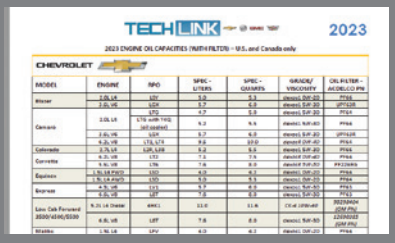
TECH LINK

October 2022, Volume 24, No. 19

Incorrect Tire Size

MAY LEAD TO DAMAGED FUEL PUMP HARNESS



New 2023 Engine Oil Capacities Chart Now Available

see page 3

Fluid Leak at the Rear of the Transmission

see page 4

Incorrect Tire Size

May Lead to Damaged Fuel Pump Harness

An extended engine crank or reduced engine power condition may be the result of incorrect tires mounted on some 2016-2023 Camaro SS, Camaro SS 1LE (RPO A1Y); 2017-2023 Camaro ZL1; and 2018-2023 Camaro ZL1 1LE (RPO A1Z) models.

Camaro ZL1

If these conditions are present, inspect the left-rear wheelhouse liner for a rub-through condition caused by the installation of larger, incorrect tires. These conditions may be difficult to diagnose, so it's important to check the tires installed on the vehicle. Some customers may have installed larger, aftermarket tires.

Inspect the left-rear wheelhouse liner.

The oversized tires may damage the body-to-fuel pump harness and the chassis module-to-fuel pump connector X350. In addition, the damaged harness may cause an intermittent short during heavy acceleration and the F35RA fuse may be blown in the rear fuse block.

If the concern is caused by a rub-through condition and the vehicle is not equipped with the original equipment (OE) tires, advise the customer of the importance to use the same tire size and manufacturer with which the vehicle was originally equipped. Damage caused by incorrect, oversized tries is not covered by the New Vehicle Limited Warranty.

Damaged body-to-fuel pump harness

TIP: When checking the tires, always check the tire manufacturer too. The same tire size, but from a different manufacturer, could result in a difference of up to 10 mm in actual tire size.

If the engine performance concerns are caused by a rub-through condition at the left-rear wheelhouse liner, yet the vehicle is equipped with the OE tires, repair the harness and submit a field product report. Be sure to include photos and tire information in the report.

For additional information, including OE tire information for Camaro SS and ZL1 models, refer to Bulletin #20-NA-104.

