

Morse Marine Products

Installation and Operation of MORSE MODEL "MV" CONTROL Use with type 33C cables

The "MV" Control provides a fully synchronized control to shift clutch and operate the throttle with a single lever.

At neutral detent, the button next to the hand lever may be pulled out. This locks the clutch in neutral and allows a full throttle range at the hand lever for engine warm-up.

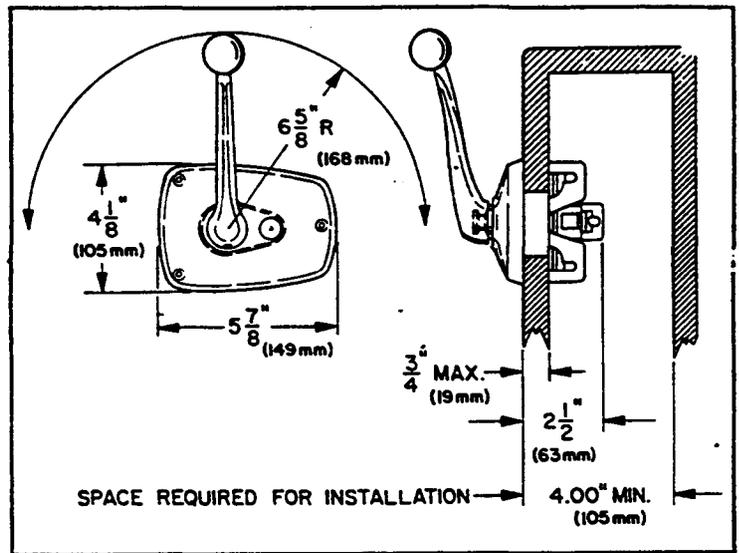


FIGURE 1

EQUIPMENT REQUIRED

1. Model "MV" Control head
2. Clutch connection kit
3. Throttle connection kit
4. Two Morse 33C "Red Jacket" push-pull cables
5. Optional accessory - neutral safety switch kit

REFERENCE OPTIONAL KITS:

- A300928 - Neutral Safety Switch Kit
- A 850 - OMC Switch Kit
- 352 - Mercury Switch Kit

GENERAL INSTALLATION INFORMATION

For maximum protection, especially in salt water areas, all screw threads, mating surfaces, nuts, etc., should be bedded in oil or light grease during installation

CAUTION

Should it be necessary to remove the hanger plate from the back of the control, do not remove the two recessed screws which retain the back of gear unit assembly. Disassembly of gear unit could result in the loss of detent springs and balls.

1. LOCATE CONTROL HEAD

- a. Choose a location which provides clearance for the control head hand lever and allows a clear path for the control cables from the control head to the motor. The recommended mounting position for the control head is shown in Figure 2. The centerline of the handles should be in line with the front edge of the seat and the hub of the lever should be about 2-1/2 inches (63mm) above the seat.

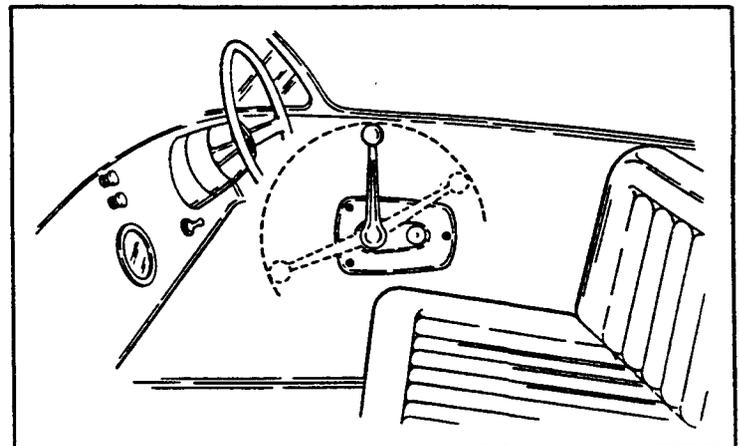


FIGURE 2

- b. Figure 1 shows the control dimensions and the recommended clearance behind the mounting surface.

Using template provided, make cutout for control head. Recommended not over 1/2" thick panel for standard cutout.

NOTE

If maximum 3/4" thickness panel is used, special cutting will be necessary in order to install hanger plate through cutout. See special outline on template.

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**MORSE
CONTROLS**
INCORPORATED

21 Clinton Street
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2. CONNECT SHIFT CABLE TO CONTROL HEAD

- a. Check engine clutch arm to determine whether push or pull travel is required for forward shift. See that shift arm is assembled correctly on control according to Figure 3.

