TILLER HANDLE KITS, P/N 5032253, 5032254, 5034649, AND 5034650 INSTALLATION INSTRUCTIONS

APPLICATION

These kits are designed for use on **2000 and newer *Evinrude®/Johnson®* 40, 50, 60 and 70 HP, 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.*

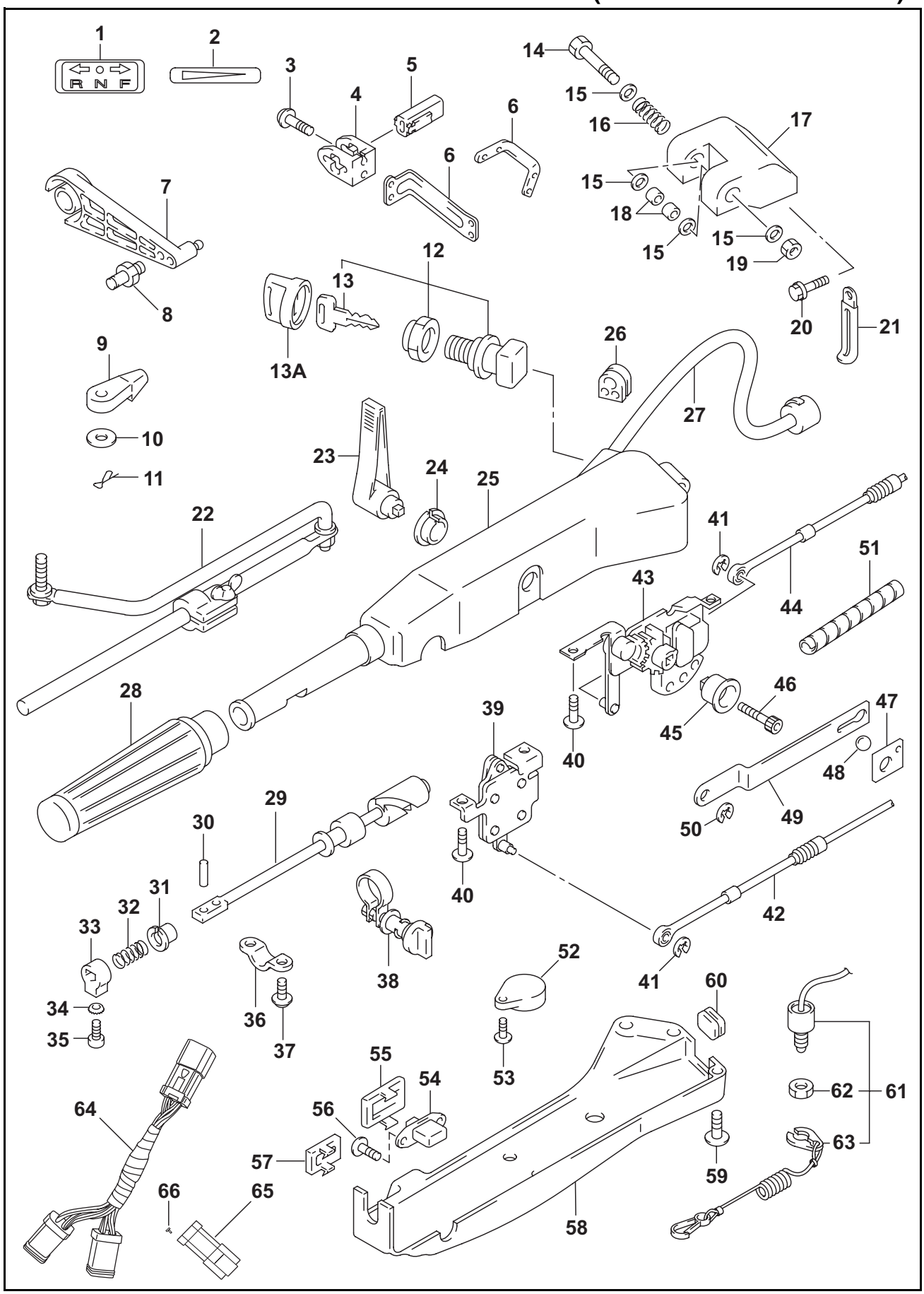
If you use procedures or service tools that are not recommended in this instruction sheet, YOU ALONE must decide if your actions might injure people or damage the outboard.

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.

5034648

CONTENTS OF KIT - P/N 5034649 and 5034650 (2002 and newer models)



Ref	P/N	Name of Part		Qty
1	5033995	DECAL, CLUTCH SHIFT		1
2	5030316	DECAL, HANDLE GRIP		1
3	5030000	BOLT	***A***	2
3	5030414	SCREW, 6X30	***B***	2
4	5031792	HOLDER, REMOTE CABLE		1
5	5031793	STOPPER, REMOTE CABLE		1
6	5031764	BRACKET, FRONT PANEL	***A***	1
6	5031765	BRACKET, FRONT PANEL	***B***	1
7	5030758	LEVER, THROTTLE	***B***	1
8	5032289	PIN, CONNECTOR		1
9	5032155	CONNECTOR, CABLE		2
10	5031080	WASHER (7X12X1mm)		2
11	5030575	CLIP		2
12	5034302	SWITCH, IGNITION		1
13A	5034453	*CAP, KEY		AR
13	5034304	*KEY (931)		AR
13	5034305	*KEY (932)		AR
13	5034306	*KEY (933)		AR
13	5034307	*KEY (934)		AR
13	5034308	*KEY (935)		AR
13	5034309	*KEY (936)		AR
13	5034310	*KEY (937)		AR
13	5034311	*KEY (938)		AR
13	5034312	*KEY (939)		AR
13	5034313	*KEY (940)		AR
13	5034314	*KEY (941)		AR
13	5034315	*KEY (942)		AR
14	5031609	BOLT (10X80mm)		1
15	5031610	WASHER (10.5X22X2.5mm)		4
16	5031613	SPRING		1
17	5032794	BRACKET, TILLER HANDLE		1
18	5031612	BUSHING		3
19	5030054	NUT		1
20	5030399	BOLT (10X45mm)		2
21	5031802	CLAMP		1
22	5031736	KIT, STEERING FRICTION	***B***	1
23	5032853	LEVER, SHIFT		1
24	5031786	BUSHING, SHIFT LEVER		1
25	5032814	HOUSING, TILLER HANDLE		1
26	5032843	GROMMET, WIRE HARNESS	***A***	1
26	5032936	GROMMET, WIRE HARNESS	***B***	1
27	5031477	HARNESS, TLR HANDLE WIRE		1
28	5030315	GRIP, THROTTLE		1
29	5031780	SHAFT, THROTTLE		1
30	5031578	PIN, HANDLE ROD		1
31	5031577	BUSHING, HANDLE ROD		1
32	5031795	SPRING		1
33	5031576	STOPPER, HANDLE ROD		1
34	5031794	WASHER		1
35	5030049	SCREW (6X23mm)		1
36	5031781	PLATE, THROTTLE SHAFT		1
37	5031799	SCREW (5X12mm)		2
38	5031782	ADJUSTER, THROT GRIP FRIC		1
39	5032466	ARM, THROTTLE		1
40	5031798	SCREW (6X12mm)		4
41	5031791	E-RING		2
42	5031788	CABLE, THROTTLE	***A***	1
42	5032935	CABLE, THROTTLE	***B***	1
43	5032842	GEAR, SHIFT		1
44	5031763	CABLE, SHIFT	***A***	1
44	5032913	CABLE, SHIFT	***B***	1
45	5031785	BUSHING, SHIFT GEAR		1
46	5031796	BOLT (8X50mm)		1
47	5032462	PLATE, BALL GUIDE		1
48	5032463	BALL		1
49	5032871	PLATE, LOCK		1
50	5032464	E-RING		1
51	5034182	TUBE (L:250mm)	***C***	1
52	5031484	HORN, WARNING		1
53	5031800	SCREW		1
54	5031777	SWITCH, TRIM		1
55	5031778	CAP, TRIM SWITCH		1
56	5031801	SCREW (2X6mm)		2
57	5031787	COVER, TRIM SWITCH		1
58	5031779	COVER, TLR HNDL HOUSING		1
59	5031797	SCREW (5X14mm)		6
59	5031789	GROMMET, THROTTLE CABLE	***A***	1
60	5031606	GROMMET, THROTTLE CABLE	***B***	1
60	5031481	SWITCH AY, EMERG. STOP	***A***	1
61	5034540	SWITCH AY, EMERG. STOP	***B***	1
62	5030224	*NUT		1
63	5030223	*LANYARD & CLIP		1
64	586841	ADAPTER, MWS HARNESS	***D***	1
65	514688	CONNECTOR, 6-PIN RCPT	***B***	1
66	514690	PLUG, SEALING	***B***	6

