



# ATTACHMENTS/ CONTROL LINKAGE

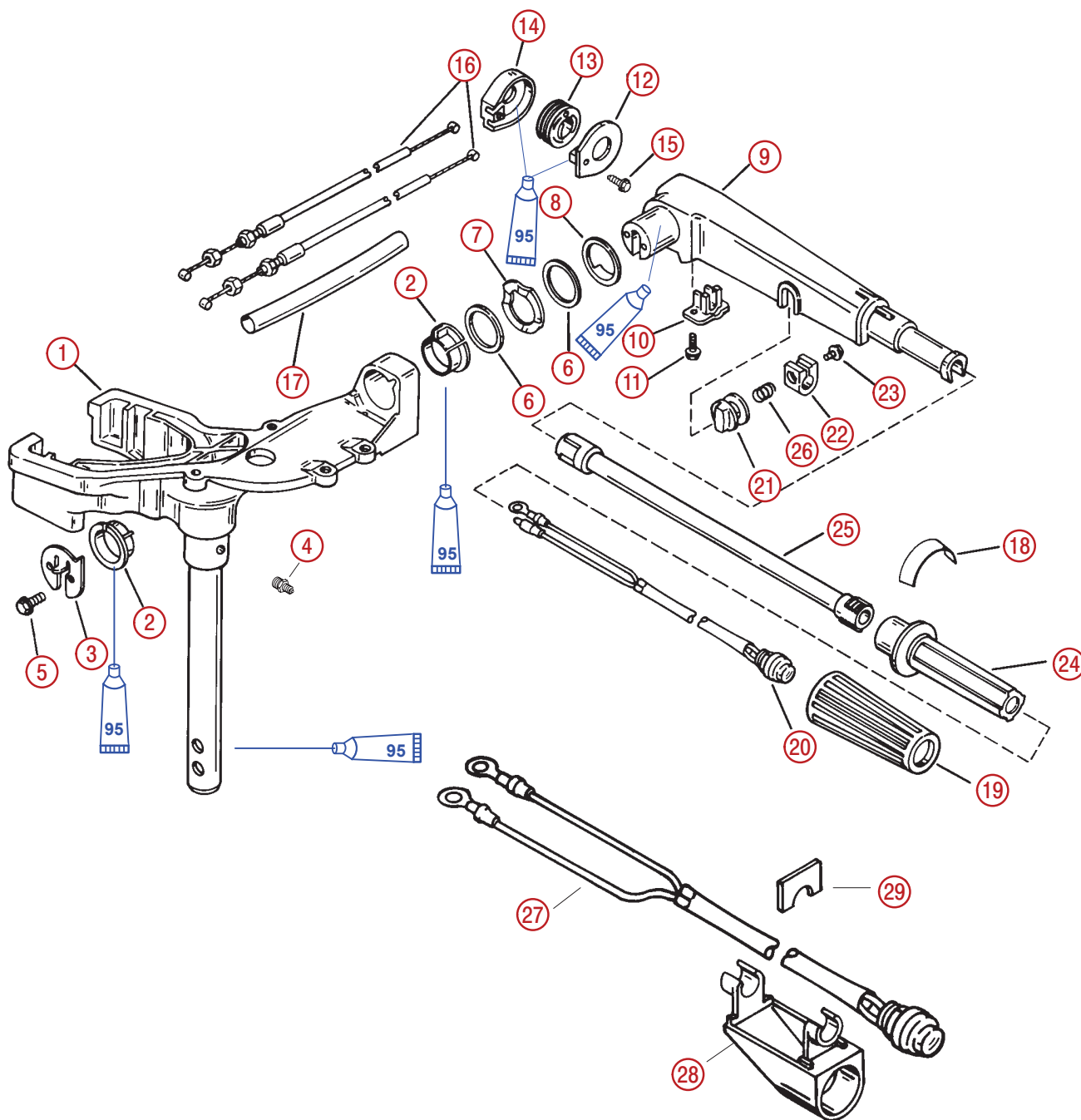
## Section 7C – Tiller Handle

### Table of Contents

Swivel Head and Steering Handle .....	7C-2	Removal .....	7C-6
Control Cables (Tiller Handle Shift Models) ...	7C-4	Installation .....	7C-7
Removal .....	7C-4	Control Cables (Tiller Handle Shift Models) ...	7C-9
Throttle Cables (Side Shift Models) .....	7C-5	Installation .....	7C-9
Removal .....	7C-5	Throttle Cable (Side Shift Models) .....	7C-11
Tiller Handle Removal/Disassembly .....	7C-6	Installation .....	7C-11



