

TECHNICAL SERVICE BULLETIN

2013MY-15MY COE HYBRID CAB LEANING TO THE DRIVER'S SIDE

OVERVIEW

When viewing one of the subject vehicles from the front, while it is parked on level ground, the cab may appear to be leaning to the driver's side. In the event that the cab is leaning to the driver's side, a work procedure has been released to improve the leaning condition. The work procedure provides for correction of the lean by adding or subtracting shims from the front leaf springs. This procedure should only be performed prior to a body being installed on the vehicle. An improperly installed body may either create the illusion of a cab lean, or actually cause the cab to lean.

NOTE: This procedure is provided as technical information and is not an authorization for a warranty repair.

SUBJECT VEHICLES

2013MY – 2015MY Hino COE Hybrid trucks that were assembled at the Hamura, Japan assembly plant

BEFORE YOU BEGIN:

- Read and understand all instructions and procedures before you begin the work.
- Read and follow all WARNINGS and NOTICES set forth in this publication. These alerts help to avoid damage to components, serious personal injury, or both.
- Park the vehicle on a flat, level and solid surface.
- Place the gear shift lever in "Neutral" or "Park".
- Apply the parking brake firmly and confirm parking brake activation.
- Turn off the engine and remove the key from the ignition switch.
- Always wear safety glasses or goggles to protect your eyes.

Place wheel chocks in front of and behind all the wheels to prevent the vehicle from moving.

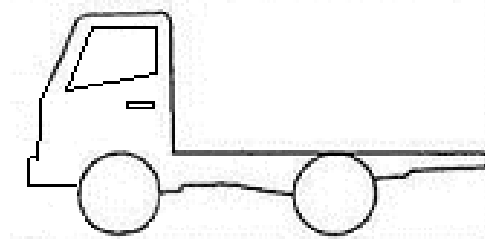
PARTS

PART NUMBER	DESCRIPTION	QUANTITY
4847537060	Shim	As Needed (1 Maximum)

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VEHICLE PREPARATION:

1. Park the vehicle on level ground.



2. Confirm the engine is stopped, the ignition switch in the off (LOCK) position and the key is removed.



3. Apply the parking brake.



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4. Chock the front wheels.

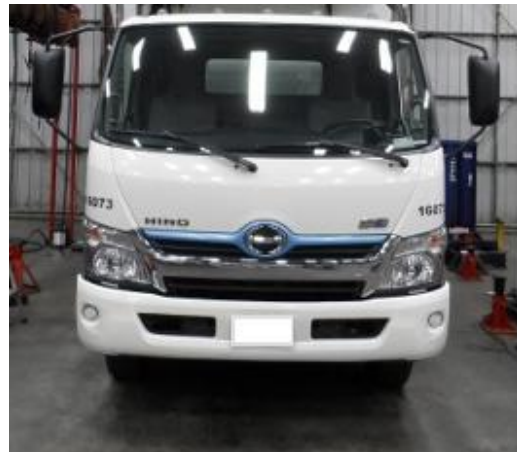


INSPECTION PROCEDURE

1. Park the vehicle in a paved location that is known to be level ground. View the vehicle head on. Does the cab of the vehicle appear to be leaning to the driver's side?

Yes- Proceed to step #2, below.

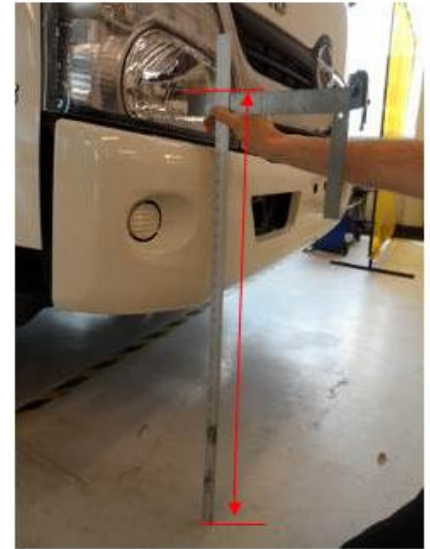
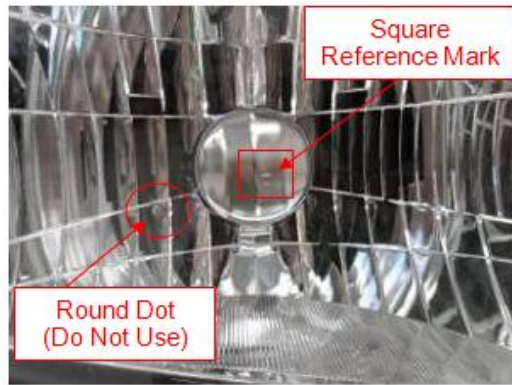
No- No action is needed; do not proceed with this service bulletin.



