

Load handlers

Warehouse efficiency isn't just a question of how many pallets you stock and how fast you can pick your goods – it's also about finding the quickest and most appropriate way to **load and unload** distribution vehicles smoothly.

Eureka weighs up the main handling options.



All too often, loading and unloading distribution vehicles can be the source of lengthy delay and frequently, such delays are the result of inappropriate or inefficient strategies when it comes to materials handling.

Part of the problem is that choosing the right handling equipment to move goods to and from vehicles is a complex business that depends on the type of load in question, the type of vehicle involved, the space you've got to move about in and the number and type of trucks you've got free.

And not only do these factors vary from one site to another but they can also vary at any given site from one minute to the next.

Lift trucks

Forklift trucks remain the most common handling method for loading and unloading, not least because they are free-ranging and anyone running a warehouse of any kind will already have some kind of lift trucks on site as it is.

Simplest and most flexible, perhaps, is the standard **counterbalanced truck** as these usually come with wheels and tyres suited to rough yards and masts that let them unload from any load bed height. Counterbalanced trucks are best suited to loading/unloading vehicles from the side, however. That's fine with curtainsided trailers but obviously not an option with most box body units.

Side-loading also means you need considerable manoeuvring space alongside the vehicle in question and that can be a problem as yard space is always at a premium on warehouse sites, where as much space as possible is usually set aside for the core business of holding stock.

You can use a counterbalanced truck for **end-loading/unloading**, of course, but this will involve either the use of a second, smaller truck within the trailer to move goods to and from the rear of the trailer or finding a way to drive the counterbalanced truck itself right into the rear of the trailer. That needn't be a problem as long as the mast height on your counterbalanced truck doesn't prevent it and you can get the lift truck up to the right height – perhaps via a loading bay or a yard ramp. But ramps need to be moved into the right position every time and if you've gone to the expense of fitting out a loading bay, there's little point in using as large and expensive an option as a counterbalanced truck when you could be using something smaller, more manoeuvrable and cheaper.

On the upside, however, counterbalanced trucks have high travel speeds compared to many other options and can, depending on the racking configuration in the warehouse, be used to take goods straight between the racking and the vehicle without involving a second type of truck.

Smaller alternatives

The main alternative to the counterbalanced truck in lorry loading terms is the **pallet truck**.

Though unpowered units might be considered, powered pallet trucks are the more sensible choice as they are generally faster, involve less physical effort by the operator (who can thus be expected to work for longer periods) and are more controllable on inclined surfaces like ramps.

Even though they cost significantly more than unpowered units, they are still a lot cheaper than counterbalanced forklifts, too.

Because they are mastless, however, you still need to find a way to bring them up to the load bed level and you also need to use a second lift truck type if the goods are coming from or being sent to racking positions above ground level.

A good compromise may be to use a **stacker truck** – effectively a pallet truck with a mast. Perhaps the main problem with this route, however, is that stacker trucks are invariably electric trucks so, like powered pallet trucks, they are not really suited to outdoor work. They also generally come with small wheels or castors that can't cope with rough yard surfaces.

Another possible compromise might be to use an **articulated counterbalanced truck**, as these can work in narrow warehouse aisles and in yards. Using such vehicles for loading

or unloading can certainly work well in situations where the counterbalanced truck isn't fully employed in the warehouse but it doesn't really make much financial sense otherwise because such trucks usually cost significantly more than standard counterbalanced units.

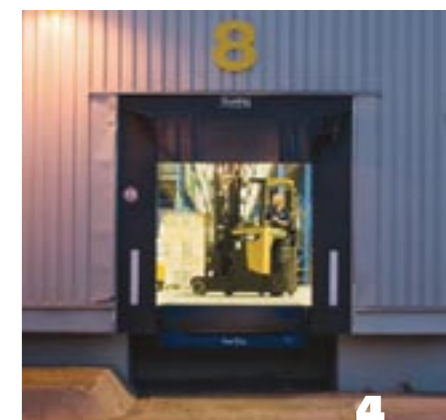
Gaining height

Whatever the forklift you're using, the issue of how to bring it to the trailer bed height for end-loading is a crucial one. **Dock levellers** – essentially hinged plates that are used to connect loading bays to varying vehicle bed heights – are by far the most sophisticated solution. Dock levellers aren't expensive in themselves, either, but they also require a dock to work from and full loading bays will also need doors for when there is no vehicle present and dock shelters that provide a weatherproof seal around the rear of the vehicle when there is. If you haven't already got the requisite holes in your warehouse wall, meanwhile, the cost obviously rises still further.

