

**owners
manual**

**Model No.
45-0251**



**16" PUSH
REEL MOWER**

IMPORTANT:

**Read Rules for
Safe Operation
and Instructions
Carefully**

- Assembly
- Operation
- Maintenance
- Repair Parts

RULES FOR SAFE OPERATION

1. Read the operating and Service Owner's Manual carefully. Be thoroughly familiar with the proper use of the equipment.
2. Never allow children to operate mower. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
3. Keep the area of operation clear of all persons, particularly small children and pets. Although the area of operations should be completely cleared of foreign objects, a small object may have been overlooked and could be accidentally thrown by the mower.
4. Thoroughly inspect the area where the equipment is to be used and remove all stones, sticks, wire, bones and other foreign objects which could be picked up and thrown by the mower.
5. Do not operate equipment when barefoot or wearing open sandals. Always wear substantial footwear.
6. Mow only in daylight or in good artificial light.
7. Never operate the equipment in wet grass. Always be sure of your footing; keep a firm hold on the handle and walk, never run.
8. When cleaning, repairing or inspecting, make certain the blade and all moving parts have stopped.
9. Before attempting to unclog the mower, be sure the blades have stopped completely.
10. Mow across the face of slopes, never up and down. Exercise extreme caution when changing direction on slopes. Do not mow excessively steep slopes.
11. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.



CAUTION: THE MOWER BLADES HAVE SHARP EDGES. KEEP HANDS AND FEET CLEAR!! USE CARE WHEN ADJUSTING OR CLEANING THE MOWER.

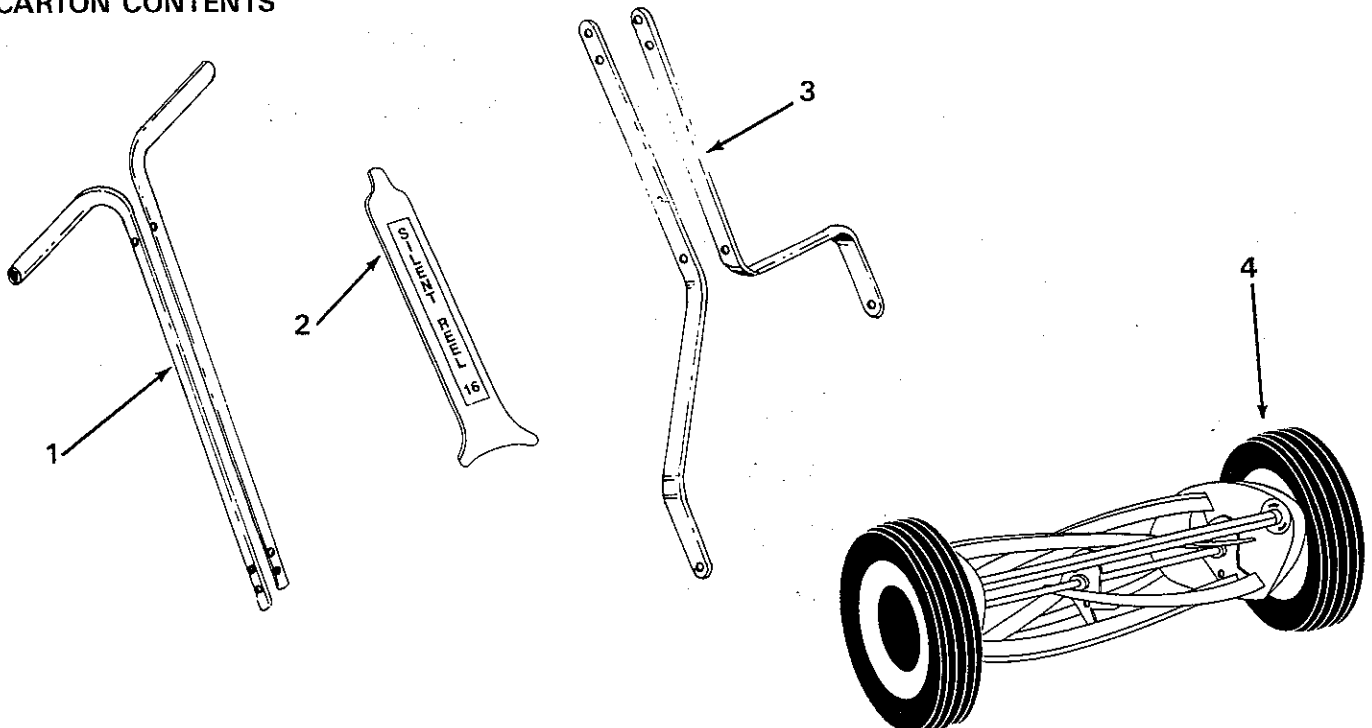
Your 16" push reel mower carton contains parts as shown in the figure below. The hardware package contains parts shown in figure 1 on page 3. Identify all parts and lay out as shown in figure below and in figure 1.

