



OWNERS MANUAL

Model No.
45-02153



100 LB. TOW BROADCAST SPREADER

CAUTION:
Read Rules for
Safe Operation
and Instructions
Carefully

- Assembly
- Operation
- Maintenance
- Repair Parts

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RULES FOR SAFE OPERATION

Any power equipment can cause injury if operated improperly or if the user does not understand how to operate the equipment. Exercise caution at all times when operating equipment.

- Read the towing vehicle owners manual and towing vehicle safety rules. Know how to operate your tractor before using the broadcast spreader attachment.
- Read the chemical label instructions and cautions for handling and applying the chemicals purchased for spreading.
- Wear eye and hand protection when handling and when applying lawn or garden chemicals.
- Never operate tractor and spreader attachment without wearing substantial footwear, and do not allow anyone to ride or sit on spreader attachment frame.
- Never allow children to operate the tractor or spreader attachment, and do not allow adults to operate without proper instructions.
- Always begin with the transmission in first (low) gear and with the engine at low speed, and gradually increase speed as conditions permit. Maximum towing speed - 10 M.P.H.
- When towing broadcast spreader do not drive too close to a creek or ditch and be alert for holes and other hazards which could cause you to loose control of the broadcast spreader and tractor.
- Before operating vehicle on any grade (hill) refer to the safety rules in the vehicle owner's manual concerning safe operation on slopes. Stay off steep slopes!
- Follow maintenance and lubrication instructions as outlined in this manual.

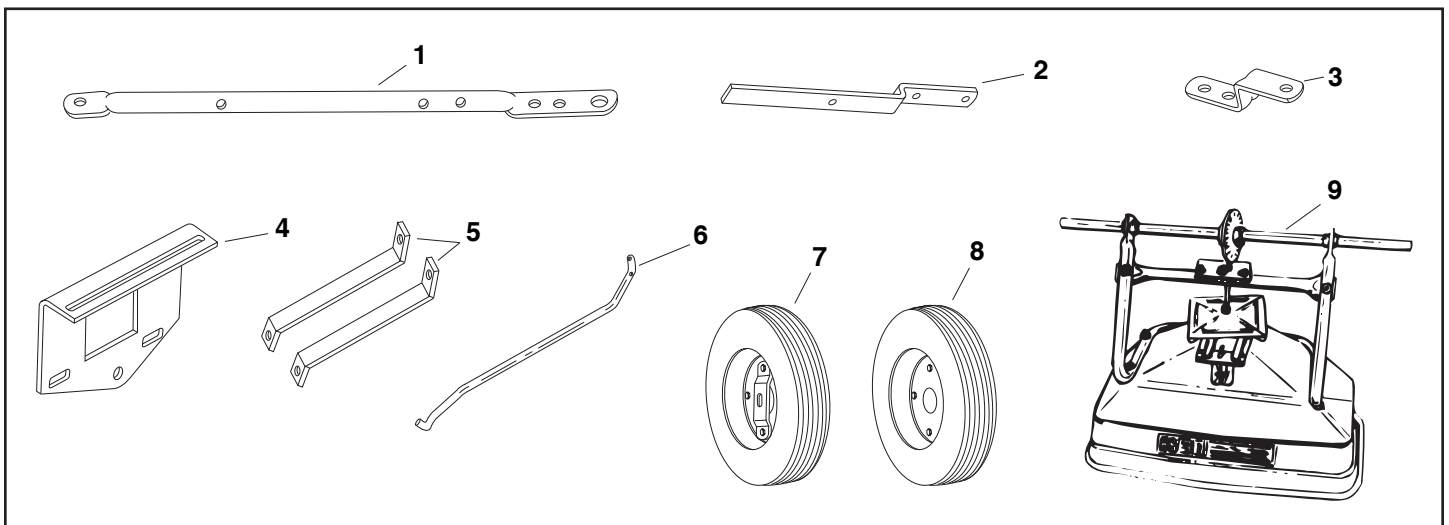


LOOK FOR THIS SYMBOL TO POINT OUT IMPORTANT SAFETY PRECAUTIONS. IT MEANS — ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED.

