



HMMWV Drop Down Spare Tire Carrier Accessory Kit

NSN: 2590-01-525-1995

Installation & Operating Instructions

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Protected Under US Patent 6,659,318

DESCRIPTION: The HMMWV Drop Down Spare Tire Carrier Accessory Kit includes a spare tire carrier that not only swings away from the rear bumper of a HMMWV, but also has an assist to help raise a spare tire from the ground up to the carrier, and to lower the spare tire (or drop the spare tire down) from the carrier to the ground. The kit also includes all of the hardware needed to mount the spare tire carrier on a HMMWV's rear bumper. The Drop Down Spare Tire Carrier is protected under US Patent 6,659,318.

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SECTION 1: IDENTIFICATION OF APPLICABLE HMMWV MODELS

This HMMWV Drop Down Spare Tire Carrier Accessory Kit can be installed on the external (airlift) rear bumper of the following HMMWV Family vehicles:

- M1025A2 Armament Carriers.
- M1114 Up-Armored Armament Carriers.
- M1097, M1097A1, and M1097A2 Heavy Variant Cargo/Troop Carriers not carrying a shelter.
- XM1151 Armament Carriers
- XM1152 Heavy Variant Cargo/Troop Carriers not carrying a shelter.

This spare tire carrier accessory kit will fit both rear bumper assemblies that have inner shackles that are shaped like the letter "D" (NSN 4030-01-316-1551, TACOM Part No. 12342354), and rear bumper assemblies that have pear-shaped inner shackles (NSN 5340-01-412-7514, TACOM Part No. 12447089-2).

This accessory kit will also fit both rear bumper assemblies that have Airlift Bumper Reinforcement Modification Kits (NSN 5340-01-477-6588, TACOM Part No. 57K3554) installed on them, and rear bumper assemblies that don't have reinforcement modification kits installed.

SECTION 2: TOOLS REQUIRED FOR KIT INSTALLATION

The following tool list represents the minimum tool requirements to properly install the HMMWV Drop Down Spare Tire Carrier Accessory Kit:

- 1/2" Drive Torque Wrench (250 ft-lbs maximum)
- 3/4" Socket
- 3/4" Open End Wrench
- 13/16" Socket
- Rubber Mallet
- Automotive and Artillery Grease per MIL-PRF-10924G
- Grease Gun

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SECTION 3: KIT CONTENTS

The HMMWV Drop Down Spare Tire Carrier Accessory Kit includes the following items shown in Figure 3-1:

