update international, inc.

PROACTION

Precision Alignment System

Assembly Instructions

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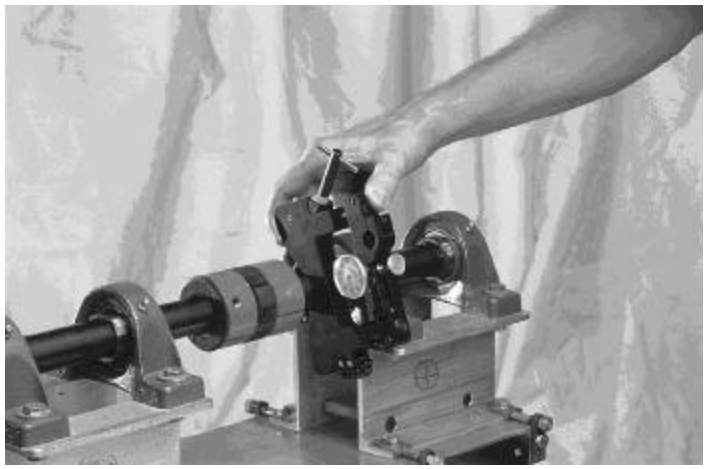
Quick Assembly

In many situations, the partial fixture assembly left from a previous alignment job can be used again without changes. The case is designed to hold the fixtures partially assembled to save setup time. If a problem in size or clearance requires changing posts, chains or indicators, refer to pages 2-5. Otherwise, continue with assembly as follows.

1. Remove fixtures from the case and mount on the shafts. Check for clearance problems (see figure 1). The horizontal holes in the bridge must be on opposite sides.



2. Select and mount the proper length of tubes and extension arms for spanning between fixtures and adjust the bridge height. (See page 6 for details.)
3. Adjust the extension arms to preload the indicators.

Start by removing the fixtures from the shafts by loosening the chains but keeping the rest intact. Mount them on a piece of pipe of fairly large diameter. This is a good opportunity to check the tightness of the assembly. Set the indicators to zero and rotate 360 degrees. The indicators should both return to zero. Set the dials to zero at the top and rotate to the bottom. The reading on the dial is the amount of sag due to gravity.

Any repeatable amount of sag that can accurately be measured can be compensated for. Excessive amounts of sag will not accurately repeat and, therefore, can create errors. Reducing the amount of sag on taller, longer setups is important. Completely eliminating sag for all setups is simply not practical.

Setting the Level

1. Set the bulls eye level on top of the bridge and rotate the shafts until the bubble is in the center. Keeping the shafts still, put the level's plug into the end of the tube on the outside of the bridge (see figure 11).
2. Rotate the level in the tube until two lines straddle the bubble.

Determining the Sag

Before taking readings with the Update Proaction Precision Alignment System, determine the fixture's sag. No fixtures completely and consistently eliminate sag due to the pull of gravity. The amount of sag is affected by the tightness of the connections, the height of the bridge, the span between indicators, and even the temperature of the fixtures during alignment.

Mounting the Base

The fixture bases must mount on a surface that represents the centerline of rotation, such as the shaft or any part solidly attached to that shaft. Be sure there is no play between the surface where the fixture is mounted and the shaft.

1. If the chain assembly is not already in place, feed it through the inside of the roll pin as shown in figure 2. The spring clip holds the elastic bands.
2. Before hooking the chain, make sure the handle is unscrewed enough to expose plenty of thread on the bolt. If the bolt is drawn all the way into the T-handle, the chain will begin to press against the bottom of the handle. This makes the handle hard to turn and it will mistakenly feel as if the chain is tight on the shaft.

