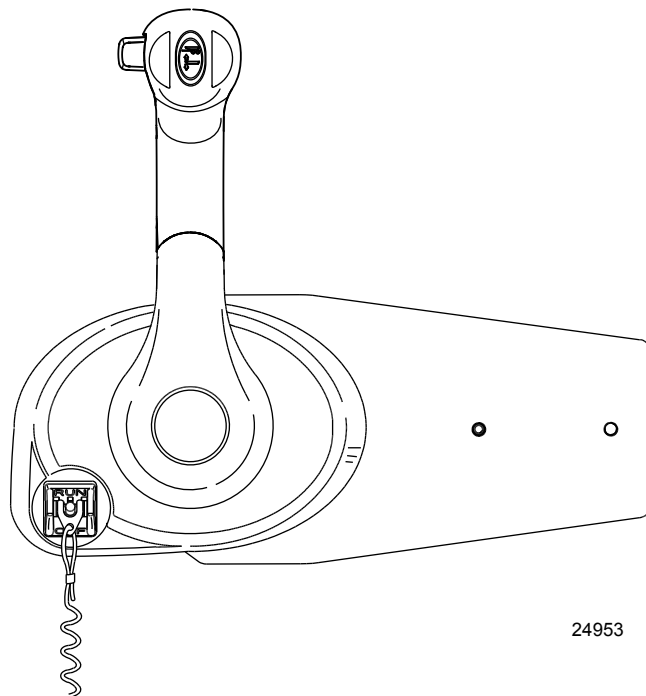

4000 MPC GEN 2 PISTOL GRIP REMOTE CONTROL INSTALLATION/OPERATION INSTRUCTIONS

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.

Pistol Grip Remote Control with Finger Tip Neutral Lock Release



Notice to Installer/Owner

Safety Alerts and Notices

Throughout this publication, "Warnings" and "Cautions," accompanied by the international HAZARD symbol , are used to alert the technician to special instructions concerning a particular service or operation that may be hazardous if performed incorrectly or carelessly. Observe these safety alerts carefully.

These safety alerts alone cannot eliminate the hazards they signal. Strict compliance to these special instructions when performing the service, and common sense operation are major accident prevention measures.

⚠ WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

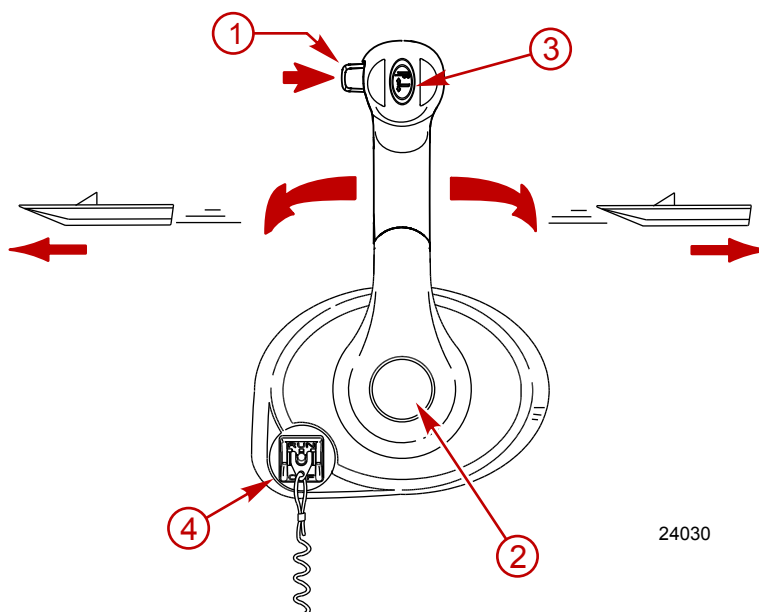
⚠ CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

IMPORTANT: Indicates information or instructions that are necessary for a particular step or action.

NOTE: Indicates information that helps in the understanding of a particular step or action.

GEN 2 Pistol Grip with Finger Tip Neutral Lock Release Panel Mount Remote Control Features and Operation



24030

- 1 - Neutral lock button
- 2 - Throttle only button
- 3 - Power trim switch
- 4 - Lanyard stop switch

1. **Neutral lock button** - Prevents unintentional shifting into gear. To shift into gear, press and hold the neutral lock button and move the control handle out of neutral.
2. **Throttle only button** - The throttle only button allows throttle advancement without shifting the engine. The throttle only button disengages the shifting mechanism from the control handle. The throttle only button can be pressed and held in only when the remote control handle is in the neutral position. While holding the throttle only button in, move the throttle handle forward to assist in starting the engine.
3. **Power trim (and trailer MCM only) switch (if equipped)** - Used to trim or raise drive unit for trailering, launching, beaching, or shallow water operation.

4. **Lanyard stop switch (if equipped)** - The purpose of a lanyard stop switch is to turn off the engine when the operator moves far enough away from the operator's position (as in accidental ejection from the operator's position) to activate the switch. Tiller handle outboards and some remote control units are equipped with a lanyard stop switch. A lanyard stop switch can be installed as an accessory - generally on the dashboard or side adjacent to the operator's position.
 - The lanyard is a cord usually between 122 and 152 cm (4 and 5 feet) in length when stretched out, with an element on one end made to be inserted into the switch and a snap on the other end for attaching to the operator. The lanyard is coiled to make its at-rest condition as short as possible to minimize the likelihood of lanyard entanglement with nearby objects. Its stretched-out length is made to minimize the likelihood of accidental activation should the operator choose to move around in an area close to the normal operator's position. If it is desired to have a shorter lanyard, wrap the lanyard around the operator's wrist or leg, or tie a knot in the lanyard.
 - **Important safety information:** The purpose of a lanyard stop switch is to stop the engine when the operator moves far enough away from the operator's position to activate the switch. This would occur if the operator accidentally falls overboard or moves within the boat a sufficient distance from the operator's position. Falling overboard and accidental ejections are more likely to occur in certain types of boats such as low-sided inflatables, bass boats, high performance boats, and light, sensitive handling fishing boats operated by a hand tiller. Falling overboard and accidental ejections are also likely to occur as a result of poor operating practices such as sitting on the back of the seat or gunwale at planing speeds, standing at planing speeds, sitting on elevated fishing boat decks, operating at planing speeds in shallow or obstacle-infested waters, releasing your grip on a steering wheel or tiller handle that is pulling in one direction, drinking alcohol or consuming drugs, or daring high speed boat maneuvers.
 - While activation of the lanyard stop switch will stop the engine immediately, a boat will continue to coast for some distance depending upon the velocity and degree of any turn at shut down. However, the boat will not complete a full circle. While the boat is coasting, it can cause injury to anyone in the boat's path as seriously as the boat would when under power.
 - We strongly recommend that other occupants be instructed on proper starting and operating procedures should they be required to operate the engine in an emergency (e.g. if the operator is accidentally ejected).

⚠ WARNING

If the operator falls out of the boat, stop the engine immediately to reduce the possibility of serious injury or death from being struck by the boat. Always properly connect the operator to the stop switch using a lanyard.

⚠ WARNING

Avoid serious injury or death from deceleration forces resulting from accidental or unintended stop switch activation. The boat operator should never leave the operator's station without first disconnecting the stop switch lanyard from the operator.

Accidental or unintended activation of the switch during normal operation is also a possibility. This could cause any, or all, of the following potentially hazardous situations:

- Occupants could be thrown forward due to unexpected loss of forward motion - a particular concern for passengers in the front of the boat who could be ejected over the bow and possibly struck by the gearcase or propeller.
 - Loss of power and directional control in heavy seas, strong current, or high winds.
 - Loss of control when docking.
5. **Control handle** - Operation of the shift and throttle is controlled by the movement of the control handle. Push the control handle forward from neutral with a quick firm motion to the first detent for forward gear. Continue pushing forward to increase speed. Pull the control handle back from neutral with a quick firm motion to the first detent for reverse gear. Continue pushing back to increase speed.

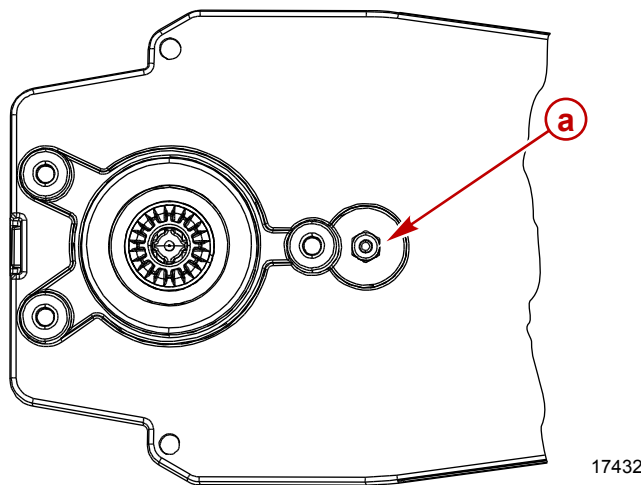
NOTICE

Failure to rotate the propeller shaft when shifting gears or forcing the shift mechanism while the engine is not operating can result in product damage. If you must shift gears with the engine off, manually rotate the propeller shaft in the appropriate direction.

