



EVINRUDE[®]
Johnson[®]

TILLER HANDLE KIT, P/N 5005624 INSTALLATION INSTRUCTIONS

APPLICATION

This kit is designed for use on **1996 and newer Evinrude[®]/Johnson[®] 40 and 50 HP, 2-stroke carbureted 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*.

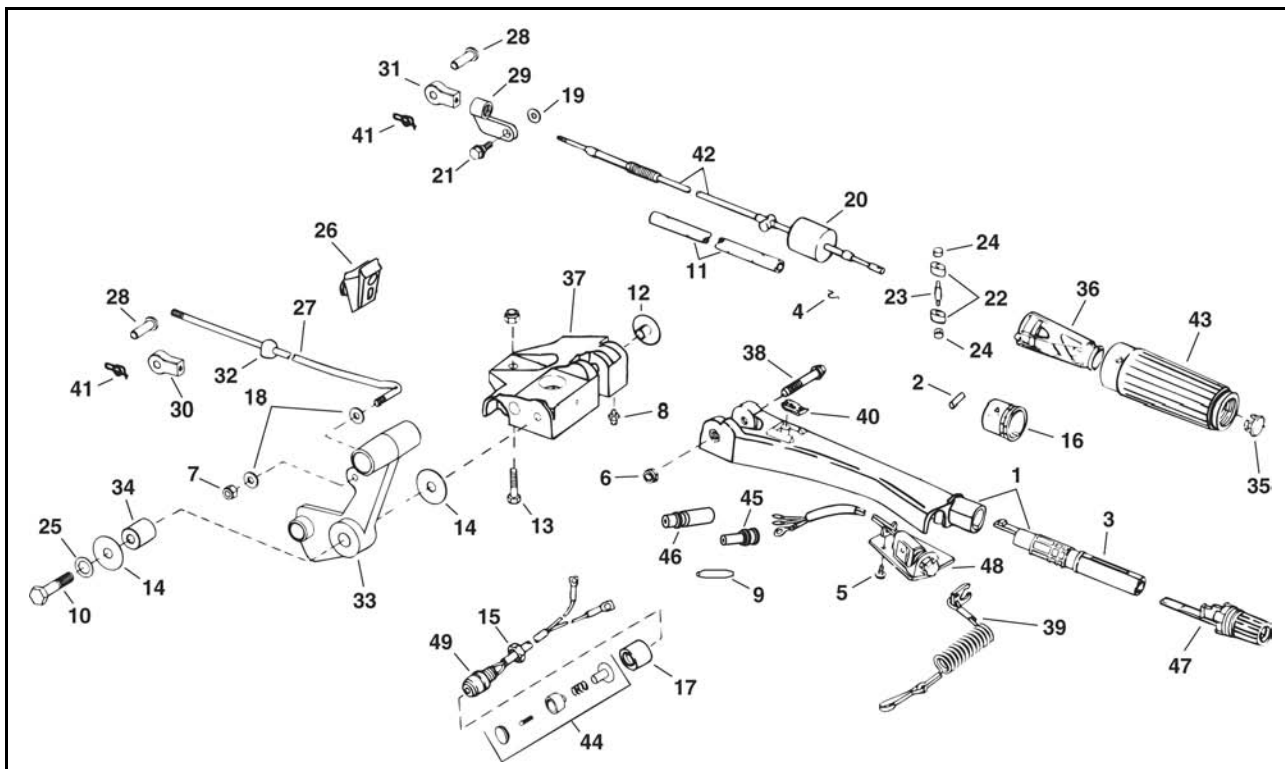
If you use procedures or service tools that are not recommended in this instruction sheet, **YOU ALONE** must decide if your actions might injure people or damage the outboard.

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.



TILLER CONVERSION KIT (TWO STROKE – 40/50HP)



001347

Contents of Kit

Ref	P/N	Name of Part	Qty	Ref	P/N	Name of Part	Qty
*	5005624	TILLER HANDLE KIT	1	23	329880	*PIN	1
*	176339	*WIRING KIT, 12 ft. (3.66 m)	A 1	24	329881	*ROLLER	2
*	176408	*IGNITION SWITCH KIT	B 1	25	330266	*WASHER	1
*	176560	*REMOTE T&T SWITCH KIT	C 1	26	332478	*GROMMET	1
*	N/A	*STEERING FRICTION DEVICE	D 1	27	333787	*SHIFT ROD	1
1	434101	*STEERING HANDLE Assy	1	28	334063	*PIN	1
2	334960	**PIN, Spirol	1	29	334083	*ANCHOR, Throttle cable	1
3	397001	**STEERING HANDLE & RET., Inner	1	30	334119	*CONNECTOR, Shift rod	1
4	332089	***RETAINING RING	1	31	334120	*CONNECTOR, Throttle cable	1
5	336481	*SCREW	3	32	334373	*BUSHING, Shift rod	1
6	307160	*NUT, Lock	1	33	334814	*SHIFT LEVER	1
7	313022	*NUT, Lock	1	34	334815	*BUSHING, Shift lever screw	1
8	313607	*FITTING, lube	1	35	336347	*PLUG	1
9	513186	*SLEEVE, terminal	1	36	339722	*HELIX	2
10	318611	*SCREW	1	37	340779	*BRACKET, Steering handle	1
11	323912	*TUBING	1	38	350989	*SCREW, Steering handle to bracket	1
12	325452	*BUSHING	1	39	398602	*LANYARD Assy.	1
13	325729	*SCREW	1	40	333449	**CLIP	1
14	327400	*WASHER	2	41	333774	*CLIP, retainer	1
15	327805	*NUT	1	42	432685	*THROTTLE CABLE Assy.	1
16	327944	*PLATE, throttle control	1	43	436216	*TWIST GRIP Assy.	1
17	328480	*RING, Mounting	1	44	438618	*START BUTTON KIT	1
18	328703	*WASHER	2	45	513356	*CONNECTOR, 1-socket plug	1
19	328739	*WASHER	1	46	513357	*CONNECTOR, 1- pin receptacle	1
20	329063	*SEAL	1	47	584302	*ADJUSTMENT, Idle	1
21	329160	*SCREW, Shoulder	1	48	585236	*STOP SWITCH Assy.	1
22	329879	*GUIDE	2	49	586103	*START SWITCH Assy.	1

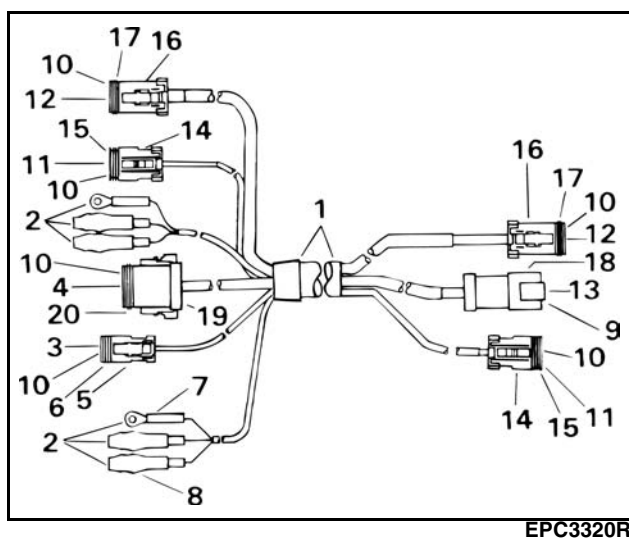
A See reference "A" for detailed part listing.

