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WARRANTY POLICY

Buhler Manufacturing products are warranted for a period of twelve (12) months (90 days for commercial application) from original date of purchase, by original purchaser, to be free from defects in material and workmanship under correct, normal agricultural use and proper applications.

Buhler Manufacturing's obligations under this warranty shall be limited to the repair or exchange, at Buhler Manufacturing's option, of any Buhler Manufacturing product or part which proves to be defective as provided. Buhler Manufacturing reserves the right to either inspect the product at the buyer's location or have it returned to the factory for inspection.

The above warranty does not extend to goods damaged or subject to accident, abuse or misuse after shipment from Buhler Manufacturing's factory, nor to goods altered or repaired by anyone other than an authorized Buhler Manufacturing representative.

Buhler Manufacturing makes no Express Warranties other than those, which are specifically described. Any description of goods, including any references and specifications in catalogues, circulars and other written material published, is for the sole purpose of identifying goods and shall conform to such descriptions. Any sample or model is for illustrative purposes only and does not create an Express Warranty that the goods conform to sample or model shown.

The purchaser is solely responsible for determining suitability of goods sold. This warranty is expressly in lieu of all other warranties expressed or implied. Buhler Manufacturing will in no event be liable for any incidental or consequential damages whatsoever. Nor for any sum in excess of the price received for the goods for which liability is claimed.

WARRANTY CLAIMS:

Warranty requests must be prepared on Buhler Manufacturing Warranty Claim Forms with all requested information properly completed. Warranty Claims must be submitted within a thirty (30) day period from date of failure repair.

WARRANTY LABOR:

Any labor subject to warranty **must** be authorized by Buhler Manufacturing. The labor rate for replacing defective parts, where applicable, will be credited at 100% of the dealer's posted shop rate. Defective parts will receive an extra 10% discount to assist with freight or other incidental costs.

GOVERNMENT LEGISLATION:

Warranty terms and conditions are subject to Provincial or State legislation.

IMPORTANT FACTS:

Buckets and Bucket Tines Carry No Warranty
Bent Spears Carry No Warranty
Snowblower Fan Shafts Carry No Warranty
Mower Blades Carry No Warranty
Portable Auger Parts Have Two (2) Year Warranty
Loader Parts Have Two (2) Year Warranty

IMPORTANT NOTE: This warranty does not apply to rentals

SAFETY INSTRUCTIONS**CAUTION**

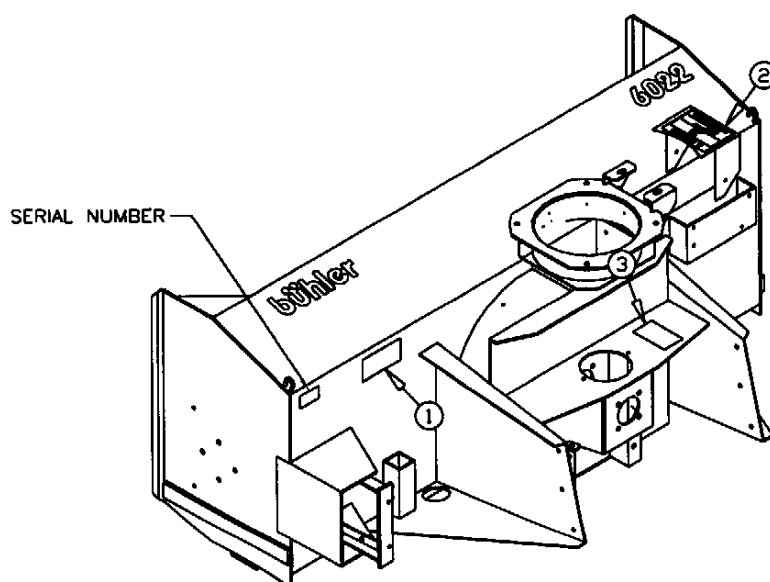
1. Always review operator's manual before starting new machine.
2. Do not let inexperienced operators or children run this equipment.
3. Never service or clean unit while it is running.
4. Do not remove shields.
5. Stay clear of augers.
6. Stay clear of discharge chute. Rocks can be picked up and thrown.
7. Do not operate in the fully raised position.
8. Relieve pressure on hydraulic system before repairing or adjusting.
9. Wear hand and eye protection when looking for hydraulic leaks. Use cardboard to look for leaks.
10. The quick tach must be securely locked in place before using snowblower.
11. Poor judgment results in accidents. Always be careful.
12. Remember a careful operator is the best insurance.

THIS SYMBOL MEANS**STAY ALERT! WATCH FOR IT!**

SNOWBLOWERS

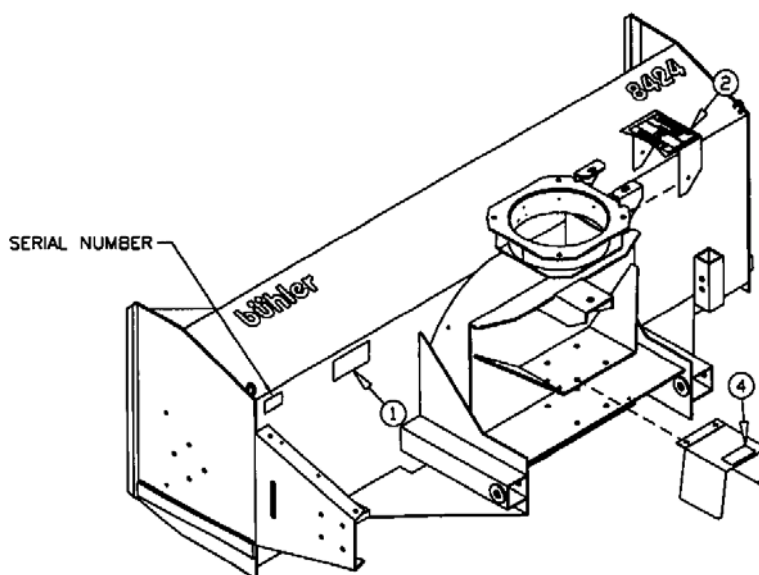
This manual is for both Commercial Hydraulic Snowblowers and Commercial PTO Drive Snowblowers. The hydraulic models come in 60", 74" and 84" widths. The PTO drive model is only available in an 84" width. Hydraulic models come with four different motor series. Hydraulic output on the equipment running the Snowblower must match the requirement for each motor series for the Snowblower to work. The hitch is a skid steer fixed type of quick hitch. The PTO drive model runs at 540 rpm. It is supplied with category 2 hitch pins. There is a shear bolt on the auger and two on the PTO shaft to protect the machine from damage if a large object is picked up. All Snowblowers come with a hydraulic chute control as standard.

Hydraulic Drive



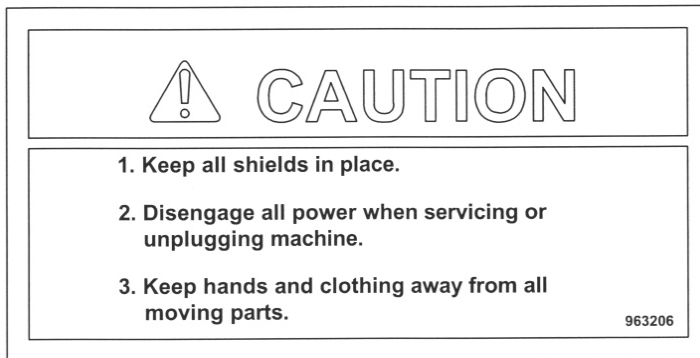
PTO Drive

SC-08



SC-09

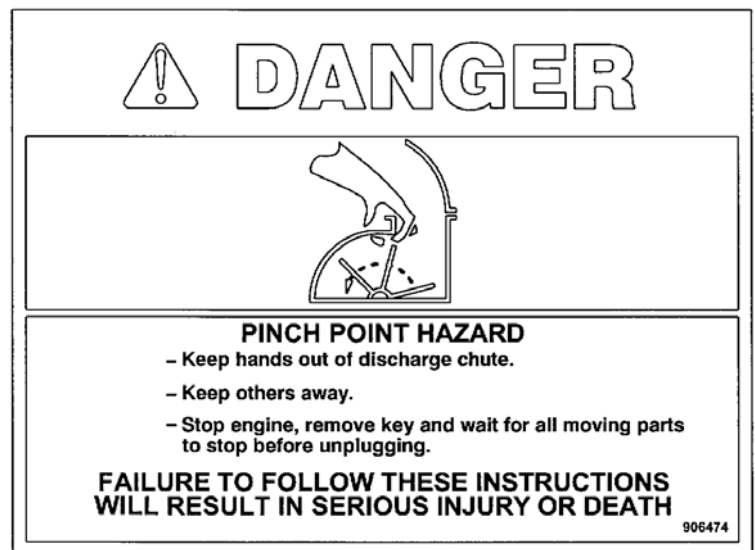
SAFETY SIGNS



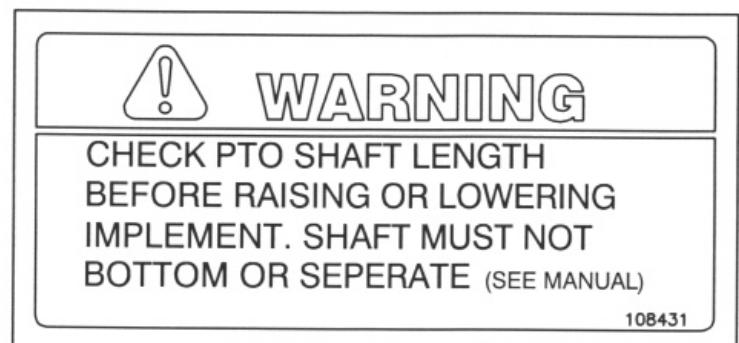
#1



#3



#2



#4

OPERATING INSTRUCTIONS

1. HYDRAULIC DRIVE: All snowblower hydraulic blocks are set at the factory for a 2800 - 3000 psi system. Refer to the section on the hydraulic control block if your system does not fall into this range.
2. ALL: Depth of the cut can be partially controlled by tilting the snowblower forward or backward.
3. PTO DRIVE: Adjust the top link of the tractor hitch so the snowblower is just slightly tilted back when resting on the ground. **⚠ CAUTION:** Excessive backward tilt may cause the “U” joints to flutter resulting in PTO shear bolt failure.
4. PTO DRIVE: The inside holes on the hitch are spaced to fit a category 2 quick hitch using the pins supplied. The hitch will also fit category 2 three point arms or category 3 if you add bushings.
5. PTO DRIVE: Adjust the lower link sway chains or blocks on the tractor to restrict movement of the blower when operating.
6. ALL: All snowblowers have a hydraulic control spout and spout deflector. Refer to the hydraulic control block section. The pressure to the chute control is regulated by the two modulating elements (#14b and #14c). Each controls the hydraulic pressure in one direction. They are set at the factory to about 2 ½ turns. If the pressure is too low, the chute won't turn. If the pressure is too high you could damage the teeth on the spout control ring. To adjust the pressure, you loosen the lock nut on the modulating valve and back off the adjusting screw till the screw turns freely by hand. Turn the screw in till you feel it making contact and turn in 2 ½ turns. Start with this setting to do any fine adjustment if necessary. Pressure should not go over 1000 psi.

