

## TILLER HANDLE KIT, P/N 5035981 INSTALLATION INSTRUCTIONS

### APPLICATION

This kit is designed for use on **2004 (SR) and newer Johnson® 25 and 30 HP (597cc) 4 Stroke outboards**. DO NOT install on any other models.

### SAFETY INFORMATION

For safety reasons, this kit should be installed by an authorized *Evinrude®/Johnson®* dealer. This instruction sheet is not a substitute for work experience. Additional helpful information may be found in other service literature for your engine.

This instruction sheet uses the following signal words identifying important safety messages.



#### DANGER



Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



#### WARNING



Indicates a potentially hazardous situation which, if not avoided, **CAN** result in severe injury or death.



#### CAUTION



Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate personal injury or property damage. It also may be used to alert against unsafe practices.

**IMPORTANT:** Identifies information that will help prevent damage to machinery and appears next to information that controls correct assembly and operation of the product.

These safety alert signal words mean:

ATTENTION!  
BECOME ALERT!  
YOUR SAFETY IS INVOLVED!

Always follow common shop safety practices. If you have not had training related to common shop safety practices, you should do so to protect yourself, as well as the people around you.

It is understood that this instruction sheet may be translated into other languages. In the event of any discrepancy, the English version shall prevail.

DO NOT do any repairs until you have read the instructions and checked the pictures relating to the repairs.

Be careful, and never rush or guess a service procedure. Human error is caused by many factors: carelessness, fatigue, overload, preoccupation, unfamiliarity with the product, and drugs and alcohol use, to name a few. Damage to a boat and outboard can be fixed in a short period of time, but injury or death has a lasting effect.

When replacement parts are required, use *Evinrude/Johnson Genuine Parts* or parts with equivalent characteristics, including type, strength and material. Using substandard parts could result in injury or product malfunction.

Torque wrench tightening specifications must be strictly followed. Replace any locking fastener (locknut or patch screw) if its locking feature becomes weak. Definite resistance to turning must be felt when reusing a locking fastener. If replacement is specified or required because the locking fastener has become weak, use only authorized *Evinrude/Johnson Genuine Parts*.

If you use procedures or service tools that are not recommended in this instruction sheet, **YOU ALONE** must decide if your actions might injure people or damage the outboard.

**TO THE INSTALLER:** Give this sheet to the owner. Advise the owner of any special operation or maintenance information contained in the instructions.

**TO THE OWNER:** Save these instructions in your owner's kit. This sheet contains information important to the future use and maintenance of your engine.



1A

Exploded view diagram of a vehicle's rear suspension and steering assembly, labeled 1A. The diagram shows various components including the rear axle, control arms, steering knuckle, and suspension springs, all numbered for identification. A separate inset shows the front suspension assembly, labeled 71.

Key components and parts shown:

- 1A Main Assembly:** Includes the rear axle (1), control arms (10, 13), steering knuckle (8), suspension springs (52), and various bolts and nuts (e.g., 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100).
- 71 Front Assembly:** Includes the front suspension components, such as the front control arm (74), front steering knuckle (72), and front suspension springs (75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100).

# TILLER CONVERSION KIT (4 Stroke - 597cc)

PC3894

Ref	P/N	Name of Part	Qty	Ref	P/N	Name of Part	Qty
1A	5035981	TILLER UPGRADE KIT	1	51	5032697	*SWITCH, STARTING MOTOR	1
1	5034725	*HANDLE, TILLER (WHITE)	1	52	5032009	*LEVER, FRONT SHIFT	1
2	5032137	*SPACER, HANDLE COVER	1	53	5032287	*LINK, SHIFT LEVER	1
3	5032139	*SPACER, HANDLE COVER INSIDE	1	54	5032155	*CONNECTOR, CLUTCH LEVER LINK	1
4	5032138	*BUSHING, TILLER HANDLE	1	55	5030956	*NUT, CLUTCH LEVER LINK	1
5	5032140	*COVER, THROTTLE CABLE	1	56	5032289	*PIN, CONNECTOR	1
6	5032141	*SHIM, TILLER HANDLE	AR	57	5031818	*BOLT (6X28.8)	1
7	5034726	*COVER, TILLER HANDLE (WHITE)	1	58	5031829	*WASHER (5.5X12X0.8)	1
8	5034727	*BRACKET, TILLER HANDLE (WHITE)	1	59	5031080	*WASHER (7X12X1.0)	1
9	5030315	*GRIP, HANDLE	1	60	5030429	*WASHER (6.5X13X1.0)	1
10	5032144	*ROD, HANDLE	1	61	5030433	*WASHER (8.5X16X1.2)	1
11	5032145	*STOPPER, HANDLE ROD	1	62	5031856	*WASHER, WAVE (8.5X17X0.2)	1
12	5031577	*BUSH, HANDLE ROD	1	63	5030086	*PIN	1
13	5031578	*PIN, HANDLE ROD	1	64	5030575	*CLIP	1
14	5032146	*ADJUSTER, HANDLE GRIP	1	65	5032045	*SWITCH, NEUTRAL	1
15	5034728	*CABLE, THROTTLE	2	66	5030824	*ACTUATOR, NEUTRAL SW	1
16	5032304	*HOLDER, FUEL HOSE	1	67	5034685	*BRACKET, NEUTRAL SWITCH	1
17	5031810	*BOLT (10X50)	2	68	5031638	*BOLT	2
18	5031820	*BOLT (5X12)	1	69	5032004	*CAM, THROTTLE	1
19	5031821	*BOLT (6X12)	1	70	5035737	*HARNESS ADAPTER, Electrical	1
20	5034400	*BOLT (8X22)	2	71	176560	*REMOTE TILT SWITCH KIT	1
21	5030049	*SCREW (6X23)	1	72	124997	**BEZEL, Switch	1
22	5031832	*WASHER (10X18X1.0)	2	73	125308	**SCREW, Mounting	2
23	5031794	*WASHER	1	74	176558	**CABLE ASSEMBLY, 13.5 ft. (4.1m)	1
24	5031859	*WAVE WASHER	1	75	514679	***TERMINAL, Pin	3
25	5031795	*SPRING	1	76	514680	***TERMINAL, Socket	6
26	5030589	*CLAMP	1	77	514681	***LOCK WEDGE, 3-socket	2
27	5032371	*GROMMET, CABLE	1	78	514682	***LOCK WEDGE, 3-pin	1
28	5032372	*MARK, HANDLE GRIP	1	79	514685	***CONNECTOR, 3-socket	2
29	5032702	*DECAL, EMGY SWITCH	1	80	514789	****SEAL, Connector	1
30	5032006	*BRACKET, THROTTLE CABLE	1	81	514686	***CONNECTOR, 3-pin	1
31	5032007	*ROD, THROTTLE LIMITER	1	82	313219	**WASHER	1
32	5032008	*LIMITER, THROTTLE	1	83	334656	**NUT	1
33	5032155	*CONNECTOR, THROTTLE LIMITER	2	84	514682	**LOCK WEDGE, 3-pin	1
34	5030956	*NUT, CONNECTOR	2	85	514686	**CONNECTOR, 3-pin	1
35	5032289	*PIN, CONNECTOR	2	86	586074	**SWITCH, Trim/Tilt	1
36	5031817	*BOLT (6X17)	1	87	514679	***TERMINAL, Pin	3
37	5031080	*WASHER (7X12X1.0)	2	88	5031817	*BOLT, (6x17)	1
38	5030575	*CLIP	2	89	5030429	*WASHER, (6.5X13X1.0)	1
39	5030988	*BOLT	2	90	5034696	*NUT	1
40	5031969	*KNOB, STARTER	1	91	5034697	*WASHER, steering adjuster	2
41	5032414	*ROD, CHOKE	1	92	5034693	*ADJUSTER, steering	1
42	5030415	*NUT	1	93	5034695	*PLATE, steering lock upper	1
43	5032423	*WASHER	2	94	5032061	*PLATE, steering adjuster	1
44	5032422	*E-RING, retainer	1	95	5031858	*WASHER, wave	1
45	5031895	*GROMMET	1	96	5030063	*WASHER (12.5X23X1.0)	1
46	5032047	*SWITCH ASSY, EMERGENCY	1	97	5034698	*PLATE, steering lock lower	1
47	5030223	**PLATE	1	98	5031819	*BOLT (10X20.4)	1
48	5030226	*LABEL, STOP	1	99	5034694	*SHAFT, stud	1
49	5030063	*WASHER (12.5X23X1.0)	1	100	5033995	*SHIFT DECAL	1
50	5031828	*NUT, START SWITCH	1				



