

SECTION 03-07A Ignition, Distributor

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VEHICLE APPLICATION

F-Series and Bronco with Gasoline Engines

DESCRIPTION AND OPERATION

Ignition System Features

The distributor ignition (DI) system features a camshaft-driven distributor (12127) without centrifugal or vacuum advance. The distributor has a die-cast base with a Hall effect stator assembly.

Initial timing adjustments are only required when the distributor has been moved from its factory setting or removed from the engine (6007). Ignition timing procedures and diagnostics are found in the Powertrain Control/Emissions Diagnosis Manual.¹

NOTE: When replacing any component, use only the proper service replacement part. Do not change the octane rods without proper authorization; state or federal emission requirements will be affected.

Ignition Coil

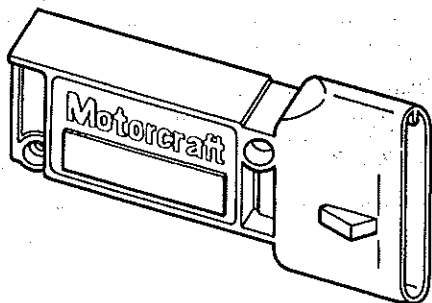
The ignition coil (12029) transforms battery voltage on the ignition coil primary circuit into as much as 40K on the secondary circuit each time the ignition coil receives a signal from the ignition control module (ICM)(12A297).

¹ Can be purchased as a separate item.

DESCRIPTION AND OPERATION (Continued)

Ignition Control Module

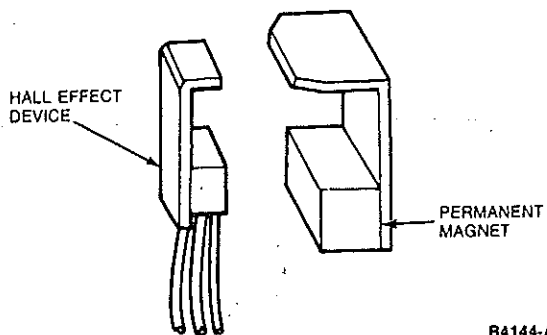
The ignition control module (ICM)(12A297) receives spark signals from the powertrain control module (PCM)(12A650) and serves as an electric switch for the coil primary circuit. Based on input signals, the powertrain control module will signal the ignition module to make corrections to the basic ignition timing. The computed ignition timing is determined by the engine speed, intake manifold vacuum (calculated by the intake air amount and engine speed) and EGR flow rate.



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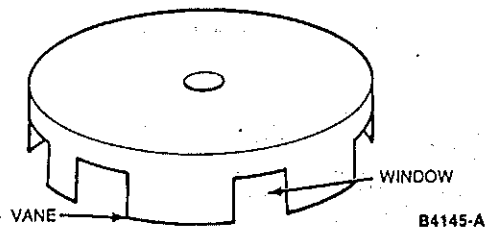
Universal Distributor

The universal distributor (12127) has a Hall effect vane switch assembly to allow the ignition coil (12029) to be switched on and off by the powertrain control module (PCM)(12A650) and ignition control module (ICM)(12A297). The vane switch is an encapsulated package consisting of a Hall effect device on one side and a permanent magnet on the other side.



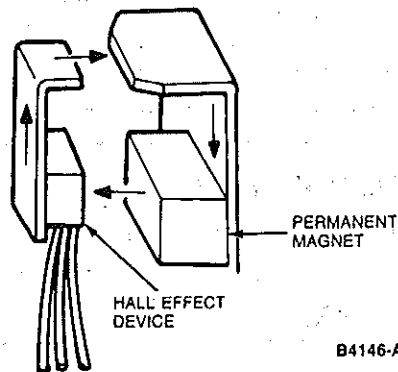
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The distributor armature (12A099) is made of ferrous metal and is used to trigger the signal off and on.



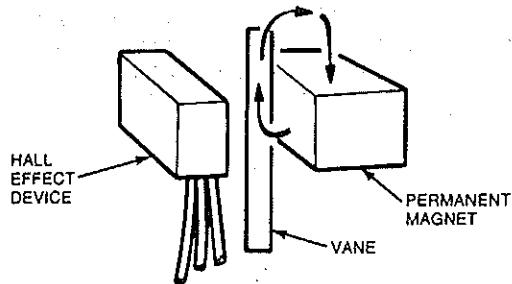
B4145-A

When the window of the distributor armature is between the magnet and the Hall effect device, a magnetic flux field is completed from the magnet through the Hall effect device and back to the magnet.