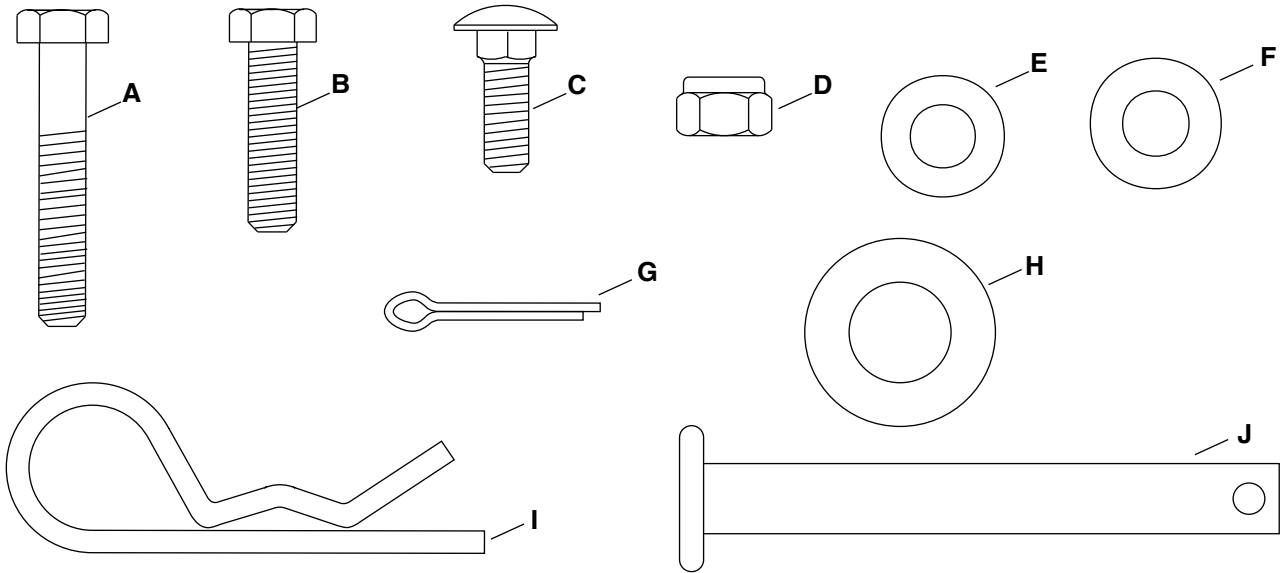
CARTON CONTENTS

LOOSE PARTS IN CARTON

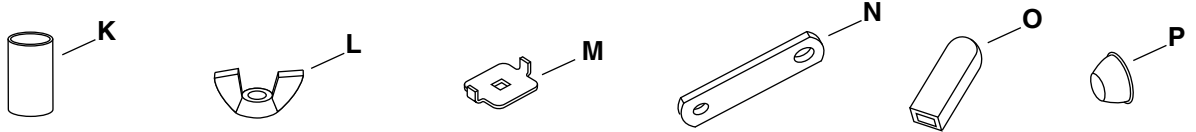
1. Hitch Tube
 2. Flow Control Arm
 3. Hitch Bracket
 4. Flow Control Mount Bracket
 5. Braces (2)
 6. Flow Control Rod
 7. Drive Wheel
 8. Wheel
 9. Hopper Assembly
- Hardware Package (see page 3)



SHOWN FULL SIZE



NOT SHOWN FULL SIZE



REF	QTY	DESCRIPTION	REF	QTY	DESCRIPTION
A	5	Hex Bolt, 1/4-20 x 1- 1/2"	I	1	Hair Cotter Pin
B	4	Hex Bolt, 1/4-20 x 1"	J	1	Hitch Pin
C	1	Carriage Bolt, 1/4-20 x 3/4"	K	2	Spacers
D	9	Nylock Nuts, 1/4-20	L	1	Nylon Wing Nut
E	4	Nylon Washer	M	1	Adjustable Stop
F	8	Flat Washer, 5/16"	N	1	Flow Control Link
G	1	Cotter Pin, 3/32" x 3/4"	O	1	Grip
H	3	Flat Washers 1/2"	P	2	Hub Cap

ASSEMBLY INSTRUCTIONS

TOOLS REQUIRED FOR ASSEMBLY

- (1) Pliers
 - (2) 7/16" Open or Box End Wrenches
 - (2) 1/2" Open or Box End Wrenches
 - (1) Small Hammer
1. Remove the spreader, loose parts and hardware package from the carton. Lay out all parts and hardware and identify using the illustrations on pages 2 and 3.
 2. Turn the spreader upside down as shown in figure 1, so that it rests on the hopper.

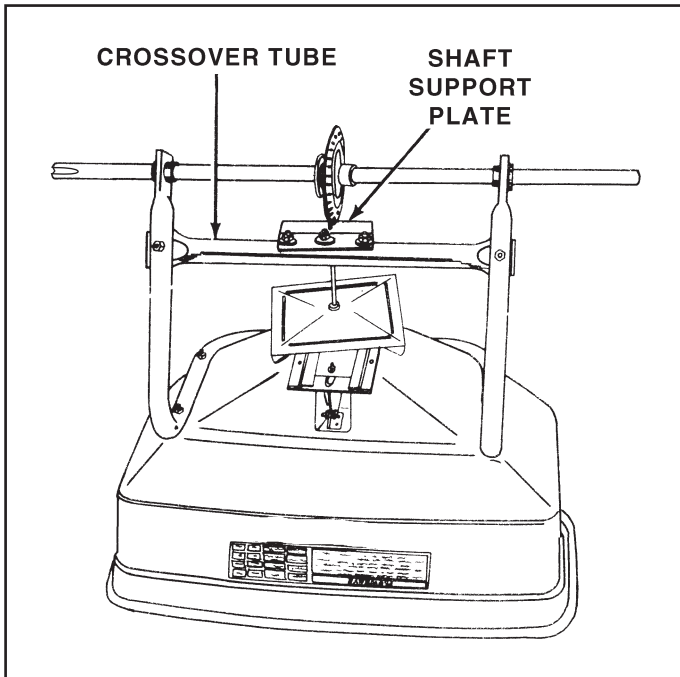


FIGURE 1

3. Remove the lock nut from the middle bolt in the crossover tube and shaft support plate. Leave the bolt in place. See figure 2.
4. Assemble the short end of the hitch tube onto the middle bolt and secure it with the same lock nut you removed. **Do not tighten at this time.** See figure 2.

IMPORTANT: The hitch tube must attach to the side of the crossover tube opposite the shaft support plate.

5. Assemble the two hitch braces to the inside of the hopper frame, one on each side, using two 1/4" x 1-3/4" hex bolts and two 1/4" nylock nuts. See figure 2. **Do not tighten at this time.**

6. Assemble the two hitch braces to the hitch tube using a 1/4" x 1-1/2" hex bolt and a 1/4" nylock nut. See figure 2. **Do not tighten at this time.**

