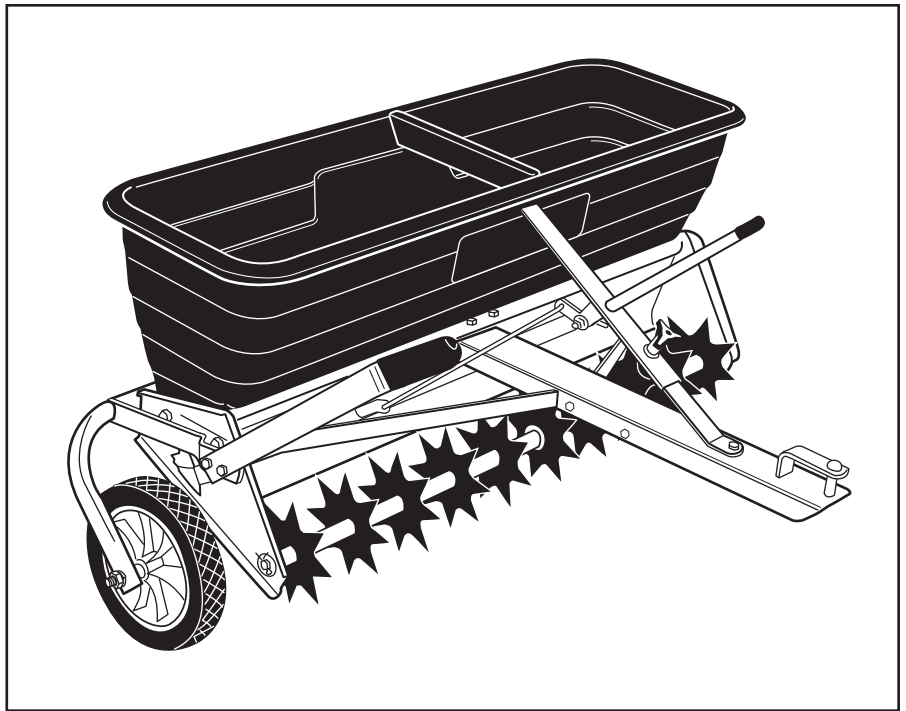




OWNERS MANUAL

**Model No.
45-03012**

CAUTION:
Read Rules for
Safe Operation
and Instructions
Carefully



175 LB. TOW SPIKER SPREADER

- Safety
- Assembly
- Operation
- Maintenance
- Parts

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RULES FOR SAFE OPERATIONS

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 using power equipment.

- Read this owner's manual before attempting to assemble or operate the spiker/spreader.
- Read the towing vehicle owner's manual and know how to operate the tractor before using the spiker/spreader.
- Do not allow anyone to ride on or sit on the spiker/spreader.
- Never allow children to operate the tractor or spiker/spreader.
- Do not allow adults to operate the tractor or spiker/spreader without proper instructions.
- Read the chemical label for instructions and cautions for handling and applying chemicals.
- Wear eye and hand protection when handling and using lawn chemicals.
- Always begin with the transmission in first (low) gear and gradually increase speed as conditions permit. Maximum towing speed - 6 M.P.H.
- Do not drive too close to a creek or ditch and be alert for holes and other hazards which could cause you to lose control of the tractor and spiker/spreader.
- Before operating the 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.



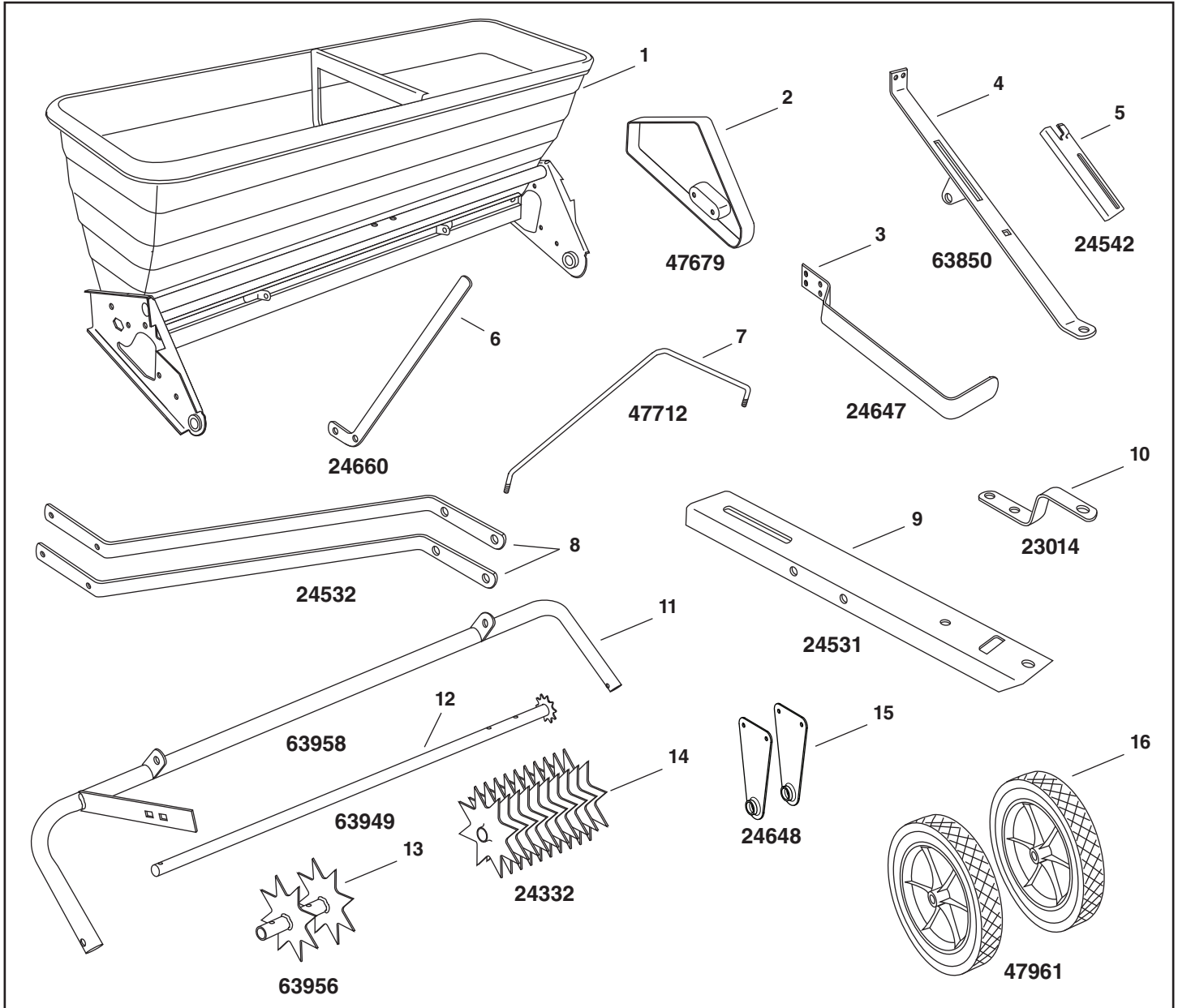
Look for this symbol to point out important safety precautions. It means — **Attention!! Become alert!!** Your safety is involved.

CARTON CONTENTS

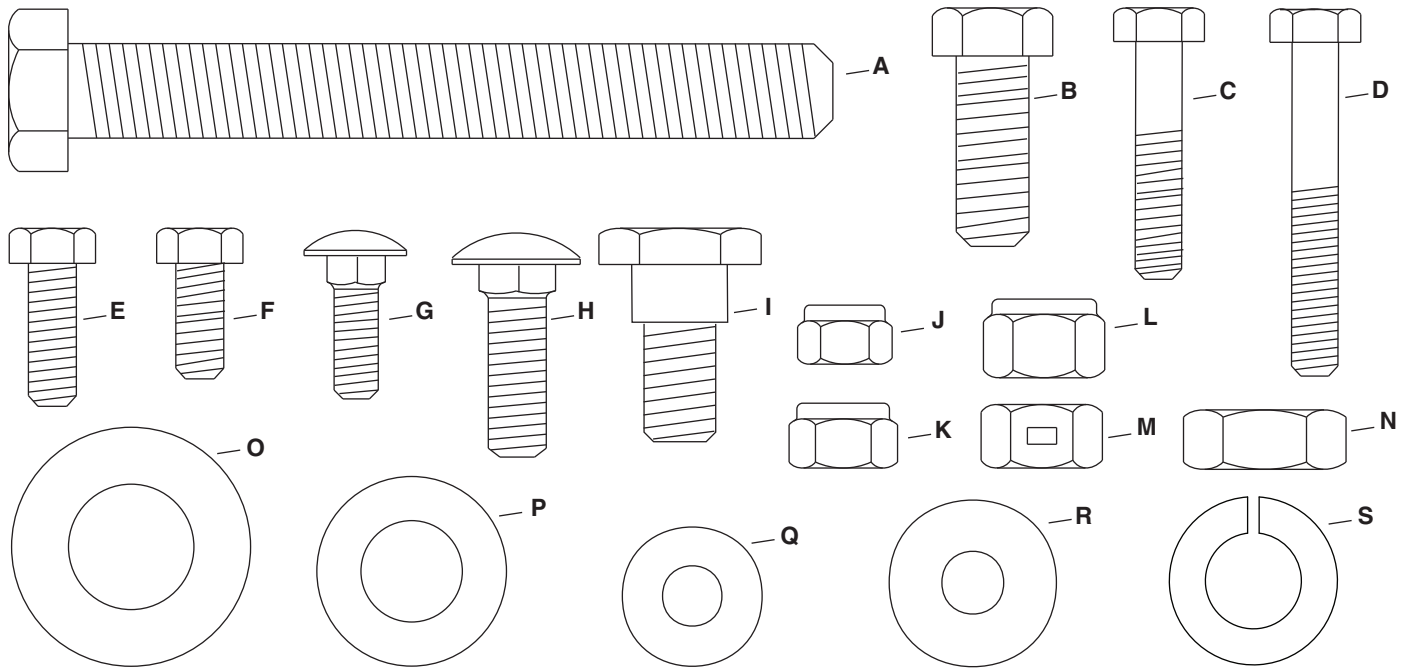
1. Hopper Assembly
2. Chain Cover
3. Transport Handle
4. Hopper Brace
5. Flow Control Gauge

