



4-Wheel Drive Kit

Workman® HDX-Auto Utility Vehicle

Model No. 07391

Installation Instructions

▲ WARNING

CALIFORNIA Proposition 65 Warning

This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects, or reproductive harm.

Loose Parts

Use the chart below to verify that all parts have been shipped.

Description	Qty.	Use
No parts required	–	Prepare to install the kit.
No parts required	–	Remove the hood.
No parts required	–	Remove the seats.
No parts required	–	Remove the coolant tank, ROPS shield, and seat shroud.
No parts required	–	Jack up the machine.
No parts required	–	Remove the front wheels.
No parts required	–	Remove the front brake calipers and rotors.
No parts required	–	Remove the wheel hub and bearing.
Steering Cylinder	1	Replace the steering cylinder.
Differential Isolator Mount plate	1 4 1	Preparing to install the front differential.
Front-drive shaft Bolt (5/16 x 1-7/8 inch) Locknut (5/16 inch)	1 1 1	Install the front-drive shaft.
Mount plate Hex-head bolt (3/8 x 1-1/2 inch)	1 4	Install the differential.
Front axle Spacer	2 2	Install the front axles.
No parts required	–	Install the wheel hubs.
No parts required	–	Install the brake rotor and caliper.
Axle nut (20 mm)	2	Install the front wheels.
No parts required	–	Install the seat shroud, ROPS shield, and coolant tank.
No parts required	–	Install the seats and center console.
Front-differential relay Hex-washer head bolt (1/4 x 5/8 inch)	1 1	Install the differential relay.



Description	Qty.	Use
No parts required	–	Connect the battery.
Interrupter switch	1	Install the interrupter switch.
Slotted hex-head bolt (6-32 x 1 inch)	2	
Locknut (6-32 inch)	2	
No parts required	–	Lower the bed.
No parts required	–	Install the hood.
No parts required	–	Adjust the 4-wheel drive engagement.

Preparing to Install the Kit

1. Move the machine to a level surface and set the parking brake.
2. For machine models with a utility bed, perform the following:
 - A. Raise the bed until the lift cylinders are fully extended; refer to the *Operator's Manual* for the machine.
 - B. Remove the bed support from the storage brackets on back of the ROPS panel (Figure 1).

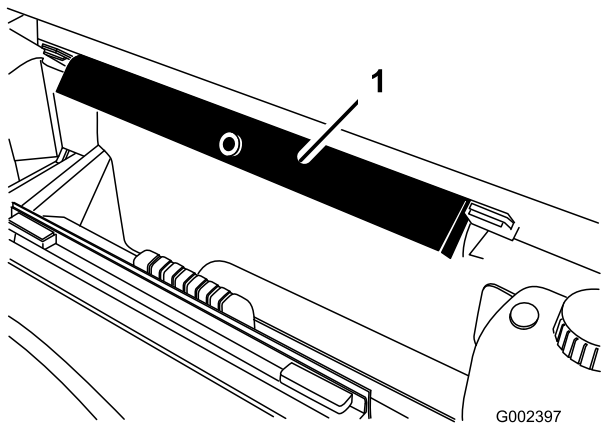


Figure 1

1. Bed Support

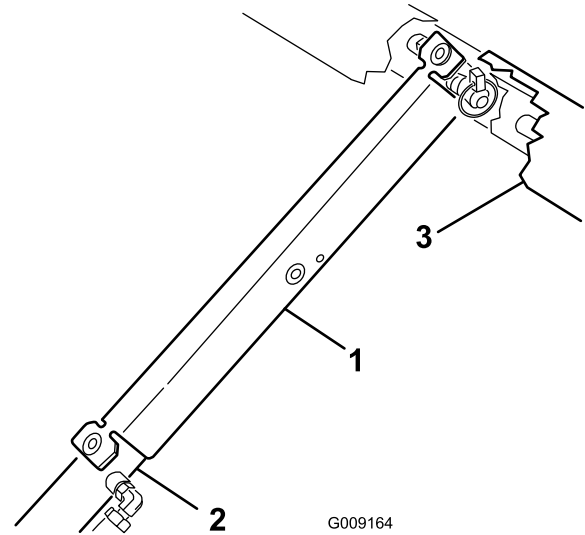


Figure 2

1. Bed support
2. Cylinder barrel
3. Bed

3. Shut off the engine, set the parking brake, and remove the key from the ignition switch.
4. Disconnect the battery as follows:
 - A. Squeeze the battery cover to release the tabs from battery base (Figure 3).

- C. Push the bed support onto the cylinder rod, making sure the support end tabs rest on the end of cylinder barrel and on the cylinder rod end (Figure 2).

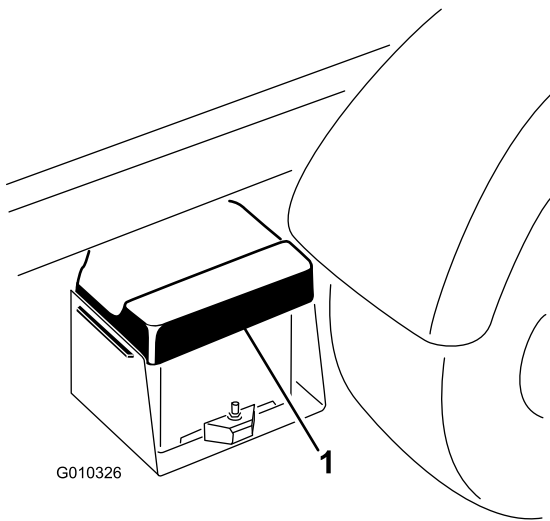


Figure 3

1. Battery cover

- B. Remove the battery cover from the battery base (Figure 3).
- C. Remove the terminal of the positive battery cable from the battery post (Figure 4).

Note: Ensure that the terminal positive battery cable does not touch the battery post.

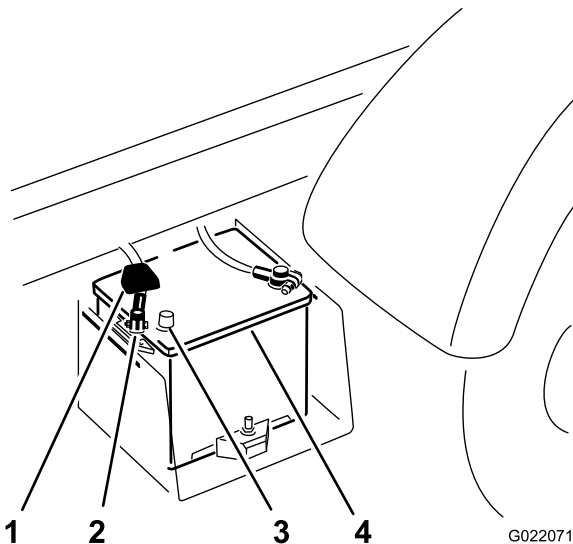


Figure 4

1. Terminal cover
2. Positive terminal
3. Battery post
4. Battery

5. Bleed the hydraulic pressure from the machine by fully moving the lift control for the cargo box forward and backward several times.

Note: You must bleed the hydraulic pressure from the machine with the engine shut off.

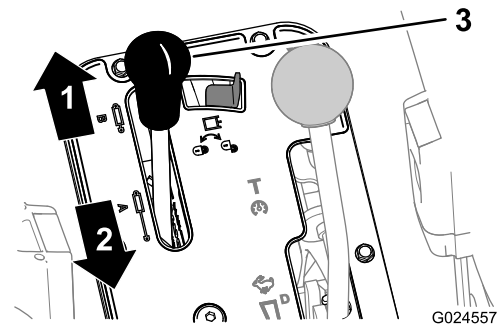


Figure 5

1. Forward
2. Backward
3. Lift control (cargo box)

Removing the Hood

1. While grasping the hood in the headlight openings, lift up on the hood to release the lower mounting tabs from the slots in the bumper (Figure 6).

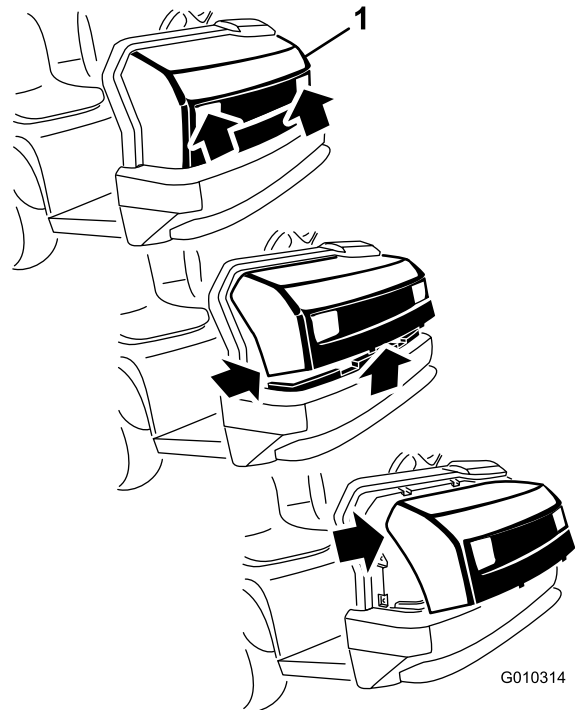


Figure 6

1. Hood
 2. Pivot the bottom of the hood upward until the top mounting tabs can be pulled from the frame slots (Figure 6).
 3. Pivot the top of hood forward and unplug the wire connectors from the head lights (Figure 6).
- Note:** Do not touch the headlight bulb with your fingers.
4. Remove the hood.

Removing the Seats

Removing the Center-Console Covers

1. Ensure that the parking brake is set (Figure 7).

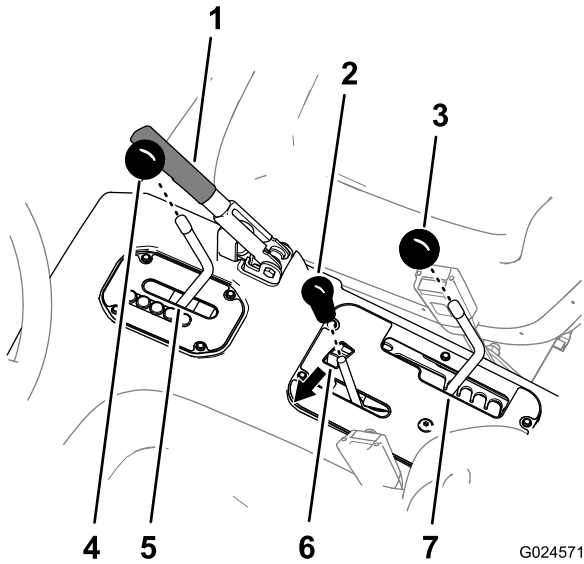


Figure 7

- | | |
|--------------------------------|---|
| 1. Brake lever | 5. Transmission lever (L position) |
| 2. Knob (hydraulic-lift lever) | 6. Hydraulic-lift lock (locked position—left) |
| 3. Knob (speed-range lever) | 7. Speed-range lever (A position) |
| 4. Knob (transmission lever) | |

2. Move the transmission lever to the L (low forward) position (Figure 7).
3. Move the speed-range lever to the A (high range) position (Figure 7).
4. Move the hydraulic-lift lever to the raise the bed position, and set the hydraulic-lift lock (Figure 7).
5. Remove all knobs from console levers and from the transmission lever by rotating the knobs counterclockwise (Figure 7).
6. Remove the 4 hex-head screws that secure the shift-indicator cover to the seat shroud (Figure 8).

