

Morse Marine Products Installation Instructions "CS" Control P/N A42025

**MORSE
CONTROLS**
INCOM INTERNATIONAL INC
INCOM
21 Clinton Street
Hudson, Ohio 44236

(Push or Pull to Go Forward;
Push or Pull to Open Throttle)

USE WITH TYPE 33-C "RED-JAKET" CABLES

INTRODUCTION

These instructions, when used with the appropriate clutch and throttle connection kit instructions, provide complete information for installing, adjusting, operating and maintaining a Morse "CS" control system.

The side-mounted Model "CS" provides remote control of both clutch and throttle for engines equipped with hydraulic transmissions. The Morse "Red-Jaket" push-pull cables which connect the control head to the engine and transmission are engineered specifically for use with Morse controls to assure smooth, instant response to movement of the control levers.

When determining the length of cables, choose the most direct path from the control head to the carburetor and clutch levers. Bends in the cable path must not be smaller than 8" radius.

EQUIPMENT REQUIRED

1. One "CS" control
2. Two 33-C "Red-Jaket" push-pull cables
3. One clutch connection kit
4. One throttle connection kit

INSTALLATION

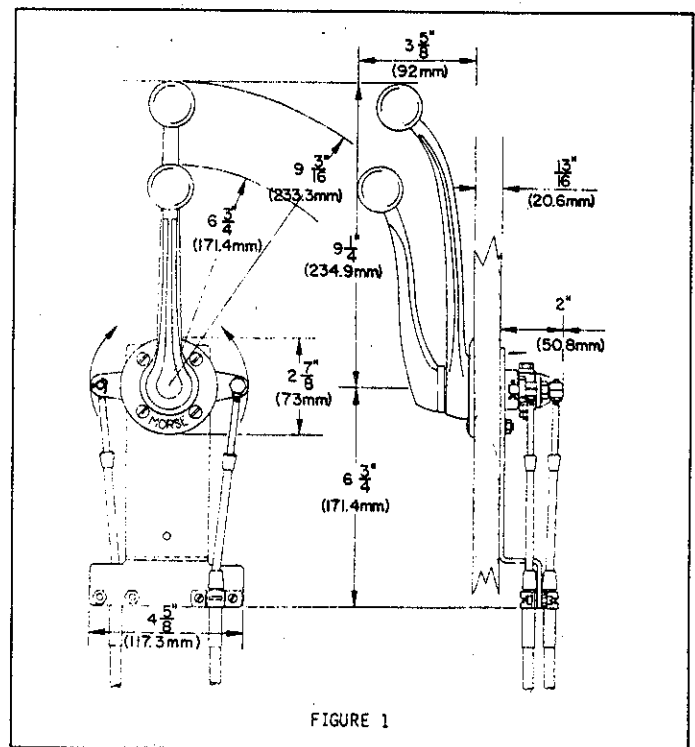
1. Locate and Mount Control Head
 - a. The "CS" can be mounted on either the right or left side of wheel box, panel, etc.
 - b. Adequate clearance must be provided to allow the hand levers to move through their full ranges. Be sure there is ample space behind the mounting surface for the cable hanger plate and an unobstructed path for the push-pull cables. (See Figure 1)
 - c. The hanger plate may be installed in any of the four positions shown in Figure 2 to provide the most direct cable path.
 1. Cut or drill a 1-1/2" diameter hole in the mounting surface at the control

head location. The mounting surface must be 13/16" thick. Add shims, if necessary, to achieve this thickness.

2. Remove screw (22), washer (21), throttle arm (24), nut (19), washer (20), bolt (28) and clutch arm (27).

Refer to exploded view, page 2.

3. Insert control assembly in mounting hole and using housing (7) as a template, drill four (13/64) holes for mounting screws.
4. Using screws (33), washers (31) and nuts (30) secure the control and hanger plate to the mounting surface in the position chosen. The mounting surface must be 13/16" thick for proper installation. Use shims, if necessary, to achieve this thickness.



2. Push-Pull Operation Variations

- a. It may be necessary to reposition the clutch and/or the throttle arm of the engine to fit the requirements of your engine and transmission. Refer to Figure 3.

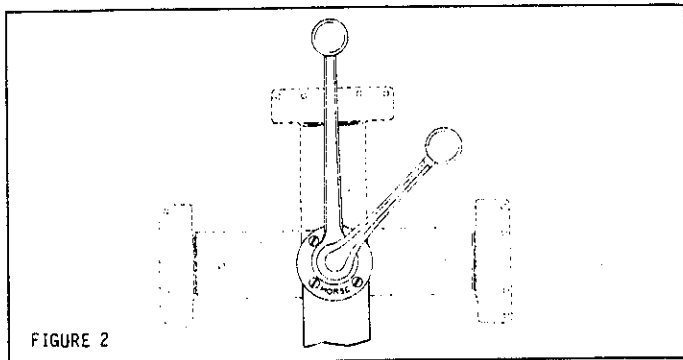


FIGURE 2

3. Connect Cables to Control

a. Attach Clutch Cable

1. Thread clutch cable rod through terminal (18) until it protrudes 1/8". Hold terminal to prevent it from turning and tighten cable nut against terminal.
2. Place clutch arm (27) on shaft in correct position (refer to Figure 3). Be sure the key is engaged in one of the four notches in the shaft and secure clutch arm with bolt (28), lockwasher (20) and nut (19).
3. Fasten cable hub to inside of cable hanger plate using clamp (9), shim (10), screws (8), lockwasher (12) and nuts (13).

b. Attach Throttle Cable

1. Thread throttle cable rod through terminal (23) until it protrudes 1/8". Hold terminal to prevent it from turning and tighten cable nut against terminal.
2. Place throttle arm (24) in correct position (refer to Figure 3) and secure with lockwasher (21) and bolt (22).
3. Fasten the cable hub to the outside of the cable hanger plate using clamp (15), shim (14), screws (16), lockwashers (12) and nuts (13).

