# 1650RT | 1650RT (EU)
# 1650RT X-Series

# 1950RT | 1950RT (EU)
# 1950RT X-Series



## Compact Track Loader
## Operator's Manual

50950615EN-US Rev. A 07/24

**Original Instructions**

**(Supersedes 50950266)**

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# Mustang 1650RT and 1950RT Compact Track Loader Operator Manual

Document type: Operator Manual (operation, controls, safety and routine maintenance)

Brand: Mustang

Models: 1650RT and 1950RT

Machine: Compact Track Loader

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## Main contents


- Introduction
- Safety
- Safety Equipment
- Indicators and Controls
- Operation
- Maintenance
- Troubleshooting


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1. Train operators:
- Perform operations (accelerating, steering, braking, etc.) in a smooth manner.
- Adjust the controls, mirrors and seat suspension for comfortable operation. Do not make adjustments when the machine is in use.
- Travel across the smoothest parts of the worksite and avoid ruts and potholes.

2. Choose proper equipment for the job:
- Use machines with the proper power and capacity.
- Select machines with good suspension seats.
- Look for controls that are easy to use.
- Ensure good visibility from the operator's position.

3. Maintain the worksite:
- Smooth ruts and fill potholes in traffic areas whenever possible.
- Clean up debris frequently.
- Vary traffic patterns to avoid exposure to rough terrain.

4. Maintain equipment. Check that seat suspension and all controls work smoothly and properly.

### *Vibration Levels*

See "Vibration Levels" on page 195 for a table listing typical whole-body vibration levels for the machine.

## Fire Extinguisher Location

An installation location for a fire extinguisher is shown in Figure 1.

***Important:*** *Installation of a fire extinguisher according to DIN-EN 3 must be performed by an authorized dealer.*

***Note:*** *A fire extinguisher is neither included as standard equipment nor available as an option from Manitou Group.*

***Important:*** *Inspect the fire extinguisher at regular intervals as recommended by the fire extinguisher equipment manufacturer.*

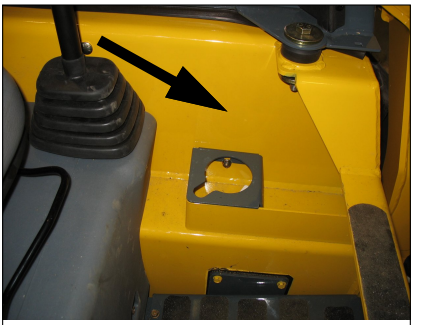


**Figure 1 – Fire Extinguisher Location**

## Manufacturer Information

Products described in this manual are manufactured by Manitou Group.

***Note:*** *Not all models and options described in this manual are available in all areas.*

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- Static electricity can produce dangerous sparks at the fuel-filling nozzle. Do not wear polyester, or polyester-blend clothing while fueling. Before fueling, touch the metal surface of the machine away from the fuel fill to dissipate any built-up static electricity. Do not re-enter the machine but stay near the fuel filling point during refueling to minimize the build-up of static electricity. Do not use cell phones while fueling. Make sure the static line is connected from the machine to the fuel truck before fueling begins.
- Ultra-Low Sulfur Diesel (ULSD) poses a greater static ignition hazard than earlier diesel formulations. Avoid death or serious injury from fire or explosion; consult with your fuel or fuel system supplier to ensure the entire fuel delivery system is in compliance with fueling standards for proper grounding and bonding practices.
- Always immediately replace the fuel filler cap after refueling.
- Take care to avoid spilling combustible fluids, such as oil or fuel, on a hot engine. Oil from leaks can ignite on hot components. Repair any damaged or leaking components before using the machine.

## Crystalline Silica Exposure



Exposure to crystalline silica (found in sand, soil and rocks) has been associated with silicosis, a debilitating and often fatal lung disease. Comply with all applicable rules and regulations for the workplace. Wear approved respiratory protection or use water spray or other means if there is no other way to control the dust.

A Silica rule “29 CFR 1929.1153" by the U.S. Occupational Safety and Health (OSHA) indicates a significant risk of chronic silicosis for workers exposed to inhaled crystalline silica over a working lifetime. Refer to the rule for more information regarding exposure limits and hazard prevention.

