



Indo German Industries

An ISO 9001 certified Company

PISTONS RINGS & PISTON

Locomotive

Compressors





INDO GERMAN INDUSTRIES

ALCO Locomotive compressors

PISTON RINGS

New rings are to be installed on the piston using a suitable piston ring installation tool. New standard rings are:

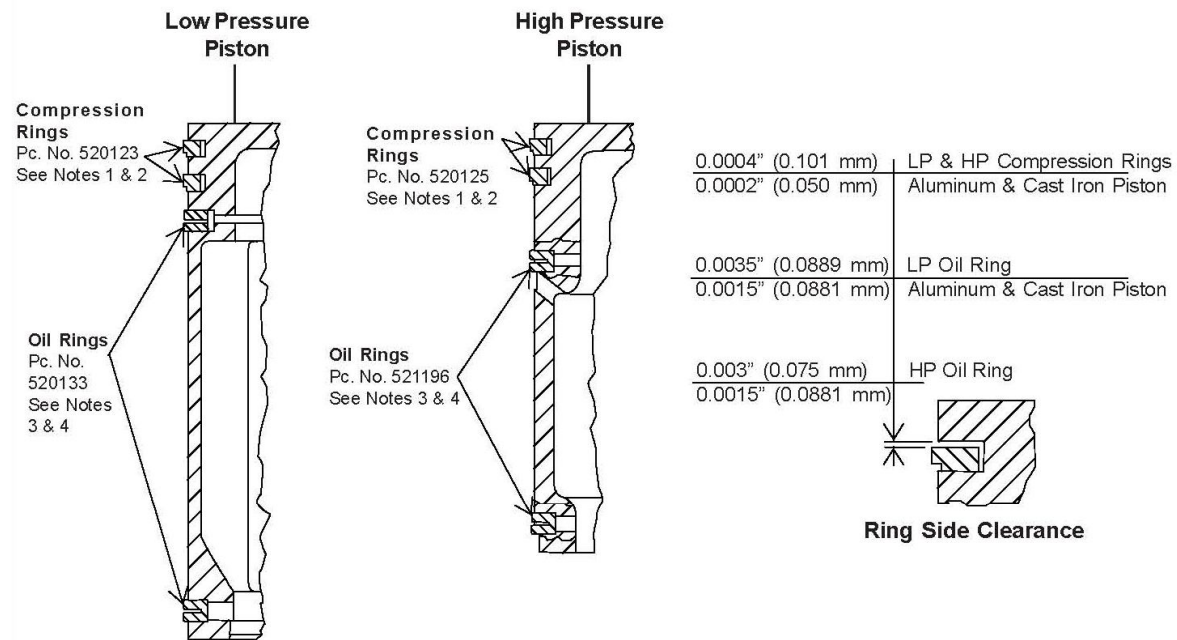
- H.P. Compression, (Pc. No. 520125)
- H.P. Oil, (Pc. No. 521196)
- L.P. Compression, (Pc. No. 520123)
- L.P. Oil, (Pc. No. 520133)

The rings should be expanded just enough to clear the piston. Care must be exercised when installing the piston rings to prevent breakage or distortion. The position of the piston rings is shown in Figure.

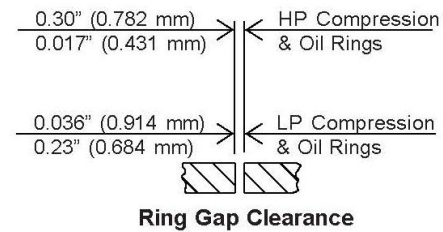




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1. Notched type of compression rings to be assembled in piston with notch down toward the bottom of piston.
2. Taper face type of compression rings to be assembled in piston with taper up as shown. This type of ring will be marked on the side which is to be toward top of piston.
3. Ventilated double wiper tapered faced oil ring to be assembled in piston with taper edges up as shown.
4. Ventilated double wiper channel type oil ring can be assembled in piston with either side up.





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ALUMINUM AND CAST IRON PISTONS

For "3-CD" (long stroke) Compressors – Use either the cast iron or aluminum **low pressure pistons**. These pistons can also be mixed in this compressor. Compressors – Use **ONLY** the aluminum low pressure pistons. The use of cast iron pistons will cause vibration problems and premature compressor malfunction. When replacing cast iron with aluminum low pressure pistons on "3-CDC" Compressors, special attention **MUST BE** given to the crankshaft used.

On older "3-CDC" Type Compressors (built prior to late 1967) a modification to reduce the crankshaft balance weight is required before installing aluminum low pressure pistons.

High Pressure Cast Iron Piston. Worn cast iron piston wrist pin bores may be reclaimed with teflon layered bushings (Pc. No. 580390), after exceeding the condemning limits of TABLE. In using this bushing, it is necessary to bore the wrist pin bore of the piston to a diameter of 1.9375"/1.9365" (49.2125/ 49.1871 mm) and a surface finish of 80 micro-inches (2.032 micro meters).





