TECH LINK

Mid-August 2020, Volume 22, No. 16

GE-52250 PowerSmoke Diagnostic Leak Detector

SHIPPING NOW AS ESSENTIAL TOOL

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GE-52250 PowerSmoke Diagnostic Leak Detector

SHIPPING NOW AS ESSENTIAL TOOL

The GE-52250 PowerSmoke Diagnostic Leak Detector, now an essential tool shipping to all dealerships, can be used to help find induction and exhaust system leaks on 2010-2020 GM models equipped with a turbocharged engine. Leaks in the induction system on turbocharged engines can set a number of DTCs and result in reduced engine power.

Shipments of the GE-52250 PowerSmoke Diagnostic Leak Detector have begun to all U.S. and Canadian dealerships. The tool also will remain in the Loan Tool Program for U.S. dealerships that need to use the tool but have not yet received their shipment.

TOOL OPERATION

To locate the leaks, the GE-52250 tool introduces compressed air and smoke into the system without disassembling a number of components, saving time and reducing the chance of missing a faulty connection. The tool is similar to the EVAP smoke machine, but produces up to 60 times the volume of pressure and smoke.

TIP: Due to the high pressure output produced by the GE-52250 tool, it should not be used to diagnose EVAP system leaks.

On the control panel of the GE-52250 tool, there is a flow control knob that allows the desired air pressure, with or without smoke, to flow through the hose to the vehicle being tested. The tool has a System Pressure gauge, Flow meter, Power indicator, Vapor Test switch, Air Only Test switch, Reset switch, Adjustable Pressure Regulator, and a Test Pressure gauge.

The tool also features a number of multiple adapters, which include several with inflatable bladders that allow one or both ends of the system to be sealed off. The adapters also have a connection point that enables smoke to be injected into the system. The 12 volt, Halogen inspection lamp has a yellow tint to help illuminate the escaping smoke, making it easier to pinpoint leaks.

GE-52250 PowerSmoke Diagnostic Leak Detector

The tool is activated by selecting either the Vapor Test or Air Only Test. To adjust the output air pressure, pull the regulator knob outward and then turn the knob clockwise to increase pressure and counterclockwise to reduce pressure. The Service Information suggests that the air pressure regulator be set to 5 PSI. Higher pressure will generate lower smoke density. As the pressure is decreased, smoke density will increase. Press the Vapor Test button once to begin a 10-minute smoke test; press the button again to stop the test.

Refer to #PIP5684 for more information on using the GE-52250 PowerSmoke Diagnostic Leak Detector on turbocharged engines with a possible induction leak.

▶ Thanks to Rob Kennedy

Duramax Diesel Exhaust Isolator No Longer in Production

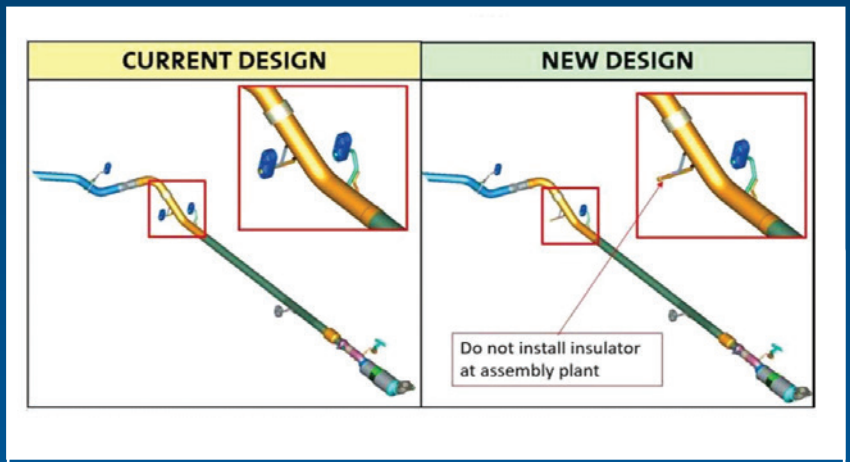
A missing exhaust isolator on 2020 Silverado and Sierra models equipped with the 3.0L Duramax diesel engine (RPO LM2) and the single exhaust system (RPO NB5) should not be installed as part of a warranty claim at the dealership.

The exhaust isolator is no longer installed in order to address a noise concern. However, the exhaust hanger on the frame and the hanger on the exhaust pipe are still in production. The exhaust hanger on the other side of the exhaust pipe near this location is still connected. These changes went into effect at the Fort Wayne assembly plant on June 17, 2020 and are part of the continuous product improvement process. Light-duty trucks with the diesel engine and single exhaust built at the Silao assembly plant have not yet removed the isolator from production.