## WARNING



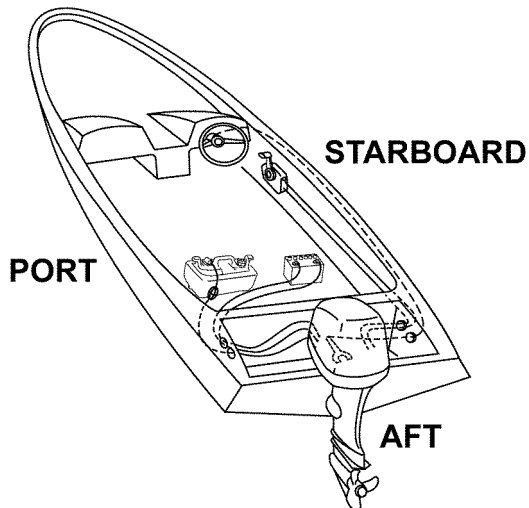
**Improper installation of this kit could result in personal injury due to loss of boat control.**

A boat designed for remote steering might have a lower maximum rated horsepower for a tiller-steered outboard than shown on the certification plate. To avoid overpowering a boat designed and rated for remote steering, contact boat manufacturer for tiller-steered maximum rated horsepower.

To prevent accidental starting while servicing, disconnect battery leads from battery. Twist and remove all spark plug leads.

To prevent injury from contact with a rotating propeller, remove propeller before servicing and when running outboard on a flushing device.

### FORWARD



Nautical Orientation

## INSPECTION

Before installation, check boat for obstructions that could interfere with free movement of tiller handle when steering or tilting outboard.



## CAUTION



**To avoid damaging the tiller handle when tilting the outboard up, position the outboard to clear obstacles in the motor well and boat.**

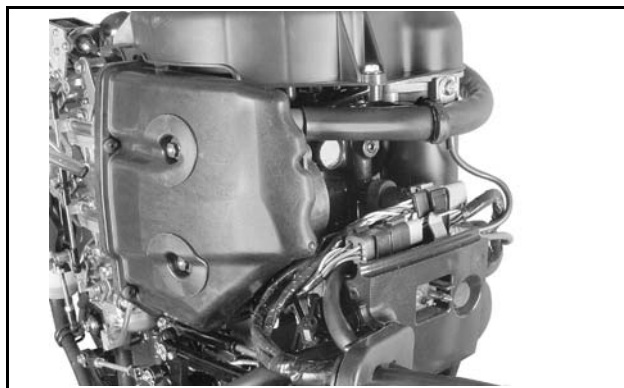
**IMPORTANT:** Prior to starting installation, perform the following:

- Stop the engine.
- Disconnect battery cables from outboard.
- Make sure the engine is sufficiently cooled.

## PARTS REMOVAL

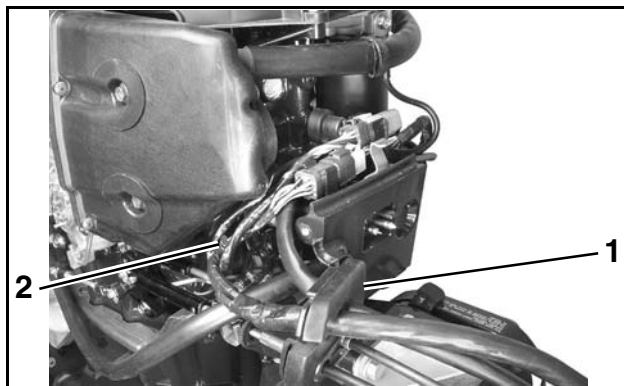
Remove the parts in the following procedures prior to installing the Tiller Conversion Kit.

Remove the upper motor cover and both lower motor covers.



003909

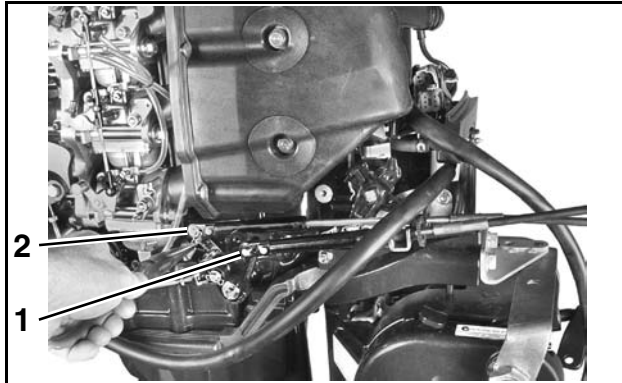
Remove lower motor cover grommet. Remove wire harness connectors from holder. Disconnect the remote control wire harness connectors from engine wire harness connectors. Remove remote control harness from outboard.



1. Grommet
2. Remote control wire harness

003285

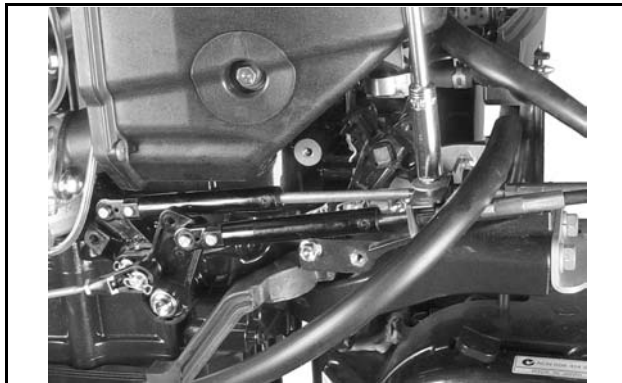
Position the shift linkage in REVERSE position. Turn propeller shaft while engine is being shifted. Remove throttle and shift cable retaining clips and washers.



1. Throttle cable  
2. Shift cable

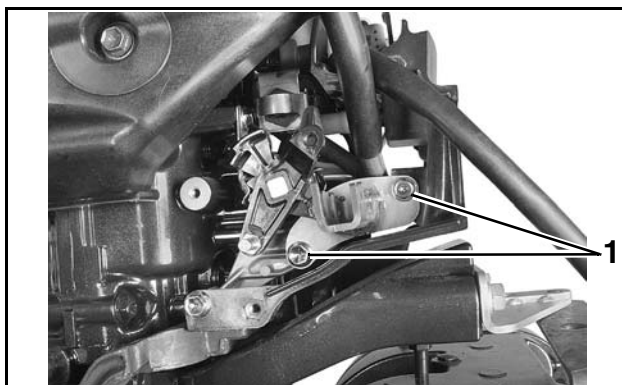
003286

Remove retaining screw and plate from control cable anchor bracket. Remove throttle and shift cables.



003294

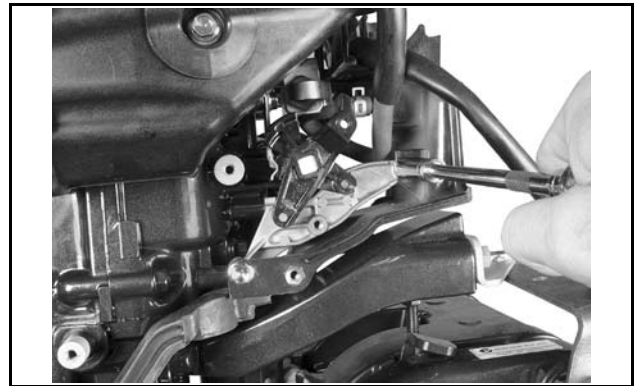
Remove the two retaining screws and control cable anchor bracket.



