



SIB 61 22 24

2024-09-23

SERVICE ACTION: REPLACE THE VEHICLE BATTERY (12/48V)

 THIS REPAIR IS MOBILE FRIENDLY

MODEL

E-Series	Model Description	Production Date
F96	X6 M Sports Activity Coupe	January 25, 2024 – May 8, 2024
G05	X5 Sports Activity Vehicle	
G07	X7 Sports Activity Vehicle	
G20	3 Series Sedan	
G22	4 Series Coupe	
G23	4 Series Convertible	

AFFECTED VEHICLES

- Vehicles which require this campaign to be completed will show it as “Open” when checked either in AIR, AWP, Campaign Summary, or Warranty Vehicle Inquiry
- Please make sure you check your dealer inventory as soon as possible. You can see a list of affected vehicles in Inventory Campaign Details (ICD) under ROSS.

SITUATION

A limited number of 12 and 48 (V) volt vehicle batteries may have been damaged during the manufacturing process, which could lead to a premature battery failure.

CAUSE

Preliminary battery cell damage during the manufacturing process.

CORRECTION

Dependent upon vehicle equipment, replace the 48 V battery and the 12 V Auxiliary battery.

PROCEDURE

- For the affected vehicles produced with option code **1CE** “48V Mild Hybrid system (AIR = 01CE Energy recovery system),” replace the 48 V battery according to the repair instructions **REP 61 21 007 “Replacing 48-V battery - with registering battery replacement - 61 21 007 | REP-REP-P-6121007”**.
- For the affected **F96**, **G05** and **G07** vehicles equipped with a 12 V Li-ion Auxiliary battery, replace the auxiliary battery according to the repair instructions **REP 61 21 086 “Replacing 12-V lithium-ion auxiliary battery - registering with battery replacement - 61 21 086 | REP-REP-P-6121086”**.
- For the affected **G2X** vehicles equipped with a 12 V Li-ion Dual Storage System (DSS) battery, replace the DSS battery according to the repair instructions **REP 61 21 004 “Replacing the 12V dual storage system - registering with battery change - 61 21 004 | REP-REP-P-6121004”**.

In most cases, **loose, corroded or improperly torqued** threaded connections lead to component damage. Please follow the steps below:

- When renewing any battery, the procedures in the repair instructions **must** be followed
- Do not** use force when disconnecting terminal covers from the battery

- **Do not** pull on the ground cables
- **Do not** place any tools under the terminal clip to lever (pry) off the terminal cover
- Use a **torque wrench** and **set tightening torque in accordance with repair instructions**
- Use the battery size (capacity) installed standard upon battery replacement
- Delete fault code entries in associated with battery replacement
- **Clean contact surfaces** and have them checked by a second technician
- Screws or nuts of the threaded connections **must always** be tightened to the specified torque
- If possible, have a second person check the torque
- Always update Software on newly installed 48 V vehicle batteries
- Perform Battery registrations after diagnosis and after a new battery is installed

Warning: Follow repair instructions and ensure all battery cables are fastened with the correct nut at the specified torque.

Note: Damage to the 48 V Battery electronics can occur if it is disconnected from the on-board electrical system while active! **Only** activate the 48 V electrical system when the 48 V battery is fully installed (connected).

Note: ISTA will automatically reprogram and code all programmable control modules that do not have the latest software.

Always connect a BMW-approved battery charger/power supply (SI B04 23 10) when performing programming.

For information on programming and coding with ISTA, refer to CenterNet / TIS / Technical Documentation / Programming and Diagnostics / Programming Documentation.

PARTS INFORMATION

Use and invoice the applicable part number below.

Part Number	Description	Quantity
61 21 5 A38 DE3	48-V battery	1
and when equipped		
61 21 5 A7E 839	12-V lithium-ion auxiliary battery	1
And/or:		
61 21 5 A8D 7F0	12-V lithium-ion auxiliary battery	1
and when equipped		
61 21 5 A4A F23	12-V lithium dual storage system	1
And/or:		
61 21 5 A8D 7E0	12-V lithium dual storage system	1

Part Retention

Parts that are removed under warranty from BMW vehicles cannot be used for resale! The parts are the property of BMW NA.

Your center is responsible for the proper identification, storage, and documentation of these parts. They must be held in a secure retention area until notification of claim payment is made by BMW NA through DCSnet.

