

## Document ID: 6082656

## #22-NA-114: Information on Forklift and Vehicle Hoist Requirements to Support Electric Vehicle (EV) High Voltage Battery Handling (U.S. Only) - (Jul 31, 2023)

**Subject: Information on Forklift and Vehicle Hoist Requirements to Support Electric Vehicle (EV) High Voltage Battery Handling (U.S. Only)**



| Brand:    | Model:                           | Model Year:    |    | VIN: |                            | Propulsion: | Transmission: |
|-----------|----------------------------------|----------------|----|------|----------------------------|-------------|---------------|
|           |                                  | from           | to | from | to                         |             |               |
| Buick     | All GM Passenger Cars and Trucks | 2024 and Prior | —  | —    | All Electric Vehicles (EV) | All         |               |
| Cadillac  |                                  |                |    |      |                            |             |               |
| Chevrolet |                                  |                |    |      |                            |             |               |
| GMC       |                                  |                |    |      |                            |             |               |

|                                   |               |
|-----------------------------------|---------------|
| <b>Involved Region or Country</b> | United States |
|-----------------------------------|---------------|

### Information

**Important:** Service agents must comply with all International, Federal, State, Provincial, and/or Local laws applicable to the activities it performs under this bulletin, including but not limited to handling, deploying, preparing, classifying, packaging, marking, labeling, and shipping dangerous goods. In the event of a conflict between the procedures set forth in this bulletin and the laws that apply to your dealership, you must follow those applicable laws.

**Important:** This technical service bulletin (TSB) can only be completed by certified repair facilities who have met all specific training, tool and equipment requirements pertaining to the vehicle Brand and Model serviced. Repairs must be performed by a technician who has successfully completed the required training.

General Motors LLC ("GM") is excited about the current electric vehicles in its product line-up as well as future GM electric vehicles coming to market (the "Electric Vehicles"). Electric Vehicles require unique training, equipment and tools to properly sell and service them, including a forklift on the GM dealership premises to assist in the safe handling of High Voltage ("HV") batteries that power Electric Vehicles and vehicle hoists meeting certain specifications to facilitate servicing Electric Vehicles.

This bulletin applies to all GM dealers that sell or service Electric Vehicles ("GM EV Dealers") until further notice or until updated via a subsequent communication and sets forth certain specifications and requirements for (1) the forklift(s) that each GM EV Dealer is required to have on premises to assist in the safe handling of HV batteries, and (2) vehicle hoists to service Electric

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GM EV Dealers must comply with ALL equipment standards, safety procedures, and rules provided by GM, and all applicable federal, state, municipal, provincial, and local laws, statutes, rules, and regulations pertaining to forklift operating and handling HV batteries. Each GM EV Dealer is responsible for ensuring compliance with all such equipment standards, safety procedures, and rules provided by GM, and all applicable federal, state, municipal, provincial, and local laws, statutes, rules, and regulations.

## **Forklift**

### **Properly Trained Personnel**

Each GM EV Dealer must have a least one (1) employee who is properly trained and licensed to operate a forklift consistent with regulatory requirements in your market on site at the Dealership Premises during all hours of Dealership Operations.

<sup>1</sup>GM EV Dealer is responsible for ensuring that the forklift operator is licensed under all applicable federal, state, and local laws and regulations.

### **Required Equipment**

Due to the size of HV batteries, a forklift meeting the specifications described below is required. Each GM EV Dealer is responsible for obtaining written verification from the forklift manufacturer that the forklift utilized on GM EV Dealer's premises complies with these requirements.

### **Required Technical Specifications:<sup>2</sup>**

<sup>1</sup>Capitalized terms not defined in this bulletin shall have the meaning prescribed to them in the General Motors Dealer Sales and Service Agreement.

<sup>2</sup> GM strongly recommends, but does not require at this time, that a GM EV Dealer obtain a forklift equipped with (1) a Side Shifting Fork Arm Positioner to assist loading HV batteries into shipping container, and (2) lugged tires for inclement weather or uneven surfaces.