6. Flow Control Arm
7. Flow Control Rod
8. Tongue Braces (2)
9. Tongue
10. Hitch Bracket

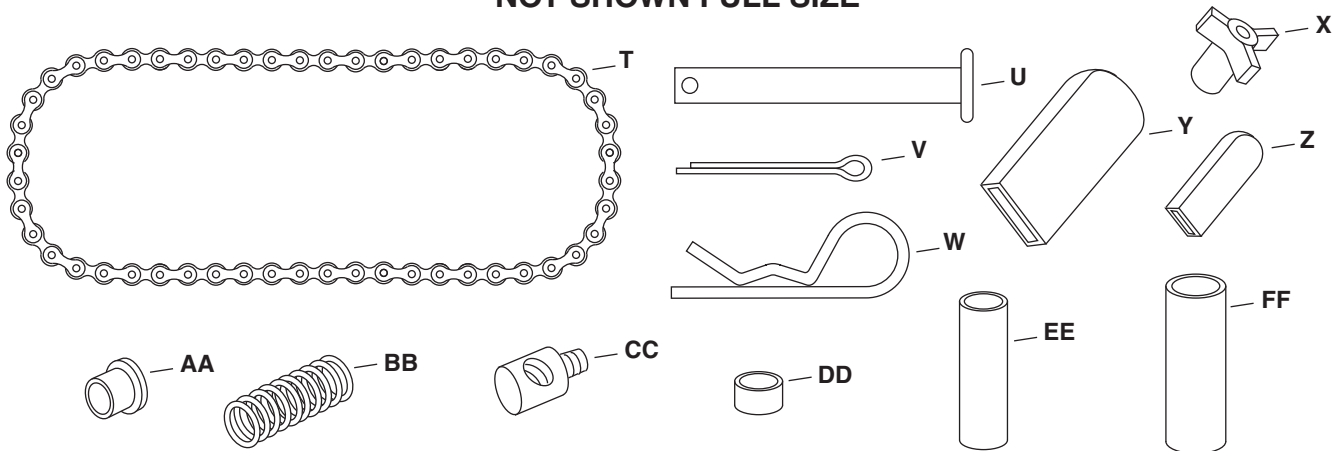
11. Lift Tube Assembly
12. Axle
13. Drive Disk (2)
14. Spike Disk (10)
15. Center Brace (2)
16. Wheels (2)



SHOWN FULL SIZE



NOT SHOWN FULL SIZE



REF.	PART NO.	QTY.	DESCRIPTION	REF.	PART NO.	QTY.	DESCRIPTION
A	45100	2	Hex Bolt, 1/2" x 4"	R	1543-69	3	Nylon Washer
B	43001	1	Hex Bolt, 3/8" x 1"	S	43353	2	Lock Washer, 3/8"
C	1509-90	1	Hex Bolt, 1/4" x 1-1/4"	T	47684	1	Chain
D	1509-69	2	Hex Bolt, 1/4" x 1-3/4"	U	47623	1	Hitch Pin
E	43012	2	Hex Bolt, 1/4" x 3/4"	V	43093	3	Cotter Pin, 1/8" x 1-1/2"
F	43866	16	Hex Bolt, 1/4" x 5/8"	W	43343	1	Hair Cotter Pin
G	44950	1	Carriage Bolt, 1/4" x 3/4"	X	43849	1	Plastic Knob
H	44326	2	Carriage Bolt, 5/16" x 1"	Y	47707	1	Transport Handle Grip
I	48106	2	Shoulder Bolt	Z	43848	1	Control Arm Grip
J	47189	24	Nylock Nut, 1/4"	AA	741-0249	16	Flanged Bearing
K	47810	2	Nylock Nut, 5/16"	BB	47777	2	Spring
L	HA21362	1	Nylock Nut, 3/8"	CC	47711	2	Ferrule
M	43082	2	Hex Lock Nut, 3/8"	DD	46838	1	Spacer, .5"
N	43019	4	Hex Jam Nut, 1/2"	EE	47683	6	Spacer, 2.9"
O	R19212016	12	Washer, 5/8"	FF	47782	1	Spacer, 3.2"
P	R19171616	4	Washer, 1/2"		HA24629	2	30" Plastic Tie (not shown)
Q	43088	10	Flat Washer, 1/4"				

ASSEMBLY

TOOLS REQUIRED FOR ASSEMBLY

- (2) 7/16" Wrenches
- (2) 1/2" Wrenches
- (2) 9/16" Wrenches
- (2) 3/4" or Adjustable Wrenches
- (1) Pliers
- (1) Knife or Scissors



Spike points are sharp. Wear protective gloves and exercise caution when working with hands near spike disks.

1. Remove the hardware pack and all individual parts from the carton and lay out as shown on pages 2 and 3.
2. Press a flanged bearing into each spike disk from the flat side of the disk. See figure 1.

