How to Use this Manual

This manual provides detailed instructions on the installation of Ultramite UB and Omnibox WBQM shaft mounted gear drives that are installed as a standard in the horizontal position (see Figures 1, 7 and 13) on a MatTop Chain Roller Upgrade System (RUS). Use the table of contents below to locate required information.

CAREFULLY FOLLOW THE INSTRUCTIONS IN THIS MANUAL FOR OPTIMUM PERFORMANCE AND TROUBLE-FREE SERVICE OF YOUR REXNORD GEAR DRIVE.

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INTRODUCTION

The Rexnord gear drives offered with the MatTop Roller Upgrade System consist of either an Ultramite UB or Omnibox WBQM shaft mounted drive, which is positioned at the conveyor discharge end. These drives have a hollow low speed shaft and are mounted with a torque arm. A typical shaft mounted drive with an adjustable tie rod style torque arm is shown in Figure 1.

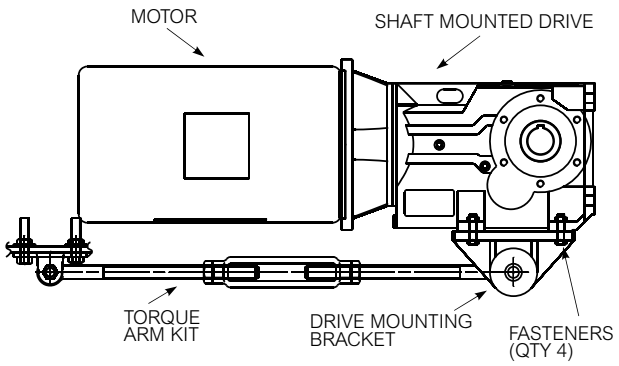

Figure 1 – RUS Shaft Mounted Drive

Each drive will be supplied with a torque arm kit that will consists of adjustable tie rod ends, a turnbuckle, anchor bracket and related hardware as shown in Figure 2.

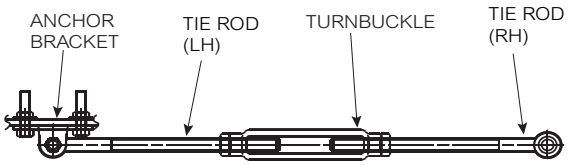

Figure 2 — Torque Arm Kit

Instructions in this manual apply to Ultramite UB drive sizes 03, 04 and 05 and Omnibox WBQM drive sizes 1206, 1238, 1262 and 1300. Ultramite Installation & Maintenance Instructions can be found in manual 288-400. Omnibox lubrication requirements can be found in manual 278-109.

MOUNTING

It is natural for the drive system to move during operation. This movement is due to run out from the driven equipment shaft and gear drive low speed shaft. The standard torque arm is designed to accommodate this movement, by allowing the gearbox to move slightly with the driven shaft. This prevents transmitting unnecessary additional loads to the driven shaft through the gearbox. DO NOT restrain free movement of the gear drive, to do so will adversely load the gearbox and driven shaft and may result in failure. The torque arm movement should be rechecked during regular maintenance intervals.

Warning: *Angular misalignment of the torque arm may restrict gear drive gear movement and cause excessive loading on the low speed shaft and driven equipment.*

INSTALLATION

Ultramite UB – Installation

1.0 Mount the motor to the Ultramite drive by following Ultramite manual 288-400 and the motor manufacturer's installation instructions.

2.0 Install the drive mounting bracket and provided fasteners to the Ultramite drive as shown in Figure 1. Tighten either the 3/8-16, 7/16-14 or 1/2-13 fasteners to 31, 50 and 76 lb-ft, respectively. Do NOT lubricate fasteners. Refer to Figure 4 for acceptable mounting configurations.

3.0 Verify the torque arm kit has been assembled as shown in Figure 3.

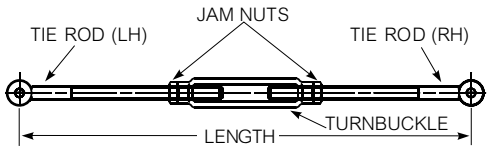

Figure 3 — Torque Arm Kit

Adjust rod ends to obtain the nominal length shown in Table 1.

TABLE 1 — Torque Arm Length

Ultramite Size	Torque Arm Length (Inches)		
	Nominal	Min	Max
03	24	21	27
04	24	21	27
05	27	24	30

4.0 Clean the surfaces of the conveyor shaft and the Ultramite hollow shaft thoroughly using Loctite 7070 Super Clean or equivalent. Check for and remove any burrs from mating surfaces.

5.0 Install the inner locking collar shown in Figure 4 to the conveyor shaft.

6.0 Install key into keyway of conveyor shaft. Apply Dow Corning G-n or equivalent anti-fretting compound to the Ultramite hollow shaft.

