



PRECISION PERFORMANCE  
SINCE 2008

# LN Engineering Nickies

**Aircooled Precision Performance for  
1965-1998 Porsche 911 Engines**



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# Mission

**LN Engineering seeks to provide innovative “no-compromise” solutions to the automotive aftermarket to exceed OEM requirements. We strive to deliver the highest level of precision performance for our products using improved material, manufacturing, and finishing technologies, all backed up by industry leading educational resources and support.**



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# Facility

**We do all our machining and manufacturing in the USA in our 18,000 sq/ft facility, located one hour south of Chicago, IL.**





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# Process

**Nickies billet cylinders are proudly machined on U.S.-made HAAS CNC equipment using custom AL extrusions from Hydro in Cressona, PA.**



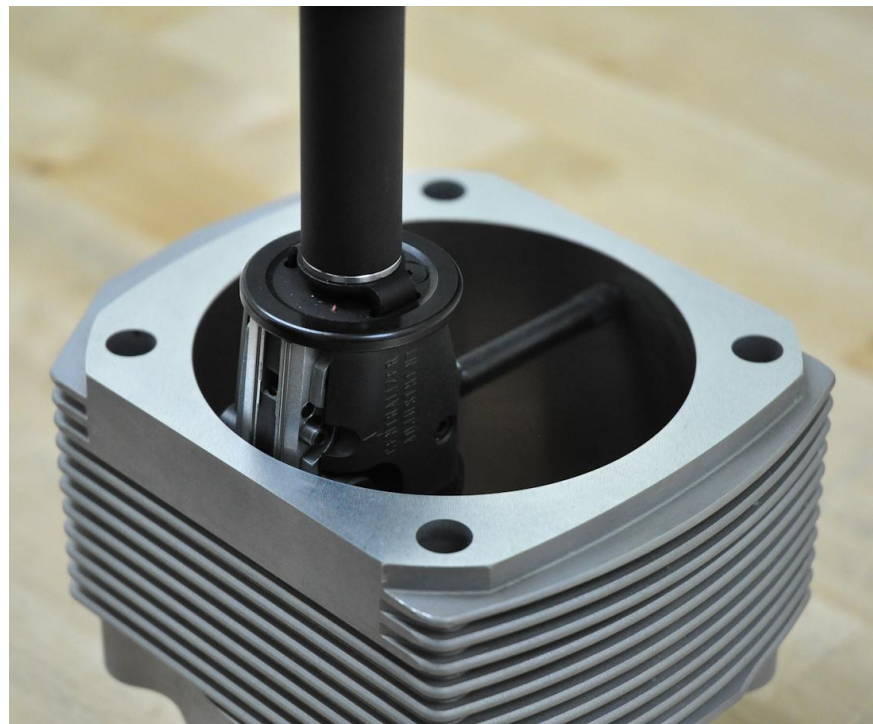


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# Quality

**Every part made by LN Engineering undergoes stringent quality control inspections at multiple points during the manufacturing or reconditioning process to ensure the best possible outcome for our customer.**

**ISO 9001 Compliant**

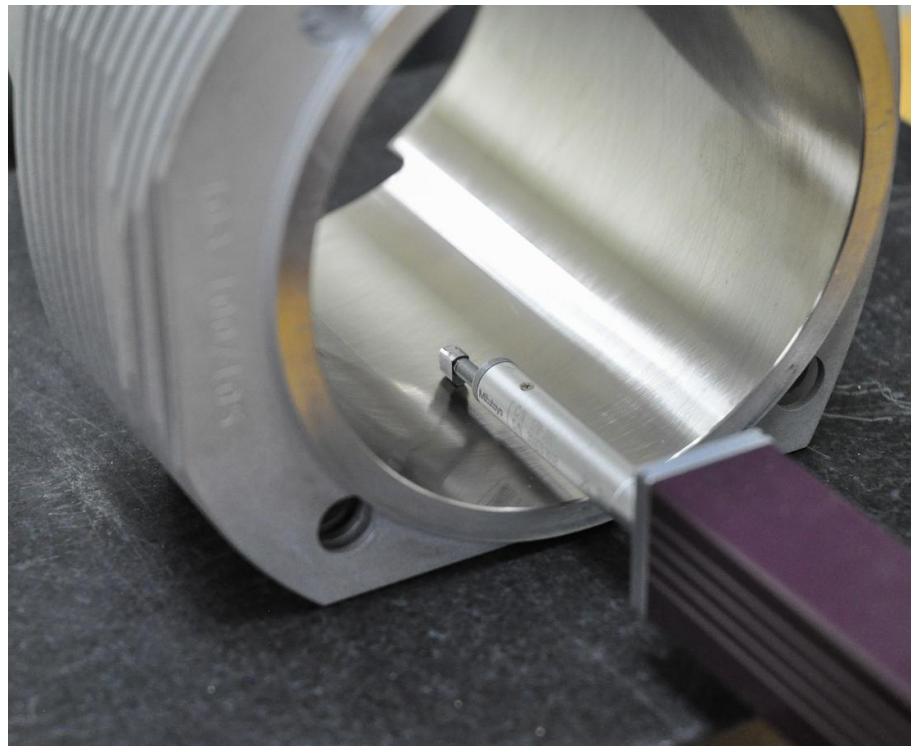




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# Quality

**Cylinders are precision honed to our exacting specifications and are measured using Sunnen bore gauges, Mitutoyo profilometers, and Digital Metrology Traceboss to ensure proper cylinder geometry and surface finish.**





# Our Partners

LN Engineering offers premium performance parts designed to meet or exceed OEM requirements from industry leaders CP Carrillo, Mahle Motorsport, UEM and Wossner.





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# Why LN Engineering?

- **LN Engineering has been manufacturing Nickies cylinders in the USA since 2002 with tens of thousands sold.**
- **LN Engineering is one of the most trusted names in the Porsche aftermarket and the leading authority on cylinders and pistons for Porsche engines in the USA.**





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# History

- **2.0, 2.2, and 2.4 models came with cast iron and biral cylinders that limit cooling and performance.**
- **Porsche used aluminum cylinders to make engines run cooler with Ferral, Chromal, and eventually Nikasil coatings to provide optimal cooling and durability.**
- **Cast aluminum construction limits performance of factory cylinders.**
- **Billet construction allows Nickies in bore sizes larger than previously available for 911 models since 2004.**



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# Nickies Benefits

- **Billet aluminum Nickies are better than cast aluminum cylinders:**
- **Increased thermal conductivity for better cooling**
- **Stronger and more ductile**
- **Increased displacement = more torque and horsepower**





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# Features

**All Porsche 911 Nickies cylinders feature knock sensor bosses and also increased fin surface area to provide even better cooling than before.**

**Cylinder head sealing ring grooves can now be added to stock replacement cylinders upon request at no extra charge.**





# Pistons

**Our modern forged 2618 pistons feature lightweight design with performance features including friction reducing skirt coatings, modern rings, and tool steel wrist pins.**

**Custom pistons available upon request.**





# Piston Upgrades

**Beyond anti-friction coated piston skirts, hard anodize top ring grooves and thermal barrier coatings as well as DLC coated wrist pins are available for high static compression ratio and forced induction applications.**





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# Bore Coating and Plating

**LN Engineering has extensive experience with Nikasil type plating as well as the latest in bore coating technologies APS and PTWA, both used by Porsche since 2017.**





