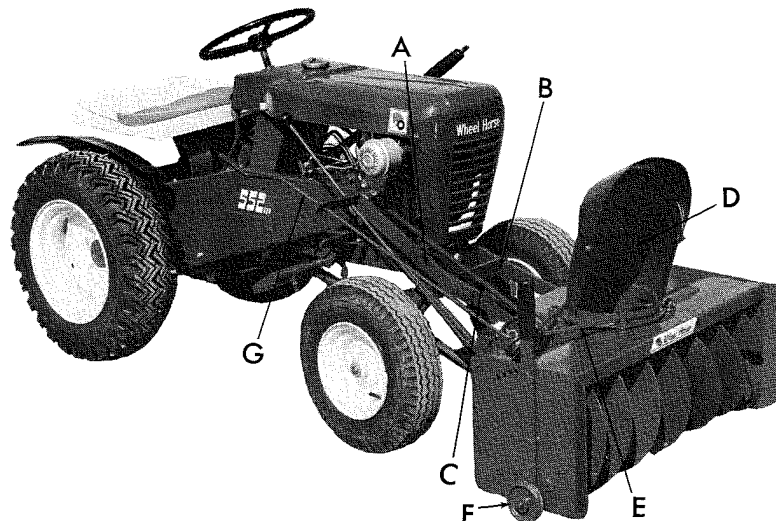




Wheel Horse

WHEELHORSE PRODUCTS, INC. • SOUTH BEND, IND.

SNOW THROWER ST-323



ASSEMBLY

Remove the Snow Thrower from carton and fasten bracket control support, part number 1989 "A", to mounting frame, part number 2168 "B", and secure with two $\frac{3}{8}$ - 16 x $1\frac{1}{4}$ bolts, part number 908035-4, and $\frac{3}{8}$ - 16 Nylock nuts, part number 915113-6, (be sure the drive belt, part number 1589 "C", is on the inside of bracket toward the tractor).

Install the shroud, part number 2167 "D", in the grooves of the front and rear rollers, part number 1973. Adjust rear rollers by sliding forward. Be sure rollers turn freely and shroud turns freely. Secure with two $\frac{1}{4}$ - 20 x $1\frac{1}{4}$ bolts, part number 900589-4, and $\frac{1}{4}$ - 20 Nylock nuts, part number 915111-4.

Install 43" V belt, part number 1590 "E", around shroud and secure with belt clip, part number 2079, and keps nut, part number S-55-10.

Adjust auger wheel assembly, part number 2169 "F", so the wheels are on the floor. Roll the unit to the tractor and secure with two mounting spacers, part number 1982, and one $\frac{3}{8}$ - 16 x $8\frac{1}{2}$ bolt, part number 900854-4, and $\frac{3}{8}$ - 16 Nylock nut, part number 915113-6.

Install pivot crank, part number 2095 "G", through hole in the end of the bracket support, part number 1989 "A".

Install the 43" V belt, part number 1590 "E", around the eye bolt sheave, part number 1980, and secure with one $\frac{3}{8}$ - 16 Nylock nut, part number 915113-6, (be sure eye bolt sheave turns freely).

Install hair pin, part number 1386, after compressing spring, part number 2588, for shroud belt tension.

Install drive belt, part number 1589, in second groove on the tractor engine pulley.

Install clutch rod, part number 2182, and secure with hair pin, part number 1386.

Install lift rod, part number 1986, to tractor lift and secure with hair pin, part number 1386, this top hole in the tractor lift plate must be opened up to $\frac{13}{32}$ in diameter on all 701, 552, 502, and 702 tractors.

Slide lift tube, part number 1997, over lift rod, part number 1986, and over hook pin on Snow Thrower wear plate. Secure with one $\frac{1}{2}$ " flat washer, part number 920011-4, and one cotter pin, part number 932034-4.

Fasten the belt guard bracket, part number 4441, to the engine with $\frac{5}{16}$ - 24 x $\frac{1}{2}$ lock washer, part number 920082, on all 502 and 552 tractors. For 701 and 702 tractors use $\frac{3}{8}$ - 16 x $\frac{1}{2}$ screw, part number 920083-4, and $\frac{3}{8}$ lock washer. Adjust so that it holds the belt when the attachment clutch rod is released. (Note: Belt idler bracket should not touch the belt when running).

