



## Product

## Custom Heavy-Duty Gear Drives

## Application

## Moveable Bridge

## Highlights

- Custom-designed enclosed differential primary reducers
- Through-hardened gearing
- 504,000 in.lb. torque rating
- 160:1 reduction ratio
- Welded steel housing
- Two units shipped

The New Jersey Department of Transportation recently completed the rehabilitation of the Route 71 Shark River double-leaf, bascule bridge which connects downtown Belmar with Avon-by-the-Sea. The bridge crosses over the Shark River, one of the busiest commercial boating channels in the state, requiring frequent daily bridge openings.

In order to meet the bridge's heavy-use operation requirements, Nuttall Gear was selected to provide two custom primary drives (one for each span). The enclosed parallel-shaft, helical gear drives feature an input rating of 30 HP @ 900 RPM, reduction ratio of 160:1 and output torque rating of 504,000 in.lbs.

The unique differential reducers had to meet stringent requirements including fabricated steel housings, through-hardened gearing (carburized not allowed), inspection of all welds by a Certified Weld Inspector (CWI) and load testing to 150% full load at 100% rated speed. The units also met the buy USA requirement including country of origin for the steel.

Nuttall Gear is widely recognized as an industry leader in custom moveable bridge drive technology.

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