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 Major System: WHEELS Created: 9/19/2017
 Current Language: English Last Modified: 4/11/2019
 Other Languages: NONE Author: Mark Ehlers
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Coding Information

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Title: LT & LoneStar vibration at highway speeds

Applies To: LT Series & LoneStar (low miles)

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

04/11/2019- Several updates and revised to direct reader to new Vibration Diagnostics in the Technician Manual
 07/20/2018- Added 50 durometer Dana carrier
 06/04/2018- Added increased isolation carrier bearing
 05/17/2018- Added template for recording driveline runout in step 8. Added LoneStar.
 04/26/2018- Revised driveline diag. and added worksheet for driveline shop
 04/09/2018- Added link to Shimmy IK
 02/02/2018- Removed carrier bearing info
 01/30/2018- Revised title and "applies to"; removed build dates, added tips
 11/07/2017- Add link to IK0600020 "Determine Wheel Speed or Driveline Vibration using a Smart Phone and Free VibSensor Application"
 10/30/2017 - Reformat to step based. Reordered and steps.
 10/13/2017- Added inspect for driveshaft balance weights present
 10/09/2017- Added sheet for tire shop to use
 10/05/2017- improved links, added tire flat-spot inspection, added torque arm
 09/29/2017 - Initial Article Release

DESCRIPTION

This article applies to LT & LoneStar vehicles that experience an objectionable vibration felt in the seat, floor, or the steering wheel at highway speeds.

Navistar now offers a Vibration Diagnostics section in the LT Technician Manual. Please refer to this manual for most vibration complaints [000885380](#)

If you have the following condition:

- LT sleeper
- Dana driveline
- Built before 4/2/2019
- No warranty history or evidence of prior driveline removal, repair, or carrier bearing replacement
- Driveline 1st order vibration has been **confirmed** with a Tablet / Smartphone App

If all the above are true then change the driveline carrier bearing to the new Dana Spicer DuraTune carrier bearing & retest.

- Dana DuraTune Part number DS10094142

Effective 4/2/19 LT & LoneStar's are built with Dana DuraTune carrier bearing

This part can be used on LT and Lonestar's in place of both the 70 durometer and the softer 50 durometer carrier bearings

- Dana DuraTune press release ([link](#))
- G Letter G-060100295 ([link](#))



Cushion id # 10049853
70 durometer "firmer"

Dura-Tune cushion
id # "10094141"

SYMPTOM(s)

An objectionable vibration is felt in the seat, floor, or the steering wheel. Mirror shaking might also occur (at highway speeds)


SERVICE PARTS INFORMATION

Kit Description	Part Number	Quantity Required	Notes
Dana Dura-Tune carrier bearing	DS10094142	as needed	with rubber insert with "10094141"

DIAGNOSTICS

Step	Action	Decision
1	DIAGNOSTIC: Does the LT have a validated objectionable highway speed vibration?	Yes. Go LT Technician Manual "Vibration Diagnostics (link) No. Article does not Apply

Smartphones / Tablets with a Vibration Apps have proven very accurate in determining if the vibration source is wheel related or driveline related. See [IK0600020](#). If unable to determine the location or source of the vibration go to Step 4

Step	Action	Decision
2	DIAGNOSTIC: Determine the type of vibration <div style="border: 1px solid black; width: 100%; height: 150px; display: flex; align-items: center; justify-content: center;">  </div>	

Step	Action	Decision
3	DIAGNOSTIC: <ul style="list-style-type: none"> Open LT driveline service worksheet. Email or fax this 2 page document to your local driveline shop and confirm that they can perform this repair. If you cannot locate a shop that can perform this repair then order new drivelines. A parts Case File may be needed Send BOTH driveshafts out for repairs with the worksheet 	If Tech Services requests driveline runout measurements use THIS SHEET Vibration is gone Return truck to service.

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NOTE:

Prior to performing any type of balance procedure on the vehicle always refer to the lineset ticket and verify how the truck was ordered.

0029TAK - Yellow dot aligned to valve stem

0029TAG - Unidirectional tires

0029TAD - Do Not Balance (contact your CSE for direction on repair)

Step	Action	Decision
4	<p>DIAGNOSTIC:</p> <p>Use Hunter Engineering locator tool http://www.hunter.com/heavy-duty/forcematch-hd/search to see if a ForceMatch HD wheel balancer is in your immediate area. Is this wheel balancer nearby?</p> <div style="text-align: center;">   </div>	<p>PRINT Tire Shop Worksheet Mark the peak point of runout on each tire so it can be properly oriented when installed on the truck</p> <p>Road Force Balance Highlights</p> <hr/> <p>No. At a commercial tire shop, have all wheels rebalanced and check radial runout with a dial indicator on the balance machine. Dismount tire as needed and rotate on the rim to reduce runout as needed.</p> <p>Match Mounting Instructions</p> <p>Mark the peak point of runout on each tire so it can be properly oriented when installed on the truck</p>

WARRANTY INFORMATION

Warranty Claim Coding:

Refer to the [Warranty Coding Manual](#) for Group and Noun Codes.

OTHER RESOURCES


[IK0600020 Determine Wheel Speed or Driveline Vibration using a Smart Phone and Free VibSensor Application](#)

[IK1400005 Driveline Information Center and Troubleshooting Procedures](#)

[IK0500038 Steering Shake, Shimmy, Shudder, or Steering Vibration](#)

[IK0400102 ProStar-Vibration While Braking](#)

GoodYear Tire training videos related to wheel induced vibrations	Goodyear Tire Website	Michelin Tire Manual
<ul style="list-style-type: none"> • Understanding Vehicle Vibrations <ul style="list-style-type: none"> ◦ https://www.youtube.com/watch?v=QmPgJ3eXK_w • Controlling Vehicle Vibrations <ul style="list-style-type: none"> ◦ https://www.youtube.com/watch?v=1PRgSy0hZ3A • Minimize Vehicle Vibrations <ul style="list-style-type: none"> ◦ https://www.youtube.com/watch?v=6ZWsuS4esQ8 • Reduce tire runout using Match Mounting <ul style="list-style-type: none"> ◦ https://www.youtube.com/watch?v=kuuYJPtzzC8 	<p style="text-align: center;">Goodyear tire manual</p>	<p>Road Force Balance Tire Manual Click Here Hunter Engineering MatchForce HD tire balanc https://www.youtube.com/watch?v=xqxrX2k9QY Locate a MatchForce HD tire machine near your http://www.hunter.com/heavy-duty/forcematch-h</p>

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