



ATTACHMENTS/CONTROL LINKAGE

Section 7B - Tiller Handle

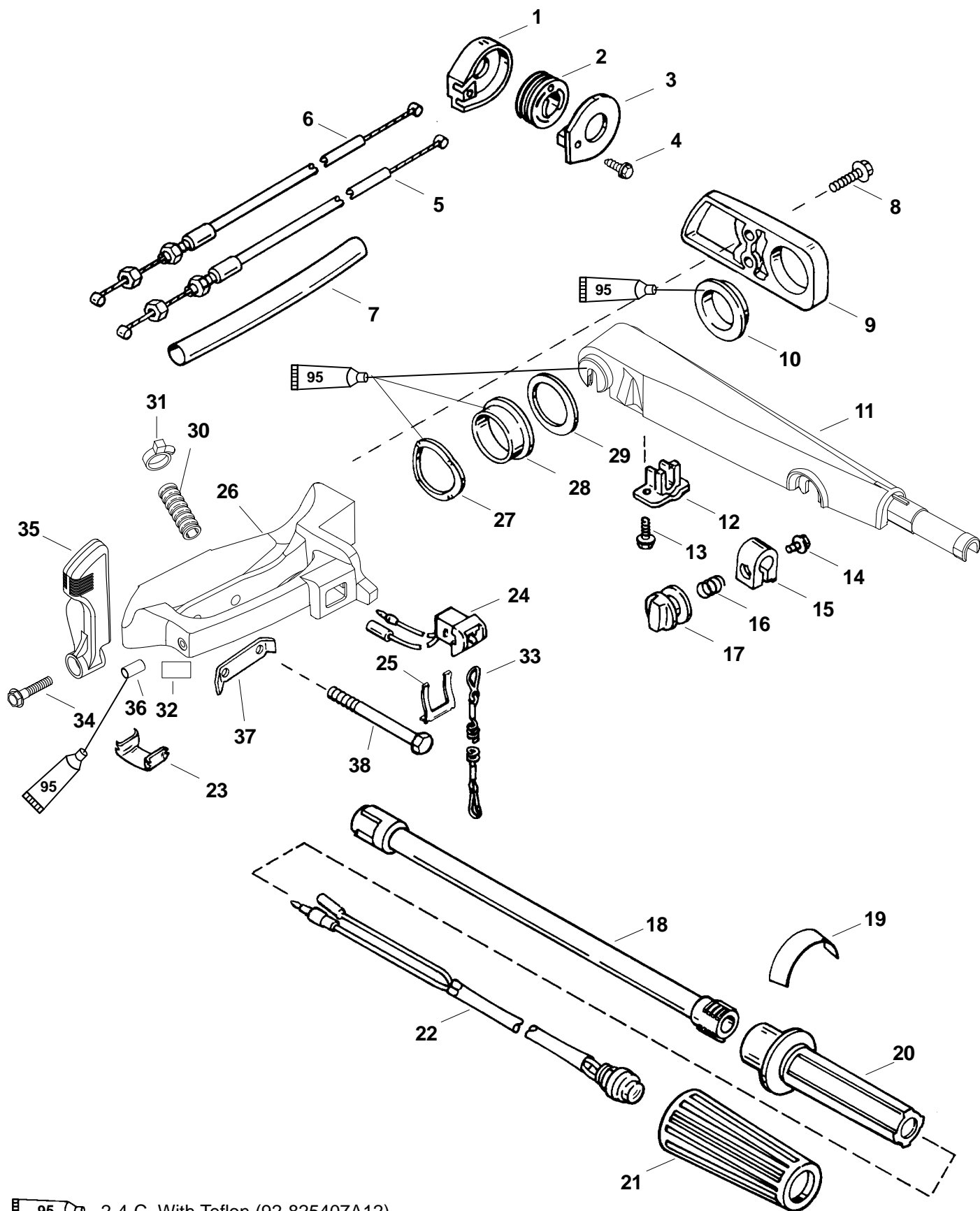
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TILLER HANDLE



95 2-4-C With Teflon (92-825407A12)

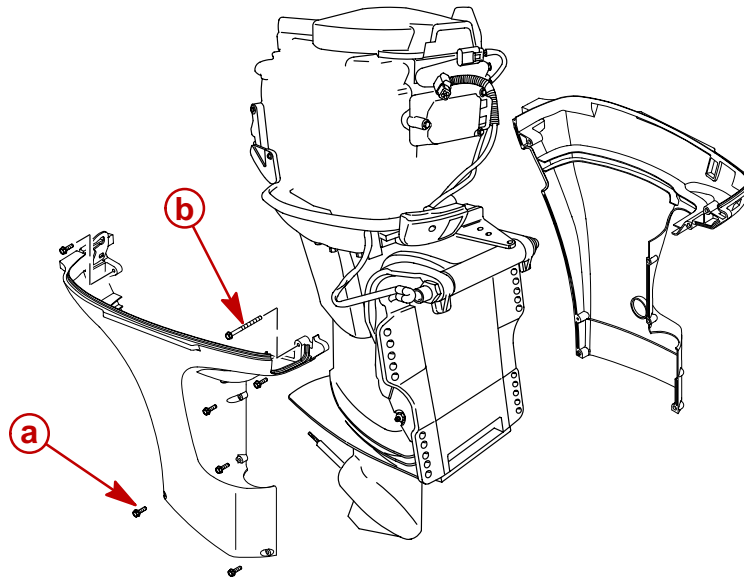
**TILLER HANDLE**

REF. NO.	QTY.	DESCRIPTION	TORQUE		
			lb-in	lb-ft	Nm.
1	1	COVER KIT			
2	1	PULLEY			
3	1	CASE			
4	1	SCREW (10-16 x 1/2 IN. Self Tapping)	20		2.3
5	1	THROTTLE CABLE (30-1/2 IN.)			
6	1	THROTTLE CABLE (41-1/2 IN.)			
7	1	SLEEVE			
8	2	SCREW (M8 x 25)	135		15.3
9	1	COVER			
10	1	BUSHING			
11	1	ARM-Steering Handle			
12	1	RETAINER			
13	1	SCREW (M5 x 16)	35		3.9
14	1	SCREW (M6 x 25)			
15	1	LOCK-Throttle			
16	1	SPRING			
17	1	KNOB-Throttle			
18	1	TILLER TUBE			
19	1	DECAL			
20	1	HANDLE-Throttle			
21	1	GRIP			
22	1	SWITCH (STOP)			
23	2	CLIP			
24	1	SWITCH (STOP)			
25	1	RETAINER			
26	1	BRACKET-Tiller			
27	1	WAVE WASHER			
28	1	BUSHING			
29	1	WASHER			
30	1	CONDUIT			
31	1	CABLE TIE			
32	1	DECAL-Shift (F-N-R)			
33	1	LANYARD SWITCH			
34	1	SCREW (M8 x 35)	100		11.3
35	1	SHIFT HANDLE			
36	1	BUSHING			
37	1	TAB WASHER			
38	2	SCREW (M10 x 90)		35	47.5



