X-SERIES™ LASER SHAFT ALIGNMENT

X-880/X-990 Quick Start Guide

SHAFTALIGNMENT.HAMARLASER.COM

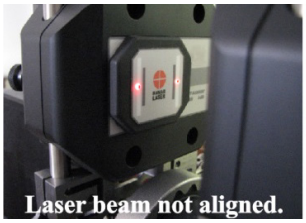
Basic Alignment Steps for Starting and Using the X-880 and X-990 Laser Shaft Alignment Systems

Please see the X-Series™ Operations Manual for complete details.

Mounting the Target and Laser

1. Mount the brackets on the shafts.
2. Mount the target on the moveable side of the coupling.
3. Mount the laser on the stationary side of the coupling.
4. Turn on the laser head. With the dust cap mounted on the target, position the two laser beams into the two holes of the dust cap.
5. Once the beams disappear into the two holes, tighten the brackets and the heads to ensure no movement on the shaft.

Note: There is an adjustment wheel on the front of the L-790 Laser to finely position the laser beam in the horizontal axis.



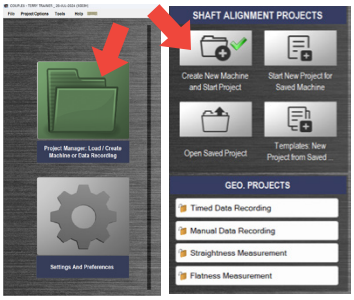
When the laser beams are aligned, they nearly disappear in the holes in the dust cover. This places the laser close to the target's center.

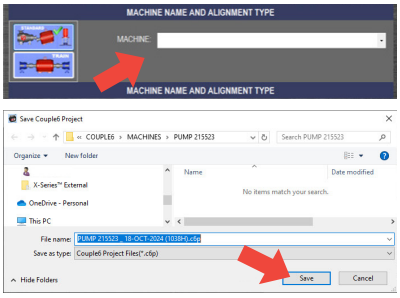
Opening Couple6

Turn on the T-1290 Target and then double-click the **Couple6** icon on the desktop to open the program. Couple6 will automatically connect to the target and display the serial number on the task bar.

Starting an Alignment Project

1. Press the **Project Manager: Load/Create Machine or Data Recording** button on the Home Screen.
2. Press the **Create New Machine and Start Project** button showing a green checkmark.
3. Enter the machine filename and additional information (if required).
4. Press the circle with the green checkmark in the bottom right corner.
5. A Save Couple6 Project window will open. Press the **Save** button in the bottom right corner.



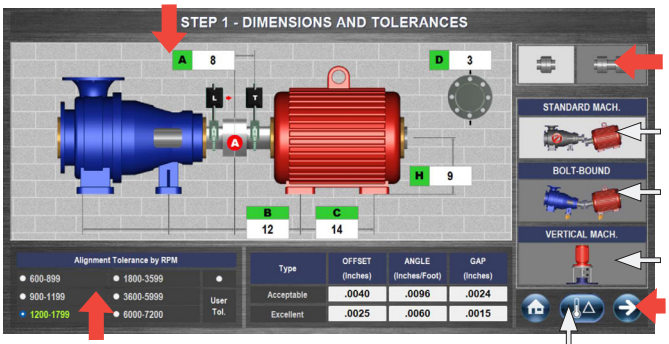


Step 1: Dimensions and Tolerances

From the **Main Menu**, tap **Step 1: Dimensions and Tolerances.**

1. Select coupling type *(Single Coupling is selected).*
2. Select alignment type *(Standard Mach. is selected).*
3. Press and hold the stylus or finger on the dimension box for 0.5 seconds to open the keypad. Enter the motor dimensions as shown in the graphic to an accuracy of .13 to .25" (3-6mm).
4. Select motor RPM to set the alignment tolerance. *Optional: Go to Thermal Growth to enter Thermal Growth offsets.*
5. Press the right arrow to go to the next step.

3. Enter all dimensions.



1. Select coupling type.

2. Select alignment type.

Standard Alignment

Bolt Bound

Vertical Alignment

5. Next Step

4. Select RPM to set alignment tolerances.

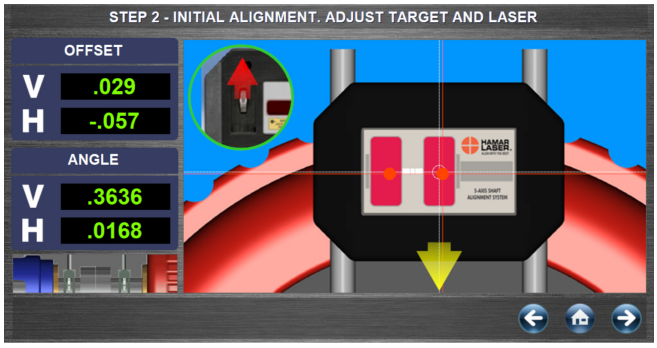
Optional – Thermal Growth Offset

Step 2: Laser Setup - Initial Alignment, Adjust Target and Laser (Optional)

This step verifies the initial mounting of the laser and target onto their brackets from the beginning of the process. Confirm that the laser is centered on the target's center, and the red dot is near or inside the white dotted circle in the middle of the window. A Green or Yellow arrow means you are in the center zone. A Red arrow means the laser is out of center, and you should move the target in that direction.

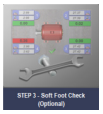
Note: Due to the large measuring range of the target, you can still use the system even if the arrow is red.

Press the right arrow to go to the next step.



V-Offset and H-Offset numbers indicates the location of the laser on the target and how close it is to the center of the target.