7.0 Lift the Ultramite drive and motor assembly into position and slide onto the conveyor shaft taking care that the driven shaft key seats into the hollow shaft keyway. Position the drive as close as possible to the conveyor frame. DO NOT hammer or use excessive force. Refer to Figure 4 for acceptable mounting configurations.

Add the outer locking collar to the conveyor shaft. Support the Ultramite drive and motor assembly in a horizontal position while completing the remaining steps.

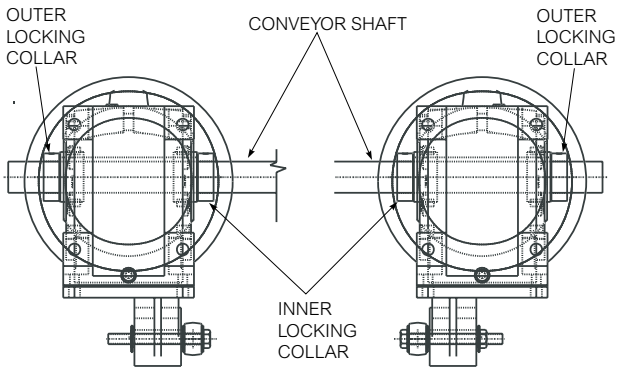

Figure 4 — Mounting Configurations (Ultramite)

8.0 Install the torque arm assembly to the Ultramite mounting bracket as shown in Figure 5. Install the provided bolt, washers and lock nut, apply Loctite 242 or equivalent to threads. Tighten the bolt until seated against the mounting bracket.

Warning: *Adding spacers or other modifications to this arrangement is NOT permitted.*

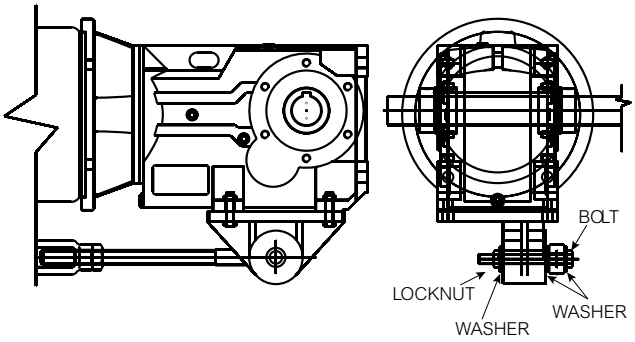

Figure 5 — Install Torque Arm Assembly

9.0 Install the anchor bracket to the torque arm's tie rod as shown in Figure 6. Install the provided bolt and lock nut, apply Loctite 242 or equivalent to threads. Tighten the bolt until contact is made with the bracket. DO NOT apply additional torque.

Warning: *Adding spacers or other modifications to this arrangement is NOT permitted.*

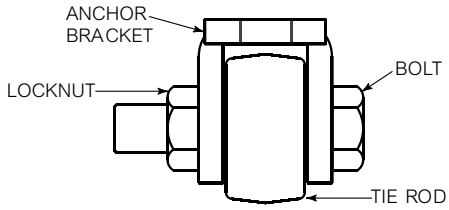

Figure 6 — Anchor Bracket and Tie Rod

10.0 Mount the anchor bracket to the conveyor support frame using the fasteners provided. Install bolts, washers and lock nuts, apply Loctite 242 or equivalent to threads. Tighten either the 3/8-16 or 1/2-13 fasteners to 35 and 84 lb-ft, respectively (see Figure 7). Modifications to the support frame may be necessary to achieve the torque arm slope and parallel mounting requirements shown in Figures 7 and 8.

The position of the torque arm may vary within the range shown in Figure 7. The length of the rod ends may be adjusted to fit the installation. The maximum and minimum torque arm lengths are provided in Table 1. For torque arm mountings other than shown in Figure 7, refer to Rexnord.

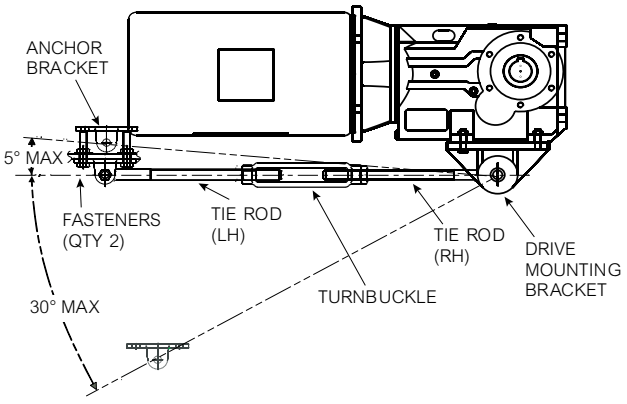

Figure 7 — Torque Arm Slope

The torque arm should be mounted such that it is parallel to the centerline of the gear drive as illustrated in Figure 8.

