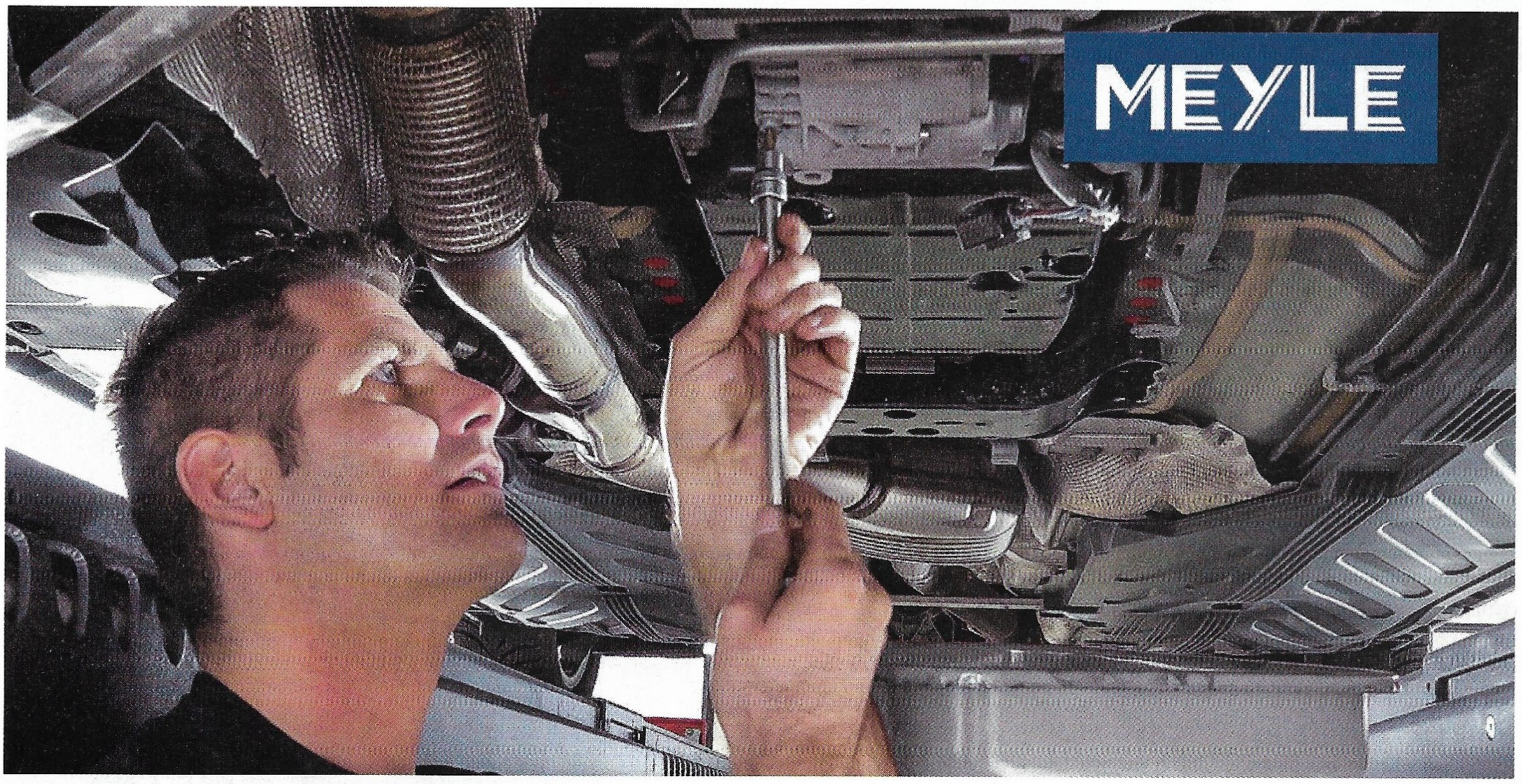
DOUBLE-DE-CLUTCH, DOUBLE THE MONEY?

Everything you need to know about working with clutch and transmission systems in order to capture more work going forward



While Coronavirus may not have directly affected clutch and transmisison systems, there has been an effect on the market that could mean a new revenue stream for garages.

David Eszenyi, Commercial Director at Ivor Searle observed: "The surge in home delivery to support online sales, which according to the ONS grew by 46% in 2020, has created strong growth in demand for LCV transmissions. Alongside fleets, a large number of these light vans are run by owner operators and are typically older vehicles that are being placed under a demanding workload. At Ivor Searle, we have seen this translate into unprecidented demand from workshops for our remanufactured gearboxes to replace failed LCV units. Our range reflects the latest trends in the UK's vehicle parc and offers over 90% coverage. Workshops are also supplied with pre-installation guidelines and model-specific instructions where required."