The exhaust hanger was communicating an exhaust boom due to a structural vibration. Without the isolator connecting the exhaust pipe to the hanger, the boom sound is eliminated. At the same time, it was determined that the hanger is not needed at that location on the exhaust pipe and that durability and the function of the exhaust are unaffected.

If an exhaust isolator is installed on the exhaust pipe and connected to the hanger, the exhaust boom sound may be heard. A warranty claim should not be submitted for installing the exhaust isolator.

Exhaust isolator and exhaust hangers



Previous exhaust design (left) and new exhaust design now in production (right).

TIP: The Electronic Parts Catalog may show the eliminated exhaust hanger on the single exhaust pipe. The catalog is currently being updated to remove the hanger.

▶ Thanks to David MacGillis

FSE Technician

RECOGNITION AWARDS

2ND QUARTER 2020

The Field Service Engineer (FSE) Technician Recognition Awards (U.S.), a new recognition program that celebrates the skill and dedication of dealership technicians who have recently worked with FSE's on challenging repairs, has announced five technicians for recognition for their outstanding performance.

Technicians at GM dealerships in each region — East, Central, and West — are selected each quarter for recognition. The criteria includes a focus on safety, customer satisfaction, personal accountability, training achievements, diagnostic abilities, and the level of repair documentation.

Each recognized technician will receive a Service Excellence magnetic plaque and an Excellence in Service Award certificate.

2ND QUARTER AWARDS

EAST REGION

Technician: Andy Lynch

Dealership: Cronic Chevrolet, Grifflin, Georgia

FSE: Billy Childers

Service Excellence: Andy, who has completed 100% of the required service training in all GM categories, recently had a L5P Duramax diesel setting a Check Engine light for a fuel regulator concern. The condition was intermittent, so it was difficult to diagnose, but Andy would not give up. Just trying to run some diagnostic tests or remove a part for inspection can be tough due to the location of the components on the diesel engine. Andy was more than willing to dive right in on anything that was needed to diagnose the vehicle. Although the vehicle was eventually repurchased and a request was submitted for the vehicle to be shipped to Michigan for an engineering review, Andy came in on a Saturday, his day off, and spent several hours disassembling, testing, adding pressure gauges, pulling the fuel tank, inspecting components, reassembling and test driving the vehicle until he was able to make the repair. Ultimately, the vehicle had multiple high pressure pumps replaced and debris was found circulating through the system that would cause the intermittent concerns. Andy's positive attitude and persistence not only makes him a great technician, but also a great person.

Technician: Sean Rogers

Dealership: Patriot Buick GMC, Boyertown, Pennsylvania

FSE: Brittany Grande

Service Excellence:: Sean took the initiative to go above and beyond to make repairs on a 2017 Acadia that had a total of 13 concerns. Sean was meticulously thorough with his approach and performed extensive diagnostic work on this vehicle. One of the concerns included a popping sound that was very intermittent

CONTINUED ON PAGE 5

during parking lot maneuvers. It was thought to be caused by the suspension. Sean not only addressed each concern with care and the customer in mind, but he also found that the actual cause of the popping sound was due to rust above the fuel tank rubbing on the tank. Sean met this challenge head-on with a positive attitude and successfully got one of our valued customers back on the road.

CENTRAL REGION

Technician: Dan Mclaughlin

Dealership: Gateway Chevrolet Cadillac, Fargo, North Dakota

FSE: Reuben Gosewisch

Service Excellence: Over the years, Dan has worked on several emerging issues on Duramax diesel engines that have led to PIs and diagnostic improvements. Recently, he provided direction on inspecting the L5P Duramax diesel injector connectors prior to injector replacement for misfire/hesitation-type concerns and DTCs, which will reduce the number of injector replacements. Last year, he provided detailed information suggesting cost savings on exhaust/EGR gasket replacement on the L5P engine. An example of the information he has provided is the exhaust aftertreatment and reductant systems diagnostics. We worked on graphing out the exhaust temperatures and NOx sensor data to assist with diagnosis, which led to the creation of several PIs to help with diesel exhaust concerns. Recently, he also helped to verify the proper connections to inspect for aftermarket device connections affecting vehicles with repeat DPF damage from soot accumulation. He has provided many detailed product reports over the years, showing his commitment to providing constructive feedback for improving our products. He is one of the first technicians I go to for information on current diesel issues that are happening in the field.

