



Beaver Dam, Wis.  
U.S.A.

# MERCUISER SERVICE BULLETIN

Section: XII (Service  
Bulletins)  
Number: 13 64-05  
Date : 3/20/64

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## A. POWER SHIFT (35718A2)

(For General Information Section I)

Power Shift can be shifted when the engine is not running. If the engine has been stopped with the stern drive unit in gear, it is possible to shift into neutral and restart the engine; however, the force required to move the remote control handle will be greater than when the engine is running because of the additional friction of the Power Shift cylinder when the engine is "off".

## B. POWER TILT - MERCUISER I

(For Installation Section II)

Check hydraulic hose connection on gimbal housing assembly BEFORE installing on boat or when servicing Power Tilt. If hydraulic hose connection has a 90° bend (Figure 1), open bend up 20°. (Figure 2) This will help eliminate the possibility of kinking the hydraulic hose and subsequent malfunction of hydraulic tilt system. If hydraulic hose is kinked or bent sharply, the drive unit may tilt up properly, but its return to operating position will be much slower than normal.

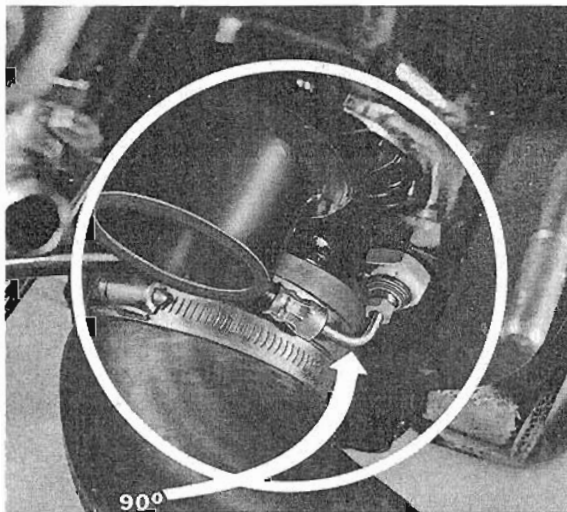


Figure 1. Fitting 90° Bend

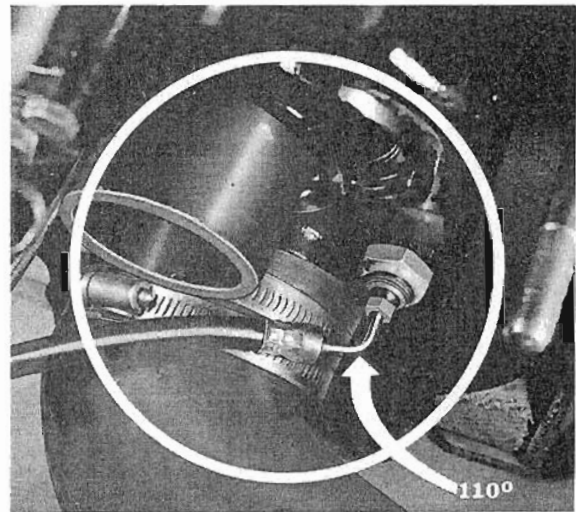


Figure 2. Fitting 110° Bend

## C. PANEL MOUNTED MERCONTROL (36077A1)

(For Installation Section II)

When installing the Panel Mounted MerControl (36077A1), place a drop of Loctite (92-32609) in each of the 3 mounting screw holes of the control. To insure maximum adhesion, keep mounting screws clean and free from oil prior to installation.

To use Loctite on controls which already have been installed, remove control handle, then remove one screw at a time, apply Loctite and reinstall screw.

**D. PROPELLER RECOMMENDATIONS - MERCUISER IA-IB-IC***(For Installation Section II)*

The gear housing of the MerCruiser IA-IB-IC has a 3/8" larger diameter than the former MerCruiser I and must use the new series of propellers which have a larger diameter hub. Because of the change in hub diameter, the new series propeller cannot be used on earlier MerCruiser units, nor can the earlier series of propellers be used on the MerCruiser IA-IB-IC.

**E. MERCUISER I & MERCUISER IA-IB-IC DRIVE UNITS & TRANSOM PLATE ASSEMBLIES***(For Page 10 of Installation Section II)*

Because of differences in bore sizes, drive units IA-IB-IC cannot be installed in the earlier MerCruiser I transom plate assemblies. DO NOT install a MerCruiser I Drive Unit in a MerCruiser IA-IB-IC transom plate. Although the bolt pattern is the same, the universal joint will not align properly with the gimbal housing ball bearing.

