

A HELPING HAND

Workshop equipment is available that removes the need for technicians to strain themselves carrying out servicing and repair jobs, reports by Steve Banner

Truck and bus replacement parts are often heavy. Any workshop technician attempting to lift them unaided may risk a back injury that could mean taking time off work. If the injury is serious enough then the Health and Safety Executive (HSE) could take an interest; and the employer could stand accused of breaching the Manual Handling Operations Regulations 1992. As amended by the Health and Safety (Miscellaneous Amendments) Regulations 2002, the manual handling rules oblige businesses to protect their workers from the risk of injury and ill-health resulting from being asked to lift or manoeuvre heavy items. Such activities should be risk-assessed, which may lead to suitable handling aids being introduced to minimise or eliminate any hazards.

Such aids can make employees more productive as well as making it less likely that they will be hurt, points out Premier Pits marketing manager, Matt Dilley. Premier distributes BrakeMate in the UK, an elevated service platform which can be used to help maintain heavy vehicle disc brake assemblies (pictured above). With a price-tag of around £9,000, it is designed to eliminate almost all manual lifting of discs, calipers and hubs.

"Using it turns a two-person task into a one-person task, and means you can free up someone to do something else," he observes. "That's good news so far as social distancing is concerned too,



given COVID-19, because you want to avoid having two people working closely together under a wheel arch."

Wrestling with heavy, awkward-to-handle components in such a confined space can be a risky undertaking anyway, given the postures that have to be adopted to get the job done. Brake calipers can weigh up to 30kg, points out Dilley - 5kg over the absolute maximum any male worker should be asked to lift unaided, according to HSE guidance - and BrakeMate can raise them to a height of 1.3m. Its rotating service trolley can handle a 30kg hub.

BrakeMate can be used to remove an entire 70kg hub assembly without the need for physical lifting, and can split it accurately, he adds, with all the parts remaining aligned. The device can also be deployed once the assembly is ready to be remounted on the vehicle.

"It's proving especially popular with bus servicing workshops, and with workshops that maintain trucks involved in the waste industry," he says.

Options include a drum brake adapter. BrakeMate is sourced from Australian engineering company Tulip Corporation.

ALTERNATIVES

Alternatively, Totalkare offers two pieces of equipment - a wheel hub trolley jack and a mini caliper crane - to assist in hub and caliper removal. The jack fits into the hub's profile and can be used to help detach it. With multiple pivot points, the height-adjustable 500kg-capacity crane has a 360° rotating head which attaches to the caliper.

Says Totalkare product manager Brendan Scott: "Standard jacks and cranes have proved able to take the load, but lack the access and manoeuvrability, and even introduce the risk of the hubs and calipers swinging free. "The problems inherent in tackling this job are exacerbated by variations in the placement of calipers on different vehicles by different manufacturers," he adds. Hence the need for a caliper crane with plenty of scope for adjustment.

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Brendan Scott

Other items can be sourced from various suppliers to make it easier for technicians to remove and handle items such as wheels and brake drums. They include the WTA500 hydraulic wheel trolley from AC Hydraulic, with the ability to handle up to half a tonne. Available through workshop equipment supplier GEMCO, it features adjustable lifting arms that can accommodate wheels of different sizes, and can also be used to hoist everything from fuel tanks to tool boxes. A crane arm is listed as an accessory.

In addition, Totalkare has added three heavy-duty wheel dollies to its portfolio. With capacities of from 500kg to 1.6 tonnes, they can cope with wheels up to 2,400mm in diameter and up to 1,050mm wide.

HANDLING TRANSMISSIONS

Transmissions are even heavier than discs, drums, wheels and calipers. That explains the appeal of Majorlift’s hydraulically-operated VTJ2000 vertical transmission jack, pictured above, distributed through GEMCO and Totalkare.

It can handle up to 2,000kg; and what it is not is a pit jack.

“Instead, you use it once you’ve got a vehicle up on a lift,” says Totalkare marketing manager, Steve Braund. With a minimum height of 1,110mm and an extended height of 2,130mm, it can be also employed by a single technician who needs to remove a gearbox.

A two-way tilt-and-turn adjustable adapter allows the load to be positioned accurately before it is raised or lowered, with adapter plates available for most makes of gearbox. “If you’re going to use them, then remember that they may reduce the jack’s weight handling capability,” he says.

Once the transmission has been removed, VTJ2000’s big wheels, which are fitted with brakes, allow it to be



trundled across what may be an uneven workshop floor.

Thereafter it can be repaired on the spot at a workstation or – as may be more likely – dispatched to a remanufacturer. It can then be used to help install the exchange transmission when it arrives.

“There’s a good, steady demand for products such as transmission jacks and support stands,” says Braund. “Workshop managers are increasingly conscious of the importance of health and safety issues and are proactive about addressing them, and are looking for anything that will help them get jobs done both quickly and safely.”

Some of these products are being purchased through Totalkare’s online web store. Store prices range from £2,451 for 1,000kg-capacity manually-operated transmission jacks to £3,339 for 2,000kg-capacity air-operated models.

AC Hydraulic offers transmission jacks, too. Features of the 1.2-tonne-capacity VLT12 jack include a built-in safety overload valve and a hand-operated dead man’s release for optimum safety when lowering.

When it comes to protecting employees from manual handling injuries, the unsung workshop heroes

are probably the mobile cranes. Based just outside Doncaster, tools wholesaler Butts of Bawtry stocks a wide selection, including a 3.0-tonne-maximum-capacity model for £3,295. Jib length extends from 1,585mm to 2,215mm.

Other products in the Butts portfolio include a hydraulic wheeled lifting table which can be used to lift and then transport components weighing up to a tonne from one end of a workshop to the other.

The challenge for workshop managers is to ensure that employees use such aids, rather than try to move a heavy component manually because they think it will be quicker. Says Dille: “Unfortunately it can sometimes take an accident to make people realise their benefits.”

Says Scott: “Perhaps the biggest issue is that many manual handling tasks are only carried out occasionally, meaning that they are often not spotted by those who have been trained to identify and mitigate risk.

“Often those engaged in manual activities don’t recognise the hazards, and may think they can manage,” he adds. “Or bravado may mean they are too proud to ask for help in these male-dominated environments.” **TE**