

Owner Operation and Maintenance Manual

SNOW CASTER
42 INCH
MODEL 18100-01



TO THE OWNER

This is an operational and general maintenance manual only and does not cover major repair. All major repair work must be performed by an authorized BOLENS DEALER or the factory warranty is void. Bolens equipment is carefully engineered to give good performance if properly operated and maintained. Keep your equipment clean and lubricate it as prescribed in this manual. Periodically inspect your unit and perform any upkeep maintenance necessary.

Your dealer is obligated by the factory to completely assemble and service new equipment prior to first delivery, and thoroughly explain and demonstrate its operation. He will repair or replace any parts which fail due to defective material and/or workmanship during the warranty period, and also provide future repair service and supply genuine factory repair parts.

IN EVENT OF ANY PROBLEM OR PARTS REQUIRED ALWAYS CONTACT YOUR DEALER. DO NOT RETURN PARTS TO THE FACTORY. WE REQUIRE PRIOR FACTORY APPROVAL ON RETURNS, AND APPROVALS ARE ISSUED ONLY TO BOLENS DEALERS OR DISTRIBUTORS.

GENERAL SAFETY PRECAUTIONS

Preventing accidents is the responsibility of every equipment operator. The following general safety precautions must be fully understood and followed by every operator

of this equipment. Review them frequently and NEVER TAKE CHANCES. BE CAREFUL BEFORE, DURING AND RIGHT AFTER USE OF ANY POWERED EQUIPMENT. ACCIDENTS CAN BE PREVENTED.

1. Before starting the engine, disengage the P.T.O. and place shift lever in neutral or park position, to prevent unit from being started in gear.
2. Children shall not be allowed to operate vehicle at any time. The average child is not capable of coping with the intricacies of operating a power tool.
3. Do not allow adults to operate vehicle without proper instructions including all safety instructions. In doing so, you will be sure they know how to operate unit properly and also are aware of all the safety precautions.
4. Study your manual. Know your unit before operating it. Take time to operate unit in the safest manner.
5. Never operate tractor with snow caster or any other attachment having moving parts when any child or other person is in travel path or discharge area. Bystanders must not be allowed in or near working areas when equipment is being used. Items or objects such as wire, stones, small toys and etc. can be ejected at high velocity out of the discharge chute.
6. Do not carry passengers. The passengers could fall off vehicle receiving injuries.
7. Should the chute become plugged due to overload, disengage the rotor, shut off the engine and dislodge the packed snow WITH A STICK.
8. NEVER ATTEMPT TO CLEAR ROTOR OR CHUTE WITH HANDS OR FEET, OR WHILE ROTOR IS TURNING, AS INJURY COULD RESULT.
9. Disengage rotor, shut off engine if anyone approaches running unit. This would help eliminate accidental injury to other persons by running unit.
10. The operator should always bear in mind that objects can be thrown by this machine. Care should be exercised to provide proper chute direction and deflector cap adjustment so to avoid throwing snow and possible foreign material at bystanders, autos, windows, pets, etc.

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11. Engine must be stopped, and P.T.O. disengaged when cleaning, servicing, adjusting, repairing or installing attachments on tractor. This is necessary to avoid possible injury from moving parts.

12. Adjust height of scraper edge to clear gravel or crushed rock surface, to avoid throwing stones and gravel accidentally.

13. Keep tractor and attachments free of excess grease and oil. The unit will operate cooler, be easier to maintain, and safer to operate.

14. Do not mount or leave vehicle while it is in motion or in actual operation, nor leave vehicle unattended while engine is running. Injury to the operator or a tractor run away could occur.

15. Never wear loose clothing when operating unit. Loose clothing can get caught in moving parts and cause severe injuries.

16. Study all attachment manuals thoroughly before using attachments with tractor, in so doing you will then be aware of both the tractor's and attachment's capabilities when used as a unit, also the safest manner in which to operate them.

17. Always look back to be certain no one is in the way before using reverse. This will avoid the possibility of running over any bystanders or pets who might be in the area in back of the vehicle.

MODEL NUMBER

To ensure prompt service when repairs or adjustments are required, your Bolens Dealer must have the following information:

For your own personal reference, fill in the space provided below.

Model Number of Unit _____

Serial Number of Unit _____

Your Bolens Dealer has available a master Parts List for your unit. He can identify any parts you may require and furnish genuine factory replacements.

