



Preliminary Information

PIC5903B Spark EV Chevrolet Volt Opel Ampera Models With Or Without Service Vehicle Soon Lamp - SVS - or Check Engine Lamp On With DTC P0534 Set Current Or History

Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Chevrolet	Volt	2011 - 2014	All	All	All	All
Chevrolet	Spark EV	2014	All	All	All	All
Opel	Ampera	2012 - 2014	All	All	All	All

Supersession Statement

This PI was superseded to update Instructions and format. Please discard PIC5903A.

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

Condition / Concern

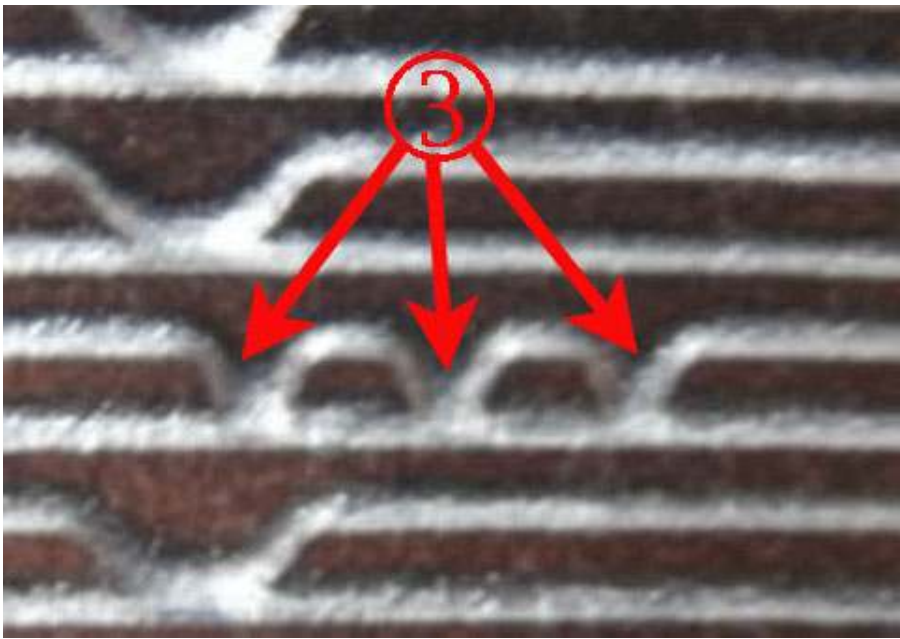
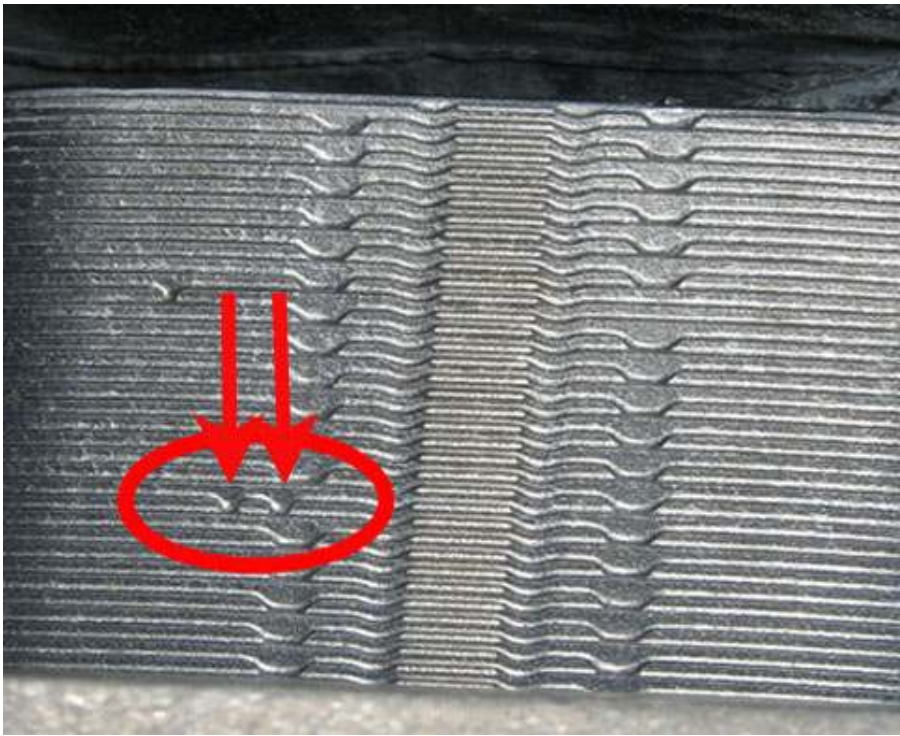
A customer may comment that the Service Vehicle Soon Lamp (SVS) or Check Engine Lamp is on. On Spark EV the yellow indicator resembles an outline of a car with an exclamation mark that is located on the upper left side of the IPC.
Volt and Ampera models may display the Check Engine Lamp.
DTC P0534 may be set as current or history in either case.

