

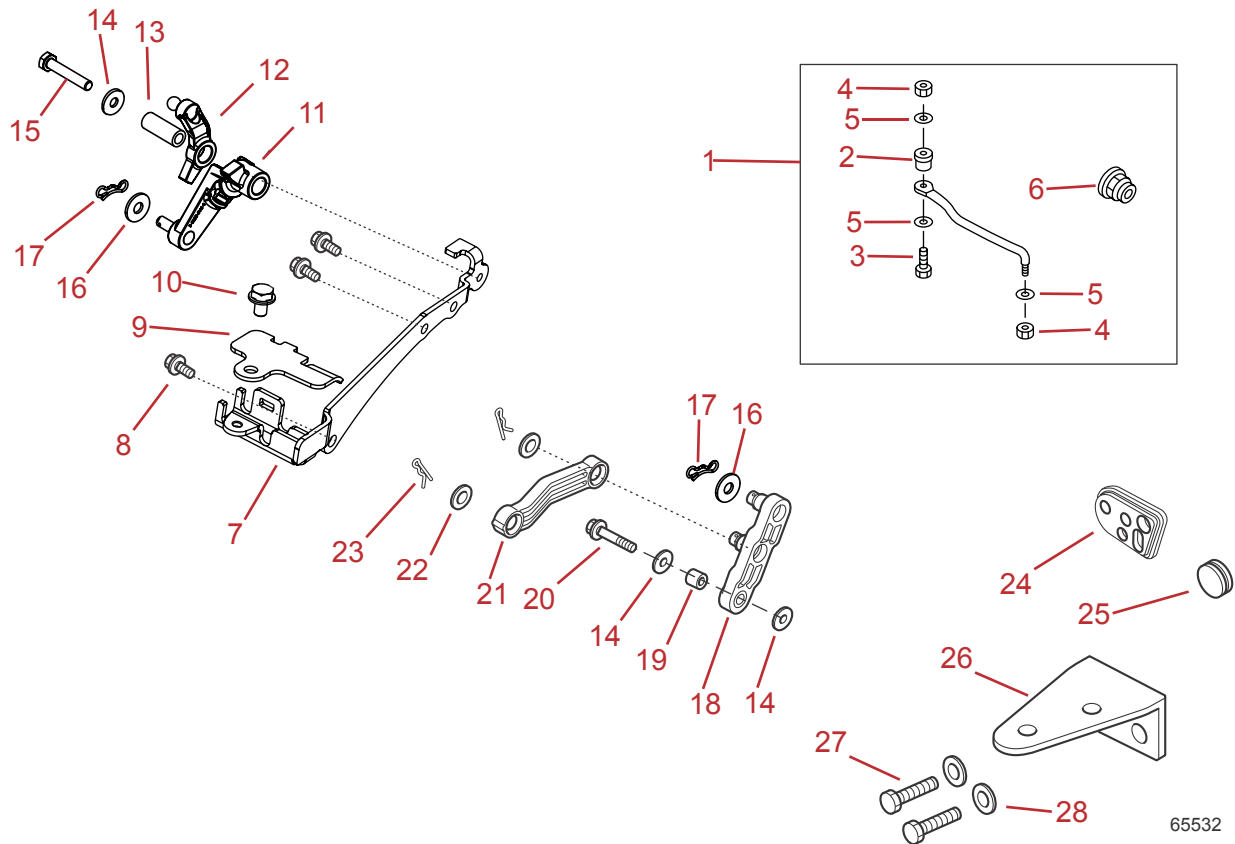
TILLER HANDLE TO REMOTE CONTROL

10/15/20 EFI FOURSTROKE

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



65532

Ref.	Qty.	Description	Part Number
1	1	Steering link assembly	853824A04
2	1	Spacer	N.S.S.
3	1	Bolt	851866007
4	2	Locknut	16147 3
5	3	Washer	95392 10
6	1	Cap	853825
7	1	Cable bracket	8M0137835
8	3	Screw (M6 x 16)	824832 4
9	1	Retainer	8M0139043
10	1	Screw	823042059
11	1	Throttle arm	8M0135855
12	1	Throttle opener	8M0135912
13	1	Bushing	8M0137299
14	3	Washer	95392 1