6. **Control handle friction adjustment nut** - This nut can be adjusted to increase or decrease the tension on the control handle. This will help prevent creep of the remote control handle. Turn the screw clockwise to increase the tension, and counterclockwise to decrease the tension. The control handle friction adjustment nut is factory set to a predetermined amount of friction but can be adjusted to a desired tension.

NOTE: Control handle friction adjustments must be made prior to the installation of the remote control module to the bezel.

IMPORTANT: Control handle friction is necessary for proper mechanical control operation. Insufficient friction may cause undesirable throttle arm operation.



a - Control handle friction adjusting nut

17432

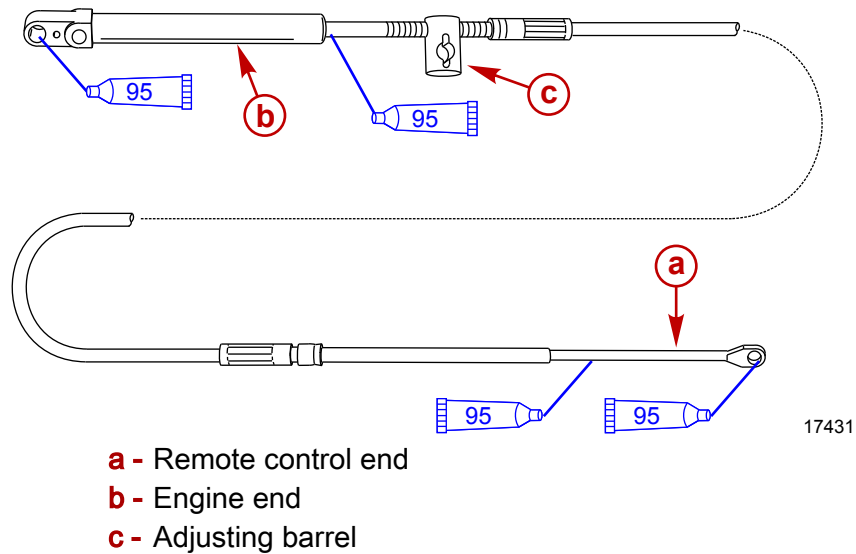
Selecting and Routing Remote Control Cables


Mercury - Mariner - Force - Mercury MerCruiser

Refer to the **Mercury Precision Parts and Accessories Guide** for the available shift and throttle cables for your application.

IMPORTANT: GEN 2 control cables are required with the GEN 2 remote controls. The remote control cables must be the correct length. Sharp bends when the cables are too short result in kinks. Cables that are too long require unnecessary bends and/or loops. Both conditions place extra stress on the cables resulting in unfavorable shift and throttle operation. The minimum bend radius of the remote control cable is 30.5 cm (12 in.). For applications that require smaller than the minimum radius, multiple bends or lengths longer than 5.5 m (18 ft.), Mercury/Quicksilver GEN 2 Platinum or Premium cables are required. Refer to the Mercury Precision Parts and Accessory guide.

IMPORTANT: Lubricate the shift cable and throttle cable with 2-4-C with Teflon on the locations shown in the following graphic.



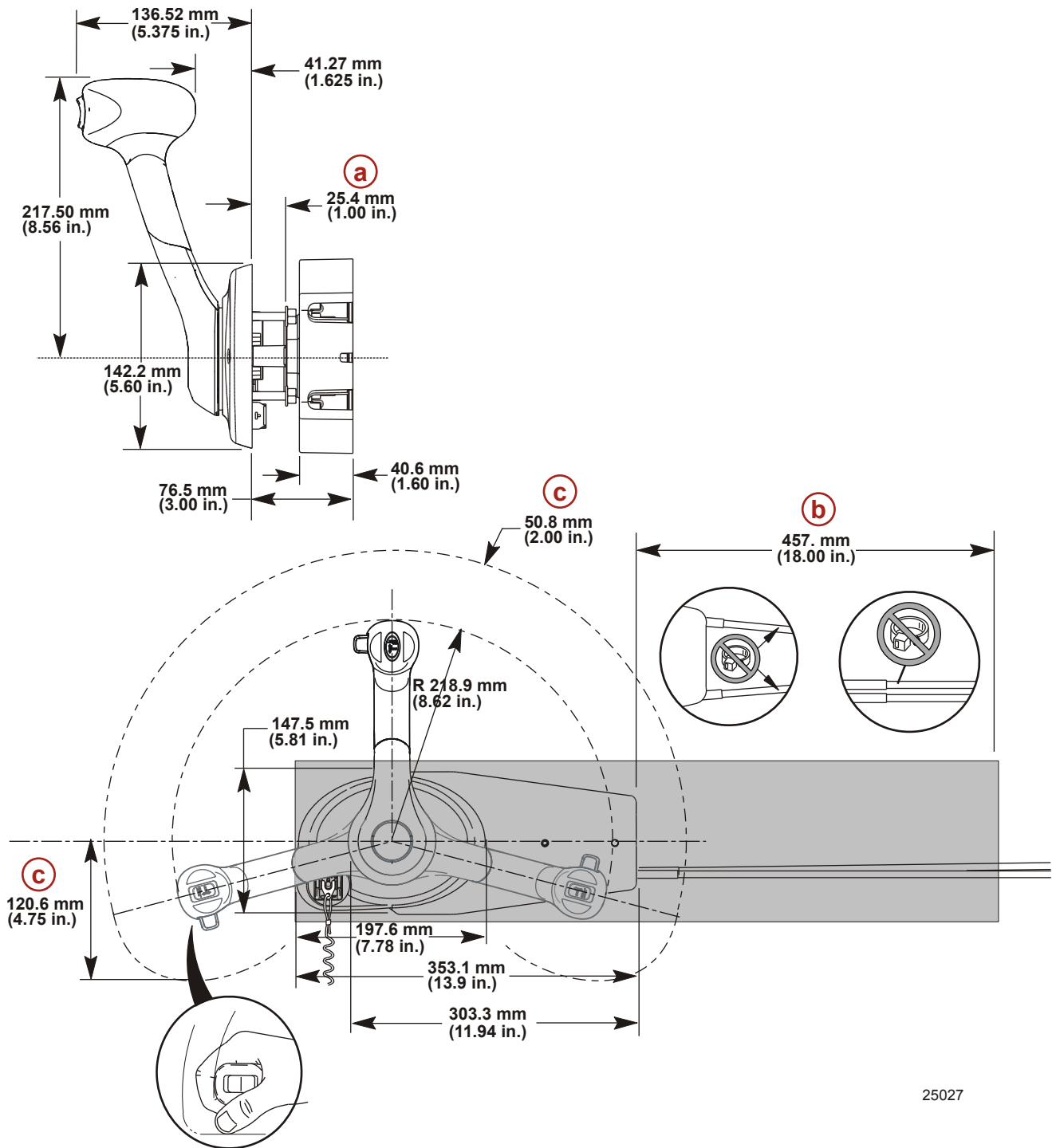
Tube Ref No.	Description	Where Used	Part No.
 95	2-4-C with Teflon	Shift cable/throttle cable lubrication points	92-802859A 1

GEN 2 Series Panel Mount Remote Control Installation

Required Mounting Clearances for GEN 2 Pistol Grip Finger Tip Lock Release Panel Mount Control

IMPORTANT: GEN 2 cables are required with the GEN 2 remote controls. The remote control cables must be the correct length. Sharp bends when the cables are too short result in kinks. Cables that are too long require unnecessary bends and/or loops. Both conditions place extra stress on the cables resulting in unfavorable shift and throttle operation. The minimum bend radius of the remote control cable is 30.5 cm (12 in.). For applications that require a smaller than the minimum radius, multiple bends or lengths longer than 5.5 m (18 ft.), Mercury/Quicksilver GEN 2 Platinum or Premium cables are required. Refer to the Mercury Precision Parts and Accessory guide.

IMPORTANT: Ensure the remote control has a minimum of 45.7 cm (18 in.) straight routing clearance for the control cables and does not contact other components. Refer to the shaded area.



25027

- a** - Maximum mounting panel thickness
- b** - Do not use anchors, clamps, cable ties, or secure any harnesses or other items within 45.7 cm (18 in.) of the control cables exiting the remote control module
- c** - Hand clearance

GEN 2 Series Panel Mount Remote Control Bezel Installation

NOTE: *This remote control should be installed on the starboard side only.*

IMPORTANT: When selecting the mounting area for the panel mount remote control, the area located directly behind the mounting panel must have sufficient clearance for the control module, wiring harness, control cables, and control cable movement. Refer to the Required Mounting Clearances for GEN 2 Series Panel Mount Controls.

IMPORTANT: Allow sufficient clearance for the control handle movement. Avoid interference with the boat components or other accessories. Ensure the control handle clears the dash, seats, steering wheel, and any other obstructions.