OPERATION

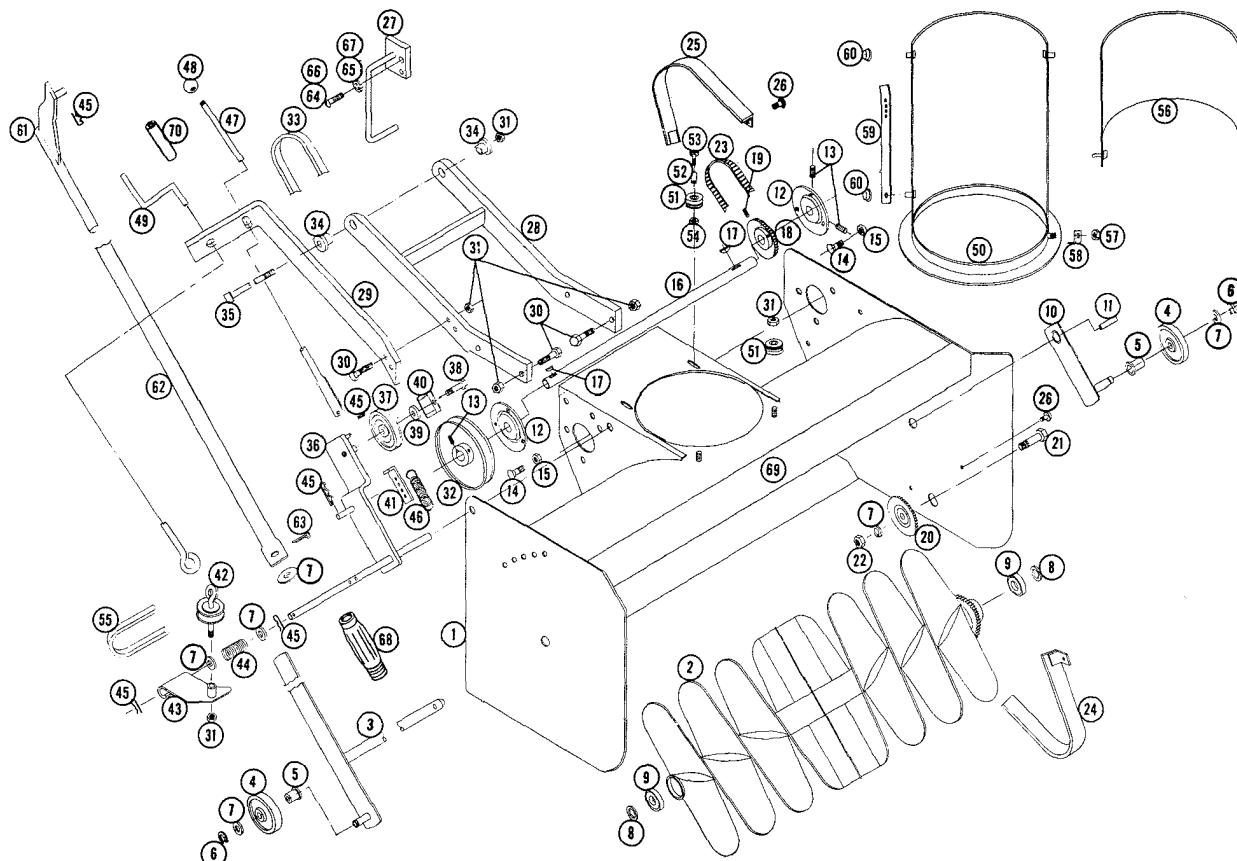
The adjustable shroud allows the operator to control the direction the snow may be thrown by turning the convenient pivot crank. The upper part of the snow shroud is adjustable to deflect the snow in an upward or downward direction depending upon conditions. There are wheels on each side for raising or lowering to prevent the Snow Thrower from catching on uneven surfaces. Under some conditions it will be necessary to coat the auger, shroud and the inside with paraffin or wax to prevent snow and ice from sticking. Best results are obtained with slow forward movement of the tractor and high auger speed, therefore under normal conditions the tractor should be operated in first gear with full throttle.