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# Displacement Increases

- **Replace cast iron 80mm 2.0 911 cylinders with 81mm aluminum cylinders using original heads and case with no modifications.**
- **2.0 engine with later heads can be fitted with 2.2 cylinders up to 87.5mm or 2.7 cylinders up to 93.5mm.**





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# Displacement Increases

- **2.2 and 2.4 911 engines can be upgraded to aluminum cylinders from cast iron or bial-type in bore sizes up to 87.5mm.**
- **If the case is machined for 2.7 registers, cylinders up to 93.5mm can be fitted.**





# Displacement Increases

- **Slip-fit and machine-in options available for 3.0, 3.2, and 3.3 models.**
- **Normally aspirated engines can be upgraded from 95mm to 102.7mm; Turbo models to 100mm.**
- **Flame-rings available for 95-98mm Nickies.**





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# Displacement Increases

- **Slip-fit and machine-in options available for 3.6 964 and 993 models.**
- **Slip-fit up to 103mm and machine-in up to 106mm allow for displacements over 4.0 liters with original crankshaft and rods.**
- **Flame-rings available for 100-102mm Nickies**





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# Slip-Fit vs Machine-In

- **Machine-in Nickies are recommended for the following applications:**
- **Forced Induction**
- **High-RPM**
- **Track**
- **80.4mm or longer stroke**





# Porsche 911 & 914-6 2.0 Liter

103-80	Porsche 911 914-6 2.0 80mm Nickies (std 2.0 head registers) [special order]
103-81	Porsche 911 914-6 2.0 81mm Nickies (std 2.0 head registers) [special order]
103-80/2.2	Porsche 911 914-6 2.0 80mm Nickies (2.2/2.4 head registers); previously 103-80U [special order]
103-81/2.2	Porsche 911 914-6 2.0 81mm Nickies (2.2/2.4 head registers); previously 103-81U [special order]
103-80.1	Porsche 911 914-6 2.0 80mm Nickies inc. 9.5:1 CP Piston set [special order]
103-80.2	Porsche 911 914-6 2.0 80mm Nickies inc. 10:1 CP Piston set [special order]
103-81.1	Porsche 911 914-6 2.0 81mm Nickies inc. 9.5:1 CP Piston set [special order]
103-81.2	Porsche 911 914-6 2.0 81mm Nickies inc. 10.5:1 CP Piston set [special order]





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# Porsche 911 2.2 Liter

103-84	Porsche 911 2.2/2.4 84mm Nickies
103-85	Porsche 911 2.2/2.4L 85mm Nickies
103-86	Porsche 911 2.2/2.4L 86mm Nickies [special order]
103-86.7	Porsche 911 2.2/2.4L 86.7mm Nickies [special order]
103-87.5	Porsche 911 2.2/2.4L 87.5mm Nickies
103-84.1	Porsche 911 2.2 84mm Nickies inc. 9.5:1 CP Piston set
103-84.2	Porsche 911 2.2 84mm Nickies inc. 10.5:1 CP Piston set
103-85.1	Porsche 911 2.2 85mm Nickies inc. 9.5:1 CP Piston set
103-85.2	Porsche 911 2.2 85mm Nickies inc. 10.5:1 CP Piston set
103-87.5.1	Porsche 911 2.2 87.5mm Nickies including 9.5:1 CP Piston set
103-87.5.2	Porsche 911 2.2 87.5mm Nickies inc. 10.5:1 CP Piston set





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# Porsche 911 2.4 Liter

103-84	Porsche 911 2.2/2.4 84mm Nickies
103-85	Porsche 911 2.2/2.4L 85mm Nickies
103-86	Porsche 911 2.2/2.4L 86mm Nickies [special order]
103-86.7	Porsche 911 2.2/2.4L 86.7mm Nickies [special order]
103-87.5	Porsche 911 2.2/2.4L 87.5mm Nickies
103-84.3	Porsche 911 2.4 84mm Nickies inc. 9.5:1 CP Piston set
103-84.4	Porsche 911 2.4 84mm Nickies inc. 10.5:1 CP Piston set
103-85.3	Porsche 911 2.4 85mm Nickies inc. 9.5:1 CP Piston set
103-85.4	Porsche 911 2.4 85mm Nickies inc. 10.5:1 CP Piston set
103-87.5.3	Porsche 911 2.4 87.5mm Nickies inc. 9.5:1 CP Piston set
103-87.5.4	Porsche 911 2.4 87.5mm Nickies inc. 10.5:1 CP Piston set





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# Porsche 911 2.7 Liter

103-89	Porsche 911 2.7 89mm Nickies
103-90	Porsche 911 2.7 90mm Nickies
103-92	Porsche 911 2.7 92mm Nickies
103-93	Porsche 911 2.7 93mm Nickies
103-93.5	Porsche 911 2.7 93.5mm Nickies
103-89.2	Porsche 911 2.5SS 89mm Nickies inc. 10.5:1 CP Piston set
103-90.1	Porsche 911 2.7 90mm Nickies inc. 9.5:1 CP Piston set
103-90.2	Porsche 911 2.7 90mm Nickies inc. 10.5:1 CP Piston set
103-92.1	Porsche 911 2.7 92mm Nickies inc. 9.5:1 CP Piston set
103-92.2	Porsche 911 2.7 92mm Nickies inc. 10.5:1 CP Piston set
103-93.1	Porsche 911 2.7 93mm Nickies inc. 9.5:1 CP Piston set
103-93.2	Porsche 911 2.7 93mm Nickies inc. 10.5:1 CP Piston set





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# Porsche 911 3.0 Liter

103-95	Porsche 911 930 3.0/3.2 95mm Nickies
103-98	Porsche 911 930 3.2/3.4 98mm Nickies
103-100/103	Porsche 911 930 3.3/3.5 slip-fit 100mm Nickies
103-100/105	Porsche 911 930 3.3/3.5 100mm Nickies machine-in 105mm case register
103-95.1	Porsche 911 3.0 95mm Nickies inc. 9.5:1 CP Piston set
103-95.2	Porsche 911 3.0 95mm Nickies inc. 10.5:1 CP Piston set
103-95.3	Porsche 911 3.0 95mm Nickies inc. 11.0:1 CP Piston set
103-98.1	Porsche 911 3.0 98mm Nickies inc. 9.5:1 CP Piston set
103-98.2	Porsche 911 3.0 98mm Nickies inc. 10.5:1 CP Piston set
103-98.11	Porsche 911 3.0 98mm Nickies inc. 11.5:1 CP Piston set
103-100.1	Porsche 911 3.0 100mm Nickies inc. 9.5:1 CP Piston set [must specify slip-fit or machine-in]
103-100.2	Porsche 911 3.0 100mm Nickies inc. 10.5:1 CP Piston set
103-100.10	Porsche 911 3.0 100mm Nickies inc. 11.5:1 CP Piston set





