

TB 9-2320-364-13&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 M1074/M1075 PALLETIZED LOAD SYSTEM (PLS)



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

HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 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.



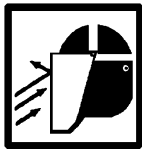
CHEMICAL - drops of liquid on hand shows that the material will cause burns or irritation to human skin or tissue.



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.

NOTE

For information on first aid, refer to fm 4-25.11.



WARNING

ADHESIVES AND SEALANTS

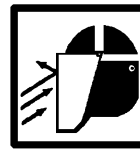


Use caution when using adhesives and sealants. Prolonged inhalation of vapors can cause lung irritation. Contact with skin can cause dermatitis. Wear gloves and safety goggles and use product in a well-ventilated area away from open flame. If ingested, keep individual calm and seek medical attention. 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

PLS OPERATION

- Due to increased weight of PLS with armor kit installed, operator should be aware of differences in vehicle's driving characteristics and adjust driving accordingly. Failure to do so may cause an accident and injury or death to personnel.
- Due to increased weight of doors, use extreme caution when opening and closing doors. If vehicle is parked on non-level ground, door may swing in direction of slope. Failure to follow this warning may cause injury to personnel.
- When placing foot on step to enter cab of vehicle, be aware of side blast deflector. Edge of side blast deflector protrudes outward beyond step. Failure to follow this warning may cause injury 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 result in injury or death.
- 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. Failure to follow this warning may result in injury or death 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 Materials and Related Materials Including Chemicals*, for correct information.
- Fire extinguishers should be placed nearby when using solvent cleaning compound. Failure to follow this warning may result in injury or death.
- Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures. Failure to follow this warning may result in injury.

WARNING

THREAT PROTECTION

For proper threat protection, ballistic glass must be correctly installed onto ballistic glass frame. During installation, ensure that decal "INSTALL THIS SURFACE TOWARDS 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 crew protection 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 30 September 2005

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 22 AND TOTAL NUMBER OF WORK PACKAGES IS 37 CONSISTING OF THE FOLLOWING:

Page/WP No.	*Change No.
Cover/(Back Blank)	0
a to d	0
A/(B Blank)	0
i to vi	0
WP 0001 00 to 0037 00	0
Index-1 to Index-3/(Index-4 Blank)	0

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

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TECHNICAL BULLETIN
TB 9-2320-364-13&P-2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 30 September 2005

TECHNICAL BULLETIN

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

FOR

CREW PROTECTION KIT

FOR

TRUCK, TRACTOR M1074/M1075 PALLETIZED LOAD SYSTEM (PLS)

Current as of 28 July 2005

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://aeprs.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 direct 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.

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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 PLS Crew Protection Kit. It also provides armor kit installation instructions and 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 5th and 6th 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 the 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* and *Operator Preventive Maintenance Checks and Services (PMCS)*.
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 which 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 *Crew Protection Kit Installation Instructions* (WP 0037 00)," go to WP 0037 00 in this technical bulletin for instructions on this procedure.
 - b. If you are told: "For complete information on PLS Operator PMCS, refer to TM 9-2320-364-10," go to *References* in WP 0030 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

GENERAL INFORMATION

0001 00**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 M1074/M1075 Palletized Load System (PLS) Tractor Truck. This technical bulletin also covers armor kit installation instructions and the Repair Parts and Special Tools Lists (RPSTL) for the kit.

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, *The Army Maintenance Management System (TAMMS) Users Manual*, 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, *The Army Maintenance Management System (TAMMS) Users Manual*. 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 material to prevent enemy use, refer to TM 750-244-6.

PREPARATION FOR STORAGE OR SHIPMENT

Refer to TM 9-2320-364-20.

GENERAL INFORMATION - CONTINUED

0001 00

LIST OF ABBREVIATIONS/ACRONYMS

NOTE

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

ABBREVIATION/ACRONYMS	DEFINITION
cm	Centimeter
IAW	In Accordance With
IED	Improvised Explosive Device
kg	Kilogram
lb-ft	Pound Foot
lb-in.	Pound Inch
mm.	Millimeter
Nm.	Newton Meter
PLS	Palletized Load System
PMCS	Preventive Maintenance Checks and Services
P/N.	Part Number

QUALITY OF MATERIAL

Material used for replacement, repair or modification of the Crew Protection Kit must meet the requirements of this technical bulletin. If quality of material requirements are not stated in this technical bulletin, the material must meet the requirements of the drawings, standards, specifications, or approved engineering change proposals applicable to the Crew Protection Kit.

SAFETY, CARE, AND HANDLING

No procedures are required.

END OF WORK PACKAGE

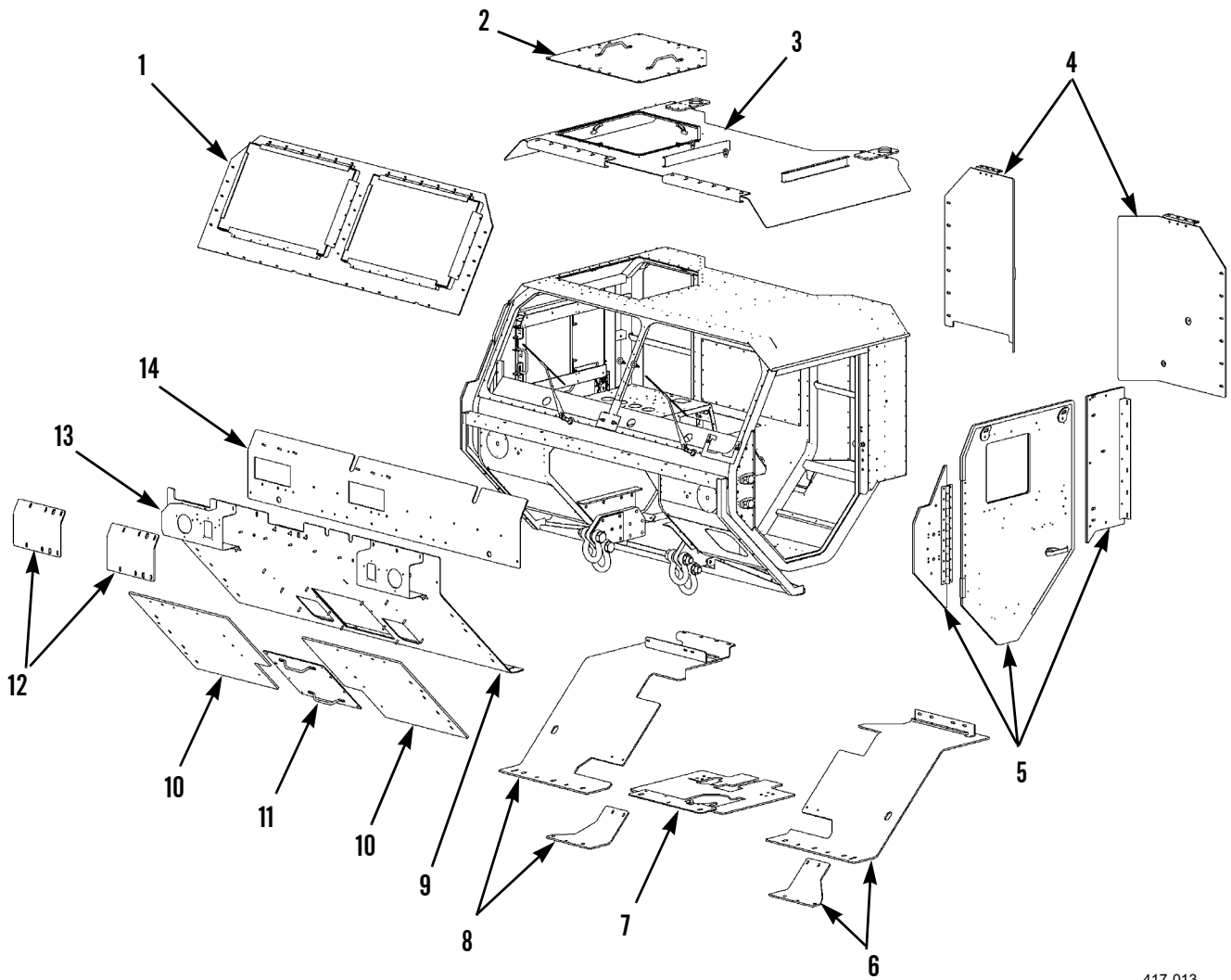
EQUIPMENT DESCRIPTION AND DATA

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

1. The Crew Protection Kit provides the M1074/M1075 Palletized Load System (PLS) Tractor Truck with improved protection.
2. The Crew Protection Kit consists of armor panels that are installed on the cab of the PLS.
3. The Crew Protection Kit consists of the following:
 - a. Driver-side, center, and passenger-side blast deflectors under the vehicle
 - b. Front, side, rear, and roof armor panels
 - c. Door assemblies
 - d. Ballistic glass for windshield and side door windows

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

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



417-013

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED

KEY	COMPONENT
1	Windshield Frame and Windshield
2	Escape Hatch (Part of Roof Armor)
3	Roof Armor
4	Rear Cab Armor
5	Cab Side Armor (Includes Door Assembly)
6	Driver-side Blast Deflector
7	Center Blast Deflector
8	Passenger-side Blast Deflector
9	Lower Brush Guard
10	Front Brush Guard IED Panel
11	Access Cover Armor Panel
12	Gun Mount Panel Cover
13	Headlight Armor
14	Upper Brush Guard

EQUIPMENT DESCRIPTION AND DATA - CONTINUED**0002 00****EQUIPMENT DATA**

- 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 be aware of component weight.
- Table 1 below lists 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
Armor Kit, Side (LH)	447 lb (203 kg)
Armor Kit, Side (RH)	447 lb (203 kg)
Armor Kit, Roof	335 lb (152 kg)
Armor Kit, Rear	266 lb (121 kg)
Armor Kit, Underbody	573 lb (260 kg)
Armor Kit, Front	724 lb (328 kg)
Armor Kit, Windshield	339 lb (154 kg)
TOTAL WEIGHT OF CREW PROTECTION KIT	3,131 lb (1420 kg)
REMOVED COMPONENTS	WEIGHT OF COMPONENT
Left and Right Door	200 lb (91 kg)
Brush Guard	112 lb (51 kg)
Front Windshields	64 lb (29 kg)
Clearance Light Bar	15 lb (7 kg)
Roof Panel	12 lb (5 kg)
Mud Flaps	22 lb (10 kg)
TOTAL WEIGHT OF REMOVED ITEMS	425 lb (193 kg)
TOTAL WEIGHT INCREASE TO VEHICLE	2,766 lb (1255 kg)

END OF WORK PACKAGE

THEORY OF OPERATION

0003 00**GENERAL**

The Palletized Load System (PLS) Crew Protection Kit consists of two armored doors, roof armor, windshield ballistic glass, three blast deflectors, one upper and one lower brush guard, forward and rear side armor panels, rear cab armor panels, an armored access cover (front), and an armored escape hatch (roof).

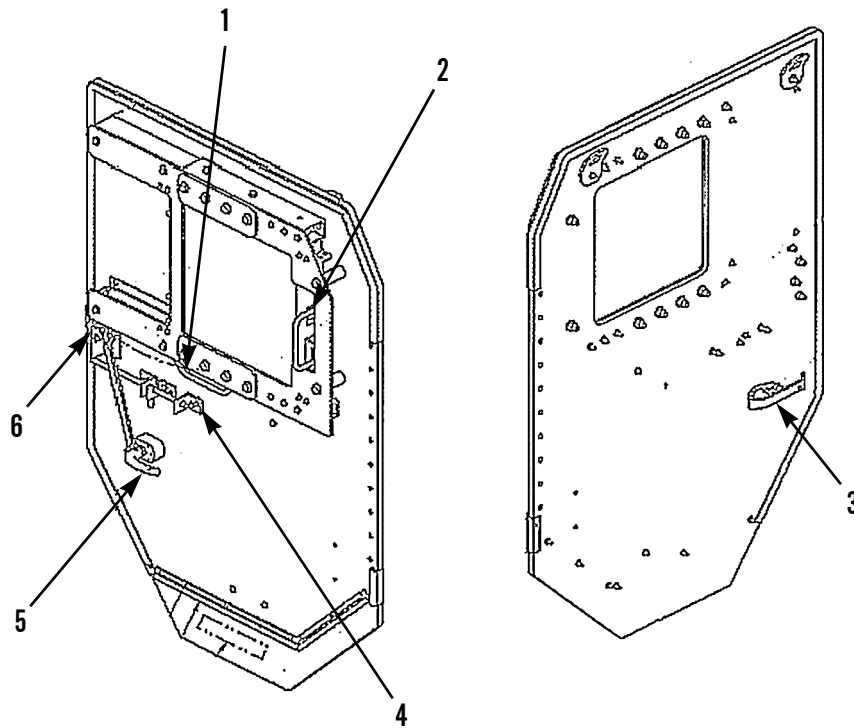
The door armor attachment assembly consists of an armor panel and hinge that is mounted to the existing door frame and is bolted in place of the existing door's hinge. The armored door assembly (which incorporates a sliding armored window) is bolted to the door armor attachment assembly. The roof armor panel is installed using the existing bolt hole pattern (used for the machine gun mount) on the roof on the passenger side and the mounting brackets (front and rear) on the driver's side. The Roof Armor is a one-piece panel that requires material handling equipment (hoist, forklift, etc.) for installation due to its weight. The windshield and side windows are constructed of ballistic glass. The remaining armor panels are fastened to the vehicle using attachment brackets and Grade 8 attachment hardware.

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 Crew Protection Kit.
2. Do not attempt to operate the PLS with Crew Protection Kit installed until becoming familiar with the location and function of all armor kit controls.

OPERATOR CONTROLS

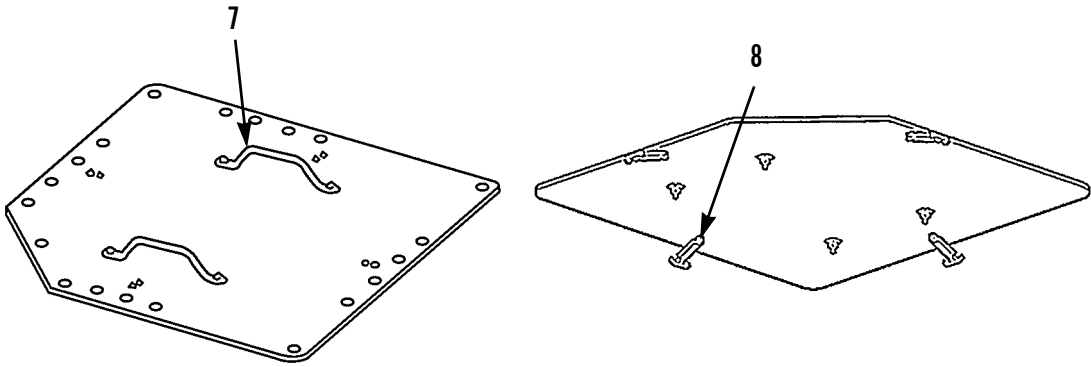
417-056

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

DESCRIPTION AND USE OF OPERATOR CONTROLS - CONTINUED

0004 00

OPERATOR CONTROLS - CONTINUED



417-057

KEY	CONTROL OR INDICATOR	FUNCTION
7	Grab Handle	Use two grab handles to install escape hatch from the outside.
8	Draw Latch T-handle	In an emergency, pull on T-handle to unlatch each of four latches, then push out on escape hatch to exit vehicle through roof.

END OF WORK PACKAGE

OPERATION UNDER USUAL CONDITIONS

0005 00**GENERAL**

1. This work package contains instructions for safely operating the M1074 Palletized Load System (PLS) Tractor Truck with Crew Protection Kit installed.
2. Read and follow the procedures in *Operation Under Usual Conditions* in TM 9-2320-364-10 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 PLS**WARNING**

- Due to increased weight of PLS with armor kit installed, operator should be aware of differences in vehicle's driving characteristics and adjust driving accordingly. Failure to do so may cause an accident and injury or death to personnel.
 - Due to increased weight of doors, use extreme caution when opening and closing doors. If vehicle is parked on non-level ground, door may swing in direction of slope. Failure to follow this warning may cause injury to personnel.
 - When placing foot on step to enter cab of vehicle, be aware of side blast deflector. Edge of side blast deflector protrudes outward beyond step. Failure to follow this warning may cause injury to personnel.
1. With Crew Protection Kit installed, vehicle weight is increased by approximately 2,766 lb (1255 kg). Due to this increased weight, adjust driving to allow for greater stopping distance.
 2. Vehicle may steer differently with 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

1. Read and follow the procedures in *Operation Under Unusual Conditions* in TM 9-2320-364-10 before operating the M1074/M1075 Palletized Load System (PLS) Tractor Truck with armor kit installed.
2. There are no additional specific instructions for operation under unusual conditions for the PLS Crew Protection Kit.

END OF WORK PACKAGE

STOWAGE AND DECAL/DATA PLATE GUIDE

0007 00**STOWAGE**

The escape hatch may be installed on brackets located on left side of roof armor panel.

DATA PLATES

There is no data plate guide specific to the Crew Protection Kit. Refer to TM 9-2320-364-10 for data plates.

DECALS

Decal located on ballistic glass that states “FAILURE TO FOLLOW CLEANING PROCEDURES CONTAINED IN TM 9-2320-280-10 WILL RESULT IN DAMAGE” has been superseded by cleaning procedure in *Cleaning Ballistic Glass* (WP 0010 00).

END OF WORK PACKAGE

CHAPTER 3
OPERATOR MAINTENANCE INSTRUCTIONS

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) INTRODUCTION

0008 00**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 M1074/M1075 Palletized Load System (PLS) Tractor Truck, refer to the PMCS Introduction in TM 9-2320-364-10.
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 for inspections and services to keep 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 in which 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 includes the procedure you must perform 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 which 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. With experience, you should be able to identify problems easily.
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 everything needed to make all the checks. For example, you'll always need a rag (Item 7, WP 0033 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. Failure to follow this warning may cause injury to personnel.

- a. **Keep It Clean.** Dirt, grease, oil, and debris may cover up a serious problem. Clean as you work and as needed. Use solvent cleaning compound (Item 2, WP 0033 00) on all metal surfaces. Use detergent (Item 4, WP 0033 00) and water when you clean rubber, plastic, and painted surfaces.

**WARNING**

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 lubricating oil (Item 5, WP 0033 00). Report it to your supervisor.
- d. **Bolts, Rivnuts, Nuts, and Screws.** Check bolts, rivnuts, nuts and screws for obvious loose, missing, bent, or broken condition. If you find loose or missing components, 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

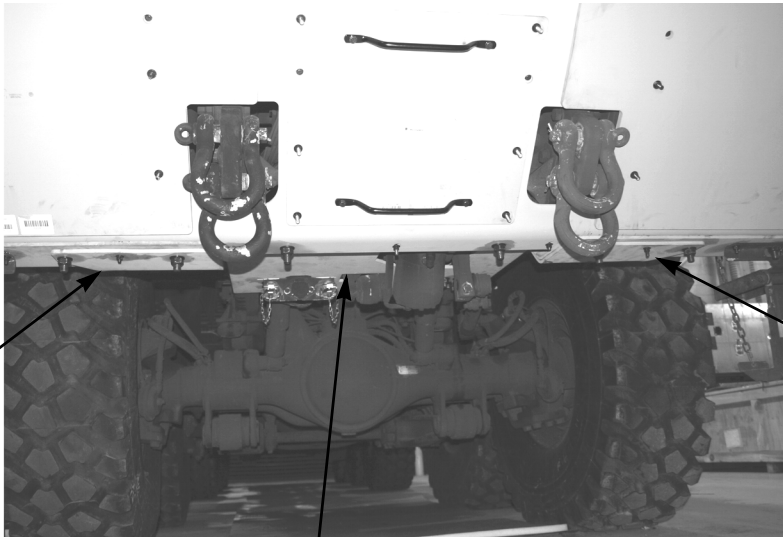
OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

0009 00

ITEM NO.	INTERVAL	LOCATION	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
		ITEM TO CHECK/ SERVICE		
			<div>NOTE</div> <ul style="list-style-type: none">• Perform PMCS for the M1074/M1075 Palletized Load System (PLS) Tractor Truck in TM 9-2320-364-10 BEFORE performing PMCS for the Crew Protection Kit.• Review all WARNINGS, CAUTIONs, and NOTEs before performing PMCS and operating the vehicle with armor kit.• Perform all PMCS checks if:<ul style="list-style-type: none">a. You are the assigned operator but have not operated the vehicle with armor kit since the last weekly checks.b. You are operating the vehicle with armor kit for the first time.• Perform PMCS with vehicle parked on level ground, parking brake applied, transmission in N (Neutral), wheels blocked, and engine shut down.	

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

0009 00

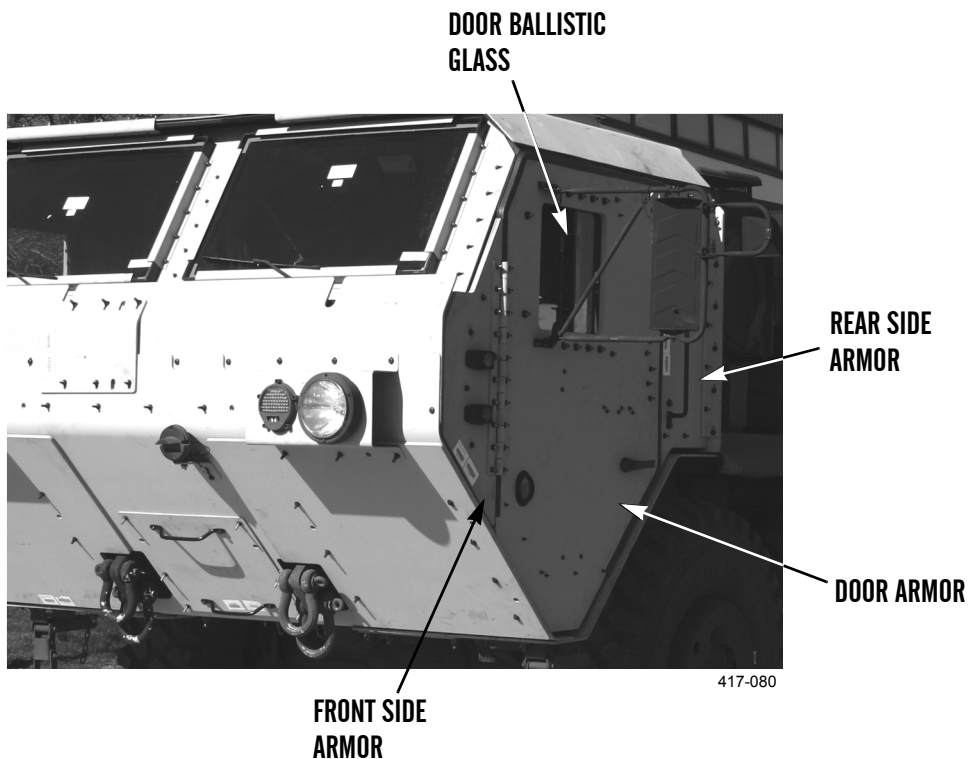
ITEM NO.	INTERVAL	LOCATION	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
		ITEM TO CHECK/SERVICE		
1	Before	UNDER VEHICLE	Inspect driver-side, center, and passenger-side blast deflectors under vehicle for damaged, loose, or missing armor plates and mounting bolts.	Any blast deflector is damaged, loose, or missing, or mounting bolts are loose or missing.
		Underbody Armor		
<div><div></div><div><div>SIDE BLAST DEFLECTOR</div><div>SIDE BLAST DEFLECTOR</div><div>CENTER BLAST DEFLECTOR</div></div></div>				
2	Before	FRONT AND LEFT SIDE	<div>a. Inspect upper and lower brush guards and other front armor panels for damaged, loose, or missing armor plates and mounting bolts.</div> <div>b. Inspect headlight mounting hardware for damage, loose, or missing brackets and mounting bolts.</div> <div>c. Inspect windshield ballistic glass mounting hardware for damage or loose or missing brackets and mounting bolts.</div>	<div>Any panel or armor plate is damaged, loose or missing, or mounting bolts are loose or missing.</div> <div>Any windshield ballistic glass mounting hardware is damaged, loose, or missing, or mounting bolts are loose or missing.</div>
		Front Armor		

A black and white photograph showing the front of a military vehicle. The vehicle has a boxy, armored appearance with a large windshield and two side mirrors. The front bumper is prominent, featuring two large headlights and two tow hooks. The vehicle is parked on a paved surface. Four callout lines with arrows point to specific parts: 'WINDSHIELD BALLISTIC GLASS' points to the windshield, 'HEADLIGHT ASSEMBLY' points to the right headlight, 'LOWER BRUSH GUARD' points to the lower front bumper area, and 'UPPER BRUSH GUARD' points to the upper front fender area. The number '417-059' is printed in the bottom right corner.

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

0009 00

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 pitting, cracks, or scratches.</p> <p>c. Open door and enter cab. Close door using grab handle. Lock door with lock pin. Make sure door closes without binding and locks correctly (WP 0004 00).</p> <p>d. Ensure door ballistic glass can open, close and securely lock.</p> <p>e. Inspect interior surface of door ballistic glass and windshield ballistic glass for pitting, cracks, or scratches.</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>Pitting, cracks, or scratches exist in the exterior layer of door ballistic glass and penetrate through to the inner layer.</p> <p>Door binds or does not lock.</p> <p>Door ballistic glass will not close or lock.</p> <p>Pitting, cracks, or scratches exist on the interior surface of the door ballistic glass or windshield ballistic glass.</p>



0009 00-5

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

0009 00

ITEM NO.	INTERVAL	LOCATION	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
		ITEM TO CHECK/SERVICE		
5	Before	REAR AND RIGHT SIDE	<p>Inspect rear cab armor for damage and loose or missing armor plates and mounting bolts.</p> <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 pitting, cracks, or scratches.</p> <p>c. Open door and enter cab. Close door using grab handle. Lock door with lock pin. Make sure door closes without binding and locks correctly (WP 0004 00).</p> <p>d. Ensure 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>Rear cab armor is damaged, loose, or missing, or mounting bolts are loose or missing.</p> <p>Any side armor panel or door assembly is damaged or mounting hardware is loose or missing.</p> <p>Pitting, cracks, or scratches exist in the exterior layer of door ballistic glass and penetrate through to the inner layer.</p> <p>Door binds or does not 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>
		Rear Cab Armor		
6	Before	Side Armor (Right Side)		



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0009 00-7

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) - CONTINUED

0009 00

ITEM NO.	INTERVAL	LOCATION	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
		ITEM TO CHECK/SERVICE		
8	Weekly	Front Suspension	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.	Any cracks, breaks, loose hardware, or damage to suspension springs is noted.
9	Weekly	Rear Cab Mounts	Inspect rear cab mounts for evidence of deterioration, over compression or loose mounting hardware. Notify your supervisor of any damage or looseness found.	
10	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.
11	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.	
12	Weekly	Escape Hatch	a. Check that escape hatch is centered in roof 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.
13	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.	
14	Weekly	Center Blast Deflector	Check center blast deflector for evidence of contact with steering components. Notify your supervisor of any contact points found.	

END OF WORK PACKAGE

CLEANING BALLISTIC GLASS

0010 00

THIS WORK PACKAGE COVERS

Cleaning

INITIAL SETUP

Maintenance Level	Equipment Conditions
Operator	Vehicle parked on level ground (TM 9-2320-364-10)
Materials/Parts	Parking/Emergency Brake applied (TM 9-2320-364-10)
Detergent (Item 4, WP 0033 00)	Engine off (TM 9-2320-364-10)
Rag, Wiping (Item 7, WP 0033 00)	If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)

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.

- Add detergent (as directed on label by manufacturer) to 1 gal. (3.8 L) of water.
- Saturate a soft, clean cloth with cleaning solution and lightly rub plastic surfaces.
- Flush off cleaning solution with water and dry with a soft, clean cloth.

END OF WORK PACKAGE

CHAPTER 4
UNIT MAINTENANCE INSTRUCTIONS

GENERAL MAINTENANCE INSTRUCTIONS

0011 00**THIS WORK PACKAGE COVERS**

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

INITIAL SETUP**Maintenance Level**

Unit

Tools and Special Tools

Tool Kit, General Mechanic's (Item 10, WP 0032 00)

Shop Equipment, Common No. 1 (Item 8, WP 0032 00)

Materials/Parts

Adhesive, Thread (Item 1, WP 0033 00)

Cleaning Compound, Solvent (Item 2, WP 0033 00)

Cloth, Abrasive (Item 3, WP 0033 00)

Detergent (Item 4, WP 0033 00)

Materials/Parts - Continued

Oil, Lubricating (Item 5, WP 0033 00)

Rag, Wiping (Item 7, WP 0033 00)

Tag, Marker (Item 10, WP 0033 00)

References

TB 43-0209

TB 43-0242

TM 9-2320-364-10

TM 9-247

SCOPE

- 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.
- Read and understand these practices and methods before starting maintenance tasks on the armor kit.

WORK SAFETY

- Before starting a task, think about the risks and hazards to your safety as well as others. Wear protective gear such as safety goggles, face shield, safety shoes and gloves. Protect yourself against injury.
- Observe all WARNINGS and CAUTIONS.
- When lifting heavy parts, always use assistance. Ensure lifting equipment is working properly, suitable for the task assigned, is of sufficient load capacity, and secured against slipping.
- Always use power tools carefully.
- Before beginning a procedure, ensure that the following conditions have been observed, unless otherwise specified:
 - Vehicle must be parked on level ground with parking/emergency brake applied (TM 9-2320-364-10).
 - Transmission must be in N (Neutral) (TM 9-2320-364-10).
 - Engine must be off (TM 9-2320-364-10).
 - If equipped, battery disconnect switch must be in OFF position (TM 9-2320-364-10).

GENERAL MAINTENANCE INSTRUCTIONS - CONTINUED**0011 00****GENERAL INFORMATION**

1. Before beginning a task, find out how much teardown is needed to fix 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.
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.
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 or death 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 Materiels and Related Materiels Including Chemicals*, for correct information.
 - Fire extinguishers should be placed nearby when using solvent cleaning compound. Failure to follow this warning may result in injury or death.
 - Cloths or rags saturated with solvent cleaning compound must be disposed of IAW authorized facilities' procedures. Failure to follow this warning may result in injury.
 - Eye shields 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.

GENERAL MAINTENANCE INSTRUCTIONS - CONTINUED

0011 00

CLEANING INSTRUCTIONS - CONTINUED

- c. Use detergent and water to wash externally exposed parts that are not subject to grease and oil. Rinse thoroughly and air dry.
- d. Use a wire brush and solvent cleaning compound to remove old sealing compound.
- e. Use a wire brush and abrasive cloth to clean all rusted surfaces.
- 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 clean lubricating oil.

INSPECTION INSTRUCTIONS

- 1. **General.** Inspect all components and parts carefully 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, repair or replace as required.
- 3. **Armor Plates.**
 - a. Inspect for breaks, cracks, dents, and rust damage.
 - b. Particularly check areas around studs, screw openings, and sharp corners.

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.

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*.

GENERAL MAINTENANCE INSTRUCTIONS - CONTINUED**0011 00****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 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 specified. 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.

1. All nuts, bolts, and screws used in the installation of the armor kit or when replacing armor kit components must be coated with Thread Adhesive (Item 1, WP 0033 00), unless otherwise stated.
2. Locknuts supplied with the kit do not require thread adhesive.

USE OF SEALANT

1. When applying sealant, follow manufacturer's instructions on label of container.
2. Sealant should be applied in an even and continuous 1/4 inch bead along mating surfaces.

APPLYING TORQUE

1. When tightening fasteners, use torque value as specified in *Torque Limits* (WP 0034 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 that 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 to be 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

References

WP 0011 00

Tools and Special Tools

Tool Kit, General Mechanic's (Item 10, WP 0032 00)

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Parking/Emergency Brake applied (TM 9-2320-364-10)

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

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)

Materials/Parts

Rag, Wiping (Item 7, WP 0033 00)

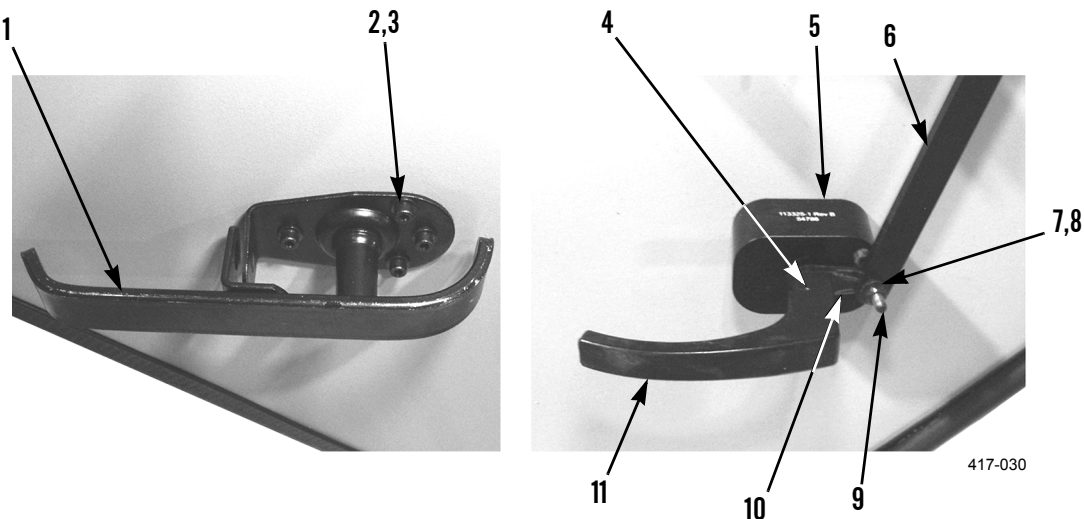
Locknut

NOTE

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

REMOVAL

1. Open door assembly.
2. Remove locknut (7) and washer (8) from door cam (10) and position link rod (6) aside. Discard locknut.
3. Loosen setscrew (4) and remove interior grab handle (11), door cam (10), and bolt (9).
4. Remove four cap screws (2), washers (3), interior handle spacer (5), and exterior door handle (1).

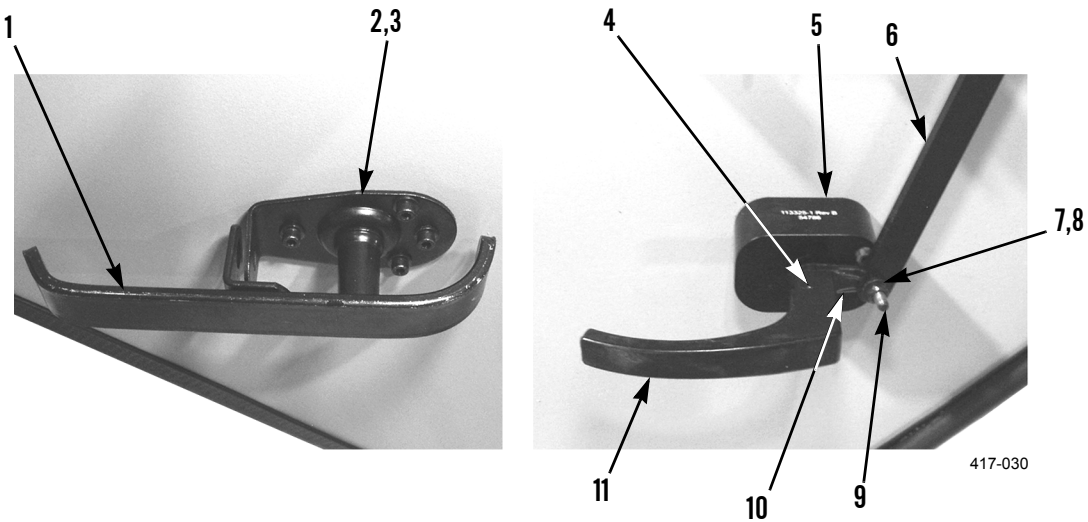


DOOR HANDLE ASSEMBLY REPLACEMENT - CONTINUED**0012 00****CLEANING AND INSPECTION**

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

INSTALLATION

1. Position interior handle spacer (5) and exterior handle (1) on door assembly.
2. Install four washers (3) and capscrews (2) on exterior handle (1).
3. Install bolt (9) on door cam (10).
4. Install door cam (10) and interior grab handle (11). Tighten setscrew (4).
5. Position link rod (6) on bolt (9) and install washer (8) and new locknut (7).
6. Operate door handle to verify correct operation.

**END OF WORK PACKAGE**

DOOR LATCH AND LOCK PIN REPLACEMENT	0013 00
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THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level

Unit

References

WP 0011 00

Tools and Special Tools

Tool Kit, General Mechanic's (Item 10, WP 0032 00)

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Parking/Emergency Brake applied (TM 9-2320-364-10)

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

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)

Materials/Parts

Rag, Wiping (Item 7, WP 0033 00)

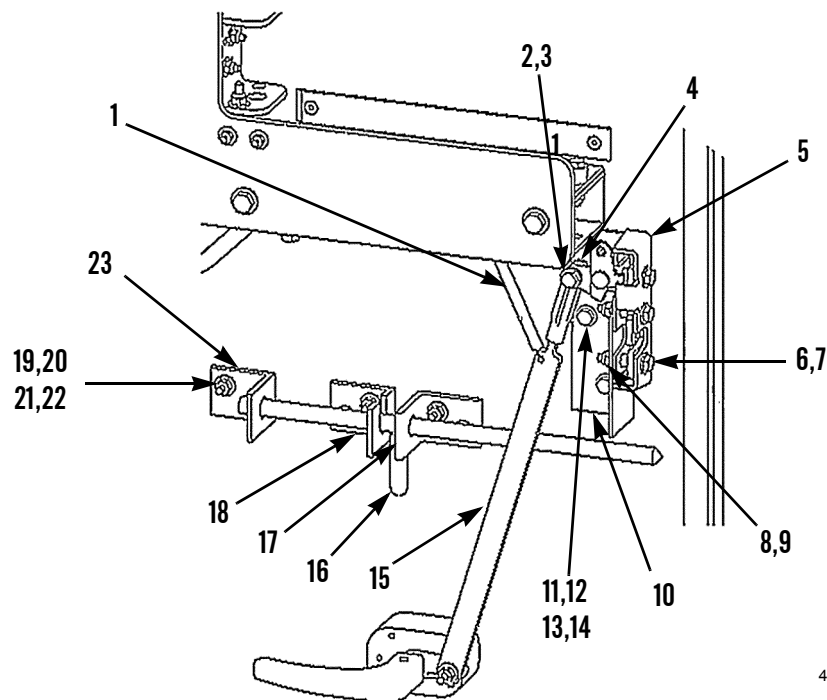
Locknut (13)

NOTE

The following procedure is for right door latch and lock pin. Left door latch and lock pin are identical.

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

1. Open door assembly.
2. Disconnect spring (1) from link rod (15).
3. Remove locknut (4), bolt (2), and washer (3) from door latch (5). Discard locknut.
4. Remove three locknuts (8), washers (9), bolts (6), washers (7), and door latch (5). Discard locknuts.
5. Remove three locknuts (14), washers (13), bolts (11), washers (12) and latch bracket (10) from door. Discard locknuts.
6. Remove two locknuts (22), washers (21), bolts (19), washers (20) and bracket (23) from door. Discard locknuts.
7. Remove lock pin (16) from brackets (17 and 18).
8. Remove four locknuts (22), washers (21), bolts (19), washers (20) and brackets (17 and 18). Discard locknuts.



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CLEANING AND INSPECTION

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

INSTALLATION

1. Install brackets (17 and 18), four washers (20), bolts (19), washers (21), and new locknuts (22) on door.
2. Install lock pin (16) in brackets (17 and 18).
3. Install bracket (23), two washers (20), bolts (19), washers (21), and new locknuts (22) on door. Install latch bracket (10), three washers (12), bolts (11), washers (13), and new locknuts (14) on door.
4. Install door latch (5) with three washers (7), bolts (6), washers (9), and new locknuts (8).
5. Position link rod (15) and install washer (3), bolt (2), and new locknut (4) on door latch (5).
6. Connect spring (1) to link rod (15).
7. Operate door handle and lock pin to verify correct operation (WP 0004 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 10, WP 0032 00)

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Materials/Parts

Rag, Wiping (Item 7, WP 0033 00)

Locknut (34)

Parking/Emergency Brake applied (TM 9-2320-364-10)

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

References

WP 0011 00

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)

NOTE

The following procedure is for left door ballistic glass. Right door ballistic glass is identical.

DOOR BALLISTIC GLASS AND FRAME ASSEMBLY REPLACEMENT - CONTINUED

0014 00**REMOVAL**

1. Open door assembly and open door ballistic glass (1).

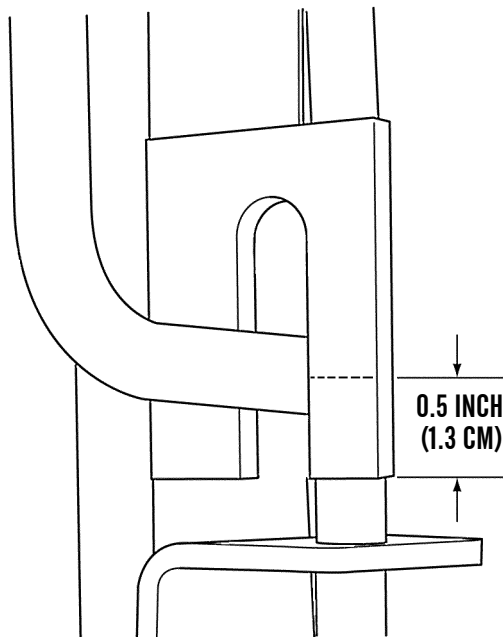
NOTE

Door ballistic glass handle will lower into channel after bolt is removed.

2. Remove locknut (9), washer (10), bolt (11) and washer (12). Discard locknut.

NOTE

It may be necessary to cut bracket (8) approximately 0.5 in. (1.3 cm) to allow handle to rotate.



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REMOVAL - CONTINUED

3. Pull handle (2) down and rotate toward hinge edge of door.
4. Remove bolt (3), spacer (4), locknut (5), and washer (6) from bottom channel (7). Discard locknut.

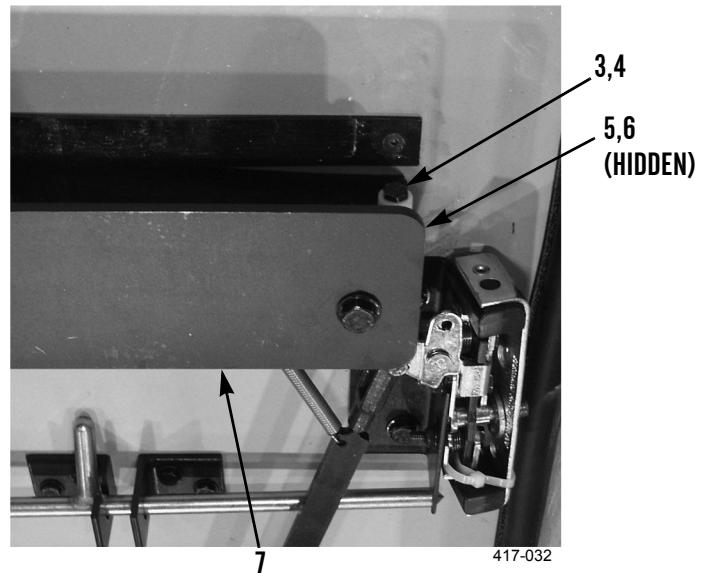
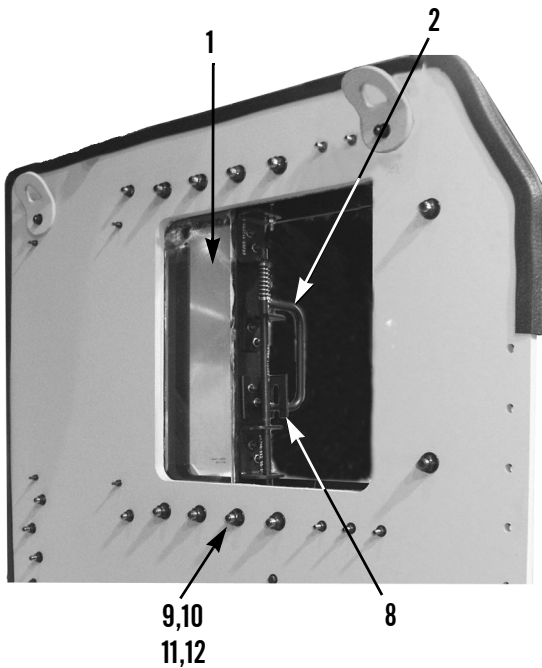
**WARNING**

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.

NOTE

Door ballistic glass weighs 75 lb (34 kg).

5. With assistance, lift up on handle (2) and remove door ballistic glass (1) by sliding it out end of channel (7).



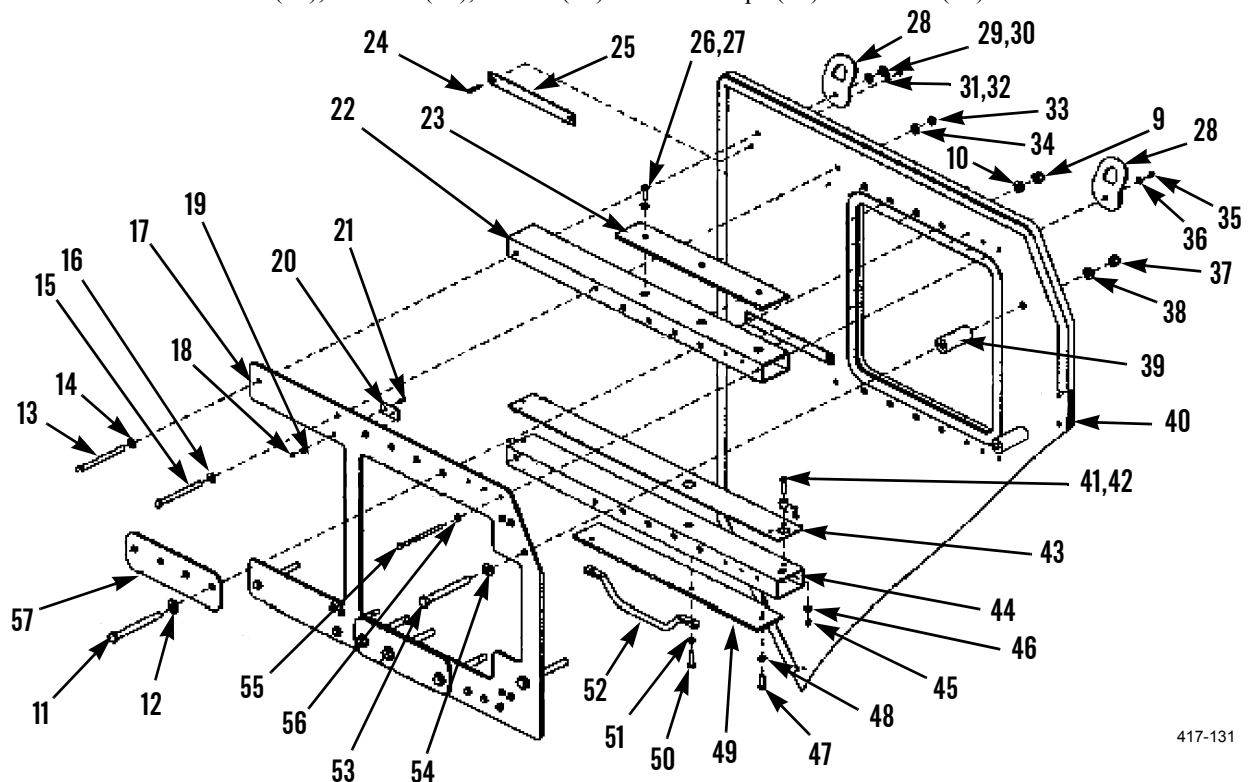
DOOR BALLISTIC GLASS AND FRAME ASSEMBLY REPLACEMENT - CONTINUED**0014 00****REMOVAL - CONTINUED**

6. Remove two locknuts (37), washers (38), capscrews (53), washers (54), and sleeves (39) from door (40). Discard locknuts.
7. Remove seven remaining locknuts (9), washers (10), bolts (11), washers (12), and two doublers (57) from retainer (17). Discard locknuts.
8. Remove six locknuts (35), washers (36), bolts (55), washers (56), and lift bracket (28) from door (40). Discard locknuts.
9. Remove locknut (29), washer (30), lift bracket (28), bolt (13), and washer (14) from retainer (17). 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 (33), washers (34), bolts (15), washers (16), retainer (17), support (22), and support (44) from door (40). Discard locknuts.
11. Remove three bolts (26), washers (27), and doubler (23) from support (22).
12. Remove bolt (47) and washer (48) from support (44).
13. Remove two capscrews (50), washers (51), handle (52), and doubler (49) from support (44).
14. Remove eight locknuts (18), washers (19), screws (21), and four ramps (20) from retainer (17). Discard locknuts.
15. Remove locknut (45), washer (46), capscrew (41), spacer (42), and guide (43) from support (44). Discard locknut.
16. Remove four locknuts (31), washers (32), screws (24) and two ramps (25) from door (40). Discard locknuts.



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DOOR BALLISTIC GLASS AND FRAME ASSEMBLY REPLACEMENT - CONTINUED

0014 00**CLEANING AND INSPECTION**

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

INSTALLATION

1. Install two ramps (25), four screws (24), washers (32), and new locknuts (31) on door (40).
2. Install guide (43), spacer (42), capscrew (41), washer (46), and new locknut (45) on support (44).
3. Install four ramps (20), eight screws (21), washers (19), and new locknuts (18) on retainer (17).
4. Install doubler (49), handle (52), two washers (51), and capscrews (50) on support (44).
5. Install washer (48) and bolt (47) on support (44).
6. Install doubler (23), three washers (27), and bolts (26) on support (22).

**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 (44), support (22), retainer (17), three washers (16), bolts (15), washers (34), and new locknuts (33) on door (40).
8. Install washer (14), bolt (13), lift bracket (28), washer (30), and new locknut (29) on retainer (17).
9. Install lift bracket (28), six washers (56), bolts (55), washers (36), and new locknuts (35) on door (40).
10. Install two doublers (57), seven washers (12), bolts (11), washers (10), and new locknuts (9) on retainer (17).
11. Install two sleeves (39), washers (54), capscrews (53), washers (38), and new locknuts (37) on door (40).

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.
- For proper threat protection, door ballistic glass must be correctly installed into door frame. During installation, ensure that stencil marking “THIS SURFACE TOWARDS THREAT” is located on outside of cab. Improperly installed door ballistic glass will not protect occupants. Failure to follow this warning may cause injury or death to personnel.

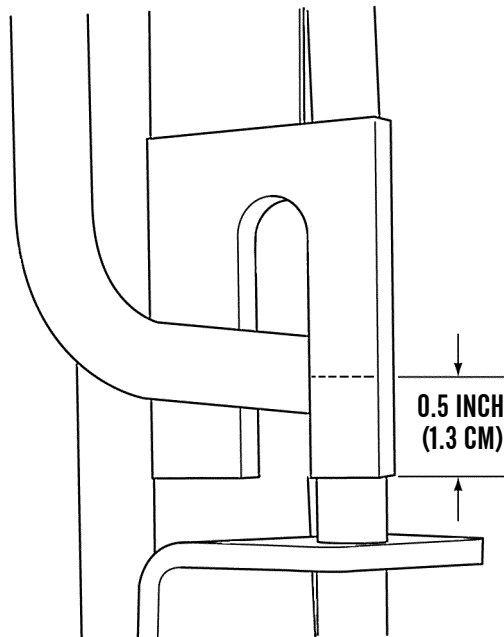
NOTE

Door ballistic glass weighs 75 lb (34 kg).

12. With assistance, install door ballistic glass (1) by sliding into end of channel (7).

NOTE

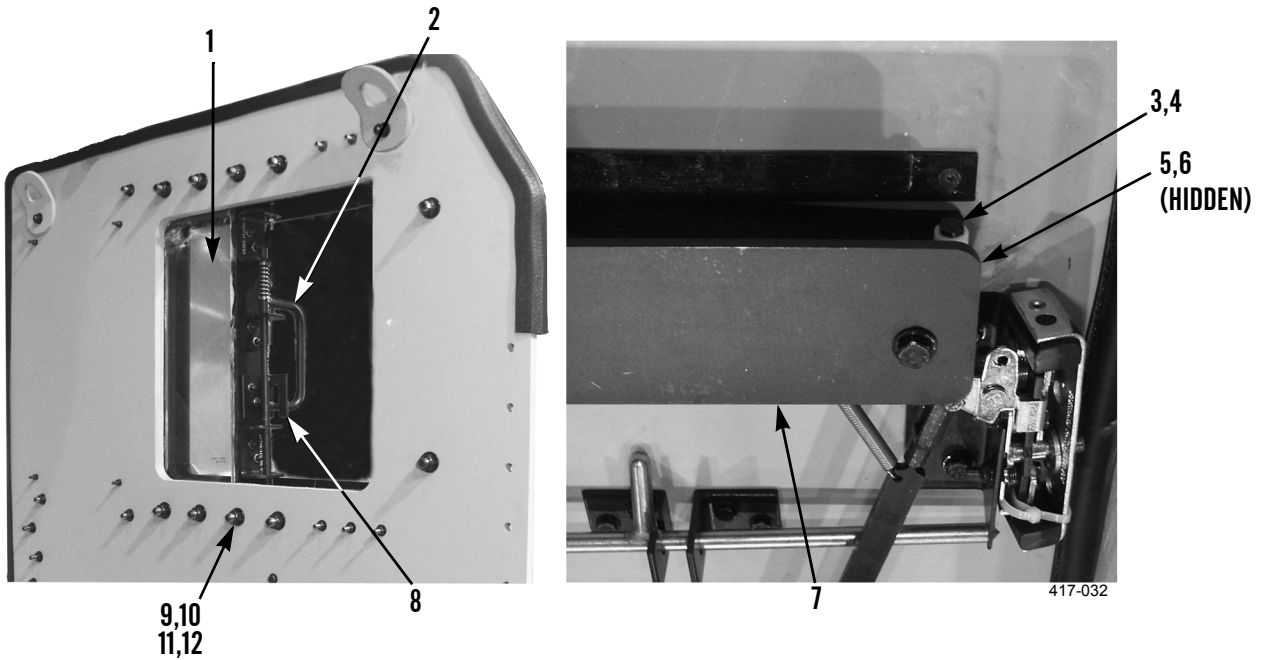
It may be necessary to cut bracket (8) approximately 0.5 in. (1.3 cm) to allow handle to rotate.



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DOOR BALLISTIC GLASS AND FRAME ASSEMBLY REPLACEMENT - CONTINUED**0014 00****INSTALLATION - CONTINUED**

13. When door ballistic glass (1) is near center position, lower handle (2) into center lock hole and rotate handle outward.
14. Lift handle (2) out of center lock hole and close door ballistic glass (1).
15. Install spacer (4), bolt (3), washer (6), and new locknut (5) in bottom channel (7).
16. Install washer (12), bolt (11), washer (10) and new locknut (9).



17. Operate door ballistic glass (1) to verify correct operation.

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 10, WP 0032 00)

Shop Equipment, Common No. 1 (Item 8, WP 0032 00)

Sling (Item 9, WP 0032 00)

Lifting Device (500-lb capacity)

Materials/Parts

Adhesive, Thread (Item 1, WP 0033 00)

Rag, Wiping (Item 7, WP 0033 00)

Locknut (11)

References

WP 0011 00

WP 0016 00

WP 0037 00

Personnel Required

Two

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Parking/Emergency Brake applied (TM 9-2320-364-10)

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

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)

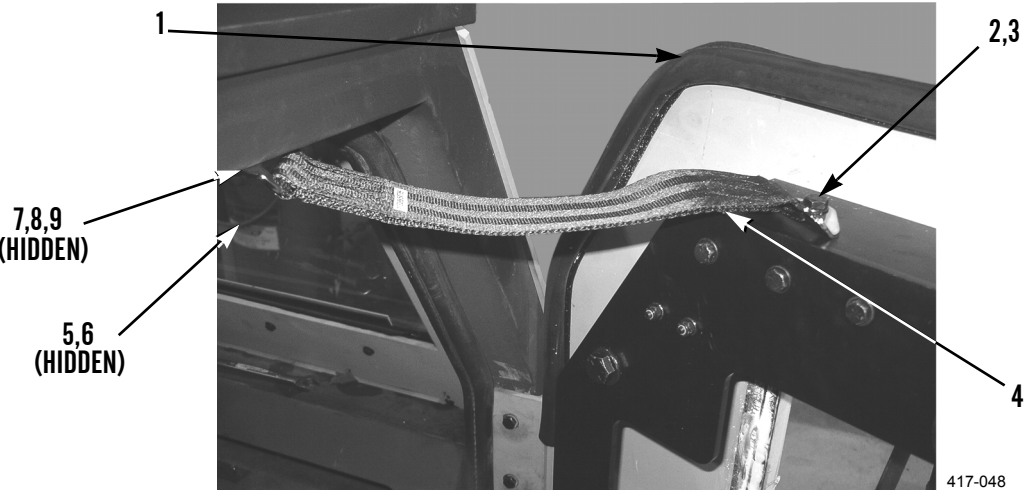
If installing new Door Assembly, remove Exterior Rearview Mirror (TM 9-2320-364-20)

NOTE

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

REMOVAL

1. Open door assembly and remove bolt (2), washer (3), and strap assembly (4) from top of door assembly (1).
2. If strap assembly (4) is damaged, remove locknut (9), washer (8), bolt (5), washer (6), two bushings (7) and strap assembly from door frame. Discard locknut.



DOOR ASSEMBLY REPLACEMENT - CONTINUED**0015 00****REMOVAL - CONTINUED**

3. If necessary, install two lifting links (13), washers (11), bolts (10) and locknuts (12) on door assembly (1).

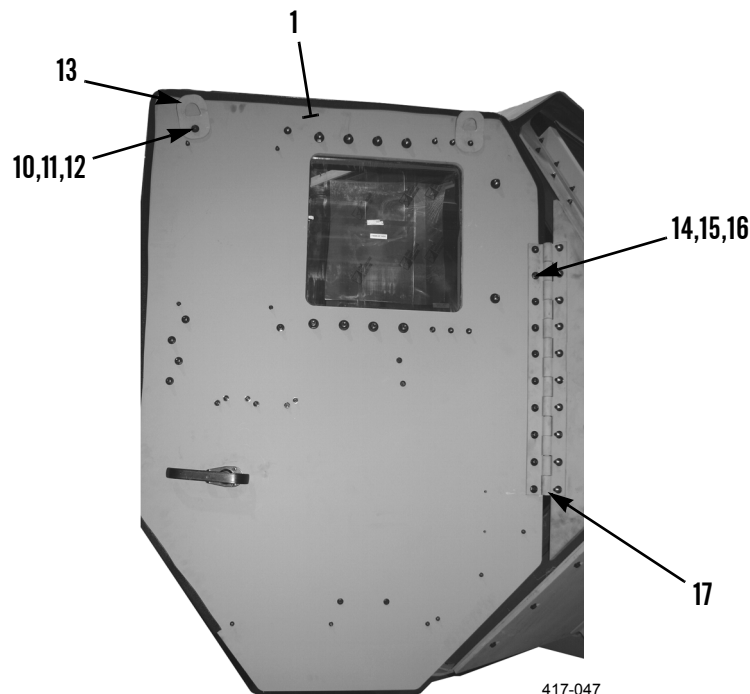
**WARNING**

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 329 lb (149 kg).

4. Attach sling and lifting device to lifting links (13) at top of door assembly (1).
5. Remove 10 locknuts (14), 20 washers (15), and 10 bolts (16) from door assembly (1). Discard locknuts.
6. Use lifting device to remove door assembly (1) from hinge (17) and place on flat surface.
7. Remove sling and lifting device from lifting links (13).



DOOR ASSEMBLY REPLACEMENT - CONTINUED

0015 00**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 329 lb (149 kg).

1. If necessary, install two lifting links (13), washers (11), bolts (10), and new locknuts (12) on door assembly (1).
2. Attach sling and lifting device to lifting links (13) at top of door assembly (1).
3. Use lifting device to position door assembly (1) on hinge (17).
4. Install 10 bolts (16), washers (15), and new locknuts (14) through hinge mounting holes on door assembly (1). Hand tighten locknuts.
5. Check alignment between door assembly (1) and cab opening. Adjust door assembly and/or latch pin as necessary until alignment is correct.
6. Tighten 10 locknuts (14) to 18 lb-ft (24 Nm).
7. Remove sling and lifting device from lifting links (13).

DOOR ASSEMBLY REPLACEMENT - CONTINUED

0015 00

INSTALLATION - CONTINUED

NOTE

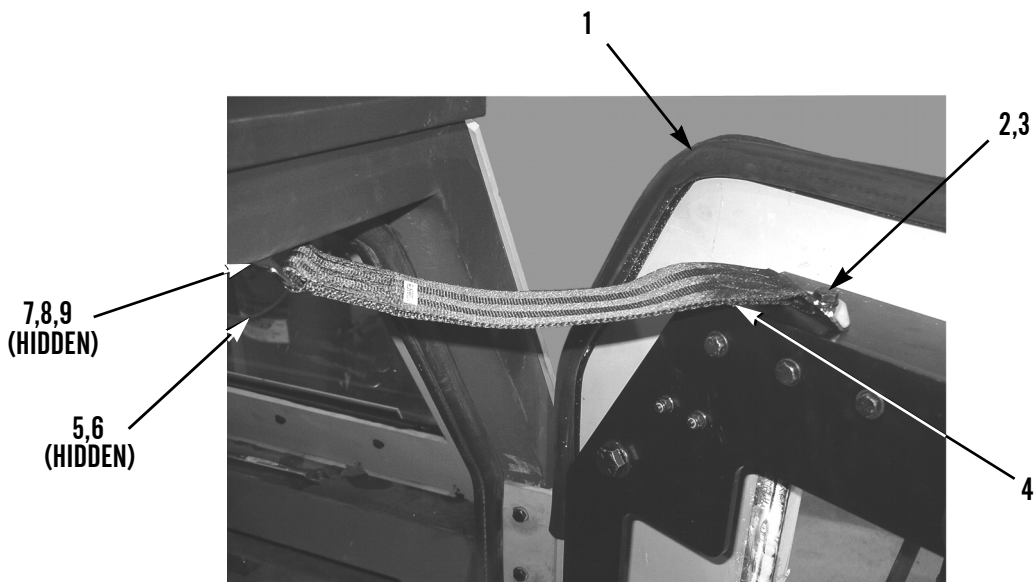
- Perform step 8 if strap assembly was removed from door frame.
- If door frame is new, refer to *Crew Protection Kit Installation Instructions* (WP 0037 00) for instructions on drilling hole in door frame for installation of strap assembly.

8. Install strap assembly (4) to door frame with two bushings (7), washer (6), bolt (5), washer (8), and new locknut (9).

**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.

9. Apply thread adhesive to bolt (2). Install strap assembly (4) to door assembly (1) with washer (3) and bolt (2).



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10. Adjust latch as necessary (WP 0016 00).
11. Verify correct operation of door assembly.
12. If removed, install reflector and outside mirror to door assembly (TM 9-2320-364-20).

END OF WORK PACKAGE

DOOR LATCH ADJUSTMENT0016 00

THIS WORK PACKAGE COVERS

Adjustment

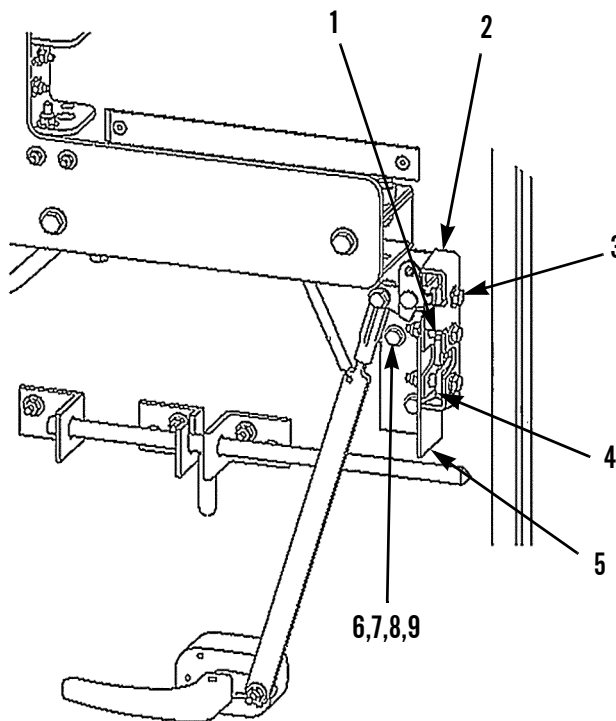
INITIAL SETUP

Maintenance Level	Equipment Conditions
Unit	Vehicle parked on level ground (TM 9-2320-364-10)
Tools and Special Tools	Parking/Emergency Brake applied (TM 9-2320-364-10)
Tool Kit, General Mechanic’s (Item 10, WP 0032 00)	Engine off (TM 9-2320-364-10)
Materials/Parts	If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)
Rag, Wiping (Item 7, WP 0033 00)	
Locknut (4)	

DOOR LATCH ADJUSTMENT - CONTINUED**0016 00****ADJUSTMENT****NOTE**

When horizontal and vertical adjustments are correct, the upper lever (1) and lower lever (4) will contact the striker at the same time.

1. From inside cab, slowly close door and observe latch (2) and striker contact points.
2. If vertical adjustment is necessary, loosen three vertical adjustment bolts (3) and correctly position latch (2).
3. If loosened, tighten three bolts (3).
4. If horizontal adjustment is necessary, remove three locknuts, (9), washers (8), bolts (6) and washers (7) from latch bracket (5). Discard locknuts.
5. Add washers between latch bracket (5) and door to correctly position latch (2).
6. If removed, install three washers (7), bolts (6), washers (8), and new locknuts (9) on latch bracket (5).

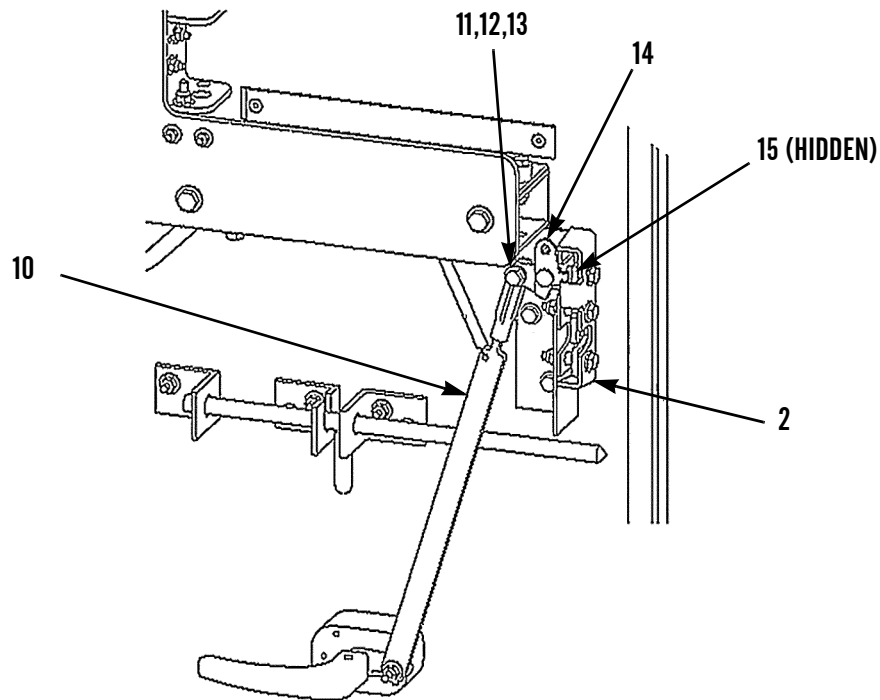


417-031

DOOR LATCH ADJUSTMENT - CONTINUED**0016 00****ADJUSTMENT - CONTINUED****NOTE**

When link rod adjustment is correct, the latch lever will be touching the actuating lever (15).

7. If link rod (10) adjustment is necessary, remove locknut (13), washer (12), and bolt (11) from end of link rod. Discard locknut.
8. Rotate link rod (10) counterclockwise to bring latch lever (14) down.
9. Rotate link rod (10) clockwise to bring latch lever (14) up.
10. Align link rod (10) with hole in latch lever (14) and install bolt (11), washer (12) and new locknut (13) in end of link rod (10).



417-031

NOTE

Slight downward pressure on door handle should release latch and open door.

11. Repeat procedure if door does not open when slight downward pressure is applied to handle.

END OF WORK PACKAGE

WINDSHIELD BALLISTIC GLASS REPLACEMENT

0017 00**THIS WORK PACKAGE COVERS**Removal, Cleaning and Inspection, Installation

INITIAL SETUP**Maintenance Level**

Unit

References

WP 0010 00

Tools and Special Tools

Tool Kit, General Mechanic's (Item 10, WP 0032 00)

WP 0011 00

Shop Equipment, Common No. 1 (Item 8, WP 0032 00)

Personnel Required

Two

Dispenser, Sealant (Item 2, WP 0032 00)

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Materials/Parts

Rag, Wiping (Item 7, WP 0033 00)

Parking/Emergency Brake applied (TM 9-2320-364-10)

Sealant, Urethane (Item 8, WP 0033 00)

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

Locknut (21)

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)

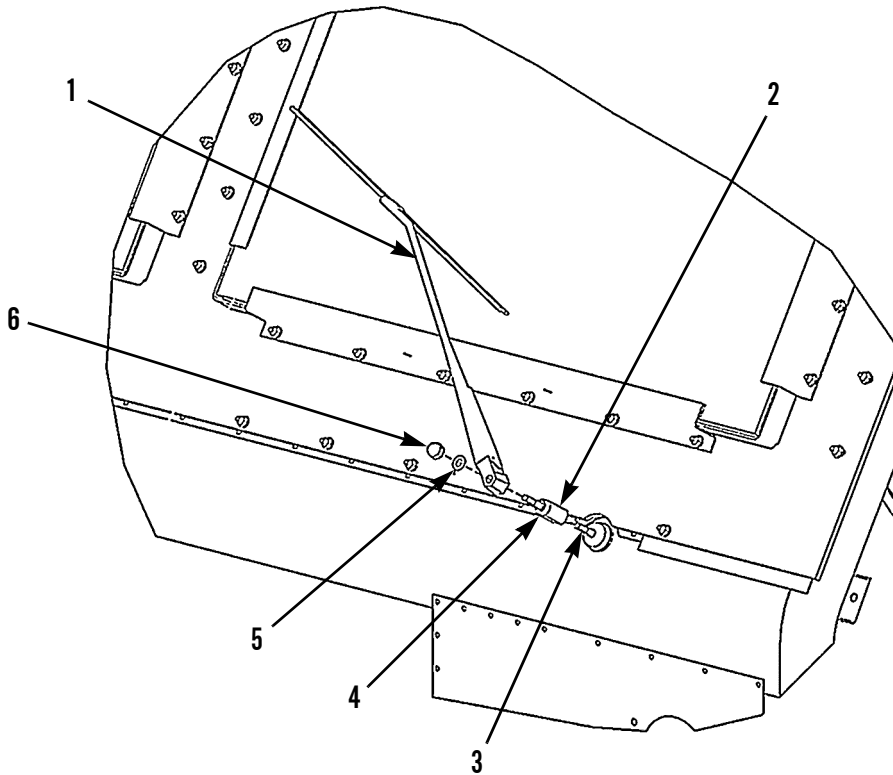
Lockwasher

NOTE

The following procedure is for left windshield ballistic glass. Right windshield ballistic glass is identical.

WINDSHIELD BALLISTIC GLASS REPLACEMENT - CONTINUED**0017 00****REMOVAL**

1. Disconnect windshield washer hose from fitting on upper brush guard.
2. Remove nut (6), lockwasher (5), and wiper arm (1) from wiper extension (4). Discard lockwasher.
3. Loosen setscrew (2) and remove wiper extension (4) from wiper shaft (3).



417-024

WINDSHIELD BALLISTIC GLASS REPLACEMENT - CONTINUED**0017 00****REMOVAL - CONTINUED**

4. Loosen five bolts (14) on underside of roof bracket (11).
5. Remove six locknuts (12), washers (13), and roof bracket (11). Discard locknuts.
6. Remove 10 locknuts (15), washers (16), and two side windshield ballistic glass brackets (7) from windshield ballistic glass frame (20). Discard locknuts.
7. Remove six locknuts (8), washers (9), and top windshield ballistic glass bracket (10) from windshield ballistic glass (19). Discard locknuts.
8. Loosen six locknuts (17) on both bottom windshield ballistic glass brackets (18).

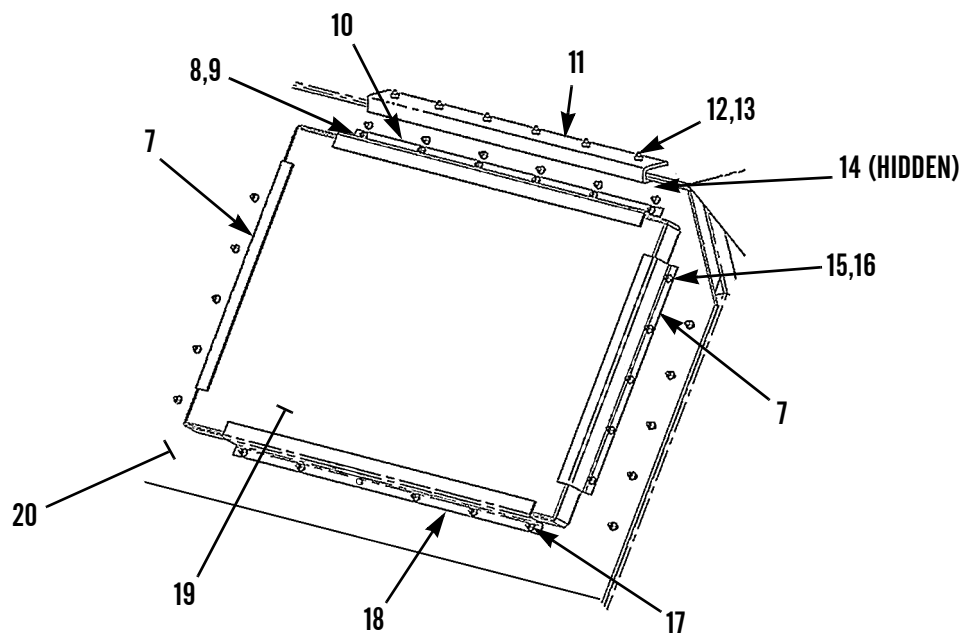
**WARNING**

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.

NOTE

Windshield ballistic glass weighs 114 lb (52 kg).

9. With assistance, remove windshield ballistic glass (19) from lower windshield ballistic glass bracket (18).



417-025

WINDSHIELD BALLISTIC GLASS REPLACEMENT - CONTINUED**0017 00****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 ballistic glass frame (20).

INSTALLATION**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.

1. Apply sealant to outside opening of windshield ballistic glass frame (20).

**WARNING**

- Use 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.
- For proper threat protection, windshield ballistic glass must be correctly installed onto windshield ballistic glass frame. During installation, ensure that decal “INSTALL THIS SURFACE TOWARDS 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.

NOTE

Windshield ballistic glass weighs 114 lb (52 kg).

2. With assistance, position windshield ballistic glass (19) in lower windshield ballistic glass bracket (18), with “INSTALL THIS SURFACE TOWARDS THREAT” decal facing outside of cab.
3. Install top windshield ballistic glass bracket (10) on windshield ballistic glass (19) with six washers (9) and new locknuts (8). DO NOT fully tighten locknuts.
4. Install two side windshield ballistic glass brackets (7) on windshield ballistic glass frame (19) with 10 washers (16), and new locknuts (15).

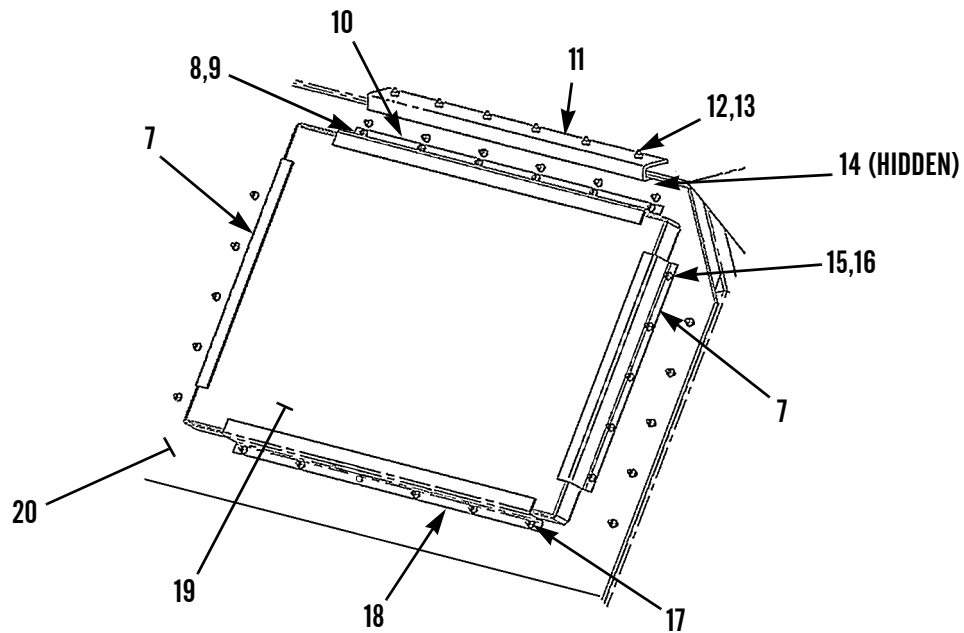
WINDSHIELD BALLISTIC GLASS REPLACEMENT - CONTINUED**0017 00****INSTALLATION - CONTINUED**

5. Tighten locknuts (8, 15, and 17) to 108 lb in (12 Nm).

NOTE

Slide roof bracket rearward to ensure roof bracket is tight against front edge of roof.

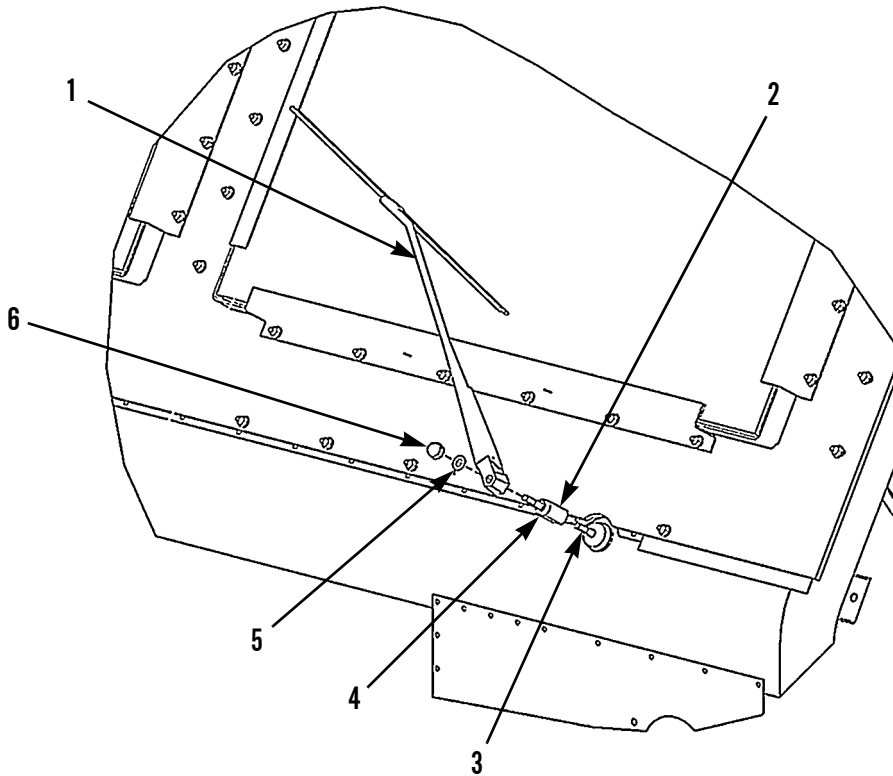
6. Install roof bracket (11), six washers (13), and new locknuts (12) on roof.
7. Tighten five bolts (14) on underside of roof bracket (11).



