

# Morse Marine Products

## MODEL "SF" CONTROL

Type 33C Cables ONLY

These instructions when used with the appropriate Throttle Connection Kit and Clutch Connection Kit Instruction provide all the necessary information for installing, adjusting and operating a Morse Model "SF" Control System.

The Model "SF", designed specifically for use in pairs, provides complete control of single or twin gasoline and/or diesel engines having light throttle and clutch loads, Morse Push-Pull cables, which connect the control head to the engine, are engineered specifically for use with Morse Controls. They assure smooth instant response to control lever movement with absolute minimum of backlash.

### EQUIPMENT REQUIRED

These components are required for single engine installation. For twin installations, double the amount of each component listed.

1. One Model "SF" Control head.
2. Two "Red Jacket" 33-C Push-Pull control cables (to length).
3. One Clutch Detent Kit for clutch lever. (Part Number A48738).
4. One Morse Throttle Connection Kit.
5. One Morse Clutch Connection Kit.

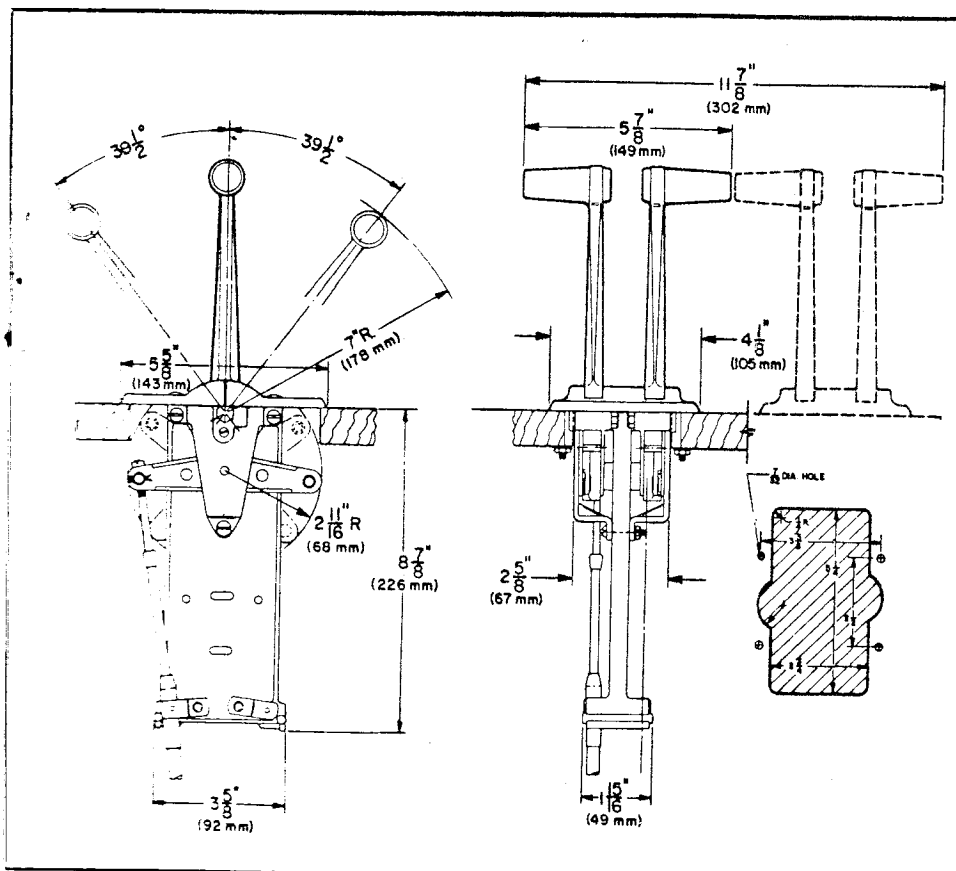


FIGURE 1

### LOCATE CONTROL HEAD

- A. When determining the position of the control head, consider the following:
  1. Allow clearance for full forward and reverse hand lever movement (See Figure #1)
  2. The bottom of the control head housing should not interfere with the steering system or other components inside the wheel box.
  3. The area below the control head housing should allow an unobstructed path for running the control cables to the engine. Cables must not be bent to less than an 8" radius.
- B. Using template provided, make cutout in mounting surface. **DO NOT MOUNT CONTROL HEAD AT THIS TIME.**

### INSTALLING CONTROL CABLES

- A. Run the two cables into the cutout, down through the column and to the engine. Cables should run straight downward or in a gradual curve well below the bottom of the control head housing before bending. The cables should not be bent sharply in any direction close to the bottom of the control. Sharp bends in the cable path from wheel box to engine should not be less than 8" radius.