## Swivel Head and Steering Handle



95 2-4-C with Teflon



## Swivel Head and Steering Handle (continued)

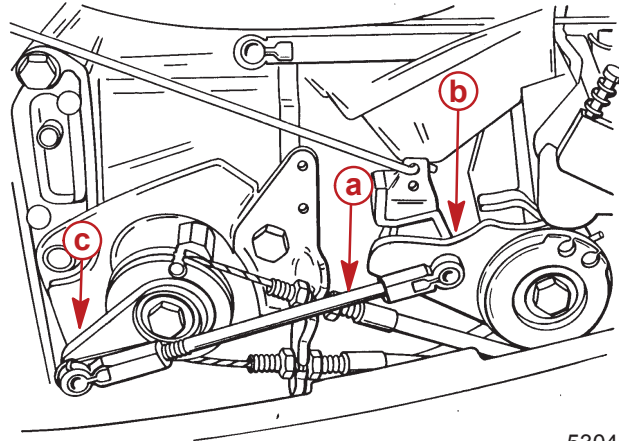
REF. NO.	QTY.	DESCRIPTION	TORQUE		
			lb. in.	lb. ft.	N·m
1	1	SWIVEL HEAD ( <b>BLACK</b> )			
2	2	BUSHING			
3	1	PLATE			
4	1	GREASE FITTING			
5	2	SCREW (M5 x 1 x 16)	70		7.9
6	2	WASHER			
7	1	WAVE WASHER			
8	1	WASHER			
9	1	STEERING HANDLE ARM ( <b>BLACK</b> )			
10	1	RETAINER			
11	1	SCREW (M5 x .8 x 16)	35		4.0
12	1	COVER KIT			
13	1	PULLEY			
14	1	PULLEY CASE			
15	1	SCREW (10-16 x 1/2)	20		2.3
16	2	THROTTLE CABLE			
17	1	SLEEVE			
18	1	DECAL			
19	1	GRIP			
20	1	STOP SWITCH			
21	1	THROTTLE FRICTION KNOB	Finger Tight		
22	1	THROTTLE FRICTION LOCK	As Required		
23	1	SCREW (M6 x 1 x 25)			
24	1	THROTTLE HANDLE			
25	1	TILLER TUBE			
26	1	SPRING			
27	1	START/STOP SWITCH			
28	1	HOUSING <b>ELECTRIC HANDLE</b>			
29	1	CLIP			



## Control Cables (Tiller Handle Shift Models)

### Removal

1. Place tiller handle twist grip in NEUTRAL position.
2. Remove throttle link rod from throttle cam and primary throttle lever.