417-025

WINDSHIELD BALLISTIC GLASS REPLACEMENT - CONTINUED**0017 00****INSTALLATION - CONTINUED**

8. Install wiper extension (4) on wiper shaft (3) and tighten setscrew (2).
9. Install windshield wiper arm (1) on wiper extension (4) with new lockwasher (5) and nut (6).
10. Connect windshield washer hose to fitting on upper brush guard.
11. Remove decal and clean windshield ballistic glass (WP 0010 00).
12. Check windshield ballistic glass for leaks.



417-024

END OF WORK PACKAGE

UPPER BRUSH GUARD REPLACEMENT0018 00

THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level

Unit

References

WP 0011 00

Tools and Special Tools

Tool Kit, General Mechanic’s (Item 10, WP 0032 00)

Shop Equipment, Common No. 1 (Item 8, WP 0032 00)

Sling (Item 9, WP 0032 00)

Lifting Device (500-lb capacity)

Personnel Required

Two

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Parking/Emergency Brake applied (TM 9-2320-364-10)

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

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)

Lower Brush Guard removed (WP 0019 00)

Materials/Parts

Adhesive, Thread (Item 1, WP 0033 00)

Rag, Wiping (Item 7, WP 0033 00)

Locknut (6)

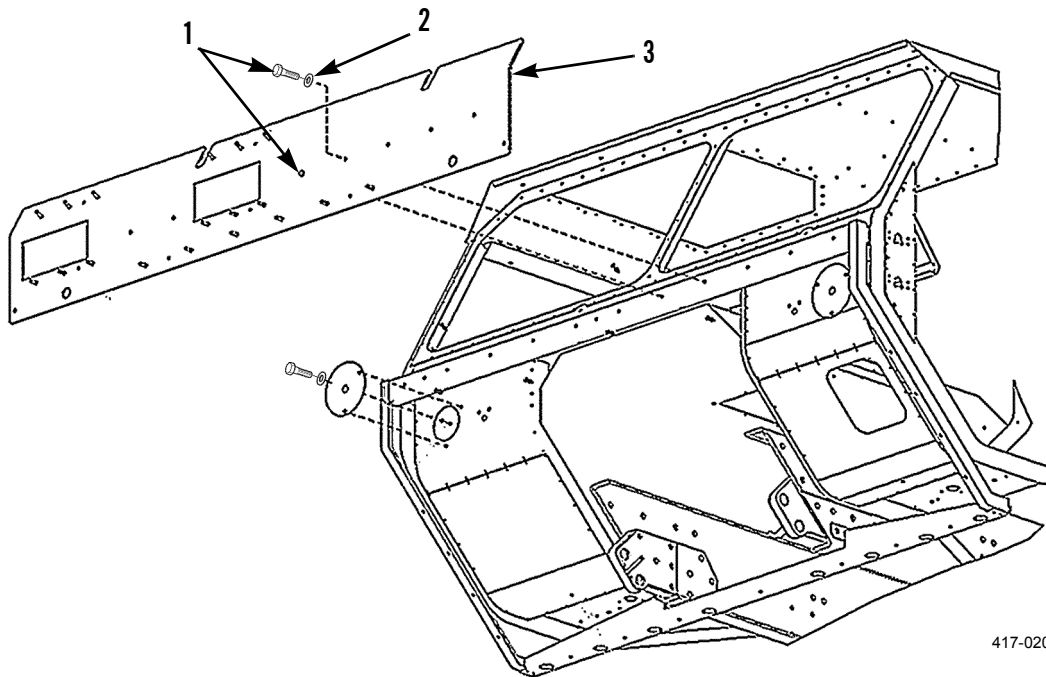
UPPER BRUSH GUARD REPLACEMENT - CONTINUED**0018 00****REMOVAL****WARNING**

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.

NOTE

Upper brush guard weighs 147 lb (67 kg).

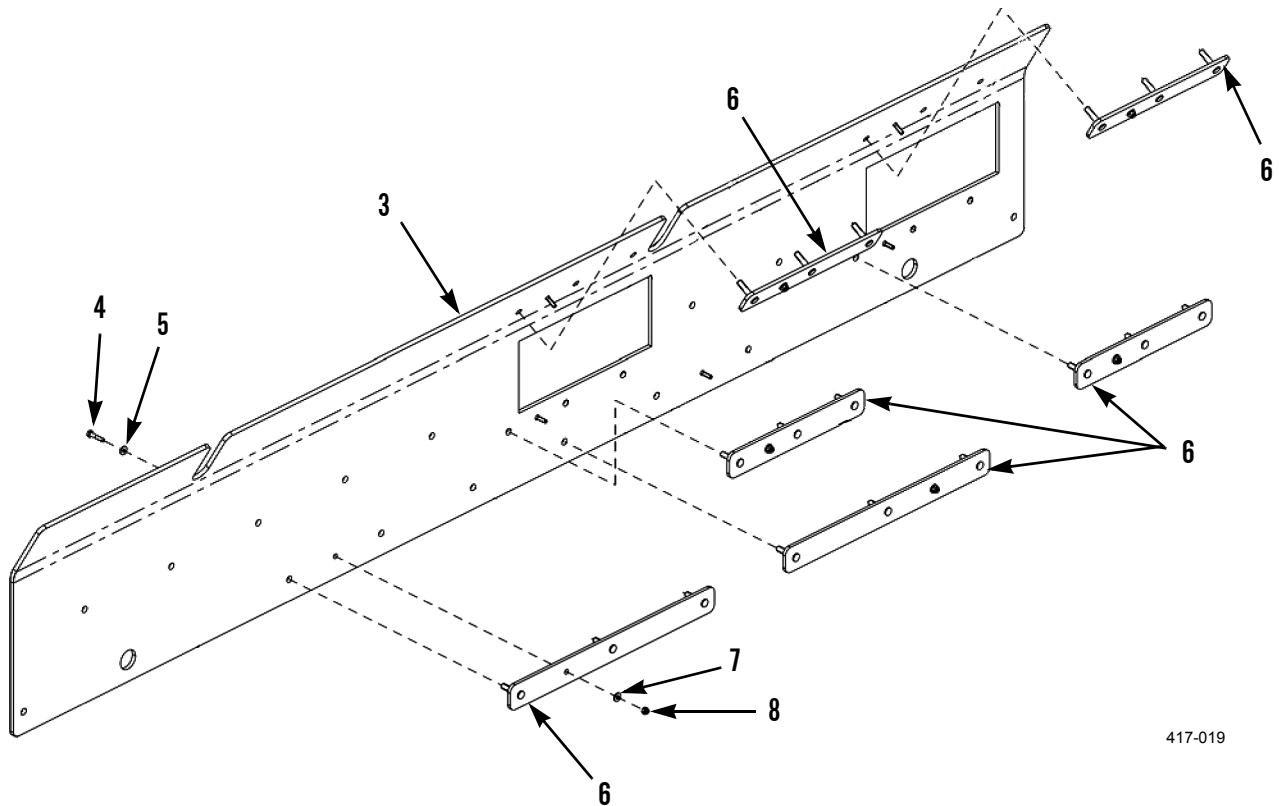
1. Attach sling and lifting device to upper brush guard (3).
2. Remove two bolts (1) and washers (2) from locations shown in upper brush guard (3).
3. Remove upper brush guard (3) from front of vehicle.



417-020

UPPER BRUSH GUARD REPLACEMENT - CONTINUED**0018 00****REMOVAL - CONTINUED**

4. Support upper brush guard (3) as needed to allow removal of stud plates (6).
5. Remove six locknuts (8), washers (7), bolts (4), washers (5), and six stud plates (6) from upper brush guard (3). Discard locknuts.
6. Remove sling and lifting device from upper brush guard (3).



417-019

CLEANING AND INSPECTION

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

UPPER BRUSH GUARD REPLACEMENT - CONTINUED

0018 00

INSTALLATION

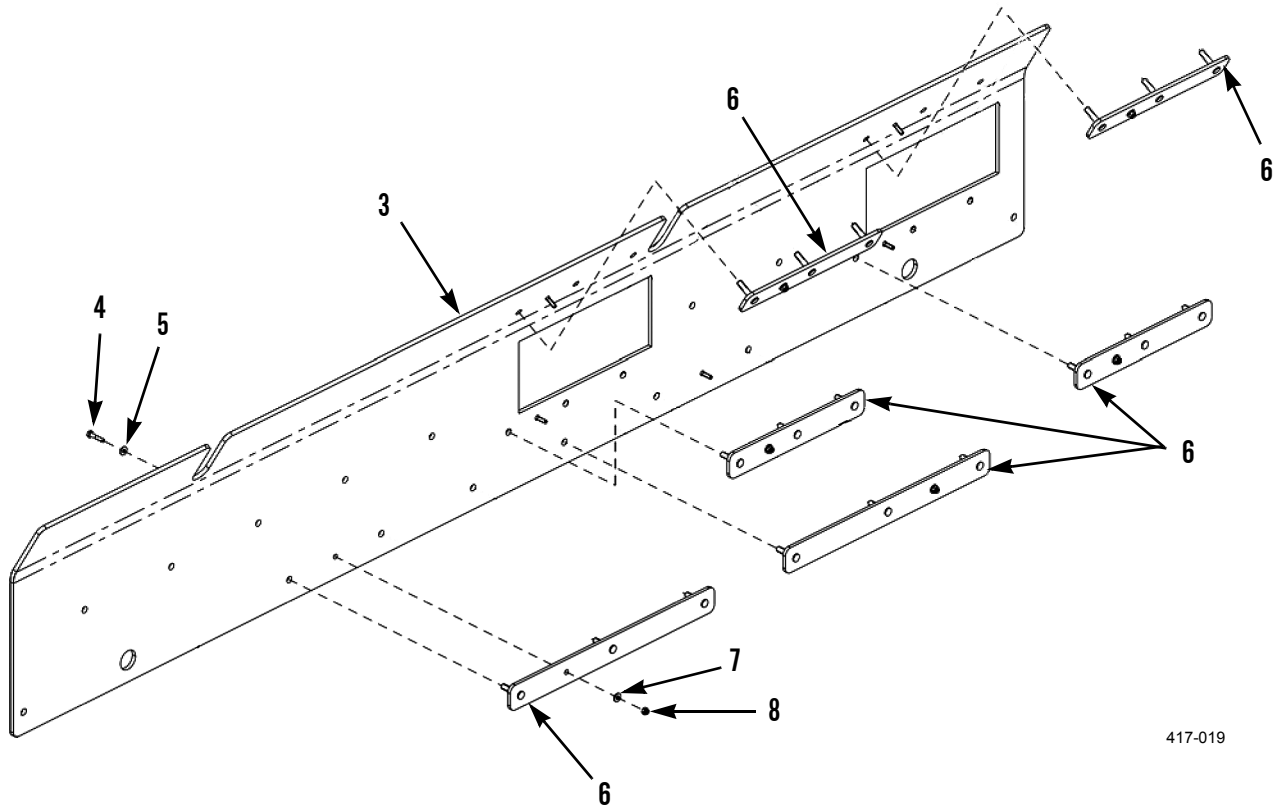
**WARNING**

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

Upper brush guard weighs 147 lb (67 kg).

1. Attach sling and lifting device to upper brush guard (3). Support upper brush guard as needed to allow installation of stud plates (6).
2. Install six stud plates (6) to upper brush guard (3) with six washers (5), bolts (4), washers (7), and new locknuts (8).



417-019

UPPER BRUSH GUARD REPLACEMENT - CONTINUED

0018 00

INSTALLATION - CONTINUED

3. Use lifting device and align upper brush guard (3) with front of vehicle.

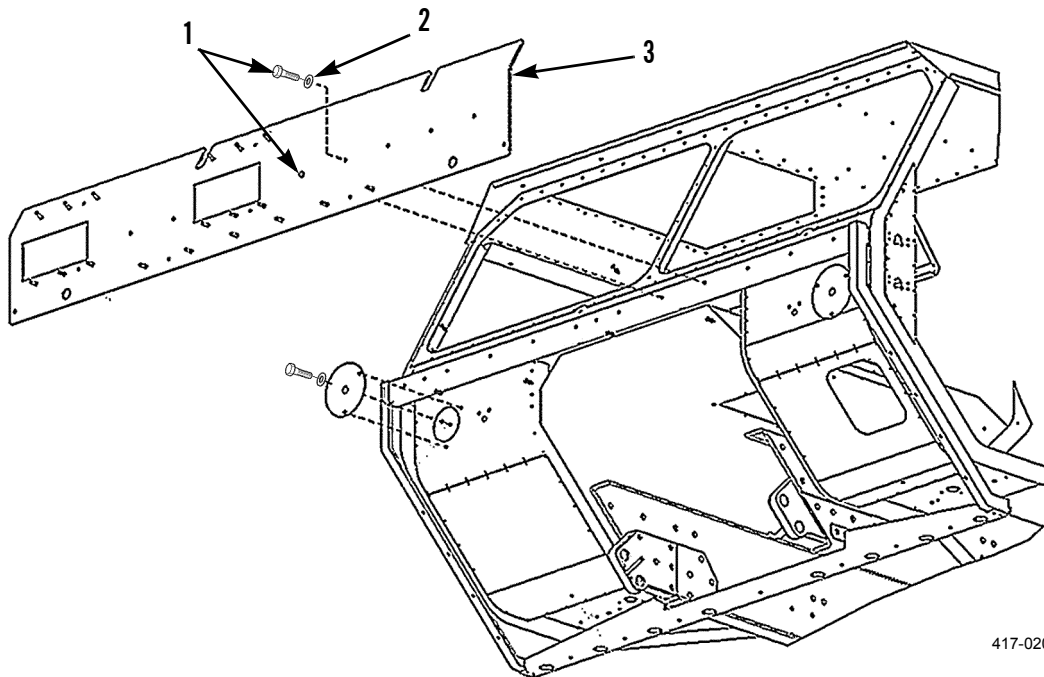
**WARNING**

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.

NOTE

Fully tighten bolts only after lower brush guard is installed.

4. Apply thread adhesive to two bolts (1). Install two washers (2) and bolts (1) to upper brush guard (3) in fourth and fifth bolt holes from driver's side. Hand tighten bolts.



417-020

5. Remove lifting device and sling from upper brush guard (3).
6. Install lower brush guard (WP 0019 00).

END OF WORK PACKAGE

LOWER BRUSH GUARD REPLACEMENT

0019 00

THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level

Unit

Personnel Required

Three

Tools and Special Tools

Tool Kit, General Mechanic's (Item 10, WP 0032 00)
Shop Equipment, Common No. 1 (Item 8, WP 0032 00)
Link, Lifting (2) (Item 6, WP 0032 00)
Sling (Item 9, WP 0032 00)
Lifting Device, (500-lb capacity)

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)
Parking/Emergency Brake applied (TM 9-2320-364-10)
Engine off (TM 9-2320-364-10)
If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)
Front Towing Shackles removed (TM 9-2320-364-20)
Headlights and Composite Lights removed (WP 0020 00)
Blackout Drive Light removed (WP 0021 00)
Right and Left Steps removed (TM 9-2320-364-20)

Materials/Parts

Locknut (56)

References

WP 0011 00
WP 0034 00

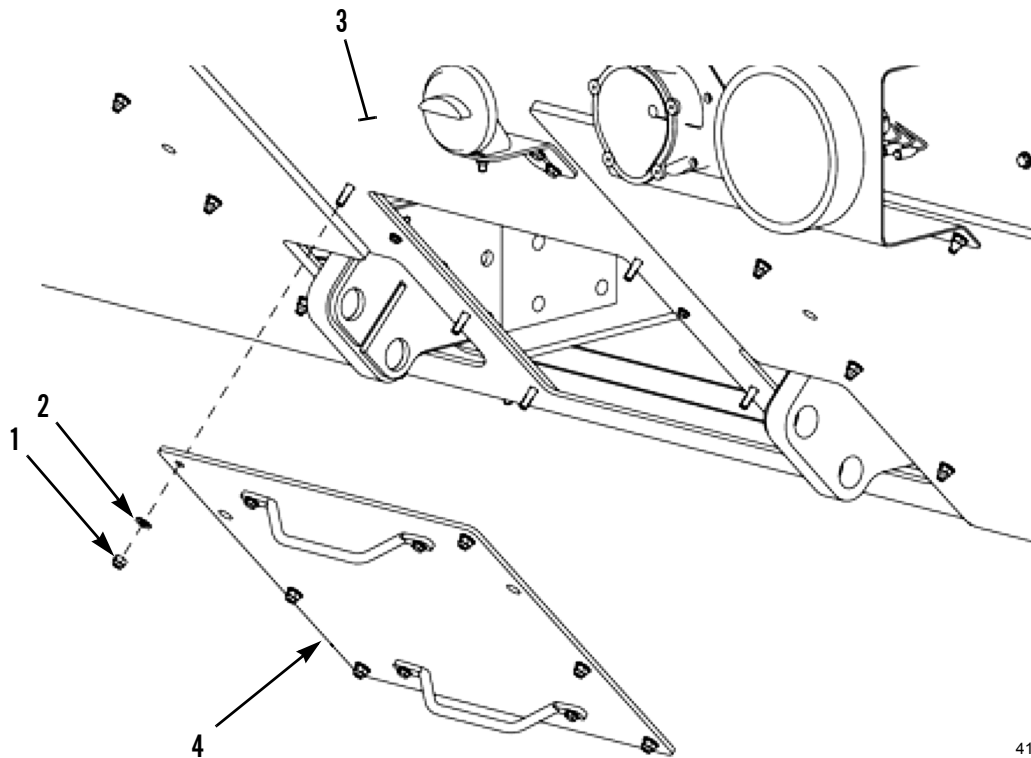
LOWER BRUSH GUARD REPLACEMENT - CONTINUED**0019 00****REMOVAL****WARNING**

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

NOTE

Access cover assembly weighs 31 lb (14 kg).

1. Remove six locknuts (1), washers (2), and access cover assembly (4) from lower brush guard (3). Discard locknuts.



417-021

2. Remove 15 locknuts (9), washers (10), bolts (7), and washers (8) from bottom edge of lower brush guard (3).

**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.

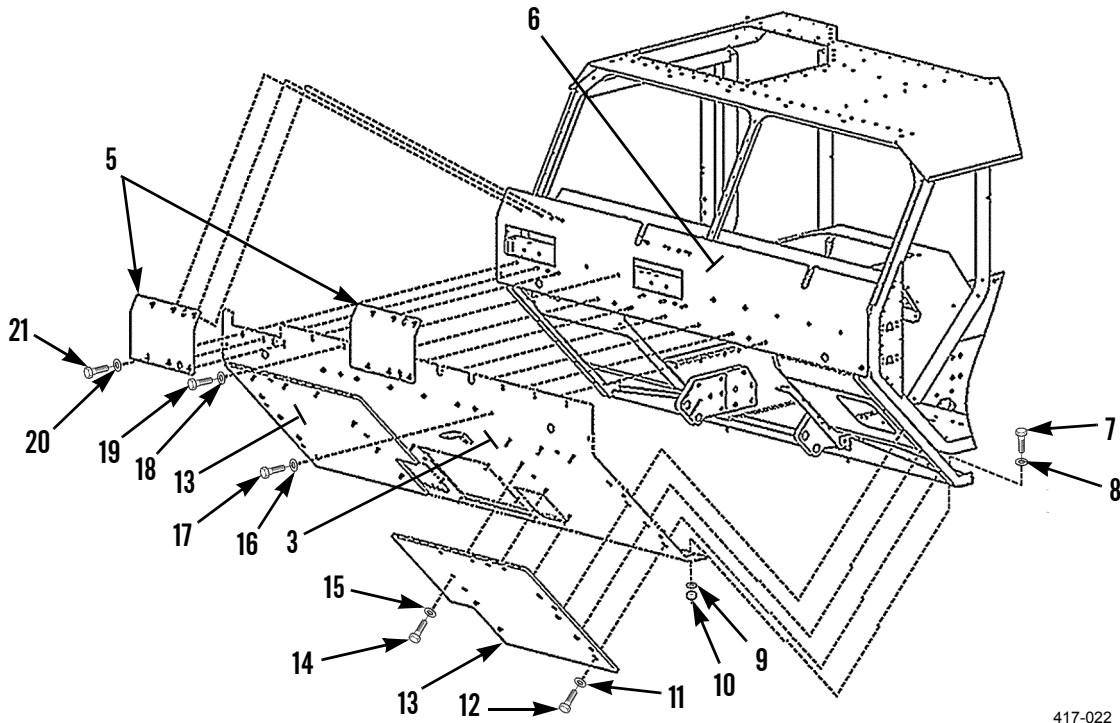
NOTE

IED front panels weigh 60 lb (27 kg) each.

3. Using assistance, remove six locknuts (14) and washers (15), eight bolts (12), washers (11), and two IED panels (13) from lower brush guard (3). Discard locknuts.

LOWER BRUSH GUARD REPLACEMENT - CONTINUED**0019 00****REMOVAL - CONTINUED**

4. Remove 12 locknuts (21), washers (20), and two gun mount covers (5) from upper brush guard (6) and lower brush guard (3). Discard locknuts.



417-022

**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

Lower brush guard weighs 316 lb (143 kg).

5. Attach two lifting links, sling, and lifting device to top edge of lower brush guard (3).
6. Remove six locknuts (17) and washers (16) from top of lower brush guard (3).
7. Using lifting device, remove remaining two bolts (19), washers (18), and lower brush guard (3) from front of vehicle.

LOWER BRUSH GUARD REPLACEMENT - CONTINUED**0019 00****REMOVAL - CONTINUED****NOTE**

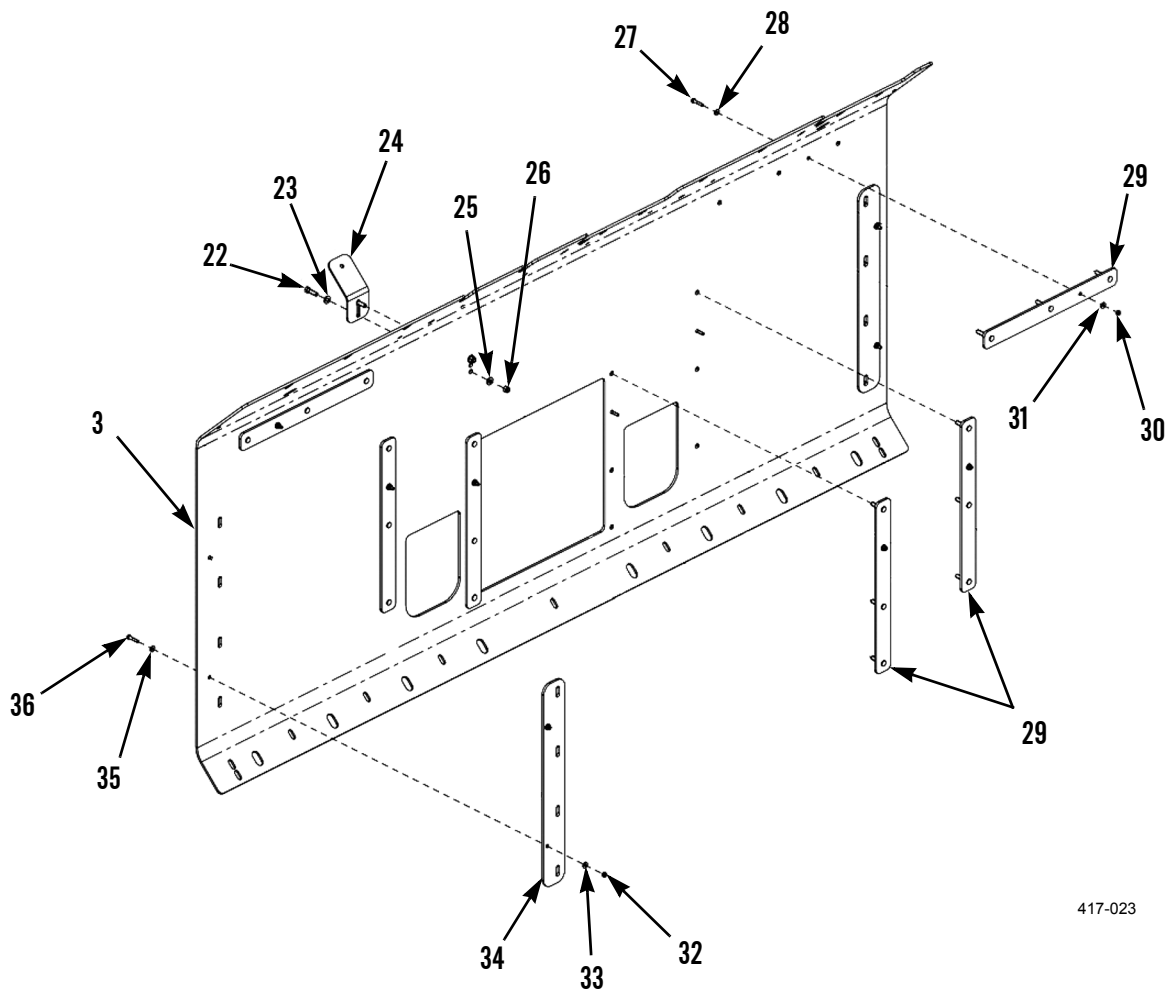
Use lifting device to support lower brush guard to allow removal of remaining components.

8. Remove locknut (26), washer (25), bolt (22), washer (23), and blackout light bracket (24) from lower brush guard (3). Discard locknut.

NOTE

Note location of spacers and stud plates to ensure correct installation.

9. Remove four locknuts (32), washers (33), bolts (36), washers (35), and two spacers (34) from outside edges of lower brush guard (3). Discard locknuts.
10. Remove six locknuts (30), washers (31), bolts (27), washers (28), and stud plates (29) from lower brush guard (3). Discard locknuts.
11. Place lower brush guard (3) on flat surface.
12. Remove lifting device, sling, and two lifting links from lower brush guard (3).



417-023

LOWER BRUSH GUARD REPLACEMENT - CONTINUED

0019 00**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

Lower brush guard weighs 316 lb (143 kg).

1. Attach two lifting links, sling, and lifting device to top edge of lower brush guard (3). Use lifting device to support lower brush guard, as needed, to allow installation of components.
2. Install six stud plates (29) to lower brush guard (3) with six washers (28), bolts (27), washers (31), and new locknuts (30).
3. Install two spacers (34) to outside edges of lower brush guard (3) with four washers (35), bolts (36), washers (33), and new locknuts (32).
4. Install blackout light bracket (24) to lower brush guard (3) with washer (23), bolt (22), washer (25), and new locknut (26).
5. With assistance, lift lower brush guard (3) into position at front of vehicle.

LOWER BRUSH GUARD REPLACEMENT - CONTINUED**0019 00****INSTALLATION - CONTINUED****NOTE**

To assist in alignment and fit of armor plates, **DO NOT** fully tighten mounting hardware until all armor plates have been installed.

6. Install two washers (18), bolts (19), six washers (16), and new locknuts (17).
7. Remove lifting device, sling, and two lifting links from lower brush guard (3).
8. Install two gun mount covers (5), 12 washers (20) and new locknuts (21) to upper brush guard (6) and lower brush guard (3).

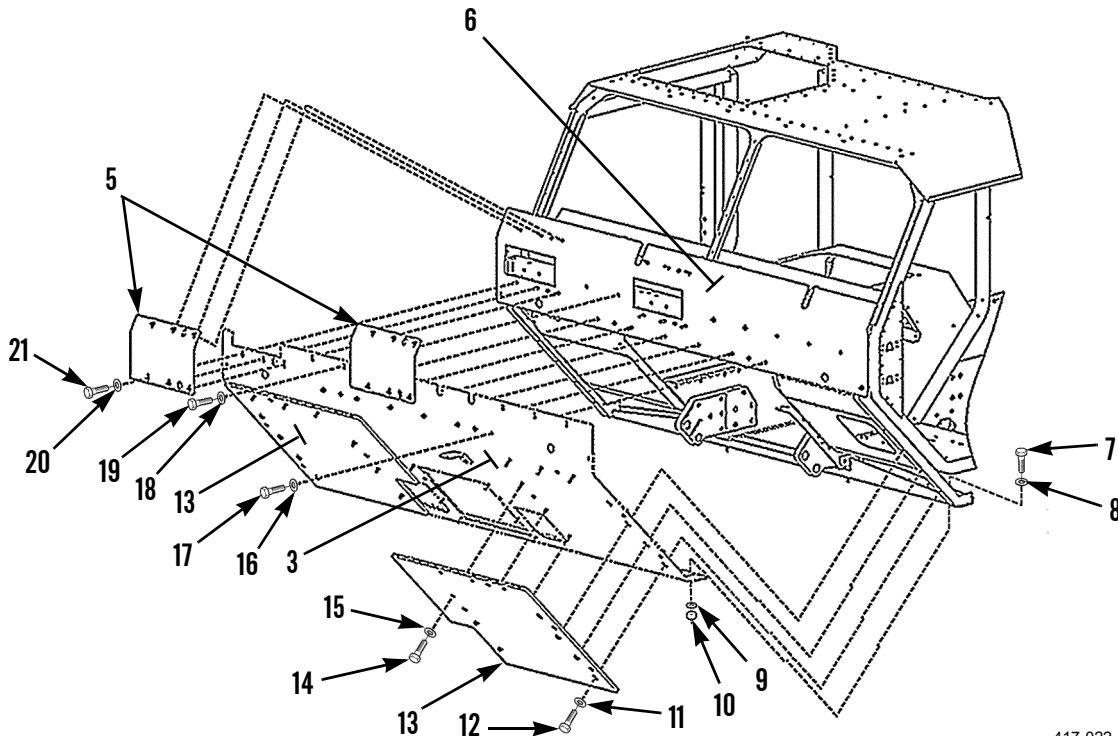
**WARNING**

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

IED front panels weigh 60 lb (27 kg) each.

9. With assistance, install two IED panels (13), six washers (15), new locknuts (14), eight washers (11), and bolts (12) to lower brush guard (3).
10. Install 15 washers (8), bolts (7), washers (9), and new locknuts (10) in bottom edge of lower brush guard (3).



417-022

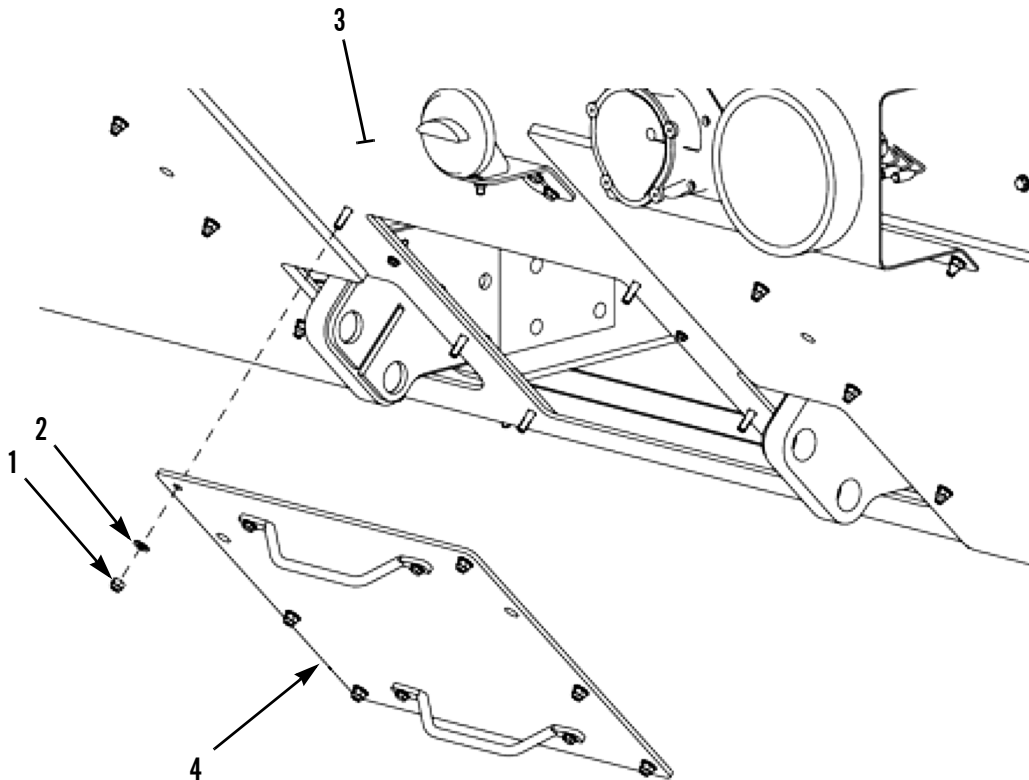
LOWER BRUSH GUARD REPLACEMENT - CONTINUED**0019 00****INSTALLATION - CONTINUED****WARNING**

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

NOTE

Access cover assembly weighs 31 lb (14 kg).

11. Install access cover assembly (4) to lower brush guard (3) with six washers (2) and new locknuts (1).



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12. Ensure all bolts and locknuts are tightened to proper torque (WP 0034 00).
13. Install blackout drive light (WP 0021 00).
14. Install headlights and composite lights (WP 0020 00).
15. Install front towing shackles (TM 9-2320-364-20).
16. Install right and left steps (TM 9-2320-364-20).

END OF WORK PACKAGE

HEADLIGHT AND COMPOSITE LIGHT REPLACEMENT

0020 00

THIS WORK PACKAGE COVERS

Removal: Configuration A, Configuration B; Cleaning and Inspection; Installation: Configuration A, Configuration B

INITIAL SETUP

Maintenance Level

Unit

References

WP 0011 00

Tools and Special Tools

Tool Kit, General Mechanic's (Item 10, WP 0032 00)

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Materials/Parts

Tag, marker (Item 10, WP 0033 00)

Parking/Emergency Brake applied (TM 9-2320-364-10)

Locknut (13) (left headlight assembly, Configuration A and B)

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

Locknut (17) (right headlight assembly, Configuration A and B)

Disconnect battery cables (TM 9-2320-364-20)

NOTE

- Configuration A headlight assemblies have an LED unit inside the composite light, mounted inboard of the headlight.
- Configuration B headlight assemblies have an incandescent bulb inside the composite light, mounted inboard of the headlight.

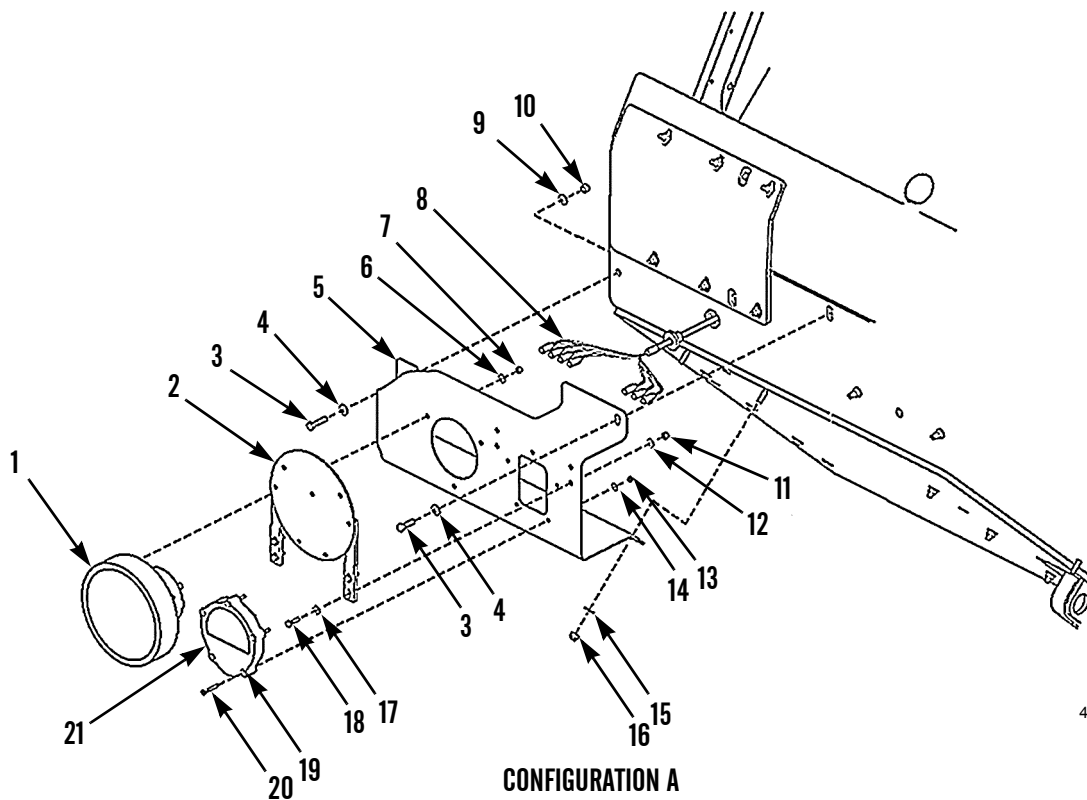
HEADLIGHT AND COMPOSITE LIGHT REPLACEMENT - CONTINUED

0020 00

REMOVAL (CONFIGURATION A)**NOTE**

- The following procedure covers both left and right headlight assemblies (Configuration A).
- Right headlight assembly (Configuration A) is illustrated.

1. Tag and disconnect jumper harness connectors (8) from headlight (1) and composite light (21).
2. Remove three locknuts (7), washers (6), and headlight (1) from headlight bracket (5). Discard locknuts.
3. Remove five locknuts (13), washers (14), bolts (20), washers (19), and composite light (21) from headlight bracket (5). Discard locknuts.
4. On right side only, remove four locknuts (11), washers (12), bolts (18), washers (17), and weight classification marker (2) from headlight bracket (5). Discard locknuts.
5. Remove two locknuts (10), washers (9), bolts (3), and washers (4) from top of headlight bracket (5). Discard locknuts.
6. Remove three locknuts (16) and washers (15) from bottom of headlight bracket (5). Discard locknuts.
7. Remove headlight bracket (5) from lower brush guard.



417-026

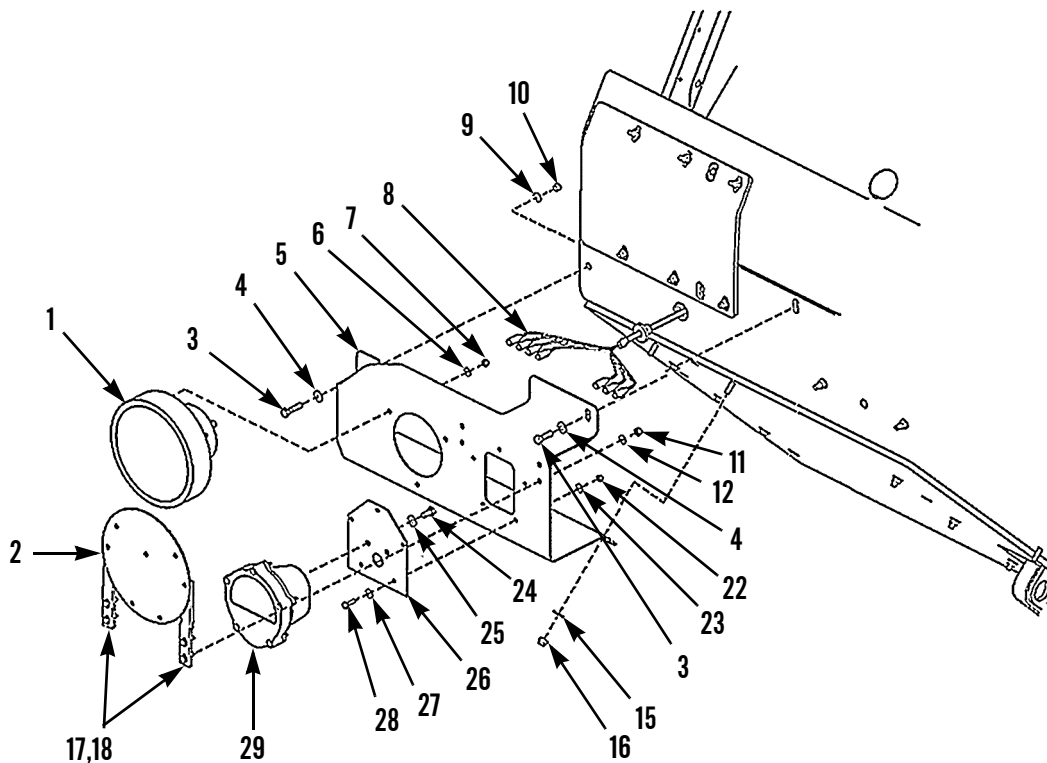
HEADLIGHT AND COMPOSITE LIGHT REPLACEMENT - CONTINUED

0020 00

REMOVAL (CONFIGURATION B)**NOTE**

- The following procedure covers both left and right headlight assemblies (Configuration B).
- Right headlight assembly (Configuration B) is illustrated.

1. Tag and disconnect jumper harness connectors (8) from headlight (1) and composite light (29).
2. Remove three locknuts (7), washers (6), and headlight (1) from headlight bracket (5). Discard locknuts.
3. Remove five locknuts (22), washers (23), bolts (28), washers (27), and headlight adapter (26) with composite light (29) from headlight bracket (5). Discard locknuts.
4. Remove two bolts (24), washers (25), and composite light (29) from headlight adapter (26).
5. On right side only, remove four locknuts (11), washers (12), bolts (18), washers (17), and weight classification marker (2) from headlight bracket (5). Discard locknuts.
6. Remove two locknuts (10), washers (9), bolts (3), and washers (4) from top of headlight bracket (5). Discard locknuts.
7. Remove three locknuts (16) and washers (15) from bottom of headlight bracket (5). Discard locknuts.
8. Remove headlight bracket (5) from lower brush guard.

**CONFIGURATION B**

417-027

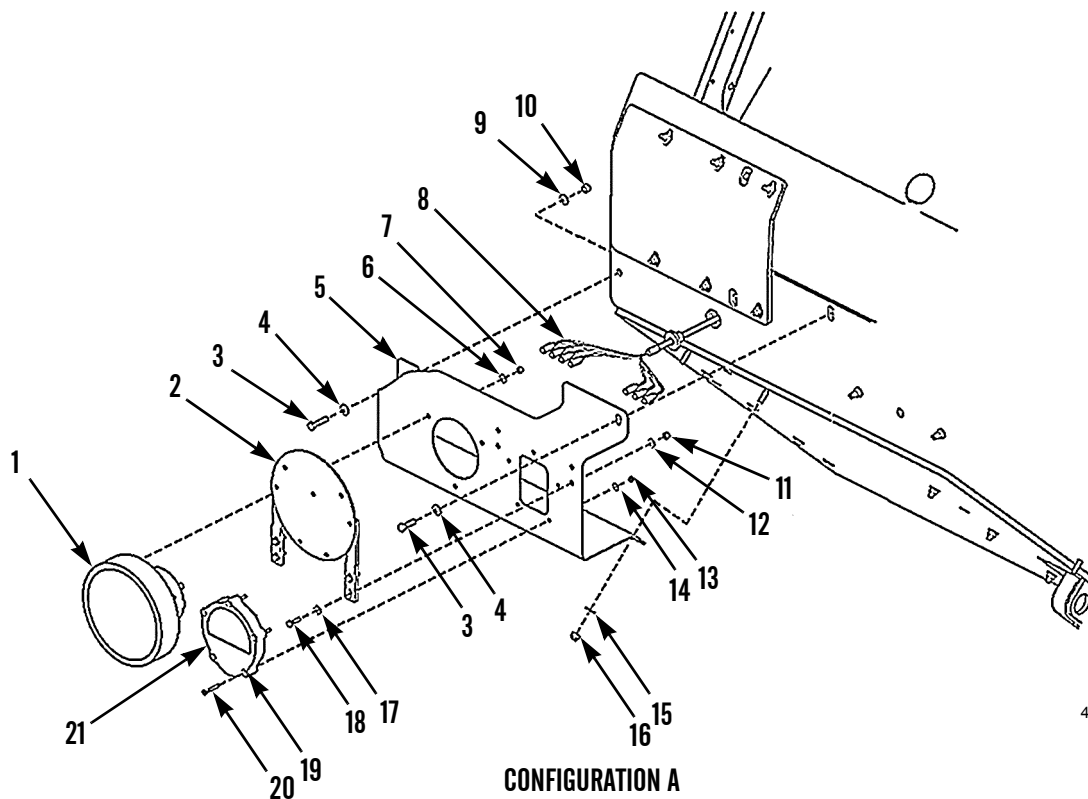
HEADLIGHT AND COMPOSITE LIGHT REPLACEMENT - CONTINUED**0020 00****CLEANING AND INSPECTION**

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

INSTALLATION (CONFIGURATION A)**NOTE**

- The following procedure covers both left and right headlight assemblies (Configuration A).
- Right headlight assembly (Configuration A) is illustrated.

1. Position headlight bracket (5) over mounting holes on lower brush guard.
2. Install two washers (4), bolts (3), washers (9), and new locknuts (10) to top of headlight bracket (5).
3. Install three washers (15) and new locknuts (16) to bottom of headlight bracket (5).
4. On right side only, install weight classification marker (2) to headlight bracket (5) with four washers (17), bolts (18), washers (12), and new locknuts (11).
5. Install composite light (21) to headlight bracket (5) with five washers (19), bolts (20), washers (14), and new locknuts (13).
6. Install headlight (1) to headlight bracket (5) with three washers (6) and new locknuts (7).
7. Connect jumper harness connectors (8) to headlight (1) and composite light (21).



417-026

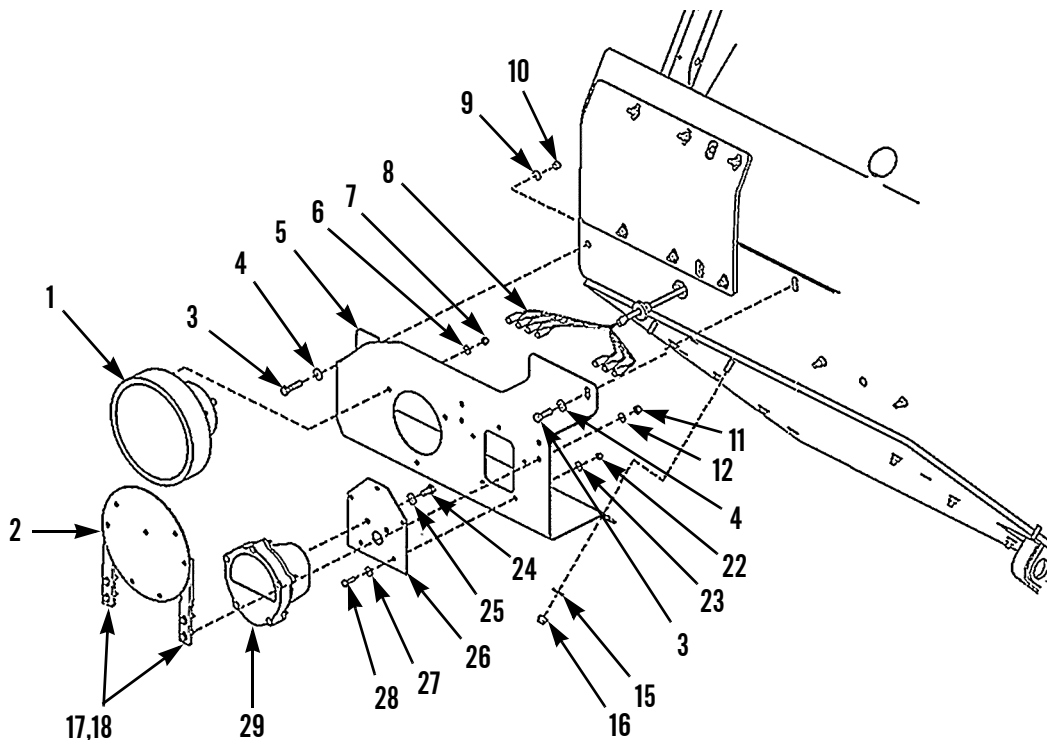
HEADLIGHT AND COMPOSITE LIGHT REPLACEMENT - CONTINUED**0020 00****INSTALLATION (CONFIGURATION A) - CONTINUED**

8. If equipped, place battery disconnect switch in ON position (TM 9-2320-364-10).
9. Check operation of headlights and composite lights (TM 9-2320-364-10).

INSTALLATION (CONFIGURATION B)**NOTE**

- The following procedure covers both left and right headlight assemblies (Configuration B).
- Right headlight assembly (Configuration B) is illustrated.

1. Position headlight bracket (5) over mounting holes on lower brush guard.
2. Install two washers (4), bolts (3), washers (9), and new locknuts (10) to top of headlight bracket (5).
3. Install three washers (15) and new locknuts (16) to bottom of headlight bracket (5).
4. On right side only, install weight classification marker (2) to headlight bracket (5) with four washers (17), bolts (18), washers (12), and new locknuts (11).
5. Install composite light (29) to headlight adapter (26) with two washers (25) and bolts (24).
6. Install headlight adapter (26) with composite light (29) to headlight bracket (5) with five washers (27), bolts (28), washers (23), and new locknuts (22).
7. Install headlight (1) to headlight bracket (5) with three washers (6) and new locknuts (7).
8. Connect jumper harness connectors (8) to headlight (1) and composite light (29).

**CONFIGURATION B**

417-027

9. Connect battery cables (TM 9-2320-364-20).
10. Check operation of headlights and composite lights (TM 9-2320-364-10).

END OF WORK PACKAGE

BLACKOUT DRIVE LIGHT REPLACEMENT	0021 00
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THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level

Unit

Tools and Special Tools

Tool Kit, General Mechanic’s (Item 10, WP 0032 00)

Materials/Parts

Locknut

References

WP 0011 00

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

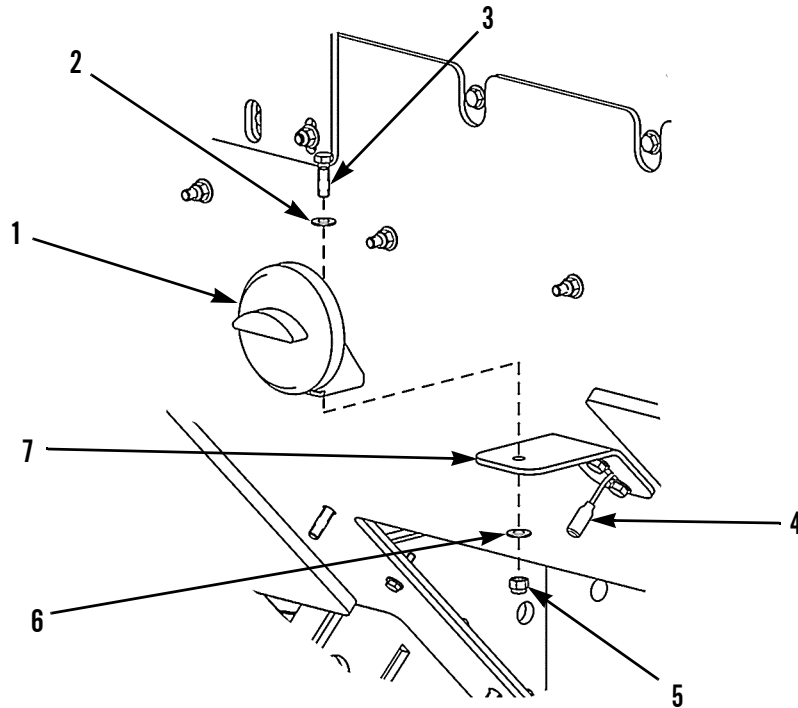
Parking/Emergency Brake applied (TM 9-2320-364-10)

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

Disconnect battery cables (TM 9-2320-364-20)

BLACKOUT DRIVE LIGHT REPLACEMENT - CONTINUED**0021 00****REMOVAL**

1. Disconnect blackout drive electrical connector (4).
2. Remove locknut (5), washer (6), bolt (3), washer (2), and blackout drive light (1) from bracket (7). Discard locknut.



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CLEANING AND INSPECTION

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

INSTALLATION

1. Install blackout drive light (1), washer (2), bolt (3), washer (6), and new locknut (5) on bracket (7).
2. Connect blackout drive electrical connector (4).
3. Connect battery cables (TM 9-2320-364-20).
4. Check operation of blackout drive light (TM 9-2320-364-10).

END OF WORK PACKAGE

ESCAPE HATCH ASSEMBLY MAINTENANCE

0022 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 10, WP 0032 00)

Shop Equipment, Common No. 1 (Item 8, WP 0032 00)

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Parking/Emergency Brake applied (TM 9-2320-364-10)

Materials/Parts

Locknut (12)

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

References

WP 0011 00

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)

REMOVAL



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

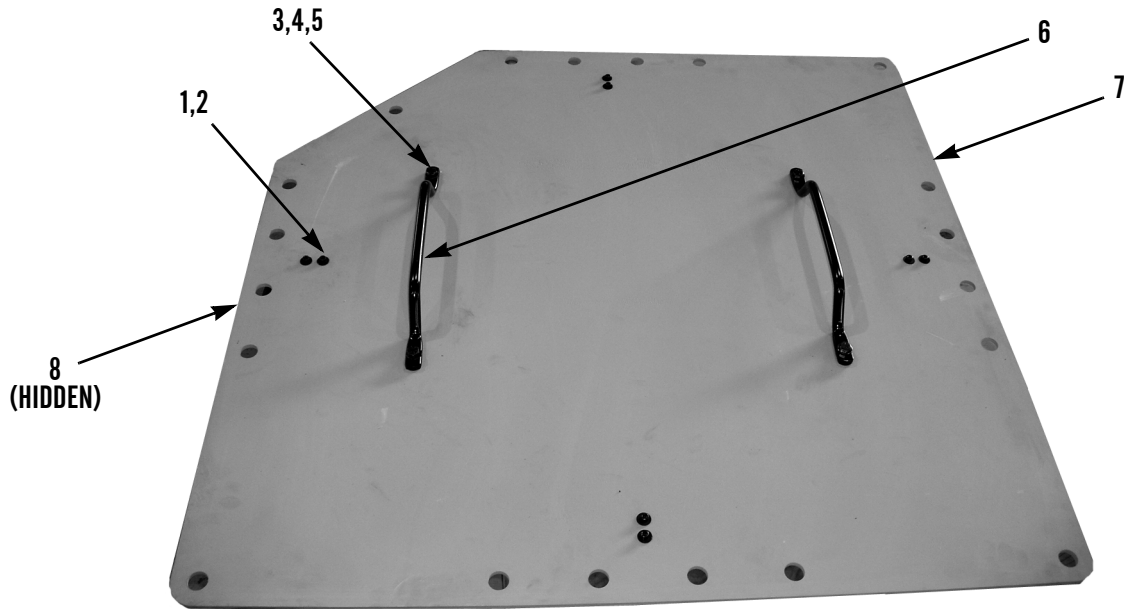
Escape hatch weighs 60 lb (27 kg).

With assistance, unlatch escape hatch and remove from roof (WP 0004 00).

ESCAPE HATCH ASSEMBLY MAINTENANCE - CONTINUED

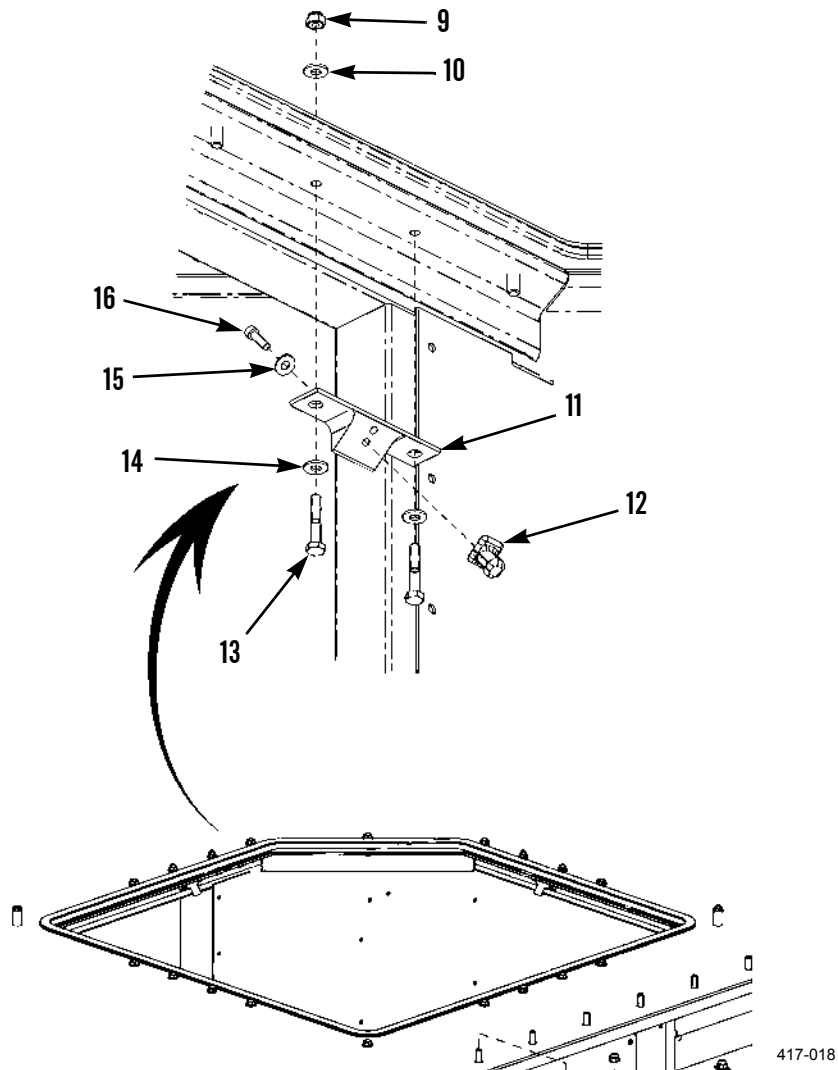
0022 00**DISASSEMBLY**

1. Remove eight bolts (1), washers (2), and four draw latch T-handles (8) from underside of escape hatch (7).
2. Remove four bolts (3), eight washers (4), and locknuts (5) from two escape hatch handles (6). Discard locknuts.



417-068

3. Remove eight locknuts (9), washers (10), bolts (13), washers (14), and four escape hatch brackets (11) from roof. Discard locknuts.
4. Remove four bolts (16), washers (15), and keeper pins (12) from four escape hatch brackets (11).

ESCAPE HATCH ASSEMBLY MAINTENANCE - CONTINUED**0022 00****DISASSEMBLY - CONTINUED****CLEANING AND INSPECTION**

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

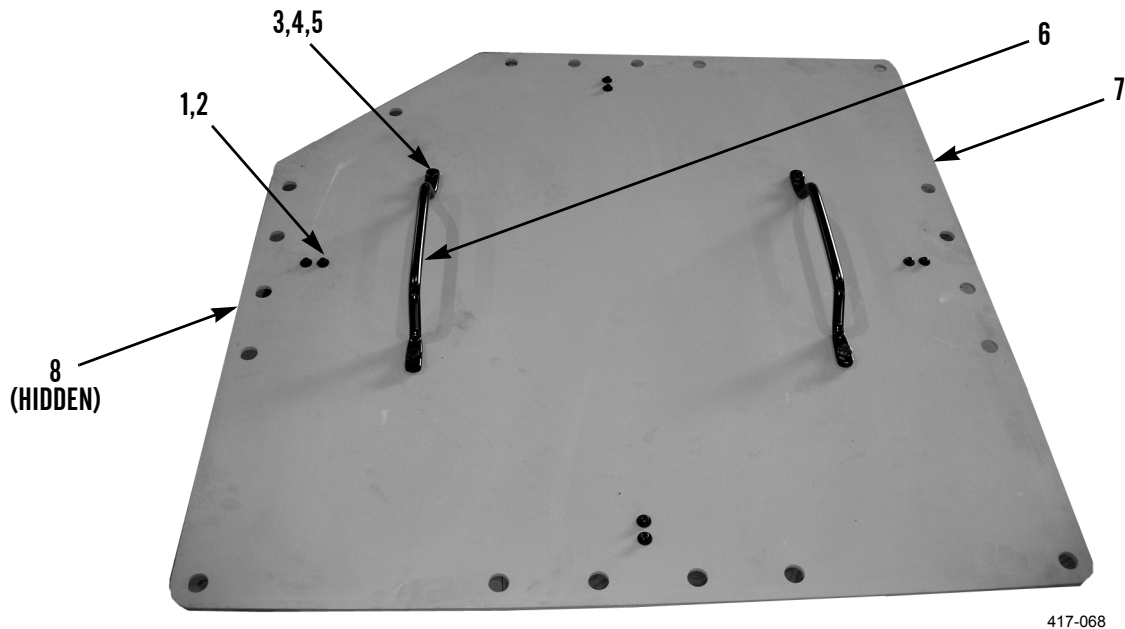
ASSEMBLY**CAUTION**

Do not overtighten draw latch component mounting hardware, or damage to draw latch components may result.

1. Install four keeper pins (12) to four escape hatch brackets (11) with four washers (15) and bolts (16). Tighten bolts to 36 lb-in. (4 Nm).
2. Install four escape hatch brackets (11) to roof with eight washers (14), bolts (13), washers (10), and new locknuts (9).

ESCAPE HATCH ASSEMBLY MAINTENANCE - CONTINUED**0022 00****ASSEMBLY - CONTINUED**

3. Install two escape hatch handles (6) on top of escape hatch (7) with four bolts (3), eight washers (4), and four new lock-nuts (5).
4. Install four draw latch T-handles (8) on underside of escape hatch (7) with eight washers (2) and bolts (1).

**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 to personnel.

NOTE

Escape hatch weighs 61 lb (28 kg).

Using assistance, install escape hatch (7) on roof and latch (WP 0004 00).

END OF WORK PACKAGE

ROOF ARMOR REPLACEMENT

0023 00

THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level	References
Unit	WP 0011 00
Tools and Special Tools	Personnel Required
Tool Kit, General Mechanic’s (Item 10, WP 0032 00)	Two
Shop Equipment, Common No. 1 (Item 8, WP 0032 00)	Equipment Conditions
Sling (Item 9, WP 0032 00)	Vehicle parked on level ground (TM 9-2320-364-10)
Lifting Device (500-lb capacity)	Parking/Emergency Brake applied (TM 9-2320-364-10)
Materials/Parts	Engine off (TM 9-2320-364-10)
Adhesive, Thread (Item 1, WP 0033 00)	If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)
Rag, Wiping (Item 7, WP 0033 00)	Escape Hatch Assembly removed (WP 0022 00)
Sealing Compound, Urethane (Item 8, WP 0033 00)	
Locknut (40)	

ROOF ARMOR REPLACEMENT - CONTINUED

0023 00**REMOVAL**

1. Loosen 10 bolts (15) on two front roof brackets (14).
2. Remove 12 locknuts (17), washers (16), and two front roof brackets (14). Discard eight locknuts.
3. Reinstall two locknuts (17) on both stud plates (18) to keep stud plates attached to roof armor (19) during removal. Hand tighten locknuts.
4. Remove 20 locknuts (20), washers (21), and two spacers (13) from around the escape hatch opening. Discard locknuts.
5. Remove eight bolts (2), washers (3), locknuts (4), and washers (5) from two antenna brackets (1). Discard locknuts.

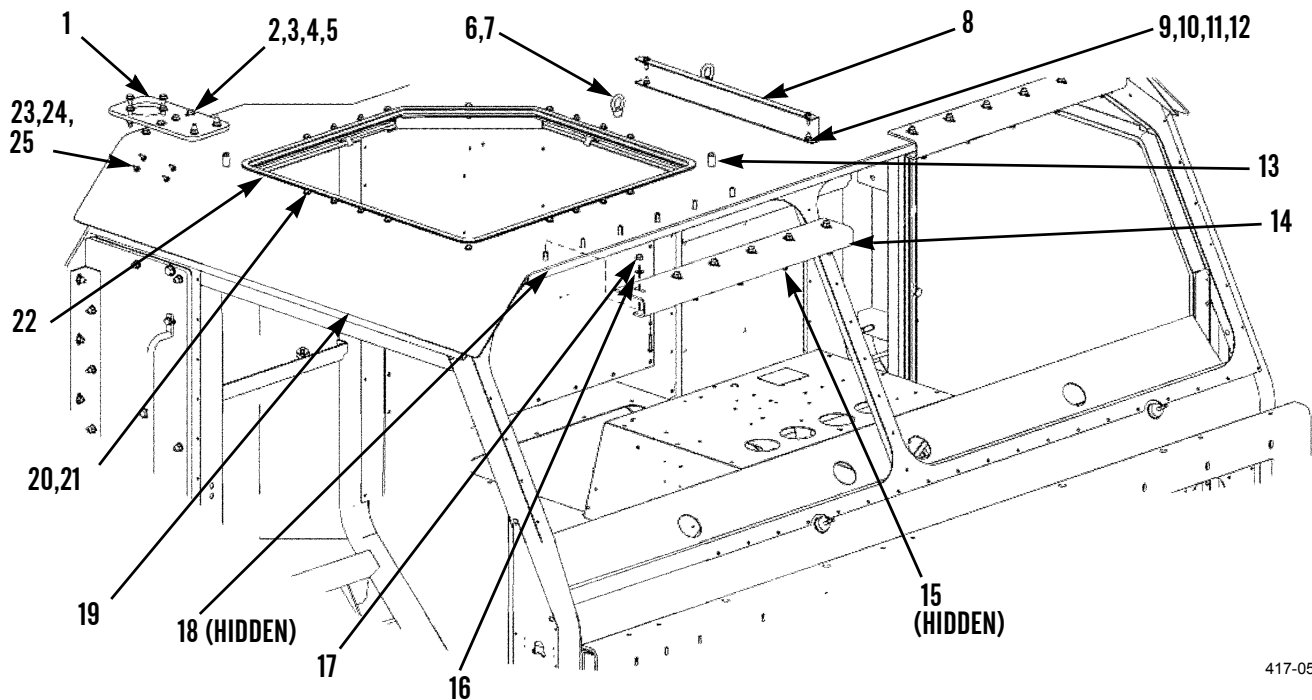
**WARNING**

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

Roof armor weighs 219 lb (99.3 kg).

6. Attach sling and lifting device to lifting eyes (6) on roof armor (19).
7. Using lifting device, lift roof armor (19) from cab roof and place on flat surface.
8. Remove sling and lifting device from lifting eyes (6).
9. Remove four locknuts (17) and two stud plates (18) from front of roof armor (19). Discard locknuts.
10. If damaged, remove escape hatch seal (22) from roof armor (19).
11. Remove four locknuts (23), washers (24), and stud plate (25) from roof armor (19).
12. Remove four locknuts (9), washers (10), bolts (12), washers (11), and two storage brackets (8) from roof armor (19).
13. If necessary, remove two lifting eyes (6) and stud plate (7) from roof armor (19).

REMOVAL - CONTINUED

417-055

CLEANING AND INSPECTION

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

INSTALLATION

1. If removed, install stud plate (7) and two lifting eyes (6) on roof armor (19).
2. Install two storage brackets (8), four washers (11), bolts (12), washers (10), and new locknuts (9) on roof armor (19).
3. Install stud plate (25), four washers (24), and new locknuts (23) on roof armor (19).
4. If removed, install new escape hatch seal (22) on roof armor (19).
5. Install two stud plates (18) on front edge of roof armor (19). Hold stud plates to roof armor with two loosely installed locknuts (17) on each stud plate.

**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.

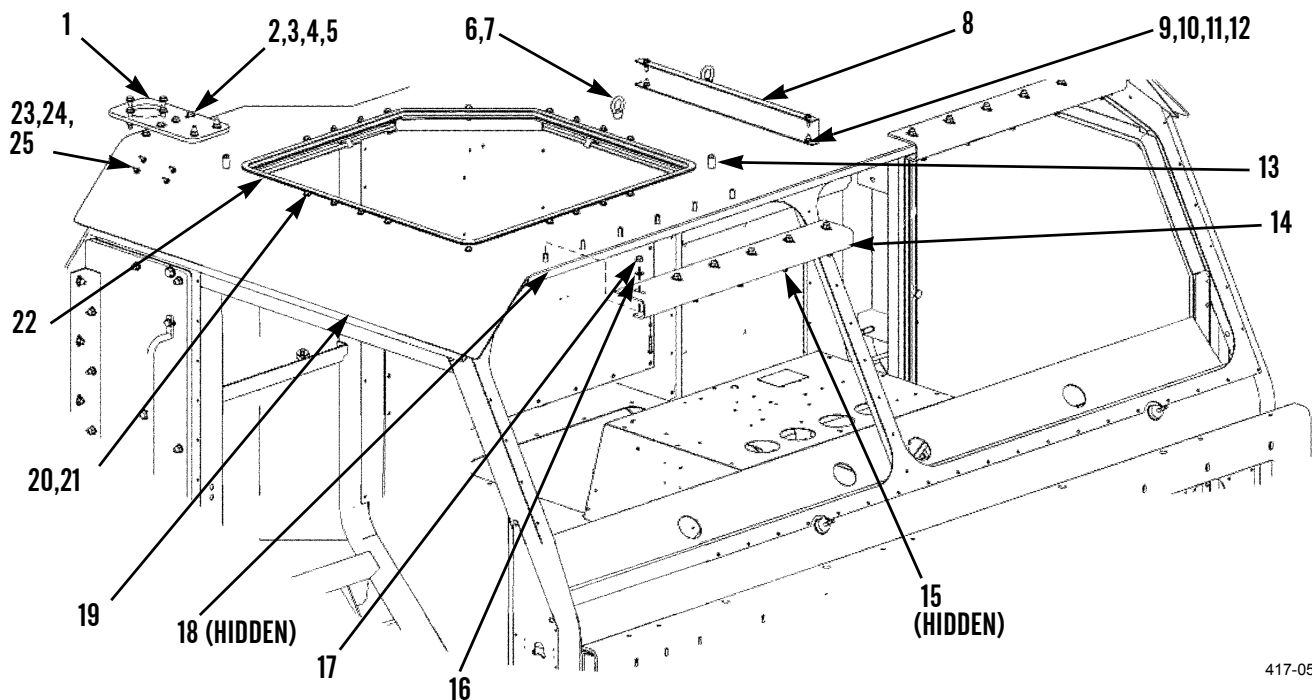
NOTE

Roof armor weighs 219 lb (99.3 kg).

6. Attach sling and lifting device to two lifting eyes (6).

ROOF ARMOR REPLACEMENT - CONTINUED**0023 00****INSTALLATION - CONTINUED**

7. Use lifting device to install roof armor (19) on cab roof, aligning holes in right side of roof armor with holes in cab roof.
8. Remove sling and lifting device from roof armor (19).
9. Install 20 washers (21), new locknuts (20), and two spacers (13) around escape hatch opening.
10. Remove two loosely installed locknuts (17) from two stud plates (18).
11. Install two roof armor brackets (14), 12 washers (16), and new locknuts (17) on roof armor (19).
12. Tighten 10 bolts (15) on roof armor brackets (14).
13. Install eight washers (5), bolts (2), washers (3), and new locknuts (4) on two antenna brackets (1).



417-055

**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.

14. Apply bead of sealing compound around escape hatch opening between roof armor (19) and existing roof.
15. Install escape hatch assembly (WP 0022 00).

END OF WORK PACKAGE

REAR CAB (RIGHT) ARMOR REPLACEMENT0024 00

THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level

Unit

References

WP 0011 00

Tools and Special Tools

Tool Kit, General Mechanic’s (Item 10, WP 0032 00)

Shop Equipment, Common No. 1 (Item 8, WP 0032 00)

Link, Lifting (Item 6, WP 0032 00)

Sling (Item 9, WP 0032 00)

Lifting Device (500-lb capacity)

Personnel Required

Two

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Parking/Emergency Brake applied (TM 9-2320-364-10)

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

Disconnect battery cables (TM 9-2320-364-20)

Roof Armor removed (WP 0023 00)

Materials/Parts

Rag, Wiping (Item 7, WP 0033 00)

Locknut (10)

REAR CAB (RIGHT) ARMOR REPLACEMENT - CONTINUED**0024 00****REMOVAL**

1. With assistance, remove locknut (13), washer (12), bolt (11), washer (10), and two armored washers (14). Discard locknut.
2. Remove three locknuts (8), washers (9), bolts (3), washers (4), and bracket (7) from right rear cab armor (15). Discard locknuts.
3. Install lifting link, sling, and lifting device in top-center hole of right-rear cab armor (15).
4. Remove six locknuts (1), washers (2), bolts (6), and washers (5) from right rear cab armor (15). Discard locknuts.

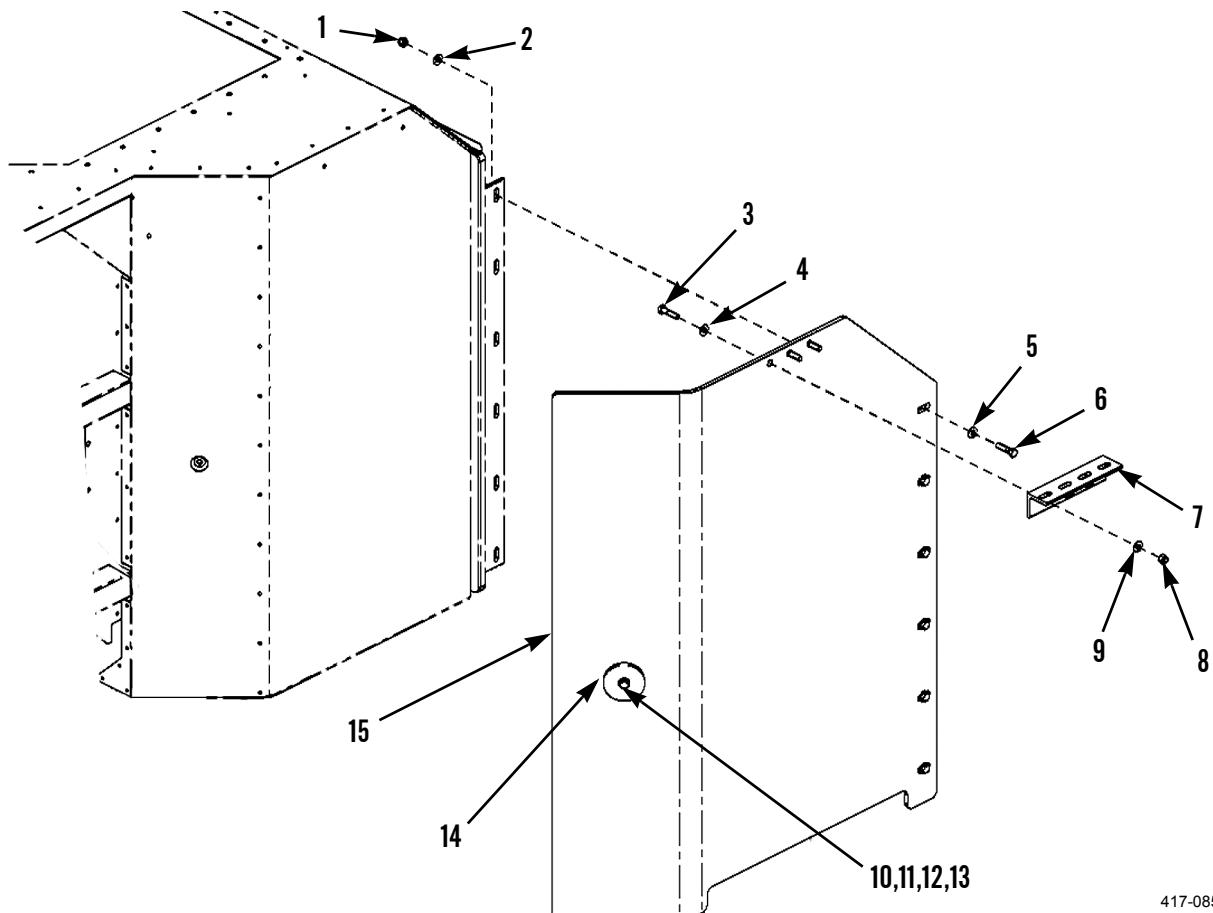
**WARNING**

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 (right) armor weighs 100 lb (45 kg).

5. Use lifting device to remove right rear cab armor (15) from vehicle.
6. Remove lifting device, sling, and lifting link from right rear cab armor (15).



417-085

REAR CAB (RIGHT) ARMOR REPLACEMENT - CONTINUED

0024 00**CLEANING AND INSPECTION**

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

INSTALLATION**CAUTION**

Secure all hoses, lines, and electrical harnesses near bottom of right rear cab wall away from cab wall. Do not allow rear cab (right) armor to rest on any hose, line, or electrical harness. Failure to follow this caution will result in damage to vehicle.

1. Check installation area of rear cab (right) armor for hoses, lines, and electrical harnesses. If necessary, reposition and secure components away from rear cab (right) armor installation area.

**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 (right) armor weighs 100 lb (46 kg).

2. Install lifting link, sling, and lifting device in top-center hole of right rear cab armor (15).
3. Use lifting device to install right rear cab armor (15) on vehicle.
4. Install six washers (5), bolts (6), washers (2), and new locknuts (1) on right rear cab armor (15).

NOTE

One armored washer is located on interior of cab and one armored washer is located on exterior of cab.

5. With assistance, install two armored washers (14), washer (10), bolt (11), washer (12) and new locknut (13) on rear of cab.
6. Install bracket (7), three washers (4), bolts (3), washers (9) and new locknuts (8) on top of right rear armor (15).
7. Install roof armor (WP 0023 00).
8. Connect battery cables (TM 9-2320-364-20).

