



EU Road Light Kit

Groundsmaster® 3200 or 3300 Series Traction Unit

Model No. 31992

Installation Instructions

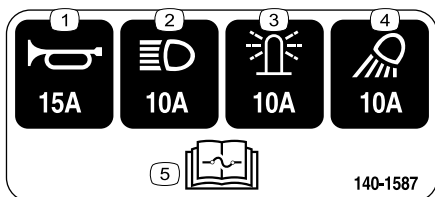
If you are installing this kit on a ROPS-only traction unit (i.e., the traction unit does not have a cab), you must also install the Power Harness Kit (Part No. 140-1559).

Safety

Safety and Instructional Decals



Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



140-1587

decal140-1587

1. Horn—15 A
2. Headlights—10 A
3. Beacon—10 A
4. Work lights—10 A
5. Read the *Operator's Manual* for fuse information.

Installation

1

Preparing the Machine

No Parts Required

Procedure

1. Park the machine on a level surface.
2. Engage the parking brake.
3. Lower the cutting unit.
4. Shut off the engine and remove the key.
5. Disconnect the battery; refer to the electrical system maintenance section of your *Operator's Manual*.



2

Installing the Clips, Speed Nuts, and Fuse Block

Parts needed for this procedure:

1	Switch mount
6	Clip (1/4 inch)
2	Speed nut
1	Fuse mount plate
4	U-type speed nut
1	Fuse block
2	Screw (#10 x 3/4 inch)

Procedure

1. Install the 6 clips and 2 speed nuts to the switch mount (Figure 1).

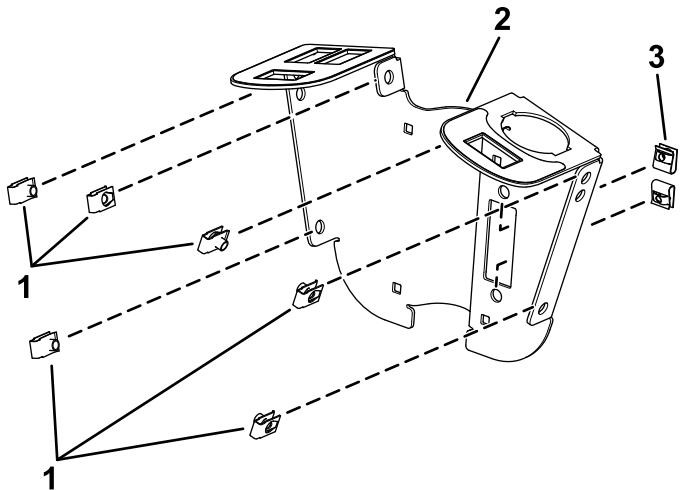
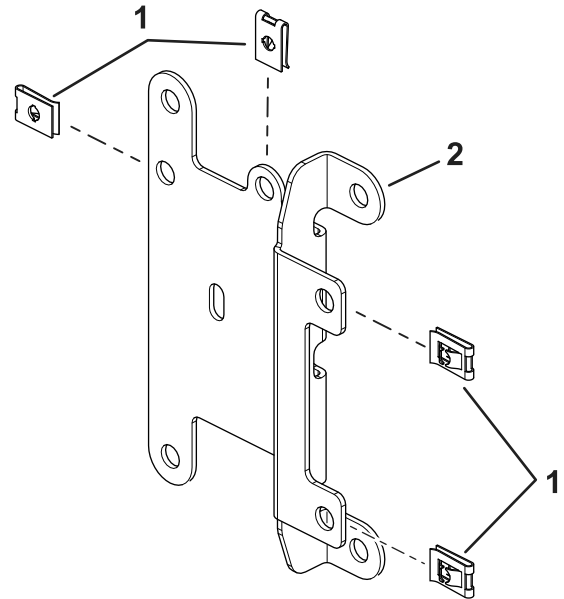


Figure 1

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1. Clip
2. Switch mount
3. Speed nut

2. Install the U-type speed nuts to the fuse-mount plate (Figure 2).

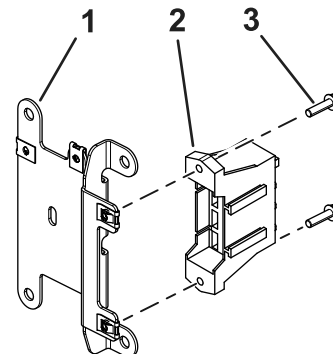


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Figure 2

1. U-type speed nuts
2. Fuse-mount plate

3. Install the fuse block on the wire harness to the fuse-mount plate using 2 screws (#10 x 3/4 inch) as shown in Figure 3.



g304300

Figure 3

1. Fuse-mount plate
2. Fuse block
3. Screw (#10 x 3/4 inch)

3

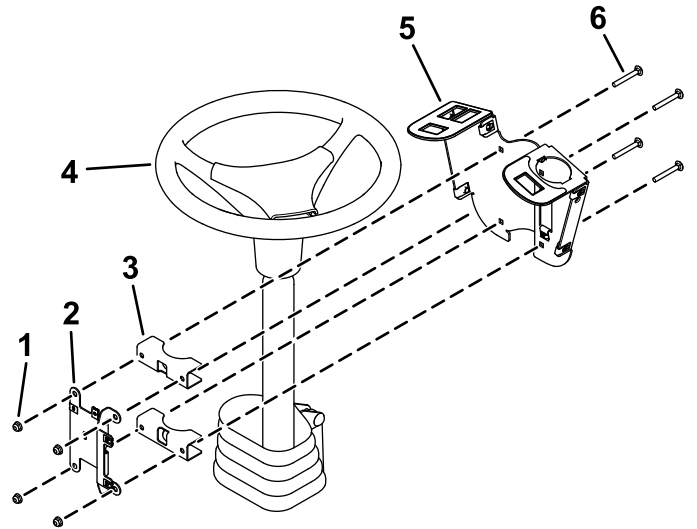
Installing the Switch Mount

Parts needed for this procedure:

2	Mount bracket
4	Carriage bolt (1/4 x 2 inches)
2	Locknut (1/4 inch)
2	Hex-head screw (1/4 x 3/4 inch)
2	Flange nut (1/4 inch)
1	Flasher
1	Relay
1	Wire harness
2	Cable tie
1	Fuse cover
2	Thumb screw
2	Push nut
1	Decal
2	Screw (#10 x 3/8 inch)
1	Multi-function switch
3	Hole plug
1	Rocker switch
1	Control cover
6	Hex-head screw (1/4 x 3/4 inch)
2	Switch clip
2	Push rivet

Procedure

1. Loosely install the switch mount around the steering column using 4 carriage bolts (1/4 x 2 inches), 2 mounting brackets, fuse-mount plate, and 4 locknuts (1/4 inch) as shown in [Figure 4](#).



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Figure 4

- | | |
|------------------------|-----------------------------------|
| 1. Locknuts (1/4 inch) | 4. Steering column |
| 2. Fuse-mount plate | 5. Switch mount |
| 3. Mounting brackets | 6. Carriage bolt (1/4 x 2 inches) |

2. Install the multi-function switch to the switch mount and secure it using the switch clips under the hole for the switch ([Figure 5](#)).