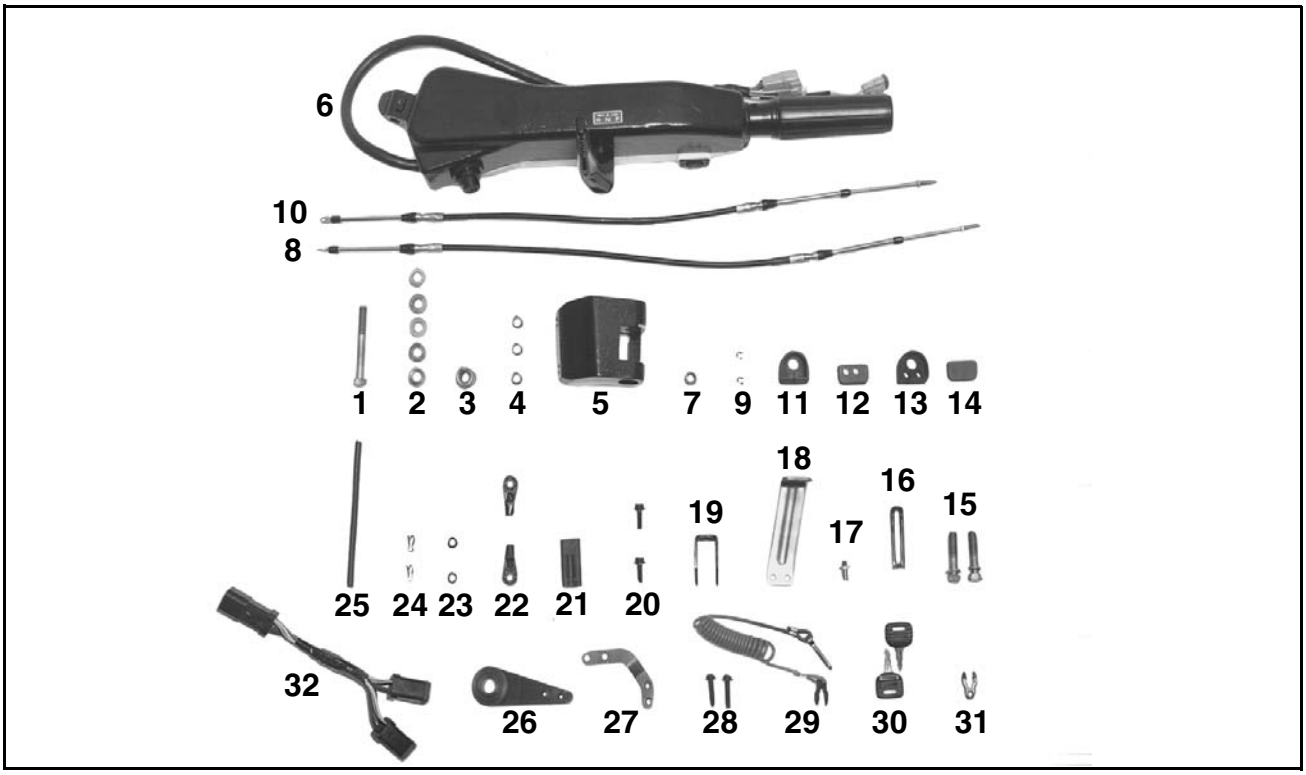
A Tiller handle kit P/N 5034649 only

B Tiller handle kit P/N 5034650 only

C Cut to proper length

D Used only if installing *SystemCheck*™ engine monitor

CONTENTS OF KIT - P/N 5032253 and 5032254 (2000-2001 models)



50120

Ref	P/N	Name of Part		Qty
1	5031609	Screw M10x80 (3.15in.)		1
2	5031610	Washer - 10mm I.D.		5
3	5031613	Spring		1
4	5031612	Bushing		3
5	5031603	Tiller Bracket		1
6	N/A	Tiller Handle		1
7	5030054	Locknut - M10		1
8	5031788	Throttle Cable		1
9	5031791	E-Ring		2
10	5031763	Shift Cable		1
11	5031790	Grommet		1
12	5031789	Grommet		1
13	5031607	Grommet		1
14	5031606	Grommet		1
15	5030399	Screw M10x45 (1.77in.)		2
16	5031802	Clamp		1
17	5031078	Throttle Connector Pin		1
18	5031764	Cable Bracket	***A***	1
19	5031792	Cable Holder		1

Ref	P/N	Name of Part		Qty
20	N/A	Screw M6 x 20 Hex Hd		2
21	5031793	Stopper		1
22	5030955	Cable Connector		2
23	5031080	Washer - 7 mm I.D.		2
24	5030575	Clip		2
25	5030832	Cable Wrap		1
26	5031617	Throttle Lever		1
27	5031765	Cable Bracket	***B***	1
28	N/A	Screw M6 x 30 (w/captive washer)		2
29	5030223	Lanyard		1
30	N/A	Key		2
31	N/A	Clip		1
32	586841	MWS Wiring Adapter	***C***	1
	514688	6-Pin Connector	***D***	1
	514690	Sealing Plug	***D***	6
	5031803	Throttle Decal	***D***	1
	5030204	Shift Decal	***D***	1
	5031736	Steering Friction Kit	***B,D***	1

A Used only with tiller handle kit P/N 5032253.
B Used only with tiller handle kit P/N 5032254.
C Used only if installing *SystemCheck*™ engine monitor
D Not shown

⚠ WARNING ⚠

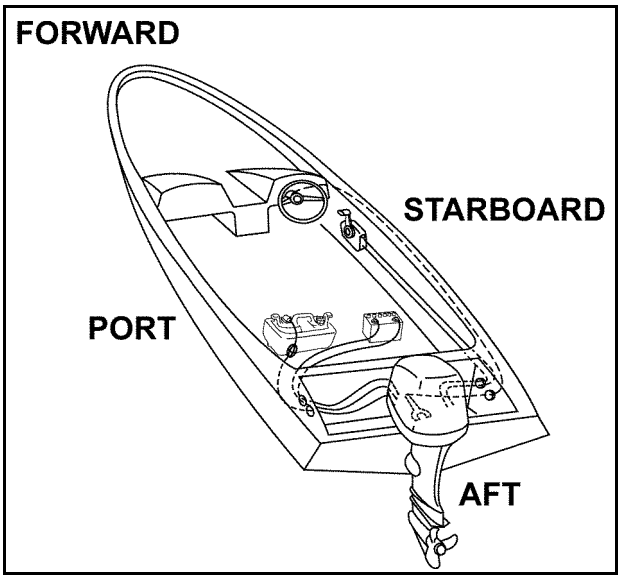
Improper installation of this kit could result in personal injury due to loss of boat control.

Only shift the engine while at idle RPM. The tiller handle features a mechanical system that will not allow the engine to be shifted into gear above idle. If the shift into gear is accomplished at a high rate of speed, the RPM limit will be released and the resulting sudden acceleration could injure boat occupants and bystanders.

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.

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



Nautical Orientation

INSPECTION

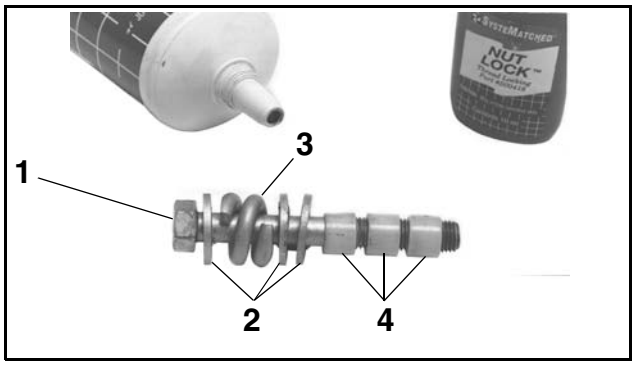
Before installation, check boat for obstructions that could interfere with free movement of tiller handle when steering or tilting outboard.