The shroud belt tension can be adjusted by compressing the spring more and moving hair pin to the next hole.

The drive belt tension can be increased by moving link, part number 2808, up one or two holes.

LUBRICATION

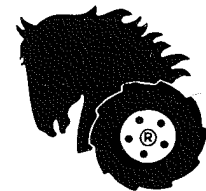
The drive chain should be oiled with a light grade of machine oil. All other bearing and movable parts should be oiled frequently. In storing the Snow Thrower, it is advisable to coat the auger with a heavy machine oil to prevent rust.



PARTS LIST

Ref. No.	Part No.	Description	Req'd. No.	Ref. No.	Part No.	Description	Req'd. No.
1	2170	Ass'y Wrapper (weld)	1	37	1623	Pulley - Idler	1
2	2172	Assy Auger (weld)	1	38	908035-6	Bolt — Nylock $\frac{3}{8}$ - 16 x $1\frac{1}{4}$	1
3	2169	Ass'y - Auger Shaft (weld)	1	39	1536	Spacer	1
4	1987	Wheel	2	40	3760	Bracket - Belt Guard	1
5	1974	Bushing	2	41	2808	Link - Spring Tension	1
6	S-50-50	Snap Ring .500 Dia. External	2	42	1980	Ass'y Eye Bolt sheave (weld)	1
7	920011-4	Washer $\frac{1}{2}$ Dia.	6	43	2085	Ass'y Bracket & Tube (weld)	1
8	2090	Washer .781 Dia.	2	44	2588	Spring - Compression	1
9	1515	Bearing - Ball	2	45	S-52-1	Hair Pin	5
10	1972	Ass'y Wheel Support (weld)	1	46	1129	Spring - Ext.	1
11	933213	Roll Pin $\frac{1}{4}$ x 1	1	47	2182	Ass'y - Rod - Clutch (weld)	1
12	1968	Bearing - Flanged Ball	2	48	1001	Knob	1
13	909862-4	Set Screw $\frac{5}{16}$ - 18 x $\frac{5}{16}$	6	49	2095	Crank	1
14	900037-4	Bolt - Carriage $\frac{3}{8}$ - 18 x $\frac{3}{4}$	6	50	2167	Ass'y Shroud (weld)	1
15	915112-6	Nut - Nylock $\frac{3}{8}$ - 18	6	51	1973	Roller - Shroud	4
16	2083	Shaft - Drive	1	52	2163	Spacer - Tube	2
17	937014	Key #9 Woodruff	2	53	908006-4	Bolt $\frac{1}{4}$ - 20 x $1\frac{1}{4}$ Hex	2
18	2176	Sprocket - Drive	1	54	915111-4	Nut $\frac{1}{4}$ - 20 Hex	2
19	909848-4	Set Screw $\frac{1}{4}$ - 20	2	55	1590	Belt - Shroud Drive	1
20	2174	Sprocket - Idler	1	56	2165	Ass'y Deflector (weld)	1
21	908059-4	Bolt - Hex $\frac{1}{2}$ - 13 x $1\frac{1}{2}$	1	57	S-55-10	Nut - Keps #10-32	1
22	915115-4	Nut $\frac{1}{2}$ - 13 Hex	1	58	2079	Clip - Belt	1
23	2175	Chain	1	59	2078	Arm - Deflector Spring	1
24	2089	Ass'y Guard (weld) Inner	1	60	2185	Speed Nut (.187)	3
25	2162	Ass'y Guard (weld) Outer	1	61	1986	Ass'y Lift Rod - (weld)	1
26	1391	Screw - Sems $\frac{1}{4}$ - 20 x $\frac{3}{8}$	4	62	1997	Tube Lift	1
27	4441	Ass'y Guard - Belt (weld)	1	63	932034-4	Pin Cotter $\frac{3}{16}$ x 1	1
28	2168	Ass'y Mounting Frame (weld)	1	64	1432	Screw Rd. Hd. Mach. $\frac{5}{16}$ - 24 x $\frac{1}{2}$	1
29	1989	Bracket - Control Support	1	65	920082-4	Lock Washer $\frac{5}{16}$ (Used with Lauson)	1
30	908035-4	Bolt $\frac{3}{8}$ - 16 x $1\frac{1}{4}$ Hex	6			(used with 4441 Ass'y.)	
31	915113-6	Nut - Nylock $\frac{3}{8}$ - 16	10	66	909082-4	Screw Rd. Hd. Mach. $\frac{3}{8}$ - 16 x $\frac{1}{2}$	1
32	2177	Pulley - Drive	1	67	920083-4	Lock Washer $\frac{3}{8}$ (Used with Kohler)	1
33	1589	Belt - Drive	1			(used with 4441 Ass'y.)	
34	1982	Spacer - Tractor Mt'g.	2	68	1000	Grip	1
35	900854-4	Bolt - Sq. Hd. $\frac{3}{8}$ - 16 x $8\frac{1}{2}$	1	69	4411	Decal	1
36	2092	Ass'y Bracket (weld) Idler	1	70	2594	Tube - Handle Grip	1

