SHEYENNE BLACK MAX

Snowblower



OWNER/OPERATOR INSTRUCTION/PARTS MANUAL

SKID-STEER AND 540 RPM TRACTOR MODELS

MODEL 550 (HYD)	MODEL 550	(PTO)
MODEL 600L (HYD)	MODEL 600L	(PTO)
MODEL 600 (HYD)	MODEL 600	(PTO)
MODEL 700 (HYD)	MODEL 700	(PTO)

Sheyenne Tooling & Mfg.
PO Box 647
701 Lenham Ave. SW
Cooperstown, ND 58425

www.sheyennemfg.com (701)797-2700 Fax (701)797-2584 (800) 797-1883

Dear SHEYENNE BLACK MAX Owner/Operator,

Thank you for choosing SHEYENNE BLACK MAX! We believe your SHEYENNE BLACK MAX Snowblower is the best Snowblower made in America.

Please read and study this operator's manual completely. Regular preventative maintenance and proper operation are the two most important ways to avoid costly downtime and major repairs. Included are regular maintenance steps and the safest operating techniques.

Please follow all safety instructions in this manual and become familiar with all Danger and Caution decals on your SHEYENNE BLACK MAX Snowblower. They alert you to the possible risk of injury to you or damage to the Snowblower. Your SHEYENNE BLACK MAX Snowblower was designed with your safety in mind.

As manufacturer of the SHEYENNE BLACK MAX Snowblower, our most important goal is for every owner/operator to be 100% satisfied.

THANK YOU AGAIN FOR CHOOSING SHEYENNE BLACK MAX SNOWBLOWER!

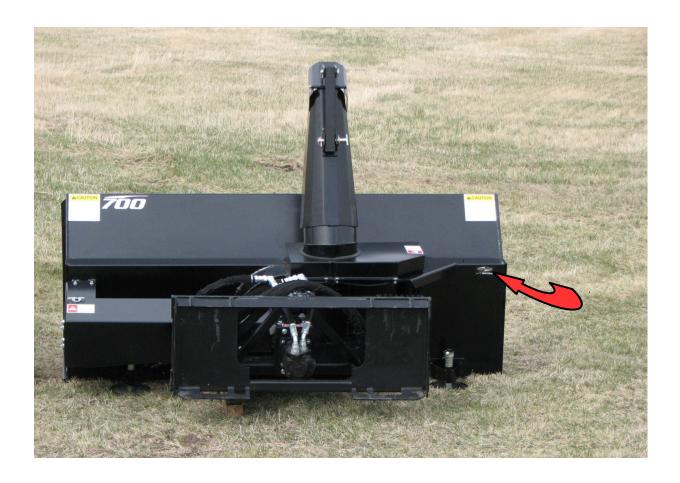
FARM-COMMERCIAL-INDUSTRIAL



SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Black Max snow blower when ordering parts, requesting service or for information.

The serial number plate is located where indicated below. Please mark this number and other information in the spaces provided. It will be useful for future reference.



Model Number	
Serial Number	
Production Vear	

Please enter information below and SAVE FOR FUTURE REFERENCE

SNOWBLOWER WARRANTY

SHEYENNE TOOLING & MANUFACTURING warrants each new product to be free from defects in material and workmanship. This warranty is applicable only for the normal service life expectancy of the machine or components, not to exceed twelve consecutive months from the date of delivery of the new SHEYENNE TOOLING & MANUFACTURING product to the original purchaser.

Genuine SHEYENNE TOOLING & MANUFACTURING replacement parts and components will be warranted for 90 days from date of purchase, or the remainder of the original equipment warranty period, whichever is longer.

Under no circumstances will it cover any merchandise or components thereof, which in the opinion of the company, has been subject to negligent handling, misuse, alteration, an accident, or if repairs have been made with parts other than those obtainable through SHEYENNE TOOLING & MANUFACURING.

Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part that in our judgment shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from date of failure to SHEYENNE TOOLING & MANUFACTURING.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature to person or property.

Except as set forth above, SHEYENNE TOOLING & MANUFACTURING shall have no obligation of liability of any kind on account of any of its equipment and shall not be liable for special or consequential damage. SHEYENNE TOOLING & MANUFACTURING makes no other warranty, express or implied, and, specifically, SHEYENNE TOOLING & MANUFACTURING disclaims any implied warranty of merchantability of fitness for a particular purpose. Some states or provinces do not permit limitations or exclusions of implied warranties of incidental or consequential damages, so the limitations or exclusions in this warranty may not apply.

This warranty is subject to any existing conditions of supply, which may directly affect our ability to obtain materials or manufacture replacement parts.

SHEYENNE TOOLING & MANUFACTURING reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligations to owners of units previously sold.

No one is authorized to alter, modify or enlarge neither this warranty nor the exclusions, limitations and reservations.

I have read and understand the above instructions and warranty. Warranty is invalid until all three copies are completed and signed. Customer copy retained, dealer copy in dealer's possession and manufacturer's copy returned.

Date Purchased	Dealership
Model Number	Serial Number
Customer Signature	Date
Dealer Signature	Date

Please enter information below and SAVE FOR FUTURE REFERENCE

SNOWBLOWER WARRANTY

SHEYENNE TOOLING & MANUFACTURING warrants each new product to be free from defects in material and workmanship. This warranty is applicable only for the normal service life expectancy of the machine or components, not to exceed twelve consecutive months from the date of delivery of the new SHEYENNE TOOLING & MANUFACTURING product to the original purchaser.

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Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part that in our judgment shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from date of failure to SHEYENNE TOOLING & MANUFACTURING.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature to person or property.

Except as set forth above, SHEYENNE TOOLING & MANUFACTURING shall have no obligation of liability of any kind on account of any of its equipment and shall not be liable for special or consequential damage. SHEYENNE TOOLING & MANUFACTURING makes no other warranty, express or implied, and, specifically, SHEYENNE TOOLING & MANUFACTURING disclaims any implied warranty of merchantability of fitness for a particular purpose. Some states or provinces do not permit limitations or exclusions of implied warranties of incidental or consequential damages, so the limitations or exclusions in this warranty may not apply.

