



**OPERATOR'S / PARTS  
MANUAL**



***Industrial snowblower***  
**Model**  
**P-1022TRC-200**

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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.

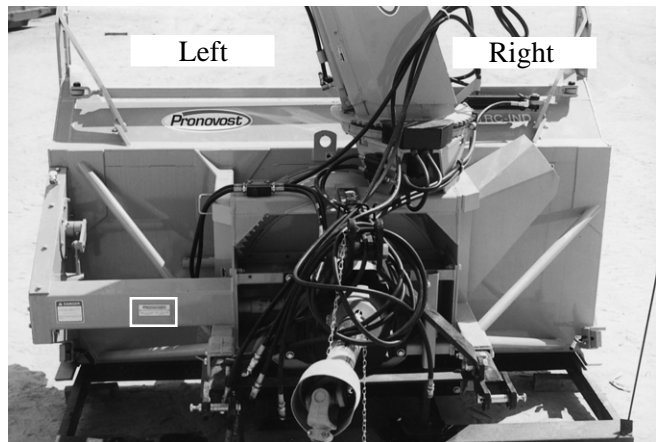


Figure 1

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 33.
- 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 3

**ATTENTION**

- 1- FOR SAFE OPERATION, FOLLOW OPERATING INSTRUCTIONS IN OPERATOR'S MANUAL.
- 2- KEEP HANDS, FEET AND CLOTHINGS AWAY FROM POWER DRIVEN PARTS.
- 3- STOP ENGINE BEFORE LEAVING THE EQUIPMENT.
- 4- MACHINE HAS TO BE COMPLETELY STOPPED BEFORE STARTING TO ADJUST OR LUBRICATE.
- 5- KEEP PEOPLE AND PETS AT SAFE DISTANCE FROM MACHINE.
- 6- KEEP ALL GUARDS AND SHIELDS IN PLACE.

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- 1- POUR UN FONCTIONNEMENT SÉCURITAIRE SUIVRE LES INSTRUCTIONS DANS LE MANUEL D'OPÉRATION.
- 2- GARDER LES MAINS, PIEDS ET VÊTEMENTS ÉLOIGNÉS DES ÉLÉMENTS MOBILES OU ROTATIFS.
- 3- AVANT DE QUITTER LA MACHINE ARRÊTER LE MOTEUR.
- 4- ARRÊTER COMPLÈTEMENT LA MACHINE POUR EFFECTUER L'ENTRETIEN ET L'AJUSTEMENT.
- 5- GARDER LES GENS ET LES ANIMAUX À UNE DISTANCE SÉCURITAIRE.
- 6- GARDER TOUS LES ÉCRANS PROTECTEUR EN PLACE.

PA 93-01

Figure 2  
Decal A

Part no.: A102

**DANGER**

TO AVOID SERIOUS INJURIES, KEEP CLEAR OF EQUIPMENT WHILE IN OPERATION.

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POUR ÉVITER DES BLESSURES GRAVES SE TENIR LOIN DE CET ÉQUIPEMENT LORSQU'IL EST EN MARCHÉ.

PD 93-03

Figure 4  
Decal B

Part no.: A101

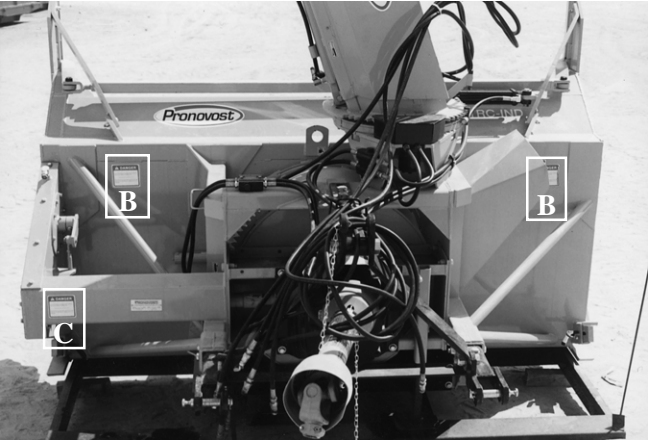


Figure 5



**DECALS (cont'd)**

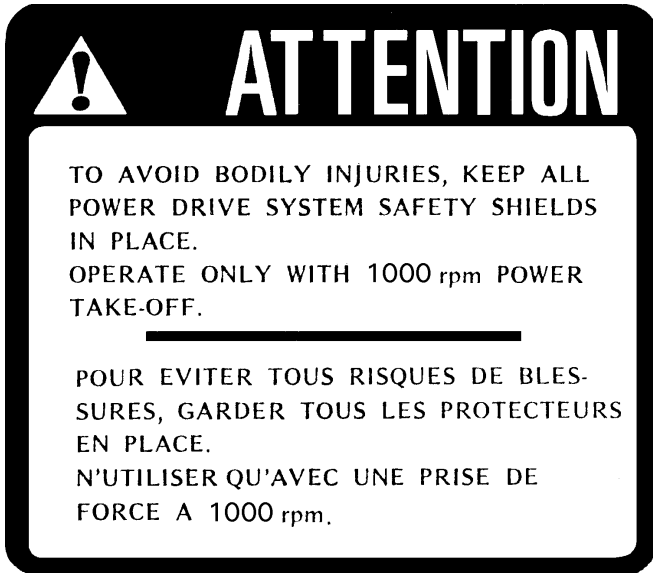


Figure 6  
Decal C Part no.: A112



Figure 7  
Decal D Part no.: A103

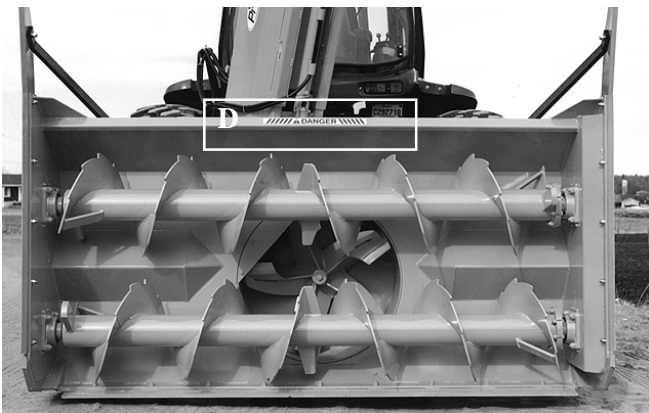


Figure 8

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

**3**

# DECALS (cont'd)

3

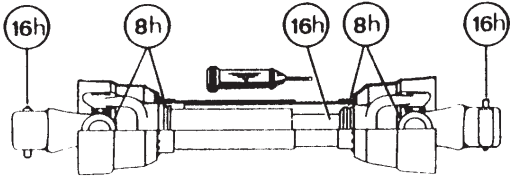


Figure 10  
Decal F

Part no.: A 109

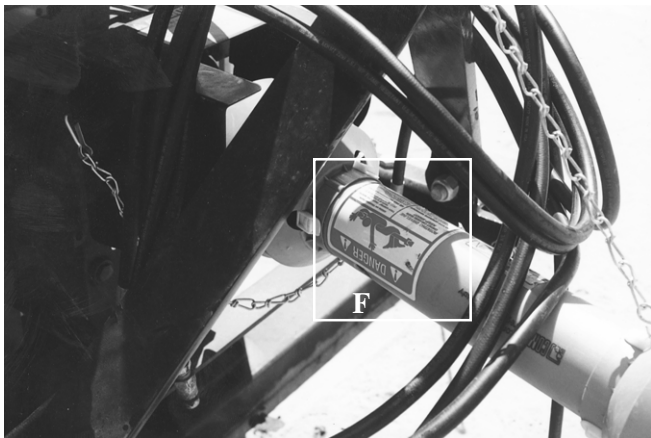


Figure 11

## MAINTENANCE DECALS

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

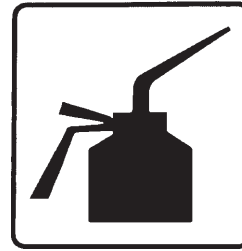


Figure 12

Part no.: A 105



Figure 13

Part no.: A 106



Figure 14  
Decal G

Part no.: A104



Figure 15

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# ASSEMBLY & STARTING-UP

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Figure 16



Figure 17



Figure 18

## ASSEMBLY

- 1) The Snowblower is shipped partly assembled.
- 2) Install P.T.O. shaft and place the shear pin end on the Snowblower side. Then attach safety shield support chain as shown (Fig. 16). **WARNING:** The telescoping tubes of the drive shaft must never be allowed to bottom out while maintaining a minimum overlap of 6 inches.

