



CONCEALED SIDE MOUNT REMOTE CONTROL INSTALLATION AND USER'S GUIDE

APPLICATION

Use for *Evinrude*[®] *E-TEC*[™] concealed side mount remote control assemblies designed for *Evinrude*[®] and *Johnson*[®] outboards.

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*.

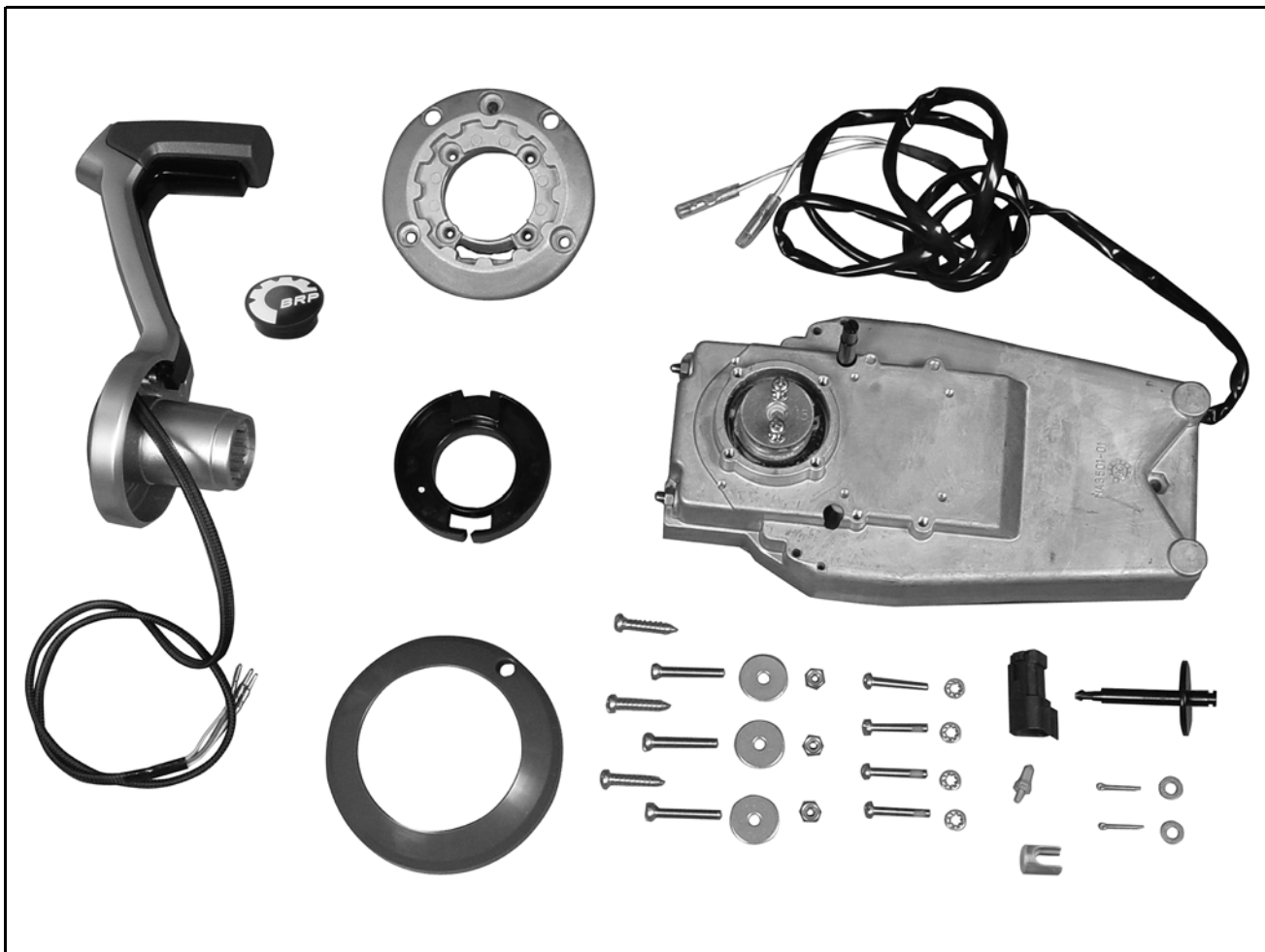
If you use procedures or service tools that are not recommended in this instruction sheet, **YOU ALONE** must decide if your actions might injure people or damage the outboard.

TO THE INSTALLER: Give this booklet 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 outboard.

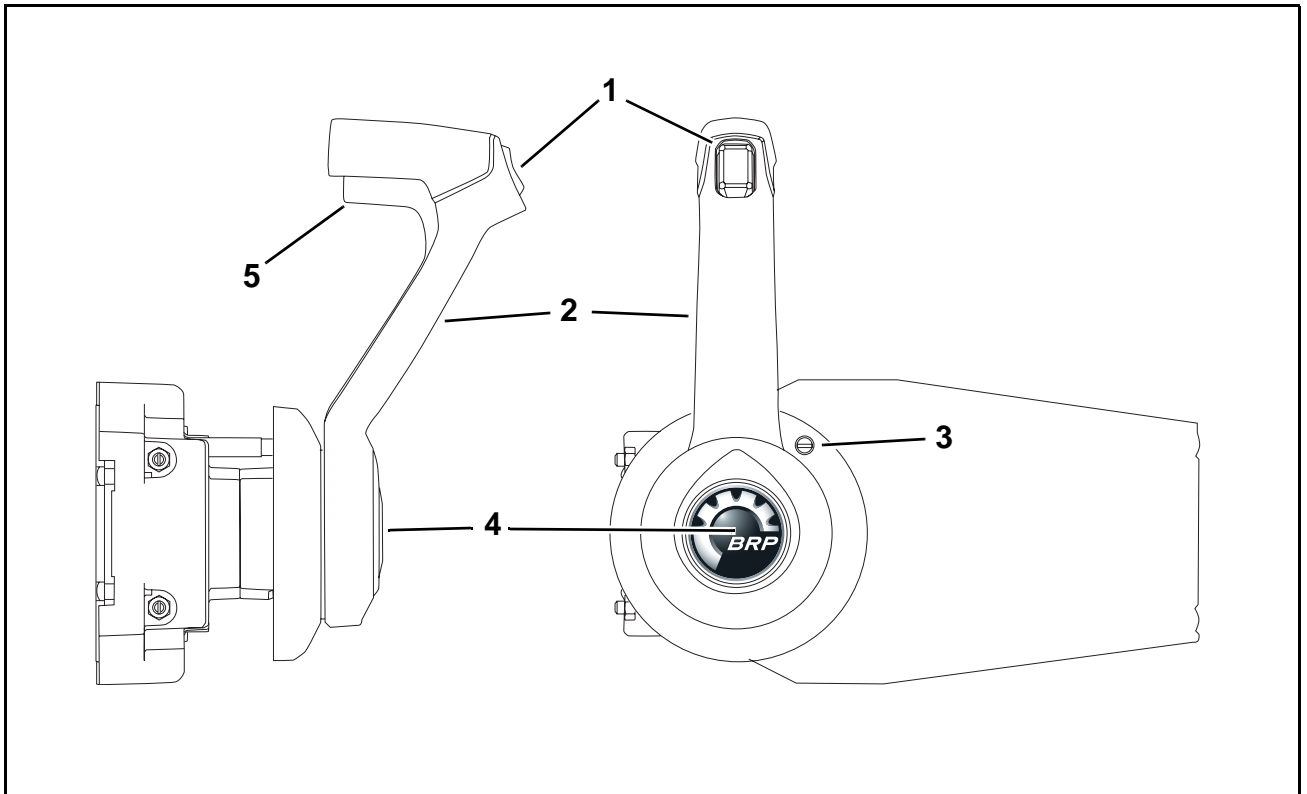


CONTENTS OF KITS – CONCEALED SIDE MOUNT REMOTE CONTROL, P/N 5006561



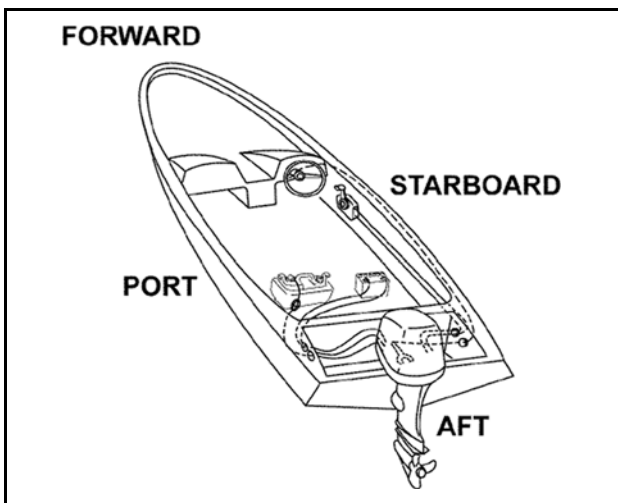
006370

CONCEALED SIDE MOUNT REMOTE CONTROL FEATURES



1. Trim and tilt switch
2. Handle, shift and throttle
3. Adjustment screw, remote control handle friction
4. Fast idle button
5. Neutral Lock Lever

006302



Nautical Orientation

004861

List of Features

- Neutral Detent / Neutral Lock
- "Start in gear prevention" switch
- Adjustable throttle friction
- Uses standard *Evinrude / Johnson* control cables (1979 and newer type)

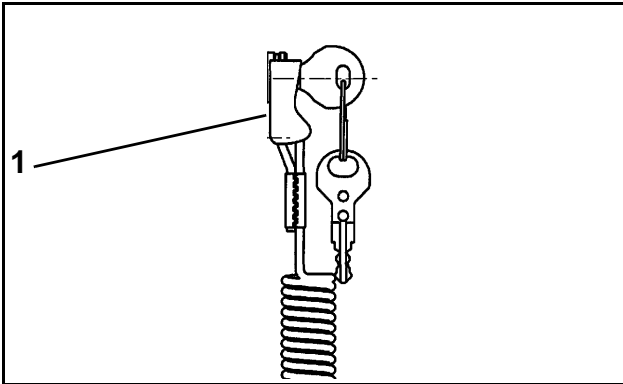
REMOTE CONTROL OPERATION

Read and familiarize yourself with the complete operation of the remote control before attempting to start the outboard.

