TEREX®

Service Manual

Rubber Track Loader

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PT-50/60

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1. Product Safety

Chapter Overview

This chapter contains product safety information for the Terex PT-50/60 Rubber Track Loaders. Read and understand all product safety information before attempting to service any Rubber Track Loader.



Safety Alert Symbol
This symbol means: **Attention! Be alert! Your safety is involved!**

The safety alert symbol is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

This symbol is used as an attention-getting device throughout this manual as well as on decals and labels fixed to the machinery to assist in potential hazard recognition and prevention.

Property or equipment damage warnings in this publication are identified by the signal word "NOTICE".

NOTICE

"NOTICE" Indicates a hazardous situation which, if not avoided, could result in property or equipment damage.

The word "Note" is used throughout this manual to draw your attention to specific topics or to supplement the information provided in that section.

Improper or incomplete maintenance/repair of a Rubber 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 Rubber Track Loader until you have read and fully understood both this manual and the machine specific operation and maintenance manual.

Refer to the Operation and Maintenance manual for instructions regarding proper machine operation and maintenance techniques before operating or servicing any Rubber Track Loader.

The person(s) in charge of servicing a Rubber Track Loader may be unfamiliar with many of the systems on the machine. This makes it especially important to use caution when performing service tasks. Familiarize yourself with the affected system(s) and components before attempting any type of maintenance or service.

It is not possible to anticipate every potential hazard. The safety messages included in this document and displayed on the machine are not all-inclusive. They are intended to make you aware of potential risks and encourage a safe approach to performing service work. If you use a tool, procedure, work method or operating technique that is not specifically recommended by Terex, you must satisfy yourself that it is safe for you and others. You must also ensure that the machine will not be damaged or be made unsafe by the operation, lubrication, maintenance or repair procedures that you choose.

⚠ Basic Precautions

Safety Labels

Safety labels have been included and are displayed in various places throughout the machine to serve as warnings of potentially dangerous conditions. Read and understand all "Safety" labels on any Rubber Track Loader before attempting to operate, maintain or repair it. Replace any damaged, illegible or missing labels immediately, prior to service.

Personal Protective Equipment

Personal protection equipment is recommended when performing maintenance or service on a machine. Always wear appropriate protective equipment for working conditions when working on or around the machine. Loose clothing should not be worn and long hair should be restrained. Wear hard hats, protective face/eyewear, safety shoes and any other equipment necessary to ensure your safety and the safety of others around you as you work.

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2. Technical Specifications

PT-50 Specifications

Engine

- Model: Perkins 404D-22
- Displacement: 2.2 liter
- Gross horsepower: 50 hp, 37.3 kW
- Torque: 105 lb-ft.143 Nm
- Idle rpm: 2800 (high idle); 1175 (low idle)
- Average water /thermostat temperature: 190°F, 87.8°C

Transmission

- Model: A22 (38.5cc) tandem (Rexroth)

Drive pumps

- Displacement: 2.349 in^3/rev (38.5 cc/rev)
- Relief pressure: 5500 psi, 380 bar
- Flow: 28 gpm (106 lpm) @ 2800 rpm (high idle)

Charge pump

- Displacement: 1.098 in^3/rev (18 cc/rev)
- Relief pressure: 400-450 psi

Drive Motors

- Model: Rexroth MCR 05C
- Displacement: 37.8 in^3/rev (620 cc/rev)

Control Handles

- Model: 4TH6 (Rexroth)

Auxiliary Pump

- Make: Haldex-Barnes #180-2061
- Displacement: 1.343 in^3/rev (22 cc/rev)
- Flow: 16.27 gpm (61.85 lpm) @ 2800 rpm (high idle)
- Relief pressure: 3000 psi (20,684 kPa)
- Cooling/filtering: Auxiliary 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

- Model: Husko
- Relief pressure: 3000 psi (20,684 kPa)
- Pilot pressure required to move spools: 180-220 psi (1241-1517 kPa)

Cooler

- Burst pressure: 400 psi (2757 kPa)
- Operating pressure: 250 psi (1724 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. w/Blue Loctite
- Drive Sprocket Drive Teeth Bolts
  - 88 ft-lb. -Dry
- Center Bogie Wheel Retaining Nut
  - 111 ft-lb. –Dry
- End Wheel Axle Retaining Nut
  - 300 ft-lb. -Dry
- Drive Sprocket Lug Nut
  - 129 ft-lb. -Dry
- Drive Motor Mounting Bolts
  - 177 ft-lbs. -Dry

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3. System Diagrams

Chapter Overview

This chapter contains diagrams for the following PT-50/60 systems.