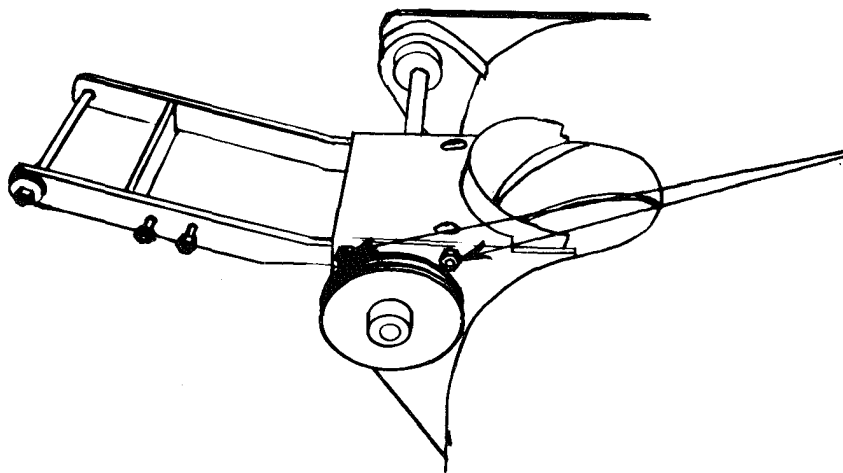
ST-323 SNOW THROWER



ADDITIONAL ASSEMBLY INSTRUCTIONS AND SERVICE HINTS

AFTER REMOVING THE SNOW THROWER FROM ITS CARTON, BEFORE BEGINNING ASSEMBLY AS DESCRIBED IN YOUR INSTRUCTIONS, COMPLETE THE FOLLOWING. SECURE MOUNTING FRAME "B" PART NUMBER 1268, TO THE SNOW THROWER WITH FOUR 3/8-16 BOLTS, AND FOUR 3/8-16 NUTS.

NOTE: A few of the first snow throwers had bolt 908035-4 3/8-16 x 1 1/4. This bolt has since been changed to Bolt 908033-4 3/8-16 x 7/8 to ease assembly and to prevent interference of the bolt with the pulley.



Replace with 3/8-16 x 7/8 bolts or place washers behind bolt to space away from pulley.

FIG. I

On 1961-62 tractor models, the lower lift arm is provided with three holes for 1/4 inch pins. On 1963 tractors, the two top holes have been enlarged to 13/32 to permit lifting heavy implements such as the Snow Thrower and Reel Mower without shearing of the pin or bolt. On the 502, 552, 701 and 702 tractors, enlarge the upper most hole as shown in (Figure II) to 13/32. The Snow Thrower lift is secured by pin and quick attach cotter pin in this upper hole as illustrated. Any other holes result in excess lift effort.

1961-62 tractors, drill 13/32 diameter; mount Snow Thrower lift assembly into this hole.

