

Operating Instructions

Thank you for buying a CAT PUMP. We are pleased that you have chosen our product and assure you of its unexcelled quality and performance. This Cat Pump will provide long and trouble-free service if attention is given to routine maintenance.

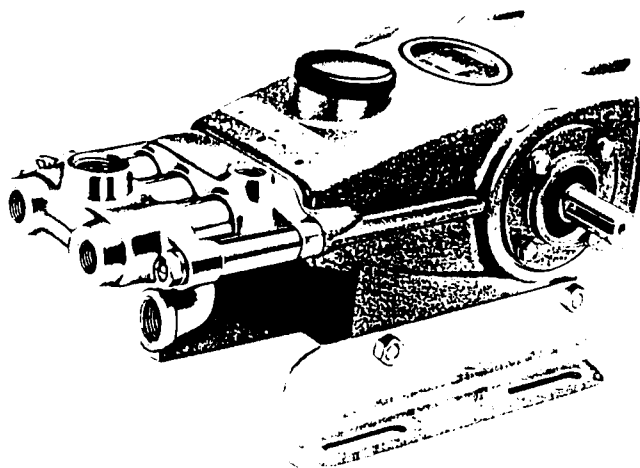


1600 65th AVENUE NORTH MINNEAPOLIS, MN 55430



AMERIKALEI, 12 B-2000 ANTWERP, BELGIUM

CAT PUMPS DEUTSCHLAND GmbH ROSTOCKER STRASSE 9, 6200 WIESBADEN-BIERSTADT, WEST GERMANY



SPECIFICATIONS

MODEL
330
and Model 331

VOLUME Up to 3 GPM (11.8 liters/min.)
DISCHARGE PRESSURE Up to 1000 PSI (70 kg/cm²)
INLET PRESSURE -8.5 PSI (-0.6 kg/cm²) to +40 PSI (+2.8 kg/cm²)
RPM Up to 800
CRANKCASE CAPACITY, CAT PUMP OIL (P/N 06100) 1 1/4 pts. (.6 liter)
MAXIMUM TEMPERATURE OF PUMPED FLUIDS 180°F (82°C)
INLET PORTS (1) 1/4" NPT; (1) 1/2" NPT
DISCHARGE PORTS (2) 3/4" NPT; (1) 1/2" NPT
PULLEY MOUNTING Either Side
SHAFT ROTATION: Top of Pulley Towards Cylinders Dia. 0.650" (16.5 mm)
WEIGHT: Including 8" O.D. Pulley and Box Mtg. Rails 19 3/4 lbs. (8.7 kg)

IMPORTANT CONDITIONS

FILL CRANKCASE AND OIL WICKS according to instructions prior to initial operation. Maintain per recommended lubrication schedule.

PUMP MUST NOT BE RUN DRY and must be drained of water prior to exposure to freezing temperatures.

OPERATION MUST BE within RPM and pressure specifications. Pressure relief valve must be installed.

DO NOT PUMP ACIDS OR ABRASIVE FLUIDS with this unit! The following are typical acids which will damage the pump: hydrofluoric acid, hydrochloric acid, muriatic acid, amino acid, nitric acid, sulfuric acid. Questionable solutions must be approved in writing by the manufacturer.

Use of other than Cat Pump parts voids the warranty.