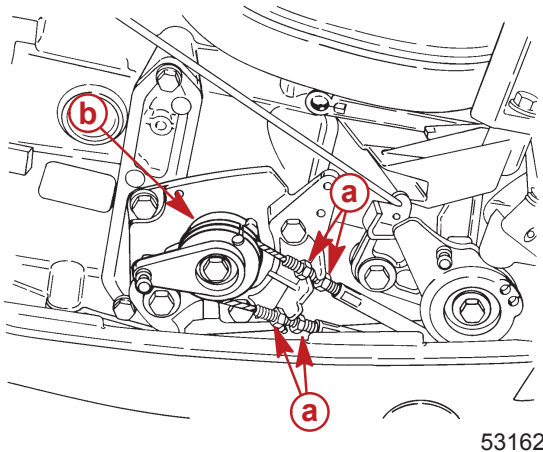


- a** - Link rod  
**b** - Throttle cam  
**c** - Primary throttle lever

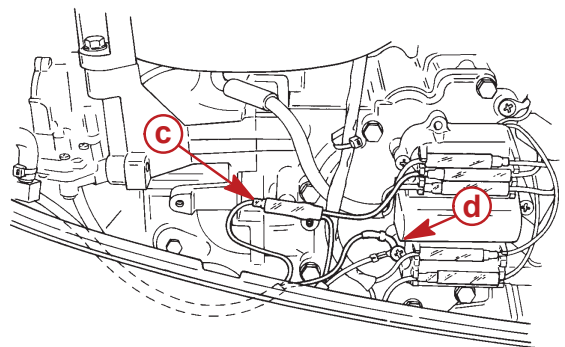
3. Loosen jam nuts which secure control cables to anchor bracket.
4. Unwrap and remove control cables from pulley of secondary gear.

**NOTE:** If not replacing control cables, mark top cable with a piece of tape to aid in reassembly.

5. Disconnect stop button wires – BLACK/YELLOW and BLACK.



- a** - Jam nuts  
**b** - Secondary gear  
**c** - BLACK/YELLOW  
**d** - BLACK



53157

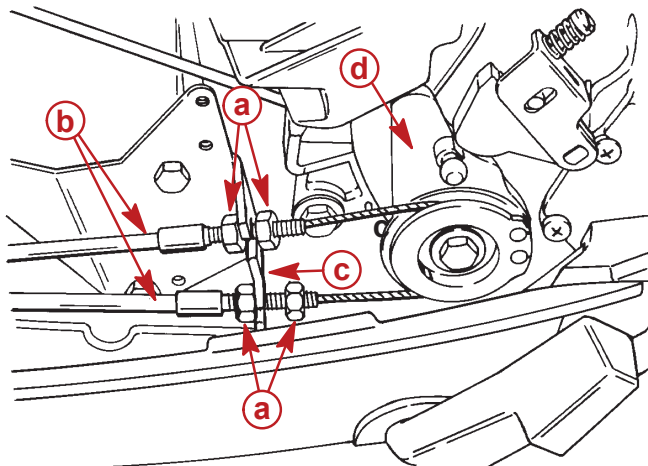


## Throttle Cables (Side Shift Models)

### Removal

1. Loosen jam nuts which secure throttle cables to anchor bracket and remove cables from pulley of throttle cam.

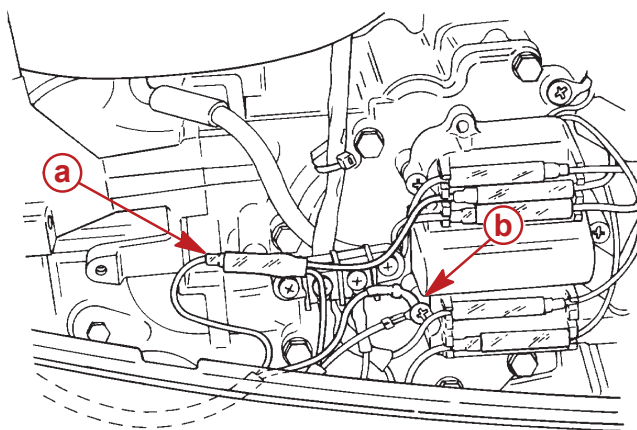
**NOTE:** If not replacing throttle cables, mark top cable with a piece of tape to aid in reassembly.



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- a** - Jam nuts
- b** - Throttle cables
- c** - Anchor bracket
- d** - Throttle cam

