



# Service Bulletin

Bulletin No.: 22-NA-005

Date: February, 2023

## INFORMATION

**Subject:** Information on Opening / Closure Instructions for DDR (Damaged, Defective, Recalled) High Voltage Battery Dunnage / Container

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
BrightDrop	EV600	2022	2022				
GMC	HUMMER EV						

Involved Region or Country	
Additional Options (RPOs)	
<b>Information</b>	<p>Loose container components to support return of DDR battery:</p> <ul style="list-style-type: none"> <li>20 ft. X 13 ft. X 4 mm (6m X 4m X 4mm) poly liner</li> <li>57 in. X 160 in. (145 cm X 406 cm) absorbent liners</li> <li>M-16-2 X 100 mm bolts with metal and rubber washers to secure battery to base</li> </ul> <p>The high voltage battery pack is regulated under dangerous goods transportation laws. As the shipper of record, dealers are responsible for compliance with all applicable international, federal, state, provincial, or local dangerous goods transportation laws. This includes, but is not limited to, proper labeling, marking, completion of shipping papers, and packaging. Failure to comply with federal dangerous goods transportation laws may result in a violation of the U.S. Hazardous Materials Transportation Act, as amended, and its implementing regulations issued by the U.S. DOT at Title 49, Volumes 2-3, of the CFR and could subject you to fines of up to \$84,425 for each violation, except the maximum fine is \$196,992 if the violation results in death, serious illness, or severe injury to any person or substantial destruction of property.</p> <p><b>Important:</b> Failure to follow these closure instructions may result in a violation of the U.S. Hazardous Materials Transportation Act and could subject you to fines as previously referenced.</p> <p>The packaging referenced has passed the standards of the DOT'S TITLE 49 CFR; Performance Oriented Packaging Standards, Section 178. This package is also certified under ADR, IMDG, ICAO/IATA Regulations and the UN Recommendations on the Transport of Dangerous Goods. It is the responsibility of the end user to determine authorization for use under these regulations. The use of other packaging methods or components other than those documented in this report may render this certification invalid.</p> <p>These containers are intended/rated for reuse and must be handled with care.</p>

**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.

## Return Procedure

### DDR Crate Gen1

**Opening / Closure Instructions for BET (Hummer) Damaged, Defective or Recalled (DDR) Batteries**

**Important:** Refer to *Hybrid/Electric Vehicle Battery Pack Replacement and Shipping Preparation in the Service Manual* for instruction on proper equipment use.







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1. Inspect outside of container (base and top) to ensure it is damage free.



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2. Remove sixteen (16) M-16 hex head X 100 mm (4 in.) bolts and washers from crate (circled in green in two graphics above). Five (5) bolts / washers on each length dimension and three (3) bolts washers along each width dimension (circled in green in graphics above).

DO NOT REMOVE ANY ADDITIONAL BOLTS.  
Place in a safe location to close container in future step



3. Connect the lifting assist, EL-53080 (Battery Lifting System) to the fork truck and connect the 4 straps to the D rings recessed in the crate top, refer to *Hybrid/Electric Vehicle Battery Pack Replacement and Shipping Preparation in the Service Manual* in SI.

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- 4. Slowly lift the crate top off the base and set it down in a safe location.



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5. Inspect inside the lid for damage. If container is undamaged, proceed to step 6. Damaged containers must not be loaded with hazardous materials.