LUBRICATION SCHEDULE

Failure to Comply With These Recommendations Invalidates Warranty

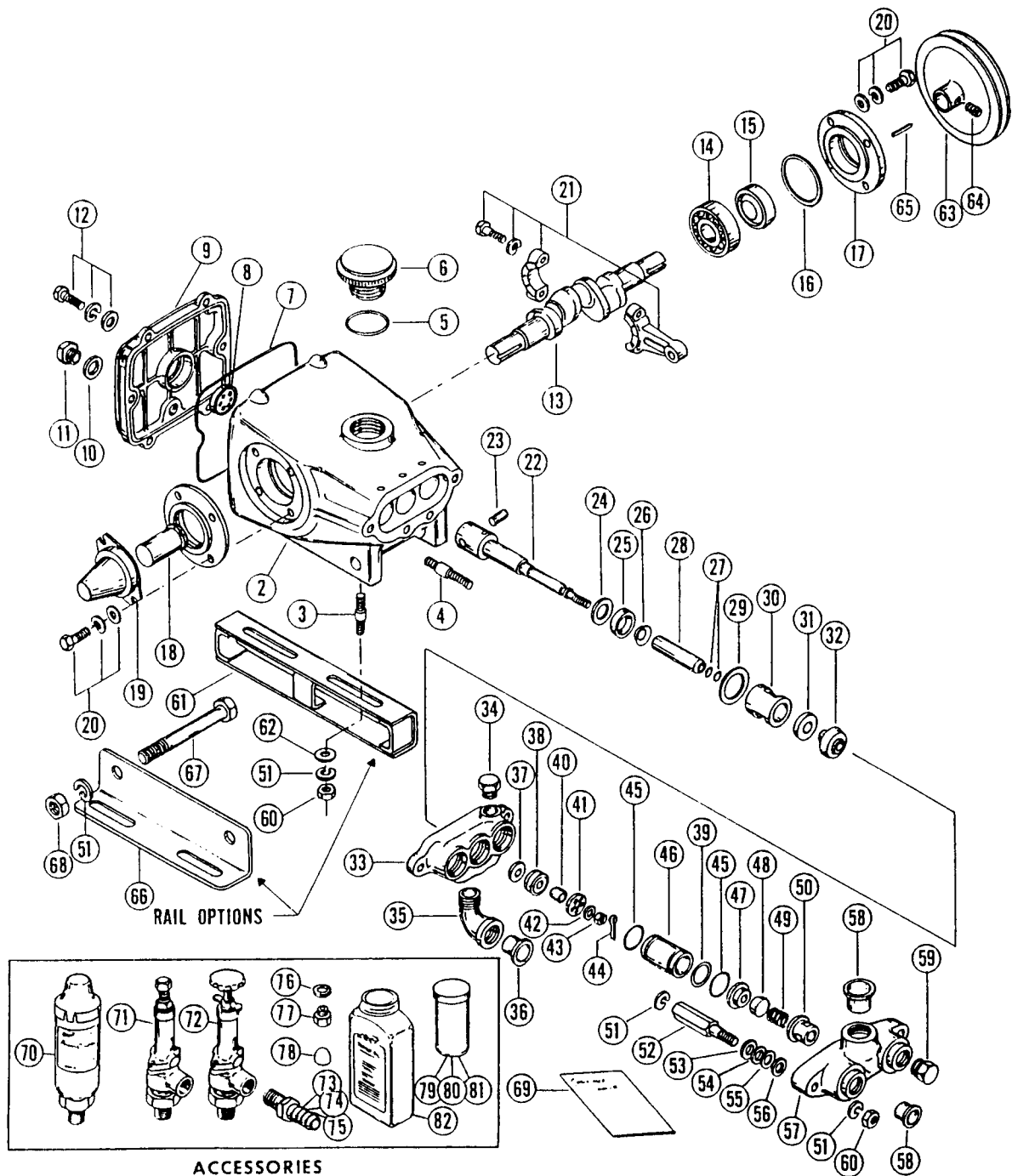
CRANKCASE: Fill to dot on oil gauge window with one bottle (approximately 1 1/4 pints) of genuine Cat Pump Crankcase Oil.

Change initial fill after 50 hour run-in period.
Change Oil every 3 months or at 500 hour intervals (other approved oil every month or 200 hours).

PISTON ROD WICKS: Prior to initial operation saturate wicks and fill reservoir (approximately 30 drops of oil — one pump of a push-type oil can — in each of three lubricator housing holes). For optimum operating service add three drops of oil in each of the three holes once a month when pump is running.

Good lubrication is the easiest, most efficient and least expensive of preventative maintenance.

PARTS FOR CAT PUMPS MODEL 00330 and MODEL 00331



MOTOR PULLEY SELECTION

Pump speed and pump output in gallons per minute as tabulated is based upon a 1725 RPM drive motor. Select motor pulley size to provide GPM of the approximate pump output desired.

Pump RPM and GPM output are approximate values due to variations in pulleys, belts and motors between manufacturers and a $\pm 5\%$ pump output tolerance.

TABLE I

Model 00330 and 00331 CAT PUMP		MOTOR PULLEY OUTSIDE DIAMETER				
		2.0"	2.5"	3.0"	3.5"	3.7"
8" O.D. Pump Pulley	GPM Output	1.6	2.0	2.4	2.8	3.0
	Liters/Min.	6.3	8.0	9.6	11.1	11.8
	Pump RPM	430	540	650	755	800

