

# ISUZU

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Director, Product Planning



2025 NTEA CVUS Product Update

# Topics

1. Isuzu Lineup
2. NRR EV Refresher
3. Product Updates
  - a. 26MY N-Series Gas
  - b. 26MY N-Series Diesel
  - c. 26MY NRR EV
4. Accessory Updates
5. NRR Rerate Approval Letters
6. Upfitter Considerations
7. Application Support



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# Model Line Up

**Class 3**  
10,001 - 14,000

**Class 4**  
14,001 - 16,000

**Class 5**  
16,001 - 19,500

**Class 6**  
19,501 - 26,000

**Class 7**  
26,001 - 33,000

**Diesel**

GVWR: 14,500 lbs  
**NPR<sub>HD</sub>**  
**NPR<sub>XD</sub>**  
GVWR: 16,000 lbs

GVWR: 17,950 lbs  
**NRR**  
DERATE  
**NRR**  
GVWR: 19,500 lbs

GVWR: 25,950 lbs  
**FTR**  
**FVR**  
DERATE  
GVWR: 25,950 lbs

GVWR: 33,000 lbs  
**FVR**

**Gas**

GVWR: 12,000 lbs  
**NPR**

GVWR: 14,500 lbs  
**NPR<sub>HD</sub>**

GVWR: 17,950 lbs  
**NQR**  
**NRR**  
GVWR: 19,500 lbs

**EV**

GVWR: 17,950 lbs  
**NRR**  
DERATE  
**NRR**  
GVWR: 19,500 lbs

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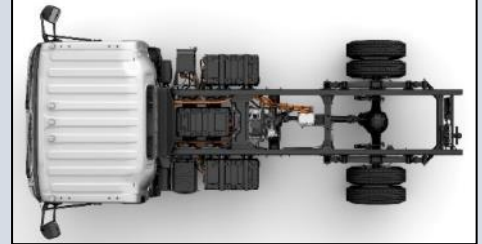


# NRR EV Model Lineup

- ❑ Class 5 GVW Standard Cab only (17,950 & 19,500-lbs)
- ❑ Available in 132", 150", 176" wheelbases
- ❑ 4 battery pack options depending on wheelbase and required mileage

| Wheelbase (in) | kWh | Body Length (ft) |    |    |    |    |
|----------------|-----|------------------|----|----|----|----|
|                |     | 12               | 14 | 16 | 18 | 20 |
| 132.5          | 60  | X                | X  |    |    |    |
|                | 100 | X                | X  |    |    |    |
| 150            | 60  |                  |    | X  | X  |    |
|                | 100 |                  |    | X  | X  |    |
| 176            | 60  |                  |    |    | X  | X  |
|                | 100 |                  |    |    | X  | X  |
|                | 140 |                  |    |    | X  | X  |
|                | 180 |                  |    |    | X  | X  |

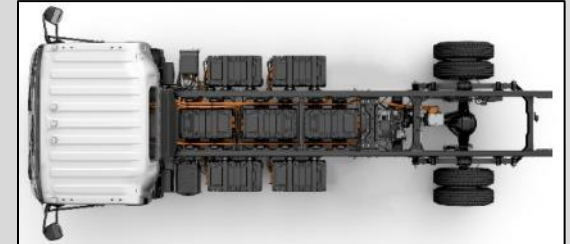
132" WB  
60 kWh



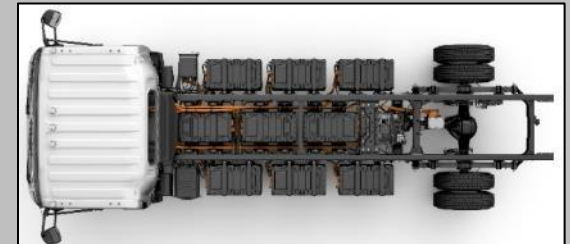
150" WB  
100 kWh



176" WB  
140 kWh



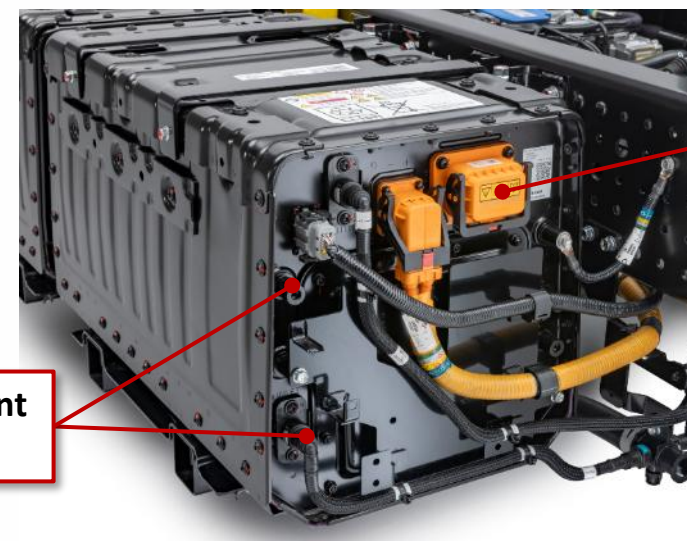
176" WB  
180 kWh



# NRR EV Major Specification

| MAJOR SPECS   |            | N-Series EV                                       |
|---------------|------------|---------------------------------------------------|
| HV Battery    | Type       | LG Chem Lithium Ion<br>Liquid cooling             |
|               | Capacity   | 60 - 180 kWh<br>(20 kWh/Pack)                     |
| Motor         | Type       | ZF CeTrax Lite 3 Phase                            |
|               | Max Power  | 150 kW (~200 HP)                                  |
|               | Max Torque | 280 lb-ft                                         |
|               | Max rev.   | 13,000 rpm                                        |
| Max Speed     |            | 65 mph                                            |
| Grade ability |            | 15 %                                              |
| Running Range |            | 40 - 235 Miles                                    |
| Charging      |            | DC:CCS1 (up to 80 kW)<br>AC:J1772 (up to 19.2 kW) |
| Voltage       |            | 350 V / 12 V                                      |
| ePTO          |            | 12 kW Max Output                                  |

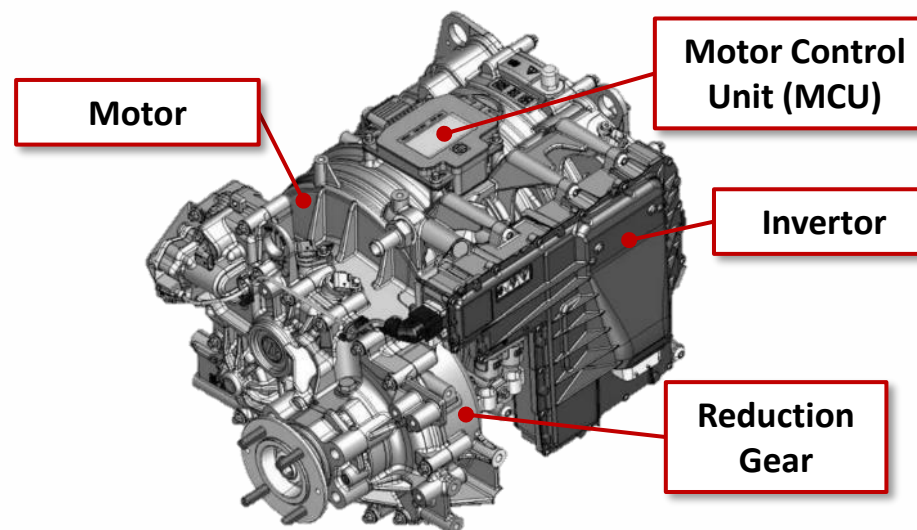
❖ Li-ion Battery Pack



Manual Service  
Disconnect  
(MSD)

Liquid Coolant  
Lines

❖ Drive Motor ASM



Motor

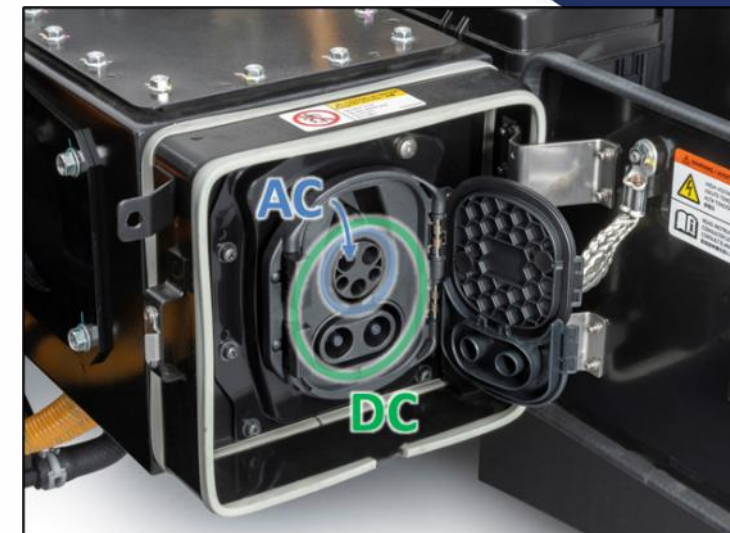
Motor Control  
Unit (MCU)

Inverter

Reduction  
Gear

# NRR EV Charging

- ❑ Compatible with both AC (SAE J1772) and DC (CCS1) charge ports.
- ❑ Normal Charging - AC Maximum Charge Rate:
  - 19.2 kW for 100 kWh, 140 kWh, and 180 kWh battery pack configurations
  - 7.2 kW for 60 kWh battery pack configuration with one OBC
- ❑ Quick Charging - DC Maximum Charge Rate:
  - 80 kW for 140 kWh and 180 kWh battery pack configurations
  - 70 kW for 100 kWh battery pack configuration
  - 42 kW for 60 kWh battery pack configuration



NRR EV Charging Ports

Estimated charging time for each battery capacity: \*

Maximum: 0% - 100%

| Charger |             | Battery (kWh) |         |         |          |
|---------|-------------|---------------|---------|---------|----------|
|         |             | 60            | 100     | 140     | 180      |
| AC      | Max 7.2 kW  | 9.3 hrs       | -       | -       | -        |
|         | Max 19.2 kW | -             | 5.8 hrs | 8.1 hrs | 10.4 hrs |
| DC      | Max 80 kW   | 2.4 hrs       | 2.4 hrs | 2.7 hrs | 3.1 hrs  |

Optimal: 20% - 90%

| Charger |             | Battery (kWh) |         |         |         |
|---------|-------------|---------------|---------|---------|---------|
|         |             | 60            | 100     | 140     | 180     |
| AC      | Max 7.2 kW  | 6.5 hrs       | -       | -       | -       |
|         | Max 19.2 kW | -             | 4.0 hrs | 5.7 hrs | 7.3 hrs |
| DC      | Max 80 kW   | 1.2 hrs       | 1.2 hrs | 1.5 hrs | 1.8 hrs |

\*Charging time is depended on facility, vehicle, temperature and environmental conditions.  
The values above are calculated estimates at approximately 68 degrees F.

# NRR-EV Battery & Range

Chassis available with multiple battery capacities: 60, 100, 140, & 180 kWh

## Battery Capacity

60 kWh

**41-80  
miles**

100 kWh

**68-130  
miles**

140 kWh

**95-180  
miles**

180 kWh

**122-235  
miles**

### Disclaimer

- All figures are calculated estimates and based on a fully charged battery.
- Battery capacity decreases with time and use.
- Actual range will vary based on a number of factors, including number of battery packs, vehicle options, payload, driving conditions and habits, vehicle and battery's condition, and outside temperature.



# NRR EV Chassis Weights and Dimensions

- ❑ Class 5 GVWR: 19,500 lbs. shown
  - Also available in a 17,950 lbs. GVWR

| WB<br>(in.) | BATTERY<br>PACKS /<br>kWh | BOC<br>(in.) | CA<br>(in.) | FRAME<br>HEIGHT<br>(in.) | FRT GAWR<br>(lbs.) | RR GAWR<br>(lbs.) | CURB WEIGHTS (lbs.) |      |       | PAYLOAD<br>(lbs.) |
|-------------|---------------------------|--------------|-------------|--------------------------|--------------------|-------------------|---------------------|------|-------|-------------------|
|             |                           |              |             |                          |                    |                   | FRONT               | REAR | TOTAL |                   |
| 132.5       | 3 / 60                    | 7.7          | 110         | 33.5                     | 7,275              | 14,460            | 4139                | 2410 | 6549  | 12951             |
| 150         | 3 / 60                    |              | 127.5       |                          |                    |                   | 4256                | 2346 | 6602  | 12898             |
| 176         | 3 / 60                    |              | 153.5       |                          |                    |                   | 4452                | 2247 | 6699  | 12801             |
| 132.5       | 5 / 100                   |              | 110         |                          |                    |                   | 4547                | 3016 | 7563  | 11937             |
| 150         | 5 / 100                   |              | 127.5       |                          |                    |                   | 4734                | 2882 | 7616  | 11884             |
| 176         | 5 / 100                   |              | 153.5       |                          |                    |                   | 5010                | 2706 | 7715  | 11785             |
| 176         | 7 / 140                   |              | 153.5       |                          |                    |                   | 5268                | 3416 | 8683  | 10817             |
| 176         | 9 / 180                   |              | 153.5       |                          |                    |                   | 5548                | 4070 | 9618  | 9882              |

NRR Diesel Payload is ~12,900

NRR Gas Payload is ~13,500

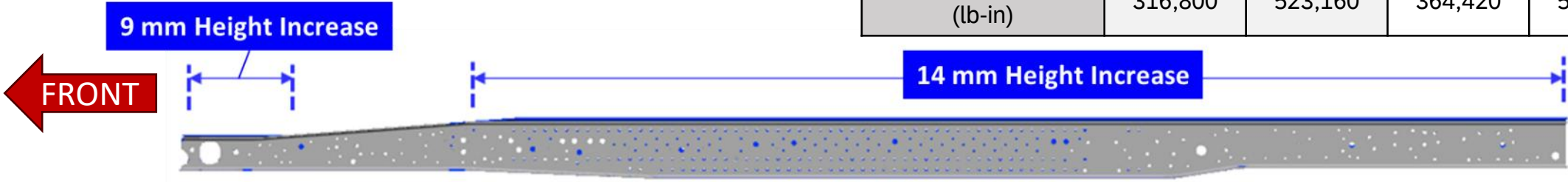
# ADAS Refresher for NRR EV (& N-Series Diesel)

- 1. FDW (Following Distance Warning)**  
Alerts driver when distance from vehicle ahead is within a certain range.
- 2. FVSN (Forward Vehicle Start Notification)**  
Notifies driver when vehicle ahead has moved (stopped at a traffic light).
- 3. MAM (Mis-Acceleration Mitigation)**  
Engine output will be restricted when an object in front is detected and the accelerator pedal is depressed more than necessary.
- 4. FACC (Full-Range Adaptive Cruise Control)**  
ACC that will operate until vehicle stops.
- 5. LDWS (Lane Departure Warning System)**  
Notifies driver when vehicle approaches lane boundary.
- 6. AEBS (Automatic Emergency Braking System)**  
Notifies driver with visual and audible alerts and, if necessary, will automatically apply braking force to reduce vehicle speed.

