TEREX®

Service Manual

Rubber Track Loader

PT-70/80

Part Number: 2046-310

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PT-80 Specifications

Engine

- Model: Perkins 804D-33T
- Displacement: 3.3 liter
- Gross horsepower:80 hp (60 kW)
- Torque: 186 lb-ft. (253 Nm)
- Idle rpm: 1200 (low idle), 2600 (high idle)
- Average water /thermostat temperature: 190°F, 87.8°C

Transmission

- Model: Cat A22VG tandem (Rexroth)

Drive Pumps

- Displacement: 2.349 in3/rev (38.5cc/rev)
- Relief pressure: 5500 psi (380 bar)
- Flow: 26.4 gpm (100 lpm) @ 2600 rpm (per pump)

Charge Pump

- Displacement: 1.373 in3/rev (22.5 cc/rev)
- Relief pressure: 475 +/- 30 psi (32.75 bar)
- Flow: 15.4 gpm (58.3 lpm) @2600 rpm

Drive Motors

- Model: Rexroth MCR 5 (2-speed)
- Displacement: 50 in3/rev (820 cc/rev)

Pilot Controls (Joysticks)

- Model: Rexroth 08-351

Auxiliary Pump

- Make: Rexroth
- Type: Axial Piston, Variable Load Sense
- Displacement: 2.75 in3/rev (45 cc/rev)
- Max Flow: 30 gpm (113.6 lpm) @ 2600 rpm
- Relief pressure: 3000 psi (20,680 kPa)
- Marginal (Standby) Pressure: 218 psi (1,503 kPa)
- Cooling/filtering: Oil is filtered and cooled at all times. In auxiliary mode, the oil is filtered after the attachment to protect the machine if the attachment motor fails or contaminants are introduced from the quick couplers.

Lift Arm Control Valve

- Make: Rexroth
- Type: Load Sense

Oil Cooler

- Operating pressure: 150 psi (1034 kPa)
- Bypass relief pressure: 80 psi (689 kPa)
- Hot oil sending unit: 225°F (107.2°C)
- Avg. oil operating temp. 50-60°F / 28-33°C above ambient.
  (High flow application 80°F / 44°C above ambient.)

Critical Torque Specs

- Transmission Mounting Bolts
  -- 85 ft-lb. / 115 Nm - w/Blue Loctite
- Drive Sprocket Drive Teeth Bolts
  -- 85 ft-lb. / 115 Nm - Dry
- Bogie Wheel (10" Idler) Retaining Bolt
  -- 180 ft-lb. / 244 Nm - w/Red Loctite
- 15" Idler Wheel Retaining Nut
  -- 350 ft-lb. / 475 Nm -Dry
- Drive Sprocket Lug Nut
  -- 177 ft-lb. / 240 Nm -Dry
- Drive Motor Mounting Bolts
  -- 177 ft-lbs. / 240 Nm -Dry

Cycle Times

- Lift-Arm up: 3.5 seconds (+/- .35 seconds)
- Lift-Arm Down: 3.3 seconds (+/- .33 seconds)
- Bucket Curl: 1.7 seconds (+/- .17 seconds)
- Bucket Dump: 1.9 seconds (+/- .19 seconds)