This warranty is subject to any existing conditions of supply, which may directly affect our ability to obtain materials or manufacture replacement parts.

SHEYENNE TOOLING & MANUFACTURING reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligations to owners of units previously sold.

No one is authorized to alter, modify or enlarge neither this warranty nor the exclusions, limitations and reservations.

I have read and understand the above instructions and warranty. Warranty is invalid until all three copies are completed and signed. Customer copy retained, dealer copy in dealer's possession and manufacturer's copy returned.

Date Purchased	Dealership
Model Number	Serial Number
Customer Signature	Date
Dealer Signature	Date



PLEASE ENTER INFORMATION BELOW AND RETURN TO SHEYENNE TOOLING AND MANUFACTURING

SNOWBLOWER WARRANTY

SHEYENNE TOOLING & MANUFACTURING warrants each new product to be free from defects in material and workmanship. This warranty is applicable only for the normal service life expectancy of the machine or components, not to exceed twelve consecutive months from the date of delivery of the new SHEYENNE TOOLING & MANUFACTURING product to the original purchaser.

Genuine SHEYENNE TOOLING & MANUFACTURING replacement parts and components will be warranted for 90 days from date of purchase, or the remainder of the original equipment warranty period, whichever is longer. Warranty is not applicable for normal wear and usage.

Under no circumstances will it cover any merchandise or components thereof, which in the opinion of the company, has been subject to negligent handling, misuse, alteration, an accident, or if repairs have been made with parts other than those obtainable through SHEYENNE TOOLING & MANUFACTURING.

Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part that in our judgement shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from date of failure to SHEYENNE TOOLING & MANUFACTURING.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature to person or property.

Except as set forth above, SHEYENNE TOOLING & MANUFACTURING shall have no obligation of liability of any kind on account of any of its equipment and shall not be liable for special or consequential damage. SHEYENNE TOOLING & MANUFACTURING makes no other warranty, express or implied, and, specifically, SHEYENNE TOOLING & MANUFACTURING disclaims any implied warranty of merchantability of fitness for a particular purpose. Some states or provinces do not permit limitations or exclusions of implied warranties of incidental or consequential damages, so the limitations or exclusions in this warranty may not apply.

This warranty is subject to any existing conditions of supply, which may directly affect our ability to obtain materials or manufacture replacement parts.

SHEYENNE TOOLING & MANUFACTURING reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligations to owners of units previously sold.

No one is authorized to alter, modify or enlarge neither this warranty nor the exclusions, limitations and reservations.

I have read and understand the above instructions and warranty. I have also read the owner's manual and understand all safety precautions. Warranty is invalid until all three copies are completed and signed. Customer copy retained, dealer copy in the dealer's possession and the manufacturer's copy returned.

Date Purchased		Dealership	
Model Number			
Customer Information:	Name (Please Print)		
	Address		
			, Zip Code
	E-Mail (If Applicable)		
	Signature		, Date
Dealer Signature		Date	

Please return via; fax, regular mail or e-mail; to: fax number - (701) 797-2584 address --

Sheyenne Tooling and Manufacturing
PO Box 647
Cooperstown, ND 58425
e-mail — warranty@sheyennemfg.com

SAFETY

Sheyenne Tooling & Mfg. has designed this Snowblower with safety as the main concern. Please read the following safety information before you operate this machine. In addition, make sure every individual, who will operate or work with this machine, is familiar with these safety precautions.

The use of the words CAUTION, WARNING, or DANGER on the machine signals three degrees of hazards. CAUTION is used for general reminders of good safety practices or direct attention to unsafe Practices. WARNING is used to denote a SPECIFIC POTENTIAL HAZARD. DANGER is used to denote the MOST SERIOUS OF HAZARDS!

GENERAL SAFETY

- 1. Make sure all the SAFETY SIGNS are readable and in good condition.
- 2. Know how to shut off the machine before starting.
- 3. Make sure the machine is clear of loose or foreign objects (tools, branches, rocks etc.)
- 4. Never attempt to service the machine or driveline while the unit is still engaged and running.
- 5. Keep children, pets and spectators away from the machine at all times.
- 6. Keep hands, feet and loose clothing away from moving or powerdriven parts.
- 7. DO NOT step on or climb over the machine for any reason.
- 8. Keep all guards and shields in place and in good working condition to assure top performance and maximum safety.
- Rotating components can catch hands and feet STAND CLEAR of these areas.
- 10. NEVER allow anyone to ride on the Snowblower.
- 11. Before servicing or inspecting the Snowblower, turn off the Skidsteer engine and remove the key.
- 12. FAILURE TO FOLLOW SAFETY INSTRUCTIONS COULD RESULT IN SERIOUS *INJURY OR* EVEN *DEATH TO* THE OPERATOR OR SPECTATORS!

Operation Safety (HYDRAULIC MODELS)

- 1. Disengage Hydraulics, stop engine, and remove the key whenever you leave the tractor seat.
- 2. Disengage Hydraulics, stop engine, and remove the key after striking a foreign object. Thoroughly inspect the snowblower before restarting the unit.
- 3. Disengage Hydraulics, stop engine, and remove the key before attempting to service your snowblower or unplug the blower and spout.
- 4. Do not rotate the spout so the discharge material will be directed toward people, your tractor, or any other object that could be damaged.
- 5. Rotating components can catch feet, hands, and loose clothing. Stand clear of all moving parts.
- 6. Do not climb or step on or over the snowblower for any reason.
- 7. Never operate the snowblower in bad light or poor visibility.
- 8. Read and understand every Safety Sign on your machine.
- 9. Do not bulldoze! Let the machine blow the snow...do not push the snow.
- 10. Know your surroundings. Know the area you are removing the snow from.
- 11. Do not allow anyone to ride on the snowblower at any time.
- 12. Keep all shields in place. Your safety is involved.

