

EVERYTHING YOU NEED TO KNOW ABOUT...

# FOUR SEASONS TOURING TECHNOLOGY



## WINTER SUPPLIES FOR YOUR VEHICLE

Prepare yourself for difficult conditions by having these essentials in your vehicle at all times and especially if you are taking a long journey.

- ▶ Water ▶ Maps
- ▶ Tool Kit ▶ First Aid Kit
- ▶ Jump leads ▶ Mobile phone
- ▶ Towing ropes ▶ De-icer and ice scraper
- ▶ Torch and spare batteries
- ▶ Blankets and warm clothing
- ▶ Non-perishable and high-energy food, eg: nuts, dried fruit and sweets
- ▶ Suitable spare tyre, wrench and jack

You can tour in comfort in the depths of a British winter. Gary Blake looks at the technology that makes it possible

**D**etermined to find out whether 'four-seasons' caravans could really live up to this claim in the British winter, we decided to lay our bodies on the snow-line. In mid-January 2012, we took an Autosleeper Kensington caravan to Holgates Caravan Park at Silverdale, in south Cumbria, in the hope of snow and to enjoy winter activities by day whilst keeping cosy at night. The park is on the shore of Morecambe Bay, close to the Lake District.

Holgates has hosted Christmas rallies before. These had proved so popular that they have extended their opening season and are now a full four-season site. Facilities include a sauna, so if the caravan failed us, we knew where we'd be heading. We were well equipped for outside activities: ski clothes, boots, thermal underwear, foul-weather walking gear, and the car prepared with de-icers, scrapers and sprays, snow shovel and snow mats for wheel traction.



The caravan (length: 5.6m body, 7.25m overall) was fitted with a Whale 2kW gas-and-electric, under-floor, space-saving heater, plus a 13-litre Whale gas-and-electric storage water heater. We added winter duvets and two hot water bottles in case the heating couldn't provide enough heat for our liking, and took along an extra 15kg propane bottle.

For caravanners, matching 'home-from-home' warmth has been the most challenging issue of all. Having had heaters ranging from paraffin 'stand alones' (mind you, this was yesteryear New Zealand), paraffin wall heaters, diesel fuelled Eberbepachers (in yachts), liquid gas for catalytic heaters and Carver's ducted heating systems, I have welcomed the new innovations to help combat the cold.

As the caravan industry developed, caravans have evolved from little more than tents on wheels, through the early 1920s' 'tin can tourists', to today's luxury models, that provide more than just a place to sleep,

and contain several rooms with all the furniture, furnishings and equipment you'd expect to find at home. Naturally the prices have risen too, so we have come to expect even more use from our investment.

## Skin deep

The first line of defence is the caravan's skin and its insulating properties. Manufacturing methods and materials have improved, with factory pressed laminated/sandwiched panels of combined materials, eg: an aluminium or GRP (outer skin), a 37mm foam core and GRP or plywood inner skin. These are designed to increase the caravan's longevity through protection from adverse weather conditions and to give its walls better thermal qualities. Together with double-insulated acrylic windows, double seals around windows and doors, an underside GRP membrane sheet, plus marine plywood for the base, it all adds up to, potentially, a very warm box indeed.

## CARAVAN AMPERAGE DRAW

Service posts on pitches with an electrical supply have a certain maximum output defined in Amps. Each gadget or appliance you use has an amp rating. If the 'draw' of all your electrical items in use together exceeds the maximum on the post, you will blow a fuse or activate the trip-switch, cutting off the power supply. You're always dealing with Amps, Watts and Volts. In the UK and Europe the voltage is fixed at 230V so the calculation is simple:

One Watt is one Amp of current delivered with a 'force' of one Volt.

**Amps x Volts = Watts**  
which is the same as  
**Watts/Volts = Amps**

So, a 2kW (2000Watt) heater at 230Volts draws a current of 8.7 Amps.

