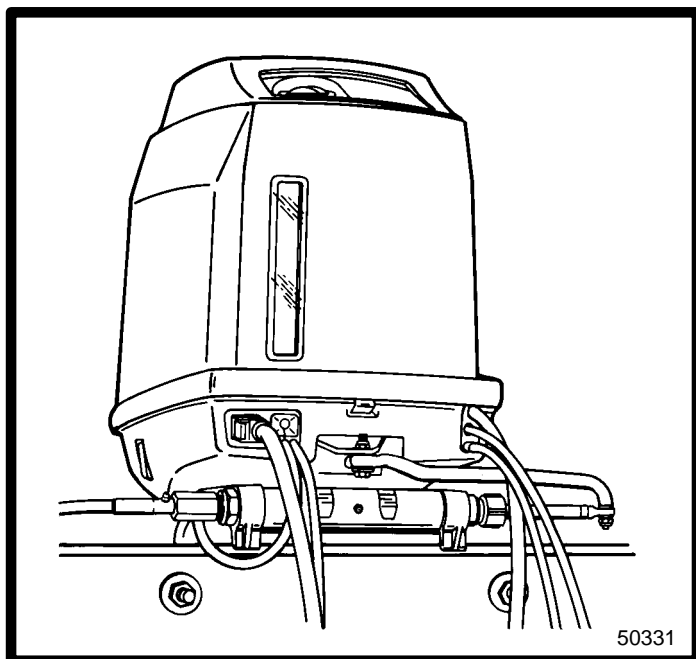




OUTBOARD MOTOR INSTALLATION/ ATTACHMENTS



OUTBOARD MOTOR INSTALLATION/ATTACHMENTS

7

A



Table of Contents

Page

Installing Outboard Motor on Transom	7A-1
Determining Recommended Outboard Mounting Height	7A-1
Locate Centerline of Boat Transom	7A-1
Drilling Outboard Mounting Holes	7A-2
Lifting Outboard	7A-2
Securing Outboard to Boat Transom	7A-3
Securing Outboard to Boat Transom Using Optional Outboard Mounting Kit (P/N 812432A1)	7A-3
Single Cable - Single Outboard Ride Guide Steering Attaching Kit (P/N 19608A3 and P/N 19609A2) Installation	7A-4
Component Removal - Tiller Handle Models	7A-4
Steering Bracket Installation - Tiller Handle Models	7A-4
19608A-3 Ride Guide Steering Attaching Kit Installation – Steering Cable Routed for Starboard Entry into Outboard Tilt Tube	7A-4
Installing Ride Guide Cable to Outboard Tilt Tube	7A-4
Installing Steering Link Rod	7A-5
19609A-2 Ride Guide Steering Attaching Kit Installation - Steering Cable Routed for Port Entry into Outboard Tilt Tube	7A-6
Tilt Tube Reversal	7A-6
Installing Ride Guide Cable to Outboard Tilt Tube	7A-6
Installing Steering Link Rod	7A-7
Maintenance Instructions	7A-7
Single Cable - Dual Outboard Ride Guide Steering Kit (P/N 97933A4) Installation	7A-8
Installation Requirements	7A-8
Steering Cable Installation - Cable Routed Down Starboard Side of Boat to Port Outboard	7A-9
Installing Steering Link Rod	7A-9
Steering Cable Installation - Cable Routed Down Port Side of Boat to Starboard Outboard	7A-10
Tilt Tube Reversal	7A-10
Installing Steering Cable	7A-10
Installing Steering Link Rod	7A-11
Maintenance Instructions	7A-11
Steering Coupler Assembly	7A-12
Steering Coupler Installation	7A-13
Ride-Guide Steering Attachment Extension Couplers	7A-14
Trim Tab Adjustment	7A-14
Dual Outboard	7A-14
Maintenance Instructions	7A-14

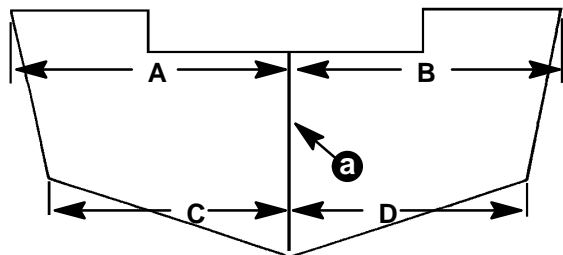
Page

Transom Mounted Ride Guide Attaching Kit Installation (73770A1)	7A-15
Attaching Kit Installation	7A-15
Clevis Attaching Kit Installation (P/N 70599A4)	7A-16
Installation Instructions	7A-16
Maintenance Instructions	7A-17
Steering Cable Installation	7A-18
Maintenance Instructions	7A-18
Selecting Steering Cable and Remote Control Cables	7A-19
Remote Control Installation	7A-19
Shift Cable Installation and Adjustment to Engine	7A-19
Throttle Cable Installation and Adjustment to Engine	7A-20
Connecting Remote Control Wiring Harness to Engine Wiring Harness (Electric Start Models)	7A-21
Power Trim Wiring Connections (Models So Equipped)	7A-22
Battery Connections	7A-22
Connecting Remote Control Stop Switch Wiring to Engine Wiring (Manual Start Models)	7A-23



Locate Centerline Of The Boat Transom

Locate (and mark with pencil) the vertical centerline of boat transom.



a - Centerline of Transom

NOTE: Dimensions "A" & "B" and "C" & "D" are equal length.

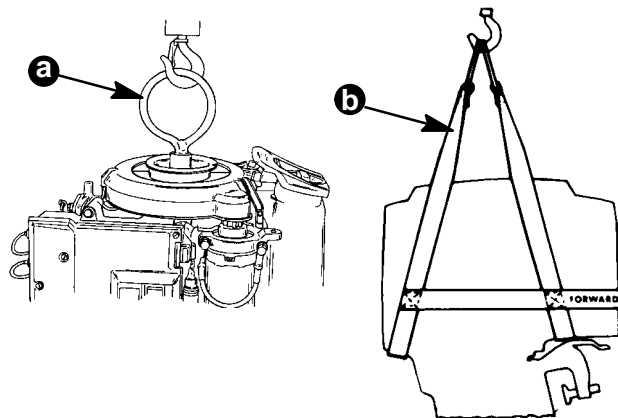
IMPORTANT: During installation of dual outboards, the following is recommended. A minimum of 21 inches (533 mm) centerline to centerline width is recommended. This is required to alleviate cowl interference during lock to lock turns if one outboard would be in the full tilt position, while the other outboard(s) are in the vertical running position.

Lifting Outboard

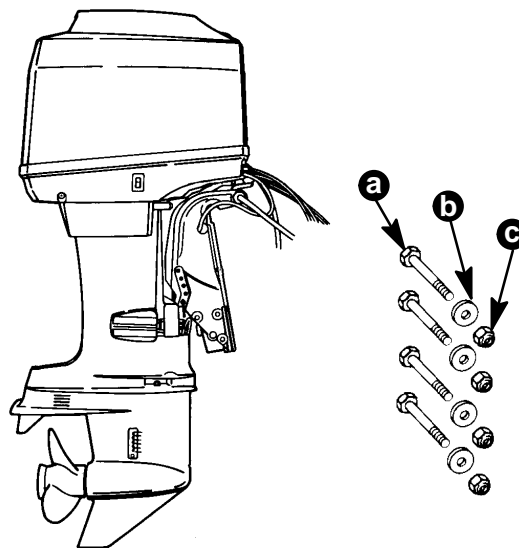
⚠ WARNING

Verify that the lifting ring (a) is threaded into the flywheel a minimum of 5 turns and that hoist has a maximum lift capacity over 500 lbs. (227 kg) **BEFORE** lifting outboard.

1. Electric Start Models – Remove plastic cap from center of flywheel. Thread lifting ring ("a" 91-90455) into flywheel hub a minimum of 5 turns. Replace plastic cap after installation.
2. Manual Start Models – Use lifting harness ("b" 91-64400A2).



Installing Outboard On Boat Transom Models Without Transom Clamp Handles



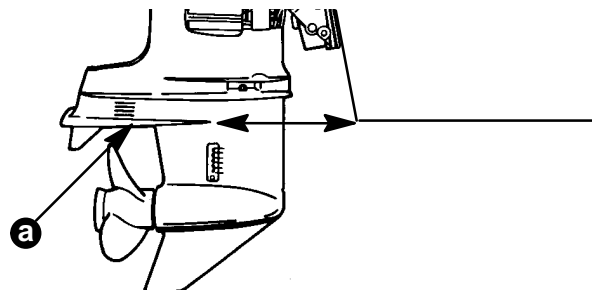
- a - Mounting Bolts (4)
- b - Flat Washers (4)
- c - Locknuts (4)

⚠ WARNING

DO NOT, under any circumstances, allow upper outboard mounting bolts to be closer than 1 inch (25.4mm) from top of boat transom. Upper mounting bolts must never be installed thru shims.

NOTE: When drilling into a fiberglass boat, place masking tape directly onto boat where mounting holes will be drilled to help prevent fiberglass from chipping.

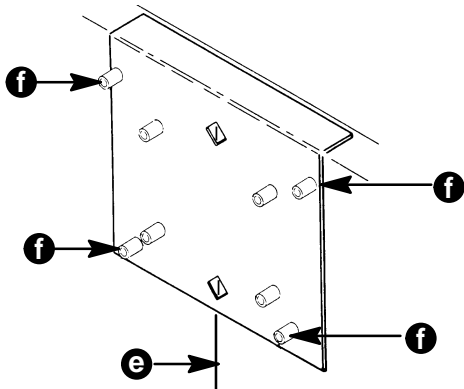
It is recommended for best-all-around boating performance, the outboard should be mounted so the anti-ventilation plate (a) is in-line with the boat bottom.



Use a 17/32 inch (13.5mm) diameter drill bit and drill two mounting holes for the upper set of mounting bolts and two holes for the lower set of mounting bolts.



NOTE: If using "Transom Drilling Fixture" (P/N 91-98234A2), use holes (f) when drilling outboard mounting holes.

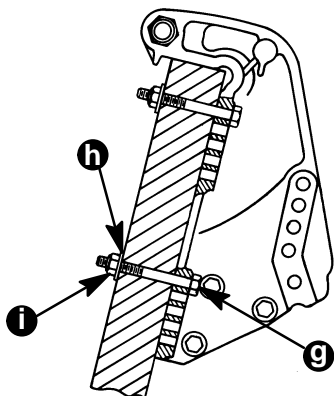


e - Centerline of Transom
f - Use These Drilling Holes

NOTE: On some boats because of transom interference, it may be necessary to install the steering cable before fastening the outboard to the transom.

Position outboard on boat transom. Align the mounting holes in the transom brackets that will place the outboard nearest to the recommended mounting height.

Apply marine sealer to shanks of mounting bolts (not threads) and secure outboard to transom with 4 bolts, flat washers and locknuts, as shown. Be sure that installation is water-tight.

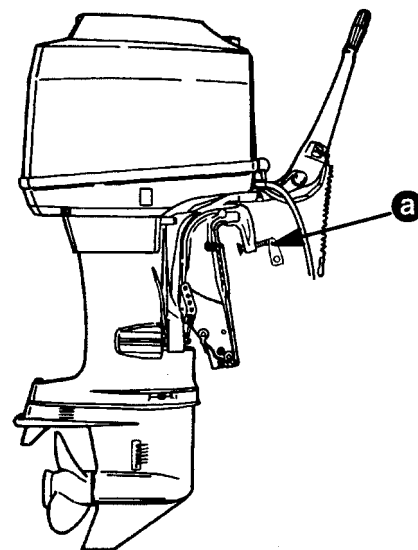


g - 1/2 Inch Diameter Bolts (4)
h - Flat Washers (4)
i - Locknuts (4)

⚠ CAUTION

Marine sealer must be used on shanks of mounting bolts to make a water-tight installation.

