

**INFORMATION Redacted PURSUANT TO THE FREEDOM OF
INFORMATION ACT (FOIA), 5 U.S.C. 552(B)(6)**

 U.S. Department of Transportation National Highway Traffic Safety Administration		DOT Auto Safety Hotline Vehicle Owner's Questionnaire To Report Vehicle Safety Defects 1-888-DASH-2-DOT (1-888-327-4236) INTERNET: www.nhtsa.dot.gov/hotline		FOR AGENCY USE ONLY 100148	
		Date Received 05-AUG-2015		Repository ☐ Reference No. 10746286	
OWNER INFORMATION (Type or Print)					
Name		Address		Daytime Telephone Number	
City		State		Zip Code	
OAKLAND		MI			
The information you provide will be used to identify potential safety-related defects. We may share your information with the applicable vehicle manufacturer during an investigation or recall in accordance with the routine uses described in the agency's Privacy Act notice. See 49 FR 53971 (Sep. 3, 2004).					
VEHICLE INFORMATION					
17 digit Vehicle Identification Number Located at bottom of windshield on driver's side		Make		Model	
3C63R3FL5FG		RAM		3500	
Date Purchased		Dealer's Name and Telephone Number		Engine:	
MAY 2, 2015		Randy Wise 888-856-8484		No Cylinders	
Original Owner		Dealer's City		Fuel Type	
☒		CLIO		Diesel	
Transmission Type		Antilock Brakes		Incident Date(s)	
Auto		☒		28-JUL-2013	
Powertrain		Multiple Failure			
FAILED COMPONENT(S)/PART(S) INFORMATION					
Vehicle Component Codes: 110000 ELECTRICAL SYSTEM, BRAKES (PWS)				Failure Mileage	
Integrated trailer brake controller fails to provide more than 7 volts to trailer brakes. Should provide PWS				2234	
				Failure Speed	
				50	
ADDITIONAL ITEMS TO BE COMPLETED WHEN REPORTING A TIRE FAILURE					
Tire Make		Tire Model (Name or Number)		Tire Size (Example P215/65R15)	
DOT No. (Example: DOTM19ABC036)		☐ Original Equipment		Failure Location	
		☐ Prior Repair			
Tire Component Code				Tire Failure Type:	
ADDITIONAL ITEMS TO BE COMPLETED WHEN REPORTING A CHILD SEAT FAILURE					
Make:		Date Manufactured		Model No./Name:	
Seat Type		Installation System			
Child Seat Component Code:		Failed Part			
APPLICABLE INCIDENT INFORMATION (Please describe in detail the incident(s), Failure(s), Crash(es), and injury(ies))					
Crash		Fire		Number of Persons Injured	
☐ Yes ☒ No		☐ Yes ☒ No		0	
				Number of Deaths	
				0	
				Reported to Police	
				N	
Narrative Description of Incident(S), Crash(es), and Injury(ies). Please describe (1) events leading up to the failure, (2) failure and its consequences, and (3) what was done to correct the failure; i.e., parts repaired or replaced (and if old part is available).					
THIS IS A PARTICULARLY DANGEROUS SITUATION BECAUSE THERE IS NO METHOD TO KNOW, IN ADVANCE, THE FACTORY INTEGRATED TRAILER BRAKE MODULE (ITBM) WILL FAIL TO PROVIDE FULL VOLTAGE TO THE ELECTRIC TRAILER BRAKES					
I ATTACHED MY 13,000 POUND FIFTH WHEEL TRAILER TO MY TRUCK AND FOLLOWING THE ITBM SETUP STEPS IN THE OWNERS' MANUAL, THE RESULTS WERE AS EXPECTED THERE WERE NO WARNINGS OR INDICATORS SIGNALING AN ISSUE WITH THE ITBM'S ABILITY TO APPLY THE TRAILER'S ELECTRIC BRAKES					
ON TYPICAL CITY/URBAN DRIVING THE BRAKING EFFORT FROM THE TRAILER WAS AS EXPECTED ONCE I ENTERED A MORE RURAL SETTING AND ROADWAY SPEEDS INCREASED TO 50 MPH I DISCOVERED, AS I APPROACH A FAST CHANGING TRAFFIC LIGHT, HARD BRAKING THE TRUCK DID NOT SEND ENOUGH BRAKING SIGNAL TO THE TRAILER AND AS A RESULT I WAS PUSHED WELL INTO THE INTERSECTION FORTUNATELY THE INTERSECTION WAS CLEAR AND NO INJURY OR ACCIDENT RESULTED.					
Include, if available: Police/Fire Department Report, Photos, and Repair Invoice					
ATTACH ADDITIONAL SHEETS IF NECESSARY					
The Privacy Act of 1974-Public Law 93-579 This information is requested pursuant to authority vested in the National Highway Traffic Safety Act and subsequent amendments. You are under no obligation to respond to this questionnaire. Your response may be used to assist the NHTSA in determining whether a Manufacturer should take appropriate action to correct a safety defect. If the NHTSA proceeds with administrative enforcement or litigation against a manufacturer, your response, or a statistical summary thereof, may be used in support of the agency's action.					

From: [Williams, Maritza CTR \(NHTSA\)](#) on behalf of [DataQuality, DataQuality \(NHTSA\)](#)
To: [Abbew, Margaret CTR \(NHTSA\)](#)
Subject: FW: FW: FW: NHTSA: Follow up to ODI Complaint: ----10746286-----
Date: Thursday, September 17, 2015 10:16:00 AM
Attachments: [image002.gif](#)
[2015RAM_ITBM_SafetyConcern.pdf](#)
[GenerlRV_WO.pdf](#)
[SouthfieldChryslerWO.pdf](#)
[VOQ.pdf](#)

Questionnaire.

