



**OPERATOR'S / PARTS
MANUAL**



Industrial Snowblower
Model
P-1022TRC-180M

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INTRODUCTION

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.

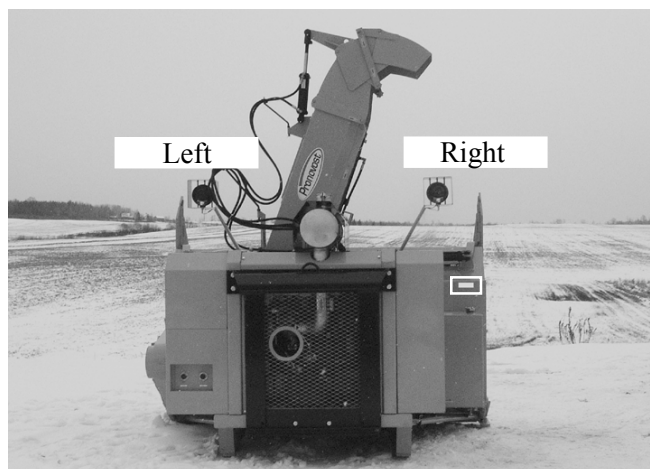


Figure 1

Snowblower model **P-1022TRC-180M**

Serial number: _____ 

Motor Perkins model: _____ 

Serial number: _____ 

Date of purchase: _____ 

SAFETY

GENERAL SAFETY

WHEN YOU SEE THIS SYMBOL

2



ATTENTION!

**BE ALERT
YOUR SAFETY IS INVOLVED**

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

- 1) Careful operation is the best assurance against accidents. Carefully read this manual and follow all recommendations before operating your Snowblower. It is the owner's responsibility to make sure that anyone who will operate the Snowblower will read this manual before operating the equipment.
- 2) Familiarize yourself with all controls and always be ready to stop the Snowblower quickly in case of emergency.
- 3) Never let a child operate the Snowblower.
- 4) Do not modify the Snowblower. Any non authorized modification may affect the efficiency and/or safety of the equipment 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 35.

- 7) Avoid wearing loose fitting clothing when working with the Snowblower. These could get entangled in moving parts of the equipment and cause accidents.
- 8) Prolonged exposure to noise may hamper hearing. Protect yourself by wearing adequate protection devices.
- 9) Hydraulic fluids under pressure can damage your skin. Do not use your hands to locate a leak.
- 10) Before the beginning of the snow season, inspect all areas where the Snowblower will be used and remove any object which may cause an accident and/or damage the equipment.
- 11) Never operate your Snowblower in poor visibility or without proper lighting conditions.
- 12) Keep motor clean and exempt of dust and debris.
- 13) Do not store, spill or use fuel near a flame, a hot engine or stove.

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) Always refuel equipment when outside and away from flames or sparks.
- 3) Do not operate an engine in a confined or non ventilated area.
- 4) 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.

SAFETY (cont'd)

- 5) Wear adequate clothing when working in cold or windy conditions.
- 6) Adjust skid shoes for proper ground clearance of scraper blade, especially in rough terrain or soft ground conditions.
- 7) Before operating, make sure the P.T.O. is properly installed and secured.
- 8) Before starting-up the Snowblower, make sure the auger and drum areas are free of ice.
- 9) Put P.T.O. control in neutral position before starting snowblower engine.
- 10) Do not operate the engine if fuel is spilled. Move equipment away from the spill and avoid any spark until the complete evaporation of the fuel.
- 11) Do not smoke while refueling.
- 12) Keep hands, feet and clothing away from moving parts of the Snowblower. Stay away from the discharge chute.
- 13) Before unplugging the chute, always disengage the P.T.O., stop the engine and relieve all hydraulic pressures.
- 14) Do not operate in excessive inclined conditions. Be careful when turning in slopes.
- 15) Never operate your Snowblower with missing guards or without protective devices in place.
- 16) Do not operate your Snowblower near buildings, windows or other vehicles without prior and proper adjustment of the chute deflector.
- 17) Never aim discharge chute towards people or animals. This may cause serious injuries.
- 18) Always reduce operating speed in slippery conditions.
- 19) Be careful when backing-up, make sure you have good visibility.
- 20) Always be on the lookout for objects which may enter the snowblower.
- 21) 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.
- 22) 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 carrying vehicle'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) The recommended road speed should be such as to maintain full control over steering and braking.
- 5) Be careful while backing up, make sure you have good visibility.

SAFETY (cont'd)

2

SAFETY IN STORAGE

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

DECALS

SAFETY DECALS

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

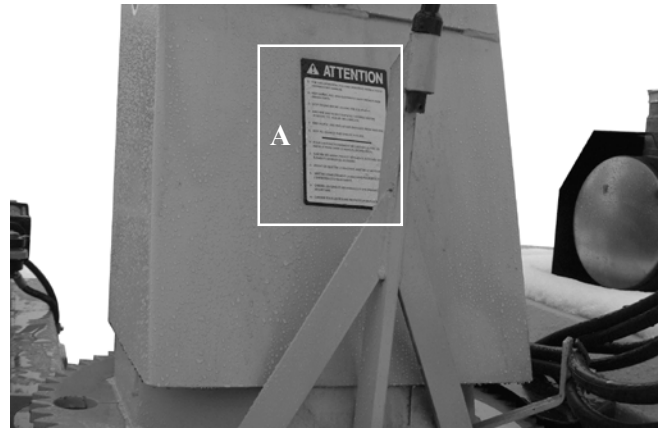


Figure 3

3

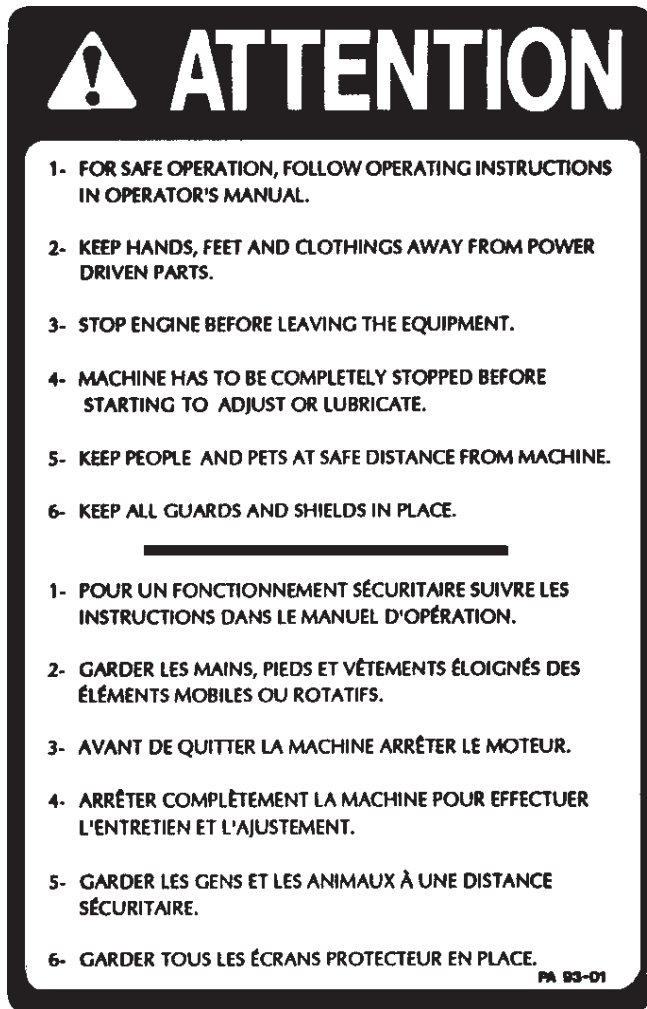


Figure 2
Decal A

Part no.: A102



Figure 4
Decal B

Part no.: A101



Figure 5

DECALS (cont'd)



Figure 6
Decal C

Part no.: A103

3

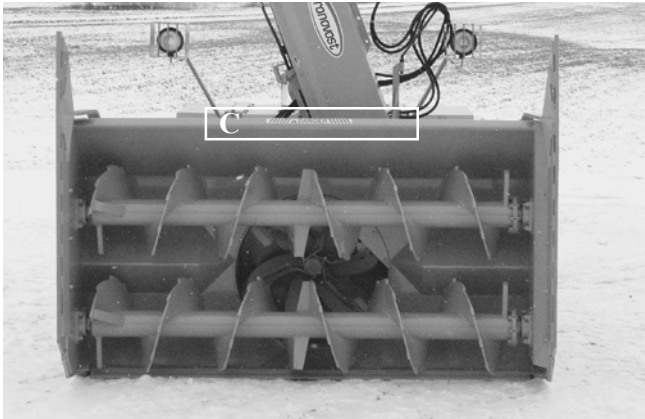


Figure 7

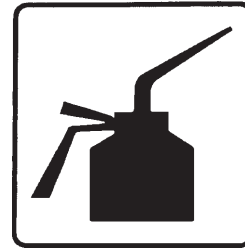


Figure 9
Part no.: A105



Figure 10
Part no.: A106

MAINTENANCE DECALS

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



Figure 8
Part no.: A104

STARTING-UP



Figure 11

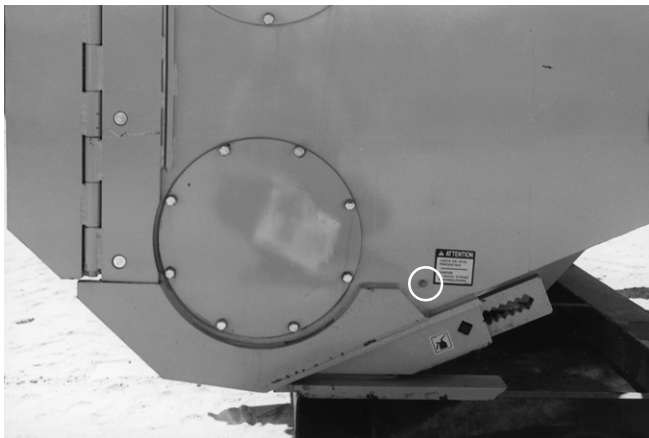


Figure 12

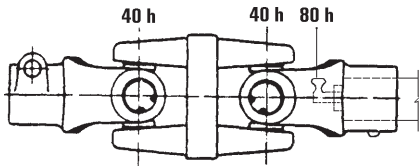
START-UP PROCEDURES

- 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 35.
- 5) Adjust skid shoes according to ground conditions (Fig. 11).
- 6) Check oil level in chaincase. Adjust to the oil level plug. Use S.A.E. W90 gear box oil (Fig. 12).