## Transporting the Machine

Obey federal, state and local over-the-road regulations. Check restrictions regarding weight, height, width and length of a load. The hauling vehicle, trailer and load must all be in compliance with applicable regulations. See “Loading and Transporting the Machine on a Transport Vehicle” on page 115.

## Lifting the Machine with a Crane

Only lift the machine according to the following guidelines:

- Do not lift the machine without an approved lift kit installed. Contact your dealer for available lift kits for the machine.
- The crane and rigging equipment must have sufficient capacity. See “Weights” on page 189.
- Secure the machine against unintentional movement. Use taglines as needed.
- Do not lift the machine with persons on or in the machine.
- Any person guiding the crane operator must be within sight or sound of the crane operator.

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# Optional Lights/Lockout Keypad Indicators/Buttons

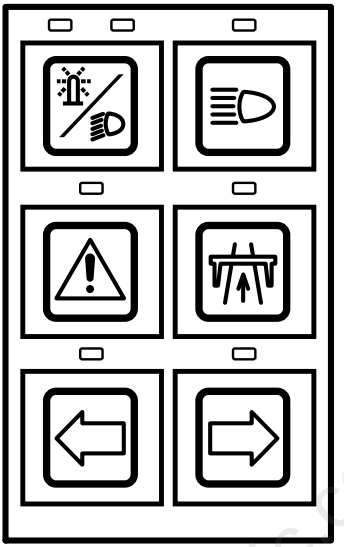


**Figure 19 – Road Lights Keypad Indicators/Buttons**

**Table 5: Optional Road Lights Keypad Buttons**

| Button | Description | Function |
|---|---|---|
|  | Beacon / Position / Work Lights Button | Operates optional road lights, and works with main control keypad to control the beacon and position lights. If all lights are off, one press activates the beacon and all position lights; a second press additionally turns on the road lights. If the work lights are on, pressing this button turns off the work lights and turns on the road lights.<br>If the road lights are on, all lights turn off if this button is pressed. |
|  | High-Beam Button | Activates optional road lights high-beam. |
|  | Hazard Lights Button | Activates optional flashing road hazard lights. Operates even if the ignition switch is off. |
|  | Hydraulics Lock-out Button | Activates optional lift and tilt hydraulics lock-out. Used when driving the machine on roadways. See “Transport Hydraulics Lock-out (Option)” on page 95. |
|  | Left Directional Button | Activates optional flashing road lights left directional indicator. |
|  | Right Directional Button | Activates optional flashing road lights right directional indicator. |

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## Activating The Warming Circuit

Press the Power-A-Tach® System lock (extend) button on the control keypad once to activate the warming circuit and to extend the locking pins. The warming circuit icon on the Information Center Electronic Display becomes illuminated at this time. Pressing the lock (extend) button a second time suspends the warming circuit. Further subsequent presses of the lock (extend) button cycles the operation back and forth through the first and second push sequences. If the loader's warming circuit was active at shutdown of the engine, upon restart of the loader, the warming circuit will still be active.

***Note:*** *It is safe to operate the loader with the warming circuit on or off, it won't affect the performance of the loader.*

**Table 11: Warming Circuit and Power-A-Tach Latching Pin Operation**

| | | | Latch Pin Movement and Warming Circuit | | |
|---|---|---|---|---|---|
| Operator in the seat and the restraint bar down | | Parking Brake | Extend | Warming Circuit Switching | Retract |
| No | And | On | No | No (stays at previous setting) | No |
| Yes | | On | Yes | Yes | No |
| Yes | | Off | Yes | Yes | Yes |

**⚠ WARNING** **To prevent unexpected release of the attachment from the hitch, be sure the latch pins are secure by verifying that the pin flags (Q, Figure 45) have moved fully to the outside of the hitch and the locking pins (F, Figure 46) extend down through the attachment frame.**

**Locking pins (F) must be fully extended through the holes in the attachment frame before using the attachment. The attachment could fall off if it is not locked on the hitch and cause serious injury or death.**

***Important:*** *To check that the attachment is properly installed, tilt the attachment forward slightly, and apply downward pressure to the attachment before using it.*