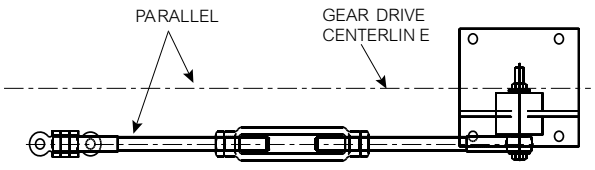

Figure 8 — Torque Arm Parallel Mounting

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11.0 After installation and alignment is complete, add Loctite 222 or equivalent to the 1/4-28 socket head cap screws used on the locking collars and tighten them to 14.6 lb-ft.

Tighten either the 5/8-11 or 3/4-10 (Grade 2) torque arm jam nuts to 94 and 166 lb-ft, respectively (see Figure 3). Do NOT lubricate fasteners.

Omnibox WBQM – Installation

1.0 Mount the motor to the Omnibox drive by following the motor manufacturer's installation instructions.

2.0 Install the drive mounting bracket and provided fasteners to the Omnibox drive as shown in Figure 13. Tighten either the 5/16-18, 3/8-16 or 7/16-14 fasteners to 17, 31 and 50 lb-ft, respectively. Do NOT lubricate fasteners. Refer to figure 10 for acceptable mounting configurations.

3.0 Verify the torque arm kit has been assembled as shown in Figure 9.

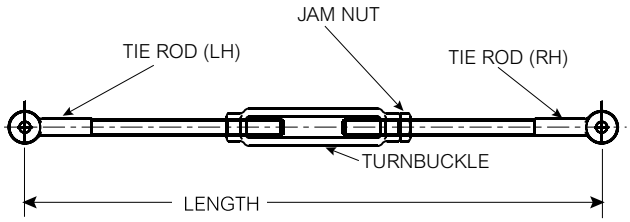

Figure 9 — Torque Arm Kit

Adjust rod ends to obtain the nominal length shown in Table 2.

TABLE 2 — Torque Arm Length

Omnibox Size	Torque Arm Length (Inches)		
	Nominal	Min	Max
1206, 1238	24	21	27
1262, 1300			

4.0 Clean the surfaces of the conveyor shaft and the Omnibox hollow shaft thoroughly using Loctite 7070 Super Clean or equivalent. Check for and remove any burrs from mating surfaces.

5.0 Install key into keyway of conveyor shaft. Apply Dow Corning G-n or equivalent anti-fretting compound to the Omnibox hollow shaft.

6.0 Lift the Omnibox drive and motor assembly into position and slide onto the conveyor shaft taking care that the driven shaft key seats into the hollow shaft keyway. Position the drive as close as possible to the conveyor frame. DO NOT hammer or use excessive force. Refer to Figure 10 for acceptable mounting configurations. Support the Omnibox drive and motor assembly in a horizontal position while completing the remaining steps.

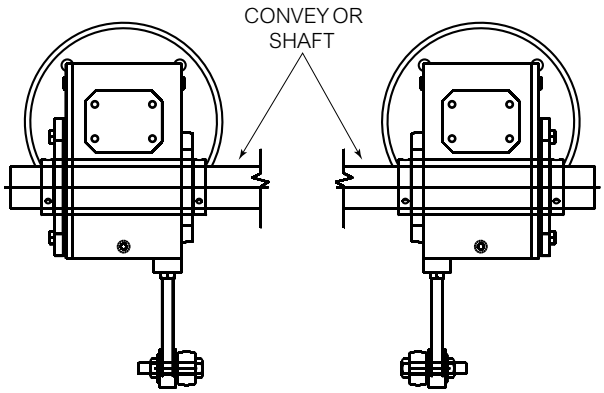

Figure 10 — Mounting Configurations (Omnibox)

7.0 Install the torque arm assembly to the Omnibox mounting bracket as shown in Figure 11. Install the provided bolt, lock washers and nut, apply Loctite 242 or equivalent to threads. Tighten the bolt until seated against the mounting bracket.

Warning: *Adding spacers or other modifications to this arrangement is NOT permitted.*

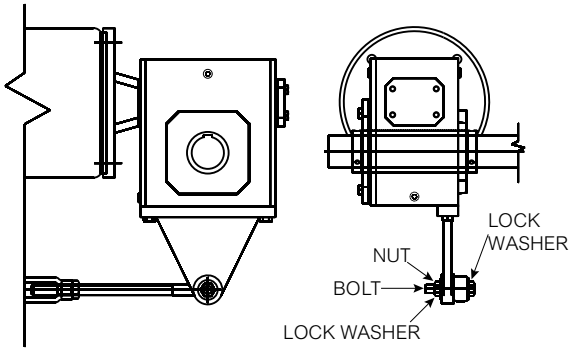

Figure — 11 Install Torque Arm Assembly

8.0 Install the anchor bracket to the torque arm's tie rod as shown in Figure 12. Install the provided bolt, lock washers and nut, apply Loctite 242 or equivalent to threads. Tighten the bolt until seated against the anchor bracket.

