



LAND ROVER

NEW VEHICLE STORAGE MANUAL

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INTRODUCTION

STANDARDS

Vehicles may require storage for varying periods of time before the customer takes delivery. It is essential that a new Land Rover vehicle is stored correctly, in order to ensure total customer satisfaction after the car is removed from storage and prepared for sale.

This document establishes the MINIMUM STANDARDS required of franchise holders and appointed vehicle storage companies by Land Rover for the storage of new vehicles, and may only be deviated from with the Company's agreement. Any concerns should be discussed with your Franchise Regional Manager.

This information should be used in conjunction with the relevant Pre-Delivery Inspection (PDI) information.

AREAS OF RESPONSIBILITY

PREVENTATIVE MEASURES

Adequate preventative measures must be taken to ensure that each vehicle in stock is maintained in peak condition.

ARRIVAL

It is your responsibility to notify delivery companies immediately of any losses and/or transit damage identified on receipt of the vehicle.

Where applicable, Vehicle Condition Reports (VCR's) must be endorsed accordingly, otherwise it is unlikely that the transit insurance company will accept any claims for missing items or damage rectification.

STORAGE

Correct preparation of vehicles for storage is essential. The majority of new vehicles leaving Land Rover are provided with the appropriate protection for transit. It is your responsibility to ensure that a vehicle storage department, or specialist company, is sufficiently equipped to undertake the storage requirements endorsed in this publication.

Whilst vehicles are in storage, any deterioration or damage sustained is the sole responsibility of the storage operator and must NOT be made the subject of a warranty claim.

DISPATCH

When removing vehicles from storage, you are responsible for procedures that ensure they are in a safe and roadworthy condition.

VEHICLE STORAGE

VEHICLE IDENTIFICATION UPON ARRIVAL

- 1 A New Vehicle Storage History Sheet must be raised for every new vehicle upon arrival and should remain inside the vehicle until despatch. This must contain a record of the vehicle condition and any rectification work carried out during the storage period (see Storage History Sheet).
- 2 Vehicles must be checked for correct specification and/or shortages. Where this is incorrect, the required parts should be procured through normal channels and costs claimed back via the DDW system using the appropriate shortage or mis-build program code.

Claims for rectifying incorrect specification items and/or shortages must be made in accordance with the conditions detailed in the Warranty Policy and Procedures Manual.

NOTE: All missing items should be recorded on the Vehicle Storage History Sheet and countersigned by an authorized person.

- 3 Vehicles must be inspected for transit damage.

Delivery damage is not the responsibility of Land Rover and must not be made the subject of a warranty claim. It is the responsibility of the Dealer/Retailer or vehicle storage company to identify any such damage at the time of the new vehicle receipt and to ensure that the full details are recorded on the Delivery Receipt. Claims for rectification of such damage must be directed to the Delivery Company.

Failure to notify the Delivery Company of damage details at the time of vehicle delivery will result in claims for subsequent rectification being rejected.

Warranty claims for damage repairs may only be submitted where Land Rover's responsibility is clearly indicated. Examples falling into this category are paintwork damage during the fitment of trim or outward facing dents on the door skin.

Warranty claims will not be accepted for any transit damage repaired or identified after the vehicle has been placed into service.

- 4 A label should be suitably affixed to the inside of the windshield indicating the date of vehicle arrival. Labels must not be stuck directly to the windshield but placed in a transparent licence holder, or alternatively stuck to a piece of cling film and attached to the inside of the windshield. This will avoid damage to the windshield when removing labels.
- 5 Ignition and door keys must be suitably labelled and when the vehicle is locked, they must be held in a suitably identified and secure office. All key numbers must be recorded on the New Vehicle Storage History Sheet. All keys, including spares, must be removed from the vehicle during storage for security reasons.

VEHICLE INSPECTION

The entire vehicle exterior must be inspected and, if necessary, washed thoroughly, including the underside and wheel arches, to remove all dirt and mud deposits.

Any defects found during inspection must be rectified before the vehicle is stored.

Ensure that bumper and body side protectors are correctly located.