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MAINTENANCE

- 1) Wipe off all grease fittings with a clean cloth before adding grease in order to avoid injecting dirt and sand.
- 2) Repair or replace damaged grease fittings.
- 3) Lubricate all grease fittings every 10 hours of operation
ATTENTION: It is very important to grease clutch bearing after **every 10 hrs of operation**. You must insert small quantities at time.
- 4) Lubricate P.T.O. shaft as indicated below:
- 7) Check for tightness of bearing collars every 50 hours of operation and adjust if necessary.
- 8) Change gearbox and chaincase oil once a year. Use gear box oil S.A.E. W90 rated API, class GL-5.
- 9) Check all nuts and bolts once a year. If necessary use torque chart on page 35.
- 10) Always use grade 5 shear bolts.



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

- 5) Check oil level in gear box and chaincase once a month. Adjust to the oil level plug (Fig. 12 p. 11).
- 6) Check tension of auger drive chain every 50 hours of operation and adjust if necessary.

STORAGE

- 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.

SPECIFICATIONS

Performance	Up to 2200 tons per hour
Overall height with telescopic chute	123" retracted / 149" extended - Hydraulic cylinder operated
Height of housing	56"
Height of lateral blades	73" - Hydraulic cylinder operated
Working width	102"
Overall length	94"
Impeller diameter	34"
Depth of impeller housing	15"
Number of impeller blades	6 X removable 3/8" hardened steel
Shear bolts	1 on the impeller drive and 1 on the auger drive
Diameter of impeller shaft	2 1/2"
Impeller rotation	540 RPM at 2500 engine RPM
Number of augers	2 x 20" full flight spiked augers with welded hardened steel teeth
Auger bearings	2" bearing in ductile cast iron flange
Drive chain	RENOLD no. 100HD chain in oil bath
Replaceable cutting edge	6 1/2" x 5/8" sharpened hardened steel
Adjustable skid shoes	Hardened steel
Drum rotation	Hydraulic driven, gear operated Total rotation 125 degrees. Projection angle: 35 degrees left, 20 degrees right.
Chute rotation	Hydraulic driven, gear operated
Snowblower housing	Sides 3/8"
	Back wall 3/16"
	Impeller housing 3/8" hardened steel
Weight	7,050 pounds approx.

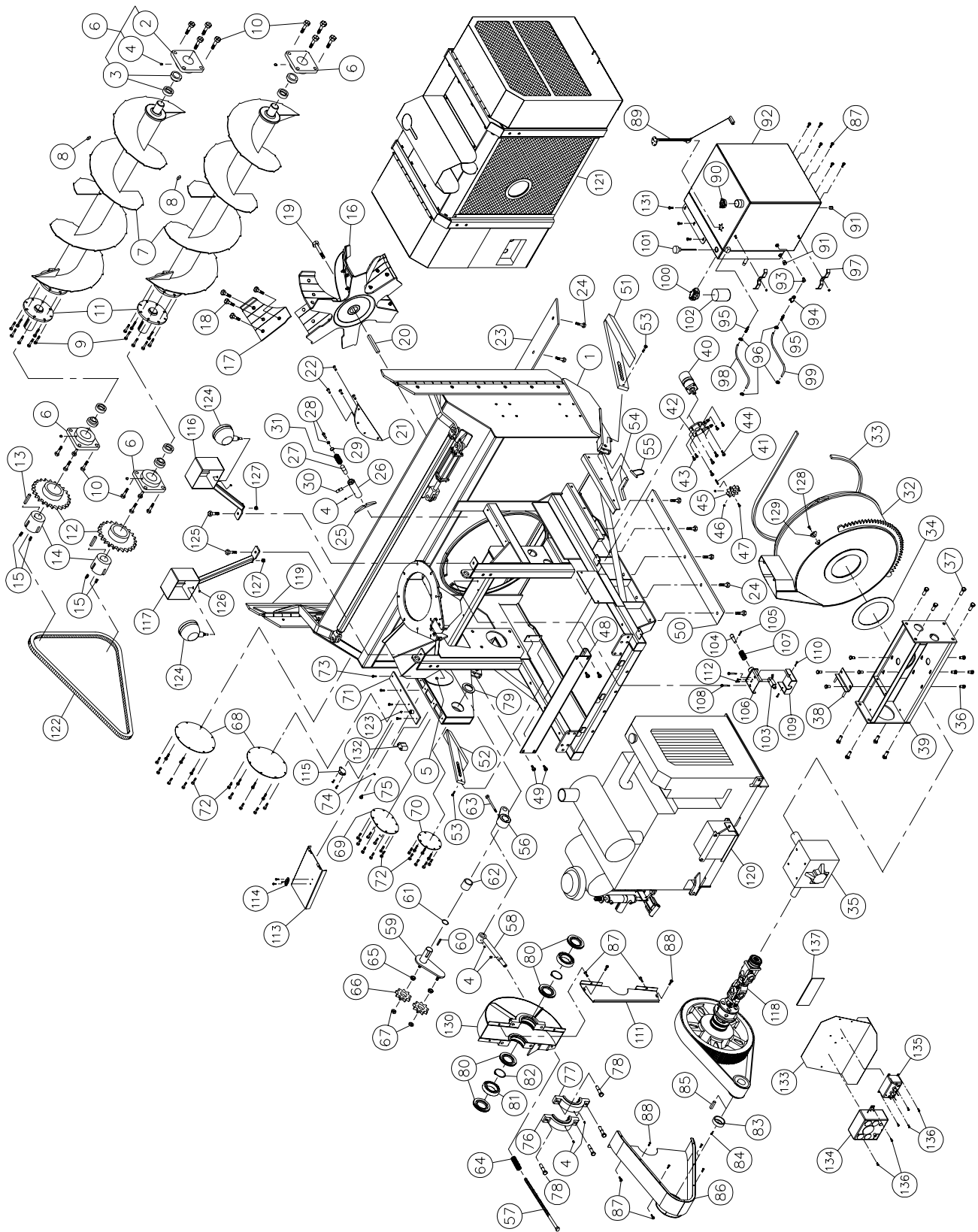
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Engine	Perkins 6 cylinder turbo diesel Mod. 1006-60TW 180 HP at 2500 RPM
Block heater	1,500 W
Oil pump	VIKERS 5 GPM installed on engine
Security system	Engine shuts down automatically at critical oil temperature or pressure
Engine instruments	In cab controls including key start, engine speed control, water temperature gauge, oil pressure gauge, tachometer, engine hour meter, voltmeter and fuel gauge
Snowblower controls	In cab controls for all hydraulic functions
Fuel tank	250 L. (55 Imp. gal.) (autonomy 8 hours approx.)
Oil tank	25 L. (5.5 Imp. gal)
Snowblower drive	Belt – Gates Poly chain (workhorse)
Drive system	PTO techno drive # BD290/150R

Design and specifications subject to change without notice.

INDUSTRIAL SNOWBLOWER P-1022TRC-180M

170-02861



INDUSTRIAL SNOWBLOWER P-1022TRC-180M

REF.	PART #	DESCRIPTION	QTY
1	120-04091	Frame P-1022TRC-180M	1
2	FS211	Ductile flange 4 holes	4
3	HC211-32	Bearing 2" with eccentric collar	4
4	Std.	Grease fitting 1/4"-28 straight	9
5	Std.	Grease fitting 1/4"-28 90°	1
6	HCFS211-32	Bearing 2" + flange + 1 grease fitting	4
7	110-13281	Full flight spiked auger	2
8	130-13861	Tooth (welded on the auger)	108
9	300-40325	Bolt 1/2" NC x 1 3/4" lg + lock washer & nut	16
10	300-44340	Bolt 5/8" NC x 2" lg + nylon locknut	16
11	110-12591	Auger hub	2
12	110-13321	Sprocket for auger 100A24 x 1T 5.125 + female adaptor "taper-lock"	2
13	140-09411	Key (sprocket for auger)	2
14	9620	Male adaptor "taper-lock"	2
15	323-44280	Hexagonal socket set screw 5/8" x 1-1/4 lg	4
16	110-16582	Impeller 34" diameter	1
17	130-25291	Impeller blade	6
18	319-40325	Plow bolt 1/2" NC x 1 3/4" lg + lock washer & nut	24
19	300-44310	Boulon 5/8" NC x 1 1/2" lg + lock washer	1
20	140-08551	Key for impeller	1
21	130-05911	Deflector	1
22	300-38280	Bolt 7/16" NC x 1 1/4" lg + nylon locknut	4
23	140-09461	Carbon steel tapered scraper blade, not reversible 5/8" x 6" x 94 1/2 lg.	1
24	319-40340	Plow bolt 1/2" NC x 2" lg + lock washer & nut	20
25	130-08441	Stop block for drum lock (welded on drum)	1
26	160-03952	Body - drum lock (welded on frame)	1
27	150-01542	Latch pin - drum lock	1
28	300-38330	Bolt 7/16" NC x 1 3/4" lg (full length thread) + lock nut	1
29	130-08471	Washer	1
30	150-02561	Pin	1
31	9473	Compression spring	1
32	110-16561	Rotary drum 34" dia.	1
33	190-03411	U-shaped UHMW 3/8" x 7/8" x 111 1/8" lg.	1
34	130-14641	UHMW flat washer 3/16" x 10" i.d. x 14" o.d.	1
35	9645	Gear box	1
36	309-40030	Bolt M16 x 2 x 30mm + lock washer 5/8" + 6 flat washer	8
37	300-46340	Bolt 3/4" NC x 2" lg + nylon locknut	8
38	110-12711	Adjustment plate for gear box + 4 nuts 1/2" NC	1
39	110-19011	Gear box support	1
40	DH315	Hydraulic motor	1
41	682L9054	Key for hydraulic motor	1
42	110-18441	Orbit motor support + 4 nuts 7/16" NC	1
43	300-36250	Bolt 3/8" NC x 1" lg + lock washer	4
44	300-38310	Bolt 7/16" NC x 1 1/2" lg + flat washer + nylon locknut	4
45	110-04721	Sprocket 9 teeth	1
46	323-36160	Hexagonal socket set screw 3/8" NC x 3/8" lg	2
47	300-32325	Bolt 1/4" NC x 3/4" lg + lock washer	1
48	130-27281	Guard for ring gear segment	1
49	300-40280	Bolt 1/2" NC x 1 1/4" lg + flat washer + nylon locknut	4
50	130-25851	Carbon steel skid shoe 5/8" x 4" x 44" lg	2
51	110-05511	Skid shoe (right side)	1