Please DO NOT return batteries to the WPRC. You must use the “Normal End of Life” recycling return process in the aftersales bulletin below:

- **Bulletin #: C-2-0824-0612 LITHIUM-ION BATTERY RECYCLING PROGRAM**

Hazardous materials or dangerous goods are defined as substances and articles that when offered for transportation in commerce pose an unreasonable risk to health, safety, property, and the environment.

Therefore, BMW of North America would like to remind you all applicable regulatory requirements must be followed when transporting hazardous materials. Your center is responsible for ensuring that your procedures are in compliance with all current D.O.T. regulations.

CLAIM INFORMATION

Reimbursement for this Service Action will be via normal claim entry utilizing the applicable work package information below, the additional as required, and part numbers listed above that apply.

Plusposition (+)	Completion before the first vehicle delivery to a customer or the vehicle is already in the workshop
Main work	The vehicle arrives for this Action, no other Main work will be performed/claimed during this workshop visit

Only one Main work flat rate labor operation code can be claimed per workshop visit.

Repair Code:	0061790800	F96 G0x G2x Replace vehicle battery (12 V / 48 V)
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Below are the special flat rate labor operation code choices for this action.

For the affected vehicles G2X vehicles equipped with a 12 V Li-ion Dual Storage System (DSS) battery, replace the DSS battery.

G20, G22 and G23 (AG Model Codes: 53AP, 69FF, 89FF)

Work Package	Labor Operation	Description	Labor Allowance
# 1	00 77 520	Replace (12 V) dual battery (Plusposition)	As applicable
Or:			
# 2	00 77 014	Replace (12 V) dual battery (Main work)	As applicable

Or:

For the affected vehicles produced with option code 1CE “48V Mild Hybrid system (AIR = 01CE Energy recovery system)”, replace the 48 V battery.

G05, G22 and G23 (AG Model Codes: See Below)

Work Package	Labor Operation	Description	Labor Allowance
# 3	00 77 521	Replace battery (48 V) (Plusposition)	29 FRU (G23 MC 53AT); 32 FRU (G22 MC 13AR, G05 All)
Or:			
# 4	00 77 015	Replace battery (48 V) (Main work)	31 FRU (G23 MC 53AT); 34 FRU (G22 MC 13AR, G05 All)
Expanded WP	Labor Operation	Description	Labor Allowance

A**	00 77 522	Additional work/programming – encoding (Associated work, required with the above) includes Carrying out vehicle test (00 00 006/61 21 528)	8 FRU
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Or:

For the affected vehicles produced with option code 1CE “48V Mild Hybrid system (AIR = 01CE Energy recovery system)”, replace the 48 V battery, and

For the affected vehicles G2X vehicles equipped with a 12 V Li-ion Dual Storage System (DSS) battery, replace the DSS battery, or

For the affected F96, G05 and G07 vehicles equipped with a 12 V Li-ion Auxiliary battery, replace the auxiliary battery.

F96, G07, G22, and G23

Work Package	Labor Operation	Description	Labor Allowance
# 5	00 77 521	Replace battery (48 V) (Plusposition)	31 FRU (G07, G22 MC 83AP); 33 FRU (G23 MC 63AT, G05 All); 41 (F96 MC 23ET)
Or:			
# 6	00 77 015	Replace battery (48 V) (Main work)	32 FRU (G07, G22 MC 83AP); 35 FRU (G23 MC 63AT, G05 All); 43 (F96 MC 23ET)
Expanded WP	Labor Operation	Description	Labor Allowance
A**	00 77 522	Additional work/programming – encoding (Associated work, required with the above) includes Carrying out vehicle test (00 00 006/61 21 528)	8 FRU
And:			
B	00 77 520	Replace vehicle battery (12 V) (Associated work)	11 FRU

() Vehicle Programming and Encoding required After Part Replacement (Expanded WP A)**

During this workshop visit, the affected vehicle may also show one or more programming and encoding Technical Campaign repairs open, the programming and encoding procedure may only be invoiced one time.

Select this open Technical Campaign to perform and submit for updating the vehicle to the required I-level or higher instead when applicable (This includes 00 00 556, 61 21 528, and 61 00 730).

Please be sure to also perform any additional before and/or after work (including attaching labels) as required by the open campaigns on the vehicle. Close any other open programming and encoding Campaign repairs as outlined in the corresponding Service Information Bulletin.

As determined by the above, also submit for the “Expanded Work Package (WP) A” when it is required and when it is not included in another repair that was also performed.

