

2008 Ford Mustang

2008 HVAC Climate Control - Mustang

2008 HVAC

Climate Control - Mustang

SPECIFICATIONS

Material

Item	Specification	Fill Capacity
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B	207 ml (7 fl. oz.)
R-134a Refrigerant YN-19 (US); CYN-16-P or CYN-16-R (Canada)	WSH-M17B19-A	0.74 kg (26 oz.)

GENERAL SPECIFICATIONS

Item	Specification
Magnetic Clutch	
Clutch air gap	0.35-0.65 mm (0.014-0.026 in)

TORQUE SPECIFICATIONS

Description	Nm	lb-ft	lb-in
A/C clutch disc and hub bolt	13	10	-
A/C pressure relief valve	10	-	89
Compressor bolt (4.0L)	25	18	-
Compressor fitting nuts (4.6L or 5.4L)	15	11	-
Compressor manifold and tube bracket nut	25	18	-
Compressor manifold bolt	21	15	-
Compressor studs (4.6L or 5.4L)	25	18	-
Condenser inlet fitting nut	8	-	71
Condenser outlet fitting nut	8	-	71
Evaporator fitting nuts	8	-	71
Exterior heater core and evaporator core housing nuts	7	-	62
High-pressure Schrader-type valve	2.5	-	22
High-pressure service gauge port valve cap	0.8	-	7
Interior heater core and evaporator core housing nut	5	-	44
LH lower compressor stud (4.0L)	25	18	-
Low-pressure Schrader-type valve	1.8	-	16
Low-pressure service gauge port valve cap	0.8	-	7
Power steering pressure hose bracket bolt	8	-	71
Upper compressor studs (4.0L)	4	-	35
Upper LH compressor nut (4.0L)	25	18	-

DESCRIPTION AND OPERATION

AIR CONDITIONING

The A/C system components are:

- A/C compressor
- A/C condenser core
- A/C evaporator core
- Suction accumulator
- Connecting refrigerant lines
- Evaporator core orifice
- A/C cycling switch
- A/C pressure transducer (4.0L)
- Dual-function pressure switch (4.6L and 5.4L)
- A/C compressor pressure relief valve

The refrigerant system incorporates an A/C compressor controlled by the PCM through an A/C clutch relay.

The A/C compressor clutch will only be engaged by the PCM if all of the following conditions are met:

- The HVAC module is set to a mode which provides an A/C request to the PCM.
- The A/C cycling switch is not open due to excessively low suction pressure in the low-pressure side of the refrigerant system.
- The A/C pressure transducer is not reading excessively high discharge pressure in the high-pressure side of the refrigerant system (4.0L).
- The dual-function pressure switch is not open due to excessively high discharge pressure in the high-pressure side of the refrigerant system (4.6L and 5.4L).
- The A/C compressor relay is switched to the closed position by the PCM.
- The engine coolant temperature is not excessively high.
- The PCM has not detected a Wide Open Throttle (WOT) condition.

For information concerning operating specifications, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

An A/C compressor pressure relief valve is installed in the compressor manifold and tube assembly (4.0L vehicles) or the A/C compressor (4.6L or 5.4L vehicles) to protect the refrigerant system against excessively high refrigerant pressures.

Refrigerant flow into the evaporator core is metered by an evaporator core orifice tube.

For information concerning the refrigerant cycle and principles of A/C operation, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

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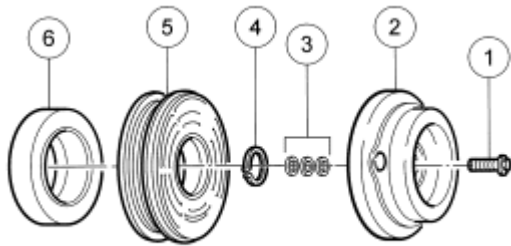
A/C Compressor and Clutch Assembly

NOTE: Internal FS18 A/C compressor components are not serviced separately. The A/C compressor is serviced only as an assembly. The clutch disc and hub, A/C compressor pulley and bearing and clutch field coil are serviceable.

The FS18 A/C compressor:

- uses a non-serviceable shaft seal.
- has a pressure relief valve installed in the rear of the compressor on 4.6L and 5.4L vehicles to protect the refrigerant system against excessively high refrigerant pressures.
- uses PAG oil or equivalent. This oil contains special additives required for the A/C compressor.
 - PAG oil may have some slightly dark-colored streaks while maintaining normal oil viscosity. This is normal for this A/C compressor because of break-in wear that can discolor the oil.

Use standard oil matching procedures when installing new compressors.



N0039328

Fig. 1: A/C Compressor Clutch Assembly
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	A/C clutch bolt
2	19D786	A/C clutch disc and hub
3	19D648	A/C clutch disc and hub spacers
4	-	A/C compressor pulley snap ring
5	19D784	A/C compressor pulley
6	19D798	A/C clutch field coil

The magnetic A/C clutch has the following characteristics:

- The A/C clutch drives the compressor shaft.
- When battery positive voltage (B+) is applied to the A/C clutch field coil, the clutch plate and hub assembly is drawn toward the A/C clutch pulley.
- The magnetic force locks the clutch plate and hub assembly and the A/C clutch pulley together as one

unit, causing the compressor shaft to rotate.

- When B+ is removed from the A/C clutch field coil, springs in the clutch plate and hub assembly move the clutch plate away from the A/C clutch pulley.

Evaporator Core Orifice

The evaporator core orifice is located in the evaporator inlet line at the condenser-to-evaporator line fitting. The evaporator core orifice provides a restriction to the flow of refrigerant from the high-pressure side of the refrigerant system, and separates the low-pressure and high-pressure sides of the refrigerant system.

A/C Cycling Switch

NOTE: **It is not necessary to recover the refrigerant before removing the A/C cycling switch.**

The A/C cycling switch is used to prevent icing of the evaporator core by cycling OFF the A/C compressor clutch when the suction pressure in the low-pressure side of the refrigerant system drops below acceptable levels. The PCM monitors the A/C cycling switch (and dual-function pressure switch on 4.6L and 5.4L vehicles) through the A/C cycling switch circuit. When the circuit is open, the PCM will disengage the A/C compressor clutch. For specifications regarding operating pressure(s), refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

A/C Pressure Transducer (4.0L)

NOTE: **It is not necessary to recover the refrigerant before removing the A/C pressure transducer.**

The A/C pressure transducer is used by the PCM to monitor the discharge pressure in the high-pressure side of the refrigerant system. The PCM monitors the A/C pressure transducer. When the A/C pressure transducer is reading a discharge pressure above acceptable levels, the PCM will disengage the A/C compressor clutch.

Dual-Function Pressure Switch (4.6L and 5.4L)

NOTE: **It is not necessary to recover the refrigerant before removing the dual-function pressure switch.**

The dual-function pressure switch includes 2 separate sets of contacts that are opened at 2 different pressures.

The first set of contacts in the dual-function pressure switch is used to interrupt A/C compressor operation in the event of excessively high discharge pressure in the high-pressure side of the refrigerant system. The PCM monitors the first set of contacts in the dual-function pressure switch in series with the A/C cycling switch. When the ACCS circuit is open, the PCM will disengage the A/C compressor clutch.

The second set of contacts in the dual-function pressure switch is used by the PCM to engage the high speed cooling fan. When the A/C pressure rises above a preset level, the second set of contacts will close and the high-speed cooling fan will be engaged.

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For specifications regarding operating pressure(s), refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

Condenser Core

The condenser is an aluminum fin and tube design heat exchanger, located in front of the vehicle radiator. It cools compressed refrigerant gas by allowing air to pass over fins and tubes to extract heat, and by condensing gas to liquid refrigerant as it is cooled.

Evaporator Core

NOTE: **The evaporator core is not individually serviced. It is serviced only with the heater core and evaporator core housing.**

The evaporator core is an aluminum plate/fin type and is located in the heater core and evaporator core housing. A mixture of refrigerant and oil enters the bottom of the evaporator core through the evaporator core inlet tube and then moves out of the evaporator core through the evaporator core outlet tube. Air from the blower motor is cooled and dehumidified as it flows through the evaporator core fins.

Suction Accumulator

NOTE: **Installation of a new suction accumulator is not required when repairing the A/C system, except when there is physical evidence of contamination from a failed A/C compressor or damage to the suction accumulator. Damage to the suction accumulator includes leaks in the suction accumulator, physical damage to the suction accumulator shell or desiccant, or moisture contamination. Moisture contamination results only from a complete loss of refrigerant and equalization of the refrigerant system pressure with atmospheric pressure for a period longer than one hour. If even a slight amount of positive refrigerant pressure is present in the system before repairs are carried out, the suction accumulator should not be replaced.**

The suction accumulator is located at the LH rear of the engine compartment and is used to prevent residual liquid refrigerant from reaching the A/C compressor after leaving the evaporator core. The suction accumulator allows the accumulated heavier liquid refrigerant and oil mixture to re-enter the compressor suction line at a controlled rate. A desiccant bag is mounted inside the canister to absorb any moisture which may be in the refrigerant system.

A/C Compressor Pressure Relief Valve

NOTE: **If the A/C compressor is operating within limits and the A/C pressure relief valve is venting, or if the A/C pressure relief valve is leaking around the threads, install a new A/C pressure relief valve and O-ring. If the A/C pressure relief valve still vents after it is replaced, diagnose the refrigerant system for a restriction.**

An A/C compressor pressure relief valve is incorporated in the compressor manifold and tube assembly (4.0L)

or the A/C compressor (4.6L or 5.4L) to prevent damage to the A/C compressor and other system components, and to avoid total refrigerant loss by relieving unusually high refrigerant system discharge pressure buildups. For specifications regarding operating pressure(s), refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

The A/C pressure relief valve is a separate component and can be replaced separately from the A/C compressor or compressor manifold and tube assembly. It is necessary to recover the refrigerant before removing the A/C pressure relief valve.

Spring Lock Coupling

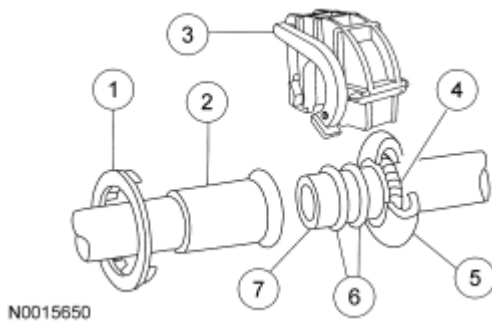


Fig. 2: Spring Lock Coupling
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	Plastic indicator ring
2	-	Female fitting
3	19E746	A/C tube lock coupling clip
4	19E576	A/C tube lock coupling spring
5	-	Cage
6	19E889	O-ring seals
7	-	Male fitting

The spring lock coupling is a refrigerant line coupling held together by a garter spring inside a circular cage.

- When the coupling is connected together, the flared end of the female fitting slips behind the garter spring inside the cage of the male fitting.
- The garter spring and cage then prevent the flared end of the female fitting from pulling out of the cage.
- Three O-ring seals are used to seal between the 2 halves of the coupling.
- Use only the O-ring seals listed in the Ford Master Parts Catalog for the spring lock coupling.
- A plastic indicator ring is used on the spring lock couplings of the A/C evaporator core to indicate, during vehicle assembly, that the coupling is connected. Once the coupling is connected, the indicator ring is no longer necessary but will remain captive by the coupling near the cage opening.
- The indicator ring may also be used during service operations to indicate connection of the coupling.

- An A/C tube lock coupling clip may be used to secure the coupling.