- Filtering and cooling system
- Auxiliary circuit system
- Drive loop system

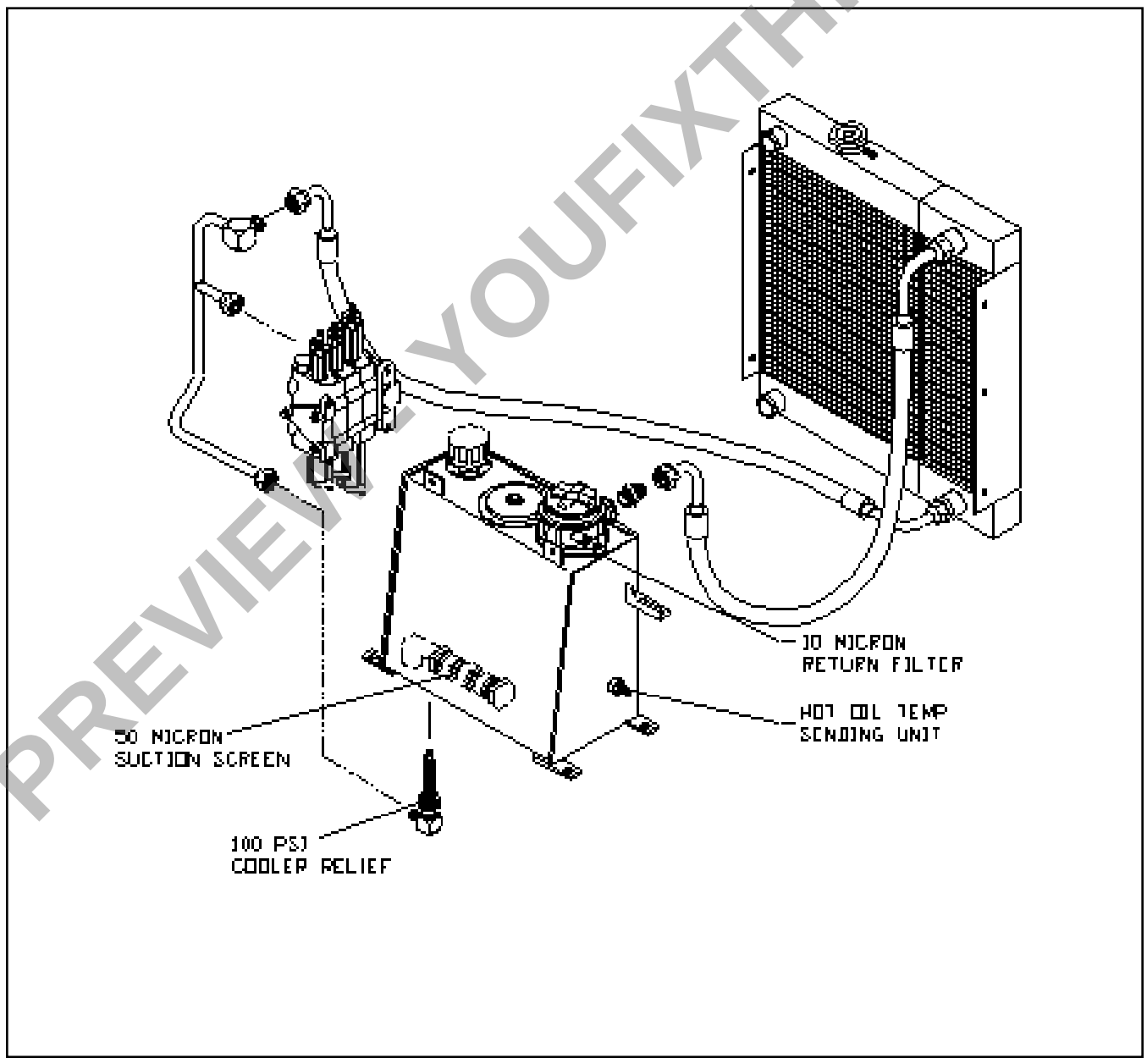
Filtering and Cooling System

The filtering and cooling system (Figure 3-1) contains the following major components.

