

PARTS MANUAL

Model

PTV305D

Pump

PTV305D

DIAPHRAGM PUMPS — OPERATIONAL DO'S AND DON'TS —

DO:

1. CONSULT ENGINE MANUFACTURER'S INSTRUCTIONS BEFORE STARTING.
2. TIGHTEN ALL SUCTION CONNECTIONS WELL AND CHECK WASHERS.
3. USE GOOD HOSE WASHERS.
4. USE ONLY STRONG, REINFORCED SUCTION HOSE.
5. USE A FOOTVALVE OR STRAINER.
6. KEEP SUCTION LIFT TO A MINIMUM.
7. MAKE SURE SUCTION LINE IS DESIGNED WITH A SLIGHT SLOPE UP TO THE PUMP.
8. CHECK PUMP VALVES AND DIAPHRAGMS PERIODICALLY.
9. SERVICE ENGINE, PUMP, AND TRANSMISSION AS REQUIRED.
10. DRAIN PUMP IN FREEZING WEATHER.
11. MAKE SURE ALL GUARDS AND SHIELDS ARE FITTED AND SECURE BEFORE STARTING.
12. FOLLOW MAINTENANCE SCHEDULE (BELOW).
13. FLUSH PUMP CASE TO REMOVE SETTLED SAND AFTER EACH USE.

DON'T:

1. ALLOW DISCHARGE LINE TO BECOME KINKED.
2. ALLOW SUCTION HOSE TO BECOME Mired IN MUD.
3. LIFT PUMP WITH SUCTION OR DISCHARGE HOSE IN PLACE.
4. OPERATE PUMP AT AN EXCESSIVE ANGLE OF INCLINATION.
5. ALLOW AIR POCKETS TO FORM IN THE SUCTION LINE.
6. RUN ENGINE TOO FAST. (2800 rpm MAX. OR 64 DIAPHRAGM PULSATIONS/MINUTE, FOR 2" AND 3" MODELS).
7. FORGET SAFETY PROCEDURES.
8. ALLOW INEXPERIENCED PERSONNEL TO OPERATE EQUIPMENT UNSUPERVISED.
9. USE ANY RIGID PIPING ON PUMP OR MOUNT PUMP WITHOUT ISOLATORS.
10. RESTRICT SUCTION OR DISCHARGE.
11. START PUMP BEFORE FLUSHING SETTLED SAND FROM THE PUMP CASE.

— MAINTENANCE —

DAILY	WEEKLY	MONTHLY
●		
	●	
		●
		●
		●
		●

PUMP AND TRANSMISSION:

- Check oil level in transmission. -
- Grease connecting rod bearing.
- Check all bolts and nuts.
- Change oil in transmission.*
- Check diaphragm.
- Check clappets.

ENGINE: (If present)

Refer to form no. FM750:

Maintenance Schedule for Small Gasoline Engines.

* Flush with diesel fuel, refill with SAE 90wt. oil — .8 qt. for 3" model.

PROBABLE CAUSES AND REMEDIES

DIAPHRAGM PUMPS TROUBLE SHOOTING GUIDE

PROBLEM

PROBLEM	FOLLOW MAINTENANCE SCHEDULE	CHECK SUCTION CONNECTIONS	CHECK DIAPHRAGM AND CLAPETS	CHECK FOR OBSTRUCTIONS IN PUMP OR STRAINER	LIFT EXCESSIVE	DISCHARGE IS REDUCED OR OBSTRUCTED	PUMPING LIQUIDS	REPLACE OIL SEAL RING OR PINION	CHECK OIL SEAL	PINION	CHECK ENGINE - TO TRANSMISSION ALIGNMENT	ENGINE RUNNING TOO SLOWLY	CHECK DIRECTION OF ROTATION ON ELECTRIC UNITS ONLY	DISCHARGE HEAD TOO HIGH	PUMPING SAND OR ROCKS	CHECK SAND OR ROCKS	INSTALL DRAIN VALVE ON BOTTOM OF ACCUMULATOR	WATER IN GROUND HOSES OR PUMP IS FROZEN	SEE FORM NO. FM/46: TROUBLE-SHOOTING GUIDE FOR SMALL GASOLINE ENGINES	SEE FORM NO. FM/50: TROUBLE-SHOOTING GUIDE FOR DIESEL ENGINES
PUMP DOESN'T PRIME	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
LOW VOLUME	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
DIAPHRAGM RUPTURES FREQUENTLY	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
GEARBOX PROBLEMS	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ENGINE PROBLEMS	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
OIL LEAKS AROUND ENG. ADAPTOR	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

