

Long-Term Vehicle Storage Guidelines

Service Category Power Source/Network

Section Battery/Charging

Market USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2018	4Runner, 86, Avalon, Avalon HV, C-HR, Camry, Camry HV, Corolla, Highlander, Highlander HV, iA, iM, Land Cruiser, Mirai, Prius, Prius C, Prius Prime, Prius V, RAV4, RAV4 HV, Sequoia, Sienna, Tacoma, Tundra, Yaris	

Introduction

Long-term or off-site storage requires special care to keep vehicles factory fresh and ready for delivery. The following guidelines should be performed to minimize vehicle component/part degradation due to extended vehicle storage conditions. Long-term storage can affect a vehicle's systems and components. Any problems that are found should be corrected immediately.

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Required Tools & Equipment

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
Digital Battery System Analyzer*	00002-V8150-KIT	1
GR8 Battery Diagnostic Station*	00002-MCGR8	1

* Essential SST.

NOTE

Additional SSTs may be ordered by calling 1-800-933-8335.

Long-Term Vehicle Storage Guidelines

Summary Chart for Long-Term Storage

Below are items that should be checked periodically and their frequency.

ACTION	FREQUENCY
Tire Inflation Pressure Check	Monthly
Parts Rust Inspection	Monthly
A/C Compressor Lubrication	Monthly
Charge Disconnected Battery to 12.6 V	After 60 days, then every 30 days
Disc Brake Rotor Surface Rust Removal	Every 8 weeks
Engine/Hybrid System/Fuel Cell System Starting and Vehicle Movement	Every 6 weeks
Rapgard™ Removal	After 90 days
Tyvek Removal	After 12 months

A combination of proper Vehicle Receipt, Pre-Delivery Service (PDS), and Vehicle Storage is the ONLY way to maintain factory fresh vehicles. Toyota’s goal is to deliver 100% problem-free cars and trucks. With your commitment to quality and customer satisfaction, we can reach that goal. Review this bulletin often and be sure new employees are aware of the policies and procedures outlined herein, as individual training in proper inspection, Pre-Delivery Service, and storage and handling techniques are essential to ensure high delivery quality.

Repair Procedure

Reference and Training Materials

Listed below are additional resources, which will help you with vehicle receipt, inspection, and storage procedures.

- [CRIB Bulletin #165](#), “Acid Rain Paint Finish Damage – Prevention and Repair”
- UoT e-Learning Course E257 Vehicle Delivery Quality – Paint Finish Repair
- Dealer Delivery Quality Operations Guide, P/N 001 16-DDQOG-98
- Service Bulletin [BO020-91](#), “Prevention and Repair of Acid Rain Damage”
- Service Bulletin [BO005-92](#), “New Vehicle Washing Schedule for Paint Protection”
- Service Bulletin [T-SB-0195-17](#), “Battery Maintenance During PDS”
- Service Bulletin [PA005-04](#), “Iron Particle Rust Contamination Repair”
- Service Bulletin [PG005-94](#), “Dealer Removal Procedures for Rapgard™ Protective Film”
- Service Bulletin [PG007-02](#), “Wheel Film for Brake Rotor Rust Prevention”
- Maintenance for HV and Auxiliary Batteries: Refer to the applicable HV model Service Bulletin

Long-Term Vehicle Storage Guidelines

Repair Procedure (Continued)

Parking and Paint Protection Procedure

- Storage areas should be paved, well lit, and secure. If your off-site storage lot is NOT paved, spread gravel down to minimize mud and dust. Be sure vehicles are driven carefully when moving them to or from a long-term lot. This will help minimize damage to the paint finish from road grit or gravel.
- Park vehicles from right to left at least 3 feet apart. Leave enough space front and rear to easily walk between rows.
- Turn OFF ALL electrical accessories, make sure windows and sunroof are closed, and check that the transmission is in "Park" (First or Reverse for manual transmission vehicles). Do NOT apply the parking brake.
- HVAC vent controls should be set to "Recirc" to minimize dust and odor intrusion.
- Make sure the plastic door edge protectors are in place and fold in the side view mirror (if applicable).
- Anti-rust covers or anti-rust film should remain on vehicle during storage
 1. Anti-rust covers (behind wheel) should be removed at PDS.
 2. Anti-rust film (applied to wheel) should be removed just prior to customer delivery.
- Wash vehicles frequently.

