

A vehicle's roller brake test leads to an overall verdict - pass or fail - but that's not the full story. John Challen examines the importance of looking at the results in detail

Having fully-functional brakes on a truck is an essential requirement for hauliers, and the tests are therefore detailed in their analysis of how each axle is performing. However, a lot of the time, all the transport operator sees - or wants to see - is that their vehicle has passed the test.

Roller brake test equipment is now all digital, meaning that the print-out of the results contains a lot of information relating to performance of the service brake, the secondary brake and the parking brake. It also tells you whether the wheels have locked and therefore if they've met the statutory requirements (see also sample report, p12).

But there are many variables at stake, which mean that what happens at the test centre might not be a true reflection of how a vehicle performs when braking on the road. As such, the DVSA is looking closely at roller brake testing and contemplating changes to how the examination is carried out. It is also assessing what greater responsibilities operators and technicians can take when maintaining their fleet.

"There is an appetite within the traffic commissioners for improved vehicle testing



BRAKE EXPECTAT

and a requirement for periodic roller brake testing," says Paul Frost, head of technical support at Scania. "We've seen something recently that talks about removing the exemption for loading of tri-axle trailers for MOT and brake testing, for example. But the issue for a workshop is that there could be an aluminium-bodied six-wheeled tipper next to a steel-bodied six-wheel tipper next to a refrigerated tri-axle trailer.

Loading them for brake

testing is, in itself, a major operation." See also www.is.gd/imarej.

Frost argues that what you could use to load one vehicle wouldn't work for another. "When you look at the amount of weight you need to put in to achieve the required level, a large amount of time is spent loading a vehicle. What we are trying to do is work with operators to schedule in a quarterly loading brake test with us, which we can run across the rollers while you wait. We don't want it fully loaded when it comes in for inspection because of the health and safety implications. But if traffic commissioners want quarterly brake tests, the only way we can do that is with the help of the customer in loading a



“After the brake test, technicians will look at the printout and if there is anything that doesn’t look right, they’ll come to me. They will look beyond if it is just a pass or fail, especially if it’s a vehicle coming in for pre-MOT work”

Graeme Murphy



IN-HOUSE TESTING

A Derbyshire heavy duty vehicle rental firm invested in a brake tester from Totalkare (not pictured at left). Having previously outsourced its brake testing for the fleet, PT Hire realised the savings to be made by testing in-house. As well as immediately saving the time, fuel and wear and tear involved in driving each vehicle between their premises and the test centre, offsetting the cost of the tests themselves will see the capital investment repaid. For this application, Totalkare delivered a mobile brake tester with bi-directional rollers and extended on-ramps. Capable of testing up to 16,000kg per axle, the mobile brake tester can be set up in minutes and comes supplied with a PC, monitor, cabinet and handheld tablet unit as standard, with brake tests conducted from the driver’s seat.

failed the test at the station. It’s all about preparation and conditioning, the details of which are all available online.”

Davison maintains that examining a printout of the test results can be invaluable, because it gives operators an idea of whether something is a problem or not – even if that is not evident because the vehicle has passed. He cites imbalances and premature locks as two examples, both of which are affected by load differences. “The vehicle may pass on locks because every wheel locks up, but how often do you send a tractor unit on to the road without a trailer? Or, how often do rigids go out empty?” he asks.

Davison urges people to look at the government website (see www.is.gd/axulix) and comply with the guidelines of the test procedure. “The most frustrating thing is to compare a six-weekly check on an unladen vehicle to the printout that is required at the test station for MOT,” he says. “It is very difficult for technicians to know if the brakes are effective without it going out on the road.”

“You also have to consider road conditions because wet and dry roads can lead to different results, as can temperature. These are issues that come up all of the time – customers won’t always understand why results are different between their own premises and the test station.”

UPGRADE

One operator that takes brake testing – and the information produced from the test – very seriously is Thomas Armstrong Aggregates. The Cumbria-based company has recently upgraded its venerable Cryton 630 after 20 years of service for a Continental BM142000 (pictured above).

“The key difference between the two systems is that now everything is digital, which saves a lot of time from writing down figures manually,” says Graeme Murphy, Thomas Armstrong Aggregates’ workshop manager. “Even

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vehicle before they bring it in.”

There are brake testers in all Scania workshops, but they are not suitable for all vehicle types, says Frost – a situation that is becoming more of an issue. “The focus is now on loaded roller brake testing,” he says. “There was a recent discussion about how a large proportion of vehicles that pass an unladen brake test on locks would go on to fail a laden brake test.”

Frost maintains that the industry is moving towards a situation where the traffic commissioners know that under the worst circumstances a vehicle would come to a stop safely. “It is possible with an empty vehicle to achieve a pass on locks, but when you look more closely,

there will be all sorts of axle imbalances and potential issues.”

WIDER CONCERNS

The concern with many in the industry – including the DVSA – is that the current test result doesn’t give a full picture. Beyond the pass or fail verdict, there are many other pieces of information that could be taken into consideration, but often are not.

