



# North American Road Light Kit

## Groundsmaster® e3200 Series Traction Unit

Model No. 32309

### Installation Instructions

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# Installation

## 1

### Preparing the Machine

No Parts Required

#### Procedure

1. Park the machine on a level surface.
2. Ensure that the parking brake is engaged; refer to your *Operator's Manual*.
3. Lower the cutting unit (if equipped).
4. Shut off the machine and remove the key.
5. Turn the battery-disconnect switch to the OFF position.



# 2

## Installing the Clips and Speed Nuts

Parts needed for this procedure:

1	Switch mount
6	Clip (1/4 inch)
2	Speed nut
1	Fuse mount plate
2	U-type speed nut

### Procedure

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

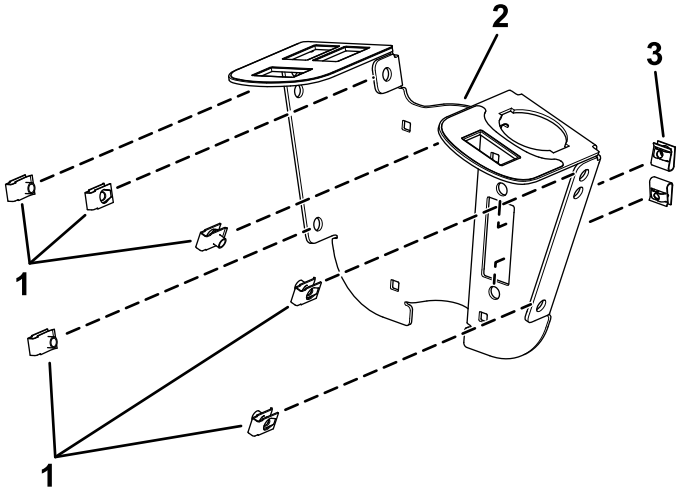


Figure 1

g319851

1. Clip
2. Switch mount
3. Speed nut

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

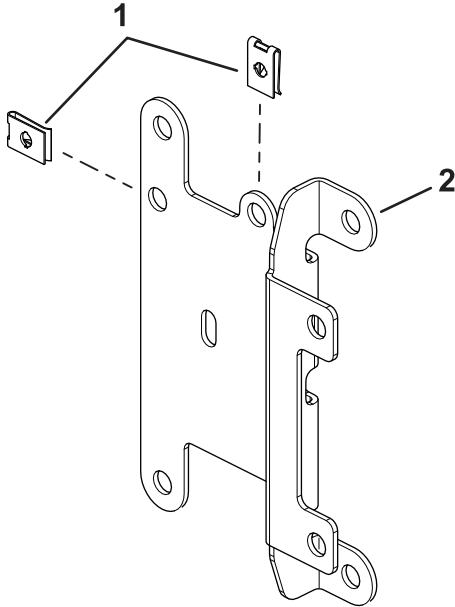


Figure 2

g460351

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

# 3

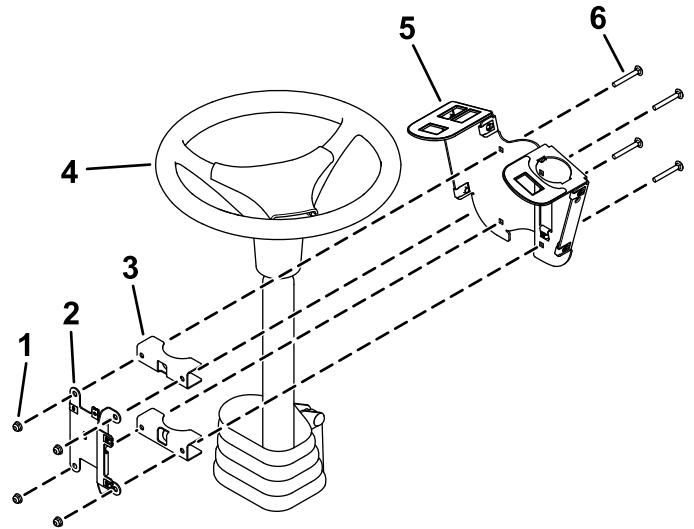
## Installing the Switch Mount

### 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	Wire harness
2	Cable tie
1	Fuse cover
2	Thumb screw
2	Push nut
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

- 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 3](#).

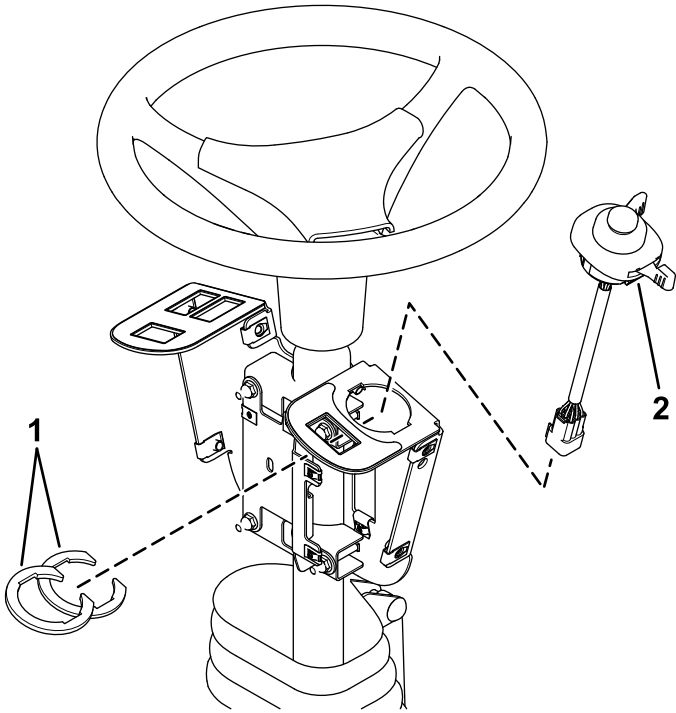


**Figure 3**

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- |                        |                                   |
|------------------------|-----------------------------------|
| 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 4](#)).

