



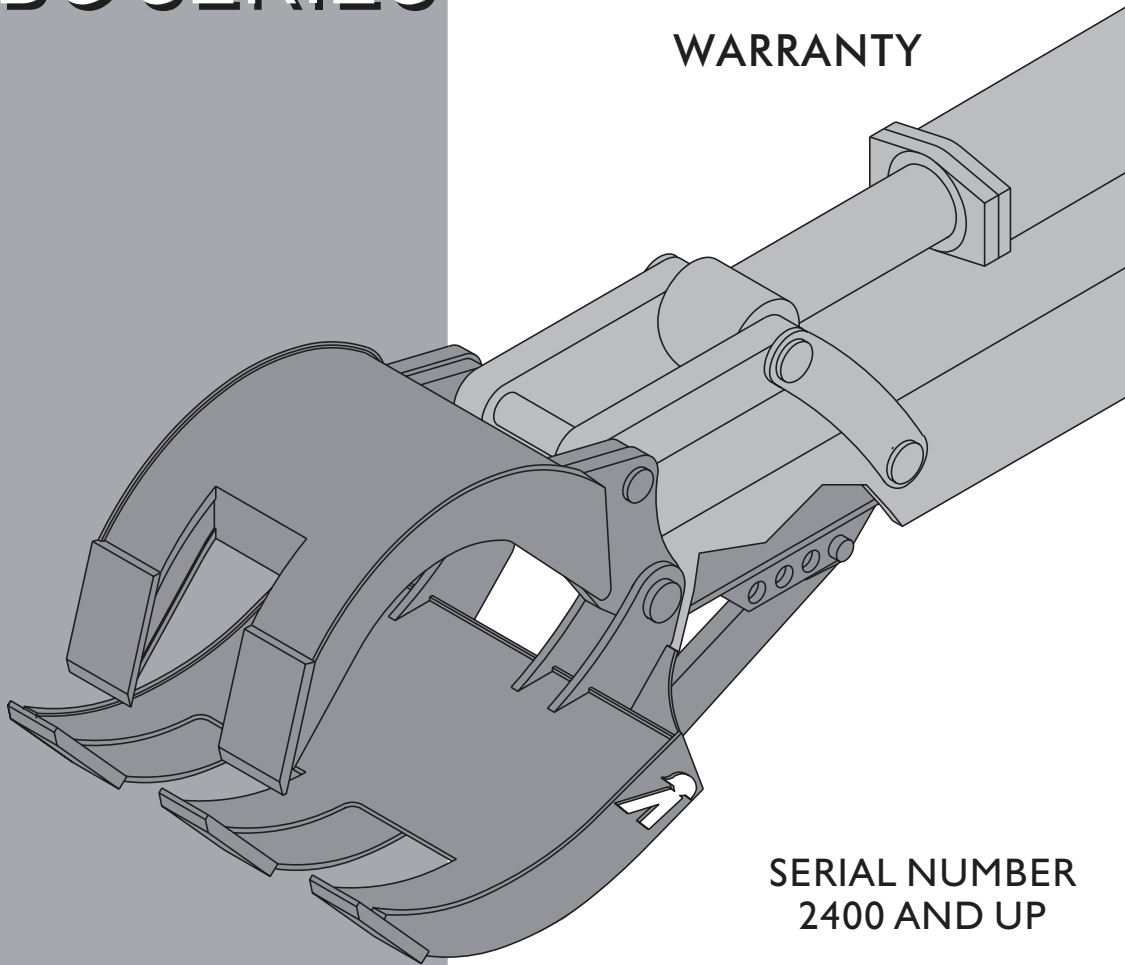
MECHANICAL CONTRACTOR'S
GRAPPLE

MODEL
ABG SERIES

A100417
INSTALLATION
AND
MAINTENANCE
INSTRUCTIONS

PARTS LIST

WARRANTY



SERIAL NUMBER
2400 AND UP

A100417

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INTRODUCTION

The Allied grapple is mounted in place of the carrier bucket. It works off the bucket cylinder with no additional hydraulic requirements, and is interchangeable from one carrier to another in the same weight class.

Once the grapple has been installed on the carrier, it then becomes an extension of the carrier much like your hand is to your arm.

The carrier now has the capability of ripping and tearing down structures as well as picking and placing, sorting, raking, loading and unloading material with a positive gripping action provided by the grapple tines.

The construction of the Allied grapple includes an upper and lower jaw that are commonly pinned and bushed to the carrier dipper stick. The pin is static and the upper jaw moves against a heavy-duty bushing to eliminate pin wear.

The Allied box grapple ABG series is available in 30, 40, 50, 70, 90 and 140,000 lb. carrier sizes; with 2-into-3, 3-into-4 and 4-into-5 tine configurations for each model.

Typical grapple applications are: 2/3 tine demolition, 3/4 tine general purpose and 4/5 tine trash and waste.

SECTION 1 SPECIFICATIONS

MODEL	ABG30-2 S/N 2532 & UP	ABG40-2 S/N 2654 & UP	ABG50-2 S/N 3096 & UP	ABG70-2 S/N 2957 & UP	ABG90-2 S/N 3005 & UP	ABG140-2 S/N 2400 & UP
JAW OPEN	90"	105"	105"	117"	133-1/4"	151"
JAW CLOSED	8"	10"	10"	10"	15-1/2"	15-1/2"
WIDTH UPPER	26"	26"	28.25"	28.25"	32"	35.50"
WIDTH LOWER	44"	44"	48"	48"	54.75"	60"
HEIGHT	47"	53"	53"	60"	70"	80-5/8"
TIP SIZE	13X7.5X1.25"	15"X7.5"X1.25"	15"X8.5"X1.5"	15"X8.5"X1.5"	20"X9.25"X2"	24"X10"X2.5"
INNER PLATE	1/2"	1/2"	5/8"	5/8"	5/8"	3/4"
OUTER PLATE	3/8"	1/2"	1/2"	5/8"	5/8"	3/4"
END PLATE	1/2"	5/8"	3/4"	3/4"	1"	1-1/4"
TOTAL LBS.*	2000	2650	2900	3950	4700	7000

*GRAPPLE HALVES ONLY. DOES NOT INCLUDE MOUNTING KIT, PAD OR STIFF ARM.

