



DCI, Inc.  
600 North 54 Avenue  
St. Cloud, MN 56303  
Ph: (320) 252-8200  
Fx: (320) 252-0866

## Agitator Hollow Shaft Unit Disassembly Instructions

X-7085-0

### Scope

The following procedure describes the necessary steps needed to disassemble a DCI agitator for maintenance or repair. This is a general procedure intended to cover the DCI agitator models with a hollow shaft and a seal housing.

### Preparation

Disconnect power to the motor and any other auxiliary equipment attached to the vessel. Lock out / Tag out any utilities that are connected to the dimple jacket. Lock out / Tag out any process valves and motors supplying product or other material to the vessel. Disconnect the leads to the agitator motor if necessary.

**WARNING:** Lock out power before any maintenance is performed following your plants lock out / tag out procedure.

Place a protective covering along the bottom of the tank where the agitator will rest. Provide wood blocking along the bottom of the vessel to support the agitator shaft.

**NOTE:** The vessel is a confined space. Follow your plants confined space entry procedure.

A hoist or chain fall will be required directly above the agitator assembly in order to remove the equipment. If installing a chain fall, it must be attached to a structural member that is designed to withstand the loading of the agitator assembly. Do not support the load off of electrical conduits, ductwork, process piping, etc.

### Procedure

Remove the stay bolt located at the end of the shaft (Figure A) and replace the stay bolt with an eyebolt.

**NOTE:** Eyebolt must be rated to handle the load from the agitator shaft. Eyebolt must also be small enough to pass through the gear reducer, bearing and seal (Figure A) as it is being lowered.

Install a choker / sling from the eyebolt to the hoist. The choker must be long enough to lower the shaft and turbine assembly to the bottom of the vessel.

Raise the hoist until all of the slack has been removed and there is tension on the sling.

Loosen the setscrews on the bearing and on the rotary portion of the seal. (Figure A) Remove the wood blocking from the bottom of the shaft in order to allow the unit to lower. Lower the agitator shaft assembly until it is completely at rest on the bottom head.



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**NOTE:** The shaft may be difficult to dislodge from the unit. Do not attempt to force the shaft out using excessive force. Damage may be sustained to the gearbox and shaft. In this situation, the use of a 'removal – tool' may be required (Fig – B). Extreme caution should be used when trying to loosen the shaft. Tension must be applied on the lifting strap before any attempts are made at lowering the shaft.

**NOTE:** In some situations, the shaft / turbine assembly may not be able to be lowered due to size restrictions. In this case, the gearbox will need to be raised while the shaft / turbine assembly remains in place.

Provide a protective covering around the top end of the shaft. This will protect the vessel sidewall from scratches or marks.

Remove the lifting strap from the eyebolt and out of the gear reducer.

Attach the lifting strap to the motor or gear reducer. These items should have an eyebolt already attached to them. If there is none, a tap should be available to install an eyebolt. There is no need to disconnect the motor, gear reducer or seal housing from each other as they will be lifted out as one unit.

For maintenance instructions on the motor, gear unit, seal and bearing, please refer to their respective operation and maintenance manuals.

**WARNING:** Do not attempt to lift the unit from the seal housing. This unit is top heavy with the motor and gear reducer on the top and may cause unit to over turn.

Remove slack from the lifting strap until it is under tension. Remove the bolts / tri-clamp from the seal housing. Lower the unit and place in a safe location.

Remove the seal and the bearing per the manufacturers recommendations.

**NOTE:** If gear reducer is to be stored for an extended time period, refer to the manufacturers instruction manual for extended storage procedure.

For reassembly, follow the above procedures in reverse order.

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Fig - A

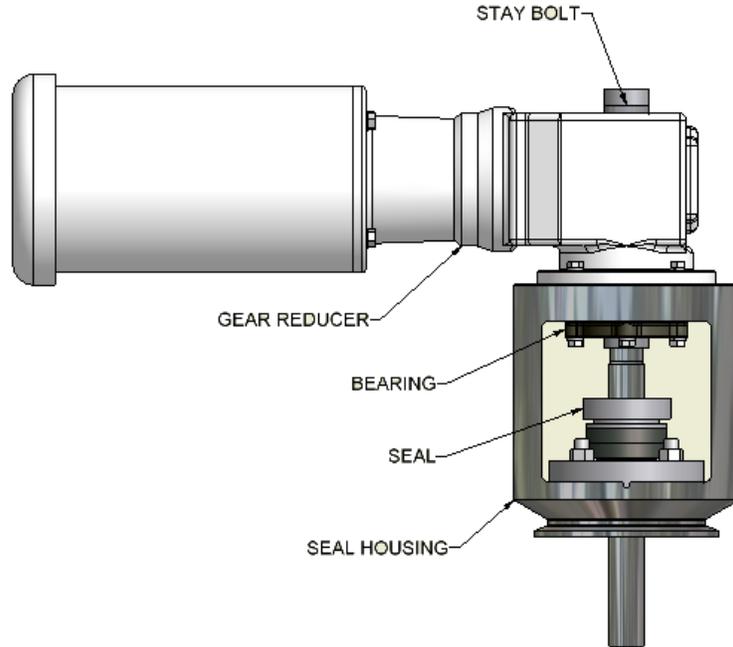


Fig - B