The deflector cylinder pressure is regulated by modulating element (#14a). It is set at the factory to about 2 turns. If pressure is too low it will not operate. Excess heat will be generated if it is set too high. Adjust if necessary as per previous paragraph. Operating pressure should be about 700 psi.

7. ALL: Run the snowblower at low rpm to check operation before blowing snow.
8. PTO DRIVE: The blower has three shear bolts to protect the tractor and blower in case a large object enters the blower. PTO shear bolt – two 5/16” x 1” (grade 8); auger shear bolt – 5/16” x 1 ¼” (grade 5). Shear bolts should be fastened with a lock nut or two jam nuts. These bolts must be tight to prevent wear of the bolts and bolt holes.
9. PTO DRIVE: Never run PTO at over 600 rpm.

OPERATING INSTRUCTIONS – cont'd.

10. ALL: Chain tension on auger chain should be set at 3/8" to 1/2" slack.
11. LUBRICATION:
- a) ALL: The gear teeth on the chute control should be periodically lubricated with gun grease.
 - b) PTO DRIVE: PTO shaft universal joints and square shaft slide should be periodically lubricated with a grease gun.
 - c) ALL: Regularly oiling the chain will significantly increase the life of the chain.
 - d) PTO DRIVE: Use any 80-90 gear oil or multigrade with 80 minimum in the gearbox up to the level plug height.
12. ALL: Periodically check all bolts for tightness. The bolt holding on the fan and the bearing bolts are of particular importance.
13. HYDRAULIC DRIVE: Always use goggles and gloves when checking for hydraulic leaks. Use a piece of cardboard instead of your hands to look for leaks.
14. ALL:  Always shut off snowblower for servicing or unplugging. Disengage hydraulics or PTO shaft.
15. PTO DRIVE: Check the shear sprocket at the beginning of every season to make sure it will spin freely. Clean to loosen if necessary.
16. ALL: When replacing bearings or tightening a loose bearing collar, always tighten collar in the direction of shaft rotation using a center punch or a similar tool.
17. HYDRAULIC DRIVE:  **WARNING:** The locking pins must extend through the holes in the attachment when mounting the snowblower to an implement. Levers must be fully down and locked. Failure to secure pins can allow attachment to come off and cause injury or death.

HYDRAULIC CONTROL BLOCK

NON-STALLING-FAN FEATURE:

The Hydraulic Snowblower has a unique modulating element that keeps the blower fan from stalling in an overloaded condition. This is accomplished by starving the hydraulic flow to the front auger motor (which then stops feeding the fan) and diverts all of the flow (and energy) to the main fan motor. As the fan clears itself, and the pressure drops, the auger again begins feeding according to load. When the system is set up properly the fan motor should not stall or plug up.

MODULATING ELEMENT SETUP:

For optimum performance the modulating element (#4) (page 8) must be adjusted to match the system pressure of the tractor being used. The factory setting is for a 2800-3000 psi system. If your system is less, you should make adjustments accordingly. For adjustment:

Loosen the LOCK NUT (on the MODULATING VALVE (#4) (page 8) and back off the adjusting screw till the screw turns freely by hand, and then turn it in till you feel the screw making contact with the pressure spring. One turn sets the pressure up by about 600 psi.

For 2100 psi turn the screw in 3 ½ turns.

For 2400 psi, turn in 4 turns

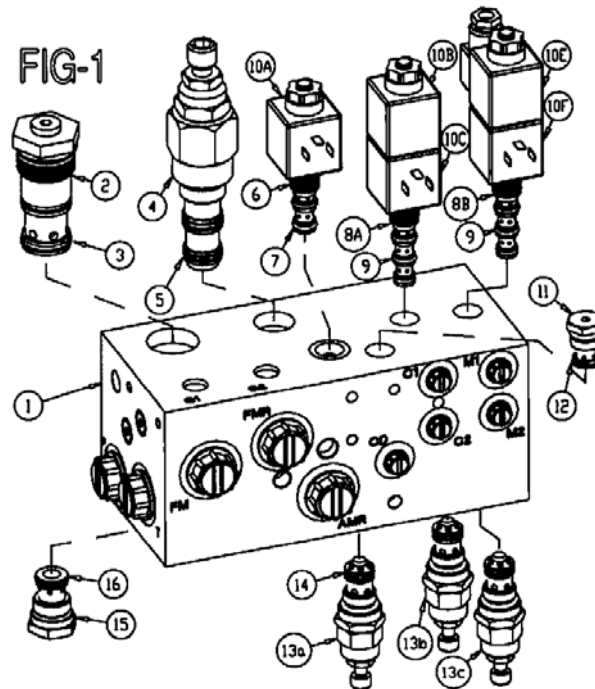
For 2700 psi, turn in 4 ½ turns

For 3000 psi, turn in 5 turns.

If the fan stalls (in an over load condition), the (#6) (page 8) element is set too high. If the Auger slows and stops too soon, it is set too low. Once it is set it should not need to be adjusted any more.

Since there are a number of unknown variables that are unique to almost every situation, it is difficult to give an exact setting for a particular model. The variables are: hose size and length, type and size of quick couplers, etc.

HYDRAULIC CONTROL BLOCK DRAWING AND PARTS LIST



SC-10

HYD MANIFOLD ASSEMBLY

Item #	Part #	Description
1	905669	Main Block
2	813922	Logic Element
3	X2732	Element Seal Kit
4	813923	Control Valve
5	X2733	Seal Kit
6	813924	No-Load Valve
7	X2734	Seal Kit
8ab	813925	Chute Cont. Valves
9	X2735	Seal Kit
10a	813926	No-Load Press. Coil
10bc	813926	Chute Up Down Coil
10ef	813926	Chute Left Right Coil
11	813929	Check Valve
12	X2736	Seal Kit
13a	813930	No-Load Control
13bc	813930	Torque Limit Control
14	X2737	Seal Kit
15	813931	Check Valve
16	X2745	Seal Kit

ASSEMBLY INSTRUCTIONS

1. SPOUT ASSEMBLY FOR ALL SNOWBLOWERS: Remove two of the grooved spout rollers to mount the discharge spout. Replace the two rollers to hold spout in place. Install the 2 ½" x 8" cylinder on the spout using the pins supplied.
2. HYDRAULIC DRIVE: (Page 21 & 22) The 62" long hydraulic lines (#14) for the spout deflector cylinder should be connected to the two ports on the hydraulic block labeled C1 and C2 (see Page 8 for block drawing). The 30" long lines (#15) from the spout control motor connect to the two ports labeled M1 and M2 on the hydraulic block. The ¾" diam. x 84" main lines (#21) connect to the implement. **NOTE:** The customer must supply the appropriate tips to connect the main lines to the implement. A two-piece wiring harness is supplied with all hydraulic snowblowers. The 45" part of the harness (#6) is mounted on the snowblower. One end of this wire connects to the control block. The plug end mounts on a bracket welded to the top edge of the quick hitch. The 155" part (#1) of the harness with the switch is connected to the plug on the harness mounted on the snowblower. A switch mounted in the cab controls the spout and the deflector. The alligator clips attach to the battery which acts as a power source. A schematic of the wiring harness is included in this manual. (See page 31)
3. PTO DRIVE: (Page 23-26)
 1. Slide the two hitch adaptor weldments (#17) into the sleeves on the body. These tubes are adjustable to three different positions. The correct position for each individual tractor will be determined when mounting the snowblower on the tractor (see section on mounting blower on tractor). Start with the tubes pulled out to the last hole. Connect to the snowblower using pins (#71) and linch pins (#73).

Mount the hitch Weldment (#7) to the body. The top arm of the hitch bolts on top of the bracket on the body using a ¾" x 1 5/8" bolt, lock washer and hex nut. The bottom of the hitch bolts to the outside of the two hitch adaptors using 5/8" x 1 ¾" hex bolts, flat washers, lock washers and hex nuts.

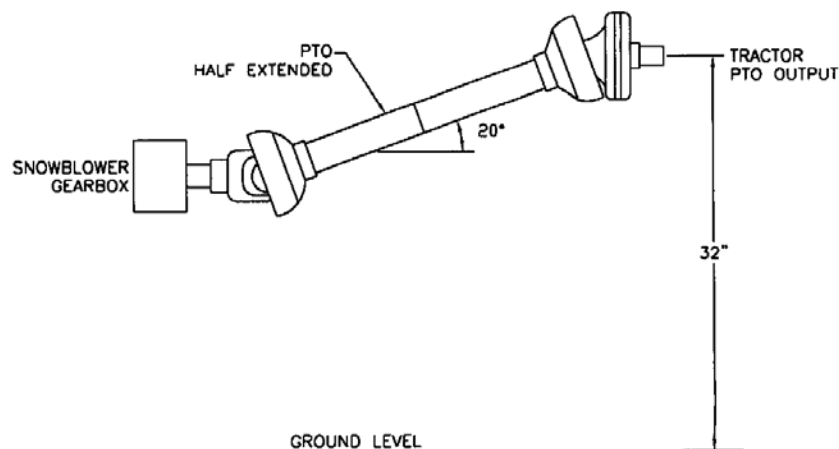
 2. Connect two 108" hoses (#76) to the hydraulic spout control motor and two 108" hoses (#76) to the cylinder on the discharge spout. Connect these hoses to the tractor after mounting the snowblower on the tractor.
 3. Mounting blower on tractor:
 - a) The pins supplied with the snowblower are for a category 2 quick hitch. The quick coupling hitch has two holes both at the top of the hitch and at each lift arm. When using a quick coupler, the pins must be in the inside set of holes. Use the outside set of holes with a standard three-point hitch.

ASSEMBLY INSTRUCTIONS – cont'd.

- b) Using tape or a bright colored marking pen, mark on the outer shields the position where the shaft is completely pushed together and the position where you have a 4" overlap. Watch these marks when moving the blower through all possible operating angles to see that the PTO shaft stays within this range.
- c) With the engine on the tractor shut off, attach the PTO shaft. The tractor end has a standard 6-spline end with a spring loaded locking collar. The snowblower end has a clamp-style yoke with a 3/8" key (#67) supplied. Slide the yoke onto the gearbox shaft with the 3/8" key (#67) supplied. Lock the yoke in place with the 1/2" x 3" bolt (#39) and lock nut (#40) fitted through the groove in the gearbox shaft. After tightening the bolt, insert and tighten the 3/8" socket set screw (#74) supplied.

⚠ Caution: Always check to see that both ends of the PTO shaft are securely attached every time the Snowblower is used. This should always be done with the tractor engine off.

- d) Check that the PTO shaft does not bottom or separate with the blower in the extreme high and low positions. A longer optional PTO shaft is available if the standard shaft is too short. Check for free movement of all parts in various raised positions; particularly the PTO shaft.
- e) **NOTE:** Excessive U-joint wear and shear pin failure may result if the tractor PTO angle exceeds 20°. The drawing below gives an approximate way to check this angle. With the PTO half extended, the tractor output should not be over 32 inches high. Use 34 inches if the PTO is nearly compressed.



