

Service And Maintenance Manual

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Regular maintenance of your camper trailer is the best way to protect your investment. Scheduled maintenance is essential to maintain high level of safety and reliability for the camper trailer.

&WARNING

Do not get under your trailer unless it is on solid and level ground where the jack bracket is secured in place.

I. UPKEEP AND MAINTENANCE OF EXTERIOR AND AUXILIARY COMPONENTS

1. EXTERIOR WALL, ROOF

Some of the trailer's exterior components are made of fiberglass, metal, rubber and plastic materials. Their coating is durable but not indestructible. Exposed to pollutants from sunlight, moisture and air, any material or decoration will deteriorate over time, changing the surface of the material, resulting in dimming and fading. In general, changes in finishing due to weathering are superficial. They are on the surface of the component and will not affect its strength. Daily maintenance is the best solution in this regard. If the finish is not thoroughly cleaned and waxed, the surface will deteriorate rapidly. The following guidelines can help reduce effects of the weathering:

1) Wash the surface at least once a month with a mild liquid detergent. Do not clean the outer surface with strong abrasive tools. Do not use solid or granular cleaners as they can damage the finish. Do not use highly acidic or alkaline cleaning solutions, and the recommended pH is between 3 and 11. The cleaning solution should not contain strong solvent or alcohol. Avoid contact with window cleaning agents that contain ammonia. Wash the trailer in a cool place without direct sunlight, do not wash until the exteriors of the trailer cool down. Chemical solvents and strong cleaning agents may damage the trailer's siding, roof, metal and plastic trimming. Rinse the trailer thoroughly with cold water to remove loose dirt. Use a mild detergent, such as dishwashing liquid or a product made specifically for car or camper trailer cleaning. Clean the trailer with clean water and mild detergent solution, as well as a soft brush, sponge or soft cloth. Start at the top and work your way down.

After rinsing the entire exterior, dry with suede or a soft towel. Please note that drying naturally can cause exterior darkening and water spots. It is also important to check and repair the surrounding seal when drying the trailer.

2) Wax the surface at least once a year, preferably twice. Use automotive wax/polish, rather than abrasive cleaners or abrasive compounds. Wash and dry the entire trailer before waxing.

3) Clean the roof every two months. For general cleaning, use a mixture of mild liquid detergent and water, rather than solid or granular cleaners, which may damage the finish. Use mineral alcohol-soaked clothes to clean stubborn stains. Do not apply mineral oil in large areas, and do not soak mineral oil on the roof membrane.

&CAUTION

Wet roof is slippery.

2. DAMAGE INSPECTION

It is important to check the enclosure regularly for damage. Attention should be paid to the following items:

- Waste cylinders and pipes.
- Gas cylinder and assembly.
- Sealants applied around doors, roofs, vents and windows.
- External lighting.

3. SEALANT RENEWAL

The adhesives and sealants used in the trailer are meant to remain waterproof against the constant effects of weather and vibration. Even the best materials eventually dry out and fail under the constant heat of the sunlight, the erosion of other factors and the vibrations of the road. To protect the camper trailer from water invasion and damage, it should be thoroughly inspected and resealed for any defects found. Roof wiring, and sealants around doors and windows should be inspected at least every six months.

The affected area must be re-sealed if any of the following circumstances are found during the inspection:

- (1) Weathered or dried sealant.
- (2) Cracked or peeling sealant.
- (3) Hollow sealant.
- (4) Shrunken or separated sealant.

Clean all areas that require resealing. Ensure that all areas to be resealed are absolutely dry before applying the new sealant.

Check and tighten any loose fasteners. Do not make them over-tightened, or they will peel. If areas on the roof require resealing, remove any loose or cracked sealant, and do not damage the roof. Use wooden or plastic scrapers to prevent gouging, puncturing or otherwise damaging the roof. The roof may be cut or punctured by sharp objects. Continuously apply new sealant to the joints and flanges, and do not leave anything behind. Apply enough sealants to flow over the heads of all fasteners. Wait at least 48 hours for the sealant to set completely before cleaning or waxing the trailer.

4. DOOR AND WINDOW

Clean window frames and rails to ensure easy operation. Clean glass windows thoroughly with glass cleaners. Wipe all glass with a soft cloth or paper towel. Clean the seals every 3 months with a damp cloth or mild detergent, rather than strong solvents as they may damage the seals. Apply a layer of natural silicone lubricant on the dry seal to keep it elastic. Frequent lubrication is required if the trailer is exposed to salty air.

