

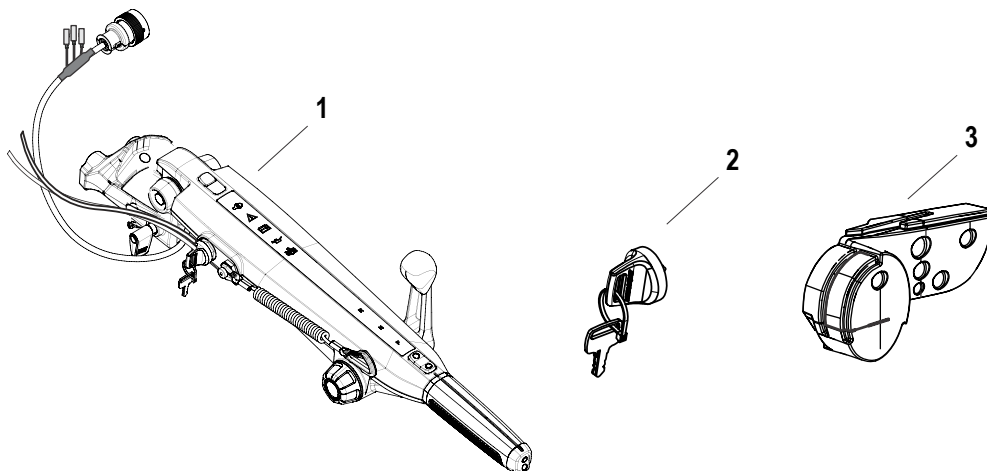
MID-SIZE TILLER CONVERSION KIT

40/50/60 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.

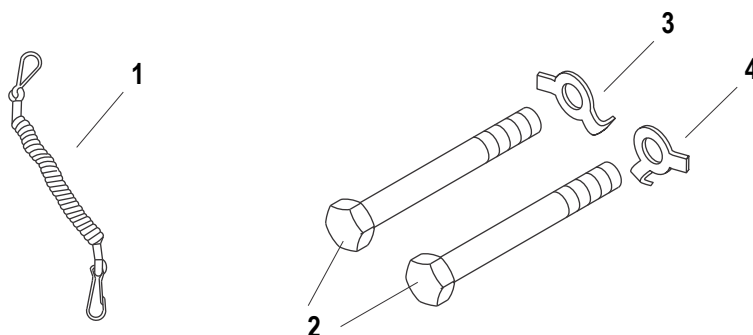
Tiller and Grommet



69671

Ref.	Qty.	Description	Part Number
1	1	Tiller assembly	NSS
2	1	Key and cap	NSS
3	1	Rigging grommet	8M4504420

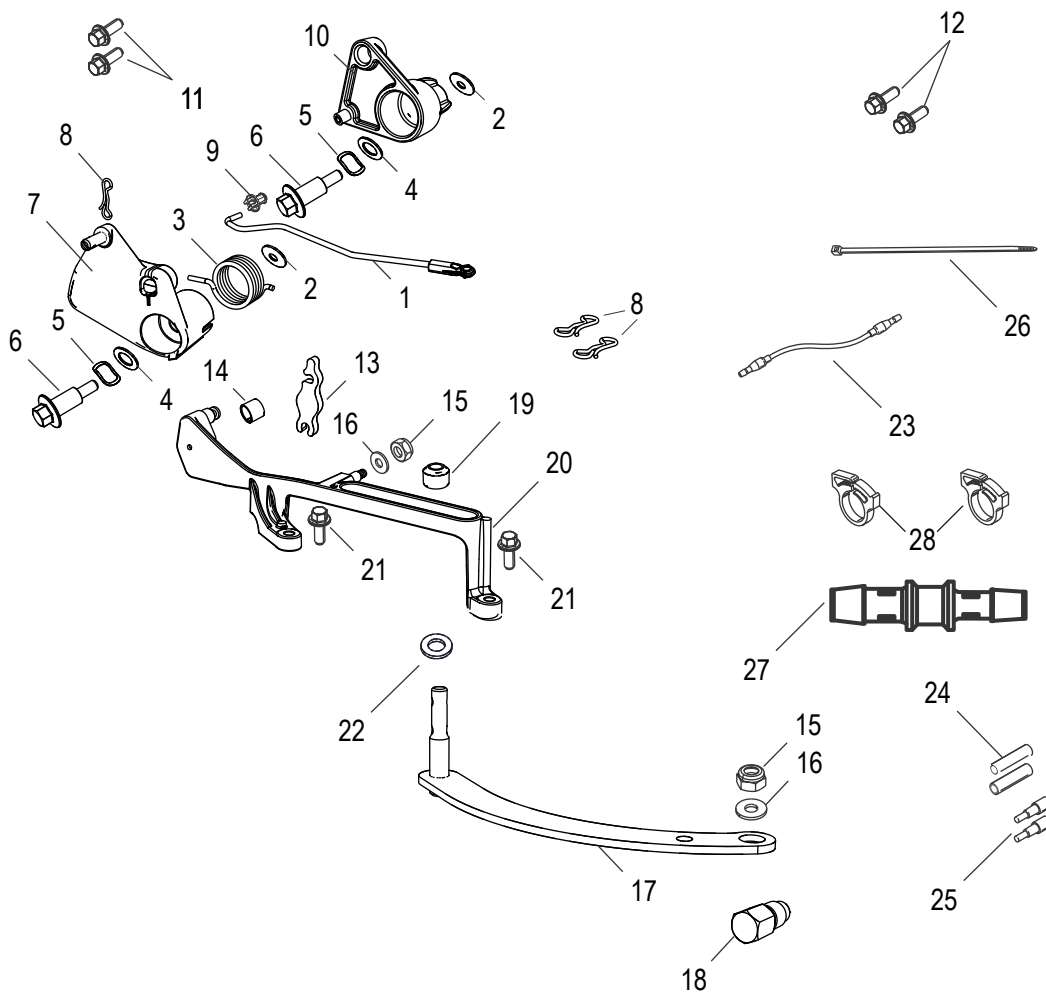
Mounting Hardware Bag



69672

Ref.	Qty.	Description	Part Number
1	1	Lanyard cord	8M0117558
2	2	Mounting screw	8M4504436
3	1	Tab washer	8M4504539
4	1	Tab washer	8M4504502

Shift and Throttle Linkage



69673

Ref.	Qty.	Description	Part Number
1	1	Throttle link rod	8M0006021
2	2	Washer (small hole)	897936
3	1	Return spring	897535005
4	2	Washer (large hole)	897937
5	2	Wave washer	898093
6	2	Shoulder screw	8M0071815
7	1	Throttle cam	8M0021603
8	3	Bow tie clip	8M0001157
9	1	Swivel bushing	932481
10	1	Cam follower	8M0008317
11	2	Screw (M6 X 25)	8248326
12	2	Screw (M6 X 13)	NSS
13	1	Cable retainer latch	899044
14	1	Retainer cup	824015
15	2	Locknut	40138 6
16	2	Washer (0.281 x 0.625 x 0.0625)	35462
17	1	Shift link	899041
18	1	Shift detent assembly	888823001