PARTS LIST

CAT PUMP, MODEL 00330 and MODEL 00331

ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
2	27978	1	Crankcase	36	23947	2	Plastic Cup
3	27979	4	Stud	37	28339	3	Valve, Inlet
4	14137	2	Stud	38	27480 28955	3	Piston Assy.
5	14177	1	O-ring—Filler Cap	39	21985	3	Back Up Ring
6	27765	1	Cap—Oil Filler	40	27983	3	Spacer—Piston
7	27705	1	O-ring—Rear Cover	41	27002	3	Retainer—Piston
8	22289	1	Oil Gauge	42	27006	3	Cup Washer
9	27980	1	Rear Cover—Crankcase	43	27000	3	Castellated Nut
10	23170	1	O-ring—Oil Drain Plug	44	14158	3	Cotter Pin
11	25625	1	Drain Plug—Oil	45	23172	6	O-ring—Cylinder
12	19200	6	Screw—Sems	46	25660	3	Cylinder
13	25151	1	Crankshaft	47	25548	3	Discharge Valve Seat
14	14487	2	Bearing	48	22842	3	Discharge Valve
15	24159	2	Oil Seal	49	22031	3	Valve Spring
16	26538	2	O-ring—Oil Seal Retainer	50	22841	3	Retainer—Valve Spring
17	27950	2	Crankshaft Oil Seal Retainer	51	15845	8	Lock Washer
18	22656	2	Cap—Crankshaft	52	25337	2	Manifold Stud
19	25130	1	Protector	53	20013	2-4	Manifold Shim (1.0 mm)
20	25811	8	Bolt—Sems	54	15475	2-4	Manifold Shim (0.3 mm)
21	24139	3	Connecting Rod Assembly	55	20012	2-4	Manifold Shim (0.5 mm)
22	27981	3	Piston Rod Assembly	56	26676	2	Washer—Retainer
23	16948	3	Piston Pin	57	24459	1	Discharge Manifold
24	20017	3	Seal Washer	57SS	25634	1	Discharge Manifold SS
25	25301	3	Crankcase Piston Rod Seal	58	23946	1	Plastic Cap
26	25327	3	Slinger	59	22187	1	Plug—3/8 N.P.T.
27	25392	6	O-ring—Piston Sleeve	60	81109	6	Nut—8 M
28	25299	3	Piston Sleeve	61	23950	2	Mounting Rail
29	26854	3	Washer	62	12489	4	Washer
30	27710	3	Seal Retainer	63	30048	1	Pulley—8" AB
31	28389	3	Wick—Oil	64	30031	1	Set Screw
32	25153	3	Manifold Piston Rod Seal	65	30047	1	5 mm Key
33	25128	1	Inlet Manifold	66	28499	2	Angle Rail
33SS	25635	1	Inlet Manifold SS	67	80275	2	Bolt
34	22177	1	Plug—1/4 N.P.T.	68	81039	2	Nut
35	22160	1	Elbow—1/2 N.P.T.	69	30238	1	Operating Instructions

ACCESSORIES

70	06000	1	Prrrr-o-lator	77	25144	1	Oil Drain Adapter
71	06055	1	Pressure Regulator Valve	78		1	Not Available
72	06050	1	Pressure Regulating Unloader Valve	79	30240	1	Piston Assembly Repair Kit
73	30028	1	#2 Barb (1.0-2.5 GPM)	80	30239	1	Short Cup Repair Kit
74	30029	1	#3 Barb (2.5-3.5 GPM)	81	30024	1	Discharge Valve Repair Kit
75	30030	1	#4 Barb (3.5-5.0 GPM)	82	06101	1	Cat Pumps Crankcase Oil—Bottle
76	23320	1	Oil Drain Adapter Gasket		06100	1	Cat Pumps Crankcase Oil—Case

TABLE II
HORSEPOWER REQUIREMENTS*

OUTPUT		Pressure in PSI and kg/cm ²				
GPM	Liters/Min.	600 PSI	700 PSI	800 PSI	900 PSI	1000 PSI
		42.2 kg/cm ²	49.2 kg/cm ²	58 kg/cm ²	63.3 kg/cm ²	70 kg/cm ²
1.6	6.3	.7	.8	.9	1.0	1.1
2.0	8.0	.8	1.0	1.1	1.2	1.4
2.4	9.6	1.0	1.2	1.3	1.5	1.6
2.8	11.1	1.2	1.3	1.5	1.7	1.9
3.0	11.8	1.3	1.4	1.6	1.9	2.1

*Horsepower figures shown are for electric motor only. For gas engine requirements, follow engine manufacturer's recommendations. In general, use a gas engine with approximately double the electric motor horsepower.

Servicing discharge valves and valve seats

Remove the discharge manifold as described and pictured on page 5. Remove the discharge valve seats and invert the manifold. The discharge valve springs and spring retainers will fall out.

Inspect the discharge valves for wear or ridges. If damaged, replace them. Check valve seats. If nicked or rough, lap on a fine oilstone until smooth. Check seal by placing the discharge valve tightly over face of the valve seat and blow through the valve. No air will pass through if properly seated.

Reassemble valves and valve seats in the manifold — spring retainer first, then the spring and then the valve. The flat side of the discharge valve faces out. The recessed side of the discharge valve fits over the spring. Insert the discharge valve seats.

Insert one end of cylinders into the discharge manifold, being careful not to damage cylinder O-rings. Position assembly back on the pump, again being careful not to damage cylinder O-rings when inserting cylinders into the inlet manifold. Replace lockwashers and nuts, torque to 125 inch-pounds.

CAUTION: When restarting the pump, check carefully to see that there is no cylinder motion as it will cause premature failure of the O-ring cylinder seals. Cylinder motion, if any, must be eliminated by procedure as detailed on page 5.