## 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 multipurpose grease.
- 3) Check chain take-up adjustment. The spring maintaining the tension must be compressed to a length between 2 3/4" and 3 1/2".
- 4) Verify for adequate tightness of all fastening devices. Refer to torque chart on page 33.
- 5) Adjust skid shoes according to ground conditions (Fig. 17).
- 6) Make sure of a 1000 RPM input to your snowblower.
- 7) Vérifiez le niveau d'huile dans le boîtier à chaîne. Ajustez le niveau à la hauteur du bouchon. Utilisez de l'huile pour engrenage S.A.E. W90 (Fig. 18).

4

5

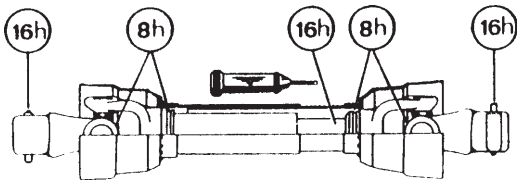
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# *MAINTENANCE*

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- 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 and chain case 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 and chain case oil once a year. Use gear box oil S.A.E. W90 rated API, class GL-5.



Pull out the P.T.O. And lubricate between the two tubes with low temperature grease.

- 10) Check all nuts and bolts once a year. If necessary use torque chart on page 33.
- 11) Always use suitable 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 hitch in order to position the Snowblower further away from tractor.
- Gripping or premature wear of telescoping members.	- Too much sliding under load. - Tube overlap too-short: minimum recommended is 6". - Insufficient lubrication. - Contaminants (sand, etc.).	- Avoid raising Snowblower while in operation. - Readjust 3-point hitch 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 hitch 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 to prevent 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. - Slippage of PTO clutch mechanism. - 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. - Repare clutch. - 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 rotating drum will not turn.	- Ice accumulation. - Wrong hydraulic connections.	- Remove ice. - Check hydraulic connections.
- Rotating drum will not hold it's position when blowing via the spout.	- Cushion valve setting too low. - Tension of the spring in the drum locking mechanism insufficient.	- Reset cushion valve up to 1800 psi (max.) - Increase tension of spring by adding shim(s).
- The chute will not turn.	- Ice accumulation. - Wrong hydraulic connections.	- Remove ice. - Check hydraulic connections.

# ***SPECIFICATIONS***

Model	P-1022TRC-200	
Horse power required	125 to 200 CV	
Approximative performance	1000 tons imp. / hour with 160 HP tractor	
Height including telescopic chute	149" extended / 123" retracted	
Frame height	48"	
Lateral blades height	65"	
Working width	102"	
Impeller diameter	34"	
Depth of drum	15"	
Impeller blades	6 replaceable 3/8" carbon steel blades	
Shear bolt	1 for the impeller + 1 for the auger drive	
Size of impeller shaft	2 1/2"	
P.T.O. speed required	1000 RPM	
Reducer	Standard (200 HP at 1000 RPM) 1000/540 RPM (1.86 to 1 ratio)	
Impeller speed	540 RPM	
Number of augers	2 x 20" full flight spiked augers with welded carbon steel teeth	
Auger ball bearing	2" (with ductile flange)	
Drive chain	No. 100HD in oil bath	
Replaceable scraper blade	6 1/2" x 5/8" carbon steel sharpened	
Adjustable skid shoes	Carbon steel	
Drum rotation	Hydraulic motor and cushion valve included	
Chute rotation	Hydraulic motor and cushion valve included	
P.T.O. shaft	No. 9	
3-point hitch	Category 2	
Frame	Sides	3/8"
	Back	3/16"
	Drum	Carbon steel 3/8"
Weight	4600 lbs (with telescopic chute)	

Design and specifications subject to change without notice.





# INDUSTRIAL SNOWBLOWER P-1022TRC-200 (cont'd)

REF.	PART #	DESCRIPTION	QTY
1	140-09461	Scraper blade, hardened steel, not reversible, sharpened 3/8" x 6" x 94 1/2 lg ...	1
2	Std.	Plow bolt 1/2" NC x 2" lg + nut & lock washer .....	12
3	110-05511	Skid shoe (right side) .....	1
4	8112	Lock pin 1/4" .....	2
5	140-03361	Skid shoes lock .....	2
6	Std	Bolt 3/8" NC x 1" lg + nylon locknut .....	4
7		Key for hydraulic motor DH315 (according to motor model) .....	2
8	Std.	Hexagonal socket set screw 3/8"-16 x 3/8" lg. ....	4
9	Std.	Bolt 1/4" NC x 3/4" lg + lock washer .....	1
10	110-04721	Sprocket 9 teeth .....	2
11	Std	Bolt 7/16" NC x 1 1/2" lg + nylon locknut + flat washer .....	4
12	130-08151	Orbit motor support .....	2
13	9205 8x8	Fitting swivel 1/2" NPT (straight) .....	3
14	9355 8x8	Elbow swivel 45° - 1/2" NPT .....	1
15		Hydraulic motor DH315 .....	2
16	Std.	Hose 3/8"-1 brin x 38" lg + 2 fittings 6U108 .....	2
17	Std.	Hose 3/8"-1 brin x 16" lg + 2 fittings 6U108 .....	2
18	DXV50	Cushion valve 1/2" NPT .....	2
19	Std	Bolt 5/16" NC x 2 1/2" lg + nylon locknut .....	2
20	160-01331	Spacer .....	4
21	190-03411	U-shaped UHMW 3/8" x 7/8" x 111 1/8" lg .....	1
22	110-13111	Rotary drum 34" dia. ....	1
23	130-14641	UHMW flat washer 3/16" x 10" i.d. x 14" o.d. ....	1
24	Std.	Bolt 3/4" NC x 2" lg + nylon locknut .....	8
25	Std.	Bolt M16 x 12.0 x 30mm + lock washer 5/8" + 6 flat washer .....	8
26	8220	Storage support pin .....	1
27	9462	Storage support .....	1
28	Std.	Hitch pin clip 5/32" .....	3
29	Std.	Bolt 1/2" NC x 3/4"lg + lock washer .....	4
30	9609	Speed reducer 1000/540 (5 chain) .....	1
31	Std.	Roll pin 5/16" x 2" lg .....	2
32	Std.	Bolt 5/8"-18 unc x 7" lg + nut & 2 lock washer .....	3
33	9599	P.T.O. shaft V90 .....	1
34	Std.	Bolt 1/2" x 1 1/2" + nylon locknut & flat washer .....	4
35	130-15281	Mounting plate for speed reducer 1000/540 (left side) .....	1
36	9597	Gear box .....	1
37	110-12711	Adjustment plate for gear box + 4 nuts 1/2" NC .....	1
38	130-06571	Guard for ring gear segment .....	1
39	Std.	Bolt 1/2" NC x 1 1/4" lg + nylon locknut + flat washer .....	4
40	110-13121	Upper hitch .....	1
41	Std.	Bolt 1 1/4" - NF x 6 1/2" lg GR 12 + nylon locknut .....	1
42	140-09051	3-point side bar .....	2
43	110-12781	Right lower hitch .....	1
44	Std.	Bolt 1-14 x 3" lg GR12 + nylon locknut .....	4
45	150-02571	Pin category 2 .....	2
46	110-12961	Hinged P.T.O. shroud .....	1
47	140-03561	3-point hitch reinforcement .....	1
48	Std.	Bolt 3/4" NC x 4 1/2" lg + nylon locknut .....	2
49	110-12791	Left lower hitch .....	1
50	Std.	Grease fitting 1/4"-28 straight .....	7
51	110-11371	Side shaft & shearplate (long side) + splined adaptor (20 splines) .....	1

