



**ATEX:** In order for this coupling to meet the ATEX requirements, it is mandatory to precisely follow these installation instructions along with the included supplement form 0005-08-51-01. This supplement outlines the ATEX requirements. If the operator does not adhere to these instructions, conformity is immediately invalidated.



### WARNING

- Because of the possible danger to person(s) or property from accidents which may result from improper use or installation of products, it is extremely important to follow the proper selection, installation, maintenance and operational procedures.
- All rotating power transmission products are potentially dangerous and can cause serious injury. They must be properly guarded in compliance with OSHA, A.N.S.I. and any other local standards for the speeds and applications in which they are used. It is the responsibility of the user to provide proper guarding.
- For ATEX requirements, the guard must have a minimum of 1 inch (25mm) radial clearance to the couplings major diameter and be of the open mesh design.

These installation instructions include the following:

- 350, 375 (four bolt design)
- Series 450, 485, 650, 750/850 (six bolt design)

**NOTE:** An Addax<sup>®</sup> Product Drawing is furnished with the coupling. If this print is not available at the time of installation, please call the factory to obtain a copy before proceeding. If further assistance is required, contact Customer Service at 402-325-6000.

### HANDLING CONSIDERATIONS

1. The Addax<sup>®</sup> Composite Coupling is very durable and will provide years of service if handled properly. Minor scuffs and surface abrasions on the spacer will not affect the performance of the coupling.
2. Soft spots caused by heavy impact, cuts or gouges are areas of concern. Any time a soft spot is seen; the coupling should be removed from service and replaced.
3. The flexible element should be inspected periodically, or after a high torque or misalignment event. If there are protrusions (bumps) on the surface of the flex element, it should be removed from service.

### TOOLS REQUIRED

- Tape measure
- Allen wrenches
- Ratchet with 1/2", 9/16", 5/8" and 3/4" sockets
- Combination wrenches of 1/2", 9/16", 5/8" and 3/4"
- Torque wrench with up to 80 ft. lb. capacity
- Dial indicator with attaching device or Rexnord alignment tool.
- Dial calipers

### HUB BORING

All Addax<sup>®</sup> hubs are bored concentric to the bolt hole pattern. Chucking onto the barrel or the flange is not an accurate method of machining the bore concentric to the bolt pattern. Reboring a hub requires a tool fixture that attaches to the bolt circle. Any hub not machined to Rexnord specifications will void the warranty.

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## 400/450 CONVERSION

The 450 series flex element is .270 inch (6.9 mm) thinner in cross section than the 400 series flex element it replaces. In order to use 450 flex elements as direct part replacements for 400 series (without making any spacer length changes), each hub must be moved .270 inch (6.9 mm) out over the shaft ends. (I.e. shaft ends to be recessed inside hub bores by .27 inch). If making a complete change out of spacer, flex elements and hardware, then hubs do not have to be moved.

### INSTALLATION INSTRUCTIONS

#### STEP 1

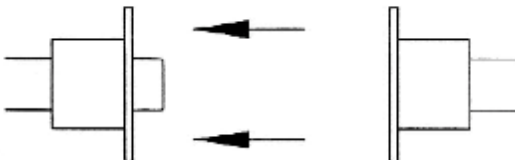
1. The Addax<sup>®</sup> assembled from the factory. Remove the bolts at each end that connect the composite spacer shaft to the flexible elements. This leaves the flexible elements still attached to the two hubs. It is not necessary to remove the flexible elements from the hubs.

**NOTE:** *The bolts and nuts are not to be reused more than 4 times.*

2. Addax<sup>®</sup> coupling systems are designed to use a slight slip fit between the hubs and connected equipment shafts. Press fits are neither required nor recommended and may cause difficulty during installation and future maintenance procedures. Hubs should be snug but slide freely on connected equipment shafts. Verify proper fit between hubs and equipment shafts before proceeding further.
3. Match marking is not necessary to maintain dynamic balance. **Do not** dimple or scar the spacer flanges to match mark. **Do not** use a punch or chisel. Use a paint pen or other non-destructive marking method to indicate reference point for alignment purposes.
4. Verify that there are no burrs on the two shaft ends or inside the hub bores or in the key slots. Also, verify that the keys fit the hubs and shafts properly before installation.
5. Measure the shaft end separation DBSE and verify that it is the same as shown on the Addax Product Drawing.

