

TSUBAKIMOTO CHAIN

SHOCK GUARD & SHOCK GUARD COUPLING

TGB Series

Sizes: TGB08(C) --- TGB16(C)

Instruction Manual

- Thank you for choosing Tsubakimoto chain SHOCK GUARD TGB Series.
- Be sure the unit delivered matches your order and no shortages exist in the parts provided. Any such shortages or other delivery errors must immediately be reported to your distributor.
- This manual is an essential part of the Shock Guard/Coupling and should remain with the units including when re-distributed.
- To ensure safety, read the instructions thoroughly before installing or working on the products.

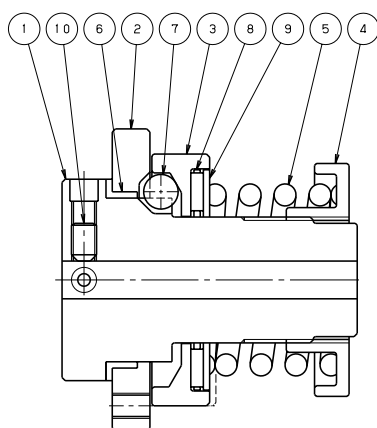
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1. Structure and Parts

Fig. 1

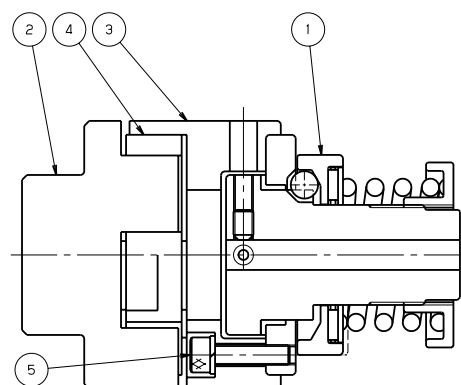
SHOCK GUARD
TGB08 --- 16



- | | | |
|------------------|-----------------|------------------|
| ① Hub | ② Center Flange | ③ Pressure Plate |
| ④ Adjustment Nut | ⑤ Coil Spring | |
| ⑥ Plain Bearing | ⑦ Steel Ball | ⑧ Bearing |
| ⑨ Plate | ⑩ Set Screw | |

Fig. 2

SHOCK GUARD COUPLING
TGB08-C --- 16-C



- | | |
|------------------|------------------|
| ① SHOCK GUARD | ② Coupling Hub-A |
| ③ Coupling Hub-B | ④ Insert |
| ⑤ Socket Bolt | |

2. Boring

1) SHOCK GUARD

Do not mix the parts when disassembling 2 or more SHOCK GUARDS. Otherwise the indicator and “zero” position may shift.

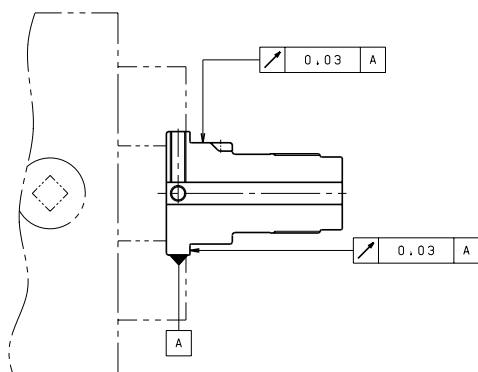
(Disassembly procedure)

- Remove the Adjustment Nut
- Remove the following from Hub in the order given: Coil Spring, Pressure Plate, Bearing, Plate, Steel Ball, Center Flange and Plain Bearing.

All parts should be free of dust. Do not lose the 5 balls.

(Boring)

- ① Chuck the OD of Hub Flange, and align at the Hub portion. Hub is made by iron - sintered alloy, and treated by **surface hardening**. Cemented carbide tool JIS 9-20, K-01 are recommended for machining.
- ② Use as is because tap holes for the hub set screw have already been machined.



2) Coupling

Chuck the Hub and align, then bore.

