

TELEFLEX MARINE PRODUCTS

OWNER'S MANUAL

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

FOR

CH5300P AND CH5310P MT-3 CONTROLS

Teleflex®
MARINE

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055001-578 Rev 1

October 2009

ALL SPECIFICATIONS AND FEATURES ARE SUBJECT TO CHANGE WITHOUT NOTICE

INTRODUCTION

The Teleflex Marine Model CH5300P and CH5310P Controls provide both shift and throttle operation for outboards, inboard/outboards, or inboards with hydraulic* transmissions, or small, manual transmissions (Hurth, Yanmar) with light shifting loads of 15 lbs. (6.8kg) max. It can be used with Teleflex Marine 33C or TFXTREME Cables. A Heavy Duty Kit (Part Number 308725) is available for a 43C Cable, when said Cable is used on the CH5310P Single Control.

NOTE: 43C CABLES CANNOT BE USED ON THE CH5300P TWIN CONTROL.

*Allison, Borg Warner, Capitol, Caterpillar, Paragon, Twin Disc, ZF

STANDARD CONTROL FEATURES

- SINGLE LEVER OPERATION.
- NEUTRAL THROTTLE WARM-UP.
- NEUTRAL SAFETY SWITCH TO PREVENT STARTING IN GEAR.
- ADJUSTABLE SHIFT STROKE TO ACCOMMODATE MOST TRANSMISSION APPLICATIONS (REFER TO FIGURE 2).

IMPORTANT SAFETY NOTICES

TELEFLEX MARINE HIGHLY RECOMMENDS THE INSTALLATION, AND USAGE OF, AN ENGINE EMERGENCY SHUT-OFF SWITCH (SOMETIMES CALLED A "KILL" SWITCH) AS AN IMPORTANT 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 THE CONTROL YOU ARE USING. IT CAN, HOWEVER, BE OBTAINED FROM MOST MARINE DEALERS AND DISTRIBUTORS.

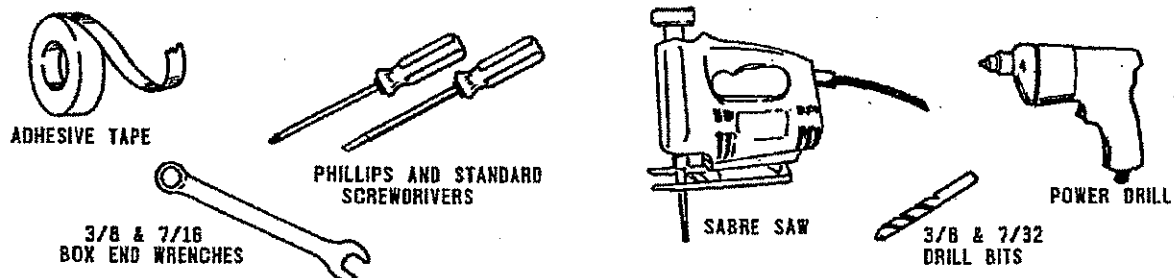
OBSERVE CAREFULLY THE NOTES, CAUTIONS AND WARNINGS IN THIS MANUAL THEY ARE TO ALERT INSTALLERS AND OPERATORS OF POSSIBLE DANGERS OR OF IMPORTANT INFORMATION. WARNINGS ALONE DO NOT ELIMINATE DANGERS, NOR ARE THEY A SUBSTITUTE FOR SAFE BOAT HANDLING AND PROPER ACCIDENT PREVENTION MEASURES.

WARNINGS: FAILURE TO COMPLY WITH A WARNING MAY RESULT IN INJURY TO BOAT OCCUPANTS AND/OR OTHERS.

CAUTIONS: NON-COMPLIANCE WITH A CAUTION MAY RESULT IN FAILURES AND/OR DAMAGE TO THE CONTROL AND/OR EQUIPMENT.

NOTES: INDICATES INFORMATION OR INSTRUCTIONS THAT ARE NECESSARY FOR PROPER INSTALLATION, MAINTENANCE OR OPERATION.

TOOL NEEDED FOR INSTALLATION



OTHER EQUIPMENT NEEDED:

1. Two (2) each Teleflex Marine 33C or TFXTREME Cables P/N CCX633XX (XX=Customer length in feet). (One for throttle and one for shift).
2. Throttle and Shift Connection Kits for engine. See Teleflex Marine Catalog at your nearest Marine Distributor.