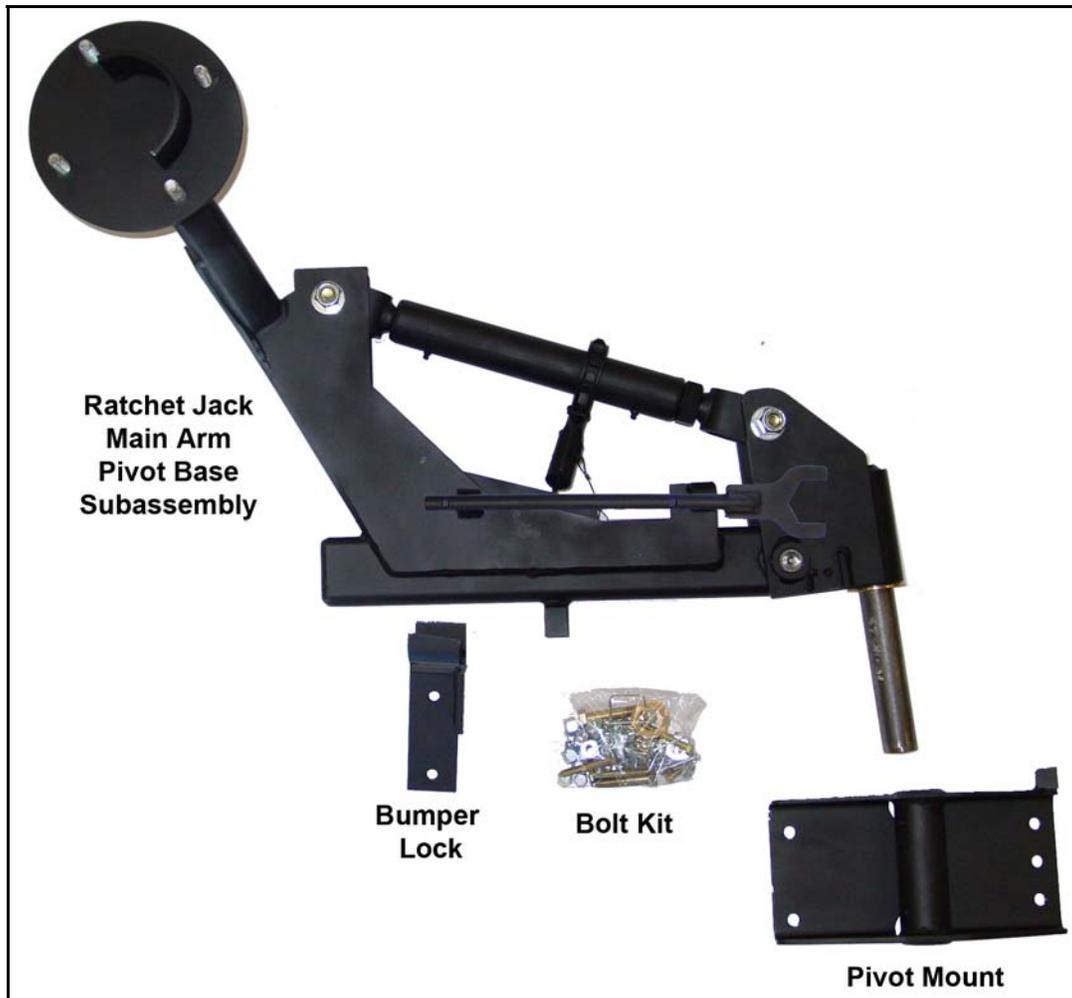


FIGURE 3-1

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SECTION 4: INSTALLATION INSTRUCTIONS

The HMMWV Drop Down Spare Tire Carrier Accessory Kit is designed to mount on the passenger side of the existing rear bumper. The following steps detail the proper installation of the spare tire carrier.

Install the Bumper Lock on the HMMWV Bumper (Refer to Figure 4-1)

1. Remove two locknuts, four washers, and two capscrews from the bumper end of the right inner bumper brace (Item 3 in Figure 188 of TM 9 2320-280-24P-1, March 2001, or Item 3 in Figure 149 of TM 9 2320-387-24P, March 2002). Discard locknuts, washers, and capscrews
2. Position the Bumper Lock (1) on the HMMWV bumper as shown in Figure 4-1. The Bumper Lock (1) should be level with the bumper.
3. Install the Bumper Lock (1) using two 1/2-13 x 4" capscrews (3), washers and locknuts as shown in Figure 4-1.
4. Tighten locknuts to 90 lb-ft (122 Nm).