Technician: Greg Brinlee

Dealership: Hudiburg Chevrolet, Oklahoma City, Oklahoma

FSE: Jeff Kuhr

Service Excellence: Greg is the type of technician that can be called to provide a solid technical opinion on a repair. We have discussed several cases and having his outside perspective and ability to collect additional data on a known good vehicle is invaluable. He specializes in Duramax engines in the HD and MD trucks, so finding a known good DMAX snapshot is usually an easy task for him. He takes training very seriously and often completes it early. He also informs me on all the Field Product Reports completed at the dealership and contacts me to come and submit or be involved with FPR's when it involves a brand-new vehicle or something that should have immediate attention (safety related). Attention to detail is very important to him, and it makes him passionate about fixing it right the first time.

WEST REGION

Technician: Jerry Ross

Dealership: Thorson Buick GMC, Pasadena, California

FSE: Wade Hanna

Service Excellence: Jerry is a very diligent technician who spends the time to determine the root cause of complicated conditions and takes great interest in finding the problem. When visiting the dealership, he is always willing to help with anything that is needed or required. He is interested in following and learning different paths and thought processes to find the root cause of failures and is eager to learn anything new that may help him in the future. He works great with the other technicians and helps them daily. He will take the time to explain what he is doing and why in order to help others around him learn. He has his own NEO tool and builds his own scripts to assist him in diagnosing complex drivability issues.

▶ Thanks to Hank Poelman

Corvette Hood Access Update

An Over-The-Air (OTA) update for the 2020 Corvette was sent out recently that changed the Body Control Module (BCM) calibration for opening the hood (or front trunk) using the Remote Keyless Entry transmitter (key fob) as well as the hood access button on the driver's door. The update changes the functionality of the buttons.

KEY FOB

To open the hood after the update using the key fob, the hood release button must be pressed and released once and then pressed and held a second time. If the button is not held down on the second button press, the hood will not open.

Key fob

INTERIOR HOOD RELEASE BUTTON

To open the hood after the update using the hood release button on the driver' door, the button must be pressed and held until the hood unlatches. The transmission also must be in Park. An audible sound should be heard when the hood latch releases. Quickly pressing and releasing the button will not actuate the hood release.

Interior hood release button

Push the striker into the hood latch.

CLOSING THE HOOD

The hood is not heavy enough to latch under its own weight. The hood will remain open until the striker is pushed into the latch. When closing the hood, set the hood striker into the latch and then press on the front edge of the hood until the latch clicks twice.

Once the BCM has been updated, the driver will receive the following warnings and alerts when the hood is not completely closed and latched:

- The hood-ajar icon on the instrument cluster will illuminate and the Driver Information Center (DIC) displays a message that the hood is open. Vehicle speed will be limited to 26 mph (42 km/h).
- An initial audible chime will sound once.
- When the vehicle is in Drive and moving above 3 mph (5 km/h), a persistent chime will play.

The OTA update can be accepted and installed by the owner or the vehicle may be scheduled for service at the dealership to receive the software update.

▶ Thanks to Jeff Strausser

Corvette Exterior Protective Cover Removal

The exterior protective cover that wraps every 2020 Corvette to help shield the paint and body during shipping to the dealership should always be removed prior to vehicle delivery to the customer.

Corvette exterior protective cover must be removed before customer delivery.

Many GM vehicles come with protective coverings, foam blocks and other preventative measures applied before vehicle shipping to aid in vehicles being delivered in the best possible condition. The exterior protective cover must be removed completely in order to perform a proper pre-delivery inspection (PDI). The PDI includes time for the complete removal of the cover.

Vehicles should not be driven on public roads with any part of the cover installed on the vehicle. The protective cover is not approved for use on public roads.

In addition, the cover on the Corvette should not be given to the customer for use as a winter cover. It is designed for use as a shipping cover during transportation only. Once removed from the vehicle, any debris that gets trapped in the cover when removing or reinstalling it may cause possible damage.

Customers looking for a cover for their Corvette should visit the Chevrolet Accessories website, which can be accessed from chevrolet.com (chevrolet.ca in Canada),, for more information about several available premium car covers designed specifically for the Corvette.

Corvette premium car cover

DEALERSHIP STORAGE

Exterior protection devices such as the plastic shipping covers and foam block door protectors should be left in place up to the time of the customer delivery except for vehicles on prominent display such as the showroom floor. These protective devices help to minimize lot damage, reduce dealer expense and increase customer satisfaction.

