One axle roller brake testers
Model IW2 LON All-Wheel Drive and
Model IW2 EUROSYSTEM All-Wheel Drive

Press Release
from 3rd July 2008

Topic:
New and expanded products, special brake test

MAHA has the following one axle roller brake testers for all-wheel drive in program.
Model IW2 LON all-wheel drive
and model IW2 EUROSYSTEM all-wheel drive,
each equipped with speed regulating test roller drives.

The permissable axle loads of the vehicle to be tested can be up to 3.5 or 5 t, suitable for cars, vans, or trucks up to the given axle loads. The all-wheel drive testers for the IW4/IW7 series is available for the heavy duty vehicles up to 20 t axle load. Permissable track widths for the first test stands is 780 to 2.200 mm and/or up to 2.800 mm. Maximum test speed is 5 km/h. MAHA's distinguishing high quality features can also be found in the additional features of these test stands: regulated drive with individually controlled rotating direction, large and easy-to-read display for the measurement values, optical brake force differential display, remote control, pedal force meter, electronic start up control and exit assistance, single wheel switch on, delayed switch on automatic, automatic slip switch off with measurement value display and re-start automatic, self-supporting enclosed roller set, roller surface either welded or synthetic coating, powder paint coating or galvanized version, TÜV- and GS tested.

Detailed Description of Functions
Two operating modes are possible dependent upon the type of all- wheel drive to be tested.

Regulated Synchronisation
For vehicles with automatically activated all-wheel drive which kicks in dependent upon the speed of vehicle drive. The activation threshold is at speed of approximately 2 km/h.
Using the SCM regulation (SCM = Speed Control Mode) developed and patented by MAHA both wheels are driven with the same rotating direction for forward drivng and with the same RPM for both test roller pairs. The motor RPM is regulated at a low speed. The all-wheel drive is not yet activated with the named vehicle types at a low RPM (smaller or equal to 2 km/h) When in this condition, the brake test is done as a normal standard test procedure.
Advantages: Both brakes of an axle can be tested with a single test procedure. No pedal force meter is needed to evaluate the brake force difference left/right.

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Regulated Counter Rotation
For all other kinds of drive types.
The roller sets rotate counter direction and are regulated. It is absolutely necessary that during brake testing in counter rotation that both wheels of an axle have the exact same rotation speed. If this is not fulfilled, e.g. due to one-sided brake force, the cardan shaft begins inevitably to turn and in doing so transfers a certain brake force in the continuing process. However, often vehicles do not allow additional cardan shaft rotations because, e.g. they are joined with the second axle whose wheels are either positioned on the floor or are blocked by the brake force. Consequently, the rotation and force are not released to the cardan shaft, but are diverted to the wheel with the lowest brake force. Here we are dealing with a mechanical coupling, which divides up the brake force from one side to both sides.
In order to fulfill the demands of the brake test only with wheel rotation for forward driving two test runs for each axle are required. A pedal force meter is definitely required.

All-wheel drive principles which cannot be tested with this test stand
All all-wheel vehicles can be tested. Up to now, there has been no all-wheel test mode (e.g. counter run only) which can test all all-wheel vehicles. MAHA combines both methods (regulated synchronous and counter run) in one test stand offering the best possible universality.

Technical informationen can be obtained – as you wish – with following request:
Either in INTERNET under www.maha.de, using "Contact"
or with a note to
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Workshop with flush-floor installed roller brake tester IW 2 LON ALL-WHEEL.

Typical test situation on MAHA test stand.

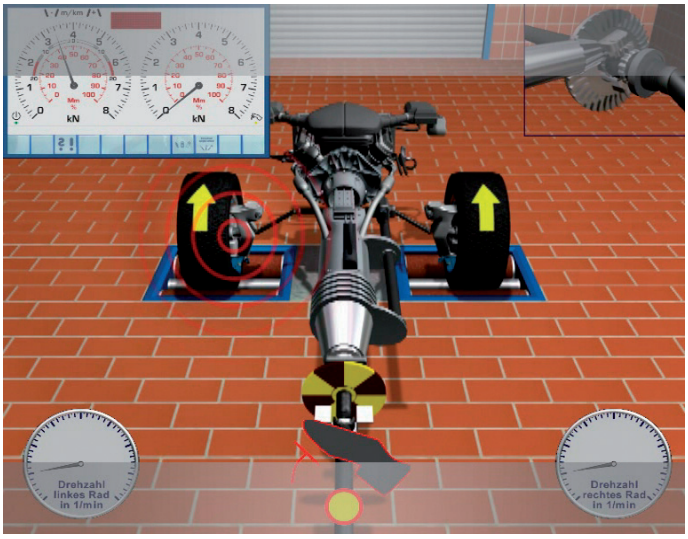

Diagram of the MAHA-SCM test principle. Example: Right-hand brake is defective. (compare analog displays above with absolute same wheel RPM, compare display below)