ACRYLIC WINDOW

Make acrylic windows look like new by using appropriate care, products and techniques. Prevent scratching acrylic windows with rough cloths, harsh soaps or cleaning products. Remove frosted dirt as far as possible without touching the surface when cleaning the window. Ideally, rinse the surface with water to soak the accumulated residue, and add mild cleansing solution to the water. Use non-abrasive soap, detergent and water. Use a soft sponge, cloth, or suede. Rinse frequently to keep it free of grit. Wash up and down or left and right, not in a circular motion. Finally, rinse with more water and dry with a clean soft cloth. Start at the top of the window, and use the clean side of the cloth after the other side gets dirty. Do not work in a circular motion.

&WARNING

Do not use abrasive, corrosive cleaners, alcohol or solvents as they may cause permanent damage to the finish. Do not use any petroleum cleaners or corrosive chemicals on acrylic windows. Do not use WD-40 (because it is petroleum-based). Never use a high-pressure nozzle to clean windows. Do not wash windows in direct sunlight.

5. AIR CONDITIONER

Check whether the air conditioner installation bolts are tightened after 1,000km driving. Remove the inner cover and inspect the four bolts located at the corners of the roof openings. These fasteners, which secure the air conditioner on the roof, also exert pressure on the sealing gasket between the air conditioner and the roof. Loose fasteners may lead to water intrusion around the roof opening.

6. TOP HOLD VENT

The vent can be cleaned from the top of the trailer. The filter mesh can be vacuumed or brushed gently to remove the accumulated leaves or other debris.

Lubricate gears and components annually with waterproof grease.

7. SKYLIGHT

Rinse the skylight with warm water at least four times per year. Wash gently with a soft cloth or sponge and mild soapy water to soften dirt. Do not scrub with a brush or scraper. Rinse repeatedly and dry with a soft cloth to prevent water accumulation.

II. INTERIOR MAINTENANCE

1. INDOOR ODOR

In hot weather, the new trailers may have strong odors, which may even irritate the eyes due to the glue used in cabinets and paneling. This situation may disappear over time. However, in extreme cases, you can open the access door and all windows for air ventilation for several hours.

2. FURNITURE AND CURTAINS

Curtains, mattress covers, indoor upholstery and wall mats are all made of quality materials and should be dry-cleaned only. Vacuuming regularly or cleaning with a soft brush can help prevent buildup of dirt and grime. Water- or detergent-based cleaners may cause shrinkage. Water damage can be permanent. Small spills should be cleaned up quickly to avoid contamination. Affected areas should undergo soil pick-up rather than friction to prevent the stain from entering deeper into the fabric. You may remove dirt and dust from vinyl interiors with a vacuum cleaner. Wipe with a soft cloth and soak with mild soap and water. Use the same solution in areas that are difficult to brush. Use a spray type or foam type vinyl cleaner.

&WARNING

Do not use paint thinner, nail polish remover, carbon tetrachloride, gasoline or naphtha for any cleaning, as these products may cause damage to the material being cleaned and are highly flammable or toxic.

3. WALLS AND CEILINGS

Do not use coarse scale inhibitor or abrasive on walls or ceilings. Most surfaces can be cleaned with a soft cloth dipped in a mild liquid cleaner in warm water. Do not use large amounts of water, as it may saturate the material.

4. FLOOR

Vinyl floors only require cleaning and regular waxing. Vacuum carpets regularly to remove dirt.

5. MAINTENANCE OF WOOD PRODUCT

Remove dust with a clean and slightly damp rag. Apply quality furniture polishes with a soft and dry cloth. Do not use harsh detergents or solvents.

6. MAINTENANCE OF LAMINATED BOARD

Clean the top of laminated board with mild dishwashing liquid and warm water. Use a soft cloth for washing and drying. Abrasive cleaners, steel wool or grit cleaners may damage the surface.

7. REFRIGERATOR

Clean the inside with a mild cleanser and water after each trip. Thaw the refrigerator and empty the ice tray. When thawing, place dry towels in the refrigerator to absorb moisture. Place the tray with hot water in the freezing chamber. After defrosting (when the freezing chamber and condenser are frost-free), dry the refrigerator with a clean rag.

8. SEWER

Do not use lye or any strong chemicals if the sink or shower drain gets clogged. Strong chemicals may damage plastics in the waste system. A standard drain is recommended.

9. BATHROOM MAINTENANCE

Non-abrasive cleaners are used for daily cleaning. Household fiberglass cleaners are recommended. Do not use harsh cleaners or abrasive cleaners. Do not clean surfaces with steel wool.

