

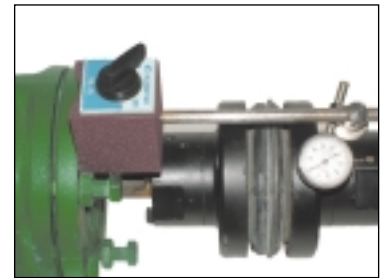
USING THE SHAFT HOG

- ⊕ **PRE-ALIGNMENT**
- ⊕ **SETTING UP**
- ⊕ **MEASURING MISALIGNMENT**
- ⊕ **CORRECTING MISALIGNMENT**



1 PRE ALIGNMENT: CHECK RUN OUT

1. Mount the dial indicator to the magnetic base.
2. Affix the magnetic base to the machine base, a bearing housing, or any fixed point in space.
3. Adjust the indicator so that it contacts the shaft or hub you intend to measure.
4. Slowly rotate the shaft that you're measuring until the dial reaches a maximum or minimum.
5. Set the dial indicator to zero.
6. Rotate the shaft until the dial gauge reaches a maximum or a minimum reading.
7. This is the amount of run out.



2 PRE ALIGNMENT: ROUGH ALIGN

1. Rough align the machine vertically using a scale.
2. Rough align the machine horizontally using a scale.



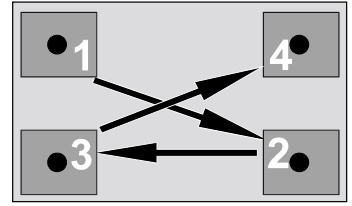
3 PRE ALIGNMENT: OBVIOUS SOFT FOOT

1. Loosen all of the mounting bolts.
2. Find any loose shim packs.
3. Correct the loose shim packs by adding shims.



4 PRE ALIGNMENT: TORQUE THE BOLTS

1. Determine your desired tightening sequence.
2. Make the first pass. Torque each bolt in the established sequence to 50% of the desired torque.
3. Make the second pass. Torque each bolt in the established sequence to 100% of the desired torque.



5 PRE ALIGNMENT: FINAL SOFT FOOT

1. Loosen one bolt at a time.
2. Use a 2 mil (.002") shim or feeler gauge to check the gap under the foot.
3. Correct any foot with more than two mils of softness.
4. Re-tighten the bolt.

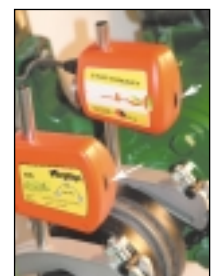


6 SET UP THE SHAFT HOG

1. Mount the stationary sensor on the stationary shaft.
 - ⊕ The sensors may be mounted on the shafts or on the coupling hubs.
 - ⊕ Place the chain nut in the bracket cradle.
 - ⊕ Place the bracket on the shaft and pull the chain under the shaft and hook it over the pin.
 - ⊕ Hand tighten the nut, then 1/2 turn more with the wrench.
2. Mount the movable sensor on the movable shaft.

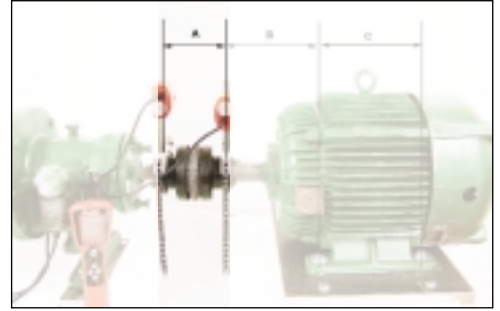


3. Use the levels to align the sensors.
4. Plug the cables into the display unit be sure to locate the proper connection (M to M, S to S).
5. Turn the unit on.
6. Rotate the sensors to 12:00.
7. Aim the lasers.
 - ⊕ The sensors will be on different elevations.
 - ⊕ Use the thumbwheels to aim the lasers to the center of the target.
 - ⊕ Twist the sensors on the post to make the lines equally spread on both sides of the target.

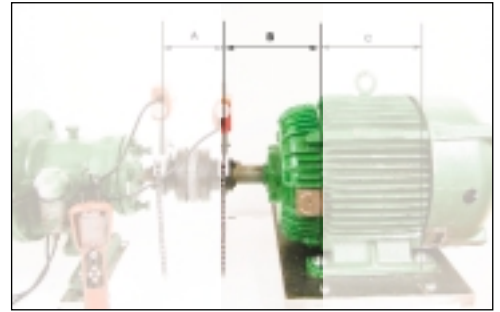


7 ENTER DIMENSIONS

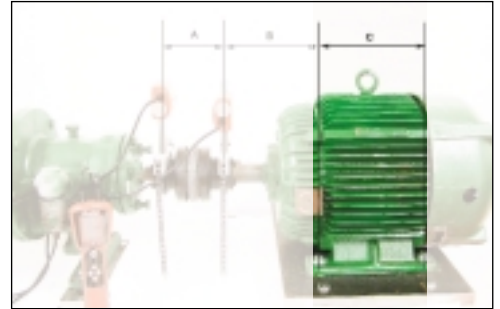
1. Measure the "A" dimension.
 - ⊕ Center of post to center of post.
2. Enter the "A" dimension into the display box.
 - ⊕ The + symbol will increase the value on the screen.
 - ⊕ The - symbol will decrease the value.
 - ⊕ Holding the + or - button will change the values quickly.
3. Press the right arrow to advance to the "B" dimension.