MODEL IDENTIFICATION EXAMPLE

ABG 90-2

A = Allied

B = Box Type Construction

G = Grapple

90 = 90,000 Lb. Carrier

2 = Number of tines - upper movable jaw

ALLIED HAS A POLICY OF CONTINUOUS PRODUCT IMPROVEMENTS AND RESERVES THE RIGHT TO CHANGE SPECIFICATIONS OR DESIGN WITHOUT NOTICE OR THE INCURRING OF ANY OBLIGATION

SECTION 2 GRAPPLE COMPONENT NOMENCLATURE

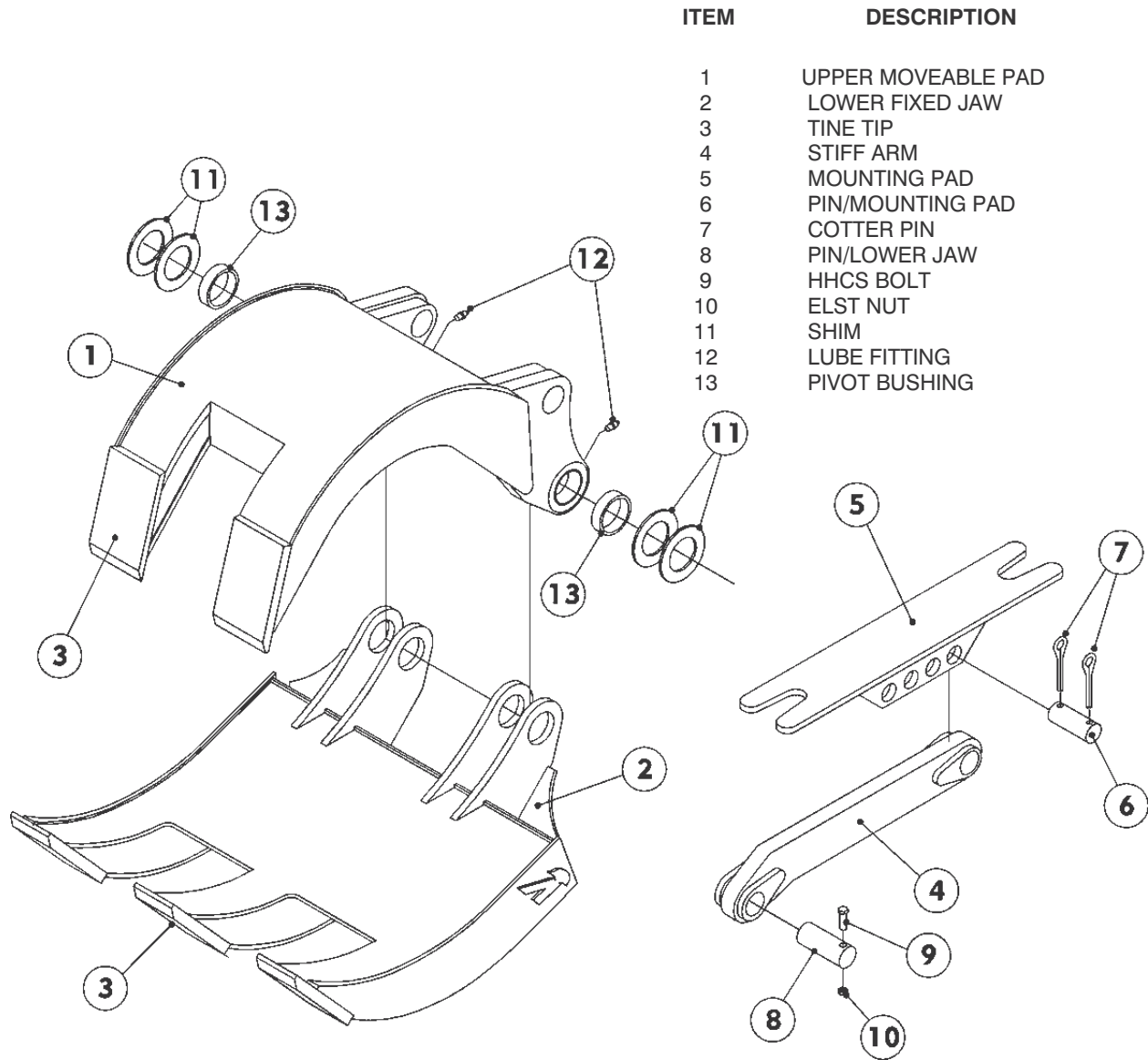


FIGURE 2-1

ITEM	DESCRIPTION
1	STICKPIN BUSHINGS
2	STICKPIN
3	LINK PIN BUSHINGS
4	LINK PIN
5	CAP SCREW
6	LOCK NUT

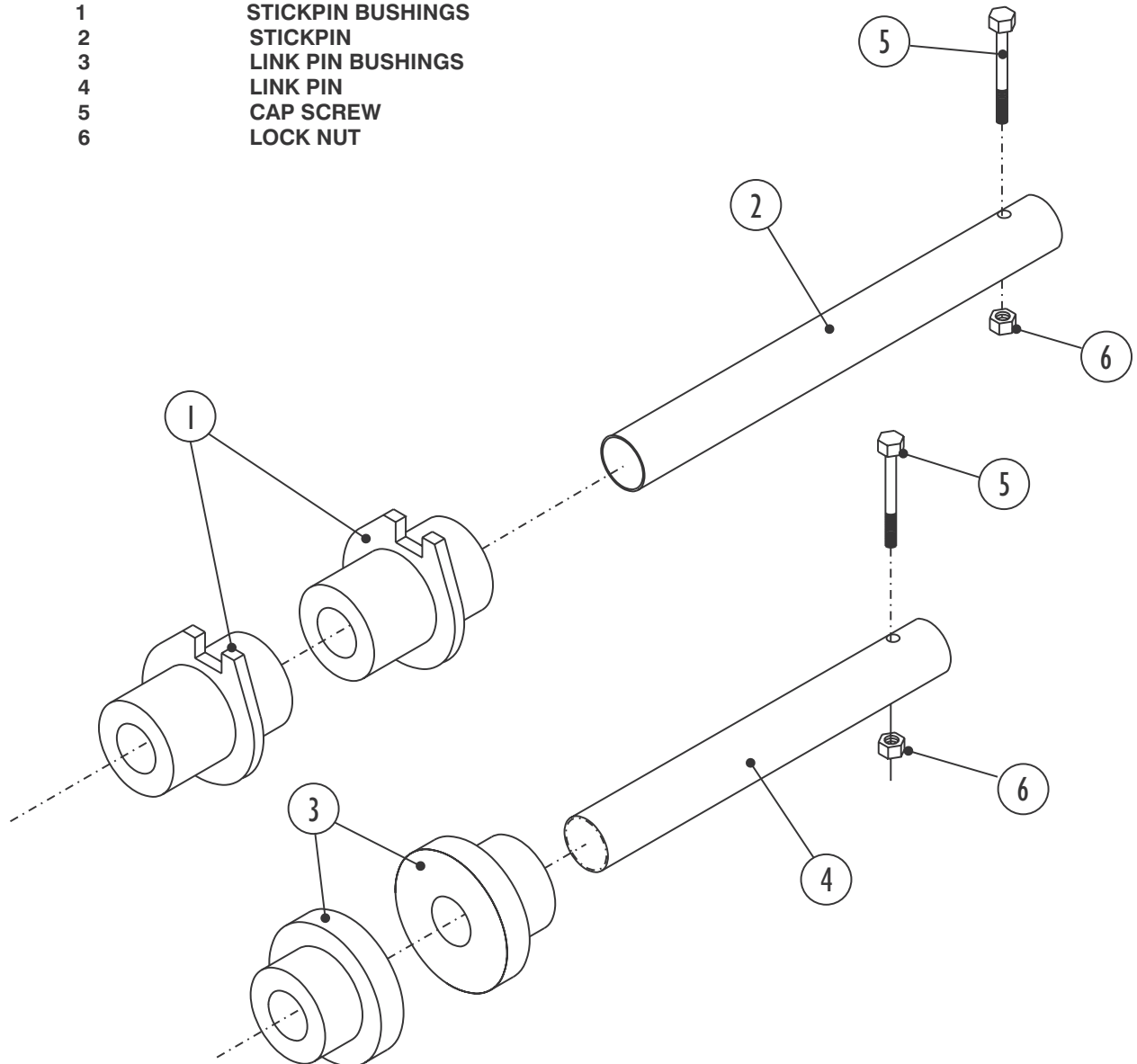


FIGURE 2-2

SECTION 3 INSTALLATION PROCEDURES

ASSEMBLING THE GRAPPLE

NOTE

IF AN ALLIED INSTALLATION KIT HAS NOT BEEN INSTALLED ON THE GRAPPLE, FOLLOW THE INSTRUCTIONS LISTED BELOW.

1. The grapple halves are held together by shipping sleeves. These sleeves are large wood dowels and must be removed one at a time to install the metal sleeve assemblies. Refer to Figure 3-1

