X-SERIES™ LASER SHAFT ALIGNMENT

X-660/X-770 Quick Start Guide

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Basic Alignment Steps for Starting and Using the X-660 and X-770 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 and position it where the two "fan lasers" are in-line horizontally with the two red horizontal lines on the face of the target.
5. Move the two beams into the target window where there is no visible laser showing on the face of the target.
6. Ensure the brackets, target, and laser are secure on the shafts once mounted and aligned.

Adjust target height to center laser lines.

Laser lines are too far to the left

Laser lines are too far to the right

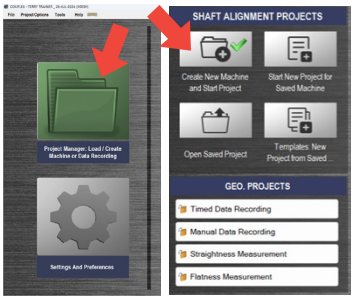
Laser lines are centered in the window

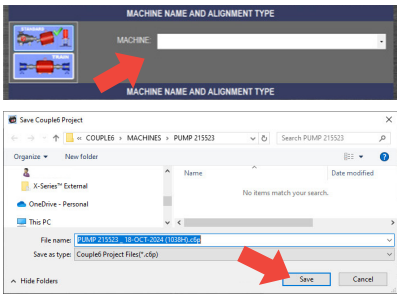
Opening Couple6

Turn on the T-1280 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 in 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.



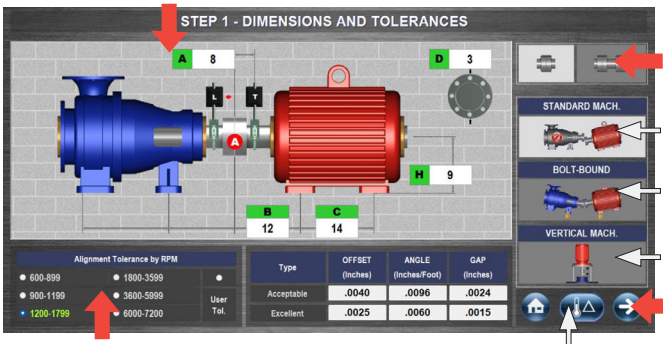


Step 1: Dimensions and Tolerances

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.

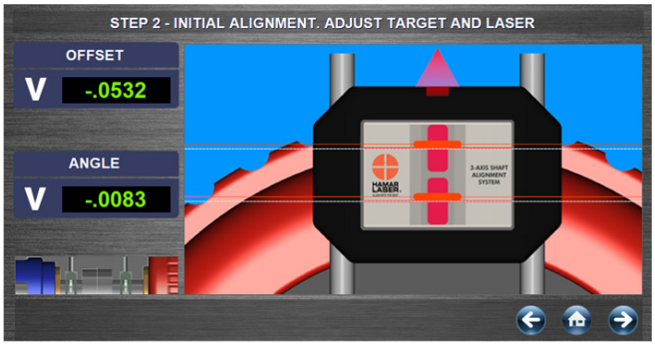
Optional – Thermal Growth Offset

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 horizontal lines on the face of the target and is centered in the display 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.

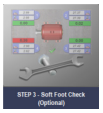
Note: Due to the large measuring range of the target, you can still use the system even if the arrow is red.

Press the right arrow to go to the next step.



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

Step 3: Soft Foot Check

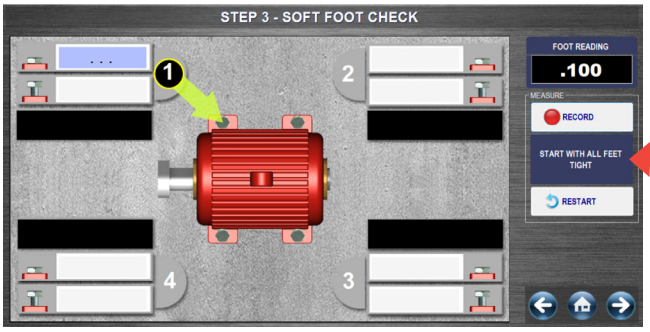


Soft foot is a condition where the four feet of the motor are not parallel to the machine base. What usually happens when a motor has soft foot is the motor appears to be aligned in Step 5, but when data is re-taken, the motor is still misaligned. This continues until the soft foot is detected and corrected.

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.

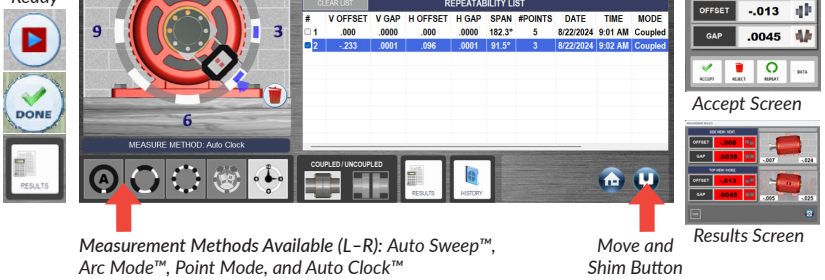
Press the right arrow to go to the next step.



Step 4: Take Data (Auto Clock™)

1. Select **Auto Clock** as the measurement method *(if not already highlighted in white)*.
2. Rotate laser and target to a clock position until a blue arrow appears.

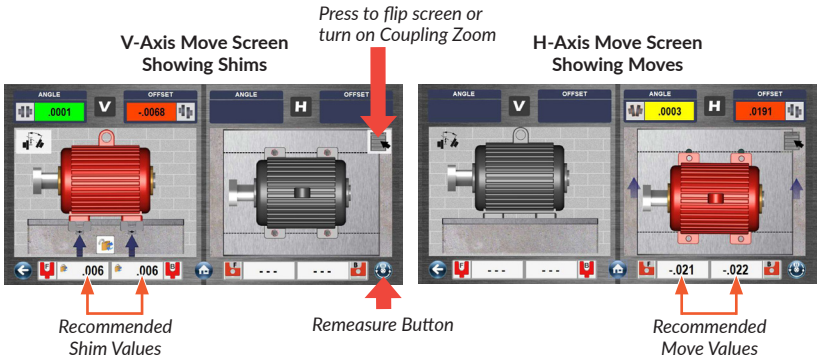
3. Press the **Record** button.
4. Repeat for at least two more points within a 90-degree span *(180 degrees is preferable, 360 degrees is optimal)*.
   Note: The Done Button will appear after 3 or more data points are recorded.
5. Press the **Done** button to calculate results.
6. Press **Accept** on the Measurement Results screen.
7. Click on the **Results** button to see the results with the tolerances applied.
8. 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.



Step 5: Move and Shim

Add or remove shims as instructed on the screen. To change from V-Axis screen to H-Axis screen, rotate the laser and target to the 3 or 9 o'clock position, and 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.



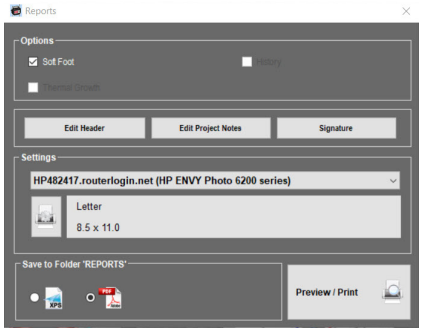
Note: See the X-Series™ Operations Manual for further details and options for this step.

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. Press 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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