ROADIE 15L SC15

HEAVY DUTY SERIES

12V / 24V
Car Fridge

Owners Manual & Operating Instructions

Please read carefully before use and installation

BUSHMAN

100% AUSSIE OWNED FAMILY COMPANY | EST 1982

Congratulations on your purchase of a Bushman SC15 Roadie

Please be safe and use common sense and caution when installing, operating and cleaning this appliance. If you are unsure about any of these instructions, contact your local dealer before proceeding.

Important information

- Do not lay your Bushman on its back or sides or at any angle exceeding 30°.
- Never operate your Bushman directly from 240V mains power without using a 240V – 12V adapter.
- Do not use a modified sine wave inverter to operate your Bushman

Fitting The Tie-Down Brackets

1. Before fitting the tie-down brackets, please put the transit cover on the fridge. The transit cover has cut-outs for the position of the tie-down brackets.
2. Position the tie down brackets on each end of the fridge cabinet and align using a spirit level. You can hold them in place with masking tape.
3. Mark the position of the 4 holes.
4. Remove the tie-down brackets and drill 3mm pilot holes through the sheet metal.
5. Affix the tie down brackets using the 8 screws provided. Do not over tighten the screws.

12V Installation

Power supply

Your fridge must be connected to a stable and regulated 12 V or 24 V DC power supply. The compressor will automatically detect which voltage is present and adjust accordingly. If you are using a generator or other power supply, the output must be a pure sine wave only, do not use a modified sine wave inverter to operate your fridge.

Wiring

Wire your fridge on a dedicated circuit, directly to your battery bank. For optimum results, do not go via a buss bar, shared circuit, or battery management system. You will need the correct sized wire depending on the distance from your power supply to the fridge. Please also ensure the earth is wired directly to your battery, not to a chassis. If your wiring is insufficient, your fridge may not perform correctly or may be even be damaged.

CROSS SECTION IN MM2	AWG (AMERICAN WIRE GAUGE)	MAXIMUM LENGTH OF WIRE IN METRES	
		12 V	24 V
2.5	14	2.5	5
4	12	4	8
6	10	6	12
10	8	10	20

We recommend installing an isolation switch for the fridge circuit as close to your battery bank as possible. Any switches must have a breaking load not less than 20 A on 12 V or 10 A on 24 V. The power supply wiring must also be protected with a 15 A fuse.

Ensure the wiring polarity is correct. Connect the red wire to the positive terminal (+) and the black wire to the negative terminal (-). Never connect bare electric wires together. Use only connections of a size suitable for the cross section of the wire being used.

Reversing The Lid

To change the opening direction of the lid, remove the 2 plastic hinge recess covers from the non-hinged side. You will need to drill a small hole into each cover and pry them off gently. Swap the hinges across. There are two extra plastic covers provided with each new fridge to cover the existing recesses.

Safe Operation

Ventilation

Always allow sufficient air ventilation around the front and sides of the compressor compartment. This will ensure heat can escape easily from the compressor and condensor.

Normal Operating Sounds

You may hear faint gurgling, bubbling or whirring sounds when your Bushman is running. This is normal as the refrigerant is being pumped through the refrigerant coils.

Delayed Startup

Due to the latest compressor technology, your fridge may take up to 60 seconds to start after being powered up or after the temperature settings are altered.

Corrugations / Packing

If you are using your fridge whilst driving on corrugated or rough roads, ensure that your goods are packed in a way that no hard objects are rubbing on the inside of the fridge cabinet. This may permanently damage your fridge.

Mounting

You can mount your fridge using the 4 nutserts on the bottom of the fridge. We recommend affixing the supplied 4 rubber feet to absorb shocks in this scenario.

Cycle times

When your Bushman is running it will operate at 2°C either side of set temperature. For example, with your Bushman set at 0°C the compressor will operate until the fridge reaches –2°C. The compressor will cut back in when the fridge temperature reaches +2°C.

By running 2°C either side of the set temperature the compressor will not cut in and out excessively and this will reduce your power consumption.

Cleaning

Internal Cleaning

Wash the inside of your Bushman with luke warm water and a mild soap. Never use abrasive or corrosive cleaning agents, steel wool or scouring sponges. A sponge, towel, or soft brush is recommended. After cleaning, thoroughly rinse and dry.

Troubleshooting

Beep / Flashing Light

The Roadie is fitted with a small internal speaker. If your compressor notices an error, after a minute it will start to beep and the blue LED will flash.