SC-11

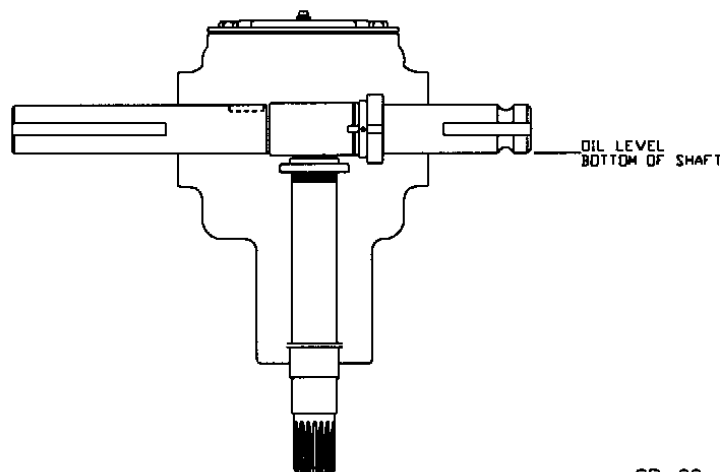
ASSEMBLY INSTRUCTIONS – cont'd.

4. PTO SHIELD: All PTO snowblowers are supplied with a PTO shield (#18). To install, remove the two rear bolts at the top of the gearbox (#34). Bolt the PTO shield to the gearbox by the hinges using these same bolts. A utility spring (#68) keeps the shield in place. Hook one end of the spring in the hole in the shield and the other end to the hole in the brace under the gearbox.



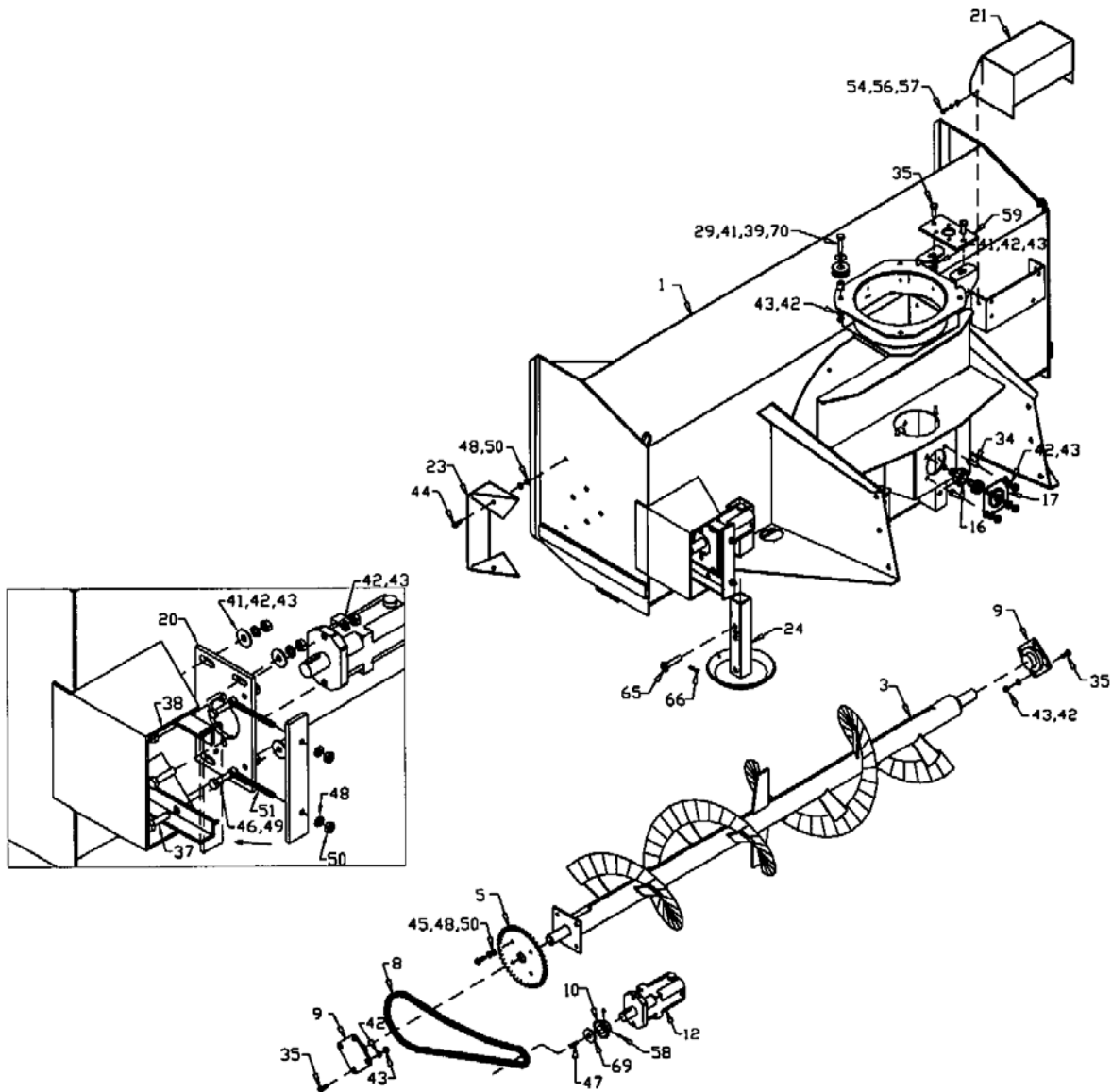
CAUTION: Do not run the snowblower without this shield in place.

REFILLING GEARBOX WITH OIL: If the gearbox requires refilling with oil because of repairs to the gearbox, add oil to the level shown in drawing. Check the level regularly using the plug in the lid. The correct level is even with the bottom of the plug.

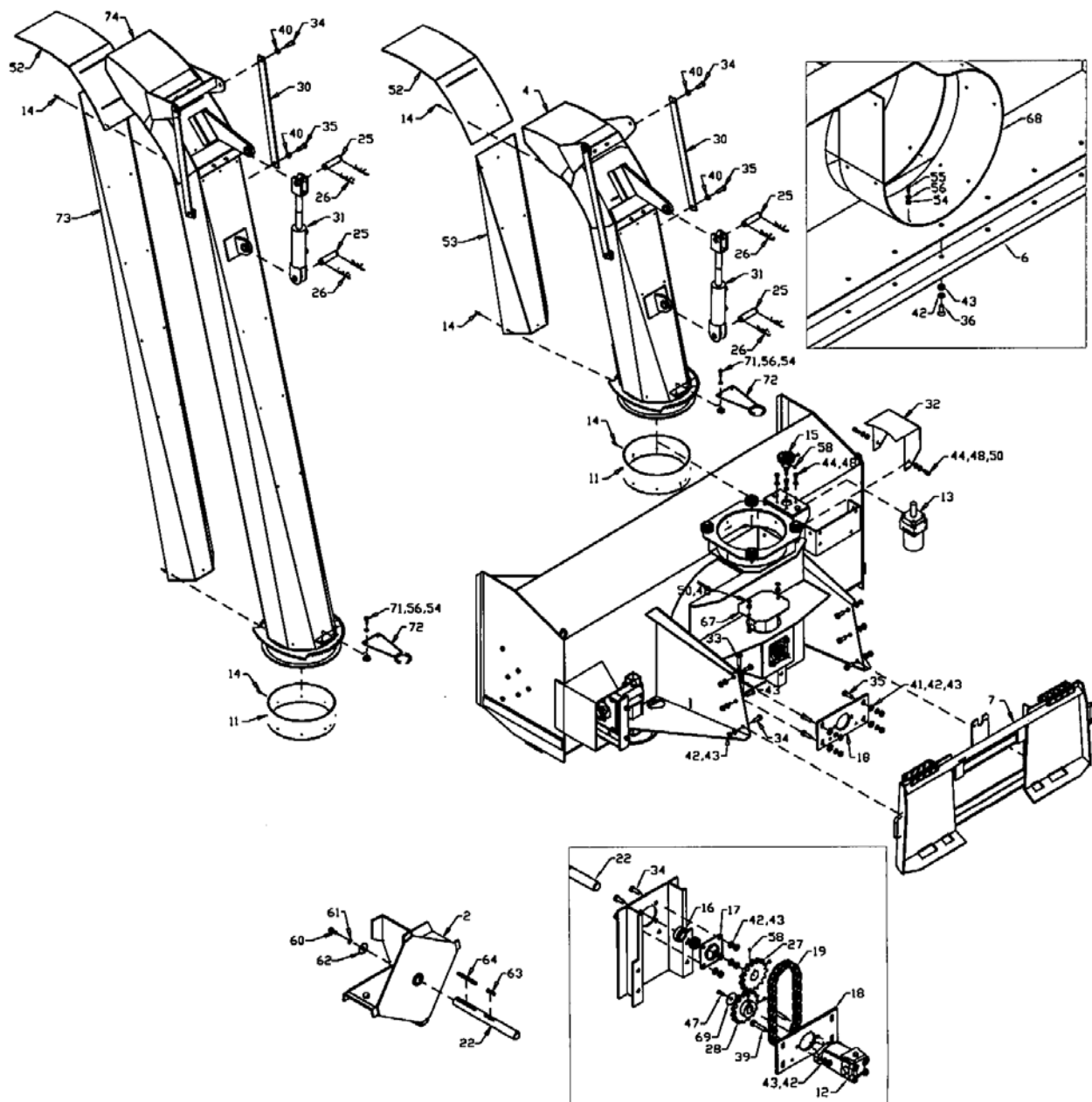


SB-09

HYDRAULIC COMMERCIAL SERIES SNOWBLOWER – 22" HOUSING



SC-02



SC-03

WHEN ORDERING PARTS

Always give your dealer the Model, Color and Serial Number of your machine to assist him in ordering and obtaining the correct parts. Use the exploded view and tabular listing of the area of interest to exactly identify the required part.

