

Cam Clutch Manual

PB series

PB3,PB5,PB6,PB8,PB10,PB12,PB14,

Thank you for buying Cam Clutch 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 as 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.

Safety precautions in this manual are classified into two categories: "WARNING" and "CAUTION". These are defined as follows:

 WARNING	Death or serious injury may result from misusing the product without following the instructions.
 CAUTION	Minor or moderate injury, as well as damage to the product may result from misusing the product without following the instructions.

Notice that although categorized under "CAUTION", subjects discussed may lead to serious results depending on the situation.

 WARNING
● Make sure turning forces are not applied to Cam Clutch or turning shaft of the equipment when conducting inspection or maintenance. Pay special attention to the back stopping application to prevent accidents. ● Frequent starting and stopping will apply excessive force on the mounting. Verify mounting strength. ● Inaccurate installation and mounting, various load conditions, wear and tear of parts, and life expectancy can all affect the performance of a Cam Clutch. Inspect and maintain periodically and install a safety device on your equipment. ● Comply with Ordinance on Labor Safety and Hygiene 2-1-1 general standards.
 CAUTION
● To ensure safety and optimal performance, carefully read this instruction manual in its entirety. ● Confirm rotational direction prior to installing. ● Use the bolts with the specified strength and size, and tighten with the specified tightening torque for mounting.

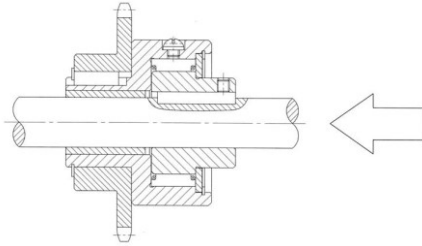
■ Installation

1. Concentricity of the inner and outer races is maintained by the plain bearing located between the outer race and the shaft. Radial loads which work on the outer race are also supported by this plain bearing. The shaft must therefore be extended through the clutch outer race end.
2. Recommended shaft tolerances are as follows.

Model	Shaft tolerance (mm)
PB3, PB5, PB6, PB8	+0 to -0.013
PB10, PB12, PB14	+0 to -0.016

3. The bore of the driven member, such as the sprocket on the clutch outer race, should meet H6 or H7 tolerance of the JIS standard

4. Specify right (RH) or left hand (LH) inner race drive viewed from the end marked by the arrow in the illustration below. Check if the rotation of clutch is correct before installation or run-in.



5. Use the key in accordance with the JIS B1301-1959 (old JIS) parallel key: second grade, and allow a clearance between the top of the key and keyway. Never use a tapered key. Align the key to slide through the keyway smoothly before installation.
6. Note that the keyway dimensions of the outer race does not correspond with the JIS standard.
7. When mounting the Cam Clutch to the shaft, apply force to the end face of the inner race or side face of the outer race keyway.
8. Do not use the PB series Cam Clutch as a coupling. Use with a flexible coupling when connecting two shafts.
9. Allowable ambient temperature is -5°C to 40°C .
10. If using the Cam Clutch middle to high speed operation range, be careful of heat generation caused by overrunning. If the temperature of the outer race portion becomes 70°C or higher, the Cam Clutch cannot be expected to have a long operating life. In this case, either select a different series or change the conditions of use.
11. Thrust load should be supported by other devices, not by the Cam Clutch.
12. If highly accurate indexing or high speed overrunning is necessary, consult with TSUBAKI for more information.

■ Lubrication

1. PB series Cam Clutches are pre-lubricated with grease. Use it as is.
2. Please contact us if you need to replace grease.

Warranty

TSUBAKIMOTO CHAIN CO.: hereinafter referred to as "Seller"
Customer: hereinafter referred to as "Buyer"
Goods sold or supplied by Seller to Buyer: hereinafter referred to as "Goods"

1. **Warranty period without charge**
18 months effective the date of shipment or 12 months effective the first use of Goods, including installation of Goods to Buyer's equipment or machines - whichever comes first.
2. **Warranty coverage**
Should any damage or problem with the Goods arise within the warranty period, given that the Goods were operated and maintained under instructions provided in the manual, Seller would repair and replace at no charge once the Goods are returned to Seller. The following are excluded from the warranty.
 - 1) Any costs related to removing Goods from the Buyer's equipment or machines to repair or replace parts.
 - 2) Costs to transport Buyer's equipment or machines to the Buyer's repair shop.
 - 3) Costs to reimburse any profit loss due to any repair or damage and consequential losses caused by the Buyer.
3. **Warranty with charge**
Seller will charge any investigation and repair of Goods caused by:
 - 1) Improper installation by failing to follow the instruction manual.
 - 2) Insufficient maintenance or improper operation by the Buyer.
 - 3) Incorrect installation of Goods to other equipment or machines.
 - 4) Any modifications or alterations of Goods by the Buyer.
 - 5) Any repair by engineers other than the Seller or those designated by the Seller.
 - 6) Operation in an inappropriate environment not specified in the manual.
 - 7) Force Majeure or forces beyond the Seller's control such as natural disasters and injustice done by a third party.
 - 8) Secondary damage or problem incurred by the Buyer's equipment or machines.
 - 9) Defected parts supplied, or specified by the Buyer.
 - 10) Incorrect wiring or parameter setting by the Buyer.
 - 11) The end of life cycle of the Goods under normal usage.
 - 12) Loss or damage not liable to the Seller.
4. **Dispatch Service**
Service to dispatch a Seller's engineer to investigate, adjust or trial test Seller's Goods is at the Buyer's expense.
5. **Disclaimer**
 - 1) In our constant efforts to improve, TSUBAKIMOTO CHAIN CO. may change the contents of this document without notice.
 - 2) Considerable effort has been made to ensure that the contents of this document are free from errors. However, TSUBAKIMOTO CHAIN CO. makes no warranties with respect to the accuracy of information described herein. In the meantime, we would appreciate comments or reports on any inaccuracies or omissions found in this document to help us make timely amendments as necessary. Your cooperation is greatly appreciated.



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