

# CONSOLE REMOTE CONTROL INSTALLATION AND OPERATION

**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. Always refer to the appropriate Mercury Marine service manual for component removal and installation instructions.

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

## Components Contained in Kit



Mechanical console remote control


## Parts Bag

Qty.	Description	Part Number
2	Mounting bracket	8M0059444
2	Screw, 10-32 X 2.25 pan head	89044
2	Locknut, 10-32 stainless	826709106
4	Screw, 10-32 X 1.50 pan head	66687
4	Well nut 10-32	42290
1	Cable tie	822434
1	Screw M4 X 8 pan head	8M0060453
1	Cable tie	859671
2	Screw washer hex head	859665
4	Screw, 10-32 X 0.65 pan head	824831
2	Cable spacer, single	891907001
1	Cable spacer, dual	891907002
1	Terminal plug, male	NSS
1	Insulator, male bullet	17198
1	Terminal, receptacle	NSS
1	Insulator, female bullet	17199
1	Clip	24836

Qty.	Description	Part Number
1	Screw, #10-32 x 0.25 slotted binder head	24231

## 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.

## Shifting

**IMPORTANT:** Observe the following:

- **Never shift into or out of gear unless the engine speed is at idle. Shifting at higher than engine idle speed could cause damage to the gearcase.**
- **Do not shift into reverse when the forward motion of the boat is greater than a no wake speed. Shifting into reverse at higher boat speeds could cause the engine to stall, and in some situations, this could cause water to be drawn into the cylinders, resulting in severe engine damage.**
- When shifting, always stop at the neutral position and allow the engine idle speed to stabilize before shifting into another gear.
- Current console mount remote controls require the operator to press the mechanical lock bar while moving the control handle out of the neutral position. Older console mount remote controls may not be equipped with the mechanical lock bar feature.
- Always shift into gear with a quick motion.
- After shifting into gear, advance the lever further to increase speed.

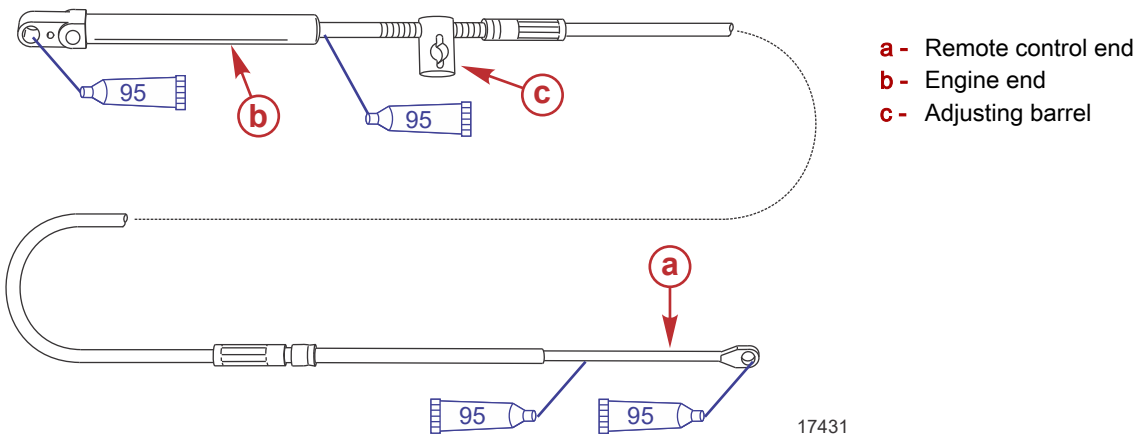
## Selecting GEN II Remote Control Cables

### Mercury - Mariner - Force - Mercury MerCruiser

Refer to the **Mercury Precision Parts Accessories Guide** for the available shift and throttle cables for your application. This control requires the use of Mercury/Quicksilver GEN II shift and throttle cables.

**IMPORTANT:** Remote control cables must be the correct length. Sharp bends on too-short of cables result in kinks. Too-long of cables require unnecessary bends and/or loops. Both conditions place extra stress on the cables.

**IMPORTANT:** Use 2-4-C with PTFE to lubricate the shift cable and throttle cable.



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

**NOTE:** Allow for clearance of the cables directly behind the remote control. Cable radius at any one point must not be less than 305 mm (12 in.).

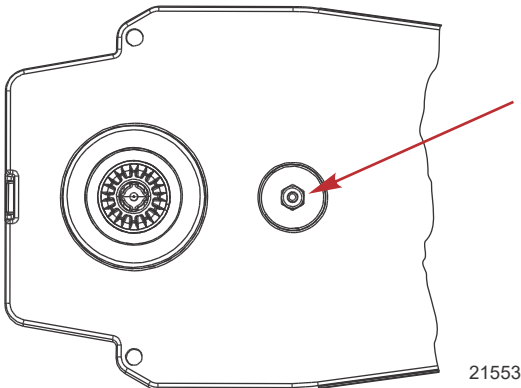
## General Installation Information

**IMPORTANT:** The control handle friction adjustment must be made prior to installation.

### Control Handle Friction Adjustment

The control handle friction is preset from the factory. However, it can be adjusted.

- Use an 11/32 in. nut driver or socket wrench to carefully adjust the control handle friction. To increase friction, turn the adjusting nut clockwise. To decrease friction, turn the adjusting nut counterclockwise.
- IMPORTANT:** Control handle friction is necessary for proper mechanical control operation. Insufficient friction may cause undesirable control arm operation.



### Installation of Control Handle

**⚠ 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.

- If the control handle is removed and installed for any reason, apply Loctite 271 Threadlocker on the threads of the control handle retaining bolt.
- Tighten the control handle retaining bolt to the specified torque.

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	–

## Control Module Mounting

**IMPORTANT:** The control handle friction adjustment must be made prior to the installation of the remote control.

**NOTE:** The gasket and mounting base must be placed over the console control mount opening prior to installing the shift and throttle cables to the control module.

1. Select the mounting area for the remote control. Select the template for the type of application. Follow the template directions when cutting and drilling the mounting surface.
2. Connect the control cables and install the rear cover to the remote control. Refer to the **Shift and Throttle Cable Installation** in this instruction sheet.
3. Install the remote control following the mounting instructions. Make necessary wiring connections by selecting the correct wiring diagram for the remote control model installed.
4. Install and adjust the shift and throttle cables to the power package as outlined in the instructions which accompany the power package or refer to the **Product Service Manual**.

## Final Checks and Adjustments

1. Check the tightness of the control handle retaining bolt. Tighten to the specified torque.

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

2. Before installing the back cover, check the throttle cable and shift cable retaining screws to ensure they are secure.
3. Ensure the back cover screws are securely tightened.
4. Before the remote control is securely fastened, verify the control cables and the control wiring harness are routed correctly.

### 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.

5. Operate the control handle several times (see **Notice** preceding). Any binding or stiffness in the operation of the control handle is usually caused by the following:
  - a. Bends or tension on the control cables near the control.
  - b. Excessive number of bends in the cables.
  - c. Bends are too small in the cables.
  - d. Tight engine linkage.
  - e. Cable ties strapped too close to the control module.
  - f. Control handle friction adjustment.
  - g. Improper adjustment at the engine.

