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XT16-HR East West

User Manual and Guide



2019 Model Shown

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Read owner's manual before using the equipment. Third party component manuals should be read in conjunction with this manual. Maintenance guidelines must be met or exceeded, failing to meet these guidelines may result in serious injury or death and property damage. Specifications may change without notice.



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INTRODUCTION



WARNING– Before using this product you should read this manual and those manuals supplied by component manufacturers applicable to this product.

This manual is supplied as a reference to required maintenance of the product. Failure to use and maintain the product in accordance with what is outlined in this manual may affect your warranty.

Incorrect and/or insufficient maintenance may cause product failure resulting in property loss, damage or injury or death. Maintenance intervals are critical for normal use, extreme use may require shorter or additional maintenance intervals.

Manual content does not imply. express or other any warranty, the owner should read the limited warranty terms included in this booklet.

Before using this product, you should be certain your tow vehicle is suitably rated and equipped to tow the product safely and legally. The trailer and vehicle pairing must we within the safe "Maximum Towing Capacity", "Ball Weight Capacity" and "Gross Combination Mass" as stated by the vehicle manufacturer.

This caravan is fitted with electric brakes and a "Breakaway System". Requirements for breakaway systems can vary from state to state. It is mandatory to supply a maintenance charge to the breakaway battery source while driving. You MUST ensure this capability is fitted to your vehicle. The maintenance charge is supplied to the caravan via the Anderson plug on the drawbar.



Store Locations

aboolture Boeing Place aboolture QLD 4510
Boeing Place
-
aboolture QLD 4510

Contact Details

NATIONAL TOLL FREE	WARRANTY HOTLINE	SPARE PARTS
1300 4X4 4X4	1300 MDC CARE	1300 MDC PARTS
1300 494 494	1300 632 2273	1300 632 72787

ABOUT YOUR HYBRID OFFROAD CARAVAN

Specifications

Style (Hard Floor, Soft Floor, Hybrid) Hybrid offroad caravan



Wheel Track	2170mm
Distance Wheels to Front	4500mm
Distance Wheels to Rear	2400mm
Tare	Approx. 2100kg
АТМ	2800kg
Drawbar Construction	150mm x 50mm x 4mm
Chassis Construction	150mm x 50mm x 3mm
Body Construction	Aluminium composite panel fully welded frame + chassis
Suspension	Independent trailing arm suspension with 4 x shock absorbers and coil springs
Awning	4 Metres Wide, 12V Electric Open/Close
Wheel/Tyre Info	4 x 265/75 R16 Goodride radial mud terrain
Water Tanks	2 x 80L fresh water, 1 x 80L grey water
Brakes	12" Electric with hand brake & brake away system
Stone Guard	Aluminium & mesh
Gas Cylinders	2 x 9kg gas cylinder holders
Jerry Cans	2 x 20L jerry can holders
Kitchen Construction	146L Thetford Compressor internal fridge. Internal Kitchen with Thetford Oven & Cooktop, External 304 grade stainless steel kitchen with 3 burner Dometic gas cooktop.
Water Delivery	12V Electric Pump
Toilet (Ensuite)	Dometic Cassette toilet
Charger (240V)	35A 7 stage full auto 240V charger +projecta
Booster Charger	Projecta IDC 25-9-32V 25A 3 stage
Inverter	1000W modified sine 240V inverter
Outlets	Multiple 12v & USB
Structure	Fully welded frame + chassis
Finish	GAL chassis & aluminium composite panel
Jockey Wheel	10" Swing-Up and Lockable
Light Connection Plug	12 Pin Flat
Stabiliser Legs	4 x heavy duty lockable and adjustable drop-down

Bearings and Seals

Cone: 25520

Bearings are a consumable item should be removed, inspected and repacked with grease every 5,000km and replaced every 10,000km as best practice. See maintenance schedule for guidance. Bearing Number: Inner Bearing 25590 Outer Bearing 25590 Seal: 55 x 85 x 12

Cone: 25520



Fridge Fitting Chart

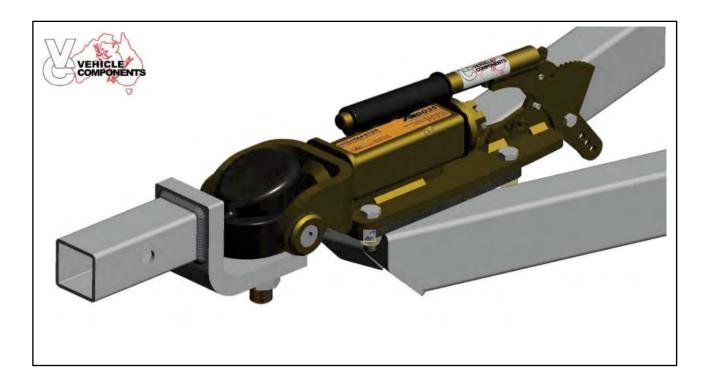
Dimensions: 540mm Wide x 840mm Long x 470mm High

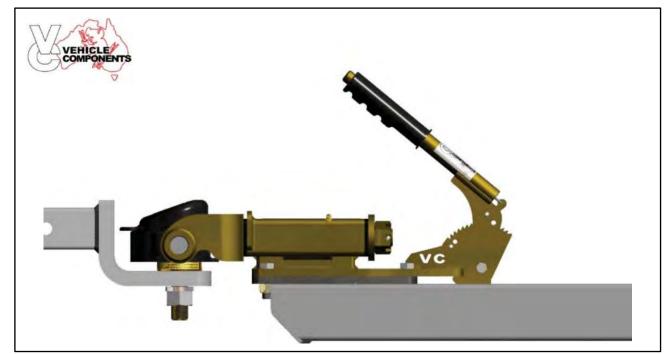
Engel	Dometic	Evakool	Bushman	Ironman	ARB
MT35FP	CFX-28	RF40	35L	30L	Elements 60
	CFX-35	RF47	45L		35L
	CFX-40	TMX35			
	CFX-50	Glacier 30			
	CF80ACVERB	ED85			
	CF80ACDZVERB				



How to Hitch your coupling

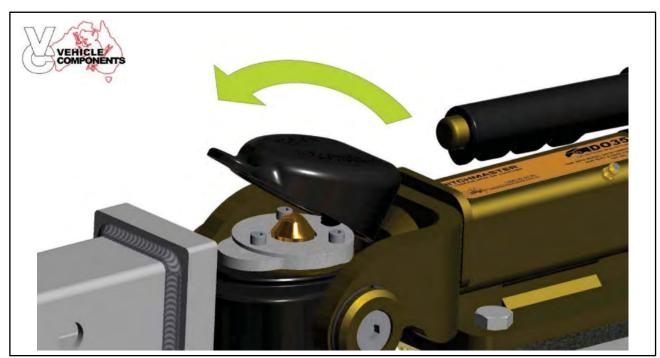
Here is a short guide on how to safely use your coupling to couple and uncouple the trailer from the towing vehicle.





Make sure the handbrake is applied prior to coupling and uncoupling.





Make sure the dust cap is securely connected to the bump cover. This is done by locating the rear lip on the dust cap onto the groove of the bump cover and then pushing it in a downward motion until the dust cover is secure (there should be a slight click when it has been assembled correctly) Test if the dust cover is connected to the bump cover by applying a slight upward force to the dust cover, it shouldn't separate. This procedure should be applied if you are uncoupling or coupling up.



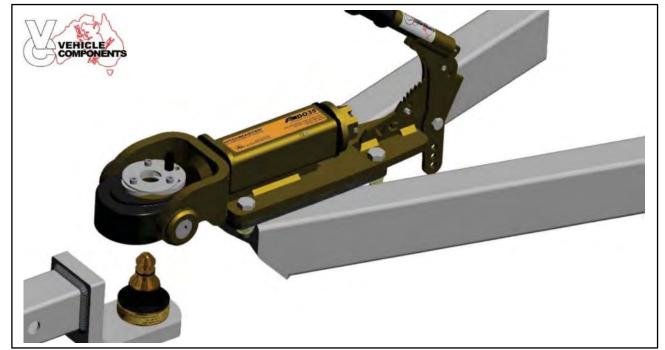
Coupling

STEP 1



Push down the button (1) and push the locking mechanism back (2). When the locking mechanism (2) is all the way back, release the button (1) locking the plate in place

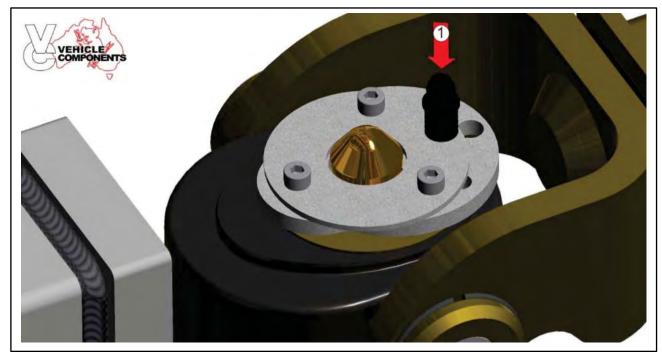
STEP 2



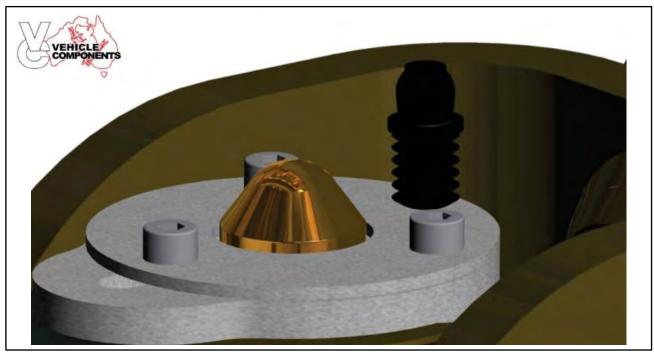
Offer up the tow pin to the coupling making sure the tow pin cover is removed and there is no visible debris on it. Locking plate should be in unlocked position as shown. Lower the coupling onto the tow pin.



STEP 3



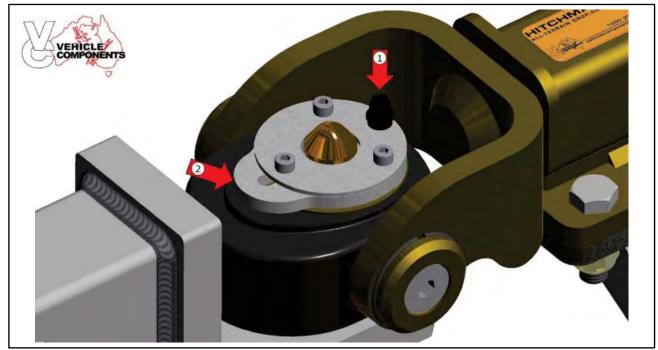
Make sure the tow pin is seated inside the universal and the tow pin top is sticking out of the locking mechanism (see below). Press the button (1) to release the locking mechanism there will be an audible locking noise at which point the mechanism will return to the initial position as shown in step 1. Verify the pin is correctly through the mechanism and assemble the cap. If the cap will not fit check the locking mechanism is in the correct locked orientation.