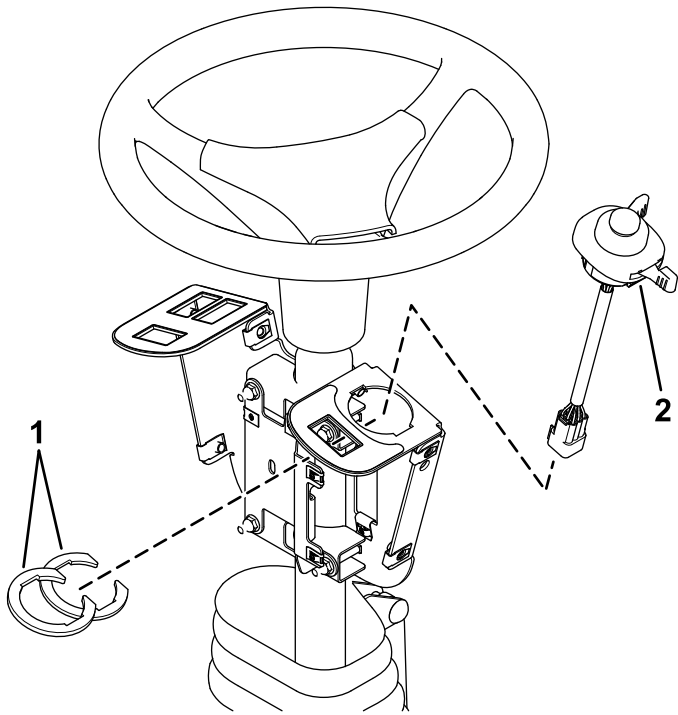


Figure 5

1. Switch clips
2. Multi-function switch

3. Install the rocker switch and hole plugs into the switch mount ([Figure 6](#)).

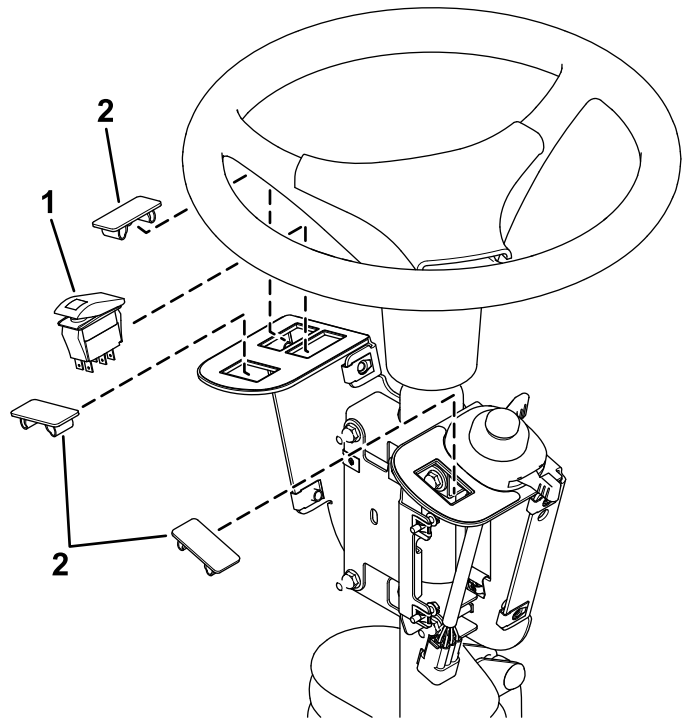


Figure 6

1. Rocker switch
2. Hole plug

4. Install the flasher and relay to the fuse-mount plate using 2 screws (#10 x 3/8 inch) as shown in [Figure 7](#).

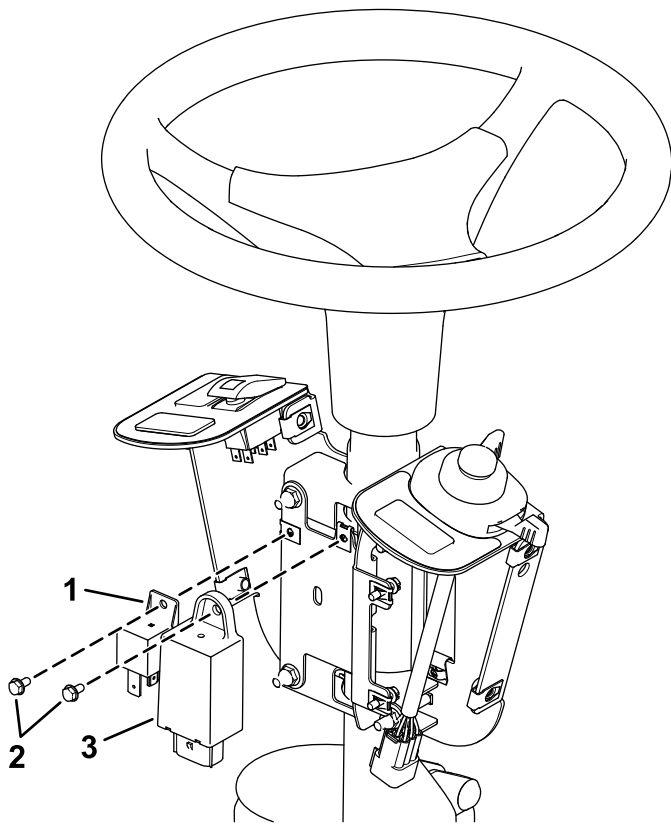


Figure 7

- | | |
|---------------------------|------------|
| 1. Relay | 3. Flasher |
| 2. Screw (#10 x 3/8 inch) | |

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5. Secure the flasher using a cable tie ([Figure 8](#)).
6. Plug the harness into the rocker switch and multi-function switch ([Figure 8](#)).

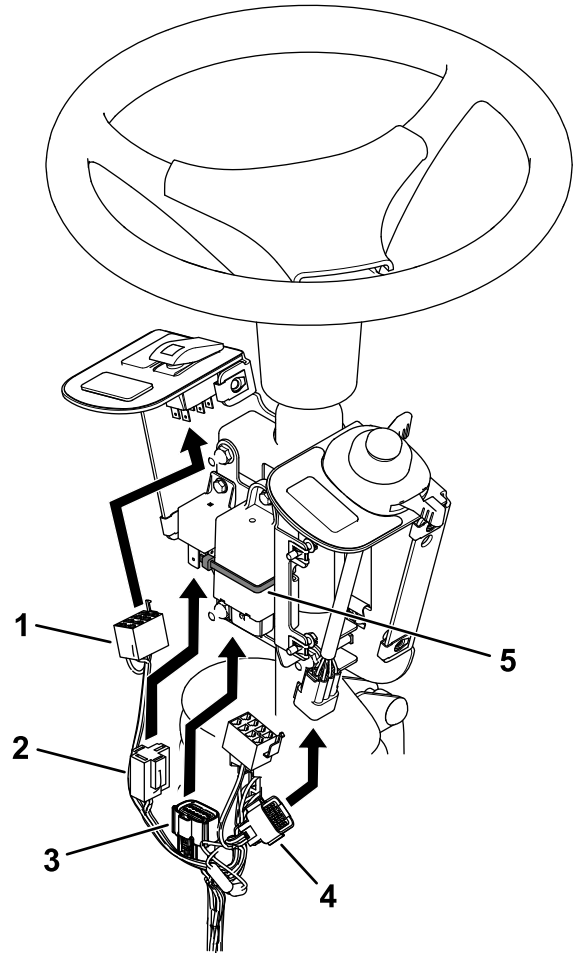


Figure 8

- | | |
|----------------------------|---------------------|
| 1. Rocker switch connector | 4. Switch connector |
| 2. Relay connector | 5. Cable tie |
| 3. Flasher connector | |

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7. Plug the wire harness into the relay and flasher ([Figure 8](#)).
8. Loosen the bolts around the steering-column base ([Figure 9](#)).

9. Raise the base up and drill a 22 mm (7/8 inch) hole as shown in [Figure 9](#).

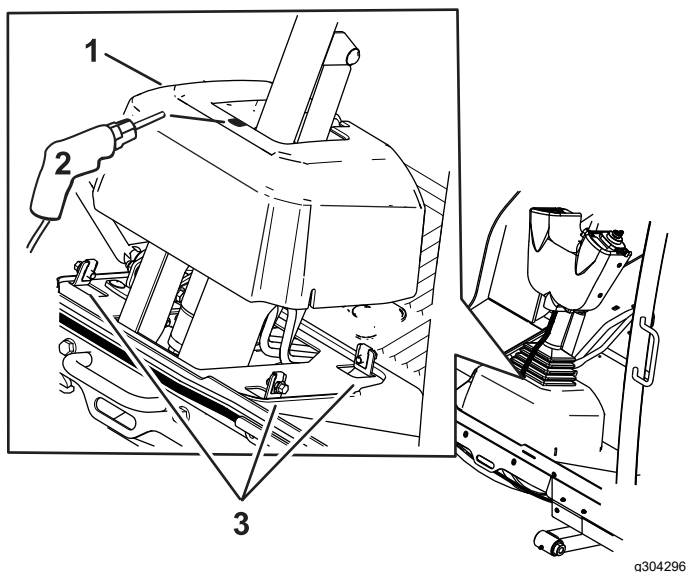


Figure 9

1. Steering-column base

10. Route the harness through the hole you drilled in the base.
11. Leave the bullet connectors disconnected as shown in [Figure 10](#).

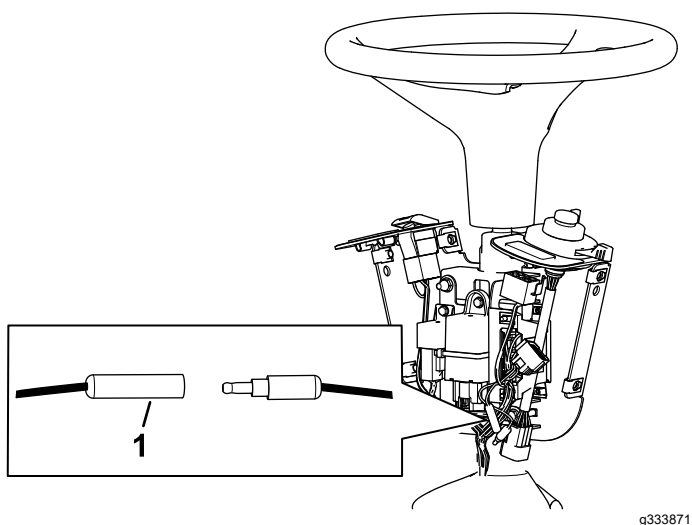


Figure 10

1. Leave the bullet connectors disconnected.

12. Apply the decal to the fuse cover as shown in [Figure 11](#).

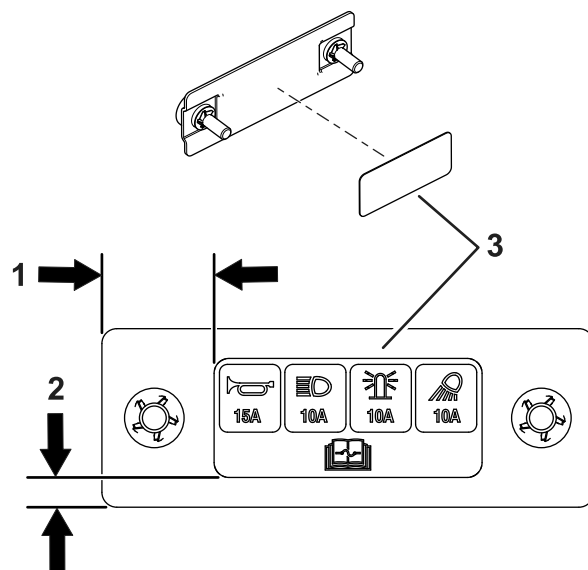


Figure 11

1. 25 mm (1 inch)
2. 6 mm (1/4 inch)
3. Decal—inside of fuse cover

13. Install the fuse cover to the switch mount using 2 thumb screws and 2 push nuts ([Figure 12](#)).

Note: Ensure that the push nuts are installed on the inside of the fuse cover ([Figure 12](#)).

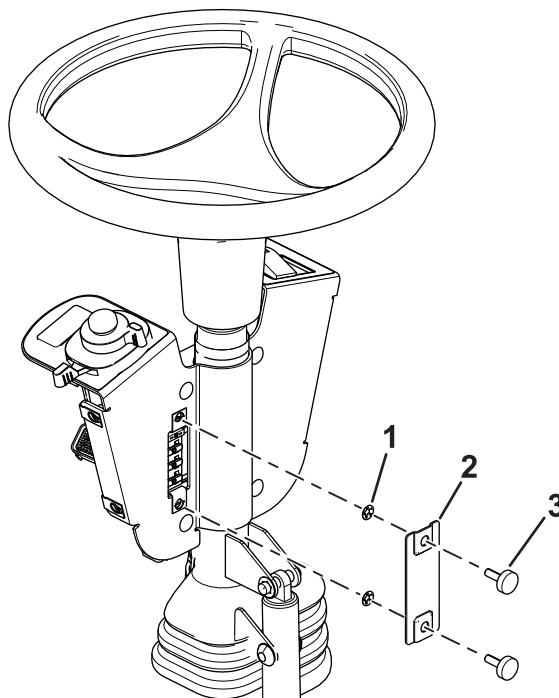


Figure 12

1. Push nut
2. Fuse cover
3. Thumb screw

14. Adjust the control assembly so that the switches are accessible.
15. Tighten all the fasteners.
16. Install the control cover to the switch mount using 2 push rivets and 6 hex-head screws (1/4 x 3/4 inch) as shown in [Figure 13](#).