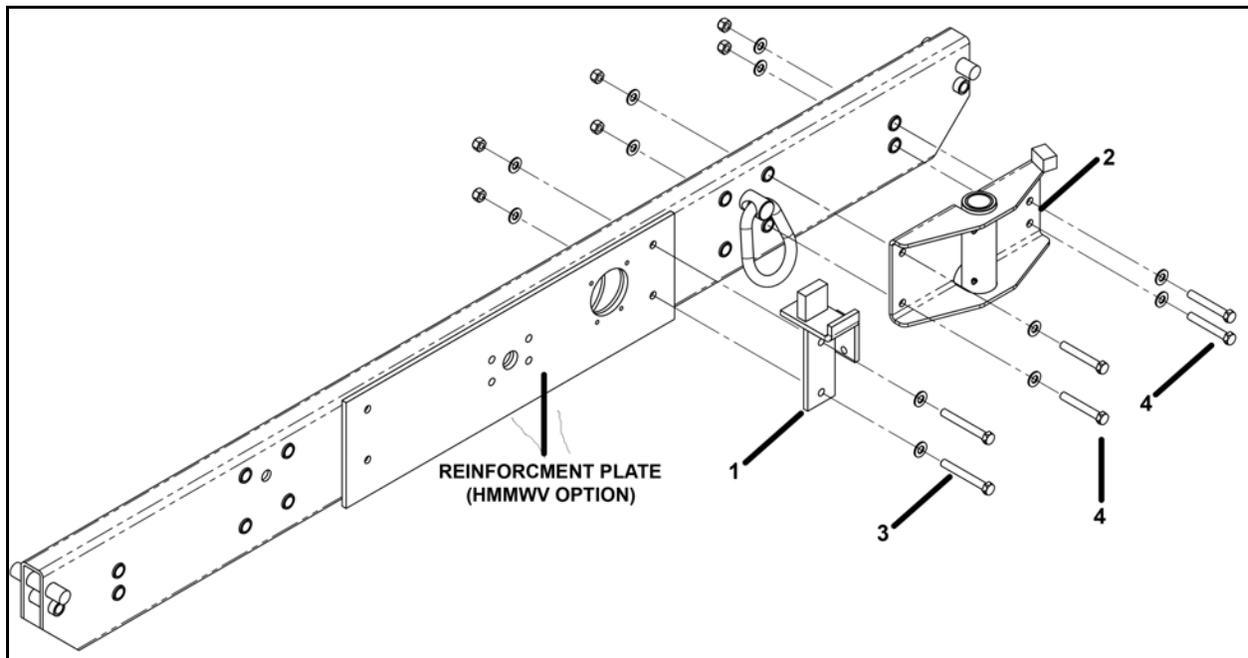


FIGURE 4-1

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Install the Pivot Mount on the HMMWV Bumper (Refer to Figure 4-1)

1. Remove two locknuts, four washers, and two capscrews from the bumper end of the right outer bumper brace (Item 4 in Figure 188 of TM 9 2320-280-24P-1, March 2001, or Item 4 in Figure 149 of TM 9 2320-387-24P, March 2002). Discard locknuts, washers, and capscrews.
2. Remove two locknuts, four washers, and two capscrews from the right side of the right outer bumper-frame rail bracket (Item 16 [left side bracket shown] in Figure 188 of TM 9 2320-280-24P-1, March 2001, or Item 14 [left side bracket shown] in Figure 149 of TM 9 2320-387-24P, March 2002]). Discard locknuts, washers, and capscrews.
3. Position the Pivot Mount (2) on the HMMWV bumper as shown in Figure 4-1. The Pivot Mount should be level with the bumper.
4. Install the Pivot Mount (2) using four 1/2-13 x 3-1/2" capscrews, washers and locknuts as shown in Figure 4-1.
5. Tighten locknuts to 90 lb-ft (122 Nm).

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**Install the Ratchet Jack-Main Arm-Pivot Base Subassembly into the Pivot Mount
(Refer to Figure 4-2)**

1. Lightly grease the brass bushings located in the Pivot Mount (2) as shown in Figure 4-2.
2. Install one thrust bushing (3) onto the 1-1/2" diameter pin of the Ratchet Jack-Main Arm-Pivot Base Subassembly (1).
3. Slide the Subassembly (1) into the Pivot Mount (2). Since Subassembly (1) weighs 80 lbs it is recommended that two people perform this step of the installation process.
4. Install one Thrust Bushing (3), Retainer Washer (4), Washer (5) Lock Washer (6) and 1/2-13 x 1-1/4" capscrew (7). Tighten capscrew to 75 lb-ft (102 Nm).