Preparation

OPERATING THE SNOWBLOWER (HYDRAULIC MODELS)

PRELIMINARY CHECK

Make sure HYDRAULICS are disengaged, engine shut off and the key removed.

All bearings have been pre-greased at the factory, but it is a good practice to regrease them to remove any moisture that may have accumulated. Use your owner's manual as a reference for the following simple steps:

1. Grease all zerks:

- a) One on each end of auger.
- 2. Check chain tightness.
- 3. The auger drive chain is tighten by adjusting the idler sprocket, Item # 25, shown on pages 9 & 10. Properly adjusted, the chain should move up & down approximately one half inch.
- 4. Check oil level in gearbox, if oil is needed use SAE 80/90 gear oil.
- 5. Mount electric control box in a convenient location.
- Attach red lead to nearest point of 12 VDC. Make sure control box is grounded.

As with any new piece of equipment, it is a good idea to give the unit a preliminary check before you begin to blow snow. Run the BLACK MAX SNOWBLOWER for a short period, then turn off the Hydraulic motor, turn off the engine and remove the key. Make a careful inspection for loose bolts, roller chain alignment, binding parts, or any other irregularities. Correct any problems that may have occurred. A simple preliminary check may save you time and money by finding a small problem that might be a major problem in a snowstorm.

OPERATING YOUR BLACK MAX SNOWBLOWER

Make sure the fan and augers are free of any loose objects. Check to see if all the shields and guards are in place and in good condition. Lubricate the snowblower after each use.

The most effective method of moving snow is to blow the snow as high as possible downwind, if room permits. The spout deflector will allow you to adjust the height that the snow is blown. Reducing the engine speed will reduce the distance the snow is blown and the force of the discharge will be less.

Always be aware of where you are blowing the snow. DO NOT BLOW the snow toward buildings, livestock, the skidsteer, or any other object that may be damaged.

DO NOT CHANGE the spout direction while snow is being discharged. This may cause damage to the spout and the deflector.

Operation Safety (PTO MODELS)

- 1. Disengage PTO, stop engine, and remove the key whenever you leave the tractor seat.
- 2. Disengage PTO, stop engine, and remove the key after striking a foreign object. Thoroughly inspect the snowblower before restarting the unit.
- 3. Disengage PTO, stop engine, and remove the key before attempting to service your snowblower or unplug the blower and spout.
- 4. Do not rotate the spout so the discharge material will be directed toward people, your tractor, or any other object that could be damaged.
- 5. Rotating components can catch feet, hands, and loose clothing. Stand clear of all moving parts.
- 6. Do not climb or step on or over the snowblower for any reason.
- 7. Never operate the snowblower in bad light or poor visibility.
- 8. Read and understand every Safety Sign on your machine.
- 9. Do not bulldoze! Let the machine blow the snow...do not push the snow.
- 10. Know your surroundings. Know the area you are removing the snow from.
 11. Do not allow anyone to ride on the snowblower at any time.
 12. Keep all shields in place. Your safety is involved.

Preparation

Make sure PTO is disengaged, engine shut off and the key removed.

All bearings have been pre-greased at the factory, but it is a good practice to re-grease them to remove any moisture that may have accumulated. Use your owner's manual as a reference for the following simple steps:

- 1. Grease all zerks:
 - a) One on each end of auger.
 - b) PTO universal joints.
- Check chain tightness.
 The auger drive chain is tightened by adjusting the idler sprocket, Item #25, shown on pages 9 & 10. Properly adjusted, the chain should move up & down approximately one half inch.
- 4. Check oil level in gearbox, if oil is needed use SAE 80/90 gear oil.
- 5. Mount electric control box in a convenient location.6. Attach red lead to nearest point of 12 VDC. Make sure control box is grounded.

OPERATING THE SNOWBLOWER (PTO MODELS)

PRELIMINARY CHECK

As with any new piece of equipment, it is a good idea to give the unit a preliminary check before you begin to blow snow. Run the BLACK MAX SNOWBLOWER for a short period, disengage PTO, turn off the engine and remove the key. Make a careful inspection for loose bolts, roller chain alignment, binding parts, or any other irregularities. Correct any problems that may have occurred. A simple preliminary check may save you time and money by finding a small problem that might be a major problem in a snowstorm.

