

Lincoln Mark VII Spark Plugs

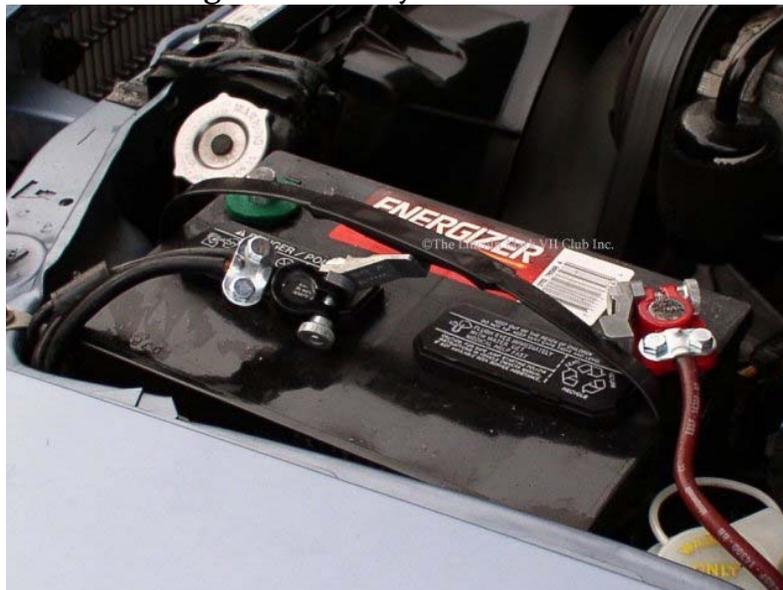
Spark Plugs – Lincoln Mark VII's come with eight spark plugs. They are an important part in the operation of our vehicle as they ignite compressed fuel and cause a reaction that powers the engine. Spark plugs should be replaced ever 30,000 miles or less.

Tools

- 3/8 drive ratchet set
- 5/8 spark plug socket
- 3/8 drive universal joint
- 5/16 socket
- 12" long 3/8 extension
- 6" long 3/8 extension
- 4" long 3/8 extension

Materials

- Eight Motorcraft spark plugs #ASF42C or equivalent
- Spark plug gapping tool or feeler gauges to .050
- Disconnect the negative battery cable.



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Working one spark plug at a time, I removed the rubber boot from spark plug number 8. This is the spark plug closest to the steering wheel. If the boot hasn't been moved since 1984, then you may need to constantly twist it back and forth while pulling it away from the engine. Do not crimp the boot with a pair of pliers else, you will need to replace the entire set of wires. The spark plug wire removal tool, part number T74P-6666-A, works best. Place your 5/8 spark plug socket securely on the plug. Attach the ratchet directly to the socket. This is easier than trying to maneuver the ratchet and socket into this space for the first time. Ratchet out (unscrew) the spark plug. If the spark plug hasn't been moved since 1984, then you may need to ratchet the plug with LOTS of force for it's entire length of thread. If the plug was changed less than 30,000 miles ago, it should break free (be easy to turn) after one full revolution. If possible, disconnect the ratchet from the socket, turn the socket, and spark plug by hand. Each time that I've broken a spark plug, it has been number 8.



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Comparing a new spark plug to the old one tells you a lot about what's going on inside and around your engine. In this case, the old plug is DEFINATELY more than 30,000 miles old. The diode (center piece of the old plug is worn and rounded evenly, so at least we know that it was properly gapped when installed. The grounding tip is shiny so there was no fouling by the use of low octane (86 or lower) fuel and no burning oil due to bad rings (not in ~this~ cylinder at least). The area above the threads on the bad spark plug is rusted. This is due to many underbody car washes and hasn't harmed the spark plug. There is no oil or antifreeze build up on this spark plug. What that means is that the head gasket is secure and not leaking (at least above cylinder number 8).