10. SINK MAINTENANCE

Do not use abrasive cleaners or washing powders. Abrasive cleaners may dull or damage product surfaces and may leave scratches. Do not use wash pads, steel wool or any other abrasive scrubber. Wipe with a soft cloth or sponge only. Always use a cutting board or sink protector when using knives or sharp objects. Cool the pan before placing it in the sink.

III. UPKEEP AND MAINTENANCE OF TENT

1. ANTI-MILDEW

Not drying a wet tent as soon as possible is one of the most likely reasons for damage to the tent. Mildew is likely to start forming on the fabric of a wet tent which has been stored for 24 hours in warm weather. Mildew can cause the waterproof coating to separate from the fabric, which can cause permanent damage.

Mildew is permanent. It cannot be removed without potential damage to the fabric coating and damages in this regard are not covered by warranty. Even if your tent looks dry after use, it is better to unfold it indoors and make sure it's completely dry before storage. Open the tent regularly to prevent odor accumulation and clothing deterioration.

2. CLEANING

There is no need to clean your tent unless it smells bad or becomes very dirty. If it is heavily contaminated, wash it by hand with warm water, sponge, and mild detergent-free soap. Do not use dishwashing liquid, detergent, bleach, pre-soak solution or stain remover. Wash with clear water. Prop up your tent until it dries. Never dry clean, machine wash or dry your tent, as each of these methods may remove the waterproof coating from the fabric.

3. SUNLIGHT AND ULTRAVIOLET RAY

Ultraviolet ray is one of the most harmful elements to your tent. Tents are often used under sunlight, and prolonged exposure may cause the fabric to fade, lose strength, and eventually tear. This effect is more evident at higher altitudes. Place your tent out of direct sunlight if possible. Damages due to ultraviolet ray are not covered by the warranty.

4. ANIMALS

Never store food in a tent to prevent animals from biting holes in the fabric.

5. JOINT SEAL

Superior fabrics and construction make your tent extremely waterproof. Seal only certain areas if anything goes wrong. Keep the joint seal inside and coat the shiny side. Prevent dried sealant adhering to other parts of the tent with baby powder or talcum powder.

6. CONDENSATION

Condensation is moisture that forms inside a tent due to the difference in temperature between inside and outside. It comes from three sources:

- Weather condition: high humidity. Cold and rainy conditions produce the most condensation.
- People: evaporation through respiration and skin.
- Humid environment: humid ground.

The key to reducing condensation is ventilation. Fresh air has to enter, while warm and moist air has to escape the tent. No tent can completely eliminate condensation in all conditions and good ventilation is the only effective way of eliminating condensation on a daily basis.

7. ZIPPER

Sand in the zipper teeth will cause wear and damage to the zipper slider. To use the tent in this case, please rinse the zipper teeth with water. Care for the zipper slider may extend the service life of zipper. Align the rails before zipping up.

IV. ANTI-FREEZE UPKEEP AND MAINTENANCE

Maintenance of internal temperature helps prevent water from freezing in storage cylinders, water cylinders, pumps and pipes. Turn on the hot air system to circulate the hot air through the water system component. Adding non-toxic antifreeze to the plumbing system is the most effective method. Install winter cover plate on the air conditioner. The equipment is powered by propane.

There are holes in the windows to drain water out of the window rails. During heavy rain and high winds, water can be blown into the trailer through these holes. Place a sponge on the track of the hole to prevent this situation.

1. ANTI-FREEZING MEASURES DURING VEHICLE STORAGE

SHORT TERM TRAILER STORAGE

- (1) Wash the external surface.
- (2) Park the trailer as horizontally as possible.
- (3) Before disconnecting the battery cable, check the battery level and charge it if necessary.
Power off the battery while cleaning the battery and battery case.
- (4) Drain reservoirs, toilets and fresh water reservoirs. Turn off the water pump and water heater.
- (5) Close gas cylinder valve.
- (6) Turn off the refrigerator, stove and oven burner valves.
- (7) Remove all food from the refrigerator and kitchen cabinets. Leave the refrigerator door open to reduce the accumulation of odors.
- (8) Open a roof vent (1/4).
- (9) Close and lock all windows. Ensure that the exhaust fan and range hood fan switches are turned off.
- (10) Cover and close the drain pipe, water inlet and fresh water inlet of the storage tank.
- (11) Turn off all radios, televisions, indoor and outdoor lights.
- (12) Close mini louvers and day/night window shades.
- (13) Disconnect 110V power cables and store in the compartment.
- (14) Check the trailer per week.
- (15) Inject non-toxic antifreeze into the waterway system pipeline, including the water heater pipeline.

