



HUB CITY

HERA™

 High-Efficiency Right Angle
LUBRICATION AND INSTALLATION

CONGRATULATIONS... Your decision to purchase a Speed Reducer from HUB CITY will provide you with many years of trouble free service if the following lubrication and installation instructions are adhered to.

IMPORTANT SELECTION INFORMATION

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

Check to verify that the application does not exceed the capacities published in the current catalog.

Written authorization from HUB CITY is required to operate or use gear units in man lift or people moving devices.

The system of connected rotating parts must be free from critical speed, torsional, or other type vibration, regardless of how induced. The responsibility for this system analysis lies with the purchaser of the gear unit.

Buyer shall be solely responsible for determining the adequacy of the product for any and all uses to which the buyer shall apply the product. The application by buyer shall not be subject to any implied warranties of merchantability or fitness for a particular purpose.

HUB CITY HERA™ REDUCER MODELS — These instructions apply to all HUB CITY HERA™ Reducer Models HERA™35, HERA™45, HERA™55, and HERA™75.

LUBRICATION

CAUTION

All HUB CITY HERA™ Reducers are splash lubricated. The unique design of the reducers permits nearly universal mounting by placing a fill, drain and oil level plug at the proper location for mounting positions. See Mounting Position Figures on this sheet.

CAUTION

Review the approved mounting positions and lubrication levels identified in the Mounting Position Figures on this sheet. Do not deviate from the mounting positions or lubrication levels shown without contacting the factory.

After selecting the position that the unit will be mounted but **before** operating: Remove Fill Plug, clean threads on the removed plug and the plug hole with degreaser. Install Breather Plug securely in gear case. **Note** — Plug with breather must always be installed in the top of gear case, opposite Drain Plug.

VARIATIONS FROM NORMAL CONDITIONS — Input speeds higher than 1,800 RPM may require an adjustment in oil level. For vertical output, factory modifications (grease pack and nilos ring) are required. For input speeds up to 1150 RPM, the high oil level can be used, without factory modifications. This level, as specified in the oil capacity chart, will be at the center of the top bearing. It can be checked with a dipstick to obtain the level specified in the chart from the top housing face.

LUBRICANT — Use only PAG Synthetic oil.

CAUTION

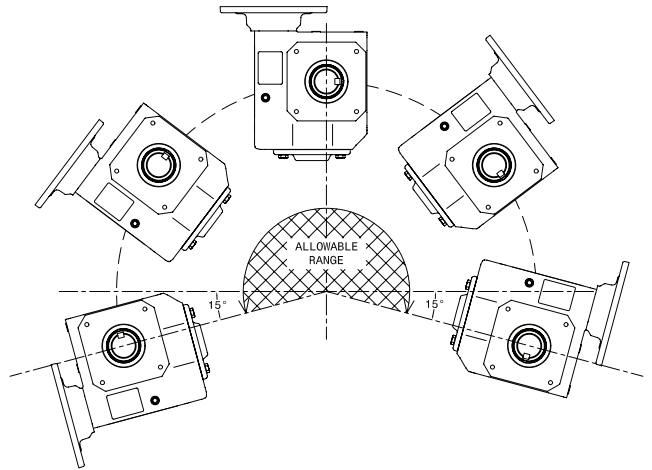
Oil should be changed with regular frequency if unit is used in a severe environment such as dusty or humid.

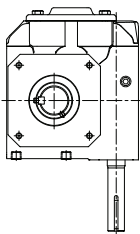


WARNING

Oil, housings, and other components can reach high temperatures during operation, and can cause severe burns. Use extreme care when removing lubrication plugs and vents while servicing the unit.

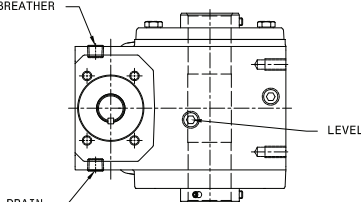
HERA™ ALLOWABLE MOUNTING ORIENTATION (without factory modification)





HERA™ SPECIAL MOUNTING ORIENTATIONS REQUIRING FACTORY MODIFICATION

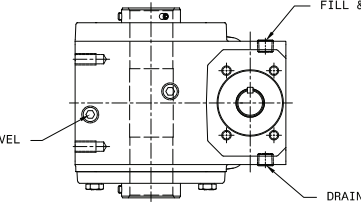
B6
- INPUT VERTICAL/DOWN-
OUTPUT HORIZONTAL
NOT RECOMMENDED POSITION
(FACTORY MODIFICATIONS REQUIRED)



FILL & BREATHER

LEVEL

V5
- OUTPUT VERTICAL, COVER SIDE UP-
INPUT HORIZONTAL
(FACTORY MODIFICATIONS REQUIRED)



FILL & BREATHER

LEVEL

DRAIN

V6
- OUTPUT VERTICAL, COVER SIDE DOWN-
INPUT HORIZONTAL
(FACTORY MODIFICATIONS REQUIRED)