END OF WORK PACKAGE

REAR CAB (LEFT) ARMOR REPLACEMENT	0025 00
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THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level

Unit

References

WP 0011 00

Tools and Special Tools

Tool Kit, General Mechanic’s (Item 10, WP 0032 00)

Shop Equipment, Common No. 1 (Item 8, WP 0032 00)

Link, Lifting (Item 6, WP 0032 00)

Sling (Item 9, WP 0032 00)

Lifting Device (500-lb capacity)

Personnel Required

Two

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Parking/Emergency Brake applied (TM 9-2320-364-10)

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

Disconnect battery cables (TM 9-2320-364-20)

Roof Armor removed (WP 0023 00)

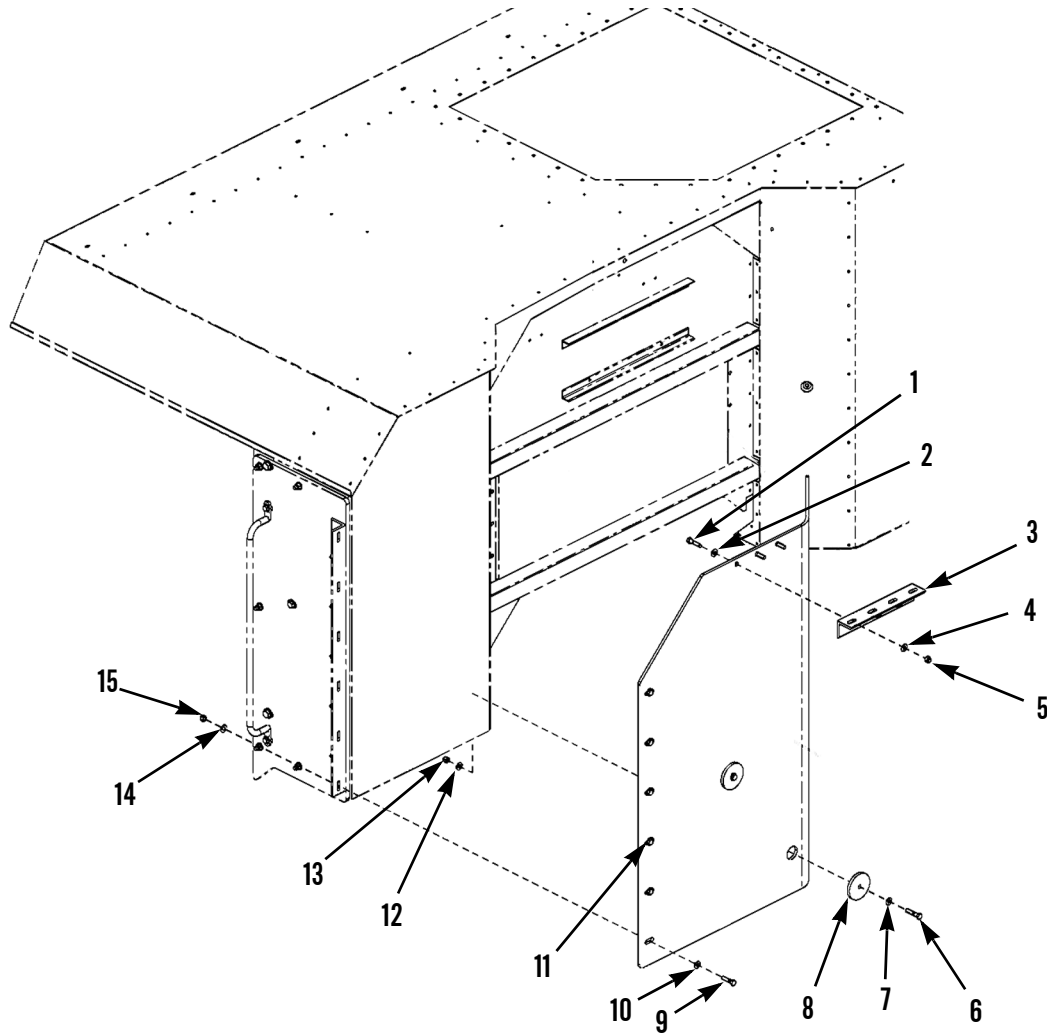
Materials/Parts

Rag, Wiping (Item 7, WP 0033 00)

Locknut (11)

REAR CAB (LEFT) ARMOR REPLACEMENT - CONTINUED**0025 00****REMOVAL**

1. With assistance, remove two locknuts (13), washer (12), bolt (6), washer (7), and armored washers (8). Discard locknuts.
2. Remove three locknuts (5), washers (4), bolts (1), washers (2), and bracket (3) from left rear cab armor (11). Discard locknuts.
3. Install lifting link, sling, and lifting device in top-center hole of left rear cab armor (11).
4. Remove six locknuts (15), washers (14), bolts (9), and washers (10) from left rear cab armor (11). Discard locknuts.



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REAR CAB (LEFT) ARMOR REPLACEMENT - CONTINUED**0025 00****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

Rear cab (left) armor weighs 100 lb (46 kg).

5. Use lifting device to remove left rear cab armor (11) from vehicle.
6. Remove lifting device, sling, and lifting link from left rear cab armor (11).

CLEANING AND INSPECTION

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

INSTALLATION**CAUTION**

Secure all hoses, lines, and electrical harnesses near bottom of right-rear cab wall away from cab wall. Do not allow rear cab (right) armor to rest on any hose, line, or electrical harness. Failure to follow this caution will result in damage to vehicle.

1. Check installation area of rear cab (right) armor for hoses, lines, and electrical harnesses. If necessary, reposition and secure components away from rear cab (right) armor installation area.
2. Install lifting link, sling, and lifting device in top-center hole of left rear cab armor (11).

**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 (left) armor weighs 100 lb (46 kg).

3. Use lifting device to install left rear cab armor (11) on vehicle.
4. Install six washers (10), bolts (9), washers (14), and new locknuts (15) on left rear cab armor (11).
5. With assistance, install two armored washers (8), washer (7), bolt (6), washer (12), and new locknuts (13) on rear of cab.
6. Install bracket (3), three washers (2), bolts (1), washers (4), and new locknuts (5) on top of left rear armor (11).
7. Install roof armor (WP 0023 00).
8. Connect battery cables (TM 9-2320-364-20).

END OF WORK PACKAGE

SIDE BLAST DEFLECTOR REPLACEMENT

0026 00

THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level	References
Unit	WP 0011 00
Tools and Special Tools	Personnel Required
Tool Kit, General Mechanic’s (Item 10, WP 0032 00)	Two
Shop Equipment, Common No. 1 (Item 8, WP 0032 00)	Equipment Conditions
Lifting Device (500-lb capacity)	Vehicle parked on level ground (TM 9-2320-364-10)
Materials/Parts	Parking/Emergency Brake applied (TM 9-2320-364-10)
Rag, Wiping (Item 7, WP 0033 00)	Engine off (TM 9-2320-364-10)
Tag, Marker (Item 10, WP 0033 00)	Disconnect battery cables (TM 9-2320-364-20)
Locknut (8)	Step removed (TM 9-2320-364-20)

NOTE

The following procedure is for left side blast deflector. Right side blast deflector is identical.

SIDE BLAST DEFLECTOR REPLACEMENT - CONTINUED

0026 00**REMOVAL**

1. Attach and secure lifting device under side blast deflector (11).

NOTE

Bolt lengths are not the same. Tag bolts to ensure correct installation.

2. With assistance, remove locknut (17), washer (18), bolt (5), washer (6), and doubler plate (24) from front of side blast deflector (11). Discard locknut.
3. Remove two locknuts (15), washers (16), bolts (7), and washers (8) from front of side blast deflector (11). Discard locknuts.
4. Remove two locknuts (12), washers (13), stud plate (23), and cover panel (14) from side blast deflector (11). Discard locknuts.
5. Remove locknut (21), washer (22), bolt (1), and washer (2) from front of side blast deflector (11). Discard locknut.
6. Remove two locknuts (19), washers (20), bolts (3), washers (4), and doubler plate (24) from front of side blast deflector (11). Discard locknuts.
7. Remove four bolts (9) and washers (10) from rear of side blast deflector (11).

**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.

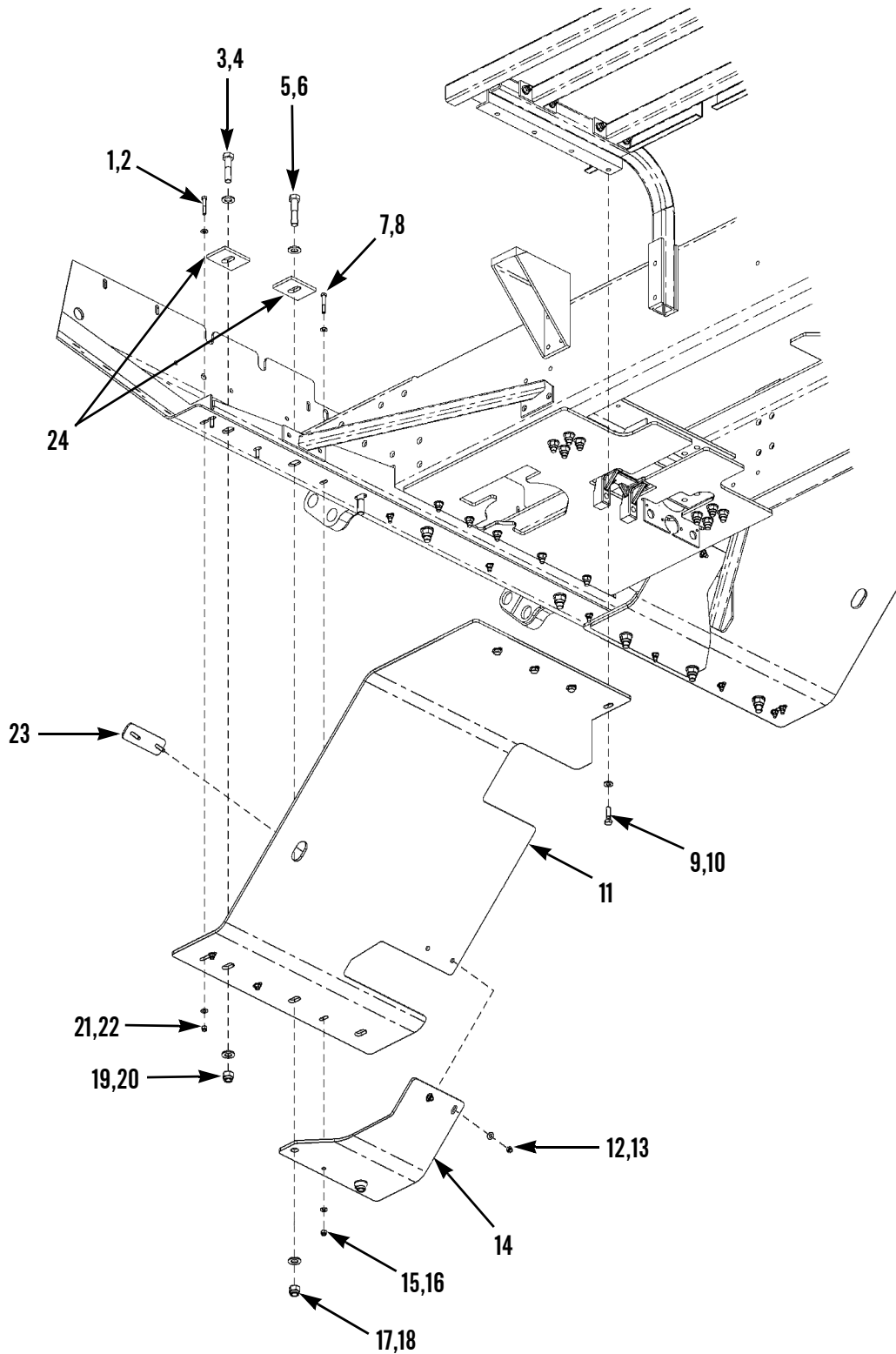
NOTE

- Left side blast deflector weighs 178 lb (80.7 kg).
 - Right side blast deflector weighs 196 lb (89 kg).
8. Use lifting device to remove side blast deflector (11).

SIDE BLAST DEFLECTOR REPLACEMENT - CONTINUED

0026 00

REMOVAL - CONTINUED



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SIDE BLAST DEFLECTOR REPLACEMENT - CONTINUED

0026 00**CLEANING AND INSPECTION**

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

INSTALLATION**CAUTION**

Secure all hoses, lines, and electrical harnesses near installation area of side blast deflector. Do not allow side blast deflector to pinch any hose, line, or electrical harness. Failure to follow this caution will result in damage to vehicle.

1. Check installation area of side blast deflector for hoses, lines, and electrical harnesses. If necessary, reposition and secure components away from side blast deflector installation area.

**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 178 lb (80.7 kg).
 - Right side blast deflector weighs 196 lb (89 kg).
2. Attach and secure lifting device under side blast deflector (11). Move side blast deflector into position under vehicle.

NOTE

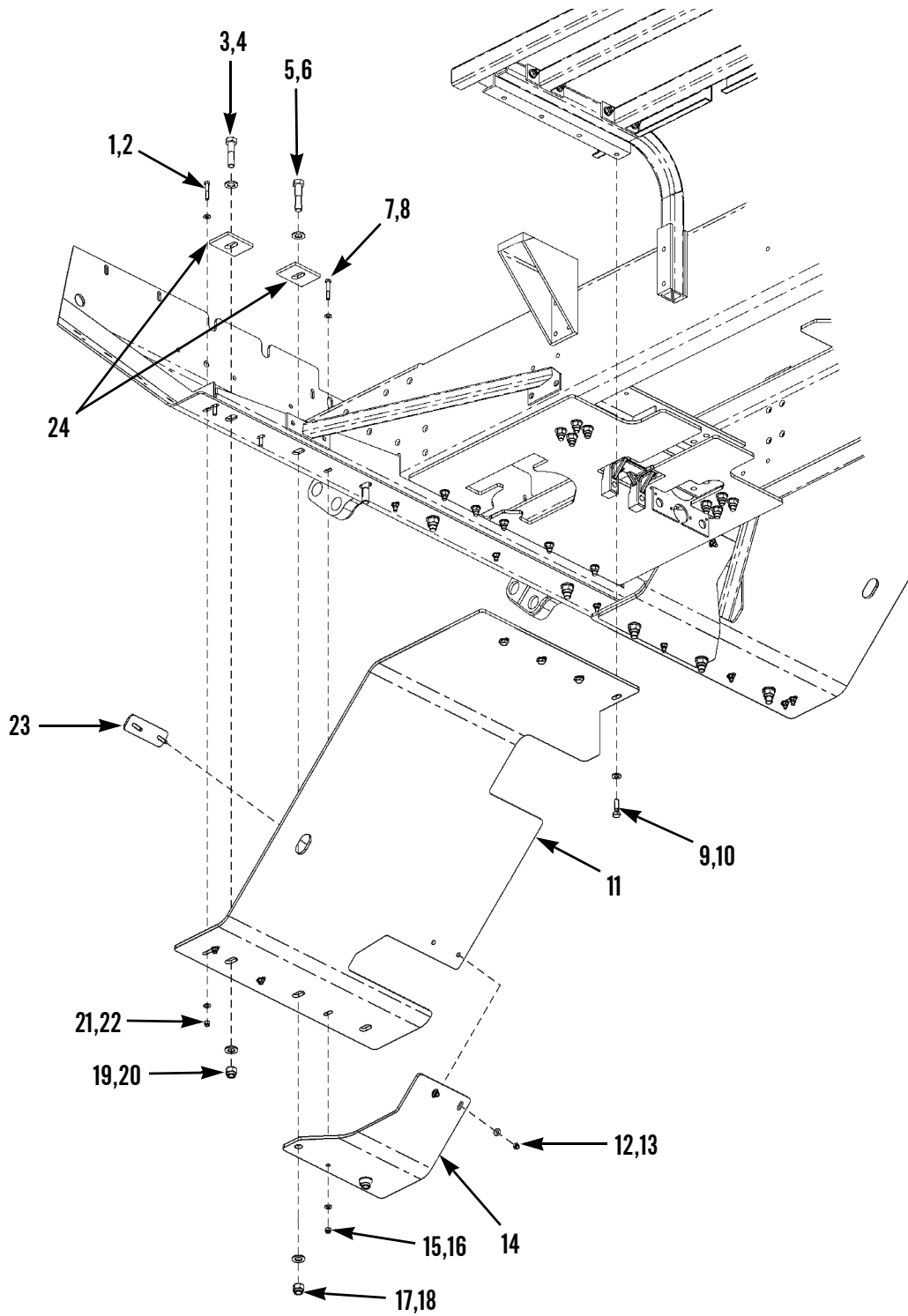
Bolt lengths are not the same. Ensure bolts are installed as tagged.

3. Install four washers (10) and bolts (9) on rear of side blast deflector (11).
4. Install washer (2), bolt (1), washer (22), and new locknut (21) on front of side blast deflector.
5. Install two doubler plates (24), washers (4), bolts (3), washers (20), and new locknuts (19).
6. Install stud plate (23), cover panel (14), two washers (13), and new locknuts (12) on cover panel (14).
7. Install doubler plate (24), washer (6), bolt (5), washer (18), and new locknut (17).
8. Install two washers (8), bolts (7), washers (16), and new locknuts (15).
9. Install step (TM 2320-364-20).
10. Connect battery cables (TM 9-2320-364-20).

SIDE BLAST DEFLECTOR REPLACEMENT - CONTINUED

0026 00

INSTALLATION - CONTINUED



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END OF WORK PACKAGE

0026 00-5/(0026 00-6 Blank)

CENTER BLAST DEFLECTOR REPLACEMENT	0027 00
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THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level

Unit

Tools and Special Tools

Tool Kit, General Mechanic’s (Item 10, WP 0032 00)

Shop Equipment, Common No. 1 (Item 8, WP 0032 00)

Lifting Device (500-lb capacity)

Materials/Parts

Rag, Wiping (Item 7, WP 0033 00)

Locknut (16)

References

WP 0011 00

TM 9-2320-364-20

Personnel Required

Two

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Parking/Emergency Brake applied (TM 9-2320-364-10)

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

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)

Air Tanks drained (TM 9-2320-364-10)

CENTER BLAST DEFLECTOR REPLACEMENT - CONTINUED**0027 00****REMOVAL**

1. Remove two glad hands (11), nuts (9), and hoses (8) from bracket under center blast deflector (17).
2. Remove two nuts (14), washers (13), bolts (12), and electrical connector (10) from bracket under center blast deflector (17).
3. Remove nut (4), washer (5), and bolt (1) from pitman arm (2).

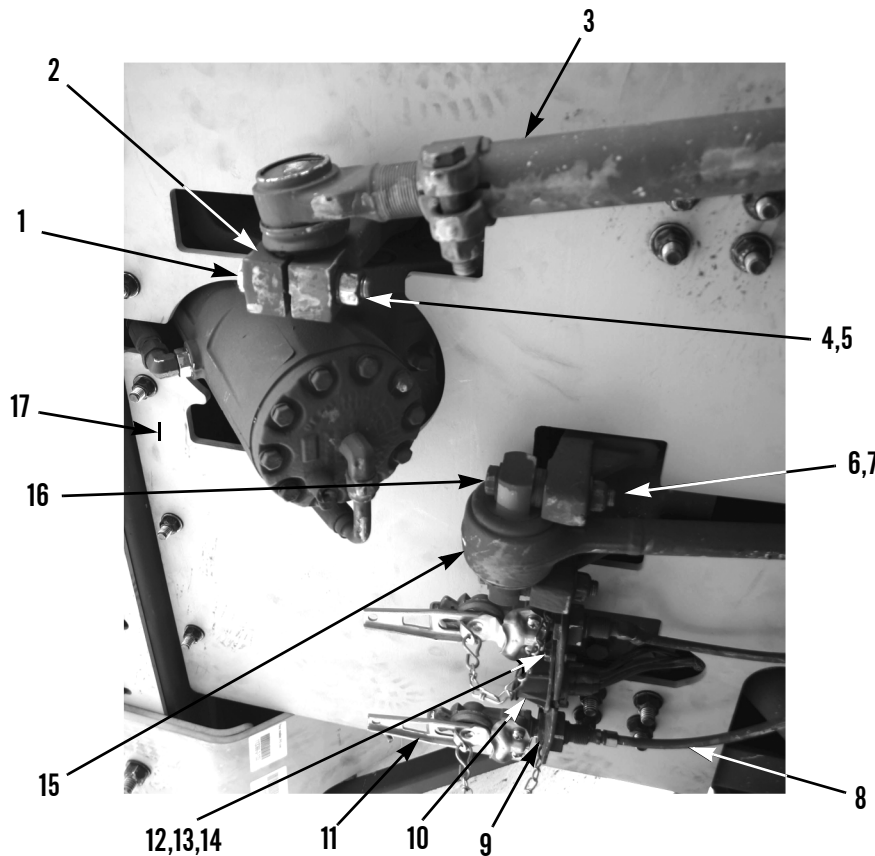
WARNING

Do not move vehicle while the steering link is disconnected. Failure to follow this warning may result in personnel injury or death.

CAUTION

Do not move vehicle while the steering link or torque rod is disconnected. If vehicle is moved, components may become misaligned.

4. Disconnect steering link rod (3) from pitman arm (2).
5. Remove two nuts (6), washers (7), and bolts (16) from torque rod (15). Swing torque rod down and away from center blast deflector (17).



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CENTER BLAST DEFLECTOR REPLACEMENT - CONTINUED**0027 00****REMOVAL - CONTINUED****WARNING**

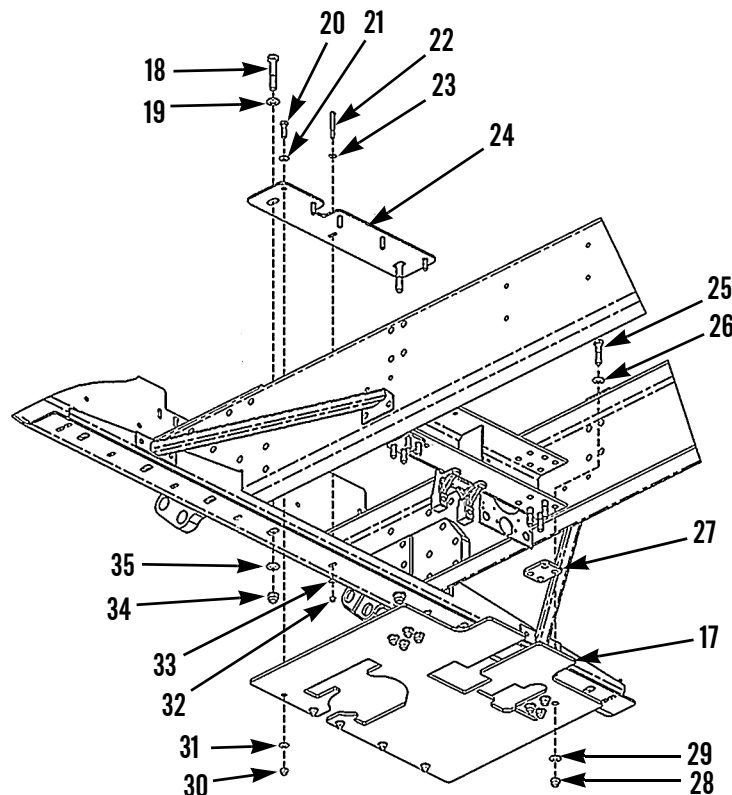
Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury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

6. Attach and secure lifting device under center blast deflector (17).
7. Remove eight locknuts (28), washers (29), bolts (25), and washers (26) from center blast deflector (17). Discard locknuts.

NOTE

Center blast deflector weighs 83 lb (37.6 kg).

8. Remove five locknuts (30), washers (31), bolts (20), and washers (21) from center blast deflector (17). Discard locknuts.
9. Using lifting device, remove center blast deflector (17) and two spacers (27) from under vehicle.
10. Remove two locknuts (34), washers (35), bolts (18), and washers (19) from crossmember. Discard locknuts.
11. Remove locknut (32), washer (33), bolt (22), washer (23), and mounting plate (24) from crossmember. Discard locknut.



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CENTER BLAST DEFLECTOR REPLACEMENT - CONTINUED

0027 00**CLEANING AND INSPECTION**

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

INSTALLATION**WARNING**

Do not move vehicle while the steering link is disconnected. Failure to follow this warning may result in personnel injury or death.

CAUTION

Do not move vehicle while the steering link or torque rod is disconnected. If vehicle is moved, components may become misaligned.

1. Install mounting plate (24), two washers (19), bolts (18), washers (35), and new locknuts (34) on crossmember.
2. Install washer (23), bolt (22), washer (33), and new locknut (32) on crossmember.

**WARNING**

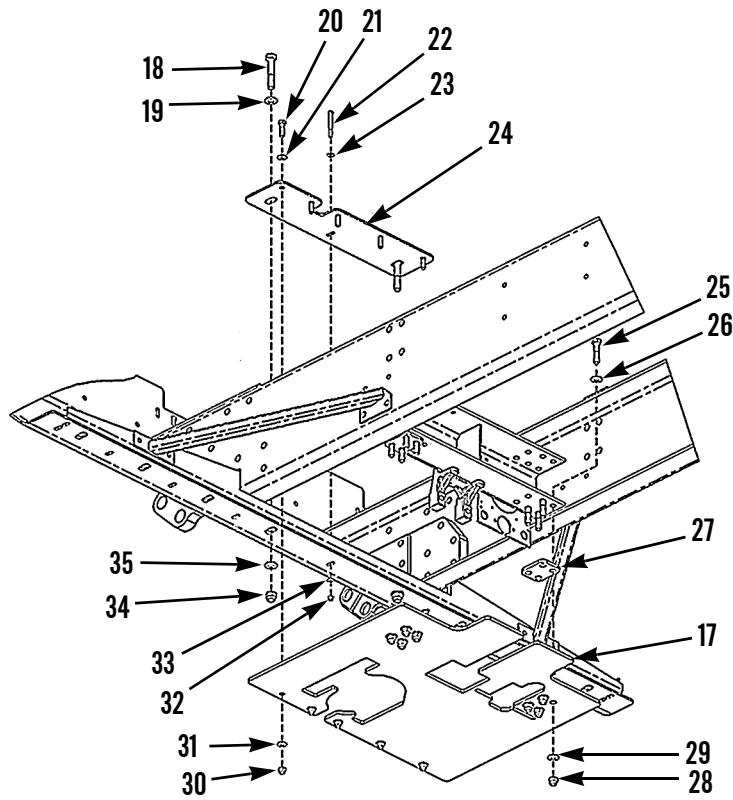
Use extreme caution when handling heavy parts. Provide adequate support and use assistance during procedure. Ensure that any lifting device used is in good condition and of suitable load capacity. Keep clear of heavy parts supported only by lifting device. Failure to follow this warning may cause injury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

NOTE

Center blast deflector weighs 83 lb (37.6 kg).

3. Attach and secure lifting device under center blast deflector (17).
4. Use lifting device to install center blast deflector (17).
5. Position spacer (27) between center blast deflector (17) and vehicle.
6. Install eight washers (26), bolts (25), washers (29), and new locknuts (28) on center blast deflector (17).
7. Install five washers (21), bolts (20), washers (31), and new locknuts (30) on center blast deflector (17).

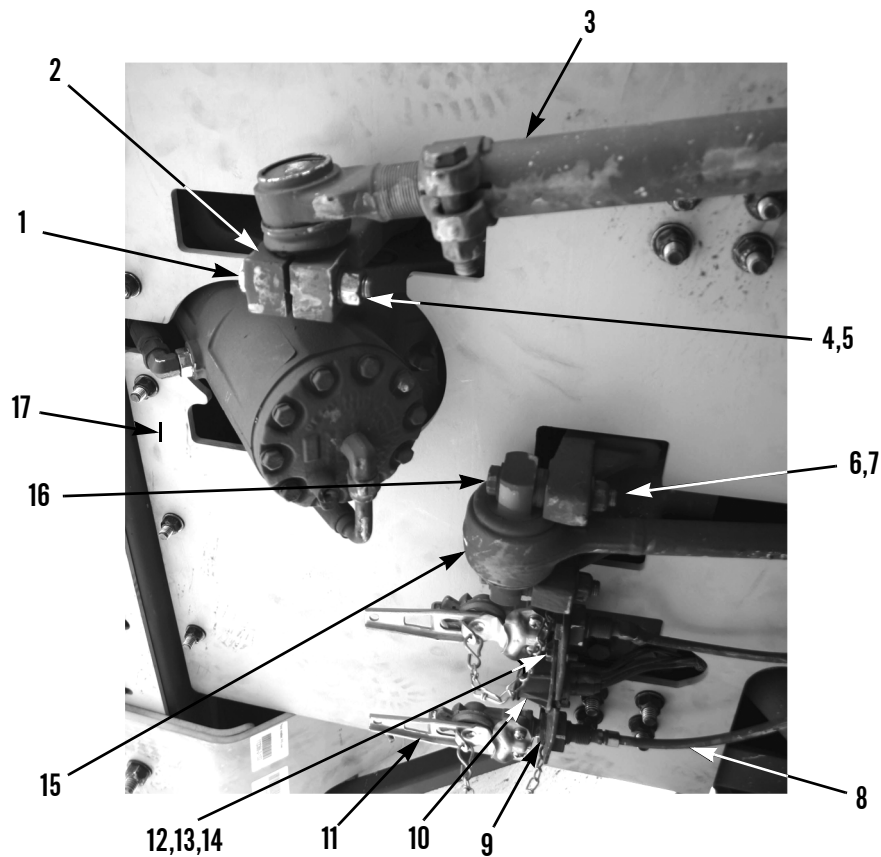
INSTALLATION - CONTINUED



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CENTER BLAST DEFLECTOR REPLACEMENT - CONTINUED**0027 00****INSTALLATION - CONTINUED**

8. Swing torque rod up into position under center blast deflector (17).
9. Install two bolts (16), washers (7), and nuts (6) on torque rod (15).
10. Connect steering link rod (3) to pitman arm (2).
11. Install bolt (1), washer (5), and nut (4) on pitman arm (2).
12. Install electrical connector (10), two bolts (12), washers (13), and nuts (14) on bracket under center blast deflector (17).
13. Install two hoses (8), nuts (9), and glad hands (11) on bracket under center blast deflector (17).



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END OF WORK PACKAGE

CAB SIDE (REAR) ARMOR REPLACEMENT

0028 00

THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level

Unit

References

WP 0011 00

Tools and Special Tools

Tool Kit, General Mechanic's (Item 10, WP 0032 00)

Shop Equipment, Common No. 1 (Item 8, WP 0032 00)

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Parking/Emergency Brake applied (TM 9-2320-364-10)

Materials/Parts

Rag, Wiping (Item 7, WP 0033 00)

Locknuts (11)

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

If equipped, Battery Disconnect Switch in OFF position (TM 9-2320-364-10)

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

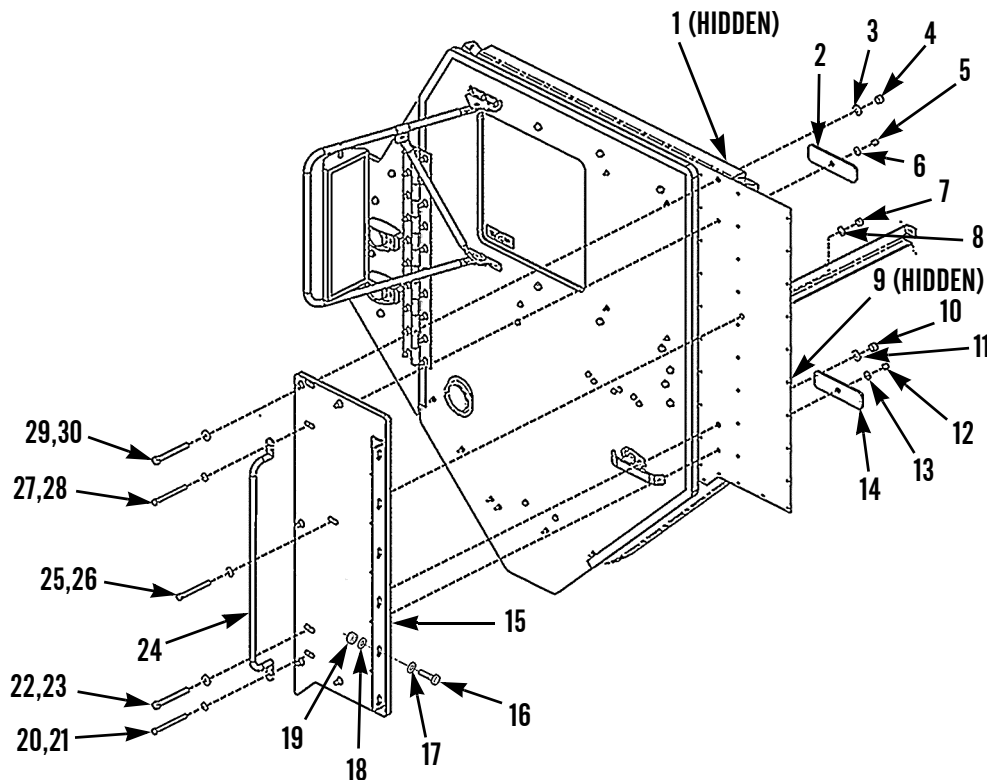
The following procedure is for the left side cab side (rear) armor. The right side is identical.

1. Remove locknut (12), washer (13), attachment plate (14), bolt (20), and washer (21) from handle (24). Discard locknut.
2. Remove locknut (5), washer (6), attachment plate (2), bolt (27), washer (28), and handle (24). Discard locknut.

NOTE

Seat belt brackets in this procedure only apply to vehicles with 3-point seat belts.

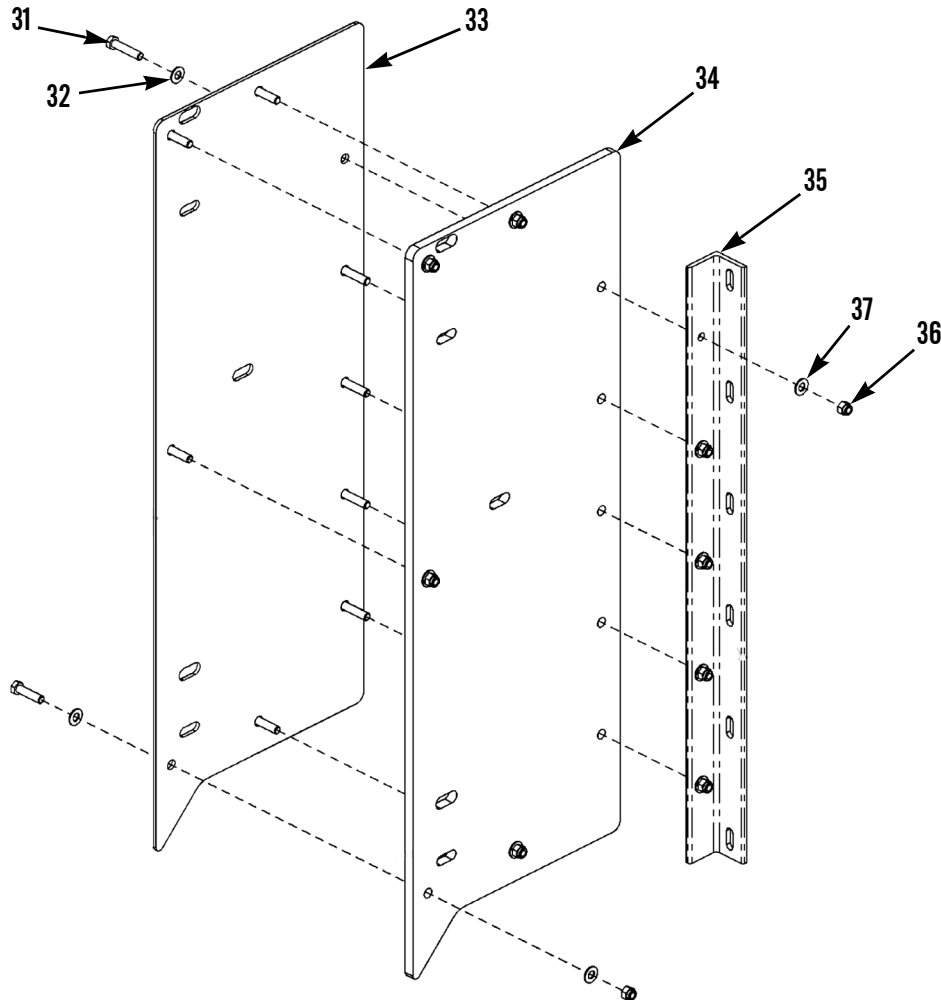
3. Remove locknut (4), washer (3), seat belt bracket (1), bolt (29) and washer (30) from cab side (rear) armor (15). Discard locknut.
4. Remove locknut (10), washer (11), seat belt bracket (9), bolt (22), and washer (23) from cab side (rear) armor (15). Discard locknut.
5. Remove locknut (7), washer (8), bolt (25), and washer (26) from cab side (rear) armor (15). Discard locknut.
6. With assistance, remove six locknuts (19), washers (18), bolts (16), washers (17), and cab side (rear) armor (15) from vehicle. Discard locknuts.



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

7. Remove 10 locknuts (36), washers (37), bracket (35), bolts (31), and washers (32) from cab side (rear) panels (33 and 34).



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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. Install 10 washers (32), bolts (31), bracket (35), washers (37), and new locknuts (36) on cab side (rear) armor (33 and 34).

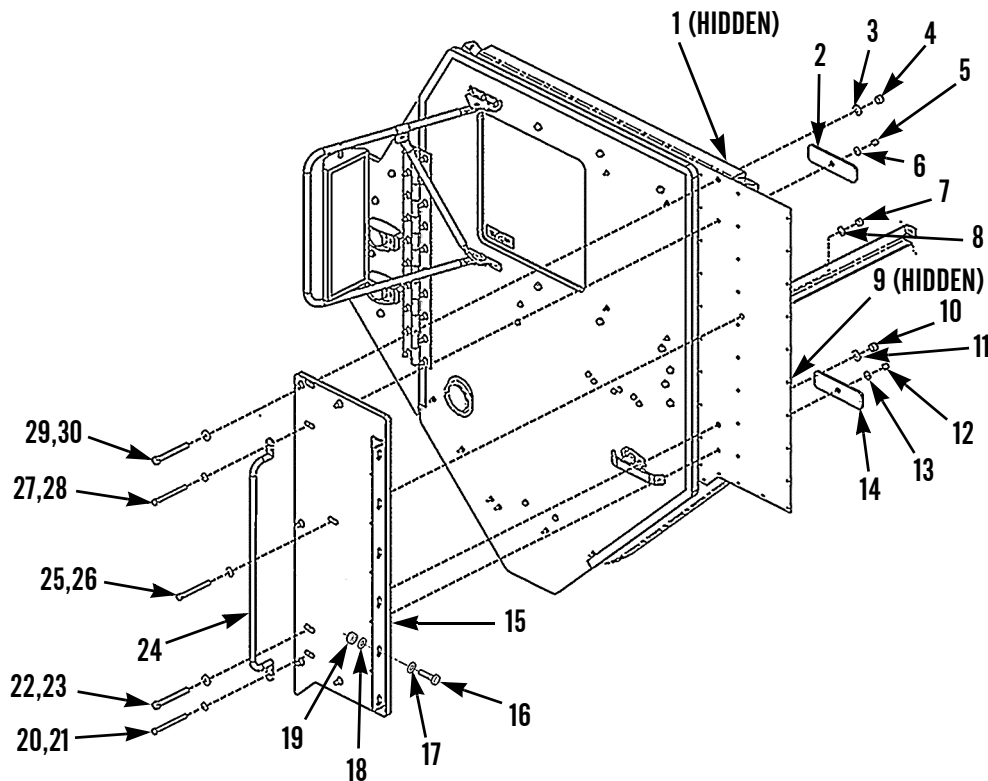
CAB SIDE (REAR) ARMOR REPLACEMENT - CONTINUED**0028 00****INSTALLATION - CONTINUED**

2. With assistance, install cab side (rear) armor (15), six washers (17), bolts (16), washers (18), and new locknuts (19) on side of cab. Hand tighten locknuts

NOTE

Seat belt brackets in this procedure only apply to vehicles with 3-point seat belts.

3. Install washer (30), bolt (29), seat belt bracket (1), washer (3), and new locknut (4) in cab side (rear) armor (15). Hand tighten locknut.
4. Install washer (23), bolt (22), seat belt bracket (9), washer (11) and new locknut (10) in cab side (rear) armor (15). Hand tighten locknut.
5. Install washer (26), bolt (25), washer (8) and new locknut (7) in cab side (rear) armor (15). Hand tighten locknut.
6. Install handle (24), washer (28), bolt (27), attachment plate (2), washer (6), and new locknut (5). Hand tighten locknut.
7. Install washer (21), bolt (20), attachment plate (14), washer (13), and new locknut (12). Hand tighten locknut.
8. Close cab door and measure gap between rear edge of door and front edge of cab side (rear) armor (15). Gap should be between 1/8 in. (3.2 mm) and 3/8 in. (9.5 mm). Adjust position of cab side (rear) armor as necessary.
9. Tighten locknuts to 35 ft-lb (47.5 Nm).



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END OF WORK PACKAGE

CAB SIDE (FRONT) ARMOR AND SIDE MARKER REPLACEMENT

0029 00

THIS WORK PACKAGE COVERS

Removal, Cleaning and Inspection, Installation

INITIAL SETUP

Maintenance Level

Unit

References

WP 0011 00

Tools and Special Tools

Tool Kit, General Mechanic’s (Item 10, WP 0032 00)

Shop Equipment, Common No. 1 (Item 8, WP 0032 00)

Personnel Required

Two

Equipment Conditions

Vehicle parked on level ground (TM 9-2320-364-10)

Parking/Emergency Brake applied (TM 9-2320-364-10)

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

Disconnect battery cables (TM 9-2320-364-20)

Door Assembly removed (WP 0015 00)

Materials/Parts

Rag, Wiping (Item 7, WP 0033 00)

Sealant, Urethane (Item 8, WP 0033 00)

Locknut (14)

NOTE

The following procedure is for the left side. The right side is identical.

CAB SIDE (FRONT) ARMOR AND SIDE MARKER REPLACEMENT - CONTINUED**0029 00****REMOVAL**

1. Disconnect two side marker (9) electrical connectors from behind cab side armor (3).
2. Remove nine bolts (6) and washers (7) from cab side armor assembly (3).

**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

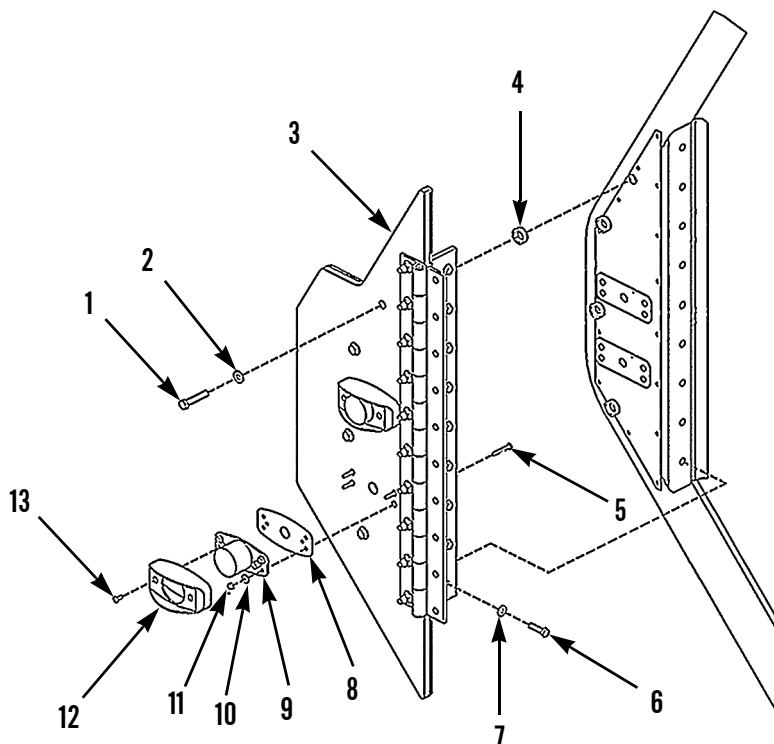
Cab side armor assembly weighs 49 lb (22 kg).

3. With assistance, remove four bolts (1), washers (2), and cab side armor assembly (3) from vehicle.
4. If damaged, remove spacers (4) from behind cab side armor assembly (3).

DISASSEMBLY**NOTE**

Lower side marker shown. Upper side marker is identical.

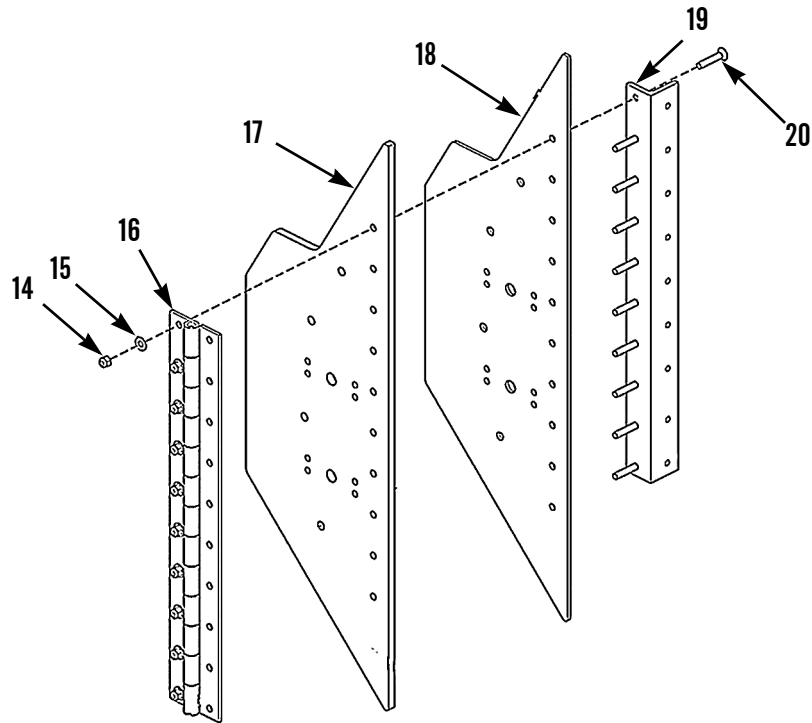
1. Remove two screws (13) and side marker cover (12) from cab side armor assembly (3).
2. Remove four locknuts (11), washers (10), bolts (5), side marker (9), and side marker gasket (8) from cab side armor assembly (3). Discard locknuts.



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CAB SIDE (FRONT) ARMOR AND SIDE MARKER REPLACEMENT - CONTINUED**0029 00****DISASSEMBLY - CONTINUED**

3. Remove ten locknuts (14), washers (15), and bolts (20) from cab side armor panels (17 and 18). Discard locknuts.
4. Separate hinge (16), bracket (19), side armor panel (17), and side armor panel (18).



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CLEANING AND INSPECTION

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

ASSEMBLY**NOTE**

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

1. Assemble bracket (19), hinge (16), side armor panel (18), and side armor panel (17).
2. Install ten bolts (20), washers (15), and new locknuts (14).

CAB SIDE (FRONT) ARMOR AND SIDE MARKER REPLACEMENT - CONTINUED

0029 00**ASSEMBLY - CONTINUED****NOTE**

Lower marker light show. Upper marker light is identical.

3. Install side marker gasket (8), side marker (9), four bolts (5), washers (10), and new locknuts (11).
4. Install side marker cover (12) and two screws (13) on side marker (9).

INSTALLATION

1. If removed, use sealing compound and attach four spacers (4) 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 to personnel.

NOTE

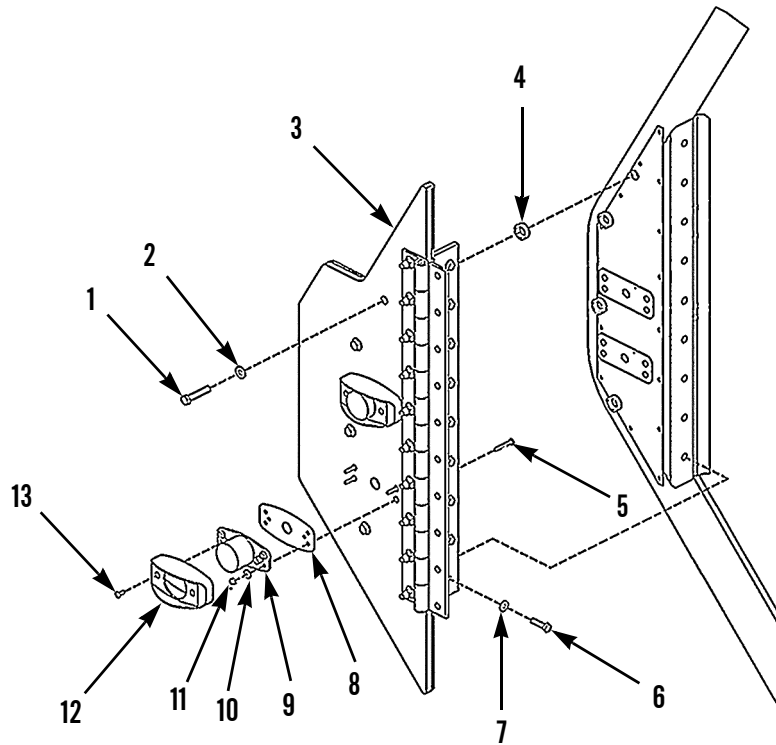
Side armor assembly weighs 49 lb (22 kg).

2. With assistance, position side armor assembly (9) and install four washers (2) and bolts (1) on side of cab.
3. Connect two side marker (9) wires to cab wire harness.

NOTE

Ensure spacers are aligned with four bolt (1) holes.

4. Install four washers (2) and bolts (1) on cab side armor assembly (3).
5. Install nine washers (7) and bolts (6) on cab side armor assembly (3).

INSTALLATION - CONTINUED

417-086

6. Verify operation of side marker lights (TM 9-2320-364-10).
7. Install door assembly (WP 0015 00).
8. Connect battery cables (TM 9-2320-364-20).

END OF WORK PACKAGE

CHAPTER 5
SUPPORTING INFORMATION

REFERENCES**0030 00****SCOPE**

This work package lists all publication indexes, forms, field manuals, technical bulletins, technical manuals, and other publications that are referenced in this manual and that 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
 The Army Maintenance Management System (TAMMS) Users Manual. DA PAM 750-8

FORMS**NOTE**

Refer to DA PAM 750-8, *The Army Maintenance Management System (TAMMS) Users Manual*, 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, M1074 and M1075 Palletized Load System (PLS) TM 9-2320-364-34
 Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and
 Related Materiels Including Chemicals. TM 9-247
 Operator's Manual for Truck, Tractor, M1074 and M1075 Palletized Load System (PLS). TM 9-2320-364-10
 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, M1074 and M1075 Palletized Load System (PLS) TM 9-2320-364-24P
 Unit Maintenance Manual for Truck, Tractor, M1074 and M1075 Palletized Load System (PLS). TM 9-2320-364-20

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

MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION**0031 00****THE ARMY MAINTENANCE SYSTEM**

1. This introduction provides a general explanation of all maintenance and repair functions authorized under the Two-Level Maintenance System.
2. The MAC for The Crew Protection Kit (Table 1, WP 0032 00) 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 column (4) as:

Field - includes subcolumns:

C - Operator/Crew

O - Unit

F - Direct Support

Sustainment - includes subcolumns:

H - General Support

D - Depot

3. Table 2 lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.
4. Table 3 contains supplemental instructions and explanatory notes for particular maintenance functions.

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, e.g., 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 check and adjust instruments of Test, Measurement, and Diagnostic Equipment (TMDE) 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 equipment or a 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 ALLOCATION CHART (MAC) INTRODUCTION - CONTINUED

0031 00

MAINTENANCE FUNCTIONS - CONTINUED

NOTE

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

- Services - Inspecting, testing, servicing, 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 an 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.** The 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 services/actions necessary to restore 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 the 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*, 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 a 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

MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION - CONTINUED

0031 00

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

The "L" maintenance level is not included in column (4) of the MAC. Functions at 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 Table 3, 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 Table 2, 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 in 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 (CAGEC).** The manufacturer's part number, model number, or type number and Commercial and Governmental Entity Code (CAGEC).

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.** Information pertinent to the maintenance function being performed as indicated in the MAC.

END OF WORK PACKAGE

MAINTENANCE ALLOCATION CHART (MAC)

0032 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	SPECIAL PURPOSE KITS								
3307	Crew Protection Kit	Install		11.0				1,2,3,4,5,6,7,8,9,10	
	Underbody Armor	Inspect	0.2						A
		Install		2.0				6,8,9,10	
		Replace		1.0				6,8,9,10	
	Windshield Ballistic Glass	Inspect	0.2						A
		Service	0.2						B
		Install		1.0				2,8,10	
		Replace		1.0				2,8,10	
	Front Armor	Inspect	0.2						A
		Install		1.5				6,8,9,10	
		Replace		1.5				6,8,9,10	
	Side Armor Panel (LH and RH)	Inspect	0.2						A
		Install		1.5				6,8,9,10	
		Replace		1.0				6,8,9,10	
	Door Assembly	Inspect	0.2						A
		Service	0.2						B
		Install		1.0				8,9,10	
		Replace		1.0				8,9,10	
	Door Handle Assembly	Inspect	0.2						A
		Replace		1.0				7	
	Door Latch and Lock Pin	Inspect	0.2						A
		Replace		1.0				7	
	Door Ballistic Glass and Frame Assembly	Inspect	0.2						A
		Service	0.2						B
		Replace		2.0				7	
	Door Latch Adjustment	Inspect	0.2						A
		Service		0.2					
	Rear Cab Armor	Inspect	0.2						A
		Install		2.0				2,6,8,9,10	
		Replace		2.0				2,6,8,9,10	
	Roof Armor	Inspect	0.2						A
		Install		1.0				6,8,9,10	
		Replace		1.0				6,8,9,10	

MAINTENANCE ALLOCATION CHART (MAC) - CONTINUED

0032 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		
	Escape Hatch	Inspect	0.2						A
		Install		0.2				10	
		Replace		0.2				10	
	Front Side Armor Panel	Inspect	0.2						
		Install		1.5					
		Replace		1.0					
	Headlight and Composite Light	Install		0.5				7	A
		Replace		0.5				7	
	Blackout Drive Light	Install		0.5				7	A
		Replace		0.5				7	

MAINTENANCE ALLOCATION CHART (MAC) - CONTINUED

0032 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, Step: 1/4 to 3/4 In.	5133-01-146-4578	59003 (75347)
4	O	Drill, Twist: 17/32 In.	5133-00-189-9324	10034 (06758)
5	O	Drill, Twist: 7/8 In.		91456 (16568)
6	O	Link, Bearing (Lifting)	5120-01-451-1401	1387575 (11083)
7	O	Screwdriver Attachment Set, Socket Wrench: Torx	5120-01-178-6342	J-29843 (33287)
8	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 1, Less Power	4910-00-754-0654	SC 4910-95CLA74 (19204)
9	O	Sling	2835-01-078-2081	4-8FTX2IN (91796)
10	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

0033 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 identification number is assigned to the entry in the listing and is referenced in Initial Setup lists and narrative instructions in maintenance work packages [e.g., Apply sealing compound (Item 8, WP 0033 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.** The National Stock Number (NSN) assigned to the item to requisition it.
4. **Column (4) - Description, CAGEC, and Part Number.** 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

0033 00

Table 1. Expendable and Durable Items.

(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	PK
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	7930-00-935-3794	POLISH, PLASTIC (12849) 5602261	BX
7	C	7920-00-205-1711	RAG: Wiping (64067) A-A-431 50 Pound Bale	BL
8	O	8030-01-320-4710	SEALING COMPOUND: Urethane (52157) 051135-08609 10.5 Ounce Cartridge	CA
9	O	5975-01-379-4997	STRAP, TIEDOWN: Electrical Components (06383) PLT35-C-O Package of 100	PK

EXPENDABLE AND DURABLE ITEMS LIST - CONTINUED

0033 00

Table 1. Expendable and Durable Items - Continued.

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION, CAGEC, AND PART NUMBER	(5) U/M
10	O	9905-00-537-8954	TAG, MARKER (64067) 9905-00-537-8954	BD
11	O		Bundle of 50 TAPE: Pressure Sensitive Adhesive (81349) MIL-T-23397	
		7510-00-473-9513	60 Yard Roll	RL

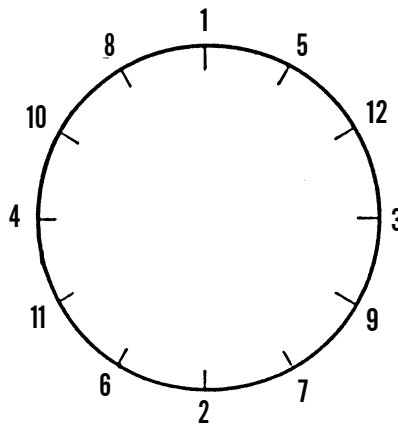
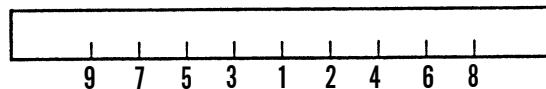
END OF WORK PACKAGE

TORQUE LIMITS**0034 00****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 ± 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.

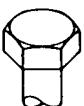


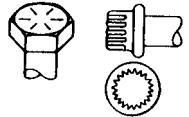

**CIRCULAR TORQUE PATTERN****STRAIGHT TORQUE PATTERN****CAUTION**

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

0034 00

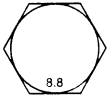
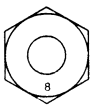
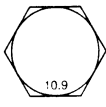
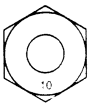
Table 1. Torque Limits - SAE Standard Fasteners.

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)

TORQUE LIMITS - CONTINUED

0034 00

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

FIELD MAINTENANCE (UNIT AND DIRECT SUPPORT MAINTENANCE) REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL) INTRODUCTION

0035 00

SCOPE

This RPSTL lists and authorizes spares and repair parts for performance of Field level maintenance of the Palletized Load System (PLS). 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 PLS 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**

0035 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	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. <i>Items coded PC are subject to deterioration.</i>
KD KF KB	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.
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	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.
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	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.
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**

0035 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**

0035 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 reparable, condemn and dispose of the item at the Unit level maintenance.
F.....	Reparable item. When uneconomically reparable, condemn and dispose of the item at Direct Support level.
H.....	Reparable item. When uneconomically reparable, 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**

0035 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 0036 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>
74K	Palletized Load System (PLS)
75K	Palletized Load System (PLS)

- b. **Associated Publications.** The publication(s) listed below pertain to the Palletized Load System (PLS) and its components:

Publication	Short Title
TM 9-2320-364 Series	Series of Manuals for the PLS

**FIELD MAINTENANCE (UNIT AND DIRECT SUPPORT MAINTENANCE) REPAIR PARTS
AND SPECIAL TOOLS LISTS (RPSTL) INTRODUCTION - CONTINUED**

0035 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*.

<u>Abbreviations</u>	<u>Explanation</u>
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

1	2
2-105	3-59

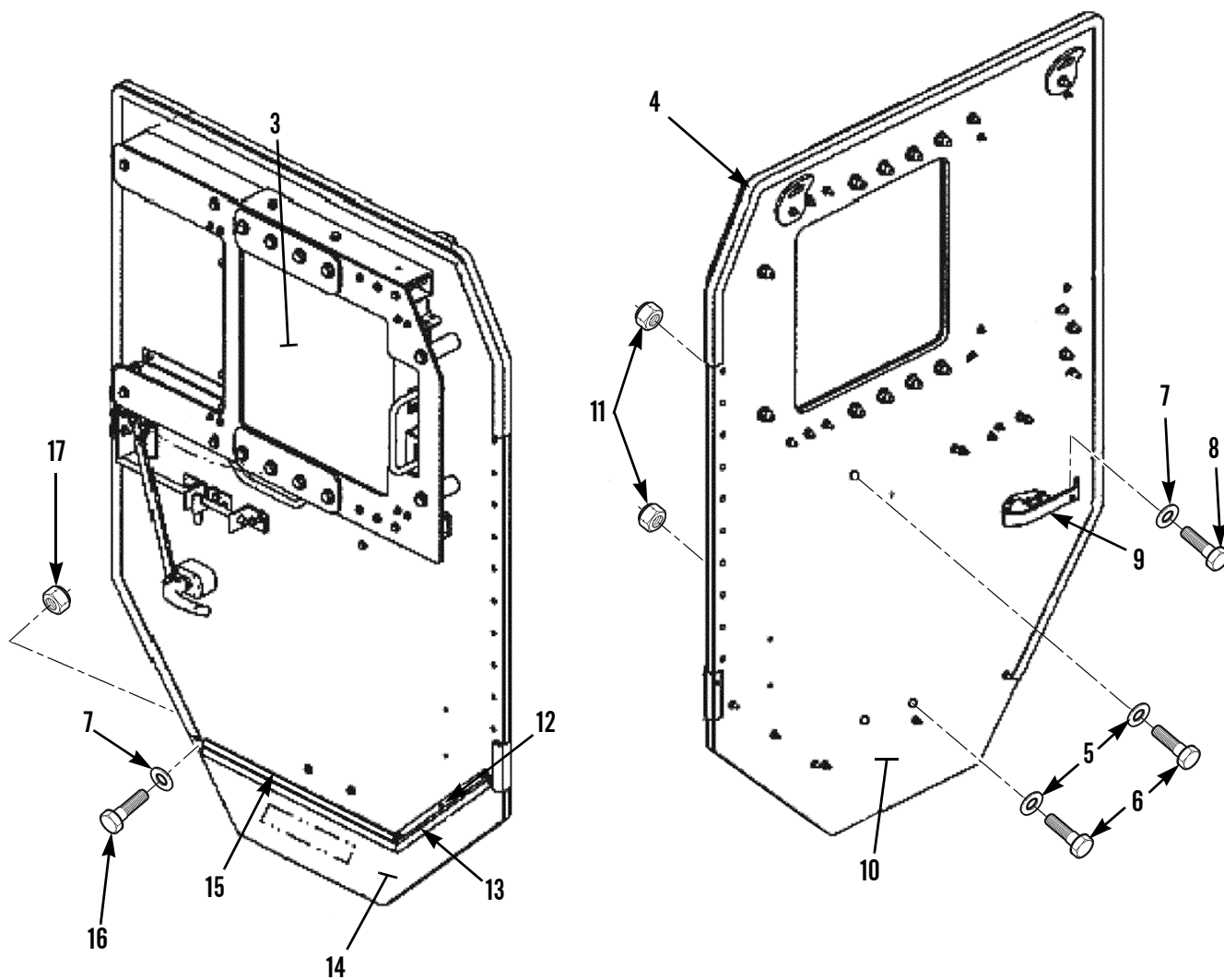


Figure 1. Side Armor Kit and Mounting Hardware (Sheet 1 of 10)

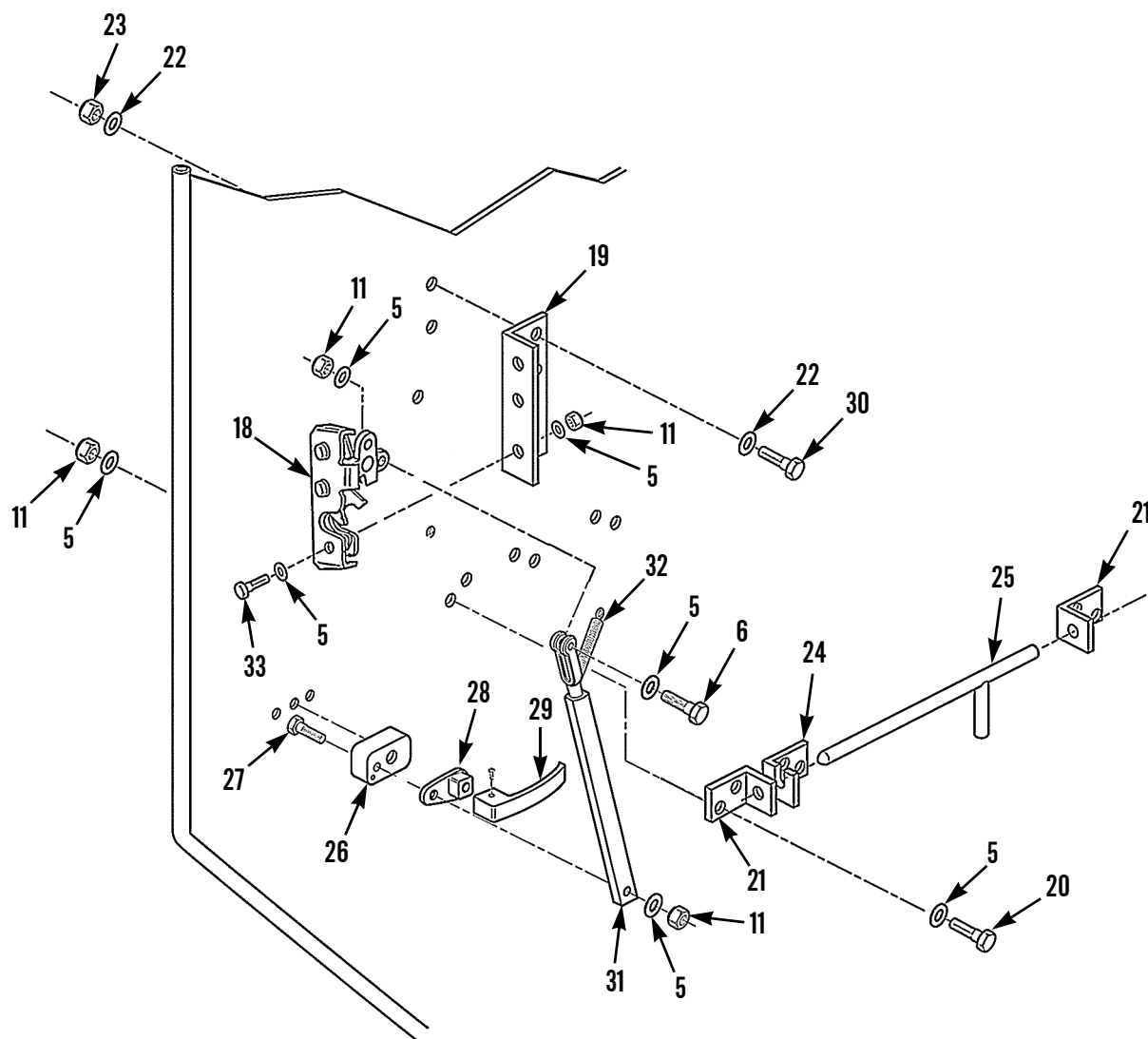


Figure 1. Side Armor Kit and Mounting Hardware (Sheet 2 of 10)

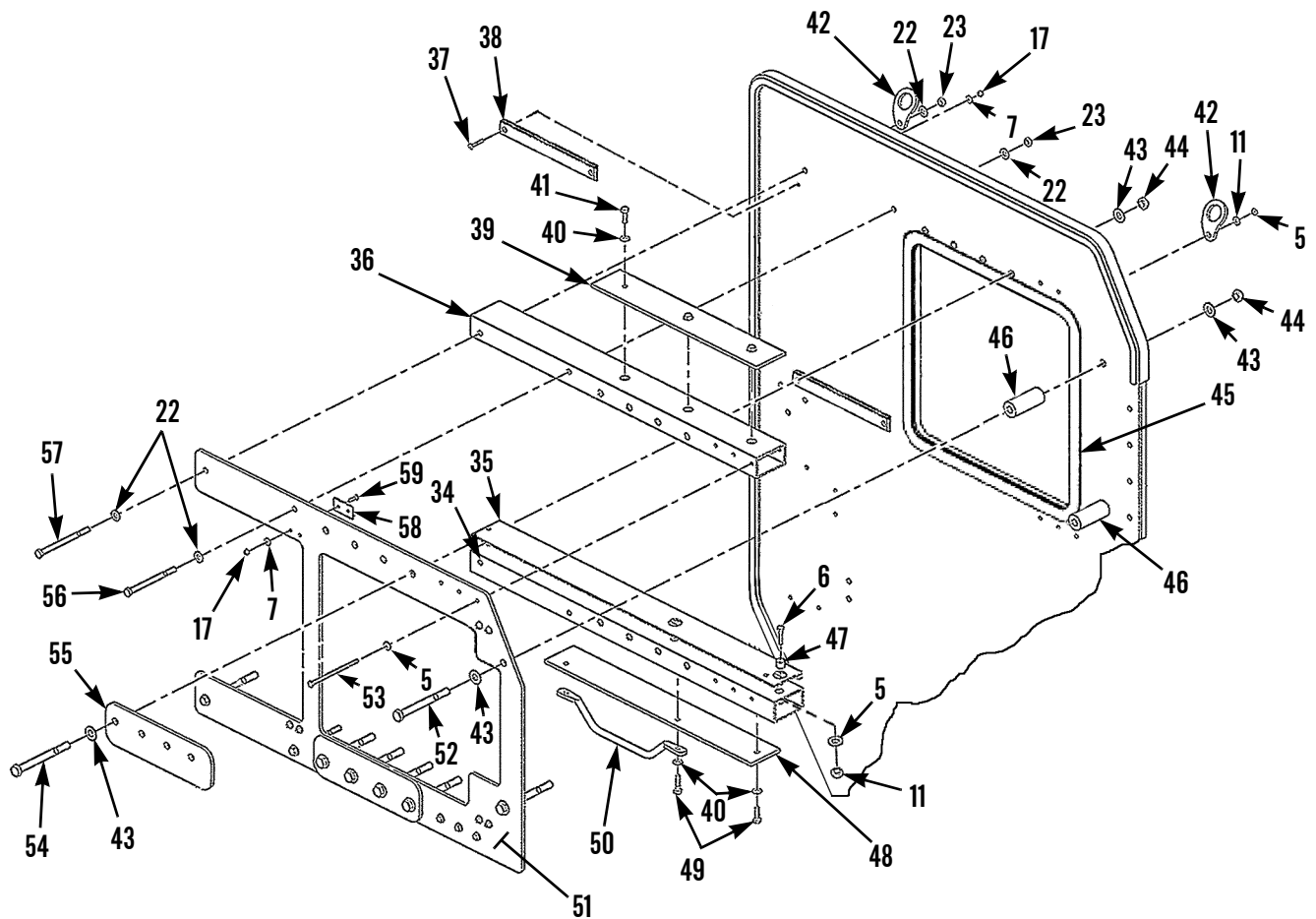


Figure 1. Side Armor Kit and Mounting Hardware (Sheet 3 of 10)

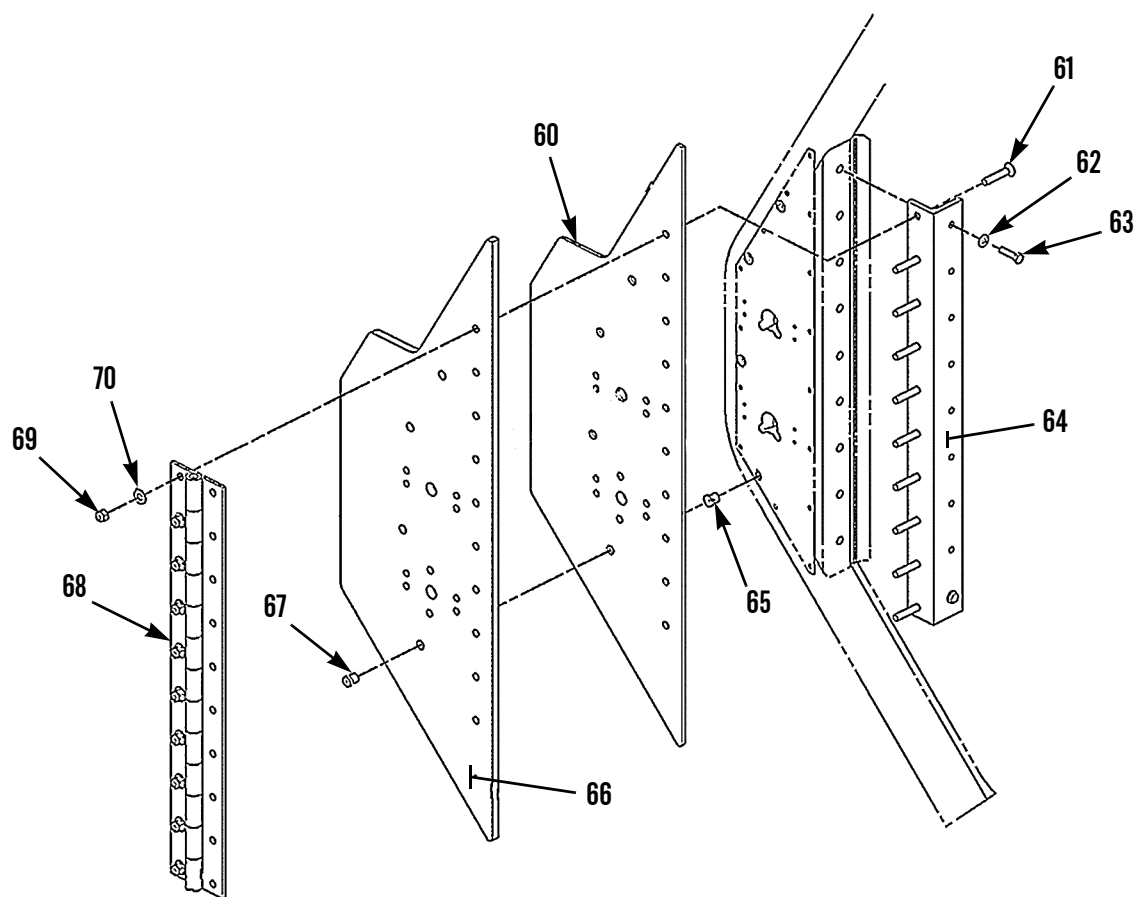


Figure 1. Side Armor Kit and Mounting Hardware (Sheet 4 of 10)

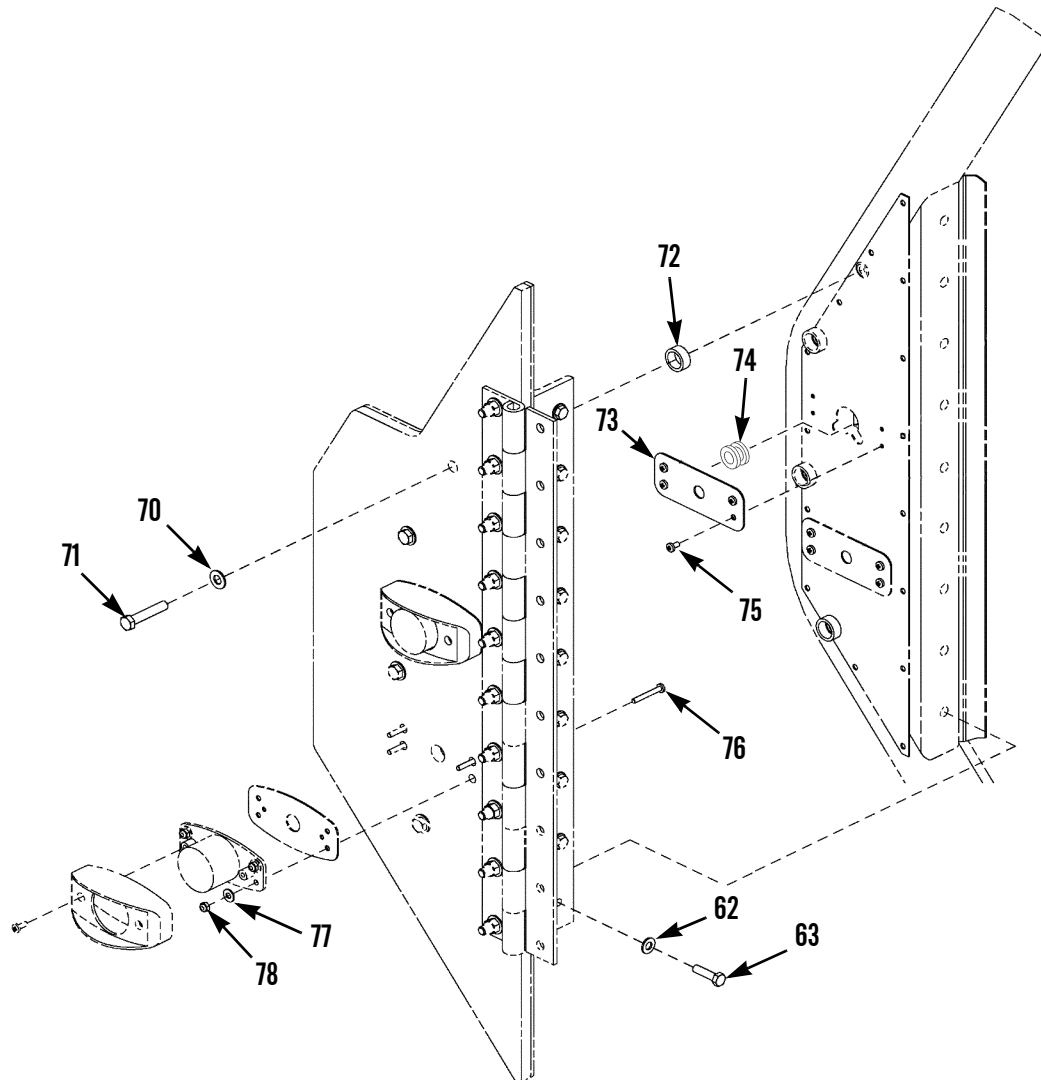


Figure 1. Side Armor Kit and Mounting Hardware (Sheet 5 of 10)

80
81-82

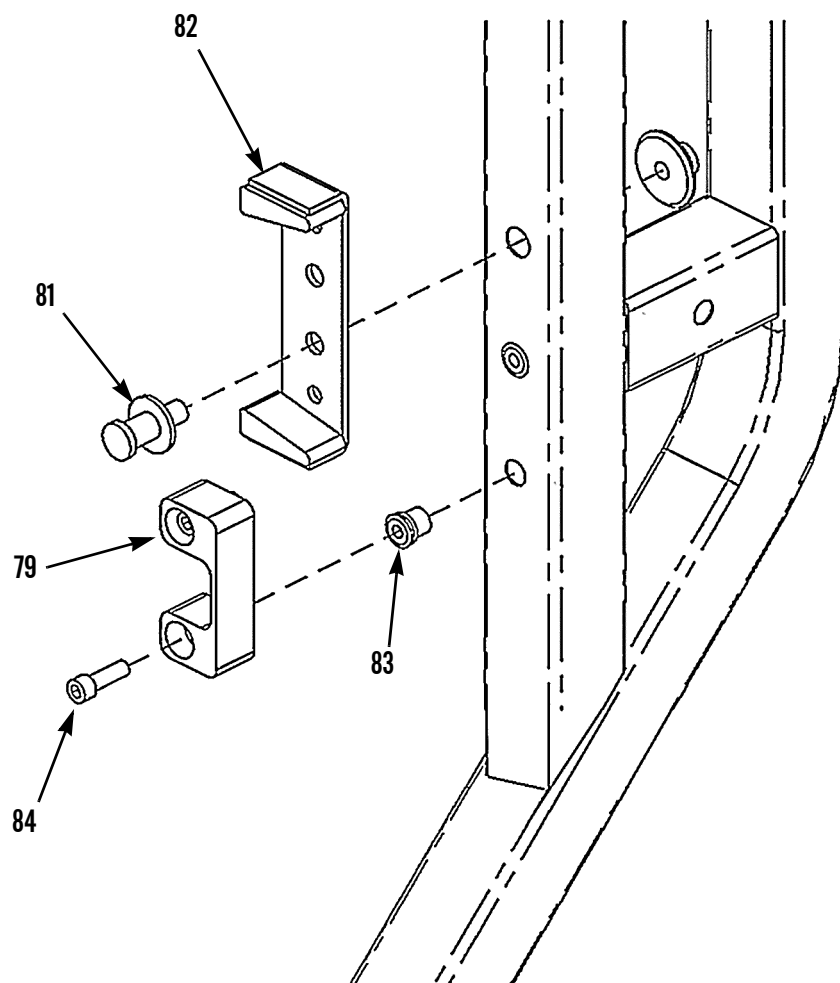


Figure 1. Side Armor Kit and Mounting Hardware (Sheet 6 of 10)

