

Recon™ Mount Controller UI Board

⚠ WARNING: This product must be installed in accordance with the instructions provided. Failure to do so could result in personal injury, damage to your vessel and/or poor product performance.

⚠ 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 motor starting. Always disconnect the battery cables from the battery before maintaining, servicing, installing, or removing motor components.

In the box

- 1x Recon™ mount controller UI board
- 1x upper routing bracket
- 1x lower routing bracket
- 3x cable ties
- 5x M3-0.5 x 8, flange, hex, SS screws
- 2x #6 x 3/8 pan, T15 Torx®, SS screws
- 3x 1/4-28 x 3/8, button, hex, SS screws
- 6x M4-0.7 x 18, socket, hex, SS screws
- 2x #6 x 3/4, pan, T15 Torx®, SS screws

Tools needed

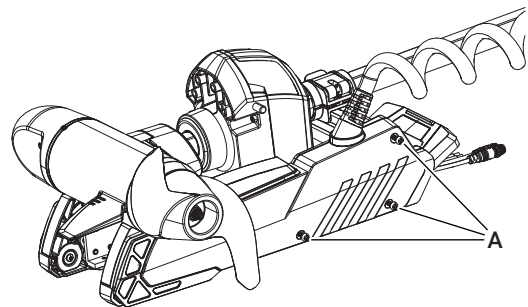
- #2 Phillips bit or screwdriver
- Knife or cutters
- 2 mm Allen key
- 3 mm Allen key
- 5/32 in Allen key
- T15 Torx® bit or screwdriver
- Torque wrench
- Dielectric grease

Introduction

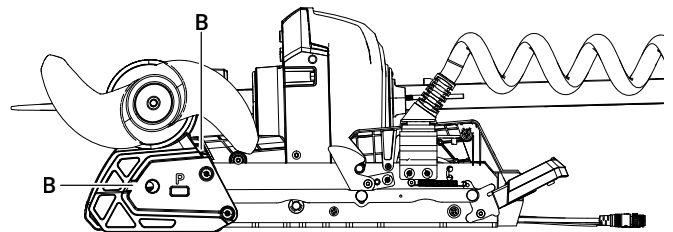
The trolling motor's sensors, cables, and user interface lights and keys connect to the mount controller UI board (mount controller board) inside the trolling motor mount.

Remove side plates and mount UI cover

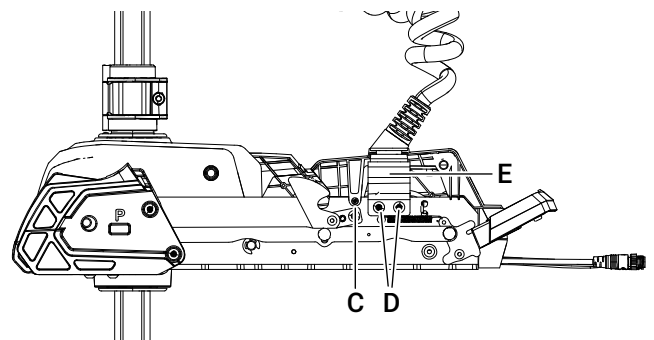
- 1 Disconnect the trolling motor power cable from the battery (or unplug the power cable if using a plug and receptacle).
 - 2 While your trolling motor is stowed or deployed, use a #2 Phillips screwdriver to loosen the side plate screws on both sides of the mount (A).
- **Note:** The screws are retained by washers.



- 3 Remove the side plates, taking care not to damage the locating tabs as they leave their slots (B).

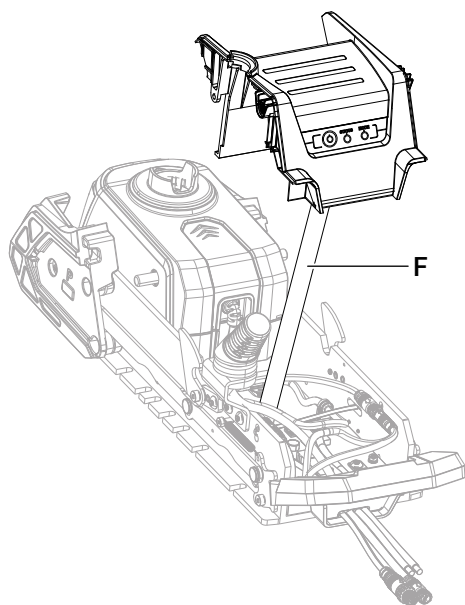


- 4 Deploy the trolling motor.
- 5 Use a 2 mm Allen key to remove the screw from both sides of the UI cover (C).
- 6 Use a 5/32 in Allen key to loosen the two screws (D) that secure the coil cable bracket 2–3 full rotations. These screws have a blue thread-locking compound applied to them. Ease the coil cable bracket (E) outward from the mount.