IMPORTANT: The operation of this remote control may vary from one outboard model to another. Refer to outboard's operator's guide for specific instructions related to outboard.

Emergency Stop Feature of Key Switch

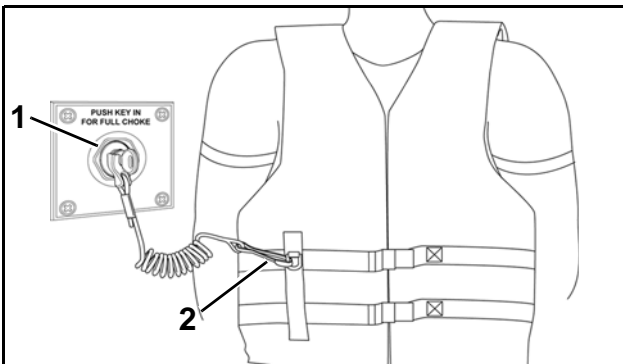
Push clip of emergency stop lanyard onto key switch as shown.



1. Emergency stop clip

006155

Lanyard **MUST** be securely attached to operator.



1. Key switch
2. Lanyard

006153

WARNING

Lanyard MUST be securely attached to operator, and clip MUST be installed on key switch. DO NOT operate outboard with clip removed from switch, except in an emergency.

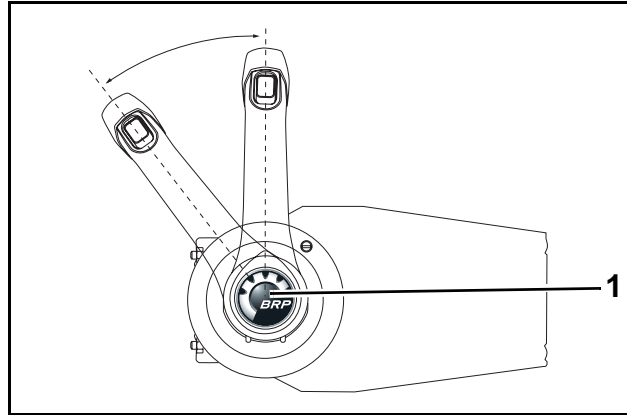
If operator is thrown from helm, lanyard will pull clip from key switch to stop outboard.

IMPORTANT: In an emergency, a passenger can put control handle in NEUTRAL and restart outboard without lanyard.

Fast Idle

Use of fast idle feature is not required on *Evinrude E-TEC* outboards. Refer to operator's guide for specific outboard.

The fast idle button can be used to advance throttle without shifting into gear. With control handle in NEUTRAL, push on fast idle button (cover) to open throttle for starting and warm-up.



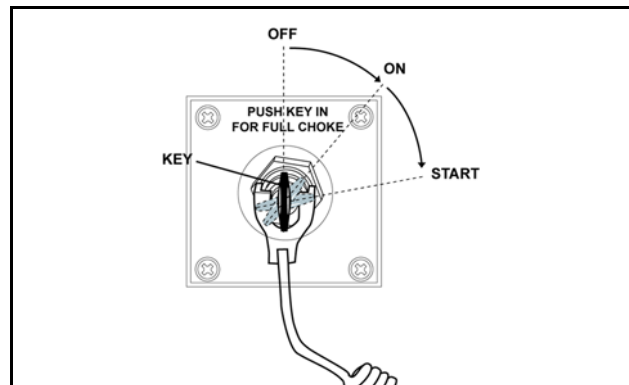
1. Fast idle button (push on cover)

006157

Key Switch

Refer to operator's guide for specific starting instructions related to outboard.

Turn key switch from OFF to ON position. The warning horn should sound momentarily to indicate it is working. Turn key to START position. Release key as soon as motor starts. **DO NOT** turn key to START while outboard is running.



006154

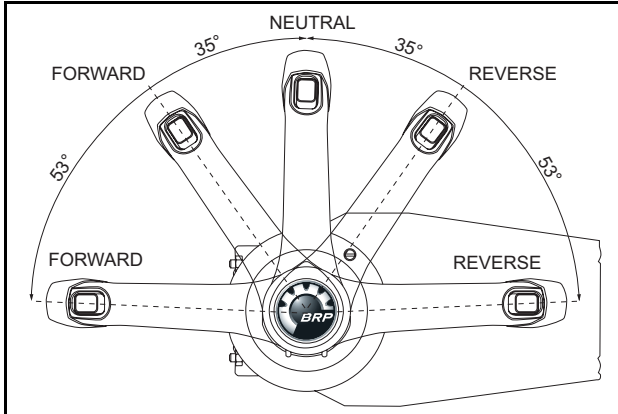
PRIME feature is NOT used on *Evinrude E-TEC* outboards. To use PRIME feature, momentarily push key IN with key in ON position.

DO NOT run a cold engine any faster than necessary to keep it from stalling. **DO NOT** exceed 2500 RPM in NEUTRAL. If throttle is advanced for starting, reduce idle speed setting as soon as outboard starts. For outboards with *Quikstart™*, wait until engine slows to IDLE RPM before shifting into gear.

Control Handle

IMPORTANT: Outboard must be OFF. If remote control cables are connected to outboard, turn propeller shaft while shifting remote control.

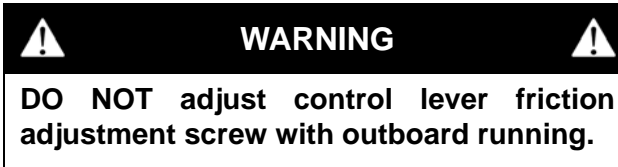
With control handle in NEUTRAL and fast idle feature not activated, move control handle to FORWARD gear or REVERSE gear position. Continue movement of control handle in same direction to open (advance) throttle.



Remote Control Handle Positions

006158

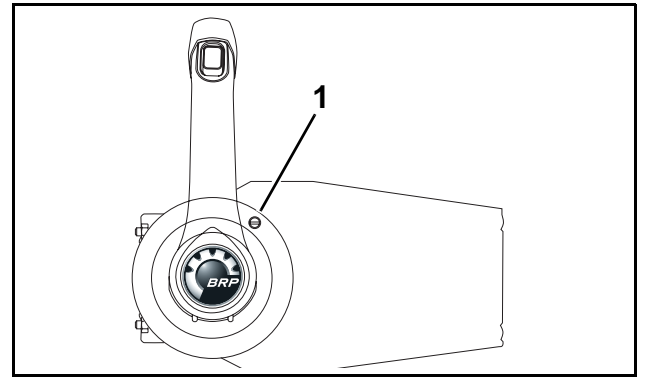
Control Handle Friction Adjustment



Move the control handle to FORWARD throttle range. Control handle should move freely. Adjust control handle friction adjustment to prevent vibration from changing throttle setting.

Use a flat head screwdriver to adjust control handle friction adjustment screw. This adjustment is used to increase or reduce the force required to move the control handle.

Turn adjustment screw clockwise to increase the friction or counterclockwise to reduce the friction.



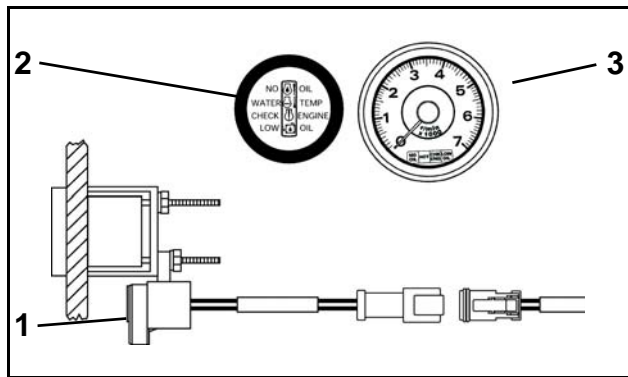
1. Adjustment screw, throttle friction

006159

Warning Horn – SystemCheck™ Installations

The warning horn sounds to alert operator when certain engine problems occur. A 1/2-second self-test beep should sound when the key switch is turned ON.

