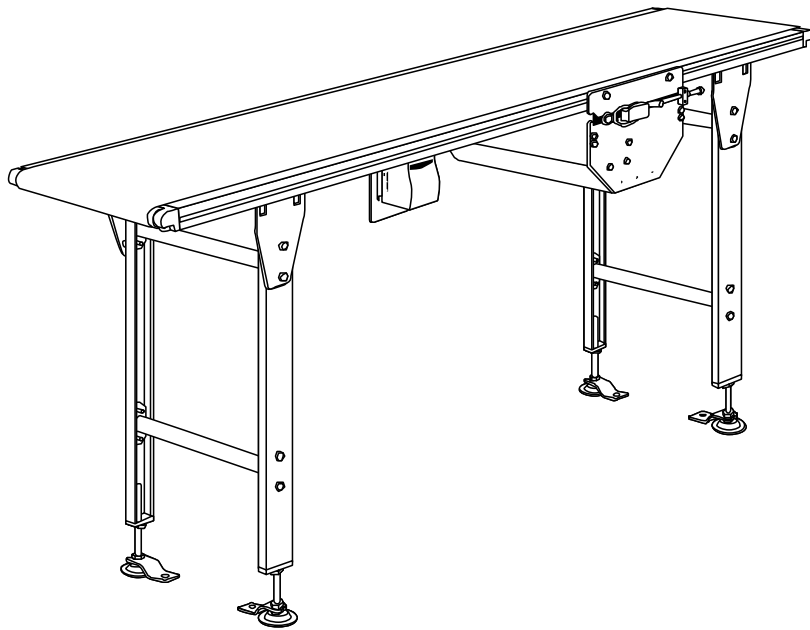


S-CON[®] MINI GOOD LUCK

OPERATING AND SERVICE MANUAL



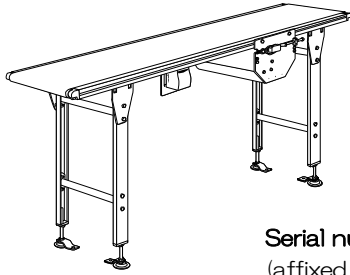
Thank you very much for purchasing our **S-CON®MINI GOOD LUCK** Series. To use the machine properly, please read this operating and service manual carefully before use. Keep the manual where the machine is installed, so that it may be referred to when needed.



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Upon delivery of this product, please check the package contents to ensure the product matches your order. If the delivered items do not match your order, please contact our local agent directly before use.



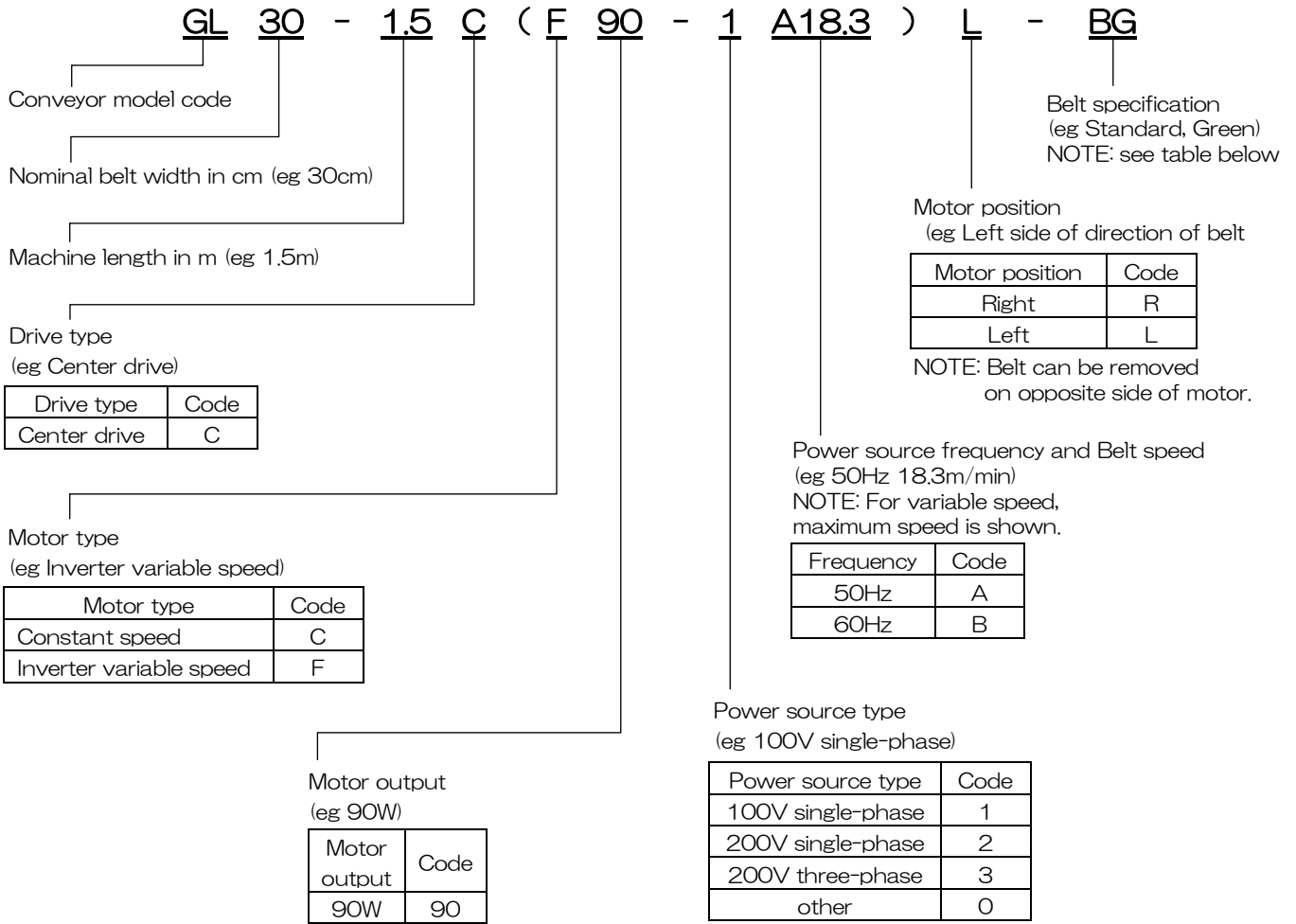
Serial number and model label
(affixed to side of drive unit)

Manufacturer's serial number

(refer to this number when contacting us)

[Example]

Date of production	20□□.□□
JOB No.	□□-□□□□□-□□□-□□
GL30-1.5C (F90-1A18.3) L-BG	



Belt specification

Code	BG	BW	IG	IW	RG	EK	SG	SW	HW
Specification	Standard		Incline		Special rubber for inclines	Ultra anti-static	Sliding		Heat-resistant
Color	Green	White	Green	White	Green	Black	Green	White	White
Code	OG	OW	KW	KB	XG	XW	XB	XX	NO
Specification	Oil resistant		Antibacterial		Other				None
Color	Green	White	White	Blue	Green	White	Blue	Other	—

A. Prior To Use

**CAUTION** : Improper handling of the conveyor may result in physical injury or damage!**■Transport and assembly**

When transporting and assembling the conveyor, pay special attention not to drop it in order to avoid physical injury or damage. When lifting by crane, pay attention to the balance of the conveyor.

**■Earth and leakage breaker**

Ensure the conveyor is connected to earth at all times to prevent electric shock. Also ensure that an earth leakage breaker is connected to the power supply.

**■Emergency stop**

Install an emergency stop device to immediately stop the conveyor in emergency.

**■Start alarm**

If it is not possible to supervise the operation of the full length of the conveyor from the operating position, install a start alarm for increased safety.

**■Keep the conveyor dry at all times**

Do NOT use the conveyor in wet or humid areas. Do NOT splash liquids onto the conveyor. Do NOT use or leave the conveyor outdoors. The machine is not waterproof. Do NOT touch electrical parts with wet hands.

**■Do NOT use in an explosive atmosphere**

(Avoid explosive gas, explosive dust, etc.)

 When using in a high or inclined position:**■Lower cover and guard**

Install the optional lower cover or guard in order to prevent entry under the conveyor.

■Guide rail, top and side covers

To prevent objects from falling off the conveyor, install the optional guide rail, top and/or side covers.

**■Braking system**

When using the conveyor on an incline, it is recommended that an optional braking system be installed, in order to prevent reverse or other incorrect running of the conveyor.










■Environmental conditions

Ambient temperature	: 0°C to +40°C
Ambient humidity	: RH 90% max(Avoid condensation)
Atmosphere	: Indoor(Avoid corrosive gases, dust, etc.)
Elevation	: 1,000m or less



NOTE :

- Using the conveyor in a strong electric field (eg near broadcasting devices or high- frequency welding machinery/equipment) could cause the conveyor to malfunction. In this case, install the conveyor at a sufficient distance. Alternatively shield completely to avoid any interference with the conveyor.
- Using an inverter to this machine could cause other machines to get effects of high-frequency. In this case, install the conveyor at a sufficient distance or shield completely.

B. During Operation

	WARNING : Improper handling of the conveyor could result in serious physical injury or damage!
	■ Do NOT touch the conveyor when it is running There is considerable risk of being caught and injured by the conveyor.
 	■ Do NOT ride on or climb on the conveyor / Do NOT go under the conveyor There is considerable risk of falling or being caught and injured by the conveyor.
	CAUTION : Improper handling of the conveyor may result in physical injury or damage!
	■ Beware of entanglement When working close to the conveyor, take care not to get caught in the conveyor. There is considerable risk of being injured by the conveyor.
	■ Do NOT remove safety covers There is a risk of getting caught in the rotating parts such as pulleys. Only remove in case of maintenance or inspection.
	■ Do NOT start the conveyor while it is loaded The motor may become damaged due to overload. Additionally, the motors of variable-speed type machines may burn out as a result of running at excessively low speeds for long periods. Use the conveyor within the specifications, indicated in the instructions for use, and in the catalogue.
	■ Do NOT apply force to ends of conveyor Do NOT press down on, or hang off the sides of the conveyor. Injury may result from a toppling conveyor.
	■ Secure the conveyor to the floor/ground When using the conveyor, be sure to secure it to the floor/ground with anchor bolts etc. to prevent it from toppling irrespective of indoor use or outdoor use.

