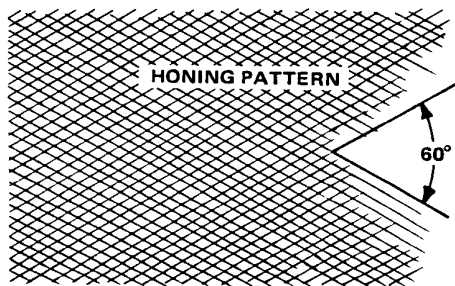




## Piston Pin

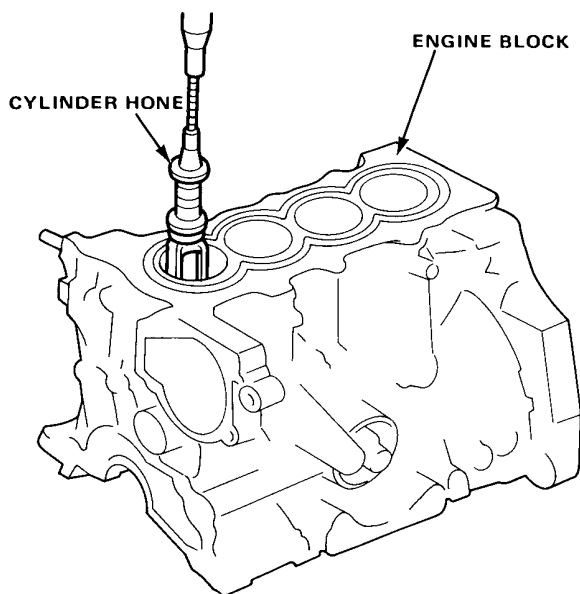
### Cylinder Bore Honing

1. Measure cylinder bores as shown on page 7-10. If the block can be re-used, hone the cylinders, and remeasure the bores.
2. Hone cylinder bores with honing oil and medium (220 grit) stone in a 60 degree cross-hatch pattern.



3. When honing is complete, thoroughly clean the engine block of all metal particles. Wash the cylinder bores with hot soapy water, then dry and oil immediately to prevent rusting.
4. If scoring or scratches are still present in cylinder bores after honing to service limit, rebore the engine block.

**NOTE:** Some light vertical scoring and scratching is acceptable if it is not deep enough to catch your fingernail and does not run the full length of the bore.



### Removal

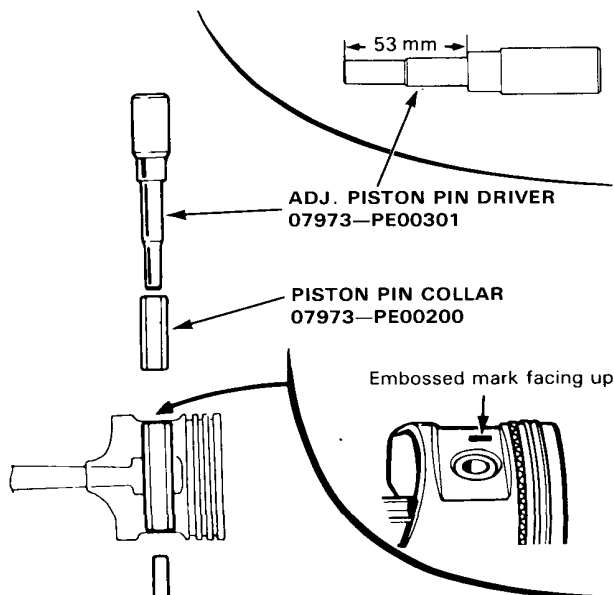
1. Install the attachment on the piston base.

**PISTON BASE HEAD**  
07973-SB00100

**PISTON PIN BASE INSERT**  
07973-PE00400

**PISTON PIN DIS/ASSEMBLY TOOL SET BASE**  
07973-6570002

2. Adjust the length of piston pin driver to 53 mm (2.09 in) as shown.



**NOTE:** Use hydraulic press. When pressing pin in or out, make sure that the recessed portion of the piston aligns with the lips on the collar.

3. Place the piston on the piston base and press the pin out with a hydraulic press.

# Connecting Rod

## Selection

Each rod is sorted into one of four tolerance ranges (from +0.006 to +0.024 mm, in 0.006 mm increments) depending on the size of its big end bore. It's then stamped with a number (1, 2, 3, or 4) indicating that tolerance. You may find any combination of 1, 2, 3, or 4 in any engine.

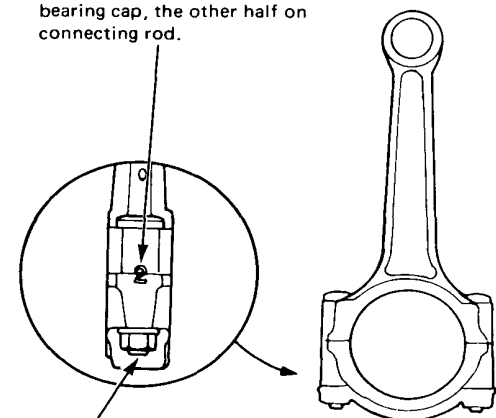
**Normal Bore Size: 48 mm (1.89 in.)**

### NOTE:

- Reference numbers are for big end bore size and do NOT indicate the position of rod in engine.
- Inspect connecting rod for cracks and heat damage.