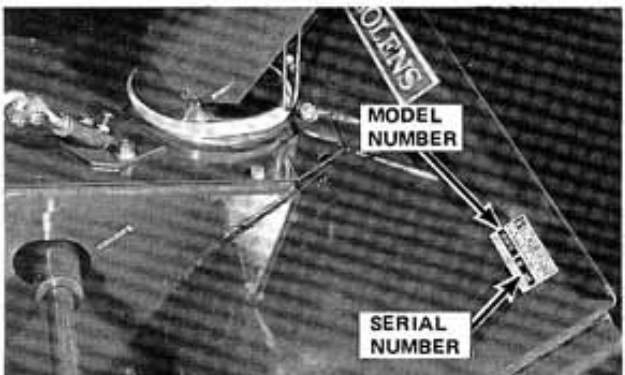


Figure 1

ASSEMBLY

This Snow Caster attachment is shipped complete with all parts required to mount it to your Husky tractor. To facilitate packaging requirements, the hitch, and skid shoes have been shipped loose and must be assembled as follows:

NOTE

FOR THE MODEL 1477 AND PREVIOUS MODEL LARGE FRAME TRACTORS MOUNTING KIT MODEL 18101-01 MUST BE USED. FOR THE MODEL 1886 TRACTOR MOUNTING KIT MODEL 18102-01 MUST BE USED.

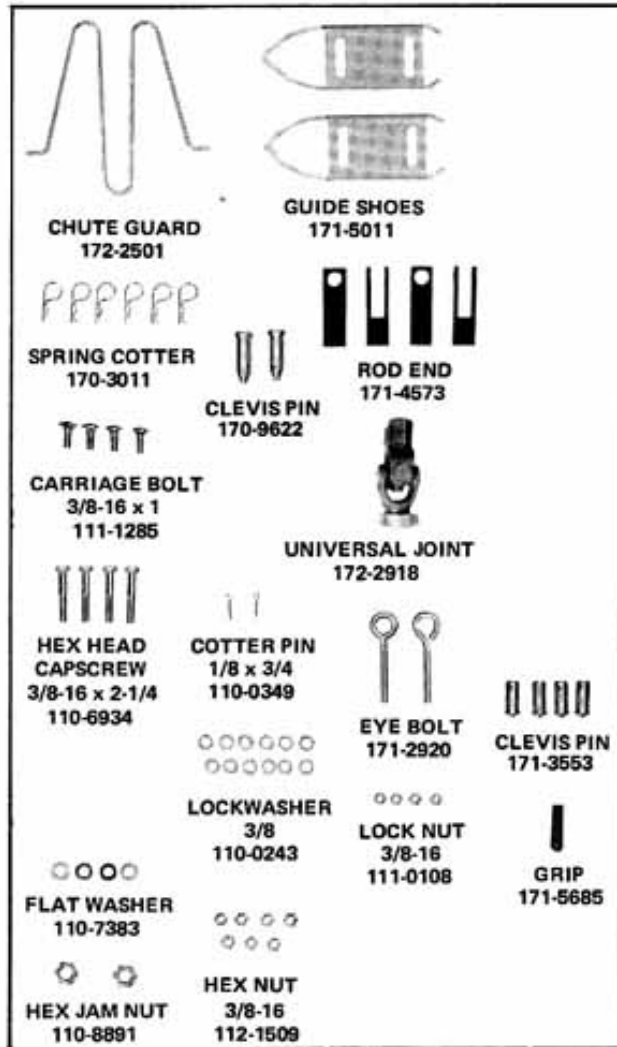


Figure 2 LOOSE PARTS

1. After removing the snow caster from its carton, mount the hitch as shown in Figure 5 using four 3/8-16 x 2-1/4" hex head cap screws, lock washers and hex nuts.

2. Mount the skid shoes to the bottom outside of rotor housing as shown in Figure 4 using the four 3/8-16 x 1 carriage bolts, flat washers, lock washers, and lock nuts provided. The mounting holes are slotted so the unit can be raised or lowered, depending on the smoothness of the surface to be cleared.