Installing Outboard On Boat Transom Models With Transom Clamp Handles



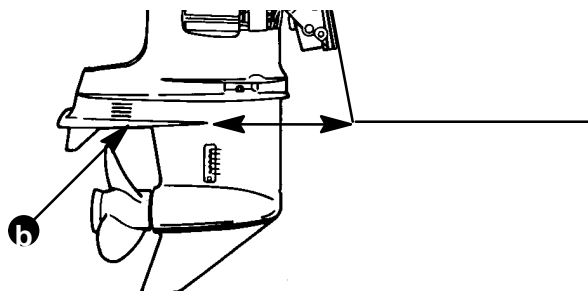
a - Transom Clamp Handles

⚠ WARNING

DO NOT, under any circumstances, allow the cupped washers on the ends of the transom clamp screws to be closer than 1 inch (25.4mm) from top of (real) boat transom, not shims.

NOTE: When drilling into a fiberglass boat, place masking tape directly onto boat where mounting holes will be drilled to help prevent fiberglass from chipping.

It is recommended for best-all-around boating performance, the outboard should be mounted so the anti-ventilation plate (b) is in-line with the boat bottom.

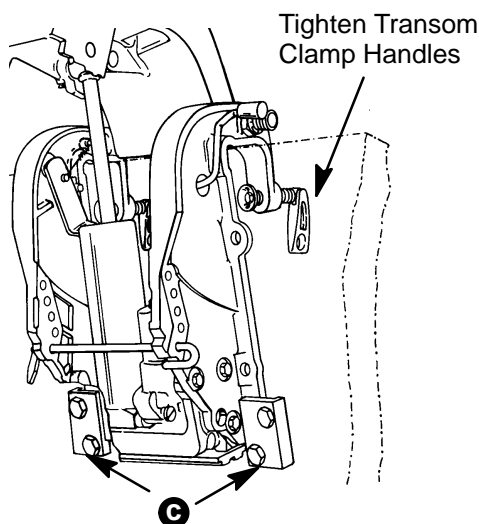


⚠ WARNING

Before operation, the outboard must be correctly installed with four mounting bolts shown. Failure to correctly fasten outboard could result in outboard ejecting off boat transom causing serious injury, death, or property damage.



IMPORTANT: Outboards with transom clamp handles can be secured to the boat transom, using optional Quicksilver Accessory Outboard Mounting Kit ("C" P/N 812432A4), to allow for quick removal and installation of outboard. Refer to installation instructions supplied with the mounting kit before drilling any mounting holes in the boat transom. Tighten transom clamp handles when using mounting kit.



⚠ WARNING

Outboard must be fastened to boat transom one of two ways, permanently fastened to transom with transom clamp handles, and mounting bolts (provided), or secured to the transom using the optional outboard mounting kit (P/N 812432A4) should the outboard strike an underwater object or be steered into a sharp turn. Failure to fasten outboard correctly to the boat transom with mounting bolts or optional mounting kit could result in outboard ejecting suddenly off boat transom causing serious injury, death, boat damage or loss of outboard.

FASTENING OUTBOARD TO THE BOAT TRANSOM

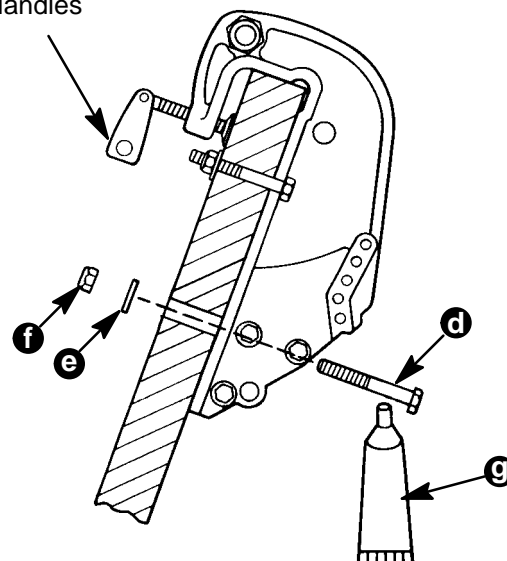
IMPORTANT: Read the preceding **WARNING** before installing outboard.

Use a 17/32 inch (13.5mm) diameter drill bit and drill two upper mounting holes and two lower mounting holes.

Position outboard on boat transom. Align the mounting holes in the transom brackets that will place the outboard nearest to the recommended mounting height.

Apply marine sealer to shanks of mounting bolts (not threads) and secure outboard to transom with 4 bolts, flat washers and locknuts, as shown. Be sure that installation is water-tight.

Tighten Transom Clamp Handles



d - 1/2 Inch Diameter Bolts (4)

e - Flat Washers (4)

f - Locknuts (4)

g - Marine Sealer

⚠ CAUTION

Marine sealer must be used on shanks of mounting bolts to make a water-tight installation.



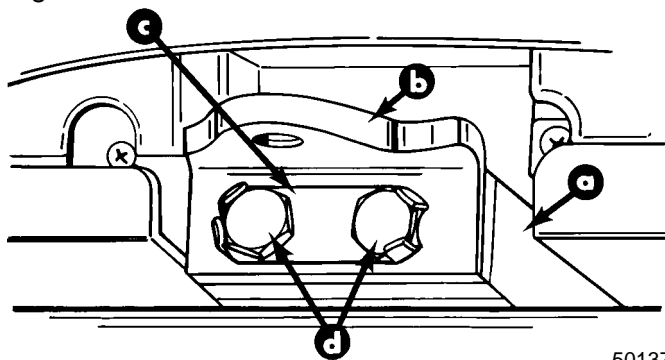
Single Cable - Single Outboard Ride Guide Steering Attaching Kit (P/N 19608A3 and P/N 19609A2) Installation

Component Removal - Tiller Handle Models

Remove (and discard) tiller handle assembly, spacer and mounting studs from outboard steering arm as outlined in appropriate outboard service manual.

Steering Bracket Installation - Tiller Handle Models

Secure (supplied) steering bracket to outboard steering arm.



50137

- a - Outboard Steering Arm
- b - Steering Bracket
- c - Locking Retainer
- d - Bolt (2) 7/8 in. (22mm) Long - Torque to 40 lb. ft. (54 N·m). Then bend corner tabs of locking retainer up against flats on each bolt.

WARNING

Locking retainer corner tabs, **MUST BE bent up and against flats on each bolt that secures steering bracket to outboard steering arm, to prevent bolts from turning out.**

19608A-3 Ride Guide Steering Attaching Kit Installation – Steering Cable Routed for Starboard Entry into Outboard Tilt Tube

Refer to “Quicksilver Accessories Guide” to determine correct length of steering cable and remote control cables.

IMPORTANT: Steering cable and remote control cables must be the correct length, sharp bends on too-short cables result in “kinks”; too-long cable require unnecessary bends and/or loops. Both conditions place extra stress on the cables.

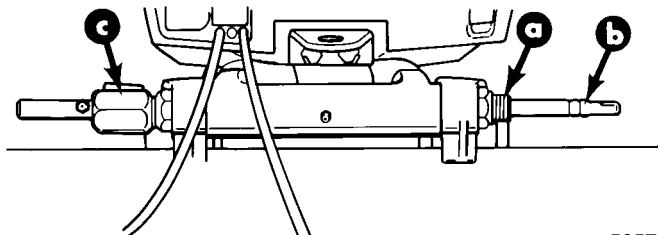
Install steering mount and steering wheel in accordance with installation instructions that accompany each.

Installing Ride Guide Cable to Outboard Tilt Tube

IMPORTANT: Before installing steering cable into tilt tube, lubricate entire cable end with Quicksilver 2-4-C Marine Lubricant.

NOTE: Ride Guide Steering cable is lubricated at the factory and requires no additional lubrication at initial installation.

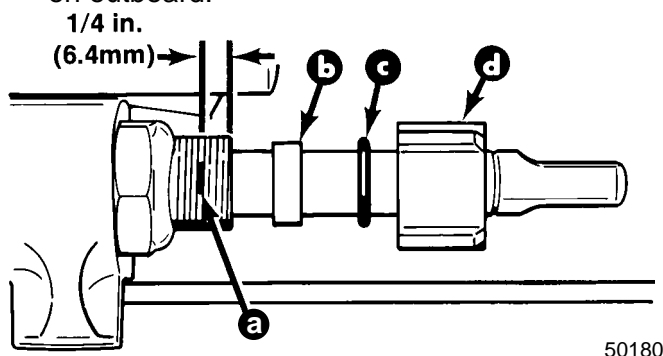
1. Lubricate inside of outboard tilt tube (a) and entire steering cable end (b) with Quicksilver 2-4-C Marine Lubricant.
2. Insert steering cable end thru outboard tilt tube and secure steering cable to tilt tube with steering cable attaching nut (c) as shown. Torque nut to 35 lb. ft. (41 N·m).



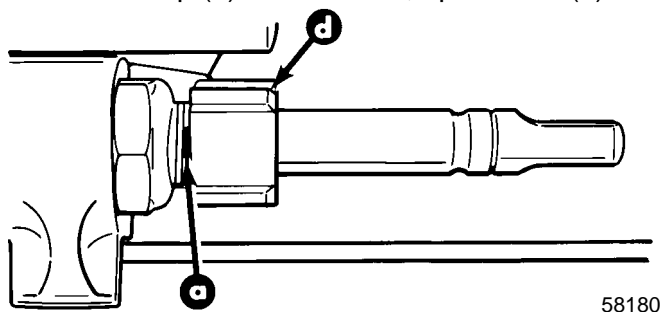
50579



3. Place a mark (a) on tilt tube 1/4 in. (6.4mm) from port end of tube. Slide plastic spacer (b), O-ring (c) and cap (d) over steering cable end, to tilt tube on outboard.



4. Thread cap (d) onto tilt tube, up to mark (a).



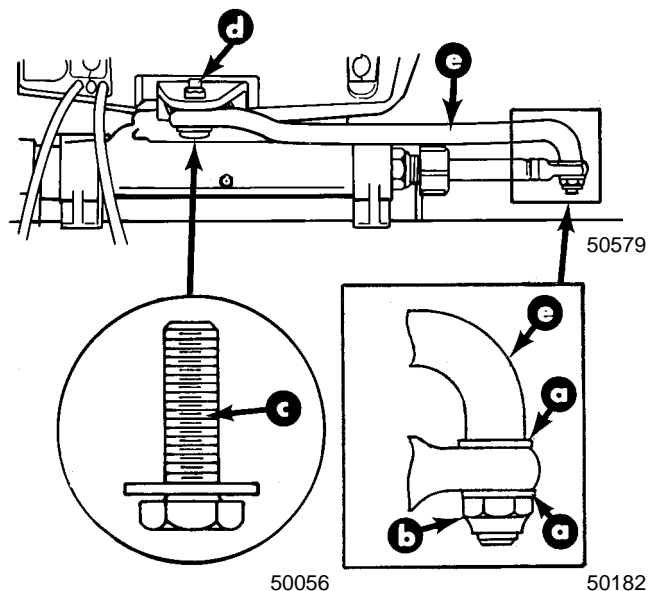
Installing Steering Link Rod

⚠ WARNING

Steering link rod **MUST BE** secured between outboard steering arm/bracket and steering cable end, using special washer head bolt (P/N 10-14000) and two nylon insert locknuts (P/N 11-34863), as shown. Both special washer head bolt and nylon insert locknuts **MUST BE** tightened as specified.

Lubricate hole in end of steering cable, with Quicksilver 2-4-C Marine Lubricant. Assemble steering link rod to steering cable end, using 2 flat washers and nylon insert locknut. Tighten locknut until it seats [DO NOT exceed 120 lb. in. (14 N·m) of torque], then back nut off 1/4 turn.

