2007 ENGINE Exhaust System - Sebring

2007 ENGINE

Exhaust System - Sebring

DESCRIPTION

EXHAUST SYSTEM-DESCRIPTION



Fig. 1: Identifying Exhaust System Components Courtesy of CHRYSLER LLC

- 1 FLEX JOINT
- 2 BAND CLAMP
- 3 RESONATOR/PIPE ASSEMBLY
- 4 MUFFLER/PIPE ASSEMBLY
- 5 REAR MUFFLER SUPPORTS
- 6 MIDPIPE SUPPORT
- 7 OXYGEN SENSOR
- 8 CATALYTIC CONVERTOR (2.0L/2.4L)
- 9 CONNECTOR PIPE (2.7L)

The exhaust system on the 2.0L/2.4L engine models consists of a front mounted catalytic converter, resonator/pipe assembly, muffler/pipe assembly, band clamps and support isolators. The upstream oxygen sensor is located in the exhaust manifold. The downstream oxygen sensor is located in the catalytic converter.

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Fig. 2: Identifying Exhaust System Supports Courtesy of CHRYSLER LLC

- 1 GROUND STRAP
- 2 MUFFLER/FRONT PIPE SUPPORT ISOLATOR
- **3 REAR MUFFLER SUPPORT ISOLATORS**

The exhaust system on the 2.7L engine model consists of front and rear bank catalytic converters, cross-under pipe, connector pipe, resonator/pipe assembly, muffler/pipe assembly, band clamps and support isolators. The upstream oxygen sensors are located in the front and rear exhaust manifolds. The downstream oxygen sensors are located in the cross-under pipe.

Resonators, mufflers and exhaust pipes are tuned to each powertrain combination.

DIAGNOSIS AND TESTING

RESTRICTION CHECK

Exhaust system restriction can be checked by measuring back pressure using the scan tool and PEP module pressure tester.

WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never work around or attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

- 1. Disconnect and remove the upstream (before catalytic converter) oxygen sensor. Refer to **<u>REMOVAL</u>**.
- 2. Install the Exhaust Back Pressure Fitting Adapter CH8519.
- 3. Connect the Low Pressure Sensor (15 psi) CH7063 to the back pressure fitting.
- 4. Following the PEP module instruction manual, connect all required cables to the scan tool and PEP module. Select the available menu options on the scan display screen for using the digital pressure gauge function.
- 5. Apply the park brake and start the engine.
- With transmission in Park or Neutral, raise engine speed to 2000 RPM. Monitor the pressure readings on the scan. Back pressure should not exceed specified limit. Refer to specification in <u>EXHAUST BACK PRESSURE</u> <u>LIMITS</u>.

NOTE: For applications with dual catalytic converters, repeat test on opposite converter using the previous steps.

 If pressure exceeds maximum limits, inspect exhaust system for restricted component. For further catalytic converter inspection procedures, see <u>INSPECTION</u>. Replace component(s) as necessary.

EXHAUST BACK PRESSURE LIMITS

Exhaust Back Pressure Limit (Max)

Vehicle in Park/Neutral (no load)	3.45 kPa (0.5 psi)
@2000 RPM	5.45 KF a (0.5 psi)

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WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never work around or attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

1. Raise and support vehicle.

CAUTION: The air pressure must not exceed 4 psi, otherwise engine damage can occur.

- 2. Connect Tool 8404-EC or 8404-ECT, Exhaust Cone to an adjustable air pressure regulator.
- 3. Attach shop air to the air pressure regulator.
- 4. Adjust the air pressure regulator to 4 psi
- 5. Insert Tool 8404-EC or 8404-ECT, Exhaust Cone into the vehicle tail pipe.
- 6. If the vehicle is equipped with dual exhaust, use Tool 8404-EC or 8404-ECT, Exhaust Cone with equipped attached plug. Plug one side of the dual exhaust pipe. Pressurize the other as described.
- 7. Apply a mixture of liquid dish soap and water to the following areas:
 - All welded joints from 6 inches rearward of the downstream O2 sensor forward
 - O2 sensor seal points
 - O2 sensor boss welds
 - Flange/joint connection(s)
 - Exhaust manifold to cylinder head connection(s)
 - EGR solenoid gasket base and tube seal points (if equipped)
- 8. Watch for the liquid/soapy water to bubble.
- 9. Use the following definitions to help determine if system or component repair/replacement is necessary:

Type 1 Leak is defined as a leak where very small foam like bubbles 1

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mm (.039 in.) or less appear. Any Type 1 or greater leaks found in welded joints, O2 sensor seal points or O2 sensor boss welds must be repaired or the component must be replaced.