B4146-A

As the vane passes through this opening, the flux lines are shunted through the vane and back to the magnet. During this time, a voltage is produced as the vane passes through the opening. When the vane clears the opening, the window edge causes the signal to go to zero volts. This signal is used by the powertrain control module for crankshaft position sensing and the computation of the desired spark advance based on engine demand and calibration. The conditioned spark advance and voltage distribution is done with a conventional distributor rotor (12200), distributor cap (12106) and spark plug wire set (12259).



B4147-A

DIAGNOSIS AND TESTING

Ignition

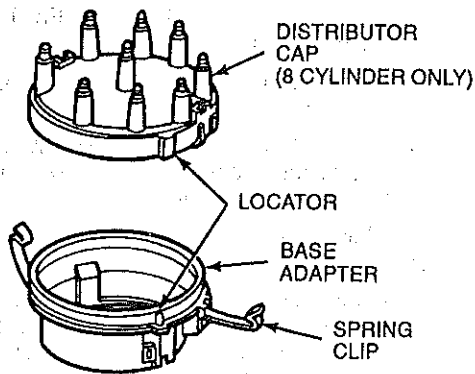
Refer to the Powertrain Control / Emissions Diagnosis Manual.²

REMOVAL AND INSTALLATION

Distributor Cap

Removal

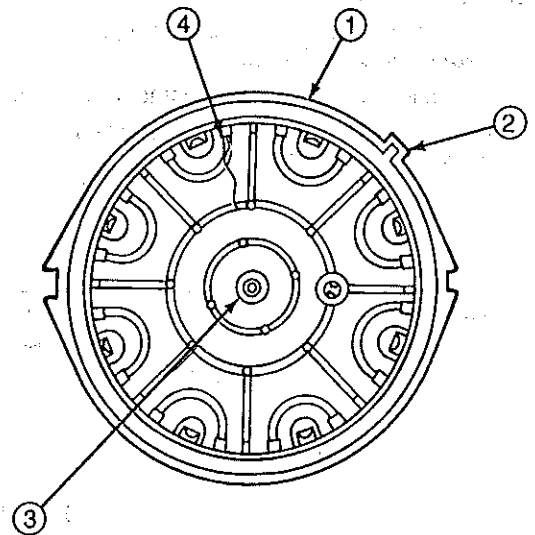
1. On a 4.9L engine, loosen distributor cap hold-down screws. On all V-8 engines, disengage spring clips.
2. Lift distributor cap (12106) with attached wire set straight off distributor (12127) to prevent damage to the rotor blade and spring. On a V-8 engine, base adapter can be removed by loosening attaching screws.



B6128-A

Installation

1. Inspect distributor cap for cracks, broken carbon button, carbon tracks, and terminals for dirt or corrosion.



B6129-A

Item	Part Number	Description
1	12106	Distributor Cap
2	—	Alignment Locator (Part of 12106)
3	—	Carbon Button (Part of 12106)
4	—	Crack or Carbon Track

2. Replace the distributor cap if damage is found.
3. Reinstall any ignition wire and bracket (12280) removed in their proper locations.
4. If removed, position base adapter (V-8 only) and tighten attaching screws to 2.8-4.0 N·m (25-35 lb-in).
5. On a 4.9L engine, install the distributor cap, noting the square alignment locator, with attached wire set straight on the distributor. This will prevent damage to the rotor blade and spring. Tighten distributor cap hold-down screws to 2.0-2.6 N·m (18-23 lb-in).
6. On all V-8 engines, position spring clip and press inward on center of clip until it snaps into place on distributor cap.

Distributor Rotor

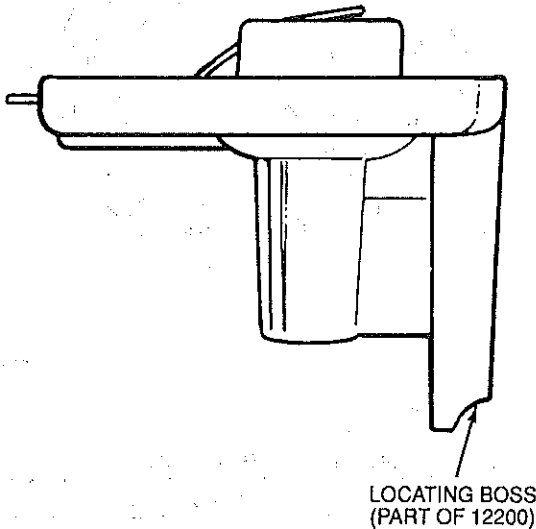
Removal

1. Loosen attaching screws and remove distributor cap (12106) with wires attached.
2. Remove distributor rotor (12200) by pulling upward on the distributor rotor from the distributor shaft.