Lubricate ball joint in steering link rod with SAE 30W Motor Oil. Secure link rod to outboard steering arm, using special washer head bolt (P/N 10-14000) provided and nylon insert locknut as shown. Torque special bolt 20 lb. ft. (27 N·m), then torque locknut to 20 lb. ft. (27 N·m).



- a - Flat Washer (2)
- b - Nylon Insert Locknut - Torque Until It Seats [DO NOT Exceed 120 lb. in. (14 N·m) of Torque], Then Back Nut Off 1/4 Turn
- c - Special Washer Head Bolt (P/N 10-14000) - Torque to 20 lb. ft. (27.1 N·m)
- d - Nylon Insert Locknut - Torque to 20 lb. ft. (27 N·m)
- e - Steering Link Rod

⚠ WARNING

After installation is complete (and before operating outboard), check that boat will turn to right when steering wheel is turned right and that boat will turn left when steering wheel is turned left. Check steering thru full range (left and right) at all tilt angles to assure interference-free movement.



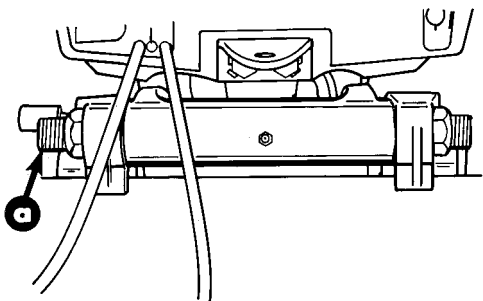
19609A-2 Ride Guide Steering Attaching Kit Installation - Steering Cable Routed for Port Entry into Outboard Tilt Tube

TILT TUBE REVERSAL

⚠ CAUTION

Outboard tilt tube **MUST BE** removed and reinstalled in the opposite direction (turned end for end), so that when reassembled, longer threaded end of tilt tube extends out port side of outboard approximately 3/4 in. (19mm). Failure to reposition outboard tilt tube as described, could interfere with steering system operation.

Remove outboard tilt tube and reinstall in opposite direction (turn end for end), so that when reassembled, longer threaded end (a) of tilt tube extends out port side of outboard approximately 3/4 in. (19mm). Refer to Section 5A "Midsection".



50579

Refer to "Quicksilver Accessories Guide" to determine correct length of steering cable and remote control cables.

IMPORTANT: Steering cable and remote control cables must be the correct length, sharp bends on too-short cables result in "kinks"; too-long cables require unnecessary bends and/or loops. Both conditions place extra stress on the cables.

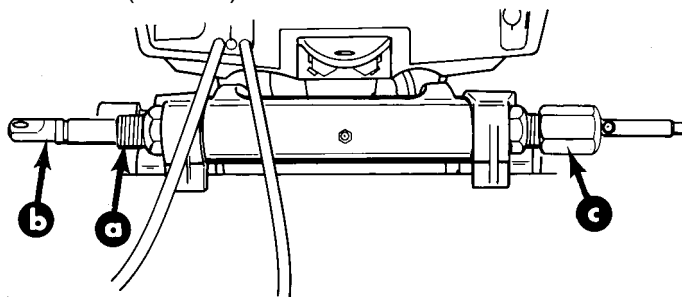
Install steering mount and steering wheel in accordance with installation instructions that accompany each.

Installing Ride Guide Cable to Outboard Tilt Tube

IMPORTANT: Before installing steering cable into tilt tube, lubricate entire cable end with Quicksilver 2-4-C Marine Lubricant.

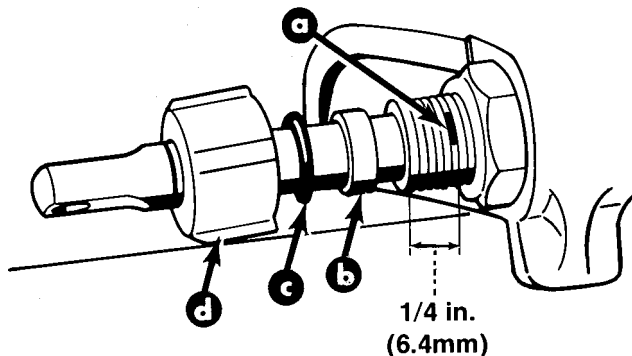
NOTE: Ride Guide Steering Cable is lubricated at the factory and requires no additional lubrication at initial installation.

1. Lubricate inside of outboard tilt tube (a) and entire steering cable end (b) with Quicksilver 2-4-C Marine Lubricant.
2. Insert steering cable end thru outboard tilt tube and secure steering cable to tilt tube with steering cable attaching nut (c) as shown. Torque nut to 35 lb. ft. (41 N·m).



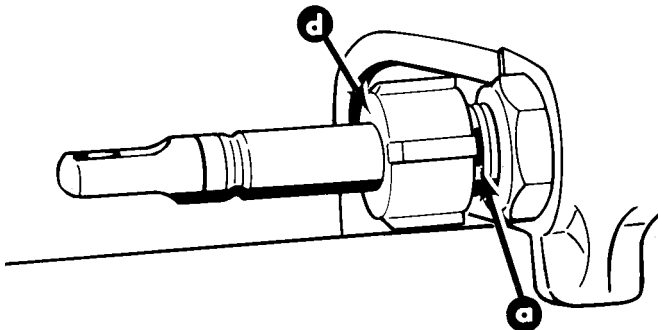
50579

3. Place a mark (a) on tilt tube 1/4 in. (6.4mm) from starboard end of tube. Slide plastic spacer (b), O-ring (c) and cap (d) over steering cable end, to tilt tube on outboard.



50325

4. Thread cap (d) onto tilt tube, up to mark (a).



50325



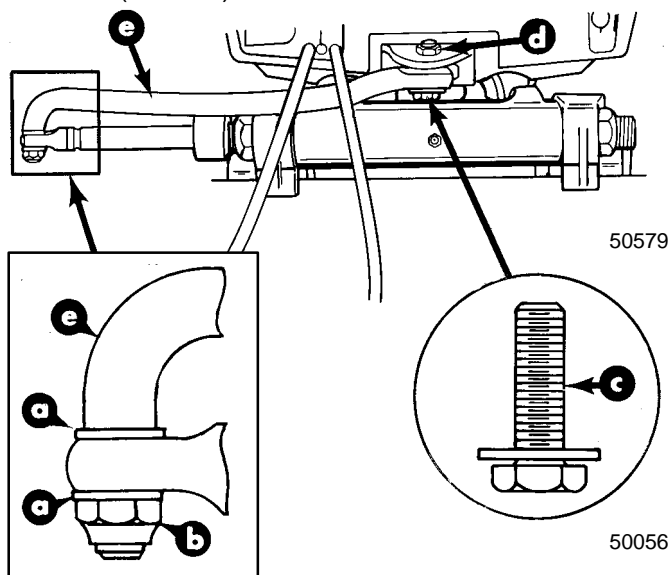
Installing Steering Link Rod

⚠ WARNING

Steering link rod **MUST BE** secured between outboard steering arm/bracket and steering cable end, using special washer head bolt (P/N 10-14000) and two nylon insert locknuts (P/N 11-34863), as shown. Both special washer head bolt and nylon insert locknuts **MUST BE** tightened as specified.

Lubricate hole in end of steering cable, with Quicksilver 2-4-C Marine Lubricant. Assemble steering link rod to steering cable end, using 2 flat washers and nylon insert locknut. Tighten locknut until it seats [DO NOT exceed 120 lb. in. (14 N·m) of torque], then back nut off 1/4 turn.

Lubricate ball joint in steering link rod with SAE 30W Motor Oil. Secure link rod to outboard steering arm, using special washer head bolt (P/N 10-14000) provided and nylon insert locknut as shown. Torque special bolt to 20 lb. ft. (27 N·m), then torque locknut to 20 lb. ft. (27 N·m).



- a - Flat Washer (2)
- b - Nylon Insert Locknut - Torque Until It Seats [DO NOT Exceed 120 lb. in. (14 N·m) of Torque], Then Back Nut Off 1/4 Turn
- c - Special Washer Head Bolt (P/N 10-14000) - Torque to 20 lb. ft. (27.1 N·m)
- d - Nylon Insert Locknut - Torque to 20 lb. ft. (27 N·m)
- e - Steering Link Rod

⚠ WARNING

After installation is complete (and before operating outboard), check that boat will turn to right when steering wheel is turned right and that boat will turn left when steering wheel is turned left. Check steering thru full range (left and right) at all tilt angles to assure interference-free movement.

Maintenance Instructions

Maintenance inspection is the owner's responsibility and must be performed at intervals specified.

Normal Service – Every 50 hours of operation or 60 days (whichever comes first)

***Severe Service** – Every 25 hours of operation or 30 days (whichever comes first)

*Operation in salt water is considered "Severe Service".

1. Carefully check steering system components for wear. Replace worn parts.
2. Check steering system fasteners to be sure that they are torqued to correct specifications.

NOTE: Ride-Guide Steering cable is lubricated at the factory and requires no additional lubrication at initial installation.

⚠ WARNING

Core of steering cable (transom end) must be fully retracted into cable housing before lubricating cable. If cable is lubricated while extended, hydraulic lock of cable could occur.

3. With core of Ride-Guide Steering cable (transom end) fully retracted, lubricate transom end of steering cable thru grease fitting and exposed portion of cable end with 2-4-C Marine Lubricant. Lubricate all pivot points with SAE 30W engine oil.



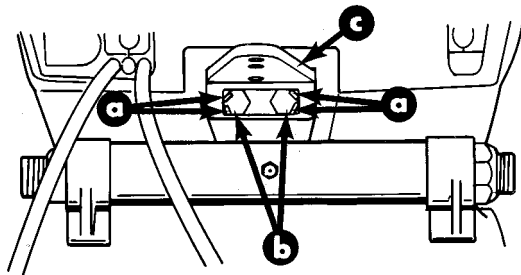
Single Cable - Dual Outboard Ride Guide Steering Kit (P/N 97933A4) Installation

Dual outboard installation requires steering bracket replacement P/N 19617 from kit.

⚠ WARNING

Upon completion of steering bracket replacement, locking retainer corner tabs must be bent up and against flats on each bolt that secures steering bracket to outboard, to prevent bolts from turning out.

1. Remove (and retain) steering bracket bolts and locking retainer. Discard original steering bracket.
2. Attach steering bracket from kit to outboard steering arm with retained bolts and locking retainer.
3. Torque bolts to 40 lb. ft. (54 N·m) and bend tabs of locking retainer up against flats of bolts.



50579

- a - Locking Tabs Bent Into Place
b - Bolts, Torque to 40 lb. ft. (54 N·m)
c - Steering Bracket

Installation Requirements

IMPORTANT: The distance from each outboard's centerline to the side of transom opening or gunnel **MUST BE** a minimum of 16 in. (406mm).

This kit contains all necessary parts to connect both outboards to Ride-Guide Steering Cable for 21 in. (533mm) MINIMUM thru 22-1/2 in. (572mm). If outboard centerline distance is other than specified, refer to "Ride-Guide Steering Attachment Extension Couplers" following.

Ride-Guide steering cable can be routed on either side of boat. If steering cable is routed on starboard side of boat, install steering cable to outboard mounted on port side of boat or, if steering cable is routed on port side of boat, install steering cable to outboard mounted on starboard side of boat. (Refer to "Steering Cable Installation Starboard Outboard" following).

Refer to "Quicksilver Accessories Guide" to determine correct length of steering cable and remote control cables.

IMPORTANT: Steering cable and remote control cables **MUST BE THE CORRECT LENGTH**, sharp bends on too-short cables result in "kinks"; too-long cables require unnecessary bends and/or loops. Both conditions place extra stress on the cables.

Install steering mount and steering wheel in accordance with installation instructions that accompany each.

