Operator friendly environment for a sustainable Periodical Technical Inspection

The Value of Technology in Roadworthiness Inspection

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TEST COMPONENTS

Complex vehicle technology requires modern technology for periodical vehicle inspection.
Computer controlled test lanes for light and heavy duty vehicles

**Brake tester, side slip tester, suspension tester**
- Tachograph tester
- **Headlight tester**
- Emission tester for petrol and diesel vehicles
- Axle play detector
- Under carriage inspection with pit jack
- Sound level meter, brake fluid tester,
- Closing force meter
- Gas leakage detector, Infrared thermometer
- **PTI Tool**
- Eurosystem (SQL Database)
- VIMAS (operating system)
SYSTEM SOLUTIONS
TESTING WITH COMPLETE SYSTEMS OR INDIVIDUAL UNITS

Axle Play Detector
Quick determination of defects and wear and tear on steering parts, wheel bearings, springs and suspension.

Headlight Tester
Quick and precise testing of the headlight setting.

Side-slip Tester MINC
Instant testing of axle geometry.

The Communication Desk MCD 2000
is the heart of the test systems.
- combinatorial database for vehicle and customer registration,
- communication and network program,
- user-friendly Windows® platform,
and takes over
- control and data administration of all connected test devices and external devices,
- display and print out (optionally) of all transmitted measurement values,
- organization of all data terminals networked to one another.

Shock Absorber Tester
Quick lifting and lowering times enables efficient analysis and repair of undercarriage defects, with lighting and axle-free jack, expansion to wheel alignment lift possible

Steering Lift
- Filling pressure
- Travel control
- Track observation

Tachograph Tester
Impact for testing of speed display of tachometers

Roller Brake Tester
Single-wheel switching, delayed switch-off automatic, switch-off automatic, automatic slip switch-off with measurement value display and re-start automatic, electronic strain gauge system

Emission Combi-tester
For diesel-, gasoline- and gas-driven motors

Lift Operations Deck
Includes lift hydraulic and control unit

1550 mm
4330 mm wheelbase / runway 4600 mm
1000 mm / lane / runway 4800 mm
400 mm
900 mm
1270 mm
2500 mm

Wir im Allgäu
Roller Brake Tester with automatic 4WD detection

- Safeing time and money
- Smart measuring methods avoiding brake force transfer to the wheel at the same axle
- No influence to manipulate the brake test results
- Reliable brake force results incl. imbalance and ovality,
- Benefit of testing different complex 4x4 systems
- no damages to drive system (gearbox)
Smart user interface provides clear commands and supports during the test procedure
The benefits

- The suspension tester specifies the damping ratio of the entire car suspension which is a comparable value.
- The damping ratio according to Lehr is accepted by vehicle manufacturers PTI organizations.
- Absolut limit value 0.1! No database needed.
- The complex suspension system gets an indication.
- Neither the tire pressure nor the actual loading affect the result significantly, no preparation for examiner, no discussions with final customer.
- Good repeatability and high accuracy.

\[ D = \frac{d}{2\sqrt{c \cdot m}} \]
Side Slip Tester

• Quick diagnostic
• Test results can be compared and repeated
• Network connected devices improving the workflow for best practice
• Managing more efficient high traffic
• Reducing of failure rates provides more income
• Documentation of tests for verification of examiners
Emission test technology

• Analysing quick different type of vehicles
• running with petrol, diesel, LPG, CNG
• Menue-driven user guidance
• High measurement resolution
• OBD is not covering all emission aspects
• Mechanical tempering exchange of lamda sonde
• Removing of particle traps
• New technologies for measuring the emission at the tail pipe are sufficiently sensitive to deliver valid results
PTI Tool

- provides efficient electronics testing
- contributes significantly vehicle inspection
- reads various data from the control units (information code)
- faster testing process
Digital headlight testing for high sophisticated headlight systems - LED

Innovations

- User-friendly guided operation via LCD touch display
- High quality and clear presentation of the measurement results with color graphic display.
- Rear view of the headlight adjustment for easy setting of sides of the vehicle.
Problematic recognition of the light / dark boundary due to „blue area“.

Problematic assessment due to missing inflexion-(break-)point

Adjust mode
### Advantages of digital testers

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<th>Advantage</th>
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<td>Objective evaluation of results</td>
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<td>Electronic analysis</td>
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<td>Documentable measurements</td>
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<tr>
<td>Accurate measurements</td>
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<tr>
<td>Adjustable tolerances</td>
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<tr>
<td>Ergonomic operation</td>
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<tr>
<td>Possibility for testing of all lighting systems</td>
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**Values of Operating Software**

**Eurosystem**
- Fully automatic test procedure with operator guidance
- Windows based Pc application for user-friendly operation
- Modular design system for easy expansion
- PC network capabilities and ASA workshop network-compatible
- Connection to country-specific networks such as MCTC NET, GIEGNET, EBV etc. possible
- Central data management reduces the possibility of errors
- Optimization of working processes for best practice
- Permanent control
- Technical support via hotline in connection with internet
Values Database

Facts of success with PTI-Projects providing more business

Transparency (everybody)

Monitoring of Results (Operator / Government)

Creating a database for connected partner/parties (Insurance companies)

Statistics Basic Information for further analyses and improvements (Public)

Improvements and further developments for equipment, software

Improvement Of Law (§)
- Emission
- Detecting further
- Inspection Points
- e.g. (E-Vehicles)

New strategies to increase Road Safety
Countrywide management of vehicle data and test data.

- modular designed
- flexible to customize
- many administration tools
- rights management
- control of payments
- online access to reports
- online booking

VIMAS

Vehicle Inspection Management System

- Online Statistics
- Online booking
- Vehicle Registration
- Ministry Interfaces
- Limit Values

modular designed
- flexible to customize
- many administration tools
- rights management
- control of payments
- online access to reports
- online booking

Countrywide management of vehicle data and test data.
Values for test equipment

- Managing more efficient the daily high traffic
- Documentation of tests, verification of examiners
- Higher image with latest technology
- Happy staff using modern technology for better working conditions
Further Values

- Final reports designed to be more final customer friendly
- Conditions of vehicles become more understandable and transparent
- Supports Quality Management
- Ensures standards and requested accuracy
- Avoiding / reducing possibilities of corruption
Thank you very much for your attention!

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