Detail view of pin through locking mechanism.

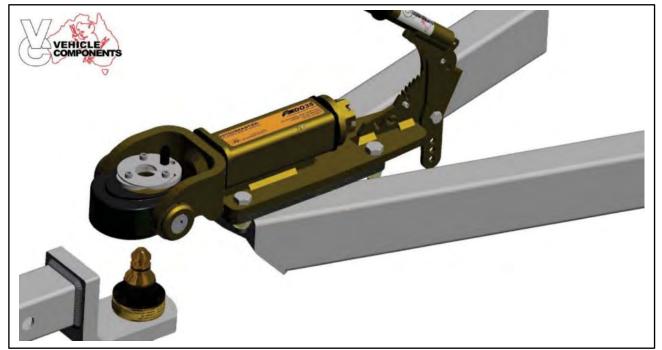


STEP 1



Push down the button 1 and push the locking mechanism back 2. When the locking mechanism is all the way back release the button while holding the mechanism to ensure it does not spring back to the locked position.

STEP 2



Lift the coupling up off the tow pin.



Setting up your Caravan

Loading Your Caravan

It is important to load your caravan correctly to distribute weight evenly and achieve a suitable ball weight load and prevent loading in a manner that can cause a caravan to sway and/or roll excessively left and right. The optimum ball weight on a caravan is between 9 and 11% of the total caravan weight.

WARNING: BALL LOADING (DOWNWARD LOAD ON TOW HITCH) MUST NOT EXCEED 350KG OR THE MAXIMUM ALLOWABLE LOAD BY THE VEHICLE MANUFACTURER OR TOW BAR RATING, WHICH EVER IS THE LOWEST. Exceeding these limits may result in an accident causing serious injury or death and/or property damage.

- Always load evenly to both sides of the caravan
- Load heavy weight over or as close to over the axle as possible and as low as possible
- Overhead cupboards should only be used for lightweight items such as clothes, personal items, bedding etc.
- Heavy cooking equipment should be stored in lower cupboards.
- Tinned food, bottled goods for cooking etc should be stored in the pantry cupboard.
- Never load in a manner that causes the ball weight to exceed the limit of the tow vehicle.
- Ensure no items can move during travel. Secure all items to prevent damage to the caravan.
- Consider water tank levels and how they may affect the balance front and back and the percentage of ball weight.
- Never store heavy items in overhead cupboards.

The diagram below illustrates best placements of items based on weight.



Choosing a Spot to Set Up

When choosing a spot to set up your caravan, start with a flat area with no overhanging trees. Birds and bats occupying trees can defecate leaving droppings on your caravan that can damage paint and leaves and sap can also stain the coating. Ensure you are not camping in an area prone to flooding or with bad drainage in the event of rain. Even the slightest hollow in the ground can put you in a mini lake. In hot weather if possible, set your caravan up so the sun's arc goes from front to back or back to front with the annex/awning in the general direction the sun is arcing across. Doing this will keep the bulk of the caravan in shade and the inside cooler as it will be shaded by the awning.



Levelling Your Caravan

The stabiliser legs on your caravan are not designed for supporting the full weight of the trailer, they are there to stabilise it once it is level. Using your stabilisers as a lifting mechanism will void your warranty as will extending them with a "rattle gun" or "impact wrench". Levelling front to back can be done by raising and lowering the jockey wheel prior to adjusting the stabiliser legs. Getting the trailer level from left to right should be done with drive on stepped ramps as illustrated below. Once levelled the legs can be lowered to keep the trailer stable. On soft ground you may want to use timber sole boards under the stabiliser feet.



Site Power

The Projecta charger in your caravan is connected via the 15A exterior socket. To use site power you will require a 15A power lead connected to a 15A outlet. In the event a 15A outlet is unavailable you will need a conversion box that will step up from 10A to 15A with a safety switch. Never leave power leads coiled when in use, lay the lead out back and forward in a manner that won't be a trip hazard or risk damage to the lead.



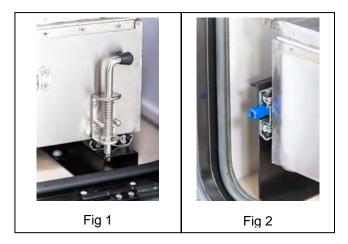
Electric Awning

When extending the awning always support the front as it extends. Do not allow the awning to carry the full extended weight as this may damage the hinges. Support the end manually by hand or by using the extendable legs.



Kitchen

To extend the kitchen from the caravan, release pad bolt (fig1) and press down the blue slide tab (fig 2) and pull kitchen out. The kitchen will lock into place when extended. To put kitchen away, again press down the blue tabs and push back into place.



To connect the gas, plug the gas bayonet into the outlet pictured below.



Preparing for Bad Weather

During inclement weather the following should be done:

- Close all roof vents and hatches to prevent water entering.
- Protect the awning from high winds by retracting or securing with guy ropes and pegs.
- Ensure your caravan is not parked in ground that will become boggy and prevent exiting the camp area
- Lower annex corner poles to create a pitch steep enough to allow all water on roof to run freely off the canvas. Do not allow water to pool.
- Close all external doors and hatches to prevent water ingress and wind damage



Packing Down Your Caravan

When packing down your caravan ensure the following:

- All gas and electric appliances are turned off
- Gas is turned off at the gas bottle
- All loose items are secured and unable to move and damage themselves or the caravan
- All cabinet doors are secured and locked along with all drawers closed
- Site power lead is removed and stowed
- Doorstep is raised and secured
- All roof hatches lowered and secure
- All windows closed and locked
- Main door is closed and locked
- All dust covers in place and secure
- Secure Ensuite doors and close toilet

Storage & Care

Long Term Storage

To maximise the life of your caravan you should consider additional protection from the elements. UV light and moisture can have an adverse effect on materials when left unprotected outside. This section outlines some of the things you can do as an owner to protect your investment.

Interior

Moisture in the smallest amounts can cause mould. High humidity and cooling temperatures can create condensation, additionally condensation can form under mattresses due to temperature differences between warm bodies on top and the bed base being cold from outside temperatures. As a precaution you can do the following:

- Check under mattress for moisture before packing up. If moisture is found allow to thoroughly dry before closing your camper.
- Store 1 or 2 moisture absorbing packs/dehumidifier packs in the caravan to draw away any residual water vapour.
- If packing up with damp or humid conditions, open and dry out the caravan at the first opportunity when returning home.

Exterior

Ensure all seals on the caravan have proper compression at 30-50%, are free of dirt and have nothing protruding past the seals. UV light and the elements can over time cause seals and fittings to perish and become brittle. The use of a caravan cover will extend the life of components and keep your investment looking better for longer.



When parked and unhitched you should always use suitable wheel chocks to ensure the trailer can't move in the event of a handbrake failure. For security a wheel clamp or and hitch lock are highly recommended.



Torque Settings

Wheel Nuts

Wheel nuts should be tightened to correct torque using a torque wrench. Never trust a "rattle gun" as these may over or under tighten. A quality torque wrench will ensure nuts are tightened correctly. It's important to remember to check your wheel nuts at 50km, 500km and 1000km and periodically thereafter. The correct torque setting of 125Nm for 12mm studs, 140nm for 14mm studs with alloy wheels and 200nm for 14mm studs with steel rims. Refer to the plate on your drawbar.



Hitch

The high tensile bolts securing your hitch should be tightened to 76Nm. These should be checked at 5000km intervals or 2500km in harsh off-road conditions.

Trailing Arm Pivot Bolts

The pivot bolts are a high tensile steel. The service interval for these bolts is 5000km under normal use and 2500km for harsh off-road conditions. During travel they should be inspected daily to ensure they have not rotated or become damaged. Correct torque is 190Nm

Brakes and Handbrake



Features

Your trailer is fitted with electric brakes that require a brake controller that can be operated from the driver's seat.

- 1. Manual adjusted to provide the correct braking capability for varying road, off-road and load conditions.
- They can be modulated to provide variable braking force, thus easing the brake load on the towing vehicle.
 There is very little lag time between the moment the tow vehicle's brakes are actuated and the moment the
- trailer brakes are actuated.4. They can provide some braking independent of the tow vehicle in the event of an emergency.

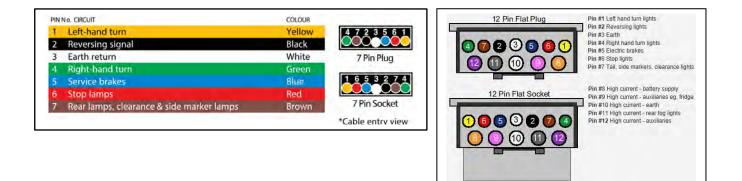
Operation

When electrical current is fed into the system by the controller, it activates the electromagnets in the brakes. These electromagnets are energized and are attracted to the rotating surface of the drums which moves the actuating levers in the direction that the drums are turning thus applying pressure from the brake linings to the drum surface

Trailer Plug Wiring

The following diagrams outline the correct wiring for 12 pin plug

Your car must be fitted with a 50amp Anderson plug to maintain charge to the batteries whilst driving. Power must be connected to the number #12 pin while the car is running to activate the DC to DC charger to accept charge from the Anderson plug.



Breakaway Switch

By law, all trailers with an ATM of 2000kg or greater must have a "Breakaway System" to halt the trailer in the event it becomes detached from the tow vehicle whilst traveling. Your caravan is fitted with this system with the switch mounted on the drawbar with a steel wire lanyard to connect to your tow vehicle. In the event that the caravan



becomes detached, the lanyard will pull the pin from the breakaway switch and the onboard batteries will activate the brake system. The lanyard must be attached to a solid part of the vehicle. It is a mandatory requirement that power be supplied by the tow vehicle to the breakaway power source while towing. This is done via the 50amp Anderson Plug on the drawbar. Consult a qualified auto electrician to ensure this is fitted to your tow vehicle.

In NSW there is an additional requirement that the breakaway power source be monitored from the driver position with a minimum of a "visual alarm" for low battery voltage. Consult a qualified auto electrician to ensure this is fitted to your vehicle.