2. Disconnect stop button wires – BLACK/YELLOW and BLACK.



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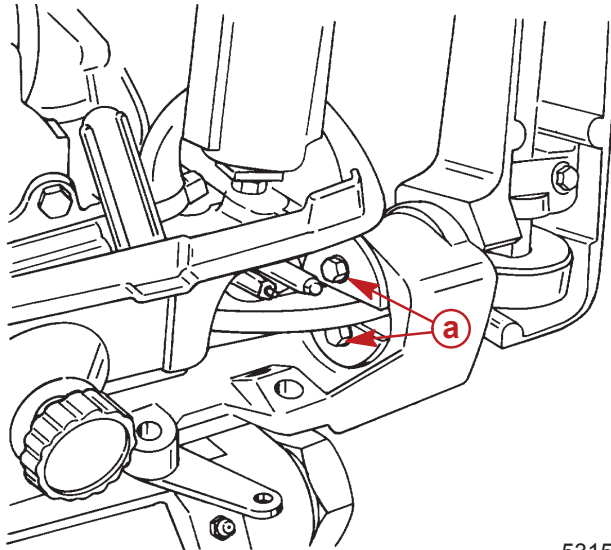
- a** - BLACK/YELLOW
- b** - BLACK



# Tiller Handle Removal/Disassembly

## Removal

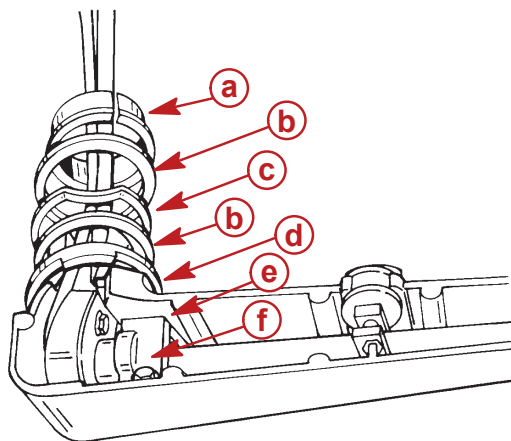
1. Remove 2 bolts securing tiller handle to anchor bracket and remove tiller handle assembly.



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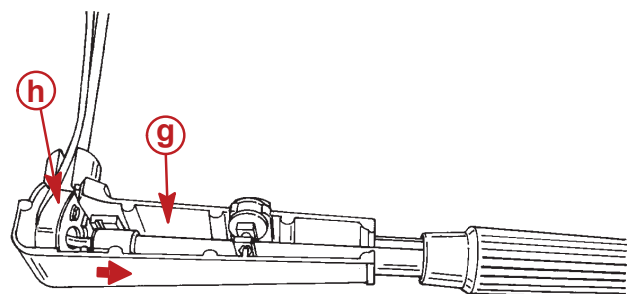
**a** - Bolts

2. Remove bushing, flatwashers (2), wave washer and tiller handle washer. Remove retainer and bolt.
3. Slide tiller tube out of pulley case.



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- a** - Bushing
- b** - Flat washer (2)
- c** - Wave washer
- d** - Tiller handle washer
- e** - Retainer
- f** - Bolt

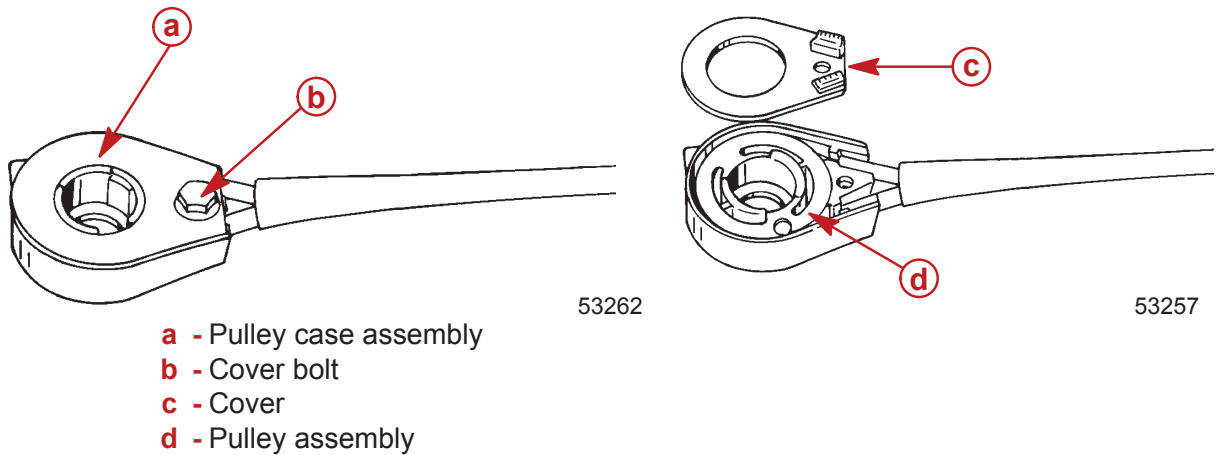


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- g** - Tiller tube
- h** - Pulley case

