Chopping and changing

Once upon a time, just about every other skip lorry on Britain's roads seemed to be an old tractor unit which had been converted. Lucy Radley examines why the practice isn't so common these days

Huddersfield's Mac's Trucks has been in the commercial vehicle engineering game for over 40 years, and has been stretching existing units for most of that time. "There are two reasons why we do it now," states operations director Craig Graham. "The first one is cost, as obviously there's a substantial saving in buying used over new, and the second is a lack of availability of chassis." There simply aren't many good-quality used rigids out there, especially not for the customer needing an eight-wheeler on which to mount a crane, for example.

The finished product can go into any application, but is particularly popular in the construction sector for site movements of plant machinery. That means flatbeds, beavertails, and 'cheese wedges', where the ramps fold flat to increase available bed space. Curtainsiders for small manufacturers and distributors are another decent-sized market (examples of its work pictured bottom, p13 and on p14).

Once complete, a converted truck can be treated like any other rigid when it comes to maintenance and inspection regimes. Before the vehicle plating can be updated and its use on the road made legal, however, the converter must put the vehicle through a standard MOT and complete a DVSA VTG 10 form for notifiable alterations.

"To get that application through, you need certain supporting evidence," Graham explains. "That is, approval from the OEM. When a tractor becomes a rigid, everything changes: braking characteristics, steering application, everything. You need to get an EBS declaration to say the software is correct, and so on." This is where things get more difficult – most of the major truck manufacturers won't support these applications, and that's especially true once converters start adding axles, as Mac's Trucks often does.

"As far as the nuts and bolts go, that's not changed. It's the technology," observes the operations director. "We fit an EBS system for new axles which is standalone, but integrated into the truck, so if there's a fault, it still puts a warning on the dashboard of the vehicle." Most of the chassis Mac's works with these days are Scania. "They seem to be the only ones who'll let us do the big stuff now." The others range

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from being wary, to simply not allowing these conversions to happen at all.

This seems a shame; a missed opportunity. "This is what I can't understand," Graham agrees. "It seems like cutting your nose off to spite your face. After all, if that truck's still in the system, it's going to go back into the dealer network, or at least whoever does the maintenance will be buying original parts for it."

OEM VIEW

Volvo Trucks was approached for its take on what is, inevitably, a rather sensitive subject. And the answer is quite simple, really. In the old days, all DVSA needed to approve such conversions was a brake calculation, which could be done by the converter. Since the advent of EBS and AEBS, however, the onus to update the certification has been pushed back on to the vehicle manufacturer, which also means the conversion will require a software upgrade supplied by the dealer network.

Taking that a step further, quality control of the actual engineering is another area of concern for OEMs. After all, even with their sign-off on the braking systems, if a vehicle is involved in an accident where the chassis fails, the badge on the front still says Volvo, regardless of who carried out the work.

Volvo does not recommend tractor-to-rigid conversions. First, there are definite pitfalls: a rigid is not just a big tractor by any means. Frame size and axle capacities, for example, are different. Volvo has a 266mm high tractor frame, while its rigids are 300mm. If you buy a rigid from the factory, it will have localised reinforcement or 'flitching' to cope with its length. And, of course, you'll have the right wheelbase when you buy it, so the steering will be geared correctly.

"We do have some advice on stretching vehicles in the Volvo Bodybuilder Instructions (VBI)," admits John Comer, head of product management. "But usually we like to stretch from a rigid to a rigid, or a tractor to a tractor."

Sometimes, manufacturers do actually work with converters; for example where there is a shortfall in a model, or when a new concept means the volumes are small. Urban tractors are a good example of this. "We don't need to do it any more, as we have a factory solution," Comer says. "But when we have, it's all controlled; they have full access to the factory systems, and the approval is done mutually."

When external conversions are permitted, operators must be aware what the OEM's stamp on the paperwork really means. "We're signing off on something we didn't actually build, and we're signing it remotely," Comer stresses. "It's not to be confused with a sign-off that says 'This conversion is okay'. But we want to ensure that the

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truck they do sell is safe," he adds, "so if you are going to cut the chassis, make sure you seek the manufacturer's advice first, before you start."

OEM SOLUTION

One manufacturer which does see a future in tractor conversions is Renault Trucks, which actually operates a used truck factory at Bourg en Bresse, eastern France. This facility is dedicated to 'repurposing' returned vehicles into either the uprated, tougher X-Road tractor, or its rigid counterpart, P-Road (pictured, p12-13). Renault doesn't allow outside converters to cut its chassis in half, and in fact doesn't itself do it either.

For P-Road, workshop employees remove the cab and engine, and reattach the running gear to whole new chassis legs. Everything from the original donor vehicle is used, bar the chassis rails. The prospective new owner can choose between 5,600mm, 6,000mm and 6,500mm wheelbase options, and whatever body suits its needs. The only limitation is that all finished vehicles come out as 4x2s.

"There are a couple of reasons why we haven't quite gone the 6x2 route yet, although we have explored it, and it is being trialled," says Neil Willis, national brand & retail sales manager – used trucks. "Braking is an issue with modern vehicles, because of the sensors and EBS." Experimentation has shown that while stretching a 4x2 or 6x2 tag axle unit is relatively simple, doing the same to a 6x2 mid-lift tractor is not.

"The only thing you can use from that mid-lift axle is the wheels," Willis says. "Everyone asks why we can't just move it to behind the drive axle, but you'd need to put a whole new one in. So if you factor in the cost of new chassis rails and a new axle, it just isn't cost-effective." There's no market for mid-lift 26-tonne rigids, of course – the wheelbase would be far too long and the turning circle too large.

While P-Road can be built bespoke from the used tractor of an operator's choice, Willis has also taken the pre-ordering route for the UK. That is because not only is there a real shortage of used Euro VI rigids, but also there are far too many 'plain white' tractor units, so having some converted on the shelf increases the variety in Renault's used offer. Great idea; but it hasn't been quite that simple in execution.

"The biggest issue we've had with this is that a typical tractor unit does 120-150,000km a year," Willis points out. "If you take a three-year-old one that's come back with 400,000km on it, that would be a very high-mileage rigid. That's people's perspective." To this end, he's had to wait for the right return vehicles to come along, which has taken some time.

Nonetheless, the concept has proved successful, and a total of seven tractors have now been through the process. The result, even with conversion costs factored in, is a sensibly-priced chassis-cab, available in a fraction of the time it would take to order new. Even if an operator has to wait for the work to be done, the turnaround time is just six weeks. "At the moment we've got some 66-plate 460 Range Ts with high roof sleeper cabs, the usual specs," Willis says. "The chassis are converted, all the paperwork done, and they're advertised for £42,995."

"Gone are the days of people stretching units for a grand, adding bits in and cutting and shutting," Willis reflects. "It's nice to see it being done properly, with Renault putting its name to it."

And there's one final bonus that comes with an OEM doing the conversion. "If you go into a Renault dealer and type in the chassis number, the system is updated for that vehicle to show as a rigid, with all the right technical data," he concludes. "So that's your final seal of approval." TE