

flat feeler gauge when measuring the gap on a used plug, because the reading may be inaccurate. A round-wire type gapping tool is the best way to check the gap. The correct gauge should pass through the electrode gap with a slight drag. If you're in doubt, try one size smaller and one larger. The smaller gauge should go through easily, while the larger one shouldn't go through at all. Wire gapping tools usually have a bending tool attached. Use that to adjust the side electrode until the proper distance is obtained. Absolutely never attempt to bend the center electrode. Also, be careful not to bend the side electrode too far or too often as it may weaken and break off within the engine, requiring removal of the cylinder head to retrieve it.

Spark Plug Wires

TESTING

♦ See Figures 89 and 90

Visually inspect the spark plug wires for burns, cuts, or breaks in the insulation. Check the spark plug boots and the nipples on the distributor cap and/or coil(s). Replace any damaged wiring. If no physical damage is obvious, the wires can be checked with an ohmmeter for excessive resistance and continuity.

At every tune-up/inspection, visually check the spark plug cables for burns cuts, or breaks in the insulation. Check the boots and the nipples on the distributor cap and/or coil. Replace any damaged wiring.

Every 50,000 miles (80,000 Km) or 60 months,

the resistance of the wires should be checked with an ohmmeter. Wires with excessive resistance will cause misfiring, and may make the engine difficult to start in damp weather.

To check resistance, disconnect plug wires (do only one at a time) from the spark plug and distributor cap or coil pack.

- Connect one lead of an ohmmeter to the spark plug side of the wire (make sure to contact the metal clip inside the boot).
- Attach the other lead of the ohmmeter to the distributor (coil pack) side of the wire. Again, make sure you contact the metal clip.
- Spark plug wire resistance is a function of length, the longer the wire the greater the resistance. You should replace any wire with a resistance over 7k ohms per foot.
- Spraying the secondary ignition wires with a light mist of water may help locate an intermittent problem. Ignition components will arc to ground when a secondary ignition component is faulty.

➔ **Whenever the high-tension wires are removed from the plugs, coil, or distributor, silicone grease must be applied to the boot before reconnection. Coat the entire interior surface with Ford silicone grease D7AZ-19A331-A or its equivalent.**

REMOVAL & INSTALLATION

♦ See Figures 91 thru 96

When it becomes necessary to replace spark plug wires, because of age or breakage, it is recom-

mended that you purchase a wire set for your specific engine model. These wire sets are precut to the proper length, and already have the boots installed.

*** WARNING

Use care when removing spark plug wire boots from spark plugs. Grasp the wire by the rubber boot. Twist and pull the boot and wire from the spark plug. Never pull on the plug wire directly, or it may become separated from the connector inside the boot.

1. Twist the boot 1/2- turn before trying to pull the boot off. Pull only on the boot, pulling on the wire could cause separation or breakage.
2. On 3.8L and 5.0L applications, disconnect the spark plug wire from the distributor cap in the same manner as the wire was disconnected from the spark plug. On the 4.6L engine, squeeze the locking tabs and twist the boot, while pulling upward from the coil.
3. Remove the necessary wire retainer clips and separators and remove the spark plug wire.
4. Disconnect the battery negative cable.
5. Remove the air cleaner assembly.
6. Remove the spark plug wire retainers.
7. Replace one wire at a time. Match the length of the old wires to new, to ease installation.

➔ **Make a note of the wire placement to the cap (or coil pack) and routing to the engine so as to maintain correct firing order and proper clearances to engine parts that could cause damage to the wiring.**

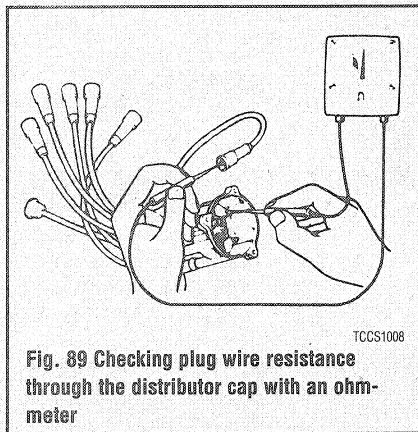


Fig. 89 Checking plug wire resistance through the distributor cap with an ohmmeter



Fig. 90 Checking individual plug wire resistance with a digital ohmmeter

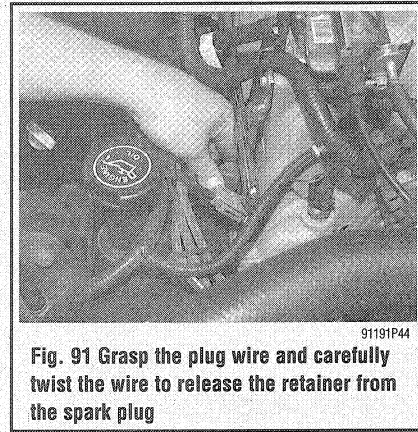


Fig. 91 Grasp the plug wire and carefully twist the wire to release the retainer from the spark plug



Fig. 92 If the plug wire is stubborn, a pair of special removal pliers is recommended to remove the wires from the plugs



Fig. 93 Carefully remove the plug wire from the cylinder head



Fig. 94 Remove the plug wires from the ignition coil by squeezing the retaining tabs and carefully lifting the wires up