INDUSTRIAL SNOWBLOWER P-1022TRC-180M

REF.	PART #	DESCRIPTION	QTY
52	110-04811	Skid shoe (left side)	1
53	300-32310	Bolt 1/4" NC x 1 1/2" lg + nylon locknut	2
54	140-03361	Skid shoes lock	2
55	8112	Lock pin 1/4"	2
56	110-17731	Idler (outside part)	1
57	110-17751	Threaded rod for idler adjustment	1
58	110-17761	Threaded tube for idler adjustment	1
59	110-17771	Idler (inside part)	1
60	140-12161	Idler key	1
61	OR-224	O-ring 1/8" x 1 3/4" i.d. x 2" o.d.	1
62	160-08421	Aluminium-bronze bushing 1 3/4" i.d. x 2 1/4" o.d. x 2" lg	1
63	306-40460	Bolt 1/2" NC x 4" lg GR12 + nylon locknut	1
64	9605	Compression spring	1
65	160-02171	Spacer	2
66	9470	Idler sprocket no 100A9 H 3/4	2
67	346-47000	Nylon locknut 3/4" NC thin	2
68	130-12381	Chain guard cover	2
69	130-12402	Idler cover	1
70	130-12391	Chain guard cover	1
71	110-13862	Upper chain guard cover	1
72	300-38220	Bolt 7/16" NC x 3/4" lg + lock washer	32
73	300-38250	Bolt 7/16" NC x 1" lg + lock washer	4
74	190-03551	Copper flat washer 7/16" i.d. x 5/8" o.d. (for oil level plug)	1
75	3159-02	Plug 1/8" NPT	1
76	110-16681	Left bearing flange	1
77	110-19881	Right bearing flange	1
78	300-46430	Bolt 3/4" NC x 3 1/2" lg + nylon locknut	4
79	9670	Oil seal 2" x 2 7/8" x 1/4"	1
80	9671	Oil seal 80mm x 140mm x 13mm	4
81	1216	Bearing 80mm x 140mm x 26mm	2
82	9672	External retaining ring 80mm	2
83	110-19901	Safety lock	1
84	309-38035	Bolt M14-2.0 x 35mm + lock washer	1
85	9673	Key	1
86	110-16881	Removable pulley cover	1
87	300-38250	Bolt 7/16" NC x 1" lg + nylon locknut	10
88	300-36250	Bolt 3/8" NC x 1" lg + flat washer + spring washer	6
89	9653	Fuel gauge	1
90	9654	Fuel tank cap	1
91	3159-08	Hex cap	2
92	110-19271	Fuel and oil reservoir	1
93	99-C	Elbow 90°	1
94	9655	3/8" NPT valve	1
95	125-5C	Hose fitting	2
96	Std.	Hose clamp 5/16"	4
97	140-12701	Hoses support + nylon locknut 5/16"	2
98	190-05451	Fuel hose 104" lg	1
99	190-05461	Fuel hose 80" lg	1
100	32031	Hydraulic oil filter adaptor FSP107-1E DNN	1
101	9656	Oil reservoir cap	1
102	32007	Paper filter K-22001	1

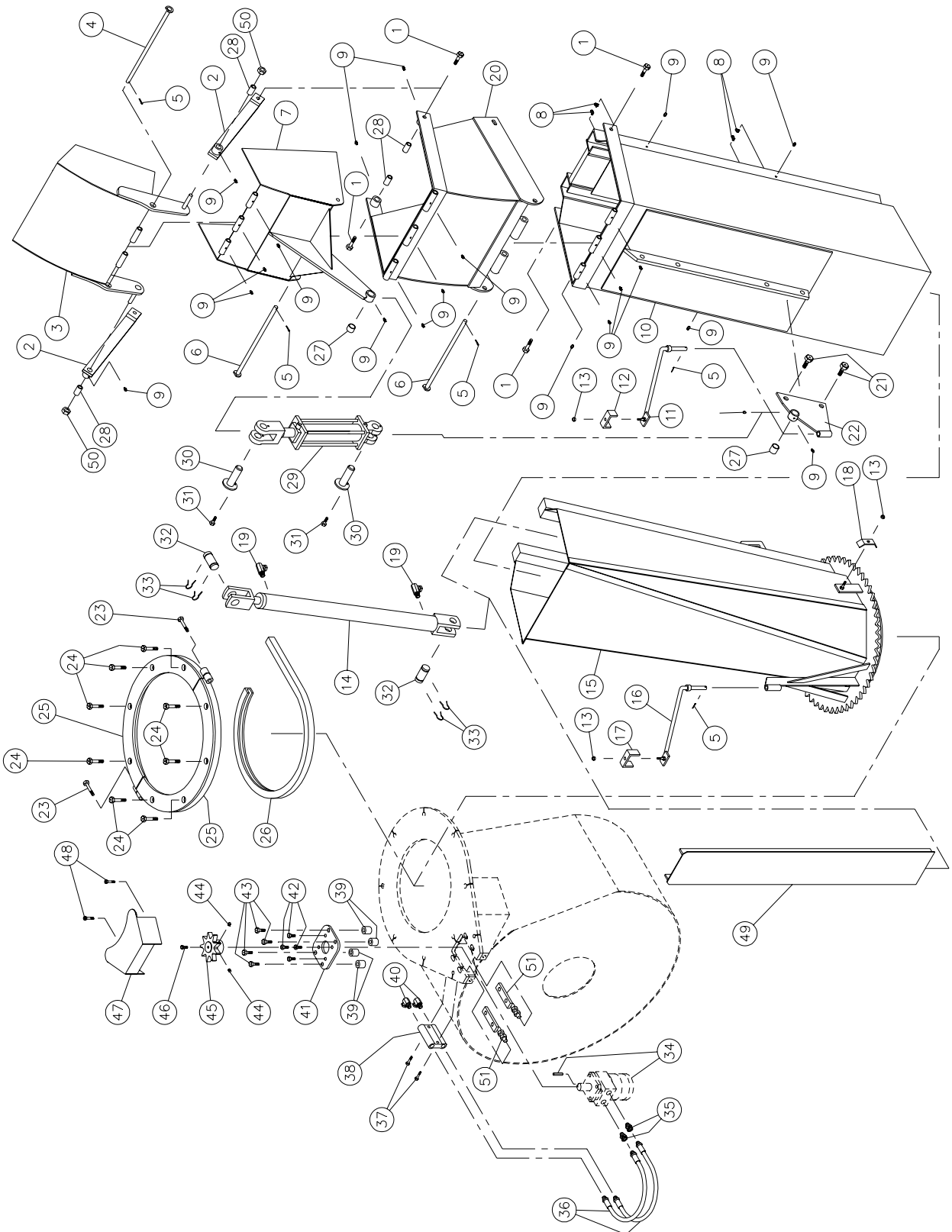
INDUSTRIAL SNOWBLOWER P-1022TRC-180M

REF.	PART #	DESCRIPTION	QTY
103	32254	Limit switch	1
104	150-04731	Limit switch actuator	1
105	Std.	Roll pin 5/32" x 1 1/4" lg	1
106	110-20041	Switch upper cover	1
107	9679	Compression spring	1
108	300-36430	Bolt 3/8" NC x 3 1/2" lg + nylon locknut & flat washer	2
109	110-20051	Switch lower case	1
110	300-32190	Bolt 1/4" NC x 1/2" lg + lock washer	2
111	130-21211	Small belt cover	1
112	322-20311	Flat head machine screw 10-24 x 1 1/2" lg + flat washer + nylon locknut	2
113	110-20161	Drive shaft cover	1
114	9658	Male cover latch	1
115	9659	Female cover latch	1
116	110-16931	Light support (right side)	1
117	110-16932	Light support (left side)	1
118	170-03081	Drive shaft assembly (see details p. 24)	1
119	170-03091	Hydraulic lateral blade assembly (see details p. 21)	1
120	170-03101	Motor assembly (see details p. 22)	1
121	170-03111	Motor cover assembly (see details p. 23)	1
122	190-03452	Chain RENOLD #100 HD x 115" lg. (92 links)	1
122	59-100 HD	Offset link #100 HD	1
122	26A100HD	Connecting link #100 HD	1
123	9619	Vent plug 1/2" NPT	1
124	9674	Working lights	2
125	300-44310	Bolt 5/8" NC x 1 1/2" lg. + nylon locknut	2
126	9675	Rubber grommets 1/4" int. x 3/8" thick	2
127	9676	Rubber grommets 1/2" int. x 3/4" thick	2
128	300-36220	Bolt 3/8" NC x 3/4" lg + spring washer	1
129	110-20061	Drum stopper	1
130	110-16781	Welded pulley cover	1
131	300-38250	Bolt 7/16" NC x 1" lg + flat washer & lock washer	3
132	52070	License plate light	1
133	110-20141	Control box support	1
134	9677	Motor control box	1
135	9678	Accessories control box	1
136	300-32220	Bolt 1/4" NC x 3/4" lg. + nylon locknut	6
137	130-28731	Belt adjustment gauge	1



