November 2, 2016 04820 Version 1

Vibration Felt In Front Seats and Floor at Highway Speeds

AFFECTED VEHICLES

Year	Model	Trim	VIN Range
2015–16	TLX	ALL V6	ALL

SYMPTOM

Vibration can be felt at certain highway speeds. The vibration creates a up and down or bouncing sensation felt in the front seats, floor, and accelerator pedal. You can feel the vibration most clearly when driving straight on a smooth road surface.

POSSIBLE CAUSE

The subframe bushing materials lacks absorption ability, causing the energy from the rear wheels to be transferred into the floor and seat.

CORRECTIVE ACTION

Replace the side engine bracket, the upper transmission mount, and the front bushings in the rear subframe.

PARTS INFORMATION

Required Parts

Part Name	Part Number	Quantity
Transmission Upper Mounting and Engine Side Bracket Kit	50030-TZ3-305	1
Rear Subframe Mounting Rubber (Front Right)	50360-TZ3-A02	2
Side Engine Mount Bolt (10 x 60 mm)	90168-TA1-A00	2
Side Engine Mount Bolt (12 x 45 mm)	90161-SDA-A01	1
Upper Transmission Mount Bracket Mount Bolt	90161-T2F-A01	3
Upper Transmission Mount Mounting Bolt (Short)	90164-T2G-A01	1
Upper Transmission Mount Mounting Bolt (Long)	90165-SDA-A00	2
Front Stiffener Bolt	90176-SDA-A00	2
Rear Stiffener Bolt	90101-SWA-A00 (Short)	4

CLIENT INFORMATION: The information in this bulletin is intended for use only by skilled technicians who have the proper tools, equipment, and training to correctly and safely maintain your vehicle. These procedures should not be attempted by “do-it-yourselfers,” and you should not assume this bulletin applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Acura automobile dealer.

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TOOL INFORMATION

Tool Name	Tool Number	Quantity
Installer Shaft (with Nut and Washer)	07AAF-TZ3A100	1
Remover Base 92	07AAF-TZ3A200	1
Remover 50	07AAF-TZ3A300	1
Installer 86	07AAF-TZ3A400	1
Installer Base 86	07AAF-TZ3A500	1
Subframe Alignment Pin	070AG-SJAA10S	1

WARRANTY CLAIM INFORMATION

The normal warranty applies.

Operation Number	Description	Flat Rate Time	Defect Code	Symptom Code	Template ID	Failed Part Number
1121G1	Replace side engine bracket, upper transmission mount, and front bushings. Includes inspection.	1.8 hrs	03214	04501	16-057P	50360-TZ3-A02
A	4-wheel alignment – add	0.4 hr				

Skill Level: Repair Technician

INSPECTION

1. Measure and record the tire pressures. If they are not inflated to the doorjamb label specification, set the tire pressure.

   NOTE: Tires should be at ambient temperature when checking air pressure, not warm right after a drive.

2. Test drive the vehicle at highway speeds on a straight, smooth road surface. The vibration can start as early as 50 mph and progressively gets worse as the speed increases. Peak vibration is around 70–75 mph. Record the answers to the following questions to decide if further improvements are needed after the repair is complete.

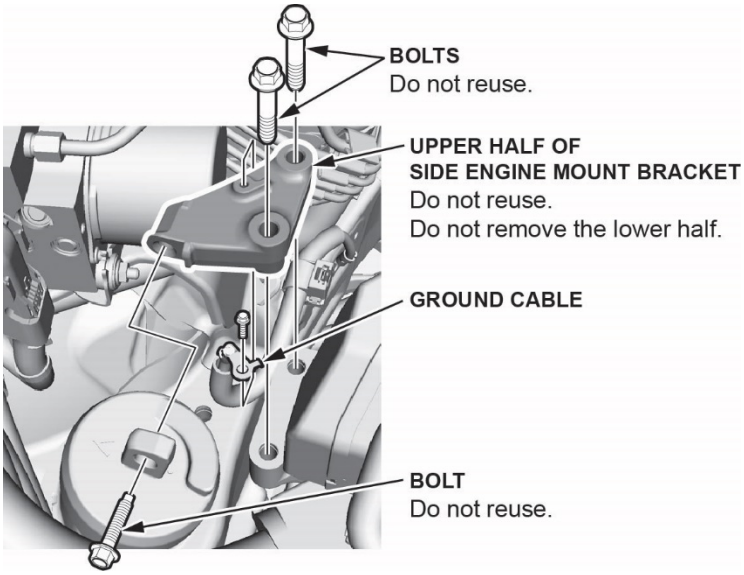
   - At what speed does the vibration start?
   - At what speed does the vibration peak?
   - Where is the vibration felt?

   NOTE:

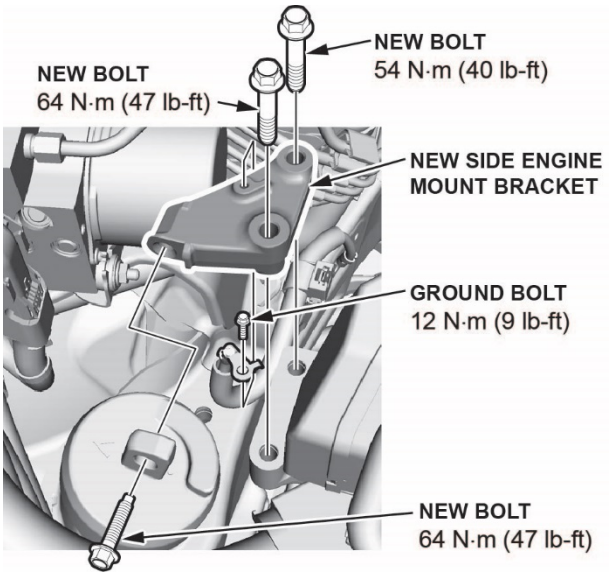
   - In the case of freezing ambient temperatures, make sure the tires are warm to help eliminate any cold flat spots on the tire prior to the vibration testing.
   - This inspection, test drive, and results are important information for a comparison after the parts are installed and could help to determine the next steps.