Maritza L. Marshall-Williams
BLF Technologies Inc.
on assignment with National Highway Traffic Safety Administration,
Dept. Of Transportation
W48-204

[REDACTED]
[REDACTED]
[REDACTED]

From: [REDACTED]
Sent: Thursday, September 17, 2015 4:38 AM
To: DataQuality, DataQuality (NHTSA)
Subject: Fwd: FW: FW: NHTSA: Follow up to ODI Complaint: ----10746286-----

----- Forwarded message -----

From: [REDACTED]
Date: Wed, Sep 16, 2015 at 12:10 PM
Subject: Re: FW: FW: NHTSA: Follow up to ODI Complaint: ----10746286-----
To: EVOQ@dot.gov

Attached documents per your request for additional information.

On Wed, Sep 9, 2015 at 10:45 AM, <EVOQ@dot.gov> wrote:
Please see the attached copy of your recent complaint and instructions. Please make any necessary edits and return via email to dataquality@dot.gov or fax to (202) 366-1767. Due to the volume of complaints we receive and our limited resources, we cannot respond to every complaint.
NHTSA/Office of Defects Investigation



2015 RAM Truck Integrated Trailer Brake Model (ITBM) Safety Concern

By [REDACTED]

[REDACTED]

Oakland, Michigan [REDACTED]

[REDACTED]

[REDACTED]

Published Wednesday, September 16, 2015

[REDACTED] Oakland, Michigan [REDACTED]

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2015 RAM 3500

My vehicle with the safety concern is a 2015 RAM 3500 pick-up truck, VIN: 3C63R3FL5FG [REDACTED]

Safety Concern

The 2015 RAM integrated trailer brake module (ITBM) fails to provide more than 66% or 7 volts of power to the trailer's electric brakes with 100% brake pedal effort or with full movement of the manual brake slide control and the gain set to 10, the maximum. The result is a failure to stop within the expected distance due to lack of the trailer in tow not able to contribute to the braking. The ITBM is factory standard equipment on all RAM 2500 and 3500 trucks except for the off-road and work trucks and optional on the RAM 1500 trucks.

Who Will Experience the Safety Concern

Since the 2015 ITBM's maximum output is about seven volts, trailers with electric brakes that require more than 7 volts to initiate full braking will notice the issue when attempting a fast hard stop. Lighter trailers with smaller electric brakes typically can provide full braking at less than seven volts thus would not be affected by the ITBM issue.

Scope of Affected Vehicles

From the best I can tell, this issue is limited to the 2015 and possibly the 2016 model years. I have a limited sampling of RAM trucks from the model year 2015 with ITBMs and all max out at about 66% braking signal. The ITBM was redesigned for MY15 where it uses industry standard brake pedal signal input. I also own a 2013 RAM with the ITBM and it is capable of providing full electric brake output.

I am also seeing discussions of the ITBM concern on various Internet enthusiast forums leading me to believe my experiences are not unique and the issue is in all 2015 RAM trucks equipped with the ITBMs.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] - Oakland, Michigan [REDACTED]

Discovery of the ITBM Safety Issue

While pulling my 13,000 pound fifth wheel trailer and approaching an intersection, the traffic light turned yellow. The timing was such that it required a faster than normal stop. I realized that I was not going to stop in time even though I am standing on the truck's brakes. The 13,000 pounds I'm pulling pushed me into the intersection, fortunately, there was no cross traffic.

I knew the trailer brakes functioned as expected since they were checked by my RV dealer before I left their lot a month earlier. I verified by pulling the trailer break-away switch and attempting to move the trailer. Next was to put an oscilloscope on the trailer brake line and observe the pulse width modulated signal going to the trailer brakes, this is how the issue was root caused. Documentation support this conclusion is included.

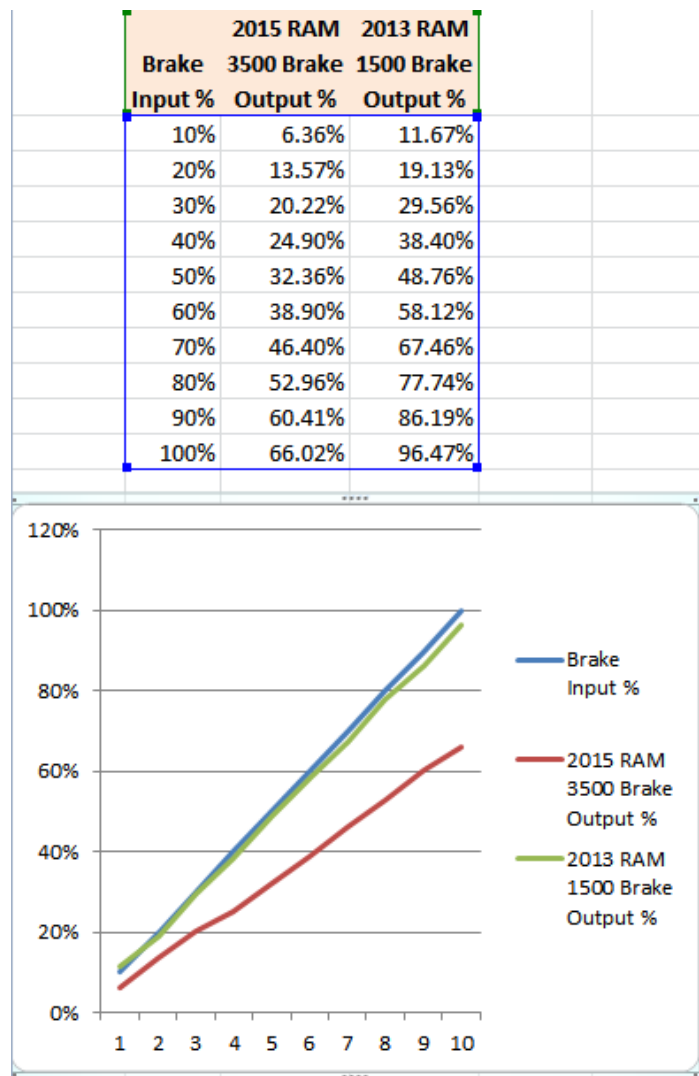
Dealer Repair Attempt Results

The selling RAM dealer would not take the truck for repair since they had no method of testing the ITBM and suggested I visit another dealer. The next RAM dealer had my vehicle a total of 13 service days, they told me they did not have documentation on how the ITBM works or how to troubleshoot it. They worked with Chrysler's support line (STAR) who instructed the dealer to connect a blower motor to the trailer brake wire, since the motor turned with advancement of the manual brake control slide, they deemed the ITBM functioning and suggested I check the trailer's wiring and brakes. I protested the results but was told since STAR said it was working, I would need to contact Chrysler customer relations.