C. After Use





	CAUTION : Improper handling of the conveyor may result in physical injury or damage!
	■ Switch off the power after use Ensure that the power is switched off when carrying out relocation, inspection, cleaning, etc. of the conveyor, otherwise there is a risk that the conveyor could start unexpectedly. When leaving the conveyor unused for a long period, take plug out of the outlet /connector to prevent electric shock or leakage.

- NOTE : 1. Always use in accordance with the Occupational Safety and Health Act.
2. If the owner modifies the conveyor, any ill effects will fall outside the conditions of the guarantee.

■WARNING LABELS etc. AND ATTACHMENT POSITIONS

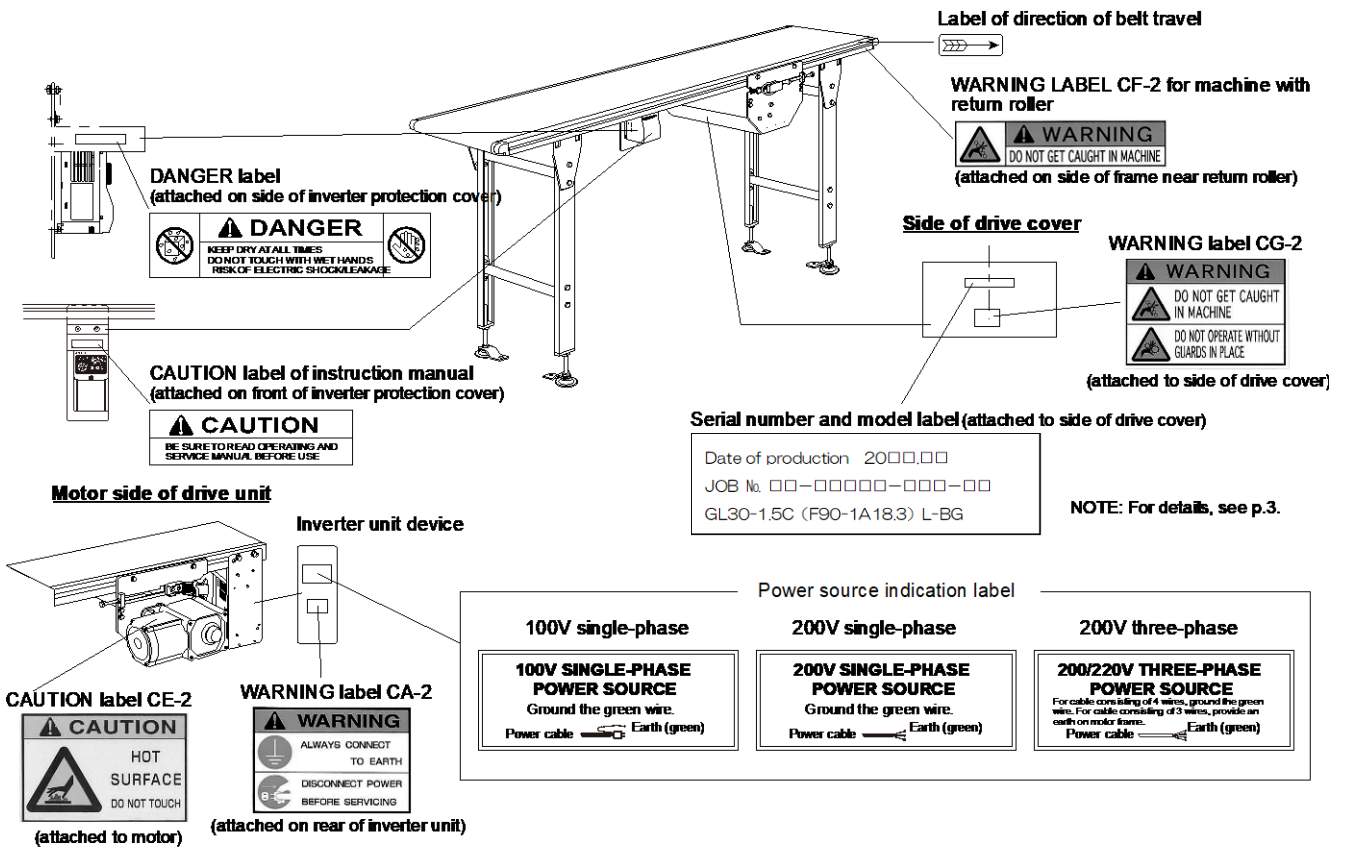
For standard machines, warning labels etc. and their attachment positions are as follows:

1. WARNING LABELS

Label classification	Label	Instruction
CAUTION or WARNING	CA-2 	<p>■ ALWAYS CONNECT TO EARTH Ensure the conveyor is connected to earth at all times to prevent electric shock.</p> <p>■ DISCONNECT POWER BEFORE SERVICING Ensure that the power is switched off when carrying out relocation, inspection, cleaning, etc. of the conveyor, otherwise there is a risk that conveyor may start unexpectedly.</p>
	CE-2 	<p>■ HOT SURFACE, DO NOT TOUCH When the conveyor is running or immediately after it stops, do NOT touch the motor, control unit, etc. There is a risk of getting burned or injured by the heat.</p>
	CF-2 	<p>■ DO NOT GET CAUGHT IN MACHINE When working close to the conveyor, take care not to get caught in it. There is a risk of being injured by the conveyor.</p>
	CG-2 	<p>■ DO NOT GET CAUGHT IN MACHINE When working close to the conveyor, take care not to get caught in it. There is a risk of being injured by the conveyor.</p> <p>■ DO NOT OPERATE WITHOUT GUARDS IN PLACE Do NOT remove safety covers etc. There is a risk of getting caught in the rotating parts such as pulleys. Only remove in case of maintenance, inspection, etc. unexpectedly.</p>

2. ATTACHMENT POSITIONS OF WARNING LABELS etc.

(eg eg S-CON®MINI GOOD LUCK GL model of variable

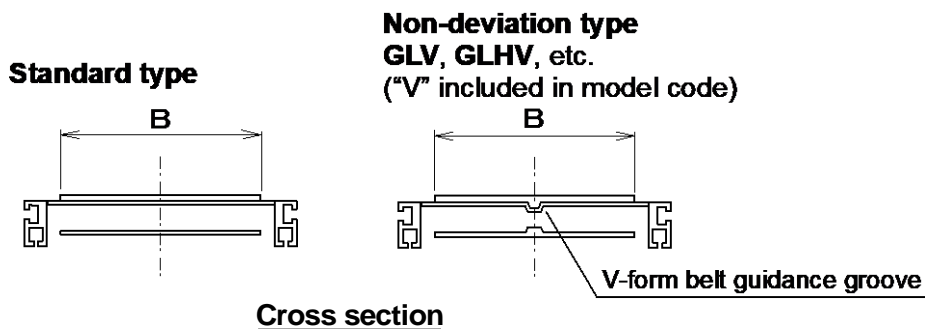
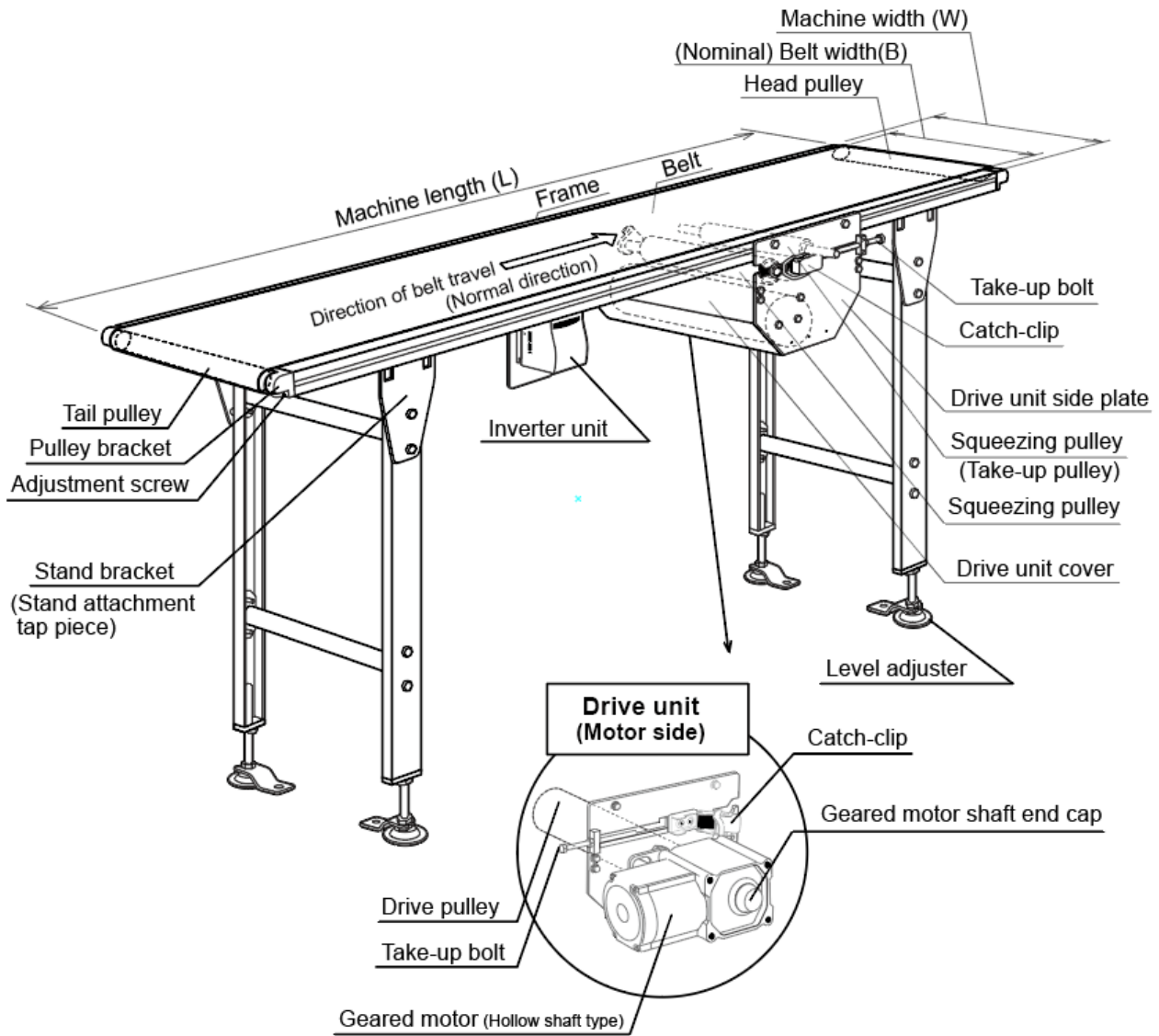