# INDUSTRIAL SNOWBLOWER P-1022TRC-200

REF.	PART #	DESCRIPTION	QTY
52	110-11361	Side shaft & shearplate (short side) .....	1
53	140-08541	Key for auger drive shaft & shearplate (short side) .....	1
54	Std.	Bearing 1 3/4" with eccentric collar for FS209 .....	1
55	Std.	Flange FS209 for 1 grease fitting .....	1
56	Std.	Bolt 5/16" NC x 2" lg + lock washer .....	2
57	Std.	Bolt 5/8" NC x 2" lg + nylon locknut .....	4
58	110-11351	Auger drive shaft 35-5/8" lg .....	1
60	Std.	Bolt 7/16" NC x 2 1/4" lg + nylon locknut .....	1
61	9473	Compression spring .....	2
62	110-01071	Threaded tube for idler adjustment .....	1
63	110-13441	Splined adaptor 1 3/4" - 20 (welded) .....	1
65	Std.	Bolt 3/4" NC x 5 1/2" lg + nylon locknut .....	4
66	110-13431	Idler (outside part) .....	1
67	110-01062	Threaded rod for idler adjustment + nut 7/16" NC .....	1
68	Std.	Grease fitting 1/4"-28 90° .....	1
69	Std.	Bolt 7/16" NC x 3/4" lg + lock washer .....	32
70	110-11041	Idler cover .....	1
71	110-11051	Idler (inside part) .....	1
72	160-02171	Spacer .....	2
73	9470	Idler sprocket no 100A9 H3/4 .....	2
74	140-09231	Idler key .....	1
75	Std.	Bolt 1/2" NC x 3" lg GR 12 + nylon locknut .....	1
76	110-04811	Skid shoe (left side) .....	1
77	110-13861	Upper chain guard cover .....	1
78	130-12391	Chain guard cover (left side) .....	1
79	Std.	Nylon locknut 3/4" NC thin .....	2
80	190-03451	Chain #100 HD x 111 1/4" (89 links) .....	1
80	59-100 HD	Offset link #100 HD .....	1
80	26A100 HD	Connecting link #100 HD .....	1
81	9619	Vent plug 1/2" NPT .....	1
82	130-12381	Chain guard cover .....	2
83	Std.	Plow bolt 1/2" NC x 1 3/4" lg + nut & lock washer .....	34
84	110-13221	Left lateral blade .....	1
85	Std.	Hexagonal socket set screw 5/8"-11 x 1-1/4 lg .....	4
86	140-09561	Left lateral blade strengthener .....	2
87	30302	Male adaptor "taper-lock" .....	2
88	110-13321	Sprocket for auger 100A24 x 1T 5.125 + female adaptor "taper-lock" .....	2
89	140-09411	Key (sprocket for auger) .....	2
90	Std.	Bolt 3/4" NC x 2" lg + nylon locknut .....	16
92	Std.	Flange FS211 (for 1 grease fitting) .....	4
93	Std.	Bearing 2" with eccentric collar for FS211 .....	4
94	Std.	Bolt 1/2" NC x 1 3/4" lg + nut & lock washer .....	16
95	110-12591	Auger hub .....	2
96	110-13281	Full flight spiked auger .....	2
97	130-13861	Tooth (welded on the auger) .....	216
98	110-13231	Right lateral blade .....	1
99	Std.	Bolt 7/16" NC x 1 1/4" lg + nylon locknut .....	4
100	130-05911	Deflector .....	1
102	130-13751	Impeller blade .....	6
103	Std.	Bolt 5/8" NC x 1 1/2" lg + lock washer .....	1
104	110-12551	Impeller .....	1

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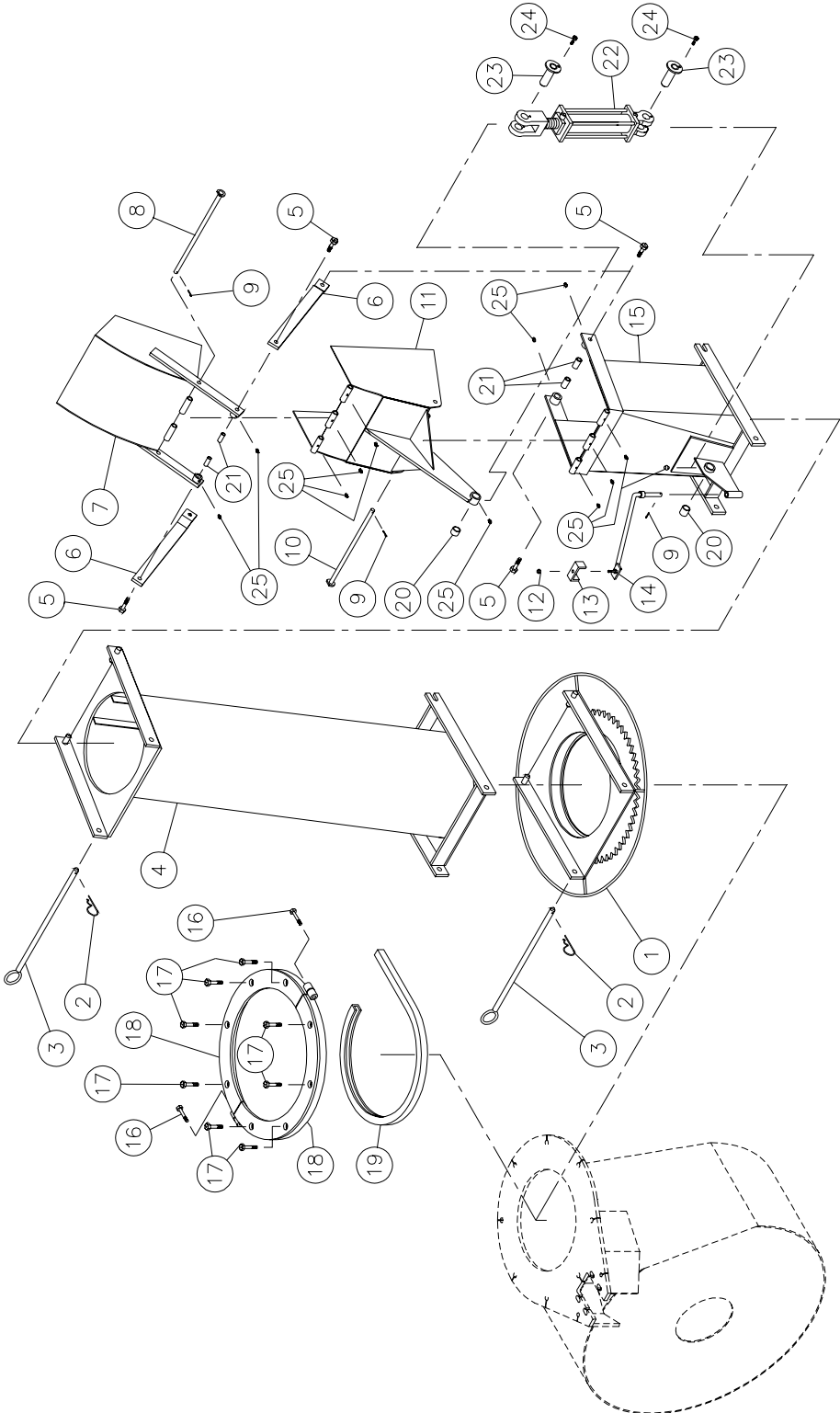
## *INDUSTRIAL SNOWBLOWER P-1022TRC-200*

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REF.	PART #	DESCRIPTION	QTY
105	130-08441	Stop block for drum lock (welded on drum) .....	1
106	160-03952	Body - drum lock (welded on frame) .....	1
107	150-01542	Latch pin - drum lock .....	1
108	Std.	Bolt 7/16" NC x 1 3/4" lg (full length thread) + lock nut .....	1
109	130-08471	Washer .....	1
110	150-02561	Pin .....	1
112	Std.	Bolt 5/16" NC x 1 1/4" lg + nylon locknut .....	2
113	130-14281	Guard .....	1
114	140-08551	Key for impeller .....	1
115	Std	Bolt 1/2" NC x 2 1/2 lg + nylon locknut + flat washer .....	2
116	Std	Bolt 7/16" x 1-1/4" lg. / oil level plug .....	1
117	190-03551	Copper flat washer 7/16" i.d. 5/8" o.d. (for oil level plug) .....	1
118	110-13181	Gear box support .....	1
119	Std.	Bolt 7/16" x 1"lg + lock washer .....	4
120	Std.	Bolt 1/4" NC x 1-1/2" lg + nylon locknut + flat washer .....	1
121	120-02881	Frame P-1022TRC-200 .....	1
122	130-15282	Mounting plate for speed reducer 1000/540 "right" .....	1