7 Lift the UI cover upward to separate it from the mount.

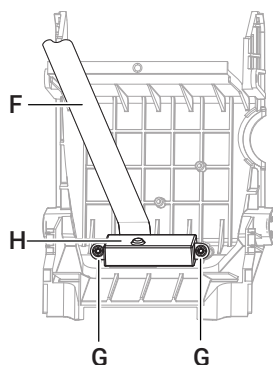
⚠ WARNING: Do not lift the UI cover more than 30 cm (~12 in) above the mount, to avoid damaging the ribbon cable (F) that remains connected to the mount.



8 Rest the UI cover beside the mount, open side upward.

9 Use a T15 Torx® screwdriver to remove the two screws (G) that secure the LED assembly (H) to the inside of the UI cover.

→ **Note:** The ribbon cable (F) remains attached to the LED assembly and to the mount controller board.



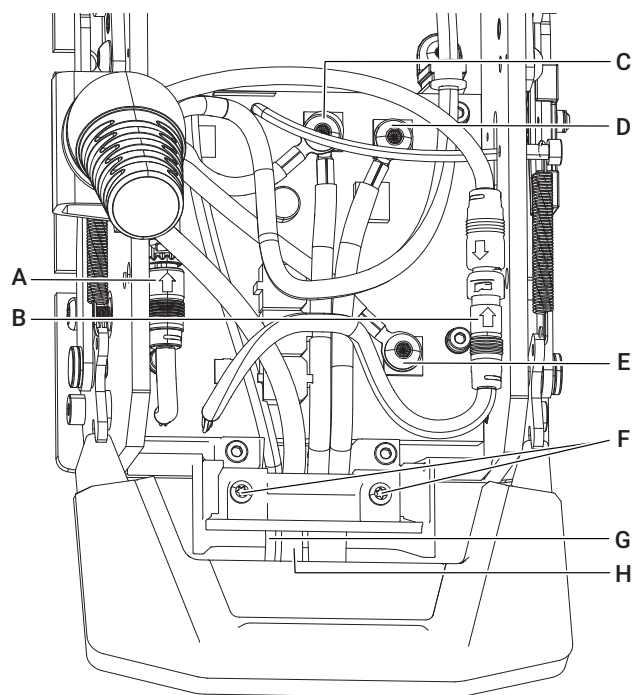
Disconnect cables

1 Inside the trolling motor mount, cut the three cable ties.

2 Disconnect the connectors on the transmission and communication cables (A and B) by rotating the connectors a quarter turn counter-clockwise.

3 Use a 5/32 in Allen key to remove the screws and cables from the attachment points C, D, and E.

→ **Note:** Two cables attach at C. The screws used to secure the ring connectors in positions C, D, E have a yellow thread-locking compound applied to them.



A Connector, transmission cable

B Connector, communication cable

C Attachment point for ground cables from coil cable and trolling motor power supply

D Attachment point for trolling motor power supply (positive)

E Attachment point for coil cable power supply (positive)

F Screws, upper routing bracket

G NMEA 2000® cable (connector is outside the mount)

H Sonar cable (connector is outside the mount)

4 Use a T15 Torx® screwdriver to remove the two screws securing the upper routing bracket (F above), and lift off the upper routing bracket.

5 Outside the mount, disconnect the NMEA 2000® cable (G, above) from the boat's NMEA 2000® network. You may also disconnect the sonar cable (H, above) from the boat if this gives you more room.

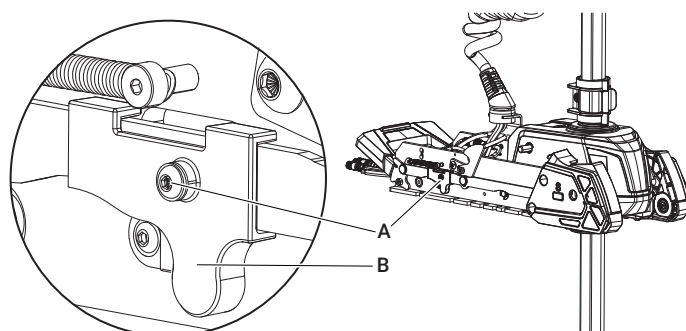
Detach stow sensor

To detach the stow sensor:

1 Use a 2 mm Allen key to remove the screw (A) that attaches the stow sensor magnet holder to the starboard (right) linkage on the outside of the mount.