⚠ **DANGER** ⚠

REMOVAL OF BOTH SHIPPING SLEEVES WILL ALLOW THE GRAPPLE HALVES TO SEPARATE, POSSIBLY CAUSING BODILY INJURY.

2. Using a drift and sledge hammer, drive out the shipping sleeve (wood dowel) on the side opposite the locking bolt retainer. Refer to figure 3-1.
3. Working in the area between the mounting lugs of the lower fixed jaw, insert the metal stickpin sleeve assembly through the first bore and through the upper moveable jaw bore.

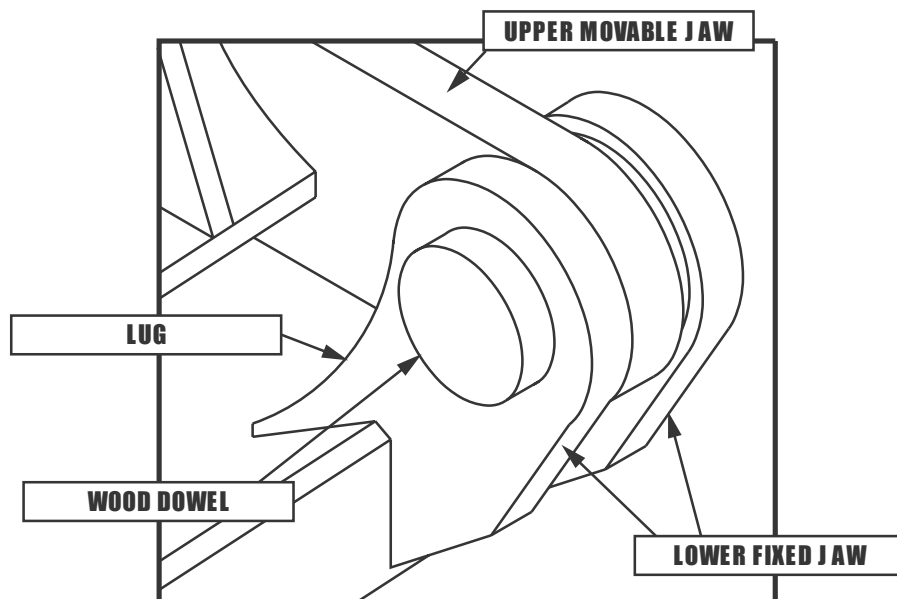


FIGURE 3-1

4. Place two shims between the upper moveable jaw and lower fixed jaw to limit the total end play between the grapple halves from 1/8 inch (3.175 mm) to 3/16 inch (4.762 mm) then proceed to drive the metal stickpin sleeve assembly through the shims and outer bore of the fixed jaw. Refer to figure 3-2.
5. Repeat steps two through four for other side.

