

Cam Clutch Installation and Maintenance Instruction

BREU Series

**BREU30(K), BREU35(K), BREU40(K), BREU45(K), BREU50(K), BREU60(K), BREU70(K),
 BREU80(K), BREU90(K), BREU100(K), BREU130(K), BREU150(K)**

- Thank you for choosing Tsubaki E&M products.
- Before installing or working on the product, confirm it is the correct size by checking its label and make sure you have the complete set of parts. If any part is missing, contact your distributor immediately.
- This manual should be considered an essential part of the unit and remain with the unit when redistributed.

SAFETY

- Your Cam Clutch is a high quality, sophisticated unit which should be handled by experienced engineers only.
- For safety purposes, make sure this manual is easily accessible by the user at all times.
- To ensure safety and optimal performance, carefully read this instruction manual in its entirety.



WARNING

Death or serious injury may result from misuse, improper installation and/or improper maintenance of this product. Please refer to the detailed instructions provided in this manual for installation and maintenance specifications.



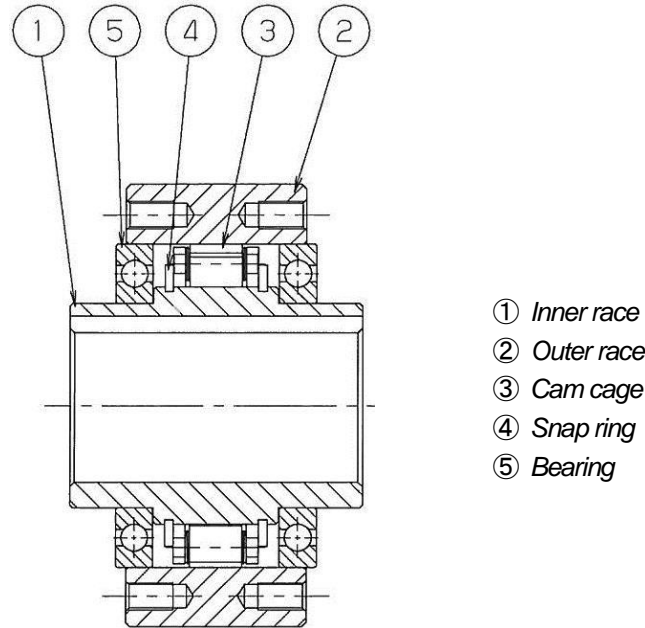
WARNING

USE CARE TO PREVENT INJURY COMPLY WITH THE FOLLOWING TO AVOID SERIOUS PERSONAL INJURY:

1. Guards must be provided on all chain and sprocket installations in accordance with provisions of ANSI/ASME B15.1 - 2000 "Safety Standards for Mechanical Power Transmission Apparatus," and ANSI/ASME B20.1 - 2012 "Safety Standards for Conveyors and Related Equipment," or other applicable safety standards. When revisions of these standards are published, the updated edition shall apply.
2. Always lock out the power switch before installing, removing, lubricating or servicing a system which uses PTUC product.
3. When connecting or disconnecting PTUC products, eye protection is required. Wear safety glasses, protective clothing, gloves and safety shoes.
4. Improper installation or mounting, as well as operating conditions and maintenance, can affect the performance of a cam clutch. The cam clutch should be inspected regularly.

"PTUC is used by U.S. Tsubaki to designate "Power Transmission Unit Components." PTUC products include Cam Clutch DISCO, POWER-LOCK[®], Shock Relay, Gearmotor, HF Drive, Shock Damper, Power cylinder[™], Couplings, SCR variable speed motor and other like products manufactured by/for Tsubaki.