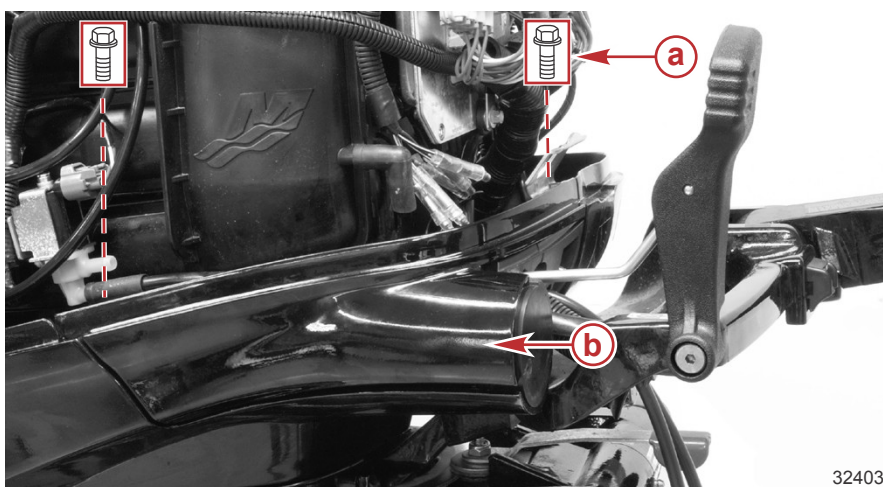
Ref.	Qty.	Description	Part Number
19	1	Shift slide roller	899042
20	1	Shift link bracket	8M0007243
21	2	Washer head screw (M6 x 20)	8M0103806
22	1	White plastic washer	888832
23	1	Yellow/red jumper wire	11149A52
24	2	Cap	13540
25	2	Plug	13541
26	1	8 inch cable tie	816311T
27	1	Fuel line hose barb	8M0001721
28	2	Hose clamps	41582T7

Tiller Handle and Engine Parts Removal

⚠ WARNING

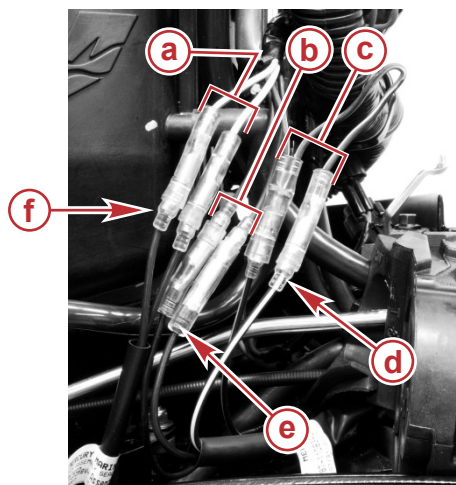
Performing service or maintenance without first disconnecting the battery can cause product damage, personal injury, or death due to fire, explosion, electrical shock, or unexpected engine starting. Always disconnect the battery cables from the battery before maintaining, servicing, installing, or removing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

1. Disconnect the engine battery cables from the engine starting battery.
2. Remove the two M6 x 20 screws and access cover.



- a** - Screw (M6 x 20)
- b** - Access cover

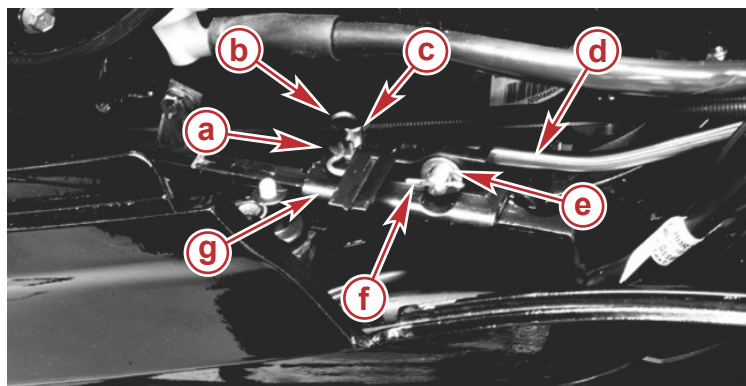
3. Disconnect the yellow/red, black/yellow, and black leads.



- a** - Yellow/red leads from engine harness
- b** - Black leads from engine harness
- c** - Black/yellow leads from engine harness
- d** - Black/yellow leads from tiller handle harness
- e** - Black leads from tiller handle harness
- f** - Black leads from neutral switch

4. Remove the cotter pin that secures the shift rod to the shift slide. Discard the cotter pin and washer.

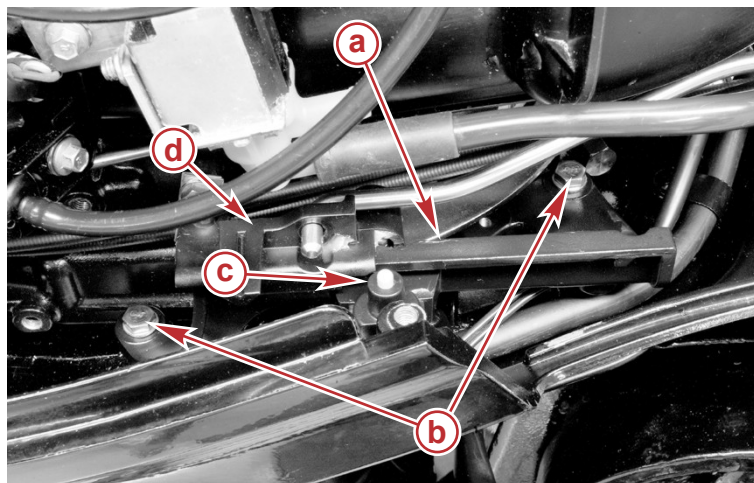
5. Remove the bow tie clip that secures the shift link post to the shift slide. Discard the bow tie clip and washer.



- a** - Washer
- b** - Bow tie clip
- c** - Shift link post
- d** - Shift rod
- e** - Washer
- f** - Cotter pin
- g** - Shift slide

69632

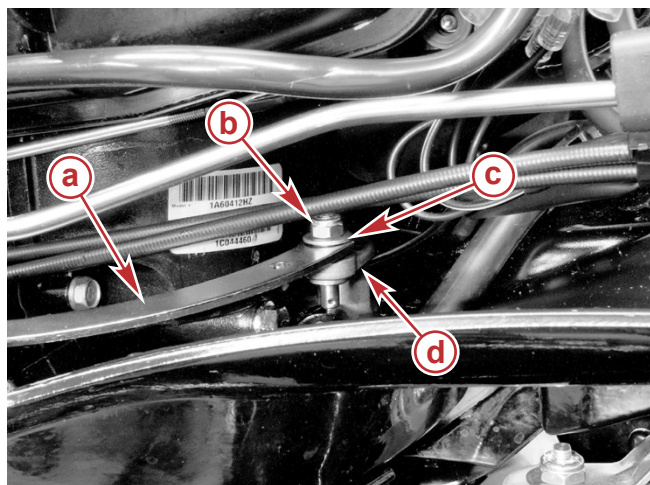
6. Push the shift slide into the reverse position and remove the two screws securing the shift bracket. Discard the attaching screws, shift bracket, and neutral switch.



- a** - Shift bracket
- b** - Screws
- c** - Neutral switch
- d** - Shift slide

69633

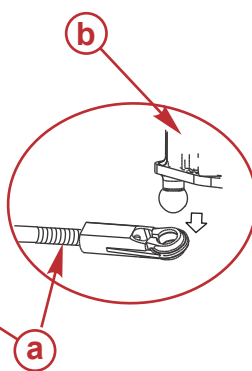
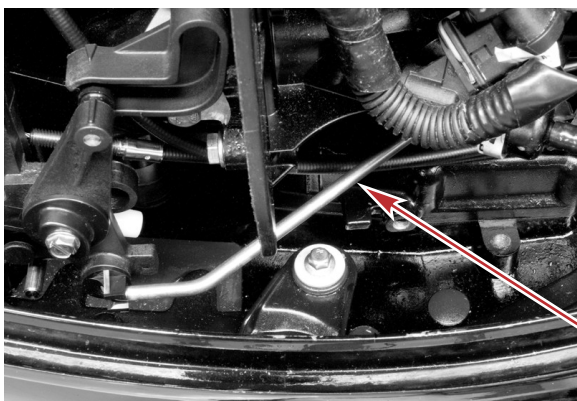
7. Remove the locknut that secures the shift link to the shift shaft. Remove and discard the shift link, locknut, and washer.