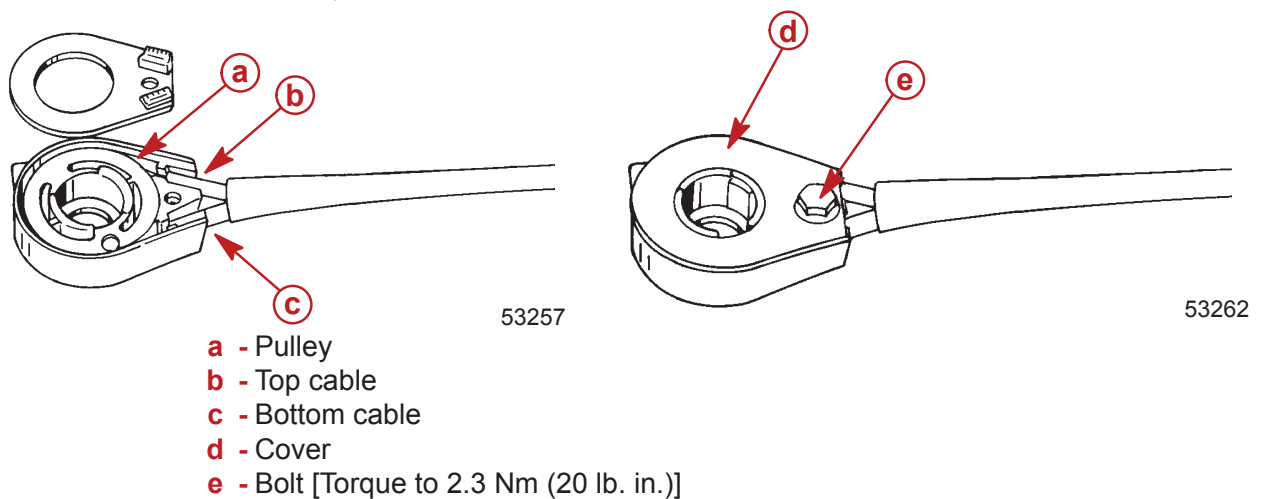


4. Remove pulley case assembly from tiller handle and remove cover bolt.
5. Remove cover and lift pulley assembly from case. Replace cables as required.

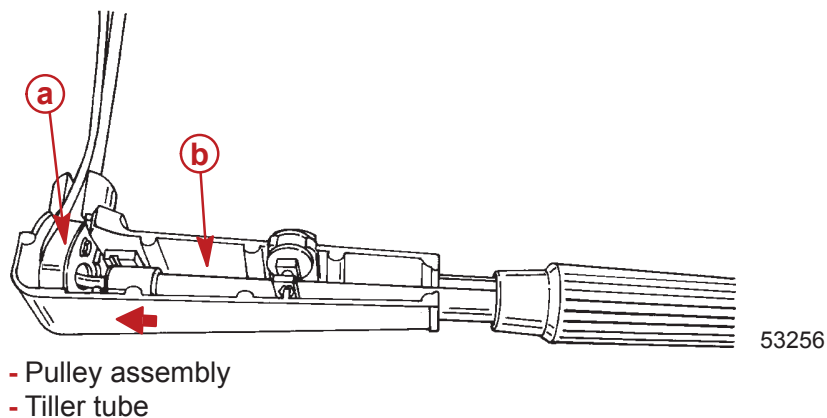


## Installation

1. Wrap cables around pulley. Top cable wraps and locks in top groove. Bottom cable wraps and locks in bottom groove.
2. Place pulley and cable assembly into pulley case.
3. Install pulley cover and secure cover with bolt. Torque bolt to 2.3 Nm (20 lb. in.).

