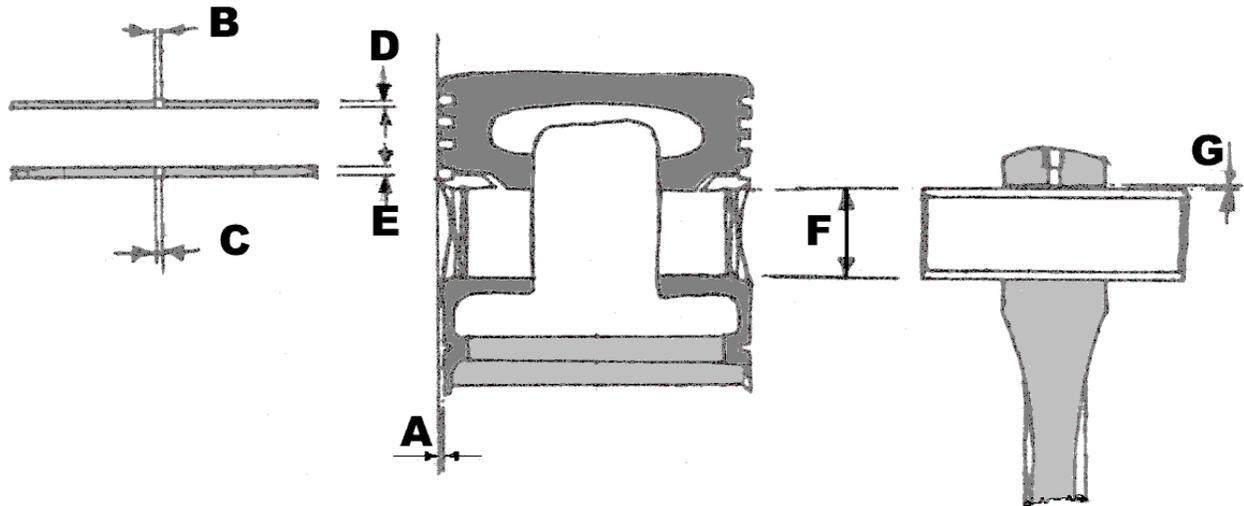


<p>LANCIA & C.</p> <p>FABBRICA AUTOMOBILI TORINO - S.p.A. Printed in Italy</p>	<p>LANCIA APRILIA Engine Tipo 99</p> <p>Assembly Tolerances & Limits of Wear on Liners, Pistons, Piston Rings & Piston Pins</p>	<p>A.S.T. Sketch 22 I-PM</p> <p>Dec. 1946 Sheet 1/1</p>
<p>Modifications by Lancia: 5/4/47, 25/10/50. Reset & redrawn by Paul Mayo 25/03/2002, 9/08/2009 including info. from Keith Price LMCJ No.12 Sept.1961</p>		



Assembly tolerances	Play on Assembly mm	Limits of Wear mm
A Clearance between sleeve & piston	0.120 - 0.150	0.300
B Width of gap in ring when fitted – compression rings	0.050 – 0.150	0.500
C Width of gap in ring when fitted – scraper rings	0.050 – 0.150	0.500
D Axial play between compression rings & slots in pistons	0.030 – 0.068	0.080
E Axial play between scraper rings & slots in pistons	0.015 – 0.049	0.080
F Play between pins & piston bosses	0.020 +/- 0.003	0.030
G Play between pin & small end	0.008 +/- 0.008	0.030
Increase in diameter of cylinder sleeves for fitting oversize pistons	Oversize	mm
	1	74.81 +/- 0.01
	2	75.01 +/- 0.01
	3	75.21 +/- 0.01
	4	75.41 +/- 0.01
	5	75.61 +/- 0.01

Notes from Keith Price, LMC Journal No.12 September 1961

Pistons are in aluminium with a solid skirt (some replacements have a split skirt, to be fitted with split on distributor side). Domed heads recessed on one side to clear valves. Fit with recess towards centre of block. Clearance 0.006 inches on skirt. Three oversizes available: 0.2, 0.4 and 0.6 mm designated S, SS and SSS. Three British sizes were 20, 40 and 60 thou oversize.

Four compression rings above gudgeon pin, one scrape on skirt. Gap 0.006 to 0.008 inch, working fit without play in grooves. Gudgeon Pin located by circlips, interference fit in piston when cold, push fit hot.

Big ends will pass through the cylinders, but pistons will not pass crankshaft, so assemble and remove through top.