⚠ CAUTION ⚠

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

INSTALLING TILLER HANDLE

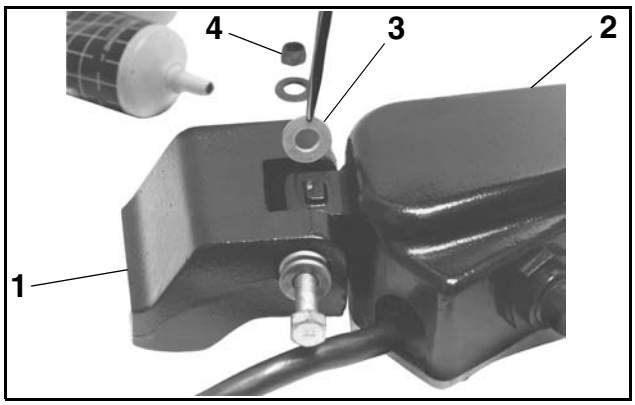
Apply *Triple-Guard*® grease to shank of screw (except threads). Assemble one (1) washer, spring, two (2) more washers, and three (3) bushings onto screw. Apply *Nut Lock*™ to threads of screw.



Parts are shown spread out for clarity only. 50122

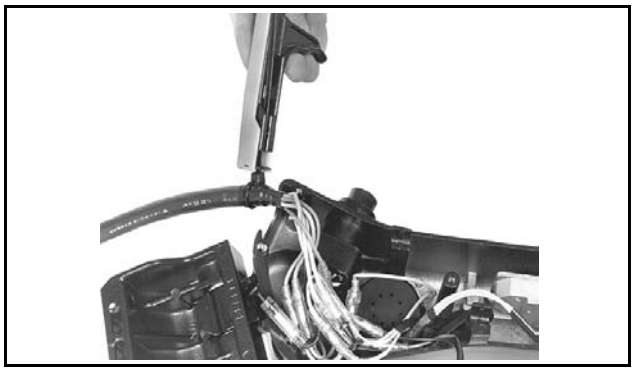
1. *Screw, P/N 5031609*
2. *Washers, P/N 5031610*
3. *Spring, P/N 5031613*
4. *Bushings, P/N 5031612*

Install screw assembly through starboard side of tiller bracket and tiller handle. Apply *Triple-Guard* grease to one (1) washer. Insert washer between port side of tiller bracket and tiller handle. Push screw assembly through washer and thread into bracket until looseness in pivot joint is removed. Temporarily install last washer and locknut.



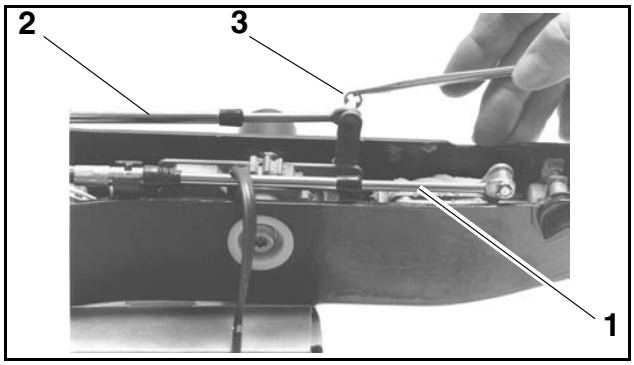
1. *Tiller bracket* 50123
2. *Tiller handle*
3. *Washer, P/N 5031610*
4. *Locknut, P/N 5030054*

Remove tiller handle lower cover. Install tie strap (not supplied) around wiring harness near end of sleeve.



50202

Install throttle cable and E-ring on throttle arm. Install shift cable and E-ring on shift arm. Press each cable groove down into cable mounting slot until flush with top.

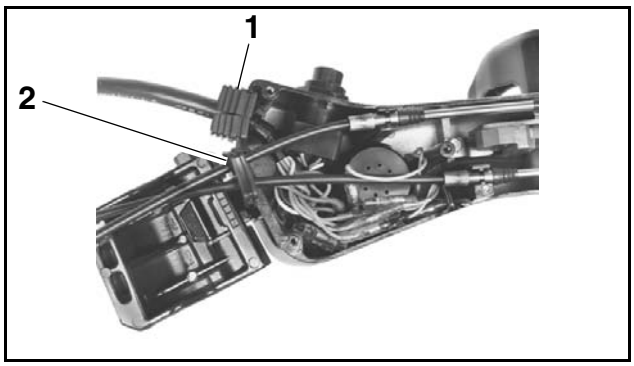


1. *Throttle cable* 50125
2. *Shift cable*
3. *E-ring (2)*

40/50 HP MODELS

Install grommet onto wiring harness next to tie strap and press into tiller handle slot. Install second grommet onto shift and throttle cables and press into lower cover slot.

Position trim switch wires between control cables and reassemble lower cover onto tiller handle without pinching wires.

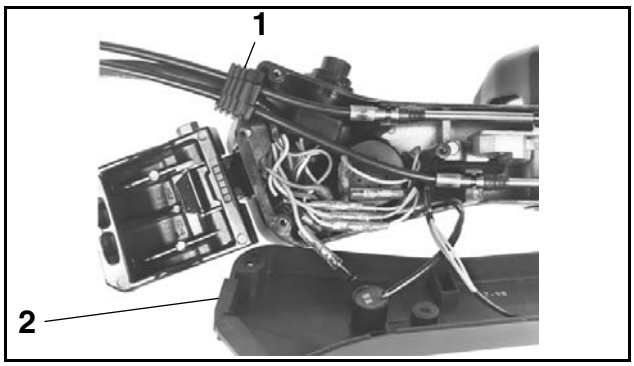


1. *Wire harness grommet* 50203a
2. *Throttle cable grommet*

60/70 HP MODELS

Install grommet onto wiring harness next to tie strap and onto shift and throttle cables, and press into tiller handle slot. Install throttle cable grommet into lower cover slot.

Position trim switch wires between control cables and reassemble lower cover onto tiller handle without pinching wires.

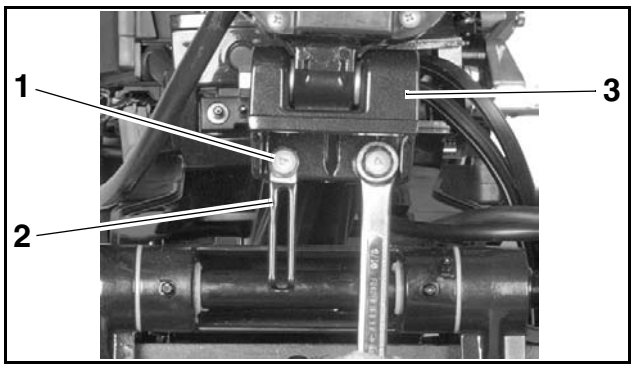


1. *Wire harness grommet* 50204
2. *Throttle cable grommet*

ALL MODELS

Remove engine cover and lower covers.

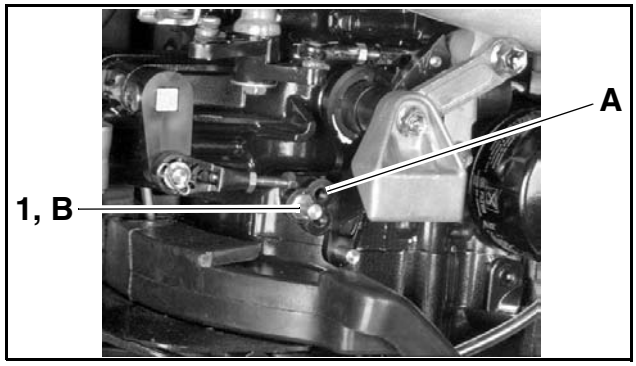
Apply *Nut Lock* to threads of two (2) screws. Place clamp under head of screw and secure tiller handle assembly to steering arm with screws. Torque screws to 36 ft. lb. (50 N·m).



1. *Screws, P/N 5030399* 50129
2. *Clamp, P/N 5031802*
3. *Tiller handle assembly*

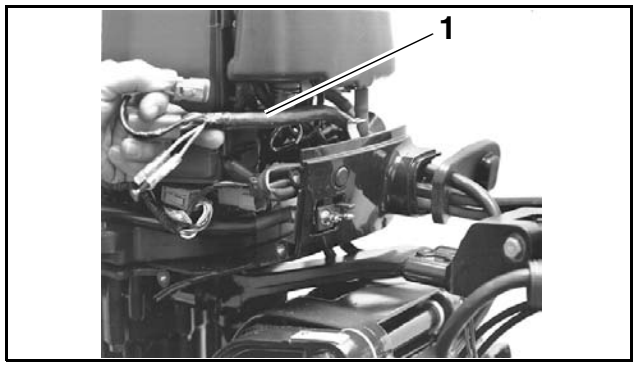
INSTALLING CONTROL CABLES - *40/50 HP Models*

Remove throttle pin from position “A”. Apply *Nut Lock* to threads of throttle pin. Install throttle pin in position “B,” as shown, and tighten pin carefully.