There are two main methods of vehicle storage:

- 1 Collective storage of several vehicles in an open compound.
- 2 Collective storage of a small number of vehicles, normally at the dealership/retailer and possibly under cover.

IDEALLY ALL VEHICLES SHOULD BE STORED IN A WELL VENTILATED AND TEMPERATURE-CONTROLLED BUILDING.

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However, it is recognised that the majority of all vehicle storage is done in an open compound. Therefore, the following site requirements must be observed and should be authorised with your Regional Manager.

- 1** The site should have a well-drained hard standing surface, preferably concrete or tarmac, which is free from undergrowth.
- 2** The site and driveways must be kept clean and clear of any obstruction at all times.
- 3** The site must be enclosed by a secure intruder-proof perimeter fence and the gates securely locked. The site should be under daily surveillance, with unauthorised access prevented at all times.
- 4** The site should be located away from areas subject to industrial fallout, sea spray or wind-blown dust and sand. Where fallout conditions are unavoidable it will be necessary to monitor the exterior condition of all cars and wash as necessary. Heavy contamination may require vehicles to have the transit protection coating removed and problems arising from the contamination rectified. Once the transit coating has been removed, the vehicle must not be returned to outdoor storage unless it is fully covered to provide the necessary protection against deterioration.
- 5** Mains water, tyre inflation and battery charging facilities must be available on site.
- 6** Hedges, shrubs and trees adjacent to the site should be kept trimmed and clear of parked vehicles.
- 7** Vehicles must not be parked under trees, overhead cables or other overhanging structures as bird droppings or other types of contamination could occur.

