


CH7800 MECHANICAL CONTROL USER MANUAL

Instructions for your Teleflex Marine product.
Please read these instructions through carefully and entirely before using.
All specifications and features are subject to change without warning.



Notice to Boat Manufacturer, Installer, and Boat Operator


Throughout this manual, Warnings and Cautions (accompanied by the International Hazard Symbol ) are used to alert the manufacturer or installer to special instructions concerning a particular service or operation that may be hazardous if performed incorrectly or carelessly.

Warnings alone do not eliminate dangers, nor are they a substitute for safe boat handling and proper accident prevention measures.

Observe these alerts carefully!

These “safety alerts” alone, cannot eliminate the hazards that they signal. Strict compliance to these special instructions when installing, operating or performing maintenance and using common sense are the most effective accident prevention measures.

 DANGER
Immediate hazards which will result in severe personal injury or death.

 WARNING
Hazards or unsafe practices which COULD result in severe personal injury or death.

 CAUTION
Hazards or unsafe practices which COULD result in injury, product and/or property damage.

NOTICE
Information that is important to proper installation, operation or maintenance, but is not hazard-related.

For example:

CAUTION

Do not tighten cable hangers or clamps to the extent that they crush or stress the cables in any way. Doing so may impair the function of the cable.

The information contained in this manual is believed to be accurate at the time of going to print but no responsibility, direct or consequential, can be accepted for damage resulting from the use of this information. The manufacturer reserves the right to make changes, without notice, to any of its products.

INTRODUCTION

This Teleflex Marine Control provides both shift and throttle operation for outboards, inboards or I/Os (stern drives).

We recommended the use of Teleflex TFXTREME® control cables.

Standard Control Features

Single lever shift and throttle operation
Neutral Throttle Warm-up
Neutral Safety Switch to prevent starting in gear
Friction Damper to prevent throttle creep

Control Options

Trim Switches
Trim & Tilt Switches

Adaptability

Control Cable

This control will connect to many current 3300/33C or OEM type control cables. A cable nest kit (also known as a quick-connect adaptor; part # 212151-003), which mates to the engine's shift and throttle cables, **is included with this control.**

NOTICE

Note: Unique Cable Nests, required for Merc Gen II control cables only, are also included with the control.

CONTROL FEATURES AND OPERATION

1. NEUTRAL THROTTLE WARM-UP BUTTON

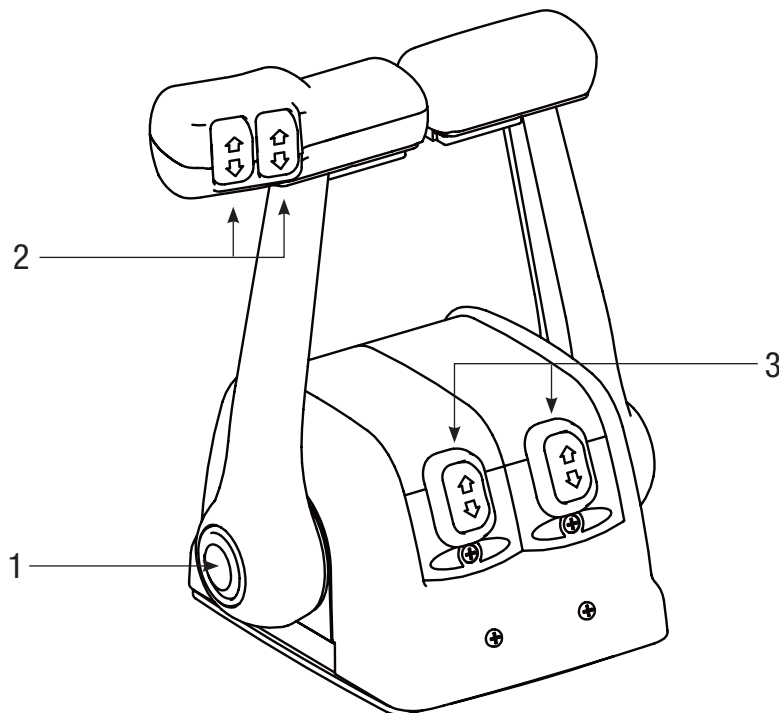
- This feature provides a throttle only option to warm-up the engine before driving the boat.
- When the Control Hand Lever is in **Neutral**, push and hold the button at the base of the handle. While holding the button **(1)**, move the lever forward to throttle up the engine.
- When you return the handle to the Neutral position, the button will reset automatically.
- Once the button resets the hand lever will work both shift and throttle functions.

2. ENGINE TRIM SWITCH

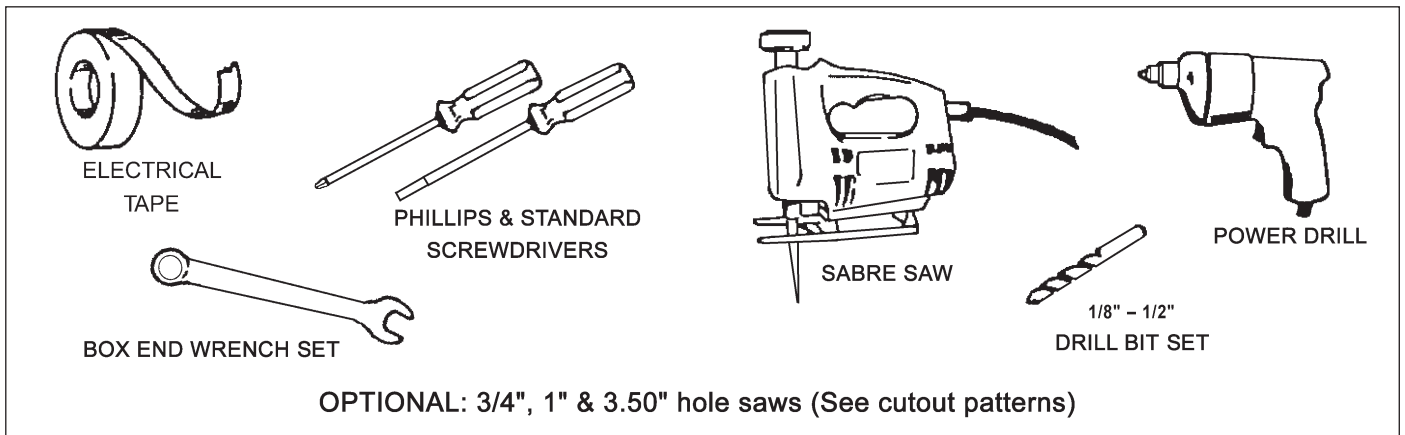
- Used to move the engine IN or OUT to level the boat while underway.

