

Cam Clutch Manual

MZ15 MZ17 MZ20 MZ30 MZ35 MZ45 MZ60 MZ70
MZ15G MZ17G MZ20G MZ30G MZ35G MZ45G MZ60G MZ70G

- Thank you for buying Cam Clutch products.
- Be sure the product delivered matches your order. This will prevent you from accidents, injuries or equipment damage caused by installing the wrong unit. If any parts are missing, contact your distributor immediately.
- This manual should remain with the product at all times including when redistributed.
- To ensure safety, this manual should be available to every user.

Safety

 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.

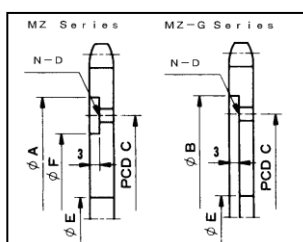
 WARNING
• Make sure turning forces are not applied to Cam Clutch or turning shaft of the equipment when conducting inspection or maintenance. Pay special attention to the back stopping application to prevent accidents. • Frequent starting and stopping will apply excessive force on the mounting. Verify 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.

1. Installation

- When mounting the Cam Clutch on to the shaft, apply pressure to the end face of the inner race. Never strike the outer race.
- Recommended shaft tolerance is h6 or h7. Never use a shrinkage fitting because the packed grease may leak due to the heat generated.
- Make sure the rotational direction of the Cam Clutch corresponds with that of the equipment before installation.
- Allow a clearance between the top of the key and keyway, and fix the Cam Clutch axially using an end-plate or snap ring. Never use a tapered key. Use the key in accordance with JIS B1301—1996(New JIS) Parallel key (Normal type) Align the key to slide through the keyway smoothly before installation.
- Attach the sprocket, pulley or gear to the MZ Series Cam Clutch by using the inner circumference of the outer race as a spigot facing, and fix to the tap holes at the end face of the outer race by the bolts which have a strength class of 10.9 and above. The recommended tolerance of the spigot facing is f7.
- Attach the sprocket, pulley or gear to the MZ-G Series Cam Clutch by using the outer circumference of the outer race as a spigot facing, and fix to the tap holes at the end face of the outer race by the bolts which have a strength class of 10.9 and above. Recommended tolerance of spigot facing is H6 or H7.
- In case the thrust load is applied to the Cam Clutch, set up the structure to receive the thrust load separately.
- Ambient temperature range is $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$. In the case that the temperature will be outside of this range, consult Tsubakimoto Chain.
- If the Cam Clutch is to be used vertically, the upper bearing may not get enough grease depending on the rotational speed. Consult Tsubakimoto Chain about vertical applications.
- Do not install the Cam clutch so that the parallelism and concentricity of the inner/ outer race are inhibited, or extreme overhang load acts to the outer race. This can cause an operational malfunction to the Cam Clutch or shorten its life.
- Refer to the dimension table on the next page if the off-the-shelf A style sprocket is used.

2. Lubrication

- Grease is already packed before shipment. Use the Cam Clutch as is. Consult our distributor or Tsubakimoto Chain when changing the grease.



Model No.	Shaft hole ϕ	Installation bolt Pcs. dia pitch	A +0.1 0	B H7	C PCD	D Drill	E	F F7
MZ15, MZ15G	15	6×M5×0.8	70	68	58	6	29	47
MZ17, MZ17G	17	6×M5×0.8	77	75	64	6	32	52
MZ20, MZ20G	20	6×M5×1.0	82	80	68	7	34	55
MZ30, MZ30G	22, 25, 30	6×M8×1.25	102	100	88	9	49	75
MZ35, MZ35G	35	6×M8×1.25	112	110	95	9	54	80
MZ45, MZ45G	40, 45	8×M8×1.25	127	125	110	9	64	95
MZ60, MZ60G	50, 55, 60	8×M8×1.25	157	155	140	9	84	125
MZ70, MZ70G	65, 70	8×M8×1.25	177	175	162	9	99	145

Cam Clutch Manual MZ-C SERIES

MZ20C, MZ30C, MZ45C, MZ60C, MZ70C

1. Installation

1. Handling of the Cam Clutch portion

Refer to the previous page. Disassemble the casing, adapter and sprocket B, and then install the Cam Clutch to the high speed shaft.

2. Handling of the coupling

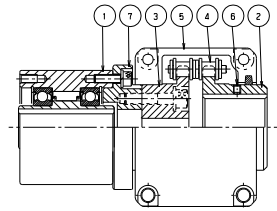
(1) Align accurately when installing both sprockets. Install the adapter to the outer race of the Cam Clutch, secure the distance between both sprockets (s dimension), follow the angular and parallel misalignments shown in the following table, then fix the sprockets. Never forget to install the attached oil-seal to the hub.

(2) After the sprockets have been aligned and installation has been completed, wrap the chain, insert the connecting pin, and fix it.

(3) Fill the prescribed amount of grease into the casing (refer to the following table), then tighten the bolts with an oil seal and packing.

Cam Clutch Coupling Size	MZ20C MZ30C	MZ45C MZ60C	MZ70C
MAX. Allowable Angular Misalignment (°)	1°	1°	1°
MAX. Allowable Parallel Misalignment (mm)	0.32	0.38	0.50
Clearance S (mm)	9.7	11.5	15.2

Cam Clutch Coupling Size	Approx Amount of grease (g)
MZ20C	180
MZ30C	250
MZ45C	400
MZ60C	500
MZ70C	800



① Cam clutch ② Sprocket A ③ Sprocket B ④ Roller chain
⑤ Coupling Case ⑥ Set Screw ⑦ Adapter

2. Lubricant

1. Lubrication of the Cam Clutch: Refer to the previous page.

2. Lubrication of the coupling

(1) Use the following grease or its equivalent

GREASE	SHELL OIL	Exxon Mobil	JXTG Energy	IDEMITSU KOSAN	COSMO	NIHON GREASE
EXTREME-PRESSURE Li SYSTEM	ALVANIA GREASE EP No. 1•No. 2	MOBILUX GREASE EP No. 1•No. 2	EPINOC GREASE AP No. 1•No. 2	DAPHNE CORONEX EP No. 1•No. 2	Dynamax EP No. 1•No. 2	Nigutaito LY No. 1•No. 2

(2) Change the grease after 2000 hours, then every 4000 hours thereafter.

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**
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 - 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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