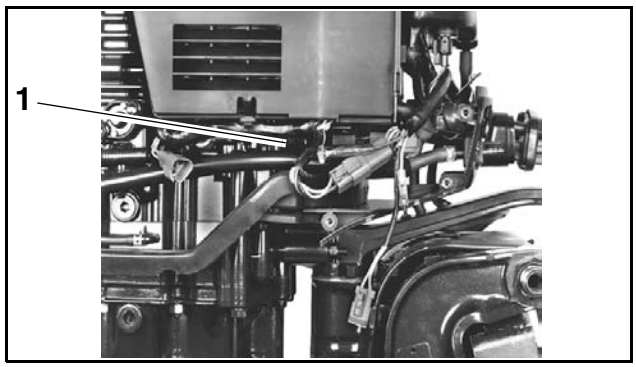


1. Throttle connector pin 50116

Route tiller handle wiring harness through rigging port. Connect 6-pin key switch connector and place in wiring harness holder. Connect blue connector for horn and 3-pin power trim and tilt connector. Yellow lead is not used.



1. Tiller handle wiring harness 50117

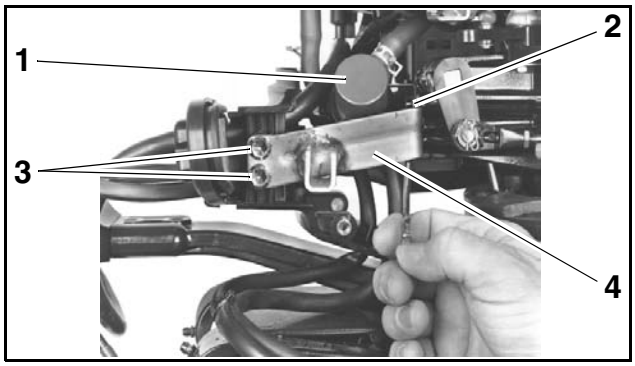


1. Wiring harness holder 50135

IMPORTANT: If you are installing a *SystemCheck* engine monitor, refer to ***SystemCheck* Installation** on page 14.

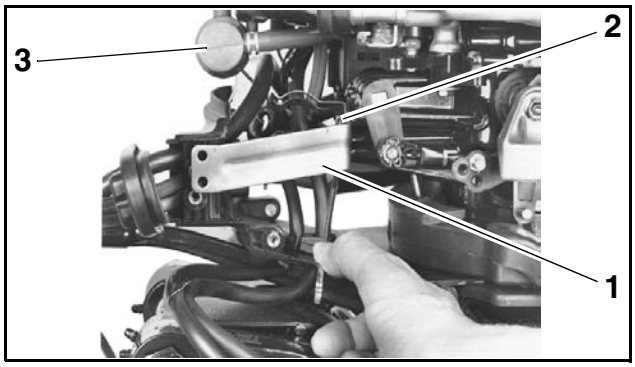
Disconnect IAC silencer, remove from clip, and push out of the way to access upper bracket screws.

Remove upper and lower bracket screws. Discard remote cable bracket and lower bracket screws. **Save upper bracket screws.**



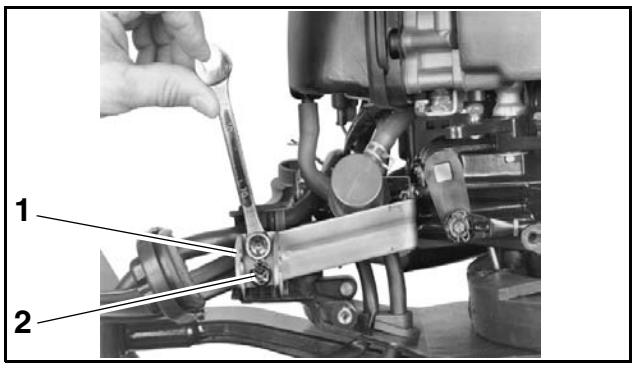
1. IAC silencer 50136
2. Upper bracket screws (2)
3. Lower bracket screws (2)
4. Remote cable bracket

Install tiller handle cable bracket with upper bracket screws saved from last step. Reconnect IAC silencer.



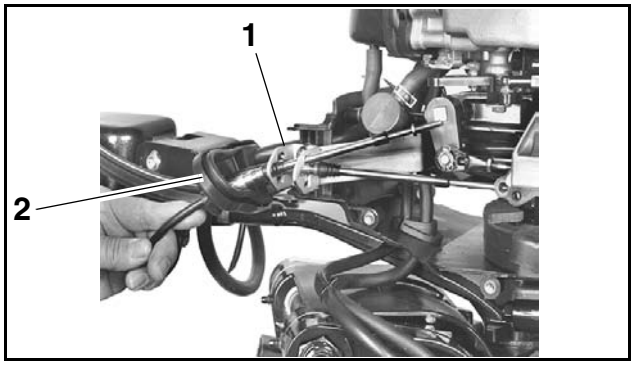
1. Tiller handle cable bracket, P/N 5031764 50137
2. Upper bracket screws (2)
3. IAC silencer

Position cable holder against bracket with smaller cable retaining slots facing aft. Secure cable holder to bracket with lower bracket screws included with kit.



1. Cable holder 50138
2. Lower bracket screws (2)

Route control cables through holes in dust cover and through cable holder.



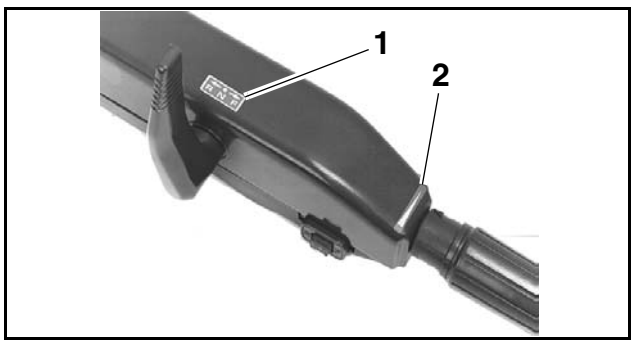
1. Cable holder 50139
2. Dust cover

Position shift cable to starboard side with cable notches in cable holder. Install stopper using soapy water as a lubricant.

1. Stopper 50130

Install throttle decal at front end of tiller arm, as shown. Install shift decal in-line with shift lever hub.

Place tiller handle shift lever in NEUTRAL, and place outboard in NEUTRAL. Turn tiller throttle grip clockwise to IDLE position.



1. Throttle decal 50207
2. Shift decal

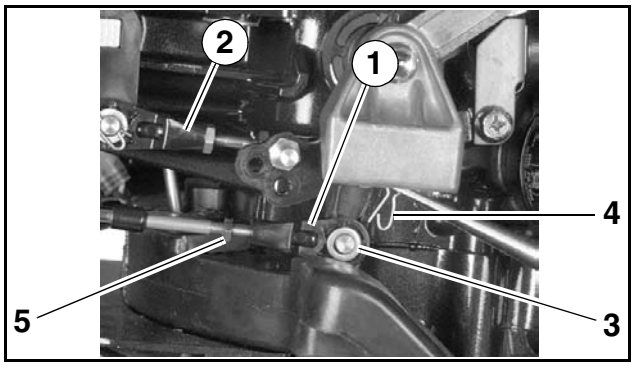
⚠ CAUTION ⚠

Cable connector and nut must be threaded at least 0.3 in. (8 mm) onto cable. A risk of personal injury or property damage from loss of boat control could occur if cable connector unthreads from cable.

Thread cable connector at least eight (8) revolutions onto shift cable until connector hole aligns with shift lever pin and flat side of connector is next to shift lever. If connector is not threaded far enough onto cable, adjust throttle link.

Secure connector to pin with washer and clip. Gently tighten nut against connector.

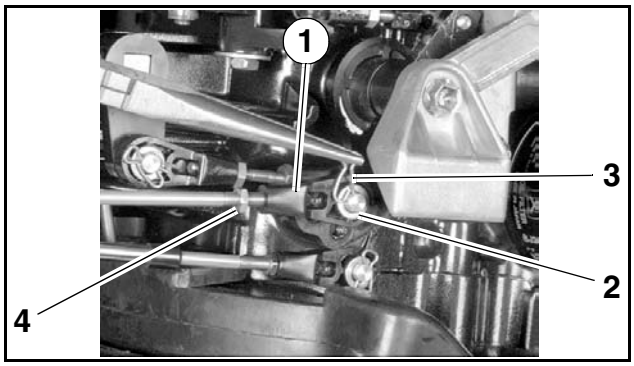
Turn propeller shaft to shift into gear, and check that both FORWARD and REVERSE gear positions can be fully engaged with shift lever.