Service Tools

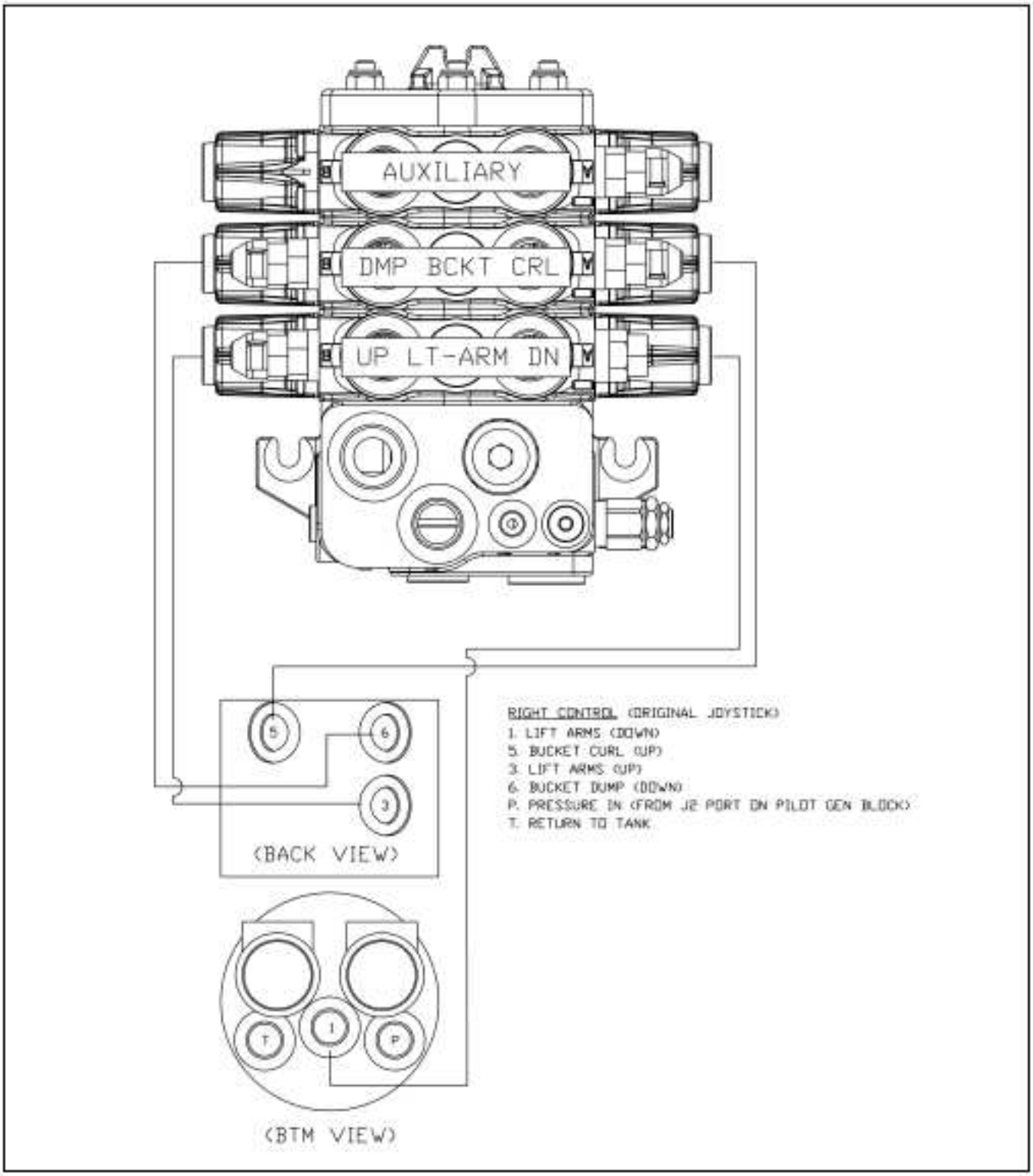
Listed below are common service tools which are identified and utilized in the service procedures described in this manual. Use tools recommended by TEREX whenever possible to reduce risk of injury and or machine damage during service.

- TEREX Jack Stands (2) (TEREX P/N: 0402-900)
- Heavy Duty Hydraulic Jack (5-ton rating)
- Test Gauge Kit (TEREX P/N: 0402-935)
- Ratchet Strap
- Long Pry Bar(s)
- TEREXService Cart (0402-871)

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Lift Arm Control (line routing)

Figure 3-8 PT-70/80 Lift Arm Control



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Problem 2:
Machine cranks, but will not start.
Possible causes
1. Fuel tank empty, fuel filter plugged or fuel line restricted.
2. Battery discharged (engine rotates slowly).
3. Injection pump fuse blown.
4. Power relay (B) fuse blown (40 amp).
5. Faulty power relay (B).
6. Loose, broken or disconnected wiring at injection pump, fuel pump or fuse.
7. Glow plugs not pre-heating (look for black smoke).
   a) Main glow plug fuse blown.
   b) Glow plug relay malfunctioning.
   c) Loose, broken, or disconnected wiring at ignition switch, relay or glow plug ground strip.
   d) Faulty glow plugs.
8. Faulty ignition switch.
9. Loose, broken or disconnected wiring in starting circuit.
10. Loose, broken or disconnected wiring at fuel shutoff solenoid.
11. Air in fuel system or defective fuel injection pump.

