

Disassembly Instructions

Quantis RHB 108,128,148 and 168

CAUTION

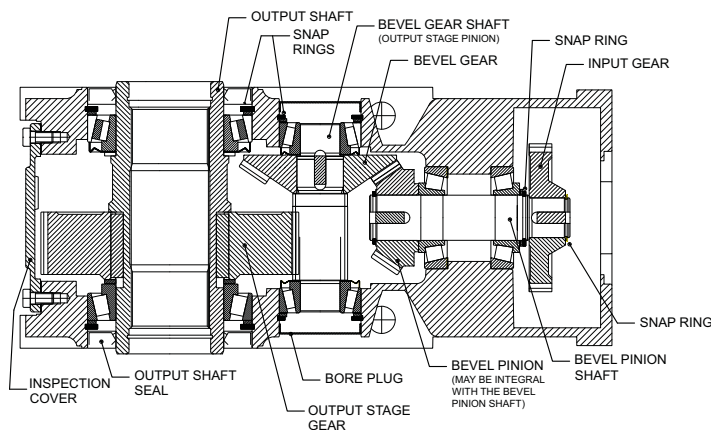
These disassembly instructions are to be used only by qualified personnel trained in the disassembly of complex industrial equipment. Follow appropriate safety procedures at all times and properly dispose of lubricants and contaminants removed from the exterior and interior of this product.

Clean the exterior of the reducer to remove all dirt, oil, grease, and other contaminants.

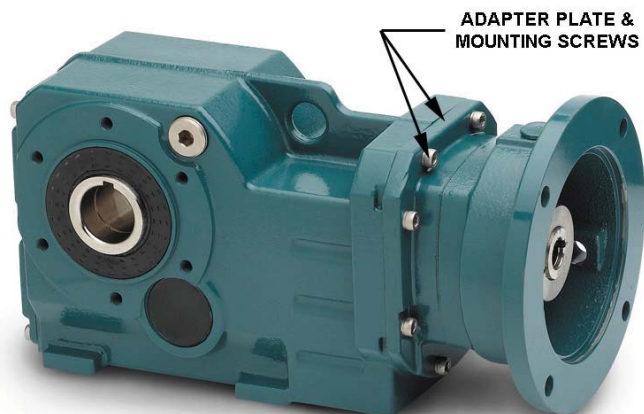
Remove the motor from the input assembly on the reducer if equipped with a motor.

Completely drain the oil from the reducer and place the reducer with the feet down on a suitable surface.

Disassembly of the main reducer components



Remove the input assembly from the reducer by removing the 8 screws that attach the adapter plate to the main reducer housing.



Use several large pry bars in the slots in the adapter plate to separate it from the main reducer housing. Put the input assembly to the side for now.

Remove the socket head cap screws that hold the inspection cover to the main housing. Remove the inspection cover from the housing by separating it with an appropriate pry bar.

Remove the snap ring that holds the input gear to the bevel pinion shaft using appropriate snap ring pliers.

Use an appropriate gear puller to remove the input gear from the bevel pinion shaft. A puller such as shown below may be needed to clear the housing and adequately support the gear during the removal process.



Remove the key in the keyway in the bevel pinion shaft.

Remove the snap ring located behind the input gear that retains the tapered bearing cone on the bevel pinion shaft using appropriate snap ring pliers. Remove any shims that might be behind the snap ring.

Remove the output shaft seal(s) by drilling several small holes in the seal casing. Use a slide hammer puller to remove the seal from the bore using the drilled holes in the seal casing. If the reducer is equipped with harsh duty seals, remove the rotating flanged portion of the seal first by prying between the outer flange and main seal with a large pry bar.



After the flanged portion of the seal is removed, remove the main seal by drilling holes in the seal casing and removing with a slide hammer as mentioned above.

Remove the rubber covered steel bore plugs that are adjacent to the output shaft



by drilling several small holes in the bore plug. Use a slide hammer puller to remove the bore plug from the housing.

