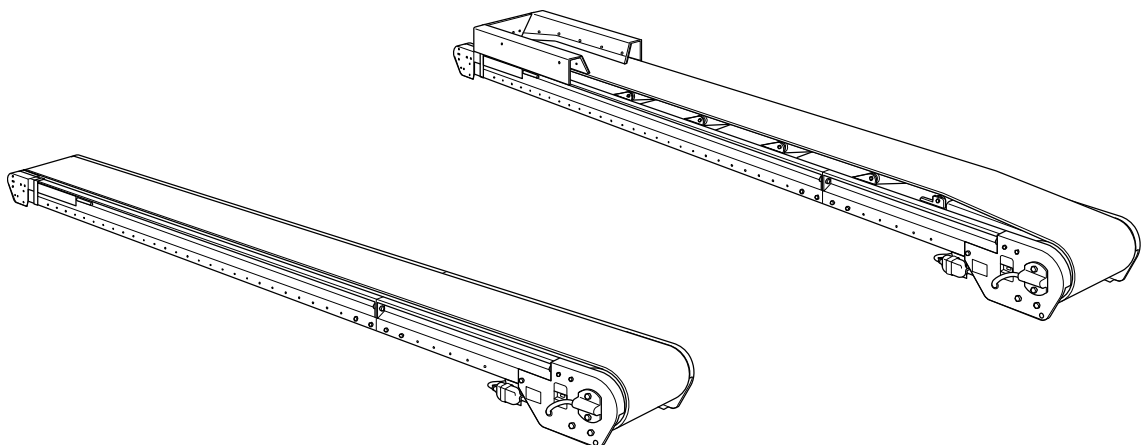


S-CON[®]FRAT (BF, BFG and BFGS Models)

S-CON[®]BT (BT and BTG Models)

OPERATING AND SERVICE MANUAL



Thank you very much for purchasing our S-CON®FLAT/BT. 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.



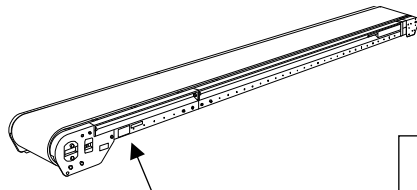
TABLE OF CONTENTS

1. Caution When Handling	4
2. Component Names	8
3. Assembly	13
4. Running the Conveyor	21
5. Taking up the Belt	23
6. Belt Alignment Adjustment	25
7. Belt Replacement	33
8. Motor-pulley/Geared-motor Replacement	36
9. Removal of Pulleys and Rollers	39
10. Inspection and Maintenance	41

For the following models, refer to the separate operating and service manual:
S-CON®BABY (SBF and SBT models)

Upon delivery of this product, 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.

NOTE: When referring to this manual, confirm the conveyor model code and read the appropriate pages.



Serial number and model label
(affixed to side of frame)

Serial number and model label

Manufacturer's serial number (Refer to this number when contacting us)

Job. NO :		
TYPE :		
SPECIFICATIONS		
CAPACITY :	T/H	KG/M
BELT SPEED :	M/MIN	
BELT WIDTH :	CM	
LENGTH :	M	
GEARED MOTOR :	KW	RATIO
MOTORIZED PULLEY :	KW	
ELECTRIC SOURCE :	V	Hz
WEIGHT :	KG	DATE :
SANKI		ENGINEERING CO., LTD.

CAUTIONS FOR OPERATION

- BEFORE OPERATION, TAKE MEASURE OF INSULATION RESISTANCE. FIRST, BE SURE TO GROUND FROM THE EARTH RECEPTACLE PROVIDED IN THE CONNECTOR.
- DURING OPERATION, IF THE MOTOR MAKES AN ABNORMAL SOUND OR FAILS TO START, SWITCH OFF THE CURRENT AT ONCE AND SEE IF THE CURRENT HAS CHANGED TO SINGLE PHASE.

[Example of "TYPE"]

Date of production

BF 35 - 6.7 H (C 10 - 3 A35) L - BF

Conveyor model code

Belt width in cm (eg 35cm)

Machine length (total length) in m (eg 6.7m)
NOTE: For fixed inclined type, machine length is shown as below.
- L1 + L2
(L1: length of inclined area, L2: length of horizontal area)

Drive position of **BF** and **BFG** models (eg Head drive)

Drive position	Code
Head drive	H
Center drive	C

NOTE: For **BT** and **BTG** models, drive position code is not shown.

Motor type (eg Constant speed)

Motor type	Code
Constant speed	C
Variable speed	F

Motor output (eg 1.0kW)

Motor output	Code
0.4kW	04
0.75kW	07
1.0kW	10
1.5kW	15
2.2kW	22

Belt type

This code is shown only for geared motor type with chain cover attached on left side of direction of belt travel.

Power source frequency and belt speed in m/min (eg 50Hz, 35m/min)

Frequency	Code
50Hz	A
60Hz	B

Power source (eg 200V three-phase)

Power source type	Code
100V single-phase	1
200V single-phase	2
200V three-phase	3
other	0

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. Use the waterproof type (optional) if necessary.