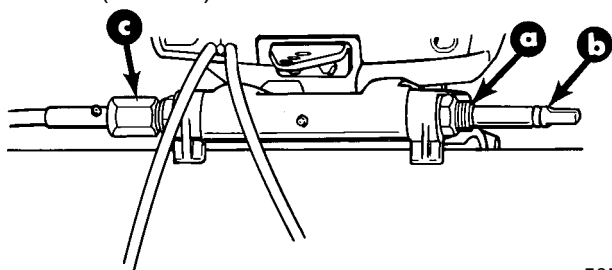


Steering Cable Installation - Cable Routed Down Starboard Side of Boat to Port Outboard

IMPORTANT: Before installing steering cable into tilt tube, lubricate entire cable end with Quicksilver 2-4-C Marine Lubricant.

NOTE: Ride-Guide Steering cable is lubricated at the factory and requires no additional lubrication at initial installation.

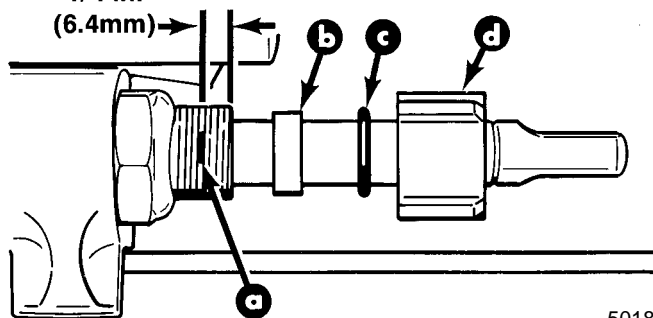
1. Lubricate inside of outboard tilt tube (a) and entire steering cable end (b) with Quicksilver 2-4-C Marine Lubricant.
2. Insert steering cable end thru outboard tilt tube and secure steering cable to tilt tube with steering cable attaching nut (c) as shown. Torque nut to 35 lb. ft. (41 N-m).



50579

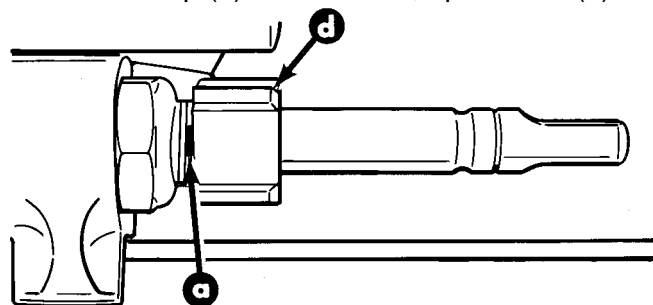
3. Place a mark (a) on tilt tube 1/4 in. (6.4mm) for port end of tube. Slide plastic spacer (b), O-ring (c) and cap (d) over steering cable end, to tilt tube on outboard.

1/4 in.
(6.4mm)



50180

4. Thread cap (d) onto tilt tube, up to mark (a).



58180

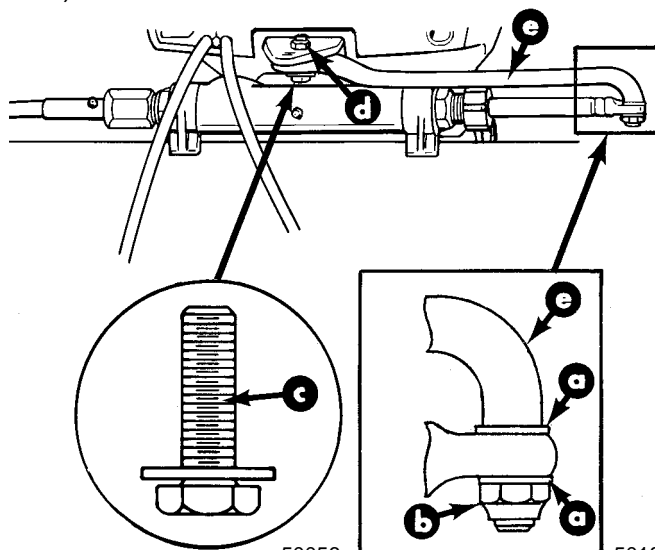
Installing Steering Link Rod

⚠ WARNING

Steering link rod **MUST BE** secured between outboard steering arm/bracket and steering cable end, using special washer head bolt (P/N 10-14000) and two nylon insert locknuts (P/N 11-34863), as shown. Both special washer head bolt and nylon insert locknuts **MUST BE** tightened as specified.

Lubricate hole in end of steering cable, with Quicksilver 2-4-C Marine Lubricant. Assemble steering link rod to steering cable end, using 2 flat washers and nylon insert locknut. Tighten locknut until it seats [DO NOT exceed 120 lb. in. (14 N-m) of torque], then back nut off 1/4 turn.

Lubricate ball joint in steering link rod with SAE 30W motor oil. Secure link rod to outboard steering arm inner hole (closest to outboard), using special washer head bolt (P/N 10-14000) provided and nylon insert locknut as shown. Torque special bolt to 20 lb. ft. (27 N-m).



50056

50182

- a - Flat Washer (2)
- b - Nylon Insert Locknut - Torque Until It Seats [DO NOT Exceed 120 lb. in. (14 N-m) of Torque], Then Back Nut Off 1/4 Turn
- c - Special Washer Head Bolt (P/N 10-14000) - Torque to 20 lb. ft. (27.1 N-m)
- d - Nylon Insert Locknut - Torque to 20 lb. ft. (27 N-m)
- e - Steering Link Rod

⚠ WARNING

After installation is complete (and before operating outboard), check that boat will turn to right when steering wheel is turned right and that boat will turn left when steering wheel is turned left. Check steering thru full range (left and right) at all tilt angles to assure interference-free movement.



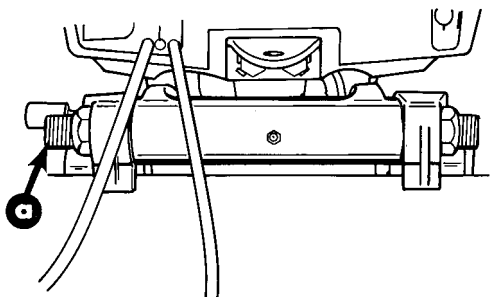
Steering Cable Installation - Cable Routed Down Port Side of Boat to Starboard Outboard

TILT TUBE REVERSAL

⚠ CAUTION

Outboard tilt tube **MUST BE** removed and reinstalled in the opposite direction (turned end for end), so that when reassembled, longer threaded end of tilt tube extends out port side of outboard approximately 3/4 in. (19mm). Failure to reposition outboard tilt tube as described, could interfere with steering system operation.

Remove outboard tilt tube and reinstall in opposite direction (turn end for end), so that when reassembled, longer threaded end (a) of tilt tube extends out port side of outboard approximately 3/4 in. (19mm). Refer to Section 5A "Midsection".



50579

Refer to "Quicksilver Accessories Guide" to determine correct length of steering cable and remote control cables.

IMPORTANT: Steering cable and remote control cables must be the correct length, sharp bends on too-short cables result in "kinks"; too-long cables require unnecessary bends and/or loops. Both conditions place extra stress on the cables.

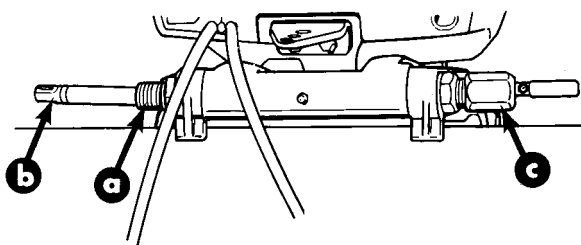
Install steering mount and steering wheel in accordance with installation instructions that accompany each.

Installing Steering Cable

IMPORTANT: Before installing steering cable into tilt tube, lubricate entire cable end with Quicksilver 2-4-C Marine Lubricant.

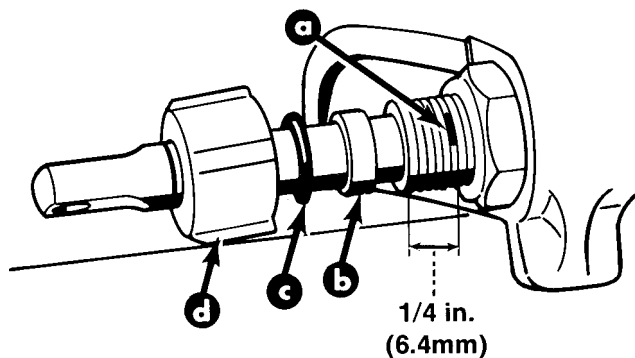
NOTE: Ride Guide Steering Cable is lubricated at the factory and requires no additional lubrication at initial installation.

1. Lubricate inside of outboard tilt tube (a) and entire steering cable end (b) with Quicksilver 2-4-C Marine Lubricant.
2. Insert steering cable end thru outboard tilt tube and secure steering cable to tilt tube with steering cable attaching nut (c) as shown. Torque nut to 35 lb. ft. (41 N·m).



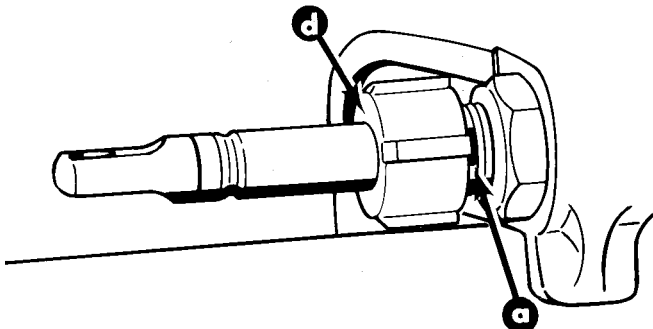
50579

3. Place a mark (a) on tilt tube 1/4 in. (6.4mm) from starboard end of tube. Slide plastic spacer (b), O-ring (c) and cap (d) over steering cable end, to tilt tube on outboard.



50325

4. Thread cap (d) onto tilt tube, up to mark (a).



50325



Installing Steering Link Rod

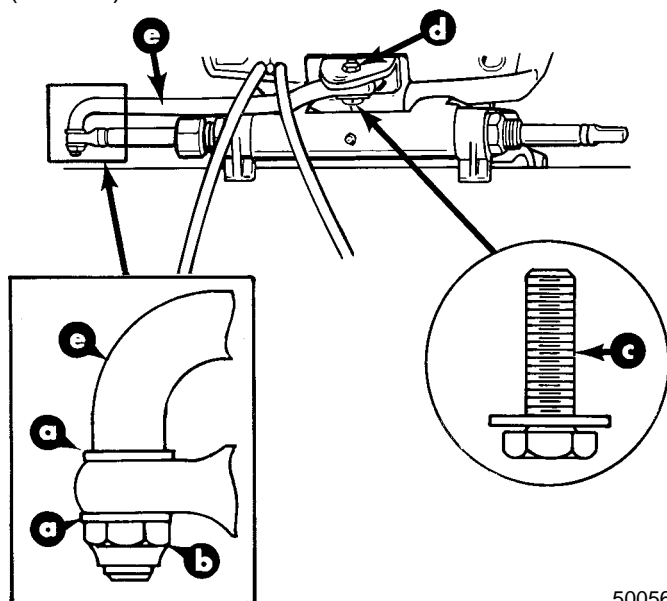
NOTE: Steering link rod and components from Ride-Guide Attaching Kit (P/N 17432A6) must be used when steering cable is routed down starboard side of boat to port outboard.

⚠ WARNING

Steering link rod **MUST BE** secured between outboard steering arm/bracket and steering cable end, using special washer head bolt (P/N 10-14000) and two nylon insert locknuts (P/N 11-34863), as shown. Both special washer head bolt and nylon insert locknuts **MUST BE** tightened as specified.