IMPORTANT: The warning horn must connect to wiring harness with a SystemCheck gauge or an audible horn driver module to be functional. Refer to Operator's Guide and instrumentation instructions for additional information related to the outboard's warning system.

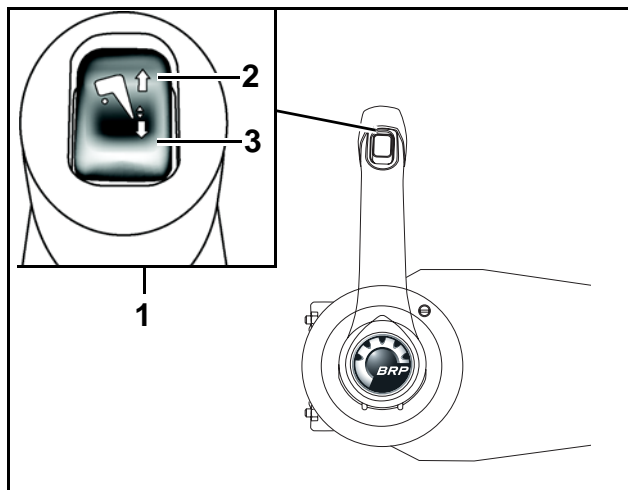


1. Warning horn
2. 2 in. SystemCheck gauge
3. 3 in. Tachometer / SystemCheck gauge

004857

Trim/Tilt Switch

Push top of switch to trim out and tilt up, or push bottom of switch to trim in and tilt down.

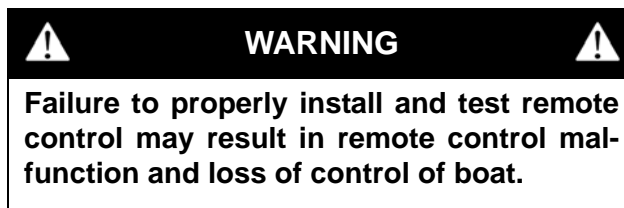


1. Trim/Tilt switch
2. Top – Trim out / tilt up
3. Bottom – Trim in / tilt down

006159
004860

INSTALLATION INSTRUCTIONS

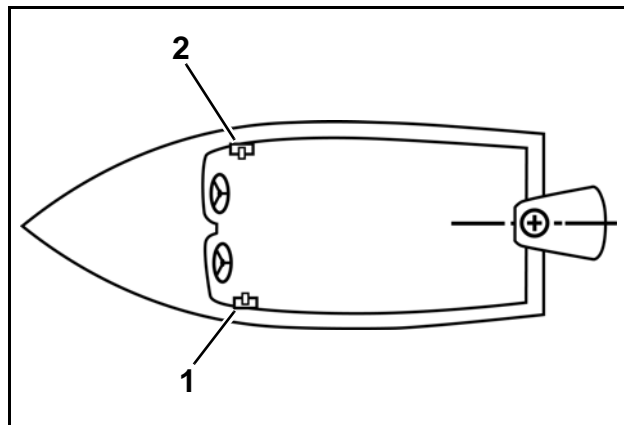
Read and familiarize yourself with the complete installation instructions of the remote control before attempting to install the remote control. Always test operation of remote control once installed.



IMPORTANT: Refer to specific outboard installation instructions for information related to connecting remote controls to outboard.

Mounting Location

Select the appropriate location based on boat configuration.



1. Port side (See Port Side Mounting instructions)
2. Starboard side

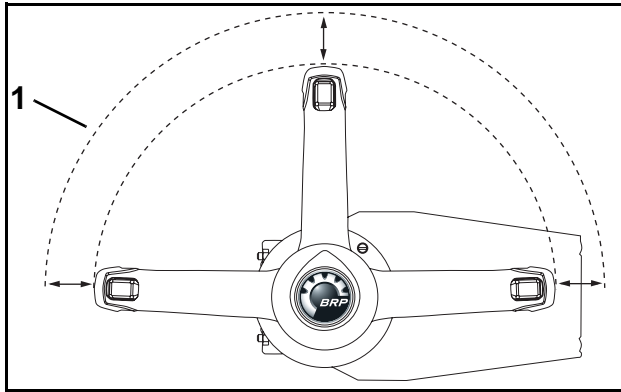
006151

IMPORTANT: The mounting location must be a flat surface and must be strong enough to provide a rigid support. Strengthen mounting surface as necessary. **Remote control cannot be installed if thickness of mounting surface exceeds 1.2 in. (30 mm).**

Refer to “PROFILE DIMENSIONS - CONCEALED SIDE MOUNT REMOTE CONTROL” on page 18 and “DRILL TEMPLATE - CONCEALED SIDE MOUNT REMOTE CONTROL” on page 20.

Place remote control at proposed location and check clearance around remote control handle at full throttle in FORWARD and then at full throttle in REVERSE. There must be at least 4 in. (102 mm) of clearance between the handle and

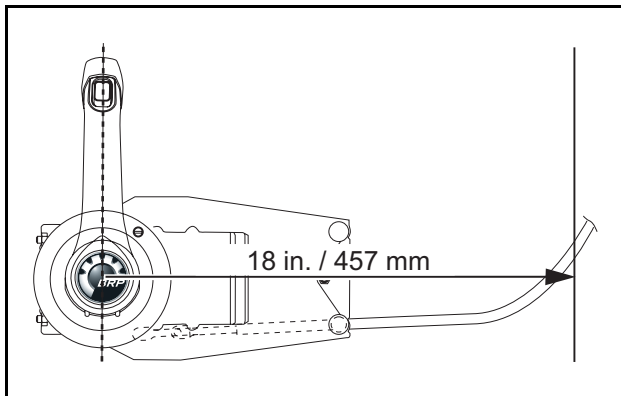
any part of the boat throughout the control handle travel.



1. 4 in. (102 mm) clearance line

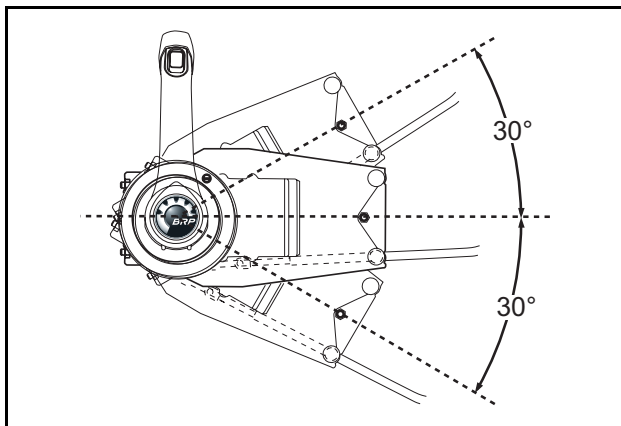
006160

There must be at least 18 in. (457mm) of clear space from center of remote control handle for cable routing. Control cables must be straight as they exit the remote control. Allow at least 6 in. (152 mm) to the beginning of the first bend of control cables.



006279

The remote control can be mounted at a 30° angle above or below the standard horizontal mounting position.



006304

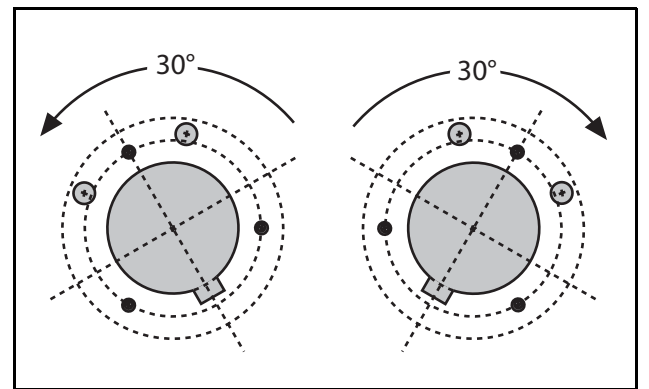
Cut Mounting Holes

IMPORTANT: Make sure the selected mounting location has **all** the required clearances before drilling or cutting. Disconnect battery to prevent accidental shock from electrical wiring.

Use “DRILL TEMPLATE - CONCEALED SIDE MOUNT REMOTE CONTROL” on page 20 for cutting mounting holes.

