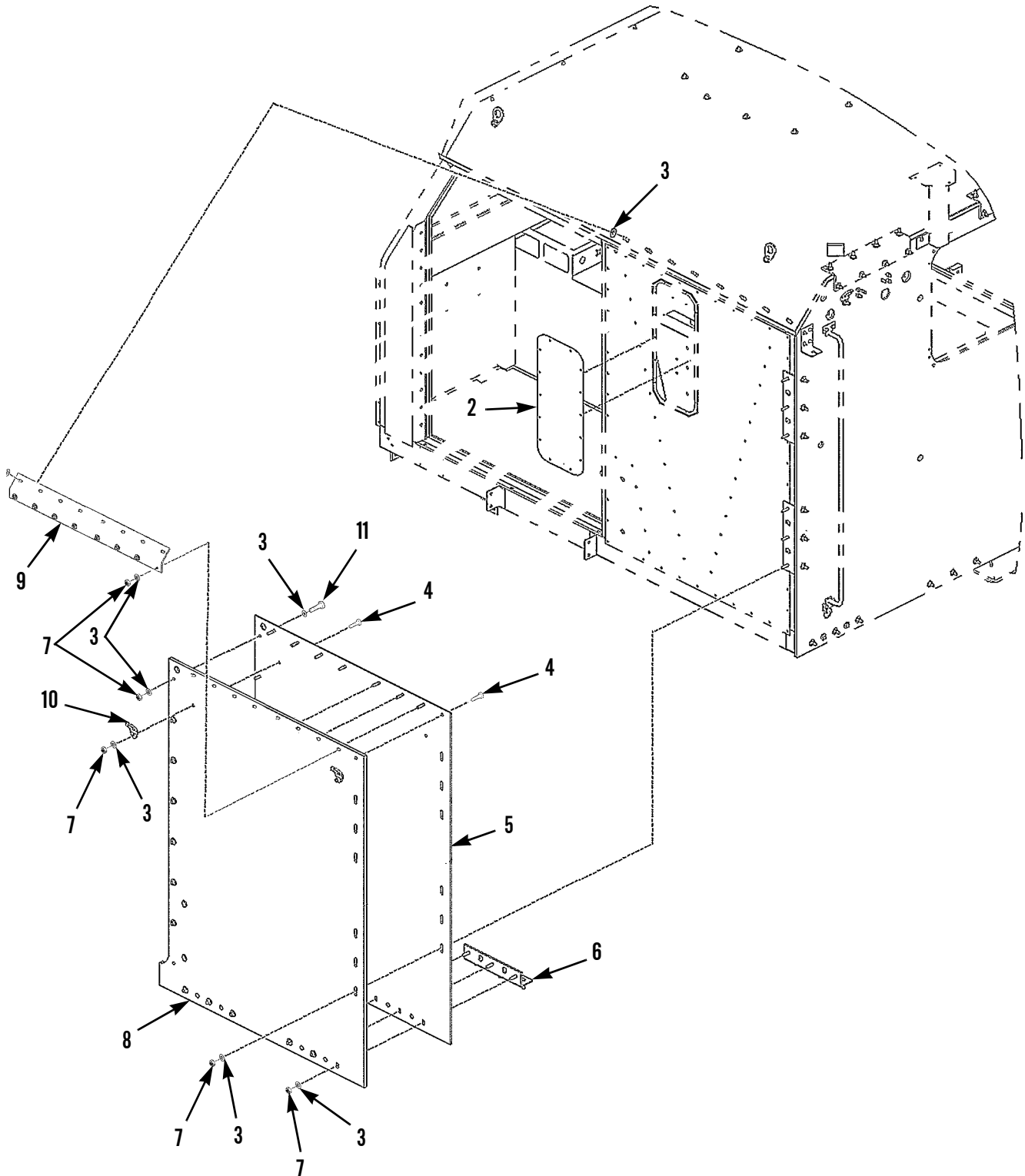


Figure 5. Left Side Panel Armor Kit and Mounting Hardware (Sheet 1 of 2)

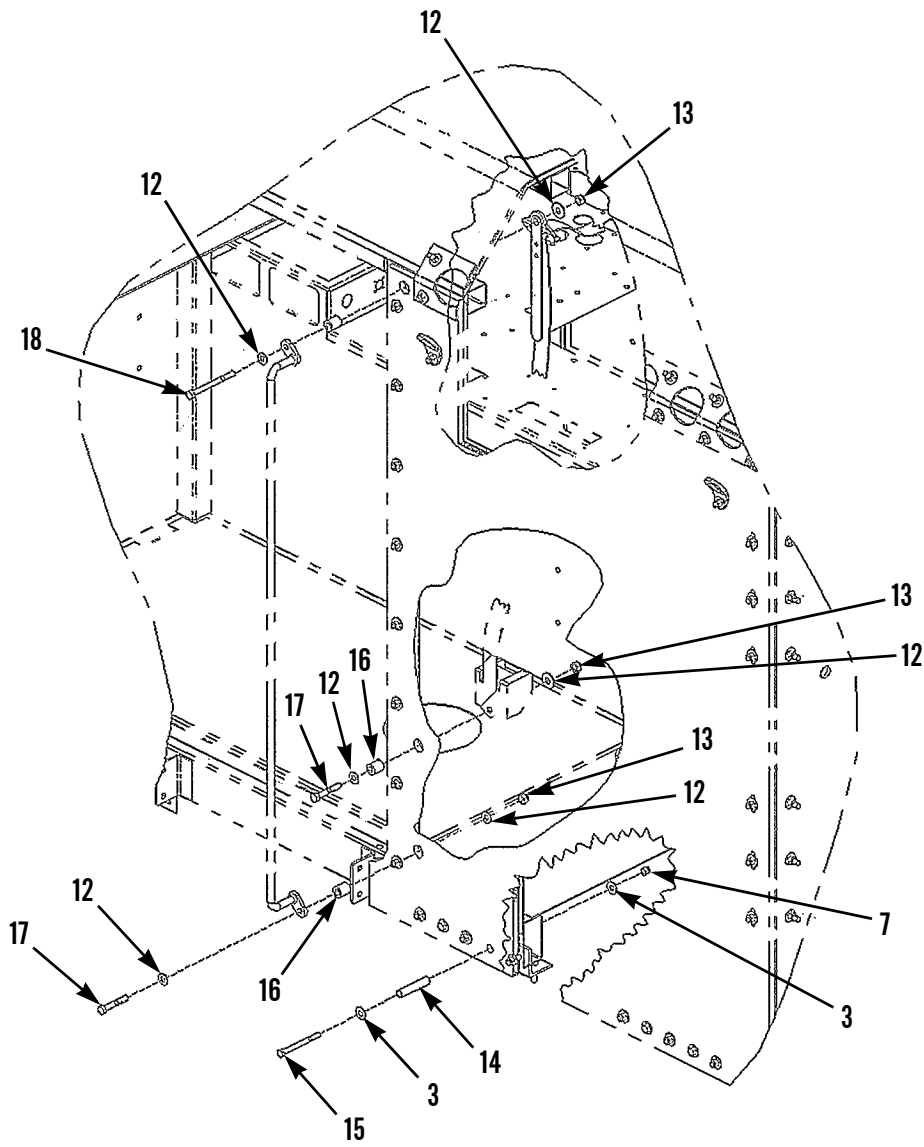


Figure 5. Left Side Panel Armor Kit and Mounting Hardware (Sheet 2 of 2)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 5 LEFT SIDE PANEL ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285143	54786	113873-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	2540015341747	54786	113479-1	.COVER,VEHICLE WINDO.....	1
3	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	72
4	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	10
5	PAOZZ	2540015343983	54786	113412-3-103	.ARMOR,SUPPLEMENTAL,.....	1
6	PAOZZ	2590015344011	54786	113415-1	.BRACKET,VEHICULAR C.....	2
7	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	42
8	PAOZZ	2540015339953	54786	113412-1-103	.ARMOR,SUPPLEMENTAL,.....	1
9	PAOZZ	2590015340368	54786	113406-1-103	.ARMOR,SUPPLEMENTAL,.....	1
10	PAOZZ	2590015339774	54786	113478-1-103	.BRACKET,VEHICULAR C.....	2
11	PAOZZ	5305000680511	80204	B1821BH038C125N	.SCREW,CAP,HEXAGON H.....	8
12	PAOZZ	5310008094061	96906	MS27183-15	.WASHER,FLAT.....	1
13	PAOZZ	5310002416659	81349	M45913/3-7CG8C	.NUT,SELF-LOCKING,HE.....	3
14	PAOZZ	5365015339923	54786	113475-1	.SPACER,SLEEVE.....	4
15	PAOZZ	5305007813928	80204	B1821BH038C400N	.SCREW,CAP,HEXAGON H.....	4
16	PAOZZ		54786	113440-2	.SPACER,SLEEVE.....	3
17	PAOZZ	5305000712059	80204	B1821BH044C250N	.SCREW,CAP,HEXAGON H.....	2
18	PAOZZ	5305000712064	80204	B1821BH044C450N	.SCREW,CAP,HEXAGON H.....	1

END OF FIGURE



1  
2-18

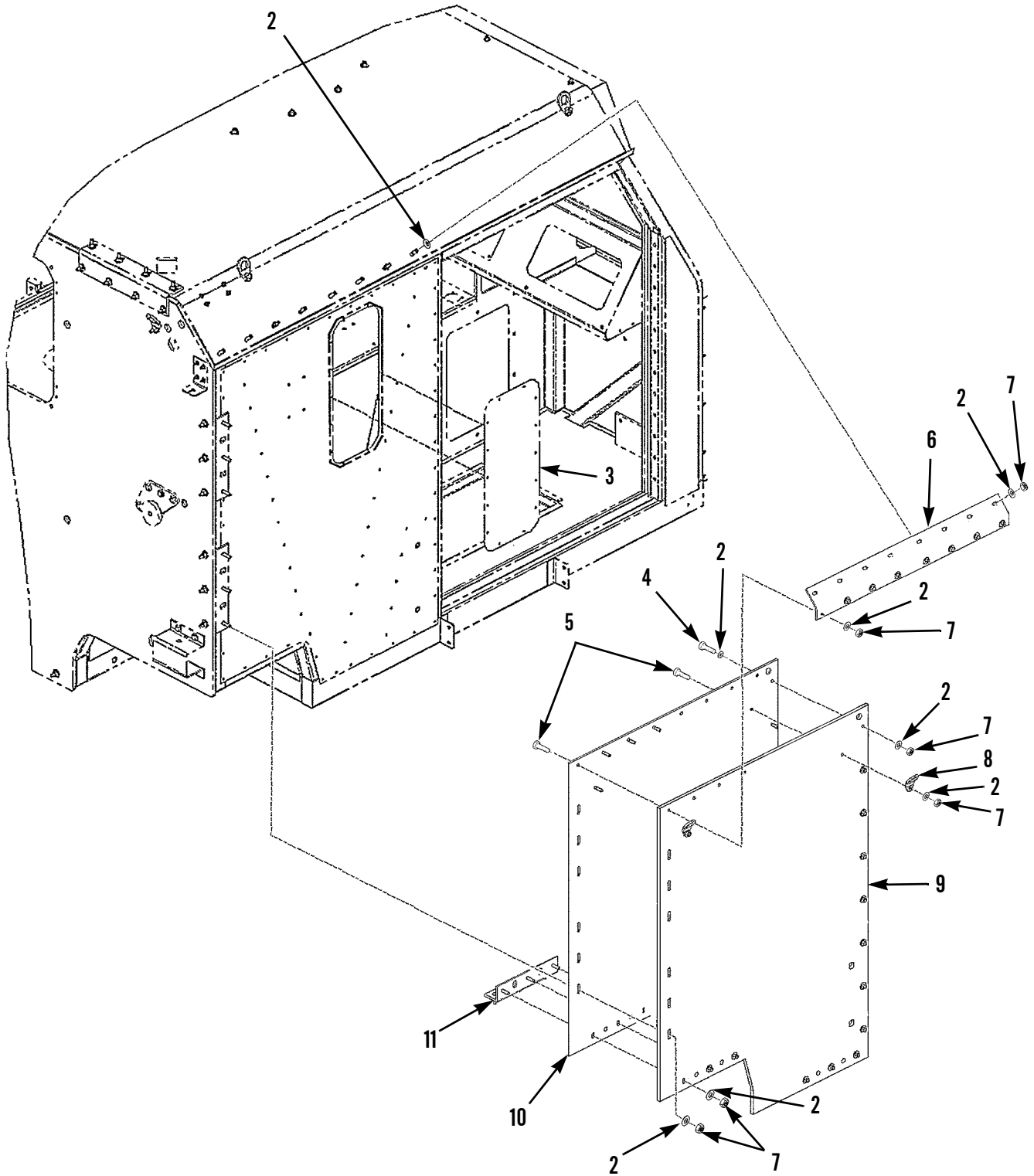


Figure 6. Right Side Panel Armor Kit and Mounting Hardware (Sheet 1 of 2)

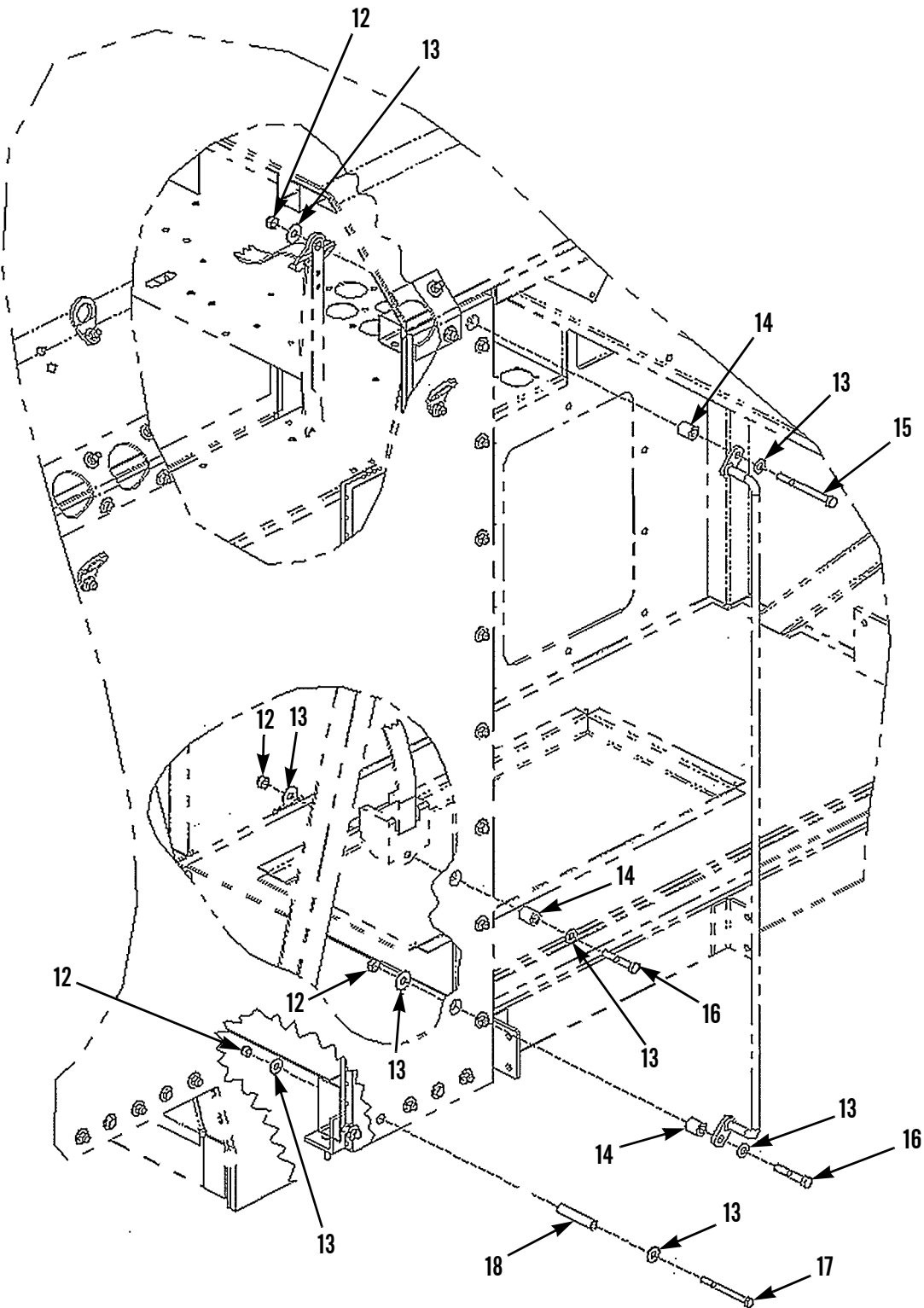


Figure 6. Right Side Panel Armor Kit and Mounting Hardware (Sheet 2 of 2)



(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 6 RIGHT SIDE PANEL ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285144	54786	113874-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	72
3	PAOZZ	2540015341747	54786	113479-1	.COVER,VEHICLE WINDO.....	1
4	PAOZZ	5305000680511	80204	B1821BH038C125N	.SCREW,CAP,HEXAGON H.....	8
5	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	10
6	PAOZZ	2590015340368	54786	113406-1-103	.ARMOR,SUPPLEMENTAL,.....	1
7	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	42
8	PAOZZ	2590015339774	54786	113478-1-103	.BRACKET,VEHICULAR C.....	2
9	PAOZZ	2540015343963	54786	113412-2-103	.ARMOR,SUPPLEMENTAL,.....	1
10	PAOZZ	2540015339991	54786	113412-4-103	.ARMOR,SUPPLEMENTAL,.....	1
11	PAOZZ	2590015344011	54786	113415-1	.BRACKET,VEHICULAR C.....	1
12	PAOZZ	5310002416659	81349	M45913/3-7CG8C	.NUT,SELF-LOCKING,HE.....	3
13	PAOZZ	5310008094061	96906	MS27183-15	.WASHER,FLAT.....	1
14	PAOZZ		54786	113440-2	.SPACER,SLEEVE.....	3
15	PAOZZ	5305000712064	80204	B1821BH044C450N	.SCREW,CAP,HEXAGON H.....	1
16	PAOZZ	5305000712059	80204	B1821BH044C250N	.SCREW,CAP,HEXAGON H.....	2
17	PAOZZ	5305007813928	80204	B1821BH038C400N	.SCREW,CAP,HEXAGON H.....	4
18	PAOZZ	5365015339923	54786	113475-1	.SPACER,SLEEVE.....	4

END OF FIGURE



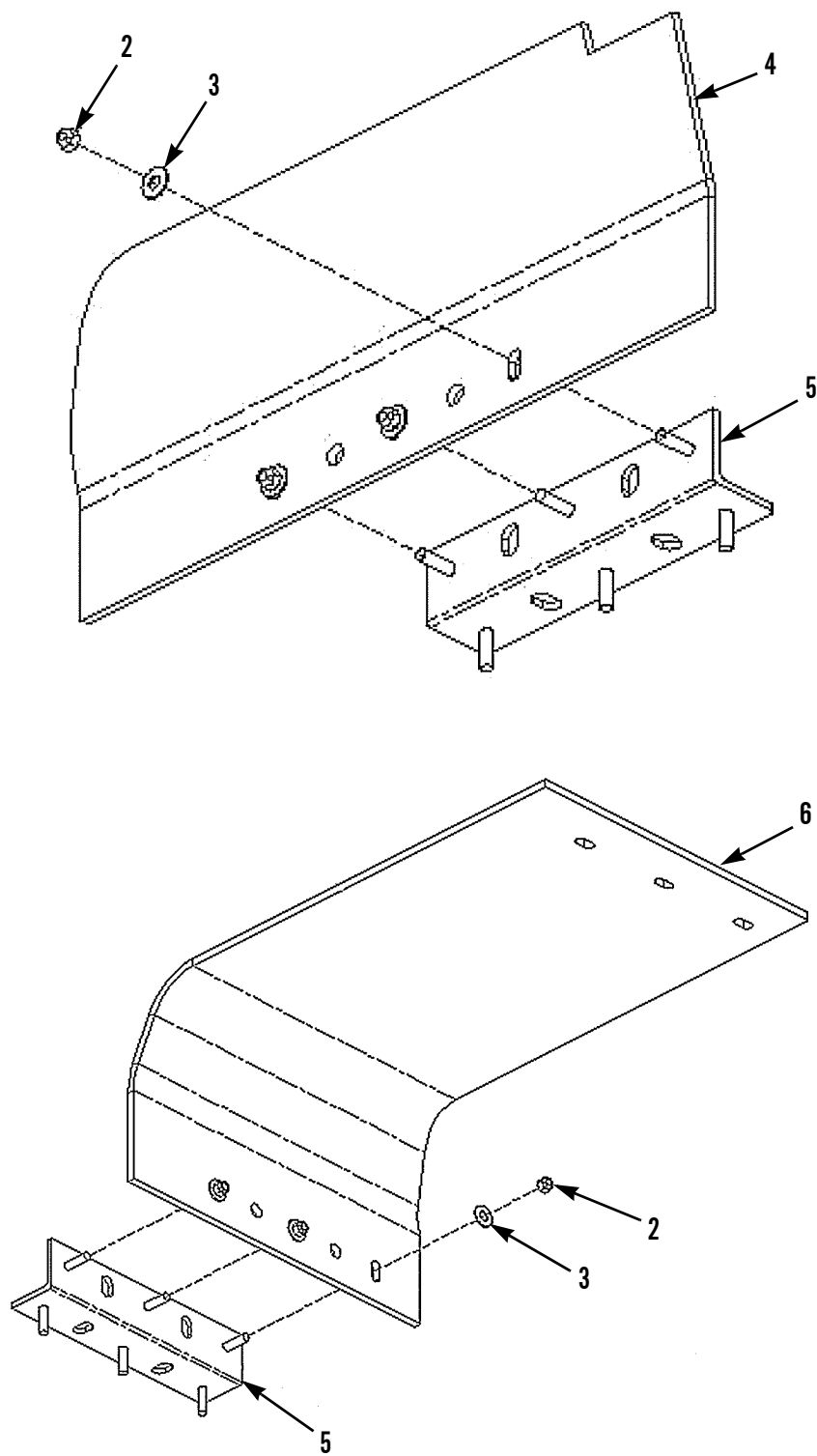


Figure 7. Wheel Well Armor Kit and Mounting Hardware (Sheet 1 of 2)

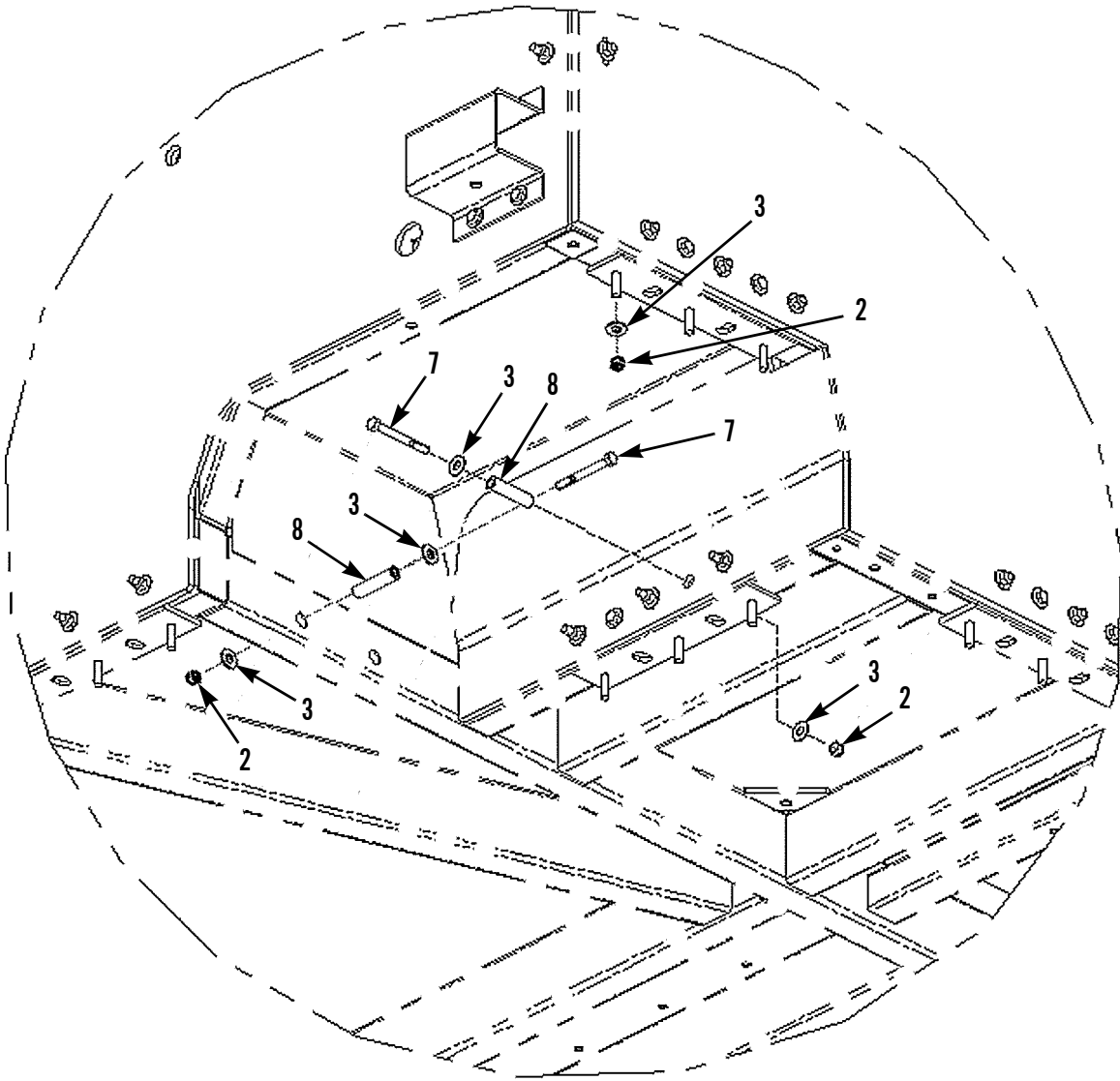


Figure 7. Wheel Well Armor Kit and Mounting Hardware (Sheet 2 of 2)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 7 WHEEL WELL ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285146	54786	113875-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	13
3	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	17
4	PAOZZ	2540015340323	54786	113453-1-103	.ARMOR,SUPPLEMENTAL, LOWER.....	1
5	PAOZZ	2590015344011	54786	113415-1	.BRACKET,VEHICULAR C.....	2
6	PAOZZ	2540015339994	54786	113449-1-103	.ARMOR,SUPPLEMENTAL, UPPER.....	1
7	PAOZZ	5305007813927	80204	B1821BH038C350N	.SCREW,CAP,HEXAGON H.....	4
8	PAOZZ	5365015340895	54786	113475-3	.SPACER,SLEEVE.....	4

END OF FIGURE

1  
2-18

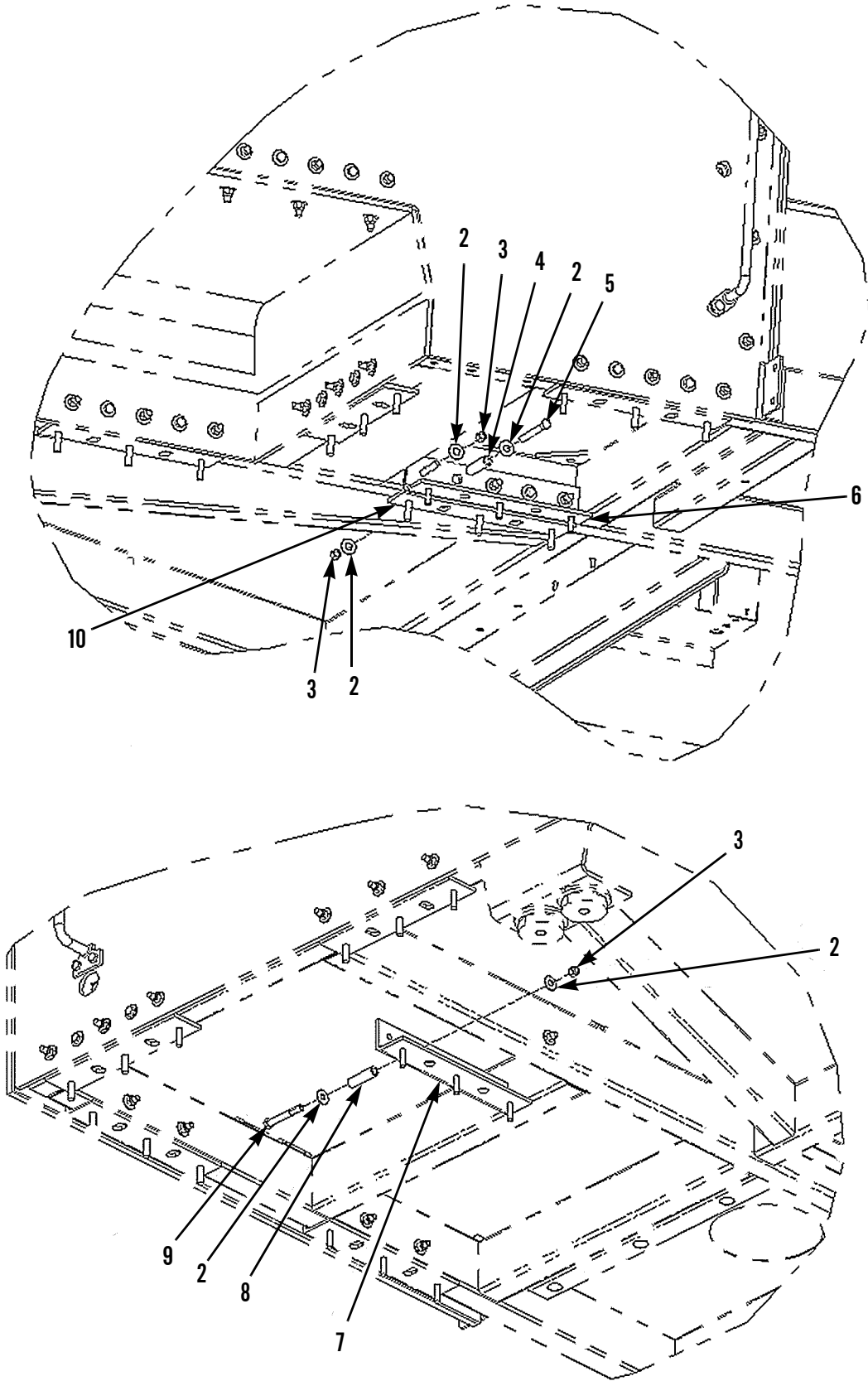


Figure 8. Center Mine Blast Armor Kit and Mounting Hardware (Sheet 1 of 3)