▶ Thanks to Kurtis Hoezee

New 2023 Engine Oil Capacities Chart Now Available

TECHLINK 2023

2023 ENGINE OIL CAPACITIES (WITH FILTER) – U.S. and Canada only

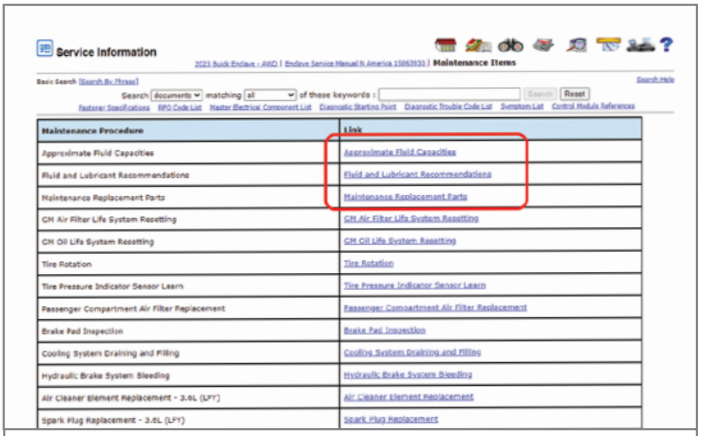
CHEVROLET

MODEL	ENGINE	RPO	SPEC - LITERS	SPEC - QUARTS	GRADE/ VISCOSITY	OIL FILTER - ACDELCO PN
Blazer	2.0L L4	LSY	5.0	5.3	dexos1 0W-20	PF66
	3.6L V6	LGX	5.7	6.0	dexos1 5W-30	UPF63R
Camaro	2.0L L4	LTG	4.7	5.0	dexos1 5W-30	PF64
		LTG with Y4Q (oil cooler)	5.2	5.5	dexos1 5W-30	PF64
	3.6L V6	LGX	5.7	6.0	dexos1 5W-30	UPF63R
	6.2L V8	LT1, LT4	9.5	10.0	*dexosR 0W-40*	PF64
Colorado	2.7L L4	L2R, L3B	5.2	5.5	dexos1 5W-30	PF66
Corvette	6.2L V8	LT2	7.1	7.5	*dexosR 0W-40*	PF64
	5.5L V8	LT6	7.6	8.0	*dexosR 5W-50*	PF2269G
Equinox	1.5L L4 FWD	LSD	4.0	4.2	dexos1 0W-20	PF64
	1.5L L4 AWD	LSD	5.0	5.3	dexos1 0W-20	PF64
Express	4.3L V6	LV1	5.7	6.0	dexos1 5W-30	PF63
	6.6L V8	L8T	7.6	8.0	dexos1 5W-30	PF63
Low Cab Forward	5.2L L4 Diesel	4HK1	11.0	11.6	*CK-4 10W-40*	*98298404 (GM PN)*

The new TechLink 2023MY Engine Oil Capacities chart is now available under the Reference Charts menu. The chart includes engine, RPO, specifications (liters and quarts), oil viscosity and engine oil filter specs for 2023 Chevrolet, Buick, GMC and Cadillac models.

For additional information on the appropriate engine oil and oil filter for a particular engine application, refer to the appropriate Service Information. Under the Maintenance Items link at the top of the Service Category Type page, the Approximate Fluid Capacities, Fluid and Lubricant Recommendations, and Maintenance Replacement Parts sections provide fluid and filter specifications. There also is a link for the Oil Life System Resetting procedure.

The Maintenance Items link also provides quick access to a variety of other maintenance information.



Maintenance items link in Service Information.

More information also can be found in the Owner's Manual, available from the Vehicle Publication page in Service Information.

▶ **Thanks to Tracy Flood and John Kopec**

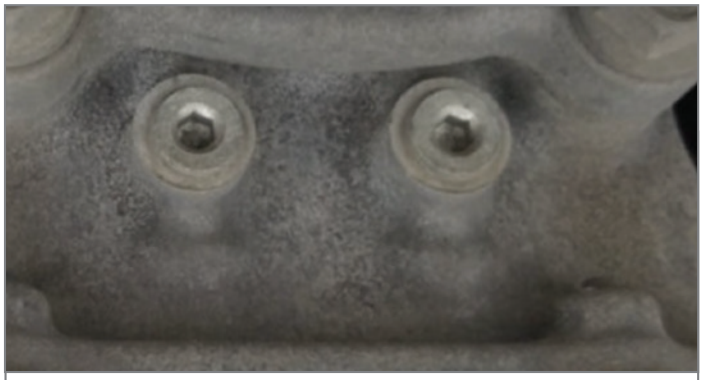
Fluid Leak at the Rear of the Transmission

A transmission fluid leak may be seen on some 2022 Silverado, Tahoe, Suburban, Sierra, Yukon and Escalade models equipped with the 10L80 10-speed automatic transmission (RPO MHS, MHT, MQB, MQC). One or more of the rear case plugs on the transmission may be leaking.

Inspect the rear of the transmission for evidence of transmission fluid at the case plugs. To help confirm the leak source is the case plug, use a light looking from the right side of the transmission between the transmission crossmember and the transmission case.