Peanut Fitting

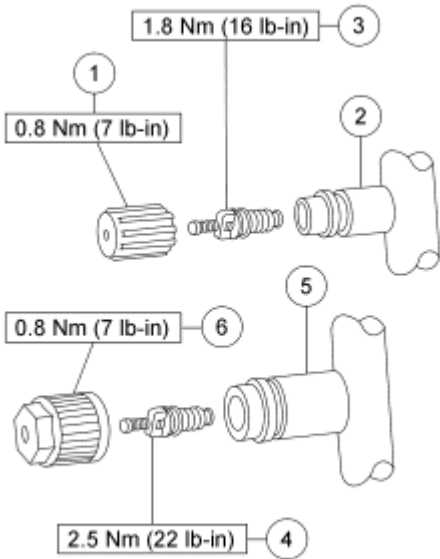
When disconnecting or connecting peanut fittings, observe the following.

- The male and female blocks of the peanut fitting are retained with a nut.
- Support the female fitting with a wrench to prevent twisting of the tubes.
- An O-ring seal is installed around the tube on the male block.
- On 4.6L and 5.4L vehicles, a gasket seal is installed along with the O-ring seal at the A/C compressor fittings.
- When correctly assembled, the male and female fittings should be flush.
- Use only the seals listed in the Ford Master Parts Catalog.

Service Gauge Port Valves

The high-pressure service gauge port valve is located on the condenser-to-evaporator line.

The low-pressure service gauge port valve is located on the suction accumulator.



N0015648

Fig. 3: Identifying Service Gauge Port Valves Components (With Torque Specifications)
 Courtesy of FORD MOTOR CO.

Item	Part Number	Description

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1	19D702	Low-pressure service gauge port valve cap
2	-	Low-pressure service gauge port valve
3	19D701	Low-pressure Schrader-type valve
4	19D701	High-pressure Schrader-type valve
5	-	High-pressure service gauge port valve
6	19D702	High-pressure service gauge port valve cap

The fitting is an integral part of the refrigerant system line or component.

- Special couplings are required for both the high-side and low-side service gauge ports.
- A very small amount of leakage will always be detectable around the Schrader-type valve with the service gauge port valve cap removed, and is considered normal. A new Schrader-type valve core can be installed if the seal leaks excessively.
- The service gauge port valve caps are used as primary seals in the refrigerant system to prevent leakage through the Schrader-type valves from reaching the atmosphere. Always install and tighten the A/C service gauge port valve caps to the correct torque after they are removed.

Refrigerant System Dye

Fluorescent refrigerant system dye is added to the refrigerant system at the factory to assist in refrigerant system leak diagnosis using a Rotunda-approved ultraviolet blacklight. It is not necessary to add additional dye to the refrigerant system before diagnosing leaks, even if a significant amount of refrigerant has been removed from the system. New suction accumulators are shipped with a fluorescent dye "wafer" included in the desiccant bag which will dissolve after approximately 30 minutes of continued A/C operation. It is not necessary to add dye after flushing or filtering the refrigerant system because a new suction accumulator is installed as part of the flushing or filtering procedure. Additional refrigerant system dye should only be added if more than 50% of the refrigerant system lubricant capacity has been lost due to a fitting separation, hose rupture or other damage. Refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

CONTROL COMPONENTS

The Electronic Manual Temperature Control (EMTC) system control components are used to select:

- air inlet source (outside or recirculated).
- blower motor speed.
- discharge air temperature (temperature blend).
- discharge air location (defrost, panel, floor).
- A/C compressor operation.

Climate Control System Inputs

HVAC Module

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The HVAC module integrates the temperature control, airflow mode selection, A/C request button, recirculated air request button and rear defog switch into a single unit.

The temperature control switch setting determines air temperature. Movement of the temperature display from COOL (blue) to WARM (red) causes a corresponding movement of the temperature blend door and determines the air discharge temperature that the air distribution system will maintain. The temperature control switch is an integral part of the HVAC module and cannot be installed separately.

The A/C request button determines A/C compressor operation, except when the function selector is in the OFF, MAX or DEFROST mode. The A/C request button is an integral part of the HVAC module and cannot be installed separately.

The recirculated air request button can select recirculated air in any mode except DEFROST, and fresh air in any mode except MAX A/C or OFF.

The rear defog button signals activation of the heated backlight. The rear defog button is an integral part of the HVAC module and cannot be installed separately.

The HVAC module is not equipped with self-test capabilities.

Blower Motor Switch

The blower motor switch controls blower motor speed (by adding or bypassing resistors in the blower motor resistor) in all modes except OFF. The blower motor switch is mounted to the HVAC module and can be installed separately.

Climate Control System Outputs

Blower Motor Resistor

The blower motor resistor adjusts the blower motor speed based on the blower motor switch setting. The blower motor resistor contains 3 resistor coils in series. The end of each resistor coil is wired to a setting in the blower motor switch. Voltage is available at the blower motor at all times when the ignition is in the RUN position and the function selector is not OFF. The ground side of the circuit then continues to the blower motor resistor. The blower motor switch will allow a path to ground with the addition of 1, 2 or 3 coils in the blower motor resistor to the circuit. When the blower motor switch is in the HI position, the blower motor resistor is bypassed.

Mode Door Actuators

The 3 airflow mode door actuators move the airflow mode doors on command from the HVAC module.

The panel/floor door and defrost door mode door actuators each contain a reversible electric motor and a potentiometer. The HVAC module applies a 5-volt signal to one end of the potentiometer and ground to the other. The potentiometer wiper is connected to the actuator output shaft and moves with the output shaft. The voltage available at the wiper indicates the position of the airflow mode door. The actuator wiper voltage is sent to the HVAC module which drives the actuator motor in whichever direction is necessary to make the actuator wiper voltage agree with the expected HVAC module wiper voltage value.

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The air inlet mode door actuator is a reversible electric motor which moves the air inlet door between the outside and recirculated air inlets on command from the HVAC module. When RECIRC is requested, the air inlet mode door actuator moves to the RECIRC position, allowing only recirculated air inlet. When FRESH air inlet is requested, the air inlet mode door actuator moves to the FRESH air inlet position, allowing only outside air inlet.

Temperature Blend Door Actuator

The temperature blend door actuator moves the temperature blend door on command from the HVAC module.

The temperature blend door actuator contains a reversible electric motor and a potentiometer. The HVAC module applies a 5-volt signal to one end of the potentiometer and ground to the other. The potentiometer wiper is connected to the actuator output shaft and moves with the output shaft. The voltage available at the wiper indicates the position of the temperature blend door. The actuator wiper voltage is sent to the HVAC module which drives the actuator motor in whichever direction is necessary to make the actuator wiper voltage agree with the expected HVAC module wiper voltage value.

The temperature blend door actuator is located on the heater core and evaporator core housing.

AIR DISTRIBUTION AND FILTERING

NOTE: **The air distribution system of this vehicle is factory equipped with a cabin air filter.**

There are 2 sources of air available to the air distribution system:

- Outside air
- Recirculated air

Recirculated air is only used when the HVAC module is set to the MAX A/C and OFF modes.

Air distribution within the vehicle is determined by the function selector switch position. Airflow mode doors are used to direct airflow within the plenum chamber. Electric mode door actuators are used to position the airflow mode doors. Refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article for a description and operation of each mode.

Air enters the passenger compartment from the:

- instrument panel registers.
- floor ducts.
- windshield defroster duct.
- side window demisters.

Passenger compartment air is exhausted from the vehicle through open windows or body air vents.

Cabin Air Filter

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The cabin air filter is located under the RH cowl vent screen. To install a new cabin air filter, remove the RH cowl vent screen. Refer to **FRONT END BODY PANELS** article.

Plenum Chamber

The plenum chamber is used to distribute airflow from the heater core and evaporator core housing to the airflow outlets. It is mounted to the instrument panel and can be replaced separately from the heater core and evaporator core housing. The plenum chamber contains the PANEL and DEFROST mode doors which cannot be separately replaced.

Air Inlet Duct

The air inlet duct is used to switch between FRESH and RECIRCULATED air inlet. It is mounted to the heater core and evaporator core housing and can be replaced separately. The air inlet duct contains the air inlet mode door which cannot be separately replaced.

HEATING AND VENTILATION

The heating and ventilation system has the following features:

- Controls the temperature and, during A/C operation, reduces the relative humidity of the air inside the vehicle
- Delivers heated or cooled air to maintain the vehicle interior temperature and comfort level
- Cooling or heating can be adjusted to maintain the desired temperature

The heating and ventilation system includes the:

- Blower motor
- Heater core and evaporator core housing
- Heater core

Blower Motor

The blower motor pulls air from the air inlet and forces it into the heater core and evaporator core housing where it is mixed and distributed. The blower motor receives battery voltage when the ignition is in the RUN position and the function selector is in an ON position, and is grounded by the blower motor switch.

Heater Core and Evaporator Core Housing

The heater core and evaporator core housing directs airflow from the blower motor through the evaporator core and heater core. All airflow from the blower motor passes through the evaporator core. The airflow is then directed through or around the heater core by the temperature blend door. After passing through the heater core, the airflow is distributed to the selected outlet by the plenum chamber.

Heater Core

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NOTE: The heater core is not individually serviced. It is serviced only with the heater core and evaporator core housing.

The heater core receives a flow of coolant from the engine cooling system through the heater core inlet. A restrictor is installed in the heater core inlet hose on V8 models to eliminate noise. The heater core consists of fins and tubes arranged to extract heat from the engine coolant and transfer it to air passing through the heater core. The engine coolant is then returned to the engine cooling system through the heater core outlet.

REMOVAL AND INSTALLATION

AIR CONDITIONING (A/C) COMPRESSOR - 4.0L

Material

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B

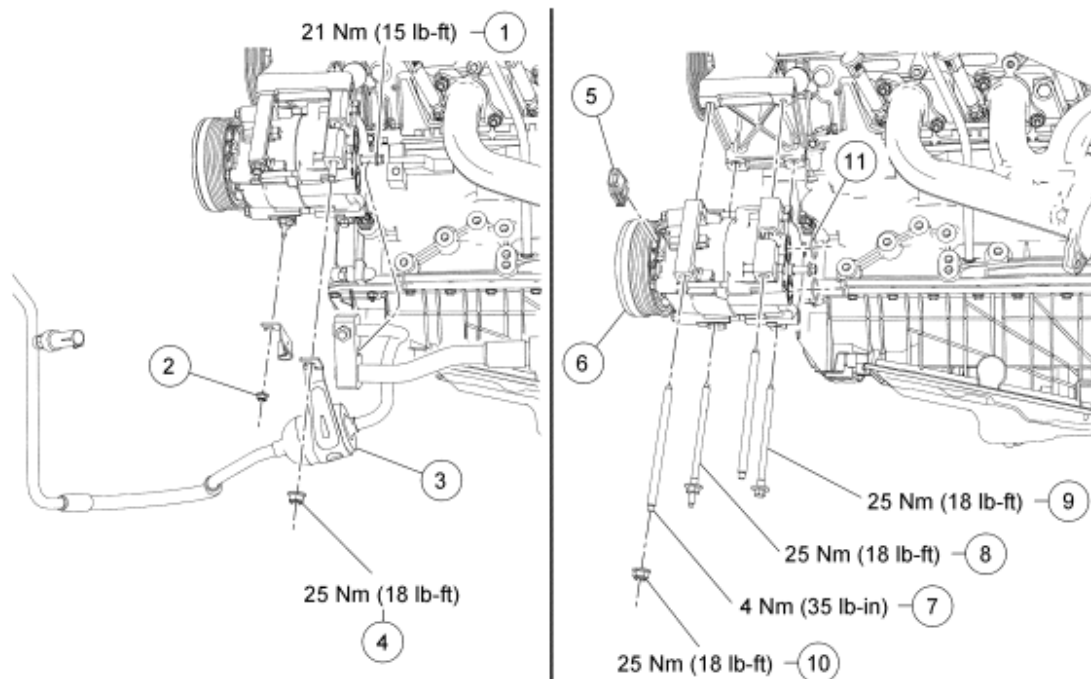


Fig. 4: Exploded View Of Air Conditioning (A/C) Compressor With Torque Specifications - 4.0L
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	N805334	Compressor manifold bolt
2	N520112	Line bracket nut
3	19D734	Compressor manifold and tube

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4	W520112	Compressor manifold and tube bracket nut
5	-	Field coil electrical connector (part of 12B637)
6	19703	A/C compressor
7	W704795	Upper compressor stud (2 required)
8	W707821	Lower LH compressor stud
9	N811329	Compressor bolt
10	N520112	Upper LH compressor nut
11	19E889	O-ring (2 required)

REMOVAL AND INSTALLATION

NOTE: If installing a new air conditioning A/C compressor due to an internal failure of the old unit, the following procedures must be carried out to remove contamination from the A/C system. Failure to remove contamination from the A/C system, if present, will result in poor A/C performance and/or damage to the new A/C compressor and other components.