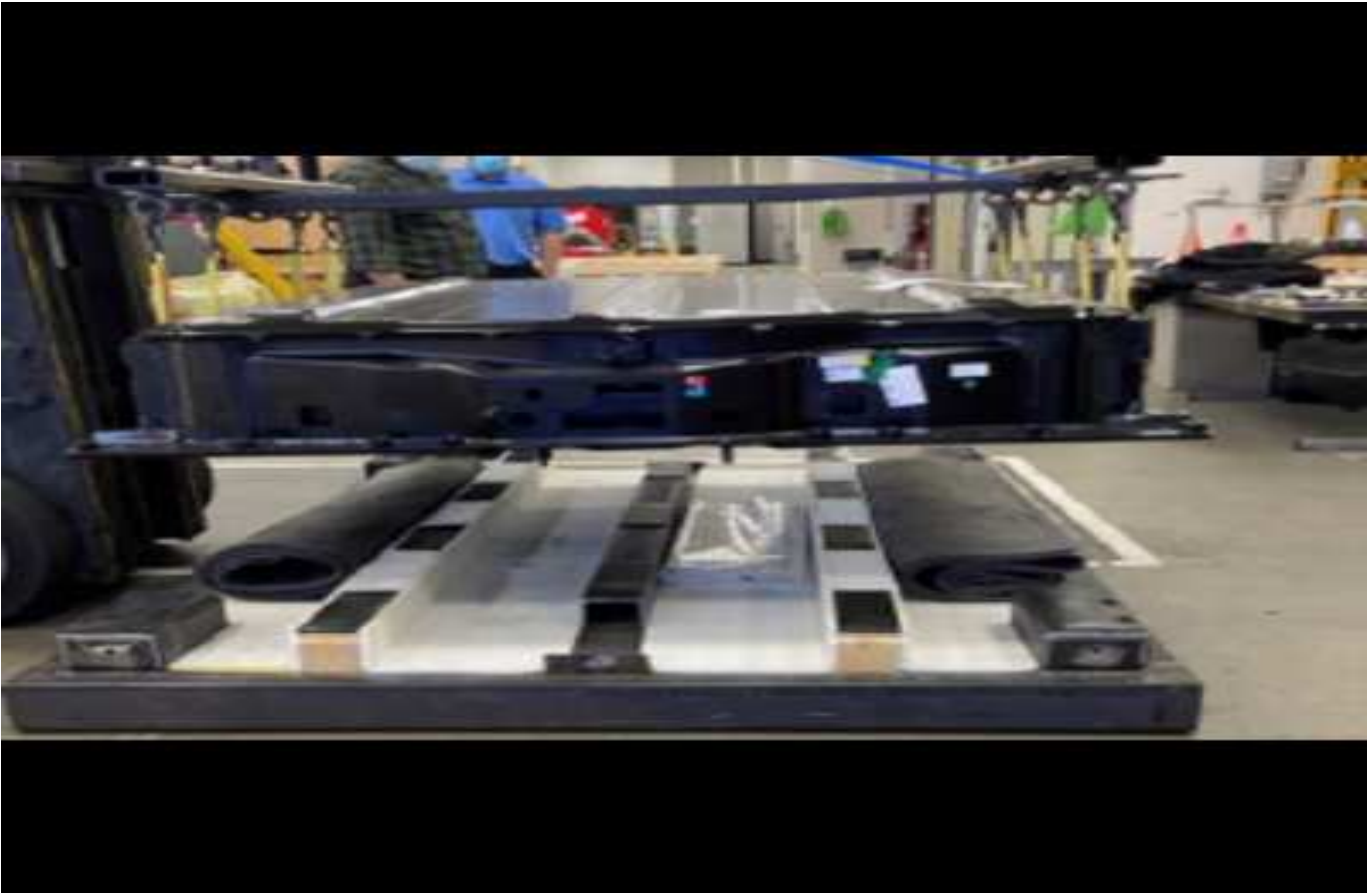


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6. Carefully set the crate top to the side and disconnect the straps from the D rings.



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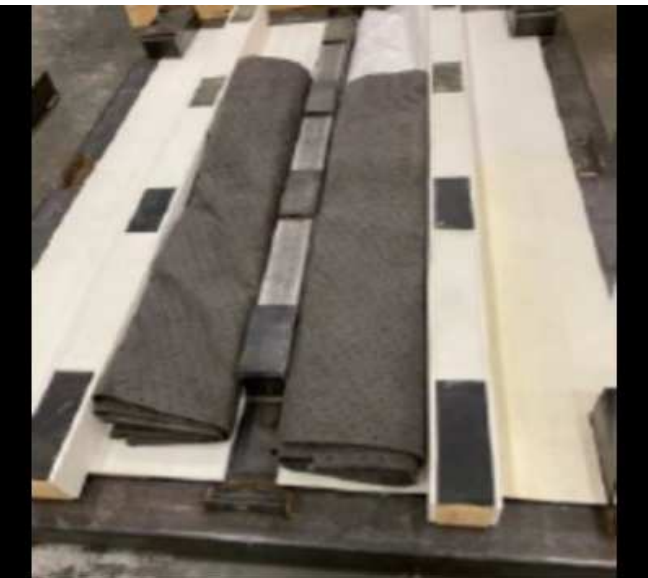


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7. Remove the 4 - M16 bolts (bolts should also include a metal and rubber washer) securing the battery to the crate base. Connect the BET lift assist, EL53080 and EL-53097, eye bolts refer to *Hybrid/Electric Vehicle Battery Pack Replacement and Shipping Preparation in the Service Manual*.

**Note:** ensure all electrical connector and cooling system dust caps have been transferred, refer to *Hybrid/Electric Vehicle Battery Pack Replacement and Shipping Preparation in the Service Manual*.

8. Remove the two (2) 57 in. x 160 in. absorbent blankets and one (1) 13 ft. x 20 ft. poly liner. Liner and blankets will be used to wrap damage battery starting in step 10.
9. Inspect crate base and insure it is damage free and all foam and rubber materials are in place and free of tears. If no damage, proceed to step 10.



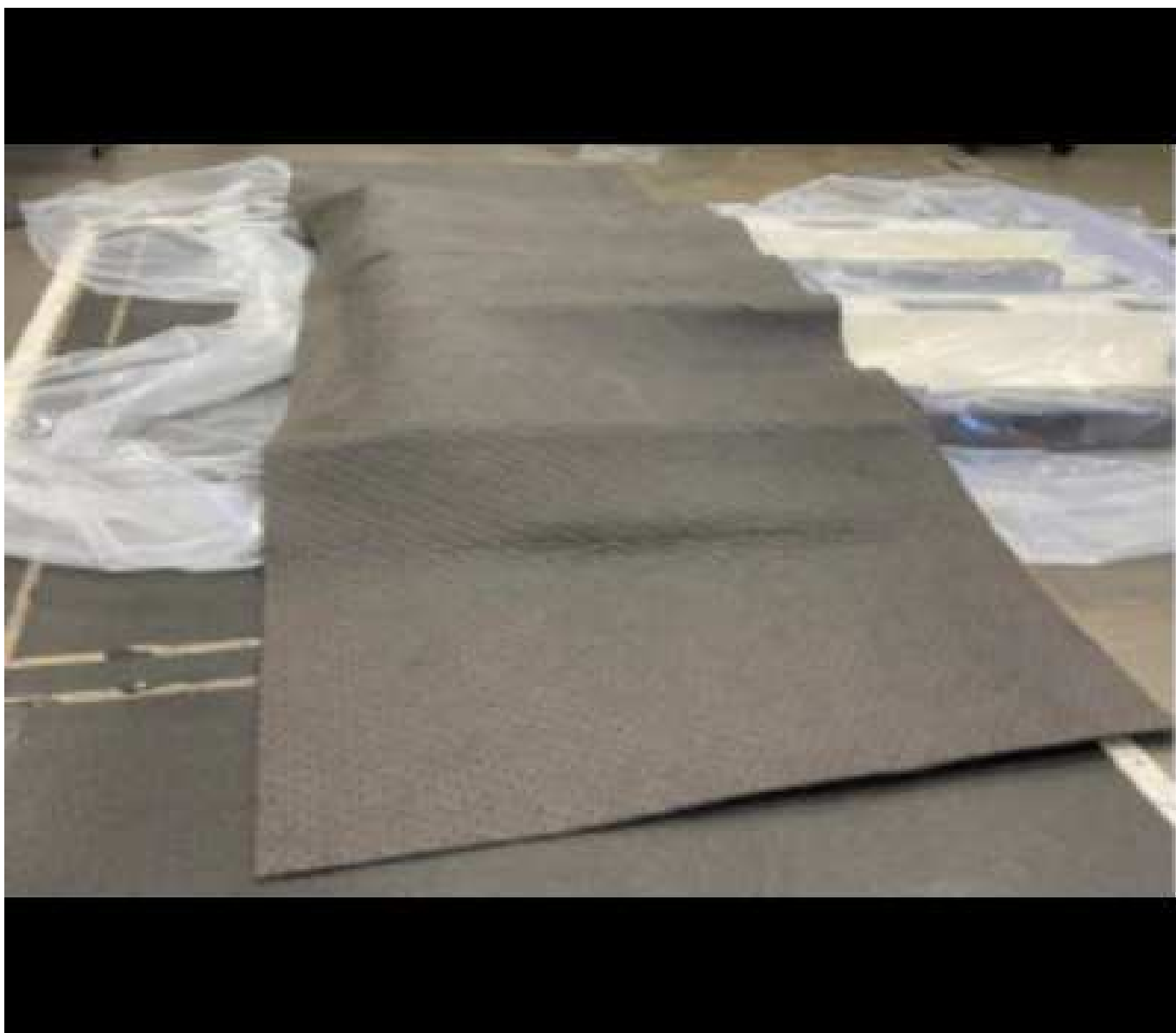
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**Note: US dealers** - If required, obtain replacement packaging materials through the SNT app in Global Connect (same app used to order and return batteries).