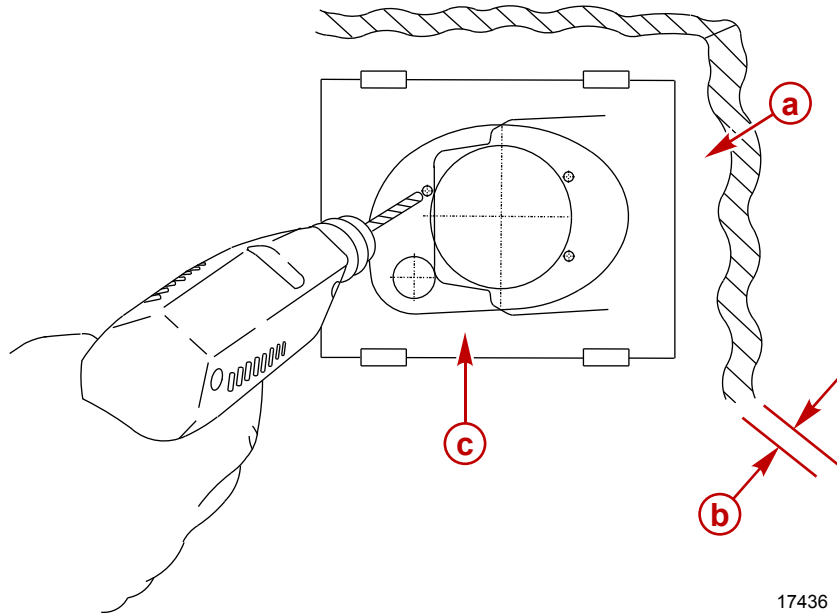
BEZEL LOCATION AND DRILLING MOUNTING AREA

IMPORTANT: The mounting surface for the bezel should be a flat and ridged platform, preferably constructed with one of the following: aluminum, fiberglass, or plywood reinforced with fiberglass. One layer of vinyl between the bezel and ridged mounting platform is acceptable. All foam should be removed between the bezel and the ridged mounting platform. To ensure a robust installation, the mounting platform must not exceed 2.54 cm (1 in.) thickness.

NOTE: *The remote control template supplied with this instruction sheet will allow the installer to rotate and mount the remote control module in 30° increments. Allow for proper clearance behind the mounting area when selecting the mounting area for the remote control.*

1. Locate the area of the boat where the panel mount remote control is to be mounted. Allow sufficient clearance for the control handle movement, remote control module, and control cables behind the mounting area.
2. Use the template supplied with these instructions and place the template over the mounting platform surface.
3. Secure the template to the mounting platform surface with tape. Cut and drill the mounting platform surface as instructed on the template.

IMPORTANT: After cutting and drilling the mounting platform, use a suitable tool to remove all of the sharp edges on the inside and outside of the mounting platform cutout to prevent chafing of the harnesses.

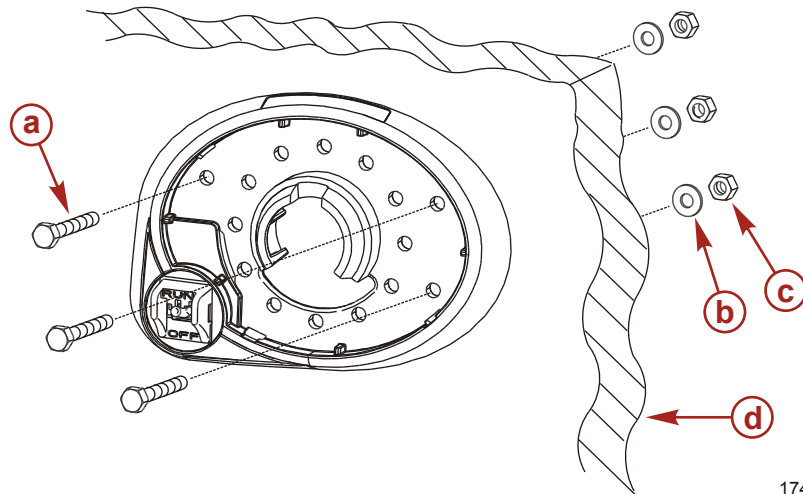


- a** - Mounting surface
- b** - Maximum mounting platform thickness 2.54 cm (1 in.)
- c** - Template

17436

BEZEL INSTALLATION

Install and secure the bezel to mounting platform surface. Tighten the bezel mounting screws to the specified torque.



- a** - Screw (0.250-20 x 1.750 in.) (3)
- b** - Washers (3)
- c** - Nuts (0.250-20) (3)
- d** - Mounting platform

17438

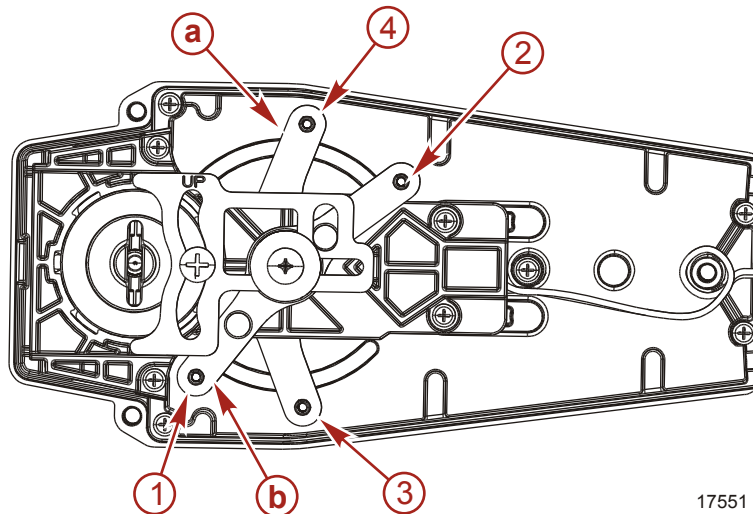
Description		Nm	lb. in.	lb. ft.
Bezel mounting screw (3)	Aluminum or fiberglass	5.6	50	
	Plywood	4	35	

NOTE: On some boat installations, it may be helpful to first make the cutout for the remote control using the supplied template, and route the control cables through the boat before installing the cables to control module.

Shift and Throttle Cable Installation

CONTROL CABLE ANCHOR ATTACHING LOCATION

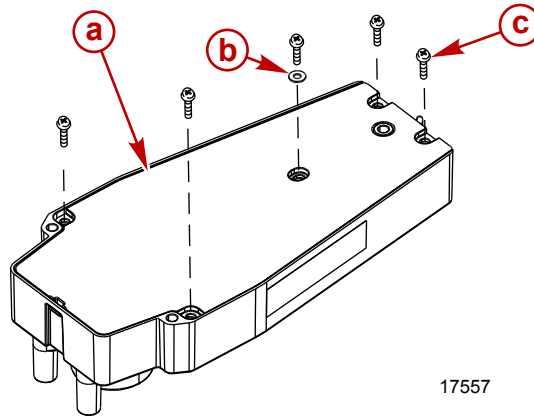
Outboard Models (U.S. and Belgium Models Only)	Anchor Attaching Location	
	Shift Cable	Throttle Cable
Force outboards and L-Drive (except 9.9 and 15)	4	2
Mariner and Mercury outboards (standard rotation models) - All models through 225 hp (with pull throttle) includes 1994-1/2 20/25	4	2
Mariner and Mercury outboards - 18 hp, 20 hp, 25 hp (U.S. origin) (with push throttle cable)	4	1
Mariner and Mercury outboards (counter rotation gearcase) - All models through 225 hp	3	2
Mariner and Mercury outboards (standard rotation gearcase) - 250 hp/275 hp	3	2
Mariner and Mercury outboards (counter rotation gearcase) - 250 hp/275 hp	4	2
Mercury outboards (standard rotation gearcase) - 3.0 Liter EFI GEN 2, OptiMax GEN II	4	2
Mercury outboards (counter rotation gearcase) - 3.0 Liter EFI GEN 2, OptiMax GEN II	4	2



17551

- a** - Shift arm
- b** - Throttle arm

1. Remove the screws securing the back plate to the control module.

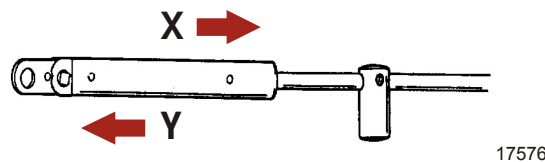


- a** - Back plate
- b** - Washer
- c** - Screw (5)

IMPORTANT: Determine the type of drive unit rotation the cable is installed onto. The shift cable must be correctly installed at the remote control assembly for the appropriate drive unit rotation; standard rotation or counter rotation.

NOTE: For Bravo Three, Blackhawk drive, and for outboard models 3.0 Liter EFI GEN 2, OptiMax GEN 2 units, refer to the instructions for standard rotation control cable installation.

2. **Mercury MerCruiser models standard rotation** - The control cable must be installed in the remote control so the cable end will move in the direction of X when the shift handle is placed in the forward position.
3. **Mercury MerCruiser models counter rotation** - The control cable must be installed in the remote control so the cable end will move in the direction of Y when the shift handle is placed in the forward position.