CARTON CONTENTS

LOOSE PARTS IN CARTON

1. Upper Handle (2)
2. Handle Panel
3. Handle Brace (2)
4. Reel Assembly
5. Hardware Package (not shown)

CARTON CONTENTS



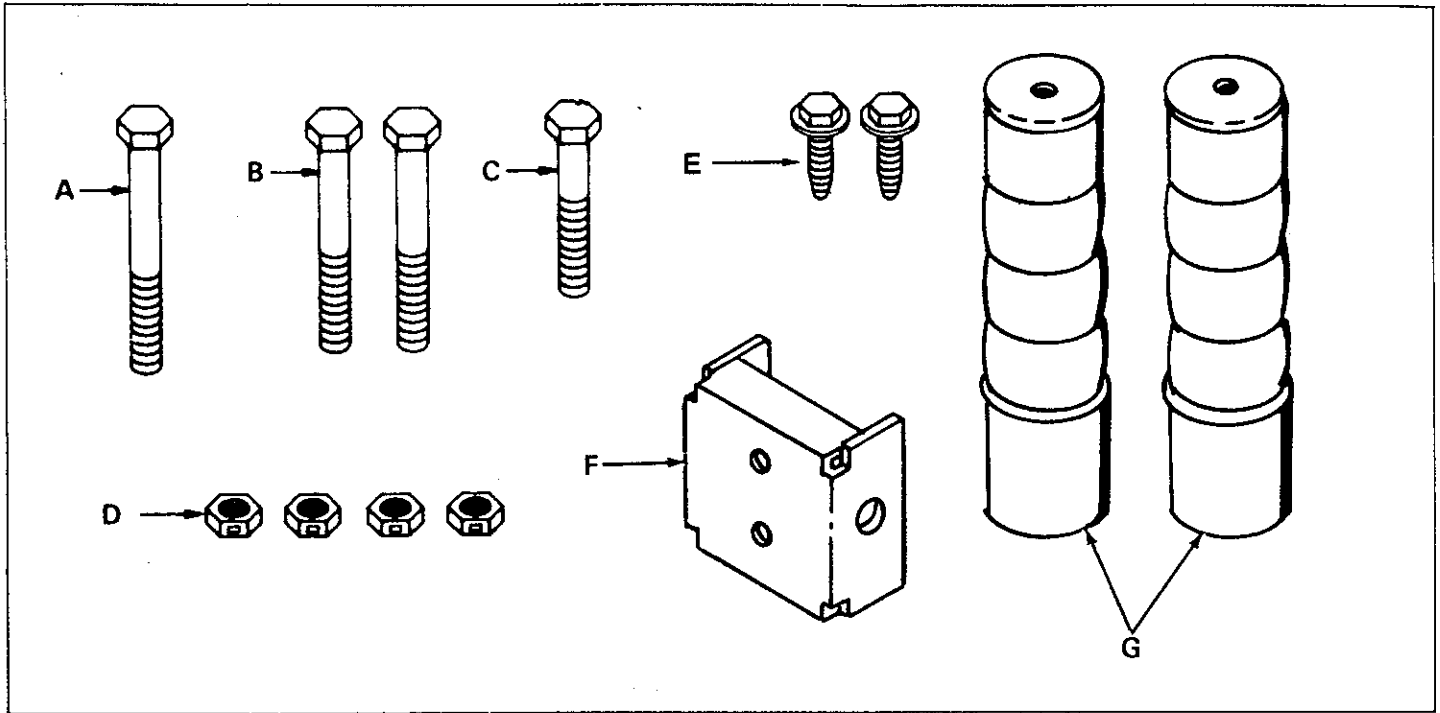
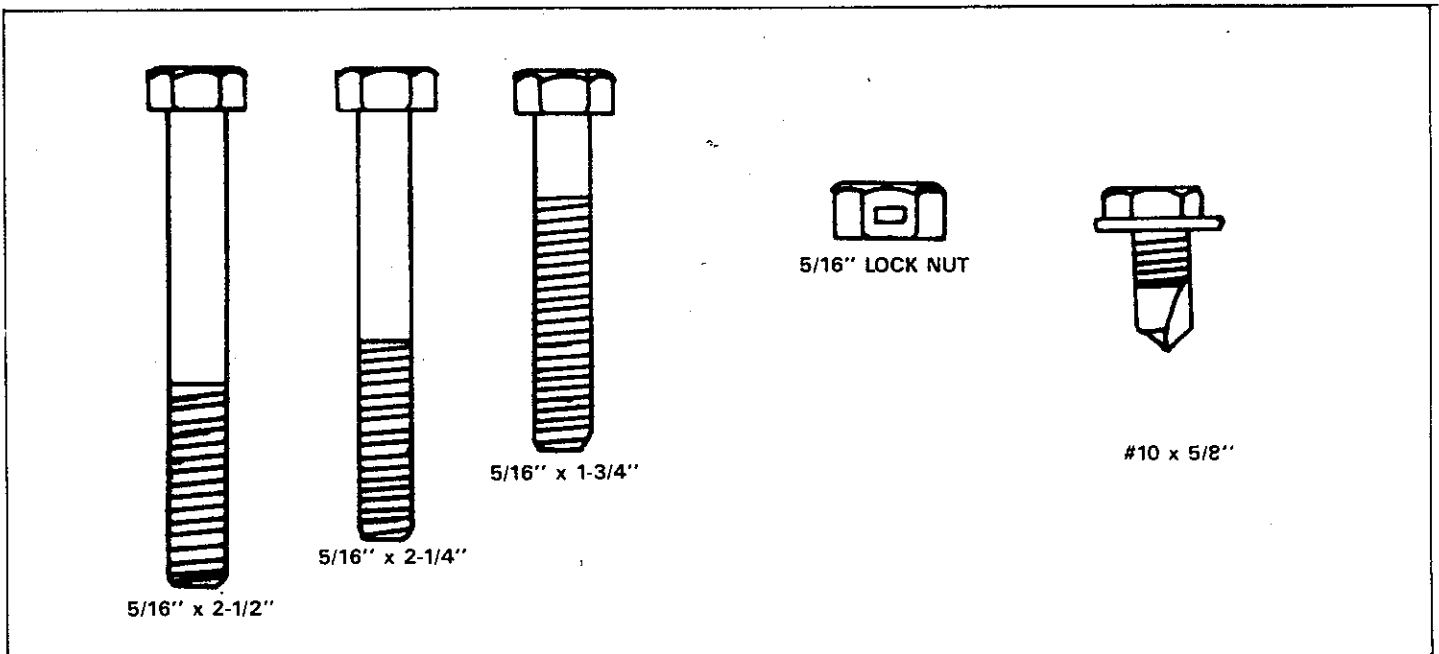