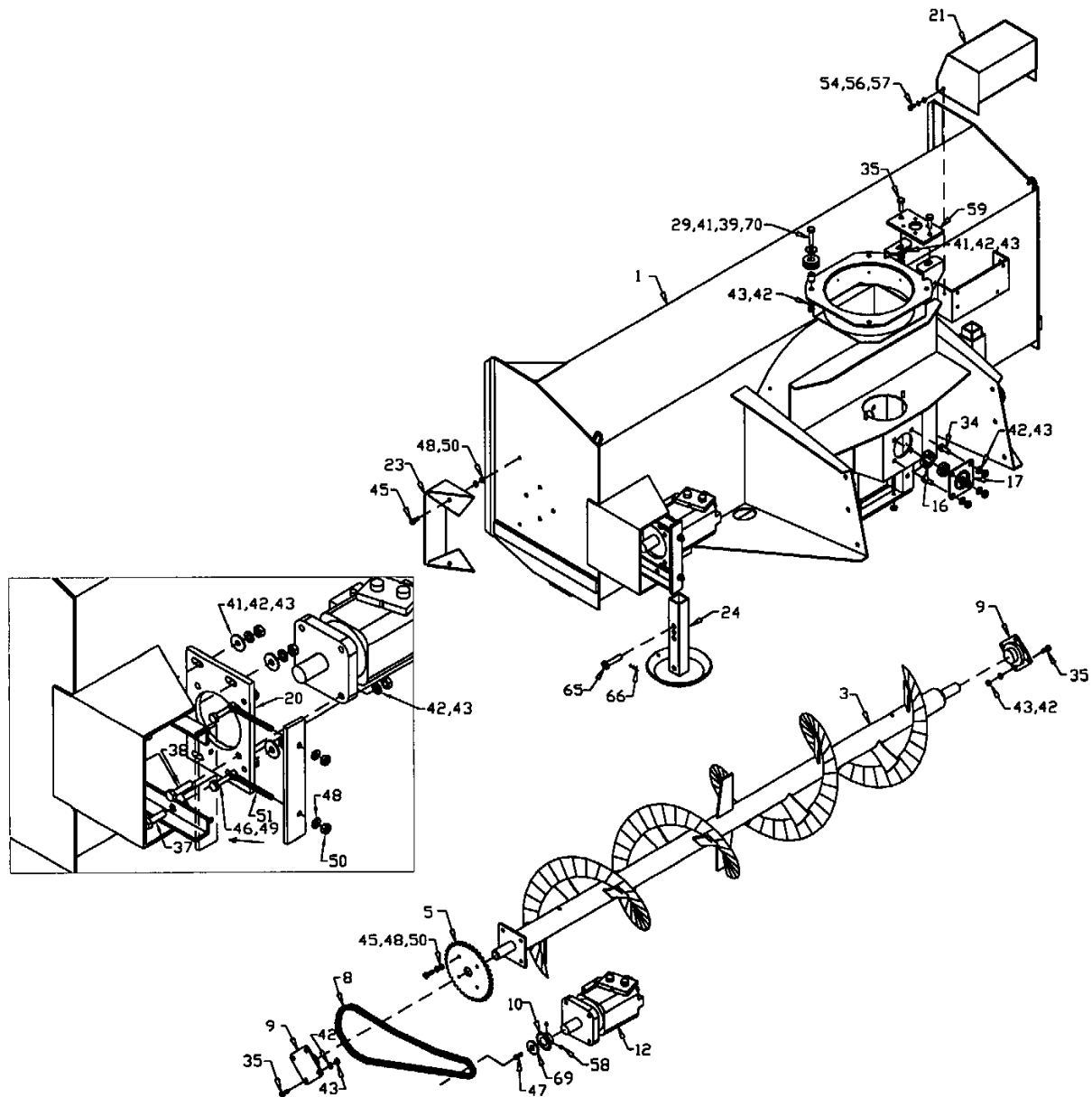
Hyd Commercial Series Snowblower - 22" Housing

Item #	Part #	Description
1	905536	Main Body Weldt - 74"
	905534	Main Body Weldt - 60"
2	905226	Fan Weldt - 22"
3	905206	Auger Weldt - 74"
	905210	Auger Weldt - 60"
4	905550	Spout Weldt
5	965912	40 Tooth Sprocket #60, 1 3/8" Bore
6	902880	Cutting Edge (74")
	902883	Cutting Edge (60")
7	905291	Adaptor
8	906658	Roller Chain (#60H x 72 Links w/ Conn)
9	965426	1 3/8" Housing W/ Bearing
	965430	1 3/8" Bearing W/ SS Lock
10	906322	Auger Sprocket 15T #60 (1 1/4" Bore) (Ser 1 - 3)
	906323	Auger Sprocket 15T #60 (1 1/2" Bore) (Ser 4)
11	906332	Spout Liner
12	905623	Fan Motor - 2 Hole (Ser 1)
	905694	Fan Motor - 2 Hole (Ser 2)
	905695	Fan Motor - 2 Hole (Ser 3)
	905624	Fan Motor - 4 Hole (Ser 4)
13	906335	Spout Motor
14	967440	Pop Rivet SD68BSLF
15	905241	Spout Gear Weldt
16	968627	1 1/2" Bearing w/ Collar
17	967260	1 1/2" Bearing Flange (Set)
18	902869	Fan Motor Mount Plate (Ser 1-3)
	905289	Fan Motor Mount Plate (Ser 4)
19	905362	Roller Chain (#80H x 30 Links w/ Conn)
20	905299	Auger Motor Mount Plate (Ser 1-3)
	905528	Auger Motor Mount Plate (Ser 4)
21	906311	Hyd Box Shield Weldt
22	905224	Fan Shaft 1 1/2" x 15 1/4"
23	22695	Chain Cover
24	902407	Skid Plate Weldt
25	103753	Cylinder Clevis Pin 1" x 4"
26	12779	Hair Pin Clip #9 Western Wire
27	960719	Sprocket 15T, #80, 1 1/2" Bore

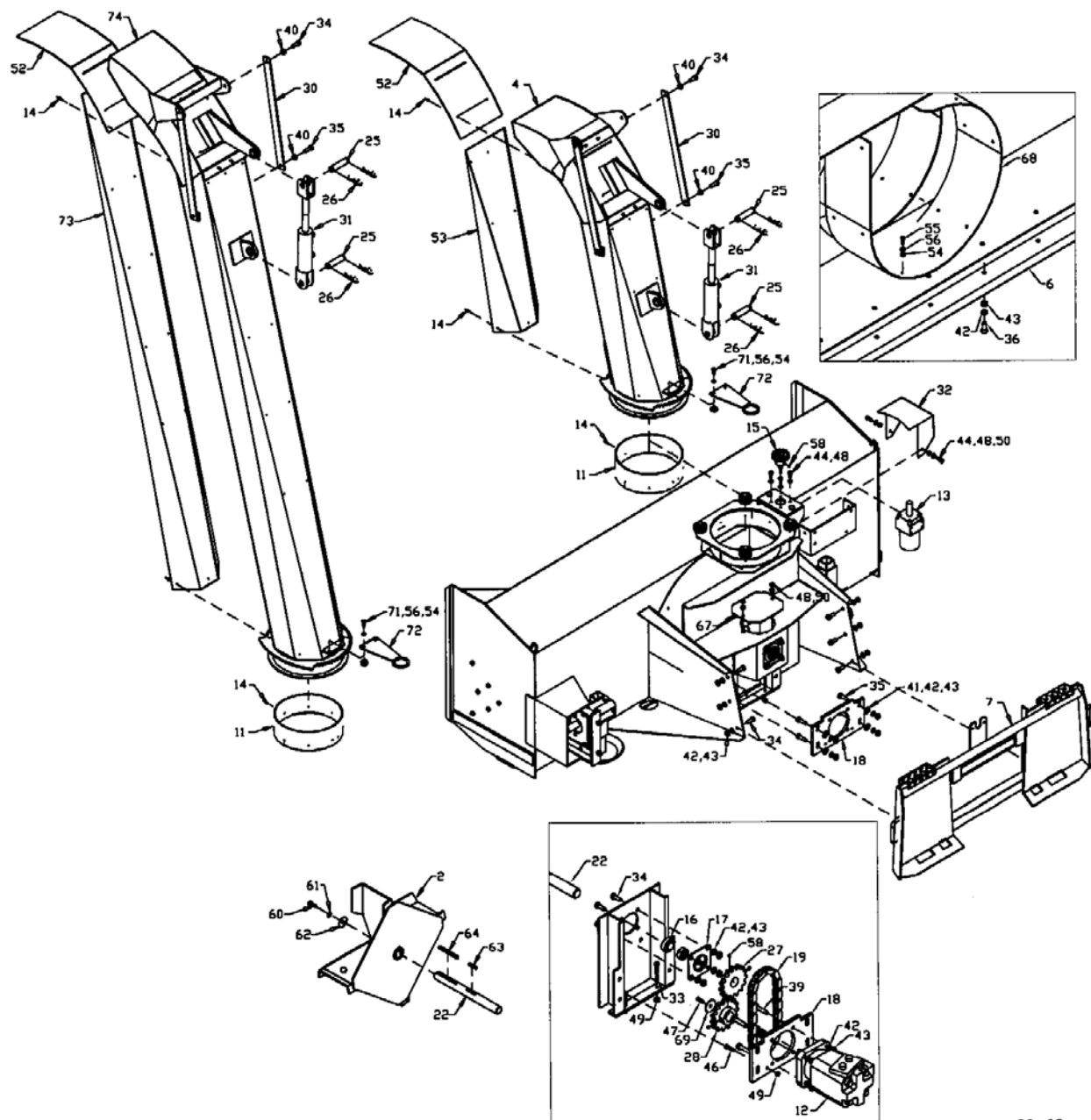
28	905309	Sprocket 15T, #80, 1 1/4" Bore (Ser 1-3)
	960719	Sprocket 15T, #80, 1 1/2" Bore (Ser 4)
29	905237	Spout Roller
30	905181	Spout Link 22"
31	24981	Cylinder 2 1/2" Dia x 8"
32	905554	Spout Sprocket Cover
33	906660	1/2" x 2" Sq Hd Set Screw (pl)
34	81620	1/2" x 1 1/4" Hex Bolt (pl)
35	84277	1/2" x 1 1/2" Hex Bolt (pl)
36	906655	1/2" x 1 1/2" Fl Hd Bolt (skt) (pl)
37	87553	1/2" x 1 3/4" Hex Bolt (pl)
38	811791	1/2" x 2" Hex Bolt (pl) (Series #1-3)
	81624	1/2" x 2 1/4" Hex Bolt (pl) (Series #4)
39	81624	1/2" x 2 1/4" Hex Bolt (pl)
40	812364	1/2" Lock Nut (pl)
41	81638	1/2" BS Flat Washer Std (pl)
42	81637	1/2" Lock Washer (pl)
43	81636	1/2" Hex Nut (pl)
44	86170	3/8" x 1" Hex Bolt (pl)
45	86171	3/8" x 1 1/4" Hex Bolt (pl)
46	811792	3/8" x 1 1/2" Hex Bolt (pl)
47	967431	3/8" x 1" Flat Bolt (skt) (pl)
48	81593	3/8" Lock Washer (pl)
49	812363	3/8" Lock Nut (pl)
50	81592	3/8" Hex Nut (pl)
51	905543	3/8" x 4" Auger Chain Bolt Weldt
52	905648	Spout Liner Middle
53	905647	Spout Liner Bottom
54	81568	5/16" Hex Nut (pl)
55	906393	5/16" x 3/4" Fl Hd Bolt (skt) (pl)
56	81569	5/16" Lock Washer (pl)
57	81549	5/16" x 3/4" Hex Bolt (pl)
58	988999	3/8" x 3/8" Socket Set Screw
59	902874	Spout Motor Mount Plate
60	84268	5/8" x 1 1/2" Hex Bolt (pl)
61	81677	5/8" Lock Washer (pl)
62	81678	5/8" BS Flat Washer Std (pl)
63	965821	3/8" x 1 3/4" Key
64	905310	3/8" x 4 1/2" Key
65	900712	Skid Pin Weldt 5/8" x 3"
66	961012	#16 Hair Pin Clip (pl)
67	905278	Cover Plate
68	905336	Fan Housing Liner 68"
69	906348	Motor Washer 13/32" hole x 2" OD

70	906574	Bronze Bushing 7/8" OD x 1"
71	812026	5/16" x 1" Hex Bolt (pl)
72	907590	Spout Hose Holder
73	908966	Spout Liner Bottom (truckloader)
74	907689	Spout Weldt (truckloader)