Breakaway Switch



Anderson Plug



CAUTION:

- DO NOT CONNECT THE BREAKAWAY LANYARD TO THE SAME POINT AS THE SAFETY CHAIN SHACKLES.
- DO NOT USE THE BREAKAWAY AS AN ALTERNATIVE TO THE HANDBRAKE AND DO NOT REMOVE THE PIN AS AN ALTERNATIVE SECURITY MEASURE. REMOVING THE PIN WILL RAPIDLY DISCHARGE THE BATTERIES.
- IT IS A MANDATORY REQUIREMENT THAT THE BREAKAWAY BATTERY SOURCE BE CHARGED DURING TOWING.
- NSW REQUIRES A BATTERY MONITOR VIEWABLE FROM THE DRIVERS POSITION WITH A MINIMUM OF A VISUAL ALARM FOR LOW BATTERY VOLTAGE

Hand Brake

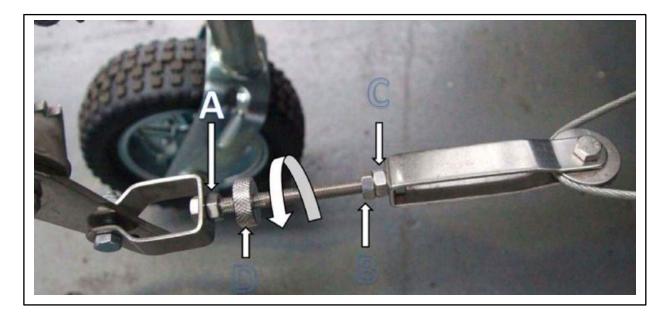
Parking brakes are mechanically operated by cable means. The cable attachment occurs outside of the brake backing plate. Cable force applied to the parking lever creates a torque through the pivot pin and cam assembly. Torque transferred to the parking cam results in a spreading force between the primary and secondary shoes. The shoes in turn, move towards the drum until contact is made. Friction generated between the drum and lining contact surface results in parking brake capability.

Use the cable adjuster to give enough tension to be able to set the handbrake lever on the last two notches of the coupling or handbrake is 1/3 raised when unladen. This needs to be checked again when the trailer or caravan is loaded. If the cable is too tight, the brakes will be applied as the axle moves backward under spring deflection.



Adjuster

To adjust the handbrake cable tension release locknuts A, B and C in the diagram Handbrake Adjuster 1 below. To tighten the handbrake cable, turn the adjuster wheel D in a clockwise direction. Once adjusted retighten lock nuts and test. Always ensure that wheels turn freely when handbrake is off. Overtightened cables can cause brakes to drag and damage the brake linings.





Correct Use of Your Electric Brakes

Your trailer brakes are designed to work in synchronisation with your tow vehicle brakes. Never use your tow vehicle or trailer brakes alone to stop the combined load. Your trailer and tow vehicle will seldom have the correct amperage flow to the brake magnets to give you comfortable, safe braking unless you make proper brake system adjustments. Changing trailer load and driving conditions, as well as uneven alternator and battery output, can mean unstable current flow to your brake magnets. It is therefore imperative that you maintain and adjust your brakes as set forth in the controller manual, use a properly modulated brake controller and perform the synchronisation/adjustment procedure recommended by the brake controller supplier.



Important Safety Notice

Proven and in some cases approved service methods and correct repair procedures are essential for the safe, reliable operation of the brakes, suspension and axles as well as the personal safety of the individual doing the work. This manual intends to provide general directions for performing service and repair work with tested, effective techniques. By following these guidelines, it will help assure

reliability. The numerous variations in procedures, techniques, tools and parts for servicing axles, as well as in the skill of the individual doing the work will determine outcomes. This

manual cannot possibly anticipate all such variations nor provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this manual must first establish that they neither compromise their personal safety nor the vehicle integrity by their choice of methods, tool's or parts.

*If at all in doubt please refer all repairs and maintenance to a suitably qualified or experienced mechanical repairer.

*Market Direct Campers accepts no liability for personal injury, loss or damage resulting from incorrect applications, methods and failure to perform maintenance safely and correctly.

Brake Adjustment

Brakes should be adjusted (1) after the first 300 km's of operation when the brake shoes and drums have "seated," (2) at 5000 km's intervals, (3) or as use and performance requires. The brakes should be adjusted in the following manner:



Never crawl under your trailer unless it is resting on properly placed jack stands. Do not place supports on any part of the suspension system and use the designated jack point or under the spring base plate to jack trailer.

Brake Cleaning and Inspection

Your trailer brakes must be inspected and serviced at 5000km or more often as required by use and performance. Magnets and shoes must be changed when they become worn or scored to avoid inefficient vehicle braking.

Brake Lubrication

This should only be done by qualified persons.



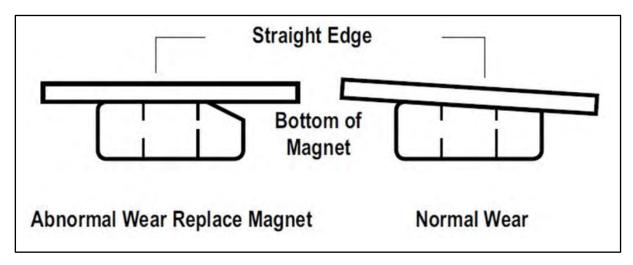
Caution

Do not get grease or oil on the brake linings, drums or magnets.



Magnets

Your electric brakes are equipped with high quality electromagnets that are designed to provide the proper input force and friction characteristics. Your magnets should be inspected and replaced if worn unevenly or abnormally.



Even if wear is normal as indicated by your straightedge, the magnets should be replaced if any part of the magnet coil has become visible through the friction material facing of the magnet. It is also recommended that the drum armature surface be refaced when replacing magnets.

Magnets should also be replaced in pairs - both sides of the axle. Always use genuine MDC OEM parts.

Shoes and Linings

A simple visual inspection of your brake linings will tell if they are useable.

Replacement is necessary if the lining is worn (to within 1.5mm or less), contaminated with grease or oil or abnormally scored or gouged. It is important to replace both shoes on each brake and both brakes of the same axle. This is necessary to retain the "balance" of your brakes. Be sure to replace your shoes only with genuine MDC parts available from our outlets.

Corrosion Prevention

It's important to take steps to prevent corrosion of parts on your trailer to extend the service life. Many fittings are high tensile and therefor zinc plated. Fittings such as this can benefit from additional protection. Some helpful products to prevent corrosion are "Lanotec", "WD40", "Inox" and similar products. These can be spray applied and do a very good job of protecting metal surfaces, particularly in corrosive and aggressive environments near the ocean and inland waterways.

Often, we take our campers and caravans to salt water environments. Driving through salt water is never recommended as the residual chloride ions accelerate corrosion greatly. If you are camping near or driving through these kinds of environments, we highly recommend that your trailer be thoroughly cleaned after use. Flushing the chassis and washing and rinsing your trailer is important.



Wheels and Tyres

Highway

Your caravan is fitted with 16" wheels and 265/75 R16 Goodride Tyres. The tyres are a "Light Truck" typre with a mud terrain tread and a maximum load rating on single axle of 1550kg at 80psi.

Recommended highway pressure at tare weight of the caravan is 50-56psi

Recommended highway pressure at ATM of 3000kg is 74-77psi

Off Road

Off road driving requires lower tyre pressures and lower speeds. When driving on rough and corrugated road, a reduction of speed and controlled deflation of tyres is required to protect the caravan and its suspension from damage. In extreme circumstances tyre pressures may be reduced significantly. When lowering from highway pressure, a rule of thumb is to reduce your speed by the same percentage as the lowering of tyre pressure.

Because off road conditions can vary greatly, you must lower your pressures and reduce speed until vibration and shock through the suspension is at a moderate level to suit the conditions you are experiencing, and the loaded weight of your caravan.

WARNING: When returning to the highway or when increasing speed, you must reinflate the tyres to correct highway pressures. Failure to reinflate can cause severe handling problems resulting in injury or death.

Electrical Systems

Chargers & Inverters

For detailed information on the appliances installed in your camper please refer to the manuals included in your caravan handover.



Caution

Electrical devices can be dangerous. Under no circumstances should repairs and modifications be attempted by unqualified or untrained persons. MDC accepts no liability for any personal injury, damages or loss as a result of unqualified or untrained persons repairing or altering the electrical systems on this product. If in doubt call your local MDC outlet or phone: 1300 831407



Battery Care

Your camper is fitted with 100Ah AGM Batteries. Storage type batteries require periodical maintenance to perform at their peak and extend their service life. The following is an outline on how to gain the best performance and lifecycle from the battery fitted in your camper:

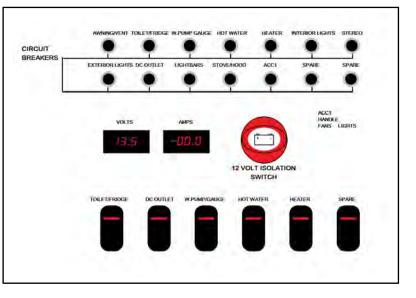
- Always use a quality charger that caters to the voltage requirements of an AGM battery. Absorption charging is from 14.6v to 14.8v, float charging is from 13.2v to 13.8v.
- Never leave your battery stored at low volts. Before storing your camper ensure that battery/s is fully charged, and all power is disconnected/switched off.
- When possible leave the battery connected to a smart charger that will cycle and maintain the battery during storage. If this isn't possible check and charge at regular intervals to prevent excessive discharge.
- Never use unregulated solar power direct to your batteries.
- When in use try to keep your battery at or as close to maximum capacity as possible.
- Allowing your battery voltage to drop below 12.5v can permanently damage its performance and reduce its service life.

