



Intake Manifold

Upper

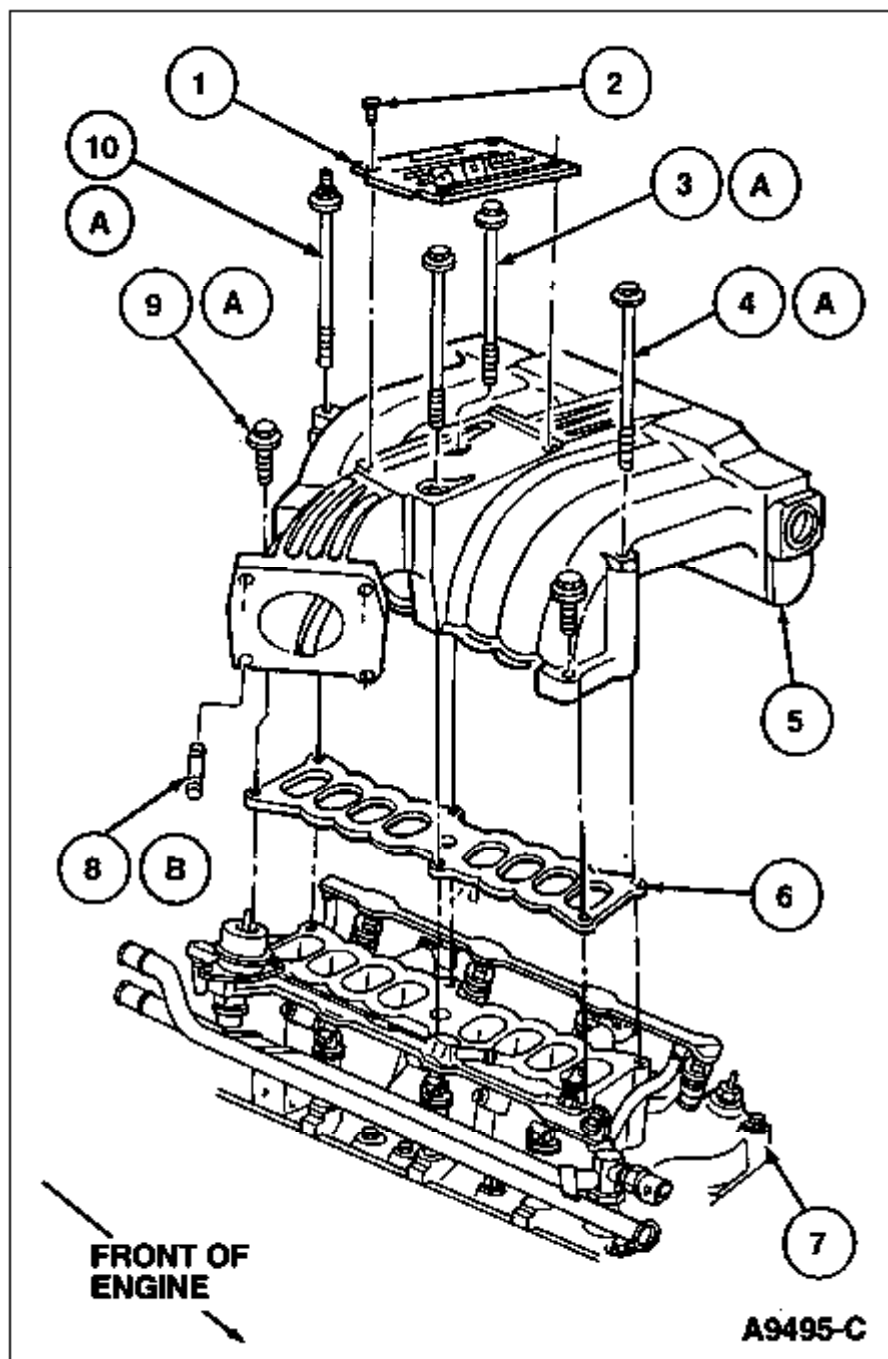
Removal and Installation

1. Disconnect battery ground cable (14301).
2. Remove air cleaner outlet tube (9B659) from throttle body (9E926) as outlined in «Section 03-12».
3. Disconnect fuel charging wiring (9D930) from throttle position sensor (TP sensor) (9B989), idle air control valve (IAC valve) (9F715) and EGR valve (EGR valve) (9D475).
4. Remove EGR valve gasket (9D476) from EGR valve as outlined in «Section 03-08».
5. Disconnect vacuum supply hose from fuel pressure regulator (9C968) and EGR valve.
6. Disconnect brake booster vacuum supply hose from intake manifold vacuum fitting.
7. Disconnect accelerator cable (9A758) from throttle body.
8. Disconnect speed control actuator (9A825) (if equipped) from throttle body.
9. Remove cable bracket retainer bolts and accelerator cable bracket (9723) from upper intake manifold (9424).
10. Pull positive crankcase ventilation valve (PCV valve) (6A666) out of grommet at rear of lower intake manifold.
11. Disconnect fuel vapor hose from connector at front of upper intake manifold.
12. NOTE: On Mustang only, the cover plate must be removed to access the upper intake manifold retainer bolts.

Remove upper intake manifold retainer bolts and upper intake manifold from lower intake manifold.

13. Remove intake manifold upper gasket (9H486) and discard.
14. To install, reverse Removal procedure. Clean upper and lower intake manifold mating surfaces prior to installation of new intake manifold upper gasket. Tighten upper intake manifold retaining bolts to 16-24 N-m (12-18 lb-ft) in standard tightening sequence.

