FREIGHTLINER CAE DEALER LETTER #139

DATE: November 12, 2013

TO: U.S. / Canadian Dealer Principals, General & Sales Managers, Salespeople
U.S. / Canadian General, Regional, District Sales & Service Managers
Select Daimler Personnel

FROM: Customer Application Engineering

As part of Daimler, Freightliner Trucks is committed to high ethical standards in all business transactions through compliance with the Daimler Integrity Code and our company's policies and guidelines. Freightliner Trucks does not tolerate unethical or corrupt business practices by its employees or its business partners.

TOPICS

- **INTERIOR STORAGE** – Side Storage Bins Removed from Certain Cascadia Sleepers
- **SEAT BELTS** – Height Adjustment Removed from Cascadia Passenger Side Seat Belt
- **FUEL TANKS** – Fuel Tank Changes for 25" and 23" Tanks for Model Year 2015
- **TRANSMISSION** – Correction to Allison 5th Gen Module 84L Definition Example
- **ADMINISTRATION** – Model Year 2015 Changeover Date Established
- **APPENDIX A** – 25" and 23" Diameter Cylindrical Fuel Tank Changes
- **APPENDIX B** – Revised Allison 5th Gen New Modules and Definitions

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INTERIOR STORAGE

Cascadia

BD586
P44206

Effective: Chassis Starts on January 13, 2014

The over-door LH & RH storage bins will no longer be available in Cascadia sleeper models with base level (non-Premium) interiors.

The over-door LH & RH storage bins remain as a standard feature in Cascadia sleepers with *Premium Interiors.*

There is no data code or Truck Sales Order impact.

SEAT BELTS

Cascadia

BD458
P45314

Effective: Chassis Starts on January 13, 2014

The Cascadia passenger-side seat belt will no longer include a vertical height adjustment feature. Vertical height adjustment will remain as a standard feature on the driver's seat belt.

DISCONTINUED		REPLACED BY	
763-011	3 POINT ADJUSTABLE D-RING RETRACTOR DRIVER AND PASSENGER SEAT BELTS	763-1AA	3 POINT ADJUSTABLE D-RING RETRACTOR DRIVER AND FIXED D-RING RETRACTOR PASSENGER SEAT BELTS
763-054	3 POINT HIGH VISIBILITY ORANGE ADJUSTABLE D-RING RETRACTOR DRIVER AND PASSENGER SEAT BELTS	763-1AB	3 POINT HIGH VISIBILITY ORANGE ADJUSTABLE D-RING RETRACTOR DRIVER AND FIXED D-RING RETRACTOR PASSENGER SEAT BELTS
763-085	3 POINT ADJUSTABLE D-RING RETRACTOR DRIVER AND PASSENGER SEAT BELTS WITH DRIVER SEAT BELT STATUS INDICATOR LIGHT AND AUDIBLE ALARM	763-1AD	3 POINT ADJUSTABLE D-RING RETRACTOR DRIVER AND FIXED D-RING RETRACTOR PASSENGER SEAT BELTS WITH DRIVER SEAT BELT STATUS INDICATOR LIGHT AND AUDIBLE ALARM
763-088	3 POINT HIGH VISIBILITY ORANGE ADJUSTABLE D-RING RETRACTOR DRIVER AND PASSENGER SEAT BELTS WITH DRIVER SEAT BELT STATUS INDICATOR LIGHT AND AUDIBLE ALARM	763-1AE	3 POINT HIGH VISIBILITY ORANGE ADJUSTABLE D-RING RETRACTOR DRIVER AND FIXED D-RING PASSENGER SEAT BELTS WITH DRIVER STATUS INDICATOR LIGHT AND AUDIBLE ALARM

FUEL TANKS

CC383
P42243
CC636
P43826

Effective: Chassis Starts on January 13, 2014

Tank lengths for 25" and 23" diameter cylindrical fuel tanks have been revised to reflect the total tank interior volume (the theoretical maximum liquid capacity) indicated in the data code descriptions. This change will apply to Freightliner models with *2013 OBD/2010 EPA/CARB/GHG 14* (99C-013), *Euro IV* (99C-040), and later emission levels. This revision will produce greater uniformity with common industry practice.