FIGURE 1 — HARDWARE PACKAGE

Key	Qty	Description	Key	Qty	Description
A	1	Hex Bolt 5/16''-18 x 2-1/2'' Lg.	F	2	Hex Washer Hd. Screw #10 x 5/8'' Lg.
B	2	Hex Bolt 5/16''-18 x 2-1/4'' Lg.	F	1	Handle Brace Spacer
C	1	Hex Bolt 5/16''-18 x 1-3/4'' Lg.	G	2	Handle Grip
D	4	Hex Lock Nut 5/16''-18 Thd.			



FULL SIZE HARDWARE REFERENCE CHART

ASSEMBLY INSTRUCTIONS

TOOLS REQUIRED FOR ASSEMBLY

- (1) 1/2" Open or Boxed End Wrench
- (1) Adjustable wrench
- (1) 5/16" Open or Boxed End Wrench

1. Arrange carton contents as shown in figure on page 2, and hardware as shown in figure 1 on page 3.
2. Insert the short end of the two handle braces through the slots and over the two pins in the end plates. See figure 2.

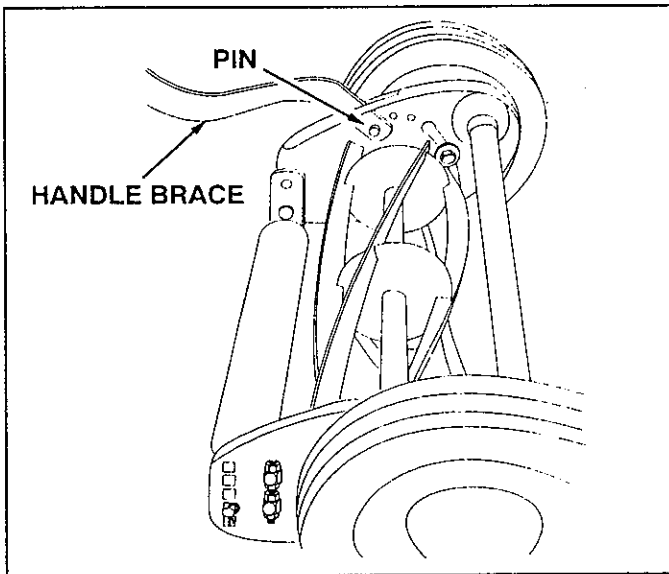


FIGURE 2

3. Place the spacer between the two braces. Place the bolt 5/16-18 x 2-1/2" long through both braces and the spacer. Hand tighten the nut. See figure 3.

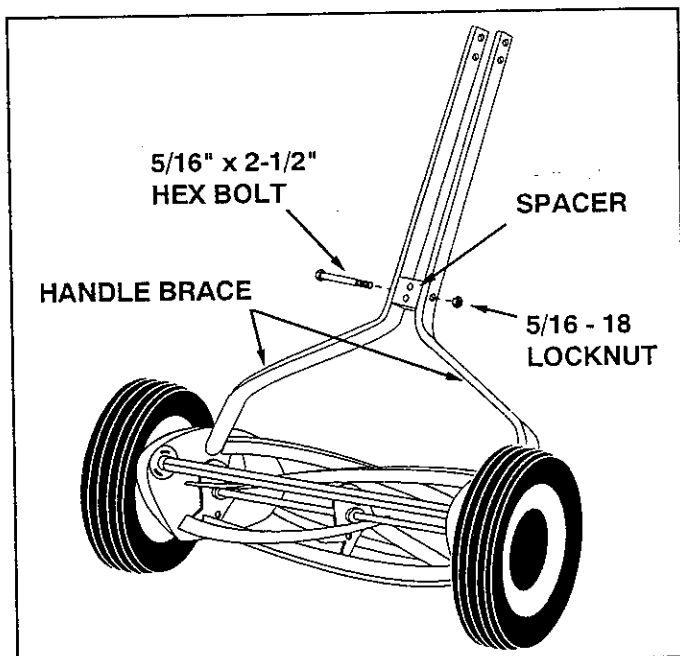


FIGURE 3

4. Attach the two upper handles to the handle braces with two bolts 5/16-18 x 2-1/4" long. Hand tighten the nut. See figure 4.
5. Assemble the upper handles at the top with a bolt 5/16-18 x 1-3/4" long and nut.
6. Tighten all four bolts and nuts. See figure 3 and 4.