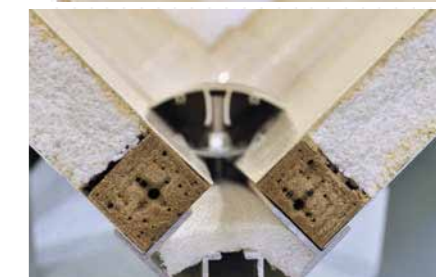
With caravan site amperage ratings varying from a very low 3 amps (unusual) to 16 amps (max), you can see that running the heating, while watching TV and using the microwave is likely to exceed the limit of the post and cut off your supply.



ABOVE LEFT: The Whale heating system. ABOVE RIGHT: You need a plentiful supply of gas if you're not hooked up to mains power.



The Whale blown-air system's heating unit is mounted under the caravan floor; this is the powerful 4kW version.



A revolution in construction: Bailey's Alu-Tech system involves aluminium; there is no wood in the caravan frame.



Snowcapped lakeland fells can be seen from the village of Arnsdale, about two miles from Holgates Caravan Park at Silverdale

## WAS IT A GOOD CARAVAN FOR WINTER USE?

Yes. The extensive refinements list in the Kensington really enhanced the experience, especially the shower-steam extractor, hairdryer and pop-up television. It's also the first caravan to have a power mover as standard, confirming that the Kensington aims to cosset its occupants. This is one of the most high-spec tourers currently made in Britain. If buying new though, we would like the 4kW Whale as seen at the 2012 Excel show. This extra heat would guarantee warmth in constant minus conditions in European snow camps.



AL-KO's ATC stability system applies the brakes if the caravan starts to sway; it's especially valuable when towing in winter.

In theory, this should result in potential four-season use... once you've got the heating sorted out.

The National Caravan Council (NCC) explain the four-season approval process like this: "The accreditation for four-season use is the Grade III Classification of Thermal Insulation (EN1645-1) certification." This is part of the NCC Approved badge to ensure it's safe and legal to use.

To achieve this, the NCC makes up to 600 different checks to ensure a leisure vehicle complies with the relevant British and European standards, including the habitation health-and-safety standard for touring caravans.

Part of the BS EN 1645-1 relates to thermal insulation and some manufacturers will choose to use a facility such as Millbrook Proving Ground to test this.

There, a temperature-controlled 'cold chamber' can lower the temperatures to minus 15°C, and then measure the time it takes for the caravan interior to reach +20°C. The power requirements needed to sustain an internal temperature at +20°C for two hours with an outside temperature of -15°C can also be measured.

Many manufacturers now include the BS EN 1645-1 thermal insulation grading for each of their models under the technical specifications, and some use the marketing term 'suitable for four-season use'.



Every pitch at Holgates Caravan Park at Silverdale has a 16-amp power supply; you still have to calculate the amps you use, though.

## Hot water and gas

Four-season caravanning has long been popular with the Swedes who cope with very hard winters and expect their vans to match the high standard of Swedish centrally-heated homes. They insist on radiator-type central heating, a water-based system ducted in pipes. Alde's water-based central heating is the preferred 'ultimate' system for European caravanners in snow (skiing) camps, but has only recently arrived in the UK market, with Alde setting up a headquarters in the town of Wellingborough, in Northamptonshire.

Liquid gas is the most effective method of providing heat in extreme conditions, delivering up to 6kW (20,472 BTUs), compared with electricity, where a typical system only goes up to 2kW (6824 BTUs) – using a 8.3 amp feed. Site fuse boxes can be low as 3 amps, although this is rare.

This means that in extreme conditions electricity is used mainly for supplementary heat, as with Truma (a German company by origin) which has been manufacturing caravan heating systems for 50 years, and in the UK for 10 years.

