



ATTACHMENTS/CONTROL LINKAGE

Section 7B - Tiller Handle

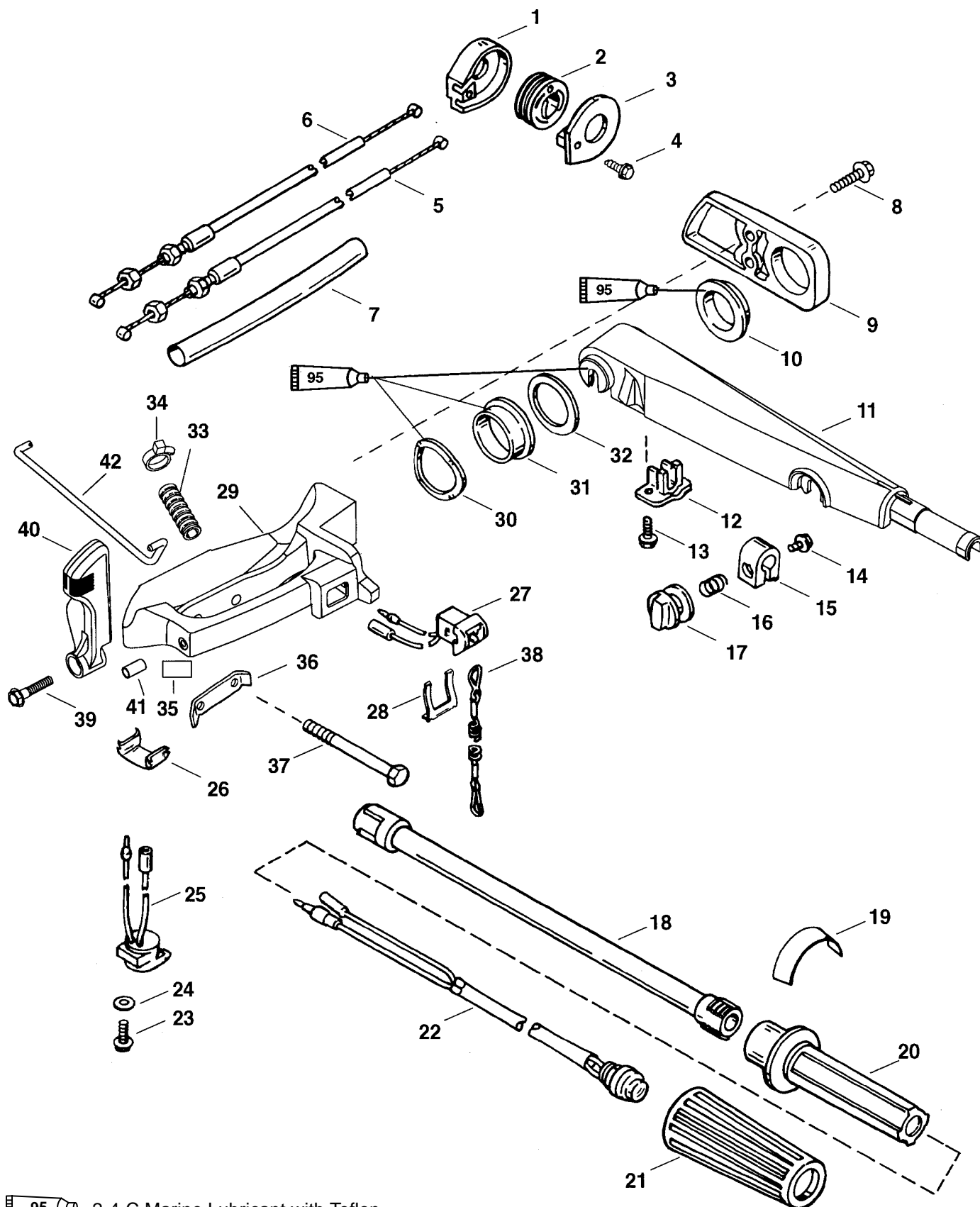
Table of Contents

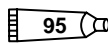
Tiller Handle	7B-2	Tiller Handle Disassembly	7B-8
Throttle Cable Adjustment	7B-4	Tiller Handle Reassembly	7B-11
Tiller Handle Assembly Removal	7B-6	Tiller Handle Installation	7B-17