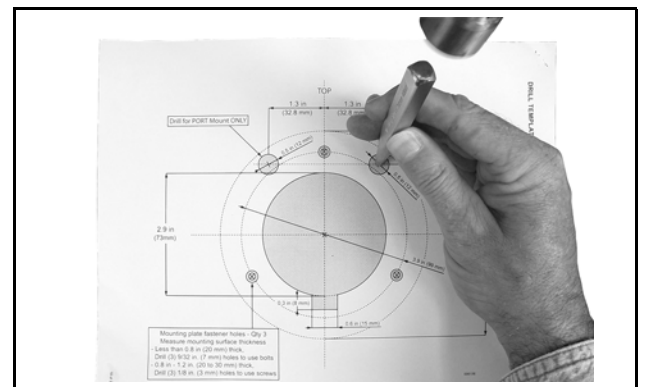
Remote control comes from factory in starboard side mounting configuration. Port side mounting requires reconfiguration of remote control. Refer to “Port Side Mounting” on page 14.

If remote control must be mounted at a 30° angle above or below the standard horizontal mounting position, rotate template 30° in the required direction.



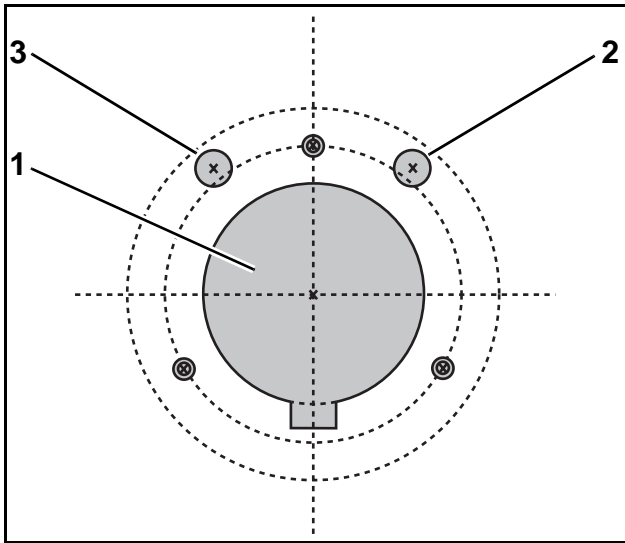
006305

Position template on mounting surface. Mark the centers of all drill locations.



006338

Cut along the outer line of shaded area. Use appropriate cutting tools. A 2 7/8 in. (73mm) hole saw can be used for main through hole. Notch bottom of hole for trim and tilt wiring. Drill ONLY one 1/2 in. (12 mm) hole at upper location. Refer to diagram below and "DRILL TEMPLATE - CONCEALED SIDE MOUNT REMOTE CONTROL" on page 20.



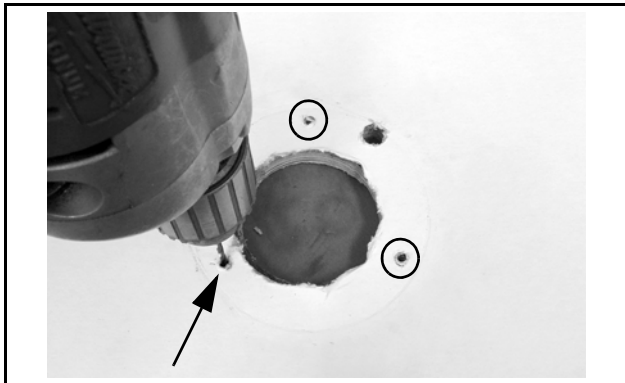
1. Shaded area
 2. Drill for STARBOARD side mounting ONLY
 3. Drill for PORT side mounting ONLY

006303

Select proper fasteners and drill bit size. Determine thickness of mounting surface.

- Less than 0.8 in. (20 mm) thickness: Drill three (3) 9/32 in. (7 mm) diameter holes to use 8 mm bolts and nuts and washers provided.
- 0.8 in. - 1.2 in. (20 - 30mm) thickness: Drill three (3) 1/8 in. (3 mm) holes to use screws provided.

Drill three holes at mounting hole locations.

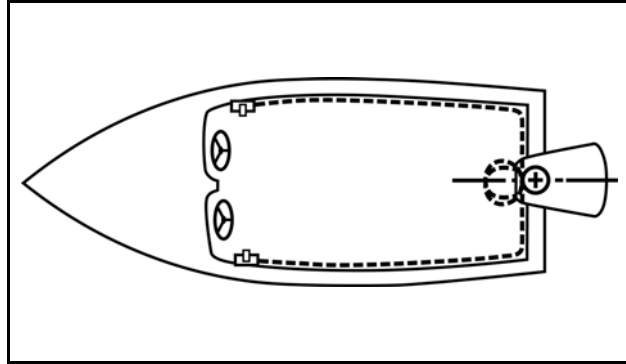


006339

Determine Remote Control Cable Length

Measure from center of control handle with remote control in mounting position, along intended cable route to engine centerline at transom height as illustrated by dotted lines in diagram. Add 40 in. (1.0 m) to the measurement. This dimension is the required cable length.

Evinrude/Johnson Genuine Parts outboard control cables are available in one-foot increments from 5 ft. to 20 ft. lengths and two-foot increments from 20 ft. to 50 ft. lengths. Use cables that are equal to your calculated length, or are the next longer available length.

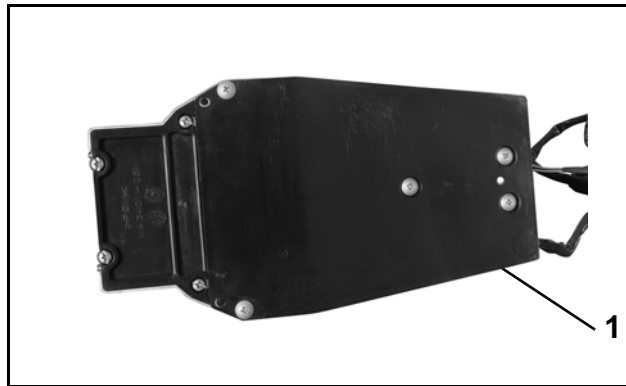


006152

IMPORTANT: Route cables with fewest number of bends. Bends must never be less than 6 in. (150 mm) radius.

Install Remote Control Cables

Remove screws and side cover from remote control housing.



1. Side cover

006356

Use *Triple-Guard*® grease to lubricate all moving mechanisms, trunnion pockets, and remote control cables.

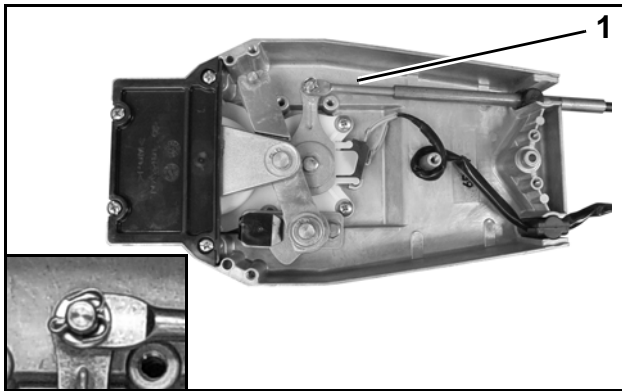


004910

! WARNING !

Always use new cotter pins and bend both sides of cotter pin as shown to prevent interference with remote control housing or possible dislodging of cotter pin from mounting pin.

Install shift cable and flat washer on to shift pin and secure with **new** cotter pin. Bend cotter pin as shown.

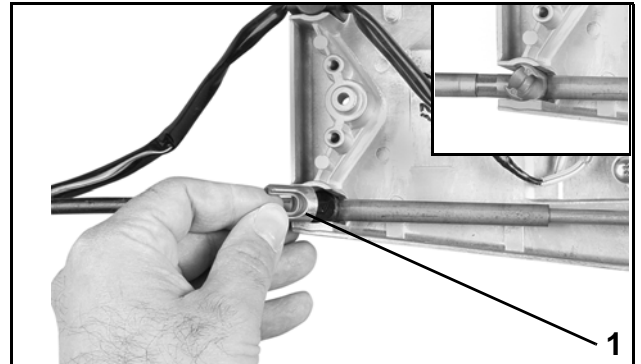


1. Shift cable

006375

IMPORTANT: Use *Evinrude/Johnson Genuine Parts* or parts with equivalent characteristics, including type, strength, and material.

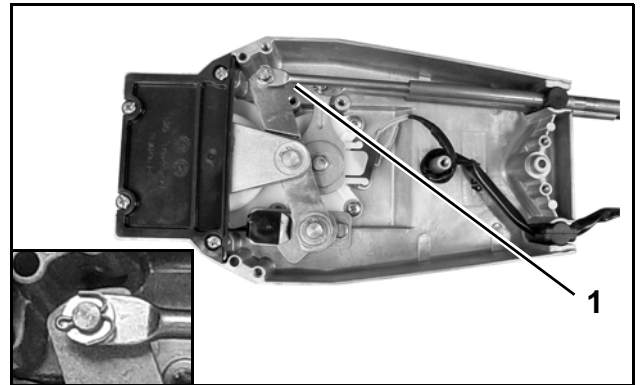
Foot Throttle Note: If foot throttle will be installed, install trunnion, P/N 126034 as a spacer, in place of the throttle cable.



