



# NGDV – Technical Bulletin

**Title:** Wheel Speed Sensor Faults & Recommended Actions

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**Classification:** Highly Restricted

*Exceeding Customer Expectations through Continuous Improvement*



# NGDV Technical Bulletin

## Wheel Speed Sensor Faults & Recommended Actions

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**NGDVTB013 – WHEEL SPEED SENSOR FAULTS & RECOMMENDED ACTIONS**

**INTRODUCTION**

**Initial Concern**

Wheel speed sensor faults may cause damage to the Rear Drive Unit if the vehicle is operated for an extended period of time in a faulted condition. A wheel speed sensor fault can trigger multiple Diagnostic Trouble Codes (DTCs) and tell tales on the instrument cluster. If the repair to the wheel speed sensor harness, DTCs or warning lights go ignored then there is potential for binding within the rear drive unit, especially with full turning angle maneuvers.

**Suspect Population**

42 ICE AWD NGDV's:

VIN	Asset ID	VMF
10T12BAA0SE001393	5A00213	SAINT PAUL VMF
10T12BAA2SE003887	5A00698	GREEN BAY VMF
10T12BAAXSE002227	5A00356	GREEN BAY VMF
10T12BAA4SE000604	5A00079	ERIE VMF
10T12BAA7SE001164	5A00148	SYRACUSE VMF
10T12BAA9SE000145	5A00003	DENVER VMF
10T12BAA4SE000196	5A00013	DENVER VMF
10T12BAA7SE001536	5A00240	GREEN BAY VMF
10T12BAA9SE003806	5A00682	DULUTH AUX-OF MINNEAPOLIS
10T12BAA1SE003119	5A00526	ELMIRA AUX-OF ROCHESTER
10T12BAA0SE001149	5A00143	DENVER VMF
10T12BAA8SE001156	5A00146	PORTLAND, ME VMF
10T12BAA8SE000198	5A00015	DENVER VMF
10T12BAA0SE002270	5A00369	SYRACUSE VMF
10T12BAA0SE003872	5A00692	SAINT PAUL VMF
10T12BAA2SE000259	5A00016	DENVER VMF
10T12BAA2SE002304	5A00373	SALT LAKE CITY VMF
10T12BAA4SE001851	5A00260	GREEN BAY VMF
10T12BAA0SE002060	5A00303	DULUTH AUX-OF MINNEAPOLIS
10T12BAAXSE000610	5A00083	UTICA AUX-OF ALBANY
10T12BAA6SE003472	5A00595	SAINT PAUL VMF
10T12BAA1SE001094	5A00129	DENVER VMF
10T12BAA0SE002639	5A00447	SYRACUSE VMF
10T12BAA1SE001127	5A00135	DENVER VMF
10T12BAA4SE003020	5A00521	SYRACUSE VMF
10T12BAA6SE002502	5A00430	SAINT PAUL VMF
10T12BAA9SE001067	5A00116	DENVER VMF

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VIN	Asset ID	VMF
10T12BAA2SE000651	5A00093	UTICA AUX-OF ALBANY
10T12BAA0SE000616	5A00086	UTICA AUX-OF ALBANY
10T12BAA8TE004706	6A00074	SAINT PAUL VMF
10T12BAA2SE004392	5A00812	BLOOMINGTON AUX-OF MINNEAPOLIS
10T12BAA5SE000613	5A00084	UTICA AUX-OF ALBANY
10T12BAA6SE000149	5A00007	DENVER VMF
10T12BAA1SE004285	5A00782	SAINT PAUL VMF
10T12BAA0SE000146	5A00004	DENVER VMF
10T12BAA9SE004017	5A00732	BILLINGS VMF
10T12BAA2SE000634	5A00090	UTICA AUX-OF ALBANY
10T12BAA8SE003411	5A00591	DENVER VMF
10T12BAA5TE004629	6A00058	BUFFALO VMF
10T12BAA6TE004770	6A00098	SOUTH JORDAN VMF
10T12BAA7TE004535	6A00029	SAINT PAUL VMF
10T12BAA5SE003852	5A00687	BILLINGS VMF

**Procedure and Material List**

See process outlined below.

**Frequently Asked Questions**

**Q: Are all NGDV’s affected and in need of this procedure?**

**A:** Only those NGDV that show the following DTCs (Diagnostic Trouble Codes) and Tell Tales (also known as Warning or Trouble lights) on the instrument cluster

**Q: What happens if the outlines steps are not followed?**

**A:** Driving for an extended period with a faulted wheel speed sensor may cause damage to the rear differential unit (RDU).

**REWORK TOOLS AND MATERIAL LIST**

**Tools**

- Oshkosh Diagnostic Tool (OKDT)
- Fir Tree Mounts Puller



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**Personnel Requirements**

1 person will be required for this job.

- Chassis AWD Axle Wire Harness Replacement 183 min. (3 hours **if required after inspection**)
  - Procedure can be found in the Service Manual 4-166
- Chassis Main Wire Harness Replacement 139 min. (2.3 hours **if required after inspection**)
  - Procedure can be found in the Service Manual 4-187

**PROCEDURE**

1. If the NGDV you are servicing has the following Tell Tales shown in Figure 1 (Trouble or Warning Lights) present, plug in the OKDT to the OBDii port to check for particular Diagnostic Trouble Codes shown below in step 3.