TILLER HANDLE



 95 2-4-C Marine Lubricant with Teflon



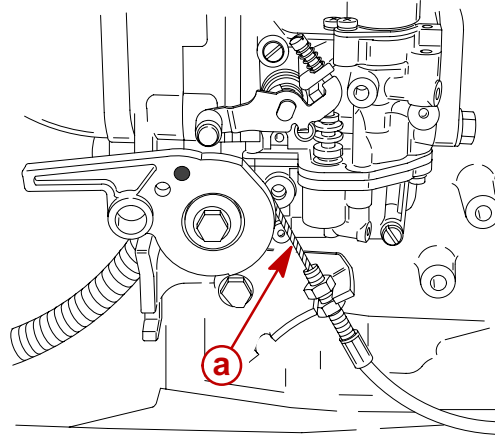
TILLER HANDLE

REF. NO.	QTY.	DESCRIPTION	TORQUE		
			lb. in.	lb. ft.	N-m
1	1	COVER KIT			
2	1	PULLEY			
3	1	CASE			
4	1	SCREW (10-16 x 1/2 IN. Self Tapping)	20		2.5
5	1	THROTTLE CABLE (26-1/2 IN.)			
6	1	THROTTLE CABLE (27-1/2 IN.)			
7	1	SLEEVE			
8	2	SCREW (M8 x 25)	135		15.5
9	1	COVER (BLACK)			
	1	COVER (GRAY)			
10	1	BUSHING			
11	1	ARM-Steering Handle (BLACK)			
	1	ARM-Steering Handle (GRAY)			
	1	ARM-Steering Handle (BLACK) GRAND CANYON			
	1	ARM-Steering Handle (GRAY)			
12	1	RETAINER			
13	1	SCREW (M5 x 16)	35		4
14	1	SCREW (M6 x 25)			
15	1	LOCK-Throttle			
16	1	SPRING			
17	1	KNOB-Throttle			
18	1	TILLER TUBE			
	1	TILLER TUBE (GRAND CANYON)			
19	1	DECAL			
20	1	HANDLE-Throttle			
21	1	GRIP			
22	1	SWITCH (STOP)			
	1	SWITCH (STOP) (GRAND CANYON)			
23	1	SCREW (M5 x 12)			
24	1	WASHER			
25	1	ALARM			
26	2	CLIP			
27	1	SWITCH (STOP)			
	1	SWITCH (STOP) (GRAND CANYON)			
28	1	RETAINER			
29	1	BRACKET-Tiller (BLACK)			
	1	BRACKET-Tiller (GRAY)			
30	1	WAVE WASHER			
31	1	BUSHING			
32	1	WASHER			
33	1	CONDUIT			
34	1	CABLE TIE			
35	1	DECAL-Shift (F-N-R)			
36	1	TAB WASHER			
37	2	SCREW (M10 x 90)		35	47.5
38	1	LANYARD SWITCH			
39	1	SCREW (M8 x 35)	100		11.5
40	1	SHIFT HANDLE			
41	1	BUSHING			
42	1	SHIFT ROD			



Throttle Cable Adjustment

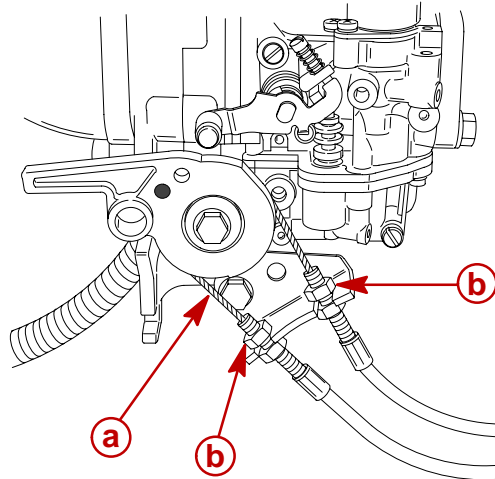
1. Attach shorter throttle cable to throttle cam as shown.



55855

a - Shorter Cable

2. Route longer cable under throttle cam and attach.
3. Secure cables by tightening jam nuts.

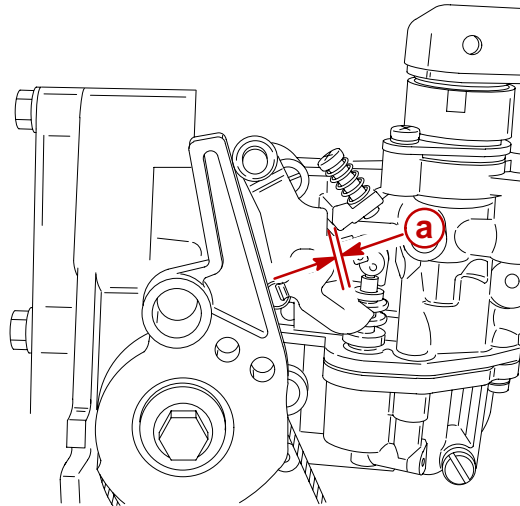


55855

a - Longer Cable
b - Jam Nuts



4. Adjust jam nuts so W.O.T. occurs with a slight gap.



55859

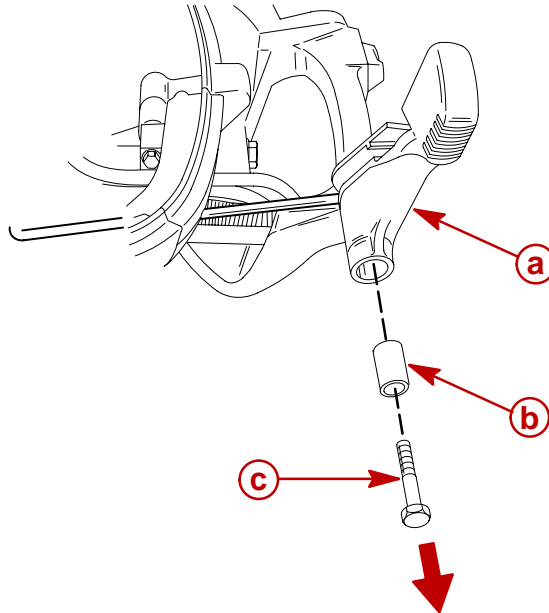
a - Gap

IMPORTANT: After installation, move the throttle grip a few times from the idle position to the wide-open-throttle position. Return throttle grip to the wide open throttle position and visually check for the specified gap. If necessary, readjust the jam nuts.



