

## Cylinder Head Surface

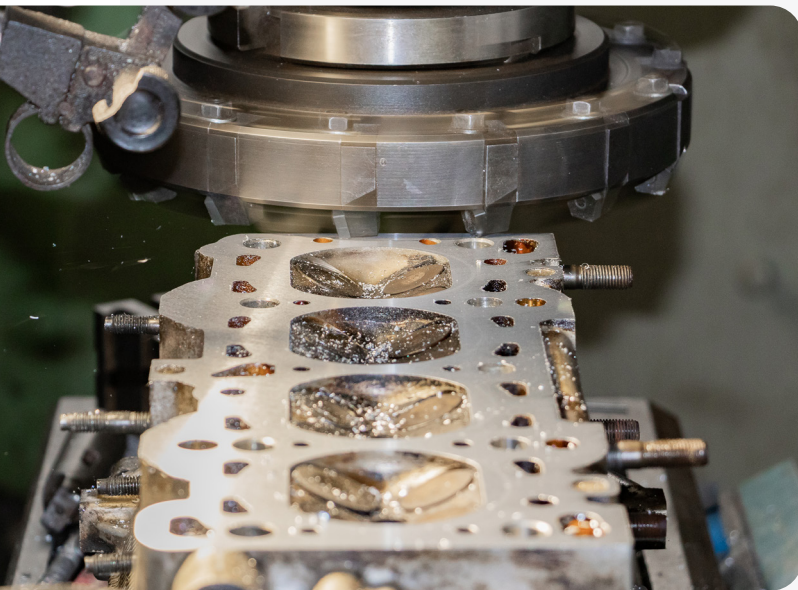
Importance of cylinder head surface finish when using metal head gaskets

Permaseal MLS (multi-layer steel) head gaskets are coated in a specialised rubber coating to enable the gaskets to micro seal the engine fluids (coolant and oil).

Due to the rubber coating only being a few microns thick, the metal gasket requires that all the sealing surfaces are completely flat and have a **surface finish of less than 0.50 micrometres Ra to perform correctly.**

Surface finish or perhaps more correctly surface roughness, is expressed as Ra. The Ra surface roughness is typically measured with a measuring tool called a profilometer. The profilometer draws a small diamond tipped stylus across the testing surface and the Ra finish is calculated from the surface topography.

So, when installing a Permaseal MLS head gasket, ensure that both the cylinder head and the cylinder block surfaces are clean, flat and have the required surface finish of less than 0.50 micrometres Ra. Any surface exceeding these values should be re-machined or replaced. And unless specifically stated in the manufactures fitting instructions, no additional sealants or coatings should be applied to the gasket or sealing surfaces.



**SURFACE FINISH READING  
UNDER 0.50  $\mu\text{m}$**

**NOW AVAILABLE**

**Honda Civic** **L15B7** **2016 - 2021**

Valve Stem Seal Set VSS0188-16  
Crankshaft Seal Rear OSS0491

**Honda CR-V** **L15BG** **2017 on**

Valve Stem Seal Set VSS0188-16  
Crankshaft Seal Rear OSS0491

**Lexus ES300h** **2AR-FXE** **2013 - 2018**  
**Lexus NX300h** **2014 - 2021**

Full Set F5435SS  
Valve Regrind Set V5430SS  
*(Includes timing cover seal)*

**Toyota Camry** **2AR-FXE** **2012 - 2018**

Full Set F5433SS  
Valve Regrind Set V5430SS  
*(Includes timing cover seal)*

**Toyota Alphard** **2AR-FXE** **2015 on**  
**Toyota Vellfire**

Full Set F5430SS  
Valve Regrind Set V5430SS  
*(Includes timing cover seal)*

**Toyota Hiace** **1TR-FE** **01/2015 - 2019**

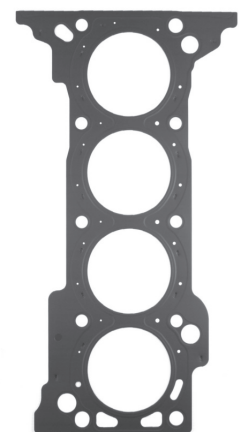
Head Gasket S3762SS  
*(Suits 8 Bolt Exhaust  
Manifold /dual VCT)*



OSS0491  
(Crankshaft Seal Rear)



VSS0188-16  
(Valve Stem Seal Set)



S3762SS  
(Head Gasket)

## Our Specialty Tool range is growing!

The Permasseal tool range has been expanded with the release of an **oil seal pick set**.

This new product compliments our existing Oil Pan Separator and premium Gasket Scrapers.

All products in the range have been designed to aid customers, whilst promoting best practice during the removal of existing gaskets.



**NEW  
ARRIVAL!  
IN STOCK  
NOW**

### Permasseal Oil Seal Pick Set

**PSGS005**

- Set for removing seals and o-rings
- Special tip angle suits a wide range of applications
- Textured T handle for increased grip and accuracy



**PSGS002**

32.5 mm/  
1-1/4"  
Width



**PSGS003**

17mm/  
11/16"  
Width.

Perfect for use  
in applications  
where *space*  
is *limited!*



**PSGS004**

**don't  
forget  
our other  
products!**

### Permasseal Gasket Scraper

**PSGS002 & PSGS003**

- Tungsten Carbide Tip
- Double edged solid blade
- Resists rust and corrosion
- Steel shank, will not flex or bend
- Grooves for optimum handling

### Oil Pan Separator

**PSGS004**

Designed to break gasket seals on:

- Engine sumps
- Transmission pans
- Difficult to separate gasket joints