

KB CLAIMER TECH TIPS

APPLICATION	RING END GAP FACTOR	PISTON TO WALL CLEARANCE	
		4.000"-4.100"	4.100" AND UP
STREET NORMALLY ASPIRATED	.0065"	.0015" - .0020"	.0020" - .0025"
STREET TOWING	.0080"	.0015" - .0020"	.0020" - .0025"
STREET NITROUS OR SUPERCHARGED	.0080"	.0020" - .0025"	.0025" - .0035"
CIRCLE TRACK 2 BBL/RESTRICTOR GAS	.0070"	.0015" - .0045"	.0020" - .0050"
CIRCLE TRACK UNRESTRICTED	.0080"	.0025" - .0045"	.0030" - .0045"
CIRCLE TRACK ALCOHOL INJECTION	.0060"	.0025" - .0045"	.0030" - .0050"
CIRCLE TRACK ALCOHOL CARB.	.0080"	.0030" - .0045"	.0030" - .0050"
DRAG GASOLINE AND ALCOHOL	.0075"	.0015" - .0045"	.0020" - .0045"
MARINE	.0080"	.0030" - .0045"	.0035" - .0050"

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 NORMALLY ASPIRATED 4.000" BORE X .0065" GAP FACTOR = .026" TOTAL TOP RING END GAP).

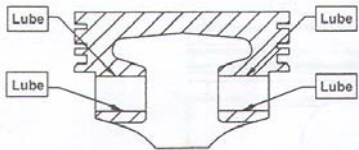
YOUR HYPEREUTECTIC CLAIMER RACE PISTON WILL EXPAND LESS THAN TYPICAL CAST OR FORGED PISTONS. BECAUSE OF THIS AND THE WEAR CHARACTERISTICS OF THE HYPEREUTECTIC ALLOY, YOU CAN RUN TIGHT PISTON-TO-WALL CLEARANCES.

NOTE: CLAIMER 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.

IMPORTANT!!!!!!

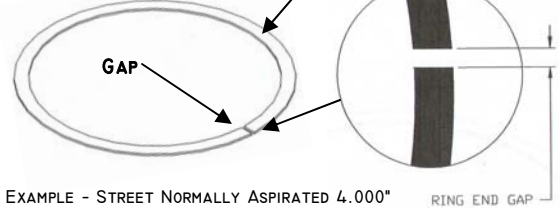
NOTE: COATED PISTONS **CANNOT BE MEASURED**. DO NOT MAKE ANY ADJUSTMENTS FOR THE COATING - USE THE SUGGESTED CLEARANCES ON THE APPLICATION CHART.

PIN LUBRICATION AND INSTALLATION



1. HIGH PRESSURE LUBRICANT MUST BE USED BETWEEN PIN AND PIN BORE. FAILURE TO PROPERLY LUBRICATE MAY RESULT IN PIN SEIZURE.
2. FOR PRESS FIT PINS WE SUGGEST USING A ROD HEATER.
3. YOU SHOULD NEVER USE GREASE WHEN LUBRICATING THE PIN. GREASE ACTS AS A DAM AND PREVENTS OIL FROM GETTING TO THE PIN.

TOP COMPRESSION RING



EXAMPLE - STREET NORMALLY ASPIRATED 4.000" BORE X .0065" GAP FACTOR = .026" TOTAL TOP RING END GAP.

CLEARANCES FOR KB CLAIMER COATED AND NON-COATED SKIRT

THE FOLLOWING STANDARDS ARE USED ON ALL KB CLAIMER NON-COATED PISTONS. ON 4.000" TO 4.100", STD SIZES HAVE .0005 CLEARANCE BUILT INTO THE PISTON (EXAMPLE 4.00 BORE BLOCK, STD. PISTON SIZE WILL BE 3.9995). THIS ALLOWS YOU TO HONE STD BLOCK TO ATTAIN THE .0015 MINIMUM CLEARANCE REQUIRED IN THE APPLICATION CHART. ALL OTHER OVERSIZES HAVE THE MINIMUM CLEARANCE BUILT INTO THE PISTON (EXAMPLE 4.030" BORE BLOCK, .030 PISTON SIZE WILL BE 4.0285, .0015 MIN CLEARANCE). **ADJUSTMENTS MUST BE MADE TO THE MIN. CLEARANCE BASED ON APPLICATION AS NOTED IN THE APPLICATION CHART ABOVE.** ON THE 4.125 CLAIMERS, THERE IS .001 CLEARANCE FOR THE STD AND THE OVERSIZES HAVE .002 CLEARANCE.

IMPORTANT!!!!!!

NOTE: COATED PISTONS **CANNOT BE MEASURED**. DO NOT MAKE ANY ADJUSTMENTS FOR THE COATING - USE THE SUGGESTED CLEARANCES ON THE APPLICATION CHART.