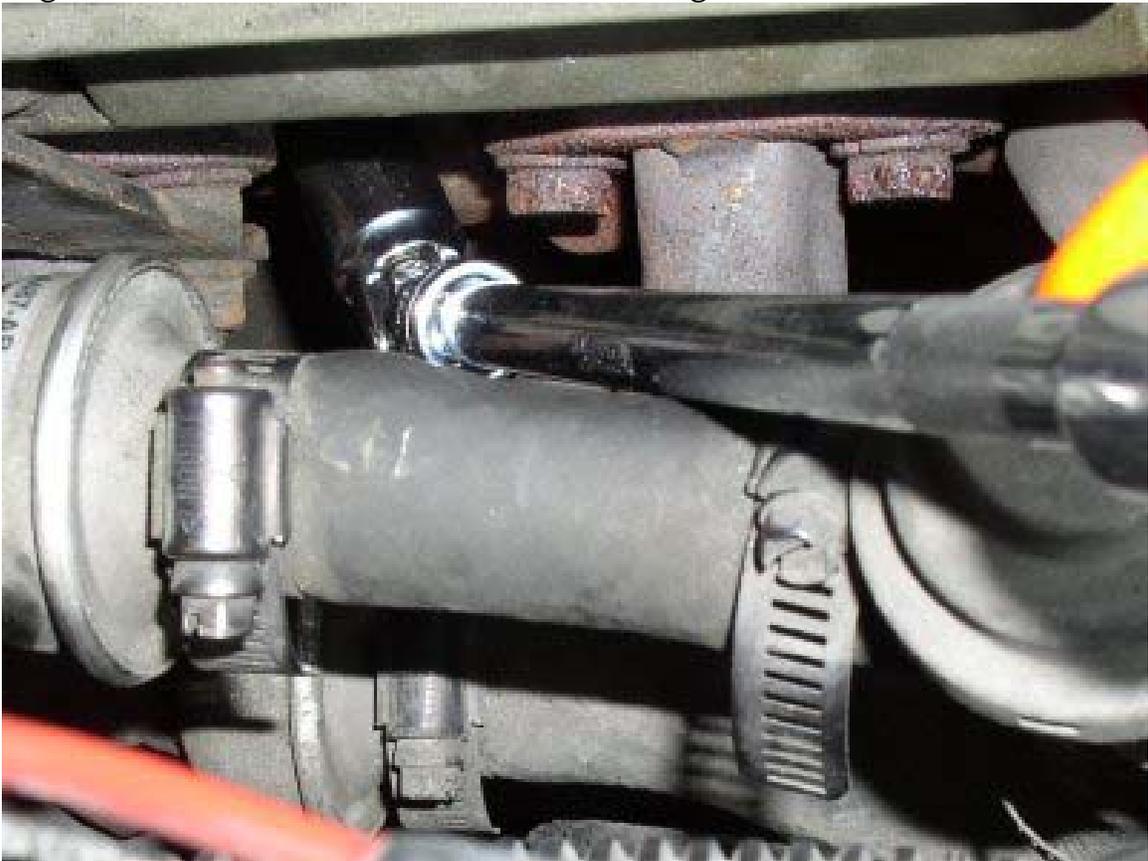
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Using a gapping tool, I gapped the diode and ground to .050 inches. The factory setting was much less. Even if the box said that they were gapped to .050, I would still gap them myself because these new plugs have been bounced around a bajillion times since they were made and that gap setting, measured in thousandths of an inch by the way, needs to be as close to .050 as possible for best performance. I continued working forward and on the same side of the engine from number 8 to number 7 and then number 6 and number 5. Before working on the passenger side, or spark plugs number 1, 2, 3, and 4, use a 5/16 nut driver or socket to completely remove the air intake hose that connects the filter box to the throttle body.



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Some people say that spark plug number 4, closest to the glove box, is the toughest spark plug to remove. If this is your first time, then yes, it will be the toughest. If you have a spark plug socket plus a universal joint plus a 12" extension plus a 6" extension and a ratchet, then it will be easier than it appears. I spent maybe six bucks for a spark plug socket with a built in universal joint. This thing is the best invention since sliced bread. I placed it on the spark plug by hand, then attached about 18" worth of extensions then gave it a turn and bingo, it was loose. I installed the spark plug by hand and then tightened it with the same tools. Yes, I have snapped this plug in the past. Yes, I have dropped this plug in the past (the bad one AND the good one). No, I have not burned myself on the engine because I ALWAYS wait until the engine is cold.



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The last spark plug (in my book) is number one. It is the closest to the alternator and belt tensioner. Using the tools listed above, I placed them in the position shown to the right and within about six minutes, the old plug was out and the new one was in. Before reattaching the air intake hose, I peeked at the inlet for my throttle body and it was clean.



Removal

1. Remove spark plug wire from spark plug using Spark Plug Wire Removal Tool T74p-6666-A or equivalent with a twisting-pulling motion. Do not pull directly on spark plug wire.
2. Inspect spark plug wires for physical damage. Replace as necessary.
3. Clean area around each spark plug port with compressed air.
4. Remove spark plug.

Installation

1. Set spark plug gap to specification shown on Vehicle Emission Control Information decal.
2. Install spark plug and tighten to specification.
3. Coat the inside of the spark plug wire boot with silicone compound and install on spark plug.