NOTES:

1. After the initial 50 working hours, drain transmission oil, flush with diesel fuel, refill with SAE 90wt. oil to correct level. DO NOT OVERFILL!!
2. When replacing the engine, mount the transmission first, tighten all bolts and nuts, then bolt down the engine mounting feet.

3" SINGLE DIAPHRAGM PUMP PARTS LIST
FIGURE DATA039

REF	DESCRIPTION	QTY	PART NUMBER
1	ADAPTER	1.00	Q14-0000-001A
2	STUD W/NUT 10M-1.5-40M	4.00	Q14-0000-002
3	AHCS 8M-1.25-15M	6.00	Q14-0000-003
4	SET SCREW 8M-1.25 COMES W/ # 5 PINION	1.00	H63-0000-004
5	PINION	1.00	Q14-0000-005A
6	KEY STOCK 3/16	1.00	M51-OKEY-187
7	ENGINE, GAS HONDA 4HP	1.00	E38-GX 120 QX
22	KEY	1.00	Q14-0000-022
35	COVER	1.00	Q14-0000-035
36	CASE	1.00	Q14-0000-036A
37	PLUG #35 COVER	1.00	Q14-0000-037
39	WASHER, FLAT 12M	4.00	Q14-0000-039
40	HHCS 12M-1.75-40M	4.00	Q14-0000-040
41	WASHER, LOCK 10M	1.00	Q14-0000-041
42	HHCS 10M-1.5-40M	1.00	Q14-0000-042
43	CRANK	1.00	Q14-0000-043
44	WASHER, FIBER	2.00	Q14-0000-044
45	BEARING	1.00	Q14-0000-045
47	COVER	1.00	Q14-0000-047
48	HHCS 10M-1.5-20M	1.00	Q14-0000-048
49	WASHER, LOCK 10M	1.00	Q14-0000-049
50	CASE-ALUMINUM	1.00	Q14-0000-050A
51	HHCS 12M-1.75-50M	4.00	Q14-0000-051
52	WASHER, FLAT 12M	4.00	Q14-0000-052
53	ROD, CONNECTING	1.00	Q14-0000-053A
54	PIN	2.00	Q14-0000-054

