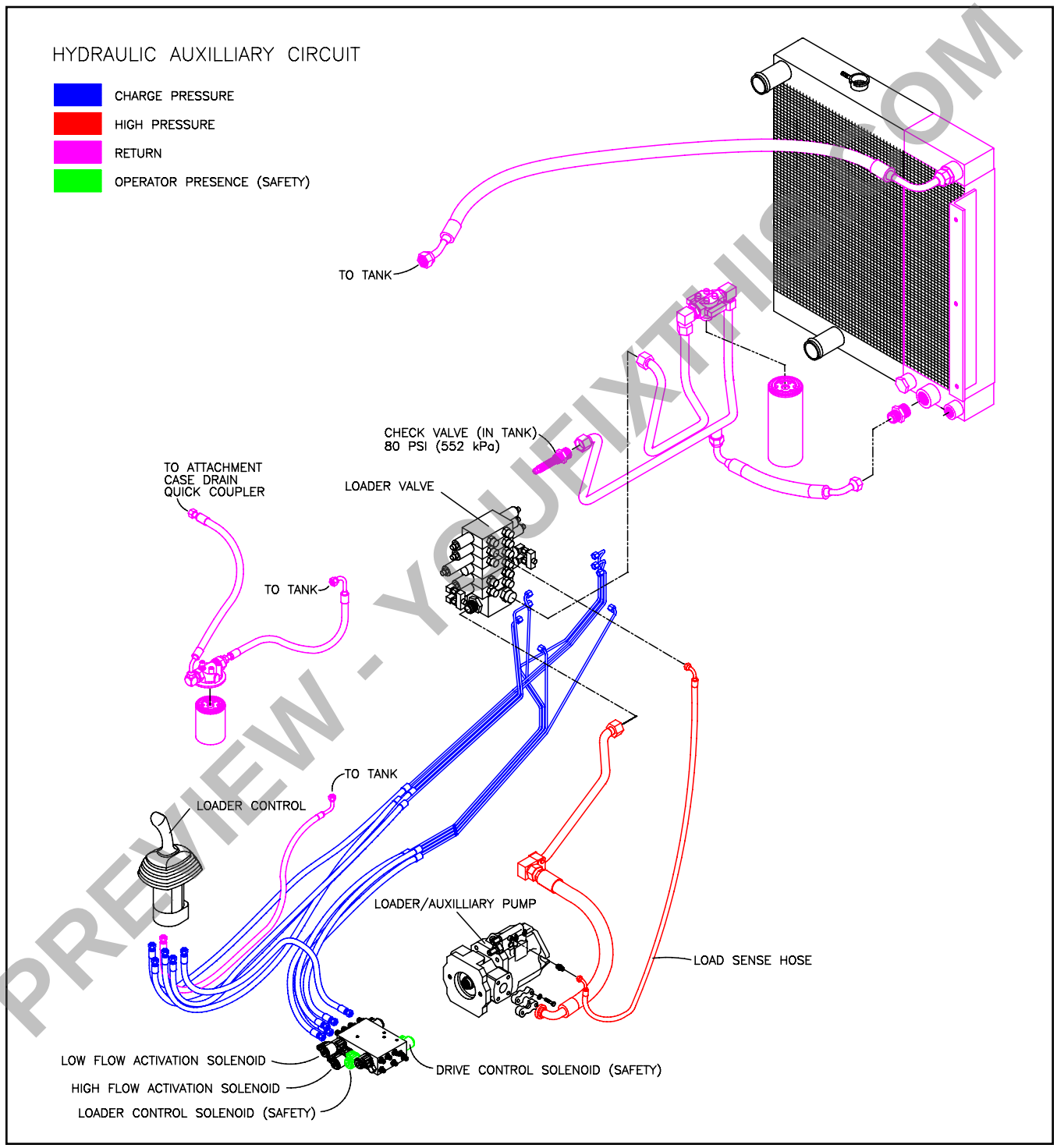
Hydraulic Auxiliary Circuit

Figure 3-2 PT-100 Forestry Hydraulic Auxiliary Circuit



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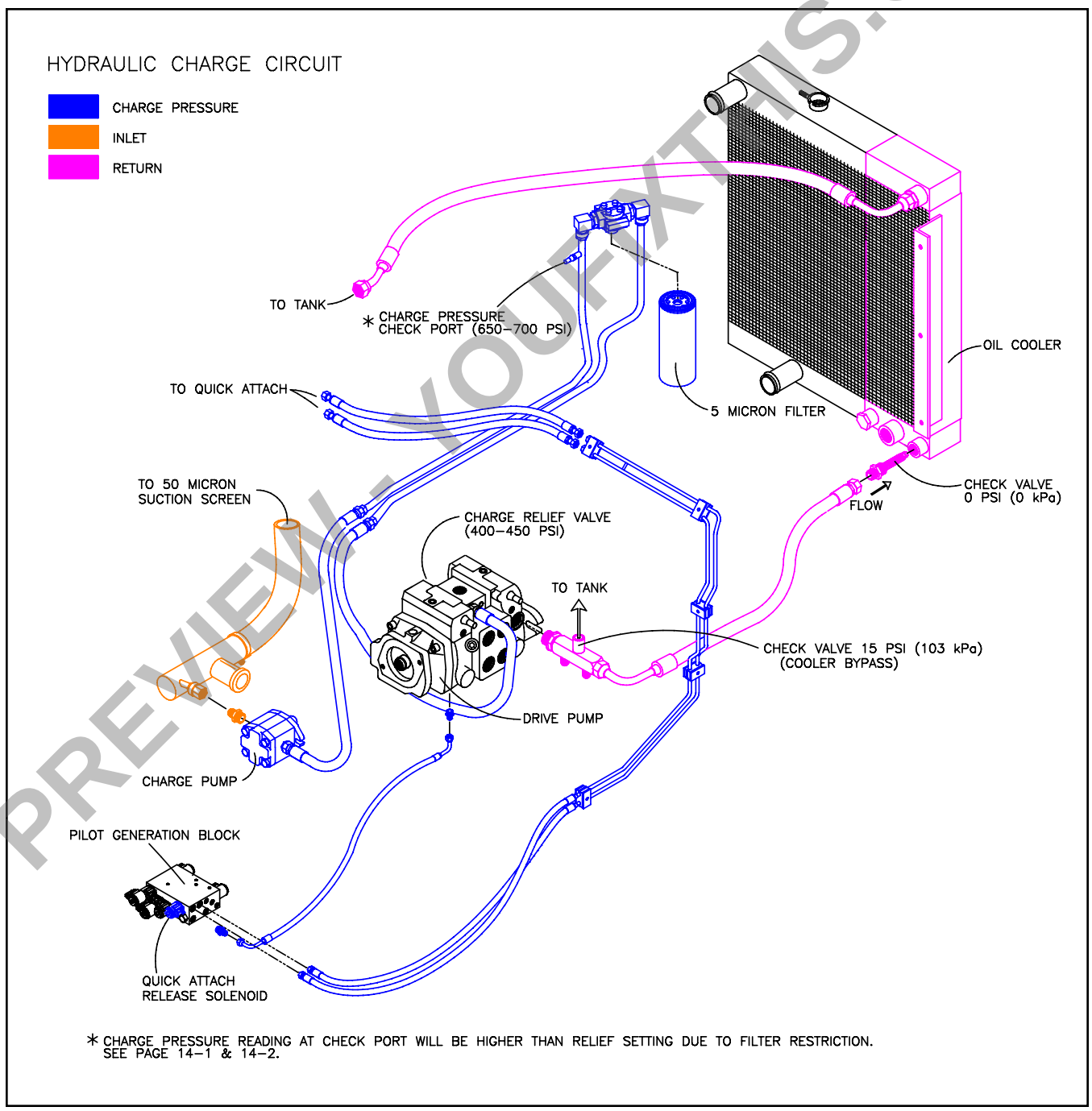
3. Circuit Diagrams

Chapter Overview

This chapter contains diagrams for the following PT-100 Forestry circuits: hydraulic charge circuit, hydraulic auxiliary circuit, hydraulic drive circuit, loader valve, hydraulic pilot generation (solenoid) block and electrical attachment outlet.