**Canadian dealers** - If required, obtain replacement packaging materials through YORK ELECTRONICS OSHAWA at 1-888-650- 9675 ext. 307.



10. Open 20 ft x 13 ft poly liner and center it over crate base as shown in picture above.



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11. Using first absorbent blanket, lay across the width (67 in. (170 cm) dimension) of crate base as show. Please ensure the edge of the blanket overhangs the end of the crate base so as the edge of the blanket just touches the floor.

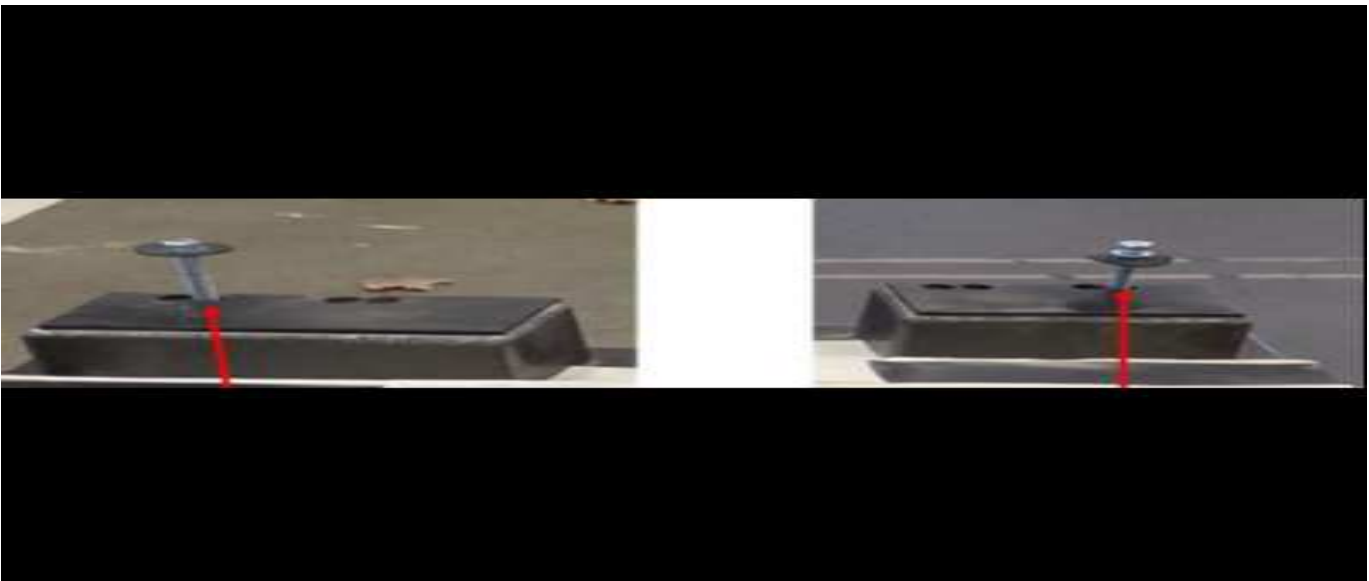


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12. Using the second absorbent blanket, repeat along other end of base. Please ensure that there is at least one inch of overlap of the two blankets in the center.



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**Note:** bolt placement locations for LWB battery are shown without poly liner or absorbent blankets in place.

13. The above picture shows the bolt hole locations that should be utilized in the next steps.



5951301

14. Utilizing one of the EL-53152 HV Battery Alignment Pins find the appropriate hole in the base (previous picture) and set the top or narrow end of the pin on the blanket and liner over the correct base detail hole. Using light/medium force, with a rubber mallet strike the pin and puncture through the absorbent and poly liners. Rotate the alignment pin and align pin threads with proper bolt hole threads and hand tighten into place.