² Can be purchased as a separate item.

REMOVAL AND INSTALLATION (Continued)**Installation**

1. Inspect distributor rotor for cracks, carbon tracks, burns or damage.
2. Replace distributor rotor, if damage is found.
3. Align locating boss and fully seat distributor rotor on distributor shaft.



B5726-B

4. Reinstall distributor cap.

Distributor**Removal**

1. Align timing pointer with top dead center (TDC) on crankshaft vibration damper.
2. Mark position of No. 1 cylinder wire tower on distributor base. Mark will provide an alignment reference when reinstalling the distributor (12127).
3. On a 4.9L engine, loosen distributor cap hold-down screws. On all V-8 engines, disengage distributor cap hold-down clips.
4. Lift distributor cap (12106) with attached wire set straight off distributor to prevent damage to rotor blade and spring. On V-8 engines, remove attaching screws and base adapter.
5. Position distributor cap and attached wire set aside so as not to interfere with removal.
6. Check if distributor rotor blade is pointing toward the marked position on the distributor base adapter (12A217). If distributor rotor blade is pointing one-half a revolution off, rotate crankshaft one full revolution and realign timing pointer with TDC on crankshaft vibration damper.

7. Disconnect wiring harness at distributor.
8. Remove distributor rotor (12200) by pulling upward on distributor rotor from distributor shaft.
9. Remove distributor hold-down bolt and clamp.
10. Remove distributor from cylinder block by pulling upward with a slight side-to-side twist.
11. Cover distributor opening in cylinder block with a clean shop towel to prevent the entry of foreign material into engine.

Installation

1. **NOTE:** When installing distributor, No. 1 piston must be at TDC of the compression stroke.
Visually inspect distributor. O-ring should fit tightly onto housing free of cuts. Drive gear should be free of nicks, cracks or excessive wear. The distributor shaft should rotate freely, without any binding.
2. Lubricate distributor gear teeth with a coating of Engine Assembly Lubricant D9AZ-19579-D or equivalent fresh motor oil meeting Ford specification ESR-M99C80-A.
3. Align locating boss and fully seat distributor rotor on distributor shaft.
4. Rotate distributor shaft so that distributor rotor blade is pointing toward marked position on distributor base adapter.
5. Install distributor into cylinder block with a slight side-to-side twist.
6. **NOTE:** If the vane and vane switch assembly can not be kept on the leading edge after installation, remove the distributor from cylinder block by pulling upward enough for the distributor gear to disengage from the camshaft gear. Rotate distributor rotor enough so the gear will align on the next tooth of the camshaft gear.
Rotate distributor in engine to align leading edge of armature vane to vane switch assembly. Verify that distributor rotor blade is pointing toward marked position on distributor base adapter.
7. Install distributor hold-down clamp and bolt.
8. On all V-8 engines, position adapter base and install attaching screws.
9. Position distributor cap with attached wire set straight on distributor to prevent damage to rotor blade and spring.
10. On a 4.9L engine, tighten distributor cap hold-down screws to 2.0-2.6 N·m (18-23 lb-in). On all V-8 engines, secure distributor cap using spring clips.
11. Connect distributor to wiring harness.

REMOVAL AND INSTALLATION (Continued)

12. Set initial timing according to procedures in Powertrain Control/Emissions Diagnosis Manual.³
13. Without moving timing adjustment, tighten distributor hold-down bolt and clamp to 23-34 N·m (17-25 lb-ft).

Stator**SPECIAL SERVICE TOOL(S) REQUIRED**

Description	Tool Number
Axle Bearing/Seal Plate	T75L-1165-B

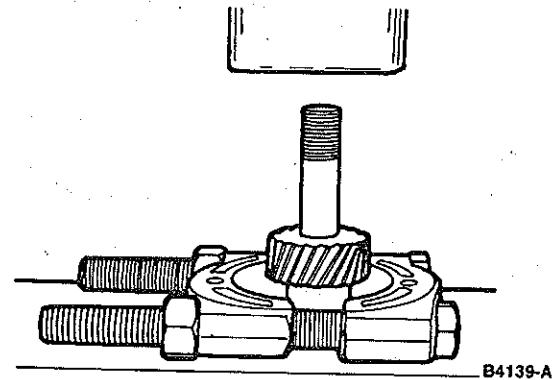
CAUTION: Do not attempt to replace stator without an arbor press.

CAUTION: The distributor drive gear is not released for service. If any nicks or cracks occur during the disassembly or assembly procedures, a new distributor (12127) must be installed. The distributor drive gear is matched to the distributor at assembly and should never be replaced. Although some of the drive gears for other distributors may physically fit the distributor, they must not be used. Whenever damage or excessive wear is noted on the drive gear, a new distributor must be installed.

