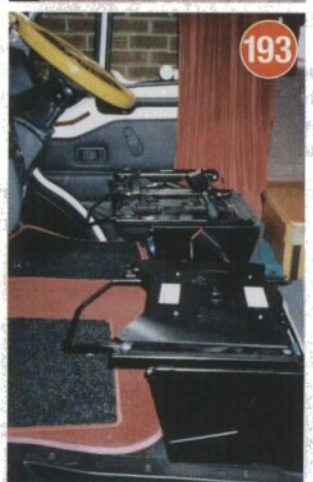


Matters

Your practical MMM starts here, with hands-on, technical and DIY information, plus your questions and answers



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GET PRACTICAL...

with Deputy Editor Rachel Stothert



I know many of you will be out enjoying yourselves this summer and won't have time for the bigger jobs that your motorhome may need. But there are plenty of smaller

tasks that can be done in as little as twenty minutes, like oiling hinges or replacing door handles.

Keeping on top of the little jobs will mean, in the end, that you can focus on the bigger issues when they arise.

This month one reader has a simple solution to improve his motorhome by simply fixing a removable armrest in place on his Autocruise. This rolled cushion now offers a firmer back rest.

We also spoke to another regular reader who converted a Fiat Doblo into his perfect camper van, just for him. After owning a variety of motorhomes, he has downsized to a vehicle that is specifically for fishing holidays. All the furniture elements can be removed to turn this little camper back into a five-seater car. After getting a quick update on the project, I'm sure this is one little camper that will never quite be finished.

Following on from one reader's experiences of DIY-reupholstering a few months ago (January 2009), this month we feature a story about getting your 'van professionally reupholstered. You might recognise this 'van, fondly dubbed Bacchus by its owners; Bacchus the Bessacarr has appeared previously in MMM, after the Williams' improved the storage. It just goes to show that no 'van is perfect, and small jobs can make life easier.

If you want an off-the shelf camper, read Robert Bayley's story about his Toyota-based camper. He proves that getting exactly what you want needn't cost the earth.

And finally, if you're planning to carry bikes on holiday, read Arthur Findley's essential guide regarding important checks, clothing, security and what to carry with you.

Rachel Stothert

FROM PAPER TO METAL: PART TWO

We regularly feature reader's own vans whether that's their own specification, off-the-shelf vans that they've modified, or their own designs. But what happens when a manufacturer decides to build a new motorhome? Last month, I looked at the design process and this month I follow the Stratford, as the new motorhome is called, down the production line. My guide is Brian Cross, the production manager.

As we discovered last month, design is finalised in the prototype workshop. While this is taking place the research and development team is drawing up computer-based 3D drawings.

The computer program generates a parts list, of, essentially, all the wooden panels needed to make the furniture. This list is sent to the CNC workshop computers. The computers generate a template that is sent to the automated wood cutting machines. Once the wood has been cut for the whole 'van, the entire kit is sent to the furniture assembly line.

However, before the 3D design and parts list is approved the first kit (termed Job 1) is assembled and fitted into a 'van at the prototype shop just to make sure it is exactly as it should be. Any amendments are made to the 3D design package and then revised designs are sent to the wood shop.

The 'van is then ready to go on the production line. The first few 'vans of any new model are sent down the production line with a book of drawings and designs. Production staff then annotate the drawings with any discrepancies between design and

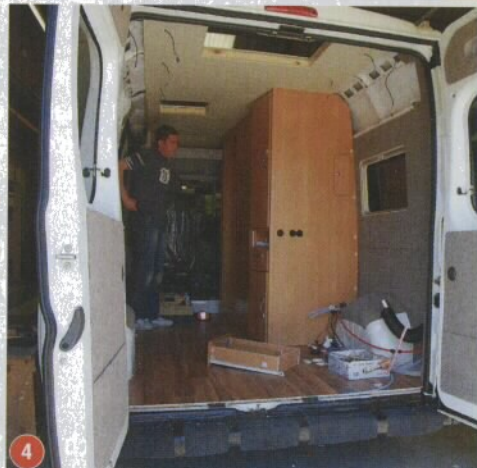
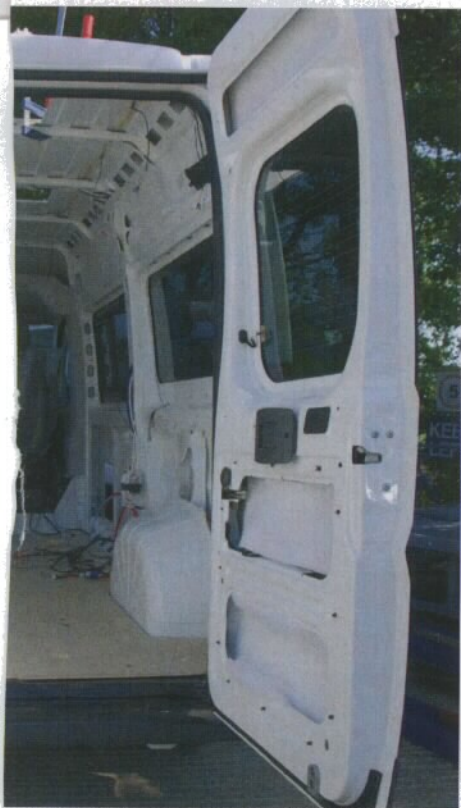


manufacture. Each of the issues is weighed up to decide whether it is a valid problem and the designs are tweaked if necessary. This can involve things like wiring looms - being, in one case, 400mm too short.