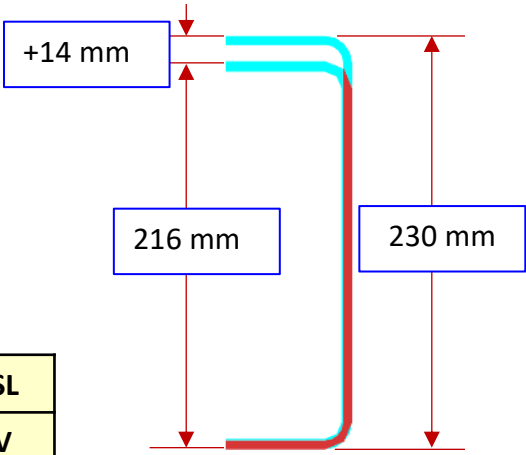
# NRR EV (& N-Series Diesel) Frame

- ❑ Changes to material, channel height, channel thickness, and hole pattern.
- ❑ RBM increased 15% for single cab & 10% for crew cab.

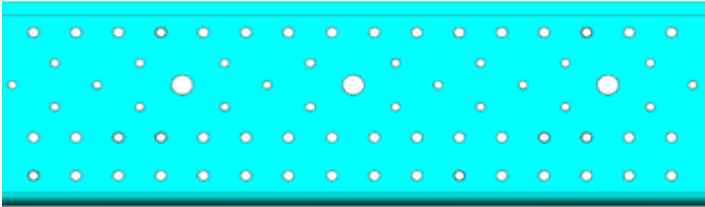
|                        | 24MY    |         | 25MY                             |         |
|------------------------|---------|---------|----------------------------------|---------|
| Cab Style              | Single  | Crew    | Single                           | Crew    |
| Material               | JSH440  |         | HT540                            |         |
| Yield Strength (PSI)   | 44,000  |         | 54,800 main<br>40,600 crew inner |         |
| Section Modulus (in^3) | 7.20    | 11.89   | 6.65                             | 11.87   |
| RBM (lb-in)            | 316,800 | 523,160 | 364,420                          | 576,350 |



Frame Cross Section

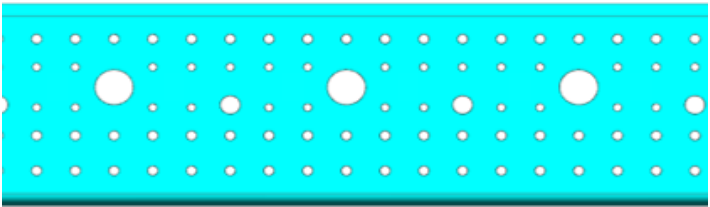


24MY N-Series



- Hole spacing 40/80mm.
- Frame thickness 6mm.

25MY N-Diesel & N-BEV



- Hole spacing 40mm.
- Frame thickness 5mm.

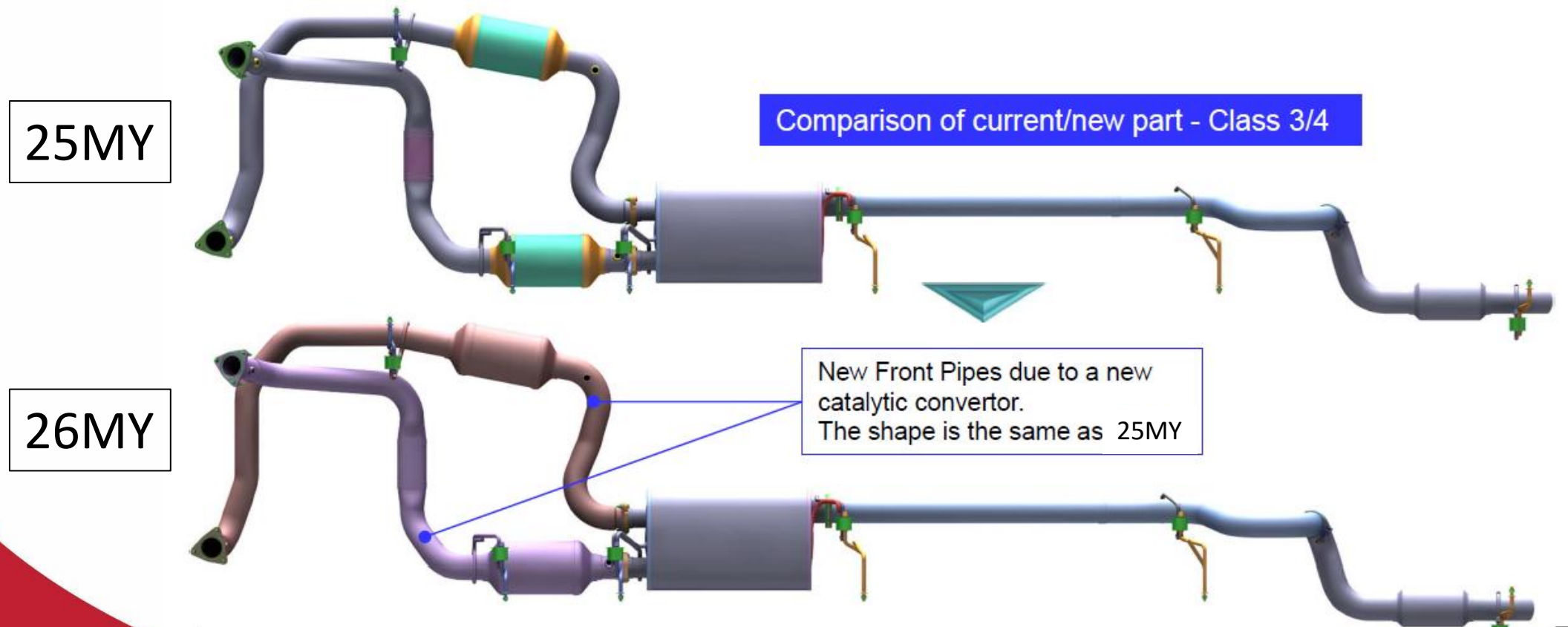
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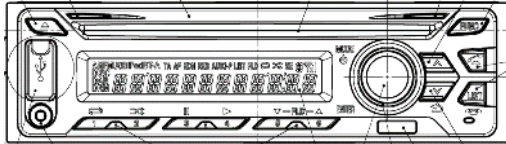
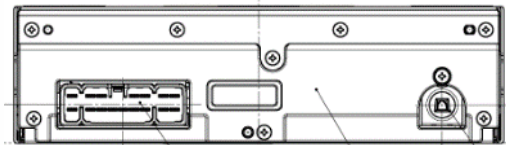
# Catalytic Converter Change

- Exhaust pipe layout is same as 25MY.
- New catalytic converters to meet Low NOx emission requirements.



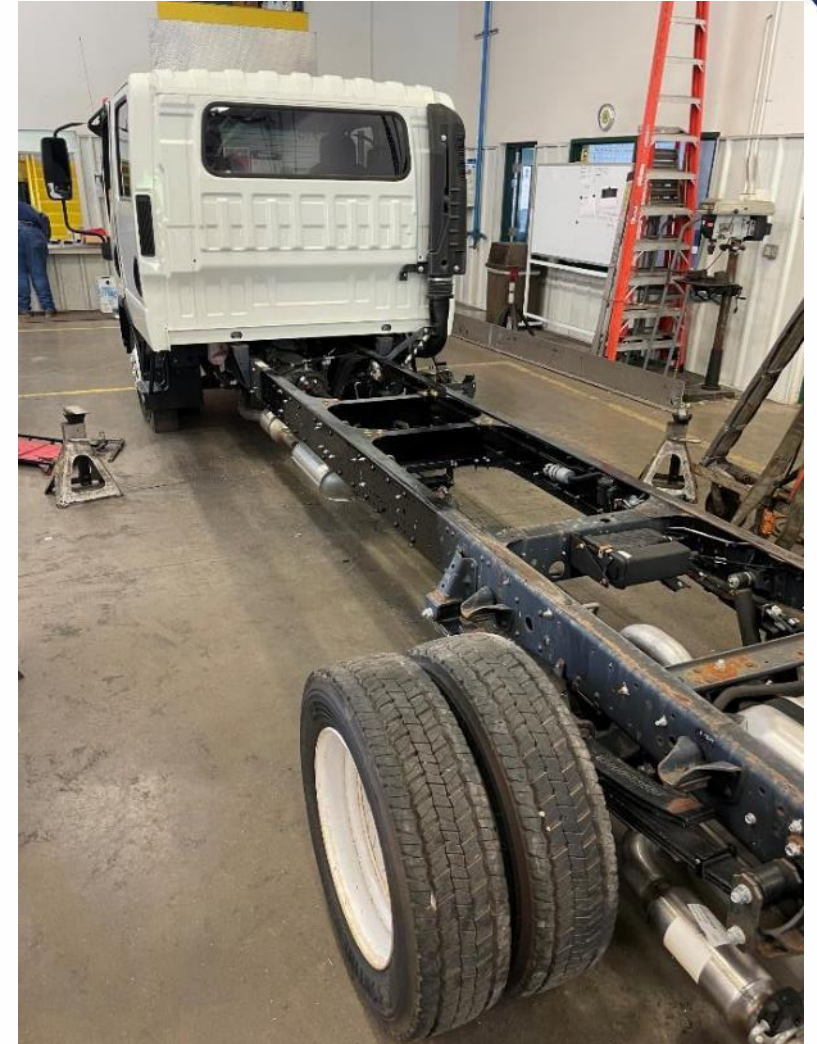
# Radio Change

- Radio update to match N-Series diesel and NRR EV.
- CD player and iPod function eliminated.
- Set for compatibility with future steering wheel controls.
- (Change also impacts 26MY F-Series)

|       | Current                                                                              | New Cab                                                                               |
|-------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Front |    |    |
| Back  |  |  |

# 200" & 212" Wheelbase Addition

- 200" wheelbase addition to NQR.
- 200" & 212" wheelbase addition to NRR.
- Single & crew cabs.



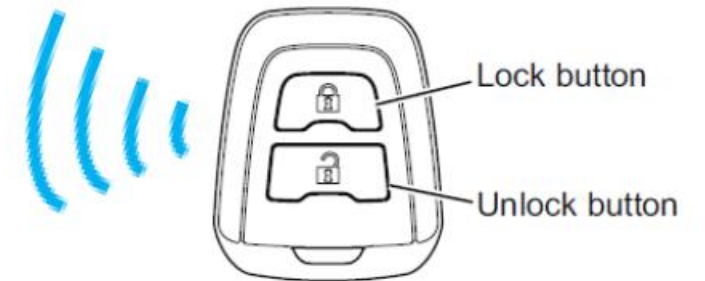
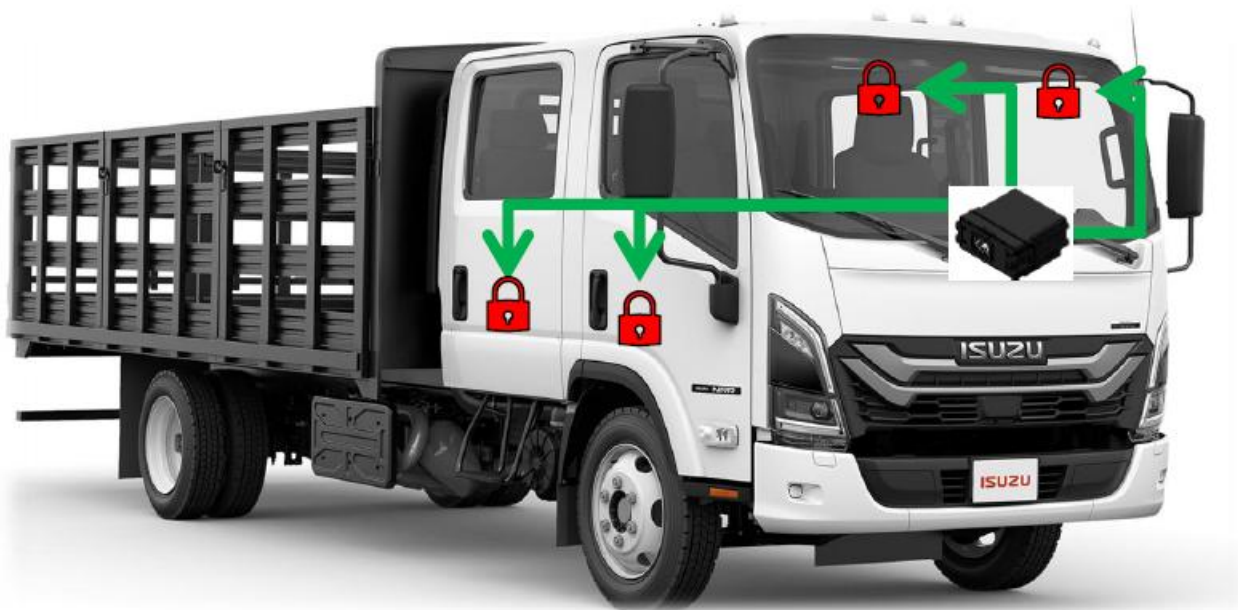
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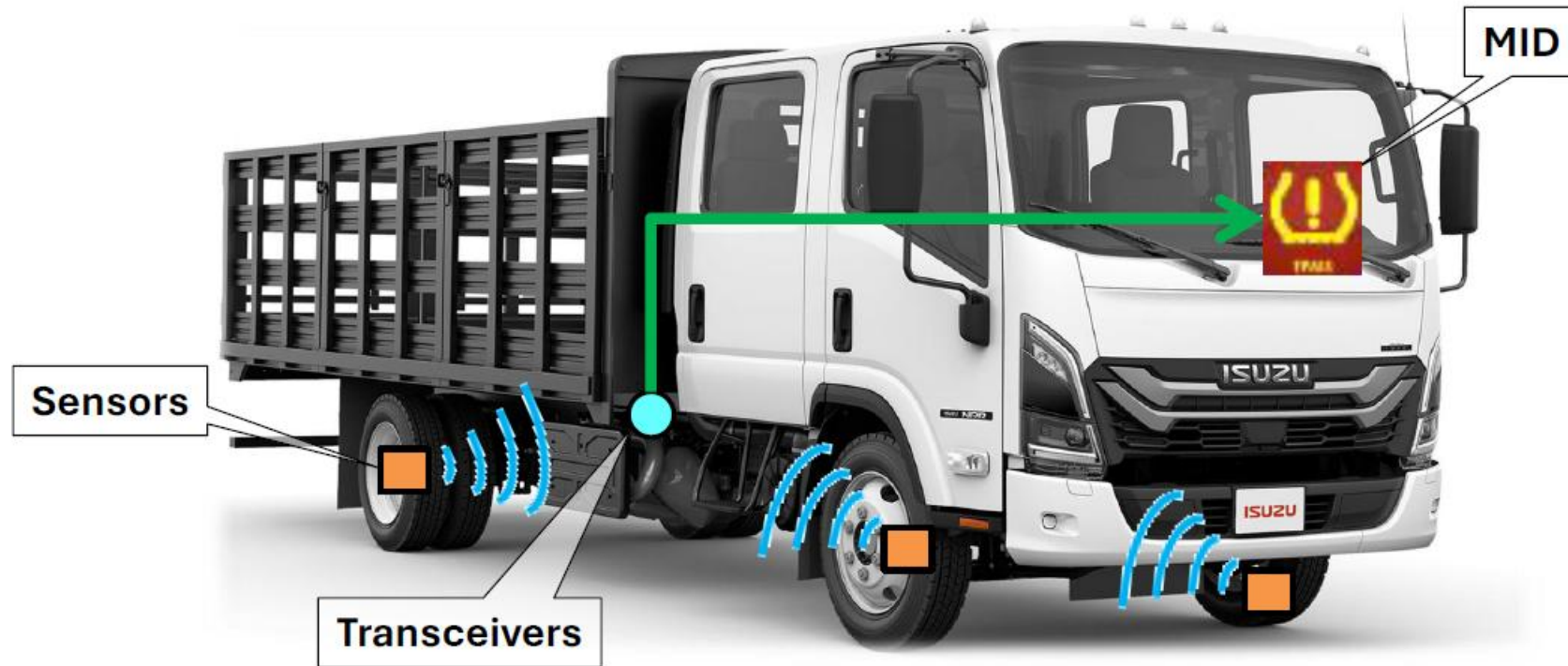
# Standard Keyless Entry