1. Screws

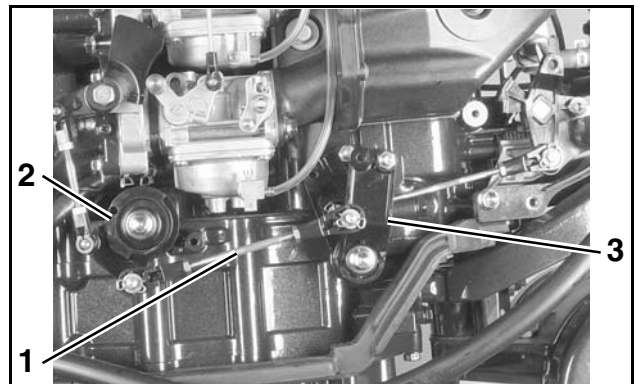
003287

Reinstall front screw and tighten securely.



003288

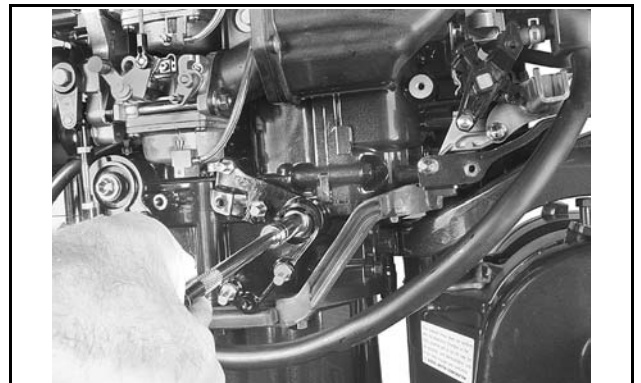
Remove clips and washers at both ends of throttle link rod. Remove rod from throttle drum and throttle lever.



1. Rod  
2. Drum  
3. Lever

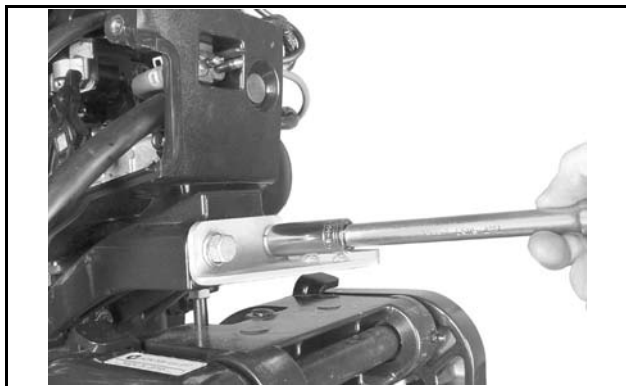
003283

Remove screw and washer, throttle lever and shift lever.

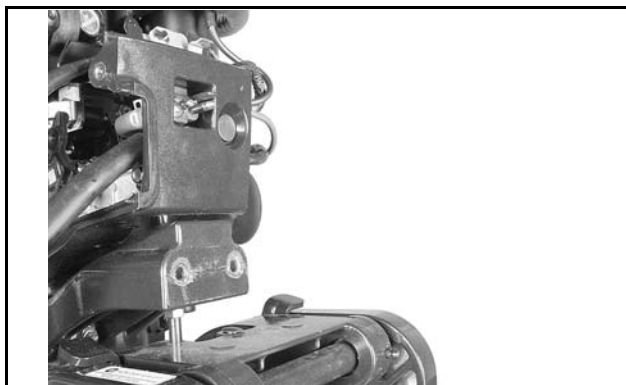


003281

Remove steering bracket screws and washers and remove steering bracket.



003289



003290

## INSTALLATION

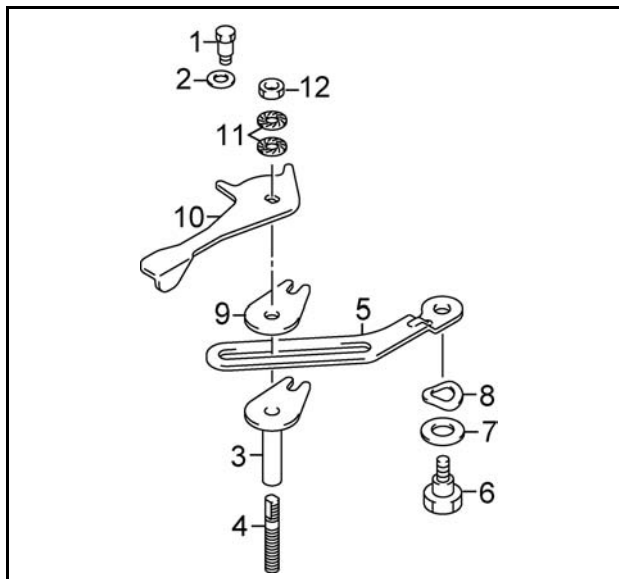


### WARNING



The steering friction provided with this kit is suited for installation on 2004 models. If this kit is installed on older models the steering friction components will not fit. Failure to provide steering friction could lead to improper operation of outboard and result in a loss of steering control.

Assemble steering friction parts as follows.

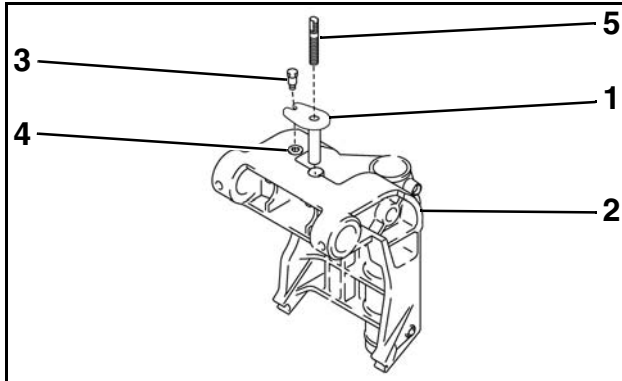


1. Bolt, alignment (6 x 17 mm)
2. Washer
3. Lower plate, steering lock
4. Shaft (stud)
5. Plate, steering adjuster
6. Bolt, shoulder (10 x 20.4 mm)
7. Washer
8. Washer, wave
9. Upper plate, steering lock
10. Adjuster
11. Washer, locking
12. Nut

0061573



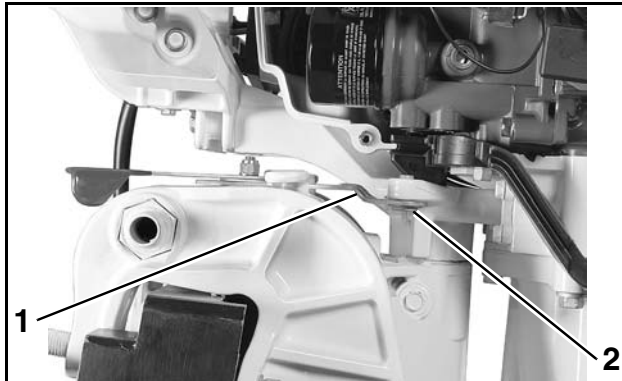
Insert lower plate into swivel bracket. Align washer and then plate with alignment bolt hole in bracket. Apply *Nut Lock™* to threads of bolt and install bolt. Notch in lower plate must be positioned to move on shoulder of bolt. Torque bolt to 60 in. lbs. (6 N·m). Thread shaft into lower plate.