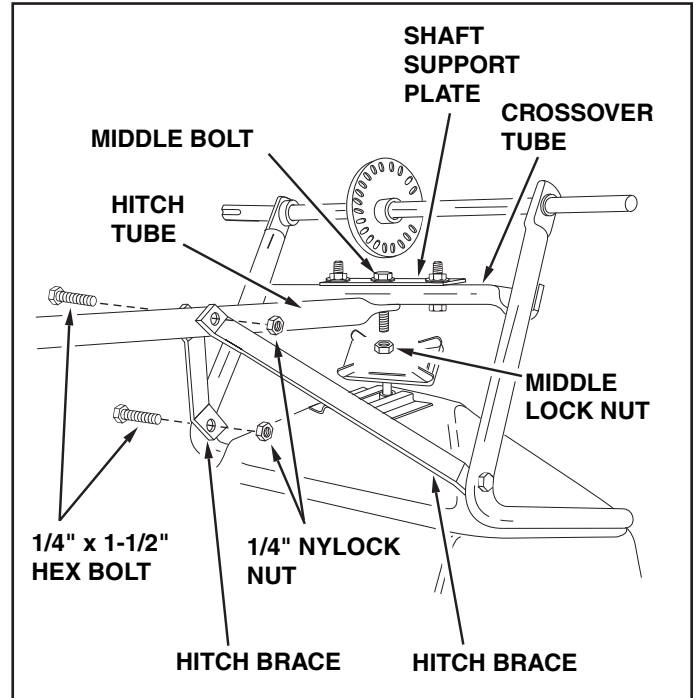


FIGURE 2

7. Tighten all hex nuts and bolts, following the same sequence as assembled in steps 4, 5 and 6. **Do not collapse tube when tightening.**
8. Assemble a spacer and then a 1/2" flat washer onto each end of the axle. See figure 3.

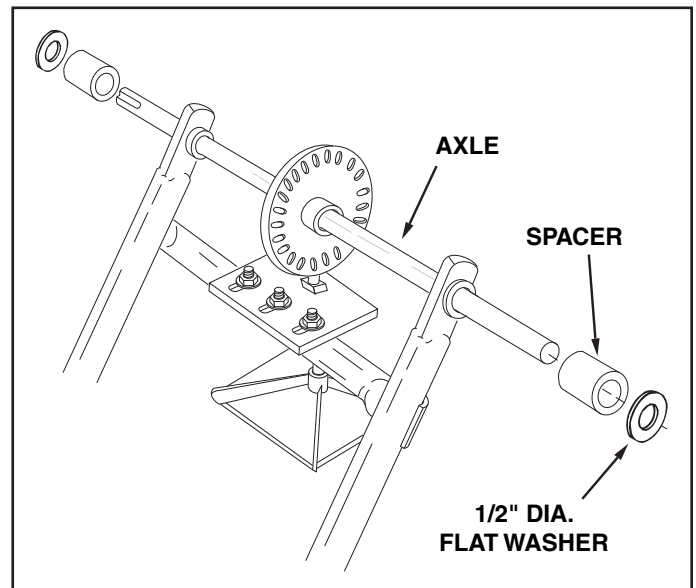


FIGURE 3

9. Place the wheel (long end of hub first) onto the end of the axle that has no indents. See figure 4.
10. Place a 1/2" flat washer onto the axle and then lightly tap a hub cap onto the axle until it is snug against the washer and wheel hub. See figure 4.

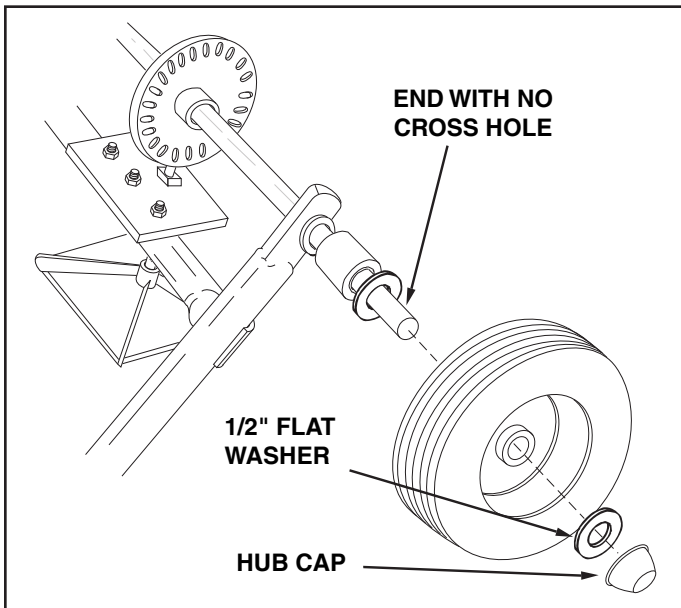


FIGURE 4

11. Place the drive wheel onto the end of the axle that has an indent. The long end of the hub goes to the inside. See figure 5.
12. Place a hub cap onto the end of the axle. Using a small hammer, lightly tap the hub cap until it is snug against the wheel. See figure 5.

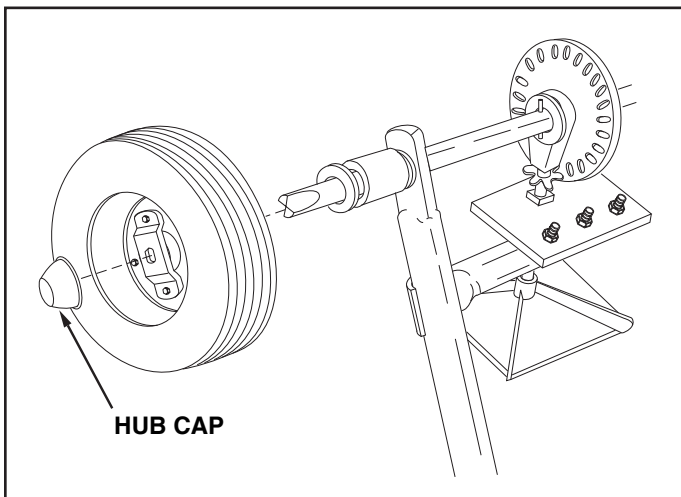


FIGURE 5

13. In order to assemble the hitch bracket to the hitch tube, turn the spreader upright on its wheels. Assemble the bracket to the top of the hitch using two 1/4" x 1" hex bolts and 1/4" nylock nuts. See figure 6.