### CONNECTING ROD BORE REFERENCE NUMBER

Half of number is stamped on bearing cap, the other half on connecting rod.



Inspect bolts and nuts for stress cracks.

# Piston Pin

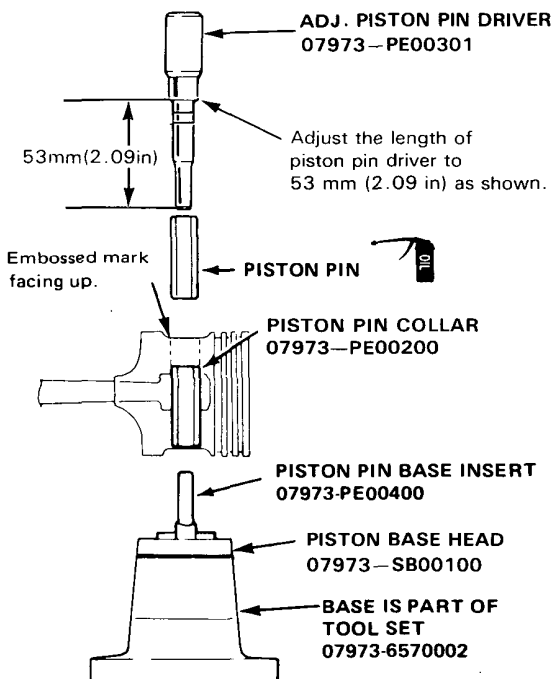
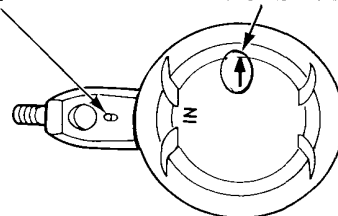
## Installation

1. Use a hydraulic press for installation.

- When pressing pin in or out, be sure you position the recessed flat on the piston against the lugs on the base attachment.

### CONNECTING ROD OIL HOLE

The arrow must face the timing belt side of the engine and the connecting rod oil hole must face the intake manifold.



**NOTE:** Install the assembled piston and rod with the oil hole facing the intake manifold.



## Inspection

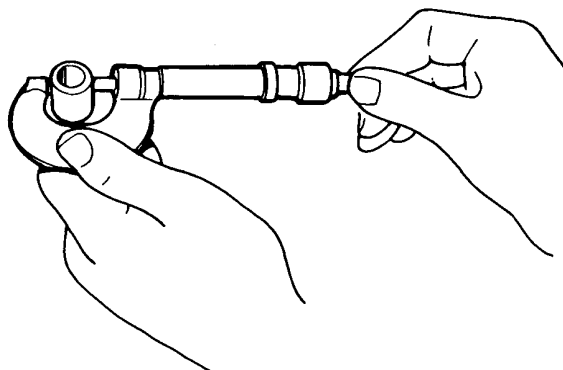
1. Measure the diameter of the piston pin.

### Piston Pin Diameter:

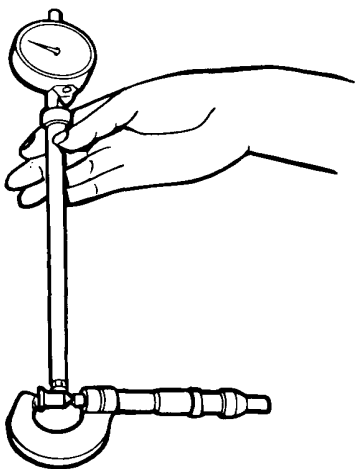
**Standard (New):** 18.994–19.0 mm  
(0.7478–0.7480 in.)

**Overize:** 18.997–19.003 mm  
(0.7479–0.7481 in.)

NOTE: All replacement piston pins are overize.



2. Zero the dial indicator to the piston pin diameter.



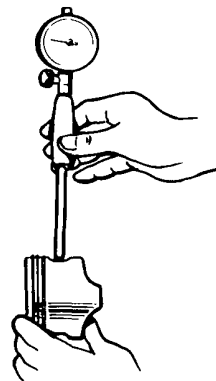
3. Measure the piston pin-to-piston clearance.

NOTE: Check the piston for distortion or cracks.

If the piston pin clearance is greater than 0.022 mm (0.0009 in.), re-measure using an overize piston pin.

### Piston Pin-to-Piston Clearance:

**Service Limit:** 0.010–0.022 mm  
(0.0004–0.0009 in.)



4. Check the difference between piston pin diameter and connecting rod small end diameter.

### Piston Pin-to-Connecting Rod Interference:

**Standard (New):** 0.014–0.04 mm  
(0.0006–0.0016 in.)