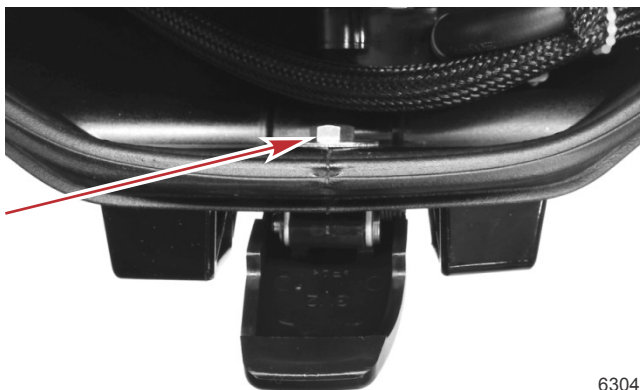
Ref.	Qty.	Description	Part Number
15	1	Screw (M6 x 40)	40003 33
16	2	Washer	8M0137389
17	2	Bow-tie retainer	8M0021224
18	1	Shift arm	8M0135911
19	1	Bushing	8M0137300
20	1	Screw (M6 x 25)	40003 30
21	1	Shift lever rod	8M0135854
22	2	Washer	95392 5
23	2	Cotter pin	815026 2
24	1	Grommet	8M0137385
25	1	Grommet	16226
26	1	Steering bracket	8M0135856
27	2	Screw	8M0135857
28	2	Washer	879194340

Tiller Handle Removal

WARNING

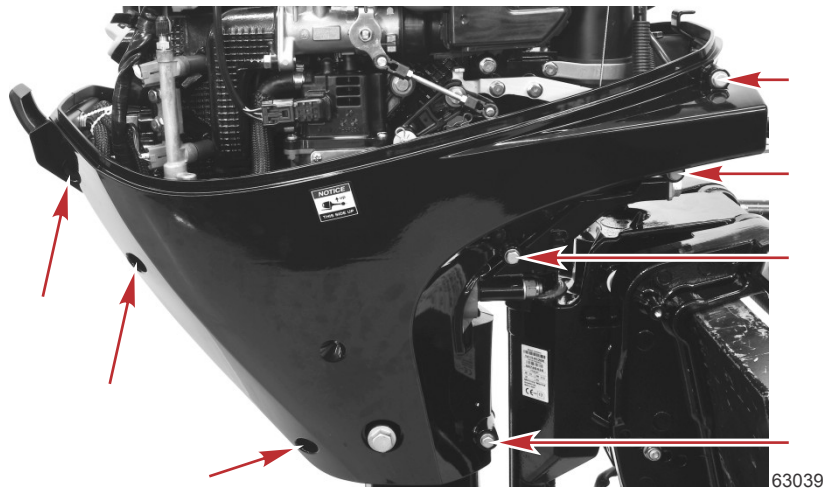
Performing service or maintenance without first disconnecting the battery can cause product damage, personal injury, or death due to fire, explosion, electrical shock, or unexpected motor starting. Always disconnect the battery cables from the battery before maintaining, servicing, installing, or removing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

1. Disconnect the engine from the battery.
2. Remove the cowl seal.
3. Loosen, but do not remove the screw that secures the cowl latch to the driveshaft housing covers.

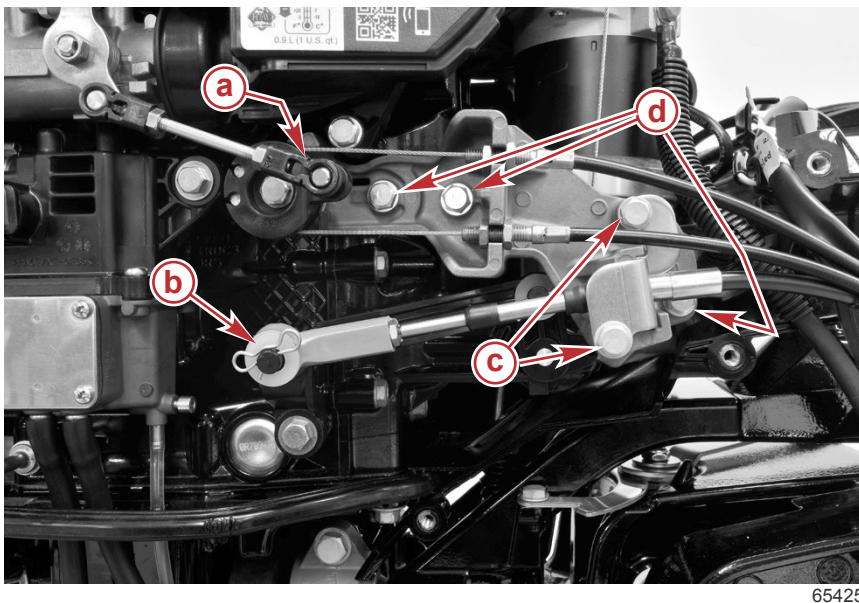


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4. Remove the seven screws securing the starboard driveshaft cover, and remove the cover.