As we have seen, the increase in the number of LCVs on UK roads has led to a rise in demand for service and repair, and subsequently the replacement of key components. According to Jon Roughley, Global Marketing Director at First Line Ltd, there are a number of benefits if worn dual mass flywheels (DMFs) are replaced with Borg & Beck

Above: Oil change with MEYLE

single mass flywheel (SMF) kits: "Despite being a good design concept, the cost of subsequent DMF replacements can be an issue once the vehicle is out of its initial manufacturer's warranty. The SMF Replacement Clutch Kit allows the worn DMF and its associated clutch components to be replaced with a traditional solid flywheel and clutch kit. This has been made possible by the development of the long travel damper, which uses advanced vibration clutch damper technology to create dampers capable of up to 40° of torsional movement, making them comparable with the movement typical of an equivalent DMF. It is also a less expensive option than the equivalent DMF clutch kit, which then makes any subsequent replacements cheaper still as only the core clutch kit components require changing."

Cost-effective

For those who prefer to stick with the DMF as originally fitted, Craig Calvin, Training manager at ZF Aftermarket says its clutch kits with DMF and XTend offer garages a good option: "The SACHS clutch kit with DMF and XTend ensures optimum transmission reliability of the engine torque to the transmission as well as the longest possible service life of every single clutch component. The clutch kit with DMF and Xtend is also available as a clutch kit with

differential-before-clutch assembly (DBC). This is where a transmission input shaft is mounted in front of the dual-mass flywheel (DMF). DBC is used in particular in vehicles with an engine installed longitudinally and front-wheel drive. The installation of a DBC is easy using the included special tool. SACHS provides the relevant installation instructions."

Craig added: "Through the ZF [pro]Tech initiative, we are now running a series of training courses online, to ensure that no one misses out while face-to-face training is on hold. These include electrically instructed person training, transmission solutions training, and autonomous driving. Training detailing common warranty issues on clutch and DMF and solutions to these problems is also offered."

Frictionless

Whether a vehicle is a car or a hard-working LCV, eventually it will need its transmission oil changed. According Patrick Stüdemann, Technical Trainer International at MEYLE, this process cab be simpler than you think: "Transmission oil undergoes a natural ageing process, with the oil wearing out and additives diminishing over time. This can lead to changed gear shifting conditions and reduced driving comfort up to costly transmission defects. So, it's all the more important to change the oil on a regular basis. This prevents damage to the transmission and maintains transmission function and driving comfort. An oil change should be carried out every 35,000 to 50,000 miles, depending on driving behaviour and model.

"With the goal to make oil changes as frictionless and as quick as possible, MEYLE offers more than 60 oil change kits, which come with all the components required."

Top tips

On tips for for changing the oil in automatic gearboxes, Patrick observed: "First, the manufacturer's instruction should be read thoroughly before every oil change. Next, scan the fault memory using the diagnostic interface. This helps identify any existing damage and will prevent unnecessary servicing. After lifting the vehicle as horizontally as possible, the external mechatronic plug-in connector should be checked for leaks and plug casing and seal should be replaced and tightened, if necessary. As often once-off stress bolts are used, the sump screw should always be replaced during the oil change. The respective new oil sump screws are included in the MEYLE kits.

"Remaining oil should always be drained from the torque converter. This is done by turning the torque converter to the right position and – with some gearboxes – by removing the additional oil pump to get to the torque converter's outlet screw. Running the engine at raised revs of between around 1,500 and 2,000 RPM, under no load, in neutral, for 20 seconds will fill the torque converter. The correct oil level can be measured once the transmission oil has reached the prescribed temperature. With some vehicles, the manufacturer stipulates transmission adaption after changing the oil, which is done on a suitable test bed or while driving, using the menus on the diagnostic device."

Further information about MEYLE kits go to:
www.meyle.com/en/meyle-kits

Left:
MEYLE Oil Change Kit

Borg & Beck SMF Replacement Clutch Kit

Dayco Check and change rule

Moving further down the system, the auxiliary belt and drive system are often overlooked in terms of regular examination and replacement. As Dayco Country Manager Steve Carolan pointed out, unlike the previous generation neoprene rubber-based belt, the EPDM formulated belt used nowadays, wears very differently, and necessitates a different approach: "The current EPDM technology belt wears gradually, not unlike the wear to a tyre, which actually makes it more difficult to detect. If the vehicle has covered 60,000 miles or more, the belt should be thoroughly inspected and if it shows any sign of damage or wear, should automatically be replaced.

"To help technicians correctly assess the condition of the belt, Dayco has designed the aWEARness gauge, which provides them with three ways to check whether the belt needs to be replaced or is okay to be reinstalled. The two most relevant to an EPDM belt are the wear indicator bar, which highlights material loss and the profile indicator, which reveals whether the belt retains its correct form. Both reflect the level of wear and if the belt fails either check, it must be replaced."

Steve added: "Wear on the belt could also indicate wear to the other components in the auxiliary drive system, which is why technicians also need to thoroughly assess the condition of these associated parts. Particular attention should be paid to the tensioner, because, in common with the timing drive system, the wrong tension on the belt can exacerbate wear and contribute to the potential failure of the drive system."