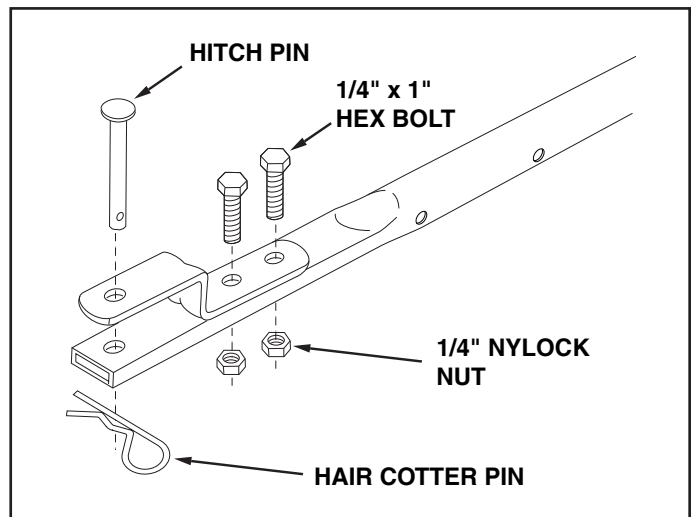


FIGURE 6

14. Assemble the flow control link (end with small hole) to the flow control arm using a 1/4" x 1" hex bolt, a nylon washer and a 1/4" nylock nut as shown in figure 7. **Tighten carefully.** The flow control link should not be loose but should pivot with no more than slight resistance.

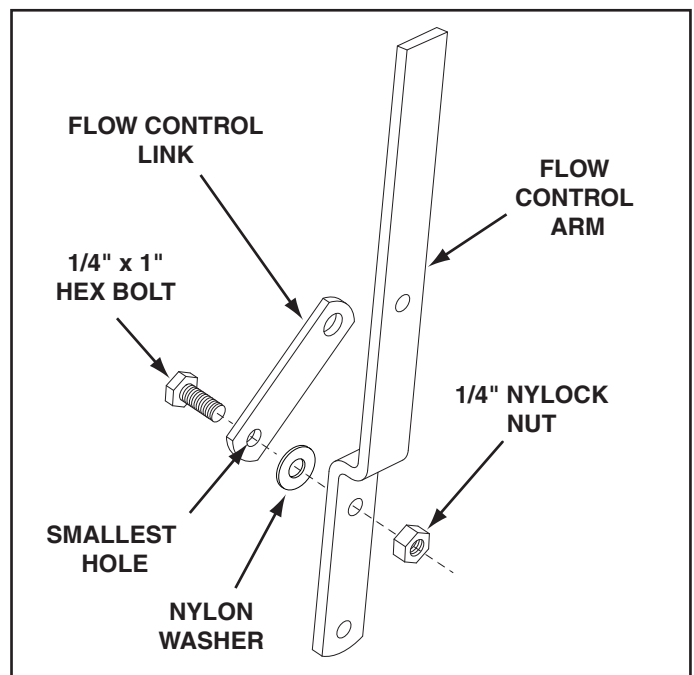


FIGURE 7

15. Assemble the flow control arm to the flow control mounting bracket using a 1/4" x 1" hex bolt, two nylon washers and a 1/4" nylock nut as shown in figure 8. **Tighten carefully.** The flow control arm should be snug, but should pivot with no more than a slight resistance.
16. Assemble the vinyl grip. See figure 8.

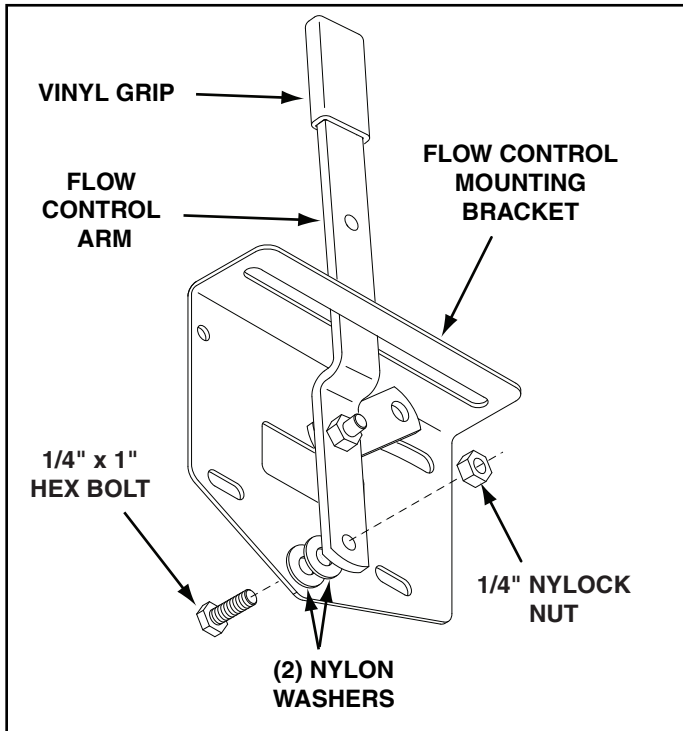


FIGURE 8

17. Place a 5/16" flat washer onto the end of the flow control rod. Insert the end of the rod through the slot in the flow control mounting bracket and through the hole in the flow control link. Secure with a 3/32" x 3/4" cotter pin. See figure 9.