- a** - Shift link
- b** - Locknut
- c** - Washer
- d** - Shift shaft

69635

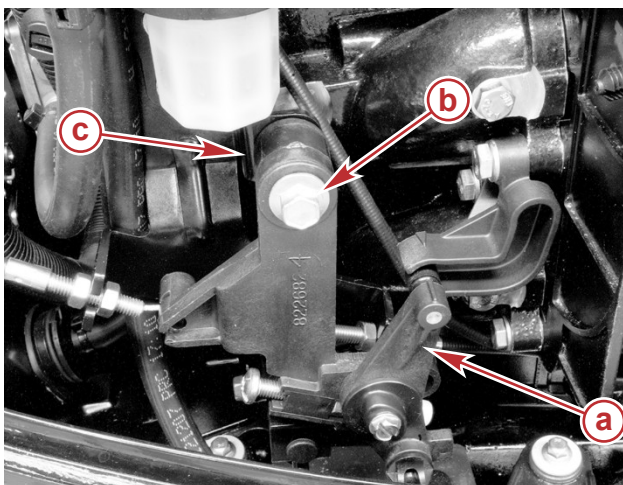
8. Disconnect the throttle link rod from the throttle body.



- a** - Throttle link rod
b - Throttle body

43211

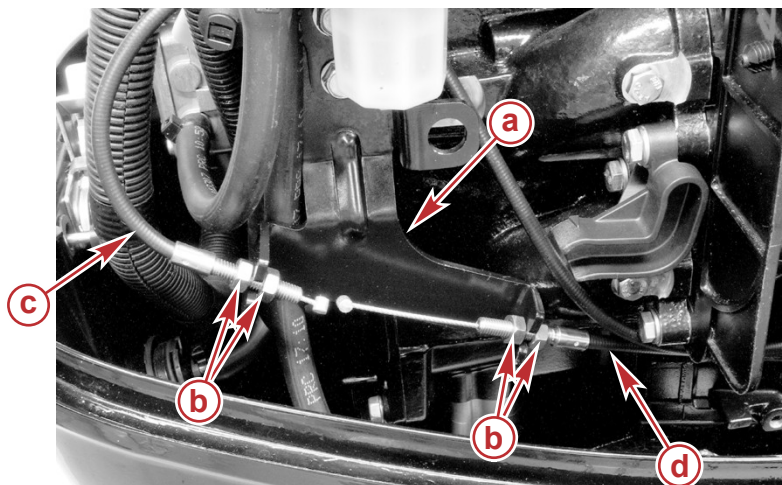
9. Remove the throttle lever. Discard the throttle lever assembly, screw, and bushing.



- a** - Throttle lever
b - Bolt
c - Bushing (hidden)

34434

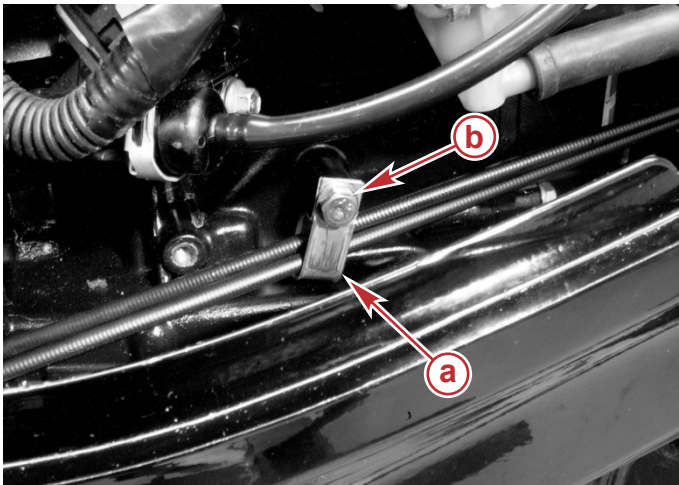
10. Loosen the jam nuts and remove the short throttle cable and the long throttle cable from the throttle cable bracket.



- a** - Throttle cable bracket
b - Jam nuts
c - Long throttle cable
d - Short throttle cable

69636

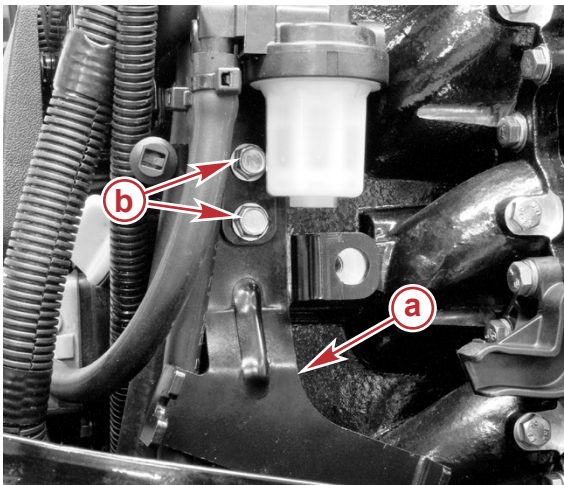
11. Remove the screw and J-clip that holds the throttle cable to the side of the powerhead. Discard the screw and J-clip.



- a - J-clip
- b - Screw

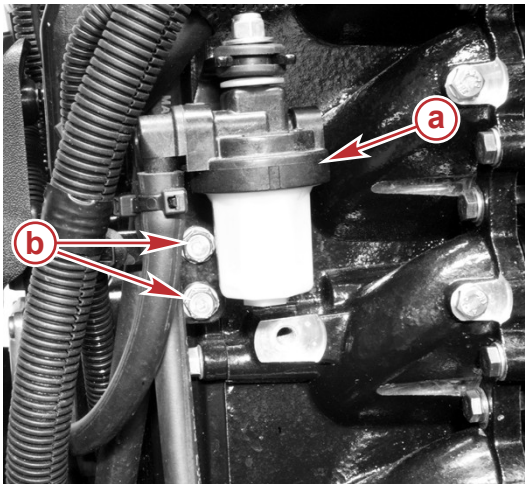
34440

12. Remove the two M6 x 20 screws that fastens the fuel filter bracket and throttle cable bracket to the side of the engine. Discard the throttle cable bracket and two M6 x 20 screws. Attach the fuel filter bracket with the two M6 x 13 screws provided. Tighten the screws to the specified torque.



- a - Throttle cable bracket
- b - Screw (M6 x 20)

34436

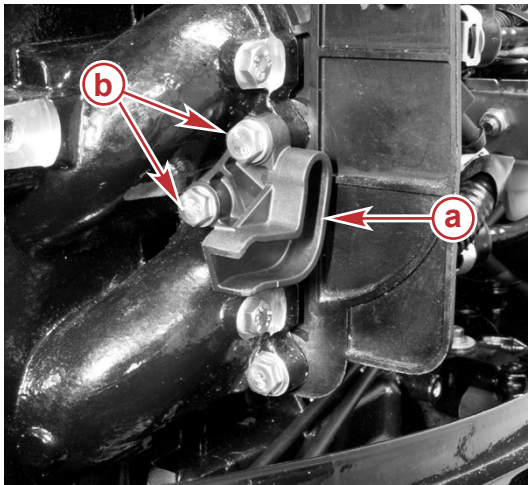


- a - Fuel filter
- b - Screw (M6 x 13)

34439

Description	Nm	lb-in.	lb-ft
Screw (M6 x 13)	8.5	75	–

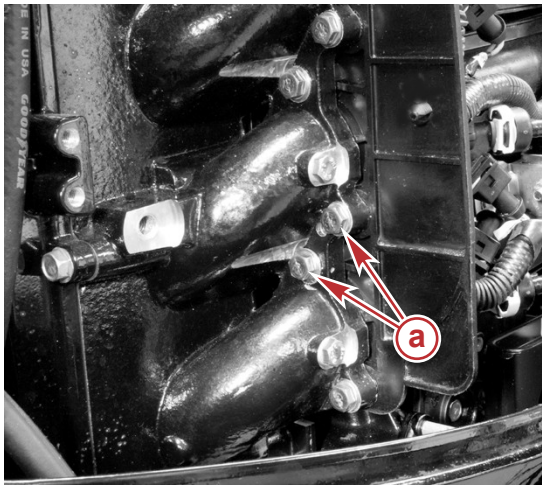
13. Remove the throttle cam from the intake manifold. Discard the throttle cam and screws.