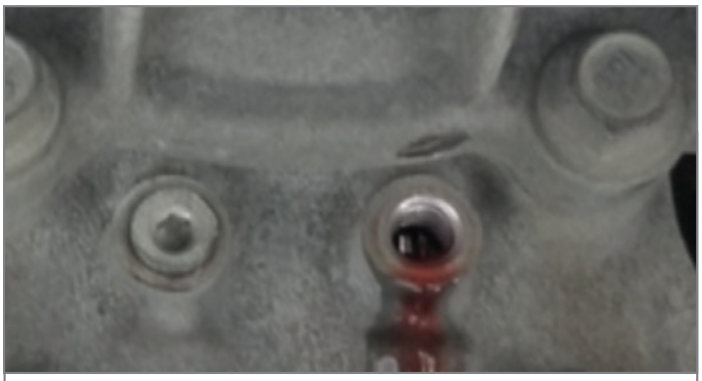
Rear case plugs on the transmission (4WD shown)

If one or both case plugs are found to be leaking, remove the transmission crossmember support and mount to gain access to the plugs (4WD shown). Only replace a plug if it is leaking. Refer to the appropriate Service Information for the complete service procedure.



Rear case plugs

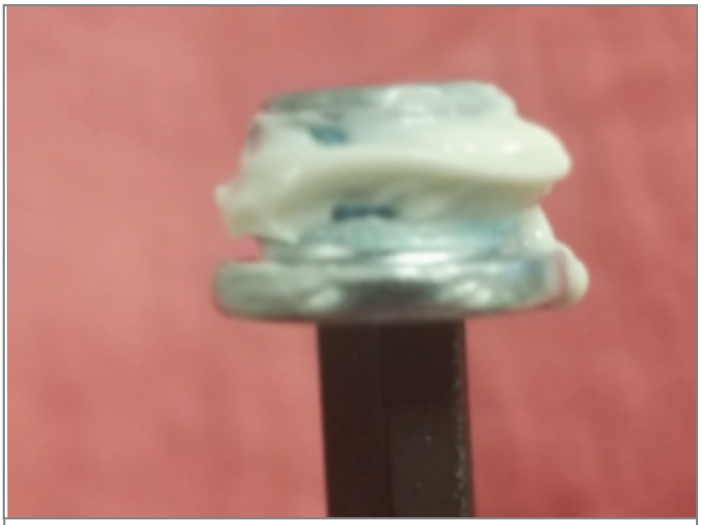
Remove and discard a leaking plug and then clean the threaded hole of any residual oil with a clean, lint-free shop towel.



Remove and discard a leaking plug.

TIP: Not all of the residual oil will be removed in the cleaning process. Do not use brake clean-type solvents to clean the threaded plug hole.

Before installing a new plug, apply a small bead of ACDelco thread sealant. Install the new plug and torque to 11 lb.-ft. Clean around the plug.



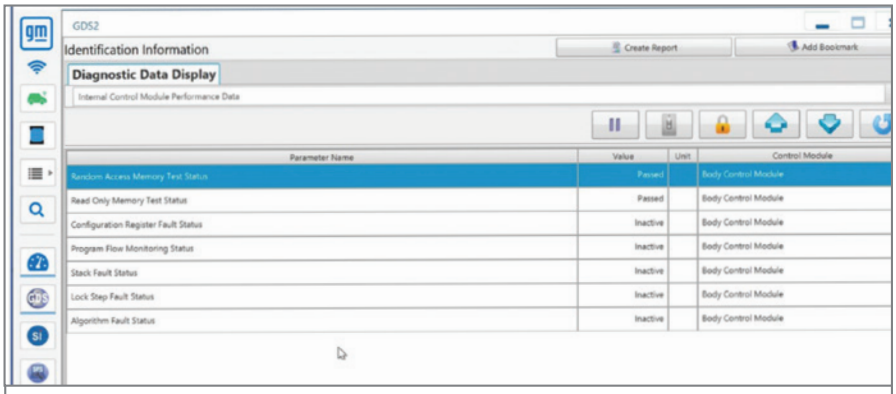
Apply ACDelco thread sealant to new plug.

