



INSTALLATION INSTRUCTIONS

AND OWNERS MANUAL

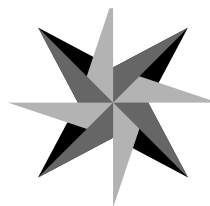
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TWO LEVER TOP MOUNT CONTROLS
WITH LOCKING THROTTLE
INSTRUCTIONS FOR CABLE ASSEMBLY



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TWO LEVER TOP MOUNT CONTROLS WITH LOCKING THROTTLE INSTRUCTIONS FOR CABLE ASSEMBLY

NOTICE

Installer: these instructions contain important safety information and must be forwarded to the boat owner.

NOTICE

The following instructions describe how to attach the cables to the control and how to use the anti-creepback feature of these controls. If you are reading these instructions and are planning to use them, the cables must already be run throughout the boat and a cut-out for the control must appear in the dash. If one of these criteria is not met, contact the boat manufacturer for the complete instruction sheet which details total cable and control installation. If these criteria are met, you may proceed. For attachment purposes, THE OUTER (BLACK) ARMS ARE INTENDED FOR THROTTLE CABLE CONNECTION, FROM ENGINE TO CONTROL, ONLY. IF THE ANTI-CREEPBACK FEATURE IS NOT USED, ALL CABLES SHOULD BE ATTACHED TO THE INNER (YELLOW) ARMS.

NOTICE

Cable installation and connections must be made in accordance with the motor manufacturer's instructions.

To insure best performance, free operation of all linkages and the remote control is essential. Follow the manufacturer's recommended procedures for adjustment and lubrication.

All specifications and features are subject to change without notice.

WARNING

Before starting installation read these instructions and engine makers instructions thoroughly. Failure to follow either of these instructions or incorrect assembly can result in loss of control and cause property damage, injury, or death.

WARNING

DO NOT substitute parts from other manufacturers, they may cause a safety hazard for which SeaStar Solutions cannot accept responsibility.

NOTICE

SeaStar Solutions highly recommends the installation and usage of an engine shut off switch as a important emergency safety feature for boats. This switch should be connected by a cord to the boat driver. Should the driver be thrown from the helm position, the engine will automatically shut off.

This shut off switch is not a standard part of this control. It can, however, be obtained from most marine dealers and distributors.

Installation of Cables

A. BEND RADIUS. When routing the control cables, select a path with the minimum number of bends, making the bends as large as possible. Sharp or frequent bends will result in difficult throttle or shift control, loss of motion, and premature cable wear. **DO NOT MAKE BENDS OF LESS THAN THE RECOMMENDED MINIMUM BEND RADIUS AS NOTED BELOW.**

Cable Type	Minimum Bend Radius
Standard 3300/33C	8"
Xtreme 3300 Cable	4"

For best performance, SeaStar Solutions recommends using Xtreme cables with this control.

B. SUPPORTING THE CABLE. Do not tie or clamp the cable within 36 inches of the control. When supporting the cable beyond 36 inches of the control, cables should be loosely clamped or tied for support at regular intervals.

⚠ CAUTION

Cables must not be bundled together with electrical wiring or the steering cable.

Cables must not rest on sharp edges which can cause chafing.

C. CABLE ROUTING. Cables shall not be installed in areas of excess heat such as on, or close to, exhaust manifolds where temperatures may exceed 212 °F (100 °C).

Single Station Installation Single Engine

STEP 1. Feed the cables up through the dashboard until about two feet protrudes through the dashboard.

STEP 2. Thread pivot (item 15) onto the end of the cable.

⚠ CAUTION

Do not leave more than 3/8" of thread protruding through the pivot.

STEP 3. Determine if the cables should be push or pull to open the throttle and whether push or pull to select forward gear. Cables attach in hole marked "A" in Figure 2 to the front of the control arms for push operation or to the rear of the control arms for pull operation. After installation, tighten cable jamb nuts against pivots.

STEP 4. Place the cables in the cable retainers and secure in place with "U" bolts (18) and nuts (17) ensuring that the "U" bolt is fitted into the proper groove in the cable.

STEP 5. Each handle operates two levers. The outer lever, colored black, provides the anti-creepback feature and is used for throttle only. The inner lever, colored yellow, is direct drive and is used for gearshift. Insert bushing (item 20) into hole marked "A" of the appropriate lever (item 21), ensuring that the larger flange is on the same side as the chamfer on the hole. Slide the small end of the pivot (item 15) through the bushing, which is through the hole in the arm. Slide the flat washer (item 22) over the small end of the pivot. Secure assembly by inserting cotter pin (item 16) through the hole in the small end of the pivot and spreading the cotter pin legs. Refer to Figure 1.