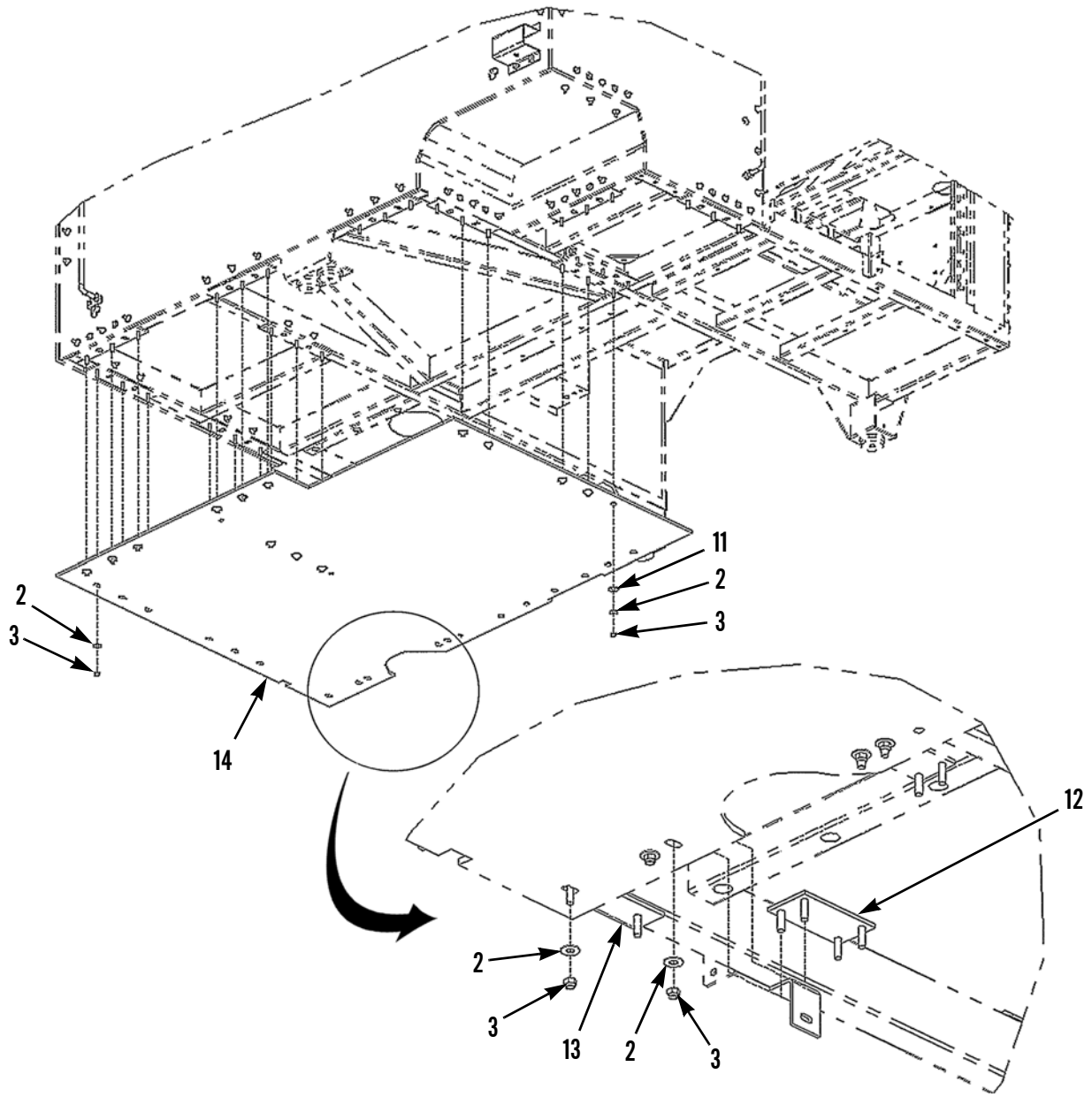


Figure 8. Center Mine Blast Armor Kit and Mounting Hardware (Sheet 2 of 3)

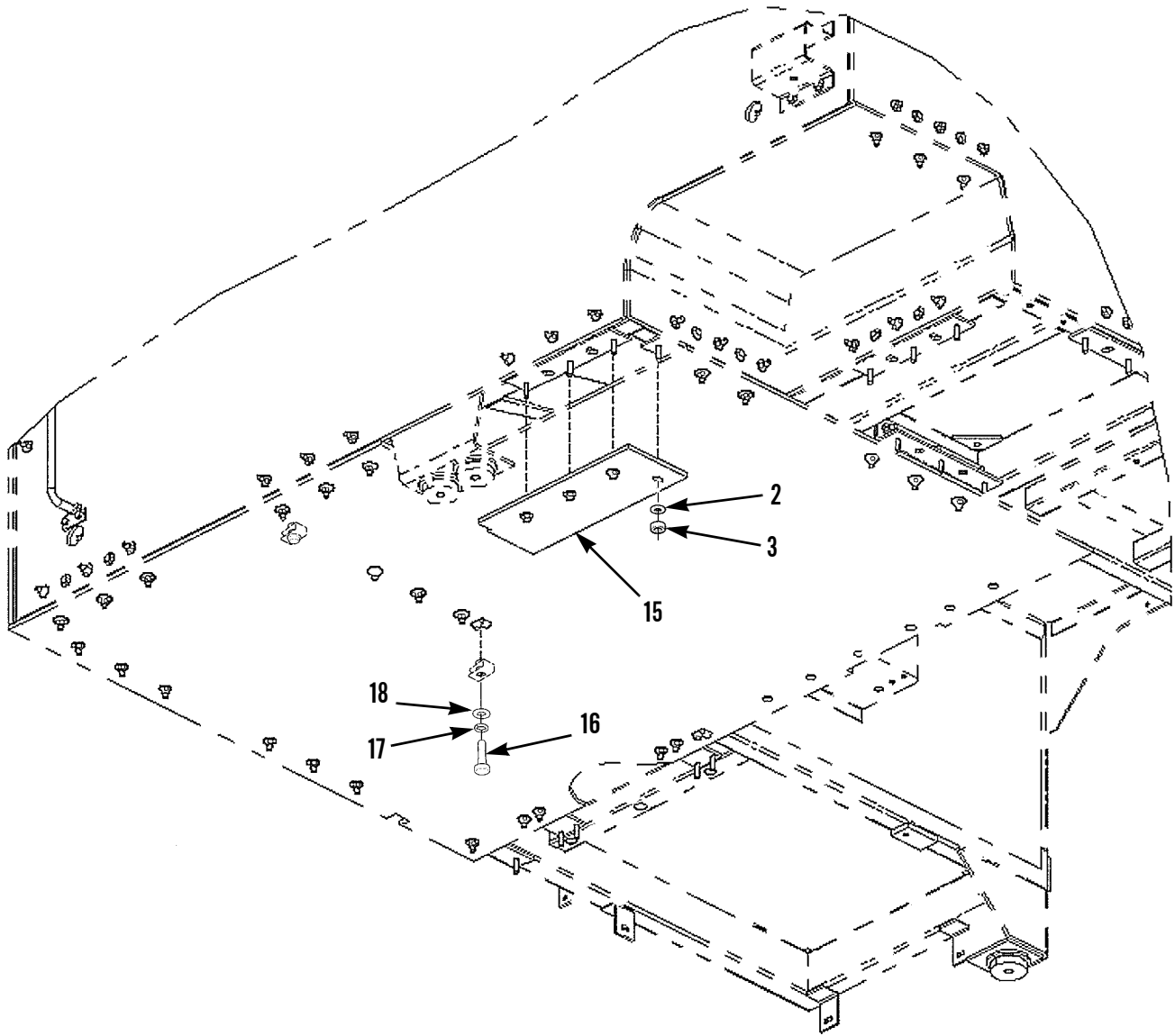


Figure 8. Center Mine Blast Armor Kit and Mounting Hardware (Sheet 3 of 3)



(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 8 CENTER MINE BLAST ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285148	54786	113876-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	40
3	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	36
4	PAOZZ	5365015339919	54786	113475-5	.SPACER,SLEEVE.....	2
5	PAOZZ	5305007813927	80204	B1821BH038C350N	.SCREW,CAP,HEXAGON H.....	2
6	PAOZZ	2590015340315	54786	113420-3	.BRACKET,VEHICULAR C.....	1
7	PAOZZ	2590015340394	54786	113420-1	.BRACKET,VEHICULAR C.....	1
8	PAOZZ	5365015339668	54786	113475-7	.SPACER,SLEEVE.....	2
9	PAOZZ	5305008465703	80204	B1821BH038C300N	.SCREW,CAP,HEXAGON H.....	2
10	PAOZZ	2590015344011	54786	113415-1	.BRACKET,VEHICULAR C.....	1
11	PAOZZ	5310008094061	96906	MS27183-15	.WASHER,FLAT.....	14
12	PAOZZ	2590015340380	54786	113471-1	.BRACKET,VEHICULAR C.....	2
13	PAOZZ	2590015340432	54786	113472-1	.BRACKET,VEHICULAR C.....	1
14	PAOZZ	2540015343987	54786	113462-1-103	.ARMOR,SUPPLEMENTAL, CENTER.....	1
15	PAOZZ	2540015339824	54786	113460-1-103	.ARMOR,SUPPLEMENTAL, CENTER-REAR...	1
16	PAOZZ	5305000712510	80204	B1821BH025C175N	.SCREW,CAP,HEXAGON H.....	3
17	PAOZZ	5310005825965	80205	MS35338-44	.WASHER,LOCK.....	3
18	PAOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT.....	3

END OF FIGURE

1  
2-21

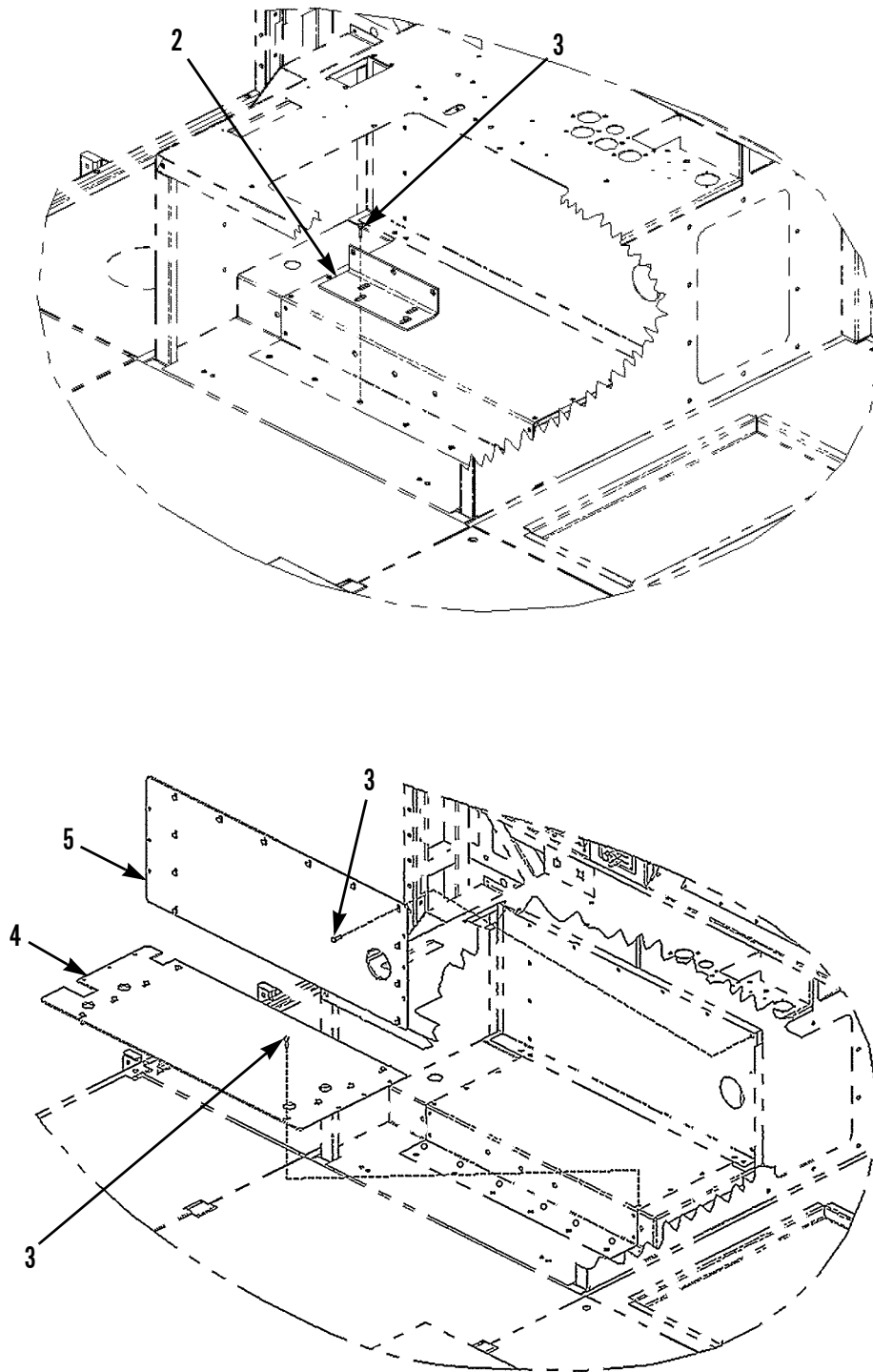


Figure 9. Doghouse Armor Kit and Mounting Hardware (Sheet 1 of 9)

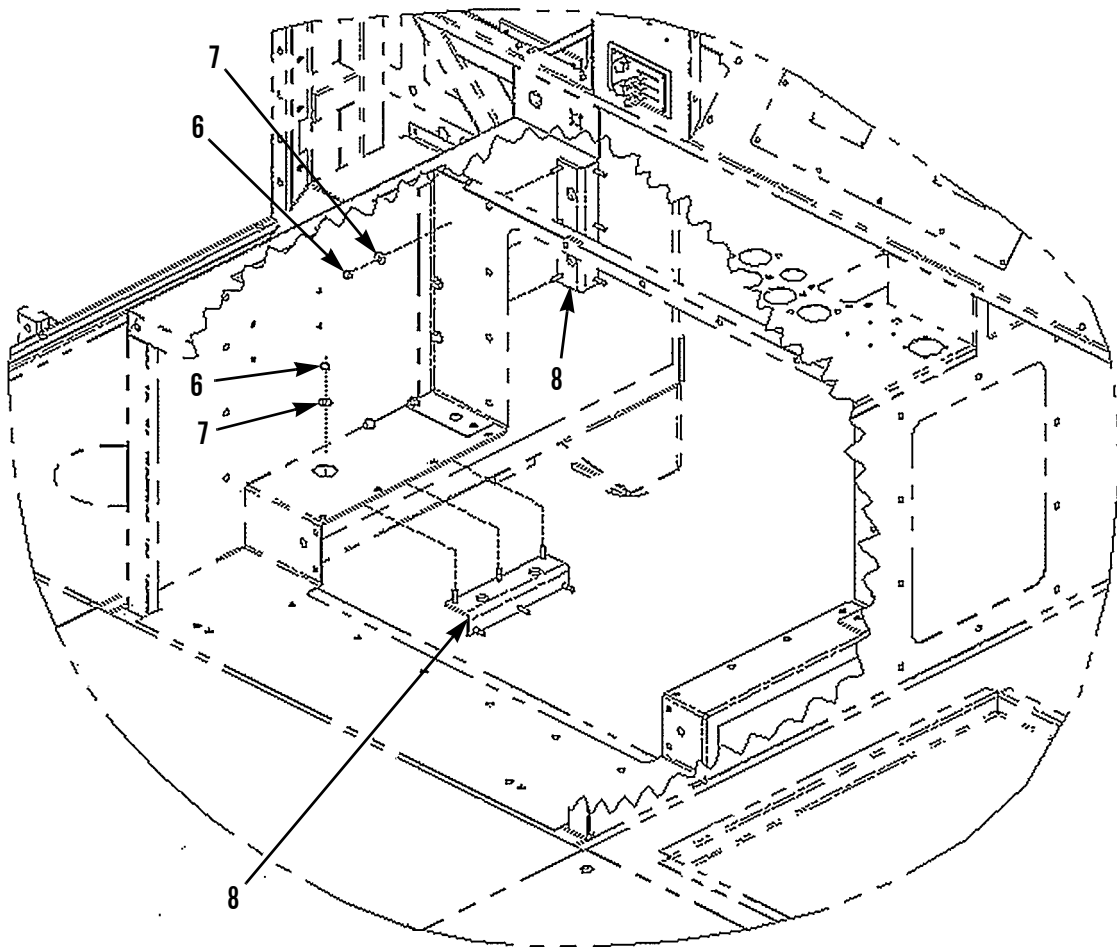


Figure 9. Doghouse Armor Kit and Mounting Hardware (Sheet 2 of 9)

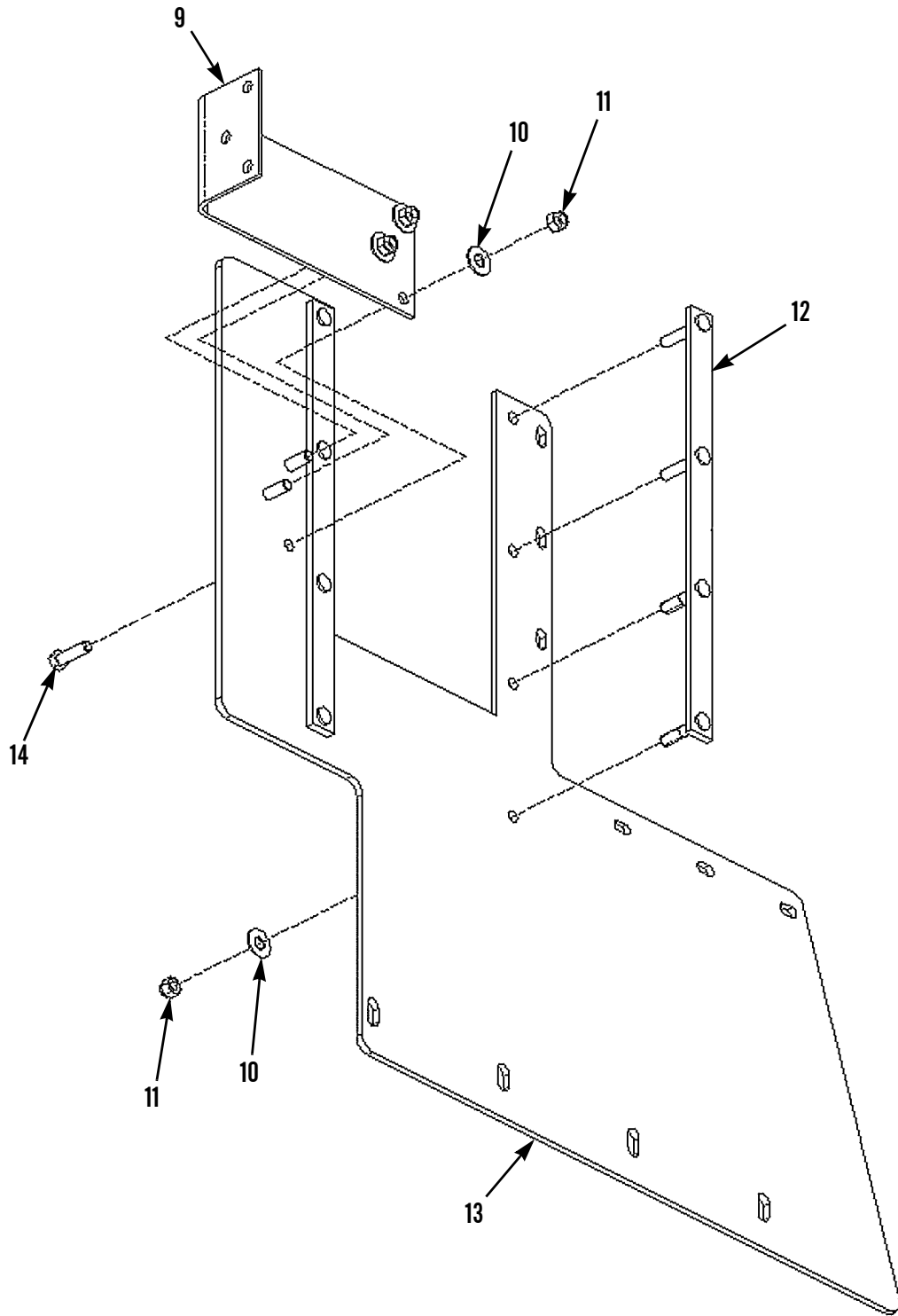


Figure 9. Doghouse Armor Kit and Mounting Hardware (Sheet 3 of 9)

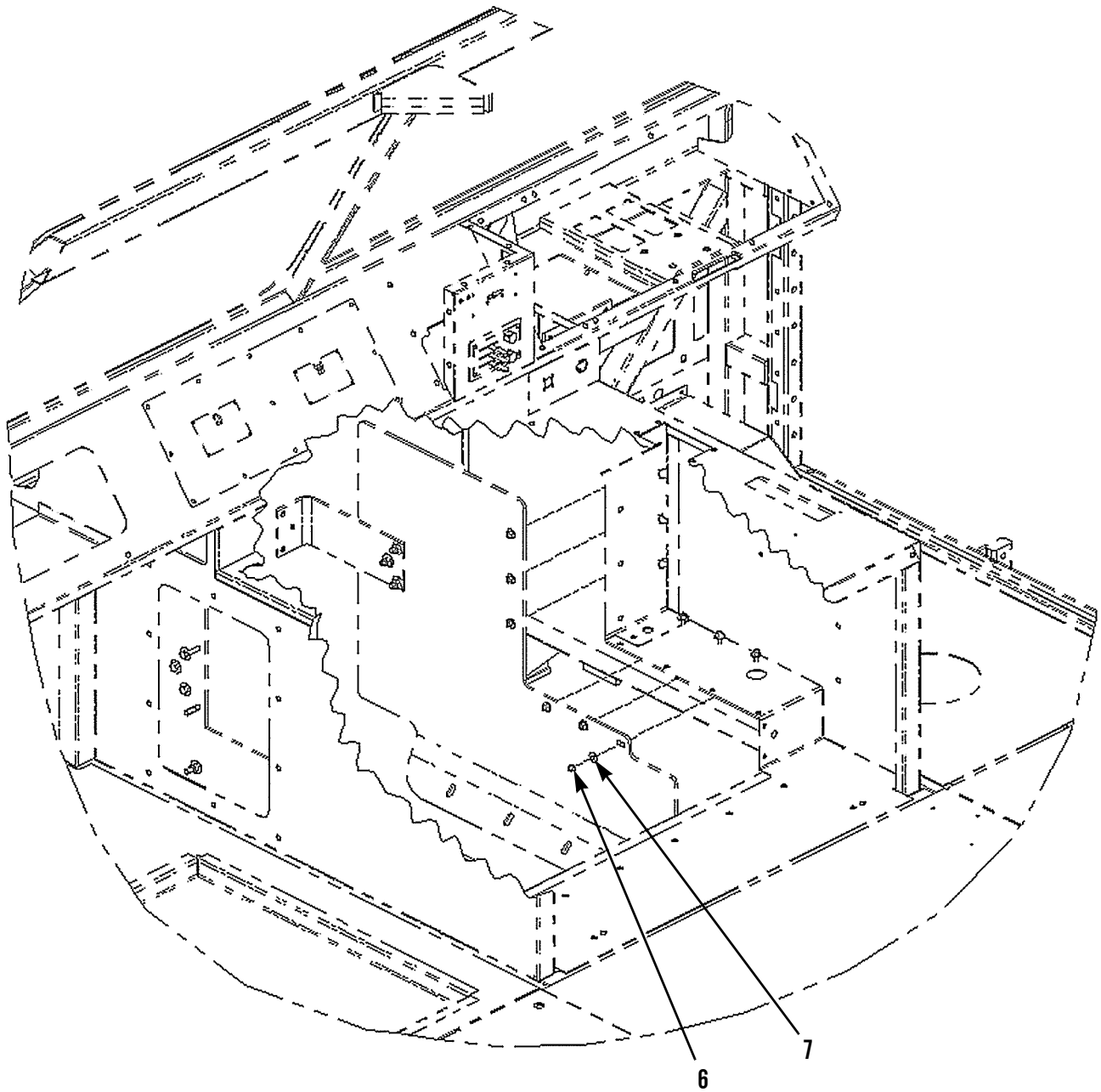


Figure 9. Doghouse Armor Kit and Mounting Hardware (Sheet 4 of 9)

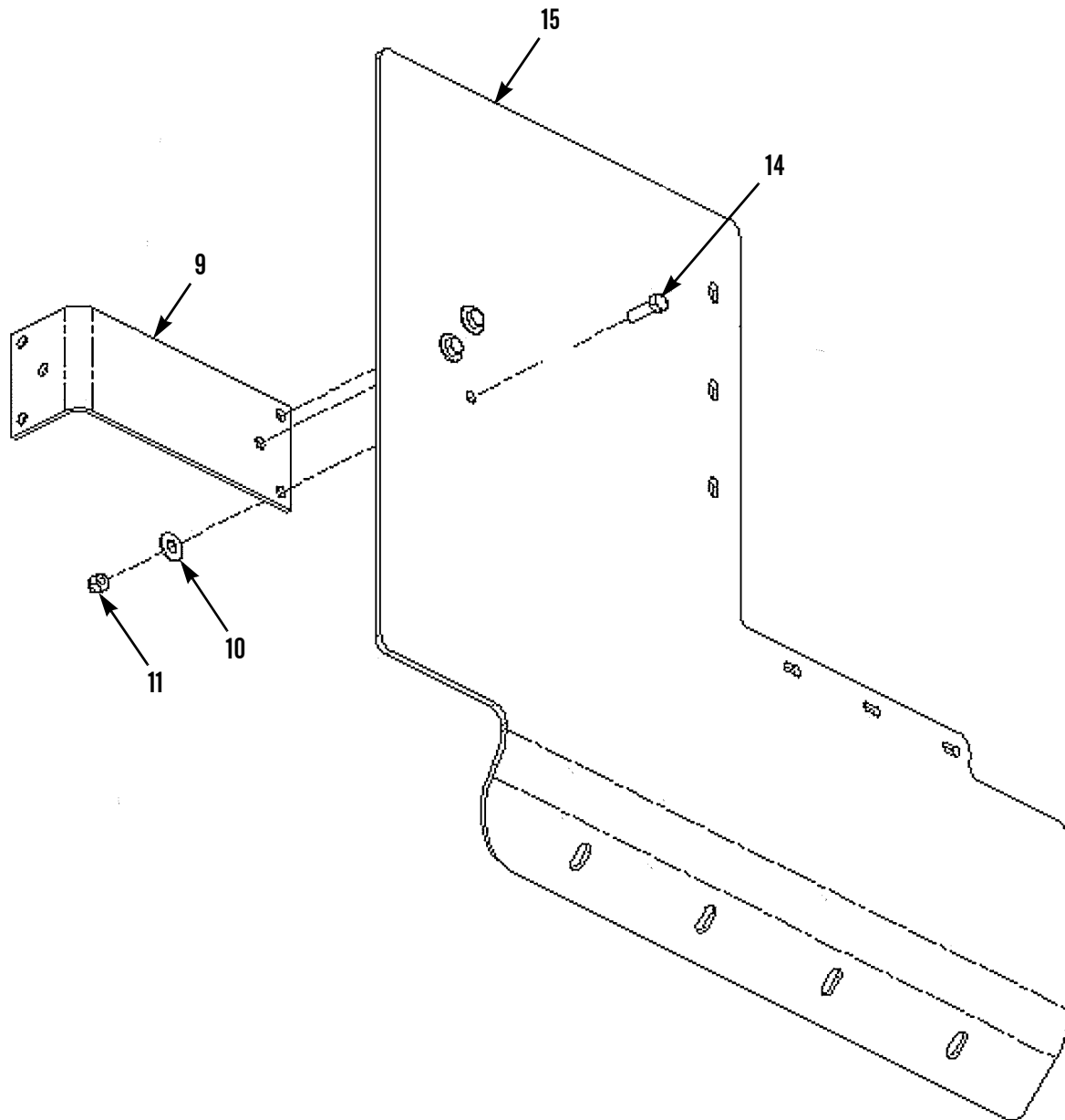


Figure 9. Doghouse Armor Kit and Mounting Hardware (Sheet 5 of 9)

