

Torque-Arm™ II, TXT-E, and MTA Speed Reducer Backstop Assemblies Instruction Manual

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.

INSTALLATION FOR TORQUE-ARM II, TXT-E, AND MTA 2-9 REDUCERS

1. Remove backstop shaft cover, gasket, and hardware (see Figure 1). These parts will not be reused. This cover is directly opposite the extended end of the input shaft for Torque-Arm II and TXT-E reducers and is located on the back of the low-speed pinion for MTA reducers.
2. Clean the face of the gearbox to remove any gasket material, contamination, or paint overspray from the cover mounting surface and counterbore. It is important that contamination not get into the gearbox or the backstop during the backstop installation/servicing process.
3. Face reducer looking at the side from which the cover was removed. Determine carefully the desired direction of free rotation. It is important that the direction be correctly determined because to reverse the direction after the backstop is installed, it is necessary to remove the backstop, turn it end-for-end and then reinstall it. Single reduction and MTA reducers will have the backstop shaft's direction to be opposite of the output's rotation. Double reduction reducers will have the backstop shaft's direction be the same as the output's rotation.

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. An additional warning label has been provided for the end user to place on speed reducer for convenience of easy visibility.

4. Match the arrow on the backstop inner race to the direction of free rotation for the desired direction of shaft rotation. Note that reversing the backstop end-for-end changes the direction of the arrow. The shaft will rotate in the same direction as the arrow on the backstop. (see Figure 1).
5. Refer to Table 2 to determine if the backstop assembly requires a spacer. If the spacer is required, install it on the shaft first, adjacent to the bearing inner ring.
6. Install the backstop inner race and sprag cage assembly onto the shaft. DO NOT remove the cage from the inner race or the shipping strap from the sprag set at this time. Insert the key into the inner race and mating shaft keyway. These parts should slip onto the shaft easily, a light coating of oil may assist in assembly. Do not use a hammer to force the installation, damage can occur to the shaft and/or the backstop. Slide the race against the spacer or the shaft shoulder and install the retaining ring into the groove in the shaft. Only use the supplied key, as it is specifically designed for each backstop.
7. Apply a thin coating of RTV silicone onto the gearbox mating surface for the outer race (same as the cover area). It is important to apply the sealant around the fastener holes to prevent leakage. Do not allow excessive amounts of silicone to enter the gearbox or to be applied to other parts.
8. Install the outer race by gently rotating it opposite the shaft rotation while pressing lightly inwards. Do not force the outer race into position as backstop damage may occur. Once the outer race is well piloted onto the sprag set, remove the shipping strap from the sprag set by cutting it, being careful not to let the outer race back off the sprags. The outer race should slide easily into position with a slight turning motion. A light coating of oil on the race inner diameter may ease installation.
9. Align the fastener holes in the backstop's outer race with the mating holes in the gearbox. Use the supplied fasteners and lock washers only. Torque the fasteners in an alternating pattern per Table 1.
10. After filling the gearbox with oil and during startup, verify that there are not any visible leaks from the backstop or reducer.