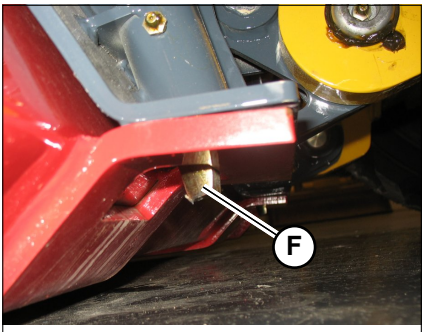



**Figure 46 – Hitch Locking Pins**

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# Transporting Loads Using Pallet Forks

***Important:*** *When the self-leveling feature is on, the tilt angle of the attachment is kept constant, relative to the ground plane, when the lift arm is raised. When the lift arm is lowered however, self-leveling is not activated. Refer to "Self-Leveling (Option)" on page 105 for more information about the self-leveling feature.*

## *Loading Pallet Forks*

1. Stop the machine immediately in front of the material.
2. Position the fork arms parallel to the ground.
3. Make sure the fork arms are adjusted as far apart as possible, as allowed by the load, and are both the same distance away from the center-line of the load.
4. Adjust the height of the fork arms to fit the lifting area at the bottom of the pallet.
5. Drive slowly and carefully forward until the fork frame contacts the material.
6. Make sure the pallet is evenly and safely positioned on the pallet fork arms.

## *Lifting Loads Using Pallet Forks*

7. Apply the parking brake.
8. Slowly raise the pallet forks. Do not raise the pallet forks any higher than required. Make sure to not exceed pallet fork load center and/or lifting capacity.
9. Lower the load immediately if you are unsure of the load, the equipment, or in case of any unsafe circumstances.
10. Tilt the pallet fork frame back slightly, to help retain the load.

## *Transporting Load Using Pallet Forks*

11. Make sure the area around and behind the machine is clear of bystanders and obstacles.
12. Slowly and carefully drive in reverse and lower the pallet forks to transport position ("Attachment Transport Position" on page 98), when it is safe to do so.
13. Carry the load as low as safely possible during transport. Observe minimum ground clearance. Refer to "Attachment Transport Position" on page 98.
14. Drive slowly and carefully forward straight toward the place where the load will be set down.

## *Setting Down Loads Using Pallet Forks*

***Note:*** *If the load will be placed on top of stacked material, make sure to align the load in the center of the stack.*

**⚠ WARNING Do not stack loads which are not properly packaged or have damaged pallets/stacking containers. Do not stack loads, or on top of loads, which have shifted.**

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## Engine Access

1. Lift the engine cover and pull the rear door latch (Z, Figure 88) up.
2. Carefully swing open the rear door.

   ***Note:*** *Rear door prop (Y) near the top hinge pin of the door is used to secure the door open.*

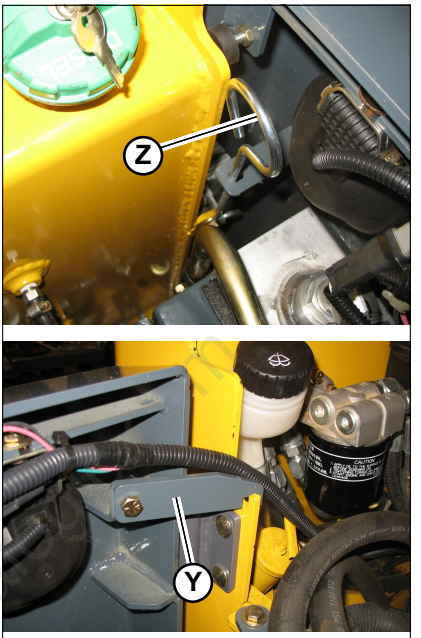



**Figure 88 – Engine Compartment Access**

3. Additionally, the radiator swings out, providing greater access to the engine:
   a. Pull down on spring pin lock (C, Figure 89) to release pin (D). Lift pin (D) out of the bracket.
   b. Swing the radiator outward.
   c. When engine maintenance is complete, return the radiator back to the closed position and secure it in place with pin (D). Lock pin (D) in the bracket with spring pin lock (C).

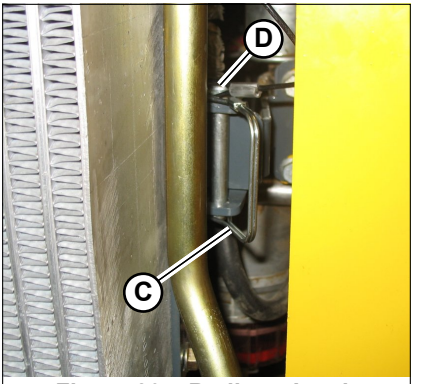



**Figure 89 – Radiator Latch**

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## Travel Motor Front Case Oil

Replace the travel motor front case oil every 2000 hours/annually or if it becomes contaminated after major repairs.