SECTION 1

LOCATION OF CONTROL

- 1.1 Allow adequate clearance for Hand Lever swing (forward and reverse positions).
See Figure 1 for Control dimensions.
- 1.2 Allow adequate clearance under the console for the Cables. Refer to Figure 1.
- 1.3 After a suitable location for the Control is determined, use the Mounting Template provided, and cut & drill the mounting holes required.

SECTION 2

CABLE MEASUREMENT

- 2.1 Measure from the Control Head position along an unobstructed path to the shift and throttle connections.
- 2.2 Cables lengths are measured from end to end. When a measurement is in feet and inches, specify the next whole foot.

NOTE: FOR OUTBOARD ENGINES, ADD FOUR (4) FEET TO THE LENGTH OF THE CABLE FOR A LOOP TO ALLOW FOR ENGINE SWING.

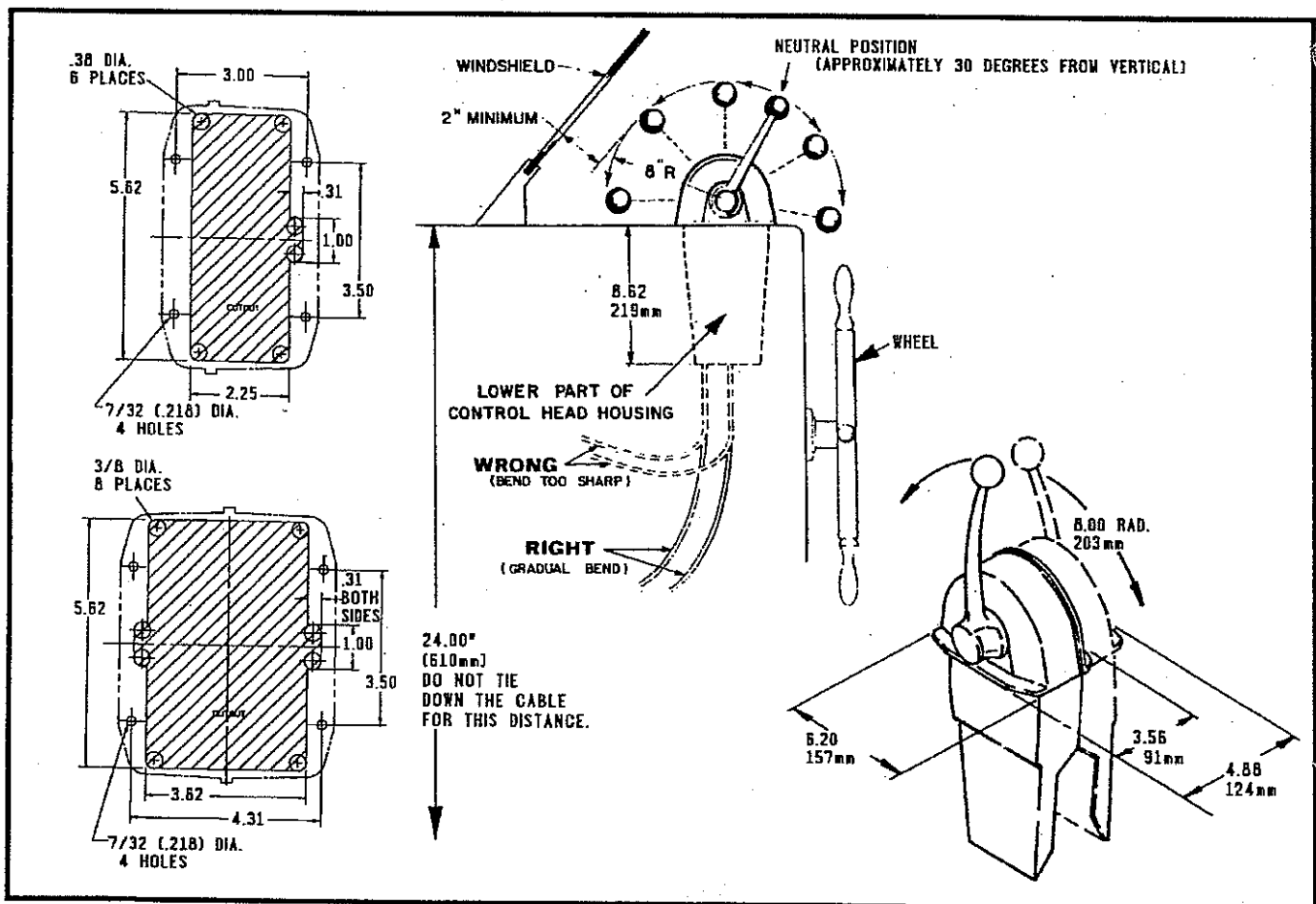


FIGURE 1

CONTROL MEASUREMENTS

SECTION 3

CABLE ROUTING

- 3.1 The Cable runs should minimize the number of bends and avoid any sharp bends. Make no bends in Cables less than eight (8) inches radius (203mm).
- 3.2 The Cables should be supported by using Cable Hangers or by running them thru straight sections of conduit for long runs.

CAUTION: DO NOT USE CABLE HANGERS OR CLAMPS WHICH MAY CRUSH OR STRESS THE CABLES IN ANY WAY. DOING SO MAY IMPAIR THE FUNCTION OF THE CABLE.

SECTION 4

SHIFT CABLE CONNECTION - CONTROL END

NOTE: TO DETERMINE THE CORRECT CONTROL CONFIGURATION FOR INBOARD ENGINES EQUIPPED WITH HYDRAULIC CLUTCHES, IT IS FIRST NECESSARY TO DETERMINE WHETHER THE CONTROL CABLES MUST EXERT A "PUSH" OR "PULL" ACTION AT THE TRANSMISSION LEVER TO ENGAGE FORWARD GEAR, AND A "PUSH" OR "PULL" ACTION AT THE CARBURETOR LEVER TO OPEN THE THROTTLE.