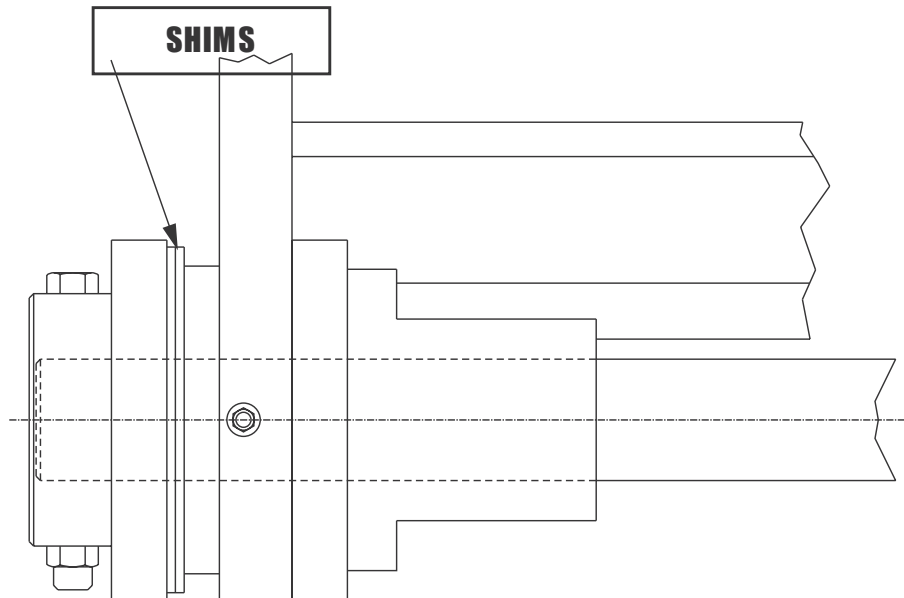


FIGURE 3-2

NOTE

MAKE SURE THE SHIMS ARE PLACED IN THE SAME LOCATION ON BOTH SIDES OF THE GRAPPLE JAWS.

6. Install the link pin sleeves in their bores, using a sledge hammer.

INSTALLING THE GRAPPLE ON THE CARRIER

1. Position the carrier dipper stick between the stickpin sleeve assemblies and install the stickpin. See figure 3-3. Install the cap screw through the lower jaw lug and stickpin. Install a locknut on the cap screw.

2. Position the tool link between the two (2) link sleeves and install the link pin. See figure 3-3. Install the cap screw through grapple lug and link pin then install the locknut on the cap screw.

