

# Tie Rod Torque Arm Installation Procedure

Figure 1. Tie Rod Type Torque Arm Parts

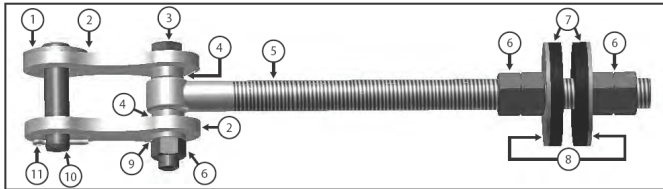
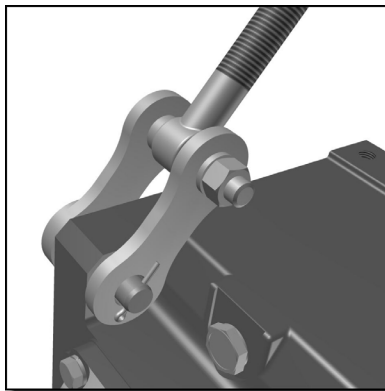


Table 1. Tie Rod Type Torque Arm Parts

Item	Description	Item	Description
1	Flat Washer	7	Rubber Bushings
2	(2) Mounting Brckts or (1) Clevis	8	Washers
3	Hex Bolt	9	Lock Washer
4	Spacer	10	Clevis Pin
5	Threaded Arm	11	Cotter Pin
6	Hex Nut		

## Installation Procedures



**1**  
Assemble the torque arm mounting brackets or wishbone clevis to the threaded arm, as shown in Figure 1 and attach the torque arm assembly to the bevel housing, at the housing corner eyelet, using the pin and cotter pin.

Tighten mounting bolts according to the values listed in this table:

Table 2. Bolt Tightening Torques

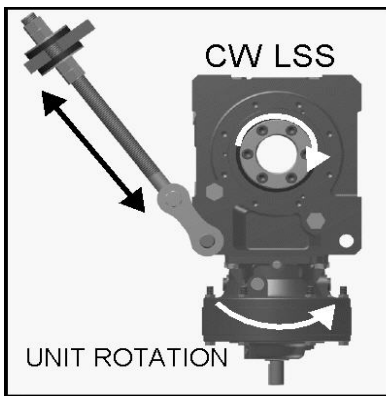
BBB4 Size	Bracket Bolt Size <sup>[1]</sup>	Torque	
		lb-ft	(N·m)
4A	2 x M16	152 - 167	(206 - 227)
4B	2 x M20	290 - 319	(392 - 431)
4C	2 x M24	507 - 558	(686 - 755)
4D	2 x M24	1014 - 1115	(1373 - 1510)
4E	2 x M24	1014 - 1115	(1373 - 1510)
4F		Consult Factory	

Note <sup>[1]</sup> Bolt class should be greater or equal to ISO/JIS Class 8.8. Application with multiple start/stops and/or shock loading should use ISO/JIS 10.9 at a minimum.

- Insert the clevis pin through the brackets and housing eyelet.
- Insert the cotter pin into clevis pin and secure assembly.

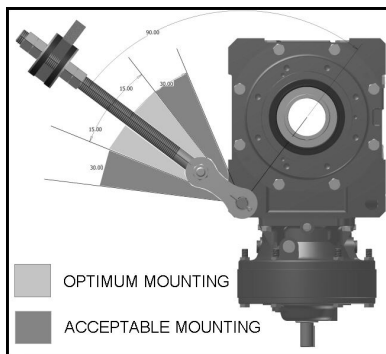
**2**  
Position the torque arm so it will be in tension during unit operation.

Consider installing two torque arms for reversing applications to allow torque arm to be in tension for each direction of rotation.

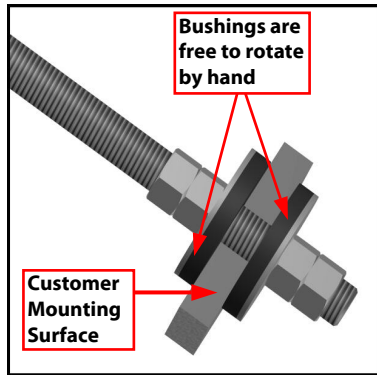


**3**  
Position the torque arm as close as possible to 90° relative to the unit output bore / driven equipment shaft.

Sumitomo does not recommend combining torque arm assemblies to achieve a greater overall length.



## Tie Rod Torque Arm Installation Procedures *(Continued)*



**4**

After inserting the torque rod into the mounting surface, carefully tighten nuts on either side of torque rod.



Do **not** over tighten nuts. Tighten to point where rubber bushings can still be hand rotated when the unit is turned off.



Before starting unit, verify the following:

- The torque arm will be in tension when the unit is in operation.
- The torque arm is aligned with the reducer housing.
- The torque arm is perpendicular to the axis of the output / driven shaft.
- The threaded arm is not touching the reducer housing.