Type 2 Leak is defined as a leak where larger bubbles 8 mm (.031 in.) or greater appear. Any Type 2 or greater leaks found in flange or joint connections, exhaust manifold to cylinder head connections or EGR gasket and tube seal points must be repaired or the components must be replaced.

Leak Location	Repair required if results at 4 psi reveal bubble size:
Welded joints	Type 1 - 1 mm (.039 in.) or greater
O2 Sensor seal points	Type 1 - 1 mm (.039 in.) or greater
O2 Sensor boss welds	Type 1 - 1 mm (.039 in.) or greater
Flange/joint connections	Type 2 - 8 mm (.031 in.) or greater
Exhaust Manifold to cylinder head connections	Type 2 - 8 mm (.031 in.) or greater
EGR gasket and tube seal points	Type 2 - 8 mm (.031 in.) or greater

If a leak is found that matches the above definition, repair or replace the component as necessary.

Once the repair is complete, repeat the procedure to verify that all leaks have been repaired.

EXCESSIVE EXHAUST SYSTEM NOISE

CONDITION	POSSIBLE CAUSES	CORRECTION
EXCESSIVE	1. Exhaust manifold	1. Replace manifold.
EXHAUST NOISE	cracked or broken.	
(UNDER HOOD)	2. Manifold to cylinder	2. Tighten manifold and/or
	head leak.	replace gasket.
	3. EGR Valve to	3. Tighten fasteners or
	manifold gasket leakage.	replace gasket.
	4. EGR Valve to EGR	4. Tighten fasteners or

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	tube gasket leakage. 5. EGR tube to manifold tube leakage. 6. Exhaust flex-joint to	replace gasket. 5. Tighten tube nut. 6. Tighten joint fasteners
	manifold leak.	and/or replace gasket.
	7. Exhaust flex-joint.	7. Replace catalytic converter assembly.
	8. Pipe and shell noise from front exhaust pipe.	8. Characteristic of single wall pipe.
EXCESSIVE EXHAUST NOISE	1. Leak at exhaust pipe joints.	1. Tighten clamps at leaking joints.
	2. Burned or rusted out muffler assembly or exhaust pipe.	2. Replace muffler resonator tailpipe assembly or exhaust pipe with catalytic converter assembly.
	3. Burned or rusted out resonator.	3. Replace mufflerresonator tailpipe assembly.
	4. Restriction in exhaust	
	system.	RESTRICTION CHECK . Replace component as necessary.
	5. Converter material in muffler.	5. Replace muffler and converter assemblies. Check fuel injection and ignition systems for proper
		ignition systems for proper operation.

REMOVAL

EXHAUST SYSTEM-REMOVAL

NOTE: Some service procedures require the removal of the entire exhaust system in order to gain better access to certain components for removal and installation. The following

procedure explains how to remove the entire exhaust system. Refer to specific procedures if replacing individual exhaust components.

WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never work around or attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

- 1. Raise vehicle on hoist and apply penetrating oil to fasteners that connect the exhaust system to the exhaust manifold (2.0L/2.4L)/cross-under pipe (2.7L).
- 2. Remove ground strap from muffler.
- 3. Vehicles equipped with 2.0L/2.4L engines, disconnect downstream oxygen sensor connector.
- 4. Remove fasteners that attach exhaust system to exhaust manifold (2.0L/2.4L)/cross-under pipe (2.7L).

CAUTION: Do not use any tools to remove the rubber isolators - remove by hand only. Soapy water or silicone-based lubricant spray may be used to assist removal/installation of isolators. DO NOT use a petroleum-based lubricant on the isolators, as damage to the rubber material can occur.

- 5. Remove support isolators from muffler supports.
- 6. Remove exhaust system from vehicle.
- NOTE: Band clamps are spot welded to exhaust system. If a band clamp must be replaced, the spot weld must be ground off the exhaust pipe.
- **NOTE:** When replacement is required on any component of the

exhaust system, it is most important that original equipment parts (or their equivalent) be used for the following reasons:

To insure proper alignment with other parts in the system.

Provide acceptable exhaust noise levels and does not change exhaust system back pressure that could affect emissions and performance.