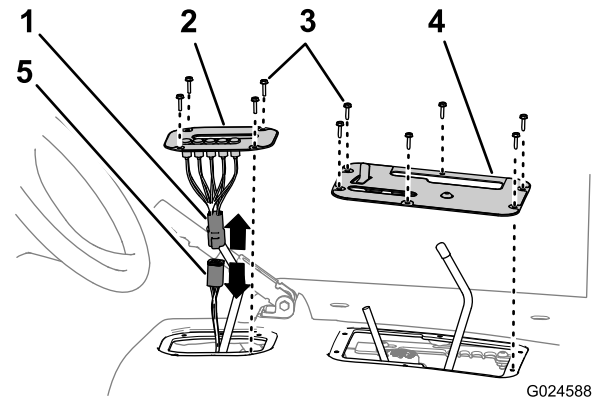


Figure 8

- | | |
|--------------------------|------------------------------|
| 1. Indicator connector | 4. Control cover |
| 2. Shift-indicator cover | 5. Machine-harness connector |
| 3. Hex-head screws | |
7. Lift shift indicator assembly up, disconnect electrical connectors of the machine harness and indicator, and remove the indicator from the machine. (Figure 8).
 8. Remove the 6 hex-head screws that secure the control cover to the seat shroud, and remove the control cover (Figure 8).

Removing the Seats

1. Remove the 8 socket-head bolts that secure the seat rails of the seat to the chassis and remove the seats (Figure 9).

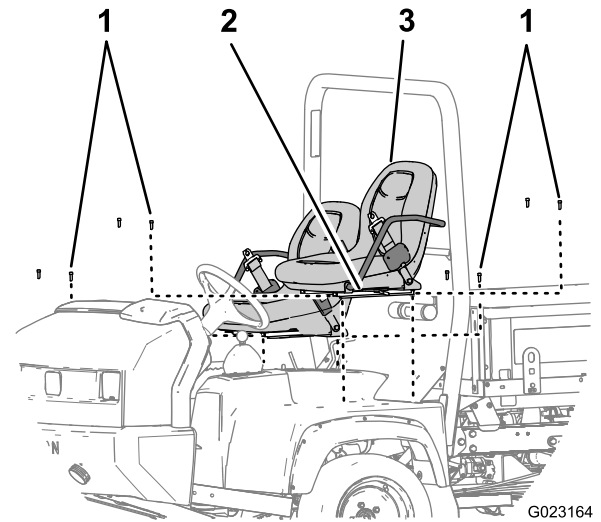


Figure 9

- | | |
|----------------------|---------|
| 1. Socket-head bolts | 3. Seat |
| 2. Seat rail | |

2. Repeat step 1 for the other seat (Figure 9).

Removing the Coolant Tank, ROPS Shield, and Seat Shroud

Removing the CVT Cooling Duct and Coolant Tank

1. Remove the hose clamp that secures the CVT cooling duct to the flange of the CVT intake at the back of the ROPS panel on the passenger side (Figure 10).

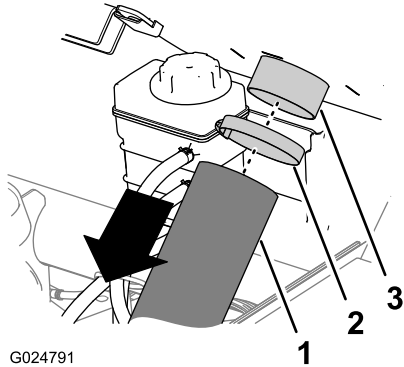


Figure 10

- | | |
|---------------|---------------------|
| 1. CVT intake | 3. CVT cooling duct |
| 2. Hose clamp | |

2. Remove the CVT cooling duct from the flange of the CVT intake (Figure 10).
3. Lift the coolant tank up and out of the support bracket on the back of the ROPS shield (Figure 11).

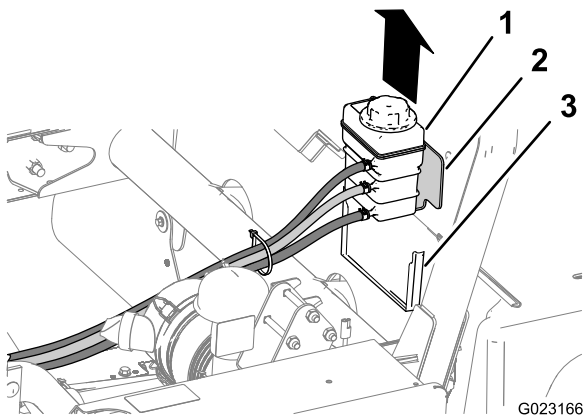


Figure 11

- | | |
|-------------------------|--------------------|
| 1. Coolant tank | 3. Support bracket |
| 2. Coolant-tank bracket | |

4. Set the coolant tank upright onto the engine/chassis.

Removing the ROPS Panel and Seat Shroud

1. Remove the 6 carriage bolts and 6 nuts that secure the ROPS panel to the mounting brackets on the ROPS bar (Figure 12).

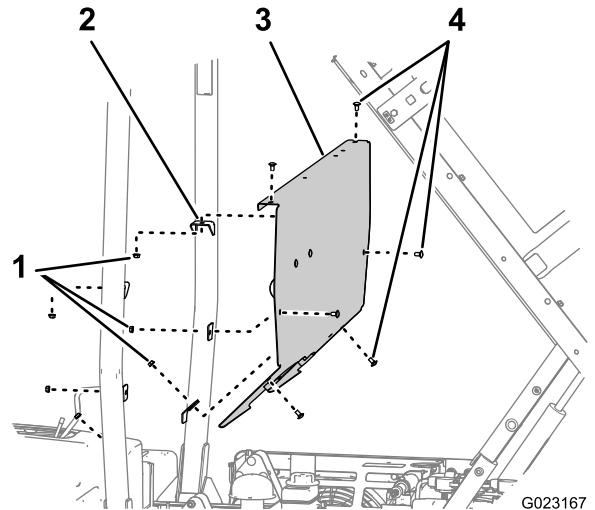


Figure 12

- | | |
|--------------------------------|-------------------|
| 1. Nuts | 3. ROPS panel |
| 2. Mounting bracket (ROPS bar) | 4. Carriage bolts |

2. Remove the ROPS panel from the machine (Figure 12)
3. Lift the seat shroud up and remove it from the machine (Figure 13).

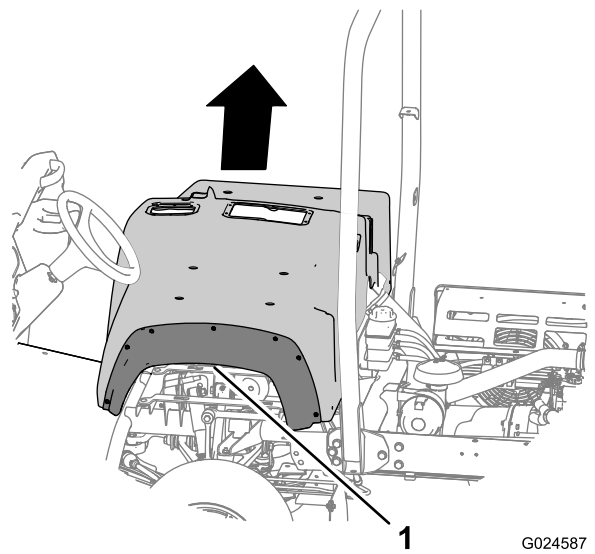


Figure 13

1. Seat shroud

Jacking Up the Machine

⚠ DANGER

A vehicle on a jack may be unstable and slip off of the jack, injuring anyone beneath it.

- Do not start the vehicle while the vehicle is on a jack.
- Always remove the key from the switch before getting off of the vehicle.
- Block the tires when the vehicle is on a jack.
- Do not start the engine while the vehicle is on a jack, because the engine vibration or wheel movement could cause the vehicle to slip off of the jack.
- Do not work under the vehicle without jack stands supporting it. The vehicle could slip off a jack, injuring any one beneath it.
- When jacking up the front of the vehicle, always place a 2 x 4 block (or similar material) between the jack and the vehicle frame.
- The jacking point at the front of the vehicle is under the front center frame support (Figure 14) and at the rear it is under the axle (Figure 15).

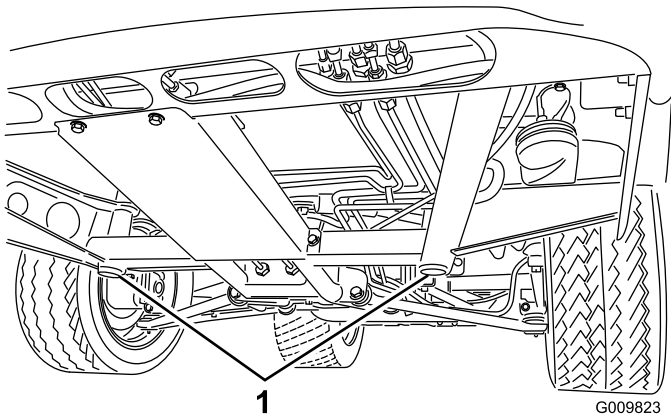


Figure 14

1. Front jacking points

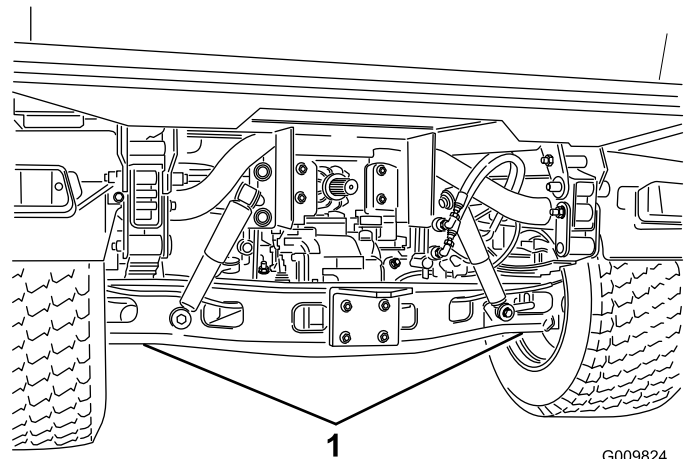


Figure 15

1. Rear jacking points

Removing the Front Wheels

1. Remove the 5 lug nuts that secure the front wheel to the wheel hub (Figure 16).

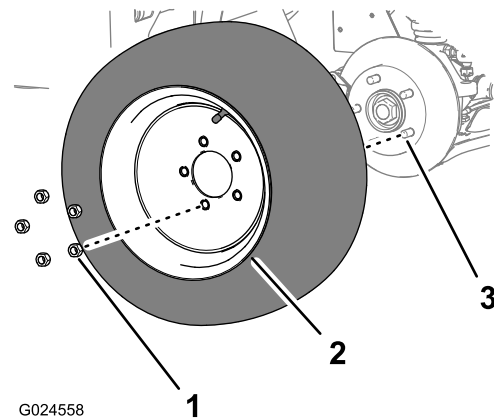


Figure 16

1. Lug nuts
2. Front wheel
3. Wheel hub

2. Remove the wheel from the wheel hub (Figure 16).
3. Repeat steps 1 and 2 for the front wheel on the other side of the machine.