AGM BATTERY STATE OF CHARGE		
Level Voltage		
100%	13.00V	
90%	12.75V	
80%	12.50V	
70%	12.30V	
60%	12.15V	
50%	12.05V	
40%	11.95V	
30%	11.81V	
20%	11.66V	
10%	11.51V	
0%	10.50V	



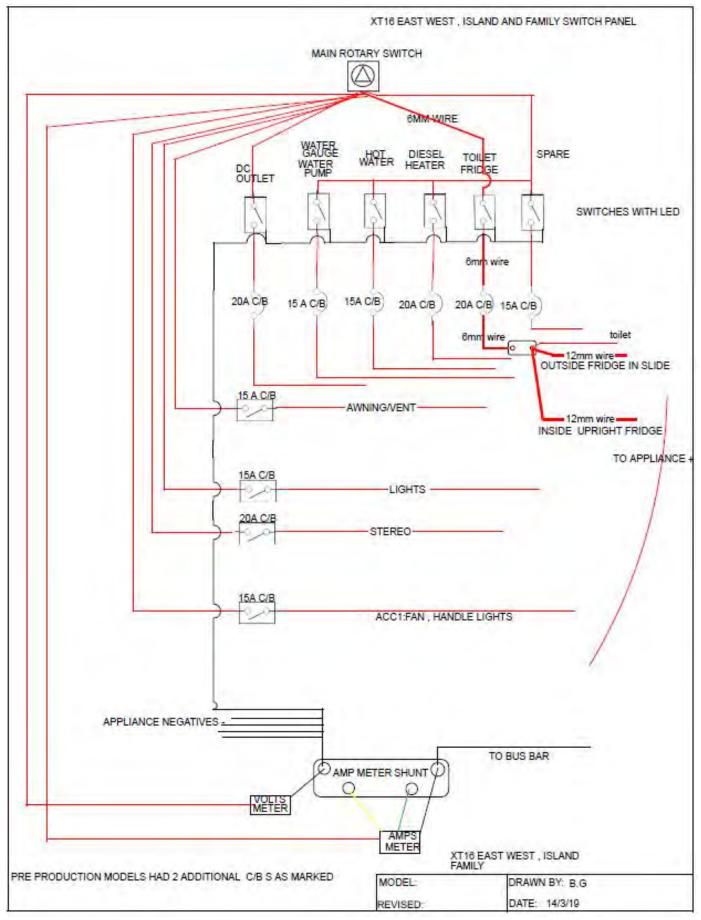
Control Panel

- Circuit Breakers are "Push to Reset"
- Red light on switches means "On"
- Voltmeter will show battery voltage when idle or charge voltage when charging
- Amp meter will show current used not charge current. Charge current is displayed via the multistage charger panel



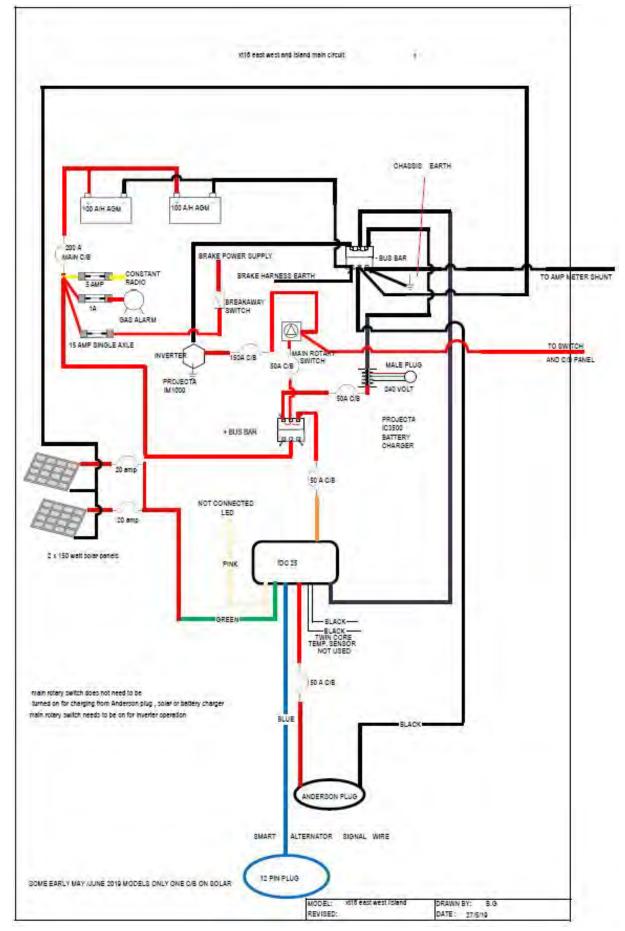


Switch Panel Circuit Diagram





Main Circuit Diagram





Gas & Water Systems

Hot Water System

WARNING: The flue outlet on your gas hot water system must be uncovered prior to use. Open the protective dust cabinet and remove the white cover before use.

Do not operate whilst towing.

Do not operate in enclosed spaces

Your caravan is fitted with a Truma boiler hot water system. Please read the manual provided with this system at the time of purchase. For further information go to https://www.truma.com/au/en/products/truma-hot-water-system/truma-ultrarapid-hws.html

Your Truma Hot Water system control switch is located beneath the end of the bed left, of the entry door.



To watch the video tutorial on turning on the hot water system, scan the code with your smartphone.



Water Pumps

The pump when switched on is activated by the release of pressure at the tap and will pump water continuously until the tap is turned off and pressure restored. Should the pumps activate while the taps is turned off this could indicate a leak and require investigation and rectification.

Connecting the Gas

WARNING: Your caravan is fitted with a gas detector. Check operation of the gas detector each time you use your caravan. Fig: 8

Your caravan is fitted with plumbed gas with the regulator and gas bottle placement at the front of the trailer. Always ensure gas bottles are serviceable and within the 10-year service life. This information is stamped on the bottle base.

Once you connect your gas bottle you can connect the external BBQ gas hose to the bayonet connection provided. Once the bayonet is secure, ensure all controls on the stove are in the "Off" position and then turn on the gas bottle valve. When the burner ignites hold the button down for 5 seconds then release. **NOTE: It will take up to a minute or so for the gas to purge the line and flow through the burners.**

Internal Kitchens and Hot Water Systems each have an isolation valve on their gas supply line. Ensure the valve is turned on (handle running parallel to the gas line) when using these appliances.

The gas isolation valve for the internal cooktop and oven is situated in the cupboard beside the oven. Fig: 6

The gas isolation valve for the hot water system is situated beneath the forwardmost seat on the lounge area. Fig: 7



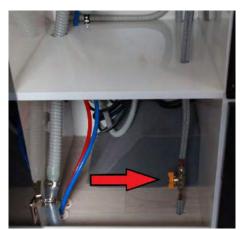


Fig: 6



Fig: 7



Your gas alarm is located beside the entry door below the bed.

Fig: 8

All gas appliances and supply must be turned off at the isolation valve when towing. Always turn off your gas bottle before towing your caravan. Never use gas appliances without adequate ventilation and always remove any gas flue covers before use.

Do not place items near or on any gas flue or exhaust as this may result in a fire or malfunction causing serious injury or death. Always keep a minimum of 500mm clearance from all flue's and exhausts.



Diesel Heater Introduction

Special Forms of notation, presentations and icons

Icons



This icon draws your attention to a threat of danger to life and limb. Failure to comply can result in serious injury or death.



This icon draws your attention to a dangerous situation for a person and/or product. Failure to comply could lead to injury or damage to the product.

Important information before operating the diesel heater

- The diesel heater is designed for use in an RV, caravan or camper.
- The heater is designed to heat the main living area of your caravan or camper. Attempting to warm the additional annex area may be beyond the performance of the diesel heater unit.

The diesel heater is not to be used for the following

- Directing air onto people or animals
- Long term use in large areas
- Drying clothes and other items

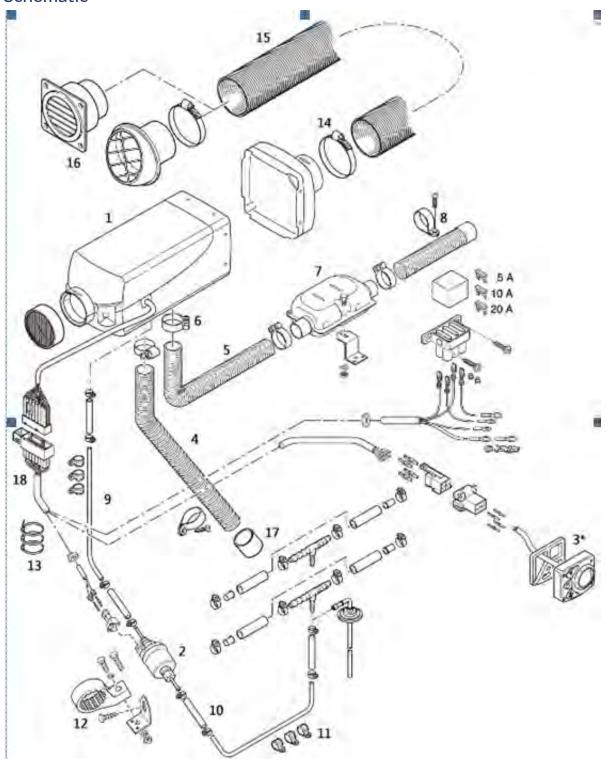
Product Information

Your Caravan is fitted with a YUSENN Model DA2-12v Diesel Heater Part No: 161-10022

Model	DA2				
Heating medium	Air				
Fuel			Diesel		
Control of the heat flow			Stage		
	Power	Large	Medium	Small	Off
Heat flow (W)	2200 1800 1200 850 -		-		
Fuel consumption (L/h)	0.28 0.23 0.15 0.1 -		-		
Electricity power consumption in operation (W)	34 23 12 8 5			5	
Electricity power consumption in start (W)	≤100				
Nominal voltage	DC12/24V				
Maximum air intake temperature	40°C				
Weight	approx 2.8KG				



Schematic





Parts List

Fig No.	Part No.	Description	
4	161-10026	Combustion air inlet tube	ø25mm
5	161-10027	Stainless steel exhaust tube	ø25mm
6	520-00005	20-32mm stainless steel hose clamp	
7	161-10030	Muffler	
8	523-00003	Fastening clamp for Combustion air inlet tube R-type	ø27mm
9	161-10021	Nylon oil hose	ø4mm×1.25mm
10	161-10022	Rubber oil hose	ø3.5mm x 3mm
11	520-00004	8-10 mini hose clamp	
12	161-10023	Jacket for oil pump	
13	161-10025	Strapping tape	
14	520-00011	50-70 stainless steel hose clamp	
15	161-10028	Hot air outlet tube	ø60
16	161-10029	Air outlet for DA2	ø60
17	161-10036	Air inlet filter	
18	161-10033	Wiring harness	
19	161-10035	10 Litre fuel tank	
20	161-10034	Fixed plate	



Safety!

- Never pack items around the diesel heater unit. Always ensure all items are clear of the heater unit and all hoses and exhaust
- Ensure intake and output vents are always clear and free of obstruction
- Always allow the heater unit to cool under ventilation mode before turning off unit
- Never use the diesel heater in a confined area e.g. Garage, shed, workshop, non-ventilated area
- Consider the comfort of nearby campers and the effect of exhaust fumes

Danger!

Risks of injury and burns

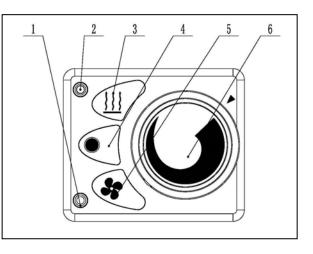
- The motor unit and exhaust operate at high temperatures. Do not attempt to work on the unit while hot
- Do not allow children to operate the heater
- ****Allow the heater to fully cool, turn off power before refuelling
- Do not smoke near diesel fuel tank
- Do not modify the diesel heater unit in any way.
- Do not inhale exhaust fumes
- The heater exhaust is very hot. Do not use the diesel heater where contact with long grass and vegetation is possible. Always use in a cleared area.
- Never use the heater while the trailer is in motion.



Heater Control

The control switch panel is used to control the unit functions.

