

SMART TACHOMETER, SMART SPEEDOMETER INSTALLATION

IMPORTANT: This document guides our dealers, boatbuilders, and company service personnel in the proper installation or service of our products. If you have not been trained in the recommended servicing or installation procedures for these or similar Mercury Marine products, have the work performed by an authorized Mercury Marine dealer technician. Improper installation or servicing of the Mercury product could result in damage to the product or personal injury to those installing or operating the product.

NOTE: After completing installation, place these instructions with the product for the owner's future use.

Installation Information

Before cutting any holes, check area behind dashboard for obstructions (braces, cables, wiring, etc.).

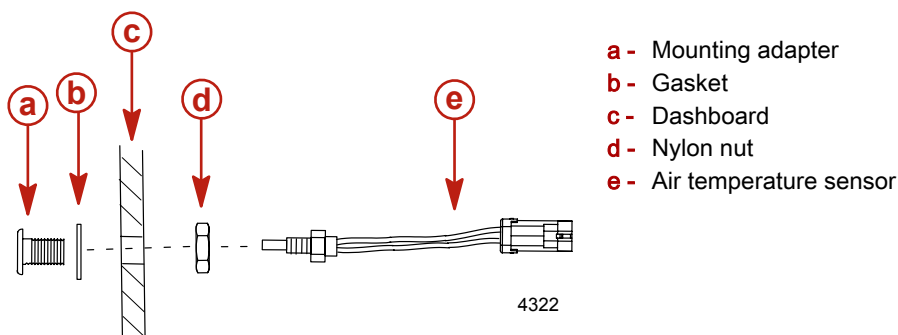
When cutting the dashboard for gauge installation, follow these cutting tips:

- Fiberglass – Apply masking tape to area to be cut to prevent dashboard from cracking.
- Vinyl covered – Remove vinyl from area to be cut with razor blade to keep vinyl from tearing.

Outside Air Temperature Sensor Installation

IMPORTANT: Do not allow electrical connections to flex. Fasten all electrical harnesses within 25 cm (10 in.) of the connection. Ensure all unused harness connectors are protected with weather caps.

1. Mount the air temperature sensor where it will be exposed to outside air and will not be in direct sunlight.
2. Select a location and drill a 19 mm (0.750 in.) mounting hole.
3. Install the mounting adapter.
4. Thread the air temperature sensor into the mounting adapter.



Gauge Installation

1. Disconnect both battery cables from the battery.

⚠ WARNING

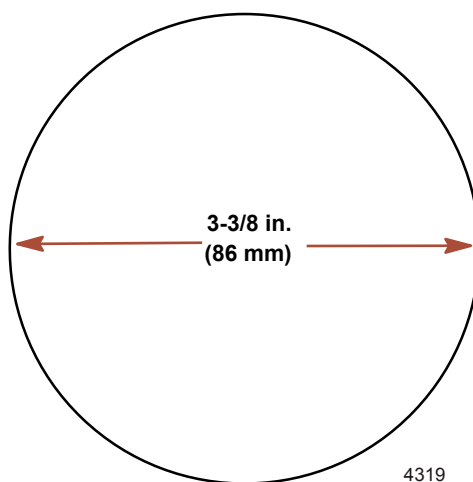
Performing service or maintenance without first disconnecting the battery can cause product damage, personal injury, or death due to fire, explosion, electrical shock, or unexpected engine starting. Always disconnect the battery cables from the battery before maintaining, servicing, installing, or removing engine or drive components.

2. Select a location for the gauge that has unobstructed visibility.

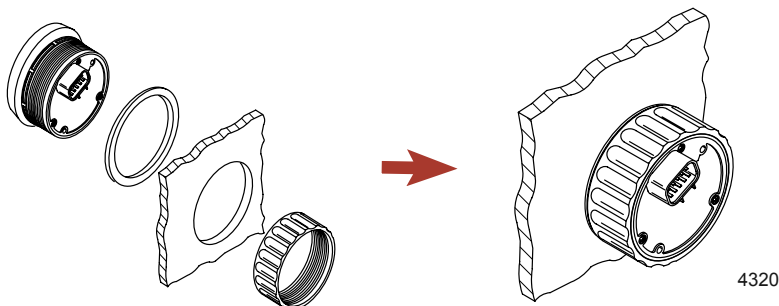
⚠ CAUTION

Avoid injury or product damage. Obstructions, such as braces and wiring, may be unseen when looking at the front of the dashboard. Before drilling or cutting any holes in the dashboard, check the area behind the dashboard for obstructions. Do not drill or cut when obstructions are present.

- Use a 86 mm (3.375 in.) diameter hole saw to cut out the opening for the gauge.