Removing the Front Brakes

Removing the Brake Calipers and Rotors

1. Remove the 2 flange bolts that secure the brake caliper to the steering knuckle (Figure 17).

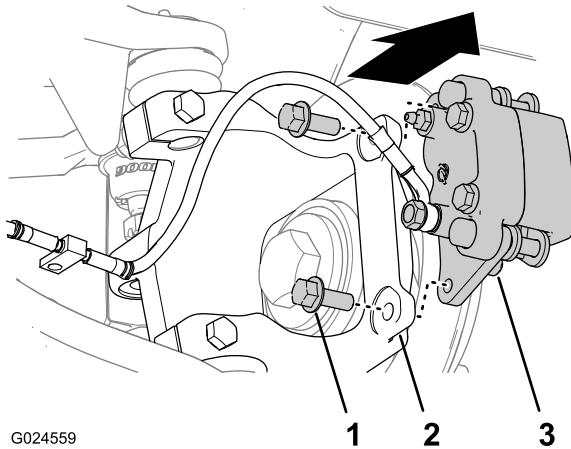


Figure 17

1. Flange bolt
2. Steering knuckle
3. Brake caliper

2. Slide the brake caliper rearward until the brake pads clear the brake rotor (Figure 17).

Note: Take care to not kink or stress the brake hose.

3. Support the brake caliper from the chassis of the machine.
4. Repeat steps 1 through 3 for the brake caliper on the other side of the machine.

Removing the Brake Rotors and Spindle Bolt

1. Pull the brake rotors out from the wheel hub (Figure 18).

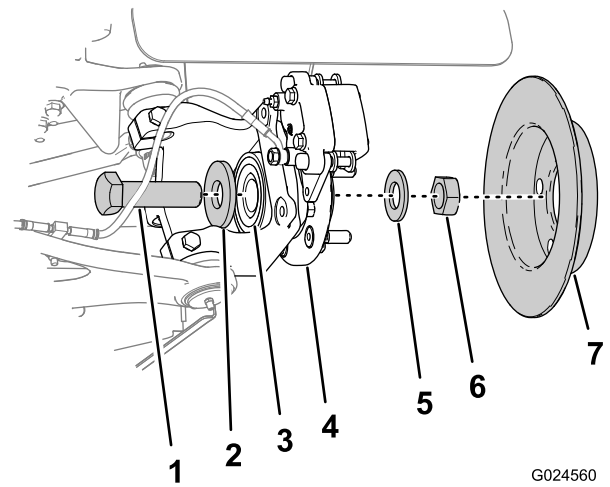


Figure 18

1. Spindle bolt
2. Washer (1 x 2-5/8 inch)
3. Bearing
4. Wheel hub
5. Washer (1 x 2 inch)
6. Spindle nut
7. Rotor

2. Remove the spindle nut and washer (1 x 2 inch) that secures the brake rotor to the bearing in the wheel hub (Figure 18).

Note: At the inboard side of the steering knuckle, use a wrench on the head of the spindle bolt when removing the spindle nut (Figure 18).

3. Remove the spindle bolt and washer (1 x 2-5/8 inch) from the bearing in the wheel hub (Figure 18).

Note: Discard the spindle nut, washers, and the spindle bolt.

Removing the Wheel Hubs

1. Remove the 4 hex-head bolts that secure the wheel hub and bearing assembly to the steering knuckle (Figure 19).

Note: Rotate the wheel flange of the hub to align the hole in the flange with the hex-head bolt that you are removing.

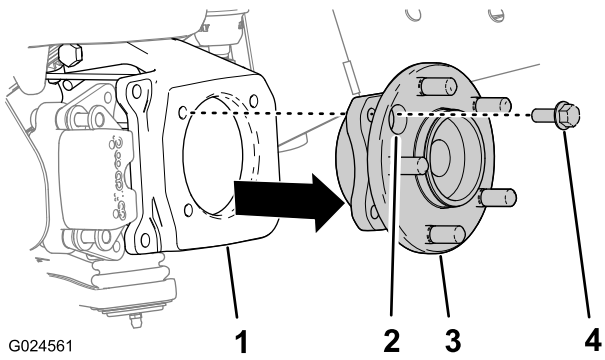


Figure 19

- | | |
|------------------------|------------------|
| 1. Steering knuckle | 3. Wheel hub |
| 2. Hole (wheel flange) | 4. Hex-head bolt |

2. Remove the wheel hub from the steering knuckle (Figure 19).
3. Repeat steps 1 and 2 for the wheel hub on the other side of the machine.

Replacing the Steering Cylinder

Removing the Steering Cylinder

1. Align a drain pan under the steering cylinder.
2. Disconnect the retract hose from the 90°-hydraulic fitting in the retract port of the steering cylinder (Figure 20).

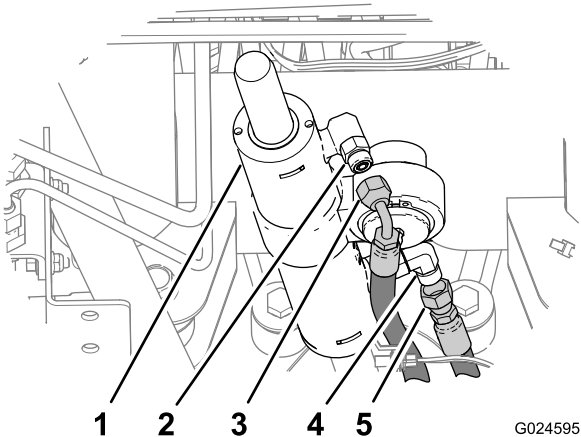


Figure 20

- | | |
|---|---|
| 1. Steering cylinder | 4. 90°-hydraulic fitting (retract port) |
| 2. Straight-hydraulic fitting (extend port) | 5. Retract hose (straight) |
| 3. Extend hose (90°) | |

3. Disconnect the extend hose from the straight-hydraulic fitting in the extend port of the steering cylinder (Figure 20).

4. Remove the cotter pin that secures the slotted nut to the forward-ball joint of the steering cylinder (at the pitman arm), and remove the slotted nut (Figure 21).

Note: Retain the slotted nut and cotter pin for installation in [Installing the Steering Cylinder](#) (page 10).

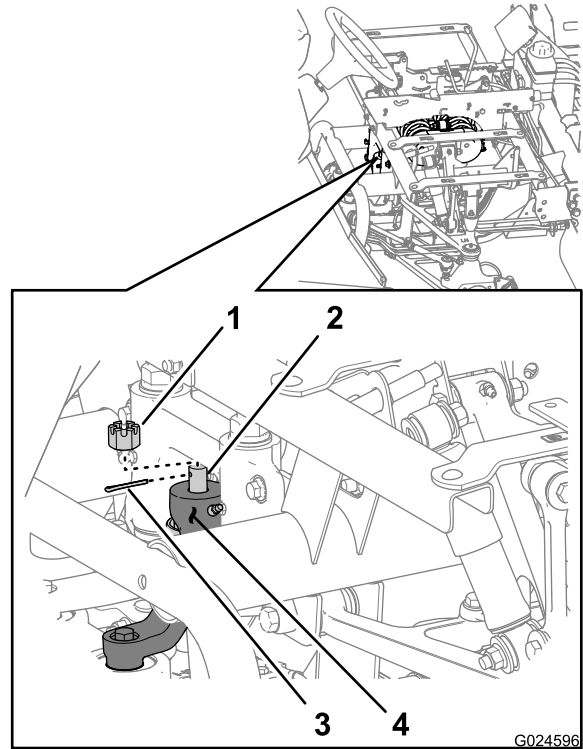


Figure 21

- | | |
|---|------------------------|
| 1. Slotted nut | 3. Cotter pin |
| 2. Forward-ball joint (steering cylinder) | 4. Pitman arm cylinder |

5. Remove the cotter pin that secures the slotted nut to the rear-ball joint of the steering cylinder (at the cylinder-mount plate), and remove the slotted nut (Figure 22).

Note: Retain the slotted nut and cotter pin for installation in [Installing the Steering Cylinder](#) (page 10).

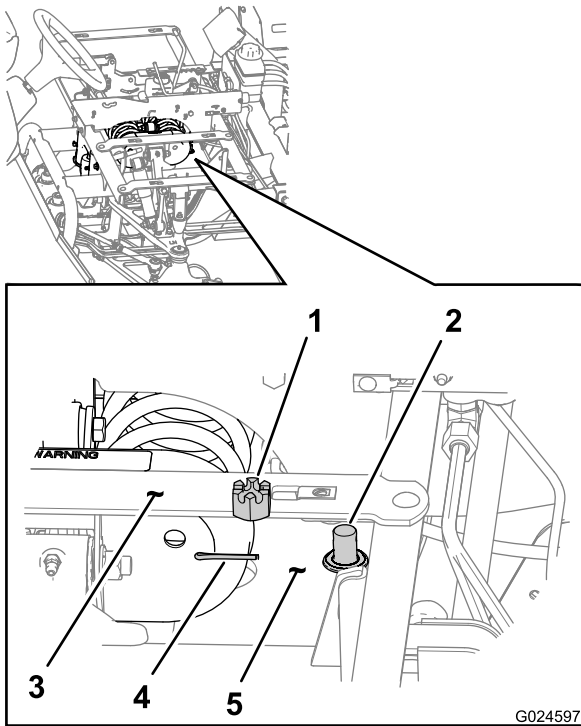
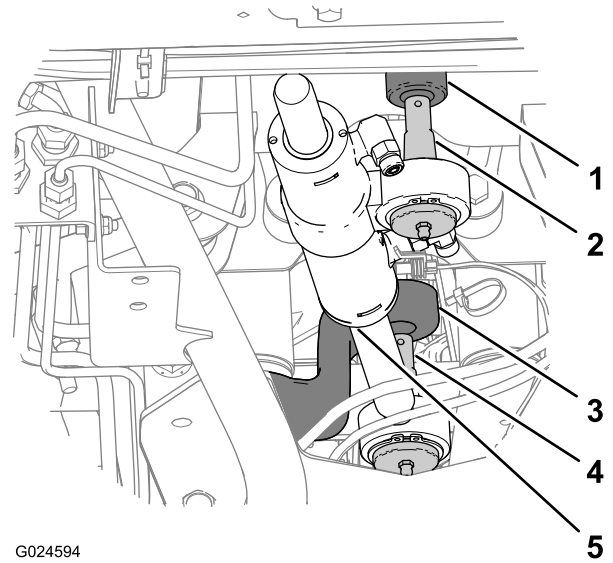


Figure 22

- | | |
|--|-------------------------|
| 1. Slotted nut | 4. Cotter pin |
| 2. Rear-ball joint (steering cylinder) | 5. Cylinder-mount plate |
| 3. Inboard-seat support (diver's side) | |

- Remove the forward-ball joint of the steering cylinder from the pitman arm (Figure 23).

Note: Use a tool such as a ball-joint separator to remove the ball joints from the pitman arm and the cylinder-mount plate.



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Figure 23

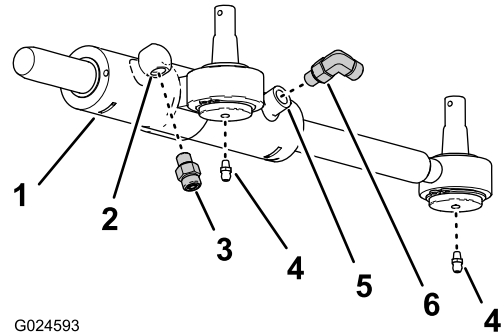
- | | |
|-------------------------|-----------------------|
| 1. Cylinder-mount plate | 4. Forward-ball joint |
| 2. Rear-ball joint | 5. Steering cylinder |
| 3. Pitman arm | |

- Remove the rear-ball joint of the steering cylinder from the cylinder-mount plate (Figure 23).
- Remove the steering cylinder from the machine.

Installing the Hydraulic Fittings and Grease Fittings

Lubricant Type: No. 2 General Purpose Lithium Base Grease

- Remove the straight-hydraulic fitting from the extend port of the old-steering cylinder (Figure 24).