Recommendations / Instructions

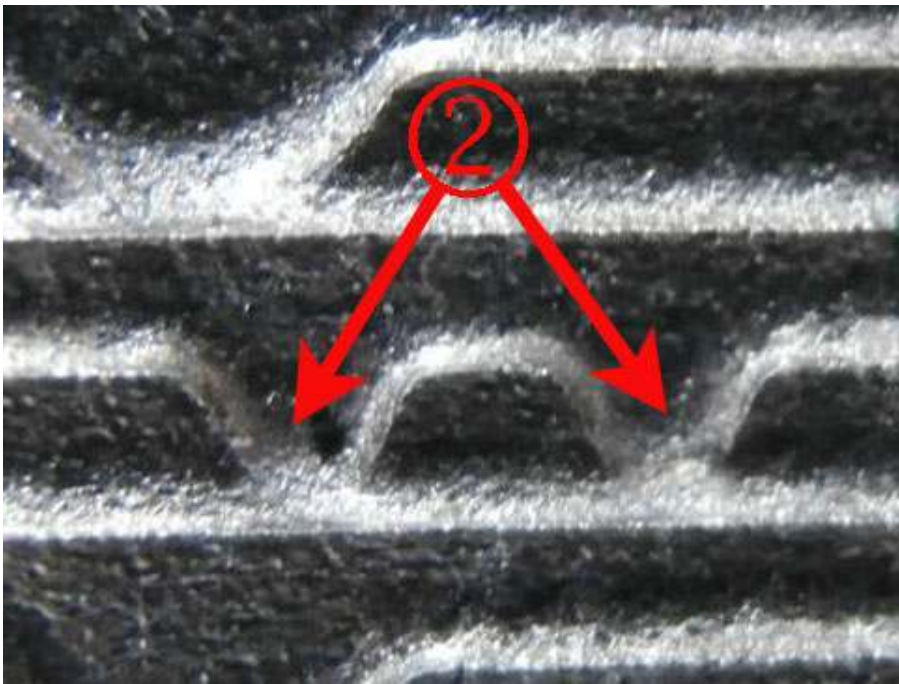
PRELIMINARY INSPECTION - ALL MODELS

1. Using GDS2 Select the Vehicle Wide DTC Check with Module information. DO NOT CLEAR ANY DTCs!
 2. Capture any Freeze Frame data in a GDS2 Session Log. Review the Freeze Frame and Failure Record data.
- IMPORTANT: DO NOT** remove the Rechargeable Energy Storage System (RESS) Cooler unless the vehicle falls within the date range listed or if the RESS Cooler has already been replaced.
1. If the Freeze Frame / Failure Record data shows that the P0534 set during Active Cooling, check to see if the vehicle build date is between 1/15/2013 and 9/15/2013. If it is on or between these dates, inspect the RESS Cooler.
 2. The RESS Cooler passes inspection if the RESS Cooler has two notches. If there are three notches, replace the RESS Cooler. (see photos below).
 3. If the vehicle build does not fall within the suspect date range, continue to operate the vehicle with GDS2 connected.
 4. Refer to SI diagnostics for P0534 or the Air Conditioning A/C System Performance Test and proceed with the following steps for each model listed below.
- A. Shown below is a picture of the RESS Cooler from the Spark EV. The black insulator cover can be easily pulled back to inspect the Cooler Plate notches without removal.