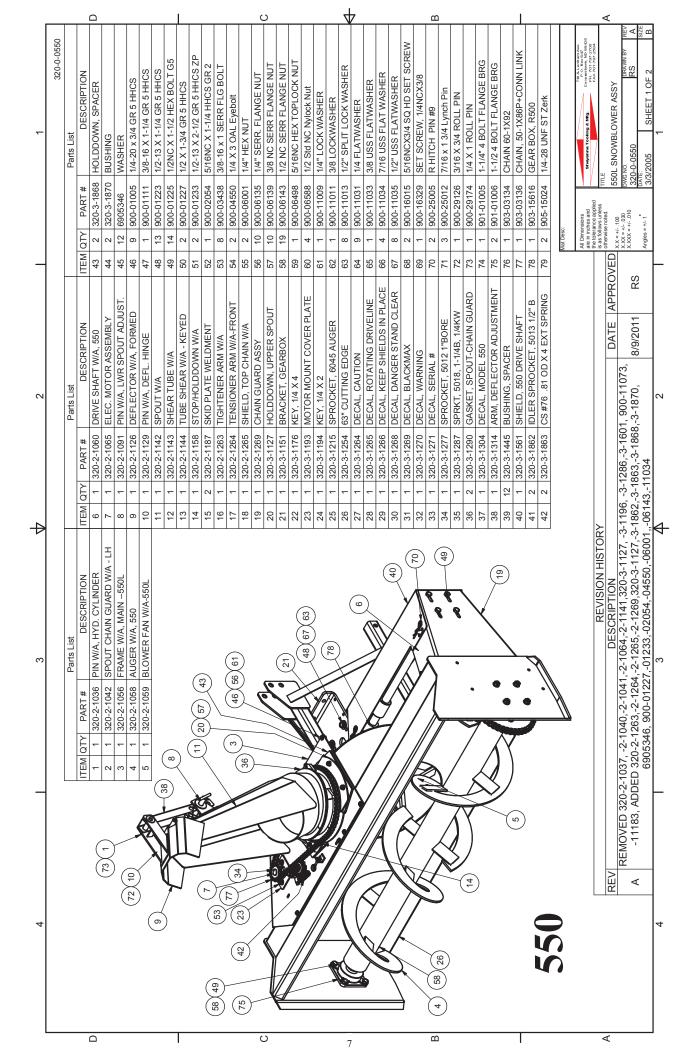
OPERATING YOUR BLACK MAX SNOWBLOWER

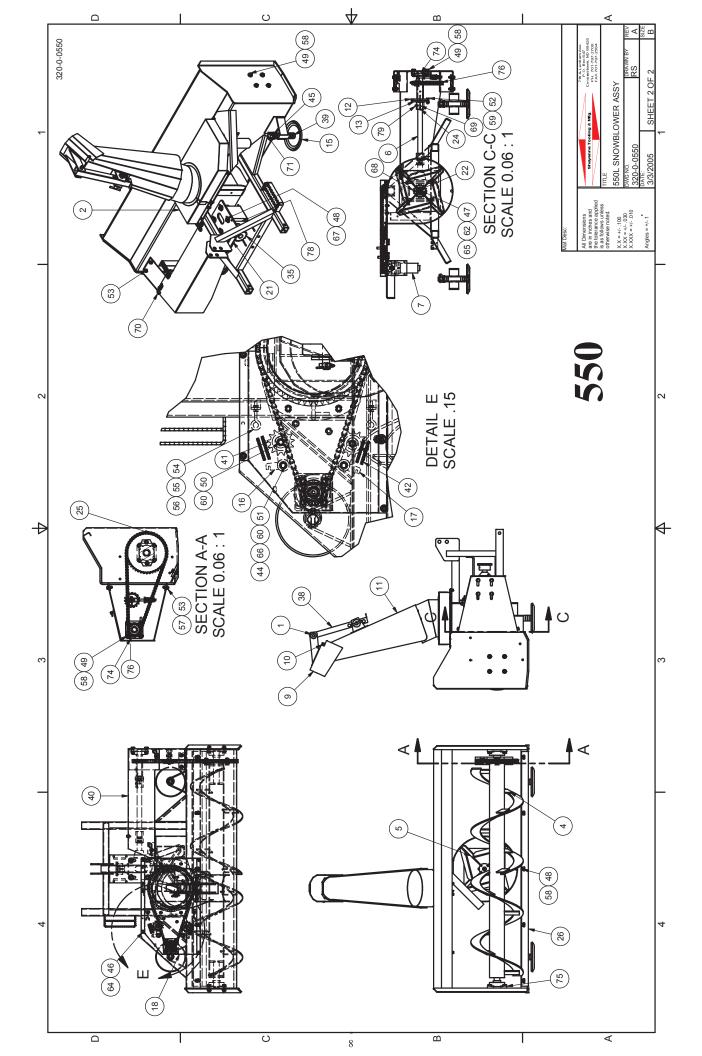
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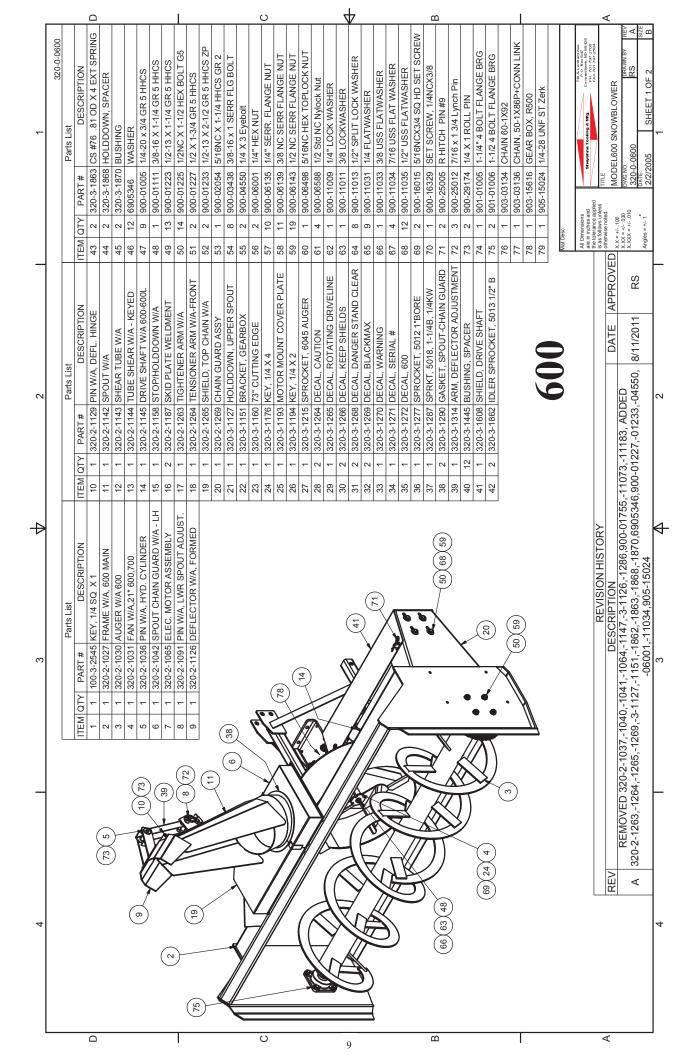
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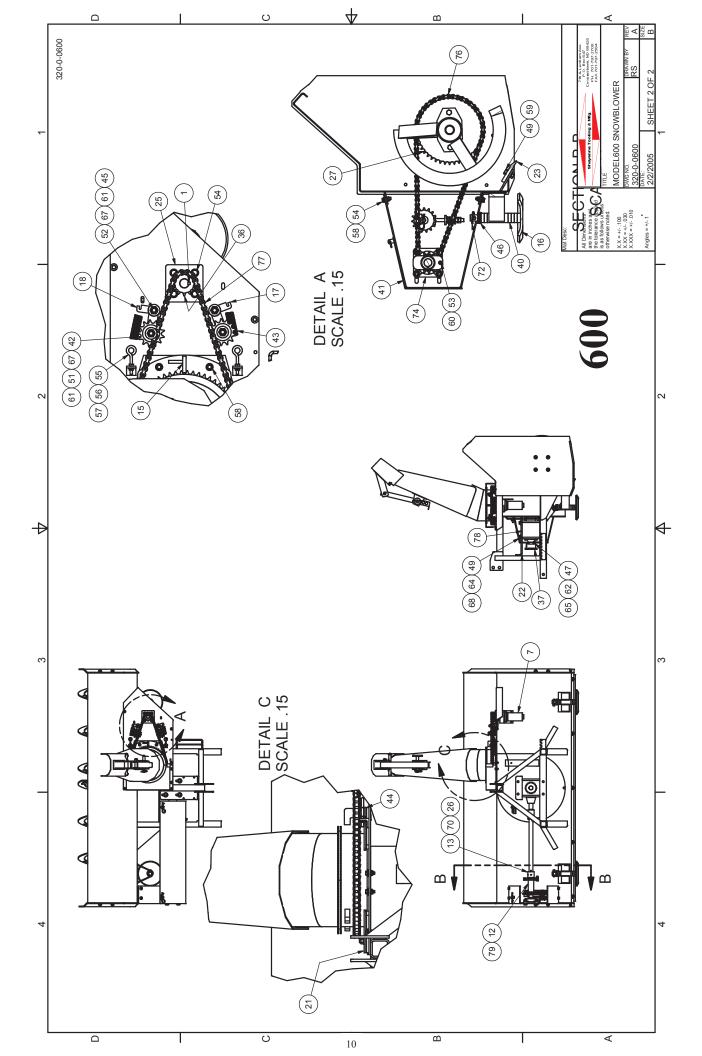
Always be aware of where you are blowing the snow. DO NOT BLOW the snow toward buildings, livestock, the skidsteer, or any other object that may be damaged.