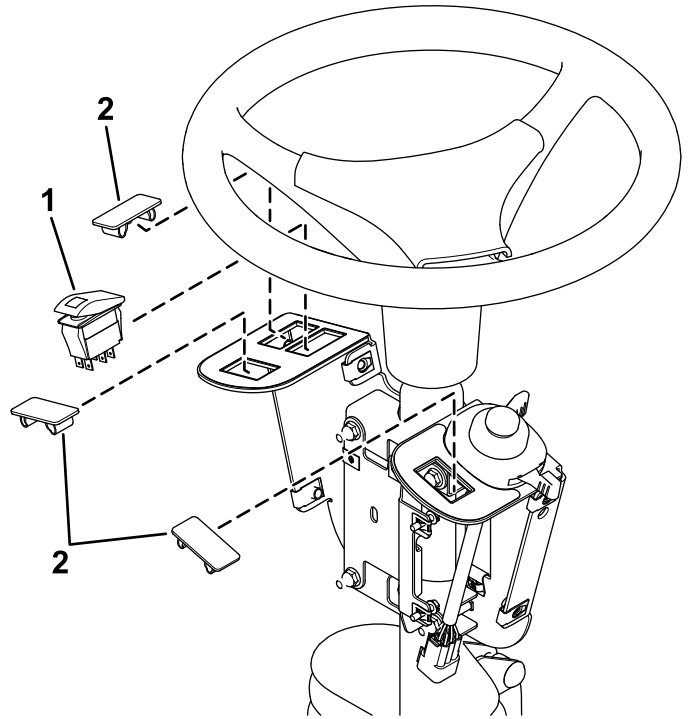


**Figure 4**

1. Switch clips
2. Multi-function switch

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3. Install the rocker switch and hole plugs into the switch mount ([Figure 5](#)).

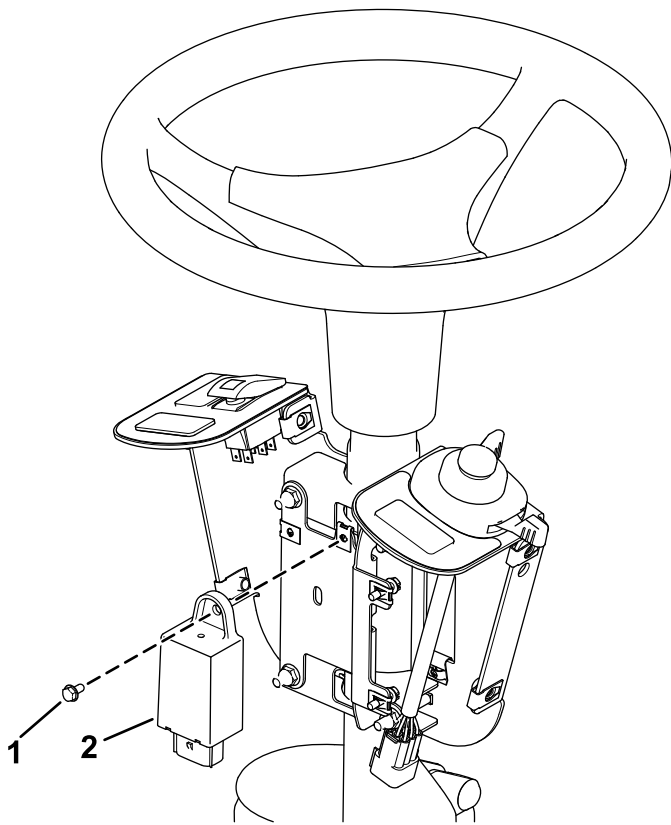


**Figure 5**

1. Rocker switch
2. Hole plug

g319855

4. Install the flasher to the fuse-mount plate using a screw (#10 x 3/8 inch) as shown in [Figure 6](#).

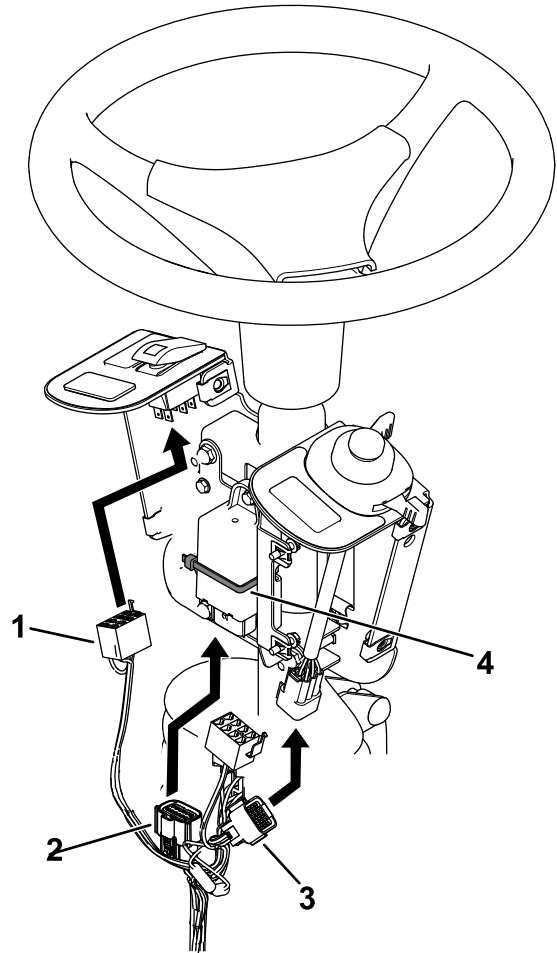


**Figure 6**

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

g460352

5. Secure the flasher using a cable tie ([Figure 7](#)).
6. Plug the harness into the rocker switch and multi-function switch ([Figure 7](#)).



