



This Service Information bulletin supersedes SI B00 01 14 **dated May 2014.**

MODEL

UPDATE!

I01 (i3)

SITUATION

Model	Production Start	Comments
BMW i3 Battery Electric Vehicle (BEV)	3/14*	Fully electric vehicle, with electric motor designation IB1. Rated at 168hp and 184 lb.ft torque.
BMW i3 with Range Extender (REx)	3/14*	The additional W20 2-cyl. 4-stroke gasoline-powered engine acts as a voltage maintainer for the high-voltage (HV) battery at low states of charge (SoC), to extend the driving range.

* Available approx. 2 months later

UPDATE!

For New Vehicle Preparation and Maintenance Requirements on the 2014 i8 plug-in hybrid sports coupe (I12), refer to [SI B00 07 14](#).

17-digit Vehicle Identification Number (VIN): The 10th digit (model year identifier) utilizes the letter “E” for MY 2014.

BMW i3:

BMW introduces an entirely new model line for an electrically-powered compact vehicle intended for efficient transportation, primarily in urban environments. The i3 model line has the engineering designation I01. It is built at BMW's factory in the city of Leipzig, located in Germany's state of Saxony.



The i3 is available from approx. 289 participating BMW i brand centers throughout the USA. Refer to www.bmwusa.com/standard/content/dealer/default.aspx# for a current listing of the participating centers selling the BMW i brand. By contrast, all authorized BMW centers can service the i3.

i3 Concept Background

The BMW i3 was a “clean sheet” design to incorporate an all-electric drive system. This has numerous advantages over “conversion” vehicles, in which the original internal-combustion engine is swapped for an electric motor. An example of such a vehicle was the 2011 1 Series ActiveE (refer to [SI B00 08 11](#)). For the i3, BMW's engineers chose the best design for the construction, dimensions and configuration of the electric drive system's components. The vehicle's layout is dictated by the characteristics designed by the i3 development team, and not by the constraints imposed by a pre-existing vehicle design.

This leads to the “Life Drive” concept which was purpose-built specifically for the BMW i3. It consists of two modules: the Life Module, and the Drive Module. The Life Module forms the passenger compartment. It is the first-ever mass-produced Carbon Fiber Reinforced Plastic (CFRP) passenger cell in the automotive business, and is a big factor in the overall efficiency. CFRP is as strong as steel while being 50% lighter, and 30% lighter than aluminum. The result is an electric car that weighs approx. 2,860 lbs.

Due to the lightweight high-tensile strength of CFRP, the passenger cell has added protection, and the battery has less work to do. This enables the use of a smaller, lighter battery that saves even more weight, reduces charging time and increases range. The lightweight design of the Life Module also lowers the BMW i3’s center of gravity, making it a more dynamic driving vehicle. Another design feature incorporating low weight is the outer body panels, which are made of impact-resistant thermoplastic. These are attached to the Life Module using a combination of positioning clips and mechanical fasteners.

The Drive Module, which is constructed out of 100% aluminum, consists of the 22 kilowatt-hour (kWh), 550 lb. lithium-ion HV battery; electrical machine drivetrain; MacPherson front strut and 5-link rear suspension system; electronic power steering (EPS); and other structural components.

Features

A 168hp 3-phase synchronous electrical machine drives the rear wheels. The electrical machine is positioned at the rear of the vehicle beneath the luggage compartment. The i3 is the first mass-produced BMW automobile with a rear-mounted drivetrain in approx. 50 years.

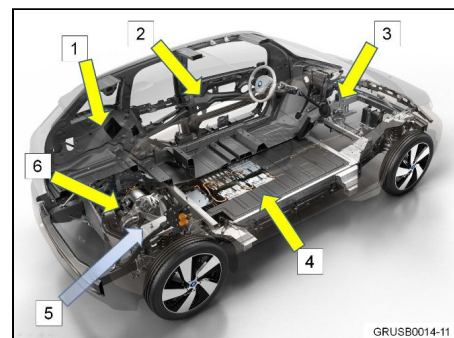
- Driving range

i3 BEV: up to 110 miles. i3 with Range Extender: from 120 to 185 miles, total charge. Maximum range is achieved by selecting the ECO PRO+ drive mode, pre-conditioning the HV battery prior to departure during cooler ambient temperatures; and driving in an environment in which brake regeneration (explained below in section “energy recovery”) is utilized frequently.



