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Denver, Colorado USA



Synchronous Belts on Vertical Shaft Drives

Flanging rules suggest at least a bottom flange on all sprockets/pulleys mounted on vertical shafts. While the rule is good sense, it can be expensive. Just flanging one side of a larger sprocket can result in as much as a 200-300% increase in cost.

Properly using “super-elevation” of the smaller sprocket and its lower flange as a guide, you can set alignment so that the belt will track in the center of the unflanged sprocket. In this fashion the drives will run fine as is evident in the largest vertical shaft market, refinery fin-fan drives.

Note: Super-elevation is the procedure where the smaller sprocket is arranged so that it is in a plane slightly above the plane of the larger sprocket. In reality it is a controlled form of parallel misalignment.