INSPECTION

INSPECTION

Inspect the exhaust pipes, catalytic converters, muffler and resonators for cracked joints, broken welds and corrosion damage that would result in a leaking exhaust system. Inspect the clamps, support brackets and insulators for cracks and corrosion damage.

INSTALLATION

EXHAUST SYSTEM-INSTALLATION

NOTE: Always work from the front to rear of exhaust system when aligning and tightening exhaust system components.

- 1. Loosely install fasteners that attach exhaust system to exhaust manifold (2.0L/2.4L)/cross-under pipe (2.7L).
- 2. Install support isolators to exhaust system supports.
- 3. Align exhaust system to maintain position and proper clearance with underbody parts. All support isolators should have equal load on them. Tighten fasteners that attach exhaust system to exhaust manifold (2.0L/2.4L)/cross-under pipe (2.7L) to 28 N.m (250 in. lbs.).
- 4. Vehicles equipped with 2.0L/2.4L engines, reconnect the downstream oxygen sensor connector.
- 5. Connect ground strap to muffler.
- 6. Lower vehicle.
- 7. Start the engine and inspect for exhaust leaks. Repair exhaust leaks as

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necessary.

8. Check the exhaust system for contact with the body panels. Make the necessary adjustments, if needed.

ADJUSTMENTS

ADJUSTMENTS

A misaligned exhaust system is usually indicated by a vibration, rattling noise or binding of exhaust system components. These noises are sometimes hard to distinguish from other chassis noises. Inspect exhaust system for broken or loose clamps, heat shields, isolators, and brackets. Replace or tighten as necessary. It is important that exhaust system clearances and alignment be maintained.

Perform the following procedures to align the exhaust system:

- 1. Loosen clamps and support brackets.
- 2. Align the exhaust system starting at the front, working rearward.
- 3. Tighten all clamps and brackets once alignment and clearances are achieved.

SPECIFICATIONS

SPECIFICATION-TORQUE

TORQUE SPECIFICATIONS

DESCRIPTION	N.m	Ft. Lbs.	In. Lbs.
Fastener, Band Clamps	54	40	-
Fasteners, Body Heat Shield	5	-	40
Fasteners, Catalytic Converter to Exhaust Manifold Flange	28	-	250
Fasteners, Cross-Under Pipe (2.0L/2.4L)	28	-	250
Fasteners, Cross-Under Pipe (2.7L)	28	-	250

SPECIAL TOOLS

SPECIAL TOOLS



Fig. 3: Back Pressure Test Adapter - CH8519

Courtesy of CHRYSLER LLC



Fig. 4: Exhaust Cone Tool - 8404-ECT Courtesy of CHRYSLER LLC

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Fig. 5: Pressure Transducer CH7063 Courtesy of CHRYSLER LLC

CONVERTER-CATALYTIC

DESCRIPTION

DESCRIPTION

- WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never work around or attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.
- CAUTION: DO NOT remove spark plug wires from plugs or by any other means short out cylinders. Failure of the catalytic converter can occur due to a temperature

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increase caused by unburned fuel passing through the converter.

The stainless steel catalytic converter body is designed to last the life of the vehicle. Excessive heat can result in bulging or other distortion, but excessive heat will not be the fault of the converter. If unburned fuel enters the converter, overheating may occur. If a converter is heat-damaged, correct the cause of the damage at the same time the converter is replaced. Also, inspect all other components of the exhaust system for heat damage.

Unleaded gasoline must be used to avoid contaminating the catalyst core.

REMOVAL

CATALYTIC CONVERTER-REMOVAL-2.0L/2.4L



Fig. 6: Identifying Muffler & Resonator Assembly Courtesy of CHRYSLER LLC

- 1 ISOLATOR
- 2 MUFFLER/RESONATOR ASSEMBLY
- 3 CATALYTIC CONVERTER
- 4 BAND CLAMP

WARNING: The normal operating temperature of the exhaust

system is very high. Therefore, never work around or attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

- 1. Raise and support vehicle.
- 2. Apply penetrating oil to resonator/pipe assembly band clamp (4), and the fasteners that connect the catalytic converter to the exhaust manifold.
- 3. Remove ground strap from muffler.
- 4. Loosen band clamp for resonator/pipe assembly (4).

CAUTION: Do not use any tools to remove the rubber isolators, remove by hand only. Soapy water or silicone based lubricant spray may be used to assist removal/installation of isolators. DO NOT use a petroleum based lubricant on the isolators, as damage to the rubber material can occur.