On August 31st, I call Chrysler and spoke with Brianna. She read back the STAR results which indicated they measured a duty cycle on the brake wire at 85%. A first year student would know you can't measure the duty cycle using an electric motor because of the electrical noise made by the motor. Brianna said that she was not technical and suggested I visit another dealer.

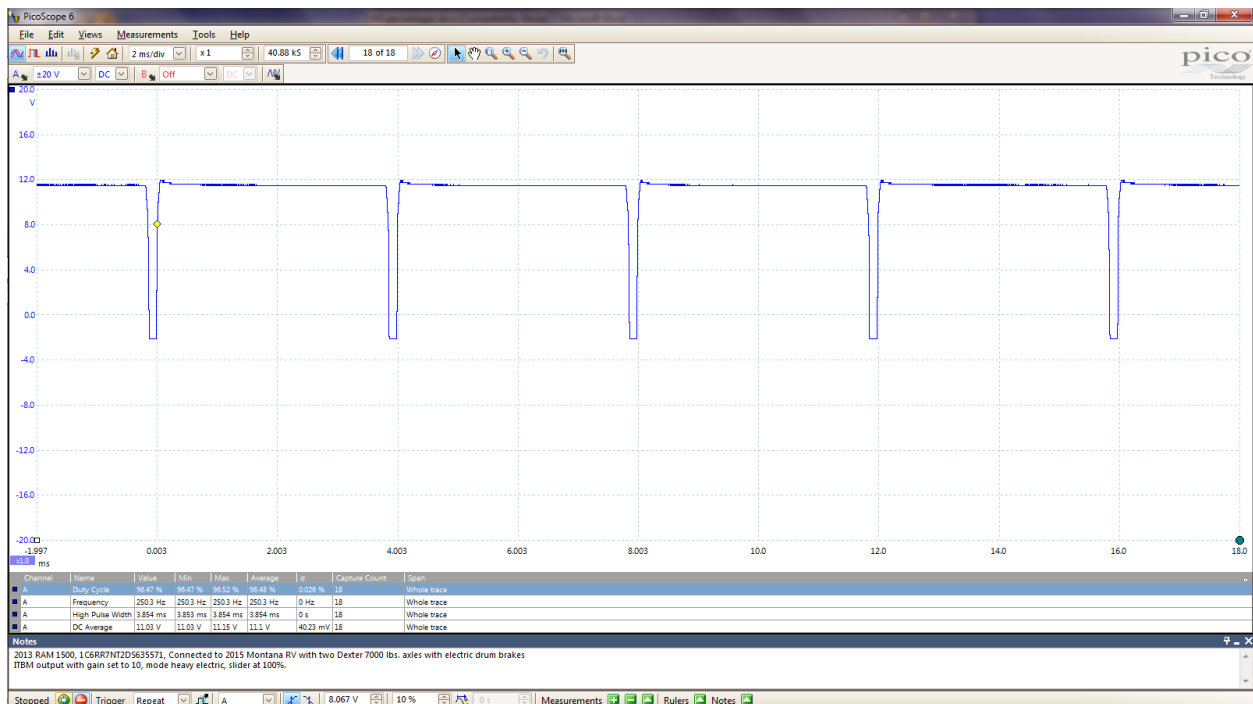
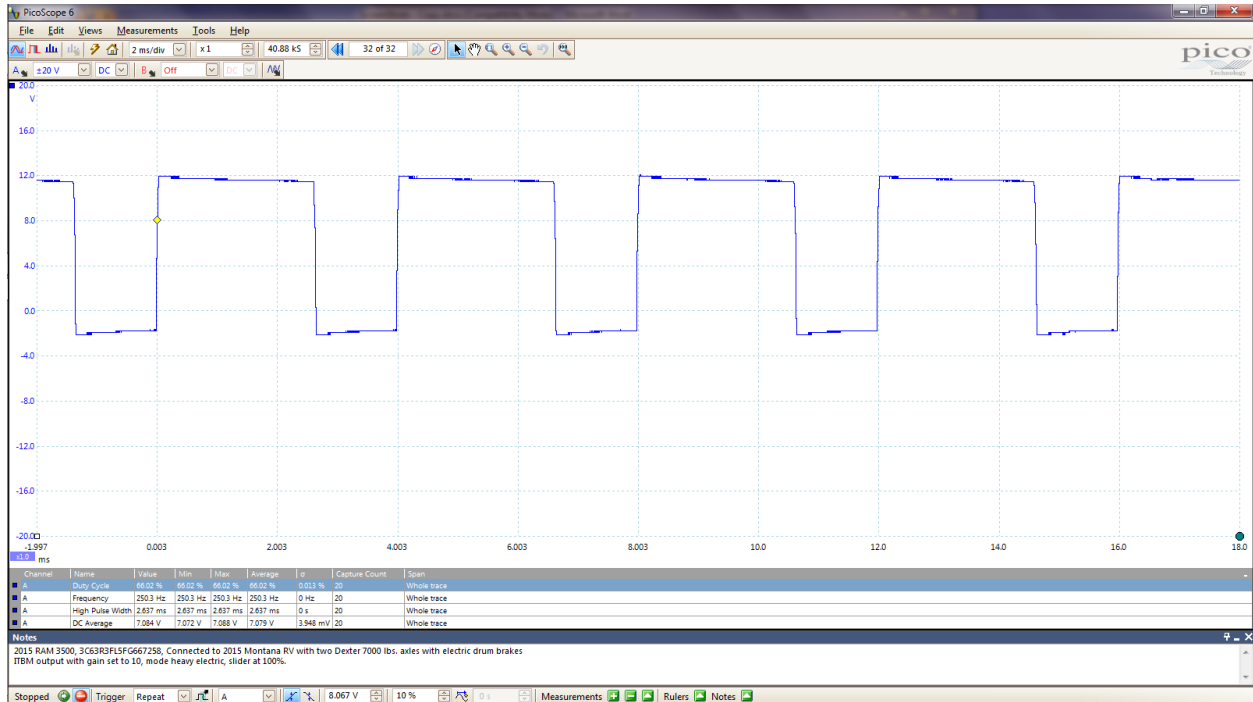
Comparison to a Correctly Working ITBM

