BELTS & SHEAVES **GUIDE**

TECHNICAL INFORMATION EDUCATION SERIES

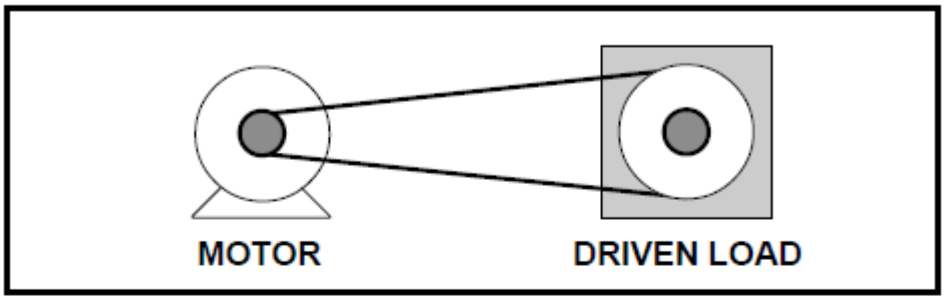
GULF ELECTROQUIP
ELECTRIC MOTORS AND GENERATORS

425 North Wayside Drive, Houston, TX 77020 USA 713.675.2525 | gulfelectroquip.com | sales@gulfelectroquip.com

BELTS AND SHEAVES

PULLEY FORMULAS

FOR CALCULATING DIAMETERS AND SPEEDS



$$\text{Driven load rpm} = \frac{\text{motor pulley dia.}}{\text{driven pulley dia.}} \times \text{motor rpm}$$

$$\text{Motor rpm} = \frac{\text{driven pulley dia.}}{\text{motor pulley dia.}} \times \text{driven load rpm}$$

$$\text{Driven pulley dia.} = \frac{\text{motor rpm}}{\text{driven load rpm}} \times \text{motor pulley dia.}$$

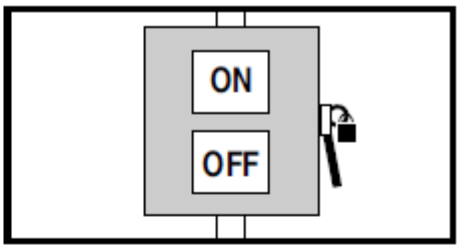
$$\text{Motor pulley dia.} = \frac{\text{driven load rpm}}{\text{motor rpm}} \times \text{driven pulley dia.}$$

Pulley diameter equals pitch diameter.

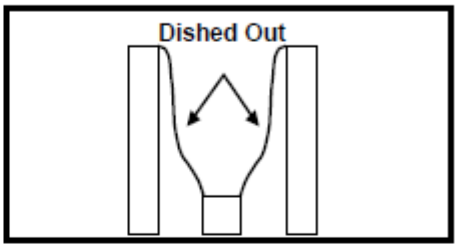
Note: When gears and sprockets are used in place of pulleys, the number of teeth may be substituted for pitch diameter.

BELT INSTALLATION

Make sure the power is locked out and tagged out.

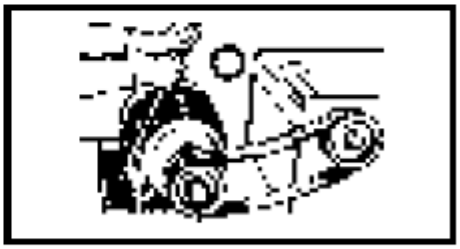


Replace sheaves that show more than 1/16" wear along one side of groove.

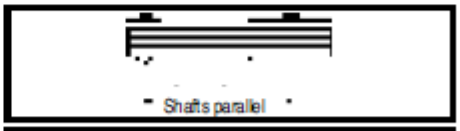


Don't pry belts over the sheave groove like this.

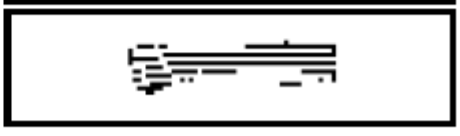
Remove belts this way.



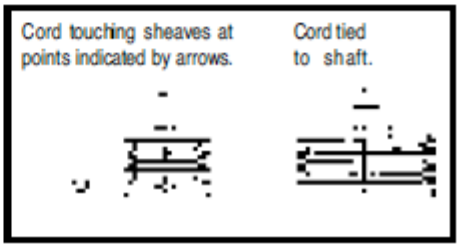
Align sheave groove like this.



Not like this.



Alignment checking using a cord. When the sheaves are correctly aligned, the cord will be in contact with the outside faces of both sheaves, without a gap between them.



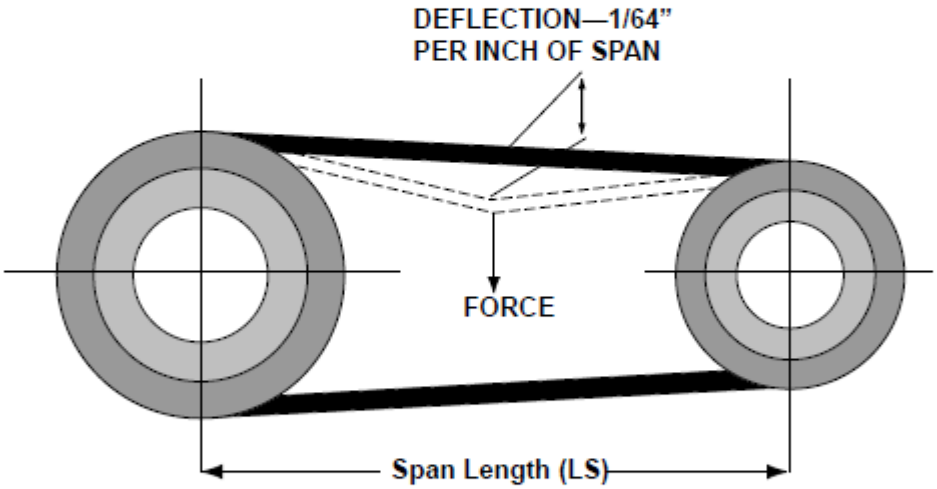
BELT TENSIONING

Step 1. Calculate the deflection amount (DA).

$$DA = \frac{LS}{64}$$

Where: DA = deflection amount (inches.)
LS = span length (inches.)

Step 2. At midspan, deflect the belt to the required deflection amount (DA) and record the force required.



Step 3. Check force required for above deflection. Refer to table on Page 57 and if force is too high, reduce to the recommended level.

$$DA\ (inches) = \frac{LS\ (inches)}{64}$$

EASA
The Electro•Mechanical Authority

Source: Mechanical Reference Handbook
Electrical Apparatus Service Association

ISO CERTIFICATION 9001:2015

OVER 60 YEARS

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