1. Lower plate
2. Swivel bracket
3. Alignment bolt
4. Washer
5. Shaft

003911

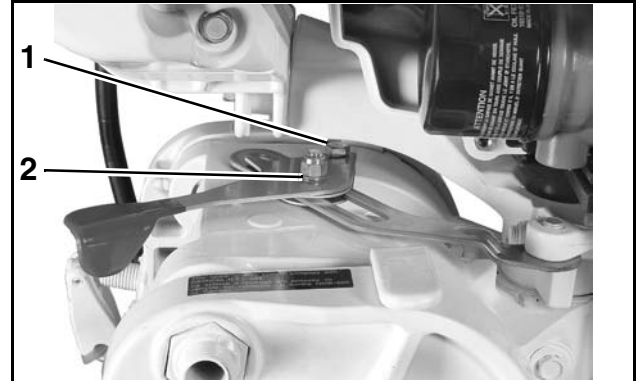
Position steering adjuster plate on shaft. Fasten steering adjuster plate to steering bracket using shoulder bolt, washer, and wave washer. Wave washer must be positioned next to plate. Torque to 20 ft. lbs. (27 N·m).



1. Steering adjuster plate
2. Shoulder bolt

003903

Align upper plate with alignment bolt and position on shaft. Next align adjuster with alignment bolt and position on shaft. Install two interlocking washers with “ramped” sides facing each other and install nut.



1. Alignment bolt
2. Washers (2)

003907

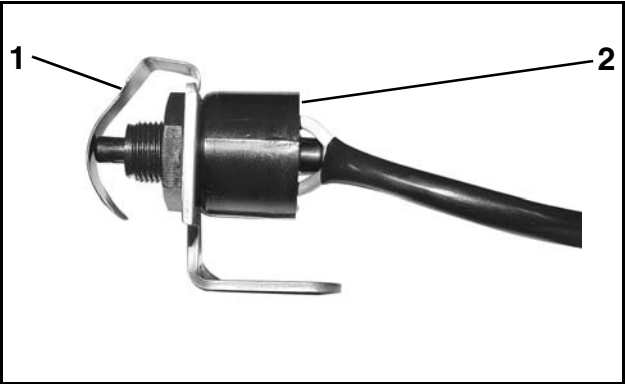
Tighten lock nut and test steering friction control. Adjust shaft height to control tension on adjuster. Approximately two full threads must be visible above lock nut when tightened.



1. Shaft

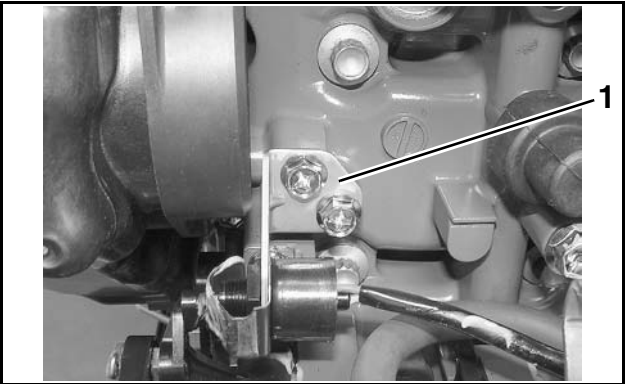
003908

Assemble actuator bracket, neutral switch and nut onto neutral switch bracket.



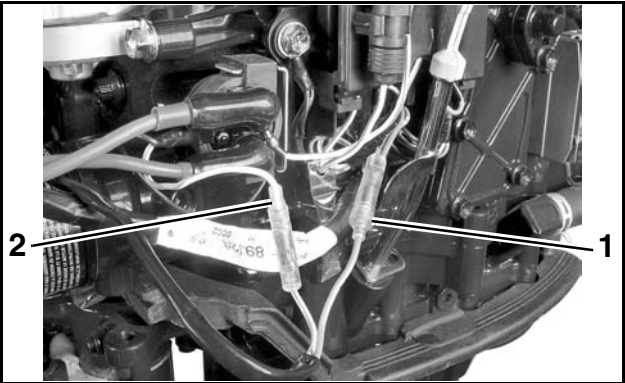
1. Actuator bracket  
2. Neutral switch  
003411

Fasten neutral switch bracket to front of crank-case with screws provided. Torque screws to 90 in. lbs. (10 N·m).



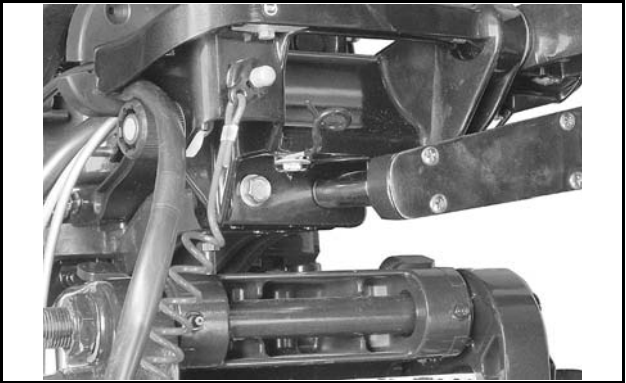
1. Neutral switch bracket  
003412

Connect neutral switch wiring in series with starter relay wiring (yellow/green).



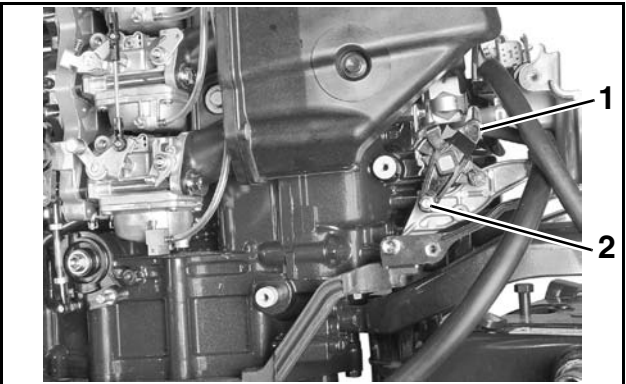
1. Neutral switch wiring  
2. Starter relay wiring  
003413

Install tiller handle assembly to steering bracket using screws and washers provided and torque to 37 ft. lbs. (50 N·m).



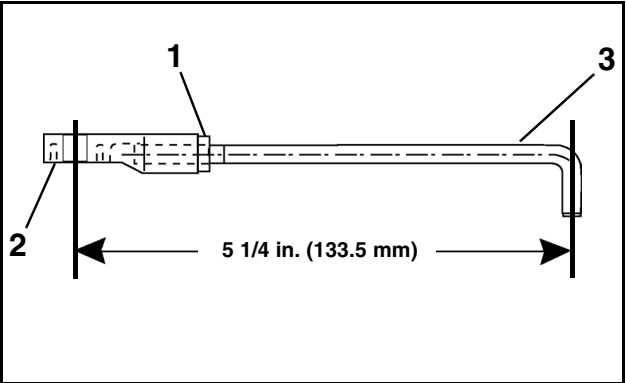
003291

Degrease the **new** anchor pin and apply *Three Bond 1738* adhesive or equivalent to threads. Install pin in top position of notch plate. Torque to 16 in. lbs. (1.75 N·m). Remove and discard lower pin.



1. Top position  
2. Lower pin  
003292

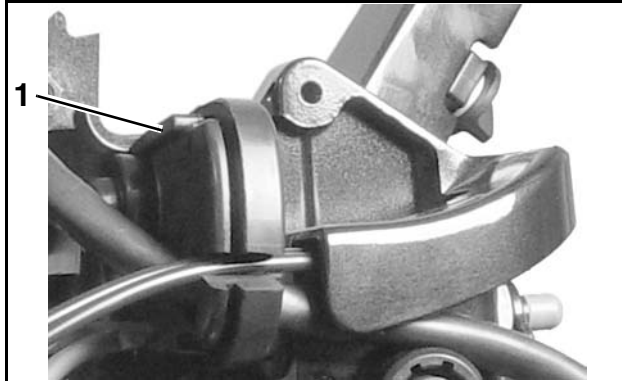
Install locking nut and connector on threaded end of shift link and adjust length of link to 5 1/4 in. (133.5 mm). Tighten locking nut.



