

INSTALLER: THESE INSTRUCTIONS CONTAIN IMPORTANT SAFETY INFORMATION AND MUST BE FORWARDED TO THE BOAT OWNER.

# INSTALLATION AND OPERATION OF S SERIES CONTROLS

## OWNER'S MANUAL

Twin S Control  
CH5200P




### NOTICE

For use with Type 3300 cables.

Type 4300 cables with the addition of Kit 042152 (1 kit per cable).

Single S Control  
CH5210P

### NOTICE

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 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 the proper installation, operation and maintenance, but is not hazard related.*

## **⚠ WARNING**

Before starting installation, read these instructions and the engine maker's instructions thoroughly or incorrect assembly can result in loss of control and cause property damage or injury.

Do not substitute parts from other manufacturers. They may cause a safety hazard which Teleflex Inc. (USA) cannot accept responsibility.

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.

## **NOTICE**

Teleflex Marine highly recommends the installation, and usage of an engine shut off switch (sometimes called a "kill" switch) as an 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 the control you are using. It can, however, be obtained from most marine dealers and distributors.

## **Forward**

The model "S" provides remote control operation of throttle or clutch of a gasoline or diesel inboard engine equipped with a hydraulic transmission. The "Twin S" can control both throttle and clutch of a single engine. Dual station control from both the cabin and the bridge is obtained by using "S" or "Twin S" controls connected in tandem or parallel. Teleflex Marine 3300 TFXtreme cables are recommended in dual station installations for best results. These controls can be used in combination for any desired grouping of the clutch and throttle functions

(See Figure 1).

An accessory detent kit (Part Number 022328) can be used for clutch control applications (except for dual station). This kit provides detent feel at forward, neutral and reverse.

## **Equipment Required**

The following components make a remote control installation for one engine. For twin engines, each of these should be doubled.

COMPONENTS	SINGLE STATION		DUAL STATION	
	"S"	"TWIN S"	"S"	"TWIN S"
Clutch Connection Kit Trans End	1	1	1	1
Throttle Connection Kit Engine End	1	1	1	1
3300 Cables	2	2	---	---
3300 TFXtreme Cables	---	---	4	4

TABLE 1

## **Optional Equipment Available**

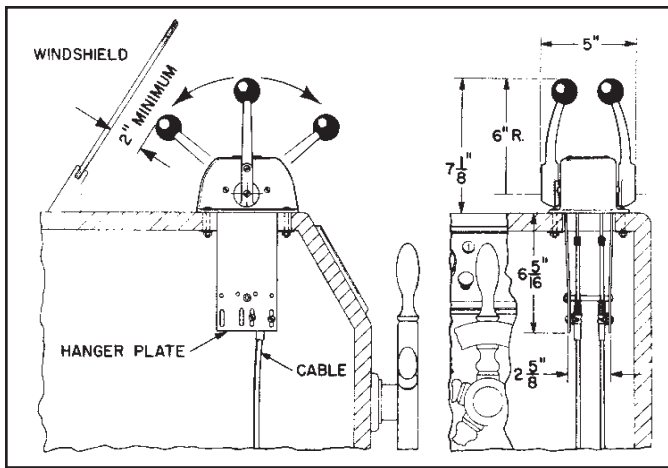
See Page 6 for options, conversions, and replacement kits.

## **Control Head Location**

1. Allow clearance for forward and reverse movement of the hand lever. (See Figure 2)
2. The bottom of the control assembly should not interfere with the steering or components of the wheel box.
3. The area below the control should allow a clear path for the cables.
4. Cut the opening according to the template provided.

## **NOTICE**

Do not cut the opening any larger than the template indicates.  
Do not mount the control at this time.



**FIGURE 2**

## Control Cable Installation

1. Determine whether PUSH or PULL operation of the cable is for forward operation of the clutch and if PUSH or PULL operation of the throttle is required. The cable will be installed in the control using the outer hole (3" travel) of the control arm in PUSH or PULL mode.

### NOTICE

PUSH is toward the bow and PULL is toward the stern. See Figure 3.

The other holes are for special applications only. Do not use these holes unless they are specified by the instructions packaged in the kits.

