

90 Degree Hollow Shaft Gear Reducers



SAFETY INFORMATION Please Read Carefully

The following WARNING and CAUTION information is supplied to you for your protection and to provide you with many years of trouble-free and safe operation of your Dorner product.

Read **ALL** instructions prior to operating reducer. Injury to personnel or reducer failure may be caused by improper installation, maintenance, or operation.

! WARNING

- **DO NOT** use reducers in man lift or people moving devices.
- Check to make certain the application does not exceed the allowable load capabilities published for this product.
- Buyer shall be solely responsible for determining the adequacy of the product for any and all uses to which Buyer shall apply the product. The application by Buyer shall not be subject to any implied warranty of fitness for a particular purpose.
- Dorner can not control the physical installation and application of conveyors and reducers. Taking preventative measures is the responsibility of the user. Check for potential pinch points and other mechanical hazards and provide suitable guards before start-up.
- Hot oil and reducers can cause severe burns. Use extreme care when removing lubrication plugs and vents.
- Make certain that the power supply is disconnected before attempting to service or remove any components. Lock out the power supply and tag it to prevent unexpected application of power.
- Reducers are not considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized. Reducers should not be used as a brake.
- Any brakes used in conjunction with a reducer must be sized or positioned in such a way so as not to subject the reducer to loads beyond the catalog rating.
- Overhung loads subject shaft bearings and shafts to stress which may cause premature bearing failure and/or shaft breakage from bending fatigue, if not sized properly.

- Depending upon gear geometry and operating conditions, worm gear reducers may or may not backdrive. Special consideration should be given to high inertial loads connected to the output shaft. Consult the factory for further details.
- Do not overfill or underfill with oil, or injury to personnel, reducer, or other equipment may result.


 **CAUTION**

- If the reducer cannot be located in a clear and dry area with access to adequate cooling air supply, then precautions must be taken to avoid the ingestion of contaminants such as water and the reduction of cooling ability due to exterior contaminants.
- Mounting bolts should be routinely checked to ensure that the unit is firmly anchored for proper operation.
- A unit cannot be used as an integral part of a machine superstructure which would impose additional loads on the unit other than those imposed by the torque being transmitted either through a shaft mounted arrangement, or any shaft-mounted power transmitting device (*e.g., sprockets, pulleys, couplings*).
- For safe operation and to maintain the unit warranty, when changing a factory installed fastener for any reason, it becomes the responsibility of the person making the change to properly account for fastener grade, thread engagement, load, tightening torque, and the means of torque retention.

Lubrication

 **WARNING**

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 **CAUTION:**

In the Food and Drug Industry (including animal food), consult the supplier for recommendation of lubricants which are acceptable to the Food and Drug Administration and/or other authoritative bodies having jurisdiction. Factory supplied oil is not suitable for these applications or this industry.

This gear reducer is shipped from the factory filled with lubricant to operate within a -10° to 105° F ambient temperature range. If the ambient temperature will be outside the range for the lubricant installed at the factory, drain and refill the reducer with the proper viscosity lubricant prior to use. Consult the factory for alternate lubricants. Some gear lubricants contain E.P. additives that can be corrosive to gear bronze. Avoid lubricants that are compounded with sulfur and/or chlorine.

Internal pressure compensating system: This unit is equipped with an internal pressure compensating system and synthetic oil pre-installed at the factory. It is not necessary to vent this reducer, as it can be used as supplied from the factory.

Lubricants should be changed every 2 years or 10,000 hours, whichever comes first. To change lubricant, remove oil fill plug (13) and drain unit of oil. Refill the unit with 6 oz of Mobil SHC 634 synthetic gear oil, and replace the oil fill plug

Operating Temperature

The Dorner gear reducer is supplied from the factory with Viton® seals and synthetic oil, allowing it to operate at surface temperatures from 150° F to 200° F with no adverse effect on the reducer.

Seal Replacement

 **WARNING**

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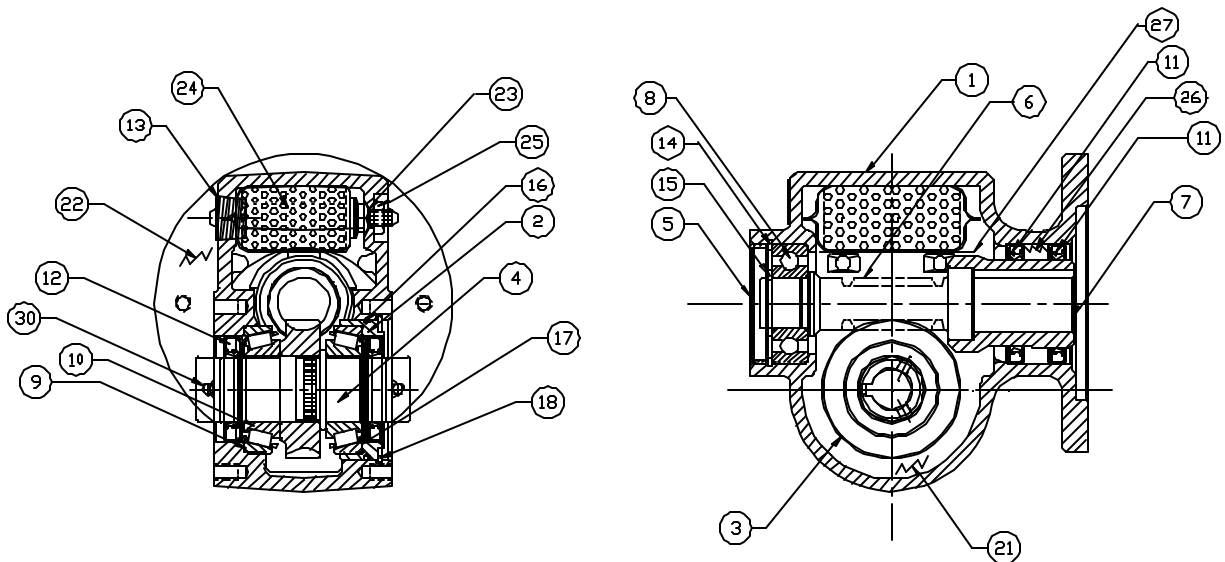
1. Removing the old seals.
 - 1.1. Remove the oil fill plug (13) and drain the unit of oil (21).
 - 1.2. Remove the snap ring holding in the output cover (18), and slide out the cover (2).
 - 1.3. Remove the output assembly from the housing.
 - 1.4. Take out the output seals (12) by tapping with a hammer and punch (or similar tool) from the inside, if desired.
 - 1.5. Remove the output roller bearing cup (9) from the housing.
 - 1.6. Pierce the blind input plug (5) with a center punch, and remove with a slide hammer.
 - 1.7. Take out the snap ring holding down the input bearing (14), and slide the input assembly out of the housing.
 - 1.8. Tap out the input seals (11) from the inside.
 - 1.9. Reassemble the unit, minus the old seals and oil fill plug, in the reverse order indicated above.