1. Locking nut  
2. Connector  
3. Shift link  
003297

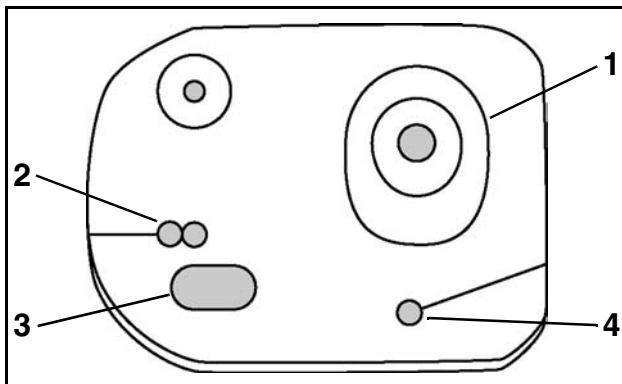


Insert shift link, throttle cable, battery cables, emergency/stop switch wiring harness, and starter switch wiring harness through the cable grommet and temporarily install grommet on front panel rib. Refer to diagram.



1. Grommet

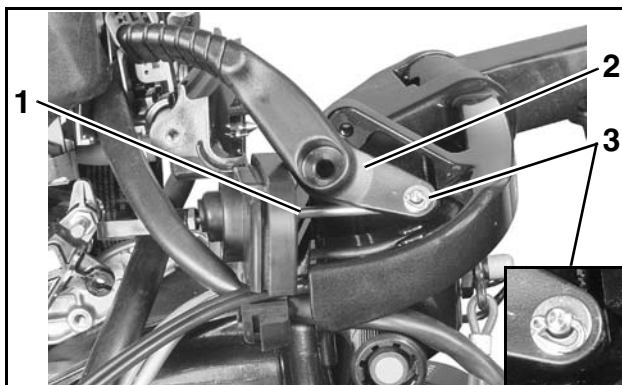
003295



1. Shift link
2. Throttle cable
3. Battery cables
4. Stop and start switch wiring

003296

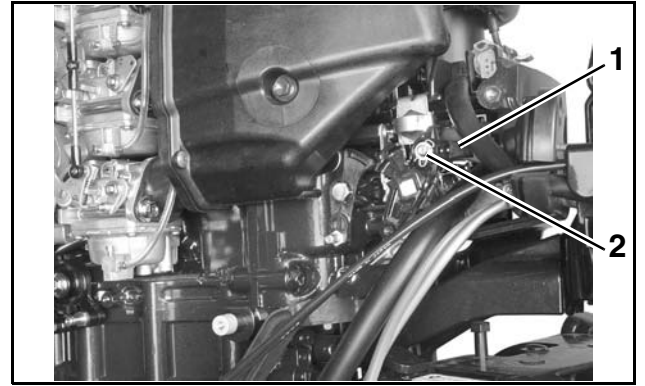
Engage the shift link with the front shift lever and secure with washer and cotter pin. Bend cotter pin as shown.



1. Shift link
2. Shift lever
3. Washer and cotter pin

003293

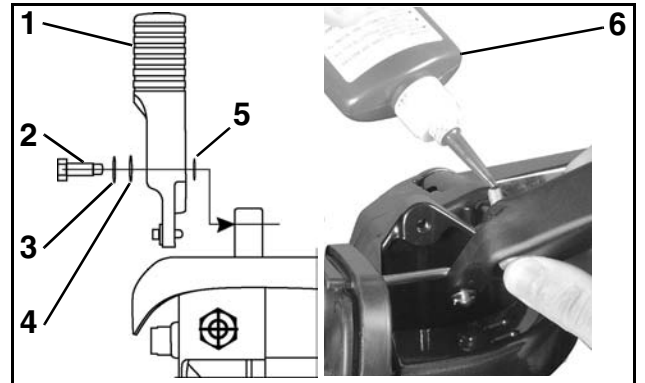
Position shift link connector on notch plate pin and secure with washer and clip pin.



1. Shift link connector
2. Notch plate pin

003298

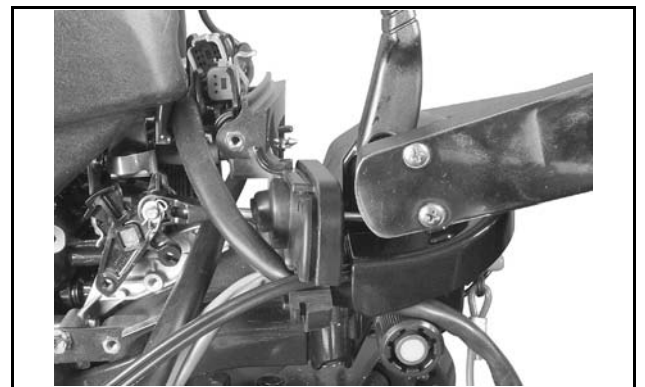
Install the shift lever on the tiller handle bracket using the screw, washer, wave washer, and backing washer. Refer to diagram. Apply *Nut Lock* to the screw threads.



1. Shift lever
2. Screw
3. Washer
4. Wave washer
5. Washer
6. Nut Lock

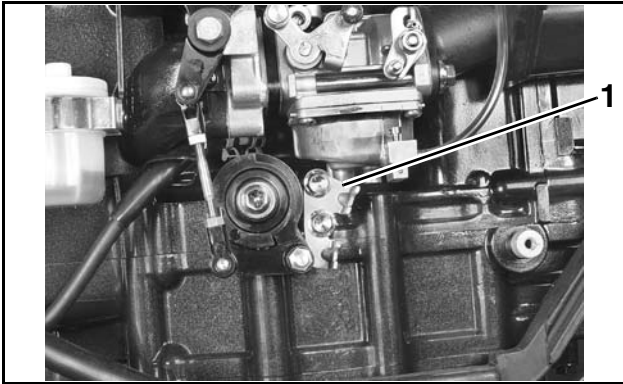
003300

Torque shift lever retaining screw to 90 in. lbs (10 N·m).



003299

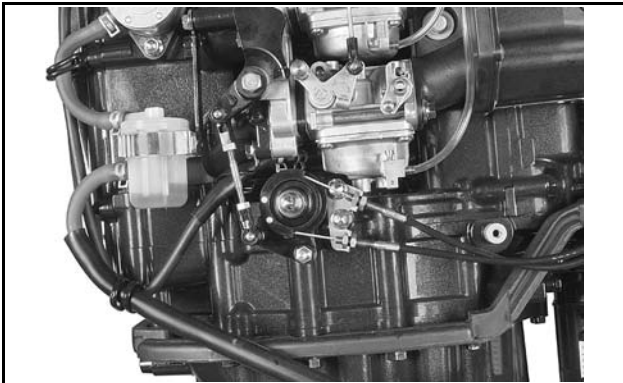
Install the throttle cable bracket and torque screws to 90 in. lbs. (10 N·m).



1. Throttle cable bracket

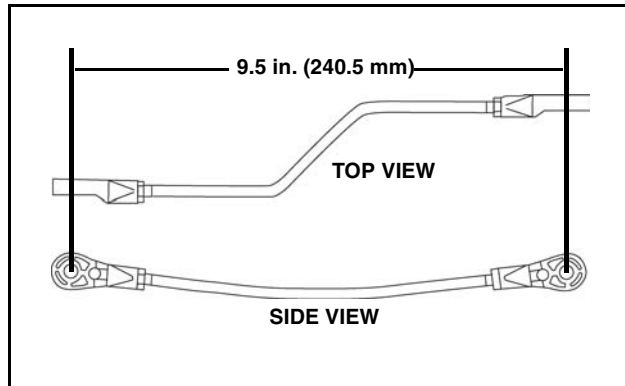
003405

With the throttle cable ends inserted into the throttle drum, secure the cable in the cable bracket. Remove all slack from the cable by adjusting the position of lock nuts. Tighten locking nuts securely. Turn throttle handle to FULL THROTTLE. Check that linkage and throttle valves are in full open position. Return throttle handle to IDLE. Check that linkage and throttle valves are in closed position.