The following chart is a comparison between the ITBM in my 2013 RAM (VIN: 1C6RR7NT2DS[REDACTED]) and the one in my 2015 RAM. It is easy to see the short comings of the 2015 ITBM. Notice how the 2013 ITBM traces near even with the brake input percentage, this is proportional braking. Also disturbing is how the 2015 ITBM reaches its maximum output at 66% or about 7 volts, far from the required voltage of 12 volts required by heavy trailer axles like the 7,000 pound Dexter axles used on my 2015 Montana RV trailer.



Oscilloscope Images of the ITBM Trailer Brake Signals

The following two oscilloscope screens show the ITBM brake line output going to a 2015 Keystone Montana 3790RD RV trailer. In both screens, the ITBM gain is set to 10, the maximum, with the manual brake control slide fully deployed to provide 100% brake input to the ITBM. The first shows the 2015 ITBM and the second shows the ITBM in a 2013 RAM. The differences are notable.



- Oakland, Michigan

Trailer Brakes Verified Functional

Please refer to the attached work order from General RV, Birch Run Michigan. Work order item 4 notes they tested the brakes on my Montana RV trailer and found them to be working as designed.

Chrysler Dealer Work Order

Please refer to the attached work order from Southfield Chrysler, this is the first dealer repair attempt. They used a blower motor, at the direction of Chrysler, to test the ITBM output. Using this method with an uncharacterized motor, they have no indication of what the ITBM provided in either voltage or duty cycle. Using an electric motor would make it impossible to measure the duty cycle or average DC voltage because of the electrical noise the motor generates. They should have used an electric brake electro magnet to properly test and measure.

[REDACTED] - Oakland, Michigan [REDACTED]

Email Exchange with Chrysler

Below is the email exchange about the ITBM issue between Chrysler and myself. As of today, I've not heard any further from Chrysler since September 2nd, 2015. What is troubling is the response from the quality/engineering manager, he or she, clearly demonstrates their lack of knowledge of how a proportional brake controller should operate by suggesting speed instead of brake force of the tow vehicle.

RAM ITBM

4 messages

Thu, Aug 20, 2015 at 2:06 PM

To: mike.macdonald@chrysler.com

Mike,

I have come across a particularly dangerous situation involving my 2015 RAM 3500 with the integrated trailer brake module (ITBM). While traveling south on Van Dyke Road approaching 34 Mile Road pulling my 13,000 pound fifth wheel trailer, the traffic light turned yellow. The timing was such that it required a faster than normal stop. I realized that I was not going to stop in time even though I am standing on the truck's brakes. The 13,000 pounds I'm pulling pushed me into the intersection, fortunately, there was no east bound cross traffic.

The trailer is brand new and its brakes checked out before leaving General RV in Birch Run. I took a look at the electrical signals on the brake line and discovered the ITBM can only provide seven volts of power or about 63% braking signal to the trailer (the standard is 97% duty cycle, 12 volts). While seven volts may provide adequate braking for smaller (less than 10K pounds) trailers it is not enough for a 13,000 pound trailer which requires additional voltage or duty cycle since the brake signal is pulse width modulated.

What makes this a particularly dangerous situation is there is no indication this will happen until it does.

I've gone to a Chrysler dealer, they looked at the truck, contact STAR for diagnostics (case number [REDACTED]) support. They connected a blower motor to the brake line and told me the blower motor turned. They assumed the brake line was working and told me to check my trailer wiring.

I've characterize my 2015 RAM ITBM as well as my 2013 RAM ITBM along with 2007 Chevy ITBM and an aftermarket trailer brake module and discovered the 2015 ITBM does not provide more than 63% brake signal. I understand the ITBM is a new part number for MY15.

I am attempting to get the attention of someone at Chrysler who has the ability to look in to this issue. I have collected the data and as data is, it does lead us to the root cause. Are you in a position to assist me? If not, can you

[REDACTED] - Oakland, Michigan [REDACTED]

recommend someone?

Here is a link to the characterization of the brake controllers;

Thank you,

[REDACTED]
[REDACTED]
Oakland, Michigan [REDACTED]
[REDACTED]

MacDonald Mike (FCA) <mike.macdonald@fcagroup.com>

Thu, Aug 20, 2015 at 2:15 PM

To: [REDACTED]

Hi [REDACTED]

I've forwarded your email on to one of our quality/engineering managers for review.