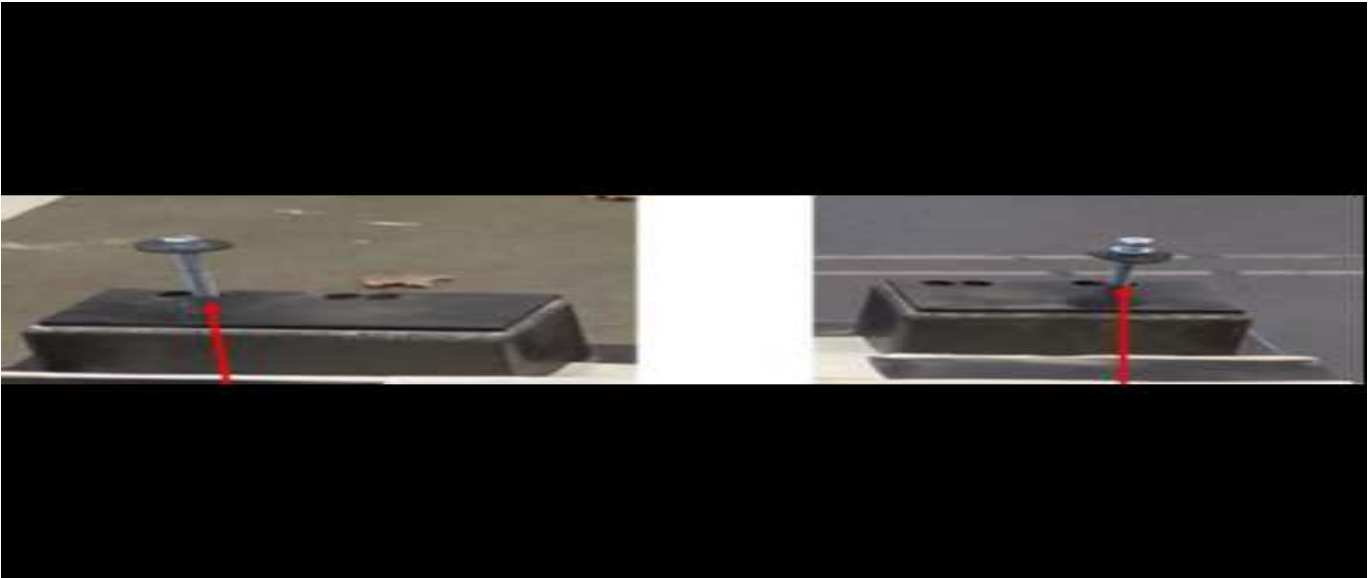
15. Repeat this process for the remaining three bolt hole location.

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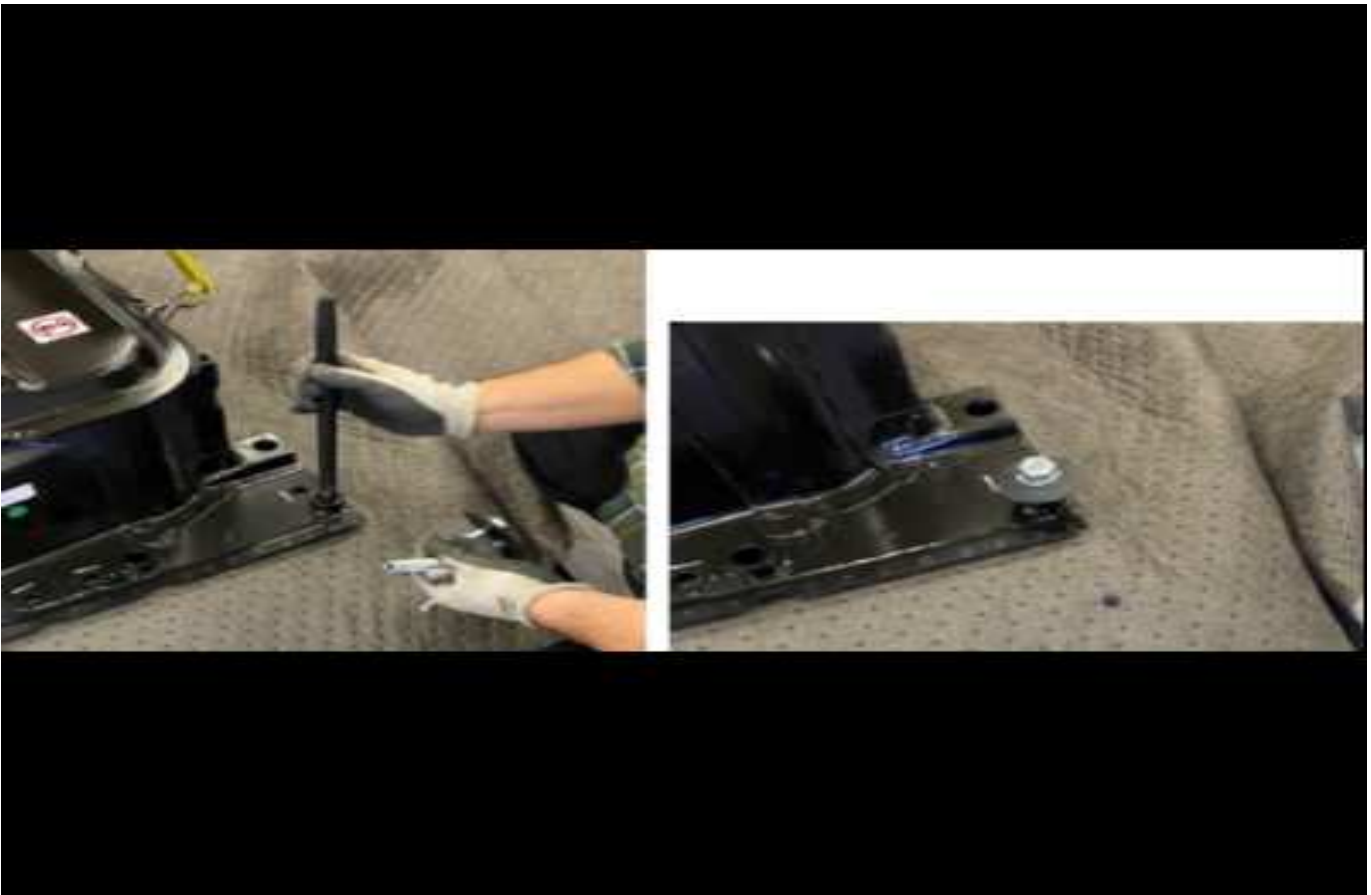
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16. Connect battery to lift assist EL-53080 using eye bolts EL-53097 refer to *Hybrid/Electric Vehicle Battery Pack Replacement and Shipping Preparation in the Service Manual*.