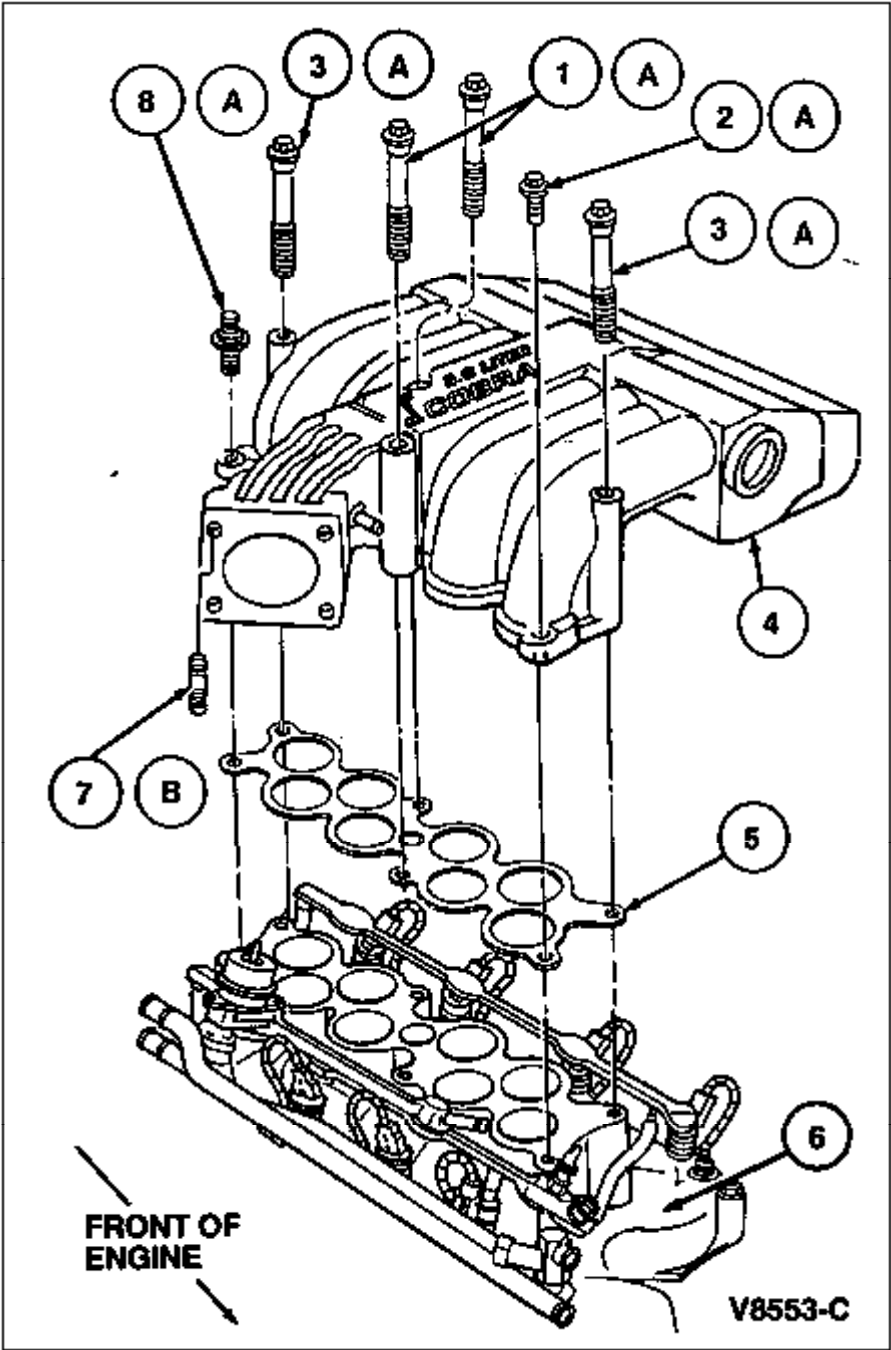
Mustang



Item	Part Number	Description
1	9E434	Cover Plate
2	390652	Screw (4 Req'd)
3	391176	Bolt (2 Req'd)
4	56335	Bolt (2 Req'd)
5	9424	Upper Intake Manifold
6	9H486	Intake Manifold Upper Gasket
7	9424	Lower Intake Manifold

8	390591	Stud (4 Req'd)
9	390358	Bolt (2 Req'd)
10	391506	Stud Bolt
A	--	Tighten to 16-24 N-m (12-18 Lb-Ft)
B	--	Tighten to 2.7-5.4 N-m (24-48 Lb-In)

Cobra



Item	Part Number	Description
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1	391448	Bolt (2 Req'd)
2	390358	Bolt
3	390653	Bolt (2 Req'd)
4	9424	Upper Intake Manifold
5	9H486	Intake Manifold Upper Gasket
6	9424	Lower Intake Manifold
7	391454	Stud (4 Req'd)
8	390589	Stud Bolt
A	--	Tighten to 16-24 N-m (12-18 Lb-Ft)
B	--	Tighten to 2.7-5.4 N-m (24-48 Lb-In)