CONTINUED ON PAGE 5

Body Control Module Malfunction DTC

Some 2020-2023 CT4, CT5, Corvette; 2021-2023 Envision, Escalade, Tahoe, Suburban, Yukon; and 2022 Silverado 1500 and Sierra 1500 models may have DTC P0606 (Control Module Processor Performance) set in the Body Control Module (BCM) along with an illuminated Check Engine MIL. There also may be performance concerns with the HVAC and lighting systems as well as several Driver Information Center messages displayed.

These conditions may be due to the BCM software or an incorrect BCM Program Flow Monitoring Status parameter. DTC P0606 will set if there is an internal malfunction or system programming malfunction in the BCM.



Check the Program Flow Monitoring Status parameter using GDS2.

To review the parameters using GDS2, select the following path: Module Diagnostics > Body Control Module > Identification Information > Internal Control Module Performance Data. If the Program Flow Monitoring Status parameter is "active" and all other parameters are "inactive," update the BCM with the latest calibration using SPS.

After programming the BCM, or if the BCM was up to date, review the Program Flow Monitoring Status parameter again.

Program Flow Monitoring Status after BCM programming:

- If the Program Flow Monitoring Status parameter is still listed as "active" and all other parameters are listed as "inactive," clear all codes. No other repairs are necessary. DTC P0606 may remain in the BCM. Do not replace the BCM. Additional information from GM Engineering will be released when available.
- If the Program Flow Monitoring Status parameter and all other parameters are listed as "inactive," clear any codes. Repairs are complete.
- If the Program Flow Monitoring Status reads "active" or "inactive" while any other parameters read "active," follow the diagnostic procedures for DTC P0606 in the appropriate Service Information.

Refer to #PIT5946 for additional information.

▶ **Thanks to Paul Radzwilowicz**

FLUID LEAK, CONT.

Clean the area around the new plug and check the transmission fluid level.

Complete repairs by reinstalling the transmission crossmember and then checking the transmission fluid level. Add transmission fluid ULV if needed following the procedure in Service Information. For additional information and part numbers, refer to #PIP5872.

▶ **Thanks to Tom Ellison and Mark Gordon**

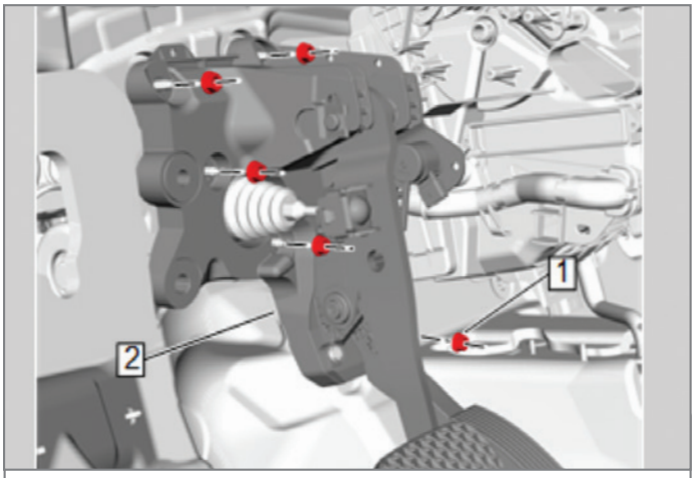
Brake Pedal Play May Affect Cruise Control Operation

Excessive brake pedal free play may cause the cruise control to not set or resume after braking on some 2022 Encore GX and Trailblazer models. It may be necessary to pull up on the brake pedal to engage cruise control. These conditions may be intermittent and cruise control operation may return to normal after the vehicle is turned off and restarted.

If the brake pedal moves rearward during acceleration, it may cause an inaccurate Learned Release Position in the Engine Control Module (ECM) and the ECM Brake Pedal Position Sensor will show a value of 6% pedal travel or greater. As a result, the parameter for Cruise Control Inhibit Reason will show Brake Pedal Applied, causing cruise control to be disabled.

