



# MERCUISE SERVICE BULLETIN

Section: XII (Bulletins)

Number: 66-409

Date : 7/12/66

Cut individual items along broken lines & paste in appropriate sections of your MerCruiser Service Manual.

- A. Cylinder Blocks - Freeze Cracks (For P. 22 of Section 8)
- B. MerCruiser Engine Water Circulation Pump Belt Noise (For P. 36 of Section 8)
- C. Fuel Line Check Valve - MerCruiser 4-&-6-Cyl. Engines (For P. 3 of Section 7)
- D. Oil Dip Stick & Tube - MerCruiser 110 & 120 (For P. 15 of Section 8)
- E. Procedure For Adjusting Rocker Arm Clearance (For P. 81 of Section 8)

## A. CYLINDER BLOCKS - FREEZE CRACKS

(For P. 22 of Section 8)

Cylinder blocks, which suffer horizontal cracks when water freezes in the block, cannot be honored under the warranty policy. These freeze cracks are caused by failure to drain the cylinder block and exhaust manifold for winter storage in anticipation of freezing weather. Four-and-6-cylinder blocks crack on the starboard side of the engine, just below the core plugs or along the upper edge below the cylinder head.

Eight-cylinder blocks usually crack in the area near the hydraulic lifters or below the intake manifold in the valley of the block. If freezing failure is indicated or water is found in the crankcase, remove the intake manifold to check these areas.

## B. MERCUISE ENGINE WATER CIRCULATION PUMP BELT NOISE

(For P. 36 of Section 8)

We recently have received a few complaints with reference to water pump noise. Our inspection of these returned water pumps indicate that they were free from any defect. The subject pumps also were extensively checked for noise by the manufacturer's inspection laboratory, and nothing was found wrong.

Experience has shown that, in the majority of instances, noise, which was attributed to the engine water pump, actually is belt noise that is being amplified by the water pump and drive pulleys.

We want to bring your attention to the recommendations we have in regard to drive belt installation procedures:

Service procedure:

- For new, unstretched drive belts, an initial installed tension of 125 lbs. should be applied. The seating in the pulleys and initial stretching of the belt takes place in the first few revolutions of operation or during the first day even without the engine running.
- Therefore, it is of the utmost importance that any belt be considered a used belt after its initial installation, and that it be retensioned to and maintained at 75 lbs.
- Under no circumstances should a used belt be retensioned to the initial 125 lbs. or higher load.
- Check the above tensions with strand belt tension gauge.

This proper belt tensioning will eliminate slippage, which causes premature glazing and hardening of the belt face which, in turn, causes belt squeak and radial cracks in its cover.

This service information is intended for evaluation of any potential water pump noise and its relation to fan belt noise. Change all belt tension information in the chart in Tuneup Section 3 of your MerCruiser Service Manual.

**C. FUEL LINE CHECK VALVE -MERCUISER 4-&6-CYL. ENGINES**

(For P. 3 of Section 7)

A check valve and fuel line presently are being installed on MerCruiser 110, 120 & 150 engines to eliminate excessive cranking after the fuel tank or carburetor runs dry. Install the check valve and fuel line on your customer engines and advise them of the advantages. Observe the following procedure:

1. Remove tee fitting (C-22-35471) from carburetor and install fitting on discharge side of fuel pump.
2. Remove present restrictor and install check valve (B-22-45122) into tee fitting on inlet side of fuel filter.
3. Connect hose (B-32-45121) between check valve and tee.
4. Reverse fuel line (B-32-35470) and install.
5. Remove clip B-54-28700 and install clip B-54-28938.

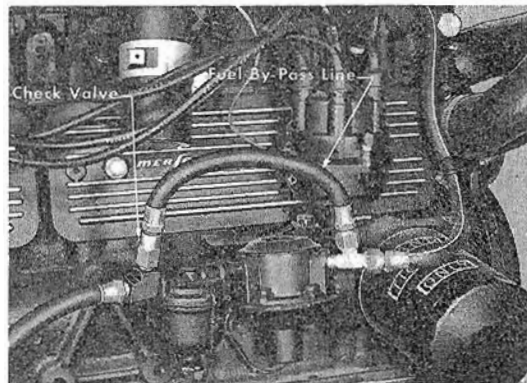


Figure 1. Fuel Line Check Valve

B-32-45121	Fuel Line	\$1.40 U.S. List
B-22-45122	Check Valve	\$1.70 U.S. List

**D. OIL DIP STICK & TUBE - MERCUISER 110 & 120**

(For P. 15 of Section 8)

MerCruiser 110 and 120 engines are using 2 different oil dip sticks and dip stick tubes. When ordering or replacing, follow the chart below:

MerCruiser Model	Engine Serial No.	Dip Stick		Dip Stick Tube	
		Part No.	Length	Part No.	Length
"110"	1946843 & Below	B-34539	11"	B-32-34540	2-5/16"
"110"	1946844 & Above	B-45490	12½"	B-32-45489	4"
"120"	1946513 & Below	B-34539	11"	B-32-34540	2-5/16"
"120"	1946514 & Above	B-45490	12½"	B-32-45489	4"

**E. PROCEDURE FOR ADJUSTING ROCKER ARM CLEARANCE**

(For P. 81 of Section 8)

To simplify the adjustment of the intake and exhaust valves on the MerCruiser 60 engine, it is recommended that the procedure listed below be followed.

Rotate Engine to Full Valve Opening	Adjust Rocker Arms
No. 1 Exhaust	#3 Intake & #4 Exhaust
No. 3 Exhaust	#4 Intake & #2 Exhaust
No. 4 Exhaust	#2 Intake & #1 Exhaust
No. 2 Exhaust	#1 Intake & #3 Exhaust
Valve Lash (cold)	Intake .005 (.12mm) Exhaust .008 (.20mm)