3. TRAILER TILT SWITCH

- Used to raise the engine for trailering the boat.



TOOLS NEEDED FOR INSTALLATION & OEM EQUIPMENT APPLICATIONS



Other Equipment Needed

1. Four each Teleflex 3300/33C type cables, or four each OMC/BRP OEM type cables, or four each Mercury/Mariner/Force OEM type cables. (2 for shift 2 for throttle).
2. Throttle and Shift engine connection kits.
See Teleflex Catalog/contact your nearest Teleflex dealer.

OEM Equipment Applications

OMC/BRP applications would include:

Outboards: Evinrude and Johnson

I/Os (Stern Drives): OMC, some Volvo

Mercury applications would include:

Outboards: Mercury, Mariner, most Force

I/Os (Stern Drives): MerCruiser

Inboards: Mercury and MerCruiser

(Where a particular engine brand is noted in the illustrations on page 9, those cable mounting locations are for OEM type cables (not the "universal" 3300/33C type)

INSTALLATION

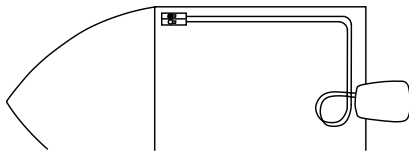
Location of Control

1. Allow adequate clearance for hand lever swing (**forward** and **reverse** positions).
2. Allow adequate clearance under the console or in the gunwale for the cables AND **allow a minimum of 36" from the cable nest connection with no restraint**. When supporting the cables beyond 36", do not tie or clamp tightly.
3. After a suitable location for the control is determined, use the separate mounting template.
4. Closely follow the instructions provided on the template. Cut & drill the mounting holes required.

On all models, the cover will have to be removed to expose the mounting holes.

Measuring the Cables

Measure the cable routing path from the control head connection to the engine connection.

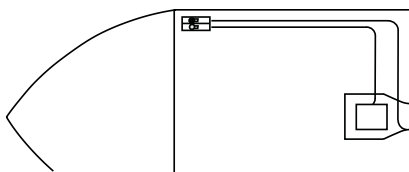


TYPICAL OUTBOARD CABLE ROUTING
(MEASURE CABLE PATH + ROUND UP
TO NEXT EVEN FOOT + ADD 4 FEET FOR
LOOP AT ENGINE TO PREVENT KINKING)

Outboards:

1. Measure from the control connection — along an unobstructed cable routing — to the center of the outboard engine.
2. **Add four (4) feet** to the measurement to allow for a loop which provides unrestricted engine movement. Round **UP** to the next whole foot and order the required cable part number.

(Last two digits of the Teleflex cable number equal the length of the cable in feet.)



TYPICAL STERN DRIVE/INBOARD
CONTROL CABLE ROUTING
(MEASURE CABLE PATH +
ROUND UP TO NEXT EVEN FOOT)

Inboards & Stern Drives:

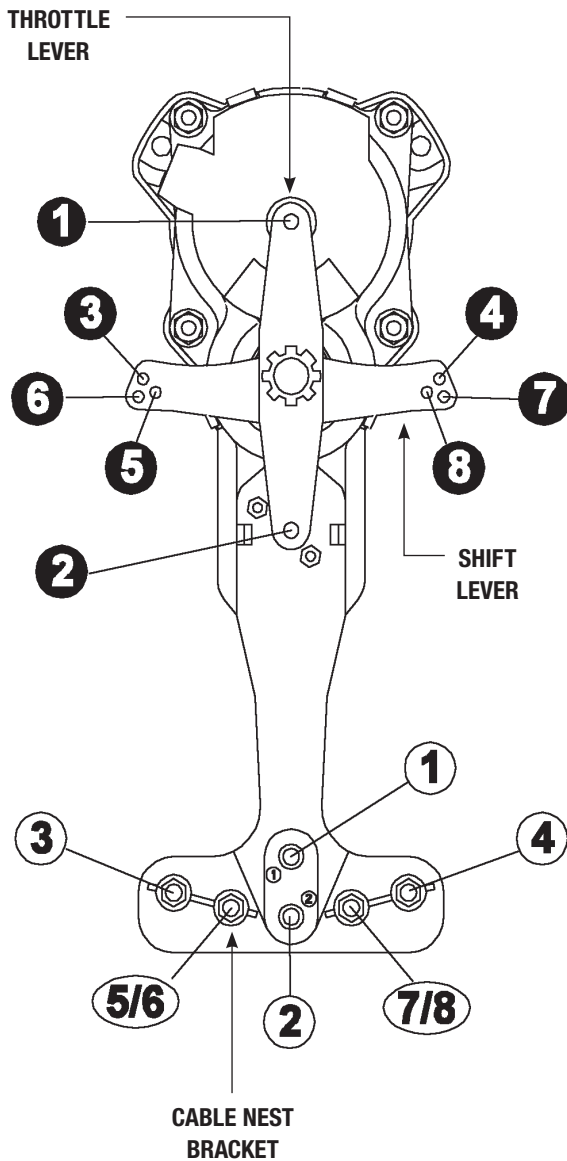
1. Measure from the control connection — along an unobstructed cable routing — to the SHIFT or THROTTLE connection. Round this dimension **UP** to the next whole foot and order the required cable part number.

(Last two digits of the Teleflex cable number equal the length of the cable in feet.)