2. Screw the terminal onto the cable rod until the rod end is flush with the back of the terminal. Tighten the cable jam nut against the terminal.

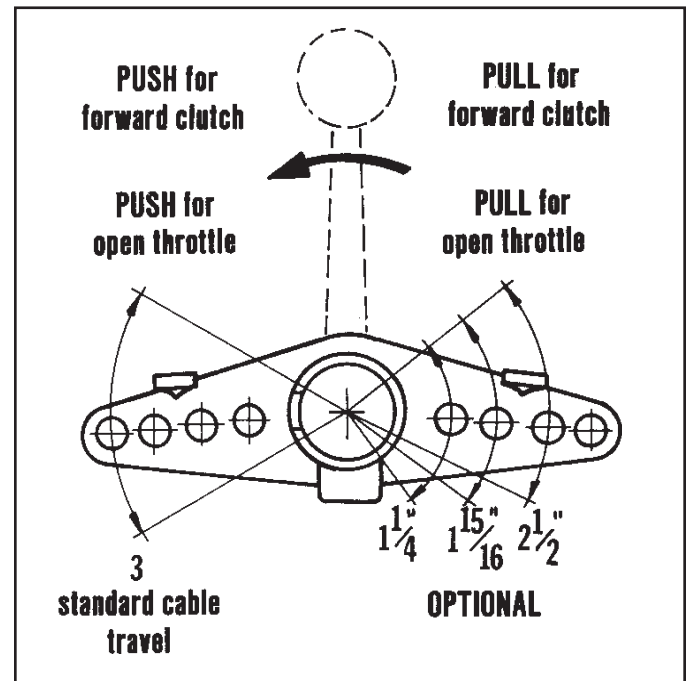
3. Lubricate the terminal and insert it into the outer hole of the arm. Insert the cotter pin and spread.

4. Mount the cable hub to the hanger plate using the shim, cable clamp, screws and nuts provided. Ensure that the recess in the cable clamp engages the groove in the cable hub.

### NOTICE

The "Twin S" follows the same procedure for installation of the second cable.

5. Use the clutch detent kit (Part Number 22328) with the cable operating the engine shift. Follow the instructions, packed with the kit, for detent



**FIGURE 3**

## Mounting the Control Head

1. Feed the control cables down thru the opening cut out to the engine throttle and clutch levers.

### CAUTION

Always run the cables as straight as possible. Avoid all sharp bends (8 in. [203.2 mm] minimum radius) with as few bends as possible.

2. Fasten the controls to the console with the hardware provided.

## Connecting the Cables to the Engine

1. Install the correct engine throttle and clutch connection kits to the engine if not provided with the engine.

2. Connect the cables to the engine using the engine connection kit instructions or as provided by the engine manufacturer.

## Final Adjustment

1. Operate the clutch hand lever. The detent positions and the clutch lever detents of the hydraulic transmission must coincide exactly at forward, neutral and reverse positions. Adjust the cable terminal at the transmission, if necessary, to obtain correct operation.

2. Adjust the clutch control hand lever stop screws to prevent operation of the control beyond forward and reverse detent positions. Remove the name plate on top of the control to uncover the stop screws.

3. Operate the throttle hand lever. Adjust the throttle cable terminal at the engine to obtain full open throttle movement. Adjust the throttle hand lever stop screws so that the lever rests on the rear stop screw at full open position and on the front screw at idle.

4. A friction brake setscrew is located at the hub center of the hand lever (See Figure 4). Turn the set-screw clockwise to increase drag on the hand lever or counter-clockwise to decrease drag as required.

### **NOTICE**

For dual station, brake friction should be at a minimum without allowing the hand levers to be loose.