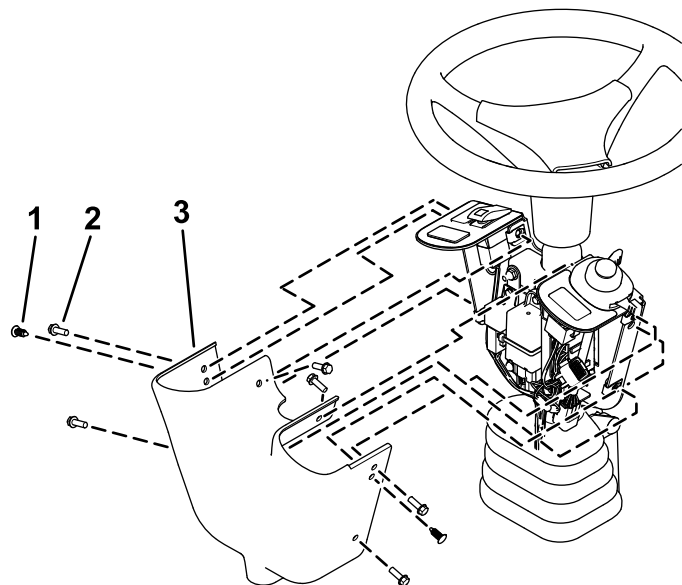


Figure 13

1. Push rivet
2. Hex-head screw
3. Control cover

4

Installing the Front Components

Parts needed for this procedure:

1	Left light base (for machines with a cab)
1	Right light base (for machines with a cab)
1	Left light mount
1	Right light mount
1	Left light assembly
1	Right light assembly
6	Button-head bolt (1/4 x 5/8 inch)
4	Carriage bolt (3/8 x 3/4 inch)—for machines with a cab
4	Locknut (3/8 inch)—for machines with a cab
1	Light cross mount (for machines without a cab)

For Machines with a Cab

When installing the light mounts, refer to the following chart for the mounting position based on your mower deck size and type.

Light Position Table

Cutting Unit Model Number	Front Lights	Rear, Left Light	Rear, Right Light
31970	Narrow	Narrow	Wide
31971	Narrow	Narrow	Narrow
31972	Wide	Narrow	Wide
31973	Narrow	Narrow	Narrow
31974	Narrow	Narrow	Narrow
31975	Narrow	Narrow	Narrow

1. Secure the left light base and right light base to the cab frame using 2 carriage bolts (3/8 x 3/4 inch) and 2 locknuts (3/8 inch) on each side (Figure 14).

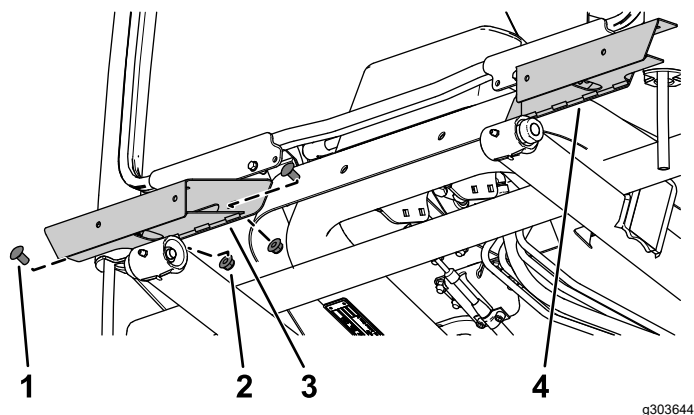


Figure 14

- | | |
|-----------------------------------|---------------------|
| 1. Carriage bolt (3/8 x 3/4 inch) | 3. Right light base |
| 2. Locknut (3/8 inch) | 4. Left light base |

2. Secure the left light mount and right light mount to the light bases using 3 button-head bolts (1/4 x 5/8 inch) through the speed nuts on each side (Figure 15).

Note: Refer to the [Light Position Table \(page 7\)](#) for the appropriate position of the lights.

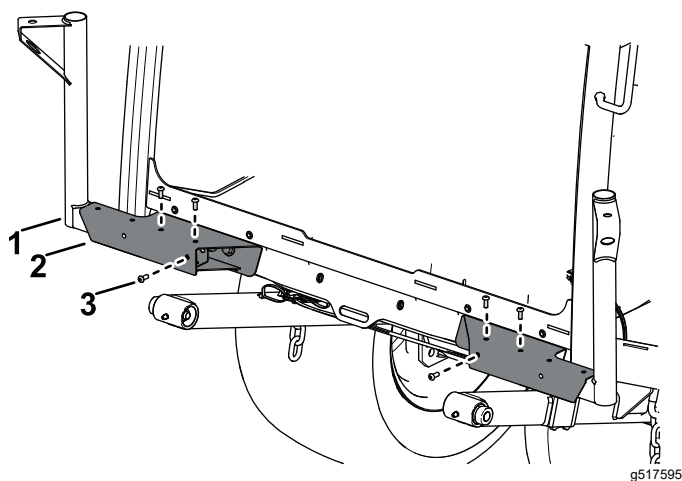


Figure 15

- | | |
|----------------|--------------------------------------|
| 1. Light mount | 3. Button-head bolt (1/4 x 5/8 inch) |
| 2. Light base | |

3. Secure the left light assembly and right light assembly to the left light mount and right light mount using the hex nut on the light assemblies (Figure 16).

Note: Install the lights with the low beam toward the outer edge of the machine.

Look at the bottom of the lights for high beam and low beam orientation.

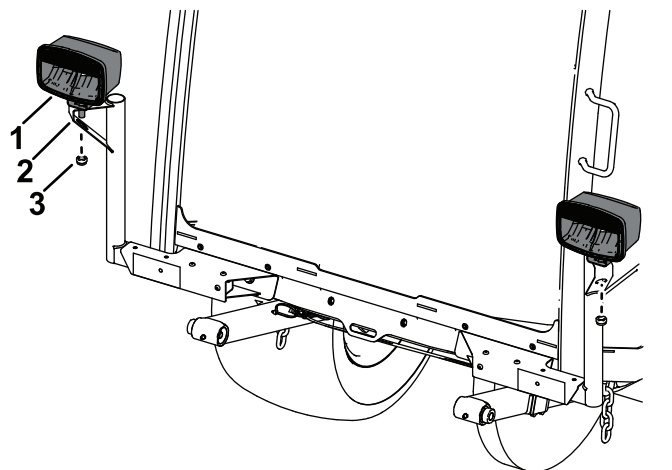


Figure 16

- | | |
|-------------------|------------|
| 1. Light assembly | 3. Hex nut |
| 2. Light mount | |

For Machines without a Cab

1. Remove the tie-down bracket from the platform (Figure 17).

Retain the parts.

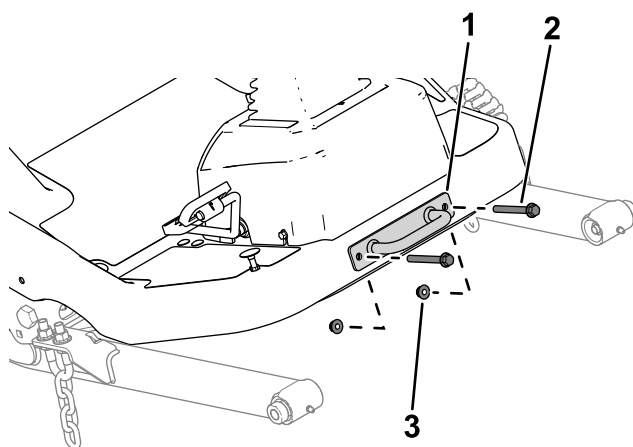


Figure 17

- | | |
|---------------------|--------|
| 1. Tie-down bracket | 3. Nut |
| 2. Bolt | |

2. Secure the light cross mount to the platform using the previously removed bolts, nuts, and tie-down bracket (Figure 18).

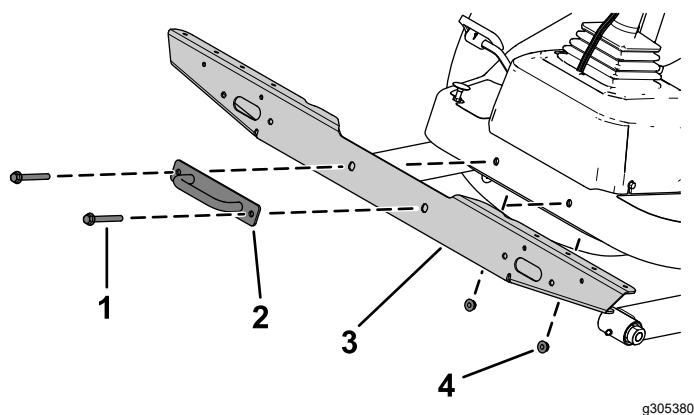


Figure 18

- | | |
|---------------------|----------------------|
| 1. Bolt | 3. Light cross mount |
| 2. Tie-down bracket | 4. Nut |

3. Secure the left light mount and right light mount to the light cross mount using 3 button-head bolts (1/4 x 5/8 inch) through the speed nuts on each side (Figure 19).

Note: Refer to the [Light Position Table \(page 7\)](#) for the appropriate position of the lights.

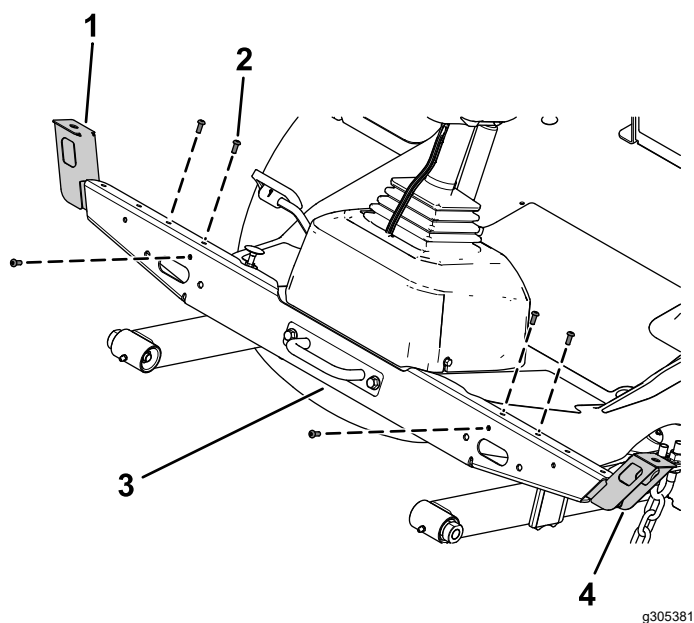


Figure 19

- | | |
|--------------------------------------|----------------------|
| 1. Right light mount | 3. Light cross mount |
| 2. Button-head bolt (1/4 x 5/8 inch) | 4. Left light mount |

4. Secure the left light assembly and right light assembly to the left light mount and right light mount using the lock washer and hex nut on the light assemblies (Figure 20).