- Optional PIO for 25MY → Standard for 26MY
- Answer Back (horn) / Selectable Unlock
  - Locking: 1 press = lock w/ flashing hazards; 2 press = lock w/ flashing hazards + horn
  - Unlocking: 1 press = unlock driver's door; 2 press = unlock all doors



# Standard TPMS

- Not available for 25MY → Standard for 26MY
- Monitors tire pressure and tire temperature



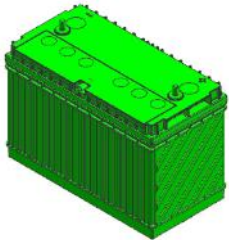
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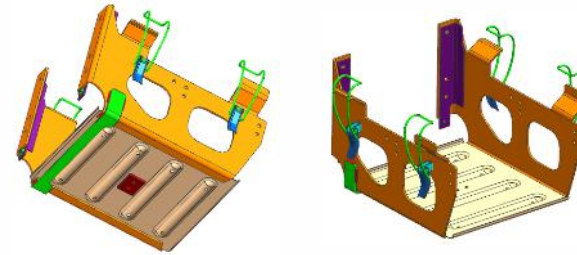


# Battery Option Updates

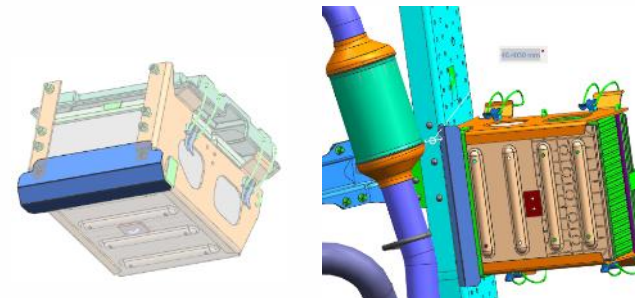
- Options added to 26MY N-Series Gas for additional AGM and dual wet cell batteries.

| Battery Type                                                                       |                                                                                     |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Wet Cell                                                                           | Varta AGM                                                                           |
| - Single Standard<br>- Dual PIO                                                    | - Dual PIO                                                                          |
|  |  |
| 750 CCA each                                                                       | 825 CCA each                                                                        |
| 26 kg (57 lbs) ea.                                                                 | 30 kg (66 lbs) ea.                                                                  |

① New Battery Carrier



② Added Heat Protector



# N-Series Mirror Update

- Change to standard mirrors and heated mirrors
  - Internal clamp design, similar to remote/heated mirrors
- Introduced for 25MY NRR EV
- Introduced for 26MY N-Series Diesel
- Planning for 27MY N-Series Gas



N-DSL

N-EV

# Floor Mat Update

- Supplier change and style change
- All 26MY N-Series and F-Series
- F-Series improvement to one piece, similar to N-Series



N-Series Floor Mat Pictured

N-DSL

N-EV

N-GAS

F-DSL

# Fog Lamps

- Addition of fog lamp option.
- Applicable to 26MY N-Series diesel and NRR EV.



N-DSL

N-EV

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# NRR Derate

- No NQR model for Diesel or EV → NRR Derate
- PIO Option (IZ5) GVWR Derate from 19,500 lbs. to 17,950 lbs.
- NRR and NRR Derate models are same vehicle build
- Certification label (VIN label) ratings are different
- Approval letter available that grants the final stage manufacturer the ability to change the GVWR on the Final Vehicle Certification Label (25MY and newer)

Note:  
FVR vs FVR Derate only  
difference is GVWR.

|               | NRR EV |        | NRR Diesel |        |
|---------------|--------|--------|------------|--------|
| GVWR (lbs)    | 17,950 | 19,500 | 17,950     | 19,500 |
| FT GAWR (lbs) | 6,830  | 7,275  | 6,830      | 7,275  |
| RR GAWR (lbs) | 13,660 | 14,460 | 12,980     | 13,660 |
| GCWR (lbs)    | 19,500 | 19,500 | 23,950     | 25,500 |

# NRR Rerate Approval Details

**Date:** October 31, 2024

**Subject:** NRR Diesel and NRR EV GVWR Re-Rating Approval Program

**Attention:** Dealer Executive Manager, Sales Manager

**Posting Location:** Product Information

## PRODUCT INFORMATION

Isuzu Commercial Truck of America, Inc. (ICTA) and Isuzu Commercial Truck of Canada, Inc. (ICTC) are pleased to offer dealers and upfitters a Gross Vehicle Weight Rating (GVWR) re-rating approval program for final stage manufacturers for NRR and NRR Derate vehicles (2025 MY and newer). This is not an OEM re-rate program. Instead, this program enables dealers and final stage manufacturers to request a letter from ICTA/ICTC authorizing the final stage manufacturer to change the GVWR of an Isuzu NRR or NRR Derate vehicle (Diesel and EV). Please review the following and the attached request form for details regarding the process for requesting a re-rate approval letter.

# NRR Rerate Approval Details

## RE-RATE APPROVAL PROGRAM OUTLINE

For the Isuzu N-Series, ICTA/ICTC approves re-rating requests from final stage manufacturers only between the NRR (19,500 lbs. GVWR) and the NRR Derate (17,950 lbs. GVWR) (2025 MY and newer). The NRR and NRR Derate models share the same vehicle specifications and do not require any modifications or component changes to satisfy a GVWR change.

The re-rate process and approvals are based upon the following criteria, conditions, and restrictions:

- The Isuzu new truck warranty for the Vehicle is unaffected by this re-rate change and will remain as published.
- The Isuzu N-Series Incomplete Vehicle Document (IVD) is applicable to both the NRR Diesel and NRR Diesel Derate models. The Isuzu NRR EV Incomplete Vehicle Document (IVD) is applicable to both the NRR EV and NRR EV Derate models.
- Statements in the IVD regarding a vehicle not exceeding its GVWR shall not be applicable with respect to the re-rate of an NRR Derate (17,950 lbs. GVWR) to an NRR (19,500 lbs. GVWR).
- NRR Derate (17,950 lbs. GVWR) to an NRR (19,500 lbs. GVWR) models are certified to the same emissions standards, so no emissions related changes to the Vehicle are required.
- ICTA/ICTC will not change or reissue any of the following items for the Vehicle as a result of this re-rate change or to reflect the new GVWR:
  - VIN / Greenhouse Gas (GHG) Label affixed to the Vehicle.
  - Incomplete Vehicle Certification Label affixed to the IVD.
  - USA - Manufacturer's Certificate of Origin
  - Canada - New Vehicle Information Statement (N.V.I.S.).

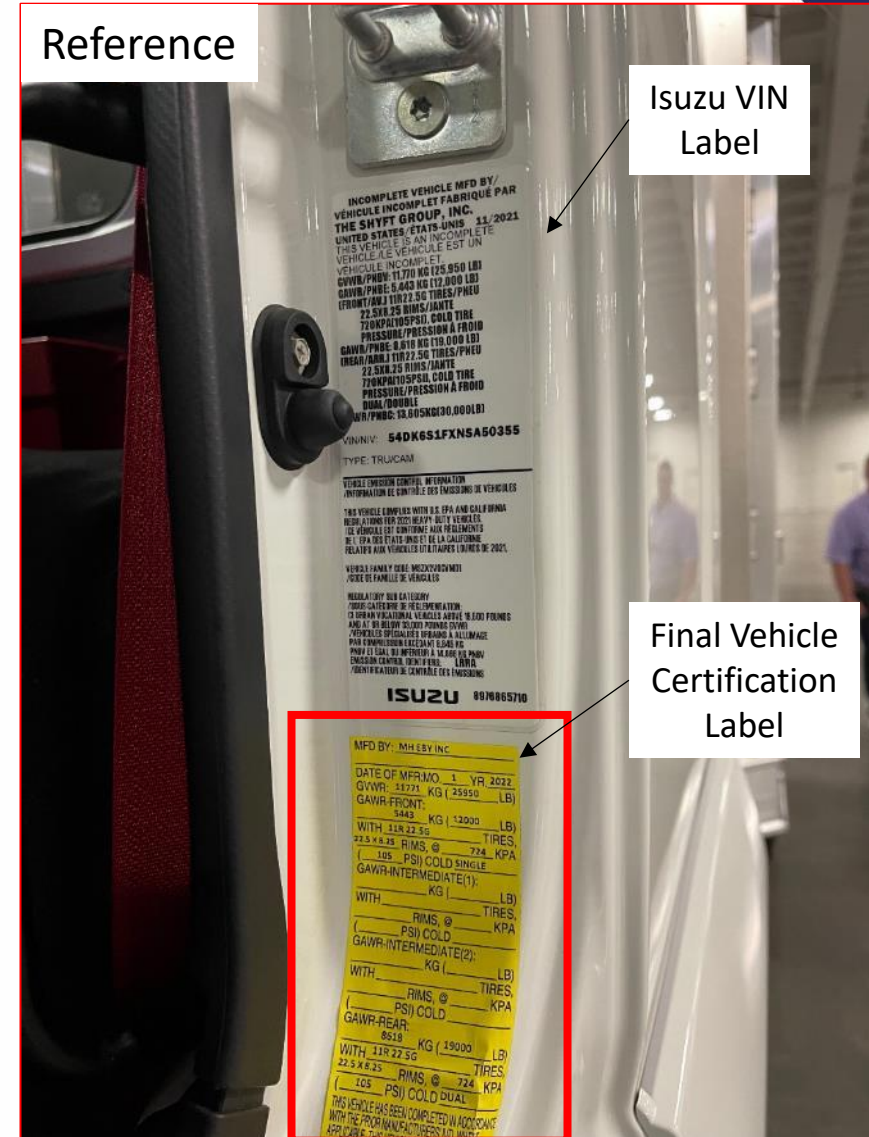
It is the responsibility of the final-stage manufacturer that is re-rating the Vehicle to clearly identify the new GVWR on a Final Vehicle Certification Label affixed to the Vehicle.

- As in all situations in which a vehicle is being upfitted by a final-stage manufacturer, it is the responsibility of the final-stage manufacturer to ensure that the Vehicle, as upfitted, meets Federal Motor Vehicle Safety Standards and is fit and safe for its intended use.
- As in all situations, it will remain the obligation of the owner/operator to ensure that the Vehicle is used only for applications that support the final GVWR classification and does not exceed the GVWR as stated on the Final Vehicle Certification Label.