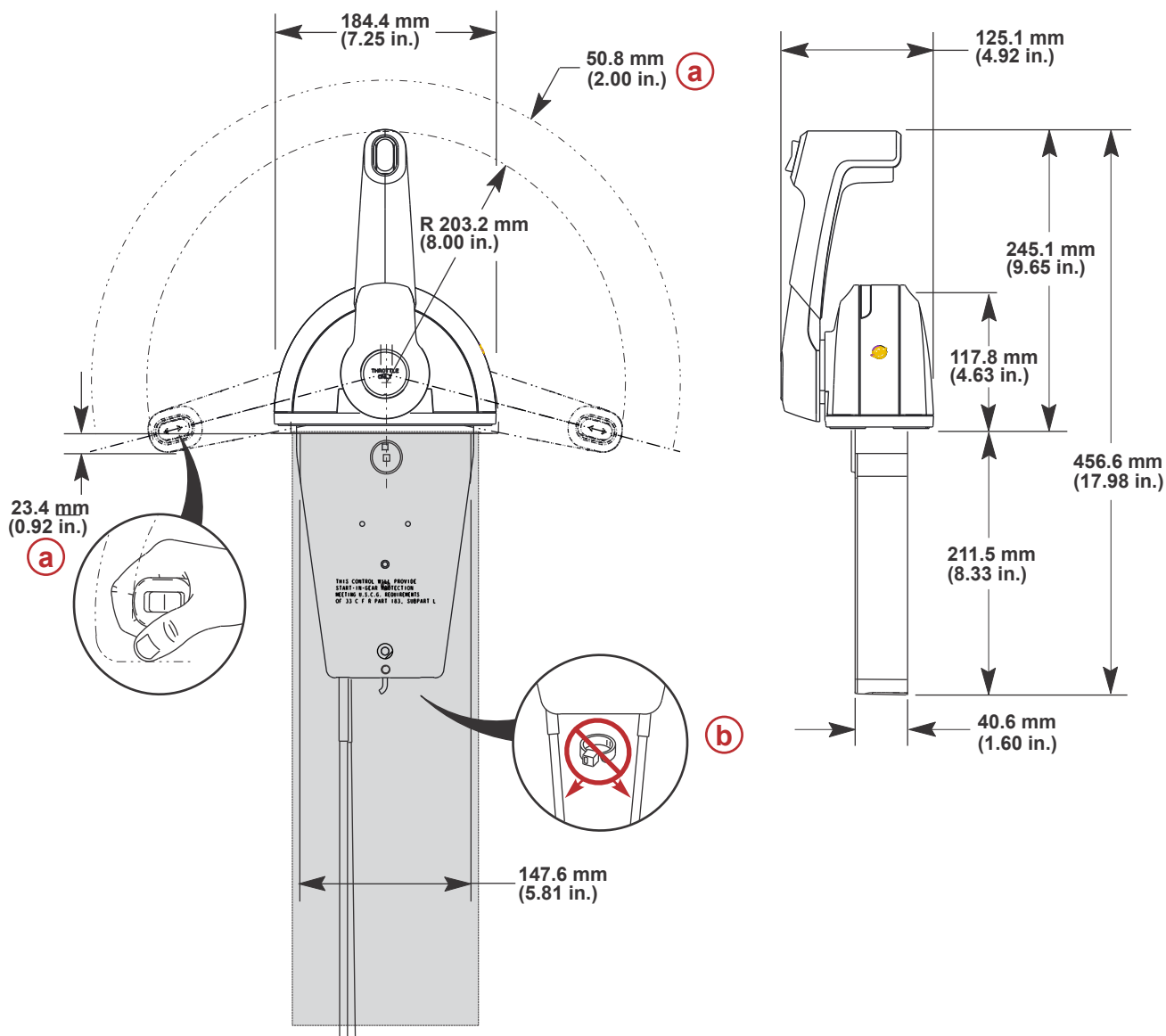
### ⚠ WARNING

Performing tests with the engine running may cause the propeller to rotate and result in serious injury or death. Use caution when performing a test that requires the engine running, and remove the propeller to avoid injury.

6. Check the operation of the neutral start safety switch. The engine must only crank when the remote control is in the neutral position.

## Required Mounting Clearance for Single-Handle Remote Control

**IMPORTANT:** Ensure the remote control has adequate clearance and does not contact other components. The cable path should be free of obstructions. See shaded area.



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**a -** Hand clearance

**b -** If the shift and throttle cables are not mounted in the same housing slot position, do not use cable ties to secure the control cables.

## Drilling Mounting Area Location

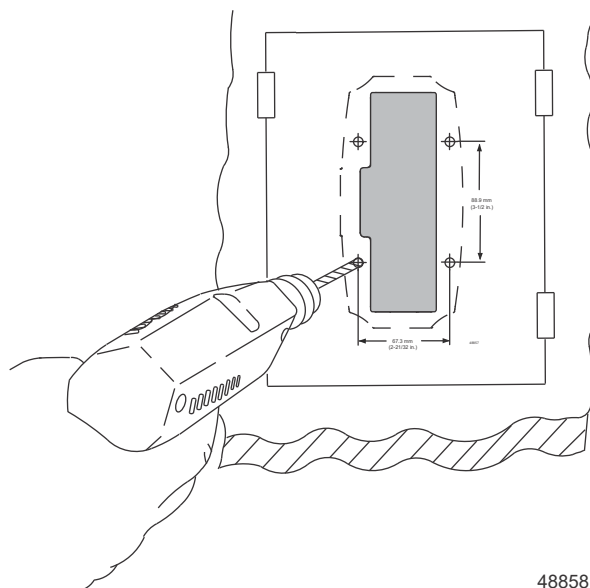
**IMPORTANT:** When selecting the mounting area for the remote control, the area directly behind the mounting panel must have sufficient clearance for control module, wiring harness, control cables, and control cable movement. Refer to the required mounting clearances.

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

1. Remove the cutout template page located at the end of these installation instructions.
2. Ensure the area of the boat where the remote control will be mounted is clear of obstructions and wiring prior to drilling the mounting area.
3. Place the cutout template onto the control mounting surface. Secure the cutout template to the desired location with adhesive tape.

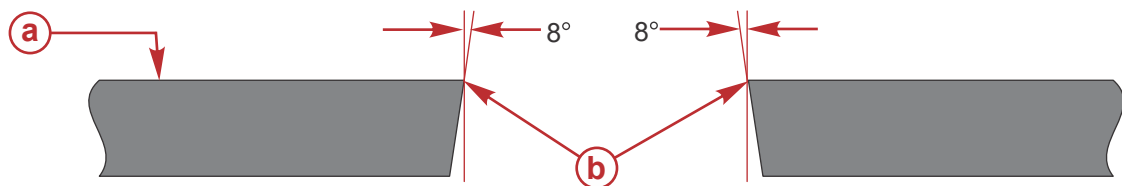
**IMPORTANT:** Before drilling the mounting holes to 9.5 mm (0.375 in.) to accommodate the use of well nuts, ensure the thickness of the mounting area does not exceed the gripping range of the well nuts used. If the thickness is beyond the gripping range of the well nuts, drill the mounting holes to the correct diameter of a common flange head type screw.

4. Drill and cut the mounting area as directed on the cutout template.



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5. The control module can be rotated 8° from perpendicular relative to the remote control mounting surface. An 8° undercut must be made to the mounting location to allow for adequate clearance for the control module.
6. After cutting out the mounting area, remove all sharp edges with a suitable tool.