**■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

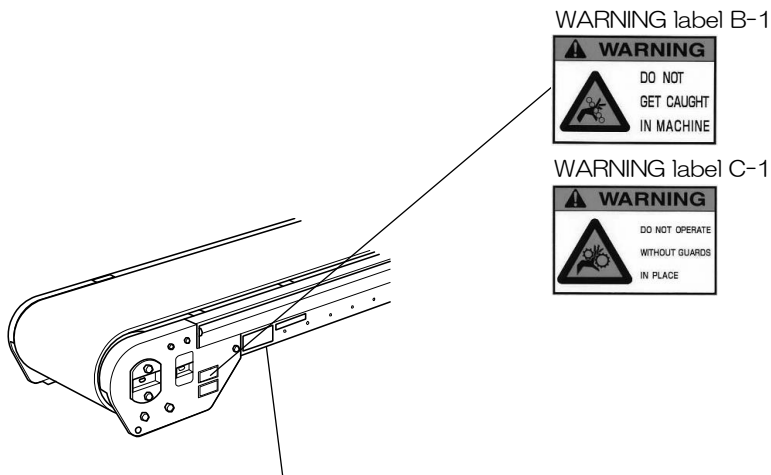
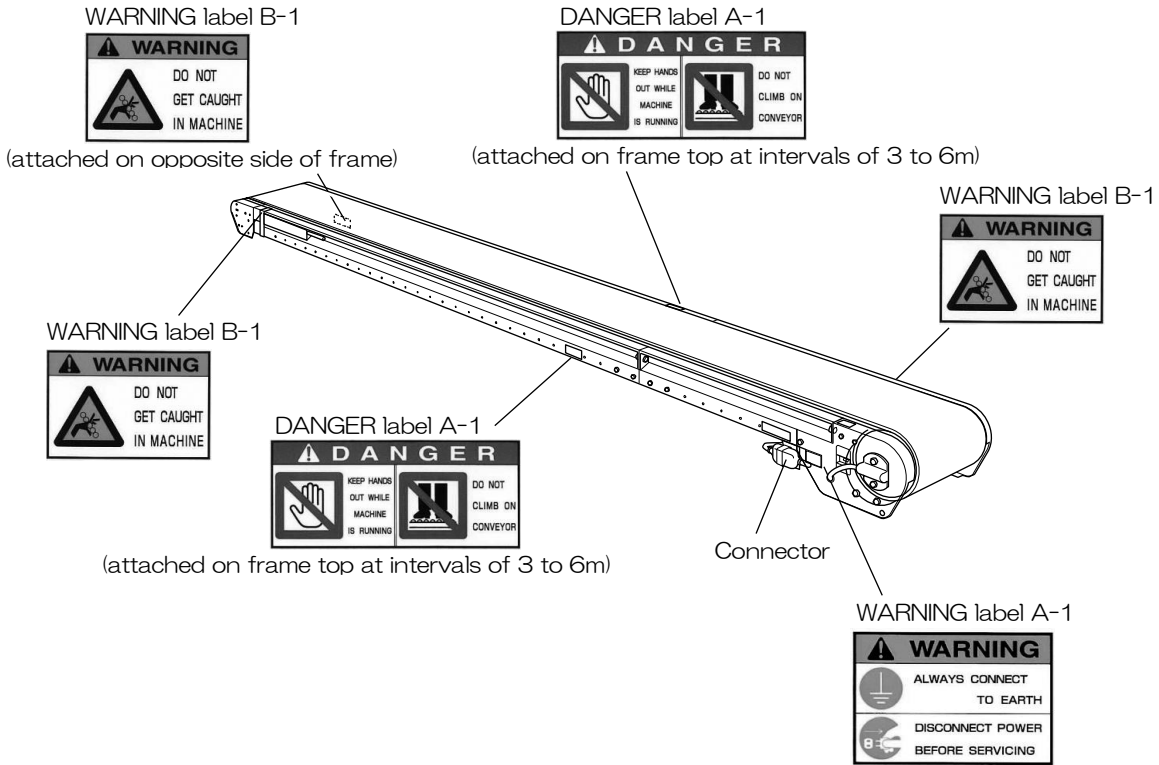
For standard machines, warning labels etc. and their attachment positions are as follows:

1. WARNING LABELS


Label classification	Label	Instruction
DANGER	A-1 	<p>■KEEP HANDS OUT WHILE MACHINE IS RUNNING</p> <p>There is considerable risk of being caught and injured by the conveyor.</p> <p>■DO NOT CLIMB ON CONVEYOR</p> <p>There is considerable risk of falling or being caught and injured by the conveyor.</p>
WARNING	A-1 	<p>■ALWAYS CONNECT TO EARTH</p> <p>Ensure the conveyor is connected to earth at all times to prevent electric shock.</p> <p>■DISCONNECT POWER BEFORE SERVICING</p> <p>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>
	B-1 	<p>■DO NOT GET CAUGHT IN MACHINE</p> <p>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>
	C-1 	<p>■DO NOT OPERATE WITHOUT GUARDS IN PLACE</p> <p>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.</p>

2. ATTACHMENT POSITIONS OF WARNING LABELS etc.

(eg S-CON®FLAT BF model)



Serial number and model label

Job. NO : <input type="text"/>	CAUTIONS FOR OPERATION
TYPE : <input type="text"/>	
SPECIFICATIONS	
CAPACITY : <input type="text"/> T/H <input type="text"/> KG/M	<ol style="list-style-type: none"> BEFORE OPERATION, TAKE MEASURE OF INSULATION RESISTANCE, FIRST. BE SURE TO GROUND FROM THE EARTH RECEPTACLE PROVIDED IN THE CONNECTOR. DURING OPERATION, IF THE MOTOR MAKES AN ABNORMAL SOUND OR FAILS TO START, SWITCH OFF THE CURRENT AT ONCE AND SEE IF THE CURRENT HAS CHANGED TO SINGLE PHASE.
BELT SPEED : <input type="text"/> M/MIN	
BELT WIDTH : <input type="text"/> CM	
LENGTH : <input type="text"/> M	
GEARED MOTOR : <input type="text"/> KW RATIO. <input type="checkbox"/>	
MOTORIZED PULLEY : <input type="text"/> KW	
ELECTRIC SOURCE : <input type="text"/> V <input type="text"/> Hz	
WEIGHT : <input type="text"/> KG DATE: <input type="text"/>	
 SANKI ENGINEERING CO., LTD.	

NOTE: For details, see p.3.