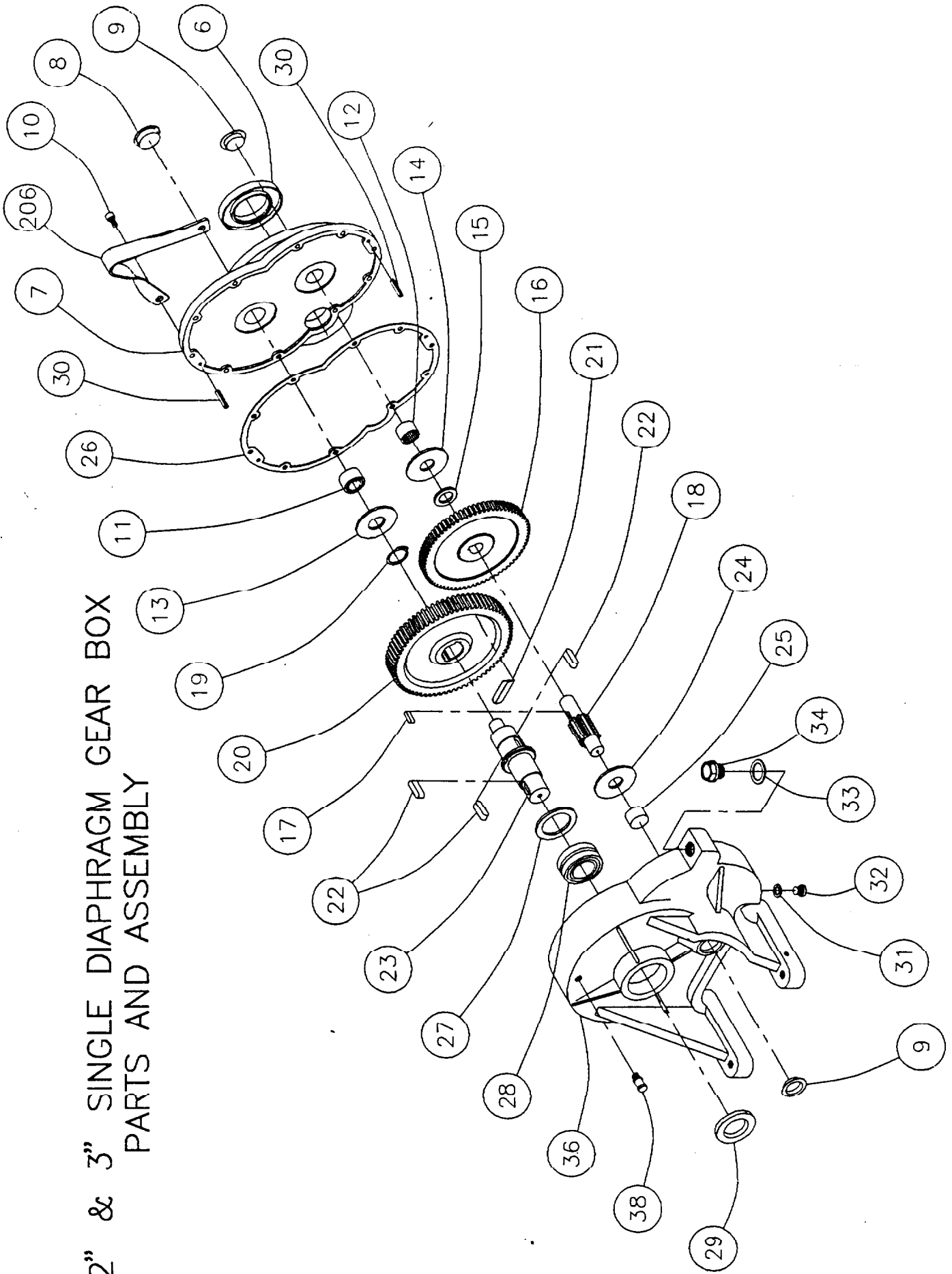
3" SINGLE DIAPHRAGM PUMP PARTS LIST
FIGURE DATA039

REF	DESCRIPTION	QTY	PART NUMBER
55	NIPPLE	1.00	Q14-0000-055
56	DIAPHRAGM NEOPRENE	1.00	Q14-0000-056A
57	FLANGE	1.00	Q14-0000-057A
58	HHCS 12M-1.75-30M	4.00	Q14-0000-058
59	WASHER, FLAT 12M	4.00	Q14-0000-059
60	BRANCH,SUCTION 3" ALUMINUM	1.00	Q14-0000-060A
60.1	NIPPLE, STEEL 3" X CLOSE	2.00	W67-0001-089
61	CHAMBER, AIR	1.00	Q14-0000-061
62	HHCS 12M-1.75-40M	2.00	Q14-0000-062
63	WASHER, FLAT 12M	2.00	Q14-0000-063
64	PIN, DOWEL	1.00	Q14-0000-064
65	CLAPET NEOPRENE	2.00	Q14-0000-065A
68	CASE-ALUMINUM	1.00	Q14-0000-068A
74	HHCS 12M-1.75-40M	2.00	Q14-0000-074
75	WASHER, FLAT 12M	2.00	Q14-0000-075
76	BRANCH,DISCHARGE 3"	1.00	Q14-0000-076A
77	HHCS 8M-1.25-15M	2.00	Q14-0000-077
77.1	WASHER, FLAT 8M	2.00	Q14-0000-111
78	PIN, SELF-LOCKING RING	1.00	Q14-DSW0803-003
79	FRAME, BARROW	1.00	Q14-DSW0803
80	WASHER, FLAT 1/2 SAE	6.00	H61-0001-024A
81	WHEEL MCM# 2331T151	2.00	Q14-2331-T51
82	HHCS 1/2 X 3	2.00	H60-0001-079
83	HHCS 3/8 X 1 3/4	2.00	H60-0001-058
84	WASHER, FLAT 3/8 USS	4.00	H60-0001-021
85	SPRING	1.00	Q14-0000-069