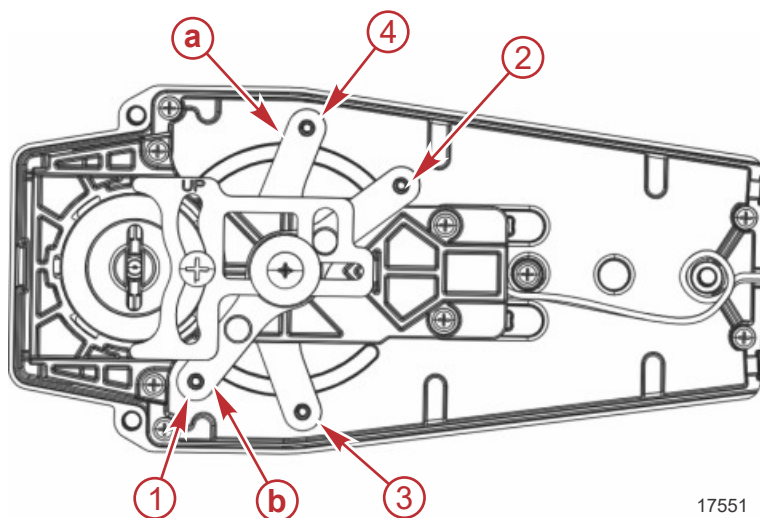
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**a** - Control mounting surface

**b** - 8° undercut

## Throttle and Shift Cable Installation

### Control Cable Anchor Attaching Location



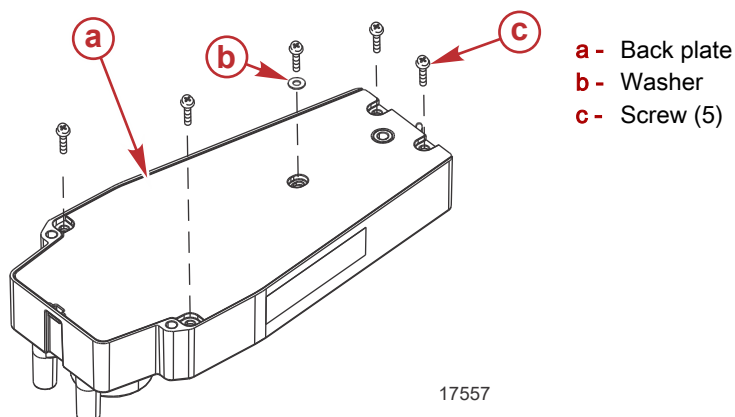
**a** - Shift arm

**b** - Throttle arm

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Outboard Models (U.S. and Belgium Models Only)	Starboard Mount Control		Port Mount Control	
	Anchor Attaching Location		Anchor Attaching Location	
	Shift Cable	Throttle Cable	Shift Cable	Throttle Cable
Force outboards, except 9.9 and 15hp	4	2	3	2
Mercury and Mariner outboards - standard rotation models, all models through 300 XS with pull throttle, includes 1994-1/2 20/25hp	4	2	3	2
Mercury and Mariner outboards - 18hp, 20hp, and 25hp of U.S. origin, with push throttle cable	4	1	3	1
Mercury and Mariner outboards - counterrotation gearcase, all models through 300 XS, unless listed below	3	2	4	2
Mercury and Mariner outboards - standard rotation gearcase, 250hp/275hp 3.4L	3	2	4	2
Mercury and Mariner outboards - counterrotation gearcase, 250hp/275hp 3.4L	4	2	3	2
Mercury outboards - standard rotation gearcase, 3.0L EFI, OptiMax S/N 1B752547 and above	4	2	3	2
Mercury outboards - counterrotation gearcase, 3.0L EFI, OptiMax S/N 1B752547 and above	4	2	3	2
Mercury 3.0L outboards with Torque Master gearcase S/N 1B973743 and below	4	2	3	2
Mercury 3.0L outboards with Torque Master II gearcase S/N 1B973744 and above	4	2	3	2
115 - 150hp FourStroke	4	2	3	2
V8/V6 Four Stroke Verado, SeaPro, and Pro XS Models	4	2	3	2

1. Remove the one bolt securing the back plate to the control module.

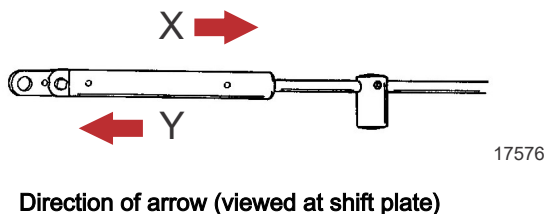


**IMPORTANT:** Right hand propellers must be installed on standard rotation units and left hand rotation propellers must be installed on counter rotation units. Shift cable installations for dual propeller models are always installed in the standard rotation position.

The shift arm will either pull or push the shift cable depending on which side of the arm the cable is attached to. The shift cable must be installed on the correct side of the shift arm.

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 counterrotation** - 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.



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

## Typical Throttle and Shift Cable Installation, Outboard and Mercury MerCruiser

### ⚠ 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.

**IMPORTANT:** Threads of the control cable fastener screws contain a threadlocker. Additional threadlocker should not be applied during the original installation. If the screws are installed and then removed for any reason, apply an appropriate amount of Loctite 271 Threadlocker on the screw threads and tighten to the specified torque. Failure to apply Loctite 271 Threadlocker on the cable fastener screw threads, or to tighten screws to the specified torque, can lead to the screws loosening, which could result in loss of throttle or shift control.

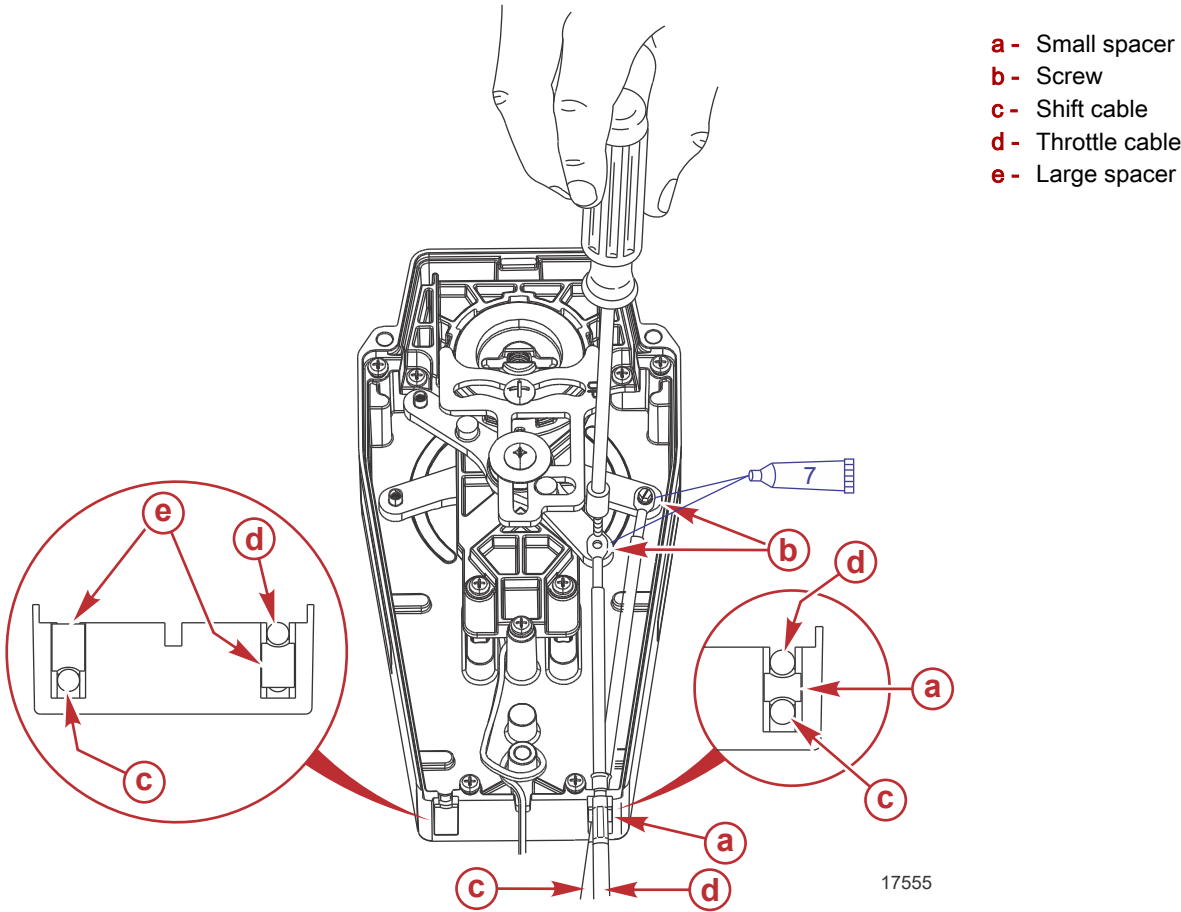
**IMPORTANT:** Applying too much Loctite can result in the locking agent contacting other moving parts of the control, preventing or limiting proper operation.