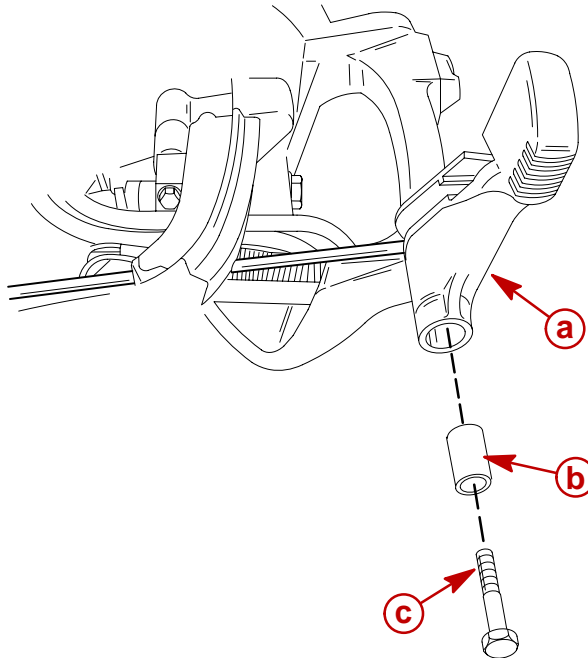
Tiller Handle Assembly Removal

1. Remove lower cowl.



- a** - Screws-M6x30 (6)
- b** - Screw-M6x60

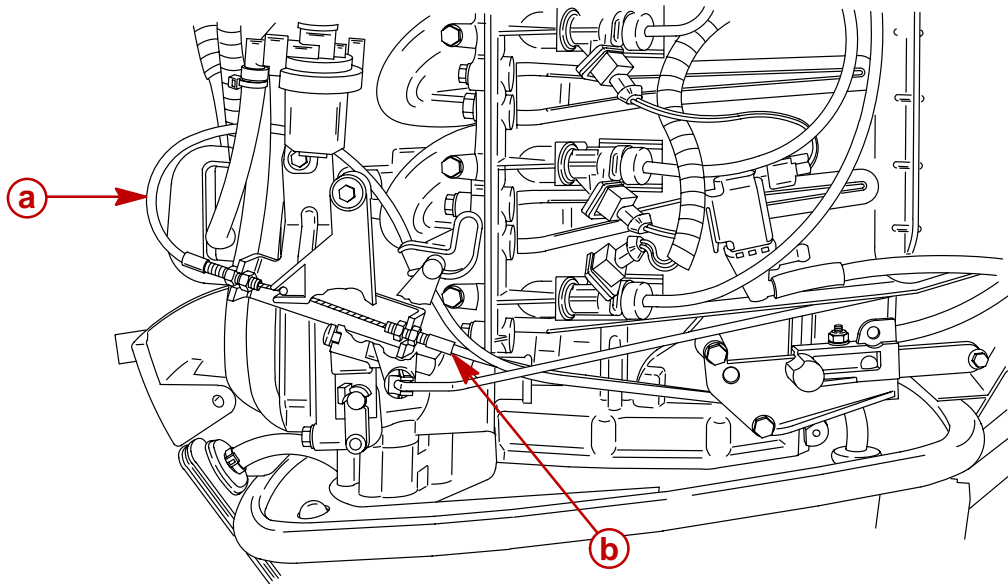
2. Remove shift handle.



- a** - Shift Handle
- b** - Bushing
- c** - Screw-M8x35



3. Loosen the jam nuts and disconnect the throttle cables from the throttle lever.

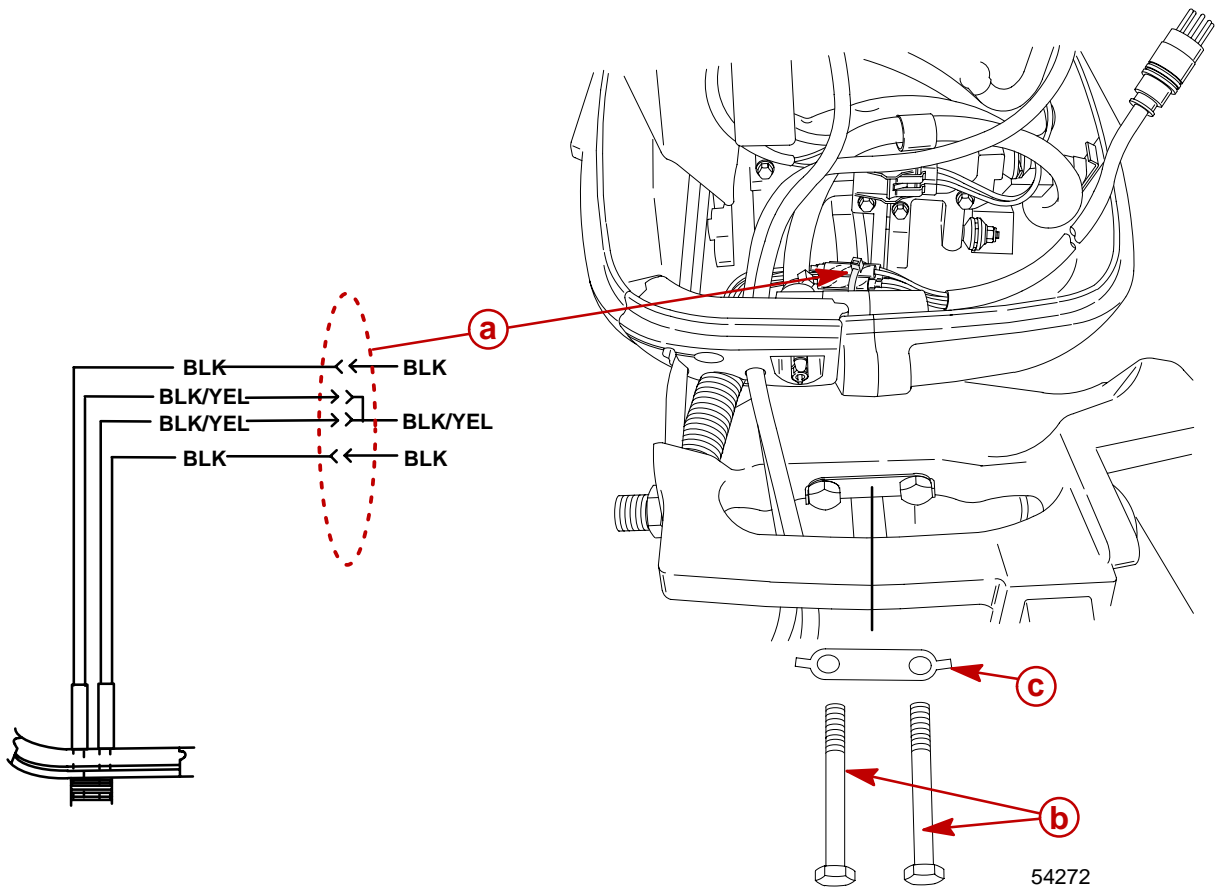


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- a** - Throttle Cable (Long)
- b** - Throttle Cable (Short)

4. Disconnect the tiller handle wiring.

5. Remove two screws (b) securing the tiller handle. Remove the tiller handle assembly from the outboard.



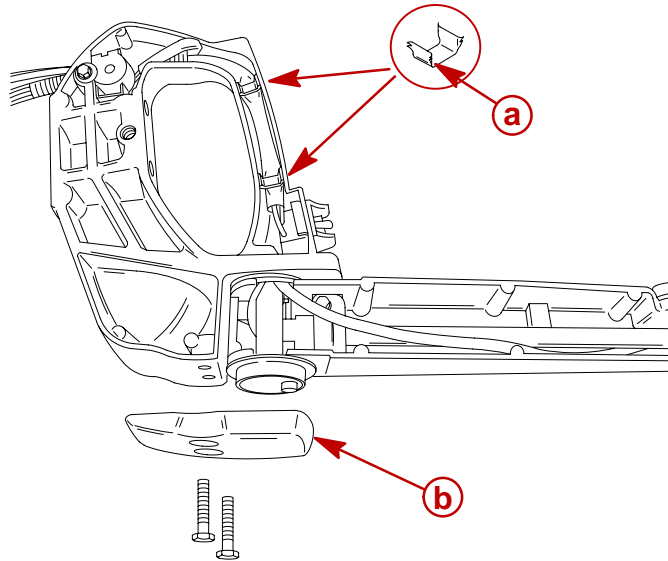
- a** - Disconnect Tiller Handle Wires
- b** - Screws-M10x90 (2)
- c** - Tab Washer

