

BATTERY AND CHARGING SYSTEM - GENERAL INFORMATION [G2323766]

SPECIFICATIONS

Startup battery

ITEM	SPECIFICATIONS
Type	Absorbed glass mat (AGM)
Capacity	90 Ah
Cold cranking amps	850 CCA
Reserve capacity	150 minutes

Startup battery disconnect/connect

⚠ CAUTIONS:

- The vehicle status and start up battery condition must be established before attempting battery disconnect /connect. Reference must then be made to the following table to establish the relevant procedure to be followed.
- After connecting the start up battery, the steering wheel must be turned to full left-hand and full right-hand lock with the engine running. This allows the dynamic stability control system to calibrate the steering wheel position. Failure to follow this instruction may result in a variety of Instrument Panel Cluster (IPC) warning lamps being illuminated.

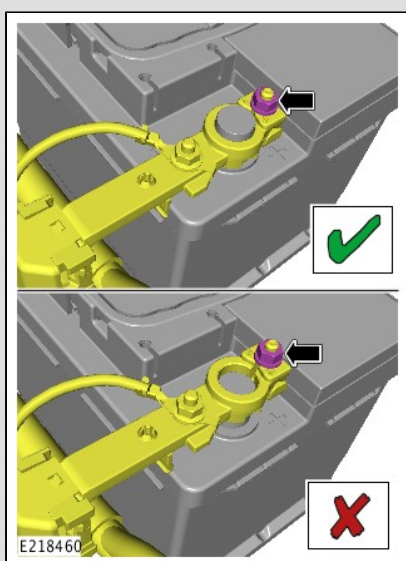
⚠ NOTES:

- If there is insufficient capacity in the startup battery to disarm the alarm, the alarm may sound on connection of the startup battery - turning the ignition key to position II will disarm the alarm.
- If a new startup battery is installed, the startup Battery Monitoring System (BMS) must be reset using Jaguar Land Rover approved diagnostic equipment.

Vehicle status	Battery charged	Battery discharged
-	Procedure	Procedure
Vehicles without Telematics	-	-
Engine running	1	-

Vehicle powered down, locked and alarmed	2	3
Vehicle unlocked	4	5
Vehicles with Telematics	-	-
Engine running	6	-
Vehicle powered down, locked and alarmed	7	8
Vehicle unlocked	9	10

CONNECTING THE STARTUP BATTERY POSITIVE CABLE



Procedure 1

Disconnect the battery	Connect the battery
1. If possible, apply the parking brake or chock the wheels.	1. Make sure that all the electrical systems and ignition are switched OFF .
2. Set the ignition to the OFF position.	2. Connect the battery GROUND cable.
3. Wait 2 minutes for the engine management system to POWER DOWN .	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second, (relay in door will click). One touch should now work.
4. Disconnect the battery GROUND cable.	4. Using suitable Land Rover diagnostic equipment calibrate the electric park brake and tailgate. Check the clock and navigation settings.

Procedure 2

Disconnect the battery	Connect the battery
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1. Unlock the vehicle and disarm the alarm using the UNLOCK button on the key fob.	1. Make sure that all the electrical systems and ignition are switched OFF .
2. Enter the vehicle. Set the ignition to the ON position. Apply the parking brake or chock the wheels and then set the ignition to the OFF position.	2. Connect the battery GROUND cable.
3. Wait 2 minutes for the engine management system to POWER DOWN .	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second, (relay in door will click). One touch should now work.
4. Disconnect the battery GROUND cable.	4. Using suitable Land Rover diagnostic equipment calibrate the electric park brake and tailgate. Inspect the clock and navigation settings.

Procedure 3

Disconnect the battery	Connect the battery
1. Unlock the vehicle from the driver's door using the key.	1. Make sure that all the electrical systems and ignition are switched OFF .
2. Enter the vehicle. Apply the parking brake or chock the wheels.	2. Connect the battery GROUND cable.
3. Disconnect the battery GROUND cable.	3. Set the ignition to the ON position.
	4. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second, (relay in door will click). One touch should now work.
	5. Using suitable Land Rover diagnostic equipment calibrate the electric park brake and tailgate. Inspect the clock and navigation settings.

Procedure 4

Disconnect the battery	Connect the battery
1. Enter the vehicle. Set the ignition to the ON position. Apply the parking brake or chock the wheels and then set the ignition to the OFF position.	1. Make sure that all the electrical systems and ignition are switched OFF .
2. Wait 2 minutes for the engine management system to POWER DOWN .	2. Connect the battery GROUND cable.
3. Disconnect the battery GROUND cable.	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second, (relay in door will click). One touch should now work.
	4. Using suitable Jaguar Land Rover diagnostic equipment calibrate the electric park brake and tailgate. Check the clock and navigation settings.