1. Trunnion, P/N 126034

DCS1085
DSC1086

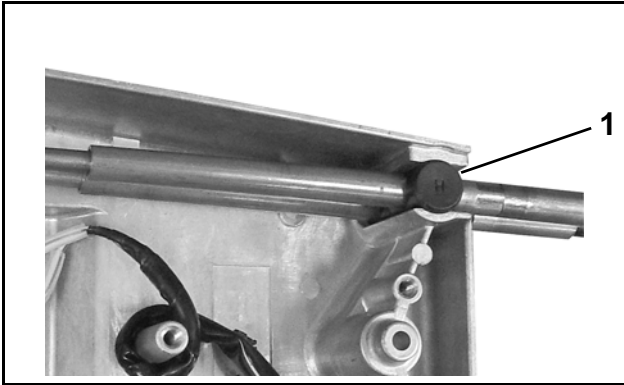
Install throttle cable and flat washer on to throttle pin and secure with **new** cotter pin. Bend cotter pin as shown.



1. Throttle cable

006376

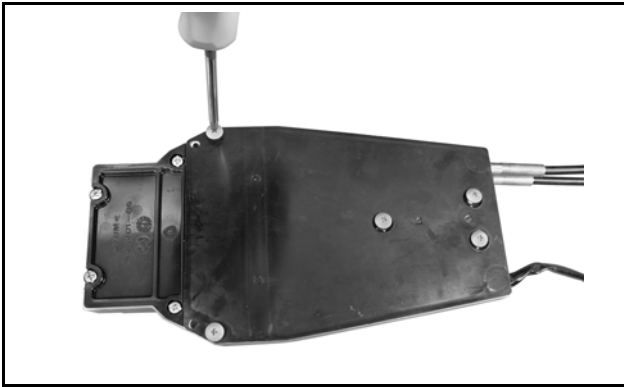
Make sure shift and throttle cables are in trunnion pocket(s), and safety switch wiring does not rub or interfere with movements of remote control components.



1. Trunnion pockets

006377

Apply *Triple-Guard* grease to assembly screws. Install cover and screws. Tighten screws securely

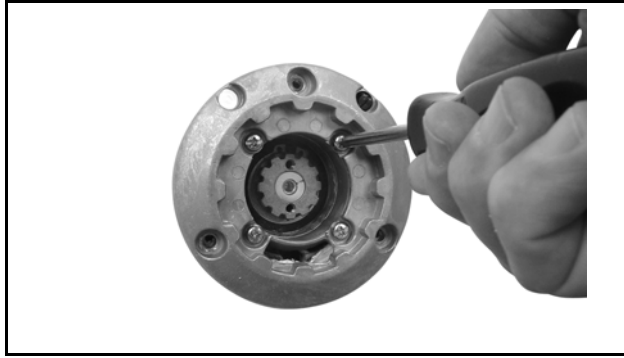


006372

Check operation and movement of control lever. Make sure remote control's shift and throttle functions operate smoothly. Refer to **REMOTE CONTROL OPERATION TEST**.

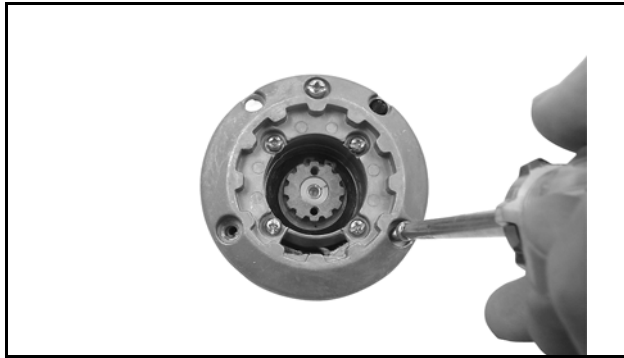
Fasten Remote Control to Boat

Position remote control behind mounting surface. Align mounting plate with remote control. Install four washers and screws and tighten screws to 35 in./lbs.(4 N·m)



006340

Align mounting plate with holes and secure to mounting surface. Use bolts and nuts if surface thickness is less than 0.8 in. (20mm) thick and screws for surface thicknesses between 0.8 (20mm) and 1.2 in. (30mm) thick. Tighten screws or bolts and nuts to 53-71 in./lbs.(6-8 N·m).



006341

IMPORTANT: Make sure remote control assembly is secure and does not move during operation.

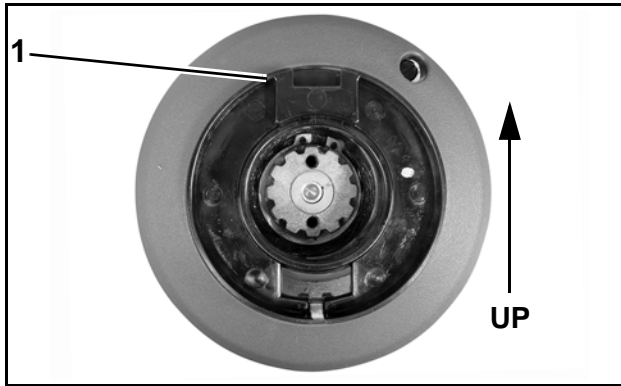
Align handle friction adjustment screw with opening in trim ring and install trim ring.



1. Trim ring

006348

Position lock ring in mounting plate. Orient notch for neutral lock lever UP as shown.



1. Notch, lock ring

006374

Insert neutral release button into center of shaft and install cover.



006371
006352

Route trim/tilt switch wiring. Make two (2) loops of trim wire around lever as shown

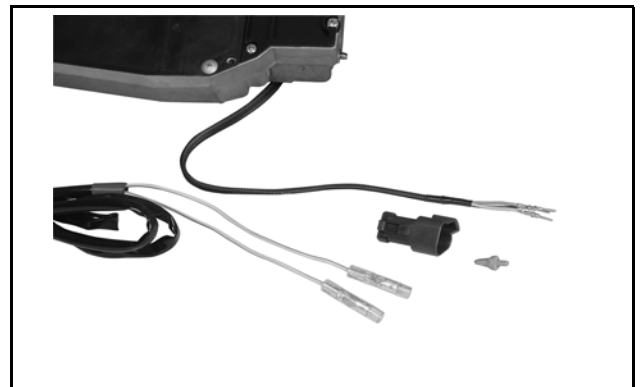


006349

Refer to specific outboard installation instructions for information related to connecting remote controls to outboard.

Electrical Connections

Connect neutral safety switch wiring.



006354

Position remote control lever on splines of remote control. Install retaining washer and screws and washers to secure lever to output shaft of remote control.

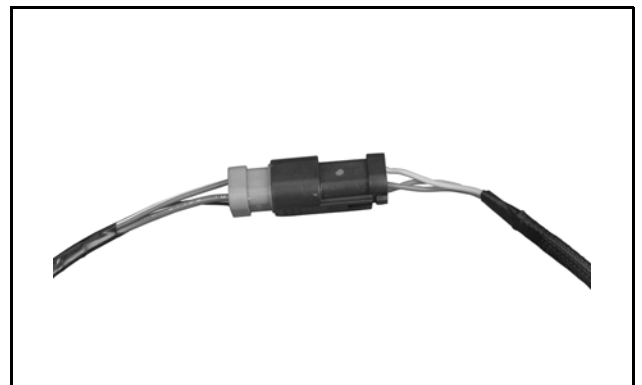


006351

IMPORTANT: Apply a light coat of *Electrical Grease™* onto the electrical connector seals. Push connectors together until latched.

Assemble trim and tilt wiring in connector. Align wiring colors in connector to match engine harness wiring.

Connect trim and tilt switch wiring.



005506

REMOTE CONTROL OPERATION TEST

CAUTION

Operation Tests must be performed with outboard stopped. Disconnect emergency stop lanyard, disconnect battery cables, and remove spark plug wires from spark plugs and/or disconnect crankshaft position sensor (CPS) connector to prevent accidental starting of outboard.

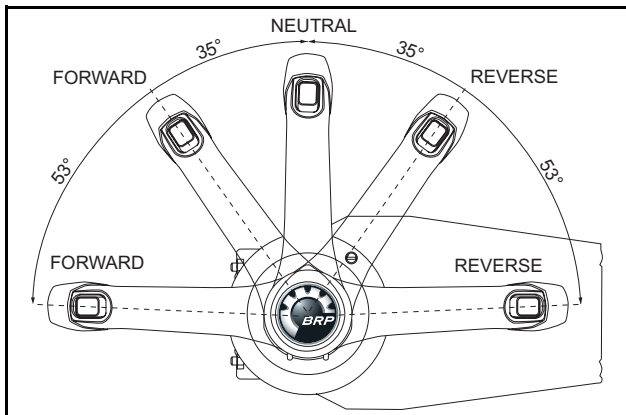
IMPORTANT: If remote control cables are connected to outboard, turn propeller shaft while shifting remote control.

Shift control handle into FORWARD and advance throttle to FULL THROTTLE. Next, move handle back to IDLE position and then back into NEUTRAL. Notice detent function of remote control handle. Repeat process moving control handle into REVERSE.



