

ev-Torque Brute Strength Reduction Gearbox **Box**

Single-Speed Reduction Gear Box



- **Strength & Longevity**
- **Superior Torque Handling**
- **Superb Quality**

The ev-TorqueBox is a single speed reduction gearbox (a torque multiplier) based on a modified planetary gear system, for use in automotive, marine, and industrial applications.

The ev-TorqueBox is 95% efficient, and in **electric vehicle conversions** it replaces the unnecessary multi-speed transmission. In these vehicles, it multiplies the motor's torque by its reduction ratio, and decreases the shaft's revolutions per minute (RPM).

In **gas and Diesel** powered lifted trucks or off-road racing trucks that need their multi-speed transmissions, it can be used as a simple reduction box to offset the torque lost resulting from the increased tire height.

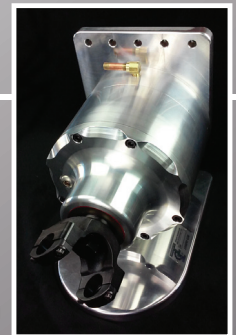
In **industrial applications**, the ev-TorqueBox can be used as either a torque multiplier or to increase shaft's speed depending on which end of the ev-TorqueBox you drive, and the ratio you choose from the multiple ratios available.

What Makes the ev-TorqueBox the Best Brute-Strength Reduction Box:

- **Strength & Longevity:** Machined from 6061 T-6 aluminum alloy
- **Superior Torque Handling:** Input & output shafts made from aerospace-grade 300m steel alloy with rolled splines
- **Superb Quality Control:** Every TorqueBox is triple-checked and run-in-tested
- **High Quality Beyond Design Requirements:** Viton o-rings and seals rated at 400 degrees

Specifications

- **Compact Size**
- **Weight:** 32lbs / 14.52 Kg (adaptors vary in weight)
- **Length:** Under 10 Inches (25 Cm)
- **Diameter:** 8 Inches (20.3 Cm)
- **Torque Rating:** Up to 1250 lbf/1605.7 Nm
- **Fluid Requirements:** 32 Fluid Ounces (.946 Liter) Synthetic ATF or Synthetic 75W90 Gear Oil
- **Park Pawl Option**



Call Us Today For More Information
623-755-6021

www.TorqueTrends.com

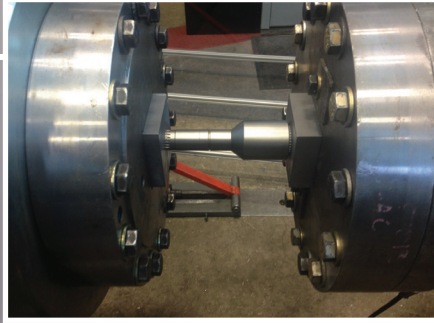
Strength and Endurance Tests

Clark Testing is the testing arm of Clark Equipment Company and they have provided independent, objective product qualification testing and design verification for manufactures for over 20 years. They test component strength and endurance for many automotive manufacturers. We asked Clark Testing to break our parts.



CLARK
TESTING

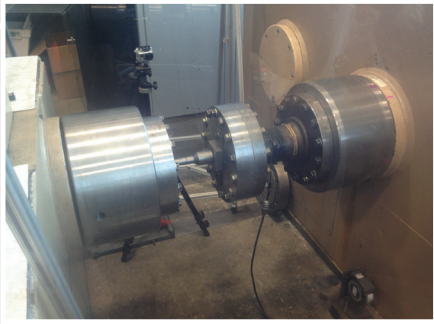
SUPERIOR TESTING THAT REACHES THE WORLD



Ultimate Strength Test

Clark machined and heat-treated special fixtures used to hold our input/coupler in their test machines:

- Two shafts were tested and both failed at approximately **3500 ft lbs torque**
- The shafts twisted **22 degrees** prior to breaking
- The broken shafts were analyzed by METL in Scottsdale, AZ and according to their report, there were “no problems with material or heat treat”

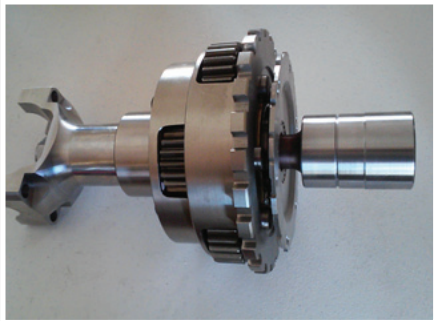


Endurance Test

A different machine and the same test blocks with two more 300m shafts were tested to failure:

- Here, Clark used 1500 ft lbs torque and used a very high frequency of 67MHz to avoid tying up their machine for multiple days
- The cycle consisted of applying 1500 ft. lbs. torque clockwise, then on 1.5 sec intervals changed the torque to counterclockwise
- With each cycle, they measured a shaft twist of approximately 5 degrees, which means the shafts are flexible which adds to their endurance
- At this very rapid frequency, the shafts failed after 3000 cycles

It should be mentioned that clearly, this test was very aggressive and exposed the equipment to much harsher conditions than it would ever be exposed to in real world applications.



These shafts were also tested by METL, and there were no material or heat treat defects found – Please read below.

Engineering and Testing Laboratory (METL) is a Phoenix-based diversified, full service metallurgical laboratory offering a wide range of testing services.

METL
METALS ENGINEERING &
TESTING LABORATORIES

METL also tested the mechanical properties of our shafts. The tensile properties were measured in accordance with ASTM E 8. The data obtained was:

Yield Strength (ksi) = 261 / Tensile Strength (ksi) = 294

**Torque**
Simplifying
Innovation **Trends**

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