Description	Nm	lb-in.	lb-ft
Control throttle and shift cable screws	2.8	25	–

1. Apply Loctite 271 Threadlocker to the threads of the cable fastener screws.
2. Connect the control cables to the appropriate arm in the remote control module.



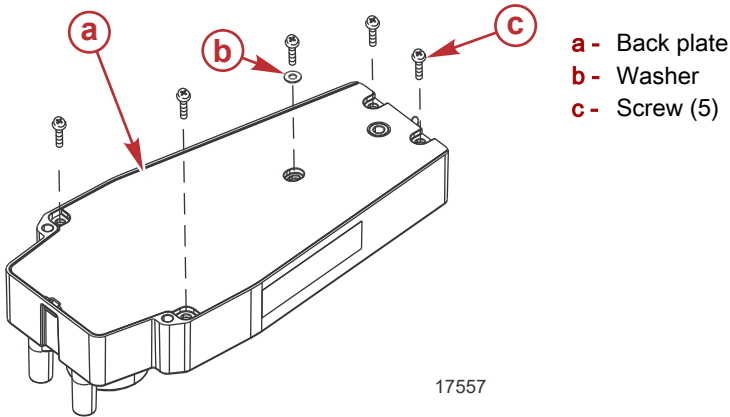
3. Tighten the cable fastener screws to the specified torque.



Description	Where Used	Part No.
Loctite 271 Threadlocker	Control cable fastener screw threads	92-809819

Description	Nm	lb-in.	lb-ft
Control cable fastener screws	2.8	25	–

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



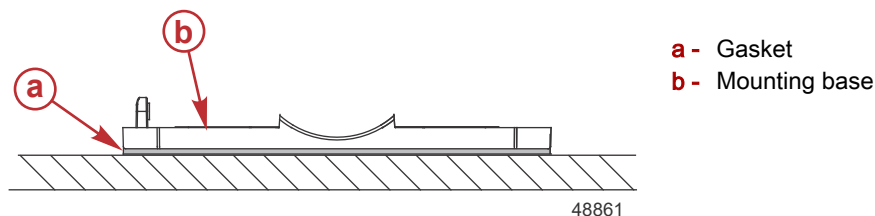
Description	Nm	lb-in.	lb-ft
Back plate screws (5)	2	18	–

## Mounting the Remote Control

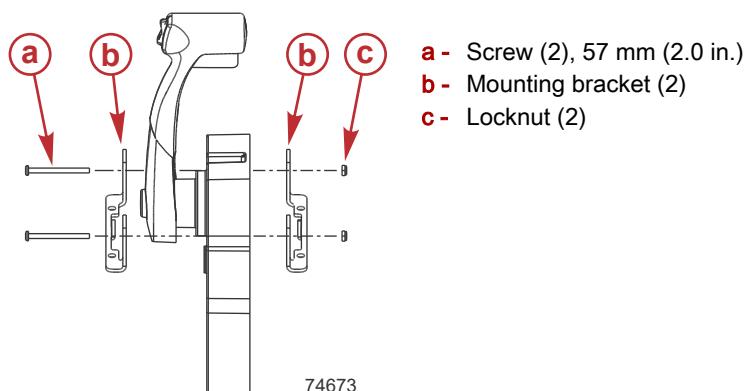
### Single-Handle Console Control Models

**NOTE:** The gasket and mounting base must be placed over the console control mount opening prior to installing the shift and throttle cables to the control module.

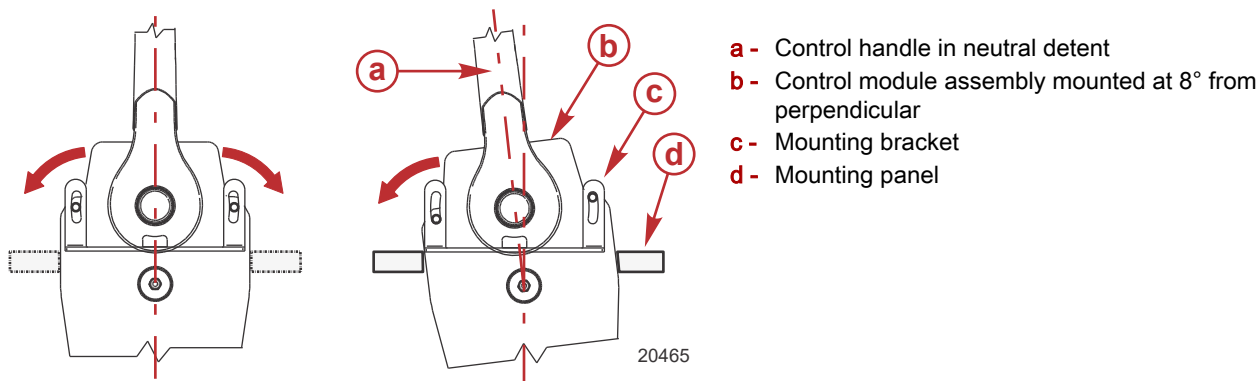
1. Place the gasket and mounting base over the console control mount opening prior to installing the shift and throttle cables to the control module.



2. Install the mounting brackets to the control module with two 57 mm (2.25 in.) screws and locknuts. Do not tighten the screws at this time.



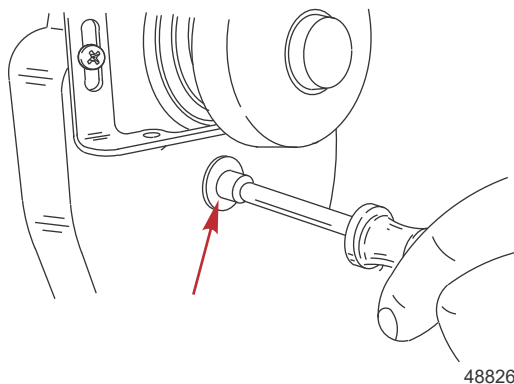
3. Place the control module assembly in the mounting cutout and select the desired angle of the control handle relative to the mounting surface. The maximum angle is 8° from perpendicular. After the angle of the handle is selected, secure the mounting brackets with the screws and locknuts. Tighten the screws to the specified torque.