Vehicle Programming and Encoding – Additional Work (RO and Claim Comments Required)

This procedure automatically reprograms and encodes any vehicle control modules that do not have the latest software I-level.

If one or more control modules fail during the reprogramming procedure, claim the required consequential repair work procedures to address this issue (including performing the IRAP Control Unit Recovery first as required, refer to the SIB in AIR) under the Repair Code in this bulletin together with the corresponding labor operation codes and their flat rate unit (FRU) allowance(s), including the diagnosis* that applies.

Please explain the additional work procedures that were performed (The why and the what) on the repair order and in the claim comments.

For covered repairs that address control module failures that occurred prior to performing this reprogramming procedure, claim this work with the applicable Repair Code listed in AIR together with the corresponding labor operation codes and their flat rate unit (FRU) allowance(s), including the diagnosis* that applies.

(*) Based on which one applies to your center, please refer to **SI B01 01 20** or **B01 07 20** for the applicable procedure for documenting, claiming, and explaining, on the RO and in the claim comments, your diagnosis work time (WT), job/repair work time (WT), and the vehicle repairs your center performed, unless otherwise required by State law.

Alternative Mobility Solution (AMS) for Vehicle Owners (RO and Claim Comments Required)

This Action qualifies for Alternative Mobility Solution (AMS) expense reimbursement, claim this item under the Repair Code in this bulletin as follows:

- Sublet Code 2 - Itemize the claimed AMS sublet amount on the repair order and in the claim comment section.

Please refer to [SI B01 29 16](#) for additional information.

BMW Group’s AIR Application Resource for Flat Rate Labor Operation Codes

To obtain the corresponding flat rate unit (FRU) allowance information from the BMW Group AIR application resource, start by entering the the Chassis Number (last seven (7) characters of the VIN), and click on the “Search” icon. If the “Vehicle Selection” window displays two or more model possible vehicle choices, select the applicable Model, or enter the full VIN (17 characters) instead to proceed. Click on the “Flat Rate Units” button and enter a flat rate labor operation code number “without spaces” in the field to the right, click on the “Search” icon to display the corresponding listing of “Flat rate unit group details” that are available and their corresponding FRU allowances.

FEEDBACK REGARDING THIS BULLETIN

Technical Feedback	To submit feedback for the technical topic of this bulletin: Submit your feedback in the rating box at the top of this bulletin
Warranty Feedback	To submit feedback for the CLAIMS section of this bulletin: Submit an IDS ticket to the Warranty Department, or use the chat available in the Warranty Documentation Portal
Parts Feedback	To submit feedback for the PARTS section of this bulletin: Submit an IDS ticket to the Parts Department

Supporting Materials

[picture_as_pdf C_2_0824_0612_Lithium_Ion_Battery_Recycling_Program_REV1.pdf](#)

Bulletin #: C-2-0824-0612		<input checked="" type="checkbox"/> Take Note	<input checked="" type="checkbox"/> Take Action
<input type="checkbox"/> Retail Operator	<input type="checkbox"/> Sales Pre-Owned	<input type="checkbox"/> Business Manager	<input checked="" type="checkbox"/> Parts & Accessories
<input type="checkbox"/> General Manager	<input type="checkbox"/> Sales New Car	<input checked="" type="checkbox"/> Service	<input type="checkbox"/> Administration
Name: Cesar Ortiz		Phone Number: 201-571-5143	
Title: Chemical & Battery Program Manager		Aftersales Business Development	
Date: 08-28-2024		Supersedes: C-2-0407-0602 / C-2-0407-0603 / C-2-0323-0606	



The **Ultimate**
Driving Machine®

LITHIUM-ION BATTERY RECYCLING PROGRAM

TAKE NOTE

As part of BMW of North America's commitment to sustainability and compliance, we would like to introduce our new Li-Battery (Lithium-Ion Battery) recycling program through Redwood Materials and emphasize the importance of proper lithium-ion battery recycling.

Normal end-of-life warranty replacements and recalled batteries are the property of BMW NA. As such, BMW covers the cost of the battery recycling program, and there will be no cost to the dealer network.

In this Document you will find the following:

- Battery Core Credit Process.
- Normal End of Life Recycling Process for all Lithium-Ion Batteries.
- Recall Battery Recycling Process.
- Hazardous Material Transportation and Packaging Training.
- 24-Hour Emergency Contact Information.

MORE DETAILS

We request all BMW Centers follow our core return process through Redwood Materials, as outlined in this bulletin, to ensure that all used batteries are disposed of safely and efficiently.