- a - Throttle cam
- b - Screws

34437

14. Install the two M6 x 25 screws provided into the intake manifold. Tighten the screws to the specified torque.

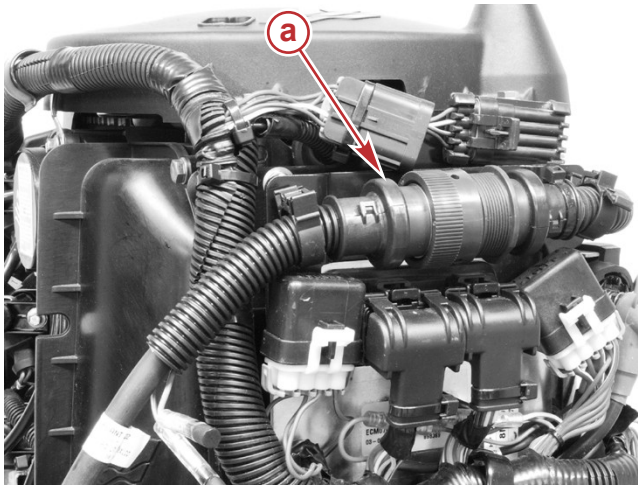


- a - Screw (M6 x 25)

34438

Description	Nm	lb-in.	lb-ft
Screw (M6 x 25)	8.5	75	–

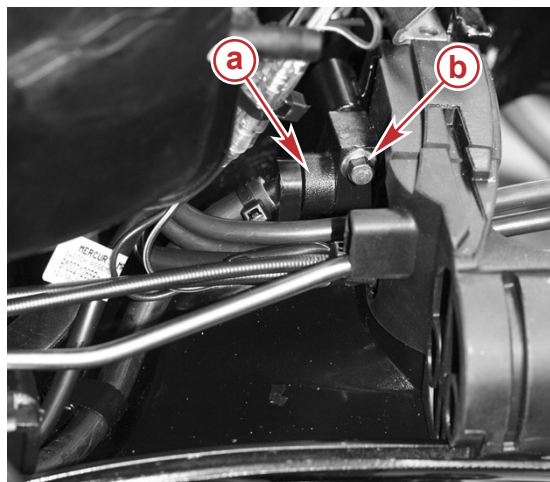
15. Disconnect the key switch harness connector. Discard the remote key switch assembly.



- a - Key switch harness connector

34441

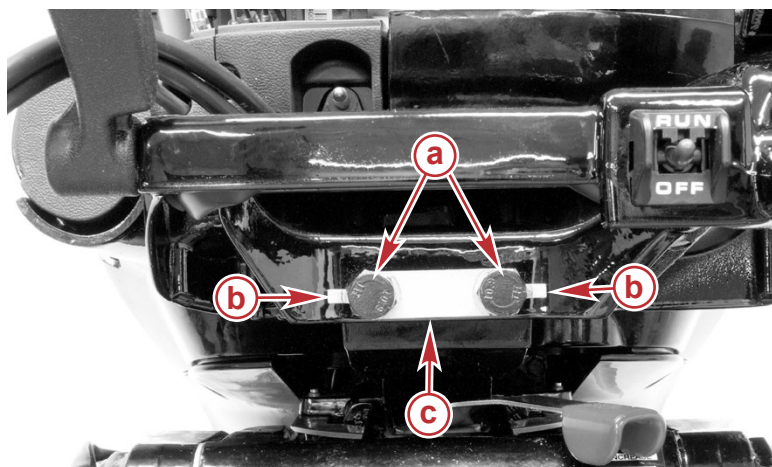
16. Models with a fuel hose connector - loosen the screw that fastens the fuel hose connector. This will help in the removal of the rigging grommet.



- a** - Fuel hose connector
b - Bolt

42791

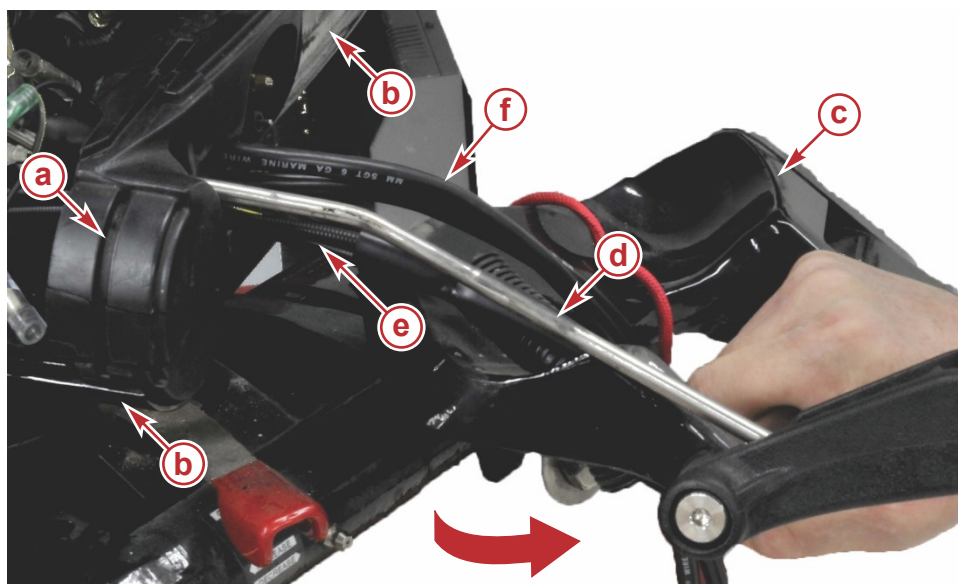
17. Open the locking tabs and remove the two screws that fasten the tiller handle assembly to the steering arm.



- a** - Screw
b - Locking tabs
c - Tab washer

69637

18. Separate the rigging grommet from the lower cowl and remove the rigging grommet and tiller handle assembly, including the shift rod, throttle cables, and tiller harness.