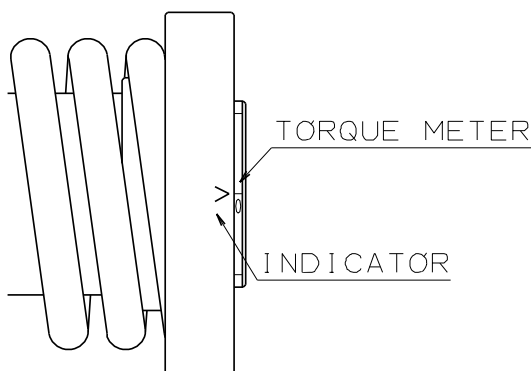
Model No.	SHOCK GUARD		Coupling	
	Rough bore	Max. bore	Rough bore	Max. bore
TGB08	5	8	-	15
TGB12	6	12	-	20
TGB16	7	16	-	25

- There is no prepared hole at coupling side.

3. Re-assembly and reset of min. torque

- Re-assembly

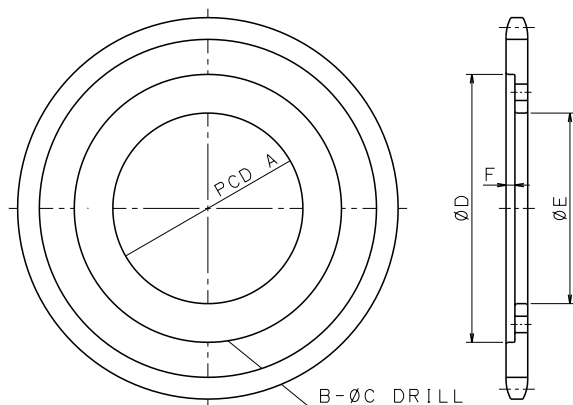
- ① Re-assemble SHOCK GUARD by following the reverse procedure of assembly.
- ② Grease Ball and Bearing.



4. Installing the Drive Member

- Install a sprocket, pulley or gear to Center Flange by guiding the OD of Center Flange.
- Fix with bolts firmly, and put anti-loosening agent to the bolts.

Recommended dimensions for Drive Member



Series	Recommended dimension for Drive Member					
	A	B	C	D	E	F
TGB08-L,M,H	34	3	3.4	40H7	28	3
TGB12-L,M,H	40	3	4.5	48H7	33	3
TGB16-L,M,H	50	3	4.5	58H7	41	3

5. Installing to the shaft

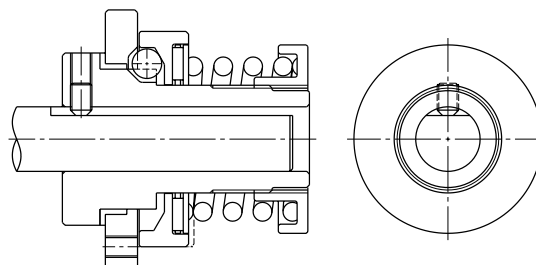
- Without key:

Control the tightening torque of Set Screw if there is no Keyway and if the torque is only transmitted by the friction of Set Screw.

Machine D-cut for the shaft.

Use Loctite 242 or equivalent for anti-loosening agent.

Set Screw	Tightening torque N·m {kgf·m}
M3	0.784 {0.08}
M4	1.86 {0.19}
M5	3.63 {0.37}
M6	6.67 {0.68}
M8	16.2 {1.65}



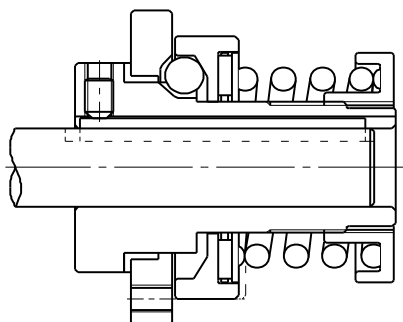
- With Key

Machine the Keyway at the position of set screw.

Use parallel key and maintain clearance at the ceiling of Keyway and Key.

Use Loctite 242 or equivalent for anti-loosening agent.

Clearance fitting is recommended between the shaft and Inner Dia. of the hub.



6. Installing the coupling

Align the center of Hub A & B within the tolerance given in Table.