HYDRAULIC COMMERCIAL SERIES SNOWBLOWER – 24" HOUSING



SC-04



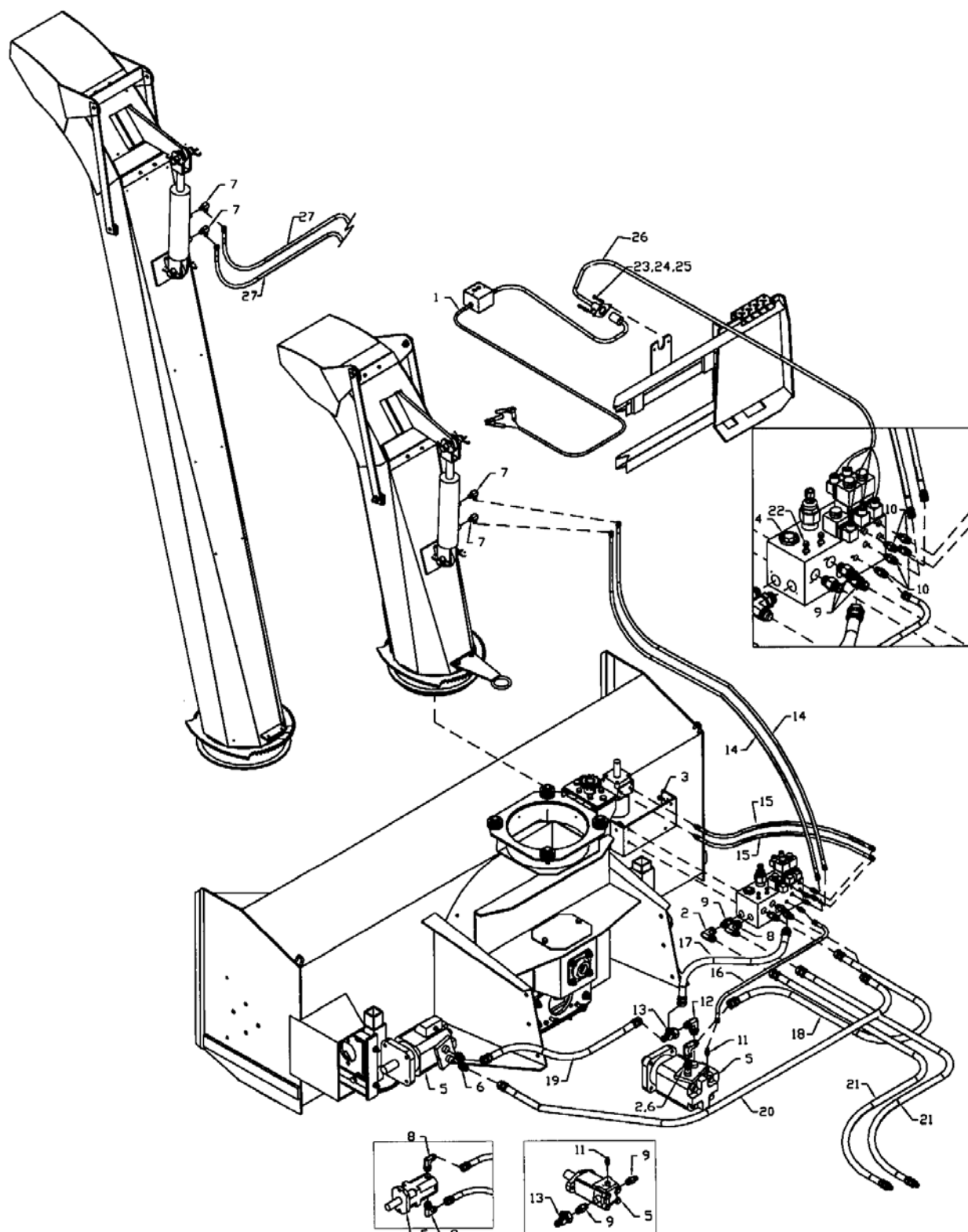
SC-05

Hyd Commercial Series Snowblower - 24" Housing

Item #	Part #	Description
1	905540	Main Body Weldt - 84"
	905538	Main Body Weldt - 74"
2	905225	Fan Weldt - 24"
3	905202	Auger Weldt - 84"
	905206	Auger Weldt - 74"
4	905550	Spout Weldt
5	965912	40 Tooth Sprocket #60, 1 3/8" Bore
6	902879	Cutting Edge (84")
	902880	Cutting Edge (74")
7	905291	Adaptor
8	906658	Roller Chain (#60H x 72 Links w/ Conn)
9	965426	1 3/8" Housing W/ Bearing
	965430	1 3/8" Bearing W/ SS Lock
10	906322	Auger Sprocket 15T #60 (1 1/4" Bore) (Ser 1-3)
	906323	Auger Sprocket 15T #60 (1 1/2" Bore) (Ser 4)
11	906332	Spout Liner
12	905623	Fan Motor - 2 Hole (Ser #1)
	905694	Fan Motor - 2 Hole (Ser #2)
	905695	Fan Motor - 2 Hole (Ser #3)
	905624	Fan Motor - 4 Hole (Ser #4)
13	906335	Spout Motor
14	967440	Pop Rivet SD68BSLF
15	905241	Spout Gear Weldt
16	968627	1 1/2" Bearing w/ Collar
17	967260	1 1/2" Bearing Flange (Set)
18	902869	Fan Motor Mount Plate (Ser 1-3)
	905289	Fan Motor Mount Plate (Ser 4)
19	905362	Roller Chain (#80H x 30 Links w/ Conn)
20	905299	Auger Motor Mount Plate (Ser 1-3)
	905528	Auger Motor Mount Plate (Ser 4)
21	906311	Hyd Box Shield Weldt
22	905224	Fan Shaft 1 1/2" x 15 1/4"
23	22695	Chain Cover
24	902407	Skid Plate Weldt
25	103753	Cylinder Clevis Pin 1" x 4"
26	12779	Hair Pin Clip #9 Western Wire
27	960719	Sprocket 15T, #80, 1 1/2" Bore
28	905309	Sprocket 15T, #80, 1 1/4" Bore (Ser 1-3)
	960719	Sprocket 15T, #80, 1 1/2" Bore (Ser 4)
29	905237	Spout Roller
30	905181	Spout Link 22"
31	24981	Cylinder 2 1/2" Dia x 8"

32	905554	Spout Sprocket Cover
33	905246	3/8" x 3" Fan Bolt Weldt
34	81620	1/2" x 1 1/4" Hex Bolt (pl)
35	84277	1/2" x 1 1/2" Hex Bolt (pl)
36	906655	1/2" x 1 1/2" Fl Hd Bolt (skt) (pl)
37	87553	1/2" x 1 3/4" Hex Bolt (pl)
38	811791	1/2" x 2" Hex Bolt (pl) (Series #1-3)
	81624	1/2" x 2 1/4" Hex Bolt (pl) (Series #4)
39	81624	1/2" x 2 1/4" Hex Bolt (pl)
40	812364	1/2" Lock Nut (pl)
41	81638	1/2" BS Flat Washer Std (pl)
42	81637	1/2" Lock Washer (pl)
43	81636	1/2" Hex Nut (pl)
44	86170	3/8" x 1" Hex Bolt (pl)
45	86171	3/8" x 1 1/4" Hex Bolt (pl)
46	811792	3/8" x 1 1/2" Hex Bolt (pl)
47	967431	3/8" x 1" Flat Bolt (skt) (pl)
48	81593	3/8" Lock Washer (pl)
49	812363	3/8" Lock Nut (pl)
50	81592	3/8" Hex Nut (pl)
51	905543	3/8" x 4" Auger Chain Bolt Weldt
52	905648	Spout Liner Middle
53	905647	Spout Liner Bottom
54	81568	5/16" Hex Nut (pl)
55	906393	5/16" x 3/4" Fl Hd Bolt (skt) (pl)
56	81569	5/16" Lock Washer (pl)
57	81549	5/16" x 3/4" Hex Bolt (pl)
58	988999	3/8" x 3/8" Socket Set Screw
59	902874	Spout Motor Mount Plate
60	84268	5/8" x 1 1/2" Hex Bolt (pl)
61	81677	5/8" Lock Washer (pl)
62	81678	5/8" BS Flat Washer Std (pl)
63	965821	3/8" x 1 3/4" Key
64	905310	3/8" x 4 1/2" Key
65	900712	Skid Pin Weldt 5/8" x 3"
66	961012	#16 Hair Pin Clip (pl)
67	905278	Cover Plate
68	905337	Fan Housing Liner 73 1/2"
69	906348	Motor Washer 13/32" hole x 2" OD
70	906574	Bronze Bushing 7/8" OD x 1"
71	812026	5/16" x 1" Hex Bolt (pl)
72	907590	Spout Hose Holder
73	908966	Spout Liner Bottom (truckloader)
74	907689	Spout Weldt (truckloader)

SNOWBLOWER ASSEMBLY



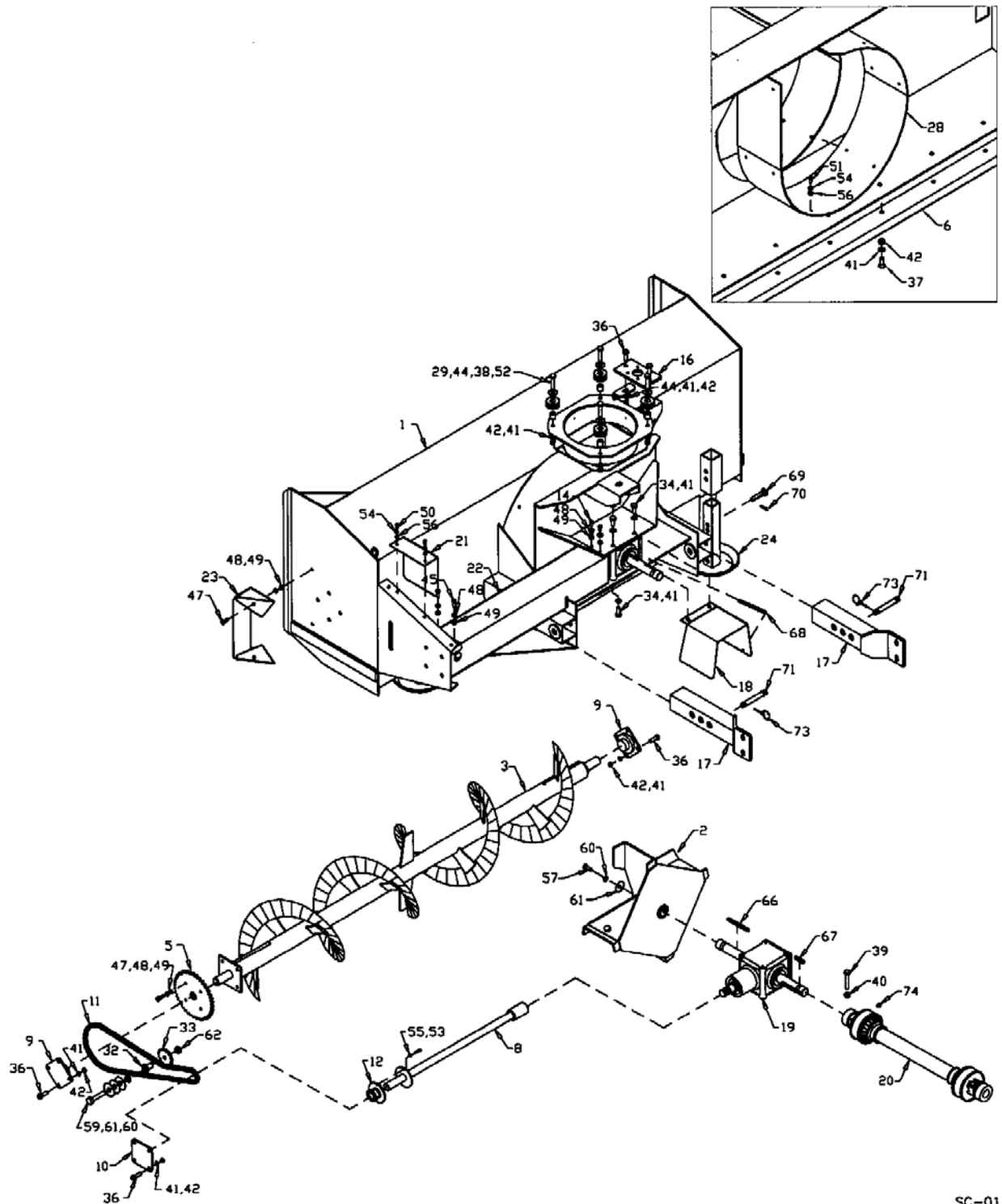
FOR SMALL MOTOR (SERIES #1-3)