Shift Cable Connection Control End

- PUSH / PULL refer to the direction of cable motion to shift into “forward” or to “open” the throttle
- Refer to the appropriate manufacturer’s manual for shift and throttle direction and adjustments
- **Numbered holes on mechanism chassis correspond to holes in shift and throttle levers** (for example: connect cable mount to hole 4 on chassis and cable end fitting to hole 4 on lever)
- Cables and wiring should be pre-installed on control before final mounting is made

Cable Mounting Diagram



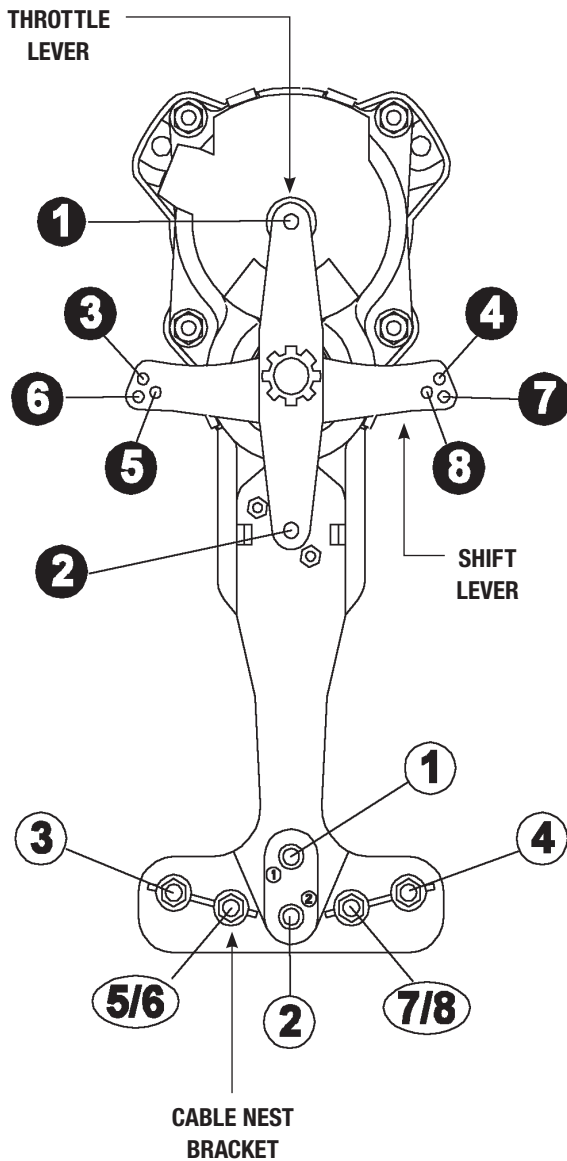
PUSH for FORWARD SHIFT				
	PORT		STARBOARD	
MANUFACTURER	CABLE NEST KIT	SHIFT LEVER	CABLE NEST KIT	SHIFT LEVER
VOLVO I/O & INBOARDS DPX, DP-G, DP-E, 290	# 3	# 3	# 4	# 4
3300 CABLES	# 3	# 3	# 4	# 4
MERCURY18 & 25 HP	# 5/6	# 6	# 7/8	# 7
EVINRUDE / JOHNSON	#5/6	# 5	# 7/8	#8
INBOARDS	# 3	# 3	# 4	# 4

PULL for FORWARD SHIFT				
	PORT		STARBOARD	
MANUFACTURER	CABLE NEST KIT	SHIFT LEVER	CABLE NEST KIT	SHIFT LEVER
3300 CABLES	# 4	# 4	# 3	# 3
MERCURY	# 7/8	# 7	# 5/6	# 6
EVINRUDE / JOHNSON	# 7/8	# 8	# 5/6	# 5
HONDA / NISSAN / SUZUKI	# 4	# 4	# 3	# 3
TOHATSU / US MARINE	# 4	# 4	# 3	# 3
YAMAHA	# 4	# 4	# 3	# 3
INBOARDS	# 4	# 4	# 3	# 3

Throttle Cable Connection Control End

- PUSH / PULL refer to the direction of cable motion to shift into “forward” or to “open” the throttle
- Refer to the appropriate manufacturer’s manual for shift and throttle direction and adjustments
- **Numbered holes on mechanism chassis correspond to holes in shift and throttle levers** (for example: connect cable mount to hole 4 on chassis and cable end fitting to hole 4 on lever)
- Cables and wiring should be pre-installed on control before final mounting is made

Cable Mounting Diagram

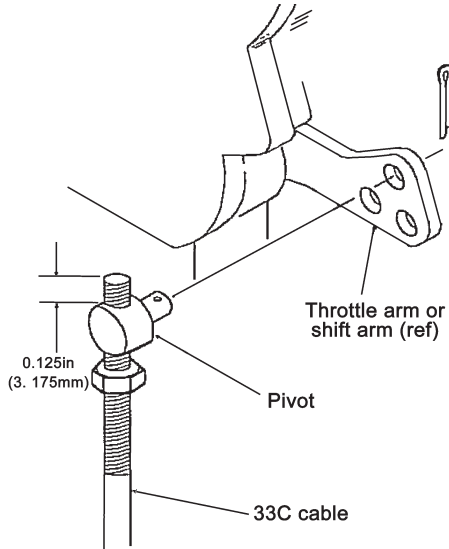


PUSH to OPEN THROTTLE				
	PORT		STARBOARD	
MANUFACTURER	CABLE NEST KIT	THROTTLE LEVER	CABLE NEST KIT	THROTTLE LEVER
MERCURY18 & 25 HP	# 1	# 1	# 1	# 1
JOHNSON / EVINRUDE	# 1	# 1	# 1	# 1
BRP/OMC I/O	# 1	# 1	# 1	# 1
YAMAHA 90HP & UP	# 1	# 1	# 1	# 1
US MARINE	# 1	# 1	# 1	# 1
SUZUKI	# 1	# 1	# 1	# 1

PULL to OPEN THROTTLE				
	PORT		STARBOARD	
MANUFACTURER	CABLE NEST KIT	THROTTLE LEVER	CABLE NEST KIT	THROTTLE LEVER
MERCURY I/O & O/B	# 2	# 2	# 2	# 2
VOLVO I/O	# 2	# 2	# 2	# 2
YAMAHA 70HP & UNDER	# 2	# 2	# 2	# 2
HONDA	# 2	# 2	# 2	# 2
NISSAN / TOHATSU	# 2	# 2	# 2	# 2

