



Fire engineering

Maintaining, specifying and operating emergency vehicles is no easy task.

John Challen finds out what life is currently like for those involved with fire and rescue service fleets

The role of the emergency vehicle is to be ready at all times, which means that their operators and fleet managers need to make sure that not only the vehicles, but also the vital components for fighting fires, are properly maintained.

Given the nature of their work, fire engines need to be available at any moment. However, vehicle maintenance schedules still need to be strictly observed. Servicing on West Sussex Fire & Rescue Services' (WSFRS) front line vehicles – currently subject to a fleet review, but predominantly Scania P and 4 Series models, with bodies from John Dennis Coachbuilders – is conducted in-house at Chichester, supported by three satellite facilities across the county.

"The maintenance intervals for the vehicle chassis, body components and specialist equipment are based on a safety inspection time of every 13 weeks," explains WSFRS fleet manager Peter Heath. "We work closely with our colleagues in other fire and rescue services, and have devised a standard inspection sheet, which includes operational items, such as the fire pump. It is vital

that all the components, as well as the vehicle itself, are fit for the road."

Heath places a major emphasis on training, and uses manufacturer courses to good effect to get his technicians up to speed with new technology and new models. "I've always posed the question: 'Why do you need a licence to drive a fire engine, but you don't need one to work on one?'," he explains.

irtec licensing

As a result of this work ethic, Heath has overseen the adoption of the irtec licensing scheme for technicians, something he feels strongly about. "For new recruits, we make it job dependent that they achieve irtec accreditation within 12 months of joining the fire service," he states. "We also have an apprentice and he is expected to achieve irtec by the end of his apprenticeship period."

Having irtec-approved technicians has certainly helped efficiency, according to Heath, who is leading from the top with his approach to maintenance and minimising downtime. "It sounds straightforward, but the best way to maintain the vehicles involves proper safety inspections, manufacturer-approved

Above: one of West Sussex Fire & Rescue Services' Scania appliances
Below: command support unit for Warwickshire Fire and Rescue, converted by MacNeville





Above: pump bay on a MAN fire unit
Below, right: hybrid configuration for Ashwoods' diesel-electric Ford Transit van

methods and the use of suitable facilities – all of which we have in West Sussex.

“The biggest challenges for us are twofold,” he continues. “They are controlling costs – some of which are more difficult than others, because they are outside our remit – and keeping up with modern technology, which seems to be moving so fast.” And, once again, training – from VOSA, as well as the vehicle manufacturers – is the key here.

Continued education, says Heath, is integral to the smooth running of the fire service fleet. “When we buy new appliances, whether they are specialist components or the chassis cab, we include full training as part of the specification. If we’ve got, as we have, 30 Scania trucks and we have done all the training on them, it may well be that we won’t have every engineer on the full training next time around.


However, if it is an engine or two from a different supplier, we might want to send them all on it, because it’s new to all of us.”

But it’s not only about proper technician training. Specialist vehicles also play their part. And some are more unusual than others. Warwickshire Fire and Rescue Service, for example, has recently seen its fleet boosted by the arrival of a van, converted into a command support unit – for deployment to incidents where five or more appliances are in attendance – by MacNeville.

Clever conversions

With the ability to carry five passengers in transit mode, this Mercedes-Benz Sprinter 515CDI panel van has been fitted with two IT desks and screens, an awning for use as a briefing area and 40in external display screen.

The unit can be fully self-sufficient in operation and also carries an 8kW mains generator set, which is capable of running all onboard systems and equipment. Input provision for external power is also included via a fully protected mains distribution board.

MacNeville sales and business development manager Phil Peel states that the systems and technology built into the Sprinter conversion enhance incident management and communications. “[It enables] critical decisions to be made with much better and more detailed levels of real-time information. The unit can also act as a central co-ordinating hub for inter-agency and external communications channels that might be required, particularly during the emergency stages of a major incident,” he explains. 

Emergency support

Of course, it isn’t just emergency vehicles that play a vital part in the fire service – a fact that Chris Beebee, fleet manager at the West Midlands Fire Service (WMFS), knows only too well. Having decided to choose diesel-electric hybrids for some of his fleet’s pool passenger cars, Beebee has recently taken delivery of the first hybrid commercial vehicle.

The Ashwoods diesel-electric hybrid Ford Transit claims to reduce fuel consumption and CO₂ emissions by 15–25%, compared with a standard vehicle, and Beebee says he is pleased with the results so far.

“We get efficiency from the diesel engine when you need it, as well as from the electric motor, which gives extra assistance to the powertrain,” he says of the vehicle that is now part of WMFS’s warehouse and distribution fleet. “If this vehicle proves to be successful – and it is looking good at the moment, even though it is early days – we’ll hopefully purchase another one. If the market came up with smaller vehicles in the Fiesta van and Corsavan class, that would be even better, because it would give us even more efficiency and financial savings, while being green at the same time.”

Beebee’s Ashwoods Ford van is one of the first of its kind to be fitted with the company’s Lightfoot driver behaviour technology. The system claims to further reduce fuel usage and Beebee says it is working for WMFS’s drivers.

“The system monitors the driver’s performance and we take a read-out of that data, which uses a red, amber, green system,” he explains. “What we have found so far is that drivers are thinking more about when they brake and accelerate, and the mpg figures are going up all the time. There are already far fewer red and ambers, and more greens.”

