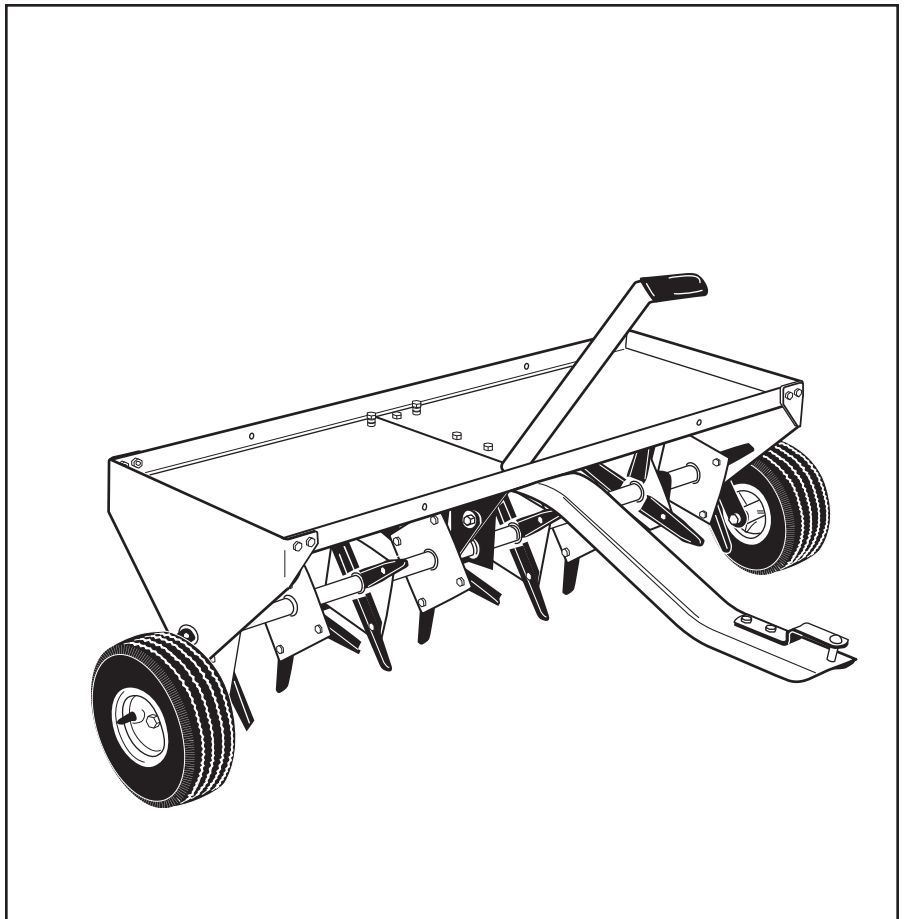




OWNERS MANUAL

**Model No.
45-0299**



48" PLUG AERATOR

CAUTION:
Read Rules for
Safe Operation
and Instructions
Carefully

- Assembly
- Operation
- Maintenance
- Repair Parts

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RULES FOR SAFE OPERATIONS

Remember, any power equipment can cause injury if operated improperly or if the user does not understand how to operate the equipment.



LOOK FOR THIS SYMBOL TO POINT OUT IMPORTANT SAFETY PRECAUTIONS. IT MEANS-- ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED.



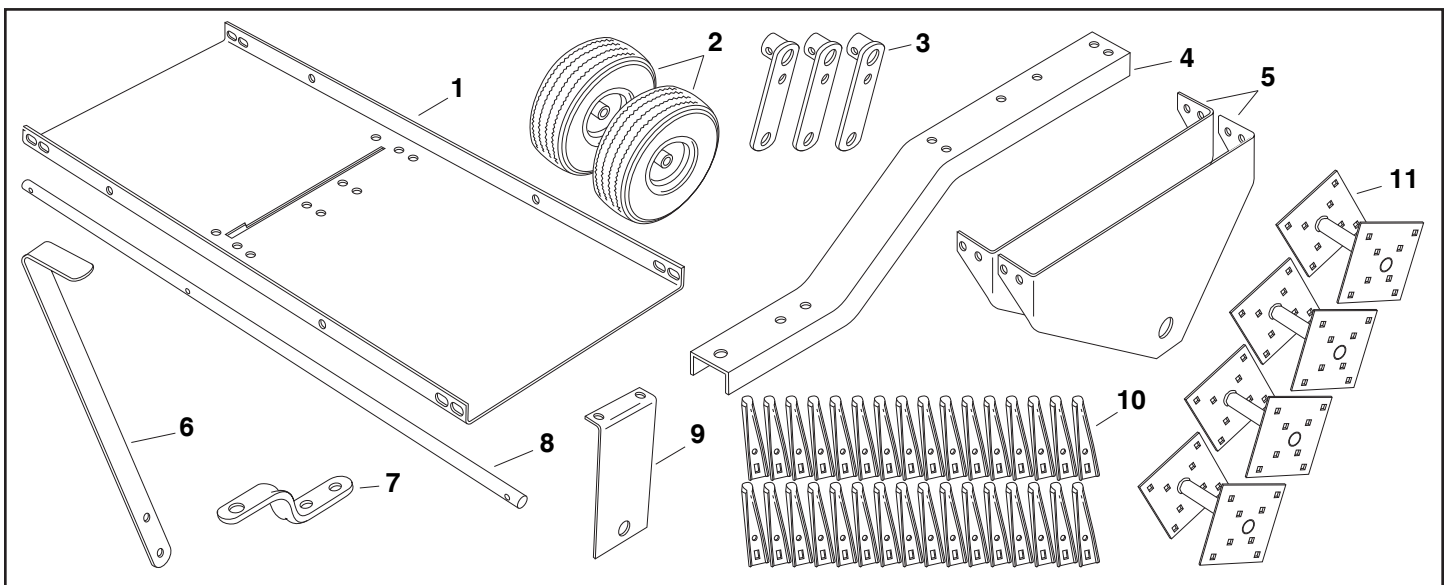
CAUTION: VEHICLE BRAKING AND STABILITY MAY BE AFFECTED WITH THE ADDITION OF AN ACCESSORY OR AN ATTACHMENT. BE AWARE OF CHANGING CONDITIONS ON SLOPES.