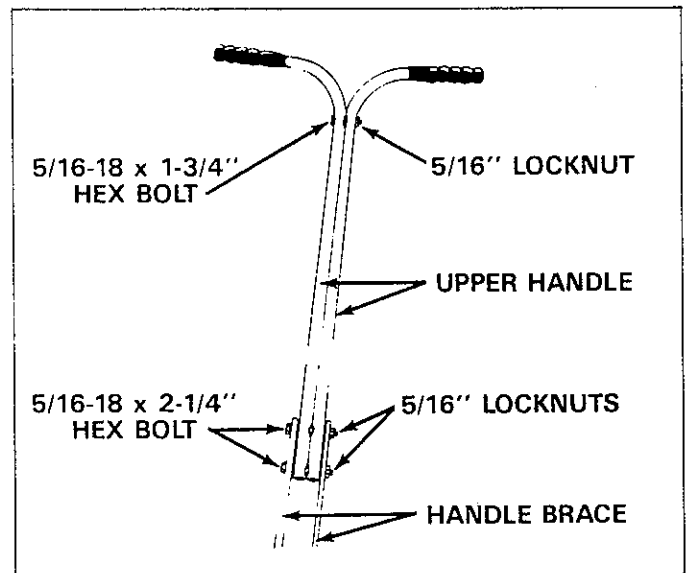


FIGURE 4

7. Place the handle panel in position over the handle. Secure the bottom with #10 x 5/8" hex washer head screw that goes through the handle panel and into the spacer. Do not tighten. See figure 5.
8. Assemble the #10 x 5/8" hex washer head screw through the handle panel into the notch between the two upper handles. Tighten both hex washer head screws.

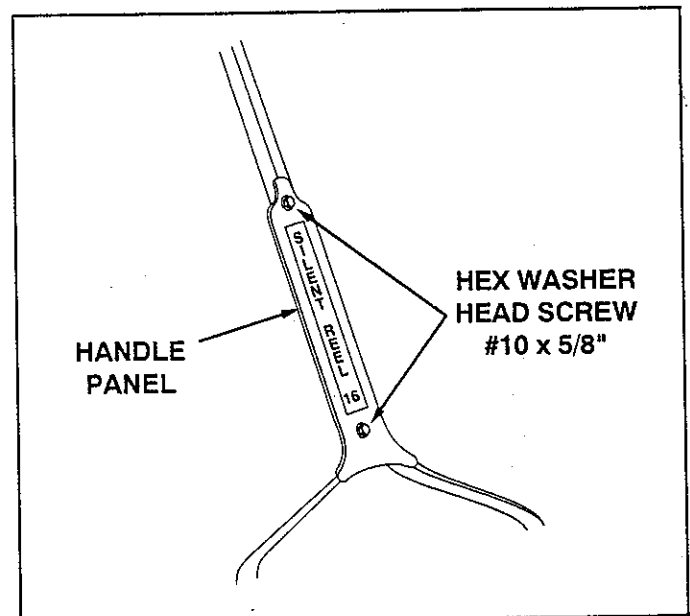


FIGURE 5

ADJUSTMENTS

CUTTING HEIGHT ADJUSTMENT

Each wheel has three positions for height adjustment (the top fourth position is not used.) To adjust the wheel to a different height, loosen the lock nut fastening the wheel axle to the mower and pull the wheel adjust bushing out of the adjustment slot. Move the wheel to the new position, insert the bushing back into the slot and retighten the lock nut. Both wheels must be set equally. See figure 6.

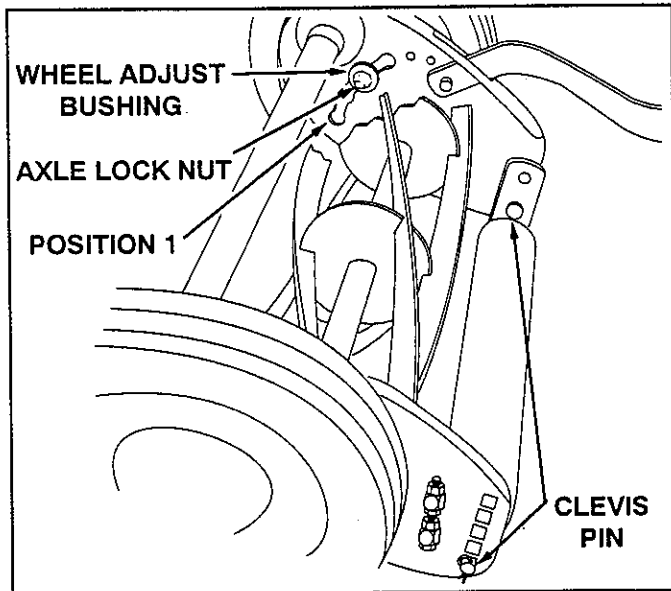


FIGURE 6

To adjust the roller, tilt the mower forward. Remove the clevis pins holding the roller brackets and move the brackets and roller to the desired setting. (Only the bottom two positions are used.) Re-attach the clevis pins and secure with the hairpin crotters. Both sides must be at the same height setting.