N-DSL

N-EV

## Reference

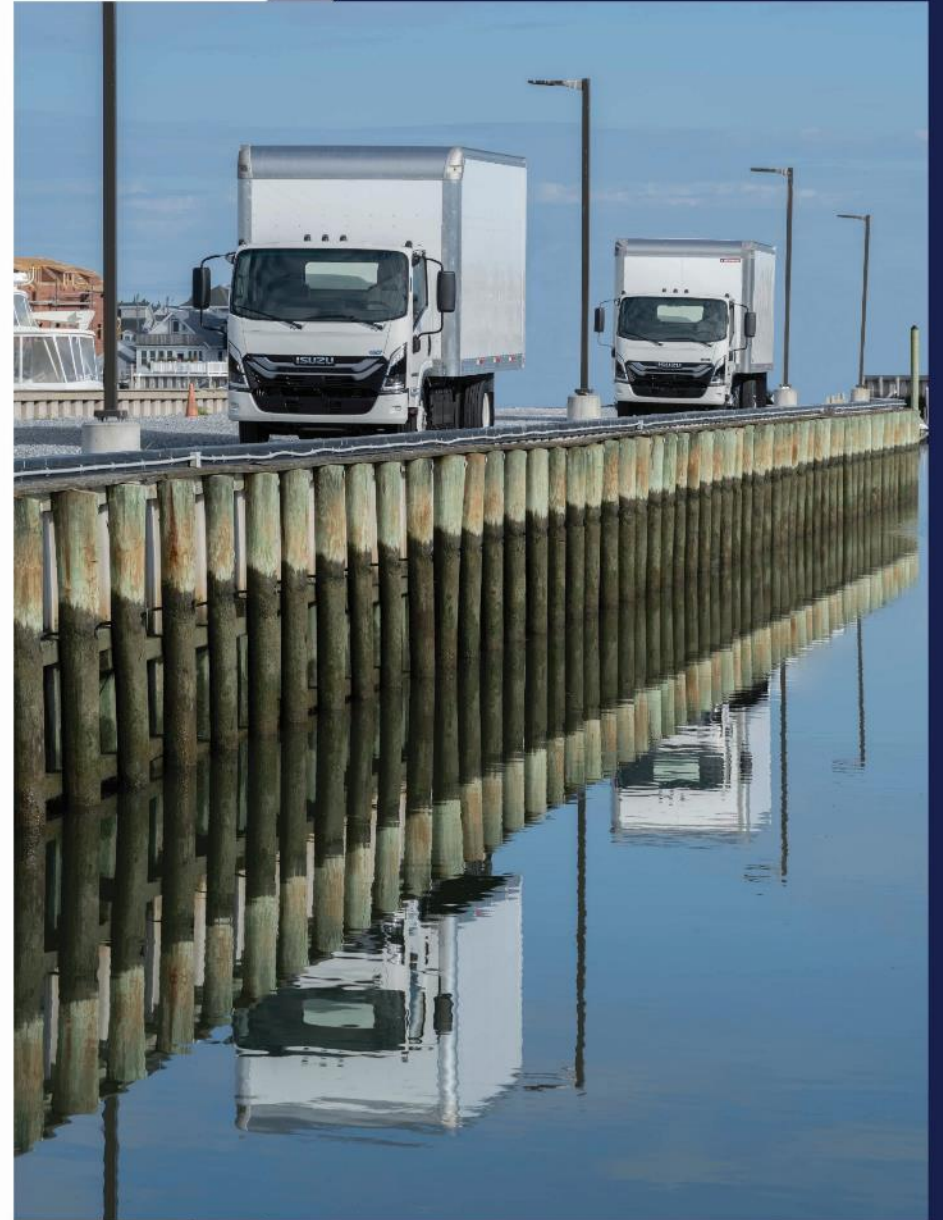


Isuzu VIN Label

Final Vehicle Certification Label

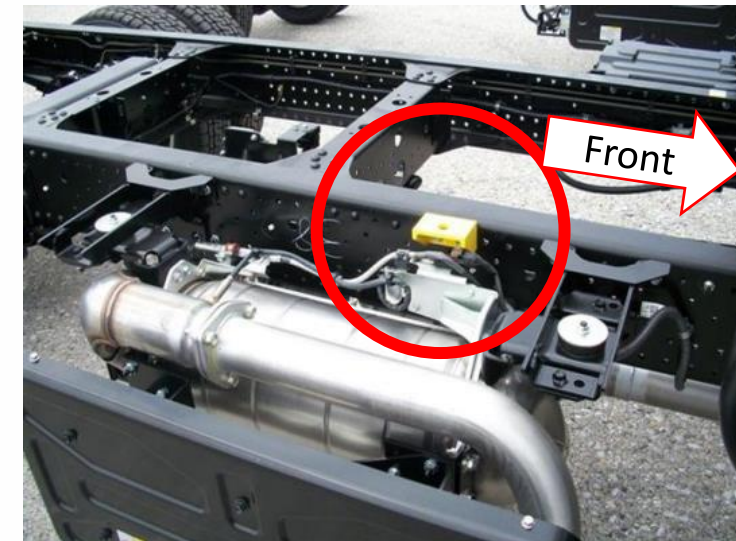
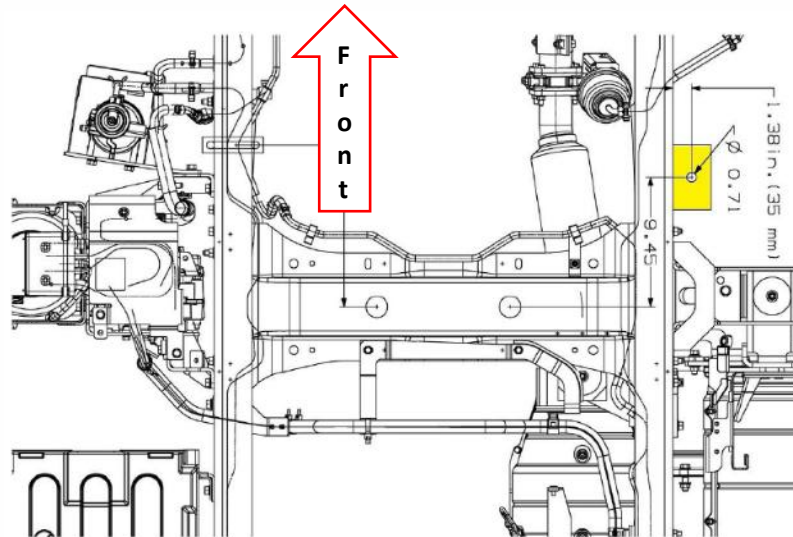
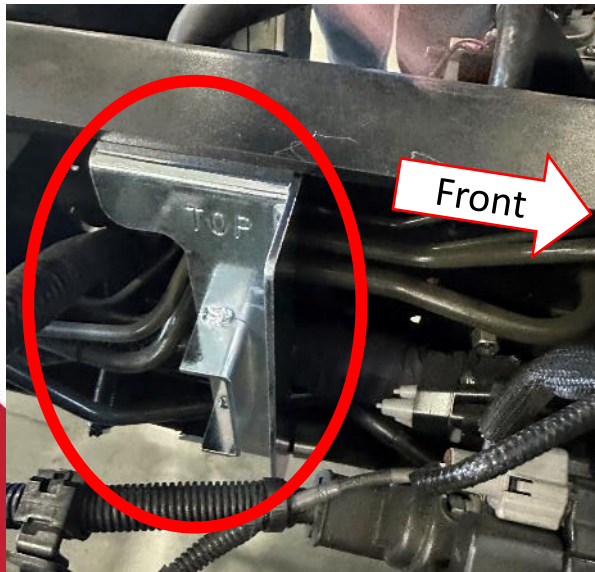
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# N-Series Diesel & Gas Body Mounting

- Body mount bracket (painted yellow) provided from factory on RH chassis rail.
  - N-Series diesel single cab and 150"WB crew cab only.
- Reinforcement block for U-bolt provided in cab for LH chassis rail.
  - N-Series diesel single cab only.
- Traditional U-bolt w/ wood reinforcement other locations.
- J-hook body mounts are NOT allowed.

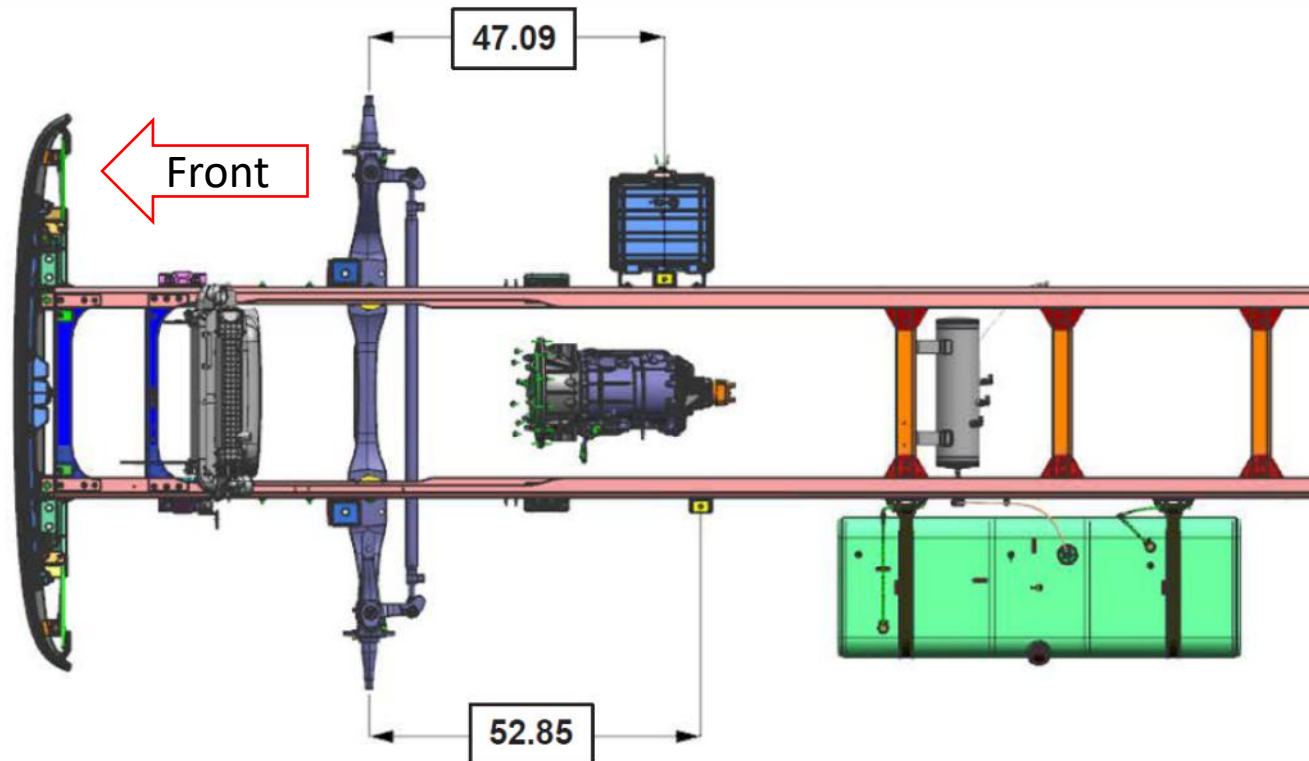


N-DSL

N-GAS

# F-Series Body Mounting

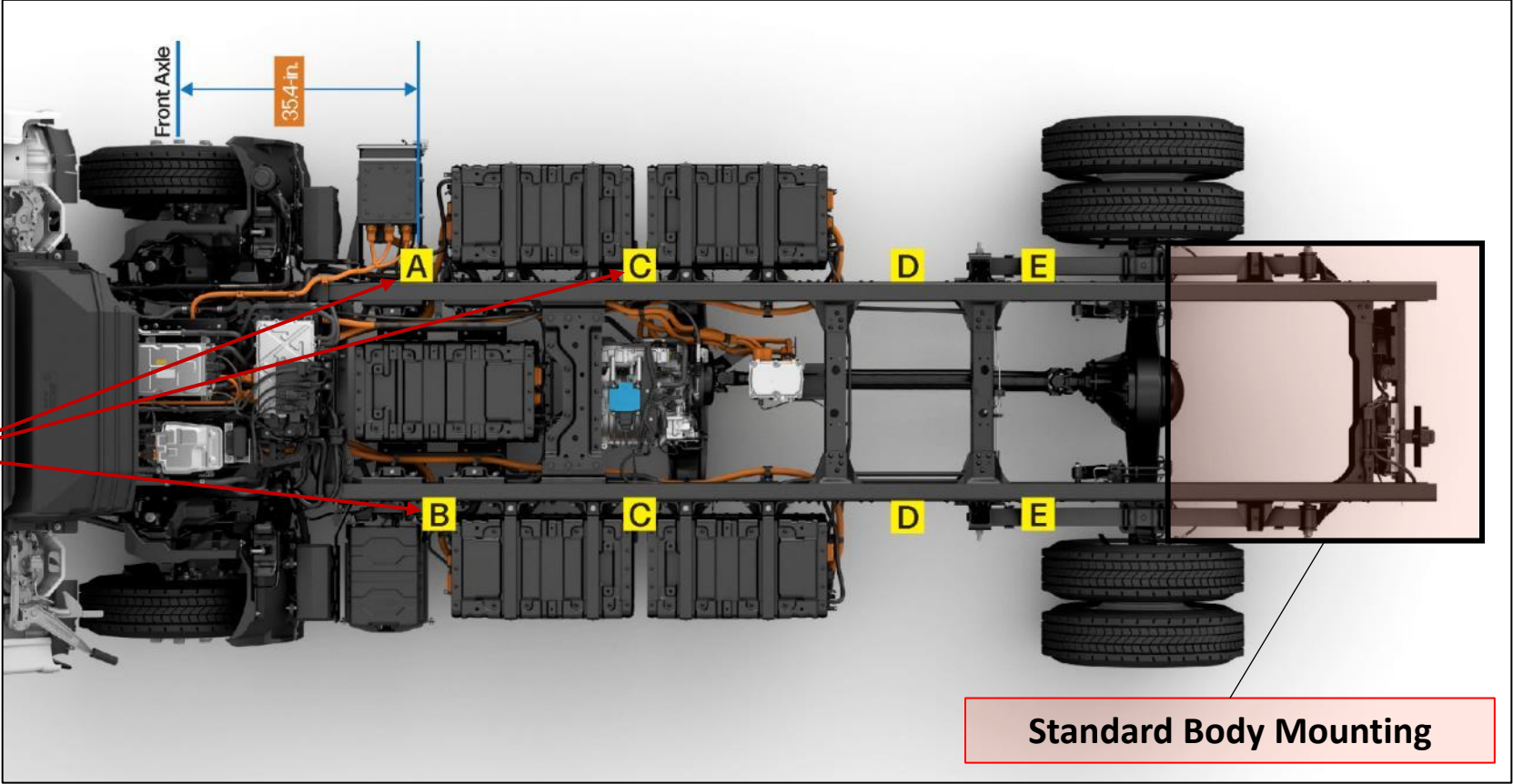
- Body mount brackets (painted yellow) provided from factory.
- Traditional U-bolt w/ wood reinforcement other locations.



