



**OPERATOR'S / PARTS  
MANUAL**



***Snowblowers***  
**Model**  
**PGS-1020TRC**

VISIT OUR WEBSITE



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# INTRODUCTION

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## CONGRATULATIONS!

Thank you for choosing PRONOVOST. 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 PRONOVOST 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 PRONOVOST parts for replacement.

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

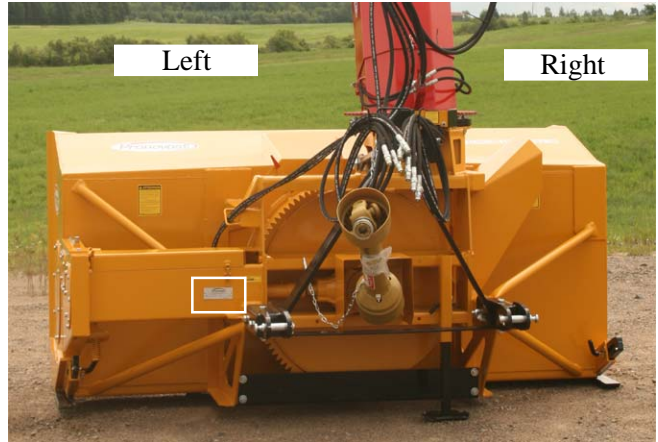


Figure 1

MODEL: \_\_\_\_\_ ✍

SERIAL NO: \_\_\_\_\_ ✍

DATE OF PURCHASE: \_\_\_\_\_ ✍

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# ***SAFETY***

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## ***GENERAL SAFETY***

**2**

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



**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 and will automatically void the warranty.
- 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 42.
- 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.

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

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- 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.

**2**

# 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

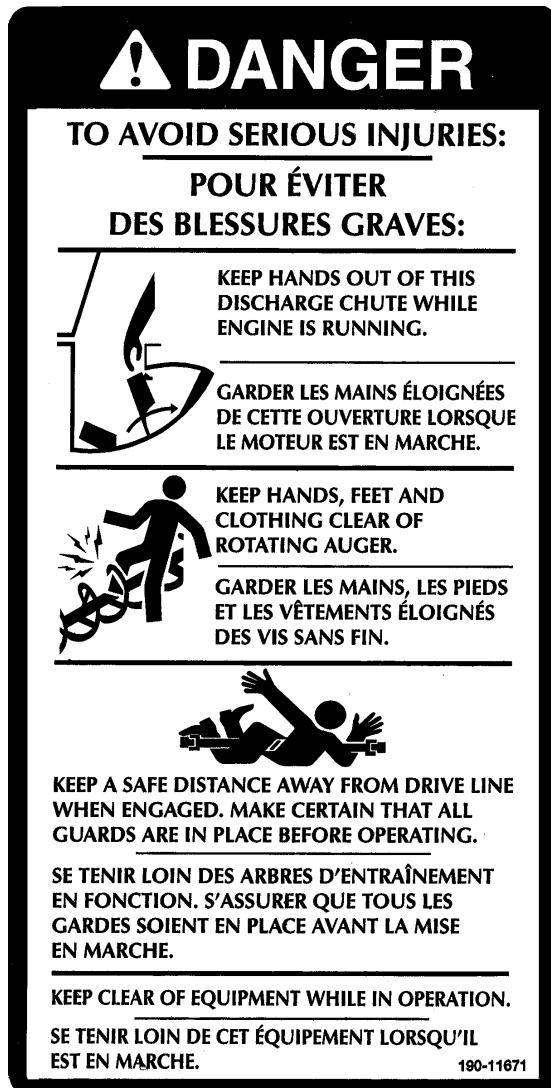


Figure 2  
Decal A

Part no.: 190-11671



Figure 3

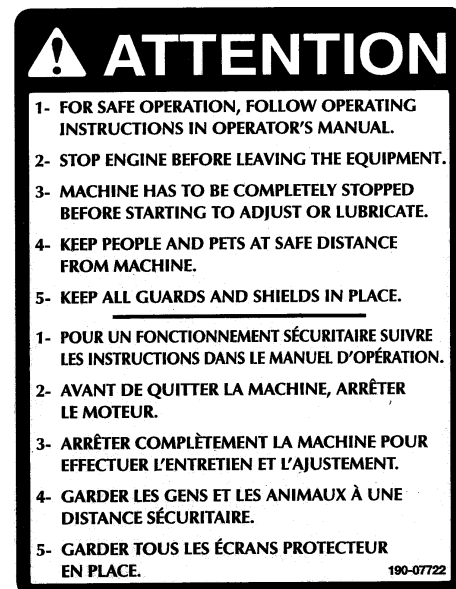


Figure 4  
Decal B

Part no.: 190-07722

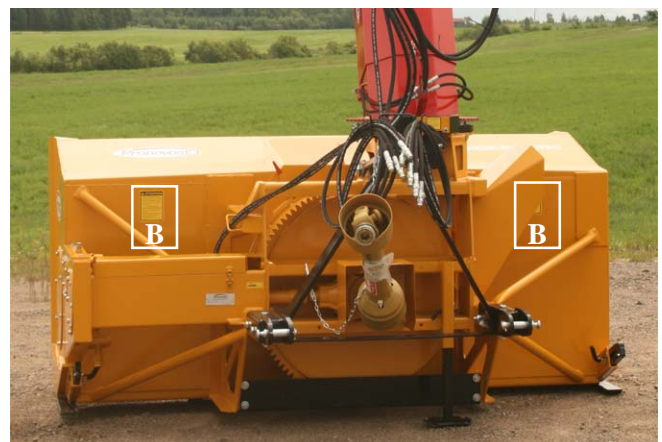


Figure 5



## DECALS (cont'd)



Figure 6



Figure 7  
Decal C

Part no.: 190-11641

If your snowblower is equipped with a reduction gear box, the decal C will be the one shown below.



Figure 8  
Decal C

Pièce no.: 190-11651

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

3

# DECALS (cont'd)

3



190.000.215

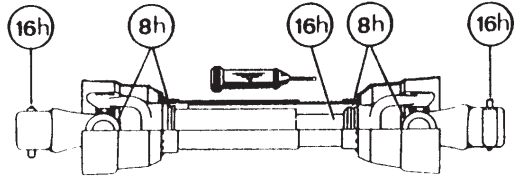


Figure 10  
Decal F

Part no.: A 109

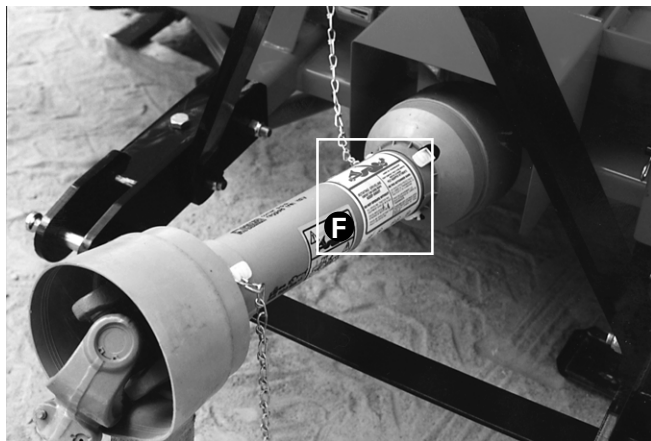


Figure 11



Figure 12  
Decal D

Part no.: A103

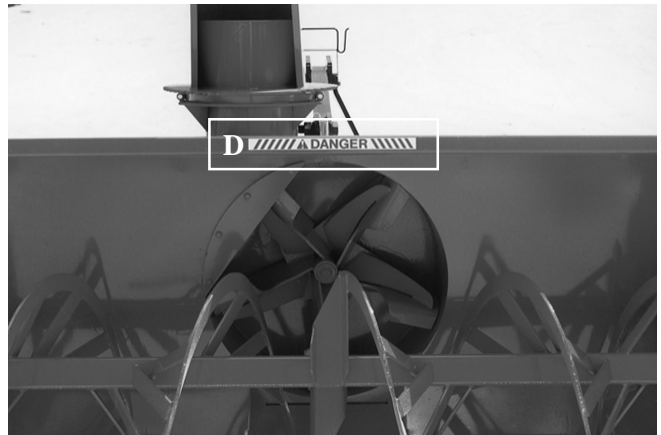


Figure 13



Figure 14  
Decal G

Part no.: 190-10991



Figure 15

# DECALS (cont'd)

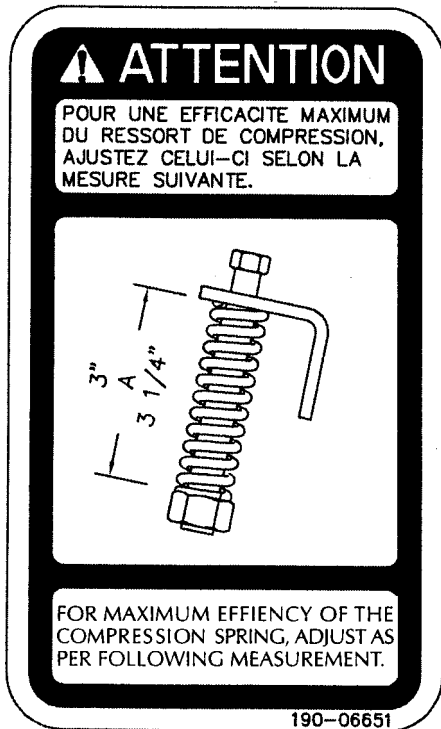


Figure 16  
Decal H Part no.: 190-06651



Figure 17

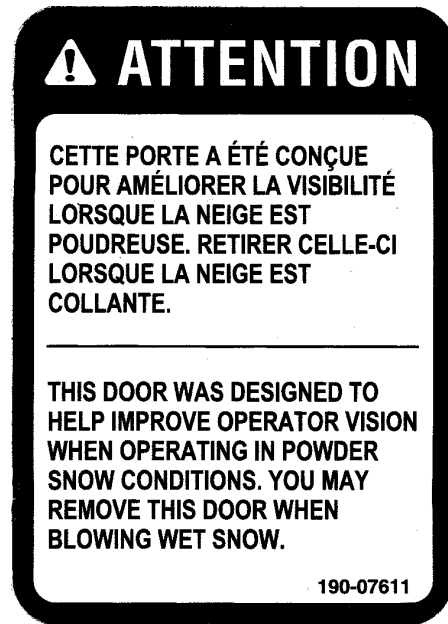


Figure 18  
Decal J Part no.: 190-07611



Figure 19

# DECALS (cont'd)

## MAINTENANCE DECALS

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

**3**



A 105

Figure 20



A 106



Figure 23

Decal L

Part no.: 190-11581



Figure 21

Decal K

Part no.: 190-11591



Figure 24

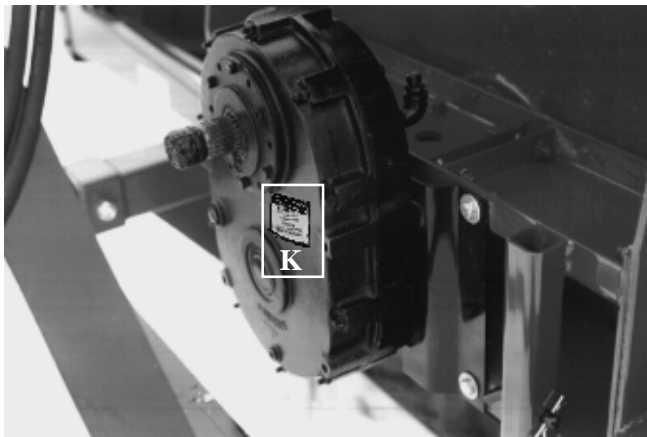


Figure 22



Figure 25

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# ASSEMBLY

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Figure 26

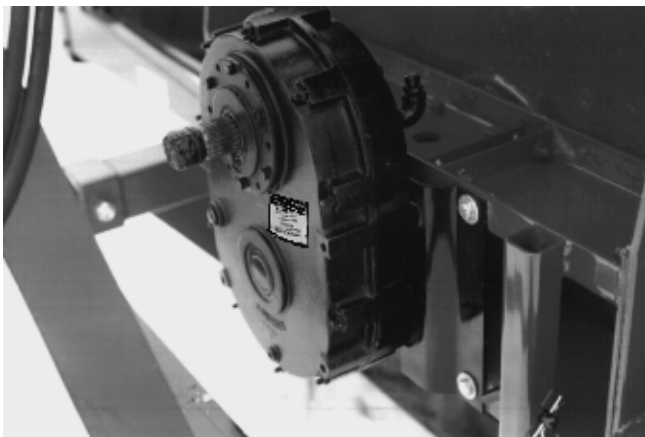


Figure 27



Figure 28

## 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. 26).
- 3) If your snowblower is equipped with the optional 1000 to 540 RPM reducer, install it on the gear box with the plate included (Fig. 27).
- 4) Install P.T.O. shaft with the shear pin end onto the Snowblower gear box. Then attach safety shield support chain as shown (Fig. 28). **WARNING:** The telescoping tubes of the drive shaft must never be allowed to bottom out while maintaining a minimum overlap of 6 inches.
- 5) If equipped with a rotating drum, please refer to page 14 for installation instructions.
- 6) For the installation of the chute rotation mechanism, please refer to page 15.

4

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## ASSEMBLY (cont'd)

---



**4**

Figure 29

### ***MOTOR ON THE ROTARY DRUM***

- 1) Install the mounting plate tightening the bolts lightly (Fig. 29).
- 2) Bolt hydraulic motor in place pointing the oil outlets to the exterior and install sprocket (Fig. 30).
- 3) Using the take-up screws, adjust gear to mesh without bottoming.
- 4) Tighten mounting plate bolts.
- 5) It is important that the cushion valve furnished be installed. Cushion valve has been pre set in plant at 1600 psi.