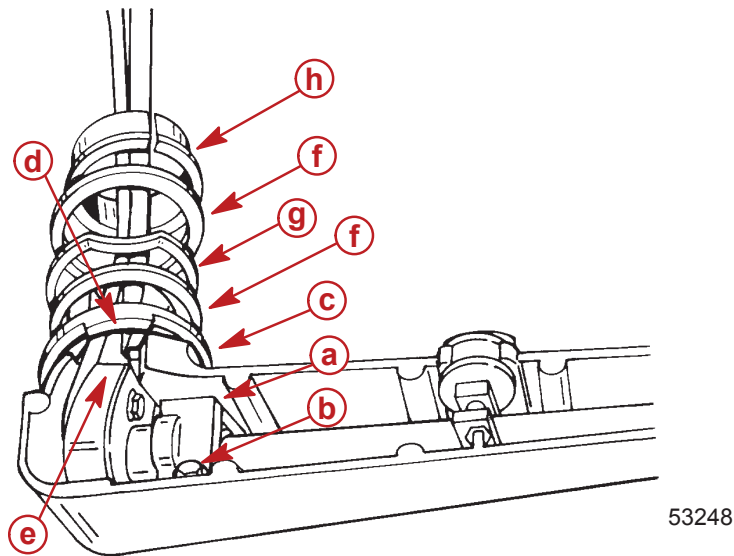


4. Install pulley assembly into tiller handle and slide tiller tube into pulley.



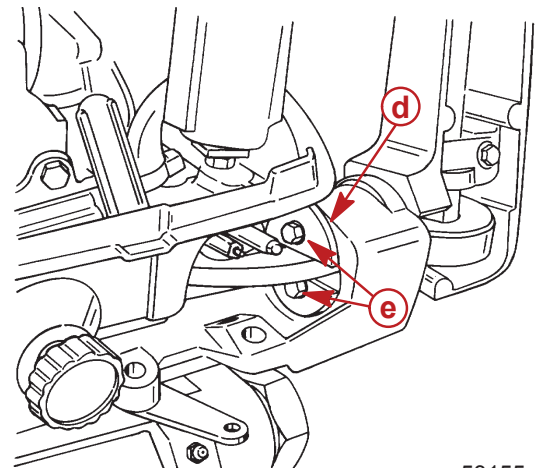
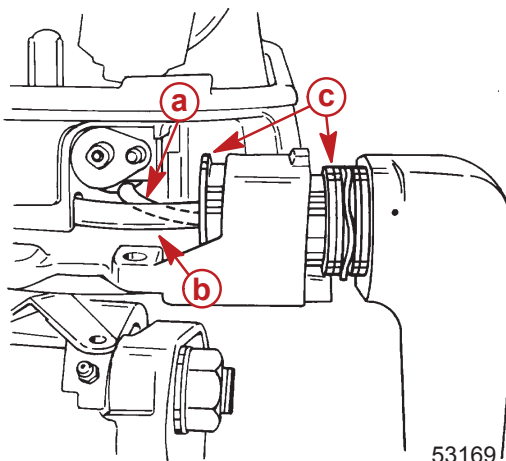


5. Secure tiller tube in handle with retainer and bolt. Torque bolt to 4.0 Nm (35 lb. in. ).
6. Install tiller washer (tab aligns with slot in handle), plain washer, wave washer, plain washer and flanged bushing over cable/harness assembly.



- |   |                            |
|---|----------------------------|
| <b>a</b> - Retainer                             | <b>e</b> - Slot            |
| <b>b</b> - Bolt [Torque to 4.0 Nm (35 lb. in.)] | <b>f</b> - Plain washer    |
| <b>c</b> - Tiller washer                        | <b>g</b> - Wave washer     |
| <b>d</b> - Tab                                  | <b>h</b> - Flanged bushing |

7. Slide tiller handle assembly into anchor bracket.
8. Route stop button harness through fuel connector opening in bottom cowl.
9. Route control cables through opening in bottom cowl.
10. Align tabs of inner and outer flanged bushings with slots in anchor bracket.
11. Pull on cable ends to remove slack and secure tiller handle to anchor bracket with plate and 2 bolts. Torque bolts to 7.9 Nm (70 lb. in.).