Exercise caution at all times when using power equipment.

1. Read this owners manual carefully for operating and service instructions before attempting to assemble or operate this equipment. Be thoroughly familiar with the proper use of this equipment.
2. Read the vehicle owners manual and vehicle safety rules, and know how to operate the vehicle before using this equipment.
3. Never allow children to operate the tractor or plug aerator attachment, and do not allow adults to operate without proper instructions.
4. This aerator attachment has sharp knife points. Always handle with care and wear substantial foot wear when operating this aerator.
5. Do not allow anyone to ride or sit on plug aerator attachment frame or on towing vehicle.
6. Keep the area of operation clear of all persons, particularly small children, and also pets.
7. Always begin with the transmission in first (low) gear and engine at low speed, and gradually increase speed as conditions permit.
8. The vehicle braking and stability may be affected with the attachment of this equipment. Be aware of changing conditions on slopes. Refer to safety rules in the vehicle owner's manual concerning safe operation on slopes. **STAY OFF OF STEEP SLOPES.**
9. Always operate up and down a slope, never across the face of a slope
10. This equipment should be operated at reduced speed on rough terrain, along creeks and ditches and on hillsides, to prevent tipping and loss of control. Do not drive too close to a creek or a ditch.
11. Do not tow this equipment on a highway or any other public thoroughfare.
12. Follow the maintenance instructions as outlined in this owners manual.

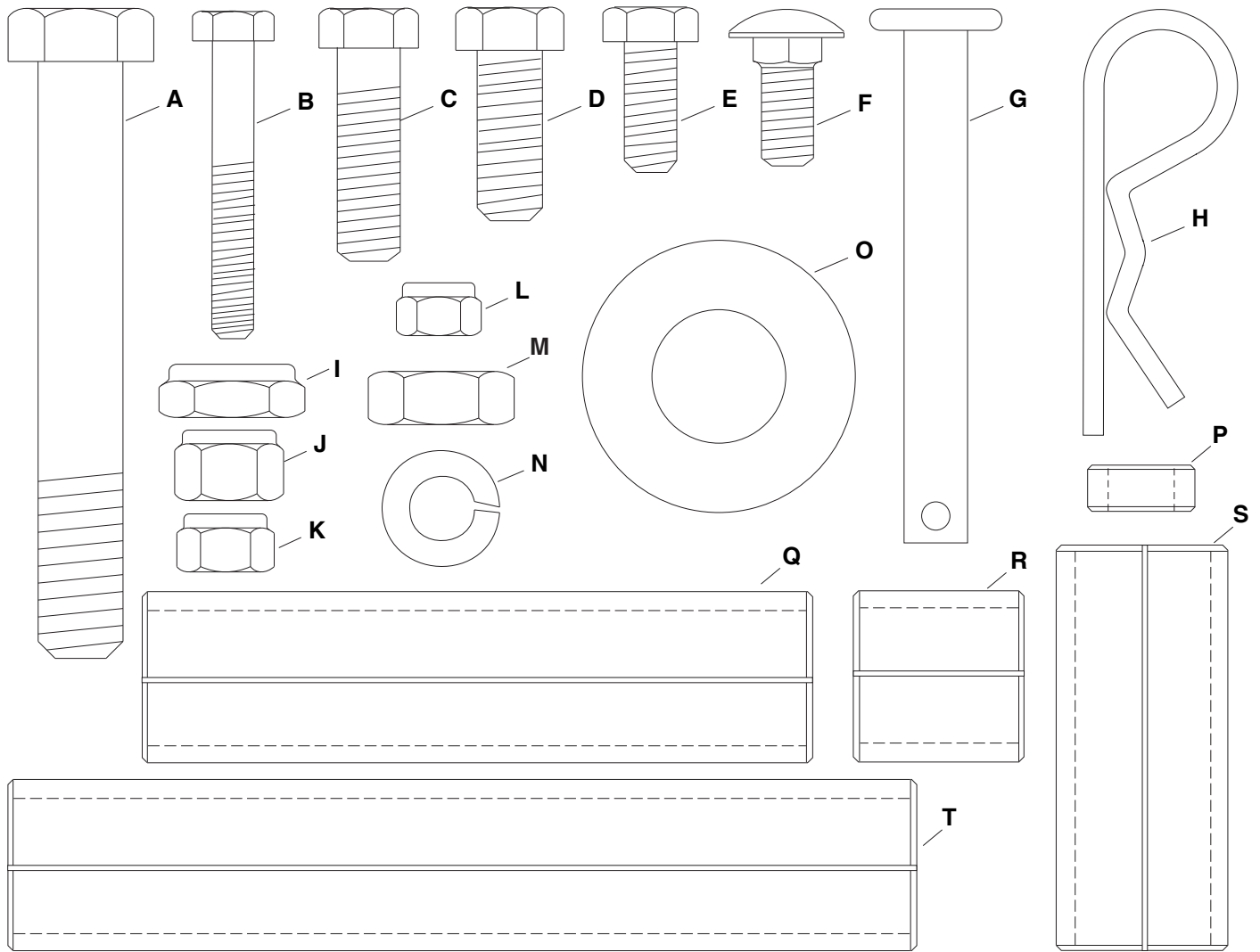
Carton Contents

- | | |
|-----------------------|---------------------------------|
| 1. Tray | 7. Hitch Bracket |
| 2. Wheels (2) | 8. Shaft |
| 3. Wheel Brackets (3) | 9. Middle Brace |
| 4. Tongue | 10. Knives (32) |
| 5. End Plates (2) | 11. Double Spool Assemblies (4) |
| 6. Lift Handle | Hardware Pack (Shown next page) |