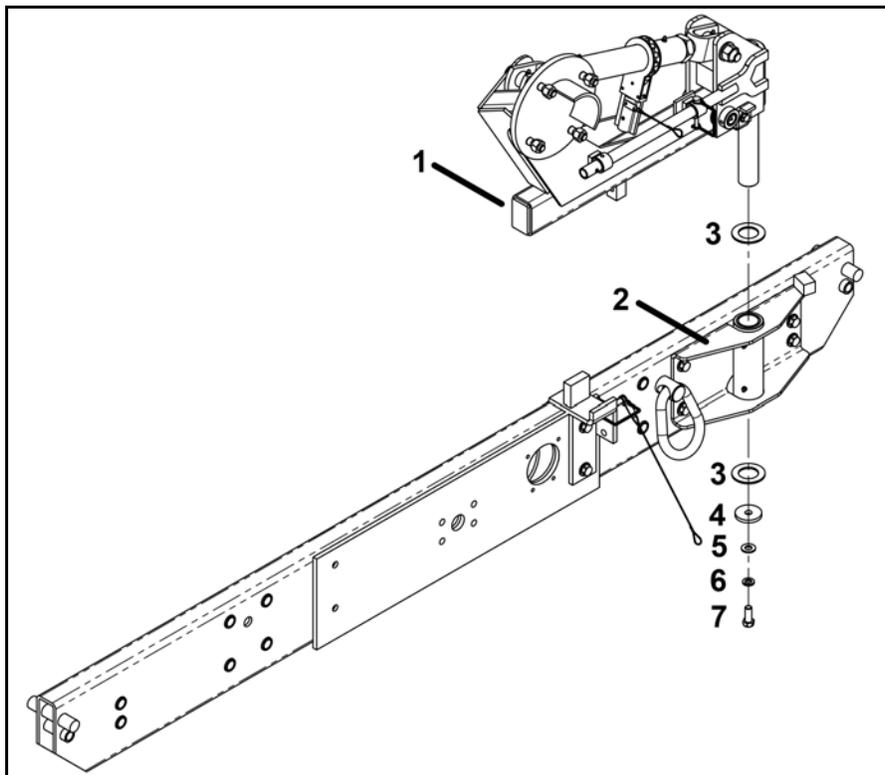


FIGURE 4-2

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SECTION 5: OPERATING INSTRUCTIONS

General Operation (Refer to Figure 5-1)

1. The Ratchet Jack (5) has a reversing lever that operates a pawl (or dog) inside the body of the ratchet. Pulling the handle in one direction causes the pawl to engage in the ratchet teeth and turn the socket. Moving the handle in the opposite direction causes the pawl to slide over the teeth, permitting the handle to back up without moving the ratchet body. This allows rapid turning of the Ratchet Jack (5) after each partial turn of the handle. With the reversing lever in one position, the handle is used for tightening. In the other position, it is used for loosening
2. During severe duty, it is recommended that the Tightening Nut (8) be used to tension the Ratchet Jack (5) while it is in the closed position. The Tightening Nut (8) can be adjusting using the Handle Wrench (4).

To Swing Open the Drop Down Spare Tire Carrier Assembly (Refer to Figure 5-1)

1. Remove the Handle Wrench (4) from the mounting rings on the Main Arm by disconnecting the Handle Wrench Safety Pin (2) as shown in Figure 5-1.
2. Rotate the Ratchet Jack (5) by hand until the ratchet faces outward.
3. Insert the Handle Wrench (4) into the Ratchet Jack (5) and fasten using Handle Wrench Safety Pin (2) as shown in Figure 5-1.
4. Remove the Main Arm Safety Pin (1) in preparation for raising the Main Arm.

CAUTION: Failure to remove the Main Arm Safety Pin (1) prior to ratcheting may result in damage to the Safety Pin (1) and inability to raise the Main Arm.

5. Ensure the ratchet direction is properly selected by following the data label located on the Ratchet Jack (5).
6. Ratchet spare tire carrier upward to its fully-raised position, or until it's high enough to clear the Bumper Lock (6).
7. Pivot the spare tire carrier assembly away from the vehicle to the desired position, or to the locked-open position.