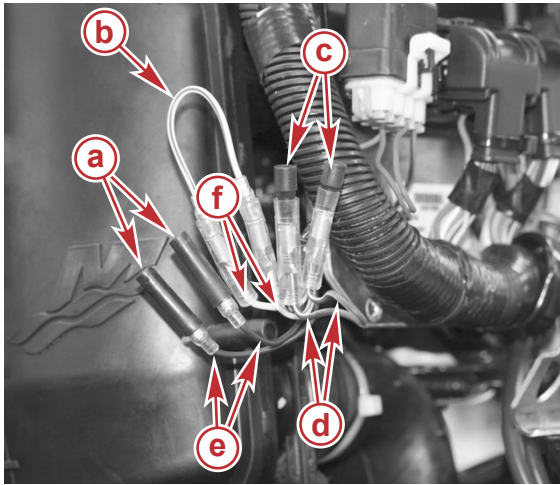


- a** - Rigging grommet
b - Lower cowl
c - Tiller handle assembly
d - Shift rod
e - Throttle cables
f - Tiller harness

69405

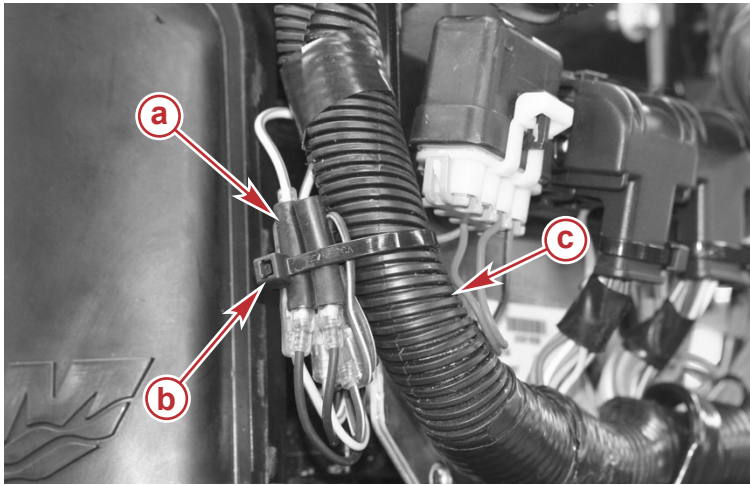
Installation of the Kit Components on the Engine

1. Install the yellow/red jumper wire between the yellow/red leads from the engine harness using the existing connectors.
2. Install plugs (2) into each of the female black/yellow wire connectors.
3. Install caps (2) over each of the male black wire connectors.



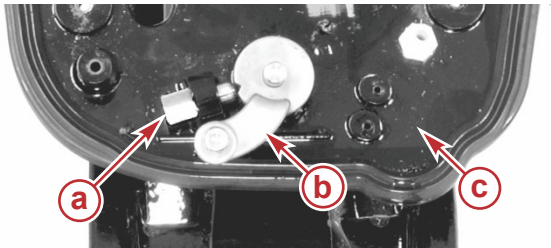
69638

4. Bundle the wiring and connectors together and fasten the bundle to the main wiring harness with a cable tie.



35069

5. If not equipped, install the shift detent assembly on the adapter plate next to the shift shaft. Tighten the shift detent to the specified torque.

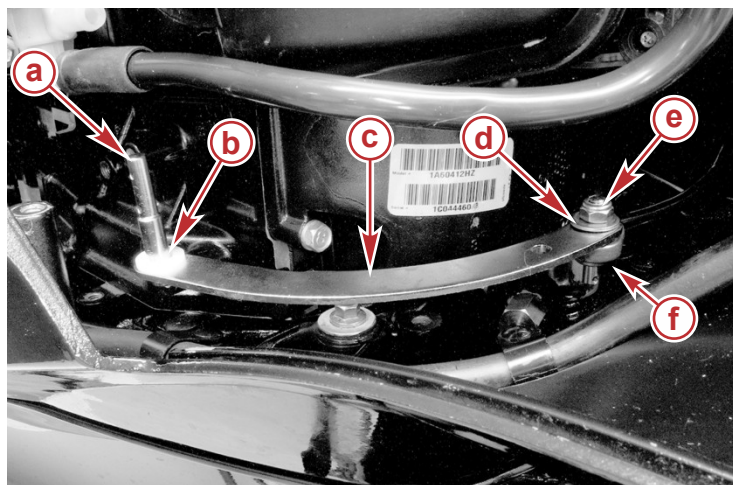


69679

Description	Nm	lb-in.	lb-ft
Shift detent assembly	20	177	–

6. Install the new shift link onto the shift shaft and secure with a flat washer and locknut. Tighten the locknut to the specified torque.

7. Place the white plastic washer onto the shift link post.

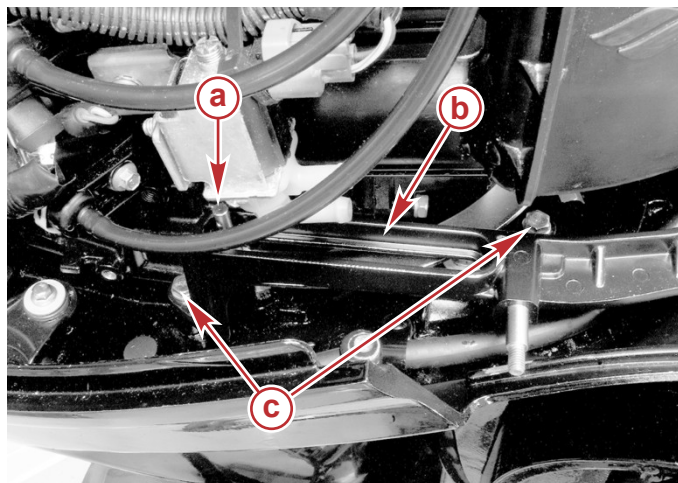


- a** - Shift link post
b - White plastic washer
c - Shift link
d - Flat washer (0.281 x 0.625 x 0.0625)
e - Locknut
f - Shift shaft

69639

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

8. Fit the shift link post into the shift bracket and fasten the shift bracket to the lower cowl with two washer head screws. Tighten the screws to the specified torque.

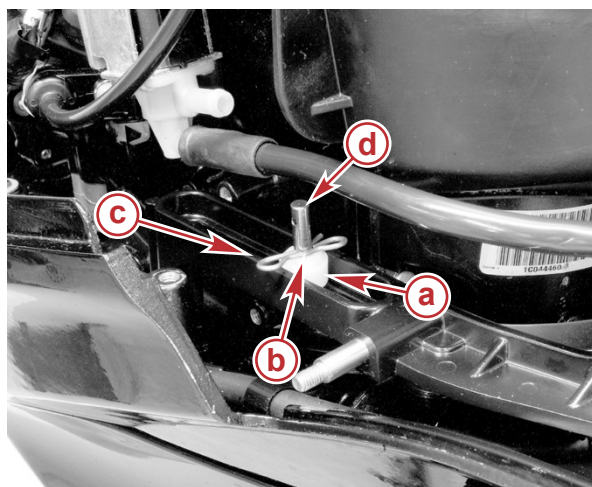


- a** - Shift link post
b - Shift bracket
c - Washer head screw (M6 x 20)

34453

Description	Nm	lb-in.	lb-ft
Screw (M6 x 20)	8.5	75	–

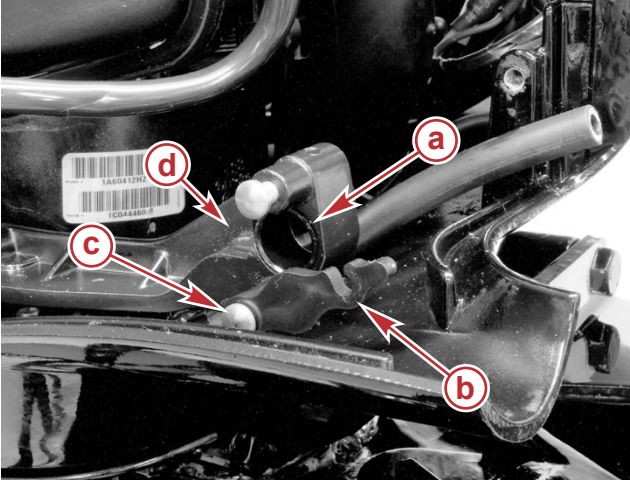
9. Place the shift slide roller, with the tapered end facing up, onto the shift link post.
 10. Install the bow tie clip through the bottom hole in the shift link post.



- a** - Shift slide roller
b - Tapered end faces up
c - Bow tie clip
d - Shift link post

69641


- 11. Install the barrel retainer cup into the shift cable bracket.
- 12. Install the cable retainer latch onto the bottom pin.



