

## **SIERRA INSTALLATION INSTRUCTION AND BREAK-IN PROCEDURE**

To install pistons in a used block, for best results follow these instructions. Use of ring compressors other than the type supplied by OMC may cause piston and/or ring damage. The use of automotive type compressors will cause the ring to rotate and installation of the piston will cause piston ring pin recession and failure of the piston. The mixing of oversize and standard pistons in a block is permissible. Before installation of the piston the following measurements must be taken.

1. Measure cylinder head for warpage. Warpage cannot exceed 0.004 inch. If greater replace head or resurface.
2. Check cylinder in two places for out of round not to exceed 0.004 inch.
3. Check cylinder taper top to bottom not more than 0.002 inch.
4. Check for oversize not more than 0.004 inch.
5. Check piston for out of round 90° from each measurement ¼ inch above bottom of skirt. Not more than 0.004 inch.
6. Check piston to ring gap on bottom ring no more than 0.004.
7. To check top ring install ring on piston with ring laying in groove, hold piston horizontal, lay machinist rule on piston and rotate piston being sure ring does not protrude above piston, out of the groove. If it does piston needs further cleaning.
8. Checking ring end gap, V-4 & small bore V-6 0.019-0.031 inch. Big bore V-6 0.020-0.033 inch. Check with ring about 1 inch down in bore.

**NOTE:** When rebuilding a powerhead you should deglaze all cylinders by honing. We recommend the replacement of new rings in all cylinders. Lube all pistons and cylinders with 2 cycle oil prior to installation. All piston rod bolts must be replaced and torqued to specifications. Cylinder head bolts must be retorqued after break-in.

### **BREAK-IN PROCEDURE**

During break-in the use of a TC-W3 certified oil is recommended. Do not use a synthetic oil during break-in. For non-VRO models mix oil in the tank at a mixture of 25 to 1. VRO models mix oil in tank at a ratio of 50 to 1 and use VRO.

**First hour** – for the first ten minutes run engine at a fast idle and check for proper cooling. For the remainder of the first hour run the boat at a planing speed and no full throttle or prolonged idle.

**Second hour** – run boat at no more than 4,000 RPM, ¾ throttle. At intervals you may gradually bring throttle up to full throttle for no more than 1-2 minutes. Vary throttle.

**Third through tenth hour** – vary the speed at least every 15 minutes. No sustained full throttle or prolonged idle. Check for proper VRO operation. Check for proper cooling. Re-torque heads after 10 hours when heads cool! The use of synthetic oils after break-in is permissible.



These recommendations should be used as a guide only. Please consult your service manual for complete rebuilding instructions and break-in procedures.

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