Step 3: Soft Foot Check

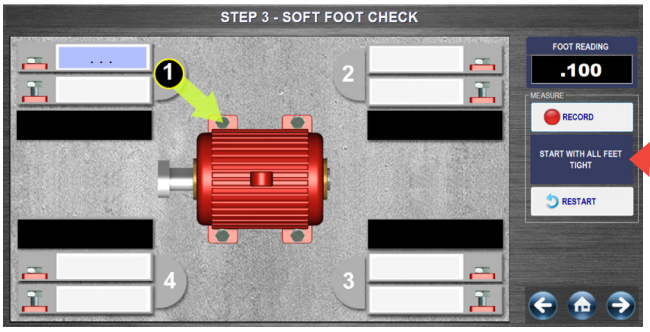


Soft foot is a condition where the four feet of the motor are not parallel to the machine base. What usually happens when a motor has soft foot is the motor appears to be aligned in Step 5, but when data is re-taken, the motor is still misaligned. This continues until the soft foot is detected and corrected.

Follow the step-by-step screen instructions to check for soft foot and calculate recommended shims to fix it. Before proceeding to Step 4, ensure that all bolts are tightened.

Note: The Soft Foot Check is strongly recommended but optional.

Press the right arrow to go to the next step.



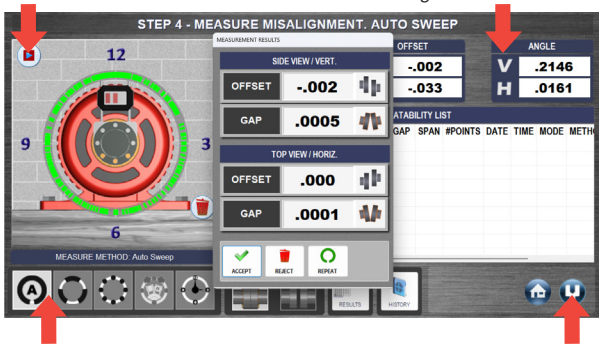
Step-by-Step Instructions

Step 4: Take Data (Auto Sweep™)

1. Select **Auto Sweep** as the measurement method *(if not already highlighted in white)*.
2. Depending on Preference Settings, either start rotating the shaft or press the **Record** button to begin the data taking (Couple6 auto-records the data).
3. Stopping the rotation in any clock position or by pressing the **Stop** button, data results are auto-calculated. *A minimum of 90 degrees of rotation is required.*
4. Leave the laser and target in the 12 or 6 o'clock position once the sweep is completed.
5. Press **Accept** on the Measurement Results window.
6. Click on the **Results** button to see the results with the tolerances applied.
   Note: If the Accept Screen does not appear (due to vibration), then go to Preferences and change the setting to **Manual Start/Stop**.
7. If the results are out of tolerance, then press the **Move and Shim** button on the bottom right to go to the next step.
   Note: Please see the X-Series™ Operations Manual for detailed descriptions and directions for taking data in each mode.

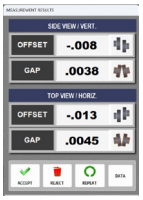
Record Button

Data Displays showing the raw value being used to record the data.



Measurement Methods Available (L–R): Auto Sweep™, Arc Mode™, Point Mode, Uncoupled Swipe, and Auto Clock™

Move and Shim Button



Accept Screen

Results Screen

Step 5: Move and Shim

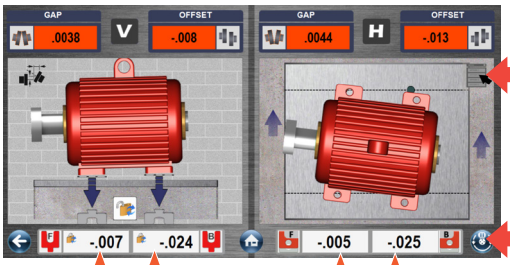
Add or remove shims as instructed on the screen. Move the motor in the direction of the arrows. When the alignment value displays turn Yellow, the results are acceptable; when Green, the results are excellent.

Tighten the bolts and press the **Remeasure** button to go back to Step 4 and retake data to verify the alignment is in tolerance.

Note: See the X-Series™ Operations Manual for further details and options for this step.

V-Axis Move Screen Showing Shims

H-Axis Move Screen Showing Moves



Click to flip screen or turn on Coupling Zoom.

Remeasure Button

Recommended Shim Values

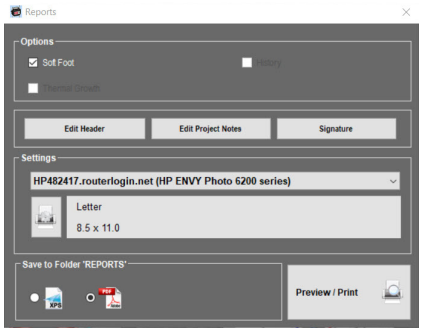
Recommended Move Values

Step 6: Printing a Report

Press the **Home** icon to go to the Home Screen.

To print a report in Couple6, press the **Preview/Print Alignment** report tab to access the Report Configuration popup window.

Report Options: Select which parts of the report to include: Soft Foot, Thermal Growth, and/or History. These sections of the report will not print unless the box is checked. Tap Edit Header, Edit Project Note or Sign Report to modify the report.



Printer Settings

Press to select the printer, page size and other printer settings.

Save an electronic copy to the REPORTS folder.

The report is automatically saved as either a .PDF file for use with Adobe Acrobat. The file is saved in the Reports Folder locate in My Documents/Couple6 and can be emailed or transferred electronically to users who do not have Couple6 to view the report.

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