# INDUSTRIAL CHUTE PC-IND

170-02401

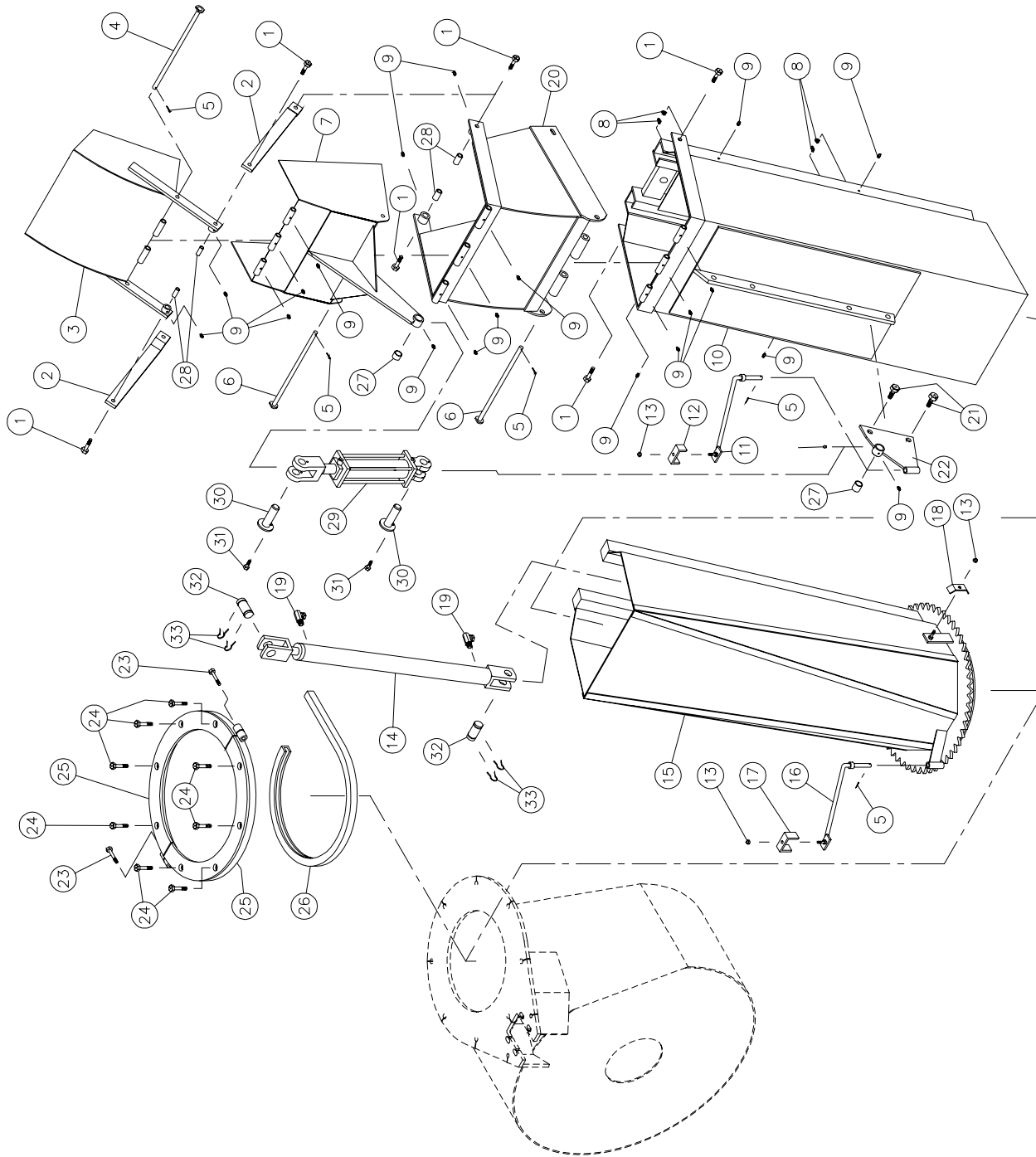


# INDUSTRIAL CHUTE PC-IND

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-IND	Extension 48" .....	opt.
5	Std.	Bolt 1/2" NC x 1 1/2" lg + nylon locknut .....	4
6	9415	Connecting rod .....	2
7	110-13501	Upper deflector .....	1
8	110-13381	Upper deflector pin .....	1
9	Std.	Cotter pin 1/8" x 1" lg .....	3
10	110-13371	Lower deflector pin .....	1
11	110-13511	Lower deflector .....	1
12	Std.	Nylon locknut 5/16" NC .....	1
13	140-00881	Hoses support plate .....	1
14	110-01111	Hoses support rod .....	1
15	110-14631	Chute base .....	1
16	Std.	Bolt 7/16" NC x 3" lg + nylon locknut .....	2
17	Std.	Bolt 1/2" NC x 3"lg + nylon locknut & 2 flat washer .....	8
18	110-12351	Retaining bracket .....	2
19	190-03381	U-shaped UHMW +/- 16" i.d. ....	1
20	160-06221	Brass tube 1 1/2" o.d. x 1" i.d. x 1" lg .....	2
21	160-06391	Tube 3/4" o.d. x 1/2" i.d. x 15/16" lg .....	4
22	190-03531	Cylinder 25TR08 .....	1
23	110-12401	Cylinder pin (25TR08) .....	2
24	Std.	Bolt 1/4" NC x 3/4" lg + lock washer .....	2
25	Std.	Grease fitting 1/4"-28 straight .....	12

# HYDRAULIC TELESCOPIC CHUTE PCTH-IND

170-02391



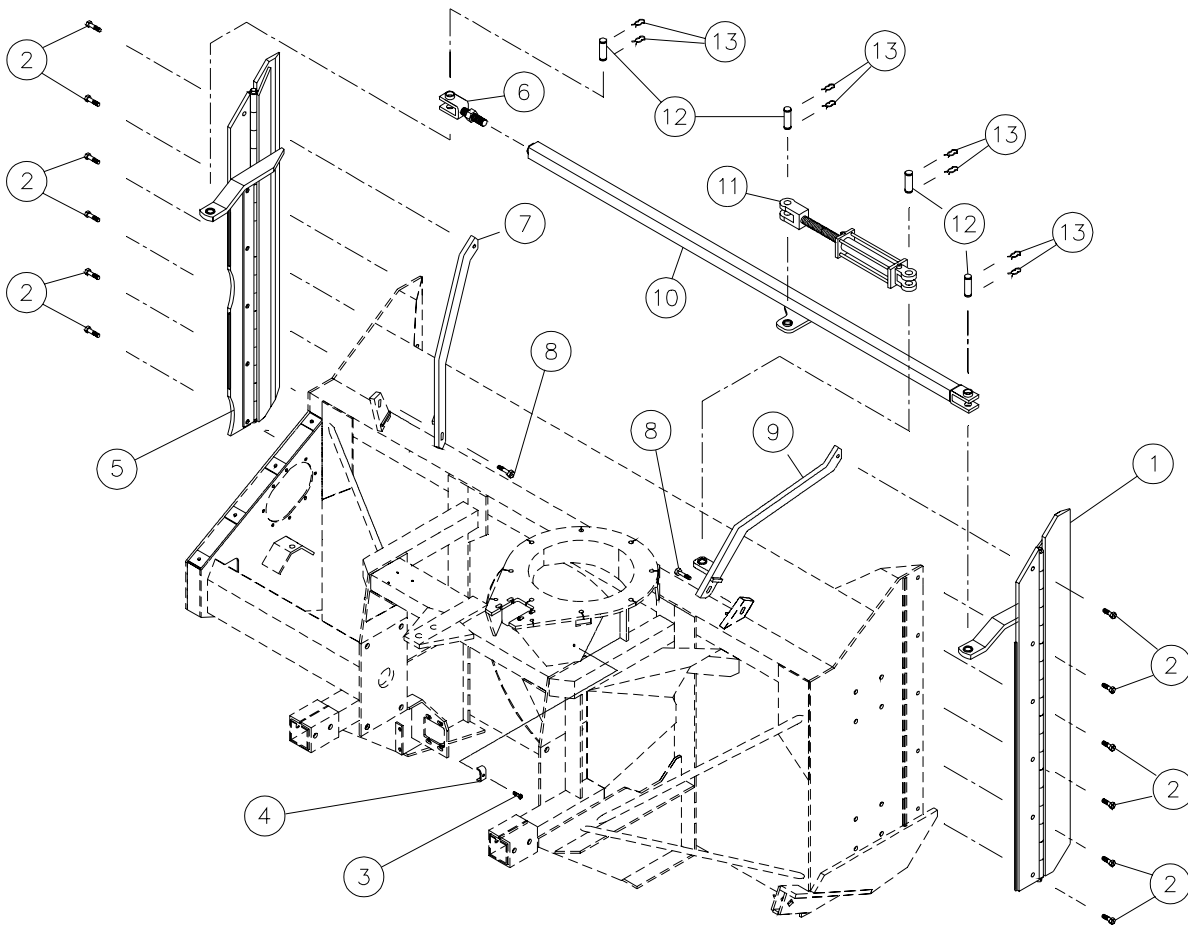
# **HYDRAULIC TELESCOPIC CHUTE PCTH-IND**