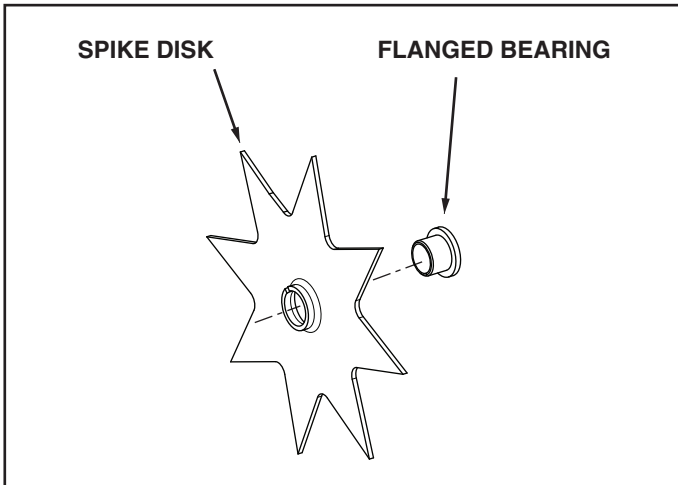


FIGURE 1

3. Press a flanged bearing into each end of both drive disks. See figure 2.

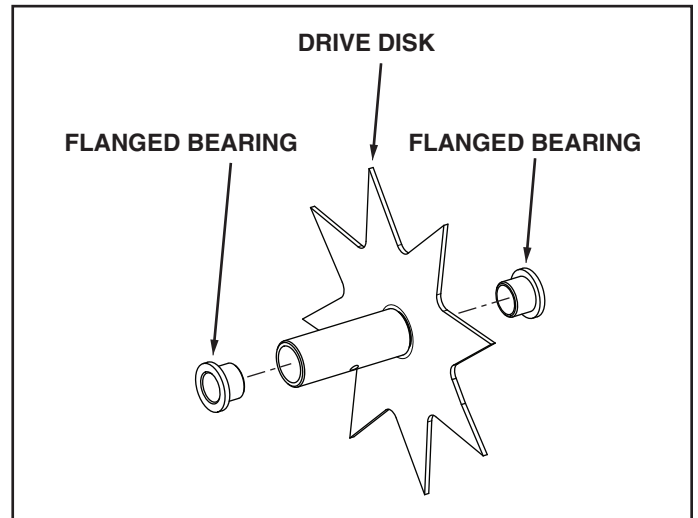


FIGURE 2

4. Press a flanged bearing into both center braces from the flat side of each brace. See figure 3.

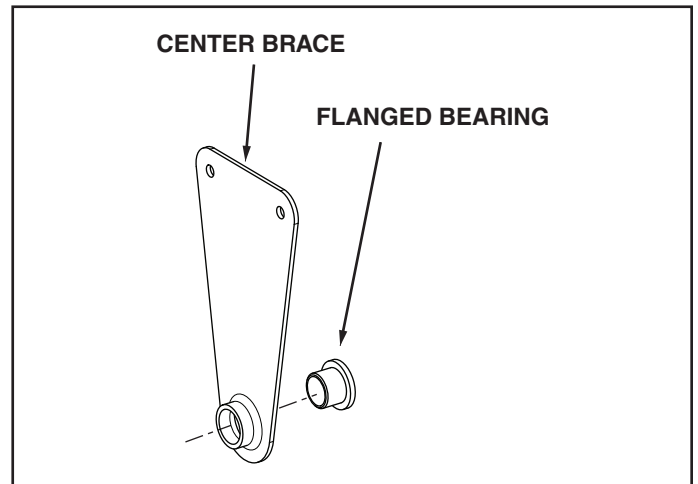


FIGURE 3

5. Assemble a 1/2" spacer and a 5/8" washer onto the axle. See figure 4.

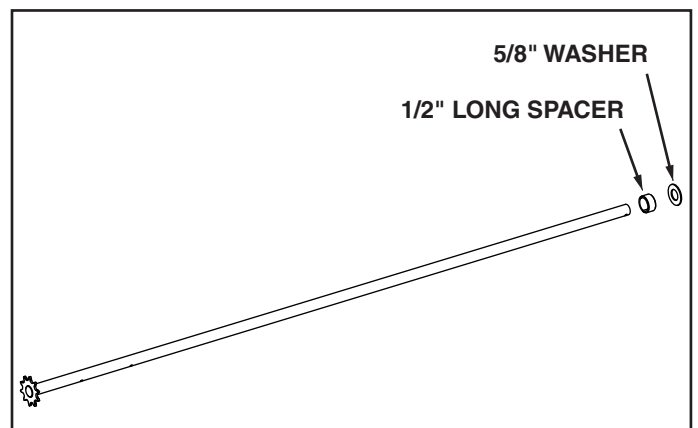


FIGURE 4

6. Assemble the axle through the end of the spreader frame that contains a pre-assembled sprocket. See figure 5.

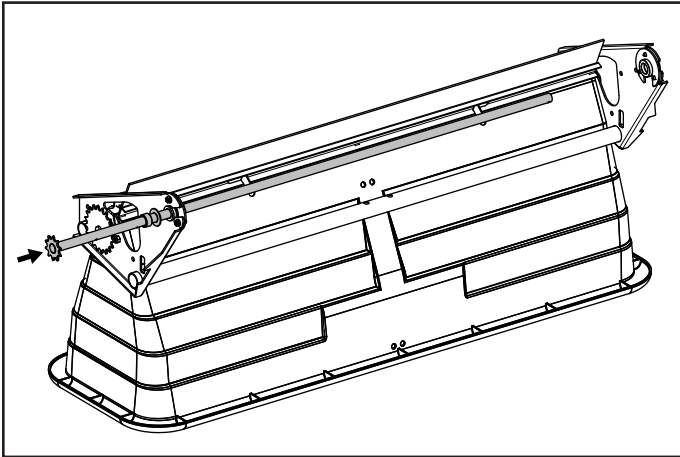


FIGURE 5

IMPORTANT: When assembling parts onto the axle, be sure that the spike disks are facing in the direction shown in each assembly drawing.

7. Assemble three 5/8" washers and the two drive disks (facing as shown) onto the axle. See figure 6.

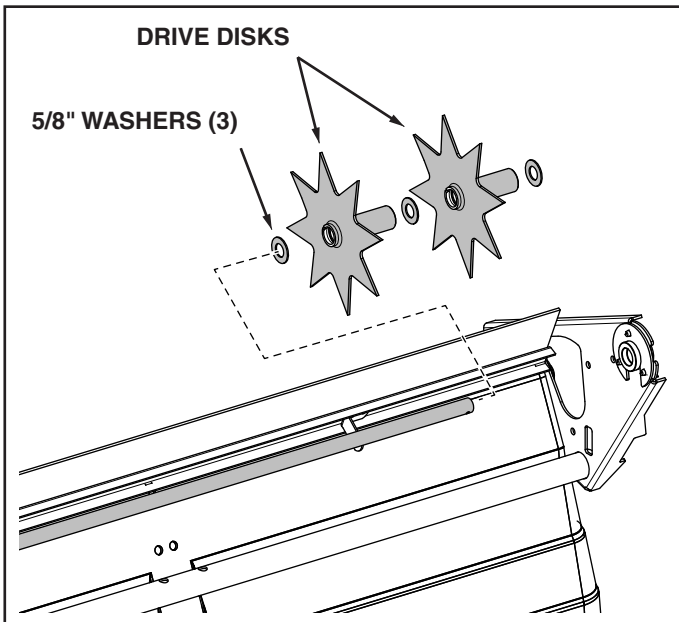


FIGURE 6

8. Assemble two spike disks and a 2.9" spacer onto the axle. The flat side of the disks should face away from the spacer. See figure 7.
9. Assemble two 5/8" washers and a spring onto the axle. See figure 7.

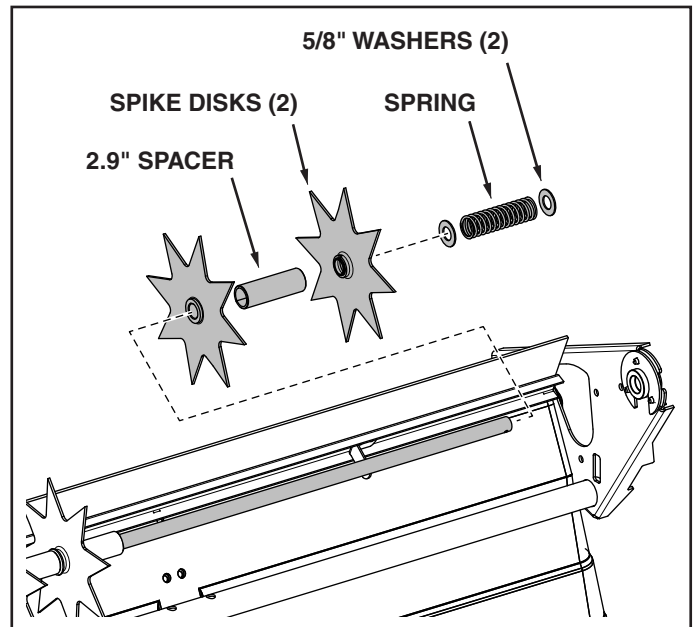


FIGURE 7

10. Assemble two spike disks and a 2.9" spacer onto the axle. The flat side of the disks should face away from the spacer. See figure 8.

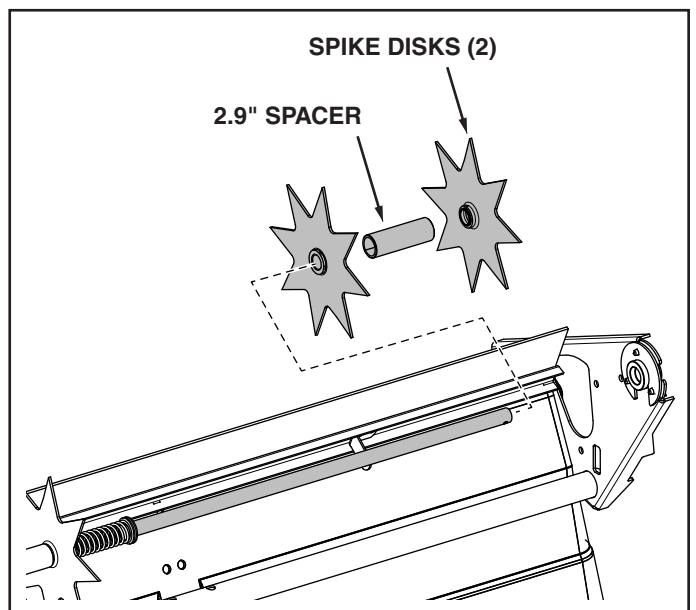


FIGURE 8

11. Assemble two 5/8" washers, the two center braces and the 3.2" spacer onto the axle. The flat side of the braces should face away from the spacer. See figure 9.

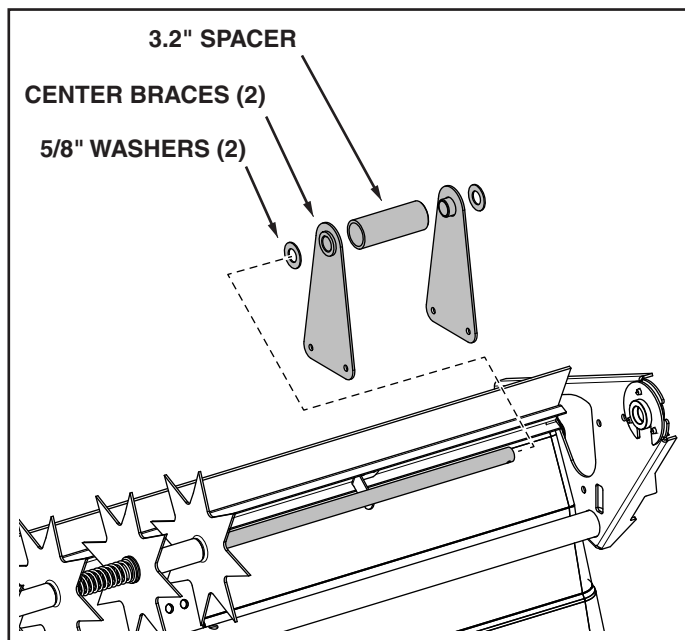


FIGURE 9

14. Assemble two spike disks and a 2.9" spacer onto the axle. The flat side of the disks should face away from the spacer. See figure 11.

