



Reducers shown on test stand

Product

Custom Heavy-Duty Speed Reducers

Application

Bascule Lift Bridge

Highlights

- Enclosed differential primary drives with a reduction ratio of 12.25:1
- Secondary parallel-shaft drives with a reduction ratio of 48.5:1
- Through-hardened gearing
- Fabricated steel housing
- All welds CWI inspected

Work is nearing completion on the new Ocean Ave. bridge that spans the intercoastal waterway in Lantana, Florida (West Palm Beach County). The bridge replaces the original span, built in 1950, which had reached the end of its service life with over 20,000 daily vehicle crossings. The bridge features a double-leaf bascule center span which opens to accommodate larger boats.

The bridge's center span will be 21 feet high (11 feet higher than the old bridge). This new height is projected to reduce the number of openings required for larger watercraft by nearly 40 percent. The 52" wide deck features two lanes for vehicular traffic as well as dual pedestrian walkways and cycle lanes.

Nuttall Gear was chosen to provide custom primary drives (one for each leaf). The enclosed helical gear differential drives, with right-angle input shafts, feature input rating of 75 HP @ 1200 RPM, reduction ratio of 12.25:1 and output torque rating of 2,080 ft.lbs. Secondary, parallel-shaft reducers were also supplied with input rating of 37.5 HP @ 98 RPM, reduction ratio of 48.5:1 and output torque rating of 101,000 ft.lbs.

All the reducers feature fabricated steel housings, through-hardened gearing (carbureted not allowed), inspection of all welds by a Certified Weld Inspector (CWI) and load testing to 200% full load at 100% rated speed. The units also met a "Buy USA" requirement including country of origin for the steel.

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