Warning: *Adding spacers or other modifications to this arrangement is NOT permitted.*

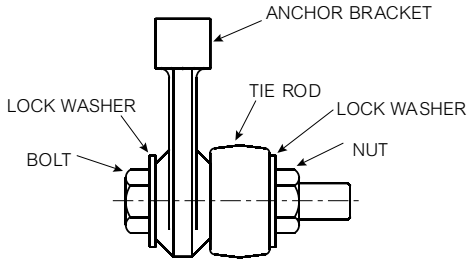

Figure 12 — Anchor Bracket and Tie Rod

9.0 Mount the anchor bracket to the conveyor support frame using the fasteners provided. Install bolts, washers, lock washers and nuts, apply Loctite 242 or equivalent to threads. Tighten the 5/16-18 fasteners to 17 lb-ft (see Figure 13). Modifications to the support frame may be necessary to achieve the torque arm slope and parallel mounting requirements shown in Figures 13 and 14.

The position of the torque arm may vary within the range shown in Figure 13. The length of the rod ends may be adjusted to fit the installation. The maximum and minimum torque arm lengths are provided in table 2. For torque arm mountings other than shown in Figure 13, refer to Rexnord.

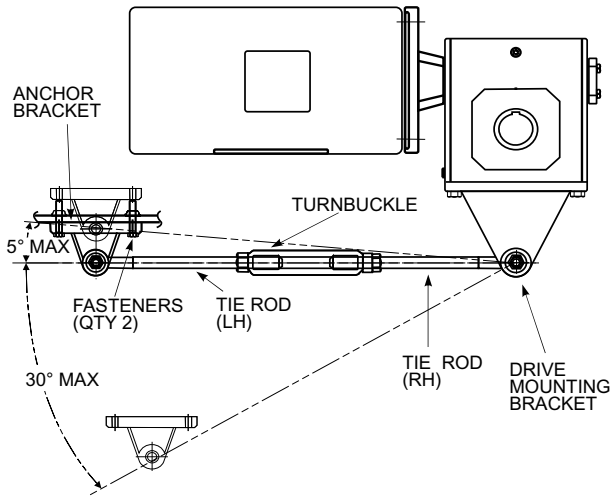

Figure 13 — Torque Arm Slope

The torque arm should be mounted such that it is parallel to the centerline of the gear drive as illustrated in Figure 14.

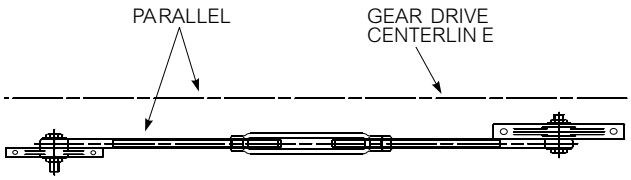

Figure 14 — Torque Arm Parallel Mounting

10.0 After installation and alignment is complete, add Loctite 222 or equivalent to the Omnibox LS shaft 1/4-20 setscrews and tighten them to 7.5 lb-ft.

Tighten the 5/8-11 (Grade 2) torque arm jam nut to 94 lb-ft (see Figure 9). Do nut lubricate fasteners.

Oil Levels

Ultramite UB drive sizes 03 thru 05 are furnished from the factory filled with oil as determined by the drive mounting position. Verify that the oil has been filled to the correct level before operating the drive. If necessary, add oil per manual 288-400. The oil level and oil fill location are shown in Figure 15 for the horizontal mounting position.

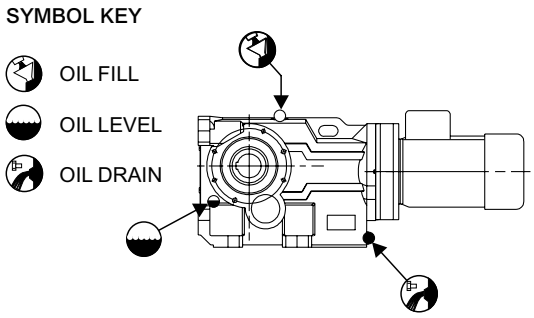

Figure 15 — Oil Levels – Ultramite

Omnibox drive sizes 1133 thru 1600 are furnished from the factory filled with oil as determined by the drive mounting position. Verify that the oil has been filled to the correct level before operating the drive. If necessary, add oil per manual 278-109. The oil level and oil fill (vent) locations are shown in Figure 16 for the horizontal mounting position. Install air vent plug in place of a standard plug before operating drive.

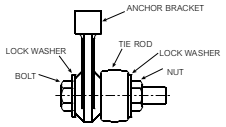

Figure 16 – Oil Level – Omnibox

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