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# Porsche 911 3.0 Liter

103-102/107	Porsche 911 930 3.5/3.7 102mm Nickies machine-in 107mm case register [special order]
103-102/106.5	Porsche 911 930 3.5/3.7 102mm Nickies machine-in 106.50mm case register
103-102.7/106.5	Porsche 911 930 3.5/3.7 102.7mm Nickies machine-in 106.50mm case register [special order]
103-102.1	Porsche 911 3.0 102mm Nickies inc. 10.5:1 CP Piston set
103-102.2	Porsche 911 3.0 102mm Nickies inc. 11.5:1 CP Piston set
103-102.7.1	Porsche 911 3.0 102.7mm Nickies inc. 10.5:1 CP Piston set [special order]
103-102.7.2	Porsche 911 3.0 102.7mm Nickies inc. 11.5:1 CP Piston set [special order]





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# Porsche 911 3.2 Liter

103-95	Porsche 911 930 3.0/3.2 95mm Nickies
103-98	Porsche 911 930 3.2/3.4 98mm Nickies
103-100/103	Porsche 911 930 3.3/3.5 slip-fit 100mm Nickies
103-100/105	Porsche 911 930 3.3/3.5 100mm Nickies machine-in 105mm case register
103-95.4	Porsche 911 3.2 95mm Nickies inc. 9.5:1 CP Piston set
103-95.5	Porsche 911 3.2 95mm Nickies inc. 10.5:1 CP Piston set
103-95.6	Porsche 911 3.2 95mm Nickies inc. 11.5:1 CP Piston set
103-98.3	Porsche 911 3.2 98mm Nickies inc. 9.5:1 CP Piston set
103-98.4	Porsche 911 3.2 98mm Nickies inc. 10.5:1 CP Piston set
103-98.7	Porsche 911 3.2 98mm Nickies inc. 11.5:1 CP Piston set
103-100.3	Porsche 911 3.2 100mm Nickies inc. 9.5:1 CP Piston set [must specify slip-fit or machine-in]
103-100.4	Porsche 911 3.2 100mm Nickies inc. 10.5:1 CP Piston set
103-100.5	Porsche 911 3.2 100mm Nickies inc. 11.5:1 CP Piston set





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# Porsche 911 3.2 Liter

103-102/107	Porsche 911 930 3.5/3.7 102mm Nickies machine-in 107mm case register [special order]
103-102/106.5	Porsche 911 930 3.5/3.7 102mm Nickies machine-in 106.50mm case register
103-102.7/106.5	Porsche 911 930 3.5/3.7 102.7mm Nickies machine-in 106.50mm case register [special order]
103-102.3	Porsche 911 3.2 102mm Nickies inc. 10.5:1 CP Piston set
103-102.4	Porsche 911 3.2 102mm Nickies inc. 11.5:1 CP Piston set
103-102.7.3	Porsche 911 3.2 102.7mm Nickies inc. 10.5:1 CP Piston set [special order]
103-102.7.4	Porsche 911 3.2 102.7mm Nickies inc. 11.5:1 CP Piston set [special order]





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# Porsche 911 3.0 Liter Turbo

103-95	Porsche 911 930 3.0/3.2 95mm Nickies
103-98	Porsche 911 930 3.2/3.4 98mm Nickies
103-100/105	Porsche 911 930 3.3/3.5 100mm Nickies machine-in 105mm case register
103-95.7	Porsche 911 3.0 Turbo 95mm Nickies inc. 6.5:1 CP Piston set
103-95.8	Porsche 911 3.0 Turbo 95mm Nickies inc. 7.0:1 CP Piston set
103-98.9	Porsche 911 3.0 Turbo 98mm Nickies inc. 7.0:1 CP Piston set
103-98.10	Porsche 911 3.0 Turbo 98mm Nickies inc. 7.5:1 CP Piston set
103-100.8	Porsche 911 3.0 Turbo 100mm Nickies inc. 7.0:1 CP Piston set
103-100.9	Porsche 911 3.0 Turbo 100mm Nickies inc. 7.5:1 CP Piston set





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# Porsche 911 3.3 Liter Turbo

103-97	Porsche 911 930 3.3 97mm Nickies [special order]
103-98	Porsche 911 930 3.2/3.4 98mm Nickies
103-100/105	Porsche 911 930 3.3/3.5 100mm Nickies machine-in 105mm case register
103-97.1	Porsche 911 3.3 97mm Nickies inc. 7.0:1 CP Piston set [special order]
103-97.2	Porsche 911 3.3 97mm Nickies inc. 7.5:1 CP Piston set [special order]
103-97.3	Porsche 911 3.3 97mm Nickies inc. 8.0:1 CP Piston set [special order]
103-97.4	Porsche 911 3.3 97mm Nickies inc. 8.5:1 CP Piston set [special order]
103-98.5	Porsche 911 3.3 98mm Nickies inc. 7.5:1 CP Piston set
103-98.6	Porsche 911 3.3 98mm Nickies inc. 8.0:1 CP Piston set
103-98.8	Porsche 911 3.3 98mm Nickies inc. 8.5:1 CP Piston set
103-100.6	Porsche 911 3.3 100mm Nickies inc. 7.5:1 CP Piston set
103-100.7	Porsche 911 3.3 100mm Nickies inc. 8.0:1 CP Piston set





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# Porsche 911 3.6 Liter

104-100	Porsche 911 3.6 100mm Nickies
104-102/107	Porsche 911 3.6 102mm Nickies slip-fit 107mm case register
104-102/109	Porsche 911 3.6 102mm Nickies machine-in 109mm case register
105-102/109	Porsche 911 3.6 102mm Nickies machine-in 109mm case register; 114.50mm tall (for 993 Turbo)
104-100.1	Porsche 911 3.6 100mm Nickies inc. 11.5:1 CP Piston set
104-100.2	Porsche 911 3.6 100mm Nickies inc. 12.5:1 CP Piston set
104-102.1	Porsche 911 3.6 102mm Nickies inc. 11.5:1 CP Piston set
104-102.2	Porsche 911 3.6 102mm Nickies inc. 12.5:1 CP Piston set
104-102.7.1	Porsche 911 3.6 102.7mm Nickies inc. 11.5:1 CP Piston set
104-102.7.2	Porsche 911 3.6 102.7mm Nickies inc. 12.5:1 CP Piston set



# Porsche 911 3.6 Liter

104-103/107	Porsche 911 3.6 103mm (4.060") Nickies slip-fit 107mm case register
104-104	Porsche 911 3.6 104mm Nickies machine-in 109mm case register
104-105	Porsche 911 3.6 105mm (4.135") Nickies machine-in 109mm case register
104-106	Porsche 911 3.6 106mm (4.175") Nickies machine-in 109mm case register [special order]
104-103.1	Porsche 911 3.6 103mm (4.060") Nickies inc. 11.5:1 CP Piston set
104-103.2	Porsche 911 3.6 103mm (4.060") Nickies inc. 12.5:1 CP Piston set
104-104.1	Porsche 911 3.6 104mm Nickies inc. 11.5:1 CP Piston set
104-104.2	Porsche 911 3.6 104mm Nickies inc. 12.5:1 CP Piston set
104-105.1	Porsche 911 3.6 105mm (4.135") Nickies inc. 11.5:1 CP Piston set
104-105.2	Porsche 911 3.6 105mm (4.135") Nickies inc. 12.5:1 CP Piston set
104-106.1	Porsche 911 3.6 106mm (4.175") Nickies inc. 11.5:1 CP Piston set [special order]
104-106.2	Porsche 911 3.6 106mm (4.175") Nickies inc. 12.5:1 CP Piston set [special order]