Description	Nm	lb-in.	lb-ft
Mounting bracket screws and locknuts	4	35	–

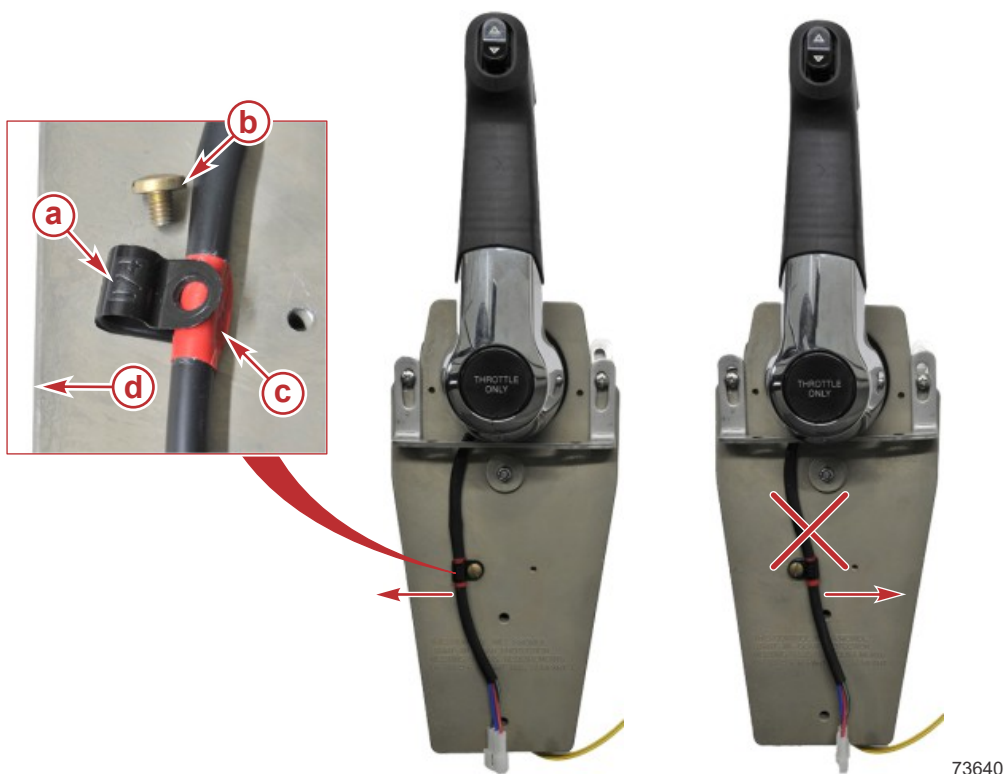
4. Adjust the control handle friction to the desired resistance.
  - Turn the control friction adjustment nut clockwise to increase the resistance.

- Turn the control friction adjustment nut counterclockwise to decrease the resistance.



**IMPORTANT:** Install a cable tie clip over the red tape on the control handle trim harness so that the harness is positioned to the forward side of the control module housing.

5. Install a cable tie clip over the red tape on the control handle trim harness as shown in the following picture. Install the slotted head binder screw through the clip and tighten the screw securely.

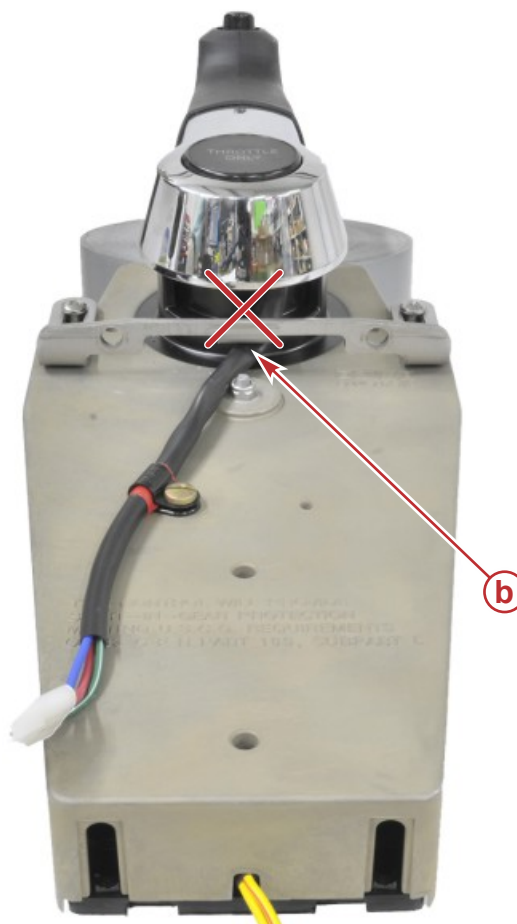
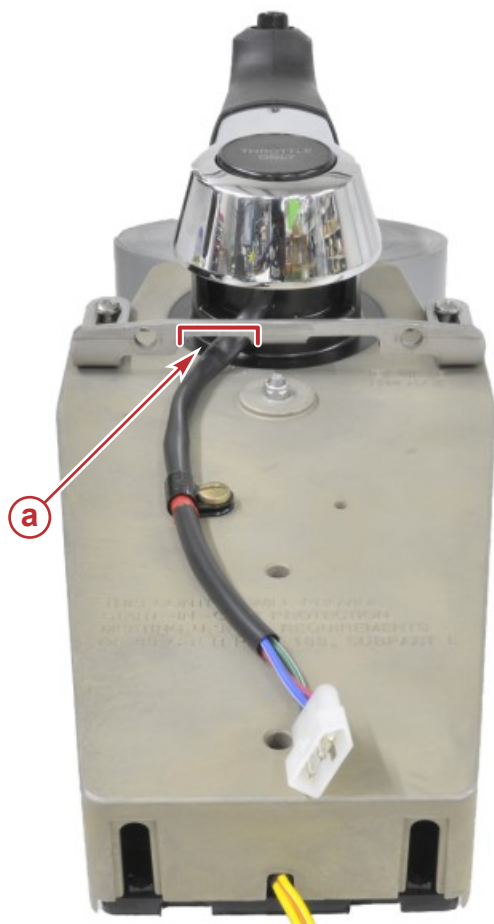


### Correct cable tie clip position

- a - Cable tie clip
- b - Slotted binder head screw
- c - Red tape
- d - Forward side of control module housing

### Incorrect cable tie clip position

6. Check the handle trim harness to ensure that the harness is positioned in the mounting bracket recess, and that the cable tie clip orientation is correct.



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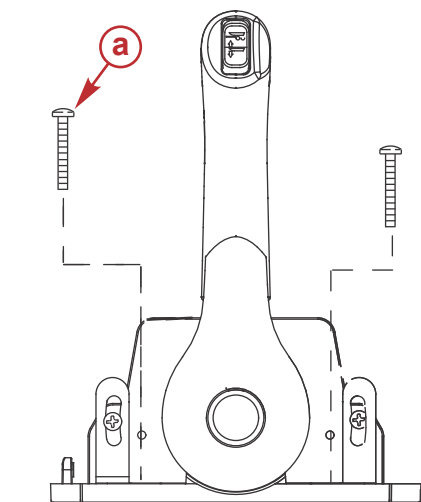
## Correct harness routing

- a** - Correct harness routing
- b** - Incorrect harness routing (pinch point)

## Incorrect harness routing (pinch point)

7. Secure the remote control module assembly to the console with four mounting screws 38 mm (1.5 in.). Tighten the screws securely.

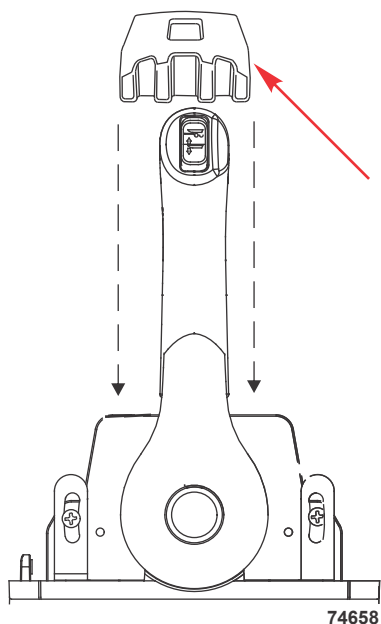
**IMPORTANT:** Ensure the trim switch wire harness has enough slack so that it will move freely with the full range of the control handle.