006353

Remote control must shift smoothly and accurately into FORWARD, NEUTRAL, and REVERSE and throttle must move smoothly through the entire throttle range from IDLE to FULL THROTTLE (WOT). Check throttle operation in both FORWARD and REVERSE.



006158

NEUTRAL START TEST

WARNING

Make certain starter will not operate when the outboard is in gear. The start-in-gear prevention feature is required by the United States Coast Guard to help prevent injuries.

Remote control is designed to crank outboard in NEUTRAL only.

Use this “non running” test to make certain the starter motor will **NOT** operate when control lever is in FORWARD or REVERSE.

The lanyard clip may be attached to key switch or removed for the following test.

IMPORTANT: Disconnect all spark plug wires and/or disconnect crankshaft position sensor (CPS) connector to prevent outboard from starting during test procedure.

With control handle in NEUTRAL position, turn key switch to START. The starter should operate.

With the key switch in START position and the starter cranking the engine move control handle to FORWARD. The starter should stop as handle leaves NEUTRAL.

Release key and move control handle to NEUTRAL. Turn key to START. The starter should operate.

With key switch in START position and the starter cranking the engine move control handle to REVERSE. The starter should stop as handle leaves NEUTRAL.

OPERATOR TESTS AND ADJUSTMENTS

IMPORTANT: Test operation of emergency stop switch at each outing. Refer to **EMERGENCY STOP SWITCH TEST**. If outboard does not stop, repair as needed.

Check throttle friction. When properly adjusted, control lever should have low friction to allow easy movement in FORWARD throttle range, and not allow vibration to change throttle setting. Refer to **Control Handle Friction Adjustment**.



006352

ON-WATER TEST

Secure boat to dock to prevent motion. Attach lanyard to key switch. Place control handle in NEUTRAL position. If needed use fast idle feature. Turn key ON. (Warning horn should sound momentarily as self-test on *SystemCheck* equipped installations.) Turn key to START. Release key as soon as outboard starts. (Push in on key for enrichment function if outboard is equipped.) Do not turn key to START while outboard is running. Refer to outboard's operator's guide.

IMPORTANT: Do not exceed 2500 RPM in NEUTRAL during warm-up.

Check shift operation. Check that outboard shifts to FORWARD when control is shifted to FORWARD, and shifts to REVERSE when control is shifted to REVERSE.

Check that remote control operates freely and equal friction is felt in FORWARD and REVERSE throttle range of control handle.

EMERGENCY STOP SWITCH TEST



WARNING



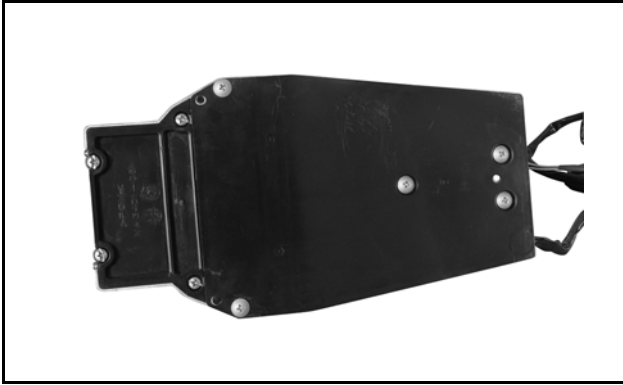
Always use the safety lanyard when operating boat to help prevent a runaway boat and reduce the risk of personal injury or death. Check emergency stop function often.

Check emergency stop function. Install lanyard clip on key switch and start outboard.

With outboard running, remove emergency stop lanyard. Outboard must STOP. If outboard does not stop, check key switch and wiring. Repair as needed.

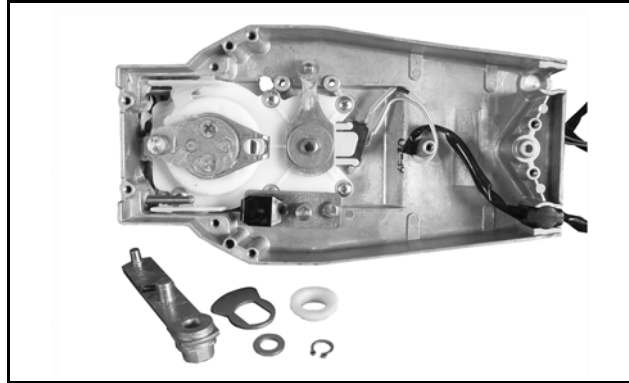
Port Side Mounting

Remove back cover.



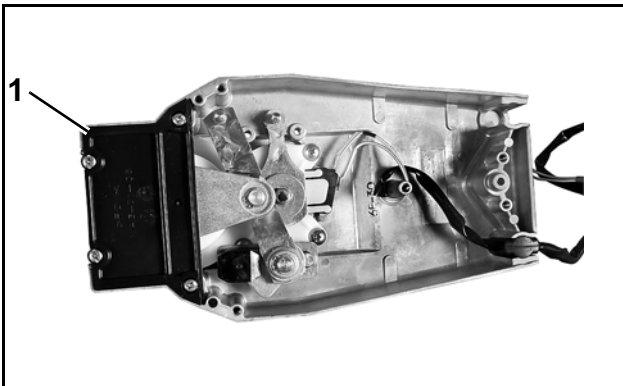
006356

Remove circlip from shaft assembly. Remove washer and throttle arm assembly. Remove the brake disc and bushing from throttle shaft.



006359

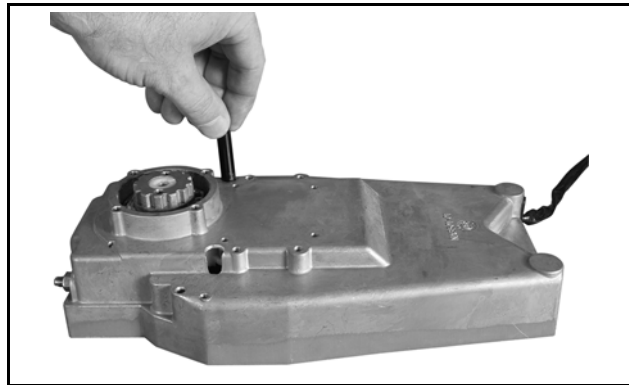
Remove dwell plate retainer.



1. Retainer

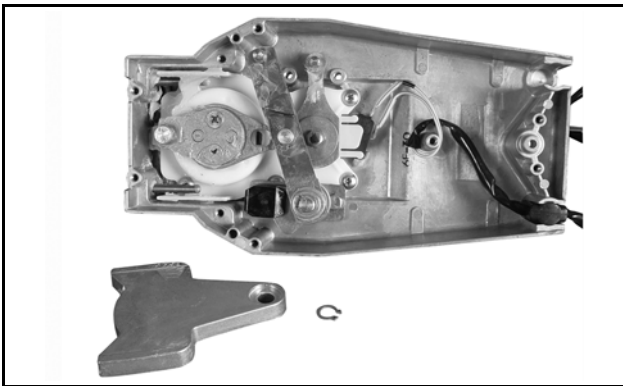
006357

Turn throttle lever friction adjusting screw counterclockwise and remove from brake shoe. Remove brake shoe from shaft assembly.

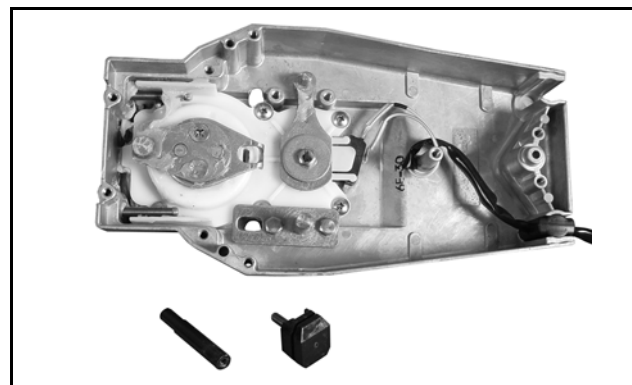


006360

Remove circlip and dwell plate.

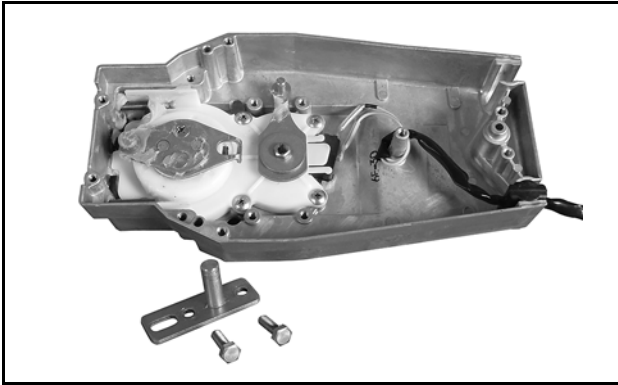


006358



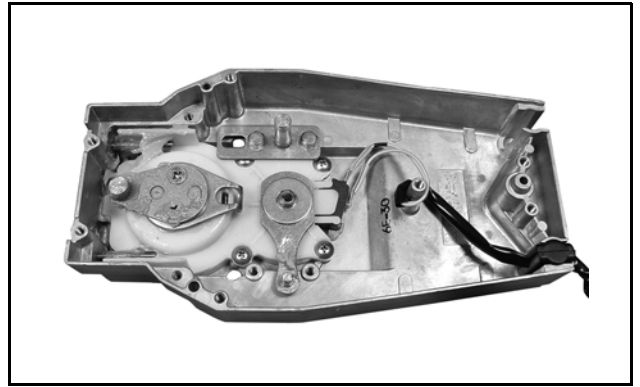
006361

Loosen the two bolts and remove shaft assembly.