WHERE TO MEASURE A NON-COATED KB CLAIMER

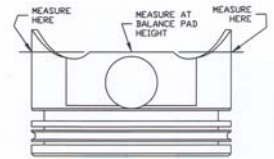
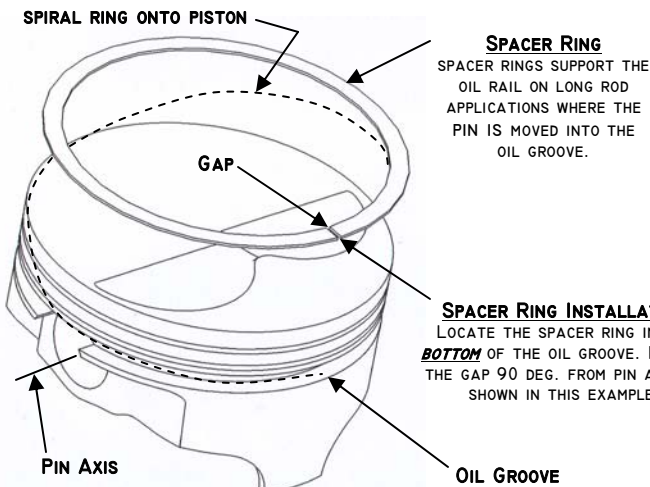


FIGURE 1

SPACER RING INSTALLATION



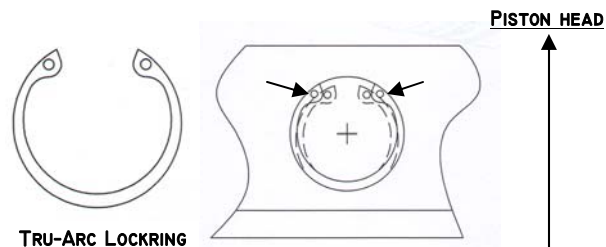
SPACER RING

SPACER RINGS SUPPORT THE OIL RAIL ON LONG ROD APPLICATIONS WHERE THE PIN IS MOVED INTO THE OIL GROOVE.

SPACER RING INSTALLATION

LOCATE THE SPACER RING IN THE **BOTTOM** OF THE OIL GROOVE. ROTATE THE GAP 90 DEG. FROM PIN AXIS AS SHOWN IN THIS EXAMPLE.

LOCKRING INSTALLATION AND USE



LOCKRING INSTALLATION

1. LOCKRINGS SHOULD BE POSITIONED AS SHOWN IN ORDER TO AVOID INTERNAL LOADING TO THE LOCKRING AND POSSIBLE DISTORTION.
2. THE COMPRESSION OF THE LOCKRING TO INSTALL IN THE LOCKRING GROOVES SHOULD BE MINIMIZED TO AVOID THE LOSS OF SPRING TENSION. OVER COMPRESSING OF THE LOCKRING MAY CAUSE FAILURE.

WHEN TO USE THE LOCKRINGS

IF YOU ARE GOING TO USE A PRESS FIT PIN THE LOCKRINGS SHOULD **NOT** BE USED.

WARRANTY DISCLAIMER - KB CLAIMER PISTONS ARE SOLD WITHOUT WARRANTY OR GUARANTEE OF ANY KIND. UNITED ENGINE & MACHINE COMPANY SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND FROM THE PURCHASE, INSTALLATION, OR USE OF THESE PISTONS.

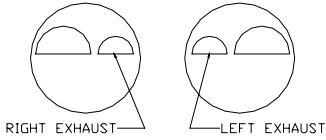
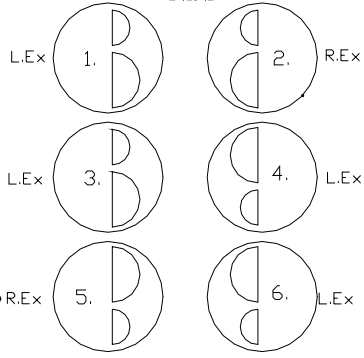
KB PERFORMANCE PISTONS
 DIV. OF UNITED ENGINE & MACHINE CO.
 4909 GONI RD, CARSON CITY, NV 89706
 775-882-7790 800-648-7970 FAX 775-882-2604
WEB WWW.KB-SILVOLITE.COM

FORM COO-4 030705

PISTON ORIENTATION

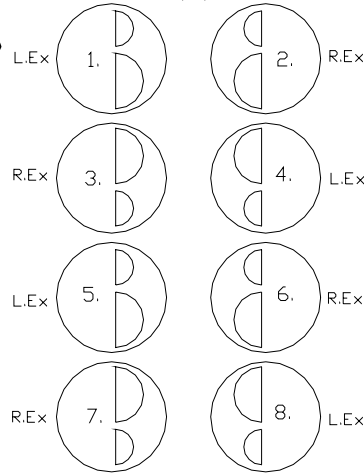
CHEVY. V-6, 262

FRONT OF ENGINE



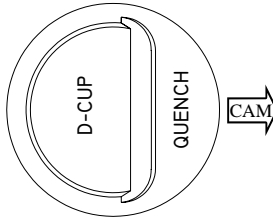
SMALL BLOCK CHEVY.