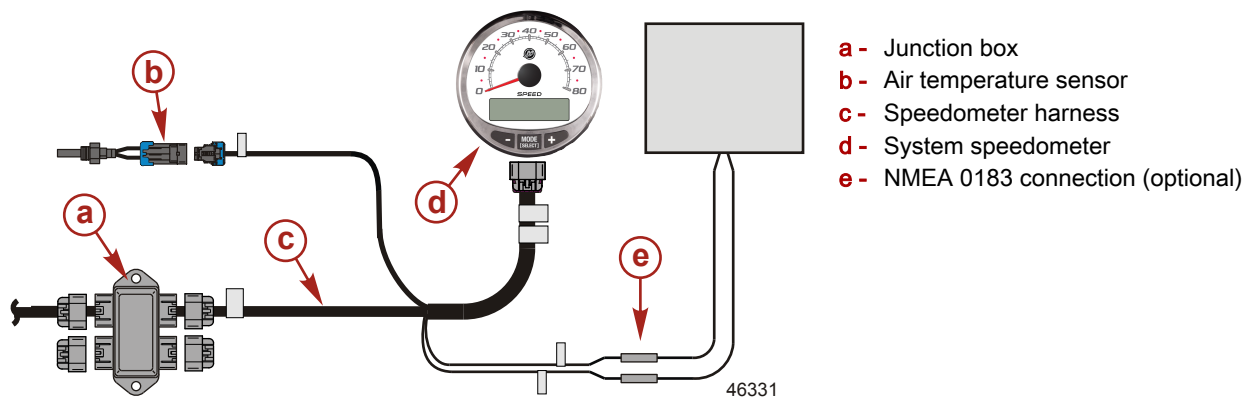


- Install the seal onto the gauge.
- Install the gauge with the seal into the dashboard opening and secure with the retainer nut. Tighten the nut securely.



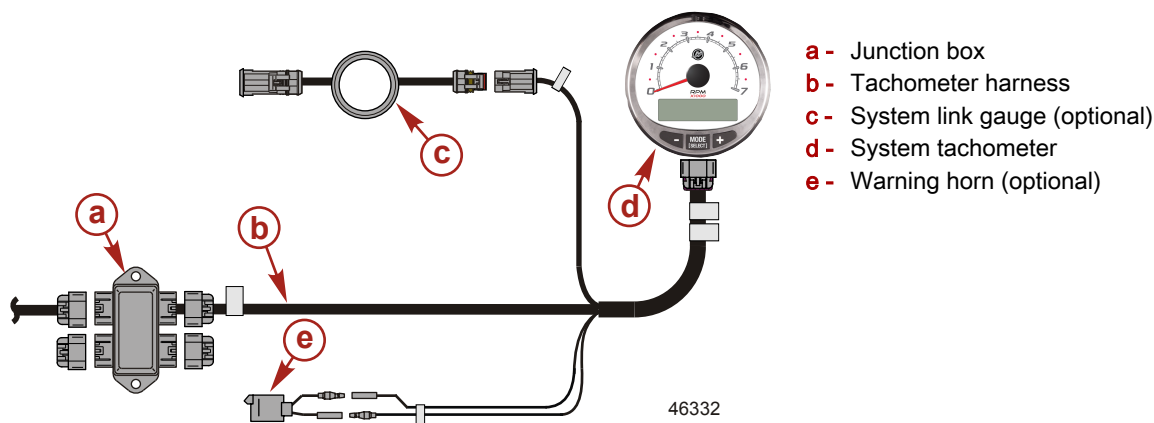
Speedometer Wiring

IMPORTANT: Do not allow electrical connections to flex. Fasten all electrical harnesses within 25 cm (10 in.) of the connection. Ensure all unused harness connectors are protected with weather caps.



