

Good as new

Lightweighting and alternative materials may not be reducing chassis strength, but design complexity is impacting crash repairs and timescales. Steve Banner reports

Right: the classic rear end shunt
Below: finishing at Renault Trucks South;
Bottom: induction heating by Josam

Purchasing second hand can make sense, if it saves cash and does so without compromising a firm's efficiency. And that is as true of commercial vehicle body parts that need replacing after a smash as it is of buying whole trucks and vans. Indeed, some bodyshops are seeing a significant swing in favour of using recycled panels and a variety of other items wherever possible, according to Glyn Heathcock, managing director of Oswestry, Shropshire-based accident repair centre Perrys of Gobowen, which is also a Renault Truck dealership and Mercedes-Benz approved.

Not only does it tick the environmentally-friendly box, but buying second-hand items can be half the price of new equivalents, he says. And he adds: "As a consequence, insurers like them." Just as important, though, they can sometimes be made available much more quickly than factory-fresh items – meaning a worthwhile potential for reduced downtime.

"Order a completely new cab and you can wait six to eight weeks before it arrives," he observes. But switching to recycled components can enable a vehicle to be put quickly back on the road – even one that might otherwise have been uneconomic to repair. It can also mean that an operator benefits from what amounts to a vehicle upgrade – with, for example, a damaged four year-old cab being replaced by a two year-old equivalent, Heathcock says.

But it all depends on what's damaged, he warns. "Using recycled doors, seats and cab interior fittings, such as lockers and the headlining, is unlikely to cause any problems," he explains. "However, we'd be wary of installing a second-hand radiator." Obvious, maybe, but he makes the point that, if such items suddenly fail, then trucks will be brought to a rapid halt, potentially with damage to other engine parts and with the prospect of another bout of downtime.

Opinion in the industry varies: Renault Trucks South, for example, makes little use of recycled parts in its accident repair centre in Reading. It, however, from time to time will fabricate its own body panels and rivet them into place, if that's the most efficient and cost-effective way to get a commercial vehicle back on the road.



"Operators are more than happy for us to do so," comments dealer point manager Nick Hobbs. And he observes that it's all part of specialist truck repairers doing whatever it takes not only to minimise cost but also the time commercial vehicles spend off the road not earning money – quite unlike most car repairers.

Structured approach

So what of the vehicles themselves? While the basic structure of truck cabs has changed little in recent years, they are easier to remove from a chassis than their predecessors, agrees Perrys' Heathcock. "We reckon it takes about six hours to take a modern cab off, put it on a jig, then put it back on the chassis," he claims. "In the past, that process could have taken a couple of days."

Why such an improvement? "Remember that it's all fly-by-wire these days, so there aren't the gear linkages to worry about," he states. "What you're basically doing is unplugging everything and then plugging it all back in again." And individual panels and auxiliaries have become easier and cheaper to detach and replace as well – just as on light





commercials. Ford's Transit Custom, for example, is fitted with multi-piece front and rear bumpers (an approach now being widely adopted) so there is no need to replace an entire bumper, if just one section is damaged.

However, some believe that trucks' chassis can be problematic, essentially because they are so much lighter than their forebears. While lightweight is welcome news for

truck chassis are just as strong as they have ever been. For him, though, investing in the Blackhawk jig has saved Adams Morey from having to invest in an induction heating system, which harnesses heat to help bring bent chassis back into line. That's despite their claimed advantages – notably allowing jobs to be completed faster, with less pressure exerted on chassis than in cold straightening.

Material world

Incidentally, that's why so many crash repair outfits have gone for induction heating equipment – one of the most significant additions to commercial vehicle accident repair shops over the past decade. That and the point that there are no naked flames to create a hazard, while system automation optimises energy consumption as well as reducing noise levels. It's also why companies such as Josam, one of the major suppliers, have flourished. Last October, for example, the latter unveiled its JH1500 induction heater which is lighter and easier to manoeuvre than the previous JH1300, but just as powerful.

Meanwhile, although unlike with passenger cars, ultra-high-strength materials (such as boron steel) have yet to be deployed extensively in vans and trucks, the use of materials other than conventional steels is

increasingly common. Alloy panels have been fitted to a number of commercial vehicles over the years. Special alloy steels, such as Hardox, are also used in tipper body construction. Plastic tipper bodies are in service and box bodies have long been constructed using GRP and sandwich panels.

So, crash repair workshops are familiar with the range. Rather more of a challenge is the extent to which commercials have become more sophisticated electronically, with the use of CANbus digital system wiring at one level and the introduction of everything from air conditioning to computer-controlled exhaust after-treatment systems at the other. All are vulnerable to damage in a smash – in much the same way as a windscreen or radiator grille.

That adds an extra layer of complexity. "We can put everything back together, but then it has to be re-programmed," explains Adams Morey's Cartwright. "If the truck is a DAF, then that is no problem. But if another make is involved, then we may have to call on a nearby dealership for assistance." Equally, however, others will be phoning Adams Morey for help when it comes to problems with DAF trucks.

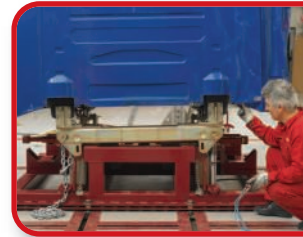
That said, the comparatively few commercial vehicle bodyshops nationwide – certainly compared with car repair centres – means that business is booming. "Our hourly manual labour rate is higher than the rate charged by some of the major car bodyshops," confirms Cartwright. Good news for repairers: not quite such good news for cost-conscious operators. TE

fuel consumption, it makes chassis weaker and more vulnerable to collision damage, goes the thinking.

"These days, chassis have fewer cross-beams and you will not see one forward of the fifth wheel," observes Heathcock. "So the engine and gearbox have to provide the necessary [additional] stiffness. As a consequence, the chassis twists very easily, if there is an impact – and in places it never used to. That often means the engine and gearbox have to be taken out for it to be straightened." And he adds: "Furthermore, the front under-run system fitted these days can act as a lever and bend the chassis, if it is struck. I've known this happen when fully-laden trucks have hit high kerbs."

That needn't be terminal, though. Bob Cartwright, general service manager at DAF dealership Adams Morey, reckons that when a chassis does bend, realigning it is usually fairly straightforward, as long as the bodyshop has the right equipment. His Redbridge, Southampton, site boasts a Blackhawk jig ("That will straighten anything," he reckons), a smaller jig for light commercials and two paint ovens, one of which is big enough to accommodate an articulated vehicle. The company also has accident repair facilities at its Portsmouth branch.

Cartwright disagrees with Heathcock, arguing that



Below: Renault Trucks South paint shop