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TABLE 3CD Type Air Compressors, Exhausters & Combination Compressor-Exhauster		
	Condemning Limit	
	INCHES	MILLIMETERS
Low Pressure Cylinder:		
Diameter	7.754 Max	196.951 Max
Length	12.3135 Min	312.7629 Min
High Pressure Cylinder:		
Diameter	5.504 Max	139.801 Max
Length	11.189 Min	284.2006 Min
Low Pressure & Exhauster Aluminum Pistons:		
Diameter	7.740 Min	196.596 Min
Compressor Ring Groove Width	0.1915 Max	4.8641 Max
Oil Ring Groove Width	0.2535 Max	6.4389 Max
Wrist Pin Bushing Diameter	1.7565 Max	44.6151 Max
	1.7507 Min	44.4678 Min
Wrist Pin Diameter	1.7485 Min	44.4119 Min





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EMD Locomotive compressors

PISTON RINGS

Locomotive compressors have been designed with reliability, serviceability, and efficiency in mind. Locomotive compressors have provided proven performance that is measured in decades. Pistons, rings and cylinders are designed for optimum oil control. Cylinders are manufactured to gauge quality roundness, with tolerances measured in millionths of an inch. Piston ring design significantly reduces oil carry over into the air stream.

COMPRESSOR DATA

COMPRESSOR FEATURES	GD MODEL					
	WLW	WLU	WLA	WLN	WLT	WLG
Number of Cylinders	2	3	4	3	3	6
Compressor Bore Size	IN 7 $\frac{1}{8}$ × 4 $\frac{1}{4}$	7 $\frac{1}{8}$ × 5 $\frac{1}{4}$	7 $\frac{1}{8}$ × 4 $\frac{1}{4}$	7 $\frac{1}{8}$ × 5 $\frac{1}{4}$	7 $\frac{1}{8}$ × 5 $\frac{1}{4}$	7 × 5 $\frac{1}{4}$
Stroke	IN 4 $\frac{1}{2}$	4	5	5	4	5
Number of LP & HP Cylinders	1 LP & 1 HP	2 LP & 1 HP	2 LP & 2 HP	2 LP & 1 HP	2 LP & 1 HP	4 LP & 2 HP

COMPRESSOR/EXHAUSTER DATA

COMPRESSOR FEATURES	GD MODEL			
	WLP	WLQ	WLR	WLS
Number of Cylinders	4	6	6	6
Compressor Bore Size	IN 7 $\frac{1}{8}$ × 4	7 $\frac{1}{8}$ × 4	7 $\frac{1}{8}$ × 5 $\frac{1}{4}$	7 $\frac{1}{8}$ × 4
Stroke	IN 5	5	5	5
Number of LP & HP Cylinders	1 LP & 1 HP	1 LP & 1 HP	2 LP & 1 HP	1 LP & 1 HP



PISTON RING DATA

RING DESCRIPTION	COMPRESSOR PART NUMBER						
	Psc In One Set	Complete Set Part No.	Individual Part Number				
Compression Ring	1	-	520123	520125	520128	-	-
Oil Ring	1	-	520133	521195	520130	-	-
Compression Ring O/s 0.010	1	-	523401	523429	523392	-	-
Compression Ring O/s 0.020	1	-	523402	523430	523393	-	-
Compression Ring O/s 0.030	1	-	523403	523431	523394	-	-
Compression Ring O/s 0.040	1	-	530644	530643	-	-	-
Oil Ring O/s 0.010	1	-	523404	523432	523395	-	-
Oil Ring O/s 0.020	1	-	523405	523427	523396	-	-
Oil Ring O/s 0.030	1	-	523406	523433	523397	-	-
Oil Ring O/s 0.040	1	-	530648	530646	-	-	-
LP piston ring set STD	3	8271433	-	-	-	-	-
HP piston ring set STD	4	8271437	-	-	-	-	-

There is more ... For items not listed in this Catalog inquire at info@indogermanind.com



PISTON DATA

PISTON DESCRIPTION	COMPRESSOR PART NUMBER						
	Psc In One Set	Complete Set Part No.	Individual Part Number				
PISTON WITH WRIST PIN STD SIZE	1	-	550853	563239	-	-	-
PISTON WITH WRIST PIN O/S 0.010	1	-	554107	5563240	-	-	-
PISTON WITH WRIST PIN O/S 0.020	1	-	554108	5563241	-	-	-
PISTON WITH WRIST PIN O/S 0.030	1	-	554109	5563242	-	-	-
PISTON WITH WRIST PIN O/S 0.040	1	-	554110	5563243	-	-	-

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“Because quality and knowhow are essential”



OUR VALUED CLIENT'S ARE ROUND THE



Messages from our Team

Manohar Bhojwani

Deal with problem if & when it becomes necessary, not before.

Bhushan Bhojwani

A steep learning curve indicates the task may be difficult & therefore take more efforts.

Deep Bhojwani

To do more than what people expect.



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Please recycle after use.