Refer to the Chart below for the proper cable action to suit your engine and transmission.

The Shift Arm is factory-set for standard travel (center notch). Refer to Figure 2.

ENGINE APPLICATION GUIDE			
ENGINE MAKE	SHIFT CABLE	THROTTLE CABLE	SHIFT CABLE ATTACHMENT HOLE
JOHNSON/EVINRUDE; OMC I/O, MERCURY 18 & 25 H.P.	CABLE "PULLS" TO GO FORWARD	CABLE "PUSHES" TO OPEN THROTTLE	SHORT(EXCEPT OMC "KING COBRA" I/O USES LONG HOLE)
MERCURY & MARINER OUTBOARDS; MERCURUISER I/O's	CABLE "PULLS" TO GO FORWARD	CABLE "PULLS" TO OPEN THROTTLE	LONG
VOLVO I/O	CABLE "PUSHES" TO GO FORWARD	CABLE "PULLS" TO OPEN THROTTLE	STANDARD
YAMAHA 90H.P. AND UP; US MARINE (FORCE)	CABLE "PULLS" TO GO FORWARD	CABLE "PUSHES" TO OPEN THROTTLE	STANDARD
HONDA; SUZUKI; TOHATSU (ALL MOD- ELS); YAMAHA 70 H.P. AND UNDER	CABLE "PULLS" TO GO FORWARD	CABLE "PULLS" TO OPEN THROTTLE	STANDARD
INBOARDS (DIESEL OR GAS)	MOST INBOARD TRANS- MISSIONS "PULL" TO GO FORWARD.	MOST INBOARD THROTTLES OR GOVERNORS "PULL" TO OPEN.	STANDARD
YAMAHA I/O's,(ALL)	CABLE "PULLS" TO GO FORWARD	CABLE "PULLS" TO OPEN THROTTLE	STANDARD

A. SHIFT STROKE ADJUSTMENT

If you find it necessary to change this position, proceed as follows:

1. Loosen the two (2) Hex Head cap Screws so the Shift Arm can be lifted to clear the notches.
2. Reposition the Shift Arm to the desired stroke. Be sure the notches are properly engaged before tightening the Screws. Refer to Figure 2.
3. Tighten the Hex Head Screws to 75-80 inch lbs.

NOTE: FOR OPPOSITE CABLE ACTION, SHIFT ARM AND NEUTRAL SAFETY SWITCH SHOULD BE A MIRROR IMAGE OF THAT WHICH IS SHOWN.