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## ASSEMBLY (cont'd)

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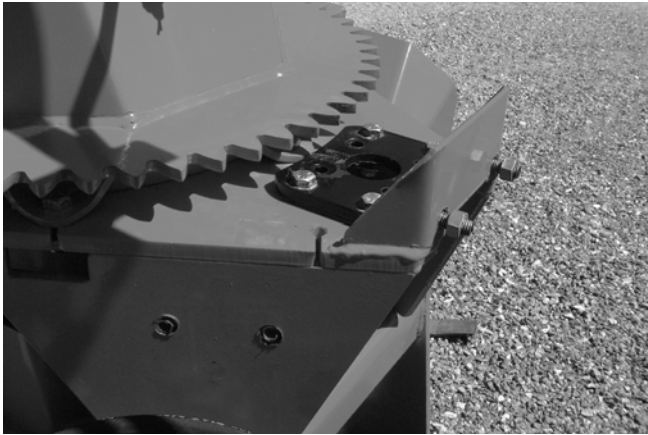


Figure 30

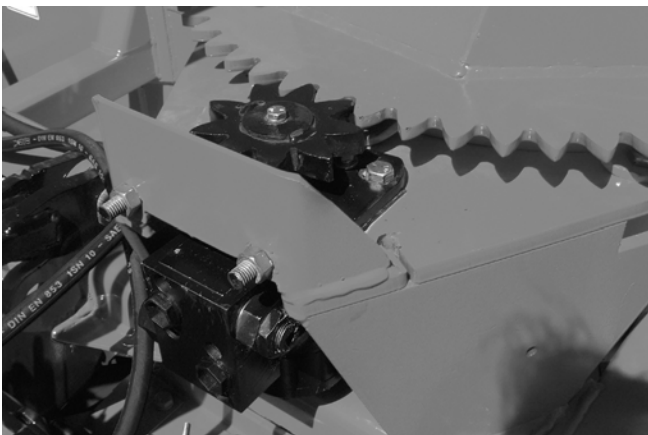


Figure 31



Figure 32

### **HYDRAULIC CHUTE ROTATION Motor**

- 1) Install U-shaped UHMW piece , place chute on Snowblower and secure with retaining bracket and bolts provided.
- 2) Install the mounting plate; put the required spacers between mounting plate and base of chute (see p. 26 to 31 for chute model). Do not tighten the bolts immediately, they will be tightened at final adjustment (Fig. 30).
- 3) Install motor and 9 tooth gear. 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 (Fig. 31).
- 4) Using the take-up screws, adjust gear to mesh without bottoming. Tighten mounting plate bolts.
- 5) Install guard. It is important that the cushion valve furnished with your chute rotation kit be installed. Cushion valve has been pre set in plant at 1200 psi. (Fig. 32).

4

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# STARTING-UP

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Figure 33

5



Figure 34

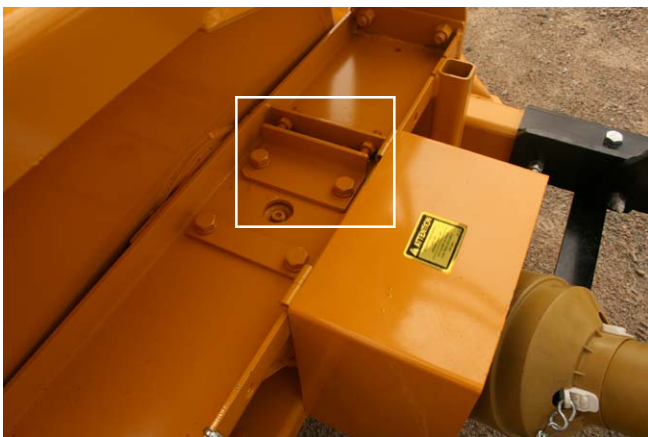


Figure 35

## START-UP PROCEDURES

- 1) **Check** oil level in **gearbox** and in speed reducer if so equipped. Use **SAE 80W90** gear box oil.
- 2) **Check** oil level in **auger drive chain box**. Fill to level plug. Use **SAE 80W90** oil (Fig. 33).
- 3) Lubricate all points with a good quality multipurpose grease.
- 4) Check chain take-up adjustment. The spring maintaining the tension must be compressed to a length between 3" and 3 1/4".
- 5) Verify for adequate tightness of all fastening devices. Refer to torque chart on page 42.
- 6) Adjust skid shoes according to ground conditions (Fig. 33).
- 7) Following the installation of the Snowblower on the tractor, **do not forget** to lift the storage support (Fig. 34).
- 8) Make sure of a 540 RPM input to your snowblower, or 1000 RPM if your snowblower is equipped with a 1000/540 RPM speed reducer.
- 9) 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. 35).

### If your snowblower is equipped with the optional speed reducer

- 10) **Check** oil level in **speed reducer**. Adjust to required oil level as per drawing in Parts List section. Use **Enduratex EP-68/220** oil or equivalent.



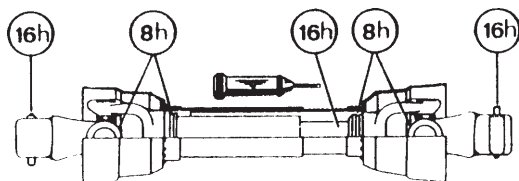
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# MAINTENANCE

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## GENERAL 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 8 hours of operation.
- 4) Lubricate P.T.O. shaft as indicated below:



Pull out the P.T.O. And lubricate between the two tubes with low temperature grease. Drive line tubes must slide easily even in cold weather. Clean off old hardened grease and apply fresh grease as needed.

- 5) **Check** oil level in **gear box** once a month. Adjust to required oil level as per drawing in Parts List section. Use **SAE 80W90** oil.
- 6) **Check** oil level in **auger drive chain box** once a month. Fill to level plug, figure 33 page 16. Use **SAE 80W90** oil.
- 7) Check tension of drive chain every 24 hours of operation and adjust if necessary.
- 8) Check for tightness of bearing collars every 48 hours of operation.
- 9) **Change gearbox** oil once a year. Adjust to required oil level as per drawing in Parts List section. Use **SAE 80W90** oil.
- 10) **Change** the **auger drive chain box** oil once a year. Fill to level plug, figure 33 page 16. Use **SAE 80W90** oil.

- 11) Check all nuts and bolts once a year. If necessary use torque chart on page 42.
- 12) Standard scraper blades are reversible. Reverse when one edge is worn out.
- 13) For the auger drive shaft, always use a grade 5 shear bolt.
- 14) For the PTO shaft:  
**AT 540 RPM** on a PTO size 90, the shear bolt is 12 mm, grade 10.9, part number **9207**.  
**AT 1000 RPM**, the shear bolt must be changed, you must use a 12 mm, grade 8.8 bolt that has been reduced to 10 mm at the point of rupture, part number **9207-375**.
- 15) UHMW slides do not require lubrication except at the end of the season in order to prevent corrosion of steel components that are in contact with the UHMW material.

### If your snowblower is equipped with the optional speed reducer

- 16) After 10 working hours, the chain's adjustment (if applicable) must be checked and every 100 working hours. Please refer to section: Maintenance on Speed Reducer (with chains).
- 17) **Check** oil level in **speed reducer** once a month. Adjust to required oil level as per drawing in Parts List section. Use **Enduratex EP-68/220** oil or equivalent.
- 18) **Change** the oil of the **speed reducer** once a year. Adjust to required oil level as per drawing in Parts List section. Use **Enduratex EP-68/220** oil or equivalent.

6

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# ***MAINTENANCE (cont'd)***

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## ***MAINTENANCE ON SPEED REDUCER (with chain)***

It is extremely important that the chain inside the chain box is **tightened**. A loose chain will add shocks to the entire box (chain, sprockets, bearings and spline couplings to gearbox).

### **Instructions for speed reducer (with chains) maintenance**

This chain box has double functions.

- 1) Reduce angles at both ends of PTO in working position by increasing the input shaft height of 8".
- 2) Increase PTO capacity by increasing speed from 540 RPM to 1000 RPM.

### ***PTO SHEAR BOLT***

Because the PTO is running at 1000 RPM instead of 540 RPM, the shear bolt value must be changed.

**AT 540 RPM** on a PTO size 90, the shear bolt is 12 mm, grade 10.9, part number **9207**.

**AT 1000 RPM**, the shear bolt must be changed, you must use a 12 mm, grade 8.8 bolt that has been reduced to 10 mm at the point of rupture. part number **9207-375**.

### ***ADJUSTMENT OF THE CHAIN'S TENSION***

After 10 working hours, the chain's adjustment must be checked. In order to do so, verify the backlash between the input and the output shaft by turning the input shaft in both directions while the output shaft remains still. If there is a play of 10° or more, the chain must then be readjusted as follows:

- 1) Remove PTO from the chain box.
- 2) Unscrew the 12 bolts 5/16" dia. (item #22) from covers (items #7 and #15) around the input shaft

on both sides of the chain box (6 bolts on each side) (see p. 37).

**NOTE:** Input shaft covers are eccentric with outside of covers. Therefore by turning input shaft cover, center to center distance of shafts will be changed and thus, this will adjust the chain's tension.

- 3) With a hammer and a screw-driver or a chisel, gently turn both covers in the same direction until the next hole of the cover is in line with the threaded hole of the chain box.

**IMPORTANT: Make sure that the covers are turned in the same direction and by the same number of holes.**

**Otherwise, both shafts will not be parallel and serious damages might arise.**

- 4) Verify the backlash between both shafts, as described above. If the difference is too high, repeat the operation explained in point 3. If the backlash is correct, reinstall the bolts and the PTO.
- 5) Verify the backlash every 100 working hours.

### ***MAINTENANCE ON SPEED REDUCER***

- 1) **Check** oil level in **speed reducer** once a month. Adjust to required oil level as per drawing in Parts List section. Use **Enduratex EP-68/220** oil or equivalent.
- 2) **Change** the oil of the **speed reducer** once a year. Adjust to required oil level as per drawing in Parts List section. Use **Enduratex EP-68/220** oil or equivalent.

**6**

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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  |
|--|---|---|
| <ul style="list-style-type: none"> <li>- Premature wear of U-joints and/ or bluish color of cross journals.</li> </ul> | <ul style="list-style-type: none"> <li>- Insufficient lubrication.</li> <li>- Excessive working angle.</li> <li>- Poor quality lubricant.</li> </ul>  | <ul style="list-style-type: none"> <li>- Follow lubrication recommendations.</li> <li>- Replace defective U-joints.</li> <li>- Make sure the Snowblower inlet face is perpendicular to the ground and if possible readjust 3-point hitch in order to position the Snowblower further away from tractor.</li> <li>- Use high quality lubricant.</li> </ul> |
| <ul style="list-style-type: none"> <li>- Gripping or premature wear of telescoping members.</li> </ul>                 | <ul style="list-style-type: none"> <li>- Too much sliding under load.</li> <li>- Tube overlap too-short: minimum recommended is 6".</li> <li>- Insufficient lubrication.</li> <li>- Contaminants (sand, etc.).</li> </ul> | <ul style="list-style-type: none"> <li>- Avoid raising Snowblower while in operation.</li> <li>- Readjust 3-point hitch in order to position the Snowblower closer to the tractor.</li> <li>- Follow lubrication recommendations.</li> <li>- Replace defective telescopic members.</li> </ul>   |
| <ul style="list-style-type: none"> <li>- Damaged or jammed locking pin or bolt.</li> </ul>                             | <ul style="list-style-type: none"> <li>- Pin or orifice contaminated by sand, ice, etc.</li> <li>- Telescoping members too long, exerting pressure on locking device.</li> </ul>  | <ul style="list-style-type: none"> <li>- Clean and grease.</li> <li>- Readjust 3-point hitch in order to position the Snowblower further away from tractor or shorten tubes.</li> </ul>   |
| <ul style="list-style-type: none"> <li>- Premature wear of guard tube bearing ring.</li> </ul>                         | <ul style="list-style-type: none"> <li>- Lack of lubrication.</li> <li>- Wrong installation of guard chain.</li> <li>- Part of the guard in contact with the equipment.</li> </ul>  | <ul style="list-style-type: none"> <li>- Follow lubrication instructions.</li> <li>- Adjust chain to prevent interference between guard &amp; equipment.</li> <li>- Replace worn or damaged bearing rings.</li> </ul>   |
| <ul style="list-style-type: none"> <li>- Cut or deformed safety guard tubes.</li> </ul>                                | <ul style="list-style-type: none"> <li>- Tubes in contact with the equipment.</li> </ul>  | <ul style="list-style-type: none"> <li>- Eliminate any interference between tubes and equipment or tractor.</li> <li>- Replace damaged tubes.</li> </ul>  |

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

## ***SNOWBLOWER***

| <b>PROBLEM</b>   | <b>POSSIBLE CAUSE</b>  | <b>CORRECTION</b>   |
|--|--|---|
| - The snow is not being thrown as far as usual.                            | <ul style="list-style-type: none"> <li>- Tractor RPM too low.</li> <li>- Gap too wide between impeller blade tip and drum outlet wall.</li> <li>- Insufficient tractor HP.</li> </ul>  | <ul style="list-style-type: none"> <li>- Raise P.T.O. speed to a minimum of 540 RPM.</li> <li>- Adjust impeller blades closer to drum outlet (1/8" to 3/16").</li> <li>- Reduce travel speed.</li> </ul>  |
| - Frequent plugging of discharge chute.                                    | <ul style="list-style-type: none"> <li>- Tractor RPM too low.</li> <li>- Tractor RPM reduced too early with snow still in the Snowblower.</li> <li>- Slippage of PTO clutch mechanism.</li> <li>- Wet snow condition.</li> </ul> | <ul style="list-style-type: none"> <li>- Raise P.T.O. speed to a minimum of 540 RPM.</li> <li>- Make sure the Snowblower is completely empty before reducing RPM, especially on tractors with foot controlled RPM.</li> <li>- Repare clutch.</li> <li>- Reduce travel speed.</li> <li>- Remove the chute access panel.</li> </ul> |
| - The impeller will not turn.  | <ul style="list-style-type: none"> <li>- Shear bolt broken on drive shaft.</li> </ul>  | <ul style="list-style-type: none"> <li>- Replace shear bolt.</li> </ul>   |
| - The auger will not turn.   | <ul style="list-style-type: none"> <li>- Shear bolt broken on drive shaft.</li> <li>- Shear bolt broken on auger drive shaft.</li> <li>- Broken drive chain.</li> <li>- Broken key on motor.</li> </ul>                          | <ul style="list-style-type: none"> <li>- Replace shear bolt.</li> <li>- Replace shear bolt.</li> <li>- Fix or replace chain.</li> <li>- Replace the key.</li> </ul>   |
| - The rotating drum will not turn.   | <ul style="list-style-type: none"> <li>- Ice accumulation.</li> <li>- Wrong hydraulic connections.</li> <li>- Broken key on motor.</li> </ul>  | <ul style="list-style-type: none"> <li>- Remove ice.</li> <li>- Check hydraulic connections.</li> <li>- Replace the key.</li> </ul>   |
| - The rotating drum will not hold it's position when blowing via the spout | <ul style="list-style-type: none"> <li>- Cushion valve setting too low</li> <li>- Tension of the spring in drum locking mechanism insufficient</li> </ul>  | <ul style="list-style-type: none"> <li>- Reset cushion valve up to 1800 psi (max)</li> <li>- Increase tension of spring by adding shim(s)</li> </ul>  |
| - The chute will not turn.   | <ul style="list-style-type: none"> <li>- Ice accumulation.</li> <li>- Wrong hydraulic connections.</li> <li>- Broken key on motor.</li> </ul>  | <ul style="list-style-type: none"> <li>- Remove ice.</li> <li>- Check hydraulic connections.</li> <li>- Replace the key.</li> </ul>   |