REF.	PART #	DESCRIPTION	QTY
1	Std.	Bolt ½" NC x 2½ lg + nylon locknut .....	6
2	9415	Connecting rod .....	2
3	110-13461	Upper chute deflector .....	1
4	110-12801	Upper chute deflector pin .....	1
5	Std.	Cotter pin 1/8" x 1" lg .....	5
6	110-12761	Lower chute deflector pin .....	2
7	110-13491	Lower chute deflector .....	1
8	Std.	Grease fitting 1/4" - 28 90° .....	4
9	Std.	Grease fitting 1/4" - 28 straight .....	19
10	110-13721	Rallonge supérieure .....	1
11	110-01121	Tige de support des boyaux de la rallonge supérieure .....	1
12	140-00881	Plaque de fixation des boyaux .....	1
13	Std.	Écrou à blocage de nylon 5/16" NC .....	2
14	20G28	Cylindre 2" x 28" de course .....	1
15	110-13731	Rallonge inférieure .....	1
16	110-04981	Tige de support des boyaux de la rallonge inférieure .....	1
17	140-03651	Hoses mounting plate .....	1
18	140-00481	Hoses mounting plate .....	1
19	9405-6-6	Fitting 3/8" NPT swivel 90 deg. ....	2
20	110-13521	Extension 16" .....	1
21	Std.	Bolt 5/8" NC x 2" lg + nylon locknut .....	2
22	110-12381	Ajustable stanchion for deflector cylinder .....	1
23	Std.	Bolt 7/16" NC x 3" lg + nylon locknut .....	2
24	Std.	Bolt 1/2" NC x 3" lg + nylon locknut & 2 flat washer .....	8
25	110-12351	Retaining bracket .....	2
26	190-03381	U-shaod UHMW +/- 16" i.d. ....	1
27	160-06221	Aluminium - bronze bushing 1 1/2" d.e. x 1" d.i. x 1" lg .....	2
28	160-06391	Tube 3/4" o.d. x 1/2" i.d. x 1 5/16" lg .....	4
29	190-03531	Cylinder 25TR08 modified .....	1
30	110-12401	Pin for cylinder 25TR08 .....	2
31	Std.	Bolt 1/4" NC x 3/4" lg + lock washer .....	2
32	D6005-1	Pin for cylinder 1" x 3 1/8" lg .....	2
33	Std.	Hair pin 7/8" .....	4



# LATERAL HYDRAULIC BLADES

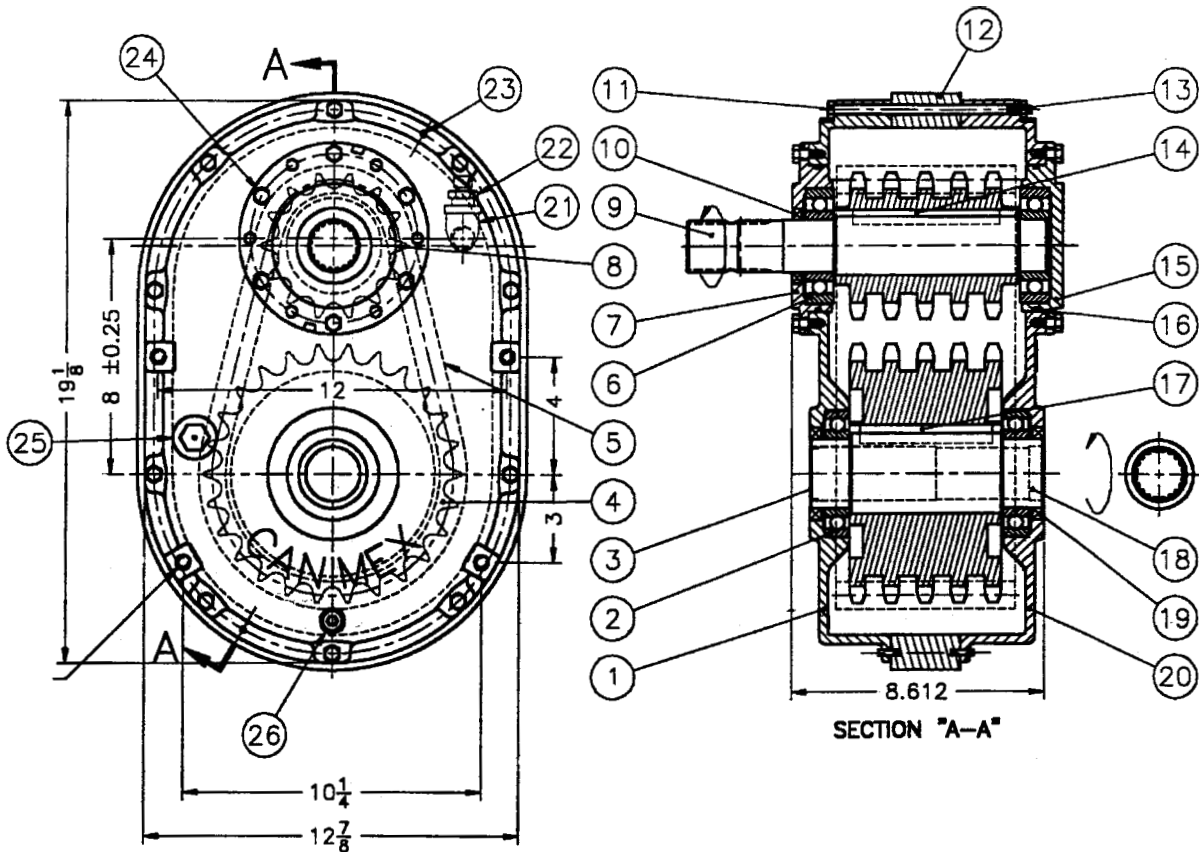
170-02121



REF.	PART #	DESCRIPTION	QTY
1	110-14441	Sharpened lateral blade (right side) .....	1
2	Std.	Plow bolt 1/2" NC x 2" lg + nut & lock washer .....	12
3	Std.	Bolt 5/16" NC x 1 1/2" lg .....	1
4	140-00481	Hose clamp .....	1
5	110-14451	Sharpened lateral blade (left side) .....	1
6	110-14121	Main hydraulique ajustable + écrou 1-14 NF" .....	1
7	110-14161	Left lateral blade strengthener .....	1
8	Std.	Bolt 1/2" NC x 2 1/2" lg + nylon locknut & flat washer .....	2
9	110-14151	Right lateral blade strengthener .....	1
10	110-14131	Connecting tube .....	1
11	25TR08	Cylinder 2.5" x 8" stroke .....	1
12	D6005-1	Pin for cylinder 1" x 3 1/8" lg .....	4
13	Std.	Hair pin 7/8" .....	8