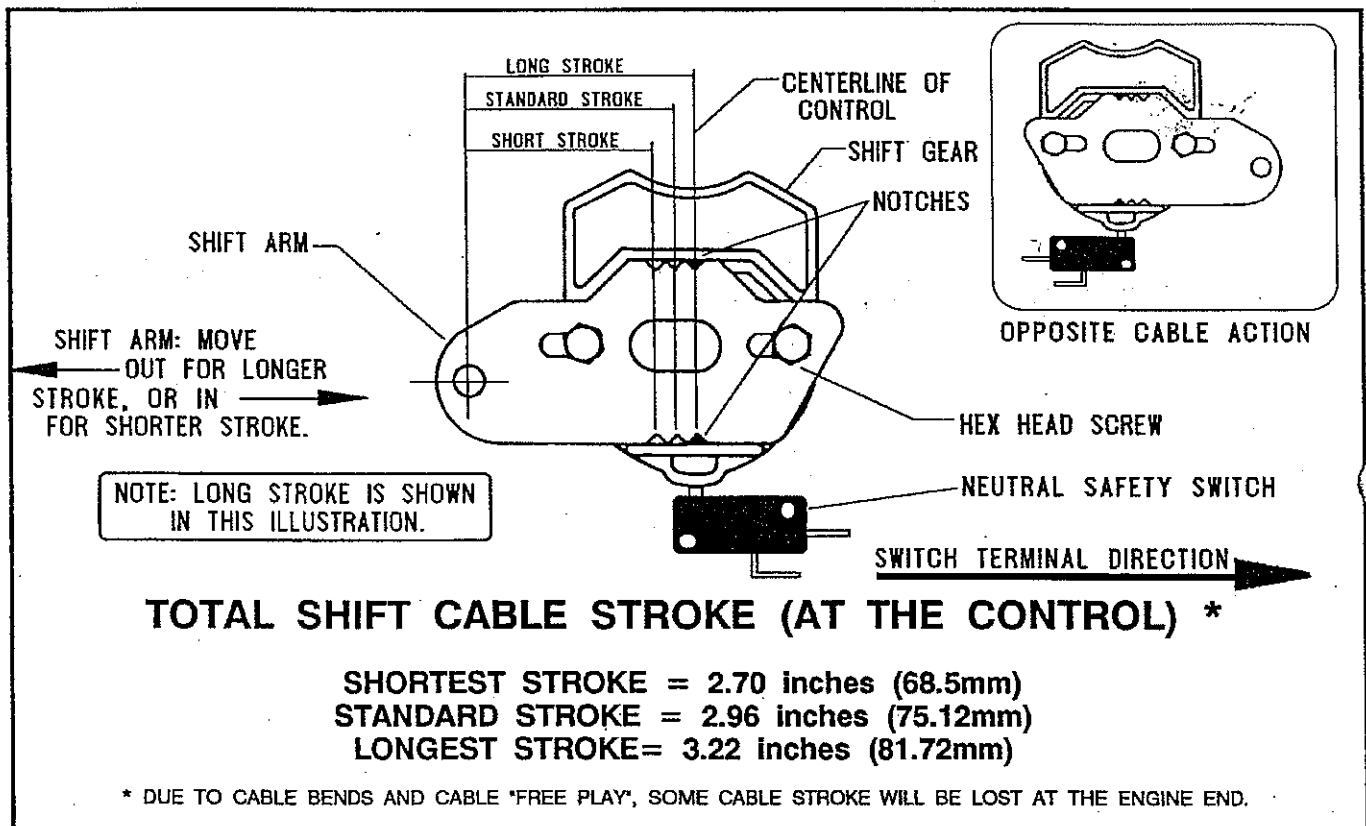


FIGURE 2

SHIFT STROKE ADJUSTMENT

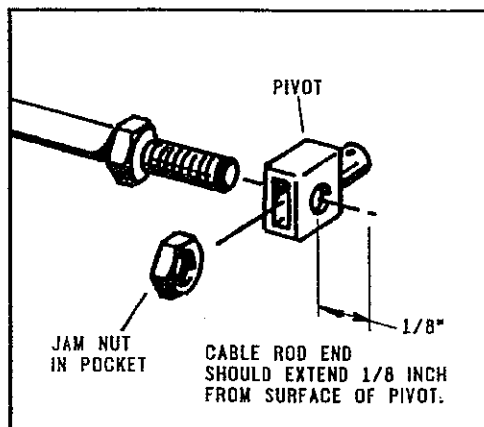


FIGURE 3

CABLE TERMINAL CONNECTION

B. SHIFT CABLE CONNECTION

1. Attach the Pivot to the end of the Shift cable, as shown in Figure 3.
2. Feed the Cable behind the Shift Arm and insert the Pivot into the hole. Secure the Pivot in place with the Cotter Pin included.
3. Attach the Cable Hub to the bottom of the Housing at the tapped hole location for 33C type cables. Make sure the groove in the cable Hub engages the Cable Clamp.

SECTION 5

THROTTLE CABLE CONNECTION - CONTROL END

Refer to the **ENGINE APPLICATION GUIDE, SECTION 4**, for the proper Cable action to suit your engine.

The Throttle lever may be factory-set for "push" to open throttle. Refer to Figure 4. If you find it necessary to change to "pull" to open throttle, proceed as follows:

1. Remove the Hand Lever.
2. Remove the Throttle Cable, if attached.
3. Remove the Swivel Bracket.
4. Remove the two (2) hex Head Screws at the Link Assembly, and remove the Link. make sure the Shift Arm does not change notch positions.
5. Push in on the Throttle Arm toward the Housing and rotate it 180 degrees until it snaps back into place.
6. Attach the Link Assembly in the desired position using the Hex Head Screws. Tighten the Screws to 75-80 inch lbs.
7. Attach the Swivel Bracket in the proper hole. See Figures 4 and 5 for proper location.
8. Reinstall the Cable and Hand Lever.