LONG TERM LOW TEMPERATURE STORAGE

- (1) Perform two words short term storage steps.
- (2) Operate the air conditioner periodically to lubricate the compressor seal.
- (3) Remove the battery and store it in a cool and dry place. Check the battery level every 30 days. Charge it when necessary.
- (4) Check sealants of roof joints, vehicle body joints and sealants around windows, re-apply sealants when necessary.
- (5) Prepare the electric generator (if any).
- (6) Remove battery of the smoke detector. Keep the cover open, so as to replace the battery when necessary.
- (7) Enclose external vents, water heater, electric stove, air conditioner hood, range hood cover to keep insects and small animals out of the trailer.

Remove all covering material before using appliances and vents.

STORAGE AT SUBZERO TEMPERATURE

To prevent damage to pipes and other components, the trailer pipeline system should be drained and protected against freezing.

The following anti-freezing steps must be followed:

- (1) Perform all steps in long term and short term storage process.
- (2) Open the drain pipe of the water tank, empty the tank and keep the drain pipe open.
- (3) Turn on all hot and cold water faucets. Open the low point drain of the hot and cold pipes.
- (4) Open the drain plug at the bottom of the water heater and open the pressure relief valve to drain the water from the heater.
- (5) Press the flush pedal or hand lever. Close all faucets, water pipe drain valves, fresh water tank drain valves, water heater drain valves and pressure relief valves.
- (6) Disconnect the hose from the faucet and drain the shower head and hose from the inside out of the shower.
- (7) Discharge waste water in accordance with normal procedures for tank drainage.
- (8) Ensure all pipes are drained completely.

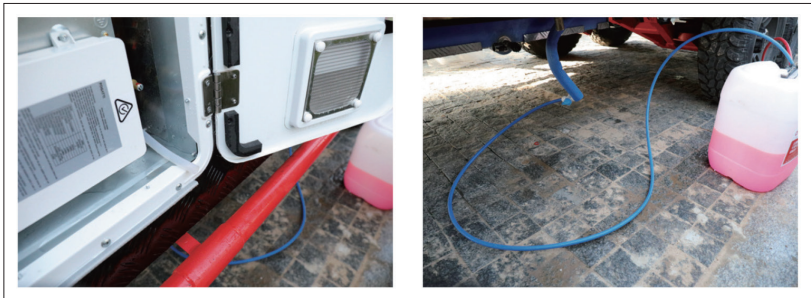
Finally, inject non-toxic antifreeze into the waterway pipes.

The drainage system alone fails to provide adequate protections against cold weather. Antifreeze is a must.

Do not use automotive antifreeze or windscreen cleaner antifreeze in the water system of the trailer as these are hazardous to health.

2. ANTI-FREEZING MEASURES FOR SUBSYSTEM COMPONENTS

WATER HEATER AND TANK



- (1) Ensure that the pump switch is off.
- (2) Insert the hose from the antifreeze valve into a non-toxic antifreeze container.
- (3) Turn the water heater bypass valve to bypass position and drain water from the heater by removing the drain plug and opening the relief valve. Turn on the faucet to relieve pressure. Open the low point drain of the hot and cold pipes.
- (4) Open the drain pipe of the water tank, empty the tank and keep the drain pipe open.
- (5) After the system is drained, close all faucets and low point drain valves.
- (6) Turn the anti-freezing valve to "anti-freezing" position.
- (7) Turn on the pump switch.
- (8) Turn on the hot water faucet furthest from the tank. When the waterway pipe is filled with antifreeze, let at least one cup of water flow into the drain to prevent the P-trap from freezing. This also applies to other hot and cold drainage outlets, including showers, toilets and outdoor showers.
- (9) Turn off the pump.
- (10) Turn on the faucet to relieve pressure, then turn it off.
- (11) Complete operation.

WATER HEATER SHUNT (IF ANY)

The water heater shunt valve located behind the water heater is used to protect the water heater from freezing. Rotate the handle to the shunt position, and the antifreeze will not enter the water heater. A small amount of antifreeze may protect the water system pipeline.



CAUTION:

Make sure to open the drain plug at the bottom of the water heater and open the pressure relief valve to drain water from the water heater.

- (1) Fill the tank with water.
- (2) Adjust the anti-freezing valve to the normal flow position.
- (3) Turn the water heater bypass valve to "bypass" so as to prevent antifreeze from entering the water heater.
- (4) Turn on the pump switch.
- (5) Turn on the faucet farthest from the tank and store the antifreeze in the container until clear water appears. Turn off the faucet.
This applies to other faucets and shower heads, including outdoor shower heads.