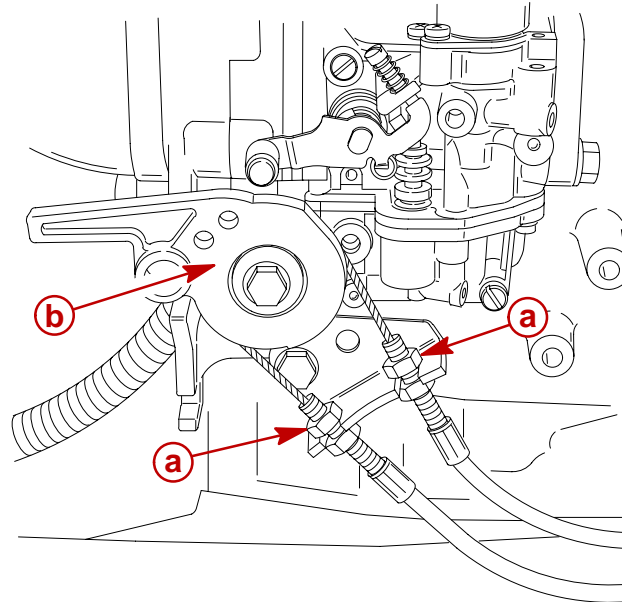
Tiller Handle Assembly Removal

1. Remove shift handle.



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

2. Loosen the jam nuts and disconnect the throttle cables from the throttle cam.

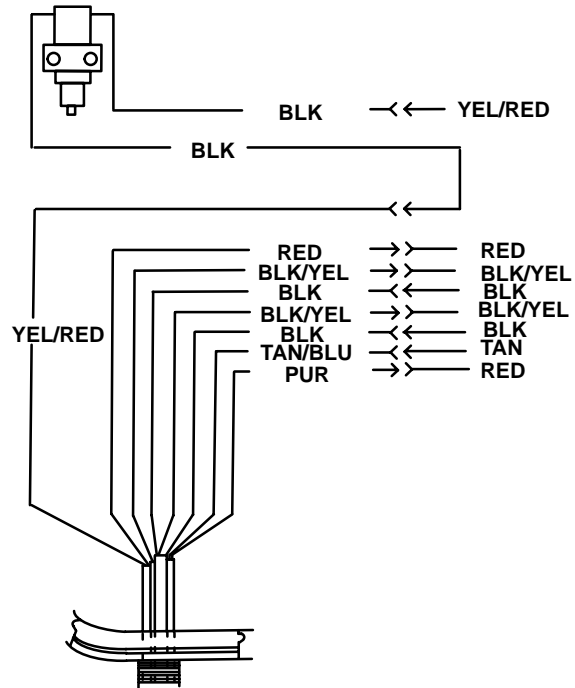


- a** - Jam Nuts
- b** - Throttle Cam

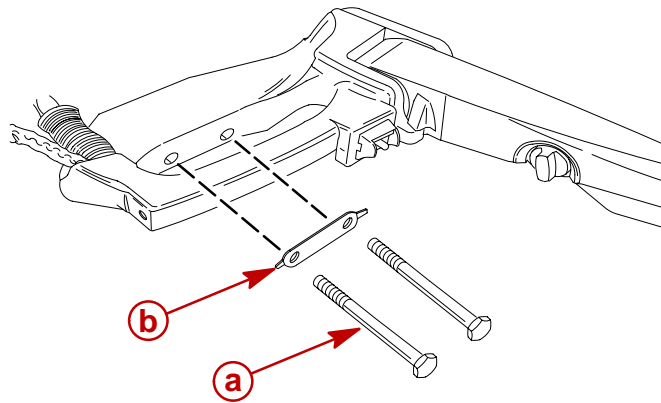
55855



3. Cut sta-straps securing tiller handle/harness wires and battery cables.
4. Disconnect the tiller handle wiring.



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



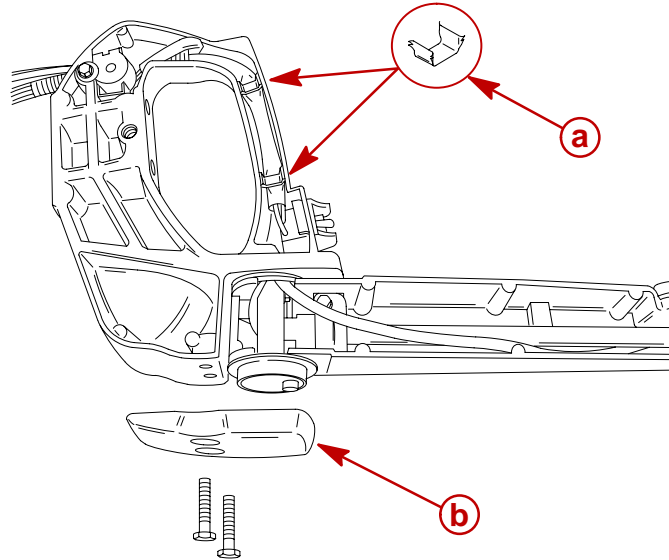
- a** - Screws (2)
- b** - Tab Washer, Lock