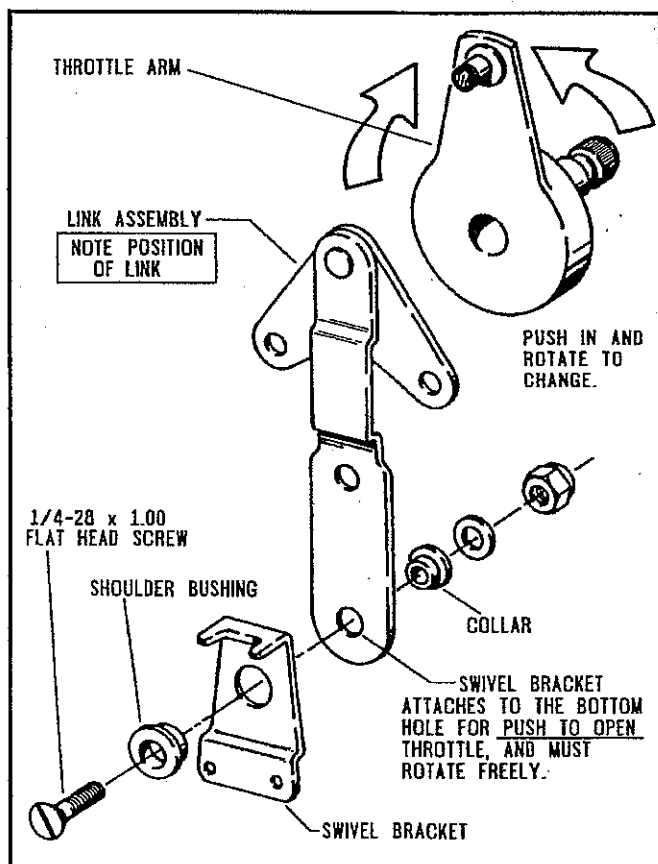


FIGURE 4 PUSH-TO-OPEN CONFIGURATION

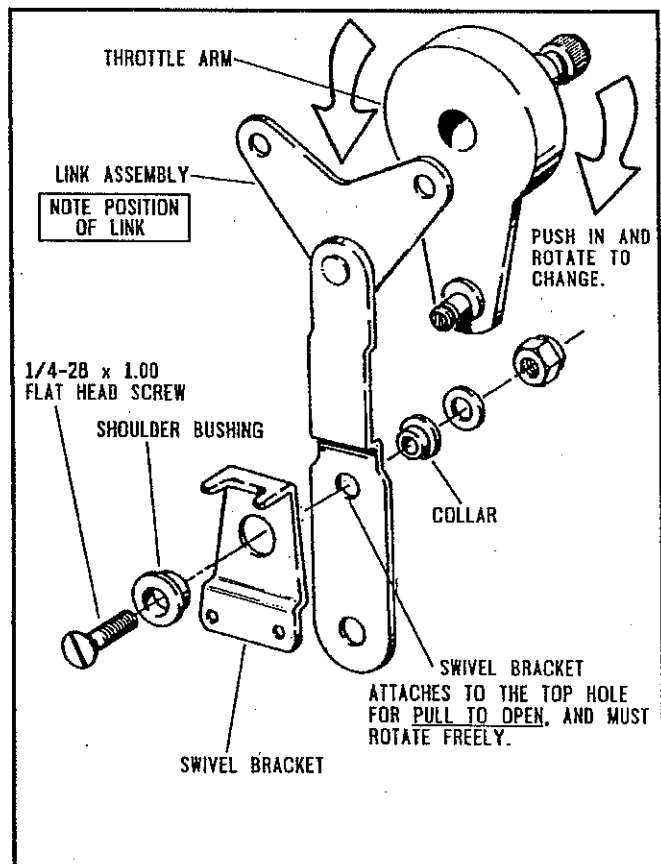


FIGURE 5 PULL-TO-OPEN CONFIGURATION

SECTION 6

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 STILL CONNECTED TO THE MOTOR MAY CAUSE A JAMMING ACTION AGAINST THE IDLE STOP. AS A RESULT, THE CONTROL MAY NOT FUNCTION PROPERLY, AND DAMAGE TO THE CONTROL, THE CABLE AND/OR MOTOR COULD RESULT.

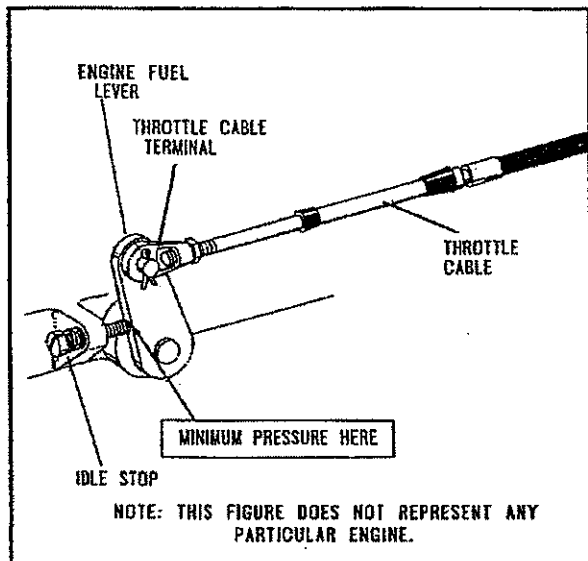


FIGURE 6 THROTTLE CONNECTION

6.1 Make sure the Control is in NEUTRAL DETENT.

6.2 The Fuel Lever should rest lightly against the Idle Stop on the carburetor.

6.3 Connect the Throttle Cable to the fuel lever.