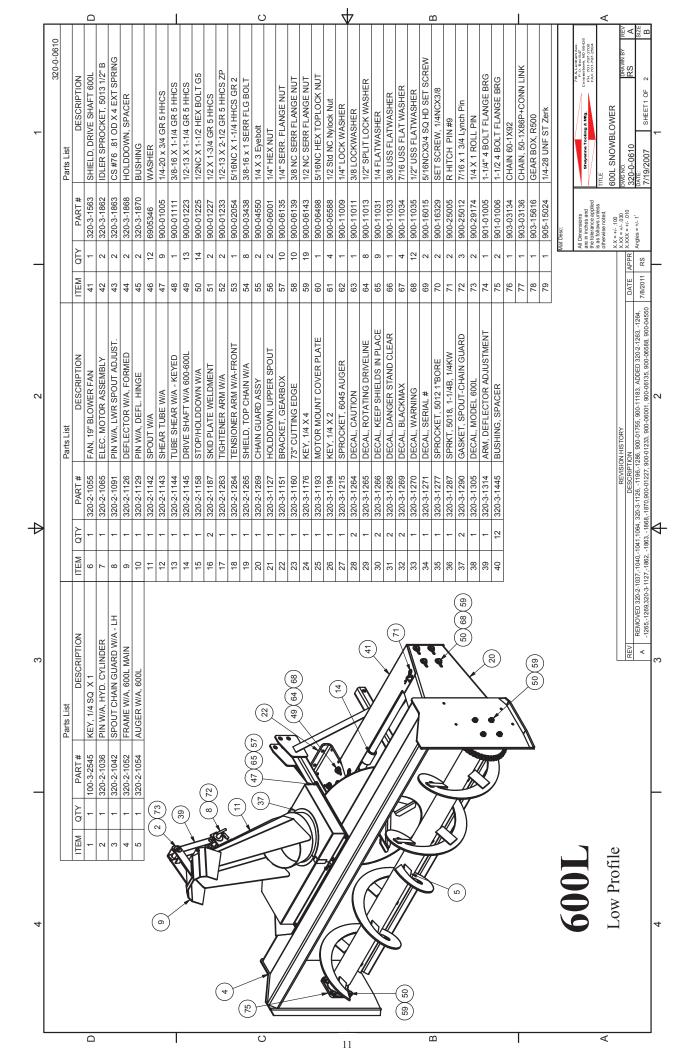
DO NOT CHANGE the spout direction while snow is being discharged. This may cause damage to the spout and the deflector.

