Engine Tune Up

The purpose of an engine tune up is to restore power and performance that has been lost through wear, corrosion, or deterioration of one or more parts or units. In the normal operation of an engine, these changes take place gradually at quite a number of points so that it is seldom advisable to attempt an improvement in performance by correction of one or two items only. Time will be saved and more lasting results will be assured by following a definite and thorough procedure of analysis and correction of all items affecting power and performance. Because of federal laws limiting exhaust emissions, it is even more important that the engine tune-up be done accurately, using the specifications listed on the tune-up sticker found in each engine compartment. Economical, trouble-free operation can better be assured if a complete tune-up is performed each 12,000 miles.

1. Check cylinder head lists to 65-70 ft. lbs. torque.
2. Check valve lash and adjust as necessary (not required with hydraulic lifters).
3. Remove all spark plugs and test compression pressure in all cylinders, using a reliable pressure gauge as follows:
    a. Connect jumper wire between primary terminal of distributor and ground on engine to avoid high tension sparking while cranking engine. Turn ignition switch “ON”.
    b. Insert rubber fitting of compression gauge into a spark plug port and hold gauge tightly in position.
    c. Push throttle wide open and crank engine until compression gauge reaches its highest reading, which should require only a few revolutions of engine.
    d. Repeat this test on all cylinders, making sure to fully release pressure in gauge after each test. Make record of readings.
    e. The compression gauge hand should jump to about 75 pounds on the first

compression stroke, with a few more strokes giving maximum pressure. If the pressure is built up in the gauge in jerky steps of 10 to 20 pounds at a time, it indicates leakage of pressure at some point such as head gasket, valves or piston rings.

4. Clean, inspect and install spark plugs.

5. Inspect battery and cables; fill battery to proper level.
6. Testing cranking motor circuit if battery is in good condition but cranking speed is low.
7. Adjust fan belt and inspect generator. If difficulty is experienced in keeping battery charged, test generator regulator.
8. Inspect entire ignition system and make indicated corrections.
9. Inspect and test fuel pump.
10. Clean gasoline filter in fuel pump and at carburetor inlet.
11. Free up and lubricate manifold heat valve.
12. Clean and refill air cleaner.

13. Check operation of choke valve and setting of choke thermostat.
14. Check adjustment of fast idle cam and choke unloader.
15. Adjust carburetor.
16. Inspect all water hose connections and tighten clamps.

17. Road test car for power and overall performance.