Lubricate hole in end of steering cable, with Quicksilver 2-4-C Marine Lubricant. Assemble steering link rod to steering cable end, using 2 flat washers and nylon insert locknut. Tighten locknut until it seats [DO NOT exceed 120 lb. in. (14 N·m) of torque], then back nut off 1/4 turn.

Lubricate ball joint in steering link rod with SAE 30W Motor Oil. Secure link rod to outboard steering arm inner hole (closest to outboard), using special washer head bolt (P/N 10-14000) provided and nylon insert locknut as shown. Torque special bolt to 20 lb. ft. (27 N·m).



50056

- a - Flat Washer (2)
- b - Nylon Insert Locknut - Torque Until It Seats [DO NOT Exceed 120 lb. in. (14 N·m) of Torque], Then Back Nut Off 1/4 Turn
- c - Special Washer Head Bolt (P/N 10-14000) - Torque to 20 lb. ft. (27.1 N·m)
- d - Nylon Insert Locknut - Torque to 20 lb. ft. (27 N·m)
- e - Steering Link Rod

⚠ WARNING

After installation is complete (and before operating outboard), check that boat will turn to right when steering wheel is turned right and that boat will turn left when steering wheel is turned left. Check steering thru full range (left and right) at all tilt angles to assure interference-free movement.

Maintenance Instructions

Maintenance inspection is the owner's responsibility and must be performed at intervals specified.

Normal Service – Every 50 hours of operation or 60 days (whichever comes first)

***Severe Service** – Every 25 hours of operation or 30 days (whichever comes first)

*Operation in salt water is considered "Severe Service".

1. Carefully check steering system components for wear. Replace worn parts.
2. Check steering system fasteners to be sure that they are torqued to correct specifications.

NOTE: Ride-Guide Steering cable is lubricated at the factory and requires no additional lubrication at initial installation.

⚠ WARNING

Core of steering cable (transom end) must be fully retracted into cable housing before lubricating cable. If cable is lubricated while extended, hydraulic lock of cable could occur.

3. With core of Ride-Guide Steering cable (transom end) fully retracted, lubricate transom end of steering cable thru grease fitting and exposed portion of cable end with 2-4-C Marine Lubricant. Lubricate all pivot points with SAE 30W engine oil.



Steering Coupler Assembly

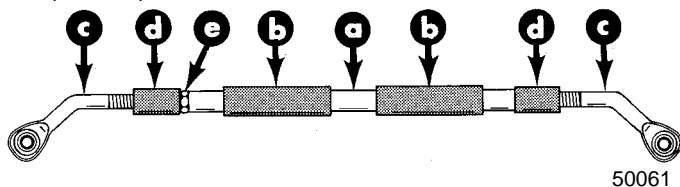
Position outboards so that they are facing straight forward. (Distance between threaded hole centers of steering arms/brackets **MUST BE** equal to distance between propeller shaft center lines.)

Lubricate inside of rubber sleeves with Quicksilver 2-4-C Marine Lubricant and slide sleeves on steering coupler.

Work rubber bushings onto threaded ends of steering eyes.

Thread jam nut on starboard steering eye.

Thread steering eyes equally into coupler, so that distance between hole centers of steering eye ball joints is equal to distance between threaded hole centers of steering arms/brackets. Exposed threads of steering eyes **MUST BE** of equal length and threads **MUST NOT** extend out from coupler more than 2-3/4 in. (70mm).



- a - Coupler
- b - Rubber Sleeve
- c - Steering Eye
- d - Rubber Bushing
- e - Jam Nut

⚠ WARNING

Both steering eyes must be threaded into coupler 3/4 in. (19mm) minimum. Thread length of steering eye is 3-1/2 in. (89mm), so exposed thread must not extend out of coupler more than 2-3/4 in. (70mm). Failure to adhere to this requirement could result in steering system failure.

Assemble steering coupler between outboard steering brackets, as shown on the following pages.

IMPORTANT: With assembled steering coupler installed and before tightening special washer head bolts/locknuts, check outboard alignment. Distance between hole centers of steering eye ball joints **MUST BE** equal to distance between propeller shaft center lines, for proper steering. If adjustment is necessary, temporarily remove special washer head bolt/locknut from one steering eye and turn eye in or out to correct alignment.

⚠ WARNING

Both steering eyes **MUST BE** threaded into coupler 3/4 in. (19mm) minimum, and jam nut must be tightened against coupler to prevent coupler from turning. Torque "jam" nut to 20 lb. ft. (27 N·m).

Tighten "jam" nut against coupler. Torque "jam" nut to 20 lb. ft. (27 N·m).

Spray Quicksilver Corrosion Guard on exposed threads of steering eyes and position rubber bushings and rubber sleeves to cover exposed threads of steering eyes.

⚠ WARNING

After installation is complete (and before operating outboards), check that boat will turn right when steering wheel is turned right and that boat will turn left when steering wheel is turned left. Check steering thru full range (left and right) at all tilt angles to assure interference-free movement.

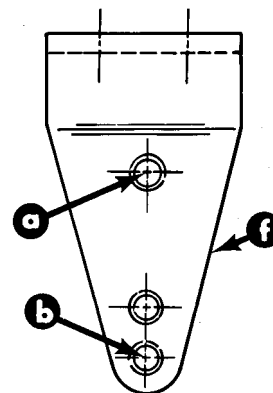
Adjust trim tabs of both outboards, as outlined in "Trim Tab Adjustment", following.



Steering Coupler Installation

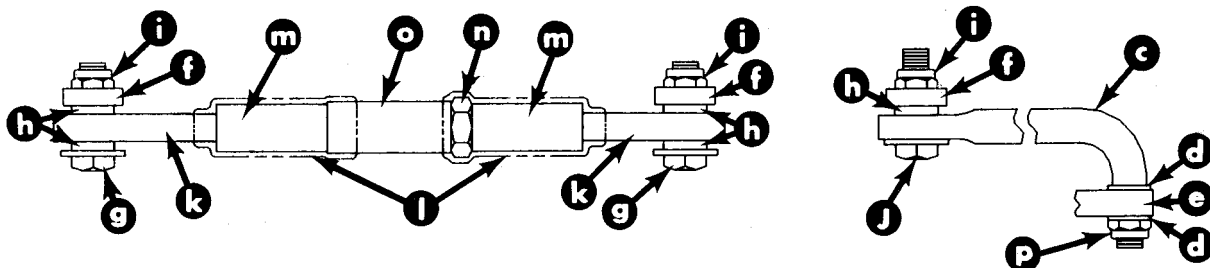
IMPORTANT: Dual outboard installation requires a minimum outboard centerline distance of 21 in. (533mm) to assure interference-free movement.

IMPORTANT: Lubricate all moving parts with Quicksilver 2-4-C Multi-Purpose Lubricant.

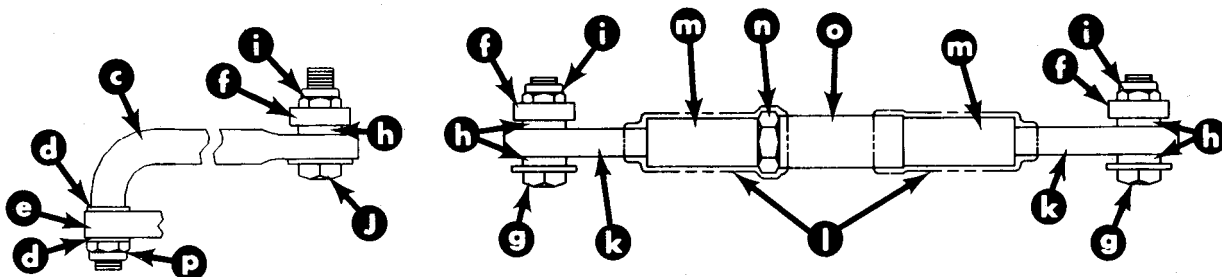


50137

Steering cable routed on starboard side of boat connected to port outboard.



Steering cable routed on port side of boat connected to starboard outboard.

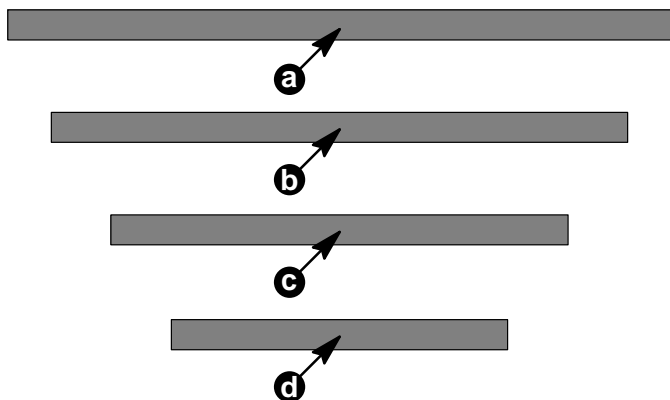


- a - Steering Link Connecting Hole
- b - Coupler Assembly Connection Hole 40 Model
- c - Steering Link (Supplied on Outboard)
- d - Washer (Supplied with Steering Link)
- e - Ride Guide Cable
- f - Steering Bracket (Supplied in Kit)
- g - Special (Washer Head) Bolt (Supplied in Kit 3/8" x 1-5/8" P/N 10-90041), Torque to 20 lb. ft. (27.1 N·m)
- h - Special Washer (P/N 12-71970)
- i - Lock Nut (Two Supplied in Kit and with Steering Link) P/N 11-34863, Torque to 20 lb. ft. (27.1 N·m)
- j - Special (Washer Head) Bolt (P/N 10-14000) Torque to 20 lb. ft. (27 N·m) (Supplied with Steering Link)
- k - Steering Eye
- l - Rubber Sleeve
- m - Rubber Bushing
- n - Jam Nut, Torque to 20 lb. ft. (27.1 N·m)
- o - Dual Steering Coupler (9")
- p - Lock Nut (Supplied with Steering Link) P/N 11-34863, Torque Until it Seats [Do Not Exceed 120 lb. in. (13.6 N·m) of Torque], then Back Off 1/4 Turn



Ride-Guide Steering Attachment Extension Couplers

Outboard Center Line Distance	Required Coupler(s) Between Steering Eyes (Shown Below)
21 in. thru 22-1/2 in. (533mm thru 572mm)	9 in. (229mm) Coupler
22-1/2 in. thru 24-1/2 in. (572mm thru 622mm)	12 in. (305mm) Coupler
23-1/2 in. thru 27-1/2 in. (597mm thru 699mm)	15 in. (381mm) Coupler (Supplied with this Kit)
26-1/2 in. thru 30-1/2 in. (673mm thru 755mm)	18 in. (457mm) Coupler



- a - 18 in. (457mm) Coupler (P/N 814951--4)
b - 15 in. (381mm) Coupler (P/N 814951--3)
c - 12 in. (305mm) Coupler (P/N 814951--2)
d - 9 in. (229mm) Coupler (P/N 814951--1)

Trim Tab Adjustment

DUAL OUTBOARD

1. Check trim tab position as follows:

IMPORTANT: Initial trim tab setting for both outboards should be straight to rear of outboard, so that tabs are aligned with gear housing center line. Refer to "If Necessary, Adjust Trim Tab as Follows," following.

- a. Operate boat at normal cruise throttle setting and adjust trim to optimum setting.
 - b. If boat pulls to the right (starboard), trailing edge of trim tab must be moved to the right (when viewing outboard from behind). If boat pulls to the left (port), trailing edge of trim tab must be moved to the left.
2. If necessary, adjust trim tab as follows:
 - a. Shift outboard into neutral and make sure ignition key is at "OFF" position.
 - b. Remove plastic cap from rear of drive shaft housing and loosen bolt and trim tab.

IMPORTANT: Trim tabs **MUST BE** set in the same position on both outboards.

- c. If boat pulls to the right, adjust trailing edges of both trim tabs to the right. If boat pulls to the left, adjust trailing edges of both trim tabs to the left.
- d. Tighten both trim tab bolts securely and replace plastic caps.
- e. Operate boat per "Check Trim Tab Position as Follows," preceding, to check trim tab setting. Readjust trim tabs, if necessary.