# NRR EV Body Mounting

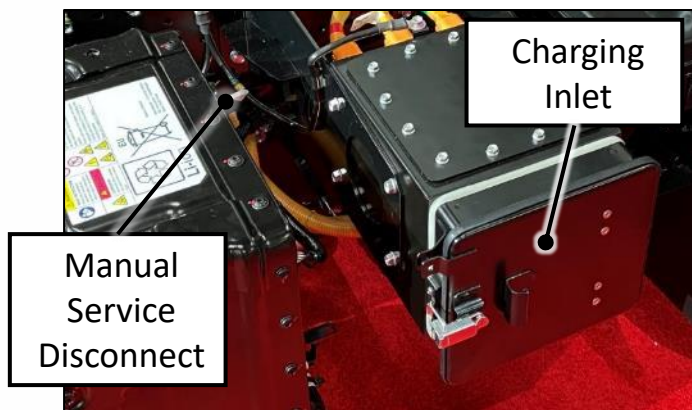
Mounting Block Locations from Front Axle

|          | WHEELBASE (in.) |          |          |           |
|----------|-----------------|----------|----------|-----------|
| LOCATION | 132.5           | 150      | 176      | 176       |
| kWh      | 60 / 100        | 60 / 100 | 60 / 100 | 140 / 180 |
| A        | 35.4            | 35.4     | 35.4     | 35.4      |
| B        | 40.2            | 40.2     | 40.2     | 40.2      |
| C        | 71.7            | 71.7     | 71.7     | 74.8      |
| D        | N/A             | 112.6    | 139.4    | 104.7     |
| E        | 120.7           | N/A      | N/A      | 164.4     |

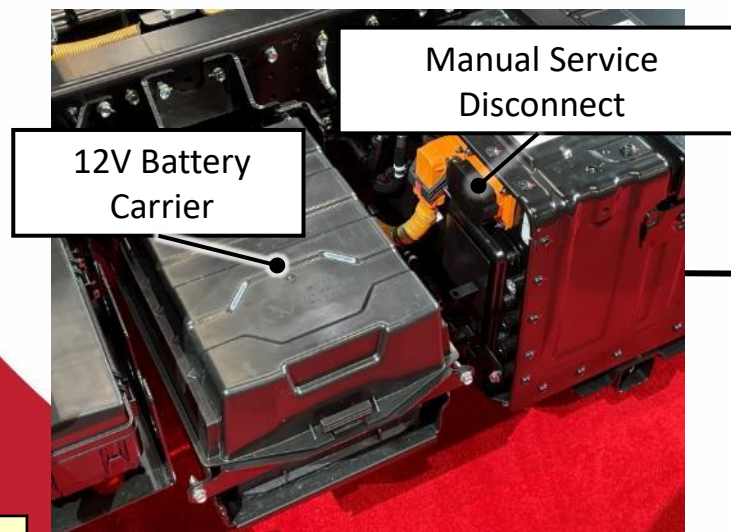


# NRR EV Upfit Clearance

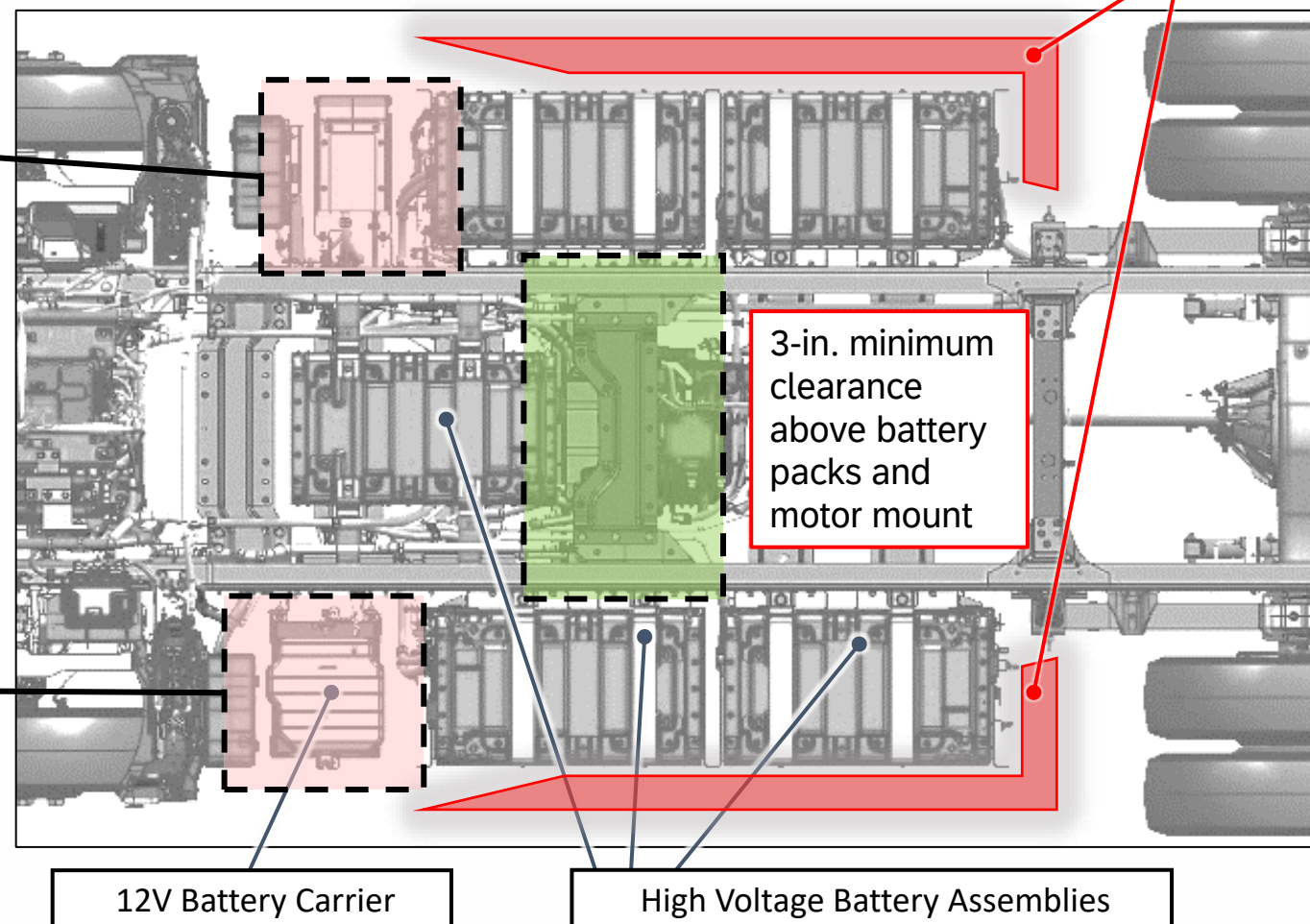
## Passenger Side Access Points



## Driver Side Access Points



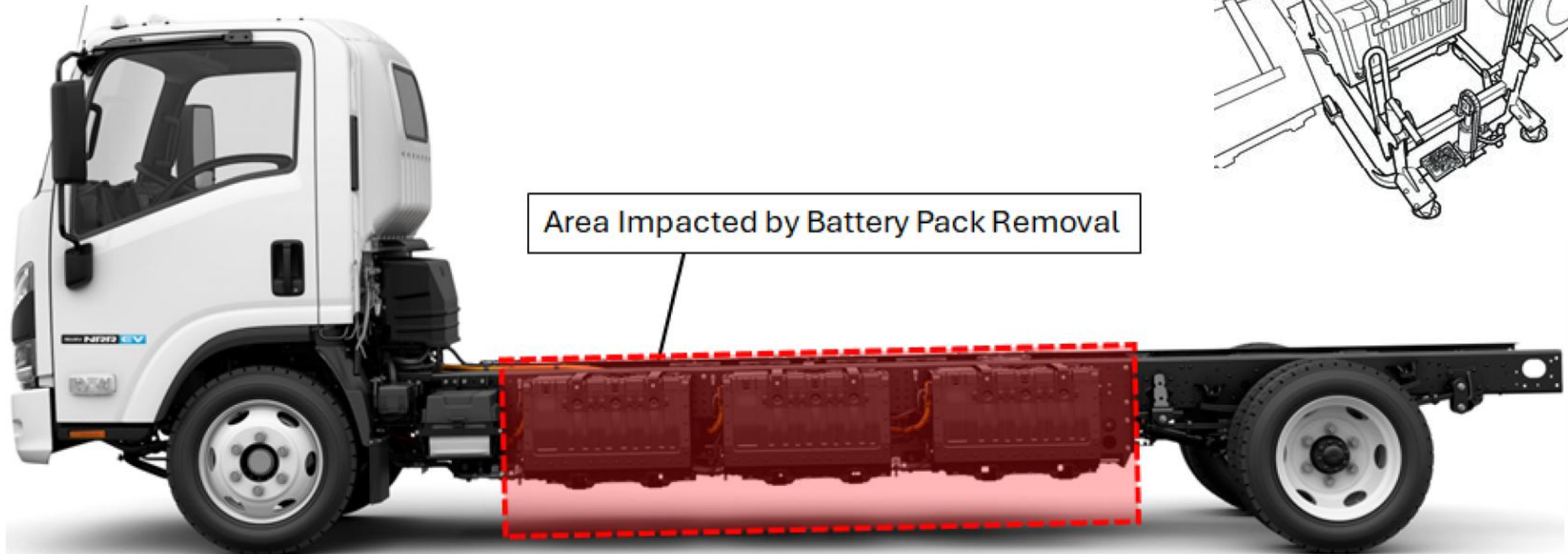
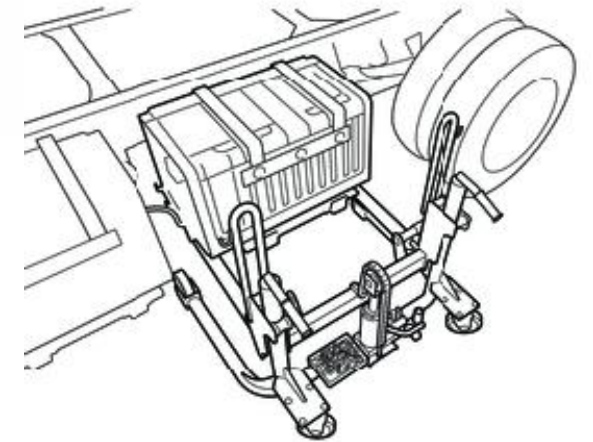
2-in. minimum clearance between battery pack assemblies and body on all sides



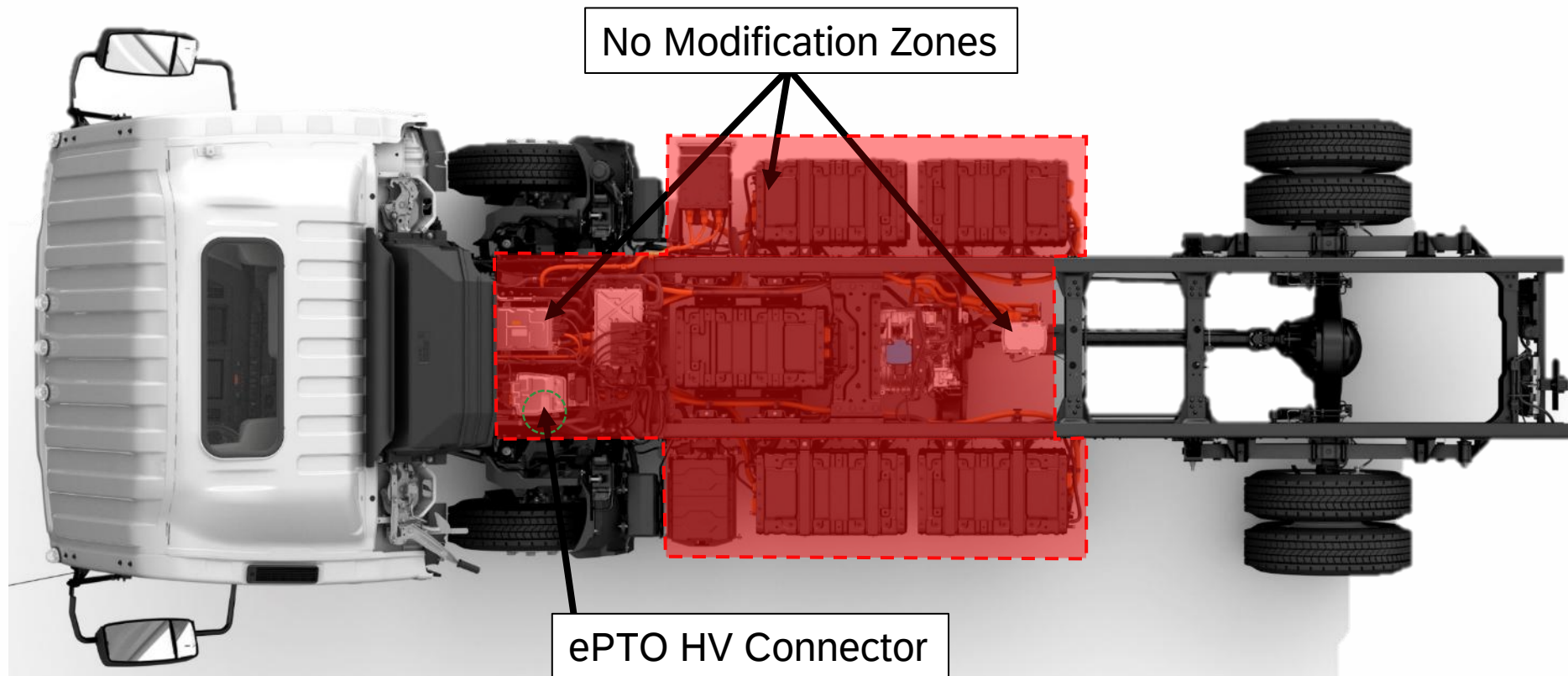
# NRR EV Battery Service Clearance

- High Voltage batteries, outside of the frame rails, service or replacement.
- Battery removal process is straight outward from the frame rail.
- Side body panels should be removable.