REPAIR PROCEDURE

1. Remove the ground cable bolt from the upper half of the side engine mount bracket.

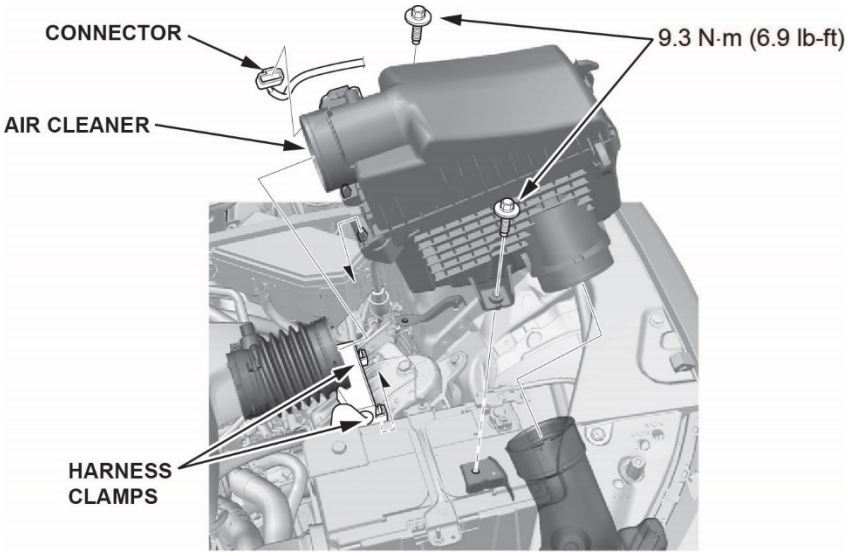


2. Remove the upper half of the side engine mount bracket (3 bolts).
3. Install the new side engine mount bracket with new bolts, and torque the bolts to specification.



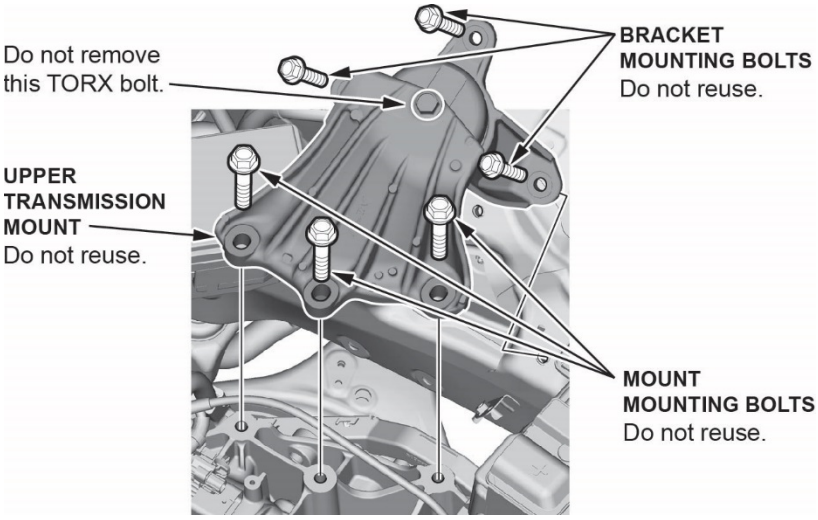
4. Install the ground cable bolt to the upper half of the side engine mount bracket. Torque the ground bolt to **12 N•m (9 lb-ft).**

5. Remove the air cleaner.

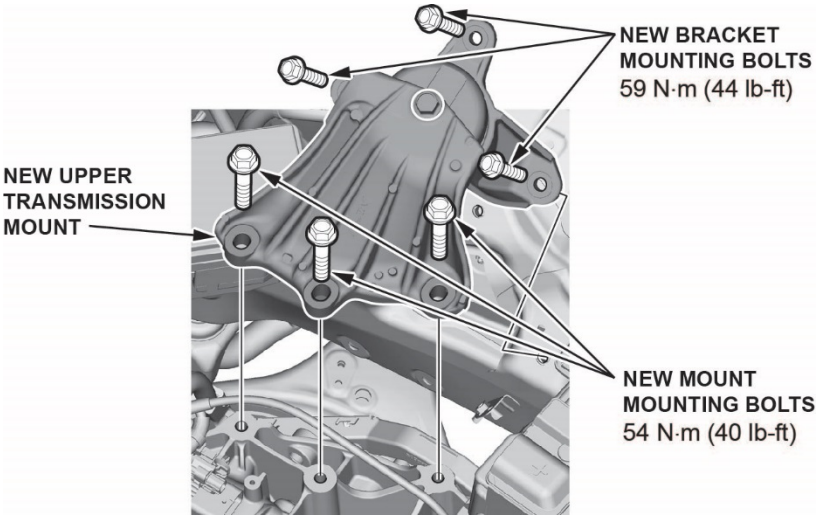


6. Remove the upper transmission mount assembly from the vehicle by removing the three upper transmission mount bracket mounting bolts, and the three upper transmission mount mounting (one short and two long) bolts.