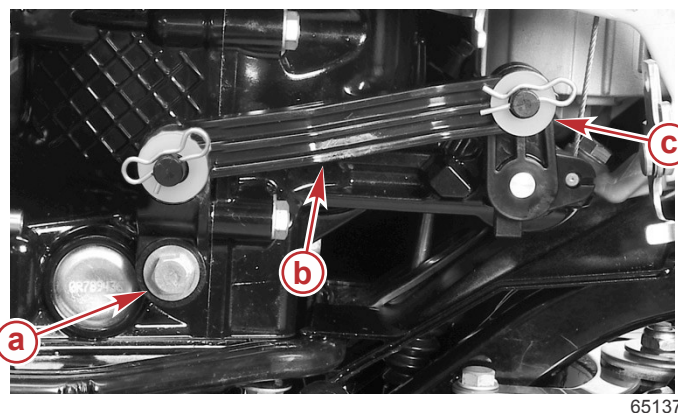


5. Disconnect the throttle link from the throttle barrel.
6. Remove the bow-tie retainer securing the plastic washer and shift cable socket to the shift arm. Remove the shift cable socket from the shift arm.
7. Remove two screws securing the shift cable retainer to the cable bracket.
8. Remove the three screws securing the cable bracket to the engine. Remove the cable bracket assembly from the engine.



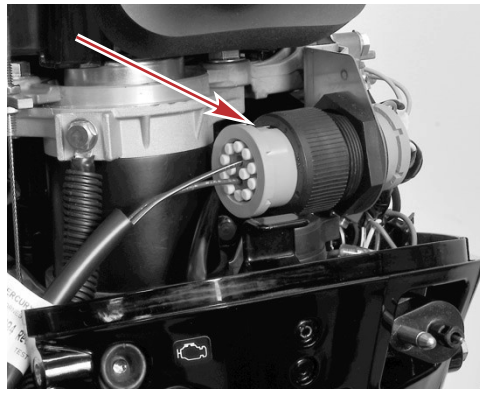
- a** - Throttle link
- b** - Bow-tie retainer
- c** - Shift cable retainer screws (2)
- d** - Cable bracket screws (3)

9. Remove the cotter pin securing the shift lever rod to the horizontal shift shaft.
10. Remove the screw securing the shift arm to the engine.



- a** - Screw securing shift arm
- b** - Shift lever rod
- c** - Plastic washer and cotter pin—remove

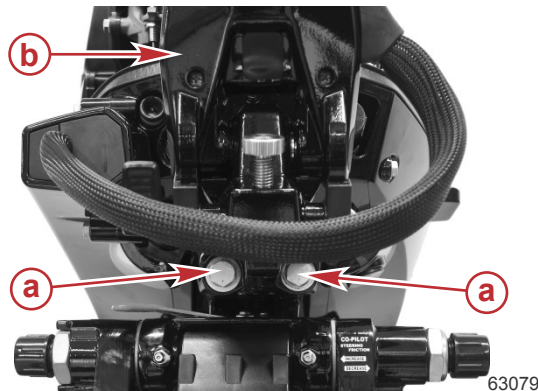
11. Disconnect the 14-pin connector.



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14-pin connector

12. Remove the control cable and electrical harness assembly from the engine.
13. Remove the two tiller handle mounting screws, and remove the tiller handle.



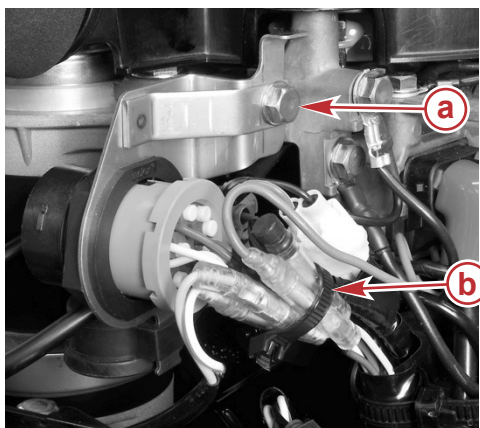
- a - Tiller handle mounting screws (2)
- b - Tiller handle

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Removing Tiller Handle Electric Start Components

NOTE: Tiller handle electric start components; start button and neutral start switch, can remain installed if the customer desires an electric start capability at the engine, if equipped. The following procedure covers the removal of the tiller handle electric start components.

1. Cut the cable tie securing the wires.
2. Remove the screw securing the 14-pin bracket to the engine. Retain the screw.

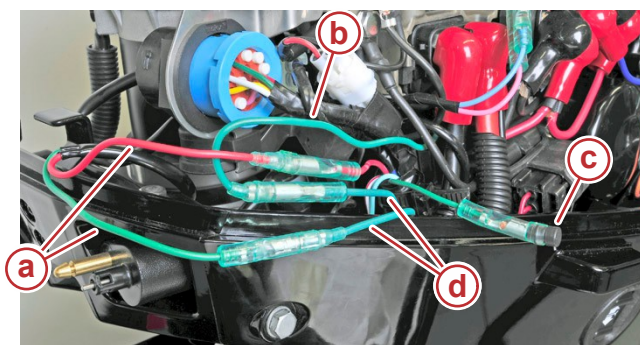


- a - Screw securing 14-pin bracket
- b - Cable tie

65146

3. Disconnect the starter solenoid male green wire connector from the neutral start switch female green wire connector.
4. Disconnect the neutral start switch male green wire connector from the start button female green wire connector.
5. Disconnect the starter button female red wire connector from the engine harness male red wire connector.