Figure 1

2. Launch OKDT to the page shown in Figure 2. When Health Check (Figure 2, Item 1) completes, select the ABS/ESP module tile (Figure 2, Item 2) on the Health Check menu to view the ABS/ESP DTCs (Figure 2, Item 3).

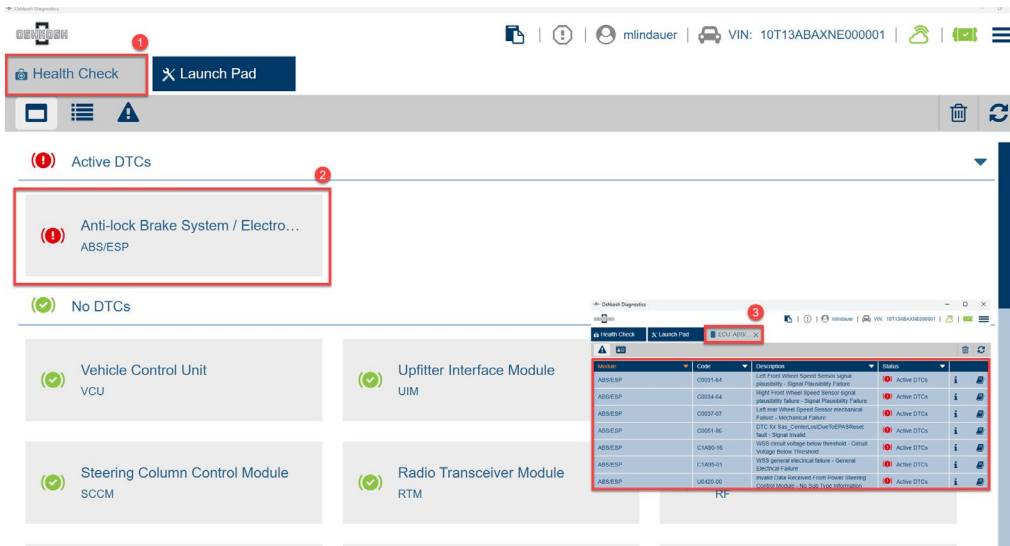


Figure 2

## NGDVTB013 – WHEEL SPEED SENSOR FAULTS & RECOMMENDED ACTIONS

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3. If any or all of the DTCs below are present inspect the condition of the Wheel Speed Sensor harness at each wheel end.

### Primary ABS/ESP Module Wheel Speed Fault DTCs:

C0031\_LF wheel speed sensor fault  
C0034\_RF wheel speed sensor fault  
C0037\_LR wheel speed sensor fault  
C003A\_RR wheel speed sensor fault  
C1A90 or C1A95\_general wheel speed sensor  
C0051-86\_Steering angle sensor center lost  
U0420-00\_Invalid data received from EPAS

4. The wheel speed sensors can be found on the harness that plugs into the wheel end near the brake caliper (Shown in Figure 3).
  - a. For an AWD NGDV, you will find a wheel speed sensor harness on all four wheel ends. You are looking for a damage, or broken wires, as seen in Figure 3, to know if you need to remove and replace the harness that this connector is a part of. Replacing this harness will eliminate your DTCs & Tell Tales and mitigate the possibility of a Rear Drive Unit failure for the specific reasons cited in this Technical Bulletin.

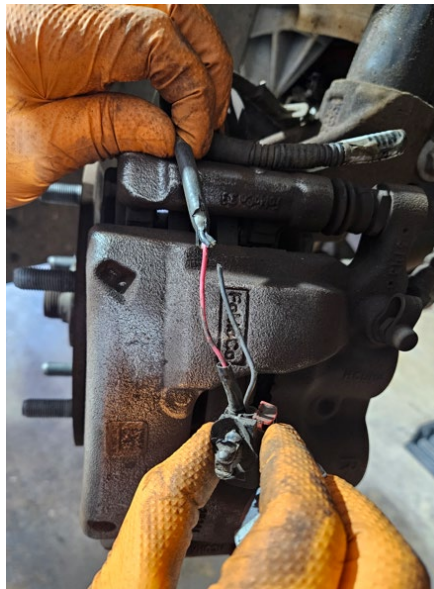


Figure 3



**NGDVTB013 – WHEEL SPEED SENSOR FAULTS & RECOMMENDED ACTIONS**

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5. If you find one or more of these harnesses broken; please order the applicable harness shown below.

Rear WSS (Procedure in Service Manual 4-166):  
5180144 WIRE HARN,CHAS,AWD AXLE (ICE AWD)

Front WSS (Procedure in Service Manual 4-187):  
5177550 WIRE HARN,CHAS,MAIN (ICE AWD/FWD)

6. Remove and replace the defective harness with the good harness ordered, and submit a claim for the parts and labor involved with this repair.

*\*Note-* MY25.5 Software (TSB045 MY25.5 Software Updates) also contains a solution for preventing incorrect signaling going to the Rear Drive Unit based on Loss of Steering Angle at Start-Up (referred to as BL5.3). Updating your truck with MY25.5 Software can also help prevent an RDU failure. If assistance is required with making Model Year 25.5 Software updates (TSB045) please reach out to your Service Supervisor so support can be coordinated.

Revision	Date	Description	Requestor

**Contact Information**

Warranty Support - [ngdvwarranty@defense.oshkoshcorp.com](mailto:ngdvwarranty@defense.oshkoshcorp.com)

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