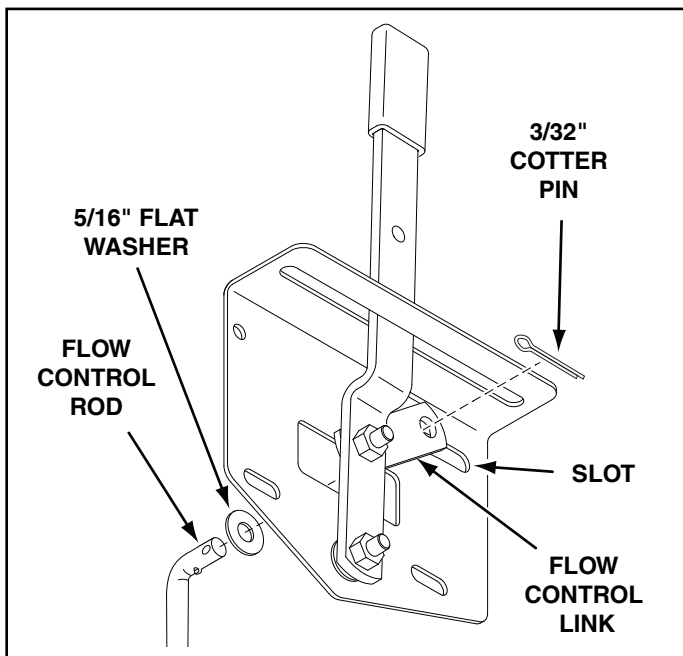


FIGURE 9

18. Hook the free end of the flow control rod through the hole in the slide gate bracket located near the bottom of the hopper. See figure 10.

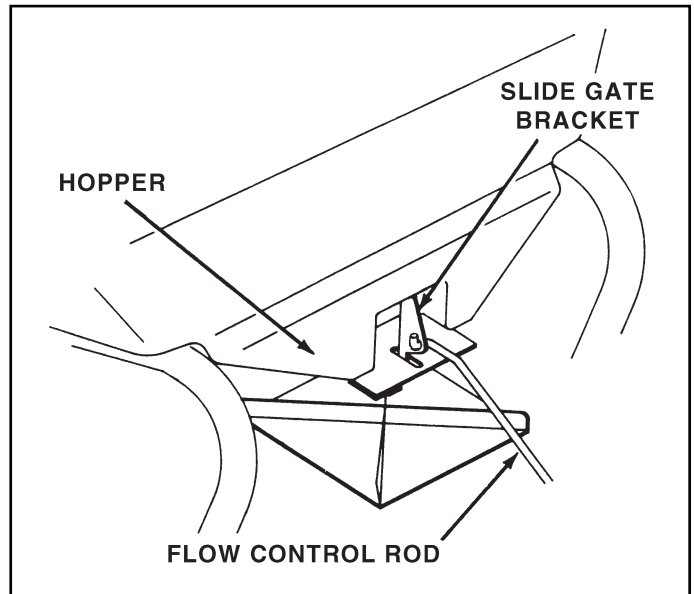


FIGURE 10

19. Assemble the flow control mounting bracket to the hitch tube using two 1/4" x 1-1/2" hex bolts, six 5/16" flat washers and two 1/4" nylock nuts as shown in figure 11. Do not tighten at this time.

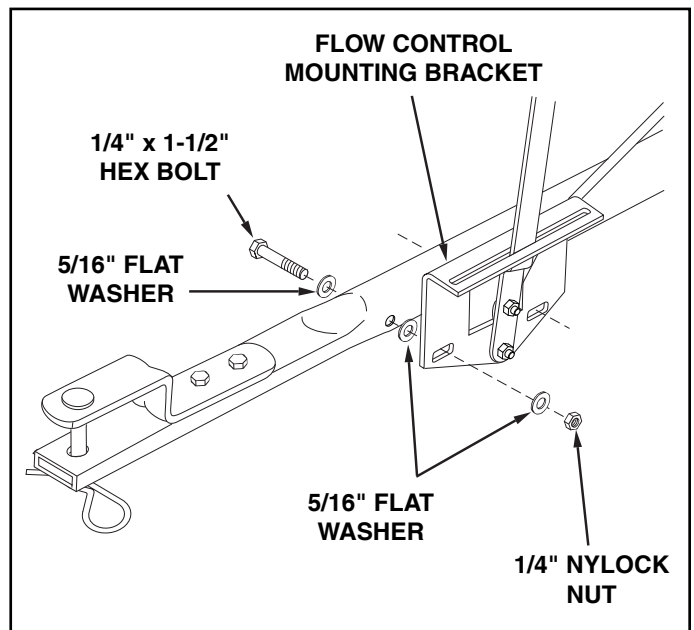


FIGURE 11

20. Place the adjustable stop into the "ON" end of the slot in the top of the flow control mounting bracket. Secure with the 1/4" x 3/4" carriage bolt, a nylon washer, a 5/16" flat washer and the nylon wing nut. See figure 12.

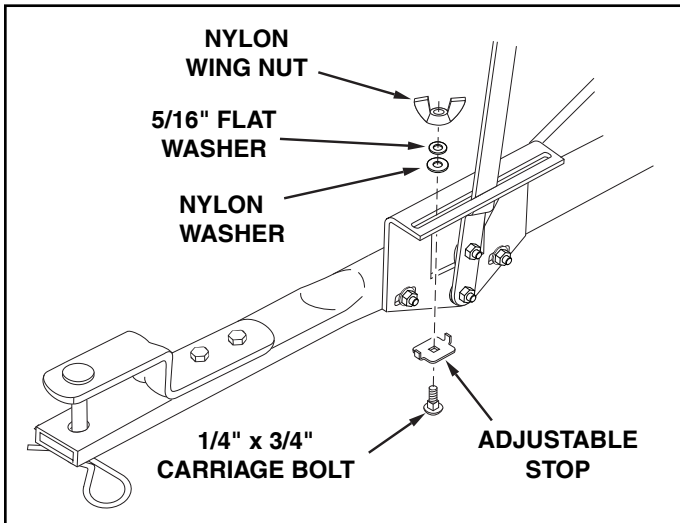


FIGURE 12

21. Position the flow control mounting bracket (figure 13).
- Push on flow control arm until it locks in "OFF" position.
 - Slide flow control mounting bracket along tube until closure plate in bottom of hopper just closes.
 - Snug the 1/4" lock nuts just enough to hold flow control mounting bracket in place.
 - Set adjustable stop at "5". Pull flow control arm against stop. Verify that closure plate has opened about half way.
 - If closure plate does not open half way, it may be closed too far at "OFF". Adjust position of flow control mounting bracket until closure plate will open about half way at "5" and still close when arm is locked in "OFF". Tighten 1/4" lock nuts.