55858



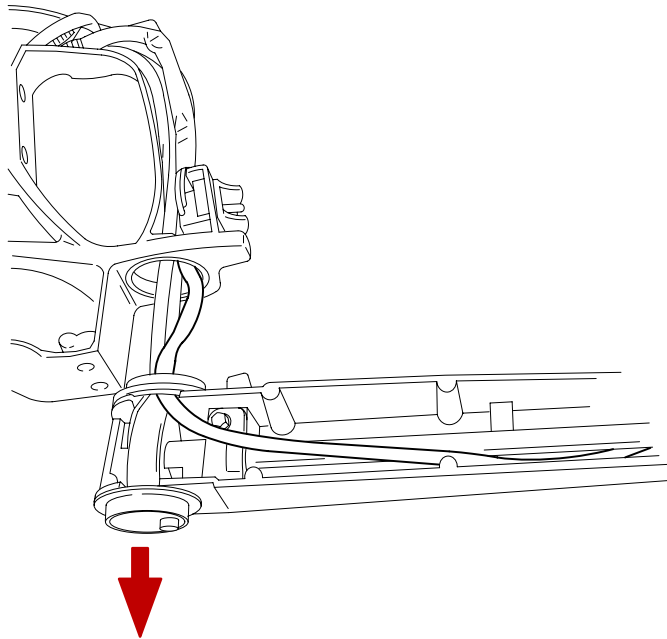
Tiller Handle Disassembly

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



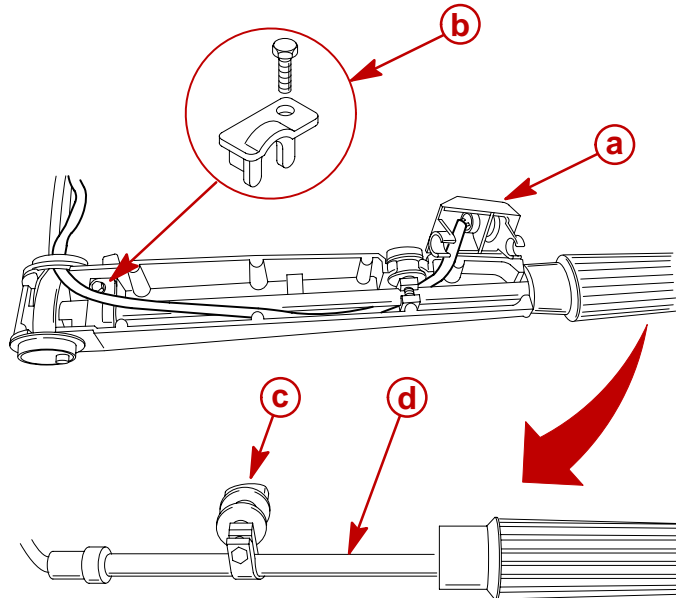
- a** - Clips (2)
- b** - Side Cover

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



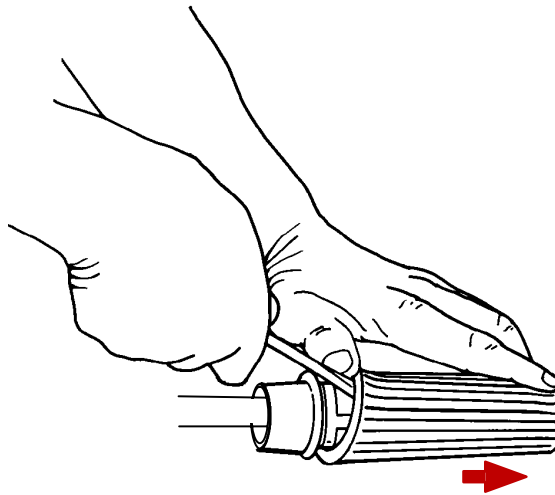


4. Pry the engine start switch off the tiller tube.
5. Remove retainer and slide out the tiller tube assembly.
6. Remove the throttle lock assembly.



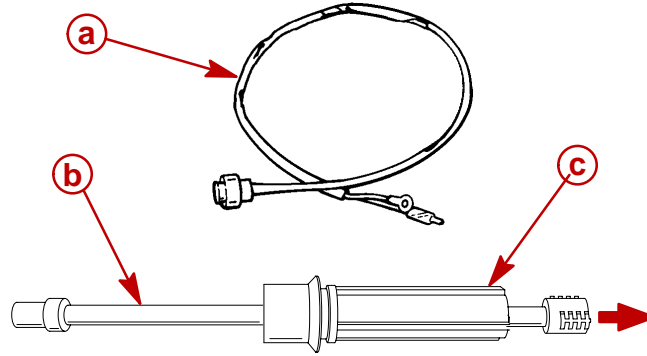
- a** - Engine Start Switch
- b** - Retainer
- c** - Throttle Lock Assembly
- d** - Tiller Tube