HYDRAULIC TELESCOPIC CHUTE PCTH-IND-M

170-03131



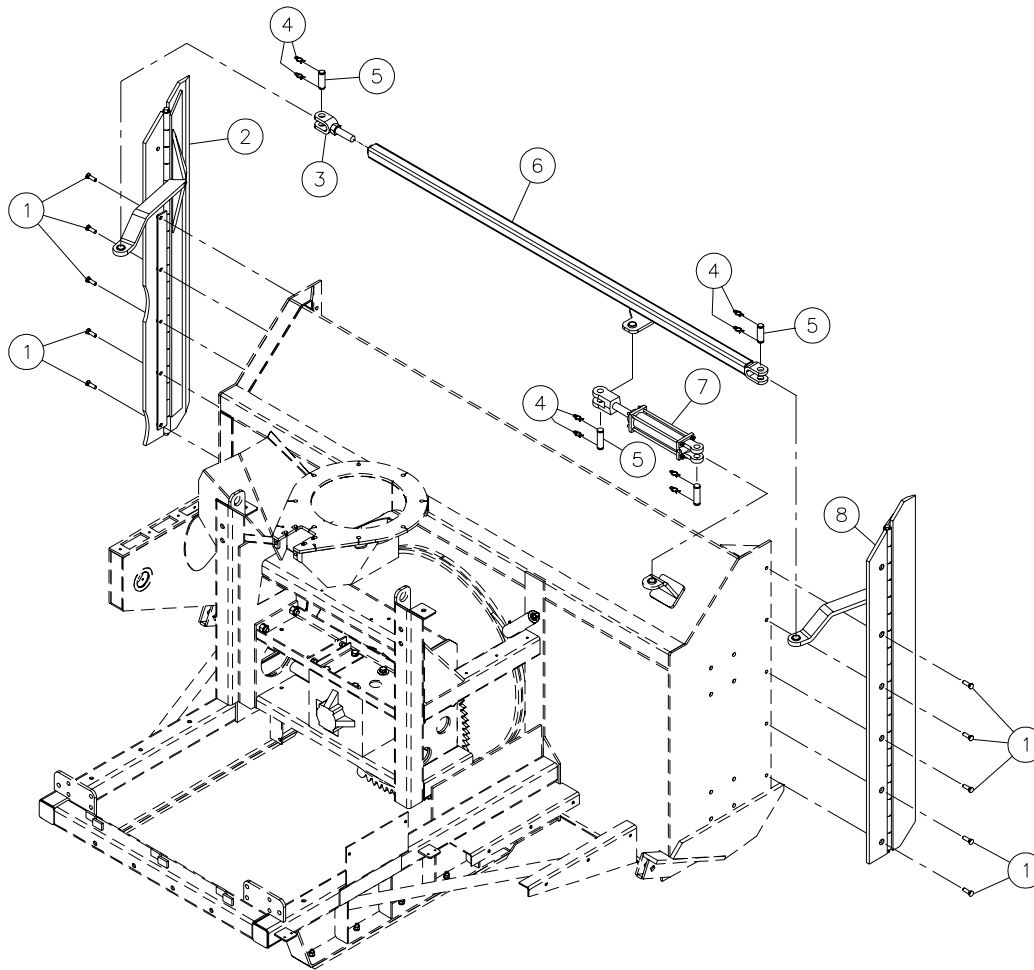
HYDRAULIC TELESCOPIC CHUTE PCTH-IND-M

REF.	PART #	DESCRIPTION	QTY
1	300-40370	Bolt 1/2" NC x 2 1/2" lg + nylon locknut	4
2	110-19161	Connecting rod	2
3	110-13462	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	Upper extension	1
11	110-01121	Mounting support plate for upper extension	1
12	140-00881	Hoses mounting plate	1
13	346-34000	Nylon locknut 5/16" NC	2
14	20G28	Cylinder 2" x 28" stroke	1
15	110-20301	Lower extension	1
16	110-04981	Mounting support plate for lower extension	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	300-44340	Bolt 5/8" NC x 2" lg + nylon locknut	2
22	110-12381	Adjustable stanchion for deflector cylinder	1
23	300-38400	Bolt 7/16" NC x 3" lg + nylon locknut	2
24	300-40400	Bolt 1/2" NC x 3" lg + nylon locknut & 2 flat washer	8
25	110-12351	Retaining bracket	2
26	190-03381	U-shaped 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	300-32220	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
34	DH315	Hydraulic Motor	1
35	9205x8x8	Fitting straight swivel 1/2" NPT	2
36	190-00421	Hose 3/8" x 16" lg + 2 fittings 6U108	2
37	300-34370	Bolt 5/16" NC x 2 1/2" lg + nylon locknut	2
38	DXV50	Cushion valve	1
39	160-01331	Spacer 1/2" i.d. x 1" o.d. x 59/64" lg	4
40	9405x8x8	Fitting 90 deg. swivel	2
41	130-08152	Orbit motor mounting plate	1
42	300-36250	Bolt 3/8" NC x 1" lg + lock washer	4
43	300-38370	Bolt 7/16" NC x 2 1/2" lg + nylon locknut & flat washer	4
44	323-36160	Hexagonal socket head set screw 3/8" NC x 3/8" lg	2
45	110-04721	Sprocket (9 teeth)	1
46	300-32310	Bolt 1/4" NC x 1 1/2" lg + lock washer	1
47	130-14281	Guard	1
48	300-34280	Bolt 5/16" NC x 1 1/4" lg + nylon locknut	2
49	110-18301	Door for chute	1
50	346-40000	Nylon locknut 1/2"	2
51	110-19671	Adjustment rod for hydraulic motor + 2 nuts 1/2" NC	2

8

LATERAL HYDRAULIC BLADES

170-03091

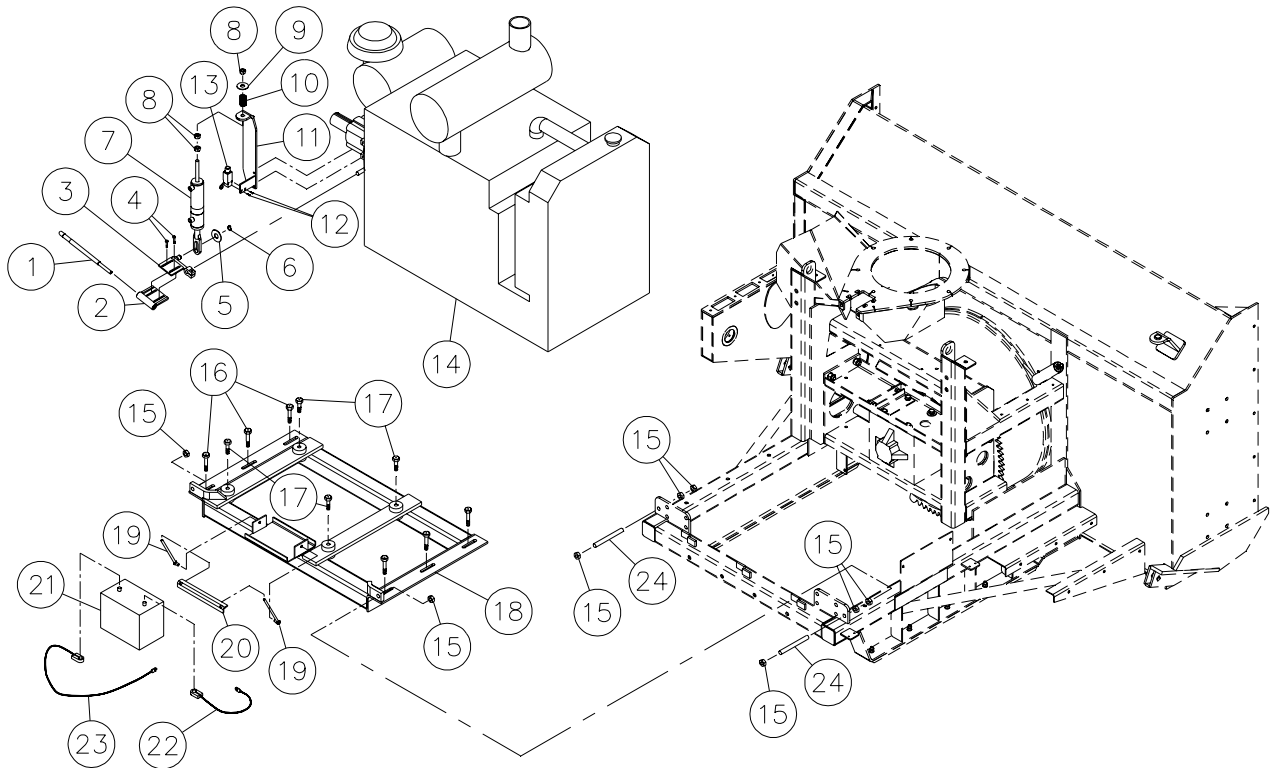


REF.	PART #	DESCRIPTION	QTY
1	319-40325	Plow bolt 1/2" NC x 1 3/4" lg. + nut & lock washer	10
2	110-14452	Carbon steel tapered lateral blade (left side)	1
3	110-14121	Adjustable yoke + nut 1"-12 NF	1
4	Std.	Hair pin 7/8"	8
5	6005-1	Pin for cylinder 1" x 3 1/8"	4
6	110-14132	Connecting tube	1
7	25TR08	Cylinder 2.5" x 8" stroke	1
8	110-19281	Carbon steel tapered lateral blade (right side)	1