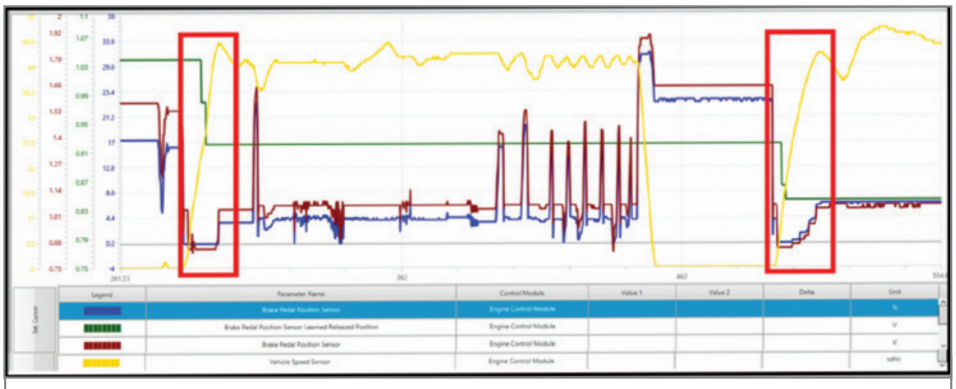
The brake pedal may move rearward during acceleration.

To verify the brake pedal concern, monitor the Brake Pedal Position Sensor (BPPS) Learned Released Position and the Brake Pedal Position Sensor parameters in GDS 2 during a test drive with cruise control engaged. The data, found under ECM > Data Display > Automatic Transmission, shows the ECM is constantly learning. During acceleration, if there is movement in the brake pedal, the ECM will relearn the new, incorrect values that indicate the brake pedal is applied.



Brake and accelerator pedal assembly

While performing a test drive, accelerate several times from 0-50 MPH. In the GDS 2 data, while the vehicle is accelerating (yellow line), the Brake Pedal Position Sensor (red line) will drop to a lower value than the normal release position, which causes a corresponding drop in the BPPS Learned Released Position (green line) value. The ECM will show some percentage of travel greater than zero when traveling at a steady speed with the pedal released (blue line). Under these circumstances, the parameter for Cruise Control Inhibit Reason will show Brake Pedal Applied.



Vehicle Speed Sensor (yellow line), Brake Pedal Position Sensor (red line), BPPS Learned Released Position (green line) and Brake Pedal Position Sensor (blue line)

If these conditions are found, the brake and accelerator pedal assembly should be replaced.

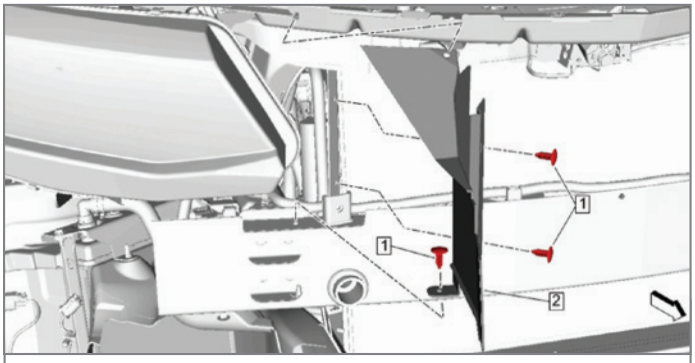
For more details, including additional information about the GDS 2 parameters, a video of the brake pedal movement and related part numbers, refer to Bulletin #22-NA-097.

