Under or over?

In recent years, workshops have increasingly favoured lifts over pits. But the fact is there remain pros and cons, and the safety arguments can cut both ways, says Brian Tinham

If you're considering upgrading your workshop (with the usual dilemmas over which equipment to buy, which to refurbish, and where to put it for efficiency and flexibility), or if you're a technician or supervisor working in an established garage, there are safety and good practice issues that bear repeating. That's particularly the case with lifts and pits, where commonly held perceptions are not always as accurate as they could be – and apparently accepted working practices may be nothing like as robust as they should be.

Inevitably, there are strongly held views about which is best – particularly among salesmen, but also plenty of technicians. But the truth is there are pros and cons around both lifts and pits, and the balance might be changing. In fact, in many cases, it probably makes sense to have both – with pits scoring highest, in terms of vehicle throughput, while lifts have the edge when it comes to flexibility.

Above: in-ground single-ram lifts are increasingly popular on the Continent Right: It's difficult to beat modern mobile lifts for flexibility

One of the fairest assessments comes from Premier Pits' managing director Mel Burrell, who suggests a hard-headed review of each, when it comes to economics, efficiency, working conditions and also safety. Looking at the finance side, he concedes that initial costs for lifts are lower than for pits – although that depends on length, accessories, etc – but insists that pits' running costs are negligible, compared to lifts' ongoing test and maintenance requirements. He also points to the need for solid structures to support lifts, as well as height restrictions, but agrees that pits can't easily be moved, while, for a modest cost, lifts can.

As for operational efficiency, Burrell accepts that lifts make it easier for technicians to get around the workshop and to access transmissions, axles, etc, direct, without first having to remove them from a pit. However, he argues that it is quicker and easier to set up and remove vehicles over pits, and that they make it safe for technicians to work under and on trucks and buses at the same time.

Surely, however, working conditions are better using lifts than pits? Burrell asks technicians to keep open minds until they have seen and/or experienced modern prefabricated pits that come complete with all workshop services and are built to be fit-for-purpose, without the historical issues of

poor lighting and fume extraction, damp, etc.

And then the big one: safety (see panel). Here Burrell reminds us that, although pits do present a 'falling from height' hazard, lifts have been known to collapse, vehicles have fallen off them and cables supplying non battery-operated lifts present a trip hazard. "A great deal of work has been undertaken to overcome safety concerns relating to pits, including designing safety covers, building in fume extraction and installing safety lights that can't cause an explosion. The bottom line is that pits have changed a lot since the days of the old tram sheds. We're building some bus garages with only one pit and that's the VOSA test lane for a government official – so it must be pretty safe."

Watertight case

Incidentally, the going rate for a prefabricated pit averages out at around £15,500, and that includes all construction and installation, which typically takes less than a working week. Also, you can order whatever you want – not just the classic 12m long, 1.1m wide and 1.4m deep, which is the norm for HGVs, including trailers – and there's a lot more than just jacking beams in today's tool ranges.

Dave Garratt, chief executive of the Garage

Equipment Association (GEA), agrees with the analysis, adding only that modern prefabricated pits are also watertight – meaning no danger of flooding – and that they provide a ready solution to shops without the head height to lift trucks or buses. On the other hand, he notes that typical cost is one thing; actual cost might be another – so even the costly end of large platform lifts can provide an attractive alternative to pits.

Equally, however, Garratt confirms that lifts are not without problems – although he places most of the blame for failures on technicians trying "to get

Health and safety on lifts and pits

HSE has recently published two invaluable guidance documents for workshop managers and technicians. The first, 'Working safely under motor vehicles being repaired' (INDG 434), provides a powerful wake-up call by running extracts from HSE inspectors' reports into fatal accidents involving lifting equipment and pits – and using these shocking examples to illustrate the importance of preventive measures. The second, 'Health and safety in motor vehicle repair and associated industries' (HSG 261), is an all-round examination of workshop good practice, with a new section devoted to under-vehicle access.

Looking at the former, the reader is quickly greeted by the following: 'A trainee HGV fitter, working with an experienced mechanic, was fatally crushed when an HGV slipped from a hydraulic jack. Axle stands were available, but not used.' And then: 'A technician was working on a large vacuum tanker, which was raised on jacks and axle stands. These appear to have given way, crushing him to death.'

The first lesson: never work beneath a vehicle that is only supported on jacks (use axle stands that are in good condition and inspected annually). And second: pins for axle stands need to be close fitting and of the correct specification (not screwdrivers, bolts, etc); and each stand must be securely located. Common sense, yes, but these accidents still happen, maybe as technicians become complacent.