Note: Install the lights with the low beam toward the outer edge of the machine.

Look at the bottom of the lights for high beam and low beam orientation.

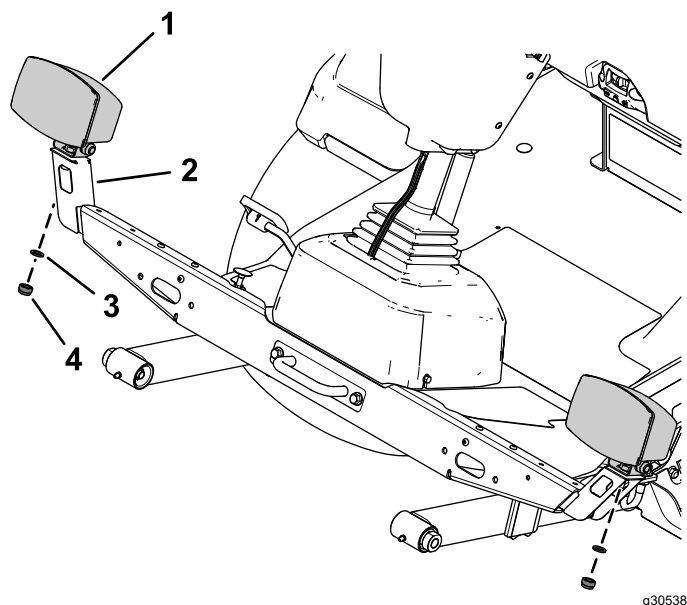


Figure 20

- | | |
|-------------------|----------------|
| 1. Light assembly | 3. Lock washer |
| 2. Light mount | 4. Hex nut |

5

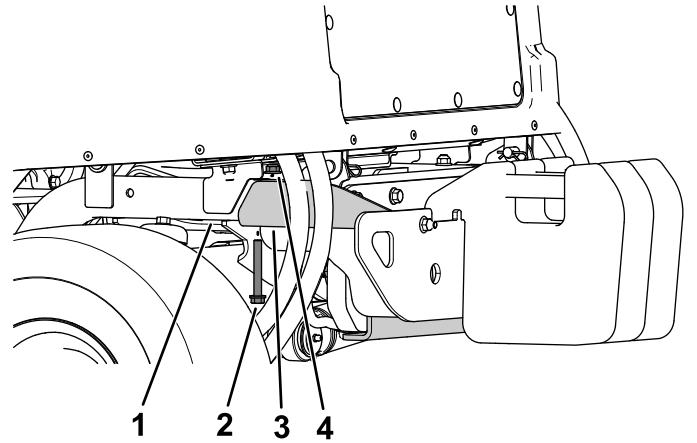
Installing the Rear Components

Parts needed for this procedure:

1	Left mount
1	Right mount
1	Left short mount
1	Right short mount
4	Carriage bolt (5/16 x 3/4 inch)
4	Flange nut (5/16 inch)
4	Carriage bolt (1/4 x 5/8 inch)
8	Locknut (1/4 inch)
2	Inner mount assembly
2	Taillight
4	Pan-head screw (#10 x 1-1/4 inches)
4	Flange nut (#10)
4	Hex-head bolt (3/8 x 3 inches)
4	Locknut (3/8 inch)
1	Marker mount
2	Back mount
4	Flange-head bolt (1/4 x 3/4 inch)
1	Speed-plate mount
2	Speed nut
5	Carriage bolt (1/4 x 1/2 inch)
5	Locknut (1/4 inch)
1	Horn-mounting bracket
1	Horn
3	20 kph speed decal
3	24 kph speed decal
1	Right, long mount
1	Left light housing
1	Right light housing

Procedure

1. Remove the flange-head bolt (3/8 x 2-3/4 inches) and flange nut (3/8 inch) securing the bumper to the rear tube frame on each side of the bumper ([Figure 21](#)).

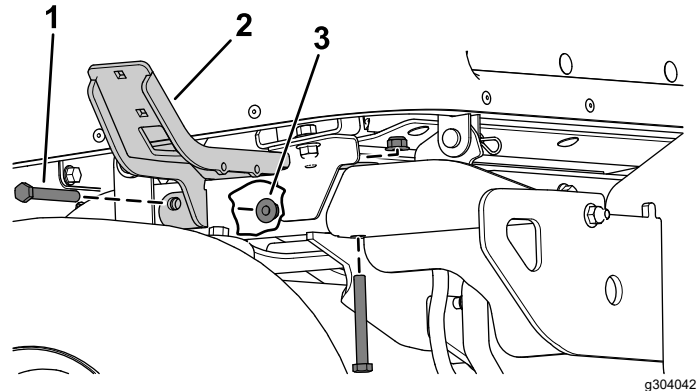


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Figure 21

1. Rear tube frame
2. Flange-head bolt (3/8 x 2-3/4 inches)
3. Bumper
4. Flange nut (3/8 inch)

2. Secure the left mount and right mount to rear frame tubes using 2 hex-head bolts (3/8 x 3 inches) and 2 locknuts (3/8 inch) on each side ([Figure 22](#)).



g304042

Figure 22

1. Hex-head bolt (3/8 x 3 inches)
2. Left mount
3. Locknut (3/8 inch)

- Secure the left short mount and right short or long mount to the left mount and right mount using 4 carriage bolts (5/16 x 3/4 inch) and 4 flange nuts (5/16 inch) as shown in [Figure 23](#).

Note: Refer to the [Light Position Table \(page 7\)](#) for the appropriate position of the lights.

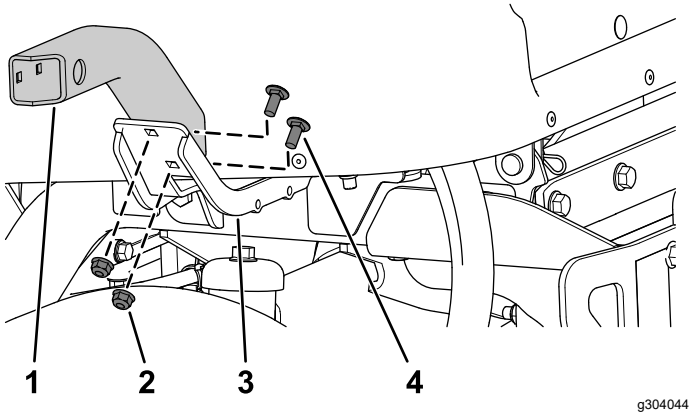


Figure 23

- | | |
|---------------------------|------------------------------------|
| 1. Left short mount | 3. Left mount |
| 2. Flange nut (5/16 inch) | 4. Carriage bolt (5/16 x 3/4 inch) |

- Secure the left light housing and right light housing to the left short mount and right short mount using 4 carriage bolts (1/4 x 5/8 inch) and 4 locknuts (1/4 inch) as shown in [Figure 24](#).

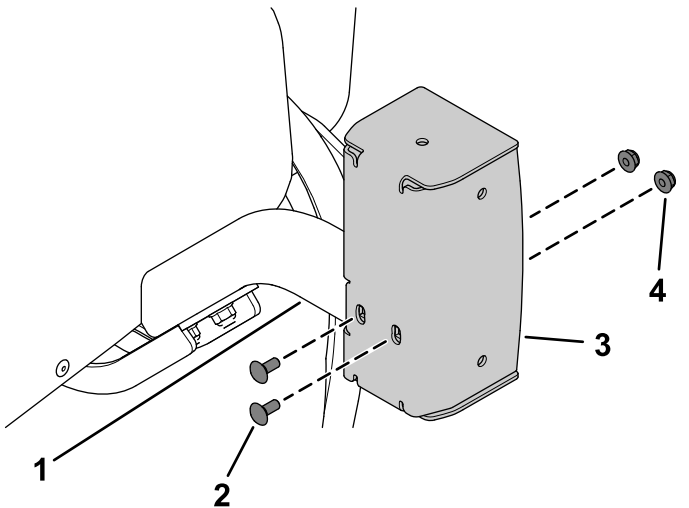


Figure 24

- | | |
|-----------------------------------|-----------------------|
| 1. Left short mount | 3. Left light housing |
| 2. Carriage bolt (1/4 x 5/8 inch) | 4. Locknut (1/4 inch) |

- Apply the appropriate speed decal to the speed-plate mount ([Figure 25](#)).

Apply the 20 kph decal for models 31900 and 31901.

Apply the 24 kph decal for models 31902 and 31903.

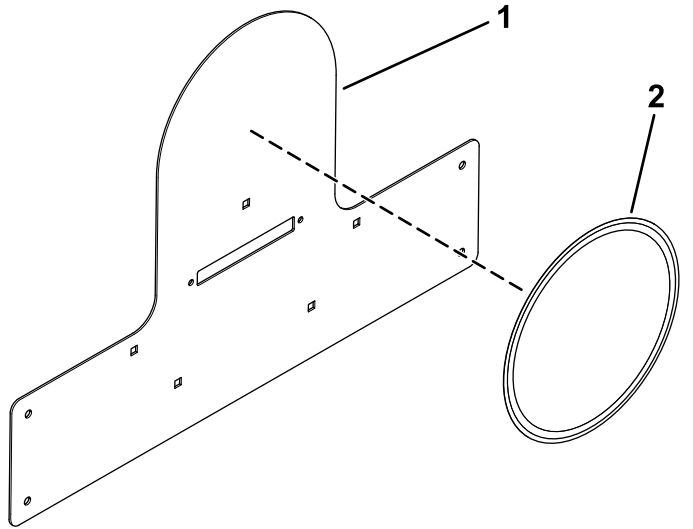


Figure 25

- | | |
|----------------------|----------------|
| 1. Speed-plate mount | 2. Speed decal |
|----------------------|----------------|

- Install the 2 speed nuts to the speed-plate mount ([Figure 26](#)).