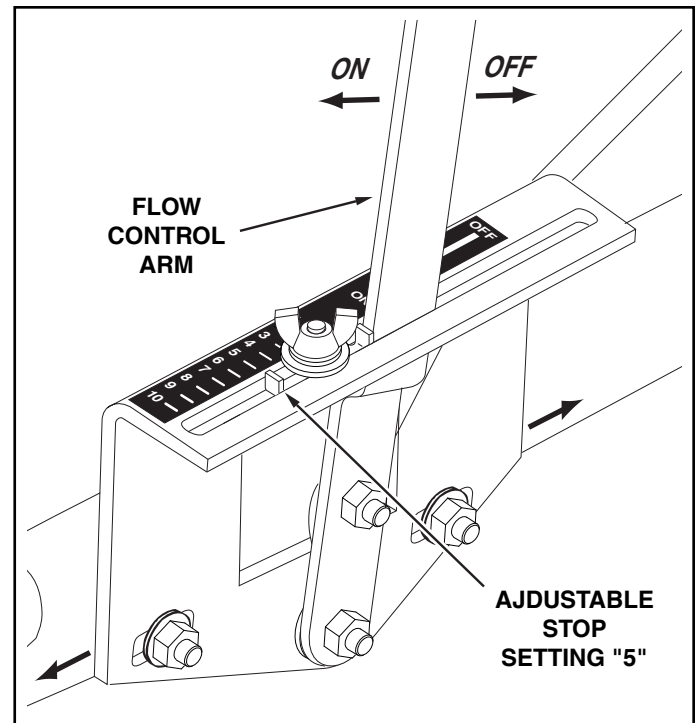


FIGURE 13

OPERATION

HOW TO USE YOUR SPREADER

SETTING THE FLOW CONTROL

(Refer to figure 13 on page 7.)

1. Loosen the nylon wing nut, set the adjustable stop to the desired flow rate setting and retighten the wing nut. The higher the setting number, the wider the opening in the bottom of the hopper.
2. Refer to the application chart on page 8 and to the instructions on the fertilizer bag to select the proper flow rate setting.
3. Pull the flow control arm against the adjustable stop for the on position and toward the hopper for the off position.

USING YOUR SPREADER

We do not recommend the use of any powdered lawn chemicals, due to difficulty in obtaining a satisfactory or consistent broadcast pattern.

1. Determine approximate square footage of area to be covered and estimate amount of material required.
2. Before filling the hopper make sure the flow control arm is in the off position and the closure plate is shut.
3. Break up any lumpy fertilizer as you fill the hopper.
4. Set the adjustable stop with the flow control arm still in the off position. Refer to the application chart on this page and to the instructions on the fertilizer bag to select the proper flow rate setting.
5. The application chart is calculated for light to heavy application at a vehicle speed of 3 mph, or 100 ft. in 23 seconds. A variation in speed will require an adjustment of the flow rate to maintain the same coverage. The faster you drive, the wider the broadcast width.
6. Always start the tractor in motion before opening closure plate.
7. Always shut the closure plate before turning or stopping the tractor.
8. If fertilizer is accidentally deposited too heavily in a small area, soak the area thoroughly with a garden hose or sprinkler to prevent burning of the lawn.
9. To insure uniform coverage, make each pass so that the broadcast pattern slightly overlaps the pattern from the previous pass as shown in figure 14. The approximate broadcast widths for different materials are shown in the application chart on this page.
10. When broadcasting weed control fertilizers, make sure the broadcast pattern does not hit evergreen trees, flowers or shrubs.
11. Heavy moisture conditions may require a cover over the hopper to keep contents dry. A vinyl cover listed on page 11 can be ordered as an option. The vinyl cover acts as a wind and moisture shield, but should not be used as a rain cover.

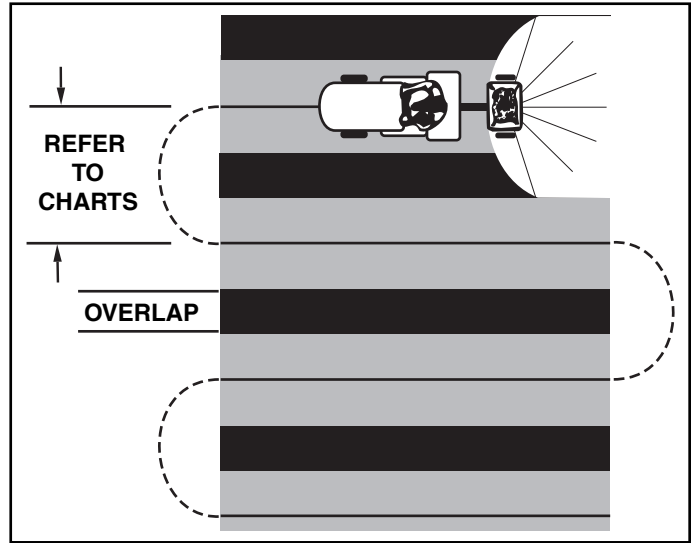


FIGURE 14

IMPORTANT: Application rates shown in the chart are affected by humidity and by the moisture content of the material (granular and pellet). Some minor setting adjustments may be necessary to compensate for this condition.