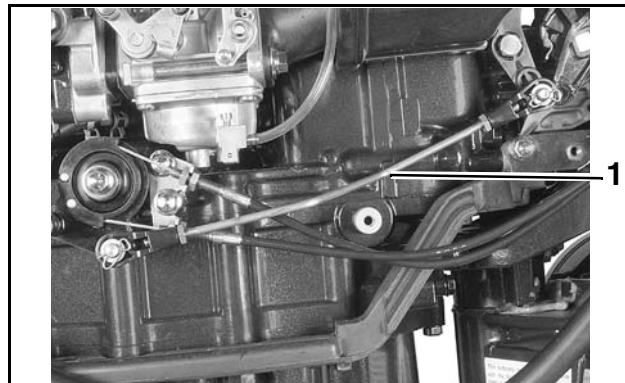
003406

Install the locking nuts and connectors on the throttle limiter rod. With thread engagement of both connectors equal, make sure rod is adjusted to 9.5 in. (240.5 mm). Tighten locking nuts.



003407

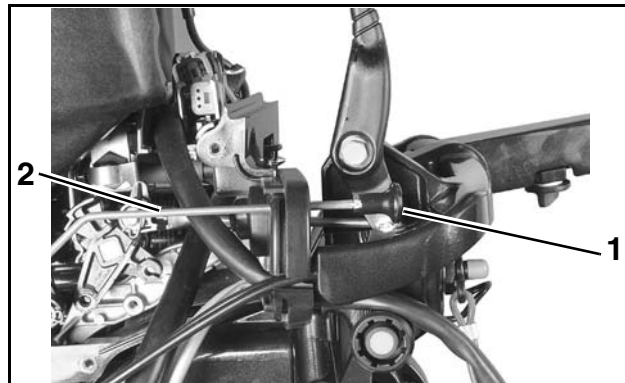
Position throttle limit rod on limiter lever pin and throttle drum pin. Secure with washers and clip pins.



1. Throttle limit rod

003408

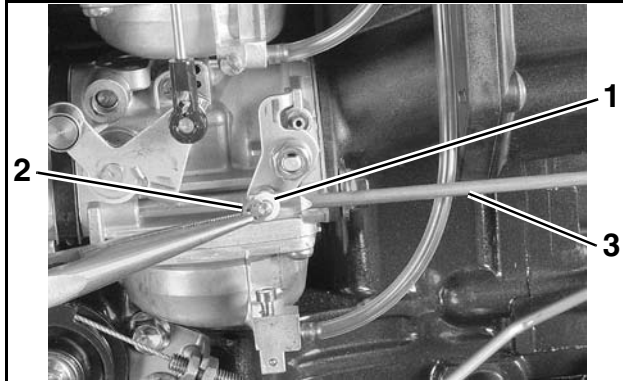
Insert choke rod through cable grommet. Install locking nut and choke knob on choke rod. Thread knob onto rod completely and tighten locking nut.



1. Choke knob  
2. Choke rod

003409

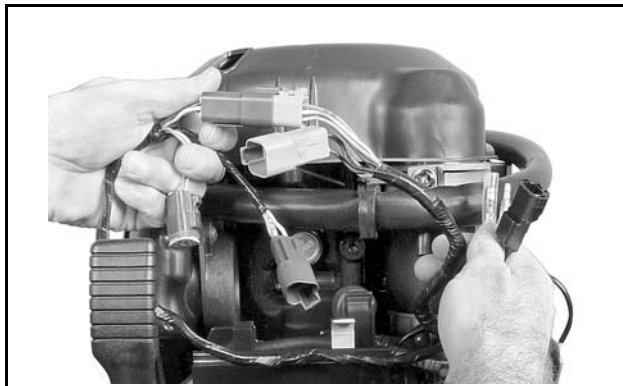
Position nylon washer then choke rod on choke shaft pin of the #3 carburetor. Next install second nylon washer and retaining e-ring as shown.



1. Nylon washer(s)
2. Retaining e-ring
3. Choke rod

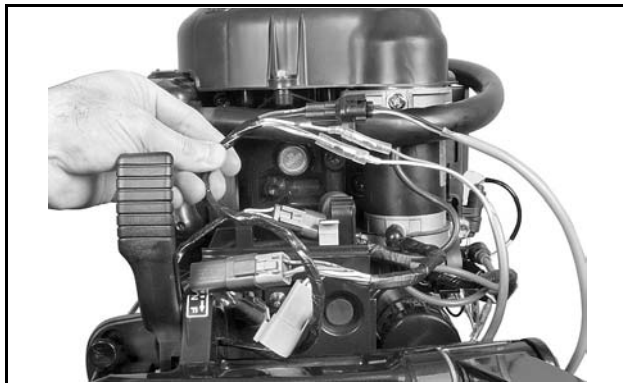
003410

Connect wiring harness adaptor cable to engine harness.



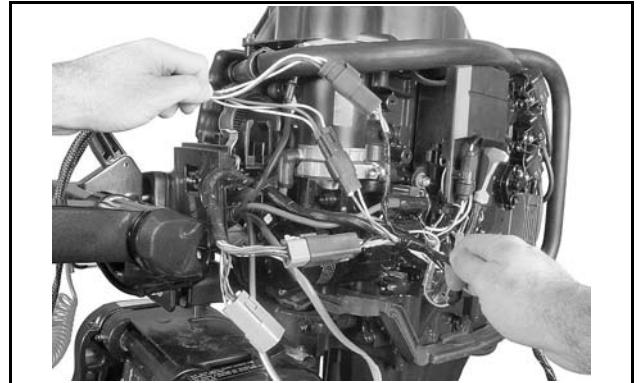
003902

Connect stop switch and start switch wiring connectors to adaptor harness connectors.



003895

Connect tilt and trim harness connectors and route harness through connector bracket and through lower motor cover grommet with battery cables.



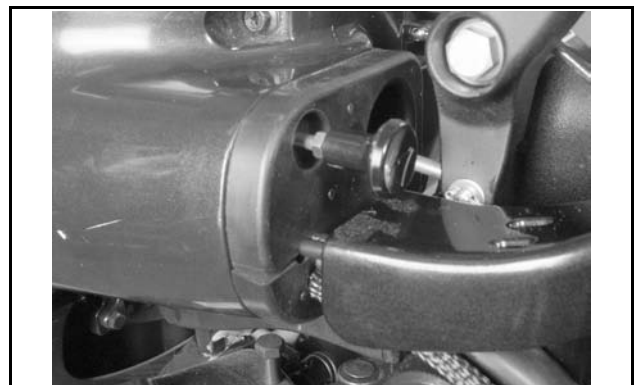
003910

Secure wiring and connectors in connector holder. Make sure wire routing does not interfere with moving components.



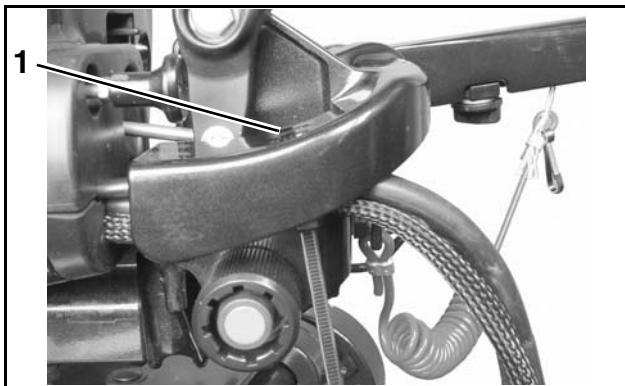
003904

Make sure cable grommet is positioned properly on front panel. Install the lower motor cover(s).



003898

Secure battery cables to handle bracket using the clamp.