Removal

1. Remove distributor assembly.
2. Loosen the armature attaching screws. While loosening screws, use an Allen wrench to hold distributor shaft stationary (1/4-inch for 5.0L; 5/16-inch for 4.9L, 5.8L and 7.5L). Do not hold the distributor armature.
3. Remove two attaching screws and armature.
4. Mark thrust collar (5.0L, 5.8L, 7.5L) and drive gear with a felt tip pen for alignment reference when reinstalling distributor gear.

5. Remove and discard roll pin from drive gear. On all V-8 engines, roll pin must also be removed and discarded from thrust collar.
6. Invert distributor and place in Axle Bearing/Seal Plate T75L-1165-B. Press off the gear using Bearing Pulling Attachment D79L-4621-A or equivalent.

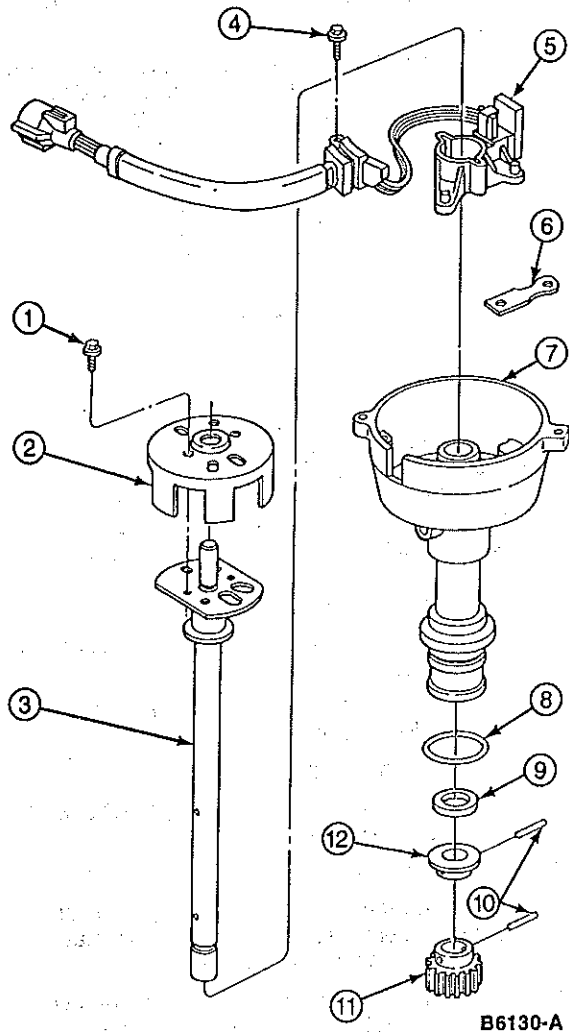


7. Remove thrust collar.
8. Remove thrust washer (4.9L engine only) collar (all V-8 engines).
9. Deburr and polish shaft with emery cloth. Housing should slide freely on shaft.
10. Remove shaft assembly.
11. Remove attaching screw and camshaft position sensor (CMP sensor)(12A112).
12. Remove attaching screw and octane rod.
13. Inspect distributor housing bushing for wear or signs of excess heat concentration. Replace complete distributor if damaged.
14. Inspect distributor housing for cracks and wear. Replace complete distributor if damaged.
15. Inspect distributor housing O-ring for cuts or damage and replace O-ring if necessary.

³ Can be purchased as a separate item.

REMOVAL AND INSTALLATION (Continued)

Closed Bowl Distributor



Item	Part Number	Description
1	388483-S2	Screw (2 Req'd)
2	—	Armature (Rotary Vane) (Part of 12127)
3	—	Shaft Assembly (Part of 12127)
4	N801293-S36	Screw
5	—	Stator (Hall Effect Vane Switch Assembly) (Part of 12127)
6	—	Octane Rod (Part of 12127)
7	—	Base Assembly (Part of 12127)
8	—	O-Ring (Part of 12127)
9	—	Thrust Washer (4.9L) (Part of 12127)
10	—	Roll Pin (Part of 12127)

(Continued)

Item	Part Number	Description
11	—	Gear (Part of 12127)
12	—	Collar (Part of 12127)

