

Available Gearbox Repair Kits

Penn Machine Company has been rebuilding transit gear box units since 1993. We manufacture and service all types of rail transit gear boxes. Our ability to manufacture replacement parts ensures quality and faster deliveries. As a result of our years of gear-development experience and our total manufacturing capability, we offer our rail transit customers a single source of supply for gear boxes.

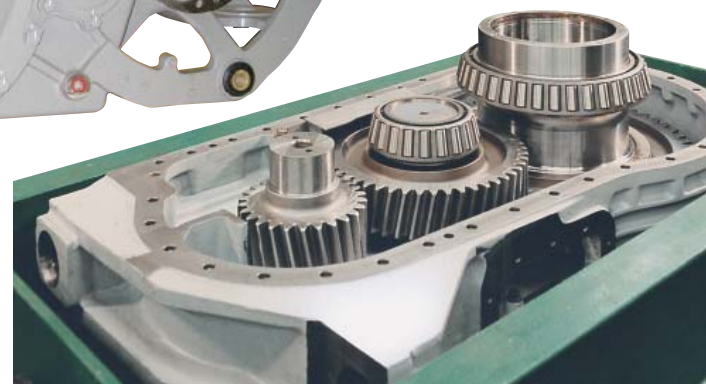
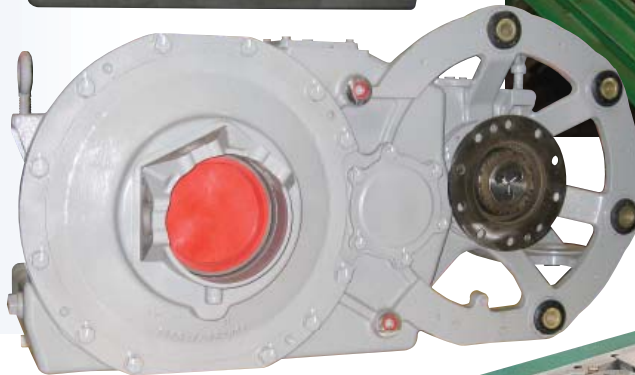
Our gear box services provide transit authorities with the opportunity to greatly reduce the costs of maintaining their fleets by extending the life of their propulsion equipment. Penn Machine rebuilds single reduction and double reduction units as well as right angle drives. Only quality parts are used to rebuild each unit. All gear box units are tested for vibration, temperature and noise.

Advantages of Rebuilt Gear Box Units:

- Greatly reduced cost
- Extends the life of the gear box unit
- Minimal disruption of revenue service
- No compatibility issues
- Rebuilt to proven running specifications
- Transit Authority decides how much rehabilitation is necessary (new gearing vs. reused gearing, etc.)
- Reconditioning can be done in small lots
- Tested above OEM specifications
- Warranty

Advantages of New Gear Box Units:

- Transit Authority can provide input into design
- Opportunity to incorporate latest propulsion design specifications
- Built to customer specifications
- All new components
- Longer warranty
- Made and serviced in the U.S.A.



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Penn New and Rebuilt Gear Box Services (continued)

Gear Box Reconditioning Program:

When reconditioning a gear box, Penn Machine completely dismantles it and removes all rust and grease. All bearings, seals, gaskets and shims are replaced. The housing is sandblasted and primed with paint. Cases, housings and components are visually inspected and magnaflux checked for cracks and other signs of wear. Component fits are measured and compared to original dimensions.

All shafts and gears are visually and magnaflux inspected and dimensionally checked to determine whether they can be reused, repaired or need to be replaced. Shafts are checked to ensure that straightness and finish are in accordance with tolerances and specifications indicated on customer drawings. If feasible, we will repair shafts by either plating or grinding them. If a new shaft or gear is needed, we will match the specifications and dimensions of the original part according to the customer's print. In addition, all shafts and gears will be magnaflux inspected.