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Figure 24

- | | |
|-------------------------------|--------------------------|
| 1. Steering cylinder | 4. Grease fitting |
| 2. Straight-hydraulic fitting | 5. Retract port |
| 3. Extend port | 6. 90°-hydraulic fitting |

- Remove the grease fittings from the ball joints of the old-steering cylinder (Figure 24).
- Install the straight-hydraulic fitting into the extend port of the new-steering cylinder from the 4-wheel drive kit (Figure 24).

- Remove the 90°-hydraulic fitting from the retract port of the old-steering cylinder (Figure 24).

Note: Notice the position of the 90°-hydraulic fitting before you remove it from the old-steering cylinder.

- Install the 90°-hydraulic fitting into the retract port of the new-steering cylinder (Figure 24).

Note: Align the fitting similar to its position in the old steering cylinder.

- Install the grease fittings into the ball joints of the new-steering cylinder (Figure 24).
- Using a grease gun, apply 2 to 3 pumps of the specified grease to the grease fittings for the ball joints.

Installing the Steering Cylinder

- Move the ball joints of the new-steering cylinder together or apart until they are positioned similar to the old-steering cylinder.
- Drain the old steering cylinder of all hydraulic fluids, and discard the cylinder.
- Align the ball joints of the steering cylinder to the holes in the bottom of the cylinder-mount plate and the pitman arm, and push the steering cylinder up and into position (Figure 23).
- Secure the ball joint at the rear of the steering cylinder to the mounting plate with the slotted nut (Figure 22).
- Secure the ball joint at the front of the steering cylinder to the pitman arm with the slotted nut (Figure 21).
- Torque the slotted nuts 108.5 to 122 N-m (80 to 90 lb-ft).

Note: If the slot in the slotted nut is misaligned with the hole through the shaft of the ball joint, tighten the nut to the next available slot.

- Secure the slotted nuts with the cotter pin (Figure 21 and Figure 22) that you removed in step 4 of Replacing the Steering Cylinder (page 8).

Installing the Steering-cylinder Hoses

- Connect the retract hose to the 90°-hydraulic fitting in the retract port of the steering cylinder (Figure 20 and Figure 24).
- Connect the extend hose to the straight-hydraulic fitting in the extend port of the steering cylinder (Figure 20 and Figure 24).

Preparing to Install the Front Differential

Checking the Oil Level in the Front Differential

Differential Oil Type: Mobilfluid 424 Multipurpose Tractor Lubricant

- Set the front differential on a flat-level surface (Figure 25).

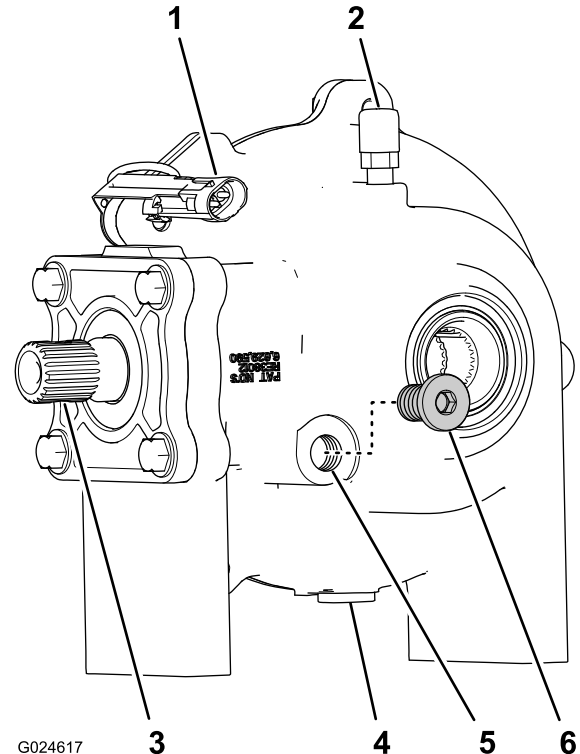


Figure 25

- | | |
|---------------------------------|--------------------|
| 1. Pin connector (differential) | 4. Drain plug |
| 2. Breather | 5. Sight-plug port |
| 3. Input shaft | 6. Plug |

- Remove the plug from the sight-plug port in the case of the differential (Figure 25).

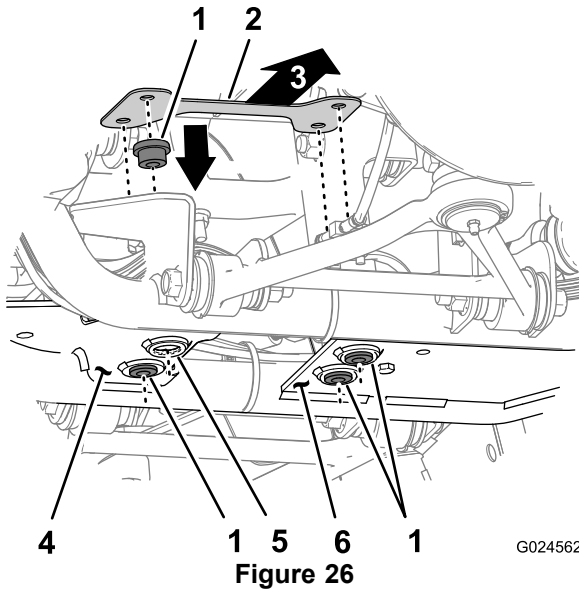
Note: The oil level in the differential should be at the bottom of the threads in the port for the sight plug (Figure 25).

- If the oil level is low, slowly add the specified oil into the differential through the site-plug port (Figure 25).
 - If the oil level is high, allow the excess oil to drain from the site-plug port (Figure 25).
- Install the sight plug into the site-plug port of the differential (Figure 25).

Installing the Isolator Mount and Aligning Differential

1. Insert the 4 isolators through the holes in the forward and rear differential-support plates (Figure 26).

Note: Ensure that the flange of the isolators are up and above the differential-support plates.



- | | |
|----------------------------------|---|
| 1. Isolator (flange side up) | 4. Differential-support plate (rear) |
| 2. Mount plate | 5. Hole (differential support plate) |
| 3. Passenger side of the machine | 6. Differential-support plate (forward) |

2. Align 1 mount plate on top of the isolators with the strap that connects two sets of holes in the plate toward the passenger side of the vehicle (Figure 26).

Note: Ensure that the holes in the mount plate are aligned with the holes in the isolators.

Note: When the mount plate is in the correct position, you will be able to see the drain plug in the case of the differential from directly below.

3. Align the holes in the bottom of the differential with the holes in the isolators and mount plate that you installed in steps 1 and 2 (Figure 27).

Note: Ensure that the input shaft of the differential is pointing rearward.

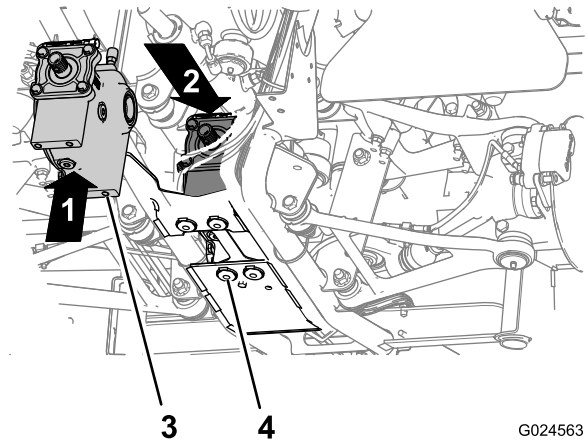


Figure 27

- | | |
|------------|---------------------------------------|
| 1. Up | 3. Differential |
| 2. Forward | 4. Hole (isolator and mounting plate) |

Installing the Front-Drive Shaft

Lubricant Type: No. 2 General Purpose Lithium Base Grease

1. Clean the splines on the forward-output shaft of the transmission and the input shaft of the differential (Figure 25 and Figure 28).

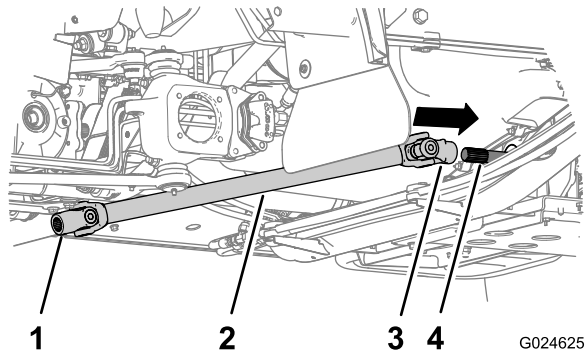


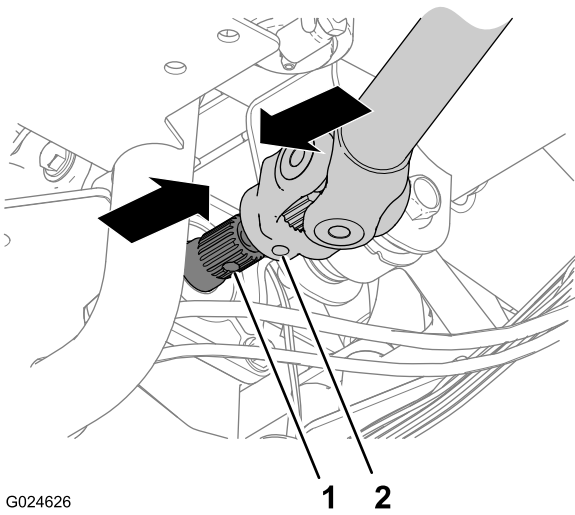
Figure 28

- | | |
|----------------------|--|
| 1. Fixed yoke | 3. Sliding yoke |
| 2. Front-drive shaft | 4. Forward-output shaft (transmission) |

2. Brush a coat of anti-seize compound onto the splines of the input shaft of the differential (Figure 28).

Note: Ensure that the splines are completely covered with the anti-seize compound.

3. Align the splines of the slip yoke on the drive shaft with the splines on the forward-output shaft of the transmission (Figure 28).
4. Slip the yolk onto the output shaft and move the yolk rearward (Figure 28).
5. Align the splines of the fixed yoke on the drive shaft to the splines on the input shaft of the front differential (Figure 29).



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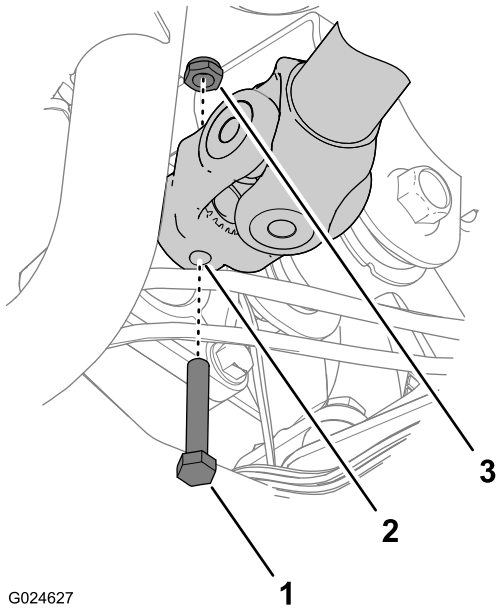
Figure 29

1. Hole (transmission-output shaft)
2. Hole (fixed yoke)

6. Rotate the input shaft of the front differential until the hole in the input shaft is aligned with the hole in the fixed yoke (Figure 29).
7. Slip the yolk onto the input shaft and move the yolk forward until the hole in the yoke is aligned with the hole in the shaft (Figure 29).

Note: Move the differential as needed to align it and the fixed yoke.

8. Install the bolt (5/16 x 1-7/8 inch) through the holes in the yoke and shaft, and secure the bolt with the locknut (5/16 inch) as shown in Figure 30.