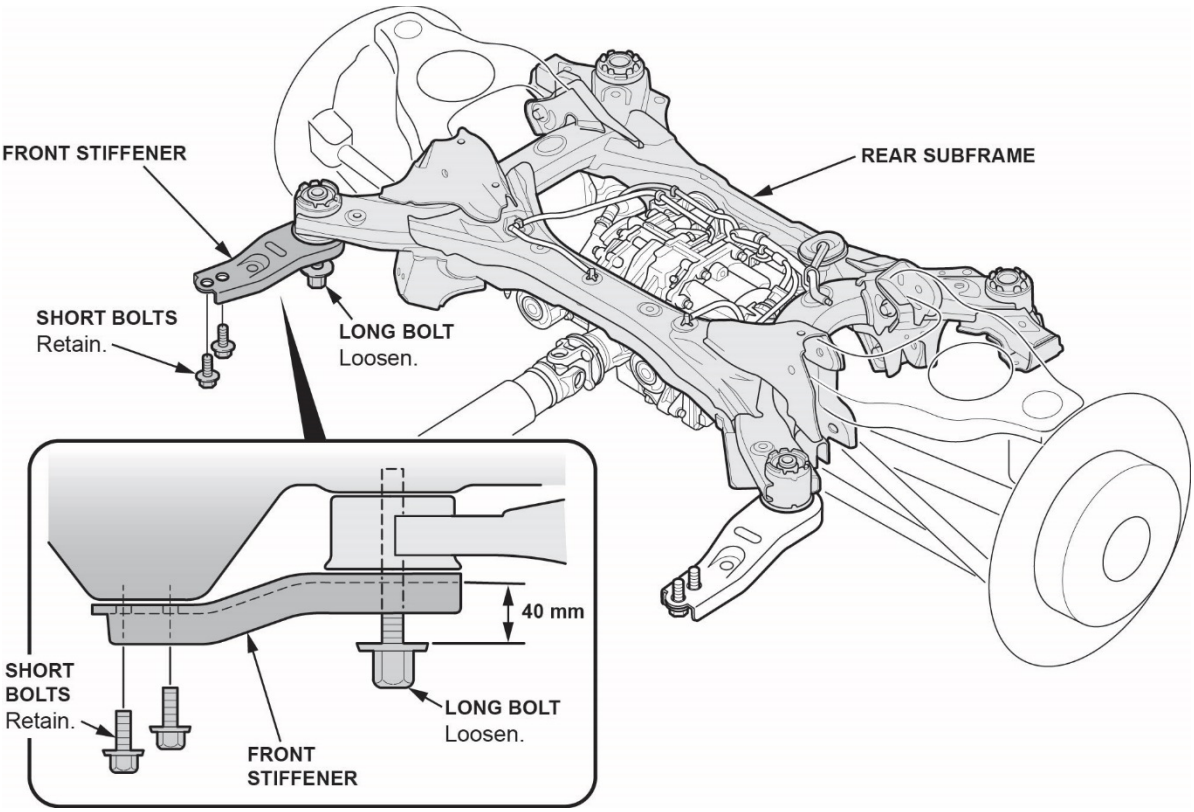
   NOTE: Do not remove the TORX bolt from the upper transmission mount. Keep the upper transmission mount together with its bracket as an assembly during removal.



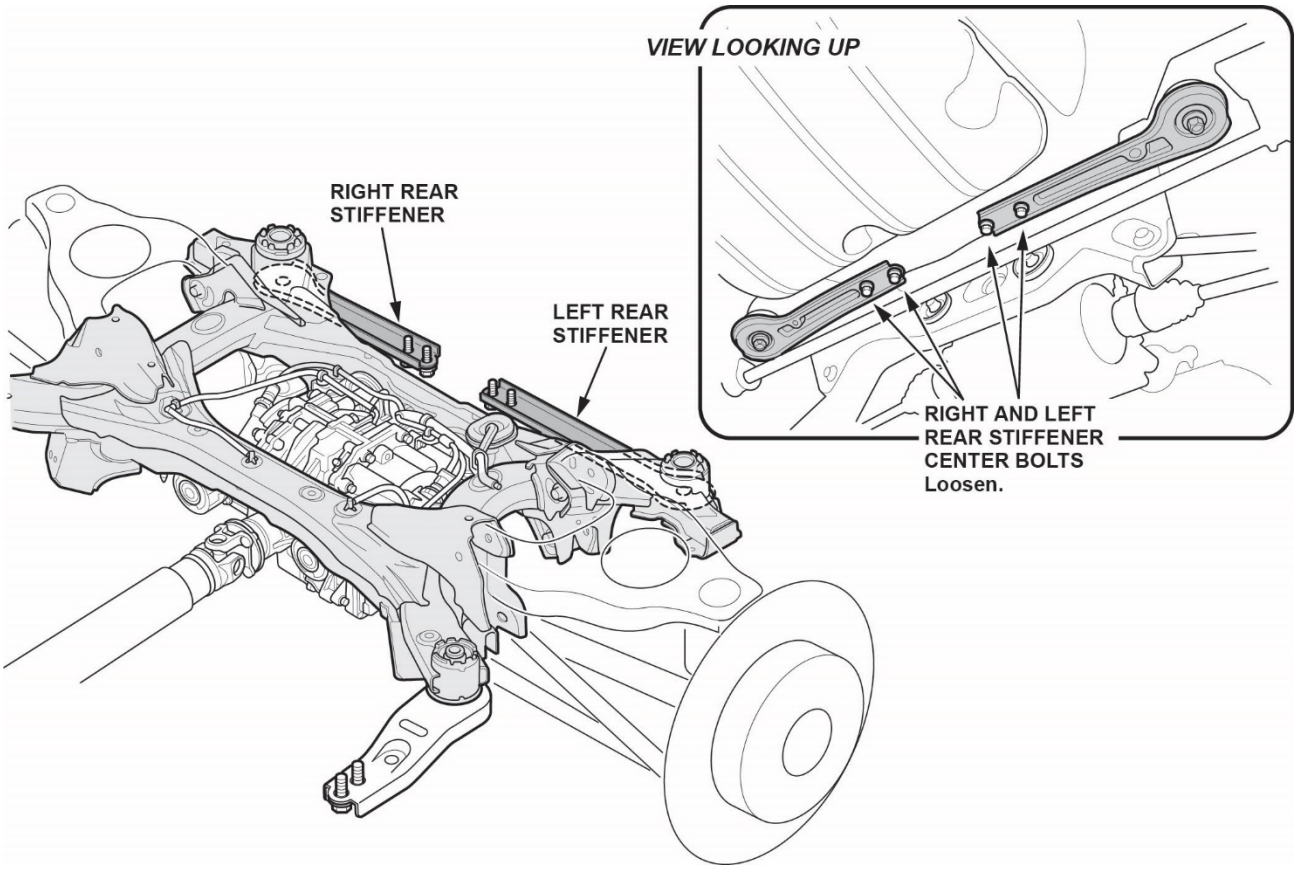
7. Install a new upper transmission mount assembly with new bolts, and torque the bolts to specification.