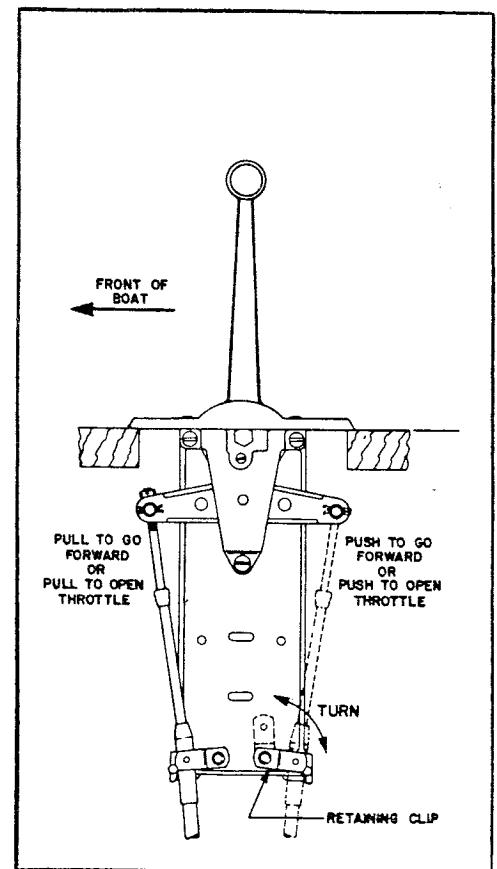


FIGURE 2

**MORSE  
CONTROLS**  
NEW YORK  
**NYCOA**

21 Clinton Street  
Hudson, Ohio 44236

- B. Support the cables loosely in place by (1) running them through a straight section of conduit if cable runs are extremely long, (2) taping them to wood stringers or (3) using cable hangers. Avoid all unnecessary bends. **DO NOT FASTEN CABLES PERMANENTLY AT THIS TIME.**

#### CONNECT CLUTCH CABLE TO CONTROL HEAD.

- A. Determine from the clutch connection kit and/or engine transmission whether cable is to be connected for PULL TO GO FORWARD or PUSH TO GO FORWARD operation. (See Figure 2).
- B. This control uses an adjustable terminal (25) with a locking clip (24), therefore, remove and discard locking nut furnished with the cable. Thread terminal (25) onto cable until about 1/4" of threads are still showing.
- C. Lubricate terminal (25), attach locking clip (24) (as shown in exploded view) and place in proper hole in lever (22) and fasten cotter pin (21).

#### WARNING

Locking clip (24) must be used. Without locking clip, terminal could screw itself off cable.

- D. Turn cable anchor retaining clip (Figure 2) to uncover anchor slot at bottom of hanger support. Place cable hub in anchor slot, turn retaining clip over hub of cable.

#### CONNECT THROTTLE CABLE TO CONTROL HEAD

- A. Determine whether the throttle is PUSH TO OPEN or PULL TO OPEN operation.
- B. Install the cable and terminal following steps (B) and (C) for installation of clutch control cables.

#### CONNECT CABLES TO ENGINE

- A. Follow the procedure outlined in the instructions supplied with each clutch and throttle connection kit.

#### MOUNTING CONTROL HEAD

- A. Remove split cover plate (2 & 28) from control by removing screws (1).
- B. Secure the control head to mounting surface using screws (32), flat washers (31), lockwashers (30) and nuts (32).
- C. Do not attach split surface plate at this time.

#### FINAL CHECK AND ADJUSTMENT

- A. Operate control hand lever several times. The clutch hand lever detent positions and the clutch lever detents of the hydraulic transmission should COINCIDE AT forward, neutral and reverse positions. Adjust the clutch cable terminal (25) with screwdriver as required to obtain the correct operation. Be careful to keep at least 1/4" of threads within terminal.
- B. Adjust throttle cable terminal (25) with screwdriver as required to obtain full open throttle movement. ADJUST THROTTLE HAND LEVER STOP SCREWS (13) so gear arm (22) rests on one stop screw at full open throttle position and on the other stop screw at idle. (Use 3/32" allen wrench.)
- C. Hand lever brake may be adjusted by turning nut (15) clockwise to increase tension or counter-clockwise to decrease tension. (Use 7/16 open end wrench).

#### CAUTION

For dual station operation, adjust hand lever brake for very minimum tension without allowing excessive side play of hand levers.