- If A/C flushing equipment is available, carry out flushing of the A/C system prior to installing a new A/C Compressor and Clutch Assembly. For additional information, refer to CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS article.
- If A/C flushing equipment is not available, carry out filtering of the A/C system after a new A/C Compressor and Clutch Assembly has been installed. For additional information, refer to CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS article.
- Install a new evaporator core orifice, as directed by the A/C flushing or filtering procedure.
- Install a new suction accumulator as directed by the A/C flushing or filtering procedure.

NOTE: Installation of a new suction accumulator is not required when repairing the A/C system, except when there is physical evidence of contamination from a failed A/C compressor or damage to the suction accumulator. Damage to the suction accumulator includes leaks in the suction accumulator, physical damage to the suction accumulator shell or desiccant, or moisture contamination. Moisture contamination results only from a complete loss of refrigerant and equalization of the refrigerant system pressure with atmospheric pressure for a period longer than one hour. If even a slight amount of positive refrigerant pressure is present in the system before repairs are carried out, the suction accumulator should not be replaced.

NOTE: If installing a new A/C compressor, the A/C clutch disc and hub, A/C

compressor pulley and A/C clutch field coil must be inspected and transferred from the old unit to the new unit if suitable for reuse.

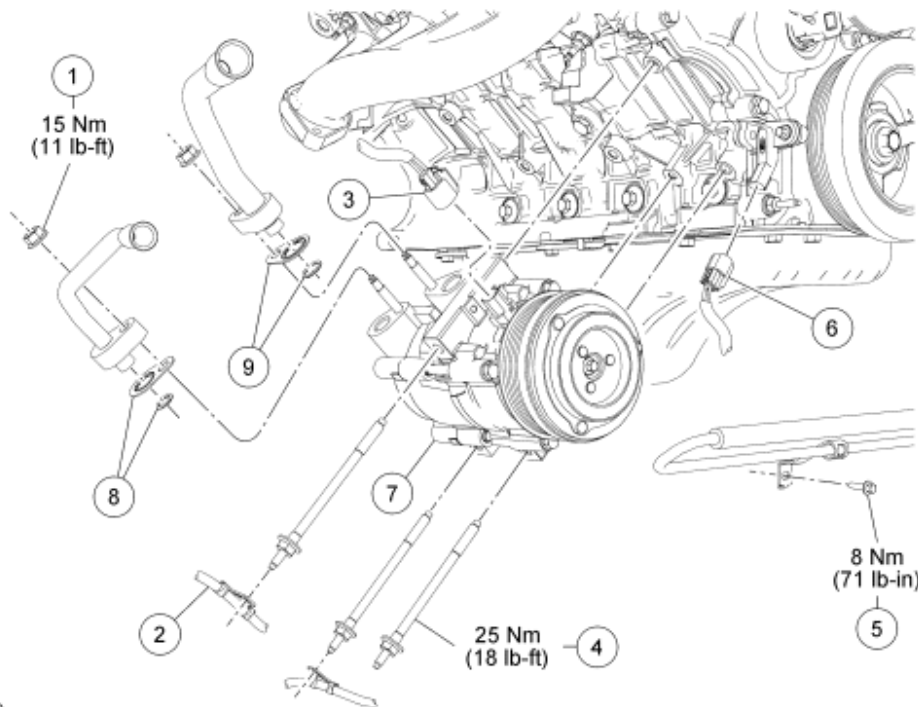
1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** article.
2. If flushing of the A/C system has not been carried out, recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
3. Remove the Air Cleaner (ACL) outlet tube. For additional information, refer to **INTAKE AIR DISTRIBUTION AND FILTERING** article.
4. Remove the drive belt from the A/C compressor pulley.
5. Disconnect the field coil electrical connector.
6. Loosen the compressor manifold bolt and detach the compressor manifold.
 - Discard the O-ring seals.
 - To install, tighten to 21 Nm (15 lb-ft).
7. Remove the line bracket nut.
8. Remove the compressor manifold and tube bracket nut, and detach the compressor manifold and tube.
 - To install, tighten to 25 Nm (18 lb-ft).
9. Remove the upper LH compressor nut.
 - To install, tighten to 25 Nm (18 lb-ft).
10. Remove the 2 upper compressor studs.
 - To install, tighten to 4 Nm (35 lb-in).
11. Remove the lower LH compressor stud.
 - To install, tighten to 25 Nm (18 lb-ft).
12. Remove the compressor bolt.
 - To install, tighten to 25 Nm (18 lb-ft).
13. Remove the A/C compressor.
14. To install, reverse the removal procedure.
 - If a new A/C compressor is to be installed, the clutch assembly must be transferred from the old unit to the new unit. For additional information, refer to **Clutch and Clutch Field Coil**.
 - Install new O-ring seals.
 - If filtering of the refrigerant system is not to be carried out, lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
15. If filtering of the refrigerant system is not to be carried out, evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

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Material

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B



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Fig. 5: Exploded View Of Air Conditioning (A/C) Compressor With Torque Specifications - 4.6L, 5.4L
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	N805334	Compressor fitting nut (2 required)
2	-	Wire harness retainer (2 required) (part of 12B637)
3	-	Field coil electrical connector (part of 12B637)
4	W705811	A/C compressor stud (3 required)
5	W505255	Power steering pressure hose bracket bolt
6	-	Crankshaft position sensor electrical connector (part of 12B637)
7	19703	A/C compressor
8	19B596	O-ring seal and gasket seal kit
9	19B596	O-ring seal and gasket seal kit

REMOVAL AND INSTALLATION

CAUTION: If installing a new air conditioning compressor due to an internal failure of the old unit, you must carry out the following procedures to remove

contamination from the air conditioning system. Failure to remove contamination from the A/C system, if present, will result in poor A/C performance and/or damage to the new A/C compressor and other components.

- If A/C flushing equipment is available, carry out flushing of the air conditioning system prior to installing a new air conditioning compressor. For additional information, refer to CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS article.
- If A/C flushing equipment is not available, carry out filtering of the air conditioning system after a new air conditioning compressor has been installed. For additional information, refer to CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS article.
- Install a new evaporator core orifice, as directed by the A/C flushing or filtering procedure.
- Install a new suction accumulator as directed by the A/C flushing or filtering procedure.

NOTE: Installation of a new suction accumulator is not required when repairing the A/C system except when there is physical evidence of contamination from a failed A/C compressor or damage to the suction accumulator.

NOTE: If installing a new A/C compressor, the A/C clutch disc and hub, A/C compressor pulley and A/C clutch field coil must be inspected and transferred from the old unit to the new unit if suitable for reuse.

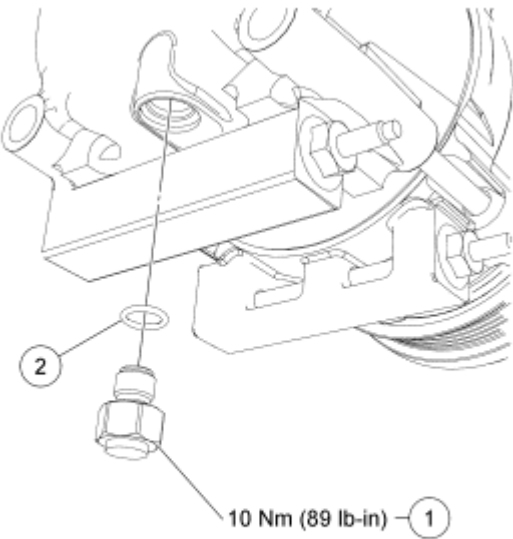
1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to JACKING AND LIFTING article.
2. If flushing of the A/C system has not been carried out, recover the refrigerant. For additional information, refer to CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS article.
3. Remove the drive belt from the A/C compressor pulley.
4. Remove the 2 compressor fitting nuts and disconnect the fittings.
 - Discard the O-ring seals and gasket seals.
 - To install tighten to 15 Nm (11 lb-ft).
5. Remove the power steering pressure hose bracket bolt.
 - To install, tighten to 8 Nm (71 lb-in).
6. Disconnect the crankshaft position sensor electrical connector.
7. Disconnect the field coil electrical connector.
8. Detach the 2 wire harness retainers from the A/C compressor studs.
9. Remove the 3 A/C compressor studs.

- To install, tighten to 25 Nm (18 lb-ft).
10. To install, reverse the removal procedure.
- If a new A/C compressor is to be installed, the clutch assembly must be transferred from the old unit to the new unit. For additional information, refer to **Clutch and Clutch Field Coil**.
 - Install new O-ring seals and gasket seals.
 - If filtering of the refrigerant system is not to be carried out, lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
11. If filtering of the refrigerant system is not to be carried out, evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

AIR CONDITIONING (A/C) PRESSURE RELIEF VALVE

Material

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B



N0072186

Fig. 6: Exploded View Of Air Conditioning (A/C) Pressure Relief Valve With Torque Specification
 Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	19D644	A/C compressor pressure relief valve

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2	-	O-ring seal (part of 19D644)
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REMOVAL AND INSTALLATION

Vehicles with 4.6L or 5.4L

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** article.

All vehicles

2. Recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
3. Remove the A/C compressor pressure relief valve and O-ring seal.
 - To install, tighten to 10 Nm (89 lb-in).

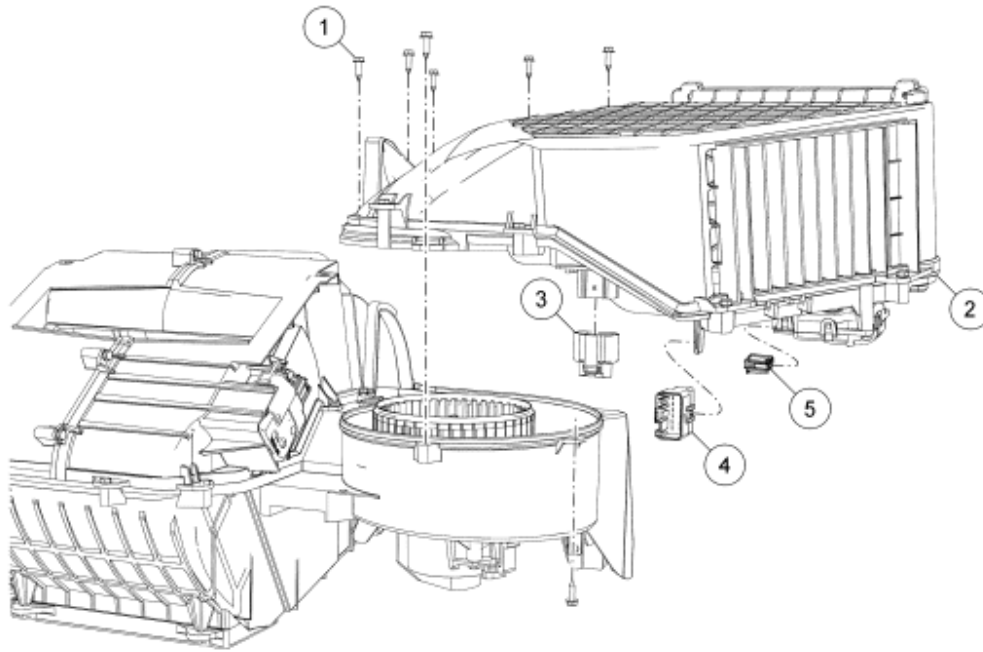
NOTE: A new O-ring seal will already be installed on the new A/C pressure relief valve service part.