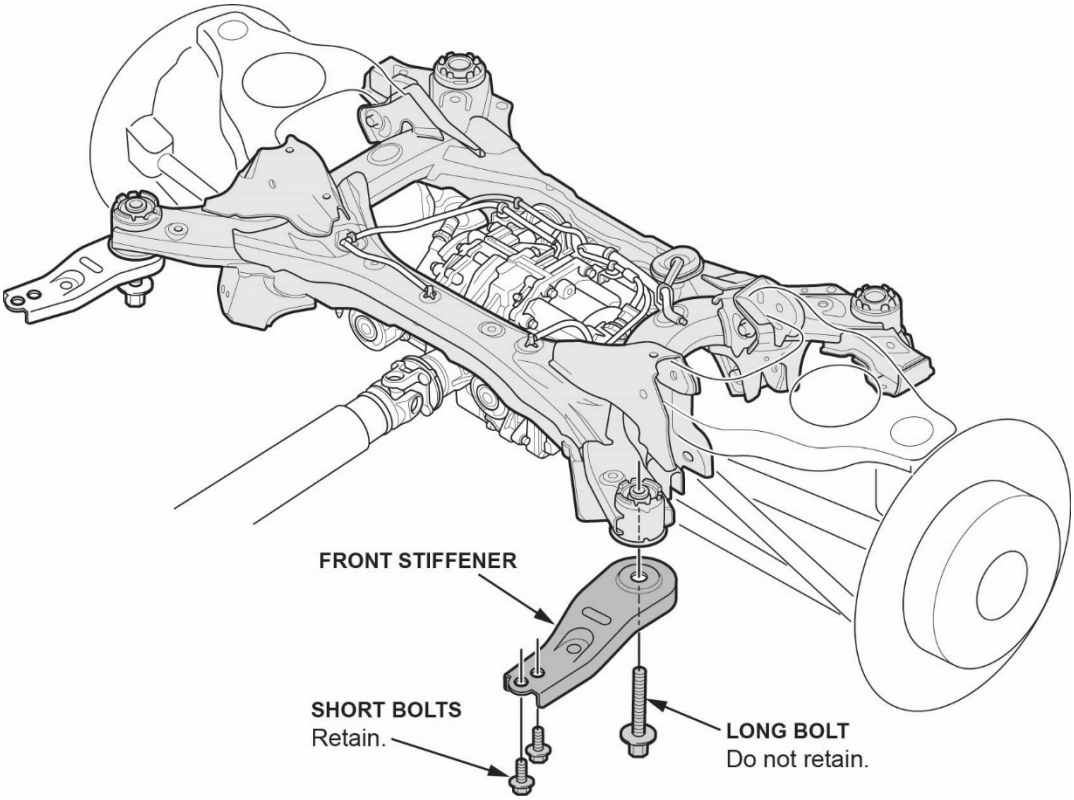
8. Install the air cleaner.
9. Raise the vehicle on a lift.
10. Remove both of the rear wheels.
11. Loosen the long front stiffener bolt on one side so that it hangs down 1.6 inches (40 mm). Do not remove the bolt. Remove the two short bolts from the front stiffener. The bushing on this side will be removed last.



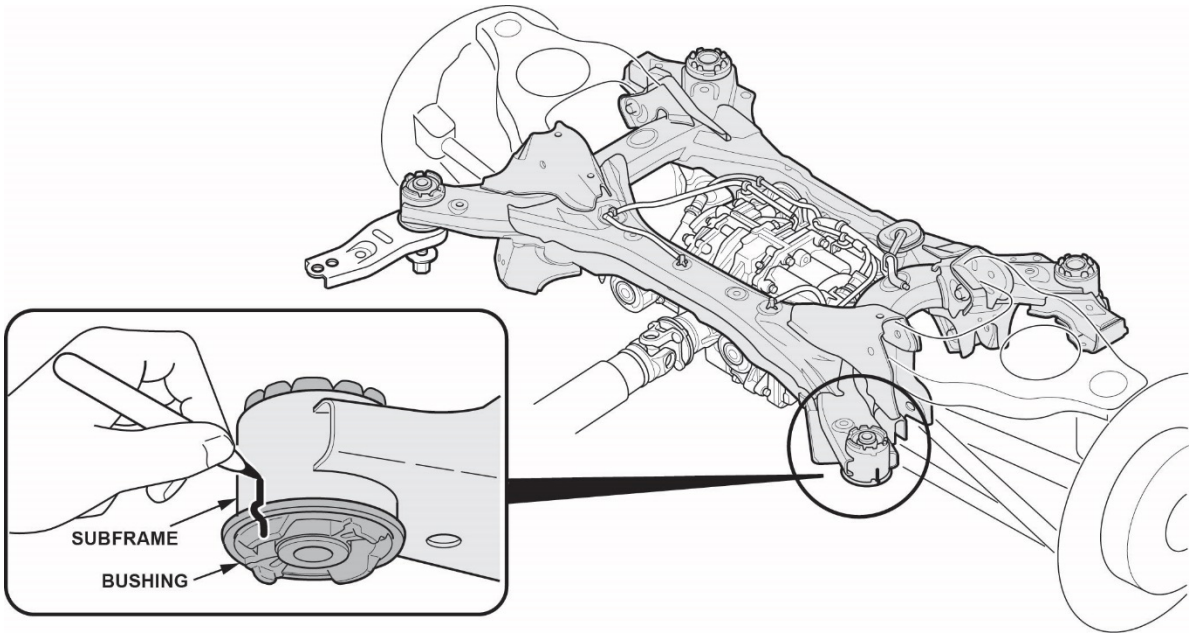
12. Loosen the four center bolts to the right and left rear stiffeners. Do not remove.