**10**

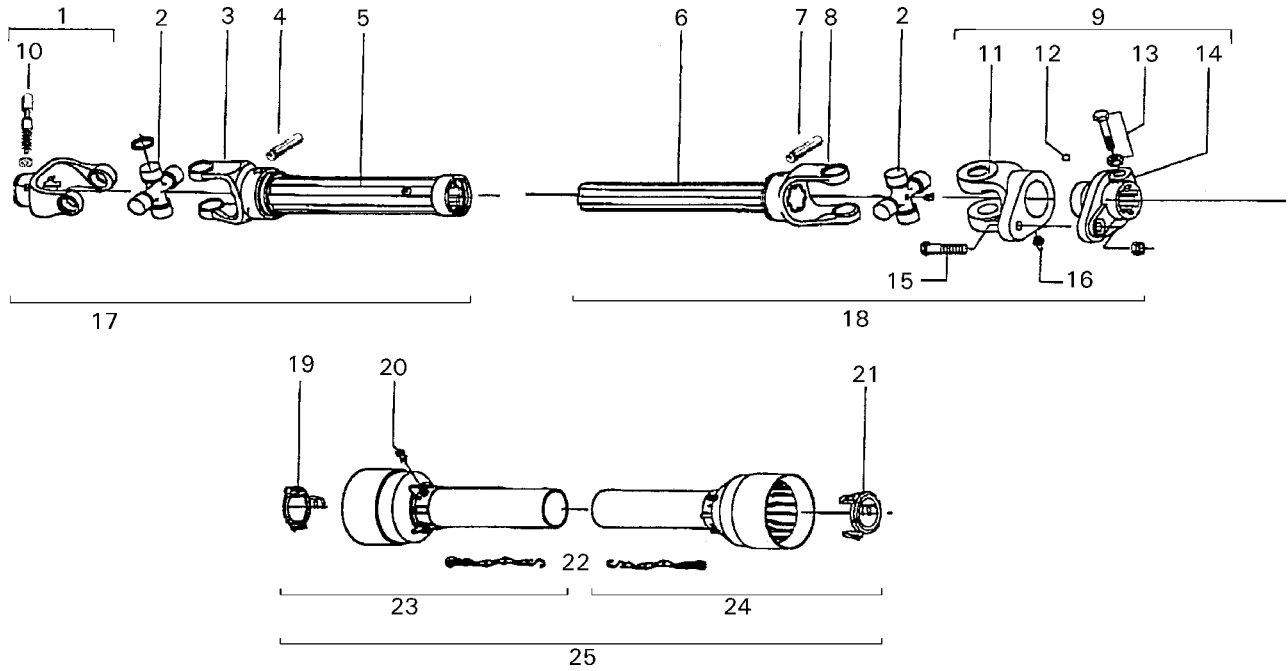
# REDUCTION GEAR BOX # 9609



REÉF.	PART #	DESCRIPTION	QTY
1	9546	Casing with plug .....	1
2	6212-RS	Bearing 6212 .....	2
3	9547	Seal cover (47 x 7) .....	1
4	9610	Sprocket 80-5A26 .....	1
5	9611	Chain 80-5 x 36" lg .....	1
6	6309-RS	Bearing 6309 .....	2
7	9550	Input cover with hole .....	1
8	9612	Sprocket 80-5C14 .....	1
9	9613	Input shaft 1 3/4"-20 splines .....	1
10	9553	Oil seal (45 x 65 x 8) .....	1
11	Std.	Bolt 5/16"-18 UNC x 7 .....	10
12	9614	Spacer .....	1
13	Std.	Nut 5/16"-8 UNC & lock washer .....	10
14	9615	Key 1/2" x 5 .....	1
15	9556	Input cover w/o hole .....	1
16	9557	O-ring AS-248 .....	2
17	9616	Key 5/8" x 4 1/2" .....	1
18	9617	Output shaft 1 3/4"-20 splines .....	1
19	9560	Oil seal (60 x 80 x 10) TC double lips .....	2
20	9561	Casing w/o plug .....	1
21	9618	Elbow 1/2" 90 deg. ....	1
22	9563	Air vent 1/2" NPT .....	1
23	9562	Slotted spring pin 3/16" x 3/4" .....	2
24	Std.	Bolt 5/16" NC x 3/4" lg & lock washer .....	12
25	9564	Sight glass 3/4" NPT .....	1
26	9565	Drain plug 1/2" NPT .....	1

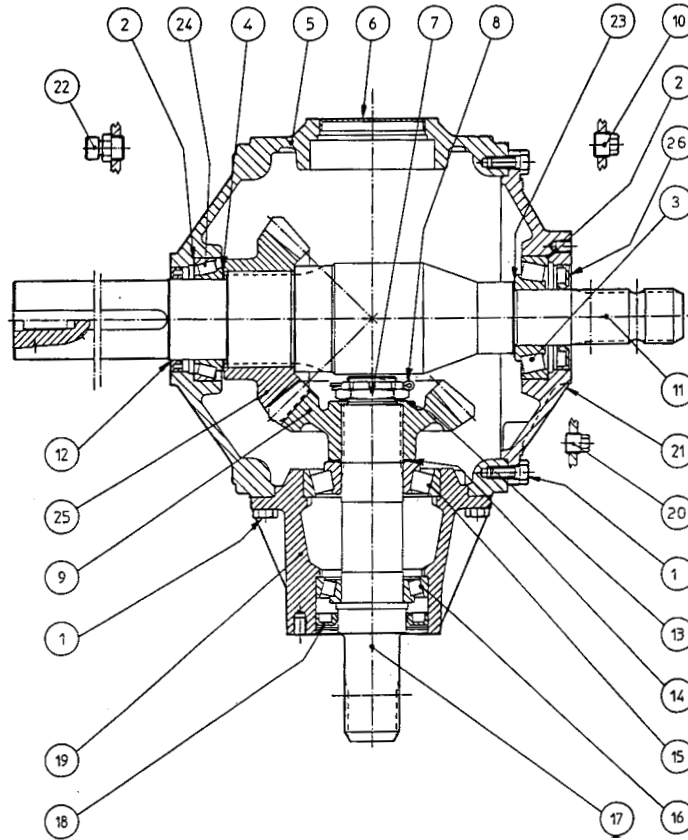
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# P.T.O. SHAFT # 9598 & # 9599



REF.	PART #	DESCRIPTION	QTY
			9598 9599
1	9481	Yoke with hole 1 3/8" - 6 splines with lock yoke .....	1 -
1	9482	Yoke with hole 1 3/8" - 21 splines with lock yoke .....	- 1
2	9477	U-joint .....	2 2
3	9600	Yoke for outer tube .....	1 1
4	9210	Stopper for tube .....	1 1
5	9601	Outer tube .....	1 1
6	9602	Inner tube .....	1 1
7	9210	Stopper for tube .....	1 1
8	9603	Yoke for inner tube .....	1 1
9	9476	Safety shear yoke .....	1 1
10	8068-E	Yoke stopper .....	2 2
11	9487	Yoke and shearplate M12 x 65 .....	1 1
12	9205	Ball 5/16" dia. ....	24 24
13	9461	Bolt + nut M12x1.25x75 .....	2 2
14	9486	Adaptor .....	1 1
15	9207	Bolt + nut M12x65 .....	1 1
16	8071	Grease fitting .....	1 1
17	9607	P.T.O. section, outer part, without protector .....	1 1
18	9608	P.T.O. section, inner part, without protector .....	1 1
19	9460	Bearing ring .....	1 1
20	8109	Stopper .....	6 6
21	9459	Bearing ring .....	1 1
22	8308	Safety chain .....	2 2
23	9220	Outer shield .....	1 1
24	9221	Inner shield .....	1 1
25	9222	Complete shield .....	1 1