2

COMPONENT NAMES

Applied models:

Frame depth	Model code
30	GL, GLV
60	GLH, GLHV



3

ASSEMBLY

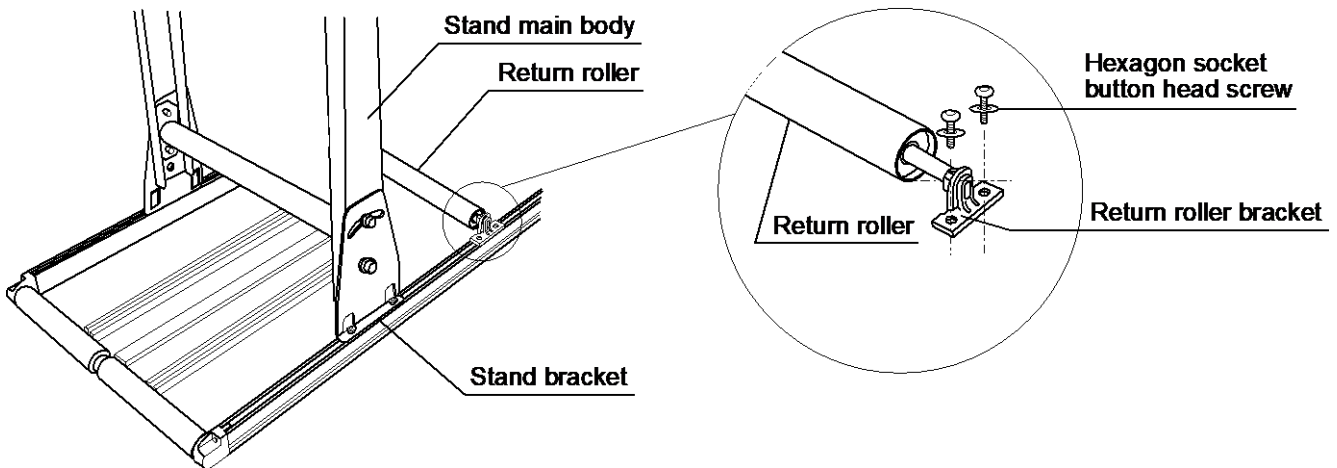
3-1. INSTALLING STANDS AND RETURN ROLLERS

1. Place conveyor frame upside down on table. (Assembly is easier this way.)
2. Install inverter unit delivered in separate packaging. → See p.13. (For constant-speed type using 200V three-phase power source, controller is optional.)
3. If return rollers are delivered in separate packaging, stickers RETURN ROLLER FIXING POSITION are affixed on side of frame. Return roller attachment tap pieces are temporarily bolted into frame underside slots, just under the stickers. Install return rollers using the tap pieces as shown in figures below. (Return rollers are individually packed and temporarily attached beside drive unit.)

NOTE: 1. For center drive type of 2m or less in length, machine has no return roller.

2. In the following cases, return rollers are delivered already installed as shown in figure below left, i.e. installation is unnecessary.

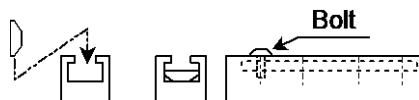
- 3m or less in machine length and 60mm in frame depth
- 3m or less in machine length, 30mm in frame depth and 300mm or less in belt width



4. Stands(optional) are delivered in separate packaging. Install them using the attached stand tap pieces.

NOTE: 1. Install each stand in appropriate position referring to “Standard Installation Positions of Stands” , p.10.

2. For machine length of 1.2m or less, stand tap pieces are delivered inserted into conveyor frame.




Installation will become easier by inserting and tightening bolt into end of tap piece.

5. When assembly is complete, turn over the entire conveyor and place on the floor.

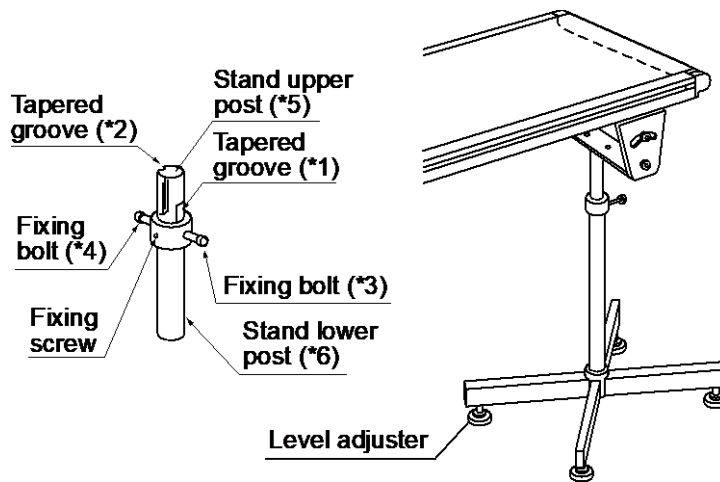
6. Adjust conveyor height following “Stand Height Adjustment” below. Confirm full length of frame is straight and level on top, and firmly tighten stand bolts and nuts.

■ Stand Height Adjustment

 CAUTION	<p>When adjusting stand heights, take care not to pinch fingers. To prevent conveyor main body from rapidly going down, loosen fixing bolts little by little while supporting conveyor with the other hand etc.</p>
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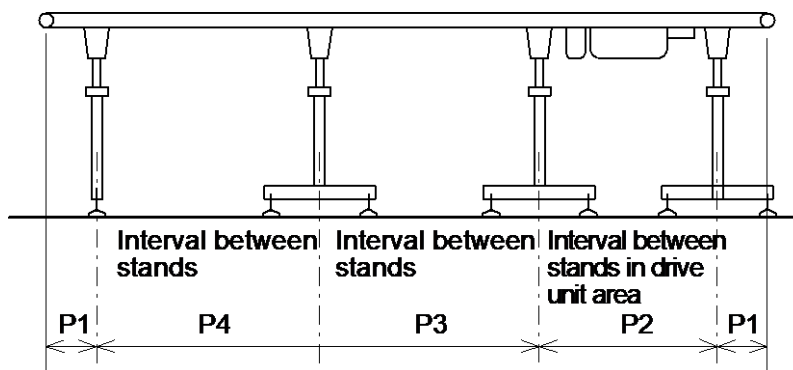
Before starting adjustment, ensure tapered grooves(*1, *2) and fixing bolts(*3, *4) are positioned correctly as shown in figure, below.

To lower stand upper post(*5), loosen fixing bolt(*3). If tapered groove(*1) entirely goes down into stand lower post(*6) while lowering upper post(*5), tighten fixing bolt(*4) into tapered groove(*2). For more adjustment, loosen fixing bolt(*4) again. Once adjustment is complete, tighten fixing bolts(*3, *4). To finely adjust conveyor level, use level adjusters beneath stand.



■ Standard Installation Positions of Stands

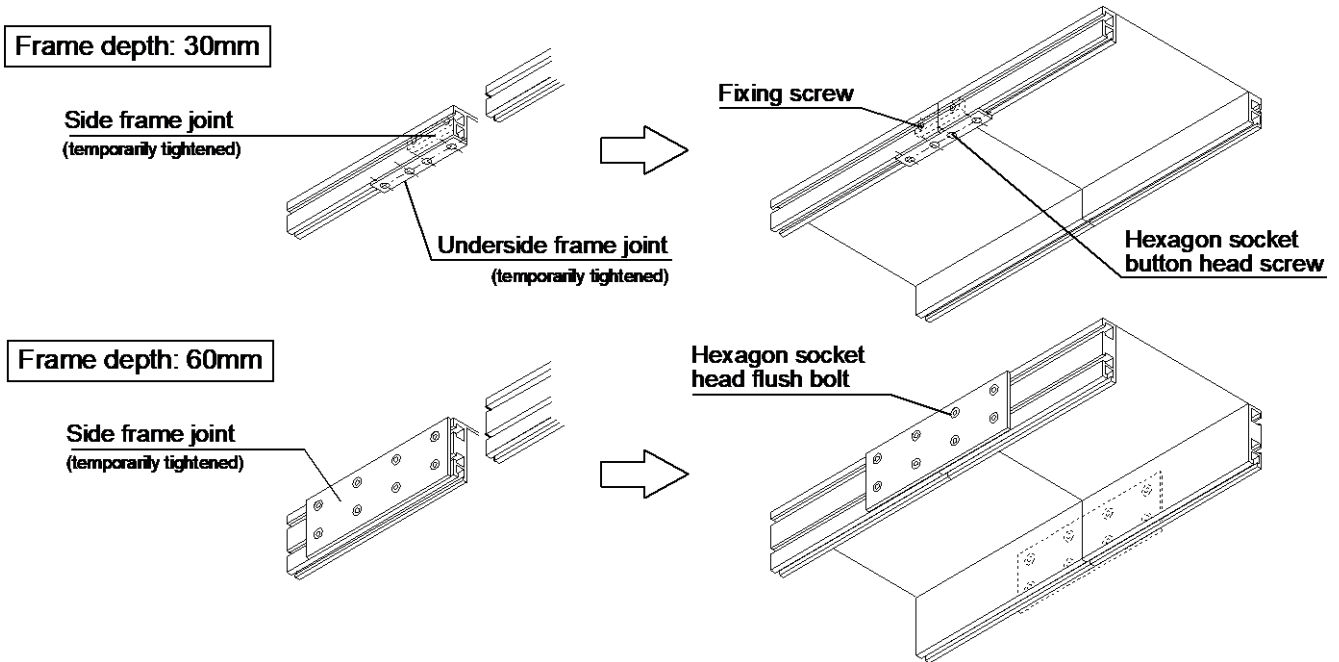
Considering frame depth and strength, installation positions of stands are determined as follows.