**F. COLOR CODING - ENGINE COUPLING & DRIVE SHAFT***(For Page 1 of General Information Section I)*

MerCruiser IA-IB-IC drive shafts and engine couplings are color coded to help prevent mismatching drive units and engines during installation. When installing MerCruiser IA-IB-IC drive units, be sure that the colored stripe on the engine coupling matches that on the drive shaft. (Figure 3)

If paint is removed from drive shaft, identification can be made by checking for letter "A", "B" or "C" stamped on end of universal shaft (Figure 3) or after serial number on drive shaft housing.

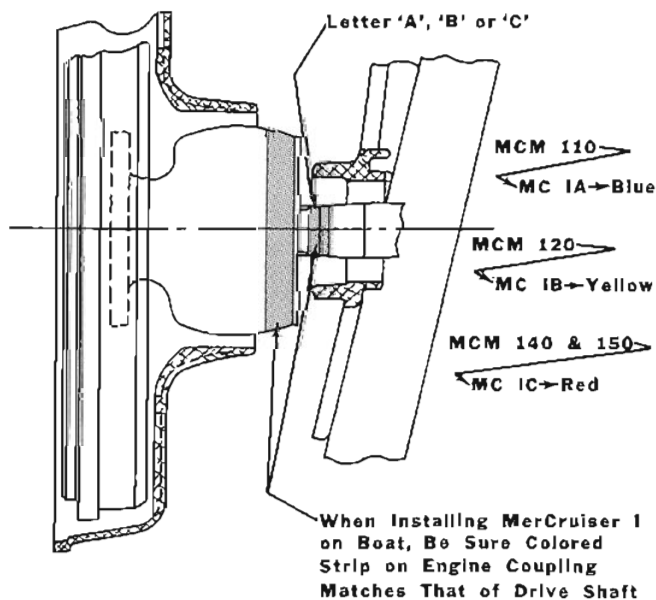


Figure 3. Matching Color Strips

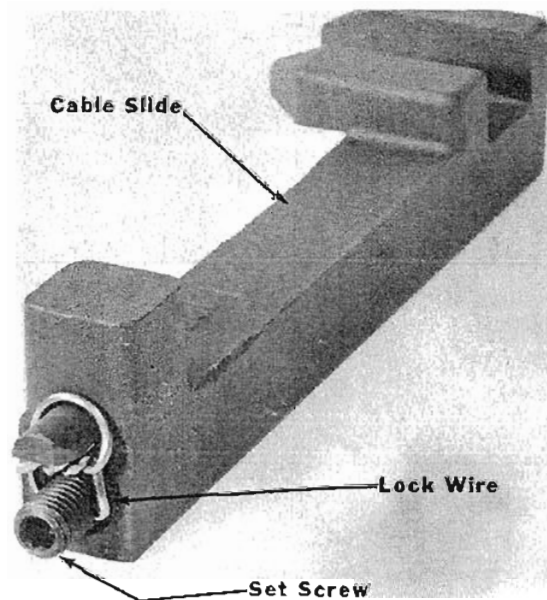


Figure 4. Securing Set Screw

**G. SHIFT ACTUATING CABLE SLIDE - MERCUISER I***(For Page 21 of Drive Units Section IX)*

When installing a new shift cable, the correct tightening procedure for the set screw in the shift actuating cable slide (32487 or 33981) is as follows:

Tighten screw securely, then back off approximately 1/4-turn. The screw must be loose enough to permit cable to turn or rotate freely, but tight enough to minimize end play between cable and cable slide. Secure screw with lockwire. (Figure 4)

## H. SHIFT CABLE DIMENSIONS

### 1. MerCruiser I & IA-IB-IC

(For Page 14-18 of Installation Section II)

To obtain maximum adjustability on remote control shift cable for MerCruiser I Stern Drive Units, the following dimensions must be checked:

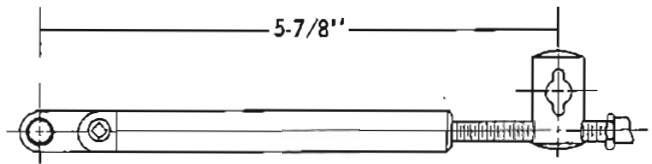
- a. With cable end guide removed and unit in full forward gear, inner core wire must extend exactly 1-3/8" from end of cable guide insert. (Figure 5)

Figure 5. Inner Core Wire  
Extended 1-3/8"



- b. With cable end guide installed and unit in full forward gear, the distance from center line of brass barrel to center line of cable end guide mounting hole must be exactly 5-7/8" (Figure 6) Readjust brass barrel to achieve this dimension.