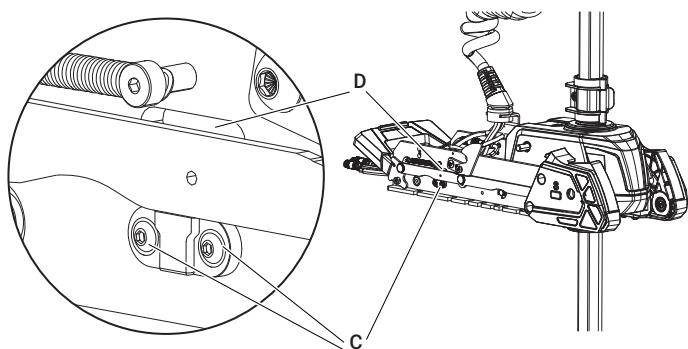
2 Remove the magnet holder (B), and set it down somewhere safe.

⚠ WARNING: The magnet holder contains a strong permanent magnet.



- 3 Use 2 mm Allen key to remove the two screws (C) that attach the stow sensor to the outside of the mount.
- 4 Carefully feed the sensor and its cable through the hole (D) above the linkage, so the stow sensor is on the inside of the mount.

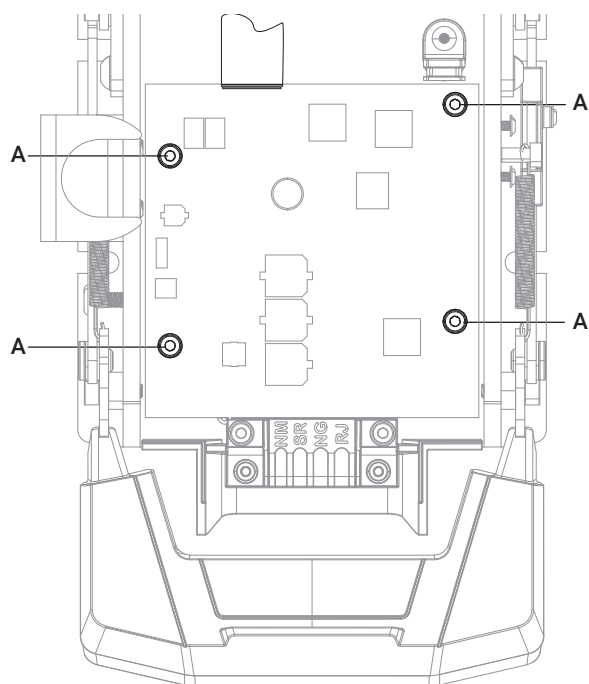
→ **Note:** The stow sensor cable remains attached to the mount controller board.



Remove mount controller board

- 1 Use a 3 mm Allen key to remove the four socket head screws (A) holding the mount controller board in the base of the mount.

→ **Note:** Various connectors and the stow sensor remain attached to the mount controller board. Cables and connectors are not shown in the diagram below.

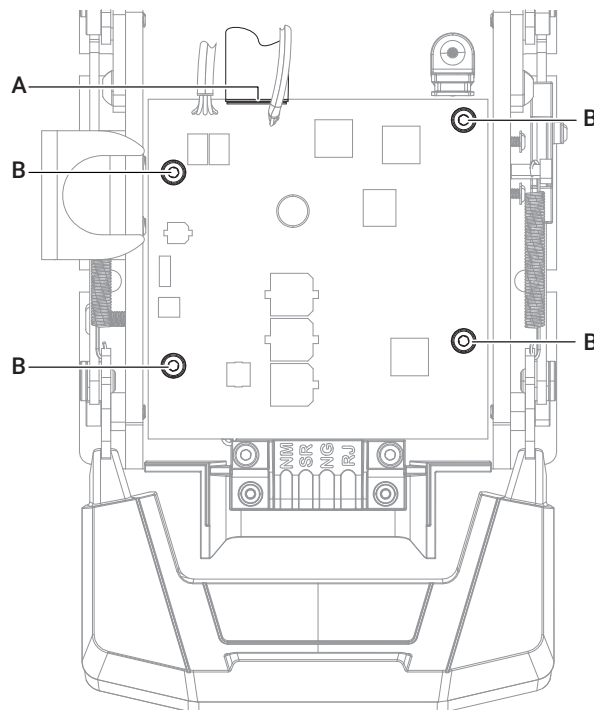


- 2 Make sure all connectors are disconnected and wires are free from the mount, and gently lift the mount controller board out of the mount.