Direction of arrow (viewed at shift plate)

Mercury MerCruiser Models	Standard Rotation		Counter Rotation	
	Anchor Attaching Location		Anchor Attaching Location	
Starboard Mount Mechanical Control	Shift Cable	Throttle Cable	Shift Cable	Throttle Cable
Direction of arrow	X	X	Y	X
Lever number	4	2	3	2

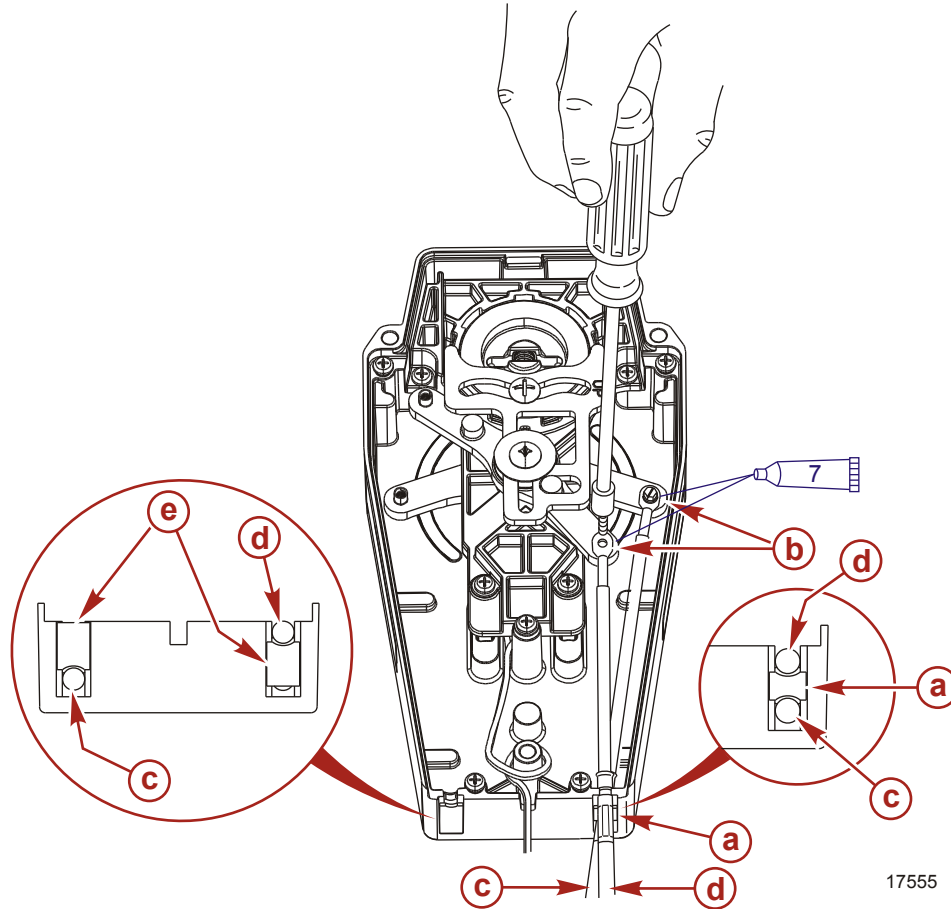
TYPICAL SHIFT AND THROTTLE CABLE INSTALLATION, OUTBOARD AND MERCURY MERCUISER

⚠ WARNING


Improper installation can result in sudden, unexpected loss of throttle and shift control, resulting in serious injury or death. Install all control components properly.

NOTE: New cable fastener screws have a patch locking compound on the threads. Cable fastener screws that have been installed and removed must have Loctite 271 Threadlocker applied to the threads.

1. Apply Loctite 271 Threadlocker to the threads of the cable fastener screws.
2. Install the control cables in the appropriate arm in the remote control module. Use the appropriate spacers for the cable installation.
3. Tighten the cable fastener screws to the specified torque.



- a** - Small spacer
- b** - Cable fastener screw
- c** - Shift cable
- d** - Throttle cable
- e** - Large spacer

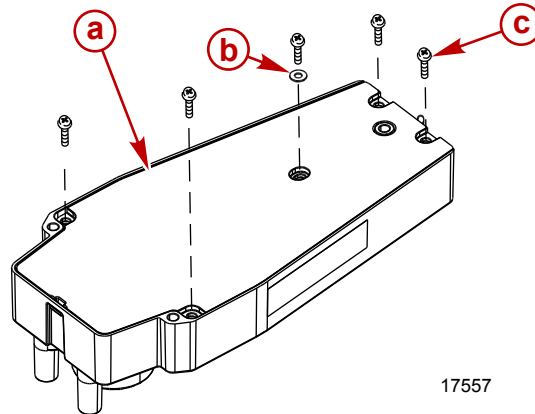
Tube Ref No.	Description	Where Used	Part No.
	Loctite 271 Threadlocker	Cable fastener screw threads	92-809819

Description	Nm	lb. in.	lb. ft.
Cable fastener screw threads	2.8	25	

4. After installing the control cables, secure the back plate with a washer and five screws. Tighten the screws to the specified torque.

⚠ WARNING

Improper installation can result in sudden, unexpected loss of throttle and shift control, resulting in serious injury or death. Install all control components properly.



- a** - Back plate
- b** - Washer
- c** - Screw (5)

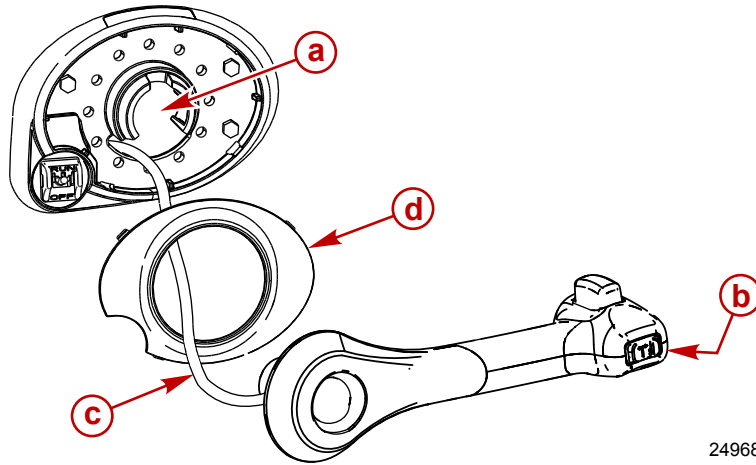
Description	Nm	lb. in.	lb. ft.
Back plate screws (5)	.57	5	

Pistol Grip Remote Control with Finger Tip Lock Release Installation

NOTE: The control handle friction is preset at the factory. To increase or decrease the control handle friction, the adjustment must be made prior to the installation of the remote control module onto the bezel. When adjusting the control handle friction, the control cables must be installed, and the control handle temporarily installed onto the control module to get a true feel for the amount of control handle friction.

1. Route the trim switch leads from the control handle assembly through the bezel cover and bezel opening.

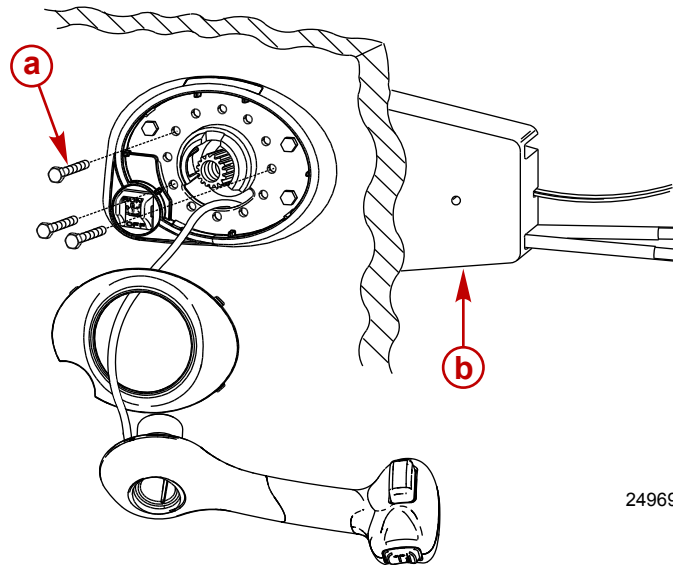
2. Allow sufficient slack in the trim switch leads to permit free movement through the full range of the control handle motion. Do not restrain the trim switch leads with cable ties.



- a - Bezel opening
- b - Trim switch
- c - Trim leads
- d - Bezel cover

IMPORTANT: Ensure the trim switch leads are not pinched when mounting remote control module to the bezel. The trim switch leads must be free to move with the full range of the control handle motion.

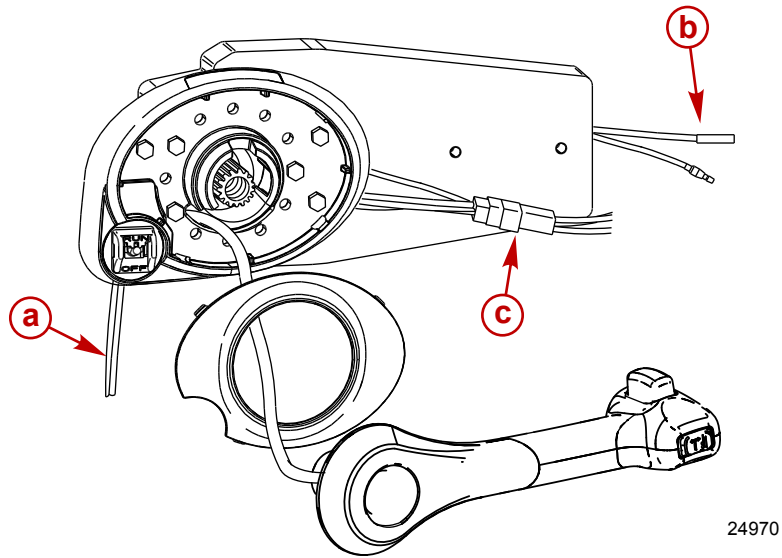
3. Install the remote control module to the bezel. Secure the remote control module with three screws. Tighten the screws to the specified torque.