- Rated for 4 passengers
- 4 doors, in which both rear doors are “carriage” doors hinged at the rear. When the front and rear doors are fully opened, there is no center body post (B-pillar) to hinder access to the rear seat.

Overview of the vehicle design and layout of the major components



1. CFRP Life Module
2. Door frame, based on an aluminum center section
3. Aluminum Drive Module, with attached front and rear independent suspension
4. HV battery, with the cover partially exposed to display some of the 8 internal modules
5. On Range Extender models, the W20 engine (not shown here) would be mounted directly to the right of the electrical machine

For technical data on the i3 BEV and i3 REx, refer to Attachment 1.

The BMW i3 is classified as a “subcompact” with the Environmental Protection Agency (EPA). The BMW X1 (E84) has a similar overall “2-box” shape and 4-door configuration, enabling a comparison for various dimensions:

	units	2014 BMW i3 BEV	2014 X1 sDrive28i
EPA size classification		subcompact	midsize
Seating capacity		4	5
Overall length	in.	157.8	176.5
Width	in.	69.9	70.8
Height	in.	62.1	60.8
Wheelbase	in.	101.2	108.7
Turning circle	ft.	32.4	37.1
Weight	lb.	2860	3527
Front headroom without sunroof	in.	39.6	41.3
Rear headroom without sunroof	in.	37.2	39.7
Front legroom	in.	40.5	41.4
Rear legroom	in.	31.9	34.9
Passenger interior volume	cu. ft	83.5	95.9
Cargo area volume	cu. ft	15.1	25
Total interior volume	cu. ft	98.6	120.9

Cockpit

	1. Central locking button on both front doors 2. Instrument cluster display 3. “Start/Stop” button and gear selector switch 4. Central information display (CID) 5. Glove compartment release
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Transport mode

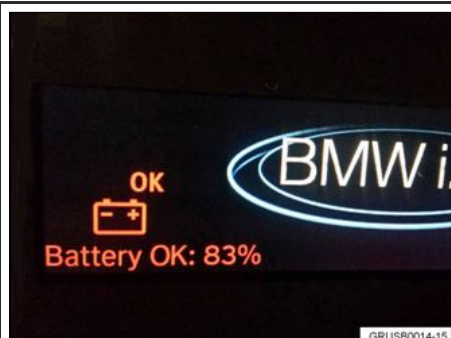
	i3 delivered to participating BMW i selling centers have Transport Mode (TM) active. This status is displayed in the left lower corner of the instrument cluster.
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The HV battery state of charge (SoC) is briefly displayed in the instrument cluster when the vehicle is awakened from sleep mode, such as by unlocking the doors or using the exterior door handle. In this photo, the SoC is displayed as 029,2%, meaning 29.2%. Vehicles in TM can only have the HV battery charged to approx. 35%. To fully charge the HV battery, deactivate TM.

Note:

- In TM, the displayed value is the absolute SoC. When TM is deactivated, the customer SoC is the absolute value minus 10%. In the above example, 29.2% absolute corresponds to 19.2% customer.
- When TM is deactivated, the SoC is no longer displayed.



The 12V battery's state of charge is shown immediately afterwards. Refer to [SI B61 18 08](#) for battery maintenance. The battery maintenance procedures must be followed regardless of whether the vehicle is displayed in the showroom or parked in storage.

Important warning for working on the high-voltage systems on the i3:

Only properly trained personnel, who have passed all applicable technical training courses, should perform any maintenance or repairs on any Hybrid or Electric Vehicle. Work performed by unqualified persons may result in severe injury or damage to the vehicle. Additional information is found in Repair Instruction 61 00... Observe safety instructions when handling electric vehicles.

Caution:

Do not attempt to “jump start” an i3 using a 12V battery pack. The i3 does not have an easily accessible remote B+ terminal. If you must gain access to an i3 which has been inadvertently locked, follow Repair Instruction 61 21 028.

When referring to any i3-specific repair instructions in ISTA, first change the “settings” (the wrench icon at the top of the screen) to “BMW i” at the “select brand” section.