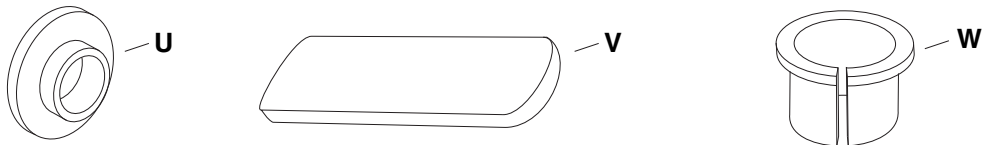


LOOSE PARTS IN CARTON

SHOWN FULL SIZE



NOT SHOWN FULL SIZE



HARDWARE PACKAGE CONTENTS

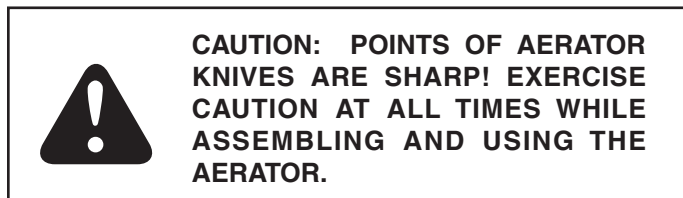
Key	Qty.	Description	Key	Qty.	Description
A	2	Hex Bolt, 1/2" x 3-1/2" Lg.	M	2	Jam Nut, 1/2"
B	3	Hex Bolt, 1/4" x 1-3/4" Lg.	N	32	Lock Washer, 5/16"
C	6	Hex Bolt, 3/8" x 1-1/4" Lg.	O	8	Flat Washer, 3/4" (2 for shims)
D	6	Hex Bolt, 3/8" x 1" Lg.	P	8	Spacer, 1/4" Long
E	8	Hex Bolt, 5/16" x 3/4" Lg.	Q	1	Spacer Tube, 3.90" Long
F	32	Carriage Bolt, 5/16" x 3/4"	R	2	Spacer Tube, 1.00" Long
G	1	Hitch Pin	S	1	Spacer Tube, 2.38" Long
H	1	Hair Cotter Pin	T	2	Spacer Tube, 5.29" Long
I	2	Nylock Jam Nut, 1/2"	U	1	Shoulder Spacer
J	12	Nylock Nut, 3/8"	V	1	Handle Grip
K	40	Nylock Nut, 5/16"	W	8	Split Plastic Bearing
L	3	Nylock Nut, 1/4"			

ASSEMBLY INSTRUCTIONS

TOOLS REQUIRED FOR ASSEMBLY

- (2) 7/16" wrenches
- (2) 1/2" wrenches
- (2) 9/16" wrenches
- (2) 3/4" wrenches or adjustable wrenches

Before assembling the aerator, lay out all the parts and hardware as shown on previous pages.



1. Assemble eight aerator knives on the **outside** of each double spool assembly. Rotate each knife to insert the locking tab into the spool plate, then align the square holes and secure with a 5/16" x 3/4" carriage bolt, a 5/16" lockwasher, and a 5/16" nylock nut. See figure 1.
2. Push split plastic bearings into both ends of each double spool tube. See figure 1.

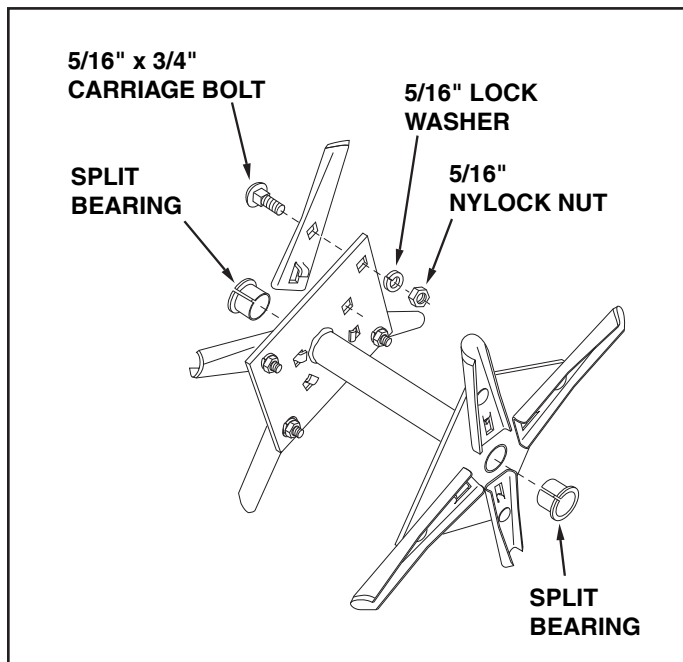


FIGURE 1

3. Assemble a wheel bracket to the middle hole in the shaft so that the hub of the bracket faces the short end of the shaft. Fasten the bracket to the shaft using a 1/4" x 1-3/4" hex bolt and a 1/4" nylock nut. **Tighten.** See figure 2.
4. Pre-assemble a 3/8" x 1-1/4" hex bolt and a 3/8" nylock nut to the smaller hole in the wheel bracket. Insert the bolt from the hub side of the bracket. **Do not tighten till step 18.** See figure 2.