Hydraulic Charge Circuit

Figure 3-1 PT-100 Forestry Hydraulic Charge Circuit



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Figure 5-2

2. Carefully lower the gauge panel with the wire harness attached.

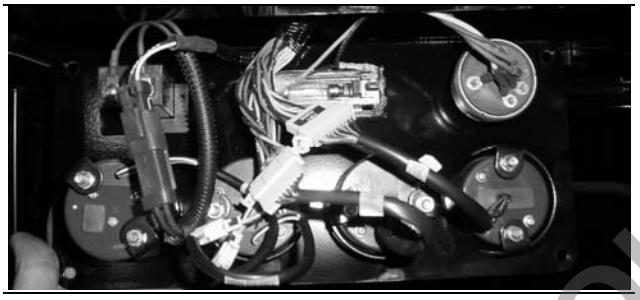


Figure 5-3

3. View of gauge panel interior components. Interior components are now accessible for servicing.



Figure 5-4

4. View of dome light. If removal is required, simply insert a lever (blade-type screw driver) at opposite end of switch in pry-pocket, and gently pry the light assembly out of the gauge panel.

Gauge Panel Installation



Figure 5-5

1. Carefully position the gauge panel, without pinching the wiring harness against the cab.



Figure 5-6

2. Secure the gauge panel to the cab with the four screws.

Ignition Switch Removal and Installation

The tools required for ignition switch removal and installation are listed in Table 5-2. Use manufacturer-recommended tools whenever possible.

Table 5-2

Required Tools
Combination Wrench

Ignition Switch Removal

1. Lower the gauge panel. Refer to *Chapter 5. Gauge Panel Removal* procedure.

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11. Maintenance

Chapter Overview

This chapter provides information on general maintenance procedures for the PT-100 Forestry. If there is an issue that requires troubleshooting, refer to Chapter 13, Troubleshooting.

⚠ Personal Safety

Improper or incomplete maintenance/repair of a Compact Track Loader can be dangerous and may result in machine damage, injury or death.

Do not attempt to perform any type of repair or maintenance on a Compact Track Loader until you have read and fully understood the information in this manual. Refer to the Operation and Maintenance manual for instructions regarding proper machine operation techniques before operating any Compact Track Loader.

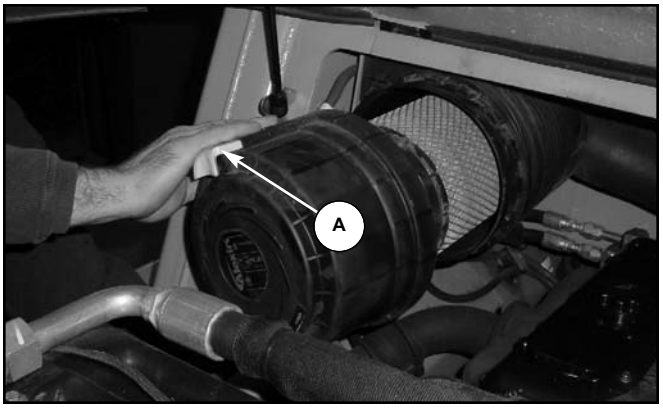
Prior to performing any type of service work on a Compact Track Loader, read and understand Chapter 1 (Product Safety) for personal safety information.

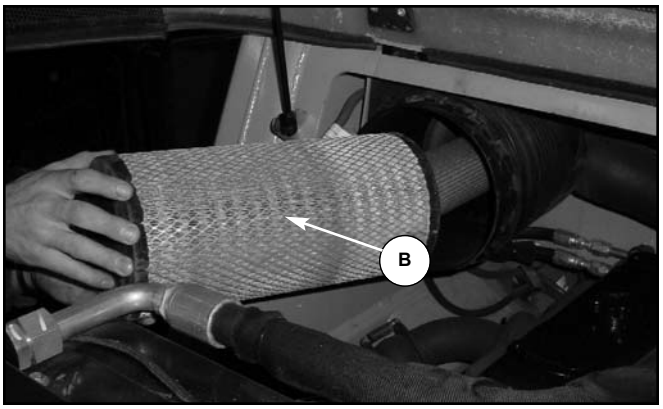
Air Cleaner

Your PT-100 Forestry compact track loader is equipped with two air filter elements to remove contaminants from the air your engine uses for combustion. Regular inspection and replacement of the filter elements is necessary to ensure proper performance and to prolong engine life.

To remove and inspect your air cleaner elements:

1. Turn the engine off.
2. Open the hood at the rear of the PT-100 Forestry to gain access to the engine compartment.
3. Locate the black plastic air cleaner enclosure near the top left of the engine compartment (when viewed from the rear).
4. Remove the cover by pulling out on the yellow slide-lock (A) located near the top of the air cleaner enclosure. Then rotate the cover counter-clockwise approximately 1/8 turn and remove. The primary element (B) should be exposed.





