

SPECIAL NOTICE REGARDING 1.8 5v INSTALLATION

It has come to our attention that installation of valves into 5v cylinder heads with misaligned valve spring in the cylinder head, will result in almost certain rapid valve failure and potential subsequent consequential engine damage. (includes Standard & Supertech performance valves and inconel valves)

We have included the KS service information bulletin which better explains the potential installation issue which can catch the unwary and unfamiliar with these 5v cylinder heads.

In the event of a misalignment during assembly of the valve spring, the resulting side load on the valve stem collet grooves under compression will crack the valve typically under the 1st groove allowing the valve to drop into the cylinder with resulting damage.

Note:

If an engine has had a valve failure on rebuild as described above, then **ALL** valves should be removed and checked for correct fitment. Special care and attention should be made on the valve tip inspection to ensure they are straight and true with no evidence of side load and collet damage. If in doubt, replace these valves with new. Failure to do so may result in repeat failure from a previously stressed valve. There have been previous occurrences of installation misalignment which resulted in almost ALL the valve tips showing signs of bending. Had they been used they would have resulted in catastrophic failure at some point.

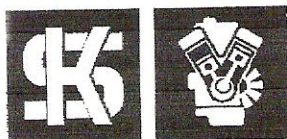
Please check thoroughly on installation and inspection to avoid costly damage.

If in doubt seek professional advise and service. *Call* me for information on recommended installers.

Sincerely

Bill Brockbank
(Director-Badger5 Ltd)

1.8 5v Engines VERY COMMON



**Service
information**
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Installation errors: misalignment of valve spring

Situation:

In engines without a lower spring seat to support the valve spring when located in the cylinder head, valve stem damages may occur after a short mileage.

Damage description:

In fig.1 / spot 1, eccentric wear as well as material breakage at the valve guide end are clearly visible.

The supporting area for the valve spring at the cylinder head shows impressions of irregular depth. The valve spring is supported on one side of the higher cast edge. (See fig. 1 / spot 2 and fig. 2)

Cause:

The transversal breakage of the valve in the groove area and the damage of valve guide are caused by misalignment of the valve spring.

Due to the installation position (see fig. 2), the valve spring generates a torque on the valve stem via the upper spring seat. The torque exerts a lateral force onto the end of the valve stem, thus causing a bending stress which leads to a valve stem rupture in the groove area of the valve.

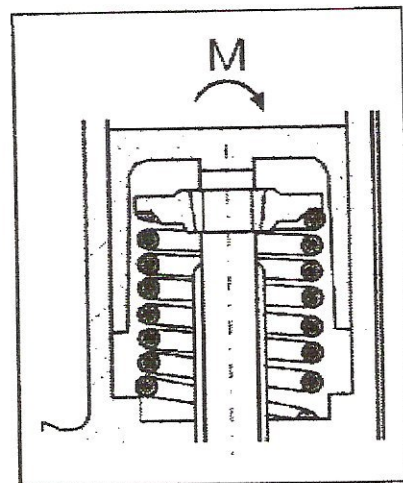


Fig.2: Valve spring tilted at the higher cast edge

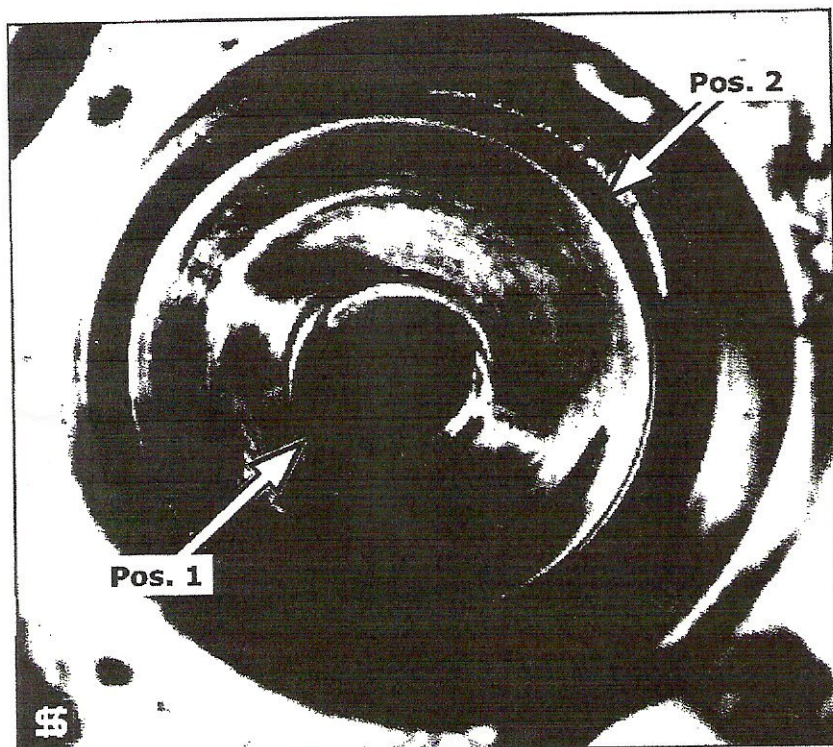


Fig.1: Valve guide damage, Eccentric wear on the valve guide caused by bending stress of the valve stem.



Important note:

When the valve spring is installed, it must sit flat on the bearing surface in the cylinder head. A tilted installation of the valve spring leads to a breakage at the valve stem end and strong wear on the valve guide, resulting in costly engine damage.



Notes:

By this installation error, independent rotation of the valve is prevented due to the elevated friction between the grooves and the valve collets.