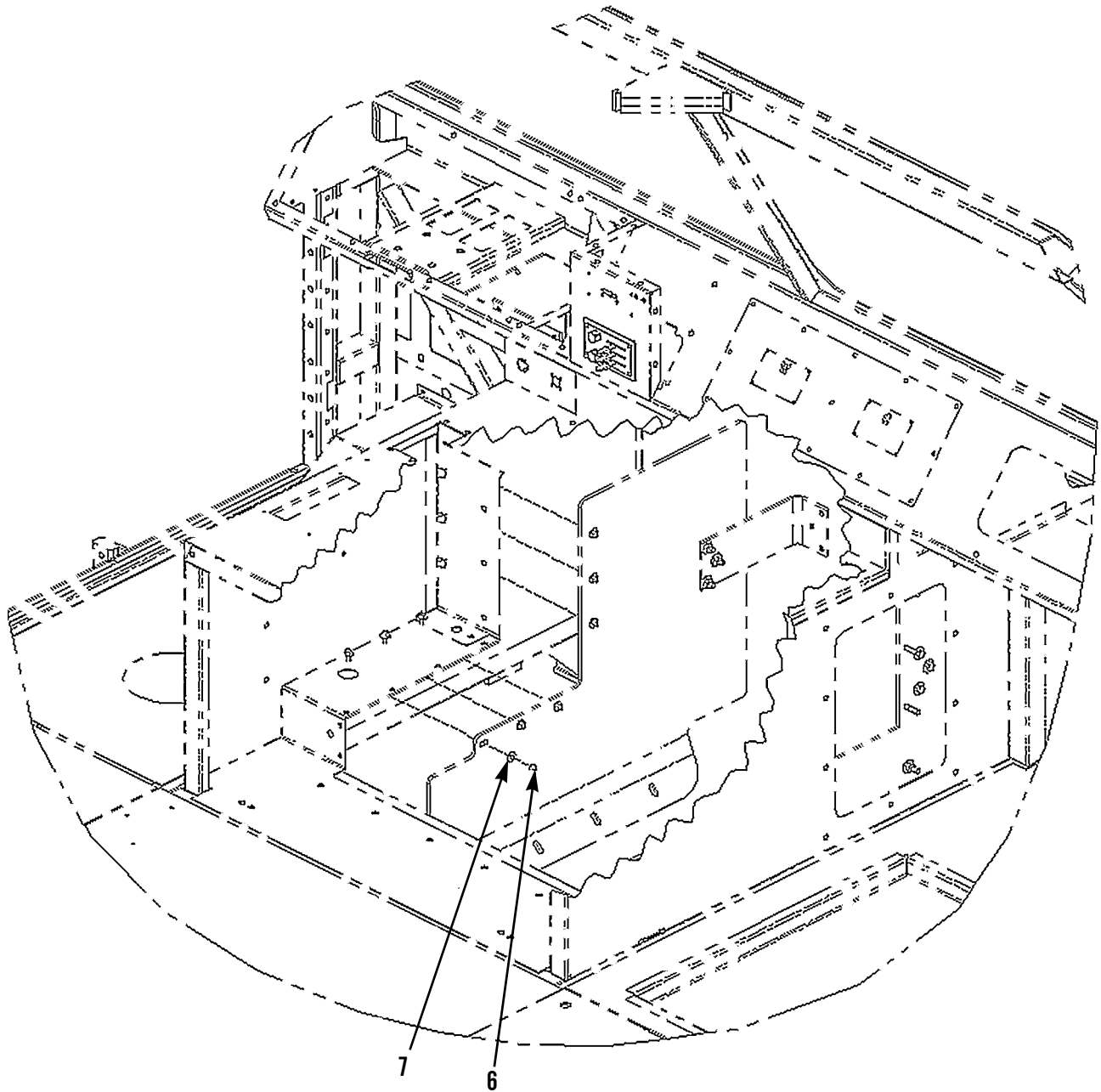


Figure 9. Doghouse Armor Kit and Mounting Hardware (Sheet 6 of 9)

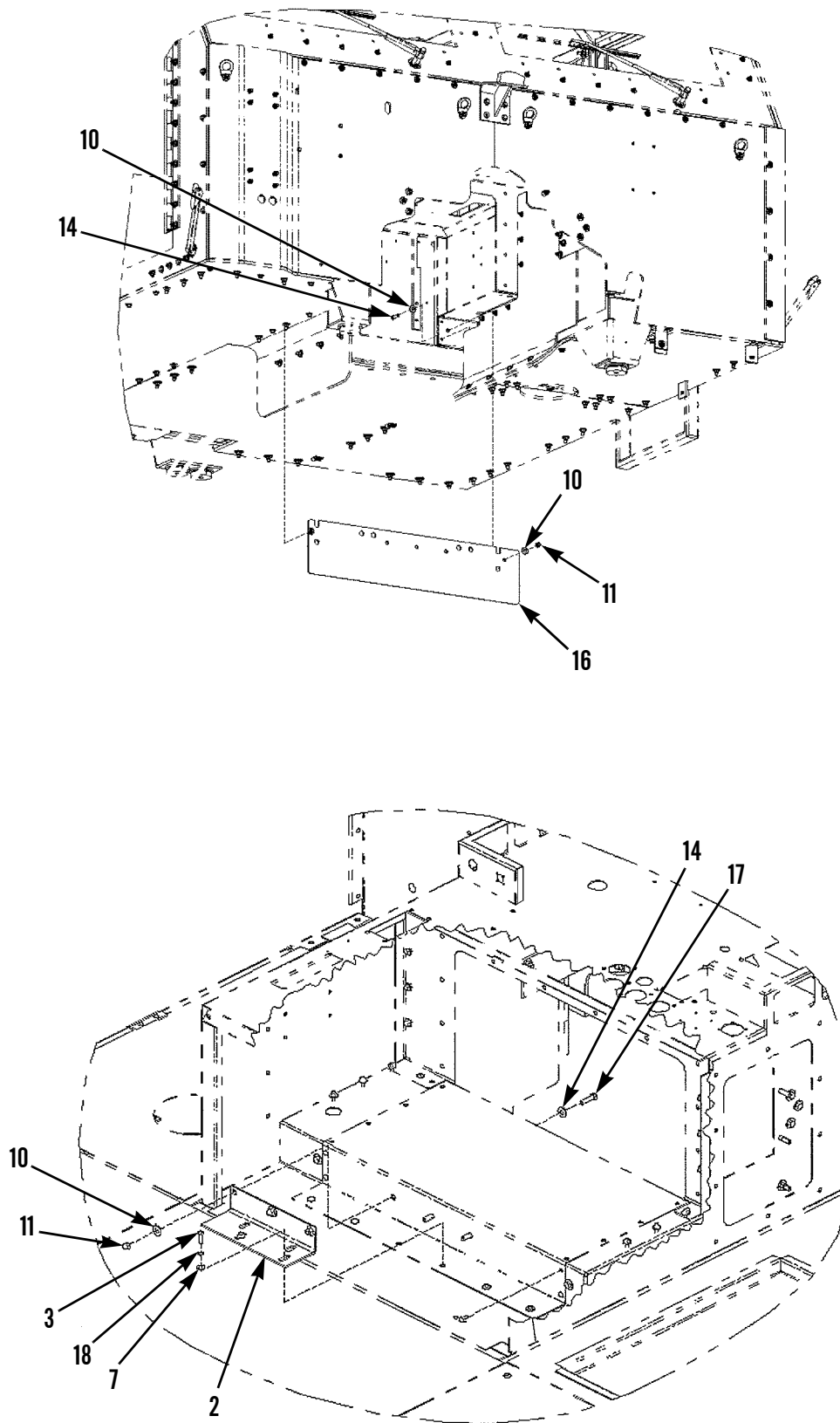


Figure 9. Doghouse Armor Kit and Mounting Hardware (Sheet 7 of 9)



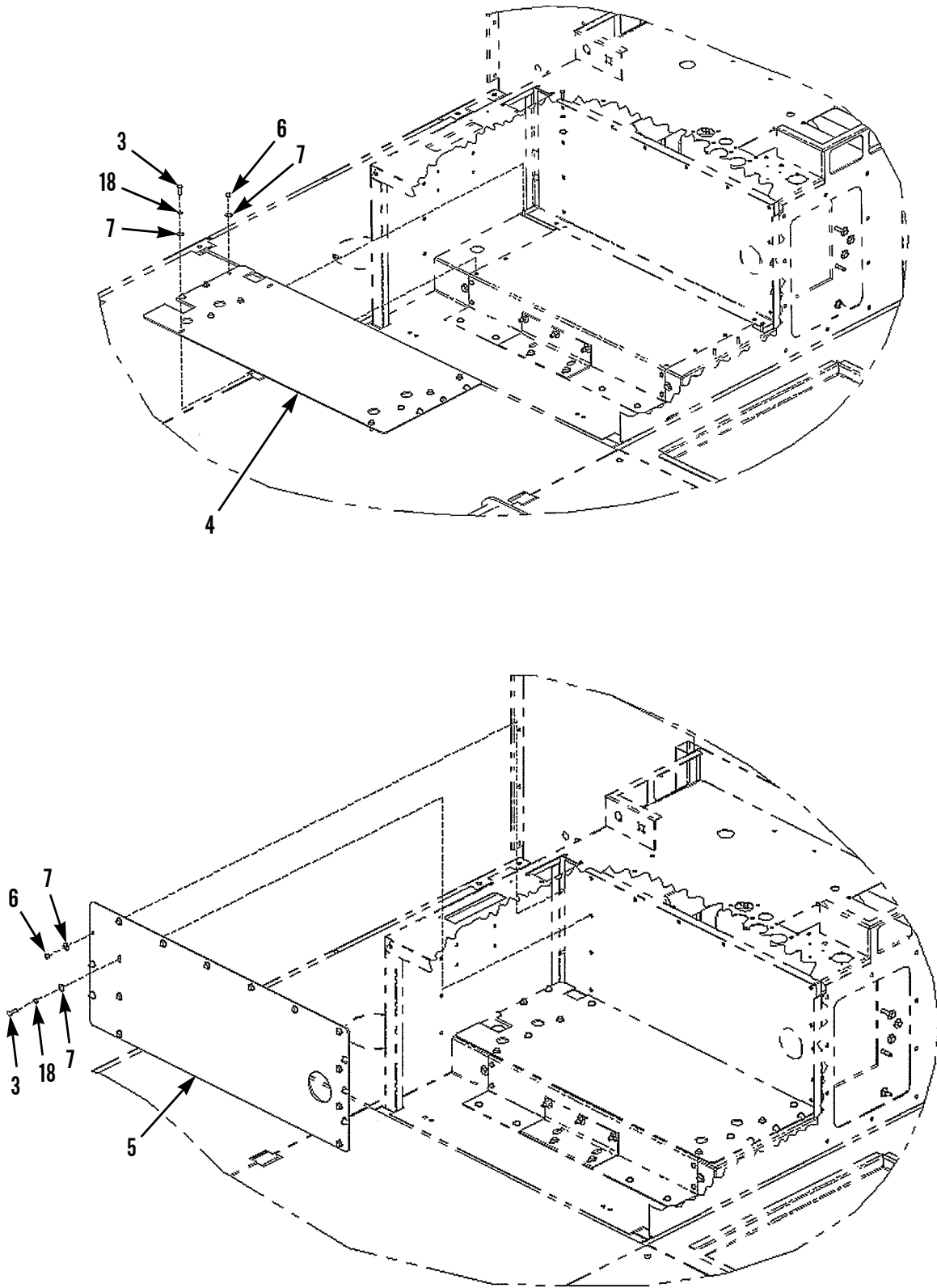


Figure 9. Doghouse Armor Kit and Mounting Hardware (Sheet 8 of 9)

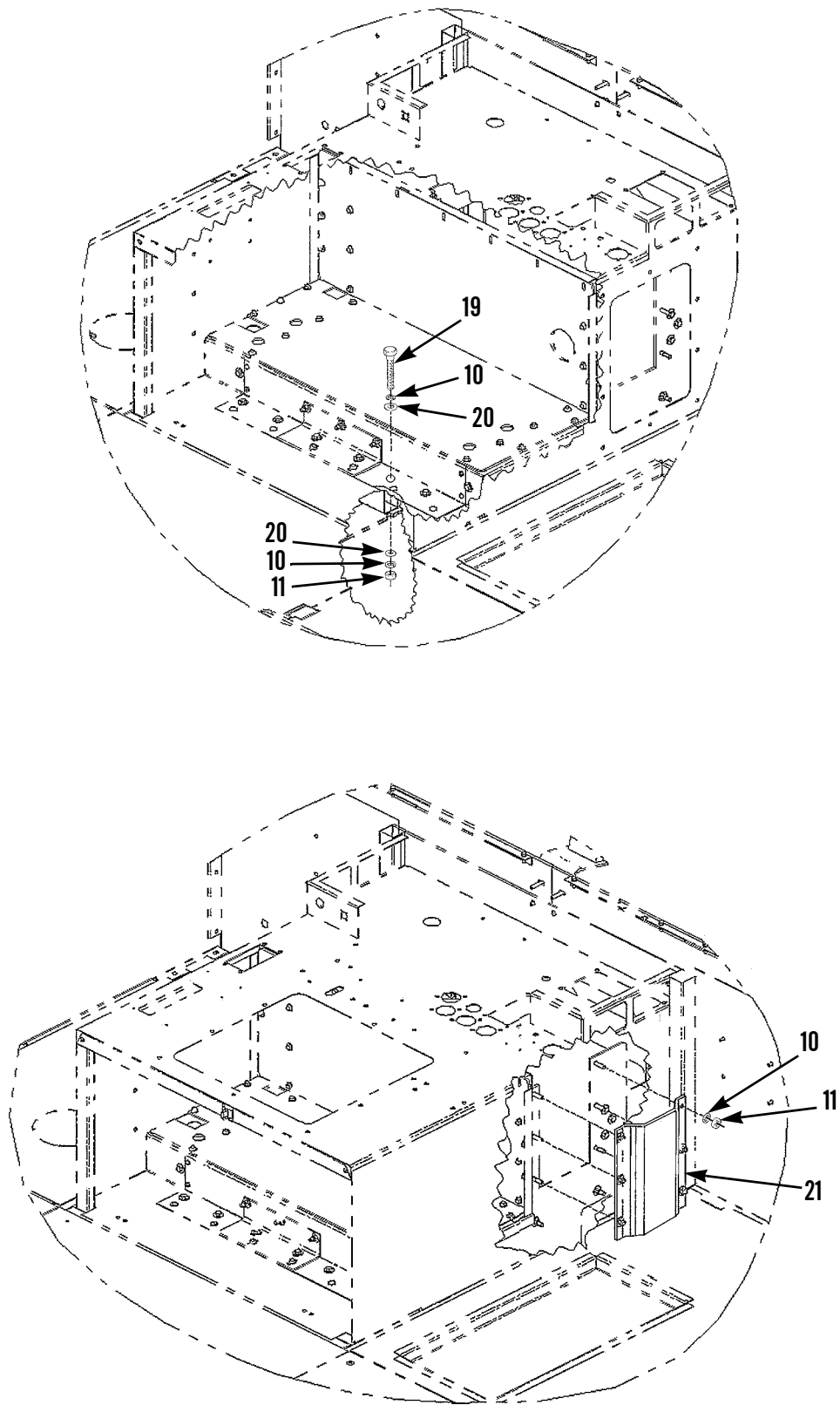


Figure 9. Doghouse Armor Kit and Mounting Hardware (Sheet 9 of 9)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 9 DOGHOUSE ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285138	54786	113877-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	2590015344003	54786	113417-1	.BRACKET,VEHICULAR C.....	2
3	PAOZZ	5305002253843	80204	B1821BH025C100N	.SCREW,CAP,HEXAGON H.....	44
4	PAOZZ	2540015339987	54786	113468-1-103	.ARMOR,SUPPLEMENTAL,.....	2
5	PAOZZ	2540015344052	54786	113469-1-103	.ARMOR,SUPPLEMENTAL,.....	2
6	PAOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT,SELF-LOCKING,HE.....	24
7	PAOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT.....	46
8	PAOZZ	2590015340397	54786	113476-1	.BRACKET,VEHICULAR C INNER.....	4
9	PAOZZ	2590015344010	54786	113474-1	.BRACKET,VEHICULAR C FORWARD.....	2
10	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	36
11	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	25
12	PAOZZ	2590015344015	54786	113416-1	.BRACKET,VEHICULAR C.....	2
13	PAOZZ	2540015343984	54786	113404-1-103	.ARMOR,SUPPLEMENTAL,.....	1
14	PAOZZ	5305000680511	80204	B1821BH038C125N	.SCREW,CAP,HEXAGON H.....	10
15	PAOZZ	2540015340427	54786	113405-1-103	.ARMOR,SUPPLEMENTAL, LEFT.....	1
16	PAOZZ	2590015340371	54786	113407-1	.ARMOR,SUPPLEMENTAL, LOWER.....	1
17	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	3
18	PAOZZ	5310005825965	80205	MS35338-44	.WASHER,LOCK.....	22
19	PAOZZ	5305013869052	80204	B1821BH038C600N	.SCREW,CAP,HEXAGON H.....	6
20	PAOZZ	5310008094061	96906	MS27183-15	.WASHER,FLAT.....	10
21	PAOZZ	2540015339804	54786	113477-1-103	.ARMOR,SUPPLEMENTAL, ACCESS.....	1

END OF FIGURE

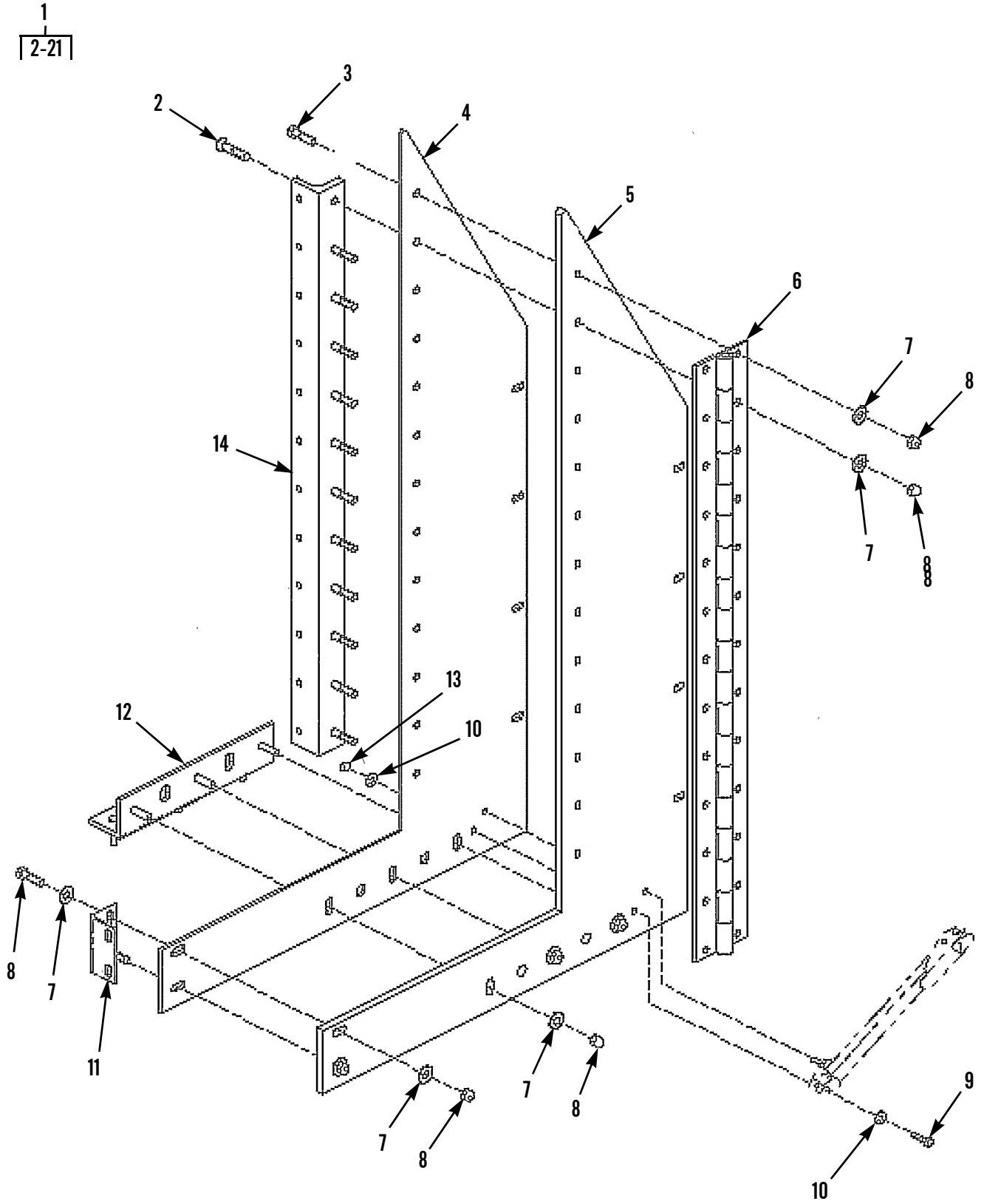


Figure 10. Right Side "A" Pillar Armor Kit and Mounting Hardware (Sheet 1 of 3)

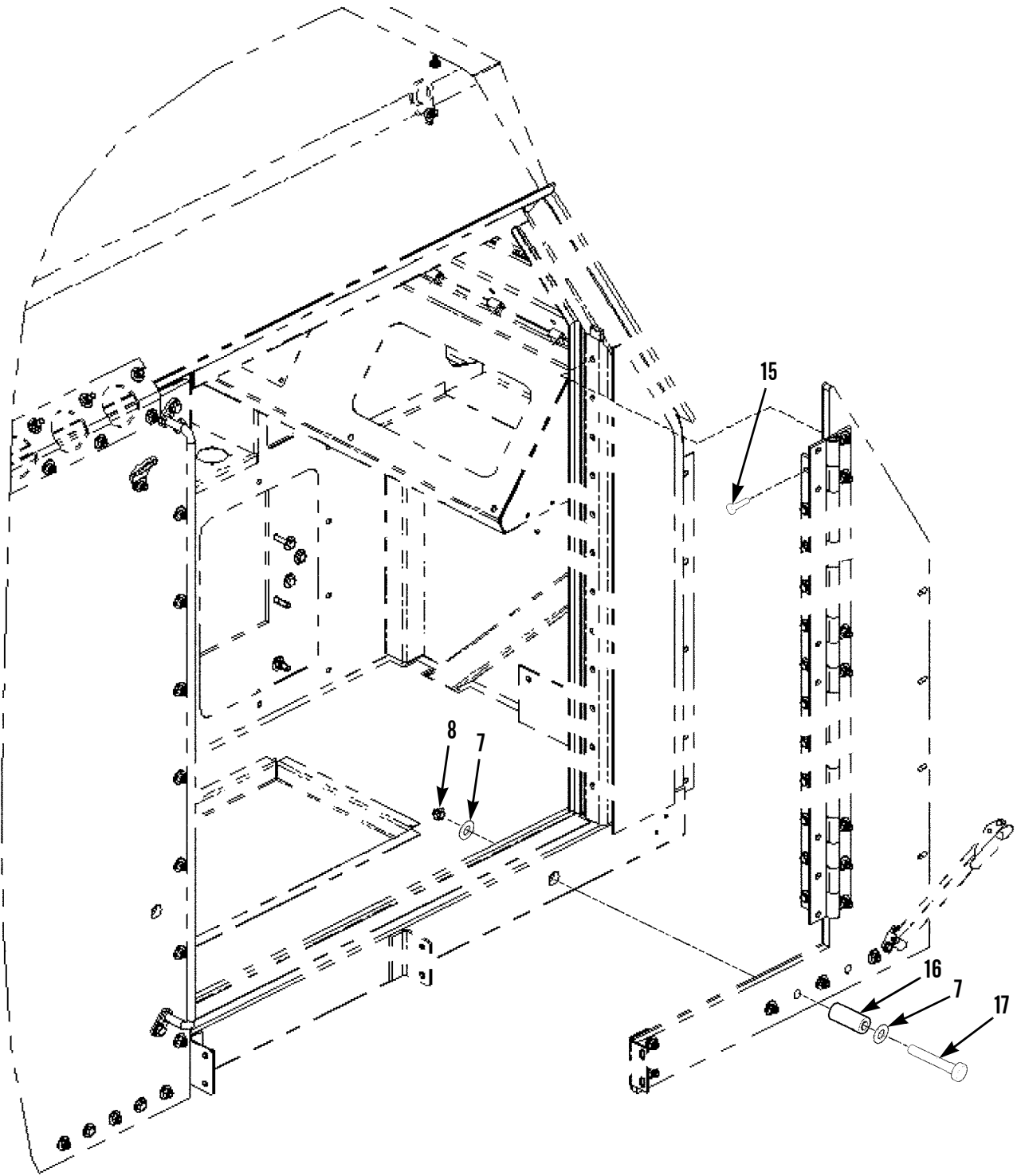


Figure 10. Right Side "A" Pillar Armor Kit and Mounting Hardware (Sheet 2 of 3)

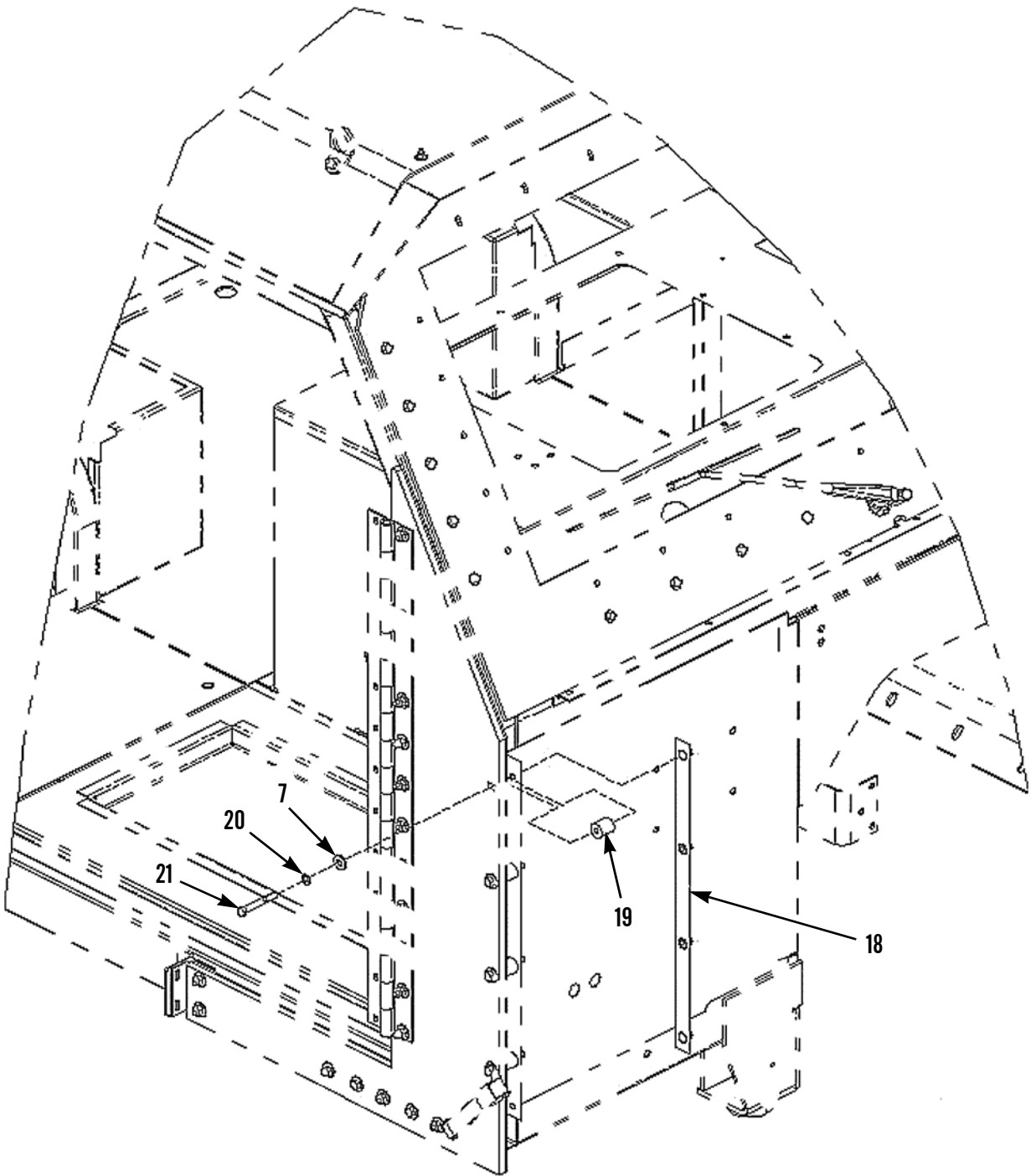


Figure 10. Right Side "A" Pillar Armor Kit and Mounting Hardware (Sheet 3 of 3)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 10 RIGHT SIDE "A" PILLAR ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285141	54786	113878-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	5305014828000	39428	91771A630	.SCREW,MACHINE.....	12
3	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	3
4	PAOZZ	2540015344033	54786	113411-4-103	.ARMOR,SUPPLEMENTAL, FORWARD.....	1
5	PAOZZ	2540015343985	54786	113411-2-103	.ARMOR,SUPPLEMENTAL, FORWARD.....	1
6	PAOZZ	2510015340401	54786	113408-1-103	.HINGE,DOOR VEHICULA.....	1
7	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	28
8	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	20
9	PAOZZ	5305000680509	80204	B1821BH025C125N	.SCREW,CAP,HEXAGON H.....	2
10	PAOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT.....	4
11	PAOZZ	2590015339801	54786	113465-1	.BRACKET,VEHICULAR C.....	1
12	PAOZZ	2590015344011	54786	113415-1	.BRACKET,VEHICULAR C.....	1
13	PAOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT,SELF-LOCKING,HE.....	2
14	PAOZZ	2590015343998	54786	113409-1	.BRACKET,VEHICULAR C.....	1
15	PAOZZ	5306015341055	39428	97646A160	.BOLT,MACHINE.....	12
16	PAOZZ	5365015339923	54786	113475-1	.SPACER,SLEEVE.....	2
17	PAOZZ	5305007813928	80204	B1821BH038C400N	.SCREW,CAP,HEXAGON H.....	2
18	PAOZZ	2590015340330	54786	113458-1	.BRACKET,VEHICULAR C.....	1
19	PAOZZ	5365015343269	54786	113427-1	.SPACER,SLEEVE RIGHT.....	4
20	PAOZZ	5310006379541	72452	1459-68	.WASHER,LOCK.....	4
21	PAOZZ	5305008465703	80204	B1821BH038C300N	.SCREW,CAP,HEXAGON H.....	4