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Troubleshooting

This section identifies selected problems and suggests probable causes.

Problem 1

Machine will not crank over.

Probable cause

1. Continuous high flow switch activated.
2. Continuous low flow switch activated.
3. Power quick-attach in the unlocked position.
4. Weak or dead battery.
5. Faulty continuous hyd. flow switch
6. Battery cables loose or corroded.
7. Ignition fuse blown.
8. Main starter fuse blown.
9. Starter relay malfunctioning.
10. Bad ignition switch.
11. Bad starter.
12. Poor wire connections at key, relay, or starter.

Problem 2

Machine cranks but will not start.

Probable cause

1. Injection pump fuse blown.
2. Main power fuse B blown.
3. Main power relay B not activating.
4. Poor wire connection at injection pump or fuse.
5. Glow plugs not heating. (Will see black smoke.)
   a) Main glow plug fuse blown.
   b) Glow plug relay not activating.
   c) Poor wire connections at ignition switch, relay, or glow plug strip.
   d) Failed glow plugs.
   e) Bad ignition switch.

Problem 3

Machine starts but hydraulics will not operate.

Probable cause

1. Operator must be seated in seat with seat belt fastened, and front door (if installed) must be closed.
2. Safety fuse blown.
3. Faulty operator presence switch/door switch.
   a) Test continuity through seat, seat belt, and door switch. Adjust or replace as necessary. Door switch should be adjusted so that switch is activated when door is closed. Switch arm should be compressed approximately ¼ inch (.63 cm) when door is closed to ensure proper operation.
4. Poor ground (check ground wires on left side of chassis beneath the battery).
5. Safety relay is not activating.
6. Faulty safety solenoid or safety solenoid spool.
7. Poor wire connections on fuse, relay, or safety solenoid.
8. Low charge pressure.

Problem 4

Lift arms operate but tracks will not move.

Probable cause

1. Leak in feed line to pilot control.
2. Bad wire connection to DA Control Solenoid.
3. Pilot control malfunctioning.
4. Low charge pressure.

Problem 5

Tracks operate but lift arms will not operate.

Probable cause

1. Continuous hyd. flow switch activated, sending oil over relief.
2. Check to see if auxiliary flow works. (If auxiliary flow works, skip to number 5).
3. Main auxiliary relief malfunction.
4. Auxiliary pump bad.
5. Leak in feed line to loader control pilot.
6. Loader control pilot malfunctioning.
7. Loader valve malfunctioning.

Problem 6

Low or high auxiliary flow does not work. Lift arms do work.

Probable cause

1. Auxiliary hydraulic fuse blown.
2. Faulty ground wire.
3. Auxiliary hydraulic switch failure.
4. Poor wire connections at fuse, auxiliary hyd. switch, or pin connector P17.
5. Auxiliary hydraulic pilot generation spool stuck.
6. Bad or not fully connected Quick-Coupler.
7. Quick coupler block pressure release button stock in the down position.

Problem 7

No power to numerous auxiliary functions or accessories in ON or RUN position.

Probable cause

1. Main power relay A or B fuse blown.
2. Main relay A or B faulty.
3. Ignition switch malfunction.
4. Poor wire connections at ignition switch, fuse, or relay.

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2. Technical Specifications

PT-100 Forestry Specifications

Engine

- Model: Perkins 1104C-44T (Turbo)
- Displacement: 4.4 liter
- Gross horsepower: 99.9 hp (74.5 kW)
- Torque: 304 lb-ft. (412 Nm)
- Idle rpm: 1000 (low idle), 2300 (high idle)
- Average water /thermostat temperature: 190°F, 87.8°C

Transmission

- Model: A22VG tandem (Rexroth)

Drive pumps

- Displacement: 2.745 in^3/rev (45 cc/rev)
- Relief pressure: 5500 psi, 380 bar
- Flow: 27.33 gpm (103.5 lpm) @ 2300 rpm

Charge pump

- Displacement: 1.587 in^3/rev (26 cc/rev)
- Relief pressure: 400-450 psi (2758-3102 kPa) 650 to 700 psi (4481.6-4826.3 kPa) at filter test port

Drive Motors

- Model: Rexroth MCR 5 (2-speed)
- Displacement Low 50 in^3/rev (820 cc/rev)
- Displacement High 25 in^3/rev (410 cc/rev)

Control Handles

- Model: 4TH6 (Rexroth)

Auxiliary Pump

- Make: Rexroth
- Type: Axial Piston, Variable Load Sense
- Displacement: 3.844 in^3/rev (63 cc/rev)
- Max Flow: 38 gpm (143.8 lpm) @ 2300 rpm
- Relief pressure: 3300 psi (22,750 kPa)
- Marginal Pressure: 362 psi (2,495 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.