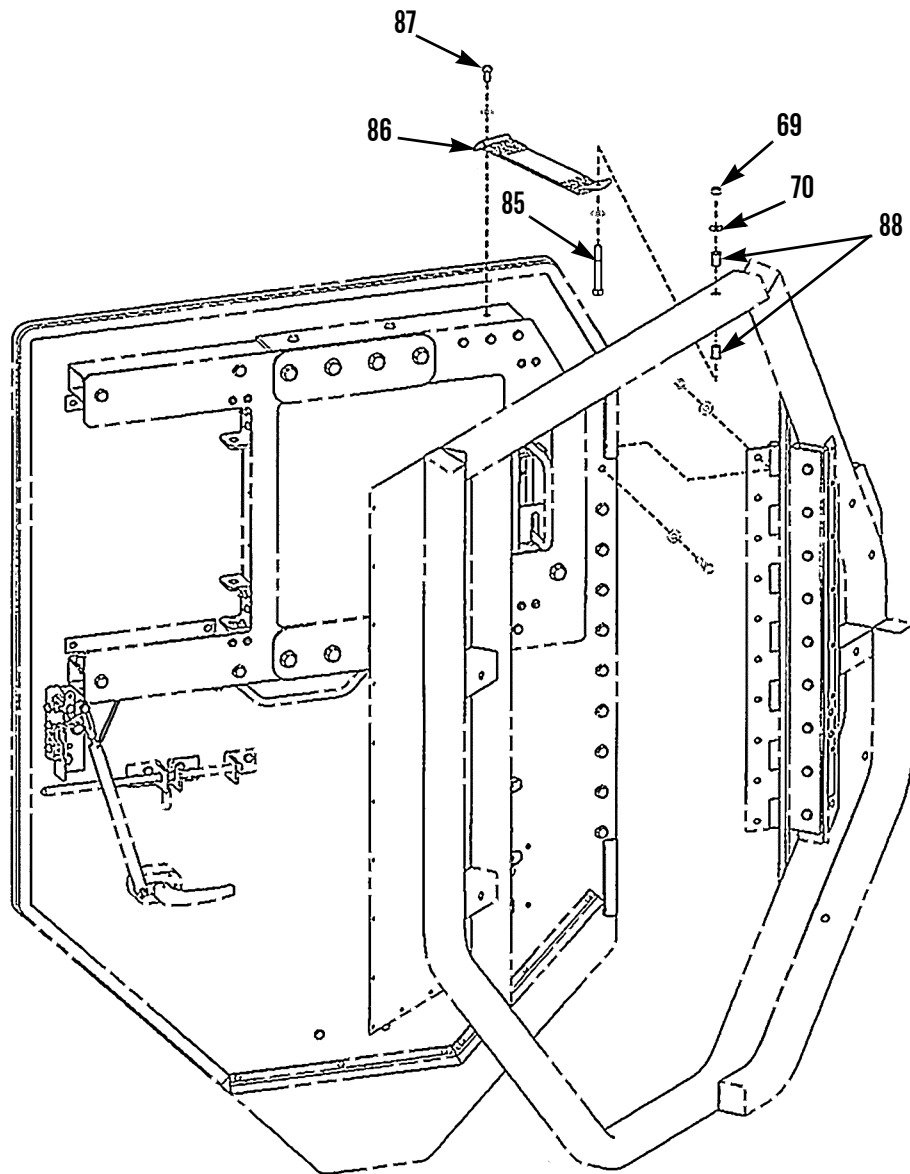


Figure 1. Side Armor Kit and Mounting Hardware (Sheet 7 of 10)

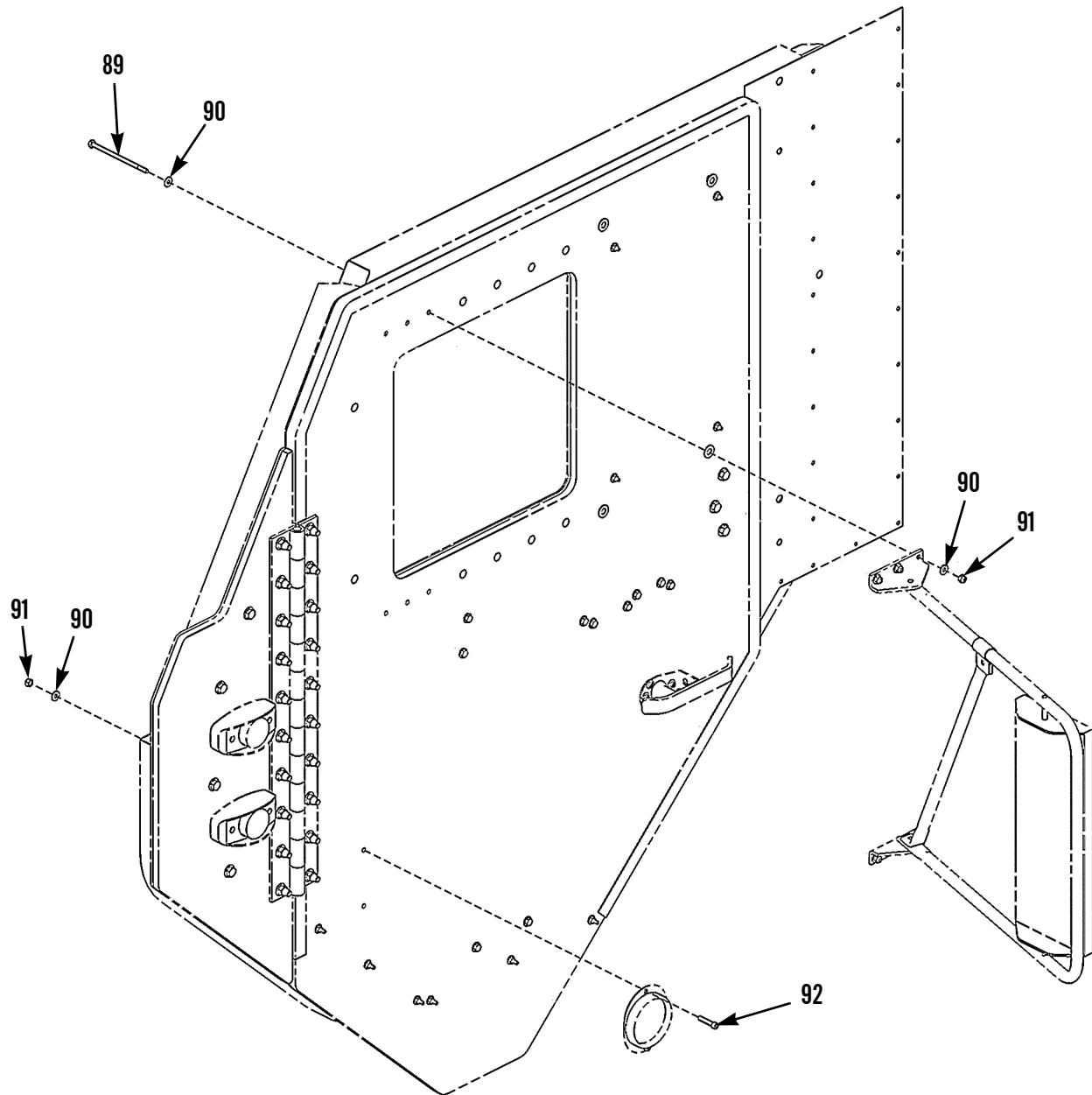


Figure 1. Side Armor Kit and Mounting Hardware (Sheet 8 of 10)

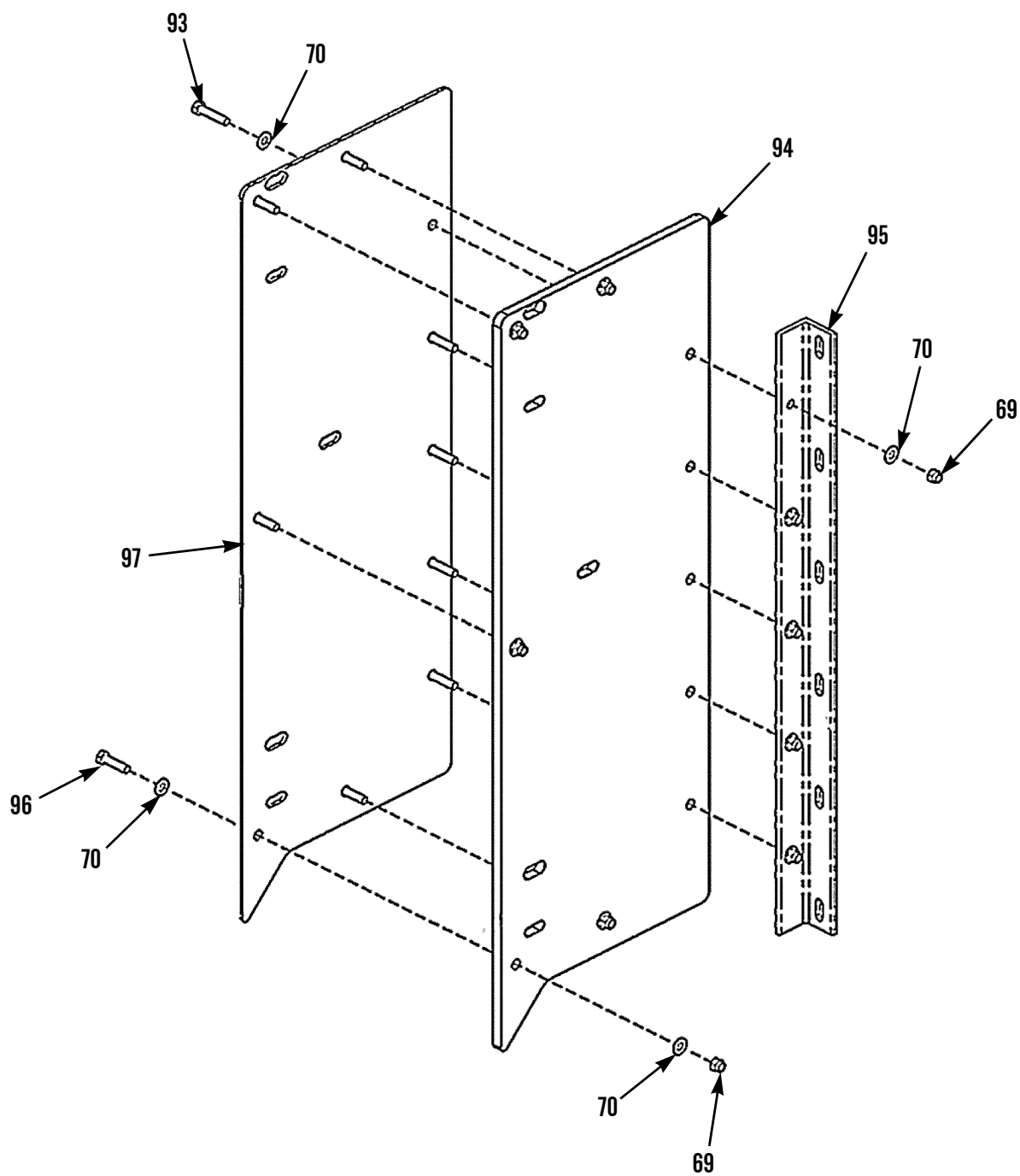


Figure 1. Side Armor Kit and Mounting Hardware (Sheet 9 of 10)

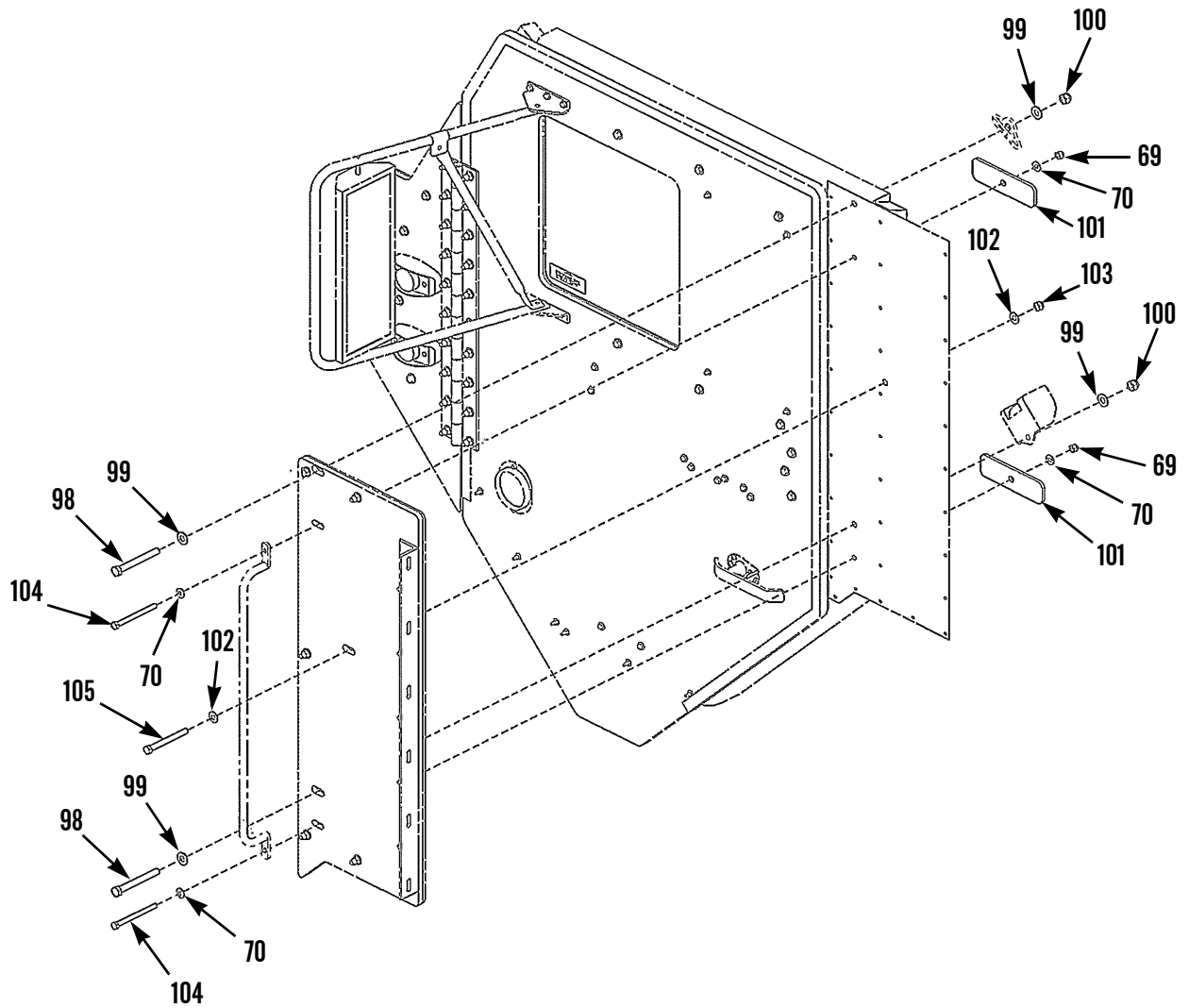


Figure 1. Side Armor Kit and Mounting Hardware (Sheet 10 of 10)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM	SMR			PART		
NO	CODE	NSN	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
GROUP 33 SPECIAL PURPOSE KITS						
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 1 SIDE ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015264370	54786	113310-2-103	ARMOR SET,SUPPLEMEN RIGHT SIDE.....	1
1	PAOZZ	2540015264382	54786	113310-1-103	ARMOR SET,SUPPLEMEN LEFT SIDE.....	1
2	PAOZZ		54786	113320-1-103	..DOOR,VEHICULAR LEFT SIDE.....	1
2	PAOZZ	2510015315033	54786	113320-2-103	..DOOR,VEHICULAR RIGHT SIDE.....	1
3	PAOZZ	2540015307454	54786	113330-1	..ARMOR SET,SUPPLEMEN LEFT SIDE....	1
3	PAOZZ	2540015307453	54786	113330-2	..ARMOR SET,SUPPLEMEN RIGHT SIDE...	1
4	PAOZZ	5330015319636	54786	1120A49	..SEAL,NONMETALLIC.....	1
5	PFOZZ	5310008238804	96906	MS27183-9	..WASHER,FLAT.....	8
6	PFOZZ	5305000712509	80204	B1821BH025C150N	..SCREW,CAP,HEXAGON H.....	7
7	PFOZZ	5310008098544	96906	MS27183-7	..WASHER,FLAT.....	12
8	PFOZZ	5305009789359	96906	MS16997-49	..SCREW,CAP,SOCKET HE.....	4
9	PAOZZ	2540015315179	54786	113335-1	..HANDLE,EXTERIOR,DOO.....	1
10	PAOZZ	2510015317219	54786	113319-3-103	..DOOR,VEHICULAR OUTER.....	1
11	PFOZZ	5310000145847	80063	SM-D-450462-4	..NUT,SELF-LOCKING,HE.....	23
12	PAOZZ	5330015314883	54786	113329-1	..RETAINER,SEAL LONG.....	1
13	PFOZZ		54786	X2199	..SEAL,NONMETALLIC ST.....	3
14	PAOZZ	2510015314970	54786	113319-1-103	..PANEL,INTERIOR,VEHI INNER.....	1
15	PAOZZ	5330015315649	54786	113329-3	..PLATE,SEAL,DOOR SHORT.....	1
16	PFOZZ	5305001193571	96906	MS35239-76	..SCREW,MACHINE.....	6
17	PFOZZ	5310014151314	80205	MS17829Z3C	..NUT,SELF-LOCKING,HE.....	12
18	PAOZZ		54786	9D-400ULZINC	..LATCH ASSY LH.....	1
18	PAOZZ		54786	9D-400URZINC	..LATCH ASSY RH.....	1
19	PAOZZ	2590015315177	54786	113324-1	..BRACKET,MOUNTING LH.....	1
19	PAOZZ		54786	113324-2	..BRACKET,MOUNTING RH.....	1
20	PFOZZ	5305009789381	96906	MS16997-63	..SCREW,CAP,SOCKET HE.....	1
21	PAOZZ		54786	106783-3	..BRACKET,MOUNTING LH.....	2
21	PAOZZ		54786	106783-4	..BRACKET,MOUNTING RH.....	2
22	PFOZZ	5310000806004	96906	MS27183-14	..WASHER,FLAT.....	14
23	PFOZZ	5310001834421	82458	WLA3816GRB	..NUT,SELF-LOCKING,HE.....	7
24	PAOZZ	2590015315144	54786	106783-1	..BRACKET,MOUNTING RH.....	1
24	PAOZZ	2590015314959	54786	106783-2	..BRACKET,DOOR LATCH LH.....	1
25	PAOZZ	5985014397239	54786	106782-1	..LOCK PIN ASSEMBLY.....	1
26	PAOZZ		54786	113325-1	..SPACER,PLATE.....	1
27	PFOZZ	5305009901347	80205	MS35190-292	..SCREW,MACHINE.....	1
28	PAOZZ		54786	113339-1	..CAM,DOOR.....	1
29	PAOZZ		54786	500 BLK	..HANDLE,DOOR,VEHICUL.....	1
30	PFOZZ	5305008213869	80204	B1821BH038C175N	..SCREW,CAP,HEXAGON H.....	3
31	PAOZZ	3040015316706	54786	113315-1	..LINK ASSY,DOOR.....	1
32	PAOZZ		54786	LE-052D-11-S	..SPRING,HELICAL,EXTE.....	1
33	PFOZZ	5305000680509	80204	B1821BH025C125N	..SCREW,CAP,HEXAGON H.....	9
34	PAOZZ	2510015315993	54786	113389-1	..SUPPORT,WINDOW,DOOR LH.....	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM	SMR			PART		
NO	CODE	NSN	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
34	PAOZZ	2590015317198	54786	113389-2	..SUPPORT, WINDOW, DOOR RH.....	1
35	PAOZZ	2540015315026	54786	113328-1	..GUIDE, WINDOW, DOOR.....	1
36	PAOZZ		54786	113389-3	..BRACKET, VEHICULAR C LH.....	1
36	PAOZZ	2590015314966	54786	113389-4	..SUPPORT, WINDOW, DOOR RH.....	1
37	PFOZZ	5305000227242	96906	MS35249-75	..SCREW, MACHINE.....	4
38	PAOZZ		54786	113338-3	..RAMP, WINDOW, DOOR.....	2
39	PAOZZ		54786	113387-3	..DOUBLER, WINDOW DOOR.....	1
40	PFOZZ	5310000814219	96906	MS27183-12	..WASHER, FLAT.....	5
41	PFOZZ	5306002264827	80204	B1821BH031C100N	..BOLT, MACHINE.....	3
42	PAOZZ		54786	113354-1-103	..BRACKET, LIFT.....	2
43	PFOZZ	53100008095997	96906	MS27183-17	..WASHER, FLAT.....	20
44	PFOZZ	5310000443339	19207	443339	..NUT, SELF-LOCKING, HE.....	10
45	PAOZZ	5330015319639	54786	113337-1	..SEAL, NONMETALLIC CH.....	1
46	PAOZZ		54786	113317-1	..SPACER, SLEEVE.....	2
47	PAOZZ		54786	8060RD5.1	..SPACER.....	2
48	PAOZZ	9515015315146	54786	113387-5	..DOUBLER, WINDOW DOOR.....	1
49	PFOZZ	5306002264829	80204	B1821BH031C125N	..BOLT, MACHINE.....	2
50	PAOZZ		54786	31-8-BLK	..HANDLE, GRAB.....	1
51	PAOZZ		54786	113388-1	..RETAINER, WINDOW DOO.....	1
52	PFOZZ	5305000712083	80204	B1821BH050C500N	..SCREW, CAP, HEXAGON H.....	2
53	PFOZZ	5305000712522	80204	B1821BH025C475N	..SCREW, CAP, HEXAGON H.....	6
54	PFOZZ	5306005544767	1TUY2	8288	..BOLT, MACHINE.....	8
55	PAOZZ	9515015315145	54786	113387-1	..DOUBLER, WINDOW DOOR.....	2
56	PFOZZ	5305007813930	80204	B1821BH038C475N	..SCREW, CAP, HEXAGON H.....	3
57	PFOZZ	5305009640503	80204	B1821BH038C500N	..SCREW, CAP, HEXAGON H.....	1
58	PAOZZ		54786	113338-1	..RAMP, WINDOW, DOOR.....	4
59	PFOZZ	5305000120620	96906	MS35241-72	..SCREW, MACHINE.....	8
60	PAOZZ		54786	113311-1-103	..ARMOR, SUPPLEMENTAL,	1
61	PFOZZ	5305011262322	80205	MS24667-56	..SCREW, CAP, SOCKET HE PART OF KIT P/N 113391-1.....	10
62	PFOZZ	5310000814219	96906	MS27183-12	..WASHER, FLAT PART OF KIT P/N 113391-1.....	11
63	PFOZZ	5306002264829	80204	B1821BH031C125N	..BOLT, MACHINE PART OF KIT P/N 113391-1.....	9
64	PAOZZ	2590015317232	54786	113314-1-103	..BRACKET, VEHICULAR C.....	1
65	PFOZZ	5325014837480	78276	ALS4-616-150	..INSERT, SCREW THREAD PART OF KIT P/N 113391-1.....	4
66	PAOZZ		54786	113311-3-103	..ARMOR, SUPPLEMENTAL,	1
67	PAOZZ		54786	H-32-8-0.1875	..BUSHING BLANK.....	1
68	PAOZZ		54786	113313-1-103	..HINGE, DOOR, VEHICULA.....	1
69	PFOZZ	5310009359021	96906	MS51943-35	..NUT, SELF-LOCKING, HE PART OF KIT P/N 113391-1.....	32
70	PFOZZ	5310000806004	96906	MS27183-14	..WASHER, FLAT PART OF KIT P/N 113391-1.....	58
71	PFOZZ	5305007829489	80204	B1821BH038C200N	..SCREW, CAP, HEXAGON H PART OF KIT P/N 113391-1.....	4
72	PAOZZ		54786	113318-1	..SPACER, RING.....	4
73	PAOZZ		54786	113356-1-103	..PLATE, MOUNTING.....	2

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
74	PAOZZ	5325001745316	96906	MS35489-2	.GROMMET, NONMETALLIC.....	2
75	PFOZZ	5305009846208	6N299	0901309-5	.SCREW, MACHINE PART OF KIT P/N 113391-1.....	8
76	PFOZZ	5305009846216	96906	MS35206-269	.SCREW, MACHINE PART OF KIT P/N 113391-1.....	8
77	PFOZZ	5310008098544	96906	MS27183-7	.WASHER, FLAT PART OF KIT P/N 113391- 1.....	8
78	PFOZZ	5310015038993	3Y949	8310085	.NUT, LOCK, 10-24 PART OF KIT P/N 113391-1.....	8
79	PAOZZ	5340015315029	54786	113327-1	.PLATE, MOUNTING.....	1
80	PAOZZ		19220	9D-400URZINC	.LATCH ASSY RH.....	1
80	PAOZZ		54786	9D-400ULZINC	.LATCH ASSY LH.....	1
81	PAOZZ	5340013650250	19220	2T-400-52	..STRIKE, CATCH.....	1
82	PAOZZ	5340015127409	19220	D-400-53	..STRIKE, CATCH.....	1
83	PFOZZ	5310014133276	78276	ALS4-518-150	.NUT, PLAIN, BLIND RIV PART OF KIT P/N 113391-1.....	2
84	PFOZZ	5306002264827	80204	B1821BH031C100N	.BOLT, MACHINE PART OF KIT P/N 113391 -1.....	2
85	PFOZZ	5305000712081	80204	B1821BH050C450N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113391-1.....	2
86	PAOZZ		54786	113386-1	.STRAP ASSEMBLY, DOOR.....	2
87	PFOZZ	5306002264825	80204	B1821BH031C075N	.BOLT, MACHINE PART OF KIT P/N 113391 -1.....	2
88	PFOZZ		54786	111411-1	.BUSHING, FLANGED.....	2
89	PFOZZ	5305000712522	80204	B1821BH025C475N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113391-1.....	12
90	PFOZZ	5310008238804	96906	MS27183-9	.WASHER, FLAT PART OF KIT P/N 113391- 1.....	2
91	PFOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT, SELF-LOCKING, HE PART OF KIT P/N 113391-1.....	2
92	PFOZZ	5305000680509	80204	B1821BH025C125N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113391-1.....	2
93	PFOZZ	5305008213869	80204	B1821BH038C175N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113391-1.....	15
94	PAOZZ		54786	113312-3-103	.ARMOR, SUPPLEMENTAL,	1
95	PAOZZ	2590015314653	54786	113352-3-103	.BRACKET, VEHICULAR C.....	1
96	PFOZZ	5305007252317	80204	B1821BH038C150N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113391-1.....	5
97	PAOZZ		54786	113312-1-103	.ARMOR, SUPPLEMENTAL,	1
98	PFOZZ	5305000712081	80204	B1821BH050C450N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113391-1.....	4
99	PFOZZ	5310008095997	96906	MS27183-17	.WASHER, FLAT PART OF KIT P/N 113391- 1.....	4
100	PFOZZ	5310004883889	96906	MS51943-39	.NUT, SELF-LOCKING, HE PART OF KIT P/N 113391-1.....	2
101	PAOZZ		54786	113316-1-103	.PLATE, MOUNTING.....	2

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES(UOC)	(7) QTY
102	PFOZZ	5310008094061	96906	MS27183-15	.WASHER, FLAT PART OF KIT P/N 113391-1.....	6
103	PFOZZ	5310002416659	81349	M45913/3-7CG8C	.NUT, SELF-LOCKING, HE PART OF KIT P/N 113391-1.....	3
104	PFOZZ	5305008576886	80204	B1821BH038C450N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113391-1.....	2
105	PFOZZ	5305010322311	80204	B1821BH044C425N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113391-1.....	1

END OF FIGURE

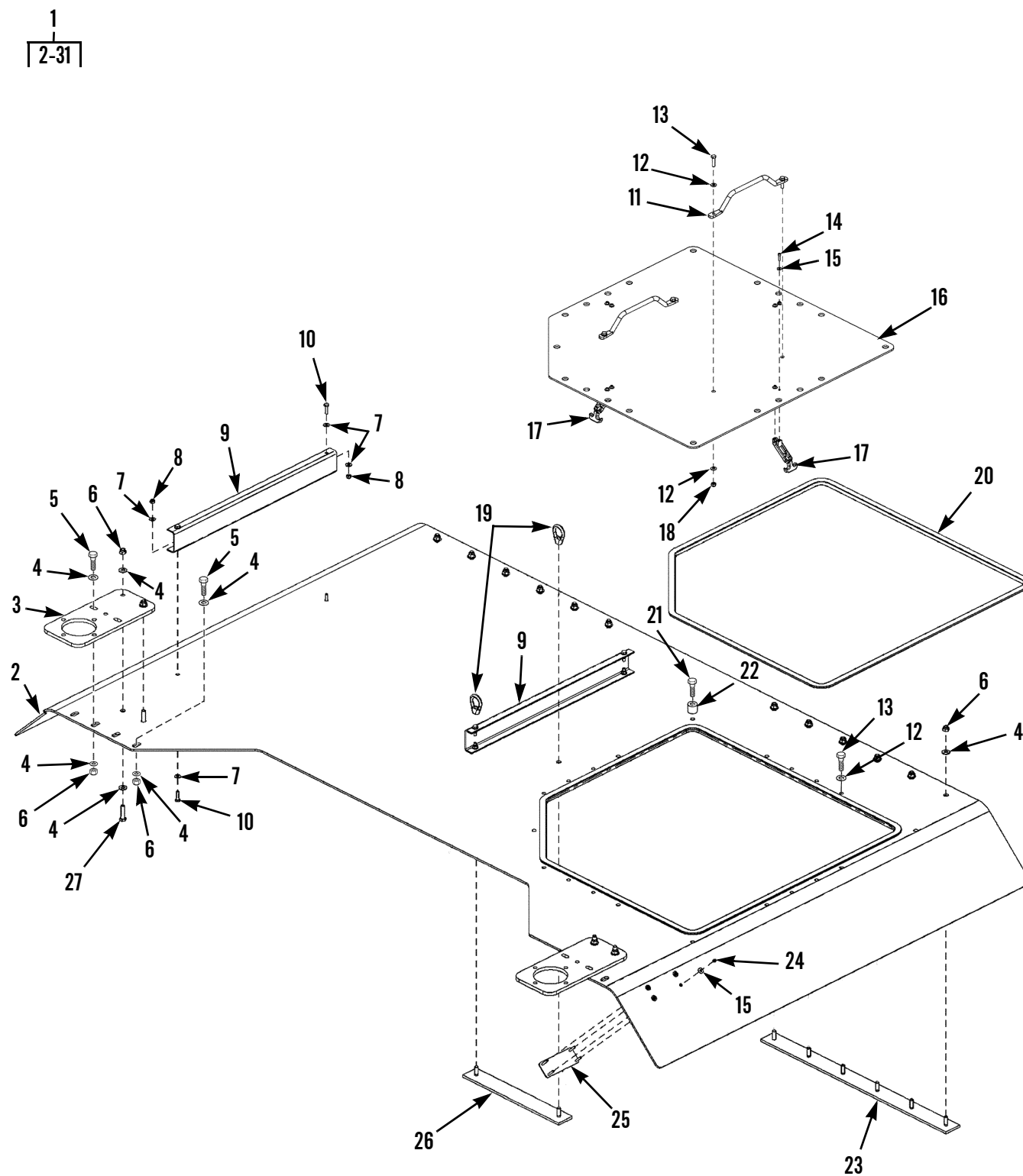


Figure 2. Roof Armor Kit and Mounting Hardware (Sheet 1 of 2)

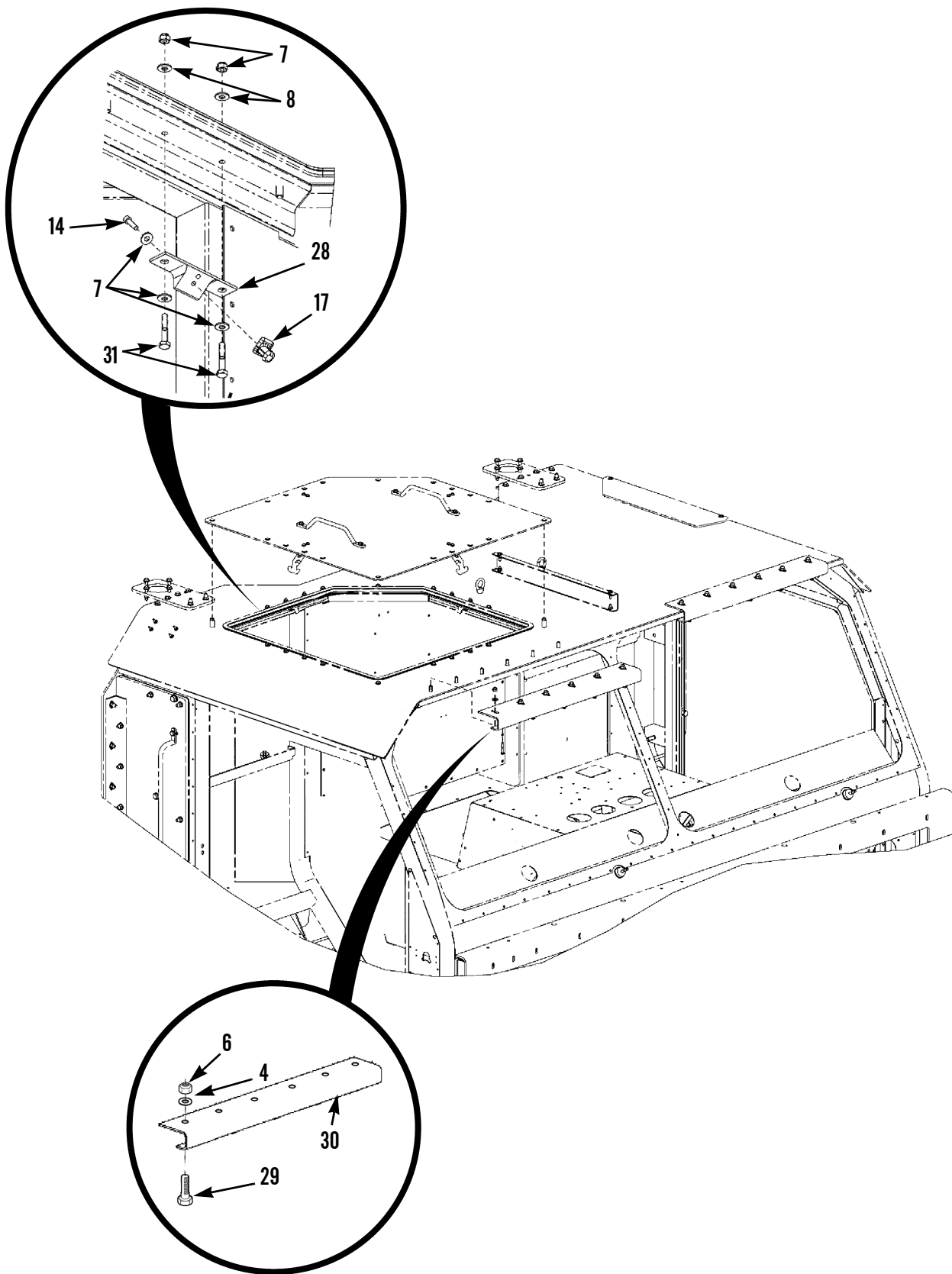


Figure 2. Roof Armor Kit and Mounting Hardware (Sheet 2 of 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM	SMR			PART		
NO	CODE	NSN	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 2 ROOF ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015264374	54786	113340-1-103	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ	2540015314669	54786	113341-1-103	.ARMOR,SUPPLEMENTAL,.....	1
3	PAOZZ	5985015316870	54786	113348-1-103	.BASE,ANTENNA SUPPOR.....	2
4	PFOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT PART OF KIT P/N 113392-1.....	36
5	PFOZZ	5305008213869	80204	B1821BH038C175N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113392-1.....	8
6	PFOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE PART OF KIT P/N 113392-1.....	24
7	PFOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT PART OF KIT P/N 113392-1.....	32
8	PFOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT,SELF-LOCKING,HE PART OF KIT P/N 113392-1.....	16
9	PAOZZ	2590015314644	54786	113347-1-103	.BRACKET,VEHICULAR C.....	2
10	PFOZZ	5305002253843	80204	B1821BH025C100N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113392-1.....	8
11	PAOZZ		54786	31-8-BLK	.HANDLE,GRAB.....	2
12	PFOZZ	5310000814219	96906	MS27183-12	.WASHER,FLAT PART OF KIT P/N 113392-1.....	18
13	PFOZZ	5306002264829	80204	B1821BH031C125N	.BOLT,MACHINE PART OF KIT P/N 113392-1.....	14
14	PFOZZ	5305000120620	96906	MS35241-72	.SCREW,MACHINE PART OF KIT P/N 113392-1.....	12
15	PFOZZ	5310008098544	96906	MS27183-7	.WASHER,FLAT PART OF KIT P/N 113392-1.....	16
16	PAOZZ		54786	113346-1-103	.ARMOR,SUPPLEMENTAL,.....	1
17	PAOZZ	5340014684593	94222	F7-51	.CATCH,CLAMPING.....	4
18	PFOZZ	5310008140673	96906	MS51943-33	.NUT,SELF-LOCKING,HE PART OF KIT P/N 113392-1.....	4
19	PAOZZ	5310015314881	54786	106795-1	.NUT,EYE.....	2
20	PAOZZ		54786	103B375B3X3/16E	.SEAL,NONMETALLIC.....	1
21	PFOZZ	5306002264832	80204	B1821BH031C175N	.BOLT,MACHINE PART OF KIT P/N 113392-1.....	2
22	PAOZZ		54786	8080RS-535	.SPACER.....	2
23	PAOZZ	2590015317281	54786	106780-1-103	.BRACKET,VEHICULAR C.....	2
24	PFOZZ	5310010542779	15653	F29589-3-3	.NUT,SELF-LOCKING PART OF KIT P/N 113392-1.....	4
25	PAOZZ	2540015317268	54786	113349-1-103	.ARMOR,SUPPLEMENTAL,.....	1
26	PAOZZ	2540015315214	54786	106780-3-103	.ARMOR,SUPPLEMENTAL,.....	1
27	PFOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113392-1.....	4
28	PAOZZ	2590015316883	54786	113357-1	.BRACKET,VEHICULAR C.....	4

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
29	PFOZZ	5305012117464	96906	MS51869-28	.SCREW, TAPPING PART OF KIT P/N 113392-1.....	10
30	PAOZZ	2540015319644	54786	106735-1-103	.ARMOR, SUPPLEMENTAL,	2
31	PFOZZ	5305000712509	80204	B1821BH025C150N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113392-1.....	8

END OF FIGURE

1
2-12

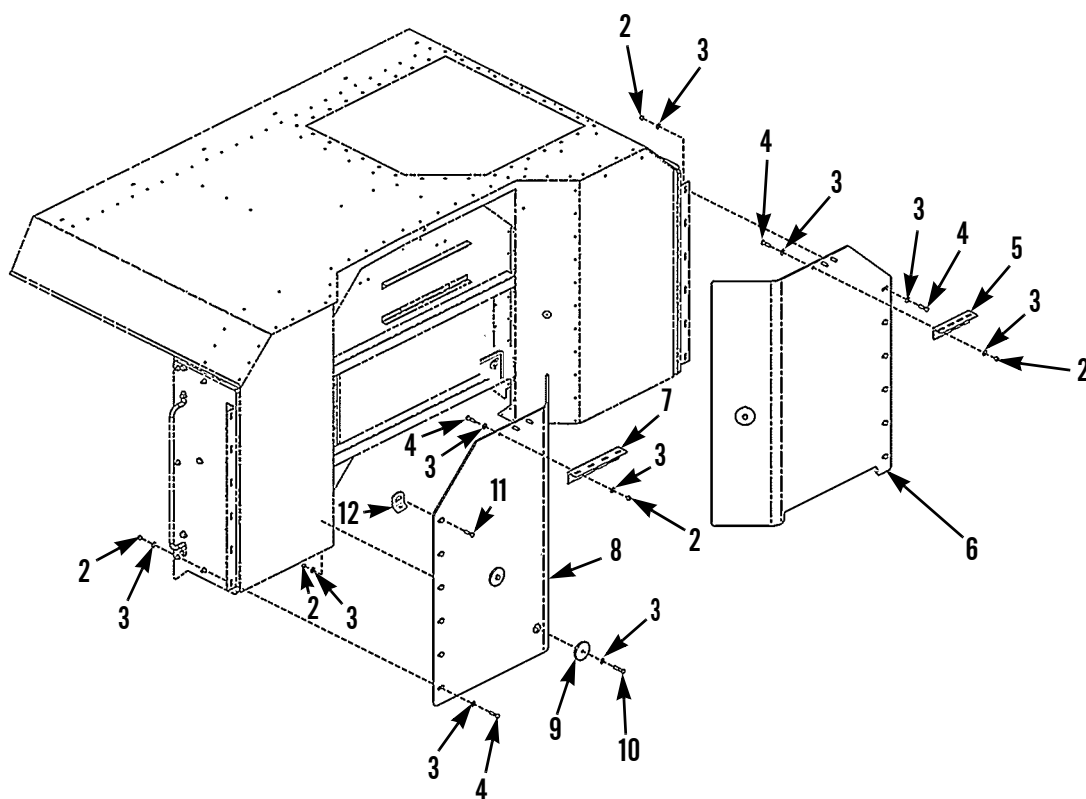


Figure 3. Rear Armor Kit and Mounting Hardware

(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. 3 REAR ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015264404	54786	113350-1-103	ARMOR SET,SUPPLEMEN.....	1
2	PFOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE PART OF KIT P/N 113393-1.....	29
3	PFOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT PART OF KIT P/N 113393- 1.....	58
4	PFOZZ	5305007252317	80204	B1821BH038C150N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113393-1.....	18
5	PAOZZ	2540015319643	54786	113352-5-103	.ARMOR,SUPPLEMENTAL,.....	1
6	PAOZZ	2540015315703	54786	113351-2-103	.ARMOR,SUPPLEMENTAL, RH.....	1
7	PAOZZ	2540015317209	54786	113352-1-103	.ARMOR,SUPPLEMENTAL,.....	1
8	PAOZZ		54786	113351-1-103	.ARMOR,SUPPLEMENTAL, LH.....	1
9	PAOZZ	2540015314983	54786	111403-1-103	.ARMOR,SUPPLEMENTAL,.....	4
10	PFOZZ	5305008213869	80204	B1821BH038C175N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113393-1.....	7
11	PFOZZ	5305000680511	80204	B1821BH038C125N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113393-1.....	3
12	PAOZZ	5310015314881	54786	106795-1	.NUT,EYE.....	1

END OF FIGURE

1
2-30

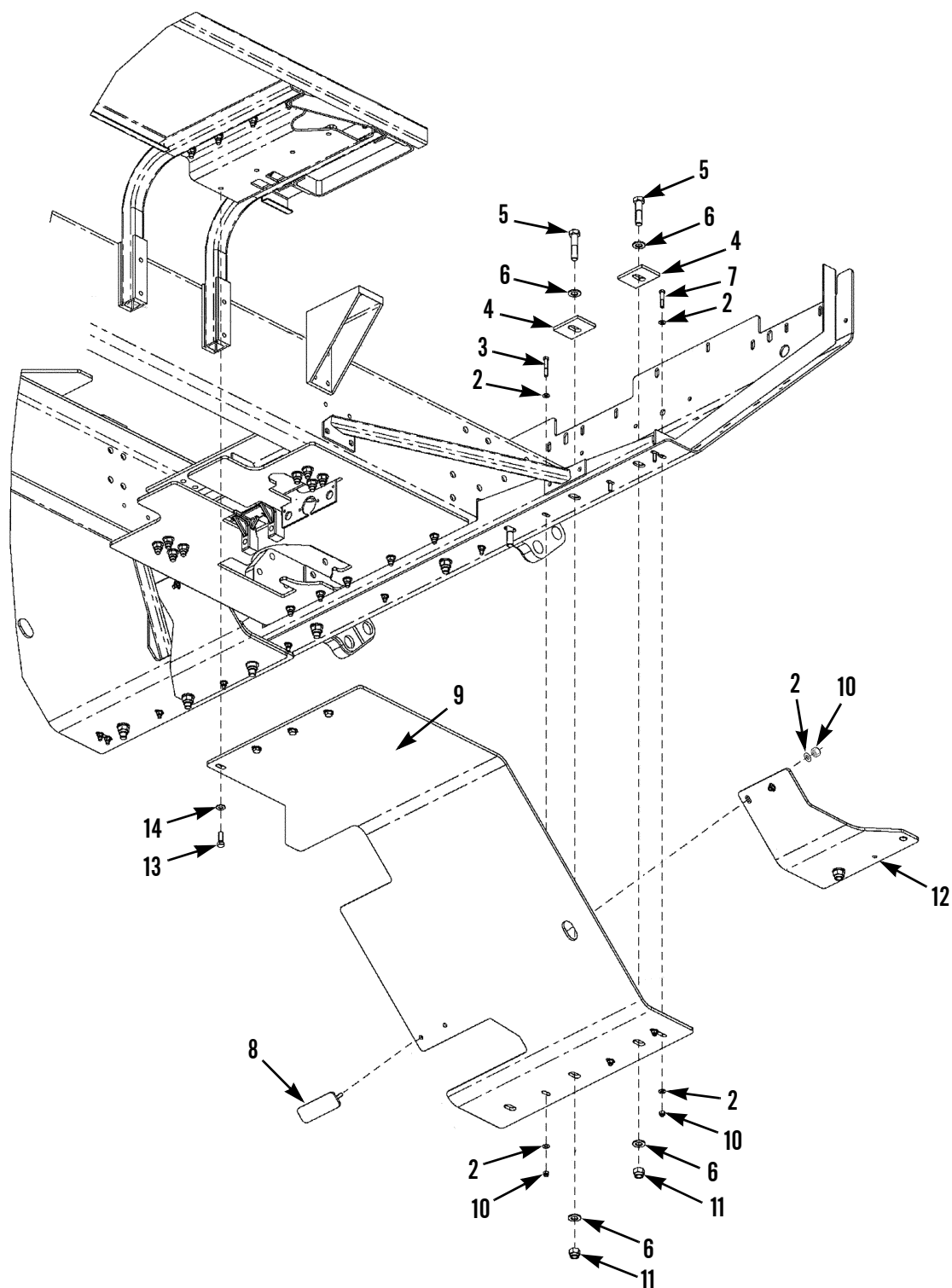


Figure 4. Underbody Armor Kit and Mounting Hardware (Sheet 1 of 4)

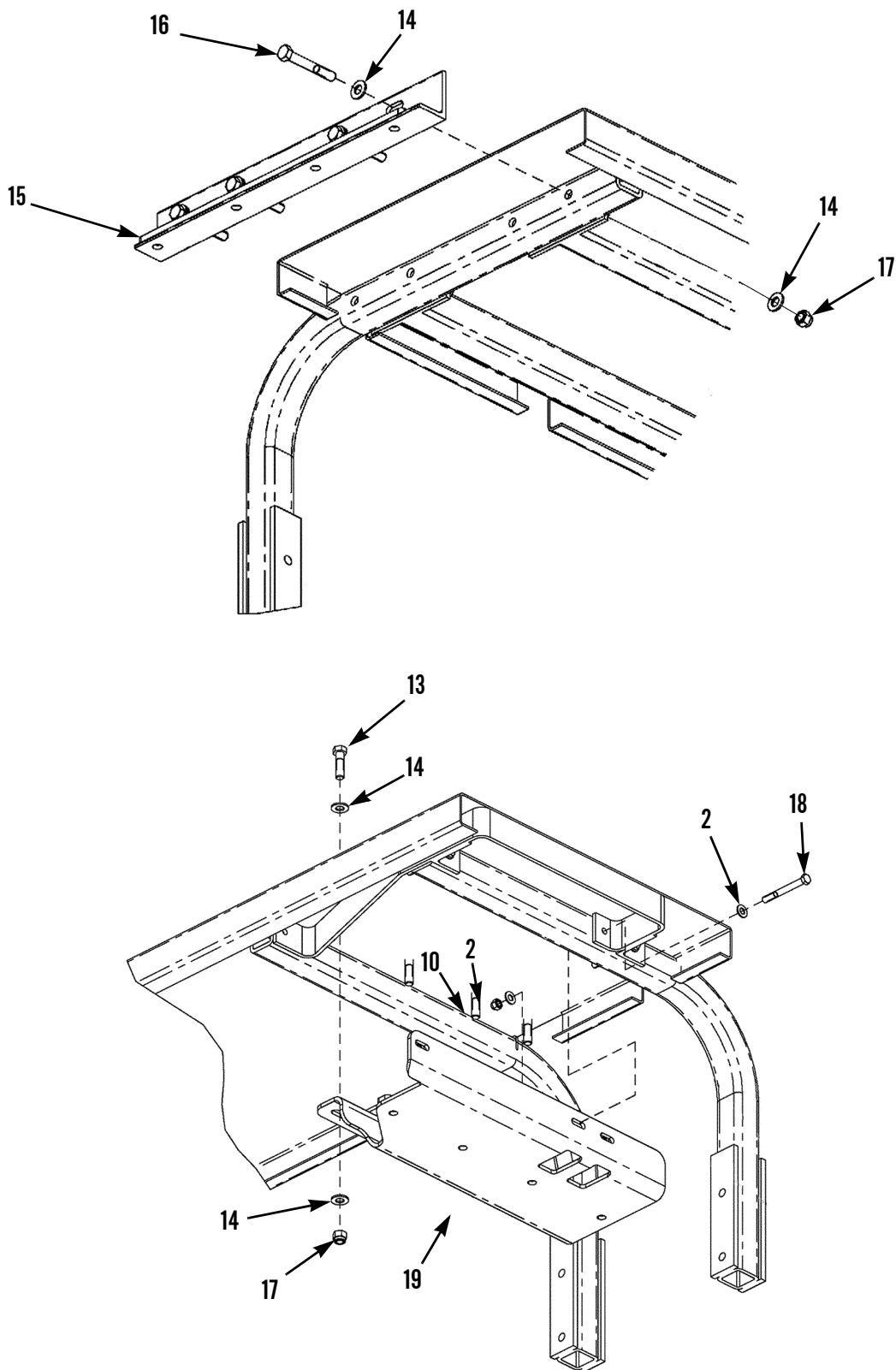


Figure 4. Underbody Armor Kit and Mounting Hardware (Sheet 2 of 4)

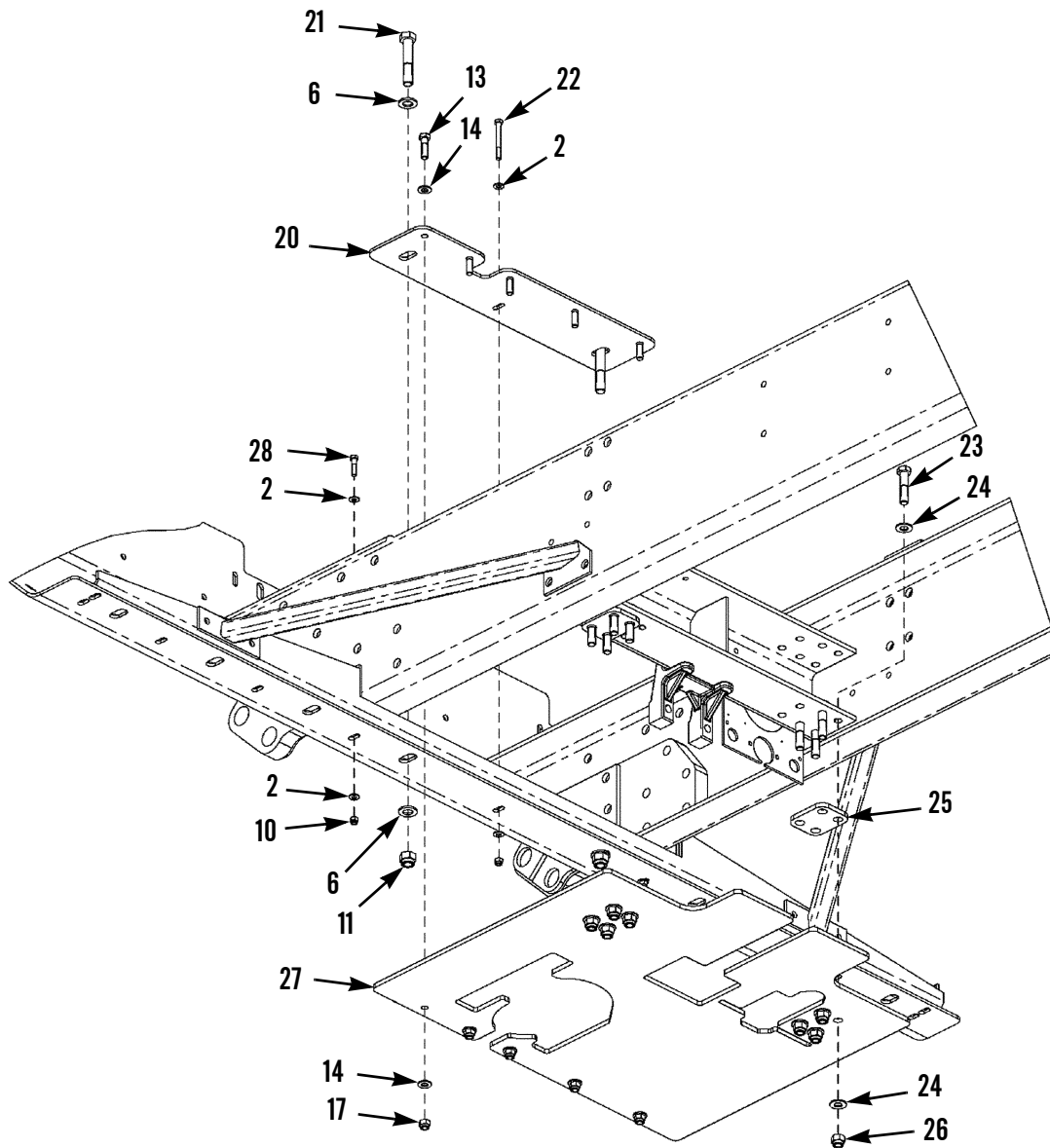


Figure 4. Underbody Armor Kit and Mounting Hardware (Sheet 3 of 4)

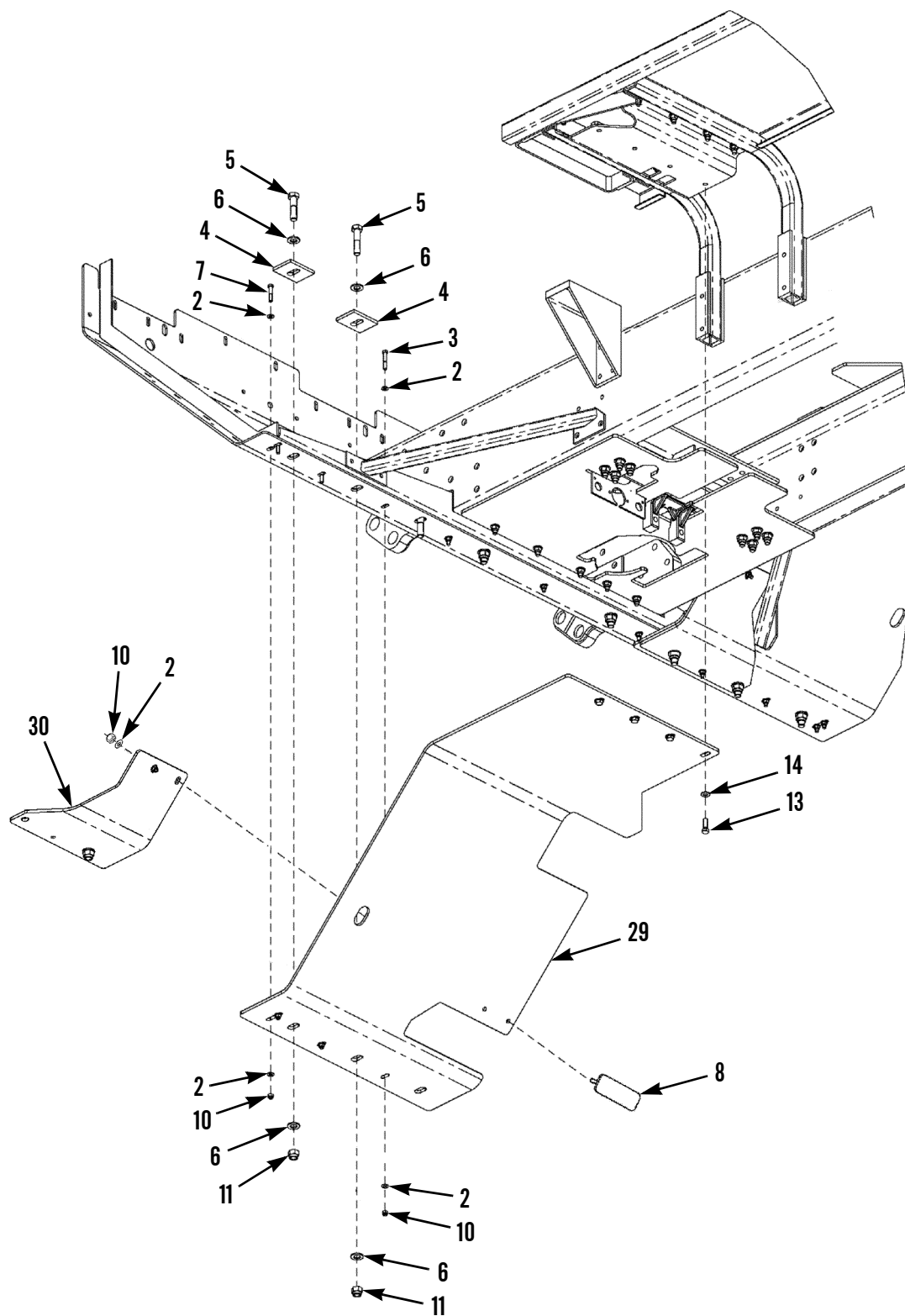


Figure 4. Underbody Armor Kit and Mounting Hardware (Sheet 4 of 4)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM	SMR			PART		
NO	CODE	NSN	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 4 UNDERBODY ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015264395	54786	113360-1-103	ARMOR SET,SUPPLEMEN.....	1
2	PFOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT PART OF KIT P/N 113394-1.....	28
3	PFOZZ	5305008213869	80204	B1821BH038C175N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113394-1.....	2
4	PAOZZ		54786	106719-1-103	.DOUBLER.....	6
5	PFOZZ	5305009474355	80204	B1821BH075C325N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113394-1.....	4
6	PFOZZ	5310008098533	96906	MS27183-23	.WASHER,FLAT PART OF KIT P/N 113394-1.....	16
7	PFOZZ	5305007829489	80204	B1821BH038C200N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113394-1.....	4
8	PAOZZ	2540015314661	54786	113375-3-103	.ARMOR,SUPPLEMENTAL,.....	2
9	PAOZZ		54786	113362-1-103	.ARMOR,SUPPLEMENTAL, RIGHT.....	1
10	PFOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE PART OF KIT P/N 113394-1.....	16
11	PFOZZ	5310004093333	96906	MS35241-45	.NUT,SELF-LOCKING,HE PART OF KIT P/N 113394-1.....	8
12	PAOZZ	2590015317265	54786	113366-2-103	.ARMOR,SUPPLEMENTAL, RHS COVER.....	1
13	PFOZZ	5305000712070	80204	B1821BH050C175N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113394-1.....	13
14	PFOZZ	5310008095997	96906	MS27183-17	.WASHER,FLAT PART OF KIT P/N 113394-1.....	34
15	PAOZZ	2540015317227	54786	113364-1-103	.ARMOR,SUPPLEMENTAL, LEFT.....	1
16	PFOZZ	5305000712077	80204	B1821BH050C350N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113394-1.....	4
17	PFOZZ	5310004883889	96906	MS51943-39	.NUT,SELF-LOCKING,HE PART OF KIT P/N 113394-1.....	13
18	PFOZZ	5305007813927	80204	B1821BH038C350N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113394-1.....	3
19	PAOZZ	2540015315984	54786	113365-1-103	.ARMOR,SUPPLEMENTAL,.....	1
20	PAOZZ	2540015314656	54786	113367-1-103	.ARMOR,SUPPLEMENTAL, CENTER.....	1
21	PFOZZ	5305009474358	80204	B1821BH075C400N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113394-1.....	2
22	PFOZZ	5305008080864	80204	B1821BH038C325N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113394-1.....	1
23	PFOZZ	5305007247225	80204	B1821BH063C275N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113394-1.....	8
24	PFOZZ	5310008248803	96906	MS27183-21	.WASHER,FLAT PART OF KIT P/N 113394-1.....	16
25	PAOZZ	2540015314665	54786	113369-1-103	.ARMOR,SUPPLEMENTAL, CENTER.....	2
26	PFOZZ	5310000614651	96906	M45913/3-10CG8C	.NUT,SELF-LOCKING,HE PART OF KIT P/N 113394-1.....	8

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
27	PAOZZ	2540015315183	54786	113363-1-103	.ARMOR, SUPPLEMENTAL, CENTER.....	1
28	PFOZZ	5305000680511	80204	B1821BH038C125N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113394-1.....	6
29	PAOZZ		54786	113361-1-103	.ARMOR, SUPPLEMENTAL, LEFT.....	1
30	PAOZZ		54786	113366-1-103	.ARMOR, SUPPLEMENTAL, LHS COVER.....	1

END OF FIGURE

1
2-35

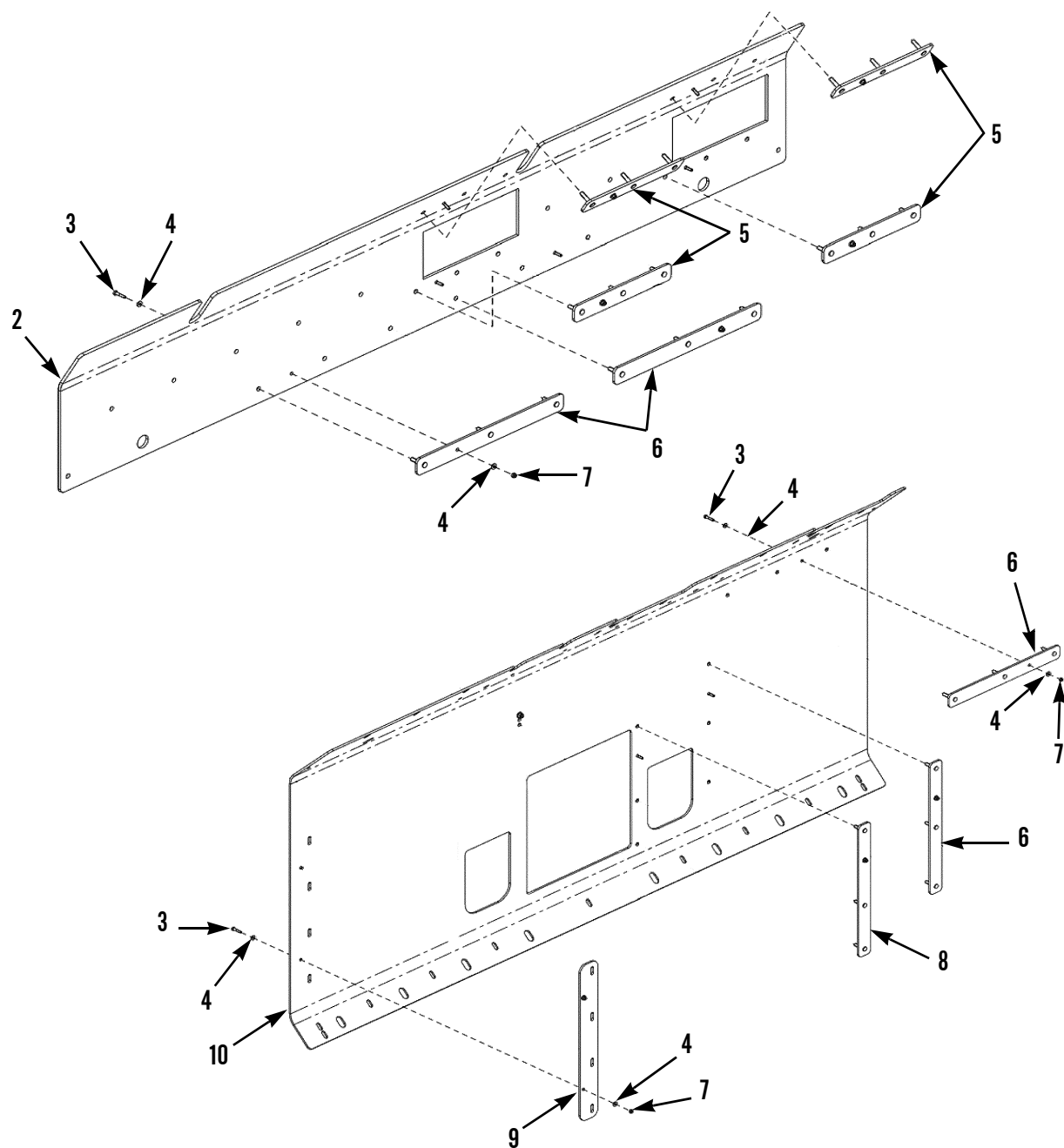


Figure 5. Front Armor Kit and Mounting Hardware (Sheet 1 of 4)

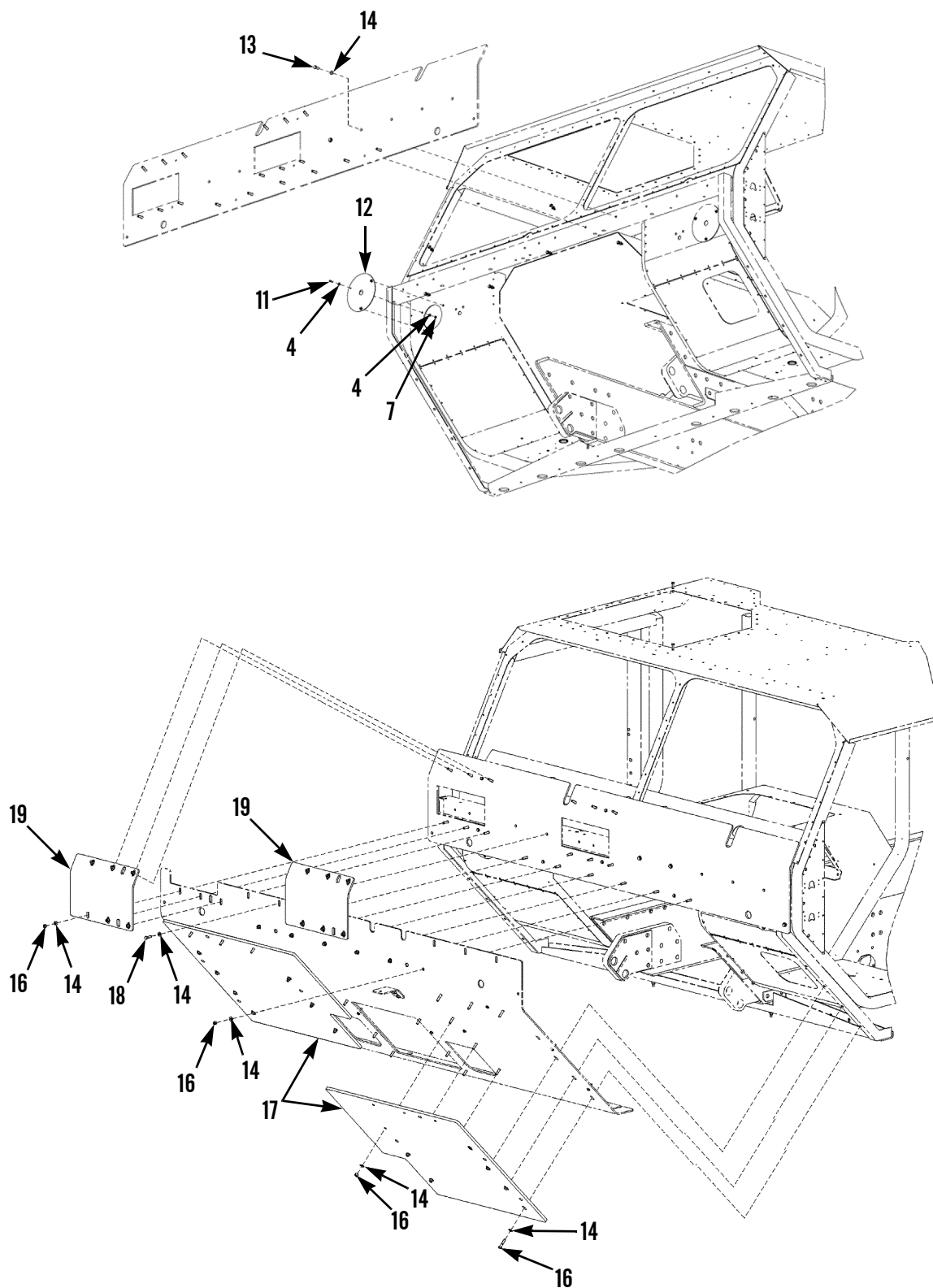


Figure 5. Front Armor Kit and Mounting Hardware (Sheet 2 of 4)

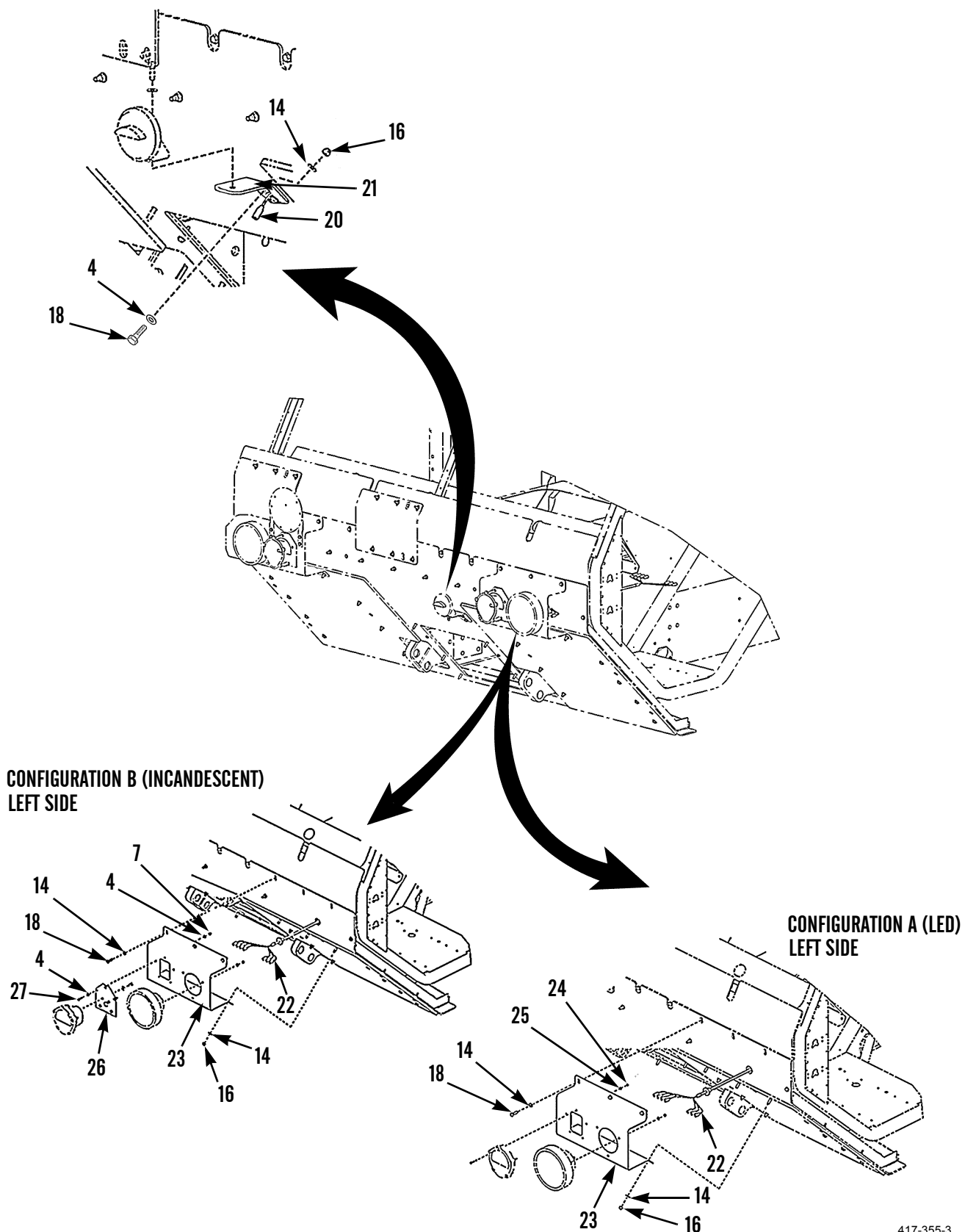


Figure 5. Front Armor Kit and Mounting Hardware (Sheet 3 of 4)

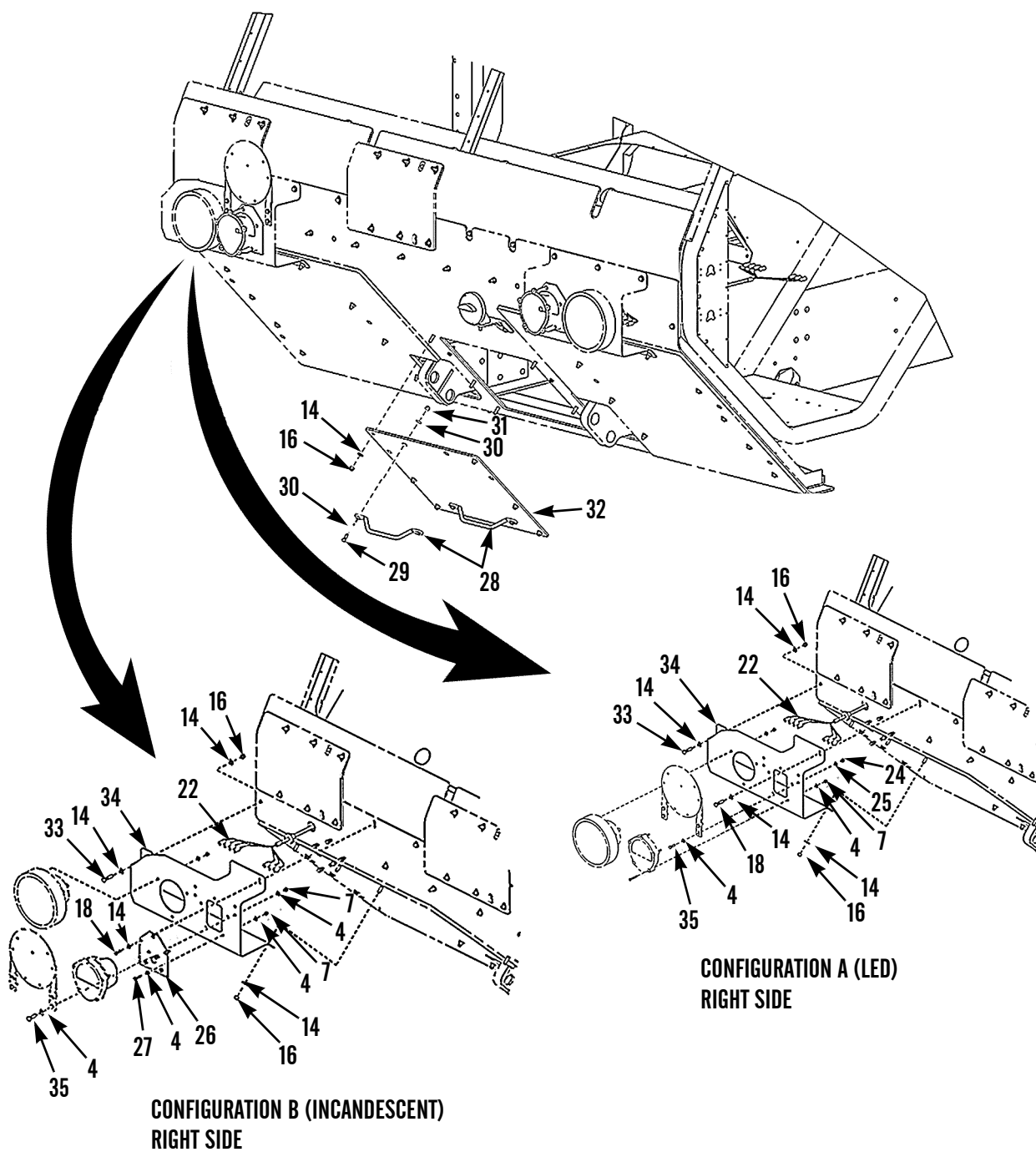


Figure 5. Front Armor Kit and Mounting Hardware (Sheet 4 of 4)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM	SMR			PART		
NO	CODE	NSN	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
GROUP 3307 SPECIAL PURPOSE KITS						
FIG. 5 FRONT ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2540015264411	54786	113370-1-103	ARMOR SET,SUPPLEMEN.....	1
2	PAOZZ		54786	113372-1-103	.PANEL,UPPER BRUSH G.....	1
3	PFOZZ	5305000680509	80204	B1821BH025C125N	.SCREW,CAP,HEXAGON H PART OF KIT P/N	16
					113395-1.....	
4	PFOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT PART OF KIT P/N 113395-	52
					1.....	
5	PAOZZ	5340015316011	54786	113375-5-103	.PLATE,MOUNTING.....	4
6	PAOZZ	5340015317748	54786	113375-1-103	.PLATE,MOUNTING.....	4
7	PFOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT,SELF-LOCKING,HE PART OF KIT P/N	26
					113395-1.....	
8	PAOZZ		54786	113375-9-103	.PLATE,MOUNTING.....	2
9	PAOZZ	5340015319638	54786	113376-1-103	.PLATE,MOUNTING.....	2
10	PAOZZ	2590015317224	54786	113371-1-103	.ARMOR,SUPPLEMENTAL,.....	1
11	PFOZZ	5305011019420	96906	MS24693-A74	.SCREW,MACHINE,INT. PART OF KIT P/N	6
					113395-1.....	
12	PAOZZ		54786	113379-1-103	.SEAL,ENVIRONMENTAL,.....	2
13	PFOZZ	5305011409118	80204	B1821BH038C088N	.SCREW,CAP,HEXAGON H PART OF KIT P/N	2
					113395-1.....	
14	PFOZZ	5310000806004	96906	MS27183-14	.WASHER,FLAT PART OF KIT P/N 113395-	63
					1.....	
15	PFOZZ	5305008213869	80204	B1821BH038C175N	.SCREW,CAP,HEXAGON H PART OF KIT P/N	8
					113395-1.....	
16	PFOZZ	5310009359021	96906	MS51943-35	.NUT,SELF-LOCKING,HE PART OF KIT P/N	42
					113395-1.....	
17	PAOZZ	2540015317204	54786	113377-1-103	.ARMOR,SUPPLEMENTAL,.....	2
18	PFOZZ	5305000680511	80204	B1821BH038C125N	.SCREW,CAP,HEXAGON H PART OF KIT P/N	7
					113395-1.....	
19	PAOZZ	2540015319641	54786	113378-1-103	.ARMOR,SUPPLEMENTAL,.....	2
20	PAOZZ		54786	111438-3	.PIGTAIL WIRE.....	1
21	PAOZZ	2590015315970	54786	113355-1-103	.BRACKET,VEHICULAR C.....	1
22	PAOZZ		54786	111438-4	.HARNESSE,ELECTRICAL.....	2
23	PAOZZ	2590015315970	54786	113374-1-103	.BRACKET,VEHICULAR C LH.....	1
24	PFOZZ	5310015038993	3Y949	8310085	.NUT,LOCK PART OF KIT P/N 113395-1..	6
25	PFOZZ	5310008098544	96906	MS27183-7	.WASHER,FLAT PART OF KIT P/N 113395-	12
					1.....	
26	PAOZZ		54786	111442-1-103	.PLATE,MOUNTING.....	2
27	PFOZZ	5305000712505	80204	B1821BH025C088N	.SCREW,CAP,HEXAGON H PART OF KIT P/N	10
					113395-1.....	
28	PAOZZ		54786	31-8-BLK	.HANDLE,GRAB.....	2
29	PFOZZ	5306002264829	80204	B1821BH031C125N	.BOLT,MACHINE PART OF KIT P/N 113395	4
					-1.....	
30	PFOZZ	5310000814219	96906	MS27183-12	.WASHER,FLAT PART OF KIT P/N 113395-	8
					1.....	

