

## OWNER'S MANUAL



*Snowblowers*  
**Models**

**P-540    P-680    P-620    P-720**

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# **INTRODUCTION**

**1**

## **CONGRATULATIONS!**

Thank you for choosing PRONOVEST. We are confident this equipment will meet your requirements in terms of quality, performance and reliability.

This manual was prepared to assist you in the safe operation of your new Snowblower. It contains important information which will help you achieve excellent returns with your Snowblower for years to come.

Please read this manual completely before operating your Snowblower and keep it for future reference.

Before starting the machine, you or any other person who will be operating the Snowblower must familiarize yourself with the safety recommendations and the operating instructions. Please read carefully and be sure to understand and follow all recommendations and procedures.

In this manual, the right and left sides are identified as shown on Figure 1.

If you require additional information on your Snowblower, please contact your PRONOVEST Dealer.

NOW take a moment to enter the model, serial number and the date of purchase of your Snowblower in the space provided.

When ordering parts from your Dealer, please refer to these numbers for a fast and efficient service. Use PRONOVEST parts for replacement.

The model and serial numbers are on the name plate shown on Fig. 1.

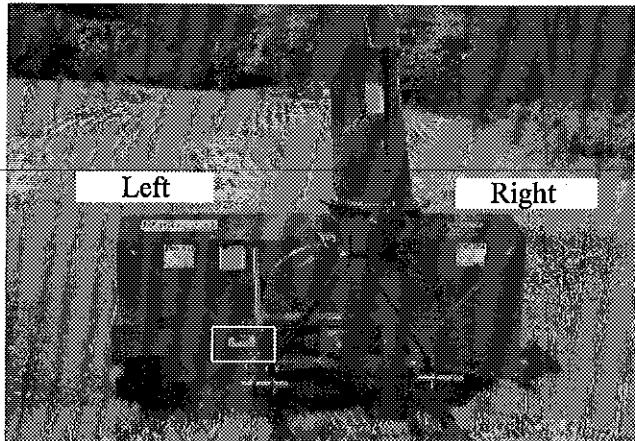


Figure 1

MODEL: \_\_\_\_\_ ES

SERIAL NO: \_\_\_\_\_ ES

DATE OF PURCHASE: \_\_\_\_\_ ES

# **SAFETY**

## **GENERAL SAFETY**

### **WHEN YOU SEE THIS SYMBOL**

**2**



**ATTENTION!**

### **BE ALERT YOUR SAFETY IS INVOLVED**

This symbol «**SAFETY ALERT**» is used in this manual and on the safety decals on the Snowblower. It warns you of the possibility of danger. Carefully read, understand and follow all safety recommendations before operating the Snowblower.

- 1) Careful operation is the best assurance against accidents. Carefully read this manual and follow all recommendations before operating your Snowblower. It is the owner's responsibility to make sure that anyone who will operate the Snowblower will read this manual before operating the equipment.
- 2) Familiarize yourself with all controls and always be ready to stop the Snowblower quickly in case of emergency.
- 3) Never let a child operate the Snowblower.
- 4) Do not modify the Snowblower. Any non authorized modification may affect the efficiency and/or safety of the equipment.
- 5) Never operate the Snowblower with defective parts or if damaged in any way. Have it repaired before operating.
- 6) Make sure all fasteners are in place and properly secured or tightened. Refer to torque chart on page 35.
- 7) Avoid wearing loose fitting clothing when working with the Snowblower. These could get entangled in moving parts of the equipment and cause accidents.

- 8) Prolonged exposure to noise may hamper hearing. Protect yourself by wearing adequate protection devices.
- 9) Hydraulic fluids under pressure can damage your skin. Do not use your hands to locate a leak.
- 10) Before the beginning of the snow season, inspect all areas where the Snowblower will be used and remove any object which may cause an accident and/or damage the equipment.
- 11) Never operate your Snowblower in poor visibility or without proper lighting conditions.

## **SAFETY IN OPERATION**

- 1) Be sure there are no obstructions around the equipment and that no one stands near the equipment when in operation.
- 2) Do not operate an engine in a confined or non ventilated area.
- 3) Do not perform any adjustments, cleaning, maintenance or repairs with the engine running. The engine must be stopped and the P.T.O. disengaged. Preferably remove the key from the ignition.
- 4) Wear adequate clothing when working in cold or windy conditions.
- 5) Adjust skid shoes for proper ground clearance of scraper blade, especially in rough terrain or soft ground conditions.
- 6) Before operating, make sure the P.T.O. is properly installed and secured.
- 7) Before starting-up the Snowblower, make sure the auger and drum areas are free of ice.
- 8) Put P.T.O. control in neutral position before starting engine.
- 9) Keep hands, feet and clothing away from moving parts of the Snowblower. Stay away from the discharge chute.

## ***SAFETY (cont'd)***

**2**

- 10) Before unplugging the chute, always disengage the P.T.O., stop the engine and relieve all hydraulic pressures.
- 11) Do not operate in excessive inclined conditions. Be careful when turning in slopes.
- 12) Never operate your Snowblower with missing guards or without protective devices in place.
- 13) Do not operate your Snowblower near buildings, windows or other vehicles without prior and proper adjustment of the chute deflector.
- 14) Never aim discharge chute towards people or animals. This may cause serious injuries.
- 15) Always reduce operating speed in slippery conditions.
- 16) Be careful when backing-up, make sure you have good visibility.
- 17) Always be on the lookout for objects which may enter the Snowblower.
- 18) If undue vibrations are felt, disengage the P.T.O., stop the motor and look for the cause of the vibration. Vibration is usually the indication of a problem.
- 19) At the end of the operation, disengage the P.T.O., lower the Snowblower, put transmission in neutral, apply parking brake, stop engine and remove the key from the ignition.

## ***SAFETY WITH MAINTENANCE***

- 1) Perform the Snowblower maintenance according to recommendations contained in this manual.

- 2) Stop engine and relieve all hydraulic pressures before doing inspection, maintenance or repairs.
- 3) Never perform any work under the Snowblower while it is supported only by the tractor's hydraulic system. It must be completely supported by wooden blocks or other safe means.

## ***SAFETY IN TRANSPORT***

- 1) On public roads, use proper safety lights and check local regulations.
- 2) Be alert while driving on the road. Never carry passengers.
- 3) Always disengage P.T.O. while moving from one area of work to another.
- 4) It is recommended to use both brake pedals simultaneously for better control.
- 5) The recommended road speed should be such as to maintain full control over steering and braking.
- 6) Be careful while backing up, make sure you have good visibility.

## ***SAFETY IN STORAGE***

- 1) Provide adequate supports to prevent any accidental overturning of the Snowblower.
- 2) Do not let children play in the area where the Snowblower is stored.

# **DECALS**

## **SAFETY DECALS**

The safety decals are affixed wherever special safety precautions are indicated. Locate them on the machine and read them carefully. If a decal is damaged, lost or illegible, install a new one. The following photos indicate where each one must be installed.

**3**

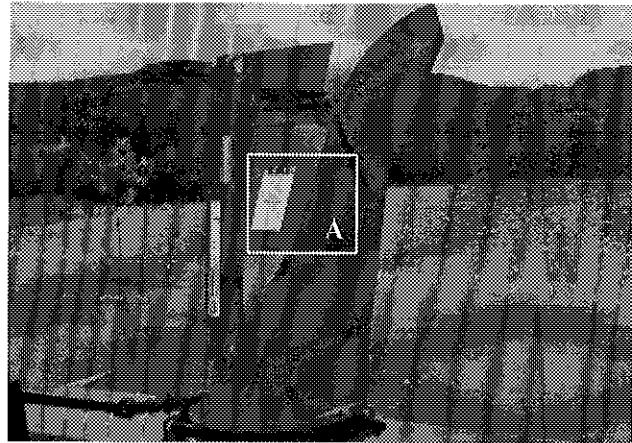


Figure 3

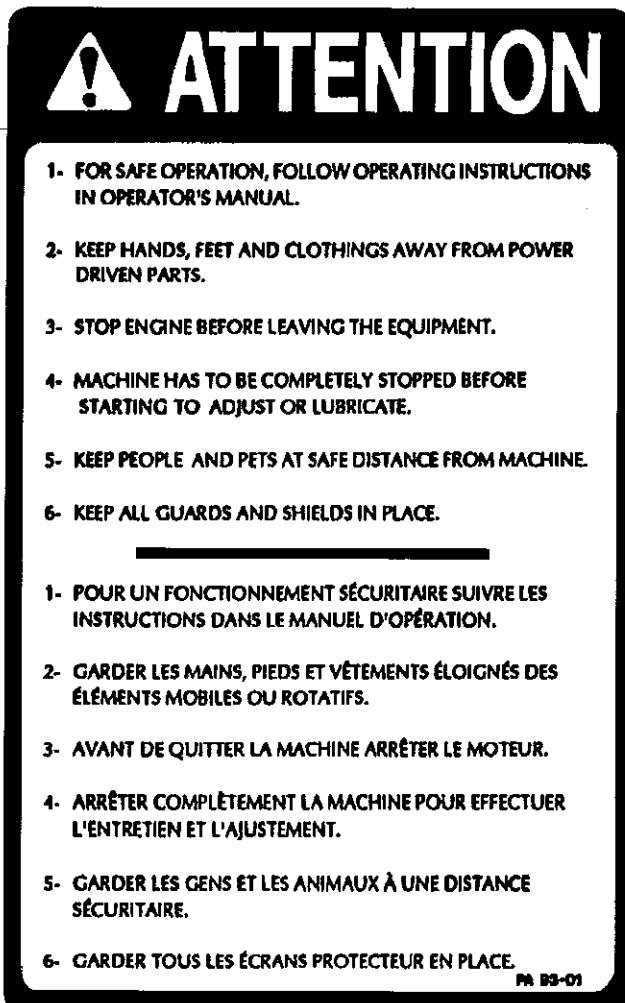


Figure 2  
Decal A

Part no.: A102

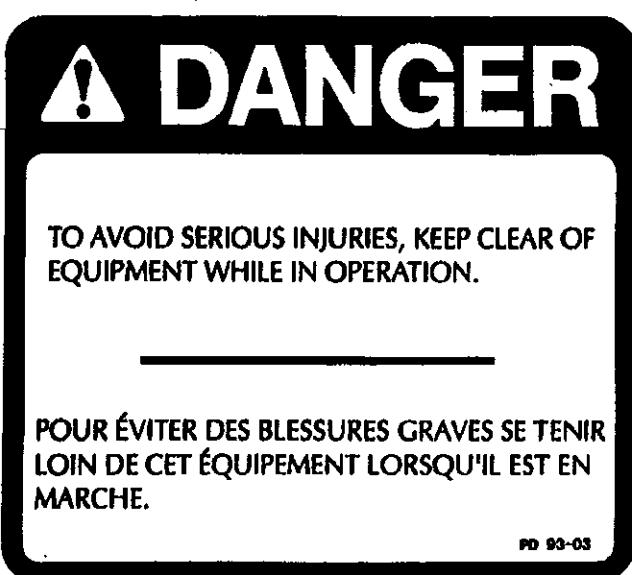


Figure 4  
Decal B

Part no.: A101

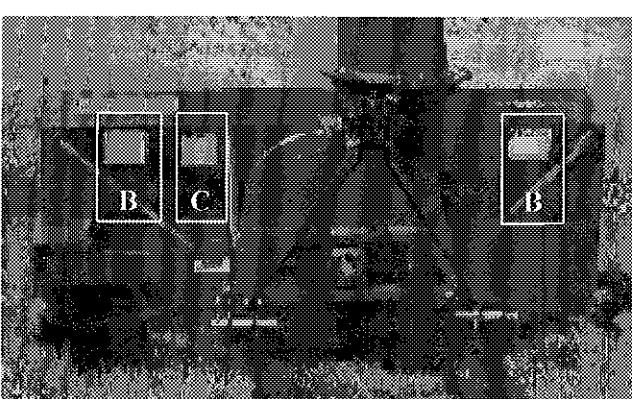


Figure 5

## **DECALS (cont'd)**

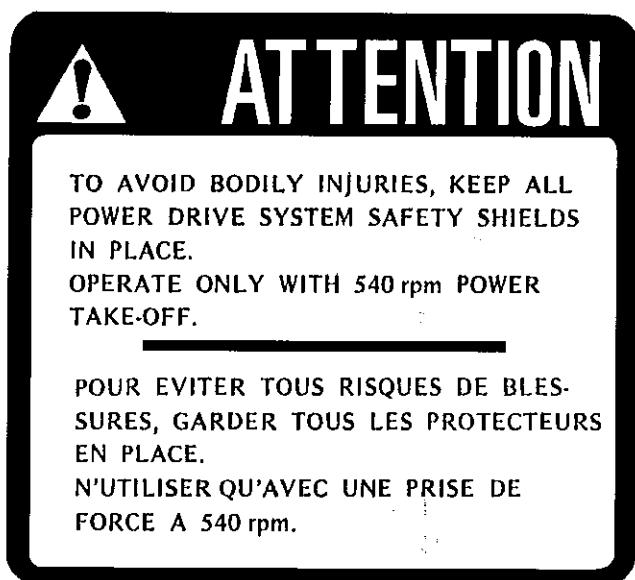


Figure 6  
Decal C

Part no.: A107



Figure 7  
Decal D

Part no.: A103

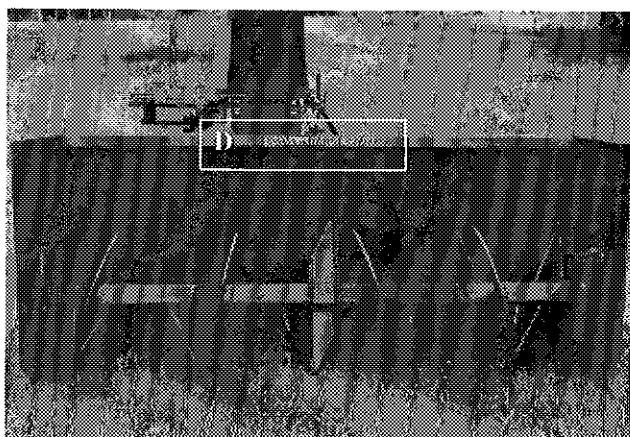


Figure 8

Decal E in Fig. 9 is located directly on the P.T.O. shaft. It is not visible when the safety shield is in place. It must never be visible when you operate the equipment.