B See reference "B" for detailed part listing.

C See reference "C" for detailed part listing.

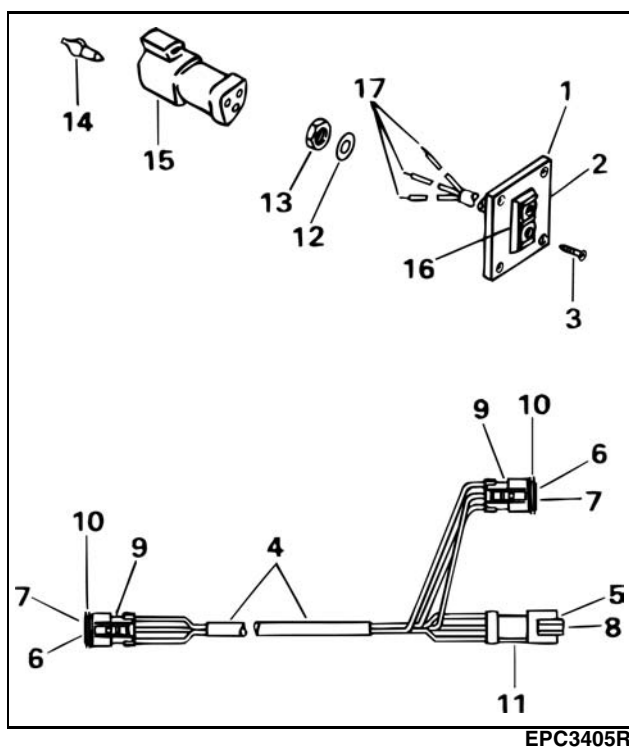
D See reference "D" for detailed part listing.

Instrument Harness (Reference A)



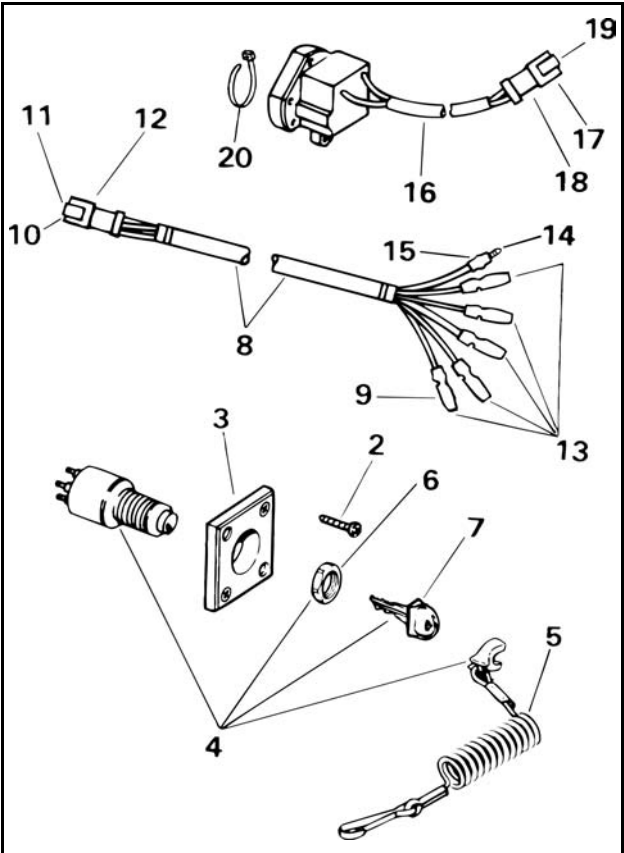
Ref	P/N	Name of Part	Qty
1	176339	INST. HARNESS, 12 ft. (3,7m)	1
2	126663	*TERMINAL, Ring	6
3	127287	*LOCK WEDGE, 2-socket	1
4	127288	*LOCK WEDGE, 8-socket	1
5	176295	*CONNECTOR, 2-socket	1
6	514788	**SEAL, 2-socket	1
7	510781	*TUBING	6
8	513186	*SLEEVE	4
9	514679	*TERMINAL, Pin	6
10	514680	*TERMINAL, Socket	28
11	514681	*LOCK WEDGE, 3-socket	2
12	514683	*LOCK WEDGE, 6-socket	2
13	514684	*LOCK WEDGE, 6-pin	1
14	514685	*CONNECTOR, 3-socket	2
15	514789	**SEAL, 3-socket	1
16	514687	*CONNECTOR, 6-socket	2
17	514790	**SEAL, 6-socket	1
18	514688	*CONNECTOR, 6-pin	1
19	176296	*CONNECTOR, 8-socket	1
20	514791	**SEAL, 8-socket	1

Remote Trim/Tilt Switch (Reference B)



Ref	P/N	Name of Part	Qty
1	176560	REMOTE TILT SWITCH KIT	1
2	124997	*BEZEL	1
3	125308	*SCREW	2
4	176558	*CABLE Assy., 13.5 ft. (4.1m)	1
5	514679	**TERMINAL, Pin	3
6	514680	**TERMINAL, Socket	6
7	514681	**LOCK WEDGE, 3 socket	2
8	514682	**LOCKWEDGE, 3-pin	1
9	514685	**CONNECTOR, 3-socket	2
10	514789	***SEAL, Connector	1
11	514686	**CONNECTOR, 3-pin	1
12	313219	*WASHER	1
13	334656	*NUT	1
14	514682	*LOCK WEDGE, 3-pin	1
15	514686	*CONNECTOR, 3-pin	1
16	586074	*SWITCH, Trim/tilt	1
17	514679	**TERMINAL, Pin	1

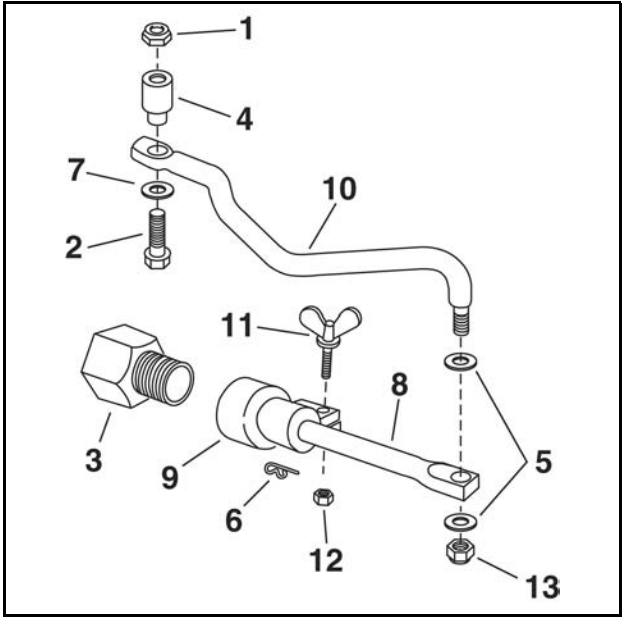
Ignition Switch and Horn (Reference C)