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
31	PFOZZ	5310008140673	96906	MS51943-33	.NUT, SELF-LOCKING, HE PART OF KIT P/N 113395-1.....	4
32	PAOZZ	2540015314659	54786	113373-1-103	.ARMOR, SUPPLEMENTAL,	1
33	PFOZZ	5305007252317	80204	B1821BH038C150N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113395-1.....	4
34	PAOZZ	2590015315152	54786	113374-3-103	.BRACKET, VEHICULAR C.....	1
35	PFOZZ	5305002253843	80204	B1821BH025C100N	.SCREW, CAP, HEXAGON H PART OF KIT P/N 113395-1.....	4

END OF FIGURE

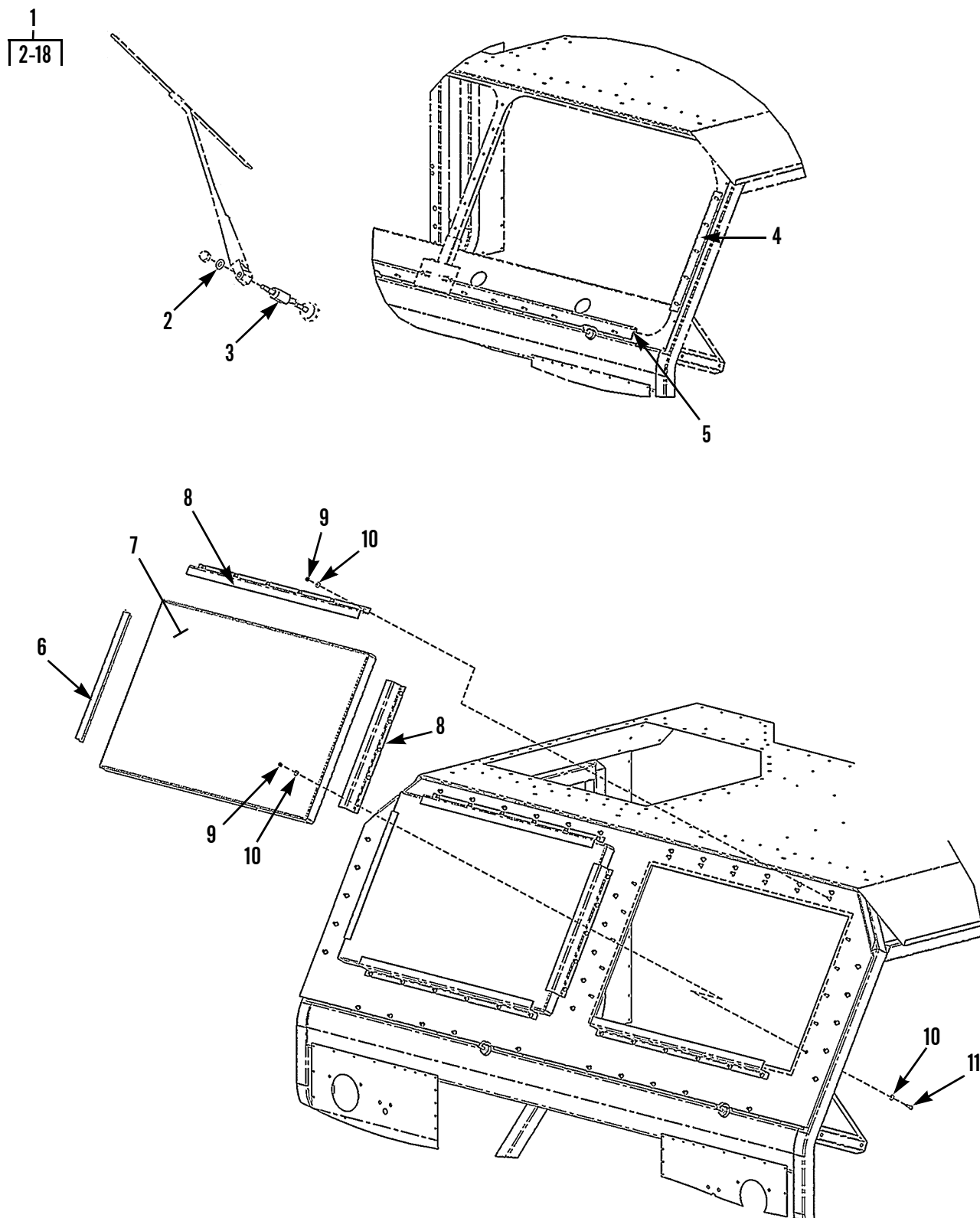


Figure 6. Windshield Armor Kit and Mounting Hardware (Sheet 1 of 2)

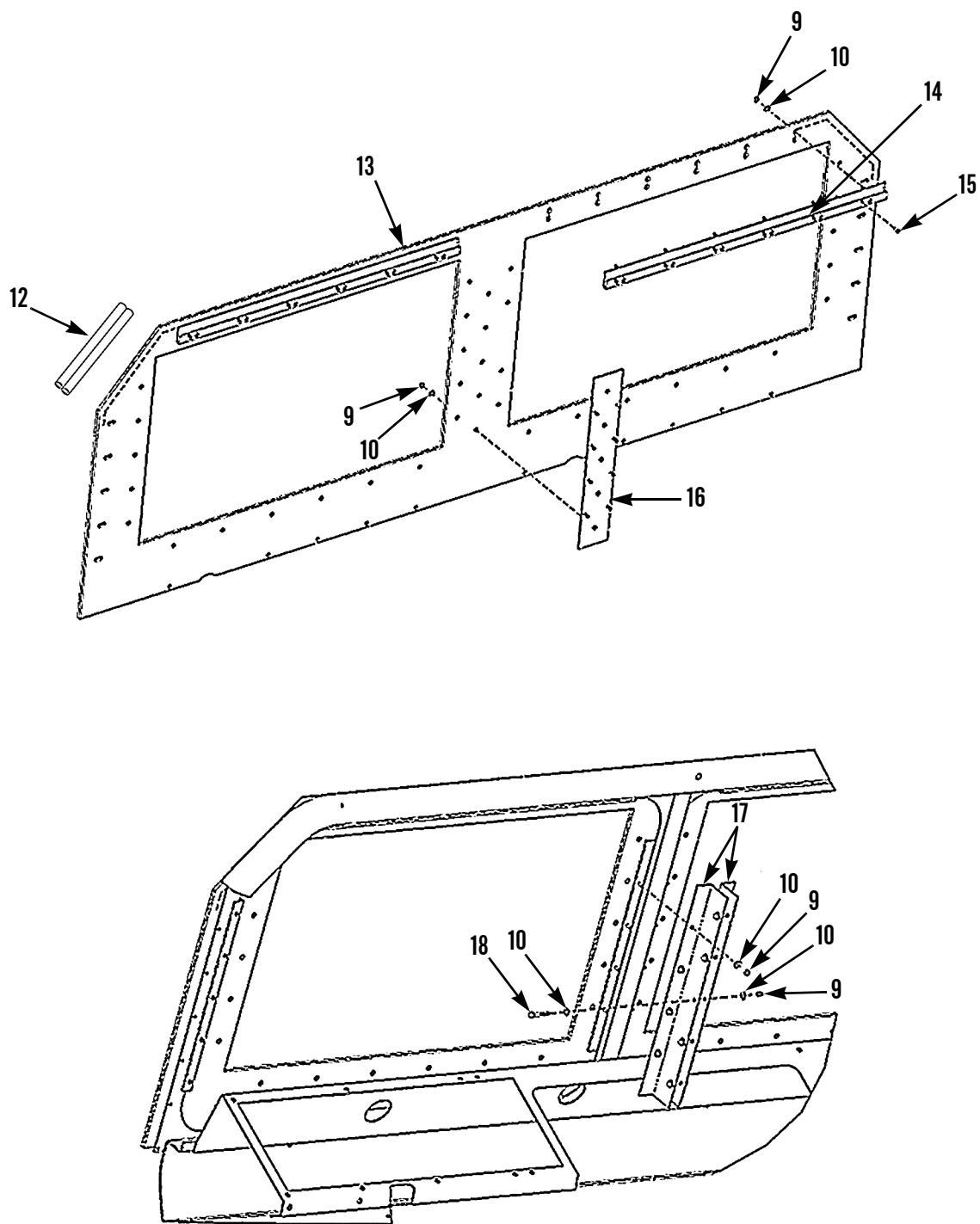


Figure 6. Windshield Armor Kit and Mounting Hardware (Sheet 2 of 2)

(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 WINDSHIELD ARMOR KIT AND MOUNTING HARDWARE						
1	PAOZZ	2510015261152	54786	113380-1-103	WINDOW,VEHICULAR.....	1
2	PFOZZ	5310001800277	18876	541844	.WASHER,LOCK PART OF KIT P/N 113396-1.....	2
3	PAOZZ	5365015319624	54786	111408-3	.SPACER,SLEEVE.....	2
4	PAOZZ		54786	106734-7-103	.BRACKET,VEHICULAR C SIDE MOUNTING.	2
5	PAOZZ	2590015315106	54786	106734-5-103	.BRACKET,VEHICULAR C BOTTOM MOUNTING.....	2
6	PAOZZ	2590015317282	54786	113383-3-103	.BRACKET,VEHICULAR C.....	4
7	PAOZZ	2540015307355	54786	113381-1	.ARMOR SET,SUPPLEMEN.....	2
8	PAOZZ		54786	113383-1-103	.BRACKET,VEHICULAR C.....	4
9	PFOZZ	5310000614650	96906	M45913/3-4CG8C	.NUT,SELF-LOCKING,HE PART OF KIT P/N 113396-1.....	94
10	PFOZZ	5310008238804	96906	MS27183-9	.WASHER,FLAT PART OF KIT P/N 113396-1.....	131
11	PFOZZ	5305002253843	80204	B1821BH025C100N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113396-1.....	32
12	PAOZZ	5330015314908	54786	104303-1	.SEAL,NONMETALLIC ST.....	1
13	PAOZZ	2510015318235	54786	106721-1-103	.FRAME,WINDOW,VEHICU.....	1
14	PAOZZ		54786	106734-6-103	.BRACKET,VEHICULAR C TOP MOUNTING..	2
15	PFOZZ	5305011152505	80205	MS35190-287L	.SCREW,CAP,SOCKET HE PART OF KIT P/N 113396-1.....	34
16	PAOZZ		54786	113384-1-103	.PLATE,MOUNTING.....	1
17	PAOZZ	2590015315017	54786	113385-1-103	.BRACKET,VEHICULAR C.....	2
18	PFOZZ	5305000712510	80204	B1821BH025C175N	.SCREW,CAP,HEXAGON H PART OF KIT P/N 113396-1.....	5

END OF FIGURE

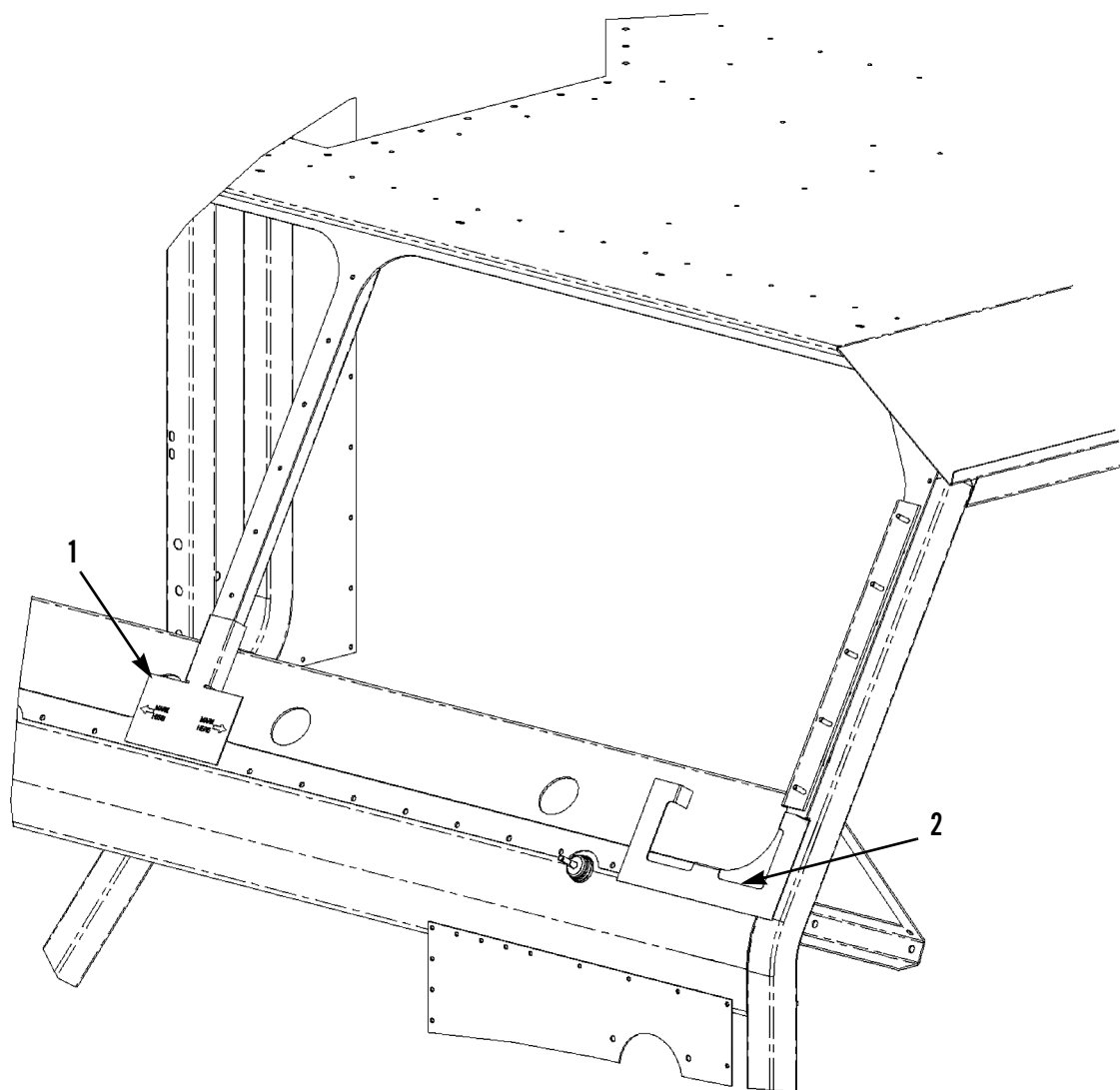


Figure 7. Templates

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM	SMR			PART		
NO	CODE	NSN	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY

GROUP 3307 SPECIAL PURPOSE KITS

FIG. 7 TEMPLATES

1	PAOZZ	3465015319634	54786	107405-3	GUIDE, DRILL.....	1
2	PAOZZ	3465015319566	54786	107405-1	TEMPLATE, WINDSHIELD.....	1

END OF FIGURE

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM	SMR			PART		
NO	CODE	NSN	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY

GROUP 94 REPAIR KITS

GROUP 9401 REPAIR KITS

FIG. KITS

PAOZZ 5325015264575 54786 113391-1

PARTS KIT, FASTENER..... 1

BOLT, MACHINE	(2)	1-87
BOLT, MACHINE	(9)	1-63
BOLT, MACHINE	(2)	1-84
INSERT, SCREW THREAD	(4)	1-65
NUT, LOCK, 10-24	(8)	1-78
NUT, PLAIN, BLIND RIV	(2)	1-83
NUT, SELF-LOCKING, HE	(2)	1-91
NUT, SELF-LOCKING, HE	(32)	1-69
NUT, SELF-LOCKING, HE	(3)	1-103
NUT, SELF-LOCKING, HE	(2)	1-100
SCREW, CAP, HEXAGON H	(5)	1-96
SCREW, CAP, HEXAGON H	(15)	1-93
SCREW, CAP, HEXAGON H	(4)	1-71
SCREW, CAP, HEXAGON H	(2)	1-104
SCREW, CAP, HEXAGON H	(1)	1-105
SCREW, CAP, HEXAGON H	(2)	1-92
SCREW, CAP, HEXAGON H	(2)	1-85
SCREW, CAP, SOCKET HE	(10)	1-61
SCREW, CAP, HEXAGON H	(12)	1-89
SCREW, CAP, HEXAGON H	(4)	1-98
SCREW, MACHINE	(8)	1-76
SCREW, MACHINE	(8)	1-75
WASHER, FLAT	(8)	1-77
WASHER, FLAT	(2)	1-90
WASHER, FLAT	(11)	1-62
WASHER, FLAT	(58)	1-70
WASHER, FLAT	(6)	1-102
WASHER, FLAT	(4)	1-99

PAOZZ 5325015264582 54786 113392-1

PARTS KIT, FASTENER..... 1

BOLT, MACHINE	(14)	2-13
BOLT, MACHINE	(2)	2-21
NUT, SELF-LOCKING	(4)	2-24
NUT, SELF-LOCKING, HE	(16)	2-8
NUT, SELF-LOCKING, HE	(4)	2-18
NUT, SELF-LOCKING, HE	(24)	2-6
SCREW, CAP, HEXAGON H	(8)	2-10
SCREW, CAP, HEXAGON H	(8)	2-31
SCREW, CAP, HEXAGON H	(4)	2-27
SCREW, CAP, HEXAGON H	(8)	2-5
SCREW, MACHINE	(12)	2-14
SCREW, TAPPING	(10)	2-29

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM	SMR			PART		
NO	CODE	NSN	CAGEC	NUMBER	DESCRIPTION AND USABLE ON CODES(UOC)	QTY
					WASHER, FLAT (16)	2-15
					WASHER, FLAT (32)	2-7
					WASHER, FLAT (18)	2-12
					WASHER, FLAT (36)	2-4
PAOZZ	5325015264577	54786	113393-1		PARTS KIT, FASTENER.....	1
					NUT, SELF-LOCKING, HE (29)	3-2
					SCREW, CAP, HEXAGON H (3)	3-11
					SCREW, CAP, HEXAGON H (18)	3-4
					SCREW, CAP, HEXAGON H (7)	3-10
					WASHER, FLAT (58)	3-3
PAOZZ	5325015264447	54786	113394-1		PARTS KIT, FASTENER.....	1
					NUT, SELF-LOCKING, HE (16)	4-10
					NUT, SELF-LOCKING, HE (13)	4-17
					NUT, SELF-LOCKING, HE (8)	4-26
					NUT, SELF-LOCKING, HE (8)	4-11
					SCREW, CAP, HEXAGON H (2)	4-3
					SCREW, CAP, HEXAGON H (4)	4-7
					SCREW, CAP, HEXAGON H (1)	4-22
					SCREW, CAP, HEXAGON H (3)	4-18
					SCREW, CAP, HEXAGON H (13)	4-13
					SCREW, CAP, HEXAGON H (4)	4-16
					SCREW, CAP, HEXAGON H (8)	4-23
					SCREW, CAP, HEXAGON H (4)	4-5
					SCREW, CAP, HEXAGON H (2)	4-21
					SCREW, CAP, HEXAGON H (6)	4-28
					WASHER, FLAT (28)	4-2
					WASHER, FLAT (34)	4-14
					WASHER, FLAT (16)	4-24
					WASHER, FLAT (16)	4-6
PAOZZ	5325015264507	54786	113395-1		PARTS KIT, FASTENER.....	1
					BOLT, CAP, HEAD, INT. (6)	5-11
					BOLT, MACHINE (4)	5-29
					NUT, LOCK (6)	5-24
					NUT, SELF-LOCKING, HE (26)	5-7
					NUT, SELF-LOCKING, HE (4)	5-31
					NUT, SELF-LOCKING, HE (42)	5-16
					SCREW, CAP, HEXAGON H (10)	5-27
					SCREW, CAP, HEXAGON H (16)	5-3
					SCREW, CAP, HEXAGON H (2)	5-13
					SCREW, CAP, HEXAGON H (7)	5-18
					SCREW, CAP, HEXAGON H (4)	5-33
					SCREW, CAP, HEXAGON H (8)	5-15
					SCREW, CAP, HEXAGON H (4)	5-35
					WASHER, FLAT (12)	5-25
					WASHER, FLAT (52)	5-4
					WASHER, FLAT (8)	5-30
					WASHER, FLAT (63)	5-14

(1) ITEM NO	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODES (UOC)	(7) QTY
	PAOZZ		54786	113396-1	PARTS KIT, WINDSHIEL.....	1
					NUT, SELF-LOCKING, HE (94)	6-10
					SCREW, CAP, HEXAGON H (32)	6-12
					SCREW, CAP, HEXAGON H (5)	6-19
					SCREW, SET, SQUARE HE (34)	6-16
					SCREW, SET, SOCKET (2)	6-4
					WASHER, FLAT (131)	6-11
					WASHER, LOCK (2)	6-2

END OF FIGURE

CROSS-REFERENCE INDEXES
NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-010-3091	1	75	5306-00-226-4829	2	13
5305-00-012-0620	1	59		5	29
	2	14	5306-00-226-4832	2	21
5310-00-014-5847	1	11	5310-00-241-6659	1	103
5305-00-022-7242	1	37	5310-00-488-3889	1	100
5310-00-044-3339	1	44		4	17
5310-00-061-4650	1	91	5306-00-554-4767	1	54
	2	8	5305-00-724-7225	4	23
	5	7	5305-00-725-2317	1	96
	6	9		2	27
5310-00-061-4651	4	26		3	4
5305-00-068-0509	1	33		5	33
	1	92	5305-00-781-3927	4	18
	5	3	5305-00-781-3930	1	56
5305-00-068-0511	3	11	5305-00-782-9489	1	71
	4	28		4	7
	5	18	5305-00-808-0864	4	22
5305-00-071-2070	4	13	5310-00-809-4061	1	102
5305-00-071-2077	4	16	5310-00-809-5997	1	43
5305-00-071-2081	1	85		1	99
	1	98		4	14
5305-00-071-2083	1	52	5310-00-809-8533	4	6
5305-00-071-2505	5	27	5310-00-809-8544	1	7
5305-00-071-2509	1	6		1	77
	2	31		2	15
5305-00-071-2510	6	18		5	25
5305-00-071-2522	1	53	5310-00-814-0673	2	18
	1	89		5	31
5310-00-080-6004	1	22	5305-00-821-3869	1	30
	1	70		1	93
	2	4		2	5
	3	3		3	10
	4	2		4	3
	5	14		5	15
5310-00-081-4219	1	40	5310-00-823-8804	1	5
	1	62		1	90
	2	12		2	7
	5	30		5	4
5305-00-119-3571	1	16		6	10
5325-00-174-5316	1	74	5305-00-857-6886	1	104
5310-00-180-0277	6	2	5310-00-935-9021	1	69
5310-00-183-4421	1	23		2	6
5305-00-225-3843	2	10		3	2
	5	35		4	10
	6	11		5	16
5306-00-226-4825	1	87	5305-00-947-4355	4	5
5306-00-226-4827	1	41	5305-00-947-4358	4	21
	1	84	5305-00-964-0503	1	57
5306-00-226-4829	1	49	5305-00-978-9359	1	8
	1	63	5305-00-978-9381	1	20

CROSS-REFERENCE INDEXES
NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-00-984-6216	1	76	2590-01-531-5144	1	24
5305-00-990-1347	1	27	9515-01-531-5145	1	55
5305-01-032-2311	1	105	9515-01-531-5146	1	48
5310-01-054-2779	2	24	2590-01-531-5152	5	34
5305-01-126-2322	1	61	2590-01-531-5177	1	19
5305-01-140-9118	5	13	2540-01-531-5179	1	9
5305-01-211-7464	2	29	2540-01-531-5183	4	27
5340-01-365-0250	1	81	2540-01-531-5214	2	26
5310-01-413-3276	1	83	5340-01-531-5649	1	15
5310-01-415-1314	1	17	2590-01-531-5970	5	23
5340-01-468-4593	2	17	2540-01-531-5984	4	19
5325-01-483-7480	1	65	2510-01-531-5993	1	34
5340-01-512-7409	1	82	5340-01-531-6011	5	5
2510-01-526-1152	6	1	3040-01-531-6706	1	31
2540-01-526-4370	1	1	2590-01-531-6868	5	21
2540-01-526-4374	2	1	5985-01-531-6870	2	3
2540-01-526-4382	1	1	2590-01-531-6883	2	28
2540-01-526-4395	4	1	2590-01-531-7198	1	34
2540-01-526-4404	3	1	2540-01-531-7209	3	7
2540-01-526-4411	5	1	2510-01-531-7219	1	10
5325-01-526-4447	KITS		2590-01-531-7224	5	10
5325-01-526-4507	KITS		2540-01-531-7227	4	15
5325-01-526-4575	KITS		2590-01-531-7232	1	64
5325-01-526-4577	KITS		5340-01-531-7748	5	6
5325-01-526-4582	KITS				
2540-01-530-7355	6	7			
2540-01-530-7453	1	3			
2540-01-530-7454	1	3			
2590-01-531-4644	2	9			
2590-01-531-4649	1	21			
2590-01-531-4653	1	95			
2540-01-531-4656	4	20			
2540-01-531-4659	5	32			
2540-01-531-4661	4	8			
2540-01-531-4665	4	25			
2540-01-531-4669	2	2			
5310-01-531-4881	2	19			
	3	12			
5330-01-531-4883	1	12			
5330-01-531-4908	6	12			
2590-01-531-4959	1	24			
2590-01-531-4966	1	36			
2510-01-531-4970	1	14			
2540-01-531-4983	3	9			
2590-01-531-5017	6	17			
2540-01-531-5026	1	35			
5340-01-531-5029	1	79			
2510-01-531-5033	1	2			
2590-01-531-5106	6	5			
2510-01-531-5137	KITS				

CROSS-REFERENCE INDEXES
PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
78276	ALS4-518-150	5310-01-413-3276	1	83
78276	ALS4-616-150	5325-01-483-7480	1	65
80204	B1821BH025C088N	5305-00-071-2505	5	27
80204	B1821BH025C100N	5305-00-225-3843	2	10
			5	35
			6	11
80204	B1821BH025C125N	5305-00-068-0509	1	33
			1	92
			5	3
80204	B1821BH025C150N	5305-00-071-2509	1	6
			2	31
80204	B1821BH025C175N	5305-00-071-2510	6	18
80204	B1821BH025C475N	5305-00-071-2522	1	53
			1	89
80204	B1821BH031C075N	5306-00-226-4825	1	87
80204	B1821BH031C100N	5306-00-226-4827	1	41
			1	84
80204	B1821BH031C125N	5306-00-226-4829	1	49
			1	63
			2	13
			5	29
80204	B1821BH031C175N	5306-00-226-4832	2	21
80204	B1821BH038C088N	5305-01-140-9118	5	13
80204	B1821BH038C125N	5305-00-068-0511	3	11
			4	28
			5	18
80204	B1821BH038C150N	5305-00-725-2317	1	96
			2	27
			3	4
			5	33
80204	B1821BH038C175N	5305-00-821-3869	1	30
			1	93
			2	5
			3	10
			4	3
			5	15
80204	B1821BH038C200N	5305-00-782-9489	1	71
			4	7
80204	B1821BH038C325N	5305-00-808-0864	4	22
80204	B1821BH038C350N	5305-00-781-3927	4	18
80204	B1821BH038C450N	5305-00-857-6886	1	104
80204	B1821BH038C475N	5305-00-781-3930	1	56
80204	B1821BH038C500N	5305-00-964-0503	1	57
80204	B1821BH044C425N	5305-01-032-2311	1	105
80204	B1821BH050C175N	5305-00-071-2070	4	13
80204	B1821BH050C350N	5305-00-071-2077	4	16
80204	B1821BH050C450N	5305-00-071-2081	1	85
			1	98
80204	B1821BH050C500N	5305-00-071-2083	1	52
80204	B1821BH063C275N	5305-00-724-7225	4	23
80204	B1821BH075C325N	5305-00-947-4355	4	5

CROSS-REFERENCE INDEXES
PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
80204	B1821BH075C400N	5305-00-947-4358	4	21
19220	D-400-53	5340-01-512-7409	1	82
15653	F29589-3-3	5310-01-054-2779	2	24
94222	F7-51	5340-01-468-4593	2	17
54786	H-32-8-0.1875		1	67
54786	LE-052D-11-S		1	32
96906	MS16997-49	5305-00-978-9359	1	8
96906	MS16997-63	5305-00-978-9381	1	20
80205	MS17829Z3C	5310-01-415-1314	1	17
80205	MS24667-56	5305-01-126-2322	1	61
96906	MS24693-A74		5	11
96906	MS27183-12	5310-00-081-4219	1	40
			1	62
			2	12
			5	30
96906	MS27183-14	5310-00-080-6004	1	22
			1	70
			2	4
			3	3
			4	2
			5	14
96906	MS27183-15	5310-00-809-4061	1	102
96906	MS27183-17	5310-00-809-5997	1	43
			1	99
			4	14
96906	MS27183-21		4	24
96906	MS27183-23	5310-00-809-8533	4	6
96906	MS27183-7	5310-00-809-8544	1	7
			1	77
			2	15
			5	25
96906	MS27183-9	5310-00-823-8804	1	5
			1	90
			2	7
			5	4
			6	10
80205	MS35190-287L		6	15
80205	MS35190-292	5305-00-990-1347	1	27
96906	MS35206-269	5305-00-984-6216	1	76
96906	MS35239-76	5305-00-119-3571	1	16
96906	MS35241-45		4	11
96906	MS35241-72	5305-00-012-0620	1	59
			2	14
96906	MS35249-75	5305-00-022-7242	1	37
96906	MS35489-2	5325-00-174-5316	1	74
96906	MS51869-28	5305-01-211-7464	2	29
96906	MS51943-33	5310-00-814-0673	2	18
			5	31
96906	MS51943-35	5310-00-935-9021	1	69
			2	6
			3	2

CROSS-REFERENCE INDEXES

PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS51943-35	5310-00-935-9021	4	10
			5	16
96906	MS51943-39	5310-00-488-3889	1	100
			4	17
96906	M45913/3-10CG8C	5310-00-061-4651	4	26
96906	M45913/3-4CG8C	5310-00-061-4650	1	91
			2	8
			5	7
			6	9
81349	M45913/3-7CG8C	5310-00-241-6659	1	103
80063	SM-D-450462-4	5310-00-014-5847	1	11
82458	WLA3816GRB	5310-00-183-4421	1	23
54786	X2199		1	13
6N299	0901309-5	5310-00-010-3091	1	75
54786	103B375B3X3/16E		2	20
54786	104303-1	5330-01-531-4908	6	12
54786	106719-1-103		4	4
54786	106721-1-103		6	13
54786	106734-5-103	2590-01-531-5106	6	5
54786	106734-6-103		6	14
54786	106734-7-103		6	4
54786	106735-1-103		2	30
54786	106780-1-103		2	23
54786	106780-3-103	2540-01-531-5214	2	26
54786	106782-1		1	25
54786	106783-1	2590-01-531-5144	1	24
54786	106783-2	2590-01-531-4959	1	24
54786	106783-3	2590-01-531-4649	1	21
54786	106783-4		1	21
54786	106795-1	5310-01-531-4881	2	19
			3	12
54786	107405-1		7	2
54786	107405-3		7	1
54786	111403-1-103	2540-01-531-4983	3	9
54786	111408-3		6	3
54786	111411-1		1	88
54786	111438-3		5	20
54786	111438-4		5	22
54786	111442-1-103		5	26
54786	1120A49		1	4
54786	113310-1-103	2540-01-526-4382	1	1
54786	113310-2-103	2540-01-526-4370	1	1
54786	113311-1-103		1	60
54786	113311-3-103		1	66
54786	113312-1-103		1	97
54786	113312-3-103		1	94
54786	113313-1-103		1	68
54786	113314-1-103	2590-01-531-7232	1	64
54786	113315-1	3040-01-531-6706	1	31
54786	113316-1-103		1	101
54786	113317-1		1	46

CROSS-REFERENCE INDEXES
PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
54786	113318-1		1	72
54786	113319-1-103	2510-01-531-4970	1	14
54786	113319-3-103	2510-01-531-7219	1	10
54786	113320-1-103		1	2
54786	113320-2-103	2510-01-531-5033	1	2
54786	113324-1	2590-01-531-5177	1	19
54786	113324-2		1	19
54786	113325-1		1	26
54786	113327-1	5340-01-531-5029	1	79
54786	113328-1	2540-01-531-5026	1	35
54786	113329-1	5330-01-531-4883	1	12
54786	113329-3	5340-01-531-5649	1	15
54786	113330-1	2540-01-530-7454	1	3
54786	113330-2	2540-01-530-7453	1	3
54786	113335-1	2540-01-531-5179	1	9
54786	113337-1		1	45
54786	113338-1		1	58
54786	113338-3		1	38
54786	113339-1		1	28
54786	113340-1-103	2540-01-526-4374	2	1
54786	113341-1-103	2540-01-531-4669	2	2
54786	113346-1-103		2	16
54786	113347-1-103	2590-01-531-4644	2	9
54786	113348-1-103	5985-01-531-6870	2	3
54786	113349-1-103		2	25
54786	113350-1-103	2540-01-526-4404	3	1
54786	113351-1-103		3	8
54786	113351-2-103		3	6
54786	113352-1-103	2540-01-531-7209	3	7
54786	113352-3-103	2590-01-531-4653	1	95
54786	113352-5-103		3	5
54786	113354-1-103		1	42
54786	113355-1-103	2590-01-531-6868	5	21
54786	113356-1-103		1	73
54786	113357-1	2590-01-531-6883	2	28
54786	113360-1-103	2540-01-526-4395	4	1
54786	113361-1-103		4	29
54786	113362-1-103		4	9
54786	113363-1-103	2540-01-531-5183	4	27
54786	113364-1-103	2540-01-531-7227	4	15
54786	113365-1-103	2540-01-531-5984	4	19
54786	113366-1-103		4	30
54786	113366-2-103		4	12
54786	113367-1-103	2540-01-531-4656	4	20
54786	113369-1-103	2540-01-531-4665	4	25
54786	113370-1-103	2540-01-526-4411	5	1
54786	113371-1-103	2590-01-531-7224	5	10
54786	113372-1-103		5	2
54786	113373-1-103	2540-01-531-4659	5	32
54786	113374-1-103	2590-01-531-5970	5	23
54786	113374-3-103	2590-01-531-5152	5	34

CROSS-REFERENCE INDEXES
PART NUMBER INDEX

CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
54786	113375-1-103	5340-01-531-7748	5	6
54786	113375-3-103	2540-01-531-4661	4	8
54786	113375-5-103	5340-01-531-6011	5	5
54786	113375-9-103		5	8
54786	113376-1-103		5	9
54786	113377-1-103		5	17
54786	113378-1-103		5	19
54786	113379-1-103		5	12
54786	113380-1-103	2510-01-526-1152	6	1
54786	113381-1	2540-01-530-7355	6	7
54786	113383-1-103		6	8
54786	113383-3-103		6	6
54786	113384-1-103		6	16
54786	113385-1-103	2590-01-531-5017	6	17
54786	113386-1		1	86
54786	113387-1	9515-01-531-5145	1	55
54786	113387-3		1	39
54786	113387-5	9515-01-531-5146	1	48
54786	113388-1		1	51
54786	113389-1	2510-01-531-5993	1	34
54786	113389-2	2590-01-531-7198	1	34
54786	113389-3		1	36
54786	113389-4	2590-01-531-4966	1	36
54786	113391-1	5325-01-526-4575	KITS	
54786	113392-1	5325-01-526-4582	KITS	
54786	113393-1	5325-01-526-4577	KITS	
54786	113394-1	5325-01-526-4447	KITS	
54786	113395-1	5325-01-526-4507	KITS	
54786	113396-1	2510-01-531-5137	KITS	
19220	2T-400-52	5340-01-365-0250	1	81
54786	31-8-BLK		1	50
			2	11
			5	28
19207	443339	5310-00-044-3339	1	44
54786	500 BLK		1	29
18876	541844	5310-00-180-0277	6	2
54786	8060RD5.1		1	47
54786	8080RS-535		2	22
1TUY2	8288	5306-00-554-4767	1	54
3Y949	8310085		1	78
			5	24
54786	9D-400ULZINC		1	18
			1	80
54786	9D-400URZINC		1	18
			1	80

CREW PROTECTION KIT INSTALLATION INSTRUCTIONS

0037 00

**ARMOR CREW PROTECTION KIT
INSTALLATION INSTRUCTIONS AND PARTS LIST
FOR THE
PALLETIZED LOADING SYSTEM (PLS)**

Contract No. W56HZV-04-C-0259
CDRL Items A001 and A002

Prepared for:

U.S. Army Tank – Automotive Command (TACOM)
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LIST OF ACRONYMS AND ABBREVIATIONS

AR	as required
Assy	assembly
CPK	Crew Protection Kit
ft-lb	foot-pounds
in.	inch
LED	light-emitting diode
MIL-SPEC	Military Specification
P/N	Part Number
PLS	Palletized Loading System



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1. INTRODUCTION

1.1 GENERAL

This document provides the Installation Instructions for the Armor Crew Protection Kit (CPK, or the Kit) for the Palletized Loading System (PLS) 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 PLS and stored in dedicated storage containers when they are not required.

This Kit provides the PLS with improved ballistic protection against mines, improvised explosive devices (IEDs), light artillery fragments, and 7.62-mm Ball projectiles. The Kit consists of Right, Left, and Center Blast Deflectors; Front, Side, Rear, and Roof Cab Armor Panels; Doors; Brush Guard Armor; Windshield and Side Window Armor, and an Armored Escape Hatch (see Figure 1).

1.2 CRATING / 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 PLS. Because of the weight of the specific armor panels within the Kit, care should be taken during removal of the panels from the containers or 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 PLS 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.

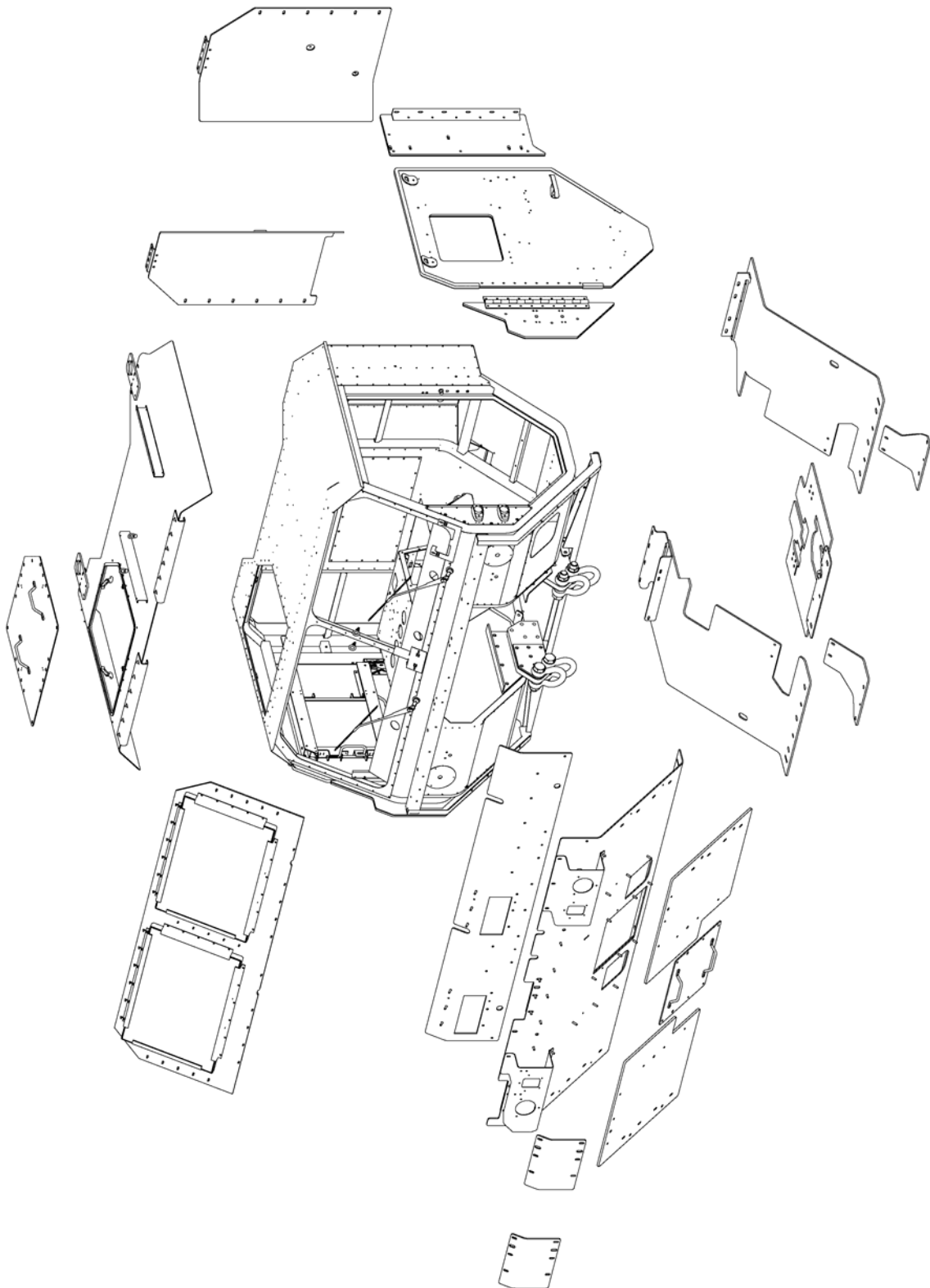


Figure 1. PLS Armor Crew Protection Kit component locations.



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2. DESCRIPTION AND OPERATION

The physical characteristics of the PLS Crew Protection Armor Kit are listed in Table 1.

Table 1. Weight breakdown		
Kit Name	P/N	Kit Weight (lb)
Armor Kit, Side, PLS, (LH)	113310-1-103	447
Armor Kit, Side, PLS, (RH)	113310-2-103	447
Armor Kit, Roof, PLS	113340-1-103	335
Armor Kit, Rear, PLS	113350-1-103	266
Armor Kit, Underbody, PLS	113360-1-103	573
Armor Kit, Front, PLS	113370-1-103	724
Armor Kit, Windshield, PLS	113380-1-103	399
Total Kit Weight		3,191
Removed Items		
Left and Right Door		200
Brush Guard		112
Front Windshields		64
Clearance Light Bar		15
Roof Panel		12
Mud Flaps		22
Total Weight of Removed Items		425
Total Weight Increase to Vehicle		2,766

2.1 GENERAL

The PLS Crew Protection Armor Kit consists of two armored doors, roof armor, transparent windshield armor, three blast deflectors, one upper and one lower brush guard, forward and rear side armor panels, rear cab armor panels, an armored access cover (front), and an armored escape hatch (roof).

The Door Armor Attachment Assembly consists of an armor panel and hinge that is mounted to the existing door frame and is bolted in place of the existing door's hinge. The Armored Door Assembly (which incorporates a sliding armored window) is bolted to the Door Armor Attachment Assembly. The Roof Armor Panel is installed using the existing bolt hole pattern (used for the Machine Gun Mount) on the roof on the passenger side and the mounting brackets (front and rear) on the driver's side. The Roof Armor is a one-piece panel that requires material handling equipment (hoist, forklift, etc.) for installation due to its weight. The windshield and side windows are constructed of transparent armor. The remaining armor panels are fastened to the vehicle using attachment brackets and Grade 8 attachment hardware.

2.2 PARTS LIST

The PLS Crew Protection Armor Kit, P/N 113300-1-103, is composed of eight sub-kits, as follows:

Table 2. Parts List “PLS Crew Protection Armor Kit” P/N 113300-1-103			
Item No.	Name	P/N	Quantity
1	Armor Kit, Side, PLS, (LH)	113310-1-103	1
2	Armor Kit, Side, PLS, (RH)	113310-2-103	1
3	Armor Kit, Roof, PLS	113340-1-103	1
4	Armor Kit, Rear, PLS	113350-1-103	1
5	Armor Kit, Underbody, PLS	113360-1-103	1
6	Armor Kit, Front, PLS	113370-1-103	1
7	Armor Kit, Windshield, PLS	113380-1-103	1
8	Fastener Kit, Extra	113390-1-103	1
9	Installation Instructions, PLS	II113300-1-103	1

The Left and Right Side Armor Kits, P/Ns 113310-1-103 and 113310-2-103, consist of the following parts:

Table 3. Parts List “Left and Right Side Armor Kits” P/Ns 113310-1-103 and 113310-2-103				
Item No.	Name	P/N	Configuration	
			-1-103	-2-103
			Quantity	
1	Sealant, Urethane	104302-1	AR	AR
2	Decal, Transparency, Cleaning	104301-1-103	1	1
3	Door Assembly, Left	113320-1-103	1	-
4	Door Assembly, Right	113320-2-103	-	1
5	Panel, Side, Forward (Steel)	113311-1-103	1	1
6	Panel, Side, Forward (Aluminum)	113311-3-103	1	1
7	Panel, Side, Aft (Steel)	113312-1-103	1	1
8	Panel, Side, Aft (Aluminum)	113312-3-103	1	1
9	Hinge, Door	113313-1-103	1	1
10	Bracket, Hinge	113314-1-103	1	1
11	Plate, Side, Aft Attachment	113316-1-103	2	2
12	Spacer, Side-Forward Panel	113318-1	4	4
13	Bracket, Upper Right Rear	113352-3-103	1	1
14	Cover Plate, Marker Light	113356-1-103	2	2
15	Fastener Kit, Side Armor, PLS	113391-1	1	1
16	Grommet, Rubber	MS35489-2	2	2
17	Support, Striker, Door	113327-1	1	1
18	Strap Assembly, Door	113386-1	1	1
19	Bushing, Headed, Press-Fit, 0.188 ID x 0.500 x 0.500 Long	H-32-8-0.1875	1	1
20	Bushing, Flanged	111411-1	2	2

The Fastener Kit for the Left and Right Side Armor Kits, P/N 113391-1 (Item 15) consists of the following parts:

Table 4. Parts List “Fasterner Kit, Side Armor Kits” P/N 113391-1			
Item No.	Name	P/N	Quantity
1	Washer, Grade 8, Ø 0.190 ID	-	8
2	Washer, Grade 8, Ø 0.250 ID	-	2
3	Washer, Grade 8, Ø 0.312 ID	-	11
4	Washer, Grade 8, Ø 0.375 ID	-	58
5	Washer, Grade 8, Ø 0.438 ID	-	6
6	Washer, Grade 8, Ø 0.500 ID	-	4
7	Nut, Hex, Self-Locking, Grade 8, 0.190-24	-	8
8	Nut, Hex, Self-Locking, Grade 8, 0.250-20	-	2
9	Nut, Hex, Self-Locking, Grade 8, 0.375-16	-	32
10	Nut, Hex, Self-Locking, Grade 8, 0.438-14	-	3
11	Nut, Hex, Self-Locking, Grade 8, 0.500-13	-	2
12	Bolt, Hex Head, Grade 8, 0.312 - 18 x 0.750 Long	-	2
13	Bolt, Hex Head, Grade 8, 0.312 - 18 x 1.250 Long	-	9
14	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.500 Long	-	5
15	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.750 Long	-	15
16	Bolt, Hex Head, Grade 8, 0.375 - 16 x 2.000 Long	-	4
17	Bolt, Hex Head, Grade 8, 0.375 - 16 x 4.500 Long	-	2
18	Bolt, Hex Head, Grade 8, 0.438 - 14 x 4.500 Long	-	3
19	Bolt, Cap Head, Internal Hex, Grade 8, 0.250 - 20 x 1.250 Long	-	2
20	Bolt, Cap Head, Internal Hex, Grade 8, 0.312 - 18 x 1.000 Long	-	2
21	Bolt, Countersunk, Grade 8, 0.375 - 16 x 2.000 Long	-	10
22	Screw, Pan Head, Grade 8, 0.190 - 24 x 1.500 Long	-	8
23	Screw, Pan Head, Grade 8, 0.190 - 24 x 0.375 Long	-	8
24	Nut, Rivet, 0.312 - 18 x 0.027 – 0.150 Grip (AVK or Equivalent)	-	2
25	Nut, Rivet, 0.375 - 16 x 0.027 – 0.150 Grip (AVK or Equivalent)	-	4
26	Bolt, Hex Head, Grade 8, 0.375 – 16 x 3.000 Long	-	2

The Armor Kit, Roof, PLS, P/N 113340-1-103, consists of the following parts:

Table 5. Parts List “Armor Kit, Roof, PLS” P/N 113340-1-103			
Item No.	Name	P/N	Quantity
1	Sealant, Urethane	104302-1	AR
2	Bracket, Roof Panel, Front	106735-1-103	2
3	Plate, Stud, Roof	106780-1-103	2
4	Plate, Stud, Roof	106780-3-103	1
5	Nut, Eye	106795-1	2
6	Panel, Roof	113341-1-103	1
7	Bracket, Escape Hatch	113357-1	4
8	Flexible Draw Latch, T-Handle	F7-51	4
9	Mount, Antenna	113348-1-103	2
10	Panel, Escape Hatch	113346-1-103	1
11	Channel, Roof Hatch	113347-1-103	2
12	Plate, Stud	113349-1-103	1
13	Spacer	8080R S .5 35	2
14	Fastener Kit, Roof, PLS	113392-1	1
15	Handle, Grab	31-8-BLK	2
16	Seat, Bulb	103B375B3X3/16E	11 ft

The Armor Kit, Roof, PLS, Fastener Kit, P/N 113392-1, consists of the following parts:

Table 6. Parts List “Armor Kit, Roof, PLS, Fastener Kit” P/N 113392-1			
Item No.	Name	P/N	Quantity
1	Washer, Grade 8, Ø 0.190 ID	-	16
2	Washer, Grade 8, Ø 0.250 ID	-	32
3	Washer, Grade 8, Ø 0.312 ID	-	18
4	Washer, Grade 8, Ø 0.375 ID	-	36
5	Nut, Hex, Self-Locking, Grade 8, 0.190-32	-	4
6	Nut, Hex, Self-Locking, Grade 8, 0.250-20	-	16
7	Nut, Hex, Self-Locking, Grade 8, 0.312-18	-	4
8	Nut, Hex, Self-Locking, Grade 8, 0.375-16	-	24
9	Bolt, Hex Head, Grade 8, 0.250 - 20 x 1.000 Long	-	8
10	Bolt, Hex Head, Grade 8, 0.250 - 20 x 1.500 Long	-	8
11	Bolt, Hex Head, Grade 8, 0.312 - 18 x 1.250 Long	-	14
12	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.500 Long	-	4
13	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.750 Long	-	8
14	Bolt, Cap Head, Internal Hex, Grade 8, 0.190 - 24 x 0.750 Long	-	12
15	Bolt, Tap Hex Head, Grade 8, 0.250-20 x 1.250 Long	-	10
16	Bolt, Hex Head, Grade 8, .312-18 X 1.750 Long	-	2

The Armor Kit, Rear, PLS, P/N 113350-1-103, consists of the following parts:

Table 7. Parts List “Armor Kit, Rear, PLS” P/N 113350-1-103			
Item No.	Name	P/N	Quantity
1	Cover, C4ISR	111403-1-103	3
2	Panel, Rear (LH)	113351-1-103	1
3	Panel, Rear (RH)	113351-2-103	1
4	Bracket, Upper Rear Panel	113352-1-103	1
5	Bracket, Upper Rear Panel	113352-5-103	1
6	Nut, Eye	106795-1	1
7	Fastener Kit, Rear Armor, PLS	113393-1	1

The Armor Kit, Rear, PLS, Fastener Kit, P/N 113393-1, consists of the following parts:

Table 8. Parts List “Armor Kit, Rear, PLS, Fastener Kit” P/N 113393-1			
Item No.	Name	P/N	Quantity
1	Washer, Grade 8, Ø 0.375 ID	-	58
2	Nut, Hex, Self-Locking, Grade 8, 0.375-16	-	29
3	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.250 Long	-	3
4	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.500 Long	-	18
5	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.750 Long	-	7
6	Bolt, Hex Head, Grade 8, 0.375 - 16 x 2.250 Long	-	1
7	Washer, Fender, 0.375 ID x 1.500	-	3

The Armor Kit, Underbody, PLS, P/N 113360-1-103, consists of the following parts:

Table 9. Parts List “Armor Kit, Underbody, PLS” P/N 113360-1-103			
Item No.	Name	P/N	Quantity
1	Panel, Mineblast, Left	113361-1-103	1
2	Panel, Mineblast, Right	113362-1-103	1
3	Panel, Mineblast, Center	113363-1-103	1
4	Bracket Assembly, Mineblast, Left	113364-1-103	1
5	Bracket Assembly, Mineblast, Right	113365-1-103	1
6	Panel, Mineblast, LHS Cover	113366-1-103	1
7	Panel, Mineblast, RHS Cover	113366-2-103	1
8	Mounting Plate, Mineblast, Center	113367-1-103	1
9	Spacer, Mineblast, Center	113369-1-103	2
10	Plate, Stud	113375-3-103	2
11	Fastener Kit, Underbody Armor, PLS	113394-1	1

The Armor Kit, Underbody, PLS, Fastener Kit, P/N 113394-1, consist of the following parts:

Table 10. Parts List “Armor Kit, Underbody, PLS, Fastener Kit” P/N 113394-1			
Item No.	Name	P/N	Quantity
1	Washer, Grade 8, Ø 0.375 ID	-	28
2	Washer, Grade 8, Ø 0.500 ID	-	34
3	Washer, Grade 8, Ø 0.625 ID	-	16
4	Washer, Grade 8, Ø 0.750 ID	-	16
5	Nut, Hex, Self-Locking, Grade 8, 0.375-16	-	16
6	Nut, Hex, Self-Locking, Grade 8, 0.500-13	-	13
7	Nut, Hex, Self-Locking, Grade 8, 0.625-11	-	8
8	Nut, Hex, Self-Locking, Grade 8, 0.750-10	-	8
9	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.750 Long	-	2
10	Bolt, Hex Head, Grade 8, 0.375 - 16 x 2.000 Long	-	4
11	Bolt, Hex Head, Grade 8, 0.375 - 16 x 2.250 Long	-	2
12	Bolt, Hex Head, Grade 8, 0.375 - 16 x 3.250 Long	-	1
13	Bolt, Hex Head, Grade 8, 0.375 - 16 x 3.500 Long	-	3
14	Bolt, Hex Head, Grade 8, 0.500 - 13 x 1.500 Long	-	4
15	Bolt, Hex Head, Grade 8, 0.500 - 13 x 1.750 Long	-	13
16	Bolt, Hex Head, Grade 8, 0.500 - 13 x 3.500 Long	-	4
17	Bolt, Hex Head, Grade 8, 0.625 - 11 x 2.750 Long	-	8
18	Bolt, Hex Head, Grade 8, 0.750 - 10 x 3.000 Long	-	2
19	Bolt, Hex Head, Grade 8, 0.750 - 10 x 3.250 Long	-	4
20	Bolt, Hex Head, Grade 8, 0.750 - 10 x 4.000 Long	-	2

The Armor Kit, Front, PLS, P/N 113370-1-103, consists of the following parts:

Table 11. Parts List “Armor Kit, Front, PLS” P/N 113370-1-103			
Item No.	Name	P/N	Quantity
1	Sealant, Urethane	104302-1	AR
2	Doubler, Blast Deflector	106719-1-103	6
3	Harness Pigtail, Seven-Wire	111438-4	2
4	Plate, Stud	113375-7-103	2
5	Harness Pigtail Adapter	111438-3	1
6	Adapter, Lamp, Headlight Bracket	111442-1-103	2
7	Bracket, Blackout Light	113355-1-103	1
8	Panel, Lower Brush Guard	113371-1-103	1
9	Panel, Upper Brush Guard	113372-1-103	1
10	Panel, Front, Winch Cover	113373-1-103	1
11	Bracket, Headlight (LH)	113374-1-103	1
12	Bracket, Headlight (RH)	113374-3-103	1
13	Plate, Stud	113375-1-103	4
14	Plate, Stud	113375-5-103	4
15	Spacer, Front, Lower Brush Guard	113376-1-103	2
16	Panel, IDE, Front Brush Guard	113377-1-103	2
17	Panel, Cover, Gun Mount	113378-1-103	2
18	Seal, Environmental, Light Cover	113379-1-103	2
19	Fastener Kit, Front Armor, PLS	113395-1	1
20	Handle, Grab	31-8-BLK	2
21	Plate, Stud	113375-9-103	2

The Armor Kit, Front, PLS, Fastener Kit, P/N 113395-1, consists of the following parts:

Table 12. Parts List “Armor Kit, Front, PLS, Fastener Kit” P/N 113395-1			
Item No.	Name	P/N	Quantity
1	Washer, Grade 8, Ø 0.190 ID	-	12
2	Washer, Grade 8, Ø 0.250 ID	-	52
3	Washer, Grade 8, Ø 0.312 ID	-	8
4	Washer, Grade 8, Ø 0.375 ID	-	63
5	Nut, Hex, Self-Locking, Grade 8, 0.190-24	-	6
6	Nut, Hex, Self-Locking, Grade 8, 0.250-20	-	26
7	Nut, Hex, Self-Locking, Grade 8, 0.312-18	-	4
8	Nut, Hex, Self-Locking, Grade 8, 0.375-16	-	42
9	Bolt, Hex Head, Grade 8, 0.250 - 20 x 0.875 Long	-	10
10	Bolt, Hex Head, Grade 8, 0.250 - 20 x 1.250 Long	-	16
11	Bolt, Hex Head, Grade 8, 0.312 - 18 x 1.250 Long	-	4
12	Bolt, Hex Head, Grade 8, 0.375 - 16 x 0.875 Long	-	2
13	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.250 Long	-	7
14	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.500 Long	-	4
15	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.750 Long	-	8
16	Bolt, Cap Head, Internal Hex, GR8, 0.190 - 24 x 0.625 Long	-	6

The Armor Kit, Windshield, PLS, P/N 113380-1, consists of the following parts:

Table 13. Parts List “Armor Kit, Windshield, PLS” P/N 113380-1-103			
Item No.	Name	P/N	Quantity
1	Window Assembly, Windshield	113381-1	2
2	Bracket, Retainer, Window, Windshield	113383-1-103	4
3	Bracket, Retainer, Window, Windshield	113383-3-103	4
4	Plate, Stud, Windshield	113384-1-103	1
5	Bracket, “L”	113385-1-103	2
6	Extension, Windshield Wiper	111408-3	2
7	Decal, Transparency, Cleaning	104301-1	2
8	Sealant, Urethane	104302-1	AR
9	Sealer, Ribbon	104303-1	30 ft
10	Frame, Windshield	106721-1-103	1
11	Bracket, Windshield, Bottom Mounting	106734-5-103	2
12	Bracket, Windshield, Top Mounting	106734-6-103	2
13	Bracket, Windshield, Side Mounting	106734-7-103	2
14	Fastener Kit, Windshield Armor, PLS	113396-1	1
15	Template, Windshield	107405-1	1
16	Template, Windshield	107405-3	1

The Armor Kit, Windshield, PLS, Fastener Kit, P/N 113396-1-103, consists of the following parts:

Table 14. Parts List “Armor Kit, Windshield, PLS, Fastener Kit” P/N 113396-1			
Item No.	Name	P/N	Quantity
1	Washer, Grade 8, Ø 0.250 ID	-	131
2	Nut, Hex, Self-Locking, Grade 8, 0.250-20	-	94
3	Bolt, Hex Head, Grade 8, 0.250 - 20 x 1.000 Long	-	32
4	Bolt, Hex Head, Grade 8, 0.250 - 20 x 1.750 Long	-	5
5	Screw, Set, Square Head, 0.250 - 20 x 0.500 Long	-	34
6	Screw, Set, Socket, 0.190 – 32 x 0.313	-	2

The Fastener Kit, Extra, PLS, P/N 113390-1, consists of the following parts:

NOTE

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

Table 15. Parts List “Fastener Kit, Extra, PLS” P/N 113390-1

Item No.	Name	P/N	Quantity
1	Bolt, Cap Head, Internal Hex, Grade 8, 0.190 – 24 x 0.625 Long	-	1
2	Bolt, Cap Head, Internal Hex, Grade 8, 0.190 – 24 x 0.750 Long	-	1
3	Bolt, Cap Head, Internal Hex, Grade 8, 0.250 – 20 x 1.250 Long	-	1
4	Bolt, Cap Head, Internal Hex, Grade 8, 0.312 – 18 x 1.000 Long	-	1
5	Bolt, Countersunk, Grade 8, 0.375 - 16 x 2.000 Long	-	1
6	Bolt, Hex Head, Grade 8, 0.250 - 20 x 0.875 Long	-	1
7	Bolt, Hex Head, Grade 8, 0.250 - 20 x 1.000 Long	-	5
8	Bolt, Hex Head, Grade 8, 0.250 - 20 x 1.250 Long	-	2
9	Bolt, Hex Head, Grade 8, 0.250 - 20 x 1.500 Long	-	3
10	Bolt, Hex Head, Grade 8, 0.250 - 20 x 1.750 Long	-	1
11	Bolt, Hex Head, Grade 8, 0.312 - 18 x 0.750 Long	-	1
12	Bolt, Hex Head, Grade 8, 0.312 - 18 x 1.250 Long	-	4
13	Bolt, Hex Head, Grade 8, 0.312 - 18 x 1.750 Long	-	1
14	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.250 Long	-	2
15	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.500 Long	-	4
16	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.750 Long	-	4
17	Bolt, Hex Head, Grade 8, 0.375 - 16 x 1.750 Long	-	1
18	Bolt, Hex Head, Grade 8, 0.375 - 16 x 2.000 Long	-	1
19	Bolt, Hex Head, Grade 8, 0.375 - 16 x 2.250 Long	-	1
20	Bolt, Hex Head, Grade 8, 0.375 - 16 x 3.250 Long	-	1
21	Bolt, Hex Head, Grade 8, 0.375 - 16 x 3.500 Long	-	1
22	Bolt, Hex Head, Grade 8, 0.375 - 16 x 4.500 Long	-	1
23	Bolt, Hex Head, Grade 8, 0.438 - 14 x 4.250 Long	-	1
24	Bolt, Hex Head, Grade 8, 0.500 - 13 x 1.500 Long	-	1
25	Bolt, Hex Head, Grade 8, 0.500 - 13 x 1.750 Long	-	2
26	Bolt, Hex Head, Grade 8, 0.500 - 13 x 3.500 Long	-	1
27	Bolt, Hex Head, Grade 8, 0.500 - 13 x 4.500 Long	-	1
28	Bolt, Hex Head, Grade 8, 0.625 - 11 x 2.750 Long	-	1
29	Bolt, Hex Head, Grade 8, 0.750 - 10 x 3.000 Long	-	1
30	Bolt, Hex Head, Grade 8, 0.750 - 10 x 3.250 Long	-	1
31	Bolt, Hex Head, Grade 8, 0.750 - 10 x 4.000 Long	-	1
32	Nut, Hex, Self-Locking, Grade 8, 0.190 - 24	-	2
33	Set Screw, Socket, 0.190 – 32 x 0.313 Long	-	2
34	Nut, Hex, Self-Locking, Grade 8, 0.250 - 20	-	20
35	Nut, Hex, Self-Locking, Grade 8, 0.312 - 18	-	2
36	Nut, Hex, Self-Locking, Grade 8, 0.375 - 16	-	20
37	Nut, Hex, Self-Locking, Grade 8, 0.438 - 14	-	1

Table 15. Parts List “Fastener Kit, Extra, PLS” P/N 113390-1 (contd)			
Item No.	Name	P/N	Quantity
38	Nut, Hex, Self-Locking, Grade 8, 0.500 - 13	-	3
39	Nut, Hex, Self-Locking, Grade 8, 0.625 - 11	-	2
40	Nut, Hex, Self-Locking, Grade 8, 0.750 - 10	-	2
41	Nut, Rivet, 0.312 - 18 x 0.027 – 0.150 Grip (AVK or Equiv.)	-	1
42	Nut, Rivet, 0.375 - 16 x 0.027 – 0.150 Grip (AVK or Equiv.)	-	1
43	Screw, Pan Head, Grade 8, 0.190 - 24 x 0.375 Long	-	2
44	Screw, Pan Head, Grade 8, 0.190 - 24 x 1.500 Long	-	2
45	Screw, Set, Square Head, 0.250 – 20 x 0.500 Long	-	6
46	Washer, Flat, Grade 8, Ø 0.190 ID	-	6
47	Washer, Flat, Grade 8, Ø 0.250 ID	-	28
48	Washer, Flat, Grade 8, Ø 0.312 ID	-	6
49	Washer, Flat, Grade 8, Ø 0.375 ID	-	35
50	Washer, Flat, Grade 8, Ø 0.438 ID	-	1
51	Washer, Flat, Grade 8, Ø 0.500 ID	-	6
52	Washer, Flat, Grade 8, Ø 0.625 ID	-	2
53	Washer, Flat, Grade 8, Ø 0.750 ID	-	2
54	Bolt, Hex Head, Grade 8, 0.312-18 x 1.750 Long	-	1

3. CREW PROTECTION KIT INSTALLATION

3.1 REQUIRED TOOLS, EQUIPMENT, AND MATERIALS

The equipment and materials required to install the CPK onto the PLS are provided in Table 16.

Table 16. Equipment and materials required to install the Crew Protection Kit	
Description	Part Number
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, 3-16-in. Drill Bit	Commercially Available
3/8-in. Drill Bit, 7/16-in. Drill Bit	Commercially Available
17/32-in. Drill Bit	Commercially Available
7/8-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
1/4 – 3/4 Uni-Bit	Commercially Available
#50 Torx Socket	Commercially Available

3.2 GENERAL INSTALLATION INSTRUCTIONS

These Installation Instructions will provide the illustration directly after that installation callout, and the text 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) and any accumulated foreign matter.

Selected screws and bolts will require to be installed with Loctite 242. These screws and bolts are identified in the installation instructions.

Unless otherwise specified in the instructions, use the torque values provided in Appendix A to torque all fasteners.

3.3 PERSONNEL SKILL LEVEL

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

3.4 REMOVE THE EXISTING PLS COMPONENTS

Remove the existing PLS components using the existing PLS Technical Manual procedures.

WARNING

THE EXISTING PLS DRIVER AND PASSENGER DOORS AND SKID PLATE ARE HEAVY ITEMS THAT REQUIRE TWO PERSONNEL OR ONE PERSONNEL AND APPROPRIATE MATERIAL HANDLING EQUIPMENT (HOIST, FORKLIFT, ETC.) FOR HANDLING. THE WEIGHTS OF THE COMPONENTS TO BE REMOVED ARE SUFFICIENT TO CAUSE SERIOUS INJURY OR LOSS OF LIFE. CARE MUST BE TAKEN DURING REMOVAL TO PREVENT INJURY.

HOISTING OPERATIONS HAVE INHERENT HAZARDS THAT CANNOT BE MECHANICALLY SAFE-GUARDED. PERSONNEL ARE REQUIRED TO WEAR HARD HATS AND SAFETY SHOES DURING THE USE OF MATERIAL HANDLING EQUIPMENT TO PREVENT PERSONAL INJURY.

WARNING

THE WINDSHIELD GLASS CAN BREAK UNEXPECTEDLY DURING THE REMOVAL / INSTALLATION PROCESS. PERSONNEL ARE REQUIRED TO WEAR A FACE SHIELD, APRON, AND GLOVES.

NOTE

Bag and tag all removed hardware to contain it and aid in the re-installation of the removed components.

Remove all vehicle identification plates from the driver's door and bond them onto the new armored door with Urethane, P/N 104302, from the Windshield Kit, P/N 113380.

- a) If the Vehicle is equipped with a Machine Gun Mount (See Figure 2), temporarily remove the equipment and re-install it after the CPK has been installed.

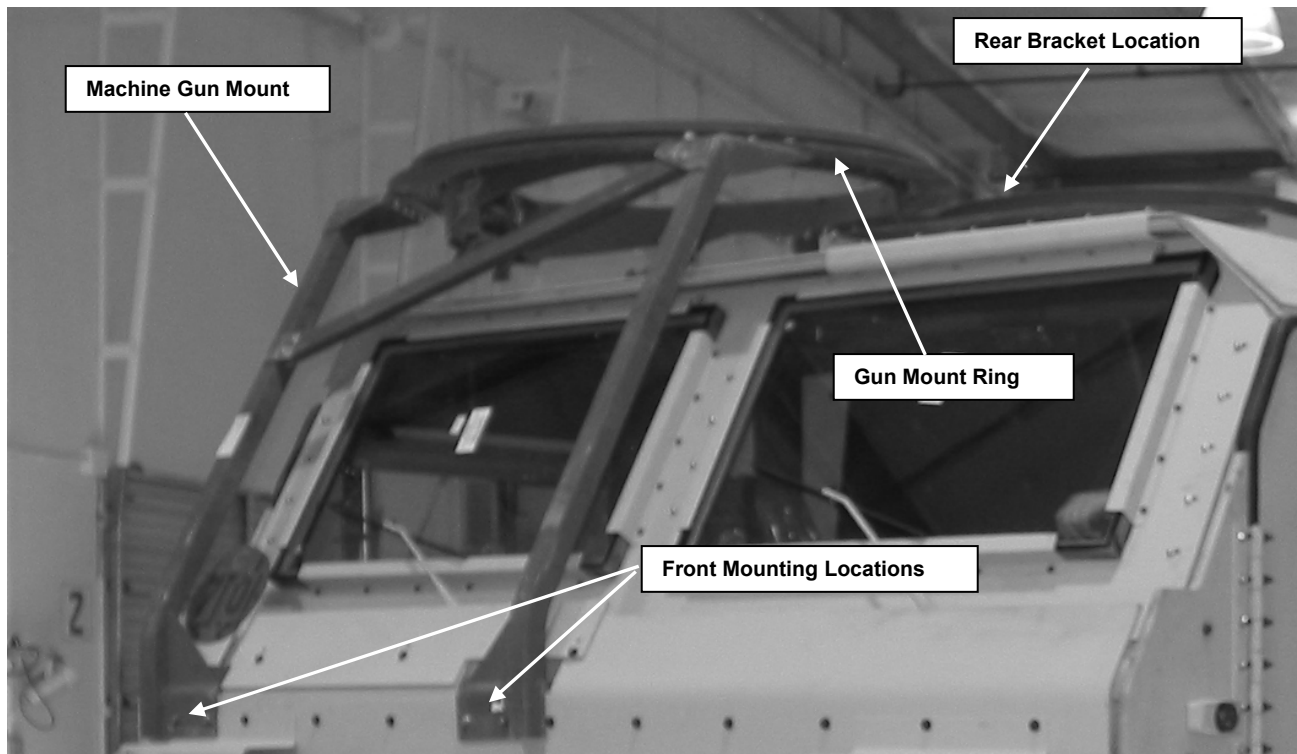


Figure 2. Machine Gun mount.

- b) Remove the four Towing Shackles located at the front of the vehicle (see Figure 3).

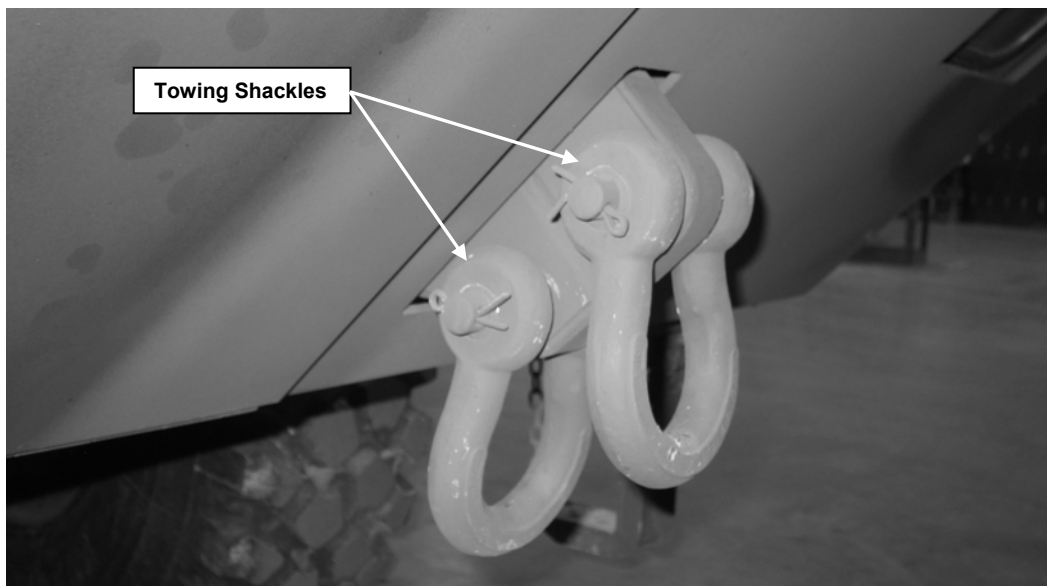


Figure 3. Front Towing Shackles.

- c) Remove the right and left Cab Steps mounted under the cab. This is done by removing two bolts and disconnecting the link that is attached to the bottom of the cab (see Figure 4).

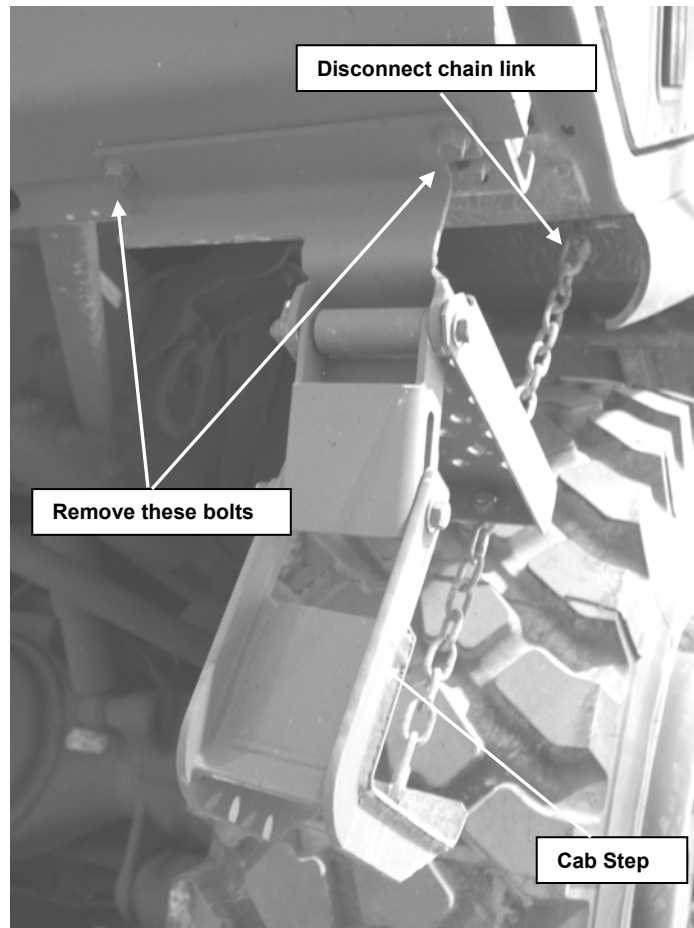


Figure 4. Cab Step.

- d) Remove the Windshield Wipers from the front of the vehicle. This is done by removing a nut that is located at the pivot point of the Wiper.
- e) Remove the Brush Guard mounted to the front of the vehicle (see Figure 5). The Brush Guard is mounted all around its perimeter with bolts and nuts. The Brush Guard weighs approximately 100 lb, and must be supported before removing all of the fasteners.
- f) Remove the Glass Windshields and the rubber retaining channel (see Figure 5).

WARNING

THE WINDSHIELD GLASS CAN BREAK UNEXPECTEDLY DURING THE REMOVAL/INSTALLATION PROCESS. PERSONNEL ARE REQUIRED TO WEAR A FACE SHIELD, APRON, AND GLOVES.

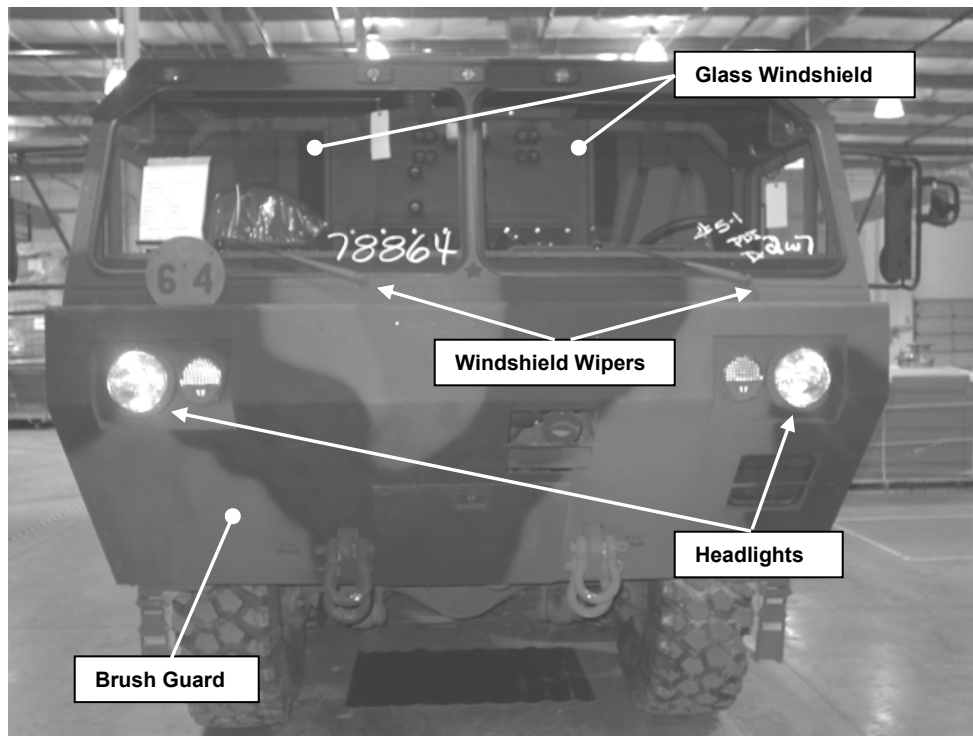


Figure 5. Front vehicle components to be removed.

