KB PERFORMANCE PISTONS

KB PISTONS
Installation Instructions For Hypereutectic Pistons

CALCULATING TOP RING END GAP

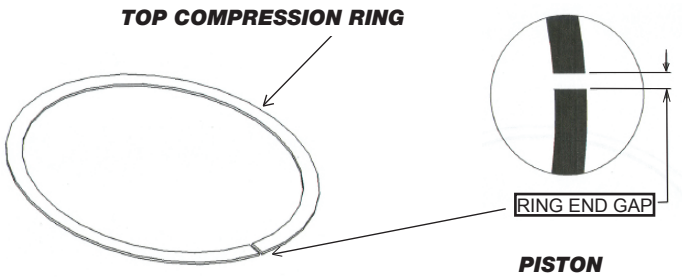
Top Ring Example - Street Naturally Aspirated 4.000" bore x .0065" gap factor = .026" total top ring end gap.

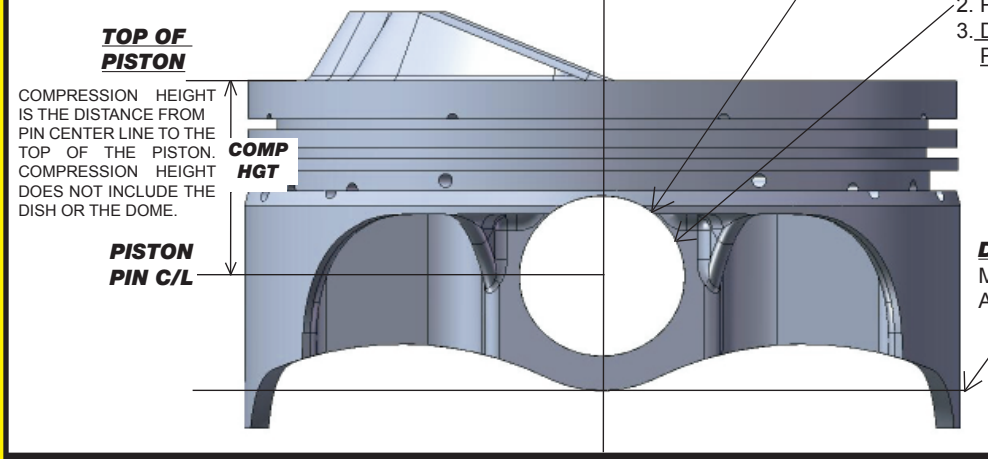
Second Ring: Set second ring end gap at .004 per inch of bore minimum.

TOP RING END GAP FACTORS FOR ALL APPLICATIONS LOCATED ON PAGE 2.

SPIRAL LOCKRING INSTALLATION

RETAINER COMES UNSPRUNG. WE SUGGEST SPRINGING THE RETAINER ABOUT 1/2" TO 3/4" TO MAKE INSTALLATION EASIER. DO NOT OVER SPRING RETAINER. DO NOT USE LOCKS WHEN PRESS FITTING THE PIN.





LUBE PIN HOLE

1. USE HIGH QUALITY ASSEMBLY LUBE. NEVER USE GREASE.
2. PRESS FIT, USE ROD HEATER.
3. DO NOT USE LOCKS WHEN PRESS FITTING THE PIN.

DIAL POINT

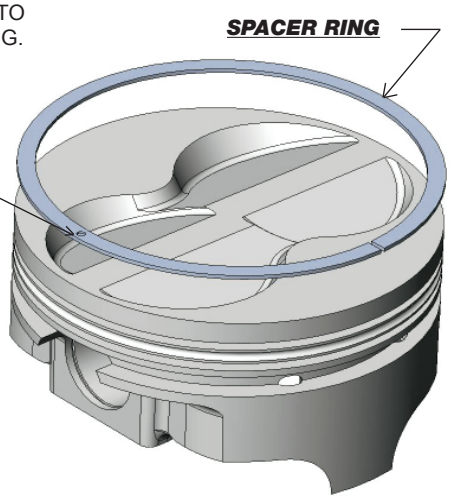
MEASURE PISTON MAJOR AXIS (DIAMETER) HERE