Figure 9

Decal E

Part no.: A108

## DECALS (cont'd)

3

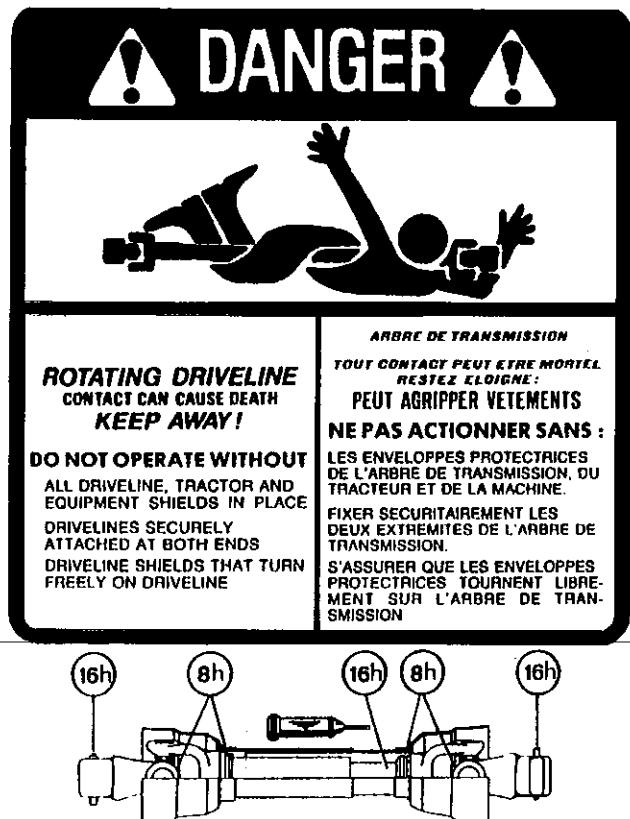


Figure 10

Decal F

Part no.: A 109

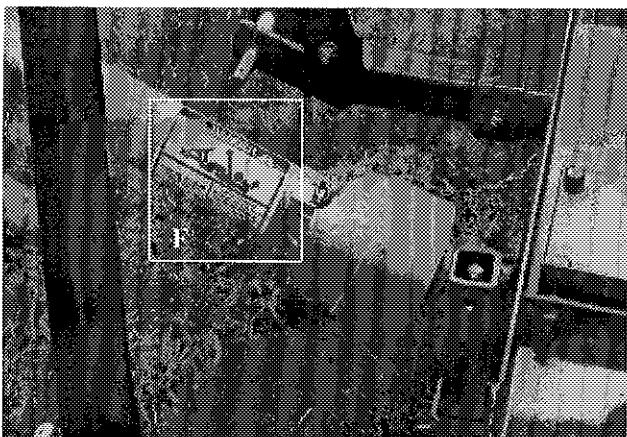


Figure 11

### MAINTENANCE DECALS

The maintenance decals indicate the points requiring lubrication. Refer to maintenance section for more details.

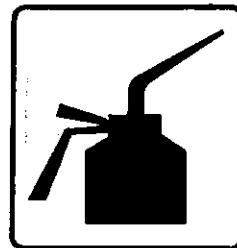


Figure 12

Part no.: A 105

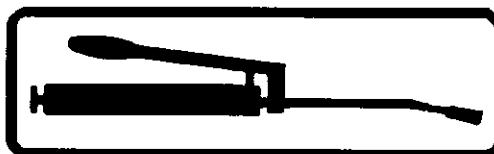


Figure 13

Part no.: A 106



Figure 14

Decal G

Part no.: A104

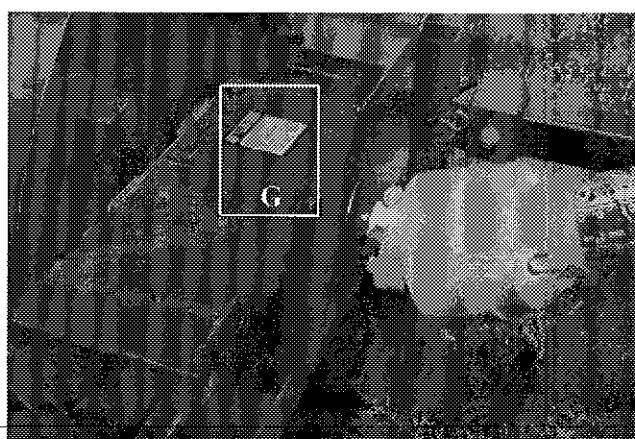


Figure 15

# ASSEMBLY

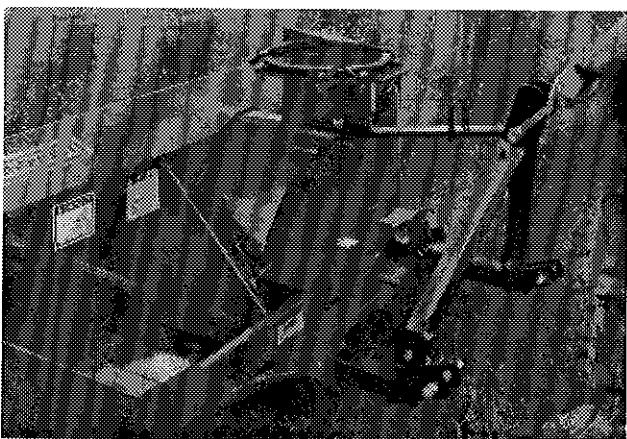


Figure 16



Figure 17



Figure 18

## ASSEMBLY

- 1) The Snowblower is shipped partly assembled.
- 2) Install 3-point system according to the model of your Snowblower. (See section 10 for parts numbers). Use the holes most convenient to the type of tractor used (Fig. 16).
- 3) Install P.T.O. shaft with the shear pin end onto the Snowblower gear box (Fig. 17). Then attach safety shield support chain as shown (Fig. 18).  
**WARNING:** The telescoping tubes of the drive shaft must never be allowed to bottom out while maintaining a minimum overlap of 6 inches.
- 4) If you install a hydraulic cylinder on the chute deflector, use model 25TR04 cylinder.
- 5) For the installation of the chute rotation mechanism, please refer to page 12 through 14, according to the type used.

4

## **ASSEMBLY (cont'd)**

**4**

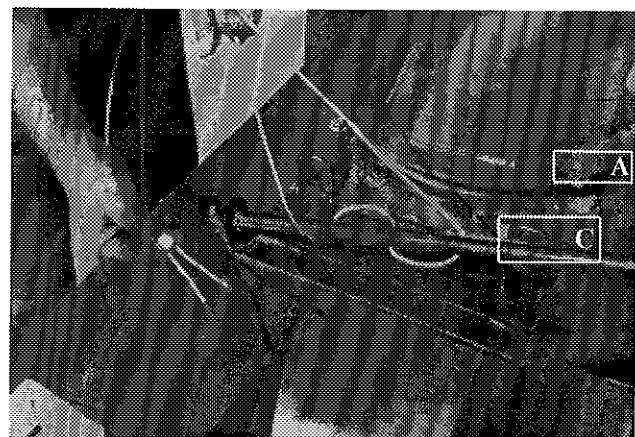


Figure 19

### **MANUAL CHUTE ROTATION**

- 1) Install chute and kit as shown on page 24.
- 2) **Figure 19:** Thread the steel cable through the three holes in the shaft and arrange to have both cable ends of equal length. Turn the chute manually until the cable anchor hole (A) is near cable guide (C).
- 3) **Figure 20:** Route cable through guide (B) and clockwise around the chute. Insert it through one of the anchor holes (A) and secure it temporarily with locking pliers.
- 4) **Figure 21:** Turn crank clockwise until anchor hole (A) is near cable guide (B). Route the other end of the cable through guide (C) and counterclockwise around the chute.
- 5) **Figure 22:** Insert cable in the free anchor hole and secure both cables with the clamp provided.

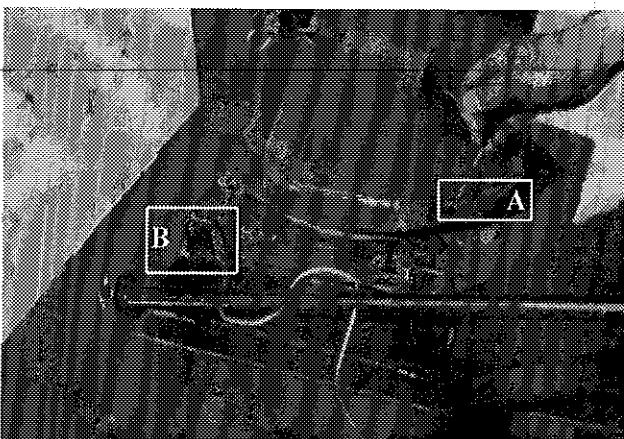


Figure 20

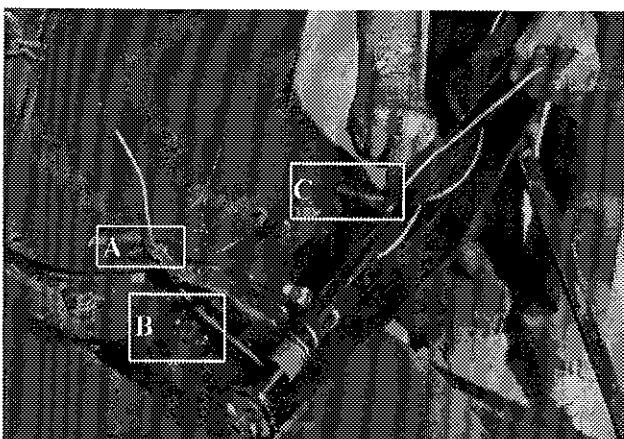


Figure 21

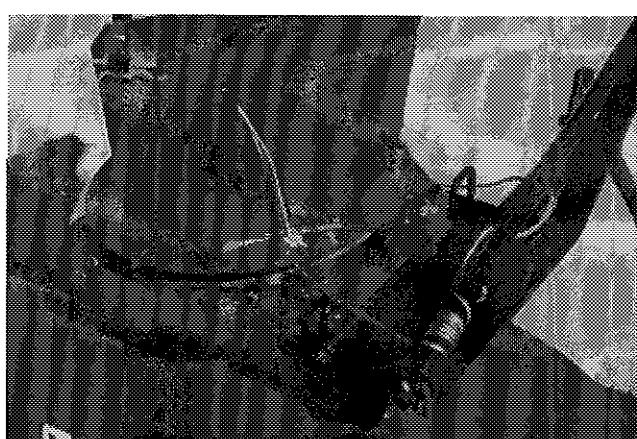


Figure 22

## ASSEMBLY (cont'd)

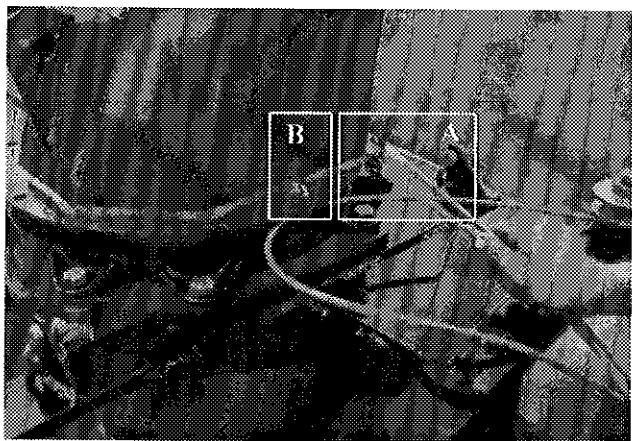


Figure 23

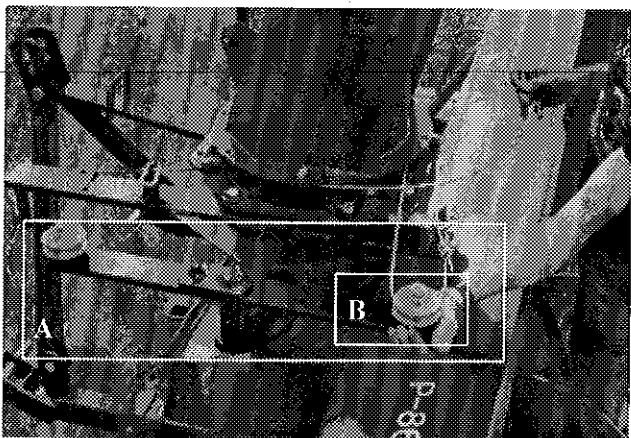


Figure 24

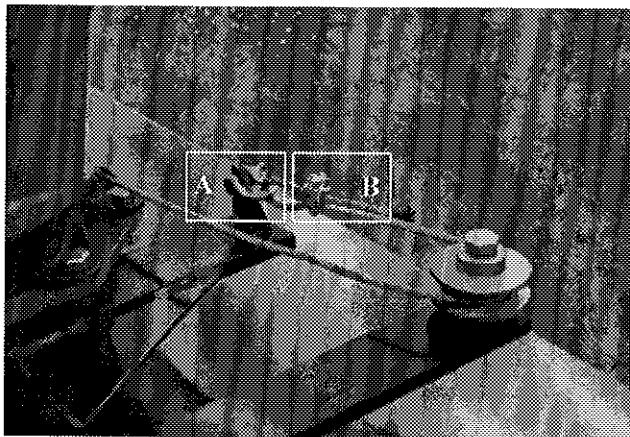


Figure 25

### HYDRAULIC CHUTE ROTATION *Cylinder*

- 1) Install chute and kit as shown on page 25. Position chute with discharge towards the front of the Snowblower.
- 2) Place steel cable with both ends equal (A Fig. 23) and secure solidly with wire clamp provided (B Fig. 23).
- 3) Place pivot (A Fig. 24) perpendicular to the front of the Snowblower.
- 4) Pull cable end from the gearbox side, go around the chute, then around pulley (B Fig. 24), loop through clevis (A Fig. 25) and secure with cable clamp (B Fig. 25).
- 5) Pull other end of cable counterclockwise around the chute, then around pulley (A Fig 26), loop through clevis and secure with wire clamp.
- 6) Make sure the cable is tight.