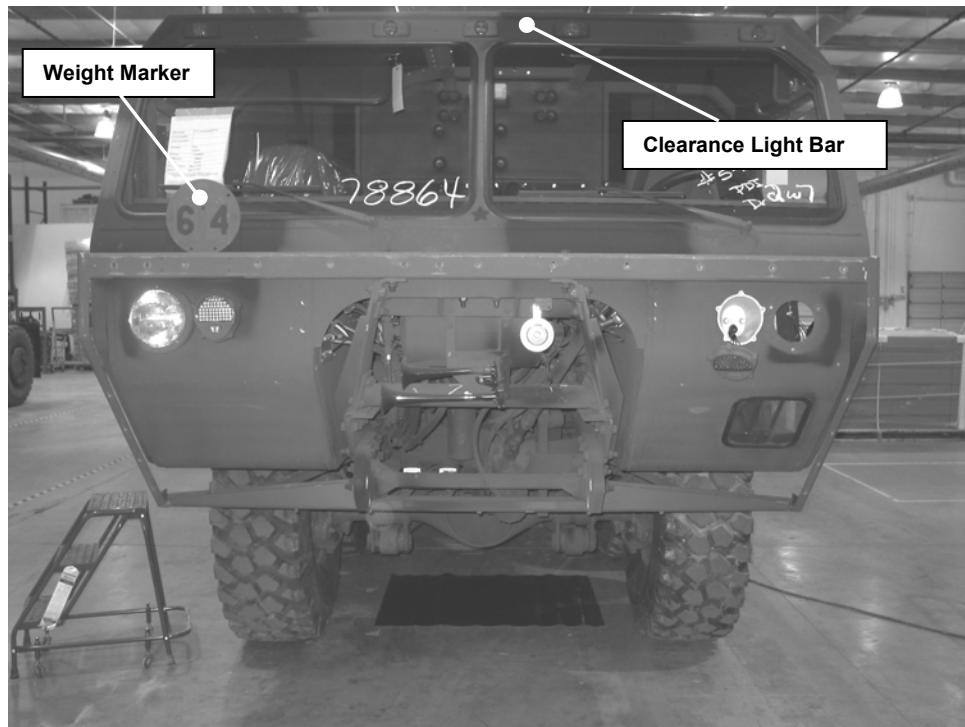


Figure 6. Vehicle with Brush Guard removed.

- g) Remove the Blackout Light attached to a bracket located in front of the vehicle (see Figure 7). This is done by removing a bolt located under the light. Disconnect the connector on the electrical wire that leads to the light. The connector is located approximately 8 in. from the Blackout Light. Do not disconnect the wire where the wire enters the light's housing.

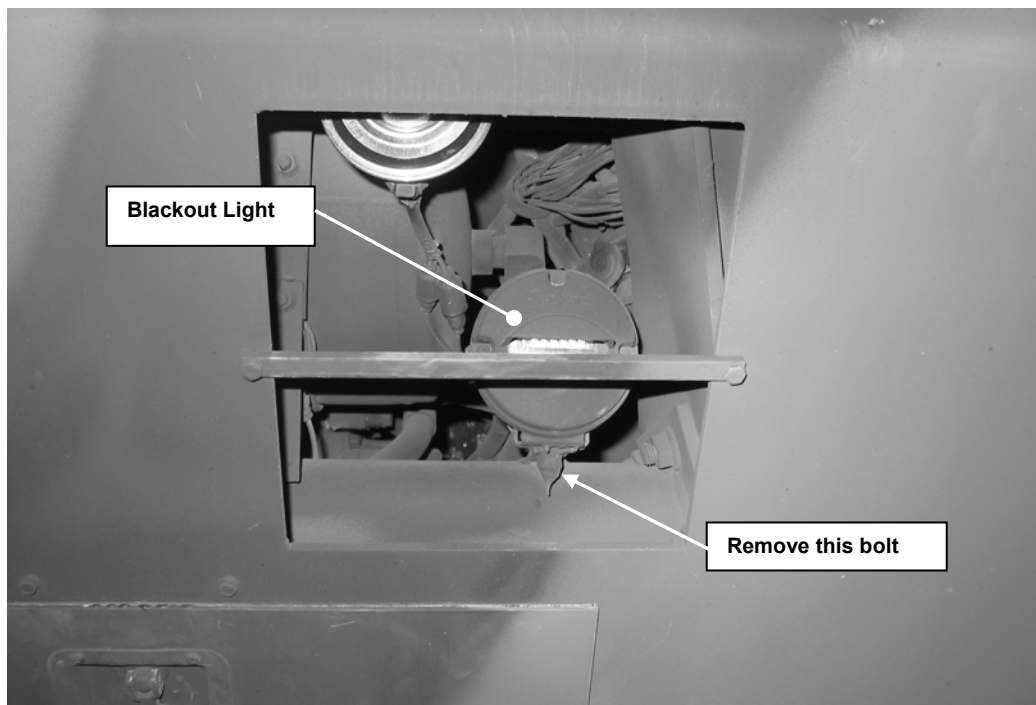


Figure 7. Blackout Light.

- h) Remove both Headlights located in front of the vehicle (see Figure 5). This is done by removing the three nuts that attach the Headlight to the cab. The nuts may be found inside the vehicle just behind the light. On the passenger side, the lower section of the glove box must be removed to access these nuts. Remove and mark the three wire connectors on the back of each light so that the same connection locations may be used when the lights are re-installed.
- i) Remove the five bolts around the face of the Marker Light (see Figure 8). If the inside of the Marker Light looks like the one in Figure 8, mark and disconnect the connecting wires from the inside of the vehicle. Remove the rubber boots on the end of the four wires. Then, feed the wires out through the hole in the cab and remove the Marker Light. If the inside of the marker light does not look like the one in Figure 8, it will be necessary to also remove the Marker Light Housing. To access the attachment bolts on the driver side, the Mounting Plate, shown in Figure 9, must be detached from the cab. Four bolts are used to attach the Mounting Plate, two on top and two on the bottom. The two on the top only need to be loosened. Once they are loose and the bottom two bolts are removed, the Mounting Plate will slide downward and enable it to be moved out of the way. It may be necessary to remove other wires. Mark and remove the wires as necessary to access the bolts. **Note:** No instruction is provided later in this manual to re-install wires that are not marked.

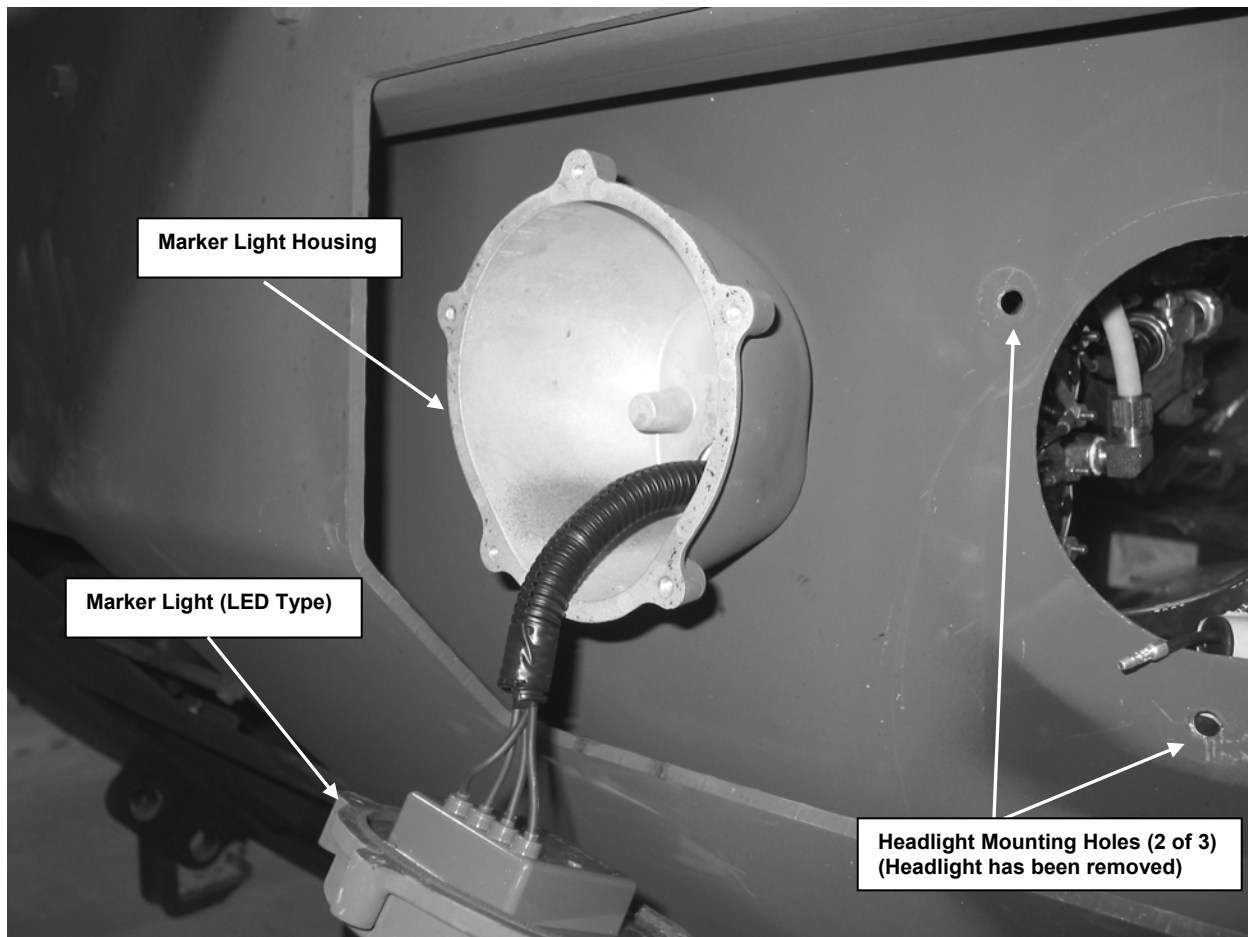


Figure 8. Marker Light and Headlight.

- j) Remove the Weight Marker (see Figure 6). This is done by removing the two bolts connecting it to the back of the Upper Brush Guard rail structure.
- k) Remove the Clearance Light Bar located on the front of the cab just under the roof line (see Figure 6 and Figure 14). From the inside of the cab, cut the Cab Top Clearance Light Bar wire lead approximately 6 in. from the exit hole. Install a closed-end wire connector on the end of the wire (inside the cab), fold the wire inward, and secure it in place with a wire tie. Remove the six screws holding the Cab Top Clearance Light Bar to the cab roof overhang at the top of the windshield, and remove the Cab Top Clearance Light Bar from the vehicle.

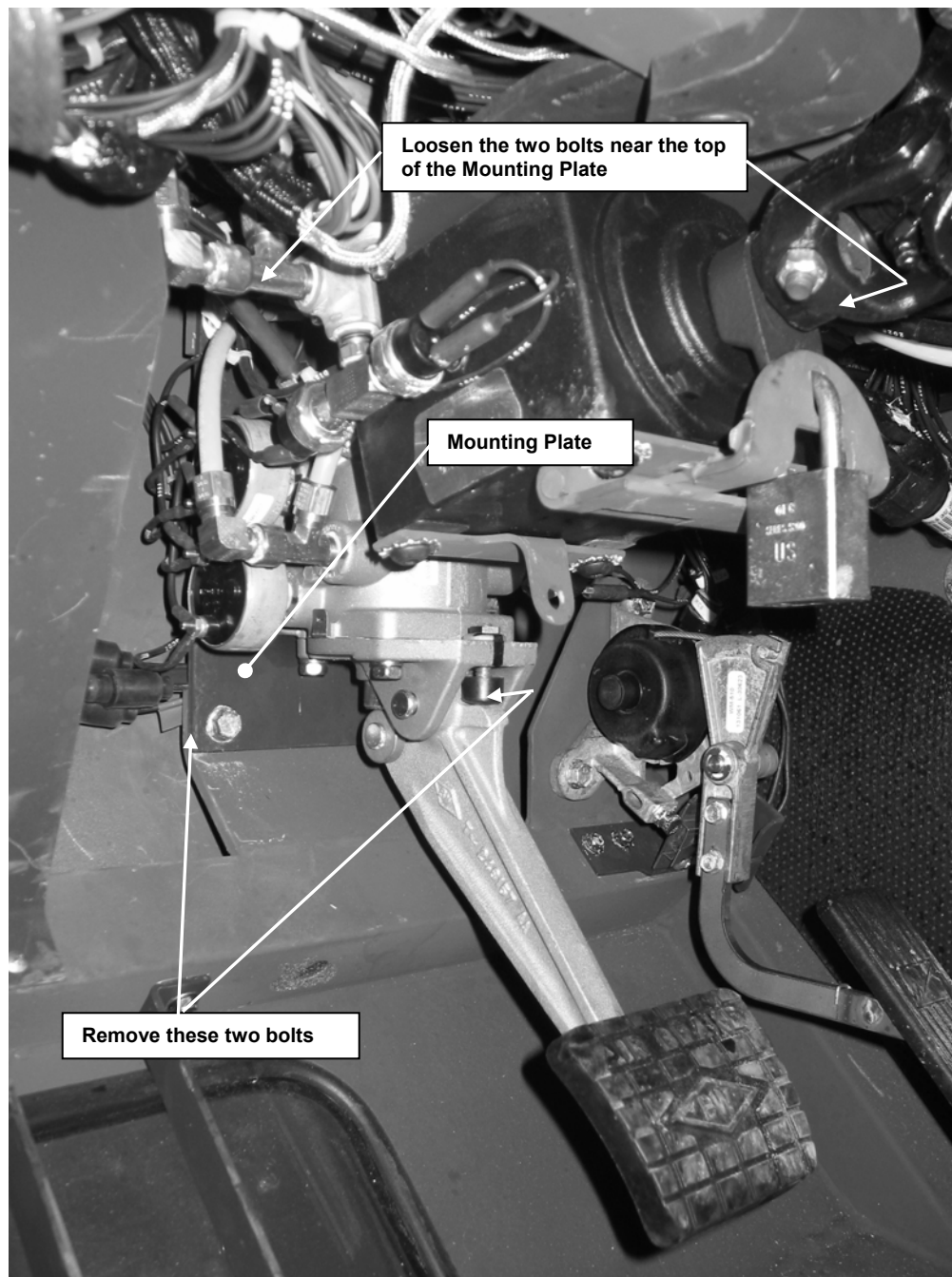


Figure 9. Marker Light access.

- l) Remove both Side Mirrors from the vehicle doors. This is done by removing six bolts, three on the top and three on the bottom, as shown in Figure 10.
- m) Remove the Side Reflectors from the doors. This is done by removing the two fasteners above and below each reflector.

- n) Remove the doors from the vehicle. Caution must be used, as each door weighs approximately 100 lb. Support each door with the proper lifting equipment before removing it. The door can be removed by disconnecting the nine bolts attaching the hinge to the cab frame. The hinge may have silicone between it and the cab; if necessary, pry between the cab and the hinge to remove it.
- o) Remove the Side Grab Handles on each side of the vehicle. This is done by removing the two bolts located at each end of the Grab Handle.
- p) Remove the Bolt located next to the Grab Handle, as shown in Figure 10. Do this on both sides of the vehicle.
- q) Remove the Mud Flaps from each side of the vehicle (see Figure 10). This is done by removing several bolts that are used to attach each one to the underside of the cab.
- r) Remove the Side Marker Lights on each side of the vehicle. This is done by removing the two screws and the cover plate on the front of the Side Marker Light (see Figure 10). Once the cover plate is removed, four additional screws can be seen that attach the base plate to the cab. Remove those screws. Mark and disconnect the connecting wires from the inside of the vehicle, and then feed the wires out through the hole in the cab and remove the light.

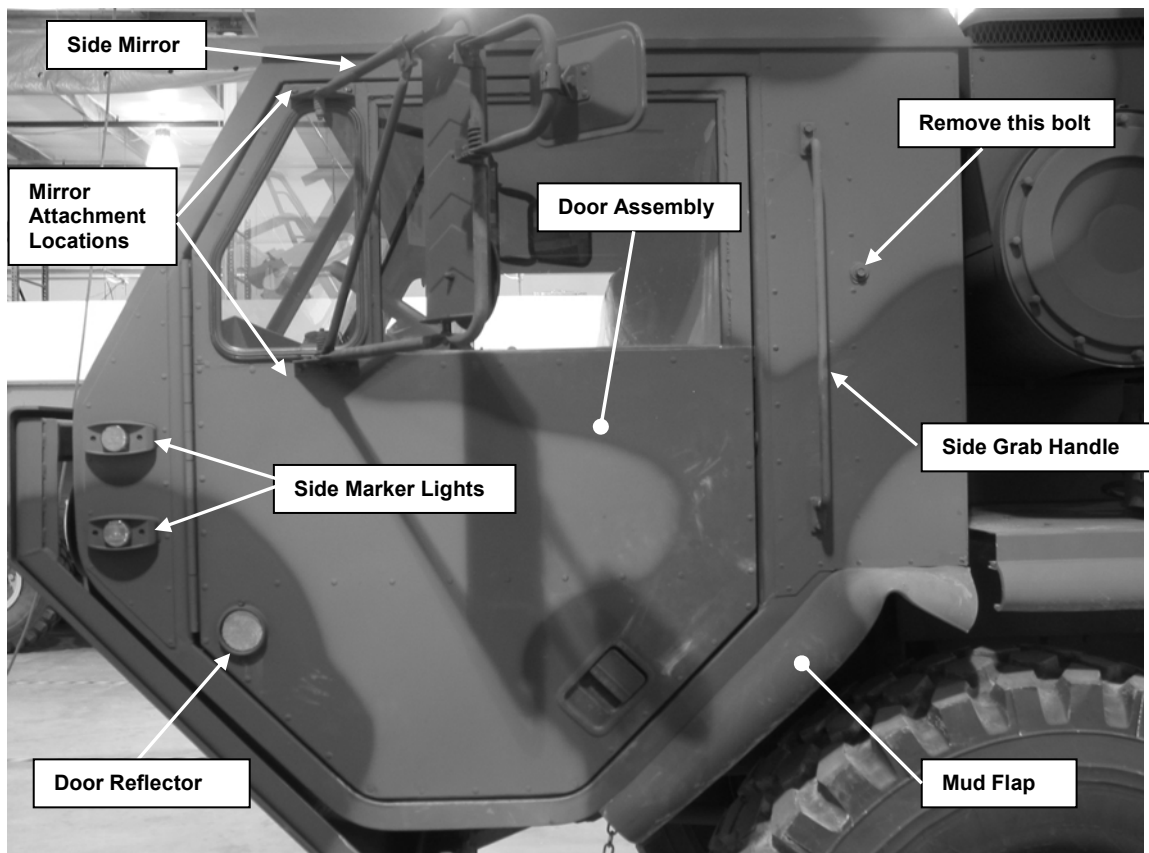


Figure 10. Side components to be removed.

- s) Remove the Light Bracket located on top of the Cab (see Figure 11). The Light Bracket is attached to the back side of the cab with four bolts. Open the access door to reach their location (see Figure 11). Remove the bolts, and then re-install them once the bracket has been removed to fill the holes.
- t) Remove the Roof Panel shown in Figure 11. This is done by unscrewing all of the bolts located around the perimeter of the Panel. The Panel may have some sealant between its bottom surface and the top of the cab; if so, it may be necessary to pry around the edge of the Panel to remove it.

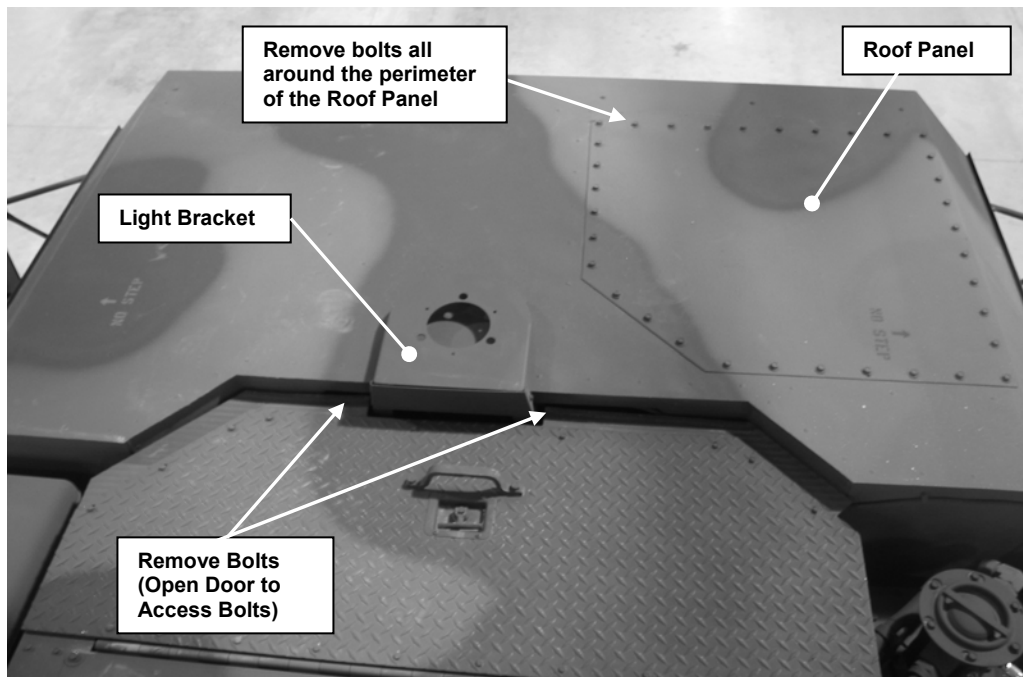


Figure 11. Roof components to be removed.

- u) Remove the Electrical Connector and Glad Hands located under the front of the vehicle, as shown in Figure 12. This is done by removing the bolts and screws that attach these items to the adjacent vertical plate. Disconnect the airline hoses from the Glad hands.
- v) Disconnect the Steering Link from the Power Steering Arm. This is done by removing the bolt shown in Figure 12 and then pushing the connecting pin out of the hole in the Arm.
- w) Remove the Torque Rod (see Figure 13) by disconnecting two bolts located at both ends of the Rod.

CAUTION

Do not move the vehicle after the Torque Rod has been removed. Doing this may make the Torque Rod difficult to re-install.

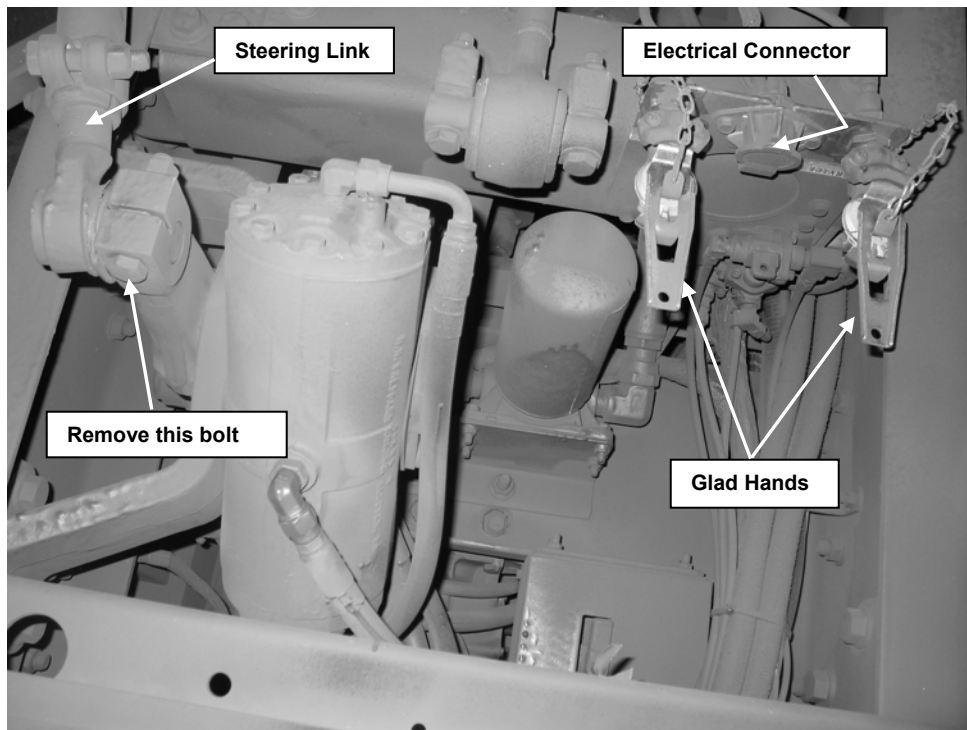


Figure 12. Removal of the Glad Hands and Steering Link.

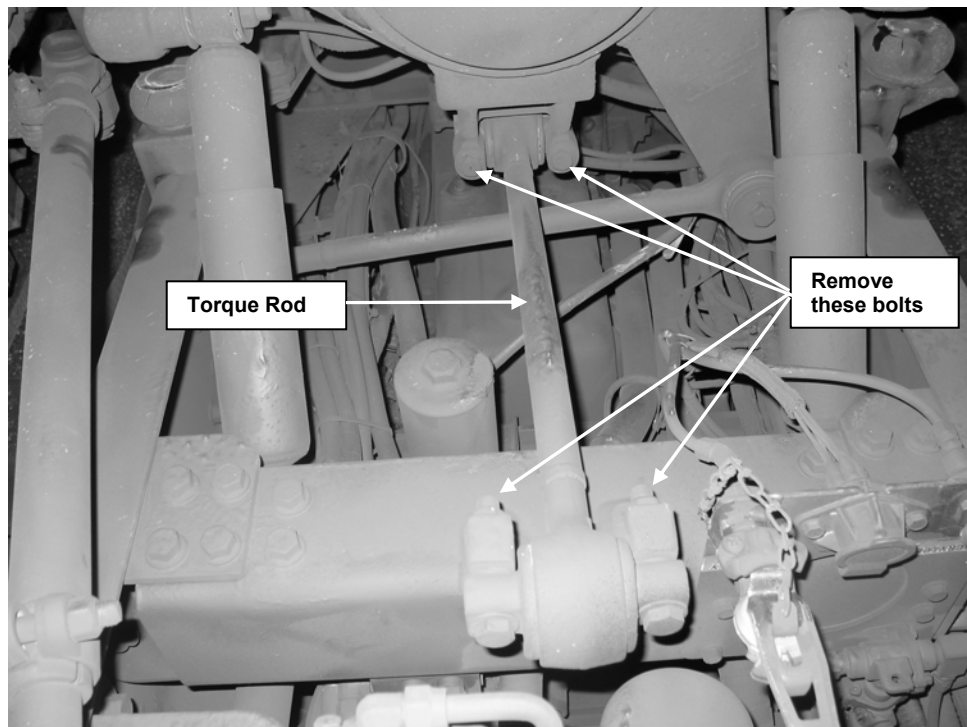


Figure 13. Removal of the Torque Rod.

Figure 14 shows all of the components and hardware that should be removed from the vehicle.

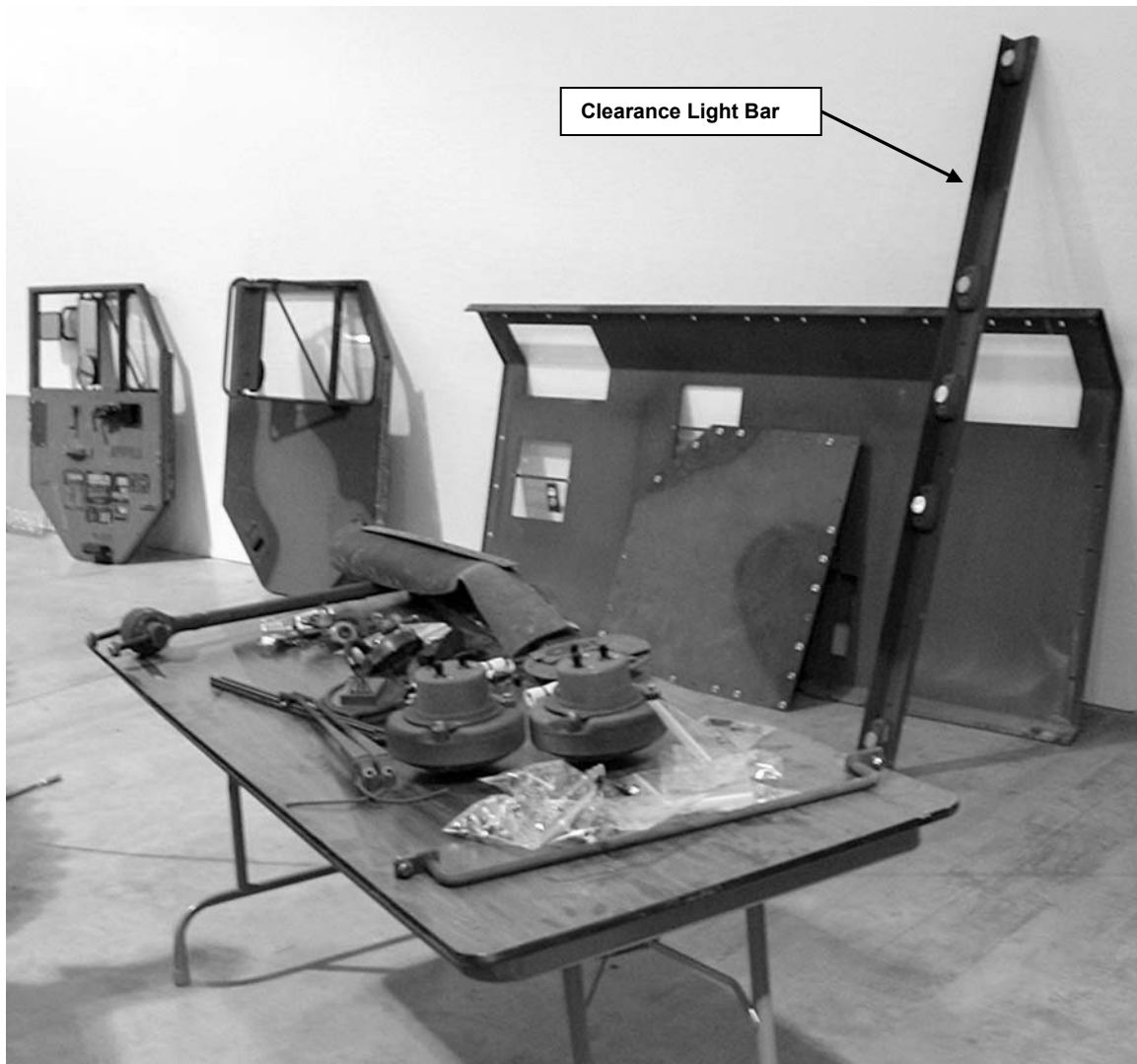


Figure 14. All of the items removed from the vehicle before installing the CPK.

3.5 INSTALLATION OF KIT COMPONENTS AND REMOVED ITEMS

The following sections describe the installation of the Kit components and reinstallation of selected items removed in Section 3.4. The Kit components should be installed in the order presented. This will prevent having to remove previously installed armor to install additional armor pieces, and will ensure that components are properly aligned when fastened together.

WARNING

THE EDGES OF THE METAL ARMOR PANELS HAVE BEEN DE-BURRED. HOWEVER, PROTECTIVE GLOVES SHOULD BE WORN BY THE INSTALLATION TEAM TO PREVENT PERSONAL INJURY.

THE PLS ARMOR COMPONENTS ARE HEAVY ITEMS THAT REQUIRE MORE THAN ONE PERSON AND / OR APPROPRIATE MATERIAL-HANDLING EQUIPMENT (HOIST, FORKLIFT, ETC.) FOR HANDLING. THE WEIGHTS OF THE COMPONENTS BEING INSTALLED ARE SUFFICIENT TO CAUSE SERIOUS INJURY OR LOSS OF LIFE. CARE MUST BE TAKEN DURING INSTALLATION TO PREVENT INJURY.

HOISTING OPERATIONS HAVE INHERENT HAZARDS THAT CANNOT BE MECHANICALLY SAFE-GUARDED. PERSONNEL ARE REQUIRED TO WEAR HARD HATS AND SAFETY SHOES DURING INSTALLATION TO PREVENT PERSONAL INJURY.

CAUTION

During the application of paint or the re-application of paint, care must be taken to prevent covering up installation aid markings [**THIS SIDE OUT**, up arrows (↑), etc.]. These installation aid markings must be protected during paint application by using masking tape, etc.

NOTE

Adjust the installed kit components, as necessary, prior to securing / tightening the attachment hardware.

3.5.1 Install Armor Kit, Windshield, PLS, P/N 113380-1-103

CAUTION

The pressed studs used in various windshield mount components are subject to damage if proper precautions are not used. **DO NOT** hammer on the studs, as this may cause them to separate from the brackets. **DO NOT** use power impact wrenches to install locknuts on these parts; use light oil on the threads and hand tools to run the nuts down. **DO NOT** exceed Grade 5 torque values for these studs.

Adjust the installed kit components, as necessary, prior to securing / tightening the attachment hardware.

NOTE

Torque fasteners to the values listed in Appendix A unless otherwise noted. The fasteners clamping the “J” brackets to the cab will require a torque wrench with a “crowsfoot” attachment. For windshield fastener brackets that cannot be accessed with a torque wrench, use the following guideline: Tighten the bolts to remove free play, mark the position, and turn the bolt clockwise an additional 1/2 to 3/4 of a turn.

- a) Locate and lay out all items listed in the parts list for the Windshield Armor Kit, P/N 106701-4, and the Windshield Fastener Kit, P/N 106701-904.
- b) Apply a small amount of Loctite to the 1/4 – 20 bolts and install them a few turns into the 0.250-in. threaded holes located in the Window Bracket Retainers (P/N 106734-1, -5-103, 106734-2, -6-103, and 106734-3, -7-103). The 1/4 – 20 bolts will be fully tightened once the brackets are placed on the vehicle.
- c) Place the Windshield Template (P/N 107405-1) on the vehicle, as shown in Figure 15. Place the Windshield Bracket (P/N 106734-7-103) on top of the template and against the window frame (see Figure 15). Once the bracket is located, tighten the upper and lower bolts so that the bracket clamps to the window frame of the vehicle. Do not tighten all of the bolts at this time, as adjustment may be required in the next steps. Using the same Template, install the other Windshield Bracket on the opposite side of the vehicle window frame. Remove the Template from the vehicle when complete.
- d) Place the Windshield Template (P/N 107405-3) on the vehicle, as shown in Figure 16. Place the Windshield Bracket (P/N 106734-5-103) against the Windshield Template, as shown in Figure 16. Tighten the bolts on both ends of the Windshield Bracket. Do not tighten all of the bolts at this time, as adjustment may be required in the next steps. Using the same Template, install the other Windshield Bracket on the opposite side of the window frame. Remove the Template from the vehicle when complete.

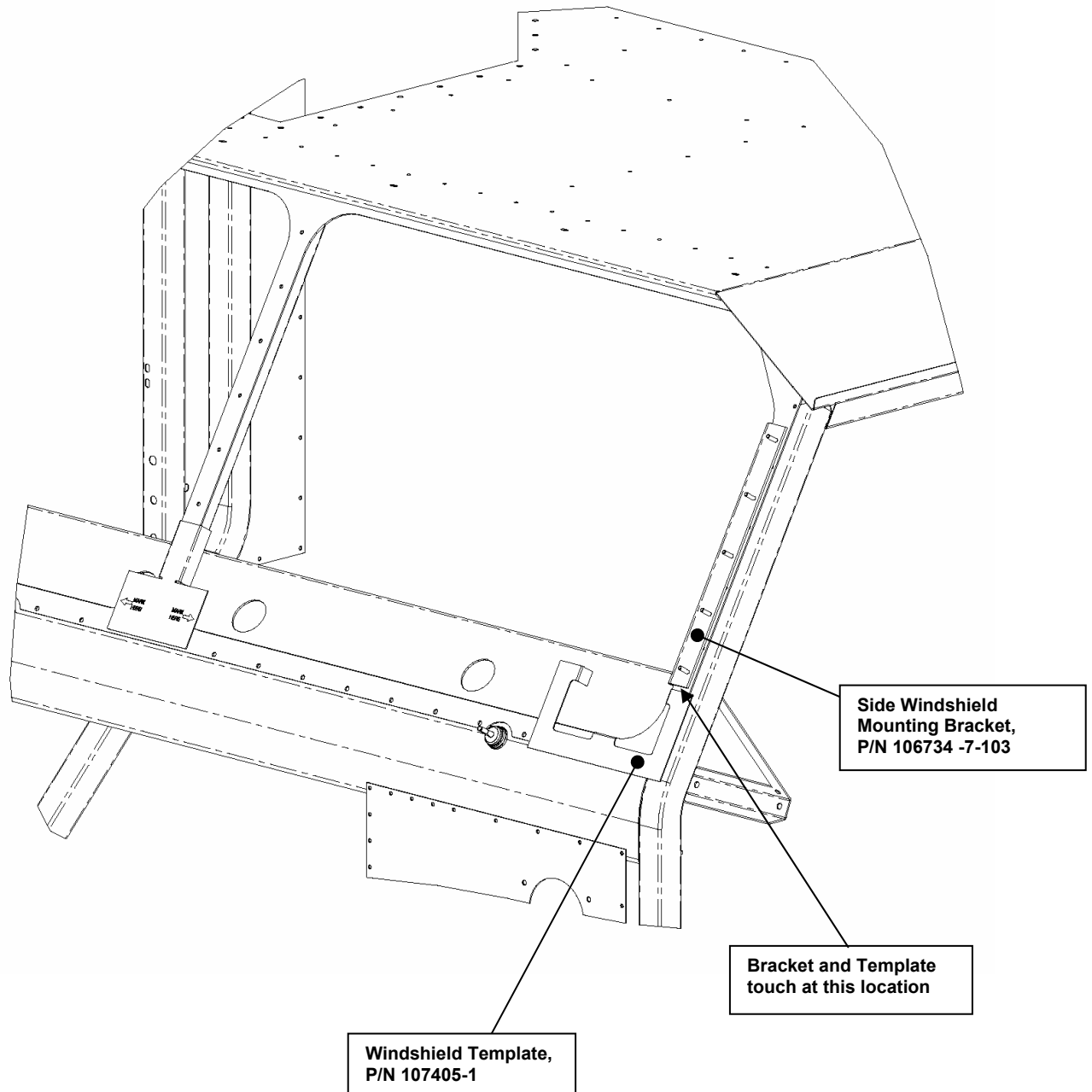


Figure 15. Windshield Bracket, Side Mounting.

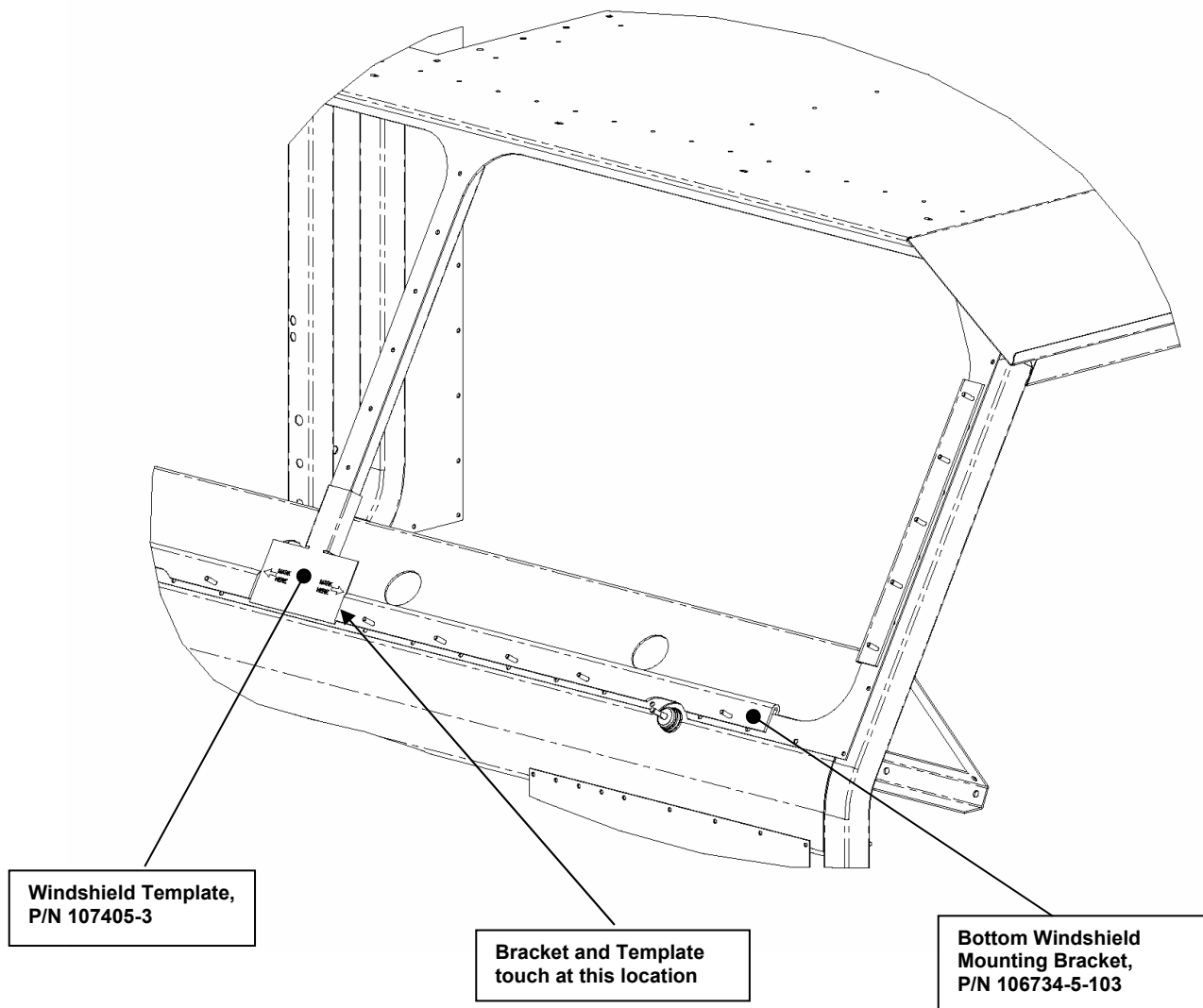


Figure 16. Windshield Bracket, Bottom Mounting.

- e) Attach the Top Windshield Brackets (P/N 106734-6-103) marked **"This Side Out"** to the **opposite** side of the Windshield Frame (P/N 106721-1-103) on the upper studs using twelve (12) 0.250-in. self-locking nuts and washers (see Figure 17). Verify that both brackets are parallel with the top edge of the windshield frame.
- f) Apply sealant (P/N 104302-1) to the windshield frame around the windshield stud plate mounting holes per Figure 17.
- g) Attach the Windshield Stud Plate, (P/N 106733-1-103) to the Windshield Frame using five (5) 0.250-in. self-locking screws and washers, as shown in Figure 17. Torque the nuts to 6 ft-lb.

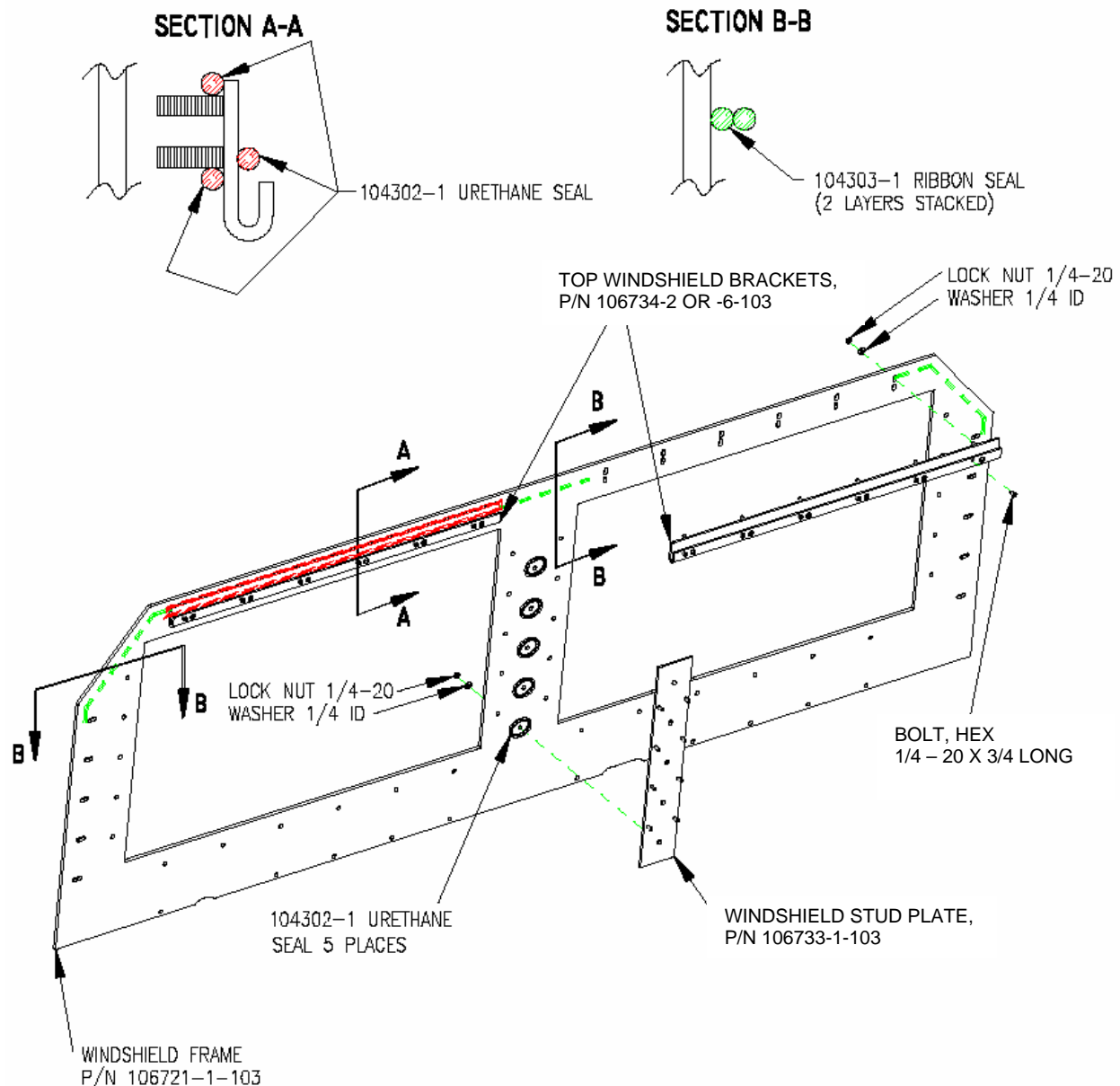


Figure 17. Windshield Frame pre-assembly.

- h) Pre-fit the Windshield Frame Assembly on the vehicle, as shown in Figure 18. Adjust the Side and Bottom Brackets as needed to line up the studs on the Windshield Frame. Use caution to avoid damage to the studs. DO NOT hammer the studs into position on the brackets. Remove the Windshield Frame Assembly and tighten the set screws in the Side and Bottom Windshield Brackets.



Figure 18. Position the Windshield Armor Frame into the cab windshield opening.

- i) To create an environmental seal between the Vehicle Cab and Windshield Frame apply the Urethane Sealant (P/N 104302-1) and the Ribbon Sealer (P/N 104303-1) as shown in Figure 19. If required, use additional sealant from the Front and Side Armor Kits.
- j) Attach the Windshield Frame Assembly to the vehicle as previously done in Step (g) using thirty-six (36) 0.250-in. self-locking nuts and thirty-six (36) 0.250-in. ID washers. Apply light oil to the studs prior to installation of the nuts. Torque to 6 ft-lb.
- k) From the inside of the cab, tighten the Set Screws on the Top Windshield Brackets (P/N 106734-2 or -6-103).
- l) Install the "L" Brackets (P/N 106746-1-103) using the fasteners, as shown in Figure 20. Apply light oil to the studs prior to installation of the nuts. Torque to 6 ft-lb.

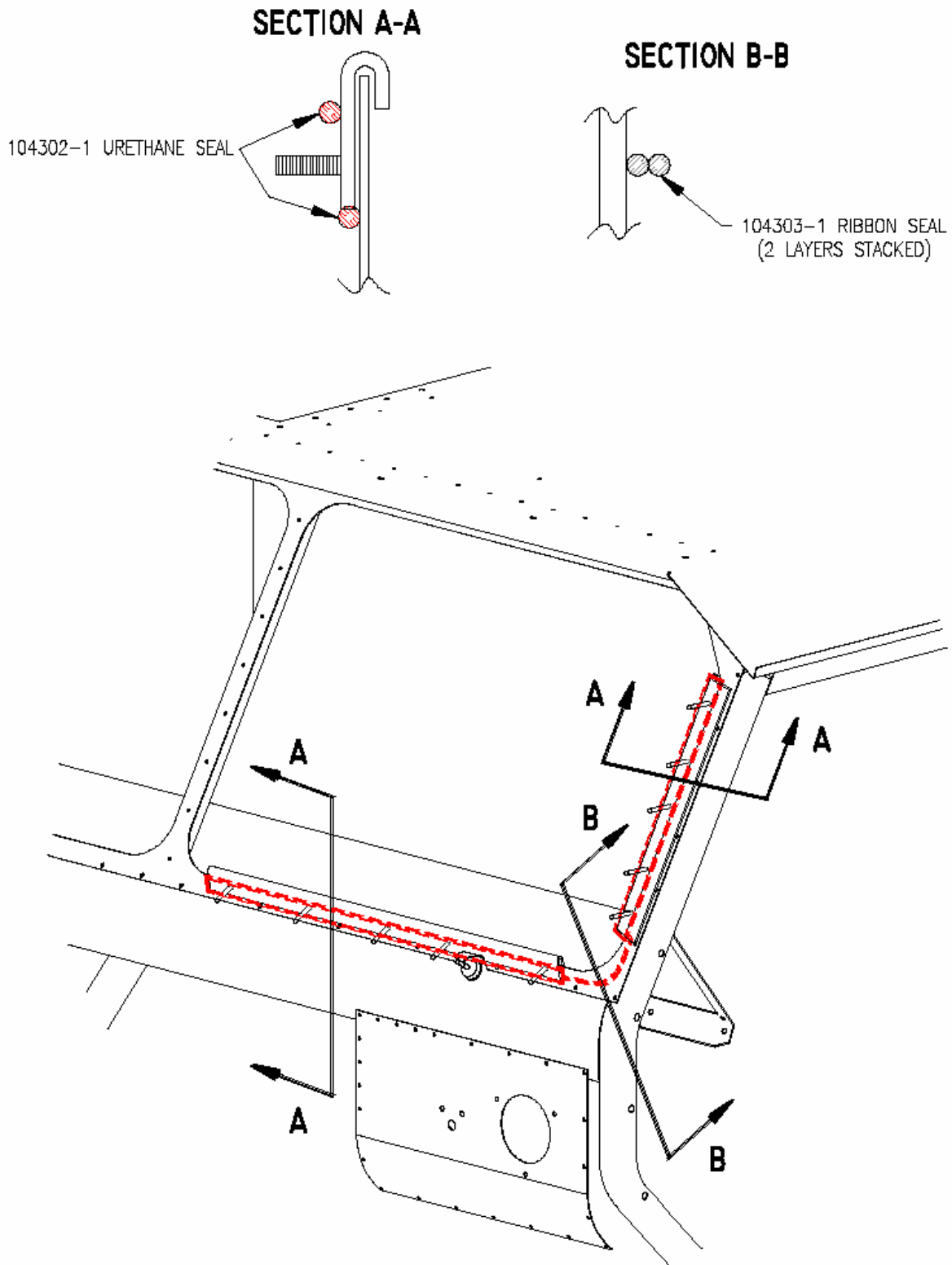


Figure 19. Urethane Sealant and Ribbon Sealer vehicle locations.

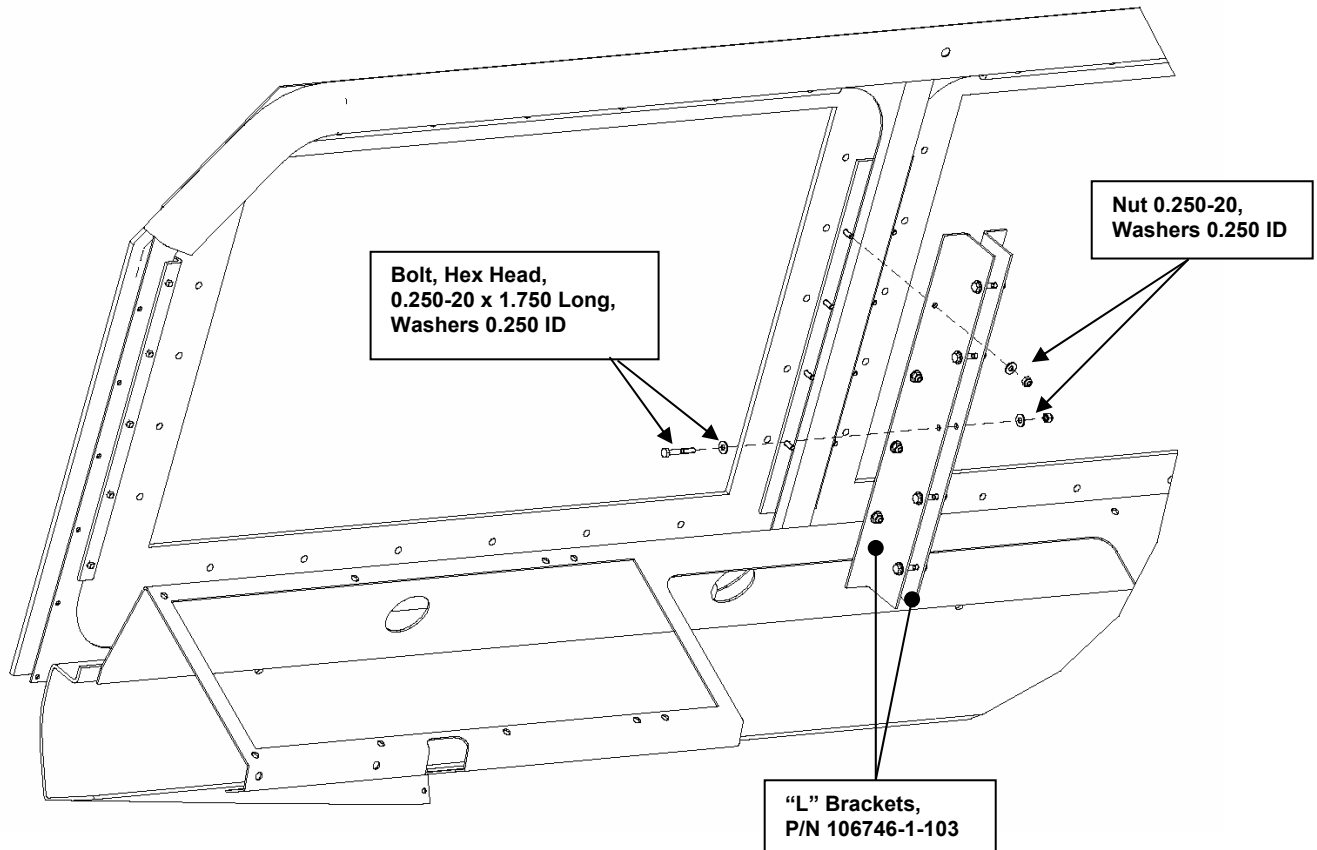


Figure 20. "L" Bracket Installation.

- m) Apply Urethane Sealant (P/N 104302-1) to the outside of the Windshield Frame (P/N 106721-1-103), as shown in Figure 21. This will provide a seal around the Windshield Armor (Glass) (P/N 113381-1) once it is installed.

WARNING

FOR PROPER THREAT PROTECTION, THE TRANSPARENT WINDSHIELD MUST BE CORRECTLY INSTALLED. ENSURE THAT THE STENCIL MARKING "INSIDE OF VEHICLE" IS LOCATED SO THAT THE IDENTIFIED SURFACE IS FACING THE INSIDE OF THE CAB. IMPROPERLY INSTALLED WINDSHIELD ARMOR WILL NOT PERFORM AS INTENDED AND MAY RESULT IN INJURY OR LOSS OF LIFE.

- n) Loosely attach the two lower Windshield Retaining Brackets (P/N 113383-1-103) using 0.250-in fasteners to the Windshield frame, see Figure 21. Set the Windshield Armor (P/N 113381-1) on the Retaining Brackets and over the openings of the Windshield Frame (P/N 106721-1). Complete the installation by securing the Windshield Armor in place, using the remaining Windshield Retaining Brackets (P/Ns 113383-1-103 and 113383-3-103), and tightening all the 0.250-in. fasteners, as shown in Figure 21.

- o) If this is the first time the Windshield Armor has been installed on a vehicle, apply the Cleaning Decal (P/N 104301-1) to the lower left hand corner of the Windshield Armor (see Figure 22) so that it does not obstruct the driver's / passenger's view. Remove the protective covers from the transparencies.
- p) Install the Wiper Extension (P/N 111408-3) by threading the part fully onto the wiper shaft and locking it in place using the set screw located on the side of the Wiper Extension (see Figure 22). Re-attach the Windshield Wiper and Hardware that was previously removed. Reconnect the wiper fluid hose to its nodule. Adjust the wiper as necessary for correct arm travel.
- q) It is recommended that leak check of the windshield be performed prior to returning the vehicle to service.

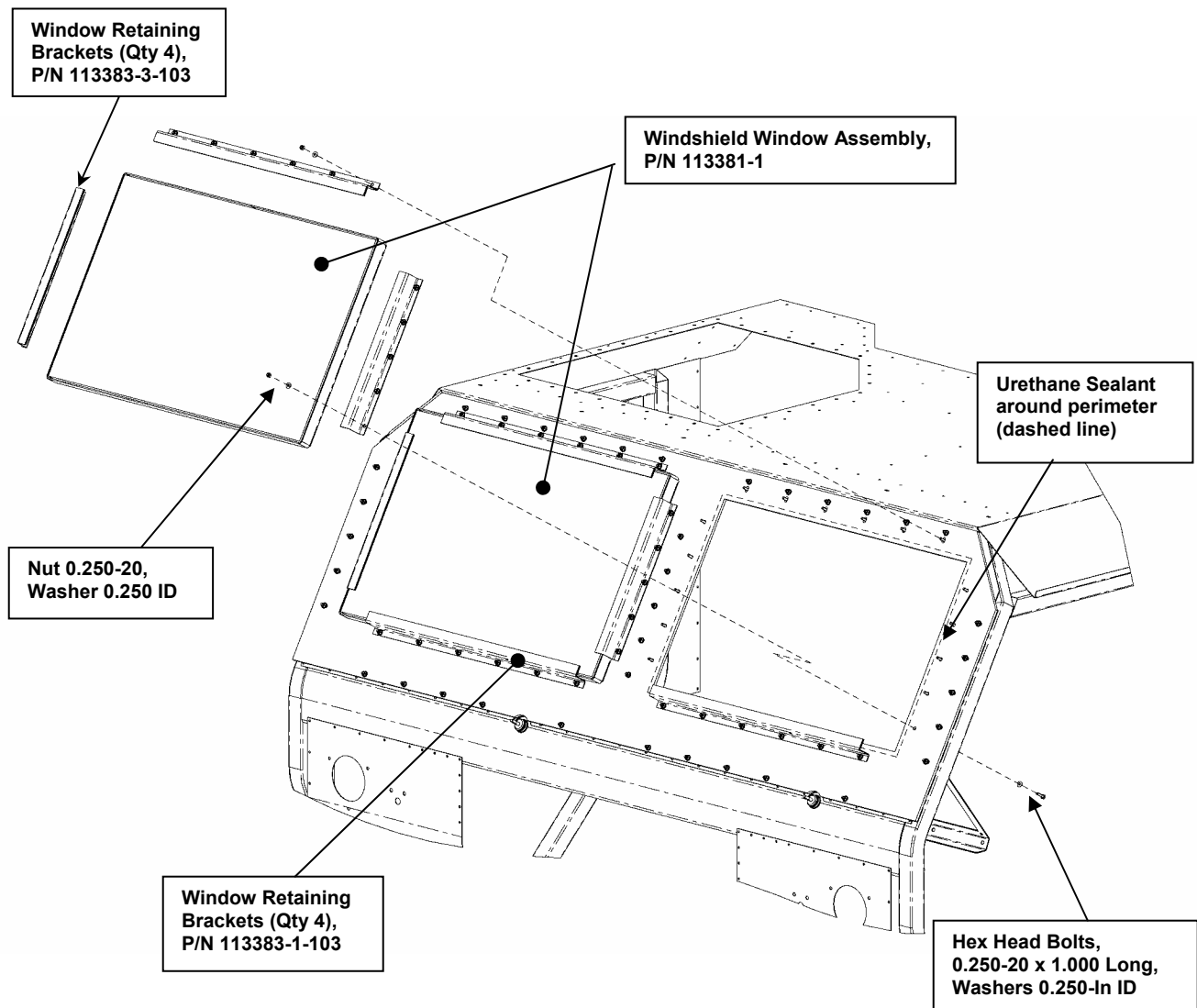


Figure 21. Armor Windshield installation.

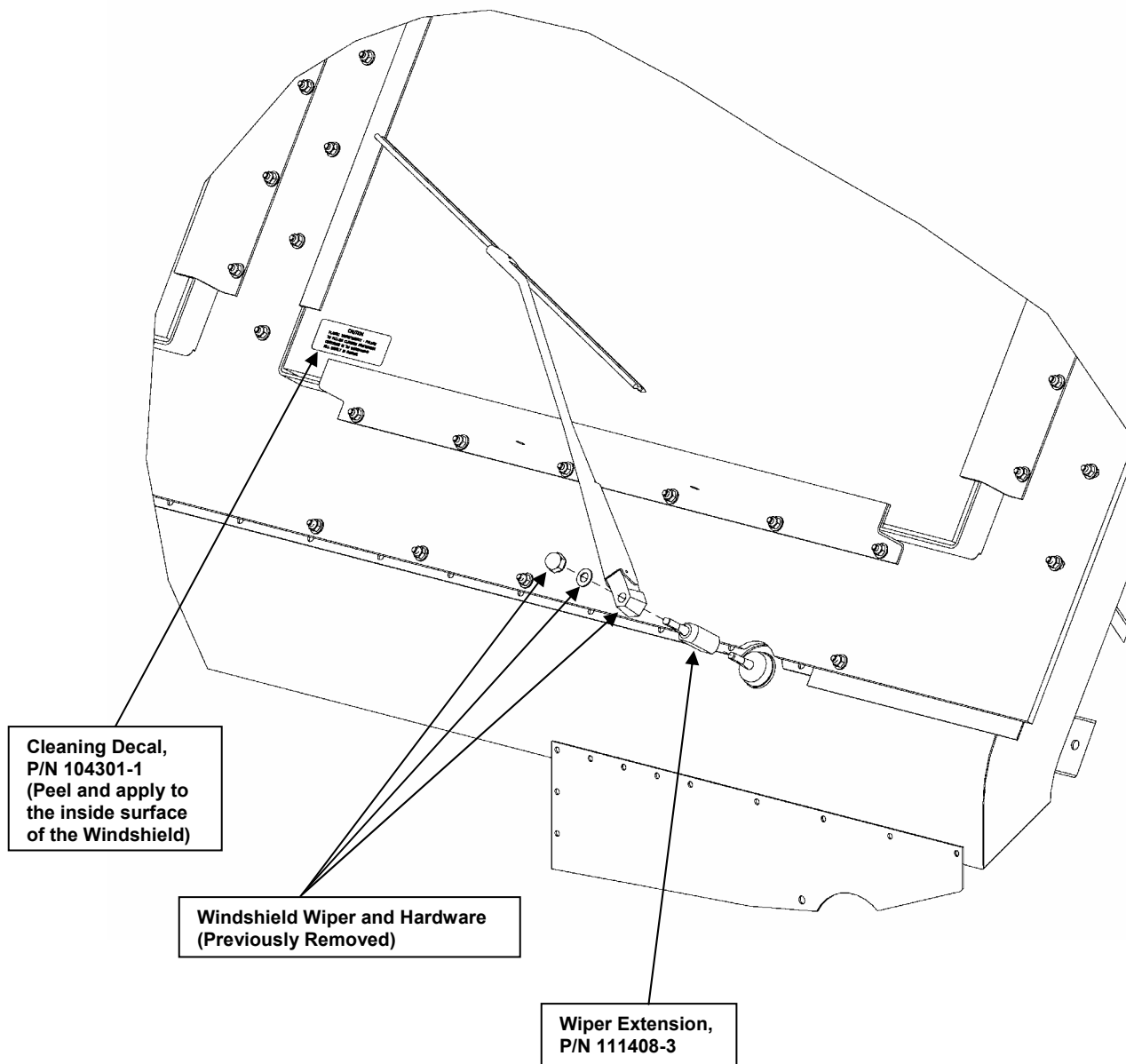


Figure 22. Windshield Wiper and Cleaning Decal installation.

3.5.2 Install Armor Kit, Side, PLS (LH), P/N 113310-1-103

- a) Attach the Door Hinge (P/N 113313-1-103), Forward Side Panels (P/N's 113311-1-103 and 113311-3-103), and Hinge Bracket (P/N 113314-1-103) using the 0.375-in. counter-sunk bolts and locknuts, as shown in Figure 23.

NOTE

The Door Hinge must be oriented as shown in Figure 24. Failure to orient the hinge in this manner may cause the hinge to fail prematurely during operation.

- b) Position the Front Side Armor Assembly onto the side of the cab and secure the Hinge Bracket (P/N 113314-1-103) to the door pillar using the hardware shown in Figure 23.
- c) Insert the Drill Bushing (P/N H-32-8-0.1875) into each the four holes on the Armor Assembly that will receive rivet nuts (see Figure 23) and match drill four 3/16-in. pilot holes.
- d) Remove the Armor Assembly from the Cab by removing the bolts installed in Step (b).
- e) Using a drill and a 17/32-in. drill bit, drill through the four pilot holes.
- f) Install four Rivet nuts (0.375-16) into the four holes using a Rivnut Installation Tool (see Table 16).
- g) Install the Side Marker Lights that were previously removed, as shown in Figure 25. Feed the wires through the hole provided in the Armor Assembly.
- h) Install the Cover Plates (P/N 113356-1-103) using Urethane Sealant (P/N 104302-1) between the plate and the cab and four (4) 0.190-24 x 0.375-in.-long pan-head screws (see Figure 25).
- i) Install the Rubber Grommets (P/N MS35489-2) into the \varnothing 0.560-in. holes located in the Cover Plates.
- j) Using a small amount of Urethane Sealant (P/N 104302-1), bond the Spacers (P/N 113318-1) over the rivet nuts installed in Step (f). Note that the sealant is only used to assist in the assembly process; an environmental seal around the rivet nuts is not required.
- k) Pass the Marker Light wires through the rubber grommets and attach the Armor Assembly to the cab of the vehicle as shown in Figure 25. Do not over-torque the four bolts used in the rivet nuts. Torque the bolts in the rivet nuts to 20 ft-lb.

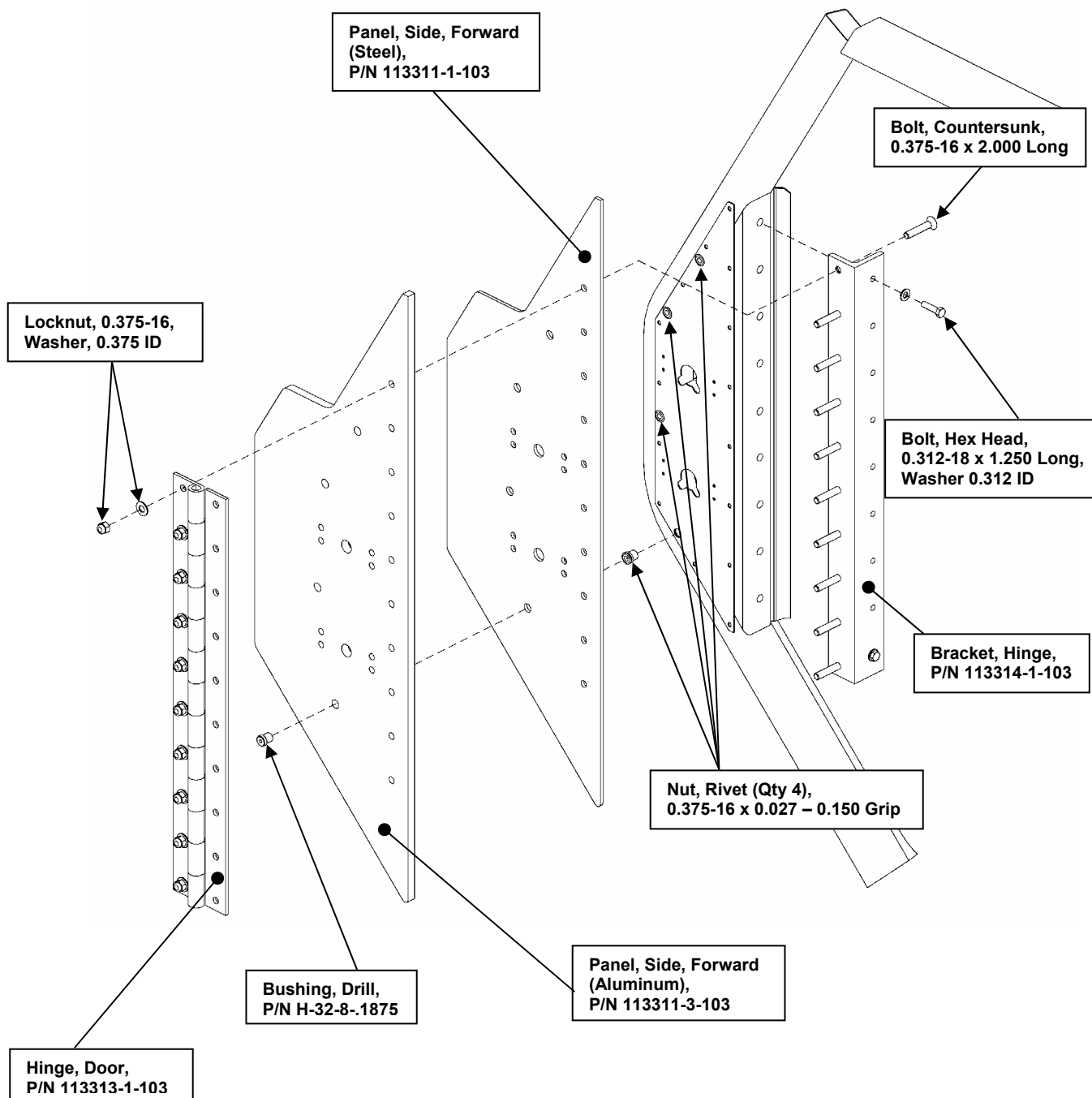


Figure 23. Left Front Side Armor Assembly.

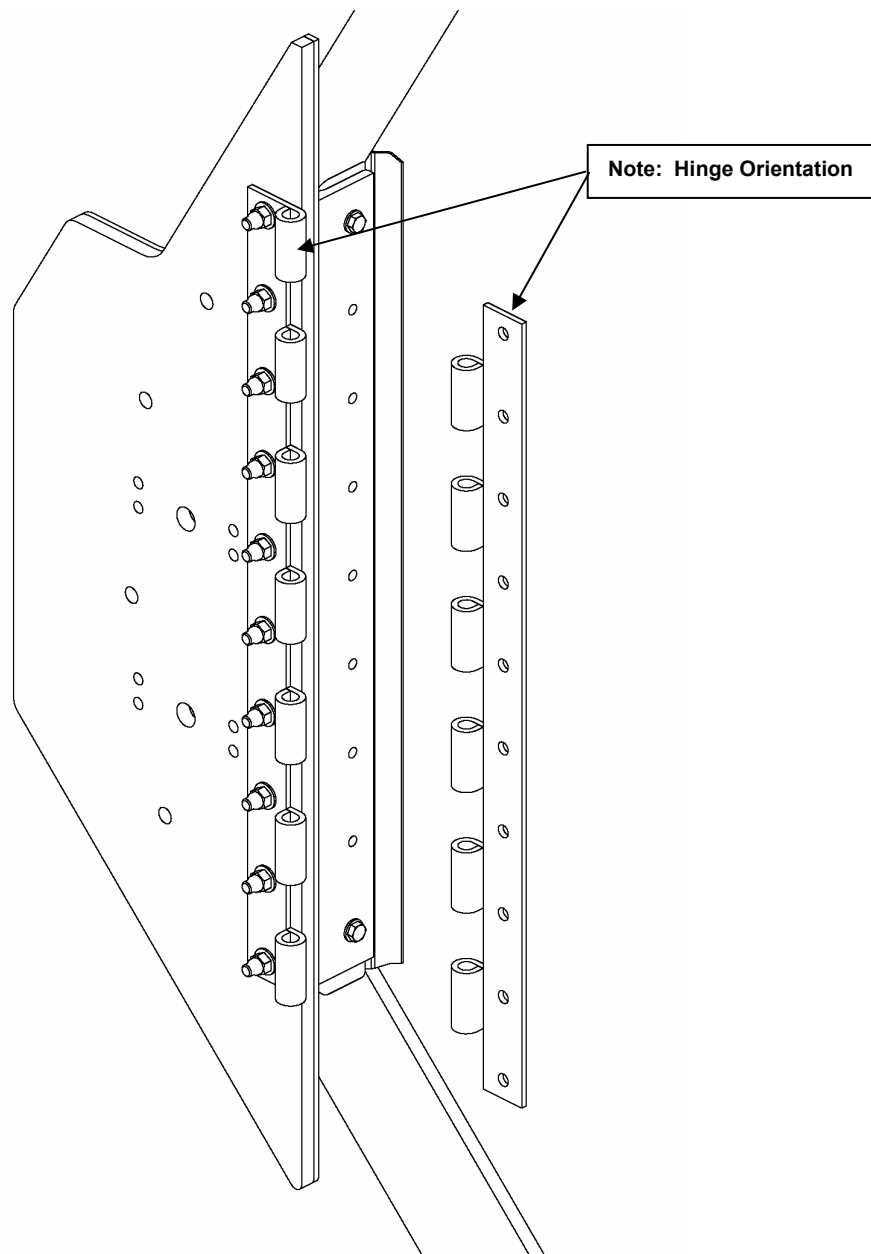


Figure 24. Door Hinge orientation.

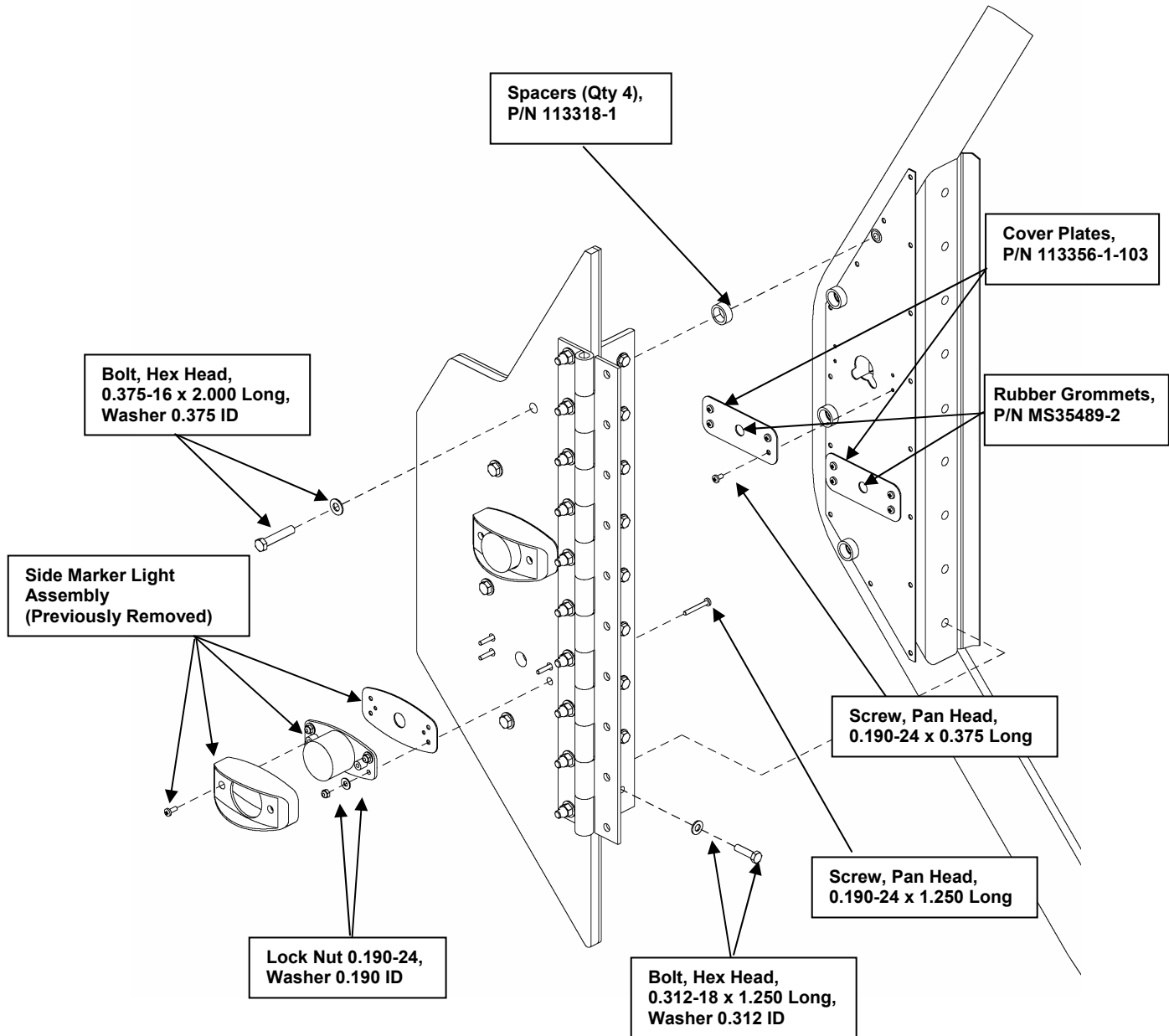


Figure 25. Marker Light and Front Panel installation.

- l) Locate the Strap Assembly attachment point on the top of the door frame as shown in Figure 29.
- m) Mark the location of the Strap Assembly attachment point using a center punch and hammer.
- n) Using a drill and a 3/16-in. drill bit, drill a pilot hole through one side of the door pillar tubing in the marked position.
- o) Drill through the pilot hole with a series of drill bits until a final hole size of 17/32-in diameter is in the door pillar.
- p) Install the Strap Assembly to the door pillar using one bolt (3/8 – 16 x 3.000 LG), two washers (3/8 ID), and two flange bushings (P/N 1114111-1), one on each side of the tube, and one locknut (3/8 – 16) torqued to 10 ft-lb (see Figure 29).
- q) Install the Door Striker Base and Striker Pin, as shown in Figure 26.
- r) Locate and mark the holes for the Door Striker Support using a center punch and a hammer, as shown in Figure 27. The Door Striker Support should butt up against the bottom edge of the Door Striker Base, adjust as required.
- s) Using a drill and a 3/16-in. drill bit, drill a pilot hole through one side of the door pillar in the positions that were marked.
- t) Using a drill and a 17/32-in drill bit, drill through the pilot holes in the door pillar.
- u) Install two Rivnuts (0.312-18 X 0.027-0.150 Grip) using the Rivnut Installation Tool (see Table 16).
- v) Attach the Door Striker Support (P/N 113327-1), as shown in Figure 26, using two 0.312-18 x 1.00 Long Cap Head Bolts.

