

Instruction Manual for Jaw-flex coupling L Series

Sintered Hub type/ Aluminum Hub type

Thank you for purchasing a Jaw-flex Coupling. At first, make sure the unit delivered matches your order and no shortages exist in the parts provided. Any such shortages or other delivery errors must be reported immediately to your distributor.

This manual should be considered an essential part of the Jaw-flex Coupling and remain with the coupling when redistributed. To ensure safety, read all instructions thoroughly before installing or working on the equipment.

Cautions for safety

When using the product, read thoroughly the Instruction Manual and handle it correctly paying a sufficient attention to the safety. Safety precautions in this manual are classified into two categories: "Warning" and "Caution".

⚠ Warning	Death or serious injury may result from misusing the product.
⚠ Caution	Minor or moderate injury, as well as damage to the product may result from misusing the product.

Notice that although categories under "Caution", subjects discussed may lead to serious results depending on the situation. Make sure to follow the important contents written in "Warning" and "Caution".

And also the quality control is paid attention sufficiently. Preparing the unexpected accidents, enough consider the safety action.

This manual should remain with the Jaw-flex Coupling at all time. To ensure safety, this manual should be kept as an easy reference to anyone using the units at all time.

⚠ Warning

[General]

- Make sure to install a safety cover.
Injury may occur, when a hand or finger touch the product due to the rotating parts. Make sure to put the safety cover to prevent the body from the rotating parts for preventing the danger.
Set a safety mechanism to stop the rotating parts immediately when the cover is lifted.
- Transporting, installing, operating, maintaining or inspecting must be carried out by skilled and professional engineers.
Injury or machine breakage may occur.
- When the coupling is used with vehicles that carry human, set a safety device at the device side for the safety purpose.
Bodily injury or machine breakage due to the runaway/falling may occur.
- When the coupling is used for the lifting/lowering device, set a safety device at the device side in order to prevent from falling. Bodily injury or machine breakage due to falling may occur.

[Transportation]

- Never step under the product when it is elevated for transportation. Bodily injury due to the falling may occur.

[Installation]

- Wear the proper clothing and safety gear (safety glasses, gloves, safety shoes, etc.) when mounting or dismounting the coupling.
- Make sure to turn off the power in advance, and prevent from the switch turning on suddenly.
- Make sure to tighten the bolts securely and prevent the bolts from loosening completely.
- Critical condition such as the breakage of the bolts may occur depending on the state of tightening of the bolts. Make sure to tighten the bolts certainly.

[Operation]

- Never approach or contact to the rotating parts (coupling, shaft, etc.) during operation. Getting into the machine or bodily injury may occur.

[Maintenance and inspection]

- Never approach or contact to the rotating parts (coupling, shaft etc.) when maintaining or inspecting during operation.
Getting into the machine or bodily injury may occur.
- Make sure to turn off the power in advance, and prevent from the switch turning on suddenly. In addition, make sure to stop the rotation of the drive or driven machine certainly.

⚠ Caution

[General]

- Never use the coupling at the condition except for the product specification. Injury or machine breakage may occur.
- Never use the broken coupling. Injury or machine breakage may occur.
- Never remove the name plate attached to the product.

[Upon delivery on the coupling]

- In case the wooden crate, pay attention to the box nail when unpacking. Injury may occur.

[Alteration]

- Never do the alteration or remodeling except for the machining for boring, keyway and tap hole for set screw. It declines the quality and function of the coupling, and becomes the cause of breakage, eventually it may damage the machine and injure the operator.
- Alteration should be handled by expert and be followed with the operational process and caution.

[Transportation]

- Pay extra attention so that the equipment will not fall or rollover during the transportation.
- In case the product is heavy, injury or throwing out the back may happen when handling by hands. Use the hoist with I-bolt. Remove the I-bolt after installation.
- When hoisting the product to transport, confirm the mass of product and use the hoisting attachment with load less than the rated load of the hoisting attachment. Breakage, falling, injury and breakage of the equipment may occur.

[Installation]

- Never touch the inner diameter portion and the edge portion of any parts with bare hands. Injury may occur.
- Regarding the alignment of the drive and driven shaft to which coupling are mounted, make sure to adjust within the recommended value on alignment in the instruction manual.

[Operation]

- Pay attention to keep hands and body away from the coupling and machine during operation. Injury may occur.
- Stop the operation immediately when the abnormality happens. Breakage of equipment may occur.