Frame depth (mm)	Standard installation interval (mm)			
	P1	P2	P3	P4
30 or 60	400 (125 min.)	1200 or less	2000 or less	2000 or less

■ Joining Frames

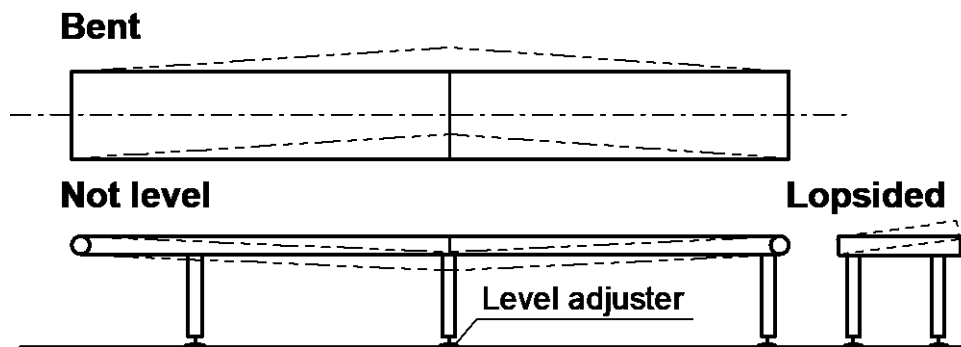
Frame joints are temporarily tightened to one side of frame. Correctly attach them using a hexagonal wrench as shown below:



■ Caution When Joining Frames and Setting up Conveyor

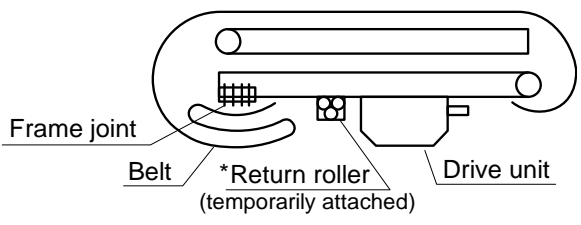
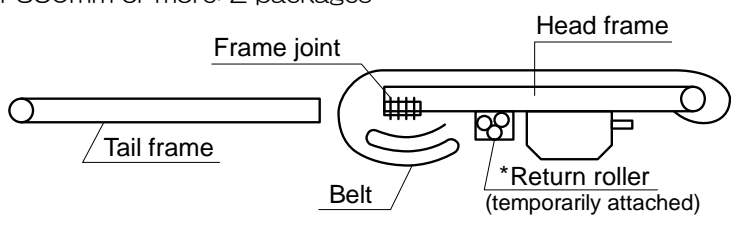
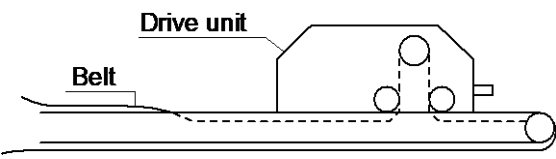

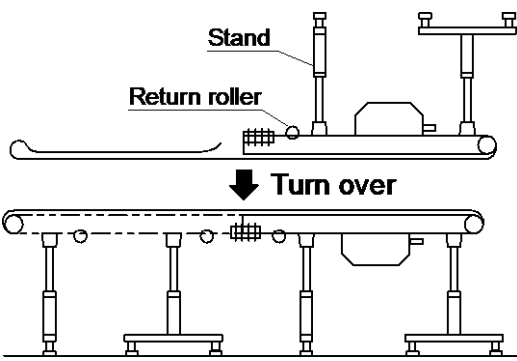
1. Install full length of frame straight, not bent in any place.
2. Finely adjust conveyor level. (Use level adjusters beneath stands.)

NOTE: If conveyor is bent or not level on top, belt may stray to one side or the other.



3-2. ASSEMBLING LONGER MACHINES

When conveyor exceeds 3m in length, it is delivered packed as shown below. Assemble conveyor following the procedures in the tables. (*Return rollers are individually packed and temporarily attached beside drive unit.)

<p>PACKAGING</p>	<p>Belt width of 300mm or less: 1 package</p>  <p>Belt width of 350mm or more: 2 packages</p> 
<p>ASSEMBLY METHOD</p> <p>1. Loosen belt.</p>	 <p>Loosen belt by unfastening catch-clips.</p>
<p>2. Assemble main body.</p>	 <p>(1) Unfold belt. Check installation positions of frames. (2) Join frames. → See “Joining Frames”, p.11.</p>
<p>3. Install stands and return rollers.</p>	<p>(3) Move tap pieces to installation positions of stands and return rollers. Fix them temporarily and install stands and return rollers. → See p.9.</p>  <p>(4) When assembly is complete, take up belt slack (ref. p.17) and adjust belt alignment (ref. p.18-21). NOTE: If, as a result of machine length, it is difficult to turn over the entire assembly, first assemble and turn over in sections, and then join frames.</p>

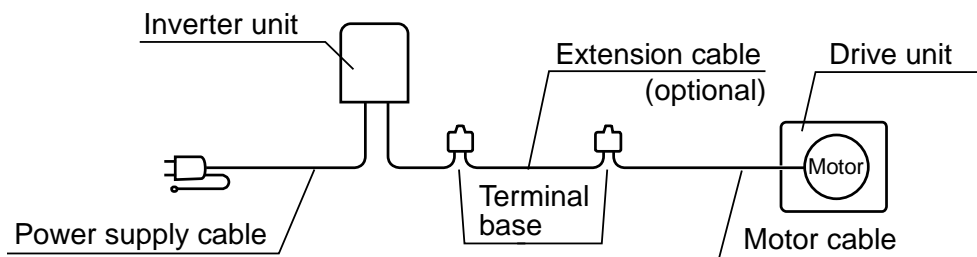
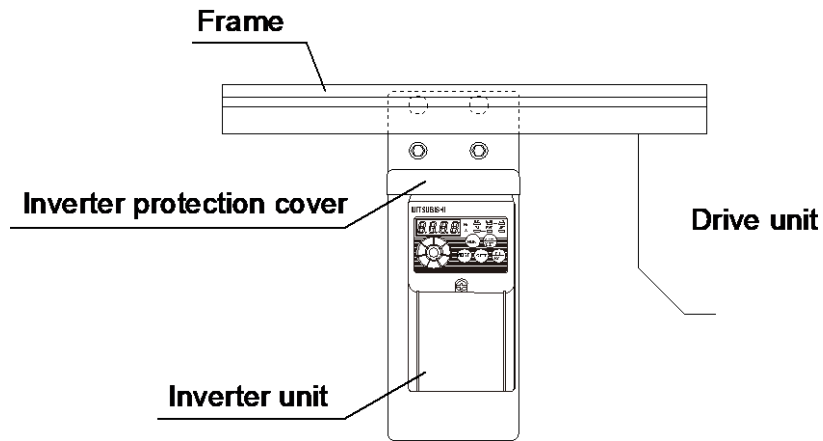
MACHINE LENGTH (m)	~3.5	~4.0	~4.5	~5.0	~5.5	~6.0
LENGTHS OF DIVIDED FRAMES (m)	(1.5)+2.0	(2.0)+2.0	(1.5)+2.5	(2.5)+2.5	(2.5)+3.0	(3.0)+3.0

3-3. INSTALLING INVERTER UNIT

If inverter unit is delivered in separate packaging, install it as follows:

NOTE: For constant-speed type using 200V three-phase power source, standard machine has only lead wire terminal of motor, ON/OFF switch is optional.

Unpack inverter unit. Install it near drive unit by tightening inverter unit attachment bolts (insertable bolts) into side slot of frame, as shown in figure below.



NOTE: If it is necessary to install inverter unit separately from drive unit, connect them using extension cable (optional) as shown in figure above.

3-4. INSTALLING GUIDE RAILS AND SKIRTS (OPTIONAL)

1. Installing Guide Rails

When installing, slightly raise guide rails, giving clearance to prevent belt from touching them. If there is no clearance, it may cause friction damage to belt and guide rails when belt deviates.

2. Installing Skirts

When installing, ensure skirts are properly touching belt.

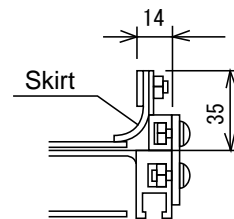
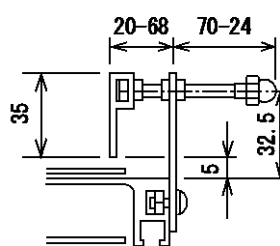
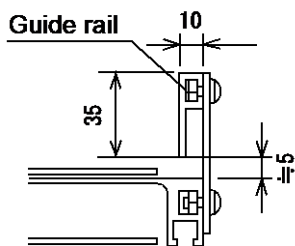
If belt deviates, to prevent friction damage of belt and skirt fitting pieces, reinstall skirt fitting pieces raised as required.

[Examples]

G-A1 model, fixed type

G-A2 model, adjustable type

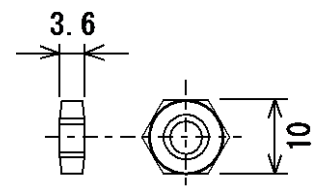
S-A1 model, fixed type



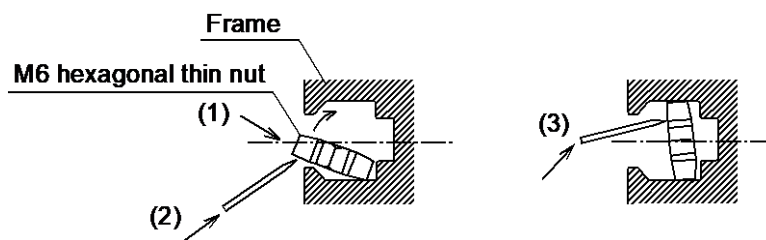
■ Insertion of Nuts

When installing additional attachments to frame, insert M6 hexagonal thin nuts into frame slots, as shown in figures, below.

NOTE: These nuts are delivered as spare parts in tool bag.