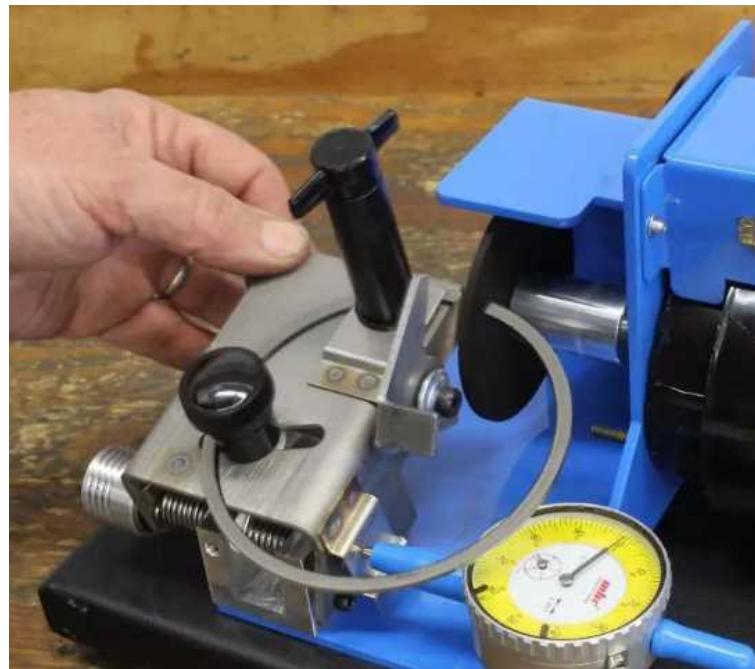




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# Ring Gapping Service

**Our piston ring end gapping service provides you with piston rings with pre-set end gaps.**

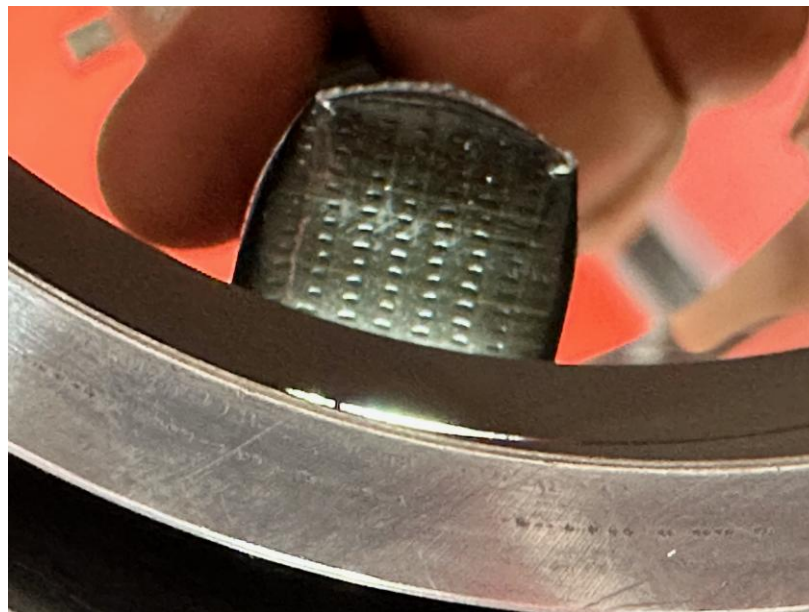




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# Light Checking

**Piston rings should be round. If they are not round, they won't function properly. When gapping rings, we can also light check them for you.**





# Piston and Rod Balancing Service

**Our balancing service provides piston assemblies and connecting rods balanced within +/- 0.5 grams.**





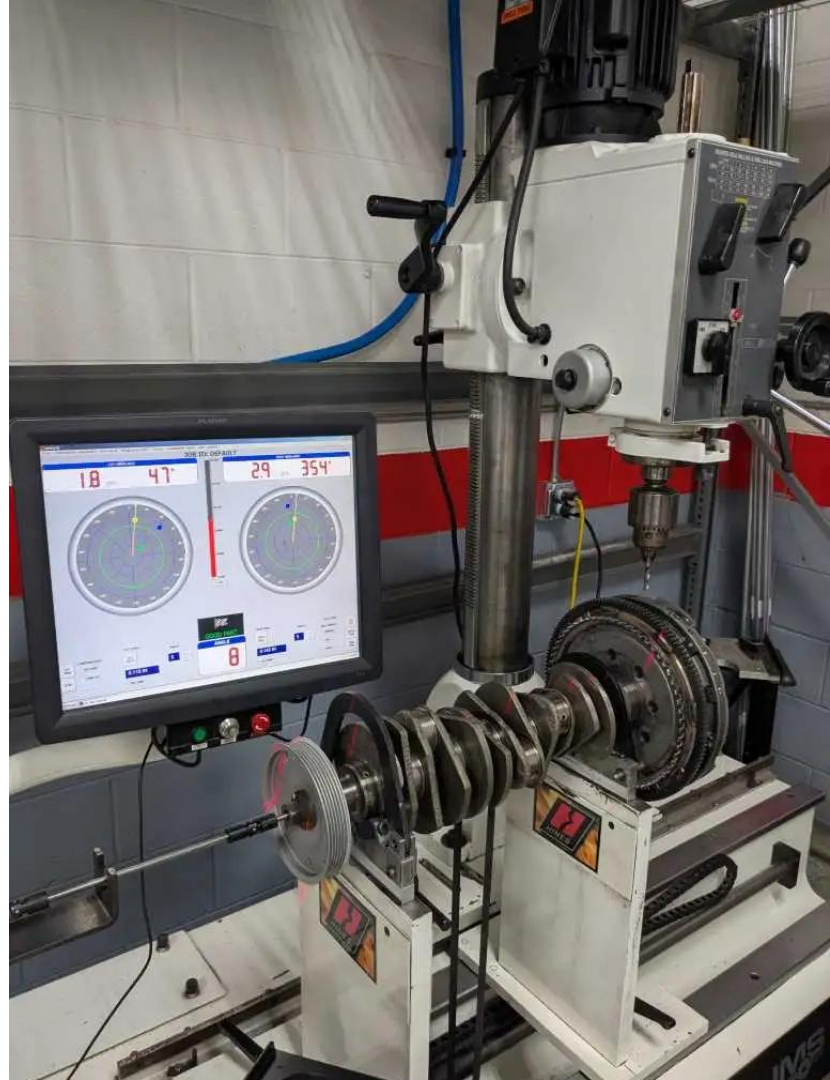
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# Dynamic Balancing