Installation

To install the new mount controller board:

- 1 Orientate the board with the attachment point for the LED board ribbon cable (A) to the front. Fit the mount controller board into the base of the mount.
- **Note:** Cables and connectors are not shown in the diagram below.
- 2 Use a 3 mm Allen key to install four M4-0.7 x 18 socket screws (supplied) in the corners of the board (B). Tighten to torque 2.03 Nm (18 in-lb).



Replace lower routing bracket

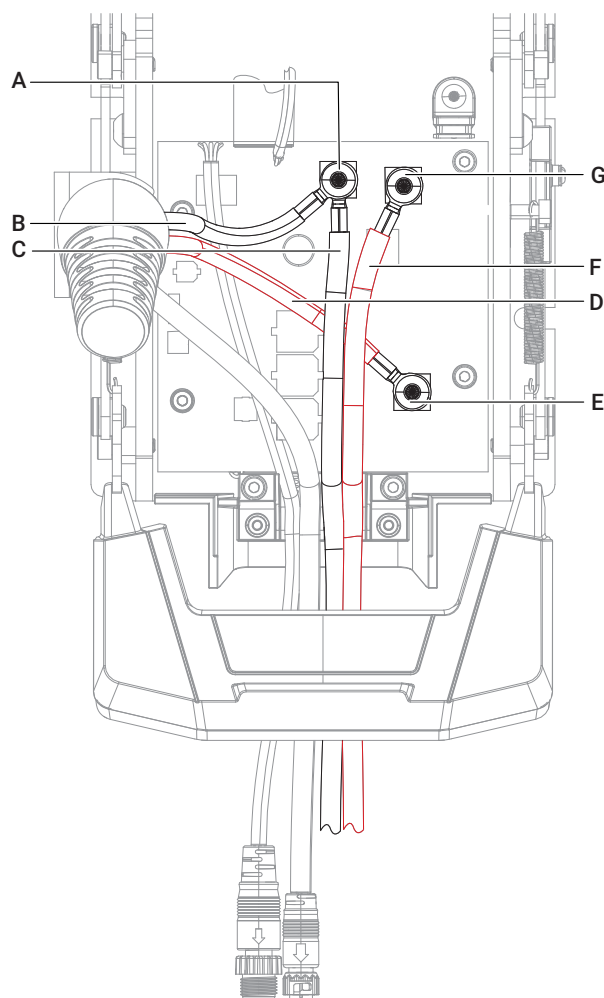
→ **Note:** Replacing the lower routing bracket is only necessary if you have stripped the routing brackets' screw bosses.

- 1 Use a 3 mm Allen key to remove the two M4-0.7 x 18 socket screws (C, above). Lift the lower routing bracket out vertically, and replace with the new lower routing bracket (supplied).
- 2 Use a 3 mm Allen key to install two M4-0.7 x 18 socket screws (supplied). Tighten to torque 2.03 Nm (18 in-lb).

Reconnect cables

- 1 Identify the two black ground cables: **B** from the coil cable, and **C** from the trolling motor power supply.
- 2 Place the ring connectors of the two ground cables onto the threaded port (**A**) closest to the ribbon cable.
- 3 Install a 0.25-28 x 3/8 button head screw (supplied) through both ring connectors. Use a 5/32 in Allen key to tighten the screw and ring connectors onto the mount controller board at **A**. Tighten to torque 2.03 Nm (18 in-lb).
- 4 Identify the red, positive power cable coming from the coil cable (**D**). Route it under the ground and positive cables from the trolling motor power supply (**C** and **F**).
- 5 Place its ring connector onto the threaded port (**E**) at the rear of the mount. Install a 0.25-28 x 3/8 button head screw (supplied) through the ring connector and use a 5/32 in Allen key to tighten the screw. Tighten to torque 2.03 Nm (18 in-lb).
- 6 Identify the red, positive power cable, coming from the trolling motor power supply (**F**).
- 7 Place its ring connector onto the threaded port (**G**) at the front starboard side of the mount controller board. Install a 0.25-28 x 3/8 button head screw (supplied) through the ring connector and use a 5/32 in Allen key to tighten the screw. Tighten to torque 2.03 Nm (18 in-lb).
- 8 After securing the 3 screws at **A**, **E**, and **G**, apply dielectric grease over their heads to prevent corrosion.