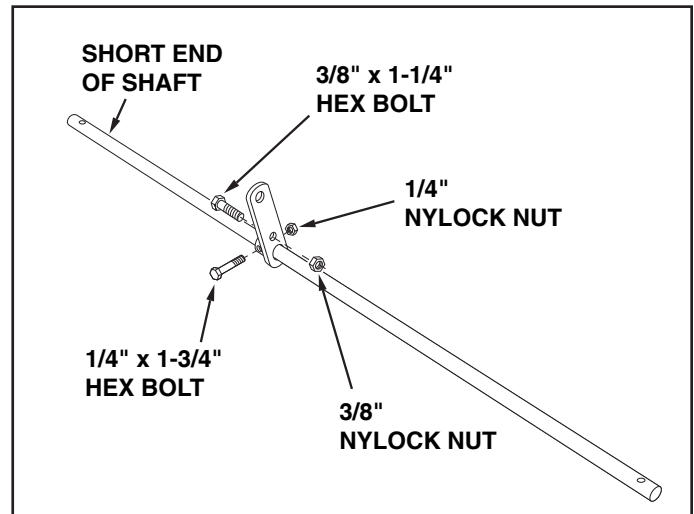


FIGURE 2

5. Assemble a double spool assembly, a 5.29" long spacer, another double spool assembly, a 1.00" long spacer and a 3/4" flat washer onto the **short end** of the shaft. See figure 3.

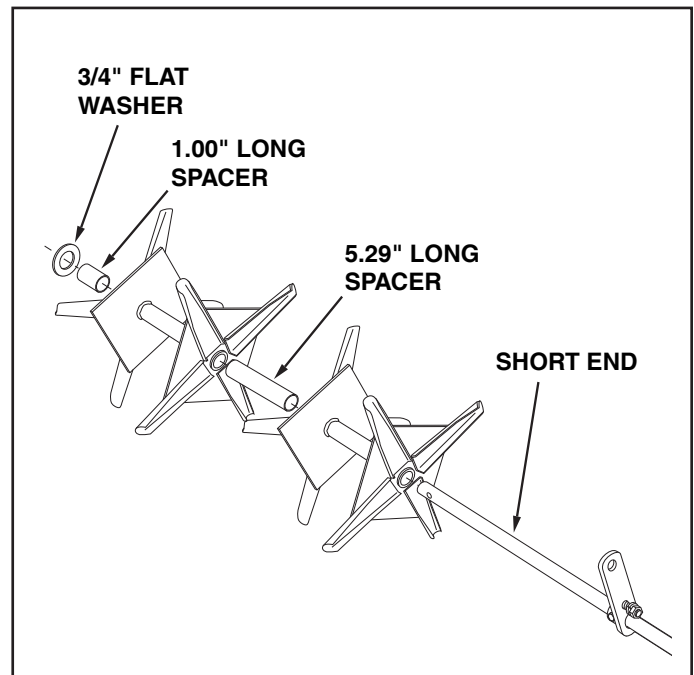


FIGURE 3

- Assemble a 2.38" long spacer, a 3/4" flat washer, the middle brace, a 3/4" flat washer and a 3.90" long spacer onto the **long end** of the shaft. The bent lip of the middle brace must face the short end of the shaft. Next assemble a double spool assembly, a 5.29" long spacer, another double spool assembly, a 1.00" long spacer and a 3/4" flat washer onto the shaft. See figure 4.

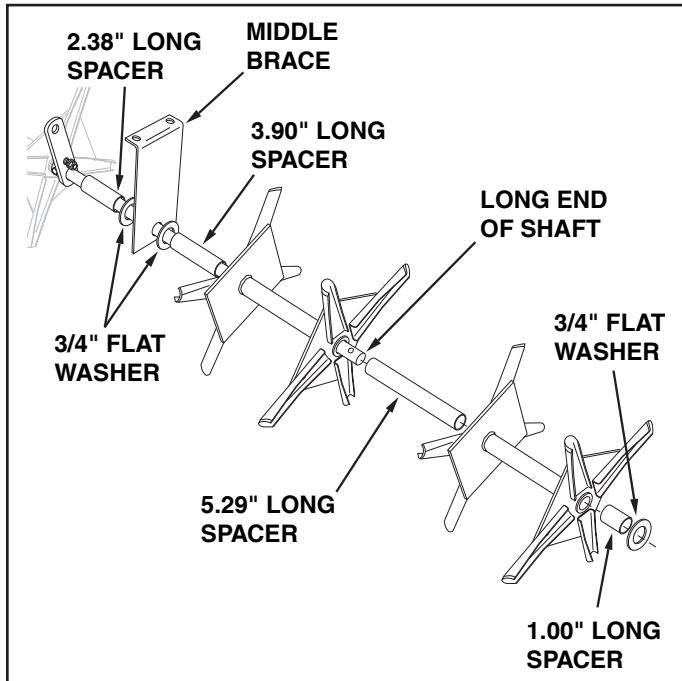


FIGURE 4

- Rotate the wheel bracket fastened to the middle of the shaft so that it is pointing upward. Assemble an end plate, a 3/4" flat washer and a second wheel bracket onto the **long end** of the shaft. Point this wheel bracket as shown in figure 5. Secure it to the shaft using a 1/4" x 1-3/4" hex bolt and 1/4" nylock nut. **Tighten**. Repeat on short end of shaft.