**We now offer  
Dynamic Engine  
Balancing.**

**Standard balance  
specification is 0.5  
oz/in.**

**Race balance is to  
0.2 oz/in.**



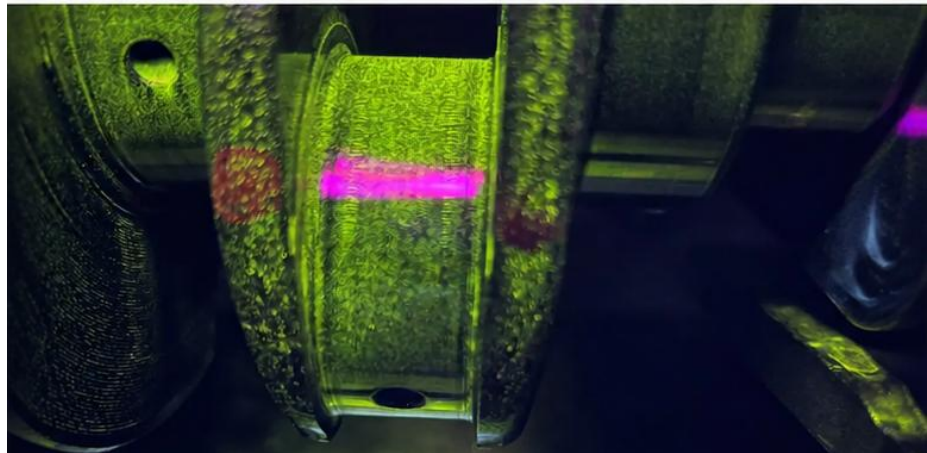


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# Crankshaft

**Magnetic particle inspection ensures crankshafts are not cracked.**

**Surface finish influences oil film stability, load capacity, and bearing longevity. LN Engineering polishes journals to achieve a consistent, controlled finish that supports long-term reliability.**





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# Cryogenic Treatment

The advanced process of Deep Cryogenic Processing involves bringing the temperature of materials down to temperatures below  $-300^{\circ}\text{F}$  slowly.

Optional Cryogenic Processing alters the crystalline structure, transforming it into a more uniform and durable construct.

These changes become permanent as the temperature of the material is gradually brought back up to room temperature or beyond.





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# WPC Treatment

**WPC is an anti-friction micro shot-peening treatment to the surface of the (any) part.**

**The peaks and valleys scoop up oil and increase the surface hardness of the material.**

**Due to the fact there is virtually no dimension change, we can add the treatment to already finished parts.**

***Engine main and rod bearings can be special ordered with WPC.***





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# Additional Services

LN Engineering's automotive machine shop offers services like cylinder reconditioning, honing, aluminum engine block repair and sleeving, connecting rod reconditioning, crankshaft polishing, engine balancing, cylinder head remanufacturing, surface grinding and more.



Scan QR code for the most up to date [list of machine shop services offered](#)





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# Mahle Motorsport

**MAHLE**  
Motorsport



**NICKIES**  
PERFORMANCE CYLINDERS™

## CYLINDER & PISTON SETS

**Mahle Motorsport piston and cylinders kits featuring Nickies allow for tighter clearances, reduced wear on both the piston and bore, and quieter operation, providing true OEM compatibility with no compromises.**





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# Mahle Motorsport 911 Sets

PS80-001	Porsche 911S 2.0L (1964-1968) PP80-001 10.0:1
PS80-002	Porsche® 911S 2.0L Cup (1964-1968) 80mm 10.3:1
PS84-001	Porsche 911S 2.2 (1969-1971) 8.5:1; 2.4 (1972-1973) 9.0:1
PS86-002	Porsche 911S 2.5L PP86-002 9.3:1
PS98-009	Porsche 930 Turbo 3.3L to 3.4L (1978 - 1989) PP98-012 (formerly PS98-004) 7.7:1
PS98-010	Porsche 911 Carrera 3.2L to 3.4L (1984 - 1989) Motronic inj. PP98-013 (formerly PS98-002) 10.0:1
PS98-014	Porsche 911 3.0L to 3.2L (1978-1983) Carb or Mech. Inj. PP98-014 (formerly PS98-003) 10.2:1
PS98-015	Porsche 911 3.0L to 3.2L (1978-1983) Motronic Inj. PP98-015 (formerly PS98-005) 10.0:1
PS98-016	Porsche 930 Turbo 3.0L to 3.2L (1976-1977) PP98-016 (formerly PS98-007) 7.5:1
PS98-017	Porsche® 911 Carrera 3.2L to 3.4L (1984-1989) 98mm 11:1
PS102-017	Porsche 964 NA 3.6L to 3.8L Slip-Fit 107mm PP102-011 (formerly PS102-002) 12.6:1
PS102-018	Porsche 964 NA 3.6L to 3.8L Machine-in 109mm PP102-011 (formerly PS102-003) 12.6:1
PS102-020	Porsche 964/993 Turbo Piston 3.6L to 3.8L Slip-Fit 107mm PP102-013 (formerly PS102-011) 9.2:1
PS102-021	Porsche 964/993 Turbo Piston 3.6L to 3.8L Machine-In 109mm PP102-013 (formerly PS102-012) 9.2:1
PS102-022	Porsche 993 RSR 3.6L to 3.8L Slip-Fit 107mm PP102-014 (formerly PS102-005/015) 11.4:1
PS102-023	Porsche 993 RSR 3.6L to 3.8L Machine-in 109mm PP102-014 (formerly PS102-006/016) 11.4:1
PS102-024	Porsche 911 3.6 to 3.9L Stroker 964/993 89-98 PP102-015 Slip-Fit 107mm 11.4:1 80.4 stroke 127 rod 23 pin
PS102-025	Porsche 911 3.6 to 3.9L Stroker 964/993 89-98 PP102-015 Machine-In 109mm 11.4:1 80.4 stroke 127 rod 23 pin



# Mahle Motorsport+Nickies 911 Sets

PS86-002N	Porsche® 911S 2.5L PP86-002N 86.7mm 9.3:1
PS89-002N	Porsche® 911 2.5SS PP89-002N 89mm 10.3:1
PS90-003N	Porsche 911 2.7L 1973-1977 PP90-003N 10.3:1
PS92-004N	Porsche 911 2.7L to 2.8L K-Jet CIS 1973-1977 PP92-004N (formerly PS93-001) 9.8:1
PS93-004N	Porsche 911 2.7L to 2.9L 1973-1977 PP93-004N 10.3:1
PS100-009N	Porsche 911 3.2L to 3.5L 1984-1989 PP100-009N (formerly PS100-001) Machine-In 105mm 10.3:1
PS100-010N	Porsche 911 3.3L to 3.5L 1978-1992 PP100-010N (formerly PS100-005) Machine-In 105mm 7.0:1
PS100-011N	Porsche 911 3.0L to 3.3L 1976-1983 PP100-011N Machine-In 105mm 9.8:1
PS102-012N	Porsche 993 Turbo 3.6L to 3.8L (114.5mm tall; formerly PS102-012, PS102-004) Machine-In 102mm 8.0:1
PS104-001N	Porsche 911 3.6L to 3.9L 964/993 1989-1998 PP104-001N Machine-In 109mm 11.4:1
PS104-014N	Porsche 911 3.6 to 4.1L Stroker 964/993 89-98 PP104-014N Machine-In 109mm 12.6:1 80.4 stroke 130 rods 22 pins
PS104-015N	Porsche 964/993 NA 3.6L to 4.1L Stroker Machine-In 109mm 11.4:1; 80.4mm stroke, 130mm rods, 22mm pins





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# Base Shims

**Base shims are available to adjust deck height in thicknesses of .25mm, .5mm, .75mm, and 1.0mm.**

**Custom thicknesses can be special ordered.**





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# Ni-Resist Flame Rings

**Nickies can be special ordered with Ni-Resist sealing ring grooves.**

**Heads must also be machined to accept these flame rings.**

**Available for 95-98mm 3.0/3.2/3.3 and 100-102mm 3.6 engines.**





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# Tapered Sleeve Ring Compressors

