



1990 Eclipse

# TECH TALK

Volume 191, November, 2012

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## Vehicle Technical Info

NOTE: The ✓ mark is used as a reminder, to indicate an article that has been repeated from a previous issue of Tech Talk.

### GROUP 00-General

#### ADJUSTING TORQUE VALUES WHEN USING A CROW'S FOOT — All Models.

Because a crow's foot extends the total length of a torque wrench and changes the pivot position of the wrench's drive, you must calculate a new torque value when using these tools together. The change in overall wrench length results in a lower torque reading. To compensate for this change, use the following formula:

$$\text{TorqueToSet} = \frac{\text{DesiredTorque}}{(1 + L2/L1)}$$

L1 is the length of the wrench from the center of the torque wrench drive to the middle of the handle and L2 is the distance from the center of the fastener position to the center of the torque wrench drive.

You can also use the Torque Wrench Adaptor Calculator tool located on the MDL under "service" > "Service Tech Resources" > "Service Related Items" > "Technician's Calculators/Tools." Fill in Crow's Foot Adaptor Length, Wrench Length and the Desired Torque, then click the Calculate button.

See the "Tips from the Toolman" article on page 6 of this issue for additional information.

#### ✓ VEHICLE RECEIVING INSPECTION - ROAD SALT CONTAMINATION — All models.

Winter weather brings challenges to the new vehicle receiving and inspection process. Snow and ice can coat vehicles, making inspection difficult. Road salt can also coat vehicle surfaces and hide dents, paint chips and other damages. A thorough inspection should be completed.

Road salt coatings that occur during transportation must be removed immediately, especially from the underhood and under body areas. Immediately rinsing the affected areas with clear water helps flush salt from the surface, and reduces the possibility of severe corrosion. This also allows proper vehicle inspection and reporting of any transportation damage hidden by the salt coating. Any hidden damage must be found, and the delivering carrier notified, within 48 hours of vehicle receipt in order to protect your ability to file a transportation claim.

If the salt coating is not removed immediately, significant surface corrosion may develop on unpainted underhood and under body components. These surfaces may normally exhibit light surface corrosion, but if the salt coating is not removed immediately, significant surface corrosion may appear. The under body parts normally develop a dark colored surface coating after some usage, but if salt is not removed from the under body, a rusty, orange-colored surface corrosion can develop. Under hood alloy components may also be affected and develop a white, crusty coating. Rinsing of vehicles at delivery reduces the chance of corrosion getting to advanced stages, and is considered to be a part of the normal inspection and receiving process.

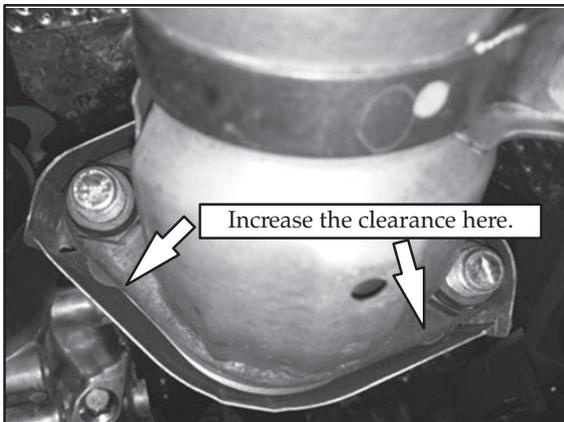
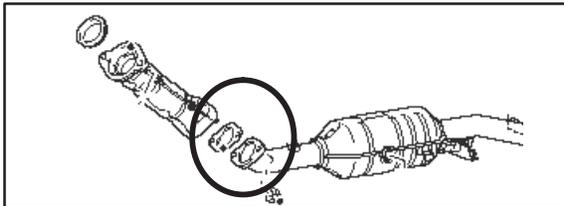
The removal of corrosion caused by accumulated and/or un-rinsed road salt or salt coatings because the vehicle was not properly rinsed is not a warrantable expense.