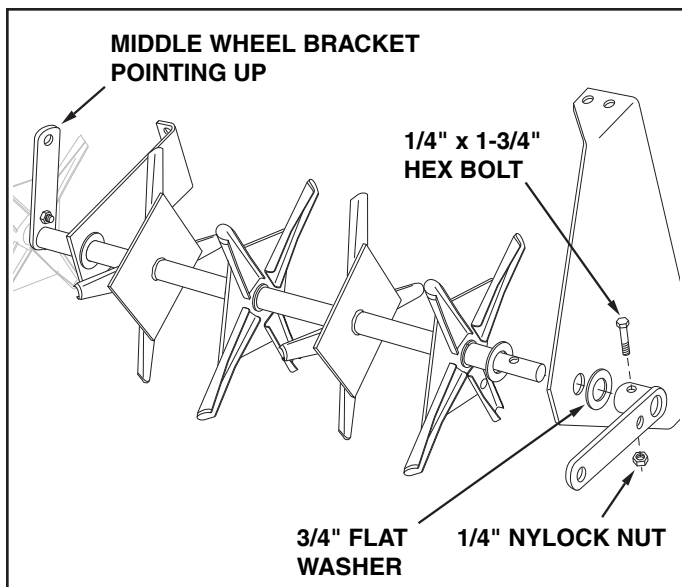


FIGURE 5

- Assemble a wheel to a wheel bracket using a 1/2" x 3-1/2" hex bolt, a 1/2" jam nut and a 1/2" nylock jam nut. Adjust the nuts so that the wheel is held securely but will spin freely. Repeat on other side. See figure 6.

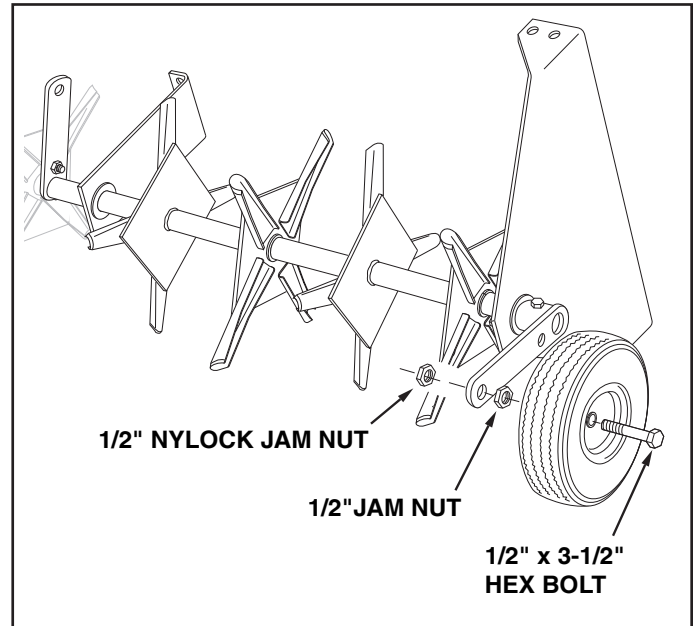


FIGURE 6

- Assemble the hitch bracket to the tongue using two 3/8" x 1" hex bolts and 3/8" nylock nuts. **Tighten**. See figure 7.
- Assemble the hitch pin through the hitch bracket and the tongue. Secure it with the hair cotter pin. See figure 7.

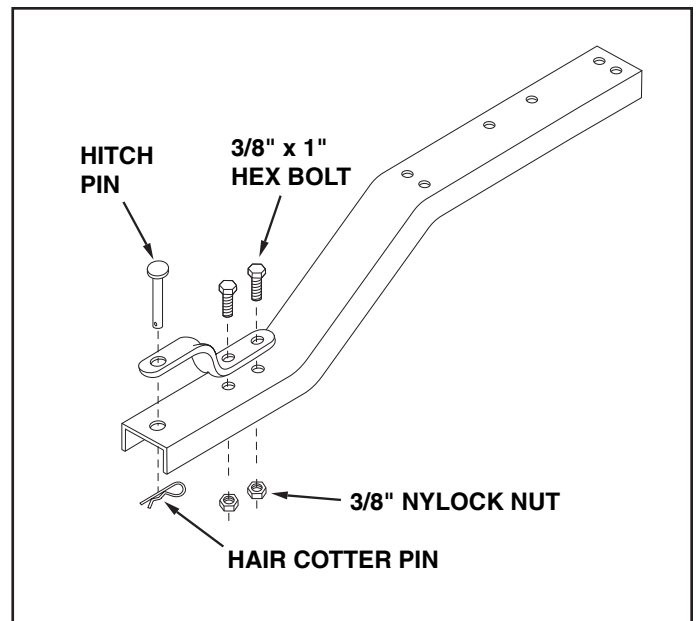


FIGURE 7

11. Assemble the tongue to the tray, placing the slot's locking notch to the front. Use two 3/8" x 1" hex bolts, two 3/8" x 1-1/4" hex bolts, four 1/4" long spacers, and four 3/8" nylock nuts as shown in figure 8. **Tighten.**

12. Assemble two 3/8" x 1-1/4" hex bolts, four 1/4" long spacers and two 3/8" nylock nuts to the holes on the right side of the slot in the tray. **Tighten.** See figure 8.