The first Truma caravan heater not only made caravanning warmer and more comfortable, but it kick-started winter camping. Thanks to Truma's experience and innovation, it has become an expert in



The new wireless Whale iVan Smart Controller calculates the amperage draw; you can set the maximum you want to apply.

heating and warm water in caravans and motorcaravans. Today it has a wide range of gas, combined gas-electric and diesel heaters for all vehicle types and needs.

But, entering the heating market in 2010, came Whale, from Northern Ireland. Well-known for its water pumps, the company now offers an innovative 2kW underfloor space-saving heater featuring a blown hot-air system using both gas and electricity. And this was what we had in the AutoSleeper Kensington.

Before we set off for a day's exploring, we'd set the Whale's wall-mounted control dial on low, using electricity only (output of 500 watts), which gave a temperature of 15 degrees (it was just four degrees outside).

## Rapid heat

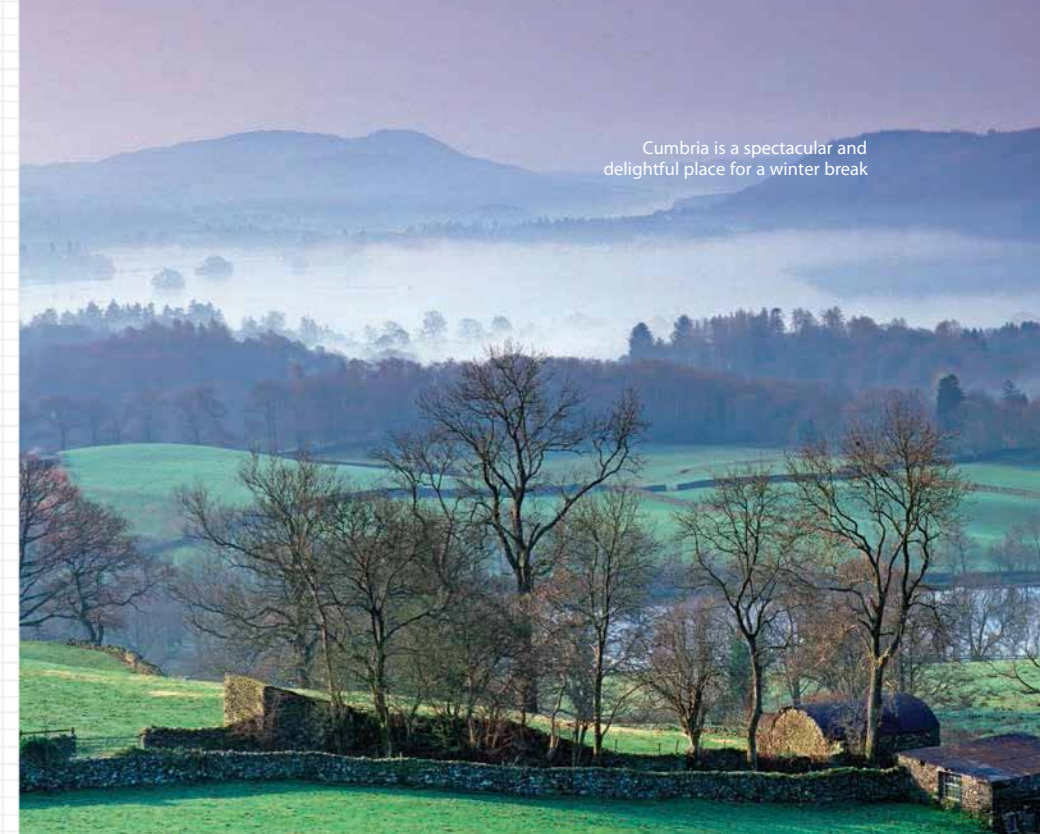
After a day of enjoying Lake District activities, we could look forward to returning to our snug van in the afternoon. Sunset was 4pm so we only had short days.

The Whale system heats up the air quickly, which then heats the walls and fabric of the caravan, so a comfortable 20°C is achieved rapidly from cold.