Example of Battery Removal Tool



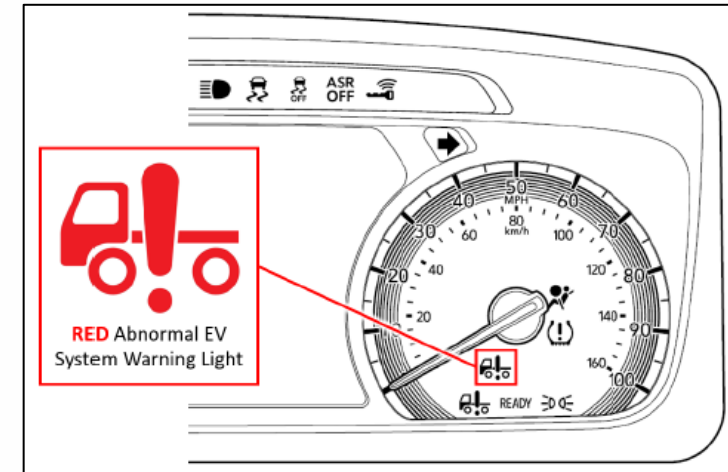
# NRR EV No Modification Zones



**Important: Wheelbase modifications are NOT supported by Isuzu.**

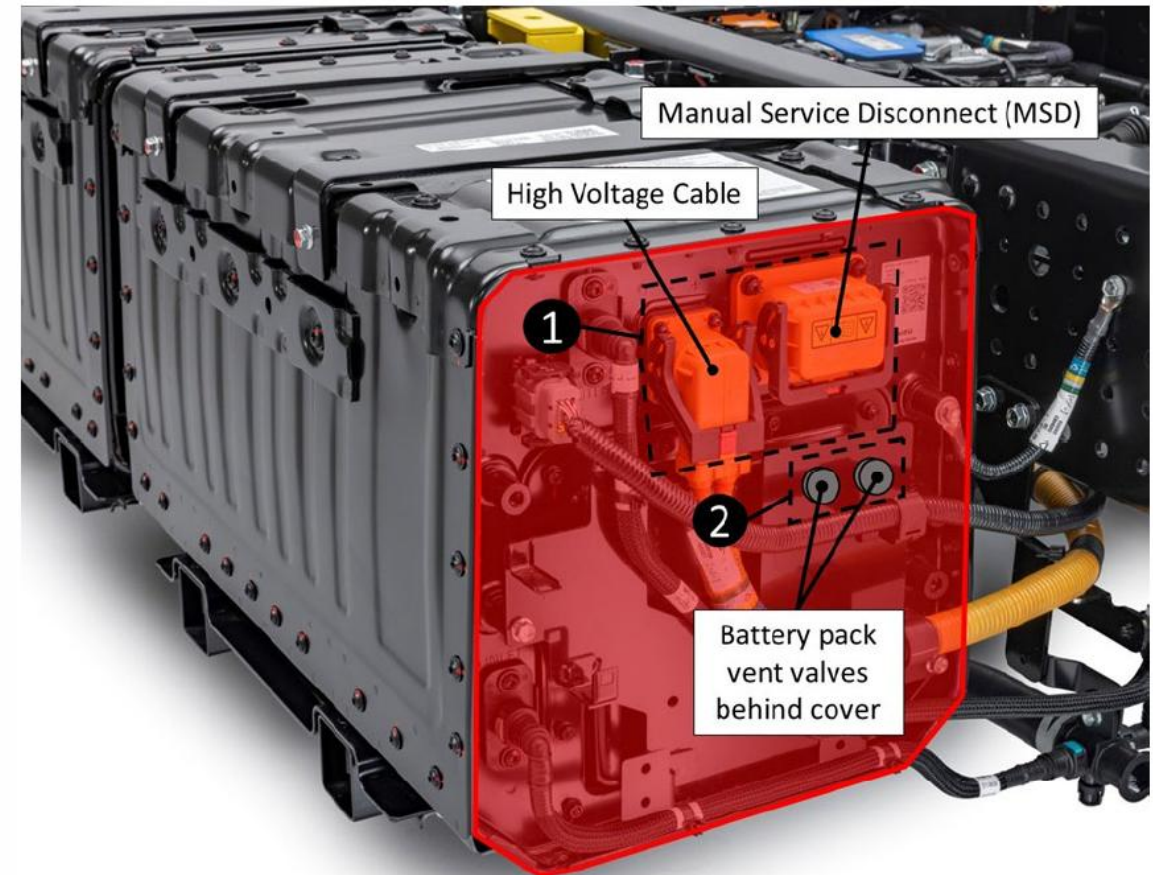
# NRR EV Upfit Precautions & Decommissioning

- ☐ High voltage circuit ~ 350 V  
Electric shock may occur if handled incorrectly.
- ☐ If red EV system warning lamp is illuminated, STOP IMMEDIATELY and contact an Isuzu dealer.
- ☐ Always wear insulated gloves while working on or around HV system. (Class 0 rating that comply with IEC60903 and ASTM D120 standards)
- ☐ Remove the negative terminal of the 12 V batteries.
- ☐ Remove the Manual Service Disconnect (MSD) on the side of at least one battery pack.
- ☐ After unplugging the MSD, wait at least 5 minutes before starting work. (due to capacitor discharge)
- ☐ When welding on the EV chassis, do not ground the high-voltage welding equipment to the exterior of the battery pack.
- ☐ When the MSD is connected, never touch the high-voltage circuit.

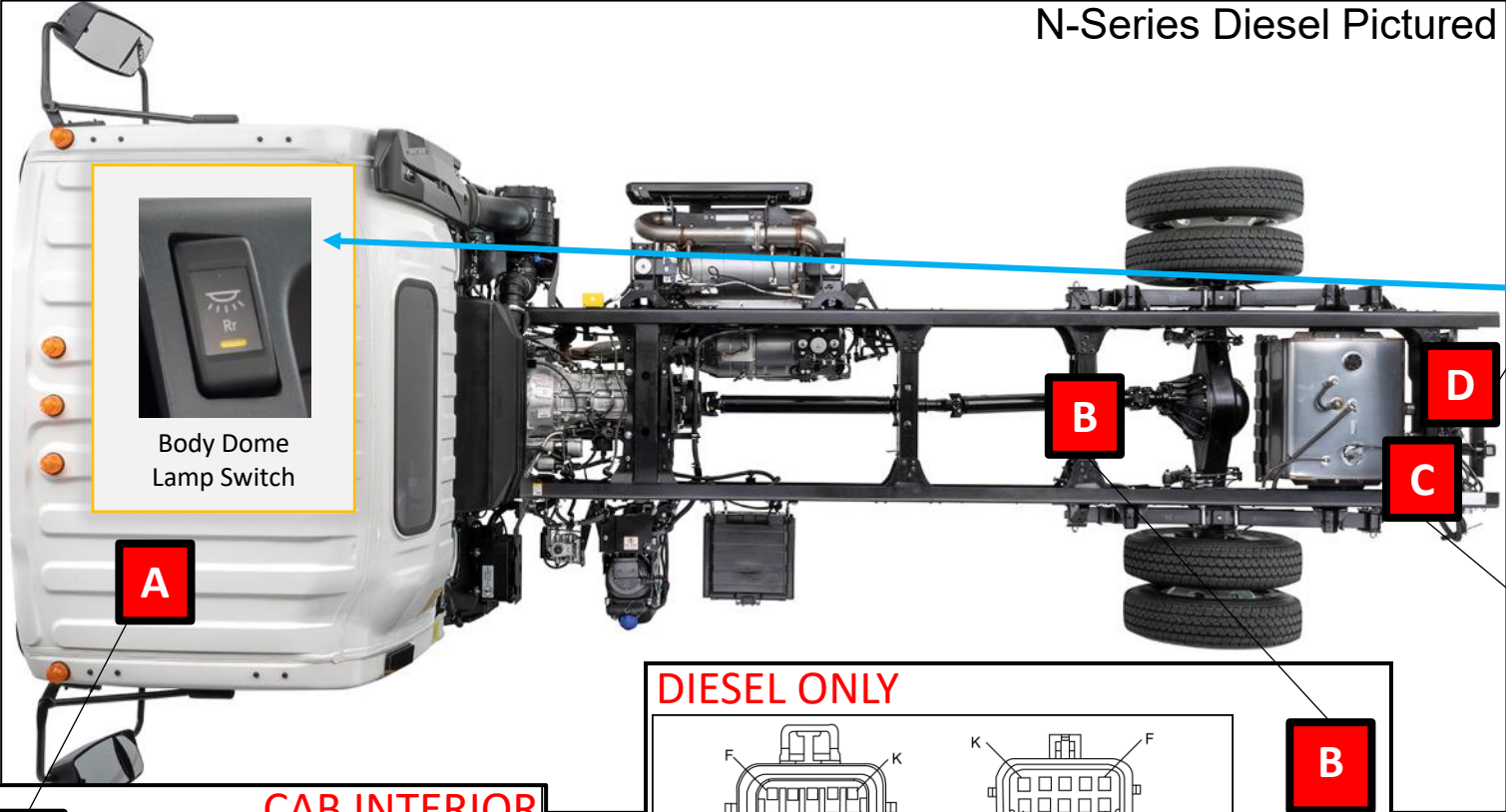


# NRR EV High Voltage System & Battery Protection

- Cables & connectors must be covered to prevent paint from interfering with the release lever actuation.
- Battery pack vent valves must be covered to prevent paint from blocking valves.
- Paint booth temperatures must be limited to a maximum of 131 F.
- When the chassis is exposed to temperatures between 95 F to 131 F:
  1. If the 12-volt batteries are disconnected, limit temperature exposure to less than 5 hours.
  2. If the 12-volt batteries remain connected, there is no time limit to temperature exposure.



# Body Builder Connectors



N-Series Diesel Pictured

**D** Upfitter

Pin-C is controlled by Dome Lamp switch in dash

| Connector Part Information |            | • Delphi 12010974<br>• 4-Way M (BLK) |                                                                        |
|----------------------------|------------|--------------------------------------|------------------------------------------------------------------------|
| Pin                        | Wire Color | Circuit Number                       | Function                                                               |
| A                          | LT GRN/BLK | BA48                                 | Marker Light Voltage from Marker Light Relay (X-26)                    |
| B                          | RED        | IA17                                 | Power Source Voltage from Fuse F-36 Fuse/Relay Center                  |
| C                          | WHT/BLK    | IA28                                 | Dome Light Voltage from Rear Dome Light Relay (X-22) Fuse/Relay Center |
| D                          | BLK        | IX13                                 | Ground to J-110                                                        |

**C** BU Alarm

| Connector Part Information |            | • Delphi 15300027<br>• 2-Way M (BLK) |                             |
|----------------------------|------------|--------------------------------------|-----------------------------|
| Pin                        | Wire Color | Circuit Number                       | Function                    |
| 1                          | BLK        | KX01                                 | Ground                      |
| 2                          | RED/BLU    | KA23                                 | Backup Alarm Supply Voltage |

**B** PTO

**DIESEL ONLY**

| Connector Part Information |            | • Delphi 12065425<br>• 10-Way M (BLK) |                                                                        |
|----------------------------|------------|---------------------------------------|------------------------------------------------------------------------|
| Pin                        | Wire Color | Circuit Number                        | Function                                                               |
| A                          | BLK        | IX13                                  | Ground to J-110                                                        |
| B                          | RED        | IA17                                  | Power Source Voltage from Fuse F-36 Fuse/Relay Center                  |
| C                          | WHT/BLK    | IA28                                  | Dome Light Voltage from Rear Dome Light Relay (X-22) Fuse/Relay Center |
| D                          | LT GRN/BLK | BA48                                  | Marker Light Voltage from Marker Light Relay (X-26)                    |
| E                          | BLK        | IX13                                  | Ground to J-110                                                        |
| F                          | RED        | IA17                                  | Power Source Voltage from Fuse F-36 Fuse/Relay Center                  |
| G                          | WHT/BLK    | IA28                                  | Dome Light Voltage from Rear Dome Light Relay (X-22) Fuse/Relay Center |
| H                          | LT GRN/BLK | BA48                                  | Marker Light Voltage from Marker Light Relay (X-26)                    |
| I                          | BLK        | IX13                                  | Ground to J-110                                                        |
| J                          | RED        | IA17                                  | Power Source Voltage from Fuse F-36 Fuse/Relay Center                  |
| K                          | WHT/BLK    | IA28                                  | Dome Light Voltage from Rear Dome Light Relay (X-22) Fuse/Relay Center |

**A** CAB INTERIOR

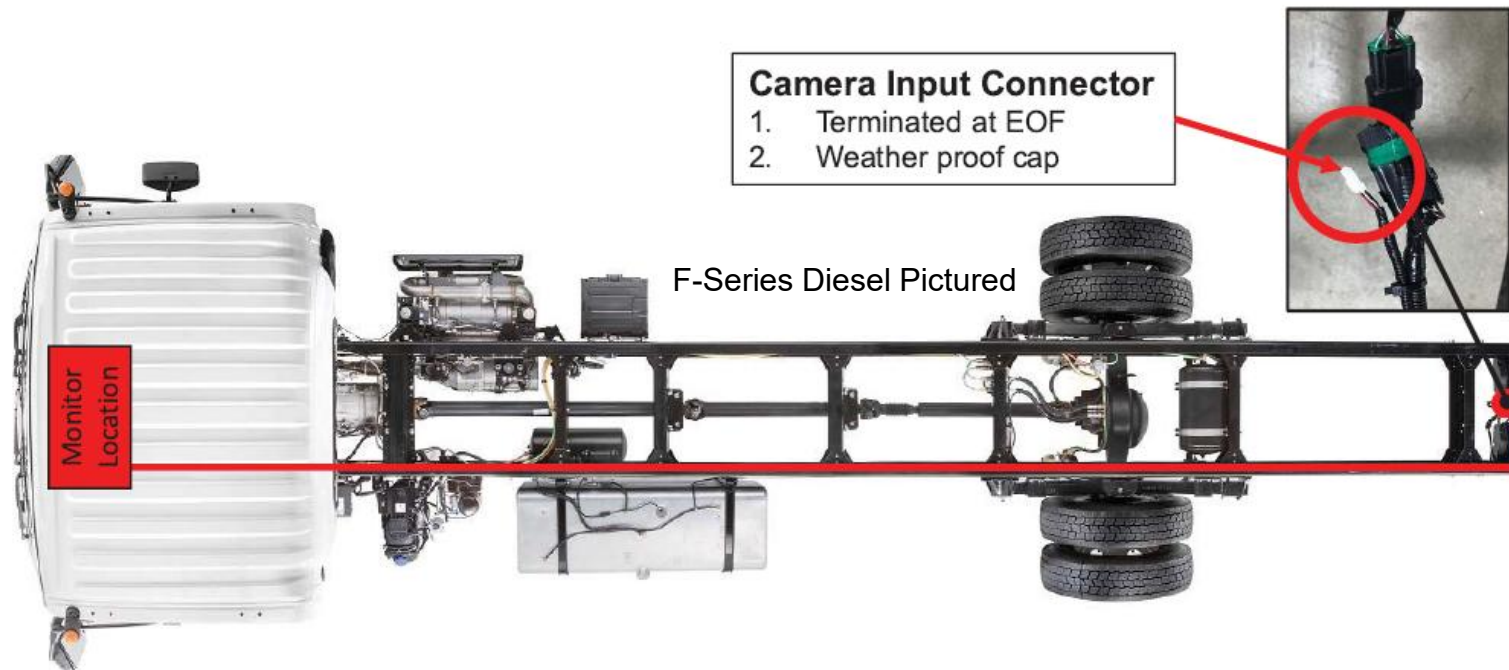
AUX Power

| Connector Part Information |            | • Yazaki 7323-6317<br>• 1-Way F (WHT) |                                    |
|----------------------------|------------|---------------------------------------|------------------------------------|
| Pin                        | Wire Color | Circuit Number                        | Function                           |
| 1                          | YEL        | SA002                                 | Fuse F-41 Voltage from Fuse Center |

- N-DSL
- N-EV
- N-GAS
- F-DSL

# Isuzu / Alpine Back Up Camera Wiring

- Trucks with optional Alpine audio systems are provided with pre-wiring.