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Figure 30

1. Bolt (5/16 x 1-7/8 inch)
2. Holes (yoke and shaft)
3. Locknut (5/16 inch)

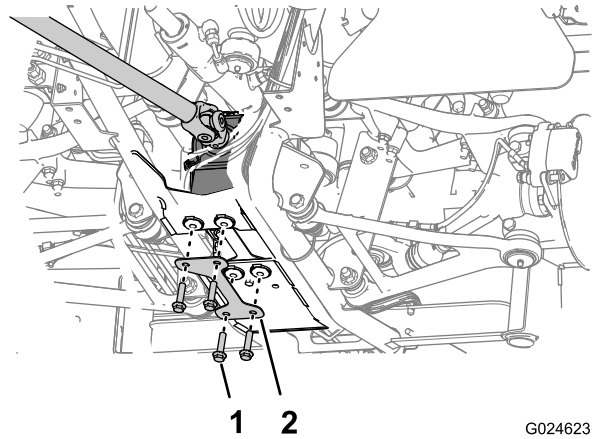
9. Torque the bolt and nut to 1998 to 2542 N-cm (175 to 225 lb-in).
10. Lubricate the grease fittings at the sliding yoke and 2 universal joints with the specified grease.

Installing the Differential

1. Secure the differential to the differential supports with 1 mount plate and 4 hex-head bolts (3/8 x 1-1/2 inch) as shown in Figure 31.

Note: Ensure that the strap that connects two sets of holes in the mount plate is toward the passenger side of the vehicle.

Note: When the mount plate is in the correct position, you will be able to see the drain plug in the case of the differential from directly below.



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Figure 31

1. Hex-head bolt (3/8 x 1-1/2 inch)
2. Mount plate

2. Torque the 4 hex-head bolts to 37 to 45 N-m (27 to 33 lb-ft).

Installing the Front Axles

1. Wipe clean the splines at each end of the 2 front axles (Figure 32).

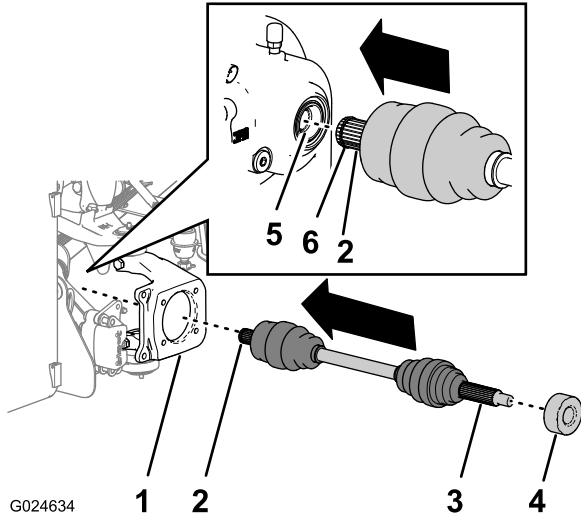


Figure 32

- | | |
|---|------------------------------|
| 1. Steering knuckle | 4. Spacer |
| 2. Inboard-axle stub (short spines end) | 5. Differential-drive socket |
| 3. Outboard-axle stub (long splines and threaded end) | 6. C-ring |

2. Brush a coat of anti-seize compound onto the splines of the inboard and outboard axle stubs.
3. Slip the inboard-axle stub of the front axle through the 87.3 mm (3-7/16 inch) diameter hole in the steering knuckle (Figure 32).

Note: Ensure that the splines are completely covered with the anti-seize compound.

4. Align the splines of the inboard-axle stub with the splines in the differential-drive socket, and move the axle inboard until it is fully seated in the drive socket (Figure 32).

Note: The splines of the axle stub are fully seated in the differential-drive socket when the axle stub snaps into place.

5. Slip the spacer over the outboard-axle stub and position the spacer over the inboard portion of the long splines (Figure 32).
6. Repeat steps 3 through 5 to the axle and spacer at the other side of the machine.

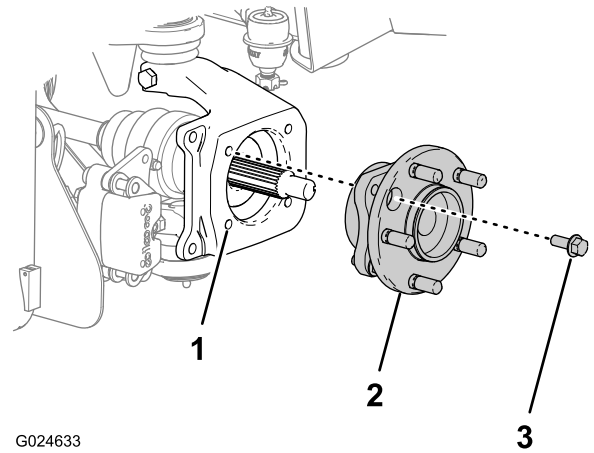


Figure 33

- | | |
|---------------------|---------------------------------|
| 1. Steering knuckle | 3. Hex-head bolt (3/8 x 1 inch) |
| 2. Wheel hub | |

2. Secure the wheel hub to the steering knuckle with the 4 hex-head bolts (3/8 x 1 inch) that you removed in step 1 of Removing the Wheel Hubs (page 7).
3. Torque the hex-head bolts to 37 to 45 N-m (27 to 33 lb-ft).
4. Repeat steps 1 through 3 to the wheel hub at the other side of the machine.

Installing the Brake Rotor and Caliper

1. Align the hole in the brake rotor to the studs in the flange of the wheel hub.

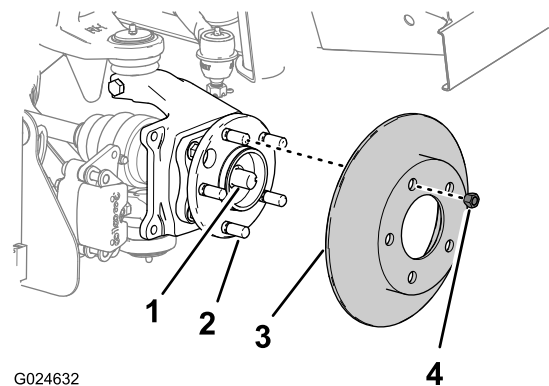


Figure 34

- | | |
|--------------|------------|
| 1. Axle stub | 3. Rotor |
| 2. Stud | 4. Lug nut |

2. Slide the rotor over the studs until the rotor is fully seated against the flange of the hub (Figure 34).
3. Thread a lug nut onto one of the studs, and hand tighten the nut to secure the brake rotor against the wheel hub

Installing the Wheel Hubs

1. Align the holes in the mounting flange of the wheel hub to the holes in the face of the steering knuckle.

- Separate the brake pads in the caliper slightly so the caliper and pads will slip over the brake rotor.

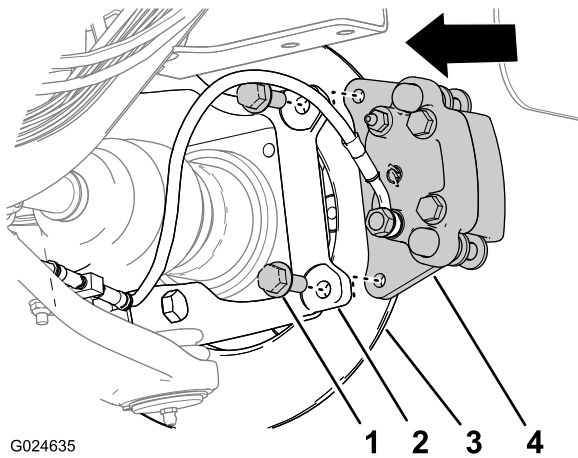


Figure 35

- | | |
|-------------------------------|------------------|
| 1. Flange bolt (3/8 x 1 inch) | 3. Brake rotor |
| 2. Steering knuckle | 4. Brake caliper |
- Slip the caliper and brake pads over the brake rotor, and align the mounting holes in the caliper with the holes in the brake-support flange of the steering knuckle.
 - Secure the caliper to the steering knuckle with the 2 flange bolts (3/8 x 1 inch) that you removed in step 1 of Removing the Front Brakes.
 - Torque the flanged bolts to 37 to 45 N-m (27 to 33 lb-ft), and remove the lug nut from the stud.
 - Repeat steps 1 through 7 for the brake rotor and caliper at the other side of the machine.

Installing the Front Wheels and Axle Nuts

- Align the holes in the front wheel with the studs for the wheel hub.

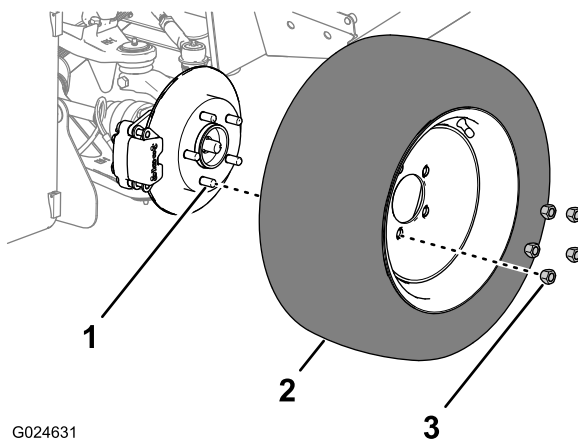


Figure 36

- | | |
|-------------------------|------------|
| 1. Stud | 3. Lug nut |
| 2. Front wheel and tire | |

- Slip the wheel over the studs until the wheel is flush with the brake rotor.

Note: Ensure that the wheel is centered on the wheel hub.

- Thread the lug nuts onto the studs, and hand tighten the nut.
- Repeat steps 1 through 3 to the wheel at the other side of the machine.
- Lower the machine to the ground and remove the jack stands.
- Torque the lug nuts to 94 to 122 N-m (70 to 90 lb-ft).
- Thread the axle nut onto the threaded portion of the outboard-axle stub, and torque the nut to 230.5 to 244 N-m (170 to 180 lb-ft).
- Stake nuts at keyway slot with center punch or chisel.
- Repeat steps 6 through 8 to the lug nuts and axle nut at the other side of the machine.

Installing the Seat Shroud, ROPS Shield, and Coolant Tank

Installing the Seat Shroud

- Align the opening in the seat shroud for the parking brake lever with the parking brake handle (Figure 7 and Figure 13); refer to Removing the Center-Console Covers (page 4) and Removing the ROPS Panel and Seat Shroud (page 5).
- Align the openings in the seat shroud for the rods with the transmission lever, lift control lever, and speed-range lever (Figure 7); refer to Removing the Center-Console Covers (page 4).
- Lower the seat shroud down (Figure 7); refer to Removing the ROPS Panel and Seat Shroud (page 5).
- Align the holes in the shroud for the seat mounting with the seat support brackets of the chassis.

Installing the ROPS Shield

- Align the holes in the ROPS shield with the hole in the brackets on the ROPS bar (Figure 12); refer to Removing the Coolant Tank, ROPS Shield, and Seat Shroud.
- Secure the ROPS shield to the ROPS bar with the 6 carriage bolts and 6 nuts (Figure 12) that you removed in step 1 of Removing the ROPS Panel and Seat Shroud (page 5).

Installing the Coolant Tank and the CVT Cooling Duct

1. Align the left and right flanges of the coolant-tank bracket with the slots in the seat shroud (Figure 11); refer to Removing the Coolant Tank, ROPS Shield, and Seat Shroud.
2. Lower the tank into the slots until the tank is firmly seated (Figure 11); refer to Removing the Coolant Tank, ROPS Shield, and Seat Shroud.
3. Align the CVT cooling duct to the flange of the CVT intake at the back of the ROPS panel on the passenger side (Figure 10).
4. Secure the duct to the flange of the CVT intake with the hose clamp the you removed in step 1 of Removing the CVT Cooling Duct and Coolant Tank (page 5).