SC-06

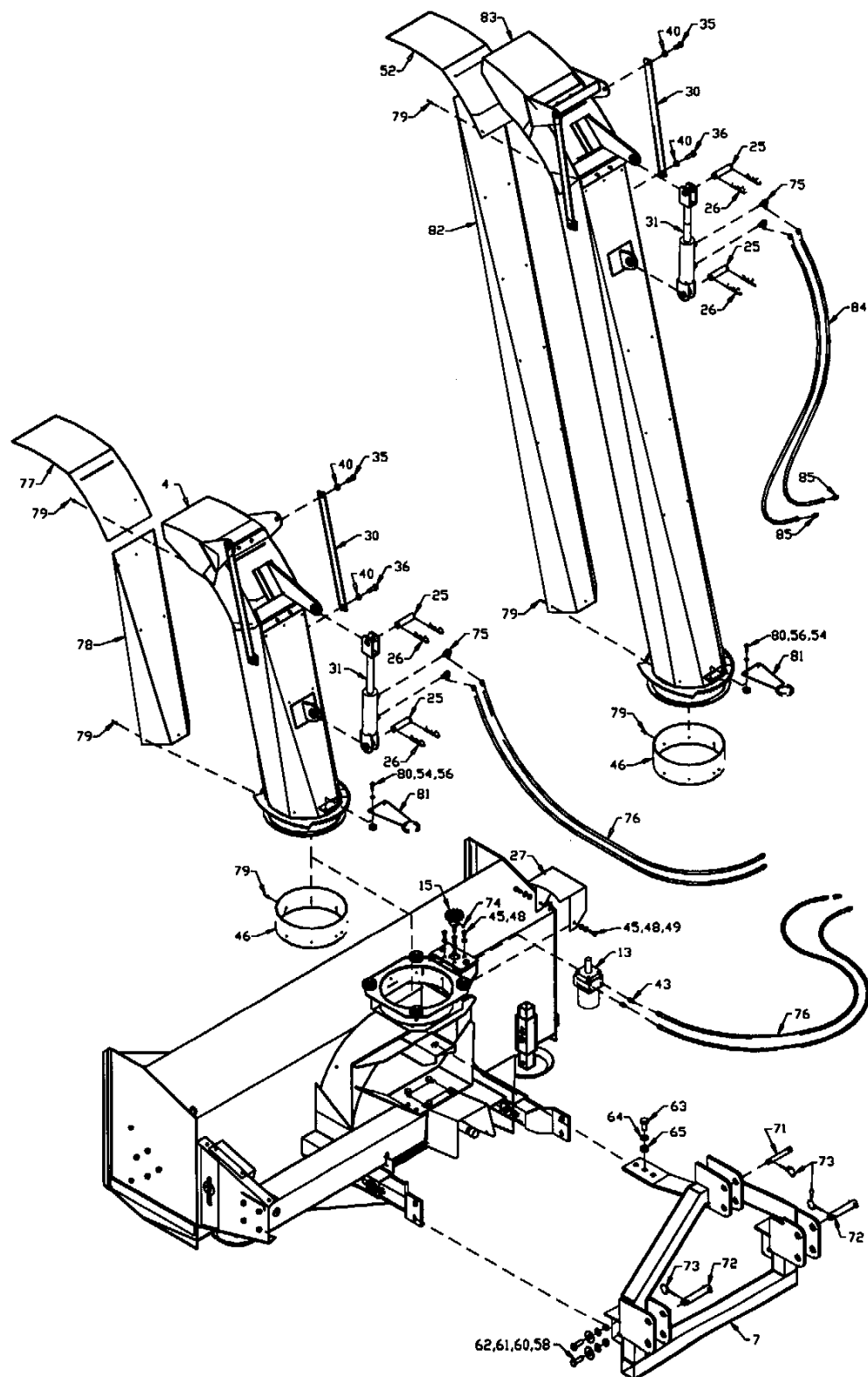
HYD COMMERCIAL SERIES SNOWBLOWER ASSEMBLY

Item #	Part #	Description
1	907412	Wiring Harness - Tractor Half
2	890082	1 1/16 SWFJIC x 1 1/16 MJIC Elbow 90
3	JDF19M7866	HFL Bolt M8 x 20 (10.9) (pl)
4	905669	Hyd Manifold Assembly
5	905623	Series #1 Motor - 2 Holes (Already Assembled)
	905694	Series #2 Motor - 2 Holes (Already Assembled)
	905695	Series #3 Motor - 2 Holes (Already Assembled)
	905624	Series #4 Motor - 4 Holes (Already Assembled)
6	906589	1 5/16 MORB x 1 1/16 MJIC Adaptor Str
7	811918	9/16 MJIC x 9/16 SWMORB Elbow 90
8	812647	1 1/16 MJIC x 1 1/16 MORB Elbow 90
9	812661	1 1/16 MORB x 1 1/16 MJIC Adaptor Str
10	812086	9/16 MORB x 9/16 MJIC Adaptor Str
11	812838	7/16 MORB x 9/16 MJIC Adaptor Str
12	813756	1 1/16 MJIC x 1 5/16 MORB Elbow 90
13	887575	1 1/16 SWFJIC X 1 1/16 MJIC x 1 1/16 MJIC Tee
14	IN29068	3/8" x 80" Hose 9/16 SWFJIC x 9/16 SWFJIC
15	115796	3/8" x 30" Hose 9/16 SWFJIC x 9/16 MORB
16	115618	3/8" x 45" Hose 9/16 SWFJIC x 9/16 SWFJIC - 84"
	115619	3/8" x 40" Hose 9/16 SWFJIC x 9/16 SWFJIC-74"&60"
17	115611	3/4" x 52" Hose 1 1/16 SWFJIC x 1 1/16 SWFJIC-84"
	115612	3/4" x 42" Hose 1 1/16SWFJICxSWFJIC-60"&(74" Ser #4)
	115614	3/4" x 48" Hose 1 1/16 SWFJIC x SWFJIC-74" Ser #1-3
18	115614	3/4" x 48" Hose 1 1/16 SWFJIC x 1 1/16 SWFJIC - 84"
	115616	3/4" x 40" Hose 1 1/16 SWFJIC x SWFJIC - 74" Ser #1-3
	115615	3/4" x 36" Hose 1 1/16 SWFJICxSWFJIC-60"&(74" Ser #4)
19	115612	3/4" x 42" Hose 1 1/16 SWFJIC x 1 1/16 SWFJIC - 84"
	115616	3/4" x 40" Hose 1 1/16 SWFJIC x SWFJIC - 74" Ser #1-3
	115615	3/4" x 36" Hose 1 1/16 SWFJICxSWFJIC-60"&(74" Ser#4)
20	115608	3/4" x 86" Hose 1 1/16 SWFJIC x 1 1/16 SWFJIC - 84"
	115609	3/4" x 74" Hose 1 1/16 SWFJIC x 1 1/16 SWFJIC - 74"
	115610	3/4" x 68" Hose 1 1/16 SWFJIC x 1 1/16 SWFJIC - 60"
21	115617	3/4" x 84" Hose 1 1/16 SWFJIC x 1 1/16 MORB
22	811922	9/16" ORB Steel Plug
23	81525	1/4" x 3/4" Hex Bolt (pl)
24	81545	1/4" Lock Washer (pl)
25	81544	1/4" Hex Nut (pl)
26	907411	Sb Wiring Harness - Sb Half
27	116699	3/8" x 166" Hose 9/16 SWFJIC x 9/16 SWFJIC