1. Cable connector 50132
2. Throttle link
3. Washer, P/N 5031080
4. Clip, P/N 5030575
5. Nut

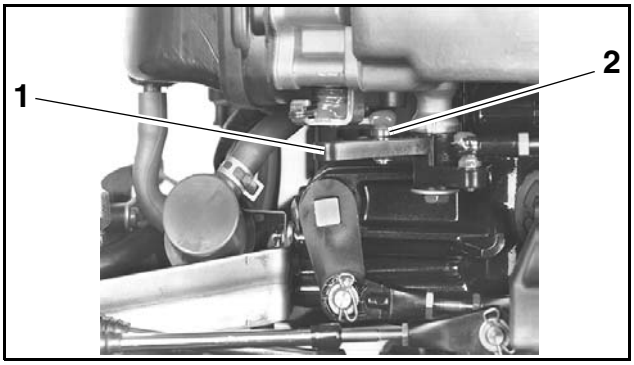
Thread cable connector at least eight (8) revolutions onto throttle cable until connector hole aligns with throttle lever pin and flat side of connector is next to throttle lever.

Secure connector to pin with washer and clip. Gently tighten nut against connector.



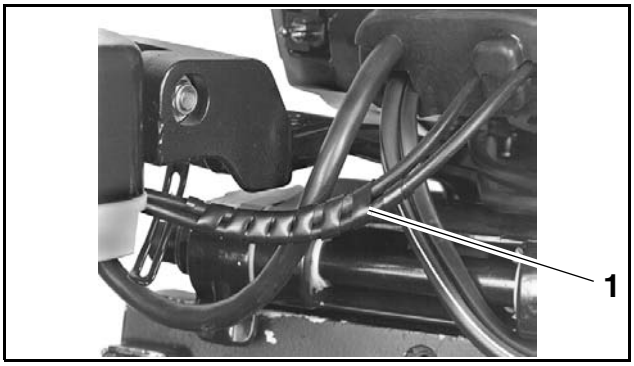
1. Cable connector 50140
2. Washer, P/N 5031080
3. Clip, P/N 5030575
4. Nut

Check that throttle lever is against stop at wide open throttle, and that there is clearance between throttle roller and throttle cam when throttle grip is rotated fully clockwise to IDLE position.



1. Throttle lever 50142
2. Throttle roller

Secure control cables together with tubing.

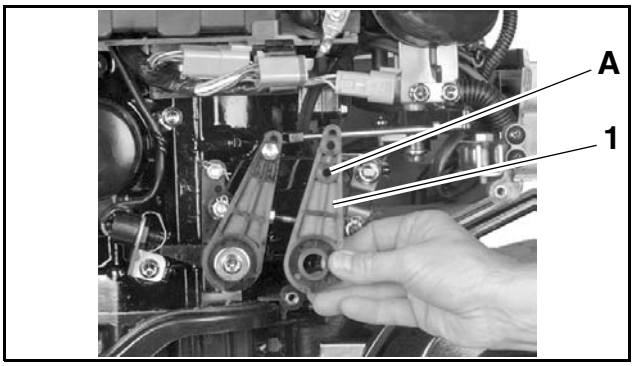


1. Tubing 50141

Reinstall lower engine covers, and position dust cover over rigging port.

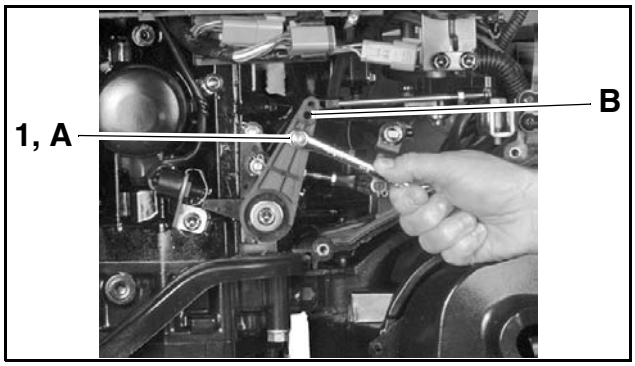
INSTALLING CONTROL CABLES - *60/70 HP Models*

If throttle lever does not have threaded hole at position “A,” remove throttle lever from engine and install new throttle lever included with kit.



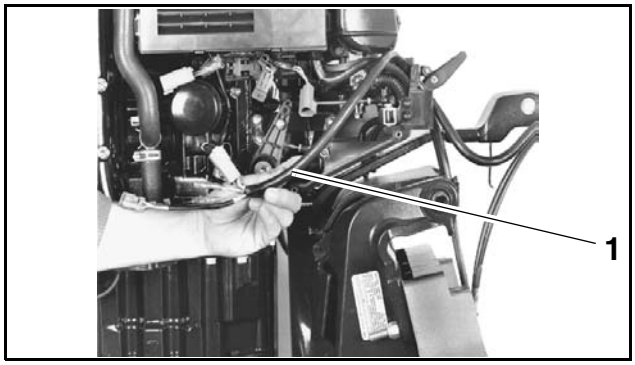
1. Throttle lever, P/N 5031617 50149

If throttle lever on engine has alternate hole, remove throttle pin from position “B”. Apply *Nut Lock* to threads of throttle pin. Install throttle pin in position “A,” as shown, and tighten pin carefully.

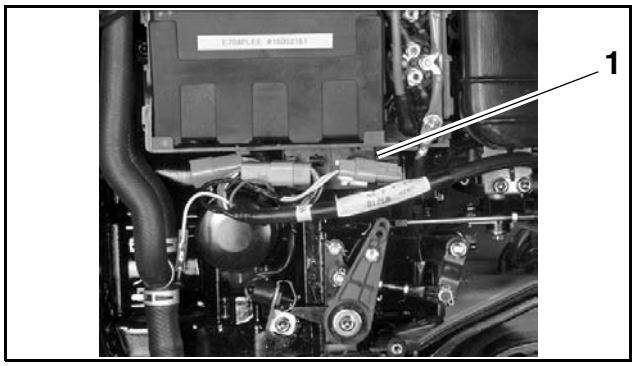


1. Throttle pin 50150

Route tiller handle wiring harness through rigging port. Connect 6-pin key switch connector and place in wiring harness holder. Connect blue connector for horn and 3-pin power trim and tilt connector. Yellow lead is not used.



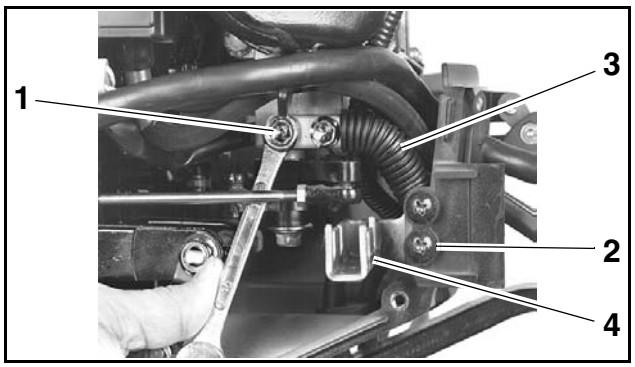
1. Tiller handle wiring harness 50118



1. Wiring harness holder 50152

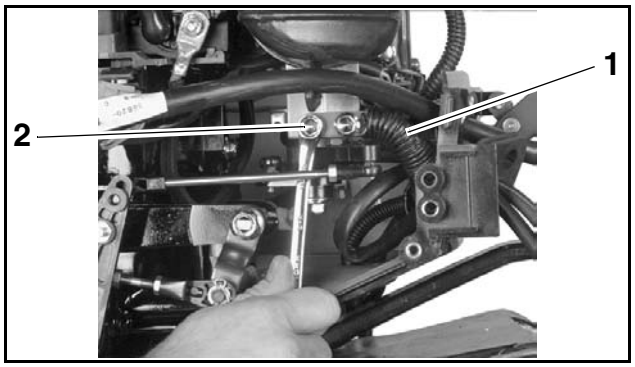
IMPORTANT: If you are installing a *SystemCheck* engine monitor, refer to ***SystemCheck* Installation** on page 14.