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2. Measure the distance from the ground to the square reference mark in the headlamp lens on both sides of the vehicle. Use of a metric meter stick in millimeters is recommended for accuracy. Subtract the driver's side measurement from the passenger's side measurement. This will be the difference in lean from side to side.

Example: 893mm passenger's side – 883mm driver's side = 10mm lean to driver's side.

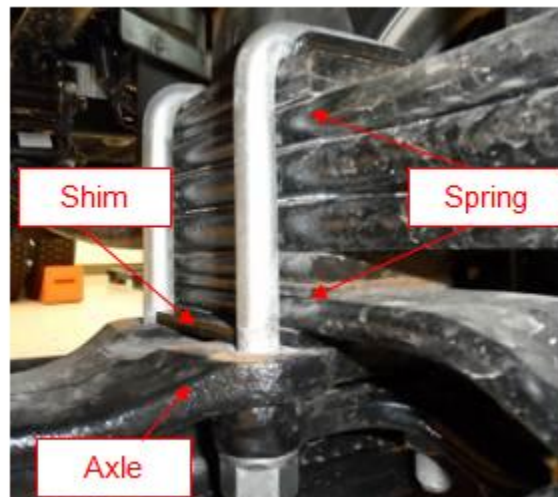


- If the value is between 6mm and 15mm, perform **Repair Procedure A**
- If the value is between 16mm and 20mm, perform **Repair Procedure B**
- If the value is 21mm or greater, perform both **Repair Procedures A and B**

REPAIR PROCEDURE - A

1. Inspect for an existing 6mm shim (4847537060) between the front axle and the bottom of the driver's side leaf spring. If there is already a shim present, do not perform Repair Procedure A. Only one shim is allowed between the spring and the axle.

If there is not a shim present, proceed to step 2, below.



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2. Raise the front of the vehicle high enough so that both front tires will be off of the ground with the suspension unloaded. Support the frame of the vehicle using jack stands. Place a jack under the front axle to support it.



3. Remove the 4 nuts from the U bolts that secure the driver's side front leaf spring to the axle. This will also loosen the shock absorber bracket. Move the shock absorber bracket as needed.



4. Use the jack to lower the axle enough to make sufficient clearance between the axle and the leaf spring. Pull one of the U bolts up out of the axle to allow for shim installation.



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5. Insert the 6mm shim (4847537060) between the leaf spring and the axle. Use the jack to raise the front axle back up to the leaf spring and install the U bolt that was removed.

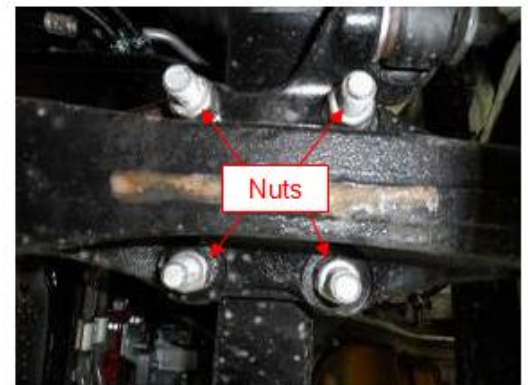
NOTICE: ensure that the round peg on the bottom of the leaf spring goes through the hole in the shim when jacking the axle up.



6. Slide the shock absorber bracket over the ends of the front U bolt. Tighten the 4 nuts that secure the U bolts to the specified torque.

Specified Torque: 144 lb-ft (195 Nm)

NOTICE: Tighten the U bolt nuts evenly so that the same amount of threads will be exposed on each U bolt.



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7. If the original measured value was 21mm or greater, perform Repair Procedure B, below.

If the original measured value was 15mm or less, remove the jack stands and lower the vehicle onto the ground. Drive the vehicle for 3 miles then park it in the same location where it was originally observed to be leaning. Verify that the amount of lean is now visually acceptable. Proceed to the final inspection procedure, below.