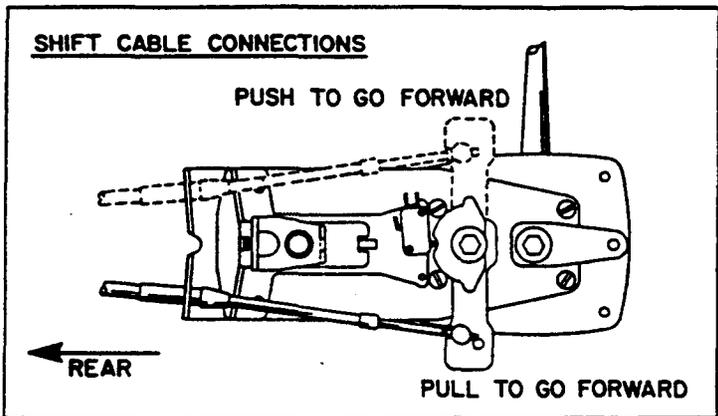


FIGURE 3

NOTE

To obtain standard (2-3/4 inch) cable shift travel at engine, use shift arm on control at short pivot hole location as shown in Figure 5.

For Merc., long (3 inch) cable shift travel is necessary. Assemble shift arm to control using longest pivot hole location as shown in Figure 4.

- b. Insert shift cable through opening at rear of hanger assembly in line with shift arm pivot attachment hole and lock cable hub in hanger slot.
- c. Screw pivot (18) onto cable rod and lubricate with grease. Allow cable rod threads to protrude through pivot 1/8" when using short travel; 1/4" when using long travel. Attach pivot to shift arm and fasten with cotter pin (19). See Figure 3 and 5. Tighten cable nut against terminal.

