

# The S-600 Sheave Alignment System

*Simplifies sheave alignment and maximizes accuracy with groove-to-groove operation*

## *Versatile and accurate*

- The groove-referenced laser and target use selectable precision ball blocks to allow genuine *groove-to-groove* alignment. A standard set of 1/2-inch precision ball blocks is provided with the system to accommodate the widest variety of sheave grooves. For special needs, a complete range of sizes are available.
- Aligns both classic and narrow V-belt sheaves (standard and deep groove).
- Readout provides groove readings in inches or millimeters and pitch and yaw readings in inches per foot or millimeters per meter.

## *Easy to use and reliable*

- Just clamp on the laser and target and begin aligning...no complicated setup procedures or difficult calculations to perform.
- A single readout provides readings for pitch (up and down) and yaw (left and right) angles as well as groove readings. The readout sequence (PITCH/YAW/GROOVE) defines the alignment operation.
- Battery-operated for portability.



## *Why is accurate sheave alignment important?*

Sheave (pulley) misalignment occurs when the grooves of the *driven* and *driving* sheaves are not parallel or in line. Excessive groove and belt wear causes increased vibration over time, reducing the life of bearings and other machine components. Vibration of the driven spindle also affects the quality of work produced. Common “eyeball” methods of sheave alignment using a straight-edge don’t provide the necessary accuracy because these methods use the *faces* of the sheaves (which are rarely parallel to the grooves) as a reference.

## *Why is the S-600 Sheave Alignment System from Hamar Laser Instruments different?*

Because it works *from* the grooves and aligns *groove-to-groove*, not sheave face-to-sheave face. The system restores correct pitch, yaw and groove alignment, allowing full driving torque from the belts. Proper alignment, together with correct belt tension, reduce driven spindle vibration to a minimum. The system is also cost-efficient, easy to use, and versatile, with many options available to accommodate a wide selection of sheave sizes and types.



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# Specifications

## The S-600 Sheave Alignment System



|                          |   |
|--------------------------|---|
| <b>Measuring Ranges</b>  | <b>Display Readout Range:</b><br>Groove = $\pm 0.150$ " ( $\pm 3.8$ mm)<br>Pitch, Yaw = 1.200 in/ft (100 mm/meter)  |
|                          | <b>Minimum Sheave Distance:</b> 8.00" (203 mm) inside sheave face to sheave face<br><b>Maximum Sheave Distance:</b> 15' (4.5 m) inside sheave face to sheave face |
| <b>Accuracies</b>        | <b>Display Resolution:</b><br>Groove = .001" (0.1 mm)<br>Pitch, Yaw = .001 in/ft (1 mm/meter)   |
|                          | <b>Sensor Resolution:</b> .0001" (0.002 mm)   |
| <b>System Components</b> | L-715 Laser with battery  |
|                          | T-280 Target  |
|                          | R-310 Readout with 10-foot interconnect cable and battery   |
|                          | A-550D-.500 Precision Ball Block Set (5V, A/B, B)   |
|                          | A-509S Instrument Case  |

## System Components



**L-715  
Laser**

|                   |  |
|-------------------|--|
| <b>Size</b>       | 3.12" W x 2.50" H x 6.25" D<br>(79.2 mm x 63.5 mm x 158.8 mm)  |
| <b>Weight</b>     | 1.37 lb. (0.62 kg)   |
| <b>Scan Angle</b> | 26 degrees   |
| <b>Laser</b>      | Type: BRH Class II Visible Diode<br>Power: <1 mW<br>Wave Length: 660 nm<br>Beam Diameter: .040 (1 mm)              |
| <b>Power</b>      | Standard 9V battery /AC Adapter<br>Battery Life: 4 hours continuous duty,<br>8 hours intermittent (50% duty cycle) |
| <b>Op. Range</b>  | 20 feet (6 m)  |



**T-280  
Target**

|                  |   |
|------------------|---|
| <b>Size</b>      | 4.00" W x 4.00" H x 5.50" D<br>(101.6 mm x 101.6 mm x 139.7 mm) |
| <b>Weight</b>    | 1.85 lb. (0.84 kg)  |
| <b>Target</b>    | Resolution: .0001" (0.002 mm)                                   |
| <b>Cells</b>     | Range: $\pm 1.5$ " (3.8 mm)                                     |
| <b>Power</b>     | Powered from R-310 Readout                                      |
| <b>Op. Range</b> | 1 to 20 feet (0.3 to 6 m)                                       |



**R-310  
Readout**

## Options

- A-500 AC Laser/Readout Adapter
- A-550D-.312 Precision Ball Block Set (3V)
- A-550D-.375 Precision Ball Block Set (A)
- A-550D-.750 Precision Ball Block Set (8V, C)
- A-550D-1.00 Precision Ball Block Set (D)
- A-550C Clamps, 12-inch (304.8 mm) capacity (2)