

18R-G ENGINE TUNING PARTS



18RG 2200cc forged high compression piston (y92 y92.5)



γPiston specifications

Type High compression

Manufacturing method Forged and machined

Piston diameter Displacement y92 y92.5 y92

•Pin height y2,126cc y92.5y2,148cc 39.75mm

•Pin diameter x length y22x52mm y92

•Piston ring thickness 1.5-1.5-2.8mm y92.5

1.5-1.5-3.0mm •Piston weight y92-373g y92.5- g

•Valve recess Compatible with big valves

•Compression ratio 10.5y1 •Crank/connecting rod used 18RG STD

price ¥95,000

18RG 2012cc forged street piston (y89.5)



γPiston specifications

•Type Street type Forged and machined

•Manufacturing method y89.5 (1.0mm oversize) 2012cc 39.75mm

•Piston diameter y22x52mm

•Displacement •Pin height •Pin diameter x length •Piston ring thickness •Piston weight 1.5-1.5-2.8mm 337 g Compatible with STD valve 8.5:1 (compatible with regular gasoline) 18RG STD

•Valve recess 18RG STD

•Compression ratio •Connecting rod •Crank used 18RG STD

Price: ¥92,000

18RG Stainless steel octopus legs (FGK)



All-stainless steel restacco feet molded from the RA25 Celica. The mounting bolt holes are compatible with both early model M8 bolts and later model M10 bolts by using the included collars.

Price: ¥120,000

•Type 4-2 All Stainless Steel •Pipe diameter 42.7mm •Compatible with RA25 Celica •Year 1973.4-1975.9

18RG Idler Gear (Secondary Side) Type-2



With the OEM chain guide, the use of high cams and reinforced valve springs creates a heavy load on the chain, which attacks the chain guide with a large amount of friction. This causes problems such as friction loss, wear on the chain guide, and delayed valve timing, resulting in horsepower loss. This idler gear replaces the chain guide and uses a reinforced needle roller bearing sprocket that is resistant to high loads and high revolutions, maintaining good valve timing and friction loss and improving high power and high revolutions.

Price: ¥22,000

18RG metal head gasket



This bead-type head gasket secures surface pressure by providing press-formed beads around the combustion chamber and water and oil holes, which require high sealing performance. The layout is appropriately distributed by the width and height of the beads, making it an indispensable part for tuning engines.

G/K Bore diameter	Thickness	Price
y92 y92.5	1.0mm	¥22,000
y90y92y92.5 y92 y92.5	1.2mm	¥23,000
y92 y92.5 y92	1.5mm	¥24,000
y92.5 y92	2.0mm	¥27,000
	2.5mm	¥30,000
	3.0mm	¥32,000

18RG reinforced timing chain



This reinforced chain has a relatively thin 5-10μ manganese phosphorus-based insoluble film formed on the metal surface, which is evenly and evenly permeated into the material surface. This achieves four times the wear resistance! It keeps the chain in the best condition for a long time by suppressing valve timing delays caused by chain elongation. It is also resistant to seizure and galling that often occur in the sliding parts of the chain, and helps maintain smooth movement and reduce friction loss.

•Stronger timing chain, primary side: ¥8,000 •Stronger timing chain, secondary side: ¥16,000

*The sprocket gear in the image is not included in the chain.

18RG Flywheel & Flywheel Bolt



The most effective way to make the 18RG engine more responsive is to reduce the weight of the flywheel. We have adopted the highly durable SCM material and designed it to be thin while maintaining high strength.

Lightweight Chromoly Flywheel	
•STD type	¥50,000 (5.0kg) •R type ¥54,000
*Lightweight	(4.7kg)

ARP reinforced flywheel bolts

While the tightening torque of the genuine bolts is 6.6kg/m, the ARP reinforced bolts have a tightening strength of 13.5kg/m, preventing the bolts from loosening at high revolutions.

¥8,000

18RG F770-WPC Molybdenum metal



F770 WPC Molybdenum Metal (STD size)

•Main metal set (without center flange) ¥18,940 (with center flange) ¥22,800 •Connecting rod metal set ¥14,510

F770 WPC Molybdenum Metal (Undersize)

•Main metal set (without center flange) ¥21,170 (with center flange) ¥24,310 •Connecting rod metal set ¥16,160

•Undersize type 0.25 0.50 0.75 1.00

•Thrust metal Standard size ¥2,590 Under size ¥3,110

*The thrust metal is not WPC treated.

18RG Head Parts

γRacing valve spring Type-R3



This is a racing valve spring designed to support engine specifications that aim for high lift cams and high revolutions. In addition to strengthening the set and full load, the spring is designed to aim for high power and high revolutions at the same time, such as by closely fitting the inner and outer springs to cancel out resonance and combining springs with different natural frequencies with unequal pitches to prevent surging at high revolutions.

1 unit ¥26,000

γLightweight long lifter



The valve lifter plays a major role in reducing the weight of the valve train. By using chromium-molybdenum steel, which has sufficient strength, the thickness is reduced, resulting in a significant reduction in weight. In addition, by designing the outer circumference to be long, the lifter's swing is suppressed, allowing it to accurately follow the cam profile, and the camshaft's original performance can be fully demonstrated.

¥40,000 per unit

γLightweight 45/40.5y valve



This valve is made from a strong metal material and has passed strict inspection standards, including forging, precision machining, heat treatment, and quality control. This racing valve is designed based on the three concepts of "efficiency, strength, and light weight," with a thin umbrella shape for light weight and a narrow stem diameter inside the port.

IN 45y Lightweight valve (standard size) Weight g4 g ¥4,000 per piece Total length 106.2mm

EX 40.5y Lightweight big valve Weight 78 g 1 piece ¥4,000 Total length 105.1mm

γLightweight titanium retainer



Lightweight titanium retainer (weight: titanium 10g / genuine 1 set 21.6g) ¥28,000

Lightweight chromoly retainer (weight: chromoly 18.8g / genuine 21.6g) 1 set ¥18,000

γ Valve guide



Racing valve guide 1 set ¥18,000

STD valve guide 1 set ¥12,000

γ Valve spring flat washer



0.5mm/0.8mm/1.0mm ¥400 each / 1 piece

When installing a camshaft with a high angle or lift, the valve projection is increased to prevent interference between the valves. This lengthens the installation length of the valve spring, weakening the load. This spring washer is used to compensate for the loosened set load.

γ Reinforced tappet shim



1 piece ¥1000

To prevent variation in valve clearance, heat-treated chromium-molybdenum parts with excellent wear resistance are used. There are 111 thickness settings available, ranging from 1.5mm to 7.0mm in 0.05mm increments. •1.3mm to 7.0mm (0.05mm increments, tolerance +0.03-0)

γ Valve spring stepped washer



¥8,000/SET/this

stepped spring seat is machined from chromoly for double type valve springs. It fits perfectly on double springs and stabilizes the center of the spring.

γ45/38.5 STD valve



¥3,000 / 1 piece For

users who want to overhaul their valves without tuning them, we have reproduced a standard valve that is no longer manufactured. The shape and dimensions are the same as the original, and the material and heat treatment specifications have been reinforced to emphasize durability.

γSliding cam sprocket gear



¥18,000 / 1 piece

The slide type has an adjustment scale of 2 degrees per scale, making it easy and accurate to set the valve lift. Also, the knock pin is pre-fitted into the gear side, so there is no need to replace the pin and there is no risk of dropping the pin into the engine.