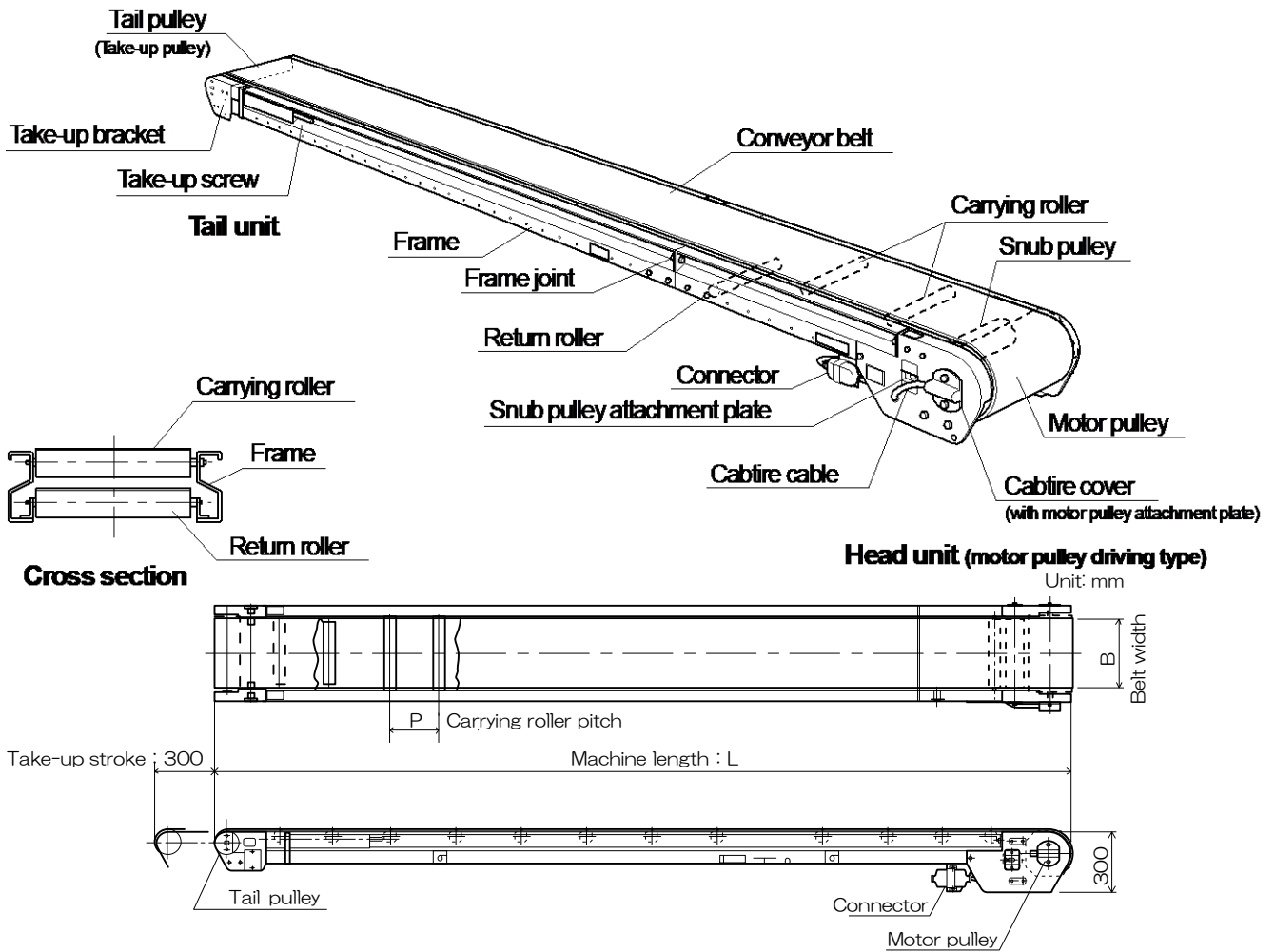
2

COMPONENT NAMES

2-1. S-CON®FLAT (BF, BFG and BFGS models)

1. Portable Type S-CON®FLAT

Applied models : BF model (Motor pulley driving type), BFG model (Geared motor driving type)

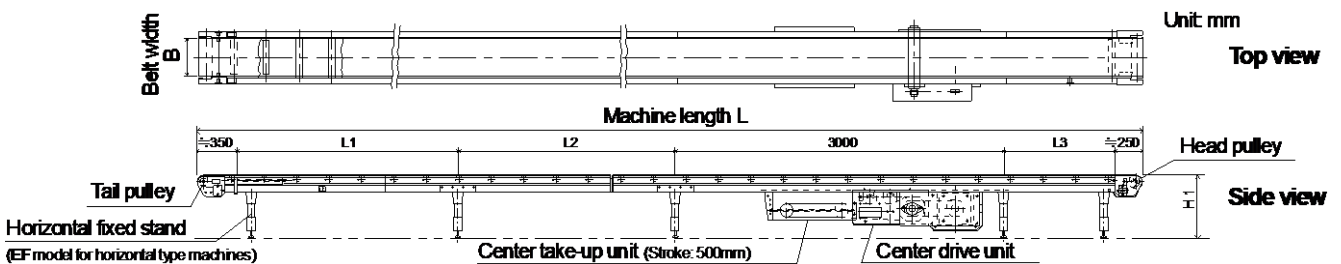


2. Fixed Type S-CON®FLAT

(1) Fixed Horizontal Type

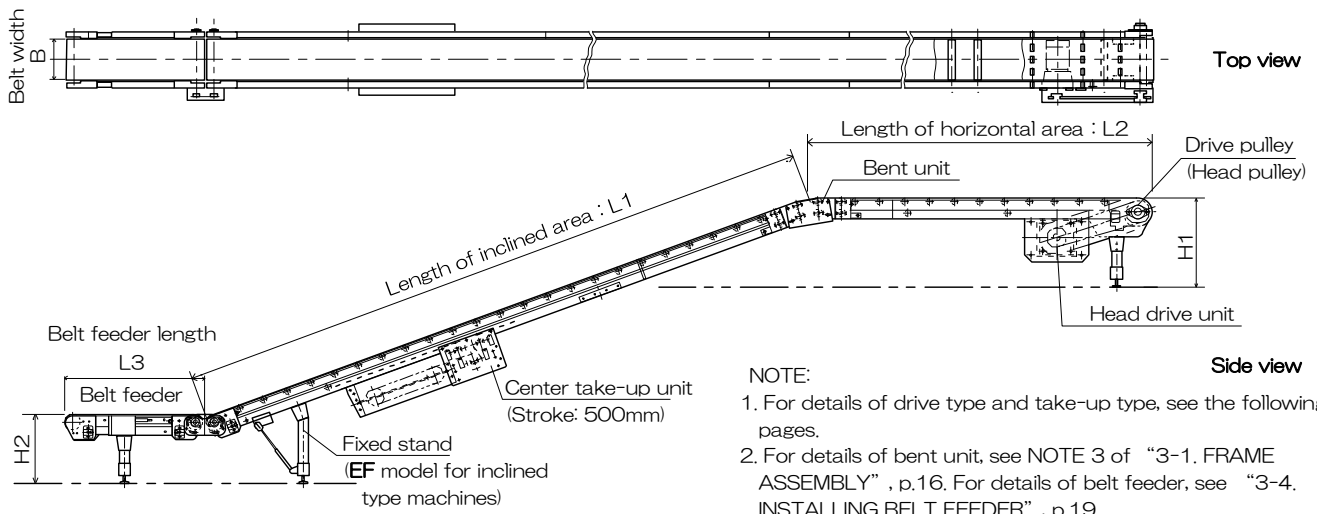
Applied models: BF model (Motor pulley driving type), BFG model (Geared motor driving type)

NOTE: These are diagrams of center drive type BFG model with center take-up unit of 500mm-stroke.