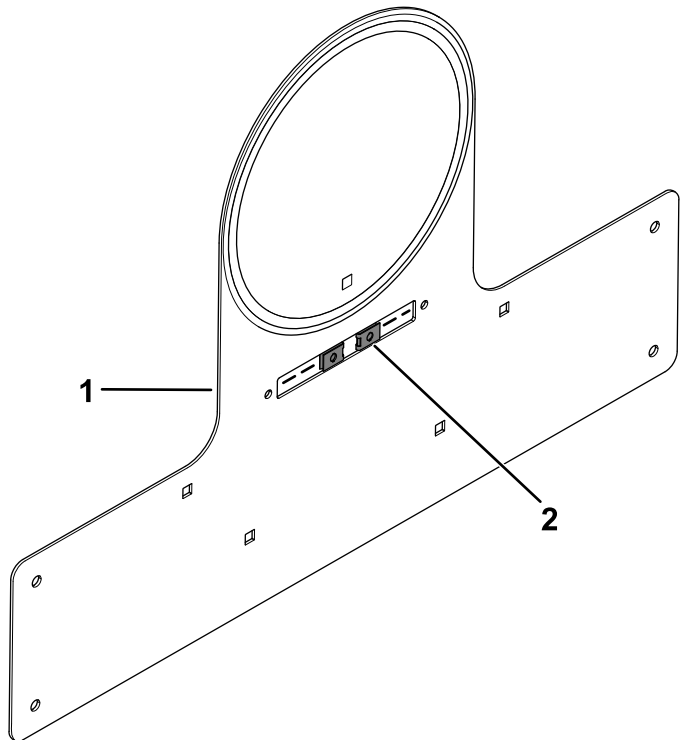
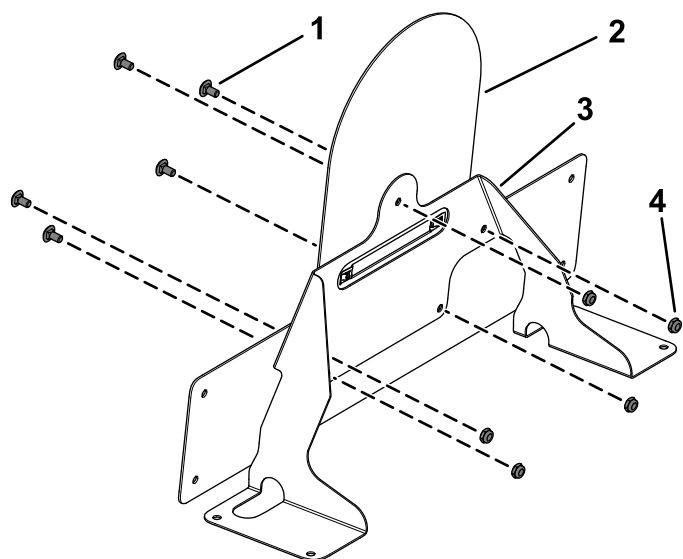


Figure 26

- | | |
|----------------------|--------------|
| 1. Speed-plate mount | 2. Speed nut |
|----------------------|--------------|

7. Secure the speed-plate mount to the marker mount using 5 carriage bolts (1/4 x 1/2 inch) and 5 locknuts (1/4 inch) as shown in [Figure 27](#).

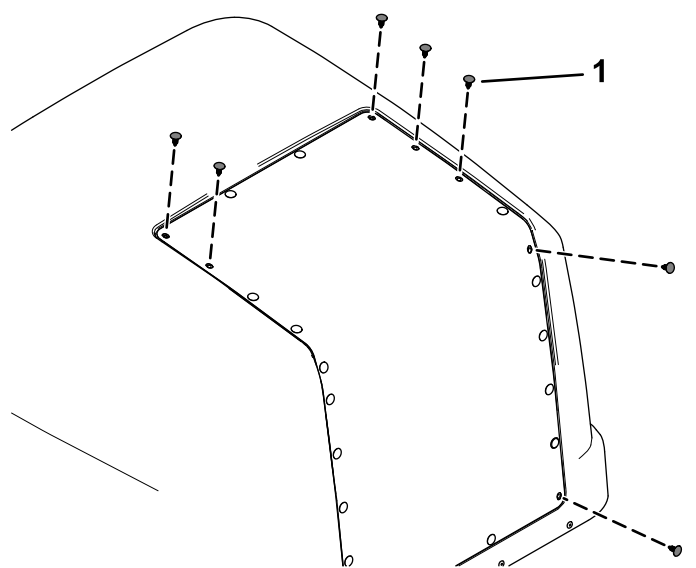


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Figure 27

- | | |
|-----------------------------------|-----------------------|
| 1. Carriage bolt (1/4 x 1/2 inch) | 3. Marker mount |
| 2. Speed-plate mount | 4. Locknut (1/4 inch) |

8. Remove the 7 plastic plugs shown in [Figure 28](#) from the hood.

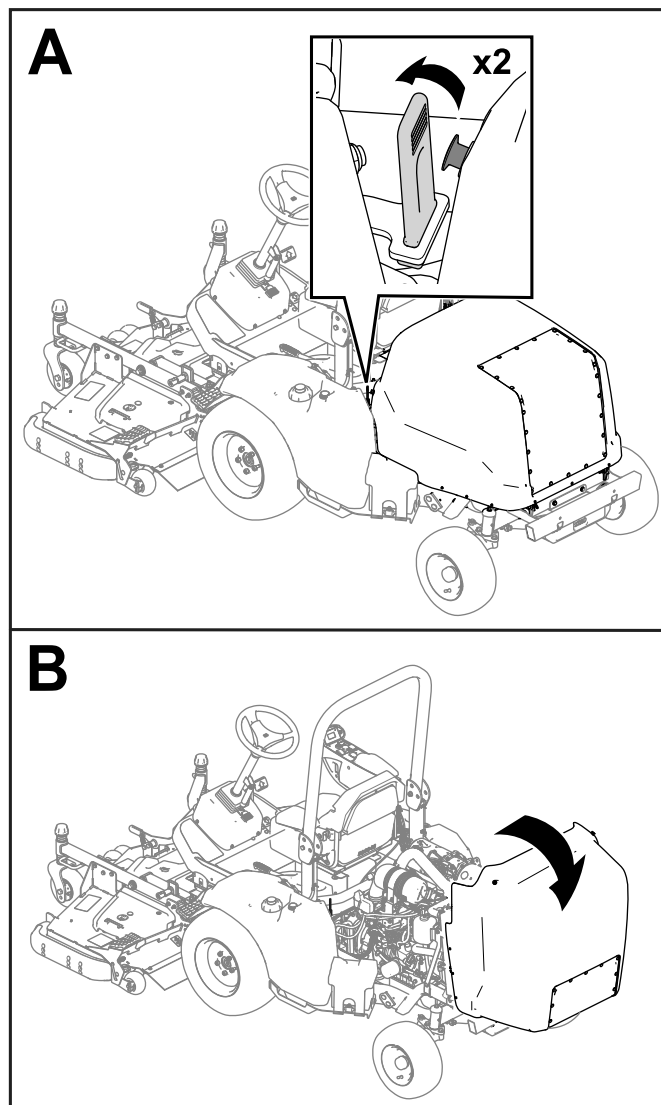


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Figure 28

1. Plastic plug

9. Raise the hood ([Figure 29](#)).



g285428

Figure 29

10. Secure the assembled speed-plate mount to the hood using 4 flange-head bolts (1/4 x 3/4 inch), 2 back mounts, and 4 locknuts (1/4 inch) as shown in [Figure 30](#).

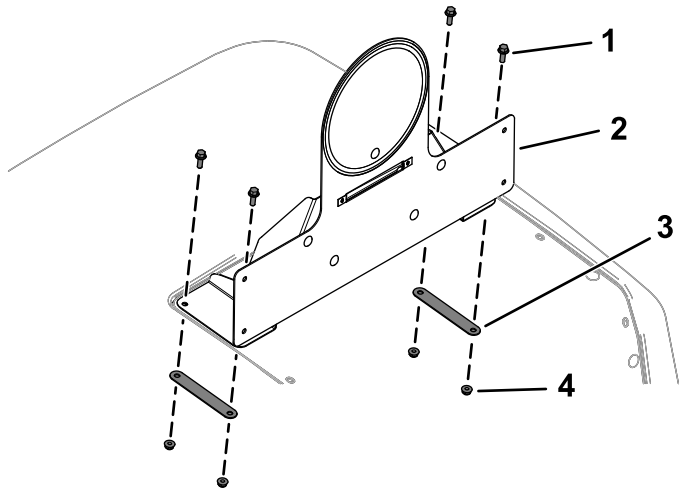


Figure 30

- | | |
|--------------------------------------|-----------------------|
| 1. Flange-head bolt (1/4 x 3/4 inch) | 3. Back mount |
| 2. Assembled speed-plate mount | 4. Locknut (1/4 inch) |

11. Drill a hole (1/2 inch) through the hood screen for routing the wire harness ([Figure 31](#)).

Important: Ensure that you do not drill through any engine components, specifically the Diesel Particulate Filter (DPF).

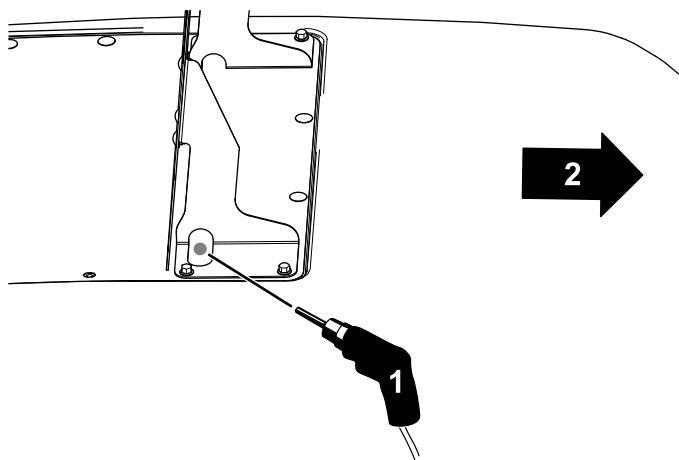


Figure 31

1. Drill the 1/2-inch hole here. 2. Front of the machine.

12. Remove the bolt and nut from the hydraulic-line mount ([Figure 32](#)).

Retain the fasteners.