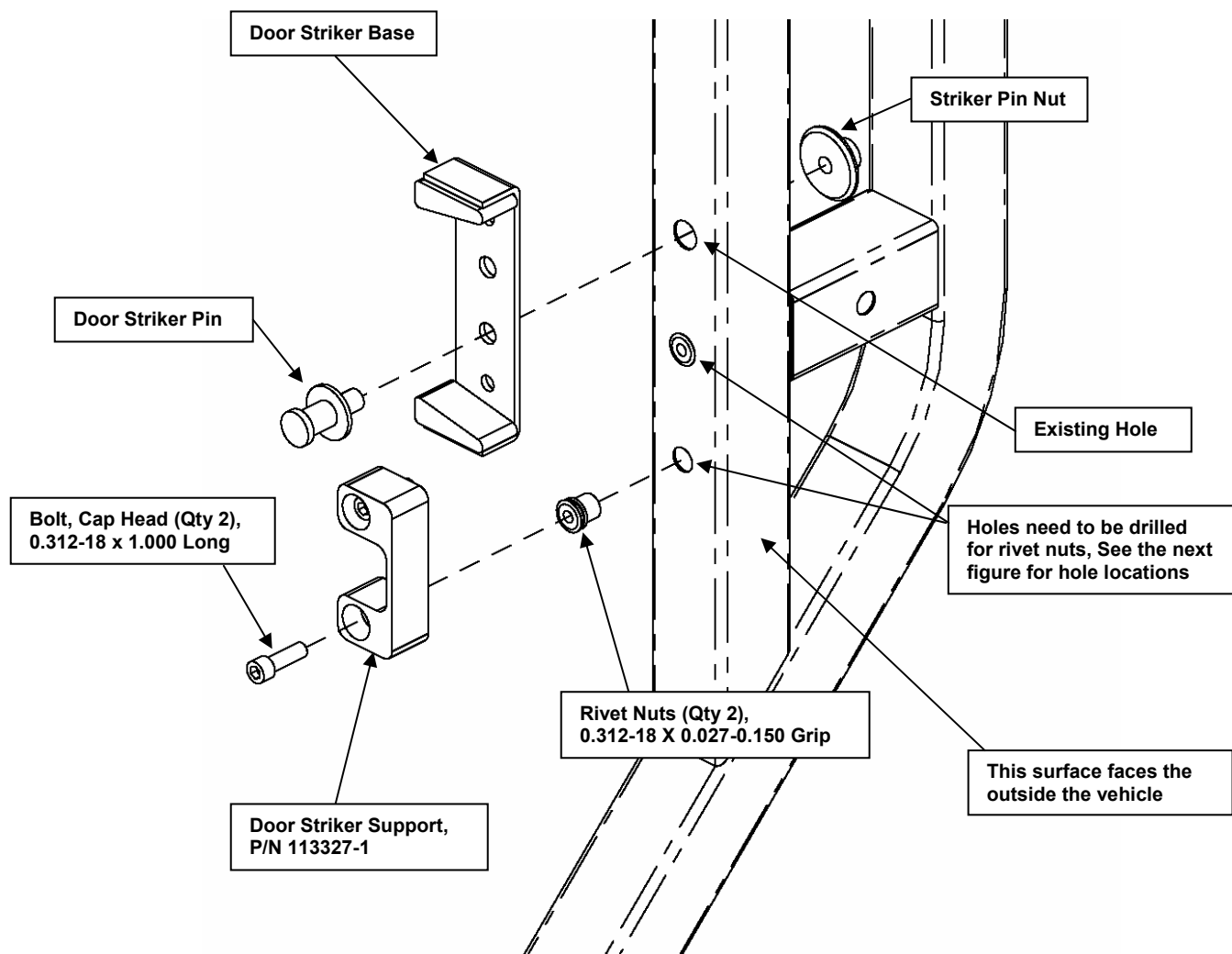


Figure 26. Door Striker and Combat Latch locations.

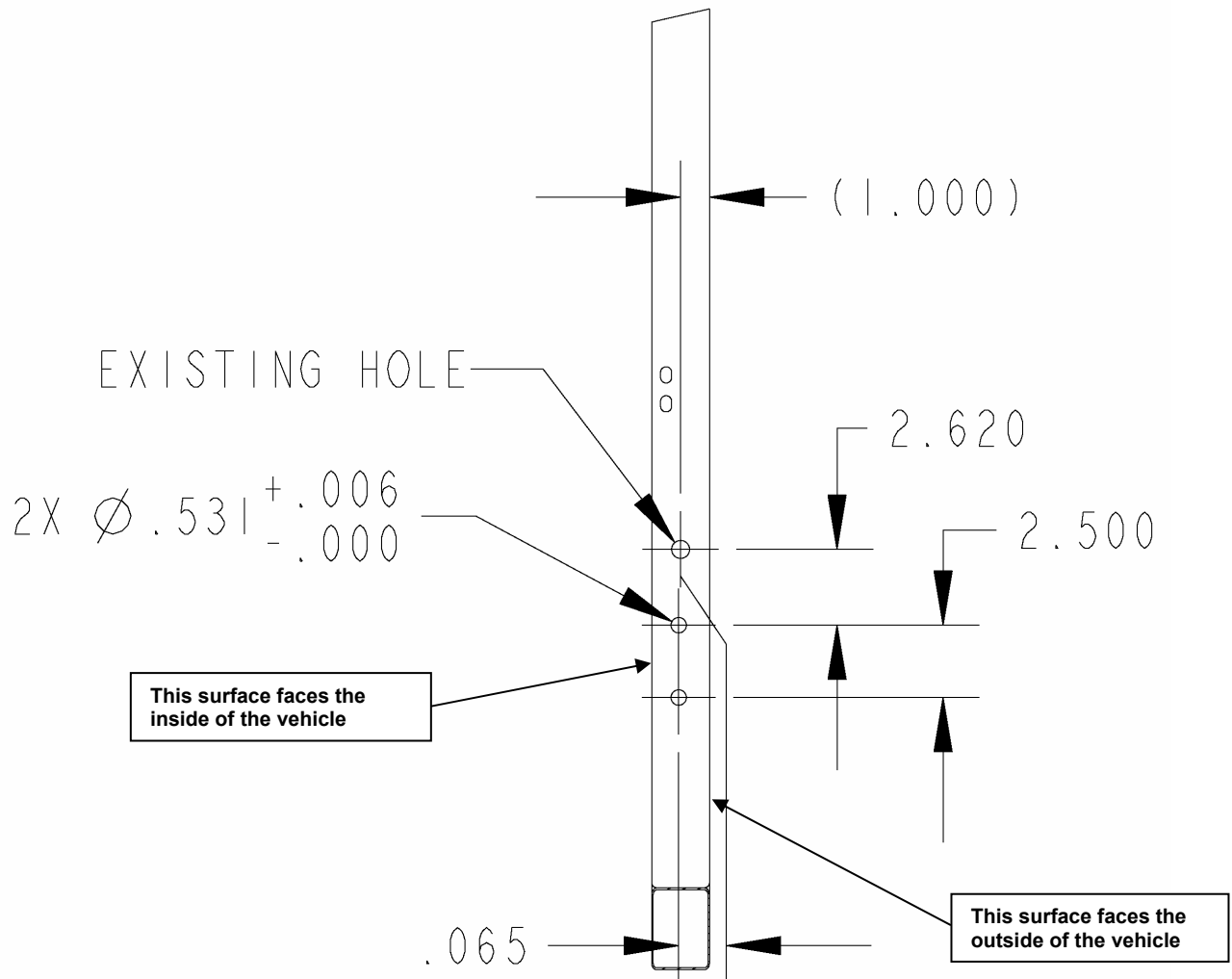


Figure 27. Door Striker Support Hole locations.

- w) Install a lifting strap through the Lifting Brackets (P/N 113354-1-103) located on top of the Armored Door Assembly (P/N 113310-1-103) (see Figure 28).

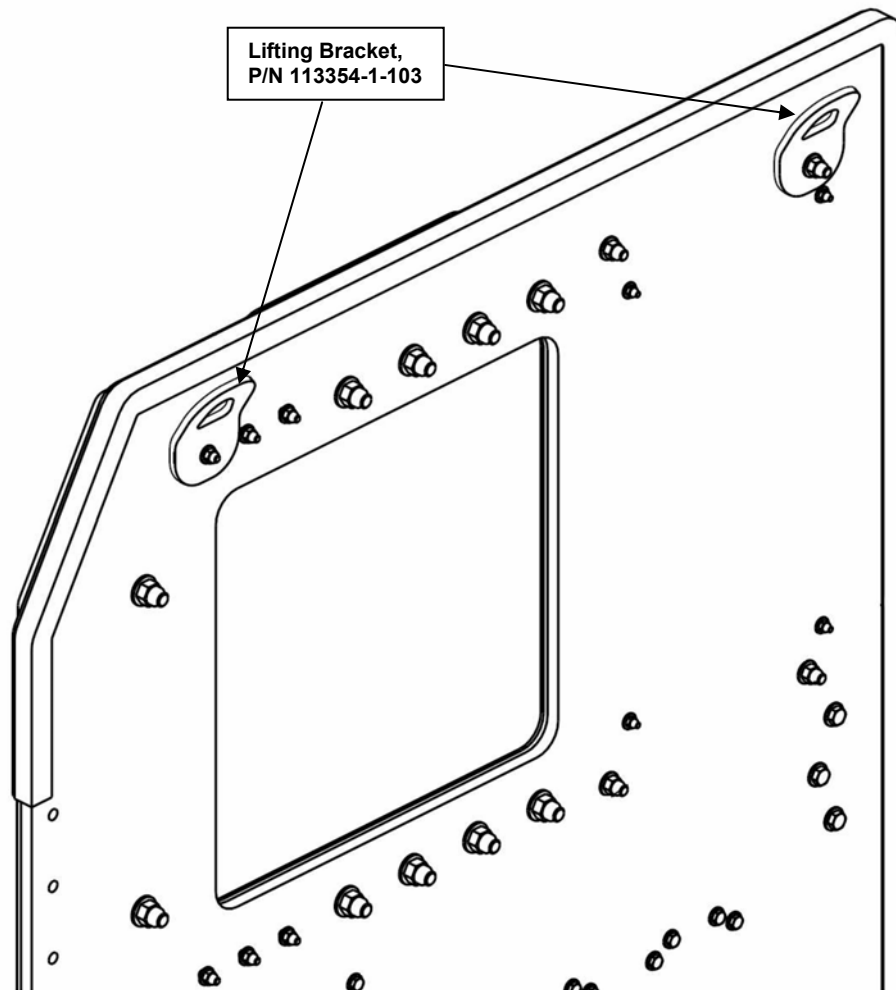


Figure 28. Door Lifting Bracket.

- x) Using the lifting strap and material handling equipment (hoist, forklift, etc.), position the Armored Door Assembly so that the door can be attached to the hinge using ten (10) bolts, as shown in Figure 29.
- y) Once the door is securely attached to the hinge, remove the material handling equipment, lifting strap, and Lifting Brackets from the door. Do not discard the hardware (nuts, bolts and washers), as they will be used in the next few installation steps.
- z) Install the Door Strap Assembly (P/N 113386-1) using the hardware as shown in Figure 29.
- aa) Re-install the 0.375-16 x 5.000-in.-long bolt, nut, and washers where the aft lifting bracket was removed.

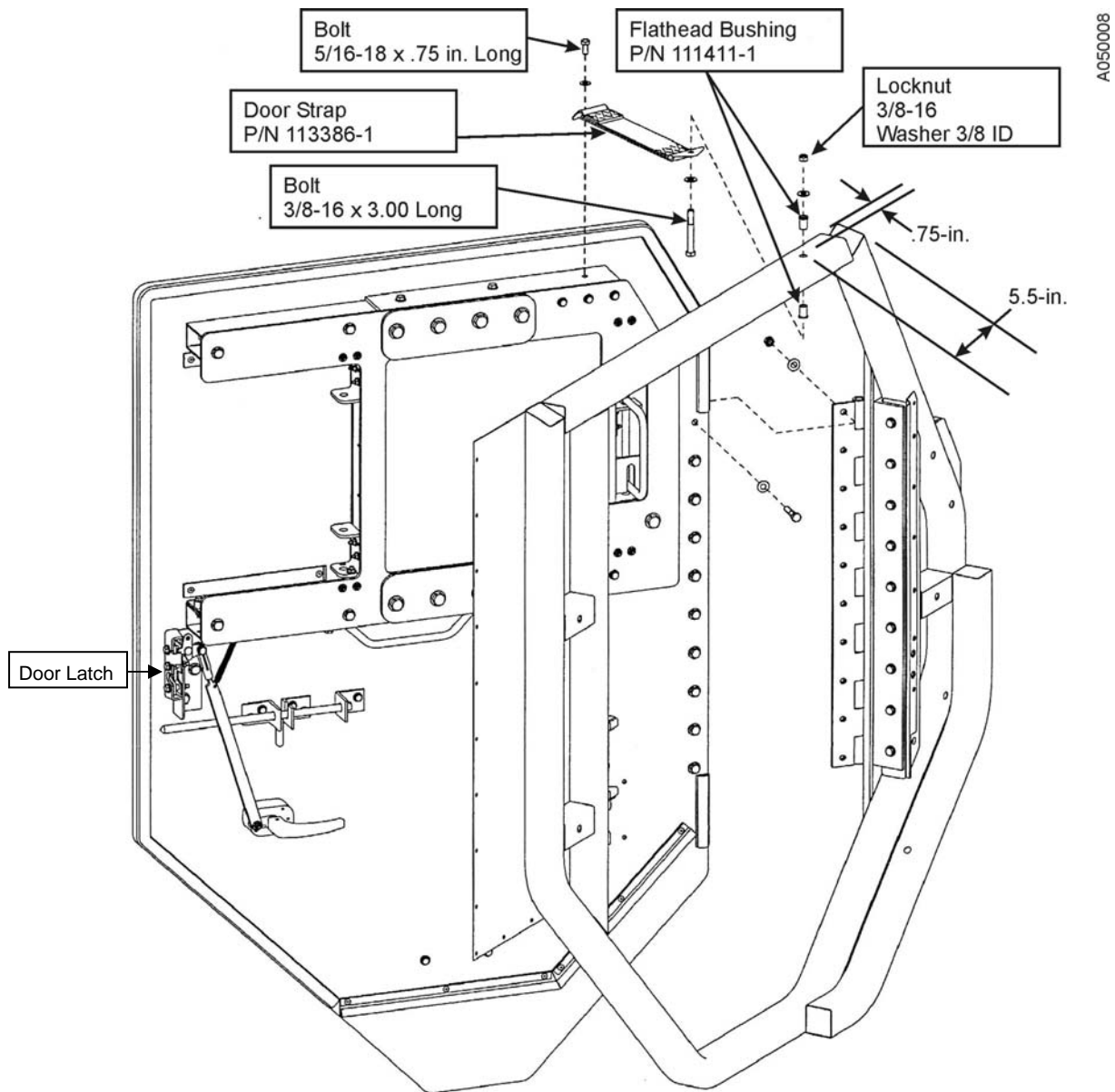


Figure 29. Armored Door and Door Strap.

bb) Re-position the Door Latch Assembly (see Figure 29) if required, by loosening its attachment hardware so that the door smoothly engages the Door Striker Pin and then tighten the attachment hardware.

NOTE

If necessary, washers or shims may be placed between the door latch assembly and the door to adjust the latch inward if the latch is not completely engaging the striker. The shim adjustment should not exceed 3/16 in.

cc) Install the door reflector that was previously removed from the door using the hardware shown in Figure 30.

dd) Remove the five remaining 0.250-20 x 4.750-in.-long bolts located in the door and attach the previously removed side mirror using the hardware shown in Figure 30.

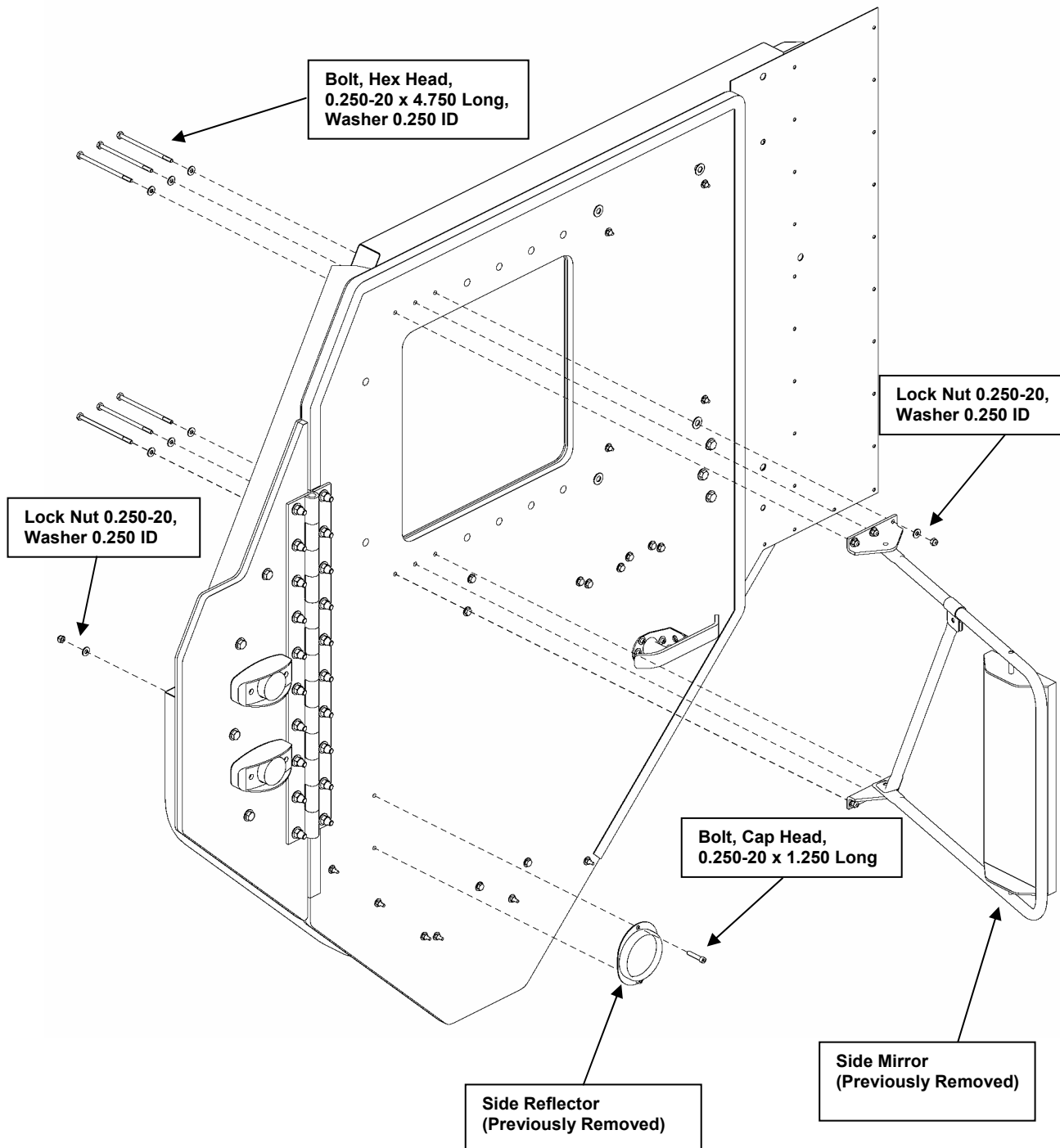


Figure 30. Mirror and Side Reflector installation.

ee) Attach the Steel and Aluminum Aft Side Panels (P/Ns 113312-1-103 and 113312-3-103) together using 0.375-16 x 1.500-in.-long bolts, nuts, and washers in five locations, as shown in Figure 31.

ff) Attach the Upper Rear Panel Bracket (P/N 113352-3-103) using 0.375-1.75-in.-long bolts, nuts, and washers in the five locations shown in Figure 31.

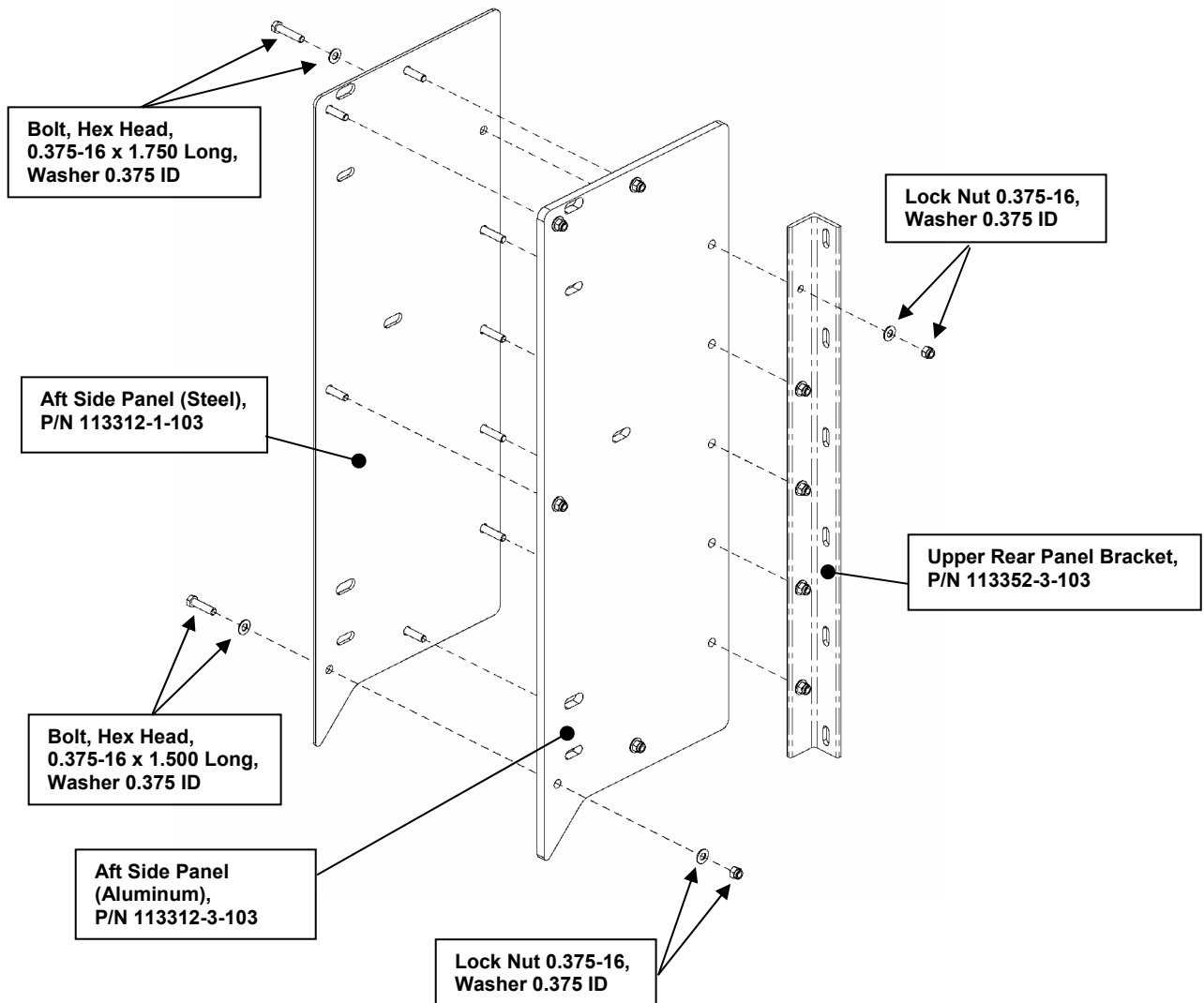


Figure 31. Rear Side Panel Assembly.

- gg) To install the Rear Side Panel Assembly, it is necessary to determine whether the vehicle is equipped with a three- or four-point restraint system. The Rear Side Panel Assembly is designed such that it will attach to either restraint system; however, the attachment hardware and the attachment location on the panel are different for each type of restraint. To identify the four-point restraint system, look behind the seat for a long, upside-down-“T”-shaped bracket, as shown in Figure 32 and Figure 33.



Figure 32. Four-point restraint system (upper portion).

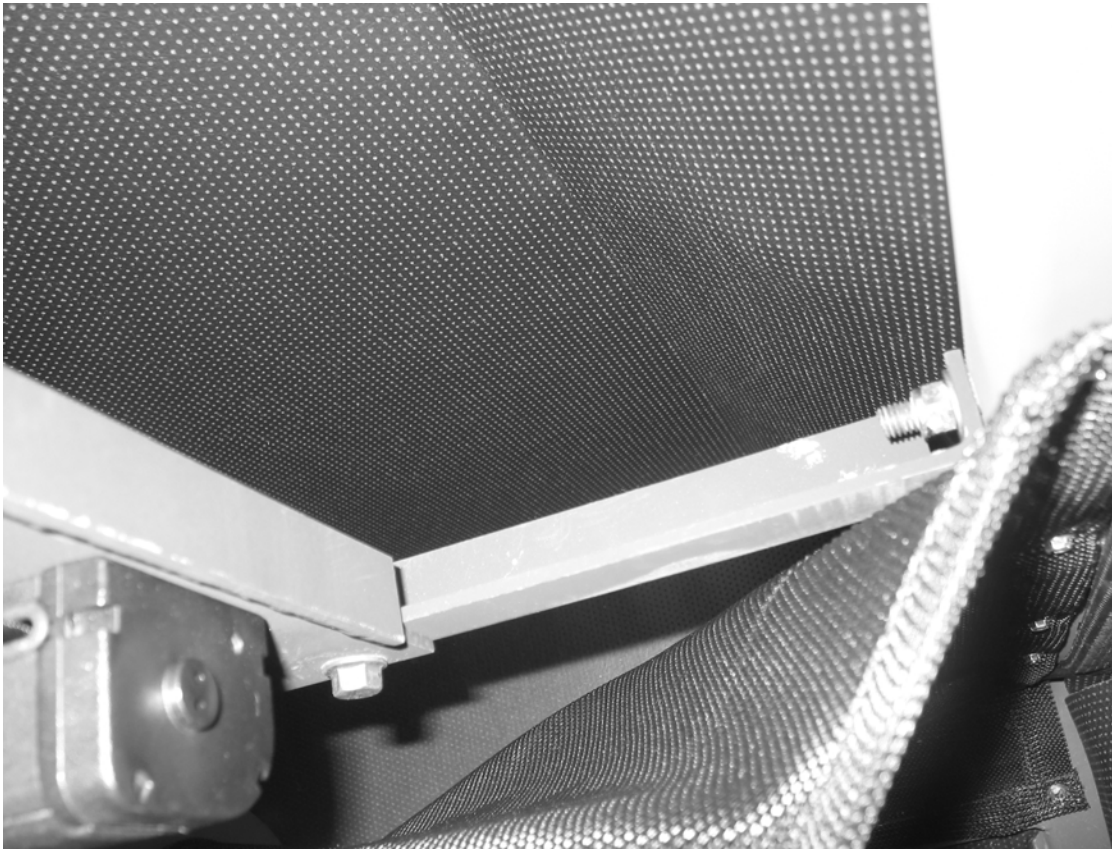


Figure 33. Four-point restraint system (lower portion, behind the seat).

- hh) The three-point restraint system does not have the “T” bracket shown in Figure 32 and Figure 33. Instead, the inertia reel is located next to the seat, facing the door, near the bottom of the door. There is also a bracket, which the restraint webbing passes through, that is attached to the inside upper corner of the cab.
- ii) Once the type of restraint system is identified, install the Rear Panel Assembly and the other hardware, as shown in Figure 34 for the three-point restraint system and Figure 35 for the four-point restraint system. Position the forward edge of Aft Panel Assembly as close to the door as possible without interfering with the door's opening and closing. Several attempts may be required to position the Panel properly.

NOTE

For the three-point restraint system, the bolt that attaches the upper restraint fitting to the cab should not be over-tightened. When properly installed, the fitting should rotate freely about the bolt, but not translate along its length more than 0.020-in.

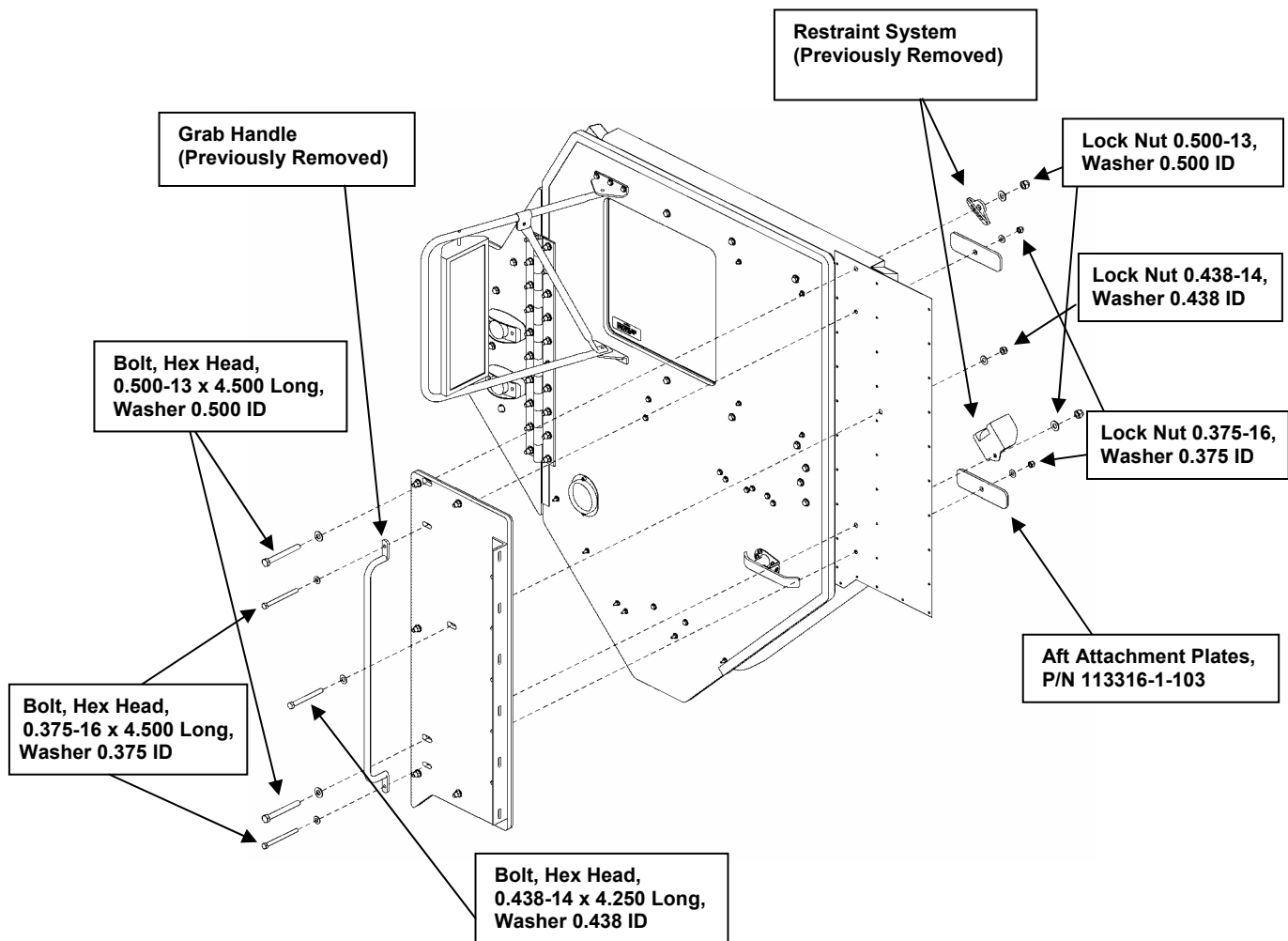


Figure 34. Rear Side Panel installation (three-point restraint).

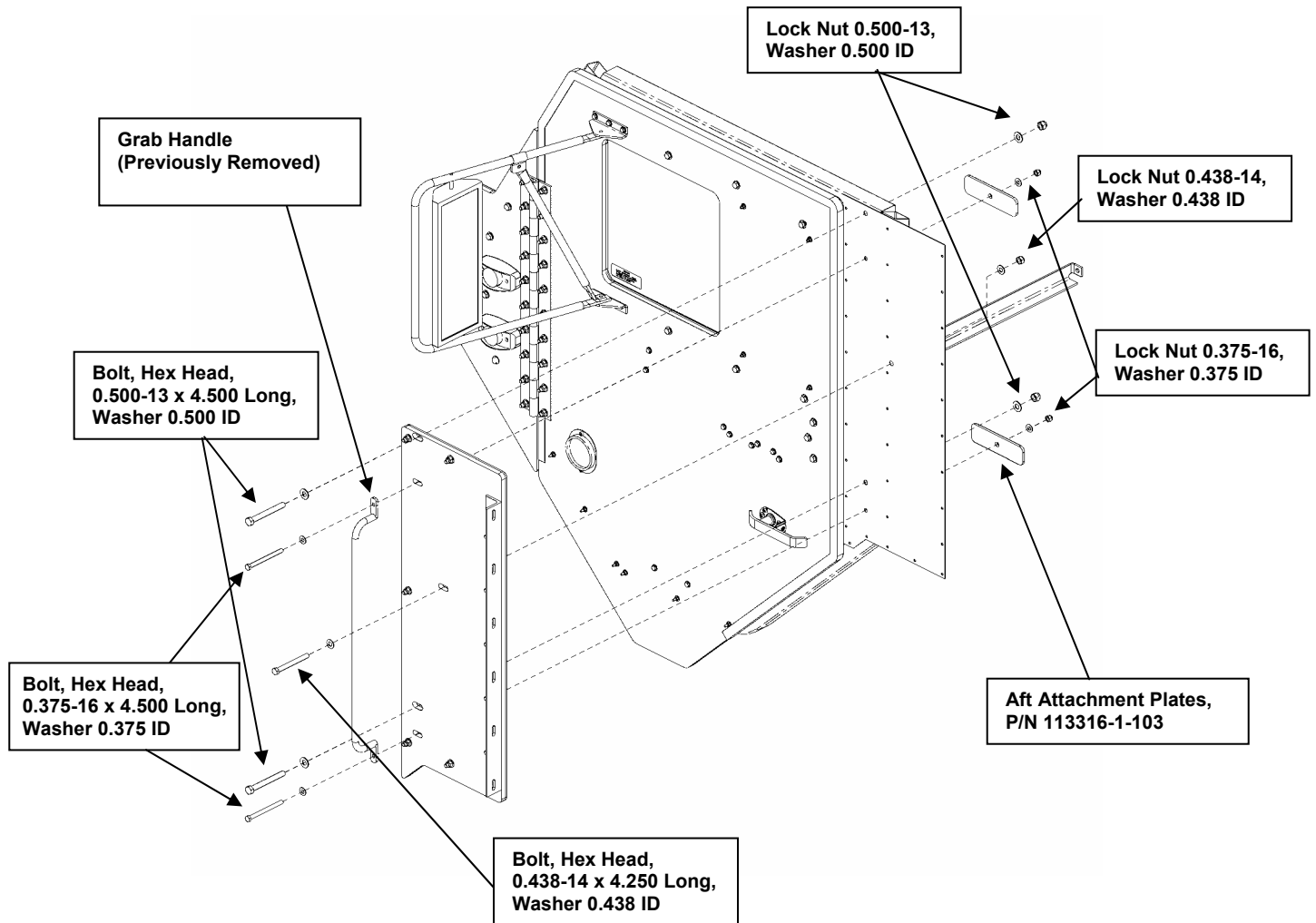


Figure 35. Rear Side Panel installation (four-point restraint).

3.5.3 Install Armor Kit, Side, PLS (RH), P/N 113310-2-103

- a) **Read this entire section before installing the Armor Kit, Side.**
- b) Use the instructions provided in Section 3.5.2 to install this Armor Kit. This kit is a mirror image to the previous kit, and the installation procedure for this kit is the same as the Left Armor Kit (P/N 113310-1-103), with the following few exceptions.
- c) In this kit, the part number for the Armored Door Assembly is 113320-2-103. Substitute this part number in place of 113320-1-103 of Section 3.5.2.
- d) When installing the aluminum and steel armor panels, verify that they are properly oriented. The aluminum armor panel should always be located on the outside covering the steel armor panel.

WARNING

INSTALLING THE ARMOR PANELS IN THE INCORRECT ORIENTATION MAY DEGRADE THE PERFORMANCE OF THE ARMOR SYSTEM.

3.5.4 Install Armor Kit, Rear, PLS, P/N 113350-1-103

- a) Attach the Bracket (P/N 113352-1-103) to the Rear Left Panel (P/N 113351-1-103) as shown using the hardware in Figure 36.
- b) Attach the Bracket (P/N 113352-5-103) to the Rear Right Panel (P/N 113351-2-103) as shown using the hardware in Figure 36.
- c) Attach the eye nut (P/N 106795-1) using a 0.375-16 X 1.250-in.-long bolt to one of the vertical facing holes and attach a lifting strap to the eye nut.
- d) Using the lifting strap and material handling equipment (hoist, forklift, etc.), position the Armor Panel above the cab such that it can be slid between the cab and the equipment directly behind the cab (see Figure 37).
- e) Open the access panel on the vehicle and carefully lower the Armor Panel so that the six holes located on the edge of the Armor Panel line up with the holes in the Angle Bracket installed on the Aft Armor Panel Assembly.
- f) Once the holes are aligned, insert a 0.375-16 X 1.500-in.-long bolt through the top and bottom holes. Use a nut and washer to temporarily hold the panel into position. The panel will be fully secured during the installation of the roof armor kit.
- g) Remove the eye nut and, using the same instructions as before, install it on the other Aft Armor Panel assembly.

- h) Raise the panel as done previously, and carefully lower it down through the small opening behind the cab.
- i) Line up the holes on the side panel and temporarily fasten it in place using two 0.375-16 X 1.500-in.-long bolts. Again, this side will be securely fastened in place during the installation of the roof armor kit.

NOTE

Do not drill holes or attach the C4ISR covers if the C4ISR equipment has been installed on the vehicle.

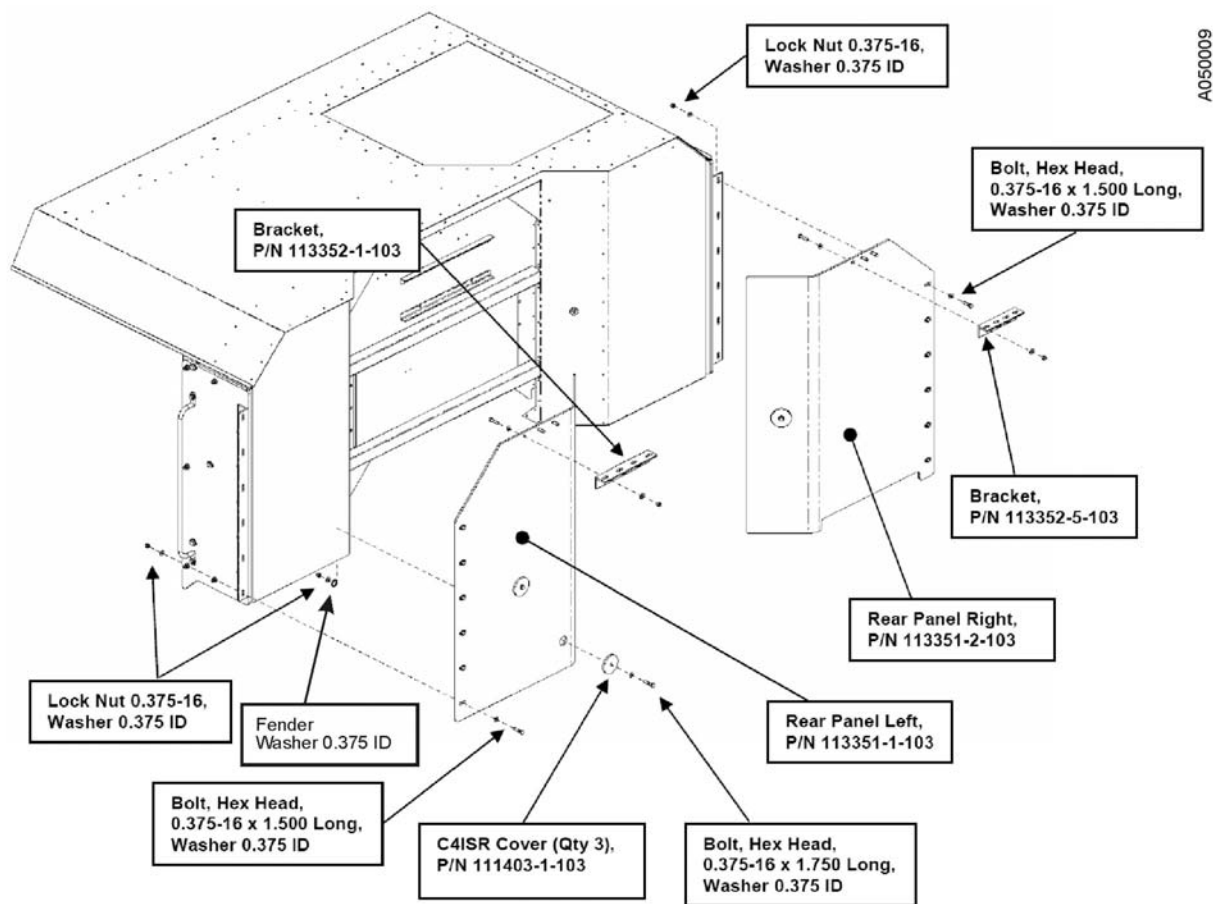


Figure 36. Rear Armor Panels.



Figure 37. Rear Armor Panel installation.

3.5.5 Install Armor kit, Roof, PLS, P/N 113340-1-103

- a) Attach all of the parts shown in Figure 38 to the Roof Panel (P/N 113341-1-103) using the hardware indicated in the figure.
- b) Install the Bulb Seal (P/N 103B375B3X3/16E) around the Escape Hatch opening with the rubber bulb facing upward. Start one end of the Bulb Seal on a flat section of the opening (see Figure 39). If necessary, use a rubber mallet to assist in the installation.

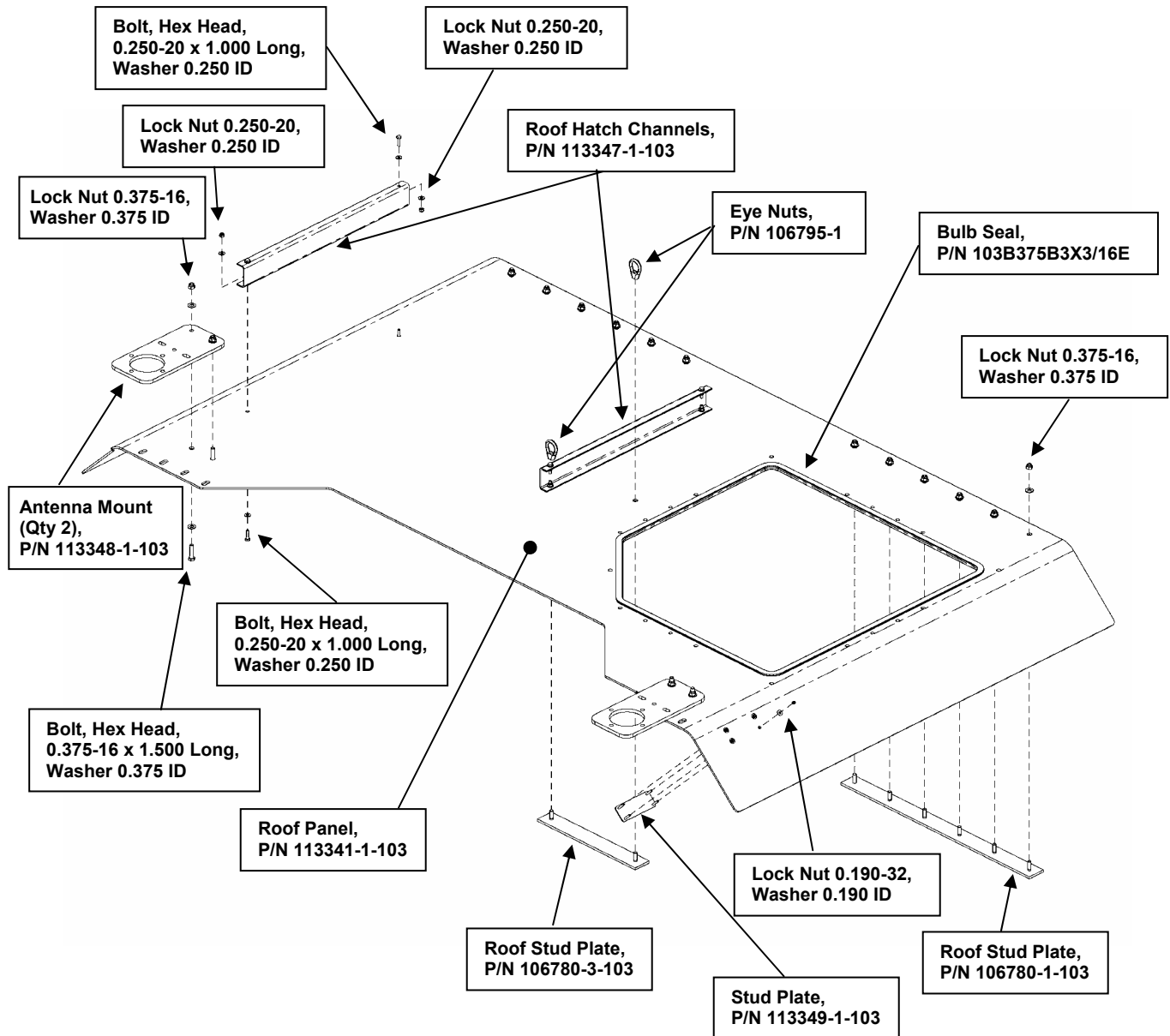


Figure 38. Roof Assembly installation.



Figure 39. Installing the Escape Hatch Bulb Seal.

- c) Attach the Grab Handles (P/N 31-8-BLK) to the Escape Hatch Panel (P/N 113346-1-103) using the hardware shown in Figure 40.
- d) Attach four Draw Latches (P/N F7-51) to the Escape Hatch using the hardware shown in Figure 40.

CAUTION

Do not over-tighten the fasteners. The fasteners may strip the draw latch connector if they are over-tightened.

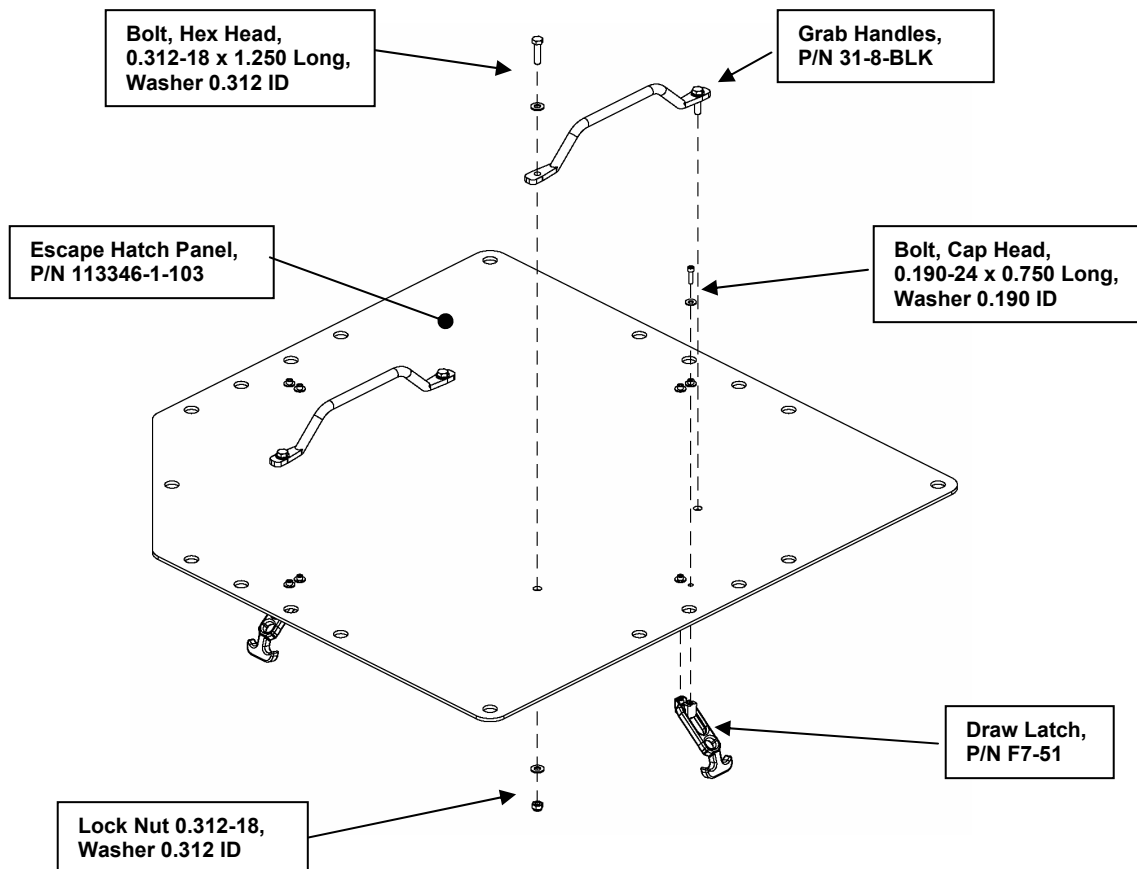


Figure 40. Escape Hatch Handle and Draw Latch installation.

- e) Attach a lifting strap to the Eye Nuts (P/N 106795-1) located near the center of the Armored Roof Assembly.

- f) Using the lifting strap and material handling equipment (hoist, forklift, etc.), position the Armored Roof Assembly over the cab and carefully lower it into position. Use a drift pin(s) to line up the bolt holes around the perimeter of the Escape Hatch opening.
- g) Once all the holes are lined up, insert the bolts and two Standoffs (P/N 8080r S .5 35) as shown in Figure 41, but do not fully tighten them. The bolts will be fully tightened once the two Rear Armor Panels have been attached to the Armored Roof Assembly panel.

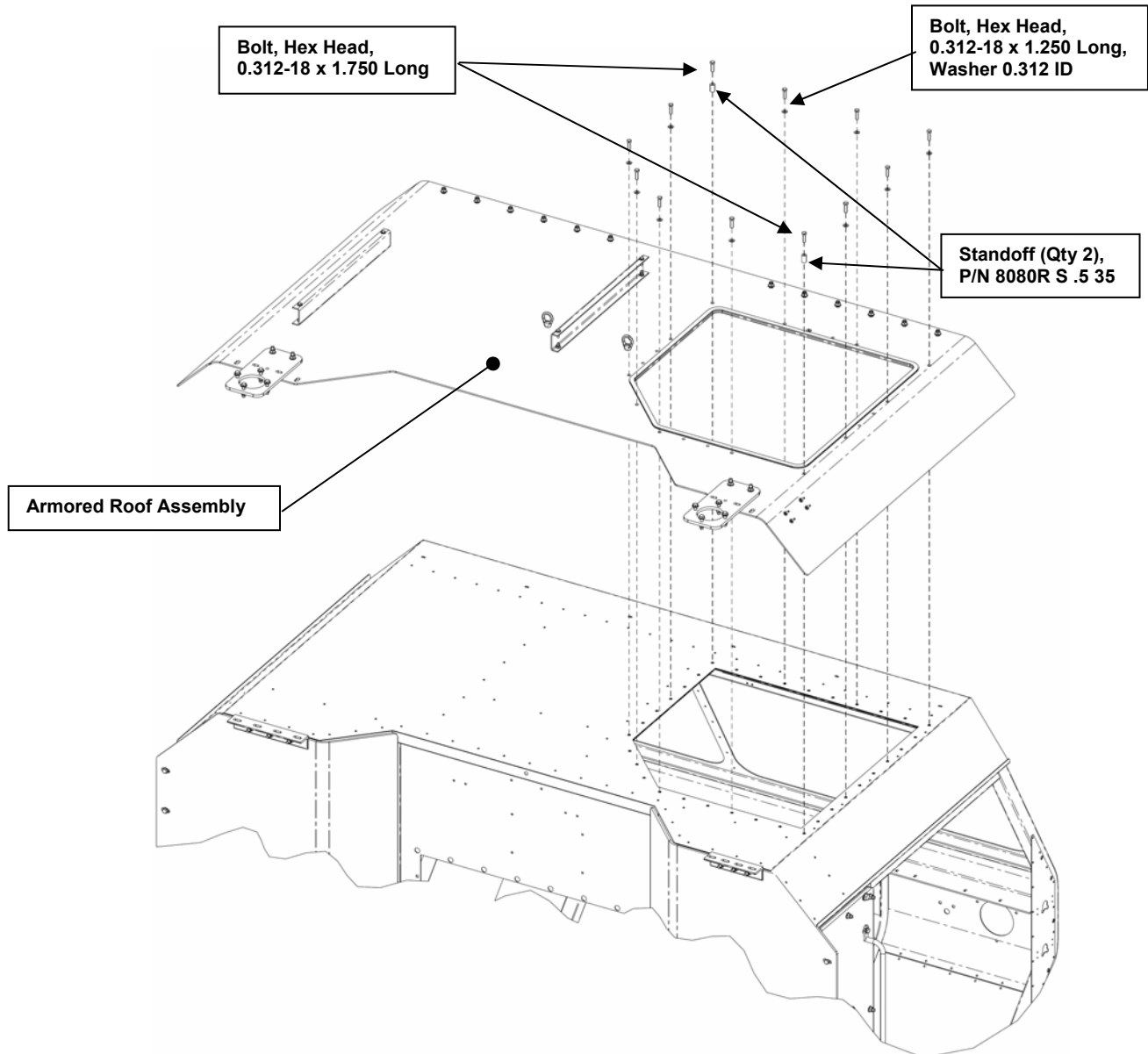


Figure 41. Armored Roof Panel installation.

- h) Attach the Left Rear Panel to the roof using the hardware shown in Figure 42. Do not fully tighten the bolts at this time. Tighten the bolts such that the top of the top surface of the angled bracket is 0.00 to 0.60 in. from the bottom surface of the roof panel.

NOTE

When installing the Rear Left Panel to the Armored Roof Panel, loosen the two bolts that attach the Side Rear Panel Assembly to the Rear Left Panel. This will allow the parts to move into the correct position as the bolts shown in Figure are tightened.

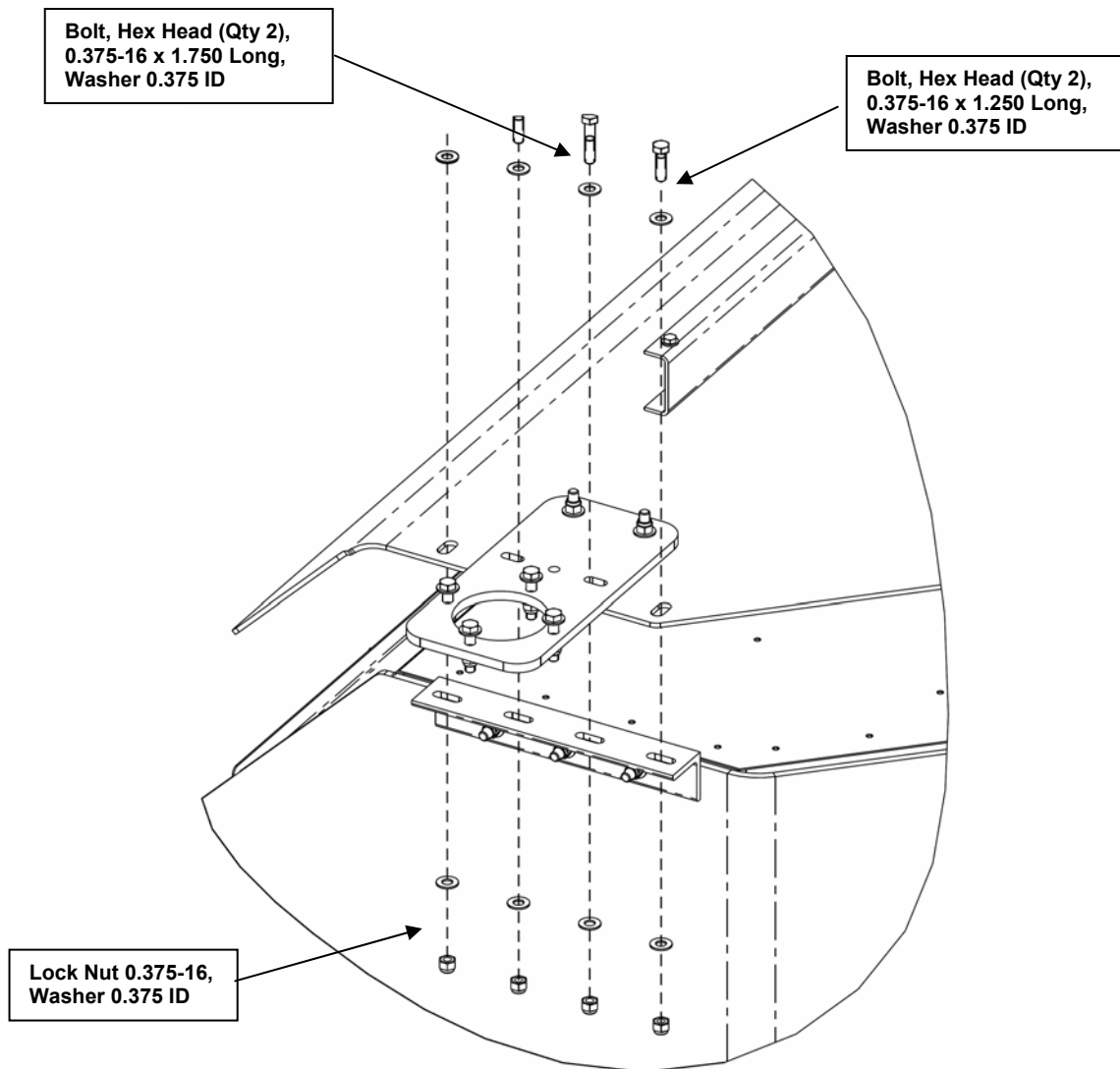


Figure 42. Installing the Antenna Mount, Left Side.

- i) Attach the Right Rear Left Panel to the Armored Roof Panel using the hardware shown in Figure 43. Do not fully tighten the bolts at this time. Tighten the bolts such that the top of the top surface of the angled bracket is 0.00 to 0.60 in. from the bottom surface of the Roof Panel.

NOTE

When installing the Rear Right Panel to the Armored Roof Panel, loosen the two bolts that attach the Side Rear Panel Assembly to the Right Rear Panel. This will allow the parts to move into the correct position as the bolts shown in Figure are tightened.

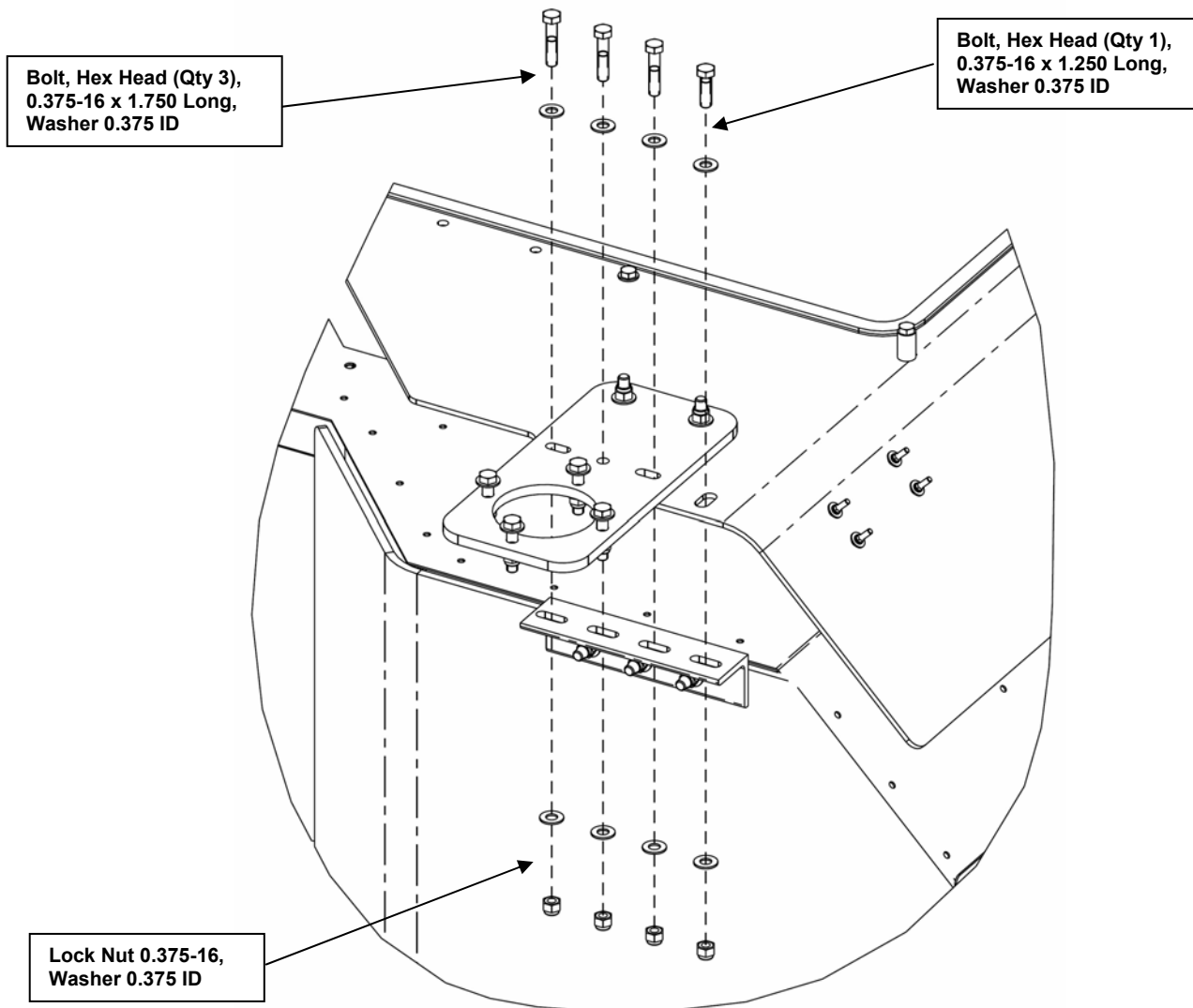


Figure 43. Installing the Antenna Mount, Right Side.

- j) Install the Draw Latch Component (P/N F7-51) shown in Figure 44 on each of the four Escape Hatch Brackets (P/N 113357-1) using 0.190-24 X 0.750-in.-long Hex Head Bolts and washers, as shown in Figure 44. Torque the fasteners to 3 ft-lb.

CAUTION

Do not over-torque the fasteners. This will strip the threaded hole in the Draw Latch Component.

- k) Install the four Bracket Assemblies using the hardware shown, and in the locations shown, in Figure 44. Do not fully tighten the bolts at this time.

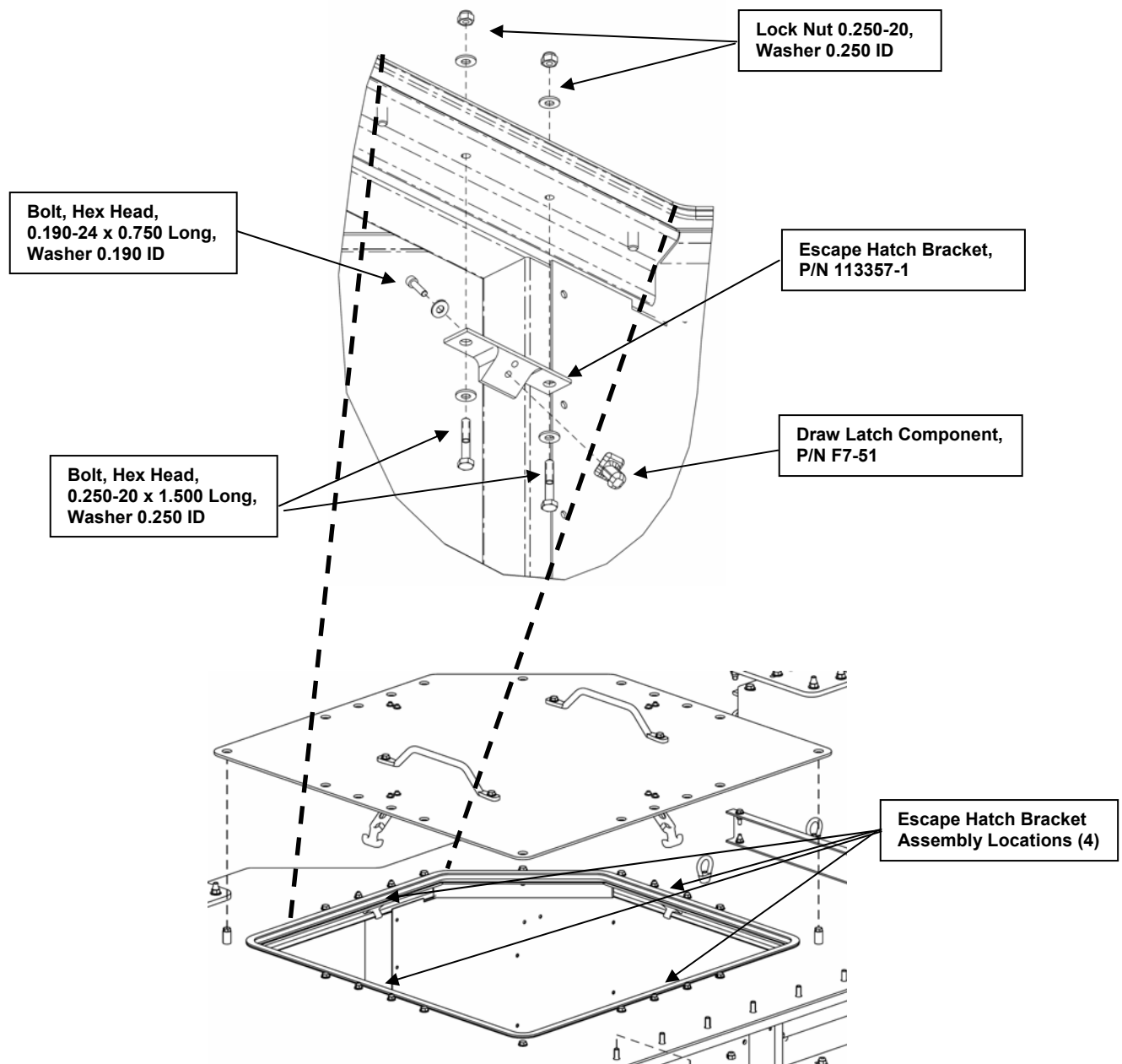


Figure 44. Installation of the Escape Hatch Brackets.

- l) Tighten all the fasteners that were previously left loose in Steps (g) through (h).
- m) Place the Front Roof Panel Brackets (P/N 106735-1-103) over the studs, as shown in Figure 45. Then, move the bracket as far aft as possible without causing a gap between the top of the roof and the mating surface of the bracket. Use six (6) 0.375-16 nuts and washers to fasten the brackets into position. Apply a small amount of Loctite to five (5) 0.250-20 X 1.250-in.-long Hex Head Bolts and install them through the tapped holes located on the bottom edge of the bracket. Tighten the bolts so that the bracket is clamped to the cab.
- n) Use Urethane Sealant (P/N 104302-1) to fill in the gap between the roof of the cab and the bottom of roof armor around the Escape Hatch (see Figure 45). From the inside of the cab and around the Escape Hatch, apply a small amount of Urethane Sealant to the threaded holes that do not have bolts inserted into them.
- o) Place the Escape Hatch Assembly over the opening in the roof and secure it from the inside of the cab using the four draw latches.

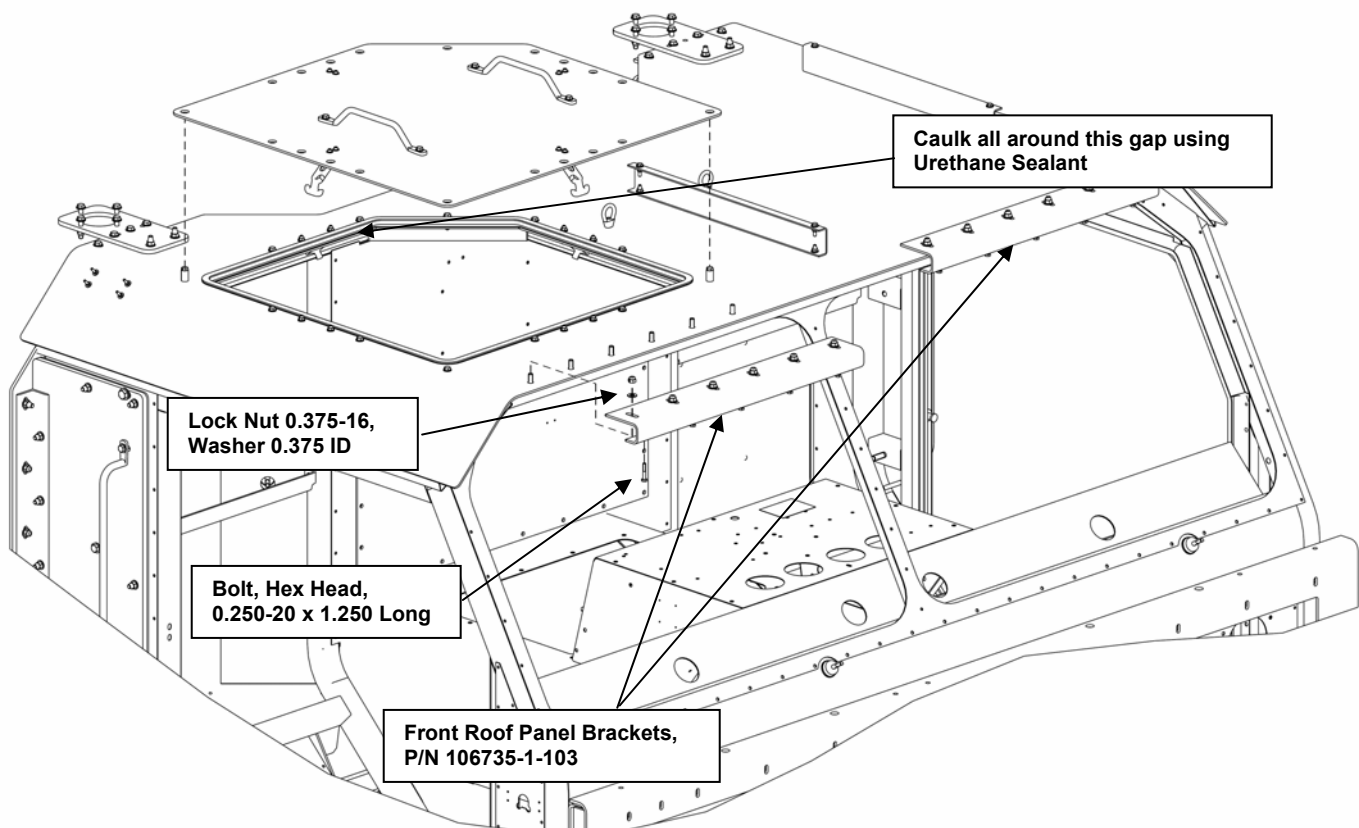


Figure 45. Escape Hatch and Front Roof Bracket installation.

3.5.6 Install Armor Kit, Front, PLS, P/N 113370-1-103

- a) Install the Six Stud Plates to the Upper Brush Guard (P/N 113372-1-103) using the hardware shown in Figure 46.

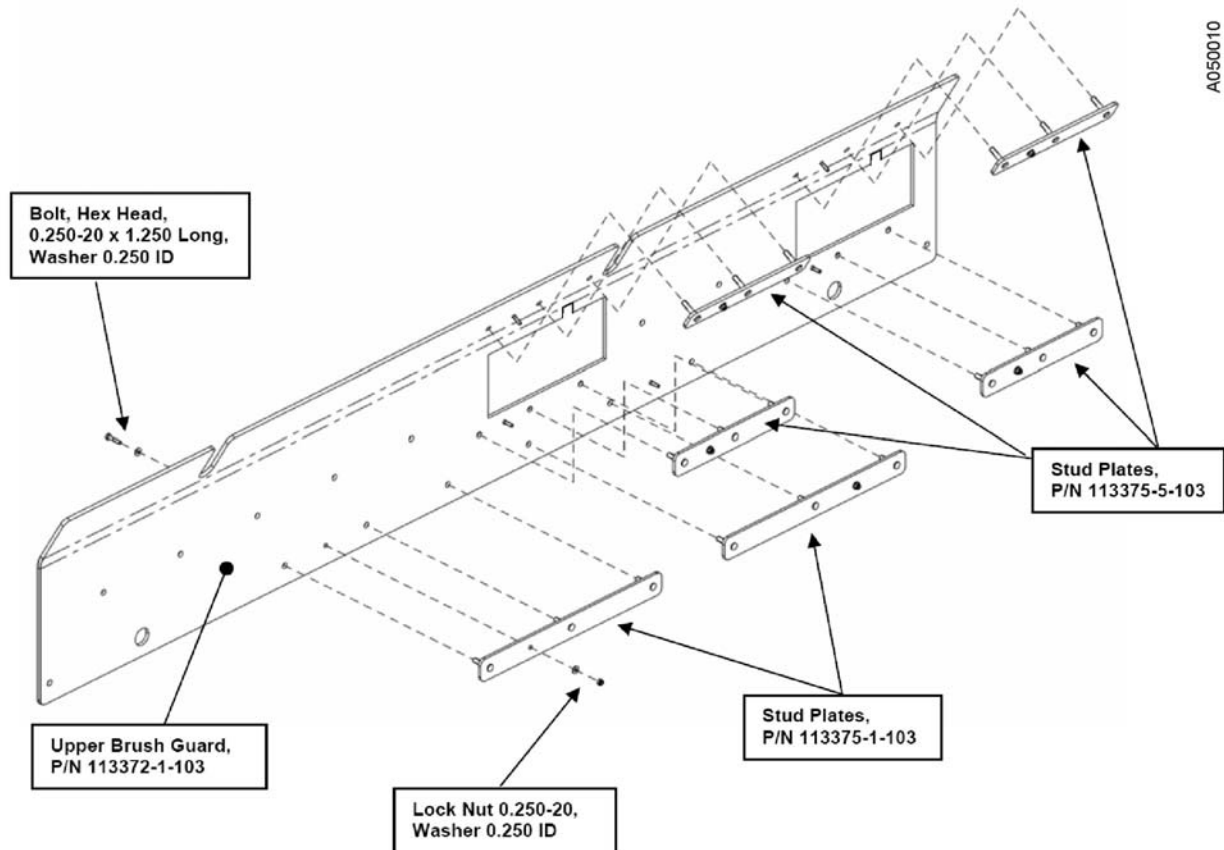


Figure 46. The Upper Brush Guard Assembly.

- b) Install the six Stud Plates to the Lower Brush Guard (P/N 113337-1-103) using the hardware shown in Figure 47.
- c) Install the Blackout Light Bracket (P/N 113355-1-103) using the hardware shown in Figure 47.
- d) Install the Brush Guard Spacer (P/N 113376-1-103) using the hardware shown in Figure 47.
- e) Install the two Grab Handles (31-8-BLK) to the Winch Cover Panel (P/N 113373-1-103) using the hardware shown in Figure 47.

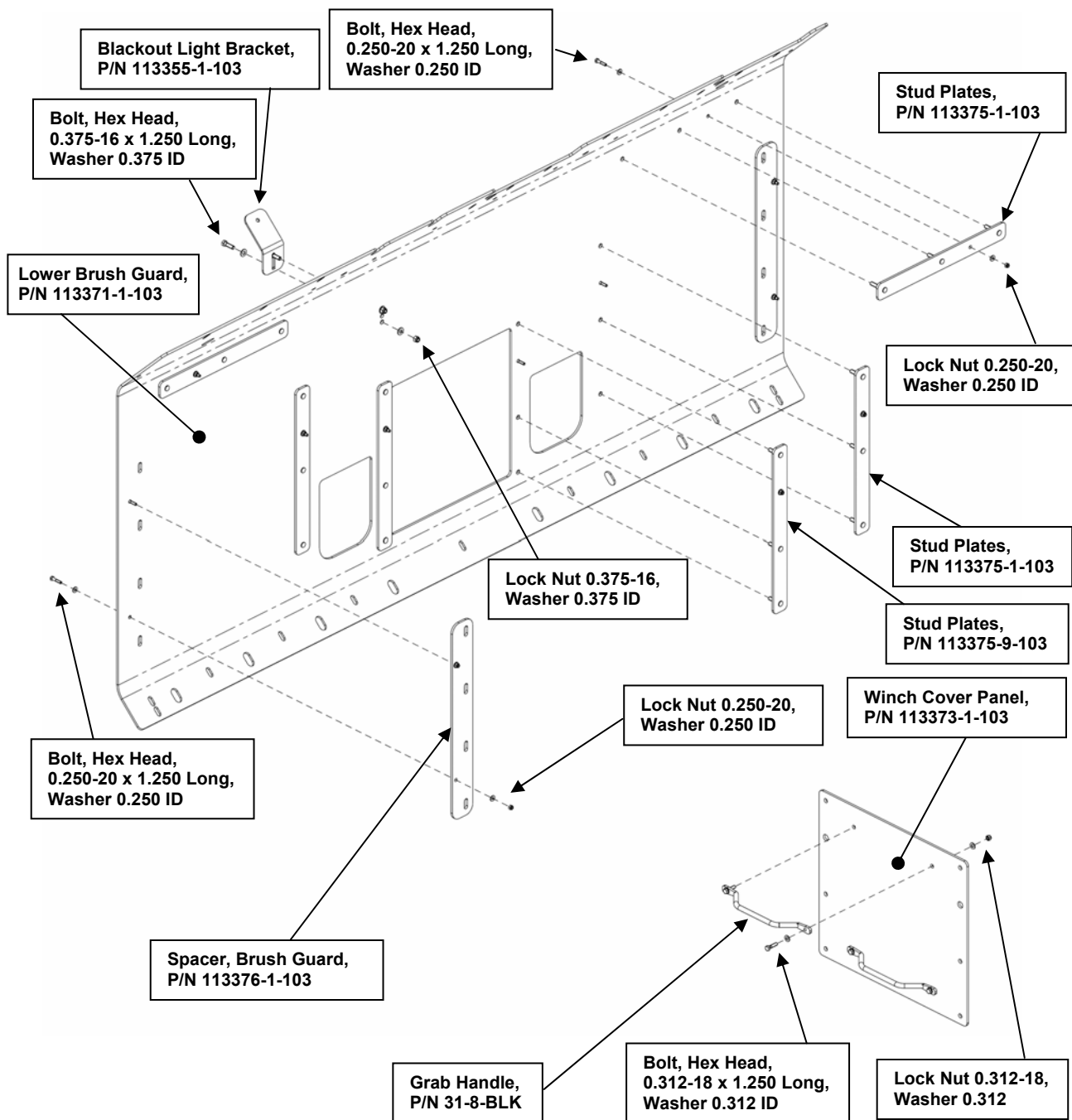


Figure 47. Lower Brush Guard and Winch Cover.

- f) Apply Urethane Sealant (P/N 104302-1) around the perimeter of the light openings and install the Light Cover Plates (P/N 113379-1-103) using the hardware shown in Figure 48.

- g) Install the Upper Brush Guard Assembly using two 0.375-16 x 0.875-in. long Hex Head Bolts in the locations shown in Figure 48.