Remove upper and lower bracket screws and cable wrap. Discard remote cable bracket and lower bracket screws. **Save upper bracket screws and tubing.**



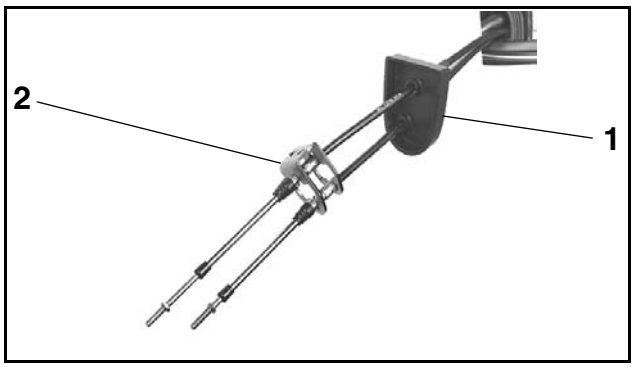
1. *Upper bracket screws (2)* 50145
2. *Lower bracket screws (2)*
3. *Tubing*
4. *Remote cable bracket*

Install tubing saved from last step onto tiller handle cable bracket. Install tiller handle cable bracket with upper bracket screws saved from last step.



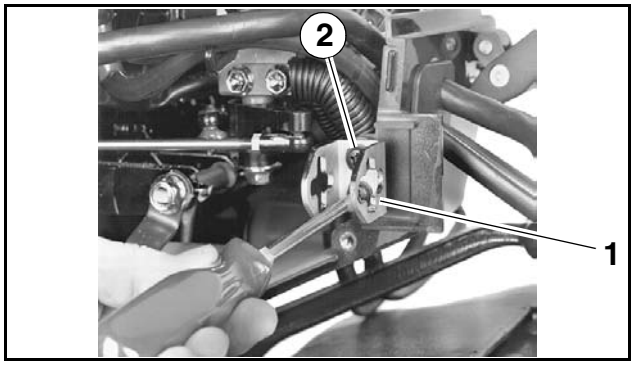
1. *Tiller handle cable bracket, P/N 5031765 (with tubing)* 50147
2. *Upper bracket screws (2)*

Route control cables through holes in dust shield and through cable holder, with smaller cable retaining slots facing aft. Throttle cable is on starboard side near round end of dust shield.



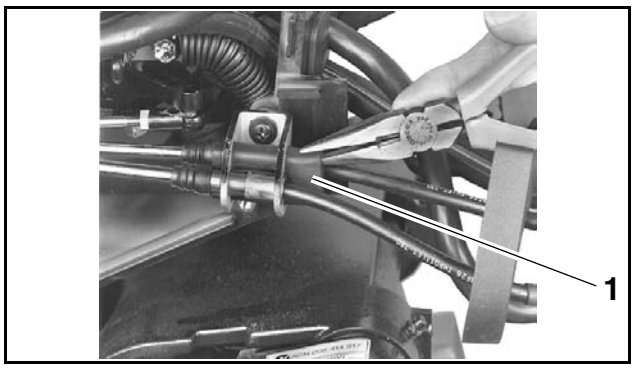
1. *Dust shield* 50159
2. *Cable holder*

Secure cable holder to bracket with lower bracket screws included with kit (cables not shown).



1. *Cable holder* 50158
2. *Lower bracket screws (2)*

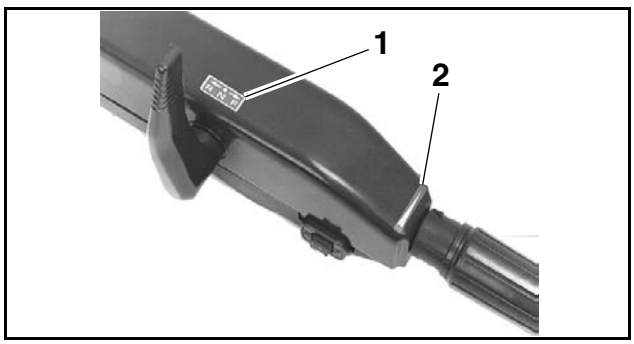
Position shift cable to port side with cable notches in cable holder. Install stopper using soapy water as a lubricant.



1. *Stopper* 50160

Install throttle decal at front end of tiller arm, as shown. Install shift decal in-line with shift lever hub.

Place tiller handle shift lever in NEUTRAL, and place outboard in NEUTRAL. Turn tiller throttle grip clockwise to IDLE position.



1. *Throttle decal* 50207
2. *Shift decal*

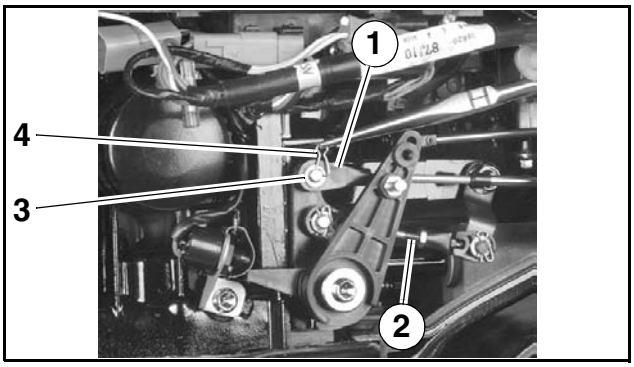
⚠ WARNING ⚠

Cable connector and locknut must be threaded at least 0.3 in. (8 mm) onto cable. Personal injury or property damage from loss of boat control could occur if cable connector unthreads from cable.

Thread cable connector at least eight (8) revolutions onto shift cable until connector hole aligns with shift lever pin and flat side of connector is next to shift lever. If connector is not threaded far enough onto cable, adjust throttle link.

Secure connector to pin with washer and clip. Gently tighten nut (obscured by throttle lever in photo below) against connector.

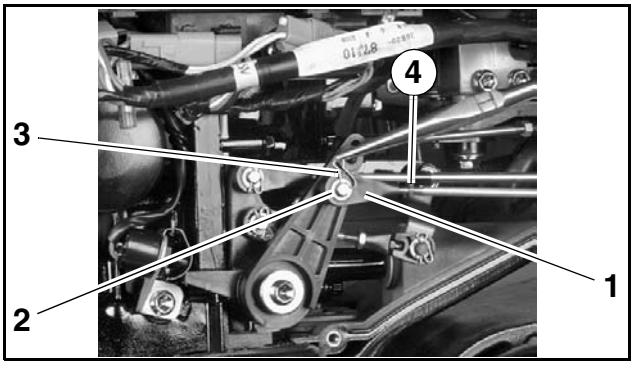
Turn propeller shaft to shift into gear, and check that both FORWARD and REVERSE gear positions can be fully engaged with shift lever.



1. *Cable connector* 50162
2. *Throttle link*
3. *Washer, P/N 5031080*
4. *Clip, P/N 5030575*

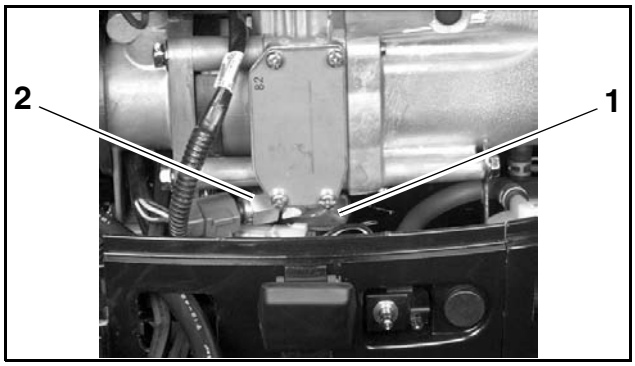
Thread cable connector at least eight (8) revolutions onto throttle cable until connector hole aligns with throttle lever pin and flat side of connector is next to throttle lever.

Secure connector to pin with washer and clip. Gently tighten nut against connector.



1. *Cable connector* 50153
2. *Washer, P/N 5031080*
3. *Clip, P/N 5030575*
4. *Nut*

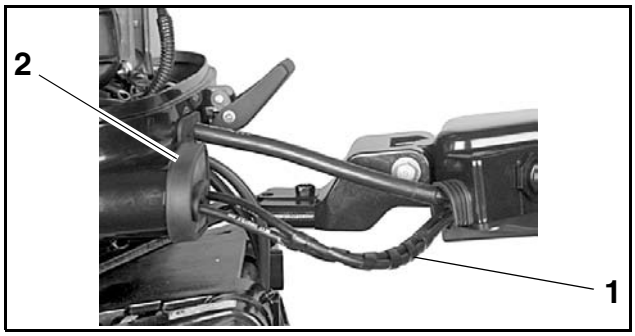
Check that throttle lever is against stop at wide open throttle, and that throttle lever is tight against closed throttle position switch when throttle grip is rotated fully counterclockwise to IDLE position.