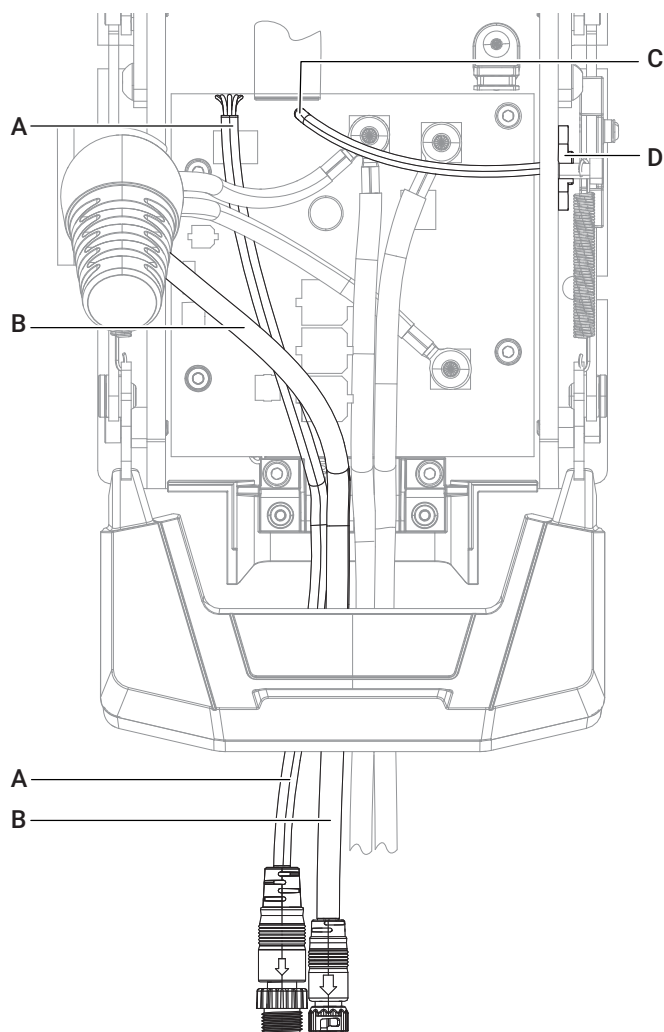
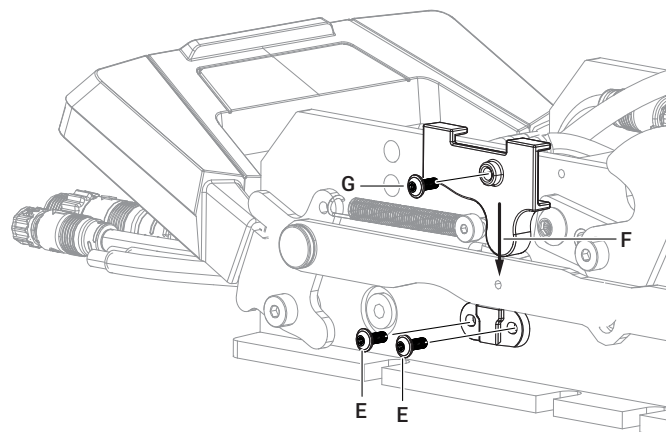
- **Note:** In the diagram below, some cables have been removed for clarity.
- **Note:** The screws used to secure the ring connectors in positions **A**, **E**, and **G** have a yellow thread-locking compound applied to them.



- A** Attachment point for both ground cables
- B** Ground cable from coil cable
- C** Ground cable from trolling motor power supply
- D** Positive cable from coil cable
- E** Attachment point for positive cable from coil cable
- F** Positive cable from trolling motor power supply
- G** Attachment point for positive cable from trolling motor power supply

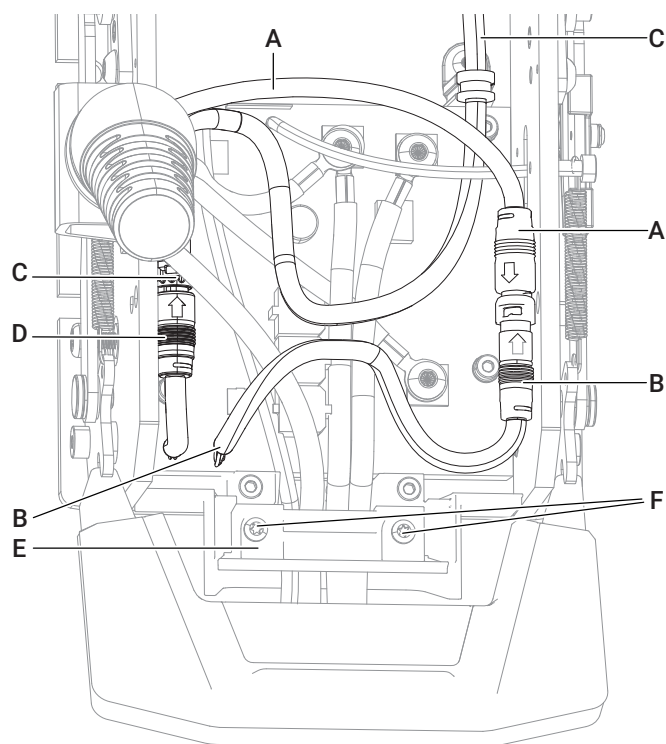
To position the NMEA 2000®, sonar, and stow sensor cables:

- 1 Route the NMEA 2000® cable (**A**) under all other cables, and pass it out the rear of the mount through the left channel in the lower routing bracket (marked **NM** on the inside of the lower routing bracket).
 - 2 Identify the sonar cable (**B**) and pass it out the rear of the mount through the channel to the right of the NMEA 2000® cable (marked **SR** on the inside of the lower routing bracket).
 - 3 The stow sensor cable is attached to the mount controller board at **C**. Feed the stow sensor (**D**) through the hole in the starboard (right) side of the mount.
- **Note:** In the diagram below, some cables have been removed for clarity.



To connect the communication cable and transmission cable:

- 1 The communication cable (**A**) exits the base of the coil cable. Fit the communication cable into the molded connector with the blue mark on the mount controller board (**B**).
- 2 The transmission cable (**C**) exits the trolling motor steering transmission. Fit the transmission cable into the molded connector with the red mark on the mount controller board (**D**).



To install the stow sensor:

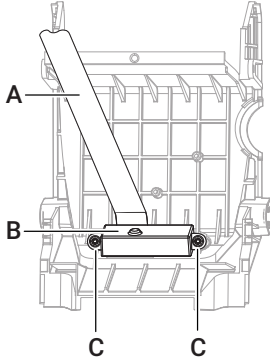
- 4 Make sure the stow sensor cable is not twisted when the stow sensor is in position flat against the outside of the mount. Use a 2 mm Allen key to install two M3-0.5 x 8, flange screws (**E**, supplied) securing the stow sensor to the outside of the mount, and tighten to torque 0.35 Nm (3 in-lb).
- 5 Fit the stow sensor magnet holder (**F**) over the linkage on the outside of the mount, with the magnet facing inwards. Align the hole in the magnet holder to the hole in the linkage.
- 6 Insert a third M3-0.5 x 8, flange screw (**G**, supplied) for the magnet holder and tighten it using a 2 mm Allen key. The screw ensures the magnet is in the correct position for the stow sensor to work. Tighten to torque 0.35 Nm (3 in-lb).

- 3 Reinstall the upper routing bracket (**E**, supplied) over the four cables at the rear of the mount.
- **Note:** Replacing the upper routing bracket is only necessary if you have stripped the routing brackets' screw bosses.
- 4 Use two #6 x 3/4 pan head screws (**F**, supplied). These 3/4 inch-length screws are the longer T15 Torx® screws supplied in the service kit. Tighten with a T15 Torx® bit or screwdriver. Tighten to torque 1.00 Nm (9 in-lb).

Install mount UI cover

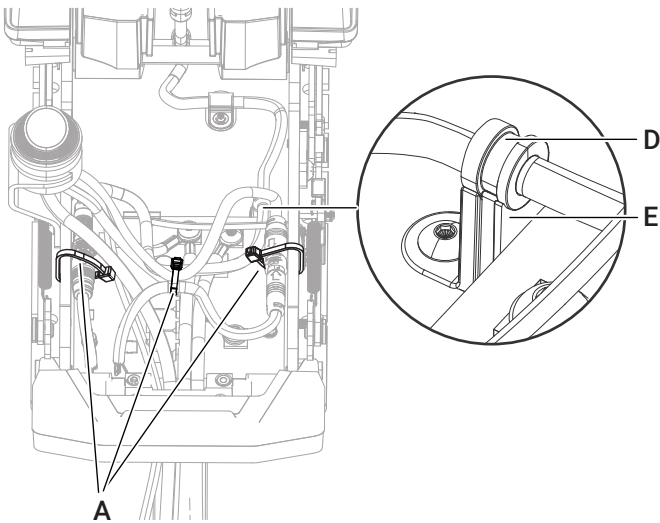
To attach the LED assembly to inside of the mount UI cover:

- 1 Make sure the ribbon cable (A) from the mount circuit board is not twisted. Position the LED assembly (B) on the inside of the mount UI cover by aligning the screw holes.
- 2 Use a T15 Torx® bit or screwdriver to install two #6 x 3/8 pan head screws (C, supplied. These 3/8 inch-length screws are the shorter T15 Torx® screws supplied in the service kit). Tighten to torque 0.68 Nm (6 in-lb).