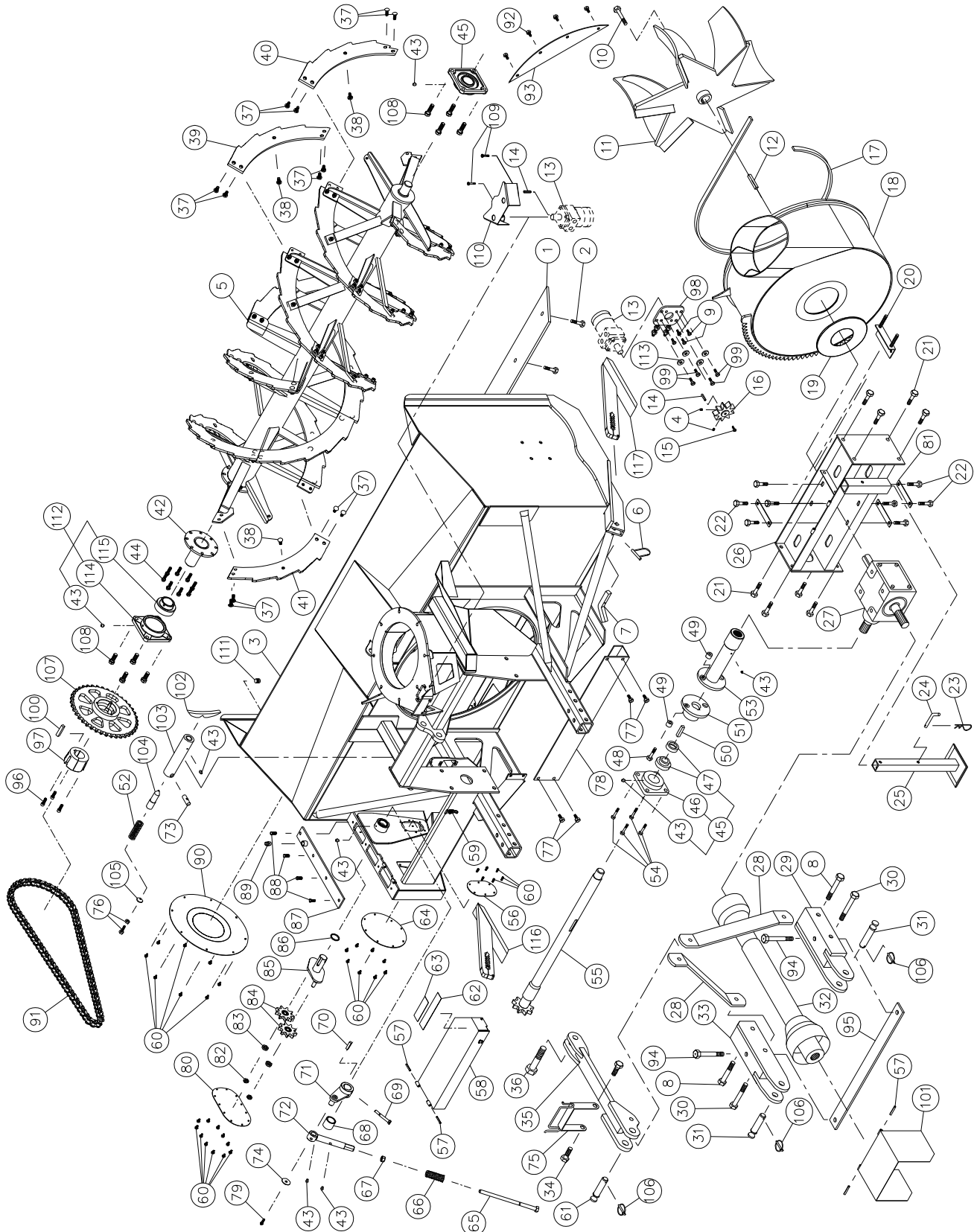
# SPECIFICATIONS

|  |   |                                      |
|--|---|--------------------------------------|
| Model  | PGS-1020TRC   |                                      |
| Horse power required   | 100 to 150 HP   |                                      |
| Approximate performance                                      | 950 tons imp./hour<br>(tractor 150 HP)                          |                                      |
| Height including telescopic chute PCT<br>in working position | 127" retracted (approximately)<br>158" extended (approximately) |                                      |
| Height - chute base  | 50"   |                                      |
| Chute rotation   | On UHMW, for hydraulic motor                                    |                                      |
| Frame height   | 47 1/2"   |                                      |
| Optional lateral blade cutting height                        | 65 3/4"   |                                      |
| Working width  | 102"  |                                      |
| Drum diameter  | 34"   |                                      |
| Depth of drum  | 15"   |                                      |
| Drum rotation  | On UHMW, for hydraulic motor                                    |                                      |
| Drum position  | Centered  |                                      |
| Drum liner   | 1/4" in carbon steel 450  |                                      |
| Impeller blades  | 6 blades x 1/2" standard steel welded                           |                                      |
| Size and height of impeller shaft                            | Diameter 2" - Height 22"  |                                      |
| Impeller speed   | 540 RPM (CW)  |                                      |
| P.T.O. speed required  | 540 RPM (CW) or 1000 RPM (CW) optional                          |                                      |
| Speed reducer  | Optional: 1000/540 RPM-150 HP or 1000/555RPM-200 HP             |                                      |
| Height of speed reducer shaft                                | 14" or 30" (with reducer 150 HP)                                |                                      |
| Standard P.T.O. shaft  | No. 9 (T90) choice of yoke as required                          |                                      |
| Optional P.T.O. shaft  | No. 9 multilobe (V90) choice of yoke as required                |                                      |
| Lower auger  | Dual band, bolted, 34" diameter, toothed auger                  |                                      |
| Upper auger  | Not available   |                                      |
| Drive chain  | RENOLD No. 100HV in oil bath                                    |                                      |
| Shear bolt   | 1 for the impeller + 1 for auger                                |                                      |
| <b>Scraper<br/>blade</b>                                     | Standard steel 1/2" x 4" rev.                                   | Standard                             |
|  | Carbon steel 1/2" x 4" rev.                                     | Optional                             |
|  | Carbon steel 6" x 1/2" sharpened                                | Optional                             |
|  | Stainless steel 1/2" x 4" rev.                                  | Optional                             |
| <b>Skid<br/>shoes</b>  | Standard steel (quick adjust)                                   | Standard (2 quick adjust skid shoes) |
|  | Carbon steel (quick adjust)                                     | Optional (2 quick adjust skid shoes) |
|  | Stainless steel (quick adjust)                                  | Optional (2 quick adjust skid shoes) |
|  | With carbide inserts (quick adjust)                             | Optional (2 quick adjust skid shoes) |
| 3-point hitch  | Category 2  |                                      |
| Frame: sides   | Plate 1/4"  |                                      |
| Frame: back  | Plate 10 Gauge  |                                      |
| Center of gravity from 3-pt hitch at its shortest            | 44"   |                                      |
| Rotational force (reference)                                 | 169 180 lbs-po  |                                      |
| Weight (with telescopic chute)                               | 3 845 lbs (without reducer)                                     |                                      |

Design and specifications subject to change without notice.

# SNOWBLOWER PGS-1020TRC

170-05341



# SNOWBLOWER PGS-1020TRC (cont'd)

| REF. | PART #       | DESCRIPTION  | QTY  |
|------|--------------|--|------|
| 1    | 140-15151    | Reversible scraper blade 1/2" x 4" x 95" lg .....                        | 1    |
| 2    | 319-38310    | Plow bolt 7/16" NC x 1 3/4" lg + nut & lock washer .....                 | 10   |
| 3    | 120-07461    | Frame .....  | 1    |
| 4    | 323-36160    | Hexagonal socket set screw 3/8" NC x 3/8" lg .....                       | 2    |
| 5    | 110-42771    | Auger assembly (including #42) .....                                     | 1    |
| 6    | 8112         | Lock pin 1/4" .....  | 2    |
| 7    | 140-03361    | Skid shoes lock .....  | 2    |
| 8    | 302-46580    | Bolt 3/4" NF x 6" lg + nylon locknut .....                               | 2    |
| 9    | 301-36250    | Bolt 3/8" NC x 1" lg + lock washer .....                                 | 4    |
| 10   | 8228         | Bolt 5/8" NC x 1 1/2" lg (ass'd with locktite 242) + lock washer .....   | 1    |
| 11   | 110-01623    | Impeller 34" ø 6 blades .....  | 1    |
| 12   | 9285         | Key 1/2" x 1/2" x 4" lg .....  | 1    |
| 13   | MLH-315      | Hydraulic motor .....  | opt. |
| 14   | 8369         | Key for hydraulic motor .....  | opt. |
| 15   | 301-32220    | Bolt 1/4" NC x 3/4" lg + lock washer .....                               | 1    |
| 16   | 110-44331    | Sprocket (9 teeth) .....   | 1    |
| 17   | 9430         | U-shaped UHMW 3/8" x 7/8" x 109 1/4" lg .....                            | 1    |
| 18   | 110-12855-T1 | Rotary drum 34" ø .....  | 1    |
| 19   | 9432         | UHMW flat washer 3/16" x 8 7/8" i.d. x 12" o.d. ....                     | 1    |
| 20   | 9428         | Adjustment plate for gear box + 4 nuts 1/2" NC .....                     | 1    |
| 21   | 301-46340    | Bolt 3/4" NC x 2" lg + écrou à blocage de nylon .....                    | 8    |
| 22   | 300-44310    | Bolt 5/8" NC x 1 1/2" lg + rondelle de blocage .....                     | 8    |
| 23   | Std.         | Hitch pin clip 5/32" .....   | 1    |
| 24   | 8220         | Storage support pin .....  | 1    |
| 25   | 9462         | Storage support .....  | 1    |
| 26   | 9433         | Gear box support .....   | 1    |
| 27   | 9307         | Gear box T-279 .....   | 1    |
| 28   | 140-05592    | 3-points side bar .....  | 2    |
| 29   | 110-15214    | Right lower hitch .....  | 1    |
| 30   | 302-46610    | Bolt 3/4" NF x 6 1/2" lg + nylon locknut .....                           | 2    |
| 31   | 9269         | Pin category 2 .....   | 3    |
| 32   | 9475         | P.T.O. shaft T90 .....   | 1    |
| 32   | 9598         | P.T.O. shaft V90 .....   | opt. |
| 33   | 110-15213    | Left lower hitch .....   | 1    |
| 34   | 302-46400    | Bolt 3/4" NC x 3" lg + nylon locknut .....                               | 2    |
| 35   | 110-15531    | Upper hitch .....  | 1    |
| 36   | 300-54490    | Bolt 1 1/4" NC x 4" lg + nylon locknut .....                             | 1    |
| 37   | 321-40310    | Carriage bolt 1/2" NC x 1 1/2" lg + lock washer + nut .....              | 76   |
| 38   | 321-40325    | Carriage bolt 1/2" NC x 1 3/4" lg + lock washer + nut .....              | 14   |
| 39   | 130-71942    | Right side ribbon for open flight auger .....                            | 8    |
| 40   | 130-74191    | Right end ribbon for open flight auger .....                             | 2    |
| 41   | 130-71941    | Left side ribbon for open flight auger .....                             | 8    |
| 42   | 110-40301    | Auger hub (auger drive end) .....  | 1    |
| 43   | Std.         | Grease fitting 1/4"-28 straight .....                                    | 8    |
| 44   | 300-40325    | Bolt 1/2" NC x 1 3/4" lg + nut & lock washer .....                       | 8    |
| 45   | HCFS211-32   | Bearing 2" + cast iron flange + 1 grease fitting .....                   | 2    |
| 46   | FS211        | Cast iron flange 4 holes .....   | 2    |
| 47   | HC211-32     | Bearing 2" with eccentric collar .....                                   | 2    |
| 48   | 300-38355    | Bolt 7/16" NC x 2 1/4" lg + nylon locknut .....                          | 1    |
| 49   | 150-02501    | Bushing 7/16" i.d. x 1" o.d. x 3/4" lg (welded) .....                    | 2    |
| 50   | 140-08541    | Key for auger drive shaft & shearplate (short side) .....                | 1    |
| 51   | 110-11361    | Side shaft & shear plate (short side) .....                              | 1    |
| 52   | 9473         | Compression spring .....   | 1    |
| 53   | 110-43001    | Side shaft & shearplate (long side) + splined adaptor (20 splines) ..... | 1    |
| 54   | 190-11561    | Bolt 5/8" NC x 2" lg (modified) + nylon locknut .....                    | 4    |
| 55   | 110-42672    | Auger drive shaft .....  | 1    |
| 56   | 130-75592    | Access panel for chain .....   | 1    |
| 57   | Std.         | Spring pin 5/16" x 2" lg .....   | 4    |
| 58   | 110-15492    | Auger drive shaft guard .....  | 1    |