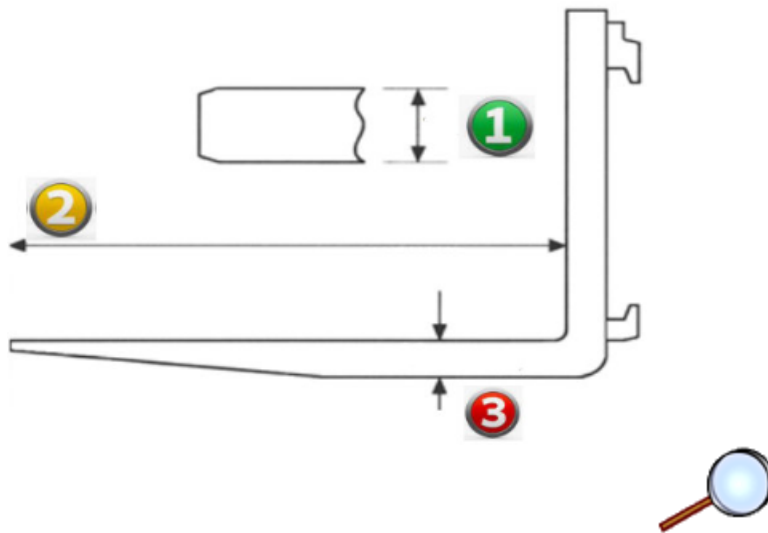
**Note:** Your brand specific Participation Agreement may state 8,000 lb capacity forklift. Some 8,000 lb forklifts may not meet all criteria listed within based on the design and manufacture of the forklift. We recommend providing the following criteria listed within to the forklift manufacturer.

- *Capacity:* lift 4250 lbs. with load center of 48 in., at 142 in. height.
- *Fork Length:* must be at least 72 in. / 1828 mm in length, no extensions allowed (See Figure 1).
- *Fork Width and Thickness:* to accommodate the EL-53080 battery lift system and HV battery crate, fork width and thickness must not exceed the dimensions in the following table:

| <b>Fork Width (W)</b> | <b>Fork Thickness (T)</b> |
|-----------------------|---------------------------|
| < 6.5"                | Up to 3" Thick            |
| 6.5" – 8"             | Up to 2.25" Thick         |

Forks wider than 8" / 203 mm are incompatible with the EL-53080 battery lift system and HV battery crate.

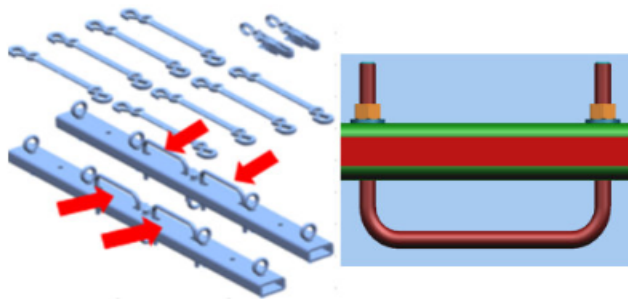
### **Figure 1**



- 1. Width (W)
- 2. 6 ft Fork Length (No Extensions)
- 3. Fork Thickness

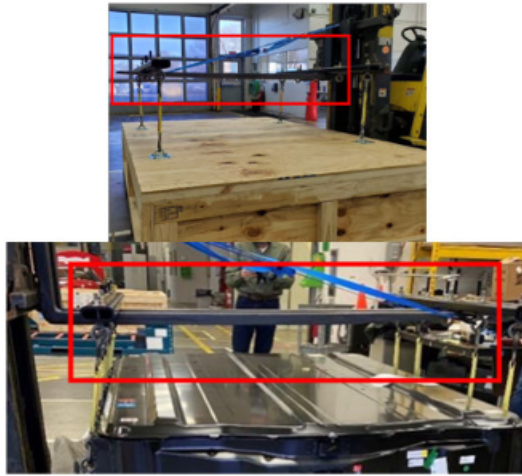
Isometric views of fork

**Figure 2**



EL-53080 Battery Lift System. The arrows indicate pockets where forklift forks will be inserted.

**Figure 3**



Images of EL-53080 Battery Lift System installed on forklift; image on top is crate lid; image on bottom is HV battery.

**Note:** Each forklift manufacturer has its own mass calculation method and height capacity. This document is provided by the forklift manufacturer and should be kept on hand. The GM EV Dealer should work with the forklift manufacturer to determine the best forklift to safely maneuver HV batteries based on the above requirements.

**Note:** Forklift purchase and/or rental expenses are the responsibility of GM EV Dealer and are not covered and/or reimbursable under any warranty.

**Important: DO NOT USE TRUCK LIFTGATES FOR LOADING/UNLOADING HV BATTERIES FROM THE TRANSPORTATION TRUCK/TRAILER.**

### Cadillac Requirements

Cadillac dealers must purchase or have a long-term lease of the required forklift by June 30, 2022. Short-term, or daily forklift rentals do not satisfy this requirement. Dealers who fail to satisfy this (or any other) requirement by June 30, 2022, will be ineligible to order, sell, or service the Cadillac LYRIQ, or any other upcoming Cadillac electric model until fully compliant with GM's policies.

### GMC Requirements

GMC Dealers that already purchased an 8000 lb. forklift must provide proof from the forklift manufacturer that the forklift meets the specifications included in this bulletin by June 30, 2022. If the forklift obtained by GMC Dealer does not meet the specifications included in this bulletin, a compliant forklift must be obtained.