- 5. Remove support isolators from muffler/resonator assembly supports.
- 6. Remove muffler/resonator pipe as an assembly.



Fig. 7: Identifying Catalytic Converter - 2.0/2.4L

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Courtesy of CHRYSLER LLC

1 - OXYGEN SENSOR ELECTRICAL CONNECTOR

2 - FLANGE NUTS

3 - CATALYTIC CONVERTER - 2.0/2.4L

- 7. Disconnect oxygen sensor connector (1).
- 8. Remove flange nuts at exhaust manifold.
- 9. Remove catalytic converter from vehicle (3).
- 10. Remove and discard gasket.

REMOVAL-FRONT-2.7L



Fig. 8: View Of Front Catalytic Converter - 2.7L Courtesy of CHRYSLER LLC 8090e990

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1 - STUD	
2 - CATALYTIC CONVERTER	
3 - GASKET	
4 - HEAT SHIELD	
5 - NUT	

WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

- 1. Disconnect negative battery cable.
- 2. Disconnect upstream oxygen sensor connector.
- 3. Remove 3 converter attaching nuts that are visible from the engine compartment.
- 4. Raise vehicle on hoist.
- 5. Remove exhaust cross-under pipe. See **<u>REMOVAL</u>**.
- 6. Remove remaining bolt attaching converter to exhaust manifold.
- 7. Remove catalytic converter.
- 8. Remove and discard gasket.

REMOVAL-3.5L

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Fig. 9: View Of Muffler/Resonator Assembly - 3.5L Courtesy of CHRYSLER LLC

1 - ISOLATOR
2 - MUFFLER/RESONATOR ASSEMBLY - 3.5L
3 - CATALYTIC CONVERTER
4 - BAND CLAMP

WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never work around or attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

- 1. Raise vehicle on hoist and apply penetrating oil to resonator/pipe assembly band clamp (4), and the fasteners that connect the catalytic converter to the exhaust manifold.
- 2. Remove ground strap from muffler.
- 3. Loosen band clamp for resonator/pipe assembly (4).

CAUTION: Do not use any tools to remove the rubber

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isolators, remove by hand only. Soapy water or silicone based lubricant spray may be used to assist removal/installation of isolators. DO NOT use a petroleum based lubricant on the isolators, as damage to the rubber material can occur.



Fig. 10: Identifying Catalytic Converter - 3.5L Courtesy of CHRYSLER LLC

1 - NUT

2 - CATALYTIC CONVERTER

3 - GASKET

4 - CROSS-UNDER PIPE

- 4. Remove support isolators (1) from muffler/resonator assembly supports.
- 5. Remove muffler/resonator pipe (2) as an assembly.
- 6. Remove flange nuts (1) at cross-under pipe (4).
- 7. Remove catalytic converter from vehicle (1).
- 8. Remove and discard gasket (3).

REMOVAL-2.0L DIESEL

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Fig. 11: Identifying Muffler & Resonator Assembly Courtesy of CHRYSLER LLC

- 1 ISOLATOR
- 2 MUFFLER/RESONATOR ASSEMBLY
- 3 CATALYTIC CONVERTER

4 - BAND CLAMP

WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never work around or attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

- 1. Raise and support vehicle. on hoist
- 2. Apply penetrating oil to muffler and resonator assembly band clamp (4), and the fasteners that connect the catalytic converter to the exhaust manifold.
- 3. Remove ground strap from muffler.
- 4. Loosen band clamp for resonator/pipe assembly (4).

CAUTION: Do not use any tools to remove the rubber

isolators, remove by hand only. Soapy water or silicone based lubricant spray may be used to assist removal/installation of isolators. DO NOT use a petroleum based lubricant on the isolators, as damage to the rubber material can occur.

- 5. Remove support isolators from muffler/resonator assembly supports.
- 6. Remove muffler and resonator assembly.



Fig. 12: View Of Catalytic Converter - 2.0L Diesel Courtesy of CHRYSLER LLC

1 - TURBOCHARGER CLAMI	כ
2 - BOLT	
3 - CATALYTIC CONVERTE	2
4 - GASKET	

- 7. Remove turbocharger to catalytic converter clamp (1).
- 8. Remove catalytic converter bracket bolt (2).
- 9. Remove catalytic converter (3).
- 10. Remove and discard gasket (4).