INSTALLATION FOR MTA 10-12 REDUCERS

1. Remove backstop shaft cover, gasket, and M16 bolts (see Figure 2). These parts will not be reused. These components are located on the back of the low-speed pinion for MTA reducers.
2. Clean the face of the gearbox to remove any gasket material, contamination, or paint overspray from the cover mounting surface and counterbore. It is important that contamination not get into the gearbox or backstop during the backstop installation/servicing process.
3. Face reducer looking at the side from which the cover was removed. Determine carefully the desired direction of free rotation. It is important that the direction be correctly determined because to reverse the direction after the backstop is installed, it is necessary to remove the backstop, turn it end-for-end and then reinstall it. MTA reducers will have the backstop shaft's direction be opposite of the output's rotation.
4. Match the arrow on the backstop inner race to the direction of free rotation for the desired direction of shaft rotation. The shaft will rotate in the same direction as the arrow on the backstop. This free direction arrow will be seen from the outboard side of the backstop assembly.
5. Install the spacer onto the shaft until it contacts the tapered bearing of the gearbox.
6. Apply a thin coating of RTV silicone onto the gearbox mating surface where the backstop's outer race will make contact (see Figure 2). It is important to apply sealant around each fastener hole to prevent leakage. Do not allow excessive amounts of silicone to enter the gearbox or to be applied to other parts.
7. Install the backstop assembly on the shaft as ONE WHOLE ASSEMBLY. Slide the backstop assembly against the spacer (see Figure 2). After aligning the keyways of the backstop and shaft, insert the key into the inner race and mating shaft keyway. Only use the supplied key, as it is specifically designed for each backstop. These parts should slip on the shaft; however, a light coating of oil may assist in assembly. Do not use a hammer to force the installation, damage can occur to the shaft and/or the backstop. Then install the retaining ring into the groove in the shaft.
8. Apply a thin coating of RTV silicone onto the backstop's outboard outer race face (see Figure 2). It is important to apply sealant around each fastener hole to prevent leakage. Do not allow excessive amounts of silicone to enter the backstop assembly.
9. Install the backstop cover and install the twelve M16 bolts. Torque these fasteners in an alternating pattern per Table 1.
10. After filling the gearbox with oil and during startup, verify that there are not any visible leaks from the backstop or reducer.

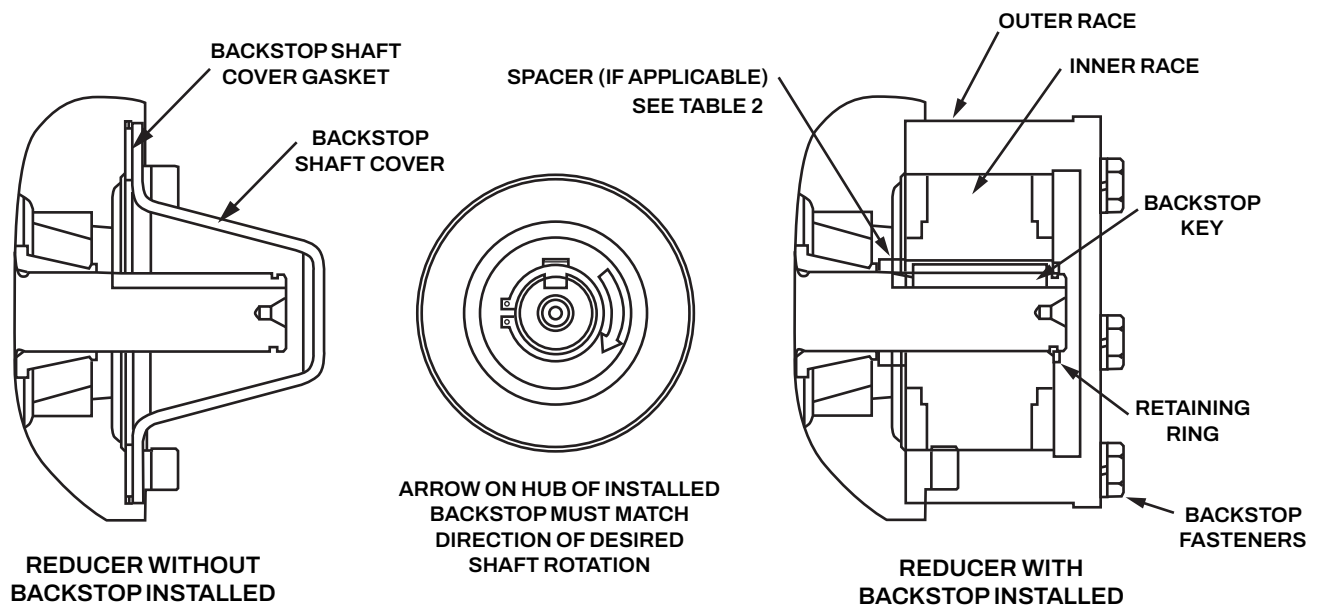
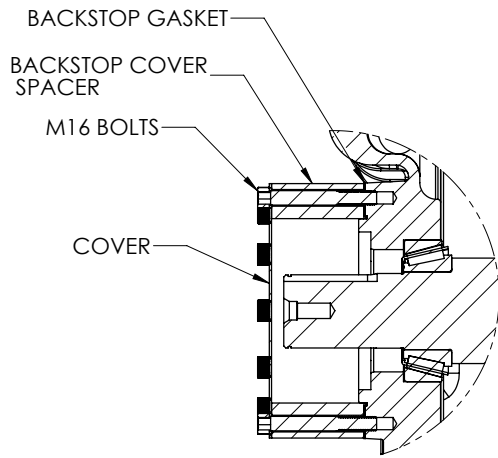
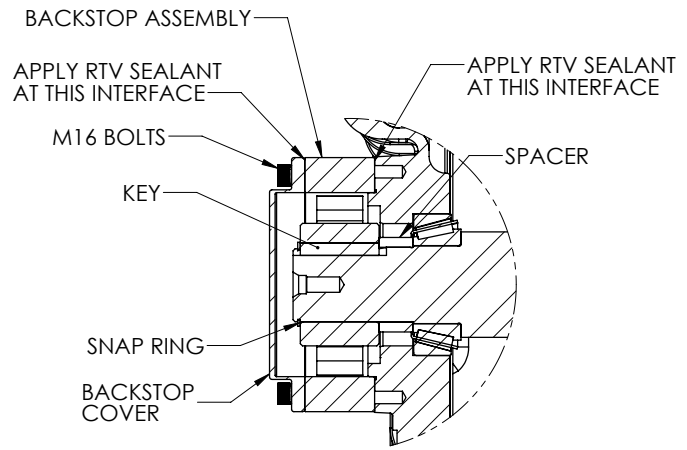