REPAIR PROCEDURE - B

1. If the vehicle is already raised, proceed to step 2, below.

If the original measured value was between 16mm and 20mm, raise the front of the vehicle high enough so that both front tires will be off of the ground with the suspension unloaded. Support the frame of the vehicle using jack stands. Place a jack under the front axle to support it.

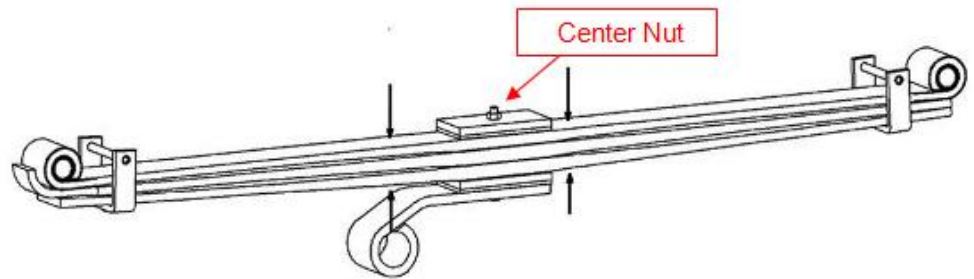


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2. Remove the right front leaf spring from the vehicle as outlined within section 11 of the Chassis Workshop Manual, pages 11-13.

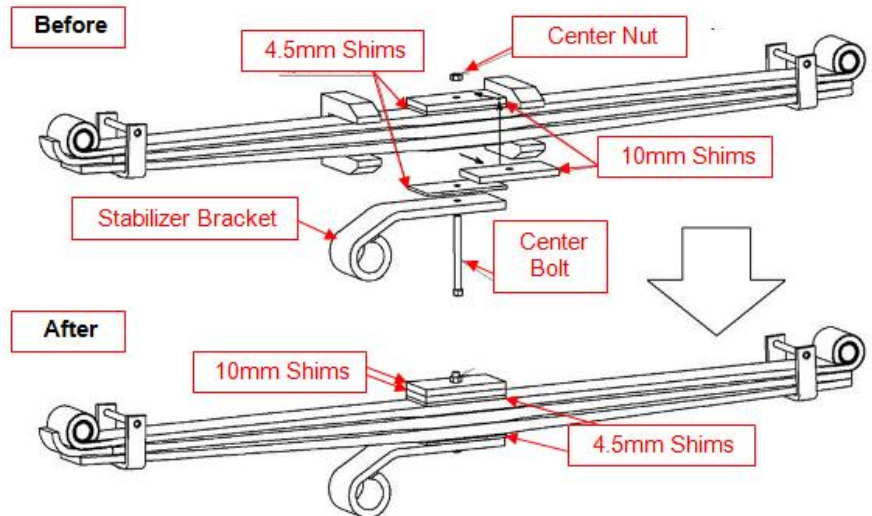
3. Hold the leaf spring stacks together using 2 clamps. Remove the center nut and center bolt that holds the leaf spring stack together.



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4. In the original leaf spring configuration, the stabilizer bracket is on the bottom, followed by a 4.5mm shim, followed by a 10mm shim. The 10mm shim should be removed from the bottom of the stack, and placed on top of the upper stack. Install the center nut and the center bolt that were removed to secure the spring stack once the shim has been moved. Tighten the center nut to the specified torque.

Specified Torque: 55 lb-ft (74 Nm)



5. Install the leaf spring as outlined on page 11-18 of the Chassis Workshop Manual.

6. Remove the jack stands and lower the vehicle onto the ground. Drive the vehicle for 3 miles. Park the vehicle in the same location where it was originally observed for a lean. Verify that the amount of lean is now visually acceptable. Proceed to the final inspection procedure, below.



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FINAL INSPECTION PROCEDURE:

1. To complete this Technical Service Bulletin, review the bulletin and confirm the following:
 - All nuts and bolts that were removed were reinstalled and tightened to their specified torque
 - The vehicle appears to be level from side to side when viewed head on
 - The steering and alignment are normal
 - No abnormal noises are heard during a road test

CLAIM APPLICATION:

** Reimbursable in accordance within the terms and policies of the Hino Truck limited warranties.*

a) Labor charge is based upon the following table:

Repair Procedure A Only	0.7 HR
Repair Procedure B Only	2.6 HR
Repair Procedure A + Repair Procedure B	3.0 HR

b) Warranty code: 53180

c) Trouble code: 99

d) Operation code: 53150AOT

e) Original failed part: 4811037U80