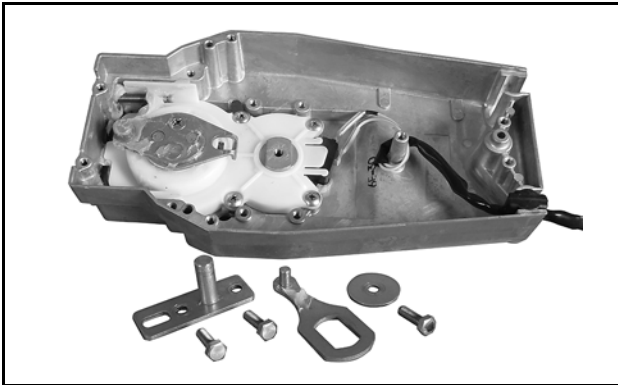
006364

Move shaft assembly from upper to lower (opposite) position. Secure with bolts. Tighten to 4-6 in. lbs. (5-8 N·m).



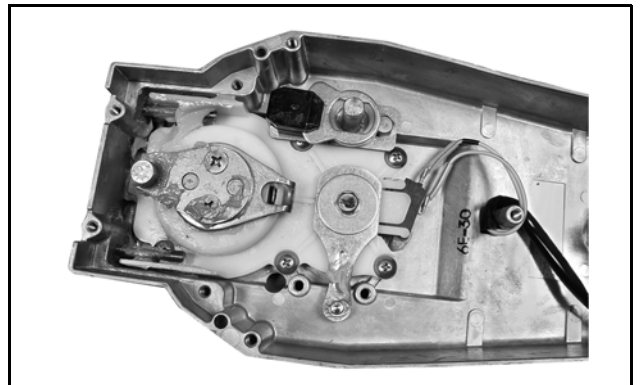
006367

Loosen bolt and remove shift arm assembly.



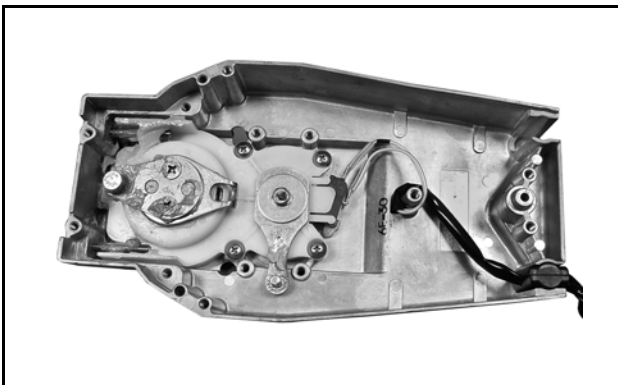
006365

Install brake disc and busing on throttle shaft.



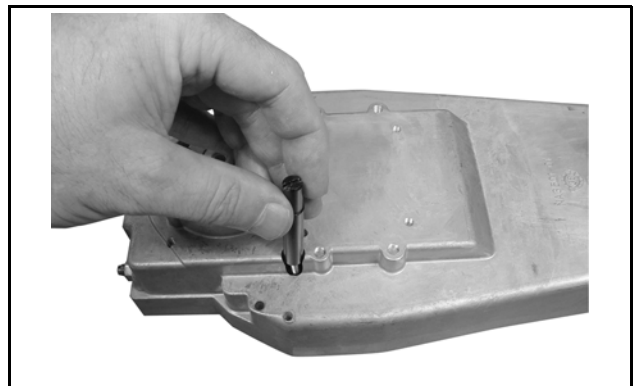
006368

Install shift arm assembly in inverted (opposite) position. Secure with bolt. Tighten to 4-6 in. lbs. (5-8 N·m).



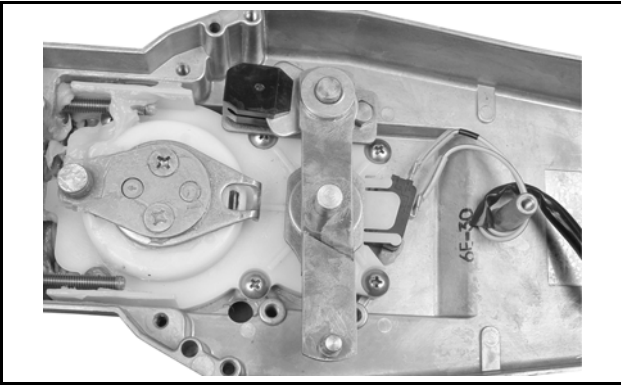
006366

Install Turn adjusting screw clockwise to attach to brake shoe. Refer to **Control Handle Friction Adjustment**.

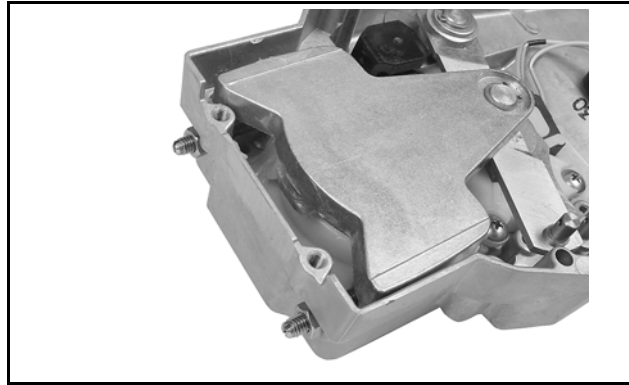


006369

Install throttle arm assembly on shaft assembly.
Install washer and circlip.

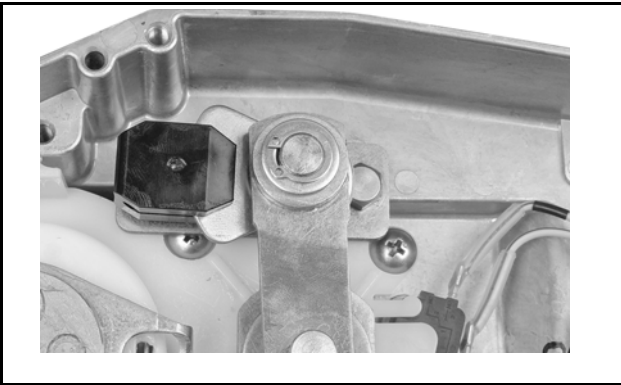


006344

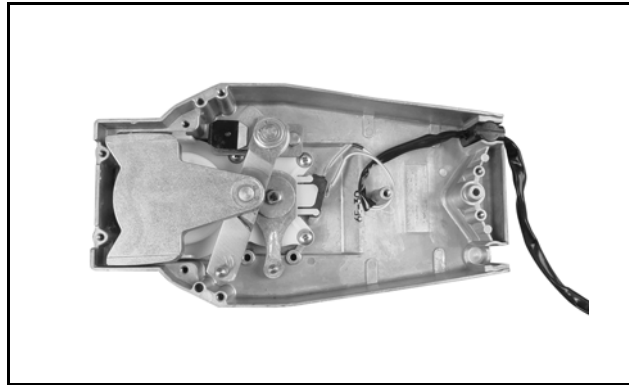


006346

Position neutral switch wire in opposite position
of remote control housing.

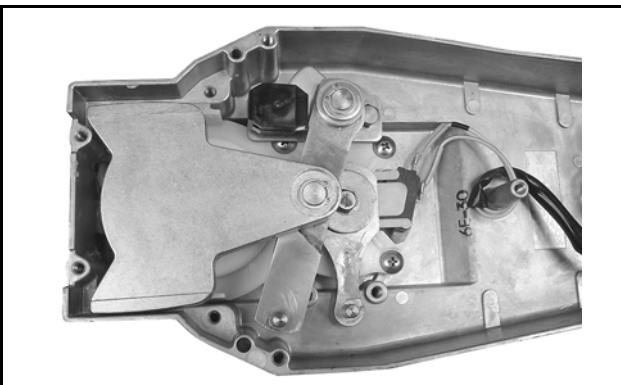


006343



006347

Align cam groove in dwell plate on roller of throttle
lever assembly. Install dwell plate on pin of
throttle arm assembly and install circlip.



006345

Install dwell plate retainer and screws.



006355

See "Install Remote Control Cables" on
page 8.