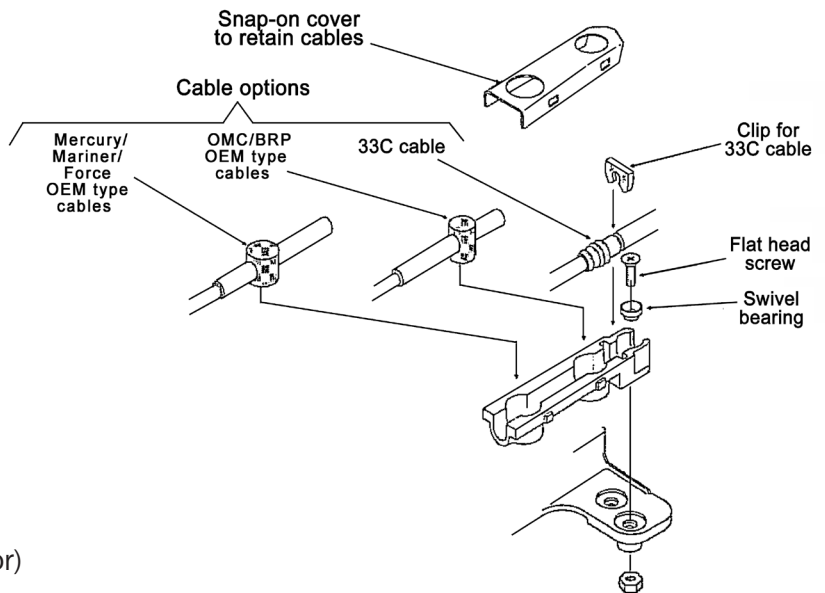
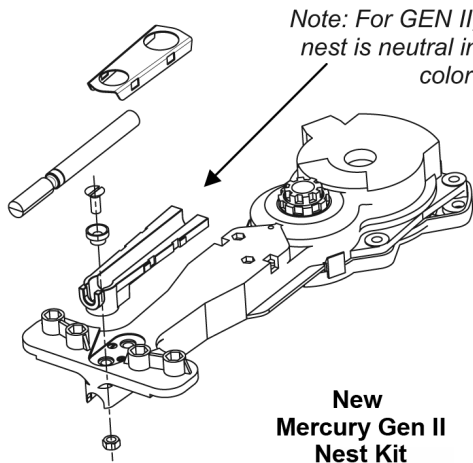
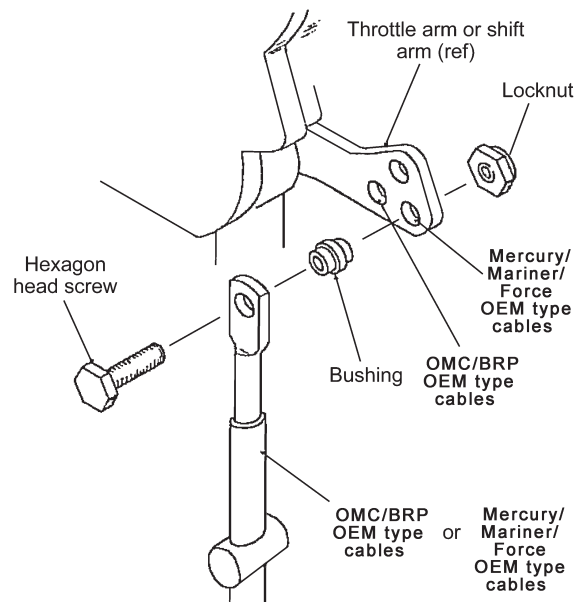
Shift & Throttle Cable Connection — Control End

Shift Arm Cable Terminal Connection for 3300/33C Type Cables



CABLE ROD END SHOULD EXTEND APPROX. 0.125in (3.175mm) THROUGH PIVOT

Shift Arm Cable Terminal Connection for Mercury/Mariner/Force OEM and OMC/BRP OEM Type Cables



Cable End Options

- Mercury Gen II (note **neutral** next color)
- 3300/33C type cables (Universal) (note black nest color)
- Mercury/Mariner/Force OEM type cables (note black nest color)
- BRP/OMC OEM type cables (note black nest color)

Each cable type connects differently.

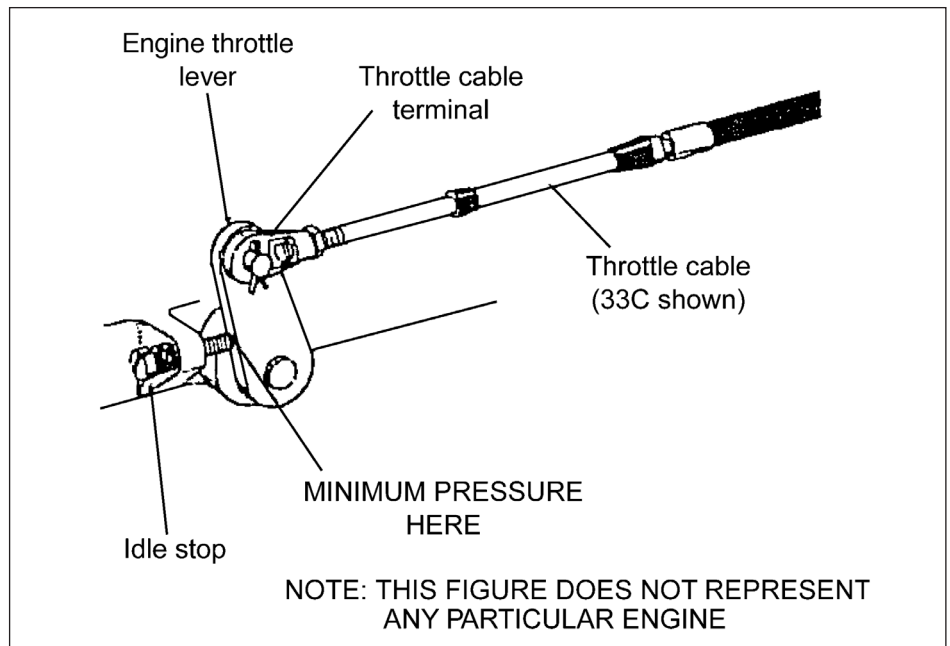
Shift & Throttle Cable Connection — Engine End

⚠ CAUTION

The throttle cable must be disconnected from the motor before making motor idle adjustments.

Adjustment of the motor idle while the throttle cable is connected to the motor may cause jamming action against the idle stop. As a result, the control may not function properly and damage to the control, the cable and/or the motor may occur.

1. Make sure the Control is in **NEUTRAL DETENT**.
2. The Engine Throttle Lever should rest lightly against the “Idle Stop” on the carburetor.
3. Connect the Throttle Cable to the Engine Throttle Lever.
4. To assure smooth control operation and avoid preloading of system. Put hand lever into full forward throttle before connecting cable to shift lever and transmission linkage. Refer to engine manufacturers recommendations for attaching cable to transmission shift lever.



NOTICE

Throttle Cable must be free of load (NO LOAD) when throttle lever is in the idle position to prevent hard shifting.