REMOVAL-REAR 2.7L

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Fig. 13: View Of Catalytic Converter - Rear 2.7L Courtesy of CHRYSLER LLC

- 1 NUT
- 2 HEAT SHIELD
- **3 CATALYTIC CONVERTER REAR**
- 4 STUD
- 5 GASKET
 - WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

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- 1. Disconnect negative battery cable.
- 2. Raise vehicle on hoist.
- 3. Remove entire exhaust system from vehicle. See **<u>REMOVAL</u>**.
- 4. Remove exhaust cross-under pipe. See **<u>REMOVAL</u>**.
- 5. Disconnect upstream oxygen sensor.
- 6. Remove nuts attaching converter to exhaust manifold.
- 7. Remove exhaust manifold heat shield.
- 8. Remove catalytic converter.
- 9. Remove and discard gasket.

INSPECTION

INSPECTION

WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

Check catalytic converter for a flow restriction. See **<u>DIAGNOSIS AND</u> <u>TESTING</u>**. Exhaust System Restriction Check for procedure.

Visually inspect the catalytic converter element by using a borescope or equivalent. Remove oxygen sensor(s) and insert borescope. If borescope is not available, remove converter and inspect element using a flashlight. Inspect element for cracked or melted substrate.

NOTE: Before replacing a catalytic converter, determine the root cause of failure. Most catalytic converter failures are caused by air, fuel or ignition problems. Refer to Appropriate Diagnostic Information for test procedures.

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INSTALLATION

INSTALLATION-3.5L



Fig. 14: Identifying Catalytic Converter - 3.5L Courtesy of CHRYSLER LLC

1	-	Ν	U	Т

- 2 CATALYTIC CONVERTER
- 3 GASKET

4 - CROSS-UNDER PIPE

NOTE: Always work from the front to rear of exhaust system when aligning and tightening exhaust system components.

- 1. Clean cross-under to catalytic converter sealing surfaces.
- 2. Position new gasket (3) on cross-under pipe (4).
- 3. Loosely attach catalytic converter to cross-under pipe (4).

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Fig. 15: View Of Muffler/Resonator Assembly - 3.5L Courtesy of CHRYSLER LLC

1 - ISOLATOR
2 - MUFFLER/RESONATOR ASSEMBLY - 3.5L
3 - CATALYTIC CONVERTER
4 - BAND CLAMP

- 4. Loosely install muffler/resonator assembly (2) to catalytic converter (2).
- 5. Install support isolators to muffler supports.
- 6. Align exhaust system to maintain position and proper clearance with underbody parts. All support isolators should have equal load on them. Tighten fasteners attaching catalytic converter to exhaust manifold to 28 N.m (250 in. lbs.).
- 7. Tighten resonator/pipe assembly band clamp (4) to 54 N.m (40 ft. lbs.).
- 8. Connect ground strap to muffler.
- 9. Lower vehicle.
- 10. Start the engine and inspect for exhaust leaks. Repair exhaust leaks as necessary.
- 11. Check the exhaust system for contact with the body panels. Make the necessary adjustments, if needed.

INSTALLATION-FRONT-2.7L

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Fig. 16: View Of Front Catalytic Converter - 2.7L Courtesy of CHRYSLER LLC

- 1 STUD
- 2 CATALYTIC CONVERTER
- 3 GASKET
- 4 HEAT SHIELD
- 5 NUT
 - 1. Clean manifold to converter sealing surfaces.
 - 2. Position new gasket on converter inlet flange.
 - 3. Ensure exhaust manifold heat shield is in position, and loosely install converter with lower attaching bolt to exhaust manifold.
 - 4. Lower vehicle.

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- 5. Install 3 nuts attaching converter to manifold. Tighten nuts to 28 N.m (250 in. lbs.).
- 6. Reconnect upstream oxygen sensor.
- 7. Raise vehicle.
- 8. Tighten remaining attaching bolt to 28 N.m (250 in. lbs.).
- 9. Install cross-under pipe. See **INSTALLATION**.
- 10. Lower vehicle.
- 11. Connect negative battery cable.
- 12. Start the engine and inspect for exhaust leaks. Repair exhaust leaks as necessary.
- 13. Check the exhaust system for contact with the body panels. Make the necessary adjustments, if needed.