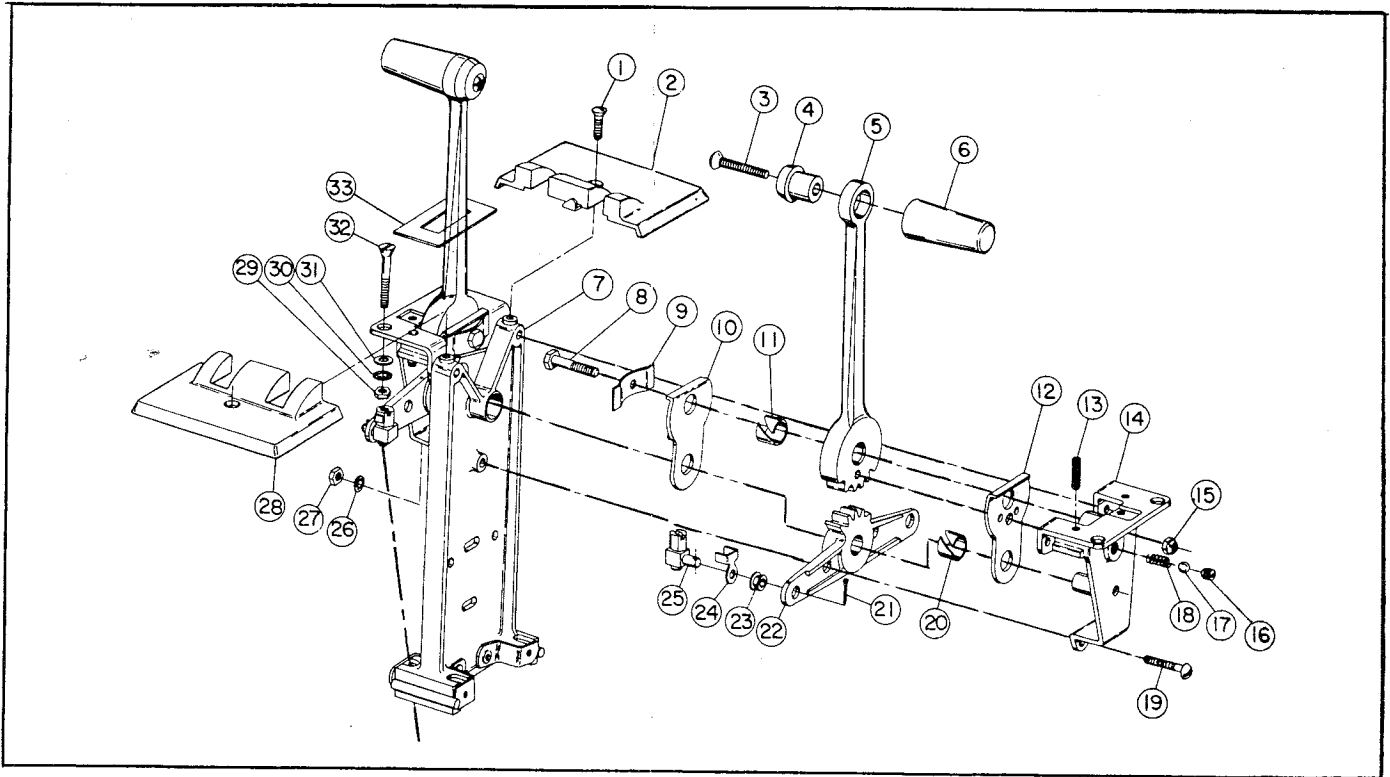
- D. Secure surface plate using screws provided.
- E. The control hand levers should operate freely with light hand pressure. Any stiffness or binding in the operation of the hand levers can usually be traced to:
1. Excessive number of bends in cable runs.
  2. Sharp bend in the cables close to the control head.
  3. Bends smaller than the recommended minimum radius of 8 inches.
  4. Tight or misaligned engine linkage.
  5. Cable compressed too tightly by cable supports.

#### NOTE

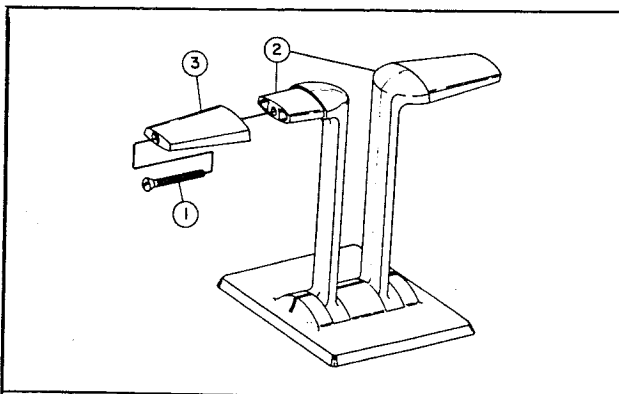
For readjustment of stop screws or brake tension nuts, remove surface plate.

