

INSTRUCTIONS

NOTE: These instructions are for general engine rebuilding and do not apply to specific makes and models. Always refer to the factory shop manuals for specific clearances and tolerances.

Disassemble the engine carefully - watch for signs of parts failure, such as broken rings, fouled plugs, oil on top of the piston, water in the oil, oil in the water, seized parts, gnarled or scratched bearings, or unusual wear patterns indicating damage or misalignment.

1. Remove the ridge from top of cylinder before removing piston so as not to damage the piston or ring lands. (Fig.1)
2. Clean pistons thoroughly. Remove carbon from ring grooves and oil drain holes.
3. Check ring groove size and depth with calipers. Make sure you have the correct ring for this application. This set of piston rings is manufactured for OEM pistons or replacement pistons designed to original specifications. Other applications are noted in the catalog. *It is the installer's responsibility to check and determine that the set is correct for the application.*
4. Check for wear in the top grooves by installing a top compression ring, holding the face of the ring flush with the ring land and inserting a feeler gauge between the upper side of the ring and the groove. If the clearance is greater than .006", the groove has excessive wear and the piston should be replaced or possibly regrooved. (Fig.2)
5. Check compression ring end gap per the chart. (Fig.3) The Deves four-piece oil ring is pre-gapped at the factory.
6. Install the oil rings first. (Fig.4)
7. Install compression rings next. The rings are numbered by groove from the top of the piston down. The top ring is usually a straight compression ring (Fig.5a), the second ring is a scraper-type compression ring (Fig.5b) and if it is 2.0mm or thicker it may also have an expander behind it (Fig.5c). Install the scraper, tooth down, first, then the top ring. Always use a piston ring expander so as not to distort the rings. (Fig.6)
8. Install the piston and ring assembly into the block using a piston ring compressor.

DEVES PISTON RINGS guarantees its rings against manufacturing and material defects and to be made to fit the engine for which they were designed. Because of the nature of the product and its use, our warranty is limited to the time of installation. It is the responsibility of the installing mechanic to determine that our piston rings are the proper set and fit. Only the installing mechanic can check the wear of the cylinders, pistons and ring grooves and make sure that the rings are properly installed and not damaged during installation. Should our set for any reason fail to fit or show manufacturing or material defects, Deves Piston Rings will replace the set without charge. This warranty and all rights arising out of the purchase of our ring set(s) are limited to replacement of the product only. Acceptance of our product shall constitute acceptance of the foregoing limitations.

Note: Claims under warranty cannot be processed until the set is returned for our inspection. Please include as much detailed information as possible.

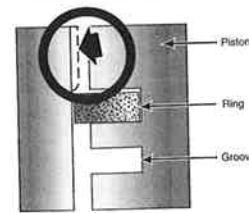


Figure 1

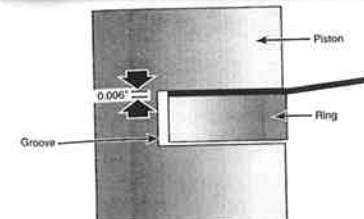


Figure 2

Cylinder Bore mm/inch	Normal gap mm/inch	Maximum gap mm/inch
50.00-59.99/1.9685-2.3618	0.15-0.30/.006-.012	0.15-0.50/.006-.020
60.00-89.99/2.3622-3.5429	0.20-0.35/.008-.014	0.20-0.60/.008-.024
90.00-99.99/3.5433-3.9366	0.25-0.45/.010-.018	0.25-0.70/.010-.028
100.00-104.99/3.9370-4.1335	0.25-0.45/.010-.018	0.25-0.80/.010-.031
105.00-119.99/4.1339-4.7240	0.30-0.50/.012-.020	0.30-0.85/.012-.033
120.00-/4.7244-	0.35-0.55/.014-.022	0.35-0.90/.014-.035

Figure 3

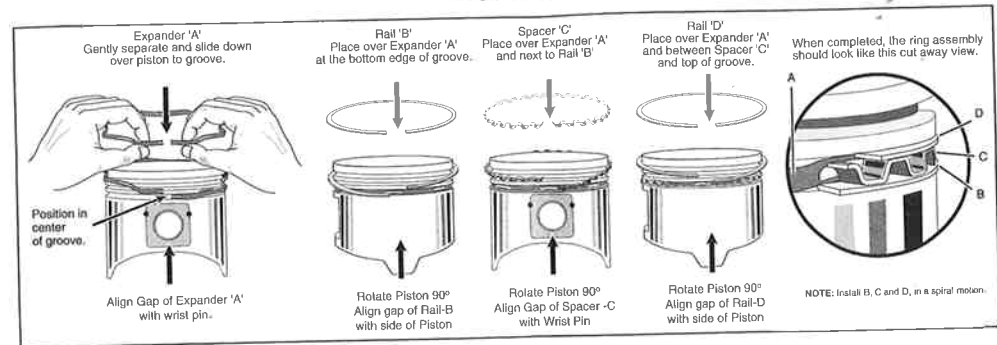


Figure 4

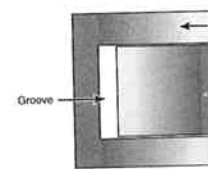


Figure 5a

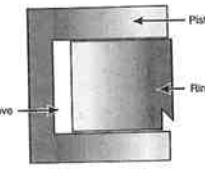


Figure 5b

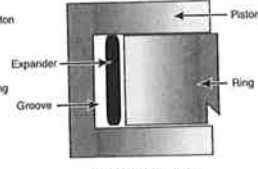


Figure 5c

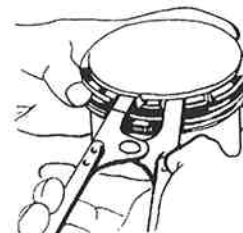


Figure 6



Figure 7

If you have any questions, Call or FAX:
Deves Piston Rings
 (310) 322-8484 • Fax (310) 640-9854
 Website: www.deves.com • E-mail: deves@deves.com