(2) Fixed Inclined Type Applied models : **BFGS** model (Geared motor driving type)

NOTE: These are diagrams of head drive type **BFGS** model with center take-up unit of 500mm-stroke and belt feeder.



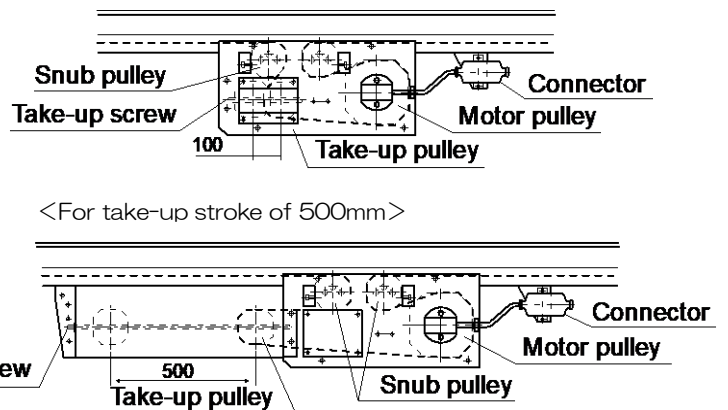
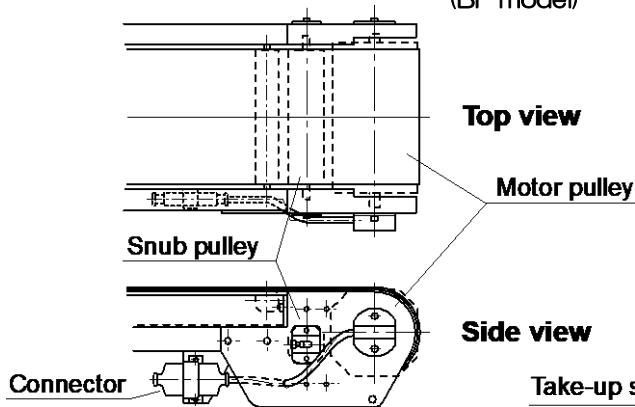
DRIVE POSITION OF S-CON®FLAT (BF, BFG and BFGS models)

HEAD DRIVE TYPE

CENTER DRIVE TYPE

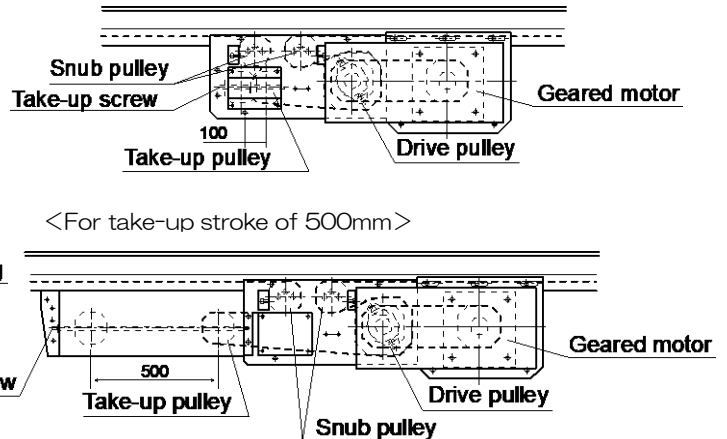
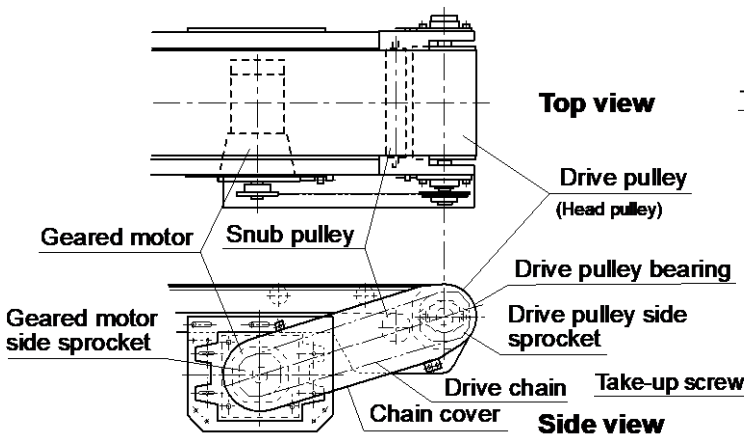
● Head drive unit of motor pulley driving type (BF model)

● Center drive unit of motor pulley driving type <For take-up stroke of 100mm> (BF model)



● Head drive unit of geared motor driving type (BFG and BFGS models)

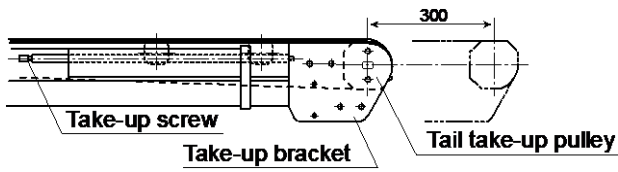
● Center drive unit of geared motor driving type <For take-up stroke of 100mm> (BFG and BFGS models)



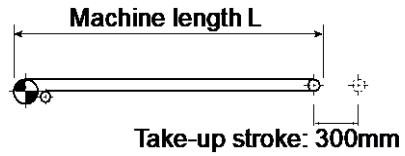
TAKE-UP TYPE OF S-CON[®] FLAT (BF, BFG and BFGS models)

 : Motor pulley / Geared motor

● Tail take-up unit



HEAD DRIVE TYPE

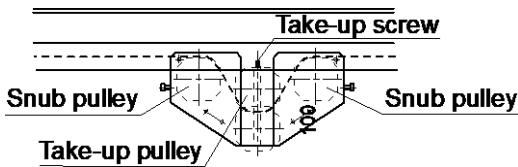


CENTER DRIVE TYPE

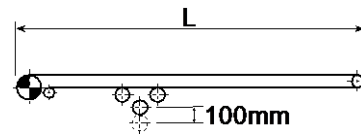
NOTE: Snub pulleys of head and tail units are attached for reversible operation only.