3" SINGLE DIAPHRAGM PUMP PARTS LIST
FIGURE DATA039

REF	DESCRIPTION	QTY	PART NUMBER
86	LOCKNUTS 3/8 - 16	2.00	H60-0001-011
87	HANDLE	1.00	Q14-DSW0803-001
88	GRIP, PLASTIC	1.00	Q14-DSW0803-002
116	NUT 10M-1.5 COMES W/ # 1 ENGINE ADAPTER	4.00	Q14-0000-116
116.1	WASHER, LOCK 10M W/ # 1 ENGINE ADAPTER	4.00	Q14-0000-041
187	STUD 12M-1.75-70M	4.00	Q14-0000-187
187.1	WASHER, STAR 12M	8.00	Q14-0000-187A
188	NUT 12M-1.75	8.00	Q14-0000-188

2" & 3" SINGLE DIAPHRAGM GEAR BOX
PARTS AND ASSEMBLY



2" & 3"

GEAR BOX EXPLODED VIEW PARTS LIST
FIGURE DATA051C

REF	DESCRIPTION	QTY	PART NUMBER
006	SEAL 48-80-10M	1.00	Q14-0000-006
007	COVER ALUMINUM	1.00	Q14-0000-007A
008	PLUG	1.00	Q14-0000-008
009	PLUG	2.00	Q14-0000-009
010	AHCS 6M-1.0-25M	10.00	Q14-0000-010
011	BEARING	1.00	Q14-0000-011
012	BEARING	1.00	Q14-0000-012
013	WASHER, FIBER	1.00	Q14-0000-013
014	WASHER, FIBER	1.00	Q14-0000-014
015	SHIM	1.00	Q14-0000-015
016	GEAR	1.00	Q14-0000-016A
017	KEY	1.00	Q14-0000-017
018	SHAFT	1.00	Q14-0000-018
019	CLIP	1.00	Q14-0000-019
020	GEAR	1.00	Q14-0000-020
021	CLIP, OIL SLINGER	1.00	Q14-0000-021
022	KEY	2.00	Q14-0000-022
023	SHAFT	1.00	Q14-0000-023
024	WASHER	1.00	Q14-0000-024
025	BEARING	1.00	Q14-0000-025
026	GASKET	1.00	Q14-0000-026
027	WASHER	1.00	Q14-0000-027
028	BEARING	1.00	Q14-0000-028
029	SEAL	1.00	Q14-0000-029
030	PIN	2.00	Q14-0000-030
031	WASHER	1.00	Q14-0000-031

2" & 3"

GEAR BOX EXPLODED VIEW PARTS LIST
FIGURE DATA051C

REF	DESCRIPTION	QTY	PART NUMBER
032	PLUG	1.00	Q14-0000-032
033	WASHER	1.00	Q14-0000-033
034	PLUG	1.00	Q14-0000-034
036	CASE ALUMINUM	1.00	Q14-0000-036A
038	VALVE	1.00	Q14-0000-038
137	TRANSMISSION 1:43-ALUMINUM	1.00	Q14-0000-137
206	BAIL, LIFTING	1.00	Q14-0000-206

NOTE: ITEM # 137 IS COMPLETE ASSEMBLY.

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