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APPROXIMATE OIL CAPACITIES HUB CITY HERA™ REDUCERS

SERIES	QUANTITY (Pints)
HERA35	1.0
HERA45	2.0
HERA55	5.0
HERA75	8.0

APPROVED LUBRICANTS FOR HUB CITY REDUCERS

HUB CITY GEAR LUBRICANT	PAG
AMBIENT TEMPERATURE °F °C	-10 to 125 -23 to 52
OPERATING TEMPERATURE °F °C	To 225 To 107
AGMA NUMBER	7
ISO-ASTM VISCOSITY GRADE	460

HUB CITY PAG 460 H1 SYNTHETIC LUBRICANT

Hub City PAG 460 H1 Synthetic Lubricant is recommended for HERA™ gear drives in most applications. This lubricant provides the ultimate efficiency and thermal capacity, and wide operating temperature range, excellent for low start-up temperatures and high operating temperatures. Hub City PAG 460 H1 is approved for USDA/NSF H1 use in food processing facilities where there is the possibility of incidental contact with food. This fully synthetic polyglycol lubricant has high thermal and oxidative stability for longer lubrication intervals, and is well suited for lubed-for-life applications. The high efficiency reduces operating costs, and the increased life reduces maintenance costs.

PAG Synthetic Lubricants are not compatible with any other lubricants, and must never be mixed. Topping off with the wrong lubricant could cause unit failure. PAG Synthetic Lubricants absorb more water than other lubricants, so extra care should be taken not to expose the PAG lubricants to excessive moisture.

Food grade lubricants must always be stored separately from non-food grade lubricants, to prevent the possibility of using the wrong lubricant. Separate pumps and containers must always be used with food grade lubricants, to prevent contamination.

CAUTION

Do not mix nonsynthetic and synthetic oil in the unit.
Do not mix PAG synthetic with any other oil type.

CAUTION

If unit is used in the food or drug industry (including animal food) consult the petroleum supplier or HUB CITY for recommendations of lubricants which meet the specifications of FDA, USDA and/or other authoritative bodies having jurisdiction. Standard lubricants are not suitable for these applications or these industries. Hub City PAG 460 H1 is approved for USDA/NSF H1 service.

INSTALLATION

WARNING **SHIELD ALL ROTATING PARTS**

For safety, purchaser or user must provide protective guards over all shaft extensions and any moving apparatus mounted on the unit. The user is responsible for checking and complying with all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.

WARNING

Wear protective clothing and eye shields when installing or maintaining unit and machine.

WARNING

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, or by any shaft mounted power transmitting device such as sprockets, pulleys, or couplings.

WARNING

Units **ARE NOT** to be considered fail safe or self locking devices. If these features are required, a properly sized, independent holding device must be utilized. **Reducers are not to be used as a brake.**

WARNING

Any brakes that are used in conjunction with a unit must be sized or positioned in such a way so as to not subject the unit to loads beyond the capacities published in the current catalog.

WARNING

Make certain that all tools and other items are clear from rotating parts before starting machine. Stand clear, and start machine slowly to be sure all components are secure and operating properly.

WARNING

Make certain that the power supply is disconnected before attempting to service or install the unit, or remove or install any components. Lock out the power supply, and tag it to prevent unexpected application of power.

OPERATING POSITIONS — Normal Speed Reducer positions are shown in the Mounting Position Figures on this sheet. For special applications, mounting position may be inclined. However, if position varies more than 15°, it may be necessary to make some adaptations to maintain a sufficient oil level. Contact your local distributor or HUB CITY for recommendations. Input rotation of Speed Reducers can be either clockwise or counterclockwise.



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WARNING

For safe operation and to continue the unit warranty, when installing, reinstalling, or replacing a factory installed fastener for servicing purpose, or to accommodate the mounting of guards, shields or other light load imposing devices, or for mounting the unit, it becomes the responsibility of the purchaser or user to properly determine the quality, grade of fastener, thread engagement, load carrying capacity, tightening torque, and the means of torque retention.

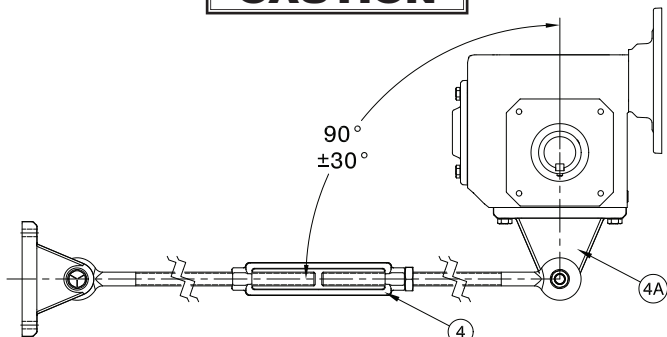
COUPLINGS — Flexible couplings to input and output shafts are recommended because they minimize bearing and gear wear caused by slight misalignment. Follow coupling manufacturer's recommendations for installation and shielding.