Electrical Connections

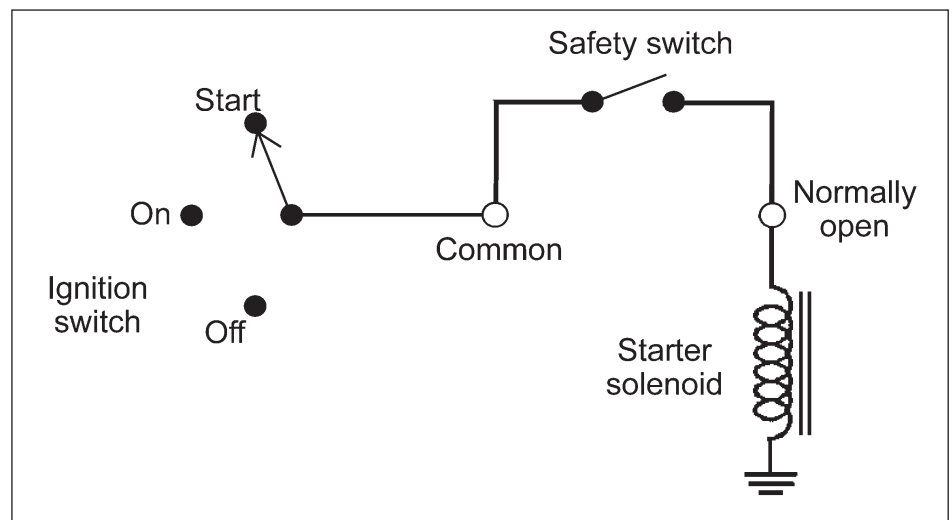
Neutral Safety Switch

This control is provided with a Neutral Safety Switch. This switch is used to prevent the engine from starting in gear.

NOTICE

Use a battery-powered test light or test meter to check continuity.

1. With the Control in NEUTRAL, connect one wire of the tester to the common terminal, and one wire to the "NO" (Normally Open) Terminal. The test light **MUST** light.
2. Connect the neutral safety switch between the ignition switch (start lead) and the starter solenoid



⚠ CAUTION

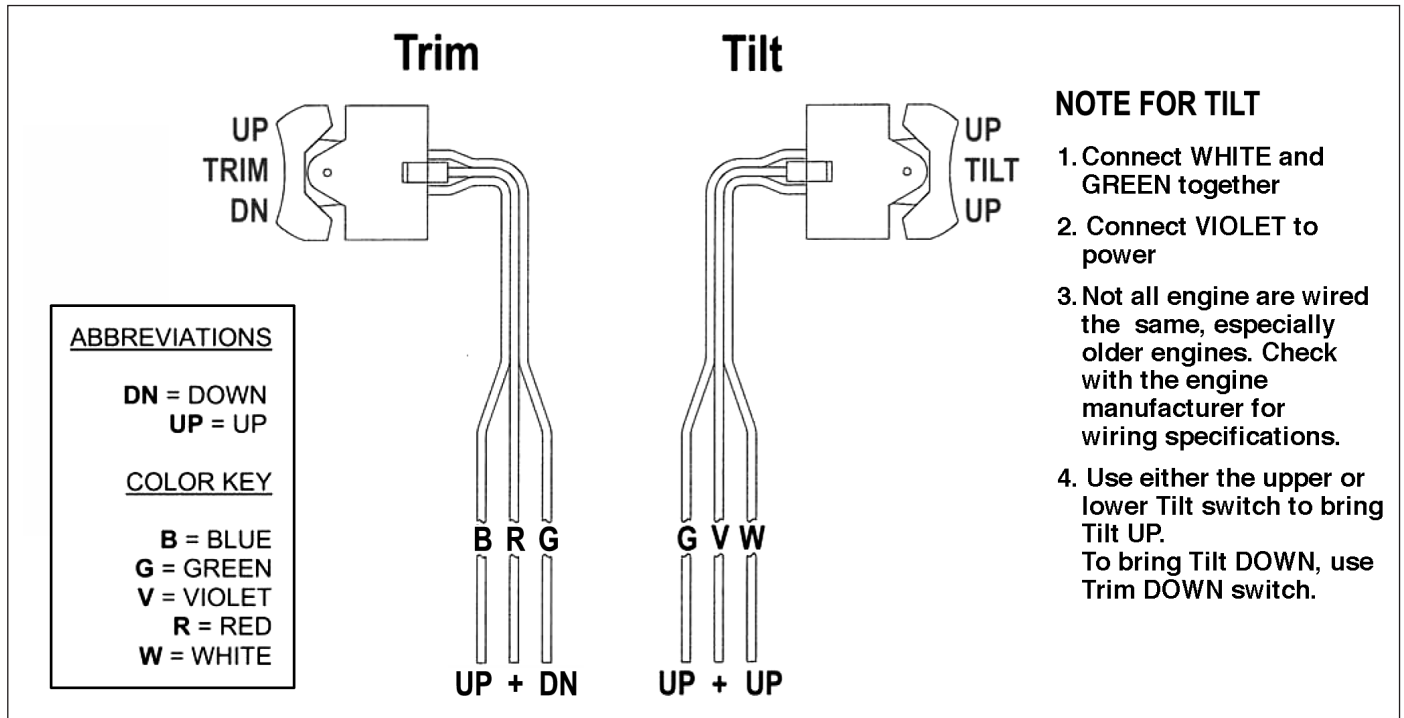
Use a multi-meter or continuity tester to make sure that there is electrical continuity only when the control is in neutral position. When the control is in forward or reverse gear there must not be electrical continuity. The multi-meter or tester should show an open circuit.

Trim and Tilt

Refer to the wiring diagrams (below) for the correct "Trim" and "Tilt" switch connections and wire accordingly.

NOTICE

On both 3-wire AND 5-wire systems: reverse the blue and green connections for opposite "trim" operation.