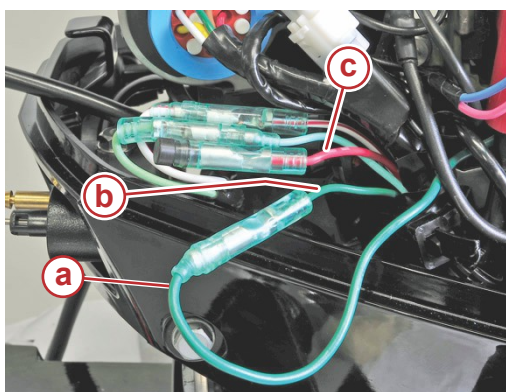
6. Remove the plug from the engine harness female green wire connector. Retain the plug.



- a** - Start button wires
- b** - Starter solenoid wire
- c** - Plug—remove and retain
- d** - Neutral start switch wires

65149

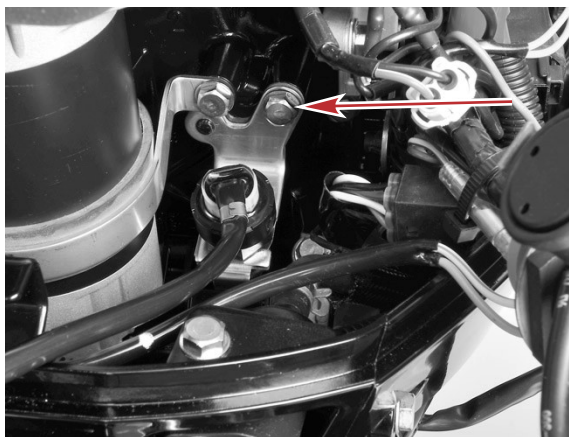
7. Install the plug onto the engine harness male red wire connector.
8. Connect the engine harness female green wire connector to the starter solenoid male green wire connector.



- a** - Starter solenoid male green wire
- b** - Engine harness female green wire
- c** - Engine harness male red wire

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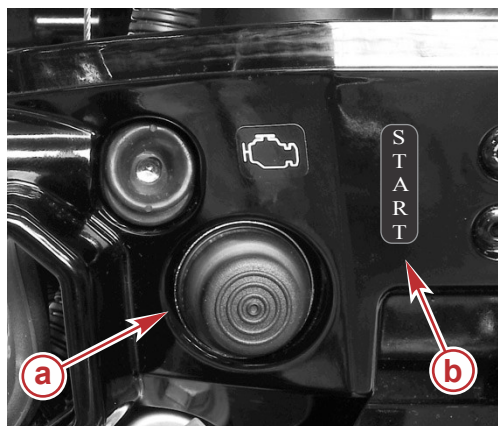
9. Remove the screw securing the neutral start switch bracket assembly to the powerhead and discard the components.



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Screw securing neutral start switch bracket assembly

10. Remove the start button and install the grommet. Discard the start button.



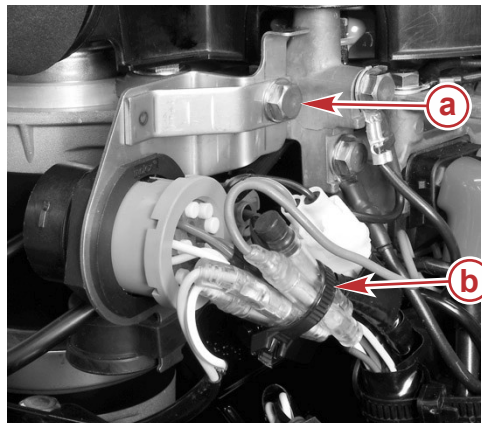
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- a** - Start button
b - Start decal

11. Secure the 14-pin bracket to the engine with the retained screw. Tighten the screw to the specified torque.

Description	Nm	lb-in.	lb-ft
14-pin bracket screw	6	53	—

12. Gather the wire connectors into an organized bundle and secure with a cable tie.




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- a** - Screw securing 14-pin bracket
b - Cable tie