6.4 At Neutral Detent, pull out the Hand Lever Hub and move the Lever PAST the forward range. Return to NEUTRAL and the Hand Lever should snap back into place.

NOTE: PLACE "FORWARD-REVERSE" DECAL ON HOUSING, OPPOSITE THE NEUTRAL POSITION OF THE HAND LEVER.

SECTION 7

NEUTRAL SAFETY SWITCH

The CH5300P and CH5310P Controls are provided with a Neutral Safety Switch. This Switch prevents the engine from starting in gear.

USE A BATTERY-POWERED TEST LIGHT OR TEST METER TO CHECK CONTINUITY.

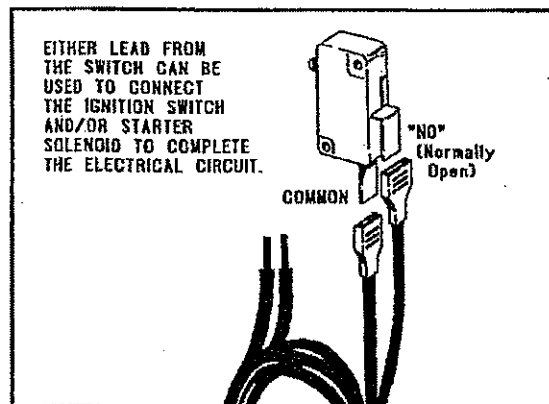


FIGURE 7 NEUTRAL SAFETY SWITCH

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.