Note that Federal Motor Carrier Safety Regulations (49CFR Ch.III Part 393.67(c)(12)) require that diesel tanks manufactured on or after January 1, 1973 be constructed so that normal filling operations will result in a fuel fill of no more than 95% of the tank's interior volume (the theoretical maximum liquid capacity).

The tabulation in Appendix A summarizes the size changes for 25" and 23" diameter cylindrical fuel tanks.

There is no data code or Truck Sales Order impact.

TRANS

Our colleagues at Allison Transmission noted an error in the *Allison 5th Gen New Modules and Definitions* appendix originally published in Freightliner Dealer Letter #137.

Appendix B: *Allison 5th Gen New Module Definitions* contains corrections to the 84L (TCU-LBSS & VAC) definition as indicated by underlined text.

ADMIN

Sales announced that Freightliner Model Year 2015 (MY2015) production for US and Canadian vehicles will commence with chassis starts on Monday, January 13, 2014.

Truck Change Orders will be issued. As indicated in Brian Cota's October 28, 2013 letter, any Requested Delivery Dates falling in February 2014 or later will be interpreted as MY2015 requests.

Appendix A: 25” and 23” Diameter Cylindrical Fuel Tank Changes

		Data Code Volumes (gallons):	50	60	70	80	90	100	110	120	130	140	150
25" Diameter	Current	Shell Length, Current (inches)	23.0	28.0	33.0	38.0	43.0	48.0	52.5	57.5	62.5	67.5	72.5
		Tank Interior Volume (gallons)	55.5	66.1	76.8	87.4	98.0	108.6	118.2	128.8	139.5	150.1	160.7
		Approximate Fill Capacity (gallons)	52.7	62.8	72.9	83.0	93.1	103.2	112.3	122.4	132.5	142.6	152.7
	New for Model Year 2015	Shell Length, MY2015 (inches)	N/A	25.5	30.0	35.0	39.5	44.0	49.0	53.5	58.5	63.0	67.5
		Tank Interior Volume (gallons)	N/A	60.8	70.4	81.0	90.6	100.1	110.8	120.3	131.0	140.5	150.1
		Approximate Fill Capacity (gallons)	N/A	57.8	66.9	77.0	86.0	95.1	105.2	114.3	124.4	133.5	142.6
	Difference	**Fuel+Shell Weight Reduction (lbs)**	**N/A**	**38.0**	**45.5**	**45.5**	**53.8**	**61.4**	**53.8**	**61.4**	**61.4**	**69.0**	**76.6**
		Tank Length Reduction (inches)	**N/A**	**2.5**	**3.0**	**3.0**	**3.5**	**4.0**	**3.5**	**4.0**	**4.0**	**4.5**	**5.0**
23" Diameter	Current	Shell Length, Current (inches)	27.5	33.5	39.5	45.5	51.5	57.5	63.5	69.5	75.0	81.0	86.5
		Tank Interior Volume (gallons)	53.2	63.8	74.4	85.1	95.7	106.3	117.0	127.6	137.4	148.0	157.7
		Approximate Fill Capacity (gallons)	50.5	60.6	70.7	80.8	90.9	101.0	111.1	121.2	130.5	140.6	149.9
	New for Model Year 2015	Shell Length, MY2015 (inches)	26.0	31.5	37.5	43.0	48.5	54.0	60.0	65.5	71.0	76.5	82.5
		Tank Interior Volume (gallons)	50.5	60.3	70.9	80.6	90.4	100.1	110.8	120.5	130.3	140.0	150.7
		Approximate Fill Capacity (gallons)	48.0	57.2	67.3	76.6	85.9	95.1	105.2	114.5	123.8	133.0	143.1
	Difference	**Fuel+Shell Weight Reduction (lbs)**	**19.1**	**25.9**	**25.9**	**32.1**	**38.2**	**45.0**	**45.0**	**51.2**	**51.2**	**58.0**	**51.9**
		Tank Length Reduction (inches)	**1.5**	**2.0**	**2.0**	**2.5**	**3.0**	**3.5**	**3.5**	**4.0**	**4.0**	**4.5**	**4.0**

Appendix B: Allison 5th Gen Data Code Module Definitions

Following are Data Code modules and some definitions/explanations that form a good reference for selection of Allison transmissions in SpecPro and for understanding Spec Confirmation and Truck Change Order information. Many of these modules are not yet visible in SpecPro; but, as the Allison 5th Gen transmission controls move forward, this reference will be valuable as more features and options become visible.