**Figure 7**

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

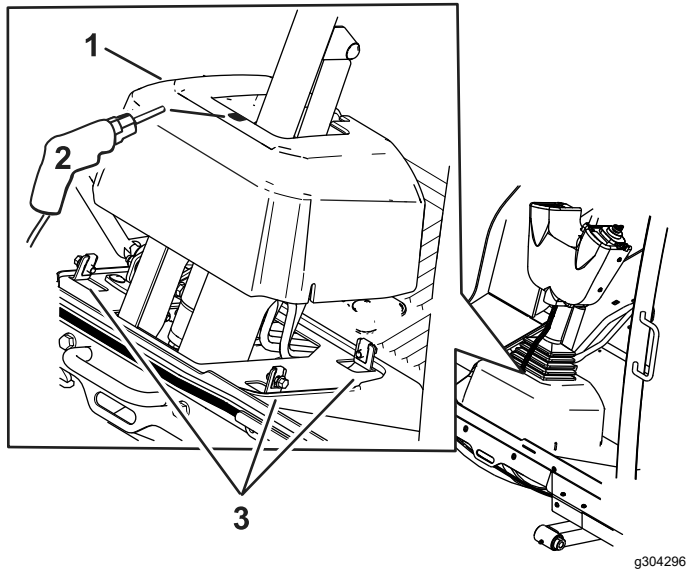
g460353

7. Plug the wire harness into the flasher ([Figure 7](#)).
8. Loosen the bolts around the steering-column base ([Figure 8](#)).
9. Raise the base up and drill a 22 mm (7/8 inch) hole as shown in [Figure 8](#).

**⚠ WARNING**

Using a drill without proper eye protection may allow debris to enter the eye, causing injury.

When drilling, always wear eye protection.

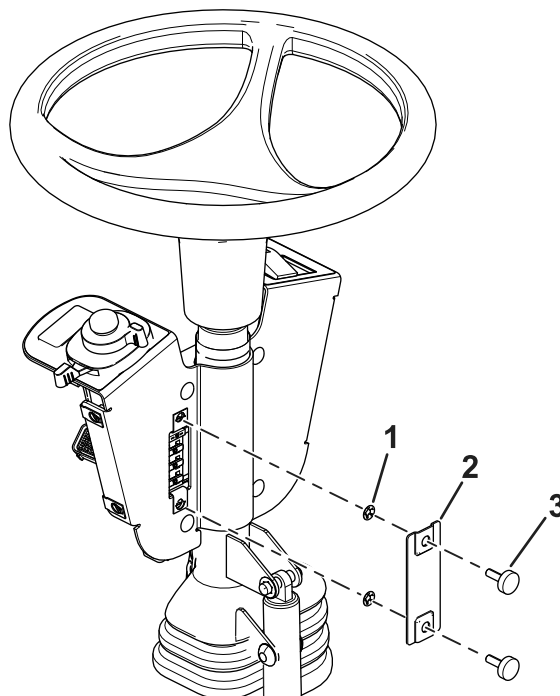


**Figure 8**

- 1. Steering-column base
- 2. 22 mm (7/8 inch) hole
- 3. Bolts

- 11. Install the fuse cover to the switch mount using 2 thumb screws and 2 push nuts (Figure 9).

**Note:** Ensure that the push nuts are installed on the inside of the fuse cover (Figure 9).

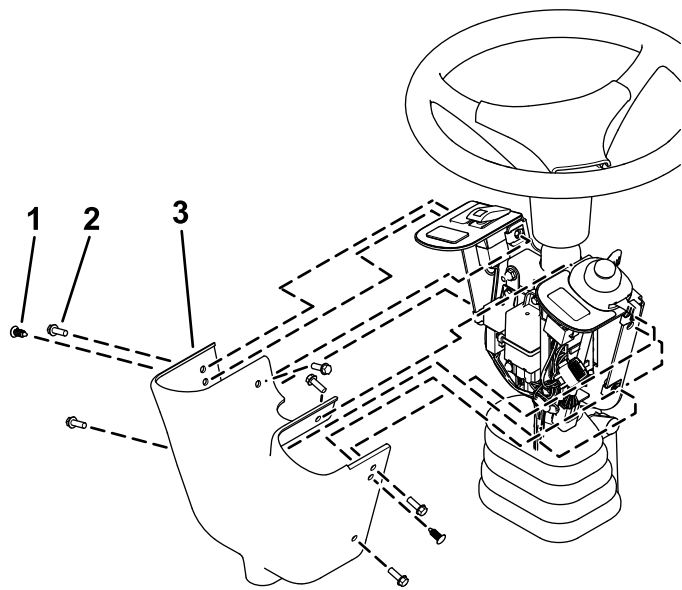


**Figure 9**

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

- 10. Route the harness through the hole you drilled in the base.

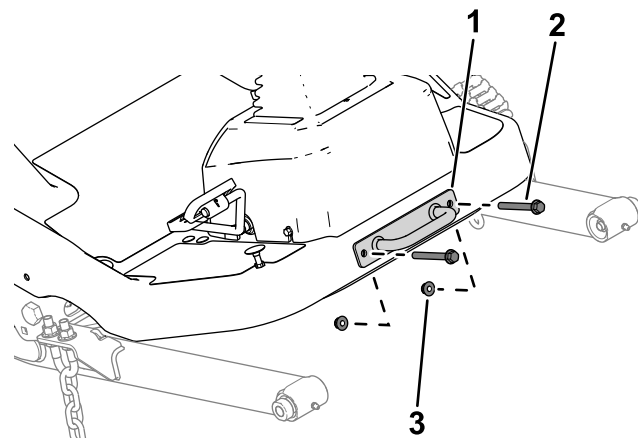
- 12. Adjust the control assembly so that the switches are accessible.
- 13. Tighten all the fasteners.
- 14. Install the control cover to the switch mount using 2 push rivets and 6 hex-head screws (1/4 x 3/4 inch) as shown in Figure 10.



**Figure 10**

g319852

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

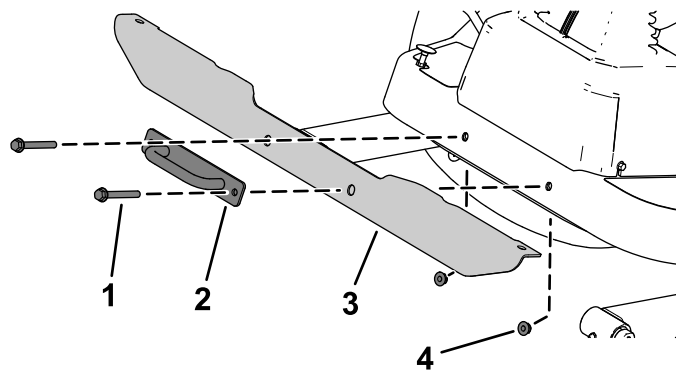


**Figure 11**

g299562

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

- 2. Secure the light cross mount to the platform using the previously removed bolts, nuts, and tie-down bracket (Figure 12).



