

RAISING YOUR GAME

Workshop equipment – including pits, lifting equipment, lighting, and the fixtures and tools required to make lanes and technicians more efficient – continue to improve.

Toby Clark reports

While diagnostic systems have transformed the process of working on commercial vehicles, HGV workshops often look much like they did decades ago.

The reason: even though engines have become almost sealed units, technicians still need to remove wheels, drain and replenish fluids and replace chassis components. But there are tools, fixtures and systems designed to make such jobs easier, faster, more reliable and, above all, safer.

Sounds good? Maybe, but many British workshop owners seem reluctant to invest in new equipment, certainly compared to their counterparts on the continent. Mel Burrell, managing director of vehicle pit manufacturer Premier Pits, is one among many making that observation. “[Continental operators] think our workshops are 20 years behind,” he says, citing fume extraction as among equipment routinely fitted to pits abroad, whereas it is often only specified for Pet Regs lanes in the UK.

So what’s new? Mobile column lifts have been around for years, with electro-hydraulic and electromechanical drives. But while taking lift to vehicles (flat floor permitting) and accommodating vehicles of many sizes are clear advantages, their power cables are recognised as representing serious trip hazards. That’s why manufacturers such as Ravaglioli/RAV, Stertil-Koni and Finkbeiner are now



offering cableless (or wireless) mobile column lifts.

Capacities are generally up to 8,500kg and they typically use low-voltage batteries to drive electro-hydraulic lift mechanisms. Batteries are usually charged from a 240V single-phase supply, providing plenty of life for even quite demanding workshop operations. The RAV HWS series, for example, is claimed to deliver 20 full load lifting cycles on one charge. Also, once these lifts are in place, a single wireless control can raise up to 10 units together.

The heaviest vehicle lifts now available can take substantial loads. Stertil-Koni’s scissor Skylift, for example, is available in ratings up to 35 tonnes. What’s more, two can be linked in tandem to lift simultaneously. However, most workshops handling the heaviest and longest vehicles understandably use inspection pits instead.

Safety first

However, pits clearly present potential fall hazards. Hence the HSE (Health and Safety Executive) recommends that workshop owners “mark edges of all openings in floors [and] fence or board them when not in use; ensure good lighting levels; [and] control customer access”. And because technicians can work above and below vehicles simultaneously, HSE also strongly recommends gantries or platforms, rather than ladders.

What about pit covers? At the basic end of the spectrum, Oxford Safety offers a rigid, segmented lattice system, allowing individual pieces to be removed and stored nearby. But, as Burrell points out: “If you have something you’ve got to remove to use, it’ll stay off.”

Premier Pits offers a manually-operated ‘budget’ sliding pit cover, which cannot be walked on but is described as an effective fall-arrest. Then again, the French-made, manually-operated Reus aluminium pit cover is strong enough to walk on, and can be

A Finkbeiner wireless column lift in action





Health and safety at work

If you are thinking of building or modifying your workshop, the section of the HSE (Health and Safety Executive) website on health and safety in the motor vehicle repair (MVR) is a useful source of guidance. As well as statistics on the causes and severity of accidents, it includes specific advice on installing and using equipment.

According to the HSE, there has been a downward trend in reported non-fatal injuries in the MVR sector, from around 1,500 during 2001–2 to just over 800 in 2011–12. But there is no room for complacency: most of these were avoidable, with lifting and handling injuries making up around a third of the total, and slips or trips around 20%.

Fatal incidents are relatively rare (a total of 67 between 2001 and 2012) but the reasons for these are different. According to the HSE, most “are caused when a person is trapped [and crushed] under an inadequately supported vehicle that has been raised or had a wheel removed”.

As the statistics suggest, working on or underneath vehicles is a major cause of accidents. The HSE has reported serious accidents where vehicles have fallen from two-post lifts when the arm locking systems are missing or have ceased to function.

The agency emphasises the importance of daily checks on “the locking mechanisms and other critical parts” of vehicle lifts. It also recommends that “any remaining two-post lifts without arm locking should now have been taken out of use or scrapped”. And it adds that “some new Chinese-manufactured two-post lifts have been found where the locking mechanism has been poorly manufactured and failed to work from installation or within a short period of use”.

Additionally, the HSE reports lift collapses “resulting from anchor bolts pulling out of weak concrete”. Plainly, vehicle lifts should be sourced from reputable suppliers and installed by accredited engineers.

retrofitted to most pits. This product rolls away into a space behind a set of steel steps, and a kit for a 10m pit costs around £4,500.

Then at the top of the range, Premier Pits’ motorised safety cover has been installed on pits up to 50m long. This is made from aluminium box section pieces, and now includes a pressure bar on the leading edge to stop it automatically, if it meets an obstruction.

But Burrell describes recoil barriers as “the most cost-effective health and safety measure you can install”. He points out that, if they are fitted 3–3.5m apart, they can be left in place while the vehicle is worked on, massively reducing the chances of a fall.

Meanwhile, lighting is another under-recognised aspect that can make a big difference to workshops’ efficiency. JHM Butt is importing Danish manufacturer Scangrip’s Line Light range for inspection pits and vehicle lifts. These resemble fluorescent tubes, but are based on arrays of LEDs mounted in durable and shockproof acrylic extrusions, which are oil- and water-resistant to IP67 and guaranteed for 10 years.

Lights and air

The LEDs provide an even light (similar in quality to daylight, for better colour vision) and the 24V dc supply eliminates the strobe effect common with fluorescent tubes and rotating machinery. The LED tube can also be rotated in its mounting to adjust the angle of the lighting, and an 1,100-Lumen 1,600mm tube uses only 14W.

Sticking with the basics, compressed air is a vital utility for most workshops, but compressors are becoming more energy-efficient and quieter. Mattei’s Blade series of workshop compressors, for example, has a programmable electronic controller to maintain pressure without wasting energy. These sliding-vane models also operate at lower rotational

speed than most, so reducing noise, and include multi-stage oil/air separation to keep residual oil levels at just 3mg/m³.

Incidentally, handheld ultrasonic detectors can find leaks in compressed air systems, and some (such as the ULD-1, from Thorite) include probes that can also reveal the sounds of impending bearing wear.

But even compressed-air circuits might become an endangered species, as lightweight lithium-ion batteries mean that cordless electric tools gain ground. Ingersoll-Rand now has a range of 12V and 20V cordless tools designed for automotive use. Its half inch square drive impact wrench has a working torque of more than 800Nm. 

RAV3 07H4.7
cableless mobile
column lifts