2. Installing output seals (Part Number: 820-300)
 - 2.1. Ensure that the output shaft (4) is free from any chips or other debris.
 - 2.2. Apply "Loctite Aviation Gasket Sealant" to housing seal bore with applicator. Do not apply sealant to seal OD's.
 - 2.3. Apply Mobil SHC-634 synthetic gear oil to seal lips.
 - 2.4. Slide seal over output shaft, and press into housing bore. Take care not to cut or otherwise damage the seal lip.

3. Installing input seals (Part Number: 820-301)
 - 3.1. Ensure that the quill OD is free from any chips or other debris.
 - 3.2. Slide inner input seal over quill, using "Mobil SHC-007 Synthetic Lube" on seal lip. Press seal to bottom of seal bore. Take care not to cut or otherwise damage the seal lip.
 - 3.3. Deposit "Mobil SHC-007 Synthetic Lube" (26) in cavity between seals, 75% to 85% filled (10 Cubic centimeters).
 - 3.4. Install outer input seal with seal lip dry (no lubricant), applying "Loctite Aviation Gasket Sealant" to seal outside diameter. Press seal flush with top of seal bore.

4. For best results, press seals into housing rather than driving in with a hammer.

5. Refill the unit with 6 oz of SHC 634 synthetic gear oil, and replace the oil fill plug



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| 1. Housing | 16. O-ring, output |
| 2. Cover, output | 17. Shim, output |
| 3. Worm gear | 18. Snap ring, output |
| 4. Output shaft | 19. Nameplate |
| 5. Plug, input | 20. Screw, drive |
| 6. Input Shaft | 21. Oil |
| 7. Coupling | 22. Paint |
| 8. Bearing | 23. O-ring, bladder |
| 9. Bearing cup | 24. Bladder |
| 10. Bearing cone | 25. Bladder nut |
| 11. Seal, input | 26. Grease |
| 12. Seal, output | 27. Bladder support |
| 13. Plug, pipe | 28. Bolt |
| 14. Snap ring, input | 29. Washer |
| 15. Snap ring, input | 30. Setscrew, socket cup |

Return Policy

Returns must have prior written factory authorization or they will not be accepted. Items that are returned to Dorner without authorization will not be credited nor returned to the original sender. When calling for authorization, please have the following information ready for the Dorner factory representative or your local distributor:

1. Name and address of customer.
2. Dorner part number(s) of Item(s) being returned.
3. Reason for return.
4. Customer's original order number used when ordering the item(s).
5. Dorner or distributor invoice number.

A representative will discuss action to be taken on the returned items and provide a Returned Goods Authorization number for reference.

There will be a return charge on all new undamaged items returned for credit where Dorner was not at fault. Dorner is not responsible for return freight on such items.

Conveyors and conveyor accessories

Standard catalog conveyors	30%
MPB Series, cleated and specialty belt conveyors	50%
7400 & 7600 Series conveyors	non-returnable items
Engineered special products	case by case
Drives and accessories	30%
Sanitary stand supports	non-returnable items

Parts


Standard stock parts	30%
MPB, cleated and specialty belts	non-returnable items

Returns will not be accepted after 60 days from original invoice date.

The return charge covers inspection, cleaning, disassembly, disposal and reissuing of components to inventory. If a replacement is needed prior to evaluation of returned item, a purchase order must be issued. Credit (if any) is issued only after return and evaluation is complete.

Dorner has representatives throughout the world. Contact Dorner for the name of your local representative. Our Technical Sales, Catalog Sales and Service Teams will gladly help with your questions on Dorner products.

For a copy of Dorner's Warranty, contact factory, distributor, service center or visit our website at www.dorner.com.

 <p style="font-size: small; margin: 0;">Dorner Mfg. Corp. reserves the right to change or discontinue products without notice. All products and services are covered in accordance with our standard warranty. All rights reserved. © Dorner Mfg. Corp. 2000</p>	<p style="margin: 0;">DORNER MFG. CORP. 975 Cottonwood Ave., PO Box 20 Hartland, WI 53029-0020 USA USA TEL 1-800-397-8664 (USA) FAX 1-800-369-2440 (USA) Outside the USA: TEL 1-262-367-7600, FAX 1-262-367-5827</p>	<p style="margin: 0;">DORNER Arnold-Sommerfeld-Ring 2 D-52499 Baesweiler Germany TEL (02401) 80 52 90 FAX (02401) 80 52 93 Internet: www.dorner.com</p>
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