



Product

Custom Gear Drives

Application

Double-Leaf Bascule Bridge

Highlights

- Custom-designed enclosed parallel-shaft reducers with carburized and ground gearing
- Two identical primary drives manufactured
- Fabricated steel housings
- All required testing performed in-house

The Pinellas County Department of Transportation in Florida recently completed upgrades to the Park Boulevard double-leaf, bascule bridge. The bridge opened in 1981 and spans the intracoastal waterway to connect Seminole with Indian Shores on the barrier islands. The bridge opens on demand for larger boats that sound their horn or radio the bridge tender.

After over 30 years of service, the bridge's original primary gearbox, which was undersized, started to fail causing maintenance issues. The bridge upgrade included replacement of the primary reducer, motor brakes and adjustment of air buffer mechanisms.

Nuttall Gear designed and manufactured new, larger primary gearboxes to drive both bascule leaves. The drives featured fabricated steel housings. Per specification, all steel materials were of USA origin and all welds were inspected by an Independent Certified Weld Inspector (CWI).

Required no load, 150% load, and 200% load tests (in horizontal orientation), where performed in-house. Nuttall technicians utilize the latest testing techniques and technology including laser alignment of all drivetrain components, twin dynamometers and massive custom-built test stands.

- Primary Differential Reducers:
Input rating: 120 HP @ 1171 RPM, Reduction ratio: 17.1:1,
Output torque rating: 74,000 lb.in.

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