INSTALLATION-REAR-2.7L



Fig. 17: View Of Catalytic Converter - Rear 2.7L

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Courtesy of CHRYSLER LLC

1 - NUT

- 2 HEAT SHIELD
- 3 CATALYTIC CONVERTER REAR

4 - STUD

- 5 GASKET
 - 1. Clean manifold to converter sealing surfaces.
 - 2. Position new gasket on converter inlet flange.
 - 3. Install converter to exhaust manifold.
- 4. Install exhaust manifold heat shield into position.
- 5. Install nuts attaching converter to manifold. Tighten nuts to 28 N.m (250 in. lbs.).
- 6. Connect upstream oxygen sensor.
- 7. Install cross-under pipe. See **INSTALLATION**.
- 8. Install exhaust system on vehicle. See **INSTALLATION**.
- 9. Lower vehicle.
- 10. Connect negative battery cable.
- 11. Start the engine and inspect for exhaust leaks. Repair exhaust leaks as necessary.
- 12. Check the exhaust system for contact with the body panels. Make the necessary adjustments, if needed.

CATALYTIC CONVERTER - INSTALLATION - 2.0L/2.4L

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Fig. 18: Identifying Catalytic Converter - 2.0/2.4L Courtesy of CHRYSLER LLC

- 1 OXYGEN SENSOR ELECTRICAL CONNECTOR
- 2 FLANGE NUTS

3 - CATALYTIC CONVERTER - 2.0/2.4L

NOTE: Always work from the front to rear of exhaust system when aligning and tightening exhaust system components.

- 1. Clean manifold to converter sealing surfaces.
- 2. Position new gasket on exhaust manifold.

NOTE: If catalytic converter is being replaced, transfer downstream oxygen sensor to new converter.

3. Loosely attach catalytic converter to exhaust manifold.

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Fig. 19: Identifying Muffler & Resonator Assembly Courtesy of CHRYSLER LLC

1 - ISOLATOR
2 - MUFFLER/RESONATOR ASSEMBLY
3 - CATALYTIC CONVERTER
4 - BAND CLAMP

- 4. Loosely install resonator/pipe and muffler/pipe assembly to catalytic converter outlet pipe.
- 5. Install support isolators to muffler supports.
- 6. Align exhaust system to maintain position and proper clearance with underbody parts. All support isolators should have equal load on them. Tighten fasteners attaching catalytic converter to exhaust manifold to 28 N.m (250 in. lbs.).
- 7. Tighten resonator/pipe assembly band clamp to 54 N.m (40 ft. lbs.).
- 8. Connect ground strap to muffler.
- 9. Lower vehicle.
- 10. Start the engine and inspect for exhaust leaks. Repair exhaust leaks as necessary.
- 11. Check the exhaust system for contact with the body panels. Make the necessary adjustments, if needed.

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INSTALLATION-2.0L DIESEL



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Fig. 20: View Of Catalytic Converter - 2.0L Diesel Courtesy of CHRYSLER LLC

- 1 TURBOCHARGER CLAMP
- 2 BOLT

3 - CATALYTIC CONVERTER

4 - GASKET

NOTE: Always work from the front to rear of exhaust system when aligning and tightening exhaust system components.

- 1. Clean cross-under to catalytic converter sealing surfaces.
- 2. Position new gasket (4) turbocharger clamp (1) on Catalytic converter (3).
- 3. Loosely attach catalytic converter to Turbocharger.
- 4. Install catalytic converter mounting bolt (2)

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Fig. 21: Identifying Muffler & Resonator Assembly **Courtesy of CHRYSLER LLC**

1 - ISOLATOR
2 - MUFFLER/RESONATOR ASSEMBLY
3 - CATALYTIC CONVERTER
4 - BAND CLAMP

- 5. Loosely install muffler/resonator assembly (2) to catalytic converter (3).
- 6. Install support isolators to muffler supports.
- 7. Align exhaust system to maintain position and proper clearance with underbody parts. All support isolators should have equal load on them.
- 8. Tighten turbocharger clamp to 28 N.m (250 in. lbs.). Tighten resonator/pipe assembly band clamp (4) to 54 N.m (40 ft. lbs.). Tighten catalytic converter bolt to 54 N.m (40 ft. lbs.).
- 9. Connect ground strap to muffler.
- 10. Lower vehicle.
- 11. Start the engine and inspect for exhaust leaks. Repair exhaust leaks as necessary.
- 12. Check the exhaust system for contact with the body panels. Make the necessary adjustments, if needed.