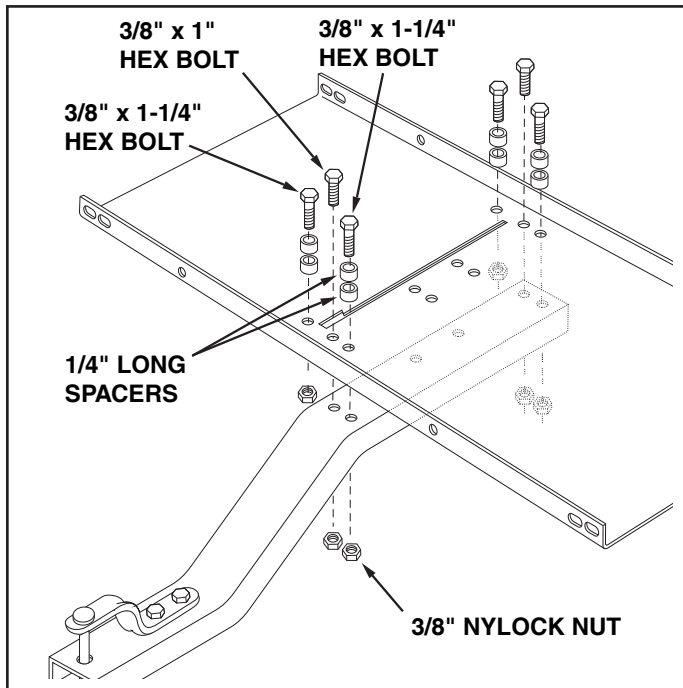


FIGURE 8

13. Place the tray between the end plates. Temporarily insert three 5/16" x 3/4" hex bolts to hold the tray and end plates together at the corners. Leave one upper corner empty. See figure 9.

14. Rotate the middle brace up against the tongue, aligning it with the holes that are closest to the slot in the tray. Fasten the brace to the tongue using two 3/8" x 1" hex bolts and 3/8" nylock nuts. **Do not tighten till step 18.** See figure 9.

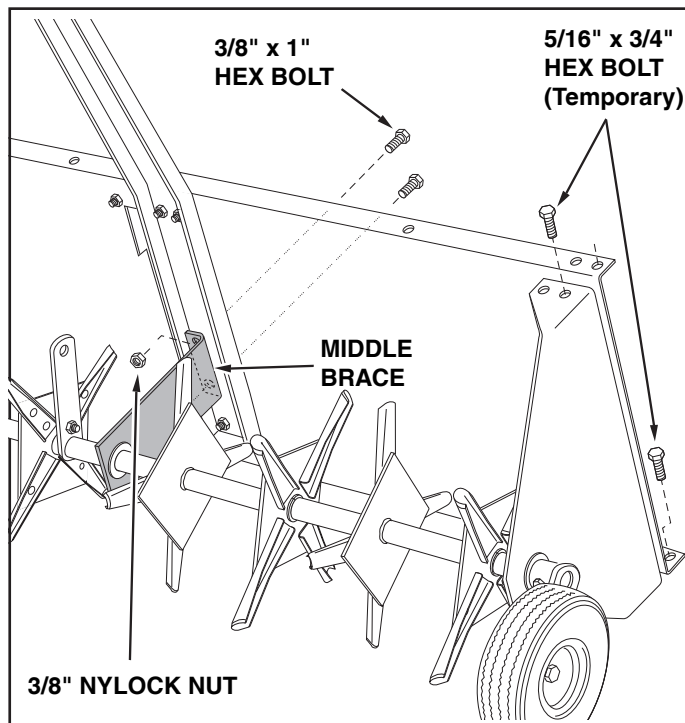


FIGURE 9

15. Fasten the end plates to the corners of the tray using eight 5/16" x 3/4" hex bolts and 5/16" nylock nuts. **Do not tighten till step 18.**

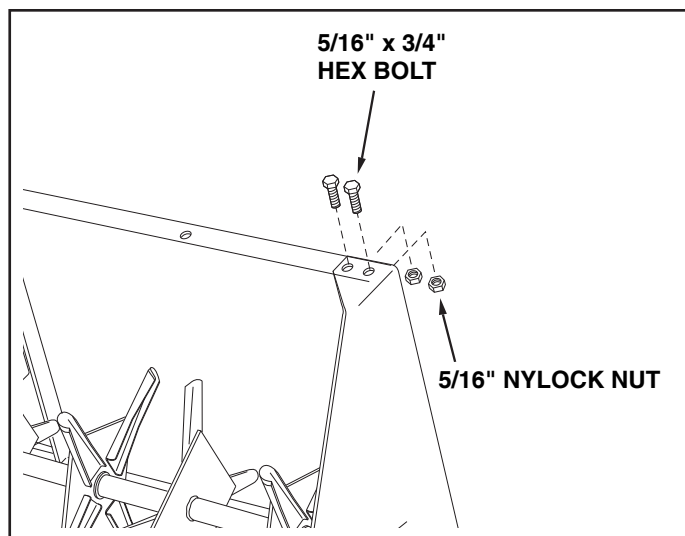


FIGURE 10

16. Place the lift handle through the slot in the tray. Fasten the lift handle to the smaller, inner hole in the middle wheel bracket using the bolt and nut which you pre-assembled earlier (figure 2). Fasten the lift handle to the larger, outer hole in the wheel bracket using a 3/8" x 1-1/4" hex bolt, the shoulder spacer, and a 3/8" nylock nut. **Tighten both nylock nuts.** See figure 11.

17. Push the grip onto the lift handle. See figure 11.

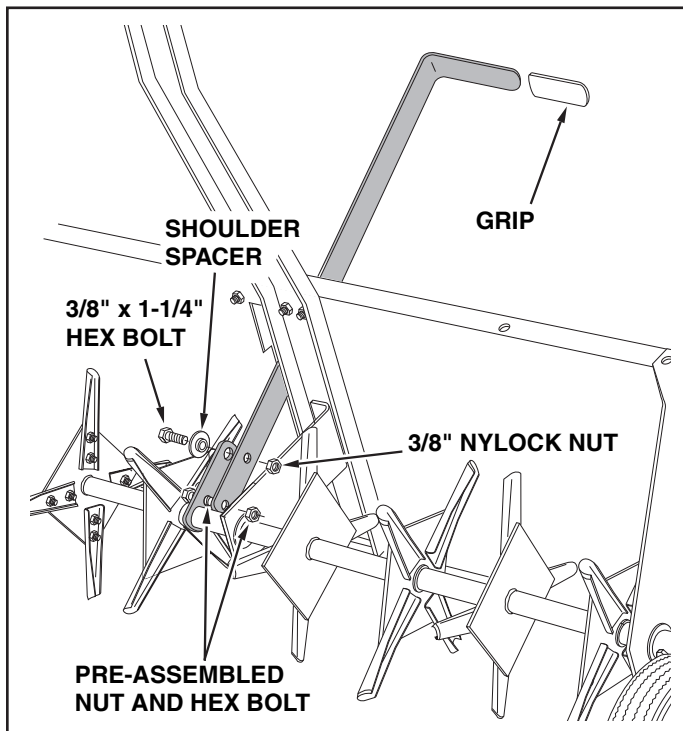


FIGURE 11



CAUTION: The Lift Handle can drop to the rear unexpectedly. It will not lock securely in transport position until step "c" below is completed.