Installation

- Position camshaft position sensor and press downward to seat in distributor base.
- Position wiring grommet in distributor base notch so that eyelets align with screw holes.
- Position distributor stator connector wires away from any moving parts.
- Install distributor stator assembly attaching screw and retainer. Tighten screw to 1.7-4.0 N·m (15-35 lb-in).
- Install octane rod, octane rod screw, and retainer. Tighten screw to 1.7-4.0 N·m (15-35 lb-in).
- Lubricate shaft assembly with a light coating of Engine Assembly Lubricant D9AZ-19579-D or equivalent fresh motor oil meeting Ford specification ESR-M99C80-A.
- Install shaft assembly into distributor base.
- Place a 1/2-inch deep well socket over end of shaft assembly.
- Invert distributor on an arbor press.
- Install thrust washer (4.9L engine only).
- CAUTION: The distributor drive gear is not released for service. If any nicks or cracks occur during the disassembly or reassembly procedures, a new distributor must be installed. The distributor drive gear is matched to the distributor at assembly and should never be replaced.**

NOTE: The hole in the drive gear and shaft assembly must be aligned as accurately as possible to allow for ease of the roll pin insertion. Install collar and roll pin (5.0L, 5.8L, 7.5L).

- NOTE: If the hole in the drive gear and shaft assembly will not align, the gear must be removed and installation attempted again. The gear cannot be turned for alignment. Install distributor gear on shaft assembly and align distributor gear with felt tip reference mark made at disassembly.
- Place a 5/8-inch deep well socket centered around gear hole and press distributor gear onto shaft assembly.
- Install new roll pin through distributor gear. Pin should be flush (4.9L, 5.0L, 5.8L). Pin extrusion should be equal on either side of gear (7.5L).
- Install distributor armature.

REMOVAL AND INSTALLATION (Continued)

16. **NOTE:** While tightening screws, use an Allen wrench to hold distributor shaft stationary (1/4-inch for 5.0L; 5/16-inch for 4.9L, 5.8L and 7.5L). Do not hold distributor armature. Install armature attaching screws and tighten to 2.8-4.0 N·m (25-35 lb-in).
17. **NOTE:** If the distributor armature contacts the camshaft position sensor, the entire distributor must be replaced. Rotate distributor shaft. Shaft should rotate freely, without any binding.
18. Install distributor assembly and reset initial timing.

Ignition Coil**Removal**

1. Disconnect wiring harness at ignition coil.
2. **CAUTION:** Do not pull directly on high tension wire. It may separate from connector in boot. Grasp boot by hand and remove with a twisting motion.

Disconnect high tension wire at ignition coil (12029).

3. Remove ignition coil to bracket attaching screws and remove ignition coil.

Installation

1. Follow removal procedures in reverse order.
2. Tighten ignition coil to bracket attaching screws to 2.8-4.0 N·m (25-35 lb-in).

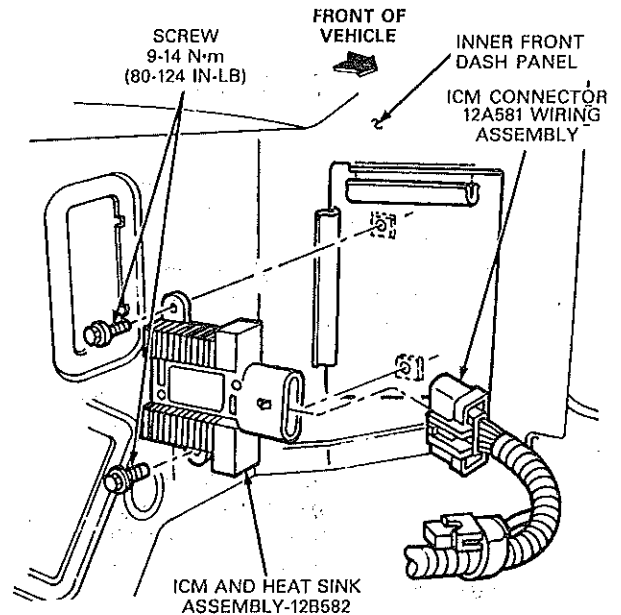
Ignition Control Module**Removal**

1. Remove two screws retaining ignition control module (ICM)(12A297) heat sink assembly to left fender apron.
2. Disconnect harness connector from ignition control module.
3. Remove two screws retaining ignition control module to heat sink and remove ignition control module.

Installation

1. Coat ignition control module baseplate with silicone compound, approximately 0.0179mm (1/32-inch) thick. Use Silicone Dielectric Compound (WA-10) D7AZ-19A331-A or equivalent meeting Ford specification ESE-M1C171-A.

2. Position ignition control module onto heat sink and tighten two retaining screws to 1.2-1.8 N·m (11-16 lb-in).
3. Install ignition control module heat sink assembly on left fender apron using two retaining screws, and tighten to 9-14 N·m (80-124 lb-in).
4. Connect wiring to ignition control module.



