Headlight beam aligners

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MOT Workshop 19 – Equipment Review – Beam Setters

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Many MOT beam setters are decades old, whilst headlamps and beam test equipment technology has moved on. Yet VOSA don't allow the use of 'digital camera' technology. Are they behind the times?

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Headlamp technology has changed with the advent of xenon discharge headlamps, so in 2005 VOSA developed new standards for beam test equipment – which will be mandatory in all VTSs by 31st December 2008. In the meantime the need to place old equipment closer to these new headlamps when checking the beams remains.

The new headlamp Test equipment specifications require amongst other things an overhead alignment mirror, and must be capable of checking those discharge headlamps accurately. Apart from the end December 2008 deadline for all VTSs, the 2005 specification equipment is already mandatory for all new MOT Testing Station Authorisations.

Pointing – and penalty points

It has always been puzzling why beam setting equipment has to be aligned along 'gun sights' when the equipment has a collective, or a fresnel lens.

For example, MAHA's Kevin Howard said of their equipment using a fresnel lens "...you can move the equipment 'off-centre' and the site screen image remains stable".

Yet there are disciplinary implications here, 3 points for misalignment either axially or vertically.

On this VOSA's Richard Dixon, said "...it's for the manufacturer to stipulate alignment procedures. The operating instructions must be on hand for the Tester's reference, and if they indicate wide tolerance for alignment accuracy, then that's what VOSA accepts...".

He also noted the operating instructions (and also for roller brake test equipment), are essential for VTS authorisation – if you haven't got them your authority to Test could be queried! (I wonder how many AEs are rummaging though drawers right now looking for those old instructions! Ed)

Digital technology

So what about digital technology? We discussed this with MAHA's Kevin Howard. He confirmed that MAHA equipment is 'digital' image capable, but must have an optical system for the MOT.

Dixon explained why, "...there's two reasons – first, we must ensure any digital system is compatible with the MOT computer (for future downloading), but that's less important than issues of reliability...". He explained. "In the Republic of Ireland when using digital technology they found 80% to 90% of vehicles failed for headlamp aim, many unnecessarily... digital systems are fine for brand new cars off production lines, but vehicles in day to day use develop stone chips, small sections of condensation and other imperfections in their headlamps which don't affect the image on the site screen, but fool the electronic technology into rejecting the headlamp aim because random bits of scattered light confuse the digital sensors".

Some research and development needed there then!

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Review: MOT-approved headlamp beam checking equipment – 2005 specification
Boston Garage Equipment

Approved to 2005 VOSA specification, the B501 is designed to Test the increasing number of gas discharge headlamps now being introduced.
Laser beam alignment and light flux meter are standard features and Boston have now added as standard, a through-the-lens centring device to enhance operational accuracy. Robustly constructed, with counterbalance and stainless steel top cover. Supplied complete with guide rails.

Distribution: Agency network throughout the UK, South-East England direct from Boston head office

Price: £695 delivered UK premises
Contact: Mr John Powell (National)
Mr Ross Tabor (S E)
Tel: 01708 525585 / 0800 085 0620
Fax: 01708 525408
E-mail: sales@boston-ge.com"
Web: www.boston-ge.com

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MAHA

The MAHA Lite range of headlight testers are precision made from high quality, heavy duty materials, comply with VOSA's latest requirements. On the Lite 1.1 the headlight image is viewed on a graded screen via a mirror from the rear of the Headlight Tester. On the Lite 3, a digital imaging Headlight Tester, the headlight image is also viewed via an LCD screen with menu instructions and pass or fail indication.

Distribution: Direct Sales & Distributors

Contact: Kevin Howard
Tel: 01945 476663
Fax: 01945 476664
Mobile: 07767 407702
E-mail: Sales@maha.co.uk
Web: www.maha.co.uk

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Tecalemit

The DE 7588 are the latest generation of Tecalemit headlamp beam testers. Each unit, easy to install and operate, is supplied complete with rails and fixing screws. The DE 7588 meets all current VOSA MOT requirements and can be supplied with bases for retro-fitting onto existing Tecalemit beam tester rails. Options include a laser alignment system replacing the standard lined mirror, a commercial vehicle screen, rail extensions for drive through installations and a calibration kit.

Distribution: Nationwide network of Authorised Tecalemit Distributors

Price: £862
Tel: 01752 219 111
Fax: 01752 219 128
e-mail: sales&@tecalemit.co.uk
Web: www.tecalemit.co.uk

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SPX
The new Tecnotest 447 ATL headlight beam tester is VOSA approved for use on Automated Test Lanes on Class I, II, III, IV, V, VII and PSV vehicles. Tecnotest's centring device gives a rapid and accurate adjustment to all kinds of headlights. The characteristics of its features, such as the optical sighting and the pre-arrangement of the check-out screen according to the height of the headlight from the ground, give an accurate and indisputable adjustment.

Contact: Giulia Montanini
Tel: 0521/837311Fax: 0521/837328
E-mail:giulia.montanini@servicesolutions.spx.com
Web: www.tecnotest.com

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The Trade Group
TRADEMASTER 4500 covers cars, CV and PSV, exceeds all VOSA requirements, features a 'fresnel' lens for maximum light collection and image quality and permits quality beam assessment even if the optical head is misaligned by 50mm.
The T4530 enables single person adjustment, features an LED system to guide aim and alignment; glare and beam strengths are checked as well. A laser makes quick and easy angular alignment. The operating range is 100 to 1200mm.

Distribution: Through Trade Group members Nationwide

Tel: 0845 644 4054
E-mail: enquiries@thetradegroup.uk.com
Web: www.thetradegroup.uk.com

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SKU: A2C88741600

Crypton MOT Approved Headlamp Aligner

Price and availability on application

Description
Specification
Videos
Downloads

* Light Intensity meter
* Works on headlamps that have centre to ground distance between 225mm and 1495mm
* Wide clearly marked screen gives sharply defined pattern
* Operator can see pattern alterations on the screen as he makes adjustments

* Tests both 2 and 4 headlamp systems
* Accurately portrays asymetric beam patterns
* Self contained - requires no power supply
* Suitable for use with recessed or above floor mounted lifts