SKF Shaft Alignment System

TKSA 60

Wireless laser shaft alignment tool
with built-in alignment expertise

Introduction

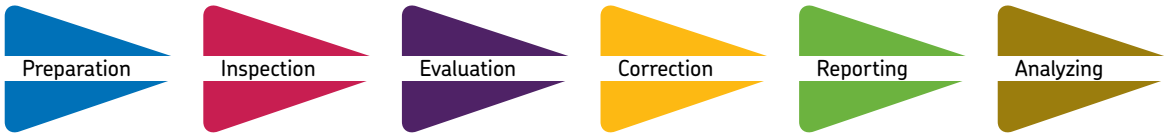
The TKSA 60 is an extremely rugged wireless laser shaft alignment tool that can be used in harsh environments. The system provides instant expertise by providing a built-in step-by-step alignment process, from preparation, inspection and evaluation through correction, reporting and analysis. The system incorporates the latest alignment knowledge based on decades of SKF experience of rotating equipment.

Standard features

- Built-in wireless technology
- "Swap view" – enables graphics to be swapped from one side of the machine to the other to accommodate the user's position
- Built-in accelerometer in both measuring units
- Energy efficiency indicator
- Fast template
- Horizontal and vertical alignment
- Laser or manual soft foot check

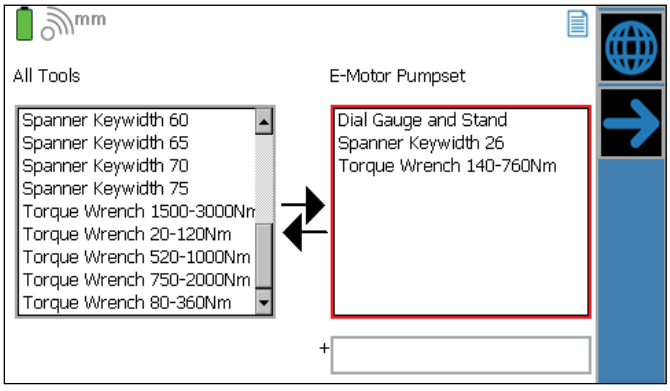
Built-in pre-defined alignment process

The TKSA 60 integrates a pre-defined alignment process into a portable instrument. It provides users with step-by-step instructions on how to perform alignment in the most effective and efficient sequence.

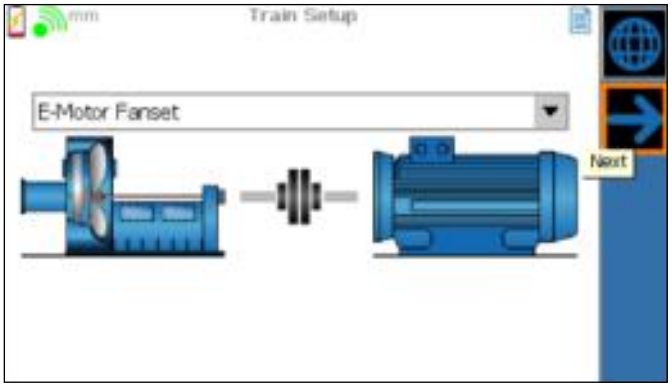


Preparation

- The right tools and materials at the right place at the right time
  - The system reminds users of the correct tools and materials to use, before carrying out the alignment job.

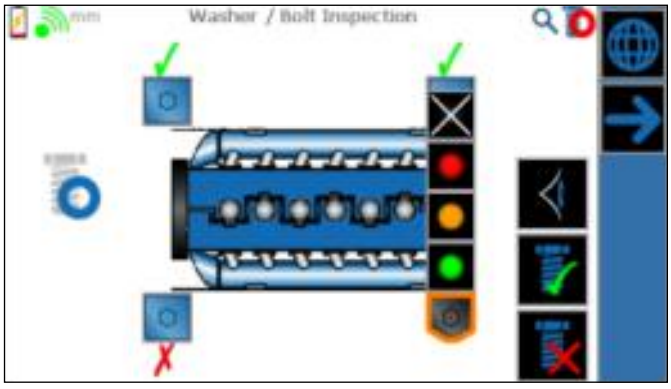


- Fast template
  - Create a job template that specifies the machine setup, inspection activities, applicable tolerances and required tools that can be re-used at any time.

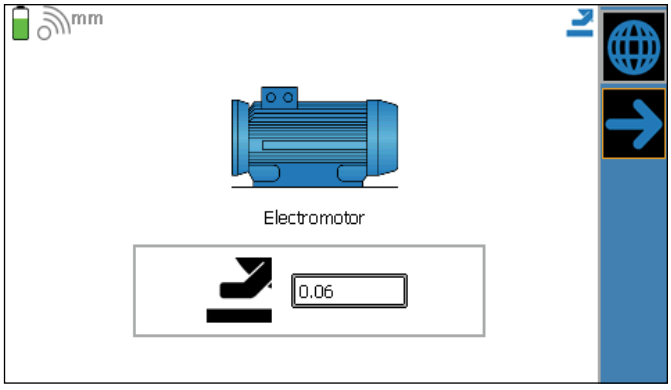


Inspection

- Visual inspection
  - Inspection fields are provided for oil level, leakages, foundation bolt status and wear indications, etc.