13. Remove the front stiffener from the rear subframe on the other side. You will remove the bushing from this side first.

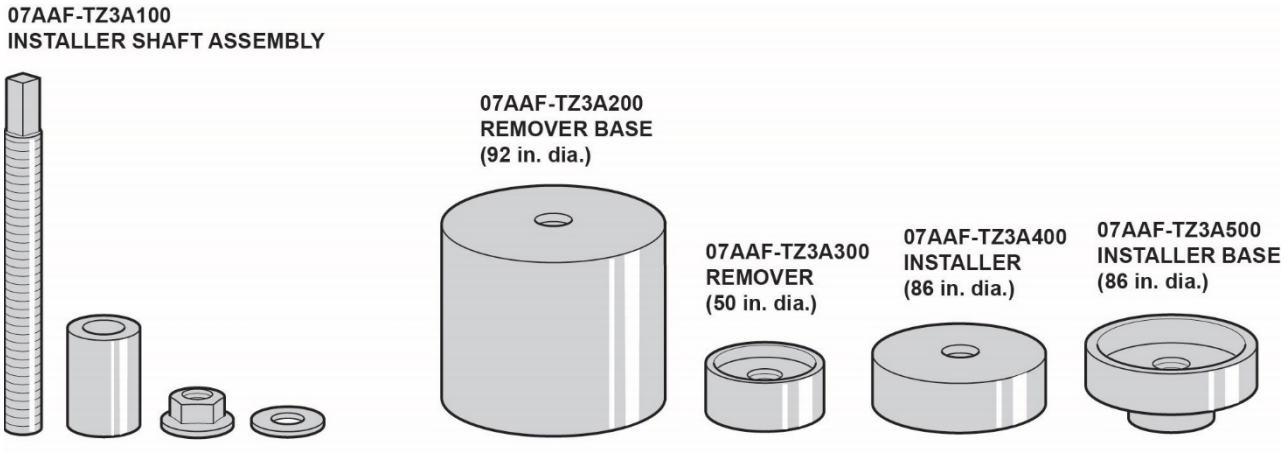


14. Make a very clear mark on the bottom flange of the bushing and subframe with paint or anything equivalent. This mark will be used later in the repair. The bushings are directional and need to be installed accordingly.

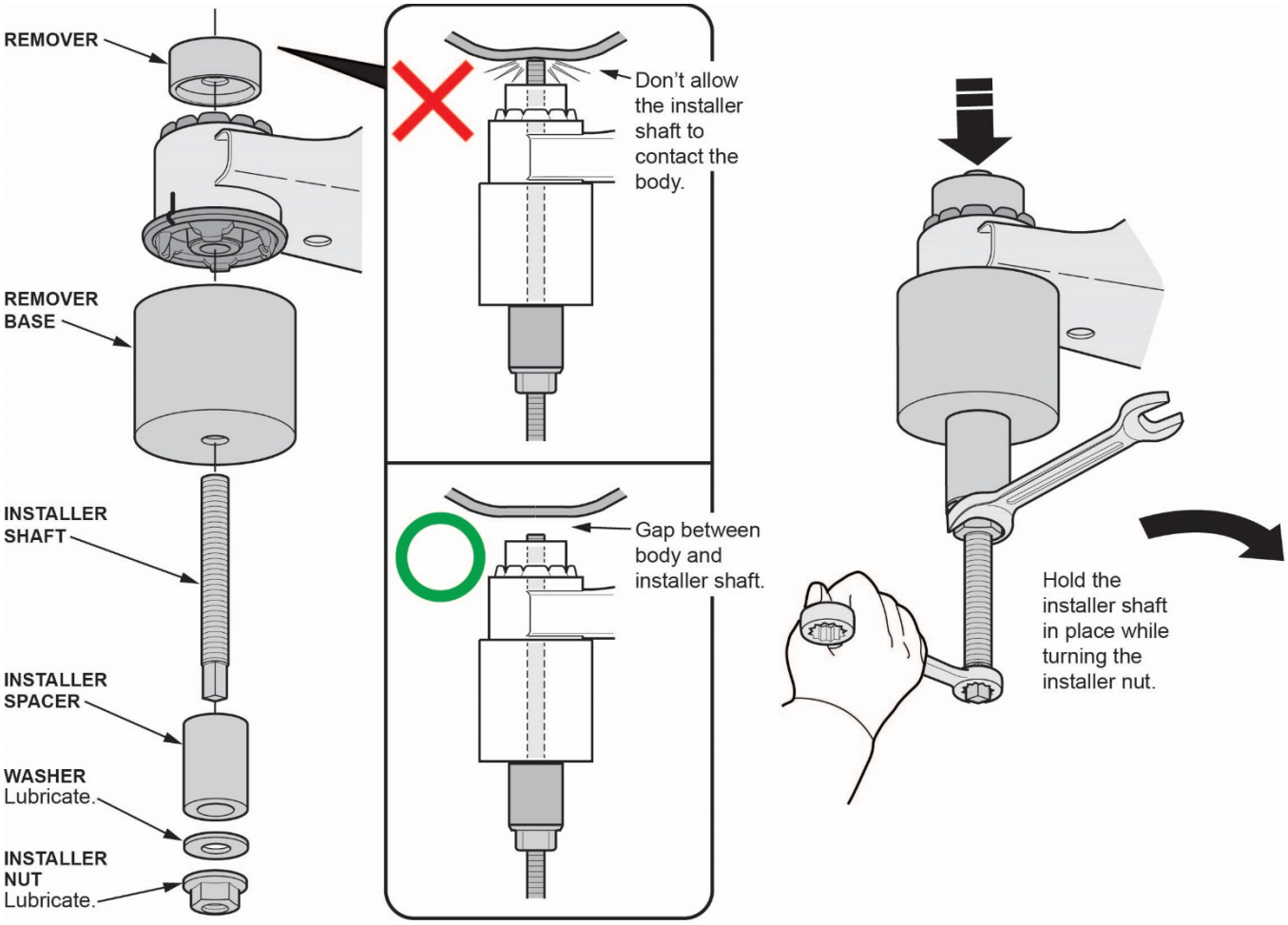


15. Use the remover base (92 in. diameter), the remover (50 in. diameter) along with the threaded installer shaft assembly to extract the bushing.

