

# WhisperDrive Installation, Operation & Maintenance Instructions.

## “This gearhead has been factory filled with synthetic lubricant”

Cone Drive double enveloping worm gear speed reducers are used throughout Industry to provide smooth and

quiet speed reduction. When properly selected, applied, and maintained, they will provide optimum performance.

**IMPORTANT:** In any applications of Cone Drive products where breakage, damage, disconnection, any other malfunction of any drive train component, or excessive wear could

result in personal injury or property damage, a fail safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the drive train.

### THE FOLLOWING INFORMATION IS FOR YOUR PROTECTION. PLEASE READ CAREFULLY.

1. Do not attempt to install or operate this reducer until all of these instructions are read and thoroughly understood. If you have any questions, please contact Cone Drive.
2. The horsepower or output torque capacity of this reducer and the service factor (maximum allowable operating cycle) are stamped on the reducer nameplate. **These values are not to be exceeded as overloading can result in reducer failure.**  
Exceeding the rating and duty cycle will void the warranty. Please contact Cone Drive with any questions regarding rating and service factors.
3. Each reducer is specifically arranged to operate at the input speed specified on the nameplate. If the input speed is not specified by the customer, it is set up for 2000 RPM and service factor 1.0. Do not operate the reducer at speeds or under service other than specified on the nameplate without contacting Cone Drive.
4. Do not alter the reducer in any way without approval from Cone Drive.
5. This reducer has moving mechanical components and connected electrical devices, operating under high voltage to achieve its intended purpose. Operation and repair should only be done by qualified personnel.
6. Before servicing a speed reducer, the main electrical disconnect must be moved to and **locked** in the off-position. The person performing the work should **post on that disconnect a warning to others not to turn on the power.**
7. It is normal for the reducer to operate at a housing temperature of up to 200° F. To prevent burns, proper guards or shields must be provided by the purchaser or user to prevent personnel from touching the reducer.
8. Cone Drive products are furnished without guard covers. It is the responsibility of the purchaser or user to provide guards for all exposed shafting, couplings, sprockets, sheaves, belts, chains, clutches, and any other moving parts in accordance with current Local, State or Federal requirements.
9. Failure to follow the instructions contained in this bulletin may result in unit failure, property damage or personal injury.

## Lubrication

WhisperDrive™ Servo Precision gearhead reducers are factory filled with Mobil SHC634 synthetic lubricant.

They require no lubrication service throughout the life of the unit.

## Installation

1. The speed reducer must be securely mounted to a rigid flat foundation or base plate. If necessary, shim under the reducer to provide a flat mounting surface. **NOTE: WhisperDrive™ servo gearhead reducers are built for universal mounting, ready to mount in any position.**
2. WhisperDrive™ Servo Precision gearheads are manufactured with tapped mounting holes. **Four mounting screws are required on all reducers.** If the reducer will be subjected to heavy chain pull or thrust loading, **heat treated** mounting screws must be used to prevent stretching and loosening of the screws.
3. The input and output shafts of the reducer should be coupled to the motor and driven shafts with flexible couplings and the reducer aligned with these shafts within  $\pm .001$ ". Solid or rigid couplings should be avoided. Failure to properly align shafts and the use of solid couplings can result in excessive coupling and bearing wear, shaft deflection and eventual failure of one (1) or more of the components.
4. Couplings, sheaves and sprockets should be mounted on the reducer shafts carefully. Do not pound or hammer them onto the shafts as this will damage bearing and oil seals.

- Sprockets and sheaves should be mounted as close to the reducer as possible and "V" belts and chains adjusted to the proper tension to keep bearing loading and shaft deflection to a minimum. Too much tension in belts and improper location of sheaves and sprockets will lead to excessive chain pull, bearing wear and shaft deflection. For specific information on chain pull capacity, shaft stress and bearing life please contact Cone Drive.
- Before starting motor** review motor rotation, reducer rotation and required direction of driven machine to insure that the motor is wired for proper direction of rotation. In many instances a machine must run in one direction and failure to wire the motor properly can result in damage to the driven machine.

## Start-Up

- After the reducer has been properly mounted and aligned, it is ready for start-up.
- Make sure the driven machine is clear of all obstructions and all safety guards and covers are in place. If possible, turn motor shaft by hand to confirm drive system is operating freely and in correct direction of rotation.
- Jog motor to confirm proper rotation.
- Operate reducer with minimum load for approximately 15 minutes (in both directions if applicable) to seat gears, bearings and oil seals.

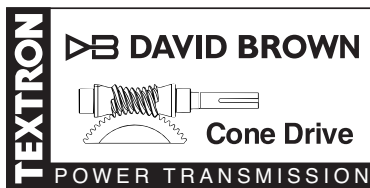
## Operation

- All reducers require a few hours of "run-in" under load to achieve optimum efficiency. During this initial run-in the reducer will probably run warmer than normal and draw more current than after the run-in period. Reducers operating at a very low load or speed will take much longer to run-in and even if operated continuously at low load or speed may never achieve the efficiency that they would if operated at or near their catalog rating.

- IMPORTANT:** Normal reducer operating temperature measured on the oil sump area of the housing should not exceed 100° F above ambient temperature or 200° F. If the reducer operating temperature exceeds 200° F, shut down the unit and contact Cone Drive. Excessive oil sump temperature is indicative of overloading, misalignment, or improper or marginal lubrication. Continuous operation of the reducer with the oil sump temperature above 200°F will result in breakdown of the oil and failure of the reducer.

## Maintenance

- This WhisperDrive Servo Precision gearhead is maintenance free.
- For optimum thermal performance the reducer should be wiped down periodically.
- All reducer and "mounting screws" should be checked for tightness after three (3) months of service and annually thereafter.
- If a reducer has to be repaired, contact Cone Drive for detailed instructions, blueprints, parts lists, etc. If it is necessary field service is available.
- If a reducer is to be returned for evaluation or repair contact Cone Drive for instructions and a returned material authorization (RMA) number.



**Cone Drive Operations Inc./Subsidiary of Textron Inc.**  
**240 E. 12th Street, P.O. Box 272**  
**Traverse City, MI 49685-0272**  
**Phone: 231-946-8410**  
**Fax: 231-946-0235**