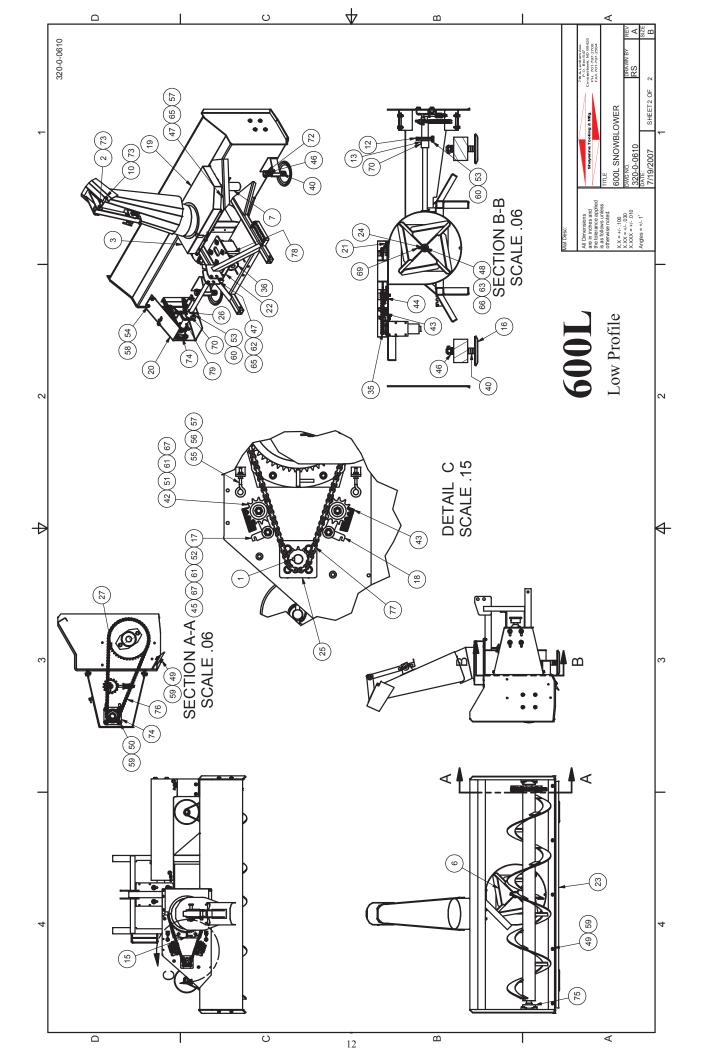


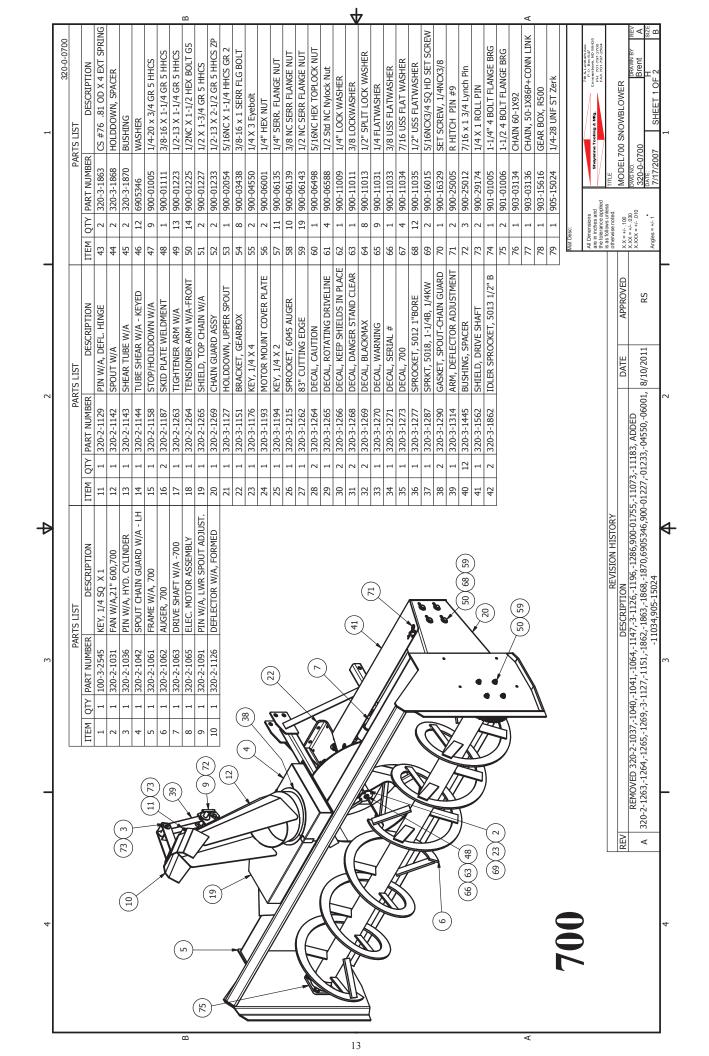


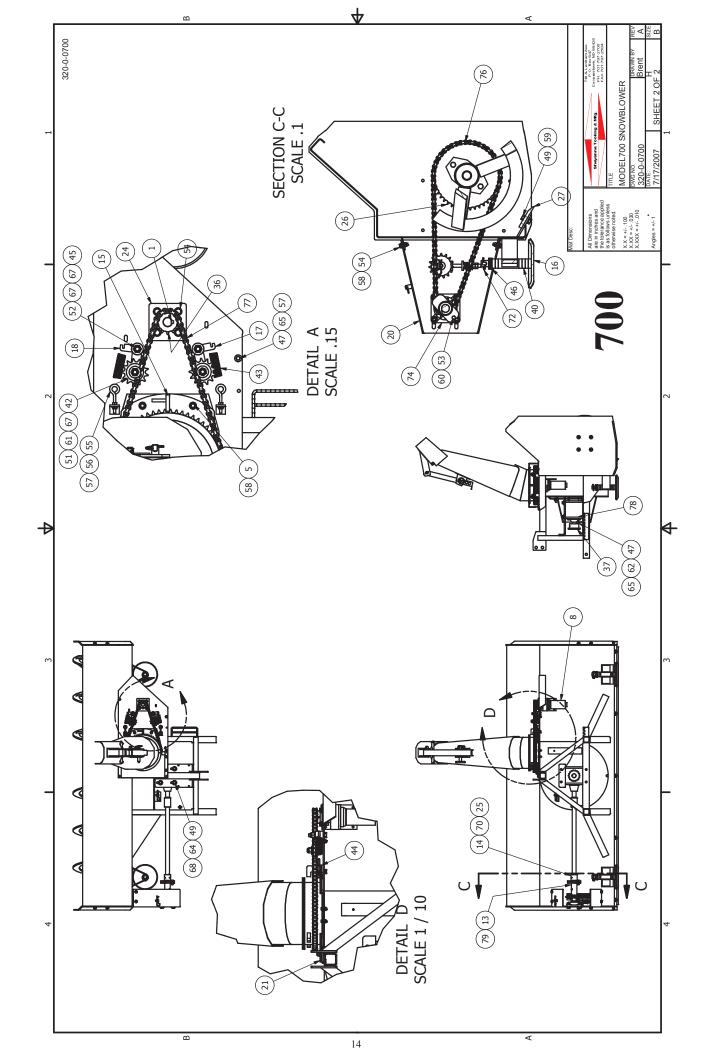




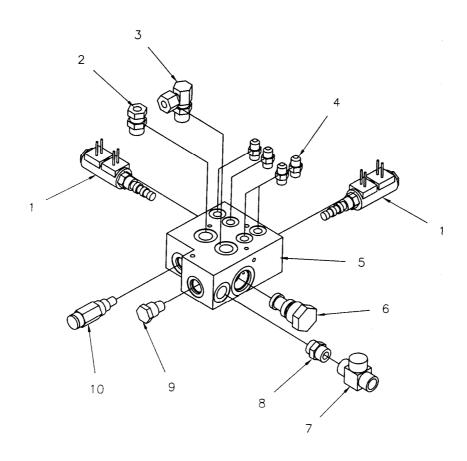






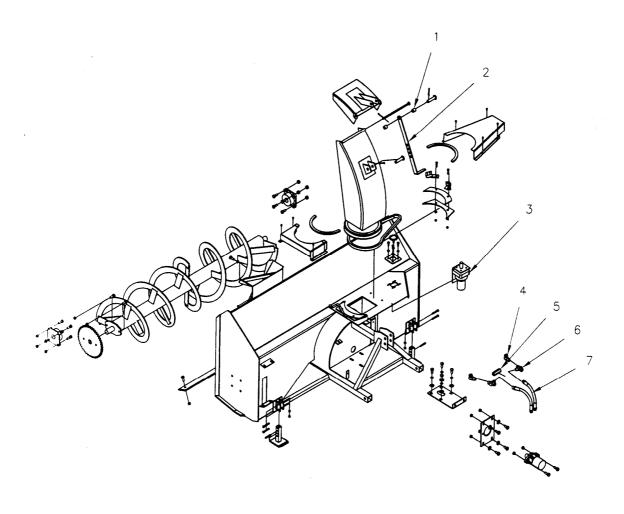


HYDRAULIC DIVERTOR BLOCK ASSEMBLY

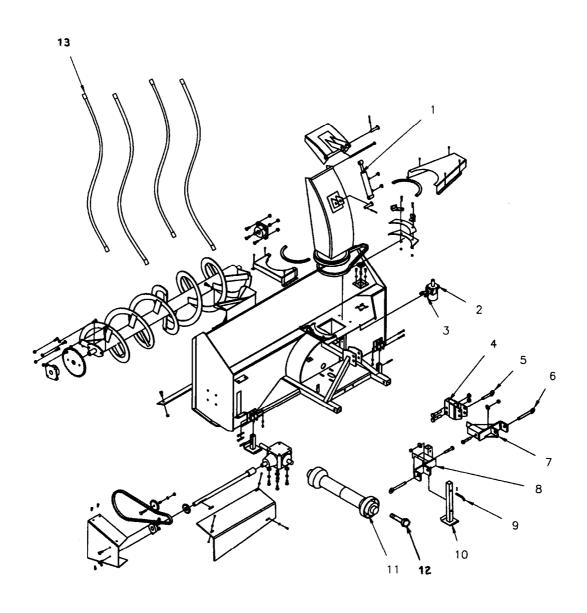


ITEM NO.	PART NO.	DESCRIPTION	QTY.
	(FOR ASSEMBL)	Y NO. SEE ITEM 38 ON PAGES 11 & 12)	
1	904-05502	DIRECTIONAL CONTROL VALVE	2
2	904-05512	7/8 MALE O-RING- 1/2 FML SWIVEL	1
3	904-05511	REDUCING 90 DEGREE ELBOW	1
4	904-05513	9/16-18 MALE STRGHT ADAPTER	4
5	320-3-1292	HYDRAULIC DIVERTOR BLOCK	1
6	904-05523	LOGIC CARTRIDGE	1
7	905-01358	1/2 FEMALE TEE	1
8	904-08011	7/8 MALE TO 1/2 MALE NIPPLE	1
9	904-05522	RELIEF VALVE	1
10	904-05506	HYD MOTOR CHECK VALVE	1

ELECTRIC CHUTE ROTATOR & MANUALLY ADJUSTED DEFLECTOR



ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	320-3-1297	HANDLE BUSHING	2
2	320-3-1150	DEFLECTOR ADJUSTMENT ARM	1
	320-3-1314	DEFLECTOR ADJUSTMENT ARM	1
		(NEW DESIGN PART, AFTER 1/1/02)	
3	320-2-1065	ELECTRIC CHUTE MOTOR	1
4	905-01329	1/2 MP X 1/2 FPX ELBOW	2
5	905-03108	COAST VALVE	1
6	904-08009	TEE FITTING	2
7	904-06015	HYDRAULIC HOSE	2
-	320-2-1069	POWER SUPPLY WIRING HARNESS	1
-	320-2-1070	BLOWER HALF WIRING HARNESS	1