PTO COMMERCIAL SERIES SNOWBLOWER – 24 " HOUSING



SC-01



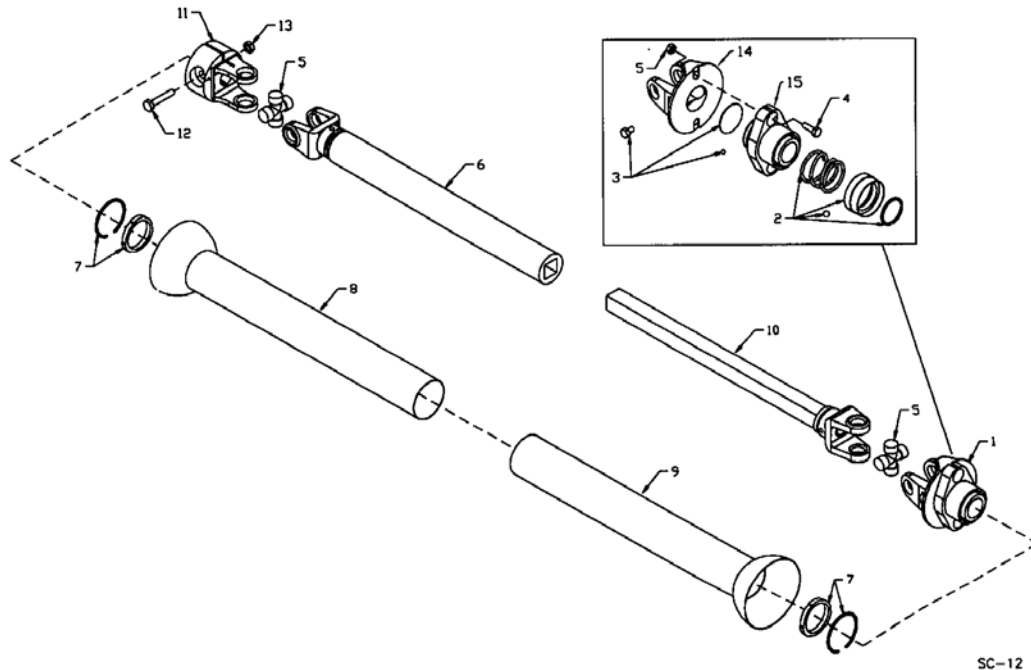
SC-02

PTO Commercial Series Snowblower - 24" Housing

Item #	Part #	Description
1	905298	Main Body Weldt
2	905225	Fan Weldt - 24"
3	905202	Auger Weldt
4	905550	Spout Weldt
5	965912	40 Tooth Sprocket #60, 1 3/8" Bore
6	902879	Cutting Edge (84")
7	F0328	Hitch
8	905196	Drive Shaft
9	965426	1 3/8" Housing W/ Bearing
	965430	1 3/8" Bearing W/SS Lock
10	965433	1 1/4" Housing W/ Bearing (UCF207-20)
	961676	1 1/4" Brg W/ Collar
11	906659	Roller Chain (#60H x 92 Links W/ Conn)
12	965914	13T Sprocket, #60 1 1/4" Bore
13	906335	Spout Motor
14	84072	3/8" x 3/4" Hex Bolt (pl)
15	905241	Spout Gear Weldt
16	902874	Spout Motor Mount Plate
17	905214	Hitch Adaptor Weldt
18	908715	PTO Shield
19	BU50505	Gearbox w/o Oil
20	F0585	PTO Shaft
21	905227	Idler Shield
22	905199	Drive Shaft Guard
23	22695	Chain Cover
24	902407	Skid Plate Weldt
25	103753	Cylinder Clevis Pin 1" x 4"
26	12779	Hair Pin Clip #9 Western Wire
27	905554	Spout Sprocket Cover
28	905337	Fan Housing Liner 73 1/2"
29	905237	Spout Roller
30	905181	Spout Link 22"
31	24981	Cylinder 2 1/2" Dia X 8"
32	965969	Idler Spacer
33	965962	Idler Sprocket, 13T, #60, 5/8" Bore
34	81619	1/2" x 1" Hex Bolt (pl)
35	81620	1/2" x 1 1/4" Hex Bolt (pl)
36	84277	1/2" x 1 1/2" Hex Bolt (pl)
37	906655	1/2" x 1 1/2" Fl Hd Bolt (skt) (pl)
38	81624	1/2" x 2 1/4" Hex Bolt (pl)
39	81627	1/2" x 3" Hex Bolt (pl)
40	812364	1/2" Lock Nut (pl)

41	81637	1/2" Lock Washer (pl)
42	81636	1/2" Hex Nut (pl)
43	812086	9/16 MORB x 9/16 MJIC Adaptor Str
44	81638	1/2" BS Flat Washer Std (pl)
45	86170	3/8" x 1" Hex Bolt (pl)
46	906332	Spout Liner
47	86171	3/8" x 1 1/4" Hex Bolt (pl)
48	81593	3/8" Lock Washer (pl)
49	81592	3/8" Hex Nut (pl)
50	81549	5/16" x 3/4" Hex Bolt (pl)
51	906393	5/16" x 3/4" FI Hd Bolt (skt) (pl)
52	906574	Bronze Bushing 7/8"OD x 1"
53	81552	5/16" x 1 1/4" Hex Bolt (pl)
54	81569	5/16" Lock Washer (pl)
55	812362	5/16" Lock Nut (pl)
56	81568	5/16" Hex Nut (pl)
57	84268	5/8" x 1 1/2" Hex Bolt (pl)
58	84270	5/8" x 1 3/4" Hex Bolt (pl)
59	81671	5/8" x 4" Hex Bolt (pl)
60	81677	5/8" Lock Washer (pl)
61	81678	5/8" BS Flat Washer Std (pl)
62	81676	5/8" Hex Nut (pl)
63	967437	3/4" x 1 5/8" Hex Bolt (pl)
64	81701	3/4" Lock Washer (pl)
65	81700	3/4" Hex Nut (pl)
66	902377	3/8" x 3/8" x 4 3/4" Key
67	968807	3/8"x 3/8" x 2" Key
68	960135	Spring
69	900712	Skid Pin Weldt 5/8" x 3"
70	961012	#16 Hair Pin Clip (pl)
71	965910	Top Link Pin (Cat. 2)
72	965966	Quick Hitch Lift Pin (Cat. 2)
73	965911	Linch Pin 7/16"
74	988999	3/8" Dia x 3/8" Socket Set Screw
75	811918	9/16 MJIC x 9/16 SWMORB Elbow 90
76	115370	3/8" x 108" Hose 9/16 SWFJIC x 1/2 MNPT
77	905648	Spout Liner Middle
78	905647	Spout Liner Bottom
79	967440	Pop Rivet SD68BSLF
80	812026	5/16" x 1" Hex Bolt (pl)
81	907590	Spout Hose Holder
82	908966	Spout Liner Bottom (truckloader)
83	907689	Spout Weldt (truckloader)
84	116699	3/8" x 166" Hose 9/16 SWFJIC x 9/16 SWFJIC
85	812320	1/2" MNPT x 9/16" MJIC Str. Adapter

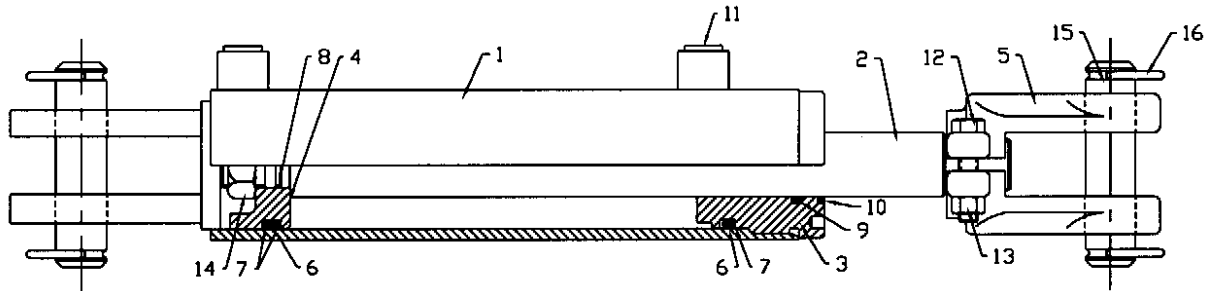
PTO DRIVE COMMERCIAL SNOWBLOWER



PTO DRIVE COMMERCIAL SNOWBLOWER

Item #	Part #	Description
	F0585	Shaft Complete
	907987	Tractor Half of PTO (Shear)
	907988	Implement Half of PTO (Clamp Yoke)
1	907989	Shear Assembly
2	936199	Safety Slide Lock Repair Kit (Collar, Spring, Ret. Ring, 2-Pawls)
3	936249	Shear Assembly Repair Kit (3/8" x 1/2" Bolt, Lube, Blank, 31-1/4" Balls)
4	903297	Shear Bolt - 5/16" x 1" (Grade 8) (Pack of 10)
5	936197	Repair Kit (Option)
	906548	Extended Life Repair Kit (Std.)
6	907994	Yoke & Tube
7	907991	Nylon Bearing
8	907993	Inner Shield
9	907992	Outer Shield
10	907990	Yoke & Shaft
11	907995	Clamp Yoke
12	81627	1/2" x 3" Hex Bolt (pl)
13	812364	1/2" Lock Nut (pl)
14	908002	Shear Yoke
15	936411	6 Spl. Shear Hub

2 1/2" x 8" CYLINDER ASSEMBLY

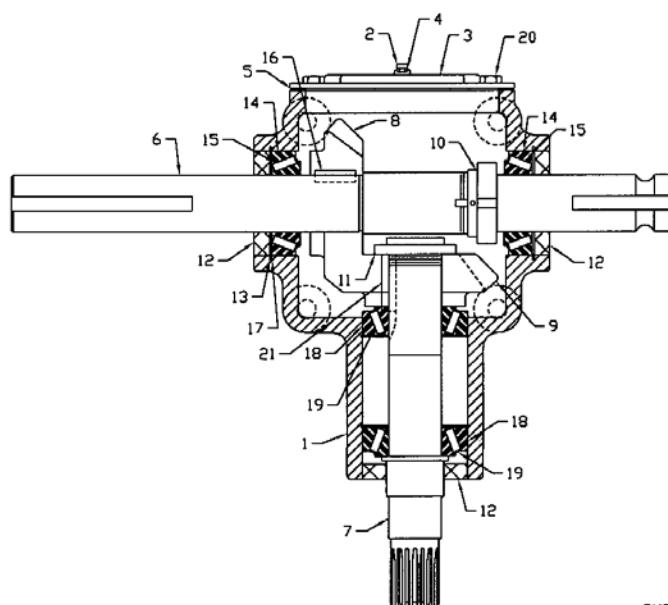


24981

2 1/2" x 8" CYLINDER ASSEMBLY

Item #	Part #	Description
1	24982	Tube Weldment
2	108655	Shaft 1.25 dia x 15.54 Lg
3	23156	2.50 Dia Headplate
4	13109	2.50 Dia Piston
5	13090	Piston Rod Clevis (Cast)
6	82330	2.50 OD x e Sect O-Ring
7	83330	2.50 OD x o Sect Backup Washer
8	82018	0.88 OD x 0.06 O-Ring
9	812200	1.50 OD x 1.25 ID x o Sect Seal
10	81901	1.50 OD x 1.25 ID Dust Seal
11	811922	0.56 MORB Plug
12	81578	3/8" x 1 3/4" Hex Bolt (pl)
13	81592	3/8" Hex Nut
14	104314	7/8" Jam Lock Nut (Steel) (pl)
15	103753	Clevis Pin 1" x 4"
16	12779	Hair Pin Clip
17	22370	Hyd Cyl Decal

PTO DRIVE COMMERCIAL SNOWBLOWER



BU50505

PTO DRIVE COMMERCIAL SNOWBLOWER

Item #	Part #	Description
	BU50505	Gearbox Complete
1	BU50310	Gearbox Casting Only
2	BU500089-3	Pipe Plug
3	BU50457	Gearbox Cover
4	BU500167-1	Relief Valve
5	BU50458	Gearbox Gasket
6	BU50507	Cross Shaft
7	BU50502	Pinion Shaft
8	BU50329	Bevel Gear - 1 1/2" Bore
9	BU50331	Bevel Gear - 1 3/8" Bore
10	BU50428	Staking Lock Nut
11	BU50444	Staking Lock Nut
12	BU50422-1	Oil Seal (3 used)
13	BU50415	Retainer Ring (4 used)
14	BU575902	Bearing Cup (2 used)
15	BU575901	Bearing Cone (2 used)
16	BU50429	Key
17	BU50210X	Shim Set
18	BU575907	Bearing Cup (2 used)
19	BU575906	Bearing Cone (2 used)
20	BU500397-6	Hex Bolt 5/16" NC x 5/8" GR5 (pl)
21	BU50417-1	Key