### GROUP 15-Intake and Exhaust

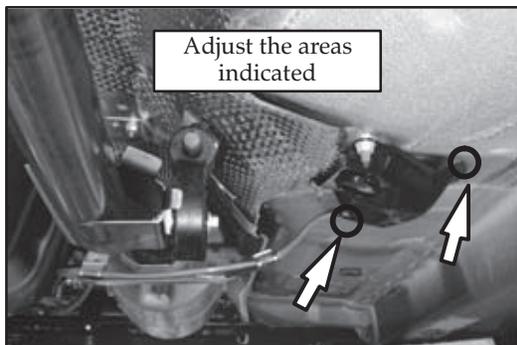
#### VIBRATING/BUZZ NOISE FROM UNDER THE VEHICLE FROM 2500-3000 RPM - 2013

*Outlander Sport/RVR.* When diagnosing a buzzing noise from under the vehicle, the source could be either of the following locations:

If the noise occurs around 2500 rpm, while driving or in Park, inspect the exhaust gasket between the front pipe and catalytic converter. It's possible that a front pipe heat shield is contacting the the exhaust gasket tabs. The noise can typically be recreated with the vehicle in Park for easy confirmation. To resolve this condition, increase the clearance between the heat shield and the tabs using a long screw driver or appropriate pry bar. Retest to confirm the repair.



The second source of noise usually occurs around 3,000 rpm. The source may be insufficient clearance between the black metal shield protecting the rear O2 sensor wiring harness and the floorboard. Carefully apply downward pressure to adjust the clearance of the forward and outboard sections of the protector to 9–15 mm. Retest to confirm the repair. Take care that you don't damage the shield while adjusting the clearance.



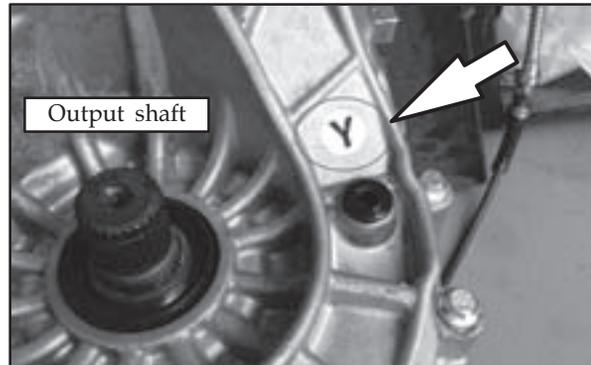

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## **GROUP 22–Manual Transmission**

**TC-SST AXLE SEAL OIL LEAK** — 2008–13 Lancer Evolution, 2009–13 Lancer, Lancer Sportback with TC-SST. A production change has enlarged the left (driver's side) output shaft opening in the transmission case and a new, larger seal is used. When replacing the seal, first identify if you need a small (early) or large (late) seal. Look for a "Y" sticker on the case at the LH axle location.



CAPS lists both seal types and identifies the new, larger seal with "Y sticker" in the "Note" column. Transmissions with the sticker use the new seal (p/n 2509A007), and vehicles without the sticker use the original seal (p/n 2509A003). If you are replacing both sides, use the seal kit, (p/n 2509A015 "Y sticker," or p/n 2509A010 no sticker).

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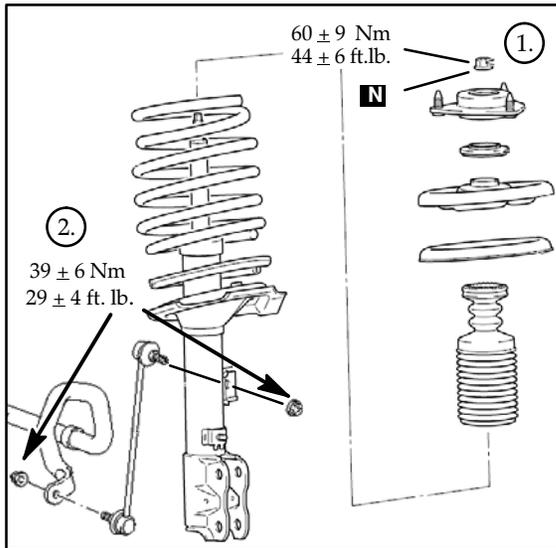
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## **GROUP 33–Front Suspension**

**FRONT SUSPENSION NOISE/KNOCK OVER BUMPS** — 2013 Outlander Sport/RVR. If a customer reports a noise from the front suspension when driving over bumps, it may be caused by either or both of the following conditions:

1. *Vehicles built before VIN DE005681, Sept. 24, 2012.* Make sure the nut securing the top of the strut shaft to the strut insulator is torqued to specification (see following illustration). If the strut shaft can move in the insulator it may cause the knock.
2. *Vehicles built before Sept. 21, 2012.* Insure the nuts securing the front stabilizer link to the stabilizer bar and the strut assembly are properly torqued (see following illustration). To torque the nut to spec, (39 ± 6 Nm, 29 ± 4 ft. lb) use a 5 mm hex wrench to hold the ball joint stud while torquing the nut using a 14mm crow's foot on your torque wrench. Refer to the "Tips from the Toolman" article

on page 6 for information on calculating the correct torque reading when using a crow's foot.




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## **GROUP 35—Brakes**

**STOP LIGHT SWITCH ADJUSTMENT** — 2013 Outlander Sport/RVR. The following clarifies the stop light switch adjustment procedure (Group 35A Basic Brake > On-Vehicle Service > Brake Pedal Height Check, step 7). The switch is inserted into the retainer and rotated approximately ¼ of a turn clockwise to lock it in position. Use the following procedure when adjusting the stop light switch:

1. Hold the brake pedal in the “up” position.
2. Insert the “D” shaped switch into the retaining clip (with the flat side of the switch at approx. 8 o’clock) until it bottoms against the brake pedal. Do not apply excessive pressure.
3. Rotate the switch clockwise approx. ¼ of a turn to lock it in place.
4. Confirm the stop lights do not illuminate with the brake pedal in the released position.
5. Use a feeler gauge to confirm the gap between the switch body and the brake pedal is 0.5 - 1.5 mm (0.020” - 0.060”).

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## **GROUP 42A—Body**

**TPMS SENSOR REGISTRATION** — 2013 Outlander Sport/RVR with the rubber valve stem. Affected vehicles are equipped with a new

“snap-fit” TPMS sensor, allowing you to replace only the valve assembly if it becomes damaged or leaks. When replacing the sensor, it is not necessary to activate it (turn it on), but it must be registered to the vehicle. To register it, connect your MUT-III to the data link connector and chose “System Select” from the main page and enter the vehicle information. Select “FAST/Immo/Keyless/ TPMS” and click the correct system from the “Loading Option Setup” menu. Refer to page 161 of the Advanced Electronics Service Procedures (AESP) self study guide and begin the registration procedure at step 65. If you no longer have the guide, it can be downloaded from the MDL (service > Tech Training > AESP > Course Guide).

**FAST KEY REGISTRATION & SECURITY ID REGISTRATION DOWNLOAD FOR CANADA DEALERS** — 2011-13 Outlander Sport/RVR with OSS. Dealers in Canada no longer have to contact Techline to have a vehicle’s security ID registration file emailed to them if a customer loses both keys. They can now download the required files directly from the MDL and contact the MEDIC Hotline for assistance if they have problems downloading the file. Refer to TSB-10-42A-005 or the Advanced Electronics Service Procedures (AESP) course on the MDL. Click “service” > “Tech Training” for details on performing security ID registration. Canada dealers who are French-only speakers must still contact Techline in Canada (888-806-4878) if they have problems downloading the file.

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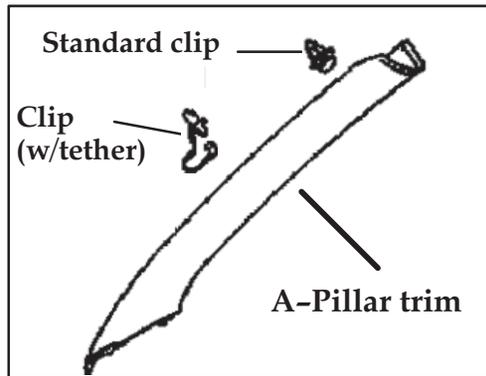
## **GROUP 52A – Interior**

**A-PILLAR TRIM LOOSE** — 2013 Outlander Sport/RVR. If you see the top of the left or right A-pillar trim loose, inspect the retaining clips for misalignment or damage. Replace them as necessary using service manual procedures. Please submit a PQR if you see this condition on vehicles built after September 28, 2012.