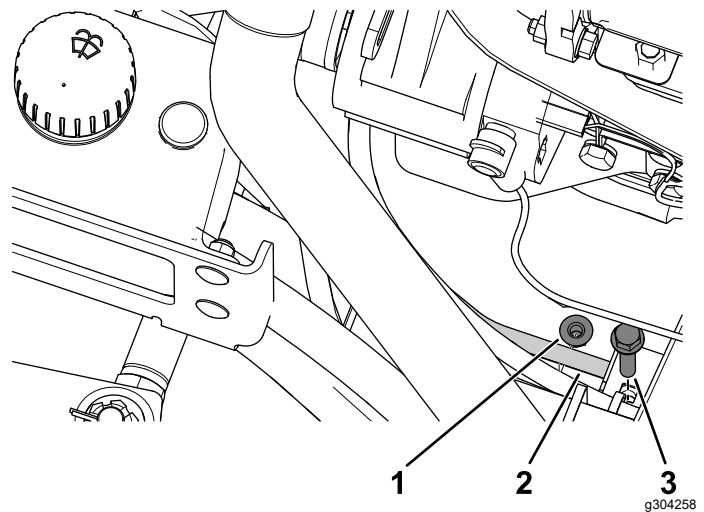


Figure 32

- | | |
|-------------------------|---------|
| 1. Nut | 3. Bolt |
| 2. Hydraulic-line mount | |

13. Secure the horn to the horn-mounting bracket using the previously removed bolt and nut ([Figure 33](#)).

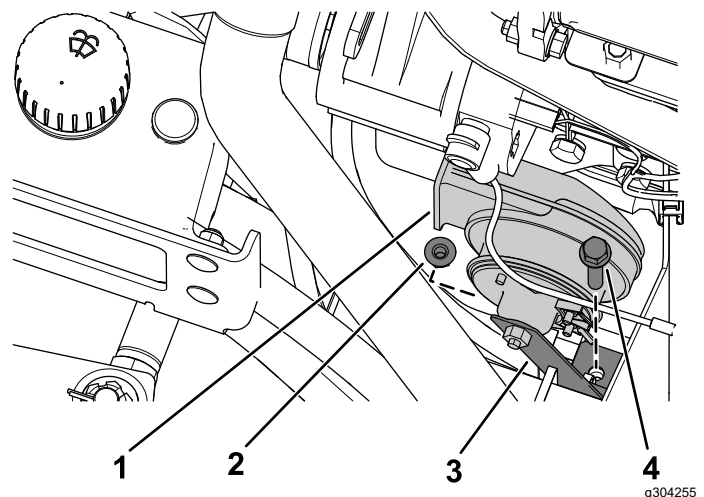


Figure 33

- | | |
|---------|--------------------------|
| 1. Horn | 3. Horn-mounting bracket |
| 2. Nut | 4. Bolt |

14. Apply the appropriate speed decal to each side of the hood ([Figure 34](#)).

Apply the 20 kph decals for models 31900 and 31901.

Apply the 24 kph decals for models 31902 and 31903.

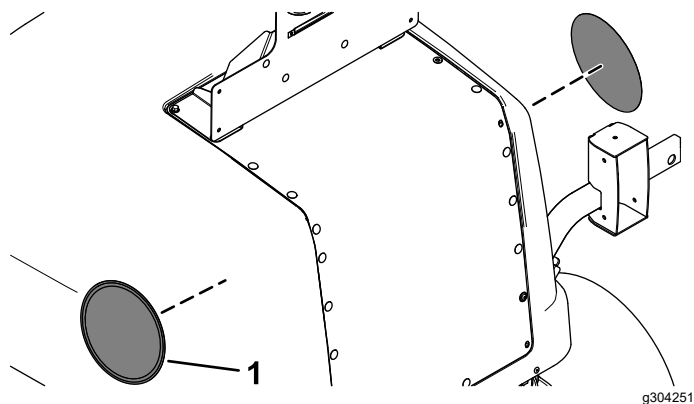


Figure 34

1. Speed decal

6

Routing the Light Wire Harness

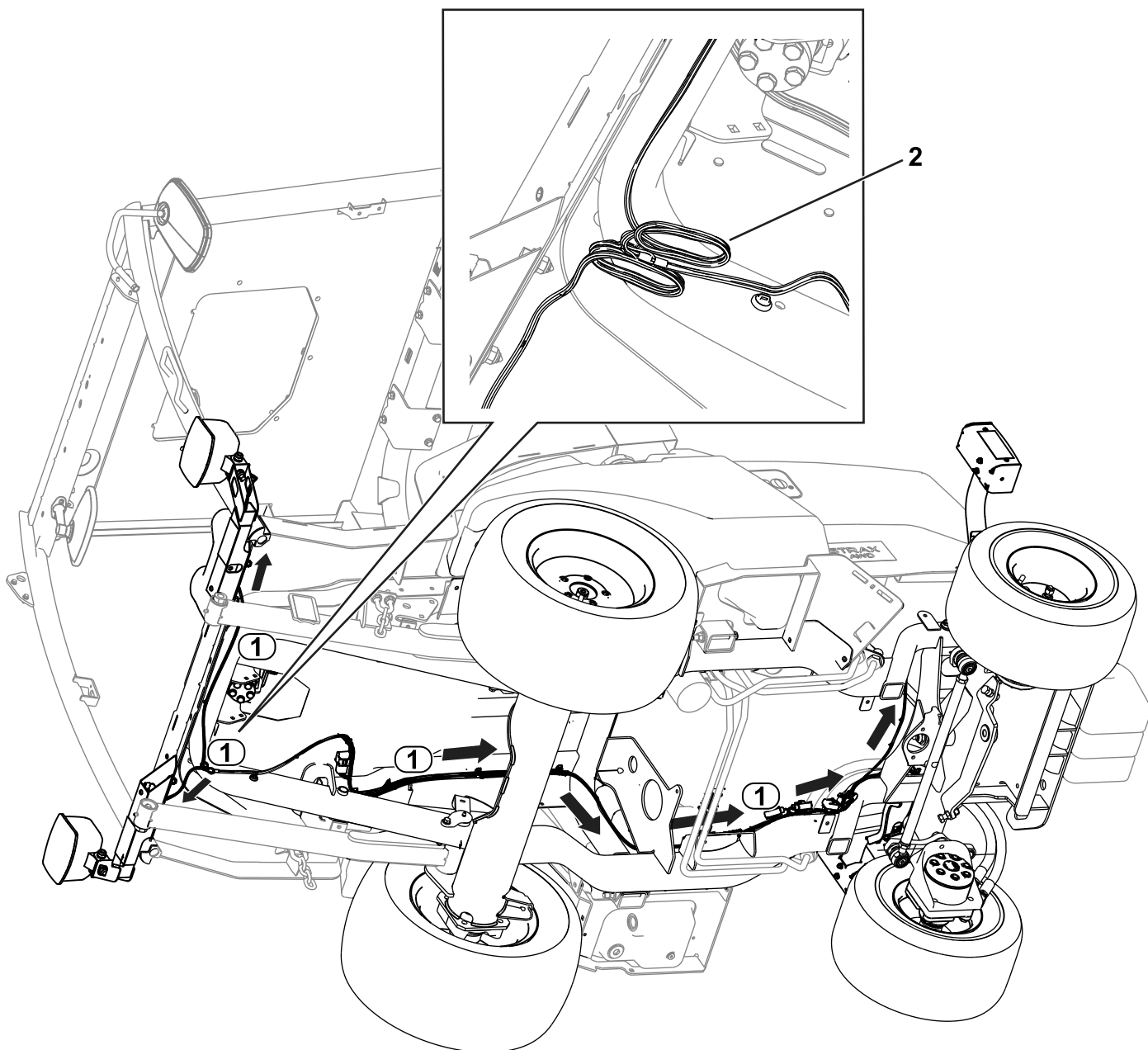
Parts needed for this procedure:

1	Light wire harness
3	Flat washer
3	Hex-socket screw (1/4 x 1 inch)
3	Clamp
3	Flange nut (1/4 inch)
2	Inner mount assembly
2	Taillight
4	Pan-head screw (#10 x 1-1/4 inches)
4	Flange nut (#10)
8	Button-head bolt (1/4 x 3/4 inch)
1	Plate light
2	Button-head bolt (#10 x 3/4 inch)
8	Cable tie

Procedure

Refer to the following figures and instructions for routing the light wire harness.

1. Route the wire-harness connector labeled FRONT LIGHT LH (P04) to the left side of unit. Connect harness to light ([Figure 35](#)).
2. Route the wire-harness connector labeled FRONT LIGHT RH (P05) to the right side of unit. Connect harness to light ([Figure 35](#)).
3. Route the wire-harness connector labeled REAR LIGHT LH (P01) to the rear left side of unit ([Figure 35](#)).
4. Route the wire-harness connector labeled REAR LIGHT RH (P02) to the rear right side of unit ([Figure 35](#)).



g555354

Figure 35

1. Wire-harness routing

2. Bundled wire harness (for machines without a cab)

5. Secure the taillights to the inner mount assemblies using 4 pan-head screws (#10 x 1-1/4 inches) and 4 flange nuts (#10) as shown in [Figure 36](#).