END OF FIGURE

1  
2-13

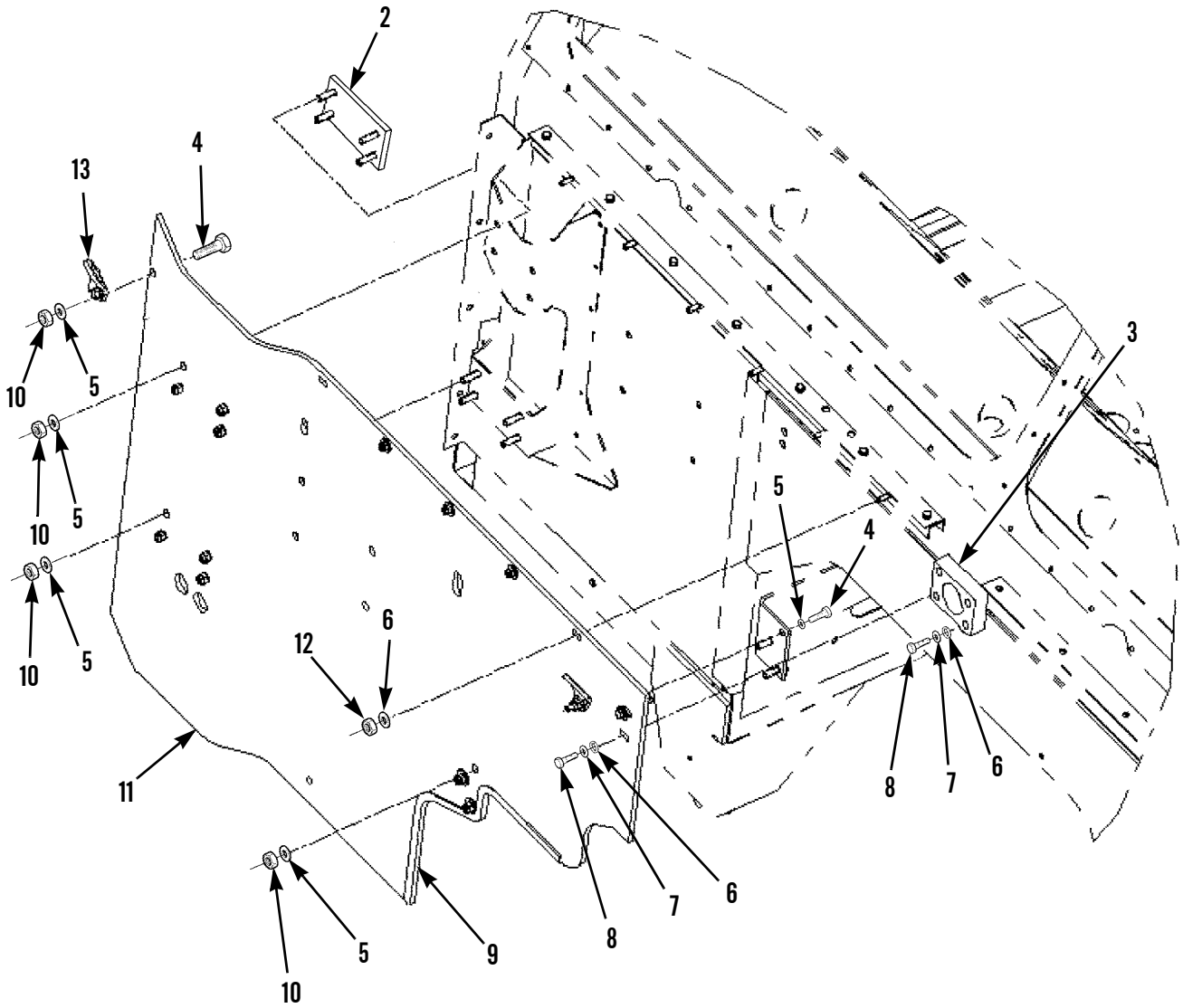


Figure 11. Right Side Firewall Armor Kit and Mounting Hardware



(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 11 RIGHT SIDE FIREWALL ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285145	54786	113879-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	2590015340380	54786	113471-1	.BRACKET,VEHICULAR C.....	2
3	PAOZZ		54786	113428-1	.SPACER,SLEEVE.....	1
4	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	5
5	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	16
6	PAOZZ	5310000814219	96906	MS27183-12	.WASHER,FLAT.....	9
7	PAOZZ	5310004079566	80205	MS35338-45	.WASHER,LOCK.....	4
8	PAOZZ	5306002264835	80204	B1821BH031C250N	.BOLT,MACHINE.....	4
9	PAOZZ		54786	1350B2-5/16-GRGB	.SEAL.....	1
10	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	13
11	PAOZZ	2540015340409	54786	113455-1-103	.ARMOR,SUPPLEMENTAL,.....	1
12	PAOZZ	5310008140673	96906	MS51943-33	.NUT,SELF-LOCKING,HE.....	5
13	PAOZZ	2590015339774	54786	113478-1-103	.BRACKET,VEHICULAR C.....	2

END OF FIGURE



1  
2-11

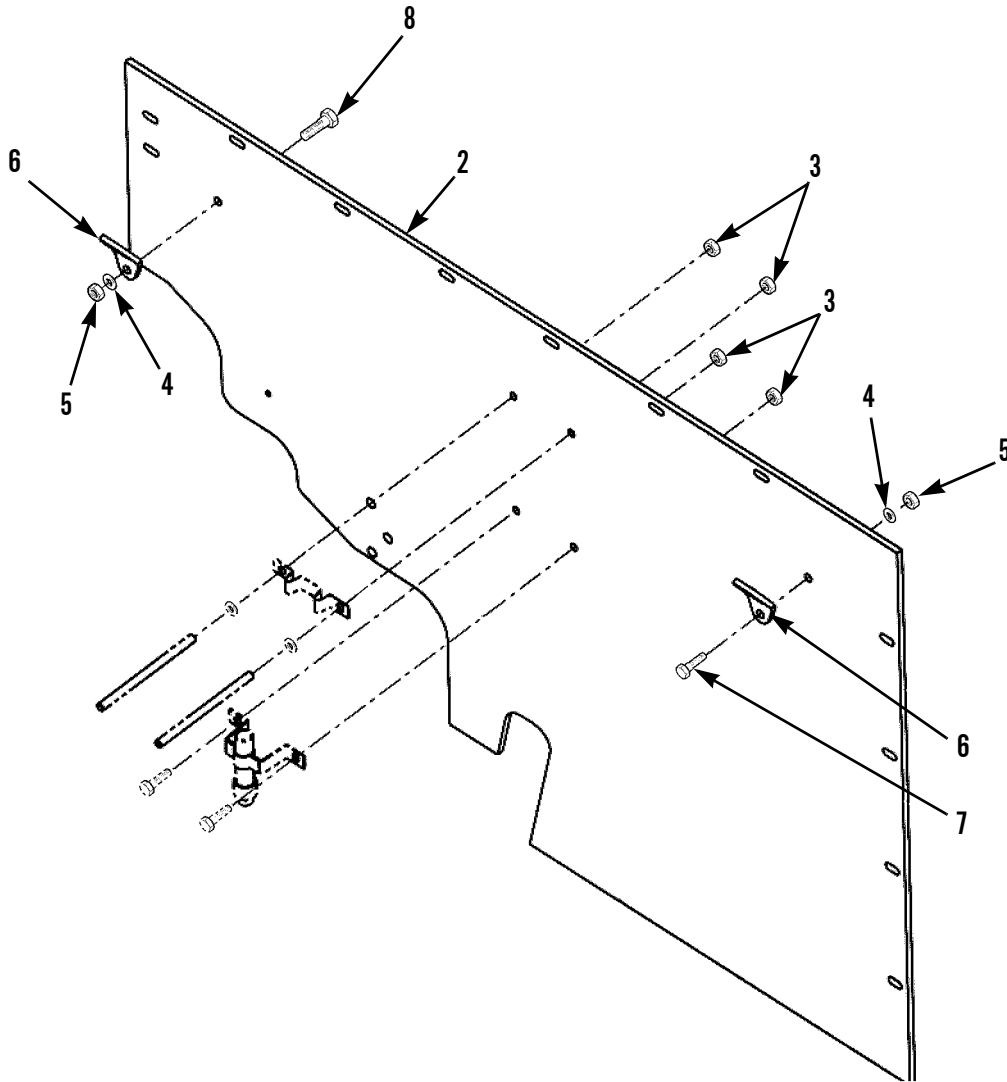


Figure 12. Left Side Firewall Armor Kit and Mounting Hardware (Sheet 1 of 2)

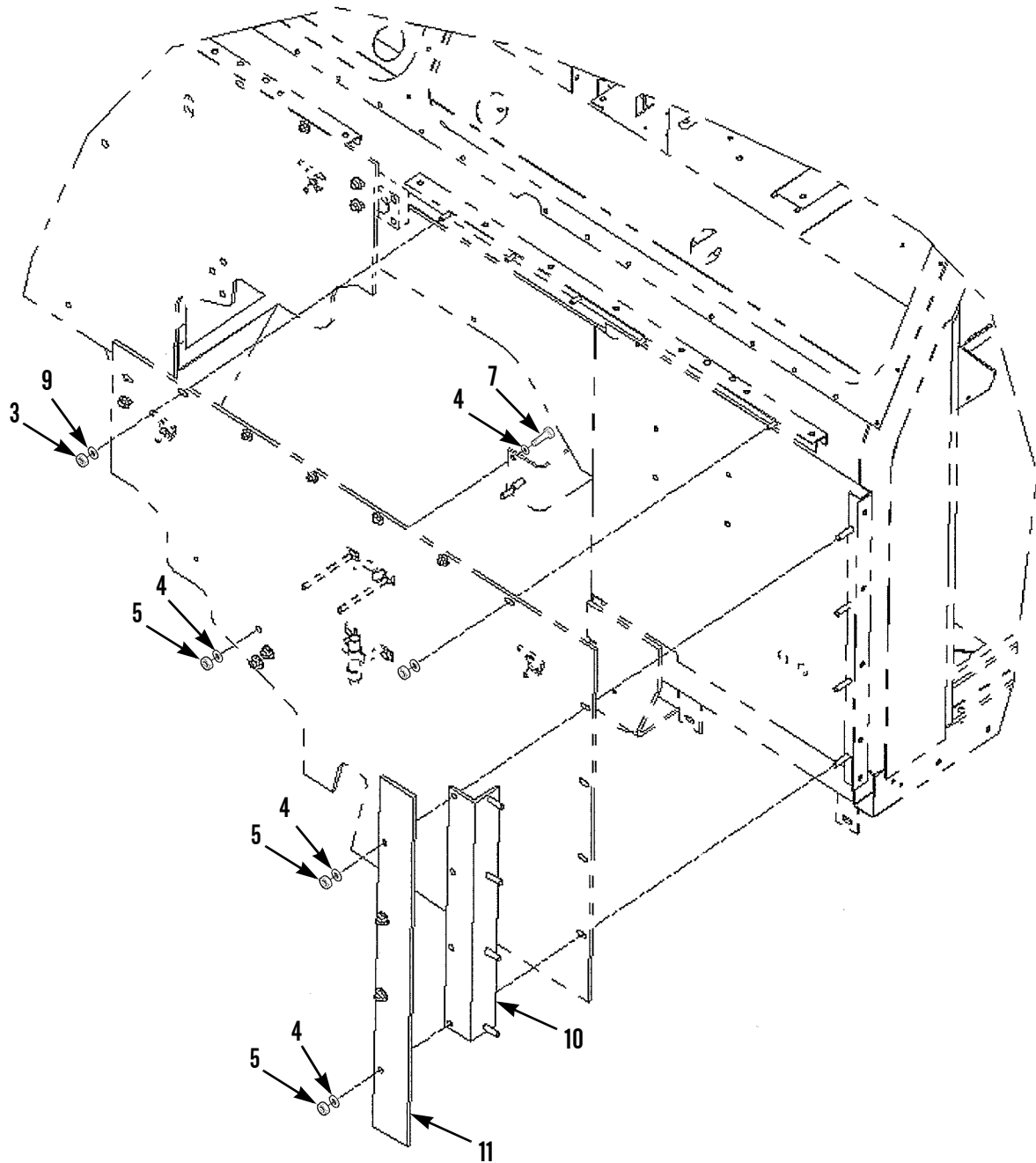


Figure 12. Left Side Firewall Armor Kit and Mounting Hardware (Sheet 2 of 2)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 12 LEFT SIDE FIREWALL ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285149	54786	113880-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	2540015340319	54786	113455-2-103	.ARMOR,SUPPLEMENTAL, LEFT.....	1
3	PAOZZ	5310008140673	96906	MS51943-33	.NUT,SELF-LOCKING,HE.....	10
4	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	12
5	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	9
6	PAOZZ	2590015339774	54786	113478-1-103	.BRACKET,VEHICULAR C.....	2
7	PAOZZ	5305000680511	80204	B1821BH038C125N	.SCREW,CAP,HEXAGON H.....	4
8	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	1
9	PAOZZ	5310000814219	96906	MS27183-12	.WASHER,FLAT.....	6
10	PAOZZ	2590015343924	54786	113456-1	.BRACKET,VEHICULAR C.....	1
11	PAOZZ	2540015343472	54786	113450-1-103	.ARMOR,SUPPLEMENTAL,.....	1

END OF FIGURE

1  
2-17

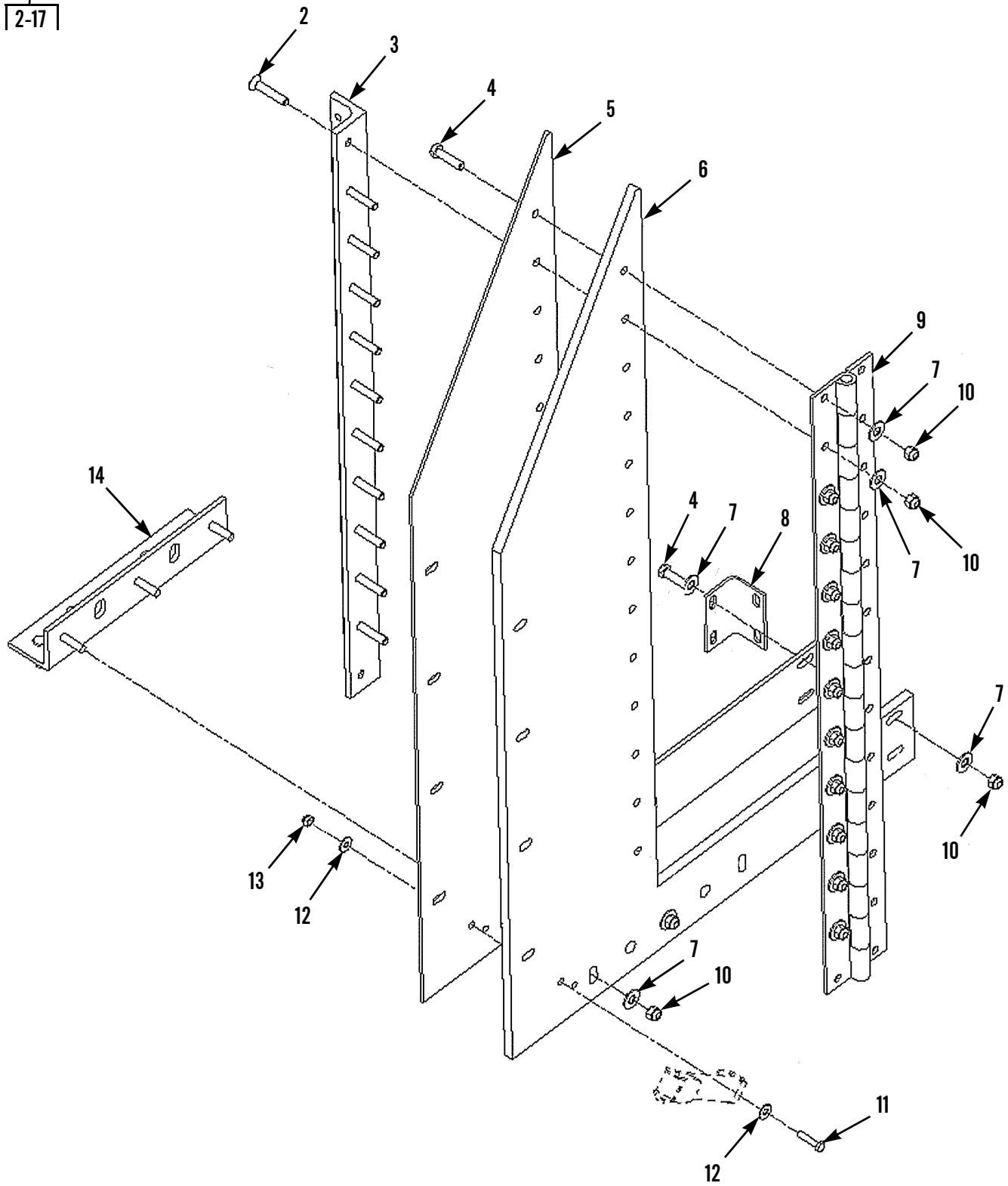


Figure 13. Left Side "A" Pillar Armor Kit and Mounting Hardware (Sheet 1 of 3)

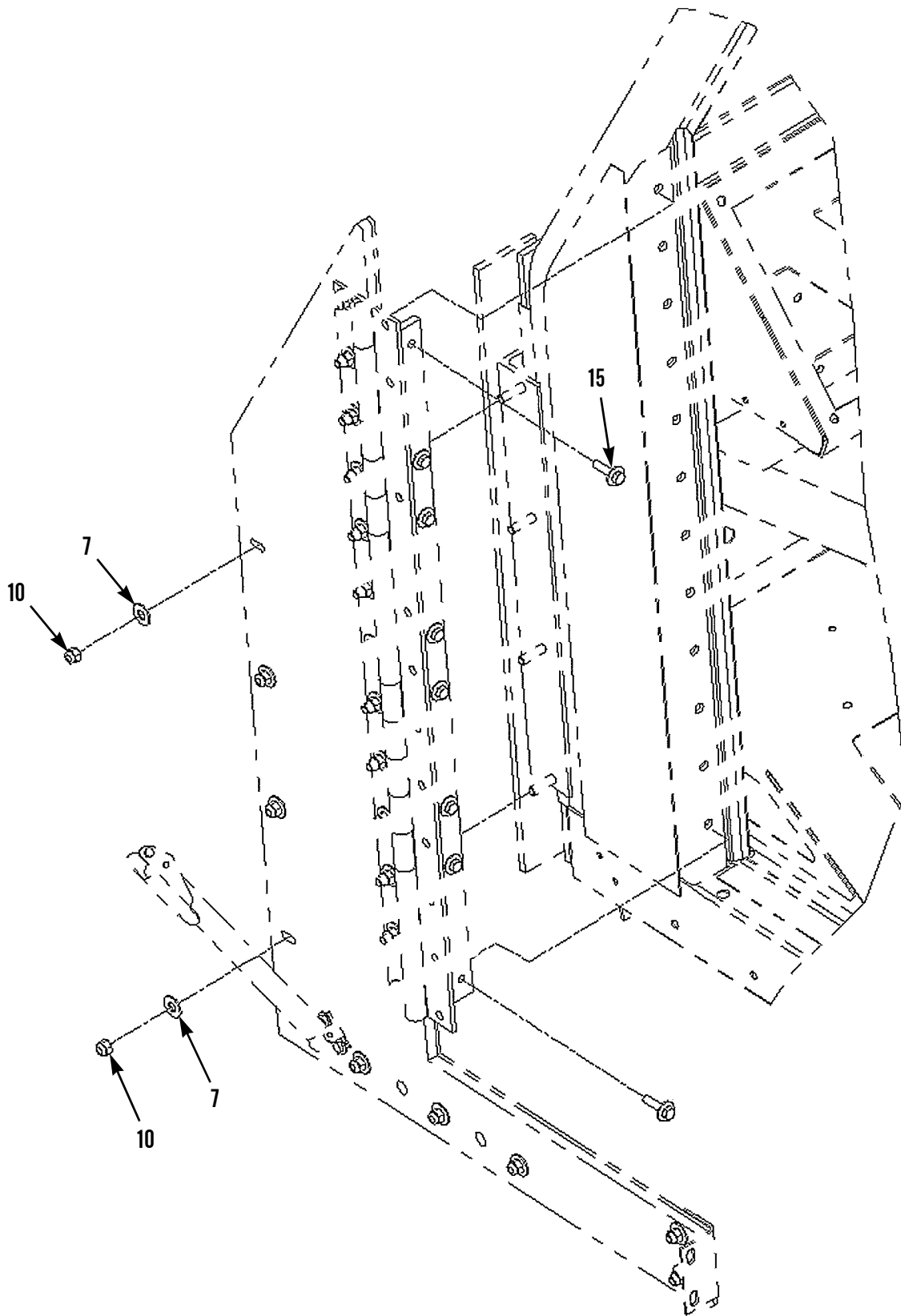


Figure 13. Left Side "A" Pillar Armor Kit and Mounting Hardware (Sheet 2 of 3)

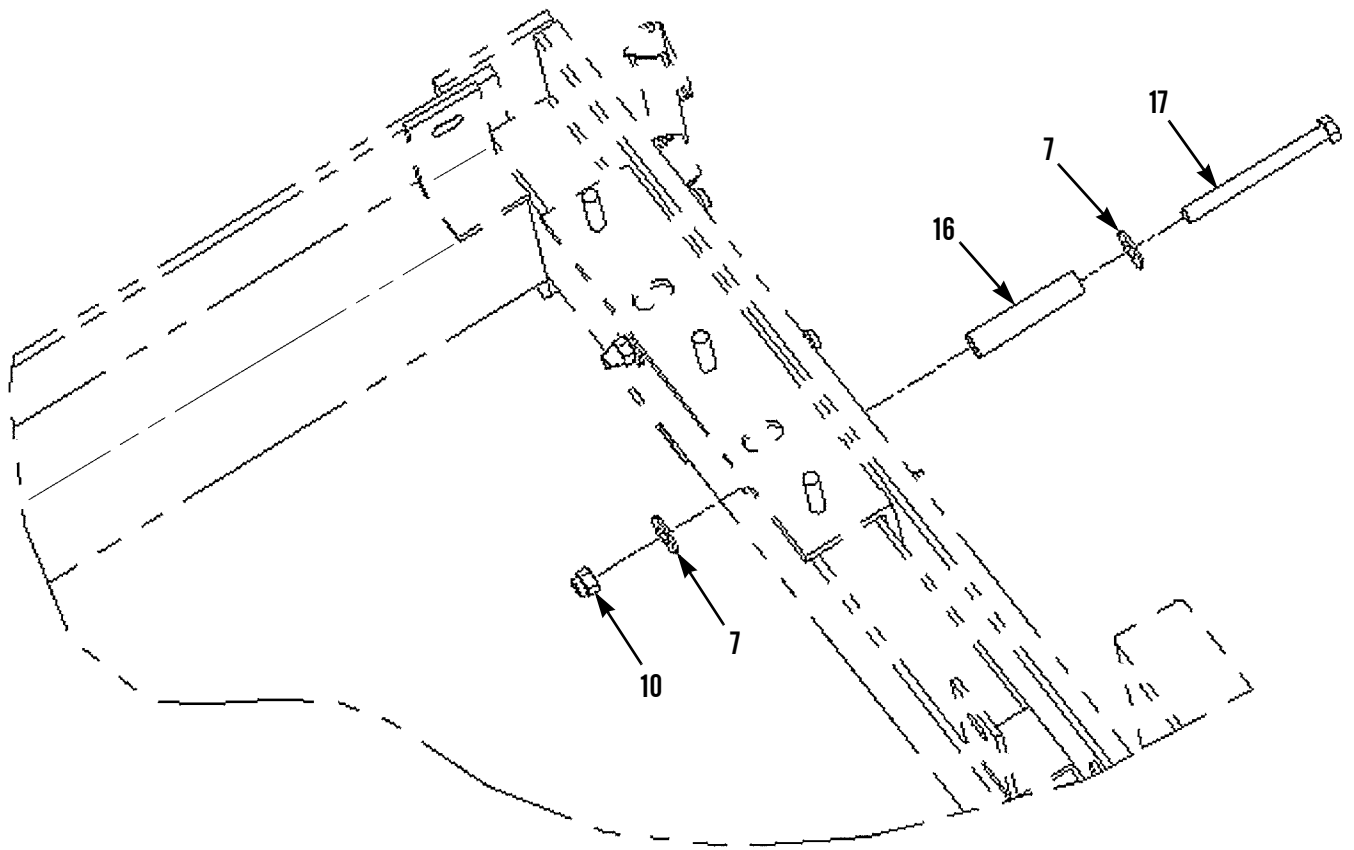


Figure 13. Left Side "A" Pillar Armor Kit and Mounting Hardware (Sheet 3 of 3)



(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 13 LEFT SIDE "A" PILLAR ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285150	54786	113881-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	5305011262322	80205	MS24667-56	.SCREW,CAP,SOCKET HE.....	12
3	PAOZZ	2590015343998	54786	113409-1	.BRACKET,VEHICULAR C.....	1
4	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	3
5	PAOZZ	2540015343927	54786	113411-3-103	.ARMOR,SUPPLEMENTAL,.....	1
6	PAOZZ	2540015343932	54786	113411-1-103	.ARMOR,SUPPLEMENTAL,.....	1
7	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	28
8	PAOZZ	2590015339801	54786	113465-1	.BRACKET,VEHICULAR C.....	1
9	PAOZZ	2510015340401	54786	113408-1-103	.HINGE,DOOR VEHICULA.....	1
10	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	24
11	PAOZZ	5305000680509	80204	B1821BH025C125N	.SCREW,CAP,HEXAGON H.....	2
12	PAOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT.....	4
13	PAOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT,SELF-LOCKING,HE.....	2
14	PAOZZ	2590015344011	54786	113415-1	.BRACKET,VEHICULAR C.....	1
15	PAOZZ	5306002264829	80204	B1821BH031C125N	.BOLT,MACHINE.....	12
16	PAOZZ	5365015339923	54786	113475-1	.SPACER,SLEEVE.....	2
17	PAOZZ	5305007813928	80204	B1821BH038C400N	.SCREW,CAP,HEXAGON H.....	2

