

## TROUBLESHOOTING FLOW CHART

We solve 9 out of 10 Bushman issues by using this 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

### (2) OVERRIDE THE CONTROL PANEL

Flick the override switch located on the back of the Bushman control panel, then turn on the fridge. This will bypass the control panel and run the compressor non stop. For normal operation the switch must be set to off.



FRIDGE RUNS



REPLACE  
CONTROL PANEL  
(CONTACT  
HEAD OFFICE)

### (3) CHECK ALL CONNECTIONS

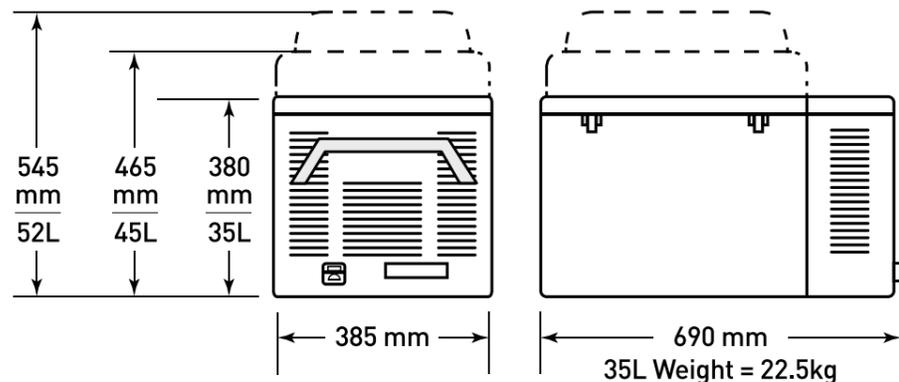
Check all connections and solder points inside all sockets and plugs. Check your car 12 V socket connection by turning on the fridge and wiggling the connections to see if the power light flickers.

FAULTY CONNECTION



REPLACE LEAD OR  
REPAIR CONNECTION

## MEASUREMENTS



DP Refrigeration  
Trading as Bushman Portable Fridges  
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## WARRANTY

DP Refrigeration trading as Bushman Portable Fridges ABN 89 152 366 478 (Bushman) warrants, to the original owner, that this product is free from defects in workmanship and material for a period of three years (5 years for the compressor only) from the purchase date. 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 operated in accordance with Bushman printed installation and operating instructions. To obtain service under this warranty, the defective product must be returned to Bushman 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.

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# BUSHMAN

# THE ORIGINAL BUSHMAN FRIDGE FREEZER

12V / 24V / 240V : 35L - 52L

## OWNERS MANUAL & OPERATING INSTRUCTIONS

MODEL: SC 35-52

## PLEASE READ CAREFULLY BEFORE USE AND INSTALLATION



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## IMPORTANT INFORMATION

- Do not lay your Bushman on its back or sides or at any angle exceeding 30°.
- Never operate your Bushman directly from 240 V mains power without using a 240 V – 12 V adapter.
- Never place items on top of the vents above the compressor, heat will not be able to escape and overheating could occur.
- Do not use a modified sine wave inverter to operate your Bushman.
- Do not remove the rubber feet.

## FITTING THE EXTENSION COLLAR AND HIGH LID

When you first fit your extension collar and high lid, adjustment to the hinges may be necessary if they do not sit flat. If required, please adjust your hinges as follows:

1. Remove the flat lid.
2. Slide on your extension collar followed by your high lid.
3. Release the tension on all hinge screws.
4. Close the high lid and extension collar and clip them down.
5. Retention all screws with the high lid and extension collar in the clipped down position.

## 12V INSTALLATION

### 6mm wiring direct to battery

Having a good power supply is key to your Bushman operating at its best. For optimum results, we recommend using minimum 6mm automotive wire directly from your 12 V power outlet to your cars battery through a 10 Amp fuse. Ensure the earth is wired back to your battery, not to the chasis. If your wiring is not minimum 6mm or is not direct to your battery, your Bushman may cut out early due to power drop in your wiring.