Lithium-Ion batteries replaced through Customer Pay repairs should be recycled through the same process at no charge to the dealer network.

IMPORTANT:

- **DO NOT DISPOSE OF THE BATTERY PACKAGING IN WHICH THE NEW BATTERY IS DELIVERED, AS IT IS REQUIRED FOR SHIPPING THE NORMAL END OF LIFE CORES (NOT RECALLED) BACK FOR RECYCLING.**
- **DO NOT SEND ANY LITHIUM-ION BATTERIES TO THE WPRC. Lithium-ion batteries are strictly prohibited from being sent to any WPRC facility. Failure to comply with this directive could result in catastrophic consequences including fines and a partial or full claim debit.**
- **It is critical that lithium-ion batteries are not co-mingled with lead acid or AGM battery cores.**

TAKE ACTION

- Review the instructions in the subsequent pages to prepare shipments for Lithium-Ion batteries (low and high voltage batteries) removed from vehicles.

If you have additional questions regarding the preparation of the shipment, please contact Redwood Materials.

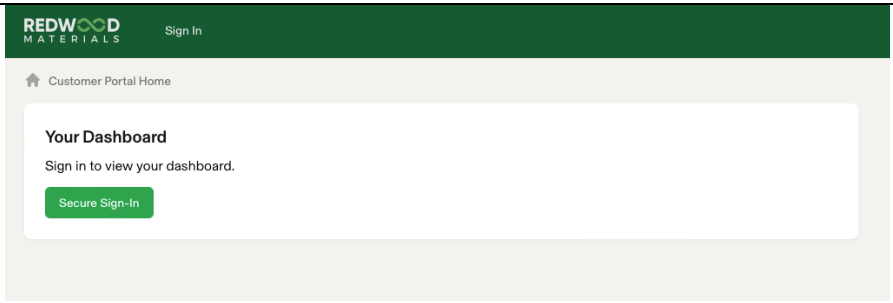
Battery Core Credit Process.

- **NEW!** Starting September 1st, 2024, all Li-Batteries (12V, 48V and high voltage) will have a core charge (\$150 to \$600 dollars) depending on the size of the battery and capacity.
- For warranty and non-warranty Li-Batteries purchased after September 1st, 2024, a YRE5 parts return code will be required to initiate the recycling request through Redwood's portal, and to generate the core credit back to the dealer.
- **Any battery purchased prior to September 1st, 2024, will not qualify for a core credit, and will not require a YRE5 to initiate the pickup request.**
- Please allow 30 days after the date of pick up for credits to appear in your statement.

Normal End of Life Li-Batteries (Non-Recalled or Damage).

- For all low and high voltage lithium-ion batteries replaced under normal diagnosis or repairs, place the battery/module in the returnable packaging that you received the replacement part in. If the package is unusable due to damage, DDR shipping crates will be provided.
- When the battery/module is ready to be returned, please go to <https://portal.redwoodmaterials.com/bmw> and follow the process below:
- **As with any hazardous materials shipment, you must have a Certified HazMat Shipper on site to execute the return along with an Emergency Response Phone Number listed below.**

1. Log into the recycling portal using the login tied to the account (please reach out to Redwood Materials if you are unsure of the login for your dealership)



2. Click "Add new item"

BMW Group Battery Recycling Portal

Location: 10695 BMW of Bayside
Address: 266 E Shore Rd, Great Neck, NY 11023

[New Request](#) Requested Pickup Scheduled In-Transit Completed

Prepare Items for Shipment

Complete a battery recycling request form for each item you'd like to ship, then select them to request your next shipment:

Select Items

You have no open items. Please [add a new item](#).

3. Fill out requested information for each battery

- Please note certain fields are optional depending on when the battery was purchased, as well as the condition of the battery.
- Note: If the part number is not listed on the dropdown menu use the replacement part number (series part) as the Production part numbers may be different.
- For Recalled Batteries, or batteries categorized as "Yellow" or "Red" on the completed Recalled Battery Condition Certification Form, select "Yes" under the first DDR question to be directed to additional information.

Battery Recycling Request Form ×

Please fill this out for each removed battery / module in your shipment. Progress Saved

Part Number *

Select BMW part number...

Was the replacement battery purchased from BMW prior to September 1, 2024?

VIN **Serial Number** **YRES ***

DDR Questions

Is this battery damaged, defective, or recalled (DDR) as defined by Department of Transportation (DOT) rules in 49 CFR or categorized as a **Yellow** and/or **Red** battery based on the completed Recalled Battery Condition Certification Form as per bulletin C-2-0701-0612?