EPC3317R

Ref	P/N	Name of Part	Qty
1	176408	IGNITION SWITCH KIT	1
2	125308	*SCREW, Bezel	2
3	127083	*BEZEL, Ignition	1
4	175974	*SWITCH, KEY & LANYARD	1
5	176288	**LANYARD Assy.	1
6	127274	**NUT	1
7	176287	**KEY SET	AR
7	127279	***KEY #70	AR
7	127280	***KEY #71	AR
7	127281	***KEY #72	AR
7	127591	***KEY #75	AR
7	127592	***KEY #76	AR
7	127593	***KEY #77	AR
7	127595	***KEY #79	AR
8	176402	*CABLE Assy.	1
9	126908	**SLEEVE, Socket	5
10	514679	**TERMINAL, Pin	6
11	514684	**LOCK WEDGE, 6-pin	1
12	514688	**CONNECTOR, 6-PIN	1
13	910446	**TERMINAL, Socket	5
14	512947	**TERMINAL, Bullet	1
15	513185	**SLEEVE, Bullet	1
16	176360	*HORN	1
17	514679	**TERMINAL, Pin	2
18	514696	**CONNECTOR, 2-Pin	1
19	514697	**LOCK WEDGE, 2-Pin	1
20	320107	*TIE STRAP	1

Steering Friction Device (Reference D)



001348

Ref	P/N	Name of Part	Qty
1	315077	NUT,Lock	1
2	351206	SCREW	1
3	351207	NUT, adaptor	1
4	351208	BUSHING, steering link	1
5	5030344	WASHER	2
6	5030573	CLIP	1
7	5032176	WASHER	1
8	5034388	SHAFT, Friction adjustment	1
9	5034389	FRICTION NUT	1
10	5034390	STEERING LINK	1
11	5034391	BOLT, Wing	1
12	5034394	NUT	1
13	5034395	NUT, Lock	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 the boat manufacturer for the tiller steered maximum rated horsepower.

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

Prevent injury from contact with rotating propeller; remove propeller before servicing and when running the outboard on a flushing attachment.

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



CAUTION



Avoid damaging the tiller handle when tilting the motor up. Position the motor to clear obstacles in the motor well and boat.

INSPECTION

Prior to installation, check boat for projections that could interfere with free movement of the tiller handle when steering or that could bind tiller handle when tilting outboard.

INSTALLATION

Shift outboard to NEUTRAL. Disconnect and remove throttle and shift cables and instrument harness if installed. Remove lower motor cover grommets.

Remove any screws from the steering arm holes.

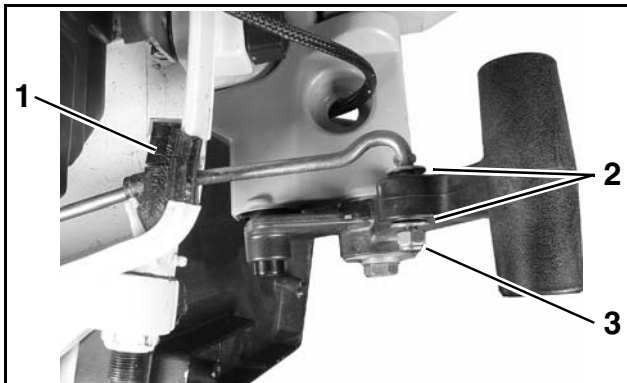
Install grommet on shift rod and position shift rod in lower motor cover. Place shift rod bushing in anchor bracket.



1. Bushing

001581

Insert shift rod grommet in lower motor cover. Position steering bracket and tiller handle assembly under steering arm of outboard. Install washer on rod and insert rod into shift handle. Install washer and locknut and torque locknut to 5 to 7 ft. lbs. (7 to 9 N·m).



1. Grommet
2. Washer(s)
3. Locknut

001514

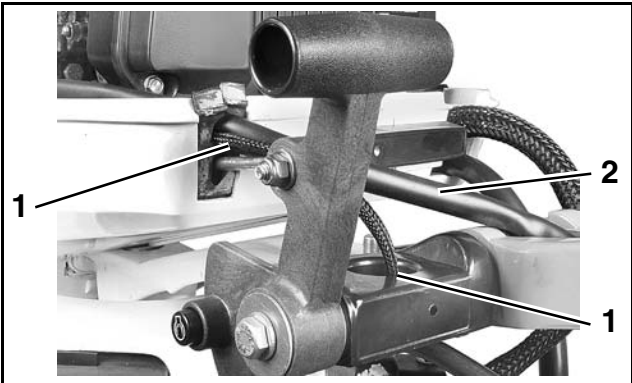
Align rear hole of steering arm with rear hole of steering bracket and install screw.



1. Steering arm
2. Steering bracket

001443

Route start switch wiring through steering bracket and throttle cable and stop switch wiring through passage between tiller handle and steering bracket.

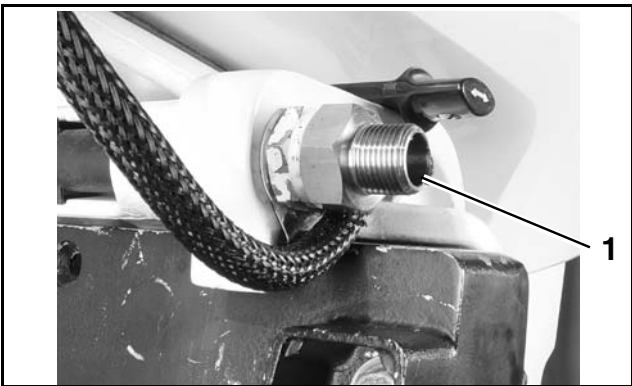


1. Start switch wiring
2. Throttle cable and stop switch wiring

IMPORTANT: Make sure all wiring and cables are routed through steering bracket as indicated.

Steering Friction Device

Install friction adaptor nut on port end of tilt tube. Torque nut 18 to 20 ft. lbs. (24 to 27 N·m).



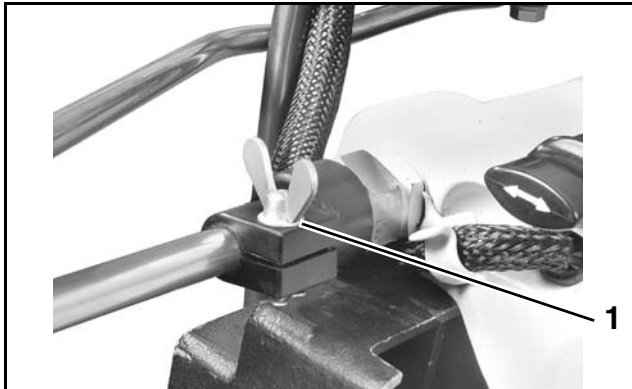
1. Adaptor nut

Grease friction adjustment shaft with Triple-Guard® grease and slide into tilt tube. Thread steering friction nut onto adaptor nut until seated (no threads visible on adaptor nut).