How to turn the ignition on, activate Drive Readiness, and drive the i3: Refer to Attachment 2.

Energy Recovery

The transmission and differential unit utilize gears which connect the output shafts and rear wheels directly to the electric motor. There is no torque converter. To conserve energy and help achieve a greater driving range, an energy recovery (AKA regenerative) braking system is linked to the accelerator pedal. When decelerating, the drivetrain functions as a generator, producing alternating current which the electrical machine electronics converts to DC voltage that is stored in the HV battery. If the regenerative braking system is utilized in city traffic for most driving and slowing situations, the car's range can be extended by as much as approx. 20%.

Car Wash Mode

- Turn the ignition on as described in Attachment 2, Step 4a.
- Select N (neutral).
- Close all windows.
- Close the driver's door.

QC1

A new QC1 checklist has been developed for the BMW i3: ID14-001. This new Service Materials item designation "ID" is reserved for the BMW i brand. Refer to Attachment 3. The QC1 process is similar to that of other 2014 BMW models.

If your participating i3 selling center has received an i3 before any technician has completed the i3 training course ST1403a, the QC1 can still be performed. The designated technician must be certified for hybrid repairs, and must complete the online training videos (Video on Demand) OL1403a through OL1403i.

If your center does not intend to immediately prepare the vehicle for display, charge the HV battery right away. This usually holds the HV state of charge until you can deactivate TM. With TM deactivated, the HV battery can be charged to its full capacity. This is a required operation for performing the QC1.

Display Vehicle Check (Showroom)

- The roof and top portion of the tailgate are covered with Bodyguard protective film. For more information on the removal of Bodyguard, refer to [SI B00 06 11](#). The hood is covered with a fabric-type protective cover which must also be removed for display purposes.
- Have a qualified HV technician deactivate the HV system. When the HV system is disabled, the 12V system is still operational. This enables demonstrating many functions such as the instrument display, interior lights, windows, etc. However, drive readiness is disabled so that the vehicle cannot be inadvertently moved.
- Fully charge the HV battery. This can only be accomplished after Transport Mode (TM) has been deactivated.



Using either the Occasional Use Cable (OUC; also referred to as Level 1) from the vehicle or the HV wallbox (Level 2 charger), access the charging socket behind the flap on the right quarter panel. The HV battery's charging status is displayed via the charge indicator light at the charging socket.

- White: Charging plug can be inserted.
- Yellow: Charging procedure is being initialized.
- Blue continuous: Charging procedure is started for a pre-set time period.
- Blue flashing: Charging procedure is active.
- Green: Charging procedure is completed.
- Red: Fault occurred during the charging procedure.

A reference label with these various charging statuses is found on the body flap.

The i3's charging socket conforms to the SAE standard J1772, shared with most other electric vehicles.

Approximate Charging Time to 100% SoC. Charging times displayed are with charging rates set to “Max” in the Central Information Display.

Charging station	0%	30% SoC	60% SoC
	[from completely discharged battery]		
Level 1 – OUC (standard equipment with each i3); ~ 120 V (up to 12 A)	13.5 – 19 hours	9.5 – 13 hours	5 – 7.5 hours
Level 2 – Wall box; ~ 240 V (up to 32 A)	2.5 – 3.5 hours	2 – 2.5 hours	1 – 1.5 hours
DC Fast Charger [option 4U7] – Using 50 kW DC charger	1 – 1.5 hours	1 – 1.5 hours	1 – 1.25 hours
	* 80% reached in 25 min	* 80% reached in 20 min	* 80% reached in 10 min

- For showroom display, connect the OUC into a 110V outlet if the HV state of charge has fallen to approx. 10%, as seen in the instrument cluster. This should be done at the end of regular business hours, so that the cable does not interfere with pedestrian traffic.
- Floor mats are standard equipment. They are already fastened to the floors at the factory, using the inverted T-shaped anchors.
- Remove the cupholder from the center console storage compartment, located beneath the armrest. Insert it into one of the three retaining clips at the front of the center console.
- Fasten the antenna to the roof fin.
- A release handle for each front seat backrest is located in the center rear surface of the headrest. Tilting the backrest forward enables easier access to the rear seat.
- Place the OUC into the front storage compartment.

