

BMW High Power spark plugs

All models

Situation:

"Longlife" spark plugs have for the first time been approved for the start of series production of the new 3 Series E46. As of Model Year 1999, all other BMW models will also be equipped with these spark plugs. Moreover, these spark plugs can also be used with immediate effect in certain engines (see retrospective approval).

The new spark plug has the following design features:

- Four earth electrodes
- Centre electrode with platinum plate
- Semi-surface discharge technology

On semi-surface discharge spark plugs, the electrodes are designed in such a way that the spark will always slide over the insulator before it flashes. This prevents sooty deposits from forming and so pre-empts misfiring.

The spark always flashes at the point on the electrode which will give the best combustion conditions. In this way, the electrodes will wear evenly throughout the service life of the spark plug. The platinum plate on the centre electrode is highly resistant to spark erosion. This design allows operation to be maintained consistently at an optimum level for the entire service life between the change intervals.

Benefits of semi-surface discharge technology:

- Outstanding cold-start performance.
- Improved combustion characteristics, providing for higher idle quality and better acceleration performance.
- No misfiring on load change or full load.
- Maximum ignition reliability, even in extreme short journeys or in stop & go traffic, protects against damage to the catalytic converter.
- Consistently high level of operation throughout the entire service life.
- Up to double the service life, depending on the model.
- High degree of safety reserves when vehicles are run under difficult operating conditions.

Affected vehicles:

E46 with M43TU, M52TU

Manufacturing period: since start of series production

E36/7 with M43TU, M52TU

Manufacturing period: since September 1998

E36 US, E38 US, E39 US with M52, M62

Manufacturing period: since September 1997

E38 with M52TU, M62LEV, M73LEV

Manufacturing period: since September 1998

E39 with M52TU, M62LEV

Manufacturing period: since September 1998

E39/M5 with S62

Manufacturing period: since start of series production

Retrospective approvals:

E30, E34, E36 with M40, M42, M43, M44

E34, E36, E38, E39 with M50, M52

E31, E32, E34, E38, E39 with M60, M62, M70

Manufacturing period: Since start of series production M40 (1987)

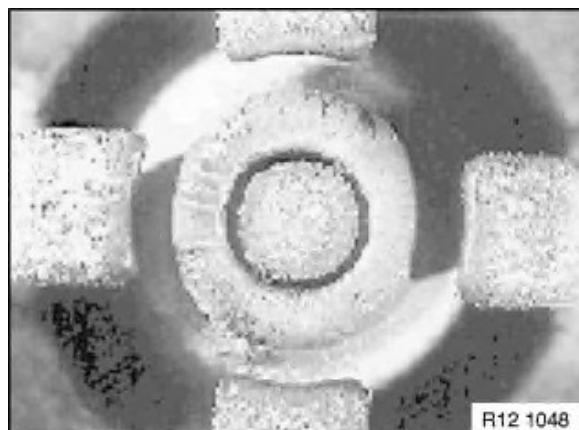
Procedure:**Fitting:**

The spark plugs are fitted without assembly paste.

Specified tightening torque: 30 ± 3 Nm.

Change interval

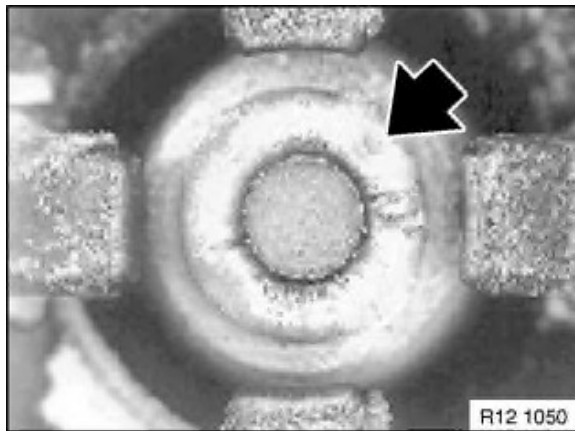
- Vehicles with High Power spark plugs installed as standard:
Change interval as per inspection sheet.
- Vehicles with High Power spark plugs retrofitted:
The spark plugs should be changed after 60 000 km instead of the after the regular change interval.
When High Power spark plugs are installed, an instruction plate with additional information should be attached in the area of the fan shroud.
In addition, it is recommended to record the installation of High Power spark plugs in the Service Booklet.



Spark plug faces:
Normal appearance



Normal appearance

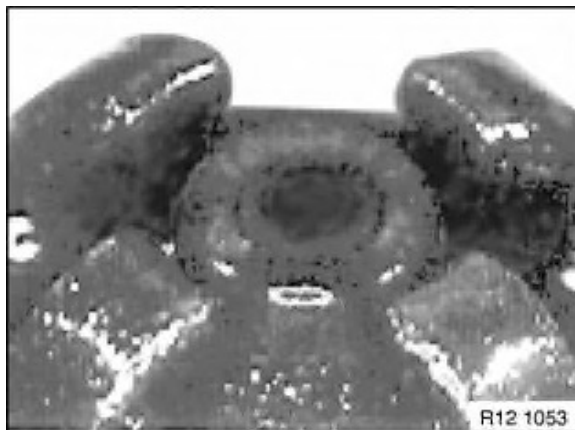


Slight material loss on the insulator due to spark erosion during operation. This loss is not in the form of cracks or fractures, but rather an intended "channeling" in the tip of the insulator, which does not affect operation.



Soot fouling

Caused by faults in the area of the ignition system. Causes by-passes with subsequent misfiring. It is advisable to change the spark plugs.



Oil fouling

Caused by excessively high oil level or by wear in the piston rings and/or in the valve guides. A change of spark plugs is necessary as misfiring will occur.

This is not a defect in the spark plug which qualifies for reclamation.

Parts:

Description	Part number	Quantity
High Power spark plug	12 12 9 071 003	1
Instruction plate:		
German, English	01 39 9 791 390	1
French, Spanish, Italian	01 39 9 791 394	1
Swedish, Dutch	01 39 9 791 396	1