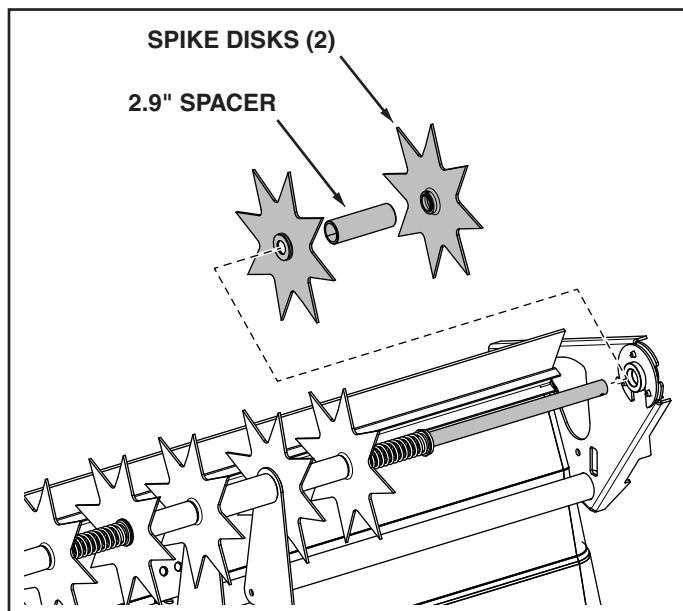


FIGURE 11

12. Assemble two spike disks and a 2.9" spacer onto the axle. The flat side of the disks should face away from the spacer. See figure 10.
13. Assemble two 5/8" washers and a spring onto the axle. See figure 10.

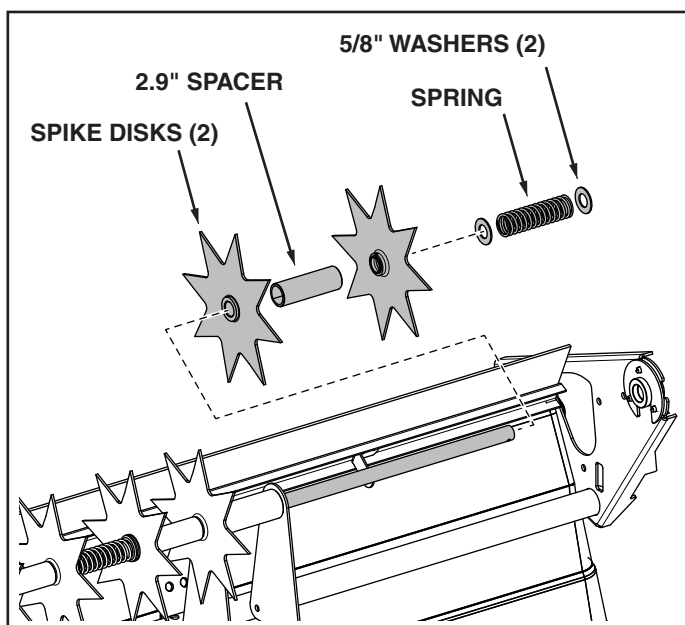


FIGURE 10

15. Assemble 30" plastic ties around the each set of spike disks that surround the springs. Loop the ties around opposite sides of each spike disk. Tighten the ties, compressing the springs so that there is room to assemble the rest of the parts onto the axle, and to insert the axle through the end of the spreader frame. See figure 12.

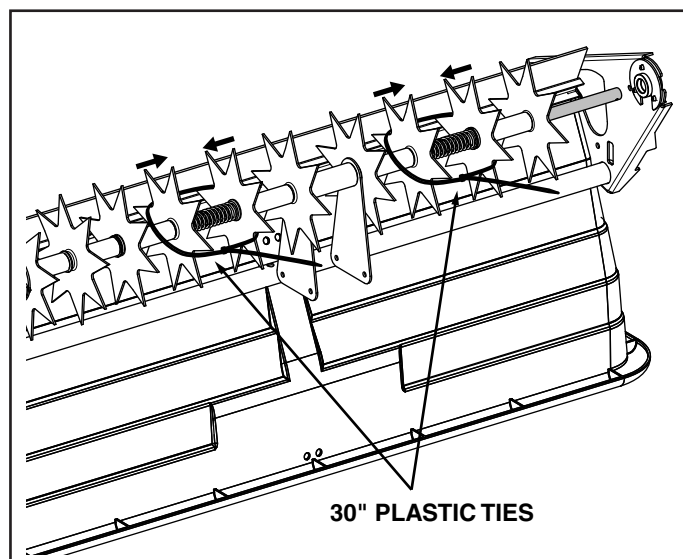


FIGURE 12

16. Assemble a 2.9" spacer onto the axle. See figure 13.
17. Assemble two spike disks, a 2.9" spacer and a 5/8" washer onto the axle. The flat side of the disks should face away from the spacer. See figure 13.

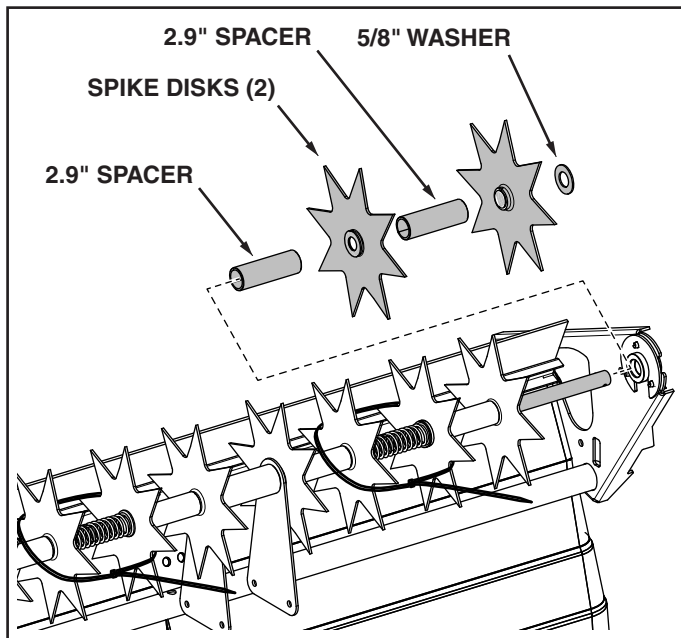


FIGURE 13

18. Slide the axle on through the end of the spreader frame. You may need to straighten the spike disks that are strapped together to allow the axle to slide freely. See figure 14.
19. Assemble a 5/8" washer onto the end of the axle. See figure 14.
20. Assemble a cotter pin into the end of the axle and then spread the ends of the cotter pin. See figure 14.

HINT: You may need to push against the end plate to make room on the axle to install the cotter pin. Try turning the spreader on end to get better leverage for pushing.

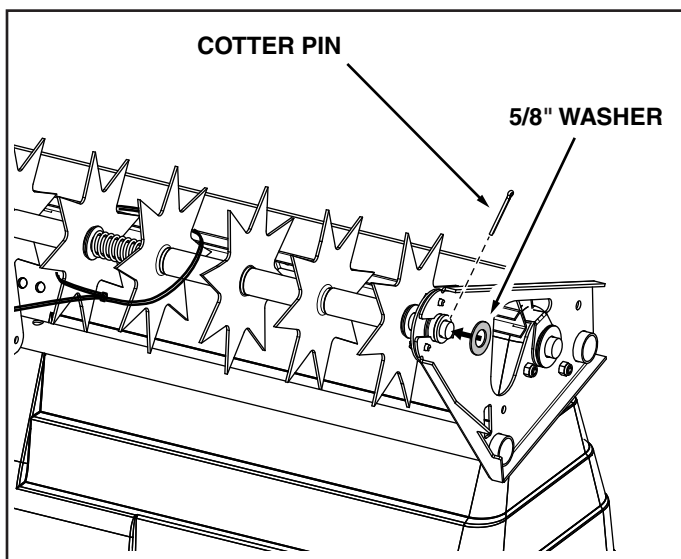


FIGURE 14

21. Assemble two cotter pins into the drive disks. Spread the ends of the cotter pins. See figure 15.
22. Cut the plastic ties and remove them from the disks. See figure 15.



CAUTION: Spring tension is released when plastic ties are cut. Keep hands clear of spike disks to prevent injury.

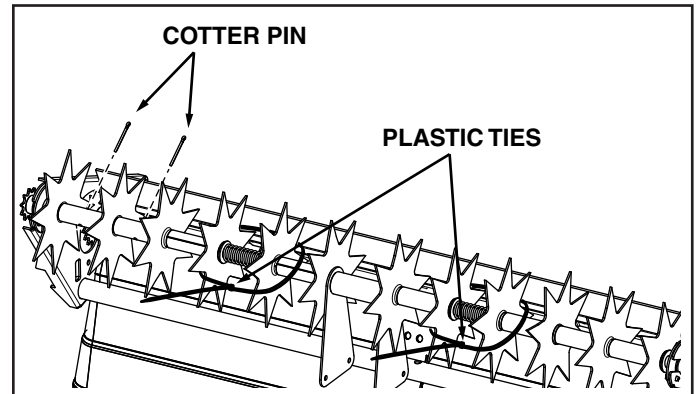


FIGURE 15

23. Assemble the chain around the sprockets, and then fasten the ends of the chain together using the connecting link. See figure 16.

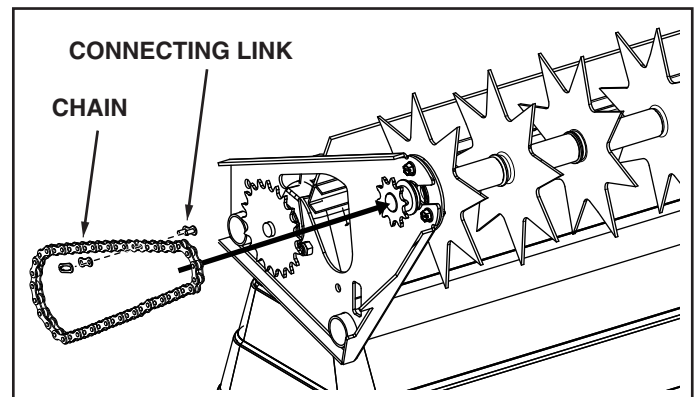


FIGURE 16

24. Temporarily install two 5/16" x 1" carriage bolts and 5/16" nylock nuts in the direction shown in the lift tube assembly. **Do not tighten.** See figure 17.