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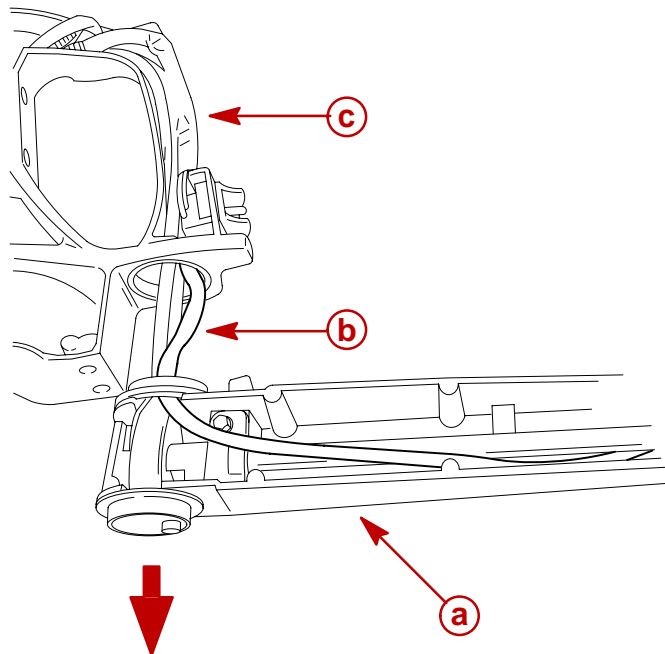
Tiller Handle Disassembly

1. Pry the two clips out of the hand grip.
2. Remove the side cover.



- a** - Clips (2)
- b** - Side Cover

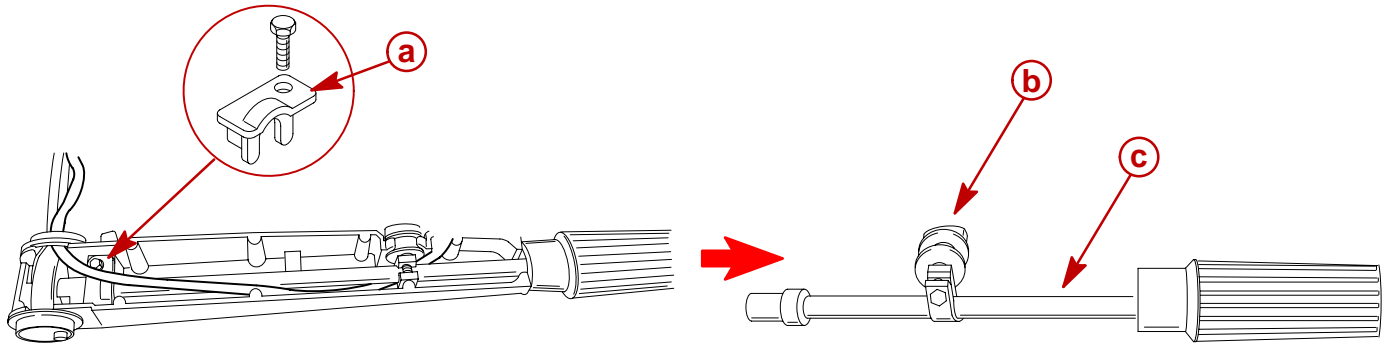
3. Pull the tiller arm, along with the throttle cables and wiring, from the tiller bracket.



- a** - Tiller Arm
- b** - Throttle Cables/Wiring
- c** - Tiller Bracket

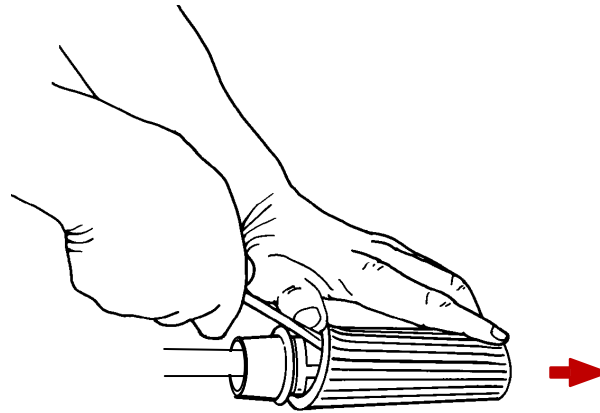


4. Remove retainer and slide out the tiller tube assembly.
5. Remove the throttle friction knob assembly.

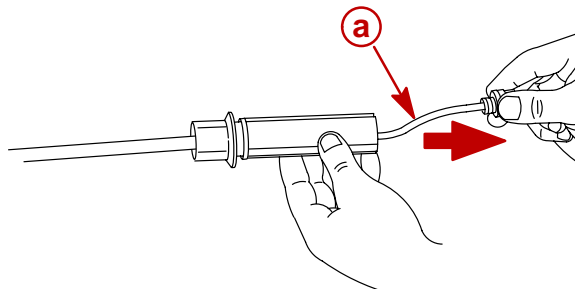


- a** - Retainer
- b** - Throttle Friction Knob Assembly
- c** - Tiller Tube Assembly

6. Use a flat tip screwdriver to pry/push the rubber grip off the handle.

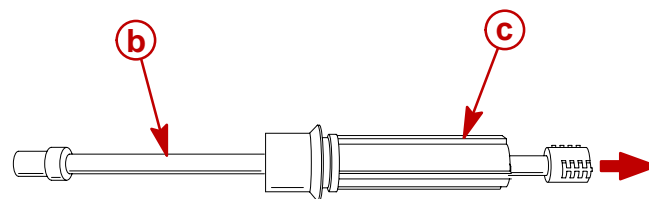


7. Pull out the stop switch harness.



- a** - Stop Switch Harness

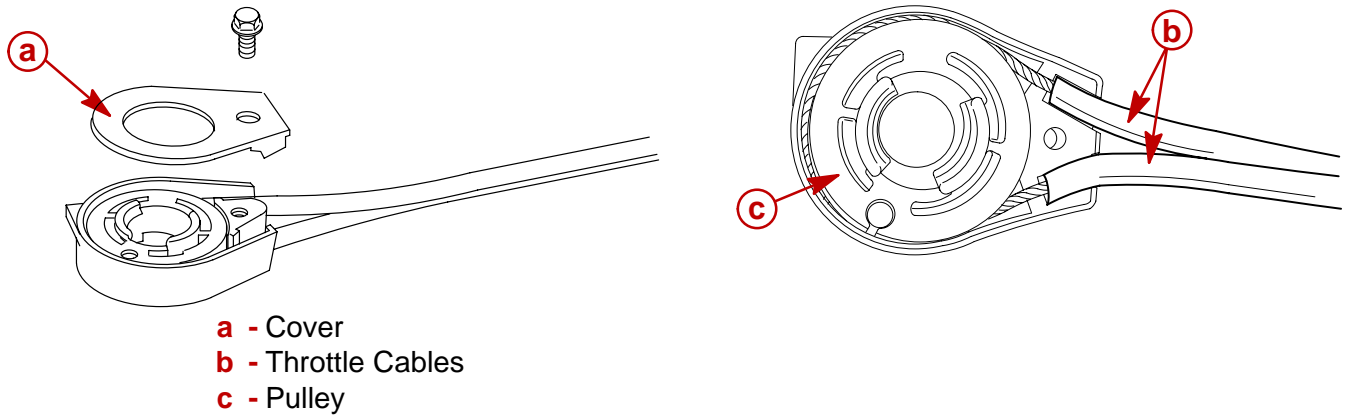
8. Push the tiller tube out of the handle.