Problem 3:
Machine starts, but hydraulics will not operate.
Possible causes
1. Operator not in seat.
2. Seat belt not fastened.
3. Safety relay fuse and or or safety solenoid fuse for seat belt or operator presence safety switches blown.
4. Faulty operator presence safety switch.
   a) Test for continuity through operator presence and seat belt switches. Adjust or replace as necessary.
5. Loose, broken or disconnected ground wires (check ground connections behind the operator seat, from cab to chassis and on the chassis crossmember.)
6. Faulty safety relay.
7. Faulty safety solenoid or safety solenoid spool.
8. Loose, broken or disconnected wiring at fuse, relay, or safety solenoid.
9. Low charge pressure.

Problem 4:
Lift arm/bucket controls are operational, but tracks will not move.
Possible causes
1. Leak in feed line to drive control joystick (pilot control).
2. Loose, broken or disconnected wire to DA control solenoid.
3. Drive control joystick (pilot control) malfunction.
4. Low charge pressure.
5. Parking brake switch in on position.
6. Faulty parking brake switch.

Problem 5:
Tracks are operational, but lift arms will not move.
Possible causes
1. Continuous hydraulic flow switch activated, sending oil over relief. (lift arms work, but move slowly)

If auxiliary flow hydraulics work check for:
   a) Leak in feed line to lift arm control joystick (pilot control).
   b) Lift arm control joystick (pilot control) malfunction.
   c) Lift arm control valve assembly malfunction.

If auxiliary flow hydraulics do not work check for:
   a) Main auxiliary relief malfunction.
   b) Faulty auxiliary pump.

.

Problem 6:
Lift arms are operational, but high/low flow auxiliary circuits are not.
Possible causes
1. Auxiliary hydraulic fuse blown.
2. Faulty ground in at chassis crossmember.
3. Faulty auxiliary hydraulic switch.
4. Faulty auxiliary hydraulic solenoid at pilot generation block.
5. Loose, broken or disconnected wire at fuse, auxiliary hydraulic switch, pin connector P10.
6. Auxiliary hydraulic pilot generation spool stuck in closed position.
7. Faulty or improperly connected quick coupler.
8. Quick coupler block pressure release stuck in down (open) position.

Problem 7:
Multiple switches/electrical accessories are not operational in ON or RUN position.
Possible causes
1. Power A or B fuse blown.
2. Faulty power relay (A or B).
3. Faulty ignition switch.
4. Loose, broken or disconnected wiring at ignition switch, fuse or relay.

Problem 8:
Battery will not charge/maintain charge.
Possible causes:
1. Loose alternator belt.
2. Alternator fuse blown.
3. Faulty alternator diode.
4. Loose, broken or disconnected wiring at battery, alternator, diode or fuse.
5. Excessive current draw with key in "off" position.
6. Faulty battery.
7. Faulty alternator.

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⚠ Attachments

Only use attachments that are recommended by Terex.

Make sure that all necessary guards and protective equipment are in place and functioning prior to operating any attachment.

Wear protective glasses and protective equipment as required by conditions or as recommended in the attachment's operation manual.

> ⚠ **When replacement parts are required for your machine, use only genuine Terex replacement parts or parts that meet or exceed original specifications including, but not limited to physical dimensions, type, strength and material.**
>
> **Installing lesser components can lead to premature failures, product damage, personal injury or death.**

Ensure that all personnel are far enough away from the work area so they will not be struck by flying objects.