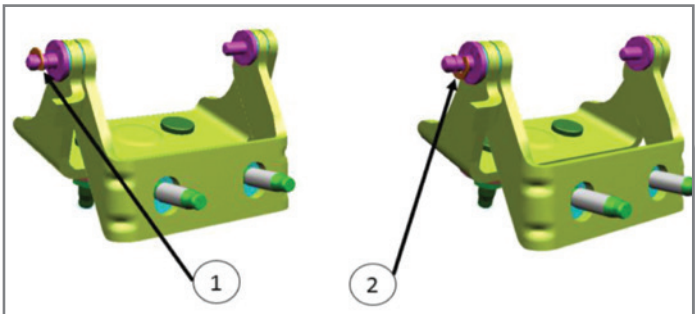
For additional information on proper vehicle storage and new vehicle PDI, refer to the latest versions of Bulletin #09-00-89-002 and Bulletin #03-00-89-006.

▶ Thanks to Jeff Strausser

Liftgate or Liftglass Rattle Sound

Some 2021 Tahoe, Suburban, and Yukon models may have a rattle sound at the rear of the vehicle. The sound may be from the liftgate or liftglass.

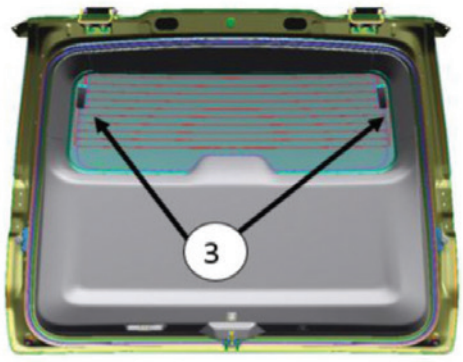
There are several areas to inspect for possible repairs of the liftgate or liftglass.



The C-clip should be in the outboard slot (#1) for the driver's side hinge and the inboard slot (#2) for the passenger side hinge.

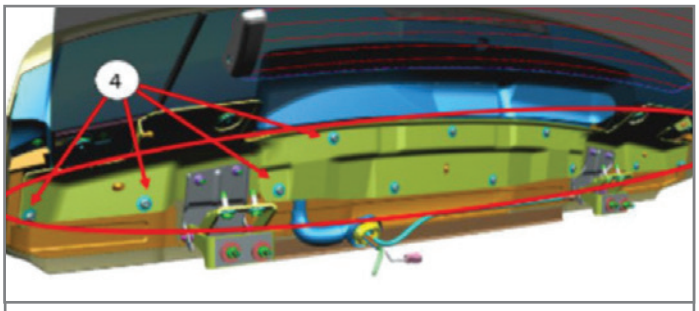
Hinge Pins – Open the liftglass and inspect the C-clips on the hinge pins. The C-clip should be in the outboard slot for the driver's side hinge and the inboard slot for the passenger's side hinge. If a C-clip is not in the correct slot, remove it and reinstall it in the correct slot.

Defroster Tab Covers – Inspect the rear window defroster tab covers for any rattling. If the covers are loose, re-snap them into position.



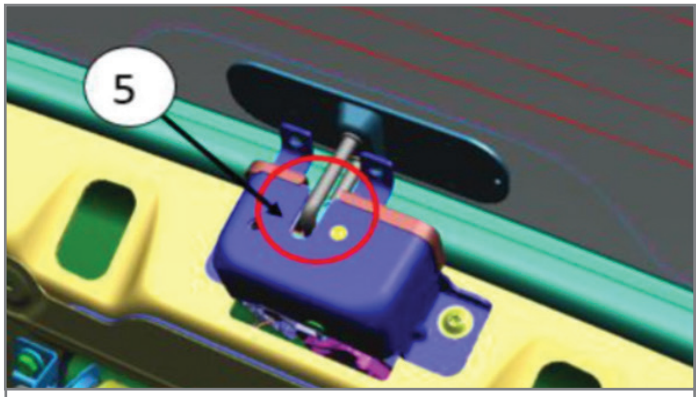
Inspect the defroster tab covers

Rear Spoiler Fasteners – With the liftglass open, check that all fasteners



Check the spoiler fasteners.

that attach the spoiler to the liftglass are properly torqued. Refer to the appropriate Service Information for the correct fastener torque specifications.



Apply GM Super Lube to the liftgass latch opening.

Liftglass Latch Opening – Apply GM Super Lube to the liftglass latch opening using a small brush.

Liftglass Seal – Inspect the liftglass seal to ensure that it is properly seated onto the liftgate flange.