- a - Control module mounting screw (3)
- b - Control module

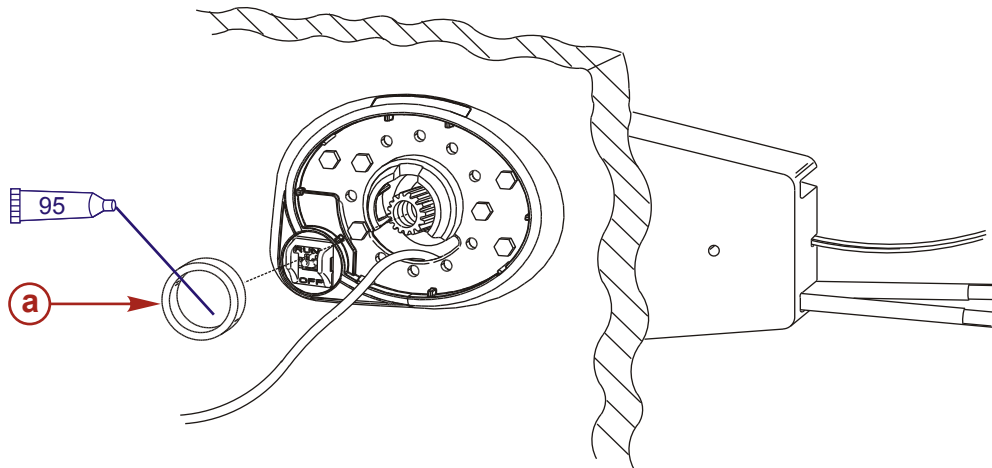
Description	Nm	lb. in.	lb. ft.
Control module mounting screw (3)	5.6	50	

4. Connect the trim switch connector to the trim motor harness connectors.




- a** - Lanyard stop switch leads
- b** - Neutral start safety switch leads
- c** - Trim switch connection

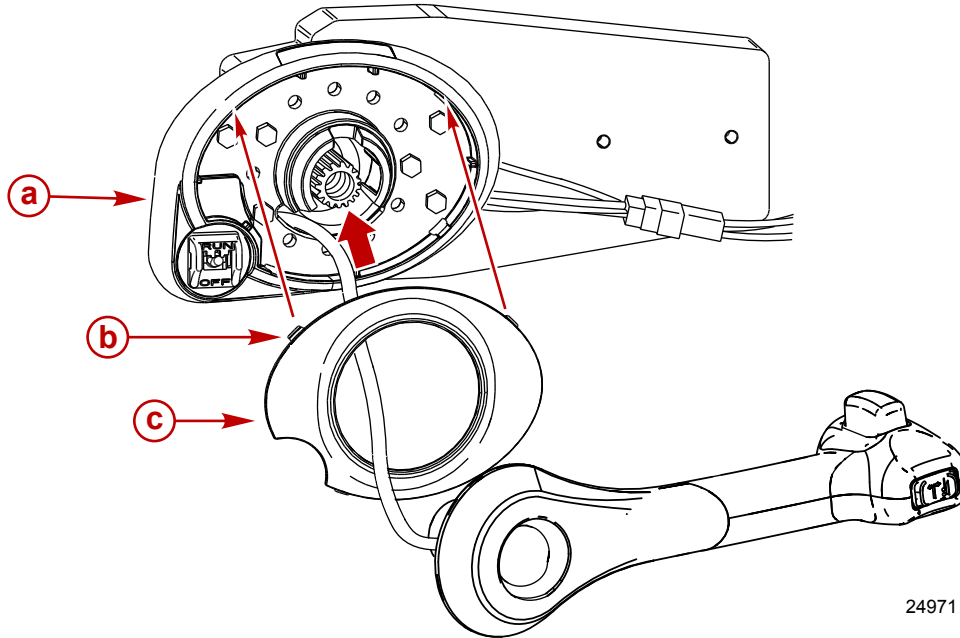
5. Install the bushing into the module assembly. Apply a small amount of 2-4-C with Teflon to the inside diameter of the bushing.



- a** - Bushing

Tube Ref No.	Description	Where Used	Part No.
 95	2-4-C with Teflon	Inside diameter of the module assembly bushing	92-802859A 1

- Align the tabs on the bezel cover with the slots on the bezel. Snap the bezel cover in place.



24971

- a - Bezel
- b - Tabs (4)
- c - Bezel cover

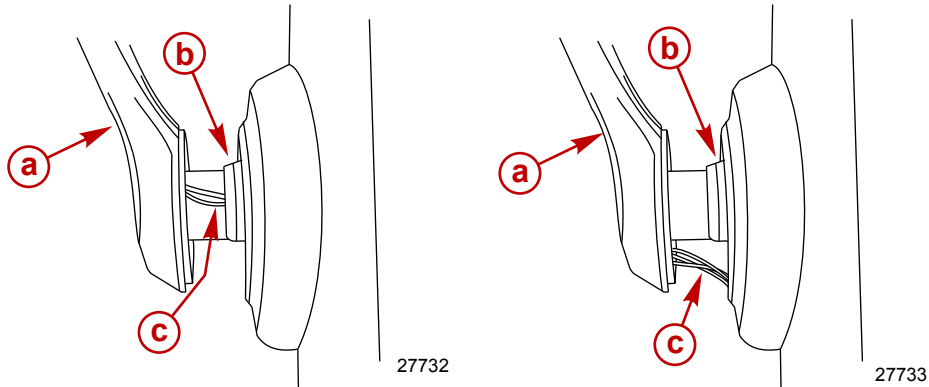
- Apply Loctite 271 Threadlocker on the threads of the control handle retaining bolt.
NOTE: A new control handle retaining bolt has threadlocking compound on the threads. A control handle retaining bolt that was installed and removed must have Loctite 271 Threadlocker applied to the threads.

⚠ WARNING

Improper installation can result in sudden, unexpected loss of throttle and shift control, resulting in serious injury or death. Install all control components properly.

- Install the control handle assembly onto the remote control module. Ensure the control handle is in neutral and in the desired position.

IMPORTANT: Ensure the trim switch wires do not become pinched between the bezel and the control handle during the installation of the control handle onto the remote control. Failure to ensure the trim switch wires do not become pinched during the installation of the control handle onto the remote control, may result in the trim switch wires shorting out and causing a trim system failure.



Incorrect trim switch wire routing

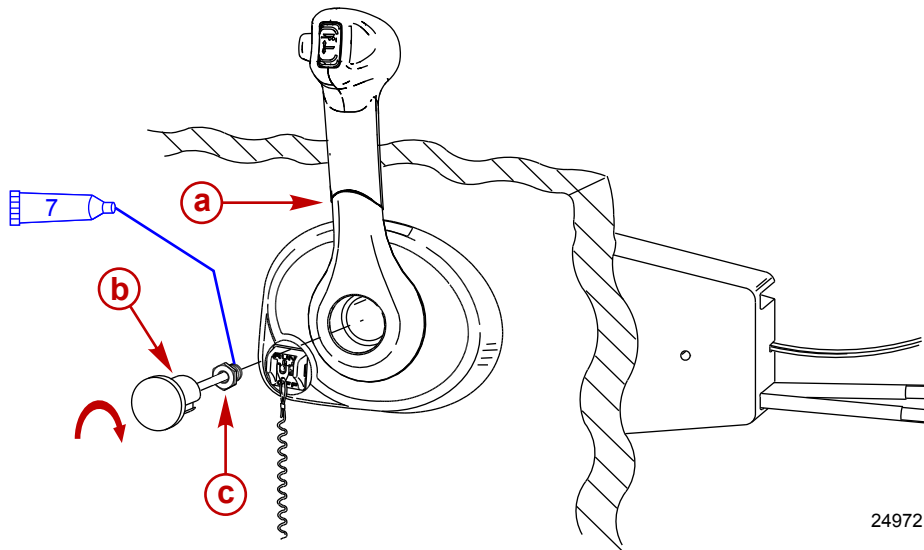
Correct trim switch wire routing

- a** - Control handle
- b** - Bezel
- c** - Trim switch wires

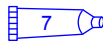
9. Secure the control handle with the retaining bolt. Tighten the control handle retaining bolt to the specified torque.

IMPORTANT: Do not use air driven tools to install the control handle retaining bolt.

NOTE: As an aid for installing the control handle retaining bolt, use the throttle-only button as a tool to align the threads to the control. Once the bolt threads are started, remove the throttle-only button and complete the installation. Tighten the retaining bolt to the specified torque.