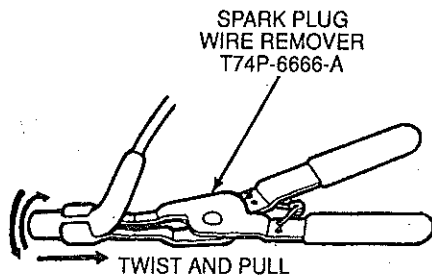
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Ignition Wires**SPECIAL SERVICE TOOL(S) REQUIRED**

Description	Tool Number
Spark Plug Wire Remover	T74P-6666-A

REMOVAL AND INSTALLATION (Continued)**Removal**

- When removing distributor to spark plug wire (12286) from spark plugs (12405), use Spark Plug Wire Remover T74P-6666-A. Grasp and rotate boot from side-to-side back and forth on plug insulator to free boot. Use special tool to pull boot from plug. Do not pull directly on distributor to spark plug wire, or the wire may become separated from connector inside boot.



B5762-A

- CAUTION: Do not pull on wire.**

When removing ignition coil to distributor high tension wiring (12298) or distributor to spark plug wire from distributor cap (12106) or ignition coil (12029), grasp boot by hand and remove with twisting motion.

Installation

- NOTE:** Whenever an ignition coil to distributor high tension wiring is removed for any reason from a spark plug or distributor cap, or a new ignition coil to distributor high tension wiring is installed, Silicone Dielectric Compound (WA-10) D7AZ-19A331-A or equivalent meeting Ford specification ESE-M1C171-A must be applied to boot before it is reconnected.
Using a small clean tool, coat entire interior surface of boot with Silicone Dielectric Compound (WA-10) D7AZ-19A331-A or equivalent meeting Ford specification ESE-M1C171-A.
- Insert each distributor to spark plug wire and ignition coil to distributor high tension wiring on proper terminal of distributor cap. Make sure distributor to spark plug wires and ignition coil to distributor high tension wiring are properly installed on their terminals. The No. 1 terminal is identified on distributor cap. Install distributor to spark plug wires and ignition coil to distributor high tension wiring starting with No. 1 terminal.
- Remove ignition wire separators (12297) from old spark plug wire set (12259) and install them on new set in same relative position. Install distributor to spark plug wires and ignition coil to distributor high tension wiring in ignition wire separators on valve cover (6582).
- Connect distributor to spark plug wire to proper spark plugs.

- Install ignition coil to distributor high tension wiring to the distributor cap.

Spark Plugs**SPECIAL SERVICE TOOL(S) REQUIRED**

Description	Tool Number
Spark Plug Wire Remover	T74P-6666-A

Removal

- Remove air cleaner inlet tube assembly.
- Remove distributor to spark plug wire (12286) from spark plug (12405) using Spark Plug Wire Remover T74P-6666-A.
- Remove any dirt or foreign material from spark plug areas of cylinder head with compressed air. Remove spark plugs from cylinder block (6010) using appropriate socket, extension and socket wrench.

Installation

- Refer to the Spark Plug Inspection Chart in the Cleaning and Inspection portion of this section to determine spark plug condition. Replace spark plugs as required.
- Check and set the spark plug electrode gap to specifications using an appropriate gapping tool. Refer to the Vehicle Emission Control Information (VECI) decal located in the engine compartment.
- Install spark plugs into cylinder block. For V-8 engines, tighten to 9-20 N·m (7-15 lb-ft). For 4.9L engine, tighten to 20-27 N·m (15-20 lb-ft).
- Coat entire interior surface of ignition wire boot with Silicone Dielectric Compound (WA-10) D7AZ-19A331-A or equivalent meeting Ford specification ESE-M1C171-A. Install onto proper spark plug. Make sure spark plug wire boot is completely seated.
- Install air cleaner outlet tube and inside engine cover, if required.
- Start engine (6007) and check for proper operation.

DISASSEMBLY AND ASSEMBLY**Distributor**

Refer to Stator in the Removal and Installation portion of this section.

CLEANING AND INSPECTION**Distributor Cap**

- Wash both inside and outside surfaces of the distributor cap (12106) with soap and water.

CLEANING AND INSPECTION (Continued)

2. Dry distributor cap with compressed air.
3. Inspect distributor cap for cracks, broken carbon button or carbon tracks.
4. Inspect distributor cap terminals for dirt and corrosion.
5. Replace the distributor cap if it is damaged.

Distributor Rotor

1. Wash distributor rotor (12200) with soap and water.
2. Dry with compressed air.
3. Inspect and replace distributor rotor if cracks, carbon tracks, burns or damage to blade or spring are observed.