● Vertical center take-up unit

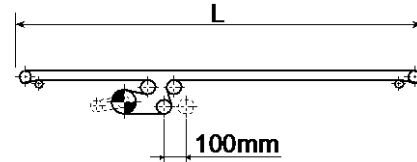
<Take-up stroke: 100mm>



HEAD DRIVE TYPE

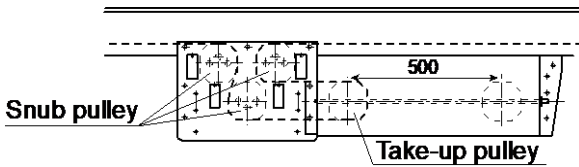


CENTER DRIVE TYPE

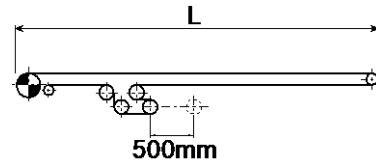


● Horizontal center take-up unit

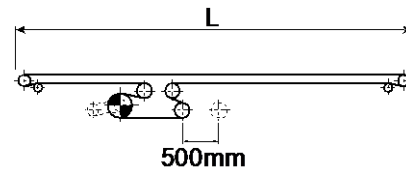
<Take-up stroke: 500mm>



HEAD DRIVE TYPE

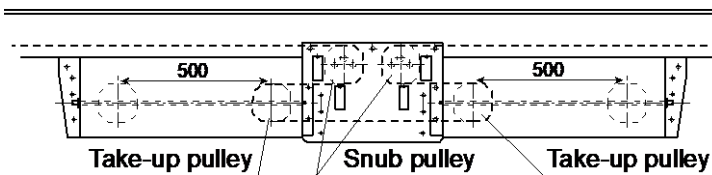


CENTER DRIVE TYPE

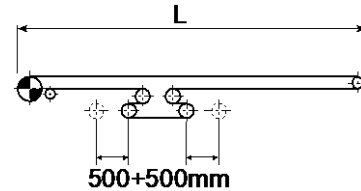


● Double horizontal center take-up unit

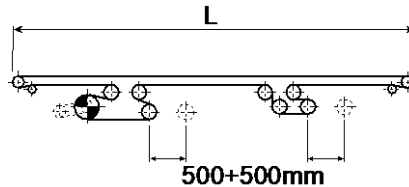
<Take-up stroke: 500+500mm>



HEAD DRIVE TYPE



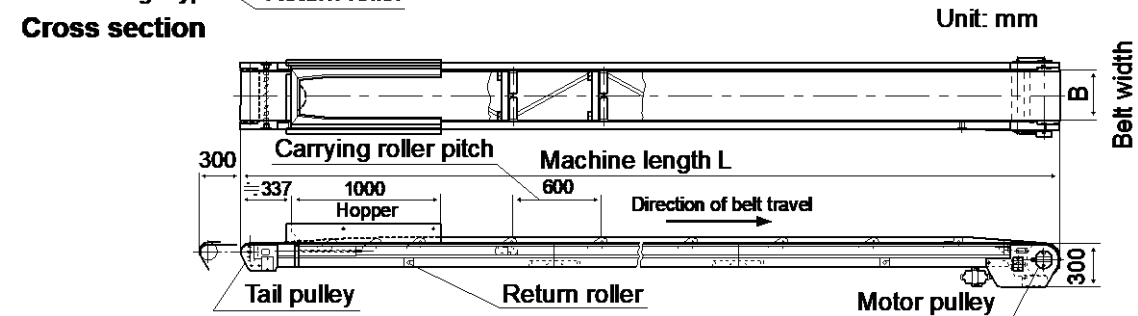
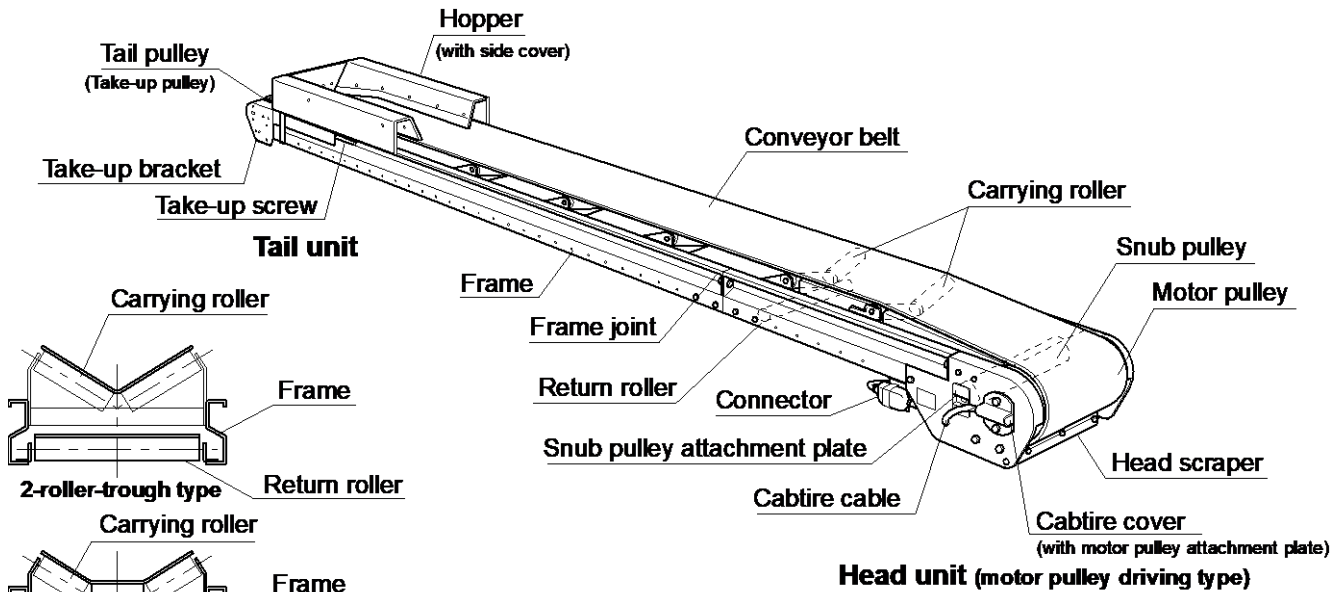
CENTER DRIVE TYPE