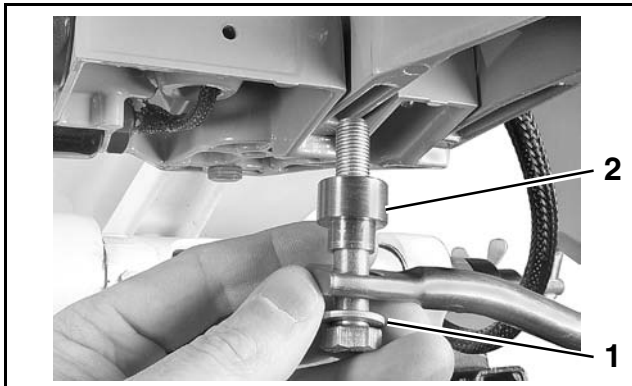
1. Shaft
2. Steering friction nut

Turn tilt tube assembly to position adjustment wing bolt to rear of shaft. Refer to "Steering Friction Device Assembly Diagram" on page 7.



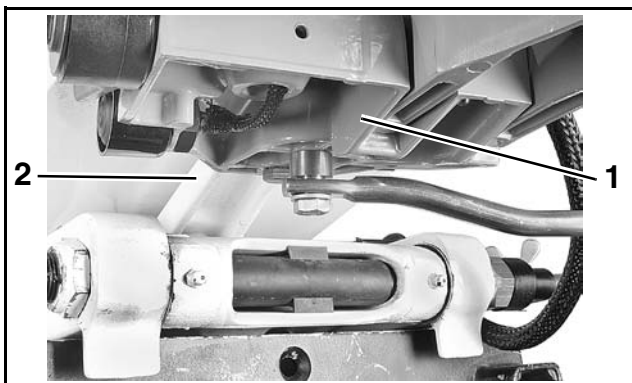
Friction Nut Position
1. Wing bolt to rear of shaft

Position 3/8 in. washer on 3/8-24 x 2.125 in. screw and install screw with washer through steering link. Grease bushing with Triple-Guard grease. Install bushing on screw with flange facing steering arm. Position steering link under steering bracket.



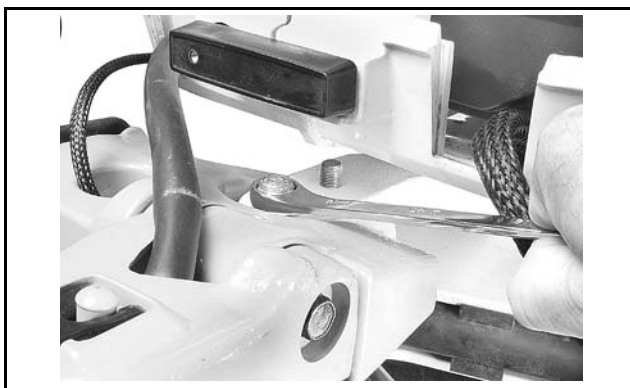
1. Washer
2. Bushing

Align steering bracket with steering arm. Thread screw through steering bracket and steering arm. Tighten screw to a torque of 23 to 26 ft. lbs. (31 to 35 N·m).



1. Steering bracket
2. Steering arm

Install 3/8 in. lock nut and tighten to a torque of 23 to 26 ft. lbs. (31 to 35 N·m).



001453



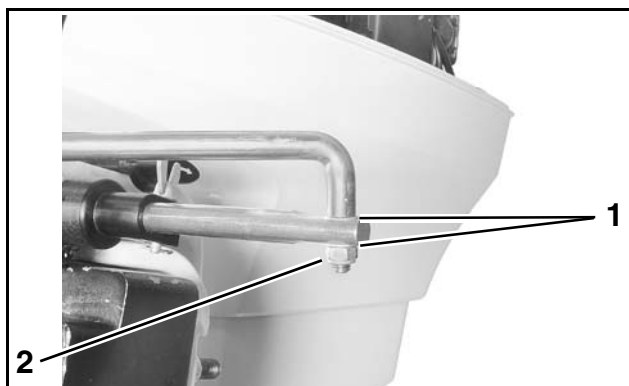
WARNING



Never reuse the locknut after it has been threaded into position and torqued. After initial use, the locking ability of the nut is diminished. A reused locknut could loosen, resulting in a loss of steering control and creating a risk of personal injury or property damage.

Torque rear steering bracket bolt to 23 to 26 ft. lbs. (31 to 35 N·m). Install and torque rear lock nut to 23 to 26 ft. lbs. (31 to 35 N·m).

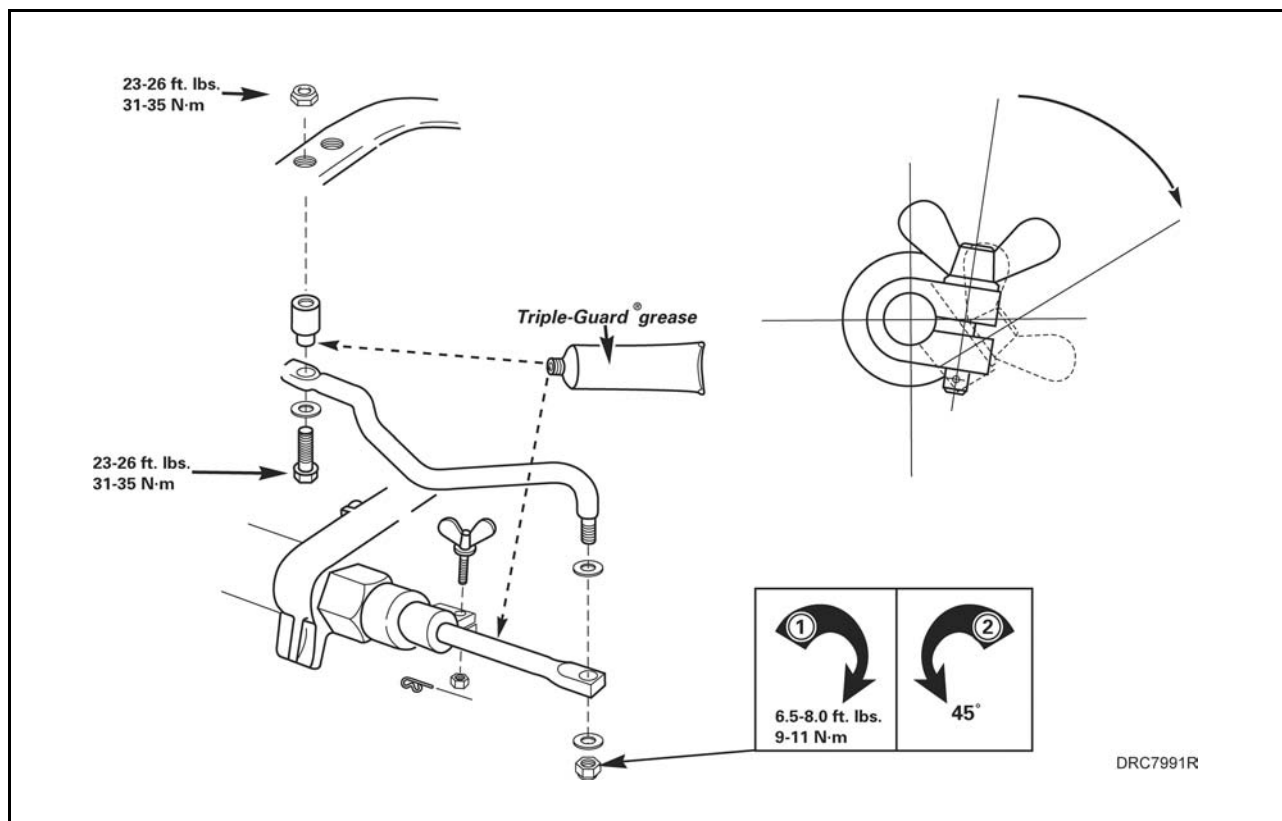
Fasten steering link to port end of shaft with flat washers and locknut. Refer to diagram for proper tightening procedure.




