

RICE HYDRO, INC.
MANUFACTURER'S OPERATING INSTRUCTIONS
TR-SERIES (TRH2, TRH8, TRH10) MODEL TEST PUMPS

FOR WARRANTY REGISTRATION CALL 800-245-4777.

CONNECTING THE PUMP:

1. Check oil level of engine, thru sight glass, use 10W30 as needed. Also oil level of pump thru sight glass, use 30 non-detergent as needed.
2. Connect **CLEAN** pressurized water source (minimum ¾") to the inlet of the pump. *It is recommended that the unit be pressure fed.* For gravity feed locate water within 8 feet and above level of unit, and then prime the pump.
3. Connect high-pressure outlet hose to the pump and your test environment.

OPERATING THE PUMP:

1. Turn the outlet ballvalve to the open position, begin water flow, and start engine. **DO NOT ADJUST ENGINE RPM**, it has been preset at the factory.
2. The pressure regulator has been preset at factory also. **To change this setting you must make this adjustment while the water is flowing freely, under no pressure.** To adjust pressure, first loosen the locknut. Turn the **T-handle/knob** clockwise to increase and counter-clockwise to decrease the pressure. Place a ballvalve at the end of outlet hose, open and close ballvalve to check pressure setting and re-adjust as necessary. It is also recommended that you open and close the RICE bleed valve to remove excess air from piping and ensure accurate pressure readings. Once desired pressure setting is reached, **IT IS VERY IMPORTANT THAT YOU RE-TIGHTEN THE LOCK/JAM NUT**, do not leave adjustment handle free to move or vibrate out of setting. If unloader valve handle does fall out see attached diagram to replace parts correctly. **CAUTION: IT IS VERY COMMON TO REPLACE POPPET/BUTTON BACKWARDS, THE LONGER LEG WITH STEEL BALL FACES AWAY FROM THE SPRING.** With the ballvalve open begin building pressure in test environment. Bleed air thru RICE bleed valve at least once during this process. Once test pressure has been reached, **close ballvalve and shut off engine.**
4. Once the outlet ballvalve is closed and your test begins, you have now isolated the test pump from your test environment; any loss of pressure is due to leaks or trapped air in the line.

REMEMBER THESE CAUTIONS:

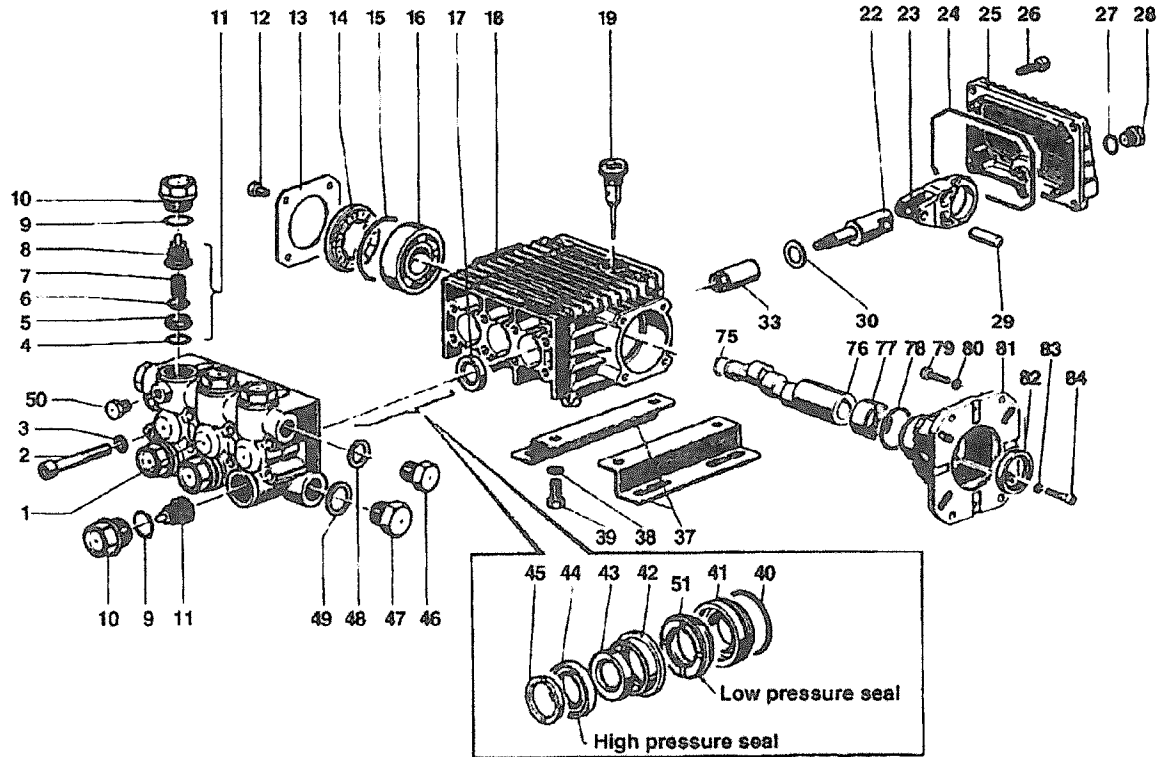
1. Check all oil/fluids in unit before operation.
2. Use a sound ¾" or larger supply hose.
3. DO NOT run dry or pump chlorine through the unit.
4. Protect the pump from freezing, FLUSH with anti-freeze.