**Modern piston rings require a modern approach to piston installation.**

**Tapered sleeve ring compressors reduce the chances of bending or breaking a piston ring during installation.**

**Available in all bore sizes.**





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# ARP Engine Hardware

**New ARP head studs should always be fitted when installing Nickies cylinders.**

**LN Engineering also offers ARP flywheel, case, connecting rod, and transmission bolts for most Porsche models.**





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# ARP Engine Hardware

204-2801	ARP Porsche Late 911 9 pc Flywheel Bolt Kit. 1978-98 Porsche 911 3.0L through 3.8L
204-2802	ARP Porsche Early 911 6 pc Flywheel Bolt Kit. 1970-77 Porsche 911 2.0L through 3.0L
204-4206	ARP Custom Age 625 Porsche 911 head stud kit inc. lube, nuts, and washers. (was 203-00)
204-4210	ARP Porsche 911 996 997 Mezger 3.6L GT2/GT3/Turbo Head Stud Kit. (Non-stocking special order)
204-4211	ARP Porsche 944 2.5L SOHC/DOHC Head Stud Kit
204-4301	ARP Porsche 3.0L DOHC 944 12pt Undercut Head Stud Kit
204-4707	ARP M96/M97 Head Stud Kit 97-08 Porsche Boxster, Cayman, 911
204-5001	ARP M96/M97 Carrier Through Bolt Kit Porsche Boxster, Cayman, 911 (was 106-23)
204-5405	ARP Porsche 911 3.0, 3.2, & 3.3 Crankcase Thru-Bolt Kit
204-5406	ARP Porsche 911 3.6 3.8 964 & 993 Crankcase Thru-Bolt Kit
204-5407	ARP Porsche 911 2.0, 2.2, 2.4, & 2.7 Crankcase Thru-Bolt Kit
204-5410	ARP Porsche 911 3.6 964 Crankcase Bolt Kit
204-6001	ARP Porsche 911/930 M10 Rod Bolt Kit. Fits 2.2L engines on up through 1977.
204-6002	ARP Porsche 944 Rod Bolt Kit
204-6003	ARP Porsche 2.0 911 Rod Bolt Kit. (Non-stocking special order)
204-6004	ARP Porsche RSR TI Rod Bolt Kit (Non-stocking special order)
204-6005	ARP Porsche M9 Rod Bolt Kit. Fits 1978 and up 911/930/964/993 models.
204-6301	ARP M96/M97 Rod Bolts for Stock Porsche Boxster, Cayman, 911 Connecting Rods (was 106-15)
504-9501	ARP Porsche 911 & 930 Turbo 3.0,3.2, 3.3 Case Stud Kit. (Non-stocking special order)
504-9502	ARP Porsche 911 & 930 Turbo 3.0,3.2, 3.3 Transmission Mount Stud Kit. (Non-stocking special order)



# Cylinder Head Reconditioning

**100% of components are tested, reconditioned, or replaced and feature multi-angle Serdi valve job, Viton valve stem seals, and critical surfaces are diamond milled, exceeding original manufacturer specifications.**

**All components are inspected and replaced if worn.**





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# Billet Cylinder Heads

Precision machined on our Haas UMC-1000, these billet Porsche cylinder heads provide increased strength, cooling, and performance:

**2.7 RS**

**3.0/3.2/3.3 Performance**

**3.8 RS**





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# Billet Cylinder Heads

Our billet heads undergo extensive flow testing on our SuperFlow SF-1020 to ensure optimal cylinder head flow from our billet Porsche cylinder heads.





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# Billet Engine Accessories

**LN Engineering offers billet engine accessories for aircooled Mezger 911 engines from 2.0 liter through 3.8 liter engines.**

**Custom finishes and colors available.**





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SINCE 2008

# Billet Engine Accessories

**Our billet valve covers are constructed to give an OEM appearance while delivering superior performance compared to factory covers or aftermarket components in single, twin, and coil-on plug versions.**





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# Billet Engine Accessories

**Billet chain boxes and chain box covers as well as oil bridges, crankcase breathers, solid tensioners, oil separators, and IMS covers are available for all aircooled Porsche 911 models from 1964-1998.**





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# Billet Engine Accessories

LN964993CBCSET	LN Billet 964/993 Chain Box Cover Set. <i>Black Anodized Finish.</i>
LNCARRERACBCSET/M	LN Billet 911 Chain Box Cover Set. <i>Matte Clear Anodized Finish.</i>
LN911CBSET/M	LN Billet 911 Chain Box Set. <i>Matte Clear Anodize Finisn.</i>
LN993CBSET/M	LN Billet 964/993 Chain Box Set. <i>Matte Clear Anodize Finish.</i>
LN993CBSET/B	LN Billet 964/993 Chain Box Set. <i>Black Anodized Finish.</i>
LN993VCSET	LN Billet 993 Valve Cover Set. <i>Black Anodized Finish.</i>
LN-993-VC-SET.IGN	LN Engineering Billet Porsche 911 993 Coil On Plug Valve Covers. <i>Black Anodize Finish.</i>
LN964VCSET/B	LN Billet 964 Valve Cover Set. <i>Black Anodized Finish.</i>
LN-964-VC-SET.IGN	LN Engineering Billet Porsche 911 964 Coil On Plug Valve Covers. <i>Black Anodize Finish.</i>
LN911SPVCSET/M	LN Billet 911 Valve Cover Set. Single Plug. <i>Matte Clear Anodized Finish. Includes O-Rings.</i>
LN911DPVCSET/M	LN Billet 911 Valve Cover Set. Twin Plug. <i>Matte Clear Anodized Finish. Includes O-Rings.</i>
91110516200LN-E/M	LN Billet 911 IMS Cover. 69-83; small pulley w/o belt install clearance. <i>Matte Clear Anodized Finish.</i>
91110516200LN-L/M	LN Billet 911 IMS Cover. 69-83; large pulley w/ belt install clearance. <i>Matte Clear Anodized Finish.</i>
99310708800LN	LN 964/993 Billet Oil Bridge. Price ea. Qty 2 req. Black anodize finish. Replaces 99310708800.
H911-390-KIT	Hastech Engineering Design Porsche 911 (65-89) Billet Chain Tensioner Set
H911-106-KIT	Hastech Engineering Design Porsche 911 Crankcase Ventilation Oil Blow-by Separator
96410711800LN	Billet Aluminum Pressure Pipe for Porsche 911 3.6/3.8 964/993 Models
T52140000LN	T52140000 Billet Aluminum Porsche Cylinder Hold Down Nut w/ Delrin Inserts
930-106-006-07-LN	LN Engineering Billet Fan Housing Ring 65-89 (Spacer Ring, If Req., Sold Separately)
LN930BCH	LN Engineering Billet Porsche 3.0/3.2/3.3 930 Large Valve/Port Performance Cylinder Heads. <i>Specify Injector Style, Single/Twin Plug</i>
LN993BCH	LN Engineering Billet Porsche 993RS Spec Cylinder Heads. <i>Specify Solid or Hydraulic Adjusters.</i>
LN911BCH	LN Engineering Billet Porsche 2.7RS Spec Cylinder Heads. <i>Specify Single/Twin Plug</i>