1. Washer(s)
2. Locknut

001484


Steering Friction Device Assembly Diagram



Steering Friction Adjustment



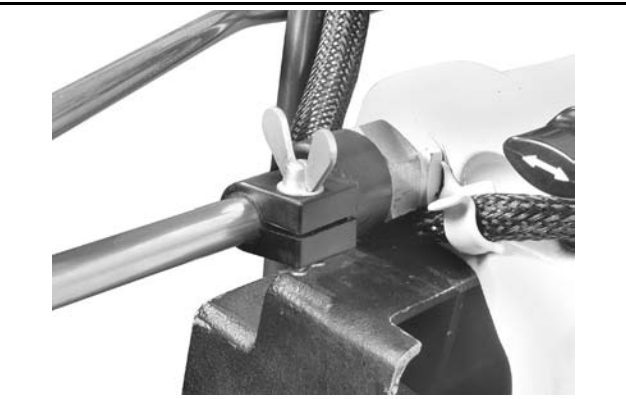
WARNING



Adjust friction device to provide adequate dampening of steering movement. **DO NOT** overtighten steering friction for “hands-off” steering. The reduced control of the boat could result in loss of control by the operator, creating a risk of personal injury or property damage.

The steering friction is adjusted by turning wing bolt of the friction adjustment nut.

- Turning clockwise: Increases damping force.
- Turning counterclockwise: Decreases damping force.




Wing bolt


001349

IMPORTANT: Check steering for full unrestricted movement in both directions.

Shift Rod and Throttle Cable

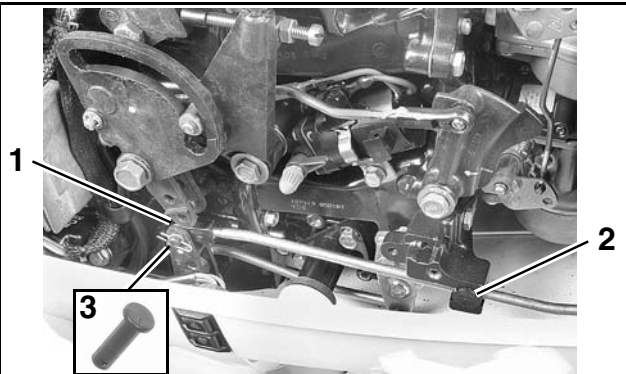


CAUTION



Shift rod and throttle cable connectors must be properly installed. A risk of personal injury or property damage from loss of boat control could occur if throttle or shift linkage connectors come loose.

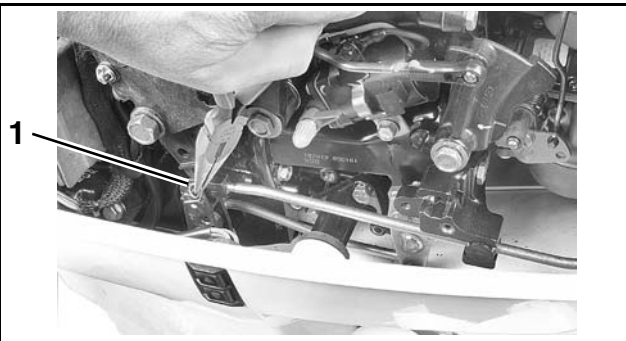
Thread connector onto shift rod until threads end. Position grommet in lower motor cover, shift rod connector in shift lever and shift rod bushing in anchor bracket. Insert retaining pin through shift lever and shift rod connector.



1. Connector
2. Bushing
3. Pin

001488

Secure pin with retaining clip.



1. Clip

001489

Install throttle cable anchor onto throttle cable casing guide and thread throttle cable connector onto end of cable until threads end.



1. Anchor
2. Connector

001515

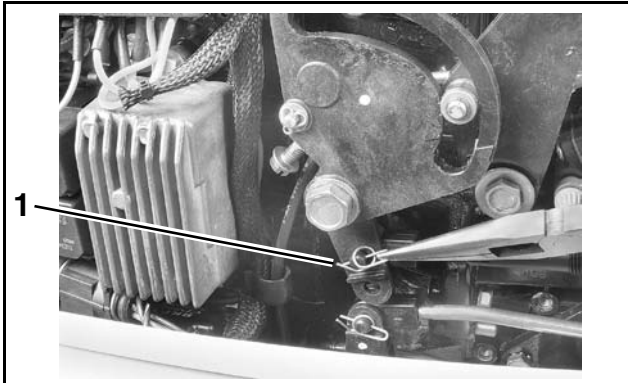
Route the throttle cable through the lower motor cover grommet and the anchor bracket. Position the throttle cable connector in the throttle lever. Insert the retaining pin through throttle lever and connector.



1. Anchor bracket

001490

Secure with retaining clip.

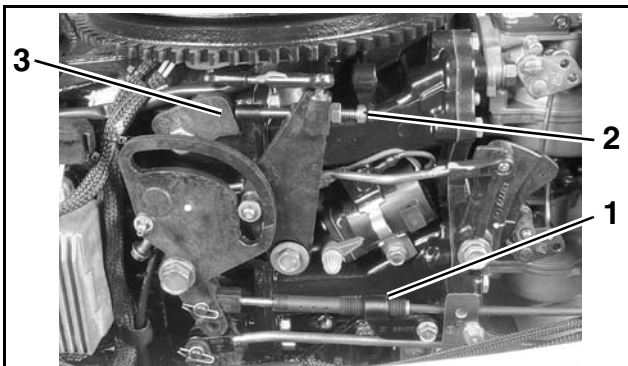


1. Clip

001451

IMPORTANT: Turn tiller handle's idle speed control knob clockwise to the slowest idle position before adjusting throttle cable anchor.

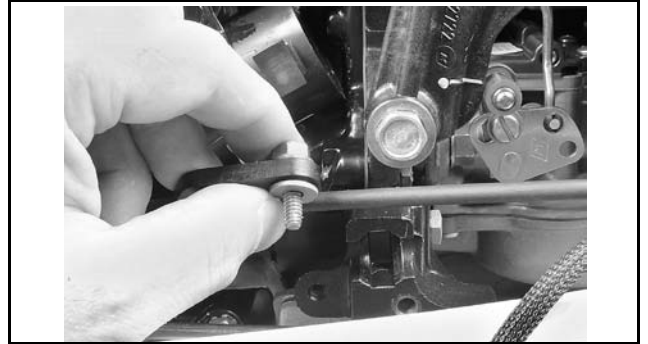
Adjust throttle cable anchor to position the idle stop screw against idle stop.