4. Measure the "B" Dimension.
 - ⊕ The line parallel to the shaft from the center of the moveable sensor post to center of front foot.
5. Enter the "B" dimension into the display box.
 - ⊕ The + symbol will increase the value on the screen.
 - ⊕ The - symbol will decrease the value.
6. Press the right arrow to advance to the "C" dimension.



7. Measure the "C" Dimension.
 - ⊕ Front feet to rear feet.
8. Enter the "C" dimension into the display box.
 - ⊕ The + symbol will increase the value on the screen.
 - ⊕ The - symbol will decrease the value.
9. Press the right arrow to advance to measurement screen.

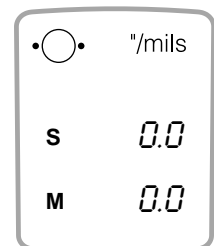


8 MEASURE MISALIGNMENT

- ⊕ The sensors can be at **ANY** clock position to start.
- ⊕ The starting measurement is registered by pressing the right arrow.
- ⊕ The sensors are then rotated 180 degrees from the starting point.
- ⊕ The right arrow registers the second measurement.
- ⊕ The system will thereafter give "live" results in whatever orientation the sensors are pointing.
- ⊕ After you get some experience you can try different starting positions.
- ⊕ To begin, use the orientation shown below.



1. Rotate the sensors to 9:00.
 - ⊕ Use the level on one of the sensors.
 - ⊕ You should see both "S" and "M" values.
 - ⊕ If you do not, then the lasers are not within the target window.
2. Press the right arrow to register the measurement.
 - ⊕ The values will change to near zero.
 - ⊕ The values are being displayed in mils.



(Over)



MEASURE MISALIGNMENT (CONTINUED)

- Rotate the sensors to 3:00.
 - Use the level on one sensor.
 - You should see both "S" and "M" values.
 - If you do not, then the lasers are not within the target window.
- Press the right arrow to register the measurement.
 - The screen will now display the results.
 - The values are "live" in whatever orientation the sensors are pointing.
 - Since the sensors are at 3:00 the live readings displayed are for the horizontal position.



| | |
|----|--------|
| ○ | "/mils |
| ↔ | 0.2 |
| ↕ | 19.0 |
| F1 | -20.9 |
| F2 | -23.5 |

- To see vertical results rotate the sensors to 12:00.
 - Use the level on one sensor.



| | |
|----|--------|
| ○ | "/mils |
| ↔ | 0.4 |
| ↕ | 6.9 |
| F1 | 10.9 |
| F2 | 16.3 |

9 ALIGNMENT RESULTS

- The angle and offset values are **ONLY** used for comparing to the tolerance table.
- If you exceed the tolerance for either you will make a correction.

| Machine Speed | Angularity Mils per inch 1.0/1" = .001"/1" | Offset Mils 1.0 = .001" |
|---------------|---|----------------------------|
| 3600 | .5/1" | 2.0 |
| 1800 | .7/1" | 4.0 |
| 1200 | 1.0/1" | 6.0 |
| 900 | 1.5/1" | 8.0 |

- The foot values are for making corrections.

F1 are the front feet.
F2 are the rear feet.
Round to the nearest whole number.

| | |
|----|--------|
| ○ | "/mils |
| ↔ | 0.2 |
| ↕ | 6.2 |
| F1 | 1.8 |
| F2 | 9.7 |

| | |
|----|--------|
| ○ | "/mils |
| ↔ | 0.2 |
| ↕ | 6.2 |
| F1 | 7.8 |
| F2 | 9.7 |

10 CORRECTING VERTICAL MISALIGNMENT

- To correct vertical misalignment be sure the sensors are at 12:00.
 - Use the level on one sensor to determine 12:00.
- Record the F1 and F2 values to the nearest mil.

Positive values: the machine is high, remove shims.
Negative values: the machine is low, add shims.

| | |
|----|--------|
| ○ | "/mils |
| ↔ | 0.2 |
| ↕ | 6.2 |
| F1 | 7.8 |
| F2 | 9.7 |

11 CORRECTING HORIZONTAL MISALIGNMENT

- To correct horizontal misalignment be sure the sensors are at 3:00.
 - Use the level on one sensor to determine 3:00.
- Use the F1 and F2 values to adjust the movable machine until the angle and offset are within tolerances.

Positive values: the machine is away from you, adjust it toward you.
Negative values: the machine is toward you adjust it away from you.

| | |
|----|--------|
| ○ | "/mils |
| ↔ | 0.2 |
| ↕ | 19.0 |
| F1 | -27.0 |
| F2 | -23.8 |

12 RE-MEASURE

- To re-measure press the left arrow until the 9:00 symbol re-appears.