Figure 6. Center Line to  
Center Line 5-7/8" Dimension



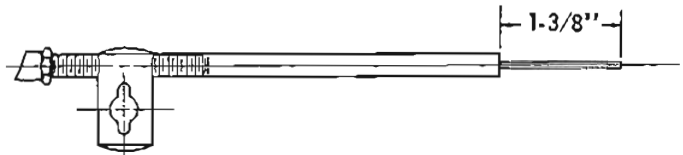
### 2. MerCruiser II

(For Page 35 of Installation Section II)

To obtain maximum adjustability on remote control shift cable for right and left hand rotation MerCruiser II Stern Drive Units, the following dimensions must be checked:

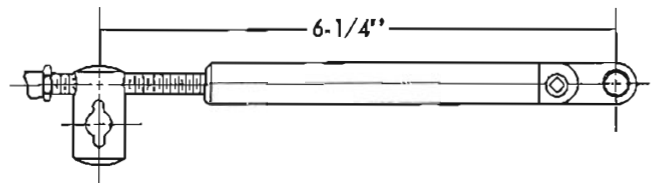
- a. With cable end guide removed and unit in full forward gear, inner core wire must extend exactly 1-3/8" from end of cable guide insert (full reverse gear engagement on left hand propeller rotation units). (Figure 7)

Figure 7. Inner Core Wire  
Extended 1-3/8"



- b. With cable end guide installed and unit in full forward gear (full reverse gear engagement on left hand propeller rotation units), the distance from center line of brass barrel to center line of cable end guide mounting hole must be exactly 6-1/4". (Figure 8) Re-adjust brass barrel to achieve this dimension.

Figure 8. Center Line to  
Center Line 6-1/4" Dimension



## I. FOUR & 6-CYLINDER MERCRUISER DISTRIBUTORS

(For Page 10 of Ignition System Section V)

Cam angle or dwell cannot be set on a synchrograph. This distributor depends upon its shaft bushing and engine drive gear for rigidity. Unless a special collar or adaptor is used with the synchrograph, shaft "wobble" will give an inaccurate dwell reading.

J. BREAKER POINT GAP - 4 & 6-CYLINDER MERCUISER ENGINES

(For Page 8 Section I, Page 1 Section III & Page 5 & 16 Section V)

Breaker point gap specifications for the 4 and 6-cylinder engines were inadvertently reverse on the pages shown below. The correct specifications are as follows:

.022" - "110" & "120" 4-Cylinder

.016" - "140" & "150" 6-Cylinder

Prior to receipt of new printed pages in the near future, make the above changes on the following pages in your MerCruiser Service Manual.

Section I - Page 8

Section III - Page 1

Section V - Page 5 & 16

Because of important relation of point opening to low speed engine performance and of cam dwell to high speed engine performance, the cam dwell should be checked after adjusting points. Use Service Tachometer & Dwell Meter (91-31591).

Mechanical gauging of breaker points is not as accurate as a dwell meter check because a mechanical gauge measures between high spots on points instead of true point opening. (Figures 9 & 10) For optimum performance, use Service Tachometer & Dwell Meter (91-31591) on all tuneups.

Figure 9.  
Cam Dwell

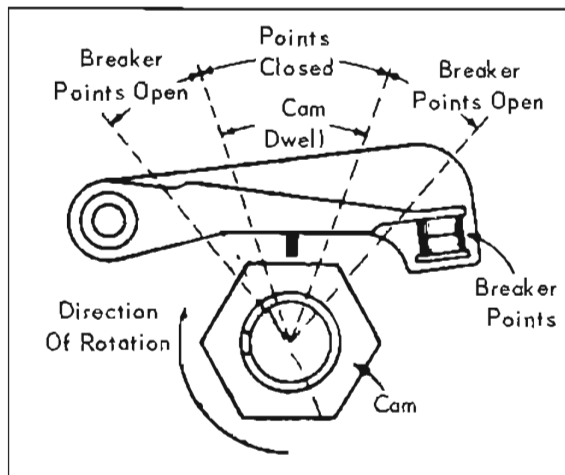


Figure 10.  
Inaccurate Gauging  
of Rough Points