1. Anchor
2. Idle stop screw
3. Idle stop

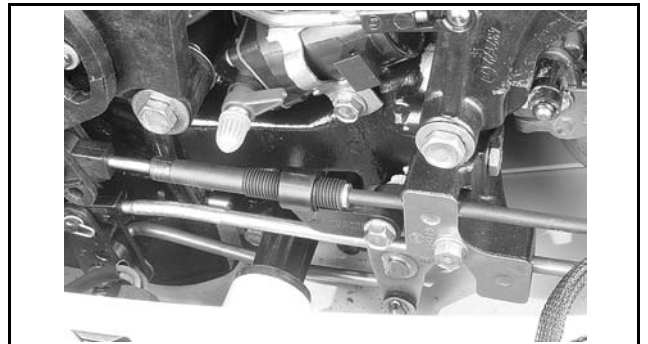
001516

Insert shoulder screw through anchor bracket. Position washer on screw between bracket and mounting boss of powerhead. Thread screw into powerhead and tighten.



001450

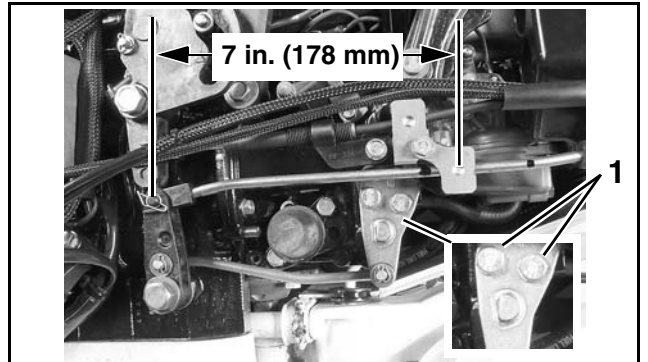
Install retainer bracket and screw. Tighten screw.



001353

IMPORTANT: Check throttle and shift operation. Move shift lever into FORWARD, REVERSE, and back to NEUTRAL to verify complete gear engagement and disengagement. Manually turn propshaft to ease shifting while outboard is not running. Operate the Twist-Grip™ throttle control to verify proper movement of throttle linkage. Linkage should move freely from IDLE to FULL THROTTLE and back to IDLE.

Neutral detent adjustment can affect start button alignment. To adjust, shift gearcase into NEUTRAL and loosen detent adjustment screws. Position center of shift pin 7 in. (178 mm) from center of trunnion bracket pocket. Tighten detent screws to 60 to 84 in. lbs. (7 to 9 N·m).



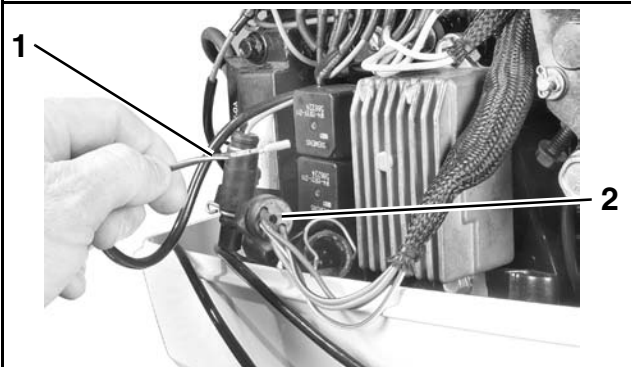
1. Detent screws

002080

Stop Circuit Wiring

Use socket removal tool, P/N 322699; pin removal tool, P/N 322698; and insert tool, P/N 322697 to remove and install terminals in the amphenol connectors.

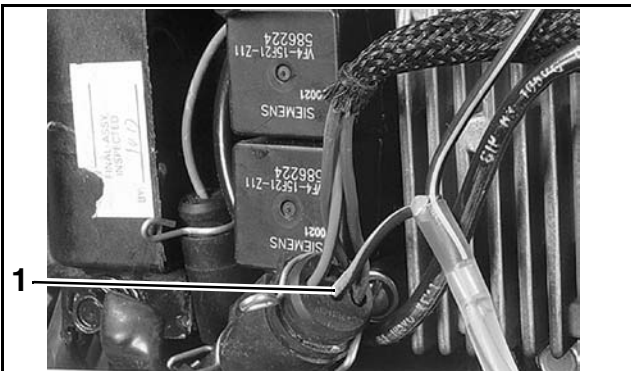
Remove black/yellow wire and terminal of engine wire harness from position "E" of amphenol connector (stator to powerpack connector).



1. Black/yellow wire from engine harness
2. Position "E"

001354

Insert socket terminal (black/yellow wire) from stop button wiring of tiller handle into position "E" of the amphenol connector.



1. Black/yellow wire from stop button

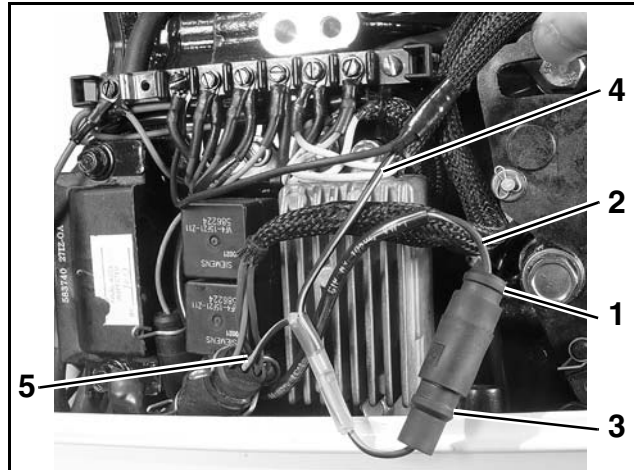
001355R

Install amphenol socket plug connector onto black/yellow wire and socket terminal of engine wire harness that was removed from stator to powerpack connector. Install amphenol pin receptacle connector onto the pin terminal and wire from the stop switch wiring.



001525

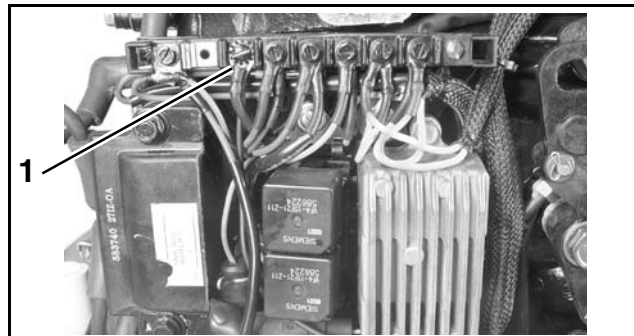
Connect plug connector from the black/yellow wire of the engine harness to receptacle connector of the black/yellow wire to the stop switch and the stator to powerpack connector.