Maintenance Instructions

Maintenance inspection is the owner's responsibility and must be performed at intervals specified.

Normal Service – Every 50 hours of operation or 60 days (whichever comes first)

***Severe Service** – Every 25 hours of operation or 30 days (whichever comes first)

*Operation in salt water area is considered "Severe Service".

1. Carefully check steering system components for wear. Replace worn parts.
2. Check steering system fasteners to be sure that they are torqued to correct specifications.

NOTE: Ride-Guide Steering cables are lubricated at the factory and requires no additional lubrication at initial installation.

WARNING

Core of each steering cable (transom end) must be fully retracted into cable housing before lubricating cable. If cable is lubricated while extended, hydraulic lock of cable could occur.

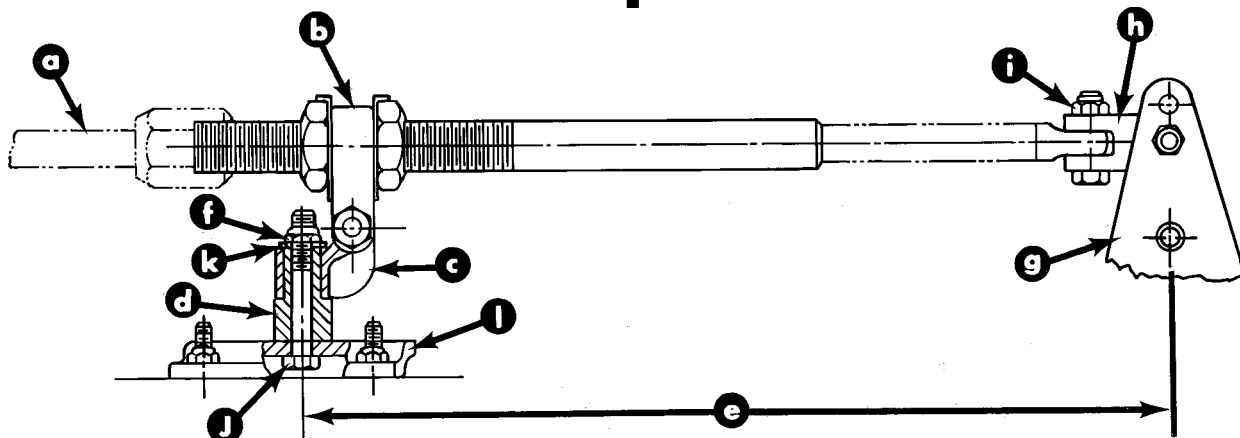
3. With core of Ride-Guide Steering cable (transom end) fully retracted, lubricate transom end of steering cable thru grease fittings (a) with 2-4-C Marine Lubricant. Lubricate exposed portions of cable ends (b) with 2-4-C Marine Lubricant.
4. Lubricate pivot points of steering link rods and ball joints of link rods/steering coupler with Quick-silver 2-4-C Lubricant.
5. Inspection and lubrication of steering head assembly (rotary or straight rack) should be performed once each year (by your Authorized Dealer) or whenever steering mount and/or steering head are disassembled, or if steering effort has increased. Lubricate with 2-4-C Marine Lubricant.



Transom Mounted Ride Guide Attaching Kit Installation (73770A1)

Attaching Kit Installation

1. Lubricate both holes in pivot block (Figure 1) with Quicksilver 2-4-C Marine Lubricant.



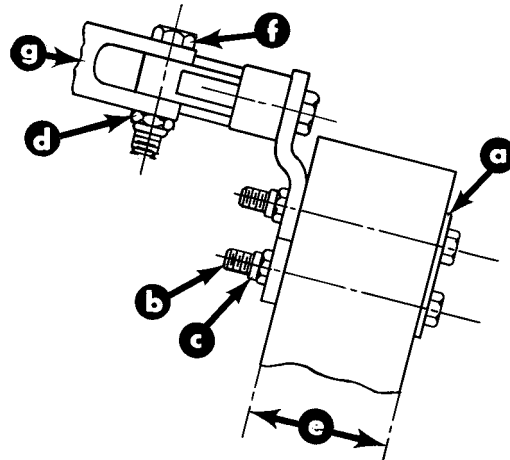
- a - Ride-Guide Cable
- b - Ride-Guide Yoke
- c - Pivot Block
- d - Pivot Spacer
- e - 15 in. (Centerline of Attaching Kit Pivot to Centerline of Outboard)
- f - Pivot Attaching Locknut [Torque to 20 lb. ft. (27.1 N·m)]
- g - Outboard Steering Arm
- h - "Clevis Kit"
- i - Ride-Guide Cable Attaching Locknut [Torque to 10 lb. ft. (13.6 N·m)]
- j - Bolt (3/8 in. x 2-1/2 in.)
- k - Flat Washer
- l - Transom Bracket

Figure 1. Installing Attaching Kit

3. Place Ride-Guide yoke on pivot block and secure with 7/16 in. x 1-3/4 in. bolt and locknut, as shown in Figures 1 and 2. Torque locknut to 10 lb. ft. (13.6 N·m), **then back off 1/4 turn.**
4. Install one cable tube jam nut onto steering cable tube. Place tab washer over Ride-Guide yoke, then insert cable tube thru tab washer and yoke. Install second cable tube jam nut onto cable tube but do not tighten at this time. (Figure 3)
5. Position transom attaching kit on transom as follows:
 - a. Determine centerline of outboard, then measure 15 in. (38.1cm) over from this centerline and draw a vertical line on transom. (Figure 1)

2. Place pivot block on pivot spacer and secure to transom bracket with 3/8 in. x 2-1/2 in. bolt, flat washer and locknut, as shown in Figure 1. Torque locknut to 20 lb. ft. (27 N·m).

- b. Position attaching kit on transom so that **transom bracket is centered on the 15 in. line** (Figure 1) at a height where the **center of Ride-Guide yoke is even with, or not more than 1/2 in. (12.8mm) above, top edge of transom.** (Figure 3)



- a - Transom Backing Plate
- b - Bolt (5/16 in. x 3-1/4 in.)
- c - Locknut (Torque to 10 lb. ft.)
- d - Ride-Guide Yoke Attaching Locknut (Torque to 10 lb. ft. **Then Back Off 1/4 Turn**)
- e - 2-3/8 in. Maximum Transom Thickness
- f - Bolt (7/16 in. x 1-3/4 in.)
- g - Ride-Guide Yoke

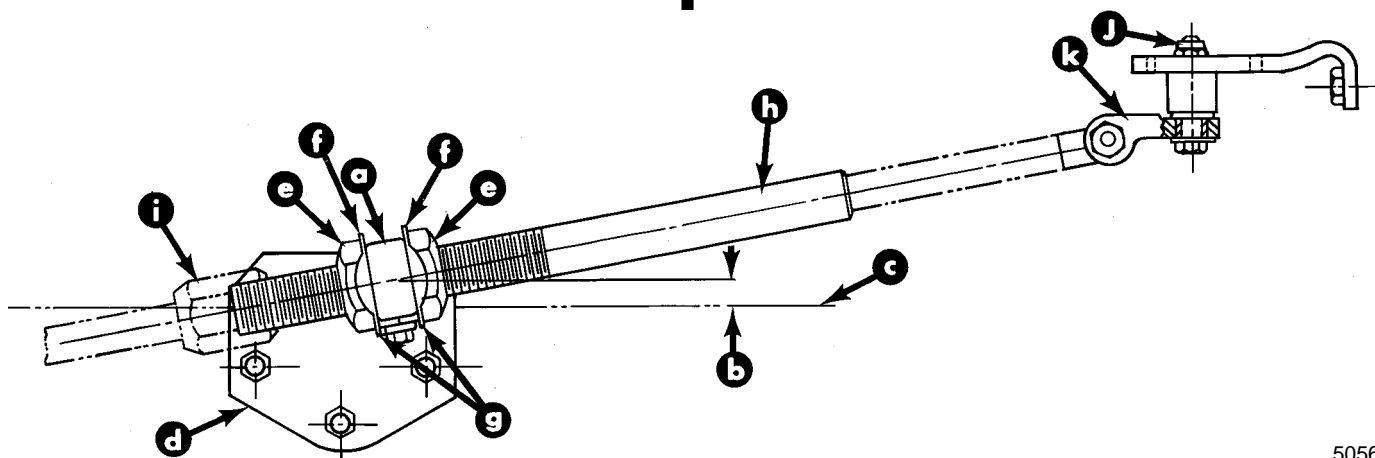
Figure 2. Installing Attaching Kit



NOTE: When drilling thru transom, be sure that holes are drilled perpendicular to transom.

6. With attaching kit positioned as outlined preceding, use 3 holes in transom bracket as a guide and drill three 11/32 in. (8.7mm) holes thru transom.

7. Use a marine-type sealer on three 5/16 in. x 3-1/4 in. bolts. Secure attaching kit to transom, using transom backing plate, 3 bolts (with sealer) and 3 locknuts, installed as shown in Figure 2. Torque locknuts to 10 lb. ft. (13.6 N·m).



- a - Ride-Guide Yoke
- b - 0 in. to 1/2 in. (Center of Ride-Guide Yoke to Top of Transom)
- c - Top of Transom
- d - Transom Bracket
- e - Cable Tube Jam Nuts [Torque to 35 lb. ft. (41.5 N·m)]
- f - Tab Washer
- g - After Jam Nuts are Torqued to Specification, Bend Locking Tabs Against Nuts
- h - Cable Guide Tube
- i - Ride-Guide Cable Attaching Nut [Torque to 35 lb. ft. (41.5 N·m)]
- j - "Clevis Kit"
- k - Clevis Attaching Locknut [Torque to 20 lb. ft. (27.1 N·m)]

Figure 3. Installing Attaching Kit

Clevis Attaching Kit Installation (P/N 70599A4)

NOTE: This kit is used to attach Ride-Guide cable to outboard steering arm **ONLY** when "Transom Mounted Ride-Guide Attaching Kit" is being used. If Ride-Guide cable is installed thru outboard tilt tube, then "Steering Link Rod" must be used.

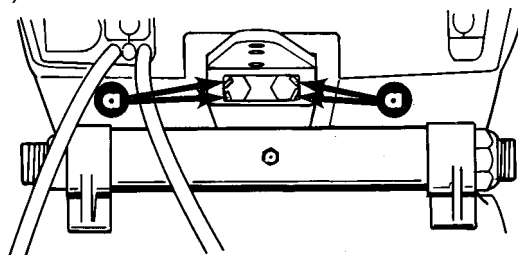
Installation Instructions

1. Remove (and discard) existing steering bracket. Two bolts and locking plate will be reused to install new steering bracket (supplied in kit).

⚠ WARNING

Locking retainer corner tabs, **MUST BE bent up and against flats on each bolt that secures steering bracket to outboard**, to prevent bolts from turning out.

2. Install (supplied) steering bracket to outboard steering arm with two retained bolts and locking plate as shown below. Torque bolts to 35-45 lb. ft. (47-61 N·m) and bend tabs against flats of bolts (a).

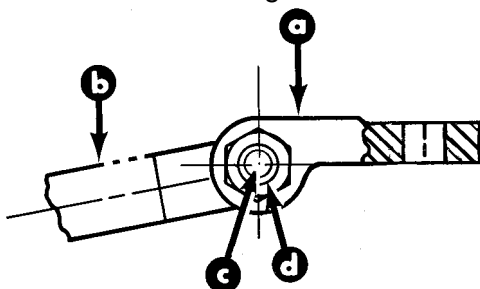


a - Locking Tabs Bent into Place

IMPORTANT: Lubricate all moving parts of clevis kit with Quicksilver 2-4-C Lubricant.



