



Put some meat on the **BONES**

Putting aside more specialist equipment such as ISO tank and tipping trailers and the multi-function or splitting skeletal, the main versions in use for container transport in this country are the sliding and fixed skeletal. And the go-to option for most people spec'ing a skeletal is the sliding version, simply because it's so versatile. But the first question operators should be asking is whether they actually need that functionality at all. For example, Dave Ashford, director of transport at Purfleet container specialist KBC Logistics, runs a mixture of trailers, but prefers fixed skeletal for 45ft short sea work. "Fixed trailers are lower, so you get better fuel economy," he says. "Plus the centre of gravity is lower than on a slider, so they are more stable."

Fixed trailers are also lighter than sliders. The biggest supplier of skeletal of all kinds in this country is Dennison, which claims an 80% market share. It advertises four-lock fixed trailers suitable for carrying 40ft and 45ft containers with an unladen weight

For operators looking to buy their first skeletal trailer, the choice can seem a little bewildering. As well as deciding on which of the many manufacturers to go for, there is a seemingly huge range of options to look at, each with its own advantages and disadvantages, finds Lucy Radley

under 4,000kg, +/-2%, whereas all steel sliding versions come in at under 4,800kg, although this can be brought down if various alloy options are specified.

Perhaps the most important thing about fixed skeletal is their simplicity. Northern Ireland manufacturer SDC produces these trailers (pictured, p18) to fit any size of container, and says that they are particularly robust because they have no moving parts. The lower height offered by fixed skeletal solves another problem as well, one peculiar to 45ft boxes. On a sliding chassis, the rear end is very high and the area underneath unprotected, making them incompatible with most UK loading bays if drivers attempt to dock them without first lowering the rear air suspension – and in some cases that still isn't enough. "If you get a

driver who's not really on the ball, the container goes over the top of the bay and through the door," Ashford points out. This can lead to some hefty bills for damage, especially if it happens regularly. "I think last year I had 11; so I simply avoid having 45s on sliders at all now."

There are usually under-run bars on both fixed and sliding chassis, which can be pulled out when pulling longer boxes, but they present problems of their own. The biggest is ensuring that drivers actually pull them out, which may become difficult if the bars have been knocked or bent, making them stiff or even jam completely. Newer versions are far more robust than some earlier designs, and neither of the manufacturers contacted were aware of this being an issue with their current models, though that may simply

be down to operators not reporting incidents, as their root cause is driver error.

CONTENTIOUS ISSUE

There’s also a certain amount of contention over the law where these pull-out bars are concerned. Adds Ashford: “I’ve got a very good relationship with Essex Police, as I came from an enforcement background myself. I’ve had discussions with them recently because a few of our vehicles were seen with the bars stowed. But there doesn’t seem to be anything that can be done about this legally, because the box is part of the load, therefore a 1m overhang is allowed.”

However, both Dennison and SDC interpret the rules in different ways. Dennison says that “the rear face of the bumper must be a maximum of 300mm from the rear face of the crash bar to the rear of the trailer”. SDC has type-approved its bumper bars “to ensure the container overhang does not exceed 360mm to the face of the crash bar”. Best practice seems to be simply to ensure they are used as fitted and intended. After all, mandatory or not, if fitted safety equipment was not being used on a vehicle involved in an accident, the operator might face a difficult conversation with its insurer.

If an operator needs to be able to carry a variety of containers, a sliding skeletal is the way to go. For both operation and maintenance, these are far less complicated than meets the eye, especially as many of the weak points, such as the rollers between the two sections of chassis, have been greatly improved over the years. One part which is still vulnerable to driver damage is the pull-out coupling plate. Most sliders are equipped with one at the front of the trailer to allow for the overhang at the front of 45ft boxes. If care isn’t taken, it’s all too easy to catch these on the fifth wheel when a trailer is



being coupled or uncoupled, causing them to bend. Dennison now offers an extension to the chassis itself to solve this.

Sliding skeletal usually come fitted with 14 twistlocks to facilitate the loading of 20, 30, 40 and 45ft containers, as well as 13.6m swapbodies. The trailer can be lengthened and shortened, both to allow the tipping of 20ft units through the back doors and to account for weight distribution and turning circle requirements with other sizes. The two sections of the chassis are held together with retractable locking pins which are air operated. One continental supplier is Krone (trailer pictured p17).

“We use air/spring locks, which can only be operated when the handbrake is applied to the chassis,” states Paul McConway, sales technical advisor at SDC. “They are relatively maintenance free, with greasing recommended once per week. Air unlocks and a heavy-duty spring keeps them locked.” Dennison locking pins are designed so even if they are manually released, the trailer parking brake will not disengage until the locking pins are located.

Twistlocks come in two main varieties: the standard type where a handle below the lock is turned 90° to lock and unlock, and the screw-down variety which enables the container to be clamped into position, giving increased security and reducing

vibration between chassis and load. Both are fairly easy to maintain, in that they are designed to be grease-free, although some operators like to apply a small amount of basic lubricating oil during servicing. On trailers designed for use with multiple container sizes, the twistlocks are retractable, turning to one side and dropping down into their retaining block when they are not required.

In fact, sliding skeletal require little more maintenance than any other trailer. Advises McConway: “As well as the normal checks, you should check that the sliding rollers and locking pins are greased, and the energy chain down the centre is intact and shows no damage. Also that the energy chain tray is clean and free from road debris; that all the twist locks are secure; that the folding bolsters at the rear free to operate with their retaining pins present, and that the stop blocks are present and secure.” The folding bolsters are the arms at the rear of the trailer that support the locks at the back end of larger containers, and which

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Paul McConway

swing out of the way when not in use. The stop blocks are the fail-safes at either end of the sliding chassis.

Potentially the most confusing aspect of sliding skeletals is knowing which position is needed for the various container sizes, especially given that getting this right has legal implications. Fortunately, most manufacturers attach a large decal on their trailers specifying which set of locking holes to use, but driver education on the importance of adhering to this is vital. For example, on a full 14-lock trailer there are two sets of twistlocks at the front of the chassis, and two locking positions the same distance apart. It is tempting for drivers just to leave things as they are when going between sizes, but this

needs to be discouraged. "The double twistlock is so you can carry a 13.6m or 45ft container legally," explains James Dennison, MD of the trailer maker. "It enables you to conform to the requirement for 2,040mm swing clearance at the front, and 12m from the pin to the rear of the trailer."

Also inadvisable, Paul McConway tells us, is the practice of running with the slider in the unloading position when carrying an empty 20ft. "It's worth clamping down on drivers who do this, as it is dangerously less stable," he says. "It's also not good for the trailer, as the suspension is running outside of its designed range; this will lead to inaccuracies in the relationship between suspension and brakes."

These points aside, however, the beauty of both main types of skeletal in use in the UK is their simplicity, longevity and ease of maintenance. "I've got some which are over 15 years old and still going," Ashford says, "although it is worth upgrading older trailers to LED lighting. They tend to go through a lot of bulbs otherwise, simply as a result of the abuse they take during loading and unloading at terminals and docks.

"Also," he continues, "on all skeletals you need to be more vigilant with chassis cracks than you would for most trailers. But otherwise they're basically just two girders with three axles shoved underneath; there's nothing complicated about them." [IE](#)



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