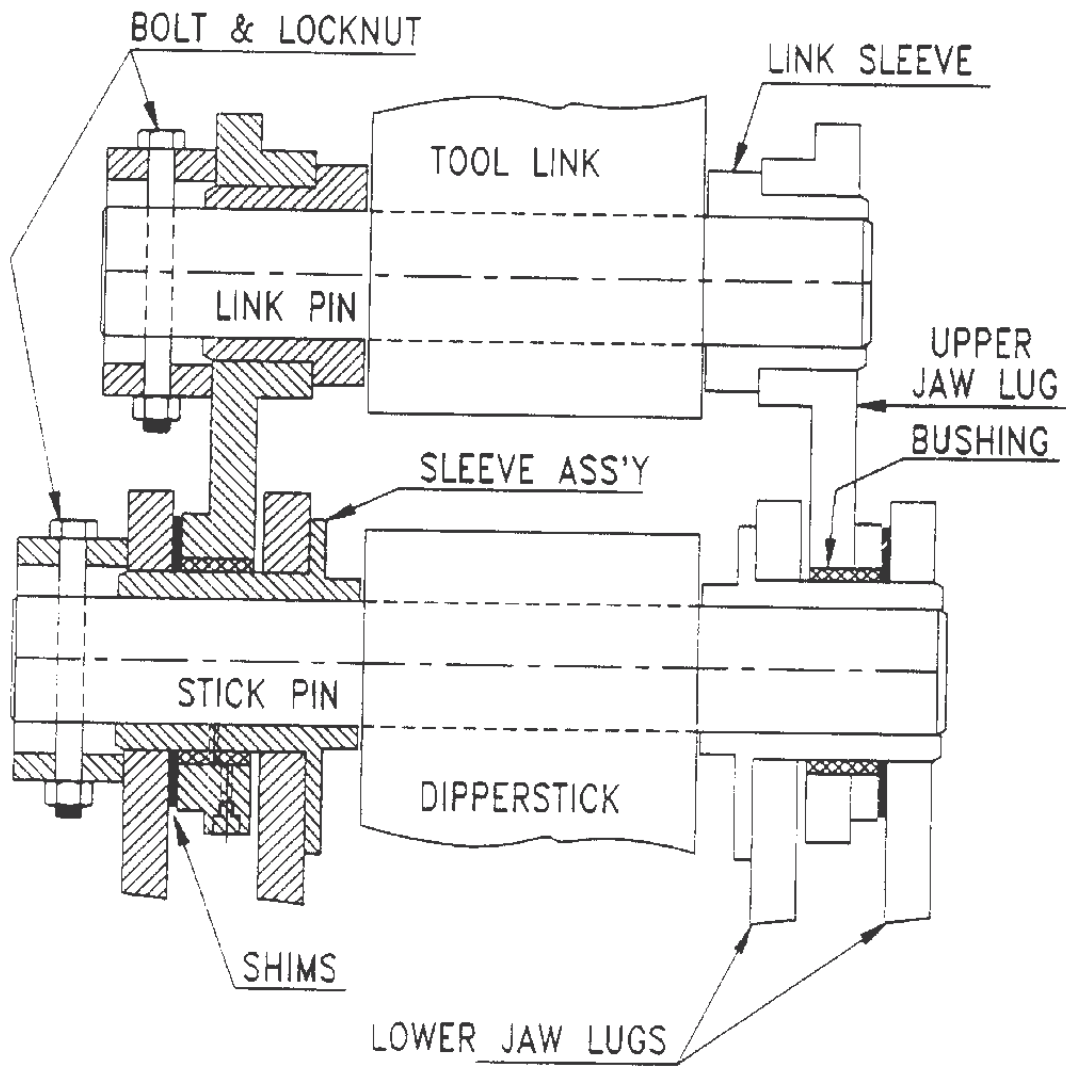


FIGURE 3-3

INSTALLING THE MOUNTING PAD

1. Position the carrier dipperstick so its back side is laying horizontal. Refer to figure 3-4.

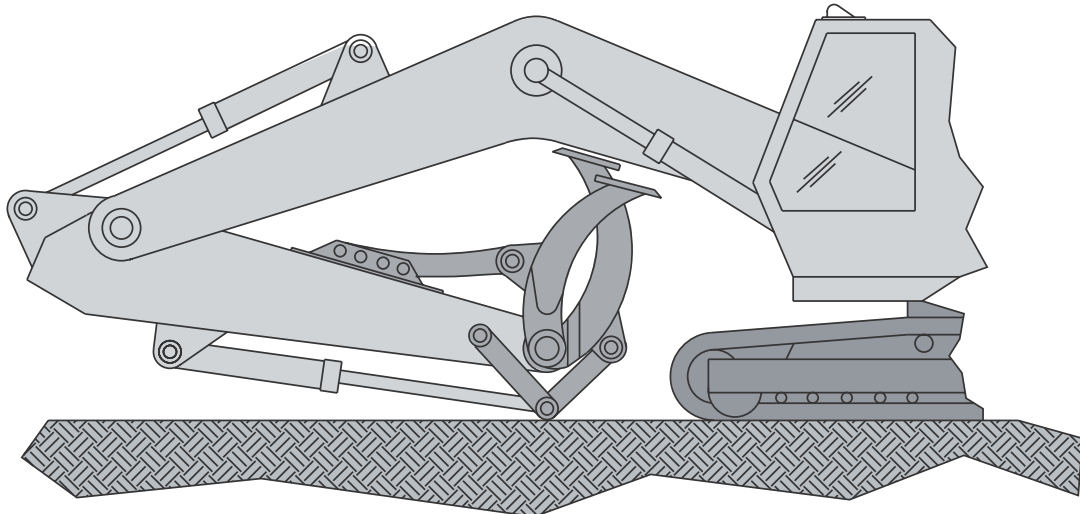


FIGURE 3-4

NOTE

THE MOUNTING PLATE IS MARKED "FRONT." THE FRONT SIDE GOES TOWARD

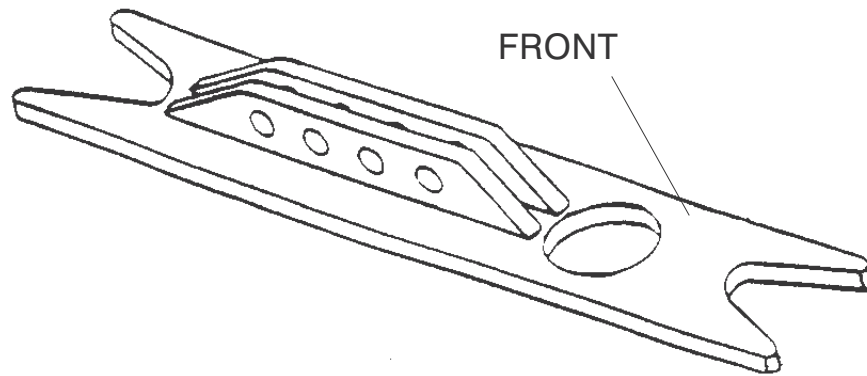


FIGURE 3-5

THE STICKPIN. REFER TO FIGURE 3-5.

2. Thoroughly clean the area on the carrier dipperstick, where the mounting pad attaches, of all oil grease, rust, paint and scale.

- Set the mounting pad on the dipperstick the specified number of inches from the center of the stickpin hole to the center of the rear pin hole on the mounting pad. Refer to the chart below. Make sure the front side of the mounting pad is facing toward the stickpin.

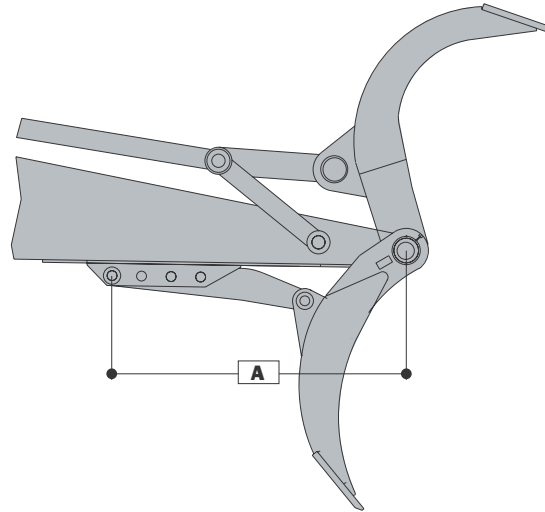


FIGURE 3-6

	[DIMENSION "A"]	
ABG 30	46	in. [1168 mm]
ABG 40	50	in. [1270 mm]
ABG 50	60	in. [1524 mm]
ABG 70	60	in. [1524 mm]
ABG 90	65	in. [1676 mm]
ABG 140	76	in [1930 mm]

- Clamp the mounting pad in place temporarily. The mounting pad should be centered on the dipperstick from side to side.
- Before welding, make sure that the pins for the stiff arm go in and out of the lower jaw and the mounting plate.

NOTE

REFER TO FIGURE 3-7 FOR PROPER INSTALLATION OF THE STIFF ARM. NOTE THAT TOP OF BEND IN ARM GOES AGAINST MOUNTING PAD SIDE.

- Disconnect carrier electrical system by removing the ground wire from the battery.
- After final adjustments, the mounting pad should be spot tack welded in place and a final check made before permanently welding the pad to the dipperstick.

8. Heat the welding zone to remove moisture, to 200-300 degrees Fahrenheit [93-149C].
9. Using AWS E -7018 low hydrogen rod for stick welding, or AWS E-70T-1 for semi-automatic gas shielding, arc weld a 1/2" [1.27 mm] fillet all around the mounting pad, periodically alternating from side to side to control warpage and cracking.

