Pick up your **skirts**

They look stylish, and are claimed to return fuel savings of up to 7% at highway speeds, so why do relatively few semi-trailers in the UK boast aerodynamic sideskirts, asks Richard Simpson

At first sight, fitting trailer sideskirts appears to be a 'no-brainer' for articulated-truck operators. Visually, they clean up the trailer's appearance, covering unsightly and dirty 'mechanicals' such as sideguards and landing legs. Also, a quick scout on the internet will reveal studies, mostly from North America, that claim fitting them offers fuel savings of up to 7% at highway speeds. So what's not to like?

The repair bills, mostly, reveals one operator. "You fit sideguards to a new curtainsider as a £2,500 option. The first week in service, you get a £250 bill for repairs to damage sustained during loading or unloading. You may be saving fuel, but never enough to cover this kind of cost."

That's an experience which sounds very familiar to John Fletcher, managing director of Dawsongroup, which has over 7,200 semi-trailers in operation on a wide variety of work with different fleets. "We looked very hard at sideskirts back in 2008, just before the last recession hit," he remembers. "The kit attracted a lot of interest from customers, but any tangible benefit was difficult to quantify. There was little hard feedback, but the skirts were certainly good from an image point of view. We found the down side came at end of contract when the trailers were returned. We had to have discussions with customers about skirt damage that often equalled the cost of having them fitted in the first place.

"It seems to be that sideguards on curtainsiders are used as brakes by forklift truck drivers, and the presence of an expensive and relatively fragile sideskirt doesn't alter that," he says dryly.

"They are less prone to damage on box and fridge trailers and, particularly on fridges, give a nice clean image by covering pallet racks and so on."

Some customers still demand them, but in the absence of hard figures either from operations, track trials or even computer exercises using fluid dynamics, the general attitude of UK Haulage Ltd is that they are at best cost-neutral when fuel-saving is offset against repair costs.

"We would rather spend the money on passive safety equipment to prevent trailer roll-aways, or XL-rated trailers

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John Fletcher

to aid load security [see also pp36-7]. If aerodynamics are a concern, then you still see plenty of trucks on the road where there is a serious mismatch between the air-kit on the truck and the height of the trailer. There are far more savings to be made there."

OEM'S VIEW

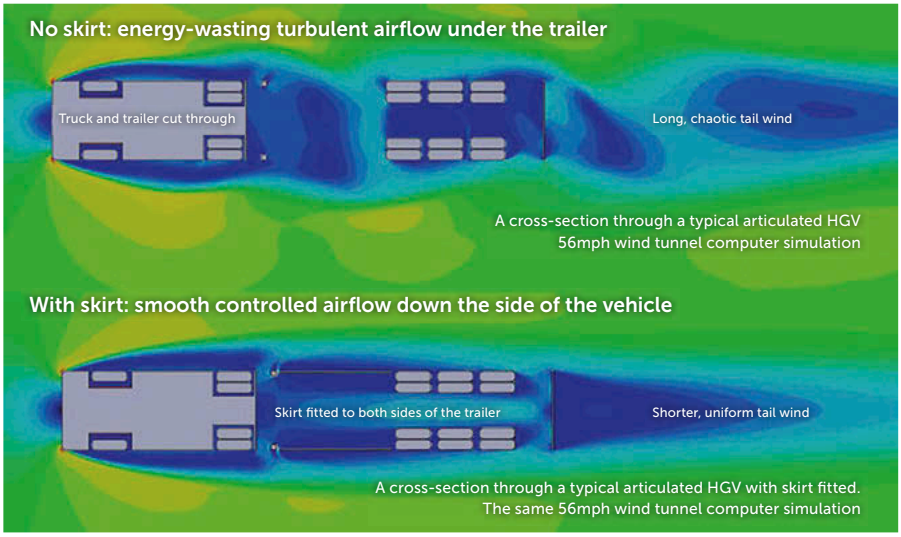
When it comes to aerodynamic trailers, British manufacturer Don-Bur, which pioneered the distinctive streamlined teardrop roof design, can truly claim to be among the global leaders. Group marketing manager Richard Owens confirms that it investigated side-skirts as part of a number of aerodynamic features, starting in 1999.

He says: "We originally undertook track tests which indicated that side-skirts could save 2% of fuel, and that a package of aerodynamic measures including the skirts, buckle-less curtain straps and a roof dome could cut fuel consumption by 7%. But the testing process three decades ago was not that clean: there was no control vehicle, for example."

In the real world, subsequent on-road testing revealed that the fuel saved could be very dependent upon the direction of travel. Owens continues: "We worked with a major 3PL to assess fitted skirts on curtainside trailers. When trucks were travelling from north to south, the skirts made very little difference. Where there was an improvement in fuel consumption was when the truck was travelling from east to west, particularly on exposed routes through open countryside." The reason was the prevailing south-westerly wind.

"We found the skirts were most effective at yaw angles of 5% or greater, and we have operators running on trans-Pennine routes who have found sideskirts do give a significant fuel benefit for that reason."

Don-Bur offers three different types of skirt for use on suitable routes.



Richard Owens admits that it's "difficult to make a business case" for the full-encasement skirt that the company offers on its Teardrop 2.0 trailer (pictured below) simply on grounds of cost, but the company's more basic designs can pay back in saved fuel costs in just two to three years. Costing around £2,500, more elaborate designs (pictured, top left), will take longer.

So why would anyone specify the wrap-around? Owens replies: "They sell on aesthetics. Trailers fitted with them really look fantastic." However, because of the damage risks, Don-Bur does not normally recommend side-skirts for curtainsiders that will be loaded or unloaded from the side by forklift – the average repair cost is about £200, Owens cautions.

He urges operators to carefully consider the application before specifying them. "Sideskirts and other aerodynamic features really only come into play at speeds above 30 mph. For trunking, aerodynamic aids are a no-brainer, but urban distribution is a different case."

URBAN BENEFITS

On the other hand, Owens adds that sideskirts may offer a different benefit in an urban environment, as they could prevent pedestrians, cyclists and motorcyclists from being dragged under the trailer's wheels in the event of a collision. That was the main motivation for James Dawes, a former Metropolitan Police motorcyclist, in creating the Dawes Highway PeoplePanel (pictured, bottom p30).

Unlike more elaborate sideskirts, it's a two-dimensional structure created from a resilient aluminium and rubber laminate. Cost is far lower than the more sculpted glass-fibre products, starting from just £175 a side."We did not design or sell them as a fuel economy aid," he admits. "But we have had fleets come back to us and say they have measured fuel consumption reductions of 0.5% when the product was put into use, with no other changes to vehicles or work." TE