



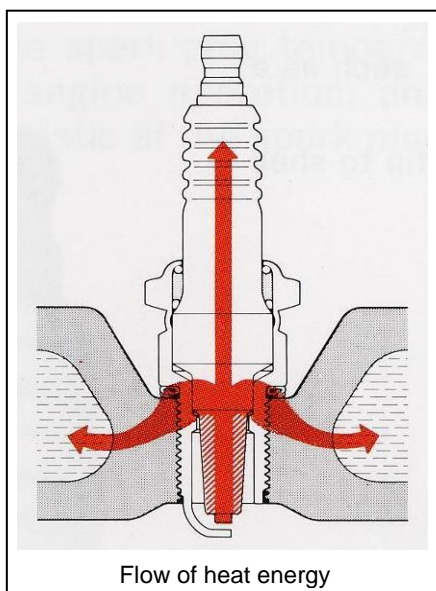
IGNITION  
PARTS

## TECHNICAL INFORMATION SHEET

### SPARK PLUG UNDER TIGHTENING (UNDER TORQUE).

Correct tightening of spark plugs is essential. Too tight and the metal shell can be damaged. If the tightening torque is too low, there is a danger of cylinder compression leakage, combustion gas leakage, electrode breakage, insulator breakage and even engine damage.

As well as a spark plug supplying the spark to ignite the fuel charge, it also plays an important role in absorbing and transferring heat generated in the combustion chamber - during the combustion process - into the cylinder head and then on to the cooling system (via coolant waterways or cooling fins).



Heat energy transfer is mainly via the threads and sealing area taper (conical seat plugs) or gasket. As a plug is tightened, the threads of the spark plug, and cylinder head are mated and the respective surfaces come into contact. The more a plug is tightened, the more effective the thread contact and sealing areas become (as the gasket flattens). When tightened to within the recommended torque range, rate of heat transfer from the plug through the threads and sealing area is sufficient.

If too low a torque is applied to a plug insufficient heat transfer can occur and the more likely that overheating can result.

Damage to the firing end of a spark plug can result from this reduced heat dissipation – which can cause hot spots, engine knock/pre-ignition/detonation to occur. Similar damage can occur to a plug that becomes loose and vibrates in the cylinder head.

- *It is important, therefore, that particular attention is paid to installation and tightening information when fitting spark plugs into an engine. This is generally available within most vehicle manufacturers own service information data, workshop repair manuals, in all our catalogues and on most packaging boxes in which NGK spark plugs are supplied.*

**Niterra UK LTD**