- (6) Set water heater bypass valve to normal flow position.
- (7) Turn on the hot water faucet until water runs out.
- (8) Inject antifreezes.

You are assumed to carefully store the trailer and take effective anti-freezing measures in the above procedures. Failure to follow above steps may lead to extensive freezing damages or other serious damages.

EXTERNAL AREA

- (1) Thoroughly inspect the outside of the trailer and open all doors and windows. Check for animal or insect invasion or other damages.
 - (2) Remove all appliance vents, ceiling vents and air conditioning covers.
- Make sure openings of the stove, water heater and refrigerator are clean and free of debris, insect nests, cobwebs, etc.

CAUTION:

Spiders and other small insects may crawl into the burner tube. Spiders may spin webs, build nests or lay eggs there. These webs and nests may be very small, but strong enough to stop the gas flow.

V. THE FOLLOWING MANDATORY UPKEEP ITEMS MUST BE IMPLEMENTED BY BLACK SERIES CAMPER 4S STORES OR PROFESSIONAL UPKEEP OR MAINTENANCE SERVICE PROVIDERS TO GUARANTEE THE TRAVEL SAFETY.

Compulsory maintenance item	Maintenance content	First maintenance	Maintenance period
Wheel hub assembly	Check whether the wheel retaining bolts and nuts are loose, check bolt wear, and retighten or replace hub nuts or bolts according to the inspection result. Replace the bolts and nuts if there is a potential hazard related to wear. Replace wheel hubs with cracks, pits or other damages.	First maintenance at 1,000km mileage	Receive maintenance once for every 5,000km mileage, or at the 6th month if the mileage is less than 5,000km
Tires	Check for wear, bulge, cut or other damages, and replace the tire in case of any hidden danger. The tire pressure must meet the requirements of the selected tire specification.		
Brake assembly	Disassemble the brake hub to check the fastening and wearing conditions of the fastener, the loss of lubricating grease and check if the bearing is working normally. Check whether the brake wiring is exposed or worn. Check whether the bearing is corroded or worn, clean or reassemble it, and readjust the brake operating clearance. Replace the bearing every 10,000km mileage, and		

Compulsory maintenance item	Maintenance content	First maintenance	Maintenance period
	replace it immediately in case of any abnormality during maintenance.		
Damper	Check for leakage, and test damper performance.		
Hand brake	Check the brake performance, adjust the brake wire.		
Towing device	Check bolt status and lubricate the spring fixing part of the towing device.		
Brake synchronizer	Check its performance against standard requirement.		
Electromagnetic brake system	Check whether the brake pad, electromagnetic system and circuits are worn, whether such wear is normal, and check contact sensitivity. Clean the system again. Check the electromagnet wear, electric current attraction, and replace with new brake parts in case of any hidden danger.		
Electric system	Check the electric system and equipment, ensure they are operating normally, repair and upgrade the electric system.		
Gas system	Check and maintain gas system, equipment and safety components.		
Water system	Check whether the water pump and water level gauge are normal and whether the pipeline leaks.		
External signal light of trailer	Check whether the turn light, brake light, clearance lamp, parking light, fog light, reversing light, license plate light and alarm light are working properly.		
Indoor light	Check whether all indoor lamps are working properly		
Gas alarm	Test the sensitivity in gas leak alarm, and battery level.		
Air conditioning system	Check whether the air conditioner works properly, whether the air conditioner is clean, and whether the air conditioner components are damaged.	First maintenance at 1,000km mileage	Receive maintenance once for every 5,000km mileage, or at the 6th month if the mileage is less than 5,000km
Control panel	Check whether the control switches on the control panel work normally.		
Electric step	Check whether the electric step and component function are normal.		
Stereo system	Check whether it is working properly.	First maintenance at 1,000km mileage	Receive maintenance once for every 5,000km mileage, or at the 6th month if the mileage is less than 5,000km
Water tanks	Check for damages or leaks.		
Fuel tank	Check for damages or leaks.		
Battery	Check batter charging and discharging functions, and check whether the electric power storage capability is normal.		
Inverter	Check whether it is working properly.		
Power supply system circuit	Check whether external cables are in good condition, whether connection terminals are fastened, and whether sockets are normal.		
Charging system	Check whether the solar charging and solar panels, modules/Andersen charging system/shore power charging system are working properly, check functions of components.		
Electric leakage protection	Check whether it is working properly.		
Spare wheel carrier	Check whether it is fastened firmly.		
Chassis bolt	Check whether it is fastened firmly.		
Balancing of tires	Dynamic balance check		

Remarks: warranty period of consumables and wearing parts is 6 months.