5951306

17. Carefully lower battery over alignment pins. Once the battery is aligned with the four pins, refer to *Hybrid/Electric Vehicle Battery Pack Replacement and Shipping Preparation in the Service Manual*.



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18. Once the battery is lowered onto base release tension from lift assist. Remove first alignment pin and replace with a M16 bolt with metal and rubber washers. Ensure rubber washer, not metal washer,

is contacting battery. **Start bolt by hand to ensure threads are not crossed. Do not tighten down at this time.**



19. Repeat step 18 for remaining three (3) alignment pins and bolts. Once all four bolts are in place, disconnect lift assist and **tighten all four bolt to 25 ft lb. of torque.**

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20. Wrap battery with first absorbent pads as shown above.

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21. Repeat with second absorbent pad.



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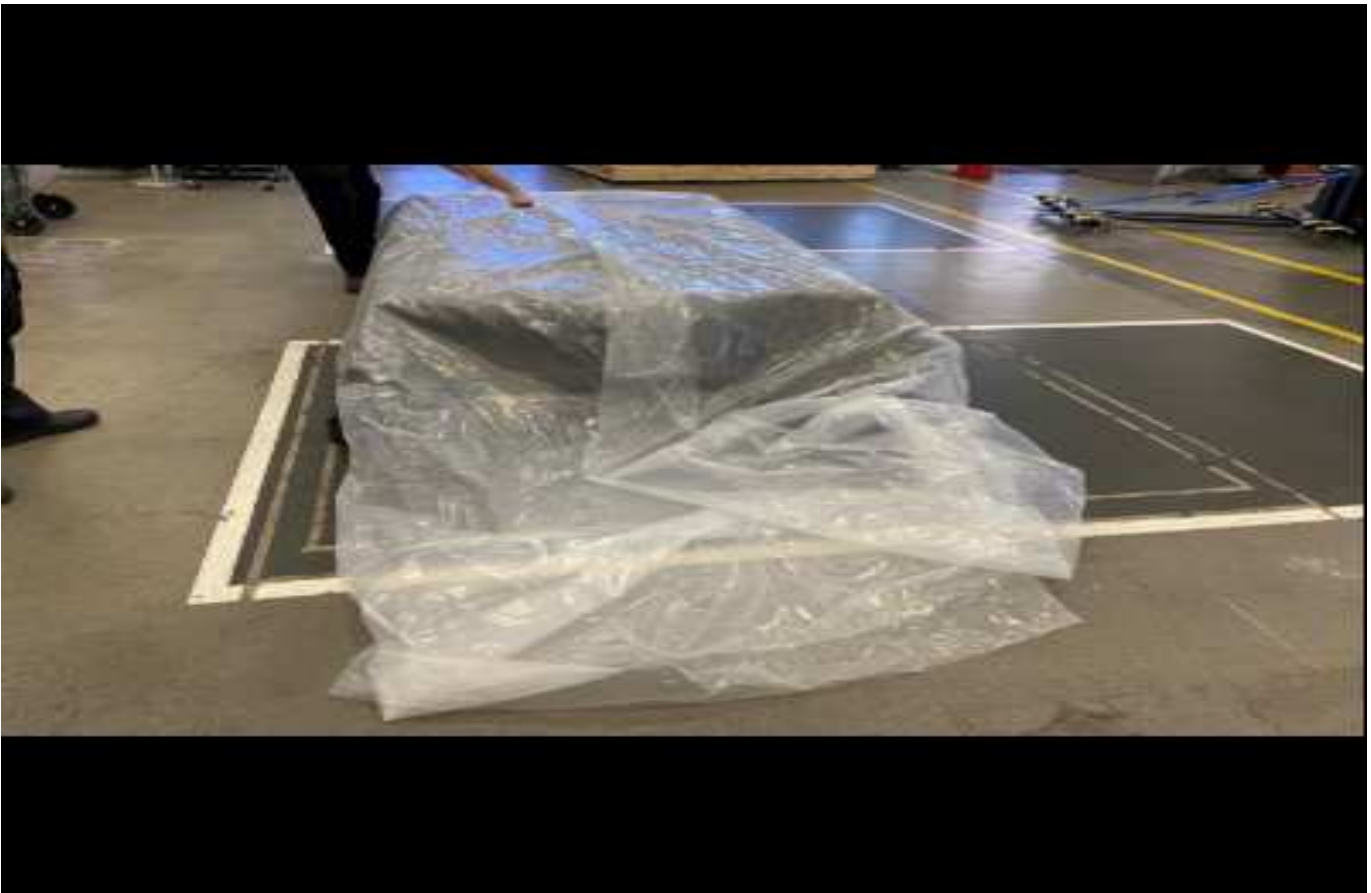


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22. Fold end of absorbent pads.



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23. With two people, each grab a long end of the poly liner and fold over width of battery. Then repeat for opposite side.



5951318



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- 24. Fold narrow end of poly liner along the length of the battery. Then repeat for opposite end.



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- 25. Use duct tape to seal poly liner along center line of battery. Tape should start at base of battery, run over top of battery and secure along underside of battery on opposite side of crate.



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26. Repeat on each end of battery as well. Please note these steps are required to prevent the liner material from sliding down and covering the lid bolt holes while lowering the lid onto the base.



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27. On each corner of the wrapped battery run a 24"-36" piece of duct tape horizontally as shown. This 1) reduces the risk of tears in the liner when closing the crate and 2) reduce risk of excess material from blocking bolt holes when lowering crate lid into position.



28. Completed wrapped battery.

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29. Using lift assist connected to fork truck forks, connect harness to crate lid and align lid over crate base. Using lift assist connected to fork truck forks, connect harness to crate lid and align lid over crate base. Refer to *Hybrid/Electric Vehicle Battery Pack Replacement and Shipping Preparation in the Service Manual*. **Ensure colored stripe on top aligns with colored corner of base. If they do not, rotate lid 180 degrees. Ensure colored stripe on top aligns with colored corner of base. If they do not, rotate lid 180 degrees.**



5951352

30. Lower lid onto crate base. Use caution to ensure excess poly liner materials do not cover bolt holes or stick out between edge of base and lid.