END OF FIGURE

1  
2-9

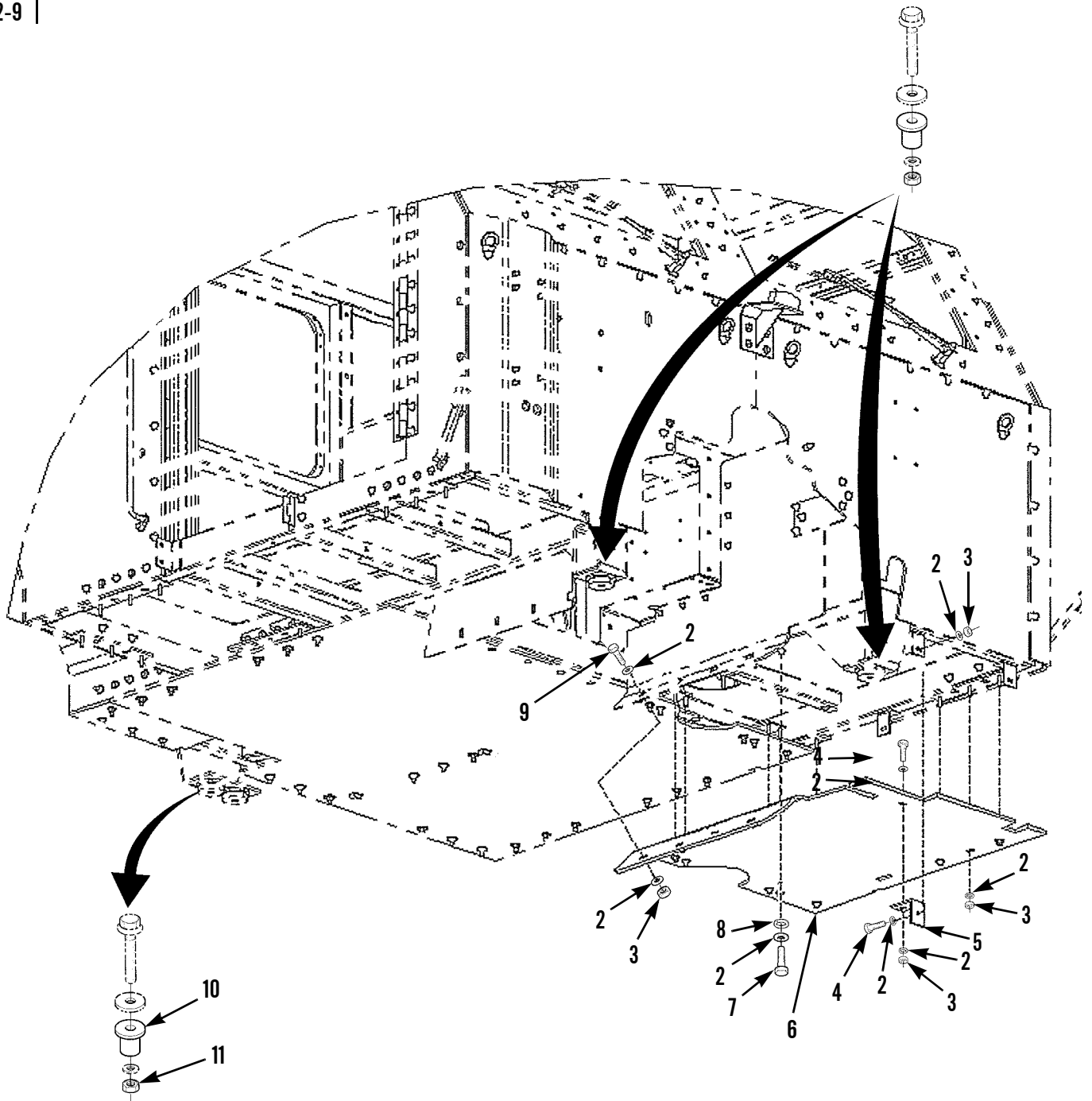


Figure 14. Left Side Mine Blast Armor Kit and Mounting Hardware and Cab Mount Bushings

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 14 LEFT SIDE MINE BLAST ARMOR KIT AND MOUNTING HARDWARE AND CAB MOUNT BUSHINGS						
1	PAOZZ	2540015285151	54786	113882-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	21
3	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	14
4	PAOZZ	5305000680511	80204	B1821BH038C125N	.SCREW,CAP,HEXAGON H.....	2
5	PAOZZ	2590015343921	54786	113421-1	.BRACKET,VEHICULAR C.....	1
6	PAOZZ	2540015343993	54786	113461-1-103	.ARMOR,SUPPLEMENTAL,.....	1
7	PAOZZ	5305011409118	80204	B1821BH038C088N	.SCREW,CAP,HEXAGON H.....	1
8	PAOZZ	5310006379541	72452	1459-68	.WASHER,LOCK.....	1
9	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	4
10	PAOZZ		30966	2260-180	BUSHING,SLEEVE.....	2
11	PAOZZ	53100111110645	45152	110311A	NUT,SELF-LOCKING,EX.....	4

END OF FIGURE



1  
2-10

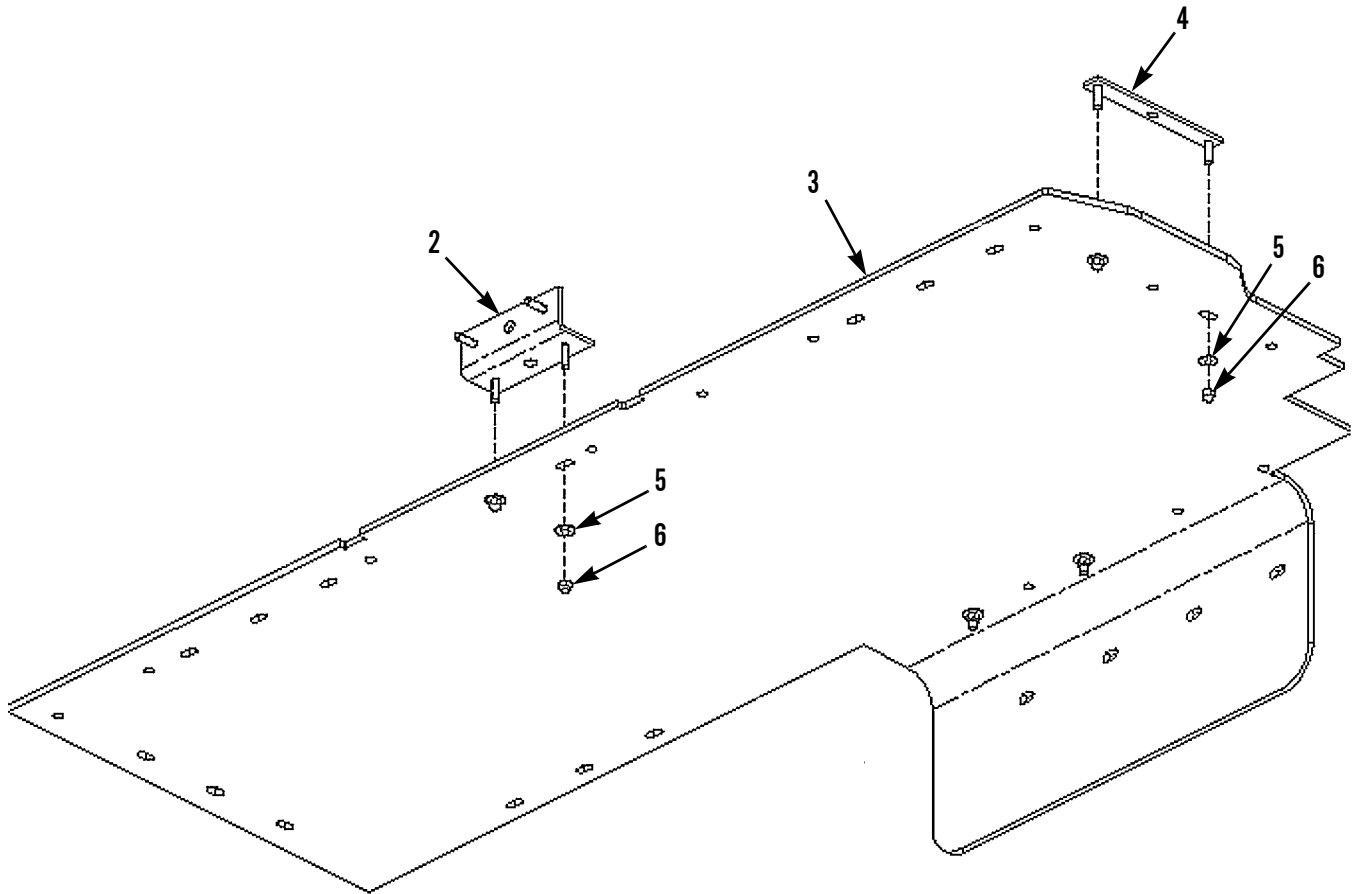


Figure 15. Right Side Mine Blast Armor Kit and Mounting Hardware (Sheet 1 of 2)

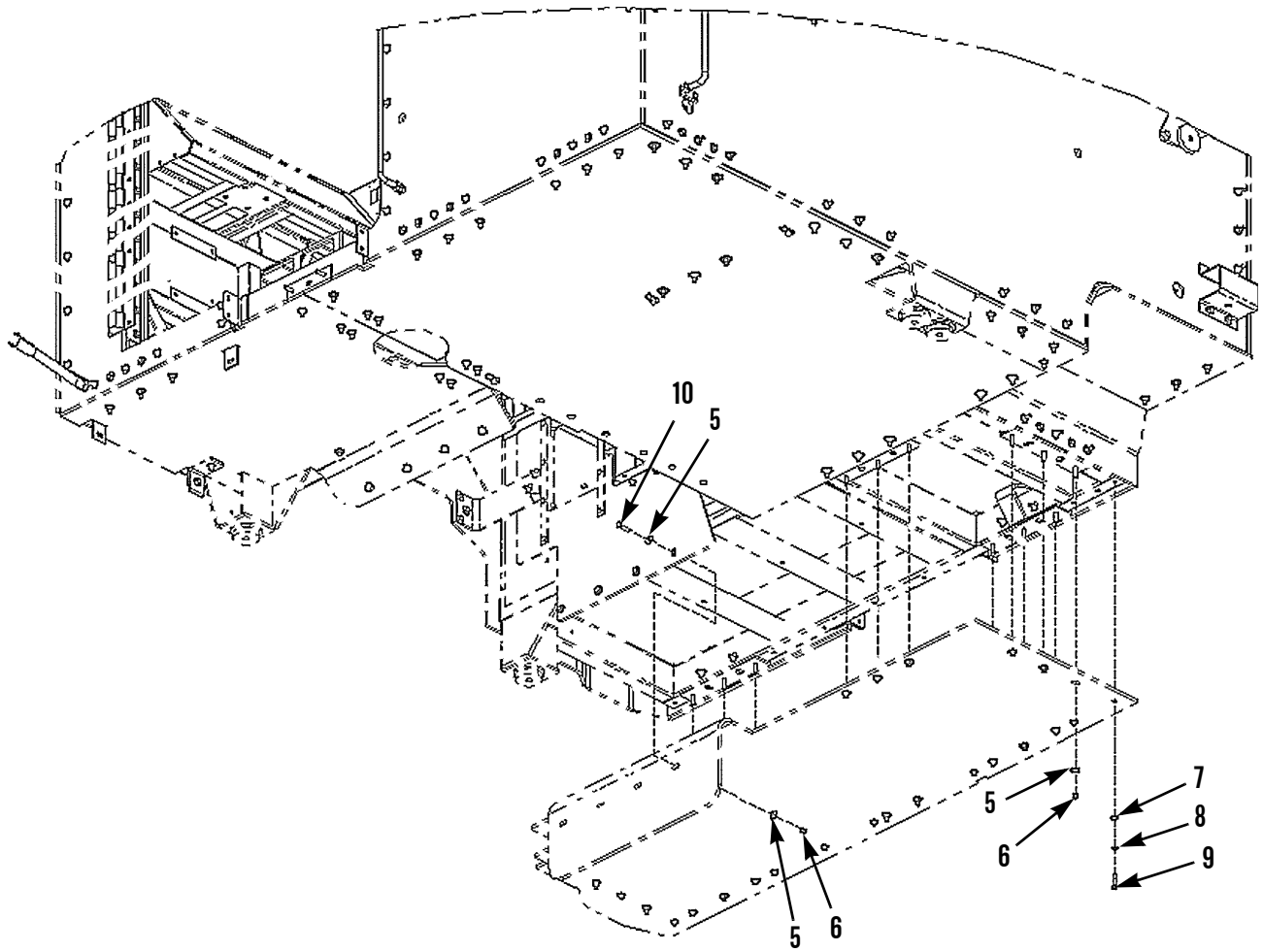


Figure 15. Right Side Mine Blast Armor Kit and Mounting Hardware (Sheet 2 of 2)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 15 RIGHT SIDE MINE BLAST ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285152	54786	113883-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	2590015340432	54786	113472-1	.BRACKET,VEHICULAR C.....	1
3	PAOZZ	2540015343295	54786	113463-1-103	.ARMOR,SUPPLEMENTAL,.....	1
4	PAOZZ	2590015343995	54786	113464-1	.BRACKET,VEHICULAR C.....	2
5	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	26
6	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	22
7	PAOZZ	5310000814219	96906	MS27183-12	.WASHER,FLAT.....	12
8	PAOZZ	5310004079566	80205	MS35338-45	.WASHER,LOCK.....	12
9	PAOZZ	5306002264827	80204	B1821BH031C100N	.BOLT,MACHINE.....	12
10	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	4

END OF FIGURE

1  
2-8

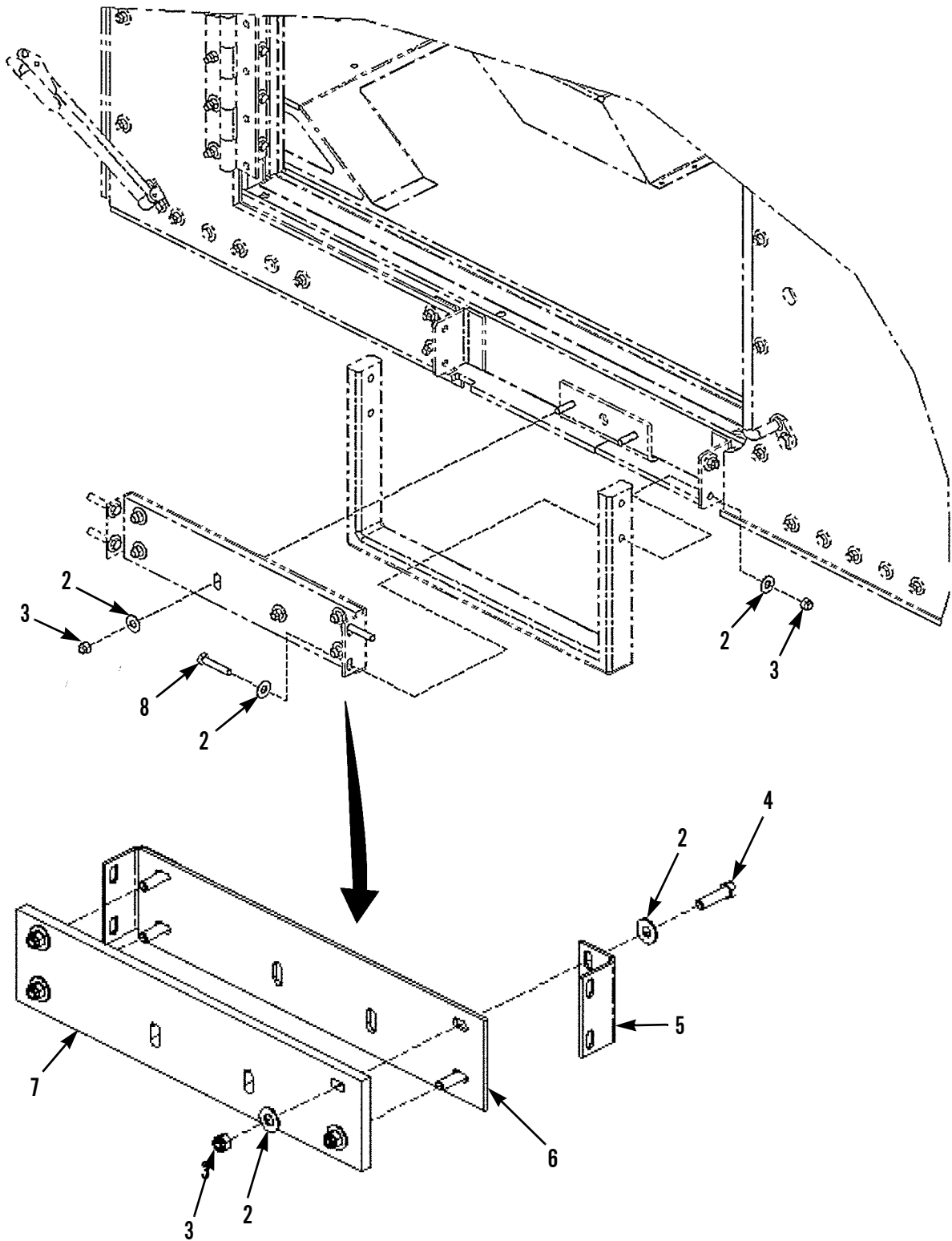


Figure 16. Side Step Armor Kit and Mounting Hardware



(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 16 SIDE STEP ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285154	54786	113884-1	ARMOR SET,SUPPLEMEN LEFT SIDE.....	1
1	PAOZZ	2540015285156	54786	113885-1	ARMOR SET,SUPPLEMEN RIGHT SIDE.....	1
2	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	18
3	PAOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE.....	10
4	PAOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H.....	4
5	PAOZZ	2590015339801	54786	113465-1	.BRACKET,VEHICULAR C.....	2
6	PAOZZ		54786	113466-1-103	.ARMOR,SUPPLEMENTAL,.....	1
7	PAOZZ	2540015343338	54786	113466-3-103	.ARMOR,SUPPLEMENTAL,.....	1
8	PAOZZ	5305007829489	80204	B1821BH038C200N	.SCREW,CAP,HEXAGON H.....	4

END OF FIGURE



1	2
2-77	3-65

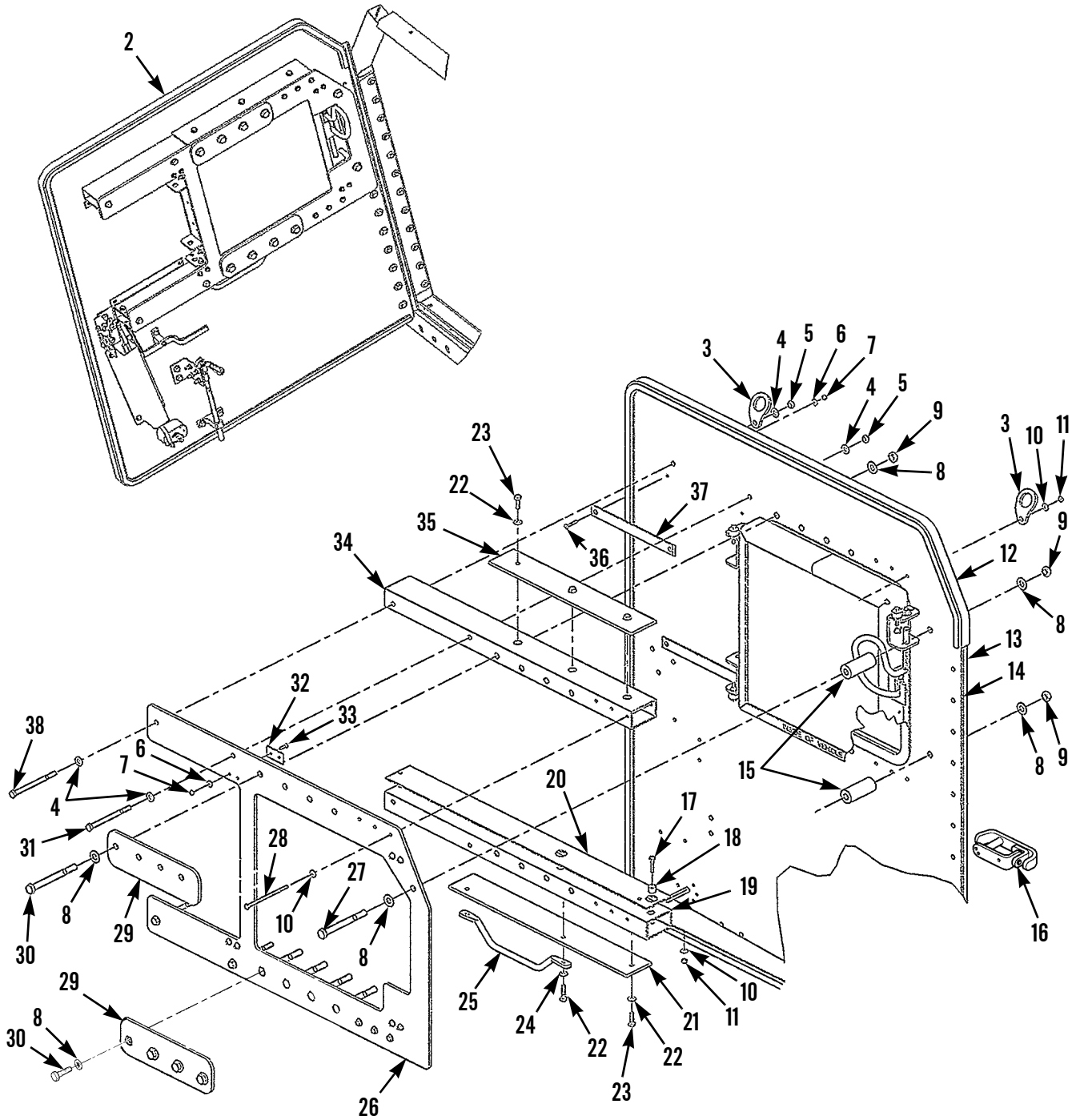


Figure 17. Door Assembly and Mounting Hardware (Sheet 1 of 4)

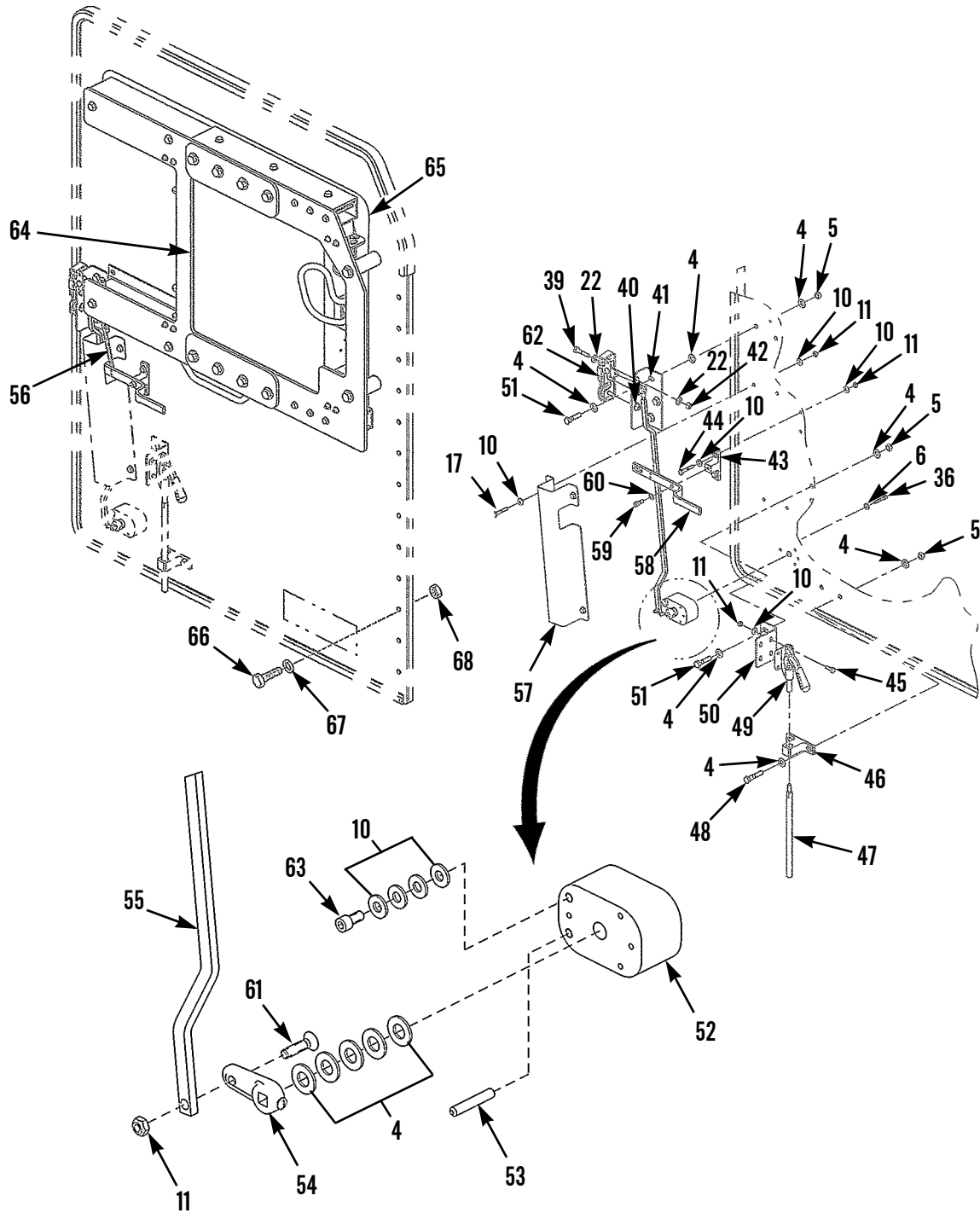


Figure 17. Door Assembly and Mounting Hardware (Sheet 2 of 4)

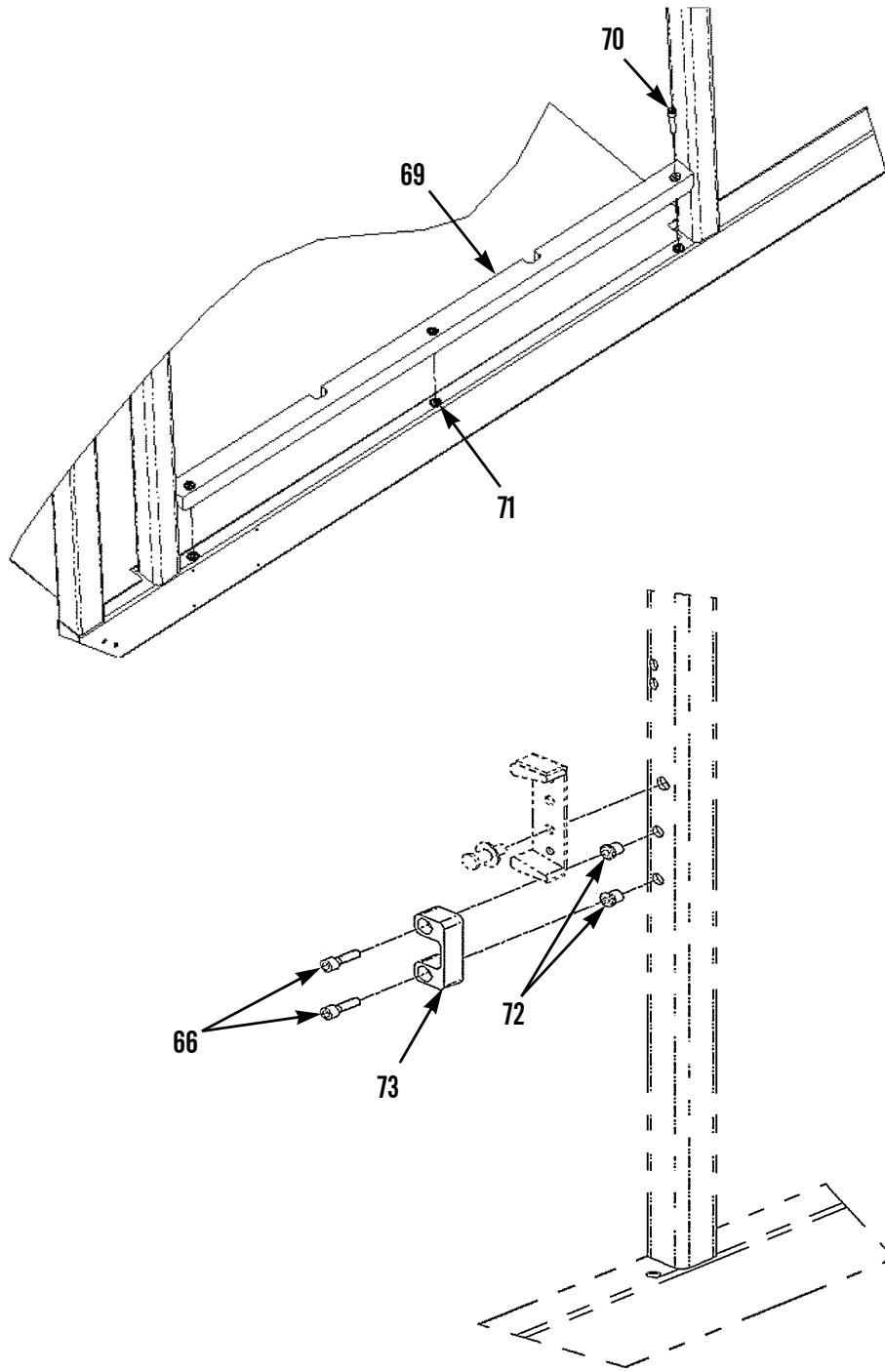


Figure 17. Door Assembly and Mounting Hardware (Sheet 3 of 4)