&WARNING

A change to metal stress between the hub and the fastening nut (bolt) will cause loosening of the fastening. Wheels falling off may result in serious safety accidents or even casualties. Check and tighten nuts (bolts) before each trip.

&WARNING

Reinstalled hub assembly nuts are easy to loose and must be checked for the tightness of clamp nut in the first 20km, 50km and 80km mileages.

HUB NUT FASTENING (TORQUE)

Ensuring fastened wheel mounting nuts and proper torque for the trailer is an important safety responsibility that users need to familiarize themselves with and practice. The user must perform maintenance on the hub assembly for the sake of safety. Insufficient or inappropriate torque (tightness) of the wheel nut is the main reason for the loosening of the bearing nut in use. Loose nuts can quickly lead to wheel separation with serious safety consequences. However, excessive tightening will lead to bolt fracture or permanent deformation of bolt holes installed on the wheel, which will also cause serious safety accidents and even casualties related to wheel shedding.

- Check hub nut tightness before each trip.
- The only way to ensure tightness or torque of the nut is to use a torque wrench. Tools like a four-way wrench can be used for short-term emergency repairs, but they are not suitable tools for checking nut torque accurately. The torque wrench is a must to indicate exactly how much torque you are applying to the nut.
- Note the mileage when you check nut torque. Determine the time of the next maintenance.
- Please immediately resort to professional maintenance service providers in case of any persistent nut loosening.

CAUTION:

Tighten the nuts in the sequence shown in “Nut Tightening Sequence”. Nuts loosen easily after the first assembly. For the installation and fastening procedures of hub nuts, please follow Section 7, Chapter IV of the manual “Correct Tightening Torque of Hub Nut Is Critical to Driving Safety”.

Never install non-original wheel hubs or nuts on your trailer. The non-original hub and nut cannot meet the load bearing and offset of the original equipment, and other safety technical requirements. Do not install aluminum wheels on hubs/studs designed for steel wheels. The stud length required by aluminum wheel is larger than that required by steel wheel.

TIRES

&WARNING

Please check the tire pressure before driving and make it reach the standard value. Check tire pressure when it is cold. Do not check the tire pressure immediately when the trailer stops after traveling a certain distance (even if only 1–2km), keep the tire cool for at least 3 hours. Check the sides of each tire for bubbles, cuts, or bulges. An inflated side with bubbles or cuts could cause the tire to burst. Worn, damaged or underinflated tires can cause the vehicle to lose control. Replace the broken tire before towing the trailer. Off-road trailer tires are replaced every 20,000–30,000 km mileage or 3-year service life under normal conditions, whichever comes first.

Replacement tires must conform to the specifications of the original tires. Mismatched tires and rims may cause tires to fly out and blow out due to unbalanced forces, resulting in serious casualties.

For precautions on tire installation and maintenance, please follow Section 6(1) of Chapter IV of the manual “Safety comes first – basic maintenance of tires”.

RIM

&WARNING

If the rim of the trailer gets hit or hits a hard curb, check the rim for damage (roundness); replace damaged rims. Check the rims for damage during regular professional maintenance even if no apparent collision has occurred.

WHEEL BEARING

&WARNING

Loose, worn or damaged wheel bearings are the most common causes of braking system failure, as well as one of the important causes of tire shedding. Check the bearing. Replace the bearing if it can shake the rim or swing the wheel. Bearings are high-precision safety parts, and ordinary users may fail independent maintenance due to limited knowledge or experience. Therefore, the lubrication, inspection and maintenance of bearings must be carried out by professional institutions.

ELECTRIC BRAKE

There are two different types of electric brakes on the trailer. One is the emergency electric separation system, which only works if the trailer detaches from the towing device and the separation pin is pulled down. The other is the electric brake system, which starts to work when the trailer's brake is activated. The brake system has been trialed and tested when leaving the factory. The maintenance of the brake system is of vital importance. The friction disc, electromagnetic system and friction clearance must be kept in normal working state. It must be maintained by professional maintenance service providers every 5000km mileage, and professional overhauling and maintenance are required immediately in case of any abnormal braking in daily driving.

&WARNING

If the electric separation brakes do not work when the trailer is separated from the towing vehicle, casualties or serious safety accidents may occur. Check the emergency separation brake system before each trip. The electric brakes running with the tractor brakes must be synchronized so that the brakes are correctly assigned to the tractor and trailer brakes.

SIGNAL LIGHT

Check the operation of lights (signal lights) outside the trailer before each trip. Make sure the tractor and trailer have synchronized light signals. Damaged signal light cannot send clear signal of driving intention to the following vehicle, thus causing misjudgment of the following vehicle, resulting in traffic safety accidents. Do not break the sealant around the lamp when replacing the cover bulb. Install new lamps with sealants satisfactory to original factory standards.