#### STEP 2

1. Slide the hubs onto the shaft ends with at least 1 inch of shaft exposed to provide clearance for the spacer installation.
2. Move one hub into position so the flange face is flush with the shaft end.

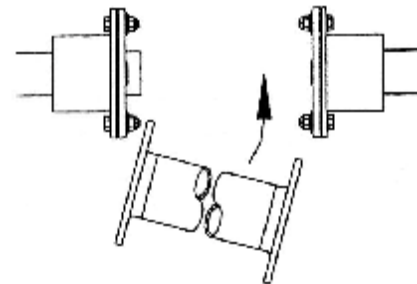


3. Tighten the set screws on one hub only and lock in place. Using a torque wrench, tighten to the values shown in CHART 2. Each hub has two set screws, one over the key and one offset.



#### STEP 3

1. Position the spacer between the hubs as shown in the figure.
2. Align the small holes in the spacer with the holes in the flexible element.



#### STEP 4

1. Slide the other hub into position.

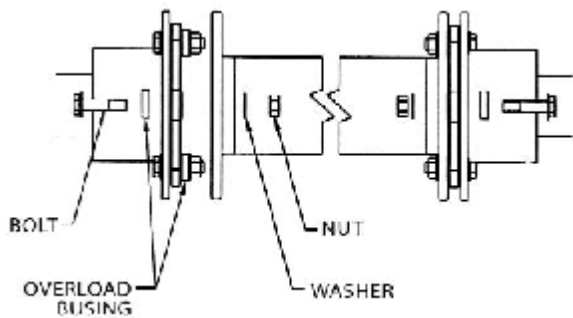


2. Temporarily tighten the set screws and lock in place. This hub may need to be repositioned during alignment.



## STEP 5

1. Insert the bolts through the over-load bushing, clearance holes in the hubs, flexing elements and the composite spacer flange.
2. Install washer first then the lock nut



**NOTE:** The 350 model does not have over-load bushings.

3. Insert the bolts through the clearance holes in the hub. Install the bolt and flat washers as shown in the above figure.
4. Torque all the lock nuts to the values shown in CHART 1. A torque wrench should be used while holding the head of the bolt to keep it from turning.
5. Torque all set screws to the values shown in CHART 2.
6. After assembly is completed, check alignment in accordance with procedure.

### CHART 1

#### LOCK NUT TIGHTENING TORQUE

| Coupling Model Number | Torque Values |             |               |
|-----------------------|---------------|-------------|---------------|
|                       | inch pounds   | foot pounds | Newton meters |
| LR_350                | 400           | 33          | 45            |
| LR_375                | 400           | 33          | 45            |
| LR_450                | 145           | 12          | 16            |
| LR_485                | 240           | 20          | 27            |
| LR_650                | 400           | 33          | 45            |
| LR_750/850            | 540           | 45          | 60            |

### CHART 2

#### SET SCREW TIGHTENING TORQUE

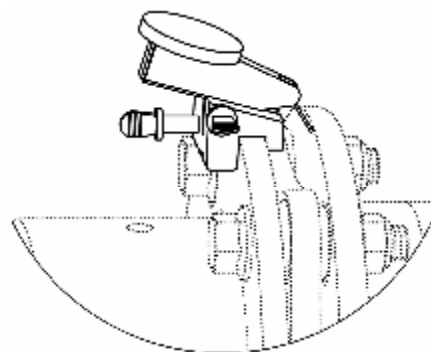
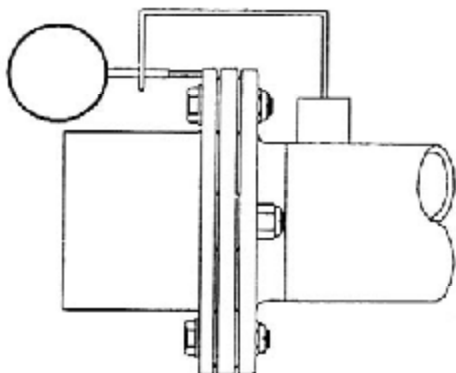
| Set Screw Thread Size | Torque Values |             |               |
|-----------------------|---------------|-------------|---------------|
|                       | inch pounds   | foot pounds | Newton meters |
| 1/4 - 20              | 60            | 5           | 7             |
| 5/16 - 18             | 120           | 10          | 14            |
| 3/8 - 16              | 192           | 16          | 22            |
| 1/2 - 13              | 420           | 35          | 47            |
| 5/8 - 11              | 576           | 48          | 65            |
| 3/4 - 10              | 744           | 62          | 84            |

## ALIGNMENT

**NOTE:** Both the angular and axial alignment must be within the specified limits at both ends of the Addax<sup>®</sup> coupling before putting it into operation.