4



Figure 26

## **ASSEMBLY (cont'd)**



**4**

Figure 27

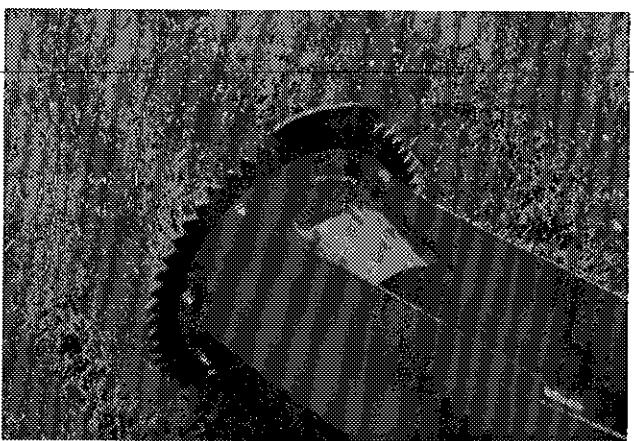


Figure 28

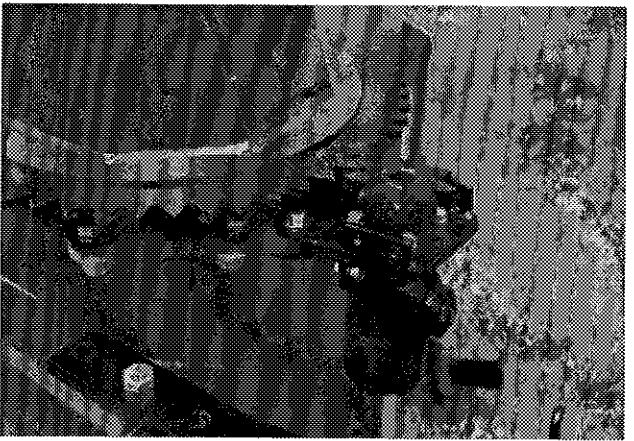


Figure 29

- 7) Install hydraulic cylinder with fittings facing down. Install end A of cylinder body as shown (Fig. 27) and install pin to secure it in place. Connect rod end to pivot plate.

### ***HYDRAULIC CHUTE ROTATION Motor***

- 1) Bolt the 37 tooth ring-gear onto chute flange with plain segment lined up with chute discharge opening (Fig. 28).
- 2) Install U-shaped UHMW piece , place chute on Snowblower and secure with retaining brackets and bolts provided.
- 3) Install motor mounting plate, motor and 9 tooth gear. See page 26 for bolt dimensions (Fig. 29).
- 4) The thickness of the 9 tooth gear is slightly more than the ring-gear. Make sure it exceeds on both sides of the ring gear.
- 5) Using the take-up screws, adjust gear to mesh without bottoming.
- 6) Install guard (Fig. 30).



Figure 30

# **STARTING-UP**



Figure 31

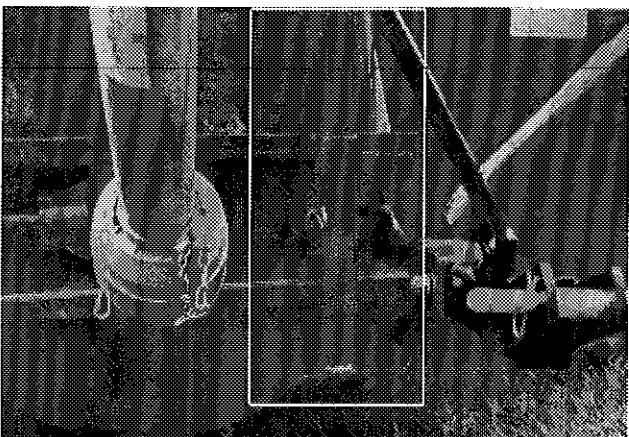


Figure 32

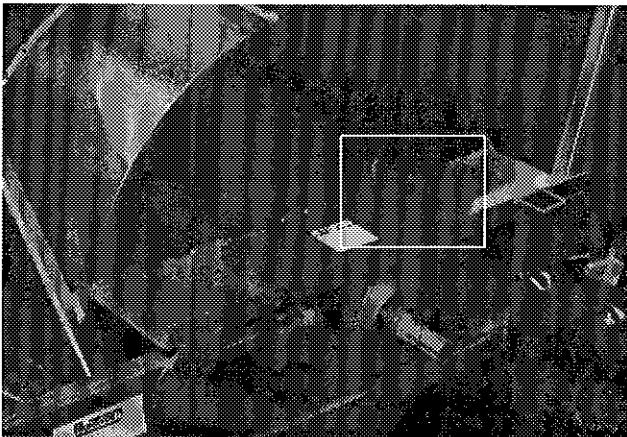


Figure 33

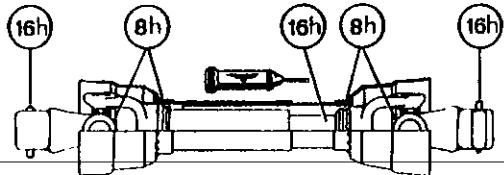
## **START-UP PROCEDURES**

- 1) Check oil level in gearbox. Use S.A.E. W90 gear box oil.
- 2) Lubricate all points with a good quality multiuse grease.
- 3) Check chain take-up adjustment. A slight tension must be maintained.
- 4) Verify for adequate tightness of all fastening devices. Refer to torque chart on page 35.
- 5) Adjust skid shoes according to ground conditions (Fig. 31).
- 6) Following the installation of the Snowblower on the tractor, **do not forget** to lift the storage support (Fig. 32).
- 7) Make sure of a 540 RPM input to your Snowblower.
- 8) Check impeller adjustment. The tip of the blades should be approximately 1/8" to 3/16" from the discharge wall of the drum. If necessary, adjust with the take-up screws provided (Fig. 33).

**5**

## **MAINTENANCE**

- 1) Wipe off all grease fittings with a clean cloth before adding grease in order to avoid injecting dirt and sand.
- 2) Repair or replace damaged grease fittings.
- 3) Lubricate all grease fittings every 10 hours of operation.
- 4) Oil drive chain every 8 hours of operation.
- 5) Lubricate P.T.O. shaft as indicated below:



- 6) Check oil level in gear box once a month. If necessary add oil.

- 7) Check tension of drive chain every 25 hours of operation and adjust if necessary.
- 8) Check for tightness of bearing collars every 50 hours of operation.
- 9) Change gearbox oil once a year. Use gear box oil S.A.E. W90 rated API, class GL-5.
- 10) Check all nuts and bolts once a year. If necessary use torque chart on page 35.
- 11) Always use Grade 5 shear bolts.

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## **STORAGE**

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- 1) Store the Snowblower in a cool, dry place.
- 2) Support the Snowblower with wooden blocks.
- 3) Keep all piston rods in the retracted position. This will assure better protection against the elements.
- 4) Clean your Snowblower.
- 5) Thoroughly inspect all parts of the Snowblower. Replace or repair worn or defective parts.
- 6) Touch-up or repaint if necessary.
- 7) Lubricate all points before storage.

# TROUBLESHOOTING

## P.T.O. SHAFT

PROBLEM	POSSIBLE CAUSE	CORRECTION
- Premature wear of U-joints and/or bluish color of cross journals.	- Insufficient lubrication.  - Excessive working angle.	- Follow lubrication recommendations.  - Replace defective U-joints.  - Make sure the Snowblower inlet face is perpendicular to the ground and if possible readjust 3-point in order to position the Snowblower further away from tractor.
- Gripping or premature wear of telescoping members.	- Too much sliding under load.	- Do not raise Snowblower while in operation.
	- Tube overlap too-short: minimum recommended is 6".  - Insufficient lubrication.  - Contaminants (sand, etc.).	- Readjust 3-point in order to position the snowblower closer to the tractor.  - Follow lubrication recommendations.  - Replace defective telescopic members.
- Damaged or jammed locking pin or bolt.	- Pin or orifice contaminated by sand, ice, etc.  - Telescoping members too long, exerting pressure on locking device.	- Clean and grease.  - Readjust 3-point in order to position the Snowblower further away from tractor or shorten tubes.
- Premature wear of guard tube bearing ring.	- Lack of lubrication.  - Wrong installation of guard chain.  - Part of the guard in contact with the equipment.	- Follow lubrication instructions.  - Adjust chain for non-interference between guard & equipment.  - Replace worn or damaged bearing rings.
- Cut or deformed safety guard tubes.	- Tubes in contact with the equipment.	- Eliminate any interference between tubes and equipment or tractor.  - Replace damaged tubes.

## **TROUBLESHOOTING (cont'd)**

### **SNOWBLOWER**

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>CORRECTION</b>
- The snow is not being thrown as far as usual.	- Tractor RPM too low. - Gap too wide between impeller blade tip and drum outlet wall. - Insufficient tractor HP.	- Raise P.T.O. speed to a minimum of 540 RPM. - Adjust impeller blades closer to drum outlet (1/8" to 3/16"). - Reduce travel speed.
- Frequent plugging of discharge chute.	- Tractor RPM too low. - Tractor RPM reduced too early with snow still in the Snowblower.  - Wet snow condition.	- Raise P.T.O. speed to a minimum of 540 RPM. - Make sure the Snowblower is completely empty before reducing RPM, especially on tractors with foot controlled RPM. - Reduce travel speed.
- The impeller will not turn.	- Shear bolt broken on drive shaft.	- Replace shear bolt.
- The auger will not turn.	- Shear bolt broken on drive shaft. - Shear bolt broken on auger drive shaft. - Broken drive chain.	- Replace shear bolt. - Replace shear bolt. - Fix or replace chain.
- The chute will not turn.	- Ice accumulation. - Wrong hydraulic connections. - FOR CHUTE MECHANISM H-4864 - Broken shear bolt.	- Remove ice. - Check hydraulic connections. - FOR CHUTE MECHANISM H-4864 - Replace shear bolt.

# SPECIFICATIONS

Snowblower model		P-540	P-620	P-680	P-720
Horse power required min - max		18-25	18-25	25-35	25-35
Working width (inches) (centimeters)	54"	62"	68"	72"	
	137	157	173	183	
Cutting height (inches) (centimeters)	28"	28"	30"	30"	
	71	71	76	76	
Impeller diameter (inches) (centimeters)	22"	22"	24"	24"	
	56	56	61	61	
Depth of drum (inches) (centimeters)	9"	9"	9"	9"	
	22.9	22.9	22.9	22.9	
Size of impeller shaft (inches) (centimeters)	1 1/4"	1 1/4"	1.575"	1.575"	
	3.18	3.18	4	4	
Impeller RPM		540	540	540	540
Number of augers		1	1	1	1
Main auger diameter (inches) (centimeters)	16"	16"	16"	16"	
	41	41	41	41	
Upper auger 13" diameter		-	-	-	-
Drive chain - main auger		50	50	60	60
Oil bath sealed gear box		Std.	Std.	Std.	Std.
Chute rotation mechanism	Manual	Opt.	Opt.	Opt.	Opt.
	Hydraulic C (cylinder)	Opt.	Opt.	Opt.	Opt.
	Hydraulic M (motor)	Opt.	Opt.	Opt.	Opt.
Number of shear bolts		2	2	2	2
Hitch category		1	1	1	1
Balanced impeller		Std.	Std.	Std.	Std.
Balanced auger		Std.	Std.	Std.	Std.
Drum rotation mechanism	Hydraulic C (cylinder)	-	-	-	-
	Hydraulic M (motor)	-	-	-	-
1000 @ 540 RPM reducer		-	-	-	-
Scraper blade	Steel - reversible	-	-	-	-
	Carbon steel - not reversible	-	-	-	-
Adjustable skid shoes	Steel	Std.	Std.	Std.	Std
	Carbon steel	-	-	-	-
Full flight upper auger (industrial)		-	-	-	-
Semi-industrial chute		Opt.	Opt.	Opt.	Opt.
Industrial chute		-	-	-	-
48" chute extension		-	-	-	-
Deflector cylinder		Opt.	Opt.	Opt.	Opt.
Bearing / ductile iron casing		-	-	-	-
Height - Impeller center (inches) (centimeters)	14"	14"	15"	15"	
	35.6	35.6	38.1	38.1	
Lateral blades		Opt.	Opt.	Opt.	Opt.
P.T.O. shaft (standard)		No. 2	No. 2	No. 4	No. 5
P.T.O. shaft (optional)		-	-	-	-
Weight (lbs) (kg)	550	575	670	695	
	248	259	302	313	