To Swing Closed the Drop Down Spare Tire Carrier Assembly (Refer to Figure 5-1)

1. Ensure the spare tire carrier is in its fully-raised position, or that it's high enough to clear the Bumper Lock (6) shown in Figure 5-1.
2. If the spare tire carrier is in the locked-open position, unlock it by pushing up on the Stop Latch (3).
3. Pivot the spare tire carrier assembly back toward the vehicle to the closed position.
4. Ratchet the spare tire carrier downward until it just touches with the Bumper Lock (6). **Do not use the Ratchet Jack (5) to force the Main Arm down into the Bumper Lock (6).**
5. Remove the Handle Wrench (4) from the Ratchet Jack (5) by first removing Handle Wrench Safety Pin (2).
6. Rotate the Ratchet Jack (5) downward into the stored position shown in Figure 5-1. The Ratchet Jack should be positioned between the back plate on the Main Arm and the Handle Wrench (4).
7. Slide the Handle Wrench (4) through the mounting rings on the Main Arm, and secure using Handle Wrench Safety Pin (2).

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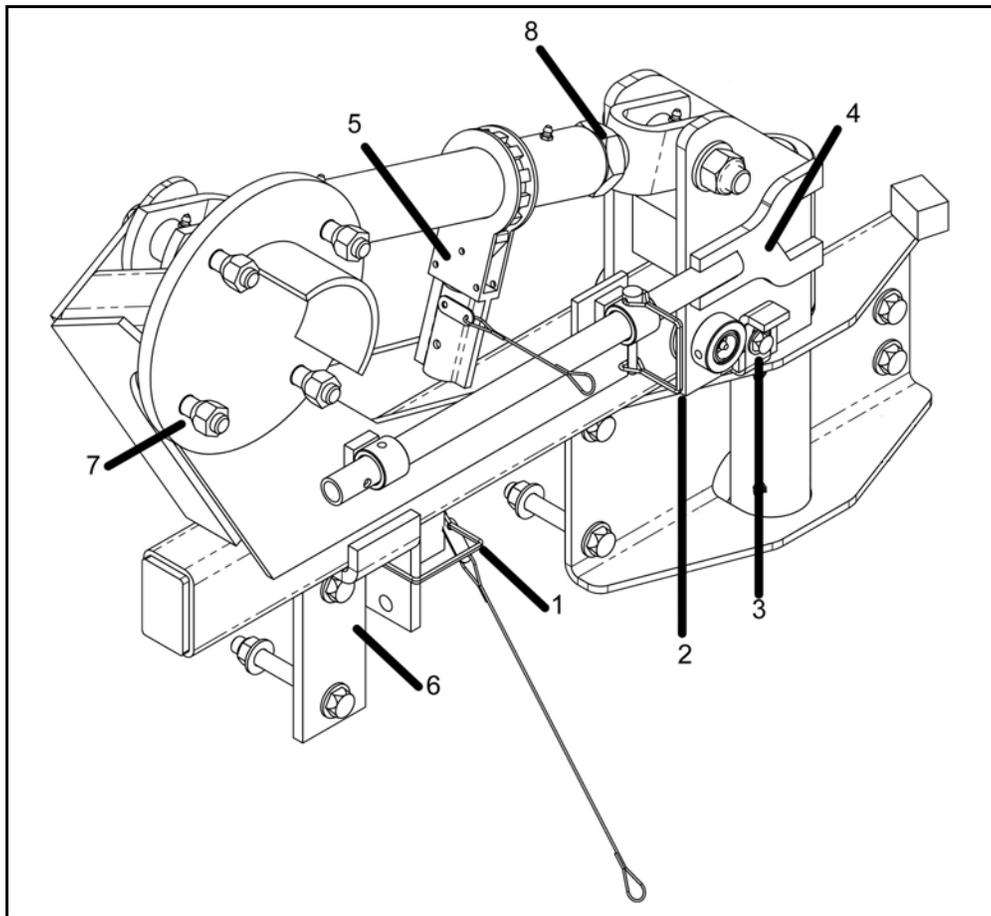


FIGURE 5-1

To Lower the Drop Down Spare Tire Carrier Assembly

1. Pivot the spare tire carrier assembly away from the vehicle to the desired position, or to the locked-open position.
2. Ratchet the spare tire carrier downward to the desired position.