3. The chute control rod should be mounted after the snow caster has been mounted to the tractor.

4. Install chute guard, depress sides and snap ends into holes provided in chute. See Figure 3.

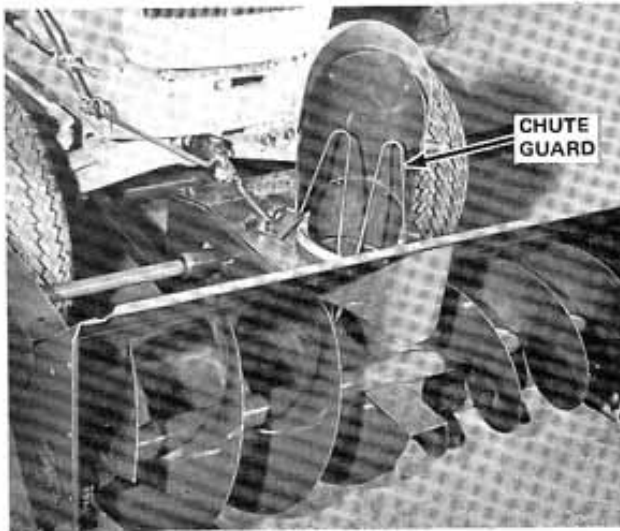


Figure 3

MOUNTING

1. With tractor on a level surface position snow caster in front of tractor with hitch under front of tractor.

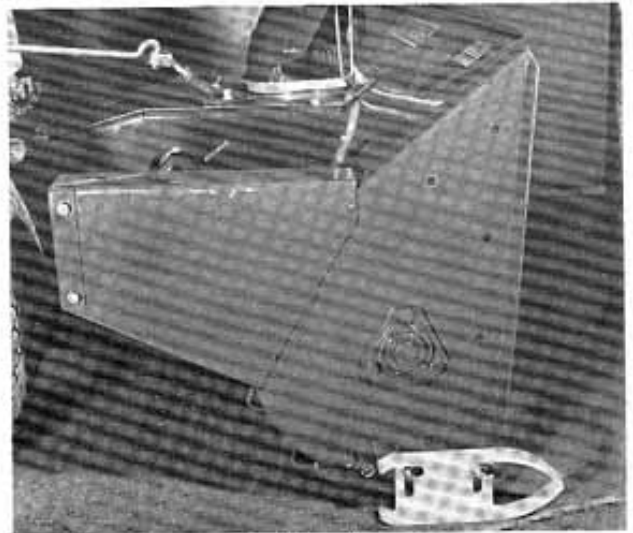


Figure 4

2. Next secure the two vertical hitch arms to the tractor implement hitch-arms with the two $5/8 \times 2-1/8$ " clevis pins and spring cotter provided, as shown in Figure 6.

3. Install hex locknut and clevises onto each of the two control arms in the attachment kit.

4. With tractor selector lever in the PARK position, start tractor and pull implement lift lever down into the float position.

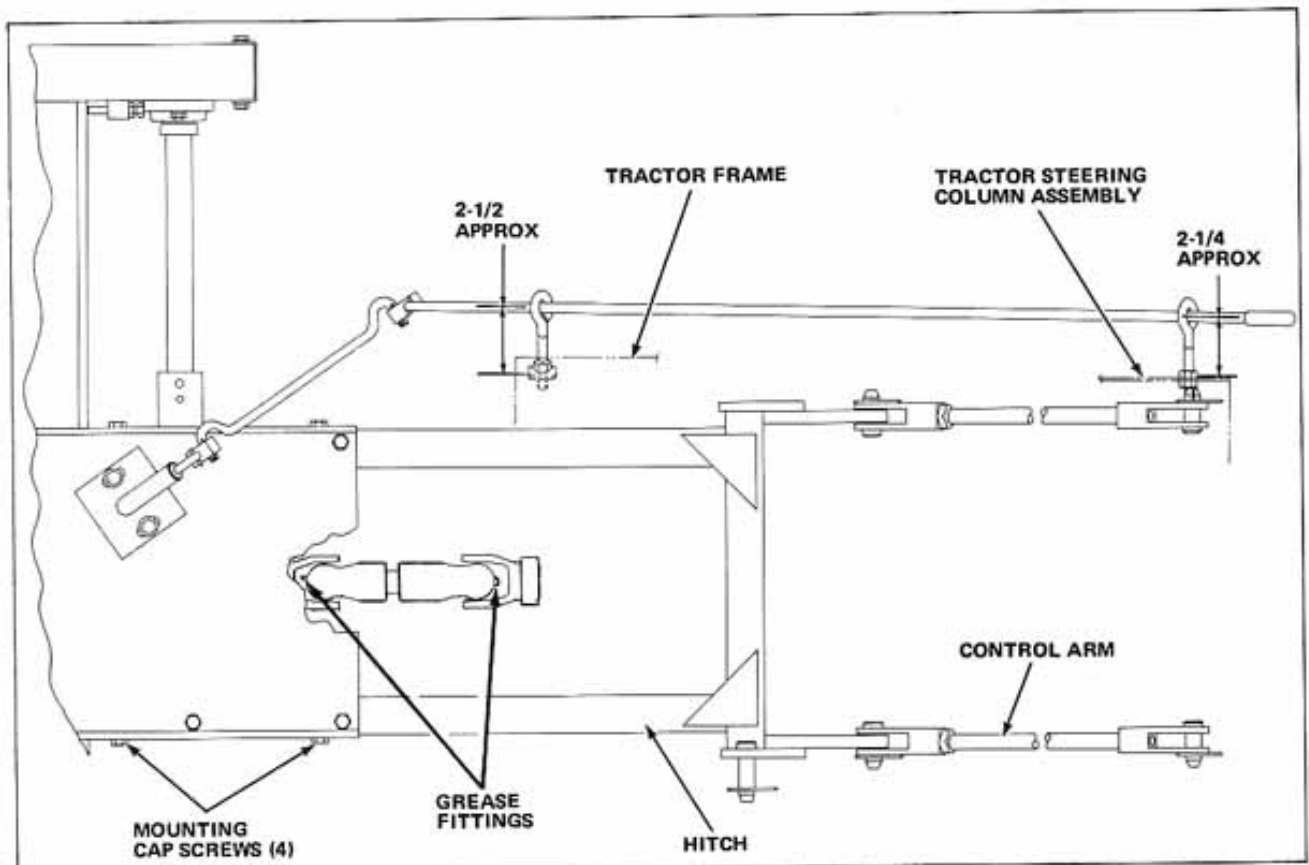


Figure 5

5. Shut off engine and attach the two control arms to the tractor lift arms with clevis pins and spring cotters. Adjust right hand control rod so that there is 24" with kit #18101-01, 26-1/2" with kit #18102-01 between center lines of clevis mounting holes and secure to the right hand horizontal hitch arm with clevis pin and spring cotter as shown in Figure 6. Adjust left hand control rod as required and secure to left hand hitch arm with remaining clevis pin and spring cotter.