■ **Construction**



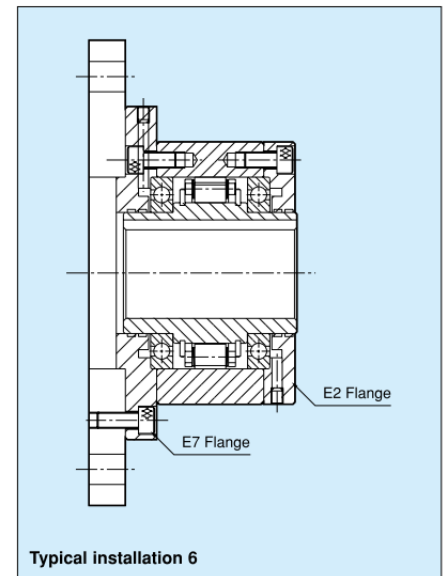
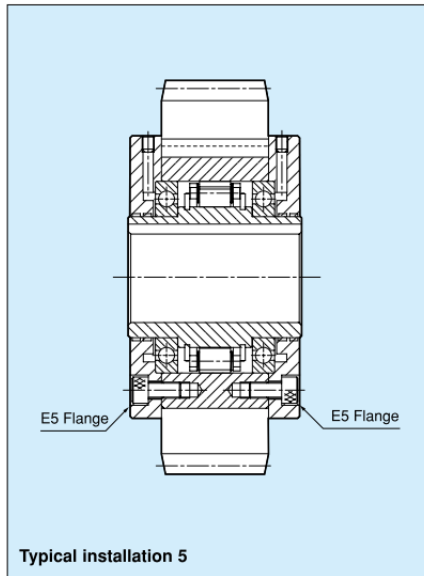
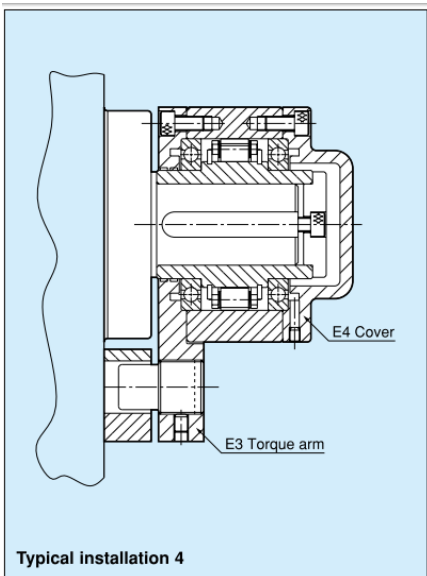
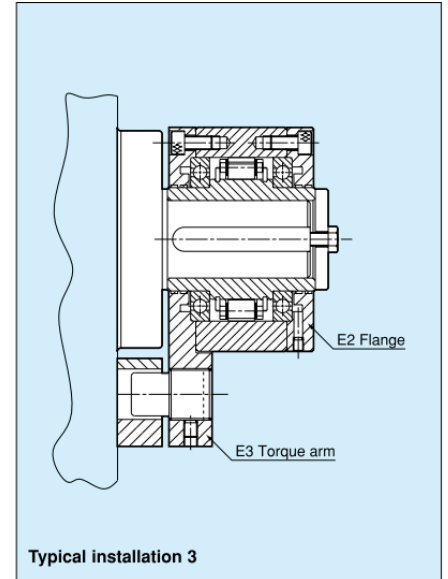
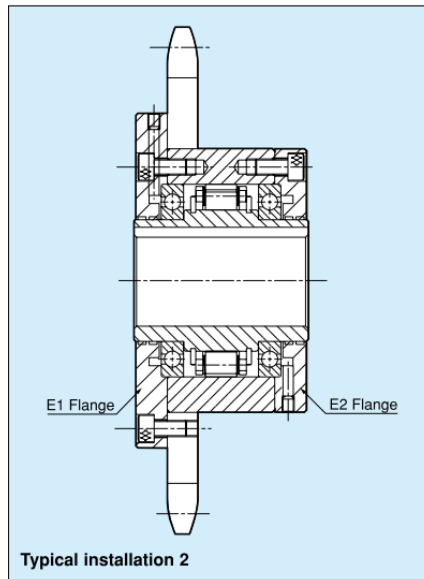
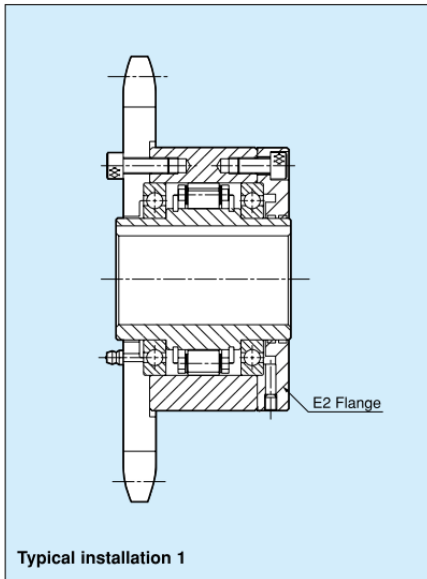
■ **Installation and usage**

1. BREU series is a modular type Cam Clutch which is delivered as a BREU series Basic type or BREU-K series with option parts (E1, E2, E5, E7 flanges, E3 Torque arm and E4 cover) which are required as separate parts.
2. All models are pre-greased. The operational temperature range is -40°C to $+40^{\circ}\text{C}$.
Too much additional grease to both bearing inhibits the basic Cam Clutch function. Refer to the maintenance.
3. Recommended tolerance of shaft and attaching parts pulley, gear or sprocket to the clutch is shown below.