FRONT OF ENGINE

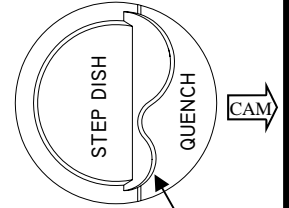


ORIENTATION OF DISH PISTONS

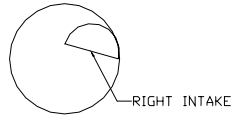
INSTALLATION OF PISTONS DESIGNED WITH A D-CUP AND SYMMETRICAL TROUGH SHOULD ORIENT THE PISTON SO THE QUENCH IS POINTING TOWARD THE CAM.



NOT ALL DISH PISTONS ARE MADE THE SAME. KB STEP/DISH DESIGN MAINTAINS A FULL QUENCH WHILE STILL OFFERING RIGHT AND LEFT EXHAUST DESIGN. THE STEP DISH REQUIRES THAT YOU FOLLOW NORMAL INSTALLATION FOR YOUR APPLICATIONS SHOWN IN THE CHART BELOW.

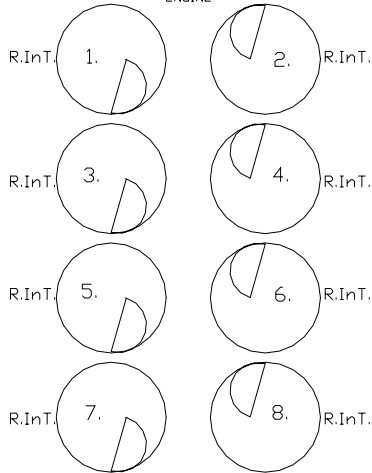


EXAMPLE OF STEP/DISH WITH RIGHT EXHAUST



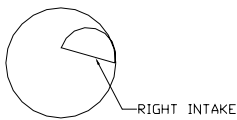
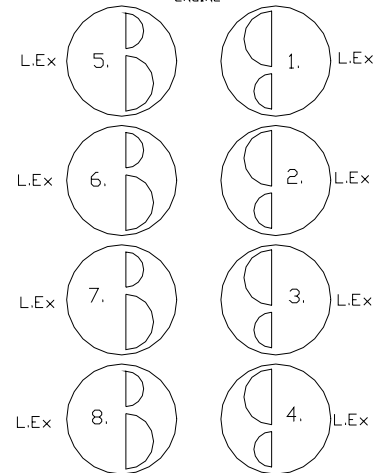
CHEVY BIG BLOCK 427, 454, 502

FRONT OF ENGINE



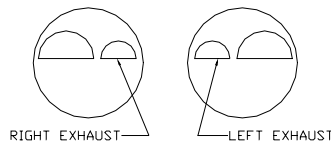
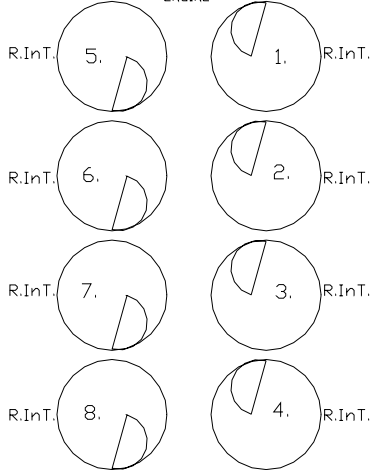
FORD, 289, 302, 351W

FRONT OF ENGINE



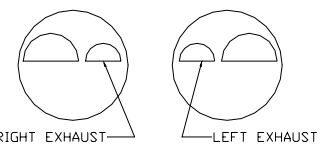
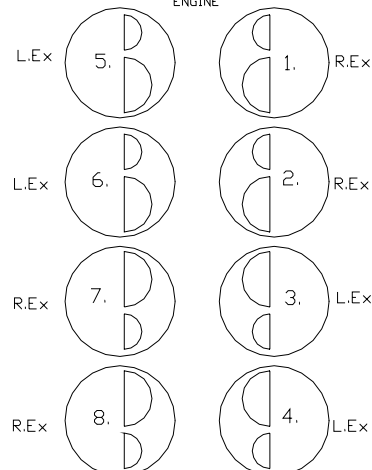
FORD 351C,460

FRONT OF ENGINE



FORD FE 390,406,410,427,428

FRONT OF ENGINE



CHRYSLER 340,360,383,400,440

FRONT OF ENGINE