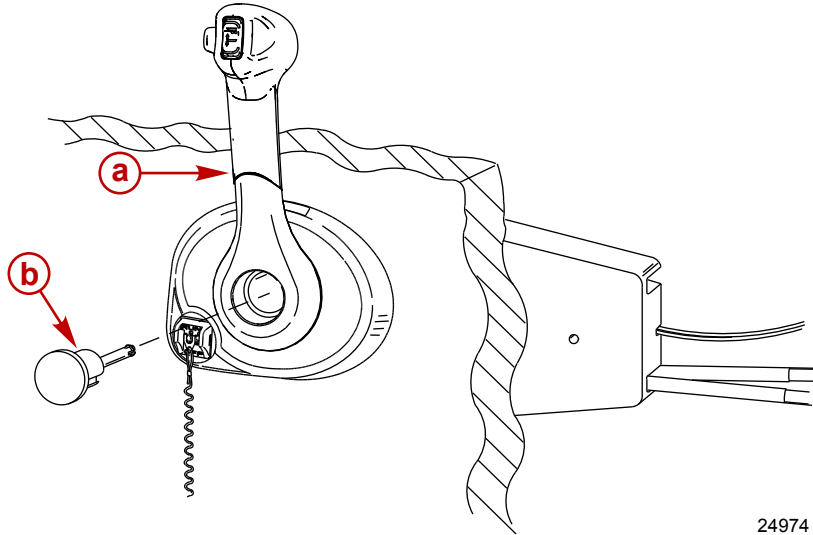


- a** - Handle assembly
- b** - Throttle-only button
- c** - Control handle retaining bolt

Tube Ref No.	Description	Where Used	Part No.
	Loctite 271 Threadlocker	Control handle retaining bolt threads	92-809819

Description	Nm	lb. in.	lb. ft.
Control handle retaining bolt	17	150	

10. Install the throttle-only button. Push the throttle-only button in completely.



24974

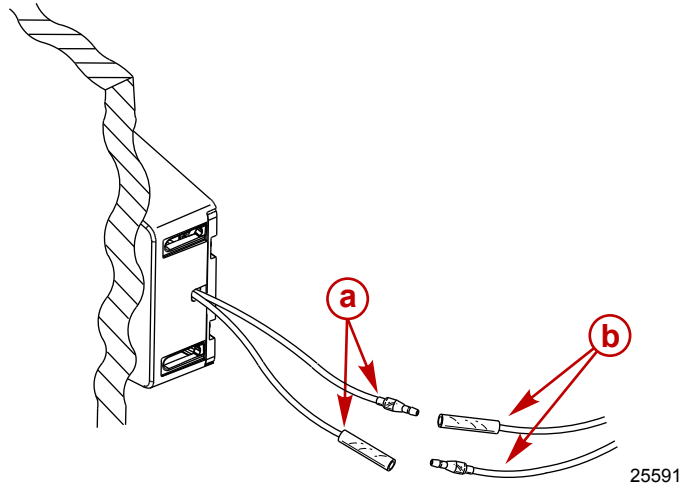
- a** - Handle assembly
- b** - Throttle-only button

IMPORTANT: The trim harness must be loose behind the panel. Do not use cable ties near the control module. The trim switch leads must be free to move with the full range of the control handle motion.

11. Connect the remote control module assembly neutral start safety switch leads to the wire harness.

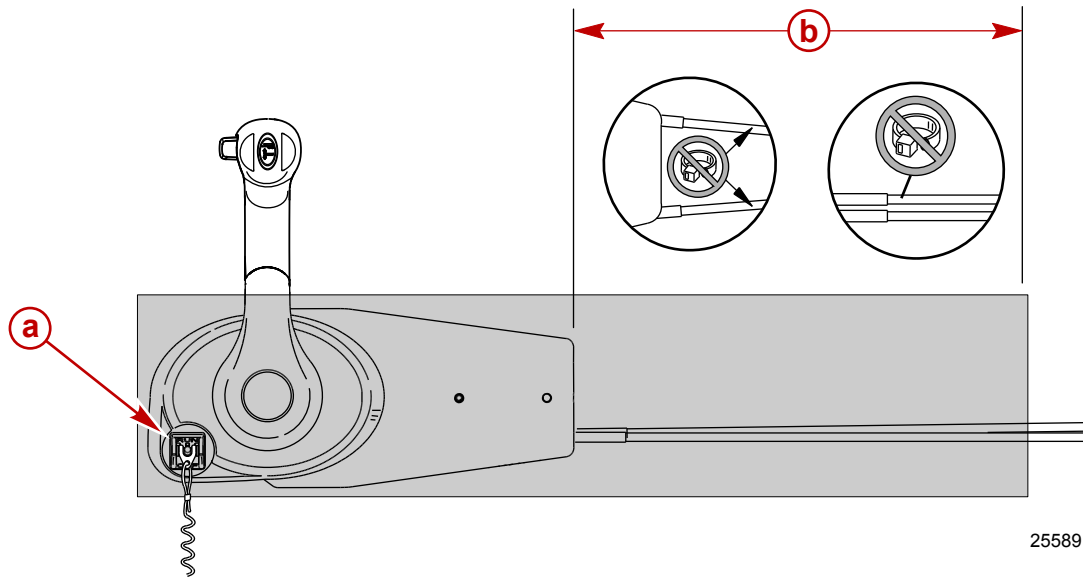
⚠ WARNING

Starting the engine with the drive in gear can cause serious injury or death. Never operate a boat that does not have a neutral-safety-protection device.



- a** - Remote control module assembly neutral start safety switch leads
- b** - Wire harness safety switch leads

IMPORTANT: Do not use anchors, clamps, cable ties, or secure any harnesses or other items within 45.7 cm (18 in.) of the control cables exiting the remote control module assembly.

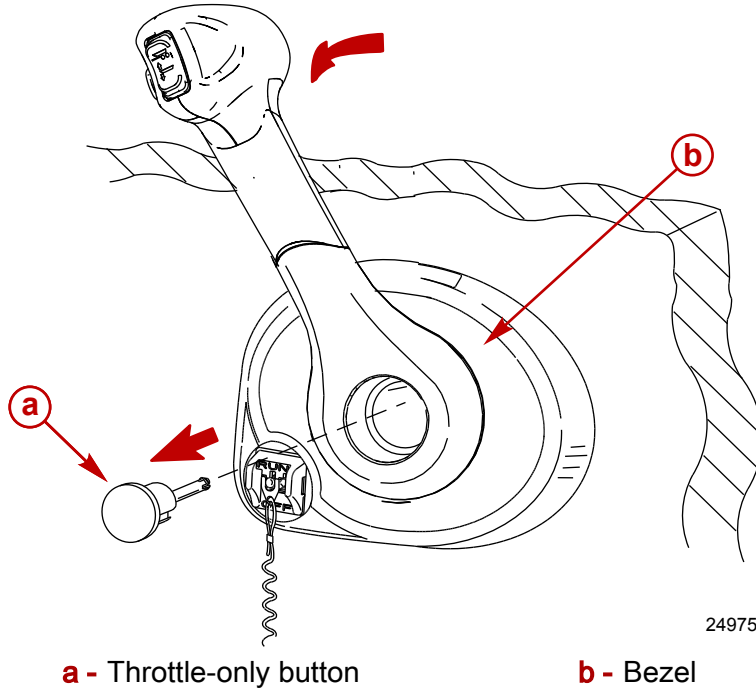


- a** - Lanyard stop switch
- b** - Remote control cable clearance space - 45.7 cm (18 in.)

THROTTLE-ONLY BUTTON REMOVAL

1. Place the control handle in the neutral position.
2. Push the throttle-only button in until it stops.
3. Hold the throttle-only button in and rotate the remote control handle to the forward position.
4. Use a flat blade screwdriver to gently pry the throttle-only button out of the control handle.

NOTE: The control handle is a painted component. Protect the control handle paint from damage when removing the throttle-only button.