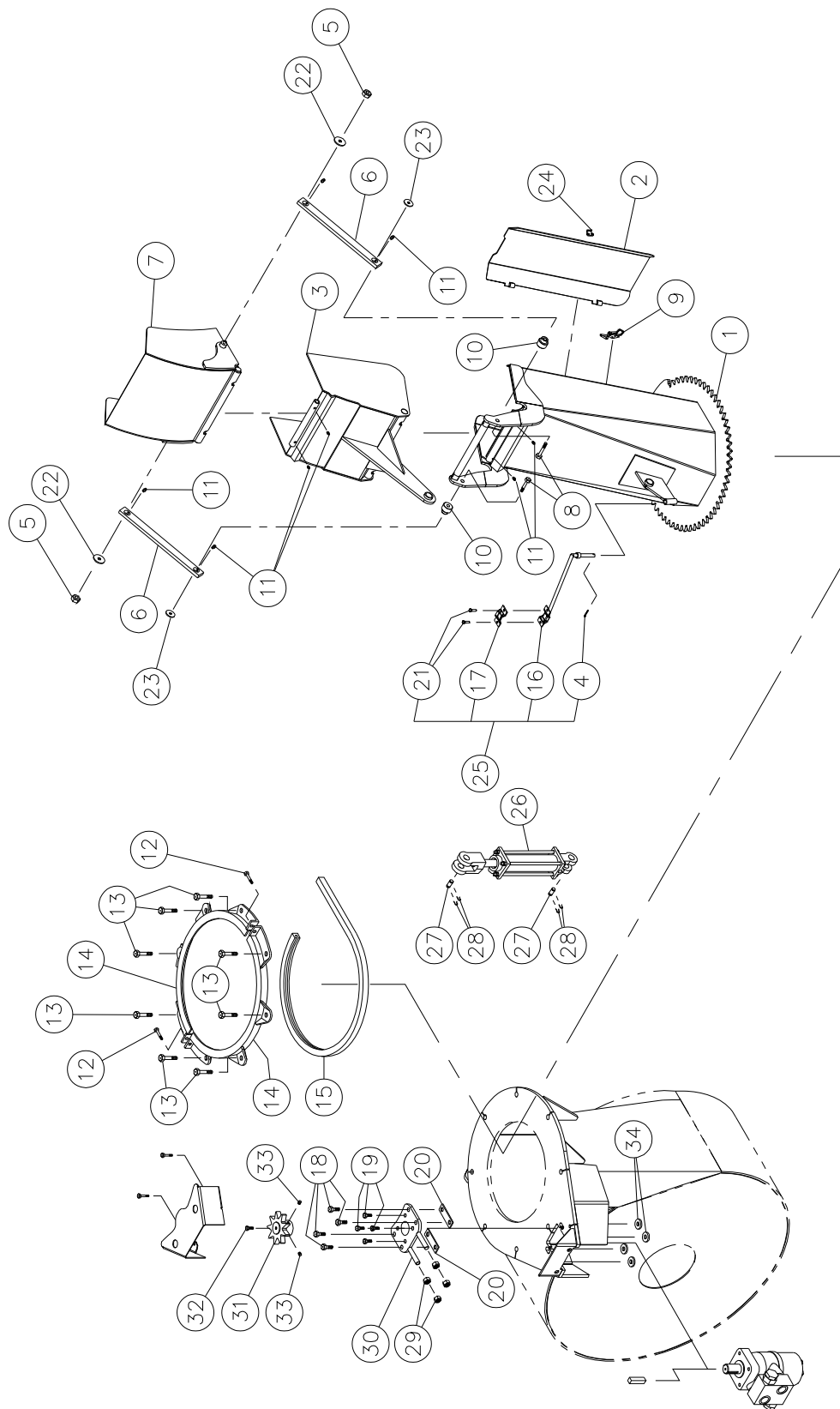


# SNOWBLOWER PGS-1020TRC (cont'd)

| REF. | PART #     | DESCRIPTION   | QTY |
|------|------------|---|-----|
| 59   | 8374       | Adjustable clamp fastener (welded) .....                                  | 1   |
| 60   | 311-34012  | Bolt M10-1.5 x 12 mm lg assembled with loctite 242 .....                  | 30  |
| 61   | 150-05961  | Pin category 2 (top link) .....   | 1   |
| 62   | 190-11541  | Non skid tape .....   | 1   |
| 63   | 190-11551  | Non skid tape .....   | 1   |
| 64   | 130-61323  | Access panel for auger drive shaft .....                                  | 1   |
| 65   | 110-39191  | Threaded rod for idler adjustment .....                                   | 1   |
| 66   | 9687       | Compression spring .....  | 1   |
| 67   | 346-46000  | Nut 3/4" NC .....   | 1   |
| 68   | 160-08421  | Aaluminium-bronze bushing 1 3/4" i.d. x 2 1/4" o.d. x 2" lg .....         | 1   |
| 69   | 300-40460  | Bolt 1/2" NC x 4" lg GR 12 + nylon locknut .....                          | 1   |
| 70   | 140-12161  | Idler key .....   | 1   |
| 71   | 110-39101  | Idler (outside part) .....  | 1   |
| 72   | 110-17762  | Threaded tube for idler adjustment .....                                  | 1   |
| 73   | 150-02561  | Pin .....   | 1   |
| 74   | 378-40340  | Flat washer 1/2" x 2" .....   | 1   |
| 75   | 110-15201  | Hoses support .....   | 1   |
| 76   | 300-38340  | Bolt 7/16" NC x 2" lg (full length thread) + lock nut .....               | 1   |
| 77   | 300-40280  | Bolt 1/2" NC x 1 1/4" lg + nylon locknut + flat washer .....              | 4   |
| 78   | 130-06571  | Guard for ring gear segment .....   | 1   |
| 79   | 300-40415  | Bolt 1/2" NC x 3 1/4" lg .....  | 1   |
| 80   | 130-72012  | Idler cover .....   | 1   |
| 81   | 140-10761  | Back plate .....  | 3   |
| 82   | 346-47000  | Nylon locknut 3/4" NC thin .....  | 2   |
| 83   | 160-22371  | Spacer .....  | 2   |
| 84   | 9470       | Idler sprocket 100A9 H3/4 .....   | 2   |
| 85   | 110-35421  | Idler (inside part) .....   | 1   |
| 86   | OR-224     | O-ring 1/8" X 1 3/4" i.d. X 2" o.d. ....                                  | 1   |
| 87   | 110-38791  | Upper chain guard cover .....   | 1   |
| 88   | 300-38250  | Bolt 7/16" NC x 1" lg + lock washer .....                                 | 4   |
| 89   | 9619       | Vent plug 1/2" NPT .....  | 1   |
| 90   | 130-69102  | Access panel for auger drive sprocket .....                               | 1   |
| 91   | 190-12051  | Chain Renold #100 HV x 106 1/4" (85 links) .....                          | 1   |
| 91   | 59-100 HD  | Offset link #100 HV .....   | 1   |
| 91   | 26A100 HD  | Connecting link #100 HV .....   | 1   |
| 92   | 300-38280  | Bolt 7/16" NC x 1 1/4" + nylon locknut .....                              | 4   |
| 93   | 130-05911  | Deflector .....   | 1   |
| 94   | 302-46550  | Bolt 3/4" NF x 5 1/2" lg + nylon locknut .....                            | 2   |
| 95   | 140-03561  | Brace .....   | 1   |
| 96   | 318-40310  | Allen socket head screw 1/2" NC x 1 1/2" lg .....                         | 3   |
| 97   | 9715       | Male adaptor "taper lock" .....   | 1   |
| 98   | 110-18441  | Orbit motor support + 4 nuts 7/16" NC .....                               | 1   |
| 99   | 300-38310  | Bolt 7/16" NC x 1 1/2" lg + nylon locknut .....                           | 4   |
| 100  | 140-23961  | Key (sprocket for auger) .....  | 1   |
| 101  | 110-12541  | Hinged P.T.O. shroud .....  | 1   |
| 102  | 130-08441  | Stop block for drum lock (welded on drum) .....                           | 1   |
| 103  | 160-03952  | Body - drum lock (welded on drum) .....                                   | 1   |
| 104  | 150-01542  | Latch-pin drum lock .....   | 1   |
| 105  | 130-08471  | Washer .....  | 1   |
| 106  | Std.       | Lynch pin 1/4" x 1 3/4" .....   | 3   |
| 107  | 110-40191  | Sprocket for auger 100A40 x 1T 6.250" + female adaptor "taper lock" ..... | 1   |
| 108  | 300-46370  | Bolt 3/4" NC x 2 1/2" lg + nylon locknut .....                            | 4   |
| 109  | 300-34280  | Bolt 5/16" NC x 1 1/4" lg + nylon locknut .....                           | 2   |
| 110  | 130-14282  | Guard .....   | 1   |
| 111  | Std.       | Magnetic cap 3/8" NPT (disc style) .....                                  | 1   |
| 112  | UCFD213-40 | Bearing 2 1/2" + Heavy duty cast iron flange + 1 grease fitting .....     | 1   |
| 113  | 150-12741  | Sturdy flat washer 7/16" .....  | 4   |
| 114  | FD213      | Cast iron flange 4 holes .....  | 1   |
| 115  | UC213-40   | Bearing 2 1/2" .....  | 1   |
| 116  | 110-42701  | Skid shoe (left side) .....   | 1   |
| 117  | 110-42711  | Skid shoe (right side) .....  | 1   |

# SEMI-INDUSTRIAL CHUTE PSIG-92104

170-03453R3



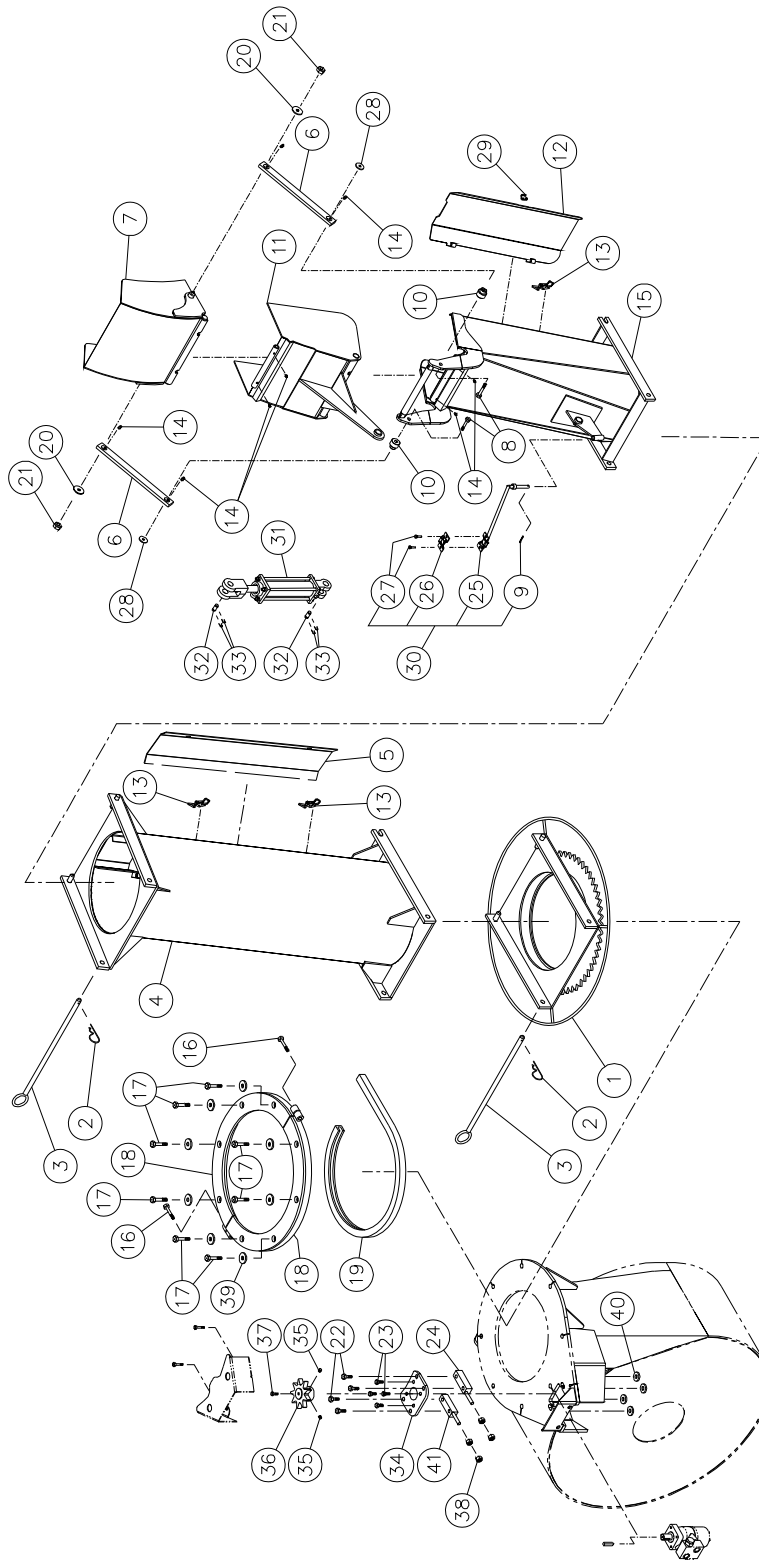
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# SEMI-INDUSTRIAL CHUTE PSIG-92104

| REF. | PART #    | DESCRIPTION  | QTY  |
|------|-----------|--|------|
| 1    | 110-22554 | Chute base .....   | 1    |
| 2    | 110-22933 | Access panel.....  | 1    |
| 3    | 110-22232 | Lower chute deflector .....                                      | 1    |
| 4    | Std.      | Goupille fendue 1/8" x 1" lg .....                               | 1    |
| 5    | 346-36000 | Nylon locknut 3/8" NC .....                                      | 2    |
| 6    | 140-13931 | Connecting rod .....   | 2    |
| 7    | 110-22242 | Upper chute deflector .....                                      | 1    |
| 8    | 300-40400 | Bolt 1/2" NC x 3" lg + nylon locknut + flat washer .....         | 2    |
| 9    | 8376      | Adjustable clamp fastener (welded) .....                         | 1    |
| 10   | 150-05311 | Spacer for connecting rod .....                                  | 2    |
| 11   | Std.      | Grease fitting 1/4" - 28 droit .....                             | 8    |
| 12   | 300-34340 | Bolt 5/16" NC x 2" lg + nylon locknut .....                      | 2    |
| 13   | 300-40310 | Bolt 1/2" NC x 1 1/2" lg + nylon locknut & flat washer .....     | 8    |
| 14   | 110-00832 | Retaining bracket .....  | 2    |
| 15   | 9359      | U-shaped UHMW +/- 16 1/2" d.i. ....                              | 1    |
| 16   | 110-01112 | Hoses support rod .....  | 1    |
| 17   | 140-13071 | Hoses support plate .....  | 1    |
| 18   | 300-38250 | Bolt 7/16" NC x 1 3/4" lg + nylon locknut & flat washer .....    | 4    |
| 19   | 300-36250 | Bolt 3/8" NC x 1" lg + lock washer .....                         | 4    |
| 20   | 140-09571 | Spacer 1/8" x 1" x 3 1/4" lg .....                               | 2    |
| 21   | 300-32250 | Bolt 1/4" NC x 1" lg + nylon locknut .....                       | 2    |
| 22   | 378-36500 | Upper flat washer for connecting rod .....                       | 2    |
| 23   | 376-40000 | Lower flat washer for connecting rod .....                       | 2    |
| 24   | 8377      | Hook for clamp fastener (welded) .....                           | 1    |
| 25   | TSB-74104 | Hoses support for deflector cylinder .....                       | opt. |
| 26   | 25TR08    | Cylinder .....   | opt. |
| 27   | 6004      | Clevis pin 1" x 3 1/8"(4) .....                                  | opt. |
| 28   | Std.      | Hairpin cotter 7/8" (4) .....                                    | opt. |
| 29   | 346-38000 | Nut 7/16" NC .....   | 4    |
| 30   | 110-20811 | "Orbit" motor support .....                                      | 1    |
| 31   | 110-44331 | Sprocket 9 teeth .....   | 1    |
| 32   | 300-32220 | Bolt 1/4" NC x 3/4" lg + lock washer .....                       | 1    |
| 33   | 323-36160 | Hexagonal socket set screw 3/8" NC x 3/8" lg + lock washer ..... | 2    |
| 34   | 150-12741 | Sturdy flat washer 7/16" .....                                   | 4    |