Battery

- After 30 days, and every 60 days thereafter, either start the vehicle and let it idle for 30 minutes, or charge the battery with the GR8 battery charger. Refer to Service Bulletin No. [T-SB-0195-17](#), "*Battery Maintenance During PDS*" for complete battery maintenance procedures.
- To reduce battery drain during long-term storage, remove the battery ground (–) cable of each vehicle and reinstall just before delivery to the customer. When the battery ground (–) cable is reconnected, check and reset electrical components, such as the clock, radio, etc., and re-initialize all applicable systems/functions.
- If a hybrid vehicle is put into storage, the State-Of-Charge (SOC) of its battery and auxiliary battery will gradually decrease. To prevent the auxiliary battery from becoming discharged during storage, proper maintenance is necessary. Refer to the applicable "*Maintenance for HV & Auxiliary Batteries*" Service Bulletin for procedure and additional information.

Long-Term Vehicle Storage Guidelines

Repair Procedure (Continued)

Tire Inflation Pressure

If the vehicle is parked for long periods without being moved, a flat spot may develop on each tire surface in contact with the ground, even if the tires are inflated to specification. Tire inflation pressure should be checked once a month.

Tire inflation pressure for storage ONLY: **45 psi**.

Parts Rust

If the vehicles in your storage area are exposed to a sea breeze and/or a significant precipitation, corrosion with rust in some parts may occur.

If rust is found, remove it, and treat it by applying rust inhibitor to prevent recurrence.

Engine/Hybrid System/Fuel Cell System Starting and Vehicle Movement

If the vehicle is stored over an extended period of time, starting and running the engine/hybrid system/fuel cell system periodically will ensure smooth running operation.

1. If the vehicle is equipped with a gasoline engine, start and operate the engine at an engine speed of less than 1,500 rpm for 15 minutes or longer.

Raise engine speed above 3,000 rpm 10 times to eliminate moisture from the exhaust.

NOTE

Be sure to allow sufficient clearance at the rear of the vehicle to prevent other vehicles stored behind from getting damaged by exhaust gas.

2. Move the vehicle at least 30 feet to lubricate the transmission/transaxle and differential(s), and to prevent tire flat-spot damage.

A/C Compressor Lubrication

To minimize the possibility of damage to the A/C compressor while storing a vehicle, perform the following recommended maintenance procedures at least once a month to lubricate the compressor.

1. Turn OFF A/C and blower switches prior to starting the vehicle.
2. Start/Ready-On the vehicle.

If the vehicle is equipped with a gasoline engine, allow the engine to warm up until engine idle drops below 1,000 rpm.

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Repair Procedure (Continued)

A/C Compressor Lubrication (Continued)

3. Turn ON the A/C system (including the rear A/C) using the following settings:
 - A. A/C Switch: ON
 - B. Blower Speed: High
 - C. Engine Speed: Below 1,000 rpm
4. Keep A/C ON with engine idling for at least 1 minute (in dual A/C vehicles, leave ON for 2 minutes).
5. Turn OFF A/C system and cycle ignition to OFF position.

Disc Brake Rotor Surface Rust Removal

The brake rotors are made of cast iron and may show gradual build-up of surface rust during long-term storage. At least once every 2 months, drive the vehicle and use the brakes normally, stopping from about 30 mph at least 20 times. This regular usage will help prevent severe rust build-up and the possibility of unwanted brake vibration concerns due to rust.

Figure 1. Slight Rust on Rotor (Easy to Remove by Braking)



Figure 2. Severe Rust on Rotor (Hard to Remove by Braking)



NOTE

- If the brake vibration still occurs after the braking cycle, determine the root cause of the brake vibration and repair.
- Brake rotor resurfacing may be required if the rust was severe and resulted in excessive rotor thickness variation.