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



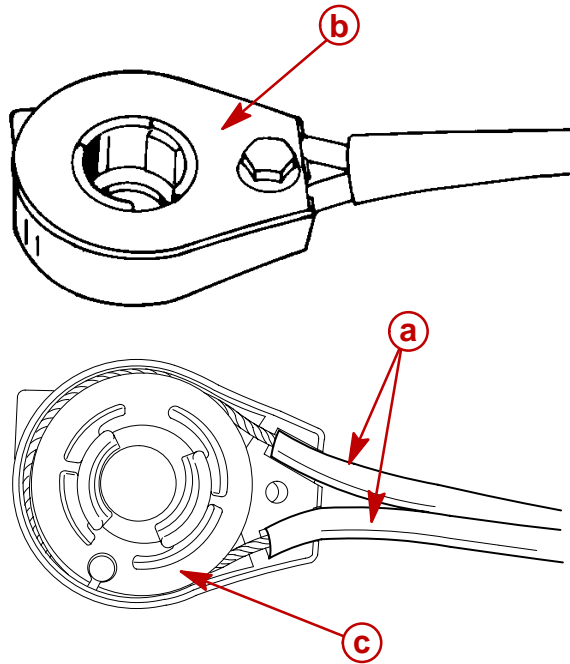


8. Pull out the stop switch harness.
9. Push the tiller tube out of the handle.



- a** - Stop Switch Harness
- b** - Tiller Tube
- c** - Handle

10. Remove cover and disconnect throttle cables from pulley.

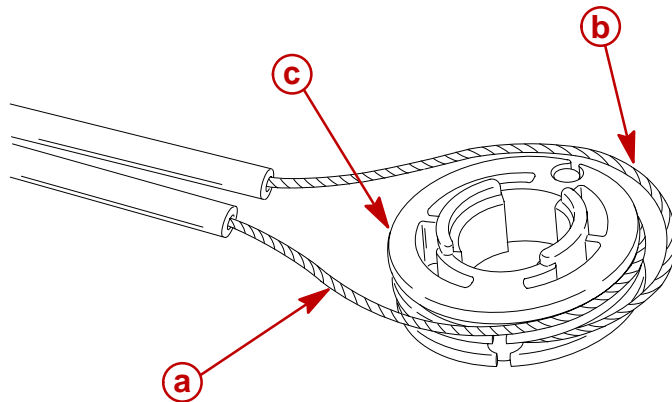


- a** - Throttle Cables
- b** - Cover
- c** - Pulley



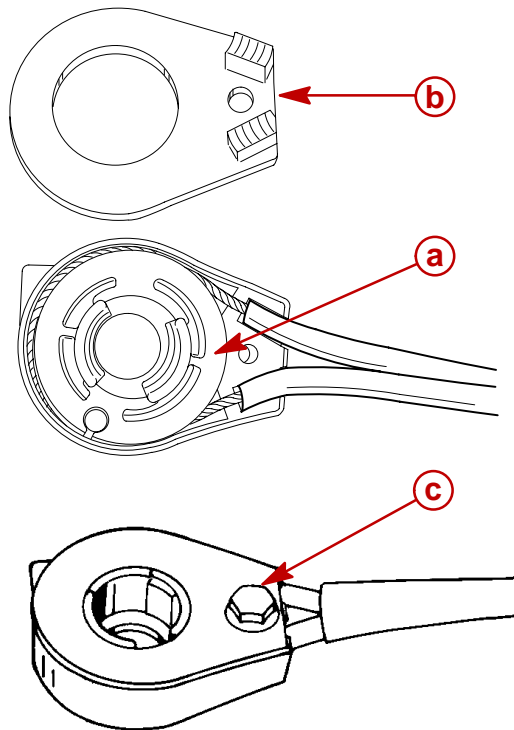
Tiller Handle Reassembly

1. Wrap cables around pulley as shown.



- a** - Short Throttle Cable (23-1/2 in. [60 cm]) Place in Top Groove
- b** - Long Throttle Cable (25 in.[63.5 cm]) Place in Bottom Groove
- c** - Pulley

2. Place pulley and cables into case.
3. Install cover with screw. Tighten screw to the specified torque.

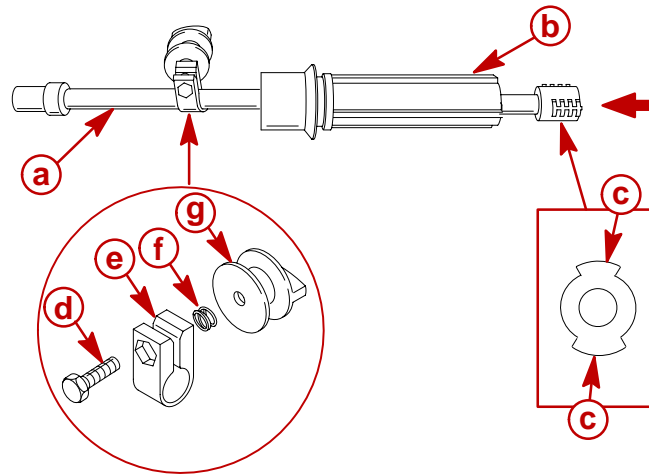


- a** - Pulley
- b** - Cover
- c** - Screw

Cover Screw Torque
20 lb. in. (2.5 N·m)

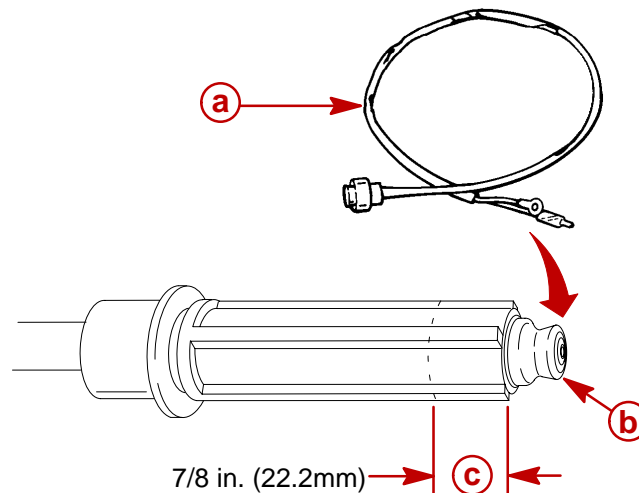


4. Match tiller tube end with the slots and pull the tube end into the handle until it bottoms out.
5. Install the throttle lock components on tiller tube.