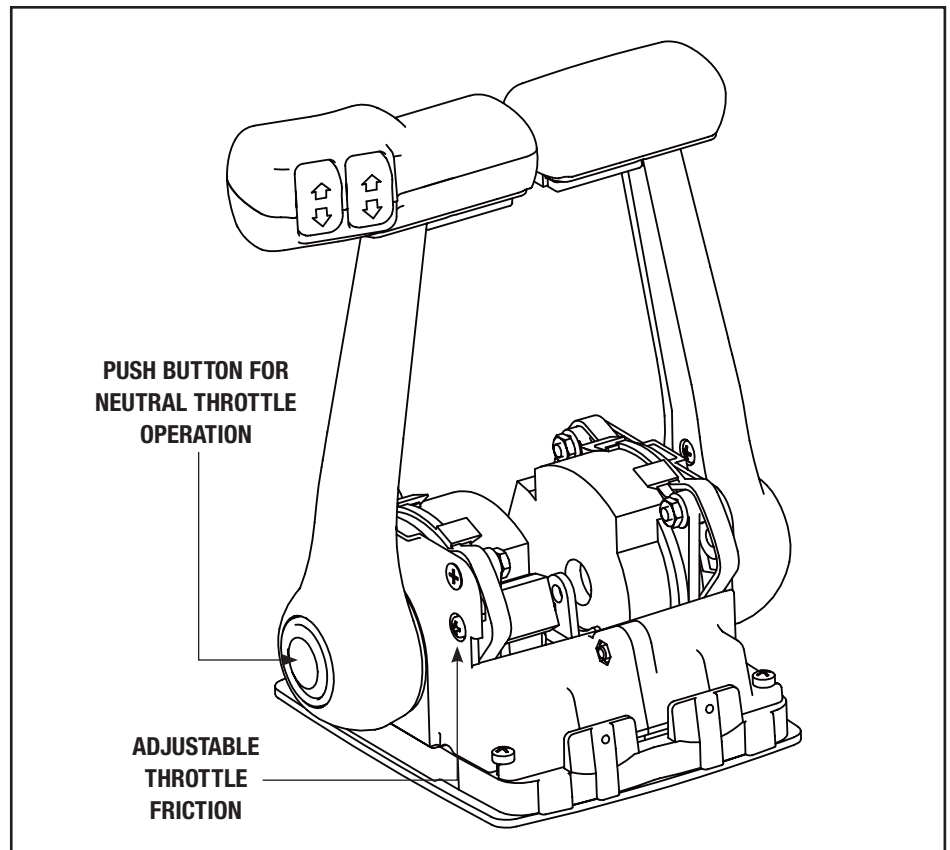
CH7800 OPERATION

Push Button

Used for starting or engine warm-up. When the hand lever is in the neutral detent position, depress the button in the center of the handle to enable operation of the throttle without engaging forward or reverse gear. When warm-ups is completed, return the lever to the neutral position: the button will pop back out, making the control ready for normal operation.

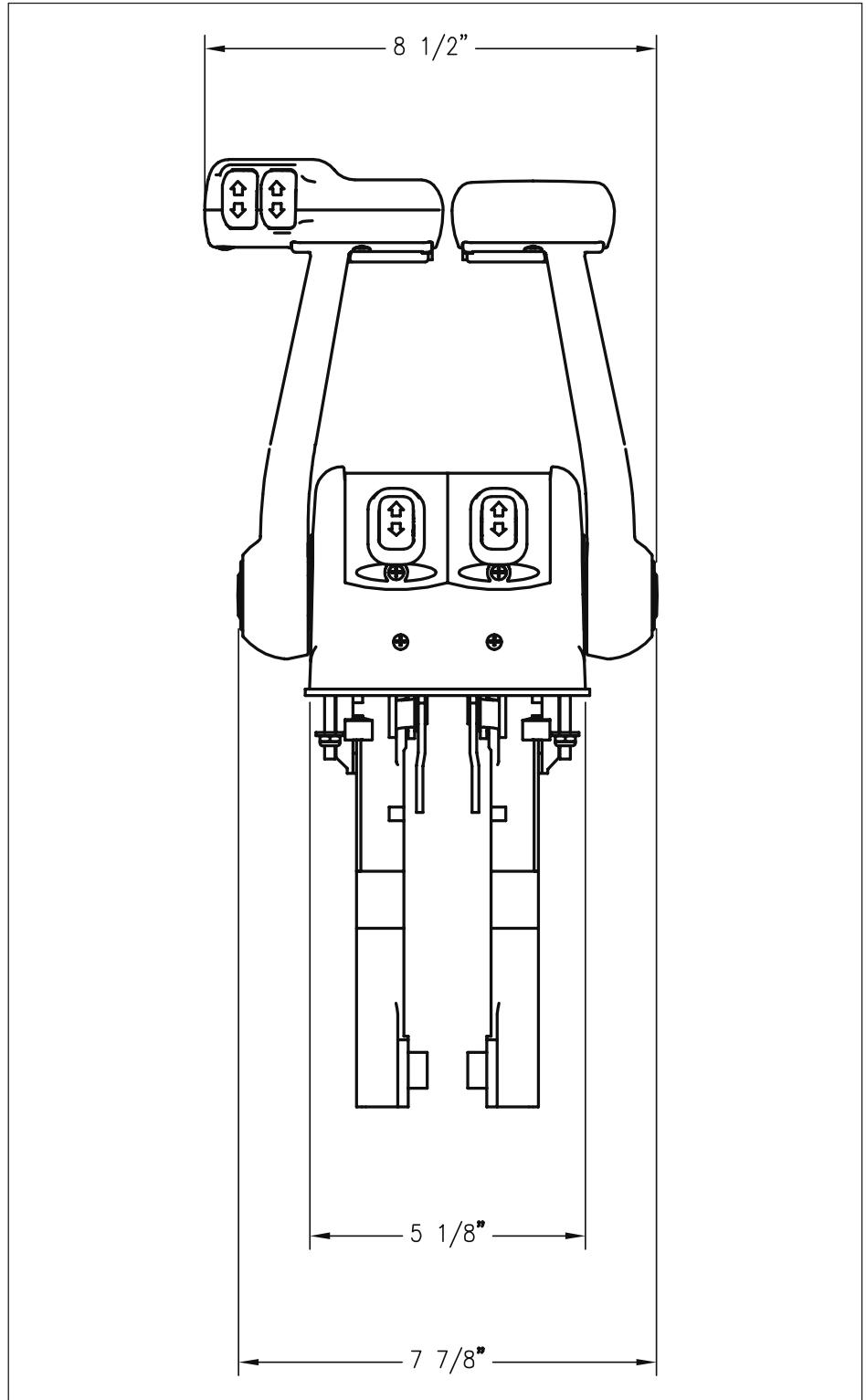
Throttle Friction Adjustment

Adjustment of this screw enables the friction in the throttle operating mechanism to be increase and prevent unwanted handle movement. To adjust, place the hand lever in the forward or reverse throttle position (just beyond the shift position) Remove the cover and adjust the throttle friction screw; turning the screw clockwise increases the friction. Care should be taken not to over tighten.