343 SOFTWARE-TRANS CONTROL UNIT (TCU)

Module 343 Data Codes define the Allison Vocational Package (see also *Allison's Vocational Model Guide* at www.allisontransmission.com). With 5th Gen, the 343 Data Code **only** defines the Vocational Package; it no longer defines the number of forward gears. Primary and Secondary Mode Gears are defined in module 84C & 84D.

97G TRANSMISSION PROGNOSTICS

This module is not new for Allison 5th Gen, but new data code are used with the 5th Gen. Transmission prognostics currently only available are only available with the 3000/4000 Series transmissions and, for those series, the prognostics feature is enabled by default.

Default Value:

97G-004 TRANSMISSION PROGNOSTICS - ENABLED 2013

84C TCU-PRIMARY MODE: GEARS

Module 84C defines the number of forward gears available in Primary mode. For 1000/2000 Series, only Primary gears are programmable. For 3000/4000 Series, different gears definitions can be programmed for Primary and Secondary modes.

Default Values:

1000/2000 = 5 Speed

84C-003 PRIMARY MODE GEARS, 5 FORWARD GEARS WITH MANUAL SELECTION FOR 3, 2 AND 1

3000/4000 = 6 speed

84C-023 PRIMARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6

84D TCU-SECONDARY MODE: GEARS (3000/4000 Series only)

Module 84D defines the number of forward gears available in Secondary mode.

Default Values:

1000/2000 = N/A

3000/4000 = 6 speed

84D-023 PRIMARY MODE GEARS, LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6

84L TCU-LBSS & VAC

Module 84L sets both the Load Base Shift Schedule (LBSS) and Vehicle Acceleration Control (VAC) features. With LBSS, the transmission shift schedules change between Primary Economy shift schedule to the Secondary Performance schedule based on the vehicle load. With VAC the transmission controls the vehicle rate of acceleration based on the estimated vehicle load. For more details on these features contract Allison or visit www.allisontransmission.com .

The default Data Code of 84L-000 sets the parameters defined by Allison and DTNA recommendations based on the vocational usage defined by the vehicle service application Module A85. For example, A85-002 *PICKUP AND DELIVERY/SHORT HAUL SERVICE* will set LBSS to "Medium" and VAC to "Base Economy" while A85-006 *RESCUE AND EMERGENCY SERVICE* will disable both LBSS and VAC. Additional Data Codes will become available to allow advanced and custom calibrations.

Default Value:

84L-000 LOAD BASED SHIFT SCHEDULE AND VEHICLE ACCELERATION CONTROL RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED VOCATIONAL USAGE

85D TCU-AUTO NEUTRAL

Module 85D enables the transmission Automatic Neutral function; when the park brake is applied the transmission will automatically shift to neutral

For all 3000/4000 Series, Auto Neutral is enabled by default. Auto Neutral is not available for 1000/2000 Series. Data Codes will become available to allow advanced customers to create custom calibrations if desired.

Default Value:

85D-001 SINGLE INPUT AUTOMATIC NEUTRAL WITH SELECTOR OVERRIDE WITH MULTIPLEXED PARK BRAKE

84W TCU-AUX RANGE INHIBIT

Auxiliary Function Range Inhibit prevents the transmission from going into gear based on certain brake indications or an auxiliary function input such as a bucket-boom or crane boom position indication. Aux Range Inhibit is available based on the multiplexed service brake message or various hardwired inputs. The possible hardwired inputs are defined by the Allison Vocation Package (see *Allison's Vocational Model Guide* at www.allisontransmission.com).

For 3000/4000 Series, Aux Range Inhibit on Service Brakes is enabled by default. Aux Range inhibit on Service Brakes is not available for 1000/2000 Series. New programming Data Codes will become available for both hardwired and multiplexed-message driven functions.

Default Value:

84W-001 AUXILIARY FUNCTION RANGE INHIBIT WITH MU LTIPLEXED SERVICE BRAKES

84V TCU-DIRECTION CHANGE

Module 84V enables the Allison transmission feature "Direction Change Enable with Service Brakes Only". This feature requires the driver to depress the service brake before changing transmission driving directions. This feature is disabled by default.