## Audio Kit Options:

I1V – Alpine Touch Screen Audio System

I2V – Alpine Touch Screen Audio System w/ Back Up Camera

## Optional Back Up Camera Kit



N-DSL

N-EV

N-GAS

F-DSL

# Steering Angle Sensor

- Steering angle sensor to support electronic stability control.
- Changes, removal, or replacement of certain components may require a relearn procedure to the steering angle sensor:
  - Steering Angle Sensor
  - Electronic Hydraulic Control Unit
  - Front Axle
  - Steering Arm
  - Drag Link
  - Steering Gear
  - Combination Switch
  - Tie Rod (wheel alignment)
  - Steering Wheel
  - Steering Column
- The relearn procedure should be performed by an Isuzu dealer.

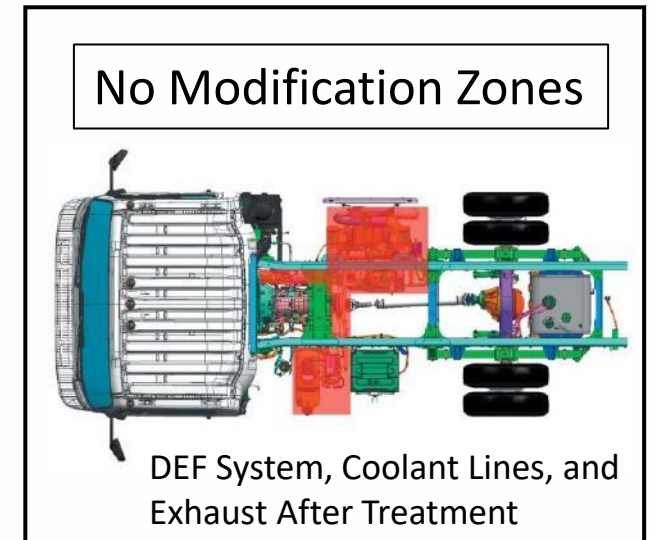
# ADAS Camera

- Dual camera sensing system to support ADAS.
- If the following occurs, camera calibration is required.
  - Camera is removed and installed.
  - Front windshield glass or instrument panel is replaced.
  - Vehicle posture is changed (such as tire size change or suspension replacement).
- Calibrations should be performed by an Isuzu dealer.



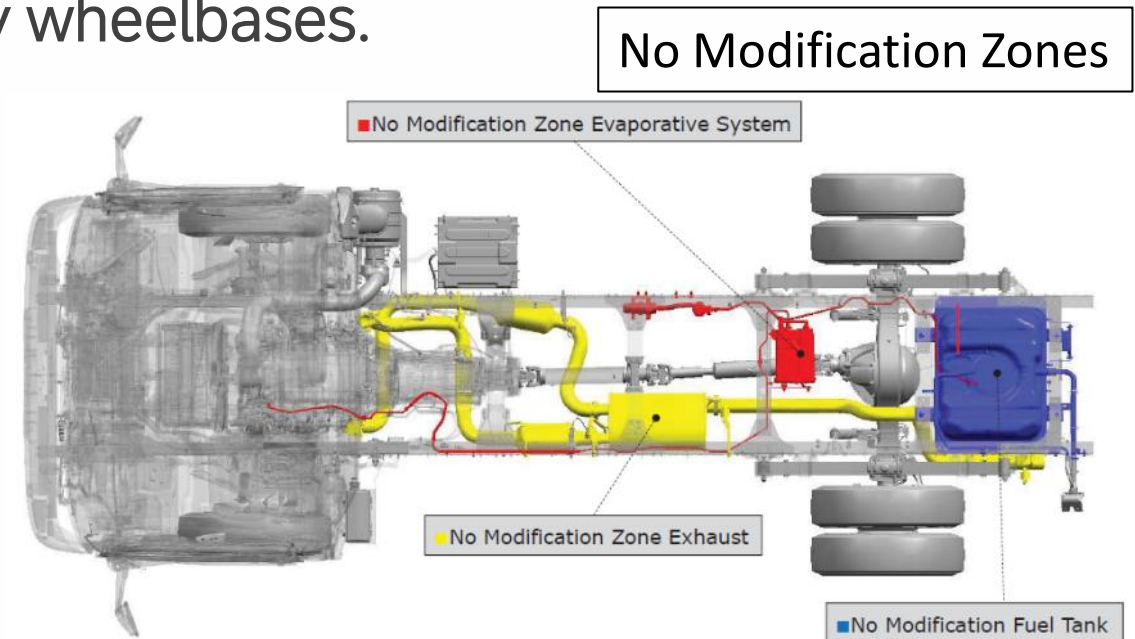
# N-Series Diesel Wheelbase Modification

- Vehicle assist features (Electronic Stability Control and ADAS).
- Wheelbase modifications require ABS module (for ESC) and ADAS camera calibration updates.
- Maximum wheelbase supported is 212 inches.
- Calibrations are ONLY available for factory wheelbases.
  - 109", 132.5", 150", 176", 200", and 212"
- Calibrations should be performed by an Isuzu dealer.
  - 25MY Update – Entire rear harness is replaced with 200" and 212" wheelbase variations at modification centers.



# N-Series Gas Wheelbase Modification

- Wheelbase modifications require an ABS module (non-ESC) calibration update.
- Calibrations should be performed by an Isuzu dealer.
- Calibrations are ONLY available for factory wheelbases.
  - NPR & NPR-HD: 109", 132.5", 150", and 176"
  - NQR & NRR: 132.5", 150", and 176"  
+ 200" and 212" for 26MY



# N-Series Diesel Fuel Filler

- Fuel filler kit provided in cab.

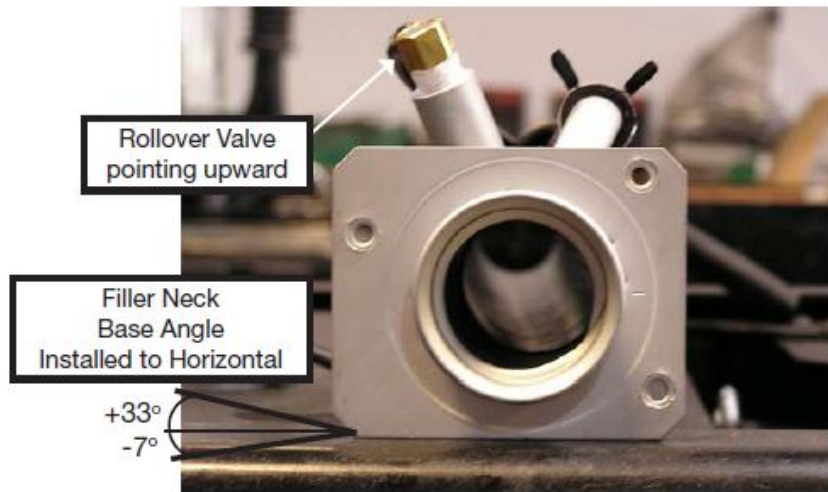


Figure 10.34.2

- Fuel filler orientation**
- Rollover valve up**



Figure 10.33.1

- Splash back valve**
- LH frame rail**
- Flat side up**

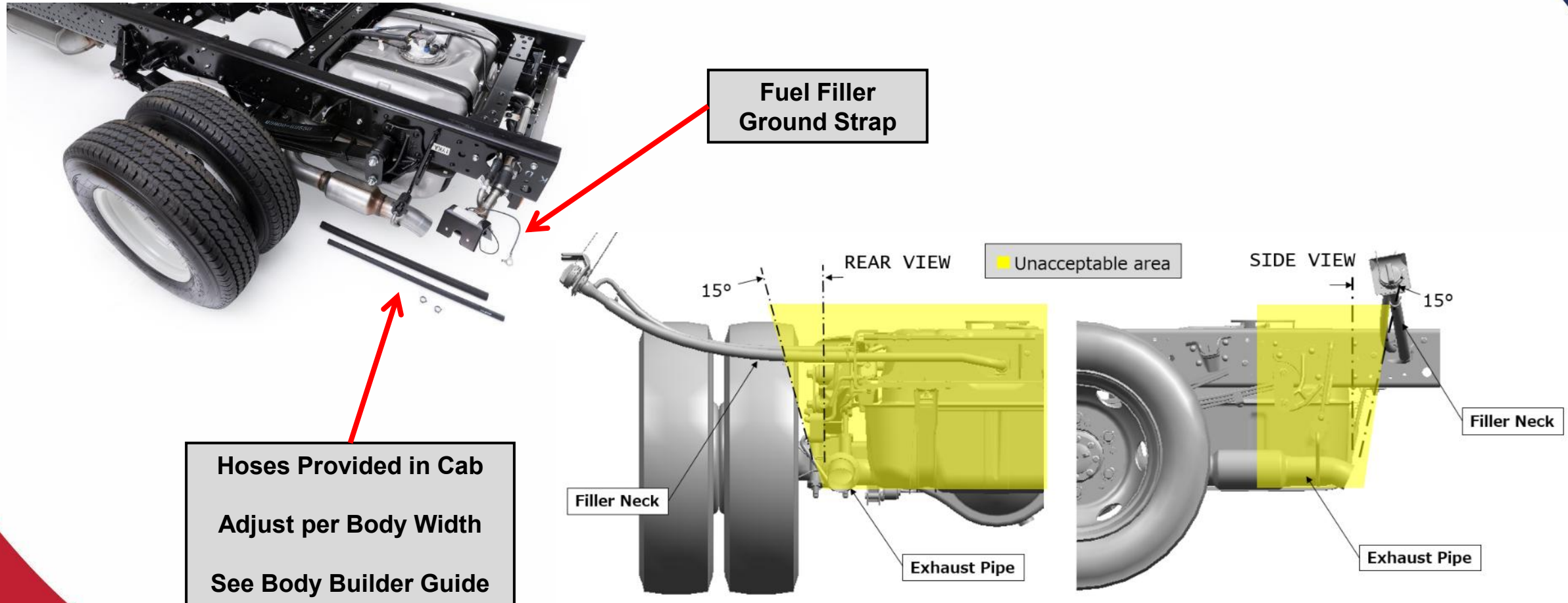


## CAUTION

DO NOT RESTRICT OR KINK THE FUEL TANK VENT HOSE.

OPERATING THIS VEHICLE WITH A RESTRICTED OR KINKED FUEL TANK VENT HOSE MAY CAUSE SERIOUS DAMAGE TO THE FUEL TANK AND/OR FUEL INJECTION PUMP. CONTINUED OPERATION MAY CAUSE ENGINE FAILURE.

# N-Series Gas Fuel Filler



- Do not install connection point of filler, pipe, or hoses in unacceptable area.
- Filler neck should not be modified – must comply with FMVSS

# N-Series Diesel Power Take Off

- Reference the Body Builder Guide for an entire section dedicated to PTO.
- ECM communication to prevent DTCs.
  - Recommended using Isuzu PTO switches and chassis connectors.
  - Remote PTO controllers must signal PTO activation to ECM.