APPLICATION CHART (SHIELD UP)		
TYPE MATERIAL	FLOW SETTING	SPREAD WIDTH
FERTILIZER		
Powder	3 - 5	3' - 4'
Granular	3 - 5	8' - 10'
Pelleted	3 - 5	10' - 12'
Organic	6 - 8	6' - 8'
GRASS SEED		
Fine	3 - 4	6' - 7'
Coarse	4 - 5	8' - 9'
ICE MELTER	6 - 8	10' - 12'

OPERATING SPEED - 3 MPH. (100 ft. in 23 seconds)

MAINTENANCE

CHECK FOR LOOSE FASTENERS

1. Before each use make a thorough visual check of the spreader for any bolts and nuts which may have loosened. Retighten any loose bolts and nuts.

CHECK FOR WORN OR DAMAGED PARTS

2. Check for worn or damaged parts before each use. Repair or replace parts if necessary.

CHECK TIRE INFLATION

3. Check if tires are adequately inflated before each use. Do not inflate beyond maximum recommended pressure.

CLEANING



CAUTION: DO NOT inflate tires beyond the maximum recommended pressure printed on side of tire.

4. Rinse inside of hopper and exterior of spreader and dry off before storing.

LUBRICATE (See figure 15.)

5. Lightly apply automotive grease as needed to the sprocket and gear.
6. Oil the nylon bushings on the vertical sprocket shaft and on the axle at least once a year, or more often as needed.
7. Oil right hand (idler) wheel bearing at least once a year or more often as needed.

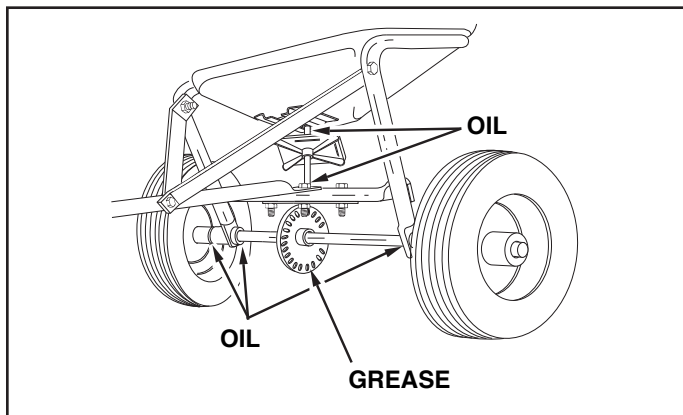


FIGURE 15

STORAGE

1. Rinse inside of hopper and exterior of spreader and dry off before storing.
2. Store in a clean, dry area.

SERVICE AND ADJUSTMENTS

REPLACING SLOTTED GEAR

1. If the axle, slotted gear and sprocket assembly is disassembled, mark down the positions of the parts as they are removed. The drive wheel and sprocket positions in relation to the slotted gear determine which direction the spreader plate will spin. Be sure to reassemble them in their original positions. (Refer to figure 5 on page 5.) Use shim washers (Ref. no. 21 on pages 10 and 11) as needed for minimum backlash. Add grease to gear and sprocket.

LOCKED UP SPREADER

1. Turn the spreader over so that the wheels are off the ground.
2. Loosen all three nuts on the shaft support plate just enough so that the bolts can be turned easily with a wrench but cannot be turned by hand.
3. Spin the drive wheel and note how freely it spins and how much noise the slotted gear makes.
4. To free up the wheel and gear, tap gently on the front or rear edge of the shaft support plate to move it slightly forward or backward. You can also tap at the corners of the plate to angle it slightly.
5. Spin the drive wheel after each adjustment to see if it spins more freely and if the gear noise is reduced.
6. Continue making slight adjustments until you find the position where the drive wheel spins most freely and the gear makes the least noise.
7. Secure the shaft support plate in this position by retightening all three nuts that you loosened.