Liftgate Movement – With the liftgate closed, push on the bottom of the liftgate. If the liftgate has fore/aft movement, adjust the liftgate striker forward 1.0mm. Also check that the striker is centered in the liftgate latch opening. Refer to #PIT5768 for the procedure to adjust the striker.

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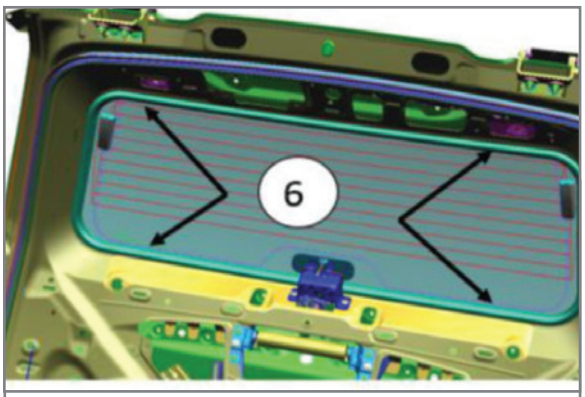
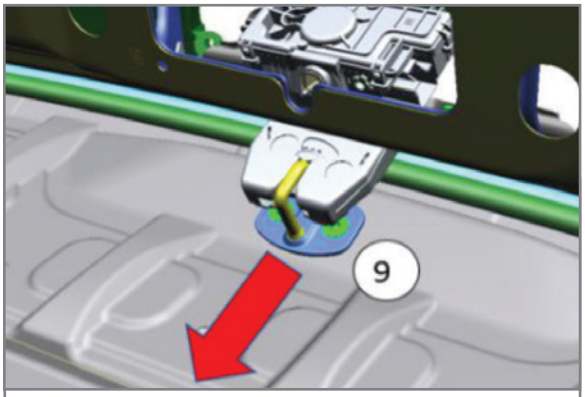


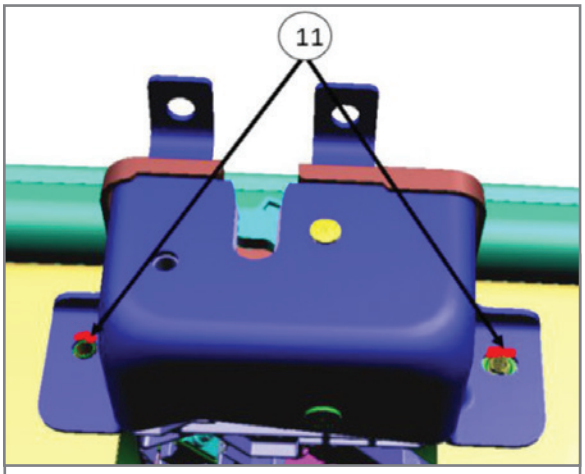
Inspect the liftglass seal.

After performing these repairs, verify that the rattle sound has been corrected.



Adjust the striker if there is liftgate movement.

Liftglass Latch – If the rattle sound is still present after making all other adjustments and the sound has been isolated to the liftglass, remove the liftglass latch and slot the mounting holes 1.5mm to move the latch forward. Refer to #PIT5768 for additional information.



Slot the mounting holes to move the liftglass latch forward.

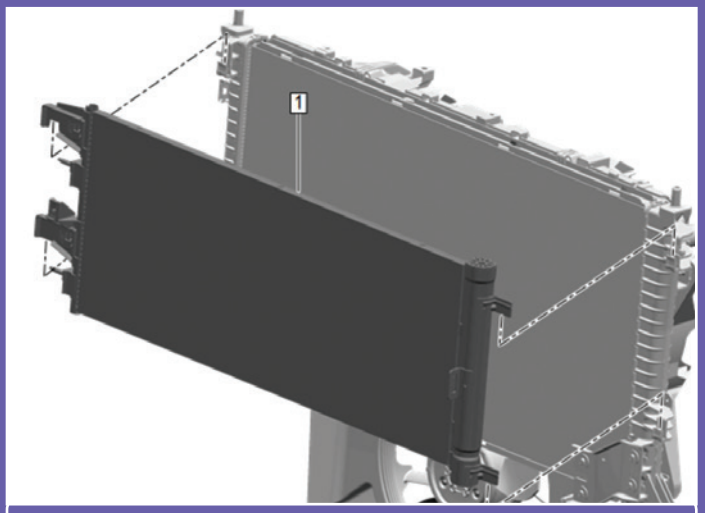
▶ Thanks to Jim Will

Poor Driver's Side A/C Performance

The air conditioning may blow warmer on the driver's side of the vehicle on some 2019-2020 Silverado 1500 and Sierra 1500 models built at the Silao assembly plant (the plant is identified by a G in the 11th position of the VIN).