- Hydraulic reservoir
- Radiator/oil cooler
- Loader valve

Figure 3-1

PT-50/60 Filtering and Cooling System 3-001



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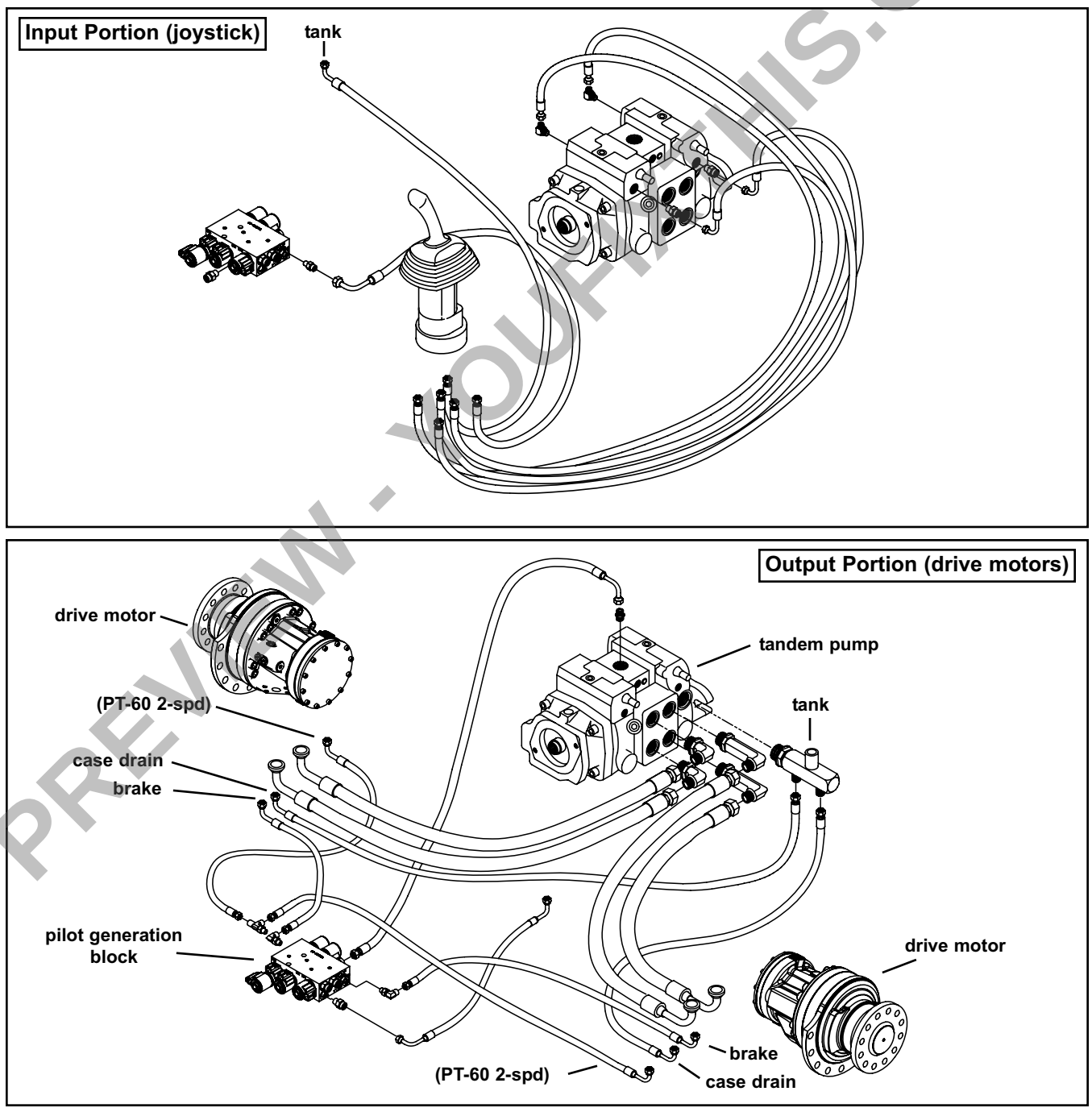
Drive Loop System