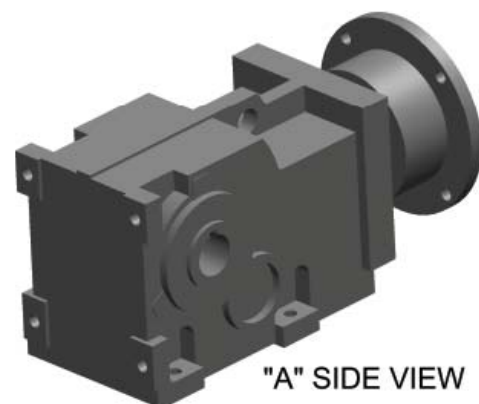


If the reducer is only equipped with 1 output shaft seal, remove the rubber covered bore plug on the opposite side of the output shaft extension by drilling several small holes in the bore plug. Use a slide hammer puller to remove the bore plug from the housing.

Remove the snap ring holding the output shaft bearing in place. Remove any shims that might be behind the snap ring. Perform this operation on both sides of the reducer.

Remove the snap ring holding the bevel gear shaft bearing in place. Remove any shims that might be behind the snap ring. Perform this operation on both sides of the reducer.

Lay the reducer over with the "A" side of the reducer facing up in a large capacity hydraulic press. Support the reducer directly on the flange surface on



reducers equipped with output flanges, "BF" series units. On non-flanged reducers, "BB" series, support the reducer housing either on the 3 raised pads or as close to the output shaft as possible.

Insert several suitable aluminum or steel supports between the inner housing and the output stage gear. The inserts need to be evenly spaced under the output stage gear.

This will keep the output stage gear from contacting the bevel gear when the output shaft is removed.

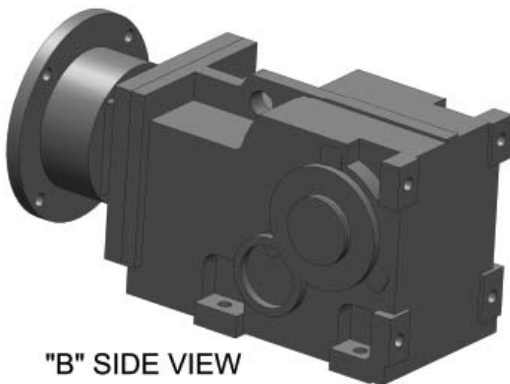


Caution: Failure to properly support the gear during the pressing operation will cause extension damage to the reducer.

Press the output shaft through the housing. Place soft material beneath the output shaft to avoid damaging the output shaft as it drops out of the reducer.

Remove the output stage gear along with any spacers through the inspection cover opening in the housing. Remove the bearing from the housing.

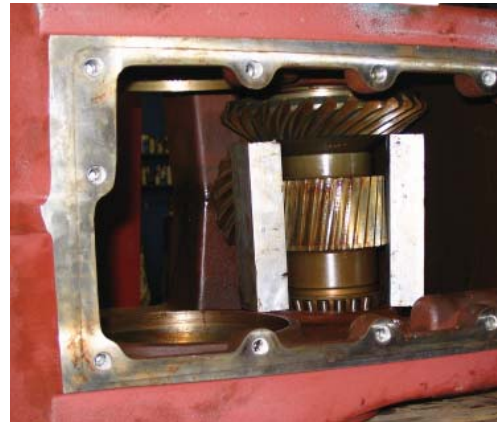
Flip the reducer over to get the “B” side of the reducer facing up in the press.



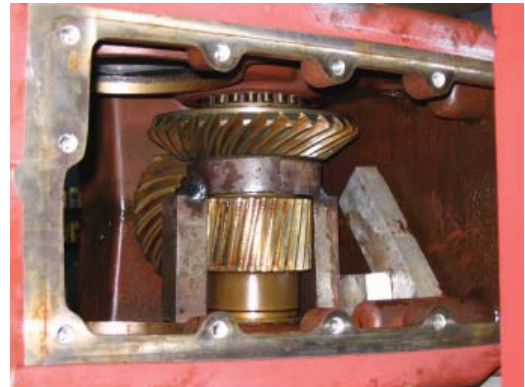
"B" SIDE VIEW

Support the reducer directly on the flange surface on reducers equipped with output flanges, “BF” series units. On non-flanged reducers, “BB” series, support the reducer housing either on the 3 raised pads or as close the output shaft as feasible.

Insert several suitable aluminum or steel supports between the inner housing and the bevel gear.



A special curved support may need to be made to properly support the gear if the bevel gear teeth come close to the supporting shaft.