To Raise the Drop Down Spare Tire Carrier Assembly (Refer to Figure 5-1)

1. Ratchet the spare tire carrier assembly upward to the fully-raised position or until it's high enough to clear the Bumper Lock (6).
2. Pivot the tire spare tire carrier assembly back toward the vehicle to the closed position.

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To Secure the Spare Tire to the Drop Down Spare Tire Carrier Assembly (Refer to Figure 5-1)

1. Install spare tire onto the four tire carrier studs.
2. Tighten the four Lug Nuts (7) shown in Figure 5-1 to 90 lb-ft (122 Nm)

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SECTION 6: LUBRICATION

The Drop Down Spare Tire Carrier Assembly should be checked before operation for looseness or missing components during Preventative Maintenance Checks and Services. The Drop Down Spare Tire Carrier Assembly should be lubricated quarterly, or after fording water, or traversing sand or mud deep enough to reach the pivot mount. Pump new grease in until old grease comes out.

NOTE: Check the tire pressure of the spare tire weekly.

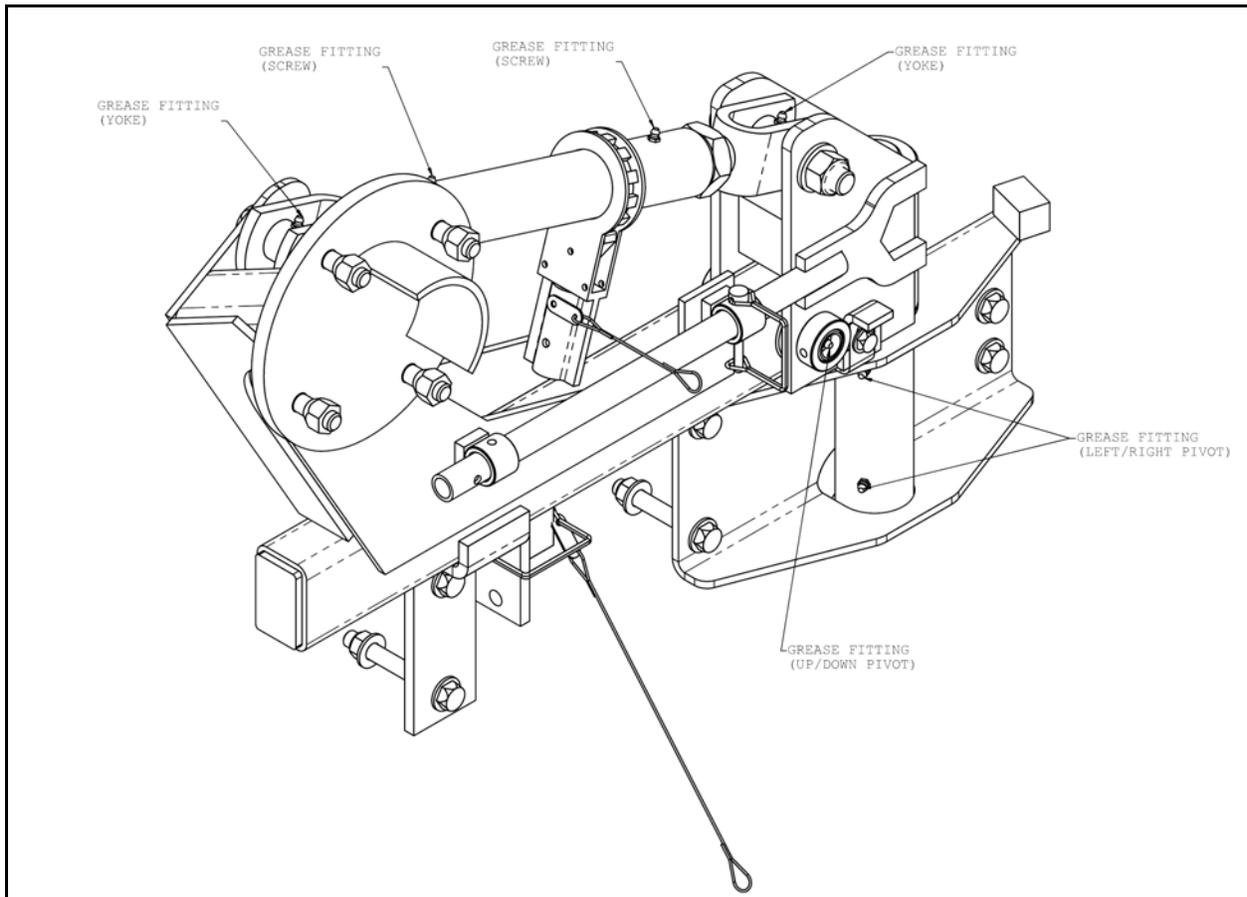


FIGURE 6-1

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SECTION 7: REPAIR PARTS

Repair Parts may be ordered from:

BPR/RICO Equipment, Inc. (Cage OZM57)
120 North State Road
Medina, OH 44256 USA

PHONE: 330-723-4050
FAX: 330-723-4012
WEB: www.RicoEquipment.com

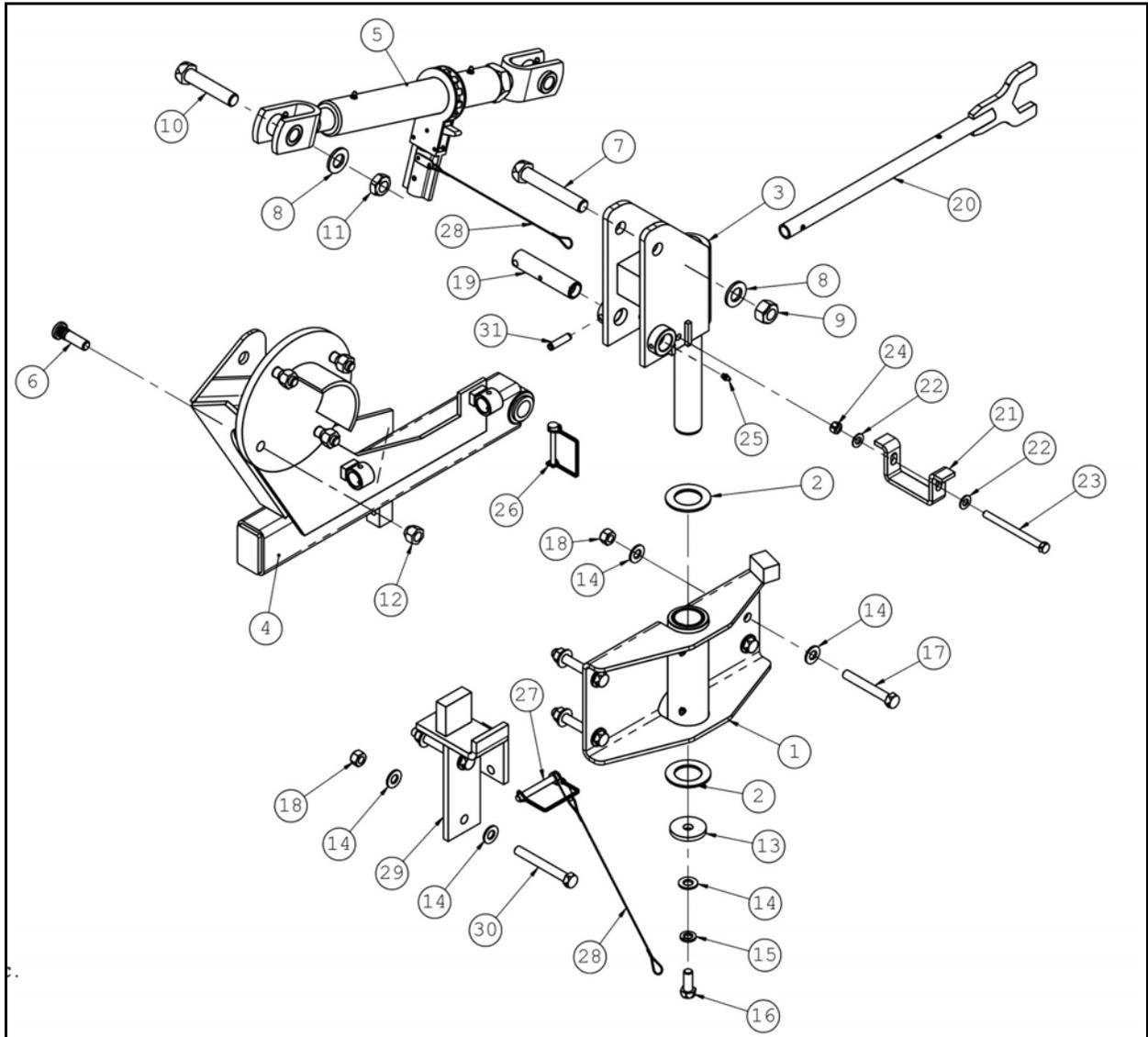


FIGURE 7-1

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REPAIR PARTS ITEM LIST

ITEM NO.	QTY.	PART NO.	DESCRIPTION	CAGE	NSN
1	1	STA001-05P	PIVOT MOUNT	OZM57	
** 2	2	90171135	BUSHING, THRUST		
3	1	STA002-02P	DOUBLE PIVOT	OZM57	
4	1	STA003-04P	MAIN ARM	OZM57	
5	1	99221173P	RATCHET JACK	OZM57	
6	4	H1594	STUD, WHEEL		
7	1	H1526	HHCS 3/4-10 X 4-1/2 GD-8		
8	2	H296	FLAT WASHER SAE 3/4		
9	1	H432	NYLOCK FULL NUT 3/4-10		
10	1	H1178	HHCS 3/4-10 X 3-1/2 GD-8		
11	1	H424	NYLOCK JAM NUT 3/4-10		