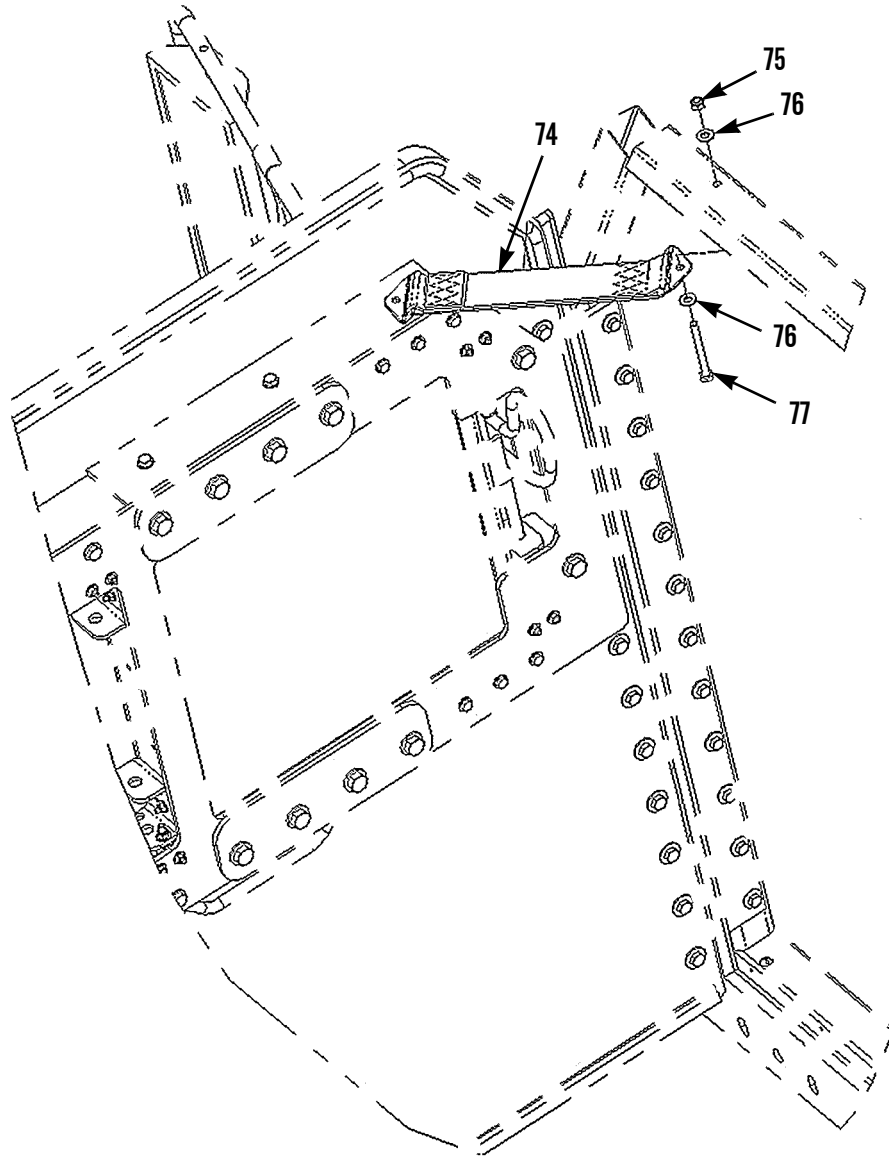


Figure 17. Door Assembly and Mounting Hardware (Sheet 4 of 4)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 17 DOOR ASSEMBLY AND MOUNTING HARDWARE						
1	PAOZZ	2540015285157	54786	113886-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOOZ	2540015344008	54786	113430-1-103	..ARMOR,SUPPLEMENTAL, LEFT.....	1
2	PAOOZ	2540015343969	54786	113430-2-103	..ARMOR,SUPPLEMENTAL, RIGHT.....	1
3	PAOZZ	2590015339774	54786	113478-1-103	..BRACKET,VEHICULAR C.....	2
4	PAOZZ	5310000806004	96906	MS27183-14	..WASHER,FLAT.....	30
5	PAOZZ	5310009359021	96906	MS51943-35	..NUT,SELF-LOCKING,HE.....	11
6	PAOZZ	5310008098544	96906	MS27183-7	..WASHER,FLAT.....	16
7	PAOZZ	5310012627899	39428	91839A235	..NUT,SELF-LOCKING,SL.....	12
8	PAOZZ	5310008095997	96906	MS27183-17	..WASHER,FLAT.....	20
9	PAOZZ	5310004883889	96906	MS51943-39	..NUT,SELF-LOCKING,HE.....	10
10	PAOZZ	5310008238804	96906	MS27183-9	..WASHER,FLAT.....	38
11	PAOZZ	5310000614650	96906	M45913/3-4CG8C	..NUT,SELF-LOCKING,HE.....	19
12	PAOZZ		54786	62000B3X5/8A	..SEAL CUT TO FIT.....	1
13	PAOZZ	2540015343293	54786	113431-3-103	..ARMOR,SUPPLEMENTAL, RIGHT.....	1
14	PAOZZ	2540015343912	54786	113431-1-103	..ARMOR,SUPPLEMENTAL, LEFT.....	1
15	PAOZZ	5365015322251	54786	113317-1	..SPACER,SLEEVE.....	2
16	PAOZZ	2540015315179	54786	113335-1	..HANDLE,DOOR,VEHICUL.....	1
17	PAOZZ	5305000680509	80204	B1821BH025C125N	..SCREW,CAP,HEXAGON H.....	6
18	PAOZZ	5365015322111	54786	8060R D .5 1	..SPACER,SLEEVE.....	2
19	PAOZZ	2510015315993	54786	113389-1	..FRAME SECTION,WINDO LEFT DOOR....	1
19	PAOZZ	2590015317198	54786	113389-2	..BRACKET,VEHICULAR C RIGHT DOOR...	1
20	PAOZZ	2540015315026	54786	113328-1	..ARMOR,SUPPLEMENTAL,.....	1
21	PAOZZ	9515015315146	54786	113387-5	..DOUBLER,WINDOW DOOR.....	1
22	PAOZZ	5310000814219	96906	MS27183-12	..WASHER,FLAT.....	12
23	PAOZZ	5306002264827	80204	B1821BH031C100N	..BOLT,MACHINE.....	4
24	PAOZZ	5306002264829	80204	B1821BH031C125N	..BOLT,MACHINE.....	2
25	PAOZZ	5340015326723	27182	31-8BLK	..HANDLE,BOW.....	1
26	PAOZZ		54786	113494-1	..FRAME,WINDOW,VEHICU.....	1
27	PAOZZ	5305000712083	80204	B1821BH050C500N	..SCREW,CAP,HEXAGON H.....	2
28	PAOZZ	5305000712522	80204	B1821BH025C475N	..SCREW,CAP,HEXAGON H.....	6
29	PAOZZ	9515015315145	54786	113387-1	..DOUBLER,WINDOW DOOR.....	2
30	PAOZZ	5306005544767	1TUY2	8288	..BOLT,MACHINE.....	2
31	PAOZZ	5305007813930	80204	B1821BH038C475N	..SCREW,CAP,HEXAGON H.....	3
32	PAOZZ	5365015330924	54786	113338-1	..RAMP,WINDOW,DOOR.....	4
33	PAOZZ	5305009585471	80205	MS35190-273	..SCREW,MACHINE.....	8
34	PAOZZ	2590015321726	54786	113389-3	..BRACKET,VEHICULAR C LEFT DOOR....	1
34	PAOZZ	2590015314966	54786	113389-4	..BRACKET,VEHICULAR C RIGHT DOOR...	1
35	PAOZZ	2590015321054	54786	113387-3	..BRACKET,VEHICULAR C.....	1
36	PAOZZ	5305009789359	96906	MS16997-49	..SCREW,CAP,SOCKET HE.....	8
37	PAOZZ	5365015330525	54786	113338-3	..RAMP,WINDOW,DOOR.....	2
38	PAOZZ	5305009640503	80204	B1821BH038C500N	..SCREW,CAP,HEXAGON H.....	2
39	PAOZZ	5305002264831	80204	B1821BH031C150N	..SCREW,CAP,HEXAGON H.....	3
40	PAOZZ	3040015342290	79343	BTC-250S	..CONNECTING LINK,RIG.....	1
41	PAOZZ	2590015315177	54786	113324-1	..BRACKET,VEHICULAR C LEFT.....	1
41	PAOZZ	2590015320241	54786	113324-2	..BRACKET,VEHICULAR C RIGHT.....	1
42	PAOZZ	5310008140673	96906	MS51943-33	..NUT,SELF-LOCKING,HE.....	3
43	PAOZZ	5340015343997	54786	113403-1	..STANDOFF,THREADED,S.....	1

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
44	PAOZZ	5305000712509	80204	B1821BH025C150N	.. SCREW,CAP,HEXAGON H.....	2
45	PAOZZ	5305000680508	80204	B1821BH025C075N	.. SCREW,CAP,HEXAGON H.....	4
46	PAOZZ		54786	113438-1	.. BRACKET,MOUNTING.....	1
47	PAOZZ	3040015344117	54786	113434-1	.. CONNECTING LINK,RIG.....	1
48	PAOZZ	5305008213869	80204	B1821BH038C175N	.. SCREW,CAP,HEXAGON H.....	2
49	PAOZZ	5340015343658	54786	DS603	.. CATCH,ELBOW.....	1
50	PAOZZ		54786	113437-1	.. BRACKET,VEHICULAR C.....	1
51	PAOZZ	5305007252317	80204	B1821BH038C150N	.. SCREW,CAP,HEXAGON H.....	5
52	PAOZZ	5365015320335	54786	113325-1	.. SPACER,PLATE.....	1
53	PAOZZ	5305013997017	53711	801-6405354-73	.. SCREW,CAP,SOCKET HE.....	8
54	PAOZZ	3040015320704	54786	113339-1	.. CAM,CONTROL.....	1
55	PAOZZ		54786	113435-1	.. CONNECTING LINK,RIG.....	1
56	PAOZZ		1A699	LE-075E-12-S	.. SPRING,HELICAL,COMP.....	1
57	PAOZZ	5340015343289	54786	113436-1	.. COVER,ACCESS LEFT.....	1
57	PAOZZ	5340015343742	54786	113436-2	.. COVER,ACCESS RIGHT.....	1
58	PAOZZ	2540015343334	54786	113439-1	.. HANDLE,DOOR,VEHICUL.....	1
59	PAOZZ	5305014634797	39428	91259A578	.. SCREW,SHOULDER.....	2
60	PAOZZ	5310013960976	80205	NAS1149F0532P	.. WASHER,FLAT.....	2
61	PAOZZ	5305002253843	80204	B1821BH025C100N	.. SCREW,CAP,HEXAGON H.....	1
62	PAOZZ	2540015327768	54786	9D-400URZINC	.. LATCH,DOOR,VEHICULA RIGHT.....	1
62	PAOZZ	2540015326996	54786	9D-400ULZINC	.. LATCH,DOOR,VEHICULA LEFT.....	1
63	PAOZZ	5305000712506	80204	B1821BH025C050N	.. SCREW,CAP,HEXAGON H.....	4
64	PAOZZ	2540015307457	54786	113499-1	.. ARMOR SET,SUPPLEMEN.....	1
64	PAOZZ	2540015307458	54786	113499-2	.. ARMOR SET,SUPPLEMEN.....	1
65	PCOZZ	5330015319639	54786	113337-1	.. SEAL,NONMETALLIC CH.....	1
66	PAOZZ	5305007252317	80204	B1821BH038C150N	.. SCREW,CAP,HEXAGON H.....	21
67	PAOZZ	5310000806004	96906	MS27183-14	.. WASHER,FLAT.....	13
68	PAOZZ	5310009359021	96906	MS51943-35	.. NUT,SELF-LOCKING,HE.....	13
69	PAOZZ		54786	113432-1	.. FRAME SECTION,STRUC.....	2
70	PAOZZ	5305002264831	80204	B1821BH031C150N	.. SCREW,CAP,HEXAGON H.....	6
71	PAOZZ	5310015343478	78276	ALS4-218-150	.. NUT,SELF-LOCKING,BL.....	6
72	PAOZZ	5325014837480	78276	ALS4-616-150	.. INSERT,SCREW THREAD.....	4
73	PAOZZ	5340015315029	54786	113327-1	.. PLATE,MOUNTING.....	2
74	PAOZZ	5340015325381	54786	113386-1	.. STRAP,RETAINING.....	2
75	PAOZZ	5310008140673	96906	MS51943-33	.. NUT,SELF-LOCKING,HE.....	1
76	PAOZZ	5310000814219	96906	MS27183-12	.. WASHER,FLAT.....	2
77	PAOZZ	5306002264837	80204	B1821BH031C300N	.. BOLT,MACHINE.....	1

END OF FIGURE





1  
2-7

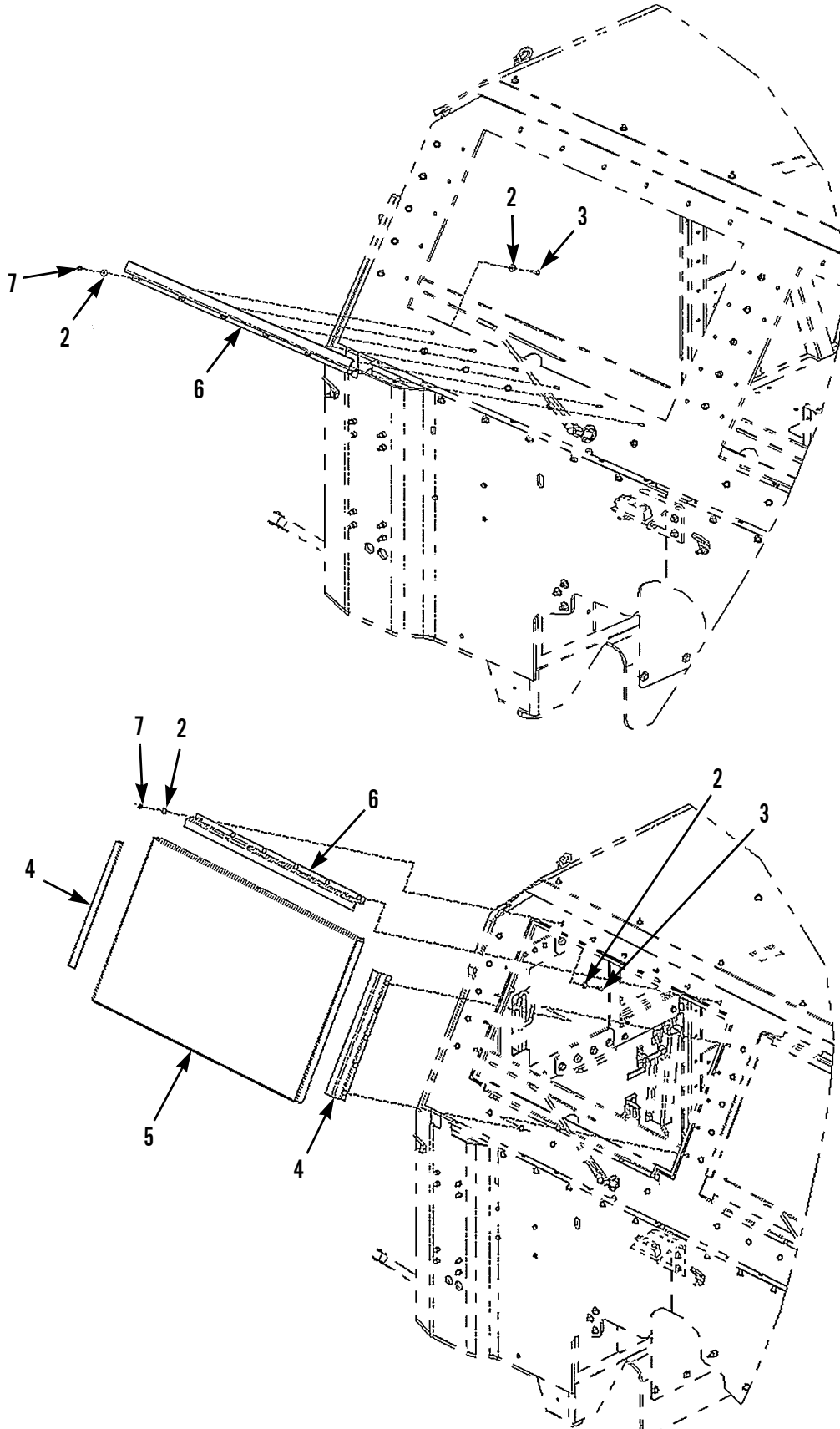


Figure 18. Transparent Windshield Armor Kit and Mounting Hardware

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 18 TRANSPARENT WINDSHIELD ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285160	54786	113887-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT.....	88
3	PAOZZ	5305002253843	80204	B1821BH025C100N	.SCREW,CAP,HEXAGON H.....	44
4	PAOZZ	2590015317282	54786	113383-3-103	.BRACKET,VEHICULAR C.....	4
5	PAOZZ	2540015307355	54786	113381-1	.ARMOR SET,SUPPLEMEN.....	2
6	PAOZZ	2590015320269	54786	113383-1-103	.BRACKET,VEHICULAR C.....	6
7	PAOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT,SELF-LOCKING,HE.....	44

END OF FIGURE

1  
2-17

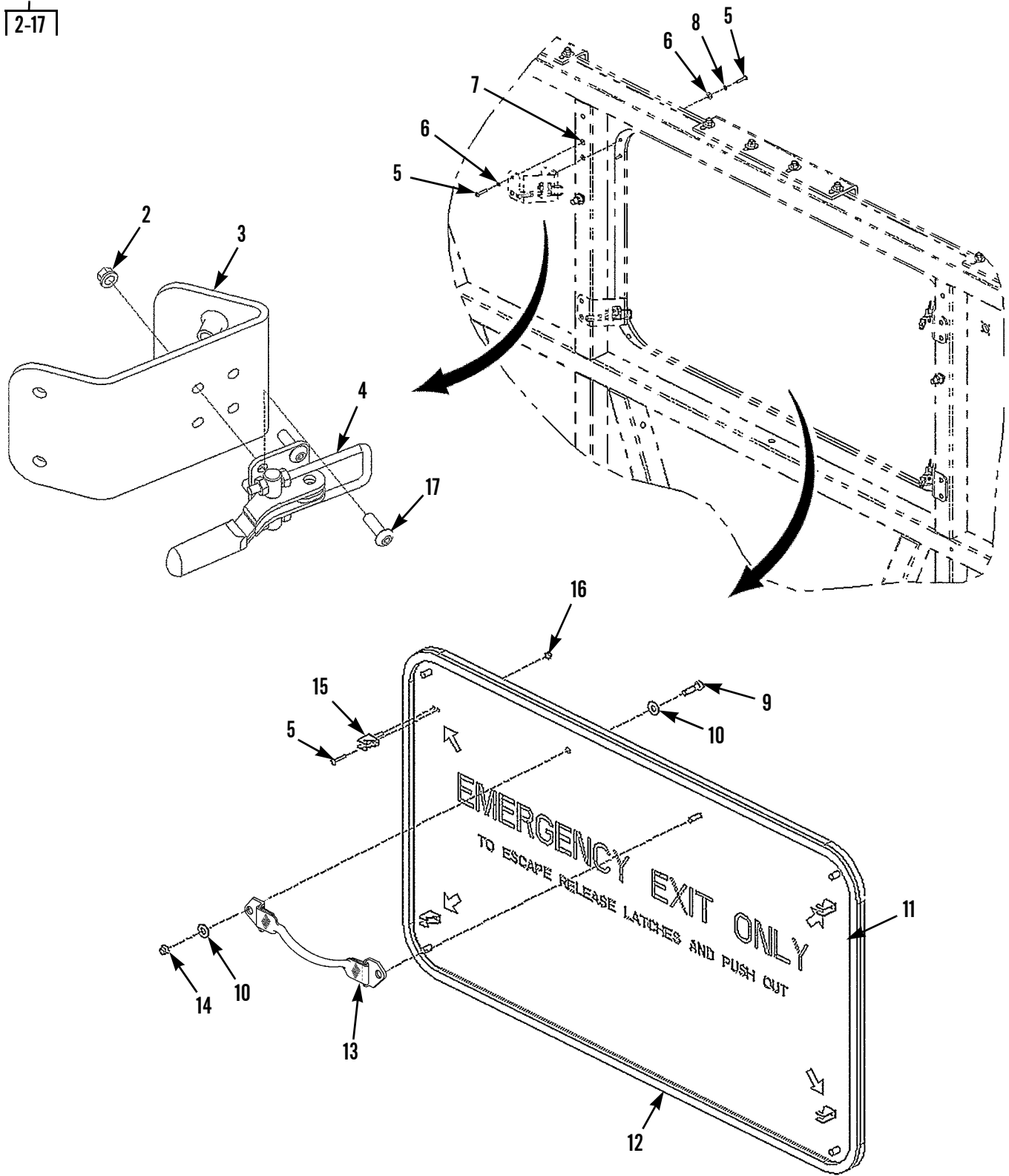


Figure 19. Escape Hatch Armor Kit and Mounting Hardware

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 19 ESCAPE HATCH ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015285161	54786	113888-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	5310009349757	80205	MS35649-282	.NUT,PLAIN,HEXAGON.....	16
3	PAOZZ		54786	113425-1	.BRACKET,VEHICULAR C.....	4
4	PAOZZ		54786	323	.LATCH,DOOR,VEHICULA.....	4
5	PAOZZ	5305015212599	39428	93075A247	.SCREW,MACHINE.....	24
6	PAOZZ	5310008098544	96906	MS27183-7	.WASHER,FLAT.....	16
7	PAOZZ	5325014110066	78276	ALS4-1024-130	.INSERT,SCREW THREAD.....	16
8	PAOZZ	5310014807640	39428	91113A011	.WASHER,LOCK.....	8
9	PAOZZ	5306002264829	80204	B1821BH031C125N	.BOLT,MACHINE.....	2
10	PAOZZ	5310000814219	96906	MS27183-12	.WASHER,FLAT.....	4
11	PAOZZ	5330015343296	54786	103B375B3X5/16E	.SEAL CUT TO FIT (APPROX. 10 FEET). V	
12	PAOZZ	2540015343916	54786	113424-1-103	.ARMOR,SUPPLEMENTAL,.....	1
13	PAOZZ	5340015343359	54786	113423-1	.HANDLE,BOW.....	1
14	PAOZZ	5310008140673	96906	MS51943-33	.NUT,SELF-LOCKING,HE.....	2
15	PAOZZ	5340015344270	54786	113443-1	.CATCH,CLAMPING.....	4
16	PAOZZ	5310012627899	39428	91839A235	.NUT,SELF-LOCKING,SL.....	8
17	PAOZZ	5305015343746	39428	90910A194	.SCREW,MACHINE.....	16

END OF FIGURE

1  
2-3

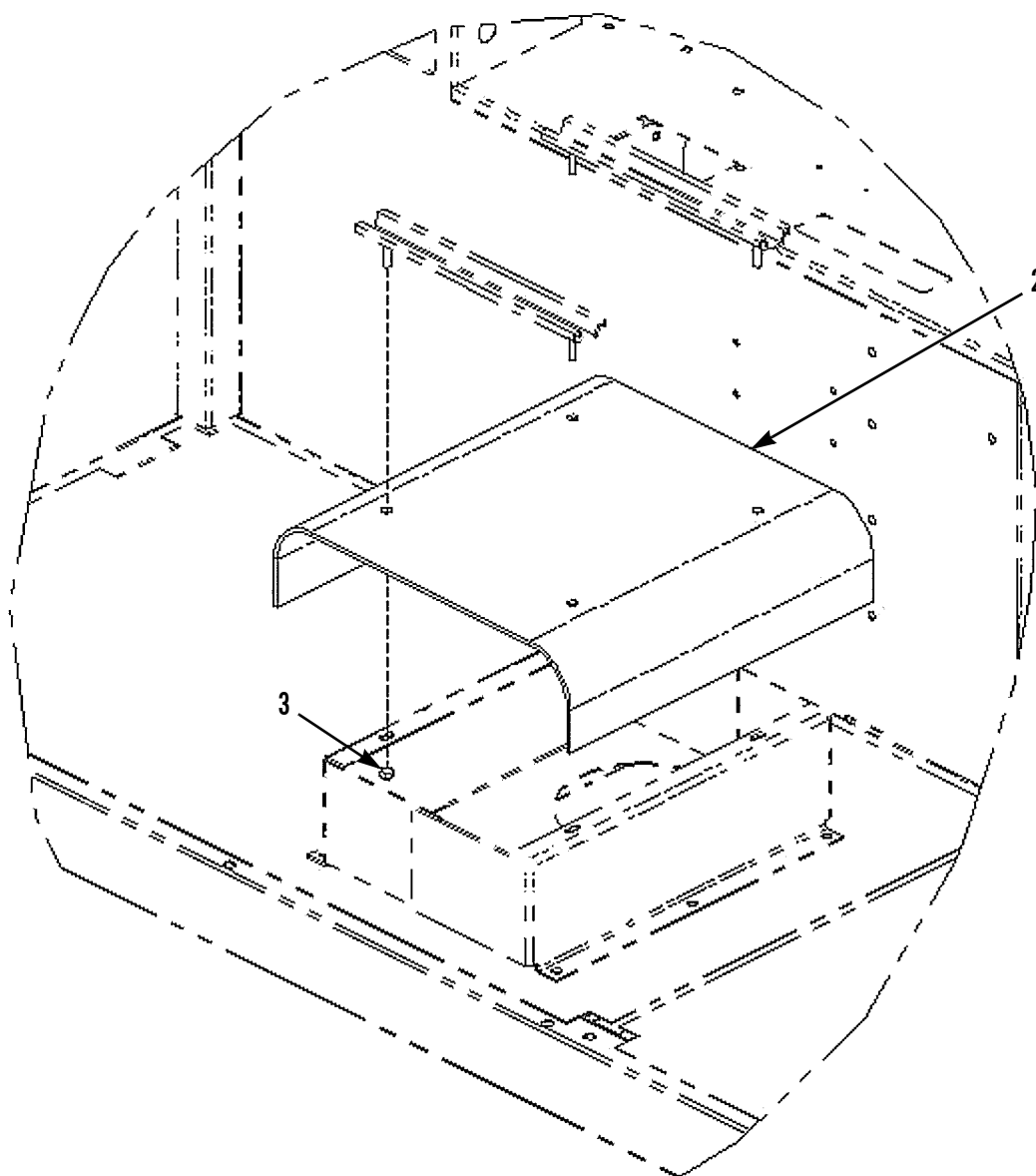


Figure 20. Seat Armor Panel and Mounting Hardware

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 20 SEAT ARMOR PANEL AND MOUNTING HARDWARE						
1	PAOZZ	2540015285162	54786	113889-1	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	2540015343328	54786	113467-1-103	.ARMOR,SUPPLEMENTAL,.....	1
3	PAOZZ	5310008140673	96906	MS51943-33	.NUT,SELF-LOCKING,HE.....	4

END OF FIGURE

1  
2

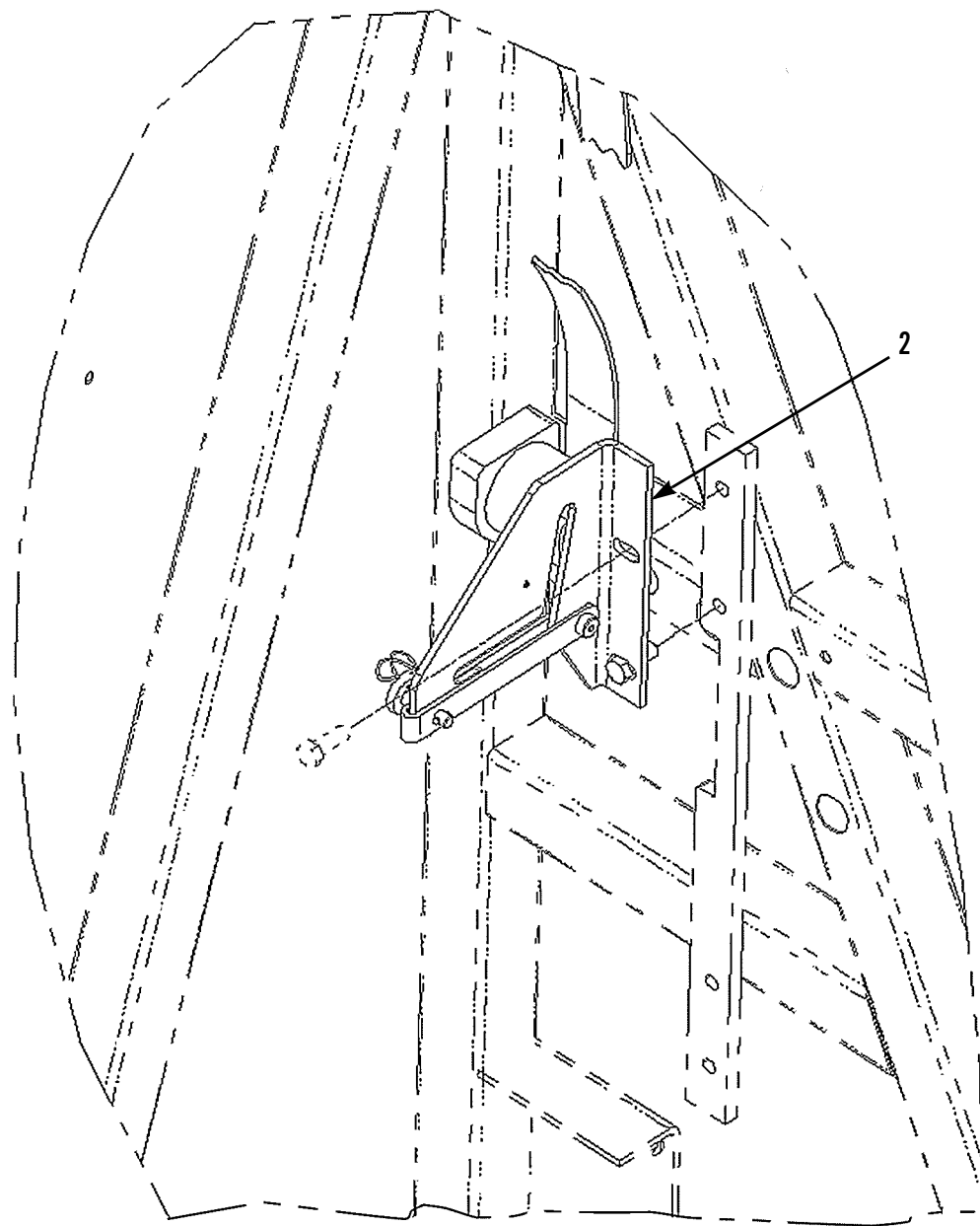


Figure 21. Seat Back Quick Release Bracket



(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 21 SEAT BACK QUICK RELEASE BRACKET						
1	PAOZZ	2540015285163	54786	113890-1	BRACKET,VEHICULAR S.....	1
2	PAOZZ	5340015343989	54786	113485-1	.BRACKET,VEHICULAR S LEFT.....	1
2	PAOZZ	5340015343990	54786	113485-2	.BRACKET,VEHICULAR S RIGHT.....	1