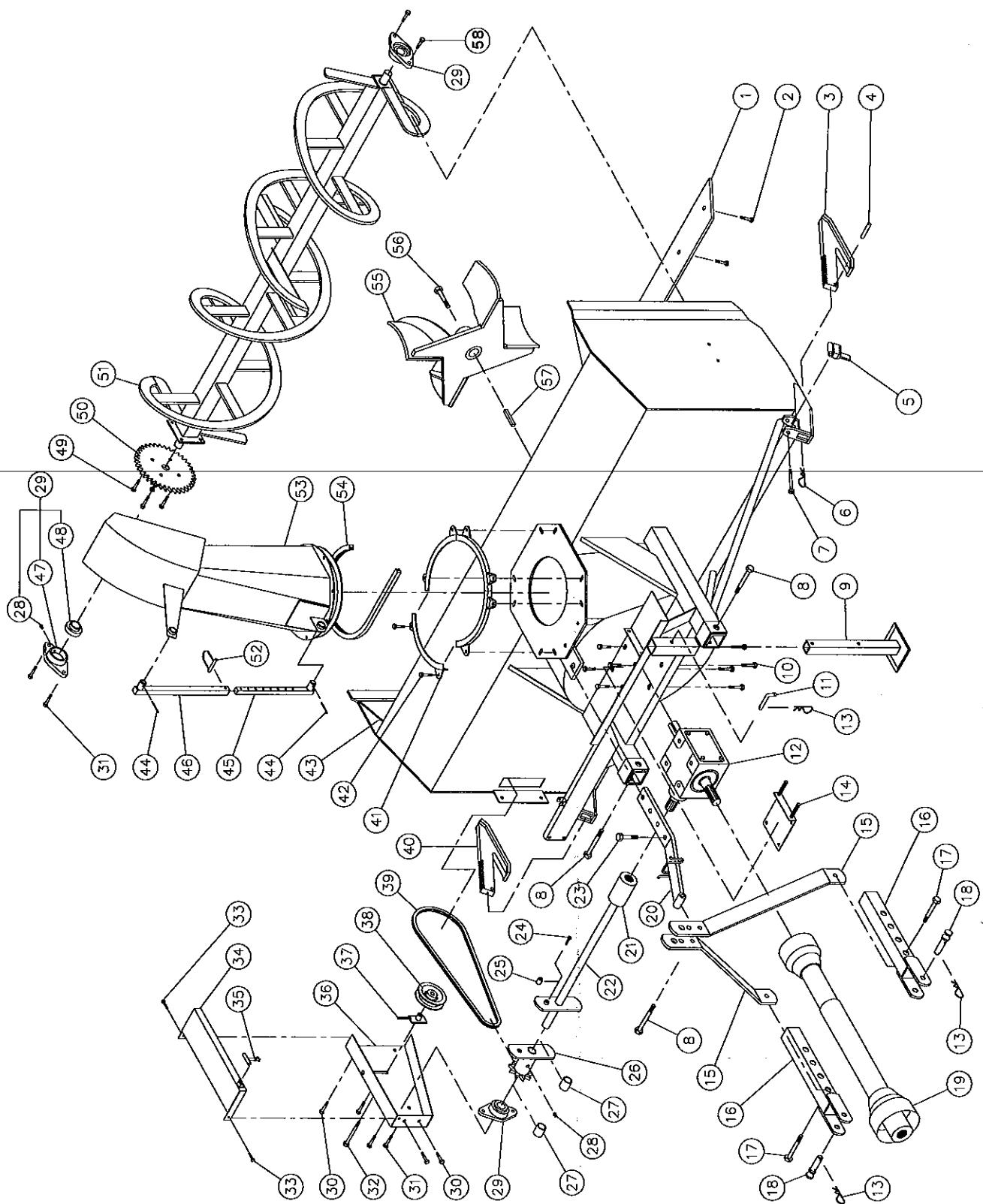
Design and specifications subject to change without notice.

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# **SNOWBLOWERS P-540 P-620 P-680 P-720**

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## ***SNOWBLOWERS P-540 P-620 P-680 P-720 (cont'd)***

REF.	PART #	DESCRIPTION	QTY	P-540	P-620	P-680	P-720
1	6459	Scraper blade (not reversible) 3/8" x 2 1/2" x 51 1/2" lg .....	1	-	-	-	-
1	6460	Scraper blade (not reversible) 3/8" x 2 1/2" x 59 1/2" lg .....	-	1	-	-	-
1	6461	Scraper blade (not reversible) 3/8" x 2 1/2" x 65 1/2" lg .....	-	-	1	-	-
1	6508	Scraper blade (not reversible) 3/8" x 2 1/2" x 69 1/2" lg .....	-	-	-	1	-
2	125-0715	Plow bolt 7/16" NC x 1 1/2" lg + nut & lock washer .....	6	6	7	7	-
3	6479-D	Skid shoe (right side) .....	1	1	1	1	-
4	Std.	Roll pin 1/4" x 1 1/2" lg .....	2	2	2	2	-
5	6477	Skid shoes lock .....	2	2	2	2	-
6	8111	Hitch pin clip 5/32" (CP-93H) .....	2	2	2	2	-
7	Std.	Bolt 3/8" NC x 3 1/2" lg + nylon lock nut .....	2	2	2	2	-
8	Std.	Bolt 1/2" NC x 3 1/2" lg + nylon lock nut .....	3	3	3	3	-
9	6520	Storage support .....	1	1	1	1	-
10	Std.	Bolt 3/8" NC x 5 1/2" lg + nylon lock nut & 2 flat washer .....	4	4	-	-	-
10	Std.	Bolt 1/2" NC x 1" lg + lock washer & flat washer .....	-	-	8	8	-
11	6521	Storage support pin .....	1	1	1	1	-
12	6451	Gear box T281 .....	1	1	-	-	-
12	8251	Gear box T27D .....	-	-	1	1	-
13	Std.	Hitch pin clip 5/32" .....	3	3	3	3	-
14	6522	Adjustment plate for gear box + 4 nuts 3/8" NC .....	1	1	-	-	-
14	8199	Adjustment plate for gear box + 4 nuts 1/2" NC .....	-	-	1	1	-
15	6517	3-point side bar .....	2	2	-	-	-
15	6519	3-point side bar .....	-	-	2	2	-
16	6252	Lower hitch (right & left) .....	2	2	2	2	-
17	Std.	Bolt 1/2" NC x 3" lg + nylon lock nut .....	2	2	2	2	-
18	6253	Pin category 1 .....	2	2	2	2	-
19	6408-EG	P.T.O. shaft .....	1	1	-	-	-
19	6248-EG	P.T.O. shaft .....	-	-	1	-	-
19	8114-EG	P.T.O. shaft .....	-	-	-	1	-
20	6504	Upper hitch .....	1	1	-	-	-
20	6505	Upper hitch .....	-	-	1	1	-
21	6466	Splined adaptor 1 1/4"-19 .....	1	1	1	1	-
22	6441	Auger drive shaft 20 7/8" lg overall .....	1	-	-	-	-
22	6442	Auger drive shaft 24 7/8" lg overall .....	-	1	-	-	-
22	6443	Auger drive shaft 24 7/16" lg overall .....	-	-	1	-	-
22	6456	Auger drive shaft 26 7/16" lg overall .....	-	-	-	1	-
23	Std.	Bolt 1/2" NC x 1 1/2" lg + nylon lock nut .....	1	1	1	1	-
24	Std.	Bolt 1/4" NC x 2" lg + nylon lock nut .....	1	1	1	1	-
25	8164	Welded bushing 1/4" i.d. x 3/4" o.d. x 3/4" lg .....	2	2	2	2	-
26	6287	Sprocket #50 + shearplate .....	1	1	-	-	-
26	6260	Sprocket #60 + shearplate .....	-	-	1	1	-
27	8009	Brass bushing 1 1/4" i.d. x 1 1/2" o.d. x 1 3/16" lg .....	2	2	2	2	-
28	Std.	Grease fitting 1/4"-28 straight .....	4	4	4	4	-
29	6261	Bearing 1" + flange .....	3	3	3	3	-
30	Std.	Bolt 3/8" NC x 1" lg + nylon lock nut .....	4	4	4	4	-
31	Std.	Bolt 1/2" NC x 1 1/4" lg + nut & lock washer .....	4	4	4	4	-
32	Std.	Bolt 1/2" NC x 3 1/2" lg + nylon lock nut & flat washer .....	1	1	-	-	-
32	Std.	Bolt 1/2" NC x 3" lg + nylon lock nut & flat washer .....	-	-	1	1	-
33	Std.	Bolt 1/4" NC x 3/4" lg + nylon lock nut .....	2	2	2	2	-

## ***SNOWBLOWERS P-540 P-620 P-680 P-720 (cont'd)***

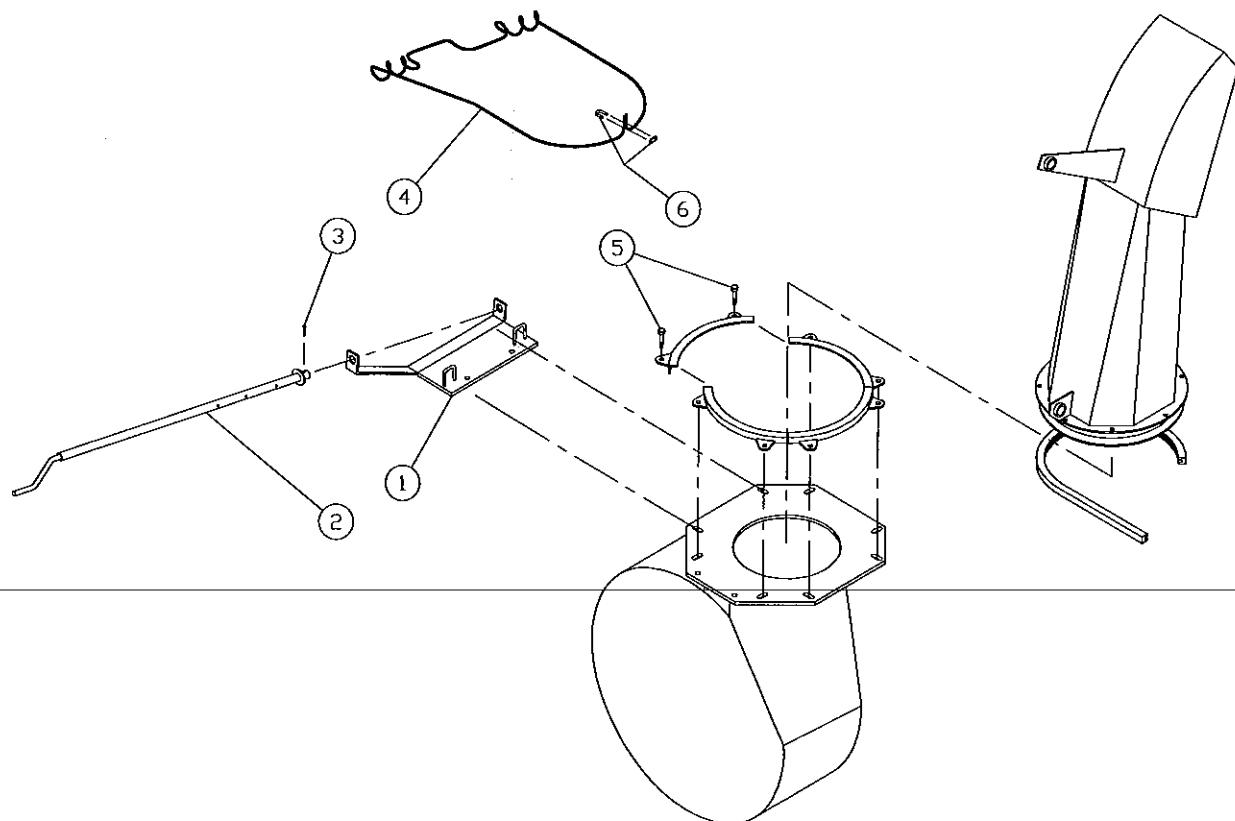
REF.	PART #	DESCRIPTION	QTY			
			P-540	P-620	P-680	P-720
34	6506	Chain guard cover .....	1	1	-	-
34	6507	Chain guard cover .....	-	-	1	1
35	8125	Rubber fastener .....	1	1	1	1
36	6509	Chain guard .....	1	1	-	-
36	6510	Chain guard .....	-	-	1	1
37	6347	Idler (hole 1/2") + 2 nuts 7/16" NC .....	1	1	-	-
37	6358	Idler (hole 1/2") + 2 nuts 7/16" NC .....	-	-	1	1
38	8122	Idler pulley .....	1	1	-	-
38	8186	Idler sprocket #60 .....	-	-	1	1
39	ASA50-5	Chain #50 x 59 7/8" lg .....	1	1	-	-
39	ASA60-5.4	Chain #60 x 64 3/4" lg .....	-	-	1	1
40	6479-G	Skid shoe (left side) .....	1	1	1	1
41	6470	Retaining bracket .....	4	4	4	4
42	Std.	Bolt 7/16" NC x 1 1/4" lg + nylon lock nut & flat washer .....	8	8	8	8
43	---	Frame P-540 .....	1	-	-	-
43	---	Frame P-620 .....	-	1	-	-
43	---	Frame P-680 .....	-	-	1	-
43	---	Frame P-720 .....	-	-	-	1
44	Std.	Cotter pin 5/32" x 2" lg .....	2	2	2	2
45	6438	Chute adjusting rod .....	1	1	1	1
46	6439	Chute adjusting tube .....	1	1	1	1
47	6454	Flange UCFL205 .....	3	3	3	3
48	6455	Bearing 1" UC205-16 .....	3	3	3	3
49	Std.	Bolt 3/8" NC x 1 1/4" lg + nylon lock nut .....	4	4	4	4
50	6288	Sprocket 50 A36 T 1" ø .....	1	1	-	-
50	6272	Sprocket 60 A38 T 1 1/4" ø .....	-	-	1	1
51	6281	Auger P-540 .....	1	-	-	-
51	6282	Auger P-620 .....	-	1	-	-
51	6453	Auger P-680 .....	-	-	1	-
51	6457	Auger P-720 .....	-	-	-	1
52	8112	Lock pin 1/4" .....	1	1	1	1
53	6474	Chute .....	1	1	1	1
54	6471	U-shaped UHMW ± 12" ø i.d. ....	1	1	1	1
55	6523	Impeller 22" ø 4 blades .....	1	1	-	-
55	6533	Impeller 24" ø 4 blades .....	-	-	1	1
56	6525	Impeller cap screw 3/8" NC x 1" lg + lock washer .....	1	1	-	-
56	8228	Impeller cap screw 5/8" NC x 1 1/2" lg + lock washer .....	-	-	1	1
57	6276	Square key 1/4" x 1/4" x 1 3/4" lg .....	1	1	-	-
57	8030	Square key 3/8" x 3/8" x 3 1/2" lg .....	-	-	1	1
58	Std.	Bolt 1/2" NC x 1 1/2" lg + nylon lock nut .....	2	2	2	2