540 PTO TRACTOR MODELS

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	905-21206	DEFLECTOR HYD CYLINDER	1
	905-01328	3/8 ELBOW, MALE TO FEMALE	2
2	904-05528	CHUTE ROTAT. MOTOR (PRIOR 12/01)	1
	904-05529	CHUTE ROTAT. MOTOR (AFTER 12/01)	1
	900-01109	3/8NC X 1" G5 HEX BOLT	4
	900-11011	3/8 LOCK WASHER	4
3	904-08013	ADAPTER, 7/8MORB X 3/8 FPT	2
4	320-2-1047	UPPER 3 PT MOUNT	1
	900-01759	5/8NC C 3-1/2 G5 HEX BOLT	2
	900-11037	5/8" FLAT WASHER	2
	900-11015	5/8" LOCK WASHER	2
	900-06013	5/8NC HEX NUT	2
5	320-2-1048	UPPER 3 PT PIN	1
6	320-2-1049	LOWER 3 PT PIN	2
7	320-2-1045	LH LOWER 3 PT MOUNT	1
	900-01808	3/4NC X 3-1/2 G5 HEX BOLT	1
	900-06592	3/4NC NYLON LOCK NUT	1
8	320-2-1046	RH LOWER 3 PT MOUNT	1
	900-01808	3/4NC X 3-1/2 G5 HEX BOLT	1
	900-06592	3/4NC NYLON LOCK NUT	1
9	320-3-1075	JACK STAND PIN	1
	900-25005	5/32" HAIRPIN	1
10	320-2-1050	JACK STAND	1
11	903-18053	PTO ASSEMBLY WITH SHEAR BOLT	1
	900-29209	5/16 X 2-1/2 ROLL PIN	1
	106-3-0529	1/4 X 1-1/2 SQUARE KEY	1
	900-16391	3/8UNC X 1/2 SKT HD SET SCREW	1
12	900-01105	3/8 X ¾ GRADE 5 SHEAR BOLT	1
13	904-06026	HYD. HOSE, 3/8", 1/2MP X 3/8MP	4

ELECTRIC ROTATING CHUTE

WIRING HARNESS "E" AND ROCKER SWITCH INSTALLATION **PART NUMBER 320-1-0111**

SCREWS AND LOCK NUTS PROVIDED. Screw lengths

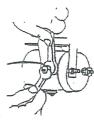
ALWAYS USE THE BOX MOUNTING BRACKET, TWO

▲ CAUTION

APPLICATIONS: T/ATV Series

CAUTION When attaching wires to the motor or solenoid tightening the outer nut with a second wrench. Do not allow the terminals to rotate in their housings. Rotation may cause internal wire breakage or part misalignment (Figure 4).

Figure 4 - Proper Terminal Tightening



Check to ensure that the vehicle ground and positive leads from the battery are disconnected before performing any electrical work.

A DANGER BATTERY IS CONNECTED. Automotive batteries contain flammable and explosive gases. Wear eye protection during installation and remove all metal jewelry. Do not lean over battery while making connections.

Step (2)

Route the wiring harness, attaching the harness to hard points on the vehicle with cable ties.

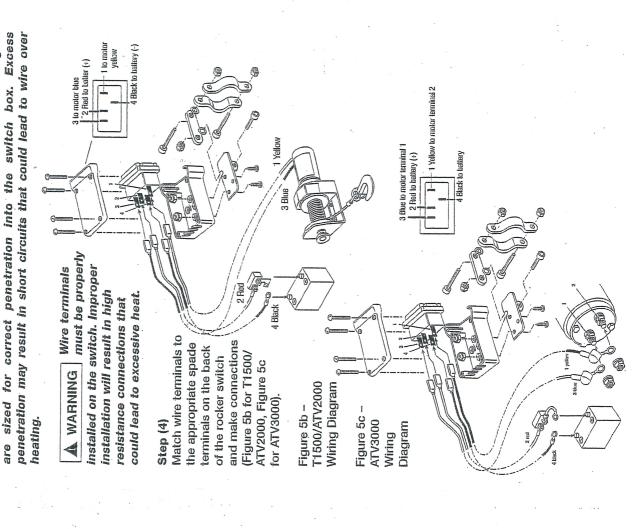
Note: When routing the wires, the appropriate terminals should be located near the battery, switch mounting point, and winch. Your installation requirements will vary depending upon your vehicle and winch. Make sure wires are long enough to reach the battery, switch mounting point and winch.

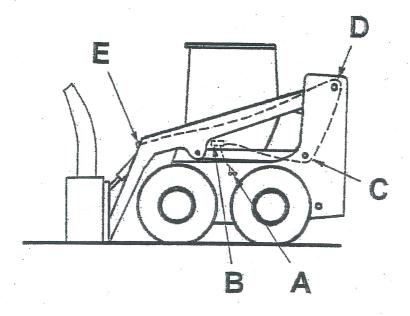
WARNING Ensure that the wiring harness does not interfere or come in contact with any hot or moving engine, suspension, steering, braking or exhaust parts.

Step (3)

Using the supplied clamps, bracket and hardware mount switch box in a convenient location. See Figure 5a or 5b.

Note: Hole pattern in switch box mounting bracket allows switch box mounting in any one of several positions and orientations. Always use both box combination head screws provided. Punch out the appropriate two mounting holes in the switch box. Short and long extension links are provided to elevate the switch as needed. Do not use more than one link to mount the switch box mounting bracket to the round tube clamps.





WIRING HARNESS ROUTING

A wiring harness is included with skidsteer snowblowers purchased with hydro chute and deflector controls. Routing this harness will vary among skidsteer makes and models. This instruction sheet is intended to be general in nature, specifics will be determined by the person installing the harness.

Point A is power supply. A red and a black wire break-out of the main harness. Connect these wires to positive and ground respectively. Point B is the hand set or control panel with mounting bracket. The wiring harness 9 socket connector plugs into the hand set. Route the harness around pivot points C and D with enough slack to prevent pulling when boom arms are raised. Too much slack may cause the harness to become pinched in pivot points. If your skidsteer has other electrical or hydrualic lines, you may follow those. Point E is the 9 pin all-weather plug-in. It too has a mounting bracket.



701 Lenham Ave. - P.O. Box 647 Cooperstown, ND 58425 Office (701) 797-2700 Fax (701) 797-2584 Toll Free (800) 797-1883

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