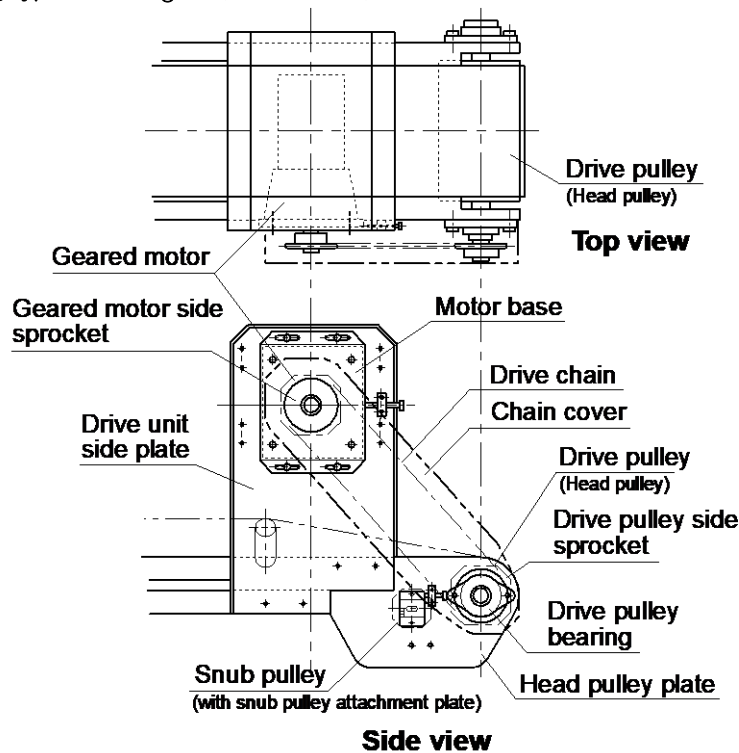
2-2. S-CON_®BT (BT and BTG models)

Applied models: BT model (Motor pulley driving type), BTG model (Geared motor driving type)

NOTE: These are diagrams of BT model.

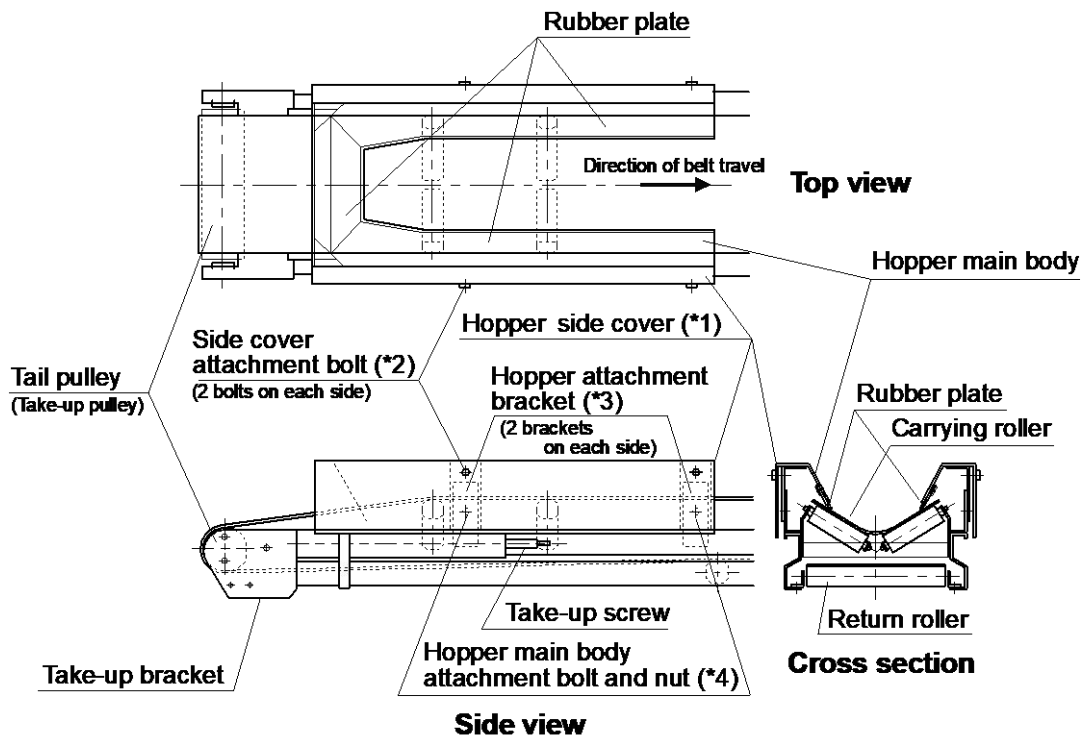


● Geared motor driving type S-CON_®BT (BTG model)



● Hopper unit of S-CON_®BT (BT and BTG models)

(eg 2-roller-trough type of 350 to 450mm in belt width)



NOTE : Assembly and installation of S-CON_®BT hopper unit:

If it is necessary to assemble and install hopper unit, perform as follows:

1. On right and left sides of hopper unit, remove hopper side covers(*1) by loosening attachment bolts(*2) (2 bolts on each side).
2. Fit hopper attachment brackets(*3) (2 brackets on each side) of hopper main body to their attachment holes of conveyor frame. Fix them to conveyor frame with attachment bolts and nuts(*4).
3. Check if rubber plates of hopper main body are slightly touching conveyor belt. If rubber plates are touching conveyor belt insufficiently/excessively, loosen their attachment bolts and nuts and properly adjust installation positions.
Keep in mind that belt will get damaged by overload if rubber plates are touching belt excessively.
4. Reinstall hopper side covers(*1) in initial positions with attachment bolts(*2).