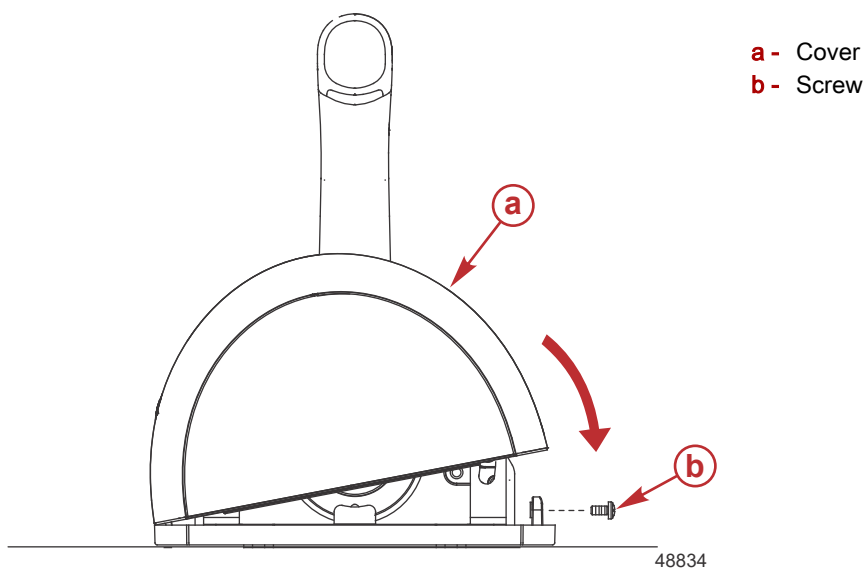
- a** - Screw (4)

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8. Install the rubber spacer over the remote control module and align the tab in the spacer with the slot in the module.



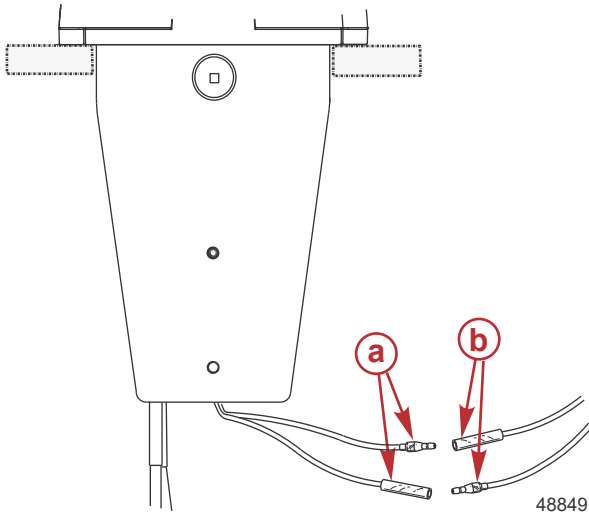
9. Hook the rear of the cover into the base and fasten the front of the cover to the base with a screw. Tighten the screw securely.



10. Connect the remote control neutral start safety switch leads to the correct wire connections. Refer to **Wiring Diagrams**.

**⚠ 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.



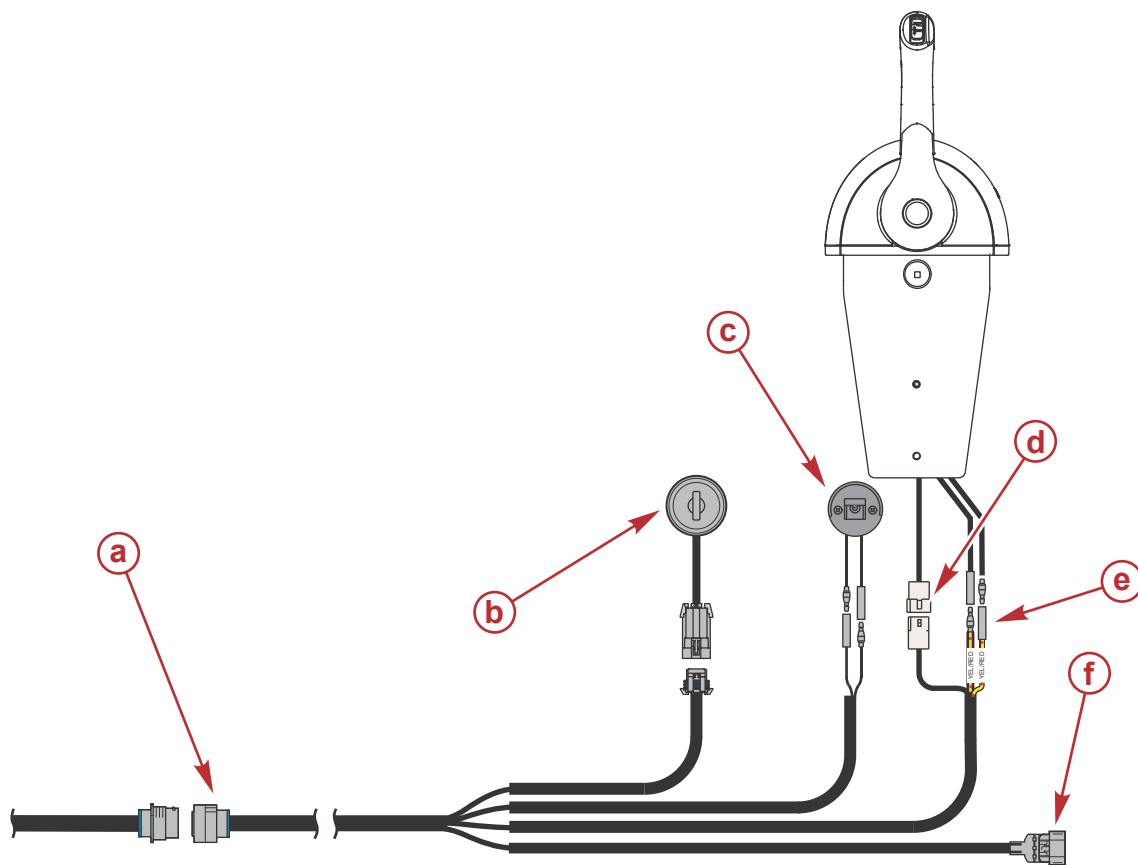
- a** - Neutral start safety switch leads
- b** - Wire connections

**Wire Color Code Abbreviations**

Wire Color Abbreviations				
BLK	Black		BLU	Blue
BRN	Brown		GRY or GRA	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