**IMPORTANT** - There are two different clip types used and they are location specific. The clip with the tether is positioned in the middle of

the trim. Use only the specified clip at this location. Refer to the following illustration for details.



## **GROUP 52B – SRS**

**TIN-12-52B-001: NHTSA PRESS RELEASE ON COUNTERFEIT AIRBAGS** — All with SRS. The subject TIN was sent to all dealers, on October 10, 2012. It is available for review on the MDL in the "TSB List - 2012." It states:

### **PURPOSE**

In response to a press release by the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) that was issued earlier today, your dealership may start receiving questions regarding counterfeit airbags. MMNA has instructed NHTSA to have concerned customers contact our Customer Relations Department at 1-888-648-7820 with any questions they may have regarding counterfeit airbags.

If a customer contacts you and is the original owner of the vehicle and is certain that the airbags have not been replaced, or if the airbags were replaced under warranty using original Mitsubishi parts, you can assure them the airbags provided with their vehicle from Mitsubishi are not counterfeit. They are carefully designed, tested and manufactured to comply with all applicable Federal Motor Vehicle Safety Standards and are an important part of the safety system provided with the vehicle.

### **IDENTIFYING COUNTERFEIT AIRBAGS**

The U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) has stated that counterfeit airbags look nearly identical to the certified, original equipment parts. Accordingly, an inspection of the airbag is typically not sufficient to determine whether a part is or is not counterfeit.

Significant design and engineering goes into Mitsubishi airbag components. The electrical connectors, the type of inflator used, the speed of inflation, the inflation pressure, the shape of the airbag, the volume of the airbag, and the material used for the airbag are just a few of the many important design, engineering and manufacturing specifications that go in to every Genuine Mitsubishi airbag. These items cannot be verified by a visual inspection.

Removal and inspection of airbag modules is possible, but is also time consuming and expensive. That inspection is typically not sufficient to determine conclusively whether a component is or is not a Genuine Mitsubishi part. If a customer wishes to proceed with such an inspection, please make sure they understand the limitations of such an inspection and that the removal and inspection will be at the owner's expense.

Finally, a review of the serial numbers on the airbags is also not sufficient to determine conclusively whether a component is or is not a Genuine Mitsubishi part. Mitsubishi Motors is able to confirm the serial number of an airbag module that came originally equipped on a vehicle. For replacement airbag modules, however, we are only able to identify whether or not a serial number is valid. This generally is not helpful in spotting counterfeit replacement airbags because the counterfeit airbags apparently use valid serial numbers taken from Genuine Mitsubishi parts. The only scenario where a replacement airbag module is guaranteed to be authentic is if it was replaced by a certified Mitsubishi dealer using Genuine Mitsubishi replacement parts.

### **VEHICLES AT RISK**

The U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) has stated that only vehicles that have had their airbags replaced within the past three years are potentially at risk.

If the vehicle was previously involved in a crash that resulted in deployment of the airbags, please inform the customer that Mitsubishi Motors cannot determine if the replacement airbags installed in their vehicle by the repair facility were or were not Genuine Mitsubishi replacement parts. If they have any question or concern about their airbags and whether Genuine Mitsubishi replacement parts or counterfeit airbags were used, they should contact the repair facility that installed those airbags and/or the insurance company, if any, that covered those repairs.

If they are the subsequent owner of a vehicle that was previously involved in a crash requiring replacement of the airbags, and if they have some concern that those airbags may be counterfeit, they should contact the company from which they purchased that car. In the event of a private party sale, they should contact the prior owner and/or repair facility. If they purchased their replacement airbags online through an auction site or website, they should contact that seller to determine the origin of the part.



**GROUP 54–Chassis Electrical**

✓ AUDIO CONTROL KNOB FUNCTIONS REVERSED - REVISED — 2011-12 Galant with standard radio (non-Navi). When the battery is replaced on affected vehicles or if battery voltage drops significantly, the audio volume knob and tuning knob functions may become reversed (volume on right, tuning on left). If you see a vehicle with this condition, and the radio is within the warranty period, replace it with an updated unit through the audio exchange program. If replacement of the unit is no longer warrantable, the condition can be corrected by disconnecting the IOD for approximately 90 minutes. When the IOD is reconnected, proper function should be restored. If the symptom is still present, repeat the procedure, but allow more time before reconnecting the IOD.