Connect the Neutral Safety Switch between the Ignition switch (start lead) and the starter solenoid. Use the Terminals and Insulators provided with the Control to ensure against an electrical short circuit.

CAUTION: CHECK TO MAKE SURE THAT THERE IS ELECTRICAL CONTINUITY ONLY WHEN THE CONTROL IS IN NEUTRAL. WHEN THE CONTROL IS IN GEAR, THERE MUST NOT BE ANY ELECTRICAL CONTINUITY.

SECTION 8

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 and waxed 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 good quality water resistant grease.

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

EXPLODED VIEW

This diagram illustrates the exploded view of a mechanical assembly, showing the relationship between various components. The components are numbered 1 through 51. The assembly includes a large central housing (1), a motor unit (16), and a control panel (34) with a dial (35). The diagram shows the motor unit being mounted onto the housing, with various bolts (e.g., 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51) and other parts (e.g., 2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51) being used to secure the assembly. The control panel (34) is shown at the bottom right, with a dial (35) and a switch (36). The motor unit (16) is shown in the center, with a shaft (17) and a pulley (18). The housing (1) is shown at the top left, with a flange (2) and a mounting bracket (3). The diagram is a technical drawing with clear lines and numbers, providing a detailed view of the assembly process.

ITEM	QUANTITY	DESCRIPTION
1	1	HOUSING, CHROME
2	1	DECAL - "FWD - REV"
3	4	OVAL HEAD SCREW, #10-24 x 1.50 LONG
4	1	DRIVE GEAR BEARING
5	1	KEYED WASHER
6	1	SPLIT RING
7	1	RED BALL KNOB
8	1	HANDLE
9	1	HEX SOCKET SETSCREW, 5/16-18 x 1/2 LONG
10	1	HEX ELASTIC STOP NUT, #10-32
11	2	HEX NUT, #4-40
12	1	FILLISTER HEAD PHILLIPS SCREW, #10-24 x 1.00 LONG
13	1	HEX ELASTIC STOP NUT, 1/4-28
14	1	1/4 FLAT WASHER
15	1	COLLAR
16	4	#10 FLAT WASHER (.203 ID x .56 OD x .040 THK)
17	4	HEX NUT, #10-24
18	1	NEUTRAL SAFETY SWITCH
19	4	FILLISTER HEAD SCREW, #10-24 x .31 LONG
20	2	CABLE CLAMP
21	2	ROUND HEAD SCREW, #4-40 x .62 LONG
22	1	SHIFT BEARING
23	1	THRUST WASHER
24	1	ROUND HEAD SCREW, #10-32 x 1.00 LONG
25	1	LINKAGE ASSEMBLY
26	1	SHOULDER BUSHING
27	1	FLAT HEAD SLOTTED SCREW, 1/4-28 x 1.00 LONG
28	1	SWIVEL BRACKET
29	2	HEX HEAD SCREW, 1/4-28 x .62 LONG
30	1	GROOV-PIN, TYPE 5, .187 DIA. x 1.38 LONG, SST
31	1	SHIFT ARM
32	1	THROTTLE ARM ASSEMBLY
33	1	CABLE TERMINAL
34	1	SIDE COVER
35	1	FILLISTER HEAD PHILLIPS SCREW, #10-24 x .62 LONG
36	1	E-RING, .312 NOMINAL
37	1	FLAT WASHER, .328 ID x .56 OD x .062 THK
38	1	CONICAL SPRING
39	1	CABLE PIVOT
40	1	COTTER PIN, .093 x .50 LONG, BRASS
41	1	THROTTLE ARM BEARING
42	1	HEX JAM NUT, #10-32
43	1	SHIFT GEAR
44	1	DRIVE GEAR
45	1	WAVED WASHER
46	1	ROUND HEAD SCREW, #10-24 x .31 LONG
47	1	#10 INTERNAL TOOTH LOCKWASHER
48	1	SPACER WASHER
49	1	DETENT RETAINER CLIP
50	2	FLAT SPRING
51	1	DETENT ROLLER

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