# INDUSTRIAL CHUTE PCG-92104

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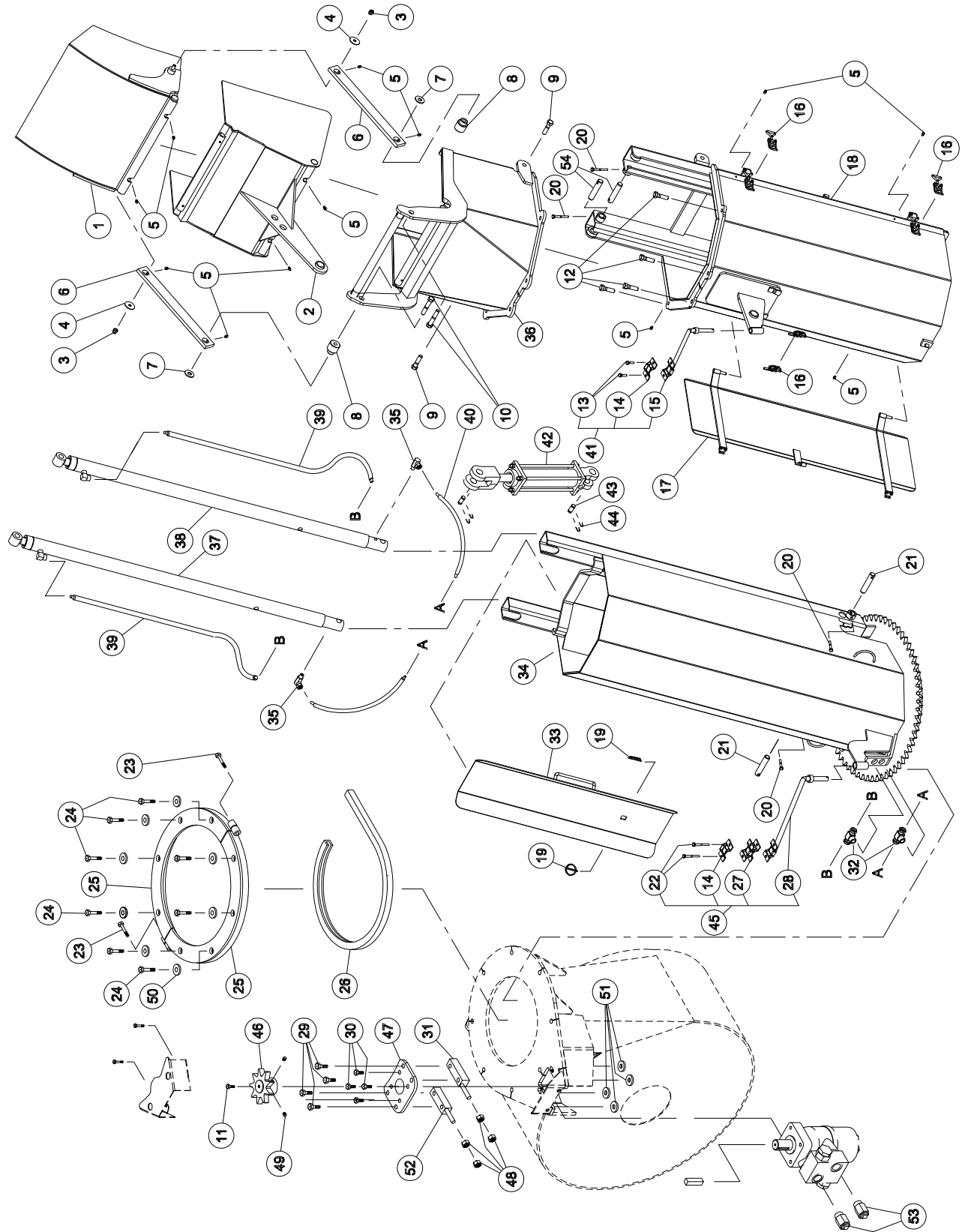


# INDUSTRIAL CHUTE PCG-92104

| REF. | PART #      | DESCRIPTION   | QTY  |
|------|-------------|---|------|
| 1    | 110-00681   | Chute adaptor with quick attach .....                 | 1    |
| 2    | Std.        | Hitch pin clip 5/32" .....                            | 2    |
| 3    | 9414        | Pin for quick attach (adaptor & extension) .....      | 2    |
| 4    | PR-92104P-2 | Extension 24" .....                                   | opt. |
| 4    | PR-92104P   | Extension 48" .....                                   | opt. |
| 5    | 110-22942   | Access panel for extension 24" # PR-92104P-2 .....    | opt. |
| 5    | 110-22952   | Access panel for extension 48" # PR-92104P .....      | opt. |
| 6    | 140-13931   | Connecting rod .....                                  | 2    |
| 7    | 110-22242   | Upper deflector .....                                 | 1    |
| 8    | 300-40370   | Bolt 1/2" NC x 2 1/2" lg + nylon locknut (thin) ..... | 2    |
| 9    | Std.        | Cotter pin 1/8" x 1" lg .....                         | 1    |
| 10   | 150-05311   | Spacer for connecting rod .....                       | 2    |
| 11   | 110-22232   | Lower deflector .....                                 | 1    |
| 12   | 110-22933   | Access door .....                                     | 1    |
| 13   | 8376        | Adjustable clamp fastener (welded) .....              | 1    |
| 14   | Std.        | Grease fitting 1/4" - 28 straight .....               | 8    |
| 15   | 110-22754   | Chute base .....                                      | 1    |
| 16   | 300-38400   | Bolt 7/16" NC x 3" lg + nylon locknut .....           | 2    |
| 17   | 300-40415   | Bolt 1/2" NC x 3 1/4" lg + nylon locknut .....        | 8    |
| 18   | 110-12351   | Retaining bracket .....                               | 2    |
| 19   | 190-03381   | U-shaped UHMW +/- 16" i.d. ....                       | 1    |
| 20   | 378-36500   | Upper flat washer for connecting rod .....            | 2    |
| 21   | 346-36000   | Nylon locknut 3/8" NC .....                           | 2    |
| 22   | 300-38385   | Bolt 7/16" NC x 2 3/4" lg + nylon locknut .....       | 4    |
| 23   | 300-36250   | Bolt 3/8" NC x 1" lg + lock washer .....              | 4    |
| 24   | 110-38321   | Right spacer .....                                    | 1    |
| 25   | 110-01112   | Hoses support rod .....                               | 1    |
| 26   | 140-13071   | Hoses support plate .....                             | 1    |
| 27   | 300-32250   | Bolt 1/4" NC x 1" lg + nylon locknut .....            | 2    |
| 28   | 378-37500   | Lower flat washer for connecting rod .....            | 2    |
| 29   | 8377        | Hook for clamp fastener (welded) .....                | 1    |
| 30   | TSB-74104   | Hoses support for deflector cylinder .....            | opt. |
| 31   | 25TR08      | Cylinder .....  | opt. |
| 32   | 6004        | Clevis pin 1" x 3 1/8"(4) .....                       | opt. |
| 33   | Std.        | Hairpin cotter 7/8" (4) .....                         | opt. |
| 34   | 130-08152   | "Orbit" motor support .....                           | 1    |
| 35   | 323-36160   | Hexagonal socket set screw 3/8" NC x 3/8" lg .....    | 2    |
| 36   | 110-44331   | Sprocket 9 teeth .....                                | 1    |
| 37   | 300-32220   | Bolt 1/4" NC x 3/4" lg + lock washer .....            | 1    |
| 38   | 346-38000   | Nut 7/16" NC .....                                    | 4    |
| 39   | 150-12731   | Sturdy flat washer 1/2" .....                         | 16   |
| 40   | 150-12741   | Sturdy flat washer 7/16" .....                        | 4    |
| 41   | 110-38322   | Left spacer .....                                     | 1    |

# HYDRAULIC TELESCOPIC CHUTE PCT-92104

170-04071R3

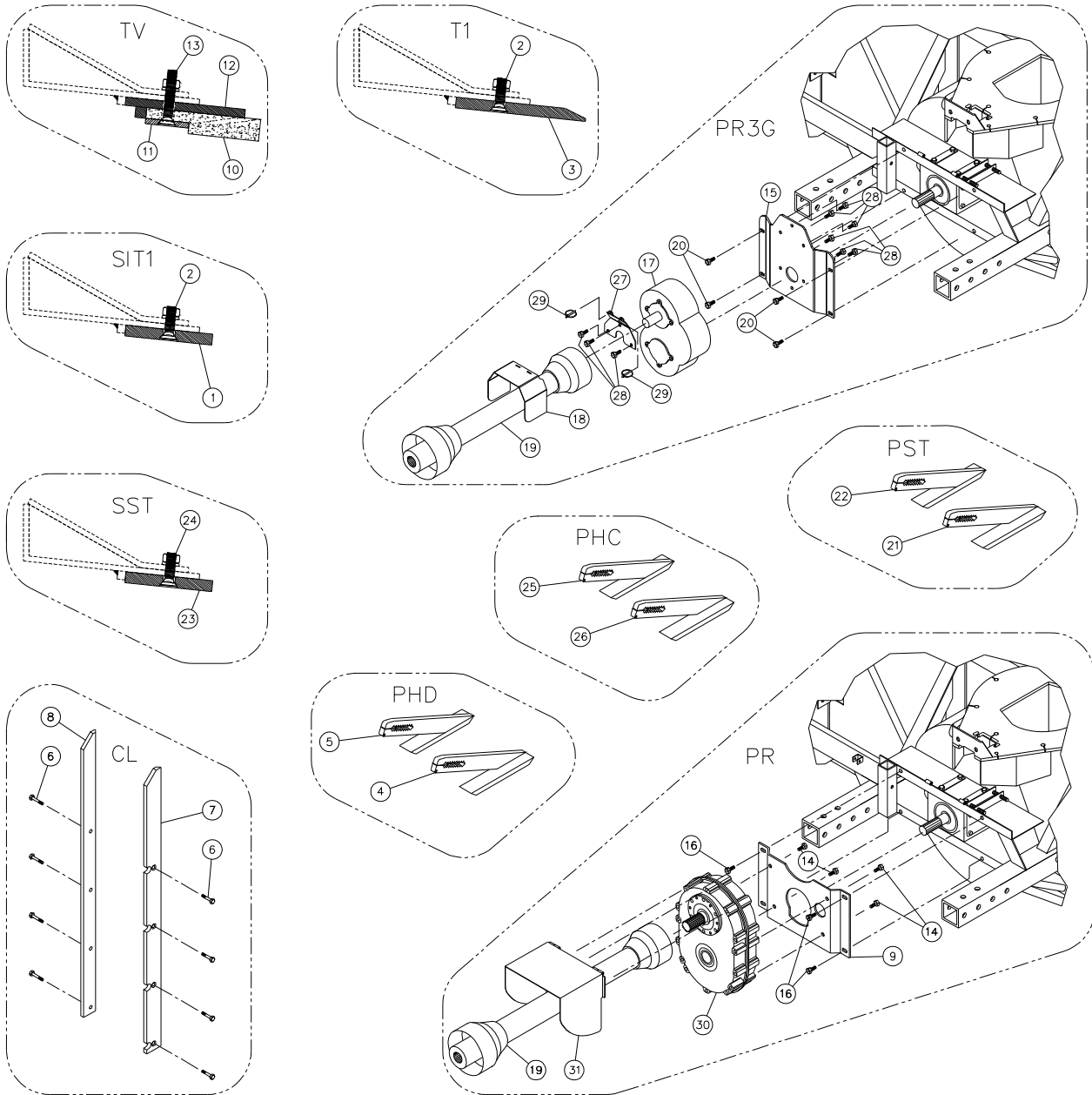


# HYDRAULIC TELESCOPIC CHUTE PCT-92104

| REF. | PART #        | DESCRIPTION   | QTY  |
|------|---------------|---|------|
| 1    | 110-29112     | Upper chute deflector .....                                   | 1    |
| 2    | 110-29121     | Lower chute deflector .....                                   | 1    |
| 3    | 346-36000     | Nylon locknut 3/8" .....                                      | 2    |
| 4    | 378-36500     | Flat washer 3/8" i.d. x 1 1/2" o.d. ....                      | 2    |
| 5    | Std.          | Grease fitting 1/4"-28 straight .....                         | 12   |
| 6    | 140-13931     | Connecting rod .....  | 2    |
| 7    | 378-37500     | Washer 1/2" i.d. x 1 3/8" o.d. ....                           | 2    |
| 8    | 150-05311     | Spacer for connecting rod .....                               | 2    |
| 9    | 300-40340     | Bolt 1/2" NC x 2" lg + nylon locknut .....                    | 2    |
| 10   | 300-40380     | Bolt 1/2" NC x 2 3/4" lg + nylon locknut .....                | 2    |
| 11   | 300-32220     | Bolt 1/4" NC x 3/4" lg + lock washer .....                    | 1    |
| 12   | 300-40325     | Bolt 1/2" NC x 1 3/4" lg + 2 washers + nylon locknut .....    | 4    |
| 13   | 300-32250     | Bolt 1/4" NC x 1" lg + nylon locknut .....                    | 2    |
| 14   | 140-13071     | Hoses mounting plate .....                                    | 2    |
| 15   | 110-01122     | Mounting support plate for upper extension .....              | 1    |
| 16   | 8376          | Clamp fastener .....  | 3    |
| 17   | 110-29391     | Access door for upper extension .....                         | 1    |
| 18   | 110-26642     | Upper extension .....   | 1    |
| 19   | Std.          | Lynch pin 3/16" x 1 1/4" .....                                | 2    |
| 20   | 300-32325     | Bolt 1/4" NC x 1 3/4" lg + nylon locknut .....                | 4    |
| 21   | 150-12701     | Pin .....   | 2    |
| 22   | 300-32370     | Bolt 1/4" NC x 2 1/2" lg + nylon locknut .....                | 2    |
| 23   | 300-38400     | Bolt 7/16" NC x 3" lg + nylon locknut .....                   | 2    |
| 24   | 300-40415     | Bolt 1/2" NC x 3 1/4" lg + nylon locknut .....                | 8    |
| 25   | 110-12351     | Retaining bracket .....                                       | 2    |
| 26   | 190-03381     | U-shaped UHMW + - 16" approx. inside diameter .....           | 1    |
| 27   | 110-20611     | Hoses mounting plate .....                                    | 1    |
| 28   | 110-04982     | Mounting support plate for lower extension .....              | 1    |
| 29   | 300-38370     | Bolt 7/16" NC x 2 1/2" lg + nylon locknut & flat washer ..... | 4    |
| 30   | 300-36250     | Bolt 3/8" NC x 1" lg + lock washer .....                      | 4    |
| 31   | 110-38321     | Right spacer .....  | 1    |
| 32   | 9456-06-06    | «T» female 3/8" NPT swivel , female 3/8" NPT .....            | 2    |
| 33   | 110-26671     | Access door for lower extension .....                         | 1    |
| 34   | 110-26651     | Lower extension .....   | 1    |
| 35   | 9406-04-04    | Elbow 90 degrees 1/4" NPT swivel .....                        | 2    |
| 36   | 110-29102     | Hexagonal extension .....                                     | 1    |
| 37   | 15 PC 32G     | Cylinder 1 1/2" x 32" stroke .....                            | 1    |
| 38   | 15 PC 32D     | Cylinder 1 1/2" x 32" stroke .....                            | 1    |
| 39   | 190-08231     | Hose 1/4" SAE 100R2AT - 500 PSI x 69 1/2" lg .....            | 2    |
| 40   | 190-08241     | Hose 1/4" SAE 100R2AT - 500 PSI x 26 1/2" lg .....            | 2    |
| 41   | TSB-74104     | Hoses support for deflector cylinder .....                    | opt. |
| 42   | 25TR08        | Cylinder .....  | opt. |
| 43   | 6004          | Clevis pin 1" x 3 1/8"(4) .....                               | opt. |
| 44   | Std.          | Hairpin cotter 7/8" (4) .....                                 | opt. |
| 45   | TSB-74104-IND | Hoses support on chute base .....                             | opt. |
| 46   | 110-44331     | Sprocket 9 teeth .....  | 1    |
| 47   | 130-08152     | "Orbit" motor support .....                                   | 1    |
| 48   | 336-38000     | Nut 7/16" NC .....  | 4    |
| 49   | 323-36160     | Hexagonal socket set screw 3/8" NC x 3/8" lg .....            | 2    |
| 50   | 150-12731     | Sturdy flat washer 1/2" .....                                 | 16   |
| 51   | 150-12741     | Sturdy flat washer 7/16" .....                                | 4    |
| 52   | 110-38322     | Left spacer .....   | 1    |
| 53   | 110-40071     | Restrictor .....  | 2    |
| 54   | 150-13181     | Pin .....   | 2    |