Tachometer Wiring

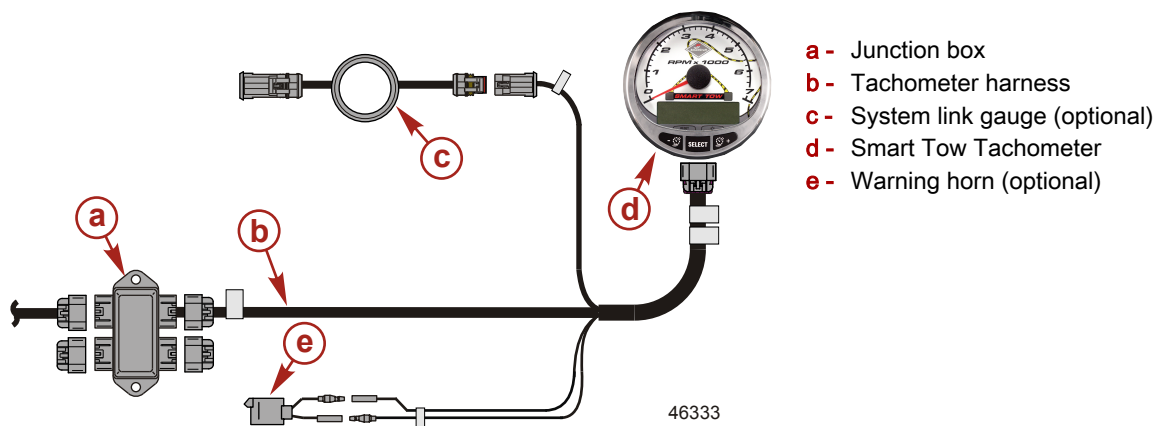
IMPORTANT: Do not allow electrical connections to flex. Fasten all electrical harnesses within 25 cm (10 in.) of the connection. Ensure all unused harness connectors are protected with weather caps.



Smart Tow

Smart Tow Tachometer Wiring (RPM Control)

IMPORTANT: Multiple engine applications using only one Smart Tow Tachometer, must have the Smart Tow Tachometer connected to the starboard engine. Multiple Smart Tow Tachometer applications must have the Smart Tow Tachometers programmed for their specific engine location.

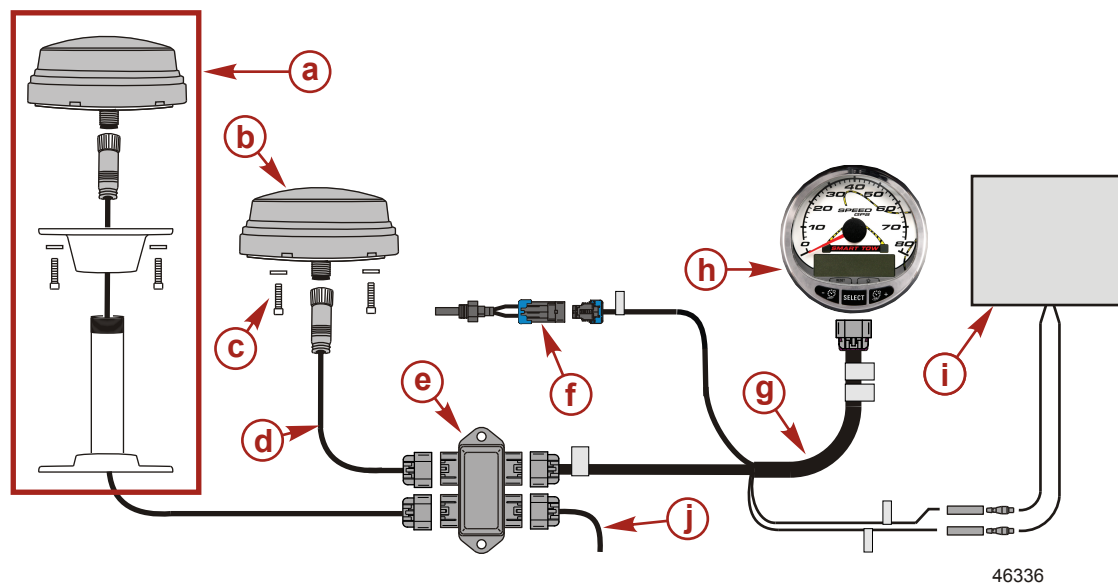


Smart Tow Speedometer with SmartCraft GPS Wiring (RPM or Speed Control)

IMPORTANT: Do not allow electrical connections to flex. Fasten all electrical harnesses within 25 cm (10 in.) of the connection. Ensure all unused harness connectors are protected with weather caps.

1. Connect the antenna harness to the SmartCraft GPS antenna.
2. Mount the SmartCraft GPS antenna in a location with an unobstructed view of the sky. The antenna can be mounted either flush or on a 2.54 cm (1.0 in.) diameter pole. Refer to **SmartCraft Global Positioning System Antenna**.
3. Connect the antenna harness to the junction box.

IMPORTANT: Multiple engine applications must have the Smart Tow Speedometer harness connected to the helm harness connector identified with a tag stating "Gauges." When using a GPS antenna, the Smart Tow Speedometer harness and the GPS antenna must be connected to the helm harness connector identified with a tag stating "Gauges" through a junction box. This connection ensures the gauge and the antenna have power when any key is turned on.