“Unless you’re a tester, general technicians that use the equipment might find it difficult to interpret the results other than what is at the bottom – which is whether it is a pass or a fail,” says Tim Davison, service manager at test equipment supplier MAHA. “For everything else, they might not know what they’re looking at – apart from a pass or fail.

“When I look at a print-out, I’ll be able to explain to the customer why something has failed or why it has passed on their own equipment, but



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though the readings were true, it was open to interpretation, shall we say..."

Within Thomas Armstrong Aggregates, there are seven or eight technicians who use the brake test machinery, says Murphy. "After the brake test, technicians will look at the printout and if there is anything that doesn't look right, they'll come to me. They will look beyond if it is just a pass or fail, especially if it's a vehicle coming in for pre-MOT work. We always take a picture and scan it on to the job card for our records."

Murphy says that one common issue has been with the operator's vehicles have been brake binding, when disc pads or drum shoes do not release properly after actuating. "We run a fleet of 50 tri-axle trailers, and most of the time they are in empty for service, so a lot of them do bind before they lock out," he explains.

Regardless of the test result, Murphy says that the technicians will always investigate the bindings to make sure

there is not the potential for a serious issue. "If we've got a bind with a pass, but can't find an obvious fault, we'll let the truck go out to work and then test it again," he explains. "Most of the time, after a laden brake test, everything is fine.

"Other than brake binds, we always pick up on imbalances on the parking brake, because it doesn't show as a fail," adds Murphy. "Even with an imbalance a vehicle will still pass, so anything above 18% imbalance we will take a look at it and try and rectify it."

All of the Thomas Armstrong Aggregates technicians have been trained in-house on the new equipment, which has been running for six months. As a result, they are able to closely

monitor what goes on at the test station. "Whoever takes the trucks and trailers up to the ATF will always have a look at the results, even if it is a pass," says Murphy.

The bottom line is that no-one really knows what new measures will come into force with regards brake testing. But Davison at MAHA suggests that technicians, drivers and fleet managers be prepared and follow the procedures.

"Any information we receive will be draft information, so I can't say for certain what will or won't be put into place until it actually happens," he admits. "At the moment I can say there is nothing concrete with regards a change to test procedures. Conversations go on, but that means nothing because they are just draft proposals." **TE**

BRAKE TEST REPORT BROKEN DOWN BY MAHA'S TIM DAVISON

"If you're going to load an axle, it needs to be at least 60% of maximum - as at this point the load-sensing valve is at maximum - but the higher the loading, the better, as max. force will be higher."

"Where there is no DTP number and data is entered manually, check that the GVW and TAW are accurate, as the pass value is calculated as a certain fraction of that, depending on the vehicle type"

"This is for steered axles and tests for warped parts, and shows up if effort goes up and down while the pedal is held steady"

DETAILED BRAKE TEST RESULTS		FULL TEST		3429	
License pl. no.:	315877 Type Approved	Chassis no.:	GVTS	Date:	08/04/2021
DTP Number:		Date:	08/04/2021	Time:	12:06
Vehicle Make:	3 AXLE SEMI-TRAILER	GVW:	44000 kg	TAW:	30000 kg
Vehicle Type:					
AXLE 1 7162 kg					
Service:	N/S	BND:	Pass	TIME LAG:	Pass
	O/S		Pass	OVALITY:	
				IMBALANCE:	2407 kgF (11%)
					2407 kgF (L)
					2409 kgF
Parking:	N/S				1147 kgF
	O/S				1749 kgF
					1147 kgF
					1749 kgF
AXLE 2 7479 kg					
Service:	N/S	BND:	Pass	TIME LAG:	Pass
	O/S		Pass	OVALITY:	
				IMBALANCE:	2299 kgF (19%)
					2843 kgF (L)
					2843 kgF
Parking:	N/S				1984 kgF
	O/S				2029 kgF
					1984 kgF
					2029 kgF
AXLE 3 9113 kg					
Service:	N/S	BND:	Pass	TIME LAG:	Pass
	O/S		Pass	OVALITY:	
				IMBALANCE:	2274 kgF (22%)
					2274 kgF
					2899 kgF
Parking:	N/S				1933 kgF
	O/S				718 kgF
					1933 kgF
					718 kgF
TEST SUMMARY					
Measured Vehicle Weight:	23754 kg				
BRAKE SYSTEM:	PASS VALUE:	TEST VALUE:	RESULT:		
Service:	40% TAW:	31%	Pass		
Parking:	16% GVW:	22%	Pass		
**** OVERALL RESULT: PASSED ****					
V 7.30.114.144/V1120--					

"A failure on bind could be a seized component or an inaccurate axle weight, as the test threshold is 4% of the wheel weight"

"An imbalance figure of greater than 30% should be investigated. Imbalance can also be created by off-centre positioning on the rollers, or uneven loading"

"Time lag is the difference between the two wheels when you first put your foot on the brake. In 20 years, I've never seen a failure."

"Dirty and worn rollers will record a lower test value because of their lower coefficient of friction. Visual checks and a stiff yard brush will help keep them in good shape"