M6 hexagonal thin nut



(1) Insert nut into slot diagonally from above.

(2) Insert something cylindrical and pointed (eg tip of mechanical pencil) into nut hole, and lightly push nut upward.

(3) Continue pushing nut this way until in position.

4

RUNNING THE CONVEYOR

4-1. BE SURE TO GROUND MACHINE BEFORE OPERATION

1. **Variable-speed Type** (For standard machines, speed is changed by inverter.)

100V single-phase power source

Connectors (male & female) with earth are attached to power cable. Be sure to ground machine by connecting earth terminal of connector on power source side (female connector).

200V single-phase/three-phase power source

Power cable has ring terminals. When wiring, be sure to make proper earth wiring from earth terminal of power cable.

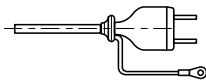
2. Constant-speed Type

For standard machines, power source is 200V three-phase only and motor cable (0.3m, with ring terminals) is provided. When wiring, be sure to make proper earth wiring from earth wire of power cable. Control unit (switch etc.) is optional.

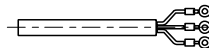
NOTE: For 100/200V single-phase power source, standard machines are not constant-speed type.

● Power cable and terminals (for inverter variable-speed type)

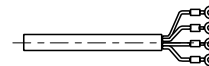
AC 100V single-phase



AC 200V single-phase



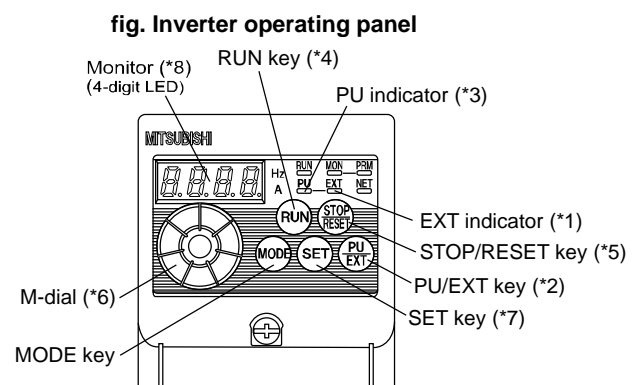
AC 200V three-phase



4-2. RUNNING THE CONVEYOR (for MITSUBISHI-inverter variable-speed type)


For standard machines of variable-speed type, speed is changed by inverter. Operate inverter as follows:

1. Turn on power supply and ensure that EXT indicator(*1) is illuminated. Then press PU/EXT key(*2) and ensure PU indicator(*3) is illuminated. (PU operation mode)
2. To start conveyor, press RUN key(*4); to stop conveyor, press STOP/RESET key(*5).
3. To set speed, turn M-dial(*6) until the monitor(*8) shows intended frequency. Then press SET key(*7). (Only turning M-dial does not change speed. To complete speed setting, be sure to press SET key.)
4. It is possible to change direction of belt travel or make external control by setting parameter. For details, refer to inverter instruction manual, appendix.



MITSUBISHI inverter FREQROL D700 standard specifications		
Applied motor	90W	
Rated output voltage	AC 200V three-phase	
Power source voltage	Type 710W: AC 100V single-phase 720S : AC 200V single-phase 720 : AC 200V three-phase	
Permissible voltage variation	100V: 90-132V 200V: 170-264V	
Power source frequency	50/60Hz ±5%	
Environmental conditions	Temperature	-10°C to +40°C (Avoid freezing)
	Humidity	RH 90% or less (Avoid condensation)
	Atmosphere	Indoor, no corrosive/flammable gases, no oil mist or dust
	Elevation	1,000 m or less above sea level
	Vibration	5.9 m/s ² or less

■ Caution When Using Inverter

 CAUTION	<ol style="list-style-type: none"> 1. Be sure to confirm that the power source voltage is within the rated voltage range, before switching ON the power source. (Voltage exceeding the rated voltage could cause fuming, abnormal noise, etc.) 2. Be sure to start and stop the conveyor with RUN/STOP switch. When starting and stopping the conveyor frequently in a short period (tact operation etc.), it is impossible to start/stop the machine by turning on/off the power supply. In this case be sure to start and stop the machine by external signals. (Inverter variable-speed type is different from speed controller's, and the power supply will trip.) Do not start and stop the conveyor excessively frequently. It may cause machine failure or shorten its service life. 3. The RUN/STOP switch of inverter unit is not for turning the power on and off. When leaving the conveyor unused for a long period, make sure that the mains is off. 4. Do not run the conveyor at excessively low speed for a long period, or start and stop the conveyor excessively frequently. These may cause machine failure or shorten its service life. 5. Do not touch the inverter radiator of side of inverter unit, and do not allow any material to touch it, because of its high temperature. 6. Use the inverter unit within the permissible range of ambient temperature (from -10°C to +40°C). Avoid freezing. 7. Pay special attention not to allow any foreign matter (dust, iron powder, etc.) to get into the inverter unit. 8. Operating the motor using the inverter could cause noises from the inverter I/O cables, motor, etc. Keep in mind that these could interfere with the correct operation of other electronic devices. (In this case, noises and their effects can be suppressed to some extent by providing the inverter I/O with a filter or otherwise shielding the power cable.)
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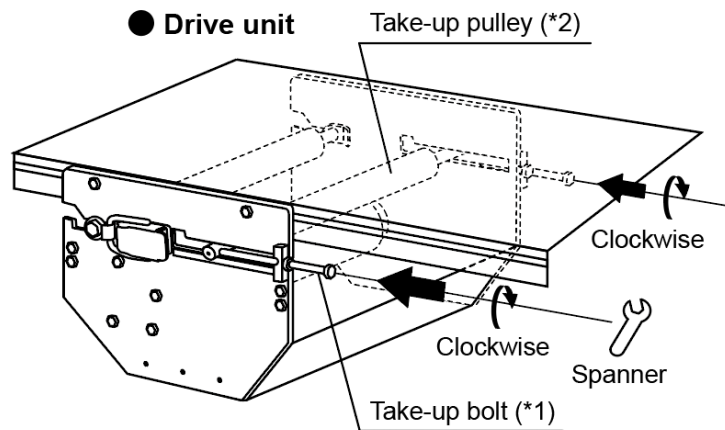
5

TAKING UP THE BELT

When belt is slackened off, take up belt as follows:

To take up belt, turn right and left take-up bolts(*1) of drive unit clockwise with a spanner. Take-up pulley(*2) will then be moved and belt will be taken up. When turning take-up bolts(*1), adjust them alternately, little by little, to keep their movement lengths the same.

If belt is taken up too much, properly adjust the tension by turning take-up bolts(*1) counterclockwise.



■ Belt Tension

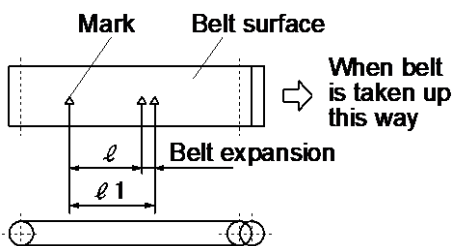
Do not take up belt too much, but only to extent that belt does not slip on drive pulley, i.e. enough to drive belt.

NOTE: 1. Belt occasionally shrinks depending on carried materials or type of belt. In this case make adjustment by turning take-up bolts counterclockwise.
2. Excessive belt take-up may overload motor or shorten service lives of belt, pulley, etc.

Standard belt expansion percentage

Nominal belt width (mm)	Expansion percentage (%)
~200	0.2
250~600	0.15~0.1
600~1,000 or Motor power of 0.2kW or more	0.1

How to calculate belt expansion percentage



- 1) Slacken belt.
- 2) Mark any two points on belt surface and measure length between them (l).
- 3) Take up belt.
- 4) Measure length between two marks (l_1) again.

eg

$$\left(\begin{array}{l} l = 1000\text{mm} \\ 0.2\% = 2\text{mm} \\ l_1 = 1002\text{mm} \end{array} \right)$$

6

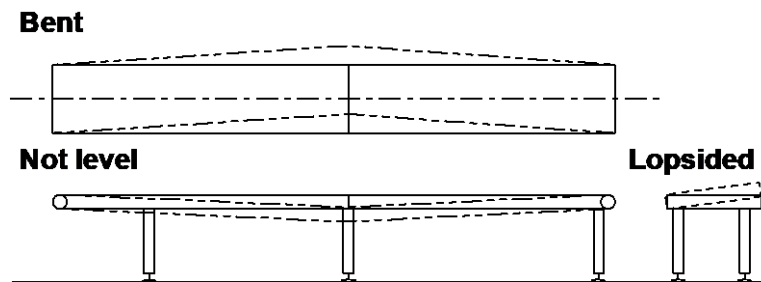
BELT ALIGNMENT ADJUSTMENT

When belt is not correctly aligned, make adjustments as follows:

6-1. PRIOR CHECKING

1. Frame Condition

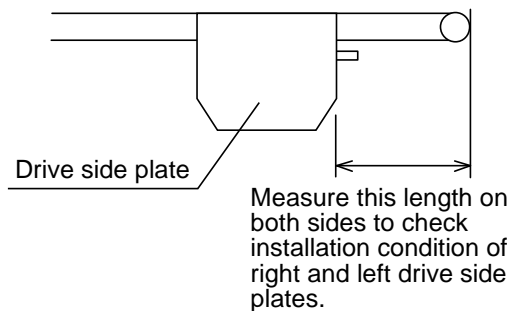
Confirm full length of frame is level on top, straight and not bent in any place. → See p. 11.



2. Positions of Drive Side Plates

Confirm that right and left drive side plates are symmetrically positioned. → See p. 24.

NOTE: If drive side plates are not positioned equally on right and left sides, it may cause belt deviation. Be sure to check their positions before using conveyor because side plates may have shifted out of position in transit.



3. Dirt on Pulleys

Check drive pulley, head and tail pulleys, etc. for dirt. Remove any dirt and clean. (Remove drive bottom cover to check.)

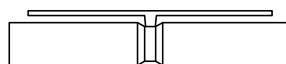
4. Loading Condition

Improper loading, i.e. not-centered, may cause belt deviation.