- b** - Tiller Tube
- c** - Handle

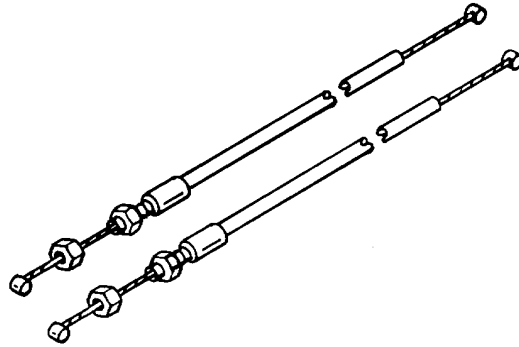


9. Remove cover and disconnect throttle cables from pulley.

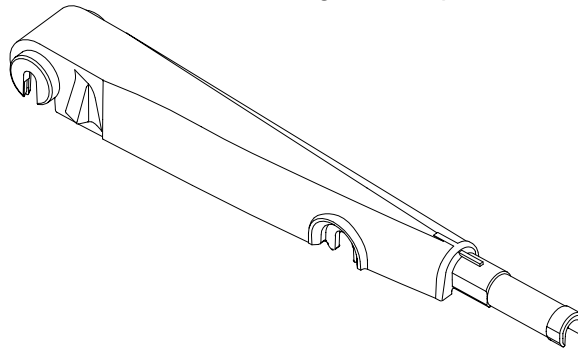


Cleaning/Inspection/Repair

1. Inspect throttle cables for bending/damage and replace if necessary.



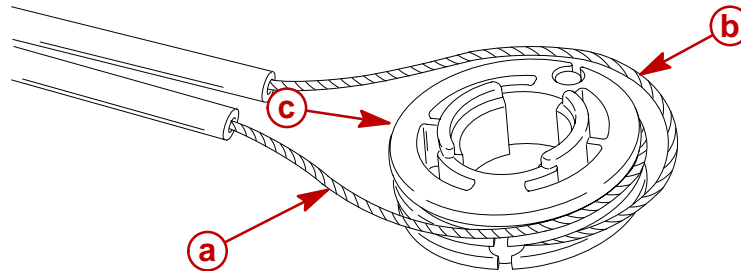
2. Inspect steering handle arm for cracks/damage and replace if necessary.





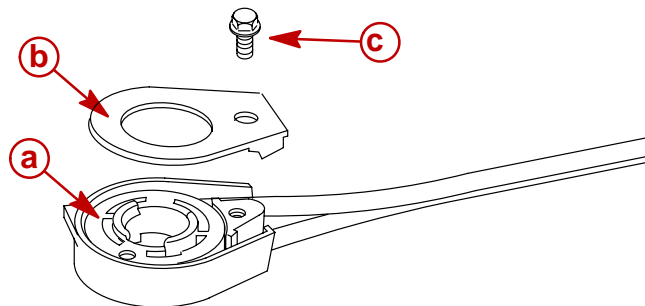
Tiller Handle Reassembly

1. Wrap cables around pulley as shown.



- a** - Short Throttle Cable (30-1/2 in.) Place in Top Groove
- b** - Long Throttle Cable (40-1/2 in.) Place in Bottom Groove
- c** - Pulley

2. Place pulley and cables into case.
3. Install cover with screw.

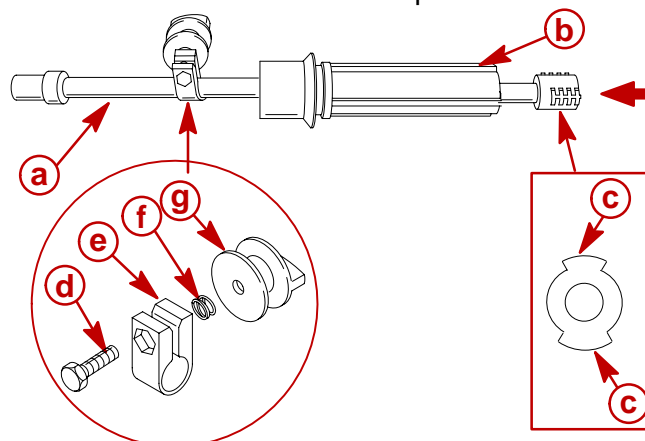


- a** - Pulley
- b** - Cover

c - Screw 10-16x1/2 in.

Pulley Cover Screw Torque
20 lb. in. (2.3 N·m)

4. Match tiller tube end with slots in the handle. Pull the tube end into the handle until it bottoms out.
5. Install the throttle friction knob components on tiller tube.

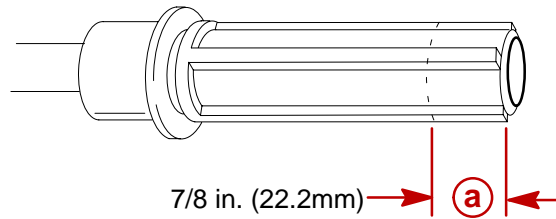


- a** - Tiller Tube
- b** - Handle
- c** - Slots In Handle
- d** - Screw M6x25

- e** - Lock
- f** - Spring
- g** - Knob

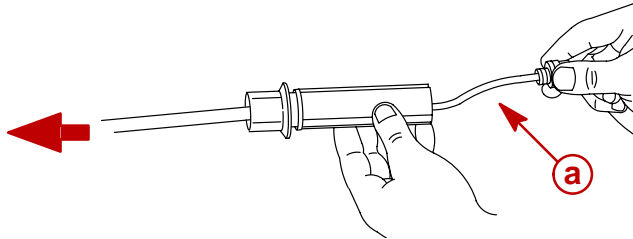


6. Check to make sure tiller tube is recessed in the end of the handle 7/8 in. (22.2mm).



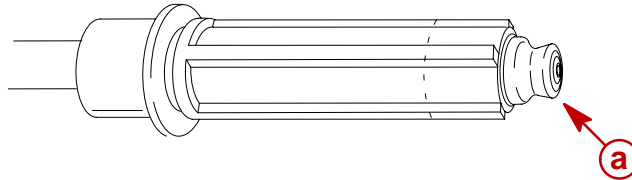
a - 7/8 in. (22.2 mm)

7. Insert the engine stop switch harness through the tiller tube.



a - Engine Stop Switch Harness

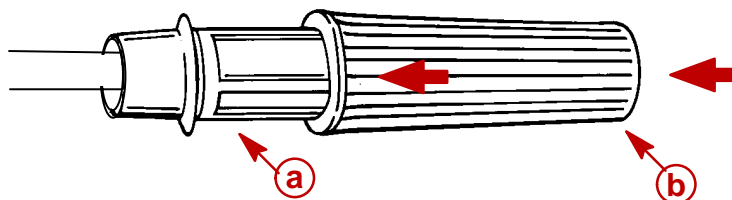
8. Place the stop switch into end on handle.



a - Stop Switch

9. Align the grooves inside the rubber grip with the ridges on the handle. Push the rubber grip onto the handle.

NOTE: Applying a soap/water solution to the inside of the rubber grip will ease installation.