3

ASSEMBLY

3-1. FRAME ASSEMBLY

For machine length exceeding 4.7m, frame is delivered divided. In this case assemble frame as follows:

1. Move tail pulley(*4) toward head unit by turning take-up screws(*3) of tail frame(*2). (For center take-up type, to loosen belt, move take-up pulley by turning take-up screws.)
2. Remove return roller(*5) of tail frame(*2) together with brackets by loosening attachment bolts and nuts on frame undersurfaces. Then remove tail brace(*6) by loosening attachment bolts and nuts on sides of frame.(→ See NOTE 1 on p. 14.) When machine has provisional stands for transportation, remove them also.

NOTE: For S-CON₆BT (BT and BTG models) having skirts or hopper in tail unit, remove them also.

3. Unfold belt. Put tail frame(*2) inside belt and put its end on head frame(*1) end so that it will overlap head frame by approximately 1m. (See figure above.)

4. Spread belt by gradually moving tail frame(*2) backward. Correctly set belt on top and bottom of frames.

5. Horizontally place head and tail frames(1*, 2*). Correctly fit right and left intermediate joint plates(*7) of head frame(*1) to end of tail frame(*2). Fix intermediate joint plates(*7) to tail frame(*2) by tightening bolts and nuts. Make sure that full length of frame is straight and level on top, not bent in any place. (→ See NOTE 2 on p.14 and NOTE 3 on p.15.) When machine has intermediate frames, similarly fix them.

6. Reinstall return roller(*5) and tail brace(*6) in initial positions.

NOTE: For S-CON₆BT (BT and BTG models) having skirts or hopper in tail unit, reinstall them also.

(→ See NOTE on p.12.)

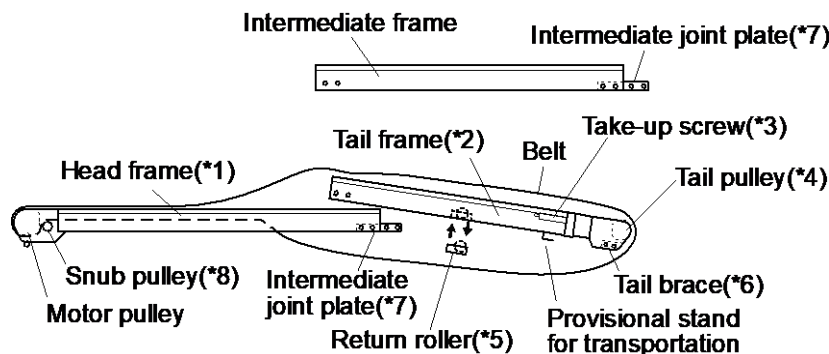
7. Fit belt center to conveyor center. To take up belt, move tail pulley(*4) outward by turning take-up screws(*3). For center take-up type, to take up belt, move take-up pulley by turning take-up screws.)

NOTE: Turn right and left take-up screws alternately, little by little, so that belt tension will be equal on both sides. (→ See “5 TAKING UP THE BELT” , p.23.) For electrical wiring and installation of attachments (stands etc.), see p.16 to 20.

NOTE: When lifting or carrying conveyor, pay special attention not to drop it in order to avoid injury. For safety, be sure to assemble conveyor by 2 or more workers.

● Frame assembly

eg Head drive type BF model with tail take-up unit (Motor pulley driving type)



NOTE: 1. Installation of endless belt delivered in separate packaging

For machine length of 15.01m or more, endless belt (loop-form belt) is delivered in separate packaging. When installing this type belt to frame, in step 2 on previous page, additionally remove return roller, brace and snub pulley(*8) of head frame. (For removal of each pulley and roller, see “ 9 REMOVAL OF PULLEYS AND ROLLERS” , p.39.)

● If machine is any one of the following types and endless belt is not installed, see “ 7 BELT REPLACEMENT” , p.33-35.

- (1) Head drive type geared motor driving type machine (→ See NOTE 1 on p. 34.)
- (2) S-CON®FLAT with center take-up unit (→ See NOTE 2 on p. 34.)
- (3) Center drive type S-CON®FLAT with center take-up unit (→ See p. 35.)

NOTE: Endless belt processing at site (optional):

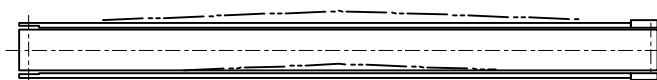
The endless belt processing (optional) can be carried out at the site where the machine is used. In this case the belt replacement is usually carried out by a professional. But depending on the situation, we may ask for your assistance. The endless belt processing needs a sufficient work space and could need the change or rearrangement of the place where it is carried out. Please consult us before your order.

2. Caution for assembly and installation

- (1) For portable type machines and fixed inclined-type machines, before fixing intermediate joint plates with attachment bolt and nuts, make sure that full length of frame is straight and level on top, not bent in any place.
- (2) For fixed horizontal type machines, before fixing intermediate joint plates with attachment bolt and nuts, temporarily install stands to frame and make sure that full length of frame is straight and level on top, not bent in any place. Then fix intermediate joint plates to frame by tightening attachment bolts and nuts. Particularly this method makes installation of longer machines easier.

● **Frame condition**

Bent



Not level



Lopsided



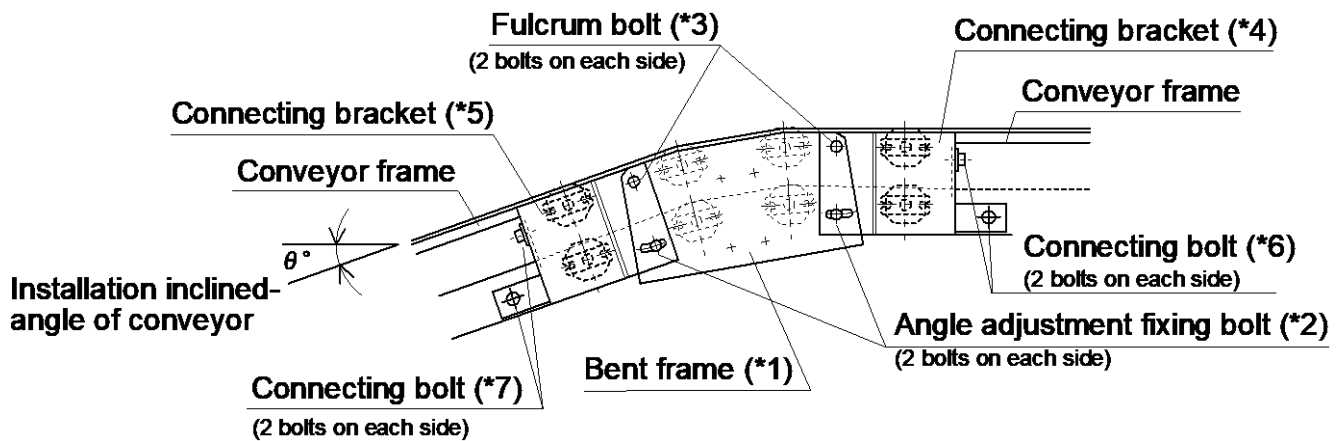
(Cross section of intermediate frame)