5. Dislodgment of V-form Strip

For non-deviation models (GLV, GLHV model, etc.), check if V-form strip on belt undersurface has dislodged from V-form belt guidance grooves on pulleys and rollers. (Remove drive bottom cover to check.)

Correct condition



Dislodgment



Pulley of non-deviation model

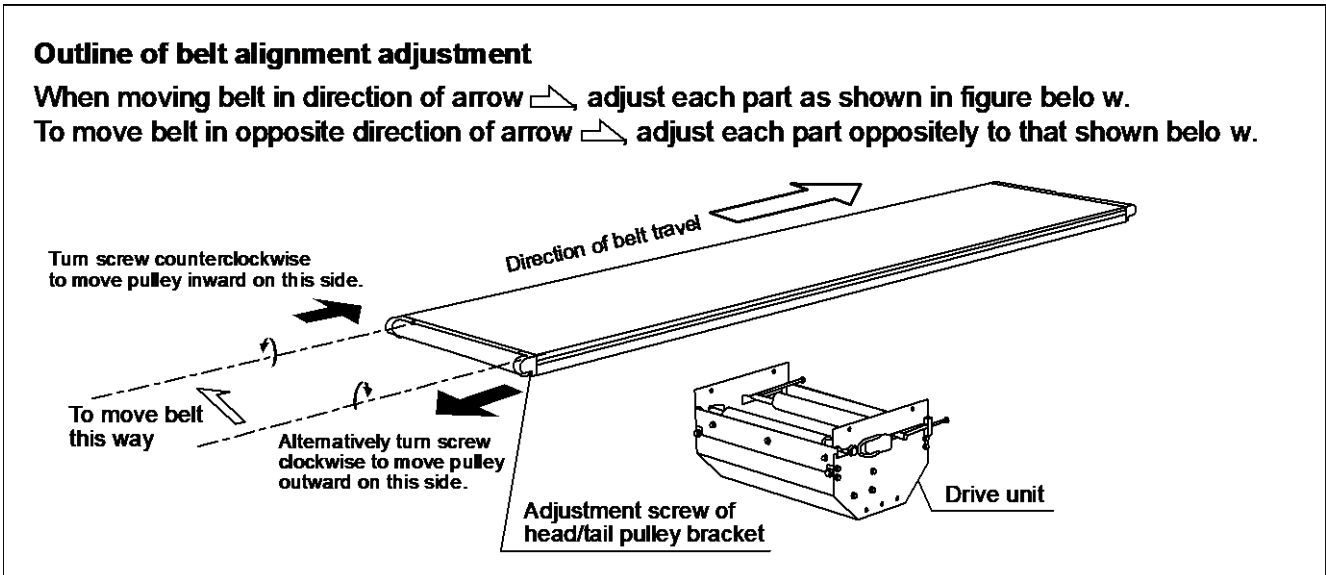
6. Belt Deviation

Check how belt is deviating before adjustment. Correct positions of the following parts while running conveyor slowly, and then continue running it for a while to check any further belt deviation.

- Take-up devices: Position and adjust them equally on right and left sides.
- Head and tail pulleys: Set at right angle to frame.

6-2. BELT ALIGNMENT ADJUSTMENT

After checking belt deviation, adjust each part following the procedures on p.19-20 while running conveyor slowly.

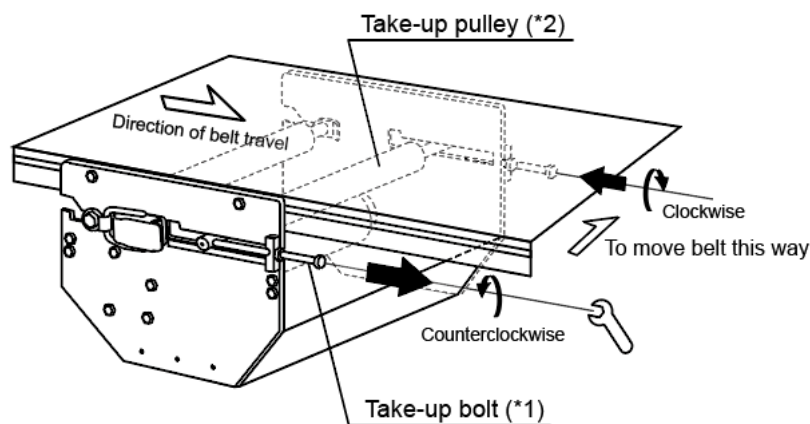


NOTE: It is necessary to wait until belt running stabilizes after each adjustment step and to adjust belt alignment little by little. Belt running will not change immediately.

1. Adjustment Using Take-up Pulley

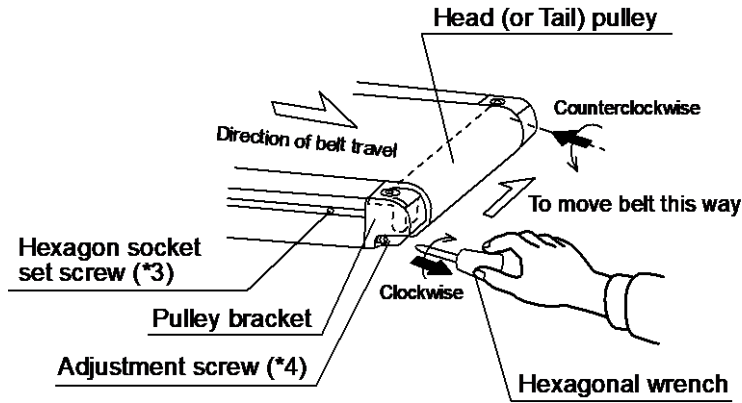
On side to which belt is deviating, slightly turn take-up bolt(*1) of drive unit counterclockwise with a spanner. Take-up pulley(*2) will then move outward on this side and belt will center itself.

Alternatively adjust on opposite side. In this case turn take-up bolt(*1) clockwise. Take-up pulley(*2) will then move inward on this side and belt will center itself.



2. Adjustment Using Head or Tail Pulley

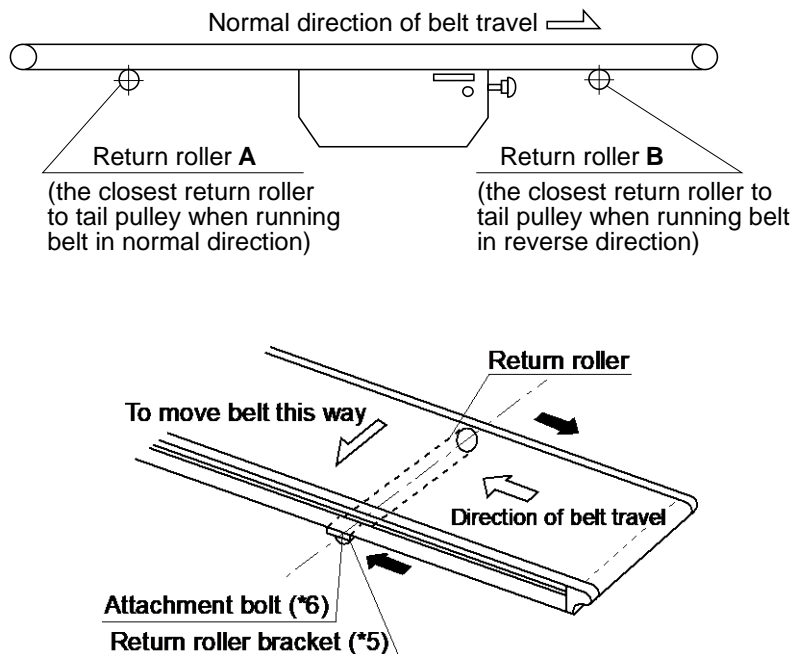
On side to which belt is deviating, loosen hexagon socket set screw(*3) and slightly turn adjustment screw(*4) clockwise. Head (or tail) pulley will then move outward on this side and belt will center itself. Alternatively, on opposite side, if there is a space between frame end and pulley bracket, make adjustment on this side. In this case slightly turn adjustment screw(*4) counterclockwise. Head (or tail) pulley will then move inward on this side and belt will center itself. Once adjustment is complete, be sure to retighten hexagon socket set screw(*3).



3. Adjustment Using Return Roller (if any return rollers are attached)

On one side, loosen return roller bracket(*5) attachment bolt(*6), and set return roller slightly diagonally. Belt will then move to form right angle to return roller rotation axis.

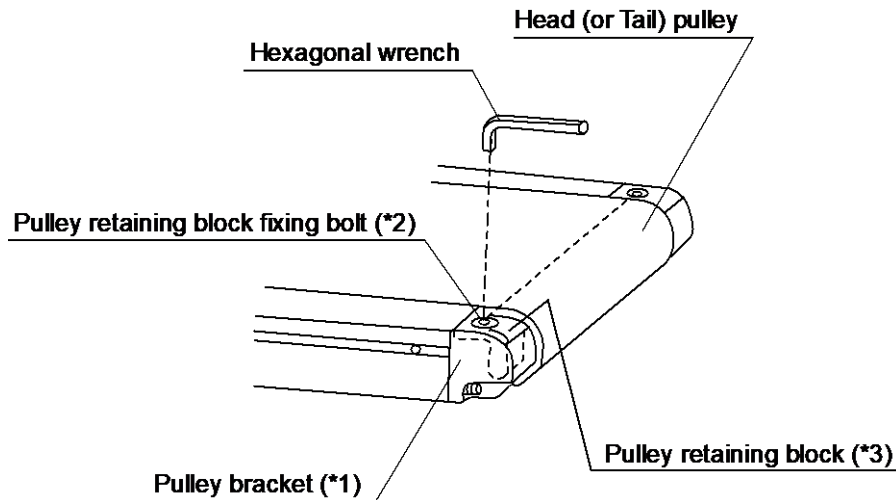
NOTE: It is effective to adjust the closest return roller to tail pulley. (The closest return roller to tail pulley alternates depending on direction of belt travel as shown in figure below.)



7

PULLEY REMOVAL**Head (or Tail) Pulley Removal**

Loosen pulley retaining block fixing bolts(*2) on tops of pulley brackets(*1) with a hexagonal wrench, and remove pulley retaining blocks(*3) upwards. Head (or tail) pulley may then be removed upwards.