1. Clamp

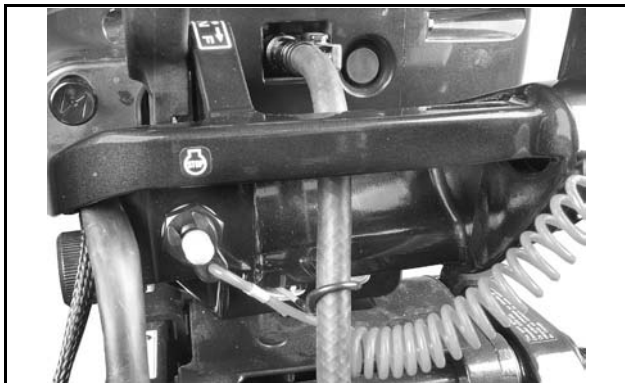
003897

With shift handle in NEUTRAL position, align shift lever decal to indicate shift position. Align the “N” of decal with center rib of shift handle and apply on tiller bracket as shown.



003905

Route fuel supply hose through the fuel hose holder of steering bracket.



003906



## WARNING



**Steering friction control must operate properly. Improper operation, too much friction or no friction, could result in a loss of steering control.**

## CHECK INSTALLATION

Make sure the following operate properly before returning outboard to customer:

- Engine stop circuit
- Emergency stop switch and lanyard
- Steering movement and friction control
- Throttle control (IDLE to WIDE OPEN)
- Shift control and proper gear engagement
- Start-in-gear protection
- Trim and tilt control



## WARNING



**Only shift outboard with throttle in IDLE position. If outboard is shifted into gear with throttle setting above IDLE speed, the boat could accelerate suddenly, injuring boat occupants and bystanders.**

# OPERATING INSTRUCTIONS

**IMPORTANT:** Store these instructions onboard the boat with the operator's guide.

## SAFETY INFORMATION



### DANGER



**DO NOT** run the engine indoors or without adequate ventilation or permit exhaust fumes to accumulate in confined areas. Engine exhaust contains carbon monoxide which, if inhaled, can cause serious brain damage or death.


Contact with a rotating propeller is likely to result in serious injury or death. Assure the engine and prop area is clear of people and objects before starting engine or operating boat. Do not allow anyone near a propeller, even when the engine is off. Blades can be sharp and the propeller can continue to turn even after the engine is off. Always shut off the engine when near people in the water.




### WARNING



The engine cover is a machinery guard. **DO NOT** operate your outboard with the cover off unless you are performing maintenance or emergency starting, and then be careful to keep hands, hair, and clothing clear of all moving parts. Contact with moving parts could cause injury.

 Always shut off the outboard when your boat is near people who are in the water.

 Be familiar with the waters you are operating in. The gearcase of this outboard extends below the water surface and could potentially come in contact with underwater obstructions. Contact with underwater obstructions may result in loss of control and personal injury.

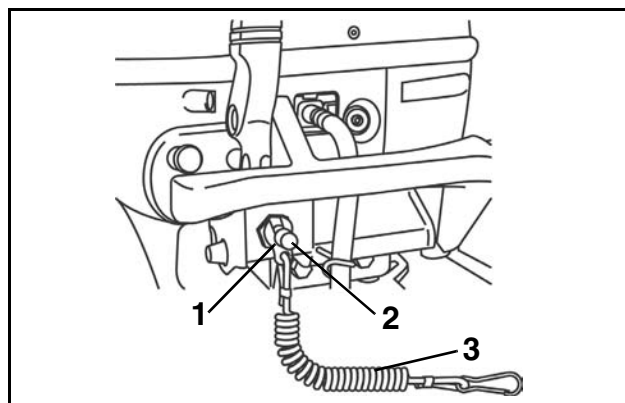
## ENGINE STARTING

Refer to **BEFORE START-UP** in the *Johnson Operator's Guide* for pre-launch checks before using your outboard.

You **MUST** supply water to the engine before attempting to start it. Engine damage can occur quickly.

Be sure the water intake screens are below the water surface.

Connect the clip to the emergency stop switch. Snap the lanyard to a **secure** place on the operator's clothing or life vest — not where it might tear away instead of activating the stop switch.



1. Clip
2. Emergency stop switch
3. Lanyard

001

**IMPORTANT:** The operator should always use the clip and lanyard anytime the engine is running.



### WARNING



**Always use the safety lanyard when operating your boat to help prevent a runaway boat and reduce the risk of personal injury or death.**

**Avoid knocking or pulling the clip off the stop switch during normal boating. The resulting unexpected loss of forward motion can throw occupants forward, causing injury.**

**Your emergency stop switch can be effective only when in good working condition. At each outing, inspect clip and lanyard for cuts, breaks, or wear. Replace worn or damaged parts.**

**Keep the lanyard free from obstructions and entanglements.**



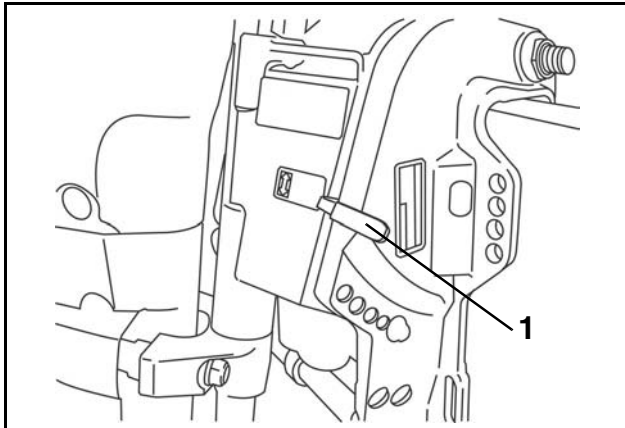


## WARNING



At each outing, test the system's operation. With the engine running, remove the clip from the switch by pulling the lanyard. If the engine does not stop running, see your Dealer.

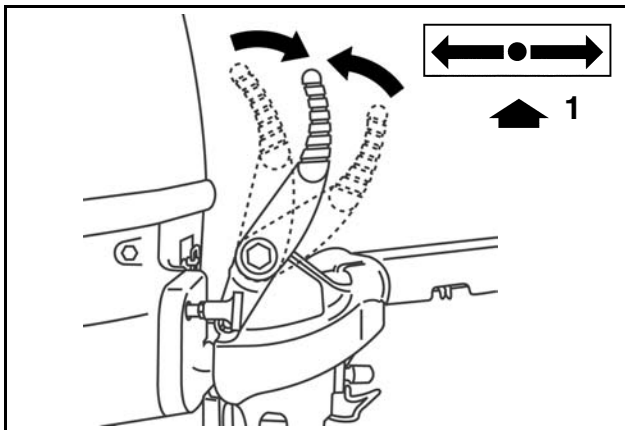
Move the tilt lock lever to the LOCK position.



1. Tilt lock lever in LOCK position

002

Move the shift lever to NEUTRAL. Refer to **SHIFTING AND SPEED CONTROL**.



1. NEUTRAL

003



## WARNING



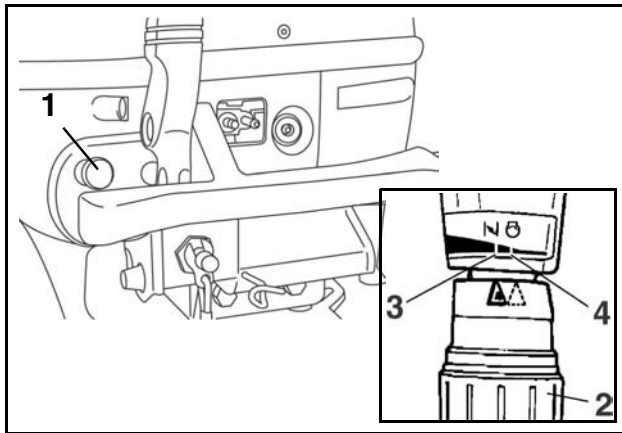
Always shift to NEUTRAL before starting the outboard to prevent sudden boat movement, which can cause injury.

## Start-up (Cold Engine)

Pull the choke knob fully out. Align the arrow mark on the throttle grip with the START position.