Procedure 5

Disconnect the battery	Connect the battery
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1. Enter the vehicle. Apply the parking brake or chock the wheels.	1. Make sure that all the electrical systems and ignition are switched OFF .
2. Disconnect the battery GROUND cable.	2. Connect the battery GROUND cable.
	3. Set the ignition to the ON position.
	4. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second, (relay in door will click). One touch should now work.
	5. Using suitable Jaguar Land Rover diagnostic equipment calibrate the electric park brake and tailgate. Check the clock and navigation settings.

Procedure 6

Disconnect the battery	Connect the battery
1. Make sure the customer has placed stolen vehicle tracking into Service Mode , (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF .
2. If possible, apply the parking brake or chock the wheels.	2. Connect the battery GROUND cable.
3. Set the ignition to the OFF position.	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second, (relay in door will click). One touch should now work.
4. Wait 2 minutes for the engine management system to POWER DOWN .	4. Using suitable Jaguar Land Rover diagnostic equipment calibrate the electric park brake and tailgate. Check the clock and navigation settings.
5. Disconnect the battery GROUND cable.	5. Request stolen vehicle tracking removed from Service Mode , (if equipped).

Procedure 7

Disconnect the battery	Connect the battery
1. Make sure the customer has placed stolen vehicle tracking into Service Mode , (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF .
2. Unlock the vehicle and disarm the alarm using the UNLOCK button on the key fob.	2. Connect the battery GROUND cable.
3. Enter the vehicle. Set the ignition to the ON position. Apply the parking brake or chock the wheels and then set the ignition to the OFF position.	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second, (relay in door will click). One touch should now work.
4. Wait 2 minutes for the engine management system to POWER DOWN .	4. Using suitable Jaguar Land Rover diagnostic equipment calibrate the electric park brake and tailgate. Check the clock and navigation settings.
5. Disconnect the battery GROUND cable.	5. Request stolen vehicle tracking removed from Service Mode , (if equipped).

Procedure 8

⚠ CAUTION:

Battery discharge may have activated the stolen vehicle tracking, check with customer if equipped.

Disconnect the battery	Connect the battery
1. Make sure the customer has placed stolen vehicle tracking into Service Mode , (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF .
2. Unlock the vehicle from the driver's door using the key.	2. Connect the battery GROUND cable
3. Enter the vehicle. Apply the parking brake or chock the wheels.	3. Set the ignition to the ON position.
4. Disconnect the battery GROUND cable.	4. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second, (relay in door will click). One touch should now work.
	5. Using suitable Jaguar Land Rover diagnostic equipment calibrate the electric park brake and tailgate. Check the clock and navigation settings.
	6. Request stolen vehicle tracking removed from Service Mode , (if equipped).

Procedure 9

Disconnect the battery	Connect the battery
1. Make sure the customer has placed stolen vehicle tracking into Service Mode , (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF .
2. Enter the vehicle. Set the ignition to the ON position. Apply the parking brake or chock the wheels and then set the ignition to the OFF position.	2. Connect the battery GROUND cable.
3. Wait 2 minutes for the engine management system to POWER DOWN .	3. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second, (relay in door will click). One touch should now work.
4. Disconnect the battery GROUND cable.	4. Using suitable Jaguar Land Rover diagnostic equipment calibrate the electric park brake and tailgate. Check the clock and navigation settings.
	5. Request stolen vehicle tracking removed from Service Mode , (if equipped).

Procedure 10

⚠ CAUTION:

Battery discharge may have activated the stolen vehicle tracking, check with customer if equipped.

Disconnect the battery	Connect the battery
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1. Make sure the customer has placed stolen vehicle tracking into Service Mode , (if equipped).	1. Make sure that all the electrical systems and ignition are switched OFF .
2. Enter the vehicle. Apply the parking brake or chock the wheels.	2. Connect the battery GROUND cable.
3. Disconnect the battery GROUND cable.	3. Set the ignition to the ON position.
	4. Reset electric window one-touch facility. Power window up to hard stop, release switch, reapply and hold for 1 second, (relay in door will click). One touch should now work.
	5. Using suitable Jaguar Land Rover diagnostic equipment calibrate the electric park brake and tailgate. Check the clock and navigation settings.
	6. Request stolen vehicle tracking removed from Service Mode , (if equipped).

Vehicle Jump (Emergency) Starting - Using Another Vehicle



WARNINGS:

- Take care when working near rotating parts of the engine.
- Prior to attempting to start the disabled vehicle, make sure that the parking brake is applied or suitably chock the wheels. Make sure that 'P' - PARK - Automatic Transmission **or** NEUTRAL - Manual Transmission is selected.
- Suitable eye protection must be worn when working in the vicinity of the battery.
- **DO NOT** attempt to start the disabled vehicle if it is suspected that the electrolyte in the battery is frozen.
- During normal use, batteries emit explosive hydrogen gas sufficient to cause severe explosions and capable of causing serious injury - keep sparks and open flames away from the engine compartment.