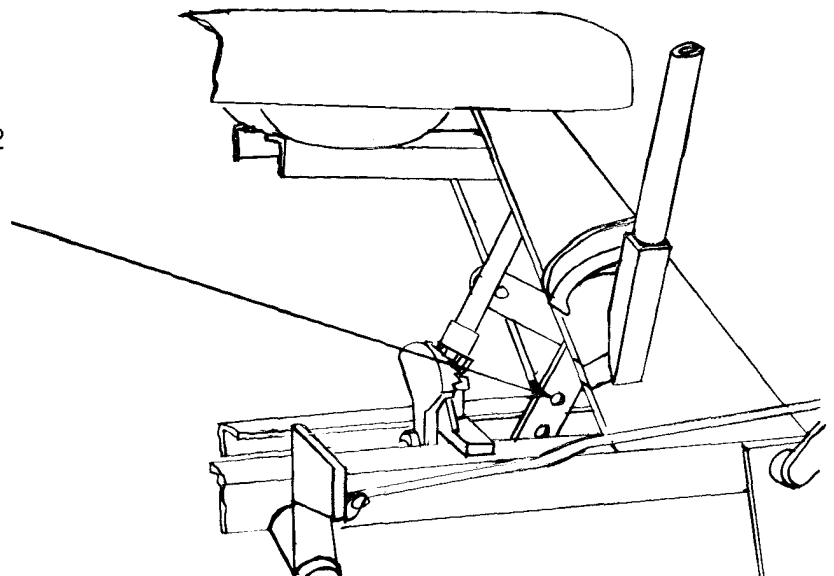


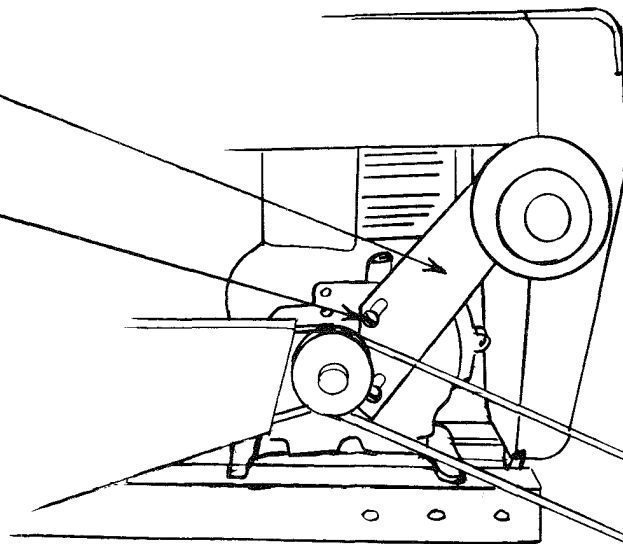
FIG. II

Tecumseh Engines on 502, 552, 603 and 653 tractors have been provided with an improved muffler support bracket. When Snow Throwers are secured to these tractors, it is necessary to replace screw #1432, 5/16-2 x 1/2 with a longer screw #3385, 5/16-24 x 3/4 when securing belt retainer clip, #4441, to the engine. These screws may be obtained from Wheel Horse or any 5/16-24 x 3/4 screw or cap screw may be used.

New muffler support bracket

Replace with 5/16-24 x 3/4
screw or cap screw

FIG. III



Your ST-323 Snow Thrower is provided with a belt of minimum length to provide maximum life under severe operating conditions.

Clutching will not be effective when the machine is in the lowered position until the machine is operated under load for about an hour. Loading the unit results in the belt seating in the V-Belt pulleys and quickly wears off the excess sticky rubber on the sides of the belt. After the belt is seated in the pulleys and this rubber is worn off, it should clutch in any position.

NOTE: The ST-323 Snow Thrower is provided with adjustable gauge rollers. In the lowest position, the auger will actually engage the ground. This position is NOT for general operation. It is provided for use in heavy compacted snows. In these snows, the auger can be set low to penetrate and remove the packed snow where other machines could not.

CAUTION: NEVER ATTEMPT TO ADJUST OR LUBRICATE YOUR SNOW THROWER WHILE THE TRACTOR ENGINE IS RUNNING. ALWAYS SHUT OFF MOTOR AND LOCK PARKING BRAKE BEFORE SERVICING. KEEP CHILDREN AWAY WHEN OPERATING.