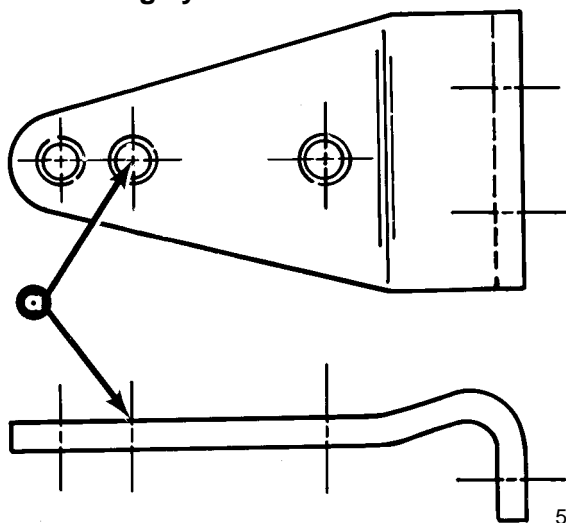
3. Install clevis to steering cable as shown.



- a - Clevis
- b - Steering Cable
- c - Bolt, 3/8" - 24 x 1-3/8" (Lubricate Unthreaded Area)
- d - Locknut [Clevis to Steering Cable; Torque to 120 lb. (14 N·m)]

⚠ CAUTION

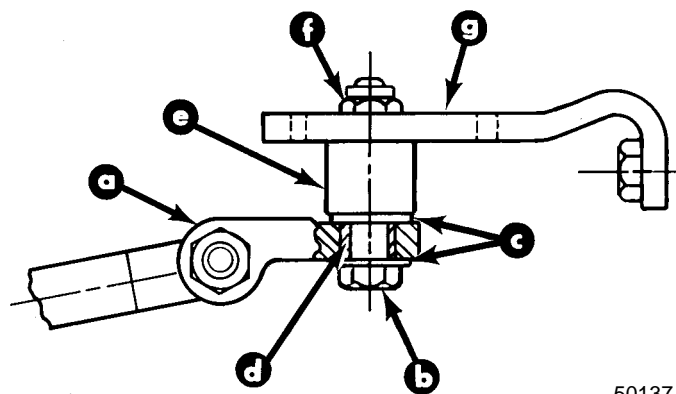
Clevis must be connected to the middle hole in the steering bracket (below) to ensure proper engine clearances. Failure to use middle hole could cause steering system to bind.



- a - Proper Hole to be Used

50137

4. Install clevis to middle hole in steering bracket as shown.



50137

- a - Clevis
- b - Bolt, 3/8 in. - 24 x 1-7/8 in. [Torque to 240 lb. in. (27 N·m)] (Lubricate Unthreaded Area)
- c - Washers (1/16 in. Thick)
- d - Spacer (Small) (Lubricate Spacer)
- e - Spacer (Large)
- f - Locknut [Clevis to Engine Steering Bracket; Torque to 240 lb. in. (27 N·m)]
- g - Steering Bracket

Maintenance Instructions

Lubrication and maintenance inspection is owner's responsibility and must be performed at intervals as specified following:

Normal Service – Every 50 hours of operation or 60 days (whichever comes first)

***Severe Service** – Every 25 hours of operation or 30 days (whichever comes first)

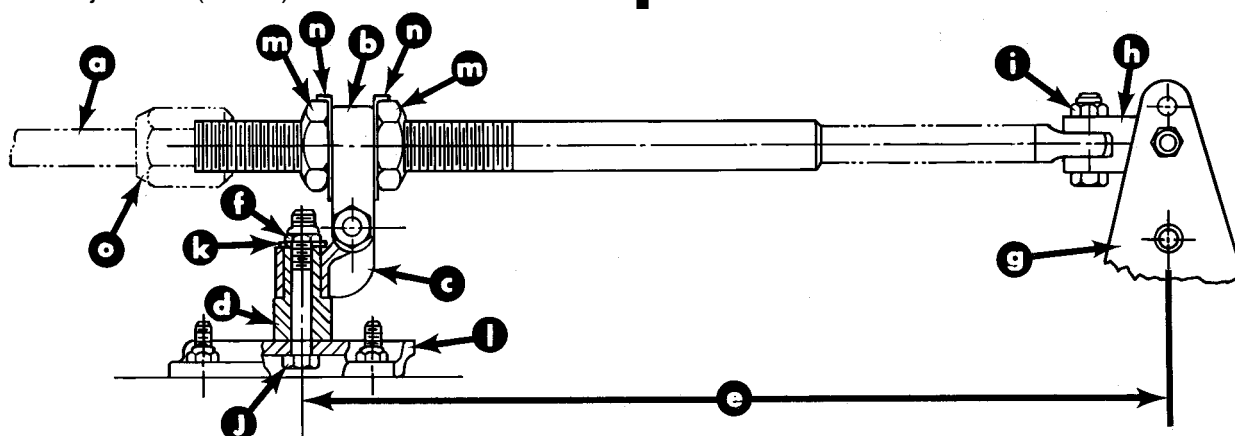
*Operation in salt water area is considered "Severe Service".

1. Carefully check steering components for wear. If worn, take your local Authorized Dealer.
2. Check steering system fasteners to be sure that they are torqued to correct specifications.
3. Lubricate clevis pivot points with a drop of light oil.
4. Inspection and lubrication of steering system should be performed once each year (by your Authorized Dealer) or whenever steering components are disassembled, steering effort has increased or steering seems loose.



Steering Cable Installation

1. Lubricate steering cable end with Quicksilver 2-4-C Marine Lubricant.
2. Install steering cable thru steering cable tube and secure to cable tube with cable attaching nut. (See below) Do not tighten cable attaching nut at this time.
3. Attach Ride-Guide cable to outboard steering bracket (middle hole) using Clevis Kit (P/N 70599A4).
4. Adjust 2 large jam nuts on cable tube of attaching kit, so that **steering wheel** is in normal straight-driving position with outboard in straight-running position. Torque each jam nut to 35 lb. ft. (41.5 N·m), then bend a side of tab washer against flat of each jam nut (below).



- a - Ride-Guide Cable
- b - Ride-Guide Yoke
- c - Pivot Block
- d - Pivot Spacer
- e - 15 in. (Centerline of Attaching Kit Pivot to Centerline of Engine)
- f - Pivot Attaching Locknut [Torque to 20 lb. ft. (27.1 N·m)]
- g - Engine Steering Arm
- h - Clevis Kit
- i - Ride-Guide Cable Attaching Locknut [Torque to 10 lb. ft. (13.6 N·m)]
- j - Bolt (3/8 in. x 2-1/2 in.)
- k - Flat Washer
- l - Transom Bracket
- m - Cable Tube Jam Nut; Torque to 35 lb. ft. (47 N·m)
- n - Tab Washers (Bend Over Flat of Jam Nuts)
- o - Cable Attaching Nut

5. Torque Ride-Guide cable attaching nut (which secures cable to guide tube) to 35 lb. ft. (41.5 N·m) (below). Install locking sleeve over cable attaching nut and secure with cotter pin. Spread ends of cotter pin.

NOTE: Some Ride-Guide steering cables may not be equipped with locking sleeve and cotter pin. If cable being installed does not have these parts, disregard instructions to install them.

⚠ WARNING

After installation is completed (and before operating outboard), check that boat will turn right when steering wheel is turned right and that boat will turn left when steering wheel is turned left. Check steering thru full range (left and right) at all tilt angles to assure interference-free movement.

50568

Maintenance Instructions

Lubrication and maintenance inspection is owner's responsibility and must be performed at intervals as specified following:

Normal Service – Every 50 hours of operation or 60 days (whichever comes first)

***Severe Service** – Every 25 hours of operation or 30 days (whichever comes first)

*Operation in salt water area is considered "Severe Service".

⚠ CAUTION

Core of steering cable must be fully retracted into cable housing before lubricating cable. If cable is lubricated while extended, hydraulic lock of cable could occur.

1. Lubricate outboard end of Ride-Guide steering cable (thru grease fitting next to cable attaching nut) with Quicksilver 2-4-C Marine Lubricant.

NOTE: Ride-Guide Steering cable is lubricated at the factory and requires no additional lubrication at initial installation.



2. Lubricate all steering system pivot points (and exposed portion of steering cable core) with Quicksilver 2-4-C Marine Lubricant. Lubricate at intervals specified preceding.
3. Check steering system components for wear (at intervals specified, preceding). Replace worn parts.
4. Check steering system fasteners (at intervals specified, preceding) to be sure that they are torqued to correct specifications. (Figures 1, 2, and 3)

Selecting Steering Cable and Remote Control Cables

Refer to "Quicksilver Accessories Guide" to determine correct length of steering cables and remote control cables.

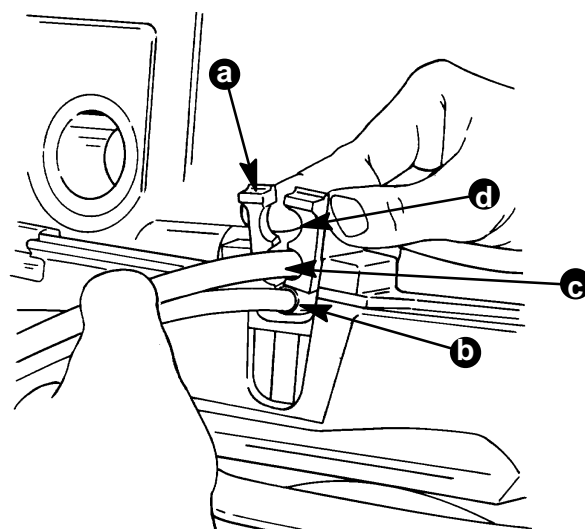
IMPORTANT: Steering cable and remote control cables must be the correct length, sharp bends on too-short cables result in "kinks"; too-long cables require unnecessary bends and/or loops. Both conditions place extra stress on the cables.

Remote Control Installation

IMPORTANT: Install control cables to remote control and mount remote control **BEFORE** attaching control cables to engine.

Install throttle and shift cables to remote control and mount remote control as outlined in the installation instructions which accompany the remote control.

NOTE: It will be necessary to lift control cable rubber grommet out of opening in bottom cowl, so that control cables can be routed thru grommet and into bottom cowl.



50566

- a - Control Cable Rubber Grommet
- b - Shift Cable Opening
- c - Throttle Cable Opening
- d - Remote Control Wiring Harness/Key Switch Wiring Harness Opening

Shift Cable Installation and Adjustment to Engine

NOTE: Attach shift cable to engine first. Shift cable is the first cable to move when remote control handle is advanced from neutral position toward in-gear position.

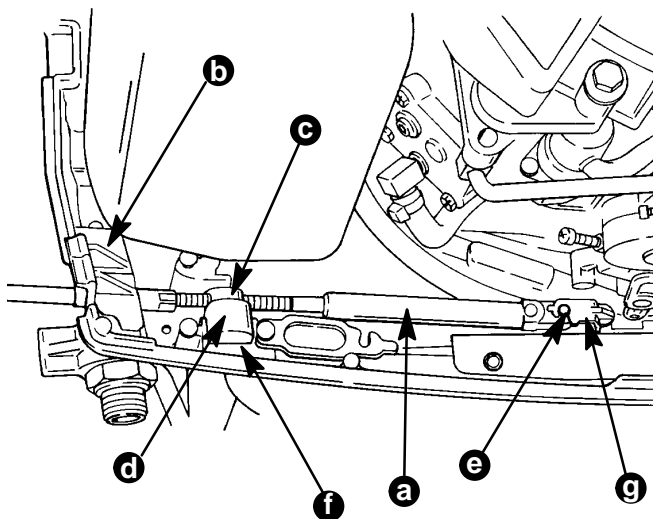
If remote control has a neutral lock release, secure the release in the depressed position using a piece of tape. Now you can locate the true neutral detent.