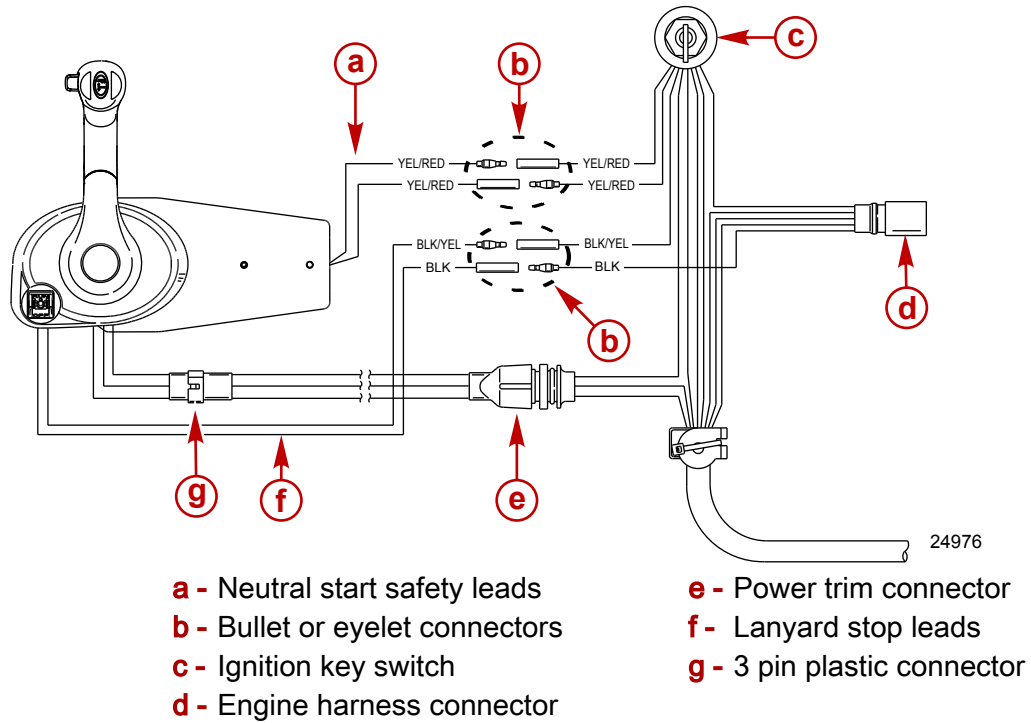


Wire Color Code Abbreviations

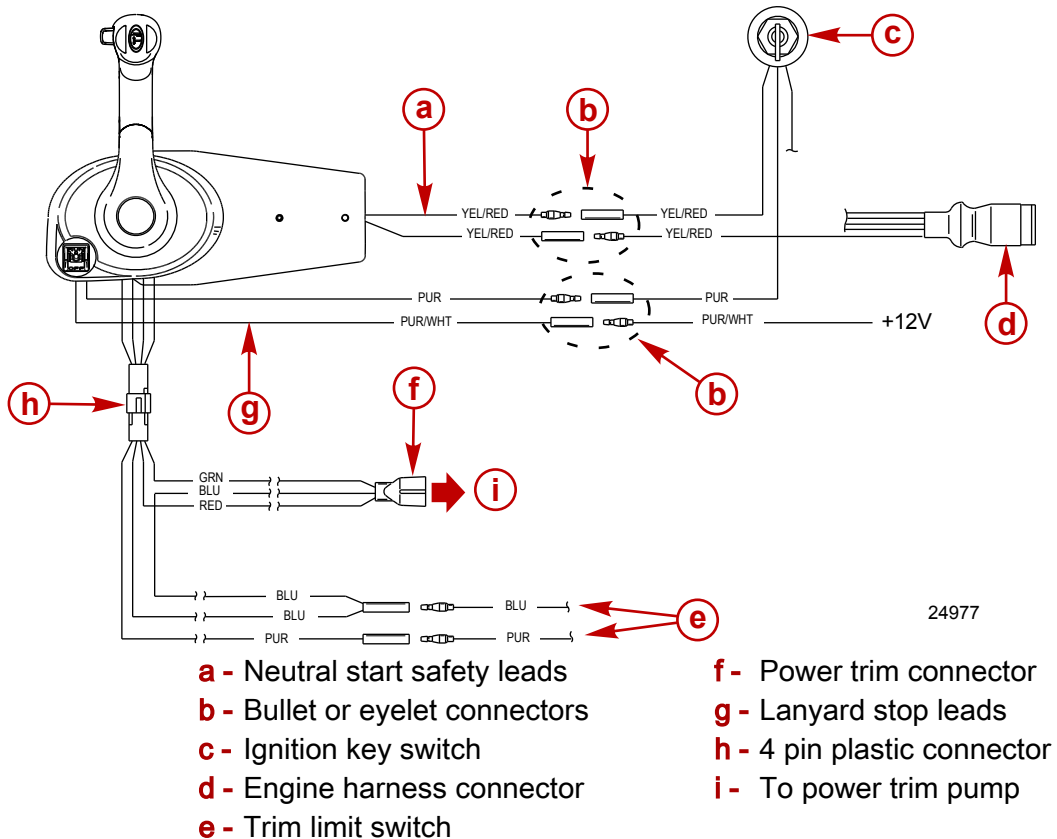
Wire Color Abbreviations				
BLK	Black		BLU	Blue
BRN	Brown		GRY	Gray
GRN	Green		ORN or ORG	Orange
PNK	Pink		PPL or PUR	Purple
RED	Red		TAN	Tan
WHT	White		YEL	Yellow
LT or LIT	Light		DK or DRK	Dark

Lanyard Stop Switch Wiring Diagrams

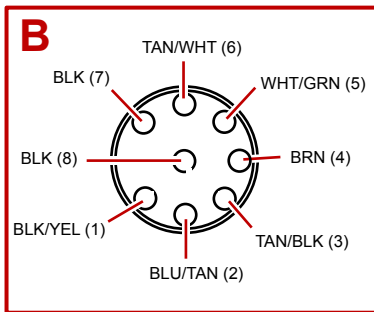
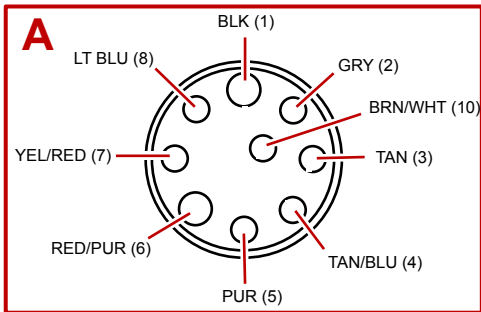
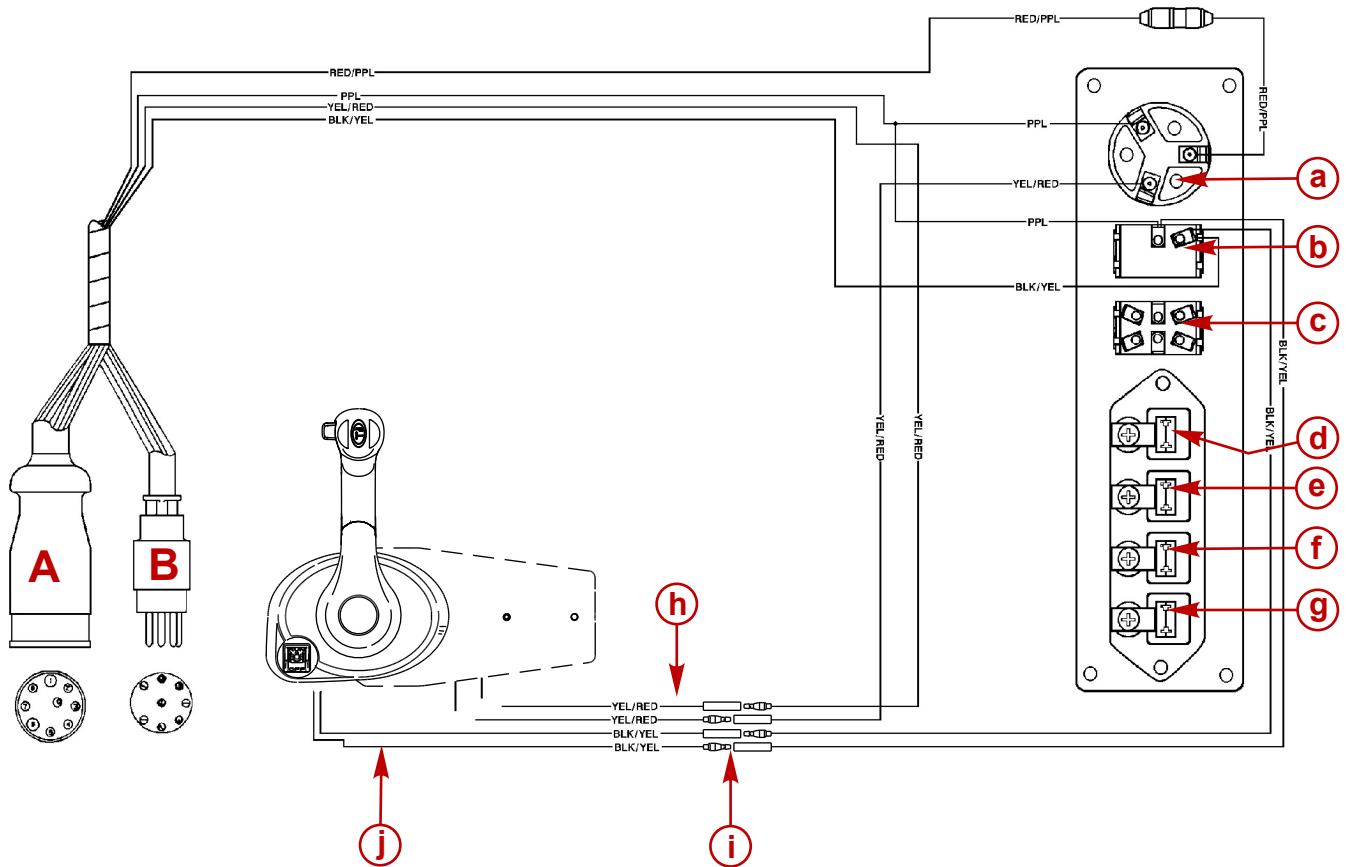
Mercury/Mariner Outboards 40 HP through 225 (3.0 Liter), Force (1993 and Newer)