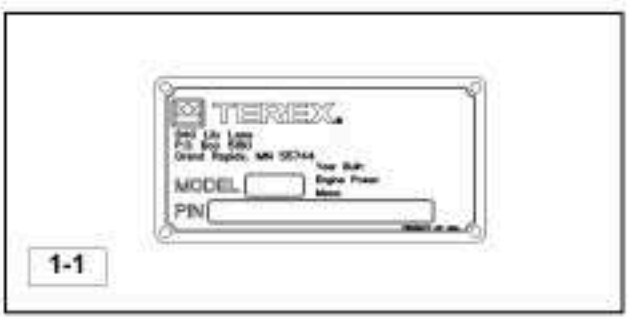
Stay clear of the cutting edges, pinching surfaces or crushing surfaces of the attachment while performing any attachment maintenance, testing or adjustments.

⚠ Machine Labels and Decals

Labels and decals placed on the machine provide safety information and operating instructions. Familiarize yourself with the location and significance of these labels to ensure your safety.

Product Identification Number

The Product Identification Number (PIN) is located on the front of the cab enclosure (figure 1-1). Always provide the PIN when contacting the dealer about parts, service, warranty or accessories. No warranty claims will be processed unless the PIN is provided.



1-1

Safety Label Examples

Examples of the labels and decals displayed on the machine are shown on this page.



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6. If your reading is low, remove the cap and loosen the jam nut on the posi-power adjustment screw and turn it counter clockwise until it stops then retighten the jam nut. (figure 17-11)

   a) If the screw was already turned completely out and pressure reads lower than specified, the posi-power relief valve is faulty and should be replaced.

   b) If you were able to turn the screw out, recheck posi-power pressure to see if the reading is now within specification. If it is, the system should function properly. If it did not improve, the posi-power relief valve is faulty and should be replaced.

To Adjust Posi-Power:

1. Loosen the jam nut and then turn the screw to adjust for more or less posi-power function. (figure 17 -11)

   a) Turn the screw clockwise to increase function and limit pump flow during high load conditions. (less likely to stall)

   b) Turn counter-clockwise to decrease function and maximize pump flow during high load conditions. (more likely to stall)

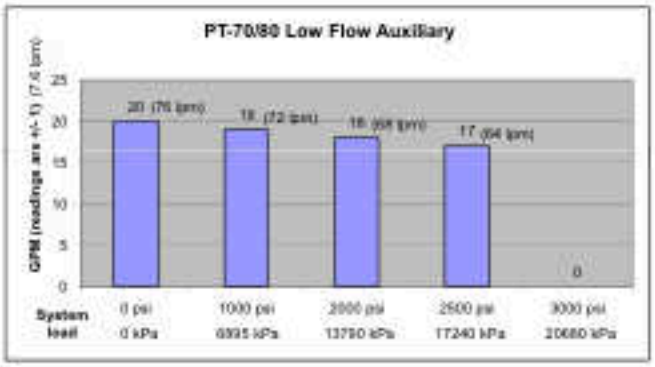
2. Tighten the jam nut while holding the set screw in place to keep desired setting.

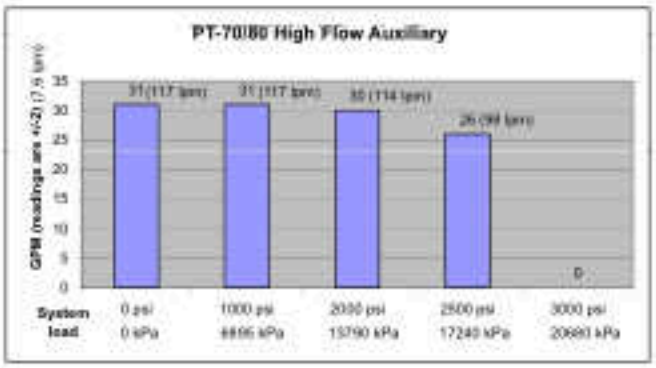
Auxiliary Flow Test

The PT-70/80 is equipped with both high and low flow auxiliary circuits. If an auxiliary flow problem is suspected, the following procedures should be performed.

Note: If an auxiliary circuit problem is suspected, perform all pressure test and adjustment procedures as necessary prior to attempting to perform the flow test procedure. Most issues will be solved with the pressure test and adjustment procedures, but if a problem still persists after all pressures are correctly set, proceed with the flow test.

Required Tools
Flow Meter (with variable loading valve)





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