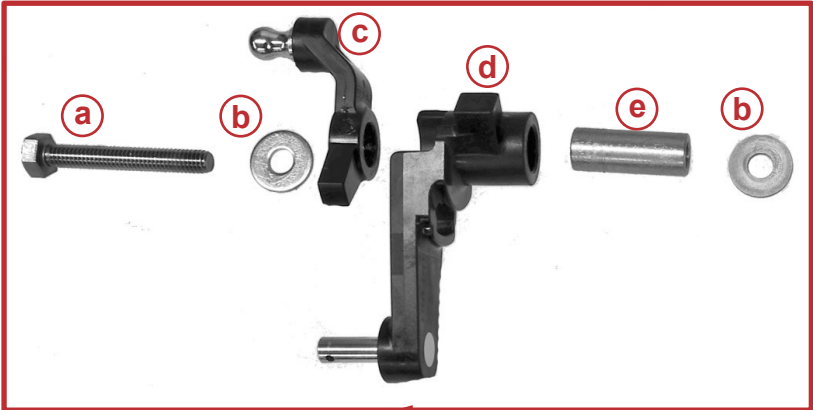
Installing Remote Control Hardware

1. Lubricate the bushing with 2-4-C with PTFE and insert into the throttle arm.

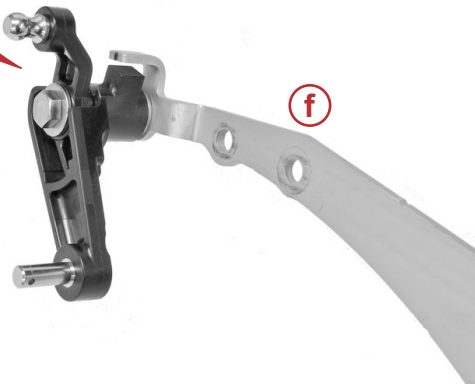
Tube Ref No.	Description	Where Used	Part No.
 95	2-4-C with PTFE	Throttle drum bushing	92-802859A 1

2. Install a washer onto the M6 x 40 screw and insert the screw through the throttle opener and throttle arm.
 3. Install a washer onto the exposed end of the screw.

4. Secure the throttle actuator assembly to the cable bracket with the M6 x 40 screw. Tighten the screw to the specified torque.




- a - M6 x 40 screw
b - Washer (2)
c - Throttle opener
d - Throttle arm
e - Bushing—lubricate with 2-4-C with PTFE
f - Throttle actuator assembly secured to cable bracket



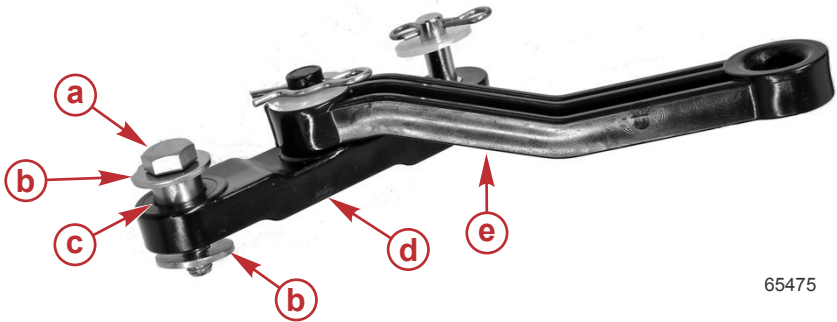
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Description	Nm	lb-in.	lb-ft
M6 x 40 screw	6	53	—

5. Lubricate the shift arm bushing with 2-4-C with PTFE and insert into the shift arm.

Tube Ref No.	Description	Where Used	Part No.
 95	2-4-C with PTFE	Shift arm bushing	92-802859A 1

6. Install a washer onto the M6 x 25 screw and insert the screw through the bushing.
7. Install a washer onto the exposed end of the screw.
8. Install the shift lever rod onto the shift arm and secure with a plastic washer and cotter pin.



65475

- a - M6 x 25 screw
b - Washer (2)
c - Bushing—lubricate with 2-4-C with PTFE
d - Shift arm
e - Shift lever rod secured with plastic washer and cotter pin

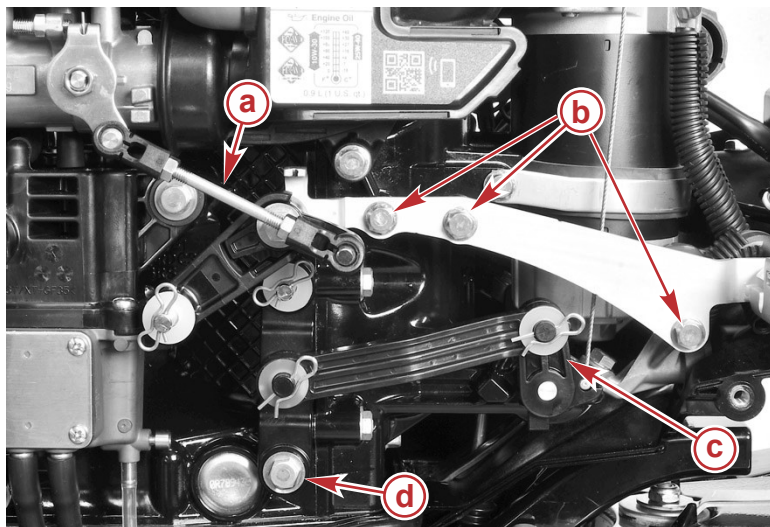
9. Secure the shift arm to the engine with the M6 x 25 screw.
10. Install the shift lever rod onto the horizontal shift shaft and secure with a plastic washer and cotter pin.
11. Tighten the M6 x 25 screw to the specified torque.