    NOTE: Add some multi-purpose grease to the threads of the installer shaft and both sides of the washer.



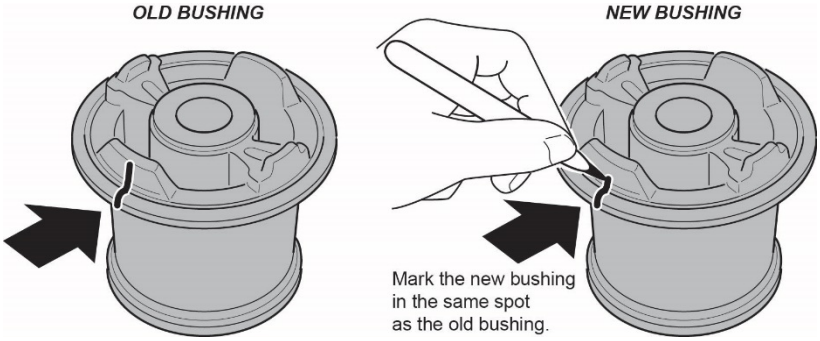
16. On the side where the front stiffener was removed, insert the remover (50 in. diameter) in between the body and the top of the front bushing in the rear subframe.



17. Install the remover base (92 in. diameter) on to the threaded installer shaft. Insert the threaded installer shaft with the remover base into the threads of the bushing. Turn the threaded installer shaft until it is flush with the top of the remover (50 in. diameter), then give it one more full turn.

NOTE: **Do not** allow the top of the installer shaft to extend beyond the remover (50 in. diameter) and touch the body.

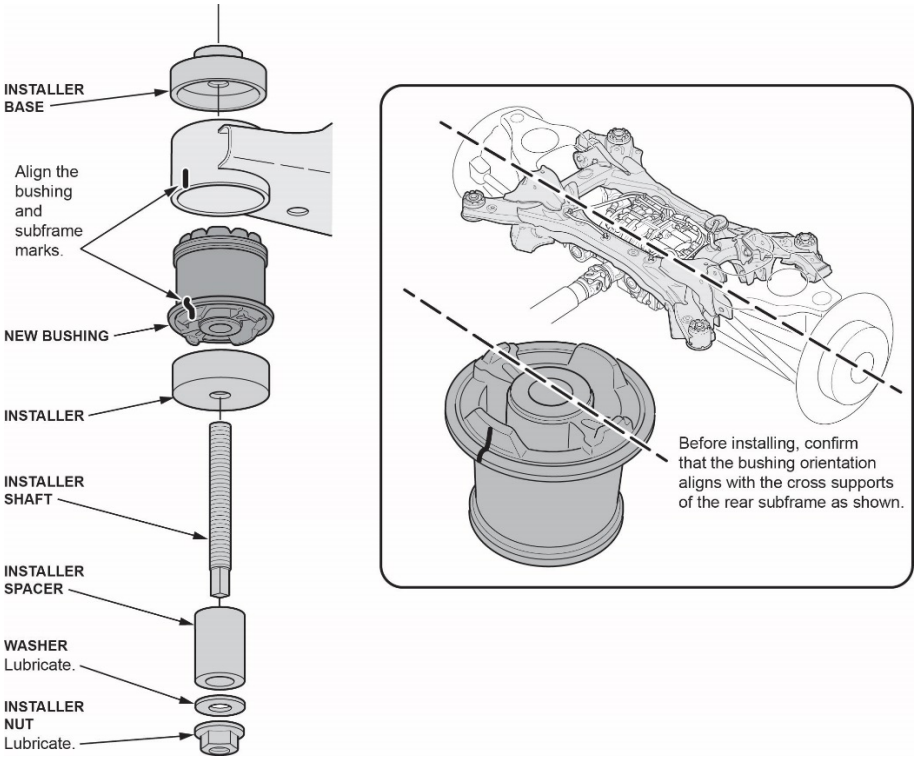
18. While holding the installer shaft in place with a closed end box wrench, use a open end box wrench to turn the nut and draw the bushing out. As the installer nut is turned, the bushing will draw out and move down towards the floor of the subframe. Turning the nut becomes easier once the bushing has drawn out of the subframe far enough. At that point, it can be removed by hand.
19. The bushings are directional. You can see this by looking at the bottom of the bushing. Orient these bushings (original and new) in the same direction. Add a mark on the flange of the new bushing in the same location as on the original bushing prior to removal.



20. **Insert the new bushing dry** with no lube partially into the subframe by hand. Using the mark made on the new bushing, align it with the mark made on the subframe.

NOTE:

- Confirm the bushing orientation aligns and is parallel with the cross support on the frame as shown in the picture.
- **Do not** add lubricant to the new rubber bushing. It must be installed dry.



