

## Introduction

This article illustrates and describes various procedures for accurate coupling alignment using a dial indicator. The pictures throughout show Falk gear coupling components but all procedures can be used equally as well with Falk Steelflex®, Disc and Torus® couplings. Also refer to the specific Installation and Maintenance literature furnished with each coupling.

**CAREFULLY FOLLOW THE INSTRUCTIONS IN THIS MANUAL FOR OPTIMUM PERFORMANCE AND TROUBLE FREE SERVICE.**

**WARNING:** Consult applicable local and national safety codes for proper guarding of rotating members. Observe all safety rules when installing or servicing couplings. Lockout starting switch of prime mover before working on or installing couplings. During assembly, seal keyways of vertical couplings.

## 1. Setup and Equipment:

- A. Clean surface to be contacted by the indicator probe; check for and remove all nicks and burrs.
- B. A small, lightweight dial indicator similar to the one shown in the picture above is recommended. Check the instrument to be sure it is in proper working order and has sufficient range (travel) for the job.
- C. A dental type mirror will prove convenient for reading the indicator dial in difficult to view positions.

## 2. Make Preliminary Rough Alignment:

The Installation, Maintenance and Service Manuals furnished with each coupling explain preliminary alignment procedures which will make the subsequent dial indicator procedures easier.

- A. GAP & ANGULAR ALIGNMENT — Refer to applicable Service Manual.
- B. OFFSET ALIGNMENT — Hubs of Equal Diameter; Refer to applicable Service Manual.
- C. OFFSET ALIGNMENT — Hubs of Unequal Diameter; Refer to Figure 1 and measure hub diameters to determine  $D_1$  and  $D_2$ . Calculate dimension  $S$ . Position hubs so that they are located with dimension  $S$  equal at 4 points, 90° apart.

## 3. Dial Indicator Alignment:

**IMPORTANT** — always rotate the hub on which the dial indicator is mounted.

- A. MOUNT DIAL INDICATOR — Securely attach dial indicator to hub most easily rotated with a magnetic base or C-clamp. Be sure that all connections are tight and mounting device is rigid. The probe of the type of indicator shown in Figure 2 should be perpendicular to the shaft center line for the offset alignment check.

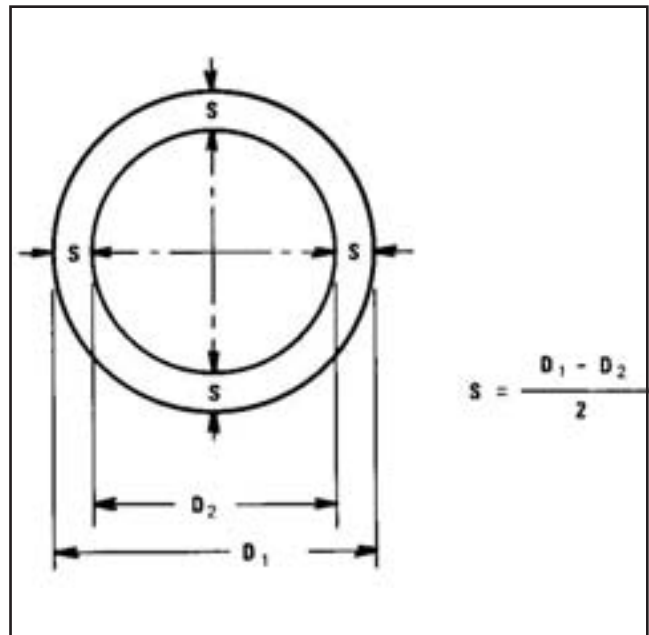


Figure 1 — Dimension "S" For Hubs of Unequal Diameter

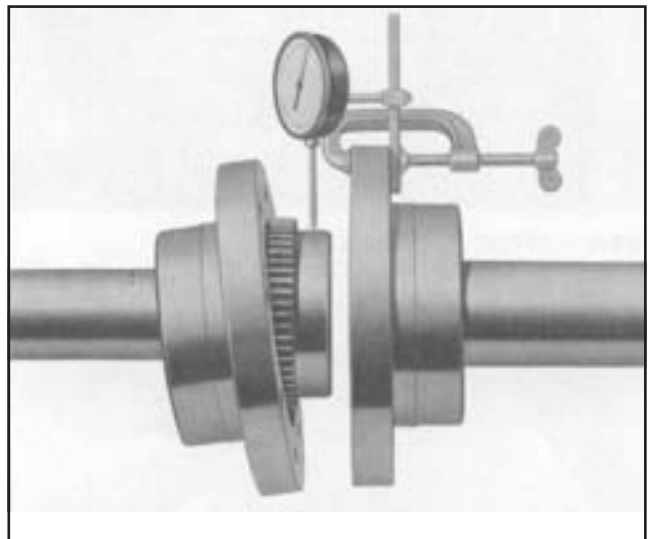


Figure 2 — Offset Alignment (Different Hub Styles)

B. ANGULAR ALIGNMENT — Position dial indicator as shown in Figure 3, to sweep face of adjacent hub as near the outside diameter as possible. Adjust indicator probe for mid-point of travel.

Sweep face thru one complete turn (360°) and mark position of maximum reading.

Set indicator to "0" at this point.