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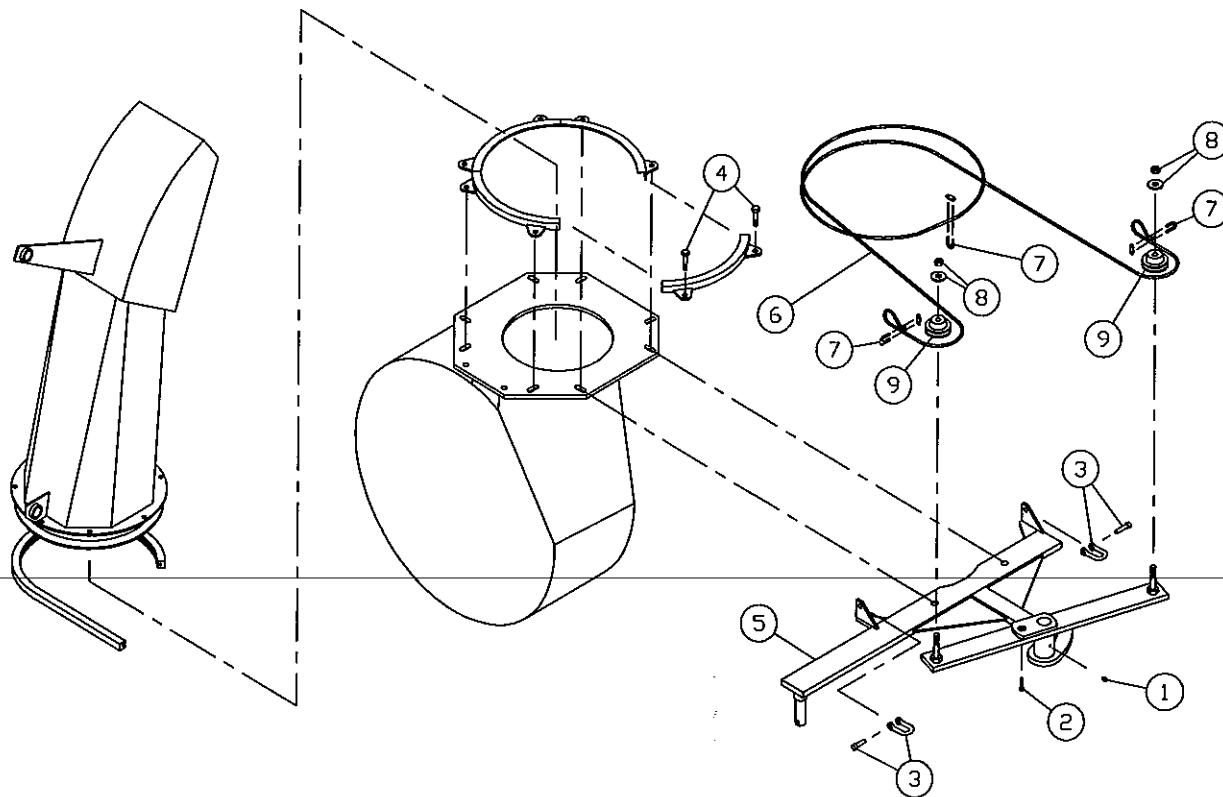
## **MANUAL CHUTE KIT M-4864**

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REF.	PART #	DESCRIPTION	QTY
1	6493	Rotation system support .....	1
2	6300	Crank .....	1
3	Std.	Cotter pin 3/16" x 1 1/2" lg .....	1
4	6302	Cable 1/8" x 84" lg .....	1
5	Std.	Bolt 7/16" x 1 1/2" lg + nylon lock nut .....	2
6	6303	Cable clamp 1/8" .....	1

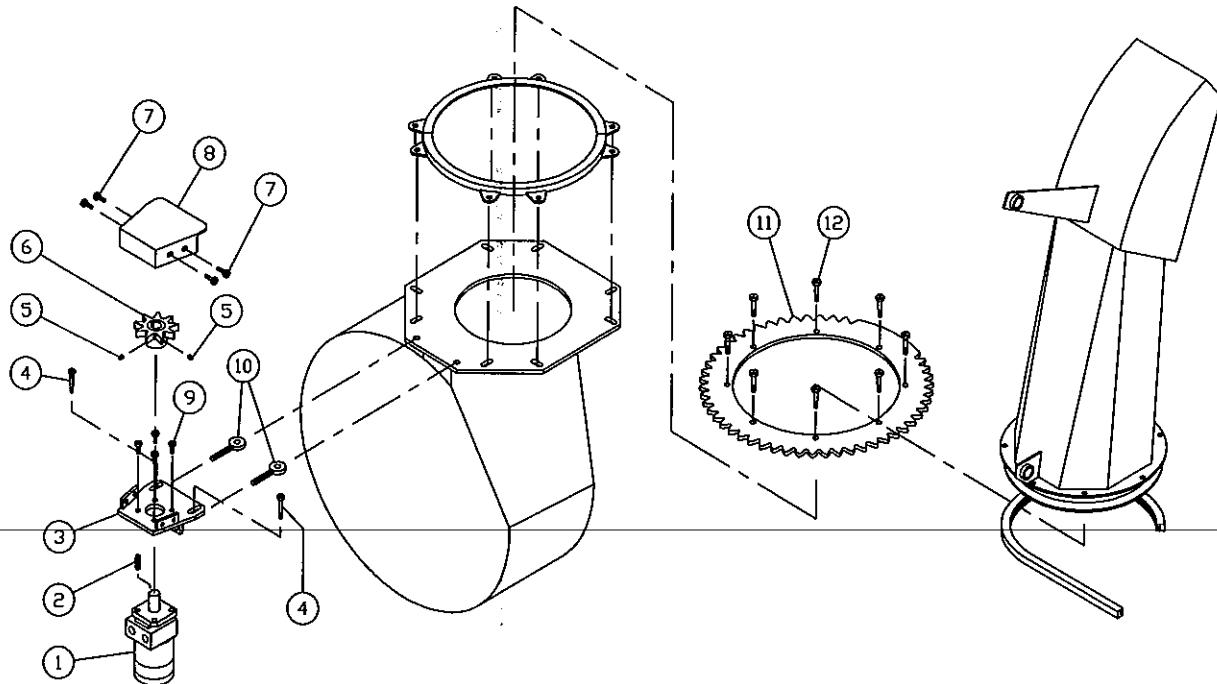
# **HYDRAULIC CHUTE KIT** *Cylinder H-4864*



REF.	PART #	DESCRIPTION	QTY
1	Std.	Grease fitting 1/4"-28 straight .....	1
2	Std.	Bolt 1/4" x 2" + nylon lock nut .....	1
3	6305	Clevis 1/4" .....	2
4	Std.	Bolt 7/16" x 2" lg + nylon lock nut .....	2
5	6494	Frame .....	1
6	6495	Cable 3/16" x 116" lg .....	1
7	6496	Cable clamp 3/16" .....	3
8	Std.	Nylon lock nut 5/8" & flat washer .....	2
9	8098	Pulley .....	2
NI*	25TR04	Cylinder .....	1

\*NI = NOT ILLUSTRATED

# **HYDRAULIC CHUTE KIT** *Motor* **SP-4864**



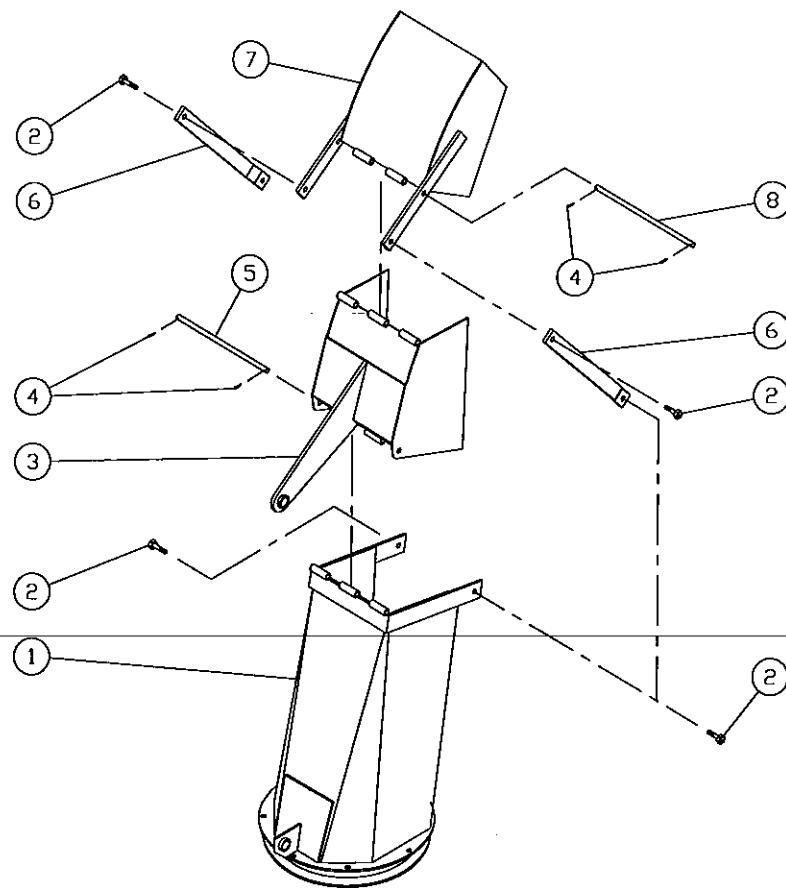
REF.	PART #	DESCRIPTION	QTY
1	- - -	Hydraulic motor (DH250 or DH315) .....	1
2	- - -	Key (as motor requirement) .....	1
3	8269	Motor mounting plate .....	1
4	Std.	Bolt 7/16" NC x 2" lg + nylon lock nut & flat washer .....	2
5	Std.	Allen set screw 3/8" NC x 3/8" lg .....	2
6	8159	Sprocket (9 teeth) .....	1
7	Std.	Bolt 3/8" NC x 3/4" lg + lock washer & flat washer .....	4
8	8158	Guard .....	1
9	Std.	Bolt 3/8" NC x 1" lg + lock washer .....	4
10	8161	Take-up screws + 2 nuts 3/8" NC .....	2
11	6469	Ring gear (37 teeth) .....	1
12	Std.	Bolt 7/16" NC x 1 1/4" lg + nylon lock nut .....	8

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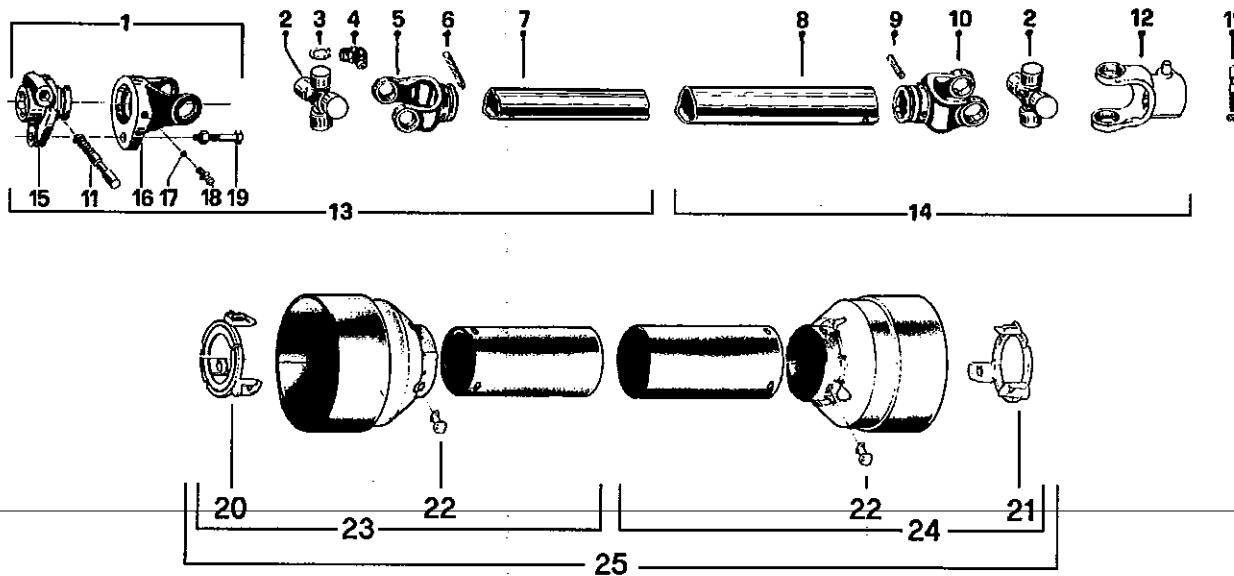
## **SEMI-INDUSTRIAL CHUTE PSI-4864**