[Maintenance and inspection]

- Wear an appropriate clothes and protective equipment (safety glass, gloves, safety shoes etc.)
- Organize the surroundings, maintain and inspect under the safety condition to prevent the secondary accident.
- Observe the Ordinance on Labor Safety and Hygiene 2-1-1 general standards.
- Confirm periodically whether the mounting condition of the product (alignment etc.) is maintained as the recommended condition in the instruction manual.

[Environment]

- When scrapping the product, ask the professional to dispose it considering the load to the environment.

I. With rough bore hub

1. Shaft bore/keyway machining

Follow the procedure below when machining the shaft bore and keyway from the product with rough bore.

(1) Hold the outer diameter of hub, align as shown in figure 1, then machine it. It is recommended to use the carbide material (JIS symbol 9-20, K-01) for cutting tool because sintered hub type and plating specification hub are iron sintered alloy, and are treated with steam.

(L190 and L225 is cast iron.)

(2) Machine the keyway different from the jaw portion. Recommended tap size and position are shown in the table 1.

(3) Regarding the tolerance for shaft bore machining, Lose fit is recommended as shown in the table 2. Never use Tight fit or Power-Lock installation in which the tensile stress is generated.

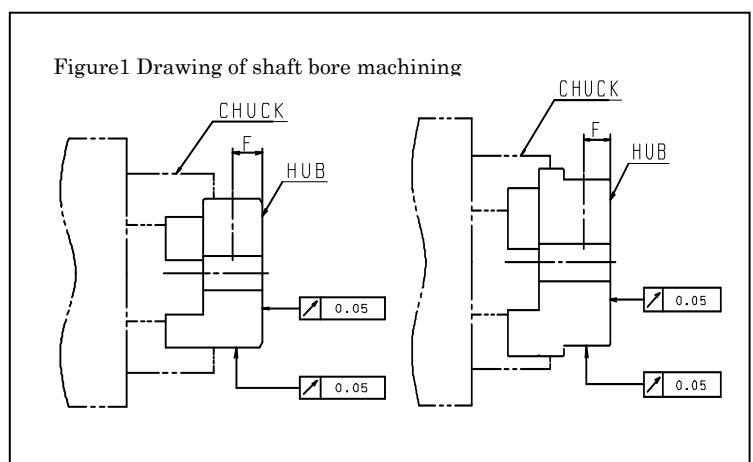


Table1 Recommended position for set screw (F dimension)

Sintered hub type/Plating specification

Size	L035	L050	L070	L075	L090	L095
	L035F	L050F	L070F	L075F	L090F	L095F
Tap size	M3	M4	M5	M5	M6	M6
F (mm)	3.0	8.0	9.5	10.5	10.5	12.5

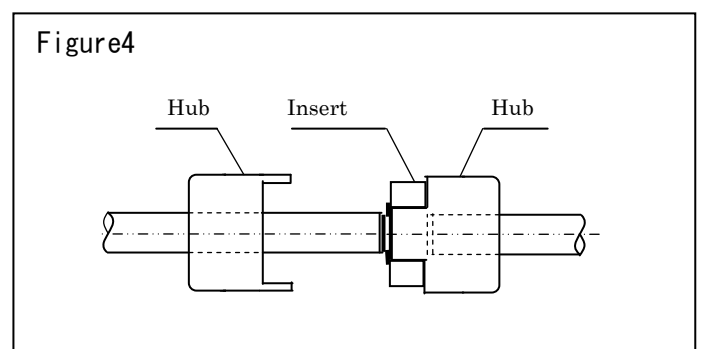
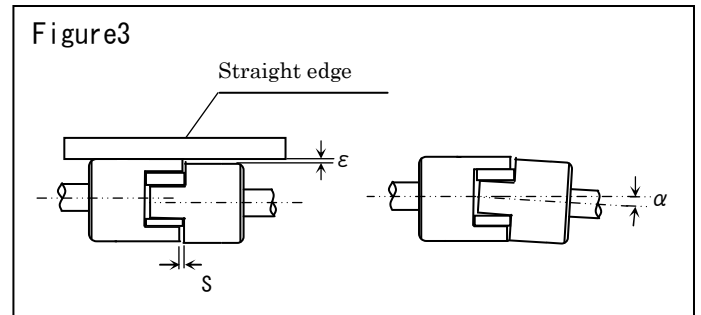
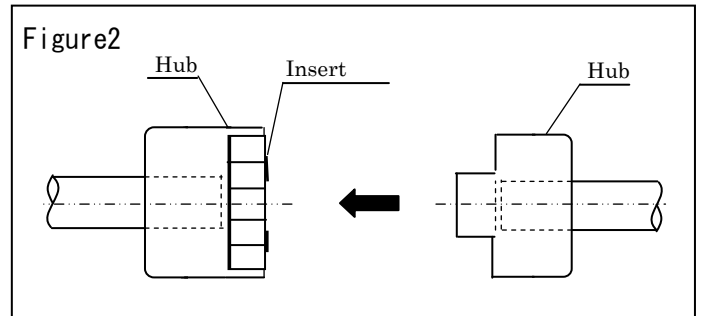
Size	L099	L100	L110	L150	L190	L225
	L099F	L100F	L110F	L150F	L190F	L225F
Tap size	M6	M6	M8	M8	M8	M10
F (mm)	13.5	12.5	20.5	17.5	25.5	25.5