1. *Throttle lever* 50154
2. *Closed throttle position switch*

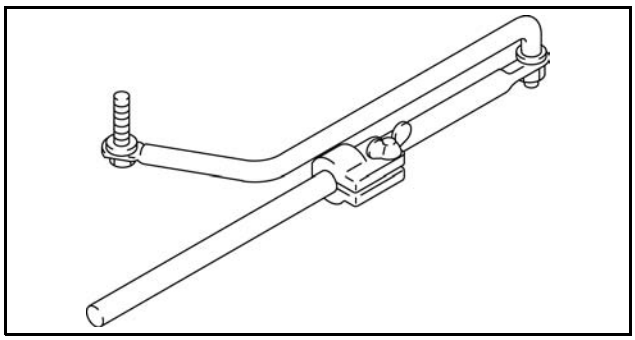
Secure control cables together with tube or cable wrap.

Reinstall lower engine covers, and position dust cover over rigging port.



1. *Tubing* 50156
2. *Dust cover*

Install steering friction kit. Follow instructions furnished with kit.



Steering Friction Kit, P/N 5031736 002565

⚠ CAUTION ⚠

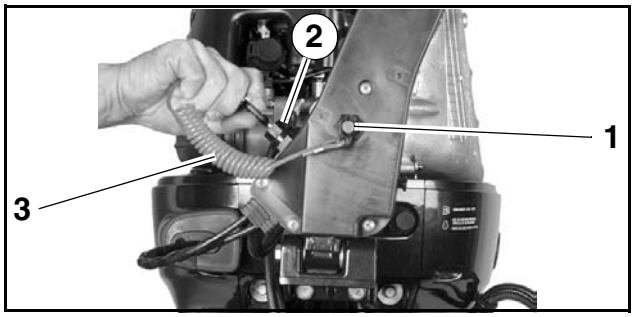
Do not operate outboard without steering friction kit installed. Operation without steering friction could result in loss of control, which could result in personal injury or property damage.

OPERATION INFORMATION

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

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

To start outboard, lanyard clip must be on the stop switch. To stop outboard, turn key to OFF position or pull lanyard clip off the stop switch.



1. *Emergency stop switch* 50198
2. *Key switch*
3. *Lanyard*

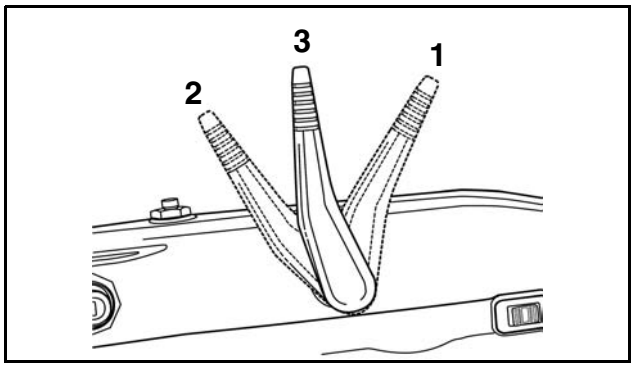
⚠ WARNING ⚠

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.

IMPORTANT: An extra clip is provided for the emergency stop switch. This clip should be attached to the key with an easily removed hook, or stored in a readily available location. If operator is thrown from boat, pulling lanyard and clip off the stop switch, a passenger can insert the extra clip on the stop switch and restart the outboard. At least one passenger should know the location of the extra clip and be familiar with this emergency starting procedure.

IMPORTANT: 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 stop switch, turn key switch to OFF position to prevent battery discharge.

Move shift handle forward to shift outboard into FORWARD gear. Move shift handle aft to shift outboard into REVERSE gear. NEUTRAL is a detent position between FORWARD and REVERSE. **Do not shift into gear unless out board is running.**

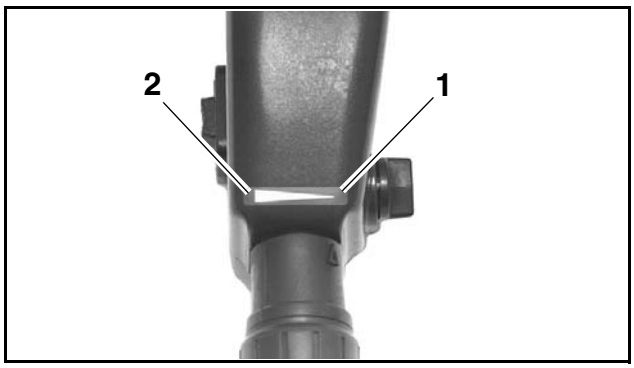


Shift Handle DRC7938
1. *FORWARD position*
2. *REVERSE position*
3. *NEUTRAL position*

When starting, turn throttle grip to closed throttle position, and move shift lever to NEUTRAL position before turning key switch to START position.

When shifting from NEUTRAL into either gear, turn throttle grip to closed-throttle position, and allow RPM to drop to IDLE speed before shifting briskly and fully into gear. Then open throttle as required.

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



Throttle Grip 50206A
1. *Closed throttle position*
2. *Wide open throttle position*

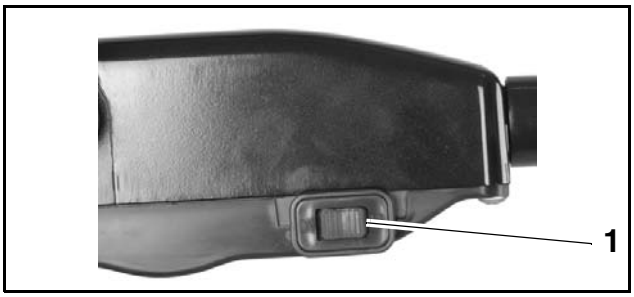
⚠ CAUTION ⚠

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.

⚠ CAUTION ⚠

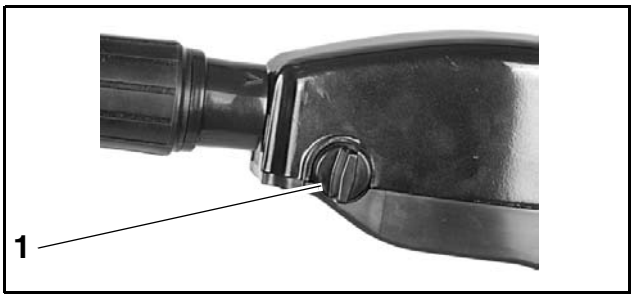
Maintain firm grip on tiller handle when accelerating and decelerating and when changing trim position so steering torque does not pull tiller out of your grip.

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.



1. Trim switch 50166

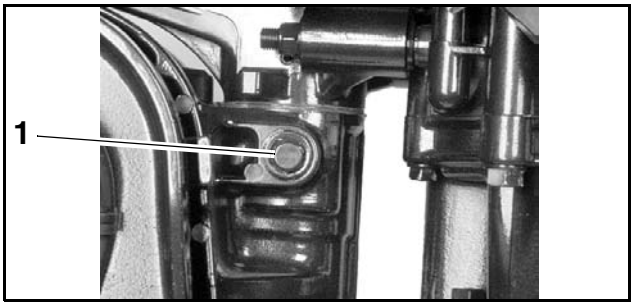
Throttle friction adjuster should be adjusted so that only a slight drag is felt when turning throttle grip. Do not overtighten.



1. Throttle friction adjuster 50157

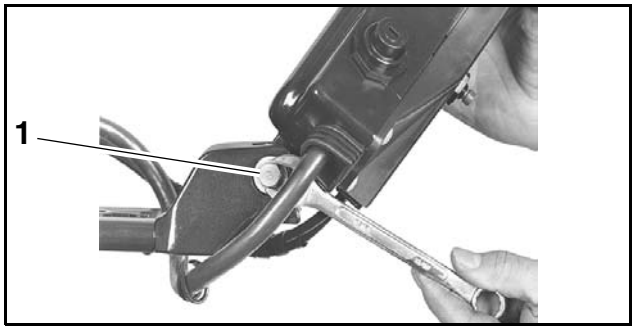
⚠ WARNING ⚠

Steering friction device is not intended to hold boat on a set course. DO NOT overtighten steering friction device for "hands-off" steering. Reduced control of the boat could result in loss of control by the operator, creating a risk of personal injury or property damage.