Installing the Seats and Center Console Panel

1. Align the holes in the seat rails with the holes in the shroud for the seat mounting positions (Figure 13).
2. Secure the seats to the chassis with the 8 socket-head bolts (Figure 9) that you removed in step 1 of Removing the Seats (page 4).
3. Torque the socket head bolts to 255 to 254 N-m (175 to 225 in-lb).
4. Align the control cover over the control rods at the center console (Figure 8); refer to Removing the Center-Console Covers (page 4).
5. Secure the cover with the 6 screws (Figure 8) that you removed in step 8 of Removing the Center-Console Covers (page 4).
6. Connect the harness of the shift indicator to the machine-harness connector (Figure 8) that you separated in step 7 of Removing the Center-Console Covers (page 4).
7. Align the shift-indicator cover over the control rod at the center console (Figure 8).
8. Secure the cover with the 4 screws (Figure 8) that you removed in step 6 of Removing the Center-Console Covers (page 4).
9. Thread the 3 control knobs that you removed in step 5 of Removing the Center-Console Covers (page 4) onto the rods for the transmission lever, hydraulic-lift, and the speed-range lever (Figure 7).

Installing the Front-Differential Relay

Installing the Relay and Connecting the Harness

1. Align the hole in the front-differential relay with the hole in the dash-support tube that is outboard of the existing relay of the machine (Figure 37).

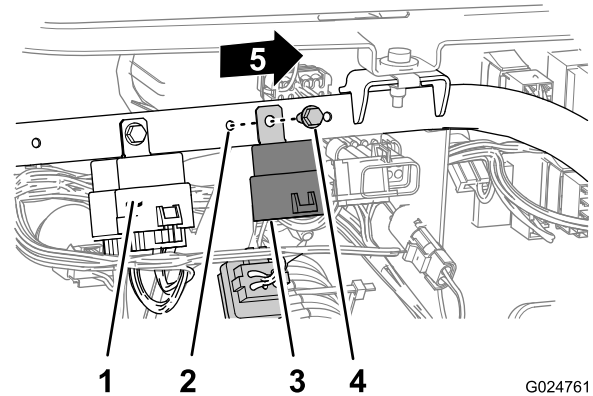


Figure 37

- | | |
|-----------------------------|--|
| 1. Existing relay | 4. Hex-washer head bolt (1/4 x 5/8 inch) |
| 2. Hole (dash-support tube) | 5. Outboard |
| 3. Front-differential relay | |

2. Secure the relay to the machine (Figure 37) with the hex-washer head bolt (1/4 x 5/8 inch).
3. Connect the 5-socket connector of the front-wiring harness of the machine (labelled "FRONT DIFF RELAY") to the 5 blade connector of the relay (Figure 38).

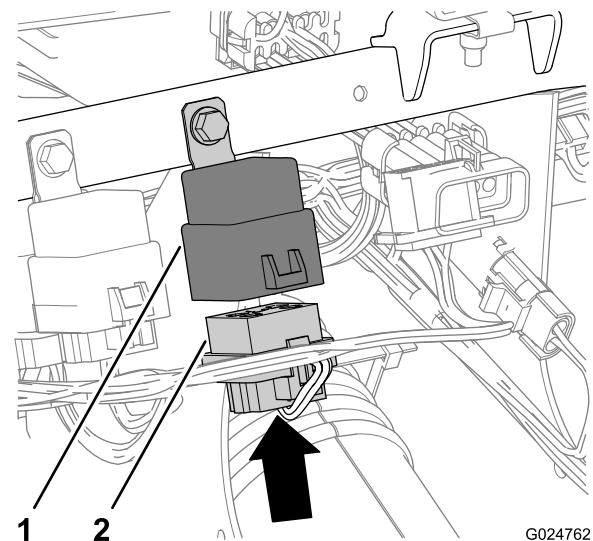


Figure 38

- | | |
|-----------------------------|--|
| 1. Front-differential relay | 2. 5-socket connector (front-wiring harness) |
|-----------------------------|--|

Connecting the Battery

1. Connect the positive battery cable to the battery (Figure 4); refer to Preparing to Install the Kit (page 2).
2. Squeeze the battery cover, align the tabs to battery base, and release battery cover (Figure 3); refer to Preparing to Install the Kit (page 2).

Installing the Interrupter System

Adjusting the Slow Idle for the Engine

1. Start the engine and run it until the engine is at normal operating temperature (approximately 5–10 minutes).
2. Ensure that the throttle is set to slow idle and check the tachometer to see if the engine running at 1100 rpm (low idle).

Note: If the slow-engine idle speed is 1100 rpm, skip to [Adjusting the Fast Idle for the Engine](#) (page 16).

3. If the engine low-idle rpm is faster or slower than 1100 rpm, rotate the idle screw clockwise or counterclockwise at the throttle body for the engine until the engine idle speed is 1100 rpm (Figure 39).

Note: The fan must not run while setting the engine idle speed.

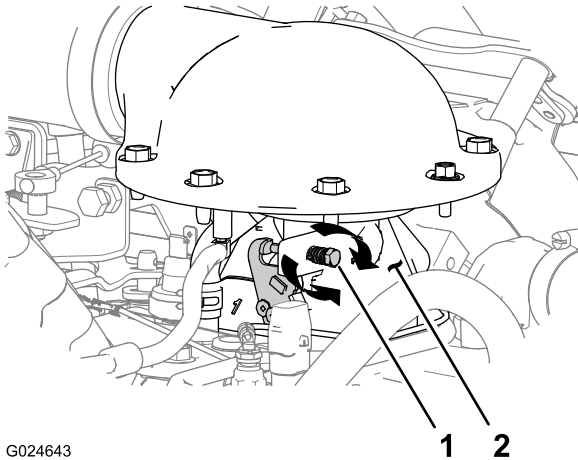


Figure 39

1. Idle screw
2. Throttle body

Adjusting the Fast Idle for the Engine

1. Start the engine and run it until the engine is at normal operating temperature (approximately 5–10 minutes).
2. Move the bellcrank for the throttle against the fast-idle stop (Figure 40).

Note: The engine speed displayed on the tachometer should read 3600 rpm.

Note: If the fast-engine idle speed is 3600 rpm, skip to [Adjusting the Accelerator Pedal Position](#) (page 17).

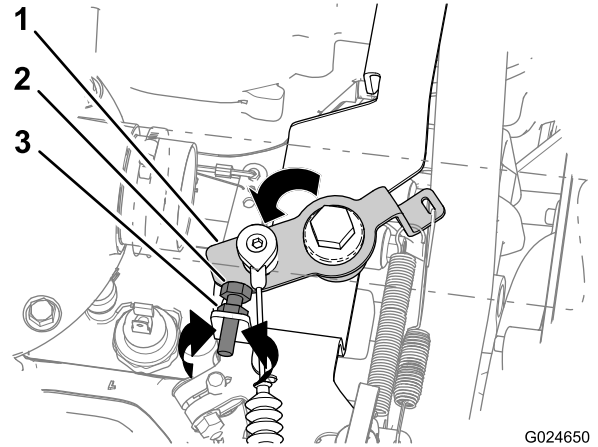


Figure 40

1. Bellcrank
2. Fast-idle stop
3. Jam nut

3. If the fast-idle speed for the engine is faster or slower than 3600 rpm, perform the following:
 - A. Loosen the jam nut that secures the fast-idle stop (Figure 40).
 - B. Rotate the stop in the following directions:
 - Clockwise to decrease the engine rpm (Figure 40).
 - Counterclockwise to increase the engine rpm (Figure 40).
 - C. Tighten the jam nut (Figure 40).
 - D. Move the bellcrank against the fast-idle stop (Figure 40).
 - E. If the engine high idle rpm is faster or slower 3600 rpm, repeat steps A through D until the fast-idle speed is 3600 rpm.
4. Shut off the engine and remove the key from the ignition switch.

Adjusting the Accelerator Pedal Position

Use another person to help adjust the accelerator pedal.

1. Move the bellcrank against the fast-idle stop and hold it against the stop (Figure 40).
2. Measure the gap between the accelerator pedal and the floor beneath the pedal (Figure 41).

Note: The gap between the accelerator pedal and the floor should measure 6.35 mm (1/4 inch).

Note: If the gap between the accelerator pedal and the floor is 6.35 mm (1/4 inch), skip to [Adjusting the Accelerator Pedal Upstop](#) (page 17).

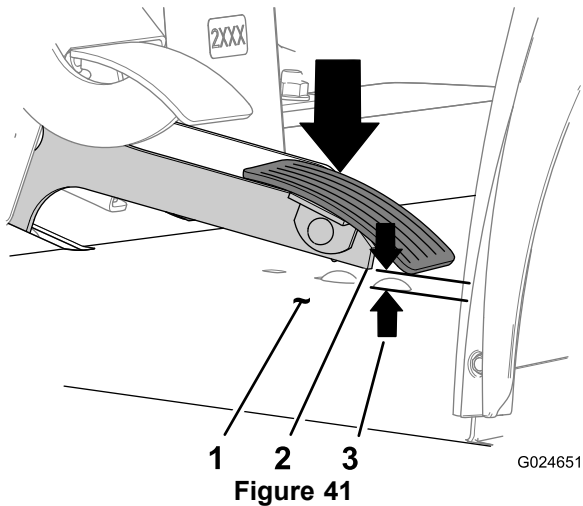


Figure 41

1. Floor
2. Accelerator pedal
3. 6.35 mm (1/4 inch) gap

3. If the gap between the accelerator pedal and the floor (Figure 41) is larger than or smaller than 6.35 mm (1/4 inch), perform the following while holding the bellcrank against the fast-idle stop (Figure 40):
 - Loosen the inboard-jam nut for the throttle cable and tighten the outboard jam nut to decrease the gap (Figure 42).
 - Loosen the outboard-jam nut for the throttle cable and tighten the inboard jam nut to increase the gap (Figure 42).

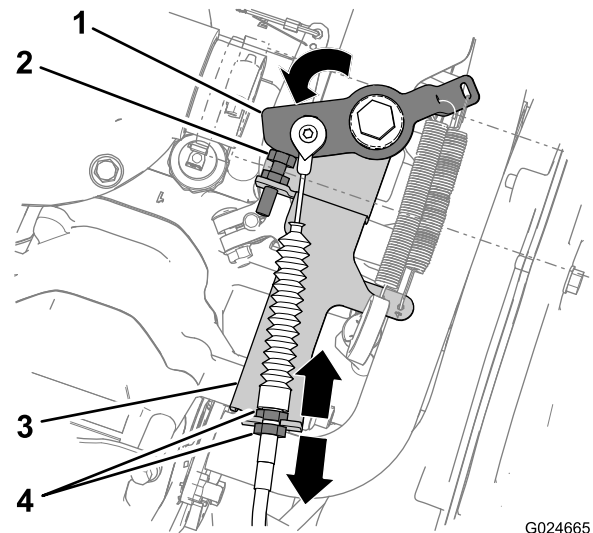


Figure 42

1. Bellcrank
2. Fast-idle stop
3. Throttle bracket
4. Jam nut

4. Ensure that the jam nuts for the throttle cable are tight (Figure 42).
5. Hold the bellcrank against the fast-idle stop and check the gap between the accelerator pedal and the floor. If the gap is larger than or smaller than 6.35 mm (1/4 inch), repeat steps 3 and 4 until you measure a 6.35 mm (1/4 inch) gap between the pedal and the floor.