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- 31. Disconnect lift assist straps from crate lid and ensure D rings are folded into recess.



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- 32. Using the sixteen (16) M-16 hex head X 4” bolts and washers previously removed from the crate, hand thread the bolts to the crate. Do not tighten at this time.
- 33. Once all bolts and washers are in place and not cross threaded, tighten each bolt to 25 ft lb. of torque.



5951440

34. Reverse the two (2) class 9 labels to read "Damaged/Defective (one on each side of the container)
- 34.A.  
Open the three (3) spring clips and reverse the label to show UN34809 – Damaged / Defective.
- 34.B.  
Close the three (3) clips to secure the label in place (one on each side of the container).
35. Additional Information
- **DO NOT** stack loaded containers more than 2 high.
  - Ensure that all legal requirements for shipment of this material have been met, including those applicable to you as the shipper of dangerous goods/hazardous materials.

- Replacement packing material for shipping:
  - **US dealers** - If required, obtain replacement packaging materials through the SNT app in Global Connect (same app used to order and return batteries).
  - **Canadian dealers** - If required, obtain replacement packaging materials through YORK ELECTRONICS OSHAWA at 1-888-650- 9675 ext. 307.

#### Unloading / Loading & Securing Best Practices

- A. Typical unload / load time is less than 30 minutes
- B. The HV Battery should come delivered to the dealer at the back of the semi trailer to assist in unloading. When loading the HV Battery it is not limited to the back of the trailer. Ensure to use load straps appropriately rated to secure the HV Battery.



**DDR Crate Gen2**

Opening / Closure Instructions for BET (Hummer)  
Damaged, Defective or Recalled (DDR) Batteries



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6275985



6275987

1. Upon receipt of container, inspect outside of container (cover and base) to ensure it is damage free.



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2. Release the two ratchet mechanisms to loosen ratchet straps that secure cover to base.
  - 2.A. Pull spring loaded tab of ratchet to disengage from sprocket teeth.
  - 2.B. Rotate ratchet open until it lays flat. Ratchet should be locked open and disengaged from sprocket teeth.



6275988

- 2.C.  
Pull webbing loose. Do not pull webbing out of ratchet. Only loosen to slide webbing off cover. Tuck ratchet and webbing under ends of crate.



6275990

3. Connect the lifting assist to the fork truck. Refer to *Hybrid/Electric Vehicle Battery Pack Lifting System in the Service Manual* in SI.



6275991

- 4. connect the 4 straps to the D rings recessed in the crate top.
- 5. Slowly lift the crate top off the base and set it down in a safe location.



6275992



6275995

- 6. Inspect inside lid for damage. If container is undamaged, proceed to next step. Damaged containers must not be used until they are repair or replaced.



