

**Haynes**
shows you how

BMW 3-Series and Z4 (99-05) Includes 2006 325ci/330ci Coupe and Convertible models Haynes Online Manual.

19 Spark plug replacement

03:38

Caution:

This video is for familiarization purposes only. Read below for specific information on your vehicle.

1 Correct spark plug function is vital for proper engine operation. It is essential that the correct plugs are installed (the correct type is specified at the beginning of this Chapter or in your vehicle's owner's manual). If the correct plugs are used, and the engine is in good condition, the spark plugs should not need attention between scheduled replacement intervals. Spark plug cleaning is rarely necessary, and should not be attempted unless specialized equipment is available, as damage can easily be caused to the firing ends (electrodes).

2 The spark plugs are installed under the ignition coils in the center of the cylinder head.

3 Remove the valve cover (see [Chapter 2A](#))

4 Remove the ignition coils (see [Chapter 5](#)).

5 Unscrew the plugs using a spark plug wrench or a deep socket and extension bar (see illustration). **Caution:** *Keep the socket aligned with the spark plug - if the socket pushes against the top of the plug, it may break it.*

19.5 Tools required for spark plug removal and installation



6 Examination of the spark plugs will give a good indication of the condition of the engine. If the insulator nose of the spark plug is clean and white, with no deposits, this is indicative of a weak mixture or too hot a plug (a hot plug transfers heat away from the electrode slowly, a cold plug transfers heat away quickly). Compare your spark plugs with those shown on the inside back cover of this manual to get an indication of the general running condition of the engine.

7 If the tip and insulator nose are covered with hard black-looking deposits, then this is indicative that the mixture is too rich. Should the plug be black and oily, then it is likely that the engine is fairly worn, as well as the mixture being too rich.

8 If the insulator nose is covered with light tan to grayish-brown deposits, then the mixture is correct, and it is likely that the engine is in good condition.

9 The spark plugs recommended by the manufacturer are either of the multi-ground electrode type or of the platinum or iridium type, all of which are pre-gapped to the proper setting and don't require adjustment. Additionally, attempting to adjust the gap on a platinum or iridium spark plug could scrape the platinum or iridium plating from the electrodes, which would severely shorten the spark plug's life.

10 Before installing the spark plugs, check that the threaded connector sleeves (on top of the plug) are tight, and that the plug exterior surfaces and threads are clean. It can be difficult to insert spark plugs into their holes without cross-threading them. One good method to use is to place a short piece of hose over the end of the spark plug to thread the plugs into their holes (see illustration).

19.10 Using a piece of hose to thread the plug into its hole



11 Remove the hose (if used), and tighten the plug to the specified torque listed in [this Chapter's Specifications](#) using a spark plug socket and a torque wrench. Install the remaining plugs in the same way.

12 Install the ignition coils (see [Chapter 5](#)).

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