Caution: Failure to properly support the bevel gear during the pressing operation will cause extension damage to the reducer.

Press the bevel gear shaft through the housing. Place soft material beneath the housing to avoid damaging the shaft as it comes free of the reducer.

Remove the bevel gear along with any spacers and bearing components through the inspection cover opening in the housing.

Remove the reducer from the hydraulic press and position the housing to place the motor end facing up.

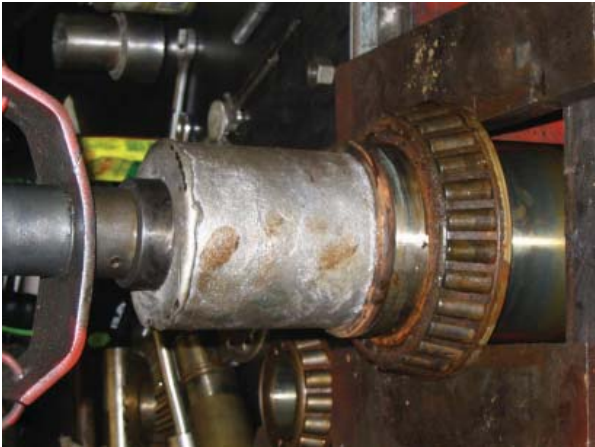


Place a suitable aluminum or steel round plug between the bevel pinion shaft and the ram of the press and apply sufficient pressure to push the bevel pinion shaft and bevel pinion through the housing. Place soft material beneath the bevel pinion shaft to avoid damaging the shaft as it comes free of the reducer.

Press the bearing off the bevel pinion shaft in an appropriate press. The bevel pinion shaft may either be one piece with the bevel pinion teeth cut into the shaft, or it may consist of a separate shaft and bevel pinion.

Remove the bevel pinion shaft bearing cups from the housing.

Insert the output shaft into the press and remove the remaining bearing.

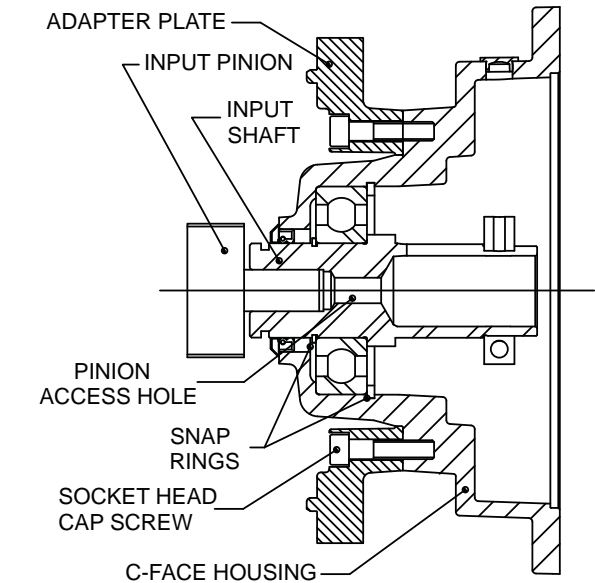


A soft-blow mallet can be used to separate the adapter plate from the C-face housing.

Attach a bearing splitter behind the teeth of the input pinion to support the C-face housing.



Disassembly of Clamp Collar input assembly



Remove the adapter plate from the C-face housing by removing the (4) socket head cap screws that hold the adapter plate to the C-face housing.

Place the clamp collar input assembly with the bearing splitter installed into a press with the pinion facing down. Support the clamp collar assembly on the bearing splitter.

Insert a steel rod into the pinion access hole in the center of the input shaft. The hole diameter in the input shaft is listed below.

NEMA CLAMP COLLAR SIZE	PINION ACCESS HOLE DIAMETER (INCHES)
56C	0.25
140TC	0.35
180TC	0.43
210TC	0.53
250TC	0.68
320TC	0.68
360TC	0.68

The length of the rod should be selected such that the rod end projects above the end of the input shaft by at least 2 inches after it has been inserted into the input shaft.



Press the input pinion out of the bore in the input shaft. If the rod bends during the pressing operation, start with a shorter length of rod and increase the length of the rod as the pinion comes out of the bore in the input shaft. Place something soft below the input shaft to avoid damaging the pinion as it comes free of the reducer.