**Figure 12**

g303700

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

# 4

## Installing the Front Components

### Parts needed for this procedure:

1	Left light assembly
1	Right light assembly
1	Light cross mount
2	Yellow reflective tape

### Procedure

- 1. Remove the tie-down bracket from the platform (Figure 11).  
Retain the parts.

- Secure the left light assembly and right light assembly to the light cross mount using the lock washer and hex nut on the light assemblies (Figure 13).

**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.

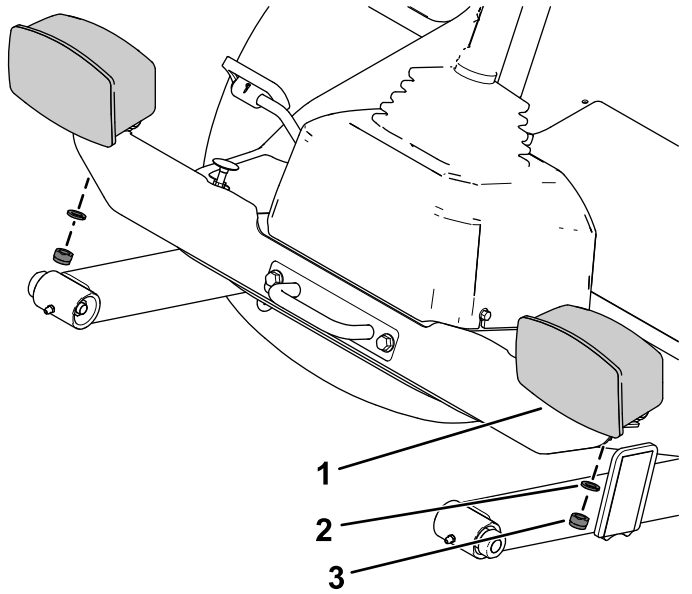


Figure 13

g303701

- Light assembly
- Lock washer
- Hex nut

- Apply the yellow reflective tape to the light cross mount using the dimensions shown in Figure 14.



Figure 14

g303699

- 9.5 to 10.1 cm (3-3/4 to 4 inches)

# 5

## Installing the Rear Components

### Parts needed for this procedure:

1	Left mount
1	Right mount
1	Left short mount
1	Right short mount
1	Right long 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)
11	Locknut (1/4 inch)
4	Hex-head bolt (3/8 x 3-1/4 inches)
4	Locknut (3/8 inch)
4	Red reflective tape
1	Marker mount
2	Back mount
1	Slow-moving vehicle sign
3	Flat washer
7	Flange-head bolt (1/4 x 3/4 inch)
1	Left light housing
1	Right light housing



# Procedure

1. Remove the flange-head bolt (3/8 x 3 inches) and flange nut (3/8 inch) securing the bumper to the rear tube frame on each side of the bumper (Figure 15).

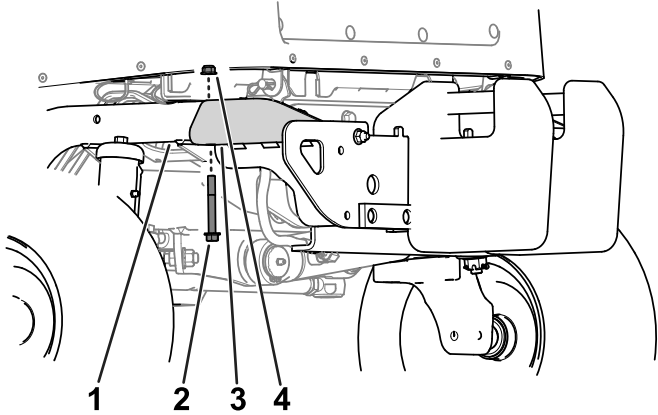


Figure 15

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

3-1/4 inches) and 2 locknuts (3/8 inch) on each side (Figure 17).

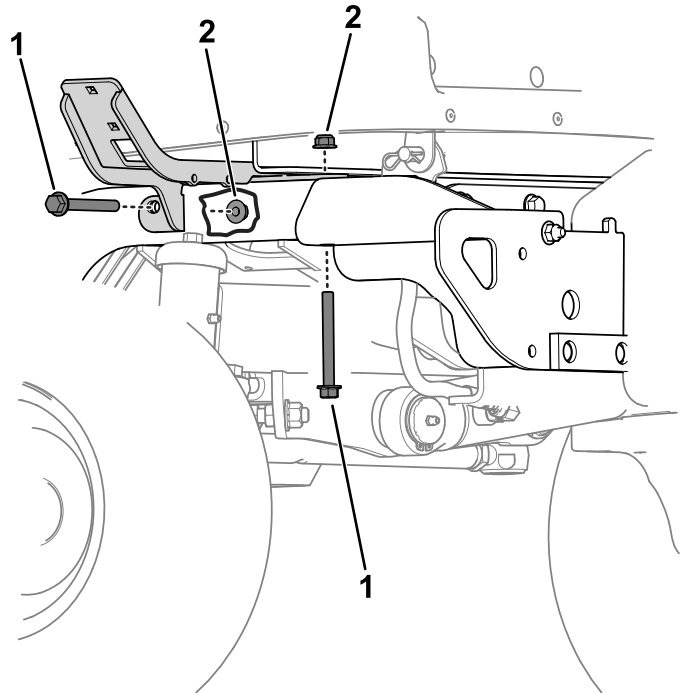


Figure 17

- |                                       |                       |
|---------------------------------------|-----------------------|
| 1. Hex-head bolt (3/8 x 3-1/4 inches) | 2. Locknut (3/8 inch) |
|---------------------------------------|-----------------------|

2. Slightly raise the battery tray and insert the left mount and right mount between the battery tray and the tube frame (Figure 16).