- 1. Ventilation mode indicator
- 2. Heating/Combustion mode indicator
- 3. Heating selector button
- 4. Stop button
- 5. Ventilation selector button
- 6. Temperature selector



Important tips about operation :

- Do safety check before initial starting of the heater. Check all components for secure fit (tighten screws where necessary). Carry out a visual check whether fuel system, combustion air system, exhaust system is unobstructed.
- Normal operation of heater at altitudes up to 1500 m.
- Heater can be used for short periods at altitude 1500 3000m. Over 3000m, the heater must be customized.
- During the initial start-up of the heater, odours can be produced for a short time. This is fully normal during the first few minutes of operation and does not indicate a malfunction in the heater.
- During the initial start-up of the heater, there may be an alarm caused by ignition failure. This is because fuel is needed to fill in fuel pipe. Restarting heater nominally should rectify this.

Operating instructions

- Pressing ventilation button on switch will activate the fan only. This will operate without combustion to ventilate the area.
- Pressing the heating selector button will start the combustion process and begin heating mode. Combustion and ventilation lamps light up simultaneously.
- As a fault occurs during operation of the heater, combustion indicator light flashes to indicate cause of the malfunction.
- Pressing the stop button. The heater stops working (combustion or ventilation). After delayed stop, the light goes out.
- Temperature regulating knob is used for setting temperature for the heater's automatic temperature control. Adjustment range is 10-30 ° C.
- Switch between ventilation and combustion state is possible.
- When switching off from heating mode, allow the unit to run on ventilation mode until the unit cools. This will prevent fumes.

Switching on

- Press heating mode button on control switch, combustion and ventilation indicating light lights up. Then, heater starts running with glow plug working and fan running at low speed.
- If there is still too much residual heat in the heat exchanger from when the heater was last used, firstly only the fan starts up (cold blowing). Once the residual heat has been cleared, the heater starts.

Heating process

- After approx. 60 seconds the fuel supply starts and the fuel / air mixture in the combustion chamber ignites.
- After the flame sensor has detected the flame, the glow plug is switched off after approx. 90 sec. The heater has reached the "POWER" stage gradually (maximum fuel quantity, maximum fan speed).



Temperature control

• The control can be used to pre-set an interior temperature. According to the size of heating space and prevailing outdoor temperature, the heater's temperature can be set within the range of +10 °C to +30 °C.

Control in the heating mode

- During the heating mode, the room temperature or the temperature of the sucked in heating air is constantly measured. Based on these and the pre-set temperature by controller switch, heater's working condition will be adjusted. If the temperature is higher than the temperature selected on the control element, the heater starts to regulate its output.
- There are 4 control stages so that the outflow of heat produced by the heater can be adjusted finely to the heating requirements. Fan speed and fuel quantity correspond to the control stage.

Ventilating mode

• Press the ventilation button. Heater will work in ventilation mode. Changeover in mode of ventilation and burning can be initiated at any time.

Switching off

• Press the stop working button. Heater switches off, metering pump stops working, and glow plug is switched on for approx. 40 seconds. After fan runs on for approx. 4 minutes to cool down, heater is shut down when indicating light goes out.

Trouble shooting and fault guide

Code of malfunction	Description	Flash frequency
1	Circulation of five short flash, one long flash	••••• = •••••
2	Circulation of five short flash, two long flash	
3	Circulation of five short flash, three long flash	
4	Circulation of five short flash, four long flash	
5	Circulation of five short flash, five long flash	
6	Circulation of five short flash, six long flash	
7	Circulation of five short flash, seven long flash	
8	Circulation of five short flash, eight long flash	***** ====== *****
9	Circulation of five short flash, nine long flash	***** ====== *****
10	Circulation of five short flash, ten long flash	*****



Code of malfunction	Description of malfunction	Malfunction reason	Troubleshooting
1	Over-voltage or Under- voltage	Voltage is beyond nominal voltage ±25%	Check your power supply by multimeter. If below nominal voltage 25%, pls recharge or change battery. If above nominal voltage 25%, please change your power supply.
2	Over-heating	1. Blockage in the air inlet or air outlet	Clear the air inlet or air outlet if there is a blockage.
L	ever nearing	2. Blockage in the exhaust pipe	Clean the exhaust pipe if there is a block.
		1. Incorrect connection	Check all the plug-in connectors and ensure lead is not loose. Rectify if required.
3	Fault of flame sensor	2. Short circuit or open circuit of lead	Check for a short circuit or open circuit of lead of flame sensor with a multimeter. Fix it or replace as necessary.
		3. Damage of motor	Check continuity of flame sensor by multimeter. If it fails replace it
		1. Incorrect connection	Check all the plugs for secure connection and rectify if necessary
4	Fault of motor	2. Short circuit or open circuit of lead	Check whether there is short circuit or open circuit of motor lead by multimeter. If yes, please fix it or replace it.
		3. Damage of motor	Check whether motor rotation is normal after energized detection. If not, please replace it.
		1. Incorrect connection	Check whether all the plug connections are secure and rectify where necessary
n	Fault of glow plug	2. Short circuit or open circuit of lead	Check whether there is short circuit or open circuit of motor lead by multimeter. If yes, please fix it or replace it.
		3. Damage of glow plug	Check glow plug's resistance between two leads. If it is not between 1-4 ohms, pls replace it
		1. Incorrect connection	Check all the plugs for secure connection and rectify if necessary
6 Fa	Fault of over- heating sensor	2. Short circuit or open circuit of lead	Check whether there is short circuit or open circuit of lead by multimeter. If yes, please fix it or replace it.
		3. Damage of over- heating sensor	Check whether there is a damage of over-heating sensor. If yes, please replace it.
		1. Incorrect connection	Check all the plugs for secure connection and rectify if necessary
7	Fault of fuel metering pump	2. Short circuit or open circuit of lead	Check whether there is short circuit or open circuit of lead with multimeter. If yes, please fix it or replace it.
	FF	3. Damage of fuel metering pump	Check fuel pump's resistance between two leads. If it is not between 15-25 ohms, pls replace it
	Fault of	1. Short circuit or open circuit of lead	Check whether there is short circuit or open circuit of lead by multimeter. If yes, please fix it or replace it.
8	temperature sensor	2. Damage of temperature sensor	Check whether there is a damage of temperature sensor. If yes, please replace it.
		1. No fuel in the	
9	Ignition failure	container	Check whether there is fuel or enough fuel in tank



		2. Fuel pipe blocked or broken	Check whether the pipe is blocked by impurity and each connection is intact. if so, please repair or replace it.
		3. Fuel pipe blocked by fuel condensation	If there is fuel condensation, please use fuel which is suitable for low temperature to replace previous fuel.
		4. Blockage in exhaust pipe	Please clean the exhaust pipe if there is a block.
		5. Fault of controller	Replace the controller
10	Flame failure	1. Not enough fuel in container	Provide enough fuel
		2. Fault of ignition sensor	Troubleshooting or replace it.

Protecting from Mould

Mould is very difficult to clean once a porous surface is affected. There are several ways you can prevent the occurrence of mould on your caravan.

Never leave your camper packed away wet. If you must leave a campsite with wet canvas or a damn interior, be sure to open and dry out your tent thoroughly at the very first opportunity when you get





home. Mould can develop in just a couple of days so don't take the risk.

When packing up dry, it is important to check under the mattress that there is no build-up of condensation overnight. Body heat on a mattress can create enough temperature difference with the exterior for moisture to form under it. If left unchecked this can cause mould when your caravan is stored.

Pre-Trip Checklist

Working from a checklist will help avoid forgetting important tasks particularly nin regard to safety. Individual camper set ups may differ depending on tow vehicle and any modifications made by the owner. The table below is for guidance only.

Pre-Hook Up				
Water Tanks full & locking cap secure		All latches and door locks secure		
Bearings checked and serviced at last service		All cables and plugs are in serviceable condition		
Hitch creased and checked		Tyres in serviceable condition and correct pressure		
Wheel nuts tight and torqued to correct tension		Bearing caps secure		
All external fittings secure		Stabiliser legs working & secure in travel position		
Gas bottles and jerry cans secured		Stabiliser leg handle in trailer		
Chains and shackles in serviceable condition				



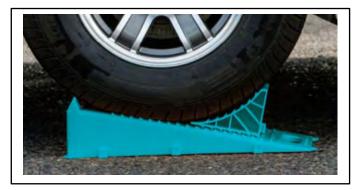


Hooked	Jp t	o Vehicle	
Hitch secured to receiver all pins and locks engaged		Trailer lights plugged in	
Anderson plug connected		All cables clear of possible damage	
Safety chains and shackles connected to car		Chains are crossed and at correct length	
All lights working		Trailer brakes engaging when brakes applied	
		Trailer is sitting at correct level	
Jockey wheel is raised and locked		Do a walk around and check visually	

Useful Accessories

Levelling Blocks

These are excellent for levelling your trailer on set up. Stabiliser legs are not meant for correcting the trailer angle, they are there to keep it stable when people are in it. Using levelling blocks will extend the service life of the stabiliser legs and make set up much safer and faster. See below images.







Wheel Chocks

Wheel chocks are an important safety device when leaving your trailer parked on even the slightest incline. On level ground it is recommended to chock both sides of the wheel. On a hill you should chock the wheels on the downhill side ensuring the chocks



Covers

Hard floor campers and caravans will benefit greatly from a storage cover. Perishable fittings such as rubber seals and plastic will be protected from UV radiation. Paint and gelcoat finishes will oxidise less and this will extend the service life of these finishes.

Stone Protection

There are proprietary devices available that assist in protecting your trailer from stones thrown up by the tow vehicle. Rock Tamer and Stone Stomper are two of the most commonly used.