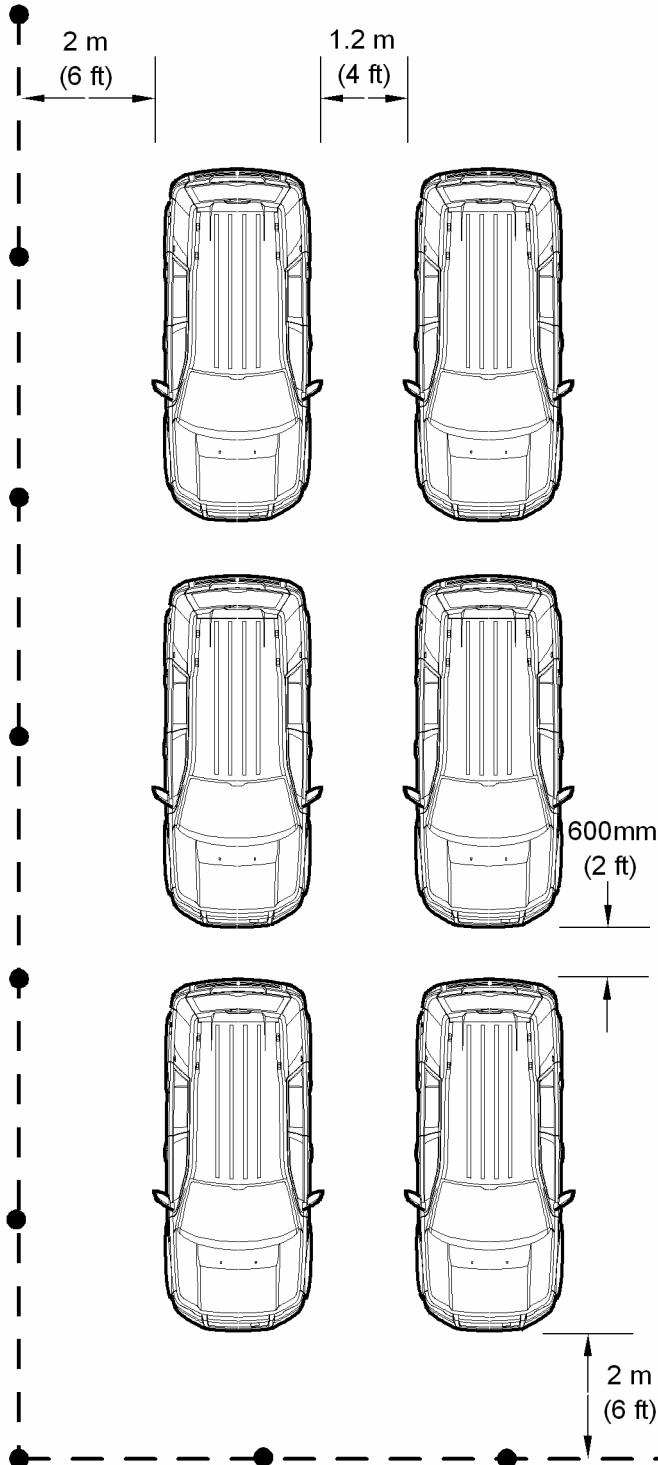
VEHICLE PARKING

Vehicles must be parked tidily with a minimum of 600 mm (2 feet) between bumpers, front and rear.

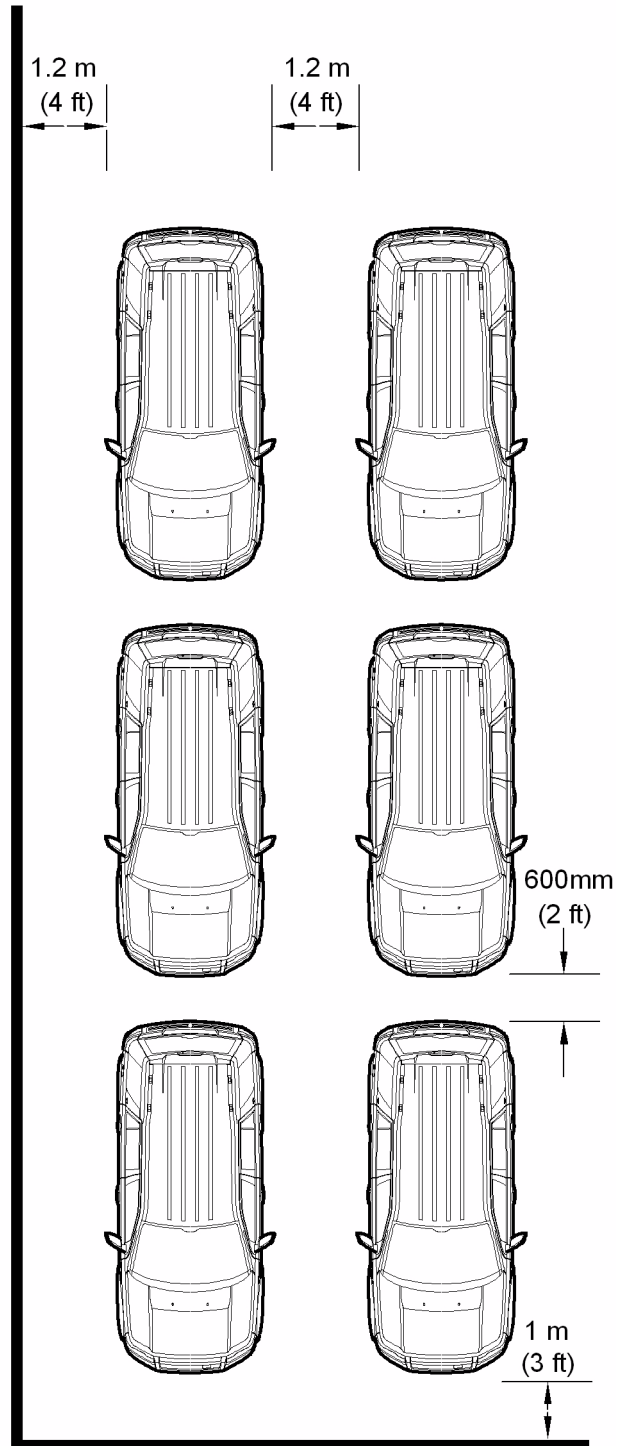
There must be a full doors width clearance between the driver's door and any adjacent vehicle or obstruction.

Vehicles must be parked at least 1.2 metres (4 feet) away from any interior wall or, for outside storage, at least 2 metres (6 feet) away from any perimeter fence.

Vehicles must be moved on a first-in-first-out basis, subject to specification.



STORAGE OUTSIDE



STORAGE INSIDE

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FACILITIES AND EQUIPMENT

Car wash facilities.

