Techno Vector 7
computer-based 3D wheel aligners

Precision in Motion
Techno Vector 7 – 3D computer-based wheel alignment systems

Wheel aligners include a machine vision system which consists of 4 or 2 video camera units located in a special housing which is installed in front of the car, and high-precision image targets.

4 HD digital video cameras (one for each wheel) recognize the position of the high-precision image targets in space.

The operation of the wheel aligners is based on measurements of wheel axis angle parameters by video cameras and high-precision image targets.

Integrated storage for targets and wheel adaptors on the computer cabinet.

Moving wheel adaptor along with target easily at the same time.

Mounting wheel adaptor and target easily at the same time.

Rolling compensation.

Techno Vector 7 is designed to check and perform wheel alignments on vehicles with 12 to 24" disks.

32" monitor is an additional option and is designed to duplicate the desktop of the main monitor (to make the adjustment screen more visible) and to expand the desktop (to place more advertising materials of your car shop).

The WideScope technology makes it possible to increase the range of working heights of the lift up to twice as much as similar wheel aligners of other companies (See pages 6-7 for details).
HD cameras allow a quick and reliable target "capture" and a high-speed image transfer to the PC over TCP/IP. Special software promotes high-precision recognition of targets in space on the basis of received images.

**Target**
- Compact and easy targets
- One target for each wheel
- Easy to handle
- The front panel is protected with a rubberized border
- No electronic components
- No need to calibrate targets

**Operation**
- Clamps arms can be adjusted easily to various disk diameters with a special handle
- Quick and reliable target mounting in wheel adapters with a shaft lock
- The change from the minimum disk size to the maximum disk size is made by interchanging "claws"

**Wheel Adapters**
Self-centering wheel adapters with the mobile central part fit 12”-24” wheel disks and are compatible with motorcars and trucks.

**Adapters**
Double "claws" allow operating steel and light-alloy disks.
Wide-angle machine vision system

WideScope - "wide-angle" technology

Key features of the Wide Scope technology:

The range of working heights of the lift is up to twice as much as similar wheel aligners of other companies.

The 4-camera wheel aligner allows to take measurements and perform alignments on the lift from the alignment height (1700 mm) to the floor level* without using any camera displacement mechanisms, stairs and stands.

The 2-camera wheel aligner allows to take measurements and perform alignments on the lift in the range of lift heights of 900 to 1700* mm from the floor level.

Minimum distance (from 1200 mm) from camera units to the lift or pit in comparison to similar wheel aligners of other manufacturers.

Minimum requirements for service station size – from 8550 mm.

Long-range capability – video camera housings can be installed at a long distance. It is especially important for wall-mount configurations when the wall is far from the workplace (3-4 meters).

Operation can be carried out even when the target image is partially closed or damaged!

* it depends on the distance of the camera housing installation

Diagram 1:
- 4-camera wheel alignment system
- Camera vision range diagrams for the Wide Scope Techno Vector 7 wheel aligners
- Alignments range: 1200 mm - 3000 mm

Diagram 2:
- 2-camera wheel alignment system
- Camera vision range diagrams for the Wide Scope Techno Vector 7 wheel aligners
- Alignments range: 1500 mm - 3000 mm

* for wall-mount configuration (type K)
** camera transverses differ for 1200-3000mm range and 2500-3000 mm range. The distance is more than 2550 for measurement height increases.
**Techno Vector 7**

**Computer Cabinets**
- V-series
- T-series
- Light-series

**Specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Measurement Range</th>
<th>Maximum Error in Measurement</th>
<th>Average Error in Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Front Wheel Alignment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camber</td>
<td>±8°</td>
<td>±3°</td>
<td>±2°</td>
</tr>
<tr>
<td>Front Total Toe</td>
<td>±5°</td>
<td>±3°</td>
<td>±2°</td>
</tr>
<tr>
<td>Caster</td>
<td>±19°</td>
<td>±8°</td>
<td>±5°</td>
</tr>
<tr>
<td>SAI / KPI</td>
<td>±19°</td>
<td>±8°</td>
<td>±5°</td>
</tr>
<tr>
<td>Lock Angle</td>
<td>±45°</td>
<td>±10°</td>
<td>±5°</td>
</tr>
<tr>
<td><strong>Rear Wheel Alignment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camber</td>
<td>±8°</td>
<td>±3°</td>
<td>±2°</td>
</tr>
<tr>
<td>Rear Total Toe</td>
<td>±5°</td>
<td>±3°</td>
<td>±2°</td>
</tr>
<tr>
<td>Rear Individual Toe</td>
<td>±2.5°</td>
<td>±3°</td>
<td>±2°</td>
</tr>
</tbody>
</table>