1. Park the machine with one of the travel motor gearbox drain/fill hole plugs (S, Fig. 108) at the bottom.
2. Perform the “Mandatory Safety Shutdown Procedure” on page 14.
3. Position a waste oil collection container with a 1 quart/liter (+ 0.10 quarts/liters) underneath the drain/fill hole plug and remove the lower plug.

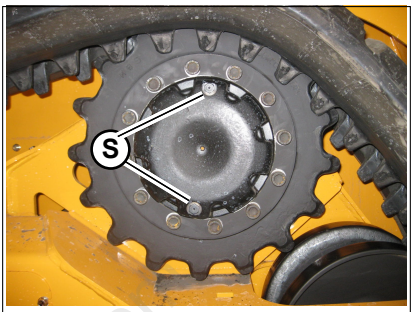



**Figure 108 – Travel Motor Gearbox Oil Plugs**

**Important:** Always dispose of hydraulic fluids according to environmental laws or take to a recycling center for proper disposal. DO NOT pour onto the ground or down a drain.

4. Remove a second plug near the top (S).
5. Remove the drain/fill hole plug and allow the oil to drain completely.
6. Reinstall the lower drain/fill hole plug. Tighten securely.
7. Through the top drain/fill plug, fill the travel motor front case with the same grade and type oil used in the hydraulic system. Each travel motor requires 345 - 375 ml (0.36 - 0.39 qt.) of hydraulic oil.
8. Reinstall the upper drain/fill hole plug. Tighten securely.
9. Test the drive system and check for leaks.

# Track Maintenance

Inspect the tracks daily for damage and wear.

***Important:*** *To avoid damaging the tracks and to ensure maximum track life, refer to “Rubber Track Use Cautions and Tips” on page page 94.*

Observe the following conditions to extend track life:

- Avoid traveling or turning on broken stone, jagged rock, metal or other material that could damage or cut the tracks.
- Avoid traveling on riverbeds or areas with soft rocks that could become stuck in the tracks, which could cause damage to the tracks or cause the tracks to slip off.

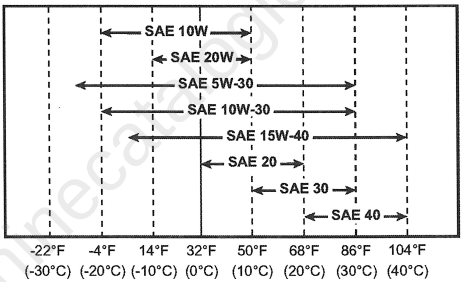
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# CHAPTER 8

# SPECIFICATIONS

## Fluid Capacities/Lubricants

**Table 30: Fluid Capacities/Lubricants**

| Component/ Application | Type | 1650RT / 1950RT |
|---|---|---|
| Engine Oil (with filter) | Refer to the Engine Operator's Manual for specific engine oil recommendations. Service Classification: API-CK-4 preferred, API-CJ-4 SM acceptable. Conventional oils - select the oil viscosity based on the ambient temperature where the engine is being operated. See SAE viscosity chart.<br>Full Synthetic Oil 0W-40. Do not mix oil types. | 9.5 L (10 qts.) |
| |  | |
| Hydraulic Oil Tank | Petro Canada HVI60, Mobil DTE 15M or equivalent, which contain anti-rust, anti-foam and anti-oxidation additives, and conforms to ISO VG46. | 1650RT: 39 L (10.3 gal.)<br>1950RT: 36 L (9.5 gal.) |
| Hydraulic System – Total | HVLPD 46 (HYD0530)<br>Biodegradable oil: AVILUB Syntofluid 46; PANOLIN HLP Synth 46 | 1650RT: 59.8 L (15.8 gal.)<br>1950RT: 56.7 L (15 gal.) |
| Grease Fittings, Lift Arm | Lithium-saponified, brand-name multi-purpose grease MPG-A | As Required |
| Battery Terminals | SP-B acid-proof grease | As Required |

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