6. Depress the lock collar on the universal joint and guide the universal onto the front splined end of tractor P.T.O. shaft. Slide universal onto P.T.O. shaft past lock groove as far as it will go. Install other end onto snow caster input shaft, slide forward until lock collar locks into locking groove in tractor P.T.O. shaft.

7. Start engine and raise unit to the *maximum height*. Check for front frame casting vs. universal joint clearance.

NOTE

THIS HOOK-UP WILL ALLOW FOR APPROXIMATELY 10" OF LIFT ABOVE HORIZONTAL AND APPROXIMATELY 5" BELOW HORIZONTAL.

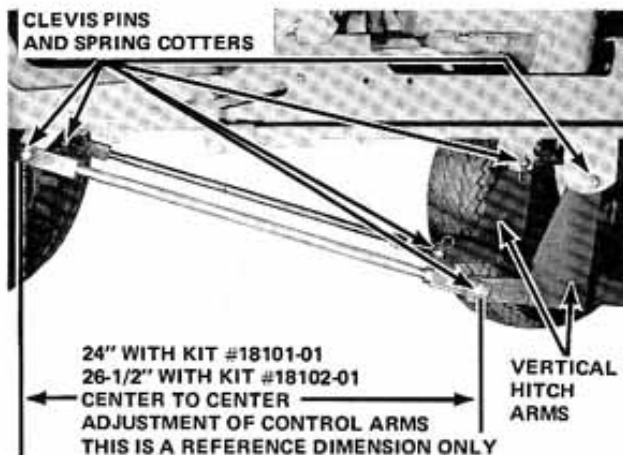


Figure 6

NOTE

IF UNIVERSAL JOINT HITS AXLE SUPPORT WHEN SNOW CASTER IS RAISED TO ITS HIGHEST POSITION, READJUST CONTROL ARMS SO UNIVERSAL JOINT JUST CLEARS AXLE SUPPORT.

IMPORTANT

ALWAYS REMOVE UNIVERSAL JOINT FROM POWER TAKE OFF SHAFT IF SNOW CASTER IS REMOVED FROM TRACTOR. IF THE UNIVERSAL JOINT IS NOT REMOVED AND THE POWER TAKE OFF IS ENGAGED, DAMAGE WILL RESULT FROM WHIPPING ACTION OF THE FREE UNIVERSAL JOINT.

CHUTE CONTROL CRANK

To mount chute control crank the two eye bolts must be installed to the Right side of the tractor as shown in Figures 5 and 7. Thread the 3/8-16 hex nut onto each eye bolt. Install the lower eye bolt into the tapped hole in the front of the Right Hand tractor frame member. Install the upper eye bolt into the hole just to the rear of the hood in the Right side of the rear panel, secure with 3/8-16 hex nut.

NOTE

DO NOT LOCK EYE BOLTS IN PLACE AT THIS TIME.

Next, slip the crank handle through the eye bolts from lower eye bolt up. Handle end first, then position the eye bolts so that the crank handle moves freely and lock the eye bolts in place.

NOTE

SEE FIGURE 5 FOR CORRECT MOUNTING OF EYE BOLTS. THEN ATTACH THE CRANK HANDLE ASSEMBLY TO THE SWIVEL BLOCKS AS SHOWN IN FIGURE 7 AND INSERT COTTER KEYS.

Install red plastic grip onto crank handle.

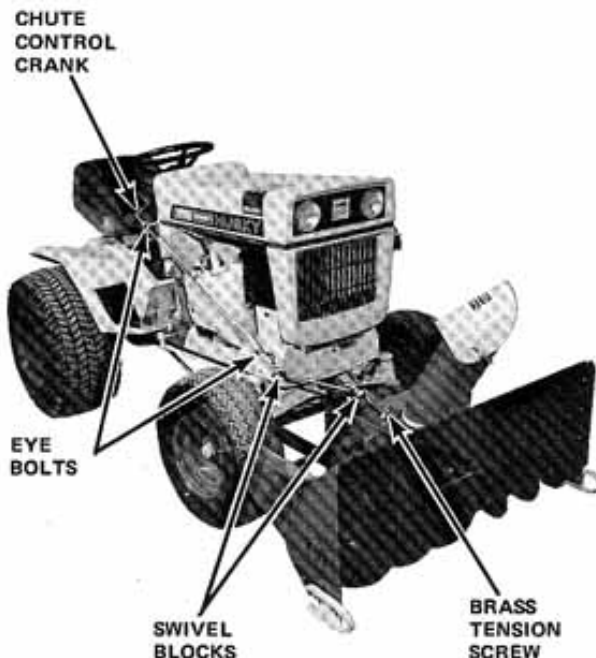


Figure 7

CHAIN TENSION

The chain is properly adjusted when it has approximately 1/8 inch of slack. A chain too loose is inclined to jump and too tight a chain will cause excessive wear of chain and sprockets.