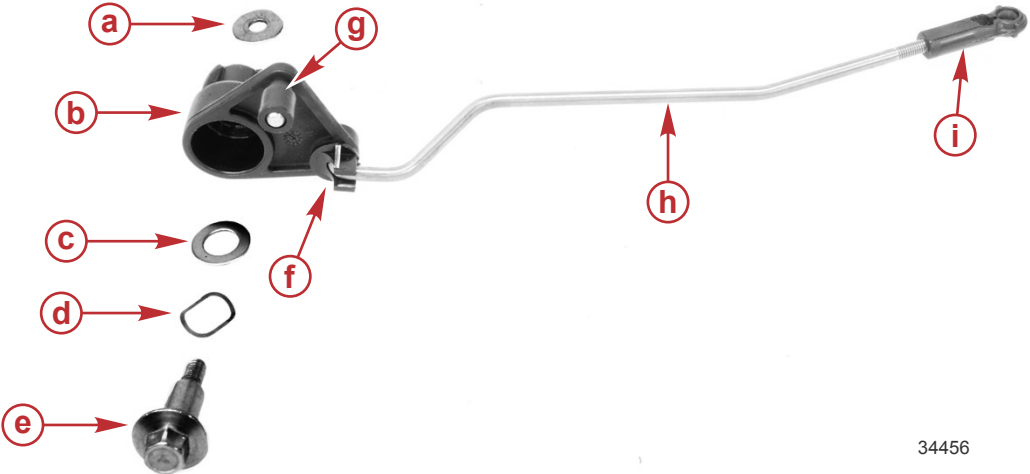
- a - Barrel retainer cup
- b - Cable retainer latch
- c - Bottom pin
- d - Shift cable bracket

69642

- 13. Apply 2-4-C with PTFE to the bearing surface and flange on the shoulder bolt.


Tube Ref No.	Description	Where Used	Part No.
 95	2-4-C with PTFE	Surface and flange of the shoulder bolt	92-802859A 1

- 14. Assemble the cam follower, as shown.

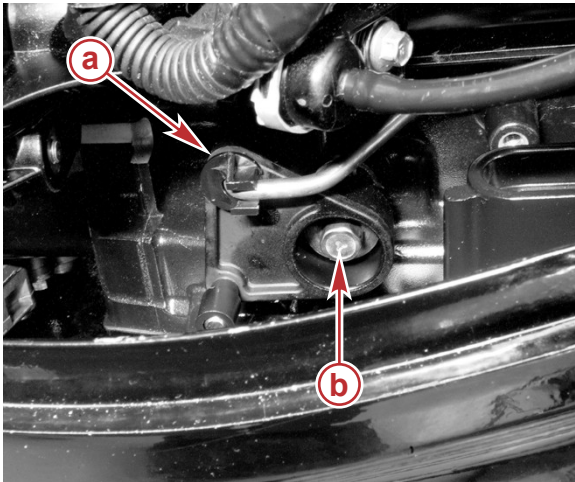


34456

- a - Flat washer (small hole)
- b - Cam follower
- c - Flat washer (large hole)
- d - Wave washer
- e - Shoulder screw
- f - Swivel bushing
- g - Cam follower roller
- h - Throttle link rod
- i - Ball socket

Tube Ref No.	Description	Where Used	Part No.
 95	2-4-C with PTFE	Bearing surface and flange of shoulder bolt	92-802859A 1

15. Install the cam follower assembly to the cylinder block with the shoulder bolt. Tighten the shoulder bolt to the specified torque.

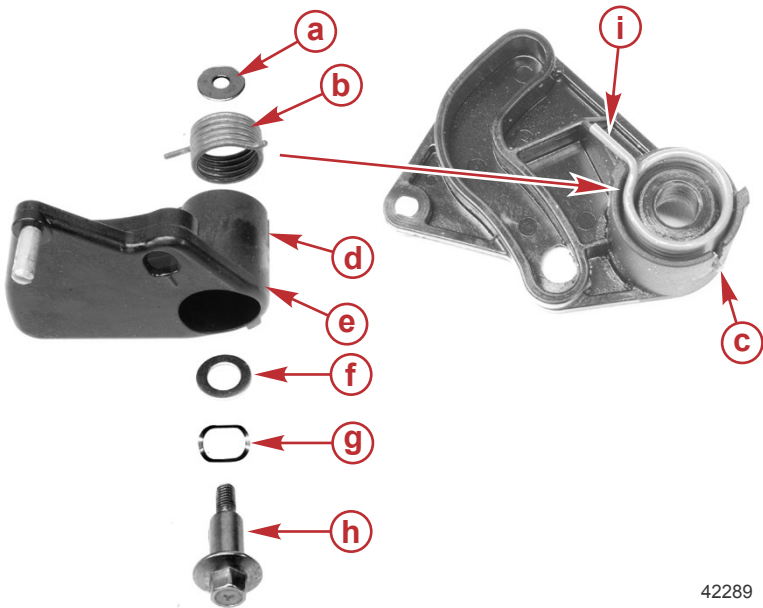


- a - Cam follower
- b - Shoulder bolt

34465


Description	Nm	lb-in.	lb-ft
Shoulder bolt	11.3	100	–

16. Apply 2-4-C with PTFE to the bearing surface and flange on the shoulder bolt.
17. Assemble the throttle cam, as shown.

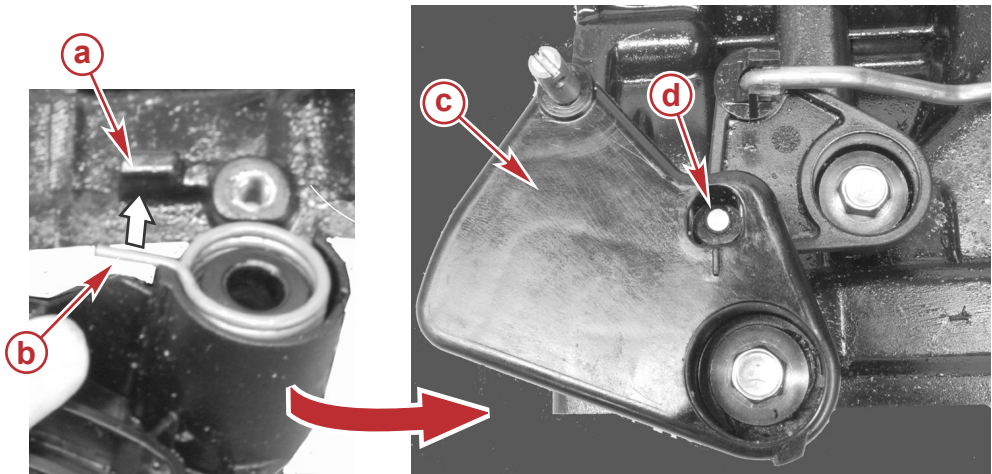


- a - Flat washer (small hole)
- b - Return spring
- c - Short arm of spring
- d - Throttle cam slot
- e - Throttle cam
- f - Flat washer (large hole)
- g - Wave washer
- h - Shoulder bolt
- i - Long arm of spring

42289

Tube Ref No.	Description	Where Used	Part No.
 95	2-4-C with PTFE	Bearing surface and flange of shoulder bolt	92-802859A 1

18. Place the long arm of the spring against the bottom side of the stop and install the assembled throttle cam onto the powerhead, as shown. Place the cam follower roller into its channel.