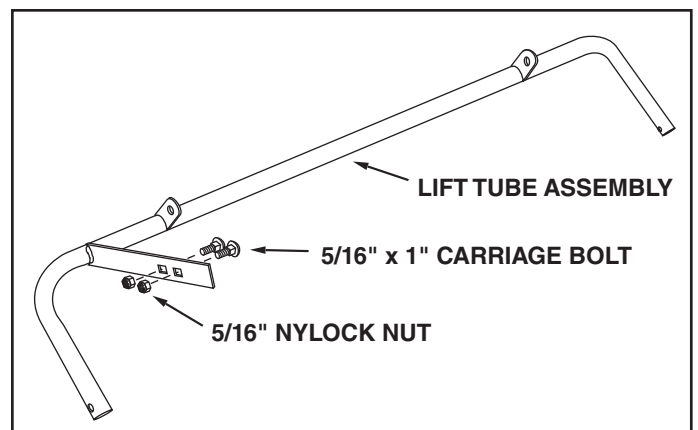


FIGURE 17

25. Attach the lift tube assembly to the spreader using the two shoulder bolts and two 3/8" hex lock nuts. See figure 18.

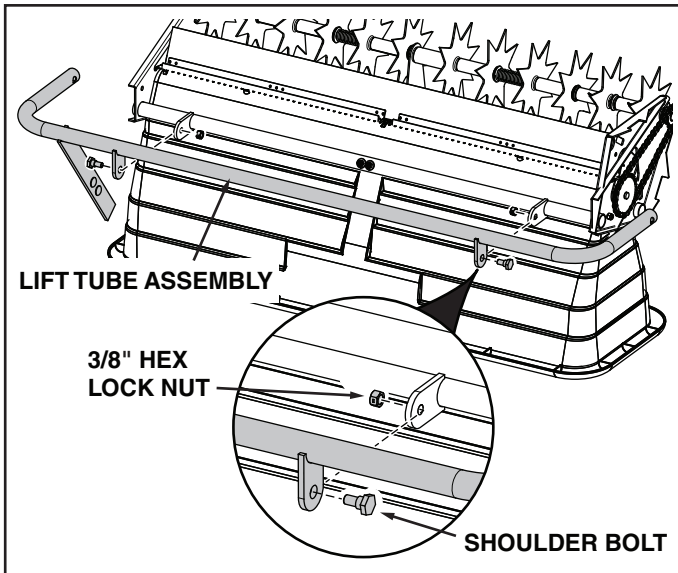


FIGURE 18

26. Assemble the end of the tongue to the hopper using two 1/4" x 5/8" hex bolts and 1/4" nylock nuts. The holes are located just below the frame assembly tube. **Do not tighten yet.** See figure 19.

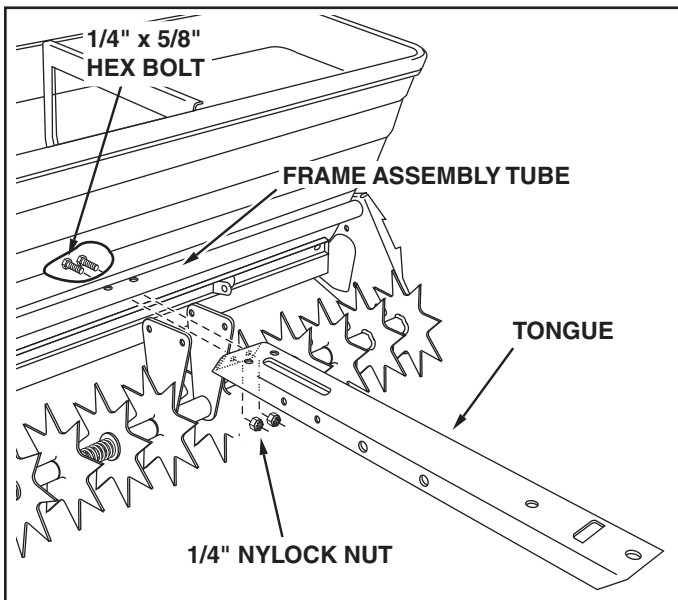


FIGURE 19

27. Attach the tongue to the frame assembly tube using two 1/4" x 1-3/4" hex bolts, four 1/4" flat washers and two 1/4" nylock nuts. **Do not tighten yet.** See figure 20.
28. Attach the tongue to the two center braces using four 1/4" x 5/8" hex bolts and 1/4" nylock nuts. **Do not tighten yet.** See figure 20.

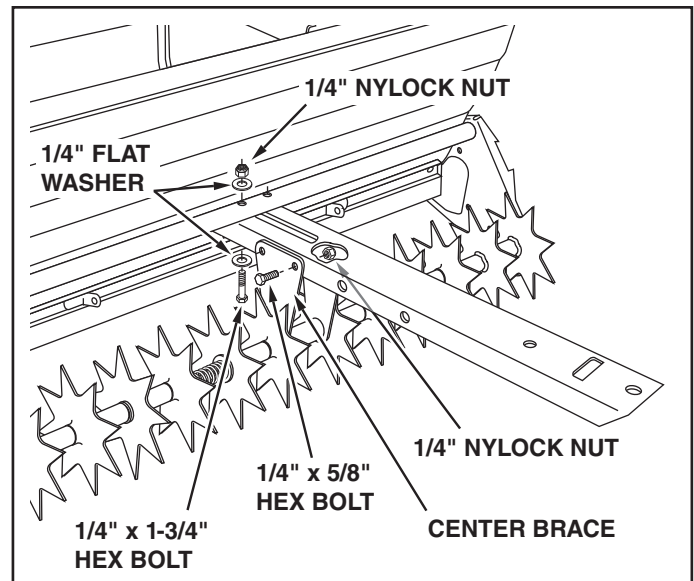


FIGURE 20

29. Assemble the plastic grip onto the end of the flow control arm. See figure 21.
30. Insert the flow control arm through the slot in the hopper brace. Place a nylon washer on each side of the arm and attach it to the brace's welded bracket using a 1/4" x 1-1/4" hex bolt, a 1/4" flat washer and two 1/4" nylock nuts. **Tighten** the first nylock nut until there is noticeable resistance when moving the flow control arm, then **tighten** the second nylock nut. See figure 21.
31. Place the flow control rod through the hole at the end of the flow control arm. Assemble the two ferrules onto the threaded ends of the rod so that approximately 10 threads (1/2") of the rod extends through the ferrules. See figure 21.

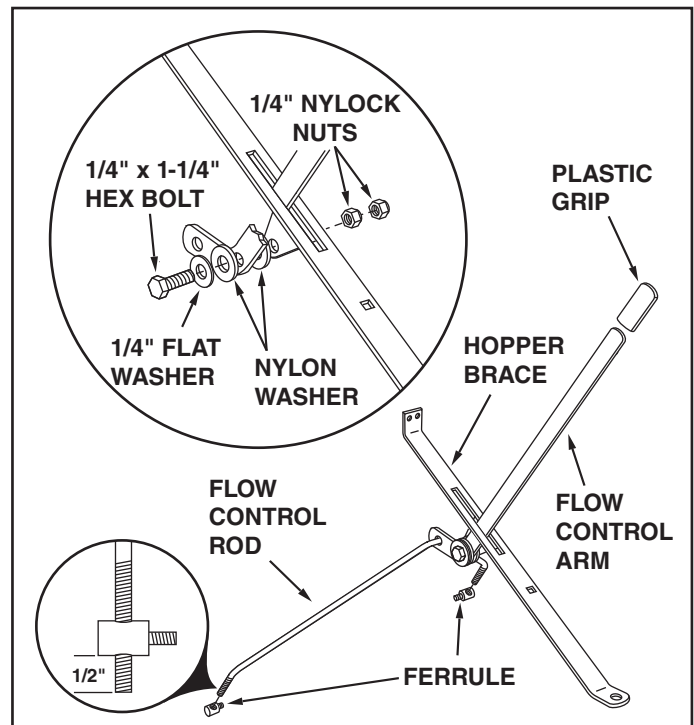


FIGURE 21

32. Attach the hopper brace to the hopper using two 1/4" x 5/8" hex bolts, one 1/4" flat washer and two 1/4" nylock nuts. **Do not tighten yet.** See figure 22.
33. Place the end of the hitch bracket with two holes down through the slot in the tongue. Attach the hopper brace to the top of the tongue and the hitch bracket to the bottom using one 3/8" x 1" hex bolt and one 3/8" nylock nut. **Do not tighten yet.** See figure 22.