6275998

7. Carefully set the crate top to the side and disconnect the straps from the D rings.



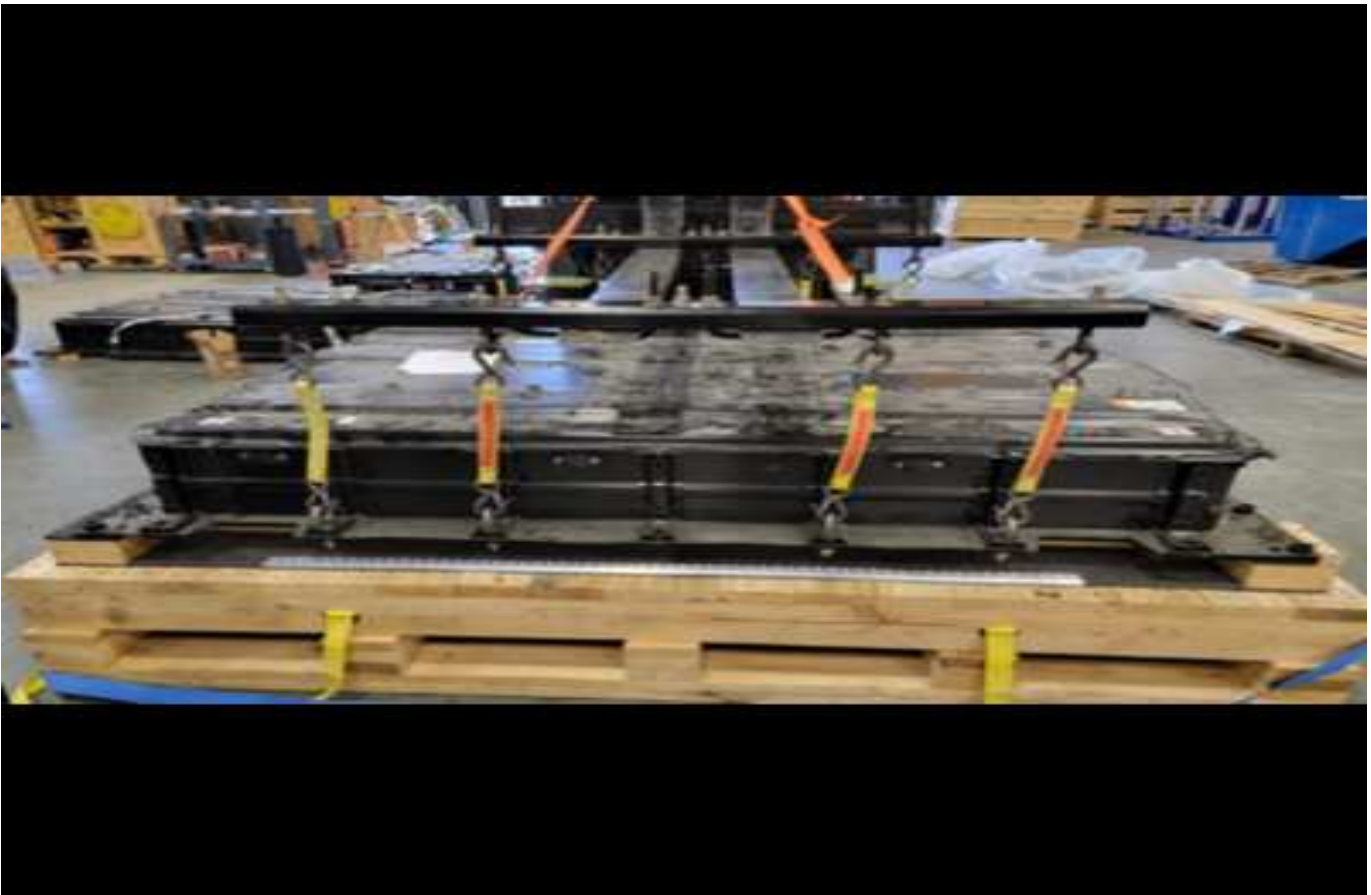
6275999

8. Release the two ratchet straps (one on each side of the battery) securing the battery to the base.



6276000

9. Pull webbing loose. Do not pull webbing out of ratchet. Only loosen to slide webbing off battery. Tuck ratchet and webbing under ends of crate.



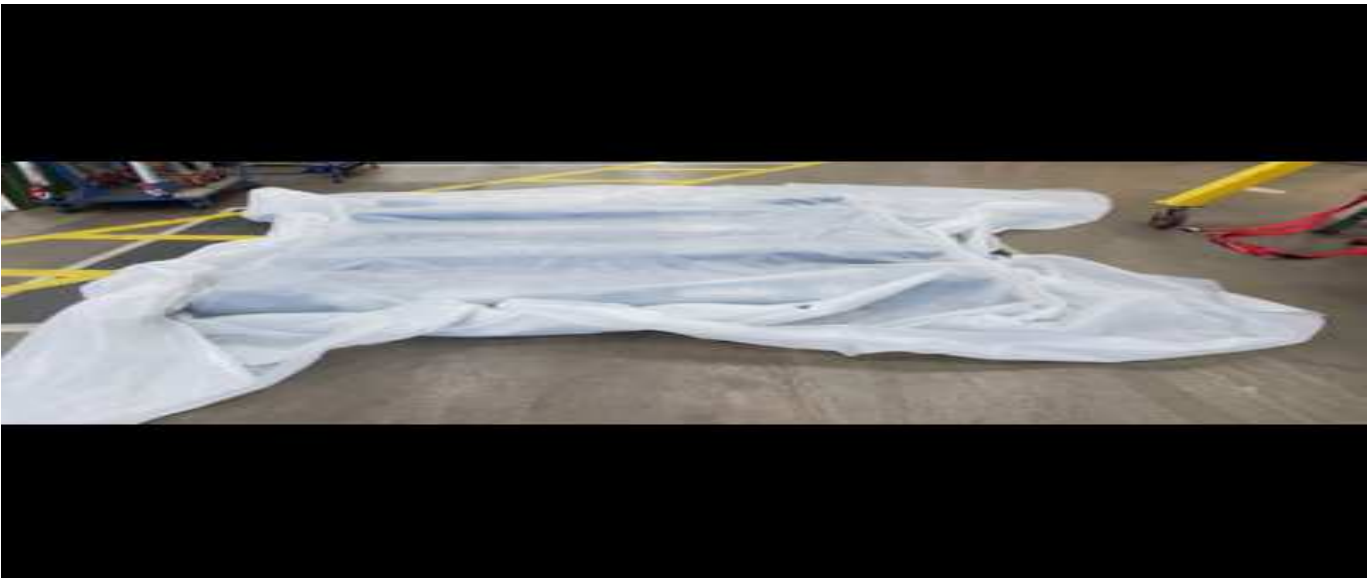
6276001

10. Following *Hybrid/Electric Vehicle Battery Pack Lifting System in the Service Manual* in SI, connect the appropriate lift assist to the battery and slowly lift battery off the crate base. Once clear of the crate, move good battery to a safe location to continue loading of the damaged/defective/recall battery.



6276002

11. Remove the two (2) 57" x 160" absorbent blankets and one (1) 13-foot x 20 ft poly liner. The Liner and blankets will be used to wrap damage battery.
12. Inspect crate base and insure it is damage free and all foam and rubber materials are in place and free of tears. If no damage, proceed to next step.



6276003

13. Open 20 ft x 13 ft poly liner and center it over crate base as shown in picture below.



6276004

14. Open up the first absorbent blanket and lay it across the width (69" dimension) of crate base as show.



6276005

15. Repeat with the second absorbent blanket and ensure the blankets overlap in the center by 1 - 2 inches.



6276006

16. Connect battery to be returned to the lift assist per documents in SI.

17. Battery Orientation on container base.

17.A.

The “rear end” of the battery should be aligned on the end of the crate that is stenciled “rear.”



6276007

17.B.  
Butt the rear edge of the battery against the wood stops at rear end of the crate (liners and absorbents not shown for visual purposes).



6276008

17.C.  
Align one of the long edges of the battery along the edge of the wood details the battery sits on. Do not allow it to overhang off the end of the details.



6276012



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18. Carefully and slowly lower battery over crate. Lower the battery to about 1 inch above the crate.
    - 18.A. Slowly index the battery towards the wood stops. Butt the end of the battery up to the wood stops and lower the battery onto the crate base.
    - 18.B. Use a piece of 2x4 held against the side of the wood stops along the long side of the crate to align the battery on that axis before lowering it the final inch.
    - 18.C. As well as being butted up to the wood stops on the end of the crate. The edge of the batter tray should lay along the edge of the wood details along the length of the container. The battery should not overhang the wood details it sits on. See examples from step 14.
- Important:** Please note again, in step 14 the poly liner and absorbents were removed to show the visual location for battery positioning. **DO NOT SHIP A DEFECTIVE/DAMAED/RECALL BATTERY WITHOUT BEING PROPERLY WRAPPED WITH POLY LINER AND ABSORBENT BLANKETS.**
19. Once battery is properly positioned disconnect lift assist and eye bolts from battery and begin wrapping the battery.