Trouble Shooting

Electrical

Problem	Possible Cause	Remedy
	Main Isolator in off Position	Turn on main isolator
Fi	Flat battery	Charge battery
Fa	Faulty battery	Replace
R	Main circuit breaker tripped	Reset main circuit breaker
	Loose battery terminals	Tighten terminals
Da	Damaged wiring	Find and repair/replace
Battery not Charging Fa	Faulty Battery	Have battery tested and replace if faulty
		Indicated by charger not turned on. Check mains power, if charger still doesn't switch on
No	No mains power	the charger may be faulty and you should contact the dealer for warranty or replacement
		A charger fault will be indicated by fast flashing on the charger control panel (Projecta
Fa	Faulty Charger	Intelli-Charge). Contact your dealer for warranty or replacement.
		Indicated by OTP on LCD screen and fast flashing. Ensure adequate ventilation around
		charger and allow to cool. Do not store items around the electronics. (Projecta Intelli-
Cr.	Charger has overheated	Charge)
Lights or plugs not working	Tripped circuit breaker	Reset breaker
Pd	Poor connection	find and rectify
Q	Circuit switch off	Check control panel and switch on
No power to fridge		
		Check and clean plug contacts. If pins are closed up use a knife to separate the split in the
Indicators or parking lights not working	Poor connection at trailer plug	pins being sure not to widen too far. The gap should be even along the length of the pin.
Inverter not powering Pc	Poor connection	Check 12v connections are tight
M	Main 12v switch is off	Check main rotary switch on control panel
Fiz	Flat battery	Charge battery
20	200A main circuit breaker	If no other 12v is available check the main 200A breaker with a multimeter or test light
15	150A breaker to Inverter	check 150A breaker to inverter using a multimeter or test light
No Inverter Output Se	See Inverter trouble shooting page	
Circuit breaker tripping during use Ov	Overloading	Check amperage draw from appliance
Fa	Faulty Appliance	Check appliance and rectify
Battery not charging from anderson plug Fa	Faulty Connection at plug	Check plug ensuring connections are firm
50	50A circuit breaker tripping	Check there are no shorts and check circuit breaker with multimeter or test light
BMS	SV	Check BMS is correctly set and operating (see manual page)
BN	SV	



Water

Problem	Possible Cause	Remedy
	No power from control panel	Check circuit breaker
	Flat Battery	Charge battery
Pump not working (no noise)	Faulty pressure switch	Replace pump, Contact dealer for replacement
	Bad electrical connection	Check connections with multimeter or test light
Pump working but no water flow	Airlock in water lines	Turn on tap and hold finger over nozzle for 5 seconds and release. Repeat several times. If this fails, fill water tank and use mains pressure to pressurize tank
Pump working but no water flow	Water tank is empty	Fill water tank
	Kinked hose	Check hoses ensuring none are fouled
	Damaged / worn pump diaphragm	Repair or replace pump

Gas

Problem	Possible Cause	Remedy
	Gas bottle empty	Fill gas bottle
	Gas bottle not turned on	Turn on valve on gas bottle
Cooker not igniting	Gas hose on cooker not connected	Check bayonet is securely connected into receiver
	Regulator blocked	Check regulator is not blocked with dirt, wasps nests etc
	Kinked hose	Check hose is not twisted and kinked
	after connecting gas will take a little while for knob down for up to 4 minutes	or the gas to purge the line to the



Brakes

Problem	Possible Cause	Remedy
	Open Circuits	Find and correct
No Brakes	Severe under adjustments	Adjust brakes
NU DIANES	Faulty controller	Test and correct/replace
	Short circuits	Find and correct
	Great or oil on linings or magnets	Clean or replace
	Corroded connection	Clean or replace connectors
	Worn lining or magnets	Replace
	Scored or grooved brake drums	Machine or replace
Weak Brakes	Poor Synchronisation	Correct Controller setting
Weak Brakes	Poor Brake adjustment	Adjust Brakes
	Glazed brake Linings	Re-burnish or replace linings
	Overloaded trailer	Correct loading. Check at weighbridge
	Poor Synchronising with controller	Adjust controller
	Poor Adjustment	Adjust brakes as per instructions
Brakes Locking	Faulty controller	Test and rectify or replace
Diakes Locking	Loose, bent or broken components	Inspect and replace components
	Out-of-round brake drums	Machine or replace
	Insufficient wheel load (dual Axle)	Correct trailer level to even load
	Faulty controller	Test and Correct
Intermittent brakes	Broken Wires	Repair or replace
Internition Diakes	Loose connections	Find and repair
	Faulty ground	Find and repair



Handy Tips

Driving Off Road

Towing your caravan off road adds many dimensions to the driver's responsibilities and factors to be considered. When travelling remote always carry enough spare parts and supplies to cater for a "worst case scenario." Always perform preventative maintenance and daily checks. Minimum trailer spares would consist of:

- Wheel Bearings
- Seals
- Wheel studs and nuts

When driving rough and corrugated road, it is best practice to take regular breaks. Constant and prolonged period on corrugations and rough tracks without a break are the prime cause of shock absorber and suspension bush failure. These items can become hot when subjected to long periods of hard work. On corrugated roads you should take regular breaks to allow the working parts to cool. Bushes are made from a thermoplastic and will soften and deteriorate quickly when abused. The same applies to shock absorbers.

Wildlife

Australian outback roads are notorious for wandering stock and native wildlife which can be a serious danger to motorists. Due care must always be taken, and the possibility of an animal strike considered in regard to speed and time of day you are driving. Most animals in the outback are more active at night which greatly increases the likelihood of an animal strike between dusk and dawn. Towing a camper or caravan increases braking distance and has inherent risk associated with aggressive and defensive manoeuvring to avoid a collision.

Corrugations & rough road

Corrugations are arguably the most taxing and damaging road conditions to vehicles. Constant vibration can loosen vehicle components and as a stress dynamic to vehicles and drivers well in excess of normal road driving. In these conditions take regular breaks to reduce driver fatigue and fatigue to vehicles. Shock absorbers can become extremely hot on corrugated roads which can cause damage to seals resulting in shock absorber fade (reduction in damping effect) and in extreme cases failure of the seal completely. On rough and corrugated roads, it's important to adjust tyre pressures on your car and trailer to soften the effect and extend the contact patch of the tyre on the road.

Bulldust

This phenomenon is common on outback roads. Fine dust can settle in large holes obscuring them from unsuspecting drivers. It is important to reduce speed in these conditions and drive carefully to avoid the possibility of damage or an accident.

Sand

When driving on sand it is important to lower tyre pressures on both the vehicle and trailer. By lowering the pressure you will effectively create a larger footprint for the tyre which will reduce how far it sinks in sand. Sand shape and compaction will vary around the country so necessary reduction in tyre pressure will vary. Always keep in mind the lower the pressure the lower the speed you should travel. When lowering pressures to 20psi or less you also increase the chance of rolling the bead of the tyre off the rim so sharp turns should be avoided. When driving these conditions, it is strongly advised you carry a tyre pressure gauge/deflator and a portable compressor to reinflate when back on the highway.

Causeways

Outback roads often have causeways to control water runoff and prevent erosion of the road. When travelling at speed these causeways can be a danger to motorists and vehicles so due care should be taken to reduce speed when approaching them. In very remote areas these often won't have signposts so special care should be taken in these areas.

Creek and River Crossings



These crossings can be extremely dangerous even in low water levels and should never be attempted in times of even mild flooding. Towing a camper or caravan greatly elevates the risk in this situation and should never be attempted unless you are completely assured it is safe to do so. If there is any doubt about access in flood prone areas, you should contact the local authorities to find out conditions and dangers before you proceed.

Protecting the environment

Remote areas and National Parks are sensitive areas and all precautions should be taken not to damage tracks, interfere with flora and fauna and not to contaminate the area. In sensitive areas it is advisable to use grey water tanks and contained toilets. If your camper or caravan isn't fitted with such, both toilets and grey water tanks are available as portable self-contained units. Always store food, food scraps and rubbish in secure containers, native animals can be quite resourceful in scavenging for scraps. Dingos have been known to open locked eskies to get to food so don't chance it, always secure these items when travelling.

Trip Planning

* When planning remote trips always consider where you will resupply for fuel, food and water. Some remote fuel stations may run out of fuel during busy periods or times when large fuel trucks are unable to access the area due to road conditions and closures or simply close outside of the season. Always check conditions and availability of fuel before setting out to remote areas.

Shire Councils

There are many resources available for planning your trip away. Every state has a tourism website as so regional councils which will give you extensive information on camping sites, things to do and see, events happening in the area and contact information for booking sites or activities.

National Parks

Each state's national parks organisation have a website to assist in finding campsites and provide specific information about each parks unique qualities. As a planning resource these are extremely good. All contact information will be available.

Wikicamps

This smartphone app is an excellent resource for finding all kinds of camping across Australia. If you are looking for free camping you won't find a better resource. There is an app add on that even assists in finding fuel stops with user updates on fuel prices.

Facebook

These days there are numerous Facebook groups dedicated to travelling with campers and caravans and also groups dedicated to travel in specific areas. The area specific groups have many locals as members and are a great way to find out local track closures, conditions and research the area in general.



Warranty Statement

The following information relates to warranties offered by MDC. Please read all the information carefully, and should you have any questions relating to any aspect of this section, then please contact MDC. By purchasing an item from MDC, you hereby agree to all terms and conditions of warranty as set out herein.

Validity of Claims

- Warranties are only valid to the original purchaser of the item in question and are valid from the original date of purchase only.
- Warranties apply only to items sold as "new" and do not extend to any items sold via auction, or deemed to be "factory seconds", "ex-demonstration" or "damaged" unless specifically stated otherwise by MDC in writing. (Please see further on this page for more information).
- Warranties are not transferable under any circumstances. Similarly, if an item is sold to a third party by the original purchaser, then all warranties become null and void, and the original purchaser shall make no claims or be eligible for any claims on behalf of the new owner.
- Warranties do not apply to products purchased from MDC and then used in hire schemes or as rentals.
- MDC does not cover damage due to unauthorised modifications, misuse, abuse, incorrect assembly, improper and irregular maintenance, or accident or collision.
- Any work performed under an authorised warranty claim approved by MDC must be performed by MDC, or an authorised representative of MDC and only with the express written permission of MDC.
- Any affiliates, representatives, associates, agents, suppliers, resellers or similar of MDC shall have no authority to authorise or deny warranty claims on behalf of MDC.

MDC shall not be liable, (in part or whole) for any warranties, either express or implied, made by agents or resellers on behalf of MDC without the knowledge or express written permission of MDC. Such unauthorised claims shall be the responsibility of the agent or reseller only.

Caravans & Camper Trailers

Unless stated otherwise, caravans & trailers only are covered by a 12 month limited manufacturer's warranty from the original date of purchase.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law.

You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage.

You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Items not covered under warranty include:

- Rust
- Wheels and Tyres
- Paint
- Travel Covers and Straps
- General consumables (eg bearings, light bulbs etc)
- Zips and mesh or screens are not covered.

In addition to MDC warranty, the consumer may also be covered by other rights and remedies of Consumer Law in relation to the goods and or services to which this warranty relates

Tents

Tents are guaranteed to be in new merchantable condition at the time of purchase. A limited manufacturer's warranty period of 12 Months applies to MDC and Wax Converters canvas components, poles and fittings. General wear and tear excepted.



Factory Seconds, Ex-Demonstration and Damaged Goods

From time to time, MDC may offer for sale items deemed to be "factory seconds", "ex-demonstration", or "damaged".

Any items sold as "factory seconds", "ex-demonstration" or "damaged" items are sold on an "as is" basis.

There are no warranties, refunds, credits, exchanges or similar associated with such items. In the sale of such items, Market Direct Campers will attempt to provide all relevant information regarding the item, including faults, defects, or similar, however, there may be instances where minor defects or imperfections have been overlooked. This is PURELY UNINTENTIONAL and in no way alters the nature of the sale.

Due to the nature of such items, i.e being "ex-demonstration", "factory seconds" or "damaged", it is reasonable to expect that some imperfections or flaws may exist even where it is not initially apparent. By purchasing such an item, you agree to this statement in full and accept that there are no warranties implied or expressed.