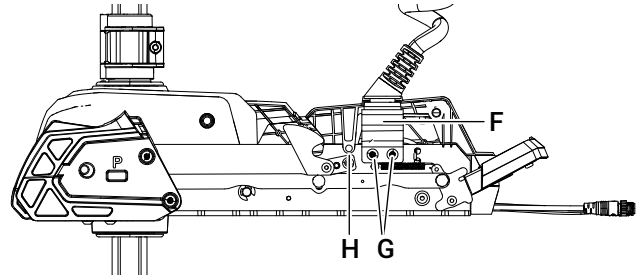
To fit the mount UI cover:

- 3 Inside the mount, use the supplied cable ties in the three positions shown below (A) so that cables aren't strained or pinched when you install the UI cover. Pass one cable tie through two holes on the port (left) side of the mount, and around the transmission cable molded connector. Pull the cable tie tight to prevent movement, and trim excess length. Pass another through two holes on the starboard (right) side of the mount, and around the communication cable molded connector. Pull the cable tie tight to prevent movement, and trim excess length. Use the third cable tie to loosely hold the communication cable to itself, and trim excess length.
- 4 Inside the mount, check the grommet on the transmission cable (D) is fitted into the cable retainer (E).



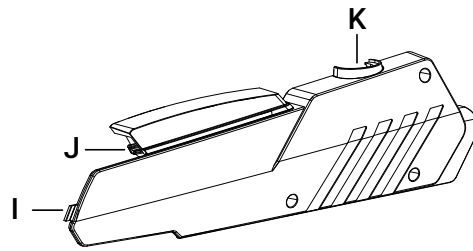
- 5 Lower the mount UI cover into position. Guide its front face to fit over the cable retainer and grommet.

- 6 Ease the coil cable bracket (F) into position so that the root of the coil cable is gripped between the mount UI cover and the coil cable bracket. Use a 5/32 in Allen key to tighten the two screws (G) that secure the coil cable bracket. Tighten to torque 5.08 Nm (45 in-lb).
- 7 Use a 2 mm Allen key to install two M3-0.5 x 8, flange screws (H, supplied) from both sides of the UI cover. Tighten to torque 0.35 Nm (3 in-lb).



To replace the side plates on the mount:

- 8 Insert the front locating tab (I) of the port side plate into its locating slot on the port side of the mount.
- 9 Gently apply pressure below the other locating tab (J) and flex it into its locating slot.
- 10 Guide the strain relief (K) around the base of the coil cable.



- 11 Fasten the side plate screws and tighten to torque 1.69 Nm (15 in-lb).
- 12 To replace starboard side plate on mount, insert the locating tabs into their locating slots and gently attach the plate.
- 13 Fasten the side plate screws and tighten to torque 1.69 Nm (15 in-lb).

Update software

Wait for software versions to match

When the trolling motor is powered on after any new board is installed, the GPS/PCB assembly in the head of the trolling motor automatically pushes its current software to the mount controller board (even if the mount controller board has been loaded with a more recent version of the software).

Wait for this to complete before pushing the latest available software to the trolling motor.

Update the trolling motor to the latest available software

After installing any new circuit board, you should install the latest available software on the trolling motor.

For instructions on how to update the trolling motor software, refer to the Recon™ operator manual.

Before updating:

- Stow the trolling motor.
- Pair and connect any foot pedals and remote controls you want to use, so they receive the same software update.

When updates are complete, power cycle the trolling motor then wait 60 seconds before starting calibrations.

Calibration

After you've replaced the mount controller board and updated the software, you need to re-calibrate the trolling motor's centerline, bow offset, and compass, and power cycle the trolling motor.

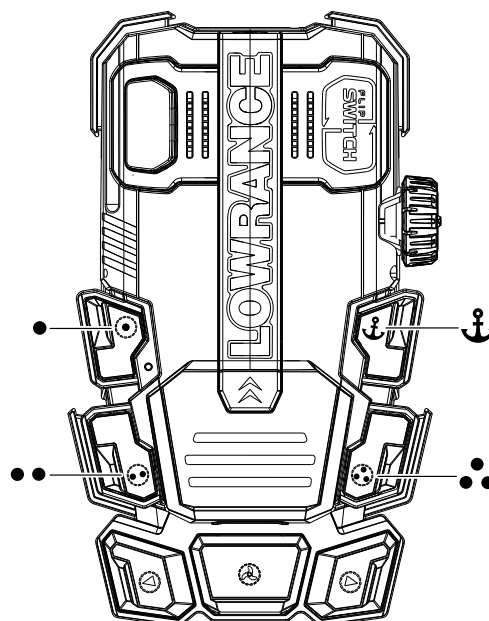
Calibrate the centerline

- **Note:** Calibrating the trolling motor's centerline is currently achieved using an Advanced Wireless Foot Pedal. It will be supported in future releases of the FreeSteer™ Joystick Remote and the Lowrance and Simrad® mobile apps.