** 12	4	H1593	WHEEL LUG NUT		
** 13	1	ST019-01P	PIVOT PIN - RETAINER WASHER	OZM57	
** 14	13	H294	FLAT WASHER SAE 1/2		
** 15	1	H310	LOCK WASHER 1/2		
** 16	1	H1595	HHCS 1/2-13 X 1-1/4 GD-8		
** 17	4	H1596	HHCS 1/2-13 X 3-1/2 GD-8		
** 18	6	H430	NYLOCK FULL NUT 1/2-13		
19	1	ST021-01P	PIVOT PIN - MAIN ARM	OZM57	
20	1	STA010-01P	HANDLE - WRENCH	OZM57	
21	1	ST023-02P	STOP LATCH	OZM57	
22	2	H293	FLAT WASHER SAE 3/8		
23	1	H1604	HHCS 3/8-16 X 4-1/2 GD-8		
24	1	H429	NYLOCK FULL NUT 3/8-16		
25	1	H133	GREASE FITTING .25-28 STRAIGHT		
26	1	70061342	PIN, SAFETY SNAP		
27	1	70061343	PIN, SAFETY SNAP		
28	2	70061338	LANYARD, PIN		
29	1	STA005-05P	MOUNT - BUMPER-LOCK	OZM57	
** 30	2	H1602	HHCS 1/2-13 X 4 GD-8		
31	1	H100	SPRING PIN 3/8 X 1-1/2		
		NOTE	** INCLUDED IN BOLT KIT		

FIGURE 7-2

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