## Wiring Diagrams

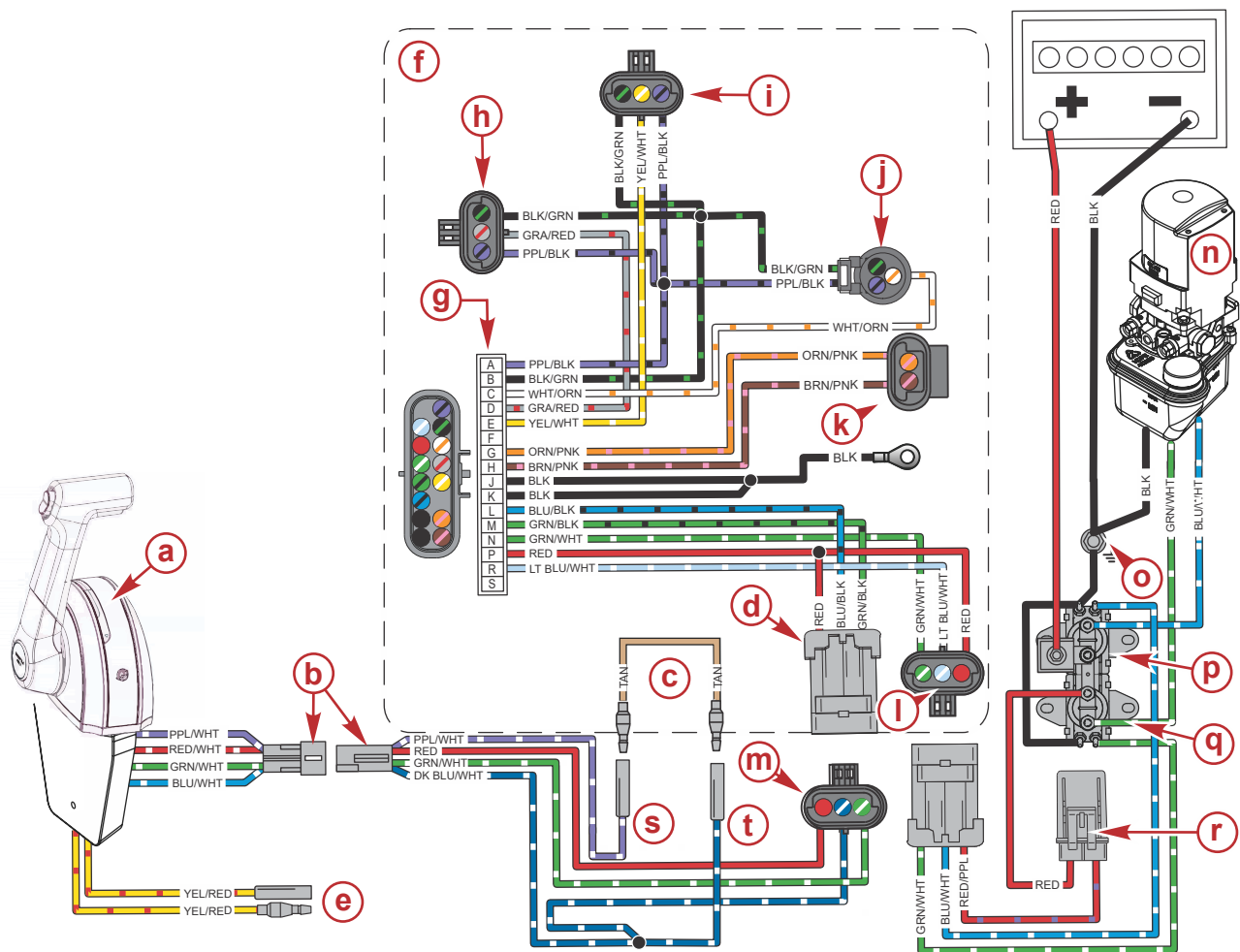
### Single Outboard and MerCruiser Diesel Models



72993

- a** - 14-pin connector
- b** - Ignition key switch
- c** - Lanyard connection
- d** - Power trim connector
- e** - Neutral start safety switch leads
- f** - Analog gauge harness

## Mercury MerCruiser 4.5L and 6.2L Sterndrive Models

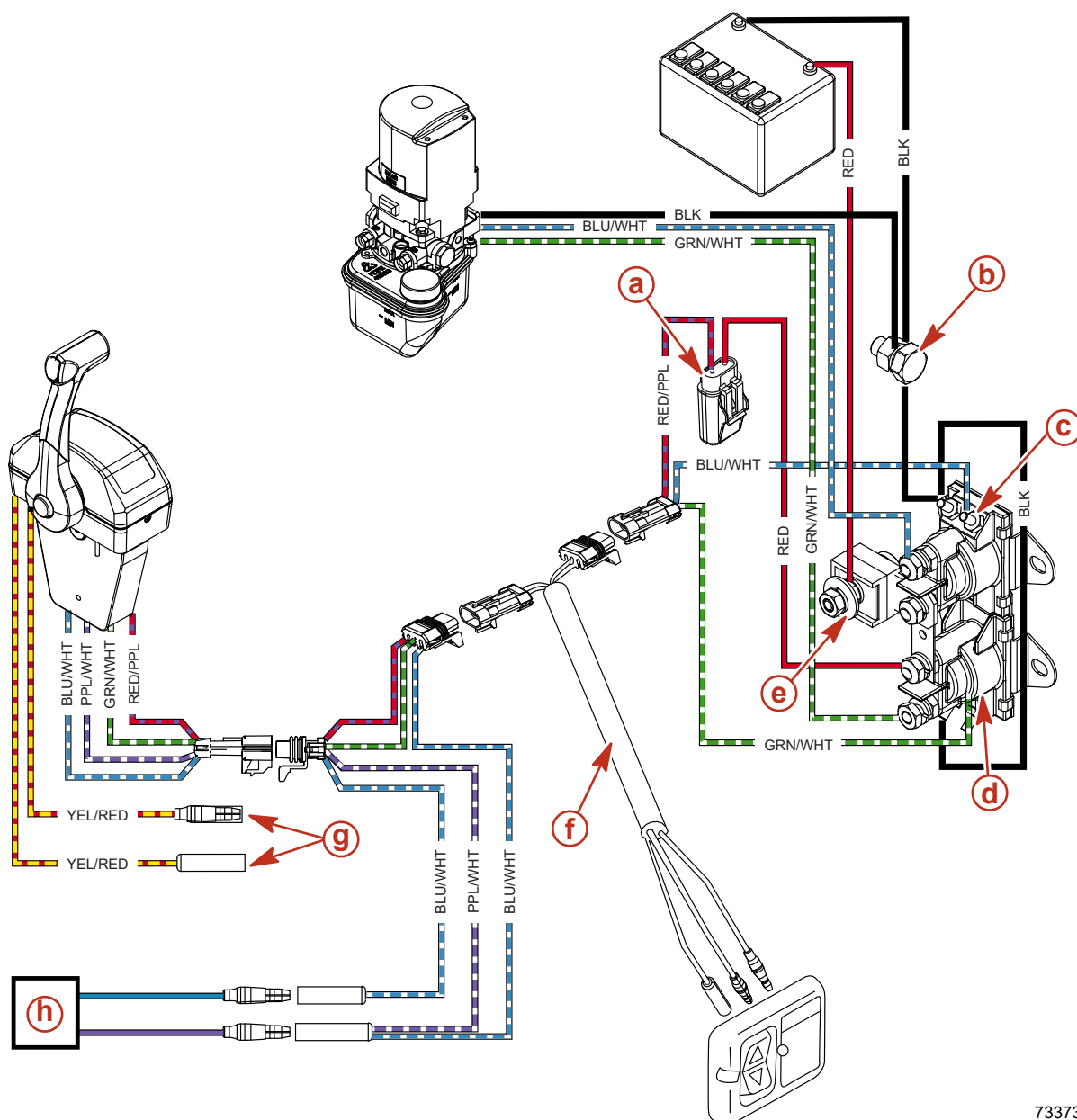


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- a** - MerCruiser remote control
- b** - 4-pin Molex connector
- c** - Trim bypass (from transom harness)
- d** - 3-pin connector
- e** - Start in gear prevention
- f** - Transom harness
- g** - 16-pin connector to engine harness
- h** - Steering
- i** - Digital trim
- j** - Pitot
- k** - MerCathode
- l** - Trim pump connection
- m** - Helm trim connector
- n** - Trim pump
- o** - Ground
- p** - Up solenoid
- q** - Down solenoid
- r** - 20-amp fuse
- s** - Trailer up
- t** - Trim up