Aluminum hub type

Size	L050A	L070A	L075A	L090A	L095A	L100A	L110A
Tap size	M4	M5	M5	M6	M6	M6	M8
F (mm)	8.0	9.5	10.5	10.5	10.5	17.0	20.5

Table2. Recommended fit tolerance

Loose fit		Intermediate fit		Intermediate fit	
Shaft tolerance	Bore tolerance	Shaft tolerance	Bore tolerance	Shaft tolerance	Bore tolerance
h6	H7	j6	G7	k6	F7
h7		j7		k7	



2. Installation

- (1) Install the hub and key to both shafts. Do not hammer the hub and key. File the key sufficiently so that the key match the keyway.
- (2) Fix the set screw at the two points.
- (3) Set the insert to one of the hubs.
- (4) Install both hubs so that the end face of the jaw and that of the insert become to the same plane. (Figure2)
- (5) Adjust the angular misalignment by setting the S dimension (Table 3) to be equal on the circumference as Figure3. Refer to Table 3 for allowable angular misalignment α .
- (6) Put the straight edge on the circumference of hug, and adjust the ϵ value equal or smaller than that in Table 3 at 2 points 90° separated.
Life of insert is much influenced depending on the accuracy of alignment.
- (7) In case the rotational speed exceeds 2000r/min, it is recommended value of ϵ and α are less than half of that in Table 3.
- (8) As an another mounting procedure, there is the method to move both hubs so as the end faces of jaw and insert become same plane. Alignment method is the same as (5) and (6). After alignment, make sure to tighten the two set screws by tightening torque shown in Table 4.
- (9) Use the adhesive for metal to prevent set screw from coming loose. (Recommended adhesive: Loctite 262)

Table4 . Tightening torque for set screw

Set screw size	Tightening torque N·m{kg·m}
M 3	0.78 {0.08}
M 4	1.86 {0.19}
M 5	3.63 {0.37}
M 6	6.66 {0.68}
M 8	16.2 {1.65}
M 10	29.4 {3.0}

Size	Sintered hub	L035	L050	L070	L075	L090	L095	L099	L100	L110	L150	L190	L225
	Plating specification	L035F	L050F	L070F	L075F	L090F	L095F	L099F	L100F	L110F	L150F	L190F	L225F
	Aluminum hub		L050A	L070A	L075A	L090A	L095A		L100A	L110A			
Allowable parallel misalignment ϵ (mm)		0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Allowable angular misalignment α (°)	S/M type	1	1	1	1	1	1	1	1	1	1	1	1
	H type	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
S(mm)	Standard dimension	0.6	1.9	1.7	1.7	1.7	1.7	1.7	1.9	2.3	2	2.3	2.3
	Axial displacement	± 0.3	± 0.5	± 0.5	± 0.5	± 0.5	± 0.5	± 0.5	± 0.7	± 0.7	± 0.7	± 1.0	± 1.0

※Aluminum hub can be used as M type and H type. However, transmissible torque is the same as that of S type.

II. Machined bore hub

1. Verification before installation

- (1) Shaft bore diameter and keyway type (J: New JIS key standard, E: Old JIS key second grade) are displayed on the hub. Verify that they are exactly same as you ordered.
- (2) Two set screws are attached.
- (3) There is no keyway on the shaft bore diameter 11 mm and below. Install it with two set screws.
- (4) Verify that the shaft diameter tolerance to mount the hub is same as the recommended tolerance shown in Table 4.

Table4. Recommended fit tolerance

Lose fit		Intermediate fit		Intermediate fit	
Shaft tolerance	Bore tolerance	Shaft tolerance	Bore tolerance	Shaft tolerance	Bore tolerance
h6	H7	j6	G7	k6	+0.040
h7		j7		k7	+0.015

2. Installation

Refer to the paragraph for installation of the product with rough bore.

Warranty

1. Warranty period without charge

18 month 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 test Seller's Goods is at the Buyer's expense.



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