1. Plug connector
2. Black/yellow wire from engine harness
3. Receptacle connector
4. Black/yellow wire to stop switch
5. Black/yellow wire, stator to powerpack connector

001355

Remove the terminal board cover. Locate and remove the BLACK engine harness ground wire and screw from the terminal board. Install the stop button ground wire ring terminal under the engine harness ground wire. Reinstall and tighten screw. Apply Black Neoprene Dip to connection.



1. Ground wire

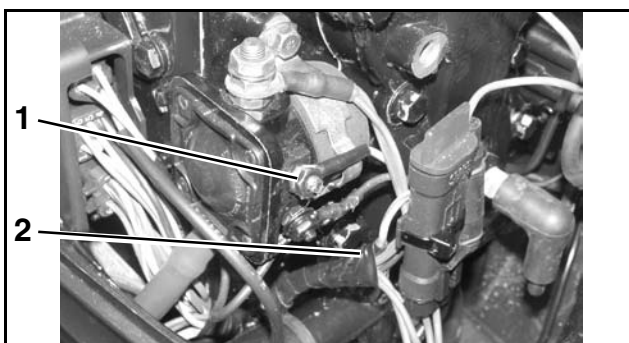
001356

Start Switch Wiring

IMPORTANT: Carefully route the start button wire (red/yellow) through lower motor cover to starter solenoid. Do not allow the wire to rub or interfere with the throttle or shift linkages.

Remove the nut and lockwasher and yellow/red wire terminal from the small starter solenoid stud. Install the yellow/red wire terminal from the start button on the stud. Reinstall lockwasher and nut that was removed. Tighten securely and apply Black Neoprene Dip to connection.

IMPORTANT: DO NOT reconnect start wire (yellow/red) terminal of engine wire harness. Use electrical tape to secure terminal to harness.



1. Small solenoid stud
2. Wire terminal of engine harness

001358R

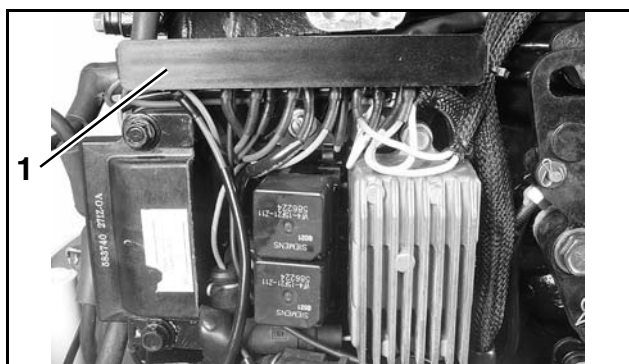
Remove the purple wire terminal and screw from the terminal board. Install the start button purple wire terminal under the engine harness purple wire. Reinstall and tighten screw. Apply Black Neoprene Dip to connection.



1. PURPLE start button wire

001356

Reinstall terminal board cover.



1. Cover

001357

Instrument Harness

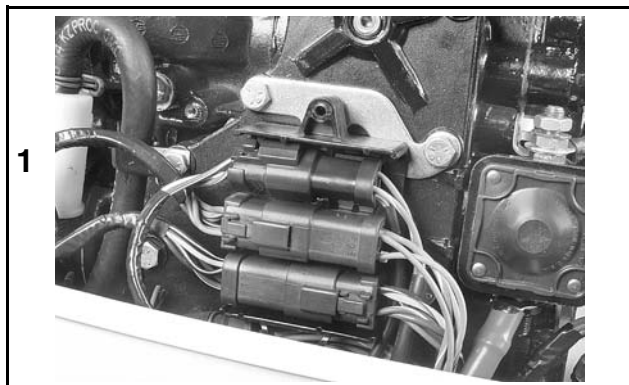
IMPORTANT: Route instrument harness through port, lower motor cover grommet. Be sure that harness routing does not interfere with outboard operation. Lubricate *Deutsch* [†] connectors with Electrical Grease prior to assembly.



1. Instrument harness

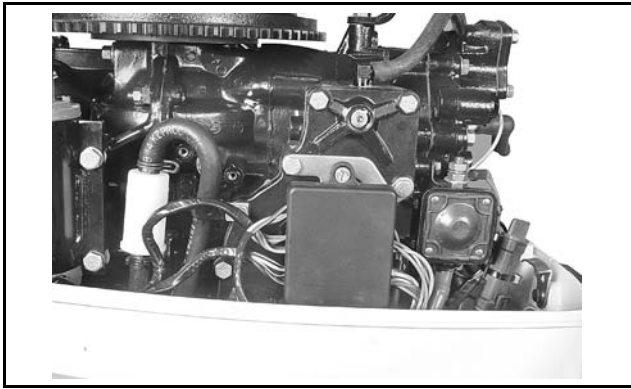
001513

Install instrument harness by matching and connecting the Deutsch connectors.



001350

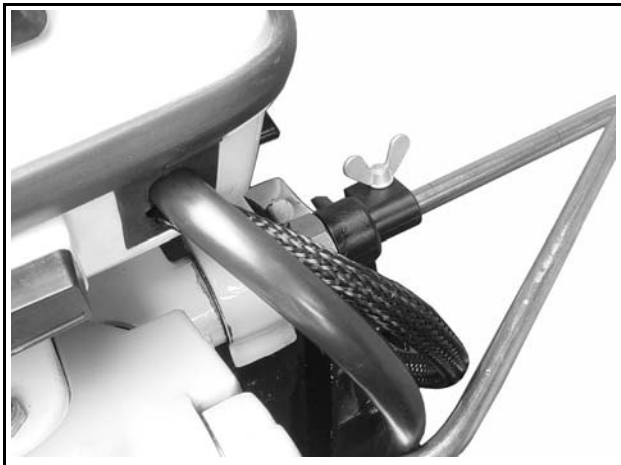
Position connectors on bracket and reinstall cover.



001359

IMPORTANT: Refer to additional instruction sheets included with tiller kit contents. Install a SystemCheck™ gauge or a horn driver to enable the outboard's operational warning system.

Route instrument harness under steering link and to keyswitch mounting location. Leave adequate slack.




001527


Check steering for full unrestricted movement to port and starboard. Adjust cable routings as needed.

Key Switch

Refer to instructions provided with key switch.

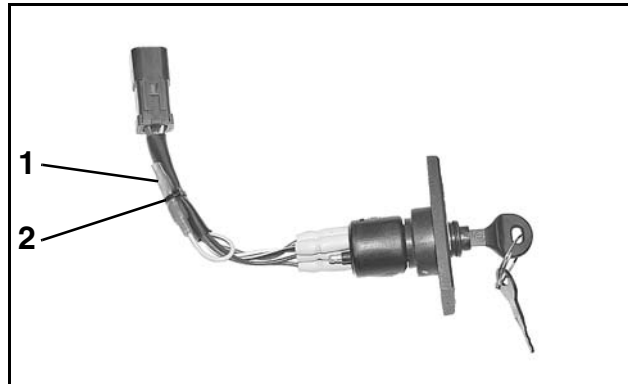


WARNING



DO NOT connect starter wire from wiring harness to key switch. Outboard must be started with the tiller bracket mounted start switch. This method of starting the outboard provides start in neutral protection.