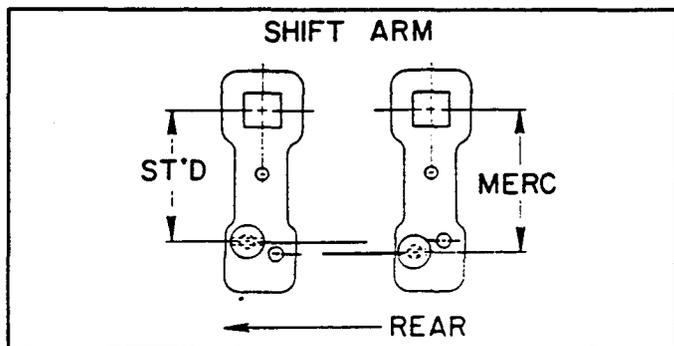


FIGURE 4

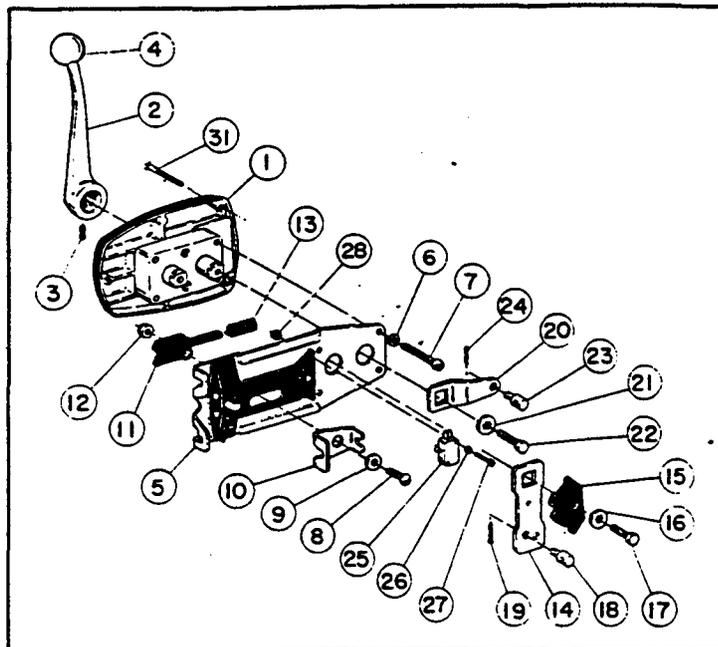


FIGURE 5

ITEM	DESCRIPTION	REQ'D.	PART NO.
1	Gear Unit	1	D47506
2	Hand Lever	1	D31046-2
3	Set Screw, Hex. Soc. Cup Point, 5/16-18 x 5/16 lg.	1	A50414-002
4	Knob	1	A35232-5
5	Hanger Assembly	1	B300656
6	Lockwasher, Int. Tooth 1/4"	3	A50803-077
7	Screw, Fil. Hd., 1/4-20 x 1-1/4 lg.	4	A50113-101
8	Screw, Rd. Hd. Mach. 1/4 -28 x 7/8" lg.	1	A50146-577
9	Flat Washer, 1/4" S.A.E.	1	A50800-068
10	Bracket, Swivel	1	B68394
11	Dwell Block	1	B62748
12	Nut, Elastic Stop, 1/4-28	1	D50908-065
13	Compression Spring	1	A42206
14	Arm, Shift	1	B68269
15	Cam, Switch Actuation	1	B61697
16	Washer, Int. Tooth, 1/4	2	A50806-001
17	Screw, Hex. Hd., 1/4-28 x 1/2 lg.	2	A50407-033
18	Pivot	2	A31029
19	Cotter Pin, 3/32 x 1/2	2	A51001-028
20	Arm, Throttle	1	A43033
21	Washer (see Item 16)	-	---
22	Screw (see Item 17)	-	---
23	Pivot (see Item 18)	-	---
24	Cotter Pin (see Item 19)	-	---
25	Switch	1	A51801-015
26	Washer, Int. Tooth #4	2	A50803-023
27	Screw, Rd. Hd., #4-40 x 5/8 lg.	2	A50143-061
28	Nut, Hex #4-40	2	A50900-026
29	Terminal, Slip On (not shown)	2	A51802-047
30	Insulator (not shown)	2	A62684
31	Screw, Oval Hd., Self Tapping #10 x 1-1/4 lg.	3	A50530-064

NOTE

Be sure pivot is attached in hole toward rear.

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3. CONNECT THROTTLE CABLE TO CONTROL HEAD.

- a. Check carburetor throttle arm to determine whether push or pull is required to open throttle. See that throttle arm and spring dwell block are correctly assembled on control according to Figure 6.

NOTE

Throttle arm and dwell block both point FORWARD for PUSH or to the REAR for PULL.

- b. If action is incorrect, reverse throttle arm (20) by removing bolt (22) and lock-washer (21). Remove arm and reassemble in opposite position as shown in Figure 6.

Also reverse position of dwell block (11) and spring (13) by removing screw (8), flat washer (9), and nut (12). Reassemble in opposite position.

- c. With opening in swivel bracket (10) to the rear of the control, insert throttle cable through opening in swivel bracket (10) and secure cable hub in bracket slot.

Screw pivot (23) onto cable rod and allow cable rod threads to protrude through pivot 3/16" minimum. Hold terminal to prevent it from turning and tighten cable nut against terminal. Lubricate with grease.

- e. Insert pivot terminal (23) in hole of throttle arm (20) and lock in place with cotter pin (24).

THROTTLE CABLE CONNECTIONS

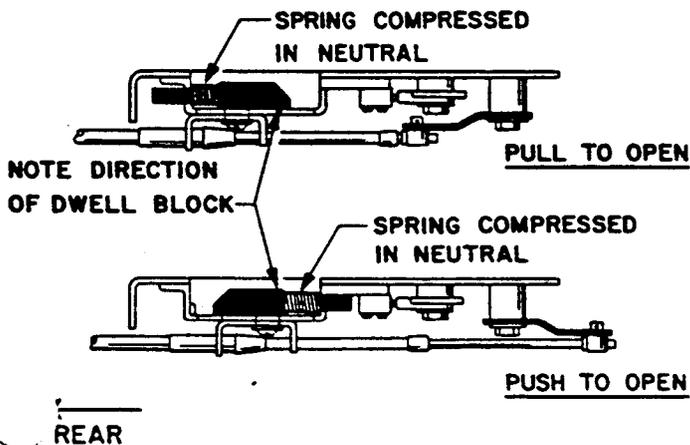


FIGURE 6

4. INSTALL CONTROL CABLES IN BOAT

- a. Run the cables through panel cutout back to the engine location of the engine and clutch.
- b. The cables should be run as straight as possible, avoiding any sharp bends. Make no bends in the cable of less than 8" radius.
- c. The cables should be supported by using cable hangers or by running them through straight sections of conduit for extremely long runs.

NOTE:

Do Not restrict movement of throttle cable within 2 FEET of Control. (See Figure 7).

- d. Connect throttle and shift cable to engine. See instructions with connection kits.

NOTE: Important Information

This control can be used only with non-spring link throttle connection kits. Because the spring dwell is built into the throttle cable anchor assembly, the control head hand lever must be in the forward detent position and the carburetor throttle arm must be at idle position while connecting throttle cable to engine.

This provides a means for absorbing the slight movement of the control head throttle arm during the shift cycle. (See Figure 6.).

When the throttle cable is correctly adjusted, the engine speed will remain at idle while the control is shifted, and will increase only after the clutch is fully engaged.