SPACER RING

THE SPACER RING SUPPORTS THE OIL RAIL ON LONG ROD APPLICATIONS WHEN THE WRIST PIN IS INTERSECTING THE OIL GROOVE. THE SPACER RING SHOULD BE LOCATED IN THE BOTTOM OF THE OIL GROOVE. TO INSTALL, SPIRAL THE RING INTO THE OIL GROOVE. TAKE CARE NOT TO DISTORT OR BEND THE SPACER RING.

DIMPLE

DIMPLE SHOULD BE PLACED OVER THE OPENING FORMED BY THE PIN INTERSECTING THE OIL GROOVE. THE RAISED SECTION SHOULD BE PLACED FACING DOWN.



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General Clearance Guidelines

APPLICATION	Ring End Gap Factor	PISTON TO WALL CLEARANCE	
		4.000"-4.100"	4.100" and up
STREET NATURALLY ASPIRATED	0.0065"	.0015" - .0020"	.0020" - .0025"
STREET TOWING	0.0080"	.0015" - .0020"	.0020" - .0025"
STREET NITROUS OR SUPERCHARGED	0.0080"	.0020" - .0025"	.0025" - .0035"
CIRCLE TRACK 2 BBL/RESTRICTOR GAS	0.0070"	.0015" - .0045"	.0020" - .0050"
CIRCLE TRACK UNRESTRICTED	0.0080"	.0025" - .0045"	.0030" - .0045"
CIRCLE TRACK ALCOHOL INJECTION	0.0080"	.0025" - .0045"	.0025" - .0050"
CIRCLE TRACK ALCOHOL CARB	0.0080"	.0030" - .0045"	.0030" - .0050"
DRAG GASOLINE	0.0075"	.0015" - .0045"	.0020" - .0045"
DRAG ALCOHOL	0.0065"	.0015" - .0045"	.0020" - .0045"
DRAG SUPERCHARGED OR NITROUS	0.0095"	.0020" - .0045"	.0025" - .0050"
DRAG SUPERCHARGED ALCOHOL	0.0085"	.0015" - .0045"	.0025" - .0045"
MARINE NATURALLY ASPIRATED	0.0080"	.0030" - .0045"	.0035" - .0050"
MARINE SUPERCHARGED	0.0090"	.0030" - .0045"	.0035" - .0050"
AIR COOLED BAJA	0.0075"	.0030" - .0045"	.0035" - .0050"
PROPANE	0.0065"	.0015" - .0045"	.0020" - .0045"

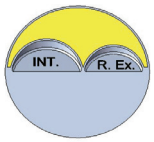
Modern piston design locates the top ring higher for improved performance. A high top ring operates at higher temperatures and requires a larger top ring end gap. To find the proper ring end gap, multiply your bore size by the ring end gap factor listed on the chart (i.e., Street Naturally Aspirated 4.000" bore x .0065" gap factor = .026" total top ring end gap).

Your hypereutectic performance piston will expand less than typical cast or forged pistons. Because of this and the wear characteristics of the hypereutectic alloy, you can run tight piston-to-wall clearances.

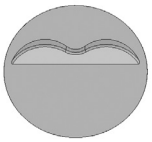
NOTE: Hypereutectic piston engines will require 2-4 degrees less total ignition timing. One key to top performance is to have all cylinders longing for the same timing numbers. Equal air flow, fuel mix, quench, chamber temperature, swirl, and compression at each cylinder work to this end.

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 others factors need to be taken into account for your final clearance.

PISTON ORIENTATION



QUENCH AREA (YELLOW): Quench is the area behind the valves. This area should match the flat area on your cylinder head. Proper quench promotes cooling of the piston and can be effective in reducing detonation.