8

MOTOR ASSEMBLY MOUNTED ON BASE

170-03101

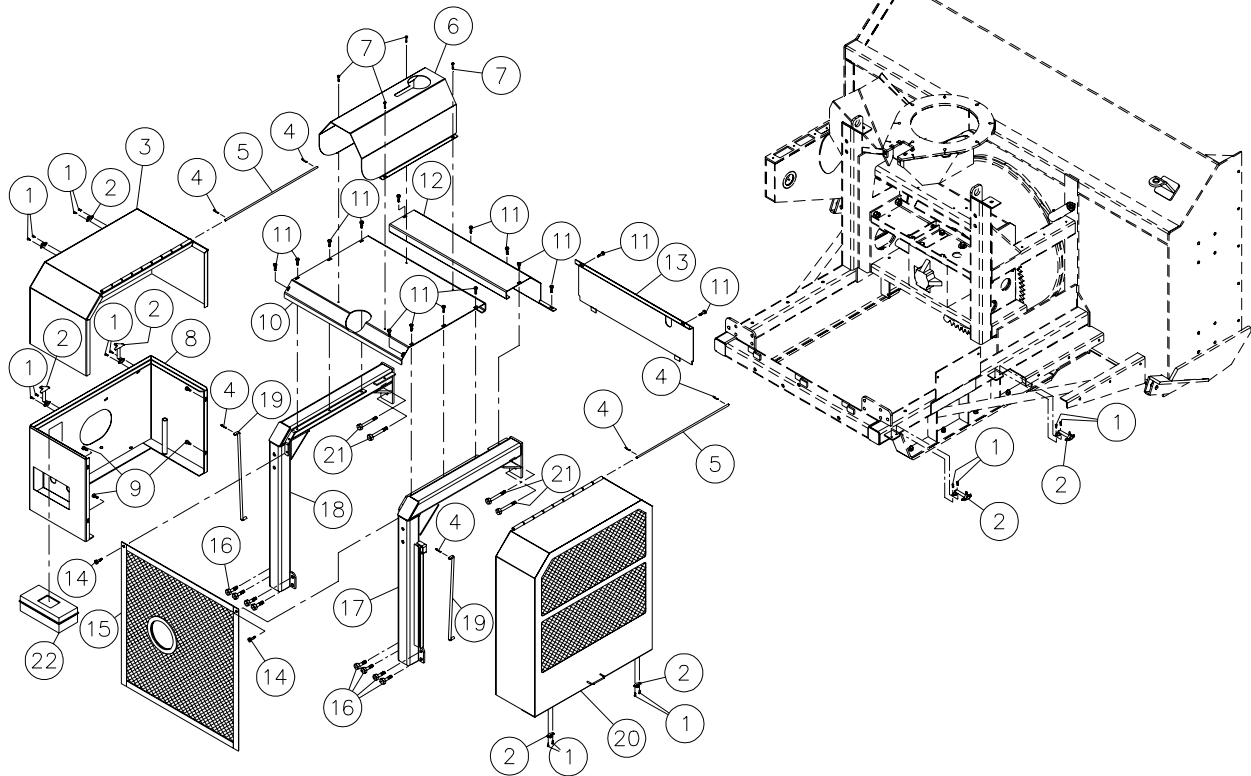


REF.	PART #	DESCRIPTION	QTY
1	150-04741	Shift lever	1
2	110-20111	Shift mechanism lower plate	1
3	110-16941	Shift mechanism upper plate	1
4	300-32250	Bolt 1/4" NC x 1" lg. + 2 flat washer & nylon locknut	2
5	376-46000	Flat washer 3/4" PL	1
6	Std.	External retaining ring 3/4"	1
7	20R06	Cylinder 2" x 6" stroke	1
8	336-44000	Nut 5/8" NC PL	3
9	376-44000	Flat washer 5/8" PL	1
10	190-05501	Compression spring	1
11	110-20121	Cylinder support	1
12	322-20311	Flat head machine screw 10-24 x 1 1/2" lg + flat washer & nylon locknut	2
13	32254	Limit switch	1
14	9660	Motor Perkins 1006-60TW-YK36548	1
15	336-46000	Nut 3/4" NC PL	4
16	300-44520	Bolt 5/8" NC x 5" lg. + flat washer + nylon locknut	6
17	300-44415	Bolt 5/8" NC x 3 1/4" lg + nylon locknut	4
18	110-19151	Adjustable engine mount	1
19	110-11511	Rod for battery hold down + nylon locknut 3/8" NC and 7/16" NC	2
20	130-05751	Battery hold down	1
21	9652	Battery 770CCA	1
22	9650	Battery cable 4G x 24" lg	1
23	9651	Battery cable 4G x 14" lg	1
24	190-05421	Threaded rod 3/4" NC x 7 1/4" lg.	2

8

MOTOR COVER ASSEMBLY

170-03111

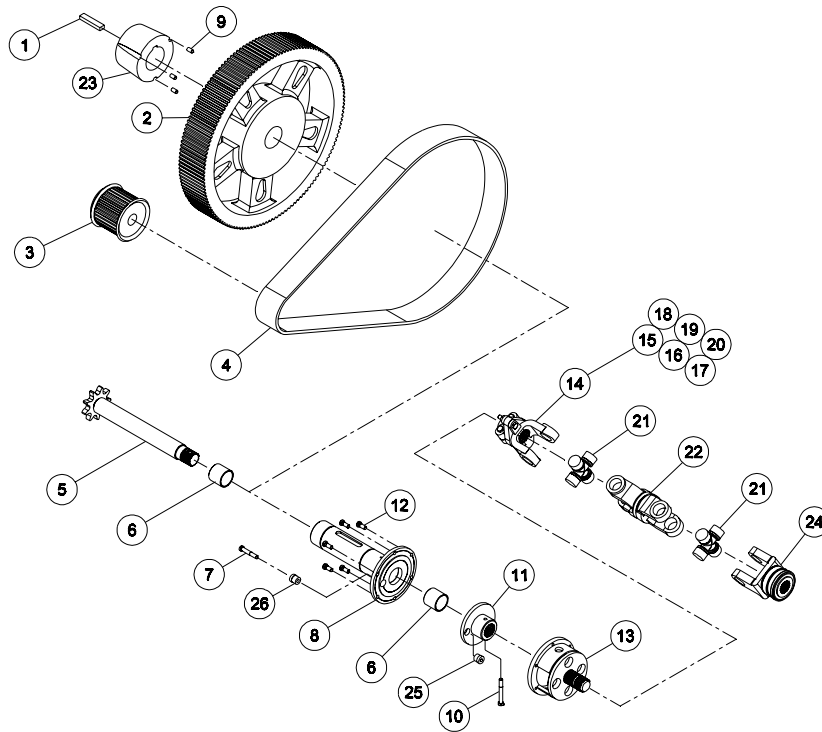


REF.	PART #	DESCRIPTION	QTY
1	322-32130	Machine screw 1/4" NC x 1/2" lg. + nylon locknut	16
2	9657	Rubber fastener (cover)	4
3	110-16921	Upper motor cover (clutch side)	1
4	Std.	Cotter pin 5/32" x 1" lg.	6
5	150-04781	Pin	2
6	130-28441	Guard	1
7	300-32250	Bolt 1/4" NC x 1" lg. + flat washer & nylon locknut	4
8	110-19841	Lower motor cover (clutch side)	1
9	300-36190	Bolt 3/8" NC x 1/2" lg. + flat washer + spring washer	4
10	130-27561	Top motor cover	1
11	300-36250	Bolt 3/8" lg x 1" + lock washer + flat washer	15
12	130-27581	Upper rear motor cover	1
13	110-20151	Rear motor cover	1
14	300-40250	Bolt 1/2" NC x 1" lg. + spring washer + flat washer	2
15	110-20131	Front motor grille	1
16	300-44340	Bolt 5/8" NC x 2" lg. + nylon locknut	8
17	110-19941	Right motor support	1
18	110-19661	Left motor support	1
19	150-04771	Motor cover support	2
20	110-16901	Motor cover (radiator side)	1
21	300-46520	Bolt 3/4" NC x 5" lg. + nylon locknut	4
22	9661	Tool box	1

8

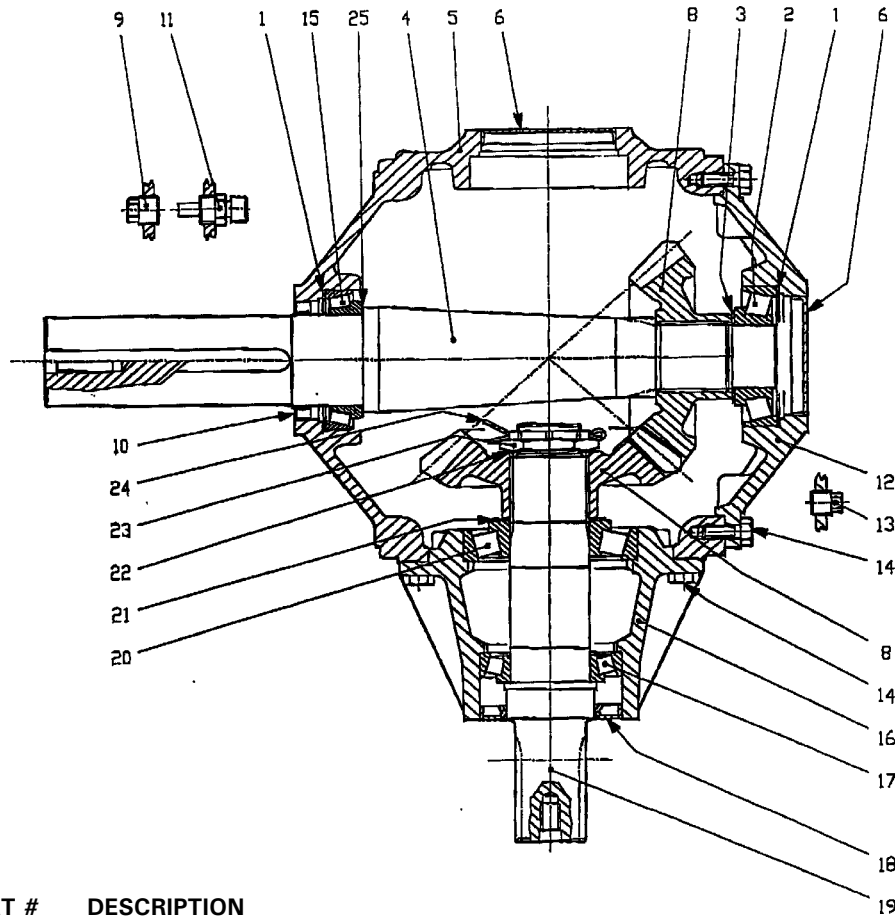
DRIVE SHAFT ASSEMBLY

170-03081



REF.	PART #	DESCRIPTION	QTY
1	140-12731	Shaft key (serial no:17681)	1
1	140-12732	Shaft key	1
2	9646	Pulley 14M x 140S90	1
3	190-05401	Pulley 14M x 30S90	1
4	9649	Driving belt 14MGT 252090	1
5	110-16671	Drive shaft 17 17/32" lg	1
6	160-07851	Aluminium-bronze bushing 2" i.d. x 2 1/4" o.d. x 2" lg	2
7	300-38370	Bolt 7/16" NC x 2 1/2" lg. + nylon locknut	1
8	110-16791	Shear plate	1
9	Std.	Hexagonal socket set screw 3/4" NC x 2" lg.	3
10	300-36430	Bolt 3/8" NC x 3 1/2" lg. + nylon locknut	1
11	110-16691	Shear plate with splined adaptor (20 splines)	1
12	300-38250	Bolt 7/16" NC x 1" lg. + lock washer	6
13	110-16811	Drive body	1
14	9476	Safety shear yoke	1
15	9487	Yoke and shearplate M12x65	1
16	9205	Ball 5/16" dia.	24
17	9461	Bolt + nut M12 x 1.25 x 75	2
18	9486	Adaptor	1
19	9207	Bolt + nut M12 x 65	1
20	8071	Grease fitting	1
21	9477	U-joint	2
22	110-19581	Twin yoke assembly	1
23	190-05411	Taper-lock bushing	1
24	9483	Yoke with hole 1 3/4"-20 splines	1
25	150-03241	Welded bushing 7/16" i.d. x 1" o.d. x 7/8" lg	1
26	150-04531	Welded bushing 7/16" i.d. x 1" o.d. x 1" lg	1