3. If the chain is not long enough to reach around the shaft or coupling hub where the fixtures will be mounted, exchange the short chains for the long chains provided in the kit. If more length is needed, use the master links in the Spare Parts Bag to link the two together or acquire long pieces of No. 25 drive chain.
4. Set a base on one shaft (or coupling hub) with the chain's loose end hanging down. Reach under the shaft and pull the chain around. Pull the chain and hook it on the farthest link that can reach the hook (see figure 3). Tighten the chain by turning the T-handle. If there is a fair amount of excess chain, bring the remaining chain back under the shaft and pull the elastic band over the T-handle to keep the chain from flopping over the tubes and extensions.
5. Mount the other base on the other shaft so that the horizontal holes in the bridge are on opposite sides of the shaft centerline.

Figure 3

It may be necessary to change the extension arm size or remount the arm. The upper set screw holds the arm. The arm should curve toward the center with the tip facing the indicator disk. Adjust the extension arm until the tip of the arm touches the center of the preloaded indicator disk (see figure 10).

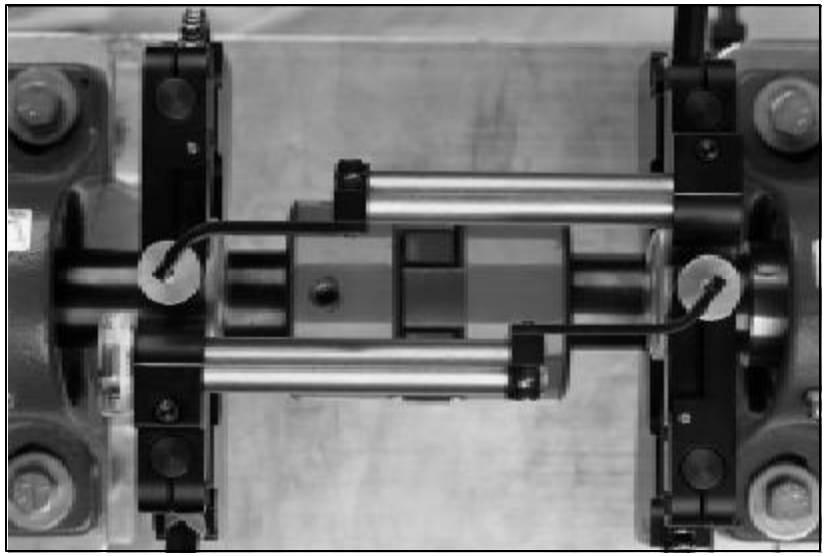


Figure 10

Hint: Always set the bases where the bridges are facing the same direction. This should minimize the rearranging of the extension arms and tips.

Mounting the Tubes and Extensions

1. Slide the selected tube into the large hole in the bridge so that it is cantilevered over the coupling. Insert the tube all the way in as it must make contact at each end of the hole. Rotate the tube until the line inscribed on the tube is aligned with the reference line on the top of the bridge. Firmly tighten the set screw (see figure 8).

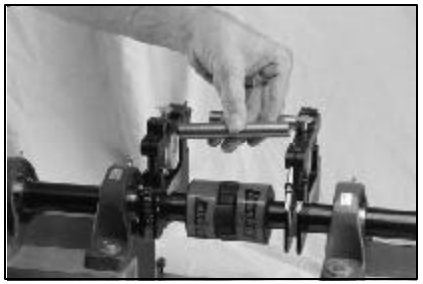


Figure 8

2. Slide the extension arm holder onto the end of the tube with the set screws on the outside. Rotate the holder until the line on the tube is in the middle of the split on the holder (see figure 9). The lower set screw tightens the extension holder (which clamps on the tube) and the upper set screw holds the extension arm.

Figure 9

Changing the Posts

1. The posts need to clear obstacles and support the bridge with enough height to clear the coupling. To change the posts, loosen the two sets of screws holding the bridge to the posts and remove the bridge. Then loosen the posts using the hex wrench in the holes at the top of the posts as a lever.