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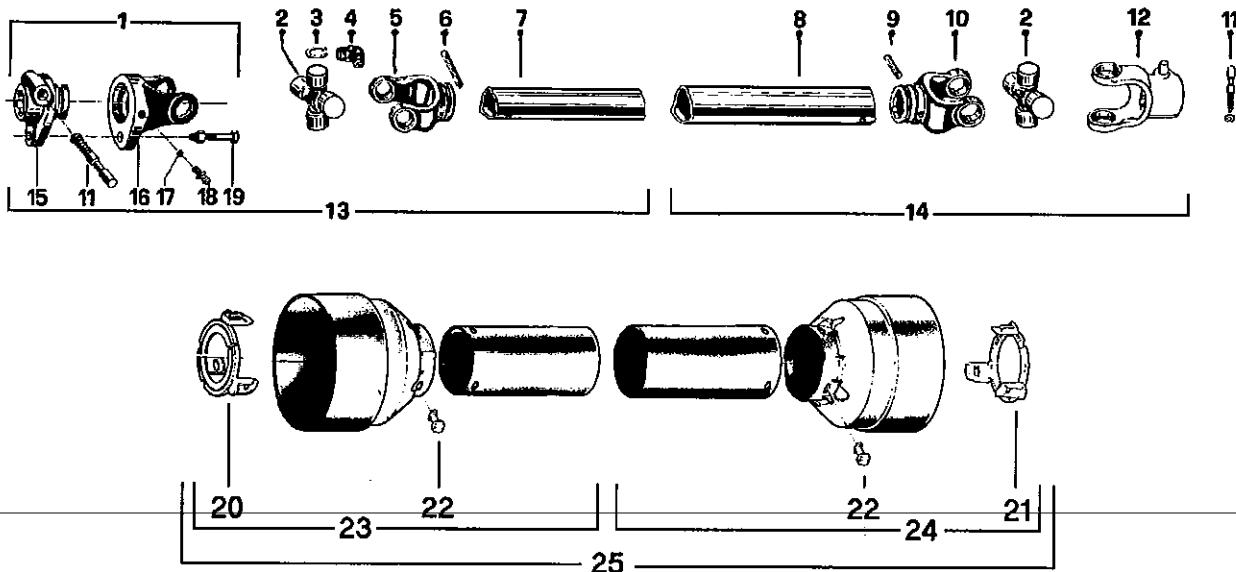
REF.	PART #	DESCRIPTION	QTY
1	6531	Chute base .....	1
2	Std.	Bolt 7/16" x 1 1/4" lg + nylon lock nut .....	4
3	6532	Lower chute deflector .....	1
4	Std.	Cotter pin 1/8" x 1" lg .....	4
5	6533	Lower chute deflector pin .....	1
6	6534	Connecting rod .....	2
7	6535	Upper chute deflector .....	1
8	6536	Upper chute deflector pin .....	1

## P.T.O. SHAFT # 6408-EG (T20)



REF.	PART #	DESCRIPTION	QTY
1	6201	Quick disconnect yoke assembly .....	1
2	6208	U-joint + 4 retaining rings + 1 grease fitting .....	2
3	6203	Retaining ring .....	8
4	8110	Grease fitting .....	2
5	6433	Yoke for inner tube .....	1
6	6434	Stopper for inner tube .....	1
7	6432	Inner tube .....	1
8	6431	Outer tube .....	1
9	6344	Stopper for outer tube .....	1
10	6430	Yoke for outer tube .....	1
11	8068-E	Yoke stopper 1 3/8" .....	2
12	6409	Yoke with hole 1 3/8"-6 splines + yoke stopper 1 3/8" .....	1
13	6224	P.T.O. section, side with safety shear bolt, inner part, without protector .....	1
14	6225	P.T.O. section, side without safety shear bolt, outer part, without protector .....	1
15	6202	Adaptor .....	1
16	6204	Yoke and shearplate .....	1
17	6205	Ball .....	17
18	6206	Grease fitting .....	1
19	6207	Safety shear bolt M6 x 40mm .....	1
20	6219-E	Bearing ring for inner guard tube .....	1
21	6218-E	Bearing ring for outer guard tube .....	1
22	8109	Stopper .....	6
23	6221-E	Inner shield .....	1
24	6220-E	Outer shield .....	1
25	6222	Complete shield .....	1

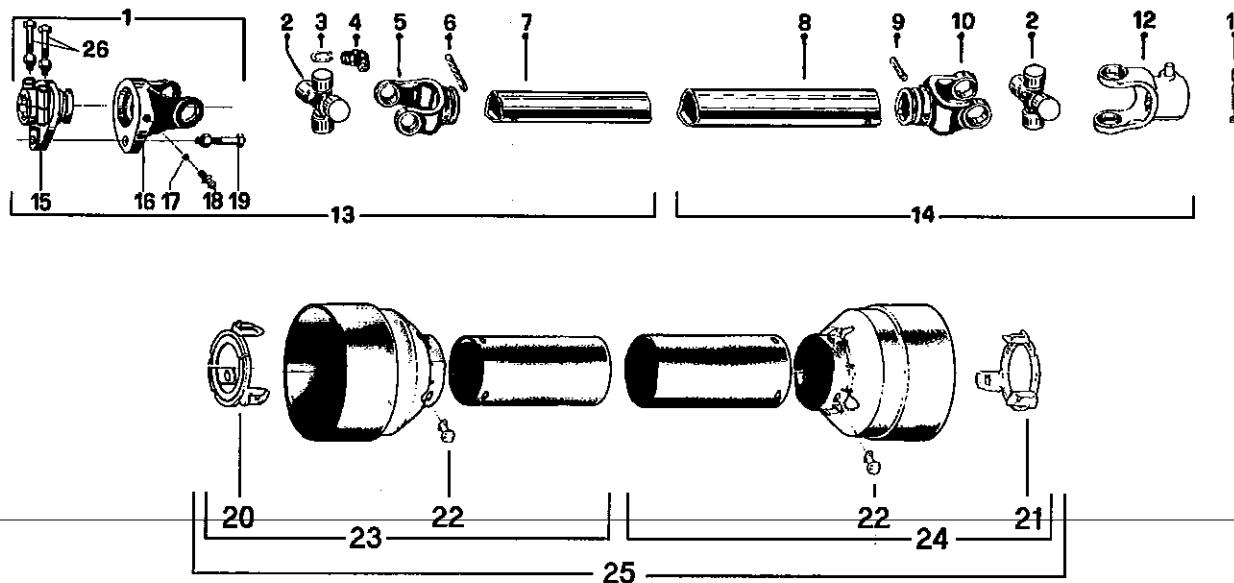
# P.T.O. SHAFT # 6248-EG (T40)



REF.	PART #	DESCRIPTION	QTY
1	6232	Quick disconnect yoke assembly .....	1
2	6239	U-joint + 4 retaining rings + 1 grease fitting .....	2
3	6234	Retaining ring .....	8
4	8110	Grease fitting .....	2
5	6353	Yoke for inner tube .....	1
6	6344	Stopper for inner tube .....	1
7	6343	Inner tube .....	1
8	6342	Outer tube .....	1
9	6341	Stopper for outer tube .....	1
10	6340	Yoke for outer tube .....	1
11	8068-E	Yoke stopper 1 3/8" .....	2
12	6354	Yoke with hole 1 3/8"-6 splines + yoke stopper 1 3/8" .....	1
13	6236	P.T.O. section, side with safety shear bolt, inner part, without protector .....	1
14	6237	P.T.O. section, side without safety shear bolt, outer part, without protector .....	1
15	6233	Adaptor .....	1
16	6235	Yoke and shearplate .....	1
17	8070	Ball .....	17
18	8071	Grease fitting .....	1
19	6238	Safety shear bolt M6 x 40mm .....	1
20	626349	Bearing ring for inner guard tube .....	1
21	626348	Bearing ring for outer guard tube .....	1
22	8109	Stopper .....	6
23	6351-E	Inner shield .....	1
24	6350-E	Outer shield .....	1
25	6352	Complete shield .....	1

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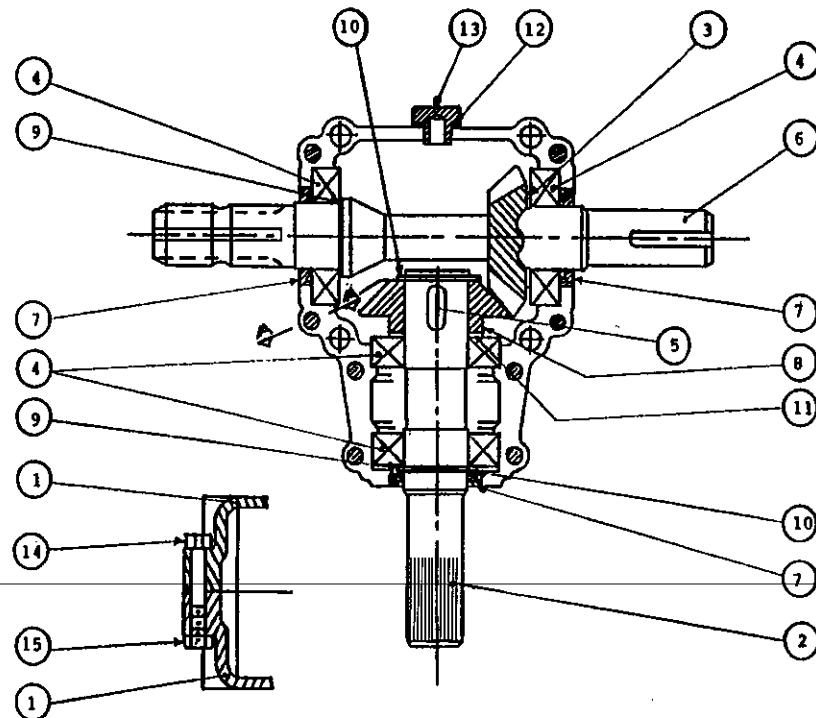
# P.T.O. SHAFT # 8114-EG (T50)



REF.	PART #	DESCRIPTION	QTY
1	8221	Safety shear yoke (2 bolts) .....	1
2	8073	U joint + 4 retaining rings + 1 grease fitting .....	2
3	8061	Retaining ring .....	8
4	8110	Grease fitting .....	2
5	8079	Yoke for inner tube .....	1
6	6341	Stopper for inner tube .....	1
7	8077	Inner tube .....	1
8	8076	Outer tube .....	1
9	8142	Stopper for outer tube .....	1
10	8074	Yoke for outer tube .....	1
11	8068	Yoke stopper 1 3/8" .....	1
12	8113	Yoke with hole 1 3/8"-6 splines + yoke stopper 1 3/8" .....	1
13	8235	P.T.O. section, side with safety shear bolt, inner part, without protector .....	1
14	8236	P.T.O. section, side without safety shear bolt, outer part, without protector .....	1
15	8223	Adaptor (2 bolts) .....	1
16	8069	Yoke and shearplate .....	1
17	8070	Ball .....	17
18	8071	Grease fitting .....	1
19	8072	Safety shear bolt M10 x 50mm .....	1
20	8084-E	Bearing ring for inner guard tube .....	1
21	8083-E	Bearing ring for outer guard tube .....	1
22	8109	Stopper .....	6
23	8086-E	Inner shield .....	1
24	8085-E	Outer shield .....	1
25	8087	Complete shield .....	1
26	8222	Bolt M12 x 70mm + lock nut .....	2

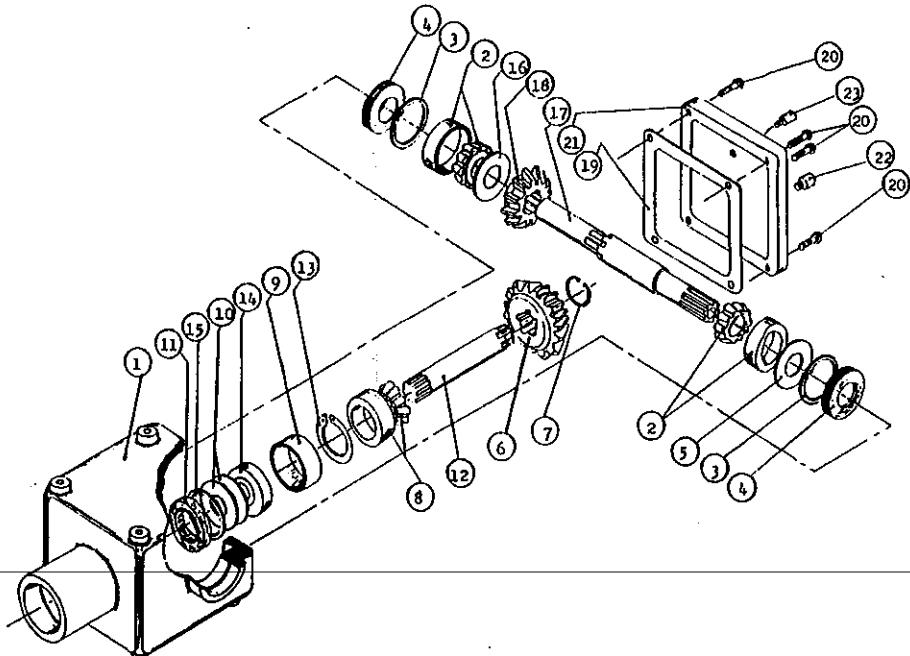
# **GEAR BOX # 6451**

(T28I)