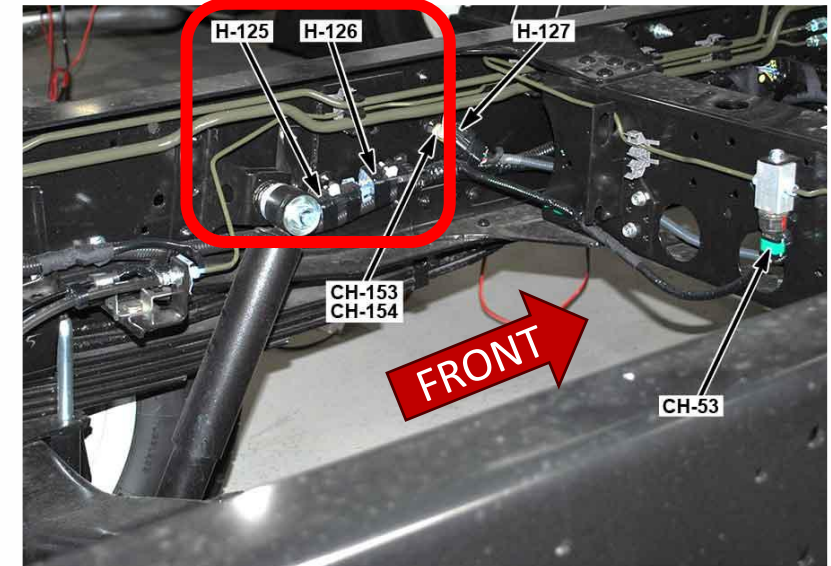
## PTO Functional Modes

- 1) Stationary Preset
- 2) Stationary Variable
- 3) Mobile Variable

PTO Main & Idle Switches

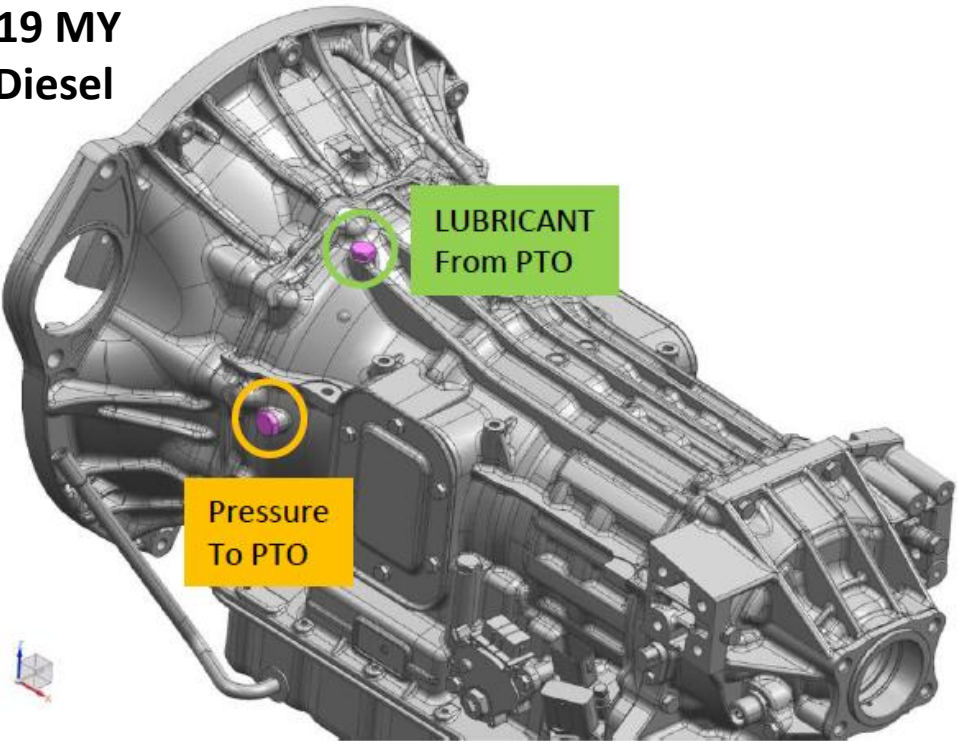


PTO Connectors on Chassis



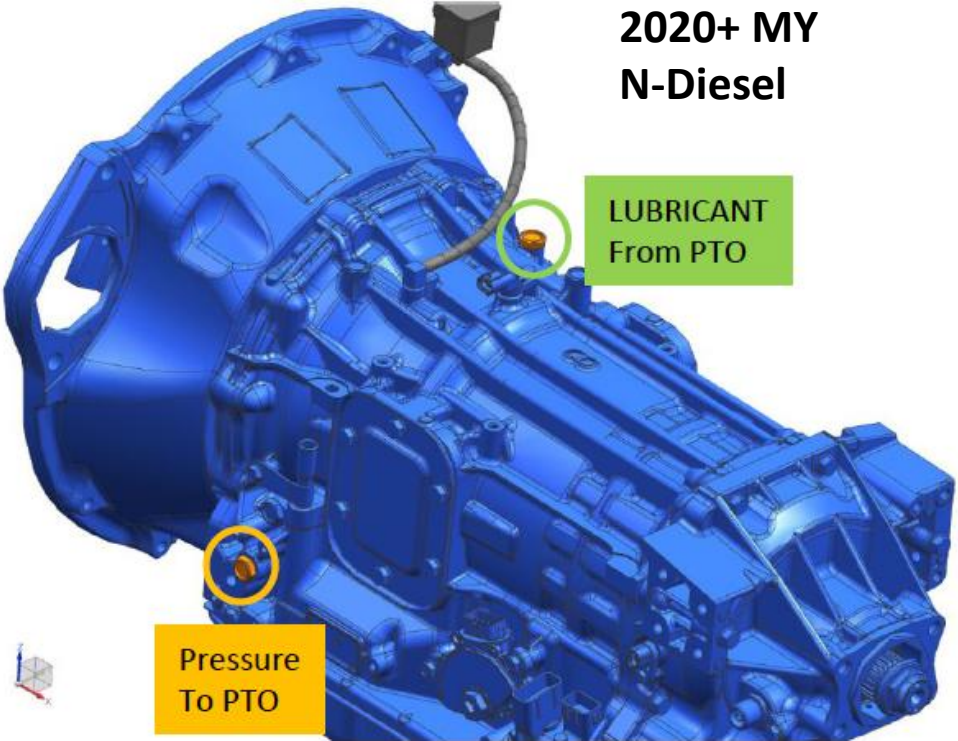
# N-Series Diesel PTO Connection Change

2019 MY  
N-Diesel



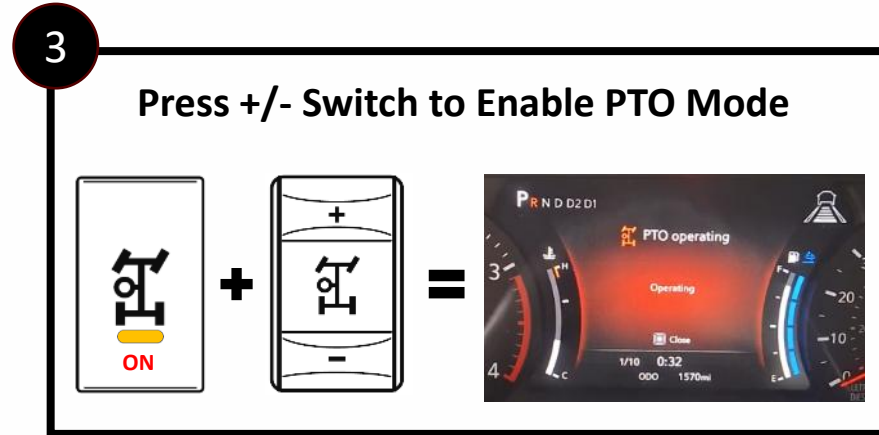
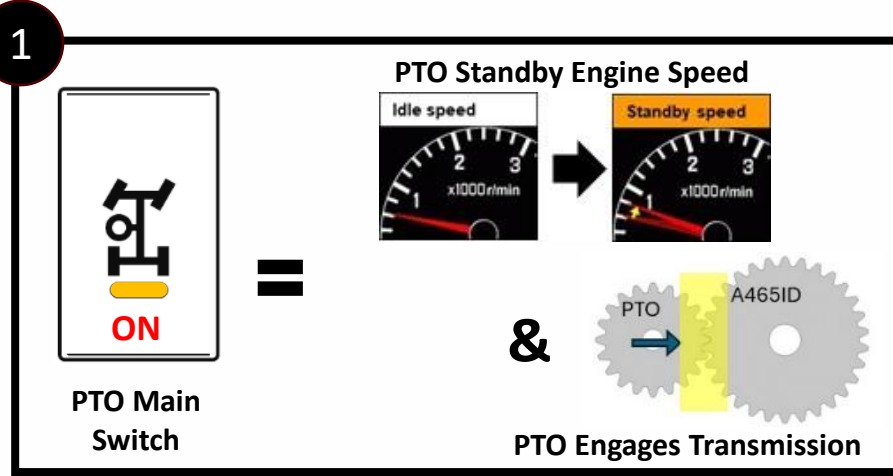
A465

2020+ MY  
N-Diesel



A465id

# 25MY N-Series Diesel PTO Operation Change



START  
TRUCK

ECM PTO Enabled = No

ECM PTO Enabled = Yes

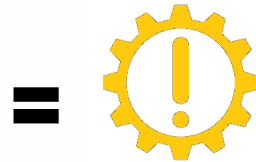
Ground Signal From  
Chassis: H125-B

Upfitter relay activates hydraulic  
pressure to physically engage  
PTO gear into A465id

PTO Not Ready for Operation



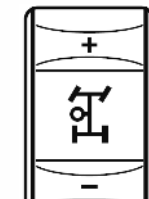
Equipment  
Operation



DTC: P0730

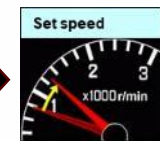
**2**

PTO Mode Enabled



PTO Speed  
Switch

PTO Set Engine Speed



Equipment  
Operation

**4**

# F-Series Power Take Off

- Reference the Body Builder Guide for an entire section dedicated to PTO.
- Cummins Service Tool is required to modify programming functions that control the PTO features.

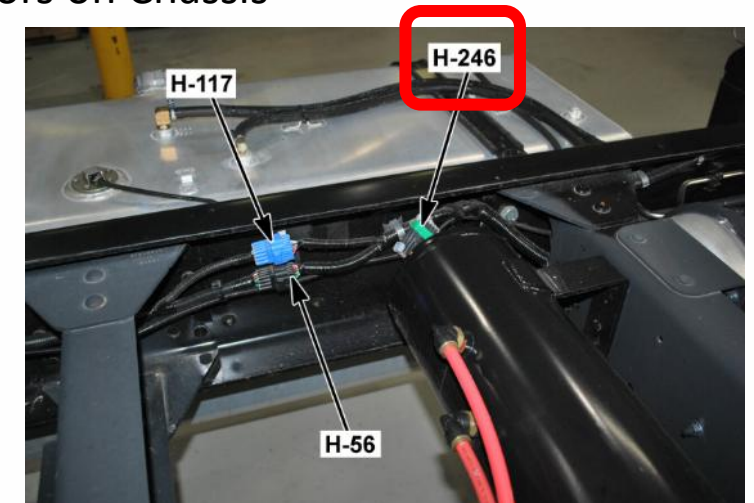
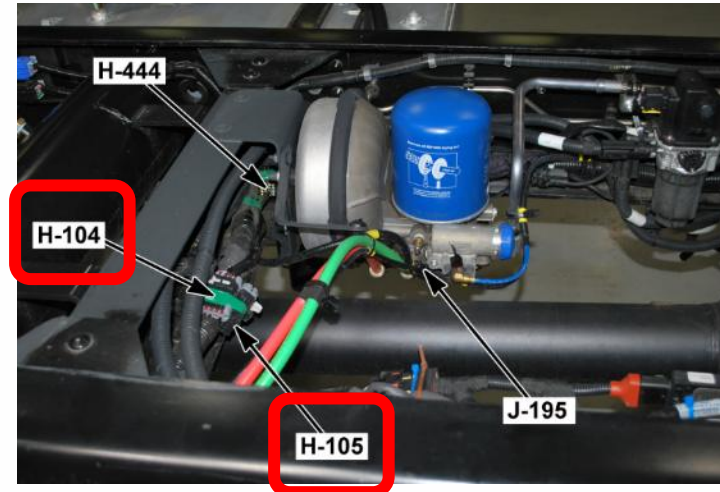
PTO Main & Idle Switches



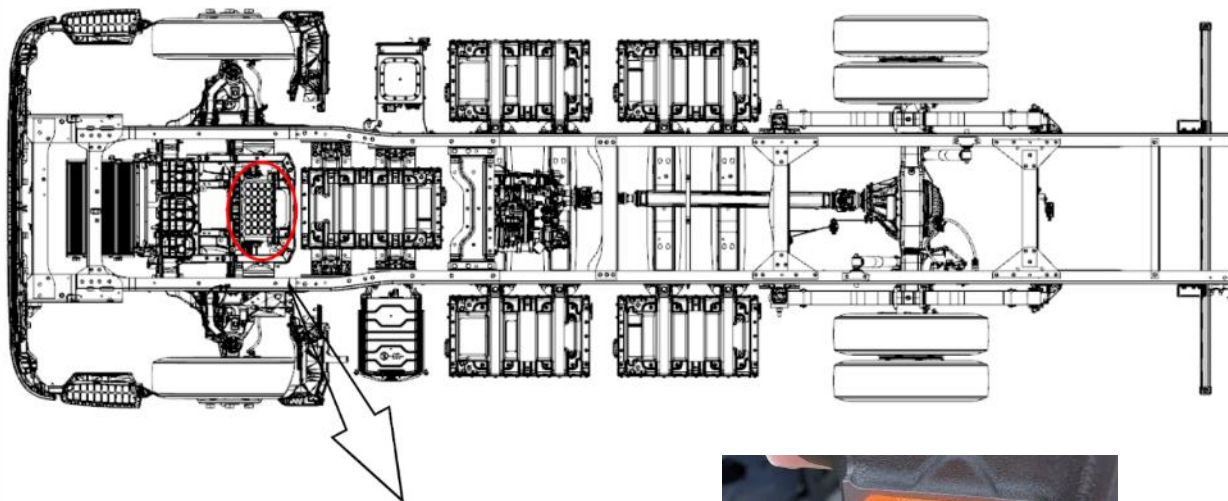
## Cummins PTO Modes

- 1) Cab PTO
- 2) Remote PTO
- 3) Remote Station PTO

PTO Connectors on Chassis



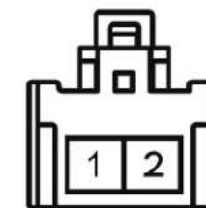
# NRR-EV ePTO



| Item                   |             | Spec      |
|------------------------|-------------|-----------|
| Output                 |             | DC        |
| Working Voltage Range: | Performance | 300-400 V |
|                        | Work        | 240-410 V |
| Max Electrical Power:  |             | 12 kW     |
| Max Electric Current:  |             | 40 A      |



| Pin # | Signal |
|-------|--------|
| 1     | CAN2_H |
| 2     | CAN2_L |



| Item          | Spec                                                     |
|---------------|----------------------------------------------------------|
| Communication | CAN - ISO11898-2                                         |
| Speed         | 500kbps                                                  |
| Resistance    | VCU 120 $\Omega$<br>120 $\Omega$ is required by upfitter |

# Topics

1. Isuzu Lineup
2. NRR EV Refresher
3. Product Updates
  - a. 26MY N-Series Gas
  - b. 26MY N-Series Diesel
  - c. 26MY NRR EV
4. Accessory Updates
5. NRR Rerate Approval Letters
6. Upfitter Considerations
7. Application Support



# Application Support Contacts

## Application Engineering Support

- General Product Questions
- Application Technical Support
- Weight Distributions
- Application Approval Letters
- CAD Data Requests

### Start Here:

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anthony.mousseau@icta-us.com

**ICTA.application.engineering@isuzu.com**

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timothy.ellsworth@icta-us.com

Providing diagnostic tools for Isuzu commercial vehicles.

## Body Builder Information

[Dealers](#)[Aftermarket](#)[Body Builders](#)

### Attention Body Builders:

**Last update: 1/14/2022**

The Isuzu Body Builder Guides are now available for FREE! Download Isuzu's Body Builder Guide or sections for important information about upfitting your Isuzu commercial truck.

Starting with the 2011 Model Year please review Section 0 for change information as the Isuzu's Body Builder Guide is updated from time to time keep to include the latest information available.

All printed material, specifications, and drawings contained in the Isuzu's Body Builder Guide are based on the latest information available at the time of publication/posting. The manufacturer reserves the right to discontinue or change, at any time, without prior notice, specifications, options, materials, equipment, design and models.

Information contained in the guide includes:

- FMVSS safety standards
- EPA requirements
- OE recommendations
- Cautions for successful application upfitting
- Frame modification procedures

Select your model year below to view or download Isuzu's Body Builder guide. Please be patient while the guide downloads.

Select Model Year ▾

[Dealers](#)[Aftermarket](#)[Body Builders](#)

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In process of merging  
Body Builder Guide  
with ISUZUCV.com

# ISUZU



## Thank You!