4. To install, reverse the removal procedure.
 - Lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
5. Evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

AIR INLET DUCT

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N0011B43

Fig. 7: Exploded View Of Air Inlet Duct
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W701696	Air inlet duct screw (7 required)
2	19A648	Air inlet duct
3	-	Blower motor resistor electrical connector (part of 18574)
4	-	Heater core and evaporator core housing harness electrical connector (part of 18574)
5	18574	Air inlet mode door actuator electrical connector

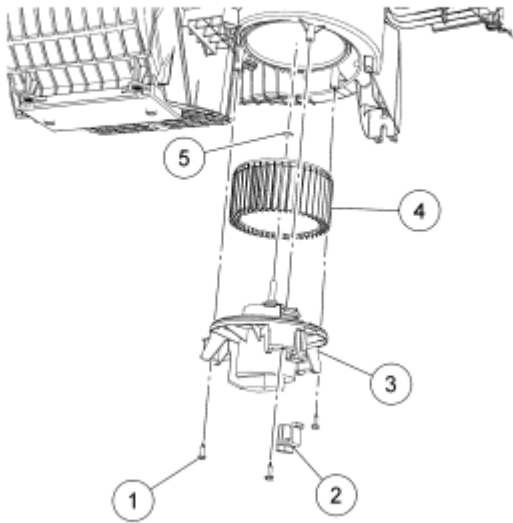
REMOVAL AND INSTALLATION

1. Remove the heater core and evaporator core housing. For additional information, refer to **Heater Core And Evaporator Core Housing**.
2. Disconnect the blower motor resistor electrical connector.
3. Disconnect the air inlet mode door actuator electrical connector.
4. Detach the heater core and evaporator core housing harness electrical connector from the bracket.
5. Remove the 7 air inlet duct screws.
6. Remove the air inlet duct.
7. To install, reverse the removal procedure.

BLOWER MOTOR

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N0014041

Fig. 8: Exploded View Of Blower Motor
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W701696	Blower motor screw (3 required)
2	-	Blower motor electrical connector (part of 18B574)
3	19805	Blower motor
4	19834	Blower motor wheel
5	18A287	Blower motor wheel clip

REMOVAL AND INSTALLATION

1. Disconnect the blower motor electrical connector.
2. Remove the 3 blower motor screws.
3. Remove the blower motor.
4. Remove the blower motor wheel clip.
5. Remove the blower motor wheel.
6. To install, reverse the removal procedure.

BLOWER MOTOR RESISTOR

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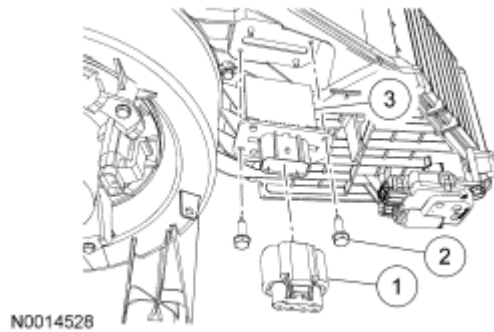


Fig. 9: Exploded View Of Blower Motor Resistor
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	Blower motor resistor electrical connector (part of 18B574)
2	W701696	Blower motor resistor screw (2 required)
3	18591	Blower motor resistor

REMOVAL AND INSTALLATION

NOTE: The blower motor resistor can be accessed from below the RH side of the instrument panel.

1. Disconnect the blower motor resistor electrical connector.
2. Remove the 2 blower motor resistor screws.
3. Remove the blower motor resistor.
4. To install, reverse the removal procedure.

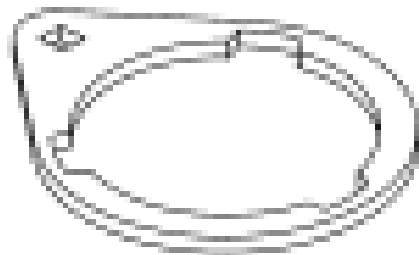
CLUTCH AND CLUTCH FIELD COIL

Special Tools

Illustration	Tool Name	Tool Number
	Holding Fixture, Compressor Clutch	412-134

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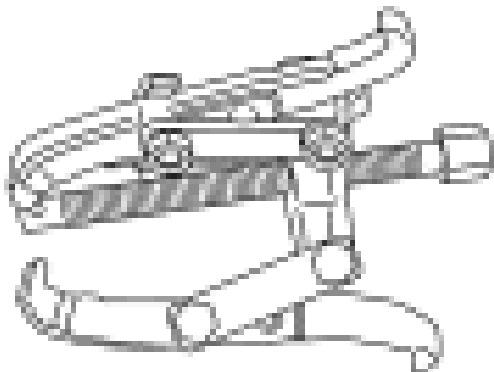
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ST2946-A

Remover, Compressor Pulley

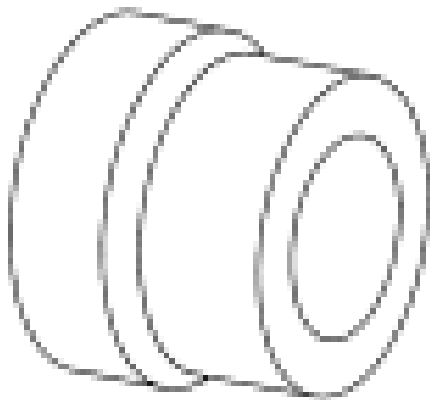
412-001 (T71P-19703-B)



ST2382-A

Installer, A/C Compressor Coil

412-065 (T89P-19623-EH)



ST1232-A

2008 Ford Mustang

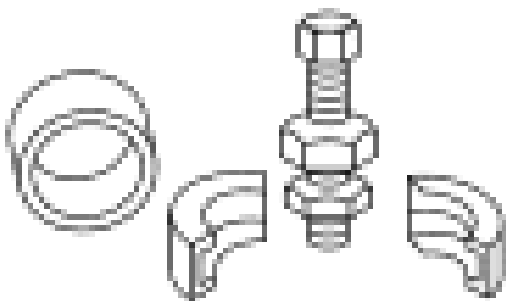
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ST1234-A

Installer, A/C Compressor
Field Coil

412-078 (T91L-19623-CH)



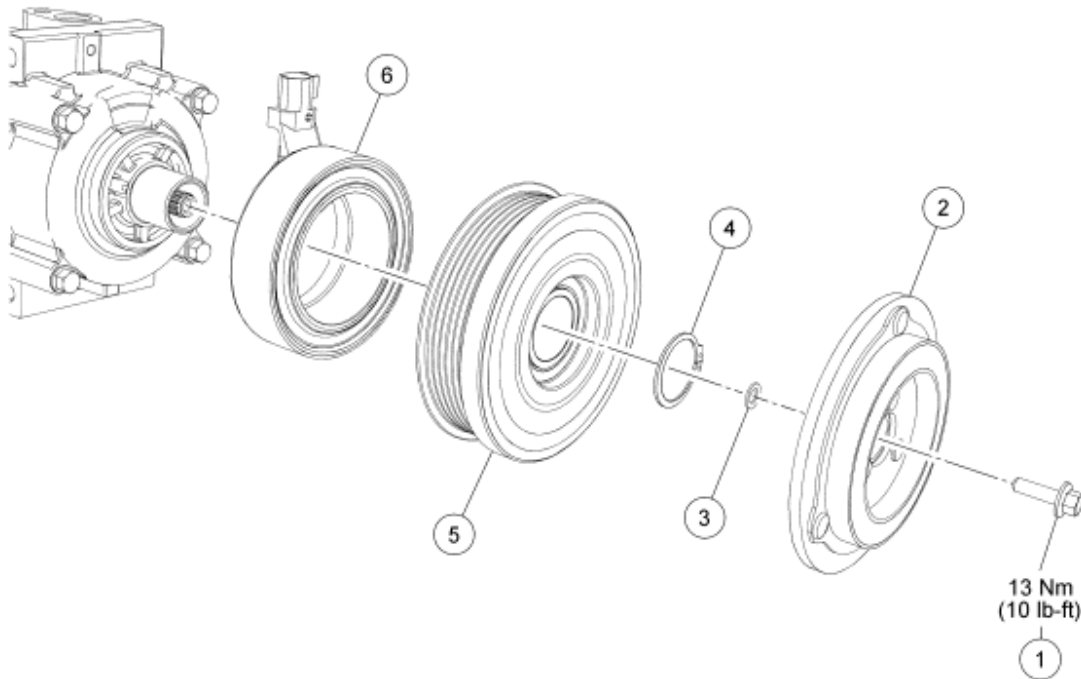
ST1290-A

Remover, A/C Compressor
Field Coil

412-067 (T89P-19623-FH)

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N0049373

Fig. 10: Exploded View Of Clutch & Clutch Field Coil With Torque Specification
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	N805332	A/C clutch disc and hub bolt (4.0L)
1	W711887	A/C clutch disc and hub bolt (4.6L or 5.4L)
2	19D786	A/C clutch disc and hub
3	19D648	A/C clutch disc and hub spacer
4	-	A/C compressor pulley snap ring
5	19D784	A/C compressor pulley
6	19D798	A/C clutch field coil

REMOVAL

1. Remove the A/C compressor. For additional information, refer to **Air Conditioning (A/C) Compressor - 4.0L** or **Air Conditioning (A/C) Compressor - 4.6L, 5.4L**.
2. Remove the A/C clutch disc and hub bolt.
 1. Using the special tool, hold the A/C clutch disc and hub.
 2. Remove the A/C clutch disc and hub bolt.



Fig. 11: A/C Clutch Disc & Hub Bolt
Courtesy of FORD MOTOR CO.

3. Remove the A/C clutch disc and hub.
4. Remove the A/C clutch disc and hub spacer(s).
5. Remove the A/C compressor pulley snap ring.

CAUTION: Do not use air tools. Damage to the A/C compressor pulley or A/C compressor may result.

6. Remove the A/C compressor pulley.
 1. Install the special tool.
 2. Remove the A/C compressor pulley.

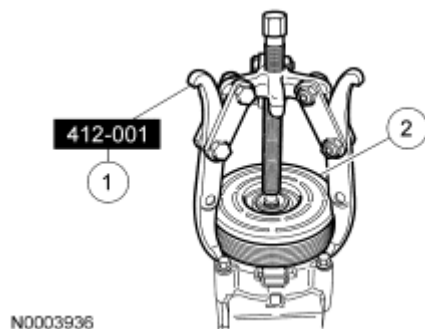


Fig. 12: A/C Compressor Pulley
Courtesy of FORD MOTOR CO.

CAUTION: Do not use air tools. Damage to the A/C clutch field coil or A/C compressor may result.

7. Remove the A/C clutch field coil.
 1. Install the special tool.
 2. Install the special tool.
 3. Remove the A/C clutch field coil.

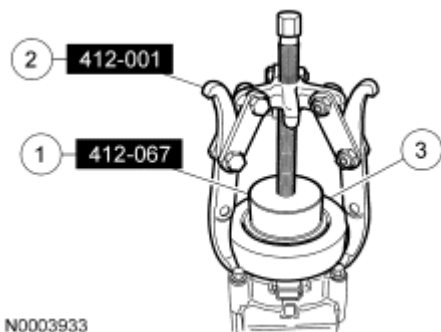


Fig. 13: Removing A/C Clutch Field Coil Using Special Tools (412-001, 412-067)
Courtesy of FORD MOTOR CO.