BATTERY SYSTEM CHARGING

The trailer is equipped with batteries to power lighting, electric retracting gear, skid and other AC electrical equipment. Batteries are charged by the tractor, generator or shore power. Disconnect the battery switch if the trailer is not used for a long time (such as in seasonal storage). Check the battery, Andersen charging system, inverter, solar charging system terminal posts and connection terminals regularly, and correct and maintain them immediately if they are loose. Regularly test the electric performance of Andersen charging circuit, inverter charging (discharging) circuit and solar charging circuit, and maintain and repair the problems found in a timely manner.

FRESH WATER SYSTEM

- (1) If anti-freezing measures have been taken for the fresh water system, drain the antifreeze from the fresh water system.
- (2) Turn on the pump and turn on all faucets until the antifreeze stops flowing.
- (3) Open the water heater bypass valve.
- (4) Flush the fresh water system as described in the "fresh water system" section.
- (5) Operate all faucets and fixtures for the fresh water system. Check all connections and fittings for leaks. Repair when necessary.

GAS SYSTEM

Check the gas path system regularly. Open the gas cylinder valve, check the air valve and T-shaped connector for leaks, check the pipeline for cracks or damages, and check the tightness of the connection between the pipeline and the equipment. Operate each gas appliance. Observe the color of burner flames and ignition flames.

VI. EFFECTS OF LONG-TERM STAY AND UPKEEP & MAINTENANCE

The trailer is designed for recreational purposes and short term use. To use it for an extended period of time, you need to be prepared to deal with problems including condensation, excessive humidity, and possible damage due to moisture, such as mildew. The materials and process chosen to construct the trailer are designed to minimize air leakage and create a weatherproof enclosure. However, to protect your investment and reduce the risk of moisture-related damage and repair expenses, care must be taken to manage moisture inside the trailer.

The relatively small space and airtight structure of modern recreational vehicles means that even the normal activities of a few people can cause the moisture contained in the air inside the trailer to quickly saturate and become visible, especially in cold weather.

Just as moisture collects on the outside of a glass of cold water on a wet day, moisture condenses on the inner surface of the trailer in the event of high relative air humidity in cold weather. This situation may appear more frequently, as the trailer's thermally insulated wall is much thinner than house wall. According to calculations, a family of four can evaporate up to 4.5 litres of water a day by breathing, cooking, bathing and washing. Unless brought outside by ventilation or condensed by a dehumidifier, the water vapor condenses as moisture on the inside of windows and walls, or as frost or ice in cold weather. It may also condense unseen inside walls or ceilings, where it will show up as warping or stained panels.

These conditions indicate a serious condensation problem. In case of signs of excessive moisture and condensation in your trailer, you should take steps to minimize the effects.

Caution: The trailer cannot serve as a permanent house. Long-term or permanent use of this product may cause premature aging of structures, interior finishes, fabrics, carpets and curtains. Damage or deterioration due to prolonged use is not considered normal and constitutes misuse, abuse or negligence under the warranty terms and therefore may reduce your warranty protection.

Signs of excess moisture may be obvious, such as droplets forming on the surface. It is important to identify the causes of excess moisture in a timely manner and take appropriate corrective actions to prevent moisture-related damage.

Monitoring and controlling the relative humidity inside the trailer is one of the most important steps to minimize the risk of moisture-related damage. Ideally, the relative humidity should be 60% or less. Relative humidity can be monitored with a portable hygrometer.

Exhaust fans, air conditioner/or a portable dehumidifier may be used to control moisture in the trailer and keep the relative humidity at 60% or less. In cold climates, relative humidity may need to be 35% or lower to prevent window condensation problems. If the trailer is used in a hot and humid environment most of the time, it may be difficult to keep the relative humidity below 60%. Dehumidifiers can help.

Lower surface temperatures increase the likelihood of condensation and surface mold growth.

Moisture in the air condenses on cool surfaces, such as windows. If you leave the trailer for an extended period of time, we recommend that you do not set the temperature back without taking other steps to control the relative humidity, including using a dehumidifier. Window condensation problems can be identified by water or icing, usually at the bottom of the window. Most of these problems can be solved by controlling the moisture generated inside the trailer. Minor condensation problems are not uncommon, especially for trailers used in cold climates. The key is to maintain reasonable relative humidity in the device.

To minimize window condensation, use exhaust fans that open to the outside, prevent drastic changes to thermostat settings, do not use "vent free" heaters, use curtains wisely. Or open curtains or louvers in the daytime to allow air to circulate and protect window surfaces.