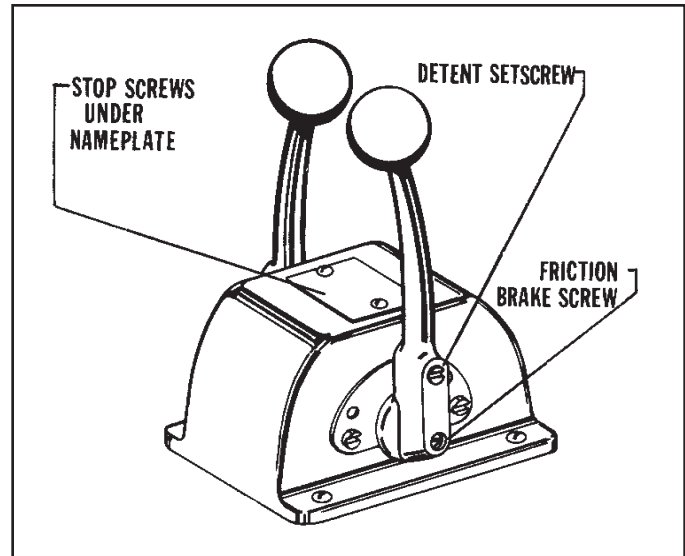


FIGURE 4

## Complete Installation of the Control

1. Tighten the cable jam nuts securely at the terminals on both ends of the cable.

2. Apply light film of marine grease to all moving parts just installed.

3. Secure all cable supports but do not crush the cable.

4. Check the control levers. They should operate freely with light hand pressure. Binding of the levers could be traced to:

1. Excessive number of cable bends
2. Sharp cable bend at engine
3. Bends smaller than 8" min. radius
4. Cable supports clamped too tight
5. Damaged cable
6. Friction brakes too tight
7. Tight/misaligned engine linkage

## Dual Station Applications

1. Typical dual station applications are shown in Figure 5.

### NOTICE

Teleflex Marine recommends using TFXtreme Cables on dual station installations for maximum efficiency.

2. Dual station control operation does not feel as smooth as single station, since the system friction has been doubled. See paragraph 4 under "Complete Installation of the Control."