To adjust chain tension, first loosen the four hex head cap screws located beneath the gear box assembly, as shown in Figure 8. Next loosen the two carriage bolts which mount the self-aligning bearing to the rotor drive shaft, as shown in Figure 9. Then loosen the hex nut and adjust the hex head cap screw to position sprocket to the desired chain tension.

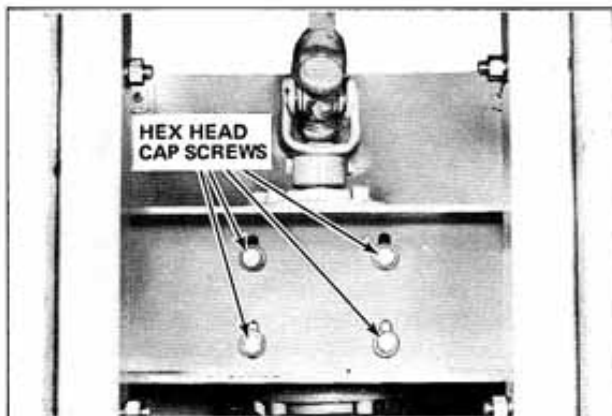


Figure 8

IMPORTANT

BE SURE TO MOVE THE GEAR CASE AND THE SPROCKET AN EQUAL DISTANCE TO MAINTAIN PROPER ALIGNMENT OF THE CHAIN ON THE SPROCKET.

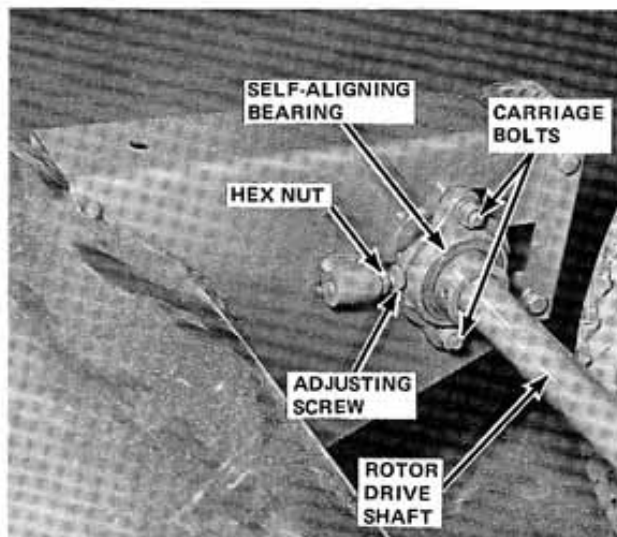


Figure 9

Tighten the two carriage bolts which mount the bearing and the four cap screws under the gear box.

LUBRICATION

The Snow Caster has two grease fittings: one on each power driven universal joint. Lubricate working parts with light oil for smoother performance and to reduce wear. The gear case is filled at the factory to filler hole level with #90 SAE gear lubricant. Check oil level *before* using the Snow Caster and every 6 hours of operation thereafter. Add #90 SAE lubricant as necessary to maintain filler hole level.

Lift the flexible plastic seal around bottom of the chute and pour a small amount of "Ethylene Glycol" (permanent anti-freeze) into the joint and replace seal. This will lubricate the pivot area and help prevent excessive icing in this area.

OPERATION

There are three controls for operating the Snow Caster: the tractor power take off lever for engaging and disengaging the rotor; the tractor lift lever for raising and lowering the Snow Caster; and the chute control crank for controlling the direction of discharge.

The brass tension screw shown in Figure 7 is set to act as a drag on the shaft to prevent the duct assembly from turning in operation due to the force of the snow. As adjustment becomes necessary, tighten the screw until a dragging action is noticed when rotating the discharge chute.

CAUTION

DO NOT TIGHTEN SO AS TO CAUSE A BINDING OF THE CHUTE CONTROL CRANK.

If, when the duct is turning, it binds on the housing assembly, adjust the two hex head cap screws (Figure 9) which secure the closure plate to the housing.

In deep snow, the initial or full width cut should be made by partially raising the Snow Caster and moving forward as far as possible. Then reverse the tractor, lower the Snow Caster and remove the remaining portion of snow. When using the Snow Caster in light snow or in cleaning scattered remains, operate the tractor at a higher ground speed to maintain a stream of snow coming out of the chute. Small amounts of snow in intermittent intervals may cause a build up of snow in the chute resulting in eventual chute clogging.

CAUTION

1. Before starting the tractor, be sure the Snow Caster is disengaged.

2. Under normal conditions always operate tractor with engine at full throttle and at a low ground speed to assure maximum power and casting distance.