Use the chart in figure 7 to set the height of cut desired.

CUTTER BAR ADJUSTMENT

When the cutter bar is properly adjusted, there should be .003" clearance between the cutter bar and the blades. The reel blades **must not** contact the cutter bar.

Cutter bar clearance may be checked in the following manner.

Paper Test #1

1. Insert a strip of quality .003" thick paper (writing paper or a magazine page), approximately 2" wide and 6" long, between the cutter bar and the blades as shown in figure 8. This paper is used as a gauge.

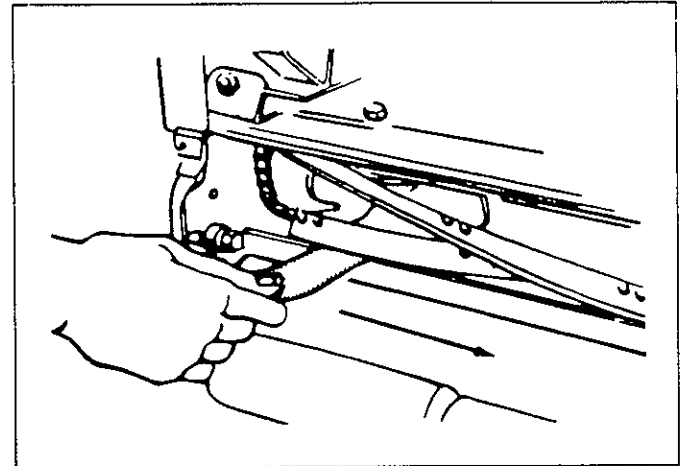


FIGURE 8

2. Turn reel slowly backwards. Correct cutter bar clearance should pinch, but not cut, the paper. Be certain to check the clearance at each end and in the middle of the cutter bar. The paper should be held snugly by each blade.
3. Determine whether the space between the cutter bar and the blades needs to be increased or decreased to obtain the recommended .003" clearance.

NOTES

Make certain that the bolt and the trunnion which are threaded into the cutter bar are tight, to eliminate any play or looseness, before beginning adjustment of cutter bar.

To Adjust Cutter Bar: Adjust the nuts on the upper trunnion only; do not adjust the lower trunnion.

To increase the clearance between the cutter bar and the blades, loosen the lower nut 1/4 turn and then tighten the upper nut 1/4 turn. Adjust each side of the mower equally until a .003" clearance is obtained. See figure 9.

Cutting Height in Inches	(Bottom position = 1)		Cutting Height in Inches	(Bottom position = 1)	
	Roller	Wheel		Roller	Wheel
2-1/8"	1	1	1"	1	3
2"	2	1	3/4"	2	3
1-3/4"	1	2			
1-1/2"	2	2			

FIGURE 7

To decrease the clearance between the cutter bar and the blades, loosen the upper nut 1/4 turn and then tighten the lower nut 1/4 turn. Adjust each side of the mower equally until a .003" clearance is obtained. See figure 9.

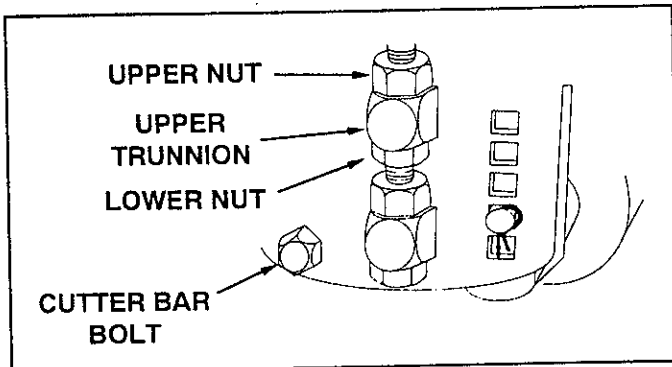


FIGURE 9

Paper Test #2

1. Push the handle of the mower forward and let it rest on the ground. The roller will be off the ground.
2. Insert a piece of quality .003" paper (writing paper or magazine page) between the cutter bar and blades.
3. Turn the reel slowly as shown in figure 10. The paper should be cut cleanly, without the blades contacting the cutter bar.
4. Perform this test in at least three points along the cutter bar.