Note: The front storage compartment is not water-tight. Advise the customer or driver who is picking up the vehicle that although the OUC is weatherproof, he/she should not place anything in the front compartment which may be damaged/discolored if exposed to water/condensation.

Delivery Vehicle Check, or Spot-Delivery

- Complete the Driver's Delivery Guide supplied with the i3's info packet.
- Make certain the customer is aware of, or has signed up with, the 360 Electric Program to enable home charging of the i3. 360 Electric also supports other related programs such as ParkNow and ChargeNow. For more information, refer to

 bmwusa.com/Standard/Content/Vehicles/2014/i3/BMWi3/BMWiConnectedDriveRD.aspx

- Bring to the customer's attention the BMW ConnectedDrive function for the vehicle, as well as the related “My BMW i Remote” app for the customer's smartphone. For more information, refer to
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www.bmwusa.com/Standard/Content/Vehicles/2014/i3/BMWi3/BMWiConnectedDrive/Overview.aspx?from=/Standard/Content/Vehicles/2014/i3/BMWi3/BMWiConnectedDriveRD.aspx?from=/Standard/Content/Vehicles/2014/i3/BMWi3/BMWiConnectedDriveRD.aspx

- If a front license plate is required according to the regulations of the state in which the vehicle is registered, attach the front license plate frame to the front bumper. The procedure is the same as for the F30 3 Series Sedan. Refer to SI B00 03 11.
- BMW i3 with REx: The fuel tank is provided approx. half full. Fill the tank with unleaded premium gasoline, 91 AKI (89 AKI minimum). The fuel filler flap, located on the right front fender, is activated by the top button on the driver's A-pillar. The tank capacity is 1.9 gallons.

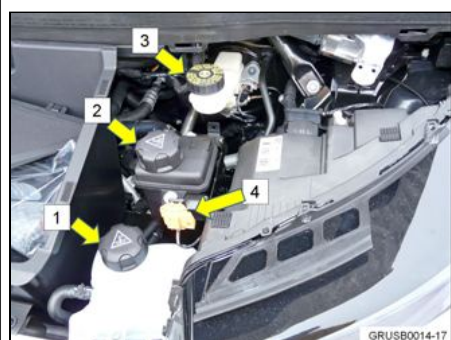
- The REx engine will only start automatically once the HV state of charge falls below approx. 8%. The current supplied by the REx engine will not add to the HV state of charge; it will merely maintain it. The REx engine will run at a constant engine speed, depending on the vehicle speed and the resulting current draw from the HV battery. At higher vehicle speeds, the REx engine runs at a higher rpm.

Maintenance

Each BMW center has the ability to service the vehicle, after at least one technician has completed all necessary technical training.

UPDATE! The i3 was designed primarily for local driving cycles, so that the annual accumulated mileage tends to be significantly less than on conventionally powered vehicles. Therefore, the Condition Based Service (CBS) counter is programmed only for time intervals. Vehicle mileage is not factored at all.

UPDATE! In contrast to all other BMWs, there are only two primary CBS maintenance operations – the Vehicle Check, and Brake Fluid. Other operations such as the ventilation microfilter replacement, or the engine oil service (i3 REx only) are connected to either of these. Refer to Attachment 4 for an overview of the i3's CBS intervals, as well as the maintenance operations.



During the vehicle check, each coolant circuit must be checked for fluid level, and topped up if needed.

The front underhood area is shown looking rearward, with the driver's side access panel removed.

1. EME circuit reservoir
2. Vehicle heater circuit reservoir

Caution: Coolants must not be mixed up among the different systems.

3. Brake fluid reservoir
4. HV safety connector (for HV-trained technicians only)

Circuit	Vehicle heater	EME cooling	REx engine cooling
Coolant P/N (ISTA)	83 51 2 355 296 (1.1 liter bottle)	83 19 2 211 191 (1.51 liter bottle)	83 19 2 211 191
ATLAS/Exceltra P/N	83 51 2 355 296	82 14 2 209 769 (1 liter bottle), or 82 14 1 467 704 (1 gallon bottle)	82 14 2 209 769 (1 liter bottle), or 82 14 1 467 704 (1 gallon bottle)
Bottle labeled as	03 Heating System Circuit Cooling Concentrate	Antifreeze/Coolant	Antifreeze/Coolant
Reservoir location	Front underhood area	Front underhood area	W20 engine
Notes	Blue-green colored. Long-term rated. No replacement needed except for system repairs.	Blue-green colored. Long-term rated. No replacement needed except for system repairs.	Blue-green colored. Long-term rated. No replacement needed except for system repairs.