3. Do not overload the Snow Caster in deep snow, but rather reduce width of cut to maintain full engine RPM to effect full casting distance.

4. Should the Snow Caster become overloaded, stop the forward motion until the unit has cleared and full engine RPM is evident.

5. Should the chute become plugged due to overload, disengage the rotor, shut off the engine and dislodge the packed snow WITH A STICK. NEVER ATTEMPT TO CLEAR ROTOR OR CHUTE WITH HANDS OR FEET, OR WHILE ENGINE IS RUNNING.

For Drift Slicer, purchase Kit No. 10771.

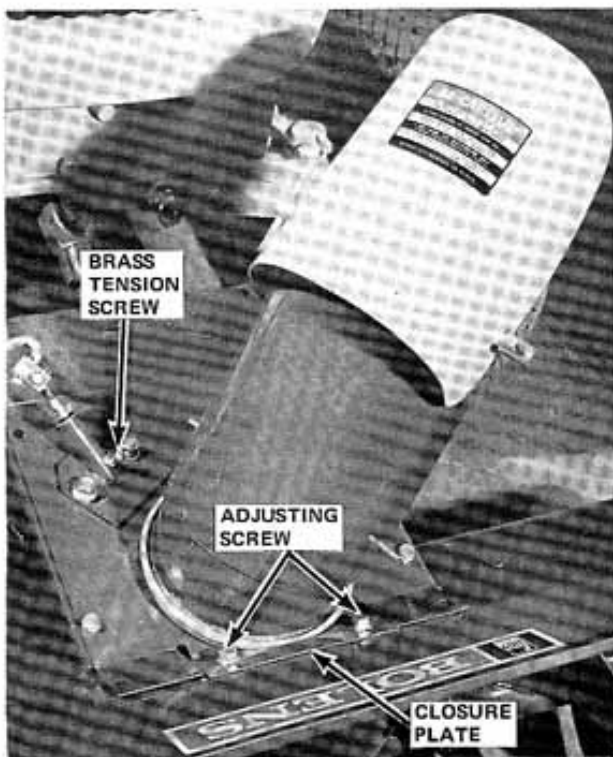


Figure 10

EXTENSION KIT

The Extension Kit (Part No. 18043-01) is for use with tractors equipped with high flotation tires to cut a path wide enough to accommodate the wider tires. See Figure 11. These extensions may be purchased from your Bolens Dealer.

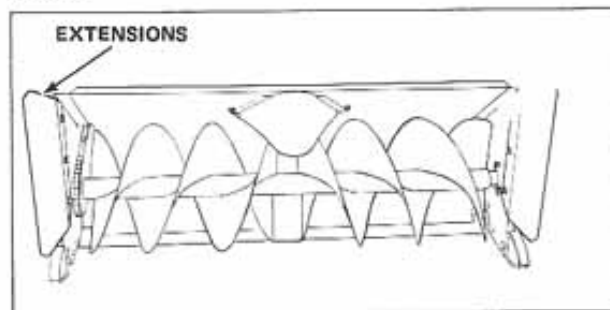


Figure 11

STORAGE

If the unit is stored in heated quarters, allow it to cool to outside temperature before operating. This will help to prevent snow from sticking to the rotor housing, and discharge chute. Before storing the unit or allowing it to stand idle in freezing weather, remove snow from rotor as heavy icing could result in damage when attempting to restart unit. When stored for a long period of time, coat exposed parts with a light film of grease to prevent rusting.

Bolens reserves the right to change specifications, add improvements or discontinue the manufacture of any of its equipment without notice or obligation to purchasers of its equipment when equipment was purchased prior to decision to make changes, add improvements or discontinue manufacture.