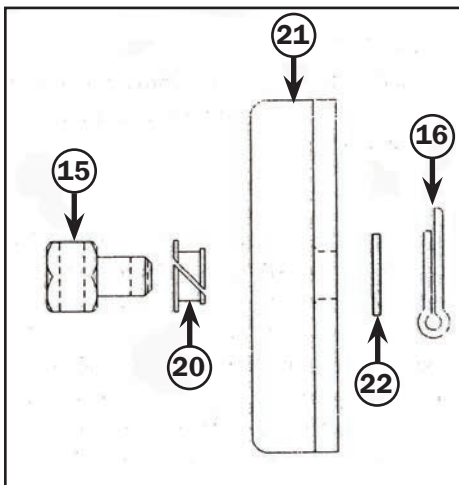


Figure 1.

STEP 6. Install handles onto shafts. Check that the control moves freely from full forward to full reverse positions and ensure that the handle travel is equal in both forward and reverse directions. Secure in place using screw (11). If handle friction is desired, assemble friction spring (19) and set screw (12).

STEP 7. Fasten the control in position in the cut-out, using screws (6), washers (7), and nuts (8). Refer to Figure 2.

STEP 8. Connect the cables to the engine following the engine maker's instructions. Make all adjustments at the engine. After installation and adjustment, tighten cable jamb nuts against pivots.

STEP 9. For the shift handle, install the shift detent ball (14), spring (13), and screw (12). Adjust the screw to give a comfortable feel to the shift handle. Start with the screw flush with the surface of the control.

NOTICE

Excessive tightening of the screw may lead to control malfunction.

Install the four stop screws (10) and adjust them so that the lever just touches the stop screw at the extremes of travel. Install the top dome (3) using screws (9), and install black knob on the shift handle and the red knob on the throttle handle. The control is now ready for test and use. Refer to the last page of these instructions.