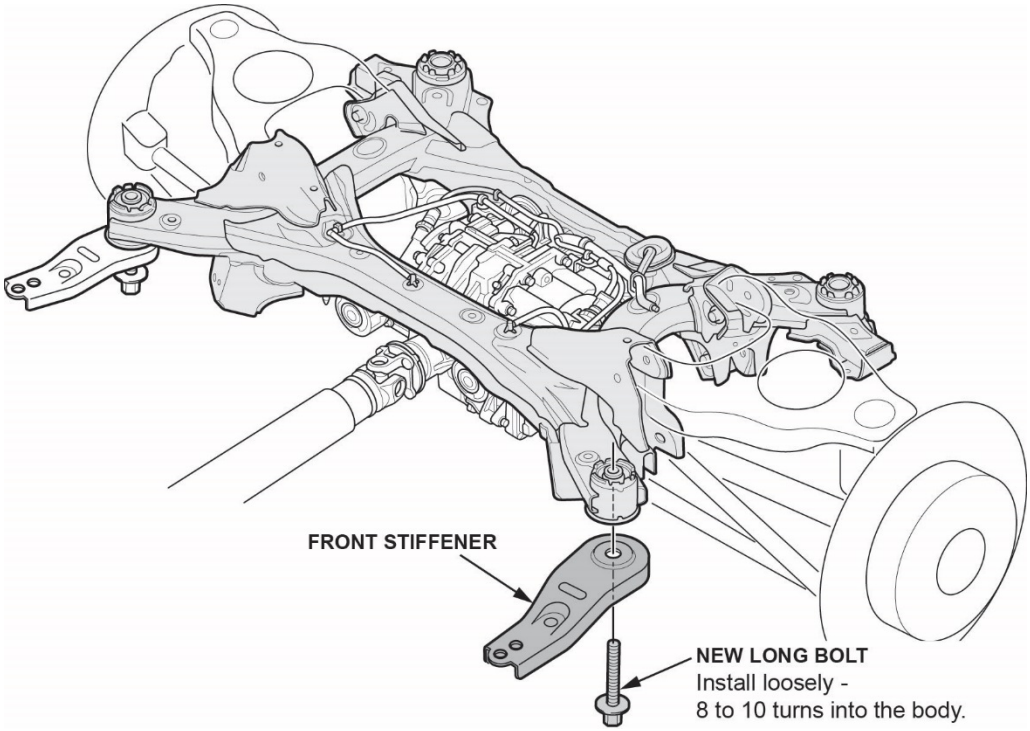
21. Use the installer (86 in. diameter), the installer base (86 in. diameter), along with the threaded installer shaft and nut to install the subframe bushing.
22. Insert the installer base (86 in. diameter) between the body and the top of the subframe. Install the installer (86 in. diameter) on the threaded installer shaft. Insert the threaded installer shaft with installer (86 in. diameter) into the threads of the bushing.

23. Tighten the nut on the tool to install the bushing until its flange is flush to the subframe.

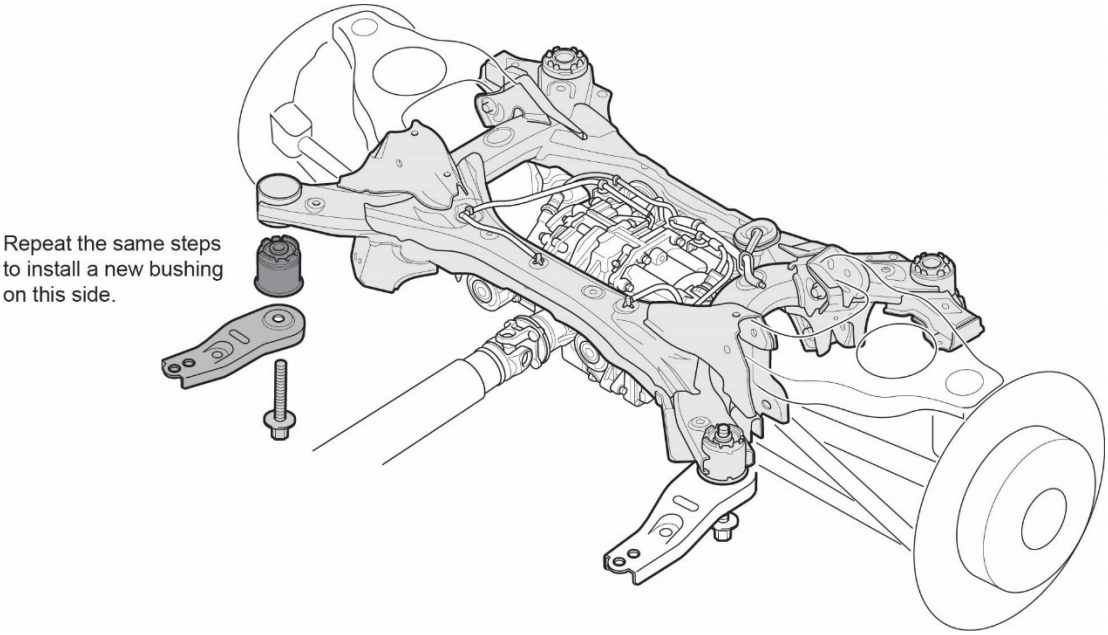
    NOTE: **Do not** allow the bushing to rotate during installation. Keep the bushing and frame marks aligned (do NOT allow the bushing to rotate more than 3 degrees).

24. Attach the front stiffener using a new long bolt. Install the new long bolt 8-10 turns so that the threads are in the body.

    NOTE: **Do not** draw up the front stiffener to subframe yet.