## Start-up (Warm Engine)

Align the arrow mark on the throttle grip with the START position. Do not use the choke.



1. Choke knob

2. Throttle grip

3. Start position - Engine cold

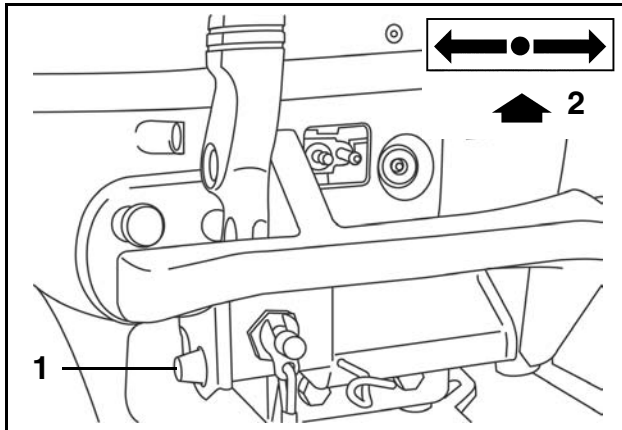
4. Start position - Engine warm

004

23-I-3N

**IMPORTANT:** You may need to use the choke when restarting a warm engine. If your engine does not start quickly when warm, follow the procedure for cold starting.

While seated, press start button to START motor. Crank the engine no longer than 10 seconds.



1. Start button

2. NEUTRAL

004

**IMPORTANT:** The starter motor can be damaged if operated continuously for more than 10 seconds.

Release start button as soon as engine starts. If engine does not start, release button momentarily and then try again.

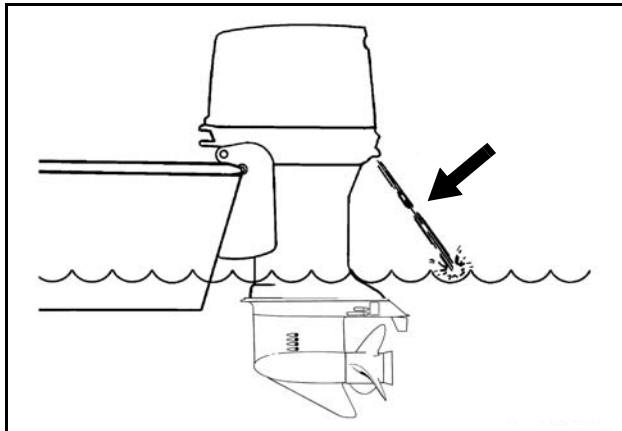
DO NOT press start button when the engine is running. Starter and flywheel will be damaged.

If your outboard does not react normally to this starting procedure or it fails to start, refer to **Trouble Check Chart** in the Operator's Guide.



## After Engine Starts

Check the water pump indicator. A steady stream of water indicates the water pump is working. If a steady stream of water from the water pump indicator is not visible, stop the engine. Refer to **Engine Overheating** in the Operator's Guide.



Water Pump Indicator

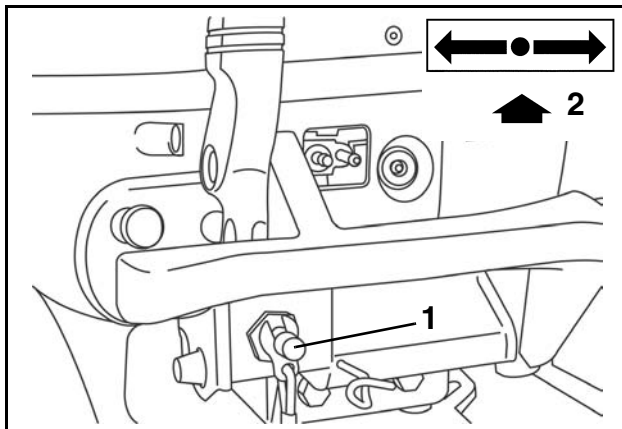
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## ENGINE STOPPING

Twist the throttle grip to SHIFT position or slower.

Move shift lever to NEUTRAL.

Press the STOP button until the outboard stops running. If equipped, close the vent screw on the fuel tank's filler cap.



1. STOP button
2. NEUTRAL

004

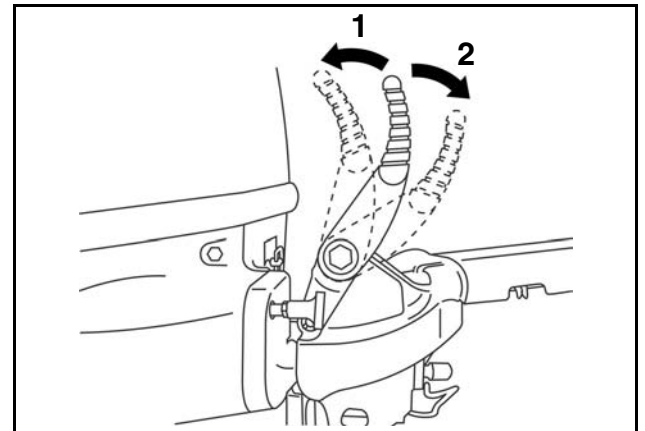
## SHIFTING AND SPEED CONTROL

**IMPORTANT:** Carefully check the function of all control and engine systems before leaving the dock. DO NOT shift the outboard into FORWARD or REVERSE while it is shut OFF.

### Shifting

With engine running, twist the throttle grip to SHIFT position or slower.

Move the shift lever briskly and decisively to FORWARD or REVERSE.



1. REVERSE
2. FORWARD

007

**IMPORTANT:** Before shifting into NEUTRAL while boating, twist the throttle grip to SHIFT position or slower, then wait until the engine slows to idle and the boat slows.

Position NEUTRAL by moving the shift lever to the center position.



### WARNING

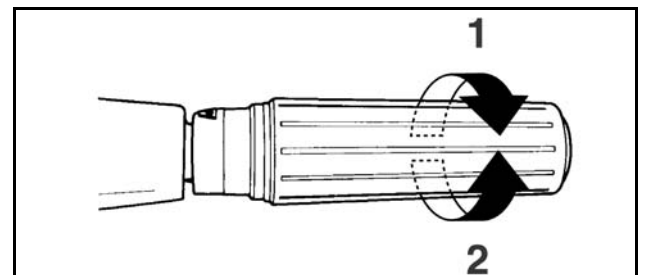


**Do not operate the outboard in REVERSE with the tilt/run lever in TILT. The outboard may tilt out of the water, resulting in loss of control.**

### Speed Control

With the outboard running, twist throttle grip:

- Clockwise to decrease speed; or
- Counterclockwise to increase speed.



1. Increase speed
2. Decrease speed

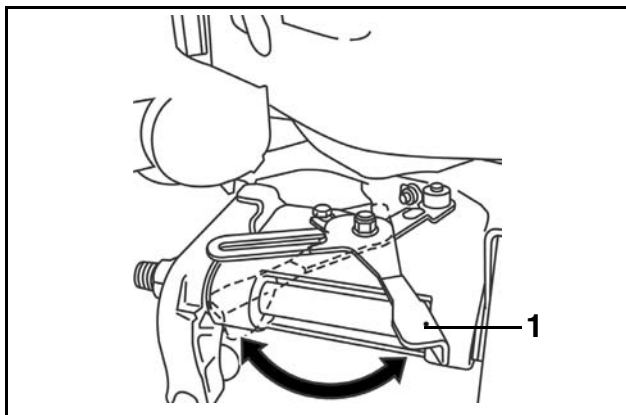
008

## STEERING FRICTION LEVER

### **Adjustment**

A slight drag should be felt when turning the motor. If adjustment is necessary, move the adjustment lever:

- Left to increase friction
- Right to decrease friction



1. Steering friction lever

027

**IMPORTANT:** Do not apply any grease or lubricant to the pivot point of the steering friction lever.

	<b>WARNING</b>	
<b>DO NOT</b> overtighten for “hands-off” steering. Reduced steering control could result.		