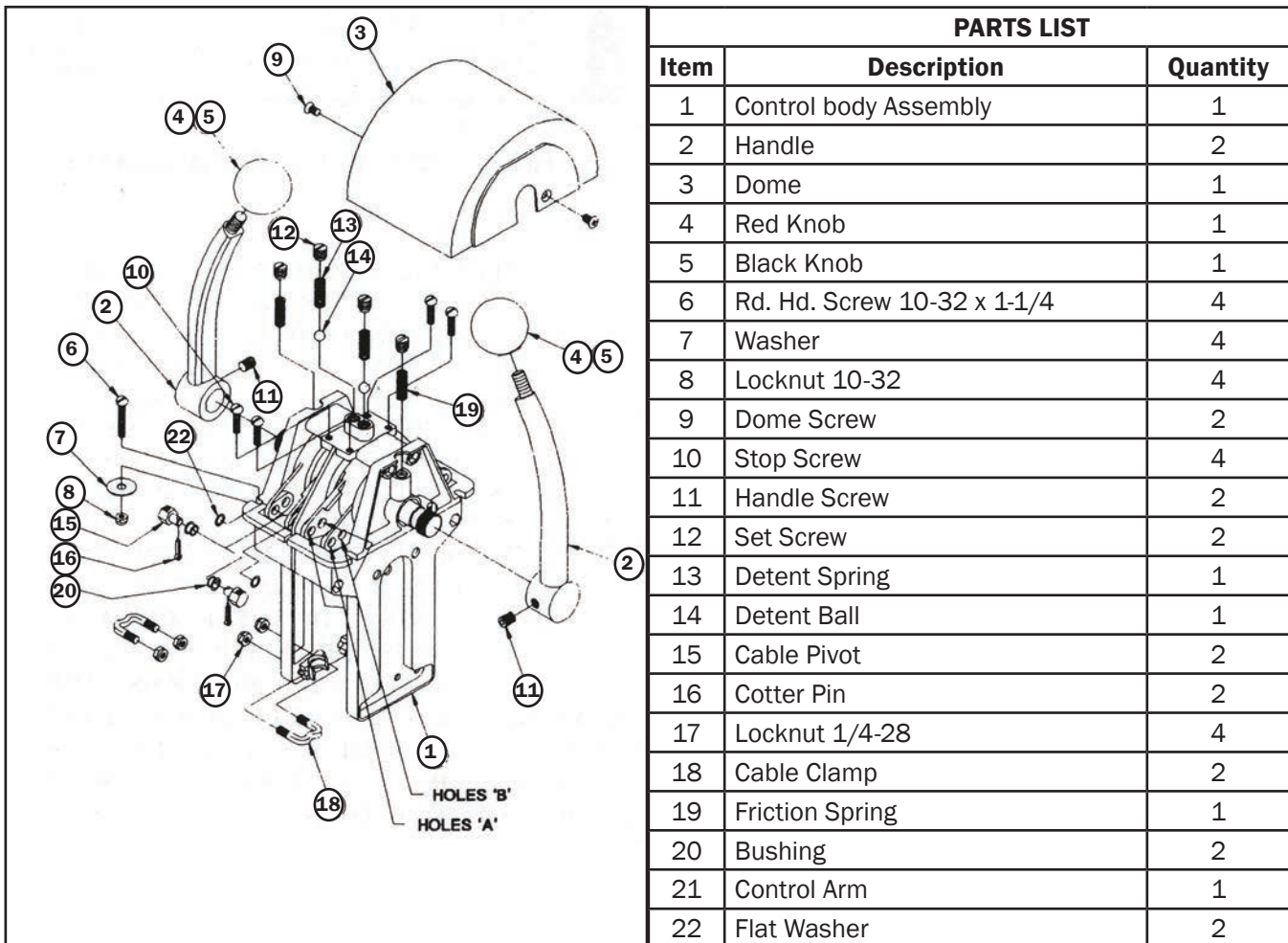


Figure 2.

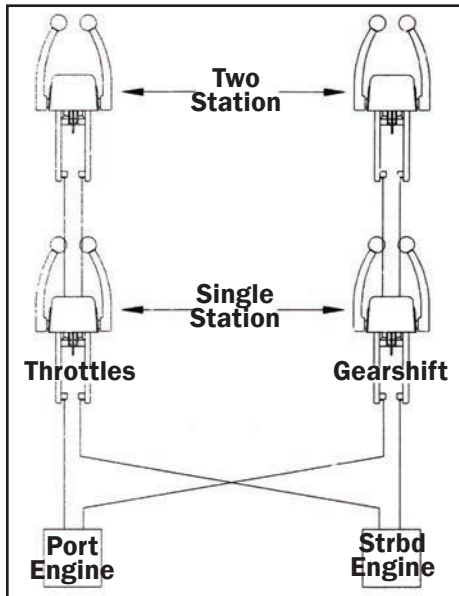


Figure 3.

Single Station Installation Twin Engine

Two controls can be installed as separate controls for each engine by following the instructions for single engine installation for each control. Alternately, the controls can be installed with one control operating both throttles with the other control operating both gearshifts. In that case, follow the instructions for single engine installation except install both throttle cables into one control, ensuring that both cables are attached to the outer (black) levers, if the anti-creepback feature is wanted, with red knobs on the handles. Install both gearshift cables and detents in the other control, ensuring that both cables are installed onto the inner (yellow) levers, with black knobs on both handles. Refer to Figure 3.

Two Station Installation Single Engine

NOTICE

In these installations the upper control handles will not move as far as the lower control handles. Adjust upper handle stops to suit travel.

Install both controls as described in steps 1 through 7, including cables from upper control to lower control. DO NOT connect cables from upper control to lower control at this time. Connect cables to engine as described in instructions for single station installations and make all necessary adjustments. Connect cables from upper control to holes marked "B", ON YELLOW ARM, in Figure 2. Make any adjustments at this point. DO NOT ADJUST LOWER CONTROL TO SUIT UPPER CONTROL.

NOTICE

Kit # CA69022P will connect the cables from the upper control to the lower control.

Two Station Installation Twin Engine

NOTICE

In these installations the upper control handles will not move as far as the lower control handles. Adjust upper handle stops to suit travel.

Install all controls as described in steps 1 through 7, including cables from upper controls to lower controls. DO NOT connect cables from upper controls to lower controls at this time. Connect cables to engine as described in the instructions for single station twin engine installation, with one control operating both throttles and one control operating both gearshifts if required, and make all necessary adjustments. Refer to Figure 3. Cables connecting upper to lower controls must use holes marked "B" on YELLOW ARMS, for shift or throttle. DO NOT ATTACH TO BLACK ARMS: this will cause the control to become inoperative. Having set engine/control adjustments at hole marked "A" per step 8, any further adjustments should be made at the hole marked "B" for the upper cable connections only. Do not readjust lower cables.

NOTICE

Kit # CA69022P will connect the cables from the upper control to the lower control. Two kits required for twin engine installations.

Final System Checkout

Final system checkout must be made with the boat in the water and with engines running. Observe all boat and engine maker's recommendations for operation. Operate the boat with extreme caution until the control system installation is proven satisfactory.

WARNING

When operating shift control ensure that the throttles are at idle. When checking throttles ensure that gearshifts are in neutral to avoid sudden movement of the boat.

When the control is fully tested, adjustments can be made to the friction and detents to give comfortable feel to the controls. **DO NOT APPLY FRICTION TO THE LOWER STATION OF TWO STATION CONTROLS. ALSO, DO NOT INSTALL DETENTS IN BOTH STATIONS OF A TWO STATION INSTALLATION.**

After a few hours of running time, check all components and hardware for security; recheck at regular intervals thereafter.



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