PIPE-CROSS-UNDER

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REMOVAL

CROSS-UNDER PIPE-REMOVAL-2.7L



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Fig. 22: Identifying Cross-Under Pipe Courtesy of CHRYSLER LLC

- 1 EXHAUST MANIFOLD REAR
- 2 CATALYTIC CONVERTER ATTACHING STUD
- 3 NUTS PIPE-TO-REAR CONVERTER
- 4 CROSS-UNDER PIPE
- 5 BOLT PIPE-TO-FRONT CONVERTER
- 6 NUT PIPE-TO-FRONT CONVERTER
- 7 EXHAUST MANIFOLD FRONT
- 8 GASKET PIPE-TO-CONVERTER

WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working

near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

- 1. Raise vehicle on hoist.
- 2. Disconnect downstream oxygen sensor connectors.
- 3. Remove oil pan to transmission structural collar. Refer to **REMOVAL**.
- 4. Disconnect exhaust system pipe from cross-under pipe.
- 5. Remove fasteners attaching cross-under pipe to catalytic converters.
- 6. Remove cross-under pipe.

INSTALLATION

CROSS-UNDER PIPE - INSTALLATION - 2.7L



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Fig. 23: View Of Cross-Under Pipe Courtesy of CHRYSLER LLC

1 - EXHAUST MANIFOLD - REAR 2 - CATALYTIC CONVERTER ATTACHING STUD

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- 3 NUTS PIPE-TO-REAR CONVERTER
- 4 CROSS-UNDER PIPE
- 5 BOLT PIPE-TO-FRONT CONVERTER
- 6 NUT PIPE-TO-FRONT CONVERTER
- 7 EXHAUST MANIFOLD FRONT
- 8 GASKET PIPE-TO-CONVERTER
 - 1. Install new gasket to lower part of rear catalytic converter. If installing new cross-under pipe, transfer oxygen sensors to new pipe.
 - 2. Loosely install cross-under pipe to catalytic converters. Snug nuts up equally using hand pressure.
 - 3. Tighten 2 nuts for cross-under pipe to rear catalytic converter to 28 N.m (250 in. lbs.).
 - 4. Tighten 2 nuts for cross-under pipe to front catalytic converter to 28 N.m (250 in. lbs.).
 - 5. Connect exhaust system pipe to cross-under pipe. Tighten attaching fasteners to 28 N.m (250 in. lbs.)
 - 6. Install oil pan to transmission structural collar. Refer to **INSTALLATION** .
 - 7. Reconnect downstream oxygen sensor connectors.
 - 8. Lower vehicle.
 - 9. Start the engine and inspect for exhaust leaks. Repair exhaust leaks as necessary.
- 10. Check the exhaust system for contact with the body panels. Make the necessary adjustments, if needed.

PIPE-EXHAUST-CROSS-UNDER PIPE TO RESONATOR PIPE - 2.7L

REMOVAL

EXHAUST PIPE - CROSS-UNDER PIPE TO RESONATOR PIPE - 2.7L

2007 ENGINE Exhaust System - Sebring



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Fig. 24: Identifying Cross-Under Pipe Courtesy of CHRYSLER LLC

- 1 EXHAUST MANIFOLD REAR
- 2 CATALYTIC CONVERTER ATTACHING STUD
- 3 NUTS PIPE-TO-REAR CONVERTER
- 4 CROSS-UNDER PIPE
- 5 BOLT PIPE-TO-FRONT CONVERTER
- 6 NUT PIPE-TO-FRONT CONVERTER
- 7 EXHAUST MANIFOLD FRONT
- 8 GASKET PIPE-TO-CONVERTER

WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.

- 1. Raise vehicle on hoist and apply penetrating oil to resonator/pipe assembly band clamp, and the fasteners that connect the exhaust system to the cross-under pipe.
- 2. Remove ground strap from muffler.
- 3. Loosen band clamp for resonator/pipe assembly.

CAUTION: Do not use any tools to remove the rubber isolators-remove by hand only. Soapy water or silicone-based lubricant spray may be used to assist removal/installation of isolators. DO NOT use a petroleum-based lubricant on the isolators, as damage to the rubber material can occur.

- 4. Remove support isolators from muffler supports.
- 5. Remove resonator/pipe and muffler/pipe as an assembly.
- 6. Remove fasteners that attach exhaust pipe to cross-under pipe.
- 7. Remove exhaust pipe.