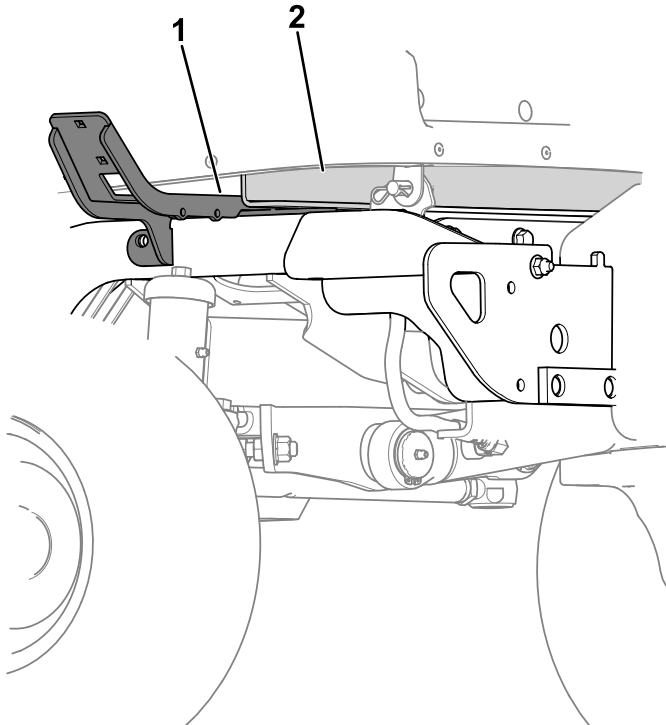
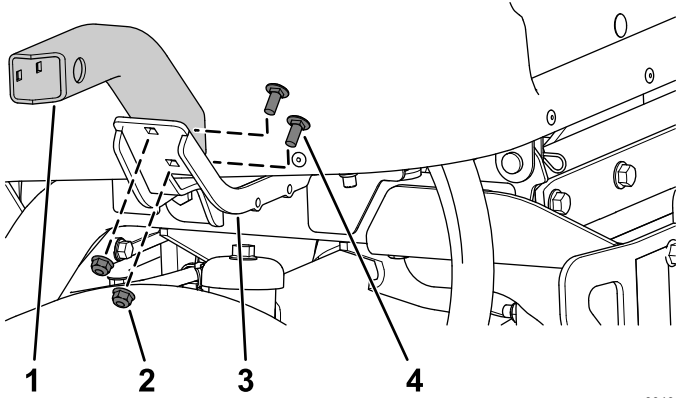


Figure 16

- |               |                 |
|---------------|-----------------|
| 1. Left mount | 2. Battery tray |
|---------------|-----------------|

3. Secure the left mount and right mount to the rear frame tubes using 2 hex-head bolts (3/8 x

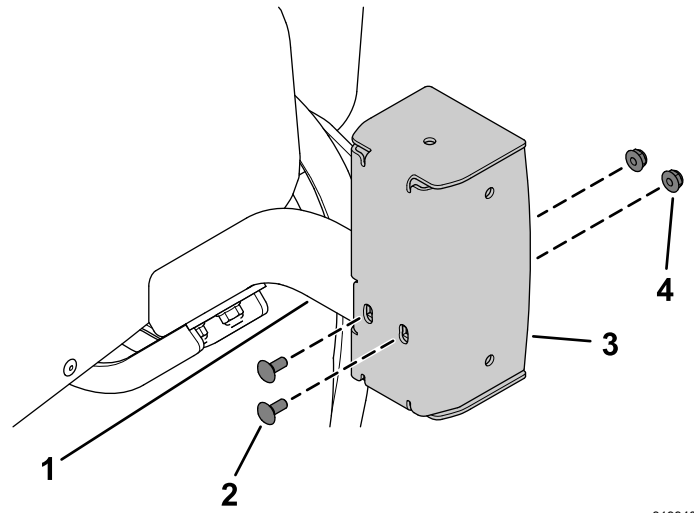
- Secure the left short mount the left mount using 2 carriage bolts (5/16 x 3/4 inch) and 2 flange nuts (5/16 inch) as shown in [Figure 18](#).



**Figure 18**

g304044

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

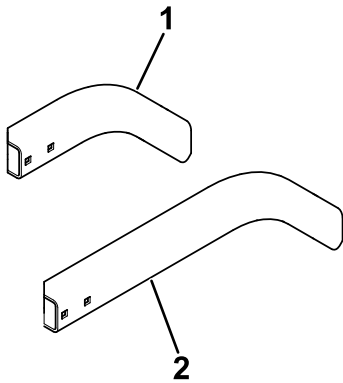


**Figure 20**

g319940

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

- Perform the following step for the cutting unit that is equipped on your machine:
  - Model 31980 equipped:** Secure the right long mount ([Figure 19](#)) to the right mount using 2 carriage bolts (5/16 x 3/4 inch) and 2 flange nuts (5/16 inch).
  - Model 31981 equipped:** Secure the right short mount ([Figure 19](#)) to the right mount using 2 carriage bolts (5/16 x 3/4 inch) and 2 flange nuts (5/16 inch).



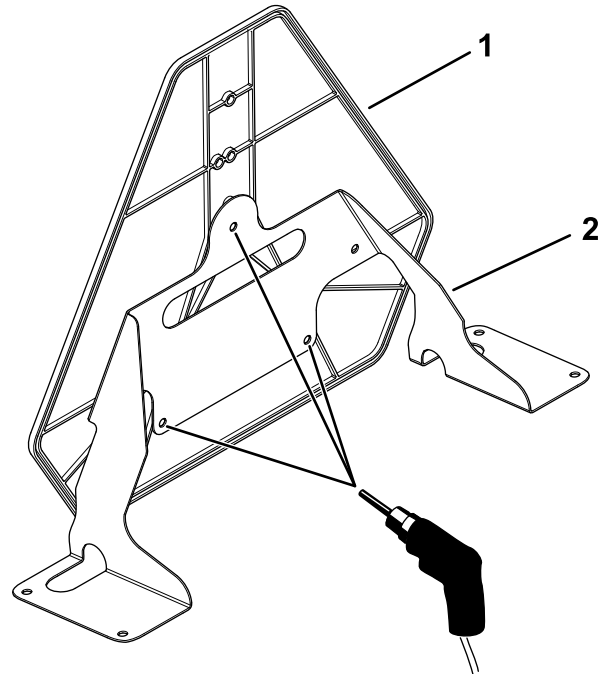
**Figure 19**

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- |                      |                     |
|----------------------|---------------------|
| 1. Right short mount | 2. Right long mount |
|----------------------|---------------------|

- 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 20](#).

- Using the marker mount as the template, drill 3 holes (5/16 inch) into the slow-moving vehicle sign ([Figure 21](#)).