1. Steering friction device 50169

To adjust tiller handle vertical friction, loosen locknut on port side, and adjust friction screw on starboard side until handle remains in raised position. Retighten locknut to 25 ft. lbs. (34 N·m).



1. Locknut 50168

Tiller Handle Warning Signals

If your outboard is not equipped with a *System-Check* engine monitor, an engine malfunction will cause the tiller handle warning horn to sound and/or cause other engine response.

Power Up

When you turn the key ON, the horn will sound a 2-second test beep.

Short Beeps

If you hear a series of short (0.2 second) beeps while the engine is running, it is the self-diagnostic system indicating that a control sensor or control switch has failed or is out-or-range. After a fault code is set, each time the key switch is turned ON, the horn sounds the test beep, and then sounds and repeats a pattern of beeps that is the fault code. This code will be used by your *Evinrude/Johnson* dealer to locate and correct the problem.

Long Beeps

If one of the following abnormalities occurs while running the outboard, the horn will sound a series of long (1 1/2 second) beeps.

Low Oil Pressure

Low Battery Voltage

Engine Overheat

If you hear a series of long beeps and/or the engine slows to 3000 RPM (and you are not running higher than the normal RPM range), you must take immediate steps to determine whether the problem is low oil pressure or an overheat and correct it.

- Check water pump indicator for a steady stream of water. If not a full stream or stream is intermittent, see **Engine Overheat**.
- If pump indicator stream is OK, stop engine. See **Low Oil Pressure**.

Low Oil Pressure

PROBLEM: Engine oil pressure is below 14 psi (97 kPa).

Engine will slow to 3000 RPM (if over 3000 RPM when low pressure occurs) and may shake noticeably.

Warning horn sounds a series of long beeps.

- Stop engine. Check oil level with dipstick. Add oil if low.
- Check for oil leaks. Fix any leaks.

Warning resets when: Oil pressure is over 14 psi (97 kPa) and engine is below 3000 RPM.

Low Battery Voltage

***PROBLEM*:** Battery voltage drops below 9 volts for 30 seconds.

Warning horn sounds a series of long beeps.

- Do not use any high-amperage devices. Turn off any unnecessary electrical devices. Check battery electrolyte level. Check 30 amp fuse. Check battery switch position if accessory battery is used.

Warning resets when: Voltage increases over 9 volts.

- If indication remains, see your *Evinrude/Johnson* dealer.

Engine Overheat

PROBLEM: Engine temperature is too high or rising very rapidly.

Engine will slow to 3000 RPM (if over 3000 RPM when overheat occurs) and may shake noticeably.

Warning horn sounds a series of long beeps.

- Check water pump indicator for a steady stream of water.
- If pump indicator stream is intermittent or not a full stream, make sure water intake is submerged.
- If water intake is submerged, run engine at IDLE, shift to REVERSE, operate at fast idle for 10 seconds, then shift to NEUTRAL. If pump indicator stream is restored, run at fast idle until engine cools.
- If pump indicator stream is not restored, stop engine, tilt outboard UP, and clear debris from water intake. Tilt outboard DOWN, restart, and check pump indicator stream. Run at fast idle until engine cools.

Warning resets when: Engine cools to normal temperature range.

- If indication remains, see your *Evinrude/Johnson* dealer.

Engine Over-Speed

***PROBLEM*:** Engine RPM is over 6500.

Engine will slow to 3000 RPM and may shake noticeably.

- Check if lighter than normal load. Check propeller for weeds or trash. Check for worn propeller blades or whether propeller is loose on hub.

Warning resets when: Engine is stopped or speed is reduced below 3000 RPM for 1 second.

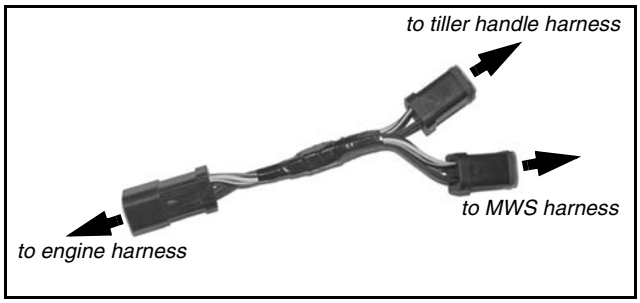
SystemCheck Installation

If you are installing a *SystemCheck* engine monitor, you will need Horn Kit, P/N 176361, and a suitable MWS wiring harness. You will also need to use MWS Wiring Adapter, P/N 586841, included in this kit.

⚠ WARNING ⚠

Disconnect battery cable before working on electrical wiring to avoid accidental cranking or chance of shock or burn injury.

Connect MWS wiring harness to warning horn and to tachometer/gauge. Connect tiller handle wiring harness, engine wiring harness, and MWS wiring harness to MWS wiring adapter as shown.



MWS Wiring Adapter 002563

IMPORTANT: The warning horn that is built into the tiller handle must be disabled when the new *SystemCheck* warning horn is installed. Disconnect and cap off the single blue tiller handle wire.

System Self-Test

During engine start-up, pause with the key switch in the ON position. The horn self-tests by sounding a half-second beep. The gauge self-tests by turning the indicator lights on simultaneously, then off in sequence. This self-test routine might occur more than once during start up if battery voltage drops to 7 volts. The self-test repeats if the key switch is turned OFF and ON.

Service Mode

SystemCheck goes into a service mode if the key is left ON after self-test (engine NOT running). All light circuits and sensors are active, but the horn is not. Grounding the appropriate light circuit wire will turn the light on, but the horn will not sound.

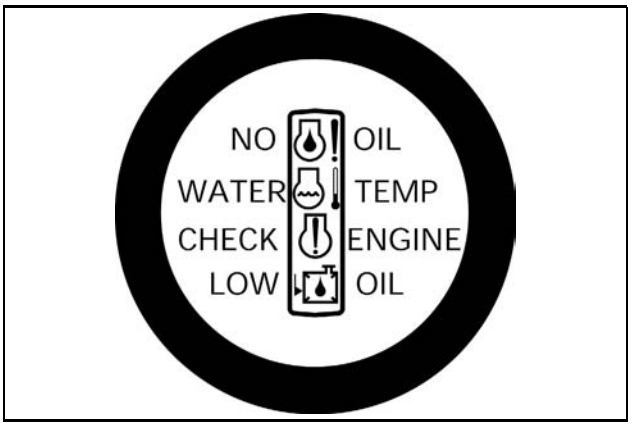
Engine Running

All warning light circuits are active when the engine is running. A microprocessor in the gauge monitors the tach circuit and activates the horn circuit when engine speed exceeds 500 RPM. The gauge will continue monitoring until the engine stops.

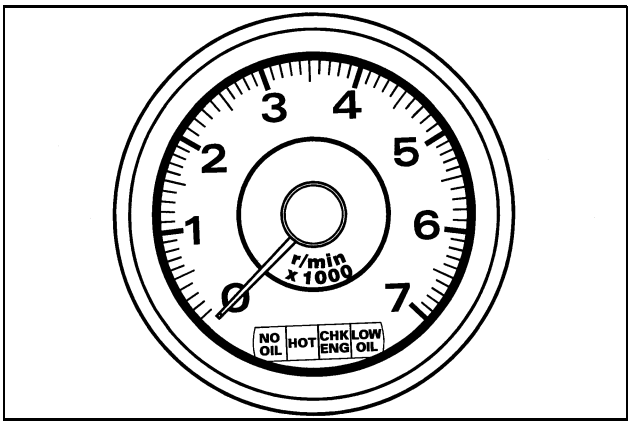
SystemCheck warnings activate the horn for 10 seconds and the appropriate gauge light for a minimum of 30 seconds. This allows adequate time for the operator to look at the gauge after hearing the horn. If the failure is momentary, the light will remain ON for the full 30 seconds before going out. If the fault continues, the light remains ON until the key is turned OFF or the failure is corrected. The warning will reoccur at the next start-up if the problem is not corrected.

- **NO OIL** light indicates an oil delivery problem such as low oil pressure or damaged oil system components.
- **WATER TEMP** or **HOT** light indicates an engine overheat condition.
- **CHECK ENGINE** light is used to indicate numerous fault conditions such as low battery voltage.
- **LOW OIL** light should not activate. If it does, check for a problem with a wiring harness or gauge/tachometer.

Gauges are available in two sizes: a 2-in. gauge with four LEDs or a 3 1/2-in. tachometer with LEDs.



2-Inch Gauge DR5206



3 1/2-Inch Tachometer DR5364