The drive loop system (fig. 3-3) contains the following major components.

- Drive motors
- Pilot control manifold
- Drive control joystick
- Tandem pump

Figure 3-3

PT-50/60 Drive Loop System 3-003



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4. Machine Controls and Instrumentation

Chapter Overview

This chapter contains an overview of the machine controls and instrumentation. For further information regarding machine controls, instrumentation or operation, refer to the operation and maintenance manual for your particular machine. Included here are illustrations of the following controls and instrumentation components and a description of their functions.

- Machine Controls
- Instrument Location and Function
- Switch Location and Function

Machine Controls (fig. 4-1)

There are three primary machine controls: lift arm control (2), drive control (1) and throttle (3).

Lift Arm Control

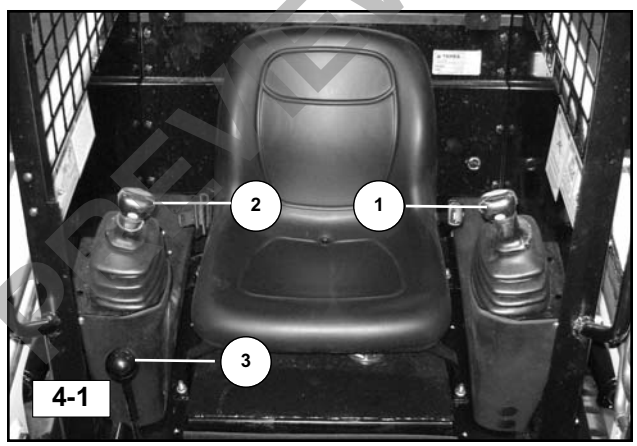
The lift arm control (2) is a pilot operated joystick that allows the operator to raise or lower the loader and dump or curl the quick attach mechanism.

Drive Control

The drive control (1) is also a pilot operated joystick. It allows the operator to change the direction and speed of the machine.

Throttle

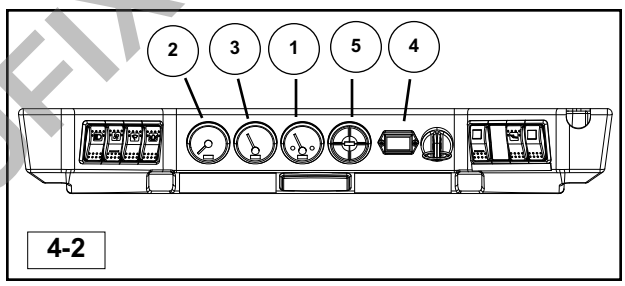
The hand throttle (3) controls engine rpm.



Instrumentation

The Instruments (Figure 4-2) are positioned in the overhead dash panel for ease of access and visibility when seated inside the operator enclosure. Instruments include the following components.

(1) Fuel Gauge
(2) Tachometer (optional)
(3) Engine Coolant Temp. Gauge (optional)
(4) Hour Meter
(5) Warning Indicator Display
- Engine Oil Pressure Warning Light
- Engine Temperature Warning Light
- Hydraulic Oil Temperature Warning Light
- Battery Voltage Warning Light



NOTICE

If the engine temperature, engine oil pressure or hydraulic oil temperature lights illuminate or should the eng. coolant temp. gauge read excessive temperatures during normal machine operation, shut the machine down immediately (in a safe location). Diagnose the problem and make any necessary repairs before resuming normal operation.