Mercury MerCruiser All Single Engine Gasoline Models



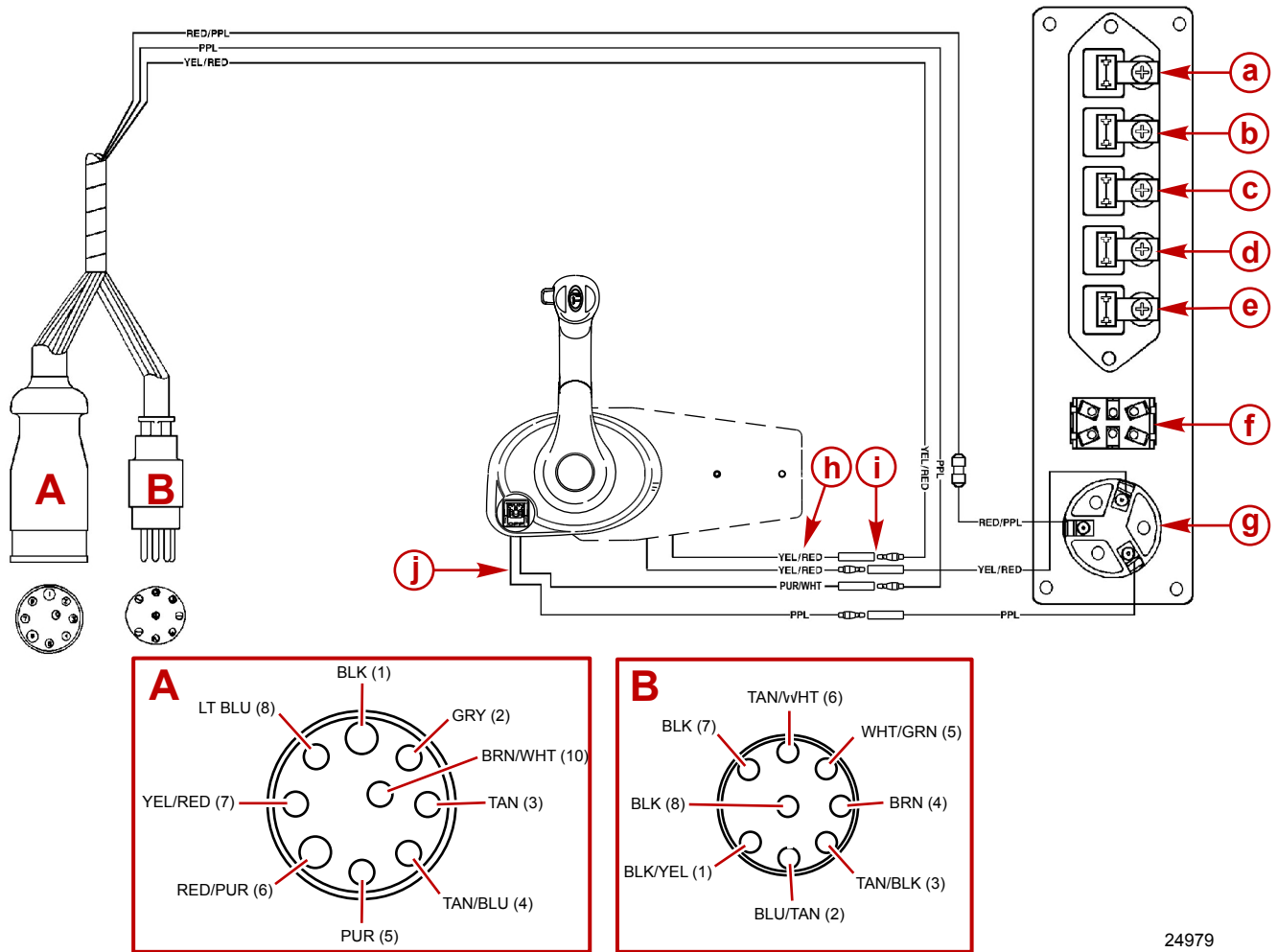
Mercury MerCruiser D1.7L/103, D3.0L/150, D3.6L/180 and D4.2L/220 Diesels



24978

- a** - Ignition key switch
- b** - Stop switch
- c** - Light switch and audio test
- d** - Pre-heat
- e** - Alternator
- f** - Oil pressure
- g** - Coolant temperature
- h** - Neutral start switch leads
- i** - Bullet or eyelet connectors
- j** - Lanyard stop switch

Mercury MerCruiser D7.3L/270 Diesel



24979

- a** - Water in fuel indicator
- b** - Coolant temperature
- c** - Oil pressure
- d** - Alternator
- e** - Pre-heat
- f** - Light switch and audio test
- g** - Ignition key switch
- h** - Neutral start switch leads
- i** - Bullet or eyelet connectors
- j** - Lanyard stop leads

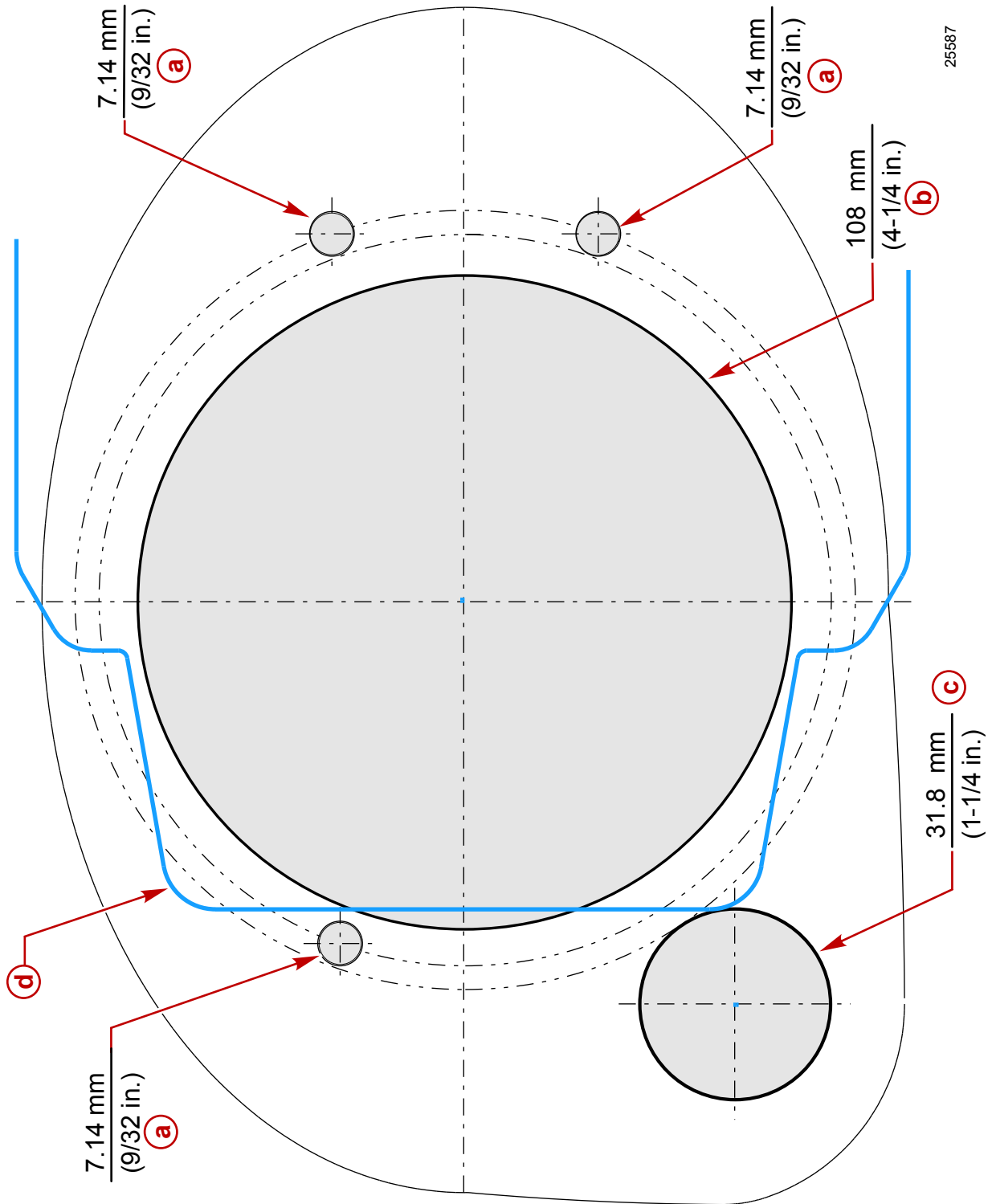
GEN 2 Series Panel Mount Remote Control Bezel Template

IMPORTANT: Due to printing variables, the image may have changed from the actual size. Check this template with the bezel before cutting the mounting holes, or use the bezel as a guide to mark the mounting surface.

NOTE: This remote control module can be mounted 30° up or down by using the same bezel mounting location holes. Rotate only the control module to the desired angle. It may be necessary to secure the bezel with additional wood screws or lag screws.

1. Drill and cut out the shaded area as indicated.
2. When using wood screws or lag screws, drill to the correct hole diameter for the fastener used. Refer to item a.

3. The control module shown on the template is mounted horizontally. Refer to item d.



- a** - Machine screw drill size
- b** - Remove the sharp edges on the interior and exterior surfaces
- c** - Cut out only if equipped with a lanyard stop switch
- d** - Outline of starboard mounted panel control module