INSTALLATION

NOTE: If installing a new A/C compressor, the A/C clutch components should be reused unless obvious signs of damage are found. If excessive grooving is found, a new A/C clutch disc and hub and A/C compressor pulley must be installed together. Otherwise, each component can be installed individually where needed.

1. Visually inspect the A/C clutch disc and hub, A/C compressor pulley and A/C clutch field coil for damage.
 - Inspect for physical damage, including cracked or melted components or discoloration due to excessive heat.
 - Inspect for excessive wear, including grooving in the A/C clutch disc and hub or A/C compressor pulley that is more than fingernail depth.
 - Inspect for roughness in the A/C compressor pulley bearing.
2. Clean the A/C clutch field coil and pulley mounting surfaces.

CAUTION: Do not use air tools. Damage to the A/C clutch field coil or A/C compressor may result.

3. Install the A/C clutch field coil.
 1. Place the A/C clutch field coil on the A/C compressor with the A/C clutch field coil electrical connector correctly positioned.
 2. Place the special tool on the A/C clutch field coil.
 3. Place special tool 412-065 on special tool 412-078.
 4. Use the special tool to install the A/C clutch field coil.

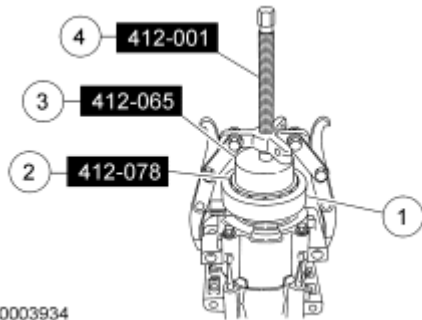


Fig. 14: Installing A/C Clutch Field Coil Using Special Tools (412-001, 412-065, 412-078)
Courtesy of FORD MOTOR CO.

4. Install the A/C compressor pulley.
5. Install the A/C compressor pulley snap ring.
6. Install the A/C clutch disc and hub spacer(s) and the A/C clutch disc and hub.
7. Install the A/C clutch disc and hub bolt.
 1. Hold the A/C clutch disc and hub with the special tool.
 2. Tighten to 13 Nm (10 lb-ft).

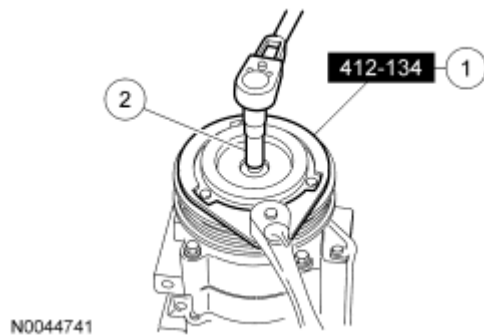


Fig. 15: A/C Clutch Disc & Hub Bolt
Courtesy of FORD MOTOR CO.

8. Measure and adjust the clutch air gap by adding or removing A/C clutch disc and hub spacers.

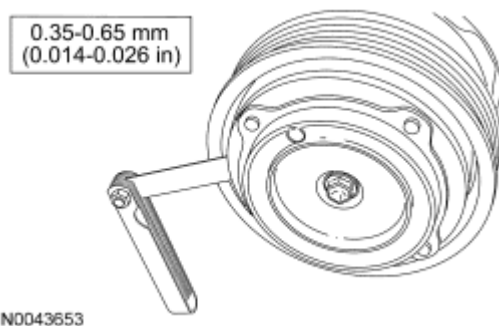


Fig. 16: Measuring Clutch Air Gap

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Courtesy of FORD MOTOR CO.

9. Install the A/C compressor. For additional information, refer to **Air Conditioning (A/C) Compressor - 4.0L** or **Air Conditioning (A/C) Compressor - 4.6L, 5.4L**.

COMPRESSOR MANIFOLD AND TUBE ASSEMBLY - 4.0L

Material

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B

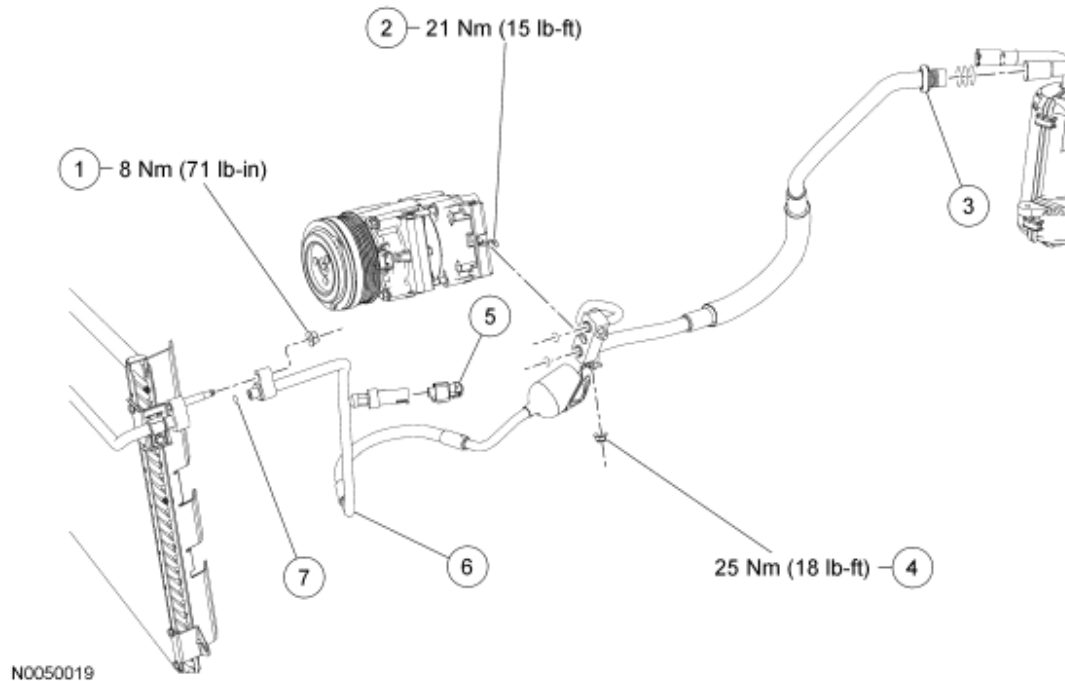


Fig. 17: Exploded View Of Compressor Manifold & Tube Assembly With Torque Specifications - 4.0L
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W520413	Condenser inlet fitting nut
2	N805334	Compressor manifold bolt
3	-	Suction accumulator outlet fitting (part of 19D734)
4	W520112	Compressor manifold and tube bracket nut
5	-	A/C pressure transducer electrical connector (part of 12B637)
6	19D734	Compressor manifold and tube assembly
7	19E889	O-ring seal (6 required)

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REMOVAL AND INSTALLATION

1. Recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
2. Loosen the compressor manifold bolt and detach the compressor manifold.
 - Discard the O-ring seals.
 - To install, tighten to 21 Nm (15 lb-ft).
3. Remove the compressor manifold and tube bracket nut.
 - To install, tighten to 25 Nm (18 lb-ft).
4. Disconnect the pressure transducer electrical connector.
5. Disconnect the suction accumulator outlet fitting.
 - Discard the O-ring seals.
6. Remove the condenser inlet fitting nut and disconnect the fitting.
 - Discard the O-ring seal.
 - To install, tighten to 8 Nm (71 lb-in).
7. To install, reverse the removal procedure.
 - Install new O-ring seals.
 - Lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
8. Evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

COMPRESSOR TO CONDENSER DISCHARGE LINE

Material

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B

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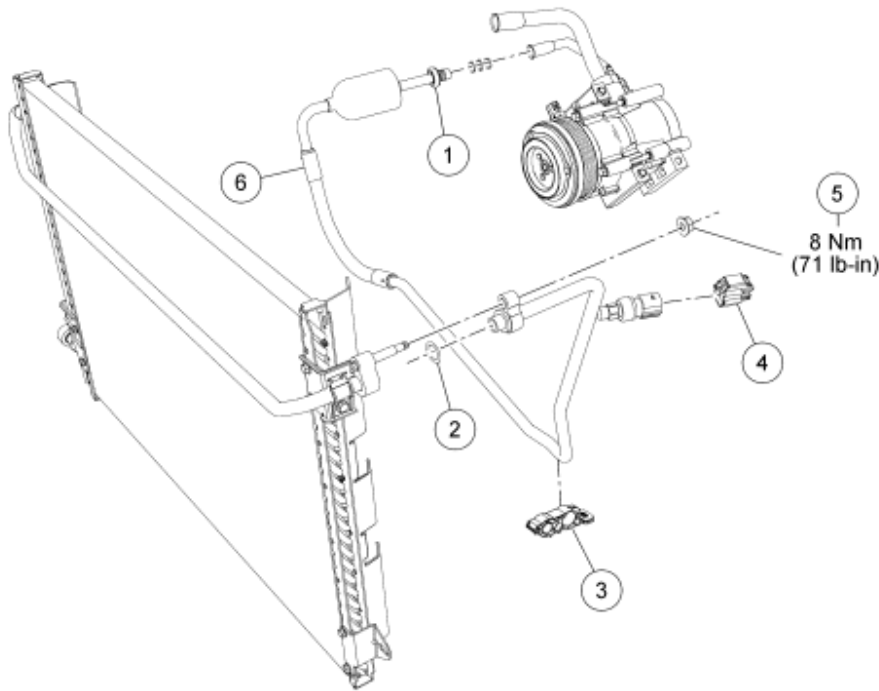


Fig. 18: Exploded View Of Compressor To Condenser Discharge Line With Torque Specification
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	Compressor discharge fitting (part of 19972)
2	19E889	O-ring (4 required)
3	19B632	A/C line bracket
4	-	Dual-function pressure switch electrical connector (part of 12B637)
5	W520413	Condenser inlet fitting nut
6	19972	Compressor-to-condenser discharge line

REMOVAL AND INSTALLATION

5.4L (4V) vehicles

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** article.

4.6L vehicles

2. Remove the Air Cleaner (ACL) outlet tube. For additional information, refer to **INTAKE AIR DISTRIBUTION AND FILTERING** article.

All vehicles

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3. Recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
4. Disconnect the compressor discharge fitting.
 - Discard the O-ring seals.
5. Disconnect the dual-function pressure switch electrical connector and remove the dual-function pressure switch.
6. Remove the condenser inlet fitting nut and disconnect the fitting.
 - Discard the O-ring seal.
 - To install, tighten to 8 Nm (71 lb-in).
7. Detach the compressor-to-condenser discharge line from the A/C line bracket.
8. Remove the compressor-to-condenser discharge line.
9. To install, reverse the removal procedure.
 - Install new O-ring seals.
 - Lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
10. Evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

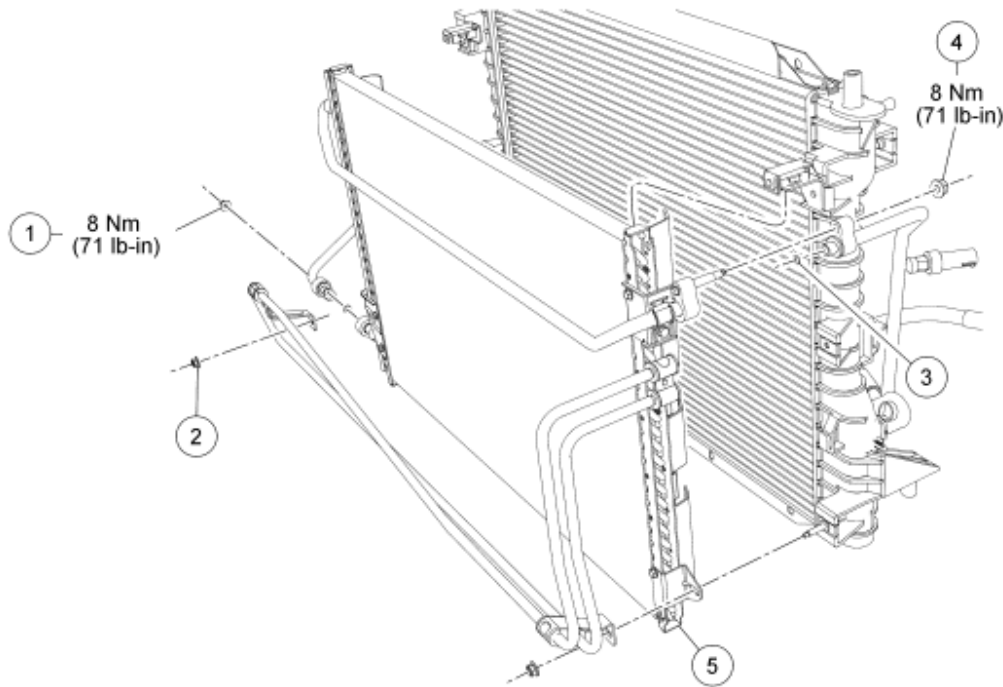
CONDENSER CORE

Material

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B

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N0049133

Fig. 19: Exploded View Of Condenser Core With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W520413	Condenser outlet fitting nut
2	W520101	Cooler line fitting nut (2 required)
3	19E889	O-ring (2 required)
4	W520413	Condenser inlet fitting nut
5	19712	Condenser core

REMOVAL AND INSTALLATION

All vehicles

1. Recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
2. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING AND LIFTING** article.
3. Remove the condenser inlet fitting nut and disconnect the fitting.
 - Discard the O-ring seal.
 - To install, tighten to 8 Nm (71 lb-in).