GEAR BOX # 9645 (T301A inverted)

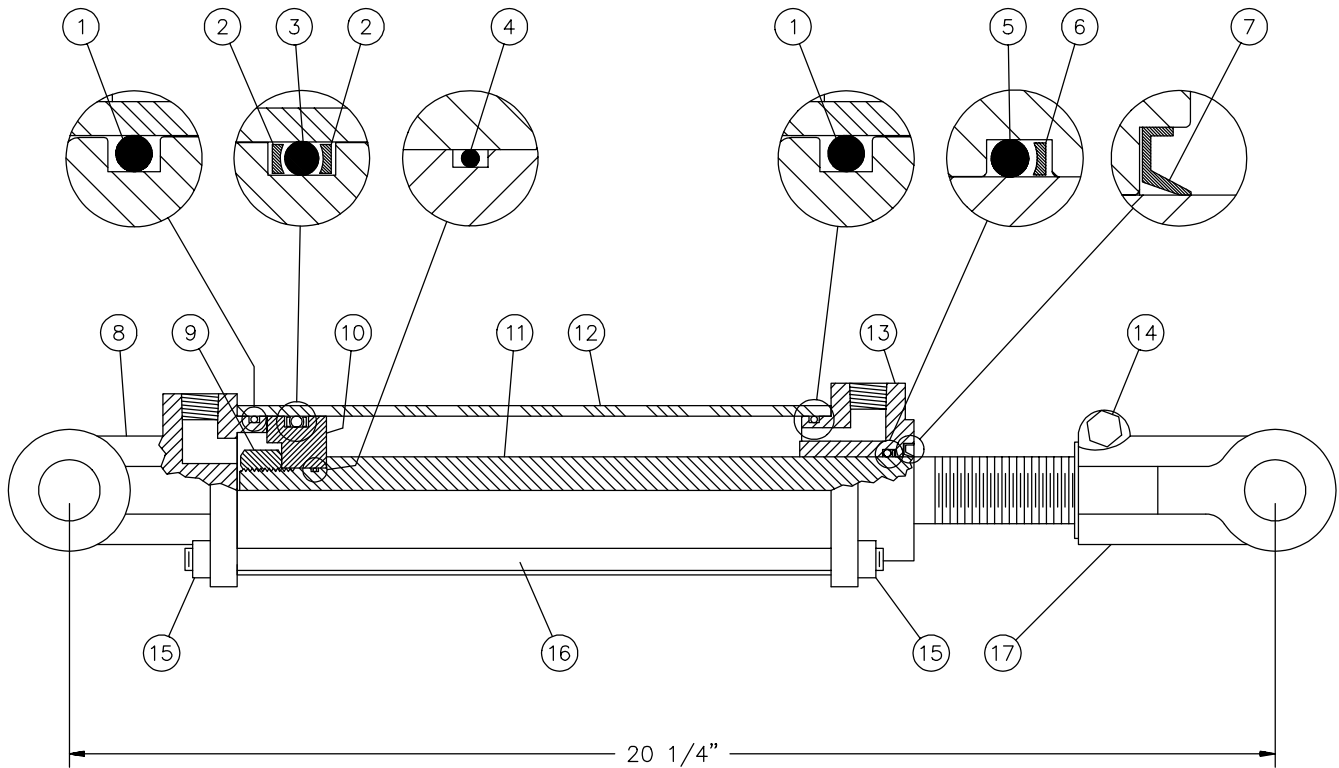


REF.	PART #	DESCRIPTION	QTY
1	9577	Shim	2
2	30309-A	Bearing	1
3	9594	Shim	1
4	9682	Shaft	1
5	9579	Casing	1
6	9580	Cap	2
8	9583	Gear	2
9	9584	Plug	1
10	9586	Oil seal	1
11	9593	Plug	1
12	9592	Cover	1
13	8064	Plug	1
14	9576	Bolt	18
15	32013X	Bearing	1
16	9591	Extension	1
17	30210-A	Bearing	1
18	9590	Oil seal	1
19	9589	Shaft	1
20	30310-A	Bearing	1
21	9588	Shim	1
22	9587	Shim	1
23	9581	Nut	1
24	9582	Cotter pin	1
25	9578	Shim	1

8

CYLINDER 25TR08

15050



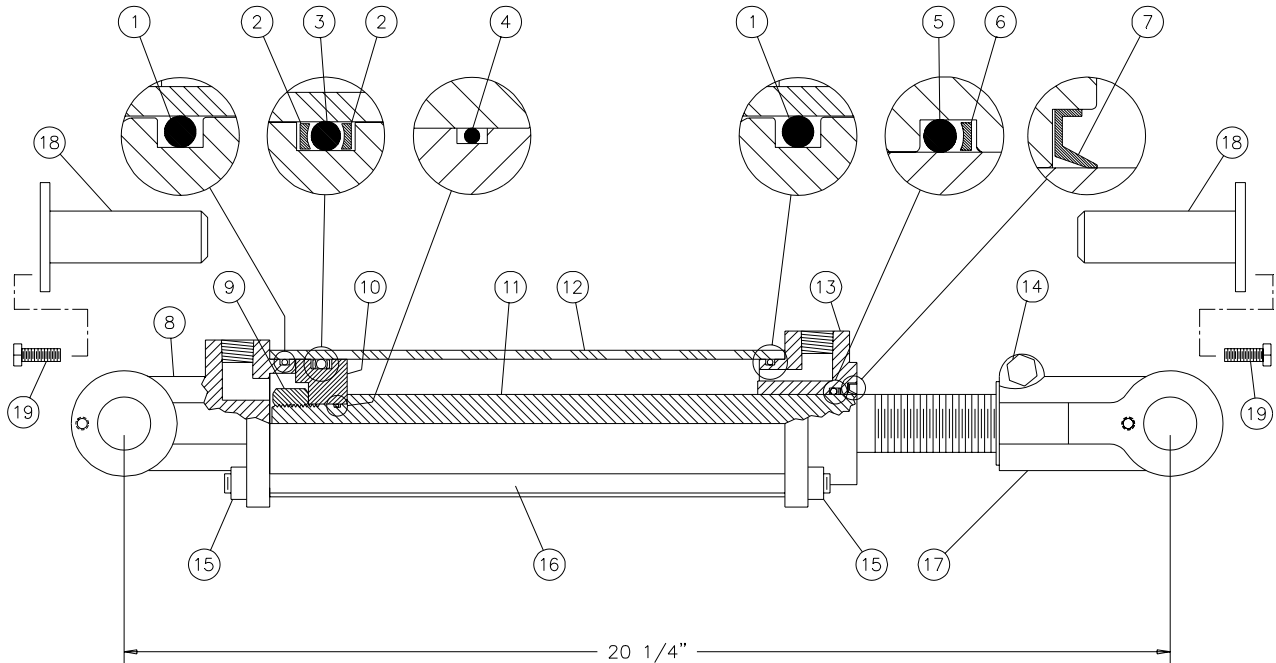
REF.	PART #	DESCRIPTION	QTY
1	See #RK25TR	O-ring 1/8" x 2 1/4" x 2 1/2"	2
2	See #RK25TR	Back-up 2 1/2" o.d. x 3/16 ø	2
3	See #RK25TR	O-ring 3/16" x 2 1/8" x 2 1/2"	1
4	See #RK25TR	O-ring 1/16" x 5/8" x 3/4"	1
5	See #RK25TR	O-ring 1/8" x 1 1/8" x 1 3/8"	1
6	See #RK25TR	Back-up 1 3/8" o.d. x 1/8" ø	1
7	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	338-46000	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	300-36355	Bolt 3/8" NC x 2 1/4" + nut	1
15	336-36000	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

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CYLINDER # 190-03531 (25TR08 modified)

170-02381

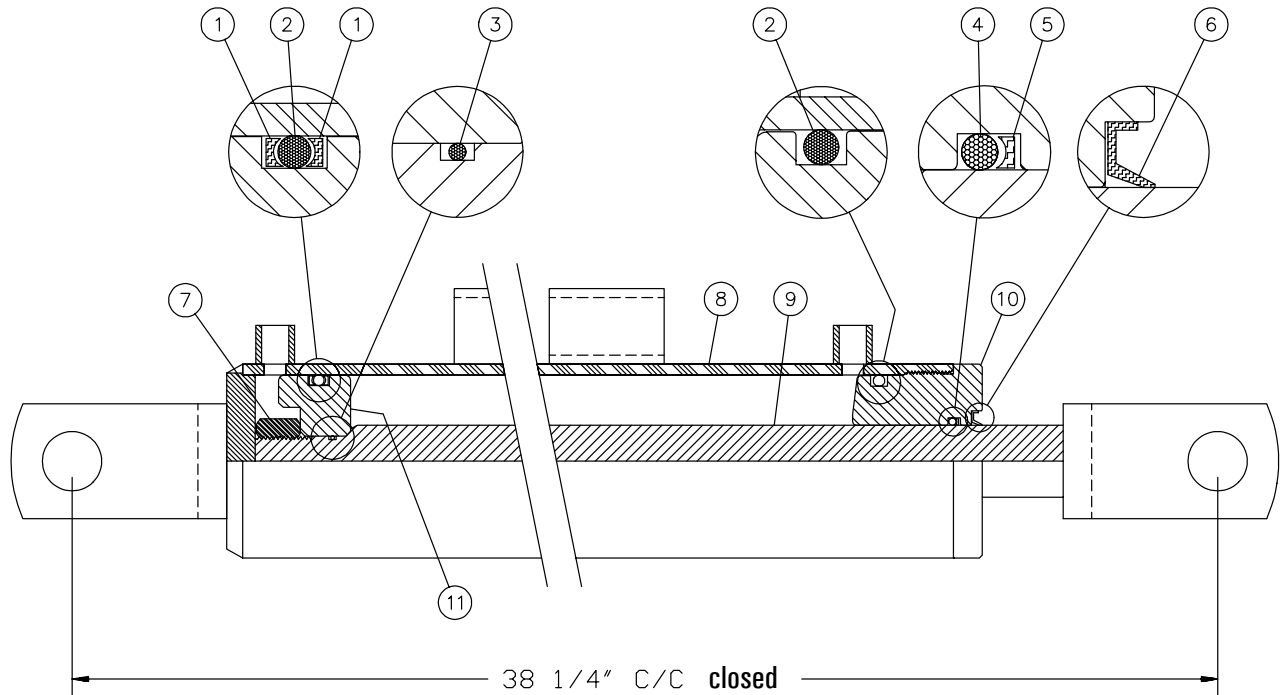


REF.	PART #	DESCRIPTION	QTY
1	See RK25TR	O-ring 1/8" x 2 1/4" x 2 1/2"	2
2	See RK25TR	Back-up 2 1/2" o.d. x 3/16 ø	2
3	See RK25TR	O-ring 3/16" x 2 1/8" x 2 1/2"	1
4	See RK25TR	O-ring 1/16" x 5/8" x 3/4"	1
5	See RK25TR	O-ring 1/8" x 1 1/8" x 1 3/8"	1
6	See RK25TR	Back-up 1 3/8" d.e. x 1/8" ø	1
7	See RK25TR	Wiper 1 1/8" d.i. x 1 5/8" d.e.	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 25TR08 cylinder	2
19	Std.	Bolt 1/4" NC x 3/4" lg + lock washer	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