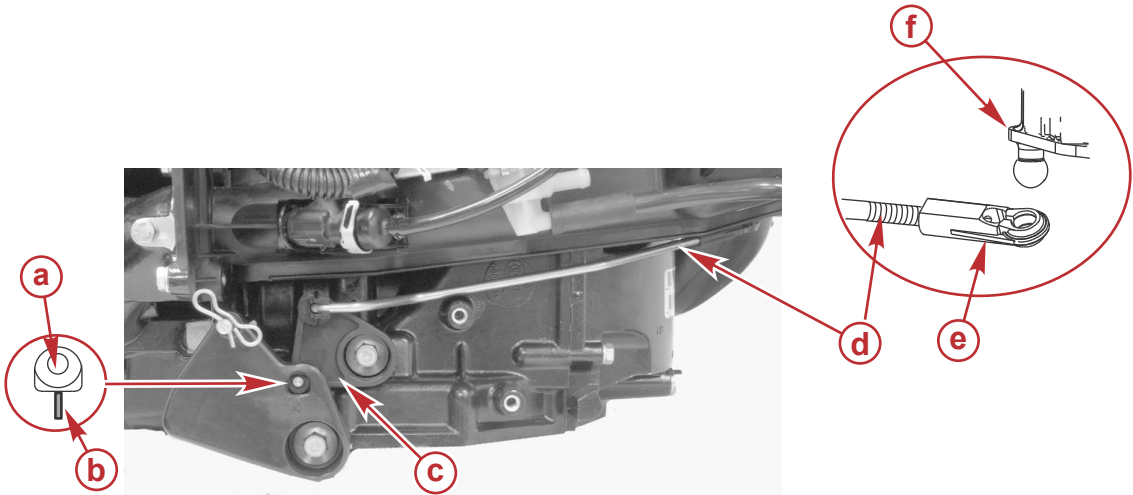
42292

- a - Stop
- b - Long arm of the spring - place against stop
- c - Throttle cam
- d - Cam follower roller (shown inside its channel—on the throttle cam)

19. Tighten the shoulder bolt to the specified torque.

Description	Nm	lb-in.	lb-ft
Shoulder bolt	11.3	100	—

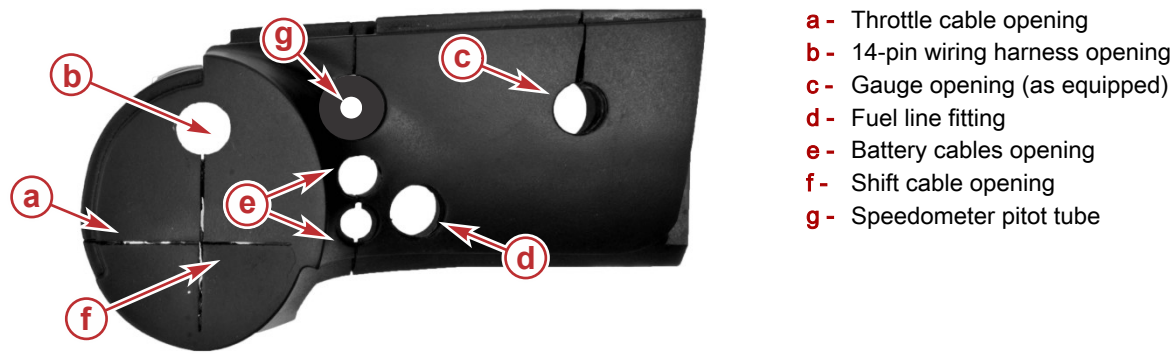
20. Adjust the length of the throttle link rod so that the center of the cam follower roller lines up with the alignment mark when the throttle link rod is attached to the throttle body. Attach the throttle link rod to the throttle body.



31478

- a - Cam follower roller
- b - Alignment mark
- c - Cam follower
- d - Throttle link rod
- e - Ball socket
- f - Throttle body

21. Replace the rigging grommet with the new grommet provided.



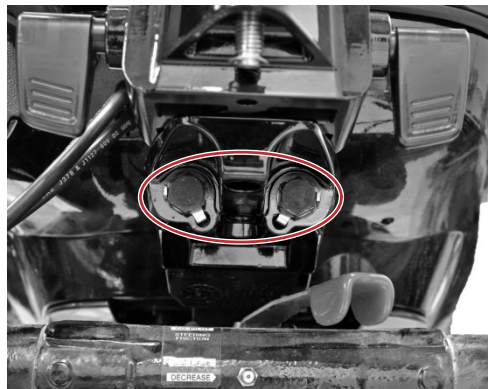
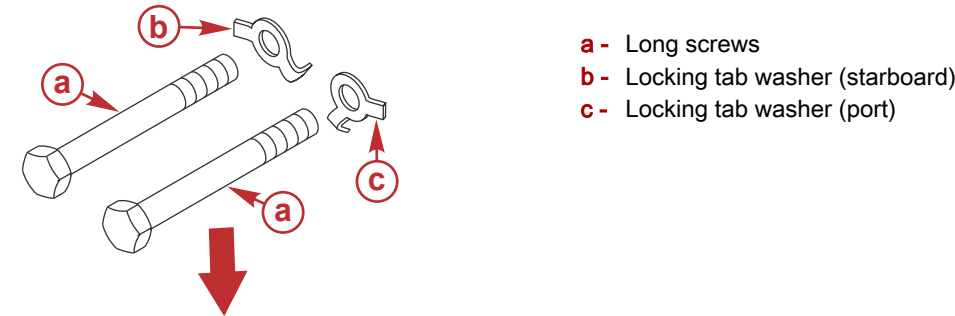
69612

Mounting the Tiller Handle

IMPORTANT: Each tab washer is unique.

Install the tiller handle with two mounting screws and tab washers.

Insert the bent tabs on the tab washers into the locating holes and tighten the bolts to the specified torque. Bend the locking fingers up and against the bolt head.



69681

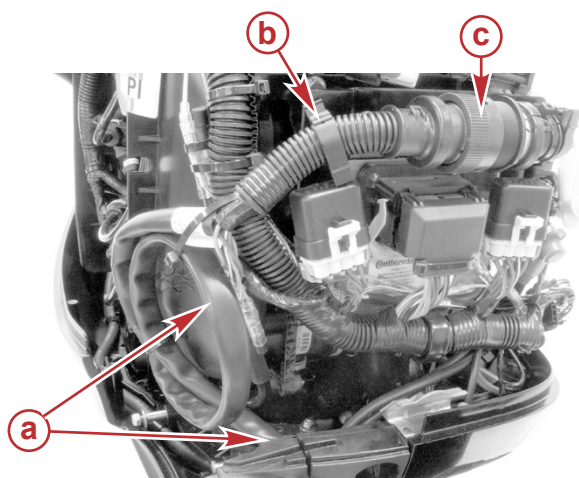
Description	Nm	lb-in.	lb-ft
Screw	54.2	–	40

Electrical and Cable Installation to the Engine

14-Pin Wiring Harness

1. Remove the access cover. Refer to **Tiller Handle and Engine Parts Removal**.
2. Route the remote wiring harness through the rubber grommet.

3. Connect the 14-pin connector to the engine harness and fasten the harness with the retainer.



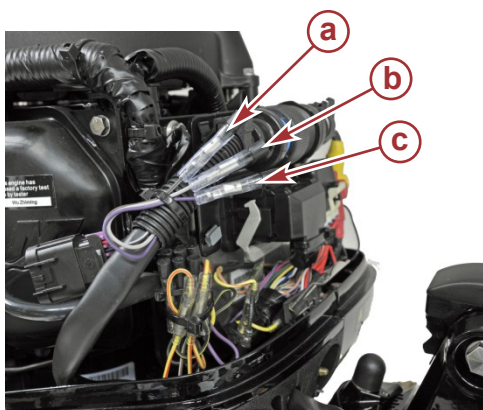
- a** - 14-pin wiring harness
- b** - Retainer
- c** - 14-pin connector

41693

4. Loop the excess harness and secure it in place with two cable ties.

Gauge Panel Connections

Analog harness connectors are provided for boats equipped with gauge panels.

