MARINE

MANUAL

Single engine control MARINE uses separate levers for throttle and shift operations for a Single Engine on Inboard / Outboard / Inboard-Outboard configuration. Due to the separate levers the control of the throttle can be operated while the gear is in neutral position. (Usually this operation is used for Engine Warm up).

Craftsman Marine push-pull cables can be used directly on the Lever.

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1) INSTALLATION PREREQUISITES

1.1) Before you install a Control Lever: (Ref. Fig. 1)

- Define the mounting location depending upon the space required for installation (refer templates in Fig. 7).
- Once the mounting location is defined, ensure that the Handle movements for extreme throttle positions are not restricted.
- Ensure that the Cable routing allows long bending radius.

1.2) Before you install the Control Cables:

- Ensure that no bending radius is less than 200mm while routing a cable.
- Use of cable hangers or routing through segments of conduit for long straight runs is recommended.
- Do not use fittings which may compress or damage the cable casing.
- For installing Control Cable on a Boat with outboard engine, add 4 feet length to the original length measured while routing.

2) INSTALLING CONTROL CABLES:

2.1) Choosing mode of operation:

Using Table-A, determine the correct operating mode of throttle and shift cable for your engine.

ENGINE	SHIFT CABLE ACTION	THROTTLE CABLE ACTION
Honda, Suzuki, Tohatsu, Mercruiser, Johnson, Evinrude, Omc, Volvo Inboard/Outboard	"PULL" TO GO FORWARD	"PUSH" TO OPEN THROTTLE
Yamaha 90 H.P. & Higher, Yamaha 70 H.P. & Below, Yamaha Inboard/Outboard		
Mercury 18, 25 HP & Outboards and Mariner Outboards		
Inboards (Diesel, Gas)	MOST TRANSMISSIONS "PULL" TO GO FORWARD	MOST THROTTLES "PULL" TO OPEN

Table-A: Cross-reference of throttle and shift cable action with Engine type.

2.2) Installing a shift cable

- Open de housing by removing the 4 screws as indicated (Fig. 2)
- Referring Table-A, verify whether the shift cable action is Push or Pull.
- Depending upon the shift cable action, reverse the Shift Arm if required.
- Select the desired Travel Length by placing the swivel joint in the right Position (Refer instruction "2.3")
- Place the cable in the Swivel joint as indicated (Fig 4) and mount to the Housing (Fig 5).

2.3) Selecting a shift cable travel length (Ref. Fig. 3)

The Engine Control Lever allows following travel lengths for a shift cable:

1.	Short	68 mm
2.	Medium	75 mm (Recommended Travel Length)
3.	Long	82 mm

2.4) Installing a throttle cable

2.4.1) Control Lever End

- Open de housing by removing the 4 screws as indicated (Fig. 2)
- Referring Table-A, verify whether the shift cable action is Push or Pull.
- Depending upon the shift cable action, reverse the Shift Arm if required.
- Select the desired Travel Length by placing the swivel joint in the right Position (Refer instruction "2.3")
- Place the cable in the Swivel joint as indicated (Fig 4) and mount to the Housing (Fig 5).

2.4.2) Engine End

- While installing the Control System, make sure that the engine is in neutral position.
- Throttle Cable must be in light contact with idle stop screw (Ref. Fig. 6)
  NOTE: Disconnect the throttle cable before rigging the engine idle. Failure of this precaution may damage cable and/or engine.

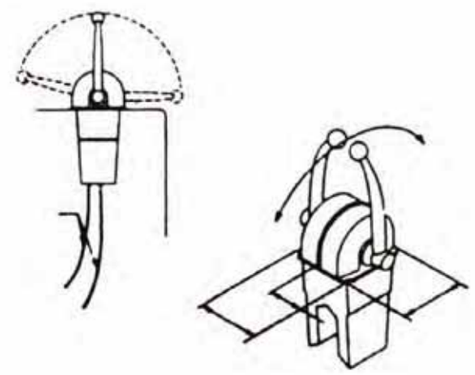


FIG. 1

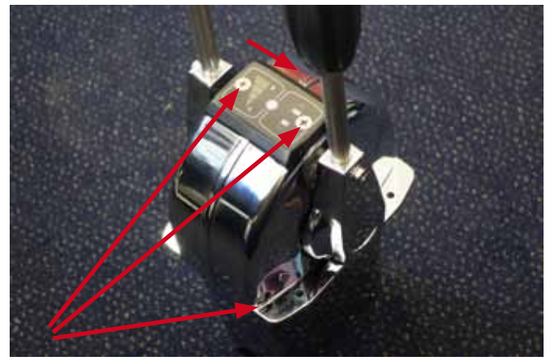
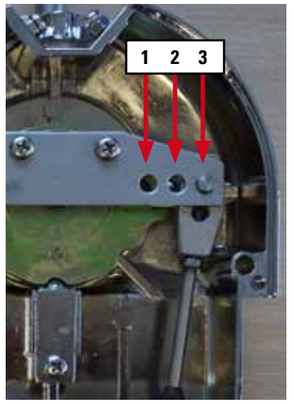


FIG. 2



1. Short travel
2. Medium travel
3. Long travel

FIG. 3

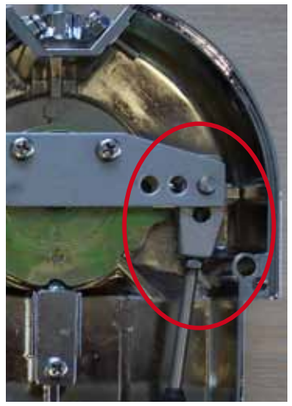


FIG. 4

FIG. 5

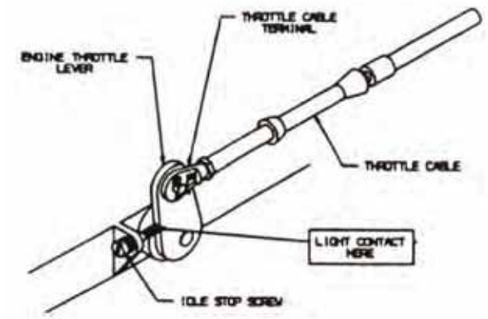


FIG. 6

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