# BM91535H FITTING ADVICE (PT. 2)

EXCEEDING EXPECTATIONS

BM CATALYSTS

# CYLINDER HEAD STUDS

Studs in the cylinder head can unwind during removal of the existing unit and cause problems when fitting a replacement unit.

The front flange and manifold assembly of the BM part is designed to be the same as the OEM equivalent. This improves consistency/uniformity along the length of the flange and reduces the risk of a mild steel flange warping when exposed to heat during manufacture.

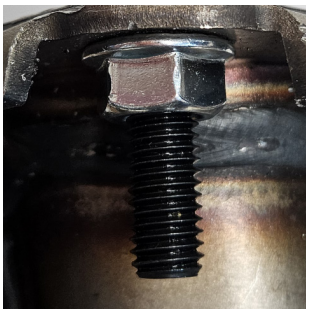
The studs in the cylinder head have a threaded section at each end with a blank section (shank) in between. The length of the shank should be approximately equivalent to the thickness of the flange + the gasket. This then allows maximum use of the threads that are not inserted into the block for installing and tightening the nuts that hold the part securely in place.

If the thickness of the flange + gasket is greater than the length of the shank of the studs, then that reduces the number of threads that can be used to install the correct nuts. This is particularly an issue if there are any damaged/corroded threads (especially on the end), which will mean nuts cannot be properly tightened. The BM part has been designed as per the OEM to mitigate this risk.

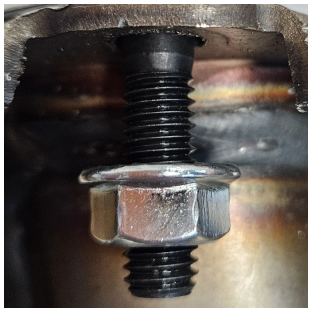
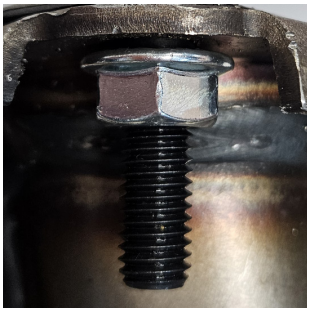
The studs in the cylinder head should be fully tightened, up to the shank and not unwound. If the studs are unwound this will be indicated by visible threads between the shank and the cylinder head. This unwinding can happen during removal of the previous/original catalytic converter. If this has occurred and it is not possible to re-tighten the studs, then it may be necessary to use a washer between the flange and the nut to ensure there are sufficient threads available to tighten that specific nut. The use of washers does have an additional advantage of spreading the load of the nut over a larger surface area of the flange.

The correct tightening sequence is also important when fitting any manifold catalytic converter. Start at the middle and work outwards in a spiral pattern moving from top to bottom. Gradually increase the tightness of the nuts in the same order until fully tightened.

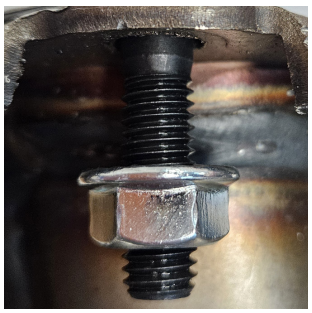
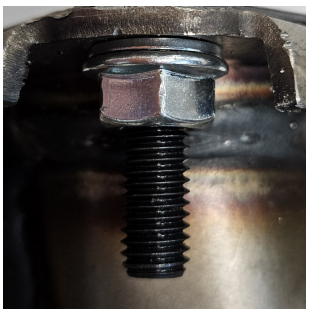
**Scenario 1**
Stud showing minimal blank section; the nut will sit flush/ tight to the flange

**Scenario 2**
Stud showing large blank section; the nut will not sit flush/ tight to the flange

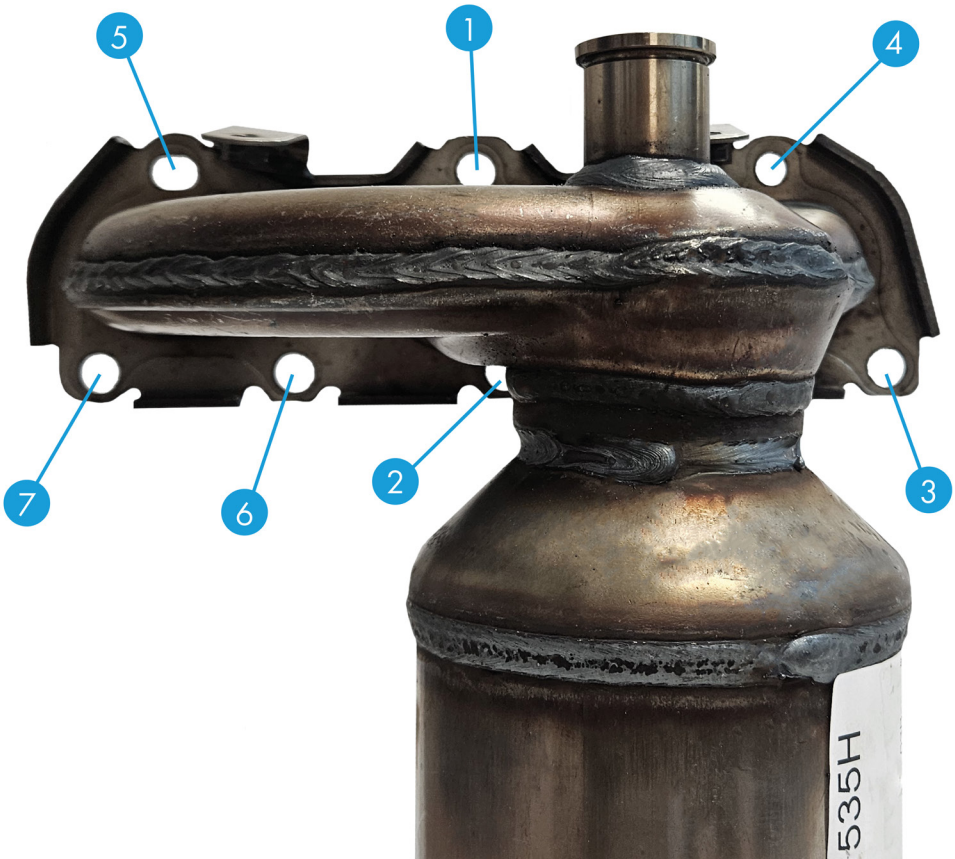



**Scenario 3**
Stud showing large blank section; the addition of a washer will enable the nut to sit flush/tight to the flange

## TIGHTENING SEQUENCE

To avoid warping the flange when fitting the replacement unit, bolts should be incrementally tightened to the cylinder head in the following sequence:



## PRODUCT SUPPORT

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## EXCEEDING EXPECTATIONS

BM91535HPT2_V01