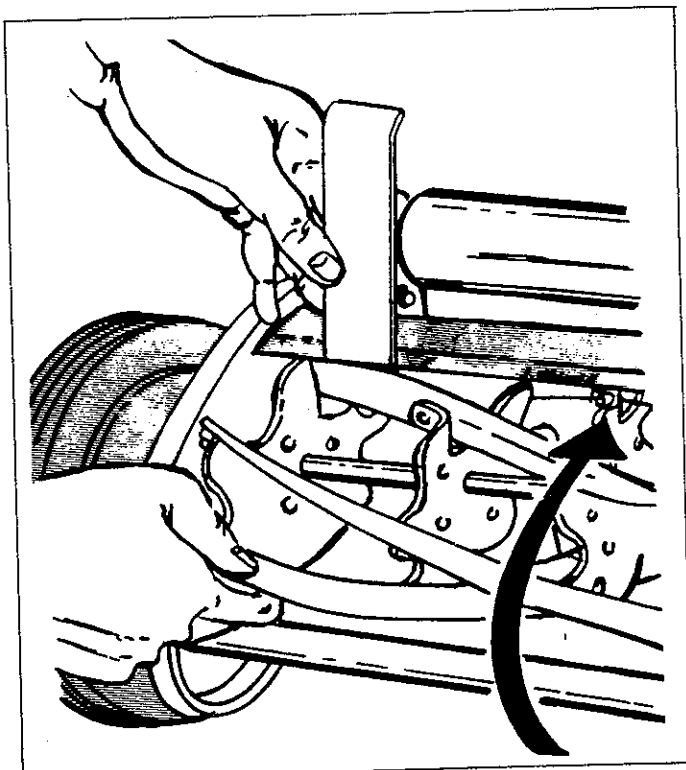


FIGURE 10

LUBRICATION

1. Once a season or whenever the reel is sharpened, the wheels and bearings should be lubricated.
 - A. Remove the hub cap.
 - B. Remove the E-ring with a screwdriver.
 - C. Lift off the wheel.
 - D. If rust is on the axle, clean with solvent and crocus cloth.
 - E. Coat the axle with light grease.
 - F. Take off the snap ring with a pair of snap ring pliers and remove the pinion gear. See figure 11.

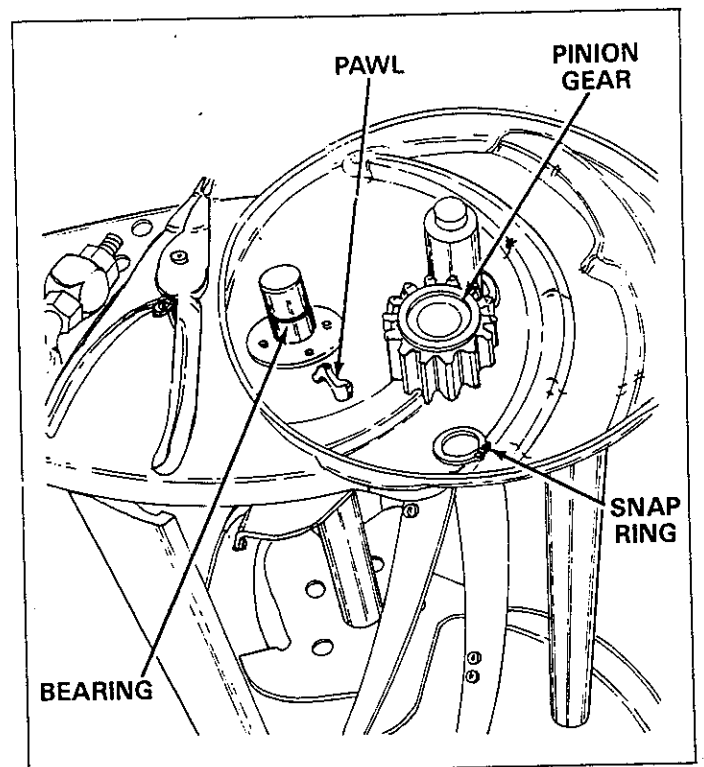


FIGURE 11

➡ NOTE

Use the proper tool to remove the snap ring. Over-stretching the snap ring will result in a loss of holding power and the pinion gear will come off.

- G. Pull the pawl from the reel shaft.

➡ NOTE

Be sure the pawl is installed the same way it was removed or the wheel will not drive.

H. Apply light grease to the gear teeth on the inside of the wheel.

- Using engine oil, lightly lubricate the points on the roller and the points between end plates and wheel dust covers as indicated in figure 12. Periodic lubrication of these points will ensure smooth mechanical operation

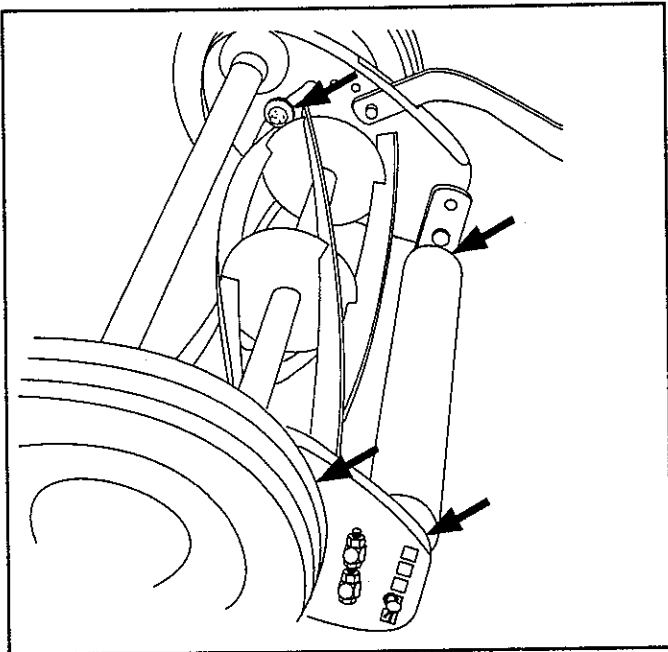


FIGURE 12

MAINTENANCE

SHARPEN BLADES

Sharpen blades when the mower will not cut satisfactorily without the reel blades wiping on the cutter bar.