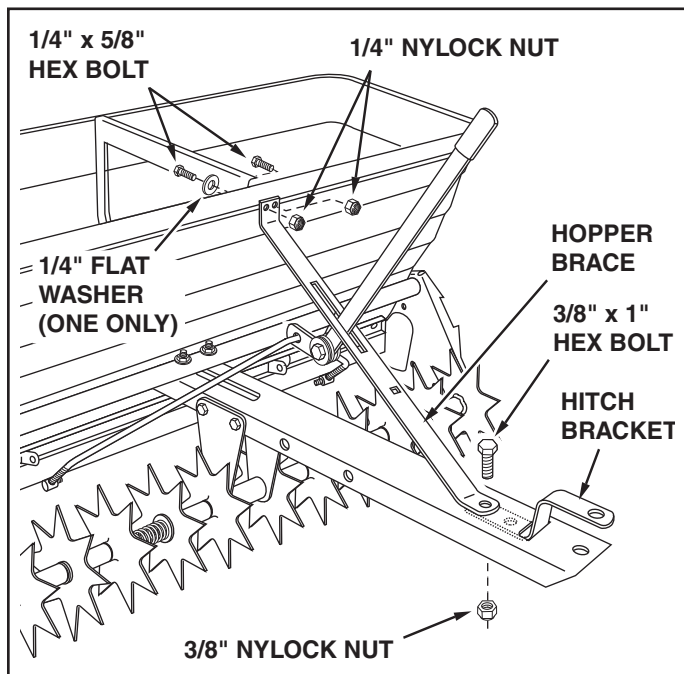


FIGURE 22

34. Insert a tongue brace through the slot in the end plate. Fasten the front hole of the tongue brace to the end plate using a 1/4" x 5/8" hex bolt and 1/4" nylock nut. For the rear hole use a 1/4" x 3/4" hex bolt, 1/4" flat washer and 1/4" nylock nut, with the bolt and washer assembled from inside the poly hopper. **Do not tighten yet.** See figure 23.
35. Fasten the other end of the tongue brace to the side of the tongue using two 1/4" x 5/8" hex bolts and 1/4" nylock nuts. **Do not tighten yet.** See figure 23.
36. Repeat steps 10 and 11 for the second tongue brace.
37. **Tighten** all bolts and nuts assembled so far.

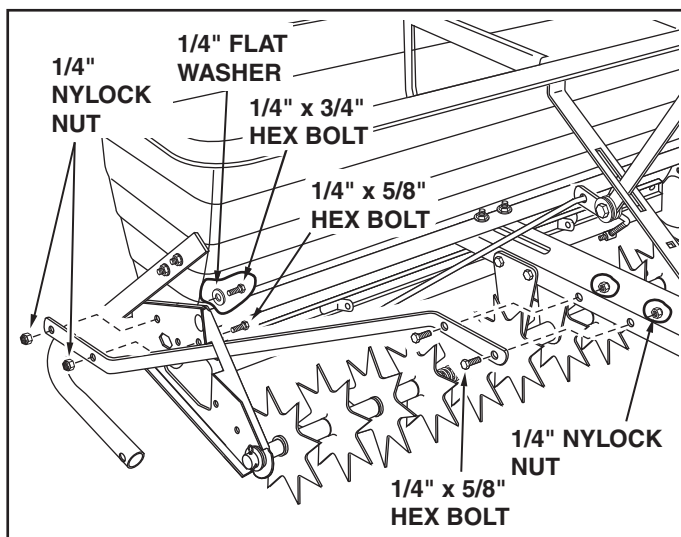


FIGURE 23

38. Install each wheel onto the lift tube assembly using a 1/2" x 4" hex bolt, two 1/2" washers, a 1/2" lock washer and two 1/2" hex jam nuts. See figure 24.

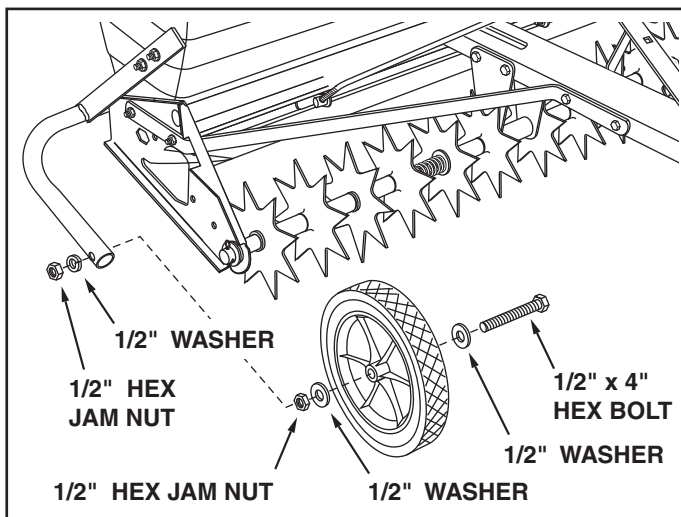


FIGURE 24

39. Assemble the flow control gauge to the hopper brace using the 1/4" x 3/4" carriage bolt, a nylon washer and the plastic knob. See figure 25.

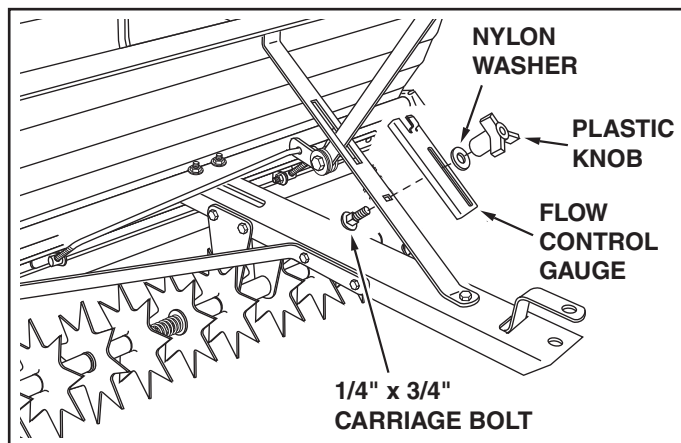


FIGURE 25

40. Check that both ferrules are adjusted so that approximately ten threads (1/2") of the control rod is exposed. Insert both ferrules into the brackets which are riveted to the front of the flow plates. Assemble a 1/4" nylock nut onto each ferrule, making only **finger tight** at this time. See figure 26.

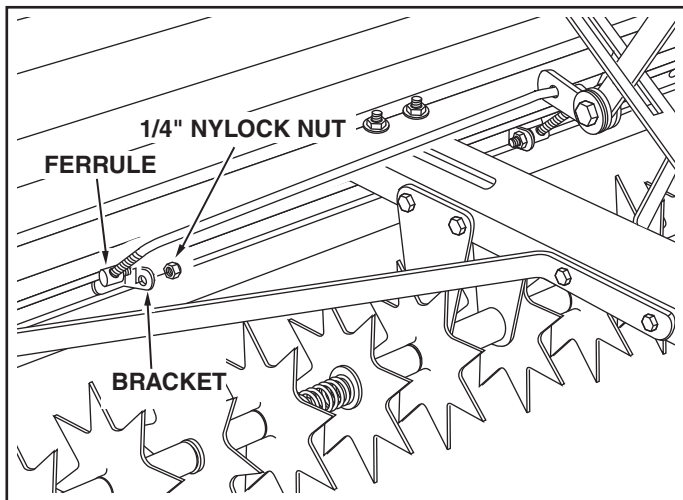


FIGURE 26

41. To check for correct opening of hopper flow plates:
- Set the flow control gauge at the highest setting.
 - Move the flow control arm away from the hopper until it rests against the gauge. The slots in the bottom of the hopper should now be completely open. The edge of the flow plates should be just clear of the ends all the slots.
 - If the flow plates are not straight with the slots, screw one ferrule up or down on one side of the control rod.
 - If the flow plates open to far or not far enough, screw both ferrules equally up or down on the control rod.
 - Move the flow control arm toward the hopper to the off position. Verify that the slots in the bottom of the hopper are completely covered by the flow plates.
 - Tighten** the lock nuts and then loosen 1/4 turn.
42. To check for proper tension on the hopper flow plates:
- Set the flow control gauge at a mid range setting.
 - Move the flow control arm against the gauge.
 - Press firmly against the front of the flow plates at the bottom of the hopper. The flow control arm should not move.
 - If the arm moves, tighten the hex lock nuts on the flow control arm until movement is prevented.

43. Attach the transport handle to the lift assembly arm using the two pre-assembled 5/16" x 1" carriage bolts and 5/16" nylock nuts. See figure 27.
44. Assemble the handle grip to the transport handle. See figure 27.

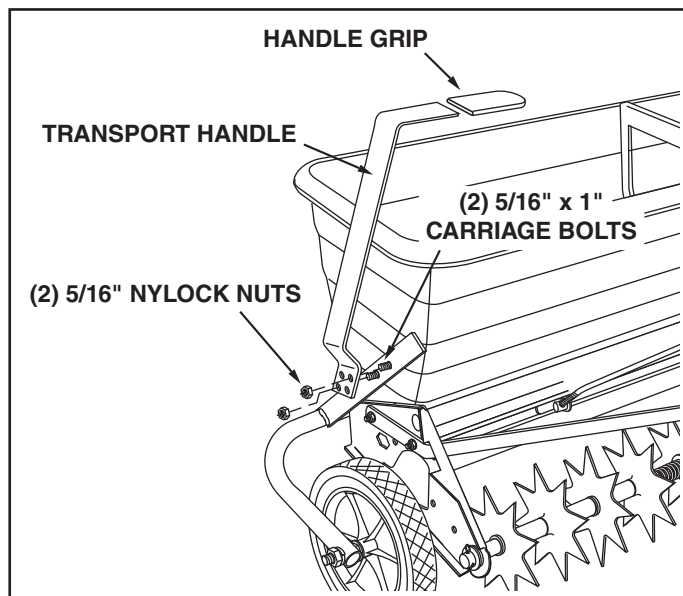


FIGURE 27

45. Assemble the chain cover to the frame assembly using two 1/4" x 5/8" hex bolts, 1/4" flat washers and 1/4" nylock nuts as shown figure 28.
46. Install the hitch pin and the 1/8" hair cotter pin in the spreader hitch bracket and tongue. See figure 28.