Mike MacDonald

Executive Referrals Manager

FCA US LLC

[REDACTED] - Oakland, Michigan [REDACTED]

2015 RAM Truck Integrated Trailer Brake Model Safety Concern

CIMS 423-04-02

26001 Lawrence Avenue, Centerline, MI 48015

Office: [\(586\) 274 - 8085](tel:(586)274-8085)

Fax: [\(586\) 497 - 1294](tel:(586)497-1294)

Email: Mike.MacDonald@FCAGroup.com

From: [REDACTED]
Sent: Thursday, August 20, 2015 2:06 PM
To: MacDonald Mike (FCA)
Subject: RAM ITBM

[Quoted text hidden]

MacDonald Mike (FCA) <mike.macdonald@fcagroup.com>

Wed, Sep 2, 2015 at 6:19 AM

To: [REDACTED]

Good Morning [REDACTED]

I'm sorry for the delay in getting back with you, but I had forwarded your email to one of our quality/engineering managers. He provided me with the following information:

Mike:

The customer is measuring this system incorrectly. You can't measure the ITBM (Integrated Trailer Brake Module) output voltage while the vehicle is standing still. ITBM output is a function of vehicle speed even when using the

[REDACTED] - Oakland, Michigan [REDACTED]

2015 RAM Truck Integrated Trailer Brake Model Safety Concern

manual brake control. If you want to use a volt meter, you will need back probe the connector and go for a ride. Get some vehicle speed up and initiate the manual control. You should see significantly higher voltages. With the gain cranked up you will probably be able to lock up the trailer tires. If you can't come close to locking them up and you are seeing 12 to 13 V output, there is a problem with the supply voltage or output at the module. Most likely a spread terminal or loose connector. Please have the customer also assure that his trailer connector and electrical system are in working order.

Let me know if you have any other questions.

Thank you

Mike MacDonald

Executive Referrals Manager

FCA US LLC

CIMS 423-04-02

26001 Lawrence Avenue, Centerline, MI 48015

Office: [\(586\) 274 - 8085](tel:(586)274-8085)

Fax: [\(586\) 497 - 1294](tel:(586)497-1294)

Email: Mike.MacDonald@FCAGroup.com

[REDACTED] - Oakland, Michigan [REDACTED]

2015 RAM Truck Integrated Trailer Brake Model Safety Concern

From: [REDACTED]
Sent: Thursday, August 20, 2015 2:06 PM
To: MacDonald Mike (FCA)
Subject: RAM ITBM

Mike,

[Quoted text hidden]

[Quoted text hidden]

[REDACTED] Wed, Sep 2, 2015 at 10:18 AM

To: "MacDonald Mike (FCA)" <mike.macdonald@fcagroup.com>

Good day Mike,

Thank you for the response Mike, very much appreciated. I do have a difference of opinion of the ITBM operation which is supported. ITBM output is independent of vehicle speed but dependent on brake pedal force. This is easily demonstrated using the vehicle's EVIC brake scale gauge in a stationary vehicle.

The manual brake slide control (or vehicle's brake pedal) will vary the ITBM's output from zero to maximum output with respect to the current gain setting of the ITBM. A gain setting of 10 or 100%, should provide a duty cycle on the brake line at near 100% with a DC voltage equal to the battery voltage less the ITBM's parasitic loss. The manual brake slide control has to work in this fashion since it is used to set the gain of the ITBM. This operational characteristic is supported by the owners' manual for setting up the ITBM's gain. If you recall from my initial message, my 2013 RAM also has the ITBM and it works as described here. It also provides near 100% duty cycle to my trailer whereas the 2015 ITBM can only produce a maximum 65% duty cycle which is less than what is need for full trailer braking.

I had General RV recheck the trailer brakes and wiring and they found it to be functional and operating as expected. This is the second time I had them check the trailer's brakes, I want to remove any doubt the trailer or its wiring has an issue. I have two other trailers in my fleet, a 26 foot dual axle travel trailer and an 18 foot utility flatbed trailer, dual axle, electric brakes on both axles. The ITBM in my 2015 RAM 3500 behaves the same on all three of my trailers.

[REDACTED] - Oakland, Michigan [REDACTED]

I did probe the ITBM's trailer brake wire during my initial investigation just after I failed to make a hard stop. I used a 100 MHz Picoscope to capture and measure the brake line output. I verified the Picoscope trace using a Fluke 289 Multimeter setup to capture duty cycle and PWM period frequency. The results of the Fluke support the Picoscope trace which can be viewed here;

[REDACTED]

The scope traces captured were unchanged from what is shown in the link between stationary and moving. While moving, I followed the owners' manual nine step procedure to set the ITBM gain. I never experienced more than 65% duty cycle.

I am more than able to provide you with any testing you may have an interest in. I would like to get to the root cause of this issue so a fix can be applied to my vehicle. I want to be able to tow knowing I am able to safely stop under any circumstance.

Thank you,

[REDACTED]

[REDACTED]

Oakland, Michigan [REDACTED]

[REDACTED]

[REDACTED] - Oakland, Michigan [REDACTED]

About [REDACTED]

[REDACTED] is a Principal Engineer and Engineering Manager for Lear Corporation, a leading Tier One automotive supplier. [REDACTED] is enjoying a career that began in 1983 having focused in embedded software development. [REDACTED] experiences cover most automotive electronics including powertrain control, climate control, instrument clusters, smart power distribution, and body control modules. [REDACTED] is well versed in troubleshooting complex circuits in automotive architectures and currently leads an engineering team responsible for the entire vehicle electrical architecture for four Ford vehicle platforms. [REDACTED] also holds an Extra Class Amateur Radio license issued by the FCC after demonstrating a high level of electronics knowledge.

Diagnostic Equipment Used

The following equipment was use to diagnose the ITBM behaviors and concluded the ITBM safety concern.