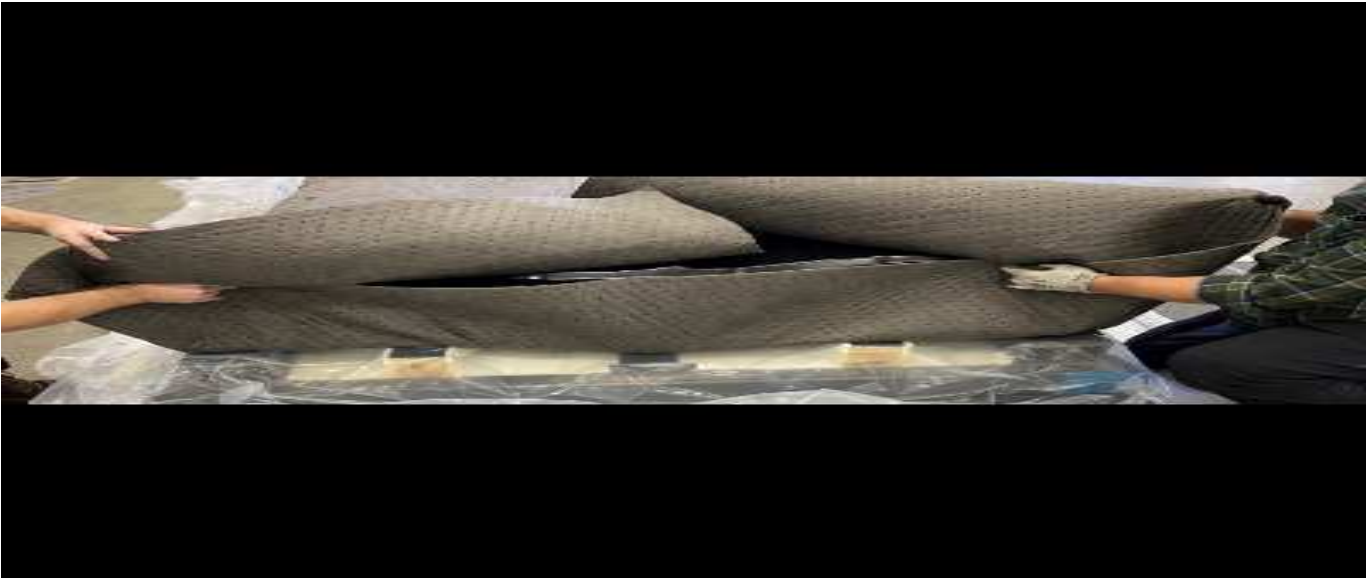
6276013

20. Wrap first half of absorbent blanket as shown.



6276015

21. Repeat with second absorbent blanket.



6276019



6276021

22. Fold ends of absorbent blankets as shown.



6276023



6276024

23. With two people, each grab a long end of the poly liner and fold over width of battery. Repeat for opposite side.



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6276026

24. Fold narrow end of poly liner along the length of the battery. Repeat for opposite end.



6276027

25. Place the webbing of the battery securement strap up over the rear corner of the wrapped battery. Repeat at the front corner of the battery. Pull loose webbing through ratchet. **Do not tighten at this time.**

25.A.

Repeat for strap on opposite side of battery. Again, do not tighten at this time.



6276029

26. Place rubber pad between ratchet strap webbing and front and rear edges of battery. This will prevent the sharp edge of the battery from cutting the ratchet strap webbing.

26.A.

Repeat on remaining three corners of battery.

**Caution:** before tightening ratchet straps, ensure there is extra poly liner material in all four corners. If not enough material, when straps are tightened, liner will tear through corner of battery and be a non-compliance for DOT 49 CFR regulations



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6276031

28. Tighten both ratchet straps to secure battery in place.



6276033

29. Connect lift assist to crate lid.



6276035

30. Ensure front stenciling on cover aligns with "front" stenciling on base. If they do not, rotate lid 180 degrees.



6276036

- 31. Carefully lower cover over battery.
- 32. Ensure cover is completely seated on base and disconnect lift assist.



6276038

33. Place the two ratchet straps over the cover.
- 33.A.  
Ensure they are not twisted.
- 33.B.  
Ensure they are aligned over the lift assist connecting rings.
- 33.C.  
Ensure at least two revolutions of webbing are engaged around ratchet spool and tighten ratchets.



34. Reverse the two (2) class 9 labels to read "Damaged/Defective (one on each side of the container)
- 34.A.  
Open the three (3) spring clips and reverse the label to show UN3480 – Damaged / Defective.
35. Additional Information
- 35.A.  
**Do not** stack loaded containers more than 2 high.
- 35.B.  
Ensure that all legal requirements for shipment of this material have been met, including those applicable to you as the shipper of dangerous goods/hazardous materials.
- 35.C.  
Replacement packing material for shipping:  
– US dealers - If required, obtain replacement packaging materials through the SNT app in Global Connect (same app used to order and return batteries).  
– Canadian dealers - If required, obtain replacement packaging materials through YORK ELECTRONICS OSHAWA at 1-888-650-9675 ext. 307
- 35.D.  
Ensure all dealership and warranty documents are also included with the return of this battery.

#### Unloading / Loading & Securing Best Practices

- A. Typical unload / load time is less than 30 minutes
- B. The HV Battery should come delivered to the dealer at the back of the semi trailer to assist in unloading. When loading the HV Battery it is not limited to the back of the trailer. Ensure to use load straps appropriately rated to secure the HV Battery.

6276039



6057969

<b>Version</b>	4
<b>Modified</b>	Released January 12, 2022 Revised March 3, 2022 – Changed step 2 and 32 to replace “lag screws” with “bolt” and added Cell Links. Revised May 04, 2022 – Added a note to step 9 and additional information under step 35 Revised February 23, 2023 – Added information for DDR Generation 2 Instructions

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