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# Hastech Engineering

**Designed in Sweden  
and manufactured  
by LN Engineering  
in the USA,  
Hastech's  
mechanical chain  
tensioners and oil  
separators are  
essential upgrades  
for race engines.**





# Hastech Engineering

H911-390-KIT	Hastech Engineering Design Porsche 911 (65-89) Billet Chain Tensioners
H911-106-KIT	Hastech Engineering Porsche 911 Crankcase Ventilation Oil Blow-by Separator





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# Magnetic Drain Plugs

**CNC machined in-house from magnetic stainless steel and fitted with rare earth magnets, our billet drain plugs allow for an easy way to monitor the health of your engine and transmission.**





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SINCE 1908

# Magnetic Drain Plugs

106-07	LN Engineering Billet Engine Oil Magnetic Drain Plug for Porsche Vehicles (18 x 1.5). Replaces 90021900930, PAF008309A
11137535106LN	LN Engineering Billet Engine Oil Magnetic Drain Plug for BMW & Mini Vehicles (12 x 16 x 1.5)
1119970330LN	LN Engineering Billet Engine Oil Magnetic Drain Plug for Mercedes-Benz Vehicles (14 x 1.5)
106-07.3	LN Engineering Billet Stainless Steel Magnetic Drain Plug for 15-18 Macan models (16 x 1.5)
106-07.4	LN Engineering Billet Stainless Steel Magnetic Drain Plug for 14-19 GT3, GT3RS, R models (16 x 1.5)
99730180700LN	LN Engineering Billet 6-Spd Manual Transmission Magnetic Drain Plug for 05-12 911 models. (18 x 1.5)
N91167901LN	LN Engineering Billet Stainless Steel Magnetic Drain Plug for VW, Audi, Porsche. (14 x 1.5)
94410719701LN	LN Engineering Billet Stainless Steel Magnetic Drain Plug for Porsche 924, 944, 968, 928, and 911. (20 x 1.5)
91110717603LN	LN Engineering Billet Stainless Steel 911 Magnetic Engine Oil Drain Plug (for oil sump & oil reservoir; 20 x 1.5)
53901133LN	LN Engineering Billet Stainless Steel Porsche 356 912 Magnetic Drain Plug
N0297014LN	LN Engineering Billet Stainless Steel Magnetic Drain Plug for VW Type 4 (T2) & Vanagon (T25/T3) models (14 x 1.5)
021101195LN	LN Engineering Billet Stainless Steel Magnetic Drain Plug for Porsche 914 & 912E models (12 x 1.5)
N91059701LN	LN Engineering Billet Stainless Steel Porsche/VW/Audi Manual Trans Drain Magnetic Drain Plug (22 x 1.5)
WHT001937LN	LN Engineering Billet Stainless Steel Porsche/VW/Audi Magnetic Trans Drain Plug (24 x 1.5). Also replaces 999-064-020-02.
N90813202LN	LN Engineering Billet Stainless Steel VW/Audi Magnetic Drain Plug (14 x 22 x 1.5)
9G132180500LN	LN Engineering Billet Aluminum PDK Magnetic Transmission Plug with Seal (18 x 1.5)
07119905428LN	LN Engineering Billet Stainless Steel BMW Magnetic Drain Plug (18 x 1.5)
99320725802LN	Porsche 911 993 Magnetic Stainless Steel Engine Oil Drain Plug on Oil Filter Console (Oil Thermostat Housing)





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# Carrillo Connecting Rods

**Pankl Racing Systems is CP-Carrillo's parent company (OEM Porsche supplier).**

**Carrillo rods are fully machined from a 4330M forging and feature WMC bolts (CARR bolts optional).**

**Recommended at 400+ HP or over 7400 rpm.**





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# Carrillo 4330M Connecting Rods

400-2.0	CP-Carrillo Connecting Rod Set for Porsche 2.0/2.2 Liter 911 with WMC Bolts
400-2.4	CP-Carrillo Connecting Rod Set for Porsche 2.4/2.7 Liter 911 with WMC Bolts
400-3.0	CP-Carrillo Connecting Rod Set for Porsche 3.0 Liter 911 with WMC Bolts
400-3.2	CP-Carrillo Connecting Rod Set for Porsche 3.2/3.3 Turbo/Non-Turbo 23mm Pins with WMC Bolts
400-993	CP-Carrillo Connecting Rod Set for Porsche 911 3.6 Liter 993/996 Turbo with WMC Bolts.
PR-RSR>-65000H	CP-Carrillo Connecting Rods Set for Porsche RSR 964 0.768 Pin End Width with WMC Bolts
400-GT3RS-AC	CP-Carrillo Con Rod Set for Aircooled 911 Engines w/ GT3RS 4.0 80.4 crank; 130 c-to-c, 22mm pins, CARR Bolts
PR-2.0>-65120S	CP-Carrillo Connecting Rod Set for Porsche 2.0/2.2 Liter 911 with CARR Bolts
PR-247>-65030S	CP-Carrillo Connecting Rods Set for Porsche 2.4/2.7 Liter 911 with CARR Bolts
PR-3.0>-65030S	CP-Carrillo Connecting Rod Set for Porsche 3.0 Liter 911 with CARR Bolts
PR-33>23-65000S	CP-Carrillo Connecting Rod Set for Porsche 3.2/3.3 Turbo/Non-Turbo 23mm Pins with CARR Bolts
PR-993>-65000S	CP-Carrillo Connecting Rod Set for Porsche 911 3.6 Liter 993/996 Turbo with CARR Bolts
PR-RSR>-65000S	CP-Carrillo Connecting Rods Set for Porsche RSR 964 0.768 Pin End Width with CARR Bolts





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# Pauter Connecting Rods

**Pauter's unique X-beam design provides an excellent balance of weight savings, strength, and windage reduction.**

**Rods feature high nickel chrome-moly 4340 steel construction and ARP bolts.**





# Pauter Machine

P22-220-610-1300FL	Pauter Lightweight Connecting Rods For Porsche 911 2.0/2.2 (Set of 6)
P27-220-560-1278FL	Pauter Lightweight Connecting Rods For Porsche 911 2.4/2.7 (Set of 6)
P30-220-560-1278FL	Pauter Lightweight Connecting Rods For Porsche 911 3.0 (Set of 6)
964-230-580-1270F	Pauter Connecting Rods Porsche 911 3.2 3.3 3.6 (964) (Set of 6; Turbo)
964-230-580-1270FL	Pauter Connecting Rods Porsche 911 3.2 3.3 3.6 (964) (Set of 6; Lightweight)
993-230-580-1270F	Pauter Connecting Rods For Porsche 911 993 996/997TT 3.6 (Set of 6; Turbo)
993-230-580-1270FL	Pauter Connecting Rods For Porsche 911 993 3.6 (Set of 6; Lightweight)
964-230-560-1270FL	Custom Lightweight Pauter Aircooled Porsche 911 127mm Connecting Rods for 76.4mm GT3 Crank (23 pins)
GT3-230-560-1270CL-4L	Custom Lightweight Pauter Aircooled Porsche 911 127mm Connecting Rods for 80.4mm GT3RS 4.0 Crank (23 pins)
GT3-220-560-1300CL-4L	Custom Lightweight Pauter Aircooled Porsche 911 130mm Connecting Rods for 80.4mm GT3RS 4.0 Crank (22 pins)