Fluke 289 Digital Meter

Fluke i1010 DC Current Clamp Probe

Picoscope 100 MHz Oscilloscope

Vector CANoe, a tool used to analyze controller area networks buses (CAN) in vehicles

[REDACTED] - Oakland, Michigan [REDACTED]

GENERAL RV CENTER
12410 DIXIE HWY
BIRCH RUN MI
US
48415
989-624-7000

CUSTOMER WORK ORDER # [REDACTED]

Completed: 10 SEP 15
Invoice #:
Author: ASHLEY
Stock No: [REDACTED]
Year/Make: 2015 MONTANA 3790RD
Model: 3790RD
Serial No: [REDACTED]
Chassis No: [REDACTED]
Mileage:
Key No:
Location: IH
Reqn No:
Warr. Date: 06 JUN 15
Cust PO#:

Customer: [REDACTED]
Address: [REDACTED]
OAKLAND, MI
Home Phone: [REDACTED]
Work Phone:
Purchase Date: 06 JUN 15
Date In: 31 AUG 15
Promise Date:
Schedule Date:
License No: R
Trim:
Promise Time:

Job # Description JOB INFORMATION

- 1 P- CUSTOMER STATES THAT AWNING LED STRIP DOES NOT WORK
- **PART HERE**
- .
.
R--REMOVED AWNING FABRIC REINSTALLED.
REMOVED OLD LED LIGHTING AND INSTALLED
NEW LED LIGHTING
.
.
.
- 2 P- CUSTOMER STATES THE TOILET BOWL DOES NOT HOLD WATER
- (ON WO 53457 WE GROUND DOWN BALL VALVE STOPPER PER FACTORY TO IT WOULD SIT EVENLY. R&R UPPER BOWL ADN LINES. THIS DID NOT FIX ISSUE)
- .
.
C--GASKETS NEED LUBRICATION AND CLEANED
.
.
.
R--CLEANED AND SILICONED GASKETS AS
BASE OF BOWL AND BASE. TESTED WITH FULL
BOWL. WORKING AS DESIGNED

Continued on page 2

work Order : [REDACTED].
.
.

3 P- CUSTOMER STATES THAT COACH DOESNOT
GET TV ANT SIGNAL IN "BASEMENT" TV ANT
JACK

.
.

C--TURNED ON ANT BOOSTER INSDIE GARAGE

.
.

R--HAD 12 CHANNELS NO PROBLEM FOUND

.
.

THIS REPAIR IS A ONE TIME GOODWILL
GESTURE.THERE IS NO WARRANTY ON
GOODWILL GESTURES PERFORMED BY GENERAL
RV CENTER.

4 P- CUSTOMER STATES WOULD LIKE COACH
BRAKES TESTED AND NOTE TO RULE OUT
TRAILER ISSUE (THINKS IT IS TRUCK
PROBLEM)

.
.

C--TESTED BRAKES

.
.

R--BRAKES OPERATING AS DESIGNED

.
.

THIS REPAIR IS A ONE TIME GOODWILL
GESTURE.THERE IS NO WARRANTY ON
GOODWILL GESTURES PERFORMED BY GENERAL
RV CENTER.

5 P- CUSTOMER STATES FITH WHEEL PIN HITCH
HAS MOVEMENT AROUND BOTLS

PLEASE INSPECT

.
.

R--TIGHTENED ALL PIN BOX BOLTS WITH
IMPACT WRENCH

.
.

6 P- CUSTOMER STATES HE WOULD LIKE FAN FAN

Continued on page 3

Work Order : [REDACTED]

QUOTE FOR INSTAL ON REAR DEN

LABOR \$194 PLUS PARTS

R-- CUST DECLINED THIS REPAIR

Job Estimate: 1.50

P- CUSTOMER STATES THAT INTERIOR
CEILING LED LIGTHS BEHIND MOLDING ARE
FALLING OFF/NOT ATTACHED. THE LIGHT IS
THEREFORE NOT DIRECTED AT CELEING AND
PRODUCES DARK SPOTS.

C--LIGHTS NEEDED TO BE REATHCED

R-- REATTACHED LED LIGHTING WITH GLUE
IN CIELING BEHIND CROWN MOLDINGS

```
*****
Part No Job# Description      PARTS      Qty      Price      Total
*****
421669      1 LED LHT STRP W/TRA      1.00      W      -N/C-
```

```
*****
Lab Code Job# Description      LABOUR      Rate      Total
*****
Z992      1 LED LIGHTS      GSS      W      -N/C-
Z992      2 TOILET      GSS      W      -N/C-
Z992      4 BRAKES      GSS      W      -N/C-
Z992      3 TV      GSS      W      -N/C-
Z992      5 PIN BOX      GSS      W      -N/C-
Z992      7 LED IN LIVING      GSS      W      -N/C-
```

```
*****
Excode Job# Description      EXTRAS      Qty      Price      Total
*****
FRTUPSW      1 UPS ON WARRANTY WORKORDERS      1.00      W      -N/C-
```

CUSTOMER COMMENTS

9/3 CUST CALLED FOR UPDATE. COACH NOT IN SHOP. HE STATES HE
NEEDS BACK BY 9/11. WILL GIVE HIME QUOTE FOR FAN. OFFERED QUOTE
FOR PAINT AT 550 AND HE DECINED.-APH

Continued on page 4

Work Order : [REDACTED]

9/4 EMAILED CUST UPDATED INFO REGARDING FAN FAN AND
SPECIFICATIONS WAITING ON REPSONSE FOR AUTH-APH

@ 12:15 DECLINED FAN AT THIS TIME-APH

9/10 @ 8:57 CALLED [REDACTED] AND LET HIM KNOW COACH COMPLETE.
HE WILL PICK UP TODAY.-APH

Parts Total:	0.00
Labour Total:	0.00
Sublet Total:	0.00
Extras Total:	0.00
Work Order Total:	0.00

Customer Signature: _____

Date: 10 SEP 2015

TERMS: STRICTLY CASH (UNLESS OTHER ARRANGEMENTS HAVE BEEN MADE)

NOTICE

ALL SERVICE UNITS MUST BE PICKED UP WITHIN 48 HOURS AFTER
NOTIFICATION OF COMPLETION BY OUR SERVICE DEPARTMENT.
DUE TO LIMITED SPACE A \$10.00 PER DAY STORAGE WILL
ACCUE AFTER THE 48 HOUR PERIOD.