4. Connect Cables To Engine

- a. Instructions covering clutch and throttle connections are included in the connection kits.

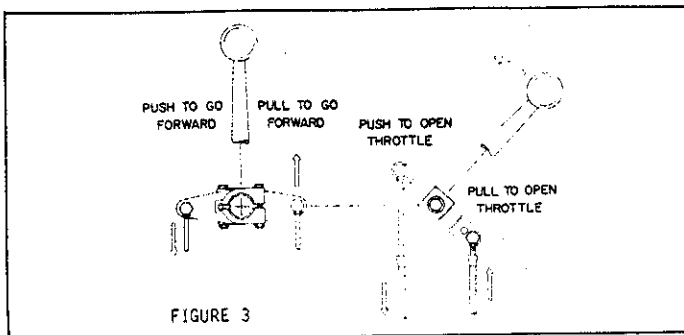
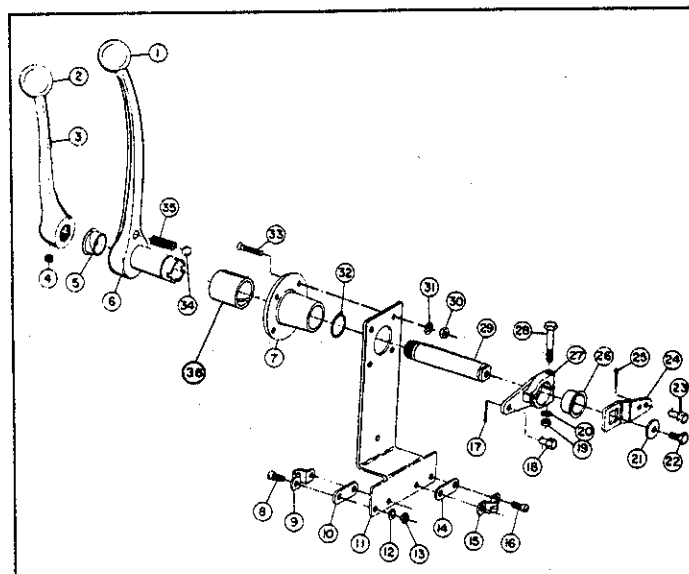


FIGURE 3

5. Final Check and Adjustment

- a. Tighten all cable supports, screws, nuts, cable terminals, etc.
- b. Water test the boat. The control head hand levers should operate freely. Any stiffness of binding can usually be traced to:
 1. Tight or misaligned throttle or clutch linkage.
 2. Cable compressed too tightly by cable supports.
 3. Bends in cable path smaller than minimum of 8".
 4. Excessive number of bends in cable path.



Item	DESCRIPTION	No. Req'd.	Part No.
1	Ball Knob, Black.....	1	A35232-4
2	Ball Knob, White	1	A35232-5
3	Throttle Lever	1	D31046-2
4	Setscrew, Socket Hd. Cup Point, 5/16-18	1	A50414-002
5	Bearing	2	A51404-125
6	Shift Lever	1	D42039
7	Housing	1	B42037
8	Screw, Fil. Hd. #10-32 x 3/4" lg.	4	A50112-569
9	Cable Clamp	2	A31509
10	Shim	2	A31538
11	Cable Hanger Plate	1	D42040
12	Lockwasher, Int. Tooth #10	8	A50803-059
13	Nut, Hex #10-32	8	A50900-076
14	Shim (See item #10)	---	-----
15	Cable Clamp (See item #9)	---	-----
16	Screw (See item #8)	---	-----
17	Cotter Pin, 3/32 dia. x 1/2" lg.	2	A51001-028
18	Cable Terminal	2	A31029
19	Nut, Hex 1/4-28	1	A50901-016
20	Lockwasher, Int. Tooth 1/4"	1	A50803-077
21	Lockwasher, Special	1	A50806-001
22	Bolt, Hex Hd. 1/4-28 x 1/2" lg. ...	1	A50407-033
23	Cable Terminal (See item #18)	---	-----
24	Throttle Arm	1	A31784
25	Cotter Pin (See item #17)	---	-----
26	Bearing (See item #5)	---	-----
27	Clutch Arm	1	A42179
28	Bolt, Hex Hd. 1/4-28 x 1-3/4" lg.	1	A50407-096
29	Throttle Shaft	1	B42038
30	Nut (See item #13)	---	-----
31	Lockwasher (See item #12)	---	-----
32	Retainer Ring	1	A51302-247
33	Screw, Oval Hd. #10-32 x 1-3/8" lg.	4	A50127-666
34	Ball Detent, 5/16" dia.	1	A51600-003
35	Spring	1	A42181
36	Bearing - Nyloner	1	A51404-088