**Symmetry Angles**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Set Back</td>
<td>±2.5°</td>
</tr>
<tr>
<td>Rear Set Back</td>
<td>±2.5°</td>
</tr>
<tr>
<td>Thrust Angle</td>
<td>±2.5°</td>
</tr>
<tr>
<td>Geometrical Driving Axis</td>
<td>±2.5°</td>
</tr>
</tbody>
</table>

**Delivery Set**

- Techno Vector 7 (Standard accessories)
  - Electronic unit
  - Steering wheel holder
  - Brake lock
  - Remote control
  - Tumplates (set)
  - Wheel adapter (set)
  - Remote Control
  - Manual

- Tumplates (set)
- Wheel adapter (set)
- Remote Control
- Manual

**A high-tech remote control**
- V-series offers a quick access to all Techno Vector program modes
- Sliding shelf for keyboard (to enter client data)
- Drawer for keyboard and printer
- Universal telescopic monitor bracket
- It allows to adjust the LCD monitor position (height and inclination angle) to provide maximum visibility and operability.

**Computer cabinet includes:**
- Electronic unit based on PC with Intel Core i3 processor and up-to-date video card that supports Direct X11
- 22” and above widescreen LCD monitor
- Special bracket
- Printer
- Wireless remote control
- Brackets for integrated storage of wheel adapters and targets
The Techno Vector 7 software is a powerful and modern device for checking and controlling wheel alignments.

Database
The database integrated in the program includes:
- wheel alignment specifications
- tire pressure specifications
- 3D animation
- adjustment diagrams and images
- data for more than 40,000 vehicles.

Help System
The electronic Help system contains thorough information on working with the wheel alignment machine and program:
- video for working with the equipment
- video lectures on working with the program
- information on adjustments - diagrams, images, video, 3D animation

Asanetwork
The wheel alignment system software supports ASA Network (communication standard for service centers and dealer centers). It allows to take orders centrally and send measurements to vehicle receiving centers.

3D Animation
**Configurations**

Different types of housing configurations are designed for the optimum arrangement of machine vision cameras in different shops.

- **T-type**
  - **Premium**
  - Aluminum
  - Steel

- **K-type**
  - Aluminum

- **H-type**
  - Aluminum
  - Drive-through is allowed.

- **M-type**
  - Aluminum
  - Drive-through is allowed.

**4-camera wheel aligners**

- It is a floor-mounted version of a wheel aligner. Measurements and alignments are performed on a lift.

- It is a wall-mounted version of a wheel aligner. Measurements and alignments are performed on a lift or pit.

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**Up-to-date wheel aligners for modern car shops**

**2-camera wheel aligners**

- It is a wall-mounted version of a wheel aligner. Measurements and alignments are performed on a lift or pit.

**Initial installation of the device**

The initial installation of the equipment is performed by the manufacturer's service technicians. The device works with a 4-post wheel alignment lift or a repair pit. Compliance with the horizontality requirements is strongly recommended.
Certificates

- Certificate of Conformance № C-RU-AR03.Б.05692
- Certificate of Conformance № C-RU-AR03.Б.09983
- Certificate of Conformance № C-RU-AR03.Б.09993
- Certificate of Conformance № C-RU-AR03.Б.09994

The awarding ceremony of the contest "100 Best Commodities of Russia 2010" took place in 2010 as a part of activities devoted to European Quality Week and World Quality Day.

The Gold Award is given to the winner of the contest for manufacturing high-quality Russian products.

The Certificate is given to the participant of the contest for manufacturing new high-quality products.

Marking

V 7 2 0 4 T 5 A D
1 2 3 4 5 6 7 8 9

1. Letter symbol of a computer console series: T, V.
2. Numeric symbol of a device series according to the type of measuring:
   - 7 - measuring by video camera and high-precision image targets (XO).
   - 6 - numeric symbol of the total number of video camera units in the modification.
   - 4 - numeric symbol of a video camera type: 0 - stationary, 1 - mobile
   - 5 - letter symbol of a video camera housing: Premium, Aluminum, Steel
   - 8 - letter symbol of beam inclination drive
   - 9 - letter symbol of beam inclination drive

As a result of the contest the Techno Vector 7 wheel alignment gauge got the Gold Award and the Novelty of 2010 Certificate.