UPDATE! i3 from 3/2014 through 6/2014 production – Standard scope:

- Rear brakes: Check the pad thickness using special tool P/N 83 30 0 492 467 (tool # 341 260). If the rear pads are worn beyond the limits, also replace both rear brake discs.
- Front brakes: Check the pad thickness using the special tool.

UPDATE! As of 7/2014 production, the front and rear brakes each receive an indicator for maintenance. The operations will only appear in the CID, not in the instrument cluster display when the ignition is first turned on. The brake service indicators appear in the CID's CBS master display (via Vehicle info / Vehicle status / Maintenance) only after the brake pad wear sensors have made contact, and CBS calculates an estimated remaining driving distance of approximately 3,000 miles or less. This is the only instance of CBS utilizing a distance-based calculation on the i3.

UPDATE! Due to this new indicator, it is no longer necessary to measure the brake pad thickness during the Standard scope on i3 vehicles produced as of 7/2014.

- i3 REx W20 engine oil and oil filter: Replace every 12 months. Use BMW High Performance Synthetic Oil 5W-30 P/N 07 51 0 017 866 (1-qt bottle). The refill quantity is 2.6 l (2.7 qt).

UPDATE ! The engine oil for the W20 engine has changed. As of January 1, 2015, BMW recommends using Original BMW Engine Oil SAE 5W-30, P/N 83 21 2 365 946 (1-liter bottle). Refer to Aftersales Business Development and Marketing Bulletin B-2-1214-1103, or [SI B11 01 15](#).

- An engine oil dipstick is accessible beneath the luggage area floor panel. If engine oil needs to be added, remove the drivetrain access cover beneath the luggage area floor to locate the engine oil filler. This is not an operation intended for customers.
- i3 REx: Due to the light duty and relatively constant operating speeds, the W20 engine's spark plugs and air filter are long-term rated, which do not need replacement.



UPDATE ! For i3 vehicles produced between 3/2014 and 9/2014, at the vehicle check:

UPDATE ! Retorque the bolt (arrow) for the door stop mechanism at each front and rear door pillar to 22 Nm. Refer to ISTA Repair Instruction 00 00... (Retightening screw connections of all door stops).

UPDATE ! The stop mechanism of the left front door is shown as an example.

UPDATE ! i3 vehicles produced as of late 9/2014 have a revised door stop mechanism for which this maintenance operation is no longer required. The Key Reader will indicate if this operation is still required on i3 vehicles built during 9/2014.

- The transmission for the electrical machine contains fluid with a long-term rating. It does not need replacement except for when performing system repairs.
- The i3 utilizes the same air conditioning refrigerant R134a as other BMWs. A reference label for fill quantities is found on the underside of the front hood.
- The emission certification label is located at the underside of the tailgate's left corner. The label provides information on the exhaust emissions classification for a state inspection facility or emissions test lab.

General Notes

2014 Service and Warranty Information booklet:

i3	SD92-454
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PARTS INFORMATION

Under separate cover, one pack of the Quality Certification I form for the 2014 BMWs covered in this bulletin will be sent to the Service Manager of each participating BMW i3 selling center. Additional copies may be ordered as listed below:

Item	Description	Qty	Price
ID14-001	Quality Certification I form (2014 BMW i3)	1 pack	\$4.75
(print date 3/14)		(= 10 forms)	

These items are available online at BMW TIS under Materials Ordering. Refer to bulletin [B10 02 02](#) for instructions on how to place an order.

WARRANTY INFORMATION

Reimbursement of the BMW Pre-Delivery Inspection (QC1) on the 2014 BMW i3 is via submission of a warranty claim when the work is completed.

