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1350R | 1350R (EU)
1350R X-Series
(SN 188601 and Before)

1500R | 1500R (EU)
1500R X-Series
(SN 190801 and Before)

1650R | 1650R (EU)
1650R X-Series



Skid-Steer Loader

Operator's Manual

50940264 Rev. M 05/21

Original Instructions

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Mustang 1350R, 1500R and 1650R Skid Steer Loader Operator Manual (50940264M)

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Brand: Mustang

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Machine: Skid Steer Loader

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Main contents

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

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Sample pages follow. Full manual: machinecatalogic.com

- 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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CAUTION **To prevent damage to the lift cylinder, do not lower lift arm until the lift arm support is secured in the storage position.**

Battery Disconnect Switch

The battery disconnect switch is located in the engine compartment. Turning the switch to the OFF position disconnects the battery from the electrical system.



Figure 14 – Battery Disconnect Switch

CAUTION **On machines equipped with the battery disconnect switch, always turn the switch to the "OFF" position when parking the machine inside an enclosure.**

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Beacon/Position/Work Lights

The optional beacon, the rear red position lights. and the front and rear work lights are all operated using button (Z).

Note: *The rear work lights and red position lights are located at the top of the rear door. The front work lights are located at the top front corners of the ROPS/FOPS.*

The beacon/position/work lights control button is located on the control keypad.

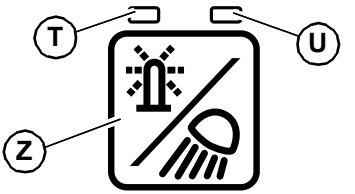


Figure 37 – Beacon/Position/Work Lights Button

- **Beacon and Position Lights:** Press button (Z) once to activate the beacon and the rear red position lights. LED (Y) is lit when the beacon and the red position lights are on.
- **Beacon, Position and Front Work Lights:** Press button (Z) twice to activate the beacon, the rear red position lights and the front work lights. LED (U) is lit when the beacon, the position lights, and the front work lights are on.

  Note: *If the optional road lights are installed, this turns on both front and rear work lights. Also, if the roads lights are on, they toggle off when the work lights turn on*
- **Beacon, Position, and Front and Rear Work Lights:** Press button (Z) three times to activate the beacon, the rear red position lights, and the front and rear work lights. Both LEDs (Y and U) is lit when the beacon, the red position lights, and the front and rear work lights are on.

  Note: *If the optional road lights are installed, this turns off all lights.*
- **Off:** Press button (Z) a fourth time to turn off the beacon, the red position lights and the work lights. Both LEDs (Y and U) are off when the beacon and all lights are off.

HVAC (Option)

Machines with optional heat/cool have two control buttons on the accessory keypad on the left door pillar for controlling the heater fan and heater temperature.

A. **Cab Heat/Cool:** Controls cab heat/cool. Press button as desired to set cab heat/cool; subsequent pressings increase heat from low to high. LEDs above the button are lit according to the low, medium and high heat settings.

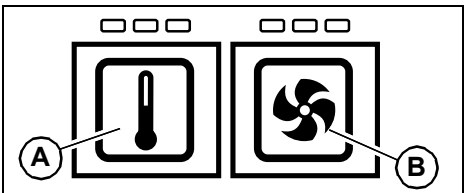


Figure 38 – Heater/Fan Buttons

NOTE: Cab heat/cool requires fan to be activated by pressing button (B).

B. **Fan Speed:** Controls cab air circulation fan. Press button (B) once for low setting, twice for medium, and three times for high. LEDs above the button are lit according to the low, medium and high fan settings. Press button (A) a forth time to deactivate air circulation fan.

