

How to Assess Trouble by Checking Your Spark Plugs

By [Deanna Sclar](#) from [Auto Repair For Dummies, 2nd Edition](#)

You can actually read your spark plugs for valuable “clues” about how your engine is operating. If your plugs indicate that something is seriously wrong with your engine, ask a professional for an opinion.

To read a spark plug and assess engine troubles, you first have to remove it. Use a spark plug wrench with an extender. Once you get the socket over the spark plug, place your hand over the head of the wrench, grasping the head firmly and pull the handle, hitting it gently with the palm of your hand to get it going.

Once you have the plug in your hand, check out its various parts to look for tell-tale signs of trouble. The following figure can help you identify the different parts of a spark plug.

You should also check the gap between the center electrode and the side electrode. Take your wire or taper feeler gauge and locate the proper wire and slide it into that gap. If the gauge has a lot of room to wiggle around, your old plug may have worn down its center electrode, causing a gap that’s too large. If the gauge can’t fit between the center and side electrodes, the gap is too small, which means that the spark plug isn’t burning the fuel/air mixture efficiently.

Compare the state of your spark plug with the table below to diagnose any problems.

What Your Old Spark Plugs Tell You about Your Vehicle

Condition	Clues	Probable Causes	Remedies
Normal plug	Brown or grayish-tan deposit on side electrode,	Everything’s fine.	Just clean and regap the plug.
Carbon-fouled plug	Black, dry, fluffy soot on insulator tip and	Overly rich fuel/air mixture, dirty air filter, too much driving at low speeds, or idling for a	Switch to “hotter” plug. (The higher the plug number, the

	electrodes.	long time.	hotter the plug.)
Oil-fouled plug	Wet, black, oily deposits on insulator tip and electrodes.	Oil may be leaking into cylinders past worn pistons or poorly adjusted or worn valves.	Clean and regap the plug, or replace it, but find out where the leak is coming from.
Burned plug	Blisters on insulator tip, melted electrodes, burned stuff.	Engine overheating, gap is too wide, wrong or loose plugs, overly lean fuel/air mixture, or incorrect timing	Replace the plug.
Worn plug	Severely eroded or worn electrodes	Plug has been in there too long	Replace the plug.

Check all your spark plugs, but work on only one plug at a time, and don't remove a plug unless the one you just dealt with — or its replacement — is safely back in the engine.

To keep your engine operating efficiently, don't mix plugs in varying states of wear. Either replace *all* the plugs with new ones or clean and reinstall *all* the old ones. If you find that a few of your old plugs aren't too worn and are in fairly good shape but you need to replace the others, clean and regap the salvageable plugs and store them in your trunk compartment tool kit for emergencies.

Sometimes you can cure a problem — such as carbon-fouled plugs — by going to a hotter- or cooler-burning plug. You can identify these by the plug number: The higher the number, the hotter the plug. Never go more than one step hotter or cooler at a time.

Source: <http://www.dummies.com/how-to/content/how-to-assess-trouble-by-checking-your-spark-plugs.html>