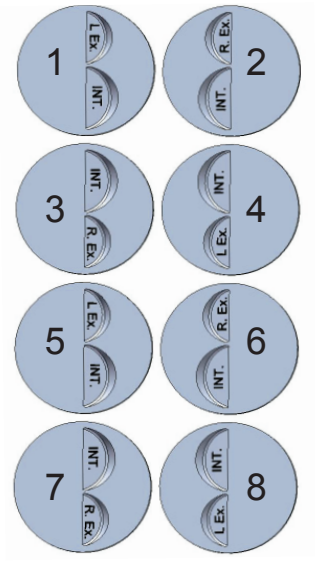


NOTE: Some pistons come with **symmetrical valve reliefs**. This allows the piston to be fitted to any cylinder with just orientating the quench area towards the center of the block.

CHECKING CYLINDER HEADS: Check cylinder heads with clay or some other method before balancing and final assembly to assure proper piston to head clearance. .040″ minimum clearance.

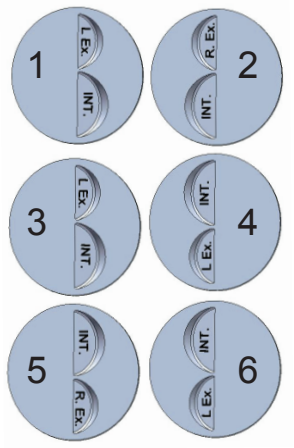
CHEVY 302, 305, 327,334, 350, 377, 383, 400, 434
CHRY 318, 340, 360, 383, 400, 408, 440, 450, 463, 468, 493, 498, 505, 520
BUICK 455
PONTIAC 389, 400, 428, 455

FRONT



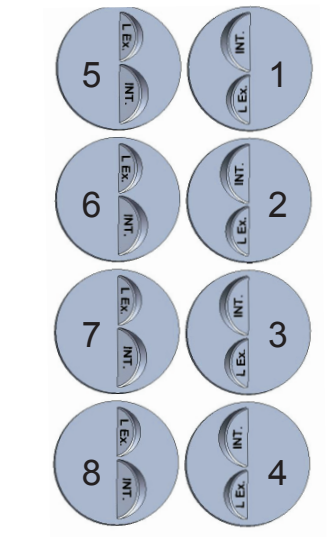
CHEVY V6 4.3L / 262 CI
4 LEFTS AND 2 RIGHTS

FRONT



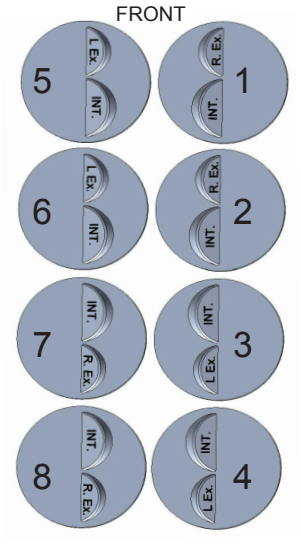
FORD 289, 302, 331, 347, 351W, 372W, 383W, 393W, 408W, 416W, 418W

FRONT



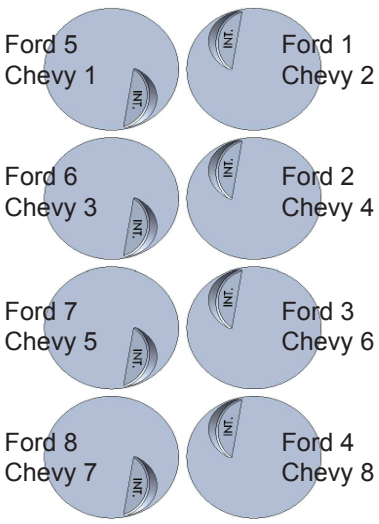
FORD 390FE, 406FE, 410FE, 427FE 428FE, 438FE, 452FE, 455FE 482FE

FRONT



FORD CLEV 351C&W/C,377C,387C,402C
FORD BB 429, 460, 502, 520, 545
CHEVY BB 396/402, 427, 454, 489, 502, 540

FRONT



TOYOTA 22R 1985 AND NEWER

FRONT