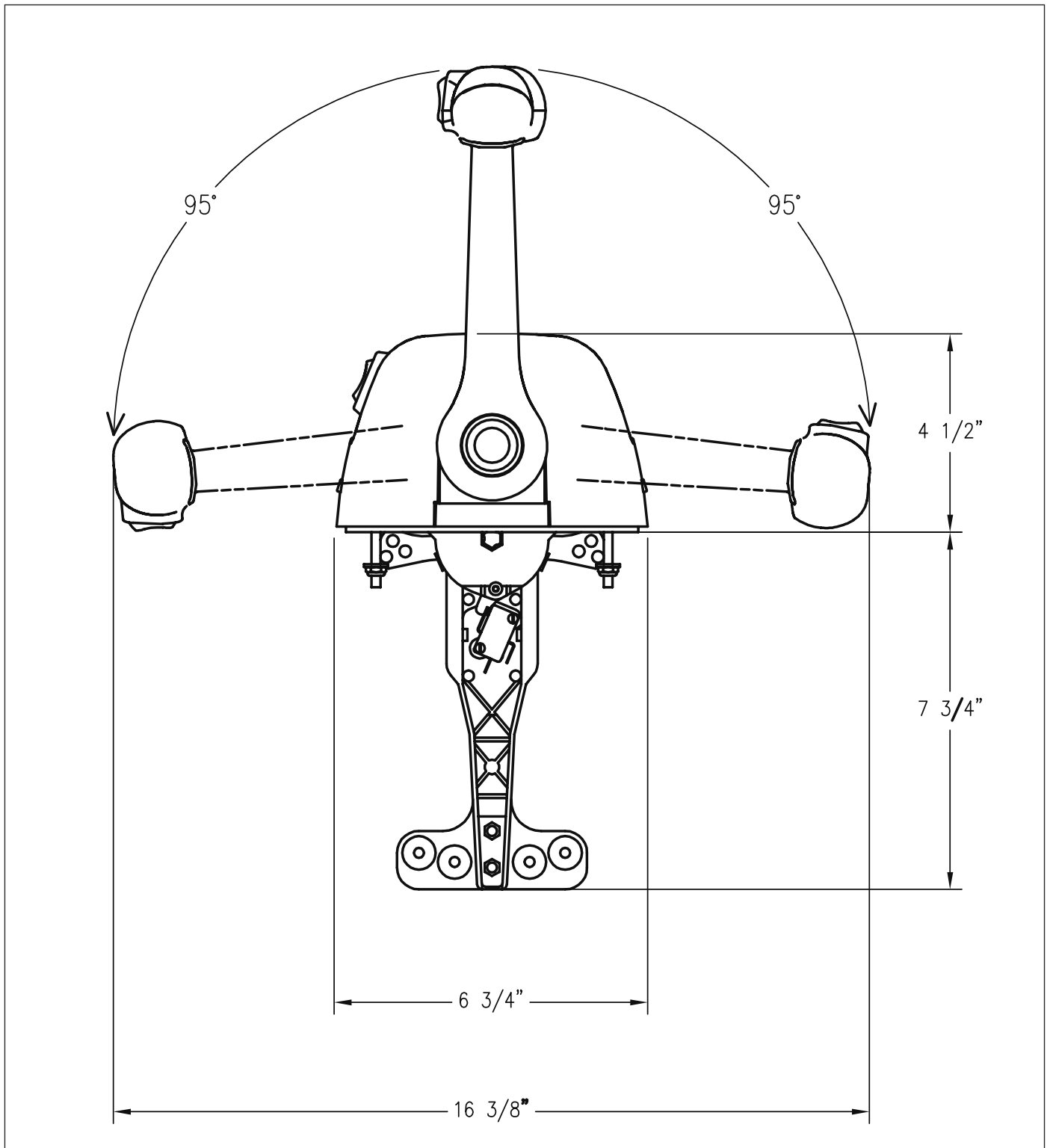


CH7800 GENERAL DIMENSIONS

Front View



Side View



MAINTENANCE

Maintenance and Corrosion Protection

For maximum protection, especially in a salt water environment the Control Head and Hand Lever should be washed with fresh water on a regular basis.

Periodically check the Control Head Mechanism for loose fasteners and signs of wear on moving parts. Keep these moving parts well lubricated with a high-quality, moisture-displacing lubricant, such as marine grease.

Periodically check the cables and engine connections for signs of wear and corrosion. Replace as necessary.

Service Parts Kits

All service parts can be purchased from your local Teleflex Marine Distributor.

PART DESCRIPTION	PART NUMBER
Cable Nest and Connection Kit (includes Mercury Gen II Nest)	212151-003
Chrome Insert Kit (with and without tilt cut-out)	7214311
Black Insert Kit (with and without tilt cut-out)	7214518
Neutral Throttle Warm up Kit	
Flexible Button	309172
White Plunger	309184
Tilt switch with Inserts (1 Chrome, 1 Black)	7206216