- a - Optional GPS antenna installation
- b - GPS antenna
- c - Screw and lockwasher (3 each)
- d - Antenna harness
- e - Junction box
- f - Air temperature sensor
- g - Speedometer harness
- h - Smart Tow Speedometer with GPS
- i - NMEA 0183 device
- j - Helm harness connector "Gauges"

SmartCraft Global Positioning System Antenna

SmartCraft GPS Mounting Considerations

The selection of a suitable mounting location is important for the optimal performance of the GPS unit. The mounting location and position of the GPS should be:

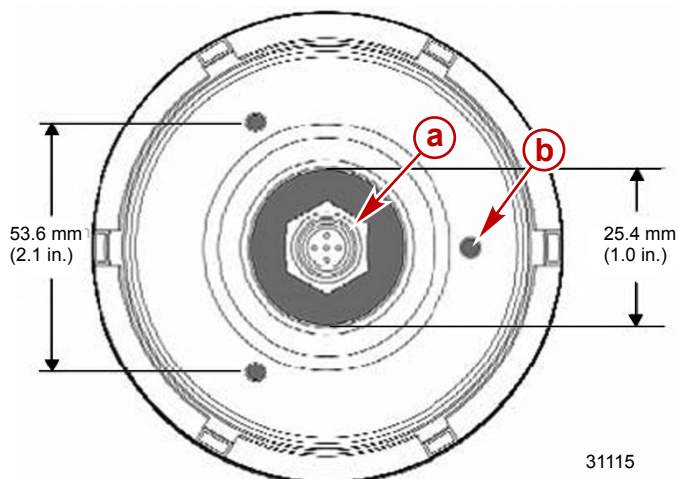
- **Level with the earth's horizontal plane**—This gives the GPS antenna the optimal view of satellites from all directions.
- **High enough to have a clear view of the sky to the horizon in all directions unblocked by masts or antennas**—The GPS provides the best information when it has access to as many satellites as possible. Obstructions within 10 degrees of the horizon will not affect GPS reception.
- **At least 61 cm (24 in.) from VHF, satellite, or radar antennas**—Radio frequency transmissions from these antennas can interfere with the reception of the GPS satellite signals.
- **Above or below the horizontal plane of any radar transmitter**—Avoids radar signal interference.

Installation

Mount the GPS antenna in a location without any overhead obstructions. The antenna can be mounted flush to the surface, or on a 1.0 in. x 14 threads per inch standard marine pole mount.

Flush Mount Surface

1. Use the dimensions provided to mark and drill the necessary holes for mounting the GPS to a flush mount surface.

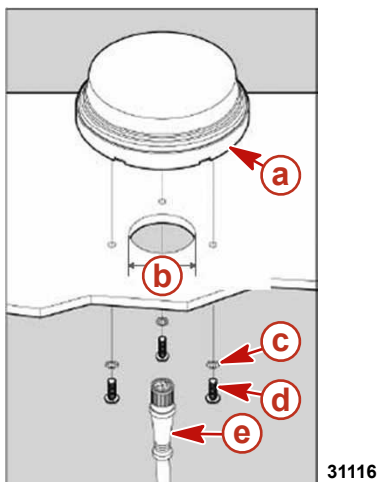


View from bottom. Template is not to scale.

a - Connector for harness

b - Holes for fasteners (3)

2. Secure the GPS antenna to the flush mount surface with three brass lockwashers and screws. Tighten the screws securely.
3. Connect the antenna harness to the GPS.



a - GPS antenna

b - 25.4 mm (1 in.) hole

c - Lockwasher

d - Screw

e - Antenna harness

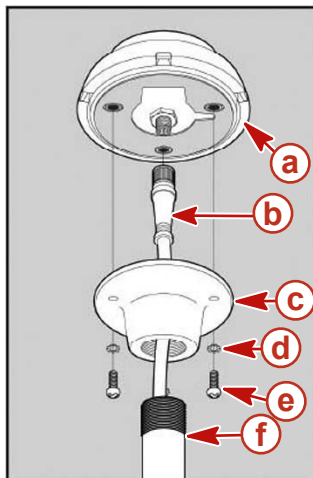
Marine Pole Mount

NOTICE

Avoid damage to the antenna harness and the GPS antenna. The marine pole mount assembly must be completely installed and secured to the vessel before the SmartCraft GPS Antenna can be fastened to the antenna mount.

1. Thread the antenna mount onto a standard mount pole. Tighten the antenna mount assembly securely.
2. Thread the antenna mount assembly into the mount base and tighten securely.
3. Guide the antenna harness through the mount base and through the antenna mount assembly.
4. Thread the antenna harness onto the GPS. Tighten securely.

5. Secure the GPS antenna to the antenna mount with the three brass lockwasher and screws. Tighten the screws securely.



31118

- a - GPS antenna
- b - Harness
- c - Antenna mount
- d - Lockwasher
- e - Screw
- f - Pole

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