- |  |
|--|
| <b>a</b> - Stop button harness                   |
| <b>b</b> - Control cables                        |
| <b>c</b> - Tabs                                  |
| <b>d</b> - Plate                                 |
| <b>e</b> - Bolts [Torque to 7.9 Nm (70 lb. in.)] |

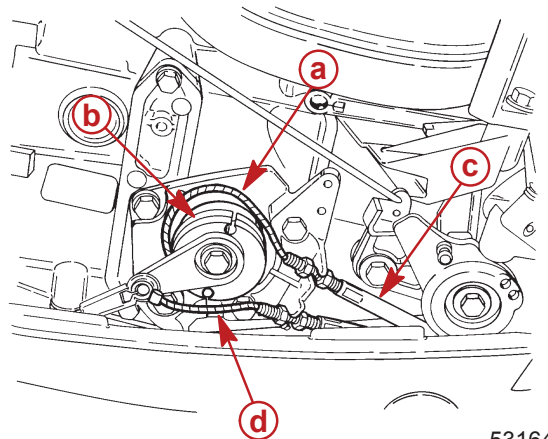




## Control Cables (Tiller Handle Shift Models)

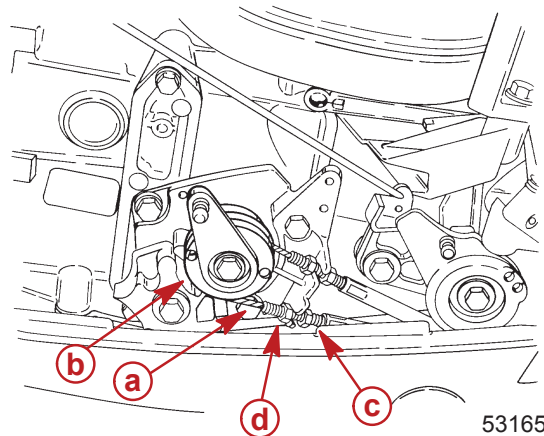
### Installation

1. Rotate tiller handle twist grip to REVERSE gear position.
2. Route extended cable over top of secondary gear pulley and secure cable into inner groove of pulley. Place cable jacket into inner notch of cable anchor bracket.



- a** - Extended cable
- b** - Inner groove
- c** - Cable jacket
- d** - Inner notch

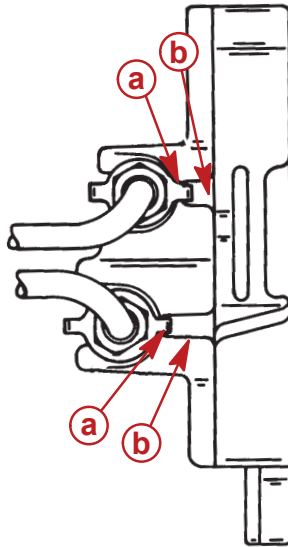
3. Rotate tiller handle to FORWARD gear position.
4. Route remaining cable below secondary gear pulley and secure cable into outer groove of pulley. Place cable jacket into lower notch of cable anchor bracket.



- a** - Cable
- b** - Outer groove
- c** - Cable jacket
- d** - Lower notch

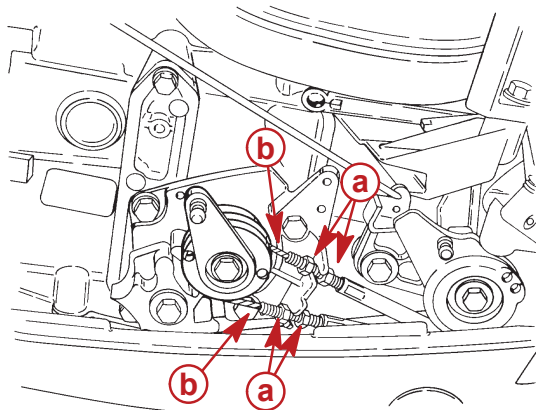


5. Position tab washers to lock control cables to holes of cable anchor bracket.



**a** - Tab washers  
**b** - Hole

6. Rotate tiller handle twist grip to NEUTRAL.
7. Adjust jam nuts to remove slack from control cables while allowing full travel of throttle/shift linkage.