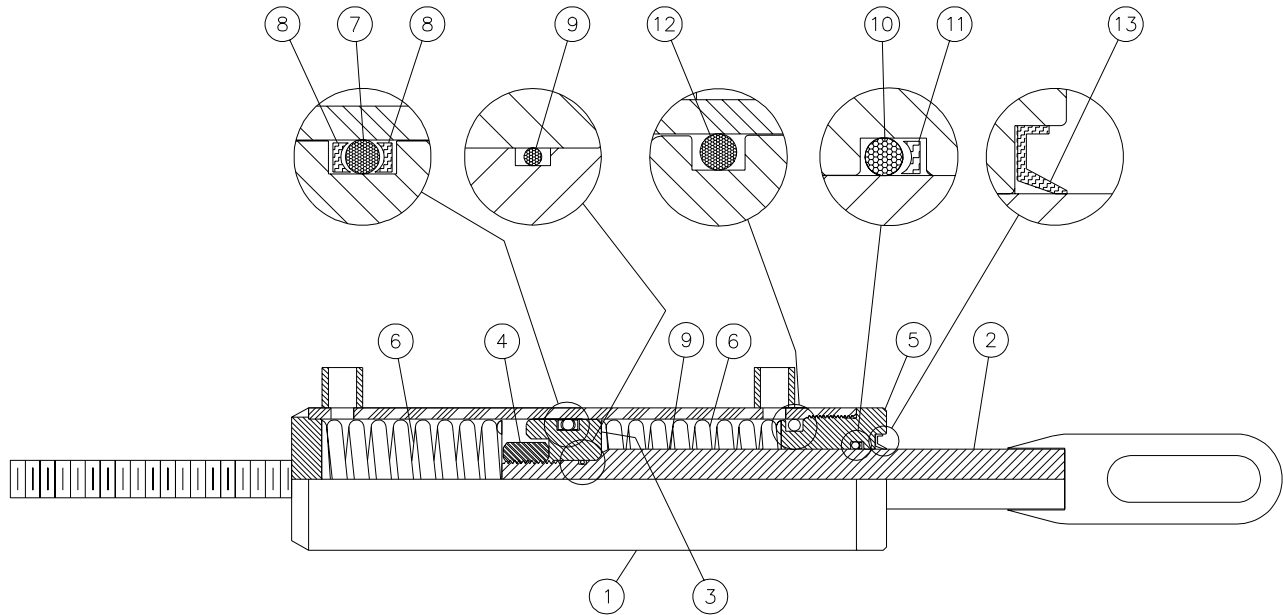
REF.	PART #	DESCRIPTION	QTY
1	BU-326	Back-up 3/16" x 1 5/8" x 2"	2
2	OR-326	O-ring 3/16" x 1 5/8" x 2"	2
3	OR-016	O-ring 1/16" x 5/8" x 3/4"	1
4	OR-216	O-ring 1/8" x 1 1/8" x 1 3/8"	1
5	BU-216	Back-up 1/8" x 1 1/8" x 1 3/8"	1
6	CR11050	Wiper 1/8" x 1 1/8" x 1 3/8"	1
7	Std.	Nut 3/4" NF	1
8	110-04491	Cylinder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

*NI = NOT ILLUSTRATED

8

CYLINDER 20R06

170-03051

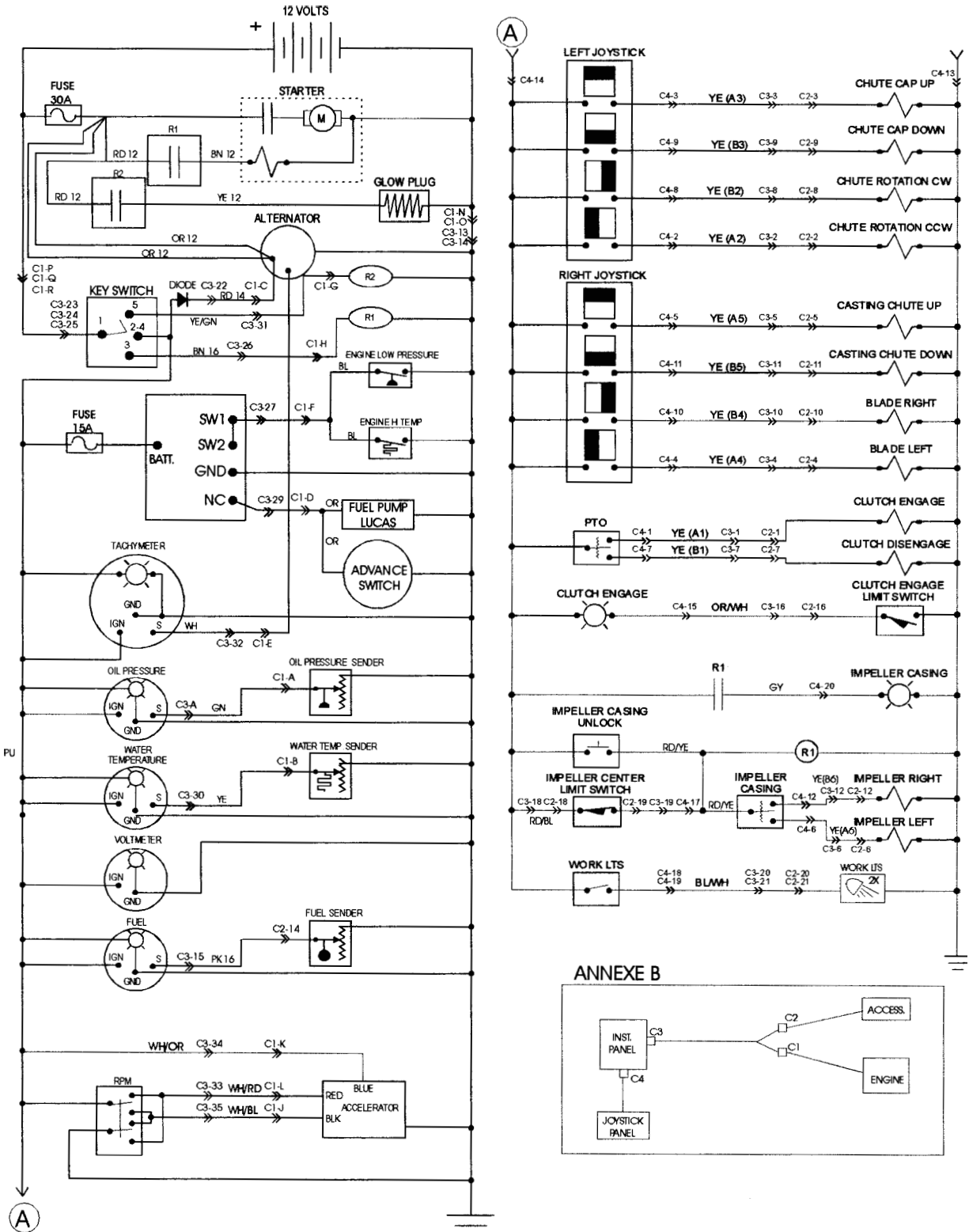


REF.	PART #	DESCRIPTION	QTY
1	110-16711	Cylinder	1
2	110-18931	Rod assembly	1
3	150-03291	Piston 2" dia. x 1 5/8" lg	1
4	339-44000	Nut 5/8"-18	1
5	150-03271	Head 2 3/8" dia. x 2 1/4" lg	1
6	MHP-86	Spring 1" int. x 2" ext. x 3" lg	2
7	OR-326	O-ring 3/16" x 1 5/8" x 2"	1
8	BU-326	Back-up 3/16" x 1 5/8" x 2"	2
9	OR-014	O-ring 1/16" x 1/2" x 5/8"	1
10	OR-214	O-ring 1/8" x 1" x 1 1/4"	1
11	BU-214	Back-up 1/8" x 1" x 1 1/4"	1
12	PSP-326	O-ring 3/16" x 1 5/8" x 2"	1
13	CR-9815	Oil seal (Wiper) 1/8" x 1" x 1 1/4"	1
NI*	2628	Repair kit for cylinder 2" (includes #7, 8, 9, 10, 11, 12 & 13)	1