Distributor

1. Inspect distributor base gasket (12143) O-ring. It should fit tightly and be free of cuts. Drive gear should be free of nicks, cracks and excessive wear.
2. Rotate distributor driveshaft. It should move freely without binding.

Spark Plugs

1. Clean spark plugs (12405) as necessary using a wire brush or professional spark plug cleaner (follow manufacturer's instructions).
2. Inspect the firing tip. Replace if worn or damaged. Refer to following Spark Plug Inspection Chart.

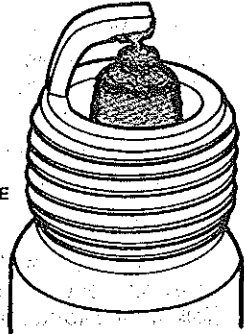
CLEANING AND INSPECTION (Continued)

Spark Plug Inspection Chart

GAP BRIDGED

IDENTIFIED BY DEPOSIT BUILD-UP CLOSING GAP BETWEEN ELECTRODES.

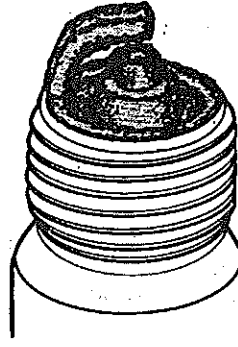
CAUSED BY OIL OR CARBON FOULING, REPLACE PLUG, OR, IF DEPOSITS ARE NOT EXCESSIVE THE PLUG CAN BE CLEANED.



OIL FOULED

IDENTIFIED BY WET BLACK DEPOSITS ON THE INSULATOR SHELL BORE ELECTRODES.

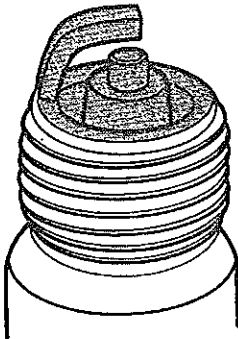
CAUSED BY EXCESSIVE OIL ENTERING COMBUSTION CHAMBER THROUGH WORN RINGS AND PISTONS, EXCESSIVE CLEARANCE BETWEEN VALVE GUIDES AND STEMS, OR WORN OR LOOSE BEARINGS. CORRECT OIL PROBLEM. REPLACE THE PLUG.



CARBON FOULED

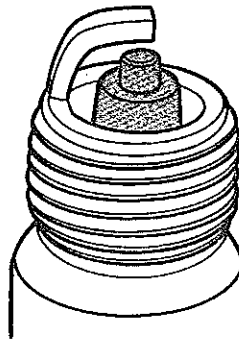
IDENTIFIED BY BLACK, DRY FLUFFY CARBON DEPOSITS ON INSULATOR TIPS, EXPOSED SHELL SURFACES AND ELECTRODES.

CAUSED BY TOO COLD A PLUG, WEAK IGNITION, DIRTY AIR CLEANER, DEFECTIVE FUEL PUMP, TOO RICH A FUEL MIXTURE, IMPROPERLY OPERATING HEAT RISER OR EXCESSIVE IDLING. CAN BE CLEANED.



NORMAL

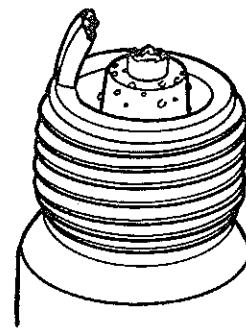
IDENTIFIED BY LIGHT TAN OR GRAY DEPOSITS ON THE FIRING TIP



PRE-IGNITION

IDENTIFIED BY MELTED ELECTRODES AND POSSIBLY BLISTERED INSULATOR. METALIC DEPOSITS ON INSULATOR INDICATE ENGINE DAMAGE.

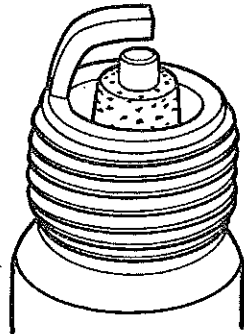
CAUSED BY WRONG TYPE OF FUEL, INCORRECT IGNITION TIMING OR ADVANCE, TOO HOT A PLUG, BURNT VALVES OR ENGINE OVERHEATING. REPLACE THE PLUG.



OVERHEATING

IDENTIFIED BY A WHITE OR LIGHT GRAY INSULATOR WITH SMALL BLACK OR GRAY BROWN SPOTS AND WITH BLuish-BURNT APPEARANCE OF ELECTRODES.