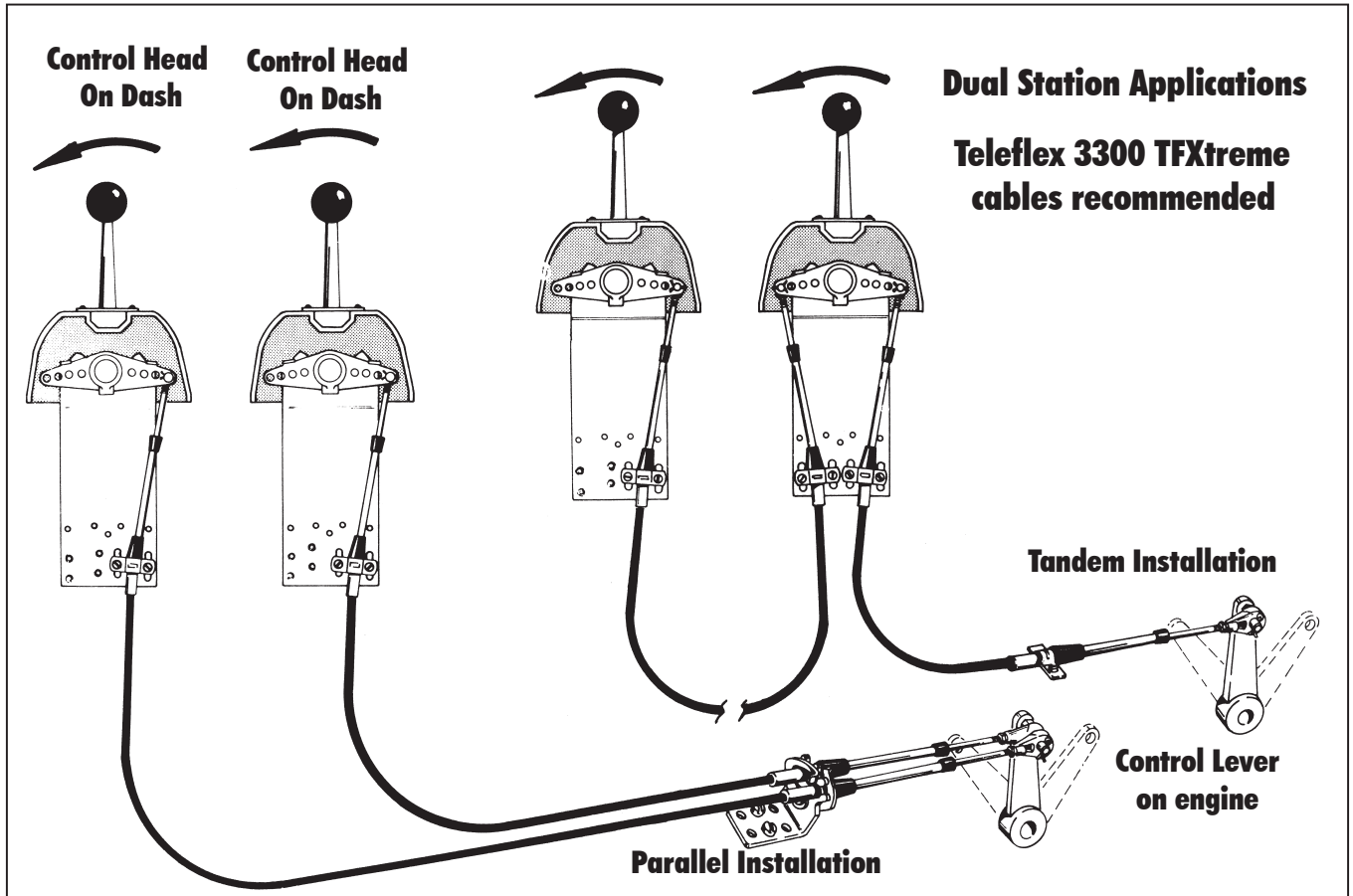


FIGURE 5

## Heavy Duty

1. Heavy duty kits are available to attach Teleflex Marine 4300C cables to the "S" controls, if desired. 4300C cables have a higher strength capacity, but 3300C cables are recommended for the most efficient system.

## Maintenance

1. For the best protection, especially in salt water, wipe all metal parts with oil or a good quality light marine grease. Always rinse with fresh water after every use.

## Available Parts Kits

### Housing Replacement Kits

Item	Single S Control	Description	Twin S Control
	<b>CA67864P</b>		<b>CA67865P</b>
16	1	Housing	1
22	1	Bearing	2
9	1	Top Plate	1
8	2	Plate Screws	2
17	2	Side Screws	4
28	2	Side Washers	4
23	1	Tapered Screw	2
	1	Instruction	1

### Handle Replacement Kits

Item	Single S Control	Description	Twin S Control
	<b>CA67866P</b>		<b>CA67867P</b>
20	1	Handle	2
18	1	Brake Pin	1
21	1	Detent Screw	2
11	1	Brale Screw	2
22	1	Nyliner Bearing	2
23	1	Tapered Screw	2
19	1	Red Knob	1
19	1	Black Knob	1
	1	Instrinctions	1

### Bearing and Hardware Kits

Item	Single S Control	Description	Twin S Control
	<b>CA67868P</b>		<b>CA67869P</b>
1	1	Cotter Pin	2
2	1	Cable Pivot	2
4	1	Shim	2
5	1	Clamp	2
7	2	Screw	4
11	1	Brake Screw	2
12	4	Mounting Screw	4
13	4	Flat Washer	4
14	4	Spring Washer	4
15	4	Nut	4
17	2	Side Screw	4
18	1	Brake Pin	1
21	1	Detent Screw	2
22	1	Nyliner Bearing	2
27	2	Nut	4
28	2	Side Washer	4
	1	Instructions	1

**Hand Lever Ball Kit #CA68287P includes:**  
 1 Red Ball  
 1 Black Ball

## Conversion Parts Kits

Neutral Safety Switch #047307 (Order 2 For Twin Shift Functions)

### Detent and Friction Kits

**Clutch Detent Kit #022328** (1 kit per clutch cable)

**Throttle Friction Kit # 306997** (1 kit per throttle cable)

### In Line Dual Station Kit

To add to lower station control arm for additional cable routed to upper station. (1 kit per cable)