END OF FIGURE



1  
2-14

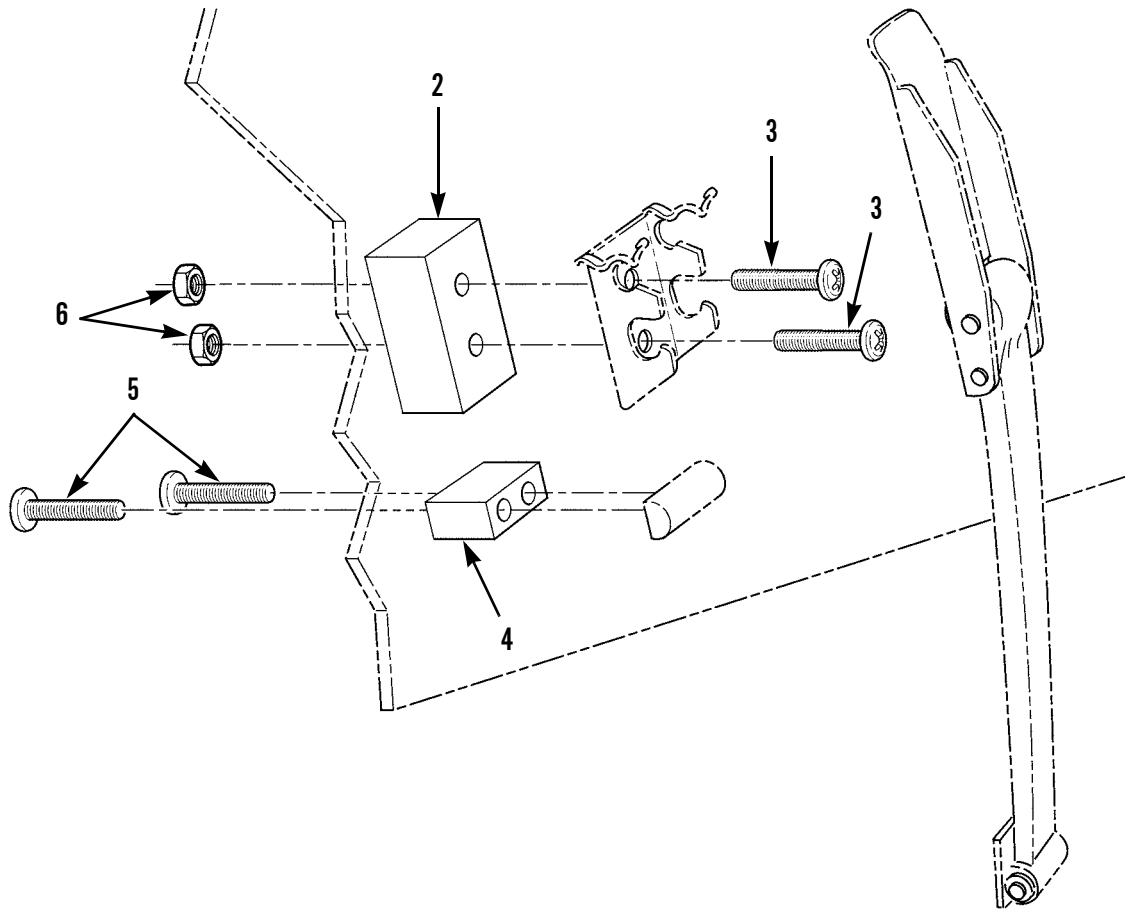


Figure 22. Final Assembly (Sheet 1 of 6)

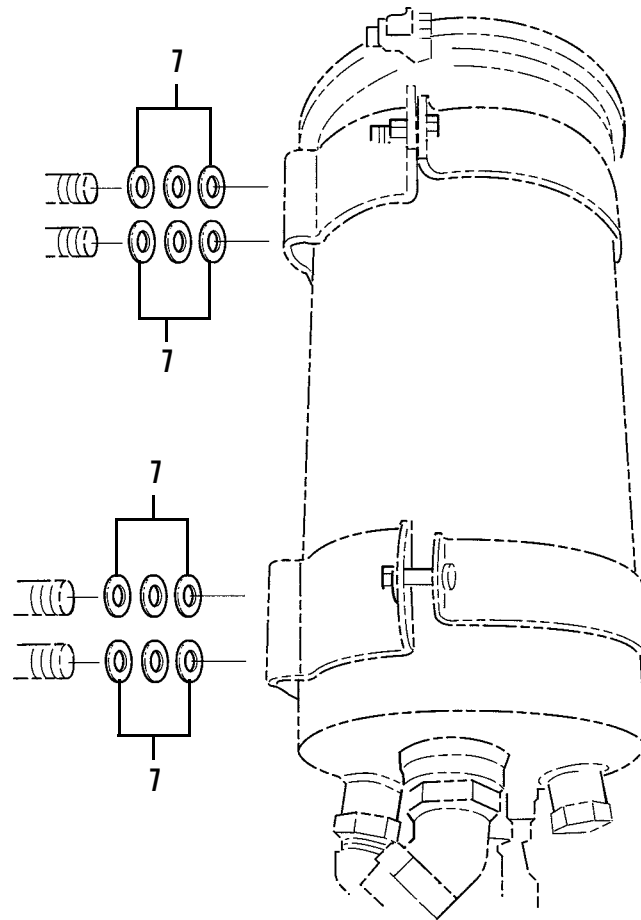


Figure 22. Final Assembly (Sheet 2 of 6)

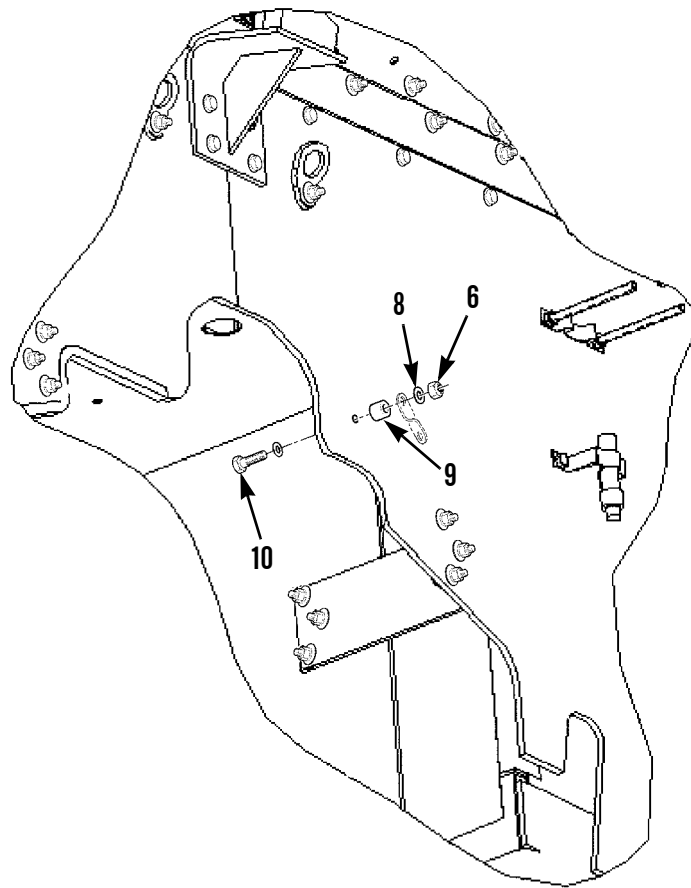


Figure 22. Final Assembly (Sheet 3 of 6)

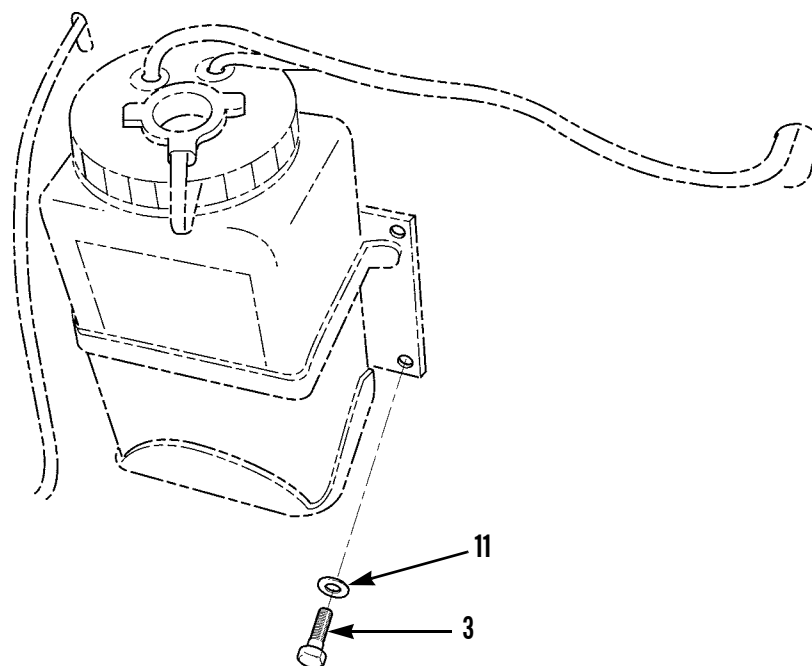


Figure 22. Final Assembly (Sheet 4 of 6)

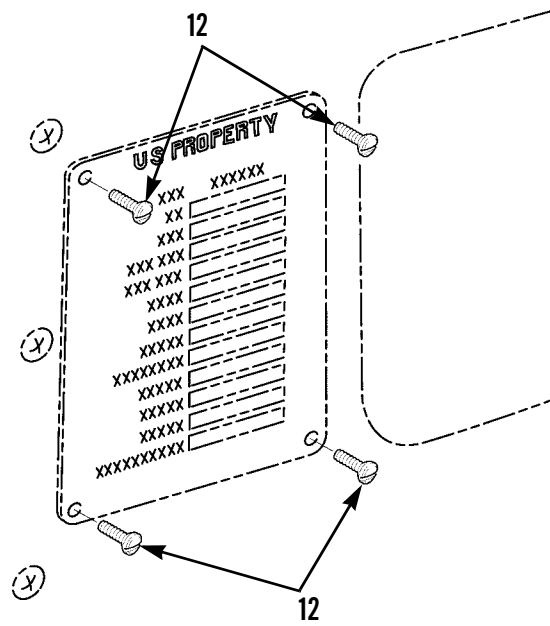


Figure 22. Final Assembly (Sheet 5 of 6)

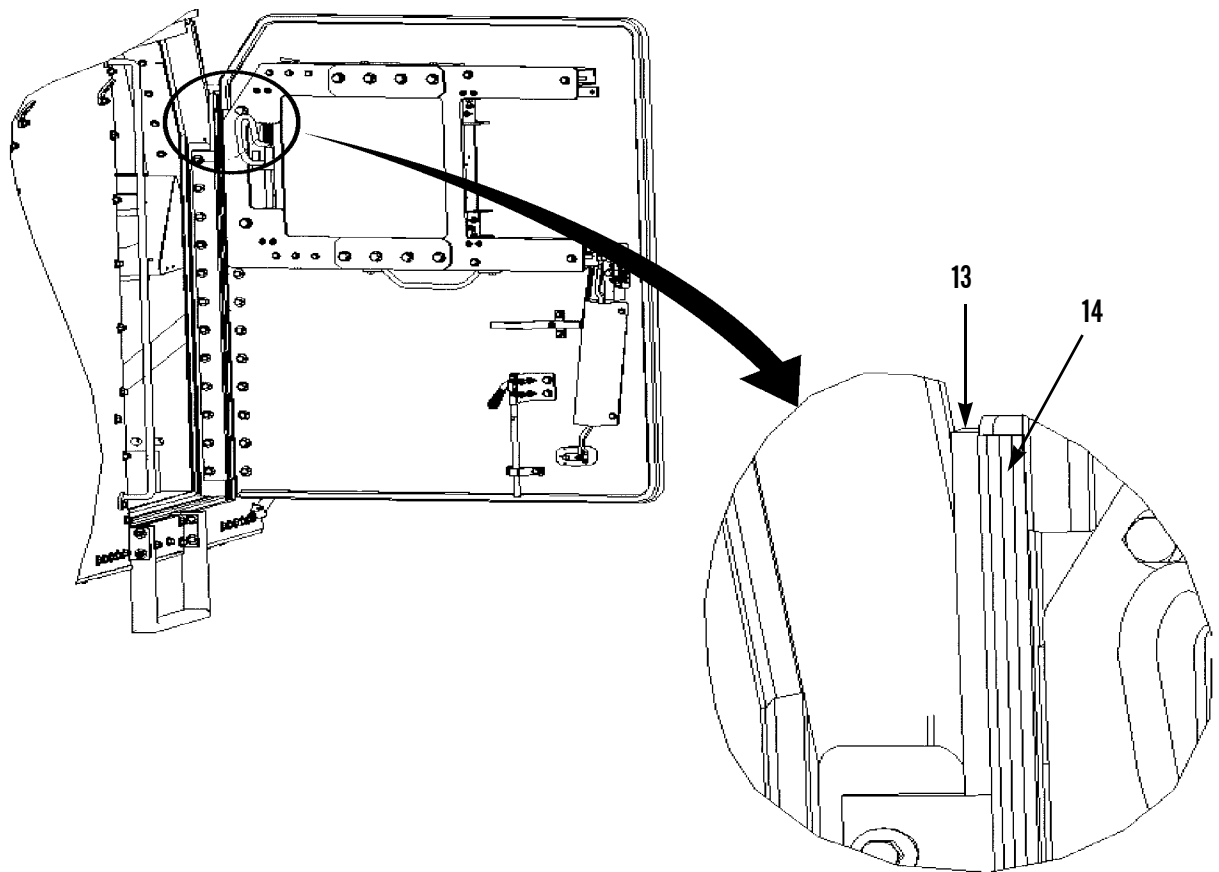


Figure 22. Final Assembly (Sheet 6 of 6)



(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 22 FINAL ASSEMBLY						
1	PAOZZ	2540015285166	54786	113891-1	HARDWARE KIT,MECHAN.....	1
2	PAOZZ	5365015344264	54786	113486-1	.SPACER,STRAIGHT.....	2
3	PAOZZ	5305000712512	80204	B1821BH025C225N	.SCREW,CAP,HEXAGON H.....	8
4	PAOZZ	5365015342910	54786	113487-1	.SPACER,STRAIGHT.....	2
5	PAOZZ	5306015343267	39428	90822A382	.BOLT,MACHINE.....	4
6	PAOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT,SELF-LOCKING,HE.....	5
7	PAOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT.....	24
8	PAOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT.....	1
9	PAOZZ	5365015339921	54786	113440-3	.SPACER,SLEEVE.....	1
10	PAOZZ	5305000712510	80204	B1821BH025C175N	.SCREW,CAP,HEXAGON H.....	1
11	PAOZZ	5310005825965	80205	MS35338-44	.WASHER,LOCK.....	4
12	PAOZZ	5305015344112	39428	94060A242	.SCREW,MACHINE.....	4
13	PAOZZ	5330015341386	54786	X-275-HT	.SEAL CUT TO FIT.....	V
14	PAOZZ	5330015344043	54786	X-103-HT	.SEAL,NONMETALLIC SP.....	V

END OF FIGURE



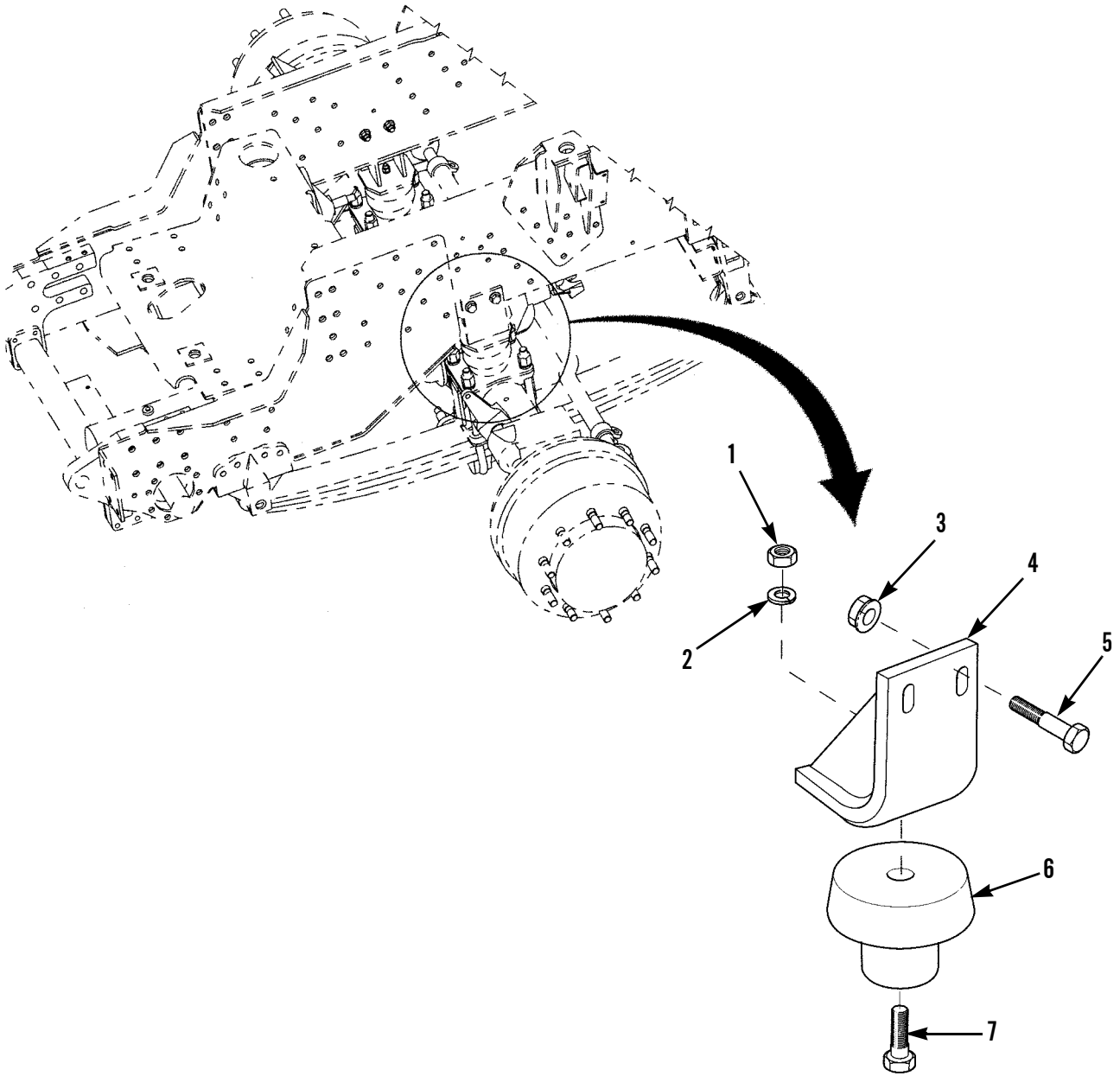


Figure 23. Front Suspension Bumper and Muffler Mounts (Sheet 1 of 2)

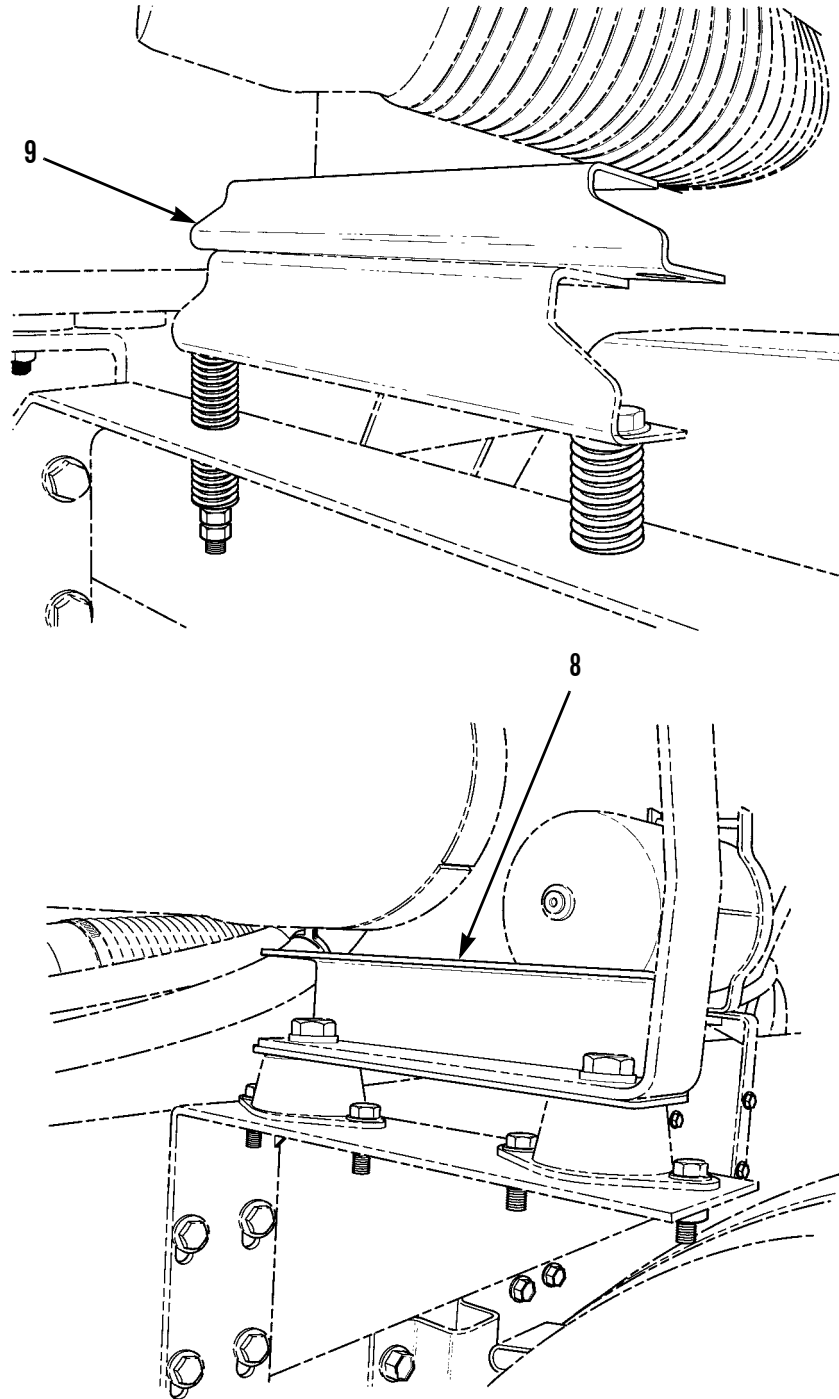


Figure 23. Front Suspension Bumper and Muffler Mounts (Sheet 2 of 2)

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 23 FRONT SUSPENSION BUMPER AND MUFFLER MOUNTS						
1	PAOZZ	5310012087572	45152	55520AX	NUT, PLAIN, HEXAGON.....	1
2	PAOZZ	5310011332130	45152	355AX	WASHER, LOCK.....	2
3	PAOZZ	53100111110645	45152	110311A	NUT, SELF-LOCKING, EX.....	1
4	PAOZZ		45152	3542963	BRACKET, VEHICULAR C.....	2
5	PAOZZ	5306011067496	45152	111316A	BOLT, MACHINE.....	1
6	PAOZZ	5360015079003	45152	3362109	SPRING, RUBBER.....	2
7	PAOZZ	5305011955041	45152	27937AX	SCREW, CAP, HEXAGON H.....	2
8	PAOZZ	2590015343475	54786	113454-1	BRACKET, VEHICULAR C.....	1
9	PAOZZ	2590015340454	54786	113454-3	BRACKET, VEHICULAR C.....	1

END OF FIGURE

1  
2-6

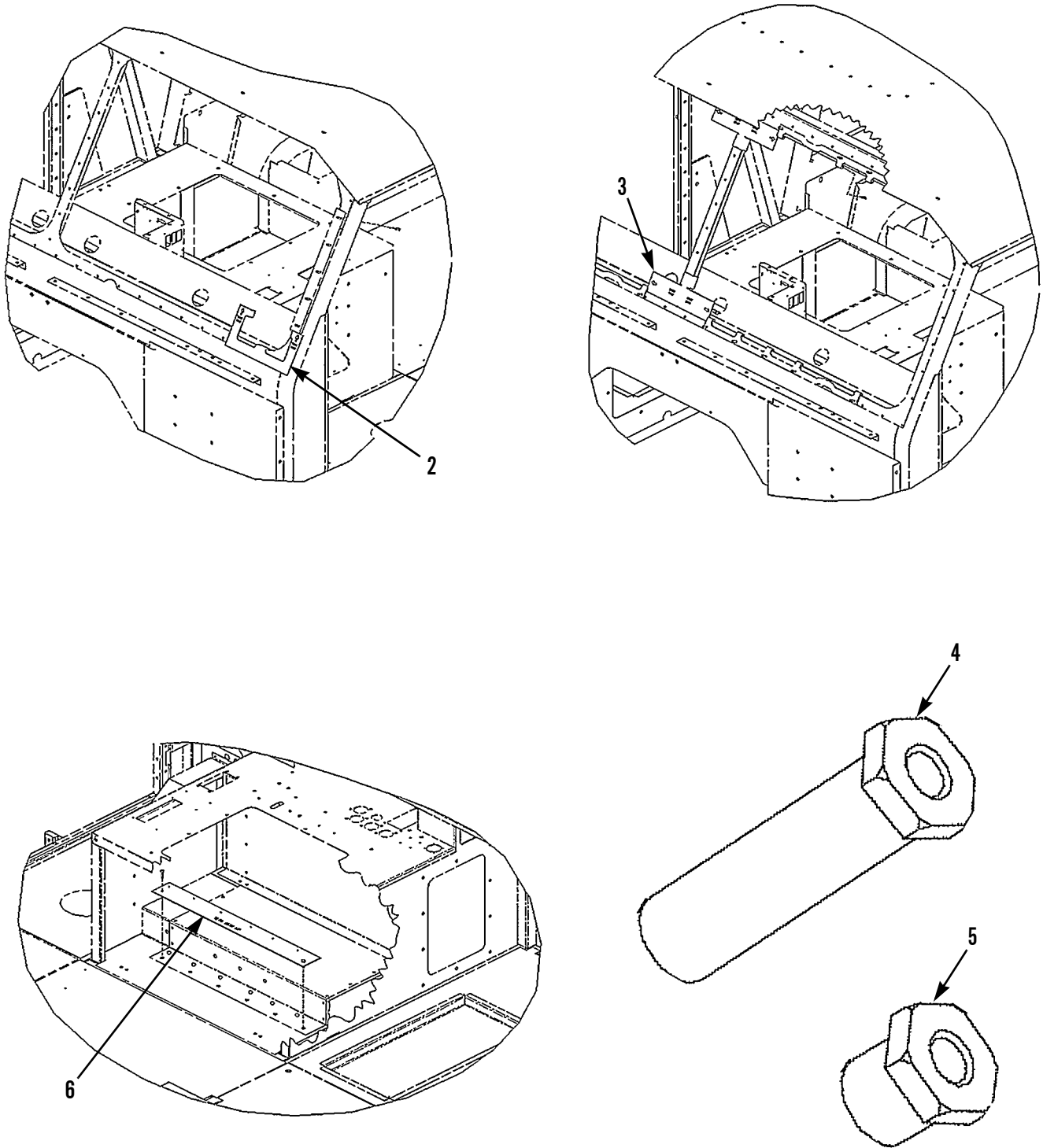


Figure 24. Templates and Drill Guides

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 24 TEMPLATES AND DRILL GUIDES						
1	PAOZZ	2540015343465	54786	113481-1	ACCESSORY KIT,VEHIC.....	1
2	PAOZZ	3465015319566	54786	107405-1	.GUIDE,DRILL.....	1
3	XDOZZ		54786	113495-1	.TEMPLATE,SIDE WINDS.....	1
4	XDOZZ		54786	113497-1	.BUSHING,DRILL.....	1
5	XDOZZ		54786	113497-3	.BUSHING,DRILL.....	1
6	XDOZZ		54786	113496-1	.TEMPLATE,DOGHOUSE F.....	1