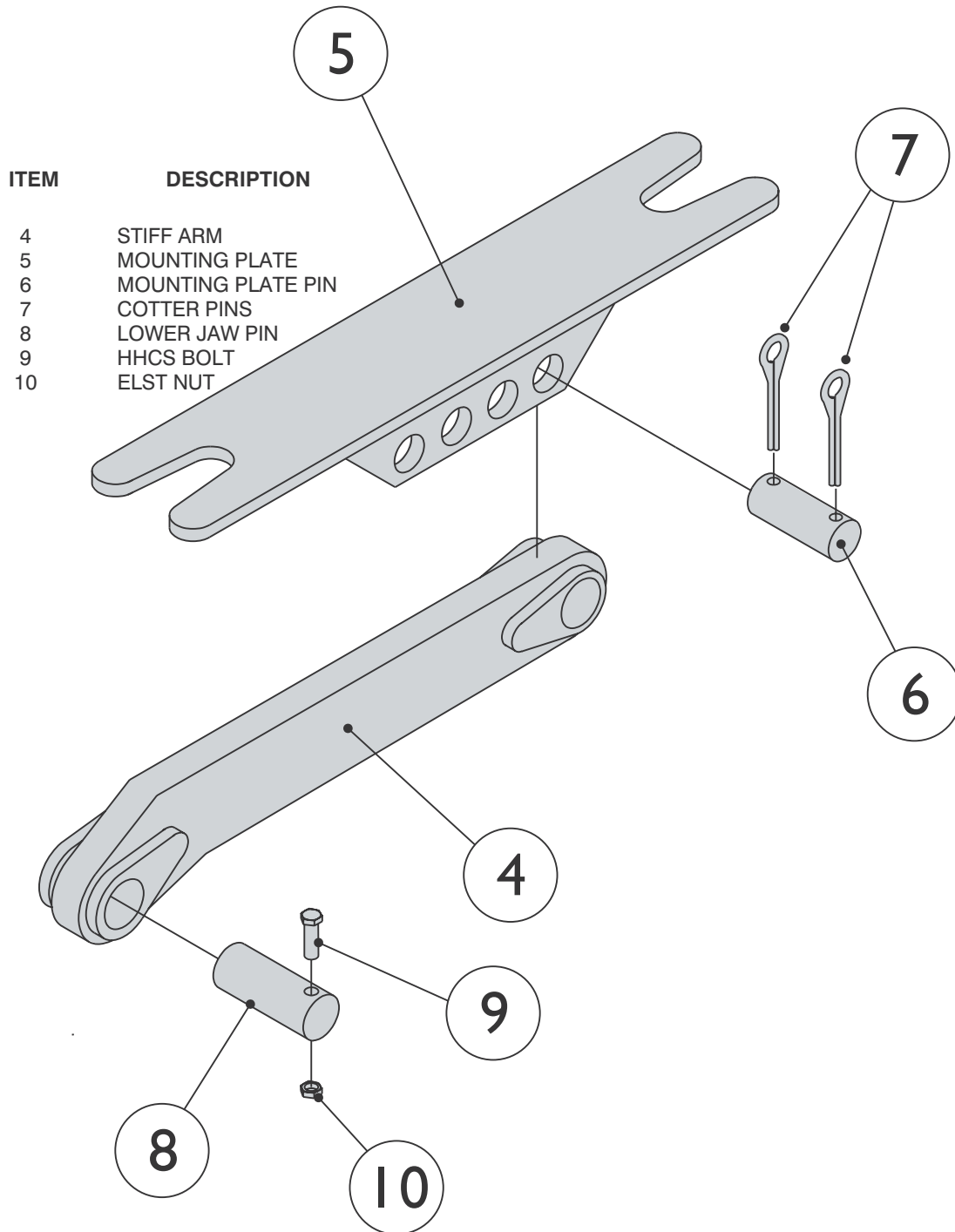


FIGURE 3-7

SECTION 4 MAINTENANCE

Inspect grapple daily for cracks in welds, missing tine tips or loose cap screws. Do not operate a damaged grapple. Major structural damage could occur.

Do not attempt to alter the physical or mechanical structure of the grapple. This could cause damage to the grapple and void the product warranty.

Lubrication

Grease all points within 8-10 hours of grapple operation. Grease fittings until excess appears. Grease the grapple every day it is in use with grease approved by your carrier.

Pins

Check all connecting pins, bolts and clips daily to ensure that they are in place and secured. When removing or replacing any of these connectors, place the grapple on a flat surface and stabilize the grapple to prevent bodily injury.

SECTION 5 APPLICATIONS

The grapple is suited for many types of material handling. The following examples are typical and suggest the variety and limitations of the standard applications.

Road Construction: Large concrete slabs can be loosened and raised from the roadbed while the positive grip action of the grapple eliminates the need for slinging.

Scrap Handling: More scrap can be moved efficiently than with other methods. Grapples out perform magnets 3:1.

Demolition: Residential, commercial and industrial dismantling can be accomplished easily and efficiently. The grapple can also break up and compact debris.

Rock Handling: The grapple allows for easy handling and placement of large rocks.

Land Clearing: Grapples easily rip or tear tree stumps from the ground. They can also shake excess dirt off stumps to reduce load weight.

SECTION 6 OPERATOR SAFETY RECOMMENDATIONS

The standard safety precautions that are expected and/or required of those working in construction should be followed including but not limited to: locating existing underground service and utility lines, establishing pedestrian barriers and using personal protection equipment.

The safety material in this manual is of a general nature. If necessary, the owner of the grapple or safety/training personnel must expand upon these general instructions in adapting them to particular applications.

Use the grapple in accordance with all state and local ordinances. In addition, comply with the recommendations of the Occupational Safety and Health Standards of the U.S. Department of Labor. For OSHA construction guidelines, contact your local Federal Government office bookstore.