Loader Valve

- Make: Husco
- Type: Load Sense

Cooler

- Operating pressure: 150 psi (1034 kPa)
- Bypass relief pressure: 80 psi (689 kPa)
- Hot oil sending unit: 225°F (107.2°C)

Critical Torque Specs

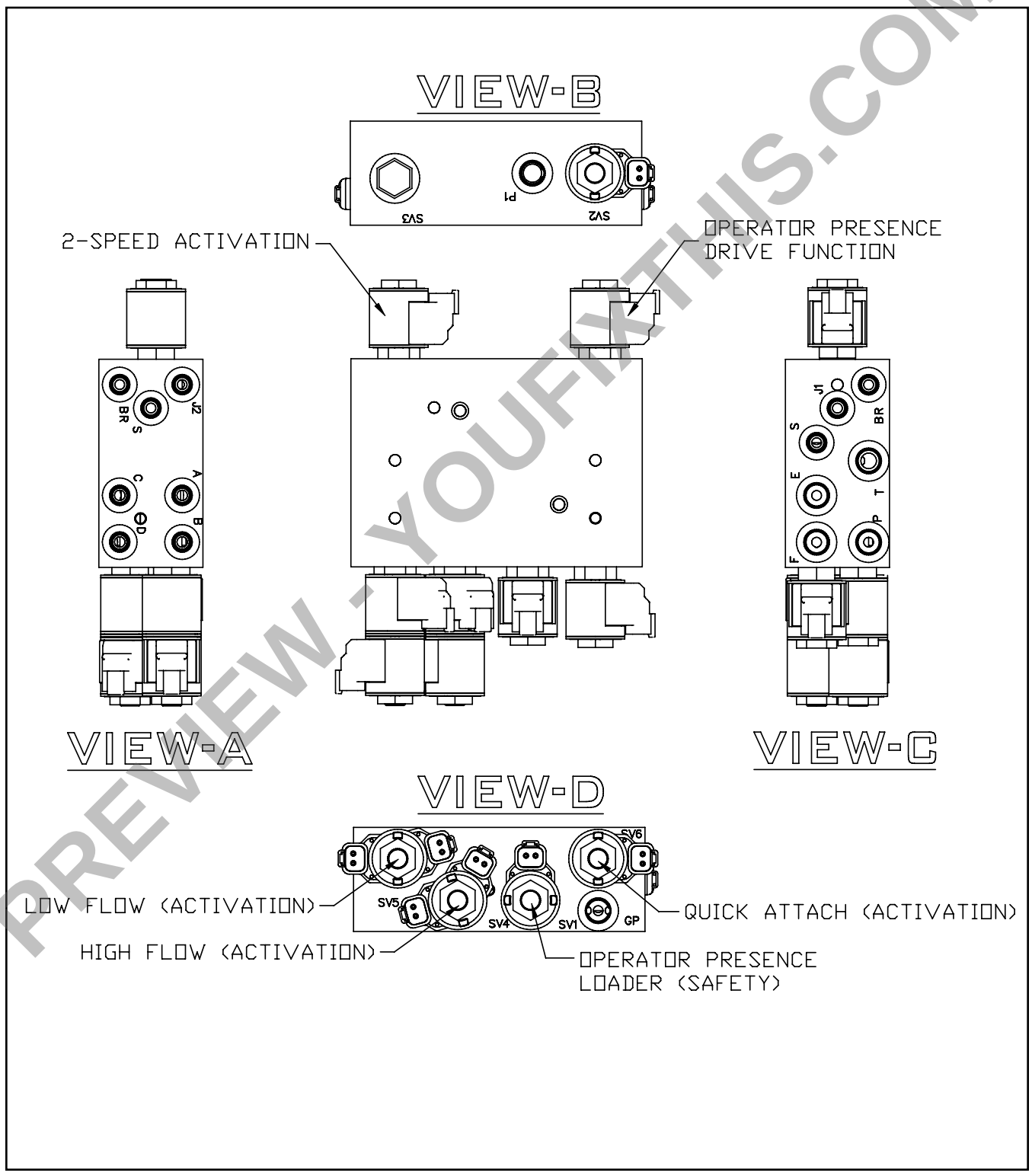
- Transmission Mounting Bolts
  - 85 ft-lb. (230.5 Nm) w/Blue Loctite
- Drive Sprocket Drive Teeth Bolts
  - 85 ft-lb. (230.5 Nm) -Dry
- Bogie Wheel Retaining Nuts (10'')
  - 37 ft-lb. (100.3 Nm) -Dry
- Bogie Wheel Retaining Nuts (14'')
  - 37 ft-lb. (100.3 Nm) -Dry
- Drive Sprocket Lug Nuts
  - 177 ft-lb. (480 Nm) -Dry
- Drive Motor Mounting Bolts
  - 177ft-lbs. (480 Nm) -Dry