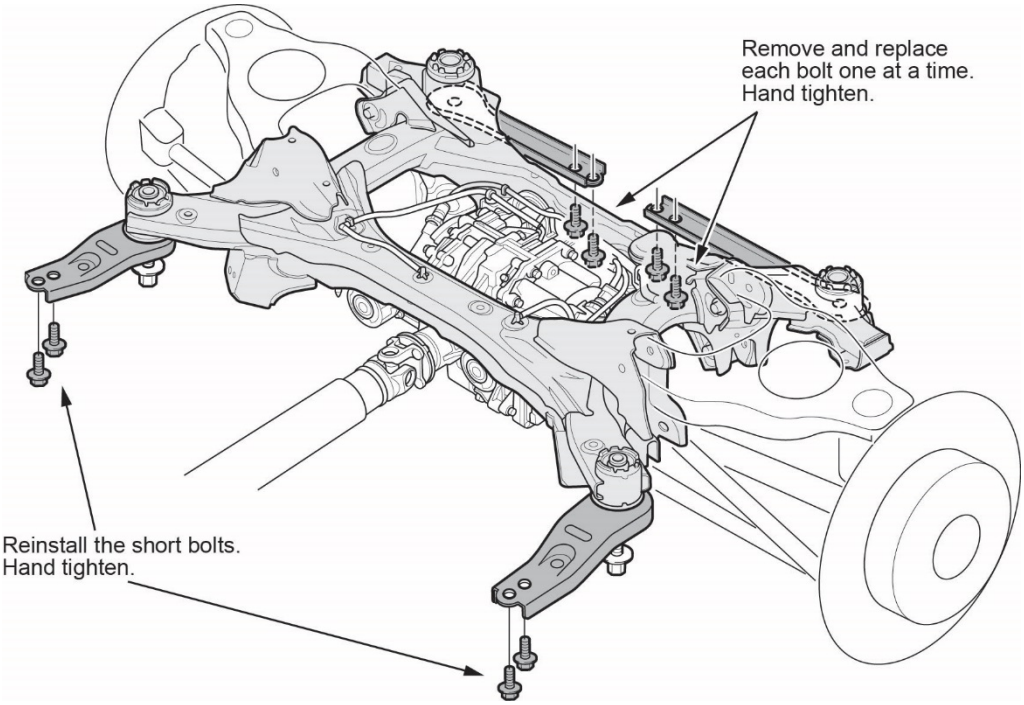
25. On the other side, remove the front stiffener from the rear subframe by removing the long bolt that was previously loosened. You will remove the subframe bushing from this side now. Repeating steps 14 through 24, then go to step 26.



26. Once both subframe bushings are installed, install the short bolts for each front stiffener.

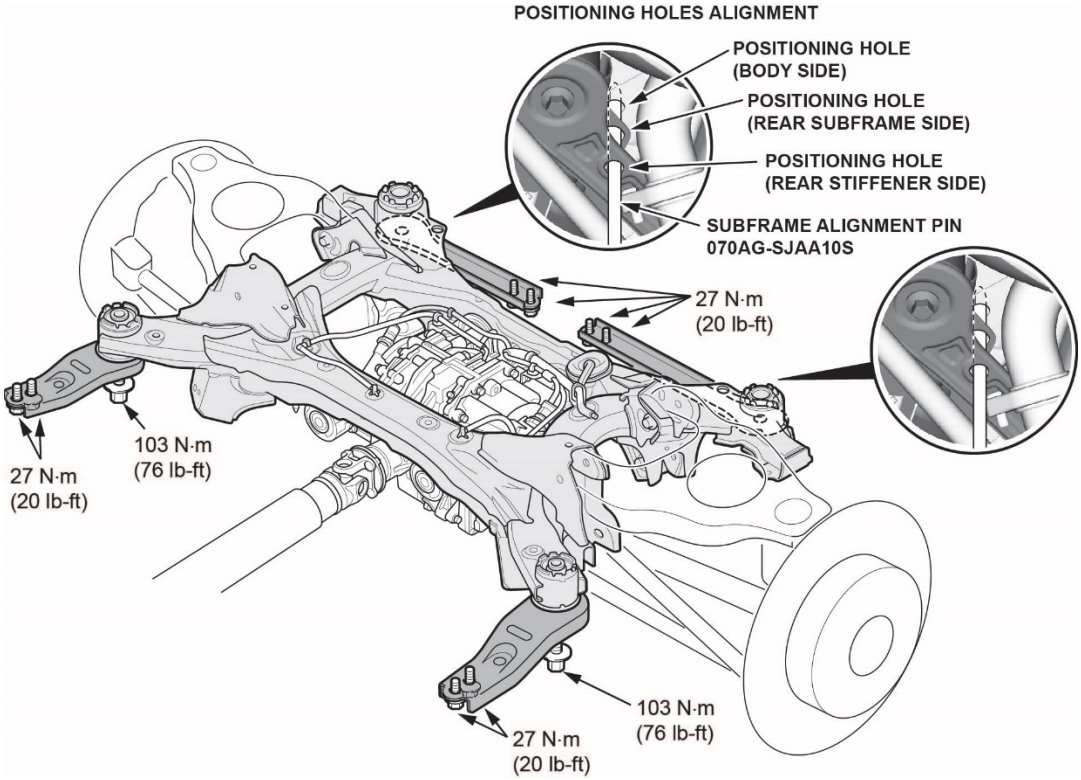
    NOTE: Hand tighten long and short bolts.

27. Remove and install 4 new center bolts to the right and left rear stiffeners one at a time, leaving them hand tight.



28. Align subframe to body using the subframe alignment pin and alternate tightening the subframe bolts to draw it up to the body equally before torqueing to the spec.

    NOTE: Align both positioning holes on the rear stiffener and the rear subframe with the positioning holes on the body using the subframe alignment pin as a guide. First align the right positioning hole, and then align the left positioning hole.



29. Reinstall the rear wheels.
30. Do the 4-wheel alignment, refer to the service information.
31. Take another test-drive on the same road course to estimate the speed range and intensity level compared to before the fix.
    - If the speed range was reduced (ie. Originally 60-80mph after repair reduced to 70-75mph) and the subjective intensity level improved this repair is completed.
    - If the affected speed range is unchanged and the subjective intensity level remains unacceptable, continue with normal troubleshooting. Consider a tire balance using the Hunter GSP9700, install tires with lowest RFV in the rear. A bad tire on the rear can cause a much higher vibration felt in the seat, than the same tire on the front. Refer to Acura Job Aid *Excessive Steering Wheel Shimmy or Chassis Vibration* for more information on the Hunter GSP9700

END