# Rothsport Oil Check Valves

**Oil Inlet Check Valves eliminate oil migration from the oil tank to the engine reducing excessive smoking on start up typical of cars that sit for long periods of time.**





# Rothsport Oil Check Valves

RS-29A	Oil Inlet Check Valve (65-71) 911
RS-30A	Oil Inlet Check Valve (72-89) 911/ 930
RS-30B	Oil Inlet Check Valve (89-94) 964/ 965
RS-29B	Oil Inlet Check Valve (95-98) 993/ 993TT
RS-31	Oil Inlet Check Valve- 4 Cam Carrera/ RSR Oil Filter Consoles
RS-32	Oil Inlet Check Valve- Dash 16
RS-33	Oil Inlet Check Valve- 996/ 997 GT3 (Metzger Motor)

**ROTHSPORT**  
*Racing*

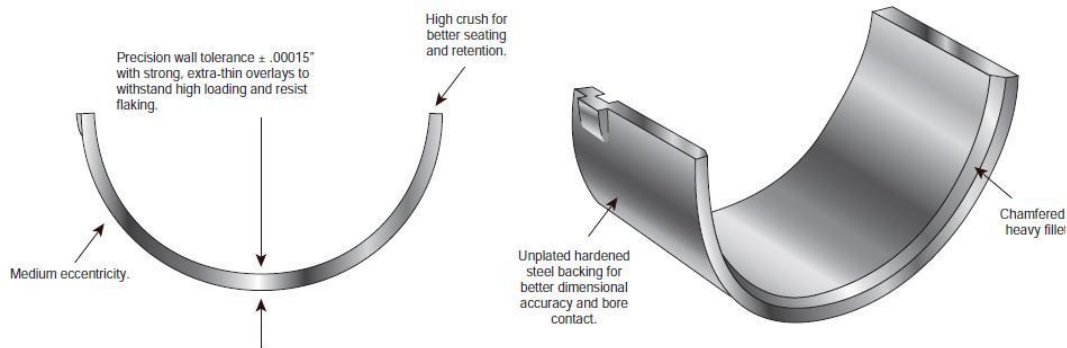


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# Performance Rod Bearings

**Mahle Clevite 77HX series tri-metal coated performance rod bearings are the industry standard and regarded as the best bearings for performance street and race engines with increased durability over OE.**

## *Clevite H-Series Bearings*





# Mahle Clevite Tri-Metal Rod Bearings

90110314100	Clevite 77HX Tri-Metal Coated Performance Rod Bearing Set for 2.0/2.2
90110314182	Clevite 77HX Tri-Metal Coated Performance Rod Bearing Set for 2.0/2.2 Undersized (+0.25mm)
91410314100	Clevite 77HX Tri-Metal Coated Performance Rod Bearing Set for 2.4/2.7 and early 3.0
91410314150	Clevite 77HX Tri-Metal Coated Performance Rod Bearing Set for 2.4/2.7 and early 3.0 Undersized (+ 0.25mm)
93010314715	Clevite 77HX Tri-Metal Coated Performance Rod Bearing Set for 3.2 3.6 (964)
93010314781	Clevite 77HX Tri-Metal Coated Performance Rod Bearing Set for 3.2 3.6 (964) Undersized (+ 0.25mm)
93010314882	Clevite 77HX Tri-Metal Coated Performance Rod Bearing Set for 3.0
93010314883	Clevite 77HX Tri-Metal Coated Performance Rod Bearing Set for 3.0 Undersized (+ 0.25mm)
99310314715	Clevite 77HX Tri-Metal Coated Performance Rod Bearing Set for 3.6 993 996 Turbo

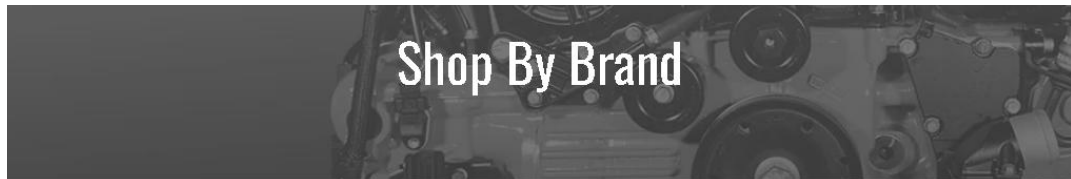




# Our Brands

**Curated Brands.  
Proven Performance.**

**LN Engineering's  
aircooled Porsche parts  
program brings  
together trusted  
manufacturers,  
specialty suppliers, and  
precision-engineered  
components for serious  
Porsche engine builds.**



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Performance Products

AA Performance

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motor

AASCO

**NICKIES**  
PERFORMANCE AIR-COOLED CYLINDERS™

Aircooled Nickies  
Cylinders

**ARP**  
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SINCE 1958  
**BAUM TOOLS**  
SINCE 1958

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**BURSCH**  
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Bursch

**CALLAS**

**COBB**

**GT**

**DRIVEN**

**DRIVEN**



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# Engine Rebuilds

LN Engineering is the exclusive distributor for Flat 6 Innovations Rebuilt Porsche engines.

Now accepting customer supplied engines for rebuild from anywhere in the world.



**6 FLAT SIX**  
INNOVATIONS

**Often imitated. Never duplicated.**

Flat 6 Innovations Engines feature LN Engineering Nickies and IMS Solution.

**NICKIES** **IMS SOLUTION**

FLAT6INNOVATIONS.COM

The advertisement features three Porsche flat-six engines against a black background. The central engine is painted bright red, while the two flanking engines are silver. The text is in white and red, with the slogan 'Often imitated. Never duplicated.' in a bold, sans-serif font. At the bottom, there are logos for 'NICKIES' and 'IMS SOLUTION', and the website 'FLAT6INNOVATIONS.COM'.



# Shipping

**Easy and secure shipping with trusted UPS Air Freight minimizes time in transit which means less time waiting for your shipment with discounted rates that save you money.**





PRECISION PERFORMANCE SINCE 1903



LN ENGINEERING  
KNOWLEDGE

# Technical Resources for Porsche Owners

Guides, videos, downloads, AI-powered tools, and **enhanced 24/7 support.**

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[lnengineering.com/knowledge/](https://lnengineering.com/knowledge/)



AI-Powered Tools



**ENHANCED 24/7 SUPPORT**  
Porsche experts, always here.



SOLUTIONS ▾

KNOWLEDGE

SUPPORT 24/7



Knowledge

## Technical Resources for Porsche Owners

LN Engineering provides educational resources, training, and guidelines to help you get the most from your aircooled Porsche. Our resources are built by engineers, for enthusiasts—plus, enjoy **enhanced 24/7 support.**



[What is the best oil for my Porsche?](#)



[Porsche Engine Technical Videos](#)



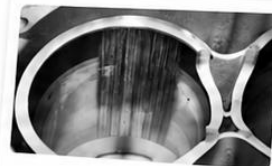
[Technical Downloads for Porsche Owners](#)



[The Definitive Guide to the Porsche IMS Bearing](#)



[The Ultimate Guide to Nikasil and NSC Cylinder Platings](#)



[The Porsche Cylinder Bore Scoring Problem](#)



PRECISION PERFORMANCE  
SINCE 2002

# Contact Details



PRECISION PERFORMANCE  
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