Adjusting the Accelerator Pedal Upstop

Note: This procedure adjusts the base-set point for 4 wheel drive engagement. Refinements to this setting are performed in [Adjusting the 4 Wheel Drive Engagement](#).

1. With the accelerator pedal up, measure the distance from the rearward-bottom corner of the accelerator-pedal arm to the floor (Figure 43).

Note: Write down this measurement (**measurement 1**).

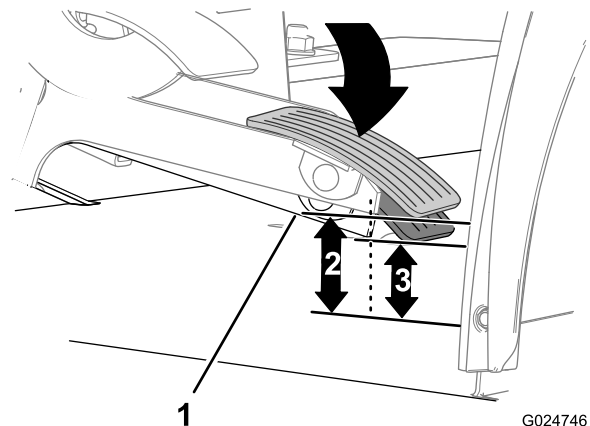


Figure 43

1. Accelerator-pedal arm
2. Measurement 1
3. Measurement 2

2. Gently move the throttle pedal down until the free play is removed from between the accelerator pedal and the throttle cable (Figure 43).
3. While holding the pedal in position to remove the free play, measure the distance from the rearward bottom corner of the accelerator-pedal arm to the floor (Figure 43).

Note: Write down this measurement (**measurement 2**).

4. Subtract measurement 2 from measurement 1; the result is the **pedal-free travel**.

Note: The pedal-free travel should measure 3 mm (0.125 inch).

Note: If the pedal-free travel is 3 mm (0.125 inch), skip to [Installing the Interrupt Switch](#) (page 18).

5. If the pedal-free travel is larger than or smaller than 3 mm (0.125 inch), perform the following:
 - A. Loosen the jam nut that secures the accelerator-pedal stop (Figure 44).
 - B. Rotate the accelerator-pedal stop in the following directions:
 - Clockwise to increase the pedal-free travel (Figure 44).
 - Counterclockwise to decrease the pedal-free travel (Figure 44).

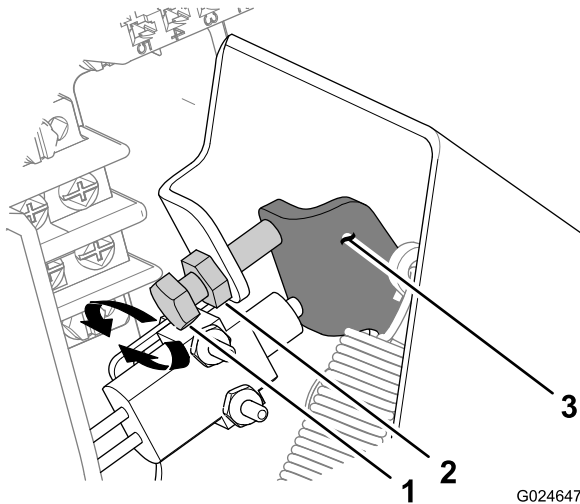


Figure 44

- | | |
|---------------------------|--|
| 1. Accelerator-pedal stop | 3. Flange of the accelerator-pedal arm |
| 2. Jam nut | |

- C. Tighten the jam nut (Figure 44).
- D. Repeat steps 1 through 4 to measure the pedal-free travel (Figure 44).

Note: The pedal-free travel should measure 3 mm (0.125 inch).

- E. Repeat steps A through D until the pedal-free travel is 3 mm (0.125 inch).

Installing the Interrupt Switch

1. Align the interrupt switch to the inner face of the right flange of the accelerator-pedal bracket with the wire harness of the switch forward (Figure 45).

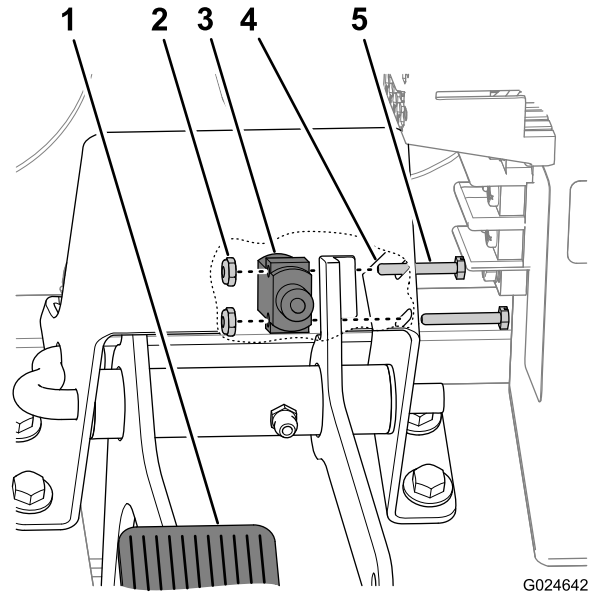


Figure 45

- | | |
|------------------------|---|
| 1. Throttle pedal | 4. Accelerator-pedal bracket (inner face) |
| 2. Locknut (6–32 inch) | 5. Slotted hex-head bolt (6-32 x 1 inch) |
| 3. Interrupter switch | |

2. Align the mounting holes in the interrupter switch with the forward end of the slots in the accelerator-pedal bracket (Figure 45).
3. Loosely secure the switch to the bracket with 2 slotted hex-head bolts (6-32 x 1 inch) and 2 locknut (6–32 inch) as shown in figure Figure 45.
4. Lift the accelerator pedal to the flange of the accelerator-pedal arm against the stop, and move the interrupt switch rearward and up in the slots until the plunger of the switch is bottomed out in the switch (Figure 46 and Figure 47).

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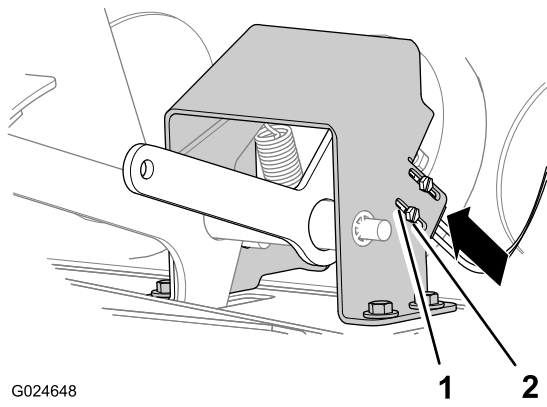


Figure 46

1. Bracket slot
2. Slotted hex-head bolt

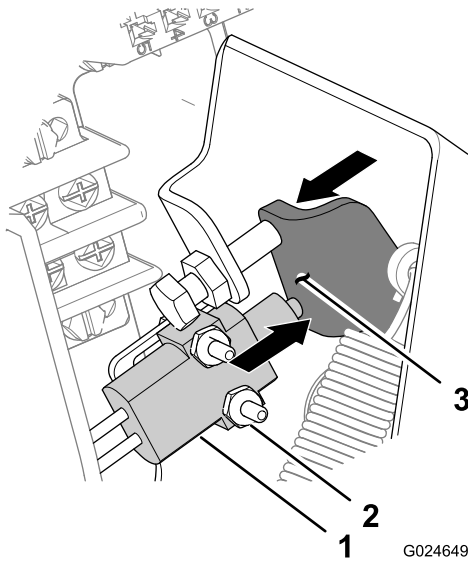
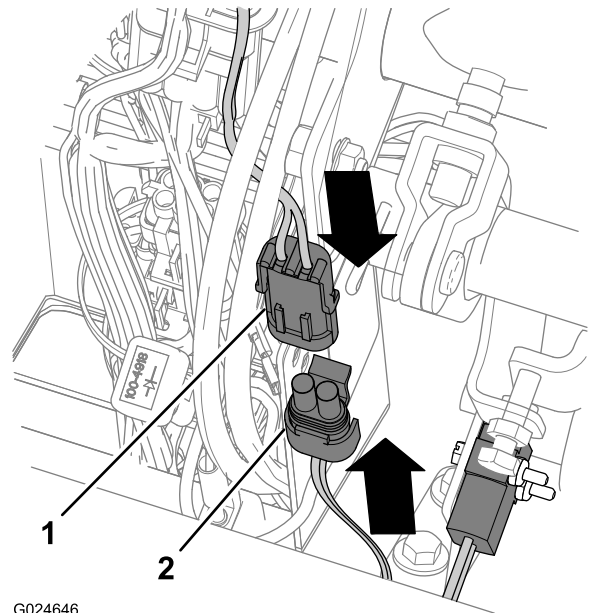


Figure 47

1. Interrupter switch
 2. Locknut
 3. Flange of the accelerator-pedal arm
5. Secure the position of the switch by torquing the slotted hex-head bolts and locknut to 146 to 192 N-cm (13 to 17 lb-in).

Connecting the Switch to the Machine Harness

1. At the front of the machine on the passenger side, locate the 2 pin connector in the machine-forward harness for the interrupter circuit (Figure 48).



G024646

Figure 48

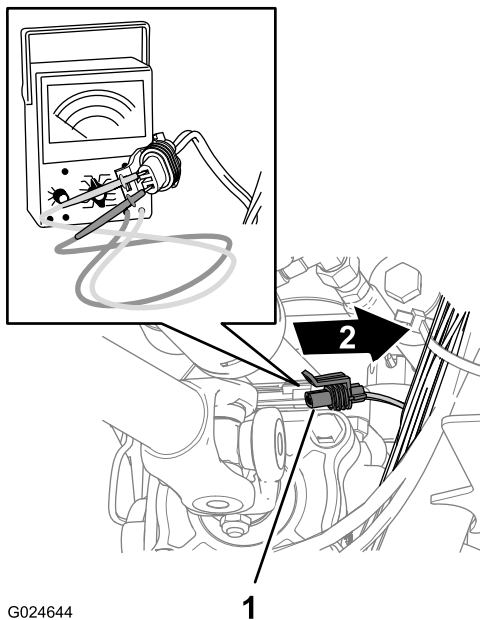
1. 2 pin connector (machine-forward harness)
2. 2 socket connector (interrupt-switch harness)

2. Remove the cable tie that secures the 2 pin connector against the harness.
3. Plug 2 pin connector of the machine harness into the 2 socket connector of the interrupt-switch harness (Figure 48).

Testing the Wiring Harness and Switches

Note: This procedure requires 2 people to test the harness and switch.

1. Raise the front-right corner of the machine, install the jack stand, and lower the machine.
2. Test the differential circuit as follows:
 - A. Locate the 2 socket connector (Figure 49) of the forward wiring harness of the machine for the front differential (at the passenger side of the differential).



G024644

1
Figure 49

1. 2-socket connector (machine harness)
2. Passenger side of the machine

- B. Set the volt/ohm meter to read a 11–14 volt range.
- C. Insert the leads of the volt/ohm meter into the 2-socket connector for the machine (Figure 49).