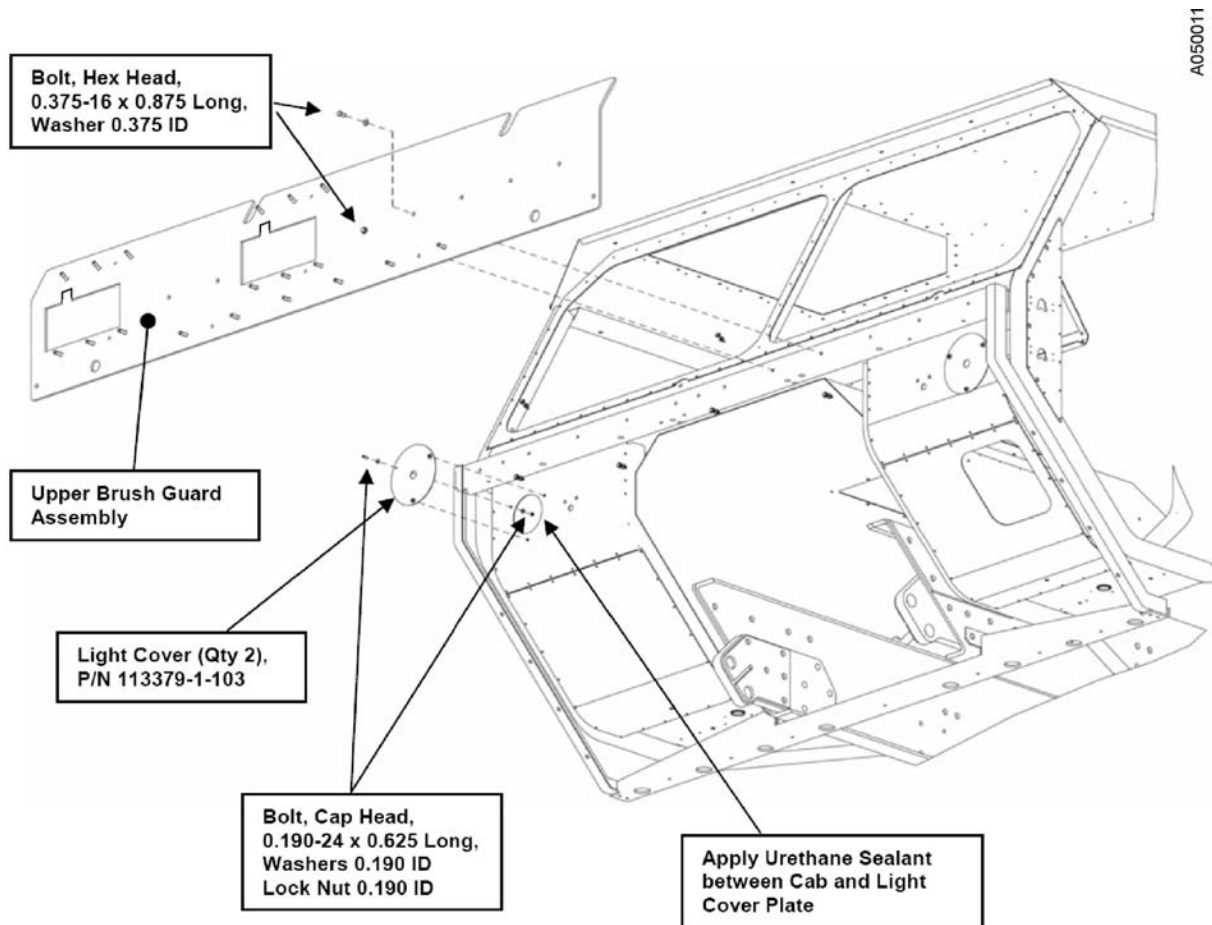


Figure 48. Upper Brush Guard Armor Panels.

- h) Using a lifting strap and material handling equipment (hoist, forklift, etc.), orient the Lower Brush Guard as shown in Figure 49. A hand winch can be attached to the bottom edge of the Brush Guard and frame of the vehicle to assist in positioning the Brush Guard. Place the Brush Guard into position over the studs.

CAUTION

Do not allow the Lower Brush Guard to rotate once it is placed on the studs. Doing this will cause the studs to bend and the threads will be distorted. In addition, use caution when using a drift pin to line up any threaded holes. Excessive force will damage the threads.

- i) Install the IED Front Panels (P/N 113377-1-103) using the hardware shown in Figure 49.
- j) Install the two Gun Mount Covers (P/N 113378-1-103) using the hardware shown in Figure 49.
- k) Install the remaining nuts and bolts as shown in Figure 49.

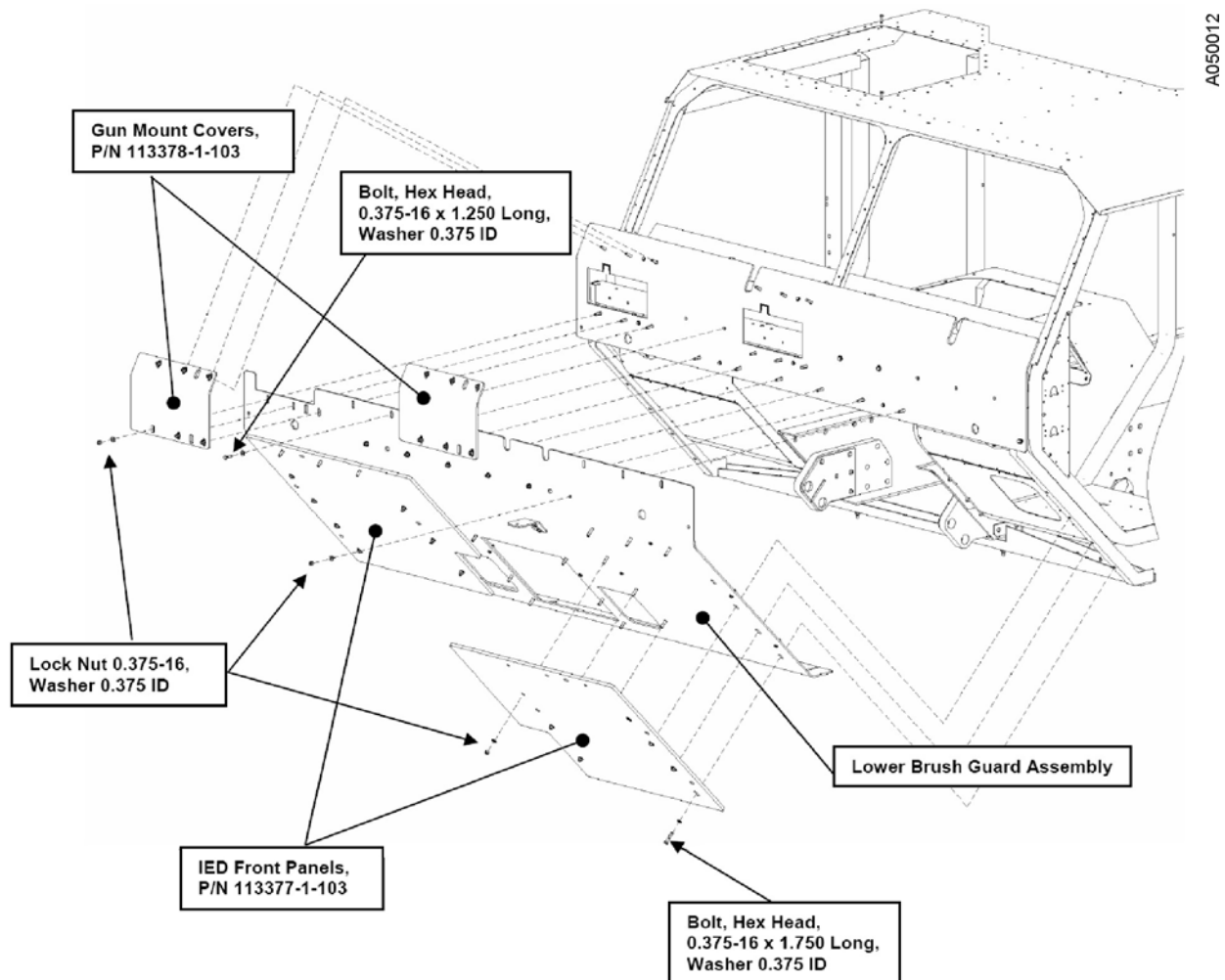


Figure 49. Lower Brush Guard Armor Panels.

- l) Connect the mating end of the Pigtail Adapter (P/N 111438-1) to the Blackout Light wire that was previously disconnected. Remove the rubber boot from the other end of the Pigtail Adapter and rout the wire through a hole in the armor as shown in Figure 50. Re-install the rubber boot.
- m) Using the original hardware, attach the Blackout Light to the bracket, as shown in Figure 50.
- n) Connect the Pigtail Adapter to the wire leading to the Blackout Light.

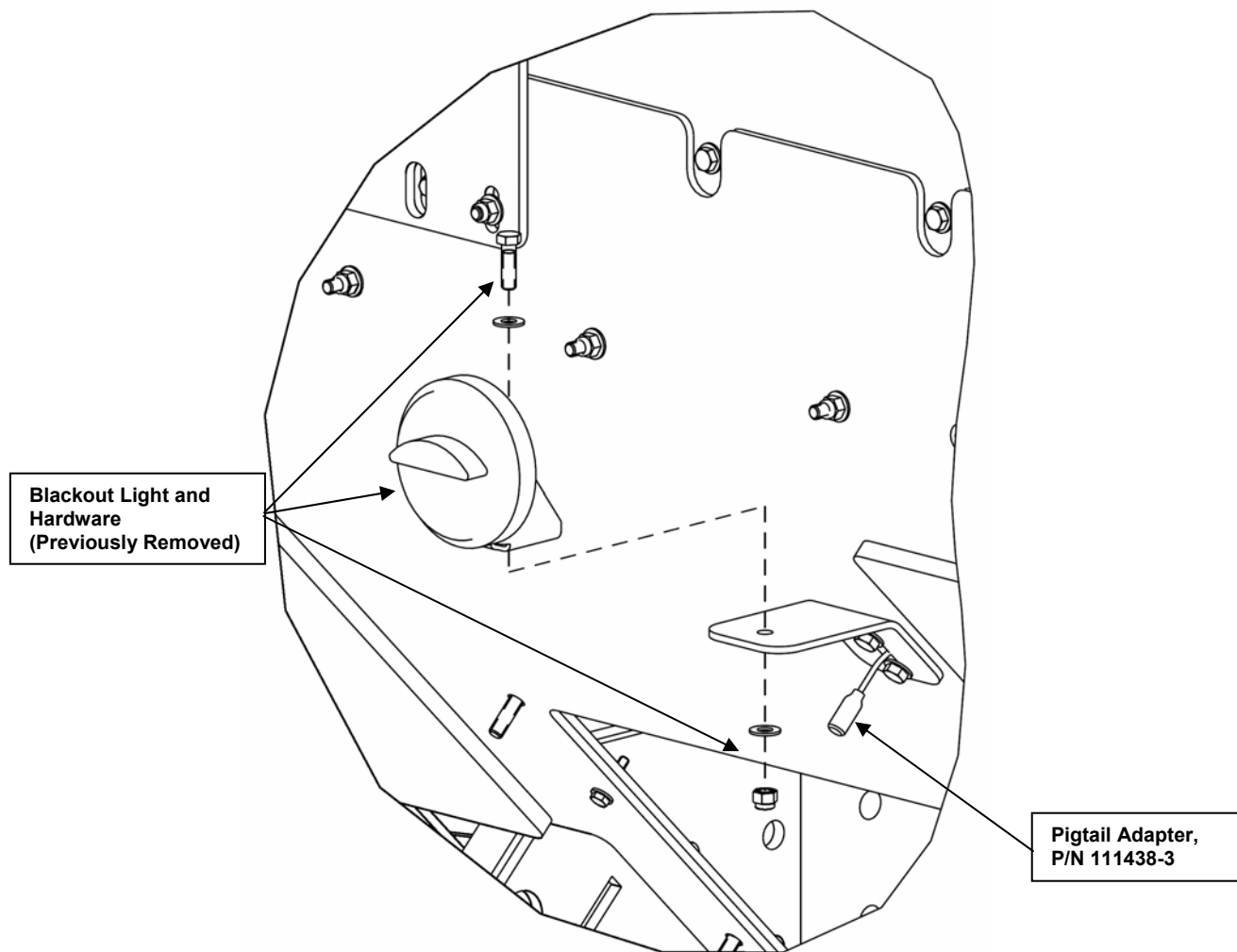


Figure 50. Front Blackout Light.

- o) In order to install the Headlight Assemblies, it is necessary to identify which type of Marker Light is used on the vehicle. Before being removed, the Marker Light was located just inboard of the Headlight. Inspect the Marker Light and determine whether an incandescent bulb (i.e., a common lamp bulb) is used inside the light. If an incandescent bulb is **NOT** found, use Configuration A as shown in Figure 51 and Figure 52, and install the Headlight Assemblies using Steps (p) through (z). If an incandescent bulb **IS** found, use Configuration B as shown in Figure 53 and Figure 54, and install using Steps (aa) through (mm).
- p) Attach the Headlight Bracket (P/N 113374-1-103) on the left side of the vehicle using the hardware, as shown in Figure 51.
- q) Route the Pigtail Adapter (P/N 111438-4) through the hole in the armor and cab, as shown in Figure 51. Insert the rubber grommet into the hole located at the center of the Light Cover (P/N 113379-1-103) that was installed in Step (f). Connect the corresponding wire leads located inside the cab.
- r) Attach the Marker Light to the Headlight Bracket using the hardware shown in Figure 51.
- s) Reconnect the corresponding wire leads on the Marker Light.
- t) Attach the Headlight to the Headlight Bracket using the hardware that was previously removed and re-connect the corresponding wire leads on the Headlight.
- u) Attach the Headlight Bracket (P/N 113374-3-103) on the right side of the vehicle using the hardware shown in Figure 52.
- v) Route the Pigtail Adapter (P/N 111438-4) through the hole in the armor and cab as shown in Figure 52. Insert the rubber grommet into the hole located at the center of the Light Cover (P/N 113379-1-103) that was installed in Step (f). Connect the corresponding wire leads located inside the cab.
- w) Attach the Marker Light to the Headlight Bracket using the hardware shown in Figure 52.
- x) Re-connect the corresponding wire leads on the Marker Light.
- y) Attach the Headlight to the Headlight Bracket using the hardware that was previously removed and re-connect the corresponding wire leads on the Headlight.
- z) Attach the previously removed Weight Marker to the Headlight Bracket using the hardware shown in Figure 52.

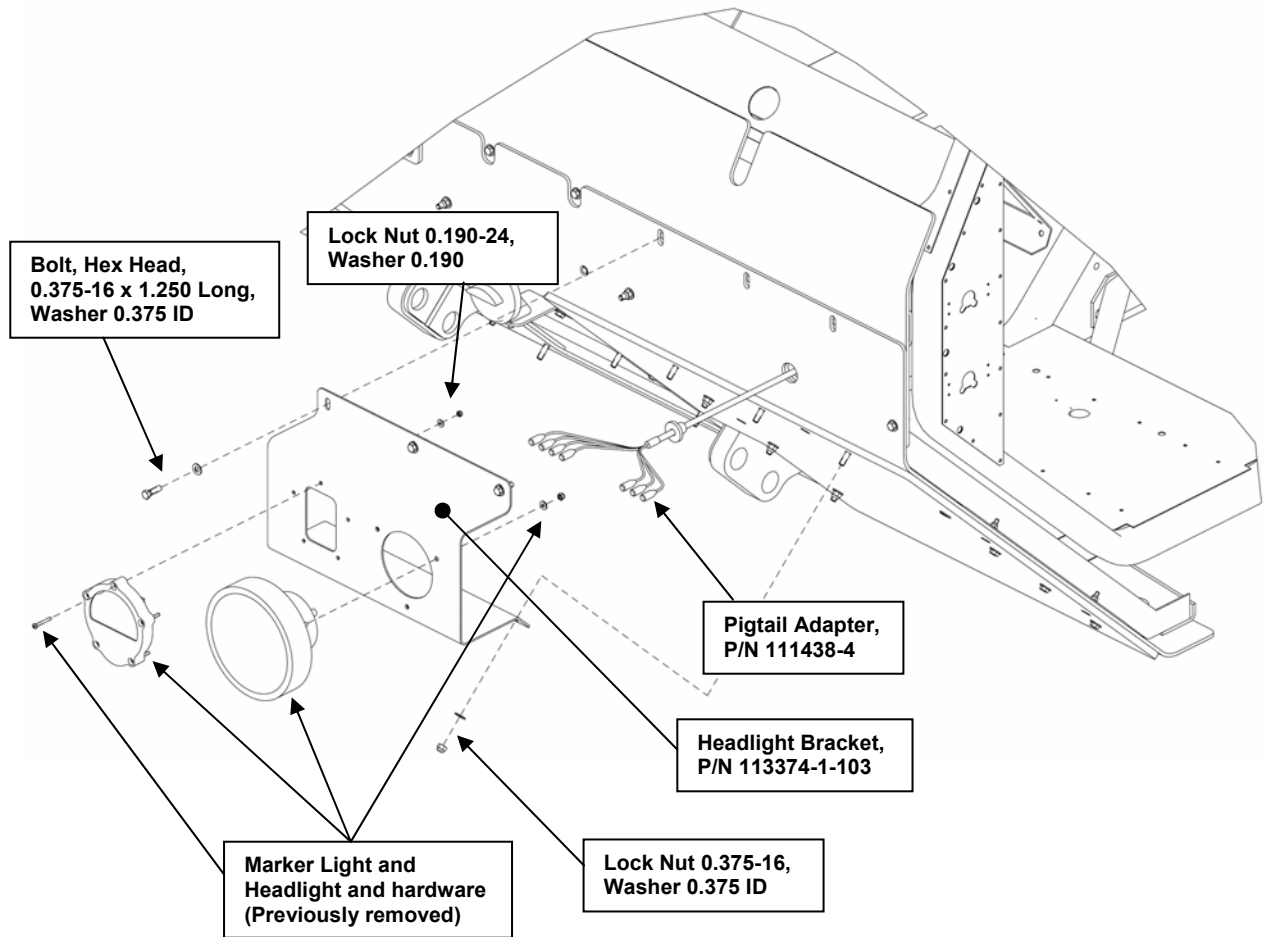


Figure 51. Left Headlight Assembly installation (Configuration A).

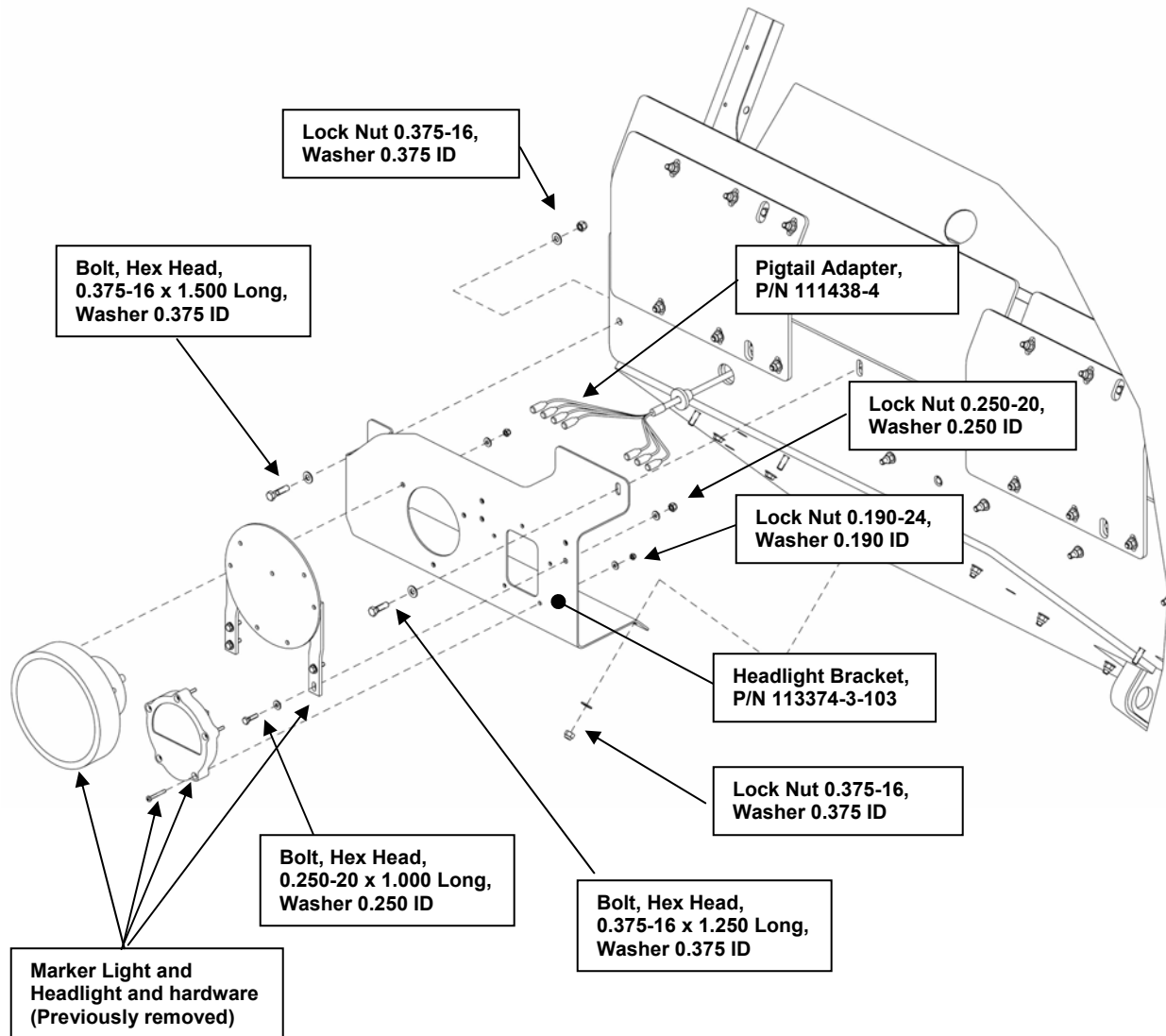


Figure 52. Right Headlight Assembly installation (Configuration A).

- aa) Attach the Headlight Bracket (P/N 113374-1-103) on the left side of the vehicle using the hardware shown in Figure 53.
- bb) Route the Pigtail Adapter (P/N 111438-4) through the hole in the armor and cab as shown in Figure 53. Insert the rubber grommet into the hole located at the center of the Light Cover (P/N 113379-1-103) that was installed in Step (f). Connect the corresponding wire leads located inside the cab.
- cc) Attach the Marker Light to the Headlight Adapter (P/N 111442-1-103) using the hardware shown in Figure 53.
- dd) Install the Headlight Adapter with the Marker Light on the Headlight Bracket (P/N 113374-1-103) using the hardware shown in Figure 53.
- ee) Re-connect the corresponding wire leads on the Marker Light.
- ff) Attach the Headlight to the Headlight Bracket using the hardware that was previously removed, and re-connect the corresponding wire leads on the Headlight.
- gg) Attach the Headlight Bracket (P/N 113374-3-103) on the right side of the vehicle using the hardware shown in Figure 54.
- hh) Route the Pigtail Adapter (P/N 111438-4) through the hole in the armor and cab as shown in Figure 54. Insert the rubber grommet into the hole located at the center of the Headlight Cover (P/N 113379-1-103) that was installed in Step (f). Connect the corresponding wire leads located inside the cab.
- ii) Attach the Marker Light to the Headlight Adapter (P/N 111442-1-103) using the hardware shown in Figure 54.
- jj) Install the Headlight Adapter with the Marker Light on the Headlight Bracket (P/N 113374-1-103) using the hardware shown in Figure 54.
- kk) Re-connect the corresponding wire leads on the Marker Light.
- ll) Attach the Headlight to the Headlight Bracket using the hardware that was previously removed, and re-connect the corresponding wire leads on the Headlight.
- mm) Attach the previously removed Weight Marker to the Headlight Bracket using the hardware shown in Figure 54.

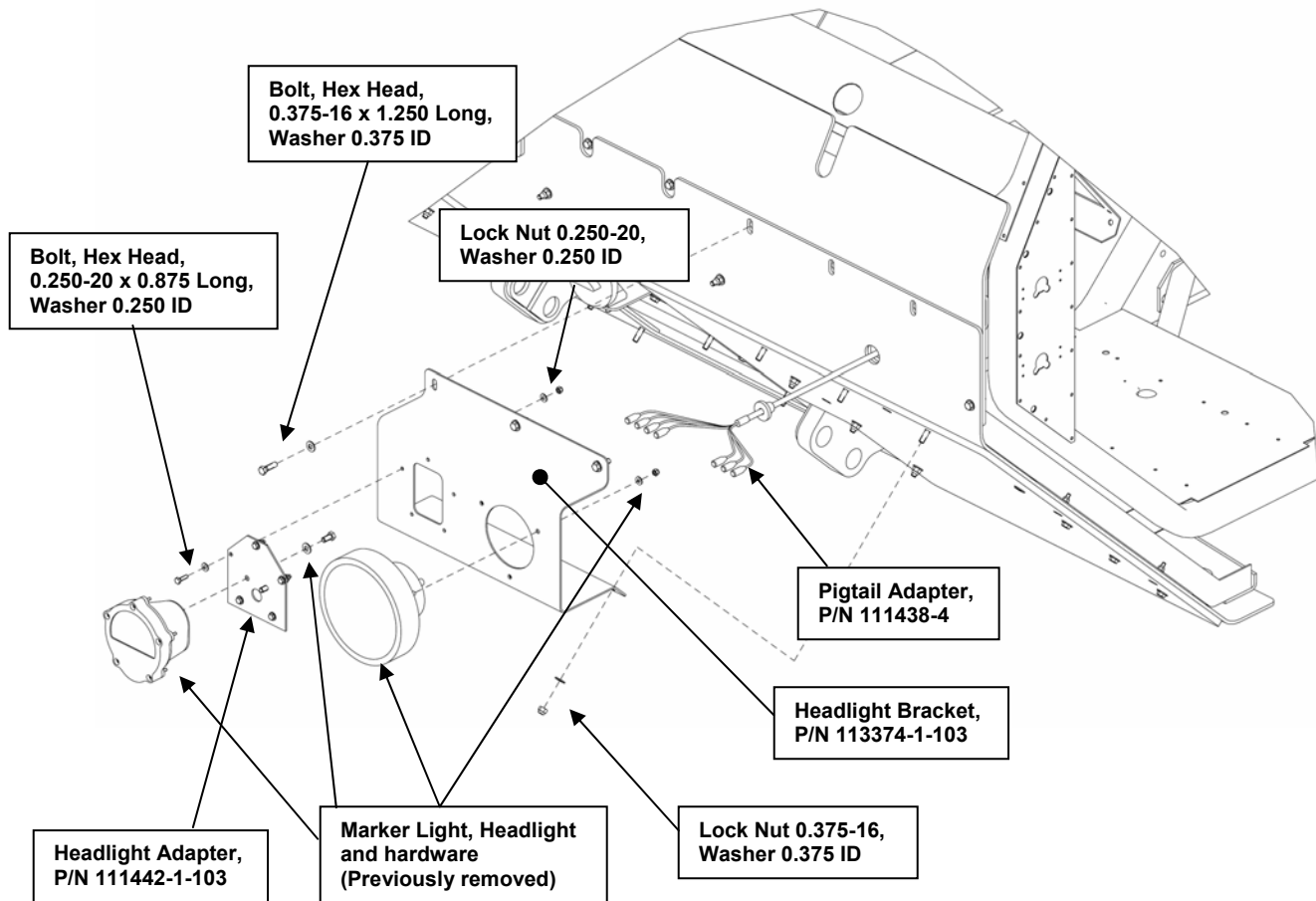


Figure 53. Left Headlight Assembly installation (Configuration B).

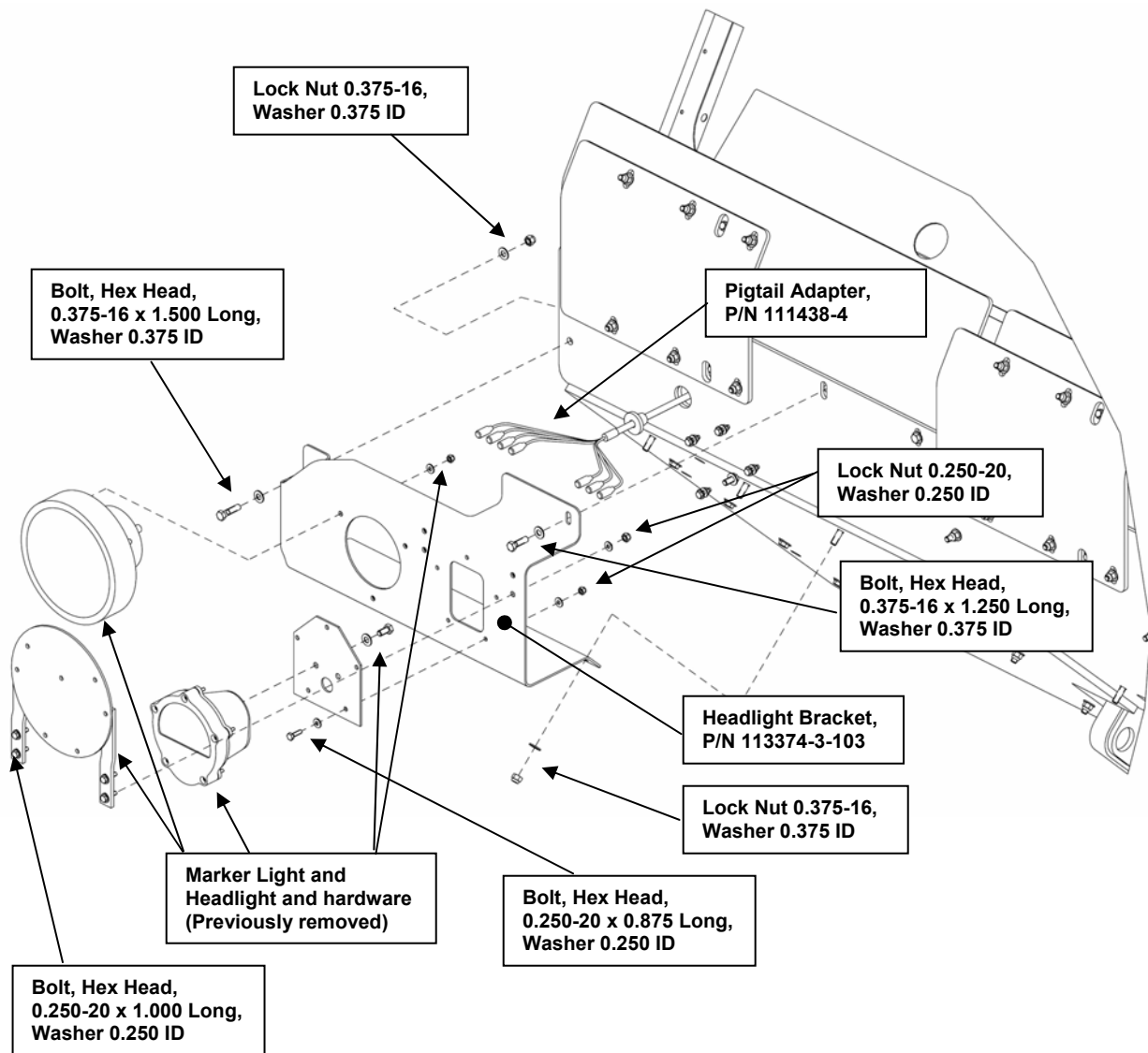


Figure 54. Right Headlight Assembly installation (Configuration B).

- nn) Install the Winch Cover Assembly using six (6) 0.375-16 hex nuts and washers (see Figure 55).
- oo) Re-install the four (4) Front Towing Shackles that were previously removed (see Figure 3).

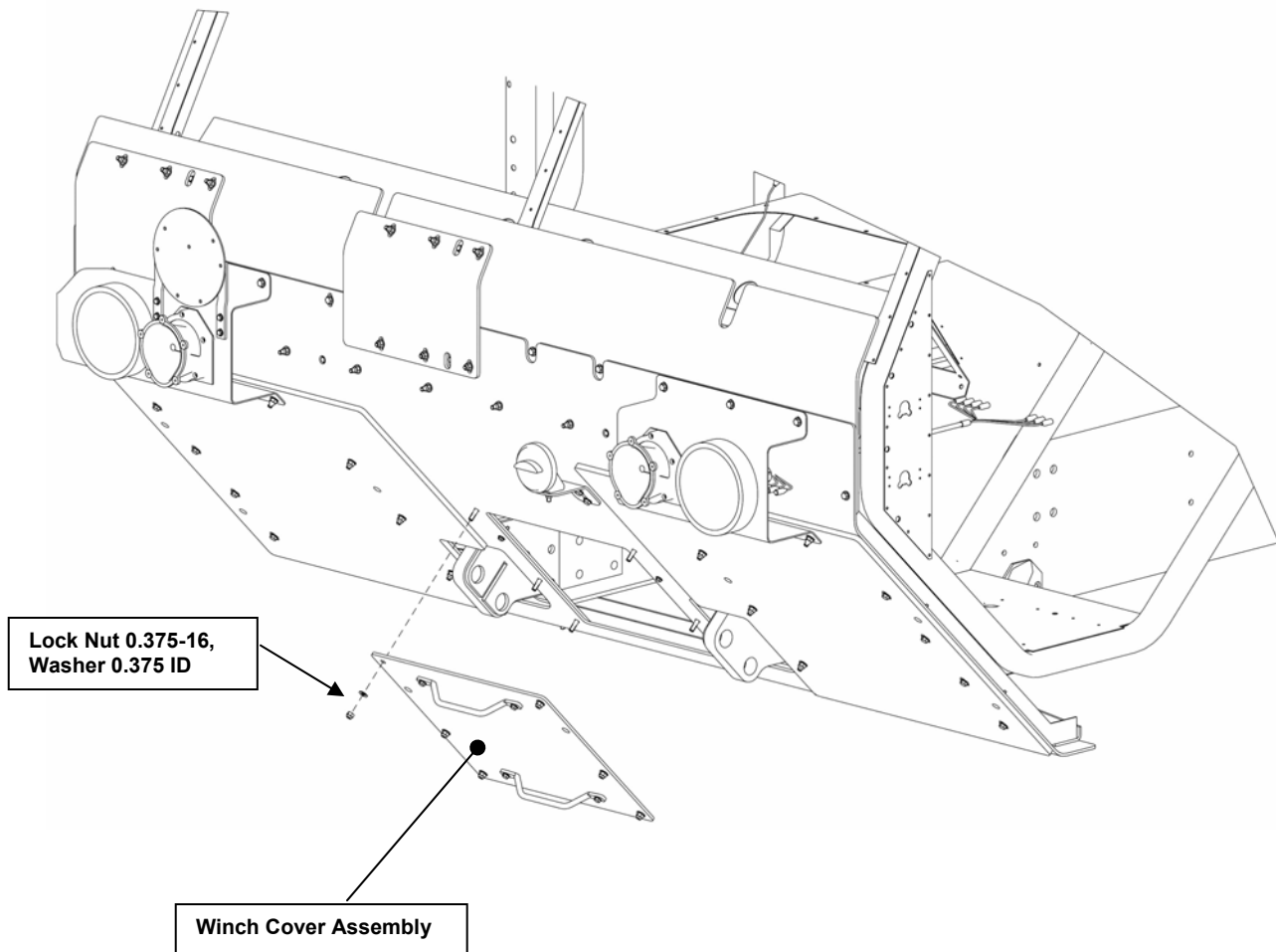


Figure 55. Winch Cover installation.

3.5.7 Install Armor Kit, Underbody, PLS, P/N 113360-1-103

- a) Using a lifting device, position the Center Mineblast Panel (P/N 113363-1-103) into its installed location (see Figure 56). Route the Glad Hands line and Electrical Connector through the opening in the Center Mineblast Panel (see Figure 57).
- b) Insert the Spacers (P/N 113369-1-103) between the Center Mineblast Panel and Truck Frame Cross Member and install the hardware shown in Figure 56.
- c) Attach the Center Mounting Plate (P/N 113367-1-103) to the Center Mineblast Panel using five (5) 0.500-13 x 1.750-in.-long bolts, as shown in Figure 56 and Figure 58.
- d) Install the remaining hardware, as shown in Figure 56.
- e) Remove the lifting device and re-install the Glad Hands, Electrical Connector, Torque Rod, and Steering Link that were previously removed (see Figure 59).

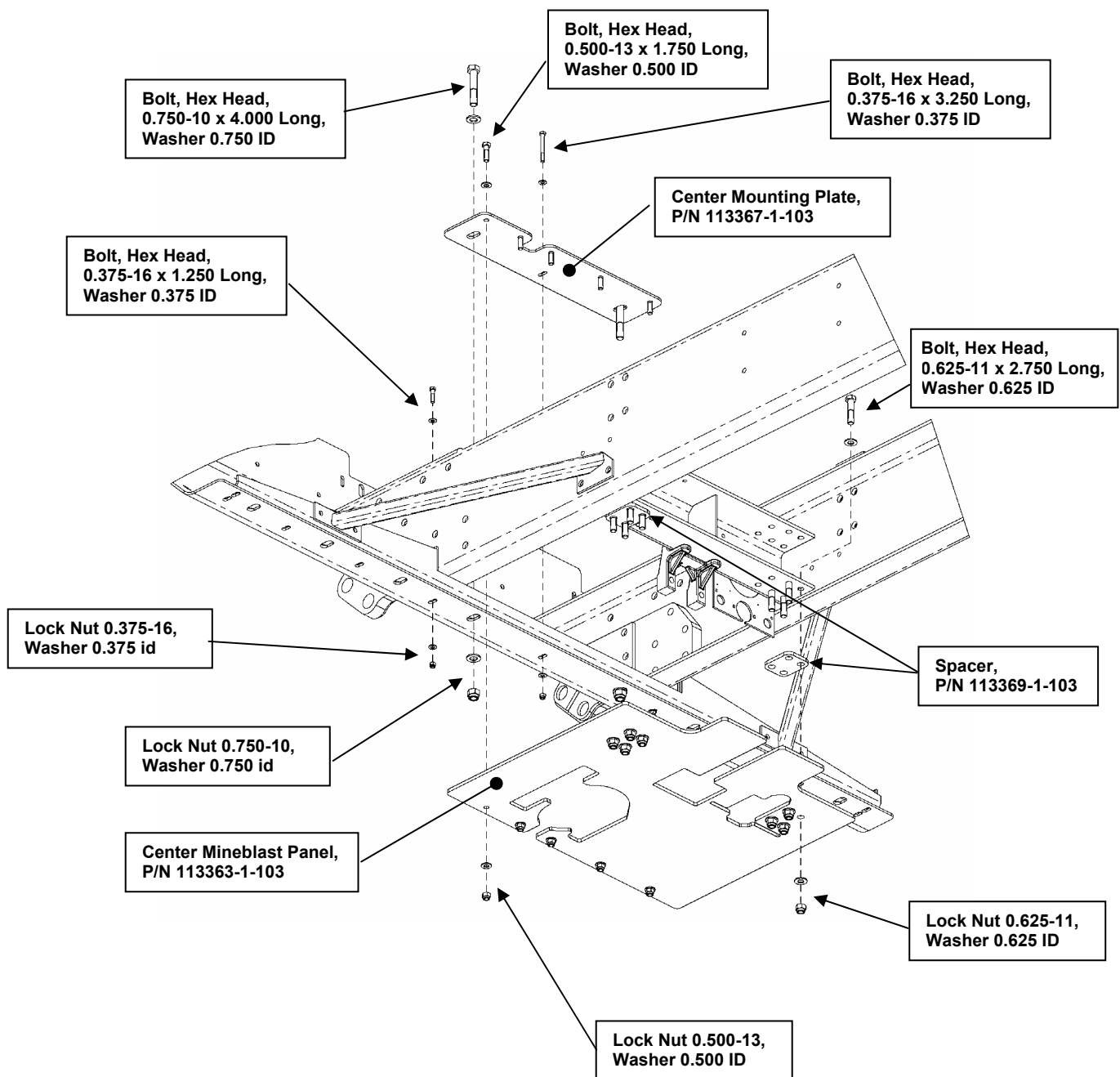


Figure 56. Center Mineblast Plate Assembly installation.



Figure 57. Routing the Glad Hand line and Electrical Connector.

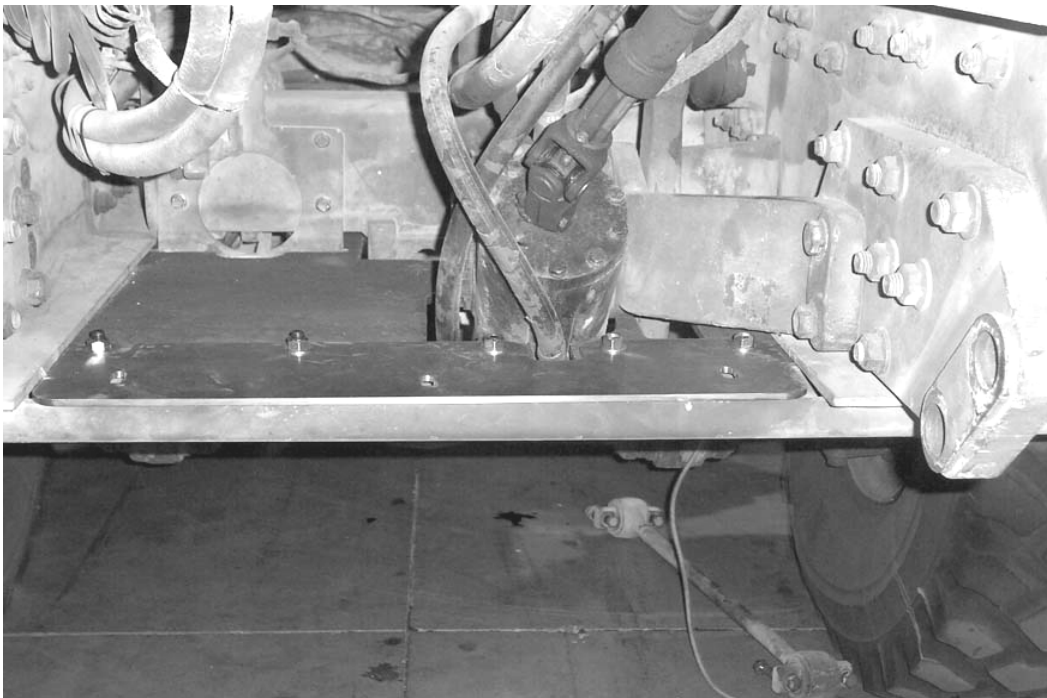


Figure 58. Center Mineblast Panel installation (front view).

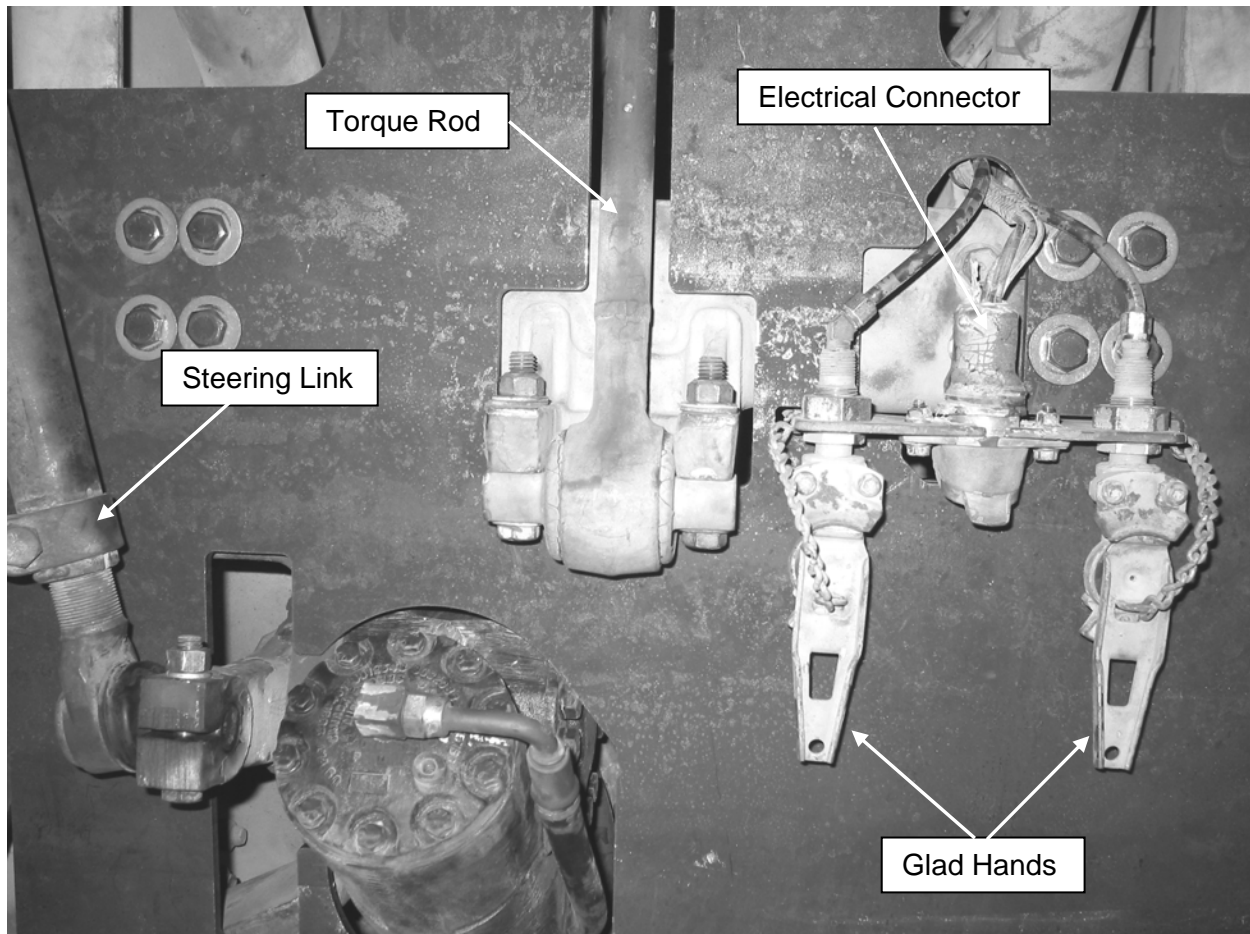


Figure 59. Steering Link, Torque Rod, Glad Hands, and Electrical Connector re-installed.

- f) Remove the four bolts shown in Figure 60.
- g) Remove a section of sheet metal from underneath the front wheel well, as shown in Figure 60 and Figure 61. This is needed to provide clearance for the Left Mineblast Bracket (P/N 113364-1-103).
- h) Install the Left Mineblast Bracket to the support rail using the hardware shown in Figure 61.

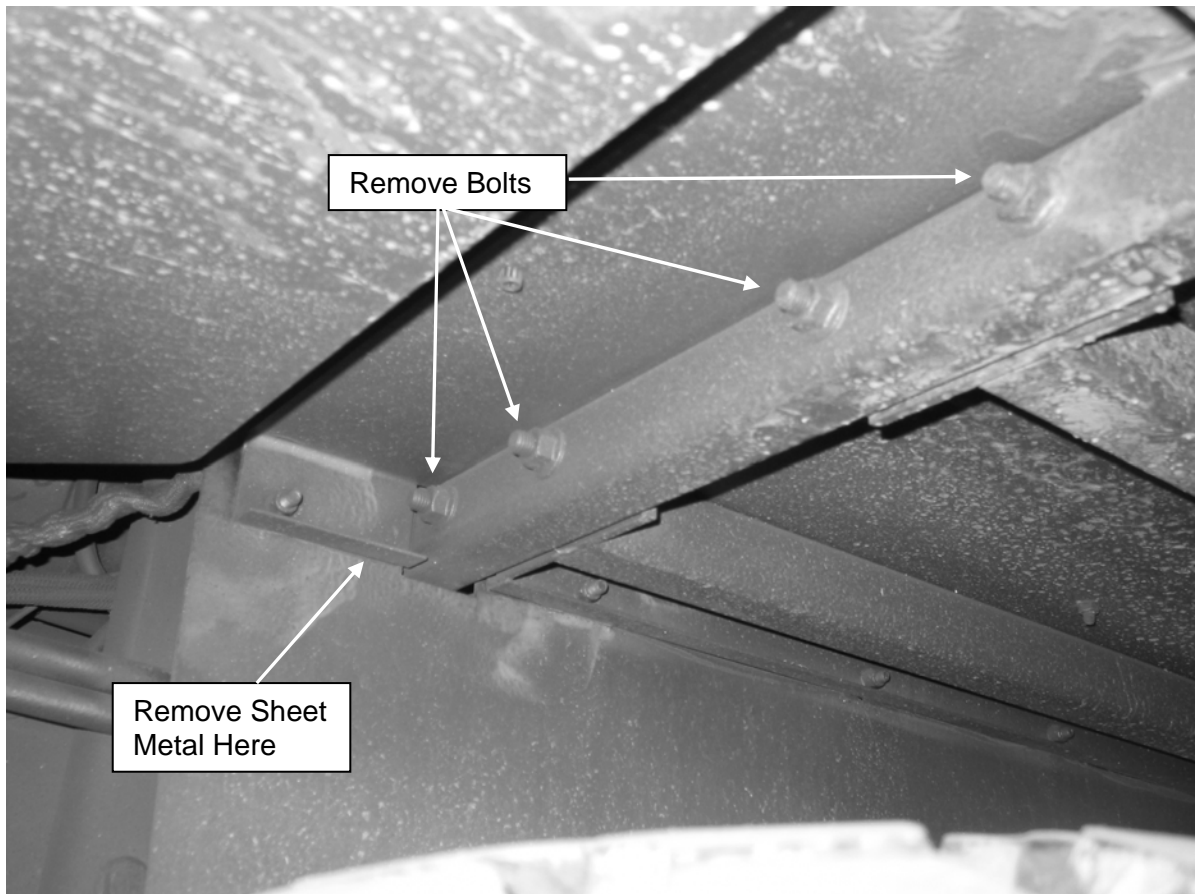


Figure 60. Left Mineblast Bracket location.

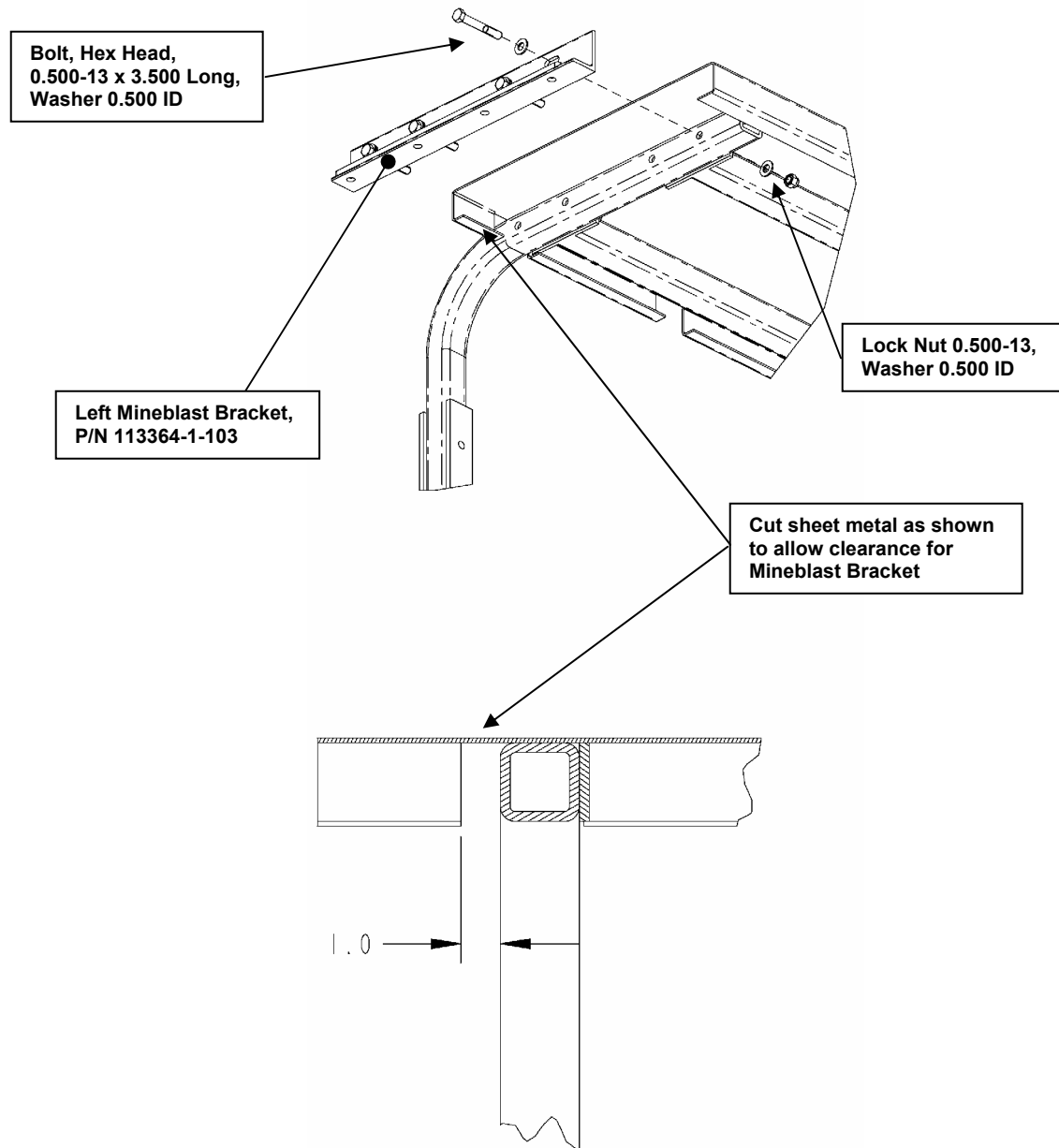


Figure 61. Underbody Attachment Bracket, Left Side.

- i) Remove the seven bolts identified in Figure 62.
- j) Remove the sheet metal in two locations from underneath the front wheel well as shown in Figure 63. This is needed to provide clearance for the Right Mineblast Bracket (P/N 113365-1-103).
- k) Install the Right Mineblast Bracket to the support rail using the hardware shown in Figure 63.

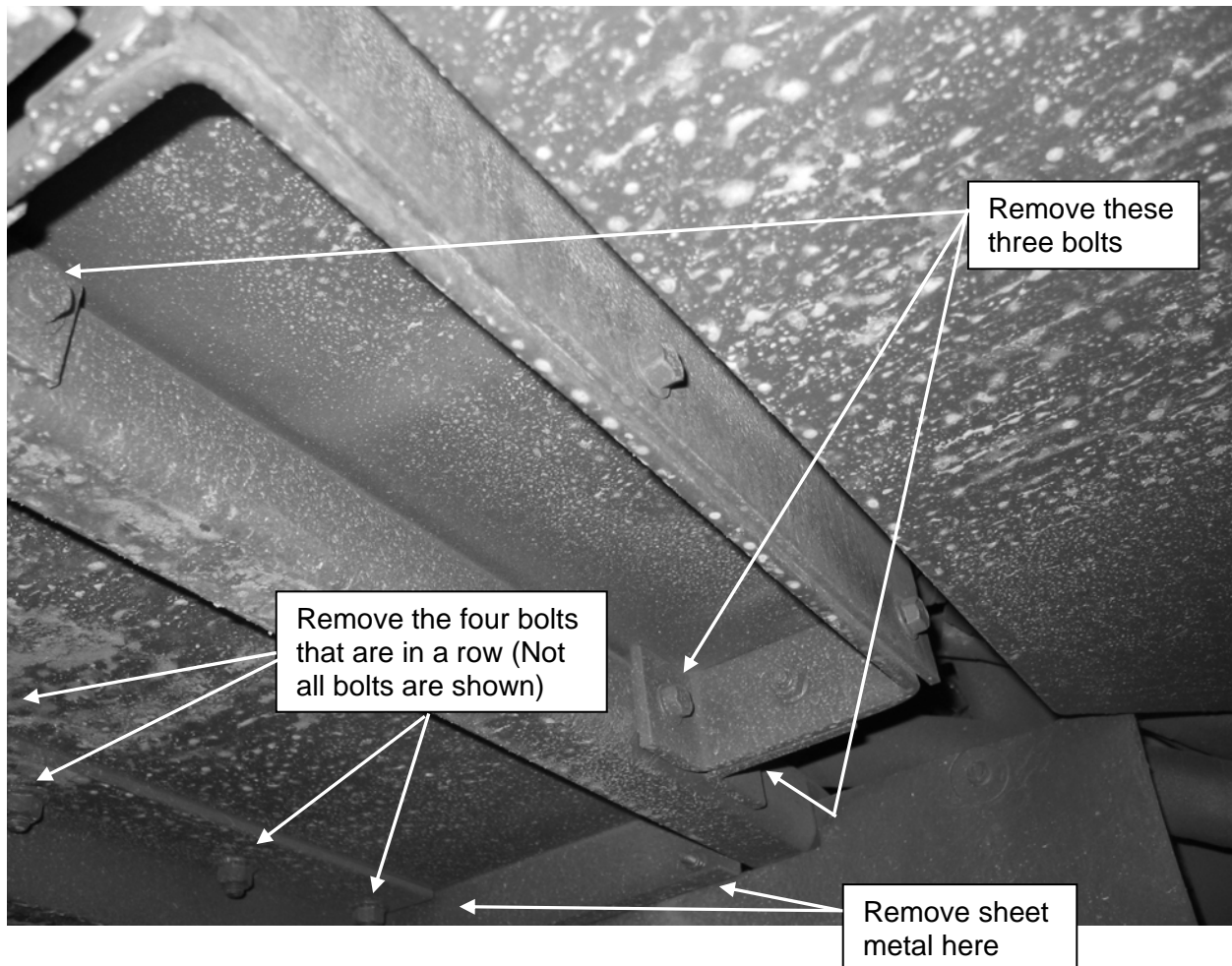


Figure 62. Right Mineblast Bracket location.

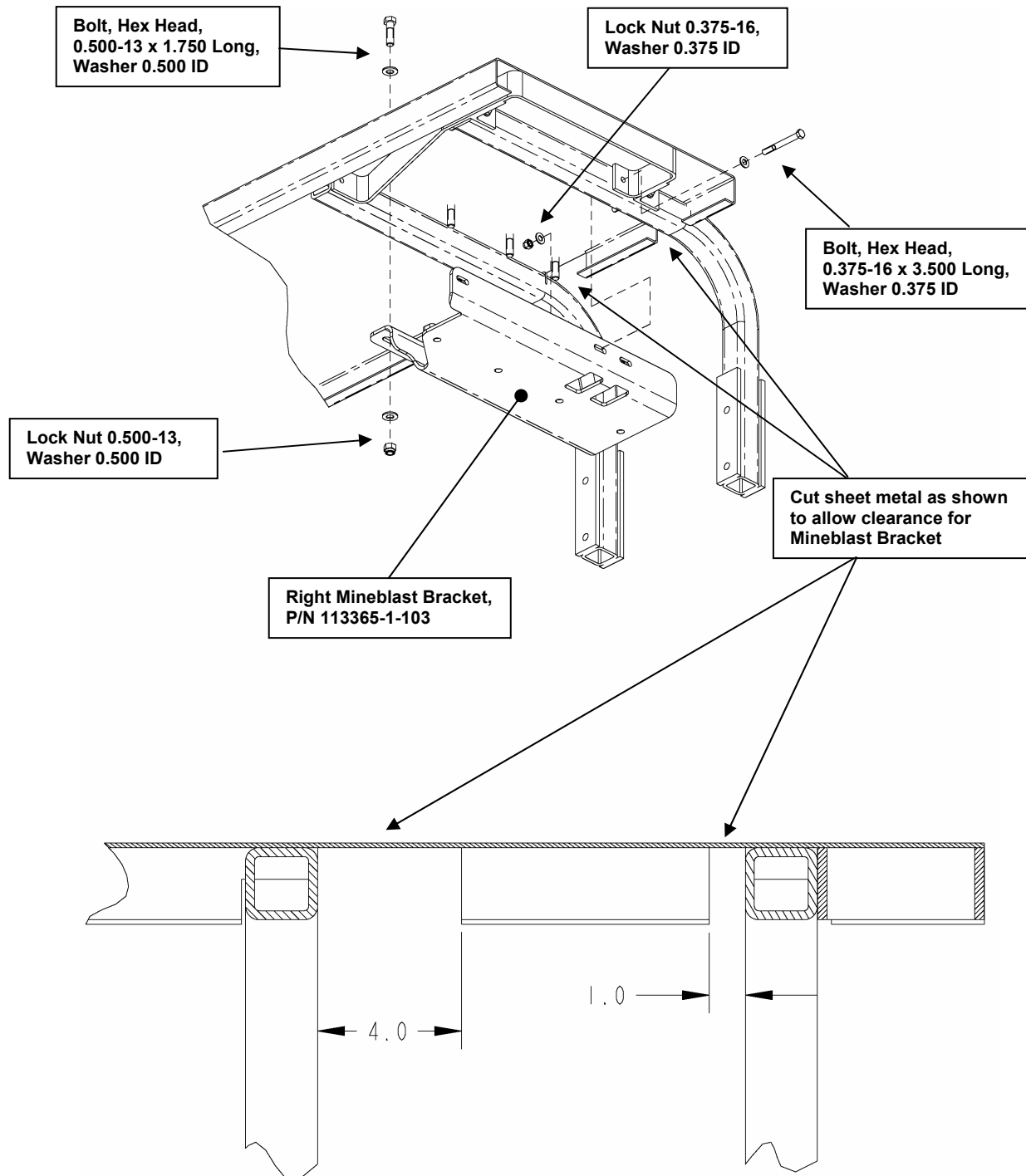


Figure 63. Underbody Attachment Bracket, Right Side.

- l) Drill a 0.875-in.-diameter hole in both Cab Steps, as shown in Figure 64. The steps are mirror images, and so is the drill pattern.
- m) Place three Doublers (P/N 106719-1-103) in the Frame Channel over the three large holes that receive 0.750-in. bolts (see Figure 65).
- n) Using material handling equipment (hoist, forklift, etc.), orient the Left Mineblast Panel (P/N 113361-1-103) into the installed position and install the 0.500-13 X 1.750-in.-long bolts into the Left Mineblast Bracket (P/N 113364-1-103). Install one (1) 0.750-10 X 3.250-in.-long bolt into the outermost hole, as shown in Figure 65.
- o) Place the Stud Plate (P/N 113375-3-103) into the holes of the Left Mineblast Panel, as shown in Figure 65.
- p) Install the Cover Panel (P/N 113366-1-103) and the Cab Step using the hardware shown in Figure 65.
- q) Install the remaining hardware shown in Figure 65.
- r) Place three Doublers (P/N 106719-1-103) in the Frame Channel over the three large holes that receive 0.750-in. bolts (see Figure 66).
- s) Using material handling equipment (hoist, forklift, etc.), orient the Right Mineblast Panel (P/N 113362-1-103) into the installed position and install the 0.500-13 X 1.750-in.-long bolts into the Right Mineblast Bracket (P/N 113365-1-103). Install one (1) 0.750-10 X 3.250-in.-long bolt into the outermost hole, as shown in Figure 66.
- t) Place the Stud Plate (P/N 113375-3-103) into the holes of the Right Mineblast Panel, as shown in Figure 66.
- u) Install the Cover Panel (P/N 113366-2-103) and the Cab Step using the hardware shown in Figure 66.
- v) Install the remaining hardware shown in Figure 66.

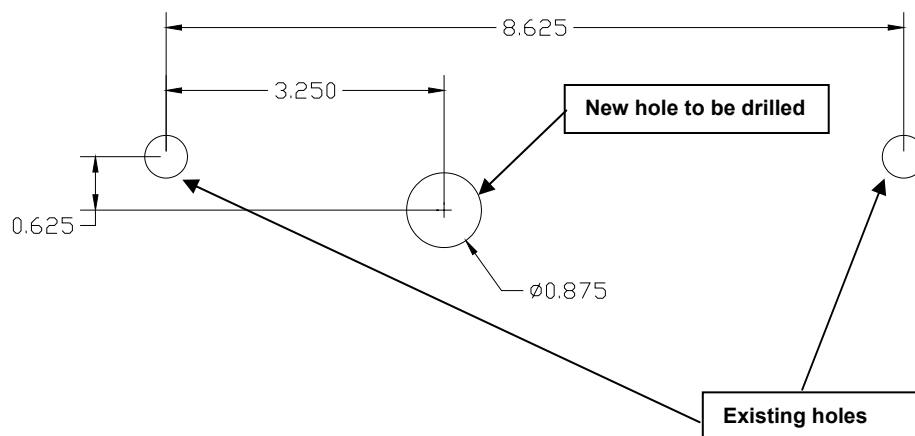
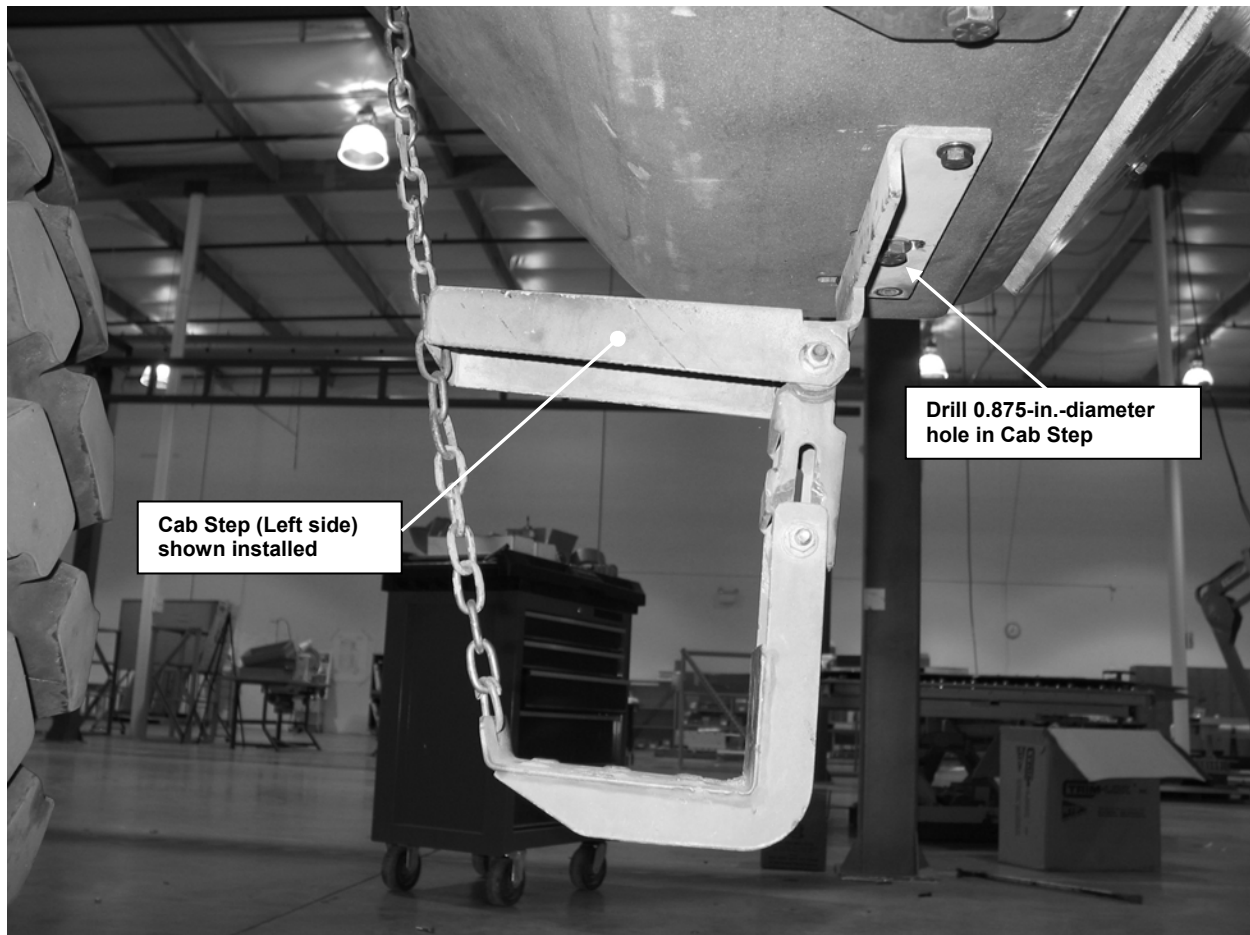


Figure 64. Cab Step Modification.

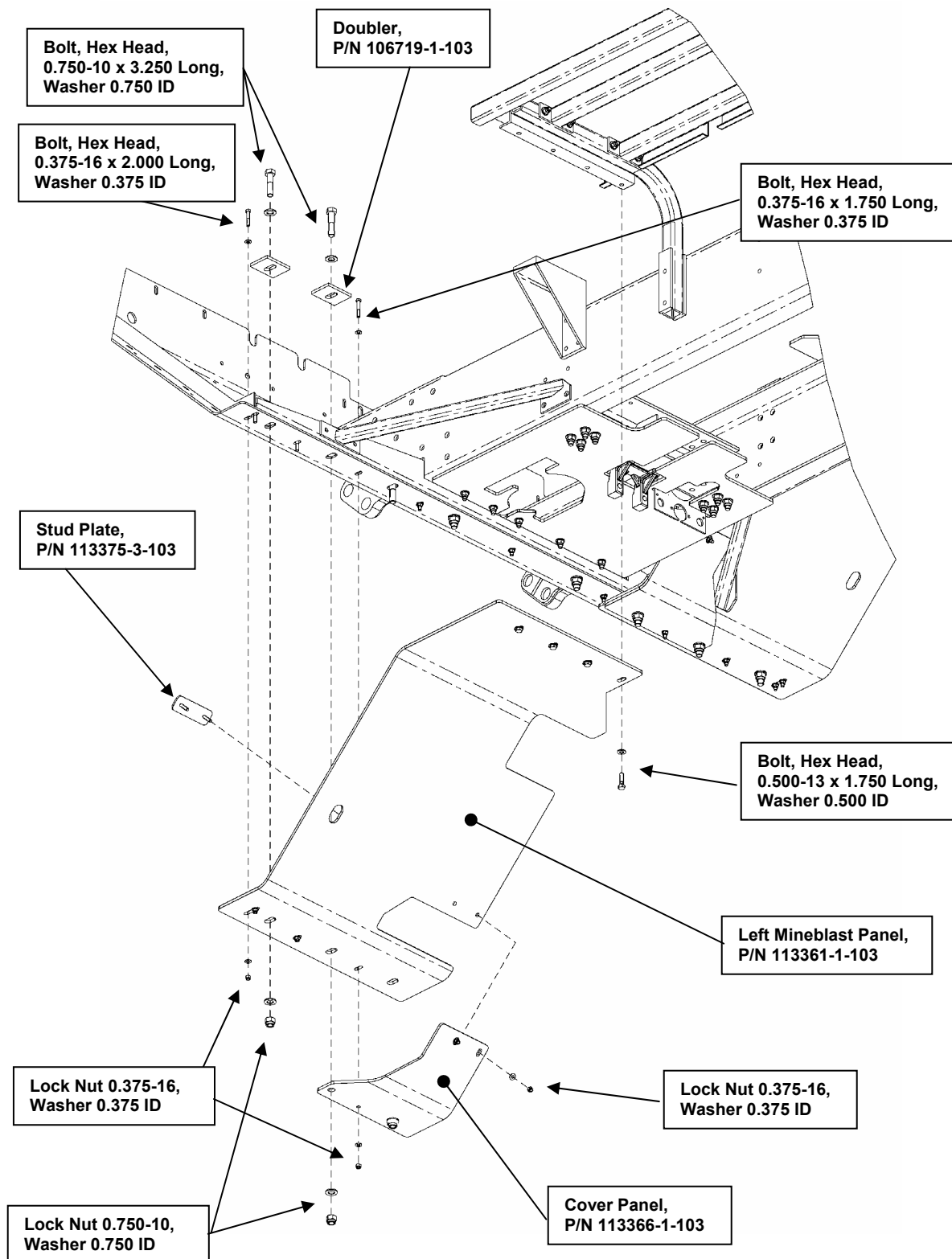


Figure 65. Underbody Armor, Left Side, installation.

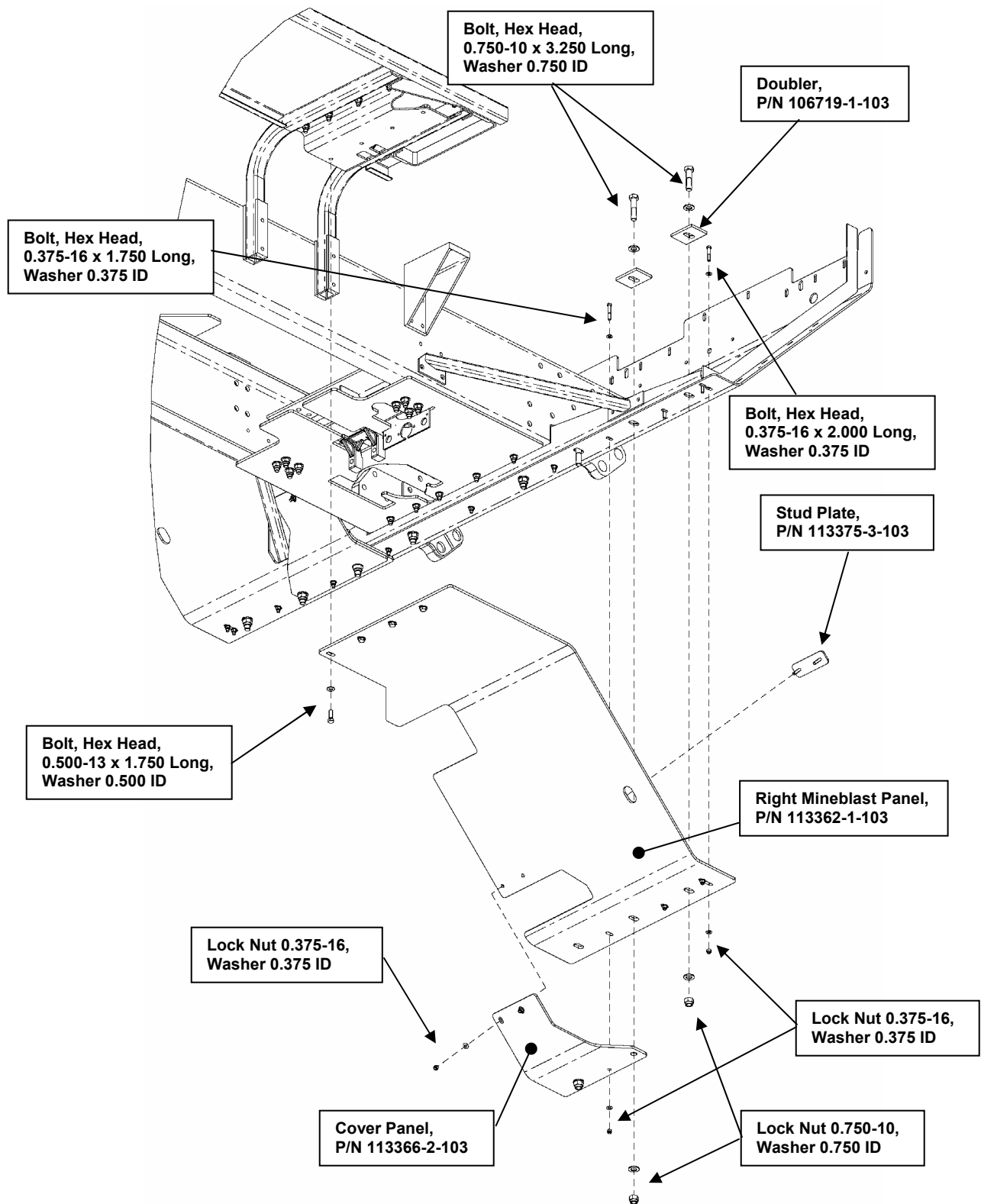

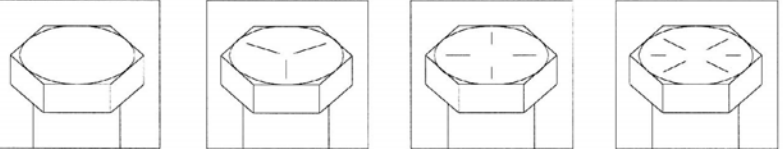


Figure 66. Underbody Armor, Right Side, installation.

APPENDIX A
FASTENER TORQUE VALUES

Table A-1. Torque Limits For Wet Fasteners										
CAPSCREW HEAD MARKINGS										
 <p>Manufacturer's marks may vary. These are all SAE Grade 5 (3-line).</p>										
SIZE			TORQUE							
			SAE GRADE NO. 2		SAE GRADE NO. 5		SAE GRADE NO. 6 OR 7		SAE GRADE NO. 8	
DIA. IN.	THREADS PER IN.	MILLIMETERS	POUNDS FEET	NEWTON METERS	POUNDS FEET	NEWTON METERS	POUNDS FEET	NEWTON METERS	POUNDS FEET	NEWTON METERS
1/4	20	6.35	4	6	6	8	8	11	9	112
1/4	28	6.35	5	7	7	9	9	12	10	14
5/16	18	7.94	8	11	13	18	16	22	18	24
5/16	24	7.94	9	12	14	19	18	24	20	27
3/8	16	9.53	15	20	23	31	30	41	35	47
3/8	24	9.53	17	23	25	34	30	41	35	47
7/16	14	11.11	24	33	35	47	45	61	55	75
7/16	20		25	34	40	54	50	68	60	81
1/2	13	12.70	35	47	55	75	70	95	80	108
1/2	20		40	54	65	88	80	108	90	122
9/16	12	14.29	50	68	80	108	100	136	110	149
9/16	18		55	75	90	122	110	149	130	176
5/8	11	15.88	70	95	110	149	140	190	170	231
5/8	18		80	108	130	176	160	217	180	244
3/4	10	19.05	120	163	200	271	240	325	280	380
3/4	16		140	190	220	298	280	380	320	434
7/8	9	22.23	110	149	300	407	400	542	460	624
7/8	14		120	163	320	434	440	597	500	678
1	8	25.40	160	217	440	597	600	814	680	922
1	12		170	231	480	651	660	895	740	1003
1-1/8	7	25.58	220	298	600	814	840	1139	960	1320
1-1/8	12		260	353	660	895	940	1275	1080	1464
1-1/4	7	31.75	320	434	840	1139	1100	1492	1360	1844
1-1/4	12		360	488	920	1248	1320	1790	1500	2034
1-3/8	6	34.93	420	570	1100	1492	1560	2115	1780	2414
1-3/8	12		460	624	1260	1709	1780	2414	2040	2776
1-1/2	6	38.10	560	760	1460	1980	2080	2820	2360	3200
1-1/2	12		620	841	1640	2224	2320	3146	2660	3607

Note: Rivnuts and PEM studs are torqued to the Grade 5 values listed on the chart.
For #10 fasteners, use 25 in.-lb of torque.
DO NOT EXCEED THE LISTED TORQUE VALUES.

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General, United States Army
Chief of Staff

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THE METRIC SYSTEM AND EQUIVALENTS

<p>Linear Measure</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>Weights</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>Liquid Measure</p> <p>1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces</p>	<p>Square Measure</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 = 0.0386 Sq Miles</p> <p>Cubic Measure</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>Temperature</p> <p>$5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$ 212° Fahrenheit is equivalent to 100° Celsius 90° Fahrenheit is equivalent to 32.2° Celsius 32° Fahrenheit is equivalent to 0° Celsius $9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}$</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