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Hydraulic Pilot Generation Block

Figure 3-5 PT-100 Forestry Pilot Generation Block



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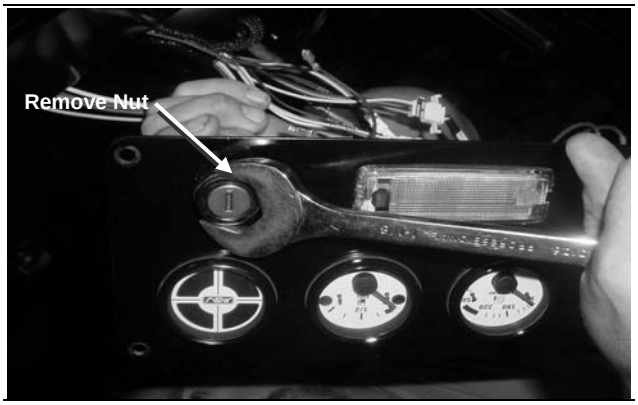


Figure 5-7

2. Remove the nut that secures the ignition switch to the gauge panel.

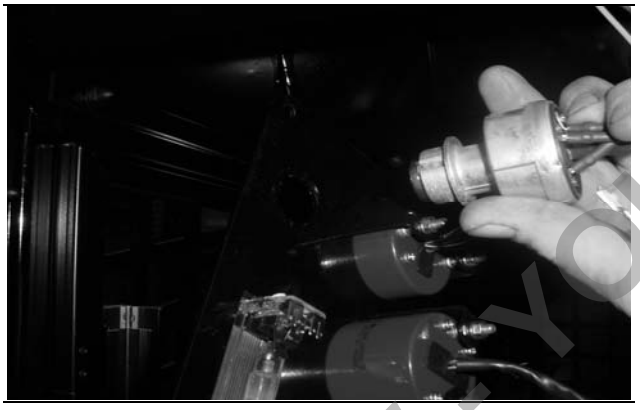


Figure 5-8

3. Pull the ignition switch out from the rear of the gauge panel.



Figure 5-9

4. Unplug the ignition switch connector.

Ignition Switch Installation



Figure 5-10

1. Insert the ignition switch from the rear of the dash panel.

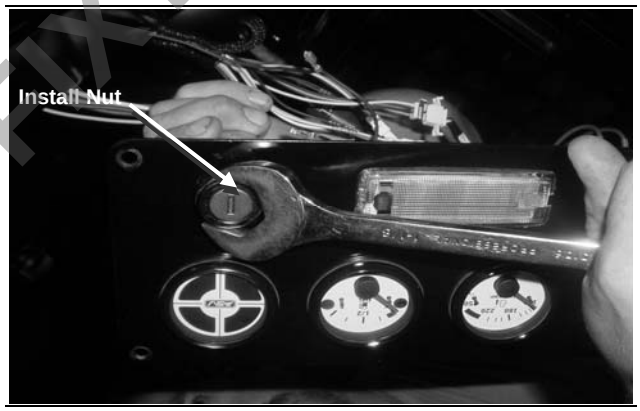


Figure 5-11

2. Install the nut that secures the ignition switch to the dash panel.



Figure 5-12

3. Plug in the ignition switch connector.

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