Sweep face thru one complete turn (360°) again & read total indicator reading (TIR).

<math>\frac{TIR}{2}>The TIR should not exceed the ANGULAR LIMIT specified in the standard service manual. Adjust position of either unit until TIR is equal to or less than this value.

C. OFFSET ALIGNMENT — Position dial indicator as shown in Figures 2, 4 or 5. Adjust indicator probe to mid-point of travel. (Sweep slotted diameter of Steelflex T & F hubs. Sweep flange diameter of Torus and Disc hubs.)

Sweep diameter thru one complete turn (360°) and mark point of maximum reading.

Set indicator to "0" at this point and again sweep diameter thru one complete turn (360°) and read TIR of indicator.

The TIR value, divided by two (2), should be equal to or less than offset maximum value given in standard service manual.

D. RECHECK ALIGNMENT — Tighten all foundation bolts and recheck gap (2-A), angular alignment (3-B) and offset alignment (3-C); re-align if needed.

**WARNING:** This instruction is intended for use ONLY when the span between point of indicator attachment and point of measurement is small. For longer spans the effect of indicator bracket deflection (SAG) must be considered.

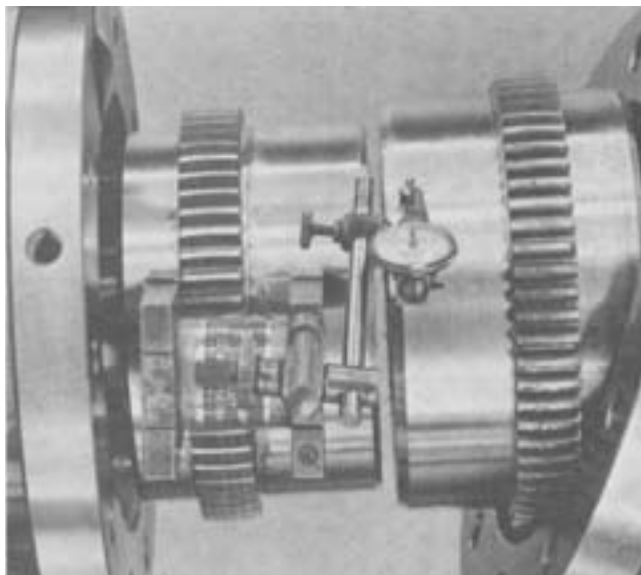


Figure 3 — Angular Alignment

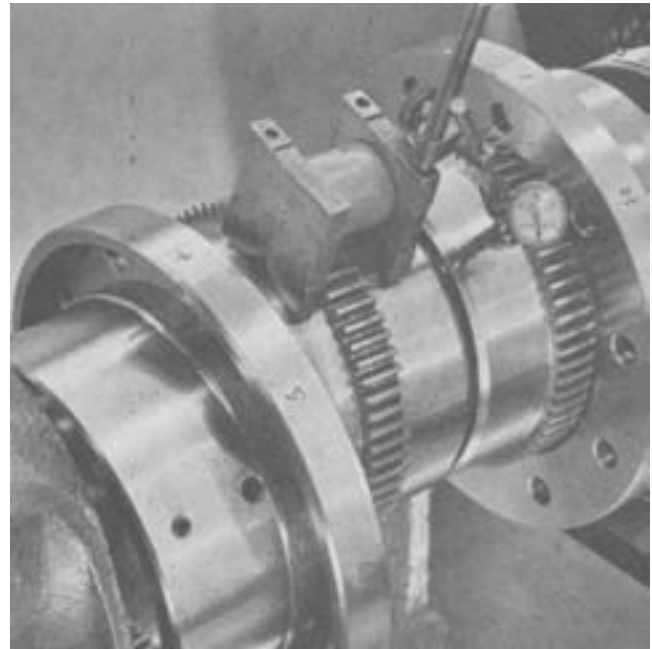


Figure 4 — Offset Alignment (Unequal Diameters)

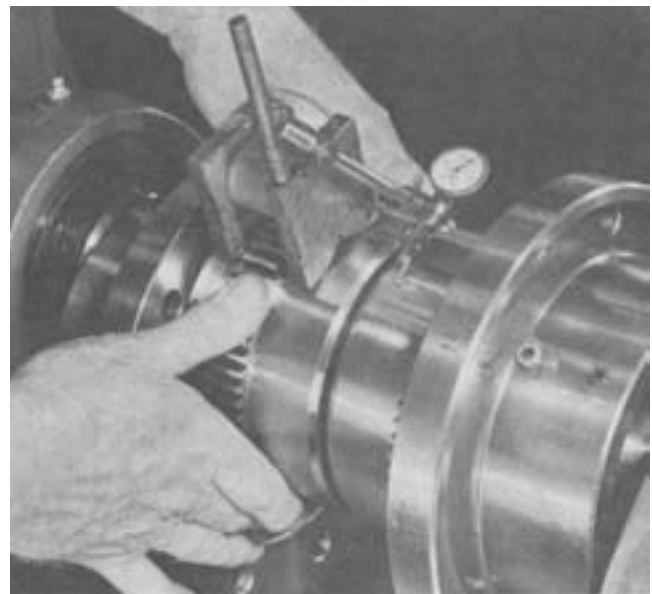


Figure 5 — Offset Alignment (Equal Diameters)