



Converting Rim and Face Indicator Readings into Optalign Targets

This note shows you how to calculate and enter Optalign targets (intentional misalignment at coupling) given indicator readings from Rim and Face Indicator Method.

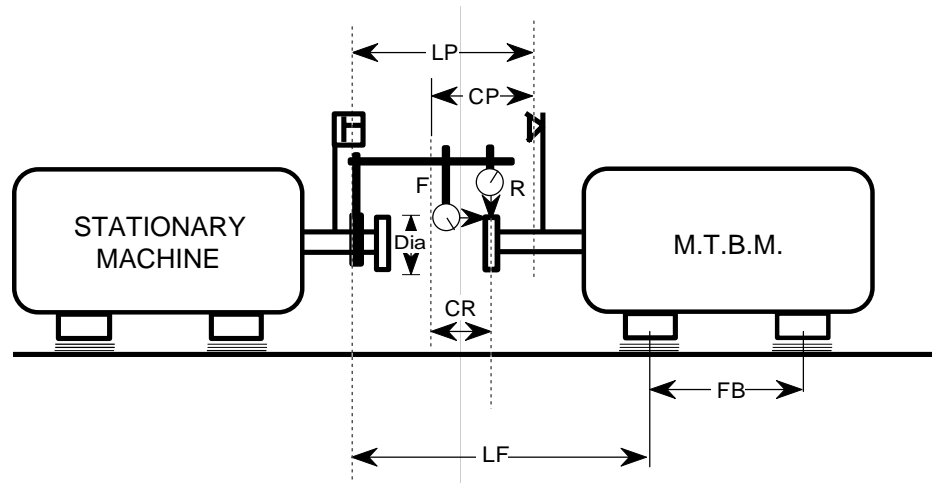
Overview

The indicator readings will be given at the indicator stems, and must be converted into Optalign coupling results. The calculated results will be entered as Optalign targets at the coupling.

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LP = Laser-to-prism
 LF = Laser-to-front-foot
 FB = Front-to-back-foot
 CP = Coupling-center-to-prism
 DIA = Coupling diameter
 D = Diameter of the circle traveled by the face indicator foot
 CR = Distance from rim indicator to coupling center



Procedure

VOt = Vertical Offset target
 HOt = Horizontal Offset target
 VAt = Vertical Angularity target
 HAt = Horizontal Angularity target

- 1) **ON**, **/**, **□**
- 2) Enter distance CP, **ENT**
- 3) Enter 10" DIA. **1**, **0**, **ENT**
- 4) Calculate:

- 15) **RUN**, Optalign will display feet corrections. Record.
- 16) **□**
- 17) **RCL**, **RCL**, **RCL**, and record VO, HO, VA, HA.

RO = Rim reading at 12:00
 R3 = Rim reading at 3:00
 R6 = Rim reading at 6:00
 R9 = Rim reading at 9:00
 RS = Sag of rim indicator

$$VOt = \frac{(F6 - F0 + FS)}{D} \times CR + \frac{(R0 - R6 + RS)}{2}$$

$$HOt = \frac{(F9 - F3)}{D} \times CR + \frac{(R3 - R9)}{2}$$

$$VAt = \frac{(F6 - F0 + FS)}{D} \times 10 \quad (\text{For } 10'' \text{ coupling diameter})$$

$$HAt = \frac{(F9 - F3)}{D} \times 10 \quad (\text{For } 10'' \text{ coupling diameter})$$

F0 = Face reading at 12:00
 F3 = Face reading at 3:00
 F6 = Face reading at 6:00
 F9 = Face reading at 9:00
 FS = Sag of face indicator

- 5) Enter VOt, **ENT**
- 6) Enter HOt, **ENT**
- 7) Enter VAt, **ENT**
- 8) Enter HAt, **ENT**
- 9) Activate measure mode, **(M)**
- 10) Take misalignment readings in at least 3 clock positions.
- 11) Optalign will display laser-to-prism depiction.
- 12) Enter LP, **ENT**
- 13) Enter LF, **ENT**
- 14) Enter FB, **ENT**

18) If alignment is not within desired tolerances make corrections and repeat steps 10 through 14.

Example:

LP = 24" CP = 15"
LF = 26" CR = 14"
FB = 20" D = 12"

Indicators Readings

R0 = 0 F0 = 0
R3 = 1 F3 = 4
R6 = 2 F6 = 8
R9 = 1 F9 = 4
RS = -4 FS = -1

$$VOt = \frac{(8 - 0 + (-1)) \times 14 + (0 - 2 + (-4))}{12} + \frac{(0 - 2 + (-4))}{2}$$

$$= \frac{7 \times 14 + (-6)}{12}$$

$$= 8.2 - 3$$

$$= 5.2 \text{ mils}$$

$$HOt = \frac{(4 - 4) \times 14 - (1 - 1)}{12} - \frac{(1 - 1)}{2}$$

$$= 0 \text{ mils}$$

$$VAt = \frac{(8 - 0 + (-1)) \times 10}{12}$$

$$= \frac{7 \times 10}{12}$$

$$= 5.8 \text{ mils/10"}$$

$$HAt = \frac{(4 - 4) \times 10}{12}$$

$$= 0 \text{ mils/10"}$$