The first stage of production involves two simultaneous acts. The panel van enters the metalwork shop, where the apertures for vents and windows are cut and gas lockers are built in. All cut metal is covered with a special paint (approved by Peugeot) to stop corrosion. Holes in the floor are cut for systems like the gas drop-out, and undersealed. The van is insulated, wiring looms fitted (with cushioning on metal openings to stop the wires chafing) and the wooden floor is installed.

While all this happens, furniture kits are





heading for the preparation and assembly area. Even with van conversions, entire units are assembled and then placed almost as a whole. Lockers, bed boxes and kitchen units are all made up from the wood kit supplied by the CNC shop. Even the appliances (fridge and oven) are placed into the kitchen area before installation in the 'van. Brian says: 'We've found there's less risk of accidental damage to the expensive appliances and surrounding 'van if they are placed into the kitchen unit in the preparation area. All that is then needed is to connect up the power and gas when the whole unit is in the 'van'.

Lighting wires, curtain tracks, doors and crockery racks are also fitted during the preparation stage.

After the furniture has been made and the van has been into the metalwork shop, the Stratford will enter the line.

There are four definitive stages to the build process, and the 'van will be through the production line and completed within two days.

The first stage is to lay the vinyl flooring, and insert the roof lining and wall trim. Most of the complete furniture units are fitted at this stage. The wardrobe is slid into place as one complete unit, with a board to protect the already installed roof lining. The washroom panels are placed with the help of a jig on the floor for the correct position.

At the same time, things like the heater components are fitted along with the external flue.

The next stage on the line involves the internal systems, like the heater unit, batteries, lighting and the shower. It is also here that the vehicle is lifted (using a portable lifting system) to fit the underfloor tanks for fresh and waste water and gas.

The van moves along the production line to the next step, which involves all the finishing touches, like the LED lights and covers that are fitted throughout, the seats, curtains and

carpets. Even the concealed TV that slides out of the side of the wardrobe has already been attached to the bracket.

Almost finished, the Stratford now moves to one of the final stages, where the line manager will carry out a full inspection. Brian explains that the current line managers have been the company's best fitters, so they know every job on the production line. The gas water and electric systems are all tested and the carbon monoxide and smoke alarms are fitted as standard, along with any factory fit options that the customer has specified. Each van has a checklist which shows the fitter that works on each component of the van, what the customer specification should be and holds a record of the serial numbers of the equipment fitted.

Then the graphics are applied and an inspector checks the whole vehicle again. These eagle-eyed people pick up the tiniest detail, like a bed support that is scratched. They mark small scratches and chips and any other snags and get the issues solved. Often, the fitter who worked on that element is asked to fix whatever is wrong: hoping that this way they'll notice potential snags earlier in the process.

Once finished the 'van is ready for dispatch.

DETAIL FEATURES

This vehicle comes with a footrest for the passenger seat, as the cab floor is raised above the level of the living area floor. This removable metal plate hangs on the seat base and will be carpeted to match the Stratford interior.

LED lights have been fitted throughout to keep power consumption low and to offset the power draw that the compressor fridge will need running off the 110 amp hr leisure battery. LEDs cost more than 'conventional' bulbs but are guaranteed for five years and so should need changing a lot less often.

Also, on this van, an LED light has been fitted on the side of the kitchen unit, which

- 1 The process starts with an empty 'van
- 2 Portable lifting devices allow services to be installed
- 3 The kit furniture, made on site, is assembled
- 4 Then it's just a case of compiling all the elements
- 5 A Marquis Dorset EL, ready to go

illuminates whenever the sliding door is opened. It stays on for 20 seconds and then goes off automatically.

An underfloor gas tank saves space inside this medium wheelbase vehicle. Owners can fill this tank up at garages and there is a handy gauge on the dashboard to warn of how much gas is left. The gas is actually only used for the Truma Combi 4 hot water and heating system (which also runs on mains), plus the Spinflo cooker.

The fridge, as previously mentioned is a compressor type. Which runs from the mains and leisure battery. Brian comments that the standard leisure battery could supply up to three days of power for running the fridge at full power.

A microwave oven and 10inch TV/DVD are part of the standard equipment on this 'van. The aim is to offer a comfortable lounge in a compact van (it's around 500mm shorter than the long wheelbase Peugeot), whilst still providing the luxury that Auto-Sleeper owners expect. Customer feedback indicated that people wanted a motorhome they could park on the drive.

The Stratford will also be available in the Marquis County range as the Dorset EL, with a different interior, and slightly different specification.

NEXT MONTH: Read MMM's exclusive first test, as I get my hands on the Auto-Sleeper Stratford