Description	Nm	lb-in.	lb-ft
M6 x 25 screw	6	53	–

12. Secure the cable bracket assembly to the engine with three M6 x 16 screws. Tighten the screws to the specified torque.

Description	Nm	lb-in.	lb-ft
M6 x 16 screws (three)	6	53	–

13. Connect the throttle link to the throttle opener.



- a** - Throttle link
b - M6 x 16 screws
c - Shift lever rod secured to horizontal shift shaft with a plastic washer and cotter pin
d - M6 x 25 screw

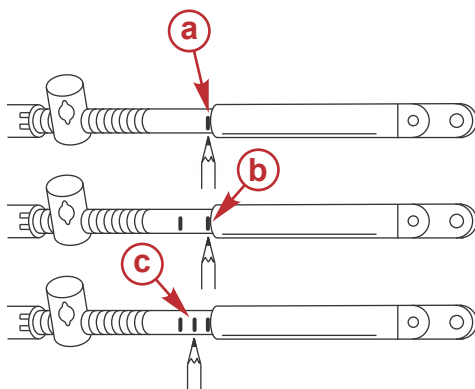
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Shift Cable Installation

Install the cables into the remote control following the instructions provided with the remote control.

NOTE: The shift cable is the first cable to move when moving the control box out of neutral.

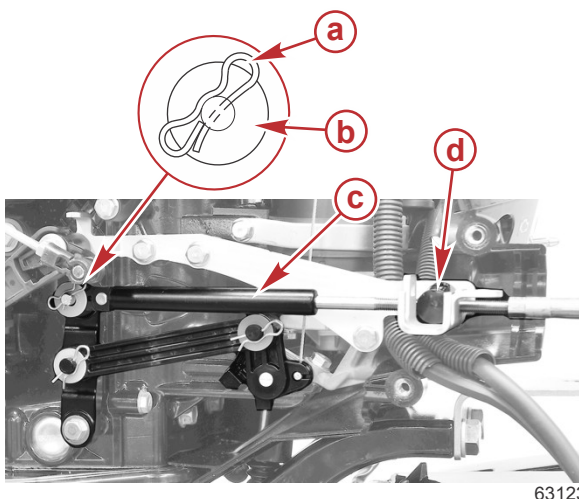
1. Locate the center point of the slack or lost motion that exists in the shift cable as follows:
 - a. Move the remote control handle from neutral into forward and advance the handle to full speed position. Slowly return the handle back to neutral. Place a mark (a) on the cable next to the end guide.
 - b. Move the remote control handle from neutral into reverse and advance the handle to full speed position. Slowly return the handle back to neutral. Place a mark (b) on the cable next to the end guide.
 - c. Make a center mark (c), midway between marks (a and b). Align the end guide with this center mark when installing the cable to the engine.



6098

2. Position the remote control handle into neutral.
3. Attach the shift cable to the shift lever with a washer and bow-tie retainer.

4. Adjust the cable barrel so the center mark on the cable is aligned with the end guide when the cable barrel is placed in the barrel receptacle.



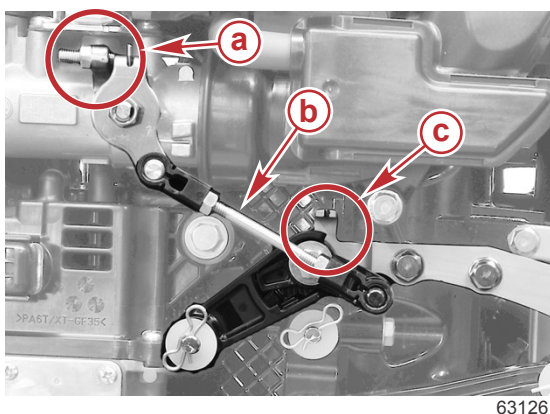
- a** - Bow-tie retainer
- b** - Flat washer
- c** - Shift cable
- d** - Cable barrel

5. Check shift cable adjustments as follows:
 - a. Shift the remote control into forward. The propeller shaft should be locked in gear. If not, adjust the barrel closer to the cable guide.
 - b. Shift the remote control into reverse while turning the propeller. The propeller shaft should be locked in gear. If not, adjust the barrel away from the cable guide.
 - c. Shift the remote control back to neutral. The propeller shaft should turn freely without drag. If not, adjust the barrel closer to the cable guide. Repeat steps a through c.