Default Value:

84V-998 TCU-DIRECTION CHNG, NOT CONFIGURED

84N TCU-ENGINE LOAD REDUCTION FUNCTION

Module 84N sets the Allison transmission feature "Enhanced Converter Load Release" (ECLR). ECLR disengages the transmission from the engine at vehicle stop to reduce the engine loading when the vehicle is not moving. This is a new feature for 5th gen. At this time ECLR is only available for 3000/4000 Series.

Default Value:

84N-000 ENHANCED CONVERTER LOAD RELEASE DISABLED

ADVANCED AND CUSTOM CALIBRATION MODULES

The following modules describe advanced features for complex applications which require an in-depth knowledge of Allison transmission features and functions. Incorrect selections can have negative effects on vehicle performance. The default values were reviewed by Allison and DTNA and provide optimum performance under normal conditions.

84B TCU – VOCATIONAL RATING

The Allison Vocational Rating defines the maximum input torque for the transmission and is automatically defined by the application codes (e.g. A85-XXX) present on the TSO. For advanced users it can be changed based on the limits defined by the transmission's Vocational model; however, consultation with Allison is highly recommended prior to custom vocational rating definitions. See *Allison's Vocational Model Guide* at www.allisontransmission.com for details.

84E TCU-PRIMARY MODE SHIFT SCHEDULDE

Module 84E defines the shift schedule programmed in the Primary mode. By default this will be the Economy shift schedule. These values should not be changed without review by both Allison and DTNA.

Default Value:

84E-000 PRIMARY SHIFT SCHEDULE RECOMMENDED BY DT NA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE

84F TCU-SECONDARY MODE SHIFT SCHEDULE

Module 84F defines the shift schedule programmed in the Secondary mode. By default this will be the Performance shift schedule. These values should not be changed without review by both Allison and DTNA.

Default Value:

84F-000 SECONDARY SHIFT SCHEDULE RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE

84G TCU-PRIMARY MODE SHIFT SPEED

Module 84G defines the shift speed programmed in the Primary mode. By default this will be the Economy shift speed. These values should not be changed without review by both Allison and DTNA.

Default Value:

84G-000 PRIMARY SHIFT SPEED RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE

84H SECONDARY MODE SHIFT SPEED

Module 84H defines the shift speed programmed in the Primary mode. By default this will be the Performance shift speed. These values should not be changed without review by both Allison and DTNA.

Default Value:

84H-000 SECONDARY SHIFT SPEED RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE

84J TCU-ENGINE BRAKE PRESELECT

Module 84J defines the shift schedule preselect range when the engine retarder is active. These values should not be changed without review by both Allison and DTNA.

Default Value:

84J-000 ENGINE BRAKE RANGE PRESELECT RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY VOCATIONAL USAGE

84K TCU-ENGINE BRAKE ALT PRESELECT

Module 84K defines the shift schedule for alternate preselect range when the engine retarder is active. The alternate preselect applies for shifts after the Engine Brake Preselect value. These values should not be changed without review by both Allison and DTNA.

Default Value:

84K-000 ENGINE BRAKE RANGE ALTERNATE PRESELECT RECOMMENDED BY DTNA AND ALLISON, THIS DEFINED BY ENGINE AND VOCATIONAL USAGE

84T TCU-NEUTRAL TO RANGE ASSIST

Module 84T enables the Neutral to Range assist feature. With this feature enabled, the transmission manages the engine speed to allow shifting from neutral to an operating gear range. Contact Allison for programming details.

Default Value:

84T-000 DISABLE - NEUTRAL RANGE ASSIST

PTO SETTINGS

The following modules set the PTO engagement and operation speeds. Unless defined in the TSO these are all set to Allison defaults.

85E TCU-PTO:MAX ENG SPD ENGAGEMENT

85F TCU-PTO:MAX ENG SPD OPERATION

85G TCU-PTO:MAX O/P SPD ENGAGEMENT

85H TCU-PTO:MAX O/P SPD OPERATION

INDICATORS, INPUTS AND OUTPUTS

The following modules set the I/O settings. The availability of these I/O's are dependent on the transmission's Vocational package. These features are disabled by default. Contact Allison for programming details.

85A TCU-OUTPUT SPEED INDICATOR A

84Z TCU-ENGINE OVERSPEED INDICATOR

85B TCU-RANGE INDICATOR

84M TCU-PUMP MODE OPTION

84Y TCU-PRESELECT REQUEST, 2 INPUT