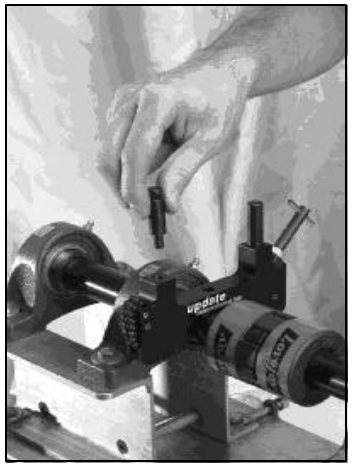


Figure 4

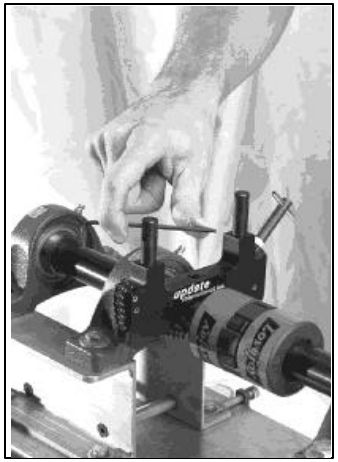


Figure 5

2. Select another post size that will allow the fixtures to complete a full rotation. Screw the new posts into the base and tighten (see figures 4 & 5); then remount the bridge on the new posts (see figure 6).

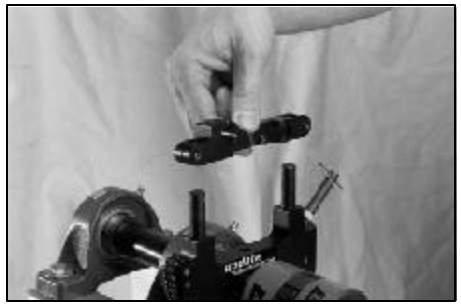


Figure 6

If the chain on the fixture base is tight, slightly squeeze the posts together when mounting the bridge. Slide the bridge down evenly—if only one end is pushed down, it will jam. Once the bridge is in position, be sure to tighten both set of screws.

Changing the Indicators

If the large dial indicators are on the bridge and you are switching to the shortest posts, the smaller indicators are necessary. To change indicators, open the indicator clamp on the bridge by loosening the screw all the way and swing the clamping arm out. Remove the indicator from the bridge, then remove the indicator disk from the indicator's plunger. Exchange the tips with the other set of indicators and mount the new indicators on the bridge (see figure 7).

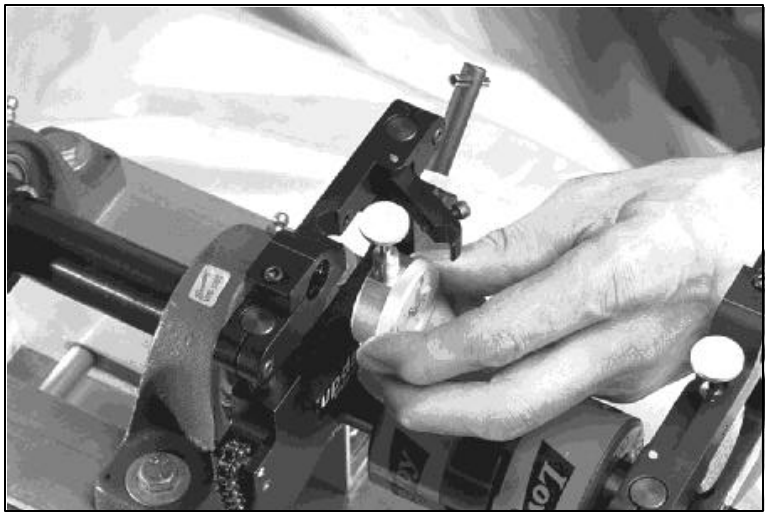


Figure 7

Selecting Tubes and Extensions

Measure the "A" dimension which is the distance from one indicator stem to the other. There are three lengths of tubes and two lengths of extension arms for spanning between the fixtures. Use the chart to find the best combination for the total length required.

"A" Dimension	Tube	Extension
4.75" - 6"	short	short
6" - 9.5"	short	long
9.5" - 12"	medium*	short
12" - 15.5"	medium	long
15.5" - 19"	long*	short
19" - 22.5"	long	long

*Shortest span requires the tube to protrude slightly out the back of the bridge.