Lower

SPECIAL SERVICE TOOL(S) REQUIRED

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

Removal

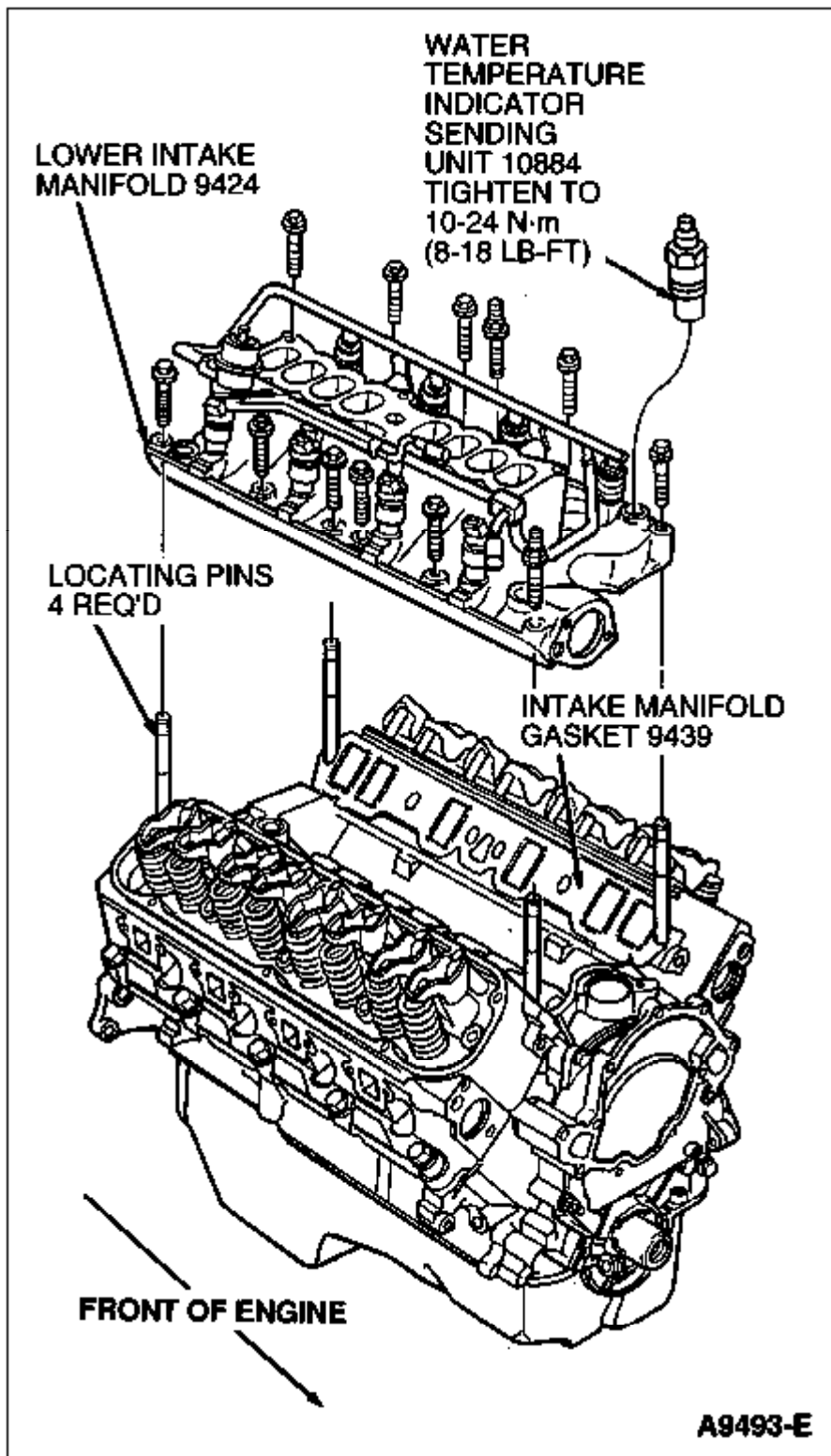
1. Drain the engine cooling system.
2. Remove upper intake manifold as outlined.
3. Disconnect the ignition wires from the spark plugs (12405) using Spark Plug Wire Remover T74P-6666-A. Do not pull on the ignition wire. Remove the valve wires and ignition wire separators (12297) from the valve cover attaching stud. Remove the distributor cap (12106) and ignition wires as an assembly.
4. **WARNING: RELIEVE FUEL LINE PRESSURE BEFORE DISASSEMBLING CONNECTIONS. HIGHLY FLAMMABLE MIXTURES ARE ALWAYS PRESENT AND MAY BE IGNITED, RESULTING IN POSSIBLE PERSONAL INJURY.**
Disconnect supply and return fuel lines. Refer to «[Section 10-01](#)».
5. Disconnect the fuel charging wiring connector from distributor (12127). Remove the hold-down clamp (12270) and remove the distributor.
6. Disconnect the upper radiator hose (8260) from the water hose connection (8592), and the water temperature indicator sending unit wire at the water temperature indicator sender unit (10884). Disconnect the air cleaner outlet tube from the throttle body.
7. Loosen the hose clamp on the water bypass hose (8597) at the water hose connection and slide the water bypass hose off the water hose connection. Disconnect fuel charging wiring at engine coolant temperature and intake air temperature sensors. Disconnect fuel charging wiring from fuel injectors (9F593). Disconnect fuel charging wiring from engine control sensor wiring (12A581).

