Rule-of-nine method

An alternative sequence often recommended by car manufacturers for in-line four-cylinder engines, is to follow the ‘rule of nine’.

There are some engines – including the Fiesta 1.1 – on which this method is not recommended: consult your car handbook or service manual if in doubt.

The feeler gauge must be a close sliding fit – with the engine hot or cold, according to the manufacturer’s instructions. With many different sorts of engine layouts, No. 1 cylinder is usually at the crankshaft-pulley end, irrespective of which way the engine is mounted in the car.

Turn the engine by means of a socket spanner on the crankshaft-pulley wheel, or by jacking up one of the driven wheels, engaging a high gear, and turning the wheel by hand to turn the engine.

Removal of the sparkplugs (See Cleaning and fitting spark plugs) will make turning the engine easier.

Count the valves of No.1 cylinder as 1 and 2, the next pair as 3 and 4 up to the furthest pair, 7 and 8.

Turn the engine until one rocker arm is fully down, the valve being fully open.

Follow this order:

- Check No. 1 valve clearance with No. 8 8 fully down.
- Check No. 3 valve with No. 6 fully down.
- Check No. 5 valve with No. 4 fully down.
- Check No. 2 valve with No. 7 fully down.
- Check No. 8 valve with No. 1 fully down.
- Check No. 6 valve with No. 3 fully down.
- Check No. 4 valve with No. 5 fully down.
- Check No. 7 valve with No. 2 fully down.

Note that whichever valve is fully down, adjust the valve which makes up to 9 when the two numbers are added.