

Installation and Instruction Manual for Torque-Arm™ II Speed Reducer Screw Conveyor Adapter Assemblies

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see dodgeindustrial.com for updated instruction manuals.

WARNING: To ensure the drive is not unexpectedly started, turn off and lock-out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

WARNING: All products over 25 kg (55 lbs) are noted on the shipping package. Proper lifting practices are required for these products.

WARNING: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Dodge® nor are the responsibility of Dodge. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

SCREW CONVEYOR ADAPTER ASSEMBLY

1. Install seals (408) into adapter housing as shown in Figure 1. If the optional packing adapter is to be used, install only one seal in the small end of the adapter. Use extreme care when installing seals to avoid damage to the seals. Press or tap seals into place by applying pressure only on the outer edge of the seal. Make sure seals are install evenly and are not tilted.
2. If using the optional packing adapter, install the two studs (413), retaining ring (412), and two nuts (414). Thread the nuts onto the studs about 4-5 threads. Install the three braided type seals (415) in a circular direction into the adapter cavity. Shoulder the braided seals against the adjustable retaining ring (412). To aid in installation of the driveshaft in step 7, the braided seals can be flattened out slightly with a soft hammer prior to installation. When installing the braided seals offset the joints from each other.
3. Lightly tap the large washer (407) into the counterbore on the large end of the adapter to seal the braided material installed in step 2 or the seal installed in step 1.
4. Place reducer on blocks so that it lays flat with the input shaft down.
5. Position screw conveyor adapter on the reducer output hub so that the small end (end with four drilled holes) rests on reducer. The approximate 1/8" piloting projection should locate in the output seal bore next to the auxiliary seal. Adapter projection should not touch the face of the gear case casting.
6. Place four adapter screws (409) and lock washers (410) through the adapter and thread into the reducer. Tighten the four cap screws (409) to the torque specified in Table 1.
7. Turn reducer onto its side. Use caution not to damage either type seals and install driveshaft through the adapter housing into the reducer. Line up the keyway in the driveshaft with the keyway in the reducer hub bore. Slide or gently tap key into reducer through the input shaft side of the output hub.
8. Install the retaining ring (411) into the screw conveyor wedge (402). Making sure the driveshaft is fully seated into the reducer, slide the wedge onto driveshaft.
9. Install keeper plate (401), driveshaft cap screw (404), and lockwasher (405). Torque to specifications in Table 1.

DRIVESHAFT REMOVAL

To remove the driveshaft from the reducer the following steps are required.

1. Remove the driveshaft retaining bolt (404) and lock washer (405), the keeper plate (401), and the retaining ring (411).
2. Referring to Table 2, install the correct size hex head set screw into the end of the driveshaft until flush. Note TA6307H and TA7315H does not require a set screw.
3. Position the keeper plate (401) flush against the end of the driveshaft and with the small end facing out. Next install the retaining ring (411). When properly installed, the retaining ring holds the keeper plate (401) in place.
4. Screw removal bolt(s) into the keeper plate (401) and tighten until the driveshaft wedge (402) is dislodged. Once the driveshaft wedge (402) is dislodged, pull the assembly free from the reducer. If installed, remove the hex head set screw from the end of the driveshaft. The driveshaft can now be easily removed from the reducer by pulling the driveshaft straight out of the reducer.

Note: The removal bolt is not the same bolt as the retaining bolt. Refer to Table 2 for the correct bolt to be used for removal.

Table 1 - Bolt Torque Values		
Screw Conveyor Adapter Bolt Recommended Torque Values		
Reducer Size	Fastener Size	Torque in Ft.-Lbs.
TA0107L	3/8-16	30 – 27
TA1107H	3/8-16	30 – 27
TA2115H	7/16-14	50 – 45
TA3203H	1/2-13	75 – 70
TA4207H	1/2-13	75 – 70
TA5215H	5/8-11	90 – 82
TA6307H	3/4-10	148 – 138
TA7315H	3/4-10	148 – 138

Screw Conveyor Drive Shaft Retainer Bolt Recommended Torque Values		
Reducer Size	Fastener Size	Torque in Ft.-Lbs.
TA0107L	5/8-11	90 – 82
TA1107H	5/8-11	90 – 82
TA2115H	5/8-11	90 – 82
TA3203H	3/4-10	148 – 138
TA4207H	3/4-10	148 – 138
TA5215H	3/4-10	148 – 138
TA6307H	1-8	210 –190
TA7315H	1-8	210 –190

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Table 2 - Removal Hardware		
Reducer Size	Removal Bolt	Hex head set screw
TA0107L	3/4-10 x 2	5/8-11 x 3/4
TA1107H	3/4-10 x 2	5/8-11 x 3/4
TA2115H	3/4-10 x 2	5/8-11 x 3/4
TA3203H	7/8-9 x 2	3/4-10 x 3/4
TA4207H	7/8-9 x 2	3/4-10 x 3/4
TA5215H	7/8-9 x 2	3/4-10 x 3/4
TA6307H	3/8-16 x 2 (4 required)	N/A
TA7315H	1/2-13 x 2 (4 required)	N/A

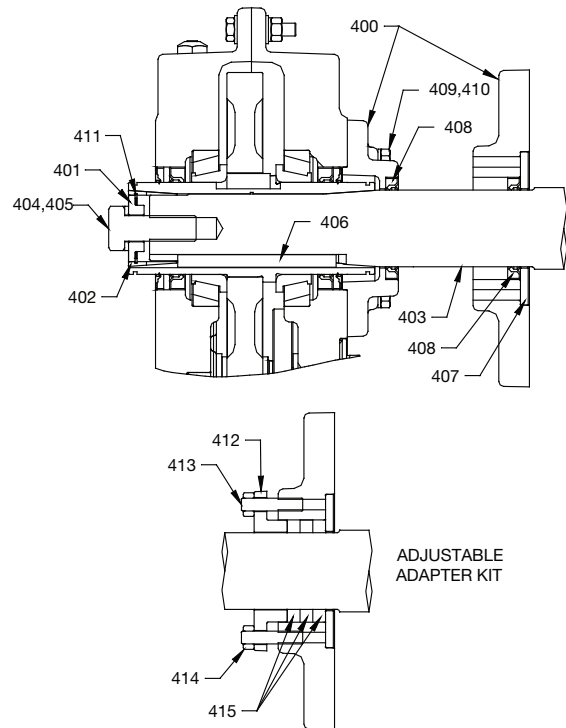


Figure 1 - Screw Conveyor Adapter Assembly