# GEAR BOX # 9597 (T301A)

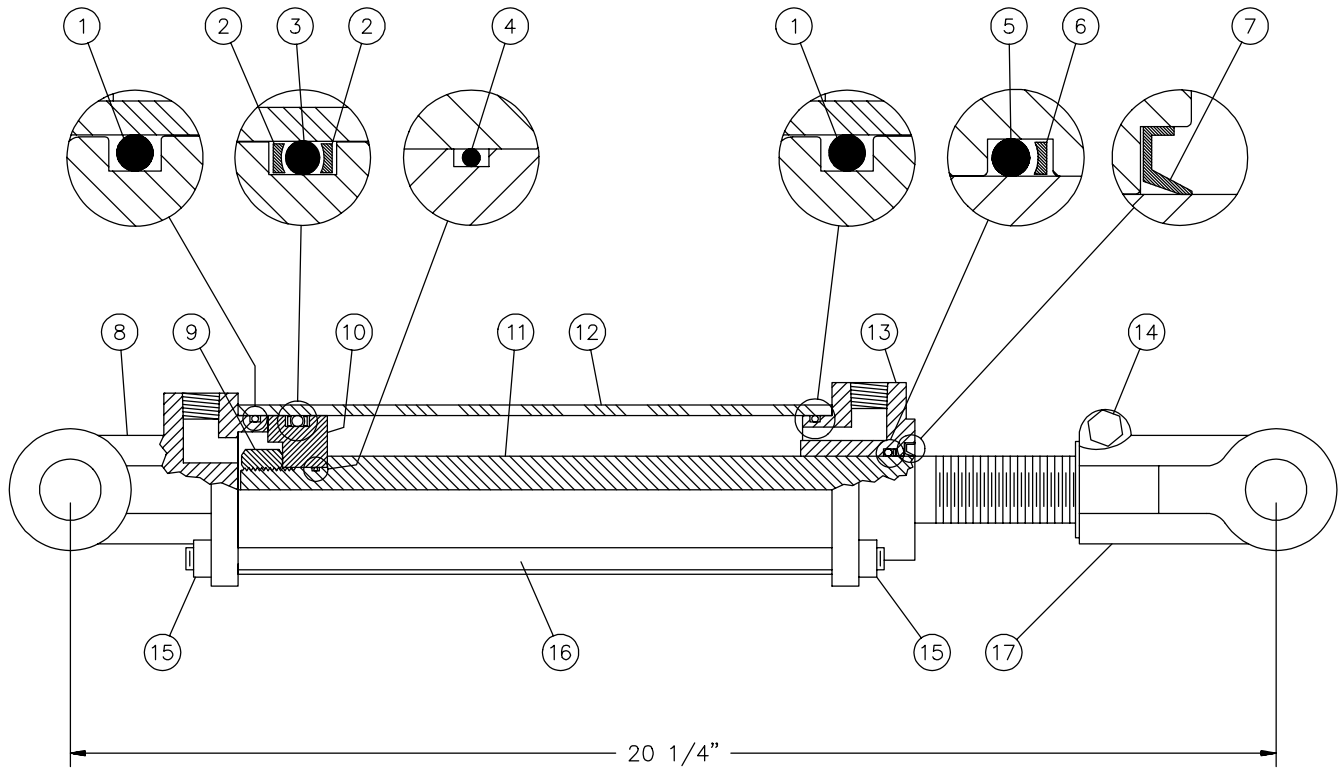


REF.	PART #	DESCRIPTION	QTY
1	9576	Bolt M10 x 25 8,8 .....	18
2	9577	Shim .....	2
3	30309-A	Bearing 30309 .....	1
4	9578	Shim .....	1
5	9579	Casing .....	1
6	9580	Cap .....	1
7	9581	Nut M40 x 1.5 .....	1
8	9582	Cotter pin B4 x 60 .....	1
9	9583	Gear Z20 M7,8 .....	1
10	9584	Plug 1/2" gas .....	1
11	9585	Shaft .....	1
12	9586	Oil seal 65x85x10 .....	1
13	9587	Shim 40.3 x 1.0 .....	1
14	9588	Shim 70.3 .....	1
15	30310-A	Bearing 30310 .....	1
16	30210-A	Bearing 30210 .....	1
17	9589	Shaft 1 3/4" Z20 .....	1
18	9590	Oil seal 55x90x10 .....	1
19	9591	Extension .....	1
20	8064	Plug 3/8" gas .....	1
21	9592	Cover .....	1
22	9593	Oil filler plug 1/2G .....	1
23	9594	Shim 65.3 .....	1
24	32013X	Bearing 32013 x .....	1
25	9595	Gear Z20 M7.8 .....	1
26	9596	Oil seal 45x85x10 .....	1

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# CYLINDER 25TR08

15050

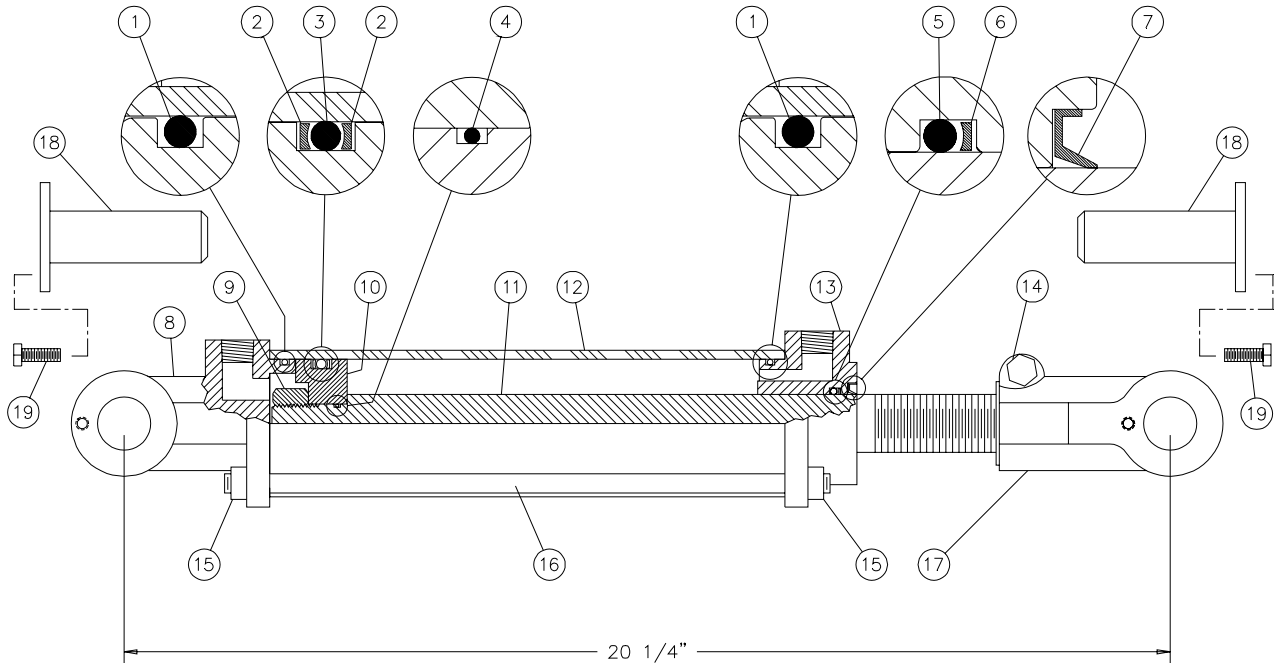


REF.	PART #	DESCRIPTION	QTY
1	See RK25TR	O-ring 1/8" x 2 1/4" x 2 1/2" .....	2
2	See RK25TR	Back-up 2 1/2" o.d. x 3/16 ø .....	2
3	See RK25TR	O-ring 3/16" x 2 1/8" x 2 1/2" .....	1
4	See RK25TR	O-ring 1/16" x 5/8" x 3/4" .....	1
5	See RK25TR	O-ring 1/8" x 1 1/8" x 1 3/8" .....	1
6	See RK25TR	Back-up 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 tube 2 1/2") .....	1
9	Std.	Nut 3/4" NF .....	1
10	4924-31	Piston 2 1/2" ø .....	1
11	492028	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	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 .....	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 # 190-03531 (25TR08 modified)