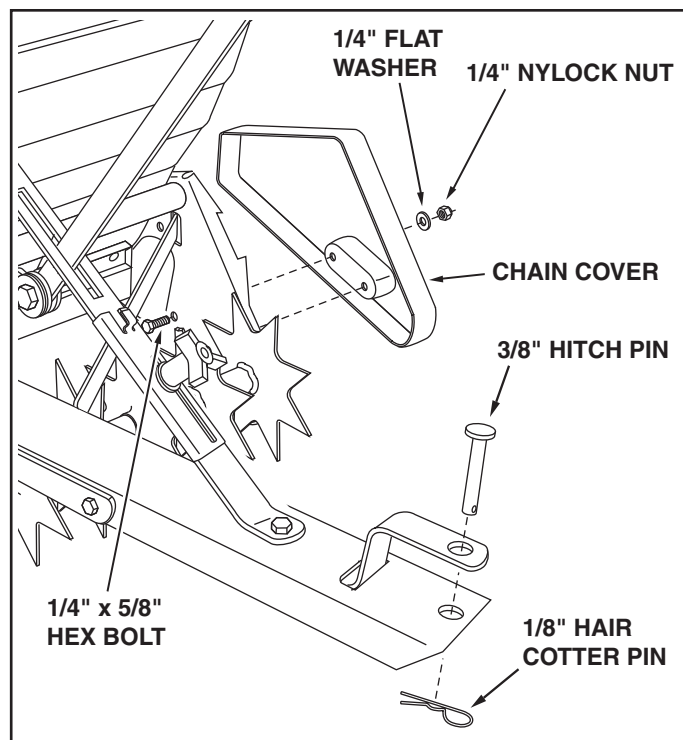


FIGURE 28

OPERATION

HOW TO USE YOUR SPIKER/SPREADER

1. Refer to the instruction label on the material package and to the instruction decal on your spreader to help determine the proper spreader setting and application rate. Also see the Setting Chart on this page for a general range of settings for commonly used materials.
2. Loosen the knob and adjust the flow control gauge to the recommended setting. Retighten the knob. See figure 29.
3. Determine the approximate square footage of the area to be covered and estimate the amount of fertilizer or seed required.
4. Move the spiker/spreader to the area where application is to begin.
5. Making sure the flow control arm is in the "OFF" position, fill the hopper, breaking up any lumps.
6. Lower the aerator spikes to the operating position.
7. Start the spreader in motion and then pull the flow control arm forward to the "ON" position as you travel across your lawn. The recommended towing speed is 3 m.p.h.
8. Do not make sharp turns with spikes in the ground.
9. Raise aerator spikes to transport position when crossing over concrete or other hard surfaces.
10. Do not aerate if the ground is extremely hard or dry. If ground is too dry, sprinkle or water for one to two hours prior to use.
11. Do not aerate if the ground is too wet (muddy).

IMPORTANT: Always move flow control arm to "OFF" position to prevent excessive release of fertilizer when stopping, turning or filling the spreader.

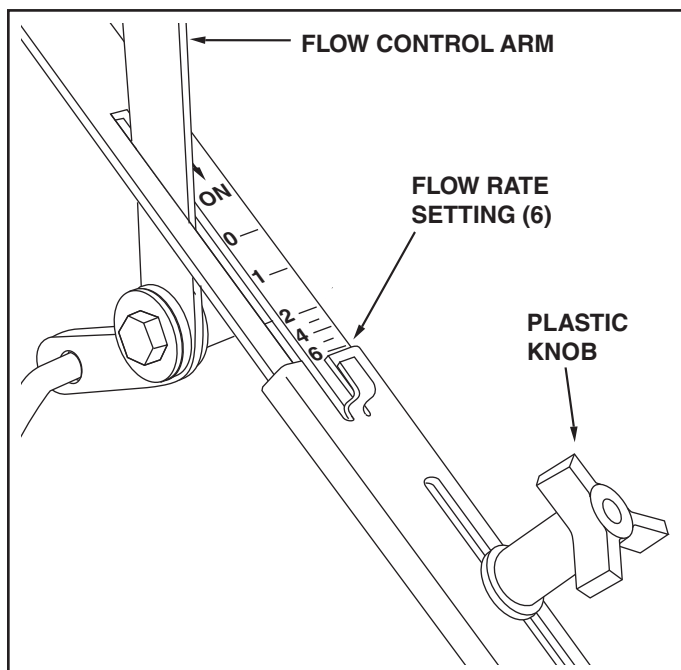


FIGURE 29

SETTING CHART

MATERIAL	Flow Rate Setting TYPE	At 3 M.P.H.
Fertilizer	Granular / Pelleted	0-1 / 0-2
Grass Seed	Fine / Coarse	5-6 / 7-8

3 M.P.H. is equivalent to traveling 100 feet in 23 seconds.

APPLICATION TIPS

1. To help prevent compacting and clogging when using **granular** material, avoid unnecessary towing while hopper is filled.
2. Reduce the flow setting for speeds slower than 3 M.P.H. and increase the setting for higher speeds.
3. To avoid misses or striping, overlap the previous pass slightly. Spread width is approximately 40".
4. For easiest application, first apply material across both ends of the area. Two or three passes on each end are sufficient. Then apply material back and forth as shown. Use the end areas for turning around, shutting off the spreader as you enter the end areas and turning the spreader on again as your leave the end areas for your next pass. See figure 30.
5. If lawn is odd shaped, spread a border around the edges and then spread between the border.
6. Be careful when spreading around ornamental plants because weed control chemicals can damage these plants.

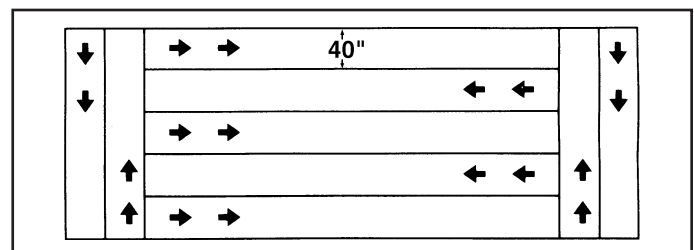


FIGURE 30

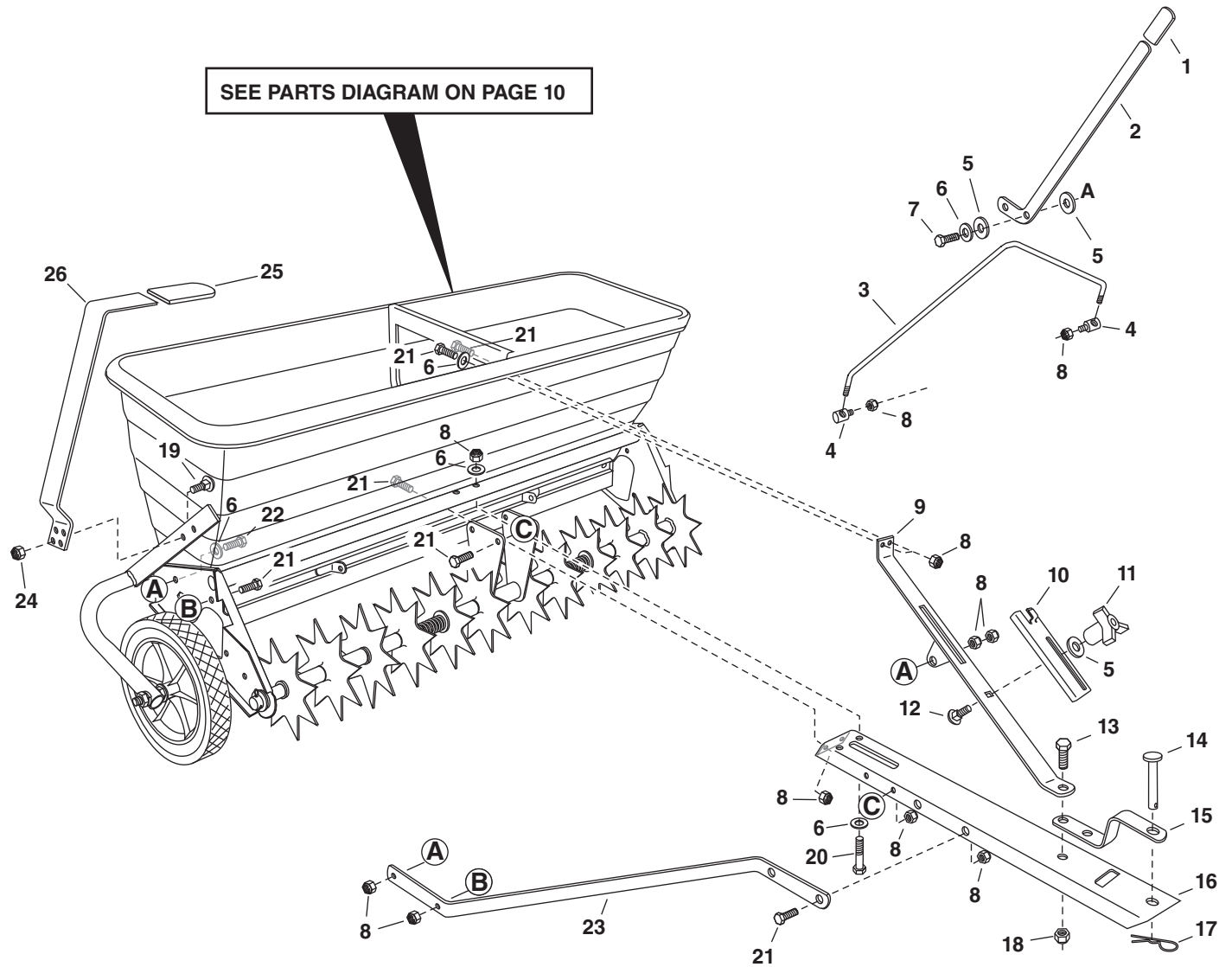


Spike points are sharp. Exercise caution when working with hands near spike disks.