NOTICE

If the battery low-voltage light should illuminate during operation, drive the machine to a suitable location and shut the engine off. Diagnose the problem and make any needed repairs before resuming operation.

The glow plug operation light illuminates only when the key switch is turned to engine pre-heat, showing normal operation.

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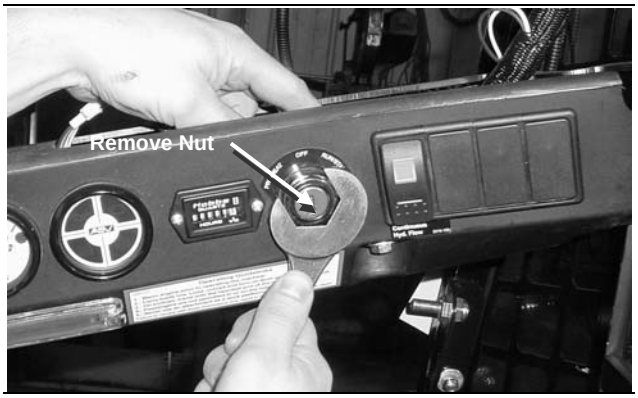


Figure 5-7

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

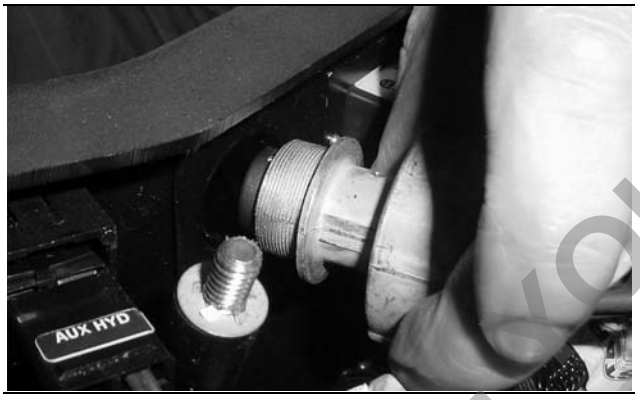


Figure 5-8

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



Figure 5-9

4. Unplug the ignition switch connector.

Ignition Switch Installation

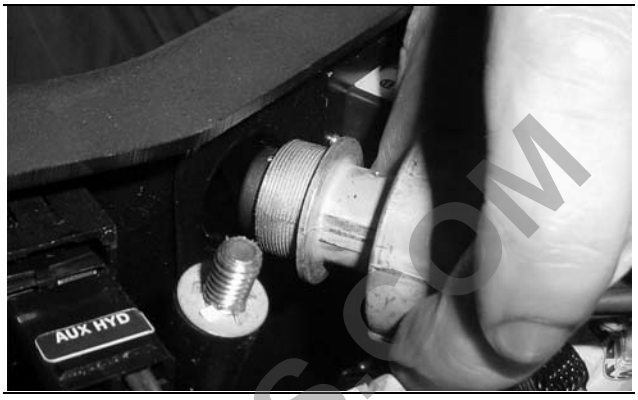


Figure 5-10

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

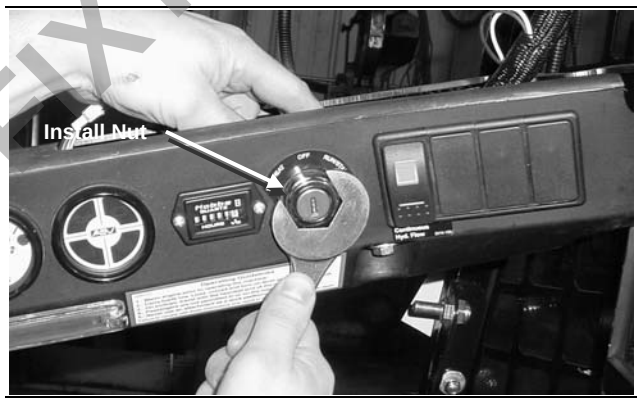


Figure 5-11

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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