4. Click "Complete Recycling Request"

Battery Recycling Request Form

Please fill this out for each removed battery / module in your shipment. Progress Saved

Part Number*
61-27-7-933-747 Lithium Ion Battery

Was the replacement battery purchased from BMW prior to September 1, 2024? **Before Sept. 1st** After Sept. 1st

VIN VIN (optional)... Serial Number Serial Number (optional)...

DDR Questions
Is this battery damaged, defective, or recalled (DDR) as defined by Department of Transportation (DOT) rules in 49 CFR or categorized as a **Yellow** and/or **Red** battery based on the completed Recalled Battery Condition Certification Form as per bulletin C-2-0701-0612? **No** Yes

Reset **Complete Recycling Request**

5. Repeat for every battery that you would like to recycle

BMW Group Battery Recycling Portal

Location: 10695 BMW of Bayside
Address: 266 E Shore Rd, Great Neck, NY 11023

New Request Requested Pickup Scheduled In-Transit Completed

Prepare Items for Shipment

Complete a battery recycling request form for each item you'd like to ship, then select them to request your next shipment:

Select Items **Request Shipment**

<input type="checkbox"/>	Part Number: 61-27-7-933-747	←	Ready to ship	✎	🗑️
<input type="checkbox"/>	Part Number: 61-27-9-452-661	←	Ready to ship	✎	🗑️
<input type="checkbox"/>	Part Number: 61-27-8-678-566	←	Ready to ship	✎	🗑️

Add new item +

6. Once you've added each battery's details, select each one that is ready to ship and click "Request Shipment".

IMPORTANT: Please note that any Recalled / DDR (damaged) batteries must be requested separately. After you have clicked "Request Shipment" for a DDR item, Redwood will reach out separately once the crate has shipped. Please allow up to 3 business days for a crate to ship.

BMW Group Battery Recycling Portal

Location: 10695 BMW of Bayside
Address: 266 E Shore Rd, Great Neck, NY 11023

New Request Requested Pickup Scheduled In-Transit Completed

Prepare Items for Shipment

Complete a battery recycling request form for each item you'd like to ship, then select them to request your next shipment:

Select Items **Request Shipment for 3 of 4 Items**

<input checked="" type="checkbox"/>	Part Number: 61-27-7-933-747	Ready to ship	✎	🗑️
<input checked="" type="checkbox"/>	Part Number: 61-27-9-452-661	Ready to ship	✎	🗑️
<input checked="" type="checkbox"/>	Part Number: 61-27-8-678-566	Ready to ship	✎	🗑️
<input type="checkbox"/>	Part Number: 61-27-8-678-567 Serial Number: 123456789 VIN: 5UXCR6COXN9KXXXXX DDR	Ready to ship (DDR)	✎	🗑️

Add new item +

7. Shipment Details

- Confirm the pickup address, requested pick-up date, pick-up time, and contact info to be listed on the Bill of Lading.
- Securely strap all non-DDR batteries to a pallet and provide the final shipment details (total weight, dimensions, and battery count for each pallet of batteries).

Request Shipment of 3 Items ✕

Pickup Location New / Updated Pickup Address

Is a lift gate required for this pickup?

Earliest Pickup Date Pickup Time Window

Contact Name Contact Email Contact Phone

Do you have a DOT Hazmat certified employee who can ship these batteries / modules?

Name of DOT Hazmat Certified Employee

Shipping Units to Pickup
Please make sure all non-DDR packages are secured to a pallet due to LTL shipping.

Type Pallet Weight lb Dimensions of Pallet + Contents in x in x in
Length Width Height

Pallet Contents:

Part Number	Package Type	Box Count
<input type="text" value="61-27-7-933-747 i3 Lithium Ion Battery"/>	<input type="text" value="in Box"/>	<input type="text" value="1"/>

Gross Weight: 1 pallet x 150 lb = 150 lb

1 / 3 items added to shipment. Please add more items.

Comments

8. Dealers are encouraged to consolidate multiple batteries on as few pallets as possible as long as the packaging meets DOT requirements.

- Click "Add Content" to add more material to a pallet

Shipping Units to Pickup
Please make sure all non-DDR packages are secured to a pallet due to LTL shipping.