5.4L (4V) vehicles

4. Remove the front bumper cover. For additional information, refer to **BUMPERS** article.

NOTE: RH air deflector shown, LH similar.

5. Remove the pin-type retainers and detach the RH and LH air deflectors from the condenser core.

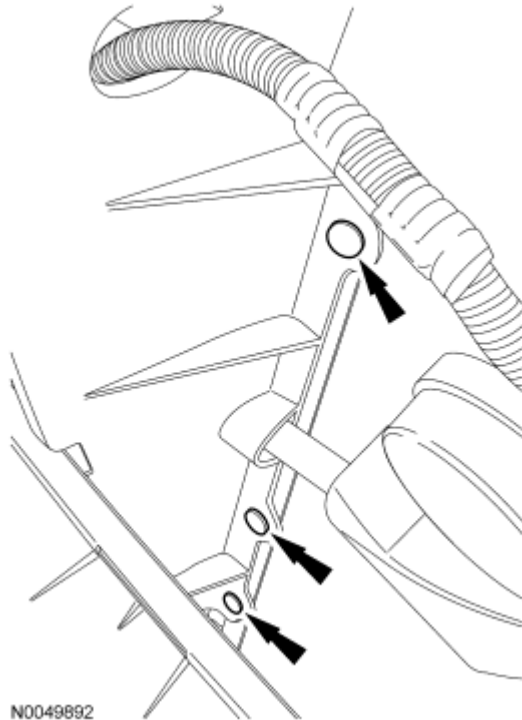


Fig. 20: Locating RH & LH Air Deflectors
Courtesy of FORD MOTOR CO.

All vehicles

6. Remove the lower radiator air deflector.
7. Remove the condenser outlet fitting nut and disconnect the fitting.
 - Discard the O-ring seal.
 - To install, tighten to 8 Nm (71 lb-in).
8. Remove the 2 cooler line bracket nuts and position the cooler line aside.
9. Remove the condenser core.
10. To install, reverse the removal procedure.
 - Install new O-ring seals.
 - Lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
11. Evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE**

CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS article.

CONDENSER TO EVAPORATOR LINE

Material

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B

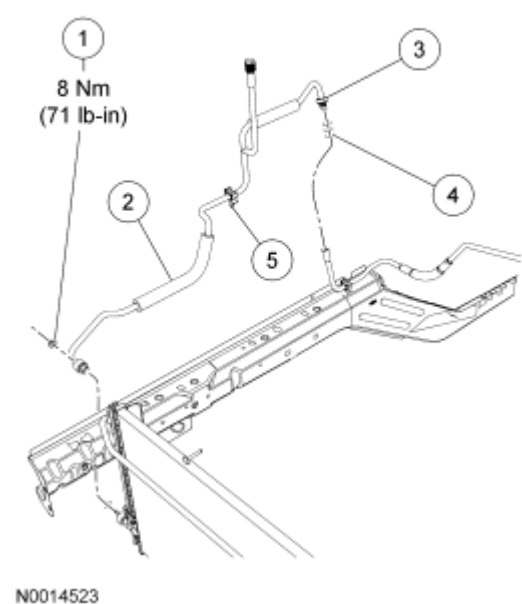


Fig. 21: Exploded View Of Condenser To Evaporator Line With Torque Specification
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W520413	Condenser outlet fitting nut
2	19835	Condenser-to-evaporator line
3	-	Evaporator inlet line fitting (part of 19835)
4	19E889	O-ring seal (4 required)
5	9A317	Condenser-to-evaporator line clip

REMOVAL AND INSTALLATION

1. Recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
2. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING**

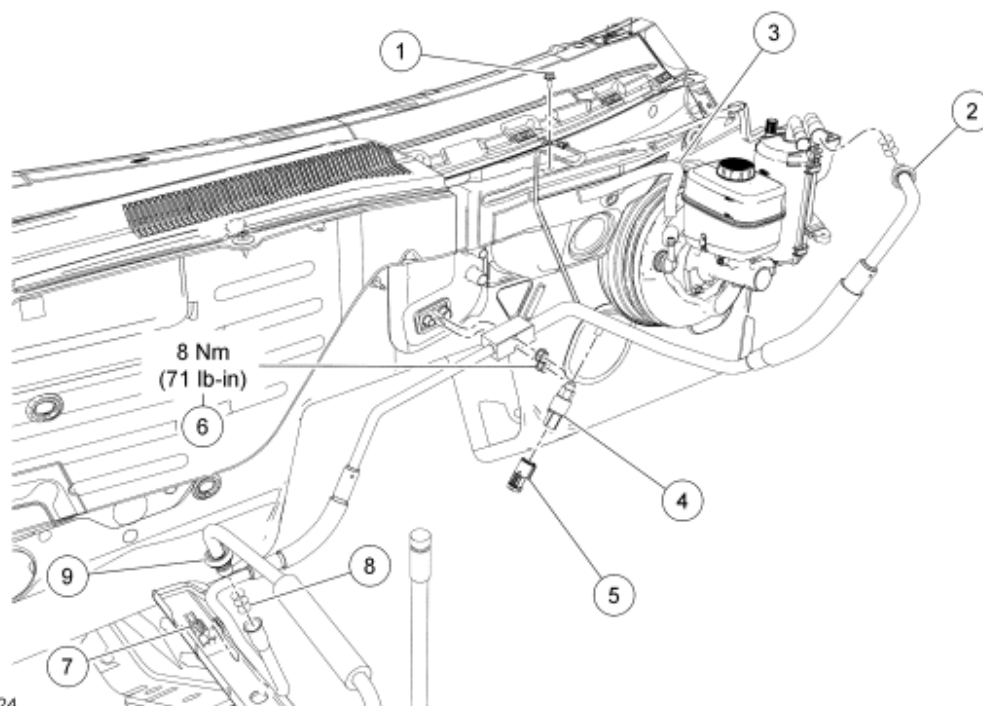
AND LIFTING article.

3. Disconnect the evaporator inlet line fitting.
 - Discard the O-ring seal.
4. Detach the condenser-to-evaporator line clip.
5. Remove the condenser outlet fitting nut and disconnect the fitting.
 - Discard the O-ring seal.
 - To install, tighten to 8 Nm (71 lb-in).
6. Remove the condenser-to-evaporator line.
7. To install, reverse the removal procedure.
 - Install new O-ring seals.
 - Lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
8. Evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

EVAPORATOR OUTLET LINE

Material

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B



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Fig. 22: Exploded View Of Evaporator Outlet Line With Torque Specification
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	54042A06	Body ground strap bolt
2	-	Suction accumulator inlet fitting (part of 19835)
3	9C482	Brake booster vacuum hose
4	19E561	A/C cycling switch
5	-	A/C cycling switch electrical connector (part of 12B637)
6	W701838	Evaporator fitting nut (2 required)
7	9A317	Evaporator inlet line clip
8	19E889	O-ring seal (8 required)
9	-	Evaporator inlet line fitting (part of 19835)

REMOVAL AND INSTALLATION

All vehicles

1. Recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

5.4L (4V) vehicles

2. Drain the engine cooling system. For additional information, refer to **ENGINE COOLING** article.
3. Remove the brake booster. For additional information, refer to **POWER BRAKE ACTUATION** article.
4. Disconnect the 2 heater hose connections at the rear of the RH cylinder head and position the heater hoses aside.

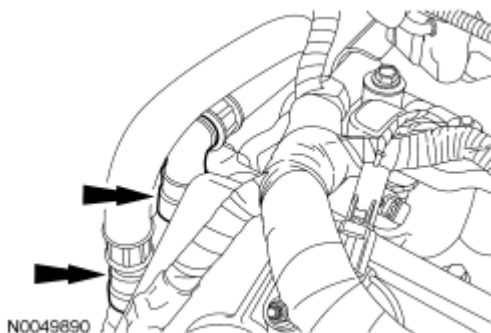


Fig. 23: Locating Heater Hose Connections At Rear Of RH Cylinder Head
Courtesy of FORD MOTOR CO.

5. Remove the EGR system module tube. For additional information, refer to **ENGINE EMISSION CONTROL** article.

4.0L and 4.6L vehicles

6. Remove the LH cowl vent screen. For additional information, refer to **FRONT END BODY PANELS** article.
7. Remove the body ground strap bolt.
8. Disconnect the brake booster vacuum hose at the brake booster.

All vehicles

9. Disconnect the A/C cycling switch electrical connector and detach the wire harness from the evaporator outlet line.
10. Remove the A/C cycling switch.
11. Disconnect the evaporator inlet line fitting.
 - Discard the O-ring seals.
12. Detach the evaporator inlet line clip.
13. Disconnect the suction accumulator inlet fitting.
 - Discard the O-ring seals.
14. Remove the 2 evaporator fitting nuts and disconnect the fitting.
 - Discard the O-ring seals.
 - To install, tighten to 8 Nm (71 lb-in).
15. Remove the evaporator tube bracket.
 1. Rotate the evaporator tube bracket downward.
 2. Remove the evaporator tube bracket.

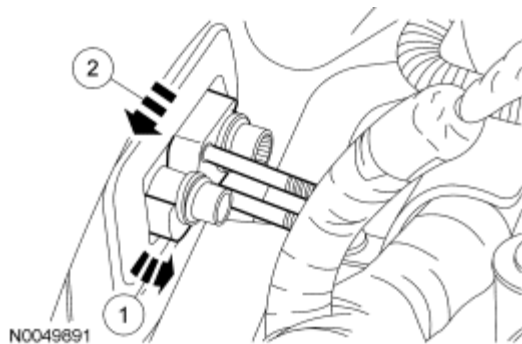


Fig. 24: Rotating Evaporator Tube Bracket Downward
Courtesy of FORD MOTOR CO.

16. Remove the evaporator core manifold and tube assembly.
17. To install, reverse the removal procedure.
 - Install new O-ring seals.
 - Lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

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5.4L (4V) vehicles

18. Fill the engine cooling system. For additional information, refer to **ENGINE COOLING** article.

All vehicles

19. Evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

HEATER CORE

REMOVAL AND INSTALLATION

NOTE: If a heater core leak is suspected, the heater core must be leak tested before it is removed from the vehicle.