- e. Wire neutral safety switch into the circuit between the starter solenoid and the starter key switch. Be sure the wires are connected to the common and normally closed switch terminals.

5. COMPLETE INSTALLATION OF CONTROL

- a. Place hand lever in forward position, so that as a result shift arm and throttle arm will take the least amount of space to feed hanger bracket through panel cutout. (See Figure 1.)

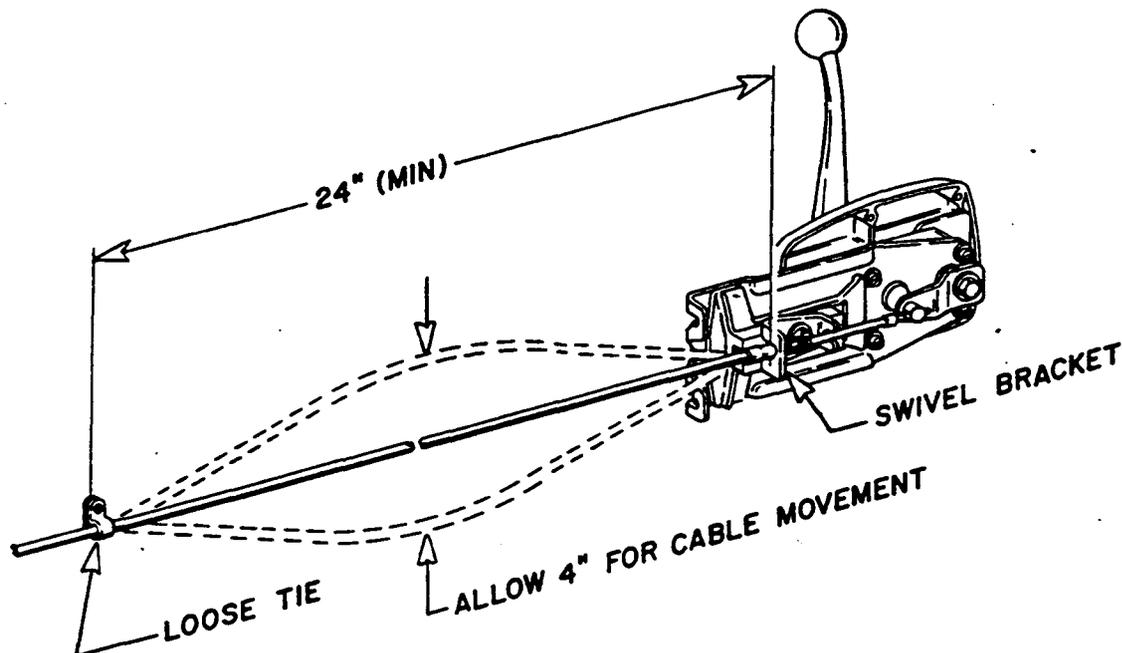


FIGURE 7

b. Fastening recommendations as follows:

For normal mounting,

3 each Oval Head #10 x 1-1/4 long self tapping screws (item 31) are furnished.

Optional mounting method:

Use 3 each Flat or Oval Head #10 x 1-1/2" (max.) long bolts with anchor nuts (or tapped holes in metal panel).

6. FINAL ADJUSTMENT

- a. Operate the control hand lever several times. The engine clutch lever and the control clutch arm (14) should coincide at forward, neutral, and reverse detent positions. The engine clutch lever position must be determined only by the control cable, and should not be jammed against forward or reverse stops. Adjust the shift cable terminals (at the clutch end first) until proper operation is obtained.
- b. Adjust the throttle cable terminals (at carburetor end first) until proper operation is obtained. When the throttle cable is correctly adjusted, the engine speed will remain at idle while the control is shifted, and will increase only when the hand lever is moved beyond the shift detent.
- c. Place the control hand lever in neutral detent position and pull out neutral throttle button. Moving hand lever through forward range should operate carburetor throttle lever to full open position.

d. The Control is now ready for single lever operation of the boat.

7. OPERATION

- a. Adjust the engine for smooth idle, as recommended by the manufacturer.
- b. For starting or warm-up, place the control in neutral detent position and pull out the neutral throttle button. This disengages the shift mechanism, allowing the lever to be moved forward or backward to advance the throttle. When warm-up is completed, return the lever to neutral detent, push in the button and the control is ready for single lever operation.
- c. When operating the "MV" control, shift crisply out of neutral into forward or reverse, but do not shift too quickly from forward into reverse. Stay in the neutral or idle position until the boat has lost most of its headway before completing the shift to reverse.

8. MAINTENANCE

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