MAINTENANCE

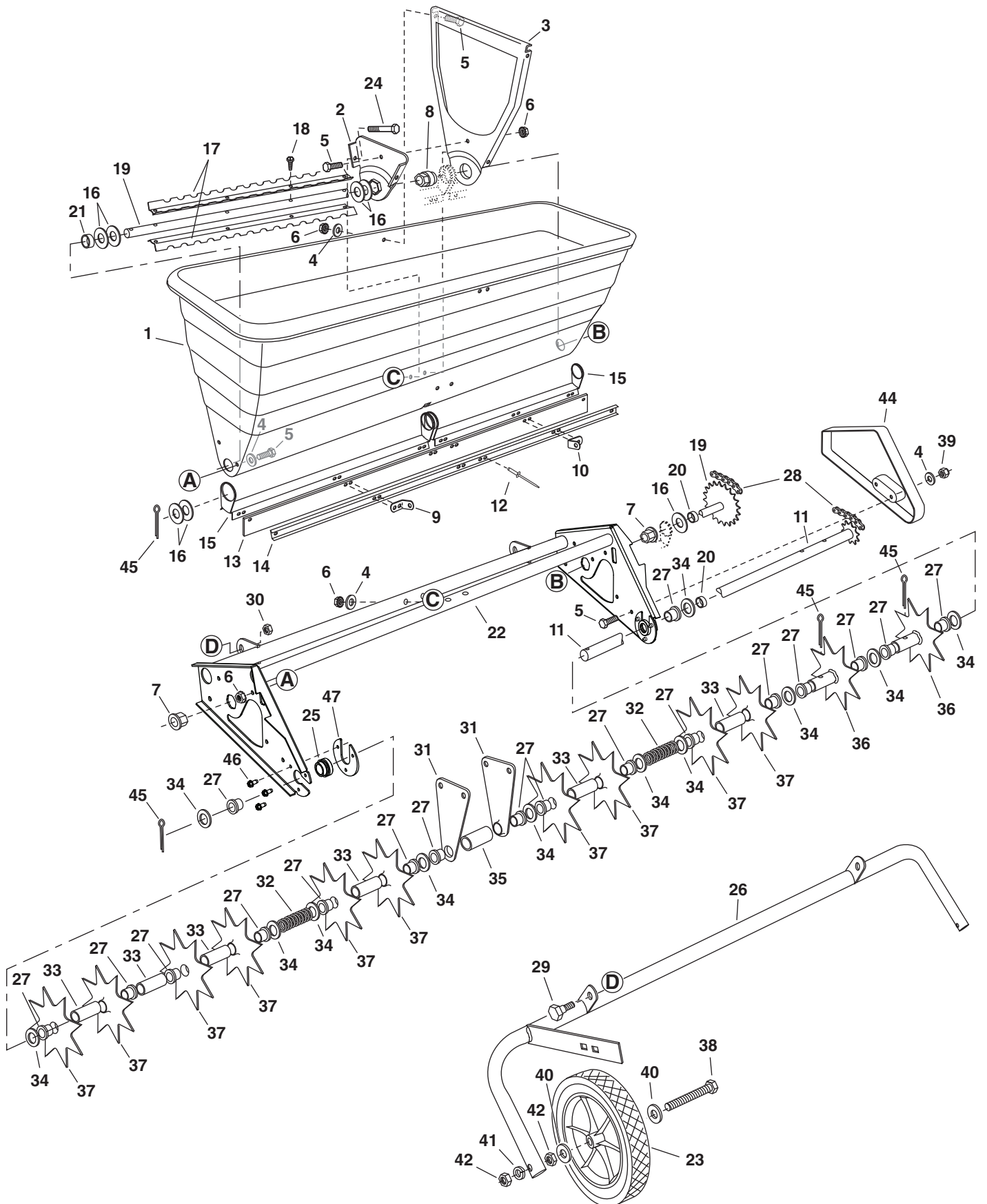
1. Check nuts and bolts for tightness before each use.
2. Always empty hopper after each use, storing leftover material in it's original bag.
3. Wash and dry thoroughly after each use.
4. Apply a light coat of oil on exposed metal parts to help prevent rust.
5. At least once a year, apply a few drops of oil to wheels and to plastic bearings in spike disks, at ends of aerator shaft and at ends of hopper shaft.
6. Clean and oil drive chain once a year.

PARTS FOR 175 LB. POLY "PRO" SPIKER/SPREADER MODEL 45-03012



REF NO.	PART NO.	QTY	DESCRIPTION	REF NO.	PART NO.	QTY	DESCRIPTION
1	43848	1	Plastic Grip	14	47623	1	Pin, Hitch 3/8" Flat Hd.
2	24660	1	Flow Control Arm	15	23014	1	Hitch Bracket
3	47712	1	Flow Control Rod	16	24531	1	Tongue
4	47711	2	Ferrule	17	43343	1	Pin, Hair Cotter #4 (1/8")
5	1543-69	3	Nylon Washer	18	HA21362	1	Nut, Nylock 3/8-16 Thd.
6	43088	8	Washer, 1/4"	19	44326	2	Bolt, Carriage 5/16-18 x 1"
7	1509-90	1	Bolt, Hex 1/4-20 x 1-1/4" Lg.	20	1509-69	2	Bolt, Hex 1/4-20 x 1-3/4"
8	47189	22	Nut, Nylock 1/4-20 Thd.	21	43866	14	Bolt, Hex 1/4-20 x 5/8"
9	63850	1	Brace Assembly, Hopper	22	43012	2	Bolt, Hex 1/4-20 x 3/4"
10	24542	1	Flow Control Gauge	23	24532	2	Tongue Brace
11	43849	1	Plastic Knob, 1/4-20 Thd.	24	47810	2	Nut, Nylock 5/16-18
12	44950	1	Bolt, Carriage 1/4-20 x 3/4" Lg.	25	47707	1	Handle Grip
13	43001	1	Bolt, Hex 3/8-16 x 1" Lg.	26	24647	1	Transport Handle Bar

PARTS FOR 175 LB. TOW SPIKER SPREADER MODEL 45-03012



PARTS FOR 175 LB.TOW SPIKER SPREADER MODEL 45-03012

REF NO.	PART NO.	QTY	DESCRIPTION	REF NO.	PART NO.	QTY	DESCRIPTION
1	47451	1	Hopper	25	26007	2	Step Bushing (Special)
2	24536	1	Hopper Center Plate (Small)	26	63958	1	Lift Tube Assembly
3	24535	1	Hopper Center Plate (Large)	27	741-0249	18	Bearing, Flanged 0.63" I.D.
4	43088	7	Washer, 1/4"	28	47684	1	Chain
5	43866	4	Bolt, Hex 1/4-20 x 5/8"	29	48106	2	Bolt, Shoulder 3/8-16 x 5/8"
6	46978	6	Nut, Hex (SIMS) 1/4-20 Thd.	30	43082	2	Nut, Hex Lock 3/8-16
7	47615	2	Bearing, Flange	31	24648	2	Center Brace
8	47484	1	Bearing, Hex Flange	32	47777	2	Compression Spring
9	24538	1	Bracket, Feed Plate (RH)	33	47683	6	Spacer, .75" x 1.0" x 2.98"
10	24539	1	Bracket, Feed Plate (LH)	34	R19212016	12	Washer, 21/32 x 1-1/4 x 16 ga.
11	63949	1	Axle w/Sprocket, 5/8"	35	47782	1	Spacer, 1.0" ID x 3.25"
12	728-3001	10	Pop Rivet	36	63956	2	Drive Disk Assembly
13	47459	1	Skirt, 48"	37	24332	10	Spike Disk (7")
14	47508	1	Skirt Retainer	38	45100	2	Bolt, Hex 1/2-13 x 4"
15	24537	2	Flow Plate	39	47189	2	Nut, Nylock 1/4-20
16	43009	12	Washer	40	R19171616	4	Washer, 17/32" x 1" x 16 ga.
17	47259	4	Agitator Blade	41	43353	2	Lock Washer, 1/2"
18	47978	16	Screw, #8-32 x 1/4" Lg.	42	43019	4	Nut, Hex Jam 1/2-13
19	63948	1	Axle w/Sprocket, 3/4"	43	HA24629	2	Tie, Plastic 30" (not shown)
20	46838	2	Spacer, .76" x 1.0" x 0.50"	44	47679	1	Chain Cover
21	47458	2	Spacer, 1.25" OD x .330" Lg.	45	43093	4	Cotter Pin, 1/8" x 1-1/2"
22	65790	1	Hopper Frame Assembly	46	48840	6	Screw, 1/4-20 x 1/2"
23	47961	2	Wheel	47	26005	2	Axle Retainer Bracket
24	1509-69	2	Bolt, Hex 1/4-20 x 1-3/4"		42530	1	Owners Manual

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