GEAR HOUSING ASSEMBLY

If the gear housing assembly is removed for service, it is very important for the gear housing assembly to fit UNDER the lip of the retainer. The shoulder on the shoulder washer must fit into the slot on the end plate.



CAUTION

If the gear housing is not assembled properly, it will result in loose wheels and an early failure of the pinion and wheel. See figure 13.

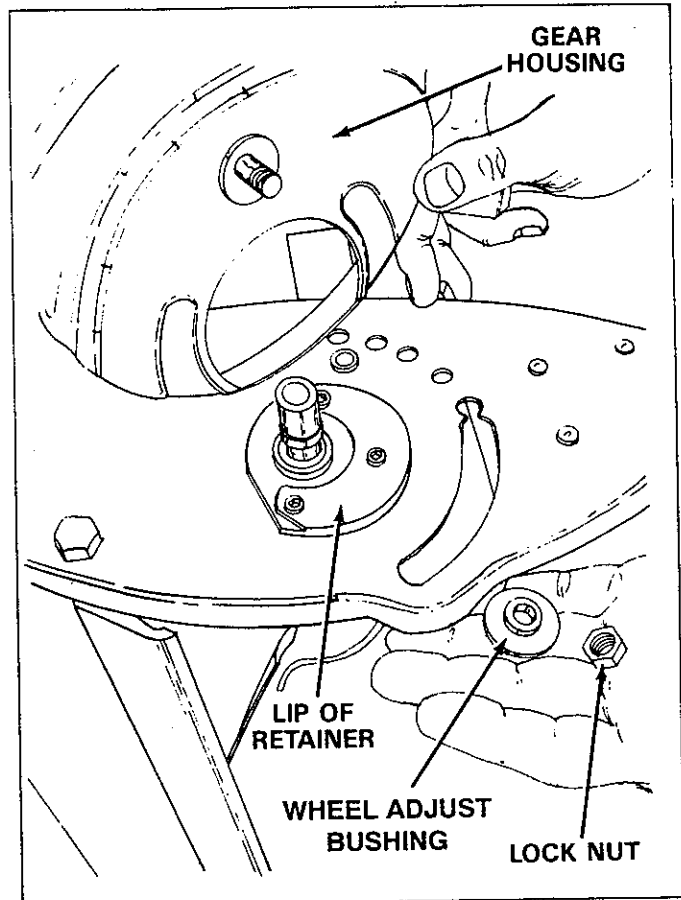


FIGURE 13

STORAGE

The following steps should be taken to prepare reel mower for storage.

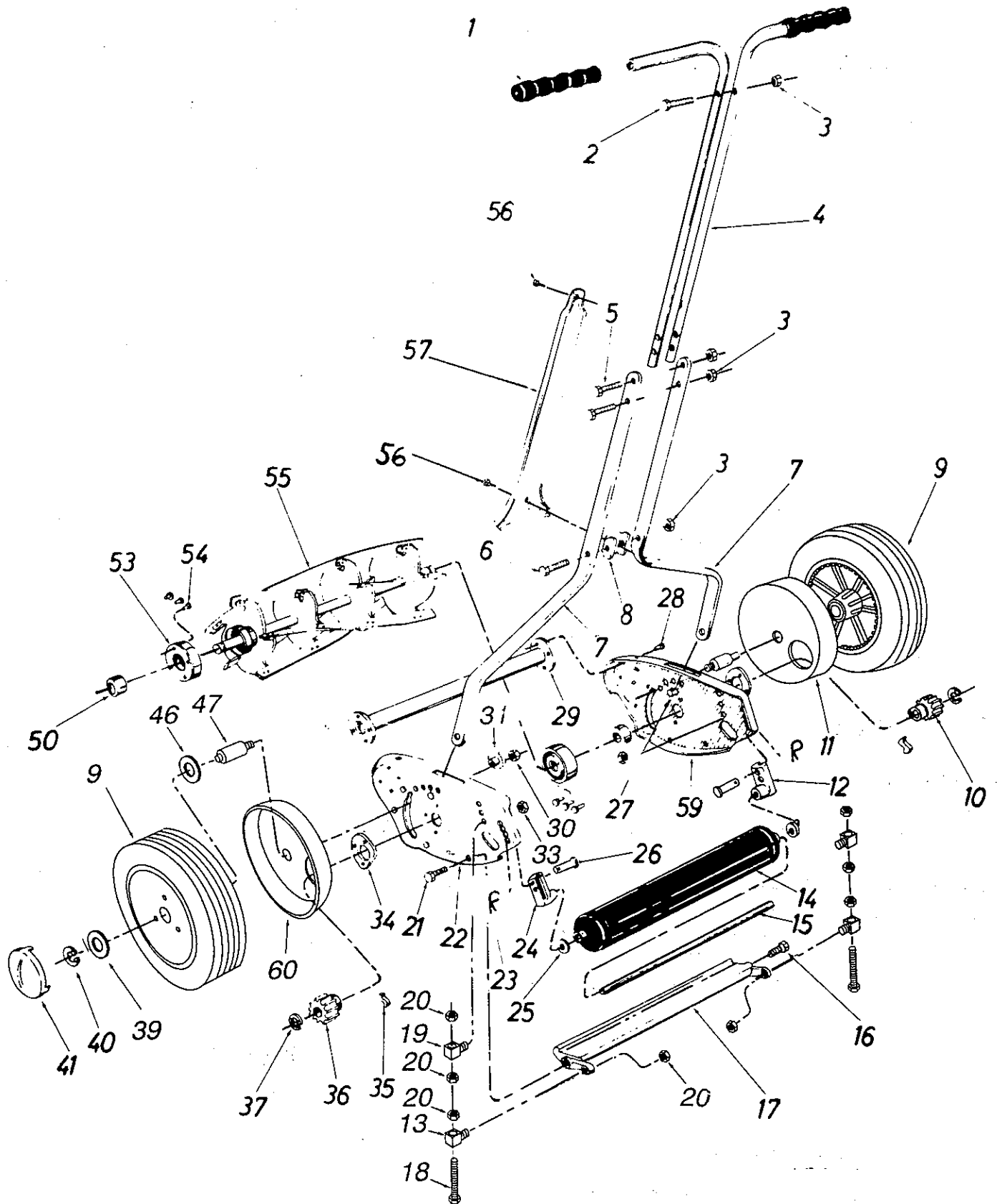
- Clean and lubricate mower thoroughly as described in the preceding instructions.