Throttle Cable Installation

Install the cables into the remote control following the instructions provided with the remote control.

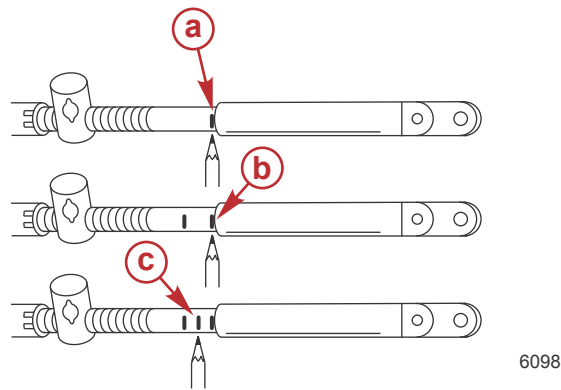
1. Verify the throttle actuator timing mark is aligned with the timing mark on the bracket. Adjust the throttle link if necessary to achieve proper alignment.



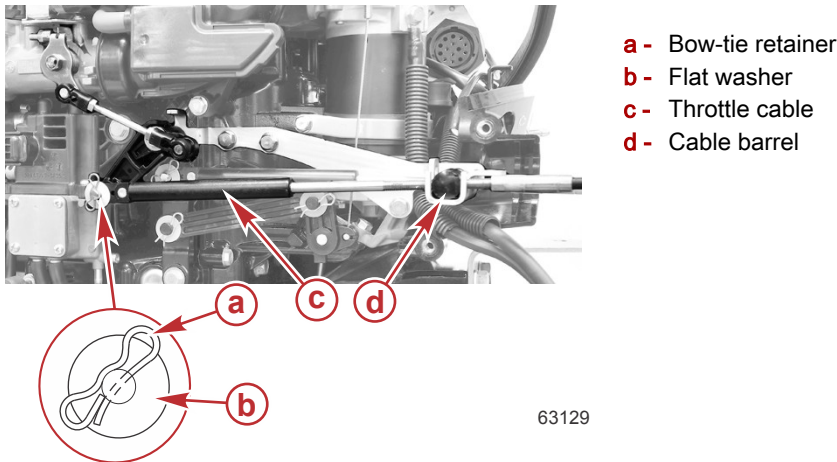
- a** - Throttle against stop
- b** - Throttle link
- c** - Timing marks aligned

2. Locate the center point of the slack or lost motion that exists in the throttle cable as follows:
 - a. Move the remote control handle from neutral into forward and advance the handle to full speed position. Slowly return the handle back to neutral. Place a mark (a) on the cable next to the end guide.
 - b. Move the remote control handle from neutral into reverse and advance the handle to full speed position. Slowly return the handle back to neutral. Place a mark (b) on the cable next to the end guide.

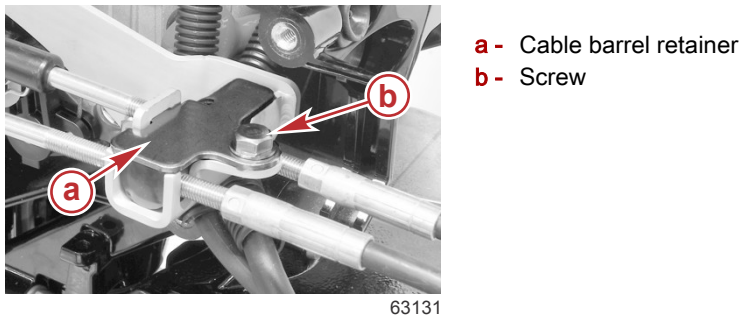
- c. Make a center mark (c), midway between marks (a and b). Align the end guide with this center mark when installing the cable onto the engine.



- 3. Attach the throttle cable end guide to the throttle lever with a washer and bow-tie retainer.
- 4. Adjust the cable barrel so the installed throttle cable will maintain alignment.
- 5. Position the throttle cable into the barrel receptacle.



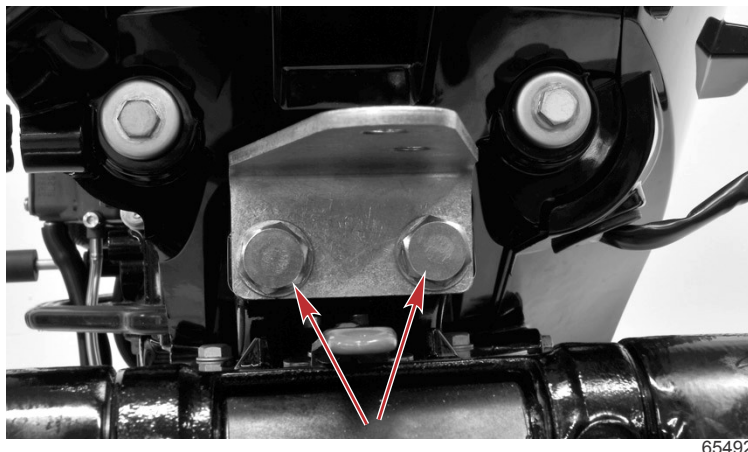
- 6. Install the cable barrel retainer and secure with the screw. Tighten the screw to the specified torque.