WORK ORDER WAS COMPLETED AND CUSTOMER WAS CONTACTED ON THIS
DATE _____ TIME _____

I/WE THE UNDERSIGNED ACKNOWLEDGE THE FORGOING AS FACTUAL AND I/WE HEREBY
ACKNOWLEDGE RECEIPT OF COMPLETED COPY.

ALSO
I HAVE INSPECTED MY VEHICLE AND THE REPAIRS ARE COMPLETED TO MY
SATISFACTION.

CUSTOMERS SIGNATURE _____ DATE _____

NOTE

ALL LABOR REPAIR CONCERNS MUST BE BROUGHT TO THE
ATTENTION OF SERVICE MANAGEMENT WITH-IN 90 DAYS.

THANK YOU FOR CHOOSING GENERAL R.V. SERVICE CENTERS.



28100 Telegraph Road
Telegraph at 11 1/2 Mile
Southfield, MI 48034

Phone 248.354.2950
Fax 248.352.3776
www.southfieldchrysler.com

CUSTOMER
WORK ORDER



RECOMMENDED SERVICES

OPERATION	OPERATION DESCRIPTION	MO/MI	TOTAL	OPERATION	OPERATION DESCRIPTION	MO/MI	TOTAL
22JTZBALANCE 26JTZ9KSMART	ROTATE&BALANCE* 9000 MILE MAINT	MI MO	44.95 0.00	26JTZ3KSMART	3000 MILE MAINT	MI	0.00

SERVICE HISTORY

STATE REG. NO. F-165683

DATE	REPAIR ORDER	MILEAGE	ADVISOR	TECHNICIAN	TYPE	OPERATION	OPERATION DESCRIPTION

SALESPERSON NO.

S E R V I C E

STATE REG# F137496

TERMS ☐ CASH ☐ CREDIT CARD ☐ CHECK (PRIOR APPROVAL) ☐ OTHER ☐ SAVE REMOVED PARTS FOR CUSTOMER ☐ YES ☐ NO ☐ ALL PARTS ARE NEW UNLESS SPECIFIED OTHERWISE	VEHICLE I.D. NO. 3C63R3FL5FG	YEAR/MAKE/MODEL 15/DODGE	TRUCK/3500 DIESEL (6.7L/35	PRODUCTION DATE	STOCK NO.	LICENSE NO.	R.O. NO.	
				CUSTOMER NO.	SERVICE CONTRACT	DELIVERY DATE	DELIVERY MILES	
				COLOR	CONTRACT NO.	EXPIRATION DATE	EXPIRATION MILES	
	OAKLAND, MI			TURBO	M/MC	AIR COND.	P.S.	
				TRANS	MILEAGE	ADVISOR NO.	ADVISOR	
				3,060	564	JOSEPH NALL		
	RESIDENCE PHONE	BUSINESS PHONE	I HEREBY AUTHORIZE THE REPAIR WORK HEREIN SET FORTH TO BE DONE ALONG WITH THE NECESSARY MATERIALS AND AGREE THAT YOU ARE NOT RESPONSIBLE FOR LOSS OR DAMAGE TO VEHICLE OR ARTICLES LEFT IN VEHICLE IN CASE OF FIRE, THEFT OR ANY OTHER CAUSE BEYOND YOUR CONTROL. OR FOR ANY DELAYS CAUSED BY UNAVAILABILITY OF PARTS OR DELAY IN PARTS SHIPMENTS BY THE SUPPLIER OR TRANSPORTER. I HEREBY GRANT YOU AND/OR YOUR EMPLOYEES PERMISSION TO OPERATE THE VEHICLE HEREIN DESCRIBED ON STREETS, HIGHWAYS, OR ELSEWHERE FOR THE PURPOSE OF TESTING AND/OR INSPECTION. AN EXPRESS GARAGE KEEPER'S LIEN IS HEREBY ACKNOWLEDGED ON ABOVE VEHICLE TO SECURE THE AMOUNT OF REPAIRS THERETO. I UNDERSTAND THAT PURSUANT TO SAID EXPRESS GARAGE KEEPER'S LIEN, I HAVE NO RIGHT OF POSSESSION TO THE VEHICLE UNTIL THE REPAIRS THERETO HAVE BEEN PAID IN FULL OR UNTIL YOU AND/OR YOUR EMPLOYEES HAVE VOLUNTARILY RELEASED THE VEHICLE TO ME. A STORAGE FEE OF \$20.00 PER DAY WILL BE CHARGED 48 HOURS AFTER NOTIFICATION OF REPAIR COMPLETION.					
APPOINTMENT ☒ Yes ☐ No	TIME RECEIVED 07:09am	DATE/ESTIMATED COMPLETION 08/06/15	PRIORITY 09:00pm	5	X			CUSTOMER LABOR RATE IS BASED ON A PER FLAT RATE UNIT WHICH IS PREDICATED ON A TIME STUDY GUIDE, AND MAY NOT REFLECT THE ACTUAL HOURS WORKED.
LABOR RATE				X				CUSTOMER SIGNATURE

JOB	ORIGINAL CUSTOMER ESTIMATE:			PARTS 0.00	LABOR 0.00	TOTAL 0.00
X						
1	W 05JTZ	BRAKE REPAIRS				
Customer states that the trailer brake is putting out 6 volt s instead of 12 (Brake Systems Concern)						
2	C 26CHY	16 POINT INSPECTION				
(Multi-point inspection according to maintenance interval)						
3	W 99JTZ	RENTAL CAR				
RENTAL CAR REIMBURSEMENT						
[REDACTED]						
18010941438						
VEHICLE INSPECTION CUST. INITIALS						