NOTE: Rotate remote control handle back and forth. You will feel three detent positions; center detent is neutral.

1. Position remote control handle into neutral detent.
2. Manually shift outboard into neutral (propeller will rotate freely).



3. Route shift cable (a) thru control cable grommet (b).
4. Adjust barrel (c) of shift cable to attain the same distance between barrel and hole in end of shift cable guide as exists between barrel receptacle (d) and peg (e) of shift actuator, with a slight preload adjustment toward reverse.
5. Lift barrel receptacle out of recess (f) in bottom cowl, insert shift cable barrel into lower hole of barrel receptacle and position receptacle back down into recess.
6. Place hole in end of shift cable guide over peg of shift actuator and secure with cable retainer (g).

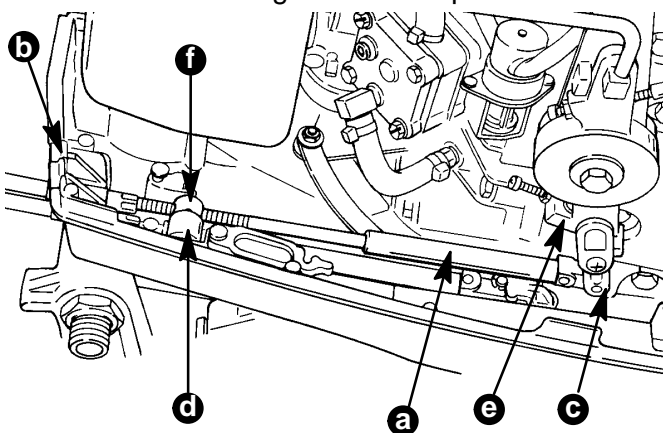


53121

7. Check shift cable adjustment as follows:
 - a. **Shift remote control into forward gear.** Now, check prop shaft, the shaft should not be able to turn counterclockwise. If it does, adjust cable barrel closer to cable end guide.
 - b. **Shift remote control into neutral.** The prop shaft now should turn freely without drag. If not, adjust cable barrel away from cable end guide. Repeat steps a and b.
 - c. **Shift remote control into reverse as the prop shaft is rotated by hand.** The prop shaft should not be able to turn clockwise. If it does, adjust cable barrel away from cable end guide. Repeat steps a thru c.
 - d. **Shift remote control into neutral.** The prop shaft should turn freely without drag. If not, adjust cable barrel closer to cable end guide. Repeat steps a thru d.

Throttle Cable Installation and Adjustment to Engine

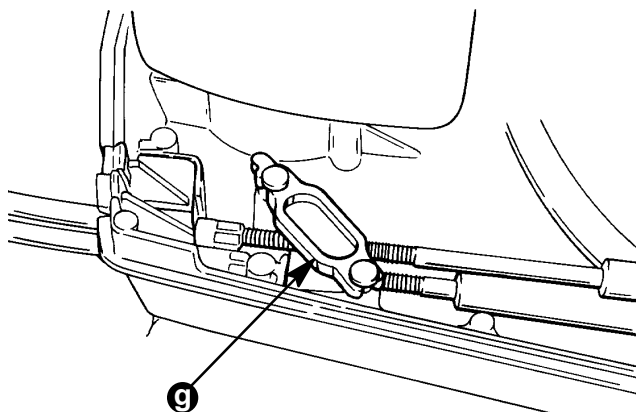
1. Shift remote control into neutral.
2. Route throttle cable (a) thru control cable grommet (b).
3. Place hole in end of throttle cable end guide, over peg of throttle lever and secure with cable retainer (c).
4. Lift barrel receptacle (d) out of recess in bottom cowl, to allow installation of throttle cable barrel into upper hole of receptacle.
5. Holding engine throttle lever (e) against idle stop, adjust throttle cable barrel (f) to slip into upper hole of barrel receptacle, with a very light preload of throttle lever against idle stop.



50564D

50564D

6. Position barrel receptacle back down into recess of bottom cowl and lock receptacle in place with barrel retainer (g).
7. Check preload on throttle cable by placing a thin piece of paper between idle stop screw and idle stop. Preload is correct when paper can be removed without tearing, but has some drag on it. Readjust cable barrel, if necessary.



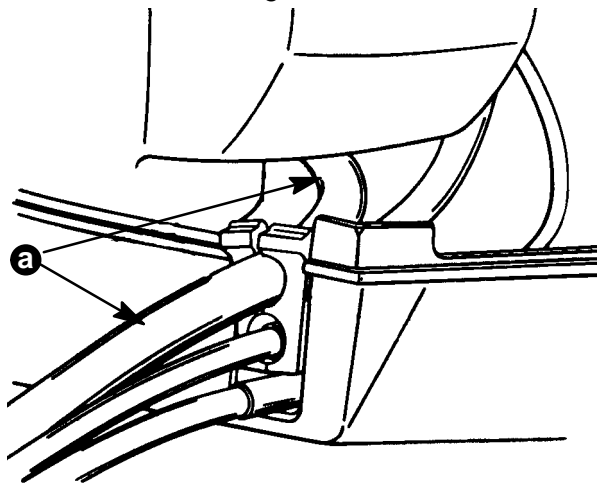
53120



Connecting Remote Control Wiring Harness to Engine Wiring Harness (Electric Start Models)

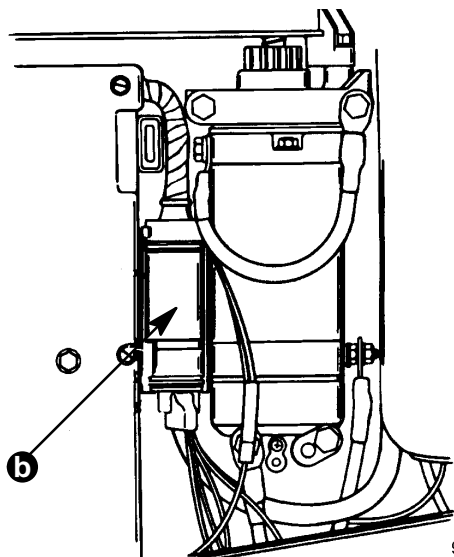
Route remote control harness or key switch harness down side of boat to engine, fastening harness to boat. Be sure that harness does not rub, get pinched or come in contact with bilge water.

Route the remote control wiring harness (a) into bottom cowl thru control cable grommet. Route harness behind oil tank to engine harness connector, located on starboard side of engine.



919-H

Plug remote control wiring harness into engine harness connector (b) and push connection into retainer.



50566

⚠ CAUTION

Remote control wiring harness or key switch wiring harness must be routed between control cable rubber grommet and engine attachment points, so that harness will not interfere with engine throttle and shift operation.



Power Trim Wiring Connections (Models So Equipped)

Make bullet connector wiring connection, between remote control wiring harness/key switch wiring harness and engine wiring.

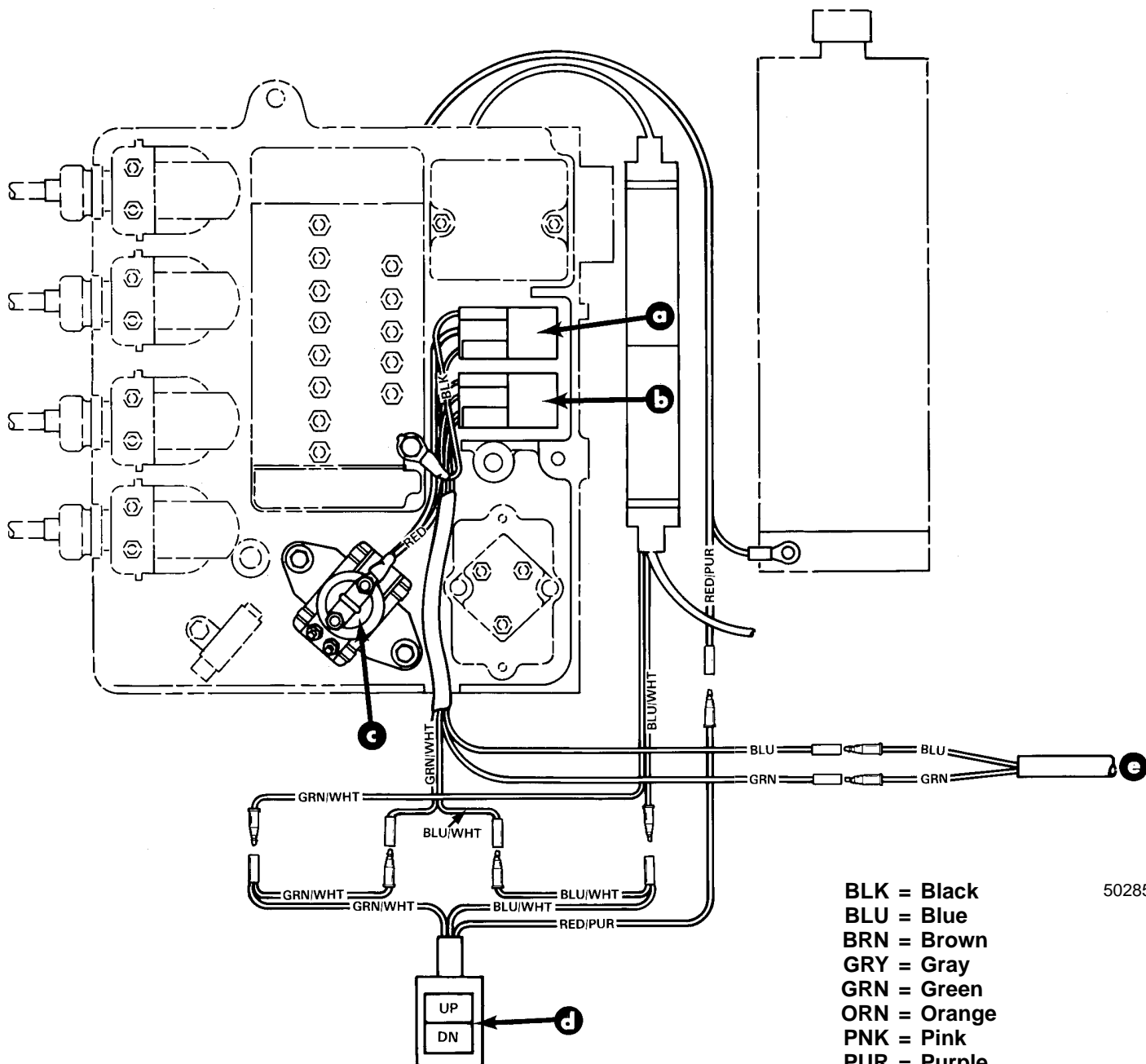
IMPORTANT: Tape back and isolate any unused wiring harness leads.

Battery Connections

⚠ CAUTION

Failure to observe correct polarity when connecting battery cables to battery, will result in damage to the charging system.

1. Connect battery cables (from engine) to battery. Connect red battery cable to positive (+) battery terminal and black battery cable to negative (-) battery terminal.



- a - "Up" Relay Switch
- b - "Down" Relay Switch
- c - Starter Solenoid
- d - Trim Switch
- e - From Control Harness

BLK = Black
 BLU = Blue
 BRN = Brown
 GRY = Gray
 GRN = Green
 ORN = Orange
 PNK = Pink
 PUR = Purple
 RED = Red
 TAN = Tan
 WHT = White
 YEL = Yellow
 LIT = Light
 DRK = Dark

50285



Connecting Remote Control Stop Switch Wiring to Engine Wiring (Manual Start Models)

1. Locate the engine mounted stop switch wiring harness in the bottom cowl and disconnect the black/yellow wire that goes to the switch box.
2. Route the remote control wiring harness (e) into the bottom cowl thru the wiring grommet . Connect the "Y" harness (f) P/N 84-11149A1 (supplied with remote control) between the remote control wiring harness and the disconnected black/yellow wire connections as shown.