8. Remove intake manifold heater inlet tube (9D424) from lower intake manifold.
9. **CAUTION: It may be necessary to pry the lower intake manifold away from the cylinder heads (6049). Use caution to avoid possible damage to the gasket sealing surfaces. Remove the intake manifold gaskets and seals.**

Remove lower intake manifold retaining bolts and lower intake manifold.

10. If the lower intake manifold is to be disassembled, identify all vacuum hoses before disconnecting them. Remove the water hose connection, water hose connection gasket (8255) and water thermostat (8575).

Mustang Shown, Cobra Similar

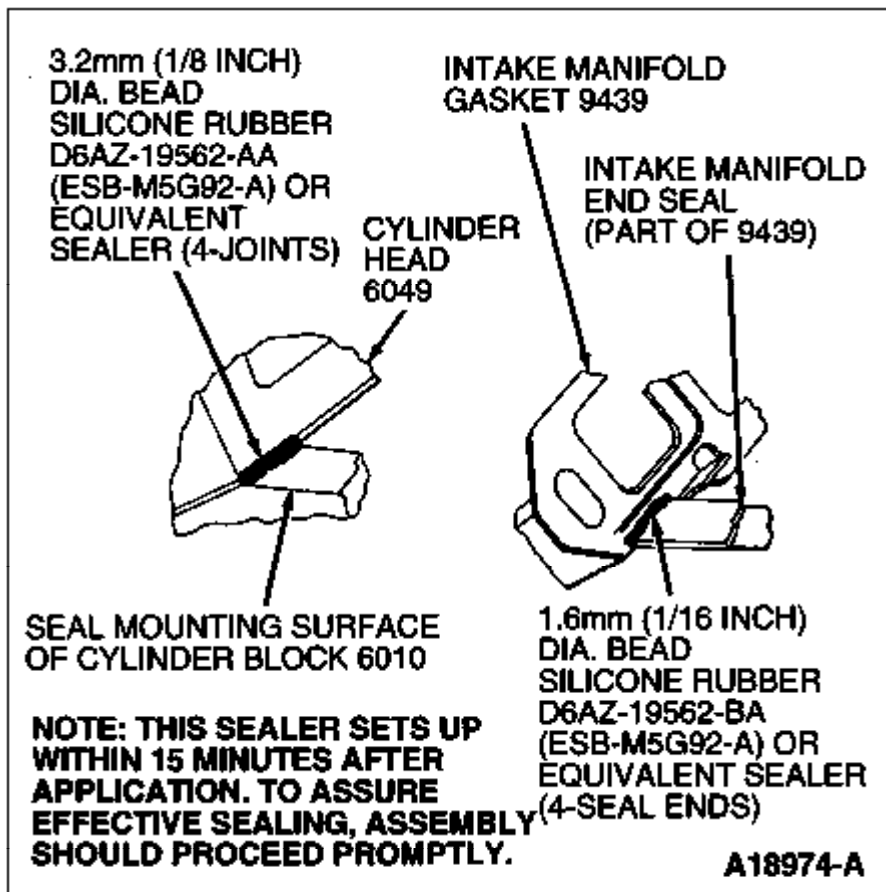


Installation

1. If the lower intake manifold was disassembled, install the water temperature indicator sender unit (threads coated with electrical conductive sealer). Position the water thermostat in the water hose connection. Coat the water hose connection gasket with Perfect Seal Sealing Compound B5A-19554-A or equivalent meeting Ford specification ESR-M18P2-A and ESE-M4G115-A and position it on the water hose connection. Install the water hose connection.

