

What will I need to...  
Install spark plugs

- Quality branded spark plugs
- The relevant spark plug spanner
- A feeler gauge or appropriate gap-setting device
- Hand cleaner
- Mutton cloth

# Hints & Tips

## INSTALLING SPARK PLUGS



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SPARK PLUGS



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# Installing Spark Plugs



Exclusive Brands only available at AutoZone

Spark plugs are one of the most frequently replaced components of a vehicle. The correct selection of spark plug is thus essential in order to maintain correct engine performance. The life of a spark plug depends largely on the operating conditions of the vehicle, as well as the driving habits of the person driving the vehicle.

Check your spark plugs regularly to ensure that the correct spark plug is being used. Do a visual test of the spark plug: if the plug insulator is a tan colour and is not full of soot, and the electrodes are a greyish colour, then the plug has the correct heat characteristics.

## There are two basic designs of spark plugs:

- Spark plugs with a gasket
- Spark plugs with a tapered seat. These are designed to only fit engines which have a tapered seat surface in the cylinder head.

## To replace your spark plugs, follow these steps:

**STEP 1:** Number and remove the ignition leads (where applicable). Do not pull directly on an ignition lead. Grasp the spark plug boot firmly, and remove the lead with a steady twisting action.

**STEP 2:** Use a plug spanner that fits firmly on the plug hexagon and loosen the spark plugs. Remove the spark plugs from the cylinder head.

**STEP 3:** Remove all the particles of grit from the cylinder head seating surface. Ensure that the seating and sealing surfaces are all free of debris and dirt.

**STEP 4:** Check the spark plug gap, and if necessary set the gap to the recommended distance as per your vehicle workshop manual.

**STEP 5:** Install the new spark plugs according their design.

- Spark plugs with gaskets: These should be installed 'finger tight', and then should be followed by a quarter (1/4) turn using a wrench.
- Spark plugs with tapered seat: These should be tightened 'finger tight' and then should be followed by a one sixteenth (1/16) turn using a wrench.

Excessive tightening will not improve the sealing properties of the spark plug gasket or the spark plug itself. If the spark plugs are over-tightened, this could result in damage to the cylinder head threads.

**STEP 6:** Replace ignition leads in their correct original firing order and ensure that they are firmly fitted to the spark plugs.

## TROUBLE SHOOTING WITH SPARK PLUGS:

A spark plug's colour can tell you many things, especially if something is not running correctly:

- Normal operating conditions: Spark plug core nose is lightly coated with grey-brown deposits
- Carbon fouling condition: Dull black sooty deposits appear on the spark plug. Check for an over-rich mixture setting, a faulty choke mechanism or a clogged air filter.
- Oil fouling condition: wet deposits on the firing end, negatively affecting the spark. Check for worn valve guides, cylinder bores or piston rings.
- Initial pre-ignition / overheating condition: Spark plug ends display serious overheating discolouration. Check the fuel used (low octane can cause this), and the ignition timing.
- Heavy deposits: Fuel or oil additives can cause heavy deposits on the end of the spark plug. Check for worn valve guides and excessive upper cylinder lubricants.
- Split core nose: These appear as hairline cracks on the core nose. Check for manifold air leaks, incorrect gap settings on the spark plug, low fuel octane ratings and an incorrect distributor advance curve.

## USEFUL TIP 1:

The life of a spark plug is made shorter by low speed stop/start town driving, which results in the plug fouling.

## USEFUL TIP 2:

The electrodes in a spark plug wear due to prolonged periods of high engine speed.