28100 Telegraph Road
Telegraph at 11 1/2 Mile
Southfield, MI 48034

Phone 248.354.2950

Fax 248.352.3776

www.southfieldchrysler.com

INVOICE



SERVICE HOURS

MON. & THURS. 6:00 AM - 9:00 PM
TUES. & WED. 6:00 AM - 7:00 PM
FRIDAY 6:00 AM - 6:00 PM
SATURDAY 8:00 AM - 3:00 PM

ZONE DEALER CODE 42-26943
STATE REG. NO. F-165717

WE ACCEPT:



STATE REG. NO. F-165683

CUSTOMER NO.	ADVISOR	TAG NO.	INVOICE DATE	INVOICE NO.
	JOSEPH NALL	564 4973	08/19/15	
	LICENSE NO.	MILEAGE	COLOR	
		3,060		
	YEAR / MAKE / MODEL		DELIVERY DATE	DELIVERY MILES
	15/DODGE TRUCK/3500 DIESEL (6.7L/350			
OAKLAND, MI	VIN NO.		SELLING DEALER NO.	PRODUCTION DATE
	3 C 6 3 R 3 F L 5 F G			
	F.T.E. NO.	PURCHASE ORDER NO.	REPAIR ORDER DATE	ALL PARTS ARE NEW UNLESS SPECIFIED OTHERWISE
			08/06/15	
AREA CODE RESIDENCE PHONE	AREA CODE BUSINESS PHONE	REMARKS		MILEAGE OUT

MO: 3060

LABOR & PARTS			
J# 1 05JTZ	BRAKE REPAIRS	UNITS: TECH(S):378	WARRANTY
Customer states that the trailer brake is putting out 6 volt s instead of 12 (Brake Systems Concern) CNV NO CODES. HOOKED UP BLOWER MOTOR IN LINE WITH TRAILER CONNECTOR & TESTED PER STAR CASE 953748. EVERYTHING IS WORKING PROPERLY. CUSTOMER NEEDS TO HAVE TRAILER BRAKES CHECKED FOR PROPER FEED & GROUND			
JOB # 1 TOTAL LABOR & PARTS			0.00
J# 2 26CHY	16 POINT INSPECTION	UNITS: 0.00 TECH(S):378	0.00
(Multi-point inspection according to maintenance interval) PREVENTATIVE MAINTENANCE 16 Point Inspection All			
JOB # 2 TOTAL LABOR & PARTS			0.00
J# 3 99JTZ	RENTAL CAR	UNITS: 0.00 TECH(S):378	WARRANTY
RENTAL CAR REIMBURSEMENT GOODWILL			
JOB # 3 TOTAL LABOR & PARTS			0.00

SUBLET	PO#	VEND	INV#	INV.DATE	DESCRIPTION	WARRANTY
JOB # 3				08/06/15	INV# WALCHLI	
TOTAL - SUBLET						0.00

ESTIMATE
CUSTOMER HEREBY ACKNOWLEDGES RECEIVING
ORIGINAL ESTIMATE OF \$0.00 (+TAX)

THE ONLY WARRANTIES APPLYING TO THIS PART(S) ARE THOSE WHICH MAY BE OFFERED BY THE MANUFACTURER. THE SELLING DEALER HEREBY EXPRESSLY DISCLAIMS ALL WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY LIABILITY IN CONNECTION WITH THE SALE OF THE PART(S) AND/OR SERVICE. BUYER SHALL NOT BE ENTITLED TO RECOVER FROM THE SELLING DEALER ANY CONSEQUENTIAL DAMAGES, DAMAGES TO PROPERTY, DAMAGES FOR LOSS OF USE, LOSS OF TIME, LOSS OF PROFITS, OR INCOME, OR ANY OTHER INCIDENTAL DAMAGES.

SHOP SUPPLIES 15% OF THE LABOR CHARGE MAX \$25.00 FOR WORK DONE IS INCLUDED FOR SUPPLIES USED ON YOUR VEHICLE. APPLICABLE SUPPLY ITEMS ARE: NUTS, BOLTS, WASHERS, TAPE, PINS, AEROSPRAY, SHELLAC, SOLVENT, RAGS, BATTERY CLEANER, TOWELS, SOLDER, CARBURETOR CLEANER, HAZARDOUS WASTE AND/OR OTHER TOXIC SUBSTANCES PER THE WASTE DISPOSAL ACT EPA, R.C.R.A.

All repairs and parts listed were furnished in compliance with the Michigan Motor Vehicle Service and Repair Act.

REPAIRS PROPERLY COMPLETED AND CHECKED BY:

X

POWER OF ATTORNEY - KNOW ALL MEN THESE PRESENTS. That the undersigned does hereby constitute and appoint SOUTHFELD DODGE CHRYSLER JEEP RAM my (our) true and lawful attorney to sign name, place and stead of the undersigned on any Insurance Checks or Drafts issued by Insurance Company covering any repairs to my (our) automobile authorized by myself (ourselves) in whatever manner is necessary to place check or draft in a cashable position.

I (we) hereby ratify and confirm whatever action said attorney shall or may take by virtue hereof in the premises.

THE ABOVE WORK HEREBY AUTHORIZED AND CONDITIONS AGREED TO AS OUTLINED ABOVE.

Signed

IMPORTANT

You may receive a questionnaire from CHRYSLER in the next few weeks. If for any reason you cannot grade us VERY SATISFIED Please contact our Service Director SEAN NELSON at 248-354-2950 before you return the questionnaire
THANK YOU
Your Friends and staff at
SOUTHFELD DODGE
CHRYSLER JEEP
RAM

MOPAR'S Basic Limited Warranty

DEALER INSTALLED PARTS AND ACCESSORIES 12 months or 12,000 miles
from the original installation date, whichever occurs first. Excluding seals and gaskets.