

When less IS MORE

As the emergency services are increasingly required to bend to the laws of austerity, converters and truck OEMs alike are coming up with novel solutions. Steve Banner explains

Acutely aware of ongoing austerity measures, fire services are putting lighter, cheaper yet highly competent appliances into service. David Price, municipal sales manager at DAF Trucks, says they increasingly look for 12- to 14-tonners with a bodied price tag below £200,000.

"What they also want are factory-built crew-cabs they can have modified, rather than alternatives constructed by converters," states Price. And he makes the point that converters' crew-cabs cost circa £30,000.

But that's not always the case: indeed, one of DAF's most recent fire service orders – for Lancashire Fire and Rescue – involved 10 LF 250 FAs, all 16-tonners with four-seater crew-cab conversions by Ziegler. Well-known fire appliance builder Emergency One built the copolymer bodies. DAF engineers fitted the exhaust units 650mm rearwards on the chassis and relocated the AdBlue tanks to the nearside to accommodate the crew-cabs.

That said, MAN sales engineering manager Russell Stevenson agrees that factory-fit crew-cabs are favoured, also adding that MAN can offer 12-tonner variants. "Most brigades are also keen to have an Allison fully-automatic with a retarder that operates automatically

when the footbrake is applied," he adds.

Those doubting the capabilities of a 12-tonner would have been interested in the Volvo FL-240 exhibited at last September's Emergency Services Show. Featuring a copolymer body constructed by Strongs Plastic Products, this appliance was equipped with a Cobra C360 fire extinguishing lance.

ADVANCED CONCEPT

Such appliances can form part of an approach to combating blazes known as SAVE (scan, attack, ventilate, enter), which also involves the use of thermal imaging cameras. Hampshire Fire and Rescue has played a key role in pioneering the concept and is trialling a Volvo equipped with ultra-high-pressure lances plus the latest rescue equipment.

Some services are also deploying small, first-response vehicles using light commercial chassis. These may be able to deal with emergencies without the services deploying bigger engines.

Pickup Systems has devised one such, called Compac. This is based on a 5.0-tonne Mercedes-Benz Sprinter 519 CDI chassis complete with a factory-built steel crew-cab seating five. It comes with an 800-litre water tank, a Godiva KP2 pump and a 9m ladder. "Its lower initial purchase price, and greatly improved maintenance costs and fuel economy

mean it can be 60% cheaper to operate than traditional truck-based fire engines," states Pickup Systems' managing director John McGauley.

"It can easily cope with the majority of fires; is well-suited to responding to road traffic collisions; and really comes into its own when attending incidents where access is restricted. I'm thinking of tight inner-city streets and narrow country lanes," he explains. Appliances constructed by Pickup Systems and based on the Toyota Hilux 4x4 have been in operation with West Midlands Fire Service for several years.

Meanwhile, although the public sector is understandably cautious about spending money, it may be more willing if operational benefits can be shared across agencies. One example is a Scania-based JCU (Joint Command Unit) soon to be delivered to Northamptonshire's fire and rescue and police services.

The vehicle is based on a G320 DB6x2*4 CG16 day cab with the low height chassis, and full front and rear air suspension. Power comes from Scania's 9-litre 320bhp engine driving through a GRS905R 12-speed range change gearbox with retarder and two-pedal Opticruise. Complete with sides that can be extended to add space when stationary, this 26-tonner





can even receive footage from body-worn cameras, a drone and the police helicopter to aid commanders.

John Dennis Coachbuilders, Spectra Specialist Engineering and Excelerate Technology were all involved, while Scania dealer Truck East Wellingborough provided support. At approaching £1m, the price is being met by a grant from the Department for Communities and Local Government.

What about maintenance? Fire appliance servicing still tends to be carried out in-house, because workshops are required anyway to maintain pumps, cutting gear and related equipment. "Technicians will be trained on the appliances concerned and the brigade may also invest in diagnostic

equipment," explains Price. "In some cases, municipal vehicles and fire engines may be maintained in the same facility and the [procurement] framework may be used for purchasing parts."

MAN's Stevenson concurs: "The brigades like to handle routine maintenance themselves, with our dealers only getting involved if, for example, warranty repairs have to be carried out or rework programmes are implemented. Dealers can also have a role to play with diagnostics."

But whoever is responsible for diagnostics may increasingly rely on remote equipment to identify faults and deal with them before they become more serious and expensive. Emergency One has come up with a system that

relays diagnostics information from its e1Fleet on-board console to fleet managers over Vodafone's 4G-enabled Internet of Things network. The point: action can be taken promptly if a problem arises, while the system also allows appliances to be tracked.

Meanwhile, in the spirit of cutting costs and providing multi-roll vehicles, O&H Vehicle Conversions and Terberg DTS have developed Telstar. Based on a 5.0-tonne Sprinter chassis, it has an ambulance compartment at the rear, complete with paramedic first-response equipment and self-loading stretchers. However, the front forms a fire appliance with a 500-litre water tank, 60m hose reel and a Hale HPX75 pump.

Versatility is also the watchword for O&H's non-emergency Flex PTS (Patient Transport Service) ambulances. These offer four layout variants - seated, stretcher, wheelchair and bariatric - on a single platform and can be rapidly converted from one to another.

But adaptations for emergency services vehicles can also be carried out by Vauxhall, under its new blue light centre at the Luton van plant. Among offerings are Protected Support Units - Movano minibuses carrying up to 10 officers and riot gear - featuring screens made from thin polycarbonate with a six-micron glass finish. Chuck a brick at them and they will bend, but not shatter. [TE](#)

Integral van saving

Basing front-line ambulances on factory-built integral van bodies can be more cost effective than mounting coach-built bodies on chassis. As Steve Shaw, commercial and operations director at Cartwright Conversions, puts it: "Convert a Fiat Professional Ducato van and you can have three for the price of two Mercedes-Benz Sprinters with box bodies."

Not all vans have integral bodies that are the right shape, however, to accommodate paramedics, patients and the medical paraphernalia. For Shaw, the front-wheel-drive Ducato does, and selecting rear air suspension means you can use a ramp rather than a heavy patient lift. So the fact that Ducato only ranges up to 4.25 tonnes is less of a drawback than it might appear. At time of writing, Cartwright is about to launch a Ducato-based accident and emergency ambulance.