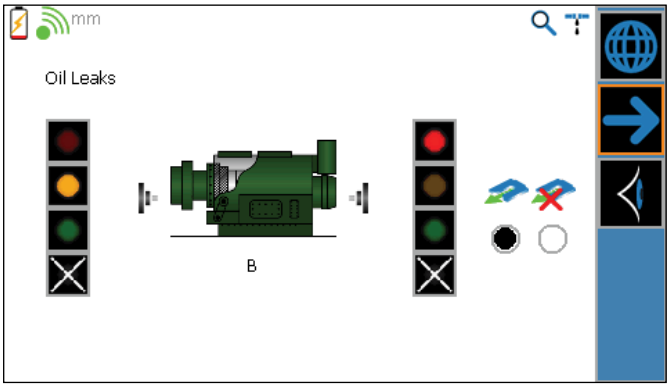
- Soft foot check
  - The system gives users the choice to find, correct and record soft foot conditions by either laser or by feeler gauges.



- Horizontal and vertical shaft alignment
  - Measurements are performed at any of three positions, with a shaft rotation of as little as 30 degrees.

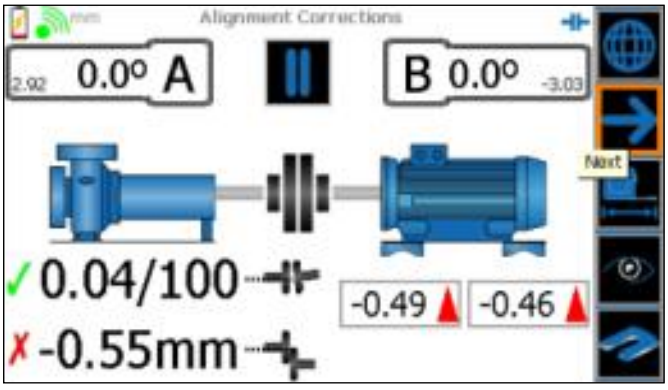
Evaluation

- The system assists users to compare inspection results with the information saved in the fast template so as to identify and prioritize corrective actions.



Correction

- Real-time correction
  - The system displays the live actual value and direction for accurate misalignment correction.



Reporting

- Results in graphical format
  - The results are shown in graphical format and the file can be easily downloaded to a USB memory stick from the display unit.
- The results show the machine conditions “as-found” and “as-corrected”. Desired targets and tolerances are also displayed.
- Energy efficiency
  - The system reports estimated extra energy consumption due to misalignment.

Analyzing

- Alignment reports are recorded in the system, which helps users periodically compare the alignment history and monitor the machine’s health trend.

Standard programs

The following standard programs are available for the TKSA 60:

- **Horizontal alignment**

- **Vertical alignment**

- **Soft foot by laser**

- **Soft foot manually**

- **Chocking arrangement**

- **Bolt torque input**

- **Fast template**

- **Database**

Technical data

Complete system

- Measure distance*: Up to 10 m *(33.0 ft.)*
- Relative humidity: 10 to 90%
- Temperature range: –10 to +50 °C *(+14 to +122 °F)*
- Weight (with case): 7.3 kg *(16.1 lb.)*

* Range can be compromised when operating in bright sunlight.

Display unit

- Display: 4.3 inch backlit color LCD, daylight viewable
- Power: Rechargeable Li-ion battery and external power supply
- Operating time on battery: Typical ten hours continuous operation
- Storage memory: 64 MB
- Housing: PC / ABS plastic with integrated lockable stand
- Dimensions (height × width × depth): 234 × 132 × 48 mm *(9.2 × 5.2 × 1.9 in.)*
- Weight: 680 g *(23.9 oz.)*
- Environment protection: IP 65
- Connectivity: Low-power, industrial wireless network, 802.15.4 compliant
  - USB: Host v1.1, device v1.1
- Drop test: 1,2 m *(3.9 ft.)* to MIL-STD-810F

Measuring units (A, B)

- Type of laser: Red diode laser
- Laser wavelength: 635 nm
- Laser safety class: Class II
- Laser output power: <1 mW
- Displacement measurement accuracy: ±5 µm, ±0,5%
- Detector: Linear CCD with length 36 mm *(1.4 in.)*
- Relative accelerometer accuracy*: ±0,1° (at 24 °C / 75 °F)
- Accelerometer resolution: 0,1°

* Relative accelerometer accuracy is the difference between the angles reported by the two measurement units when held at the same absolute angle.

- Thermal sensors: ±2 °C *(±3.5 °F)*
- Housing material: Chassis, aluminium sides, glass filled PBT
- Dimensions (height × width × depth): 96 × 93 × 36 mm *(3.8 × 3.7 × 1.4 in.)*
- Weight: 326 g *(11.5 oz.)*
- Environment protection: IP 65
- Ambient light protection: Optical filtering and ambient light signal rejection
- Power supply: 2x AA alkaline batteries or rechargeable battery

Rod / fixing bar

- Length: 4 off 90 mm, 4 off 150 mm, can be screwed together to increase length

Standard shaft diameter

- Up to 300 mm *(11.8 in.)*

Ordering information

The TKSA 60 Shaft Alignment System consists of:

- Display unit TKSA 60-DISPLAYUNIT, one (1) each
- Measuring unit TKSA 60/80 V2-HA and TKSA 60/80 V2-HB, one (1) each
- Mechanical shaft fixtures, two (2) each
- Adjustable chains with tightening pin, two (2) each
- Rods, four (4) each
  - 90 mm
  - 150 mm
- Measuring tape, one (1) each
- Screw driver, one (1) each
- Tommy bar, two (2) each
- USB cable, one (1) each
- Charger for display unit, one (1) each
- Quick start guide, one (1) each
- CD with instructions for use, one (1) each
- Extension chain, two (2) each

For a tailored solution for available applications, please contact your local SKF sales office.

Please contact:

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