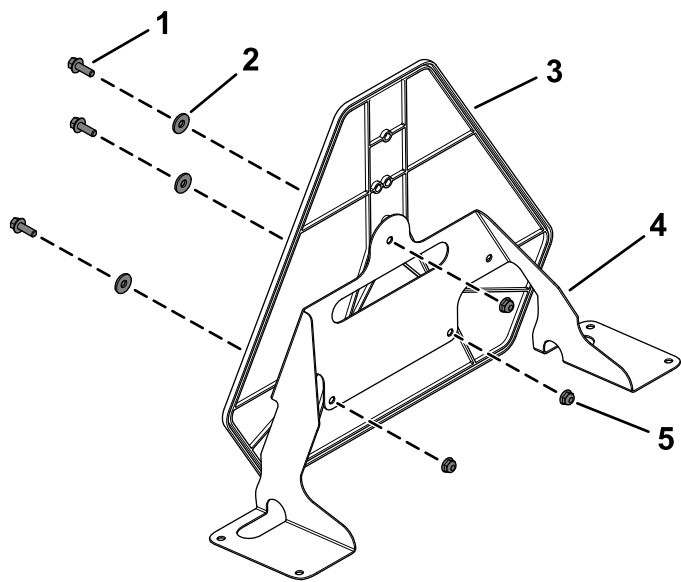


**Figure 21**

g304041

- |                             |                 |
|-----------------------------|-----------------|
| 1. Slow-moving vehicle sign | 2. Marker mount |
|-----------------------------|-----------------|

- Secure the slow-moving vehicle sign to the marker mount using 3 flange-head bolts (1/4 x 3/4 inch), 3 flat washers, and 3 locknuts (1/4 inch) as shown in [Figure 22](#).

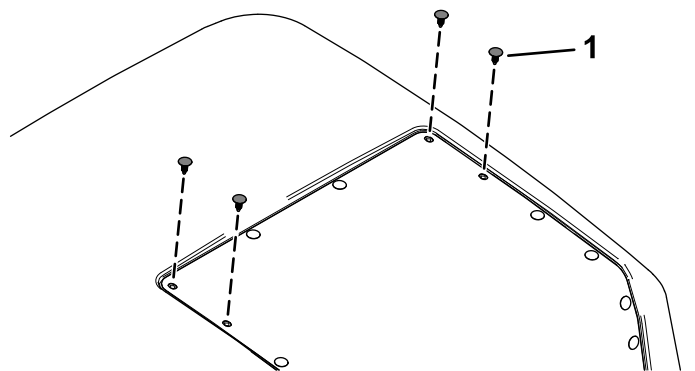


**Figure 22**

g304128

- |                                      |                       |
|--------------------------------------|-----------------------|
| 1. Flange-head bolt (1/4 x 3/4 inch) | 4. Marker mount       |
| 2. Flat washer                       | 5. Locknut (1/4 inch) |
| 3. Slow-moving vehicle sign          |                       |

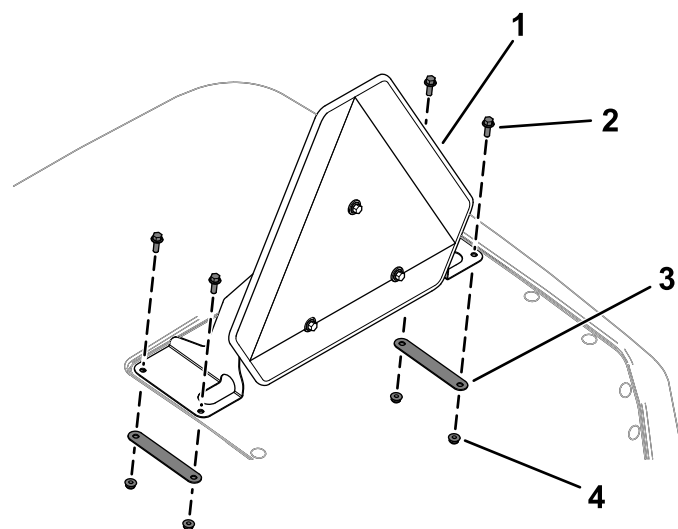
9. Remove the 4 plastic plugs shown in [Figure 23](#) from the hood.



**Figure 23**

g304129

1. Plastic plug

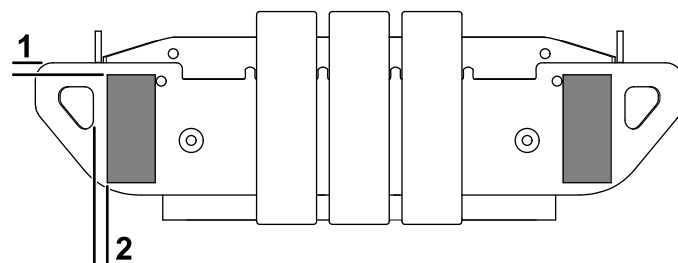


**Figure 24**

g304127

- |                                       |                       |
|---------------------------------------|-----------------------|
| 1. Assembled slow-moving vehicle sign | 3. Back mount         |
| 2. Flange-head bolt (1/4 x 3/4 inch)  | 4. Locknut (1/4 inch) |

12. Apply 2 red reflective tape to the rear bumper and 1 reflective tape to each light housing using the dimensions shown in [Figure 25](#) and [Figure 26](#).