18. Perform the following steps in sequence to assure secure locking of the lift handle. Refer to figure 12.

- a. Turn the aerator upright, then place the lift handle into the transport locking notch at the front end of the slot in the tray.
- b. Stand on the right side of the aerator and push against the tray, which will force the lift handle over to the right side of the notch.
- c. Keep the tray and lift handle in this alignment and **tighten** the eight bolts at the corners of the tray.
- d. **Tighten** the two bolts which fasten the middle brace to the tray.
- e. After performing these steps, some effort should be required to shift the lift handle from the transport locking notch over into the slot to lower the aerator. When the aerator is raised, the lift handle should spring back over into the transport locking notch.

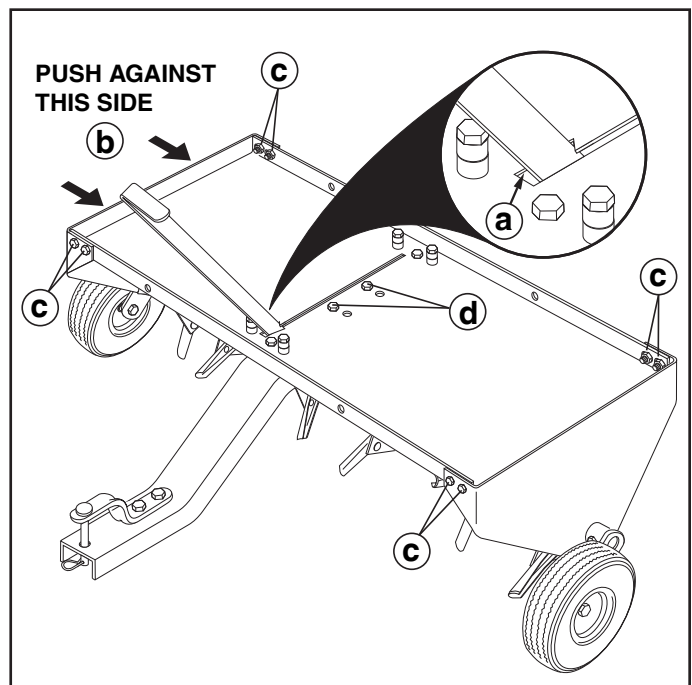


FIGURE 12

OPERATION

Aerating means pulling small soil plugs, ranging up to three inches in length, from the soil to create small reservoirs that will bring oxygen, fertilizer and water down into the roots. For best aerator performance, the following lawn preparations and operating procedures are recommended.



CAUTION: POINTS OF AERATOR KNIVES ARE SHARP! EXERCISE CAUTION AT ALL TIMES WHILE USING THE AERATOR.

1. Mow lawn and remove loose clippings prior to use of lawn aerator.
2. Start tractor engine with controls in neutral and place throttle at slow engine speed.
3. Engage shift lever at lowest possible forward speed and lower aerator, allowing plugger points to enter the ground. Increase speed as conditions permit.
4. Aerate in the straightest line possible, making overlapping passes to increase the plugger point pattern.
5. **Avoid extremely sharp turns** with plugger points engaged in ground to prevent damage to lawn.
6. **DO NOT** cross over walks or drives without first raising the aerator to the transport position.
7. On sloped lawns, always aerate in an up and down direction. **DO NOT** attempt to follow the contour of the ground.
8. To increase the depth of plugger point penetration, up to 140 lbs. of weight, such as bags of sand or (4) concrete blocks, may be added to the tray. The weight can be secured to the tray with ties or straps fastened to the front and rear of the tray. Fasten so that the ties or straps cannot become entangled on rotating parts.
10. If the ground is extremely hard and dry, it is recommended that it be sprinkled or watered down for one or two hours prior to aerating.
11. **DO NOT** attempt to aerate if ground is too wet, (muddy).
12. Do to small rocks and gravel which are normally present in aerated soil plugs, it is recommended that the plugs be raked; otherwise damage to the lawn mower blades may arise, especially when reel type mowers are used.



CAUTION: TO PREVENT INJURY, DISMOUNT FROM TRACTOR TO RAISE OR LOWER AERATOR CONTAINING ADDED WEIGHT.