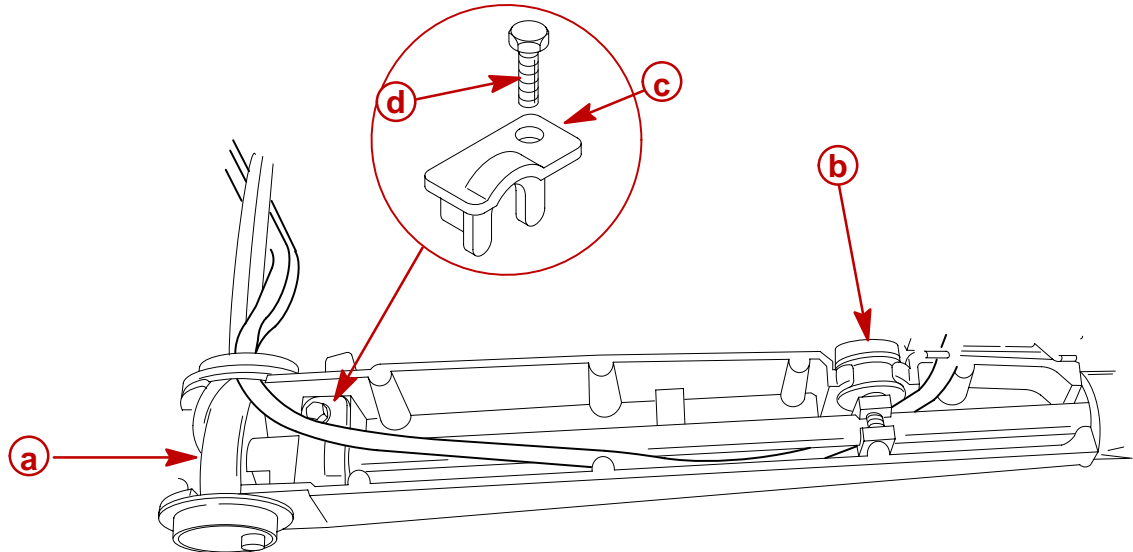


a - Rubber Grip

b - Handle



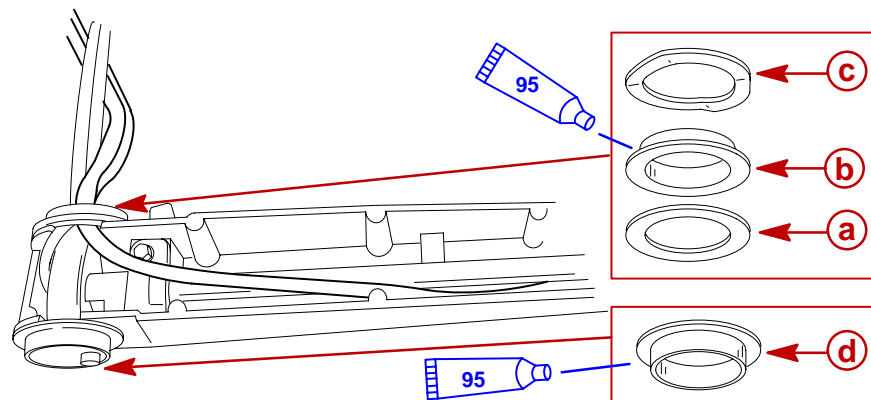
10. Place pulley assembly into arm.
11. Slide the tiller tube into the arm. Position the throttle friction knob into its slot.
12. Match the end of the tiller tube with the slots in the pulley assembly. Insert the tiller tube end into the pulley assembly.
13. Secure tiller tube with retainer.
14. Snap the engine start switch on the tiller tube.



- a** - Pulley Assembly
- b** - Throttle Lock Knob
- c** - Retainer
- d** - Screw-M5x16

Tiller Tube Retainer Screw Torque
35 lb. in. (3.9 N·m)

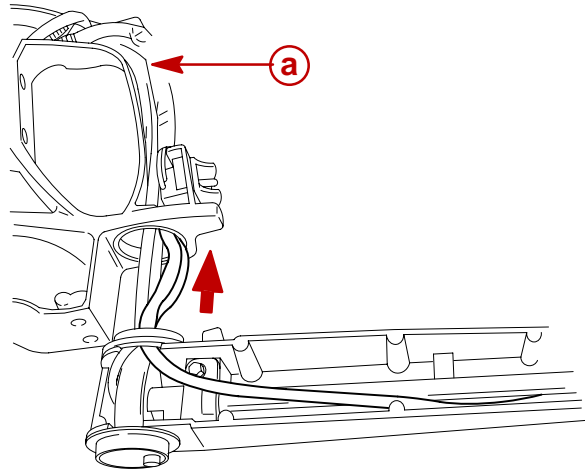
15. Place bushing components on the arm mounts.



- 95** () 2-4-C w/Teflon (92-850736A1)
- a** - Flat Washer
- b** - Bushing
- c** - Wave Washer (1)
- d** - Bushing

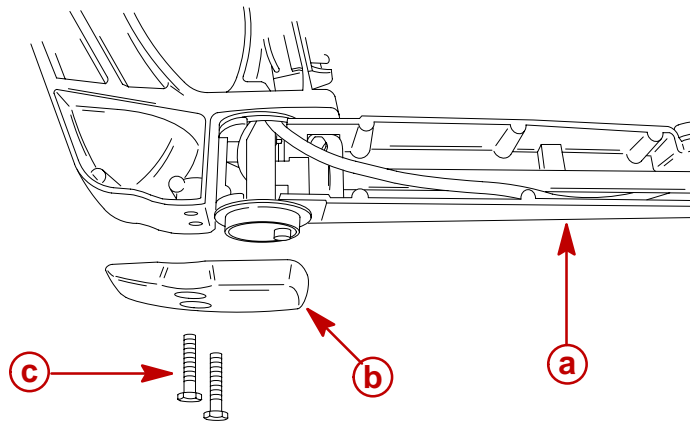


16. Pull the throttle cables and wiring into the bracket.



a - Tiller Bracket

17. Push the arm into the tiller bracket. Secure the arm by installing the cover and screws. Tighten screws to specified torque.