Cover terminal of start wire (yellow/red) with terminal sleeve provided and fasten to harness with tie strap.



1. Terminal sleeve
2. Tie strap

002818

Check Installation

IMPORTANT: Confirm the following operate properly before returning outboard to customer:

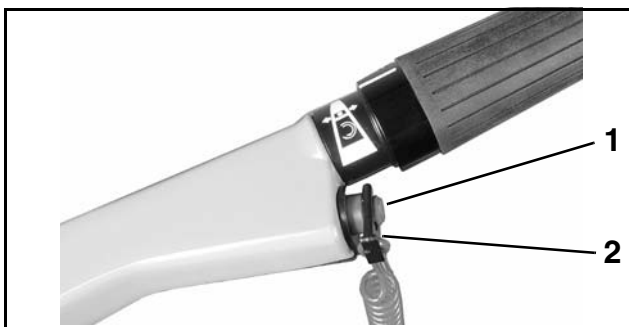
- Engine stop circuit and key switch
- Engine stops using emergency switch and lanyard
- Steering movement and friction control
- Throttle control (IDLE to WIDE OPEN)
- Shift control and proper gear engagement
- Neutral start protection
- Trim and tilt control using switch

INFORMATION FOR OWNER

Most operating and safety instructions for this tiller-steered outboard remain unchanged from the information in the Operators Guide for your outboard. Some differences are noted as follows.

The emergency stop switch on the tiller handle replaces the one on the instrument panel or remote control.

The lanyard clip must be connected to the stop switch to start the outboard. Turn key to OFF position or pull lanyard clip off stop switch to stop outboard.



1. Stop button/Emergency stop switch
2. Lanyard and clip

001528

IMPORTANT: An extra clip is provided for the emergency stop switch. This clip should be stored on the tiller handle storage boss or in a readily available location. If operator is thrown from boat, pulling lanyard and clip off stop switch and stopping outboard, a passenger can insert extra clip on the tiller stop switch and restart outboard. At least one passenger should know location of extra clip and be familiar with this emergency starting procedure. If lanyard and clip are lost, replace with a new lanyard and clip purchased from your Dealer.



1. Extra lanyard clip

001542

Some electrical current is used when engine is not running and key switch is left in ON position. If engine is stopped by pulling lanyard and clip off the emergency stop switch, turn key switch to OFF position to prevent battery discharge.



WARNING



Attach lanyard securely to clothing or life jacket. If operator is thrown from boat, lanyard will pull clip off stop switch, preventing boat from becoming a runaway.

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.

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 *Evinrude/Johnson* dealer immediately and do not use the outboard until this problem is corrected.

Operation



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.



DANGER



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.

Do not shift into gear unless outboard is running.

When starting, turn throttle grip to IDLE position and move shift lever to NEUTRAL position. Turn key to the ON position and press start button.



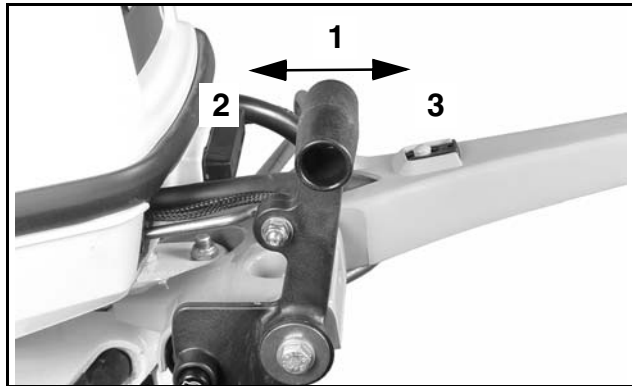
1. Start button

001446

Pull shift handle forward to shift outboard into FORWARD gear. Push shift handle aft to shift outboard into REVERSE gear. NEUTRAL is a detent position between FORWARD and REVERSE.

When shifting from NEUTRAL into either gear, turn throttle grip to IDLE position, and allow RPM to drop to slow speed before shifting briskly and fully into gear.

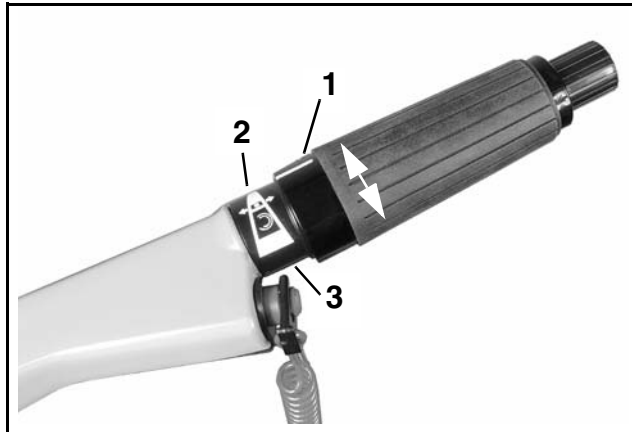
When shifting from one gear to the other, turn throttle grip to IDLE position, and allow RPM to drop to slow speed, shift to NEUTRAL and pause, and then move shift lever briskly and fully into gear.



Shift Handle Positions

1. NEUTRAL
2. REVERSE
3. FORWARD

001541



Twist-Grip Rotation

1. Indicator
2. IDLE/SLOW speed
3. WOT/HIGH speed

001528



CAUTION



Tiller-steered outboards have quicker steering response than remote-steered outboards. Avoid high speeds, quick turns, and demanding situations until you become familiar with the handling characteristics of your boat/motor combination. Maintain firm grip on tiller handle when accelerating and decelerating and when changing trim position so steering torque does not pull tiller out of your grip.

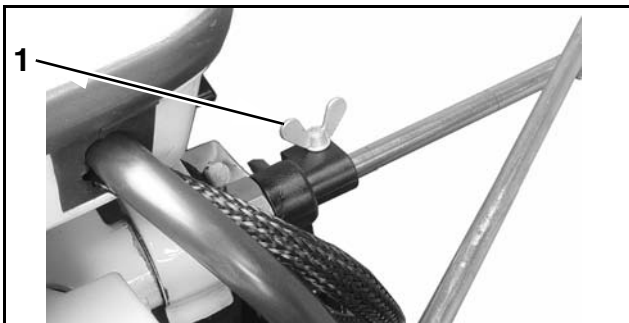
Change trim angle of outboard with trim switch to reduce steering torque on tiller handle when running at other-than-normal load or speed — for which trim tab has been adjusted.



CAUTION



Never tighten steering friction adjustment to allow “hands-off” steering. Control would be more difficult in an emergency, and you might not be able to avoid an accident. Turn wingbolt clockwise to tighten and counterclockwise to loosen.



Steering Friction Adjustment

001527

1. Wingbolt

IMPORTANT: If your outboard is NOT equipped with a *SystemCheck* engine monitor, a *SystemCheck* tachometer/engine monitor, or a horn driver, the outboard's warning systems will not function.

Refer to Operator's Guide for operational warning information.