Despite this extra cost, loading bays are extremely efficient and let you cross the gap between dock and vehicle in safety while protecting your operators, lift trucks and goods from the weather.

Because you're unloading from the end of the vehicle, meanwhile, they can also help you make better use of your yard space as you don't need any manoeuvring room around individual trailers. →

- 1. Counterbalanced trucks** are best suited to loading/unloading vehicles from the side (Image courtesy of Briggs Equipment)
- 2.** The main alternative to the counterbalanced truck in lorry loading terms is the **powered pallet truck**
- 3. Lorry loading conveyors** can be extended from within the warehouse loading bay into the back of the vehicle being loaded or unloaded (Image courtesy of Caljan)
- 4. Loading bays** are extremely efficient and let you cross the gap between dock and vehicle in safety





5. Using loading bays is also usually much quicker than yard-based operations, because of the reduced travel distances likely to be involved (Image courtesy of Crawford Hafa)

6. Mobile ramps can take up a lot of space and are usually hard to manoeuvre (Image courtesy of Thorworld Industries)

Using **loading bays** is also usually much quicker than yard-based operations, because of the reduced travel distances likely to be involved.

Dockless (ground-level) loading bays also exist and provide some of the same benefits, though they obviously don't help get lift trucks up to the trailer bed height. **Mobile ramps** are one way around this but they can take up a lot of space, are usually hard to manoeuvre and, as firms usually only have one ramp at any given site, can't cope with multiple simultaneous deliveries. **Scissor lifts** are another option but their usage tends to be restricted to specialised loading applications, for example where the items in question can't easily be handled by forklift or aren't suitable for inclines - roll cages are one good example.



Scissor lifts do, however, come into their own with double-deck trailers, as dock levellers and ramps can't usually adapt to the above average height of the upper trailer deck.

They're also extensively used for operations that can't be carried out with normal unit loads - loading entire cars onto a specialised car transporter, for example.

Truck mounted tail-lifts present another obvious alternative for standard sized unit

loads, but the fact that they are vehicle mounted obviously reduces their flexibility dramatically and the decision to fit them will always be the truck operator's rather than the warehouse manager's.

A final option worth considering, at least if you're handling loose parcels or boxes, is a **lorry loading conveyor**, which can be extended from within the warehouse loading bay into the back of the vehicle being loaded or unloaded. Such conveyors can be fixed to a particular loading bay, rail mounted and slid laterally between different loading bays, or totally mobile units that can be driven around freely.

Whatever the type, they make for maximum vehicle fill as no trailer space need be 'wasted' on pallets or other load carriers.

Lorry loading conveyors can also be used with all kinds of vehicles from small vans upwards. Such conveyors obviously maximise trailer utilisation but the downside, of course, is that they're not generally designed for unit loads and the resulting manual handling is both labour-intensive and makes loading or unloading much slower.

The Options

- Counterbalanced truck
- Pallet truck
- Powered pallet truck
- Stacker truck
- Articulated counterbalanced truck
- Dock levellers
- Loading bays
- Dockless (ground-level) loading bays
- Mobile ramps
- Scissor lifts
- Truck mounted tail-lifts
- Lorry loading conveyor

Decisions, decisions

Just which of these many options (or which combination) is best suited to your site will be determined by the exact nature of your individual operation. Much, in particular, depends on the types of load, the types of vehicles, the size of your yard and the number of trucks and staff you've got free.

Clearly, however, if you already have either counterbalanced or powered pallet trucks on site and can spare them at the time, **the lift truck - as in so many other handling applications - remains the most flexible and obvious choice for many.** ■