

TO: SERVICE MANAGER TECHNICIANS
PARTS MANAGER

No. 87-1

New Alternator Bracket to Fit MCM 120/140/2.5L and 3.0L Engines

MerCruiser Service has received some reports of alternator brackets breaking on 1986 and 1987 MCM 120/140/2.5L/and 3.0L engines. If a customer experiences a failure of an alternator bracket (Part No. 63857A2) it should be replaced with a new design bracket (Part No. 16738A1). The new bracket can be identified by an extra ear added for the alternator to mount in. (Figures 1 & 2).

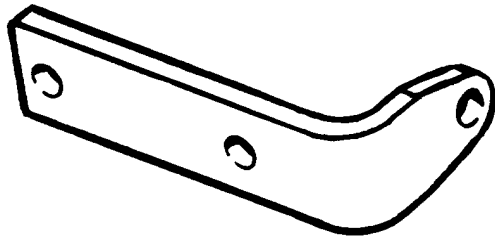
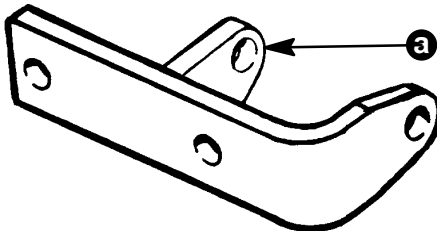


Figure 1. Old Bracket
Part No. 63857A2



a - Ear Added to Bracket

Figure 2. New Bracket
Part No. 16738A1

Detonation Failures on 4 Cycle Engines

In the last few months MerCruiser Service has received complaints of piston breakage on MCM and MIE engines. After further investigation it was determined the pistons did not break due to defect but were damaged from detonation.

IMPORTANT: Refer to any of the latest engine service manuals for a complete explanation of detonation.

Causes for detonation are numerous but the most common are:

1. Low octane fuel.
2. Too much spark timing (advance).
3. Engine running lean (fuel restriction and/or air leak).
4. Engine over propped (lugging).
5. Inadequate cooling of engine.
6. Excessive carbon build up.
7. A combination of 2 or more of the above.

Following are some photos of different types of detonation failures.

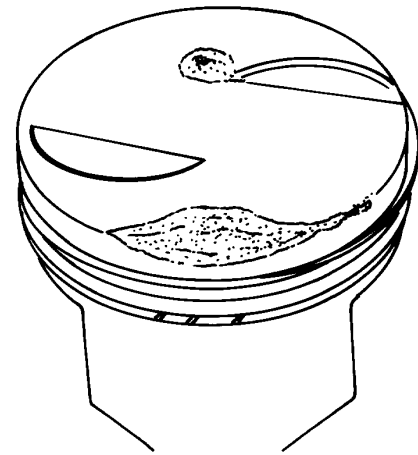


Figure 1.

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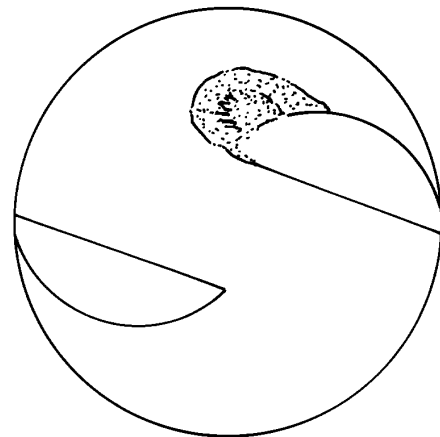


Figure 2.

Figures 1 & 2 show piston erosion. The erosion is caused by excessive heat which starts melting the piston.

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Figures 3 & 4 show piston breakage. The breakage is caused by excessive combustion pressure which breaks pieces out of the top of the piston.

Other telltale signs of detonation that you may find are:

1. Tuliped or dished valves (caused by excessive heat).
2. Aluminum deposits on the spark plug tip.
3. Damaged spark plugs (insulator nose cracked or broken).

Detonation failures are not covered by Mercury Marine Warranty.

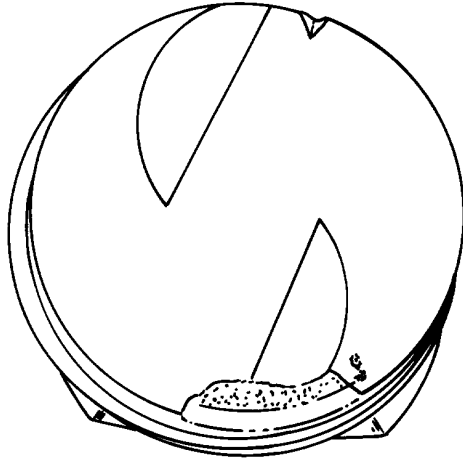


Figure 3.

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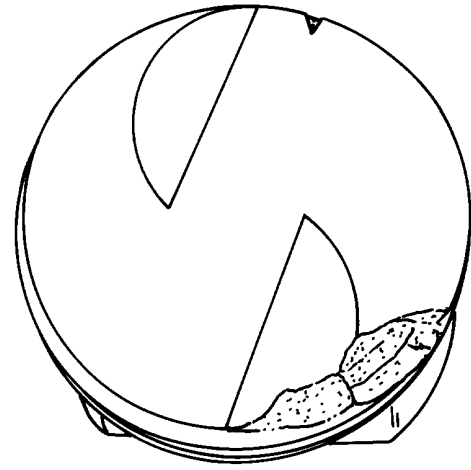


Figure 4.

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