# OPTIONS

170-05471



| REF. | PART #    | DESCRIPTION   | QTY |
|------|-----------|---|-----|
| 1    | 140-21631 | Scraper blade (hardened steel, not sharpened, reversible) 1/2" x 4" x 95" ..... | 1   |
| 2    | Std.      | Plow bolt 7/16" NC x 1 3/4" lg + nut & lockwasher .....                         | 10  |
| 3    | 140-21641 | Scraper blade (hardened steel, sharpened, not reversible) 1/2" x 6" x 95" ..... | 1   |
| 4    | 110-44212 | Carbon steel skid shoe (right side) .....                                       | 1   |
| 5    | 110-44211 | Carbon steel skid shoe (left side) .....  | 1   |
| 6    | Std.      | Plow bolt 7/16" NC x 1 1/2" lg + nut & lockwasher .....                         | 8   |
| 7    | 130-08311 | Lateral blade (right side) 58" lg .....   | 1   |

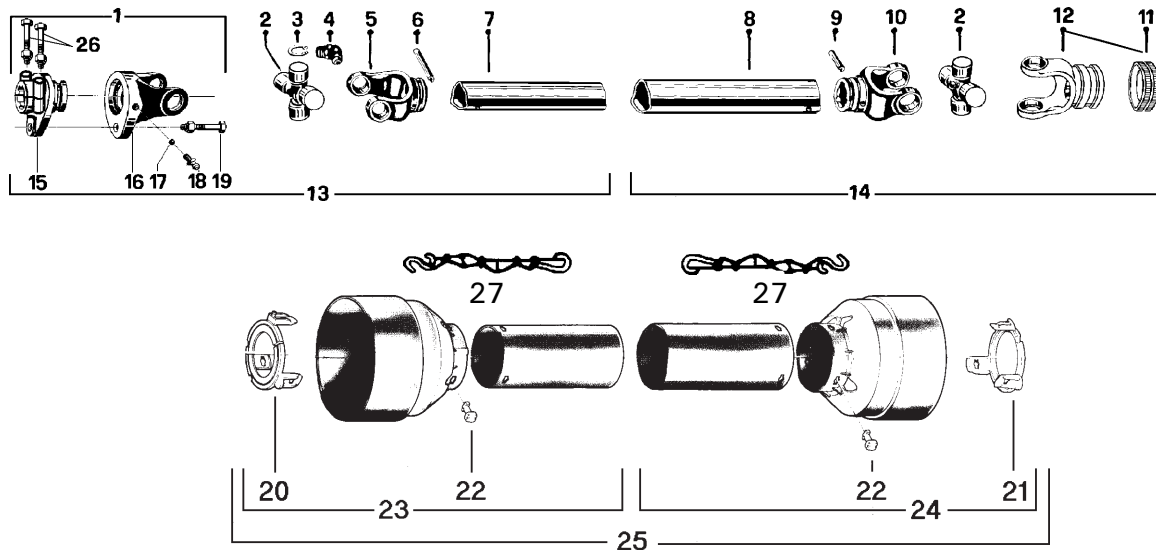
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## OPTIONS (cont'd)

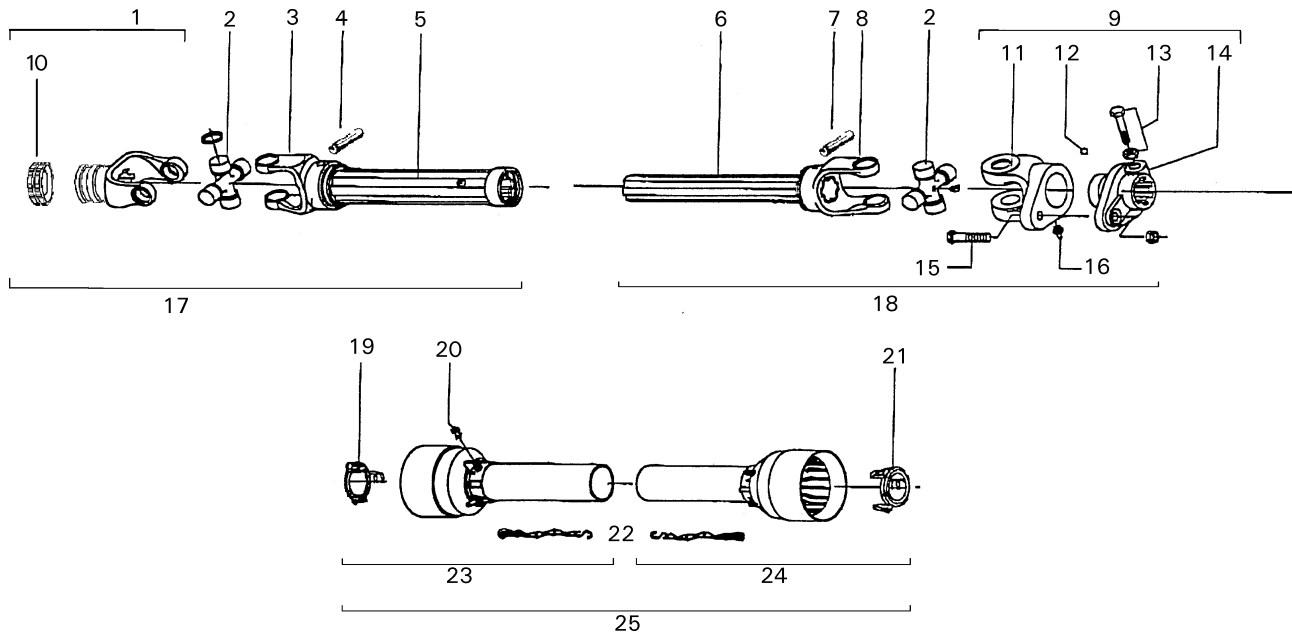
| REF. | PART #    | DESCRIPTION   | QTY         |
|------|-----------|---|-------------|
| 8    | 130-19281 | Lateral blade (left side) 58" lg .....  | 1           |
| 9    | 130-19521 | Mounting plate for speed reducer 1000 @ 540, "triple chain" .....                   | 1           |
| 10   | 190-10261 | Scraper blade , TIVAR not reversible 1" x 5 1/4" x 95" .....                        | 1           |
| 11   | 140-21651 | TIVAR blade bolting lplate 1/4" x 2" x 95" .....                                    | 1           |
| 12   | 110-37141 | TIVAR blade holder 3/8" x 5 1/2" x 95" .....  | 1           |
| 13   | Std.      | Plow bolt 7/16" NC x 2 1/2" lg + nut & lock washer .....                            | 10          |
| 14   | 300-40280 | Bolt 1/2" NC x 1 1/4" lg + lock washer .....  | 4           |
| 15   | 130-70641 | Mounting plate for speed reducer 1000 @ 555, with gears 200 HP .....                | 1           |
| 16   | Std.      | Bolt 1/2" NC x 1 1/2" lg + nylon locknut & flat washer (as required) .....          | 4           |
| 17   | 9721      | Speed reducer 1000 @ 555 with gears 200 HP .....                                    | 1           |
| 18   | 130-67491 | PTO shroud for reduction gear box, with gears 200 HP .....                          | 1           |
| 19   | 9475-1    | P.T.O. T90, QD 1 3/8"-21, SBI 1 3/4"-20 .....                                       | your choice |
| 19   | 9475-2    | P.T.O. T90, QD 1 3/4"-20, SBI 1 3/4"-20 .....                                       | your choice |
| 20   | 300-40310 | Bolt 1/2" NC x 1 1/2" lg + flat washer + nylon locknut .....                        | 4           |
| 21   | 110-44262 | Stainless steel skid shoe (right side) .....  | 1           |
| 22   | 110-44261 | Stainless steel skid shoe (right side) .....  | 1           |
| 23   | 140-21681 | Scraper blade (stainless steel, not sharpened, reversible) 1/2" x 4" x 95" lg ..... | 1           |
| 24   | Std.      | Plow bolt 7/16" NC x 1 3/4" lg + nut & lock washer .....                            | 10          |
| 24   | 333-40340 | Bolt cyl. head 6 PC 1/2" NC x 2" lg (stainless)+ nut & lock washer .....            | opt.        |
| 25   | 110-44221 | Skid shoe (left side) with carbide sole .....                                       | 1           |
| 26   | 110-44222 | Skid shoe (right side) with carbide sole .....                                      | 1           |
| 27   | 130-76211 | Mounting plate for PTO shroud for reduction gear box 200 HP .....                   | 1           |
| 28   | 300-40280 | Bolt 1/2"NC x 1 1/4" lg + lock washer .....   | 9           |
| 29   | Std.      | Lynch pin 1/4" X 1 3/4" .....   | 2           |
| 30   | 9575      | Reduction gear box 1000 @ 540, "triple chain" .....                                 | 1           |
| 31   | 110-12961 | PTO shroud for speed reducer "triple chain" .....                                   | 1           |

# P.T.O. SHAFT # 9475, 9475-1 & 9475-2 (T90)



| REF. | PART #   | DESCRIPTION   | QTY  |        |        |
|------|----------|---|------|--------|--------|
|      |          |   | 9475 | 9475-1 | 9475-2 |
| 1    | 9476     | Safety shear yoke (2 bolts) 1 3/4" - 20 splines .....                                   | 1    | 1      | 1      |
| 2    | 9477     | U-joint + 4 retaining rings + 1 grease fitting .....                                    | 2    | 2      | 2      |
| 3    | 9478     | Retaining ring .....  | 8    | 8      | 8      |
| 4    | 8110     | Grease fitting .....  | 2    | 2      | 2      |
| 5    | 9479     | Yoke for inner tube .....   | 1    | 1      | 1      |
| 6    | 9210     | Stopper for tube .....  | 1    | 1      | 1      |
| 7    | 9212     | Inner tube .....  | 1    | 1      | 1      |
| 8    | 9211     | Outer tube .....  | 1    | 1      | 1      |
| 9    | 9210     | Stopper for tube .....  | 1    | 1      | 1      |
| 10   | 9480     | Yoke for outer tube .....   | 1    | 1      | 1      |
| 11   | 8363     | Collar kit .....  | 1    | 1      | -      |
| 11   | 8364     | Collar kit .....  | -    | -      | 1      |
| 12   | 9481     | Yoke with hole 1 3/8"-6 splines + yoke stopper .....                                    | 1    | -      | -      |
| 12   | 9482     | Yoke with hole 1 3/8"-21 splines + yoke stopper .....                                   | -    | 1      | -      |
| 12   | 9483     | Yoke with hole 1 3/4"-20 splines + yoke stopper .....                                   | -    | -      | 1      |
| 13   | 9484     | P.T.O. section, SBI 1 3/4"-20, inner part, with protector .....                         | 1    | 1      | 1      |
| 14   | 9485     | P.T.O. section, QD 1 3/8"-6, outer part, with protector .....                           | 1    | -      | -      |
| 14   | 9485-1   | P.T.O. section, QD 1 3/8"-21, outer part, with protector .....                          | -    | 1      | -      |
| 14   | 9485-2   | P.T.O. section, QD 1 3/4"-20, outer part, with protector .....                          | -    | -      | 1      |
| 15   | 9486     | Adaptor 1 3/4"-20 splines (2 bolts) .....   | 1    | 1      | 1      |
| 16   | 9487     | Yoke and shearplate .....   | 1    | 1      | 1      |
| 17   | 9205     | Ball .....  | 24   | 24     | 24     |
| 18   | 8071     | Grease fitting .....  | 1    | 1      | 1      |
| 19   | 9207     | Safety shear bolt grade 10.9 M12 x 65 mm .....  | 1    | -      | -      |
| 19   | 9207-375 | Safety shear bolt grade 8.8 M12 x 65 mm (reduced to 10 mm at the point of rupture) .... | -    | 1      | 1      |
| 20   | 9459     | Bearing ring for inner guard tube .....   | 1    | 1      | 1      |
| 21   | 9460     | Bearing ring for outer guard tube .....   | 1    | 1      | 1      |
| 22   | 8109     | Stopper .....   | 6    | 6      | 6      |
| 23   | 9221     | Inner shield .....  | 1    | 1      | 1      |
| 24   | 9220     | Outer shield .....  | 1    | 1      | 1      |
| 25   | 9222     | Complete shield .....   | 1    | 1      | 1      |
| 26   | 9662     | Bolt M16 x 80 mm + lock nut .....   | 2    | 2      | 2      |
| 27   | 8308     | Safety chain .....  | 2    | 2      | 2      |