RECOMMENDED PERIODIC MAINTENANCE PROCEDURE

1. **Plunger pump - Change oil in the pump body after first 50 hours of use, and every 250 hours thereafter. Change oil in engine after first 5 hours of use, and every 80 hours thereafter.**

EZ Series 44 - Triplex

GENERAL PUMP *A member of the Interpump Group*



PARTS LIST

| ITEM | PART NO. | DESCRIPTION | KIT NO. | QTY. | ITEM | PART NO. | DESCRIPTION | KIT NO. | QTY. | ITEM | PART NO. | DESCRIPTION | KIT NO. | QTY. |
|------|----------|----------------|---------|------|------|----------|-------------------|---------|------|------|----------|------------------------|---------|------|
| 1. | 44120641 | Manifold | | 1 | 23. | 44030022 | Connecting Rod | | 3 | 48. | 96738000 | Washer | | 1 |
| 2. | 99317500 | Screw | | 8 | 24. | 90392000 | O-ring | | 1 | 49. | 96751400 | Washer | | 1 |
| 3. | 96701400 | Washer | | 8 | 25. | 44160022 | Rear Cover | | 1 | 50. | 98196600 | Cap Screw | | 1 |
| 4. | 90384100 | O-ring | 123 | 6 | 26. | 99183700 | Screw | | 5 | 51. | 90260300 | Seal, Low Pressure | 153,156 | 1 |
| 5. | 36200366 | Valve Seat | 123 | 6 | 27. | 90358500 | O-ring | | 1 | 75. | 90063500 | Retaining Ring | | 1 |
| 6. | 36200176 | Valve | 123 | 6 | 28. | 98204100 | Cap Screw | | 1 | 76. | 44022165 | Crankshaft (EZ4040G) | | 1 |
| 7. | 94737600 | Spring | 123 | 6 | 29. | 97734000 | Pin | | 3 | | 44021265 | Crankshaft (EZ4035G34) | | 1 |
| 8. | 36202551 | Valve Cage | 123 | 6 | 30. | 96696700 | Washer | | 3 | | 44020965 | Crankshaft (EZ4030G34) | | 1 |
| 9. | 90384700 | O-ring | 124 | 6 | 33. | 44040266 | Plunger, 13 mm | | 3 | 77. | 91856800 | Roller Bearing | | 1 |
| 10. | 98222600 | Cap Screw | 124 | 6 | 37. | 50200074 | Rail | | 2 | 78. | 90409700 | O-ring | | 1 |
| 11. | 36711501 | Valve Assembly | 123 | 6 | 38. | 96701600 | Washer | | 4 | 79. | 99275500 | Screw, 5/16 x 1 | | 4 |
| 12. | 99180700 | Screw | | 4 | 39. | 99303700 | Nut | | 4 | | 99334500 | Screw, 3/8 x 1 | | 4 |
| 13. | 50150074 | Bearing Cover | | 1 | 40. | 90361200 | O-ring | 156 | 3 | 80. | 96702000 | Washer, 8 mm | | 4 |
| 14. | 44211801 | Spacer | | 1 | 41. | 44080370 | Packing Retainer | 156 | 3 | | 96710400 | Washer, 10 mm | | 4 |
| 15. | 90409700 | O-ring | | 1 | 42. | 44216270 | Intermediate Ring | 156 | 3 | 81. | 10051822 | Gas Flange | | 1 |
| 16. | 91832800 | Ball Bearing | | 1 | 43. | 90507600 | Packing | 153,156 | 3 | 82. | 90169000 | Oil Seal | | 1 |
| 17. | 90161400 | Oil Seal | 23 | 3 | 44. | 90260200 | Packing | 153,156 | 3 | 83. | 96693800 | Washer | | 4 |
| 18. | 44010022 | Crankcase | | 1 | 45. | 44100251 | Head Ring | 156 | 3 | 84. | 99191200 | Screw | | 4 |
| 19. | 98210300 | Oil Dip Stick | | 1 | 46. | 98210000 | Cap Screw | | 1 | | | | | |
| 22. | 44050166 | Piston Guide | | 3 | 47. | 98217600 | Cap Screw | | 1 | | | | | |

