RING END GAP CALCULATIONS

TOP RING: bore x gap factor (SEE BACK PAGE FOR YOUR SPECIFIC APPLICATION FACTOR) = end gap
Example: 4.030” bore x .004” factor (street naturally aspirated) = .016” minimum gap

SECOND RING: Naturally Aspirated – .004” per inch of bore min.
Boosted – .005” per inch of bore min.

LOCK RING INSTALLATION

Spiral lock rings – used in KB series

1. Spring the lock about 1/2” to 1/4” to get your thumb between the coils.
2. Insert tang into groove. Slightly twist your wrist towards the groove angling the lock downward into the groove.
3. Using a small flat screwdriver push down on the lock to push it into the groove. Continue in a circular rotation. Do not try and spiral the lock in.

PISTON NOMENCLATURE:

Compression Height
Centerline of wrist pin to top of piston, do not include dome height.

Offset Wrist Pin
The short side of the offset must be towards the thrust face of the engine.

Measuring Point
Measure even with the bottom of the wrist pin pad and 90° to the pin.

OIL SUPPORT RAIL:

Applications where the wrist pin is intersecting the oil groove require an Oil Support Rail to bridge the gap the wrist pin cut out has made. All three of the oil control rings are installed on top of the support rail.

Special Note: Raised dimple on support rail is positioned down and indexed in the open area the wrist pin has made in the oil ring groove.

Verify the oil support rail is flat at the point where the dimple is punched into it. If there is a slight bow lightly bend the rail straight.

Warranty Disclaimer

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### General Clearance Guidelines

<table>
<thead>
<tr>
<th>APPLICATION</th>
<th>RING END GAP FACTOR</th>
<th>2618 ALLOY 3.5&quot; TO 4.1&quot;</th>
<th>PISTON TO WALL CLEARANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STREET NATURALLY ASPIRATED</td>
<td>0.0040</td>
<td>.0035-.0045</td>
<td>.0045-.0055</td>
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<tr>
<td>STREET TOWING</td>
<td>0.0045</td>
<td>.0040-.0050</td>
<td>.0050-.0060</td>
</tr>
<tr>
<td>STREET NITROUS OR SUPER CHARGED</td>
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<td>.0045-.0055</td>
<td>.0055-.0065</td>
</tr>
<tr>
<td>CIRCLE TRACK 2 BBL / RESTRICTOR</td>
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<td>.0045-.0065</td>
<td>.0055-.0075</td>
</tr>
<tr>
<td>CIRCLE TRACK UNRESTRICTED</td>
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<td>.0045-.0065</td>
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<tr>
<td>CIRCLE TRACK ALCOHOL INJECTION</td>
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<tr>
<td>CIRCLE TRACK ALCOHOL CARB</td>
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<td>.0050-.0070</td>
<td>.0060-.0080</td>
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<tr>
<td>DRAG GASOLINE</td>
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<td>.0060-.0080</td>
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<tr>
<td>DRAG ALCOHOL</td>
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<td>.0060-.0080</td>
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<tr>
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<td>.0070-.0100</td>
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<tr>
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<td>.0060-.0080</td>
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<tr>
<td>MARINE NATURALLY ASPIRATED</td>
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<td>.0055-.0070</td>
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<tr>
<td>MARINE SUPERCHARGED</td>
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<td>.0055-.0070</td>
<td>.0065-.0080</td>
</tr>
</tbody>
</table>

**Final piston clearance should be based solely on the demands of your application.**

Factors such as fuel type, altitude, outside temp., humidity, tune up, and many other factors need to be taken into account for your final clearance.

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**General Clearance Guidelines**

**PISTON TO WALL CLEARANCE**

**CHEVY V8 262 4 LEFTS AND 2 RIGHTS**

**FORD 390FE, 406FE, 410FE, 427FE, 428FE, 430FE, 452FE, 455FE, 462FE**

**FORD CLEV 351/CA/WE/377C, 387C-404C**

**FORD BB 429, 460, 502, 520, 545**

**CHEVY BB 396/402, 427, 454, 489, 502, 540**

**CHEVY 302, 305, 327, 334, 350, 377, 383, 400, 420, 440, 450, 463, 468, 493, 498, 505, 520**

**PONTIAC 389, 400, 428, 455 BUICK 455**

**GM LS**

**OLDS 403, 455**

**TOYOTA 22R YRS 1985 AND NEWER**

**TOYOTA 22R 1985 AND NEWER**

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Quench is the area behind the valves. This area should match the flat area on your cylinder head. Proper quench promotes cooling of the pistons and can be effective in reducing detonation.

Checking cylinder heads from suggests checking cylinder heads with A-scope or some other method before final assembly to assure proper piston to head clearance.

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**Tech Line**

800-648-7970 or tech@uempistons.com