SPECIFICATIONS

MODEL	B6022HSB-1 B6022HSB-2 B6022HSB-3	B7422HSB-1 B7422HSB-2 B7422HSB-3 B7422HSB-4	B7424HSB-3 B7424HSB-4	B8424HSB-2 B8424HSB-3	B84SB (PTO Drive)
Cutting Width	60"	74"	74"	84"	84"
Cutting Height	28"	30"	30"	30"	30"
Fan Housing	Replaceable UHMW Liner	Replaceable UHMW Liner	Replaceable UHMW Liner	Replaceable UHMW Liner	Replaceable UHMW Liner
Fan	4-Blade	4-Blade	4-Blade	4-Blade	4-Blade
Fan Diameter	21.5"	21.5"	23.5"	23.5"	23.5"
Fan Depth	7.5"	7.5"	7.5"	7.5"	7.5"
Auger Diameter	20"	20"	20"	20"	20"
Auger Center Diameter	3"od x .150 wall	3"od x .150 wall	3"od x .150 wall	3"od x .150 wall	3"od x .150 wall
Auger Thickness	3/8"	3/8" "	3/8"	3/8"	3/8"
Drive Fan	Hyd w/#80 Chain	Hyd w/#80 Chain	Hyd w/#80 Chain	Hyd w/#80 Chain	PTO Gearbox
Drive Auger	Hyd w/#60H Chain	Hyd w/#60H Chain	Hyd w/#60H Chain	Hyd w/#60H Chain	#60H Chain
Body Housing	10ga	10ga	10ga	7ga	7ga
Hitch Type	Skid Steer-fixed	Skid Steer-fixed	Skid Steer-fixed	Skid Steer-fixed	Cat. 3 –3 pt.
Hitch Adjustment	No	No	No	No	3 position
Chute Rotator	Hydraulic-230	Hydraulic-230	Hydraulic-230	Hydraulic-230	Hydraulic-230
Chute Deflector	Hyd.	Hyd.	Hyd.	Hyd.	Hyd.
Cutting Edge	½" x 4" Beveled replaceable	½" x 4" Beveled replaceable	½" x 4" Beveled replaceable	½" x 4" Beveled replaceable	½" x 4" Beveled replaceable
Skid Shoes	Cup Type – adjustable	Cup Type – adjustable	Cup Type – adjustable	Cup Type – adjustable	Cup Type – adjustable
Truckloading Spout	Opt.	Opt.	Opt.	Opt.	Opt.
System Controls & Drive	Hyd. Load Sensing Block flow adjustable	Hyd. Load Sensing Block flow adjustable	Hyd. Load Sensing Block flow adjustable	Hyd. Load Sensing Block flow adjustable	PTO w/shear pin
Hyd. Requirements	13-26 gpm 2000 psi Min.	13-32 gpm 2000 psi Min.	20-32 gpm 2000 psi Min.	20-32 gpm 2000 psi Min.	10 gpm 1000 psi Min.
Approx. Weight	1070 lbs.	1178 lbs.	1193 lbs.	1209 lbs	1307 lbs.

Hydraulic Snowblower Fan RPM to GPM Rating

Series I 13 – 17 gpm 2000 psi min. (6.2 cu.in./rev)

Series II 16 – 22 gpm 2000 psi min. (8 cu.in./rev)

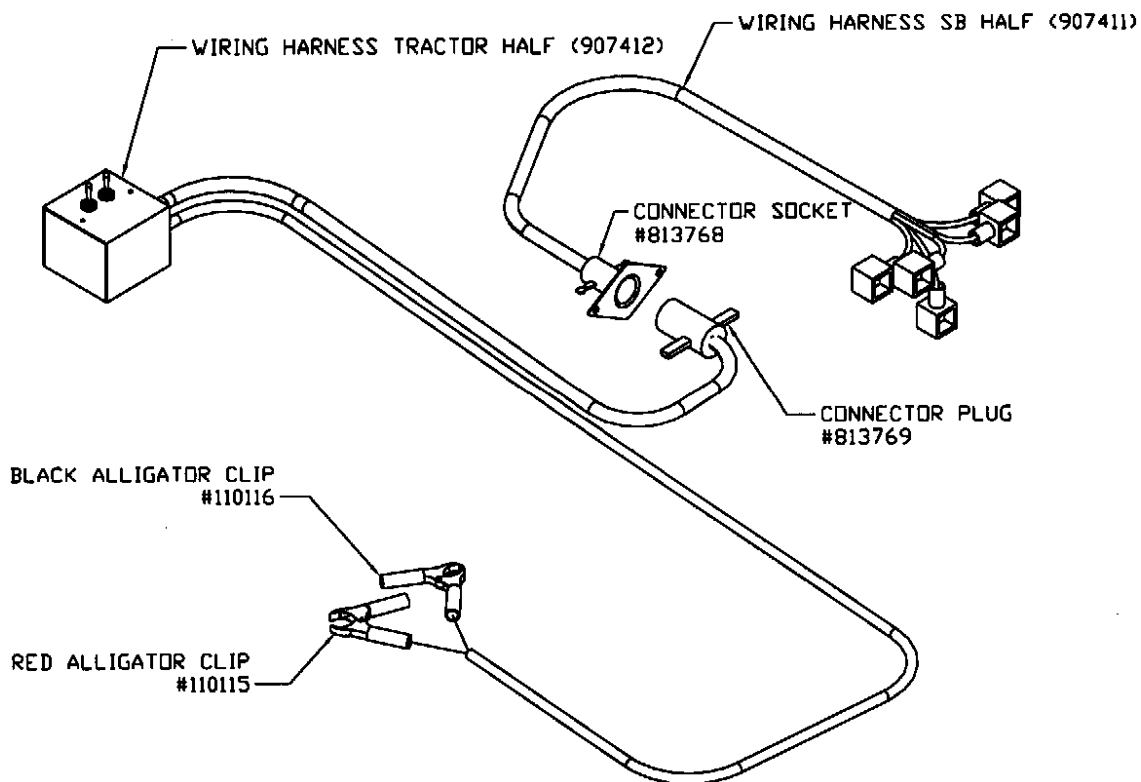
Series III 20 – 26 gpm 2000 psi min. (9.6 cu.in./rev)

Series IV 24 – 32 gpm 2000 psi min (11.9 cu.in./rev)

gpm x psi = hp

1714

HYDRAULIC SNOWBLOWER WIRING SCHEMATIC



SC-13

Category	Motor Cu/in/rev	GPM	Motor RPM	HP @ 2000	HP @ 3000 psi	Shaft Type Flange Mtg.	Eaton Motor Part #'s	Buhler Part #
Group #1	6.2	12	447	12	18	1.25" Straight	1 1/16-12 ORB	905623
		16	596	16	24	2 bolt	104-1062	
Group #2	8	17	491	17	25	1.25 Straight	1/16/=12 ORB	905694
		20	578	20	29	2 bolt	104-1063	
Group #3	9.6	20	481	20	29	1.25 Straight	1 16/-12 ORB	905695
		24	578	24	35	2 bolt	104-1064	
Group #4	11.9	21	408	21	31	1.25 Straight	1 116-12 ORB	905624
		28	544	28	41	1.25 Straight	104 - 1065	
					spout motor 146-1028-002			905625

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
D1 Nothing Works	<u>Hydraulic Circuit Not Complete</u> 1. Hydraulic Valve not engaged 2. 1 or more quick couplers not completely engaged. 3. Defective quick coupler 4. Hydraulic pump low on fluid	1. Engage valve to full detent 2. Fully engage all couplers 3. Replace defective quick couplers 4. Top up fluid level
D2 Auger Rotates backwards, and fan does not rotate	<u>Hydraulic Circuit Reversed</u> 1. Main valve is in reverse 2. Quick couplers are connected backwards.	1. Reverse valve direction or 2. Switch hose connections to the machine.
D3 Fan turns too slow	1. Inadequate hydraulic flow for this motor size. 2. Wrong motor for your system.	1. Check the gpm of your system. 2. Contact your dealer.
D4 Fan motor stalls	Valve #4 (Fig. 1) set too high	See MODULATING ELEMENT SET UP
D5 Auger motor slows or stalls too quickly	Valve #4 (Fig. 1) set too low	See MODULATING ELEMENT SET UP
D6 Fan & Auger work but chute controls do not work properly	<u>Electrical Problem</u> 1. Electrical connections to battery 2. Breaker is tripped. 3. Connector from Sw to block not contacting. 4. Connection to No-Load Valve #6 (Fig. #1) is not making 5. Diodes in switchbox are defective. 6. Solenoid Valve Spool is stuck	1. Ensure that the clamps are making proper connection. 2. Reset breaker. 3. Ensure the connector is fully engaged. Check for broken wires. 4. Check all items in D6 5. Check for voltage through diodes 6. Replace #8a or 8b solenoid cartridge.
D7 Chute controls do not work properly in no-load conditions.	1. The No-Load pressurizing valve #14a (Fig. #1) set too low. 2. <u>Electrical:</u> Switch, harness, connectors, coil 10a, diodes 3. Polarity of the system is reversed. 4. Diodes in switchbox defective. 5. Defective Coil #10a (Fig. #1) 6. Defective Valve #6 (Fig. #1)	1. Back of the adjuster-screw till it rotates freely by hand. Then turn in till you feel it contacting the spring. Then turn in 2 turns. 2. Check the No-Load Circuit #5 in Fig. #2 3. Red Alligator clip must be on the <u>Positive Terminal</u> 4. Replace defective diodes. 5. Replace Coil. 6. Replace Valve.
D8 Chute Rotation seems to lack power to turn.	1. See D7-1 2. Valve #14b or #14c set too low.	1. Same as D7-1. 2. Back of the adjuster-screw till it rotates freely by hand then turn in till you feel it contacting the spring. Then turn in 2 turns.

SHIPPING BUNDLES

QUANTITY REQUIRED	BUNDLE NUMBER	DESCRIPTION
------------------------------	----------------------	--------------------

60" HYDRAULIC DRIVE W/22" FAN SERIES 1 B6022HSB-1

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5545	Snowblower

60" HYDRAULIC DRIVE W/22" FAN SERIES 2 B6022HSB-2

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5550	Snowblower

60" HYDRAULIC DRIVE W/22" FAN SERIES 3 B6022HSB-3

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5553	Snowblower

74" HYDRAULIC DRIVE W/22" FAN SERIES 1 B7422HSB-1

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5546	Snowblower

74" HYDRAULIC DRIVE W/22" FAN SERIES 2 B7422HSB-2

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5551	Snowblower

74" HYDRAULIC DRIVE W/22" FAN SERIES 3 B7422HSB-3

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5558	Snowblower

SHIPPING BUNDLES – cont'd.**74" HYDRAULIC DRIVE W/22" FAN SERIES 4 B7422HSB-4**

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5559	Snowblower

74" HYDRAULIC DRIVE W/24" FAN SERIES 1 B7424HSB-1

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5561	Snowblower

74" HYDRAULIC DRIVE W/24" FAN SERIES 2 B7424HSB-2

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5560	Snowblower

74" HYDRAULIC DRIVE W/24" FAN SERIES 3 B7424HSB-3

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5552	Snowblower

74" HYDRAULIC DRIVE W/24" FAN SERIES 4 B7424HSB-4

1	F0324	Spout Assembly
1	F0325	Snowblower
1	F5547	Snowblower

84" HYDRAULIC DRIVE W/24" FAN SERIES 2 B8424HSB-2

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5556	Snowblower

84" HYDRAULIC DRIVE W/24" FAN SERIES 3 B8424HSB-3

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5557	Snowblower

SHIPPING BUNDLES – cont'd.**84" HYDRAULIC DRIVE W/24" FAN SERIES 4 B8424HSB-4**

1	F0324	Spout Assembly
1	F0325	Crate of Parts
1	F5548	Snowblower

84" PTO Drive W/24" FAN B84SB

1	F0324	Spout Assembly
1	F0626	Crate of Parts
1	F0328	Hitch
1	F5549	Snowblower
1	F0585	PTO