Type Pallet Weight lb Dimensions of Pallet + Contents in x in x in
Length Width Height

Pallet Contents:

<input type="text" value="61-27-7-933-747 i3 Lithium Ion Battery"/>	<input type="text" value="in Box"/>	<input type="text" value="1"/>
<input type="text" value="61-27-9-452-661 i8 Lithium Ion Battery (superseding 61-..."/>	<input type="text" value="in Box"/>	<input type="text" value="1"/>

Gross Weight: 1 pallet x 150 lb = 150 lb

2 / 3 items added to shipment. Please add more items.

Comments

Remember that submitting form will email selected contact person.

- Or click "Add Shipping Unit" to add an additional pallet to the shipment.

Shipping Units to Pickup
Please make sure all non-DDR packages are secured to a pallet due to LTL shipping.

Type: Pallet | Pallet Weight: 150 lb | Dimensions of Pallet + Contents: 48 in x 40 in x 36 in
Length | Width | Height

Pallet Contents:

Part Number	Package Type	Box Count
61-27-7-933-747 I3 Lithium Ion Battery	Box	1
61-27-9-452-661 I8 Lithium Ion Battery (superseding 61-...	Box	1

Gross Weight: 1 pallet x 150 lb = 150 lb

Type: Pallet | Pallet Weight: 50 lb | Dimensions of Pallet + Contents: 48 in x 40 in x 36 in
Length | Width | Height

Pallet Contents:

Part Number	Package Type	Box Count
61-27-8-678-566 Battery X5 PHEV	Box	1

Gross Weight: 1 pallet x 50 lb = 50 lb

3 / 3 items added to shipment. ✓

Comments

Reset

Add Shipping Unit +

Request Shipment

Remember that submitting form will email selected contact person.

- 9. Once complete click "Request Shipment" in the bottom righthand corner.

61-27-9-452-661 I8 Lithium Ion Battery (superseding 61-... | Box | 1

Add Content +

Gross Weight: 1 pallet x 150 lb = 150 lb

Type: Pallet | Pallet Weight: 50 lb | Dimensions of Pallet + Contents: 48 in x 40 in x 36 in
Length | Width | Height

Pallet Contents:

Part Number	Package Type	Box Count
61-27-8-678-566 Battery X5 PHEV	Box	1

Add Content +

Gross Weight: 1 pallet x 50 lb = 50 lb

3 / 3 items added to shipment. ✓

Comments

Reset

Add Shipping Unit +

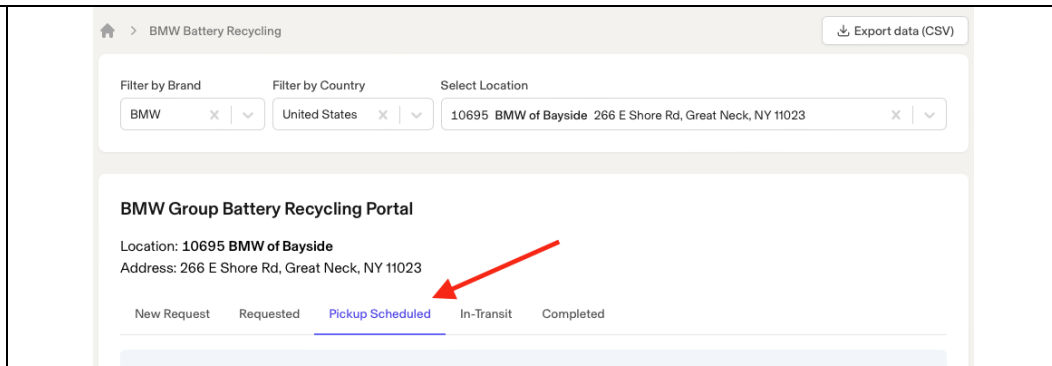
Request Shipment

Remember that submitting form will email selected contact person.

Once requested, you will receive an email confirming that Redwood has received your pickup request.

Within 24 hours, you will receive a second email containing all necessary pickup information and documents. Documents can also be accessed through the portal.

After the request has been scheduled, dealers can check the status of their pick-up by clicking on the "Pickup Scheduled" tab.



Recalled or Damage Li-Batteries.

The procedure below will only apply to Recalled or Damaged batteries. The condition certification form is not necessary for normal end of life replacements.

High Voltage Battery Recalls require Centers to ship batteries classified as DDR as defined by Department of Transportation 49 CFR, which require special packaging.