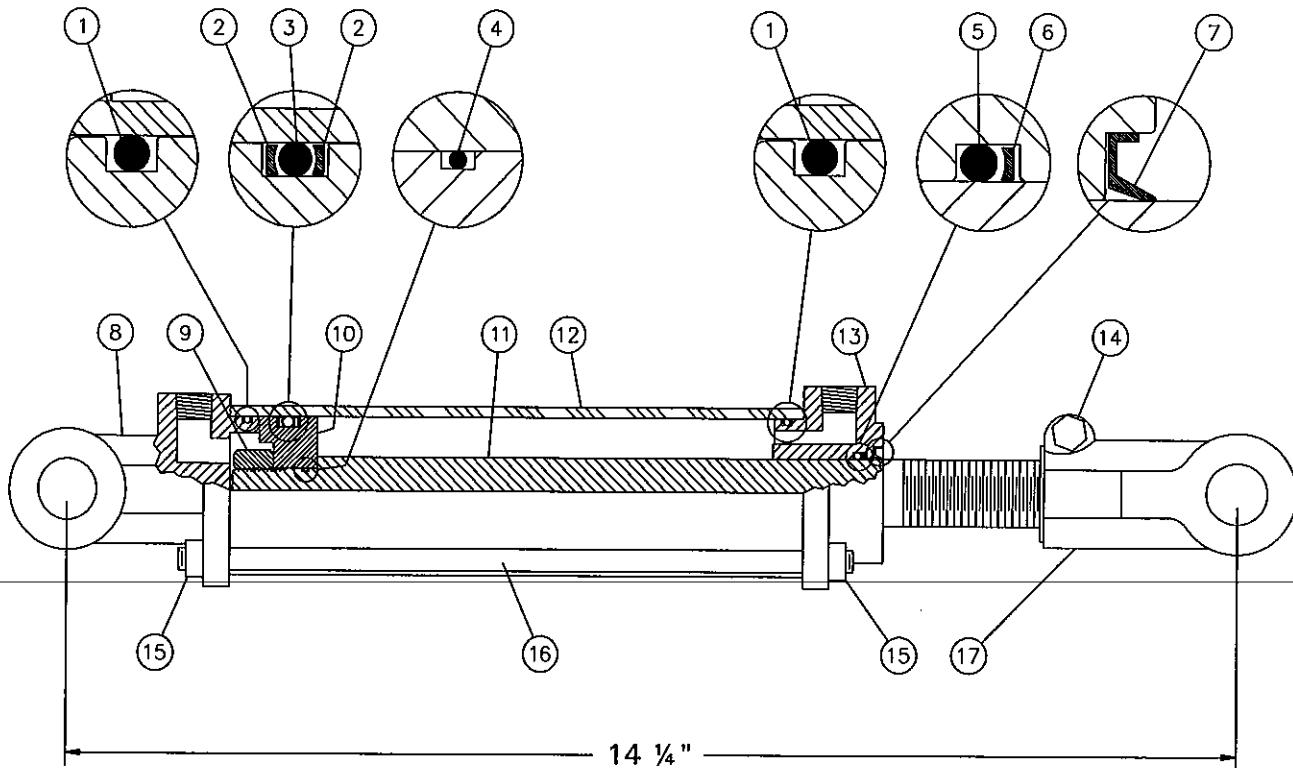
REF.	PART #	DESCRIPTION	QTY
1	6414	Casing .....	2
2	6429	Side shaft (1 1/4" - 19 splines) .....	1
3	6416	Spacer 35,3 x 48 .....	1
4	8056	Roller bearing no. 6207 .....	4
5	6418	Key 10 x 8 x 30 .....	1
6	6419	Impeller shaft (1 1/4" & 1 3/8" - 6 splines} .....	1
7	6420	Seal 35 x 52 x 7 .....	3
8	6421	Gear Z19 .....	1
9	6422	Spacer 35.3 x 0.5 .....	2
10	6423	Snap ring 35 UNI7435 .....	2
11	6424	Spacer 35.3 x 0.6 .....	1
12	6425	Oil seal .....	1
13	6426	Oil plug .....	1
14	6427	Bolt M8 x 55 .....	8
15	6428	Nut M8 .....	8

# **GEAR BOX # 8251** (T27D)



REF.	PART #	DESCRIPTION	QTY
1	8043	Casing .....	1
2	8044	Roller bearing no. 30208 .....	2
3	8045	Inside circlip 80mm .....	2
4	8046	Oil seal 40 x 80 x 12mm .....	2
5	8047	Adjusting washer .....	1
6	8048	Gear Z18 .....	1
7	8049	Outside circlip 40mm .....	1
8	8050	Roller bearing no. 30207 .....	1
9	8051	Spacer ring .....	1
10	8052	Adjusting washer .....	2
11	8053	Oil seal 35 x 72 x 12mm .....	1
12	8054	Side shaft (1 1/4" - 19 splines) .....	1
13	8055	Outside circlip 35mm .....	1
14	8056	Ball bearing no. 6207 .....	1
15	8057	Inside circlip 72mm .....	1
16	8058	Adjusting washer .....	1
17	8252	Impeller shaft (1.575" & 1 3/8" - 6 splines) .....	1
18	8060	Gear Z-18 .....	1
19	8061	Gasket .....	1
20	8062	Bolt M10 x 14mm .....	4
21	8063	Cover .....	1
22	8064	Oil plug .....	1
23	8065	Oil filler plug .....	1

# CYLINDER 25TR04

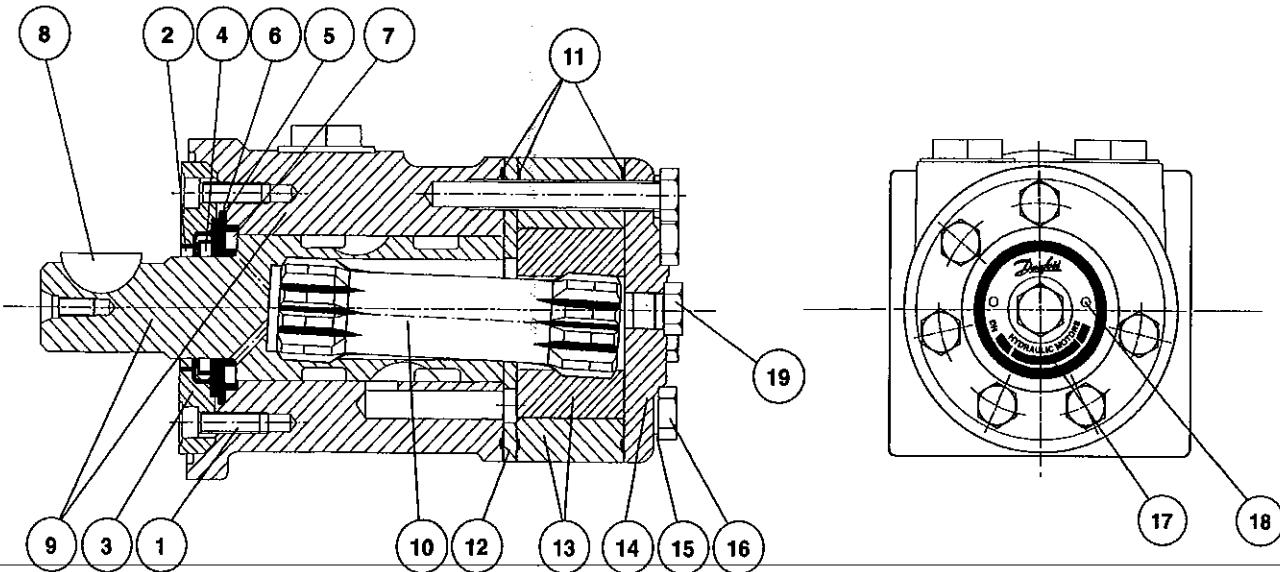


REF.	PART #	DESCRIPTION	QTY
1	See #RK25TR	O-ring 1/8" x 2 1/4" x 2 1/2" .....	2
2	See #RK25TR	Back-up 2 1/2" o.d. x 3/16 ø.....	2
3	See #RK25TR	O-ring 3/16" x 2 1/8" x 2 1/2" .....	1
4	See #RK25TR	O-ring 1/16" x 5/8" x 3/4" .....	1
5	See #RK25TR	O-ring 1/8" x 1 1/8" x 1 3/8" .....	1
6	See #RK25TR	Back-up 1 3/8" o.d. x 1/8" ø .....	1
7	See #RK25TR	Wiper 1 1/8" i.d. x 1 5/8" o.d. ....	1
8	492401	Yoke (for 2 1/2" tube) .....	1
9	Std.	Nut 3/4" NF .....	1
10	4924-31	Piston 2 1/2" ø .....	1
11	491980-04	Piston rod 1 1/8" .....	1
12	491668-04	Cylinder body 2 1/2" ø .....	1
13	492421	Head (for 2 1/2" tube) .....	1
14	Std.	Bolt 3/8" NC x 2 1/4" + nut .....	1
15	Std.	Nut 3/8" NC .....	8
16	Std.	Threaded rod 3/8" NC x 8" lg .....	4
17	458599	Yoke (for 1 1/8" rod) .....	1
NI*	8183	Pin 1" ø + cotter pin .....	2
NI*	RK25TR	Repair kit for cylinder 2 1/2" (includes # 1, 2, 3, 4, 5, 6, & 7) .....	1

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\*NI = NOT ILLUSTRATED

# HYDRAULIC MOTOR # DH 250 & DH 315



REF.	CODE #	DESCRIPTION	QTY	DH 250	DH 315
1	681X1961	Screw M5 x 16mm.....	6	6	
2	151-1313	Dust seal ring .....	1	1	
3	151-1827	Spigot flange .....	1	1	
4	633B3385	Shaft seal BAKDH ring .....	1	1	
5	633B1333	O-ring .....	1	1	
6	151-1608	Bearing race .....	1	1	
7	151-1458	Axial needle bearing .....	1	1	
8	682L9054	Woodruff key .....	1	1	
9	-----	Housing and output shaft .....	not sold		
10	151-2649	Cardan shaft .....	1	-	
10	151-2650	Cardan shaft .....	-	1	
11	633B1173	O-ring .....	3	3	
12	151-1713	Distributor plate .....	1	1	
13	151-1193	Gear wheel set .....	1	-	
13	151-1186	Gear wheel set .....	-	1	
14	151-2641	End cover .....	1	1	
15	684X2481	Washer .....	6	6	
16	681X0184	Screw M8 x 1.25mm Din 931 x 60mm lg .....	6	-	
16	681X0186	Screw M8 x 1.25mm Din 931 x 70mm lg .....	-	6	
17	151A0415	Name plate .....	1	1	
18	681Z1011	Drive screw .....	2	2	
19	631X2013	Drain plug 7/16"-20 UNF .....	1	1	
NI*	151-1273	Set of seals .....	1	1	

\*NI = NOT ILLUSTRATED

# TORQUE CHART

11

TORQUE SPECIFICATION TABLE

Thread UNC and UNF		Grade 2				Grade 5				Grade 8*			
Bolt size		Torque				Torque				Torque			
Inches	mm	Pound feet min.	Pound feet max.	Newton meters min.	Newton meters max.	Pound feet min.	Pound feet max.	Newton meters min.	Newton meters max.	Pound feet min.	Pound feet max.	Newton meters min.	Newton meters max.
1/4	6.35	5	6	6.8	8.13	9	11	12.2	14.9	12	15	16.3	30.3
5/16	7.94	10	12	13.6	16.3	17	20.5	23.1	27.8	24	29	32.5	39.3
3/8	9.53	20	23	27.1	31.2	35	42	47.5	57.0	45	54	61.0	73.2
7/16	11.11	30	35	40.7	47.4	54	64	73.2	86.8	70	84	94.9	113.9
1/2	12.70	45	52	61.0	70.5	80	96	108.5	130.2	110	132	149.2	179.0
9/16	14.29	65	75	88.1	101.6	110	132	149.2	179.0	160	192	217.0	260.4
5/8	15.88	95	105	128.7	142.3	150	180	203.4	244.1	220	264	298.3	358.0
3/4	19.05	150	185	203.3	250.7	270	324	366.1	439.3	380	456	515.3	618.3
7/8	22.23	160	200	216.8	271.0	400	480	542.4	650.9	600	720	813.6	976.3
1	25.40	250	300	338.8	406.5	580	696	786.5	943.8	900	1080	1220.4	1464.5
1 1/8	25.58	-	-	-	-	800	880	1084.8	1193.3	1280	1440	1735.7	1952.6
1 1/4	31.75	-	-	-	-	1120	1240	1518.7	1681.4	1820	2000	2467.9	2712.0
1 3/8	34.93	-	-	-	-	1460	1680	1979.8	2278.1	2380	2720	3227.3	3688.3
1 1/2	38.10	-	-	-	-	1940	2200	2630.6	2983.2	3160	3560	4285.0	4827.4

\* Thick nuts must be used with grade 8 bolts.