#### MAINTENANCE

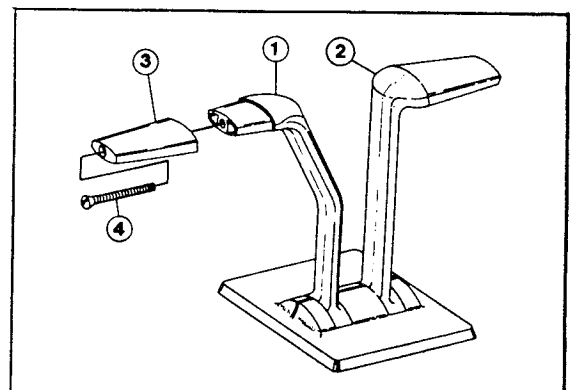
For maximum protection, especially in salt water areas, wipe metallic parts, such as screw heads, cable sleeves, etc., with oil or light grease.



Item	DESCRIPTION	No. Req'd	Part No.	Item	DESCRIPTION	No. Req'd	Part No.
1	Screw, Phillips Hd. Oval #10-24 UNF x 3/8" lg. ....	2	A50127-280	13	Setscrew, Hex, Soc. Flat Pt. #10-24 UNC x 1/4" lg. ....	4	A50611-070
2	Surface Plate.....	2	D48254	14	Lever Support.....	2	D46039
3	Screw, Phil. Oval Hd. Self Tap Type B #10 x 1 1/2" lg (Used on Plastic Knobs).....	2	A50530-369	15	Elastic Stop Nut 1/4-28 UNF	2	A50908-061
	Phil. Oval Hd. Mach. 1/4-20 x 1" lg. (Used on Fibron Knobs).....	..	A50128-336	16	Set Screw Hex Hd-Cup pt 5/16"-18 UNC x 3/8" lg	1	A50414-004
4	Cap, Hand Lever.....	2	A46317	17	Ball 1/4 dia Grade 200 SST	1	A51600-002
	Fibron.....	..	A46958-1	18	Spring, Detent.....	1	A46046
	Black.....	..	A46958-2	19	Cotter Pin 3/32" dia x 1" lg. SST	3	A50145-586
	Red.....	..	D46361	20	Nyliner (See Item #11).....	..	A51001-028
5	Hand Lever.....	2	A46316	21	Gear Arm.....	2	B46040
6	Knob, Hand Lever.....	2	A46959-1	22	Nyliner Type 7-1/4 Nom.....	4	A51404-176
	Fibron.....	..	A46959-2	23	Adjustable Terminal.....	2	A43912
	Black.....	..	B48735	24	Lockwasher, Int Tooth #10 SST	7	A47548
	Red.....	..	A50407-181	25	Nut, Reg Hex #10-32 UNF	7	A50803-061
7	Support Assembly, Hanger.....	1	A46044	26	Surface Plate (See Item #2).....	..	A50900-078
8	Screw, Hex Hd 1/4-28 UNF x 13/8" lg.....	2	A48673	27	Nut (See Item #27).....	..	..
9	Spring, Brake.....	2	A51404-081	28	Washer (See Item #26).....	..	..
10	Plate, Brake.....	2	A48674	29	Washer, Flat #10-SAE SST.....	4	A50900-052
11	Nyliner Type 4-1/2 Nom.....	4	..	30	Screw, Flat Hd. #10-32 x 1 1/2" lg	4	A50119-610
12	Detent Plate.....	2	..	31	Seal.....	2	A47068
				32			
				33			



ALTERNATE  
HAND  
LEVERS



Item	DESCRIPTION	No. Req'd	Part No.
1	Screw, Oval Hd. Self Retaining, #10 x 1-1/2 lg. ....	2	A50530-369
2	Hand Lever- Straight.....	2	D46037
3	Hand Grip.....	2	B46036

Item	DESCRIPTION	No. Req'd	Part No.
1	Hand Lever- Offset.....	1	D46038
2	Hand Lever- Straight.....	1	D46037
3	Hand Grip.....	2	B46036
4	Screw, Oval Hd. Self Retaining, #10 x 1-1/2 lg. ....	2	A50530-369