170-02381

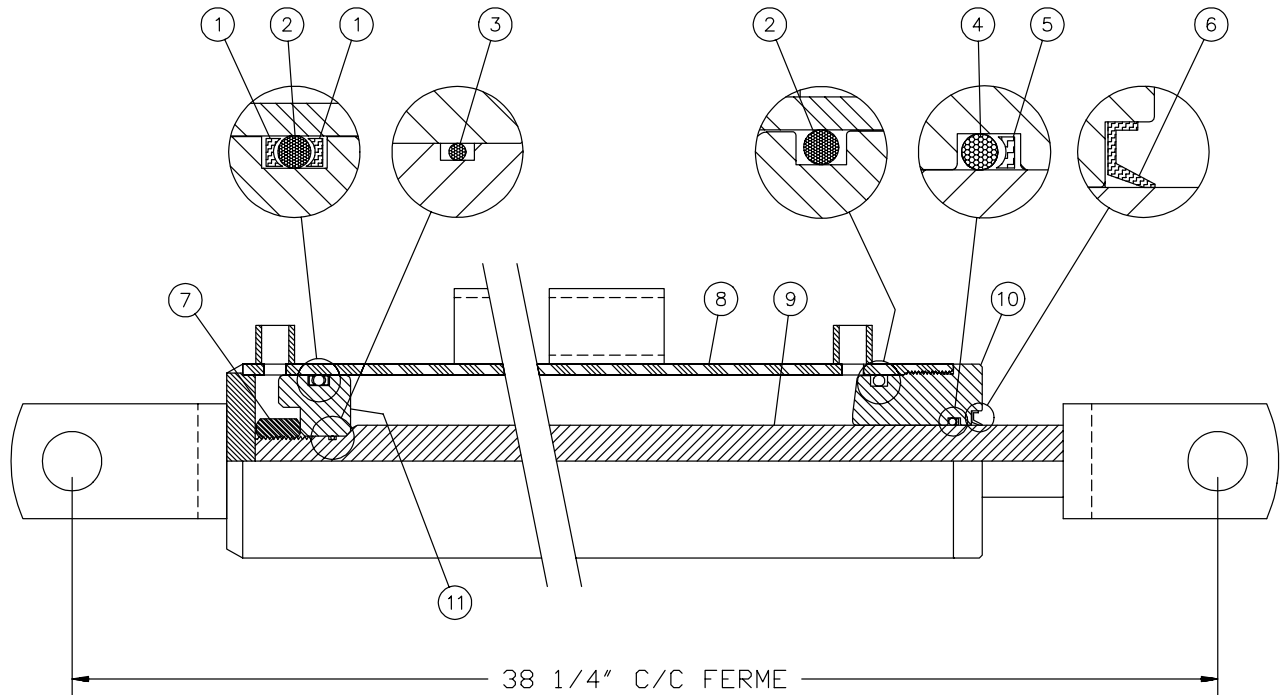


REF.	PART #	DESCRIPTION	QTY
1	See RK25TR	O-ring 1/8" x 2 1/4" x 2 1/2" .....	2
2	See RK25TR	Back-up 2 1/2" o.d. x 3/16 ø .....	2
3	See RK25TR	O-ring 3/16" x 2 1/8" x 2 1/2" .....	1
4	See RK25TR	O-ring 1/16" x 5/8" x 3/4" .....	1
5	See RK25TR	O-ring 1/8" x 1 1/8" x 1 3/8" .....	1
6	See RK25TR	Back-up 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	190-03533	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	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	Std.	Bolt 3/8" NC x 2 1/4" lg + nut .....	1
15	Std.	Nut 3/8" NC .....	8
16	Std.	Threaded rod 3/8" NC x 12" lg .....	4
17	190-03532	Yoke (for 1 1/8" rod) .....	1
18	110-12401	Pin for cylinder 25TR08 .....	2
19	Std.	Bolt 1/4" NC x 3/4" lg + lock washer .....	2
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 20G28

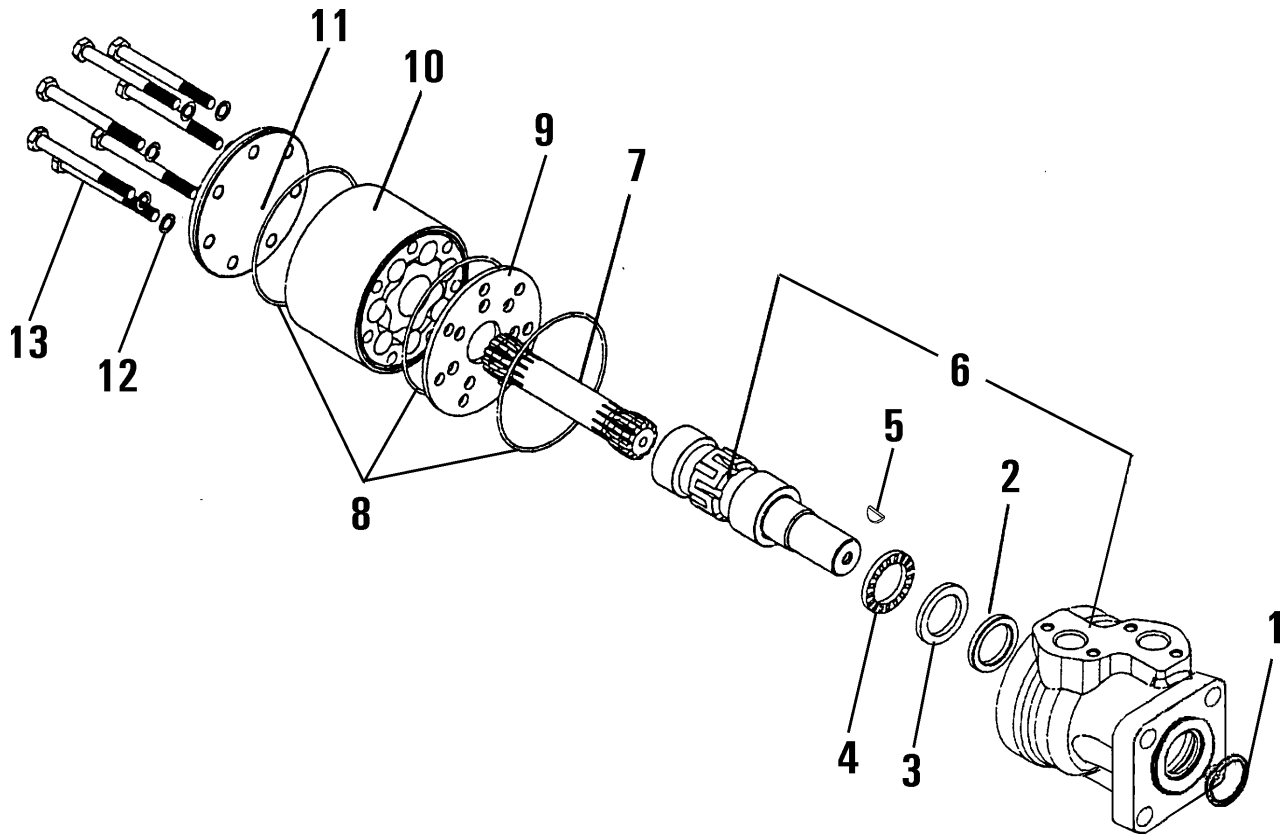
170-00671



REF.	PART #	DESCRIPTION	QTY
1	BU-326	Back-up 3/16" x 1 5/8" x 2" .....	2
2	OR-326	O-ring 3/16" x 1 5/8" x 2" .....	2
3	OR-016	O-ring 1/16" x 5/8" x 3/4" .....	1
4	OR-216	O-ring 1/8" x 1 1/8" x 1 3/8" .....	1
5	BU-216	Back-up ring 1/8" x 1 1/8" x 1 3/8" .....	1
6	CR11050	Wiper 1/8" x 1 1/8" x 1 3/8" .....	1
7	Std.	Nut 3/4" NF .....	1
8	110-04491	Cylinder body 2" dia. ....	1
9	110-04501	Piston rod 1 1/4" dia. ....	1
10	D-6021	Head 2" dia. ....	1
11	D-6020	Piston 2" dia. ....	1
NI*	9488	Repair kit (includes # 1, 2, 3, 4, 5 & 6) .....	1

\*NI = NOT ILLUSTRATED

# HYDRAULIC MOTOR # DH 315










REF.	CODE #	DESCRIPTION	QTY
			DH 315
1	633B0370	Dust seal ring .....	1
2	633B0414	Shaft seal BAKDH ring .....	1
3	151-5708	Bearing race .....	1
4	151-5709	Axial needle bearing .....	1
5	682L9054	Woodruff key .....	1
6	-----	Housing and output shaft .....	not sold
7	151-2650	Cardan shaft .....	1
8	633B1173	O-ring .....	3
9	151-1713	Distributor plate .....	1
10	151-1186	Gear wheel set .....	1
11	151-2673	End cover .....	1
12	684X0076	Washer .....	6
13	681X0186	Screw M8 x 1.25mm Din 931 x 70mm lg .....	6
NI*	151-1286	Set of seals .....	1

\*NI = NOT ILLUSTRATED








# TORQUE CHART

## TORQUE SPECIFICATION TABLE

Thread UNC and UNF		Grade 2 				Grade 5   				Grade 8*   			
Bolt size		Torque				Torque				Torque			
Inches	mm	Pound feet min.	max.	Newton meters min.	max.	Pound feet min.	max.	Newton meters min.	max.	Pound feet min.	max.	Newton meters 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 min.	max.	Newton meters min.	max.	Pound feet min.	max.	Newton meters min.	max.	Pound feet min.	max.	Newton meters 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.

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.



Ce manuel est aussi disponible en français.  
Veuillez téléphoner.



**INNOVATION - EXCELLENCE**

**LES MACHINERIES PRONOVOST INC.**

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