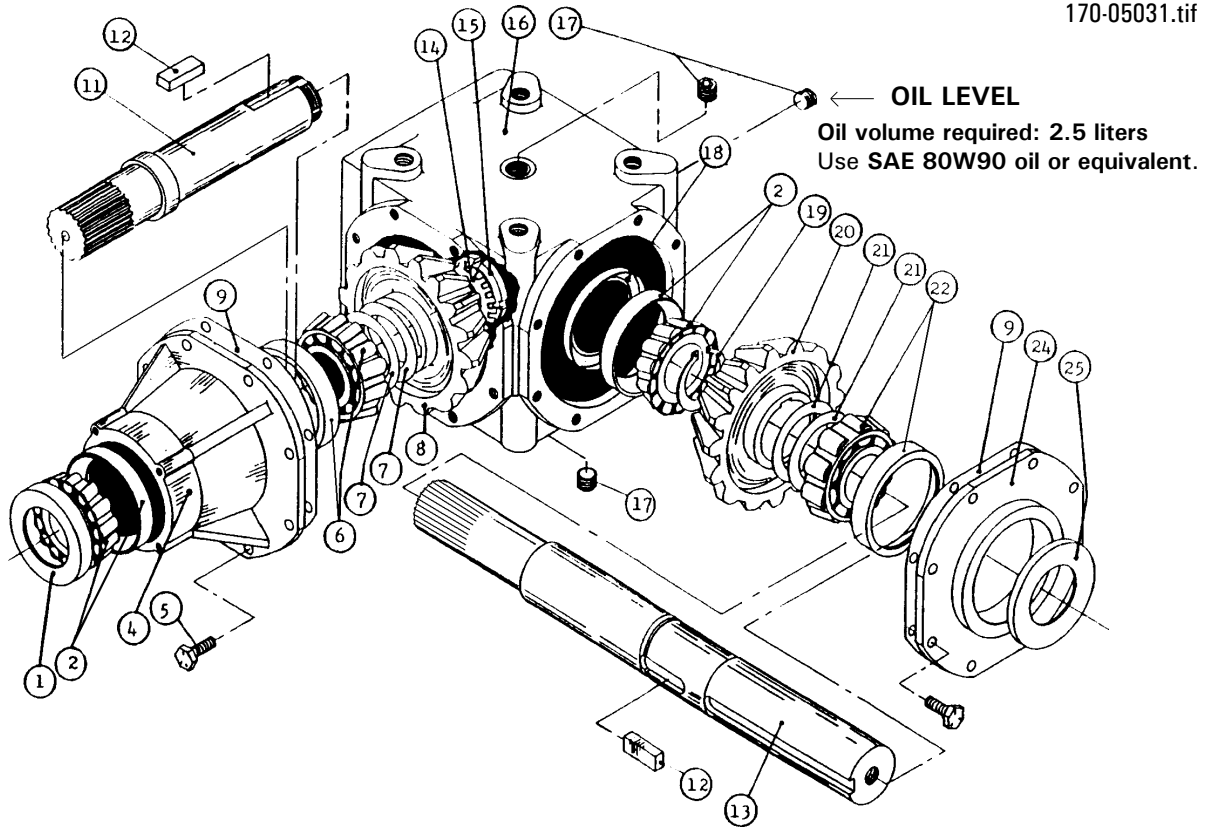
# P.T.O. SHAFT # 9598, 9599 & 9604 (V90)



| REF. | PART # | DESCRIPTION  | QTY  |      |      |
|------|--------|--|------|------|------|
|      |        |  | 9598 | 9599 | 9604 |
| 1    | 9481   | Yoke with hole 1 3/8" - 6 splines with lock yoke (540 RPM) .....         | 1    | -    | -    |
| 1    | 9482   | Yoke with hole 1 3/8" - 21 splines with lock yoke (1000 RPM) .....       | -    | 1    | -    |
| 1    | 9483   | Yoke with hole 1 3/4" - 20 splines with lock yoke (1000 RPM) .....       | -    | -    | 1    |
| 2    | 9477   | U-joint .....  | 2    | 2    | 2    |
| 3    | 9600   | Yoke for outer tube .....  | 1    | 1    | 1    |
| 4    | 9210   | Stopper for tube .....   | 1    | 1    | 1    |
| 5    | 9601   | Outer tube .....   | 1    | 1    | 1    |
| 6    | 9602   | Inner tube .....   | 1    | 1    | 1    |
| 7    | 9210   | Stopper for tube .....   | 1    | 1    | 1    |
| 8    | 9603   | Yoke for inner tube .....  | 1    | 1    | 1    |
| 9    | 9476   | Safety shear yoke .....  | 1    | 1    | 1    |
| 10   | 8363   | collar kit .....   | 1    | 1    | -    |
| 10   | 8364   | collar kit .....   | -    | -    | 1    |
| 11   | 9487   | Yoke and shearplate M12 x 65 .....                                       | 1    | 1    | 1    |
| 12   | 9205   | Ball 5/16" dia. ....   | 24   | 24   | 24   |
| 13   | 9461   | Bolt + nut M12x1.25x75 .....   | 2    | 2    | 2    |
| 14   | 9486   | Adaptor .....  | 1    | 1    | 1    |
| 15   | 9207   | Safety shear bolt grade 10.9 M12 x 65 mm + nut .....                     | 1    | 1    | 1    |
| 16   | 8071   | Grease fitting .....   | 1    | 1    | 1    |
| 17   | 9607   | P.T.O. section, outer part, without protector, 1 3/8" - 6 splines .....  | 1    | -    | -    |
| 17   | 9607-1 | P.T.O. section, outer part, without protector, 1 3/8" - 21 splines ..... | -    | 1    | -    |
| 17   | 9607-2 | P.T.O. section, outer part, without protector, 1 3/4" - 20 splines ..... | -    | -    | 1    |
| 18   | 9608   | P.T.O. section, inner part, without protector .....                      | 1    | 1    | 1    |
| 19   | 9460   | Bearing ring .....   | 1    | 1    | 1    |
| 20   | 8109   | Stopper .....  | 6    | 6    | 6    |
| 21   | 9459   | Bearing ring .....   | 1    | 1    | 1    |
| 22   | 8308   | Safety chain .....   | 2    | 2    | 2    |
| 23   | 9220   | Outer shield .....   | 1    | 1    | 1    |
| 24   | 9221   | Inner shield .....   | 1    | 1    | 1    |
| 25   | 9222   | Complete shield .....  | 1    | 1    | 1    |

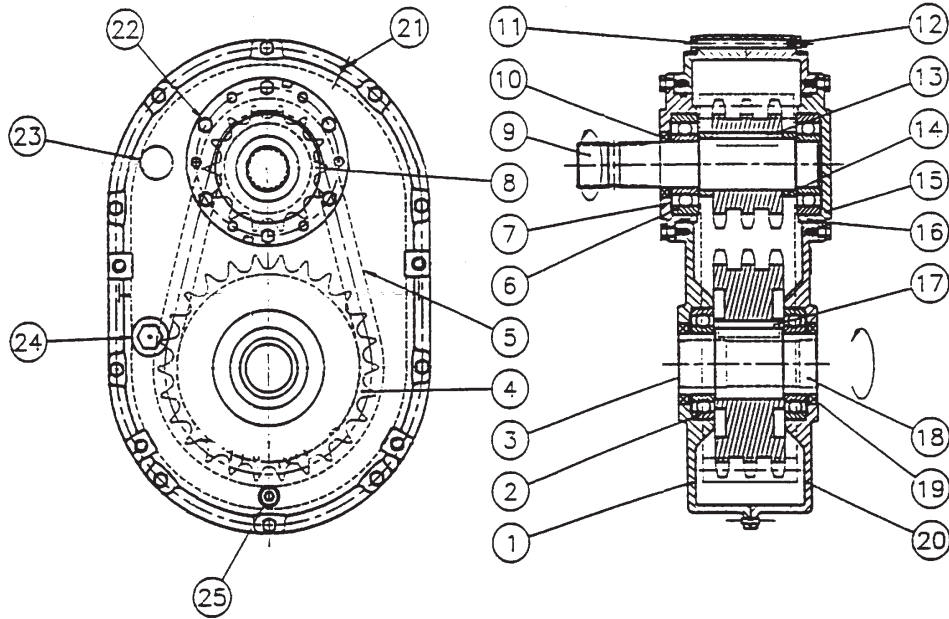
# GEAR BOX # 9307 (T279)

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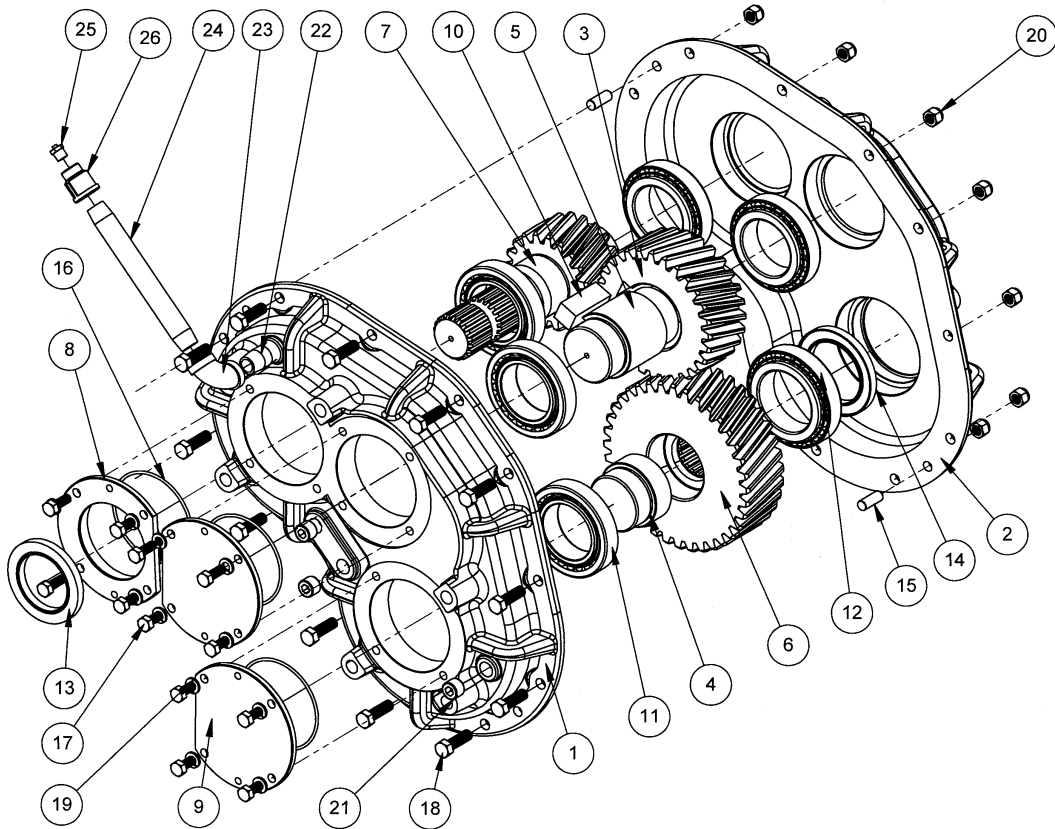
| REF. | PART #  | DESCRIPTION                                     | QTY |
|------|---------|---|-----|
| 1    | 6314    | Oil seal 52 x 85 x 10 .....                     | 1   |
| 2    | 30209-A | Bearing: cone & cup .....                       | 2   |
| 4    | 6318    | Extension .....                                 | 1   |
| 5    | 6319    | Bolt M10 x 22 .....                             | 16  |
| 6    | 32209-A | Bearing: cone & cup .....                       | 1   |
| 7    | 6321    | Shim .....                                      | 2   |
| 8    | 6322    | Gear Z21 .....                                  | 1   |
| 9    | - - -   | Use silicone caulking .....                     | -   |
| 11   | 6325    | Side shaft Z20 (1 3/4" - 20 splines) .....      | 1   |
| 12   | 6326    | Key B14 x 9 x 40 .....                          | 2   |
| 13   | 9345    | Impeller shaft (2" & 1 3/4" - 20 splines) ..... | 1   |
| 14   | 6328    | Spring washer .....                             | 1   |
| 15   | 6329    | Lock nut M40 x 1.5 H9 .....                     | 1   |
| 16   | 6330    | Casing .....                                    | 1   |
| 17   | 6331    | Plug 3/8" gas .....                             | 3   |
| 18   | 6332    | Oil seal 45 x 72 x 8 .....                      | 1   |
| 19   | 6333    | External circlip 50 UNI7435 .....               | 1   |
| 20   | 6334    | Gear Z21 .....                                  | 1   |
| 21   | 6335    | Shim .....                                      | 2   |
| 22   | 30210-A | Bearing: cone & cup .....                       | 1   |
| 24   | 6338    | Cover .....                                     | 1   |
| 25   | 6339    | Oil seal 50 x 72 x 8 .....                      | 1   |

# REDUCTION GEAR BOX # 9575 - 150 HP



| REF. | PART #    | DESCRIPTION                                 | QTY |
|------|-----------|---|-----|
| 1    | 9546      | Casing with plug .....                      | 1   |
| 2    | 6212-RS   | Bearing 6212 .....                          | 2   |
| 3    | 9547      | Seal cover (47 x 7) .....                   | 1   |
| 4    | 9548      | Sprocket 80-3A26 .....                      | 1   |
| 5    | 9549      | Chain 80-3 x 36" lg .....                   | 1   |
| 6    | 6309-RS   | Bearing 6309 .....                          | 2   |
| 7    | 9550      | Input cover with hole .....                 | 1   |
| 8    | 9551      | Sprocket 80-3A14 .....                      | 1   |
| 9    | 9552      | Input shaft 1 3/4"-20 splines .....         | 1   |
| 10   | 9553      | Oil seal (45x65x8) TC double lips .....     | 1   |
| 11   | 336-34490 | Bolt 5/16"x 4 1/2" lg .....                 | 10  |
| 12   | 336-34000 | Nut 5/16" -18 UNC & lock washer .....       | 10  |
| 13   | 9554      | Square key 1/2" x 2 1/2" .....              | 1   |
| 14   | 9555      | Spacer (2 - 2 3/8 - 0.568) .....            | 2   |
| 15   | 9556      | Input cover w/o hole .....                  | 1   |
| 16   | 9557      | O-ring AS-248 .....                         | 2   |
| 17   | 9558      | Square key 5/8" x 2 1/2" .....              | 1   |
| 18   | 9559      | Output shaft 1 3/4"-20 splines .....        | 1   |
| 19   | 9560      | Oil seal (60 x80x10) TC double lips .....   | 2   |
| 20   | 9561      | Casing w/o plug .....                       | 1   |
| 21   | 9562      | Slotted spring pin 3/16" x 3/4" .....       | 2   |
| 22   | 300-34220 | Bolt 5/16" NC x 3/4" lg & lock washer ..... | 12  |
| 23   | 9563      | Air vent 1/2" NPT .....                     | 1   |
| 24   | 9564      | Sight glass 3/4" NPT (oil level) .....      | 1   |
| 25   | 9565      | Drain plug 1/2" NPT .....                   | 1   |