CAUTIONS:

- Make sure that there is no physical contact between the donor and disabled vehicles other than the booster cables.
- Make sure that the slave battery/starting aid is of the 12 volt type.
- Make sure that all electrical systems and ignition are switched OFF prior to connecting the booster cables.
- Disconnect the booster cables prior to operating any electrical systems.

Vehicle status	Procedure
Vehicles without Telematics	1
Vehicles with Telematics	2

Procedure 1

COMPLETE THE FOLLOWING OPERATIONS IN THE SEQUENCE GIVEN
1. Connect one end of the RED (+) booster cable to the POSITIVE (+) jump start terminal of the DONOR vehicle
2. Connect the other end of the RED (+) booster cable to the POSITIVE (+) jump start terminal of the DISABLED vehicle
3. Connect one end of the BLACK (-) booster cable to the GROUND (-) jump start terminal of the DONOR vehicle
4. Connect the other end of the BLACK (-) booster cable to the GROUND (-) jump start terminal on the DISABLED vehicle
5. Start the engine of the DONOR vehicle and allow it to idle for a few minutes
6. Start the engine of the DISABLED vehicle
7. Allow the engines of both vehicles to idle for a few minutes, then switch off the engine of the DONOR vehicle
8. Disconnect the BLACK (-) booster cable from the jump start terminal of the PREVIOUSLY DISABLED vehicle
9. Disconnect the BLACK (-) booster cable from the jump start terminal of the DONOR vehicle
10. Disconnect the RED (+) booster cable from the jump start terminal of the PREVIOUSLY DISABLED vehicle
11. Disconnect the RED (+) booster cable from the jump start terminal of the DONOR vehicle

Procedure 2

COMPLETE THE FOLLOWING OPERATIONS IN THE SEQUENCE GIVEN
1. Make sure the customer has placed stolen vehicle tracking into Service Mode , (if equipped).
1. Connect one end of the RED (+) booster cable to the POSITIVE (+) jump start terminal of the DONOR vehicle
2. Connect the other end of the RED (+) booster cable to the POSITIVE (+) jump start terminal of the DISABLED vehicle
3. Connect one end of the BLACK (-) booster cable to the GROUND (-) jump start terminal of the DONOR vehicle
4. Connect the other end of the BLACK (-) booster cable to the GROUND (-) jump start terminal on the DISABLED vehicle
5. Start the engine of the DONOR vehicle and allow it to idle for a few minutes
6. Start the engine of the DISABLED vehicle
7. Allow the engines of both vehicles to idle for a few minutes, then switch off the engine of the DONOR vehicle
8. Disconnect the BLACK (-) booster cable from the GROUND (-) jump start terminal of the PREVIOUSLY DISABLED vehicle
9. Disconnect the BLACK (-) booster cable from the jump start terminal of the DONOR vehicle
10. Disconnect the RED (+) booster cable from the POSITIVE (+) jump start terminal of the PREVIOUSLY DISABLED vehicle
11. Disconnect the RED (+) booster cable from the jump start terminal of the DONOR vehicle
12. Request stolen vehicle tracking removed from Service Mode , (if equipped).

Vehicle Jump (Emergency) Starting - Using a Slave Battery/Starting Aid

Vehicle status	Procedure
Vehicles without Telematics	1
Vehicles with Telematics	2

Procedure 1

COMPLETE THE FOLLOWING OPERATIONS IN THE SEQUENCE GIVEN
1. Connect the end of the RED (+) booster cable to the POSITIVE (+) jump start terminal of the vehicle.
2. Connect the end of the BLACK (-) booster cable to the GROUND (-) jump start terminal of the vehicle.
3. Start the engine of the vehicle and allow it to idle.
4. Disconnect the BLACK (-) booster cable from the GROUND (-) jump start terminal of the vehicle.
5. Disconnect the RED (+) booster cable from the POSITIVE (+) jump start terminal of the vehicle.

Procedure 2

COMPLETE THE FOLLOWING OPERATIONS IN THE SEQUENCE GIVEN
1. Make sure the customer has placed stolen vehicle tracking into Service Mode , (if equipped).
2. Connect the end of the RED (+) booster cable to the POSITIVE (+) jump start terminal of the vehicle.
3. Connect the end of the BLACK (-) booster cable to the GROUND (-) jump start terminal of the vehicle.
4. Start the engine of the vehicle and allow it to idle.
5. Disconnect the BLACK (-) booster cable from the GROUND (-) jump start terminal of the vehicle.
6. Disconnect the RED (+) booster cable from the POSITIVE (+) jump start terminal of the vehicle.
7. Request stolen vehicle tracking removed from Service Mode , (if equipped).