① Angular misalignment

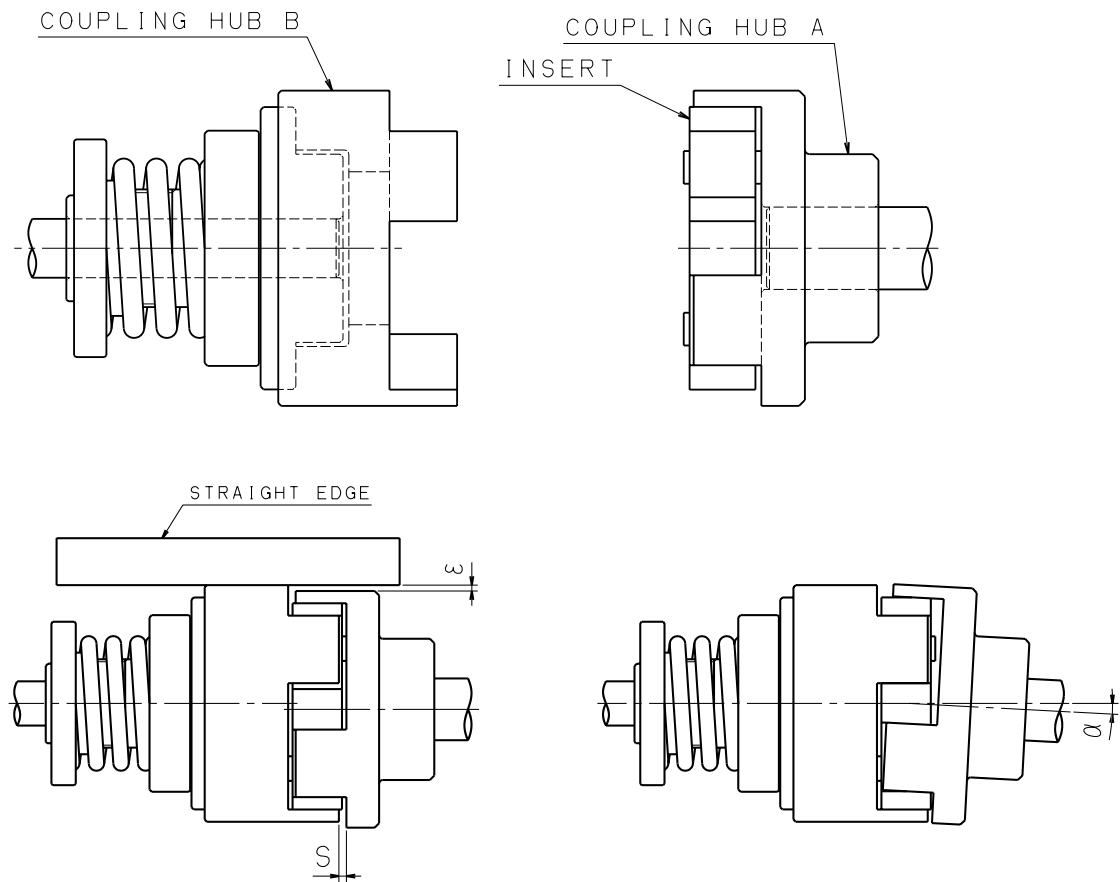
Keep the same S dimension for the circumference, and install it within the allowable angular misalignment α .

② Parallel misalignment

Align with the straight edge at OD of coupling Hub, and turn 90 degrees then align again.

Allowable parallel misalignment is within ϵ .