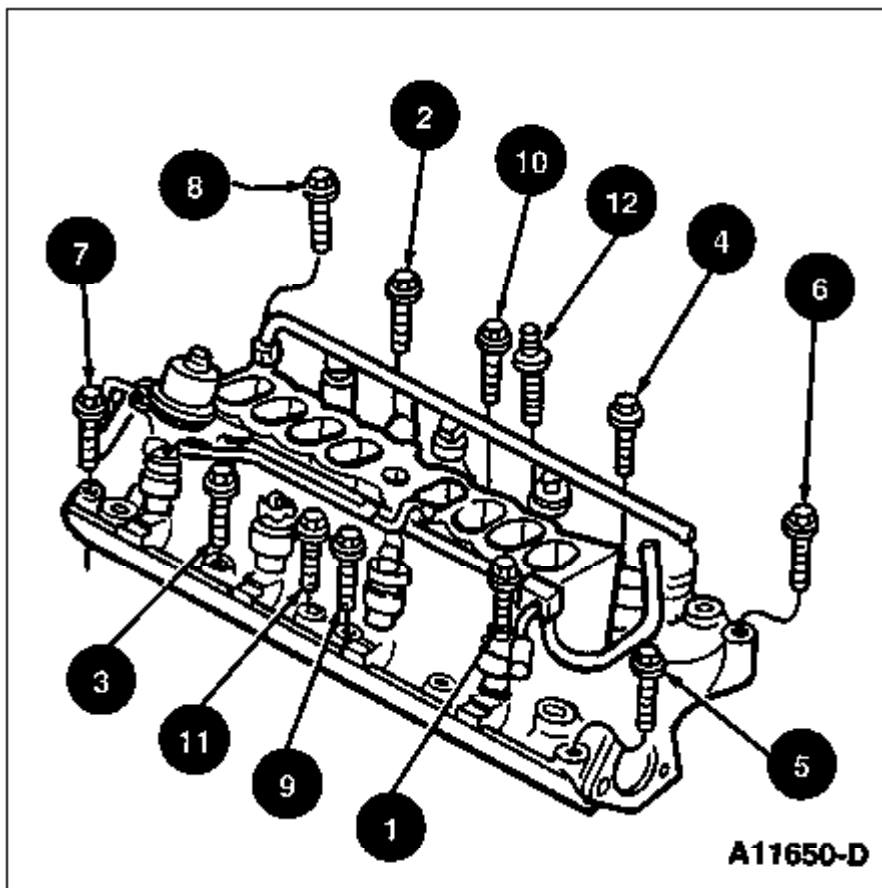
2. Clean the mating surfaces of the lower intake manifold, cylinder heads and cylinder block (6010). Use a solvent such as lacquer thinner, Terpentine, a Terpene cleaner or equivalent. Apply a 3.2 mm (1/8 inch) bead of Silicone Rubber D6AZ-19562-AA or BA or equivalent meeting Ford specification ESB-M4G92-A and ESE-M4G195-A) at the points shown.
3. Position new end seals on the cylinder block and on the cylinder heads with the intake manifold gaskets (9439) interlocked with the end seal tabs. Ensure the holes in the intake manifold gaskets are aligned with the holes in the cylinder heads.
4. NOTE: Sealer sets in 15 minutes so it is important that assembly be completed promptly. Do not drip any sealer into the engine valley.

Apply a 1.6 mm (1/16-inch) bead of Silicone Rubber D6AZ-19562-AA or BA or equivalent meeting Ford specification ESB-M4G92-A and ESE-M4G195-A to the outer end of each end seal for the full width of the seal (four places).