NOTE

DO NOT use water to clean the mower—use a broom or brush to remove grass and dirt.

- Coat mower's cutting blades with chassis grease to prevent rusting.
- Store mower in a dry, clean area.

REPAIR PARTS FOR MODEL NO. 45-0251 16" PUSH REEL MOWER



REPAIR PARTS FOR MODEL NO. 45-0251 16" PUSH REEL MOWER

REF. NO.	PART NO.	QTY.	DESCRIPTION	REF. NO.	PART NO.	QTY.	DESCRIPTION
1	07071	2	Grip	27	0010-000	2	Trunnion
2	43084	1	Bolt, Hex 5/16-18 x 1-3/4" Lg. *	28	44060	8	Pop Rivet
3	43064	4	Nut, Hex Lock 5/16-18 Thd. *	29	63190	1	Spacer Tube Ass'y.
4	749-0301	2	Upper Handle	30	44738	2	Nut, Hex Lock 5/16-24 Thd.
5	43224	2	Bolt, Hex 5/16-18 x 2-1/4" Lg. *	31	1657-019	2	Bushing, Wheel Adjust
6	44292	1	Bolt, Hex 5/16-18 x 2-1/2" Lg. *	33	1038	2	Nut, Hex Lock 3/8-24 Thd.
7	24095	2	Handle Brace	34	1629-9	2	Retainer
8	2624-018	1	Spacer	35	0323-000	2	Pawl
9	1108-080	2	Wheel Assembly	36	0428-000	1	Pinion Gear, L.H.
10	0425-000	1	Pinion Gear, R.H.	37	1650-21	2	Retaining Ring
11	1118-13	1	Gear Housing Ass'y. - R.H.	39	1540-118	2	Flat Washer, 3/8" I.D. x 1-1/4" O.D.
12	1609-708	1	Roller Bracket, R.H.	40	1650-001	2	Retaining Ring
13	46330	2	Trunnion, Adj. Screw	41	2674-032	2	Hub Cap
14	46472	1	16" Roller	46	44008	2	Flat Washer, 1-1/8" O.D. x .78" I.D. x .025"
15	24091	1	Roller Shaft	47	1631-51	2	Axle
16	1509-086	1	Screw, Cutter Bar (L.H. Thd.)	50	44232	2	Bearing
17	63191	1	Cutter Bar Assembly	53	24093	2	Dust Cover
18	46331	2	Screw, Adjustment	54	9-0	6	Rivet, 3/16" Dia. x 3/8" Lg.
19	46329	2	Trunnion, Adjustment Screw	55	63189	1	16" Reel Ass'y.
20	0052-000	8	Nut, Hex 3/8-24 Thd.	56	44818	2	Screw, Hex Hd. #10 x 5/8" Lg.
21	0455-000	1	Screw, Cutter Bar (R.H. Thd.)	57	3622-54	1	Handle Panel
22	63205	1	End Plate Ass'y. - L.H.	59	63204	1	End Plate Ass'y. - R.H.
23	43055	2	Hairpin Cotter 3/32" - #3	60	1118-14	1	Gear Housing Ass'y. - L.H.
24	1609-707	1	Roller Bracket, L.H.		46441	1	Owners Manual
25	43081	2	Flat Washer, 5/16" Std. *				
26	46462	2	Clevis Pin, 5/16" x 1" Lg.				

* Common hardware may be purchased locally.