



## Product

## Application

## Highlights

- Custom-designed parallel-shaft reducer with through-hardened gearing
- Fabricated steel housings
- All required testing performed in-house



## Custom Gearbox

## Single-Leaf Bascule Bridge

A new bridge that spans “The Gut” channel in South Bristol, Maine was recently opened to vehicle and boat traffic. The original, historic 82-year-old swing bridge had reached the end of its useful life as it occasionally got stuck in the open or closed position.

The Maine Department of Transportation approved the new single-leaf bascule bridge design that utilizes counterweights for easier raising and lowering of the bridge deck. The 20 ft. wide leaf spans 78 ft. to allow commercial fishing and recreational boats to transit the Gut channel as they move between John’s Bay and the Damariscotta River. The bridge also allows drivers to access Rutherford Island, a popular vacation destination.

Nuttall Gear designed and manufactured the new gearbox that drives the single bascule leaf. The splash-lubricated, custom parallel shaft gearbox features an input rating of 10 HP @ 333 RPM, a 278:1 reduction ratio, and a torque rating of 790,000 lb.in.

The drive features through-hardened gearing, a fabricated steel housing, and bearing L10 life 40,000 at rated load. Per specification, all steel materials were of USA origin and all welds were inspected by an Independent Certified Weld Inspector (CWI).

150% load testing was 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.

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