*NI = NOT ILLUSTRATED

8

ELECTRIC CIRCUIT



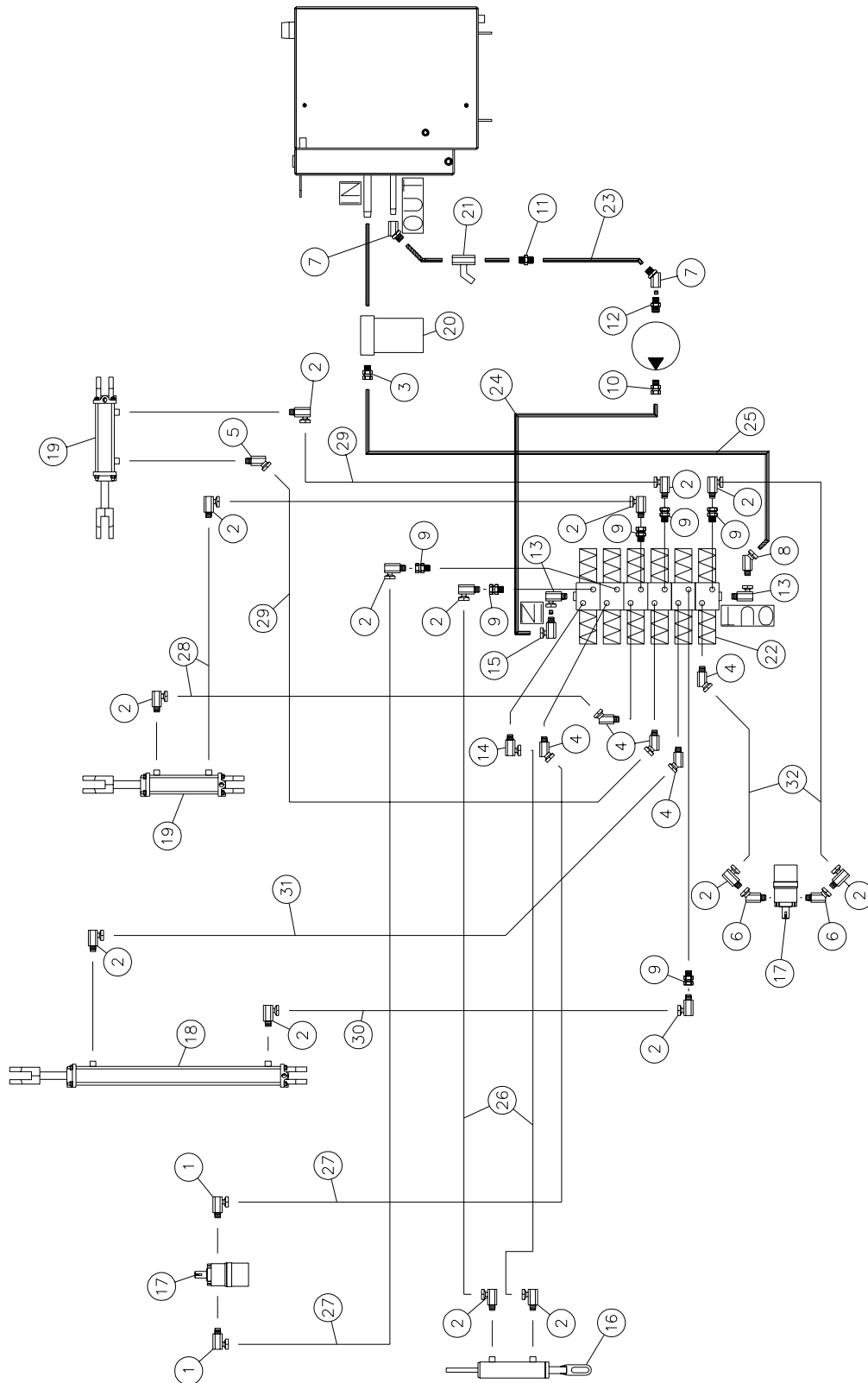
- | | | | |
|------------|-------------|------------|-------------|
| BK = Black | BL = Blue | GY = Grey | OR = Orange |
| WH = White | GN = Green | BN = Brown | PU = Purple |
| RD = Red | YE = Yellow | PK = Pink | |

ELECTRIC CIRCUIT

COLOR	CODE	FUNCTION
Yellow	A1	Clutch engage
Yellow	B1	Clutch disengage
Yellow	A2	Chute rotation CCW
Yellow	B2	Chute rotation CW
Yellow	A3	Chute cap up
Yellow	B3	Chute cap down
Yellow	A4	Blade left
Yellow	B4	Blade right
Yellow	A5	Casting chute up
Yellow	B5	Casting chute down
Yellow	A6	Drum left
Yellow	B6	Drum right
Black		Ground
Red		Positive
Red / Blue		Drum center limit switch
Red / Yellow		Drum rotation control
Purple		Key switch
Orange		Fuel pump
Yellow / Orange		Clutch engage light
Blue		Security system switch
Blue / White		Working lights
Grey		Drum center light
Pink		Fuel sender
Yellow		Water temperature sender
Green		Oil temperature sender
White / Blue		PTO control
White / Red		PTO control
White / Orange		PTO control
White		Tachymeter
Yellow / Green		Glow plug
Red 14		Alternator positive
Orange 12		Alternator recharge
Brown 12		Starter
Red12		Relay positive
Brown		Starter relay

HYDRAULIC CIRCUIT

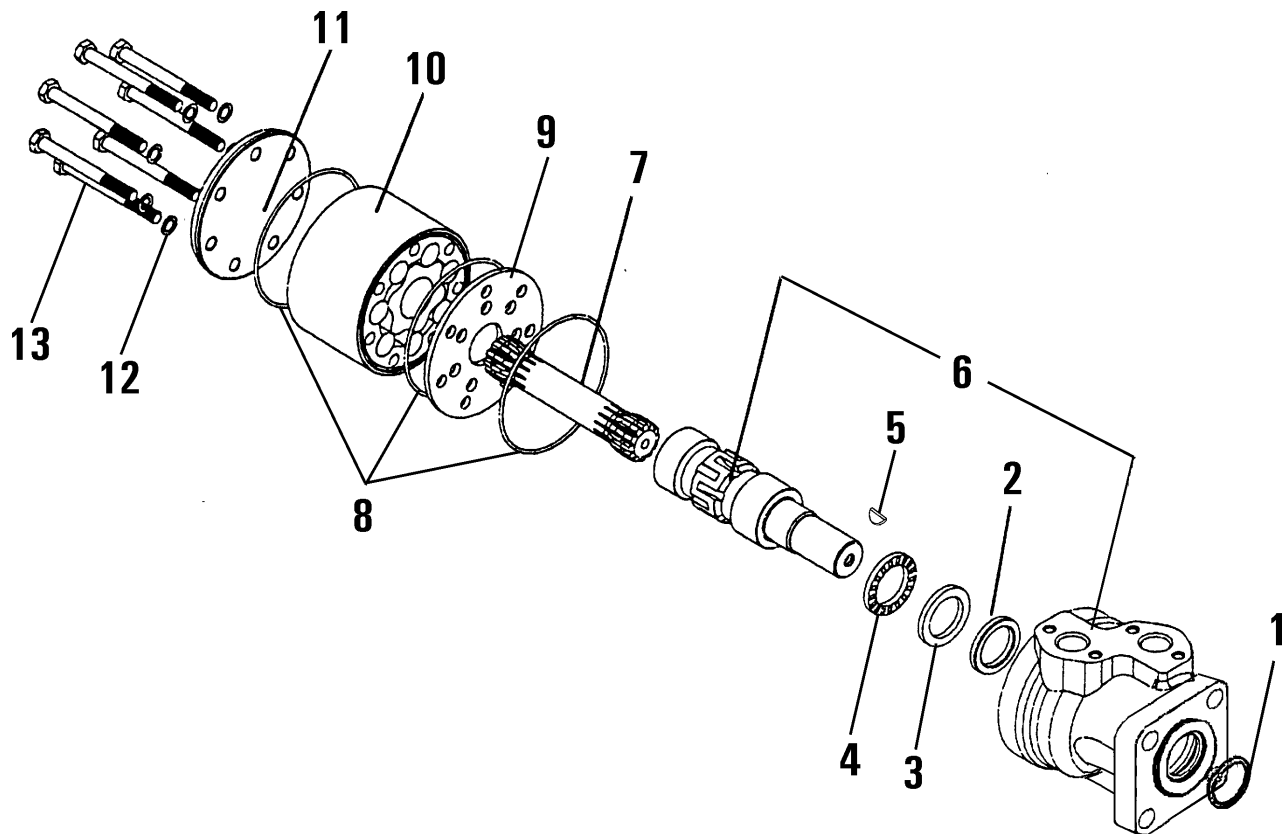
170-03121



HYDRAULIC CIRCUIT

REF.	PART #	DESCRIPTION	QTY
1	9405-06-08	Elbow 90 deg. - female NPSM swivel / male NPTF	2
2	9405-06-06	Elbow 90 deg. - female NPSM swivel / male NPTF	15
3	9205-08-08	Adapter - female NPSM swivel / male NPTF	1
4	9365-06-06	Elbow 45 deg. - male ORB adjustable / female NPSM swivel	4
5	9355-06-06	Elbow 45 deg. - female NPSM swivel / male NPTF	1
6	9355-08-06	Elbow 45 deg. - female NPSM swivel / male NPTF	2
7	9355-16-16	Elbow 45 deg. - female NPSM swivel / male NPTF	2
8	9355-08-08	Elbow 45 deg. - female NPSM swivel / male NPTF	1
9	9315-06-06	Adapter - male ORB / NPSM swivel	6
10	9315-08-08	Adapter - male ORB / NPSM swivel	1
11	3069-16-16	Nipple - male NPTF / male NPTF	1
12	3069-20-16	Nipple - male NPTF / male NPTF	1
13	9515-06-08	Elbow 90 deg. - male ORB adjustable / female NPSM swivel	2
14	9515-06-06	Elbow 90 deg. - male ORB adjustable / female NPSM swivel	1
15	9405-08-08	Elbow 90 deg. - female NPSM swivel / male NPTF	1
16	20R06	Cylinder 2" x 6" (asee detail p. 29)	1
17	DH315	Hydraulic motor + key (see detail p. 34)	2
18	20G28	Cylinder 2" x 28" (see detail p. 28)	1
19	25TR08	Cylinder 2 1/2" x 8" (see detail p. 26)	2
20		Paper filter + hydraulic oil filter adaptor 32031	1
21	9681	Ball valve	1
22	9680	Electric valve	1
23	190-05081	Low pressure hose 1" x 21" lg	1
24	190-05001	Hose 1/2" x 34" lg + 2 fittings 8U108	1
25	190-04991	Hose 1/2" x 38" lg + 2 fittings 8U108	1
26	190-05051	Hose 3/8" x 106" lg + 2 fittings 6U106	2
27	190-05071	Hose 3/8" x 77" lg + 2 fittings 6U106	2
28	190-05041	Hose 3/8" x 233" lg + 2 fittings 6U106	2
29	190-05031	Hose 3/8" x 93" lg + 2 fittings 6U106	2
30	190-05011	Hose 3/8" x 237" lg + 2 fittings 6U106	1
31	190-05021	Hose 3/8" x 267" lg + 2 fittings 6U106	1
32	190-05061	Hose 3/8" x 57" lg + 2 fittings 6U106	2

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






8

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.

WARRANTY

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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