MAINTENANCE

CAUTION

Inspection and maintenance must be performed with outboard stopped. Disconnect emergency stop lanyard, disconnect battery cables, and remove spark plug wires from spark plugs and/or disconnect crankshaft position sensor (CPS) connector to prevent accidental starting of outboard.

Check mounting of remote control. Tighten screws or secure as needed.



006353



006342

While turning propeller, check for smooth and correct operation of remote control. Observe linkages at outboard and be sure shift and throttle linkages move accurately and completely for each remote control setting.

If an abnormal condition is found, repair as needed. Replace all damaged parts. Recheck operation of remote control after servicing. Remote control must shift smoothly and accurately into FORWARD, NEUTRAL, and REVERSE, and throttle must move smoothly through the entire throttle range from IDLE to FULL THROTTLE (WOT). Check throttle operation in both FORWARD and REVERSE.

Check remote control for looseness, damage, and corrosion. Clean and replace parts as needed.

Use *Triple-Guard* grease to lubricate all moving mechanisms and remote control cables.



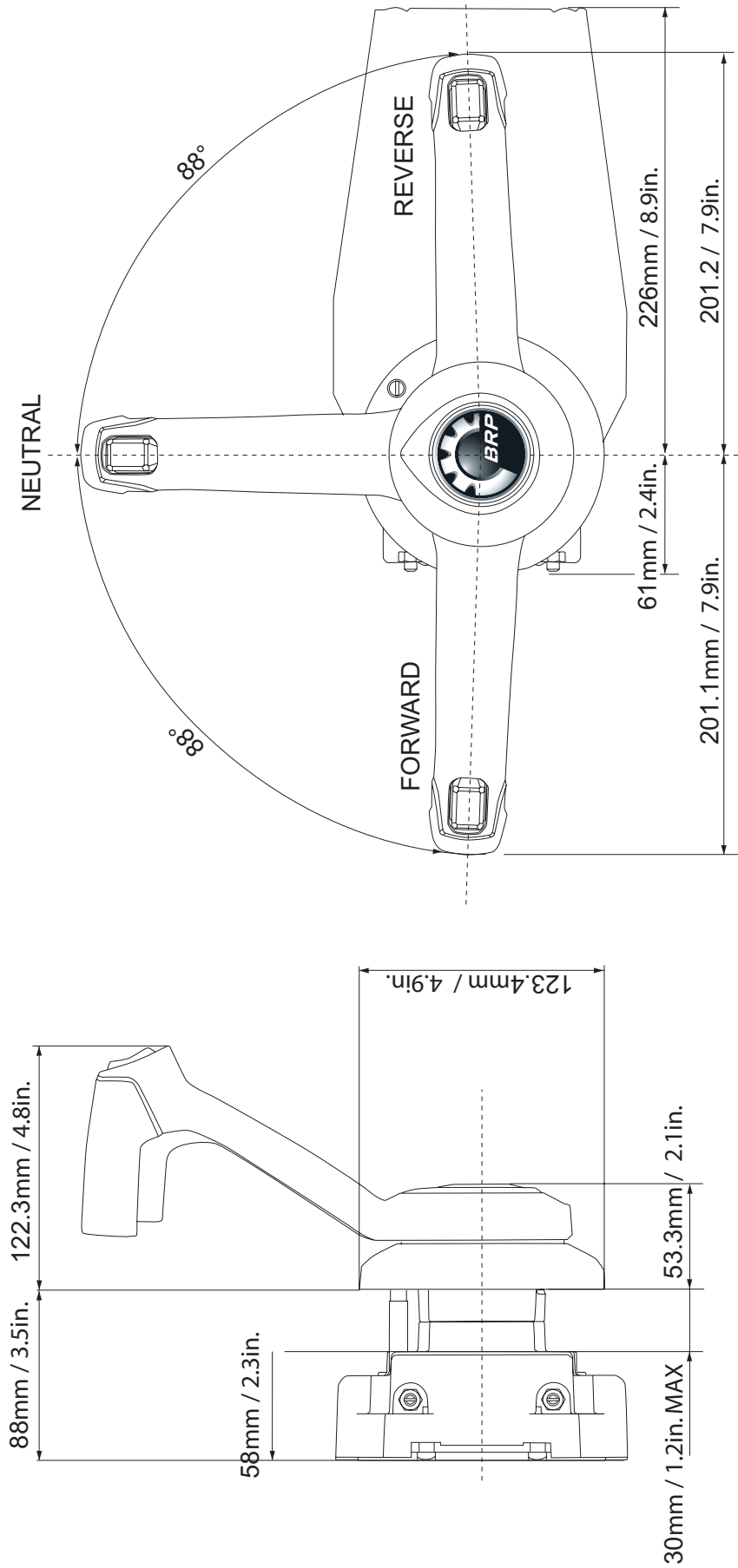
005509

Reassemble all components disassembled for inspection and servicing. Check operation of remote control.

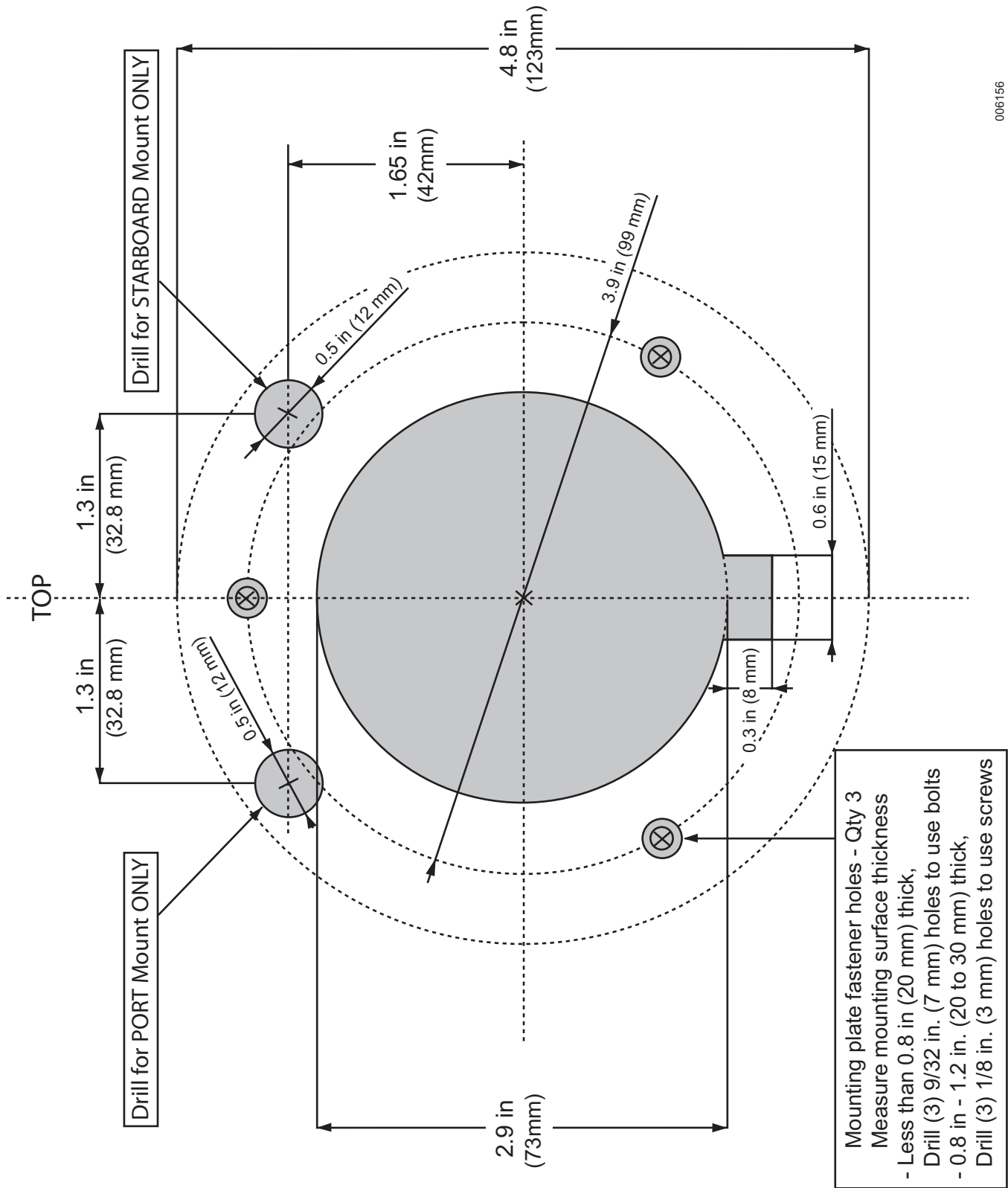
Start outboard and check shift and throttle operation.

With outboard running, remove emergency stop lanyard. Outboard must STOP. If outboard does not stop. Check key switch and wiring. Repair as needed.

PROFILE DIMENSIONS - CONCEALED SIDE MOUNT REMOTE CONTROL



DRILL TEMPLATE - CONCEALED SIDE MOUNT REMOTE CONTROL



006156