INSTALLATION

EXHAUST PIPE - CROSS-UNDER PIPE TO RESONATOR PIPE - 2.7L

2007 ENGINE Exhaust System - Sebring



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Fig. 25: Identifying Cross-Under Pipe Courtesy of CHRYSLER LLC

- 1 EXHAUST MANIFOLD REAR
- 2 CATALYTIC CONVERTER ATTACHING STUD
- 3 NUTS PIPE-TO-REAR CONVERTER
- 4 CROSS-UNDER PIPE
- 5 BOLT PIPE-TO-FRONT CONVERTER
- 6 NUT PIPE-TO-FRONT CONVERTER
- 7 EXHAUST MANIFOLD FRONT
- 8 GASKET PIPE-TO-CONVERTER

NOTE: Always work from the front to rear of exhaust system when aligning and tightening exhaust system components.

- 1. Loosely attach exhaust pipe to cross-under pipe.
- 2. Loosely install resonator/pipe and muffler/pipe assembly to exhaust pipe.
- 3. Install support isolators to muffler supports.
- 4. Align exhaust pipe and resonator/muffler pipe assembly to maintain position

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and proper clearance with underbody parts. All support isolators should have equal load on them. Tighten fasteners attaching exhaust pipe to cross-under pipe to 28 N.m (250 in. lbs.).

- 5. Tighten resonator/pipe assembly band clamp to 54 N.m (40 ft. lbs.).
- 6. Connect ground strap to muffler.
- 7. Lower vehicle.
- 8. Start the engine and inspect for exhaust leaks. Repair exhaust leaks as necessary.
- 9. Check the exhaust system for contact with the body panels. Make the necessary adjustments, if needed.

MUFFLER

REMOVAL

MUFFLER-REMOVAL



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Fig. 26: Identifying Muffler & Resonator Assembly Courtesy of CHRYSLER LLC

- 1 ISOLATOR
- 2 MUFFLER/RESONATOR ASSEMBLY
- **3 CATALYTIC CONVERTER**
- 4 BAND CLAMP

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- WARNING: The normal operating temperature of the exhaust system is very high. Therefore, never attempt to service any part of the exhaust system until it is cooled. Special care should be taken when working near the catalytic converter. The temperature of the converter rises to a high level after a short period of engine operation time.
- NOTE: Band clamps are spot welded to exhaust system. If a band clamp must be replaced, the spot weld must be ground off the exhaust pipe.
- NOTE: When replacement is required on any component of the exhaust system, it is most important that original equipment parts (or their equivalent) be used.
 - 1. Raise vehicle on hoist and apply penetrating oil to band clamp (4).
 - 2. Remove ground strap from muffler.
- 3. Loosen band clamp (4).

CAUTION: Do not use any tools to remove the rubber isolators-remove by hand only. Soapy water or silicone based lubricant spray may be used to assist removal/installation of isolators. DO NOT use a petroleum based lubricant on the isolators, as damage to the rubber material can occur.

- 4. Remove support isolators (1) from muffler supports.
- 5. Remove the one muffler/resonator assembly (2).

INSTALLATION

MUFFLER-INSTALLATION

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Fig. 27: Identifying Muffler & Resonator Assembly Courtesy of CHRYSLER LLC

- 1 ISOLATOR
- 2 MUFFLER/RESONATOR ASSEMBLY
- **3 CATALYTIC CONVERTER**

4 - BAND CLAMP

NOTE: Always work from the front to rear of exhaust system when aligning and tightening exhaust system components.

- 1. Position muffler and resonator assembly onto catalytic converter pipe.
- 2. Install support isolators (1).
- 3. Align muffler and resonator assembly to maintain position and proper clearance with underbody parts. All support isolators should have equal load on them. Tighten band clamp (4) to 54 N.m (40 ft. lbs.).
- 4. Connect ground strap to muffler.
- 5. Lower vehicle.
- 6. Start the engine and inspect for exhaust leaks. Repair exhaust leaks as necessary.
- 7. Check the exhaust system for contact with the body panels. Make the necessary adjustments, if needed.

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RESONATOR

REMOVAL

REMOVAL

For removal of the resonator. See **<u>REMOVAL</u>**.

INSTALLATION

INSTALLATION

For installation of the resonator. See **INSTALLATION**.

SHIELDS-HEAT

DESCRIPTION

DESCRIPTION

The exhaust system heat shields are attached to the under body of the vehicle.

OPERATION

OPERATION

Heat shields are needed to protect both the vehicle and the environment from the high temperatures developed near the catalytic converter.

Avoid application of rust prevention compounds or undercoating materials to exhaust system floor pan heat shields on vehicles so equipped. Light over spray near the edges is permitted. Application of coating will greatly reduce the efficiency of the heat shields resulting in excessive floor pan temperatures and objectionable fumes.