REPAIR KITS

| KIT NO. | K23 | K123 | K124 | K153 | K156 |
|--------------------------------------|-----|---------------------|-------|------------|----------------------------|
| ITEM NO's INCLUDED IN KIT | 17 | 4, 5, 6, 7, 8, (11) | 9, 10 | 43, 44, 51 | 40, 41, 42, 43, 44, 45, 51 |
| NUMBER OF ASSEMBLIES IN KIT | 3 | 6 | 6 | 3 | 1 |
| NUMBER OF CYLINDERS KIT WILL SERVICE | 3 | 3 | 3 | 3 | 1 |

TORQUE SPECS*

| Pos. | Ft/lb | N-M |
|------|-------|-----|
| 2 | 14.7 | 20 |
| 10 | 95.9 | 130 |
| 12 | 7.3 | 10 |
| 26 | 7.3 | 10 |
| 28 | 14.7 | 20 |
| 46 | 29.4 | 40 |
| 47 | 29.4 | 40 |
| 50 | 9.6 | 13 |
| 79 | 14.7 | 20 |
| 84 | 7.3 | 10 |

* Decrease torque by 20% if threads are lubricated

Ref 300071 Rev. H
04-11

GENERAL PUMP 1174 Northland Drive • Mendota Heights, MN 55120

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PARTS BREAKDOWN FOR MODEL TRH8
RICE HYDRO, INC.