✓ RESETTING THE BLUETOOTH SECURITY LOCKOUT PASSCODE - CORRECTED —



2010-12 Outlander, 2011-12 Outlander Sport/RVR, 2011-12 Lancer-based vehicles. The handsfree module allows you to lock out a specific phone to prevent unauthorized use. If a customer is unable to use their phone because they forgot the 4 digit security lock passcode, use the following instructions to reset it (Note: this should not be confused with the pairing passcode).

**For vehicles with MMCS Navigation:**

- Key on. Turn the navigation unit on.
- Press and hold the “NAVI” & “Set” buttons for at least 3.5 seconds.
- From the “SERVICE” screen, choose “Hands Free Module.”
- Press “UNLOCK.”

**For vehicles without MMCS Navigation:**

Corrected steps are italicized.

1. Ignition “ON,” audio “OFF”
2. Press the following buttons in order:
  - a. Preset 1
  - b. *The seek down (<<) button*
  - c. *The seek up (>>) button*
  - d. Preset 4
3. “HFM DIAG” appears in the audio display
  - a. Press the “DISP” button. “UNLOCK” is displayed.
  - b. HFM DIAG is displayed after 3 seconds.
  - c. Turn the ignition “OFF”

<p><b>MEDIC Information</b> <b>MEDIC Hotline (800) 846-7575</b></p>	<p>Call the MEDIC Hotline for <u>ALL MEDIC &amp; Scan Tool hardware or software issues</u>. Call TECHLINE for vehicle technical issues. As of 10/23/12: Total Hits - 5956 Reflash Database - N12061 MEDIC 3 Version - 3.2                      MEDIC 3 Update - 151 MUT-III Version - 27.0                      Raider Scan Tool Version - 6.0</p>
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**2012 MEDIC HOTLINE HOLIDAY HOURS:** The Hotline will close November 22 for Thanksgiving, December 24 (afternoon) & 25 for Christmas, and January 1, 2013, New Year’s Day.



<p><b>TECHLINE</b> <b>(800) 446-6064</b></p>		<p><b>HOURS:</b> <b>Monday — Friday</b> <b>6:30 - 11:30 am &amp; 12:30 - 3:30 pm</b> <b>All times are Pacific Time</b></p> <p><b>NOTE: Techline is closed every THURSDAY from 9:30 - 10:30 A.M (Pacific) for a staff meeting.</b></p>
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**2012 TECHLINE HOLIDAY HOURS:** Techline will be open the following days with reduced staff. November 23, December 24, and December 26-31. Regular schedule resumes January 2, 2013.

## Tips From the Toolman

### USING A CROW'S FOOT WITH A TORQUE WRENCH

When using a torque wrench with a crow's foot, the torque applied to the fastener will not be accurate unless you compensate for the change in overall wrench length. Because the total length of the tool has increased (L1 + L2, below) and the point torque is applied from the wrench to the fastener has moved (L2, below), the reading on the torque wrench will be incorrect unless you compensate for L2.

- L1 is measured from the center of the handle to the center of the torque wrench drive.
- L2 is measured from the center of the fastener head to the center of the torque wrench drive.

An easy way to find the compensated torque value is using the new Torque Wrench Adaptor Calculator located on the MDL. From the Main Page, select:

“service”

“Service Tech Resources”

“Service Related Items”

“Technician’s Calculators/Tools.”

Insert the correct values in boxes 1, 2 & 3, then click Calculate.

Using a calculator, a compensated torque value can be calculated with either of the following formulas:

$$\text{TorqueToSet} = \frac{\text{DesiredTorque}}{1 + (L2/L1)} \quad \text{OR} \quad \rightarrow \quad C1 = (L2 / L1) + 1$$

$$\text{TorqueToSet} = \text{Desired Torque} / C1$$

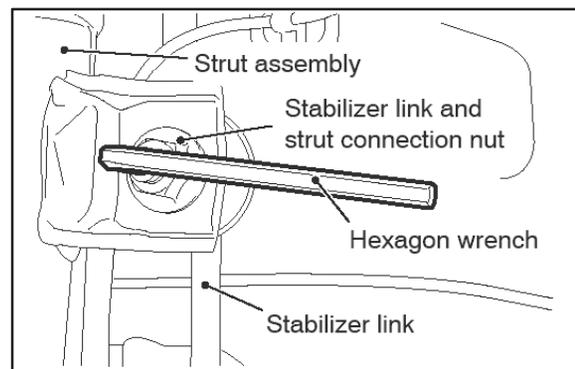
#### EXAMPLE: 2013 Outlander Sport Front Stabilizer Link and Strut Connection Nut

The link and strut connection nut must be torqued to 29 ft. lbs.