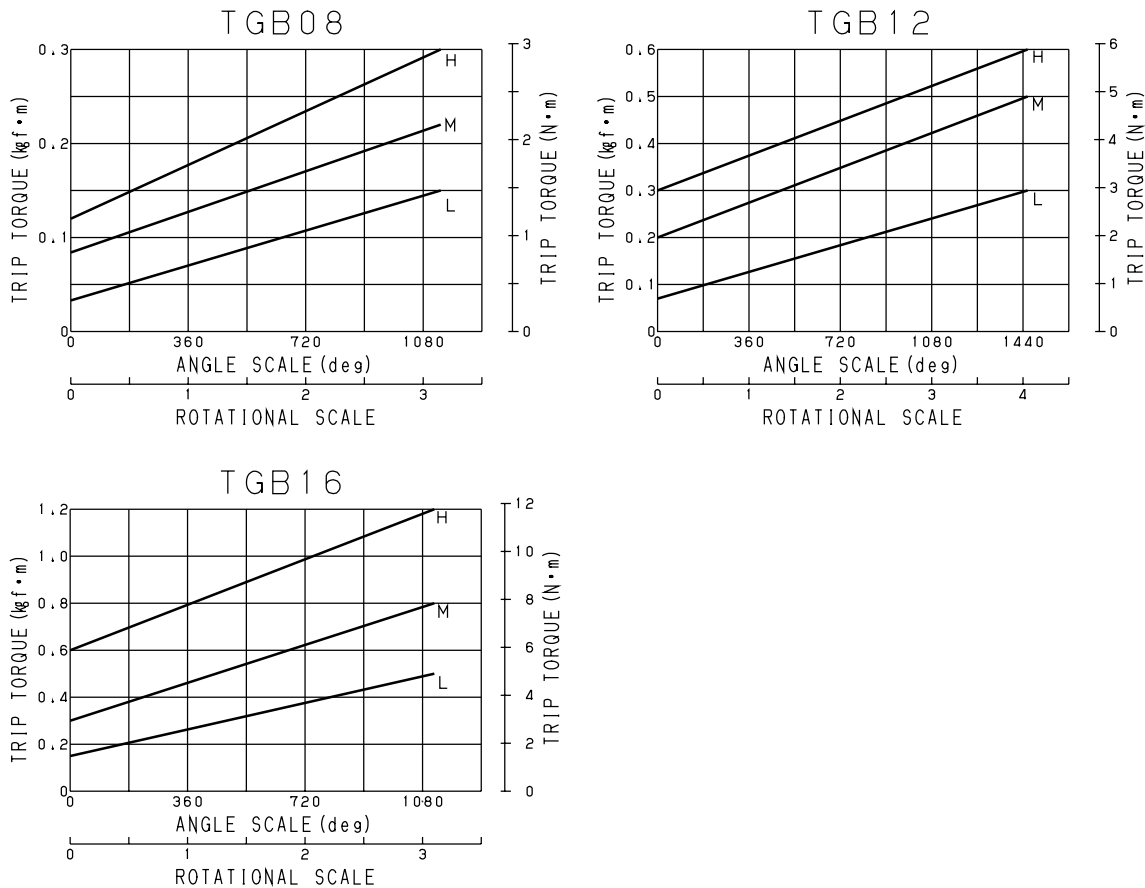
Model No.	Allowable angular misalignment (α°)	(S)mm		Allowable parallel misalignment (ϵ)mm
		Basic dimension	Axial misalignment	
TGB08-C	1	1.7	± 0.5	0.38
TGB12-C	1	1.7	± 0.5	0.38
TGB16-C	1	1.9	± 0.7	0.38



7. Torque setting

- ① Torque is set with Adjustment Nut.
- ② Tighten the Adjustment Nut at the tightening angle which is equivalent to the trip torque per Tightening Angle – Trip Torque diagram. At first, tighten the Adjustment Nut at 60 degrees smaller than the required value, and test. Then gradually increase the tripping torque to the best value.
- ③ Do not turn the Adjustment Nut over the maximum value of the torque indicator. Otherwise there is no margin of coil spring when tripping.

* Nylon coating, anti-loosening is set for Adjustment Nut.



8. Overload detection

- Overload is detected with the movement of the Plate.
- Plate moves axially when overloaded. Plate moves every 1 revolution of trip. Use proximity switch, which can detect the movement of the Pressure Plate shown in the Table.
- Read the manual for TG sensor when using the TG sensor.

Installation drawing

Unit : mm

	S	T	Displacement of Pressure Plate
TGB08-L,M,H	19.2	1.2	0.9
TGB12-L,L,H	22.7	1.2	1.0
TGB16-L,M,H	27.5	1.2	1.2

9. Resetting

This Auto-resetting type only requires re-starting of the motor, etc. at the drive side for re-engagement.

- ① Remove the cause of overload after stopping the equipment when the SHOCK GUARD trips.
- ② Reset TGB with input rotation of 50 rpm or slower or by inching of motor. Never reset manually.
- ③ If you hear the “Clicks”, the Balls are back in the pocket holes.

10. Maintenance

① SHOCK GUARD

Grease the Balls and Bearings thinly once a year or every 1000 trips.

Grease

Mobil	Showa Shell	Eneos	Idemitsu	Cosmo
Mobilux EP2	Alvania EP Grease 2	Epnoc Grease AP(N)2	Daphny Eponex Grease EP No.2	Cosmo Dynamax EP Grease 2

② Coupling

No need to grease the coupling because it is connected with the jaw of coupling hub and insert.
(NBR : nitril rubber).

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 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 makes no warranties with respect to the accuracy of information described herein. In the mean time, 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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1-1, Kohtari-Kuresumi, Nagaokakyo
【1】 Kyoto 617- 0833, Japan

Website: <http://tsubakimoto.com/>