Storage areas are more difficult to adjust because they are isolated from the main body of the trailer. The surfaces of these areas are more prone to condensation and surface mold growth. To minimize this risk, please clean storage areas regularly and allow air space between stored items and exterior walls to facilitate air circulation. For prolonged use in very cold weather, keep cabinet and closet doors partially open to warm and ventilate the interior of the storage room built against the exterior wall. The airflow will heat the exterior wall surfaces, reducing or eliminating condensation and minimizing possible icing.

Non-ventilated combustion equipment, such as the stove, is the source of moisture in the trailer. For every liter of fuel consumed, about a liter of water vapor evaporates into the air. Where possible, use exhaust fans in conjunction with any non-ventilated combustion equipment in the trailer. Water vapor and other combustion by-products should be vented to the outside of the trailer. You need to strictly follow the instructions for use and maintenance, so as to safely operate any combustion equipment, especially non-ventilated equipment.

The trailer's enclosure is the main barrier against weather and moisture. The enclosure requires regular maintenance throughout the life cycle of the trailer. The enclosure includes the trailer's roof, side walls, windows, doors and floors. Special care should be taken to ensure that these components are maintained, and to ensure tight barriers against water intrusion.

The exteriors should be inspected periodically for tears, cracks and sealant conditions. Areas requiring maintenance should be resealed with a high quality sealant similar to that used in the trailer manufacturing process.

Special care should be taken to ensure the normal operation of the slide-out device. Each time the slide-out device is used, it should be checked to ensure proper operation and sealing. Slide-out gaskets should be checked to ensure proper sealing of slide-out operation.

It is important to remember that coverage area of the trailer is significantly smaller than that of a single family house. This fact alone will increase relative humidity because there is less air to help absorb or dissipate moisture. For example, showering and cooking may create a lot of humidity in a small area. In these cases, the operating exhaust fans and open windows can reduce relative humidity, especially for prolonged residence in the trailer.

For prolonged use of the trailer in harsh environments (such as extremely cold or hot humid climates), extra care and maintenance are required to avoid moisture-related problems.

In extremely cold and hot humid climates, more attention needs to be paid to controlling relative humidity inside the trailer. It may also be necessary to keep relative humidity within acceptable limits with a portable dehumidifier.

Care must be taken to ensure that wet air sources are addressed during the time when the trailer is not in use. An enclosed climate-controlled environment is ideal for the storage of a trailer.

If this environment is impossible, the following steps should be taken for moisture control:

- Shut off all water sources.
- Turn off all combustion appliances.
- Empty the water tank.
- Empty the water heater.
- Open all closets, cabinet doors and drawers.
- Close all windows and access doors.
- Open the vents for limited air flows, prevent rain or snow from entering.
- Use dehumidifiers that open to the outside to control the humidity inside the trailer in the event of storage in high humidity climates (relative ambient humidity is above 60% all year long)

Areas exposed to water spills or leaks should be dried as soon as possible within 24-48 hours. Rapid drying minimizes the chance of moisture-related damage and possible mold, which may begin to form colonies within 48 hours.

Drying may be facilitated in the following methods:

- Vacuum to remove excess water.
- Use a dehumidifier.
- Use portable fans to flow air over the surface.
- Take all signs of condensation and overflow seriously and treat them promptly, as moisture is the key to mold growth. Failure to deal with moisture problems in a timely manner may lead to more serious problems that didn't exist in the first place, or make small problems worse.
- Learn to recognize the signs of mold. Do not cover up suspicious discoloration until you are sure it is not mold. Affected surfaces must first be cleaned and dried.
- As part of your cleanup, be sure to understand and eliminate sources of water buildup. Otherwise, this problem will happen again.
- Clean immediately when there is a small amount of mold. Clean small mold areas with stain remover or soap solution or appropriate household cleaners. Cleaned areas should be dried thoroughly. Discard any sponges or rags used to clean mold.

After purchasing a new trailer and using it for a period of time, you may notice some strong odors and feel some chemical sensitivity. It is not a trailer problem. Many different products are used to build your trailer. Some of these materials, such as carpets, linoleum, plywood, insulation, and upholstery, may “discharge” different chemicals. This discharge is particularly evident when the materials are new or exposed to high temperature and/or humidity. Because of a much smaller size of the trailer compared to your house and lower frequency of air exchange inside the trailer, the concentration of these chemicals in the trailer is more pronounced. This situation may disappear over time. However, in extreme cases, you can open doors, windows and vents for air ventilation for several hours.

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