SECTION 7 REMOVING GRAPPLE FROM THE CARRIER

REMOVING THE GRAPPLE

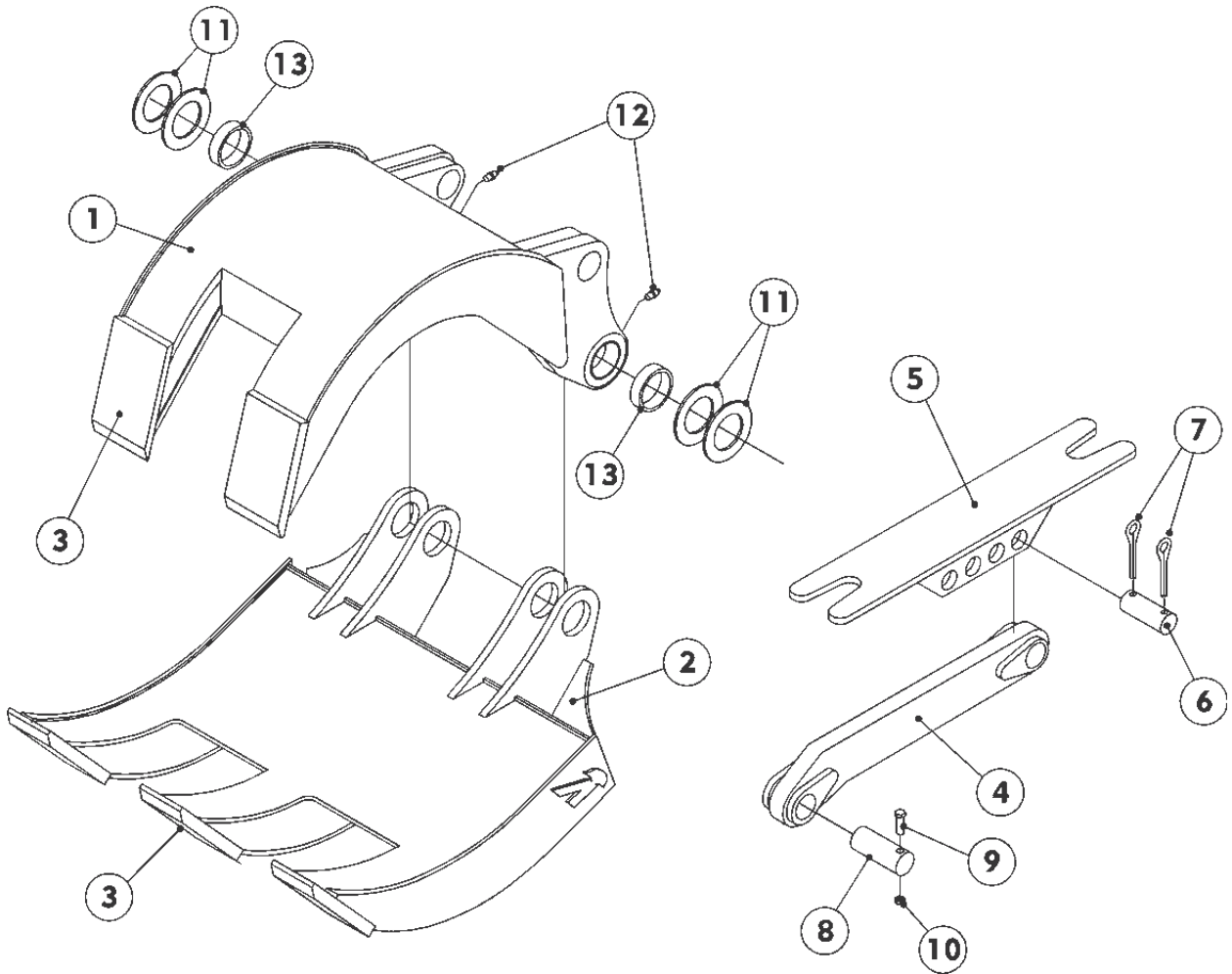
1. Position the grapple on a skid with the stiff arm on the bottom.
2. Remove the cotter pin from one end of the mounting plate pin that holds the stiff arm to the mounting plate.
3. Drive the pin out and set the stiff arm on the ground.
4. Remove the cap screw from the link pin and drive the pin out of its bores.
5. Remove the cap screw from the stickpin and drive the pin out of its bores.

⚠ DANGER ⚠

WHEN PERFORMING STEP SIX , MAKE SURE THE STICKPIN BUSHINGS REMAIN IN THEIR BORES. IF NOT, THE GRAPPLE COULD COME APART AND POSSIBLY CAUSE BODILY INJURY.

6. Remove the dipperstick from the grapple.

SECTION 8



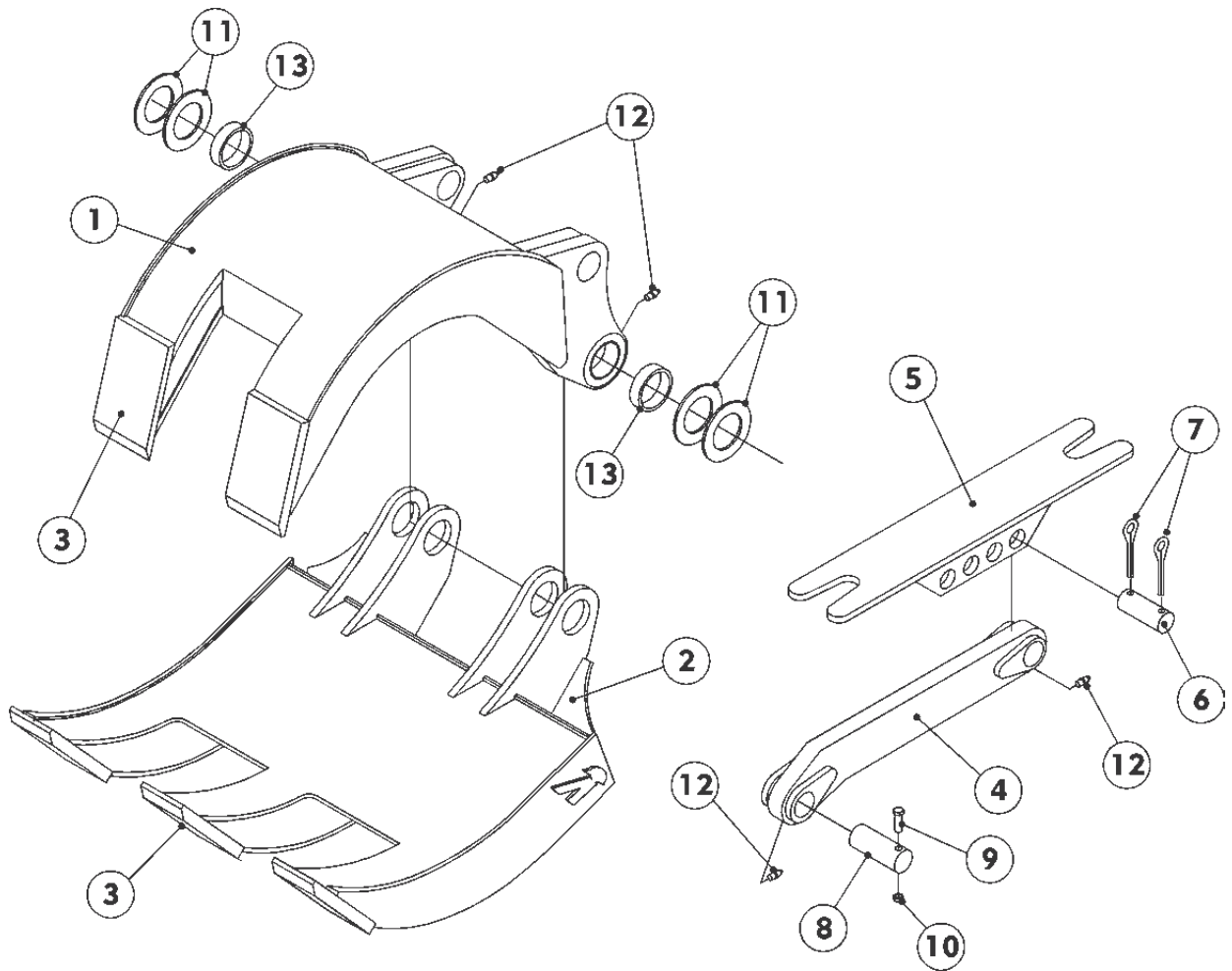
**FIGURE 8-1
PARTS LIST**

2-into-3 Tine Models

Covers Grapples:

ABG30-2 ASSY. # 840821 (S/N 2532 AND UP)
 ABG40-2 ASSY. # 840824 (S/N 2654 AND UP)
 ABG50-2 ASSY. # 840827 (S/N 3096 AND UP)
 ABG70-2 ASSY. # 840830 (S/N 2957 AND UP)
 ABG90-2 ASSY. # 840833 (S/N 3005 AND UP)
 ABG140-2 ASSY. # 840134 (S/N 2400 AND UP)

ITEM	QTY	DESCRIPTION	ABG30	ABG40	ABG50	ABG70	ABG90	ABG140
1	1	UPPER MOVABLE JAW (2 TINES)	840822	840825	840828	8408 31	840834	8406 36
2	1	LOWER FIXED JAW (3 TINES)	840823	840826	840829	840832	840835	840637
3	5	TINE TIP	840774	840775	840836	840818	840819	840641
4	1	STIFF ARM	840300	840300	840586	840586	8405 87	8406 38
5	1	MOUNTING PAD	840510	840301	840136	840513	840538	840639
6	1	PIN/MOUNTING PAD	840168	840168	840583	840583	840108	840643
7	2	COTTER PIN	840122	840122	840122	8401 22	8406 44	8406 44
8	1	PIN/LOWER JAW	840169	840169	840582	840582	840109	840642
9	1	HHCS	832023	832023	832023	832023	832023	563318
10	1	ELST NUT	813289	813289	813289	813289	813289	7980 63
11	4	SHIM	840160	840160	840160	840160	840112	NO SHIM
12	2	LUBE FITTING	798197	798197	798197	798197	798197	798197
13	2	PIVOT BUSHING	840161	840161	840585	840585	8401 11	8406 40



2-into-3 Tine Models

Covers Grapples:

ABG30-2 ASSY. # 840514 (S/N 2400 TO 2532)
 ABG40-2 ASSY. # 840296 (S/N 2400 TO 2654)
 ABG50-2 ASSY. # 840520 (S/N 2400 TO3096)
 ABG70-2 ASSY. # 840528 (S/N 2400 TO 2957)
 ABG90-2 ASSY. # 840533 (S/N 2400 TO 3005)
 ABG140-2 ASSY. # 840134 (S/N 2400 AND UP)

ITEM	QTY	DESCRIPTION	ABG30	ABG40	ABG50	ABG70	ABG90	ABG140
1	1	UPPER MOVABLE JAW (2 TINES)	840518	840825	840522	840530	840535	840636
2	1	LOWER FIXED JAW (3 TINES)	840519	840298	840523	840531	840536	840637
3	5	TINE TIP	840509	840580	840581	840581	840819	840641
4	1	STIFF ARM	840300	840300	840586	840586	8405 87	8406 38
5	1	MOUNTING PAD	840510	840301	840136	840513	840538	840639
6	1	PIN/MOUNTING PAD	840168	840168	840583	850583	840108	840643
7	2	COTTER PIN	840122	840122	840122	8401 22	840644	8406 44
8	1	PIN/LOWER JAW	840169	840169	840582	840582	840109	840642
9	1	HHCS	832023	832023	832023	832023	832023	563318
10	1	ELST NUT	813289	813289	813289	813289	813289	7980 63
11	4	SHIM	840160	840160	840160	840160	840112	NO SHIM
12	4	LUBE FITTING	798197	798197	798197	798197	798197	798197
13	2	PIVOT BUSHING	840161	840161	840585	840585	8401 11	8406 40

GRAPPLE KIT

THIS SECTION HAS BEEN LEFT BLANK PURPOSELY. THE ATTACHING KIT THAT GOES WITH THE GRAPPLE IS DIFFERENT FOR EACH CARRIER. WHEN A GRAPPLE IS ORDERED, AND THE CARRIER IDENTIFIED, THIS SECTION WILL SHOW THE PARTS AND LIST THE PART NUMBERS FOR THE ATTACHING HARDWARE.

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ABG GRAPPLE SERIES WARRANTY

WHAT IS COVERED

ALLIED warrants to owners of new ALLIED GRAPPLES, that for a period of twelve (12) months after delivery and placement into service by the first user, that the Authorized ALLIED Dealer in whose service area the unit is operated will repair or replace any part that fails because of defects in material or workmanship according to the following schedule:

WARRANTY LIMITATIONS Months: 0-12 Hours: No Limit

**ADJUSTMENT CHARGES
TO BE PAID BY OWNER(S)** Parts: No Charge Labor: No Charge

This warranty is conditioned upon the unit or part claimed to be defective being delivered to the Dealer.

WHAT IS NOT COVERED

The warranty does not cover:

Conditions which in the reasonable judgement of ALLIED, arise from misuse, negligence, alteration, accident or lack of performance of necessary maintenance.

Normal maintenance service or the replacement of service items made in connection with normal maintenance.

Claims for loss of time, inconvenience, loss of use of the product or other consequential damages.

OWNER RESPONSIBILITY

The owner is responsible for:

The performance of regular maintenance service as specified in the applicable product manuals.

Delivering the product or part to the ALLIED Distributor.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ANY NON-CONTRACTUAL LIABILITIES BASED UPON NEGLIGENCE OR STRICT LIABILITY. ALLIED DOES NOT AUTHORIZE ANY OTHER PERSON TO CREATE FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THIS PRODUCT.



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