Tyre inflation equipment with calibrated gauge 0 - 4.05 bar (0 - 60lbf/in²).

Battery servicing and testing optional equipment:

- Digital Multimeter: 3.5 digit (DVOM).

Battery servicing and testing mandatory equipment:

- Traction battery charger.
- Midtronics GR1 battery tester.

Jacking equipment.

Wheel brace.

The following materials must be available and must meet Land Rover specifications:

- Engine oil.
- Transmission fluid.
- Brake fluid.
- Battery acid.
- Windscreen washer fluid.
- Anti-freeze.

Access to trailer/recovery vehicle (Vehicles should not be towed).

Comprehensive filing system for vehicle records.

NOTE: Tools supplied with the vehicle must not be used for any rectification work prior to the prospective purchaser.

OPERATIONS REQUIRED DURING STORAGE PERIOD

REFERENCE CHART

The following chart gives a quick reference to the requirements necessary during the time a vehicle is in storage. A detailed explanation of each operation is provided on subsequent pages.

If a vehicle remains in storage after 6 months recommence operations as from month 1

OPERATION	UPON RECEIPT	AT 1 MONTH	AT 2 MONTHS	AT 3 MONTHS	AT 4 MONTHS	AT 5 MONTHS	AT 6 MONTHS
1. IDENTIFICATION	X						
2. INSPECTION	X	X	X	X	X	X	X
3. BATTERIES	X	X	X	X	X	X	X
4. COOLING SYSTEM	X	X	X	X	X	X	X
5. ENGINE	X	X	X	X	X	X	X
6. TIRES	X	X	X	X	X	X	X
7. PARKING BRAKE	X	X	X	X	X	X	X
8. DOORS, WINDOWS AND VEHICLE INTERIOR	X			X			X
9. WINDSHIELD WIPER BLADES	X			X			X
PAINTWORK	REMOVE 'WRAPGUARD' AFTER 6 MONTHS						
All markets							

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STORAGE OPERATIONS

BATTERIES

Ensure that all electrically operated equipment, such as windshield wipers and windows, are in the normal parked or closed position. Refer to page 8.

Refer to the Battery Care Manual and remove the battery surface charge and check the battery open circuit voltage in line with the procedures detailed in the manual. Providing the battery open circuit voltage is 12.55 volts or above and the transit relay is in place, the vehicle is in transit mode, or the battery is disconnected, vehicles may be stored.

If a battery is found to be below the stated minimum voltage then a recharging of the battery should be undertaken immediately. Refer to the Battery Care Manual.

The battery **must** be recharged after a maximum three months storage as detailed in the Battery Care Manual.

Place a label on the vehicle (or on New Vehicle Storage History Sheet) to indicate when a recharge will be required.

The open circuit voltage should be checked prior to starting and/or moving the vehicle (Refer to the Battery Care Manual).

The storage, handling and charging of batteries is not dangerous provided that the relevant battery manufacturers' recommendations are followed. However, a suitable storage and charging facility must be available and should be in accordance with local legal requirements.

COOLING SYSTEM

It is **ESSENTIAL** to maintain the concentration of anti-freeze at the factory-fill condition. Failure to do so may cause oxidation of the cooling system leading to corrosion of the engine and heater.

If the check shows that the coolant contains less than the required anti-freeze content, proceed as follows:

- 1 Carefully examine the radiator and all hoses for leaks and security of hose clamps.
- 2 Remove the header tank pressure cap and drain the cooling system as instructed in the relevant service manual.
- 3 Mix anti-freeze and water in the correct proportions and to the correct volume.
- 4 Add the coolant as instructed in the relevant service manual.

WARNING: DO NOT REMOVE THE HEADER TANK PRESSURE CAP WHILE THE ENGINE IS HOT.

CAUTION: DO NOT use radiator anti-freeze solution in the windshield washer equipment or paint work will be damaged.

ENGINE

If the vehicle is stored for one month, the engine should be started, run at 1000 Revolutions Per Minute (RPM) for one minute from cold and then 2000 RPM per minute until the coolant temperature gauge shows normal.