**SOFT FOOT:** Before starting the alignment process, the soft foot problem, if it exists, should be corrected. The driver and driven pieces of the equipment must sit flat on their respective bases.

1. Either method shown below can be used to check angular alignment.



## ANGULAR ALIGNMENT

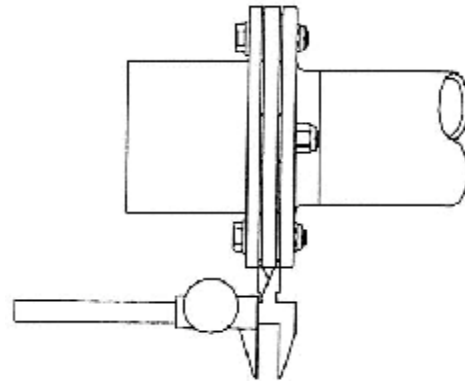
1. Use a sturdy means to squarely attach a dial indicator to the composite spacer shaft. Obtain reading off the outside face of the coupling hub flange as illustrated in the figure above. This can also be done by mounting the indicator on the coupling hub taking readings off the composite spacer shaft flange.
2. With dial indicator set at zero, check the angular alignment by rotating the shaft around 360° recording the maximum and minimum readings on the dial indicator.
3. If the range between maximum and minimum is greater than what is shown in the chart below for your coupling model, then the connecting equipment should be realigned to attain these limits.

ANGULAR ALIGNMENT LIMITS

| Coupling Model Number | Angular Alignment Limits |     |
|-----------------------|--------------------------|-----|
|                       | inch                     | MM  |
| LR_350                | 0.010                    | .25 |
| LR_375                | 0.010                    | .25 |
| LR_450                | 0.010                    | .25 |
| LR_485                | 0.010                    | .25 |
| LR_650                | 0.020                    | .51 |
| LR_750                | 0.020                    | .51 |
| LR_850                | 0.020                    | .51 |

## AXIAL ALIGNMENT

1. The axial misalignment must also be checked. Measure the gap between the spacer flange and the hub flange on both ends. Use a dial caliper and take 4 readings around the perimeter at 90° intervals. Do this without rotating the coupling.
2. The average of the 4 readings should be within the gap range shown in the chart below or the hubs must be repositioned. This procedure should be performed at both ends of the coupling.



AXIAL ALIGNMENT GAP LIMITS

| Coupling Model Number | Nominal Gap |      | Gap Range   |             |
|-----------------------|-------------|------|-------------|-------------|
|                       | inch        | MM   | inch        | MM          |
| LR_350                | 0.430       | 10.9 | 0.42 - 0.44 | 10.7 - 11.2 |
| LR_375                | 0.540       | 13.7 | 0.53 - 0.55 | 13.5 - 14.0 |
| LR_450                | 0.430       | 10.9 | 0.42 - 0.44 | 10.7 - 11.2 |
| LR_485                | 0.600       | 15.2 | 0.58 - 0.62 | 14.9 - 15.9 |
| LR_650                | 0.750       | 19.0 | 0.73 - 0.77 | 18.5 - 19.6 |
| LR_750                | 0.875       | 22.0 | 0.85 - 0.89 | 21.5 - 22.6 |
| LR_850                | 0.750       | 19.0 | 0.73 - 0.77 | 18.5 - 19.6 |

## FLEXIBLE ELEMENT REPLACEMENT

If it becomes necessary to replace the flexible element, this can be done without moving the hubs on the shafts. Rexnord recommends that the flex elements and hardware be replaced every 5 years on a preventative maintenance schedule.

1. Start at one end. Support the composite spacer shaft at that end. Take all the bolts, locknuts, bushings and washers off. This leaves the flexible element loose to slide out.
2. Repeat step 1 for the other end.
3. If the flexible elements need to be replaced it is good practice to also replace the hardware at the same time.



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