53165

**a** - Jam nuts  
**b** - Cables

8. After cables are adjusted, verify FORWARD, NEUTRAL and REVERSE gears can be selected while smoothly advancing and retarding throttle. If throttle/shift operation is not correct, inspect for pinched or kinked cables, misaligned linkage or loose attaching bolts.

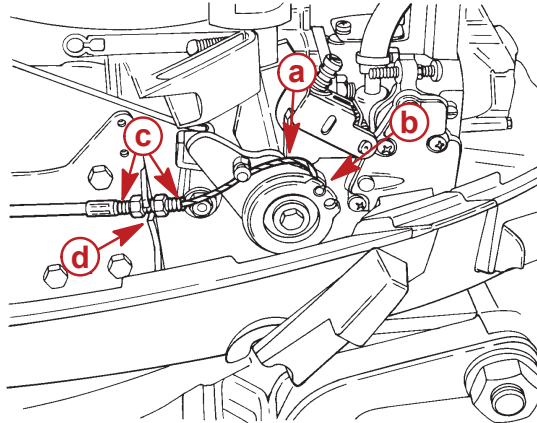
**NOTE:** It may be necessary to rotate propeller shaft in order to select REVERSE gear.



# Throttle Cable (Side Shift Models)

## Installation

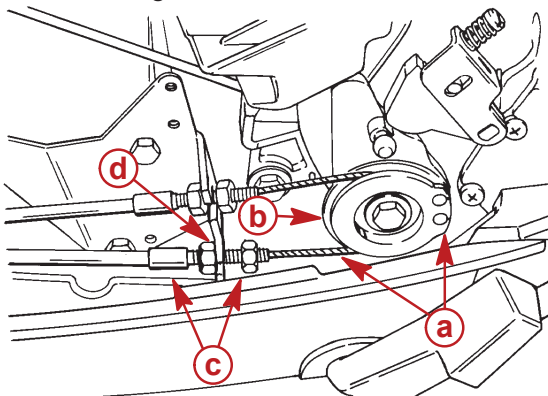
1. Rotate tiller handle twist grip to FAST position.
2. Place gear shift lever into FORWARD gear.
3. Secure extended cable into groove in top side of throttle cam pulley. Place cable jacket into upper notch of cable anchor bracket.



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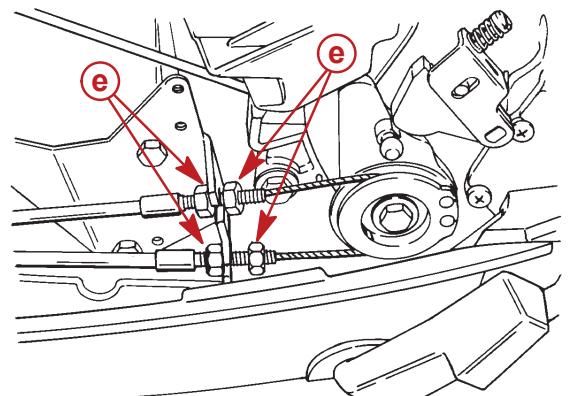
- a** - Extended cable
- b** - Pulley
- c** - Cable jacket
- d** - Notch

4. Rotate tiller handle twist grip to SLOW position.
5. Secure remaining cable into groove in bottom side of pulley. Place cable jacket into lower notch of anchor bracket.
6. Secure throttle cables into notches of cable anchor bracket.
7. Rotate tiller handle twist grip to SLOW position.
8. Adjust jam nuts to remove slack from throttle cables while allowing full travel of throttle linkage/carburetor throttle shutter.



53186

- a** - Cable
- b** - Pulley
- c** - Cable jacket
- d** - Notch
- e** - Jam nuts



53186