The stabilizer link pivot stud must be held with a hex wrench to prevent it turning during tightening (see illustration, right).

Because a socket cannot be used, a crow's foot is used with a torque wrench to torque the nut (not shown). However, if torqued to a reading of 29 ft. lbs, over-torquing occurs.

Instead, L1 and L2 (shown above) must be measured and TorqueToSet must be calculated.



The DesiredTorque = 29 ft. lbs.

In this example, L1 = 12" and L2 = 2"

$$\text{TorqueToSet} = \frac{29}{1 + (2/12)} = 25 \text{ ft lb} \quad \text{OR} \quad C1 = (2 / 12) + 1 = 1.17$$

$$\text{TorqueToSet} = 29 / 1.17 = 25 \text{ ft. Lbs.}$$

To properly torque the nut to the specified 29 ft lbs, the observed reading on the torque wrench must be 25 ft. lb. Results may vary depending on the length of your crow's foot and torque wrench.

**Note:** To achieve accurate results, you must place your hand on the center of the torque wrench handle. Also, ensure the torque wrench and crow's foot remain in line, as in the above figure.

# Training News

## Technical Training Schedule November - December, 2012

Mobile Training does not appear on these calendars. Contact your District Parts & Service Manager for information about mobile training in your area.

### East Zone - N.J. Tech Training Center

November						December					
M	T	W	Th	F		M	T	W	Th	F	
29	30	31	1	2		3	4	5	6	7	
MED2 & ES2 scheduled for this week are canceled.							STV3			ES2	
5	6	7	8	9		10	11	12	13	14	
	ES3		ES3								
12	13	14	15	16		17	18	19	20	21	
							MEVTT		ES3		
19	20	21	22	23		24	25	26	27	28	
			H	H		H	H	H	H	H	
26	27	28	29	30		31	1	2	3	4	
		EN1				H	H				

### East Zone - Atlanta Tech Training Center

November						December					
M	T	W	Th	F		M	T	W	Th	F	
29	30	31	1	2		3	4	5	6	7	
5	6	7	8	9		10	11	12	13	14	
12	13	14	15	16		17	18	19	20	21	
							SP3		EN1		
19	20	21	22	23		24	25	26	27	28	
			H	H		H	H	H	H	H	
26	27	28	29	30		31	1	2	3	4	
						H	H				

### West Zone-Dallas Tech Training Center

November						December					
M	T	W	Th	F		M	T	W	Th	F	
29	30	31	1	2		3	4	5	6	7	
		MFIT2					AT3		EN1		
			STV3	MED2							
5	6	7	8	9		10	11	12	13	14	
						STV3	MED2		ES2		
12	13	14	15	16		17	18	19	20	21	
							MEVTT		ES3		
19	20	21	22	23		24	25	26	27	28	
		AT2T	AACT1			H	H	H	H	H	
		ABS2	CVTT								
		ES3				31	1	2	3	4	
		STV3	MED2			H	H				
26	27	28	29	30							
		SP3									
			AED								
			MTT								

### California Technical Training Center

November						December					
M	T	W	Th	F		M	T	W	Th	F	
29	30	31	1	2		3	4	5	6	7	
5	6	7	8	9		10	11	12	13	14	
12	13	14	15	16		17	18	19	20	21	
19	20	21	22	23		24	25	26	27	28	
26	27	28	29	30		31	1	2	3	4	
						H	H				