Clutch Bore or OD of Outer race	Fit Guide
0 to 1.20 inches dia. 0 to 30mm dia.	Line fit to .0008 inches loose (0.020mm)
1.20 to 2.00 inches dia. 30mm to 50mm dia.	Line fit to .0010 inches loose (0.025mm)
2.00 to 3.15 inches dia. 50mm to 80mm dia.	Line fit to .0012 inches loose (0.030mm)
3.15 to 4.70 inches dia. 80mm to 120mm dia.	Line fit to .0014 inches loose (0.036mm)
4.70 to 7.10 inches dia. 120mm to 180mm dia.	Line fit to .0016 inches loose (0.041mm)
7.10 to 9.85 inches dia. 180mm to 250mm dia.	Line fit to .0018 inches loose (0.046mm)
9.85 to 12.40 inches dia. 250mm to 315mm dia.	Line fit to .0020 inches loose (0.051mm)
12.40 to 15.70 inches dia. 315mm to 400mm dia.	Line fit to .0023 inches loose (0.058mm)

4. The key should be in accordance with DIN6885.1.
5. Clean the surface of both end of the outer race and the contact surfaces of the flanges, torque arm and cover.
6. Verify the direction of rotation and attach the flanges, torque arm or cover.
7. When installing sprocket, gear, and other equipment to the clutch, fit them on the surface of the flange by using hexagon socket cap screws.
8. By installing each option part on the opposite side, the direction of rotation can be changed.
9. Fix the grease nipple and set screw to the option parts.
10. When mounting the clutch onto the shaft, apply pressure to the inner race but never to the outer race. Tap the inner race lightly with a soft hammer moving around the race circumference so the Cam Clutch moves slowly and uniformly onto the end of the shaft.

Typical Installations



Lubrication

BREU series Cam Clutches need periodic maintenance and lubrication to both bearing to provide maximum performance throughout their service life.

Lack of prescribed maintenance and lubrication will shorten the Service life of Cam Clutch and may cause unnecessary mechanical damage.

Brand	23℥ to 104℥ (-5℃ to 40℃)	-40℥ to 104℥ (-40℃ to 40℃)
Shell	Alvania Grease S1, Sunlight Grease 1, Aeroshell No.7, Aeroshell No.22	Alvania Grease RA
Fiske Bros.	Lubriplate Low-Temp, Aero Lubriplate	
Kyodo Yushi	Multemp PS N0.1	Multemp PS No.1
Petro-Canada	PRECISION Synthetic	
Exxon Mobil	—	Beacon 325

Note: Do not use grease that contains EP additives. E1 to E7 options are supplied with bolts for installation and the grease nipple.

■ Maintenance*

BREU series Cam Clutches are pre-greased at the factory and should be re-greased every three months for both bearings after installation. Follow the procedure below.

1. Remove the set screw at the flange, torque arm or cover.
2. Inject equal amounts of grease into the bearing from the grease nipple. Refer to the grease volume table for the correct amount.
3. Run the Cam Clutch disengaged for from 20 to 30 minutes with the set screw removed. Excess of grease in the clutch area will flow out of the tapped holes. Be careful to avoid over greasing. Too much grease in the clutch will cause it to run hot, interfere with the clutch action, and may lead to mechanical damage.

4. Wipe off excess of grease and re-install the set screw.

*Actual maintenance may vary depending on usage and operating conditions.

Grease volume table

Model	Each bearing lb(g)
BREU30	0.022 (10)
BREU35	0.022 (10)
BREU40	0.033 (15)
BREU45	0.044(20)
BREU50	0.066(30)
BREU55	0.066(30)

Model	Each bearing lb(g)
BREU60	0.088 (40)
BREU70	0.110 (50)
BREU80	0.176 (80)
BREU90	0.198(90)
BREU100	0.352(160)
BREU130	0.573(260)
BREU150	1.014(460)



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