NOTE: The heater core is not individually serviced. It is serviced only with the heater core and evaporator core housing.

1. Remove the heater core and evaporator core housing. For additional information, refer to **Heater Core And Evaporator Core Housing**.
2. Transfer the heater core and evaporator core housing components as needed.
3. Install the heater core and evaporator core housing. For additional information, refer to **Heater Core And Evaporator Core Housing**.

HEATER CORE AND EVAPORATOR CORE HOUSING

Material

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B

2008 Ford Mustang

2008 HVAC Climate Control - Mustang

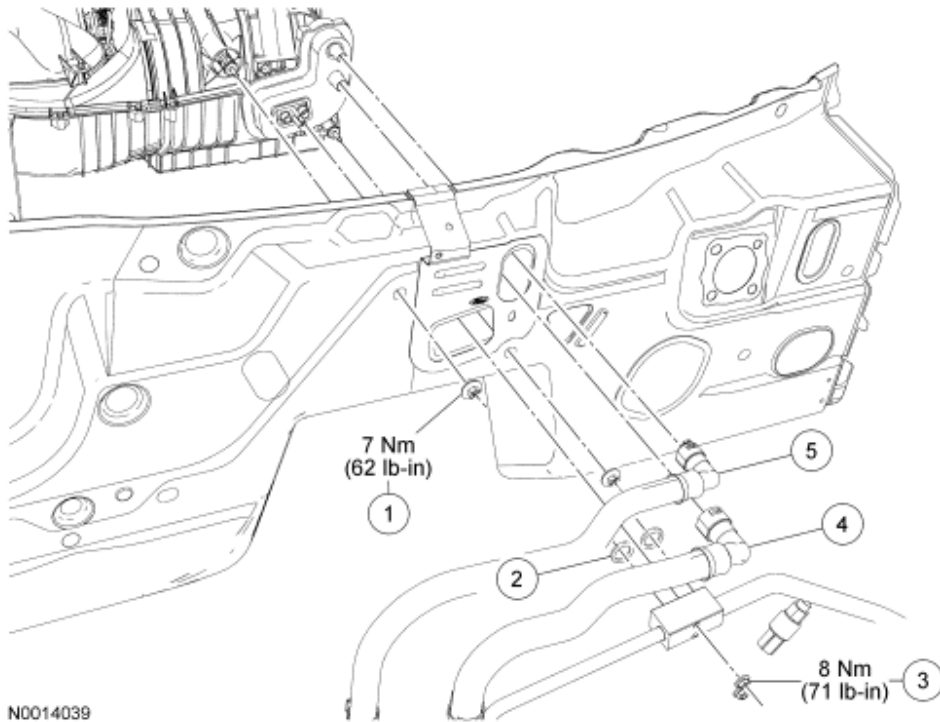


Fig. 25: Exploded View Of Heater Core And Evaporator Core Housing Components With Torque Specifications (1 Of 2)

Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W704904	Exterior heater core and evaporator core housing nut (2 required)
2	19E889	O-ring seal (2 required)
3	W701838	Evaporator fitting nut (2 required)
4	18472	Heater core inlet hose
5	18472	Heater core outlet hose

2008 Ford Mustang

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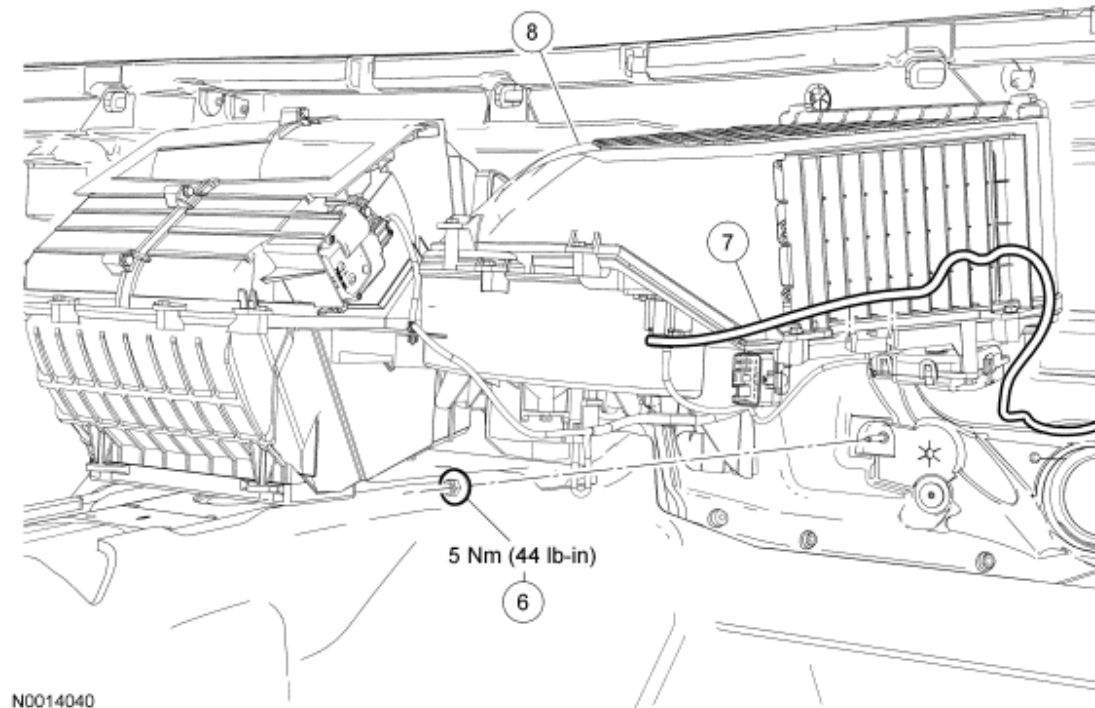


Fig. 26: Exploded View Of Heater Core And Evaporator Core Housing Components With Torque Specification (2 Of 2)

Courtesy of FORD MOTOR CO.

Item	Part Number	Description
6	W702751	Interior heater core and evaporator core housing nut
7	18812	Antenna cable
8	19850	Heater core and evaporator core housing

REMOVAL AND INSTALLATION

NOTE: The heater core and evaporator core are not individually serviced. They are serviced only with the heater core and evaporator core housing.

NOTE: If a heater core leak is suspected, the heater core must be leak tested before it is removed from the vehicle.

5.4L (4V) vehicles

1. Release the fuel system pressure. For additional information, refer to **FUEL SYSTEM - GENERAL INFORMATION** article.

All vehicles

2. Recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
3. Drain the engine coolant. For additional information, refer to **ENGINE COOLING** article.
4. Remove the instrument panel. For additional information, refer to **INSTRUMENT PANEL AND CONSOLE** article.

5.4L (4V) vehicles

5. Remove the supercharger. For additional information, refer to **INTAKE AIR DISTRIBUTION AND FILTERING** article.
6. Disconnect the heater hose fittings at the rear of the RH cylinder head and position the heater hoses aside.

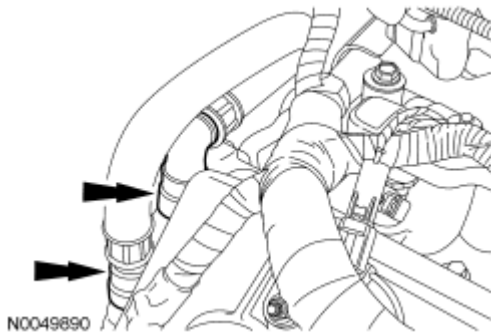


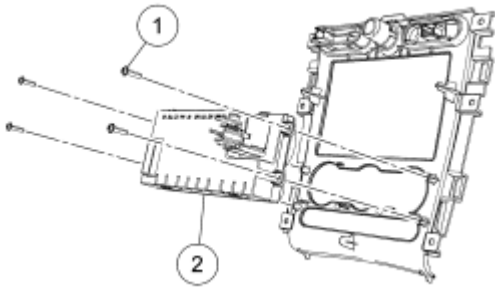
Fig. 27: Locating Heater Hose Connections At Rear Of RH Cylinder Head
Courtesy of FORD MOTOR CO.

All vehicles

7. Disconnect the heater core inlet and outlet hoses at the heater core.
8. Remove the 2 evaporator fitting nuts and disconnect the evaporator core fitting.
 - Discard the O-ring seals.
 - To install, tighten to 8 Nm (71 lb-in).
9. Remove the 2 exterior heater core and evaporator core housing nuts at the dash panel.
 - To install, tighten to 7 Nm (62 lb-in).
10. Detach the antenna cable from the heater core and evaporator core housing.
11. Remove the interior heater core and evaporator core housing nut.
 - To install, tighten to 5 Nm (44 lb-in).
12. Remove the heater core and evaporator core housing.
13. To install, reverse the removal procedure.
 - Install new O-ring seals.
 - Lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
14. Fill the engine cooling system. For additional information, refer to **ENGINE COOLING** article.

15. Evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

HEATING VENTILATION AIR CONDITIONING (HVAC) MODULE



N0014527

Fig. 28: Exploded View Of Climate Control Assembly
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W505944	HVAC module screw (4 required)
2	19980	HVAC module

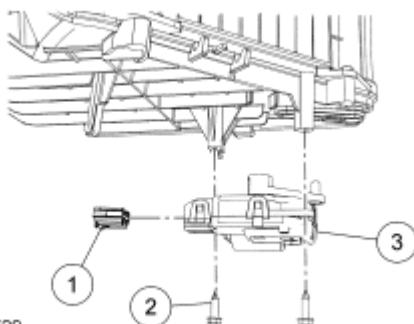
REMOVAL AND INSTALLATION

1. Remove the center instrument panel finish panel. For additional information, refer to **INSTRUMENT PANEL AND CONSOLE** article.
2. Remove the 4 HVAC module screws.
3. Remove the HVAC module.

NOTE: Be sure that all HVAC module electrical connectors are securely fastened before installing the center instrument panel finish panel.

4. To install, reverse the removal procedure.

MODE DOOR ACTUATOR - AIR INLET DOOR



N0014529

2008 Ford Mustang

2008 HVAC Climate Control - Mustang

Fig. 29: Exploded View Of Mode Door Actuator - Air Inlet Door
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	Air inlet mode door actuator electrical connector (part of 18B574)
2	W701696	Air inlet mode door actuator screw (2 required)
3	19E616	Air inlet mode door actuator

REMOVAL AND INSTALLATION

1. Lower the glove compartment.
2. Disconnect the air inlet mode door actuator electrical connector.
3. Remove the 2 air inlet mode door actuator screws.
4. Remove the air inlet mode door actuator.
5. To install, reverse the removal procedure.

MODE DOOR ACTUATOR - DEFROST DOOR

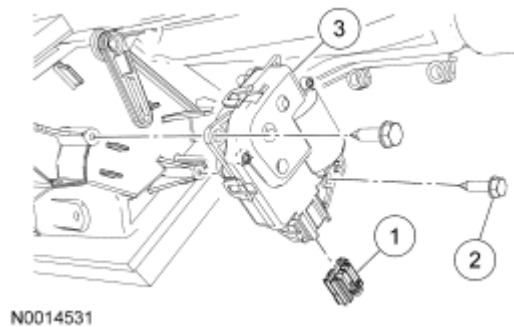


Fig. 30: Exploded View Of Mode Door Actuator - Defrost Door
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	Defrost door mode door actuator electrical connector (part of 14401)
2	W701696	Defrost door mode door actuator screw (2 required)
3	19E616	Defrost door mode door actuator

REMOVAL AND INSTALLATION

1. Lower the glove compartment.
2. Disconnect the defrost door mode door actuator electrical connector.
3. Remove the 2 defrost door mode door actuator screws.
4. Remove the defrost door mode door actuator.

2008 Ford Mustang

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5. To install, reverse the removal procedure.

