



# BG Automotive Gaskets & Head Bolts

The Perfect Link Sale

BGA Sealing range includes

- + Cylinder Head Gasket
- + Head Gasket Set
- + Head Gasket Set (w/o Cylinder head gasket)
- + Head Bolt Kits
- + Manifold Gasket
- + Crankshaft Oil Seals
- + Camshaft Oil Seals
- + Differential Oil Seals
- + Timing Cover Gasket
- + Valve stem seal sets
- + Rocker cover Gasket
- + Rocker cover Gasket Sets
- + Sump Pan Gaskets
- + Sump Pan Gasket sets
- + Rubber O-Rings
- + EGR Gaskets
- + Gasket Repair Material
- + Silicone Sealant

BGA offer one of the largest Gasket, Bolt and Seal ranges in Europe, including more than 14,000 quality references covering in excess of 50,000 applications. BGA's gasket manufacturing heritage goes back to 1929!

The range features the very best technologies and materials such as Stainless Steel, Viton™, PTFE, NBR, ACM & Cemjo. Coupled with the 4BG groups manufacturing facilities and skill in the UK, we offer a complete, unsurpassed solution.

Head Bolts Kits represent the best link sale item for head gaskets. The next page explains why you should stock and sell these alongside gaskets.



BG Automotive is the aftermarket division of 4BG Group who have recently obtained an OE contract with Jaguar Land Rover worth €4.5M.

[www.bgautomotive.co.uk](http://www.bgautomotive.co.uk)



# BG Automotive explains why you should replace head bolts every time.

## Always replace head bolts after removal

The majority of head bolts are 'Torque to Yield' (TTY) which means that during the original tightening process, they are stretched past the elastic phase of the metal into the plastic phase. This is where the bolt will offer the best resistance to fatigue in high frequency and high load situations. This results in the highest clamping and even sealing to head. As a part of this process, the bolts become permanently elongated. If they are re-used and tightened to yield again they will become weak and potentially snap during or after installation. They are designed as single use items.

## Stretch Bolt replacement general advice


- Stretch bolts are used in aluminium Cylinder Heads and always need to be replaced after use.
- The aluminium Cylinder head will expand up to 4 times more than the older cast iron Cylinder Head.
- This is due to the high thermo conductive materials used within modern engines.
- The Stretch Bolt is designed to work with the aluminium Cylinder Head unlike the older (re-usable) Bolts.
- After use, Stretch Bolts are weakened and are not strong enough to be used again.
- Please see the diagram to the right identifying what happens when Stretch Bolts are re-used.

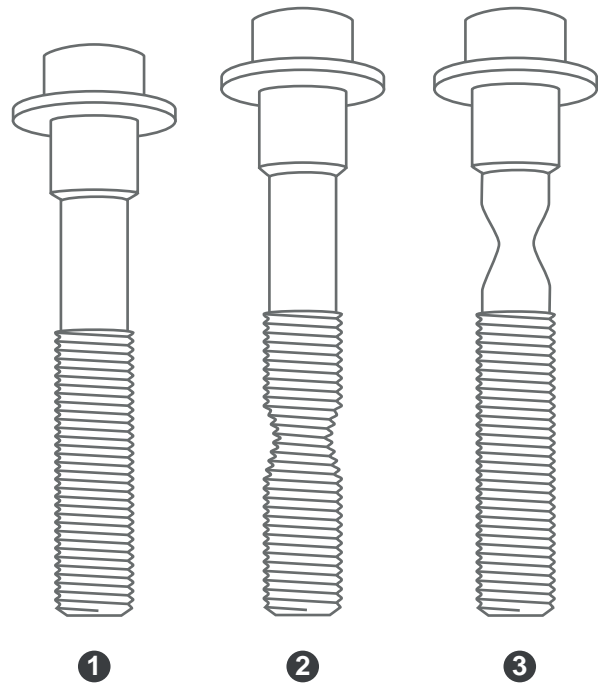
## The removal of Head Bolts

When removing, it is essential to follow the sequence and use the correct tool stated by the engine manufacturer in relation to the Bolt head.

## The Installation

- Ensure the Bolt holes in the Cylinder Block are clear of contamination.
- Bolts are no longer torqued to a pre-set load, a standard torque wrench is only used during pre-loading.
- Use a degree gauge while torqueing.
- After this the Bolts are tightened via degrees of rotation and will not be affected by the friction during loading.

 BGA products are to be replaced by an experienced automotive installer. This information is to be used as reference only. Always seek manufacturer specification.

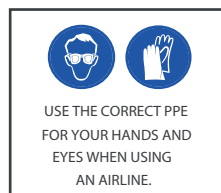


- 1 Stretch Bolt before installation.
- 2 Threads have become weakened after re-use.
- 3 Shaft has become weakened after re-use.

BG Automotive stock a large range of head bolts for all of their head gaskets to make sure any can be carried out by automotive technicians correctly and confidently, covering over 18,000 different vehicles.

## Features and Benefits of BGAs Bolt sets

- Over 390 part numbers covering 95% of the UK car parc.
- Follow OE with integrated washers fitted as standard.
- Always sold as a full set.
- Made to OEM specification.



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