On affected vehicles, the A/C pressures will be lower than normal. For example, the low side may be 15-25 PSI while the high side may be 140-160 PSI. A check of the system for a low refrigerant charge should indicate that the system is full and no leaks should be found.

In addition, a temperature test of the refrigerant lines will show both the inlet and outlet lines at the condenser to be similar and very hot. The temperature across the condenser's cooling fins will be near ambient temperature.



A/C condenser

The cause of these conditions could be the A/C condenser internally bypassing due to a mispositioned block off plate. If the block off plate is out of position, the refrigerant does not flow through the condenser's cooling fins. As a result, hot refrigerant entering the condenser bypasses the cooling fins and exits the condenser before the refrigerant is cooled down and returned to a liquid state.

If these conditions are found, the A/C condenser will need to be replaced. Refer to the appropriate Service Information for A/C condenser replacement.

▶ Thanks to Jim Will

Flutter Sound at Front of the Vehicle

A flutter, rattle or similar wind noise may be heard from either the left front end and/or right front end of the vehicle at highway speeds on some 2021 Tahoe and Yukon models. The sound may seem to be coming from the windshield area.

There may be excessive movement of the left or right front inner wheel well liner, resulting in the flutter sound.

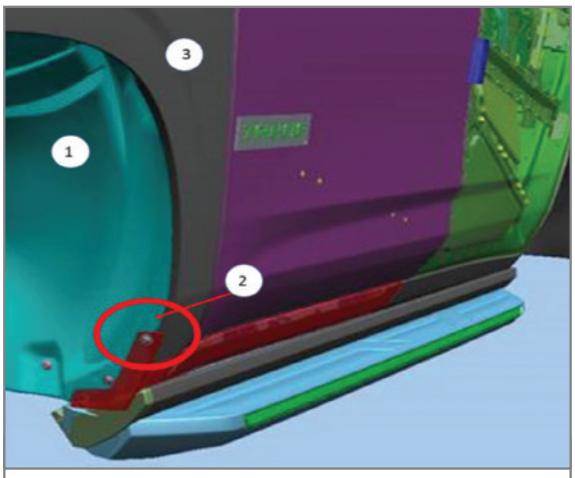
To correct the condition, apply a 1" x 3" x 1/4" piece of foam, or a couple layers of butyl tape, to the inside of the fender.

It's necessary to partially remove the front wheel well liner to obtain access to the back/inboard side of the front fender. The back of the fender should be clean of any dirt, mud, etc.

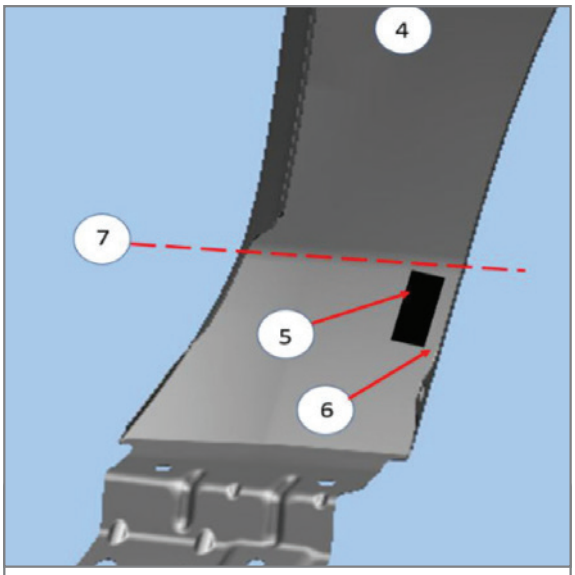
On the back/inboard side of the fender, the foam or layers of butyl tape should be applied starting at the fender feature line and 10mm from the fender flange. The foam/butyl tape needs to create a cross car interference with the fender liner return flange.

It may be necessary to use a trim pick or similar tool to pull the wheel house liner to the full forward position when reinstalling the wheel well liner. With the foam/butyl tape installed, there should not be any fore/aft movement when lightly pushing on the wheel well liner.

▶ Thanks to Jim Will



Area of excessive movement (#2) of the wheel well liner



Apply foam/butyl tape (#5) at the fender feature line (#7) and 10mm from the fender flange (#6).

TECH LINK

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