NO. OF FLASHES	ERROR CODE
1	**Battery protection cut-out** The voltage is outside the cut-out setting [LOW VOLTAGE].
2	**Too many start attempts (or fan over current)** This generally indicates the compressor has had too many start attempts due to battery protection cut-out [LOW VOLTAGE]. It could also indicate fan overload of more than 0.5A but this is extremely rare.
3	**Motor start error** The rotor is blocked or the differential pressure in the refrigeration system is too high (>5 bar)
4	**Minimum motor speed error** Refrigeration system is overloaded, and motor cannot maintain minimum speed (1850 rpm)
5	**Thermal cut-out** Refrigeration system overloaded or ambient temperature is too high.
6	**Thermostat failure** The NTC thermistor has a short circuit or no connection.

Voltage Issues

Your Bushman needs a minimum 10.9V to start and 9.6V to continue operating.

During startup a load is placed on the power supply and voltage can drop by as much as 2V – 3V, especially if the wiring in insufficient (less than 6mm direct to battery) or if there is a loose connection somewhere.

If this occurs when you try and start your Bushman and the power supply drops under 10.9V it will not start. If this occurs when your Bushman is running and the power supply drops below 9.6V it will stop.

Common 12V Power Supply Issues

Wiring

Often the standard wiring from the car battery to the 12V outlet is too small. A minimum 6mm automotive wiring should be used and the earth should be wired directly back to the battery.

Battery

The car battery could be old, undersized or have a dead cell causing too much voltage drop.

Connections

The 12V plug, car 12V socket or any of the connections between the fridge and the battery could be faulty or have come loose since installation.

Warranty

DP Refrigeration trading as Bushman Fridges ABN 94 615 295 255 (Bushman) warrants, to the original owner, that this product is free from defects in workmanship and material for a period of three years from the purchase date, with an extra 4 years warranty on the compressor only. This warranty shall be limited to repairing or replacing, at Bushman's option and without charge to the purchaser, defective components. All warranty work shall be performed at a Bushman approved facility. Shipping charges related to returning the product to the bushman facility are not covered under this warranty. However, this warranty covers shipping charges related to returning the repaired product to the customer.

This warranty does not apply to damage or wear to the product caused by accident, abuse, misuse, neglect, unauthorized alteration or repair, or if the product was not installed in accordance with Bushman printed installation and operating instructions. To obtain service under this warranty, the defective product must be returned to Bushman in clean condition together with original purchase receipt. Any product repaired or replaced under this warranty will be warranted for the balance of the warranty period with respect to the original purchased product.

Troubleshooting Flow Chart

1. USE A DIFFERENT POWER SUPPLY

Run the fridge using a 240V to 12V adaptor. If not available, use a different outlet with the car running, or in a different car.

Fridge runs → **REPAIR CAR WIRING OR BATTERY**

Fridge does not run ↓

2. CHECK ALL CONNECTIONS

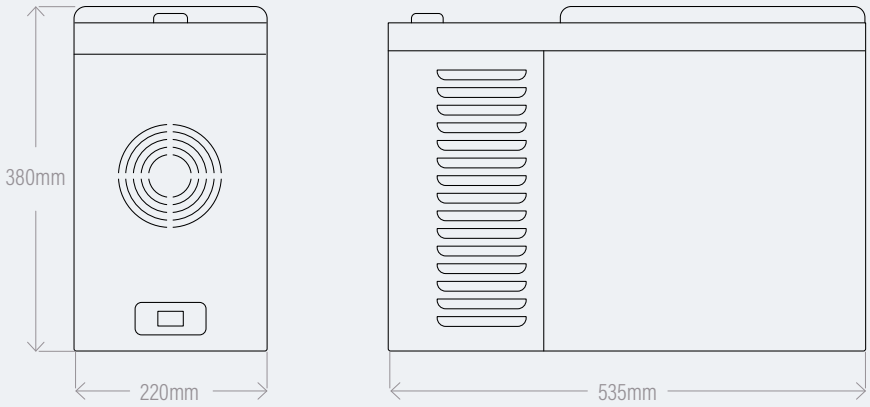
Check all connections and solder points inside all sockets and plugs. Check your car 12V socket connection by turning on the fridge and wiggling the connections to see if the power light flickers.

Faulty Connection → **REPLACE LEAD OR REPAIR CONNECTION**

Fridge does not run ↓

3. CONTACT HEAD OFFICE

Measurements



Weight = 10kg

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