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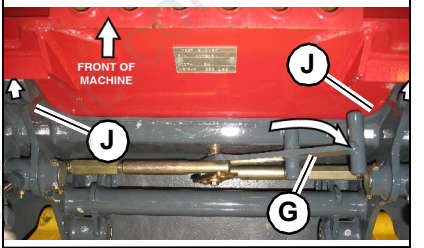
⚠ WARNING To prevent unexpected release of the attachment from the hitch, make sure the attachment is fully locked onto the hitch before using the attachment. On manual All-Tach® hitches, rotate the latch levers fully. On Power-A-Tach® hitches, verify that the pin flags are all the way to the outside of the hitch.

Always verify that the locking pins on the hitch are fully engaged down 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 could cause serious injury or death.

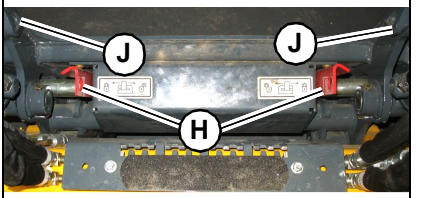
Connecting Attachments

1. In an open, level area, place the attachment lock into the unlocked position (Figure 62):
   - **All-Tach® system manual hitch:** Move hitch lock lever (G) all the way to the right.
   - **Power-A-Tach® system quick attach hitch:** Press the Power-A-Tach® system unlock button (I) on the control keypad until safety flags (H) have moved all the way in.
2. Tilt the attachment plate forward and drive the machine straight forward toward the back of the attachment
3. Lower the lift arm so tabs (J) on the top of the attachment plate are aligned just under the hooks on the back of the attachment.
4. Tilt the attachment plate back until tabs (J) on the top of the attachment plate are engaged against the hooks on the back of the attachment.
5. Raise the lift arm slightly until the attachment is hanging from the hooks on the back of the attachment and tabs (J) are firmly inserted into the hooks. Tilt the attachment plate back, if necessary, so the back of the attachment is resting flat against the attachment plate.

Manual Attachment Hitch In Unlocked Condition



Power-A-Tach® System Quick Attach Hitch In Unlocked Condition



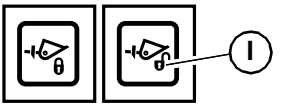


Figure 62 – Attachment Hitch Unlocked

Loading and Transporting the Machine on a Transport Vehicle

⚠ WARNING **Park the transport vehicle on a level surface. Be sure the vehicle and its ramps have the weight and size capacity to support the machine. Make sure the driver of the transport vehicle knows the overall height, width and weight of the vehicle, including the loaded machine, before starting transport. See "Weights" on page 189.**

Make sure the load does not fall short of the minimum axle load of the steering axle, otherwise the transport vehicle's steering could be seriously affected.

Make sure the transport surface and the loading ramps are clear of debris and slippery material that may reduce traction.

Secure the loading ramps to the transport vehicle before loading. Position the loading ramps at the shallowest possible angle. Do not exceed an angle of 15°. Only use ramps with anti-skid surfaces. Move the machine on and off the vehicle ramp slowly and carefully.

Position the machine at the lowest possible position on the transport platform, with the center of gravity of the load over the centerline of the transport vehicle. Distribute partial loads to ensure an even load across the axles of the transport vehicle.

Secure the machine properly so it cannot move during transport. Consider all possible transport conditions such as: heavy braking, evasive maneuvers, and uneven or rough roadways. Always use the proper tie-down points when using straps and chains. See "Machine Orientation" on page 3.

Failure to follow these instructions could result in an overturn accident.

Important: *Observe all local regulations governing the loading and transporting of equipment (Reference: U.S. Federal Motor Carrier Safety Regulations, Section 392). Ensure that the hauling vehicle meets all safety requirements before loading the machine.*

1. Park the transport vehicle on a level surface. Block the front and rear tires on the transport vehicle.
2. Before starting, check the engine oil level. The oil level must be at the "Full" mark on the dipstick. Add oil if needed. See "Checking Engine Oil Level" on page 137.

   Important: *When loading and driving on ramps, the engine can be damaged if the engine oil level is too low.*
3. Start the engine and raise the hitch plate/attachment enough so that it will not touch the loading ramps.