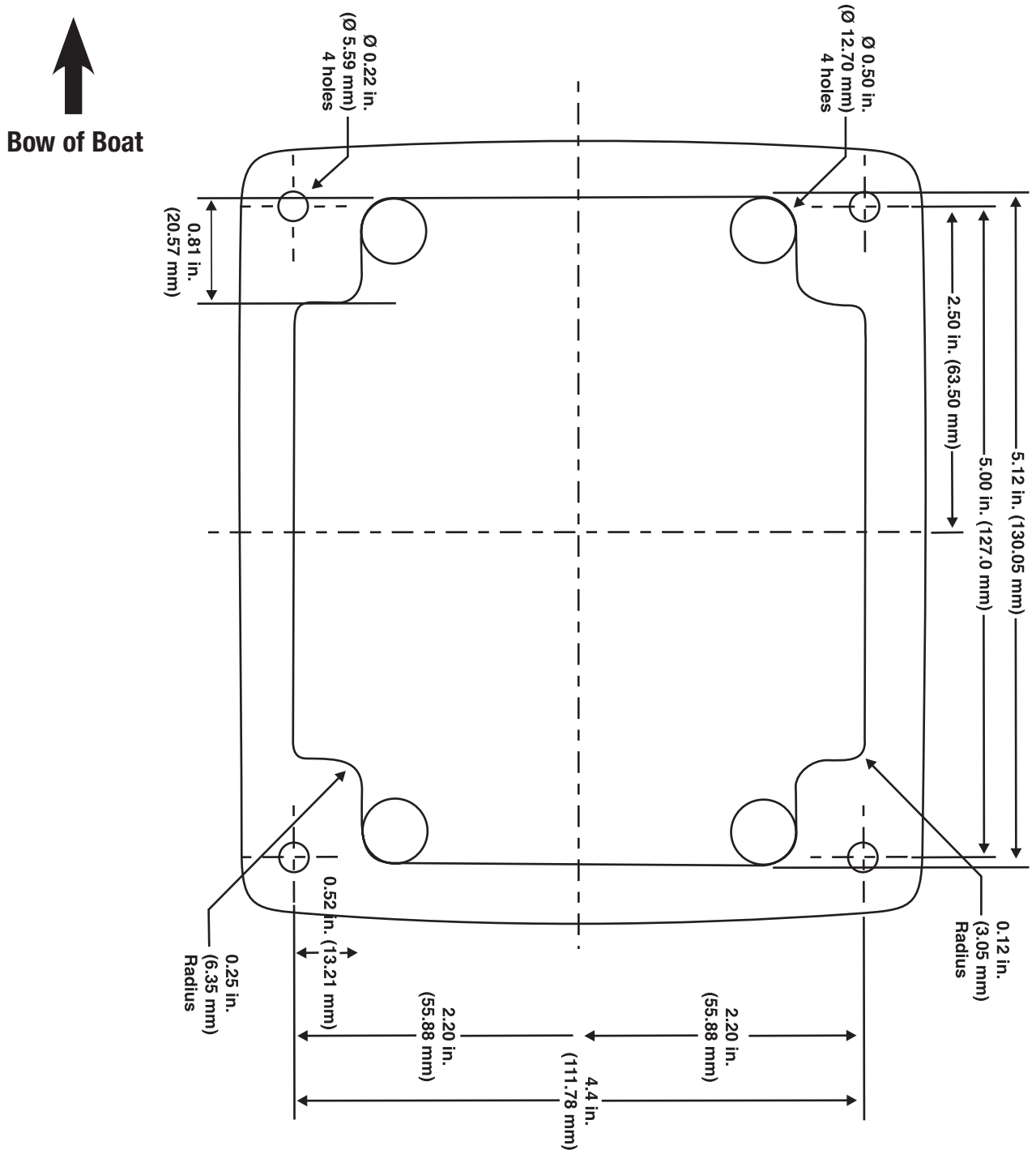
NOTICE

A quantity of 2 is needed for ALL above products for complete control.

MOUNTING TEMPLATE

NOTICE

This template is NOT to scale. Its presence is for information purposes. A separate work template — part number 309569 — has been included with this control.



2 YEAR LIMITED WARRANTY

The Teleflex Marine division of Teleflex Incorporated, (“Teleflex Marine”), warrants its products to be free from defects in materials and workmanship for a period of two years from the date of original retail purchase, provided, however, the warranty period for Teleflex Marine products used commercially or in any rental or other income producing activity shall be as follows:

- Ninety days from the date of original purchase for mechanical and electrical products; and
- One year from the date of original purchase for hydraulic products.

We will provide replacement product without charge for any Teleflex Marine product covered by this warranty, which is returned (freight prepaid) within the warranty period to the dealer from whom such products were purchased, or to us at the appropriate address. In any such case, Teleflex Marine products found to be defective and covered by this warranty will be replaced or repaired at Teleflex Marine’s option, and returned to the customer. Teleflex Marine’s sole responsibility under this warranty is limited to the repair or replacement of product which is, in Teleflex Marine’s opinion, defective. Teleflex Marine is not responsible for charges connected with the removal of such product or reinstallation of replacement or repaired parts.

We will have no obligations under this warranty for any product which:

- has been improperly installed;
- has been used in an installation other than as recommended in our installation or operation instructions or specifications;
- has failed or has been damaged due to an accident or abnormal operation including racing, misuse or alterations outside our factory;
- has been repaired or modified by entities other than Teleflex Marine;
- has been used on an engine/boat combination where the engine horsepower exceeds the rating established by the boat manufacturer;
- has been used with other product(s) which, in Teleflex Marine’s opinion, are incompatible with the Teleflex Marine product.

THE EXPRESS WARRANTY SET FORTH ABOVE IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. TELEFLEX MARINE EMPLOYEES’ OR REPRESENTATIVES’ ORAL OR OTHER WRITTEN STATEMENTS DO NOT CONSTITUTE WARRANTIES, SHALL NOT BE RELIED UPON BY CUSTOMER, AND ARE NOT A PART OF THE WARRANTY STATED HEREIN. THIS WARRANTY WILL BE THE CUSTOMER’S EXCLUSIVE REMEDY. IN NO EVENT WILL TELEFLEX MARINE BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY RELATING TO THE PRODUCTS. Some states do not allow limitations on an implied warranty, or the exclusion of incidental or consequential damages, so the above exclusions may not apply to you. You may also have other rights which vary from state to state.

If any part of this Limited Warranty is determined to be void or illegal, the remainder shall remain in full force and effect.

Teleflex Marine products returned under this warranty must be tagged with the customer’s name, street address, and phone number to ensure proper handling, and returned freight prepaid to the selling dealer or to the appropriate Teleflex Marine manufacturing facility.

Warranty Items — Teleflex Mechanical, Electrical, Hydraulic Only:

Teleflex Marine field representatives are authorized to investigate any allegedly defective merchandise in the field. They can request credit, disposal, and/or return of these products during the course of their regular visits to the customer’s facilities once they have the facilities’ approval.

**CH7800 Mechanical
Engine Controls
User Manual**

APPLICABLE STANDARDS

ABYC P-14, Propulsion Control Systems
USCG 33 CFR Part 183, Subpart "L", "Start in Gear Protection"

SAFE BOATING STATEMENT

This device meets or exceeds the applicable ABYC, ISO, and USCG safe boating rules, regulations, standards, and guidelines.

SAFE BOATING ON THE WEB

U.S. Coast Guard: www.uscg.mil
U.S. Power Squadron: www.usps.org
American Boat & Yacht Counsel: www.abycinc.org

Teleflex®
MARINE

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