

Enclosed Miter/Bevel Gear Drives

Installation and Operation Manual

P-3019-BG
Doc. No. 57652

Right 90 Series
R/VR100 Series
R/VR200 Series
R1000 Series



 **Boston**[®]
Gear

An **Altra Industrial Motion** Company

⚠ WARNING

All drives must be filled with oil before operation, except RIGHT 90s which are prelubricated.

IMPORTANT INSTRUCTIONS: File for future reference.

Installation Instructions

1. Use maximum bolt sizes and secure to a rigid base.
2. For coupled applications, align shafts accurately and utilize a flexible coupling.
3. Sprockets, gears and pulleys should be mounted as close to the housing as possible to minimize affects of overhung loads. Avoid drive fits, since reducer bearings and gears could be damaged.
4. Right 90 Units - When mounting by flanges only, at least two flanges must be secured to rigid surfaces.

Lubrication

Important - Care should be taken to make sure that the proper type of oil is used. See recommendations.

Remove filler plug or cover and fill oil to the proper level while unit is in the operating position.

Recommended Lubricants

Bevel Gear Reducers

| Ambient (Room) Temperature | Recommended Oil (or equivalent) | Viscosity Range SUS Q 100°F | Lubricant AGMA No. | ISO Viscosity Grade No. |
|--------------------------------|--|-----------------------------|--------------------|-------------------------|
| -30° to 225°F (-34°C to 107°C) | Klubersynth* UH1 6-460 | 1950/2500 | — | 460 |
| -30° to 225°F (-34°C to 107°C) | Mobil SHC634 Synthetic | 1950/2500 | — | 320/460 |
| 50° to 125°F (10°C to 51.7°C) | Mobil D.T.E. Oil Extra Heavy | 710/790 | 4 or 4EP | 150 |
| 50° to 125°F (10°C to 51.7°C) | **Texaco Meropa or Amaco Permagear EP220 | 1092/1170 | 5EP | 220 |

*Synthetic recommendation is exclusively for Klubersynth UH1-6-460. The synthetic lubricant will perform at temperatures considerably higher than 225°F.

Right 90 units are prelubricated with Klubersynth UH1-6-460.

R1200** unit ONLY is prelubricated for an ambient temperature range of 50° to 125°F. Should lubricants for other temperature ranges be required, see the recommendations.

| Recommended Lubricant | Boston Gear Item Code |
|-----------------------|-----------------------|
| | Quart |
| Klubersynth UH1 6-460 | 65159 |
| Mobile SHC634 | 51493 |

⚠ CAUTION Relubricate more frequently if drive is operated in high ambient temperatures or unusually contaminated atmospheres. High loads and operating temperatures will also require more frequent relubrication. However, the factory should always be consulted prior to operating at higher temperatures, as damage may occur to oil seals and other components.

During the initial period of operation, the temperature of bevel gear drives may reach 160°F Do NOT ALLOW unit to operate continuously over 225°F. Check for overload condition and/or high ambient temperature.

Relubrication:

Service life and efficiency of gears and bearings will be affected by oxidation and/or contamination of the oil used. Longer life will be obtained by periodic relubrication in accordance with the following recommendations.

- After an initial operating period of approximately 250 hours, the housing should be drained, preferably while warm.
- Refill to the proper oil level with fresh oil.
- Under normal conditions, the drive should be relubricated at intervals of 2500 hours of operation or six months, whichever occurs first.
- Synthetic lubricants will allow extended lubrication intervals due to its increased resistance to thermal and oxidation degradation. It is suggested that the initial oil change be made at 1500 hours and, thereafter, at 5000 hour intervals.

▲ WARNING

Gear backlash should be checked at installation and again at regular intervals to prevent injury or damage that might be caused by gear tooth failure. This should be done by measuring the rotary movement of the output shaft (rotating alternately CW and CCW) at a suitable radius while holding the input shaft stationary. Gears should be replaced when the backlash equals four times the measurement taken at installation.

Warranty Policy

Boston Gear warrants that products manufactured or sold by it shall be free from defects in material and workmanship. Any products which shall within one (1) year of delivery, be proved to the Company's satisfaction to have been defective at the time of delivery in these respects will be replaced or repaired by the Company at its option. Freight is the responsibility of the customer. The Company's liability under this limited warranty is limited to such replacement or repair and it shall not be held liable in any form of action for direct or consequential damages to property or person. THE FOREGOING LIMITED WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY AND INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

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