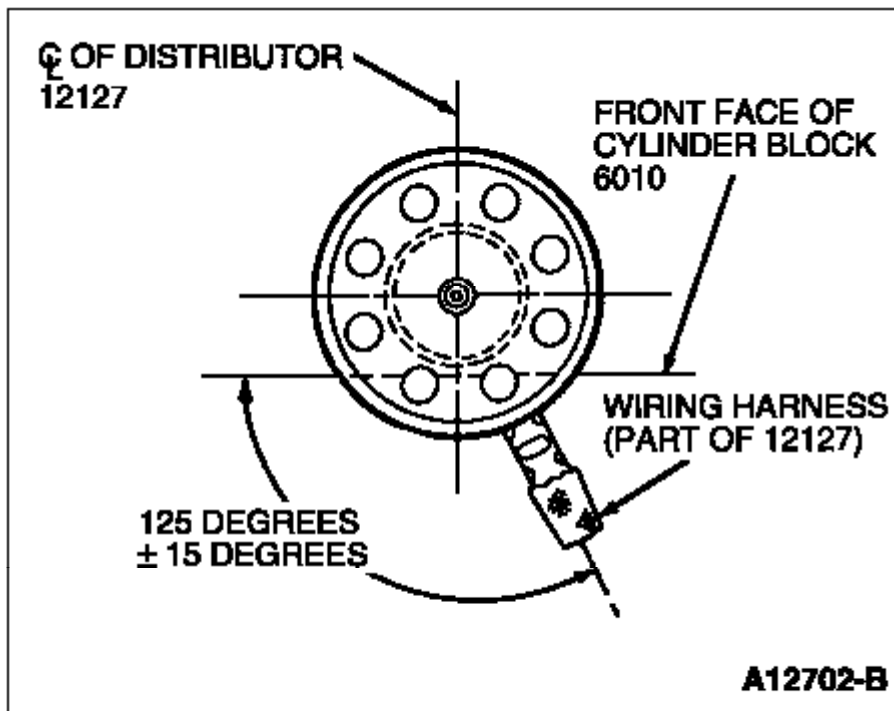


5. Using guide pins to ease installation, carefully lower the intake manifold into position on the cylinder block and cylinder heads. **After the intake manifold is in place, run a finger around the end seal area to ensure the end seals are in place. If the end seals are not in place, remove the intake manifold and reposition the end seals.**
6. Ensure the holes in the cylinder heads (5345) and intake manifold are in alignment. Remove guide pins. Install the intake manifold retaining bolts. Tighten the intake manifold bolts in three steps:
 - a. Tighten in sequence to 11 N-m (8 lb-ft).
 - b. Tighten in sequence to 22 N-m (16 lb-ft).
 - c. Tighten in sequence to 31-34 N-m (23-25 lb-ft).

Tightening Sequence



7. Install intake manifold heater inlet tube to lower intake manifold.
8. Install the water bypass hose on the water hose connection. Slide the hose clamp into position and tighten the clamp. Install hoses to intake manifold heater inlet tubes and tighten clamps.
9. Connect the upper radiator hose.
10. Install the fuel supply and return lines. Refer to [«Section 10-01»](#).
11. Rotate the crankshaft (6303) until the No. 1 piston (6108) is at TDC at the end of the compression stroke. Align the correct initial timing mark on the damper with the pointer. Position the distributor in the cylinder block with the distributor rotor (12200) at the No. 1 firing position and install the hold-down clamp.



12. Install the distributor cap. Position the ignition wires in the ignition wire separators on the valve cover attaching stud and connect the ignition wires to the spark plugs.
 13. Connect all fuel charging wiring connections disconnected during Removal.
 14. Install upper intake manifold as outlined.
 15. Fill and bleed the engine cooling system.
 16. Start the engine. Check and adjust the ignition timing as outlined in the [«Powertrain Control/Emissions Diagnosis Manual»](#).
 17. Operate the engine at fast idle and check all hose connections and gaskets for leaks. When engine temperatures have stabilized, check intake manifold bolt torques.
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