Figure 1 - Backstop Assembly



**MTA10/12 WITHOUT
BACKSTOP INSTALLED**



**MTA10/12 WITH
BACKSTOP INSTALLED**

Figure 2 - MTA Backstop Assembly

Table 1 – Backstop Fastener Torque Values

Reducer Size	Fastener Size	Torque in ft-lbs
TXT1E - TXT4E	1/4-20	8
TXT5E - TXT7E	5/16-18	17
TXT8E - TXT12E	3/8-16	30
TA0107L - TA4207H	1/4-20	8
TA5215H, TA6307H, TA8407H	5/16-18	17
TA7315H, TA9415H - TA12608H	3/8-16	30
MTA2115H, MTA3203H	1/4-20	8
MTA4207H, MTA5215H	5/16-18	17
MTA6307H - MTA9415H	3/8-16	30
MTA10507H	M16	120
MTA12608H	M16	120

Table 2 – Backstop Spacer Required and Width

Reducer Size	Spacer Required	Spacer Width
TXT1E	Yes	0.424"
TXT2E	Yes	0.407"
TXT3E	Yes	0.563"
TXT4E	No	N/A
TXT5E	No	N/A
TXT6E	Yes	0.647"
TXT7E	Yes	0.750"
TXT8E	Spacer is in kit but is not required	
TXT9E	Spacer is in kit but is not required	
TXT10E	Yes	1.214"
TXT12E	Yes	0.595"
TA0107L	Yes	0.260"
TA1107H	Yes	0.260"
TA2115H	No	N/A
TA3203H	No	N/A
TA4207H (all ratios except 40:1)	No	N/A
TA4207H40	Yes	0.353"
TA5215H (all ratios except 40:1)	No	N/A
TA5215H40	Yes	0.359"
TA6307H	No	N/A
TA7315H (all ratios except 40:1)	Yes	0.220"
TA7315H40	No	N/A
TA8407H	No	N/A
TA9415H	No	N/A
TA10507H (all ratios except 40:1)	Yes	0.644"
TA10507H40	Yes	0.581"
TA12608H (all ratios except 40:1)	Yes	0.710"
TA12608H40	No	N/A
MTA2115H	No	N/A
MTA3203H	No	N/A
MTA4207H	No	N/A
MTA5215H	No	N/A
MTA6307H	Spacer is in kit but is not required	
MTA7315H	Spacer is in kit but is not required	
MTA8407H	Spacer is in kit but is not required	
MTA9415H	Yes	0.525"
MTA10507H	Yes	1.516"
MTA12608H	Yes	1.516"

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