Thanks to Frank Jakubiec

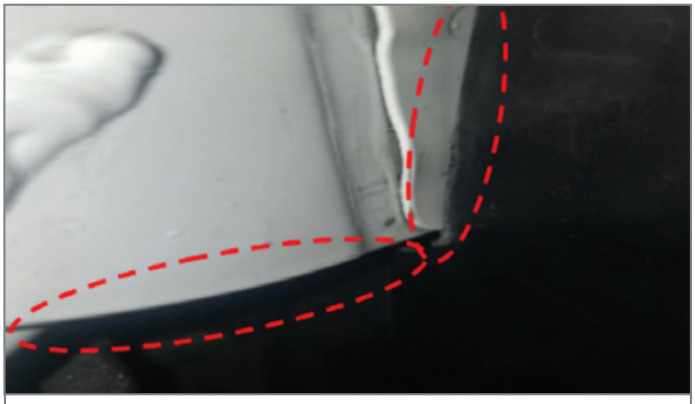
Radiator Air Baffle Squeak Sound

A squeak sound may be heard coming from the front of the vehicle on some 2019-2023 Camaro models equipped with the 2.0L I4 turbo engine (RPO LTG) or the 3.6L V6 engine (RPO LGX). The sound emanates from the passenger's side of the vehicle while driving over bumps. It also may be more noticeable once the engine has reached normal operating temperature.

The squeak sound on these engines may be caused by the radiator air baffle on the right side of the vehicle contacting the core support.



Radiator air side baffle



The radiator air baffle may be contacting the core support in two areas.

If this sound is heard, verify that the radiator air baffle is rubbing on the core support. There are two common areas where contact may occur. If there is contact, material should be trimmed from the air baffle in order to create more clearance between the baffle and the core support.

CONTINUED ON PAGE 8

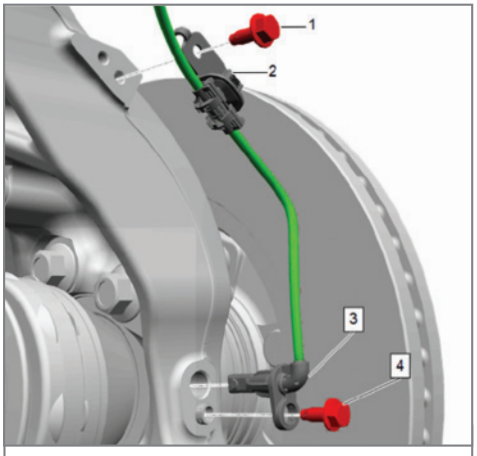
DTCs Set After Wheel Speed Sensor Replacement

The right and left front wheel speed sensors on 2019-2023 Silverado and Sierra trucks look very similar. When replacing a front wheel speed sensor, be sure to verify the correct wheel speed sensor part number before installation.

Incorrectly installed sensors will not properly sense the magnetic encoder ring located on the wheel bearing assemblies. As a result, a right front wheel speed sensor cannot be installed on the left side of the vehicle, or vice versa.

An incorrect wheel speed sensor may result in a number of DTCs setting, including wheel speed sensor correlation DTCs C0505, C050B, C0511, C0517 and wheel speed sensor circuit DTCs C0501, C0502, C0503, C0504, C0507, C0508, C0509, C050D, C050E, C050F, C0510, C0513, C0514, C0515, C0516 and/or C050A.

Installation of the wrong sensor also may lead to the unnecessary replacement of several other parts, such as the brake system control module, wheel bearings, other wheel speed sensors, pigtail connectors, etc.



Front wheel speed sensor (#3) shown on the left side of the vehicle.

CONTINUED ON PAGE 8

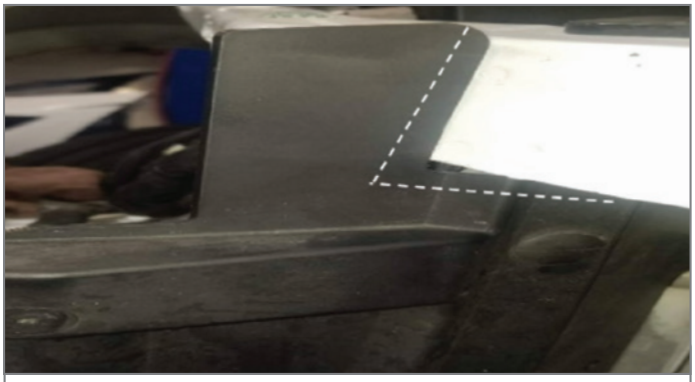
RADIATOR AIR BAFFLE, CONT.