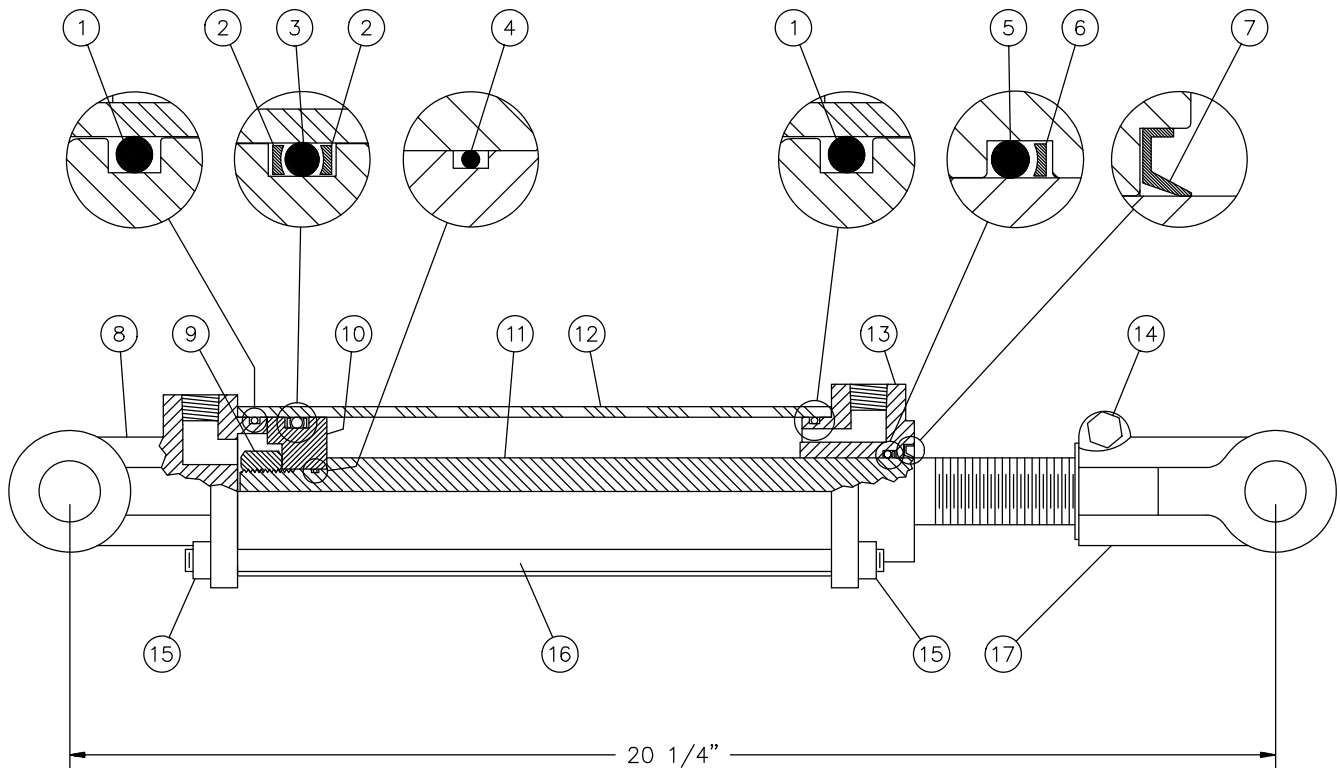
# SPEED REDUCER # 9721 - 200 HP



| REF. | PART #    | DESCRIPTION  | QTY |
|------|-----------|--|-----|
| 1    | 9752      | Half casing .....  | 1   |
| 2    | 8753      | Half casing .....  | 1   |
| 3    | 9754      | Helical gear with the teeth inclined to the right (28 teeth) .....           | 1   |
| 4    | 9756      | Adaptor .....  | 1   |
| 5    | 9755      | Intermediate shaft .....   | 1   |
| 6    | 9757      | Helical gear with the teeth inclined to the left (36 teeth) .....            | 1   |
| 7    | 9758      | Shaft with helical gear with the teeth inclined to the left (20 teeth) ..... | 1   |
| 8    | 9759      | Open cover .....   | 1   |
| 9    | 9760      | Closed over .....  | 2   |
| 10   | 9761      | Square key 0.750 x 2.000 .....   | 1   |
| 11   | 9762      | Metric taper roller bearing with cup .....                                   | 5   |
| 12   | 9763      | Metric taper roller bearing with cup .....                                   | 1   |
| 13   | 9764      | Oil seal .....   | 1   |
| 14   | 9765      | Oil seal .....   | 1   |
| 15   | 9766      | Goupille 3/8" x 1" .....   | 2   |
| 16   | 9767      | Metric oil seal .....  | 3   |
| 17   | 300-34235 | Bolt 5/16" NC x 7/8" lg .....  | 12  |
| 18   | 300-36280 | Bolt 3/8" x 1 1/4" lg .....  | 12  |
| 19   | 371-34000 | lock washer 5/16" .....  | 12  |
| 20   | 346-36000 | Nylon locknut 3/8" .....   | 12  |
| 21   | 9706      | Plug 3/8" NPT .....  | 3   |
| 22   | 9707      | Pipe 3/8" x 1.5 .....  | 1   |
| 23   | 9708      | Albow 3/8" 90 deg. ....  | 1   |
| 24   | 9709      | Pipe 3/8" x 6 .....  | 1   |
| 25   | 9710      | Vent plug 1/8" 5 PSI .....   | 1   |
| 26   | 9711      | Adaptor 3/8" - 1/8" NPT .....  | 1   |

# CYLINDER 25TR08

15050

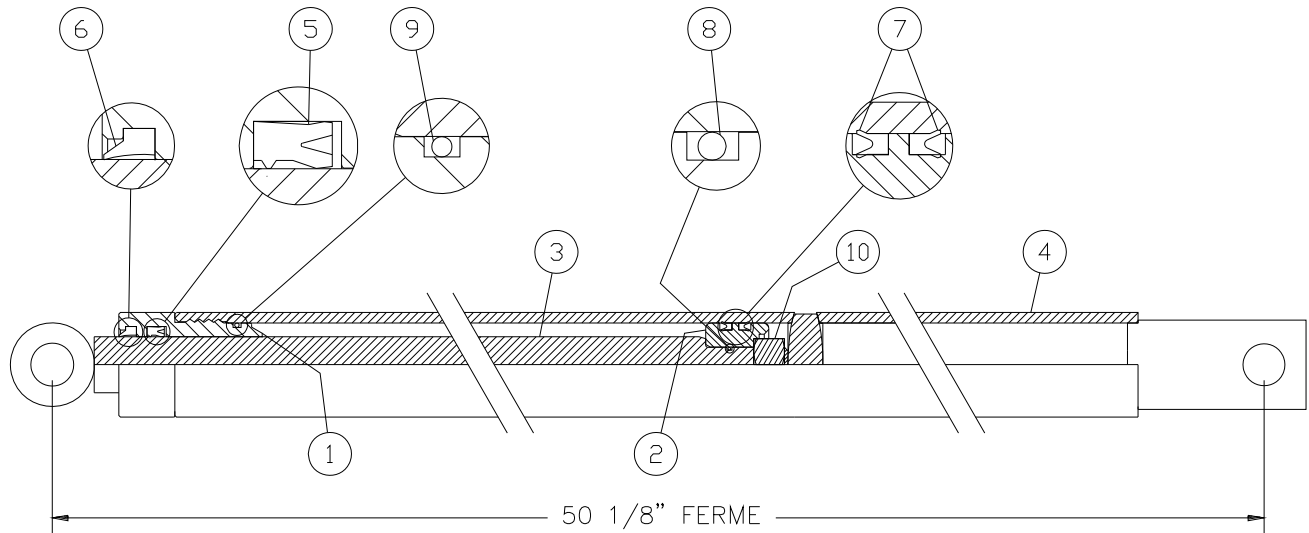


| REF. | PART #      | DESCRIPTION   | QTY |
|------|-------------|---|-----|
| 1    | See #RK25TR | O-ring 1/8" x 2 1/4" x 2 1/2" .....                                     | 2   |
| 2    | See #RK25TR | Back-up 2 1/2" o.d. x 3/16 ø .....                                      | 2   |
| 3    | See #RK25TR | 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    | 339-46000   | Nut 3/4" NF .....   | 1   |
| 10   | 4924-31     | Piston 2 1/2" ø .....   | 1   |
| 11   | 491980      | Piston rod 1 1/8" .....   | 1   |
| 12   | 491668      | Cylinder body 2 1/2" ø .....  | 1   |
| 13   | 492421      | Head (for 2 1/2" tube) .....  | 1   |
| 14   | 301-36355   | Bolt 3/8" NC x 2 1/4" lg + nut .....                                    | 1   |
| 15   | 377-36000   | Nut 3/8" NC .....   | 8   |
| 16   | Std.        | Threaded rod 3/8" NC x 12" 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   |

\*NI = NOT ILLUSTRATED

# CYLINDER 15PC32

170-04361



| REF. | PART #          | DESCRIPTION                                  | QTY     |         |
|------|-----------------|--|---------|---------|
|      |                 |  | 15PC32D | 15PC32G |
| 1    | 150-06561       | Head 1 1/2" dia. ....                        | 1       | 1       |
| 2    | 150-06571       | Piston 1 1/2" dia. ....                      | 1       | 1       |
| 3    | 110-26561       | Piston rod 1" dia. ....                      | 1       | 1       |
| 4    | 110-29631       | Cylinder body 1 1/2" dia. (15PC32D) .....    | 1       | -       |
| 4    | 110-29632       | Cylinder body 1 1/2" dia. (15PC32G) .....    | -       | 1       |
| 5    | DRTV-18-1.00-31 | «U» seal 3/16" x 1" x 1 3/8" .....           | 1       | 1       |
| 6    | ST-100          | Wiper 3/16" x 1" x 1 1/8" .....              | 1       | 1       |
| 7    | DSV12-1.25-18   | «U» seal 3/16" x 1 1/4" x 1 1/2" .....       | 2       | 2       |
| 8    | OR-014          | O-ring 1/16" x 1/2" x 5/8" .....             | 1       | 1       |
| 9    | OR-125          | O-ring 3/32" x 1 5/16" x 1 1/2" .....        | 1       | 1       |
| 10   | 336-44000       | Nut 5/8" NC .....                            | 1       | 1       |
| NI*  | 9689            | Repair kit (includes # 5, 6, 7, 8 & 9) ..... | 1       | 1       |

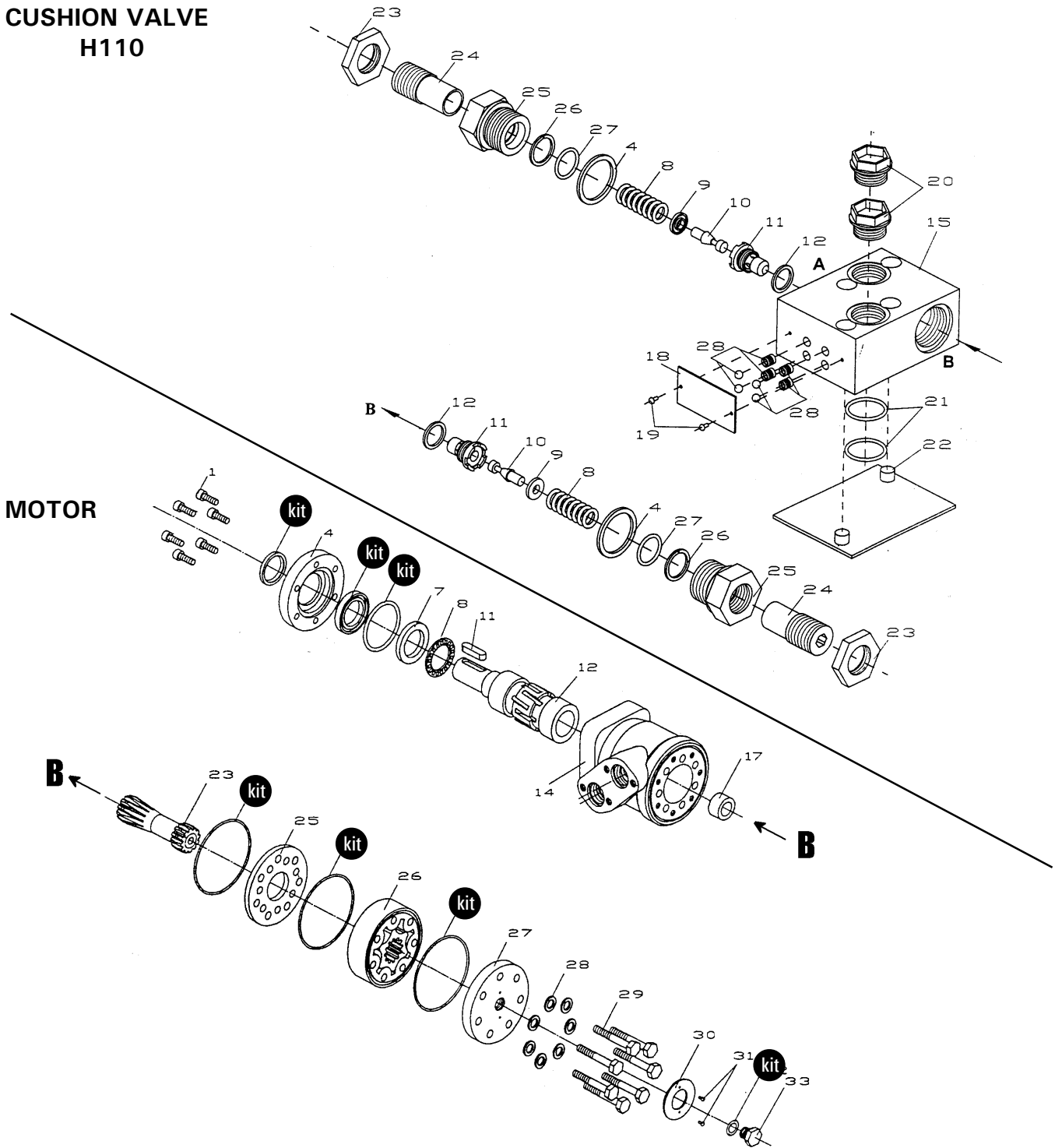
\*NI = NOT ILLUSTRATED

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# HYDRAULIC MOTOR # MLH-250 & MLH-315








## CUSHION VALVE H110








| REF. | PART # | DESCRIPTION                | QTY |
|------|--------|----------------------------|-----|
| kit  | 8368   | Set of seals.....          | 1   |
| 11   | 8369   | Key for "Orbit" motor..... | 1   |

# TORQUE CHART

## TORQUE SPECIFICATION TABLE

| Thread UNC and UNF |       | Grade 2  |      |                       |       | Grade 5    |      |                       |        | Grade 8*    |      |                       |        |
|--------------------|-------|---|------|-----------------------|-------|--|------|-----------------------|--------|--|------|-----------------------|--------|
| Bolt size          |       | Torque  |      |                       |       | Torque   |      |                       |        | Torque   |      |                       |        |
| Inches             | mm    | Pound feet<br>min.  | max. | Newton meters<br>min. | max.  | Pound feet<br>min.   | max. | Newton meters<br>min. | max.   | Pound feet<br>min.   | max. | Newton meters<br>min. | 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<br>min.   | max. | Newton meters<br>min. | max.  | Pound feet<br>min.  | max. | Newton meters<br>min. | max.  | Pound feet<br>min.   | max. | Newton meters<br>min. | 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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PRONOVOST 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.

The PTO shafts are warranted by the manufacturer and cover **only** defects in material and workmanship, and is conditional to recommended use and installation only.

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

This warranty becomes void and nul 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. PRONOVOST accepts no responsibility for direct or indirect consequential damages of any kind.

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Ce manuel est aussi disponible en français.  
Veuillez téléphoner.



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