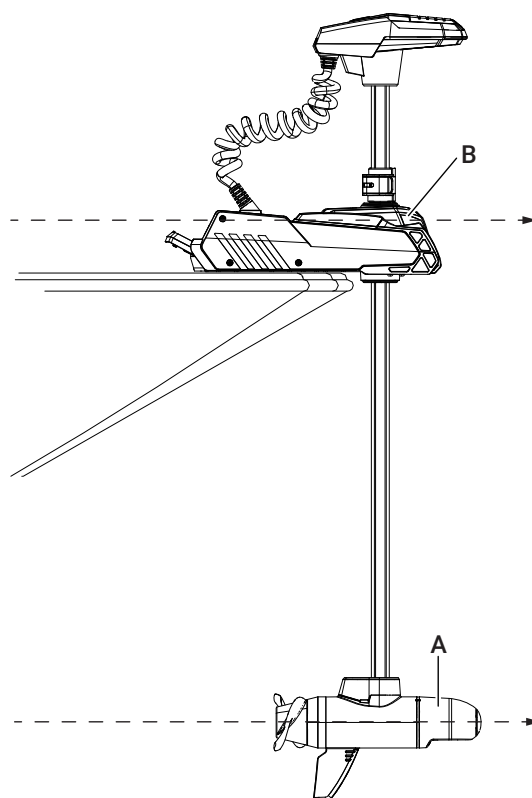
Foot pedal

- 1 Deploy the trolling motor to where the lower unit can be seen and is able to rotate 360° without obstruction. For best visibility, slide the cam lock depth collar down so the lower unit is close to the mount.
- **Note:** The motor does not need to be in the water for this calibration—it just needs to be deployed and free of any obstructions when rotating the lower unit.
- 2 Power on the trolling motor and make sure it is connected to the Advanced Wireless Foot Pedal.
- 3 To enter service mode, press and hold the ● and ⚓ keys on the foot pedal simultaneously until the trolling motor beeps twice and the LEDs on the mount start flashing.

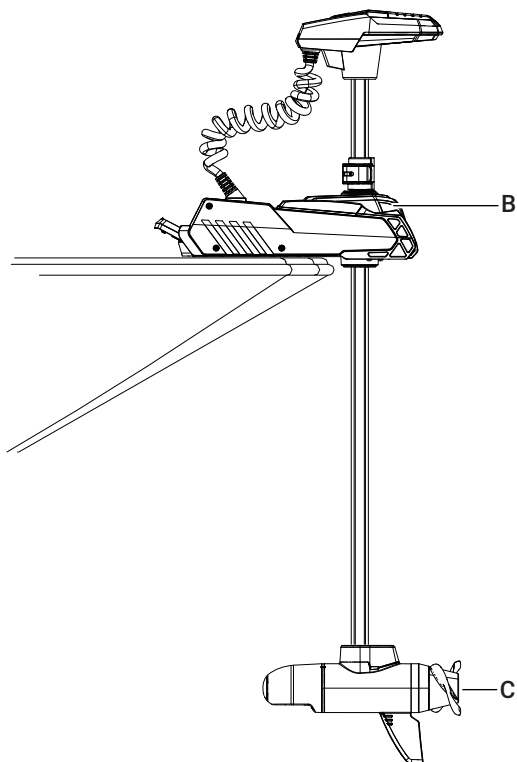
- 4 To enter centerline calibration mode, press and hold the ⚓ and ● keys on the foot pedal simultaneously until the trolling motor beeps twice.



- 5 By hand, move the lower unit nosecone (A) until it is parallel to the center of the steering transmission (B), then press and hold the ⚓ key on the foot pedal until the motor beeps twice.



- 6 By hand, rotate the lower unit 180° so the propeller (C) is pointing forward in line with the steering transmission (B), then press and hold the ●● key on the foot pedal until the trolling motor beeps three times.
- **Note:** When you rotate the lower unit 180°, the trolling motor head also rotates 180°.



- 7 To exit centerline calibration mode and service mode, press and hold the ● and ⚓ keys on the foot pedal simultaneously.

Calibrate the bow offset

For instructions on how to calibrate the bow offset, refer to the Recon™ operator manual.

Calibrate the compass

For instructions on how to calibrate the compass, refer to the Recon™ operator manual.