



Product

Custom Heavy-Duty Gear Drives

Application

Bascule Lift Bridge

Highlights

- Custom-designed enclosed differential primary reducers
- 15 HP @ 1,800 RPM
- 40,000 in.lb. torque rating
- 50:1 reduction ratio
- Welded steel housing

The Blyman Bridge in Gloucester, Massachusetts recently underwent a major rehabilitation including new gear drives. The bascule lift bridge crosses a small canal that connects the Annisquam River to Gloucester Bay. With over 8,000 openings per year and over 14,000 vehicle crossings per day, this 107-year-old bridge is one of the most active in the East Coast of the USA.

In order to meet the bridge's heavy-use operation requirements, Nuttall Gear was selected to provide two custom primary drives (one for each bascule leaf). Working closely with the bridge engineering firm, Nuttall engineers were able to provide significant contributions to the drive design concepts during development.

The enclosed parallel-shaft, helical gear drives feature an input rating of 15 HP @ 1,800 RPM, reduction ratio of 50:1 and output torque rating of 40,000 in.lbs.

The custom-designed differential reducers met project requirements including fabricated steel housings, load testing to 150% full load at 100% rated speed, through-hardened gearing, and inspection of all welds by a Certified Weld Inspector (CWI).

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