### 100 Ah battery

We recommend using a minimum 100 Ah deep cycle battery for the best long term results.

### Matching 12V fittings

Your Bushman is supplied with a 12 V cigar plug. If you are using your Bushman in a 4WD then we recommend fitting a matching 12 V socket and 12 V plug set. Different cars have varying sized 12 V power sockets, so having a matching set will provide your 12 V lead with the best possible connection at all times.

If you decide to fit a different type of 12 V fitting other than the one supplied, note that the smooth side of the 12 V lead or the one with writing on it, is the positive.

## 240V INSTALLATION

Plug your 12 V lead into the 240 V adaptor and then direct to mains power.

Never run direct from the refrigerator to mains power without a 240 V adaptor, irreversible damage can occur.

## EFFICIENT OPERATION

### Ventilation

Always allow sufficient air ventilation around the rear, sides and top of the compressor compartment. This will ensure heat can escape easily from the compressor and condenser.

### Transit cover

Your transit cover is designed to protect your Bushman from scratches, minor dints and direct sunlight.

### Equalising fridge temperature

If you run your Bushman using the 240 V adapter for 4 or 5 hours before placing in your vehicle, this will ensure that the internal air temperature, condenser and insulation has had time to equalise. Doing this will result in shorter cycle times and more efficient operation once you run your Bushman on 12 V.

### 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.

## USING A GENERATOR

Only use a high quality pure sine wave generator to operate your Bushman. Fluctuations in generator current will damage the refrigerator and / or the 240V adaptor.

For fail safe operation with a generator we recommend running a battery charger from your generator outlet to a 12 V battery, and then running your Bushman directly from the battery.

## USING THE CONTROL PANEL

### Adjusting the set temperature

1. Flick the power switch to the ON position. The red power light and blue screen will light up.
2. To display the set temperature, hold down the SET button.
3. To adjust the set temperature, hold down the SET button whilst pressing either the UP or DOWN button until the desired set temperature is displayed.
4. Pressing MAX COOL will set the temperature to -18°C

### 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 it will run until reaches -2°C and then stop. The green energy saving light illuminates when the compressor is cycled off. The compressor will cut back in when the cabinet 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.

# TROUBLE SHOOTING

## RED LED ERROR LIGHT

From mid 2016 onwards all Bushman SC35-52 are fitted with a red LED error light inside the compressor compartment. If your Bushman cuts out or will not operate, look inside the compressor compartment for a flashing red LED light. The number of flashes corresponds to the following error type.

NO. OF FLASHES	ERROR TYPE
1	<b>BATTERY PROTECTION CUT-OUT</b> The voltage is outside the cut-out setting, Refer to VOLTAGE ISSUES below.
2	<b>FAN OVER-CURRENT CUT-OUT</b> The fan loads the electronic unit with more than 0.5 A avg.
3	<b>MOTOR START ERROR</b> The rotor is blocked or the differential pressure in the refrigeration system is too high (>5 bar).
4	<b>MINIMUM MOTOR SPEED ERROR</b> Refrigeration system is too heavily loaded. Motor cannot maintain minimum speed approx 1,850 rpm.
5	<b>THERMAL CUT-OUT OF ELECTRONIC UNIT</b> Refrigeration system too heavily loaded or ambient temperature is high. Electronic unit will run too hot.
6	<b>THERMOSTAT FAILURE</b> If the NTC thermistor is short-circuit or has no connection.

## CUT IN / CUT OUT

Your Bushman has built in battery protection and needs a minimum 10.9 V to start and 9.6 V to continue operating.

During operation a load is placed on the power supply and voltage can drop by as much as 2 V, especially if the wiring is 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 10.9 V it will not start. If this occurs when your Bushman is running and the power supply drops below 9.6 V 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 12 V plug, car 12 V socket or any of the connections between the fridge and the battery could be faulty or have come loose since installation.