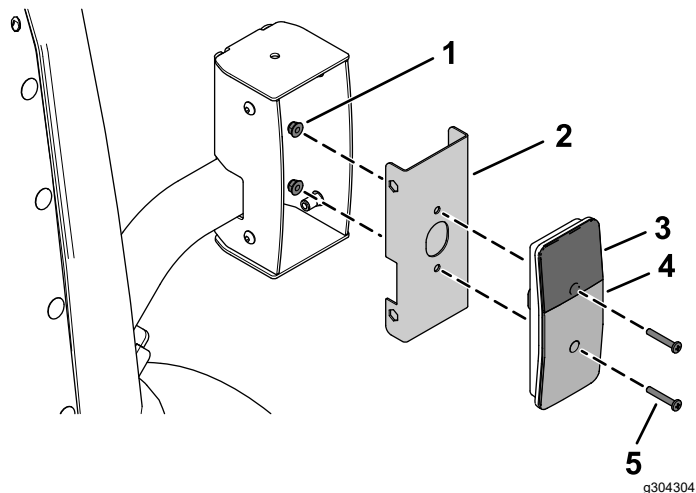


Figure 36

- | | |
|-------------------------|--|
| 1. Flange nut (#10) | 4. Red lens |
| 2. Inner mount assembly | 5. Pan-head screw (#10 x 1-1/4 inches) |
| 3. Amber lens | |

-
6. Connect the wire-harness connector labeled REAR LIGHT LH (P01) to rear light ([Figure 35](#)).
 7. Connect the wire-harness connector labeled REAR LIGHT RH (P02) to rear light ([Figure 35](#)).

8. Secure the assembled taillights to the taillight housings using 8 button-head bolts (1/4 x 3/4 inch) as shown in [Figure 37](#).

Ensure that you install the taillights with the yellow lens on top ([Figure 36](#) and [Figure 37](#)).

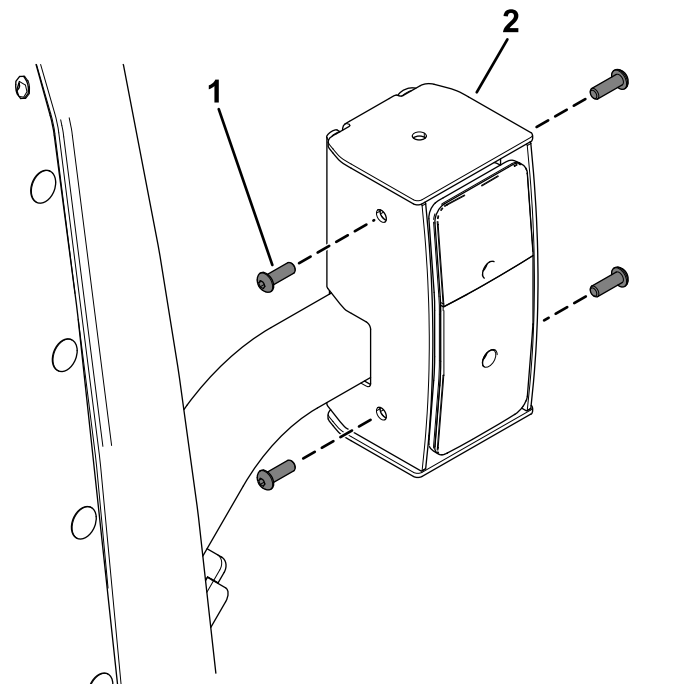


Figure 37

-
- | | |
|--------------------------------------|-----------------------|
| 1. Button-head bolt (1/4 x 3/4 inch) | 2. Taillight assembly |
|--------------------------------------|-----------------------|

9. Route the wire-harness connector labeled LICENSE LIGHT (J01, J02) through the hood and connect it to the license light (Figure 38).

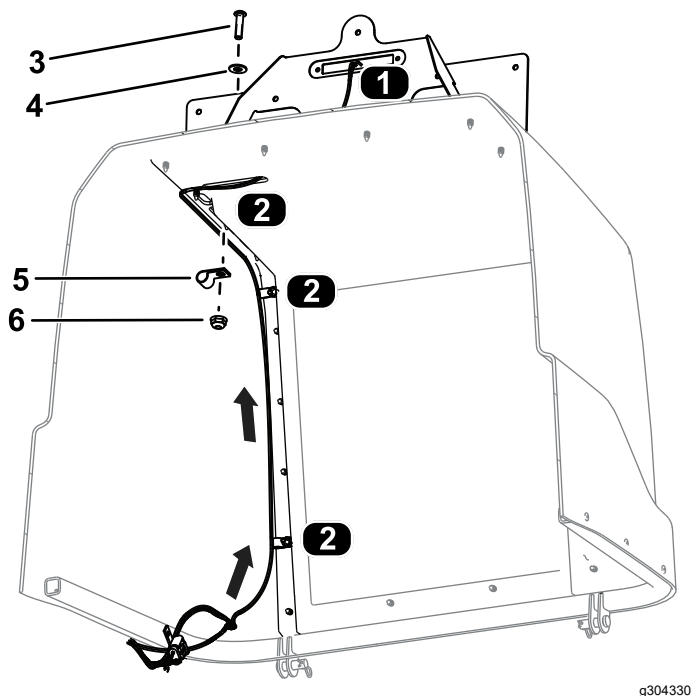


Figure 38

View from the bottom of the hood

- | | |
|--|--------------------------|
| 1. Wire-harness connection—license plate | 4. Flat washer |
| 2. Clamp locations | 5. Clamp |
| 3. Hex-socket screw (1/4 x 1 inch) | 6. Flange nut (1/4 inch) |

10. Secure the wire harness to the hood using 3 hex-socket screws (1/4 x 1 inch), 3 flat washers, 3 clamps, and 3 flange nuts (1/4 inch) as shown in Figure 38.

11. Connect the wire harness to the plate light (Figure 39).
12. Secure the plate light to the assembled speed-plate mount using the 2 speed nuts installed in Figure 26 and 2 button-head bolts (#10 x 3/4 inch) as shown in Figure 39.

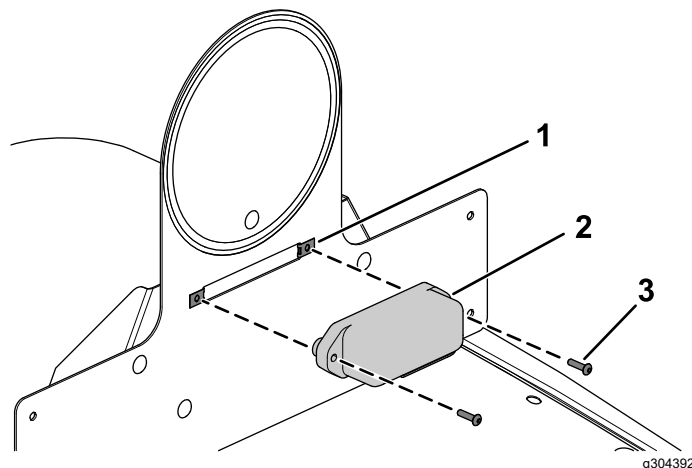


Figure 39

- | | |
|----------------|--------------------------------------|
| 1. Speed nut | 3. Button-head bolt (#10 x 3/4 inch) |
| 2. Plate light | |

13. **For machines without a cab:** Bundle the extra length of the wire harness to the area under the light cross mount as shown in Figure 35. Use a cable tie to secure the bundle together.

7

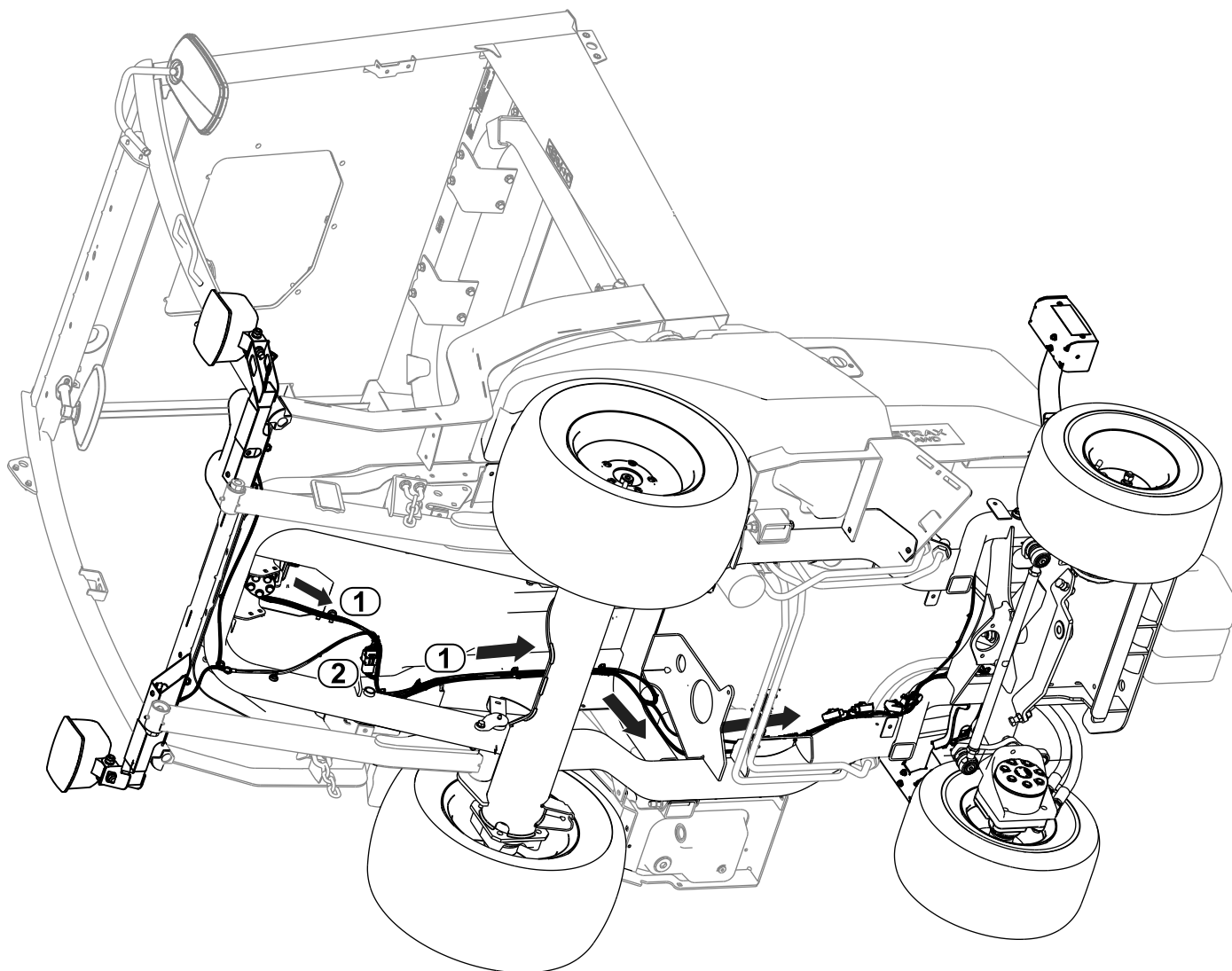
Routing the Control Wire Harness

Parts needed for this procedure:

1	Control wire harness
---	----------------------

Procedure

Refer to the following figures and instructions for routing the control wire harness.



g304234

Figure 40

1. Wire-harness routing

2. Control wire harness and light wire harness connection

1. Route the wire harness through the platform opening and along the light-wire-harness routing.
2. Connect the control wire-harness connector labeled TO ROAD LTS HARNESS (P06) to light wire-harness connector labeled TO MAIN HARNESS (P03).
3. Connect the control wire-harness connector labeled TO POWER HARNESS (P05) to power wire-harness connector labeled POD CONTROL HARNESS (P04).