- Redwood Materials is the logistics partner that will facilitate these recalled HV battery returns.
- The process for requesting a pickup for Recalled batteries is identical to the steps above, however, please note additional information is required as part of step 3, which will trigger special packaging to be shipped by Redwood Materials.

Recalled parts that are removed from BMW vehicles cannot be used for resale! The recalled parts are the property of BMW NA. Your Center is responsible for the proper identification, storage, and documentation of these parts. They must be held in a secure retention area until notification of claim payment is made by BMW NA through DCSnet.

- Review the instructions in the subsequent pages to prepare shipments for high voltage battery modules removed from vehicles affected by Recalls or damaged units. If you have any questions regarding the preparation of the shipment, please use the Redwood Materials contact list below.
- If your Center has not completed the required supplemental HV Battery recall training, please reference bulletin **C-2-0824-0302** prior to attempting to arrange for recalled HV battery returns.
- **If battery modules are listed on your scrap report, please continue to follow the details on the bulletin for the correct process of recycling.**
- Please do not contact Redwood Materials until you have completed each battery's condition assessment.

1. IMPORTANT: Assessment of the HV Cell Module must be performed by a GEN 5 high voltage battery Certified Technician ("HV certified technician") as per the instructions below, prior to contacting REDWOOD MATERIALS (Air Document REH-HIN-P-6125-32 - V.1)

Introduction:

For analysis or recycling purposes, it is necessary to transport the high-voltage battery unit or individual cell modules. Due to their structure as a lithium-ion battery, the high-voltage battery unit and the cell modules are classified as hazardous materials and may only be transported if certain prerequisites are met. The "HV certified technician" is responsible for the transport condition assessment and for issuing the relevant certificate. **Packaging will be performed by the hazardous material trained personnel.**

The validity of the transport condition in the period between the determination and the handover of the high-voltage battery unit/cell module to the disposal/transport company is the responsibility of the HV certified technician in that workshop. If at a later point in time it is presumed that the previously certified condition of the high-voltage battery unit/cell module no longer exists, the condition must be assessed again by the HV certified technician using this document.

Within the context of the hazardous materials transportation regulations, the battery recall process is divided into three parts:

- Transport assessment.
- Transport preparation.
- Performing the transport.

This document and related attachments contain information and measures to assess a used high-voltage battery unit/cell module for transport. Transport preparation and performance of the transport of the high-voltage battery unit/cell module will be supported by Redwood Materials.

The specific implementation of these measures depends on the individual conditions on site and is not part of this guideline. When applying these specifications, the authorized BMW dealer must take into account laws and regulations applicable to their operations.

Prerequisites:

The analysis and assessment of the high-voltage battery unit/cell module must be carried out and documented by a "HV certified technician " with certification in high-voltage batteries.

Assessment of high voltage cell module

The assessment for transporting the high-voltage battery unit/cell module takes place in two steps:

- Electrical assessment
- Visual assessment

The individual results must be documented in writing on this form by a HV certified technician and confirmed as binding with a signature.

a) Electrical assessment

The electrical assessment of the high voltage cell modules is completed when a vehicle test using ISTA is performed to verify no critical faults are stored in the cell module being replaced and successfully completing the requirements for removal as per the recall bulletin. The testing process will lead to an electrical assessment result in one of the following three categories:

Module category:

GREEN	YELLOW	RED
"Not critical" fault codes stored according to the diagnosis procedure as per recall bulletin.	Electrical fault in the module. "Not critical" according to the diagnosis, procedure as per recall bulletin.	Module damaged or "critical" according to the diagnosis or no assessment possible via the diagnosis, procedure can't be completed as per recall bulletin.

The above cell module electrical assessment categories place different requirements on transport preparation and performing the transport.

b) Visual Assessment

The table is used for classification into the transport category:

Assessment Category	Green	Yellow	Red
Smoke			X
Evidence of Fire			X
Heat Development			X
Crack or opening on the housing *		X	X
Dents/bulges in the housing, deformations, changes**	X	X	
Parts/components weakened due to corrosion		X	
Slack, loose or damaged connections		X	
Serial number/Safety Instructions sticker not legible***	X		
Suspected water damage or leakage			X

* Size of the crack determines the module transport category.

** Dent/bulge up to a depth of 0.5 mm or a length of 5 cm is permitted and rated as green.

*** The serial number must be clearly identifiable. If the nameplate can no longer be read, the housing of the high-voltage battery unit must be clearly marked with the serial number.

