



# Spark Plug Installation Guide.

## INSTALLATION GUIDE

Replacing spark plugs may seem like a simple job, but proper procedures must be followed to ensure the best results. While you should always use the vehicle manufacturer's service procedures, which may include removal of certain engine components to access the spark plugs, here is a basic step by step guide:

1. Be sure that the engine is cool before beginning.
2. Carefully remove the spark-plug boots. Grasp the boot, twist it about a quarter turn to break the seal, and then lift it straight off. If the boot does not break free easily, use a spark-plug boot puller. As you remove the boots and ignition wires, number them using tape and a marker.
3. Clean the area around the spark plugs using a blast of compressed air, or by blowing through a soda straw. This prevents debris from falling into the combustion chamber when the old spark plugs are removed.
4. Loosen each spark plug using the correct hex-head socket wrench.
5. Remove the spark plugs and line them up in cylinder order. Inspect the spark plugs to identify any engine problems that may need attention.
6. Gap the new ACDelco spark plugs as recommended by the vehicle manufacturer. Use a rounded feeler gauge or a specific gapping tool to measure the gap between the centre electrode and side electrode. The gauge should pass through the gap snugly but easily. If too loose or too tight, adjust the gap as needed.
7. Screw the new spark plugs in by hand until just finger tight. If it is difficult to reach the spark plug socket, use a length of rubber hose to extend your reach.
8. Tighten the spark plugs using a torque wrench and following the vehicle manufacturer's recommendations. If you do not have a torque wrench, refer to the section on installing Spark Plugs without a torque wrench.
9. Before replacing the ignition wires and spark-plug boots, check them for any cracks or brittleness, or obvious signs of corrosion or wear. Replace the entire set if you detect any of the above defects.
10. Place a small amount of dielectric grease inside the spark-plug boot where it connects to the spark-plug barrel. This will help ensure a tight, moisture resistant seal and help resist flashover.
11. Replace the spark-plug wires in the correct order, following your marks. Make sure that the ignition wires are routed correctly and will not come into contact with hot engine components.
12. Start the engine. If the engine misfires or idles badly, shut it off and double-check that the ignition wires are not crossed or connected poorly. Check the firing order and all the connections carefully.

Note #1: Always replace spark plugs as a complete set. This is especially important with computer-controlled ignition systems.

Note #2: It is very important to properly tighten all of the spark plugs. Too little torque can cause the spark plug to leak combustion gases. Over-torquing the spark plug can damage both the plug and the threads in the cylinder head.

Note #3: Do not use any grease or lubricant on the spark plug threads since this may result in over-torquing the spark plugs, and could lead to engine damage.

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## INSTALLING SPARK PLUGS WITHOUT A TORQUE WRENCH

It is always best to use a torque wrench to install spark plugs. If a torque wrench is not available, however, you may use this chart as a guide. (Note: These suggestions are for spark plugs with new gaskets.)

Spark Plug Thread / Seat	Tightening Procedure
14mm and 18mm tapered seat	Tighten 1/16 turn after finger tight
14mm and 18mm gasket seat	Tighten 1/2 turn past finger tight
12mm gasket seat	Tighten 3/8 turns past finger tight
10mm gasket seat	Tighten 1/4 turn past finger tight

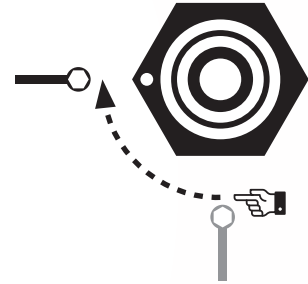
### 1. Finger Tight



### 2. 1/16 Turn



### 3. 1/4 Turn



### 4. 3/8 Turn



### 5. 1/2 Turn



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