Size of screw	Thread	Pitch (mm)	Grade 4T				Grade 7T				Grade 8T			
			Torque				Torque				Torque			
			Pound feet min.	Pound feet max.	Newton meters min.	Newton meters max.	Pound feet min.	Pound feet max.	Newton meters min.	Newton meters max.	Pound feet min.	Pound feet max.	Newton meters min.	Newton meters max.
M6	UNC	1.00	3.6	5.8	4.9	7.9	5.8	9.4	7.9	12.7	7.2	10	9.8	13.6
M8	UNC	1.25	7.2	14	9.8	19	17	22	23	29.8	20	26	27.1	35.2
M10	UNC	1.5	20	25	27.1	33.9	34	40	46.1	54.2	38	46	51.5	62.3
M12	UNC	1.75	28	34	37.9	46.1	51	59	69.1	79.9	57	66	77.2	89.4
M14	UNC	2.0	49	56	66.4	75.9	81	93	109.8	126	96	109	130.1	147.7
M16	UNC	2.0	67	77	90.8	104.3	116	130	157.2	176.2	129	145	174.8	196.5
M18	UNC	2.0	88	100	119.2	136	150	168	203.3	227.6	175	194	237.1	262.9
M20	UNC	2.5	108	130	146.3	176.2	186	205	252	277.8	213	249	288.6	337.4
M8	UNF	1.0	12	17	16.3	23	19	27	25.7	36.6	22	31	29.8	42
M10	UNF	1.25	20	29	27.1	39.3	35	47	47.4	63.7	40	52	54.2	70.5
M12	UNF	1.25	31	41	42	55.6	56	68	75.9	92.1	62	75	84	101.6
M14	UNF	1.5	52	64	70.5	86.7	90	106	122	143.6	107	124	145	168
M16	UNF	1.5	69	83	93.5	112.5	120	138	162.6	187	140	158	189.7	214.1
M18	UNF	1.5	100	117	136	158.5	177	199	239.8	269.6	202	231	273.7	313
M20	UNF	1.5	132	150	178.9	203.3	206	242	279.1	327.9	246	289	333.3	391.6

Use the above torques when special torque is not given.

NOTE: These values apply to fasteners as received from supplier, dry, or when lubricated with normal engine oil. They do not apply if extreme pressure lubricants are used.

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## **WARRANTY**

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**12**

PRONOVEST warrants this product to the initial purchaser for the period of one year from the date of purchase against defects in materials and workmanship.

We will replace or repair defective parts free of charge if they are returned to our plant in St-Tite, Quebec, Canada.

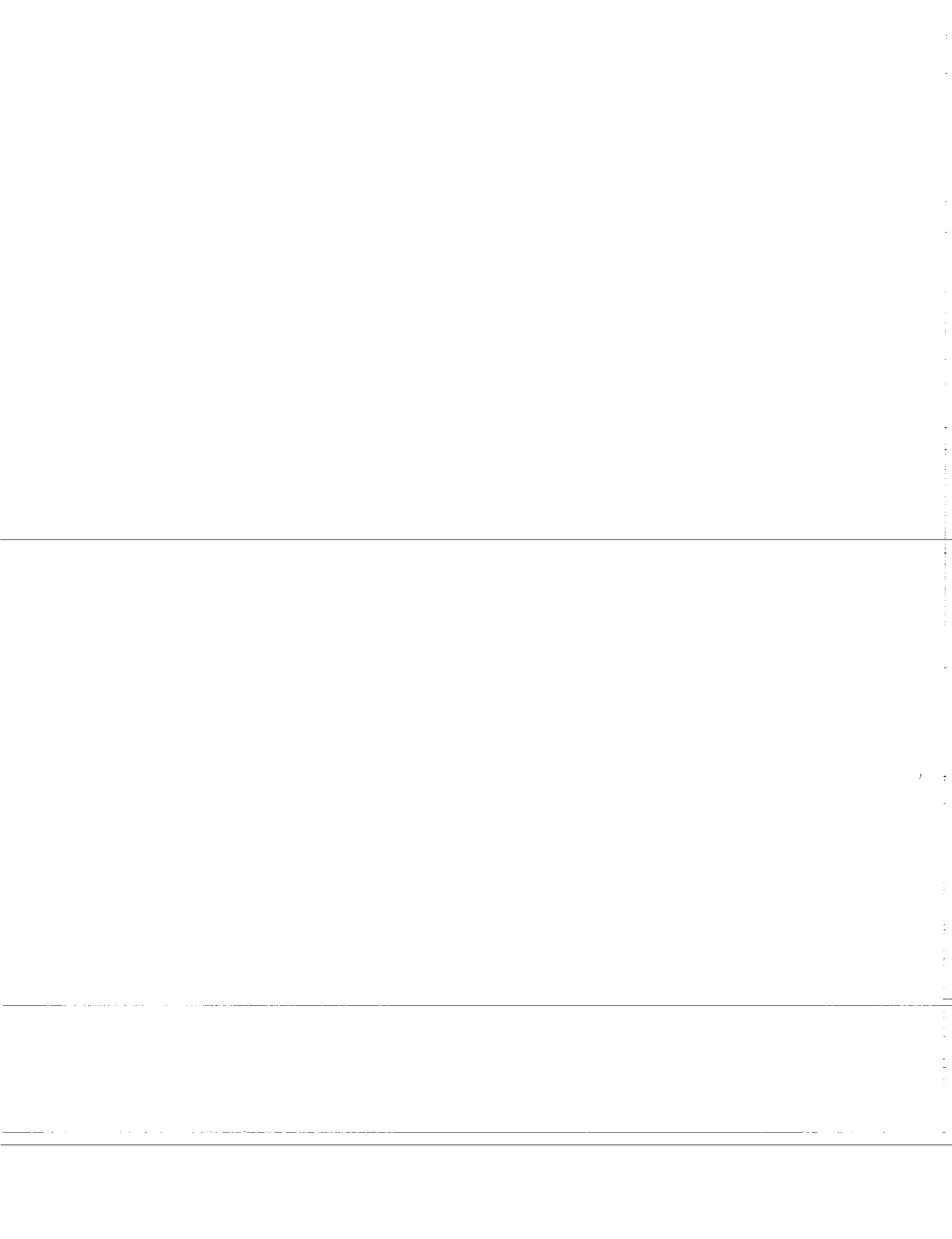
Transportation charges are the responsibility of the customer. This warranty is not transferable.

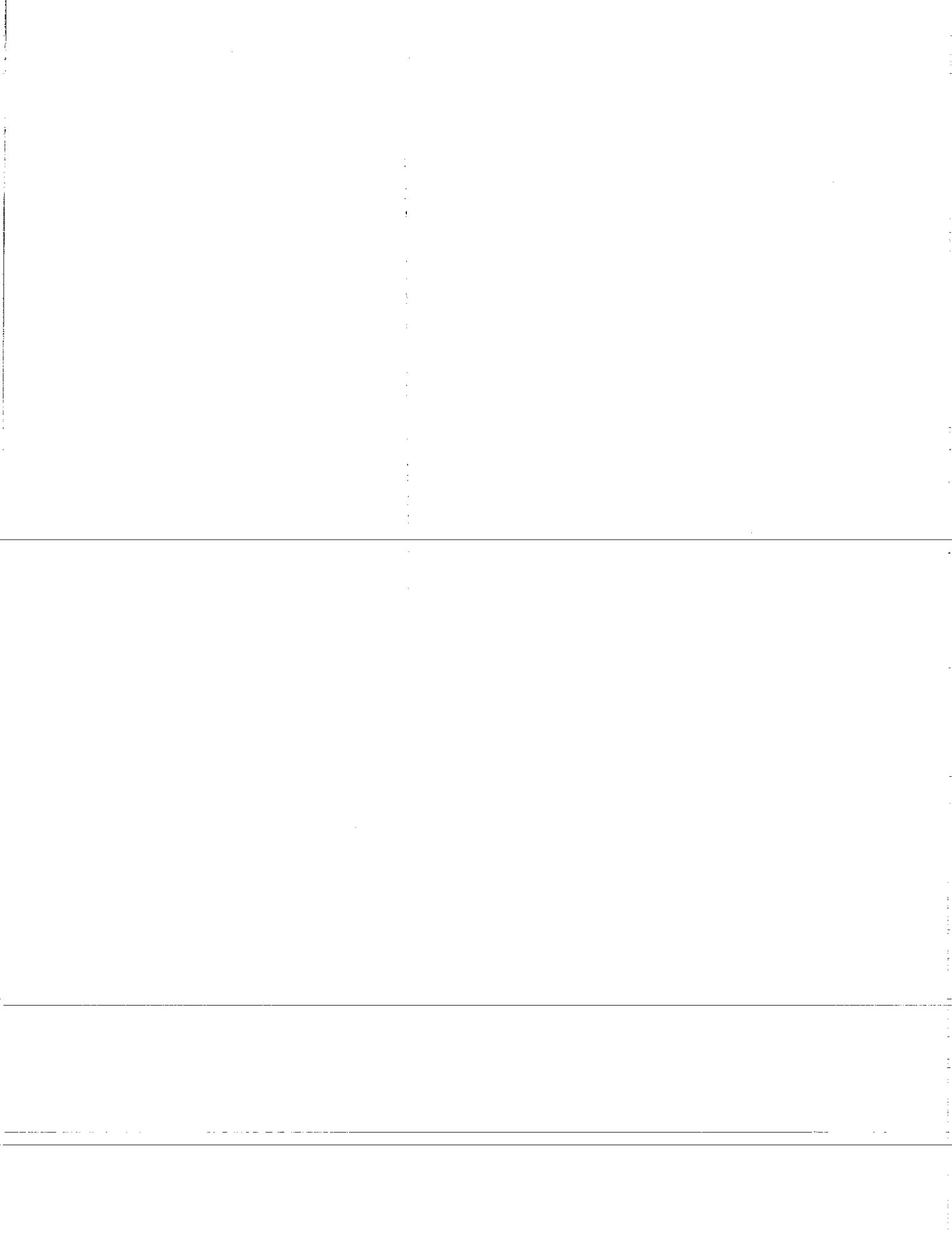
Hydraulic cylinders and motors are covered by the manufacturer of these items.

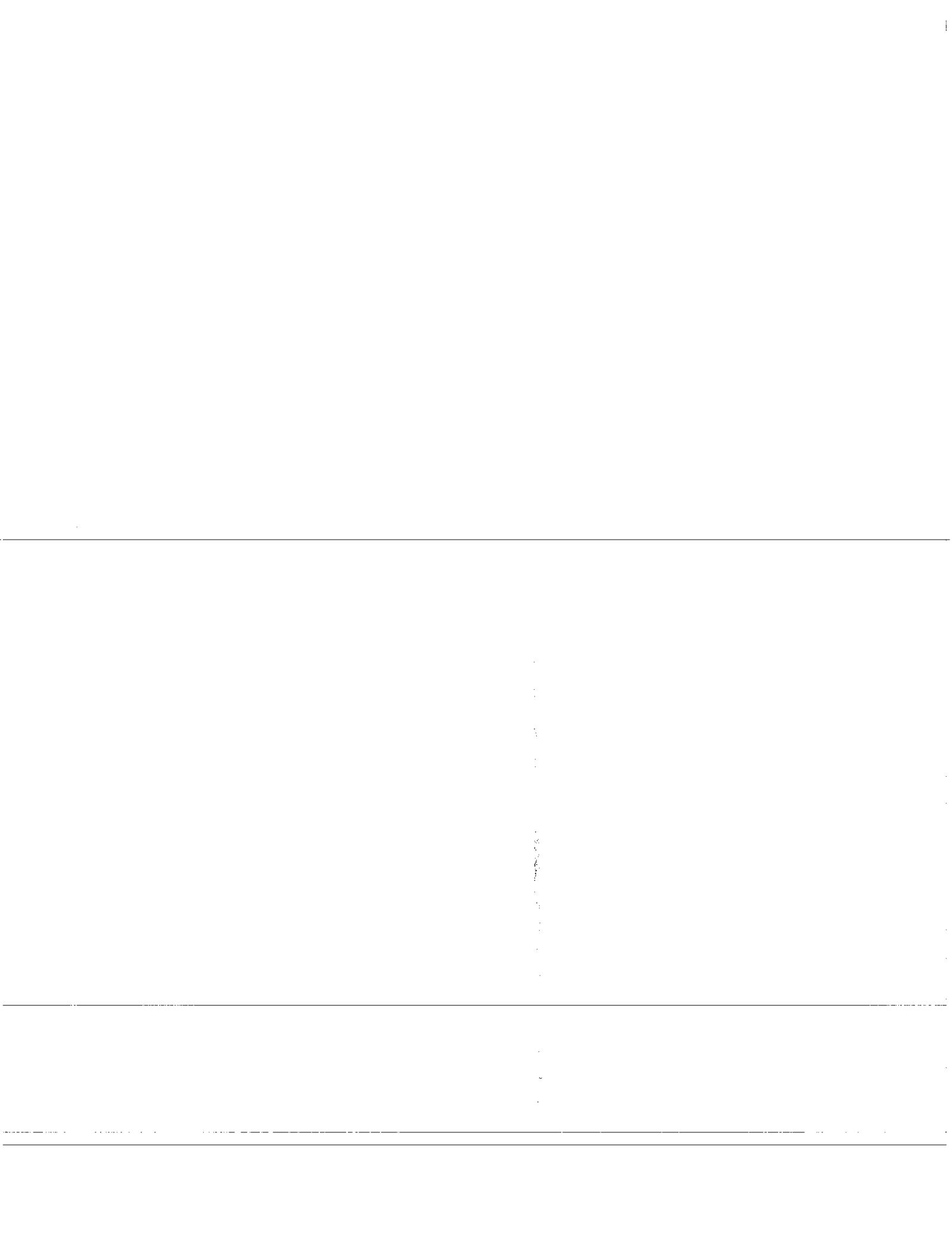
All PRONOVEST spare parts purchased are covered by a three (3) month warranty.

This warranty becomes void and null if the equipment is modified, breaks down as the result of an accident, is not operated according to manufacturer's recommendations, damaged by negligence or if maintenance has not been carried out as specified.

Our obligation is limited to the replacement or repair of the defective part. PRONOVEST accepts no responsibility for direct or indirect consequential damages of any kind.







Ce manuel est aussi disponible en français.  
Veuillez téléphoner.



**LES MACHINERIES PRONOVOOST INC.**

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