For Volt and Ampera models the inspection remains the same once the RESS Cooler has been removed from the vehicle.



3 Notches equals replace cooler.



2 Notches equals DO NOT replace cooler.

VOLT AND AMPERA MODELS

1. Follow the Preliminary Inspection before proceeding.
2. If Freeze Frame / Failure Record data for P0534 shows Air Conditioner Compressor Speed (ACCM) greater than 800 RPM and Low Side Refrigerant Pressure above 100 kPa, then check the Hybrid Processor Control Module 2 (HPCM2) has the latest software. If so, proceed to Step 3. If not, update the Hybrid Powertrain Control Module 2 (HPCM2) software. (2011 -2013 Volt Models Only. Refer to PIC5769A)
3. Using GDS2 select “Diagnostics”, choose the Vehicle and then select Module Diagnostics / Hybrid Powertrain Control Module 2 (HPCM2) / Data Display / HVAC System Data.
4. If the A/C System operates, turn on the A/C temperature to maximum cold, high blower speed and monitor the High and Low Side Refrigerant Pressures with the ACCM on.
5. If the vehicle resets P0534, follow published SI Diagnostics for the P0534 and the Air Conditioning A/C System Performance Test as required.
6. If both the High and Low Side Refrigerant Pressures are found to be low per the Air Conditioning A/C System Performance Test in SI, connect the Refrigerant Recovery/Recharge A/C machine and check the Refrigerant level. The Refrigerant level recovered should be a minimum of 800 grams. (A full charge for Volt and Ampera models is 950g). If it is not within specification, check for a Refrigerant loss per SI Diagnostics.

SPARK EV

1. Follow the Preliminary Inspection before proceeding.
2. If the Chiller passed the Preliminary Inspection shown above, connect the GE 50300 Refrigerant Recovery/Recharge A/C machine and check the R1234yf Refrigerant level.
3. Note if the machine indicates there are any faults and print all results.
4. Was the R1234yf Refrigerant level recovered at least 500g? (A full charge for LHD Models is 575g). If so, proceed to Step 5. If not, check for a Refrigerant loss per SI Diagnostics.
5. Using GDS2 check the K33 Remote Heater and Air Conditioning Module (ECC) software. If the software is not 13591955 or newer, update the K33 Remote Heater and Air Conditioning Module (ECC) software.

ALL MODELS:

In any case if you are uncertain on how to proceed, contact the General Motors Technical Assistance Center (TAC) in the United States @ 877-446-8227 or in Canada 800-263-7740 (English)

Warranty Information

For vehicles repaired under the EV coverage, use the following labor operation. Reference the Applicable Warranties section of Investigate Vehicle History (IVH) for coverage information.

Labor Operation	Description	Labor Time
4417169	A/C System Analysis (Base) *	0.3 hr
4029929	GDS2 Diagnostic Time	0.2 hr
2810015	K33 HVAC System Control Module (ECC) Reprogramming with SPS	0.3 hr
2810265	K114B Hybrid Powertrain Control Module 2 Reprogramming with SPS	0.4 hr
5020450	Drive Motor Battery Coolant Cooler Replacement	See Published Labor Time
Add	To Recover and Recharge A/C System	0.2 hr

Add	RESS Cooler Inspection (Spark EV only)	0.1 hr
* Note: Use this labor code for A/C System Leak Diagnostic checks when using the Recovery /Recharge equipment and if no leaks were found or performance is normal.		

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.



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