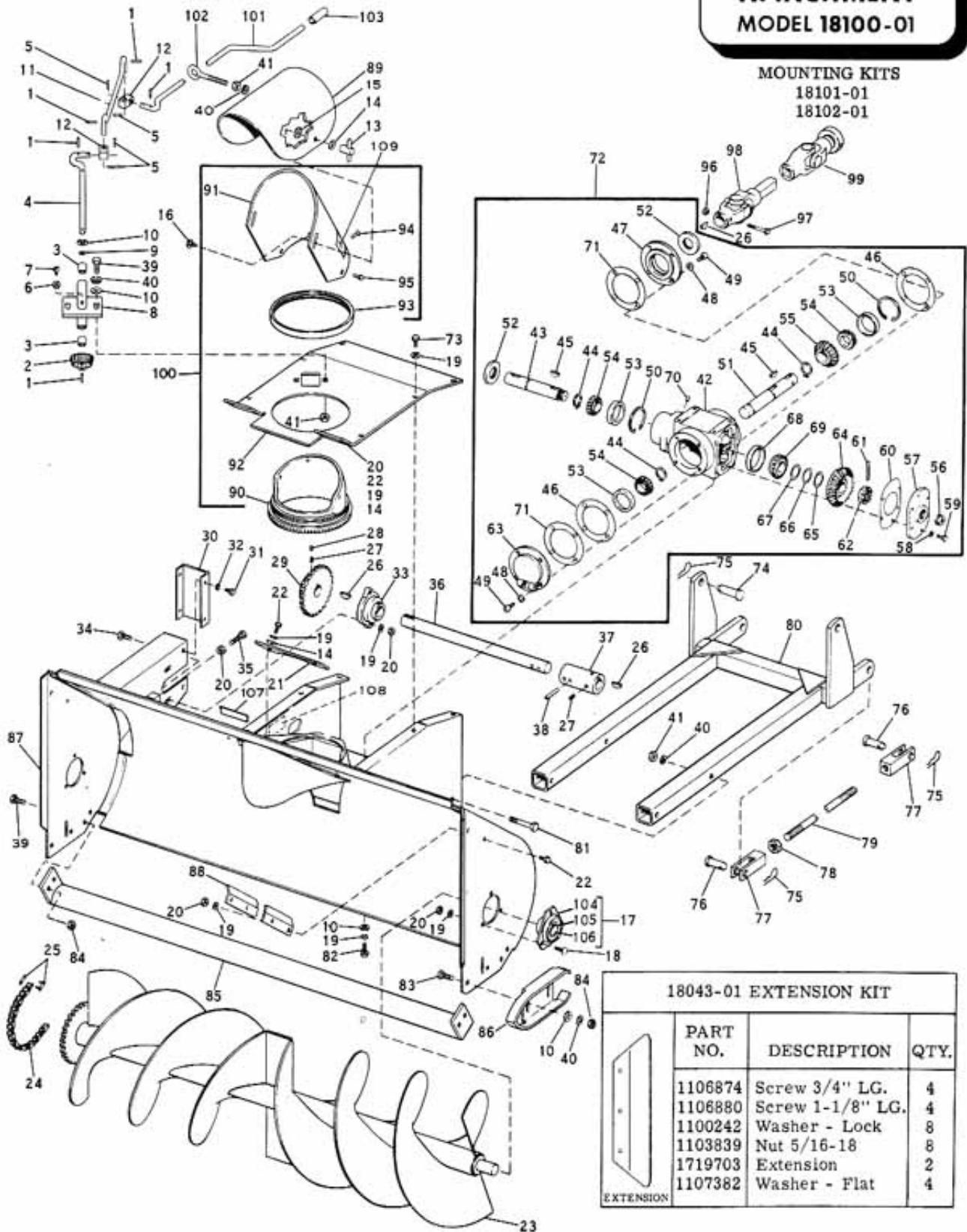
Bolens' approval of the use of attachments manufactured by other manufacturers is limited to assurance that such use will not void Bolens warranty on the Bolens equipment to which the outside manufactured attachments are adapted. The responsibility for the design, performance, durability, safety in operation, service repair availability, and warranty obligation remain with the outside manufacturer. Bolens specifically excludes from its warranty obligation all such outside manufactured attachments.

Bolens warranty will be voided if unapproved attachments are adapted to use with Bolens equipment and are so used.

ILLUSTRATED PARTS LIST

BOLENS
42 INCH
SNO-CASTER
ATTACHMENT
MODEL 18100-01

MOUNTING KITS
 18101-01
 18102-01



18043-01 EXTENSION KIT

PART NO.	DESCRIPTION	QTY.
1106874	Screw 3/4" LG.	4
1106880	Screw 1-1/8" LG.	4
1100242	Washer - Lock	8
1103839	Nut 5/16-18	8
1719703	Extension	2
1107382	Washer - Flat	4