| PART NUMBER.. | DESCRIPTION.. | QTY REQ'D |
|-----------------------|------------------------------|--------------|
| 1 GP-44120641 | MANIFOLD | 1 |
| 2 GP-99317500 | SCREW | 8 |
| 3 GP-96701400 | WASHER | 8 |
| 4 GP-90384100 | O-RING (KIT 123 ONLY) | 6 |
| 5 GP-36200366 | VALVE SEAT (KIT 123 ONLY) | 6 |
| 6 GP-36200176 | VALVE (KIT 123 ONLY) | 6 |
| 7 GP-94737600 | SPRING (KIT 123 ONLY) | 6 |
| 8 GP-36202551 | VALVE CAGE (KIT 123 ONLY) | 6 |
| 9 GP-90384700 | O-RING (KIT 124 ONLY) | 6 |
| 10 GP-98222600 | CAP SCREW (KIT 124 ONLY) | 6 |
| 11 GP-36711501 | VALVE ASSEMBLY(KIT 123 ONLY) | 6 |
| 12 GP-99180700 | SCREW | 4 |
| 13 GP-50150074 | BEARING COVER | 1 |
| 14 GP-44211801 | SPACER | 1 |
| 15 GP-90409700 | O-RING | 1 |
| 16 GP-91832800 | BALL BEARING | 1 |
| 17 GP-90161400 | OIL SEAL | 3 |
| 18 GP-44010022 | CRANKCASE | 1 |
| 19 GP-98210300 | OIL DIP STICK | 1 |
| 22 GP-44050166 | PISTON GUIDE | 3 |
| 23 GP-44030022 | CONNECTING ROD | 3 |
| 24 GP-90392000 | O-RING | 1 |
| 25 GP-44160022 | REAR COVER | 1 |
| 26 GP-99183700 | SCREW | 5 |
| 27 GP-90358500 | O-RING | 1 |
| 28 GP-98204100 | CAP SCREW | 1 |
| 29 GP-97734000 | PISTON PIN | 3 |
| 30 GP-96696700 | WASHER | 3 |
| 33 GP-44040266 | PLUNGER, 13 MM | 3 |
| 37 GP-50200074 | RAIL | 2 |
| 38 GP-96701600 | WASHER | 4 |
| 39 GP-99303700 | NUT | 4 |
| 40 GP-90361200 | O-RING | 3 |
| 41 GP-44080370 | PACKING RETAINER | 3 |
| 42 GP-44216270 | INTERMEDIATE RING | 3 |
| 43 GP-90507600 | PACKING RETAINER | 3 |
| 44 GP-90260200 | PACKING | 3 |
| 45 GP-44100251 | HEAD RING | 3 |
| 46 GP-98210000 | CAP SCREW | 1 |
| 47 GP-98217600 | CAP SCREW | 1 |
| 48 GP-96738000 | WASHER | 1 |
| 49 GP-96751400 | WASHER | 1 |
| 50 GP-98196600 | CAP SCREW | 1 |
| 51 GP-90260300 | SEAL, LOW PRESSURE | 1 |
| 75 GP-90063500 | RETAINING RING | 1 |
| 76 GP-44022165 | CRANKSHAFT | 1 |
| 77 GP-91856800 | ROLLER BEARING | 1 |
| 78 GP-90409700 | O-RING | 1 |
| 79 BOLT-5/16X24X1-GR8 | SCREW 5/16 X 1 | 4 |
| 80 FLATWASHER-1/4 | WASHER 8 MM | 4 |
| 82 GP-90169000 | OIL SEAL | 1 |
| 83 GP-96693800 | WASHER | 4 |
| 84 GP-99191200 | SCREW | 4 |

PARTS BREAKDOWN FOR MODEL TRH-8
RICE HYDRO, INC.

MISC PARTS..

| | | |
|----------------------|-------------------------------|---|
| UNLOADER-500/4000PSI | PRESSURE REGULATOR | 1 |
| NEEDLEVALVE-1/4 | BLEED VALVE | 1 |
| BALLVALVE-7250-3/8 | OUTLET BALLVALVE | 1 |
| GAUGE-4000 | LIQUID FILLED GAUGE | 1 |
| COUPLERPLUG-S-3/8 | MALE PUMP OUTLET PIPING QC | 1 |
| COUPLERBODY-S-3/8 | FEMALE CONNECT TO OUTLET HOSE | 1 |
| HOSE-3/8-5000X8-RH | 8 FOOT OUTLET HOSE | 1 |
| FITTING-3/8-MPIPE | RIGID HOSE END | 1 |
| FITTING-3/8-MPX | SWIVEL HOSE END | 1 |
| HOSE-HYD-3/8HP | HIGH PRESSURE OUTLET HOSE | 8 |
| | CUSTOMER CAN SPECIFY LENGTH | |
| LINESTRAINER-1/2 | INLET LINE STRAINER | 1 |
| HONDA-GX390UT2-QA2 | 13 HP GAS ENGINE TR8 | 1 |
| PUMP-TRH8-G | TRIPLEX PLUNGER PUMP | 1 |
| KITS: | **KITS ARE ALL INCLUSIVE** | |
| GEN-KIT-K23 | OIL SEAL | 1 |
| GEN-KIT-K123 | VALVE KIT | 1 |
| GEN-KIT-K124 | VALVE CAP & ORING | 1 |
| GEN-KIT-K153 | HIGH/LOW PRESSURE SEAL | 1 |
| GEN-KIT-K156 | SEAL KIT | 3 |