mercruiser
STERN DRIVES & INBOARDS

service bulletin

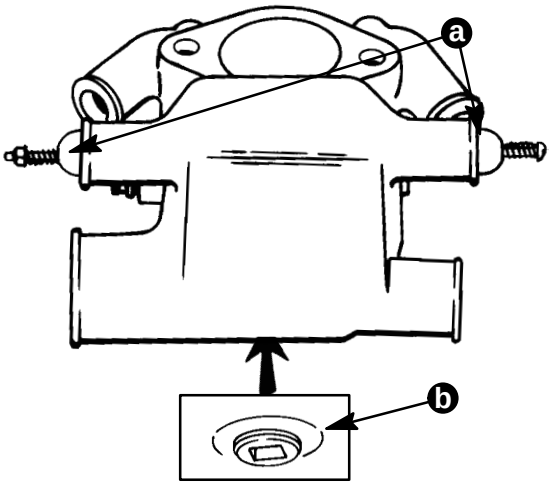
TO: SERVICE MANAGER ☐ MECHANICS ☐
PARTS MANAGER ☐

No. 93-18

A. V6 AND V8 THERMOSTAT HOUSINGS

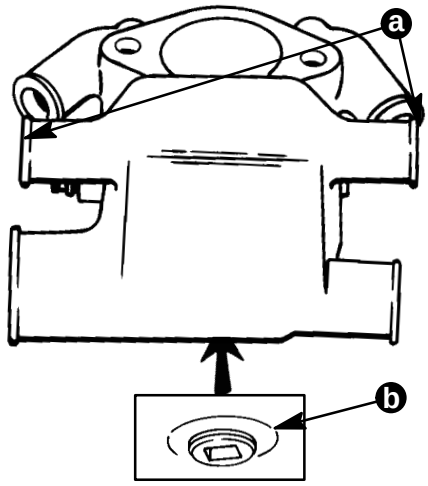
Changes to Thermostat Housing on Raw Water Cooled Engines

Production has been using a thermostat housing that doesn't use the nylon check balls. This new housing has internal changes to it so the nylon check balls aren't needed any longer. DO NOT install the check balls in the new housing. Refer to Figures 1 and 2 for identification.



a - Pressure Relief Nylon Balls - Holes in Casting is Chamfered
b - Pipe Plug - Located on Bottom of Casting

Figure 1. 16413A3 with Check Balls



a - Holes are Not Chamfered
b - Early Production had this Pipe Plug. Later Production Does Not.

Figure 2. 16413A9 without Check Balls

The new housing, P/N 16413A9, can be used as a direct replacement for the older one with check balls EXCEPT on certain model. The reason for this is that the by-pass hole inside the housing is sized for a certain minimum seawater pump output and some older models don't meet this requirement. If the new housing is put on these older models, the engine will overheat at idle or low engine RPM.

P/N 16413A3 Thermostat Housing WITH Check Balls. Must be used on all V6 or V8 engines that use an R, MR or Alpha One stern drives with the smaller water pump impeller.

P/N 16413A9 Thermostat Housing WITHOUT Check Balls. Can be used on all V6 or V8 engines that use Alpha One Gen II stern drive with the "floppy vane" water pump impeller. Also, it can be used on any V8 engine that uses a belt driven seawater pickup pump which includes all Bravo and inboard engines.

Inspection

The by-pass hole in the 16413A9 housing can be checked if needed. Early production housings had a plug that can be removed to inspect this hole, Figures 2 and 4.

Later production housings don't have this plug. A hole will have to be drilled thru the outer wall so that you can inspect the inner hole if needed, Figures 3 and 4.

NOTE: Before drilling, read instructions completely.

1. Turn housing upside down and mark it for center punching.
2. Center punch then drill hole to specified size so it can be taped and plugged after inspection. US: 23/32 inch (metric: 18.5 mm).
3. By-pass hole ID must be 1/2 inch ± 1/32 (12.5 mm ± 1.0).
4. If hole is under size, water hoses may expand when thermostat is closed because water can't flow out the by-pass fast enough. If hole is over size, engine may overheat at idle or low RPM because too much water is flowing out of by-pass.
5. After inspection, tap hole. US: 1/2-14 NPT (metric: M20x1.5).
6. Cast iron, brass or stainless steel plug must be used. Order P/N 22-37372 from Quicksilver Parts Department which is 1/2-14 NPT cast iron. (Metric: M20x1.5 plug and A20 Sealing Washer, get from local source.)
7. Apply sealant to threads before installing.

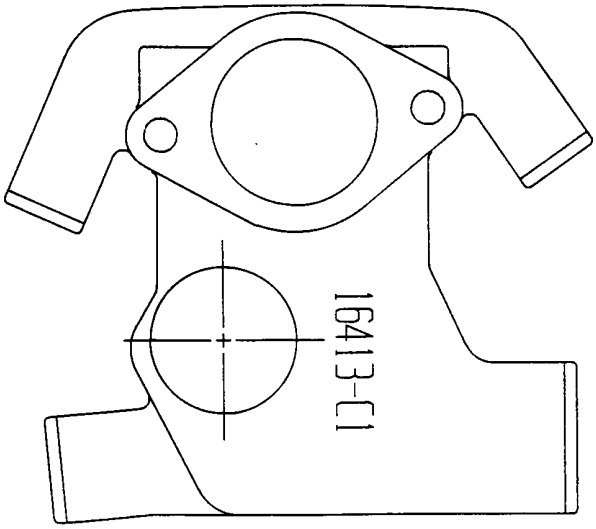
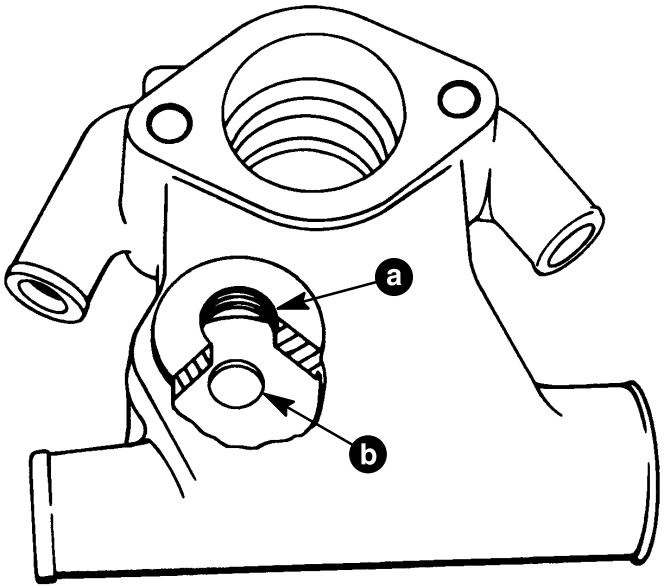


Figure 3. Marking Housing for Drilling Location



a - Drilled Hole
b - 1/2 inch ± 1/32 (12.5 mm ± 1.0)

Figure 4. Measure By-Pass Hole