- a** - Tiller Tube
- b** - Handle
- c** - Match the Tube End with Slots
- d** - Screw
- e** - Lock
- f** - Spring
- g** - Knob

6. Check to make sure tiller tube is pushed in 7/8 in. (22.2mm).
7. Insert the engine stop switch harness through the tiller tube. Place the stop switch into end on handle.

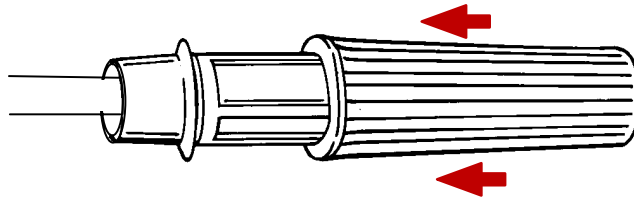


- a** - Engine Stop Switch Harness
- b** - Stop Switch
- c** - 7/8 in. (22.2 mm) between Tiller Tube and end of Handle

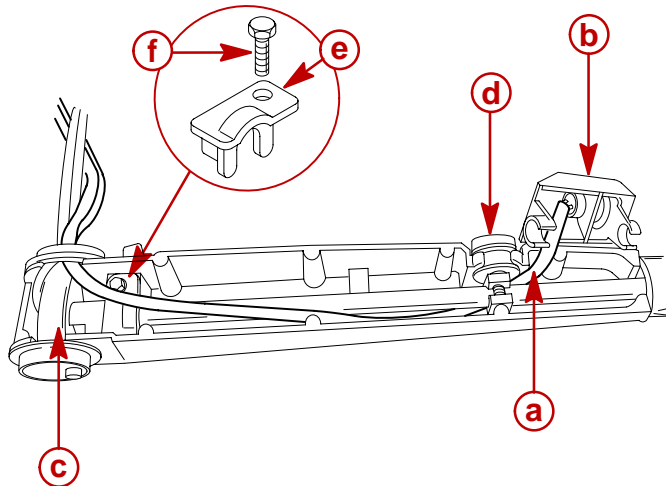


- Align the grooves inside the rubber grip with the ridges on the handle. Push the rubber grip onto the handle.

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



- Place pulley assembly into arm.
 - Slide the tiller tube into the arm. Position the throttle lock knob into its slot.
- NOTE:** Place engine start switch wiring harness under the tiller tube as shown.
- Route the stop switch wiring harness through the pulley assembly.
 - Match the end of the tiller tube with the slots in the pulley assembly. Insert the tiller tube end into the pulley assembly.
 - Secure tiller tube with retainer. Tighten the screw to the specified torque.
 - Snap the engine start switch on the tiller tube.

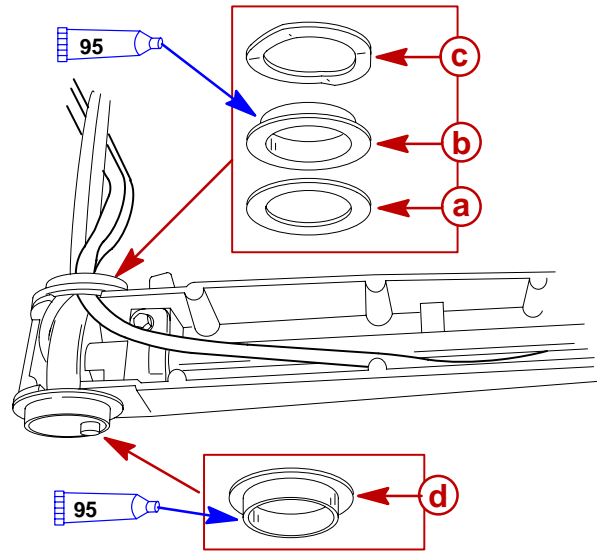


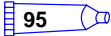
- a** - Engine Start Switch Harness (Place under Tiller Tube)
- b** - Engine Start Switch
- c** - Pulley Assembly
- d** - Throttle Lock Knob
- e** - Retainer
- f** - Screw - Tighten to specified torque

Retainer Screw Torque
35 lb. in. (4 N·m)



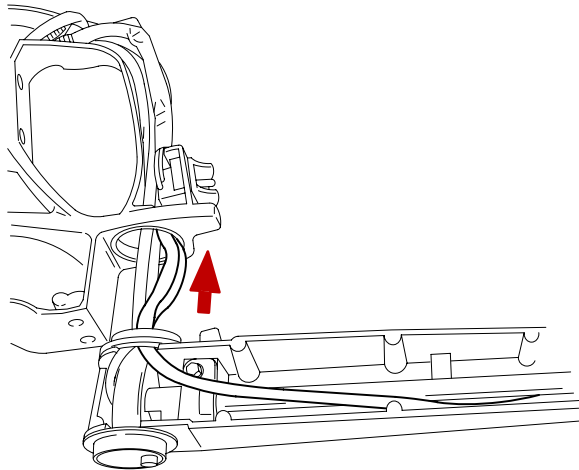
15. Place bushing components on the arm mounts.