ENGINE OIL LEVEL

Remove the dipstick and check the engine oil level. If necessary, top up with the approved grade of engine oil.

AIR CONDITIONING SYSTEM

If the system is not to be run for more than one month, it is recommended that the air conditioning system should be operated for approximately 10 minutes (engine running at idle speed). This is to circulate refrigerant and oil to ensure the O-rings and seals (especially the compressor) are kept lubricated and do not harden.

TIRES

For storage purposes, tires on fitted wheels must be inflated to and maintained at a maximum pressure of 4.05 bar (60 lbf/in²).

NOTE: Wheels must be rotated through 90 degrees in the forward direction monthly, to ensure that the tread is rotated evenly during the storage period.

The spare wheel tire pressure must be maintained at the appropriate pressure specified in the Owners Handbook.

Tire condition should be inspected and defective tires replaced prior to removal from storage.

Guidance for Rotation of Tires

To ensure tires are rotated through a minimum of 90 degrees, apply a chalk mark on a front wheel tire wall at the current center contact point with the road surface. Move the car forwards until the chalk mark is at the horizontal position. This process can be applied to a single car or to a row of vehicles and should ensure that all four wheels on each vehicle is rotated by 90 degrees.

PARKING BRAKE

The parking brake must NOT remain 'on' during storage.

After parking:

Manual transmission vehicles: select first or reverse gear and release the parking brake

Automatic transmission vehicles: select 'P' and release the parking brake.

NOTE: For all Land Rover vehicles with an Electronic Parking Brake (EPB), the parking brake cannot be disengaged and will remain locked onto the brake disc. Therefore, the operation of the EPB should be checked/monitored monthly during the road wheel rotation procedure.

AIR SUSPENSION - LAND ROVER DISCOVERY 3, RANGE ROVER SPORT AND RANGE ROVER

During storage the air suspension system should be left in the transportation mode. No other checks are necessary during storage for this system.

DOORS, WINDOWS AND VEHICLE INTERIOR

Doors, windows, bonnet, boot lid and fuel filler flap must be closed and locked to prevent water and moisture ingress. A check should be done each month for any signs of water ingress into the cars interior and luggage compartment. Any water ingress points should be rectified immediately.

WINDSHIELD WIPER BLADES

Depending on the model, where possible move the wiper arms and blades away from the windshield and leave in the extended position.

PAINTWORK

Paintwork can be damaged if the protective coating remains on the vehicle for an extended period of time. In markets with high levels of ultraviolet light (tropical or semi-tropical conditions), the protective coating MUST be removed after six months. For all other markets the protective coating MUST be removed after nine months.

If storage is subsequently continued, the vehicle must be kept under cover and should be washed regularly (at least every month).

Some markets will receive Land Rover vehicles with protective plastic film 'Wrapguard' fitted to some panels. The unprotected paint surfaces on these vehicles requires that a regular monthly wash off of the paint is carried out. The exposed paint finish should be inspected for surface contamination damage and rectified immediately. The 'Wrapguard' plastic protective film should be completely removed after six months in storage.

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REMOVAL FROM STORAGE

PROCEDURES

Before removal from storage area, all fluid levels including coolant, hydraulic fluids and lubricating oils must be checked and replenished where necessary. Where a substantial loss has occurred the cause must be traced prior to moving the vehicle.

The New Vehicle Storage History Sheet must be checked and safety related faults rectified before the vehicle is moved from the storage site. These checks are essential to ensure that the vehicle is safe to drive.

Tires must be adjusted to the pressures recommended in the relevant service manual or owners handbook.

Refit the vehicle battery if removed.

Check the operation of the lighting and signalling equipment.

TRANSIT PROTECTION (WHERE FITTED)

REMOVAL OF TRANSIT PROTECTION

During storage, the protective coating will collect airborne dirt and grit. Great care must be taken when removing the transit coating so that damage to the paint film and exterior trim is avoided.

Removal of the transit protection coating should be carried out in accordance with the procedure detailed in the Pre-Delivery Inspection (PDI) information.

When the vehicle is dispatched from the storage area, remove the New Vehicle Storage History Sheet and file in the vehicle records.