



# TOTAL CAR CARE SERVICES

## TECHNICAL SERVICE BULLETINS

**Manufacturer:** Ford

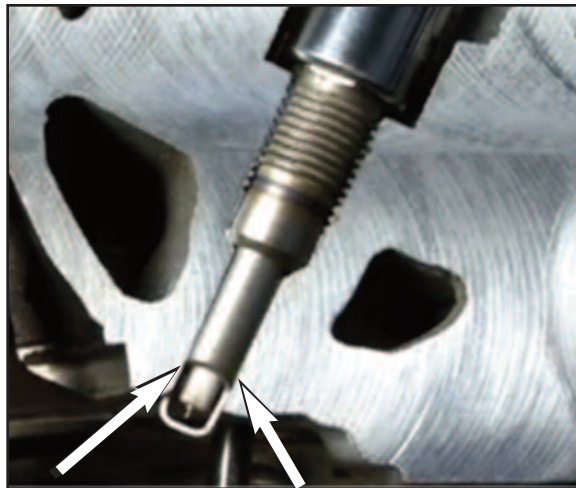
by Scott MacWilliams - Master Support Technician

**TCC Group:** 07-36 -0513

**Subject:** Spark Plug Removal

**Model:** ALL

**Issue:** We get calls about Ford spark plugs getting broken inside the head while the doing Tune-Ups. The reason this is happening is because of the spark plug and head design. These plugs have a extended electrode that extends past the threaded portion of the plug. What s happening is there is carbon building up between the extended electrode and the cylinder head.



*Carbon Build up*

The number one reason why these plugs are breaking off is the way the plugs are being removed. You cannot just grab an air tool and remove these plugs. This is a sure way of breaking the plugs off.

**Continued...**



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Follow the steps below, for the only Ford approved way to remove these plugs.

- 1) Using a breakerbar and a thin walled deep 9/16" spark plug socket, you want to just loosen the plugs about 1/8 turn.
- 2) Using a Throttle Body Cleaner that dissolves carbon, spray each plug with enough cleaner to cover the plug up to the nut portion of the plug.



- 3) This is the hard part. Once you soak down every plug you need to walk away and let the cleaner soak in for atleast 1 hour.
- 4) At this point, it is best to use a beam style torque wrench to remove the plugs. The reason being is you do not want to exceed 35ft lbs. of torque when removing these plugs. Exceeding 35 ft lbs. can cause the plugs to break off. If you find that it is taking more than 35 ft lbs. to remove the plugs, resoak the plugs and wait another hour.



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- 5) Once all the plugs are removed, disable the fuel injectors, crank the engine over several times to remove any liquid that has gotten down into the combustion chamber. This is very important. This will prevent hydro-locking the engine which could cause severe engine damage.

I know it seems like a long time to spend on removing these plugs, but if these plugs break off and you don't have the right tools to remove the broken plug then the head or heads will need to be removed and repaired. Not mention the fact that the cams will need to be timed and you'll need the specialty tools to do the job.

Labor Information	Skill Level	Mfg. Warranty	Standard
Cylinder Head Assembly Replace			
One Blank <i>Includes: R&amp;I Cylinder Head, Grind or Renew Valves, Transfer All Necessary Components &amp; Make All Adjustments</i>	A	0.0	18.2
Both Blanks <i>Includes: R&amp;I Cylinder Head, Grind or Renew Valves, Transfer All Necessary Components &amp; Make All Adjustments</i>	A	0.0	21.8

So spending 1 to hours to remove plugs without breaking them off is well worth the time spent.