

Ford/Mazda 2.6L G6 Engine: Broken Valve Guides & Bent Valves

1991 – 2006 Ford Courier
1991 – 1997 Ford Raider
1990 – 2006 Mazda B2600
1997 – 2006 Mazda Bravo

An assembly error while fitting the rockers has broken off the valve guides and bent the exhaust valves.



All Head Services supplied a cylinder head to a customer for a Ford Courier with a G6 engine. These cylinder heads are provided complete, but the customer must swap over the camshaft and rocker assembly. After fitting the head, the customer called saying that there was an issue. The exhaust valve on No. 1 cylinder was sticking when turning the engine over.

The cylinder head was removed and sent in for inspection. Upon dismantling the head, it was found to have four bent exhaust valves, and it

had also cracked or broken off all of the exhaust valve guides below the seal.

This type of damages is a common occurrence with these cylinder heads. It is caused by the rocker arms not being aligned with the tip of the valves when tightening the rockers down. This causes the lifters at the end of the rockers to slide off the tip of the valve and push sideways on the valve stem which in turn bends the valves and cracks the valve guides.

All Head Services replaced all the exhaust valves and guides and assembled the cylinder head along

with fitting the cam and rocker shaft assembly in the correct position. The correct sequence for tensioning the rocker shaft bolts is shown below.

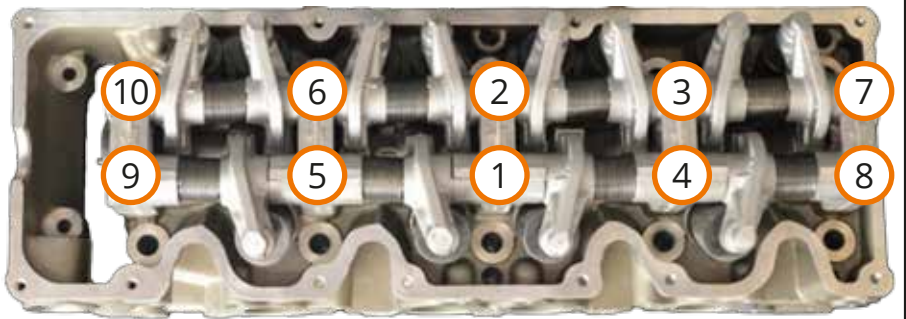
This type of assembly error is not limited to the G6 engine. When assembling any cylinder heads with rocker arms, ensure that all the lifters or adjusters are in the correct position before tensioning the rockers down. A little bit of care and attention the first time will save a lot of time and money.

For more information on the G6 engine, log on to Tech Online or call the VACC Technical Advisory Service.



When assembling the rocker shaft make sure that the lifters or tappet adjusters are sitting correctly on the valves before you tighten the bolts. If the adjusters are caught on the valves you will break something expensive.

Tighten the rocker shaft in the following sequence in two or three steps making sure that the adjusters are still OK in between steps. Final tensions is 22 Nm



We would like to thank Geoff, from All Head Services, for sharing this practical information and photos www.allhead.com.au