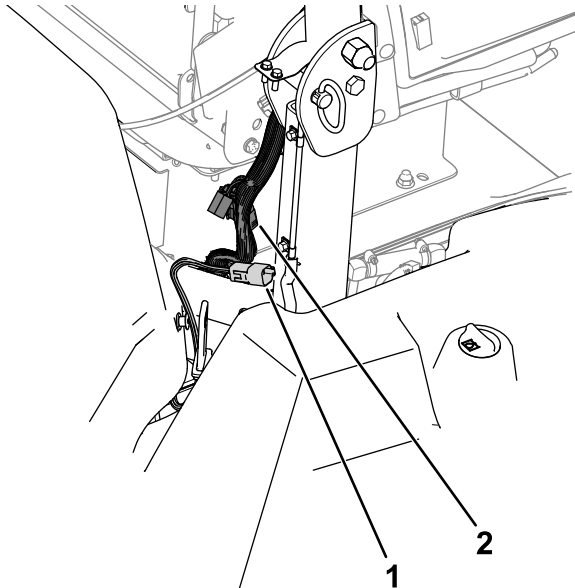
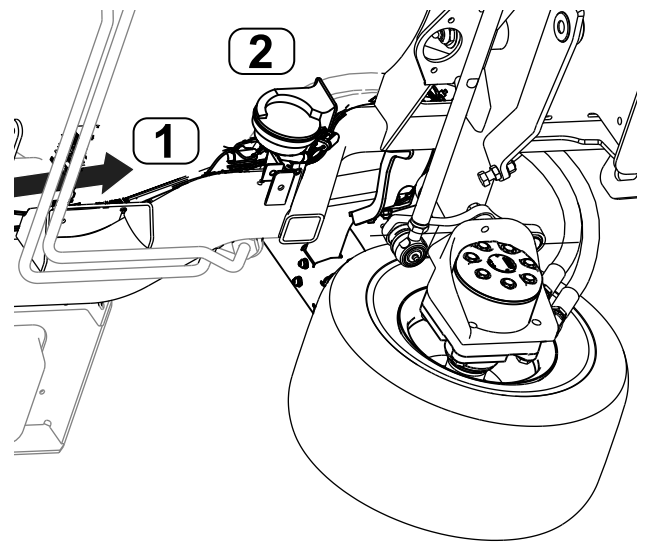


Figure 41

g304373

- | | |
|---|---|
| 1. P05 (Control-wire-harness connector) | 2. P04 (Machine-wire-harness connector) |
|---|---|

4. Connect the control wire-harness connectors labeled HORN (J01, J02) to the horn ([Figure 42](#)).



g304331

Figure 42

- | | |
|-----------------|--------------------|
| 1. Wire harness | 2. Horn connection |
|-----------------|--------------------|

8

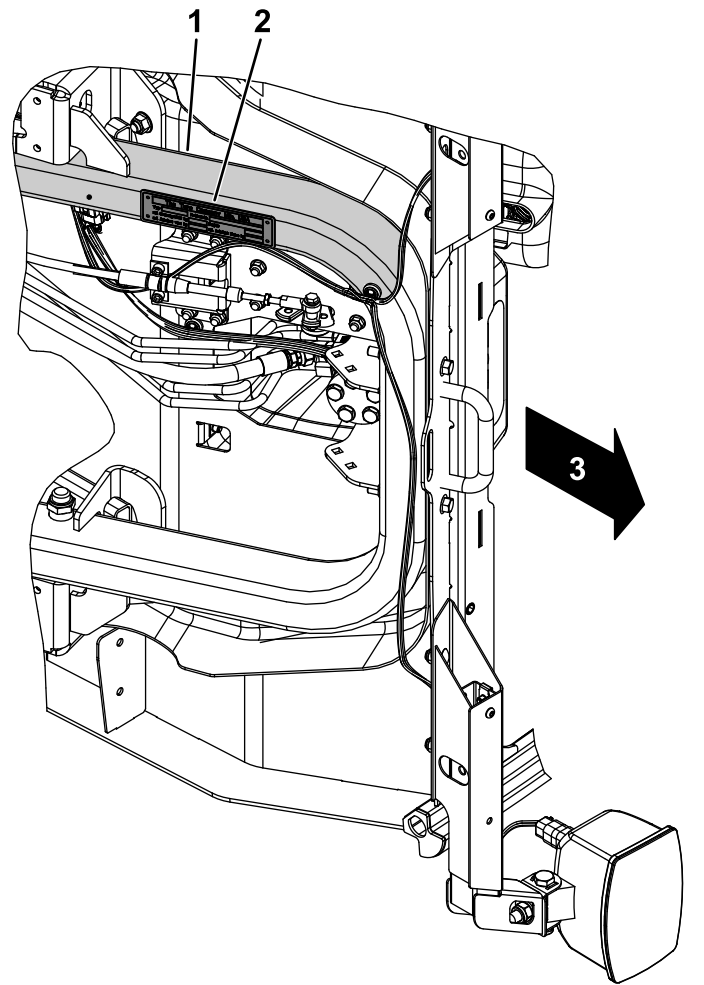
Installing the Serial Plate For Germany Only

Parts needed for this procedure:

1	Serial plate
1	Serial plate tape

Procedure

1. Stamp the serial number into the frame.
The text size must be 7 mm (1/4 inch) or larger.
2. Stamp the appropriate information into the serial plate.
3. Wipe down the bottom of the frame and serial plate with an alcohol-based wipe ([Figure 43](#)).



g304286

Figure 43

1. Clean the bottom of the frame.
2. Serial plate
3. Front of the machine frame

4. Apply the tape to the serial plate.
5. Install the plate to the frame ([Figure 44](#)).
Use the dimensions shown in [Figure 45](#).

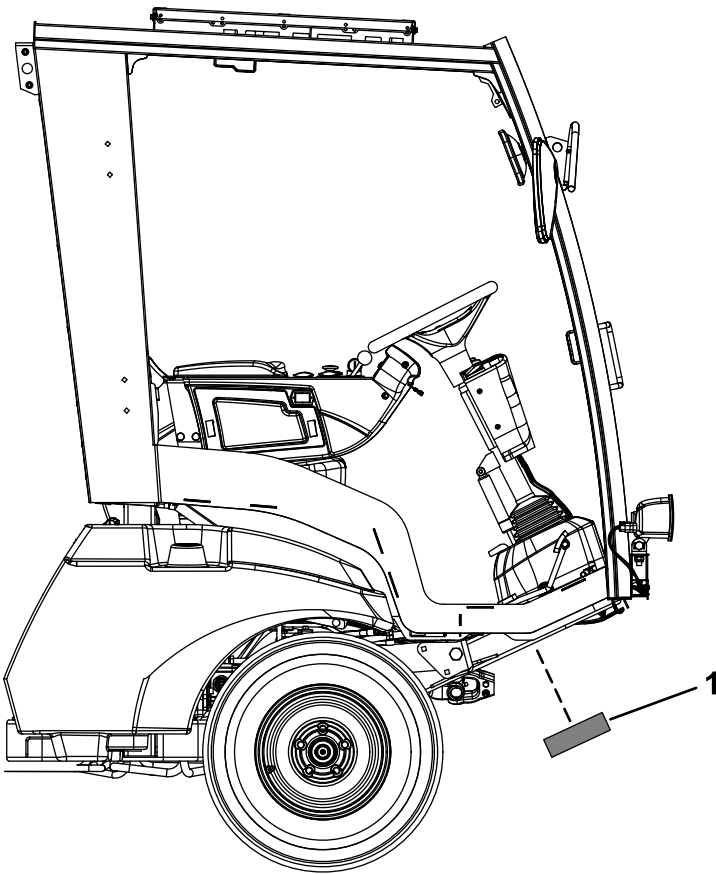
9

Connecting the Battery

No Parts Required

Procedure

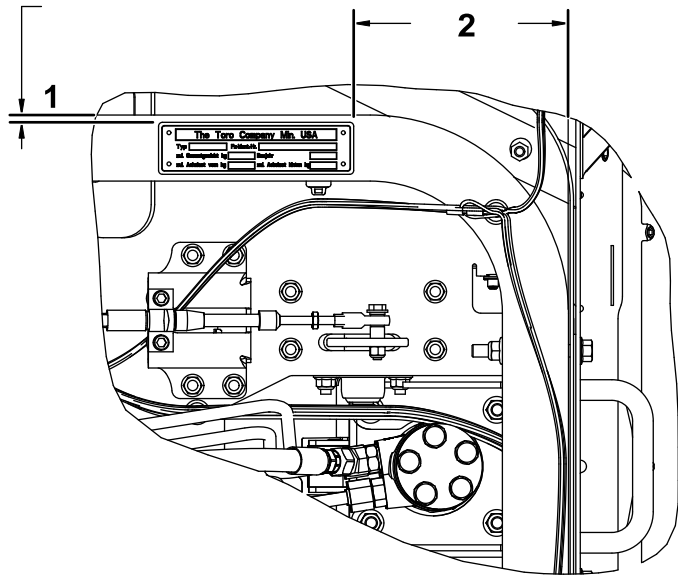
Connect the battery; refer to the electrical system maintenance section of your *Operator's Manual*.



g304288

Figure 44

1. Serial plate



g304287

Figure 45

1. 2.5 to 8.1 mm (1/8 to 5/16 inch)
2. 162 to 168 mm (6-3/8 to 6-5/8 inches)

Notes:

Notes:



Count on it.