Housing bores are inspected and, if needed, returned to their original size using one of the following customer approved procedures: plating, sleeving and/or welding. If necessary, bolts, studs, pipe plugs and other fittings are removed and the holes retapped. If they can't be reused, replacement parts of an equivalent grade of material will be used, unless otherwise specified.

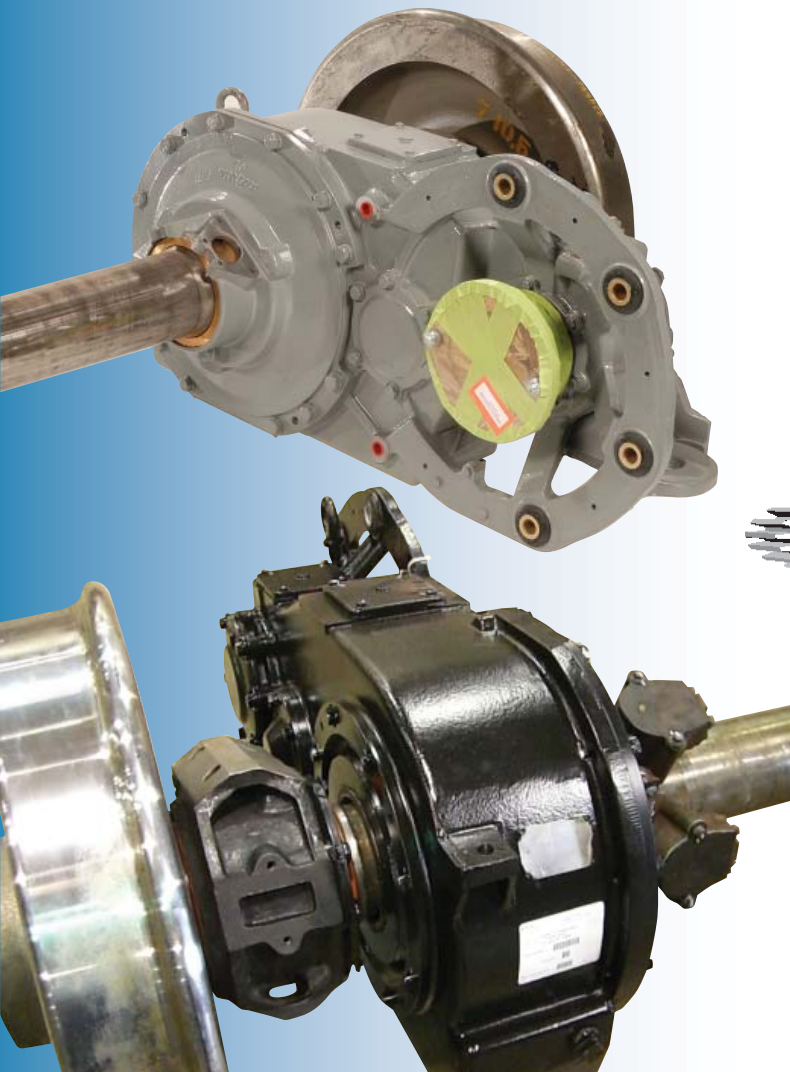
Before reconditioning gear boxes, Penn Machine prepares a detailed report, based on our comprehensive inspection process, outlining the scope of work required to recondition or completely overhaul the gear boxes to OEM tolerances. Included in this report, will be a complete listing of new parts required and details on the labor required to return reusable parts to working order.

After reassembling the reconditioned gear box, we test it under a no load, full speed condition above OEM specifications. Every facet of final testing is recorded, verified and submitted to the end-user.

We apply one coat of paint primer and a finish coat of customer-specified paint to the gear box's exterior surfaces. A Penn Machine identification tag listing the date overhauled, serial number, customer name, gear box model number and Penn Machine's job number is installed on each gear box.

Prior to shipping, all openings are protected with plugs or covers. Exposed threads and shaft ends are carefully protected. To indicate the location where a lubricant must be added prior to operation, we mark the gear box housing.

Penn Machine offers a one-year warranty on the total gear box, as long as all items recommended in the quote are used during the reconditioning process.



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