

Processing menu by engine

L-type engine	Unit	L4/ Price	L6/ Price	remarks
Intake manifold mounting surface correction surface grinding	1	¥13,000	¥15,000	Repairs scratches on the mounting surface and corrosion near the thermo housing.
Head bolt hole sleeve repair	1	¥19,000	¥19,000	Repair for when head bolt holes and intake ports are pierced.
Oil gallery blind plug removal	1	¥5,500	¥5,500	For cleaning oil holes after line boring. (2 places, front and back)
Remove oil relief valve and replace blind plug	1	¥5,500	¥5,500	To ensure reliable hydraulic pressure. Whether or not to insert blind plugs is at the customer's discretion. (Parts cost not included)
Block side water hole plug	1	¥1,400	¥1,400	After cleaning the pilot hole, replace with a new 35φ plug. (Parts cost not included)
Block filler injection processing	1	¥28,000	¥32,000	Block filler is injected into the water jacket to increase the rigidity of the cylinder that has become thinned by boring.
L20 Cylinder Block EXH Valveless Processing	1		¥25,000	When using a high lift cam on the L20, this is modified to prevent the exhaust valve from interfering with the cylinder block.

S20 Engine	Unit	Price	remarks
Valve guide replacement	1	¥21,600	the pilot hole and replace it while considering the safe press-fit. (Oversized parts may be used depending on the situation. Guide sold separately)
Valve guide inner diameter reamer	1	¥14,400	The inner diameter of the guide that has changed due to the press-fit is adjusted with a straight reamer to achieve the desired clearance.
Seat ring replacement	1	¥72,000	Oversized seat rings are available to accommodate press-fitting. (Seat ring cost not included)
Cam center seat cut	1	¥64,800	Based on the cam center, the protrusion is adjusted to within the range of commercially available valve caps.
Cylinder head surface correction	1	¥15,000	Repairs scratches and distortions on the head surface.
Cylinder head water pressure inspection Kamurai Boring (IN/EX)	1	¥17,000	Check for water leaks caused by cracks that tend to occur around the seat ring.
	1	¥200,000	Repairing a deformed cam cap housing.
Cylinder liner replacement + O-ring replacement	1	¥41,000	Liner replacement and replacement of old O-rings (parts cost not included)
Cylinder liner height adjustment	1	¥20,000	The amount of liner protrusion from the top of the block is adjusted to the specified value in the 100th range.
Cylinder block surface correction grinding	1	¥23,000	In order to preserve the precious engine number, the number is removed and the surface is ground. A front cover is required for processing.
Cylinder Poling	1	¥49,000	Optimal piston clearance and high-precision honing finish according to the intended use.
Cylinder block hydraulic inspection	1	¥26,000	After replacing the liner and O-ring, check for water leaks with a high-pressure test.
Crank undersands calculation Metal matching (parent and child)	1	¥38,000	Calculate the best undercrank size by working backwards from the housing inner diameter, metal thickness, and oil clearance.
Crank parent and child underside full polishing	1	¥144,800	Crank bend correction + parent-child underside polishing + tuffride heat treatment + thermal distortion correction + wrapping
Crank parent and child + thrust under full grinding	1	¥160,800	Crank bend correction + parent-child & thrust underside polishing + tuffride heat treatment + thermal distortion correction + wrapping
Crank housing line boring	1	¥95,000	Crank housing modification. (Additional cost if offset machining of side bolt holes is required)

A-type engine	Unit	Price	remarks
Rocker arm bushing insertion (core)	1	¥5,500	Reduces friction and protects shaft from wear.
Rocker arm lever ratio change (0.7mm offset)	1	¥7,800	Change the lever ratio to 1.575 to increase valve lift.
A-type head, intake manifold mounting surface water hole plugged	1	¥8,800	Use a 1/8 blind to block unnecessary water holes.
Cam metal replacement	1	¥25,000	Replace damaged cam metal. You need a cam to use. (Metal cost, blind cost + blind plug replacement labor cost are separate)
A14,15 Offset boring	1	¥51,000	The bore pitch is changed to ensure the cylinder wall thickness.
A12 Cylinder block EX valve recess processing	1	¥17,000	This is a modification to prevent the exhaust valve from interfering with the cylinder block when using high cam lift.
A12 Crank oil hole enlarged chamfer & 1/8 plug processing	1	¥34,000	To make the oil supply smoother.

Porsche	Unit	Price	remarks
964 Front head surface processing	1	¥11,000	Processing to use an early model head with a late model cylinder.
964 Head correction surface grinding ~1.0mm	1	¥11,000	Repairs scratches and distortions on the head surface.
964 early Cooper ring processing	1	¥16,000	By installing a Cooper ring gasket removal is strengthened.
964 late model & 993 Cooper ring processing	1	¥25,000	
964 Metal combination	1	¥40,000	Measure the housing journal size and select the best metal!
964 Crankcase mating surface dowel pin processing	1	¥43,000	Increases the rigidity of the crankcase.

Two wheel vehicle	Unit	1 cylinder	2 cylinders	3 cylinders	4 cylinders	remarks
Head correction surface grinding ~1.0mm	1	¥8,000	¥9,000	¥10,000	¥13,000	
Cylinder boring	1	¥12,000	¥23,000	¥29,000	¥34,000	Optimal piston clearance and high-precision honing finish according to the intended use.
Liner production, replacement and boring	1	¥35,000	¥68,000	¥100,000	¥132,000	To repair holes, etc., the top surface needs to be ground. *If no pilot holes are drilled
Big liner production, replacement boring	1	¥40,000	¥78,000	¥114,000	¥150,000	Includes drilling
Cylinder top surface correction and grinding	1	¥9,000	¥11,000	¥13,000	¥17,000	The surface grinding done by the manufacturer is rough, so we recommend corrective surface grinding! (To prevent head G/K from coming loose)
Assembly crank centering only	1	¥12,000	¥17,500	¥23,500	¥35,000	Remove the crank shake.

Others	Unit	Price	remarks
KAWASAKI Z series (two-wheeler) twin plug processing	1	¥45,000	
KAWASAKI Z series (two-wheeled vehicle) crankcase big liner processing	1	¥18,000	Required if liner is oversized.
U20 Crank housing line boring	1	¥85,000	The housing distortion has been corrected to improve oil clearance and bearing contact.
G7 Cylinder block top surface correction grinding	1	¥19,000	Corrected corrosion on the top surface of the block and variation in liner height.
G7 Front Timing Case Cover Upper Side Grinding	1	¥10,000	Adjust the height to the amount that was lowered by grinding the block and head surfaces.
G7 cylinder liner replacement + O-ring replacement	1	¥50,000	Replacement of O-rings and inspection and cleaning of the removed liner and inside of the cylinder. (Parts cost separate)
G7 Cylinder Water Pressure Test	1	¥26,000	Check for water leaks after replacing liners and O-rings with high-pressure testing