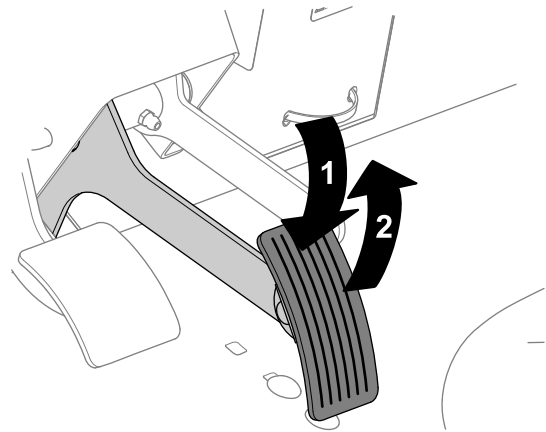
Note: The volt/ohm meter should indicate 0 volts.

- D. Shift the machine into Drive, Low, or Reverse gear.
- E. Insert the key into the key switch and rotate the key switch to the On position.

Important: Do not start the engine.

- F. Press in the accelerator pedal (Figure 50).

Note: The volt/ohm meter should indicate 11–14 volts.



G024645

Figure 50

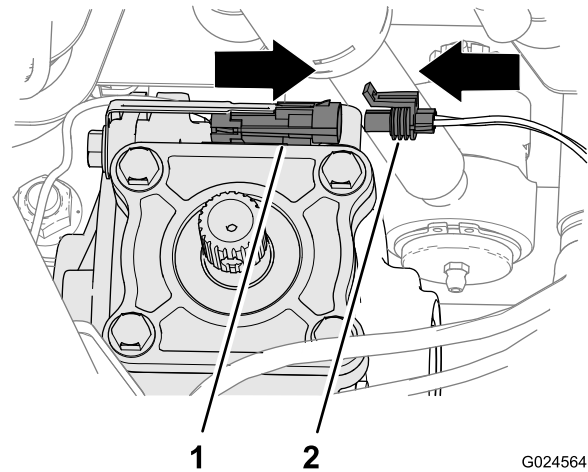
1. Accelerator pedal pressed (11.5 to 14 volts)
2. Accelerator pedal released (0 volts)

3. Release the accelerator pedal (Figure 50).

Note: The volt/ohm meter should indicate 0 volts.

4. Rotate the key switch to the Off position and remove the key.
5. Install the 2-socket connector of the machine harness to the 2-pin connector of the differential (Figure 51).

Note: Ensure that the latch of the socket connector locks to the pin connector of the differential.



G024564

Figure 51

1. Pin connector (differential)
2. Socket connector (machine harness)

6. Raise the front-right corner of the machine, remove the jack stand, and lower the machine to the ground.

Lowering the Bed

For machine models with a utility bed, perform the following:

1. Pull the bed support from the cylinder rod and remove the support (Figure 2); refer to Preparing to Install the Kit (page 2).
2. Insert the bed support into the brackets on the back of the ROPS panel (Figure 1); refer to Preparing to Install the Kit (page 2).
3. Lower the bed; refer to the *Operator's Manual*.

Installing the Hood

1. Align the bottom of the hood to the top of the bumper (Figure 6); refer to Removing the Hood (page 3).
2. Connect the lights.
3. Insert the top mounting tabs into the frame slots (Figure 6); refer to Removing the Hood (page 3).
4. Insert the lower mounting tabs into the pockets in the bumper (Figure 6); refer to Removing the Hood (page 3).
5. Ensure that the hood is fully engaged in the top, sides, and bottom grooves (Figure 6); refer to Removing the Hood (page 3).

Adjusting the 4-Wheel Drive Engagement

The free play between the accelerator pedal and the throttle cable will affect the sensitivity of the 4 wheel drive engagement.

1. Start the machine and allow it to warm up.
 2. If engagement of the 4 wheel drive system is delayed or premature, perform the following:
- **Increase the sensitivity of the 4 wheel drive system** when engagement of the 4-wheel drive does not occur quickly enough, such as when you start to move the machine forward or beginning to back it up, and when you notice the rear tire spinning briefly before the front-wheel drive engages.
 1. Decrease the pedal-free travel of the accelerator-pedal arm (Figure 43) to 1.5 mm (0.06 inch); refer to Adjusting the Accelerator Pedal Upstop (page 17)
 2. Adjust the position of the interrupter switch; refer to steps 3 through 5 in Installing the Interrupt Switch (page 18).
 - **Decrease the sensitivity of the 4 wheel drive system** when engagement of the 4-wheel drive occurs when it is not necessary, such as when you are driving on a hard surface where the 4-wheel drive system is not needed.

Note: If the 4-wheel drive system engages with too much sensitivity, you will experience the sensation of binding in the machine's handling or hear a grinding noise after a changing the travel direction of the machine—such as from forward to reverse or from reverse to forward.

1. Increase the pedal-free travel of the accelerator-pedal arm (Figure 43) to 5.7 mm (0.225 inch); refer to Adjusting the Accelerator Pedal Upstop (page 17).
2. Adjust the position of the interrupter switch; refer to steps 3 through 5 in Installing the Interrupt Switch (page 18).

Maintenance

Preparing to Maintain the 4 Wheel Drive System

1. Move the machine to a level surface.
2. Shut off the machine, and remove the key from the ignition switch.
3. Allow the engine and exhaust system components to cool off.

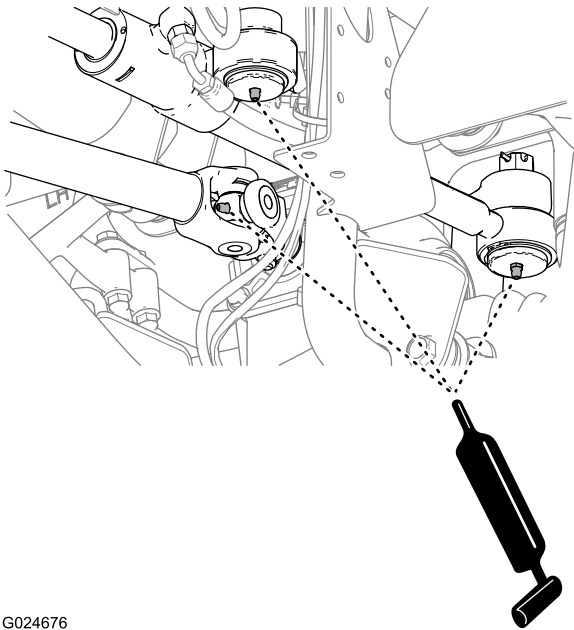
Lubrication

Grease type: No. 2 General Purpose Lithium Base Grease

Greasing the Steering Cylinder

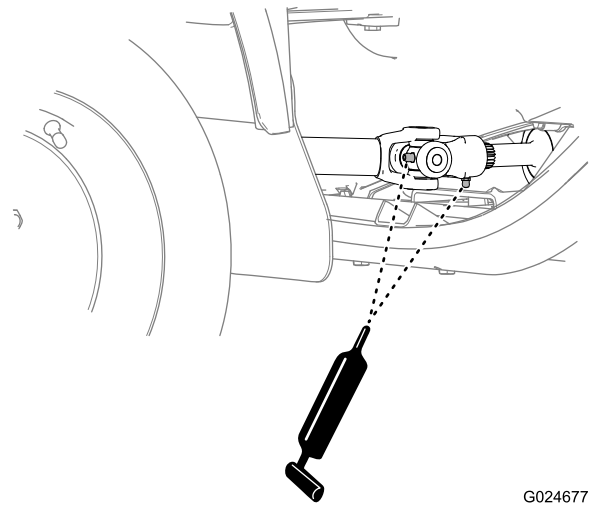
Service Interval: Every 100 hours

1. Wipe clean the grease fittings at the front and rear ball joints of the steering cylinder (Figure 52).
2. Lubricate the grease fittings at the front and rear ball joints of the steering cylinder (Figure 52).



G024676

Figure 52



G024677

Figure 53

Servicing the Differential

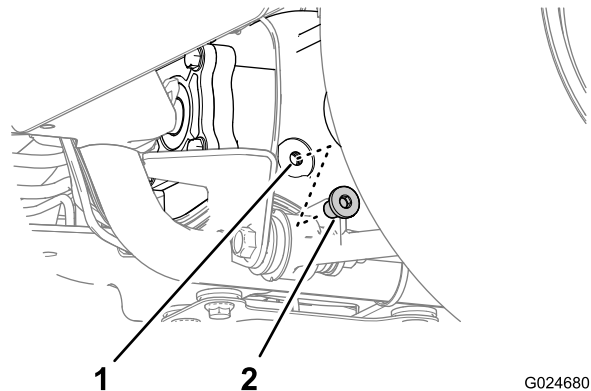
Oil Type: Mobilfluid 424 Multipurpose Tractor Lubricant

Oil Capacity: 180 ml (6 oz)

Checking the Differential Oil Level

Service Interval: Every 100 hours

1. Align a drain pan beneath the sight plug of the differential (Figure 54).



G024680

Figure 54

1. Sight-plug port
2. Sight plug

Greasing the Front Drive Shaft

Service Interval: Every 100 hours

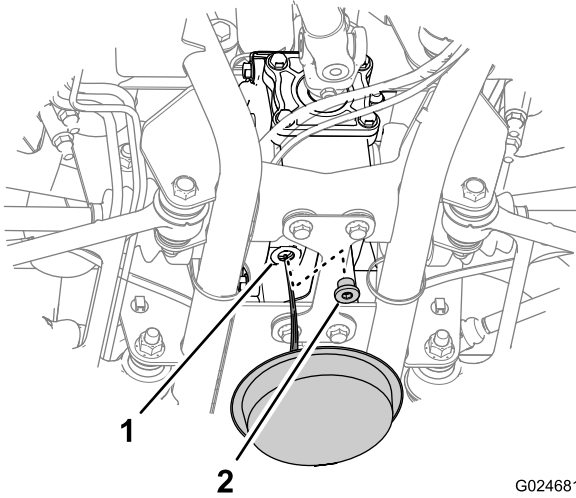
1. Wipe clean the grease fittings at the front and rear U-joints, and the sliding yoke, fixed yoke, and 2 universal joints (Figure 52 and Figure 53).
2. Lubricate the grease fittings at the sliding yoke and 2 universal joints with the specified grease (Figure 52 and Figure 53).

2. Remove the sight plug (Figure 54).
- Note:** The oil level should be at the bottom of the threads of the sight-plug port.
3. If the oil level is below the threads of the sight-plug port, add the specified oil into the port until the oil level is at the threads of the port (Figure 54).
 4. Install the sight plug (Figure 54).

Changing the Differential Oil

Service Interval: Every 800 hours

1. Align a drain pan beneath the drain plug of the differential ([Figure 55](#)).



G024681

Figure 55

1. Drain-plug port
2. Drain plug

-
2. Remove the sight plug and drain plug from the differential ([Figure 54](#)).

Note: Allow the oil to drain completely.

3. Install the drain plug ([Figure 55](#)).
4. Add the specified oil into the sight-plug port until the oil level is at the bottom of the threads of the port ([Figure 54](#)).
5. Install the sight plug ([Figure 54](#)).

Declaration of Incorporation

Model No.	Serial No.	Product Description	Invoice Description	General Description	Directive
07391	None and Up	4-Wheel Drive Kit, Workman HDX-Auto Utility Vehicle	HDX AUTOMATIC 4WD KIT	Utility Vehicle	2006/42/EC, 2004/108/EC

Relevant technical documentation has been compiled as required per Part B of Annex VII of 2006/42/EC.

We will undertake to transmit, in response to requests by national authorities, relevant information on this partly completed machinery. The method of transmission shall be electronic transmittal.

This machinery shall not be put into service until incorporated into approved Toro models as indicated on the associated Declaration of Conformity and in accordance with all instructions, whereby it can be declared in conformity with all relevant Directives.

Certified:



David Klis
Sr. Engineering Manager
8111 Lyndale Ave. South
Bloomington, MN 55420, USA
November 4, 2014

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