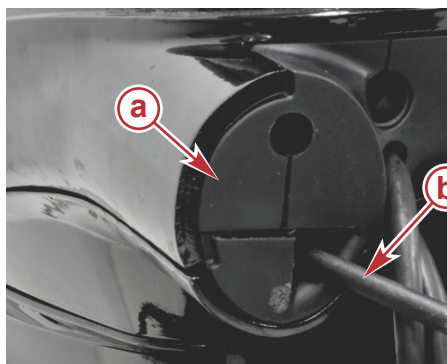


- a** - Trim (brown/white)
- b** - Tachometer (gray)
- c** - Switched power (purple)

69936

Shift Cable Installation

1. Manually shift the outboard into the neutral detent position. The propeller will rotate freely.
2. Position the shift control handle into neutral.
3. Fit the shift cable through the rigging grommet.

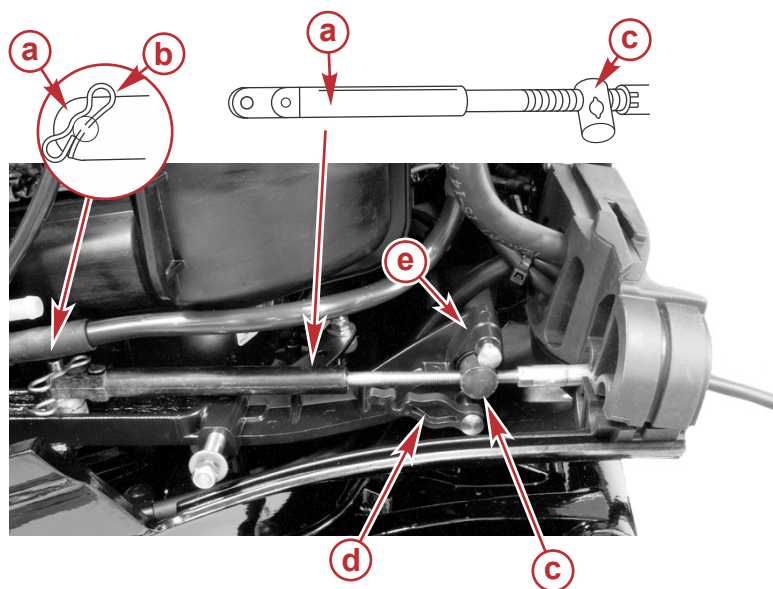


- a** - Rigging grommet
- b** - Shift cable

69421

4. Attach the shift cable end guide to the shift lever with a bow tie clip.
5. Adjust the cable barrel so it fits into the barrel receptacle.

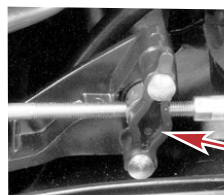
6. Place the cable barrel into the barrel receptacle.



- a** - Cable end guide
- b** - Bow tie clip
- c** - Cable barrel
- d** - Barrel latch
- e** - Barrel receptacle

69643

7. Lock barrel in place with the barrel latch.



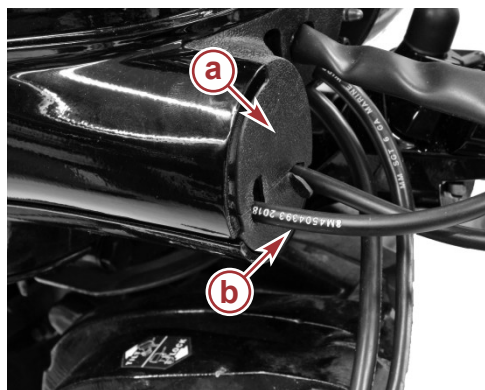
- a** - Barrel latch

28488

8. Check shift cable adjustments as follows:
 - a. Move the shift handle into the forward position. The propeller shaft should be locked in gear. If not, adjust the barrel closer to the cable end guide.
 - b. Move the shift handle into the reverse position while turning propeller. The propeller shaft should lock into reverse gear. If not, adjust the barrel away from the cable end guide and repeat steps a and b.
 - c. Move the shift handle into the neutral position. The propeller shaft should turn freely without drag. If not, adjust the barrel closer to the cable end guide. Repeat steps a through c.

Throttle Cable Installation

1. Position the throttle grip to idle.
2. Fit the throttle cable through the rigging grommet.

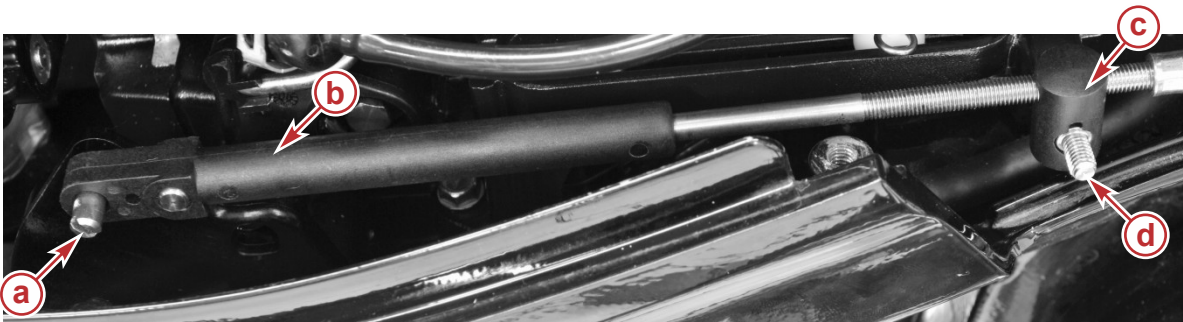


- a** - Rigging grommet
- b** - Throttle cable

69935

3. With the throttle in the closed position, slide the throttle cable end guide onto the throttle lever post.

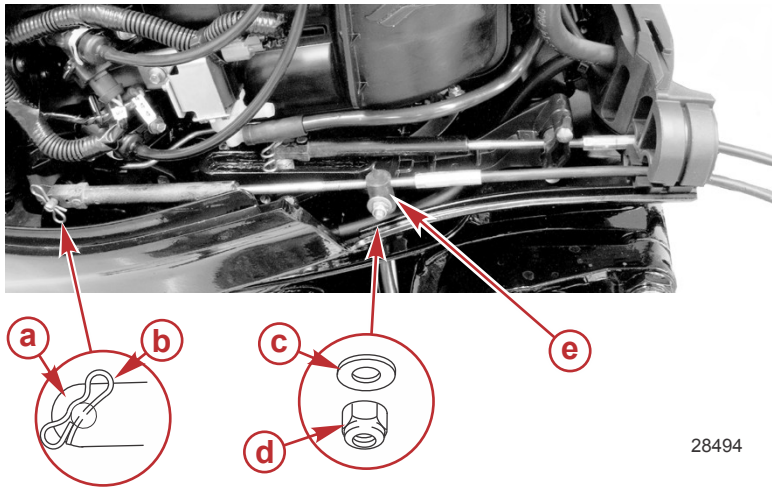
4. Adjust the throttle cable barrel until it slips onto the mounting stud.



69645

- a** - Throttle lever post
b - Throttle cable end guide
c - Throttle cable barrel
d - Mounting stud

5. Fasten the throttle cable end guide to the throttle lever post with a bow tie clip.
6. Fasten the throttle cable to the mounting stud with a flat washer and locknut. Tighten the locknut to the specified torque.



28494

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

7. Position the following items inside the grommet before installing the access cover:
- Battery cables
 - Speedometer hose
 - Fuel line
 - Tach lead (if equipped)
8. Install the fuel line hose barb and hose clamp.

Access Cover Installation

Install the access cover with two screws. Tighten the screws to the specified torque.

Description	Nm	lb-in.	lb-ft
Access cover screw	10	89	–

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Fond du Lac, WI 54936-1939

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