*** The Safety Instructions sticker must be replaced if it is illegible.

The reference sample catalog must be used for any damage that cannot be assigned to this table.

c) Result

The results of the electrical and visual assessment must be recorded and **certified** in writing by the HV certified technician! The requirements for the transport preparation and performance are derived from these results. The following table shows the recommended measures for the transport of hazardous materials in the United States depending on the assessment result. US DOT hazardous materials regulations must always be taken into account.

	Results of assessment	Explanation	Transportation Measures
Green Transport	Result of the "Green" electrical check and visual damage of the "Green" category or no visual damage present.	The cell module does not show any damage or fault. It can be considered safe.	Recall batteries – do NOT use original fiberboard box packaging, even if green condition! Recall batteries require special packaging provided by a 3 rd party vendor contracted by BMW NA.
Yellow Transport	Result of the electrical check "Yellow" or at least one visual damage of the "Yellow" category is present	The cell module shows damage or faults, but it is not liable to rapidly disassemble or react dangerously when transported.	Special packaging provided by a 3 rd party vendor contracted by BMW NA
Red Transport	Result of the electrical check "Red" or at least one visual damage of the "Red" category is present	The cell module shows damage or faults, and it is known or is suspected to be capable of rapid disassembly or dangerous reaction when transported.	Submit a TSARA case for additional instructions and procedures From BMW NA.

If there is any uncertainty regarding the condition assessment results, contact BMW Technical Support immediately for additional guidance!

Until the uncertainties are resolved, the removed high-voltage battery unit or the cell module must be identified with warning sign 6 and cordoned off with high-voltage barrier tape.

If the high-voltage battery unit is still in the vehicle, the vehicle must be identified with warning sign 6 and cordoned off.

- This form will be used by Redwood Materials to determine appropriate packaging for each battery or module and should be acknowledged on the Redwood portal.
- Certification of battery condition results is required for each HV battery or module.

IMPORTANT: For documentation purposes, this page must be printed, filled, and archived by the dealer and confirm completion through Redwood portal.

Battery **Part Number** _____

Date of Transport Condition Assessment _____

Battery/Module **Serial Number** _____

Vehicle **VIN (last 7 digits)** _____

Result of the assessment:	Green	Yellow	Red
Electrical (check one)			
Visual Check (check one)			
Overall result of the assessment for transport (check one)			

I certify that I am qualified to conduct and that I performed the high voltage (HV) battery transport assessment according to BMW Group standards on the battery or module identified on this form. I further certify the accuracy and validity of the above assessment result for purposes of making hazardous materials transportation packaging decisions.

Printed Name

Signature

Date

2. Packaging Request Process

- a. Redwood Materials will function as both the battery recycling services provider and the battery packaging provider for Damaged, Defective and Recalled (DDR) / Yellow and Red Assessment HV batteries.
- b. Contact information is provided below for Redwood Materials. Dealers must coordinate their requests for battery packaging with Redwood Materials once battery transport assessments are completed by completing a request in the Redwood portal.
- c. Once the DDR crate request has been submitted within the Redwood portal, Redwood Customer Operations team will reach out via email to confirm next steps and crate shipping information.
- d. For DDR batteries, Redwood Materials will select packaging for Yellow and Red Assessment batteries based on the size needed.
- e. Depending on part number, dealers can expect to receive a **reusable** Wooden Crate for each battery. **Limited inventory is available, and it will be rotated as it becomes available.**
- f. Dealers will also receive instructions for proper use and closure of each crate supplied.
- g. Please contact Redwood Materials directly for questions or issues regarding packaging and transport of recalled HV batteries.

Redwood Materials Contact Information

Redwood Materials will assist dealers with the successful completion of their return shipments. The points of contact listed below can assist with scheduling battery pickups, proper packaging techniques or packaging assembly procedures, and/or answering general questions related to the process of returning batteries to Redwood Materials.

More Questions?

Redwood Materials:

Email	Phone
Customerops@redwoodmaterials.com	775-446-6858

BMW NA Aftersales Business Development:

Name	Phone	Email	Title
Cesar Ortiz	201-571-5143	Cesar.S.Ortiz@bmwna.com	Chemical & Battery Program Manager
Jimmy Cox	201-307-4324	James.JC.Cox@bmwna.com	Chemical, Battery & Oil Sales Manager
Joachim Pusch	201-546-4635	Joachim.Pusch@bmwna.com	Aftersales Business Development Manager – Service and Parts

BMW Emergency Response:

Organization	3E Company
Emergency phone #	1-877-472-1724
Tracking code	9547