a - Arm
b - Cover
c - Screw (2) M8 x 25

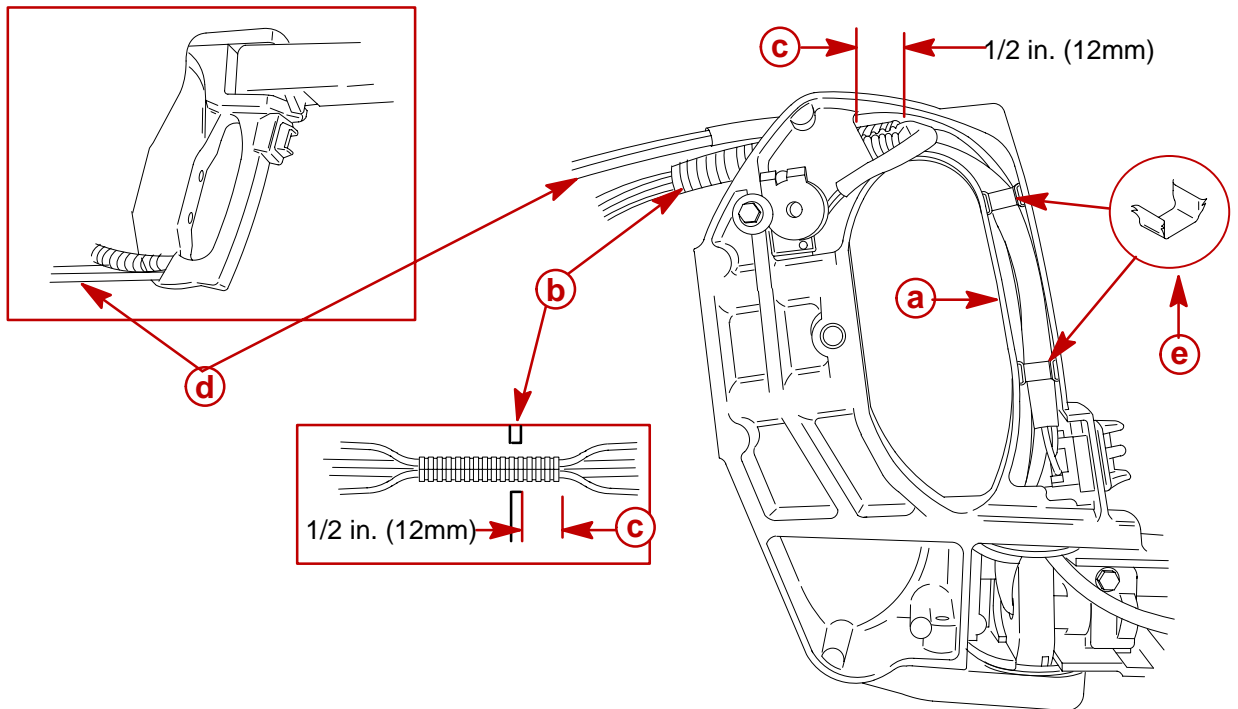
Arm Cover Screw Torque

135 lb. in. (15.3 N·m)

**CAUTION**

Wiring passing through the hand grip opening must be protected from chaffing or being cut, by using the wiring conduit described in the following steps. Failure to protect wiring as described could result in electrical system failure.

18. Place the throttle cables through the hand grip opening as shown.
19. Place all wiring inside the wiring conduit.
20. Route the wiring through the hand grip opening and position the wiring conduit inside the opening so that at least 1/2 in. (12.7mm) extends past each end of the opening.
21. Push the wiring and throttle cables down into the handle grip and hold in place with two clips.

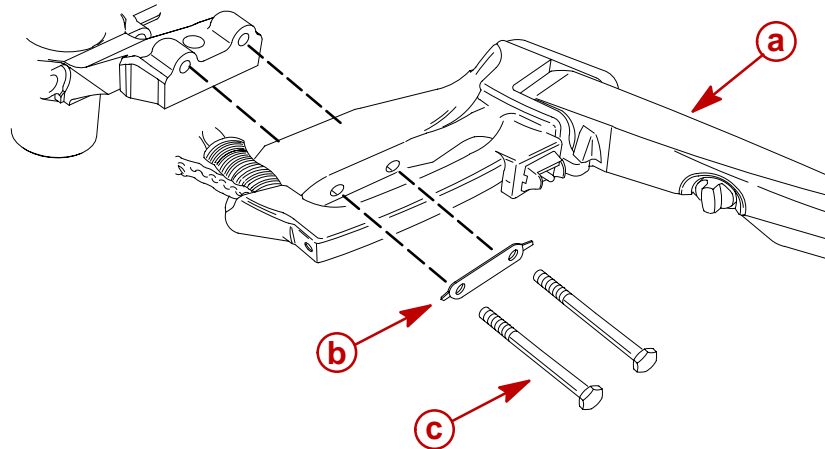


- a** - Hand Grip Opening
- b** - Wiring Conduit (Place all Wiring Inside – See CAUTION above)
- c** - Wiring Conduit 1/2 in extending past opening
- d** - Throttle Cables (Position toward outer side)
- e** - Clips (2)



Tiller Handle Installation

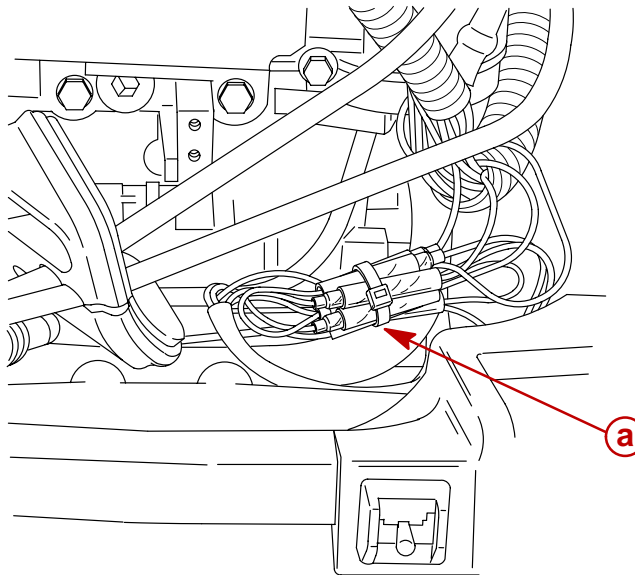
1. Install tiller handle, new tab washer, and screws. Tighten screws to specified torque.
2. Bend tabs onto flats of screws.



- a** - Tiller Handle
- b** - Tab Washer
- c** - Screw (2) M10 x 90

Tiller Handle Mounting Screw Torque
35 lb. ft. (47.5 N·m)