Checking Tire Pressure

Table 19: Tire Inflation Pressures

Tire Size	Inflation Pressure	
	Max psi	Max kPa
10.00 x 16.5 10-Ply Severe Duty	75	517
10.00 x 16.5 10-Ply Flotation	75	517
12.00 x 16.5 12-Ply Flotation	80	552
27 x 10.50 x 15 8-Ply	59	407

Correct tire pressure should be maintained for all tires to enhance operating stability and extend tire life. Refer to the above chart for the proper inflation pressure.

When installing tires, be sure they are the same size and style on both sides of the machine Always replace tires with the same size as the original equipment.

Electrical System

⚠ WARNING Inspect and check the machine's electrical equipment at regular intervals. Defects, such as loose connections or scorched cables must be repaired before using the machine.

Only use proper, original equipment fuses with the specified current rating. Turn off the machine immediately if there are any problems with the electrical system.

Work on the machine's electrical system must be performed only by a trained technician.

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Table 30: Yanmar Engine Diagnostic Trouble Codes (DTC)

DTC			Error Item	
SPN	FMI	P-Code	Part	State
522751	19	P1443	Exhaust Throttle	CAN fault
522994	4	P1633	ECU Internal Malfunction	Actuator drive circuit 2 GND short-circuit
	12	P1607	ECU Internal Malfunction	WDA/ABE communication error
	12	P1615	ECU Internal Malfunction	CY320 SPI communication error
	12	P1616	ECU Internal Malfunction	MSC communication error of R2S2
523249	5	P0008	Cam Sensor	No signal from both sensors
523460	7	P1670	Rail Pressure Control/ Sensor	Rail pressure fault (operation time error during RPS limp mode)
523462	13	P1648	Injector (Correction Value)	IQA corrected injection amount for injector 1
523463	13	P1649	Injector (Correction Value)	IQA corrected injection amount for injector 2
523464	13	P1650	Injector (Correction Value)	IQA corrected injection amount for injector 3
523465	13	P1651	Injector (Correction Value)	IQA corrected injection amount for injector 4
523468	9	P1665	PLV (Common Rail Pressure Limit Value); Rail Pressure Sensor	Rail pressure fault (controlled rail pressure error after PLV valve opening)
523469	0	P1666	Rail Pressure Sensor	Rail pressure fault (PLV opening timing error)
523470	0	P1667	Rail Pressure Sensor	Rail pressure fault (PLV opening timing error)
523471	6	P1467	ECU Internal Malfunction	Actuator drive circuit 3 GND short-circuit
523473	12	P1469	ECU Internal Malfunction	AD converter fault 1
523474	12	P1470	ECU Internal Malfunction	AD converter fault 2
523475	12	P1471	ECU Internal Malfunction	External monitoring IC and CPU fault 1
523476	12	P1472	ECU Internal Malfunction	External monitoring IC and CPU fault 2
523477	12	P1473	ECU Internal Malfunction	ROM fault
523478	12	P1474	ECU Internal Malfunction	Shutoff path fault 1
523479	12	P1475	ECU Internal Malfunction	Shutoff path fault 2
523480	12	P1476	ECU Internal Malfunction	Shutoff path fault 3
523481	12	P1477	ECU Internal Malfunction	Shutoff path fault 4
523482	12	P1478	ECU Internal Malfunction	Shutoff path fault 5
523483	12	P1479	ECU Internal Malfunction	Shutoff path fault 6
523484	12	P1480	ECU Internal Malfunction	Shutoff path fault 7
523485	12	P1481	ECU Internal Malfunction	Shutoff path fault 8
523486	12	P1482	ECU Internal Malfunction	Shutoff path fault 9
523487	12	P1483	ECU Internal Malfunction	Shutoff path fault 10
523488	0	P1484	ECU Internal Malfunction	Recognition error of engine speed

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