Goods Bought at Auction

From time to time, MDC, may, at its discretion, offer items for auction, either independently or via a third party. Whilst every effort will be made to provide all relevant information regarding the item on auction, as per Australian law, any and all goods bought at auction subsequently do not carry any statutory warranty. Unless specifically stated in writing, and goods sold at auction by, or on behalf of MDC shall carry no warranty.

Lodging a Claim

All warranty claims MUST BE LODGED through our website using our online Warranty Claim Form.

Contact

If you have any further questions relating to warranties, or are unsure about any aspect of this section, then please contact us.

Phone: 1300 865 397

Maintenance

Maintenance is essential to keep your caravan in a safe and usable condition. Caravans are no different to any other motor vehicle and require servicing at regular intervals which may vary according to use and the environment in which it is used. The service schedule outlines the service intervals for safe travelling and your owner obligations under our warranty policy. Servicing should always be carried out by a competent person with relevant experience.

WARNING:

- Never work beneath the caravan while suspended on a jack. Always use "Jack Stands" with an adequate SWL.
- Always use dedicated jacking points
- 240volt appliances and wiring must only be serviced and repaired by a qualified tradesperson.
- Gas plumbing must only be serviced and repaired by a qualified gas fitter



MASTERCLASS Tutorials



#01	Safe Winching your Forward Fold Camper Open		#37	Wheel Nut Tightening Procedure & Checking Intervals	
#02	Stabilizer Legs		#47	Operating your Truma Hot Water Boiler	
#03	Moisture And Condensation - Protect your Camper & Caravan		#51	Setting up Your Camper Trailer Ensuite (Robson XTT)	
#04	Show Steve Your Camper Trailer and Offroad Caravan Mods to Win!!!		#52	Unlocking and Locking Your Watertank Filler Cap	
#05	Electric Stabiliser Leg Hack		#55	Canvas Stitching & Seams	
#06	Out On The Track Wheel Bearing Change		#59	Handbrake Adjustment	
#08	Lubrication and Maintenance		#60	Maintenance - Adjusting Brake Shoes	
#09	Polyblock Hitch		#61	Spreader Bars and C-Clips	
#11	Adjusting Locks and Seal Pressure Maintenance		#64	Use Ant Sand during Camper & Caravan Storage	
#12	Tuning the TV in your MDC Hybrid Caravan or Camper		#66	Cruisemaster DO35 Hitch	
#17	Easy up and Down - Boatrack Tips & Tricks		#68	External Seal Maintenance	
#18	Correct use of your Jockey Wheel		#69	Keeping Your Tent-Annexe Poles in Good Condition	
#19	How to Use The Rain Caps on Your MDC Campe		#70	Pegging out on Hard Ground with Coach Screws	
#23	1 Person Window Flap Opening		#74	Stop Revive Let Your Shockies Survive	
#24	How to Change your Pole End Fittings		#75	Regular Pitstop Checks of your Camper or Caravan	
#26	Wax Stick Canvas Tent Seam Maintenance		#77	Silicone Spray Preparation, Bug & Dirt Removal Hack	
#28	Easy Tent Peg Extraction Tips		#81	Safety when working around your Camper or Caravan	
#31	Use Lanotec on Nuts and Bolts		#89	Use Tiewire on your Camper or Caravan Shackles	
#32	Wash your Camper and Caravan after Beach Driving		#98	Balancing Your Load	
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CAMPERS & CARAVAN

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Maintenance Schedule

ltem	Details	First 50 & 100km	3 Months 500km	1000km	6 Months 5000km	12 Months 10,000km	18 Months 15,000km	24 Months 20,000km	Notes
Hitch	Inspect for damage, wear and lubricate. Check torque on bolts to 76Nm	×	×	×	×	×	×	×	Check every 1000km in offroad conditions
Handbrake	Check cables for damage and adjust when lever extends beyond 3/4.		×		×		×		Or as required
Jockey Wheel	Lubricate & check for stability and secure locking			×		×		×	
Hand winch & webbing	Lubricate & check webbing for damage			×	×	×	×	×	Inspect webbing each use
Suspension Pivots & Bushes	Lubricate and check for excess movement. Check torque on bolts. 190Nm			×	×	×	×	×	Lubricate every 500km when experiencing water crossings or flooding
Brakes & Linings	Remove drum and inspect lining thickness. Adjust Brakes	×	×		×	×	×	×	Every 2500km when using offroad
Wheel bearings & seals	Inspect, clean and relubricate			×	×	×	×	×	Inspect every 2500km when experiencing water crossings or flooding
Wheel Nuts	Check torque @ 125Nm (12mm studs) 140nm (14mm studs with alloy wheels 200nm (14mm studs) Steel Rims	×	×	×	×	×	×	×	Daily when travelling
Tyres	check pressure and inspect for damage			Each ti	me you use	Each time you use your camper			Pre Every Use
Lights	Check all lights operating			Each ti	me you use	Each time you use your camper			Pre Every Use
Batteries	Inspect terminals and test voltage & maintenance charge		Use m	aintenance	charge or c	Use maintenance charge or check & charge Monthly	ge Monthly		Use maintenance charge or check & charge Monthly
Gas system	Leak test using gas fuse				х		×		
Body seals	Check condition and flexibility as well as compression when closed. Adjust locks if necessary			Each ti	me you use	Each time you use your camper			Inspect for damage each pack up and adjust locks if necessary
General fixings	Check all nuts and bolts ensuring none are loose. See torque settings for structural bolts		×	×	×	×	×	×	Inspect every 2500km in offroad conditions



500KM FIRST	SERVICE		CHECKED		
Hitch	Check hitch bolts	to 76Nm. Lubricate with high temp bearing grease			
Handbrake	Inspect and adjus	t handbrake			
Brakes	Inspect and adjus	t brakes			
Wheel nuts		and torque to 125Nm (12mm studs) uds alloy rims) (200Nm 14mm studs steel rims)			
Tyres	Inspect for abnorr	nal wear, damage and correct pressure			
Wheel Bearing	Check for play an	Check for play and grease packed correctly			
General fixings	Ensure no loose fittings				
Date:		Service Person:			
Dealer Stamp:					

6 MONTHS / 5,	000KM SERVI	CE	CHECKED	
Hitch	Check hitch bolt	s to 76Nm		
Handbrake	Check cable and	adjust if necessary		
Hand winch	Check brake fun	ction and webbing		
Suspension	Lubricate and ch	eck bushes for excess movement. Torque bolts to 190Nm		
Brakes	Inspect and adju	st. Check lining thickness and drum wear		
Wheel bearings	Remove, clean a	and re-lubricate. Inspect for wear and replace if necessary		
Wheel Nuts		n and torque to 125Nm (12mm studs) studs alloy rims), (200Nm 14mm studs steel rims)		
Tyres	Inspect for abno	rmal wear, damage and correct pressure		
Lights	Check all lights a	are functioning		
Battery	Check terminals	Check terminals and voltage at full charge		
Seals	Check condition and correct latch/lock adjustment for correct 30-50% compression			
General fixings	Check all structural fixing are secure.			
Date:		Service Person:		
Dealer Stamp:				



12 MONTHS / 1	0,000KM SER	VICE	CHECKED
Hitch	Inspect for dama	ge and lubricate. Check bolt Torque to 76Nm	
Jockey Wheel	Inspect for condi	tion and operation	
Hand winch	Check brake fun	ction and webbing	
Suspension	Lubricate and ch	eck bushes for excess movement. Torque bolts to 190Nm	
Brakes	Inspect and adju	st. Check lining thickness and drum wear	
Wheel bearings	Replace bearing Replace split pin	s, seals and lubricate. Check stub axle condition and wear.	
Wheel Nuts		and torque to 125Nm (12mm studs) tuds alloy rims) (200Nm 14mm studs steel rims)	
Tyres	Inspect for abno	rmal wear, damage and correct pressure	
Lights	Check all lights a	are functioning	
Battery	Check terminals	and voltage at full charge	
Seals	Check condition and correct latch/lock adjustment for correct 30-50% compression		
General fixings	Check all structural fixing are secure.		
Hot Water Syst	De-scale hot wat	ter unit	
Date:		Service Person:	
Dealer Stamp:			

CHECKED 18 MONTHS / 15,000KM SERVICE Hitch Inspect for damage and lubricate. Check bolt Torque to 76Nm **Jockey Wheel** Inspect for condition and operation Hand winch Check brake function and webbing Suspension Lubricate and check bushes for excess movement. Torque bolts to 190Nm **Brakes** Inspect and adjust. Check lining thickness and drum wear Wheel bearings Remove, clean and re-lubricate. Inspect for wear and replace if necessary Inspect condition and torque to 125Nm (12mm studs) Wheel Nuts (140Nm 14mm studs alloy rims) (200Nm 14mm studs steel rims) Tyres Inspect for abnormal wear, damage and correct pressure Lights Check all lights are functioning Battery Check terminals and voltage at full charge Check condition and correct latch/lock adjustment for correct 30-50% compression Seals **General fixings** Check all structural fixing are secure. Date: Service Person: **Dealer Stamp:**



24 MONTHS / 2	0,000KM SER	VICE	CHECKED
Hitch	Inspect for dama	age and lubricate. Check bolt Torque to 76Nm	
Jockey Wheel	Inspect for cond	ition and operation	
Hand winch	Check brake fur	ction and webbing	
Suspension	Lubricate and ch	neck bushes for excess movement. Torque bolts to 190Nm	
Brakes	Inspect and adju	ist. Check lining thickness and drum wear	
Wheel bearings	Replace bearing Replace split pir	is, seals and lubricate. Check stub axle condition and wear.	
Wheel Nuts		n and torque to 125Nm (12mm studs) studs alloy rims) (200Nm 14mm studs steel rims)	
Tyres	Inspect for abno	rmal wear, damage and correct pressure	
Lights	Check all lights	are functioning	
Battery	Check terminals and voltage at full charge		
Seals	Check condition and correct latch/lock adjustment for correct 30-50% compression		
General fixings	Check all structu	Iral fixing are secure.	
Hot Water Syst	De-scale hot wa	ter unit	
Date:		Service Person:	

Dealer Stamp:

30 MONTHS / 2	5,000KM SERVICE	CHECKED		
Hitch	Inspect for damage and lubricate. Check bolt Torque to 76Nm			
Hand brake	Check cable and adjust if necessary			
Hand winch	Check brake function and webbing			
Suspension	Lubricate and check bushes for excess movement. Torque bolts to 190Nm			
Brakes	Inspect and adjust. Check lining thickness and drum wear			
Wheel bearings	Remove, clean and re-lubricate. Inspect for wear and replace if necessary			
Wheel Nuts	Inspect condition and torque to 125Nm (12mm studs) (140Nm 14mm studs alloy rims) (200Nm 14mm studs steel rims)			
Tyres	Inspect for abnormal wear, damage and correct pressure			
Gas System	Leak, test, check stove operation and hose/coupling condition			
Battery	Check terminals and voltage at full charge			
Seals	Check condition and correct latch/lock adjustment for correct 30-50% compression			
General fixings	Check all structural fixing are secure.			
Date:	Service Person:			
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36 MONTHS / 3	0,000KM SER	VICE	CHECKED
Hitch	Inspect for dama	age and lubricate. Check bolt Torque to 76Nm	
Jockey Wheel	Inspect for cond	ition and operation	
Hand winch	Check brake fur	ction and webbing	
Suspension	Lubricate and ch	neck bushes for excess movement. Torque bolts to 190Nm	
Brakes	Inspect and adju	ist. Check lining thickness and drum wear	
Wheel bearings	Replace bearing Replace split pir	is, seals and lubricate. Check stub axle condition and wear.	
Wheel Nuts		n and torque to 125Nm (12mm studs) studs alloy rims) (200Nm 14mm studs steel rims)	
Tyres	Inspect for abno	rmal wear, damage and correct pressure	
Lights	Check all lights	are functioning	
Battery	Check terminals and voltage at full charge		
Seals	Check condition and correct latch/lock adjustment for correct 30-50% compression		
General fixings	Check all structu	Iral fixing are secure.	
Hot Water Syst	De-scale hot wa	ter unit	
Date:		Service Person:	

Dealer Stamp:

42 MONTHS / 35,000KM SERVICE			
Hitch	Inspect for damage and lubricate. Check bolt Torque to 76Nm		
Hand brake	Check cable and adjust if necessary		
Hand winch	Check brake function and webbing		
Suspension	Lubricate and check bushes for excess movement. Torque bolts to 190Nm		
Brakes	Inspect and adjust. Check lining thickness and drum wear		
Wheel bearings	Remove, clean and re-lubricate. Inspect for wear and replace if necessary		
Wheel Nuts	Inspect condition and torque to 125Nm (12mm studs) (140Nm 14mm studs alloy rims) (200Nm 14mm studs steel rims)		
Tyres	Inspect for abnormal wear, damage and correct pressure		
Gas System	Leak, test, check stove operation and hose/coupling condition		
Battery	Check terminals and voltage at full charge		
Seals	Check condition and correct latch/lock adjustment for correct 30-50% compression		
General fixings	Check all structural fixing are secure.		
Date:	Service Person:		



48 MONTHS / 40,000KM SERVICE			CHECKED
Hitch	Inspect for damage and lubricate. Check bolt Torque to 76Nm		
Jockey Wheel	Inspect for condition and operation		
Hand winch	Check brake function and webbing		
Suspension	Lubricate and check bushes for excess movement. Torque bolts to 190Nm		
Brakes	Inspect and adjust. Check lining thickness and drum wear		
Wheel bearings	Replace bearings, seals and lubricate. Check stub axle condition and wear. Replace split pin.		
Wheel Nuts	Inspect condition and torque to 125Nm (12mm studs) (140Nm 14mm studs alloy rims) (200Nm 14mm studs steel rims)		
Tyres	Inspect for abnormal wear, damage and correct pressure		
Lights	Check all lights are functioning		
Battery	Check terminals and voltage at full charge		
Seals	Check condition and correct latch/lock adjustment for correct 30-50% compression		
General fixings	Check all structural fixing are secure.		
Hot Water Syst	De-scale hot water unit		
Date:		Service Person:	

Dealer Stamp:

54 MONTHS / 45,000KM SERVICE			
Hitch	Inspect for damage and lubricate. Check bolt Torque to 76Nm		
Hand brake	Check cable and adjust if necessary		
Hand winch	Check brake function and webbing		
Suspension	Lubricate and check bushes for excess movement. Torque bolts to 190Nm		
Brakes	Inspect and adjust. Check lining thickness and drum wear		
Wheel bearings	Remove, clean and re-lubricate. Inspect for wear and replace if necessary		
Wheel Nuts	Inspect condition and torque to 125Nm (12mm studs) (140Nm 14mm studs alloy rims) (200Nm 14mm studs steel rims)		
Tyres	Inspect for abnormal wear, damage and correct pressure		
Gas System	Leak, test, check stove operation and hose/coupling condition		
Battery	Check terminals and voltage at full charge		
Seals	Check condition and correct latch/lock adjustment for correct 30-50% compression		
General fixings	Check all structural fixing are secure.		
Date:	Service Person:		



60 MONTHS / 50,000KM SERVICE			CHECKED
Hitch	Inspect for damage and lubricate. Check bolt Torque to 76Nm		
Jockey Wheel	Inspect for condition and operation		
Hand winch	Check brake function and webbing		
Suspension	Lubricate and check bushes for excess movement. Torque bolts to 190Nm		
Brakes	Inspect and adjust. Check lining thickness and drum wear		
Wheel bearings	Replace bearings, seals and lubricate. Check stub axle condition and wear. Replace split pin.		
Wheel Nuts	Inspect condition and torque to 125Nm (12mm studs) (140Nm 14mm studs alloy rims) (200Nm 14mm studs steel rims)		
Tyres	Inspect for abnormal wear, damage and correct pressure		
Lights	Check all lights are functioning		
Battery	Check terminals and voltage at full charge		
Seals	Check condition and correct latch/lock adjustment for correct 30-50% compression		
General fixings	Check all structural fixing are secure.		
Hot Water Syst	De-scale hot water unit		
Date:		Service Person:	

Dealer Stamp:

66 MONTHS / 55,000KM SERVICE			CHECKED
Hitch	Inspect for damage and lubricate. Check bolt Torque to 76Nm		
Hand brake	Check cable and adjust if necessary		
Hand winch	Check brake function and webbing		
Suspension	Lubricate and check bushes for excess movement. Torque bolts to 190Nm		
Brakes	Inspect and adjust. Check lining thickness and drum wear		
Wheel bearings	Remove, clean and re-lubricate. Inspect for wear and replace if necessary		
Wheel Nuts	Inspect condition and torque to 125Nm (12mm studs) (140Nm 14mm studs alloy rims) (200Nm 14mm studs steel rims)		
Tyres	Inspect for abnormal wear, damage and correct pressure		
Gas System	Leak, test, check stove operation and hose/coupling condition		
Battery	Check terminals and voltage at full charge		
Seals	Check condition and correct latch/lock adjustment for correct 30-50% compression		
General fixings	Check all structural fixing are secure.		
Date:		Service Person:	



Supplier Contact Details

Dometic	Thetford Australia
https://www.dometic.com/en-au/au/contact-us	Address: 41 Lara Way, Campbellfield VIC 3061
	Phone: (03) 9358 0700
	Email: infoaus@thetford.com.au
Cruisemaster	
Address: 352B Bilsen Road, Geebung QLD 4034	
Phone: (07) 3624 3800	
Email: sales@cruisemaster.com.au	
Statewide	Bearings
Coopers Plains	Cairns
Address: 902 Beaudesert Rd Coopers Plains QLD 4108	Unit3, 49 Cook St Cairns QLD 4870
Phone: (07) 3717 4444	Phone: (07) 4035 1800
Email: coopersplains@statewidebearings.com.au	Email: cairns@statewidebearings.com.au
Virginia	Mackay
Unit 2, 90 Pritchard Rd Virginia QLD 4014	59 Central Park Drive, Paget QLD 4740
Phone: (07) 3265 2666	Ph: (07) 4952 6660
Email: virginia@statewidebearings.com.au	Email: mackay@statewidebearings.com.au
Rockhampton	Townsville
67 Denham Street Rockhampton, QLD 4700	Unit 2, 502 Woolcock Street, Garbutt QLD 4814
Ph: (07) 4927 2677	Ph: (07) 4758 8855
Email: rockhampton@statewidebearings.com.au	Email: townsville@statewidebearings.com.au
Beresfield	Smithfield
11 Yilen Close, Beresfield NSW 2322	Unit 4, 8 Cooper Street Smithfield, NSW 2164
Ph: (02) 4041 6444	Ph: 02 9616 0000
Email: <u>beresfield@statewidebearings.com.au</u>	Email: smithfield@statewidebearings.com.au
Wollongong	Kewdale
Unit 4, 222 Berkeley Road, Unanderra NSW 2526	67 Kewdale Road, Kewdale WA 6105
Ph: (02) 4272 2377	Ph: (08) 9352 2200
Email: wollongong@statewidebearings.com.au Albany	Email: <u>kewdale@statewidebearings.com.au</u> Bibra Lake
80 Chester Pass Road, Albany WA 6330	Unit 6, 30 Salpietro Street, Bibra Lake WA 6163
Ph: (08) 9842 2488	Ph: (08) 9434 9555
Email: albany@statewidebearings.com.au	Email: <u>bibralake@statewidebearings.com.au</u>
Belmont	Bunbury
5 Hargreaves Street, Belmont WA 6104	42 McCombe Road, Davenport, WA 6230
Ph: (08) 9478 2444	Ph: (08) 9724 9100
Email: belmont@statewidebearings.com.au	Email: <u>bunbury@statewidebearings.com.au</u>



Collie 96 Forrest Street, Collie WA 6225 Ph: (08) 9734 1624 Empil: collie@statewideboarings.com.au	Geraldton Unit 1, 75 Flores Road, Geraldton WA 6530 Ph: (08) 9964 4655 Email: geraldton@statowidebearings.com.au
Email: <u>collie@statewidebearings.com.au</u> Karratha 51 Orkney Road, Karratha WA 6714 Ph: (08) 9144 2333 Email: <u>karratha@statewidebearings.com.au</u>	Email: <u>geraldton@statewidebearings.com.au</u> Kalgoorlie 5 Darcy Lane, Kalgoorlie WA 6430 Ph: (08) 9091 4111 Email: <u>kalgoorlie@statewidebearings.com.au</u>
Wangara 70 Distinction Road, Wangara, WA 6065 Ph: (08) 9303 6900 Email: <u>wangara@statewidebearings.com.au</u>	Wingfield Grand Jct Rd & South Rd Wingfield SA 5013 Ph: (08) 8260 6299 Email: <u>wingfield@statewidebearings.com.au</u>
Dandenong South84 Greens Road, Dandenong South VIC 3175Ph: (03) 8710 9777Email: dandenong@statewidebearings.com.auTraralgonUnit 7, 4-14 Rocla Road, Traralgon VIC, 3844Ph: (03) 5172 3000	Somerton 15-17 Somerton Road, Somerton VIC 3061 Ph: (03) 9308 0055 Email: <u>somerton@statewidebearings.com.au</u> Hobart 39 Sunderland Street, Derwent Park TAS 7009 Ph: (03) 6216 6999
Email: traralgon@statewidebearings.com.au	Email: Hobart@statewidebearings.com.au