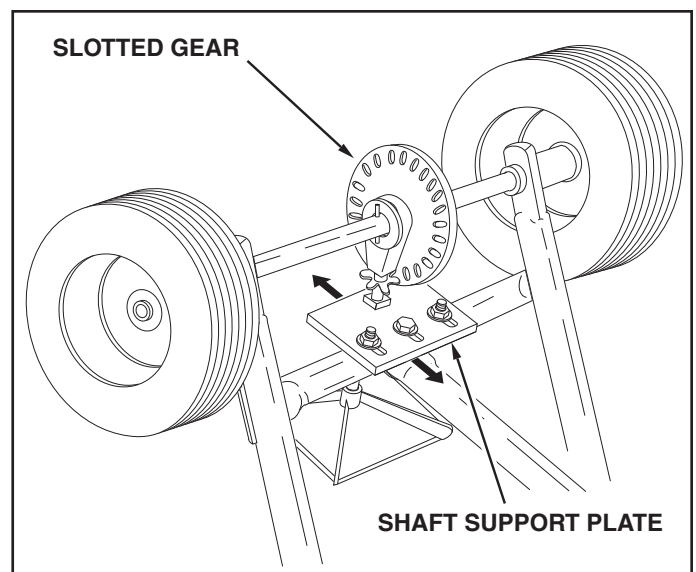
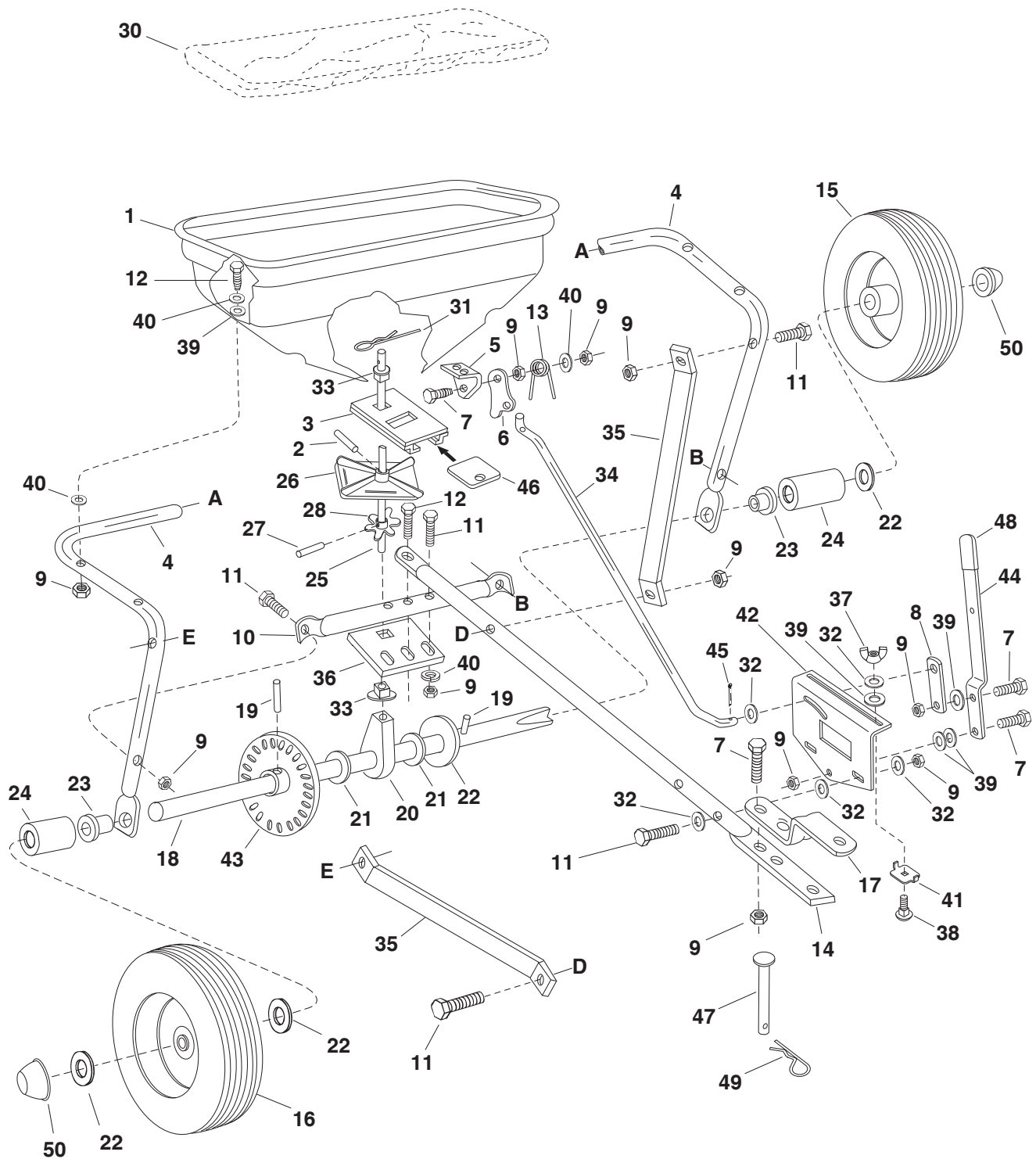


FIGURE 16

REPAIR PARTS FOR BROADCAST SPREADER MODEL 45-02153



REPAIR PARTS FOR BROADCAST SPREADER MODEL 45-02153

REF	PART NO.	QTY	DESCRIPTION	REF	PART NO.	QTY	DESCRIPTION
1	44624	1	Hopper	27	43850	1	Pin, Spring 1/8" Dia. x 5/8" Lg.
2	46055	1	Pin, Spring 1/8" Dia. x 1" Lg.	28	44468	1	Sprocket, 6 Tooth
3	62482	1	Ass'y, Guide Closure	29	C-9M5732	2	Pop Rivet (not shown)
4	40469	1	Tube, Frame	30	40883	1	Hopper Cover (Optional-not included)
5	23753	1	Slide Gate Angle Bracket	31	48934	1	Hairpin Agitator
6	23758	1	Slide Gate Bracket	32	R19111116	9	Washer, 5/16 SAE
7	43661	5	Bolt, Hex 1/4-20 x 1" Lg. *	33	44285	2	Bushing, Delrin
8	24857	1	Flow Control Link	34	44469	1	Rod, Flow Control
9	47189	22	Nylock Nut, 1/4-20	35	23525	2	Brace, Hitch
10	44591	1	Tube, Crossover	36	23780	1	Support, Shaft
11	43648	9	Bolt, Hex 1/4-20 x 1-1/2" Lg.	37	47141	1	Nylon Wing Nut, 1/4-20 Thd.
12	1509-69	7	Bolt, Hex 1/4-20 x 1-3/4"	38	44950	1	Bolt, Carriage 1/4-20 x 3/4" Lg.
13	44566	1	Spring, Torsion	39	1543-69	10	Washer, Nylon
14	44586	1	Tube, Hitch	40	43088	16	Washer, Flat 1/4" Std.
15	48865	1	Drive Wheel	41	24858	1	Adjustable Stop
16	46503	1	Wheel	42	24855	1	Bracket, Flow Control Mount
17	23687	1	Bracket, Hitch	43	46885	1	Gear, Plastic
18	23781	1	Shaft, Axle	44	24859	1	Flow Control Arm
19	44665	2	Pin, Spring 5/32" Dia. x 1-1/4" Lg.	45	44101	1	Cotter Pin 3/32" x 3/4" Lg.*
20	44672	1	Bushing, Axle Shaft	46	23533	1	Plate, Closure
21	44137	6	Washer, Shim 1/2"	47	47623	1	Hitch Pin
22	R19171616	4	Washer, Flat 1/2"	48	43848	1	Grip, Flow Control Arm
23	47963	2	Bearing, Flange	49	43343	1	Hair Cotter Pin, #4 1/8"
24	46501	2	Tube, Spacer	50	44663	2	Hub Cap
25	25305	1	Shaft, Sprocket		40471	1	Owner's Manual
26	04367	1	Spreader Plate				

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REPAIR PARTS

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