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FORM NO. P-552250 11-70

42" SNO-CASTER ATTACHMENT MODEL 18100-01

Ref. No.	Part No.	Description	No. Req'd.
1	1703 066	Drive Pin, 1/8 x 3/4	7
2	1714 367	Chute Control Pinion	1
3	1185 395	Sleeve Bearing	2
4	1717 017	Chute Control Shaft	1
5	1100 349	Cotter Pin, 1/8 x 3/4	5
6	1121 507	Hex, Nut, 1/4 - 20	1
7	1102 571	Mach. Screw, 1/4-20x3/4	1
8	1719 333	Chute Control Assembly	1
9	1705 119	Bowed Washer	AR
10	1107 383	Flat Washer, 3/8	11
11	1719 344	Chute Control Rod	1
12	1714 782	Swivel Block	2
13	1714 373	Wing Nut	2
14	1107 382	Flat Washer, 5/16	6
15	1185 569	Shakeproof Washer	2
16	1185 518	Square Bolt, 1/4-20x5/8	2
17	1717 076	Self-Aligning Br. Assy (Inc. Ref. #104-105-106)	2
18	1111 265	Carr. Bolt, 5/16-18x3/4	6
19	1100 242	Lockwasher, 5/16	26
20	1182 563	Hex Nut, 5/16-18	15
21	1718 714	Closure Plate	1
22	1106 872	Capscrew, 5/16-18x5/8	8
23	1721 278	Rotor Assembly	1
24	1719 343	Drive Chain	1
25	1185 026	Connector Link	1
26	1100 276	Woodruff Key, 1/4x7/8	3
27	1182 554	Set Screw, 5/16-18x5/16	4
28	1185 259	Set Screw, 5/16-18x1/4	2
29	1718 757	Sprocket - 26T	1
30	1718 771	End Cover	1
31	1106 830	Capscrew, 1/4-20x1/2	4
32	1100 241	Lockwasher, 1/4	4
33	1718 764	Self-Aligning Bearing	1
34	1111 266	Carr. Bolt, 5/16-18x1	2
35	1185 742	Capscrew, 5/16-18x2	1
36	1718 715	Rotor Drive Shaft	1
37	1718 718	Coupling	1
38	1187 614	Drive Pin, 1/4 x 1-3/4	1
39	1111 284	Carr. Bolt, 3/8-16x3/4	6
40	1100 243	Lockwasher, 3/8	12
41	1121 509	Hex Nut, 3/8 - 16	9
42	1719 710	Gear Case (Incl. 65, 66, 67, 68, & 69)	1
43	1718 721	Shaft, Output	1
44	1185 689	Retaining Ring	3
45	1709 611	Woodruff Key, 1/4 x 7/8	2
46	1717 456	Gear Box Gasket	AR
47	1717 454	Bearing Retainer	1
48	1100 242	Lockwasher, 5/16	8
49	1185 686	Capscrew, 5/16-18x3/4	8
50	1118 735	Retaining Ring	2
51	1718 720	Shaft, Input	1
52	1185 687	Oil Seal	2
53	1185 660	Bearing Cup	3
54	1185 661	Bearing Cone	3
55	1717 457	Bevel Pinion - 18T	1
56	1100 937	Pipe Plug, 3/4 N.P. T.	1

Ref. No.	Part No.	Description	No. Req'd.
57	1717 448	Cover	1
58	1100 241	Lockwasher, 1/4	6
59	1185 684	Capscrew, 1/4-20x5/8	6
60	1717 449	Gasket	1
61	1100 352	Cotter Pin, 1/8x1-1/2	1
62	1185 662	Slotted Nut, 7/8 - 14	1
63	1718 620	Bearing Retainer	1
64	1717 459	Bevel Gear - 29T	1
65	1800 750	Shim - .003	1
66	1800 751	Shim - .005	1
67	1800 338	Shim - .015	1
68	1185 118	Bearing Cup	1
69	1185 688	Bearing Cone	1
70	182 682	Breather	1
71	1719 501	Gear Box Gasket	AR
72	1718 740	Gear Box Assembly	1
73	1106 870	Capscrew, 5/16-18x1/2	6
74	1709 622	Clevis Pin	2
75	1703 011	Spring Cotter	6
76	1713 553	Clevis Pin	4
77	1714 573	End Rod	4
78	1108 891	Jam Nut, 5/8 - 11	2
**79	1719 096	Push Rod (Mod #18101-01)	2
	1722 631	Push Rod (Mod #18102-01)	2
80	1718 713	Hitch Assembly	1
81	1106 934	Capscrew, 3/8-16x 2-1/4	4
82	1106 874	Capscrew, 5/16-18x3/4	4
83	1111 285	Carr Bolt, 3/8-16x1	4
84	1110 108	Self-Locking Nut, 3/8-16	8
85	1718 734	Scraper Assembly	1
86	1715 011	Shoe	2
87	1721 277	Rotor Housing Assembly	1
88	1715 427	Drift Slicer	2
89	1718 723	Deflector Cap	1
90	1718 730	Swivel Duct	1
91	1718 722	Outlet Duct	1
92	1718 724	Gear Cover	1
93	1719 394	Seal Ring	1
94	1104 045	Button Rivet, 3/16 x 1/2	2
95	1100 617	Button Rivet, 3/16 x 3/4	2
96	1110 106	Lock Nut, 1/4- 20	1
97	1106 849	Capscrew, 1/4-20x1-3/4	1
*98	1718 618	Universal Joint Assembly	1
*99	1722 918	Universal Joint	1
100	1718 739	Duct Assy (Inc Ref. #90, 91, 92, 93, 94, & 95)	1
**101	1719 345	Crank Handle Rod (Model # 18101-01)	1
	1722 629	Crank Handle Rod (Model # 18102-01)	1
102	1712 920	Eye Bolt	2
103	1715 685	Grip	1
104	1185 787	Flange	4
105	1185 788	Collar	2
106	1185 587	Bearing Only	2
107	1716 053	Decal-Bolens	1
108	1719 347	Decal-Shear Pin	1
109	1715 670	Decal-Caution	1

*1714207 Repair Kit for Joint Marked 6N

*1714208 Repair Kit for Joint Marked Neapco

**Model 18101-01 used with 1477-01

**Model 18102-01 used with 1886-01



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