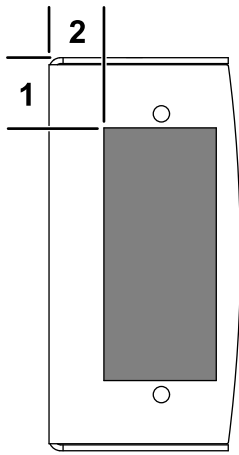


**Figure 25**

g304126

- |                                     |   |
|-------------------------------------|---|
| 1. 9.7 to 15.7 mm (3/8 to 5/8 inch) | 2. 11.7 to 17.8 mm (7/16 to 11/16 inch) |
|-------------------------------------|---|

10. Raise the hood; refer to the traction unit *Operator's Manual*.
11. Secure the assembled slow-moving vehicle sign 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 24](#).



g304125

**Figure 26**

1. 28.7 to 34.8 mm (1-1/8 to 1-3/8 inches)      2. 22.4 to 28.4 mm (7/8 to 1-1/8 inches)

# 6

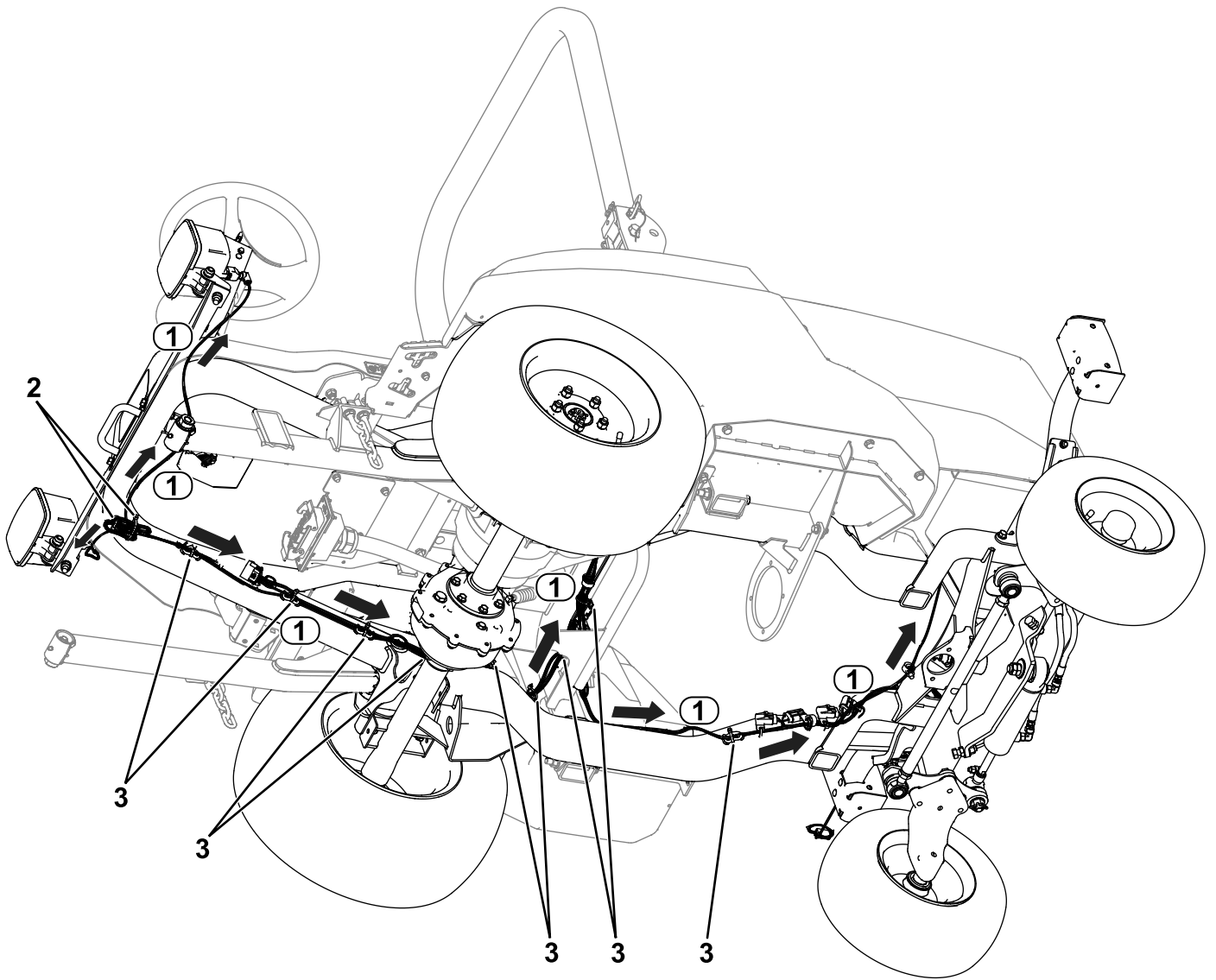
## Routing the Light Wire Harness

### Parts needed for this procedure:

1	Light wire harness
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)
12	Cable tie

## Procedure

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



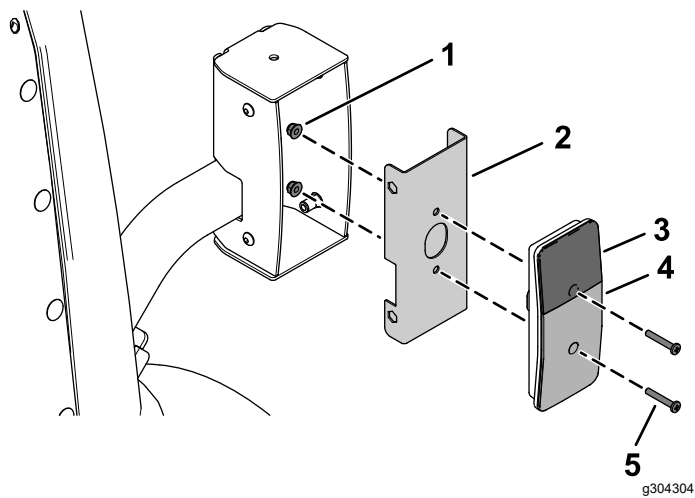
g459285

**Figure 27**

1. Wire-harness routing
2. Use 2 cable ties to coil the harness here.

3. Cable ties

1. Route the wire-harness connector labeled LH HEADLIGHT (P04) to the left side of the unit (Figure 27). Connect the harness to the light.
2. Route the wire-harness connector labeled RH HEADLIGHT (P05) to the right side of the unit (Figure 27). Connect the harness to the light.
3. Route the wire-harness connector labeled LH REAR LIGHT (P01) to the rear left side of the unit (Figure 27).
4. Route the wire-harness connector labeled RH REAR LIGHT (P02) to the rear right side of the unit (Figure 27).
5. Use 2 cable ties to coil the remaining amount of wire harness under the front of the operator platform (Figure 27).
6. 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 28.