Remove the clamp collar assembly from the press and place it on an appropriate surface.

Remove the bearing splitter.

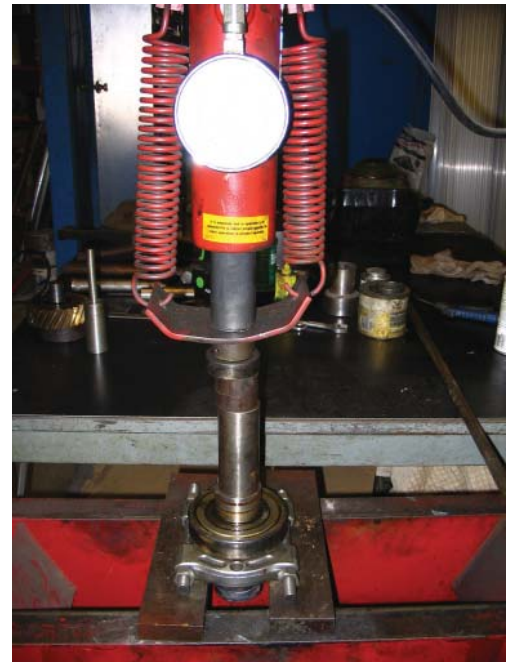
Remove the snap ring that holds the bearing in the C-face housing.

Tap the input pinion end of the input shaft with a soft blow mallet to push the input shaft and bearing assembly out of the C-face housing.

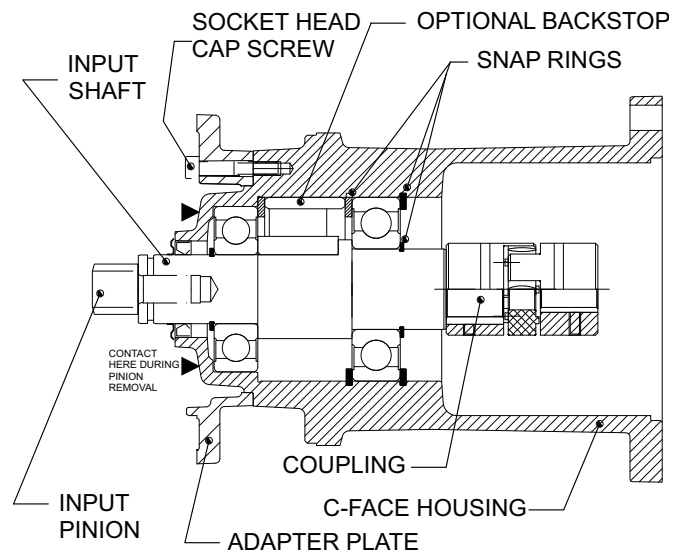
Remove the input seal from the C-face housing.

Remove the snap ring that retains the bearing on the input shaft.

Place the input shaft and bearing into a press and press the shaft through the bearing. Place something soft below the input shaft to avoid damaging the pinion as it comes free of the reducer.



Disassembly of 3-Piece coupled input assembly



Remove the adapter plate from the C-face housing by removing the (4) socket head cap screws that hold the adapter plate to the C-face housing.

A soft-blow mallet can be used to separate the adapter plate from the C-face housing.



Remove the coupling from the input shaft by loosening the set screw in the coupling hub.

This style input assembly does not have a pinion access hole as does the clamp collar style input assembly. To remove the input pinion, it may be necessary to weld an attachment to the input pinion to separate it from the input shaft. If pressure is applied against the C-face housing during input pinion removal, make sure the C-face housing is only contacted in the area indicated by the ► (arrow) symbols.

Remove the snap ring that holds the motor-side bearing in the C-face housing.

Tap the input pinion end of the input shaft with a soft blow mallet to push the input shaft and bearing assembly out of the C-face housing. If the input assembly is equipped with a backstop, it will be necessary to put the input assembly into a press and press the input shaft out of the housing.

Remove the input seal from the C-face housing.

Remove the snap rings that retain the bearings on the input shaft.

Place the input shaft and bearings into a press and press the shaft through the bearing. Invert the shaft and press the shaft through the remaining bearing. Place something soft below the input shaft to avoid damaging the pinion as it comes free of the reducer.

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