8

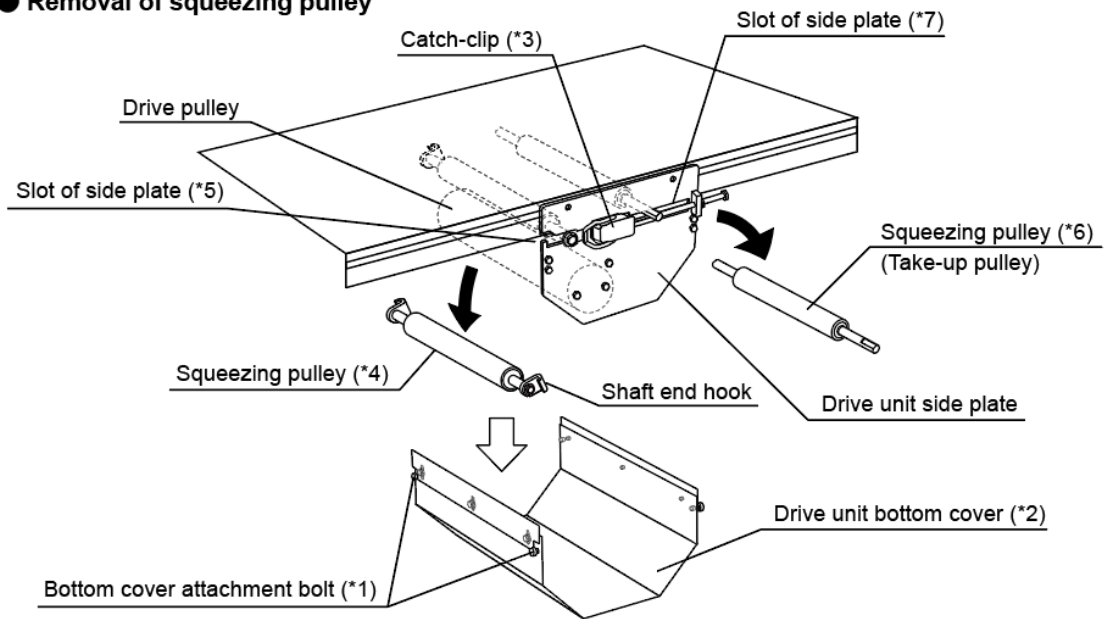
LOOSENING/REMOVING THE BELT**8-1. LOOSENING BELT**

1. Remove drive unit bottom cover(*2) by loosening attachment bolts(*1) (at 4 points). (When removing, be sure to support the cover(*2) so that it will not fall.)
2. Pull and unfasten right and left catch-clips(*3) of drive unit. Shaft end hooks of squeezing pulley(*4) will then be released.

NOTE: When unfastening catch-clips(*3), be careful not to get injured by popping springs.

3. Remove squeezing pulley(*4) from conveyor by moving its shaft ends along slots(*5) of right and left drive unit side plates.
4. Remove the other squeezing pulley (take-up pulley) (*6) following "Removal of squeezing pulley (take-up pulley)" below. Belt will then be loosened.
5. After cleaning belt undersurface, bed, etc., take up belt in reverse order.

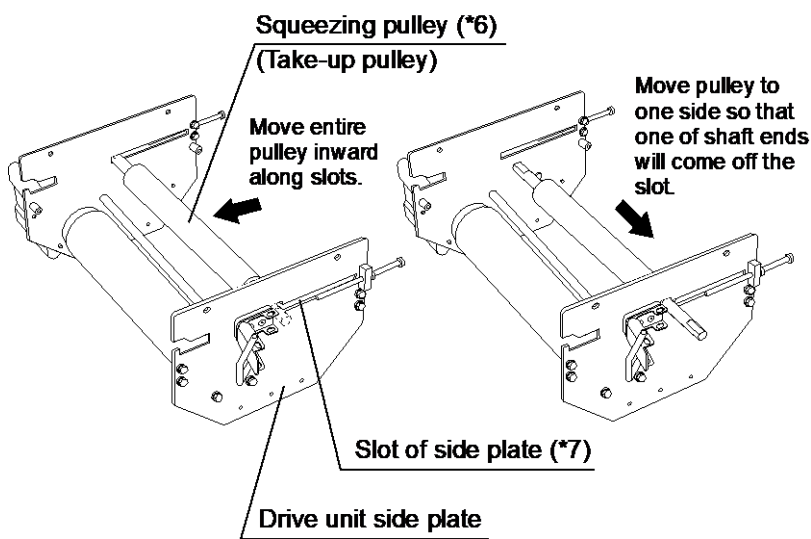
● **Removal of squeezing pulley**



● **Removal of squeezing pulley (take-up pulley)**

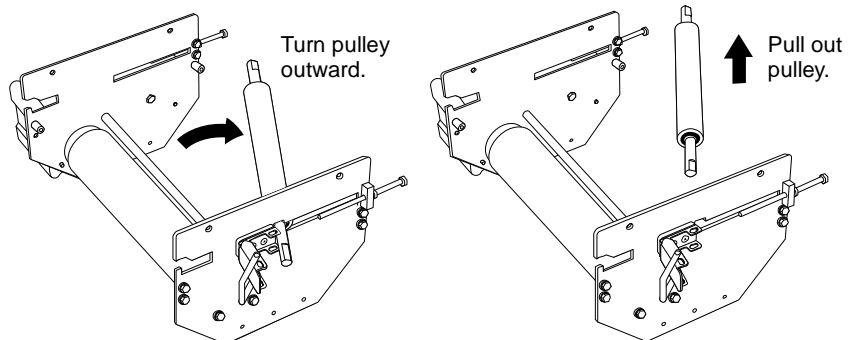
(1) →

(2) →



(3) →

(4) →

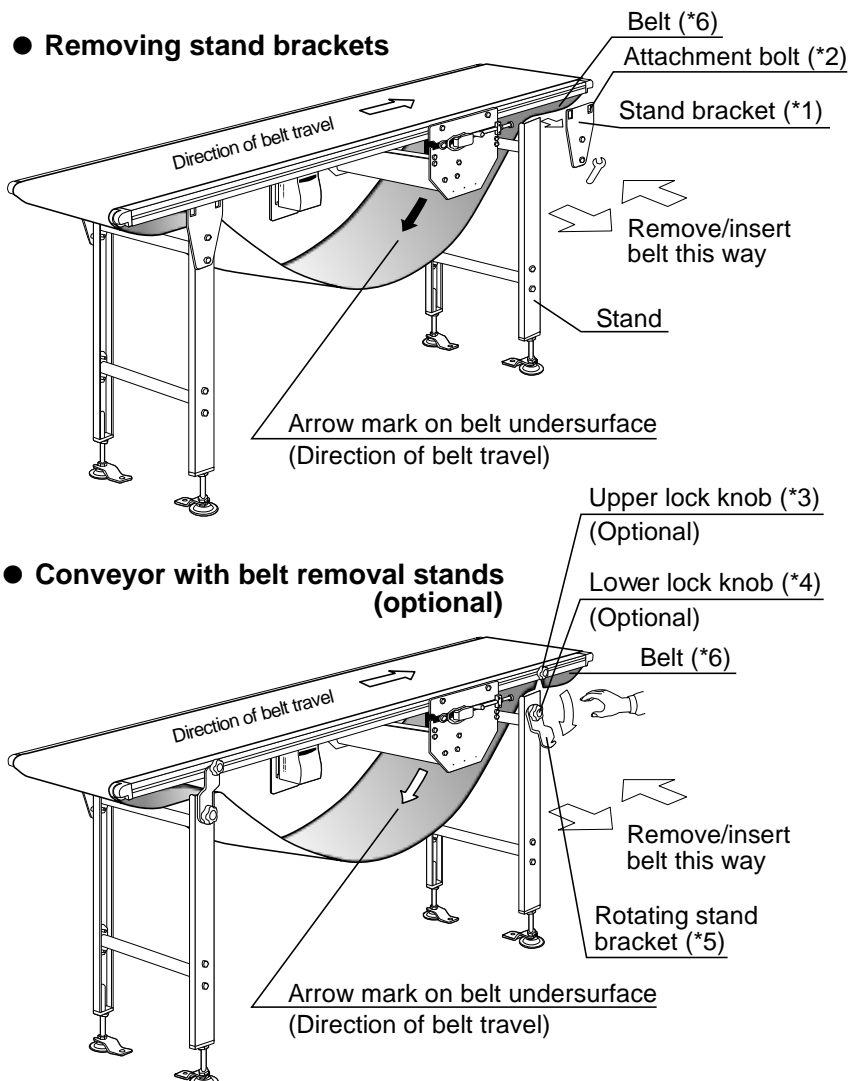


8-2. REMOVING BELT

1. Loosen belt following “8-1. LOOSENING BELT” , p. 21-22.
2. Remove all the return rollers, if any. (→See “3-1. INSTALLING STANDS AND RETURN ROLLERS” , p. 9.)
3. If machine has stands, only on one side, remove all the stand brackets(*1) and their attachment bolts(*2) (M6, 4 bolts for each bracket). Machine will then have a space to pull out belt.
NOTE: If machine is equipped with belt removal stands(optional), only on one side, loosen upper lock knob(*3) and lower lock knob(*4) of each stand by turning them counterclockwise with your hand. To make a space between frame and stands, turn rotating stand brackets(*5) downward. (→See figure, below)
4. Pull belt(*6) out of space between frame and stands sideways.
5. For belt installation, perform in reverse order.

NOTE:

1. Since conveyor becomes unstable when removing belt, be sure to support by plural workers etc. There is considerable risk of being injured by toppling conveyor.
2. Be sure to stop conveyor and switch off power supply before loosening/removing belt.
3. Since drive unit of wide type is heavy, be sure to support frame on belt removal side when removing belt. There is considerable risk of being injured by toppling conveyor.
4. After washing, completely dry belt before reinstallation.
5. When installing belt, confirm that arrow mark on belt undersurface correctly shows direction of belt travel.
6. If belt is loose in operation after installation, take up belt slack. (→See p. 17.) If belt is deviating in operation, adjust belt alignment. (→See p. 18-20.)