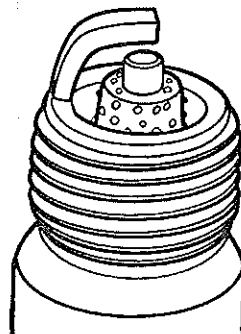
CAUSED BY ENGINE OVERHEATING, WRONG TYPE OF FUEL, LOOSE SPARK PLUGS, TOO HOT A PLUG, LOW FUEL PUMP PRESSURE OR INCORRECT IGNITION TIMING. REPLACE THE PLUG.



FUSED SPOT DEPOSIT

IDENTIFIED BY MELTED OR SPOTTY DEPOSITS RESEMBLING BUBBLES OR BLISTERS.

CAUSED BY SUDDEN ACCELERATION. CAN BE CLEANED IF NOT EXCESSIVE, OTHERWISE REPLACE PLUG.



B4054-E

CLEANING AND INSPECTION (Continued)**Ignition Coil(s)**

1. Wipe coil tower with a clean cloth dampened with soap and water.
2. Remove any soap film and dry with compressed air.
3. Inspect for cracks, carbon tracking and dirt.

Ignition Wires

1. Without removing the distributor to spark plug wire (12286) from the spark plugs (12405), distributor cap (12106) or ignition coil (12029), wipe the ignition coil to distributor high tension wiring (12298) or distributor to spark plug wire with a clean, damp cloth and inspect for visible damage such as cuts, pinches, cracks or torn boots.
2. Replace only ignition coil to distributor high tension wiring or distributor to spark plug wires that are damaged. Refer to Ignition Wires in the Removal and Installation portion of this section.

ADJUSTMENTS**Spark Plugs**

Using a suitable spark plug gap tool, adjust spark plug gap. Refer to Ignition System Specifications chart in the Specifications portion of this section.

Ignition Timing

Refer to the Powertrain Control/Emissions Diagnosis Manual⁴ for ignition timing procedures of the distributor ignition (DI) system. Base ignition timing is preset at $10^{\circ} \pm 2^{\circ}$ BTDC.

SPECIFICATIONS**IGNITION SYSTEM SPECIFICATIONS**

Engine	Spark Plug Type	Spark Plug Gap	Firing Order	Timing
4.9L (GFP)	BSF-44PM	1.07-1.17mm (0.042-0.046 Inch)	153624	BTDC $10^{\circ} \pm 2^{\circ}$
4.9L (Gas)	BSF-44C	1.07-1.17mm (0.042-0.046 Inch)	153624	BTDC $10^{\circ} \pm 2^{\circ}$
5.0L	ASF-42P	1.3-1.4mm (0.052-0.056 Inch)	13726548	BTDC $10^{\circ} \pm 2^{\circ}$
5.8L	ASF-32C	1.07-1.17mm (0.042-0.046 Inch)	13726548	BTDC $10^{\circ} \pm 2^{\circ}$
7.5L	ASF-42C	1.07-1.17mm (0.042-0.046 Inch)	15426378	BTDC $10^{\circ} \pm 2^{\circ}$

TORQUE SPECIFICATIONS

Description	N·m	Lb·Ft	Lb·In
Distributor Hold-Down Bolt	23-34	17-25	—
Stator Assembly Screws	1.7-4.0	—	15-35
Spark Plugs, 4.9L	20-27	15-20	—
Spark Plugs (Except 4.9L)	9-20	7-15	—
ICM-to-Heat Sink Screws	1.2-1.8	—	11-16

(Continued)

TORQUE SPECIFICATIONS (Cont'd)

Description	N·m	Lb·Ft	Lb·In
ICM/Heat Sink Assembly-to-Left Fender Apron Screws	9-14	—	80-124
Distributor Cap Hold-down Screws	2.0-2.6	—	18-23
Octane Rod Retaining Screw	1.7-4.0	—	15-35

(Continued)

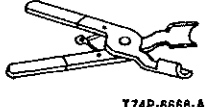

⁴ Can be purchased as a separate item.

SPECIFICATIONS (Continued)

TORQUE SPECIFICATIONS (Cont'd)			
Description	N-m	Lb-Ft	Lb-In
Distributor Adapter Base to Distributor Base	2.8-4.0	—	25-35
Armature Retaining Screws	2.8-4.0	—	25-35
Coil to Bracket Retaining Screws	2.8-4.0	—	25-35

SPECIAL SERVICE TOOLS DESIRED	
Tool Number	Description
D79L-4621-A	Bearing Pulling Attachment

SPECIAL SERVICE TOOLS/EQUIPMENT

SPECIAL SERVICE TOOLS REQUIRED	
Tool Number/Description	Illustration
T74P-6666-A Spark Plug Wire Remover	 <p>T74P-6666-A</p>
T75L-1165-B Axle Bearing/Seal Plate	 <p>T75L-1165-B</p>