 95 2-4-C Marine Lubricant with Teflon

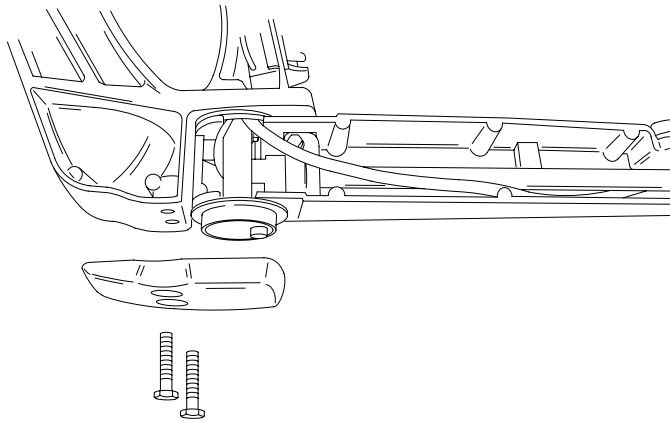
- a** - Flat Washer
- b** - Bushing
- c** - Wave Washer (2)
- d** - Bushing

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





17. Fasten arm with cover. Tighten screws to the specified torque.



Arm Cover Screw Torque

135 lb. in. (15.5 N·m)

18. Place the throttle cables through the hand grip opening as shown.

⚠ CAUTION

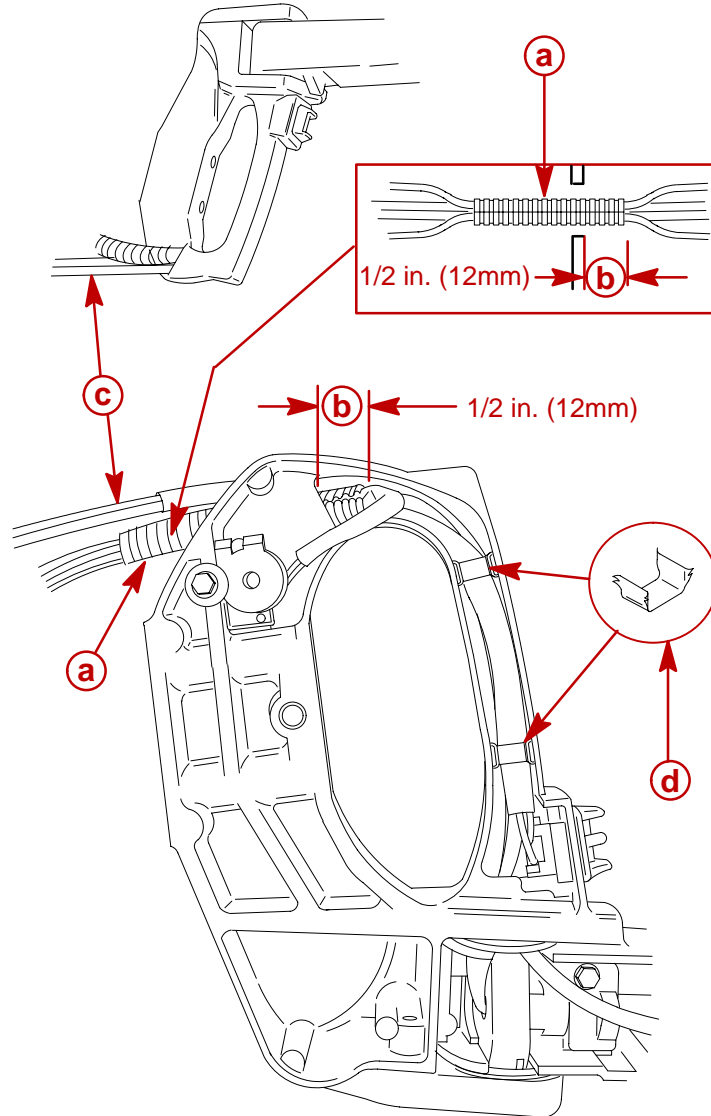
Wiring passing through the hand grip opening must be protected from chaffing or being cut, by using the wiring conduit described in the following steps. Failure to protect wiring as described could result in electrical system failure.

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 inside the handle grip.



21. Push the wiring and throttle cables down into the handle grip and hold in place with two clips.

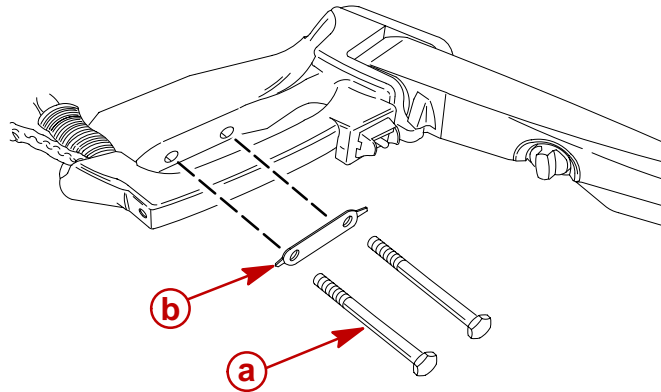


- a** - Wiring Conduit (Place all Wiring Inside – See CAUTION above)
- b** - Place Wiring Conduit inside opening 1/2 in. (12.7mm)
- c** - Throttle Cables (Position toward outer side)
- d** - Clips (2)



Tiller Handle Installation

1. Install tiller handle assembly on outboard. Install two screws securing the tiller handle. Torque screws to the specified torque. Bend tabs on tab washer.