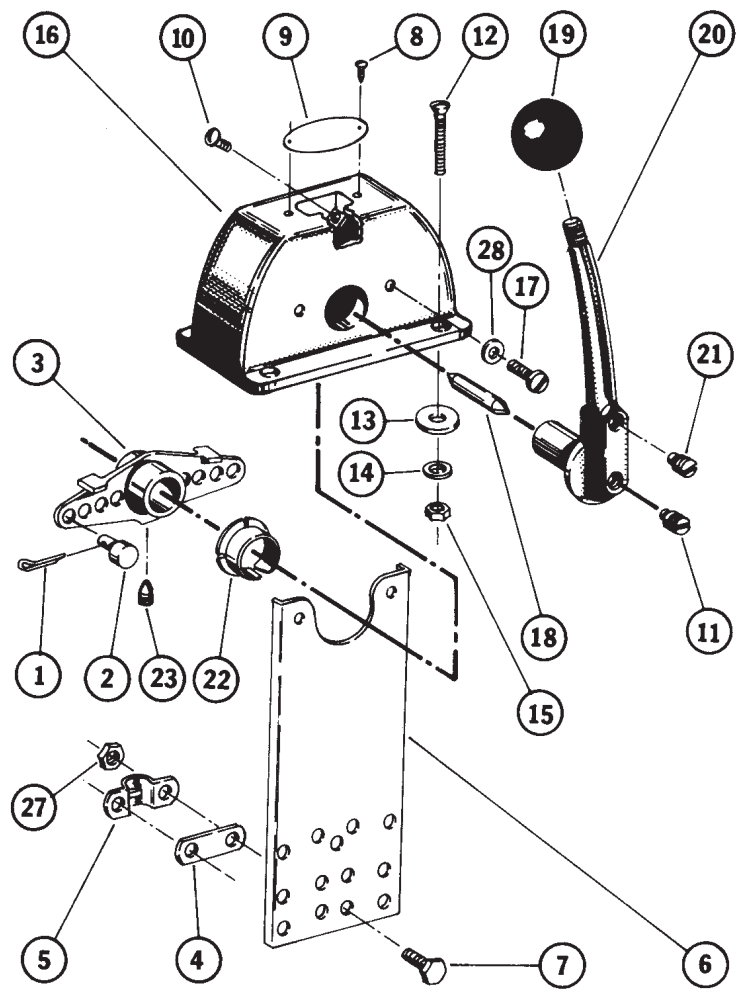
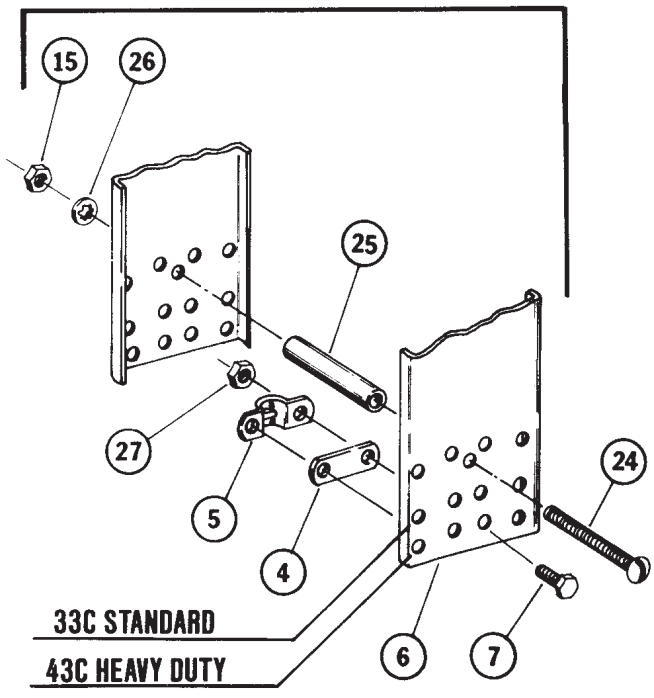
**30 Series Cable Connection Kit #039489-002**

**40 Series Cable Connection Kit #042152**

40 Series Cable Connection Kit #042150

Converts control hardware from 30 Series cable to 40 Series cable (1 kit per cable).

"TWIN S" ONLY



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