After removing the right-side radiator air side baffle, measure inboard and mark the horizontal and vertical edges as noted in Bulletin #22-NA-178.

Once measurements have been made, cut along the marked lines to modify the shape of the air baffle. Reinstall the radiator air side baffle and make sure there is proper clearance between the air baffle and the radiator core support.

Refer to Bulletin #22-NA-178 for additional information.

Thanks to Kurtis Hoezee



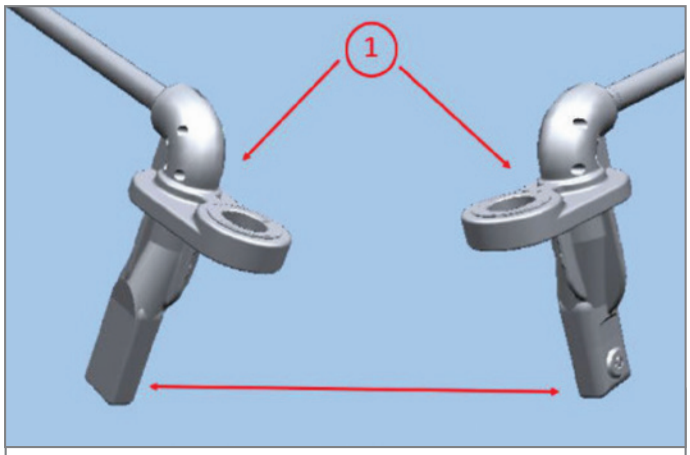
Modify the air baffle to eliminate contact with the core support.

DTCS SET, CONT.

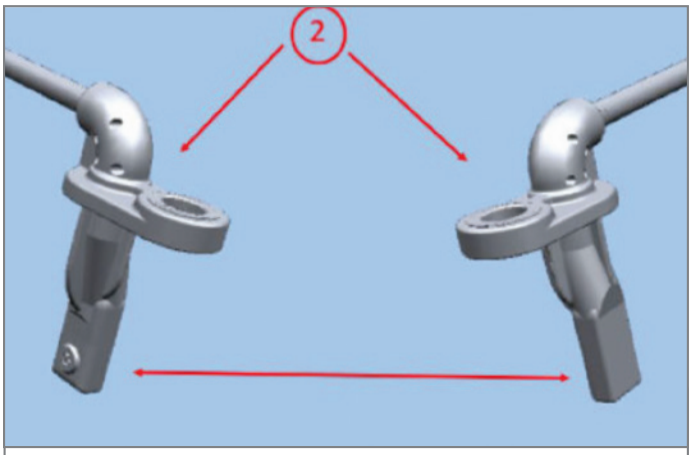
If a front wheel speed sensor is replaced and a wheel speed sensor DTC sets for the same side, check that the correct part number for the front wheel speed sensor has been installed. With the correct wheel speed sensor installed, the flat side of the sensor tip will be orientated towards the wheel bearing magnetic encoder ring.

Refer to #PIT5950 for additional information.

Thanks to Jim Will



Right front wheel speed sensor (#1)



Left front wheel speed sensor (#2)

TECH LINK

GM TechLink is published for all GM retail technicians and service consultants to provide timely information to help increase knowledge about GM products and improve the performance of the service department.

Publisher:
Ravishankar Bommanahally
GM Customer Care and Aftersales

Editor:
Lisa G. Scott
GM Customer Care and Aftersales

Technical Editor:
Mark Spencer
mspencer@gpstrategies.com

Production Manager:
Marie Meredith

Creative Design:
5by5 Design LLC
dkelly@5by5dzign.com

Write to:
TechLink
PO Box 500, Troy, MI 48007-0500

GM TechLink on the Web:
GM GlobalConnect