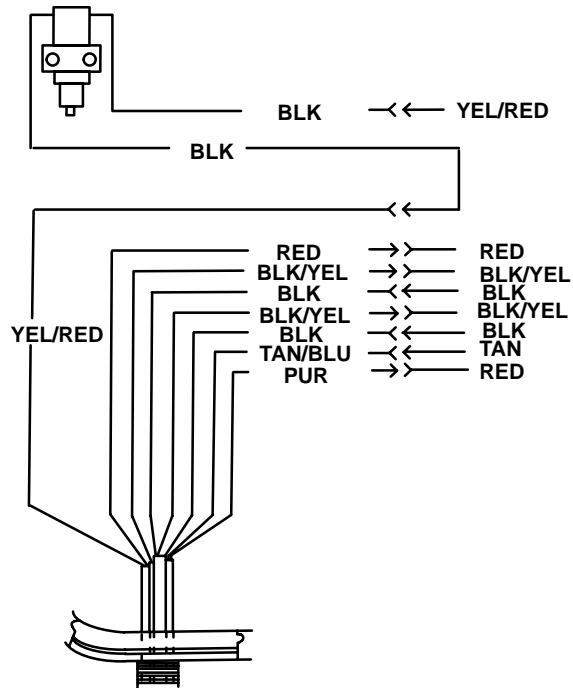


- a** - Screws (2)
- b** - Tab Washer, Lock

55858

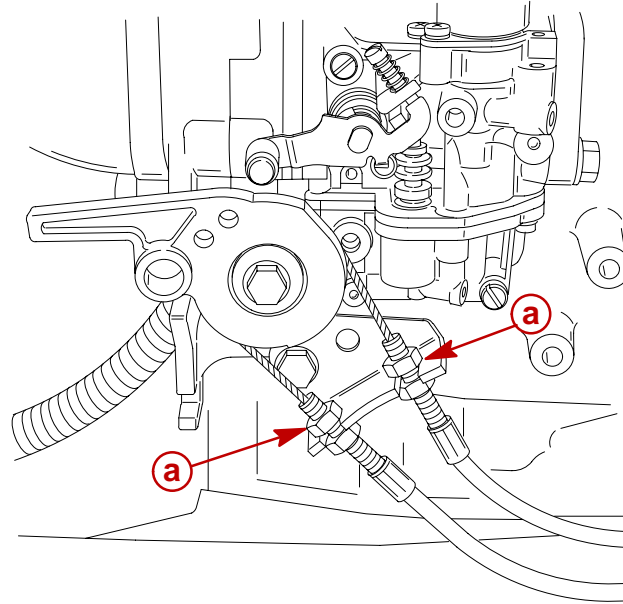
Tiller Handle Screw Torque
35 lb. ft. (47.5 N-m)

2. Connect the tiller handle wiring.





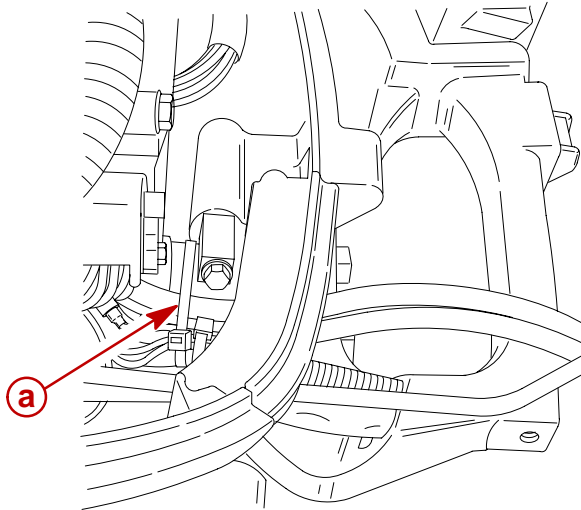
3. Connect the throttle cables to the throttle cam. Secure the jam nuts (refer to **throttle cable adjustment** in this section).



55855

a - Jam Nuts

4. Secure wires at connectors with sta-strap as shown.
5. Secure harness and battery cables to fuel connector with sta-strap as shown.

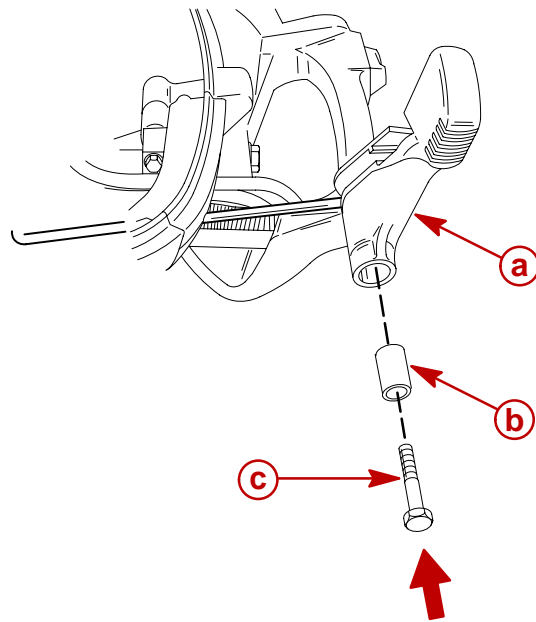


55855

a - Sta-Strap



6. Install shift handle.



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

Shift Handle Screw Torque
100 lb. in. (11.5 N·m)