In another, entirely different, example, the leaflet cites a worker who 'replaced a valve on the lifting ramp of a car transporter while another worker checked the vehicle pressure, then leaned over the side of the trailer and was crushed to death when the deck descended'. The recommendation is obvious: always prop cabs, trailers, etc.

One more. 'A bus driver parked his vehicle in the designated garage area. Taking a short cut through the bus maintenance area, he looked back … and fell into an unguarded pit. He died later.' HSE's warnings are clear and include: restrict access to the pit area to people who need to be there; where practical, cover pit openings when not in use; where necessary, provide safe access across open pits; and use extendible barriers, chains, etc, to warn of open pits.

As for HSE's more general HSG 261 document, although there is considerable crossover with INDG 434, there is more background, as well as detailed guidance, for workshop managers. Most important, in the context of lifts and pits, are the following few pointers:

First: lifting equipment can and does fail, causing serious injuries and fatalities – and the common factors are incorrect installation or inadequate inspection and maintenance. Secondly: vehicle lifts should always have hold-to-run controls and be equipped with automatic anti-fallback protection (that is used) and all-round toe trap protection. Thirdly: where two-post lifts are concerned, follow the vehicle manufacturer's recommendations regarding vehicle lifting – and that includes ensuring that lifting equipment is suitable for light freight and commercial vans, and that lifting arms are correctly positioned.

Finally, on the subject of pits, HSE takes a balanced view of their safety, expressed thus: 'Assessment of workplace risks may well show that [pits] are the safest option when working on diesel-fuelled vehicles. But they present particular hazards and are a common cause of accidents…' It's all about slips, trips and falls – and the risks of asphyxiation, head injuries and vehicles or objects falling into manned pits. The solutions are not rocket science: as stated above, pits require protection, as well as slip-resistant flooring. Most important, avoiding incidents is about robust safe working practices – just as it is with lifts.

Twins or singles?

Although custom and practice has it that twin ram lifts are better than singles, Gary Shepherd, managing director of Rotary Lift UK, argues that singles have improved – now offering greater flexibility and strength, with capacities from 12 to 40 tonnes. Nevertheless, he advises busy workshop managers to reconsider in-ground lifts, typically with one fixed and one moveable column of 15 tonne capacity each.

"The Go Ahead Group is using them in Oxford and Camberwell. You get a wheel-free lift, and set-up is faster than with mobile columns and more flexible than with pits," comments Shepherd. He also rates mobile columns – with the usual caveat around using axle stands.

However, Shepherd also reminds us that there is a growing armoury of special tools for use with all lift types. "We make a C disc, for lifting out a clutch pressure plate, for example, and a universal fitting table to lift different engine, gearbox and retarder combinations."

away with out-of-date practices on vehicles that have become progressively larger and heavier". On some of the larger vans, for example, he notes that lifting arms used to be positioned practically anywhere, but "now that vehicles are approaching the capacity limits of existing workshop lifts, [technicians] need to be more careful".

His advice: "If you're buying a lift, the most important point is to make sure it's got a proper CE marking, because there are a lot of cheap imports, and the danger is you're risking life and limb. Ask to see the CE certificate, which will have the number of the nominated lab that did the approval, and do some checks. The certificate proves it's been checked to the European harmonised standards for quality, capacity, arm locking, its ability to withstand side forces, etc."

That said, whatever the lift, once it has been professionally installed (and he insists that it makes no sense to use anyone other than an accredited lift engineer), it must not be operated until it has been thoroughly examined under the LOLER (Lifting Operations and Lifting Equipment) regulations 1998. "After that, the legal requirement is that it has to be inspected every six months, but technicians should be checking every day that everything is in place – just like truck drivers' daily walk-around checks." And he warns: "What we see is people thinking that, because they've had their lift thoroughly examined, there's no need to have it maintained. That is never the case. Accredited engineers will be checking for safety devices, structural integrity, etc – not lubricating bearings and swivels, etc."

Three final thoughts from our man at the GEA. First, if you haven't looked at lifts recently, you can expect to find synchronisation, radio control and the operating panel itself considerably improved. Secondly, if you are persuaded to buy platform lifts and install play detectors on them for VOSA testing, you need to specify a stronger lift. And thirdly, HGV platform lifts have got a lot going for them, particularly when it comes to taking out larger components for maintenance or repair. "You can get a transmission jack in and get at the unit, without having to drop it into the pit and then haul it out."

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