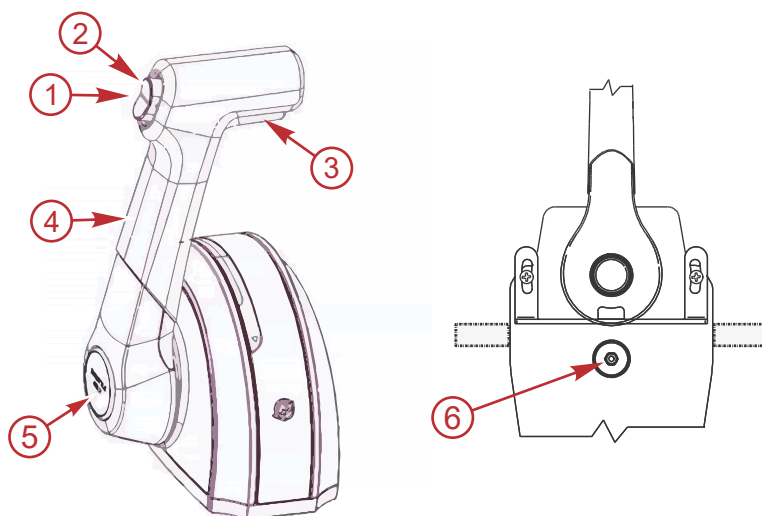
## Mercury MerCruiser 8.2L Sterndrive Models



73373

- a** - 20-amp fuse
- b** - Ground bolt (floor mount)
- c** - UP solenoid
- d** - DOWN solenoid
- e** - 110-amp fuse
- f** - Y-harness (optional)
- g** - Neutral switch to instrument wiring harness
- h** - Transom harness

## Features and Operation



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1. **Power trim switch (if equipped)** - Used to trim or raise drive unit for trailering, launching, beaching, or shallow water operation. Refer to the **Operation and Maintenance Manual** for detailed power trim/tilt operating procedures.
2. **Trailer switch (if equipped)** - Used to raise the drive unit beyond the maximum trim position. Refer to the **Operation and Maintenance Manual** for detailed trailer switch operation.
3. **Neutral Lock Bar**- Prevents accidental shift and throttle engagement. Neutral Lock Bar must be squeezed to the upward raised direction to move the control handle out of neutral.
4. **Control handle** - Operation of the shift and throttle are 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 pulling back to increase speed.

### NOTICE

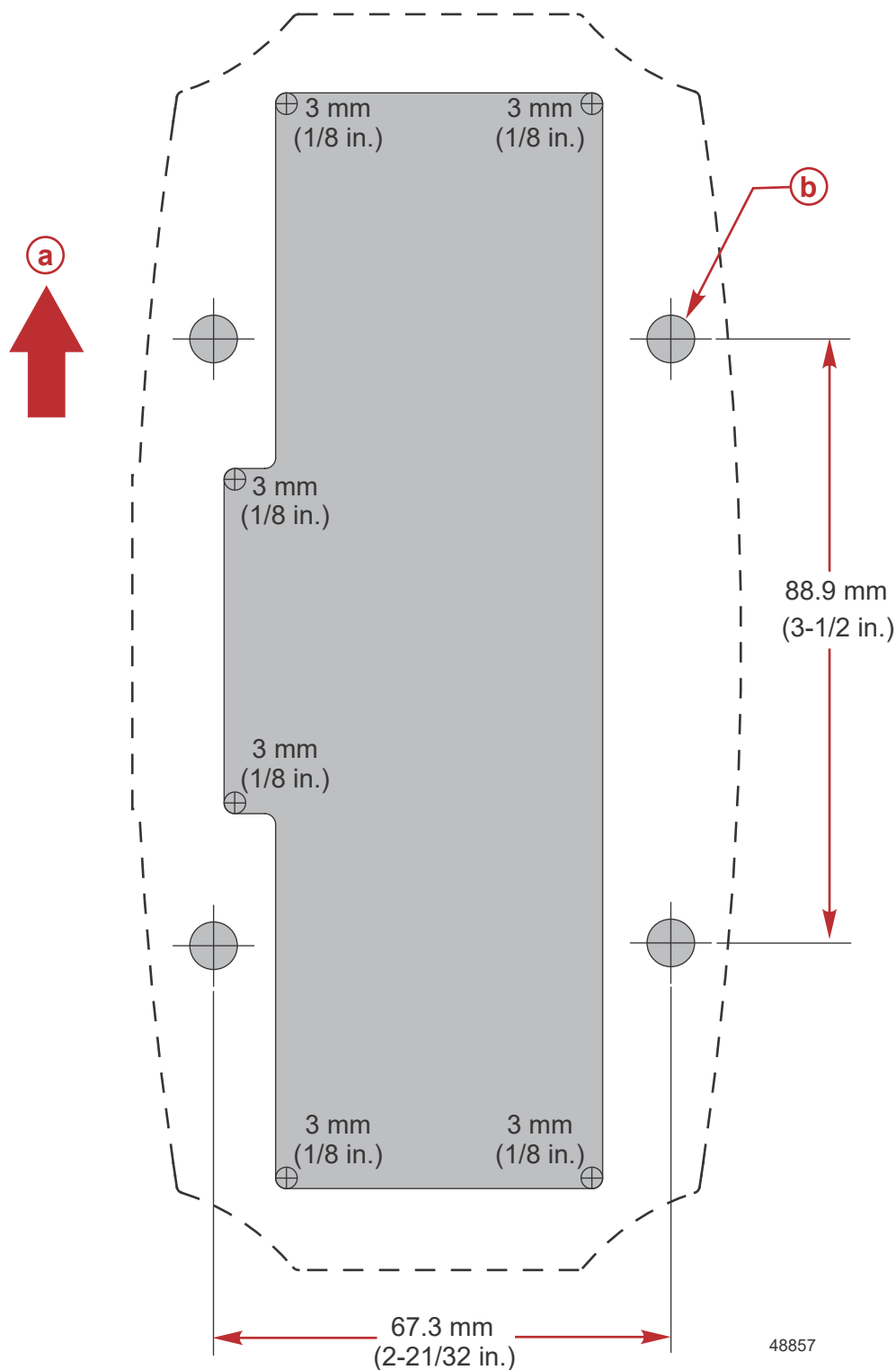
Failure to rotate the propeller shaft when shifting gears or forcing the shift mechanism while the engine is not operating can result in product damage. If you must shift gears with the engine off, manually rotate the propeller shaft in the appropriate direction.

5. **Throttle only button** - Allows the engine throttle advancement without shifting the engine. This is done by disengaging the shift mechanism from the control handle. The throttle only button can be depressed only when the remote control handle is in the neutral position and should only be used to assist in starting the engine. Refer to the **Operation and Maintenance Manual** for correct throttle setting for starting the engine.
6. **Control handle throttle friction adjustment nut** - This nut can be adjusted to increase or decrease the friction on the control handle. This will help prevent creep of the remote control handle. Turn the nut clockwise to increase friction and counterclockwise to decrease friction. Adjust to the desired friction.

## Single-Handle Mounting Template

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

Drill the holes and cut out the shaded area.



**a** - Front of boat

**b** - Drill to the correct diameter for the fasteners used

**Products of Mercury Marine**  
W6250 Pioneer Road  
Fond du Lac, WI 54936-1939

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