



# IMPORTANT TIPS FOR THE INSTALLATION OF SPARK PLUGS

A torque wrench is required for the professional installation of a spark plug. Even for professionals the estimation of the tightening torque is nearly impossible. That is because a torque can be calculated from two sizes which are multiplied by one another: the force which is applied to the respective centre of rotation and the length of the

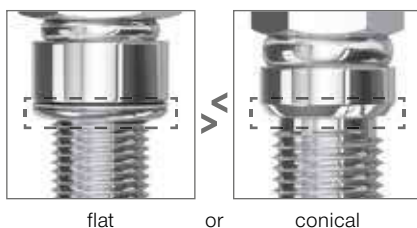
handle. Most spark plug failures can be traced back to an incorrect tightening torque. If it is set too low, there is a risk of compression losses and overheating. A break of the insulator or middle electrode as a result of vibrations is also feasible. If the tightening torque is set too high, the spark plug can snap off. The casing can also expand

or warp. Heat dissipation zones are disrupted, overheating and melting of the electrodes or even engine damage can occur.

## Spark plug tightening torques

The required tightening torque depends on seat type, thread diameter and cylinder head material. Please take care of the tightening torques or angles, whenever these are printed on the packaging material!

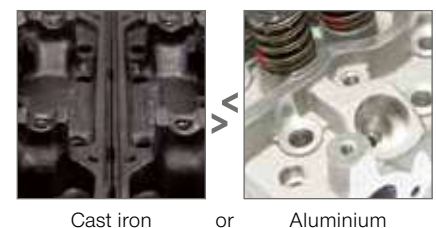
### 1 Seat type



### 2 Thread diameter



### 3 Cylinder head material



1	Seat type	Spark plug with a flat seat (with seal)				Spark plug with a conical seat	
2	Thread Ø	10 mm	12 mm	14 mm	18 mm	12 /14 mm	18 mm
3	Cast iron head	10-15 Nm	15-25 Nm	25-35 Nm	35-45 Nm	15-25 Nm	20-30 Nm
	Aluminium head	10-12 Nm	15-20 Nm	25-30 Nm	35-40 Nm	10-20 Nm	20-30 Nm

## Alternative: Angle of rotation details

The respective angle of rotation can be found on the spark plug packaging. (Exception: racing plugs – only torque method)