MODE DOOR ACTUATOR - PANEL/FLOOR DOOR

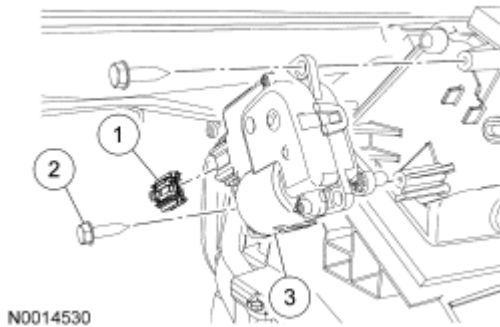


Fig. 31: Exploded View Of Mode Door Actuator - Panel/Floor Door
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	18B574	Panel/floor door mode door actuator electrical connector
2	W701696	Panel/floor door mode door actuator screw (2 required)
3	19E616	Panel/floor door mode door actuator

REMOVAL AND INSTALLATION

NOTE: The panel door mode door actuator can be accessed from below the LH side of the instrument panel.

1. Disconnect the panel/floor door mode door actuator electrical connector.

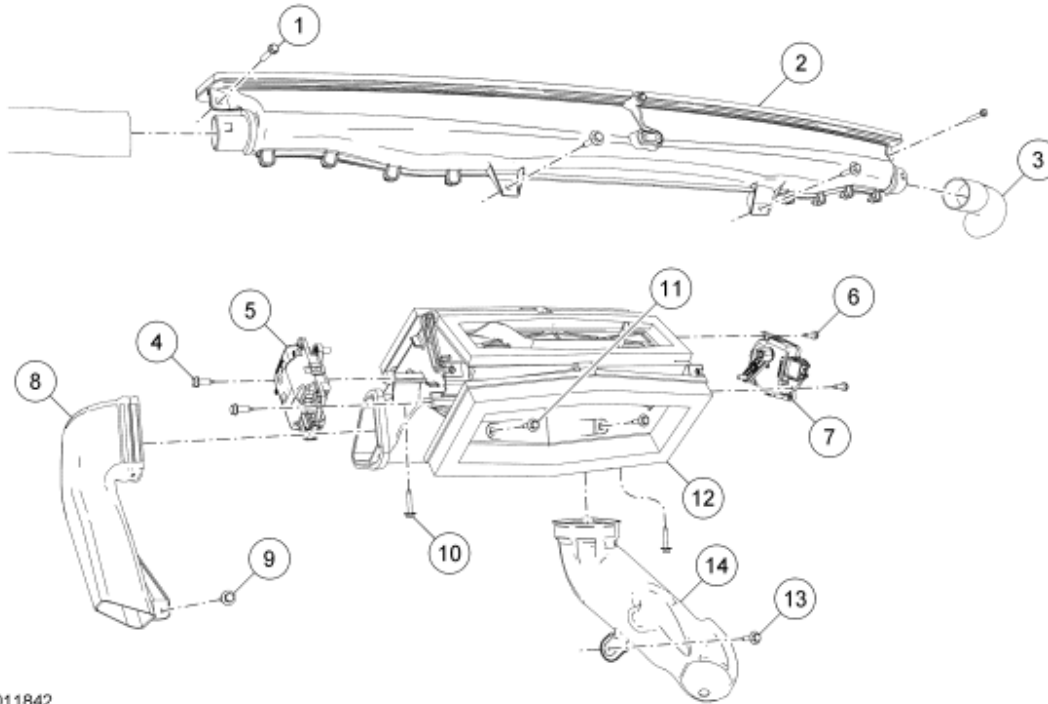
NOTE: The top panel/floor door mode door actuator screw can be removed using a shallow universal socket.

2. Remove the 2 panel/floor door mode door actuator screws.
3. Remove the panel/floor door mode door actuator.
4. To install, reverse the removal procedure.

PLENUM CHAMBER

2008 Ford Mustang

2008 HVAC Climate Control - Mustang



N0011842

Fig. 32: Exploded View Of Plenum Chamber
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	W710480	Defroster duct screw (4 required)
2	18490	Defroster duct
3	19E630	Demister duct (2 required)
4	W701696	Panel mode door actuator screw (2 required)
5	19E616	Panel mode door actuator
6	W701696	Defrost mode door actuator screw (2 required)
7	19E616	Defrost mode door actuator
8	18C420	RH floor duct
9	W701506	RH floor duct screw
10	W505156	Plenum chamber bolt (2 required)
11	W710506	Plenum chamber screw (2 required)
12	18471	Plenum chamber
13	W710506	LH floor duct screw
14	18C420	LH floor duct

REMOVAL AND INSTALLATION

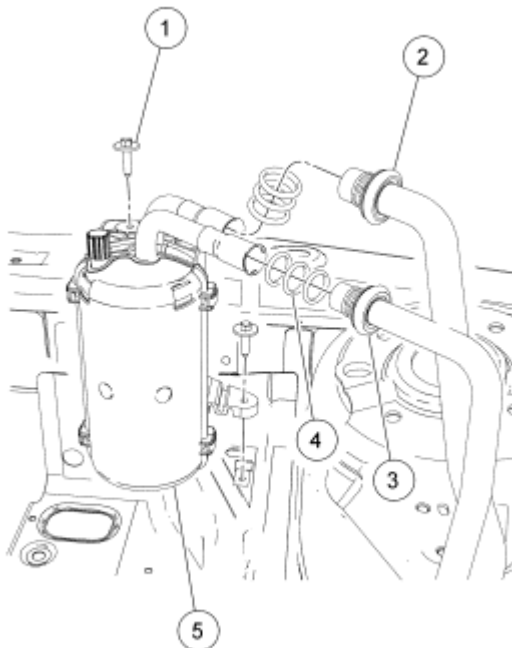
1. Remove the instrument panel. For additional information, refer to **INSTRUMENT PANEL AND**

CONSOLE article.

2. Remove the RH floor duct screw and the RH floor duct.
3. Remove the LH floor duct screw and the LH floor duct.
4. Remove the 4 defroster duct screws.
5. Detach the 2 demister ducts from the defroster duct.
6. Remove the defroster duct.
7. Remove the 2 defrost mode door actuator screws and position the defrost mode door actuator aside.
8. Remove the 2 panel mode door actuator screws and position the panel mode door actuator aside.
9. Remove the 2 plenum chamber bolts.
10. Remove the 2 plenum chamber screws.
11. Remove the plenum chamber.
12. To install, reverse the removal procedure.

SUCTION ACCUMULATOR**Material**

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B



N0014520

Fig. 33: Exploded View Of Suction Accumulator
Courtesy of FORD MOTOR CO.

2008 Ford Mustang

2008 HVAC Climate Control - Mustang

Item	Part Number	Description
1	W705800	Suction accumulator bolt (2 required)
2	-	Suction accumulator outlet fitting (4.0L, part of 19D734) (4.6L, part of 19D742)
3	-	Suction accumulator inlet fitting (part of 19835)
4	19E889	O-ring (6 required)
5	19C836	Suction accumulator

REMOVAL AND INSTALLATION

NOTE: Installation of a new suction accumulator is not required when repairing the A/C system, except when there is physical evidence of contamination from a failed A/C compressor or damage to the suction accumulator. Damage to the suction accumulator includes leaks in the suction accumulator, physical damage to the suction accumulator shell or desiccant, or moisture contamination. Moisture contamination results only from a complete loss of refrigerant and equalization of the refrigerant system pressure with atmospheric pressure for a period longer than one hour. If even a slight amount of positive refrigerant pressure is present in the system before repairs are carried out, the suction accumulator should not be replaced.

1. Recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
2. Disconnect the suction accumulator inlet fitting.
 - Discard the O-ring seals.
3. Disconnect the suction accumulator outlet fitting.
 - Discard the O-ring seals.
4. Remove the 2 suction accumulator bolts.
5. Remove the suction accumulator.

NOTE: Care should be taken to minimize exposure of the suction accumulator desiccant to the atmosphere. Do not remove the shipping caps from the new suction accumulator until immediately before the line fittings are to be attached.

6. To install, reverse the removal procedure.
 - Install new O-ring seals.
 - Lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
7. Evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

2008 Ford Mustang

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REGISTER - INSTRUMENT PANEL

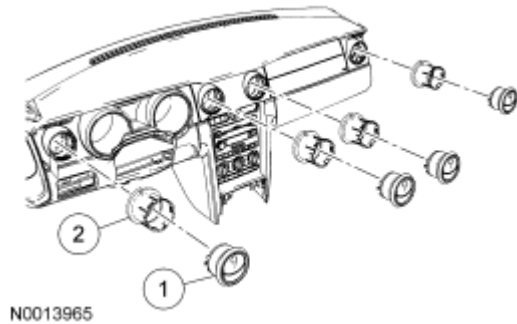


Fig. 34: Exploded View Of Register - Instrument Panel
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	Instrument panel register barrel (4 required) (part of 19893)
2	-	Instrument panel register housing (4 required) (part of 19893)

REMOVAL AND INSTALLATION

1. Pull and remove the instrument panel register barrel.
2. Release the tabs and remove the instrument panel register housing.
3. To install, reverse the removal procedure.

SUCTION ACCUMULATOR TO COMPRESSOR LINE

Material

Item	Specification
PAG Refrigerant Compressor Oil (R-134a Systems) YN-12-D	WSH-M1C231-B



Fig. 35: Exploded View Of Suction Accumulator To Compressor Line
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	-	O-ring seal (6 required) (part of 14401)
2	-	Compressor manifold and tube suction fitting (part of 19D742)
3	19B632	A/C line bracket
4	-	Dual-function pressure switch electrical connector (part of 12B637)
5	19B632	Suction accumulator-to-compressor line clip
6	19D742	Suction accumulator-to-compressor line
7	-	Suction accumulator outlet fitting (part of 19D742)

REMOVAL AND INSTALLATION

1. Recover the refrigerant. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
2. Remove the engine cooling fan and shroud. For additional information, refer to **ENGINE COOLING** article.
3. Remove the air cleaner. For additional information, refer to **INTAKE AIR DISTRIBUTION AND FILTERING** article.
4. Disconnect the compressor manifold and tube suction fitting.
 - Discard the O-ring seals.

5. Disconnect the suction accumulator outlet fitting.
 - Discard the O-ring seals.
6. Disconnect the dual-function pressure switch electrical connector.
7. Detach the suction accumulator-to-compressor line from the A/C line bracket.
8. Remove the suction accumulator-to-compressor line.
9. To install, reverse the removal procedure.
 - Install new O-ring seals.
 - Lubricate the refrigerant system with the correct amount of clean PAG oil. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.
10. Evacuate, leak test and charge the refrigerant system. For additional information, refer to **CLIMATE CONTROL SYSTEM - GENERAL INFORMATION AND DIAGNOSTICS** article.

TEMPERATURE BLEND DOOR ACTUATOR

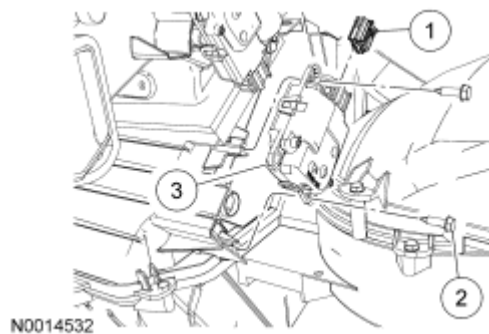


Fig. 36: Exploded View Of Temperature Blend Door Actuator
 Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	18B574	Temperature blend door actuator electrical connector
2	W701696	Temperature blend door actuator screw (2 required)
3	19E616	Temperature blend door actuator

REMOVAL AND INSTALLATION

1. Lower the glove compartment.
2. Disconnect the temperature blend door actuator electrical connector.
3. Remove the 2 temperature blend door actuator screws.
4. Remove the temperature blend door actuator.
5. To install, reverse the removal procedure.