MAINTENANCE

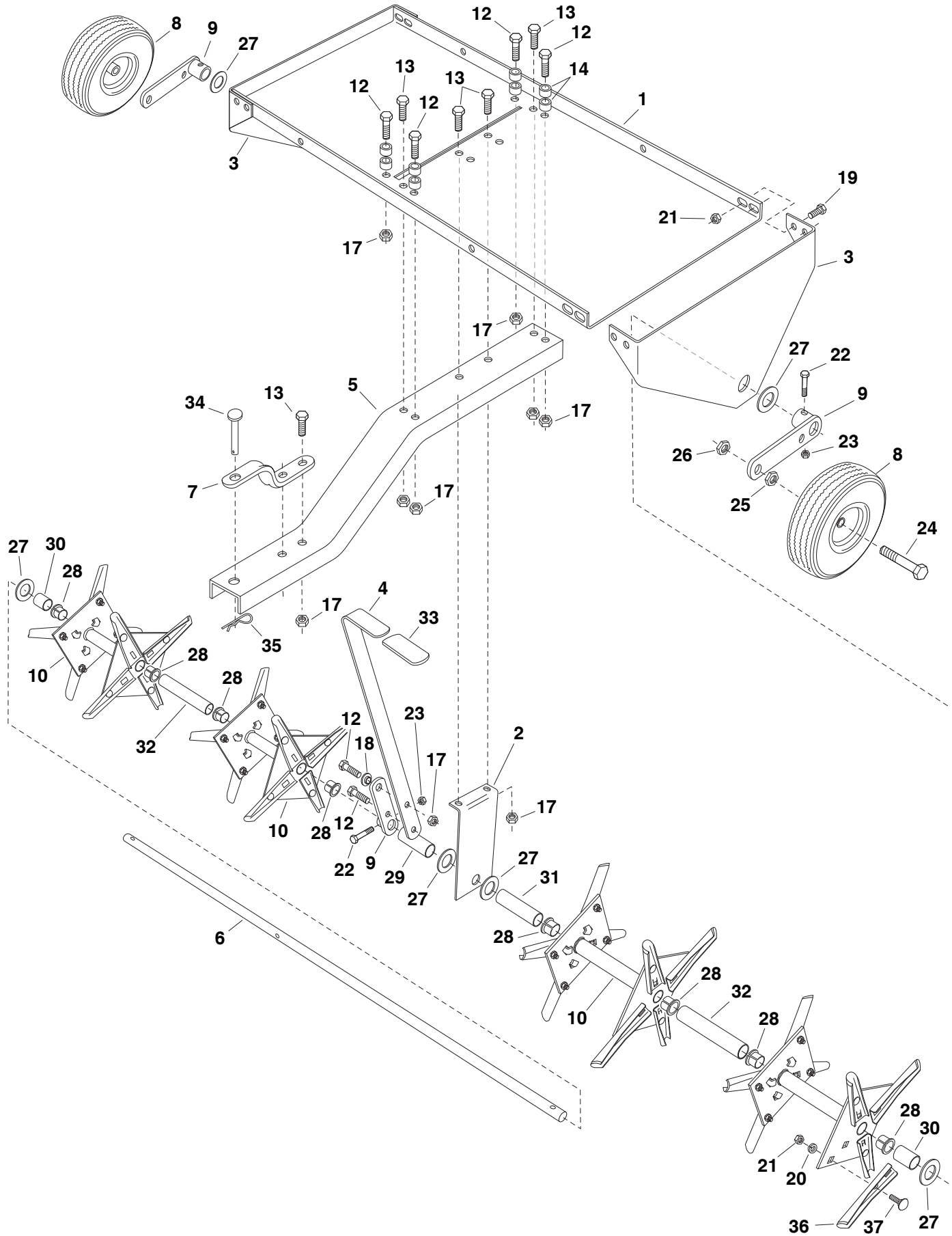
1. Plugger points can periodically be sharpened with a small grinder to maintain good penetration. Points should be removed to sharpen. Follow original angle and contour of points when grinding.
2. For storage, clean the aerator and lightly oil all exposed metal parts to prevent rust.

LUBRICATION

1. Oil the spool assemblies and shaft as needed.
2. Oil the wheel hubs as needed.

NOTES

REPAIR PARTS FOR 48" PLUG AERATOR MODEL 45-0299



REPAIR PARTS FOR 48" PLUG AERATOR MODEL 45-0299

REF. NO.	PART NO.	QTY.	DESCRIPTION	REF. NO.	PART NO.	QTY.	DESCRIPTION
1	24625	1	Tray (48")	23	47189	3	Nylock Nut, 1/4-20 Thd.
2	24623	1	Middle Brace	24	46526	2	Hex Bolt, 1/2-13 x 3-1/2" Long
3	24619	2	End Plate	25	43019	2	Hex Jam Nut, 1/2-13 Thd.
4	24624	1	Lift Handle	26	48115	2	Nylock Jam Nut, 1/2" Thd.
5	24103	1	Tongue	27	43009	8	Flat Washer, 3/4"
6	24626	1	Shaft (48")	28	741-0439A	8	Split Bearing, 3/4"
7	23687	1	Hitch Bracket	29	44474	1	Spacer, 2.38" Long
8	46503	2	Wheel	30	44500	2	Spacer, 1.00" Long
9	63931	3	Wheel Bracket Assembly	31	46537	1	Spacer, 3.90" Long
10	63929	4	Spool Assembly (Double)	32	47675	2	Spacer, 5.29" Long
12	43087	6	Hex Bolt, 3/8-16 x 1-1/4" Long	33	47707	1	Grip
13	43001	6	Hex Bolt, 3/8-16 x 1" Long	34	47623	1	Hitch Pin, 3/8" Flat Head
14	23625	8	Spacer, 1/4" Long	35	43343	1	Hair Cotter Pin, 1/8"
17	HA21362	12	Nylock Nut, 3/8-16 Thd.	36	24924	32	Knife, Aerator
18	44685	1	Spacer, Shoulder	37	43080	32	Carriage Bolt, 5/16-18 x 3/4"
19	43182	8	Hex Bolt, 5/16-18 x 3/4" Long		48309	1	Owners Manual
20	43086	32	Lock Washer, 5/16"				
21	47810	40	Nylock Nut, 5/16-18 Thd.				
22	1509-69	3	Hex Bolt, 1/4-20 x 1-3/4" Long				

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REPAIR PARTS

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