The first thing to do on returning was to bump up the ducted blown heat setting to maximum on the control dial and set the electric switch to maximum to get the full 2kW of heat, yet only consuming 8.8 amps.

The large rear shower room stretching the full van width was a sheer joy and the large bathroom space a 'must' for winter caravanning. In our case, we could either shower first to warm up, or just change from bulky outdoor clothes into lighter indoor clothes which were stored inside the shower room wardrobe. This has two doors; one of which opens into the main cabin.

This rectangular shower was hotel-spec, with space to dry off, and heated by a duct



Cumbria is a spectacular and delightful place for a winter break

tube inside. The 13 litres of hot water from Whale's water heater proved sufficient for two showers.

On re-filling from the cold water source (via the outside Aquaroll), using both gas and electricity, the water heater took 26 minutes to bring it up to 70°C.

We also tested the ability of the van to retain its heat. We turned the heating off with the van at a nice and cosy 20°C, but by 4am the temperature had dropped to 8°C. It was just 4°C outside, so not a bad performance, and thanks to good insulation, draught proofing and winter duvets, we would have been okay. However, we felt that extra heat during the night with the electric heating set on 'low', giving 15°C, would be a desirable luxury.

I always recommend using electric heating at night, as I still feel unsafe with gas.

## TO SUM UP

Apart from one blunder, we managed to avoid power overload errors and felt thoroughly snug in our warm-air cocoon. The ability to dry towels in the caravan was a particular bonus. If hung in the shower room overnight with the heating on low, and the duct open, it would take out the moisture. With further hanging out during the day while we were out, this gave us bone-dry towels to come home to.

If needed, Holgates has a laundry room with washing machines and tumble driers inside the central complex. As an alternative to the caravan's showers, Holgates provides superb warm ablution blocks with hot water. But we were so delad with our caravan facilities, we only sampled them out of a sense of duty!

Our seven-day test was very enjoyable and, with experience we gathered, we can envisage making a foray to the snow camps of Europe next winter to how best to cope with cold conditions.

## Add up the amps

But when it comes to electricity every caravanner has to remember their schoolbook physics. Calculations have to be made if the kettle and microwave and everything else are being used at the same time. The pitch trips at Holgates were 16 amps, but careful control is needed, to avoid popping the site's trip switch.

The latest Whale Wireless iVan Smart Controller coupled to Whale's new 4kW space heater, is simplicity personified, with a large, full-colour touch screen.

Moreover, it gives the calculated amp draw for each setting and combination, eg: gas plus 230 Volt AC for water heating and central heating, and advises if the selections made will exceed the available power (previously set in options) thus significantly reducing the risk of activating the electric trip-switch on the pitch.



## Findings

- Had the temperatures fallen below zero, more precautions would have had to be taken, ie: water standpipe feed pipes taken off, drained and stored.
- Cap the pitch water standpipe with a golf club cover to insulate it.
- Lag all waste pipes underneath with B&Q split foam pipe lagging and gaffer tape it on.
- Straighten external pipework to make sure it is running downhill to avoid build-up of water
- Cover your internal fresh water tank with a water jacket.
- Carry a small tool kit; screwdrivers and torch proved useful for the outside fuse board.
- Extra car type fuses advised for the caravan's DC supply. We blew one on the first day at 7pm with no spares. Raiding the towcar's fuse spares is possible in an emergency.
- A four-season awning that covers the doorway makes a good airlock, and a radius roof lets the snow fall off.
- A caravan site with sauna and indoor swimming pool is perfect to heat your inner core if you have been out all day, are wet maybe, and still feel cold, despite a cosy temperature of 24°C inside the caravan, as we had achieved.
- It's worth noting that in the European snow camps, the ablution buildings have heated anteroom entrances in the shower areas, with hangers and racks to dry ski boots and clothes in sauna-like temperatures. If the UK continues to have hard winters I could imagine these being installed to attract the four-season caravanners.