Course Description	Days	Code	Prerequisites	Course Description	Days	Code	Prerequisites
<b>Automatic Transaxles</b>				<b>Heating &amp; A/C Systems</b>			
40/50 Series Diagnosis & Repair	3	AT2	ATF	Manual A/C Systems	2	MAC	
50 Series 5-speed Diagnosis & Repair	1	AT3	AT2	Automatic A/C Systems	1	AAC	ES1
CVT Diagnosis & Repair	2	AT4	AT3	<b>Manual Transaxles</b>			
<b>Brakes</b>				Manual Transaxles & Transfer Cases	3	MTT	
Antilock Brakes	2	ABS	ES1	<b>Vehicle Specific</b>			
<b>Electrical Systems</b>				Eclipse Spyder Convertible Top (Top Stack)	1	SP3	
Electrical Systems 1	3	ES1		Mitsubishi Electric Vehicle Technician Training	2	MEVTT	AESP, ES1, ES2, STV, MED2, MED3, 120, 121
Electrical Systems 2	3	ES2	ES1	<b>Vehicle Diagnostics</b>			
<b>Engine Performance</b>				Advanced Electronic Service Procedures	-	AESP	
Advanced Emission Diagnosis	3	AED	ES1, STV, MFI	MEDIC II	1	MED	
Engine Technology & Diagnosis	3	EN1		Scan Tool Viewer (MUT III)	1	STV	
Multipoint Fuel Injection	4	MFI	ES1, STV, MFI				

#### NEWS:

- The new 2013 PDI Detail and Technical quizzes (PDI13D, PDI13T) are available on [mitsubishiacademy.com](http://mitsubishiacademy.com). Review TSB-12-00-018 and log on to complete the quizzes.

#### REMINDER:

- Requirements for 2013 DiamondPro certification must be met by December 31, 2012. If you haven't completed them yet, start making plans to attend missing classes and taking required tests and quarterly quizzes. All 2012 quizzes (TQ0112, TQ0212, TQ0312 and TQ0412) are available now, Don't wait until the last minute, and then try to take them all.

# Bulletin Review

The following information was recently released:

Number	Title	Vehicles	Subject
TSB-12-00-019	Recommended Lubricants and Capacities Table-SMR	2007-12 Outlander, 2012 Lancer ES, 2011-12 Outlander Sport	Adds oil fill capacity for new 5 bolt transfer case.
TSB-12-13-004	Fuel Pump & Fuel Leveling Valve Torque Specifications-SMR	2004-11 Endeavor, 2004-12 Galant, 2006-12 Eclipse/Eclipse Spyder	Adds missing torque specs for mounting fuel pump ass'y and fuel leveling valve.
TSB-12-16-002	Alternator Heat Protector Installation	2004-12 Galant	Advises technicians to add heat shield when replacing the alternator.
TSB-12-23-002	A/T Fluid Cooler Line Removal & Installation - SMR	2010-12 Outlander	Updates pre-removal instructions with correct part description.
TSB-12-35-002	ABS/ASC Steering Wheel Sensor-SMR	2007-12 Outlander, 2008-11 Lancer Evolution, 2010-12 Lancer, Lancer Sportback, 2011-12 Outlander Sport, 2008-12 Eclipse/Eclipse Spyder, 2010-12 Galant, 2004-11 Endeavor	Advises steering wheel sensor has been changed. Adds a caution to not rotate the new sensor during installation.
TSB-12-42A-003	Removal and Installation of Front Fender - SMR	2013 Lancer Evolution	Adds washers to fender bolts.
TSB-12-52B-002	Occupant Classification Sensor- SMR	2012 i-MiEV	Updates RFIS acronym to correct definition (Rear Facing Infant Seat).
TSB-12-54-013	Interior Light Delay Time	2012 i-MiEV	Provides correct initial setting of 30 seconds for delayed shutdown
TSB-12-54-014	DTC P0AA1, P0AA4, P0AE2, P1A15, P1A16, P1A17, P1A26, & P1AF2 - SMR	2012 i-MiEV	Revises troubleshooting procedures for subject DTCs. NOTE: TSB shows new information only.
TSB-12-55-006	HVAC Mode Door Pop/Click Noise: 2013 Outlander Sport/RVR	2013 Outlander Sport	Provides instructions to properly seat an HVAC vent duct clip to eliminate a pop or click noise.
SC-12-002	I-MiEV CMU Reprogramming - Service Campaign	2012 i-MiEV	Advises that all i-MiEV owners will be contacted to bring the vehicle to a certified i-MiEV dealer. Provides instructions to reprogram the CMU on all i-MiEVs.