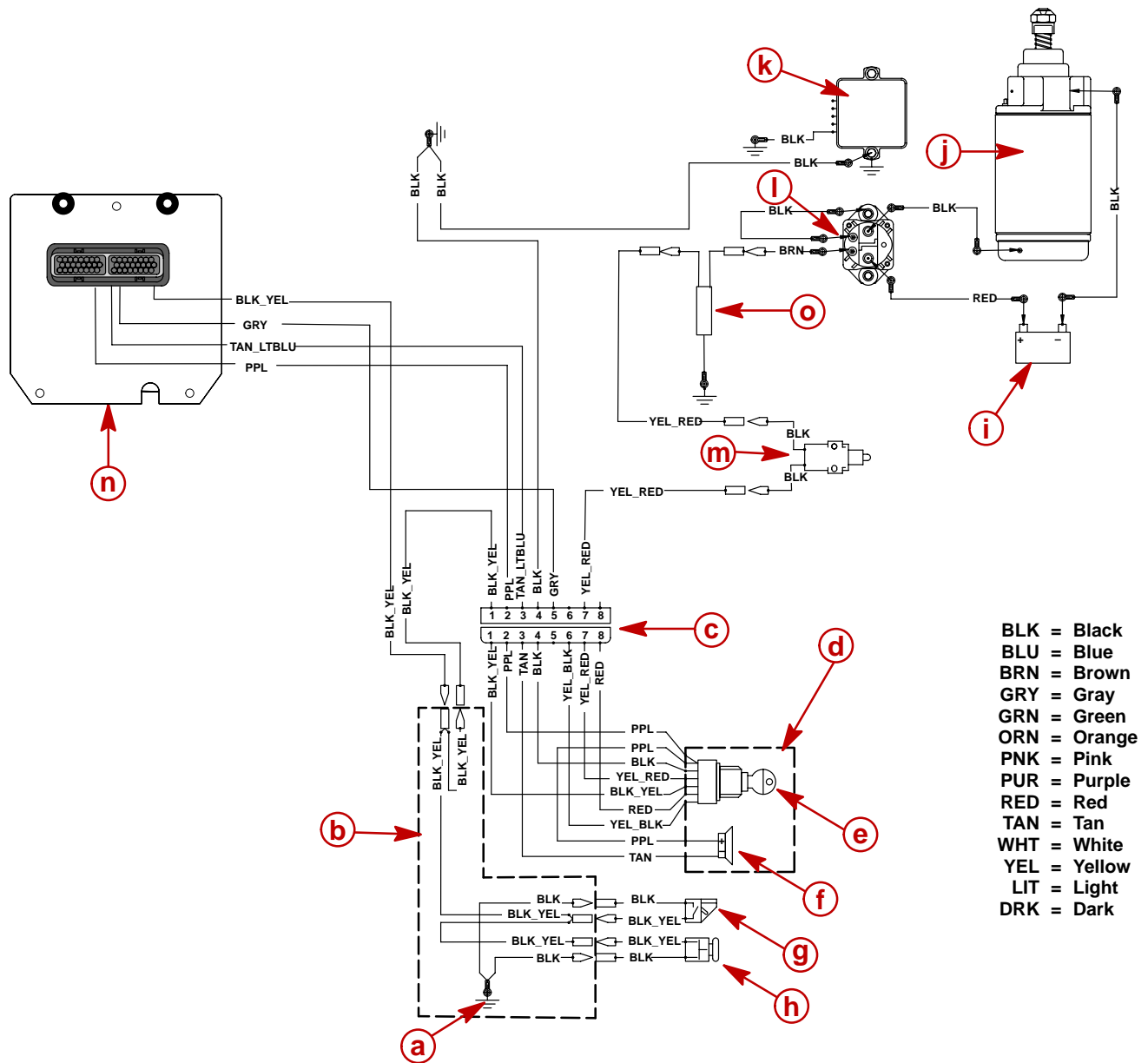
3. Connect wires as shown in wiring diagram (on next page).
4. Secure wires at connectors with cable tie as shown.



- a** - Cable Tie



ELECTRIC START TILLER HANDLE WIRING DIAGRAM-40/50/60 (4-STROKE)

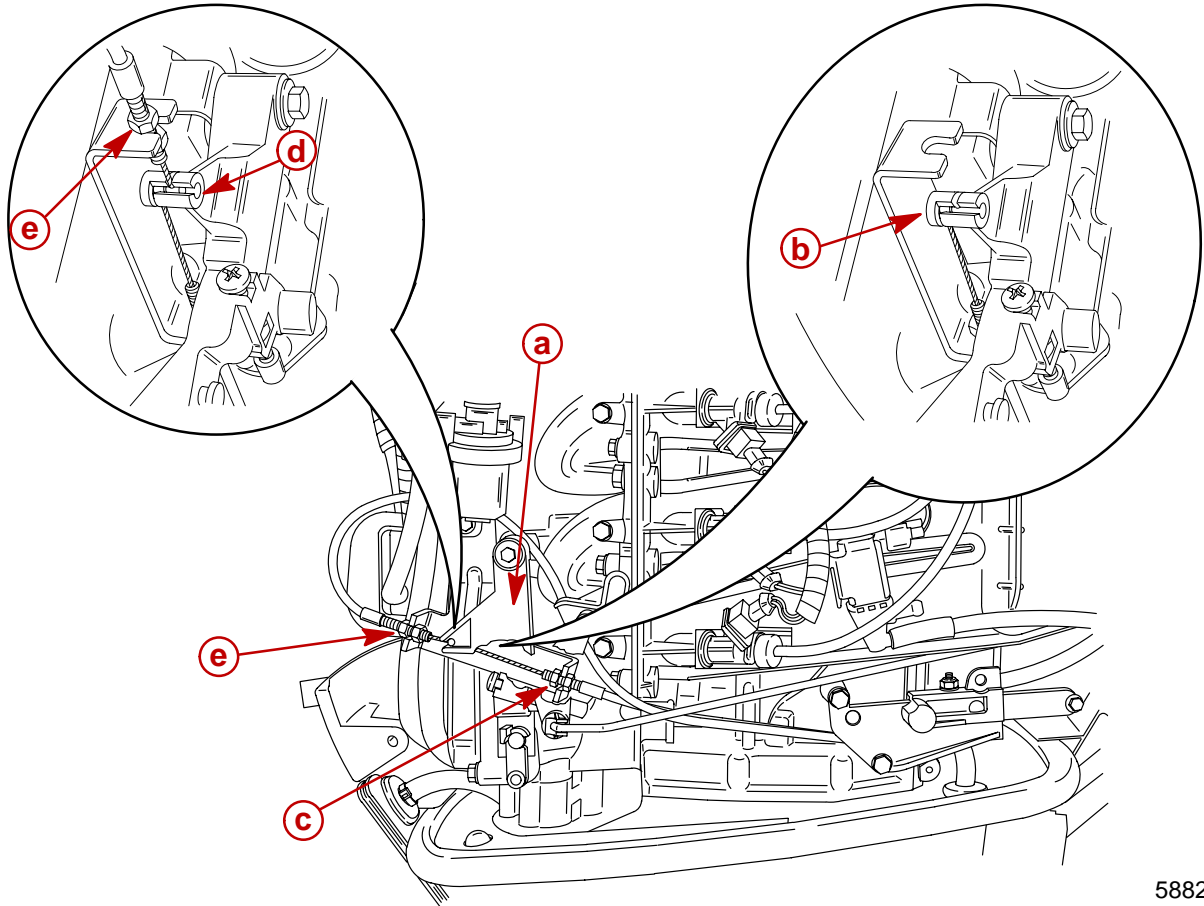


- a** - Ground Harness below Starter Motor M6x16 screw
- b** - Harness Extension
- c** - Harness Connection
- d** - Key Switch Assembly Transom Mount
- e** - Key Switch
- f** - Horn
- g** - Lanyard Stop Switch

- h** - Push Button Stop Switch
- i** - Battery
- j** - Starter Motor
- k** - Voltage Regulator/Rectifier
- l** - Start Solenoid
- m** - Neutral Start Switch
- n** - ECM
- o** - In-line Diode



5. Rotate throttle grip to idle position.
6. Insert the anchor on the shorter throttle cable into the anchor slot on the throttle lever.
7. Secure cable in position by tightening jam nuts onto bracket (finger tighten only).
8. Insert anchor on remaining cable into the anchor slot on the throttle lever.
9. Secure cable in position by tightening jam nuts onto bracket (finger tighten only).