Description	Nm	lb-in.	lb-ft
Screw	6	53	–

Installing Steering Components

1. Secure the steering plate to the steering arm with two screws and washers. Tighten the screws to the specified torque.

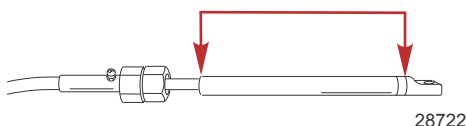


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Screws and washers securing steering plate

Description	Nm	lb-in.	lb-ft
Screws securing steering plate	40.0	–	29.5

1. Lubricate the entire cable end of the steering cable with Mercury or Quicksilver 2-4-C with PTFE.



28722

Tube Ref No.	Description	Where Used	Part No.
 95	2-4-C with PTFE	Steering cable end	92-802859A 1

2. Insert the steering cable into the tilt tube.
3. Tighten the steering cable nut to the specified torque.
4. Thread the steering cable seal onto the end of the tilt tube.



- a** - Steering cable nut
b - Steering cable seal

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Description	Nm	lb-in.	lb-ft
Steering cable nut	47.5	–	35

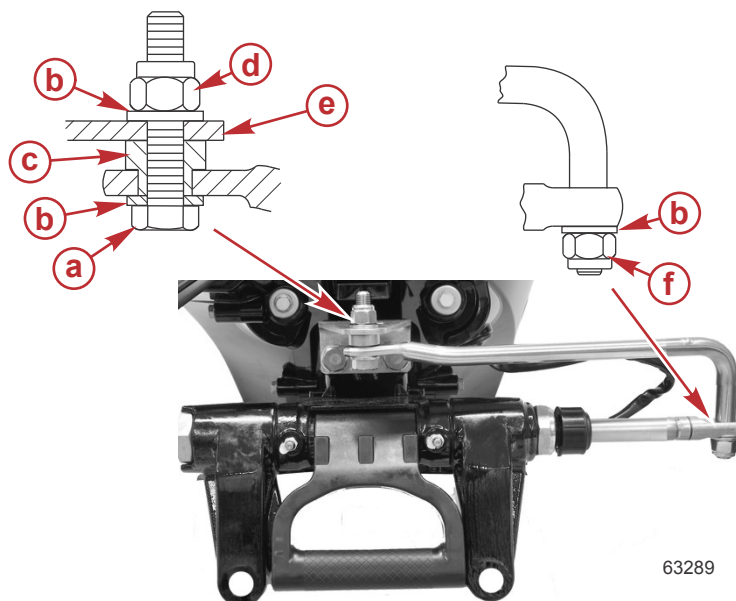
Steering Link Rod Fasteners

IMPORTANT: The steering link rod that connects the steering cable to the engine must be fastened using the steering link rod fastening hardware supplied with the kit. Never replace the locknuts with common nonlocking nuts; they will work loose and vibrate off, allowing the link rod to disengage from the steering cable.

⚠ WARNING

Improper fasteners or improper installation procedures can result in loosening or disengagement of the steering link rod. This can cause a sudden, unexpected loss of boat control, resulting in serious injury or death due to occupants being thrown within or out of the boat. Always use required components and follow instructions and torque procedures.

1. Assemble the steering link rod to the steering cable with a washer and nylon insert locknut. Tighten the locknut until it seats, then back locknut out 1/4 turn.
2. Assemble the steering link rod to the engine with bolt, locknut, spacer, and washers. Tighten the locknut to the specified torque.



- a** - Bolt
b - Washer
c - Spacer
d - Locknut
e - Steering bracket
f - Locknut - tighten until it seats, then back out 1/4 turn

63289

Description	Nm	lb-in.	lb-ft
Locknut "d"	27	–	20
Locknut "f"	Tighten until it seats, then back out 1/4 turn		

Remote Control Harness, Grommet, and Cowl Installation

1. Connect the remote control harness to the engine 14-pin connector.
2. Install the cable harness grommet.
3. Install the starboard lower cowl. Tighten the cowl screws and latch screw to the specified torque.

Description	Nm	lb-in.	lb-ft
Cowl screws and latch screw	6	53	–

4. Install the cowl seal.

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Fond du Lac, WI 54936-1939

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