END OF FIGURE





CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX							
STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM		
5310-00-061-4650	2	9	5310-00-081-4219	11	6		
	3	15		12	9		
	9	6		15	7		
	10	13		17	22		
	13	13		17	76		
	17	11		19	10		
	18	7		5310-00-180-0277	2	18	
	22	6		5305-00-225-3843	1	1	
	5305-00-068-0508	17		45		9	3
		5305-00-068-0509		3	12	17	61
10			9	18	3		
5305-00-068-0511	13	11	5306-00-226-4827	15	9		
	17	17		17	23		
	3	8	5306-00-226-4829	13	15		
	5	11		17	24		
5305-00-071-2059	6	4		19	9		
	9	14	5305-00-226-4831	17	39		
	12	7		17	70		
	14	4	5306-00-226-4835	11	8		
	5	17	5306-00-226-4837	17	77		
5305-00-071-2063	6	16	5310-00-241-6659	4	23		
	5305-00-071-2064	4	20		5	13	
5		18		6	12		
5305-00-071-2083	6	15	5310-00-407-9566	11	7		
	17	27		15	8		
	17	63	5310-00-488-3889	17	9		
	17	44	5306-00-554-4767	17	30		
	5305-00-071-2510	2	14	5310-00-582-5965	1	2	
		8	16		8	17	
	22	10		9	18		
	5305-00-071-2512	22	3		22	11	
	5305-00-071-2522	17	28	5310-00-637-9541	4	18	
	5310-00-080-6004	2	5		10	20	
3		4		14	8		
4		3	5305-00-638-8920	4	17		
5		3	5305-00-725-2317	2	6		
6		2		4	9		
7		3		5	4		
8		2		6	5		
9		10		9	17		
10		7		10	3		
11		5		11	4		
12		4		12	8		
13		7		13	4		
14		2		14	9		
15		5		15	10		
16		2		16	4		
17		4		17	51		
17		67		17	66		
22	7	5310-00-761-6882	3	14			

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX							
STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM		
5305-00-781-3927	4	26	5310-00-935-9021	13	10		
	7	7		14	3		
	8	5		15	6		
5305-00-781-3928	5	15		16	3		
	6	17		17	5		
	10	17		17	68		
	13	17	5305-00-958-5471	17	33		
5305-00-781-3930	17	31	5305-00-964-0503	17	38		
5305-00-782-9489	4	25	5305-00-978-9359	17	36		
	16	8	5306-01-106-7496	23	5		
5310-00-809-4061	4	21	5310-01-111-0645	14	11		
	5	12		23	3		
	6	13	5305-01-126-2322	13	2		
	8	11	5310-01-133-2130	23	2		
	9	20	5305-01-140-9118	14	7		
5310-00-809-5997	17	8	5305-01-169-6026	4	11		
5310-00-809-8544	3	10	5305-01-195-5041	23	7		
	4	13	5310-01-208-7572	23	1		
	17	6	5310-01-262-7899	3	11		
	19	6		4	14		
5310-00-814-0673	11	12		17	7		
	12	3		19	16		
	17	42	5305-01-353-2008	2	17		
	17	75	5305-01-386-9052	9	19		
	19	14	5310-01-396-0976	17	60		
	20	3	5305-01-399-7017	17	53		
	5305-00-821-3869	17	48	5325-01-411-0066	19	7	
5310-00-823-8804	2	8	5305-01-463-4797	17	59		
	3	13	5310-01-467-5662	3	6		
	8	18	5310-01-480-7640	19	8		
	9	7	5305-01-482-8000	10	2		
	10	10	5325-01-483-7480	17	72		
	13	12	5360-01-507-9003	23	6		
	17	10	5305-01-521-2599	19	5		
	18	2	2540-01-528-5128	2	1		
	22	8	2540-01-528-5136	3	1		
	5305-00-846-5703	8	9	2540-01-528-5137	4	1	
		10	21	2540-01-528-5138	9	1	
		5310-00-934-9757	19	2	2540-01-528-5141	10	1
		5310-00-935-9021	2	3	2540-01-528-5143	5	1
3	5		2540-01-528-5144	6	1		
4	2		2540-01-528-5145	11	1		
5	7		2540-01-528-5146	7	1		
6	7		2540-01-528-5148	8	1		
7	2		2540-01-528-5149	12	1		
8	3		2540-01-528-5150	13	1		
9	11		2540-01-528-5151	14	1		
10	8		2540-01-528-5152	15	1		
11	10		2540-01-528-5154	16	1		
12	5		2540-01-528-5156	16	1		

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX					
STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
2540-01-528-5157	17	1	2590-01-533-9801	10	11
2540-01-528-5160	18	1		13	8
2540-01-528-5161	19	1		16	5
2540-01-528-5162	20	1	2540-01-533-9804	9	21
2540-01-528-5163	21	1	2540-01-533-9811	4	16
2540-01-528-5166	22	1	2540-01-533-9824	8	15
2540-01-530-7355	18	5	5365-01-533-9918	4	19
2540-01-530-7457	17	64	5365-01-533-9919	8	4
2540-01-530-7458	17	64	5365-01-533-9921	4	24
2590-01-531-4966	17	34		22	9
2590-01-531-5017	2	13	5365-01-533-9923	5	14
2540-01-531-5026	17	20		6	18
5340-01-531-5029	17	73		10	16
9515-01-531-5145	17	29		13	16
9515-01-531-5146	17	21	2540-01-533-9953	5	8
2590-01-531-5177	17	41	2540-01-533-9987	9	4
2540-01-531-5179	17	16	2540-01-533-9991	6	10
2510-01-531-5993	17	19	2540-01-533-9994	7	6
2590-01-531-7198	17	19	5305-01-534-0032	2	10
2590-01-531-7282	18	4	2590-01-534-0315	8	6
3465-01-531-9566	24	2	2540-01-534-0319	12	2
5365-01-531-9624	2	16	2540-01-534-0323	7	4
5330-01-531-9639	17	65	2590-01-534-0330	10	18
2590-01-532-0241	17	41	2590-01-534-0368	5	9
2590-01-532-0269	18	6		6	6
5365-01-532-0335	17	52	2590-01-534-0370	4	12
3040-01-532-0704	17	54	2590-01-534-0371	9	16
2590-01-532-1054	17	35	2590-01-534-0380	8	12
2590-01-532-1423	2	11		11	2
2590-01-532-1726	17	34	2590-01-534-0394	8	7
5340-01-532-1814	2	7	2590-01-534-0397	9	8
5365-01-532-2111	17	18	2590-01-534-0399	1	3
5365-01-532-2251	17	15	2510-01-534-0401	10	6
5340-01-532-5381	17	74		13	9
5340-01-532-6723	17	25	2540-01-534-0406	3	2
2540-01-532-6996	17	62	2540-01-534-0409	11	11
2540-01-532-7768	17	62	2540-01-534-0427	9	15
5365-01-533-0525	17	37	2590-01-534-0432	8	13
5365-01-533-0924	17	32		15	2
5365-01-533-9668	8	8	2590-01-534-0445	4	6
2590-01-533-9774	2	4	2590-01-534-0449	2	12
	3	3	2590-01-534-0454	23	9
	4	10	2590-01-534-0458	1	4
	5	10	5365-01-534-0895	4	27
	6	8		7	8
	11	13	5306-01-534-1055	10	15
	12	6	5330-01-534-1386	2	15
	17	3		3	16
2590-01-533-9795	3	9		22	13
2590-01-533-9797	4	4	2540-01-534-1747	5	2

CROSS-REFERENCE INDEXES

STOCK NUMBER	NATIONAL STOCK NUMBER INDEX		FIG.	ITEM
	FIG.	STOCK NUMBER		
2540-01-534-1747	6	3		
3040-01-534-2290	17	40		
5365-01-534-2910	22	4		

CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX		FIG.	ITEM
			STOCK NUMBER		
78276	ALS4-1024-130		5325-01-411-0066	19	7
78276	ALS4-218-150			17	71
78276	ALS4-616-150		5325-01-483-7480	17	72
79343	BTC-250S		3040-01-534-2290	17	40
80204	B1821BH025C050N		5305-00-071-2506	17	63
80204	B1821BH025C075N		5305-00-068-0508	17	45
80204	B1821BH025C100N		5305-00-225-3843	1	1
				9	3
				17	61
				18	3
80204	B1821BH025C125N		5305-00-068-0509	3	12
				10	9
				13	11
				17	17
80204	B1821BH025C150N		5305-00-071-2509	17	44
80204	B1821BH025C175N		5305-00-071-2510	2	14
				8	16
				22	10
80204	B1821BH025C225N		5305-00-071-2512	22	3
80204	B1821BH025C475N		5305-00-071-2522	17	28
80204	B1821BH031C100N		5306-00-226-4827	15	9
				17	23
80204	B1821BH031C125N		5306-00-226-4829	13	15
				17	24
				19	9
80204	B1821BH031C150N		5305-00-226-4831	17	39
				17	70
80204	B1821BH031C250N		5306-00-226-4835	11	8
80204	B1821BH031C300N		5306-00-226-4837	17	77
80204	B1821BH038C088N		5305-01-140-9118	14	7
80204	B1821BH038C125N		5305-00-068-0511	3	8
				5	11
				6	4
				9	14
				12	7
				14	4
80204	B1821BH038C150N		5305-00-725-2317	2	6
				4	9
				5	4
				6	5
				9	17
				10	3
				11	4
				12	8
				13	4
				14	9
				15	10
				16	4
				17	51
				17	66
80204	B1821BH038C175N		5305-00-821-3869	17	48

CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX		FIG.	ITEM
			STOCK NUMBER		
80204	B1821BH038C200N	5305-00-782-9489		4	25
				16	8
80204	B1821BH038C225N	5305-00-638-8920		4	17
80204	B1821BH038C300N	5305-00-846-5703		8	9
				10	21
80204	B1821BH038C350N	5305-00-781-3927		4	26
				7	7
				8	5
80204	B1821BH038C400N	5305-00-781-3928		5	15
				6	17
				10	17
				13	17
80204	B1821BH038C475N	5305-00-781-3930		17	31
80204	B1821BH038C500N	5305-00-964-0503		17	38
80204	B1821BH038C600N	5305-01-386-9052		9	19
80204	B1821BH044C250N	5305-00-071-2059		5	17
				6	16
80204	B1821BH044C400N	5305-00-071-2063		4	20
80204	B1821BH044C450N	5305-00-071-2064		5	18
				6	15
80204	B1821BH050C500N	5305-00-071-2083		17	27
54786	DS603			17	49
1A699	LE-075E-12-S			17	56
96906	MS16997-49	5305-00-978-9359		17	36
80205	MS24667-56	5305-01-126-2322		13	2
96906	MS27183-12	5310-00-081-4219		11	6
				12	9
				15	7
				17	22
				17	76
				19	10
				19	10
96906	MS27183-14	5310-00-080-6004		2	5
				3	4
				4	3
				5	3
				6	2
				7	3
				8	2
				9	10
				10	7
				11	5
				12	4
				13	7
				14	2
				15	5
				16	2
				17	4
				17	67
96906	MS27183-15	5310-00-809-4061		22	7
				4	21
				5	12

CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX		FIG.	ITEM
			STOCK NUMBER		
96906	MS27183-15	5310-00-809-4061	6	13	
			8	11	
			9	20	
96906	MS27183-17	5310-00-809-5997	17	8	
96906	MS27183-7	5310-00-809-8544	3	10	
			4	13	
			17	6	
			19	6	
			2	8	
96906	MS27183-9	5310-00-823-8804	3	13	
			8	18	
			9	7	
			10	10	
			13	12	
			17	10	
			18	2	
			22	8	
			17	33	
			1	2	
			8	17	
80205	MS35190-273	5305-00-958-5471	9	18	
			22	11	
			11	7	
			15	8	
			19	2	
80205	MS35338-44	5310-00-582-5965	11	12	
			12	3	
80205	MS35338-45	5310-00-407-9566	17	42	
			17	75	
80205	MS35649-282	5310-00-934-9757	19	14	
			20	3	
			2	3	
			3	5	
			4	2	
			5	7	
			6	7	
			7	2	
			8	3	
			9	11	
			10	8	
96906	MS51943-33	5310-00-814-0673	11	10	
			12	5	
96906	MS51943-35	5310-00-935-9021	13	10	
			14	3	
			15	6	
			16	3	
			17	5	
			17	68	
			17	9	
			3	14	
			2	9	

## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX		FIG.	ITEM
			STOCK NUMBER		
96906	M45913/3-4CG8C		5310-00-061-4650	3	15
				9	6
				10	13
				13	13
				17	11
				18	7
				22	6
81349	M45913/3-7CG8C		5310-00-241-6659	4	23
				5	13
				6	12
80205	NAS1149F0532P		5310-01-396-0976	17	60
54786	X-103-HT			22	14
54786	X-275-HT		5330-01-534-1386	2	15
				3	16
				22	13
54786	103B375B3X5/16E			19	11
54786	106734-7-103		2590-01-532-1423	2	11
54786	107405-1		3465-01-531-9566	24	2
45152	110311A		5310-01-111-0645	14	11
				23	3
45152	111316A		5306-01-106-7496	23	5
54786	111408-3		5365-01-531-9624	2	16
54786	113317-1		5365-01-532-2251	17	15
54786	113324-1		2590-01-531-5177	17	41
54786	113324-2		2590-01-532-0241	17	41
54786	113325-1		5365-01-532-0335	17	52
54786	113327-1		5340-01-531-5029	17	73
54786	113328-1		2540-01-531-5026	17	20
54786	113335-1		2540-01-531-5179	17	16
54786	113337-1		5330-01-531-9639	17	65
54786	113338-1		5365-01-533-0924	17	32
54786	113338-3		5365-01-533-0525	17	37
54786	113339-1		3040-01-532-0704	17	54
54786	113381-1		2540-01-530-7355	18	5
54786	113383-1-103		2590-01-532-0269	18	6
54786	113383-3-103		2590-01-531-7282	18	4
54786	113384-1-103		5340-01-532-1814	2	7
54786	113385-1-103		2590-01-531-5017	2	13
54786	113386-1		5340-01-532-5381	17	74
54786	113387-1		9515-01-531-5145	17	29
54786	113387-3		2590-01-532-1054	17	35
54786	113387-5		9515-01-531-5146	17	21
54786	113389-1		2510-01-531-5993	17	19
54786	113389-2		2590-01-531-7198	17	19
54786	113389-3		2590-01-532-1726	17	34
54786	113389-4		2590-01-531-4966	17	34
54786	113402-1-103			2	2
54786	113403-1			17	43
54786	113404-1-103			9	13
54786	113405-1-103		2540-01-534-0427	9	15
54786	113406-1-103		2590-01-534-0368	5	9



## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX		FIG.	ITEM
			STOCK NUMBER		
54786	113406-1-103		2590-01-534-0368	6	6
54786	113407-1		2590-01-534-0371	9	16
54786	113408-1-103		2510-01-534-0401	10	6
				13	9
54786	113409-1			10	14
				13	3
54786	113411-1-103			13	6
54786	113411-2-103			10	5
54786	113411-3-103			13	5
54786	113411-4-103			10	4
54786	113412-1-103		2540-01-533-9953	5	8
54786	113412-2-103			6	9
54786	113412-3-103			5	5
54786	113412-4-103		2540-01-533-9991	6	10
54786	113414-1-103		2590-01-534-0445	4	6
54786	113415-1			4	15
				5	6
				6	11
				7	5
				8	10
				10	12
				13	14
54786	113416-1			3	7
				4	7
				9	12
54786	113417-1			9	2
54786	113419-1		2590-01-533-9795	3	9
54786	113420-1		2590-01-534-0394	8	7
54786	113420-3		2590-01-534-0315	8	6
54786	113421-1			14	5
54786	113422-1			4	5
54786	113422-3		2590-01-533-9797	4	4
54786	113423-1			19	13
54786	113424-1-103			19	12
54786	113425-1			19	3
54786	113426-1-103		2590-01-534-0449	2	12
54786	113427-1			10	19
54786	113428-1			11	3
54786	113430-1-103			17	2
54786	113430-2-103			17	2
54786	113431-1-103			17	14
54786	113431-3-103			17	13
54786	113432-1			17	69
54786	113434-1			17	47
54786	113435-1			17	55
54786	113436-1			17	57
54786	113436-2			17	57
54786	113437-1			17	50
54786	113438-1			17	46
54786	113439-1			17	58
54786	113440-1			4	22

## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX		FIG.	ITEM
			STOCK NUMBER		
54786	113440-2			5	16
				6	14
54786	113440-3		5365-01-533-9921	4	24
				22	9
54786	113441-1-103		2540-01-534-0406	3	2
54786	113443-1			19	15
54786	113444-1		2590-01-534-0370	4	12
54786	113449-1-103		2540-01-533-9994	7	6
54786	113450-1-103			12	11
54786	113451-1-103		2540-01-533-9811	4	16
54786	113453-1-103		2540-01-534-0323	7	4
54786	113454-1			23	8
54786	113454-3		2590-01-534-0454	23	9
54786	113455-1-103		2540-01-534-0409	11	11
54786	113455-2-103		2540-01-534-0319	12	2
54786	113456-1			12	10
54786	113457-1-103		2590-01-534-0399	1	3
54786	113458-1		2590-01-534-0330	10	18
54786	113459-1-103		2590-01-534-0458	1	4
54786	113460-1-103		2540-01-533-9824	8	15
54786	113461-1-103			14	6
54786	113462-1-103			8	14
54786	113463-1-103			15	3
54786	113464-1			15	4
54786	113465-1		2590-01-533-9801	10	11
				13	8
				16	5
54786	113466-1-103			16	6
54786	113466-3-103			16	7
54786	113467-1-103			20	2
54786	113468-1-103		2540-01-533-9987	9	4
54786	113469-1-103			9	5
54786	113471-1		2590-01-534-0380	8	12
				11	2
54786	113472-1		2590-01-534-0432	8	13
				15	2
54786	113473-1		5365-01-533-9918	4	19
54786	113474-1			9	9
54786	113475-1		5365-01-533-9923	5	14
				6	18
				10	16
				13	16
54786	113475-3		5365-01-534-0895	4	27
				7	8
54786	113475-5		5365-01-533-9919	8	4
54786	113475-7		5365-01-533-9668	8	8
54786	113476-1		2590-01-534-0397	9	8
54786	113477-1-103		2540-01-533-9804	9	21
54786	113478-1-103		2590-01-533-9774	2	4
				3	3
				4	10

## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX		FIG.	ITEM
			STOCK NUMBER		
54786	113478-1-103		2590-01-533-9774	5	10
				6	8
				11	13
				12	6
				17	3
54786	113479-1		2540-01-534-1747	5	2
				6	3
54786	113481-1			24	1
54786	113485-1			21	2
54786	113485-2			21	2
54786	113486-1			22	2
54786	113487-1		5365-01-534-2910	22	4
54786	113494-1			17	26
54786	113495-1			24	3
54786	113496-1			24	6
54786	113497-1			24	4
54786	113497-3			24	5
54786	113499-1		2540-01-530-7457	17	64
54786	113499-2		2540-01-530-7458	17	64
54786	113870-1		2540-01-528-5128	2	1
54786	113871-1		2540-01-528-5136	3	1
54786	113872-1		2540-01-528-5137	4	1
54786	113873-1		2540-01-528-5143	5	1
54786	113874-1		2540-01-528-5144	6	1
54786	113875-1		2540-01-528-5146	7	1
54786	113876-1		2540-01-528-5148	8	1
54786	113877-1		2540-01-528-5138	9	1
54786	113878-1		2540-01-528-5141	10	1
54786	113879-1		2540-01-528-5145	11	1
54786	113880-1		2540-01-528-5149	12	1
54786	113881-1		2540-01-528-5150	13	1
54786	113882-1		2540-01-528-5151	14	1
54786	113883-1		2540-01-528-5152	15	1
54786	113884-1		2540-01-528-5154	16	1
54786	113885-1		2540-01-528-5156	16	1
54786	113886-1		2540-01-528-5157	17	1
54786	113887-1		2540-01-528-5160	18	1
54786	113888-1		2540-01-528-5161	19	1
54786	113889-1		2540-01-528-5162	20	1
54786	113890-1		2540-01-528-5163	21	1
54786	113891-1		2540-01-528-5166	22	1
54786	1350B2-5/16-GRGB			11	9
72452	1459-68		5310-00-637-9541	4	18
				10	20
				14	8
30966	2260-180			14	10
45152	27937AX		5305-01-195-5041	23	7
27182	31-8BLK		5340-01-532-6723	17	25
54786	323			19	4
9F512	333-16011		5310-01-467-5662	3	6
45152	3362109		5360-01-507-9003	23	6

CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX		FIG.	ITEM
			STOCK NUMBER		
45152	3542963			23	4
45152	355AX		5310-01-133-2130	23	2
18876	541844		5310-00-180-0277	2	18
45152	55520AX		5310-01-208-7572	23	1
53711	593-6405224 PIEC E 116		5305-01-353-2008	2	17
54786	6100B3X1/16A			4	8
54786	62000B3X5/8A			17	12
53711	801-6405354-73		5305-01-399-7017	17	53
54786	8060R D .5 1		5365-01-532-2111	17	18
1TUY2	8288		5306-00-554-4767	17	30
54786	9D-400ULZINC		2540-01-532-6996	17	62
54786	9D-400URZINC		2540-01-532-7768	17	62
39428	90822A382			22	5
39428	90910A194			19	17
39428	91113A011		5310-01-480-7640	19	8
39428	91259A542		5305-01-169-6026	4	11
39428	91259A578		5305-01-463-4797	17	59
39428	91410A537		5305-01-534-0032	2	10
39428	91771A630		5305-01-482-8000	10	2
39428	91839A235		5310-01-262-7899	3	11
				4	14
				17	7
				19	16
39428	93075A247		5305-01-521-2599	19	5
39428	94060A242			22	12
39428	97646A160		5306-01-534-1055	10	15

## INDEX

<i>Subject</i>	<i>Work Package/Page</i>
<b>A</b>	
Abbreviations/Acronyms .....	0001 00-1
<b>B</b>	
Ballistic Glass and Frame Assembly Replacement, Door .....	0014 00-1
Ballistic Glass, Cleaning .....	0010 00-1
Blast Deflector Replacement	
Center .....	0032 00-1
Left .....	0030 00-1
Right .....	0031 00-1
<b>C</b>	
Cab Armor	
Left-Side (Front) and Door Hinge Maintenance .....	0027 00-1
Left-Side (Rear) Replacement .....	0029 00-1
Rear Maintenance .....	0025 00-1
Right-Side (Front) and Door Hinge Maintenance .....	0026 00-1
Right-Side (Rear) Replacement .....	0028 00-1
Cab Mount Replacement .....	0035 00-1
Cleaning Ballistic Glass .....	0010 00-1
Corrosion Prevention and Control (CPC) .....	0001 00-1
Crew Protection Kit Installation Instructions .....	0044 00-1
Cylinder Head Assembly and Spacer Plate Replacement .....	0035 00-1
<b>D</b>	
Decals .....	0007 00-1
Description and Use of Operator Controls .....	0004 00-1
Description and Use of Operator's Controls and Indicators .....	0004 00-1
Destruction of Army Materiel to Prevent Enemy Use .....	0001 00-1
Doghouse Armor Replacement .....	0034 00-1
Door	
Assembly Replacement .....	0015 00-1
Ballistic Glass and Frame Assembly Replacement .....	0014 00-1
Handle Assembly Replacement .....	0012 00-1
Latch Adjustment .....	0016 00-1
Latch and Lock Pin Replacement .....	0013 00-1
Door Hinge Maintenance	
Left-Side (Front) .....	0027 00-1
Right-Side (Front) .....	0026 00-1

**INDEX - Continued**

<i>Subject</i>	<i>Work Package/Page</i>
<b>E</b>	
Equipment	
Characteristics, Capabilities, and Features .....	0002 00-1
Data .....	0002 00-1
Location and Description of Major Components .....	0002 00-1
Equipment Characteristics, Capabilities, and Features .....	0002 00-1
Escape Hatch Assembly Maintenance .....	0023 00-1
Expendable and Durable Items List .....	0042 00-1
<b>F</b>	
Field Maintenance (Unit and Direct Support Maintenance) Repair Parts and Special Tools Lists (RPSTL) Introduction .....	0045 00-1
Firewall Armor Replacement	
Left-Side .....	0022 00-1
Right-Side .....	0021 00-1
<b>G</b>	
General Maintenance Instructions .....	0011 00-1
<b>H</b>	
Handle Assembly Replacement, Door .....	0012 00-1
Hatch Assembly Maintenance, Escape .....	0023 00-1
<b>I</b>	
Initial Adjustments and Daily Checks .....	0005 00-1
<b>L</b>	
Latch Adjustment, Door .....	0016 00-1
Latch and Lock Pin Replacement, Door .....	0013 00-1
List of Abbreviations/Acronyms .....	0001 00-1
<b>M</b>	
Maintenance Allocation Chart (MAC)	
Introduction .....	0040 00-1
Tables .....	0041 00-1
Maintenance Forms, Records, and Reports .....	0001 00-1
Muffler Brackets Replacement .....	0038 00-1
<b>O</b>	
Operation	
Under Unusual Conditions .....	0006 00-1
Under Usual Conditions .....	0005 00-1
Operator Controls .....	0004 00-1

**INDEX - Continued**

*Subject* *Work Package/Page*

**O - Continued**

Operator Preventive Maintenance Checks and Services (PMCS)	
Introduction .....	0008 00-1
Table .....	0009 00-1
Operator's Controls and Indicators, Description and Use of .....	0004 00-1

**P**

Preparation for Storage or Shipment .....	0001 00-1
Preventive Maintenance Checks and Services (PMCS)	
Introduction .....	0008 00-1
Procedures .....	0009 00-1

**Q**

Quick Release Bracket Replacement, Seatback .....	0019 00-1
---	-----------

**R**

Rear Cab Armor Maintenance .....	0025 00-1
References .....	0039 00-1
Reporting Equipment Improvement Recommendations (EIRs) .....	0001 00-1
Roof Armor Replacement .....	0024 00-1

**S**

Seat Armor Replacement .....	0018 00-1
Seatback Quick Release Bracket Replacment .....	0019 00-1
Spare Tire Pulley Replacement .....	0036 00-1
Spring Stop Replacement .....	0037 00-1
Stencils .....	0007 00-1
Step Armor Replacement .....	0033 00-1
Storage or Shipment, Preparation for .....	0001 00-1
Stowage and Decal/Data Plate Guide .....	0007 00-1

**T**

Theory of Operation .....	0003 00-1
Tire Mount Bracket Replacement .....	0036 00-1
Tire Pulley Replacement, Spare .....	0036 00-1
Torque Limits .....	0043 00-1

**INDEX - Continued**

*Subject*

*Work Package/Page*

**W**


Wheel Well Armor Replacment .....	0020 00-1
Windshield Armor Replacement .....	0017 00-1
Windshield Ballistic Glass Replacement .....	0017 00-1



By Order of the Secretary of the Army:

PETER J. SCHOOMAKER  
*General, United States Army*  
*Chief of Staff*

Official:

  
SANDRA R. RILEY  
*Administrative Assistant to the*  
*Secretary of the Army*  
0527210

**DISTRIBUTION:** To be distributed in accordance with the initial distribution requirements for IDN: 344835, requirements for TB 9-2320-360-13&P-2.



## THE METRIC SYSTEM AND EQUIVALENTS

<p><b>Linear Measure</b></p> <p>1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches          1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches          1 Kilometer = 1000 Meters = 0.621 Miles</p> <p><b>Weights</b></p> <p>1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces          1 Kilogram = 1000 Grams = 2.2 Pounds          1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons</p> <p><b>Liquid Measure</b></p> <p>1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces          1 Liter = 1000 Milliliters = 33.82 Fluid Ounces</p>	<p><b>Square Measure</b></p> <p>1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches          1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet          1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles</p> <p><b>Cubic Measure</b></p> <p>1 Cu Centimeter = 1,000 Cu Millimeters = 0.06 Cu Inches          1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet</p> <p><b>Temperature</b></p> <p><math>5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}</math>          212° Fahrenheit is equivalent to 100° Celsius          90° Fahrenheit is equivalent to 32.2° Celsius          32° Fahrenheit is equivalent to 0° Celsius  <math>9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}</math></p>
--	--

## APPROXIMATE CONVERSION FACTORS

To Change	To	Multiply By
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Sq Inches	Sq Centimeters	6.451
Sq Feet	Sq Meters	0.093
Sq Yards	Sq Meters	0.836
Sq Miles	Sq Kilometers	2.590
Acres	Sq Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Sq Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

To Change	To	Multiply By
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Sq Centimeters	Sq Inches	0.155
Sq Meters	Sq Feet	10.764
Sq Meters	Sq Yards	1.196
Sq Kilometers	Sq Miles	0.386
Sq Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Sq Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621