- If the Display and Delivery portions of the inspection are performed separately, individual claims should be submitted when those operations are performed.
- If the entire QC1 delivery inspection is performed at the same time, submit one claim for “Spot Delivery.” This is an important difference from the prior process, and claims must not reflect Display and Delivery if only the Spot Delivery was actually performed.
- All BMWs are only eligible for either the Display and Delivery Inspection, or the Spot Delivery Inspection.
- If a BMW center performs the Display Inspection and the vehicle is traded, then the second center may only perform and claim the Delivery Inspection. Check the DCS Vehicle History Report to determine whether a claim for this work had been submitted by another center.
- If a center receives a vehicle, does nothing to it and then trades it to another center, then the second center may perform the Display and Delivery Inspection or the Spot Delivery Inspection, whichever is relevant. Check the DCS Vehicle History Report to determine if a claim for this work had been submitted by another center.

Additional warranties for the High Voltage Battery:

Lithium-ion HV Battery Limited Warranty

BMW of North America, LLC (“BMW NA”) warrants the lithium-ion HV battery assembly against defects in materials or workmanship for a period of 8 years/100,000 miles, whichever occurs first.

Lithium-ion HV Battery Capacity Coverage

The lithium-ion HV battery modules are covered against excessive capacity loss for a period of 8 years/100,000 miles, whichever occurs first. This coverage is in addition to the lithium-ion HV battery’s limited warranty for defects in materials or workmanship. Due to its inherent technical design, the lithium-ion HV battery’s capacity will decrease over time and with use. If your capacity check concludes that the net battery capacity is less than 70 percent of its original nominal value when it was new, this level of capacity loss is considered excessive. During the lithium-ion HV Battery Capacity Coverage period, BMW NA will cover the necessary component repair or replacement to correct this excessive capacity loss when performed by an authorized BMW center.

Battery performance and durability, including lithium-ion HV batteries, is temperature-dependent. While battery capacity and vehicle range increases in higher temperatures, colder temperatures will lower the battery’s capacity and the vehicle’s range. Extreme high and/or low temperatures will impact the battery’s service life. Other factors will impact the vehicle’s lithium-ion HV battery capacity and vehicle range during operation. These factors include the selected drive mode, driving and charge cycle profile, on-board electric consumer usage (original equipment/BMW and Non-BMW accessories), frequent, long and/or steep changes in road topography and the prevailing road and traffic conditions.

BMW i3 Company Vehicles

Reimbursement for performing the QCI on BMW company vehicles for regional employees of BMW of North America must still be requested by submitting a claim through DCS. Use the Spot Delivery codes listed below:

Defect Code:	11 99 99 77 BV
Labor Operation:	00 00 012
Flat Rate Units:	Refer to KSD2

Refer to KSD2 for the corresponding flat rate unit (FRU) allowance. Enter the Chassis Number, which consists of the last 7 digits of the VIN. Click on the “Search” button, and then enter the applicable flat rate labor operation in the FR code field.

Note: BMW company vehicles delivered to field personnel may have already received a full QCI at the VDC (Vehicle Distribution Center) which serves your region. This should be evident upon arrival at your center by the following:

- The absence of the usual protective seat and door panel covers
- Transport mode has been deactivated (radio is operational)
- The Monroney label not being affixed to the window, etc.
- VDCs affix a small orange-colored label onto the center console near the transmission selector lever which reads "QC1 already done at VDC!" If this label is found, remove it prior to delivery to the employee.

Please verify that the QC1 has already been performed at a VDC on a specific vehicle by contacting your regional Distribution Manager with the chassis number.

IMPORTANT:

As with all work that is reimbursed by BMW, the repair order, time recording, and record keeping requirements outlined in the Warranty Policy and Procedures Manual must be strictly observed. QC1 payments are subject to audit.

Attachments

1. Technical data
2. How to drive a BMW i3
3. QC1 checklist ID14-001, print date 3/14
-  4. Maintenance intervals and operations

ATTACHMENTS

View PDF attachment [B000114 Attachment 1 tech data.](#)

View PDF attachment [B000114 Attachment 2 i3 Driving.](#)

View PDF attachment [B000114 Attachment 3 QC1 ID14-001.](#)

View PDF attachment [B000114 Attachment 4 CBS and maintenance.](#)