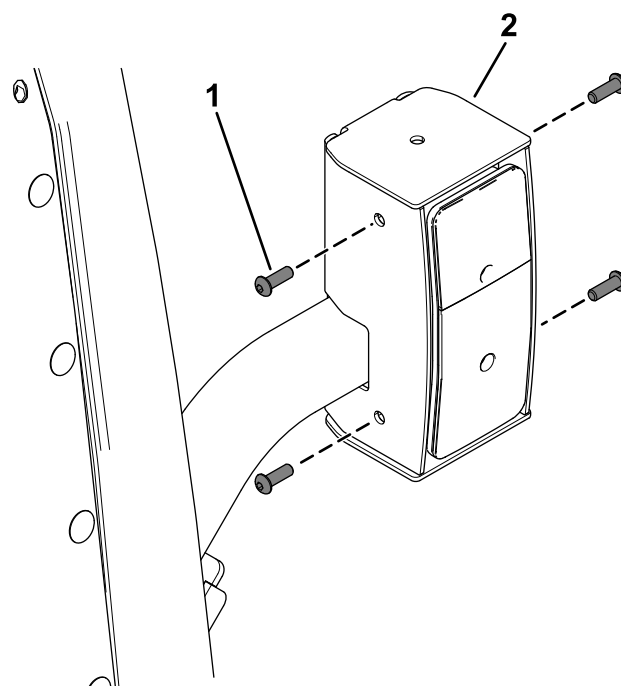
**Figure 28**

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

- 
7. Connect the wire-harness connector labeled LH REAR LIGHT (P01) to rear light (Figure 27).
  8. Connect the wire-harness connector labeled RH REAR LIGHT (P02) to rear light (Figure 27).

9. Secure the assembled taillights to the taillight housings using 8 button-head bolts (1/4 x 3/4 inch) as shown in Figure 29.

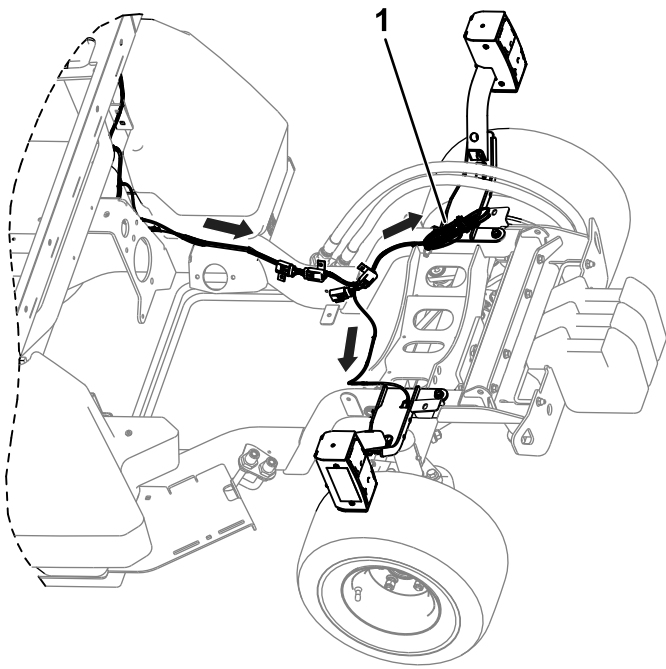
Ensure that you install the taillights with the yellow lens on top (Figure 28 and Figure 29).



**Figure 29**

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

- 
10. Use a cable tie to coil the remaining connector together (Figure 30).



**Figure 30**

g304233

1. Coil the remaining connector here.

- 
11. Install cable ties to the wire harness as shown in [Figure 27](#).

# 7

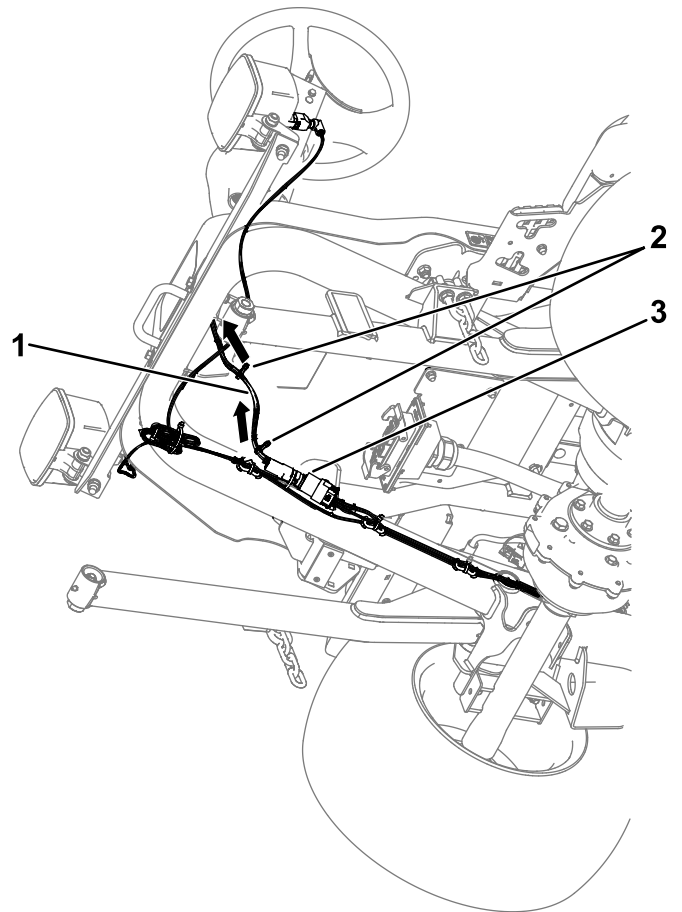
## Routing the Control Wire Harness

Parts needed for this procedure:

1	Control wire harness
2	Cable tie

### Procedure

1. Route the control wire harness through the platform opening ([Figure 31](#)).



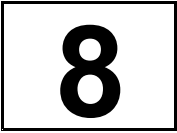
g459286

**Figure 31**

1. Control wire harness
2. Cable ties
3. Connection—control wire harness and light wire harness

- 
2. Connect the control wire-harness connector labeled PLATFORM HARNESS (P71) to light wire-harness connector labeled TO POD HARNESS (P03) ([Figure 31](#)).

3. Install cable ties to the control wire harness as shown in [Figure 31](#).



## Completing the Installation

No Parts Required

### Procedure

Turn the battery-disconnect switch to the ON position.