SHEAVES AND SPROCKETS — When mounting sheaves or sprockets, the center of the load should be located as close to the reducer as possible. Excessive overhung loading could result in early failures of bearing or shaft. Refer to the general catalog or contact your local distributor for overhung load ratings. Follow manufacturer's recommendations for installation and shielding.

CAUTION

Exterior threaded or through holes on this drive are for mounting the drive or drive accessories (couplings, sprockets, etc.). They are not to be used for lifting the drive or any driver/driven equipment.

CAUTION



TORQUE ARM FIGURE

Inspect shafts and components for paint, burrs, or other imperfections before installing components. Do not use excessive force or pounding to install components onto unit shafts, as this may cause damage to shafts, bearings, or gears.

SHAFT MOUNT UNITS — The Torque Arm Bracket (4A) can be attached to any of the four available mounting surface locations of the unit.

Install and position Torque Arm (4) at $90^\circ \pm 30^\circ$ to the plane (a line drawn) between the center of the output hollow bore and the bolt that attaches the Torque Arm (4) to the Torque Arm Bracket (4A) of the unit. The Torque Arm should be positioned to be in tension, **NOT** compression, based on output rotation of the gear drive.

CAUTION

Excessive setscrew torque may cause damage to the output sleeves in hollow bore units. Please refer to the following table for recommended tightening torque.

SIZE	RECOMMENDED TORQUE
1/4 NC	87 LB. - IN.
5/16 NC	165 LB. - IN.
3/8 NC	290 LB. - IN.

CAUTION

Test run unit to verify operation. If the unit being tested is a prototype, that unit must be of current production configuration.

RUN-IN PERIOD — A new unit will not operate at maximum efficiency during the run-in period. Increased current draw or heat rise may be seen during this time.

PREVENTATIVE MAINTENANCE — Keep shafts and vent plug clean to prevent foreign particles from entering seals or gear case. Inspect periodically for oil leaks.

CAUTION

Mounting bolts, coupling fasteners, and other power transmitting devices should be routinely checked to ensure that all parts of the unit are firmly anchored to provide proper operation (loose fasteners can cause alignment problems and excessive wear). Check end play in shafts. Noticeable movement might indicate service or parts replacement is necessary.

CAUTION

If the unit cannot be located in a clear and dry area with access to an adequate cooling air supply, then precautions must be taken to avoid ingestion of contaminants such as water, and to avoid a reduction of cooling ability due to exterior contaminants.

HUB CITY has Sales Offices and a network of Industrial Power Transmission Distributors that can serve your needs world wide. Check the Yellow Pages for one near you or contact the factory sales office.

IMPORTANT INFORMATION

In the event of the resale of this HERA™ Speed Reducer (unit), in whatever form, resellers/buyers will include the following language in a conspicuous place and in a conspicuous manner in a written agreement covering such sale:

The manufacturer makes no warranty or representations, express or implied, by operation of law or otherwise, as to the merchantability or fitness for a particular purpose of the goods sold hereunder. Buyer acknowledges that it alone has determined that the goods purchased hereunder will suitably meet the requirements of their intended use. In no event will manufacturer be liable for consequential, incidental, or other damages.

Resellers/buyers agree to include this entire document, including the warnings and cautions listed herein, in a conspicuous place and in a conspicuous manner to instruct users on the safe usage of the product.



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ELECTRIC MOTOR AND HYDRAULIC MOTOR AND PUMP INSTALLATION INSTRUCTIONS For "C" Flange and Hydraulic Flange Units

1. Be sure all of the paint and masking have been removed from the face and pilot of the flange. Check the bore (input or output) to be sure it contains an adequate amount of anti-sieze compound, which is normally installed at the factory. This compound will inhibit fretting corrosion between the motor or pump shaft and the unit bore.
2. Install the key (if round bore) to the maximum depth of the keyway provided in the bore.
3. Align keyways or splines of motor or pump and bore of unit and install motor or pump into frame.
4. **CAUTION:** HUB CITY "C" flange reducers and Hydraulic Flange Reducers are designed to accept motors with shafts that do not exceed the maximum specified by the N.E.M.A. or SAE standards. If the motor or pump shaft bottoms out before the motor or pump flange seats against the reducer flange face, the motor or pump shaft length must be adjusted to N.E.M.A. or SAE standards.
5. Secure the motor or pump to the unit. Capscrews and lockwashers are provided with "C" flange units.
6. Tightening torques for mounting bolts are provided in the chart below.

CAPSCREW TIGHTENING TORQUE

Grade 5 Capscrews (dry, without lubricant)

Capscrew Size	Tightening Torque (Ft. - Lbs.)
1/4 NC	8
5/16 NC	16
3/8 NC	29
1/2 NC	71
5/8 NC	143
3/4 NC	251

A Parts List and Print for your Drive is available upon request. To obtain the proper Parts List and Print, you must accurately furnish the Assembly Number, Model Number, Ratio, Style and Shipping Code as shown on the metal tag attached to the Gear Drive. For assistance, phone or write your Industrial Power Transmission Distributor, or the Factory Sales Office.