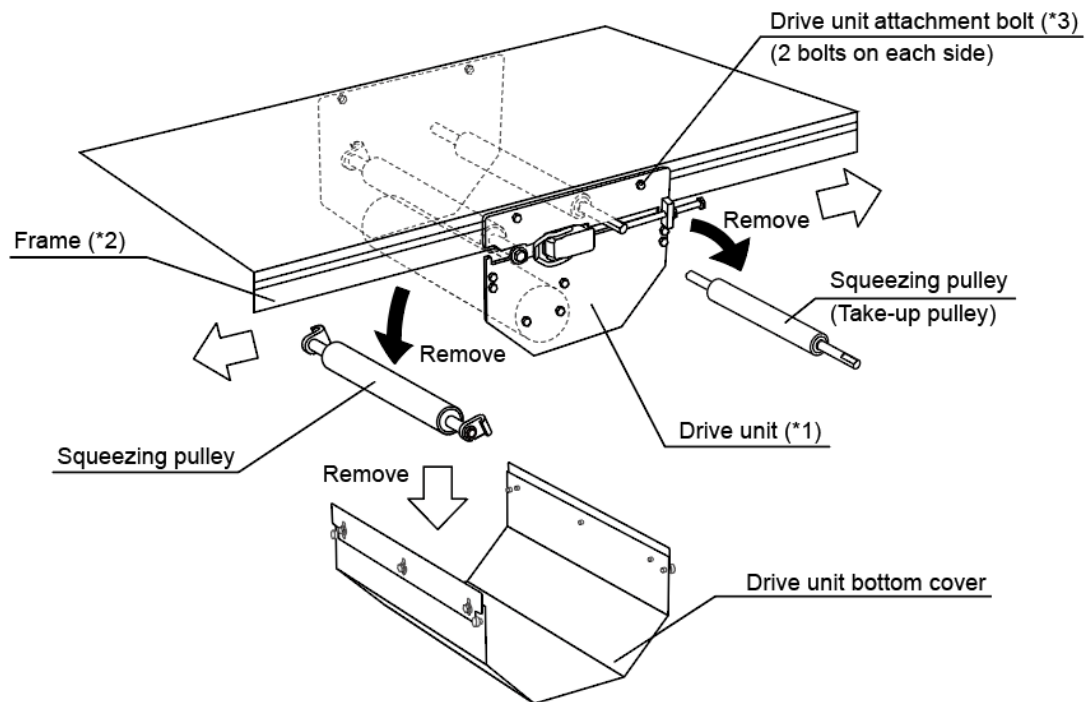


9

DRIVE UNIT RELOCATION

It is possible to move drive unit(*1) along frame(*2) by just loosening attachment bolts(*3).
Perform as follows:

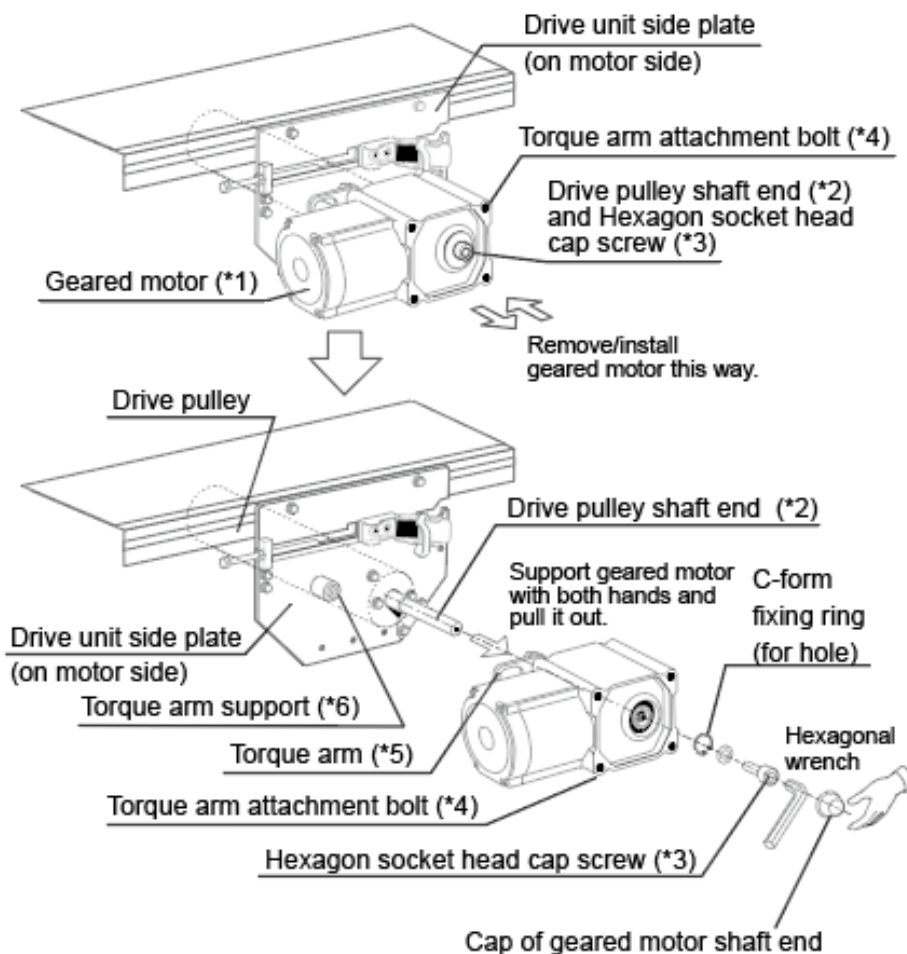
1. Loosen belt following “8-1. LOOSENING BELT” , p. 21-22.
2. Loosen all the drive unit attachment bolts(*3) (2 bolts on each side). (Do NOT remove them.)
3. Move drive unit(*1) to intended position and retighten attachment bolts(*3).
4. Take up belt in reverse order of “8-1. LOOSENING BELT” , p. 21-22.



GEARED MOTOR REPLACEMENT

The geared motor is hollow shaft type and attached to drive pulley shaft end. Be sure to switch off power supply and replace geared motor as follows:

1. Remove cap of geared motor shaft end with your fingers.
2. Remove hexagon socket head cap screw(*3) and washer from drive pulley shaft end(*2) with a hexagonal wrench.
3. Support geared motor(*1) with your both hands and pull it out of drive pulley shaft end(*2).
4. Remove torque arm(*5) from geared motor(*1) by loosening torque arm attachment bolts(*4) (M8, with hexagon socket) with a hexagonal wrench.
5. Remove C-form fixing ring (for hole) from inside of hollow shaft of the removed geared motor(*1), with a ring remover.
6. Attach the removed C-form fixing ring to replacement geared motor.
7. Correctly attach the removed torque arm(*5) to replacement geared motor with torque arm attachment bolts(*4).
8. Support replacement geared motor with your both hands and correctly insert it to drive pulley shaft end(*2). When inserting, fit key of drive pulley shaft end(*2) to key groove of geared motor(*1) hollow shaft, and also insert long hole of torque arm(*5) into torque arm support(*6) of drive unit side plate.
9. Retighten hexagon socket head cap screw(*3) and washer to drive pulley shaft end(*2).
10. Reattach cap of geared motor shaft end in initial position.



11-1. PROBLEMS AND REMEDIES

PROBLEM	CAUSE	REMEDY
1. Conveyor does not run. (Conveyor cannot be turned on.)	(1) Power plug is not properly connected to the mains. (2) Power switch is not turned on. (3) Inappropriate power source	(1) Inspection, correction (2) Inspection, correction (3) Check power source. → See p.15
2. Conveyor is turned on, but motor will not run.	(1) Disconnection or breakage in wiring (2) Too slow conveyor speed (for variable-speed type) (3) Motor protective circuit or emergency stop switch has been activated. (4) Failure inside control device	(1) Check and repair wiring. (2) Reset to appropriate speed. (3) Restore protective circuit or emergency stop switch. (4) Inspection and repair or replacement
3. Motor runs, but belt does not move.	(1) Belt has been slackened off. (2) Belt has been trapped after misalignment. Foreign substances (3) Overload (4) Motor gear head teeth have become worn.	(1) Take up belt. → See p.17. (2) Adjust belt alignment. → See p.18-20 Clean and remove any foreign matter. (3) Check and reduce load. (4) Inspection and repair or replacement
4. Belt runs, but speed cannot be changed. (for variable-speed type)	(1) Disconnection or breakage in wiring of motor and controller (2) Inappropriate setting of controller or inverter (3) Failure of controller or inverter	(1) Inspection, repair (2) Inspection, correction (3) Inspection and repair or replacement
5. Conveyor will not start running unless belt is pulled.	(1) Belt has been taken up too much. (2) Belt has been trapped after misalignment. Foreign substances	(1) Loosen belt to proper tension. (2) Adjust belt alignment. → See p.18-20 Clean and remove any foreign matter.
6. Electric shock is received from conveyor.	(1) Static electricity has been charged in frames. (2) Electric leakage	(1) Check and correctly ground machine. → See p.15 (2) Inspection, correction

11-2. ITEMS FOR REGULAR INSPECTION

CHECKING PERIOD	PART TO CHECK	THINGS TO CHECK FOR	CHECKING METHOD	REMEDY
Daily	Belt	Foreign substances on surface and undersurface	Visual inspection	Clean and remove any foreign matter.
		Dislodgment from V-form belt guidance groove	Visual inspection	Inspection, adjustment
		Getting jammed	Visual inspection	Inspection, adjustment
	Drive pulley and other pulleys	Foreign substances	Visual inspection	Clean and remove any foreign matter.
Monthly	Drive pulley and other pulleys	Wear of surface, rotation malfunction	Visual inspection and manual check	Inspection and adjustment or replacement
Three monthly	Geared motor	Rotation malfunction, Inappropriate installation	Visual inspection and manual check	Inspection, adjustment
		Overheat, abnormal noise	Manual check and listening	Inspection and adjustment or replacement
Six monthly	Frame and stand units	Loose attachment bolts	Visual inspection and manual check	Inspection, adjustment Tighten loose bolts.
	Attachments	Damage of each part	Visual inspection and manual check	Inspection and repair or replacement

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- The specification given in this manual are subject to change without notice.