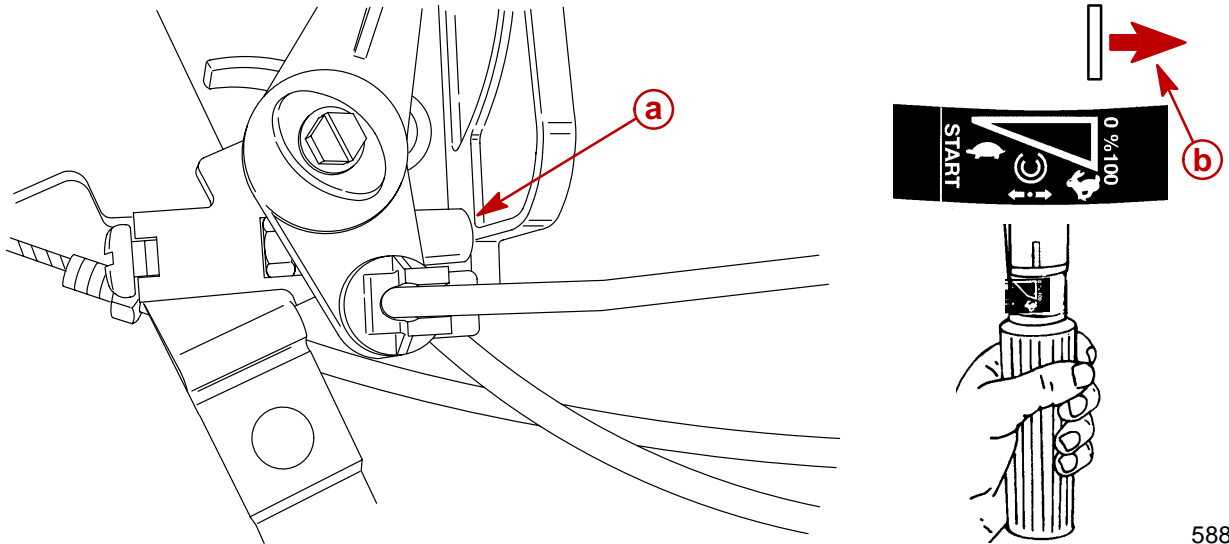
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- a** - Throttle Lever
- b** - Anchor of Shorter Throttle Cable
- c** - Jam Nut
- d** - Anchor of Longer Throttle Cable
- e** - Jam Nut



10. Rotate throttle grip to the wide open throttle position. The throttle stop screw should be contacting the plate. If there is a gap between the throttle stop screw and plate, loosen the jam nut on the shorter throttle cable, turn the adjustment nut clockwise. Tighten the jam nut finger tight, rotate the throttle grip to full throttle. Keep adjusting until the throttle stop screw lightly contacts the plate.

NOTE: No free-play should exist in throttle grip handle once the throttle stop screw has hit the plate. If this condition exists, re-adjust jam nuts on appropriate throttle cable.

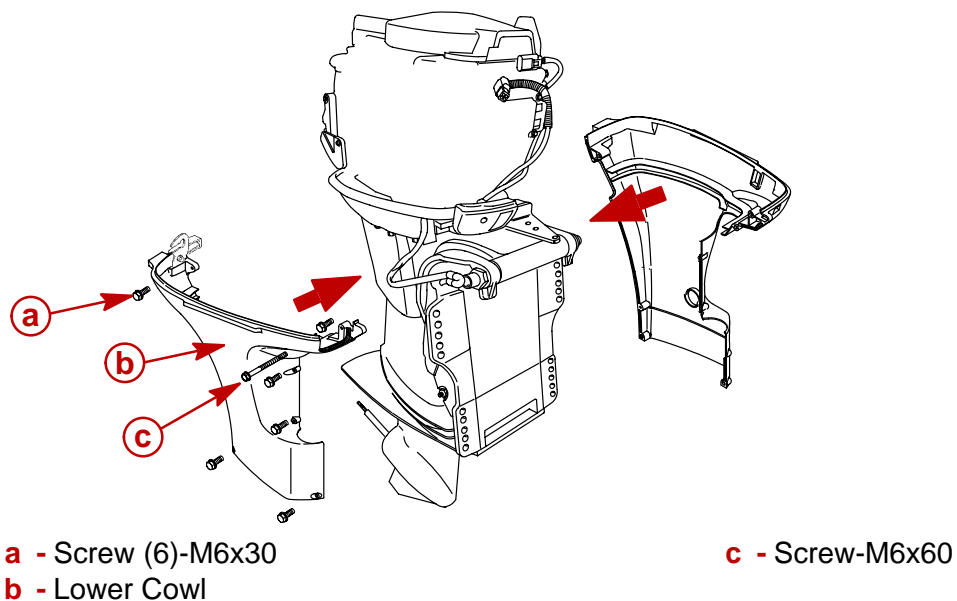


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- a** - Throttle Stop Screw Hitting Plate
- b** - No Free play in throttle grip handle past full throttle once throttle stop screw has hit plate. If this condition exists re-adjust jam nuts.

IMPORTANT: After installation, cycle the throttle grip a few times from the idle position to the wide-open-throttle position. Make sure the throttle stop is still contacting the plate. If it is not, re-adjust the jam nuts.

11. Install lower cowl.



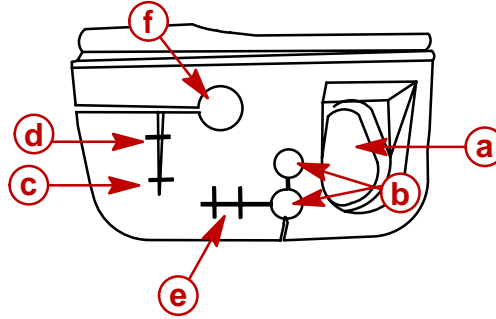
- a** - Screw (6)-M6x30
- b** - Lower Cowl

- c** - Screw-M6x60

Bottom Cowl Bolt Torque
60 lb. in. (6.8 N·m)

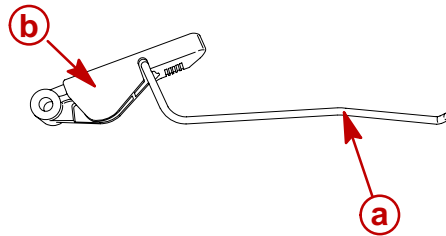


12. Cables, wires, and shift rod should be routed through grommet as shown. Seat grommet between cowl halves.



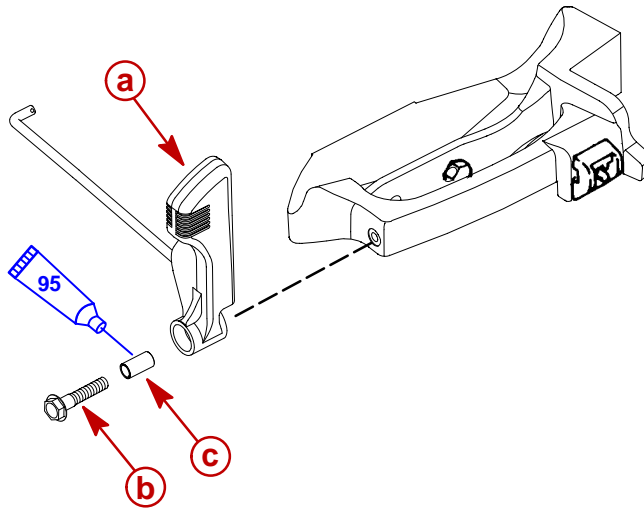
- a - Fuel Connector
- b - Battery Cables
- c - Throttle Cables
- d - Shift Rod
- e - Tiller Handle Harness Wires
- f - Remote Key Harness

13. Assemble the shift rod into the shift handle by sliding the rod into the hole.



- a - Shift Rod
- b - Shift Handle

14. Install shift handle assembly, bushing, and screw. Tighten screw to specified torque.



95 2-4-C w/Teflon (92-850736A1)

- a - Handle Assembly
- b - Screw M8 x 35
- c - Bushing

Shift Handle Screw Torque
100 lb. in. (11.3 N-m)