GMC Dealers that have confirmed "access to a forklift" via Forklift Verification form will need to confirm that the forklift meets the specifications contained in this bulletin and fill out a new verification form affirming that the forklift meets the specifications contained in this bulletin by June 30, 2022. If the forklift that GMC Dealer has access to does not meet the specifications included in this bulletin, a compliant forklift must be obtained. **Access to a forklift will only be permissible until March 31, 2023, when the current GMC Electric Models Participation Agreement expires.**

GMC dealers must purchase or have a long-term lease of the required forklift by April 1, 2023.

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(or any other) requirement by April 1, 2023, will be ineligible to order, sell, or service the GMC HUMMER EV, or any other upcoming GMC electric model until fully compliant with GM's policies

### **Chevrolet Requirements**

Chevrolet EV dealers must purchase or have a long-term lease of the required forklift by March 31, 2023. Short-term, or daily forklift rentals do not satisfy this requirement. Chevrolet dealers who fail to satisfy this (or any other) EV requirement by March 31, 2023, will be ineligible to order, sell, or service the Silverado EV, Blazer EV, Equinox EV, or any other upcoming Chevrolet electric model until fully compliant with GM's policies.

Failure to use a forklift meeting the specifications set forth herein to handle HV batteries presents a safety risk and will waive the EV Component Limited Warranty covering those HV batteries.

## **Vehicle Hoist**

### **Cadillac Requirements**

All Dealers are required to have a 12,000 LB. service hoist with 3-stage arms by June 30th, 2022. The hoist must have sufficient lifting capacity, and a wide setting is the preferred option. This requirement also calls for 3-stage or new style Trio arms to accurately reach the vehicle lifting points. Older 12,000, 16,000, and 20,000 LB. lift models with 2-stage arms may not reach lift points properly.

### **GMC Requirements**

All Dealers are required to have a 12,000 LB. service hoist with 3-stage arms. The hoist must have sufficient lifting capacity, and a wide setting is the preferred option. This requirement also calls for 3-stage or new style Trio arms to accurately reach the vehicle lifting points. Older 12,000, 16,000, and 20,000 LB. lift models with 2-stage arms may not reach lift points properly.

### **Chevrolet Requirements**

All Dealers are required to have a 12,000 LB. service hoist with 3-stage arms by March 31st, 2023. The hoist must have sufficient lifting capacity, and a wide setting is the preferred option. This requirement also calls for 3-stage or new style Trio arms to accurately reach the vehicle lifting points. Older 12,000, 16,000, and 20,000 LB. lift models with 2-stage arms may not reach lift points properly.

## **Required Equipment**

- Vehicle hoist must be US ALI Certified.
- Hoist arms must reach all lifting points within the safe area of the lifts swing arcs. No hoist arm extensions are permitted to extend the reach.
- Hoist arms must not interfere with battery pack removal at the lifting points or the cradle/table on the ground to receive the pack.

Each GM EV Dealer's particular situation is different. Recommendations are available through GM Dealer Equipment ("GMDE") [www.GMDEsolutions.com](http://www.GMDEsolutions.com), [GMDE EV Lifting Options](#), or 844-742-8471. The [GMDE field team](#) is also an available resource.

The hoist manufacturer should also be consulted for each GM EV Dealer's particular situation.

GM recommends following the hoist manufacturer's recommended and/or required maintenance procedures to maintain proper functionality of the hoist.

**Note:** For additional information on requirements, please contact your local District Service Manager (DVM).

GM continues to develop cutting edge Electric Vehicles and such continued development may require changes to this specification. GM has the right to modify, amend, or alter these

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requirements and specifications at any time in its sole business discretion. Appropriate notice of such modification, amendment, or alteration will be provided to GM EV Dealers.

GM reserves the right to audit GM EV Dealers to verify compliance with the requirements contained herein and GM EV Dealers agree to permit any designated representative of GM to access and examine the forklift and/or vehicle hoists maintained on GM EV Dealers premises to verify compliance with these requirements and specifications.

|                 |  |
|-----------------|--|
| <b>Version</b>  | 5  |
| <b>Modified</b> | <p>Released May 25, 2022</p> <p>Revised June 14, 2022 – Updated the information under Vehicle Hoist and Required Equipment sections.</p> <p>Revised October 04, 2022 – Added a Note within Required Technical Specifications section.</p> <p>Revised March 21, 2023 – Added the 2024 Model Year and second Important statement.</p> <p>Revised July 31, 2023 – Removed the hoist manufacturer table under Required Equipment and only providing the Recommendations directly from GM Dealer Equipment to reduce complexity and updates to the table.</p> |

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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