NOTE: 3. Bent unit assembly of fixed inclined type S-CON_θFLAT(BFGS model)

When bent unit of BFGS model is delivered divided, assemble it as follows:

- (1) On both sides of bent unit, loosen right and left angle adjustment fixing bolts(*2) (2 bolts on each side) of bent frames(*1). Using right and left fulcrum bolts(*3) (2 bolts on each side) as fulcrums, approximately set bent frames(*1) at intended inclined-angle of conveyor. Temporarily, slightly tighten right and left angle adjustment fixing bolts(*2).
- (2) Completely fix right and left connecting brackets(*4 and *5) to conveyor frame ends with connecting bolts(*6 and *7) (2 bolts on each side).
- (3) Loosen right and left angle adjustment fixing bolts(*2) (2 bolts on each side) (temporarily tightened). Using right and left fulcrum bolts(*3) (2 bolts on each side) as fulcrums, correctly set bent frames(*1) at intended inclined-angle. Then tighten all the angle adjustment fixing bolts(*2). Make sure that setting angle(θ°) of bent frame(*1) is equal to installation inclined-angle(θ°) of conveyor. (Angle adjustment range is 5° to 30° .)

● Bent unit of fixed inclined type S-CON_θFLAT(BFGS model)



3-2. ELECTRICAL WIRING

For standard machines, electrical wiring is provided as follows:

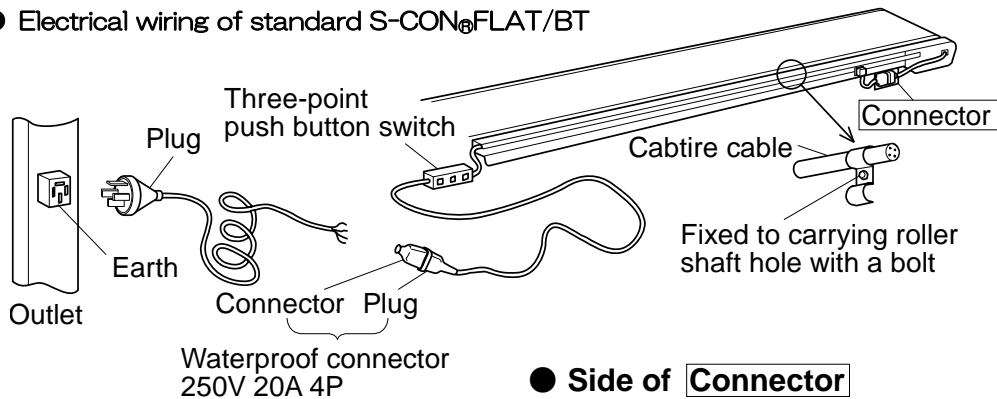
- Motor pulley driving type: from motor pulley to connector only
 - Geared motor driving type: to geared motor lead wire only
- (Further electrical wiring, electrical equipments, etc. are optional.)

Further electrical wiring should be carried out by appropriately qualified specialists.

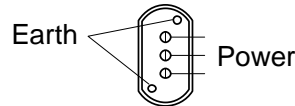
NOTE:

1. Power source connector should be three-phase 200V (or other voltages) with an earth or single-phase with an earth. Machine should be always grounded when used.
2. To avoid accidents such as overload, be sure to provide circuit protective device(s) such as earth leakage breaker on power source side.

● **Electrical wiring of standard S-CON, FLAT/BT**



● **Side of Connector**



Be sure to connect machine to earth.
(Earth wires inside cables are green.)

● **Standard rated current of motor pulley**

Power source	Three-phase 200V		
	1.0kW	1.5 kW	2.2 kW
Output			
50Hz	5.4A	6.6A (7.0A)	10.0A
60Hz	4.5A	6.0A (6.1A)	9.1A

NOTE:

1. Values in parentheses () are for powerful D type.
2. Keep in mind that current will become higher as well if voltage exceeds the rated voltage.

● **Use range of cabtire cable (for three-phase 200V)**

Cable length	Cable thickness
30m or less	1.25mm ² ×4P
50m or less	2.00mm ² ×4P
100m or less	3.50mm ² ×4P

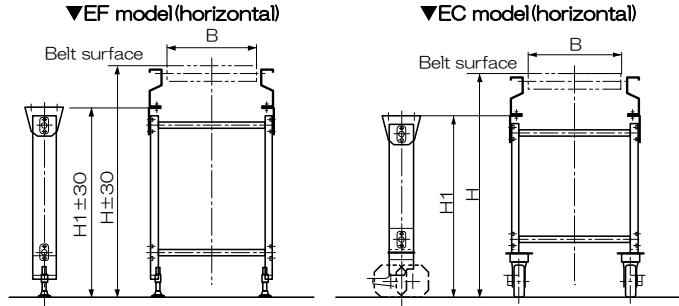
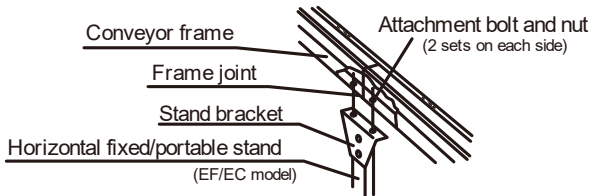
NOTE: When using one outlet for plural conveyors, maximum quantity of conveyors is three for three-phase 200V, and maximum current capacity is 20A.

3-3. INSTALLING STANDS(OPTIONAL)

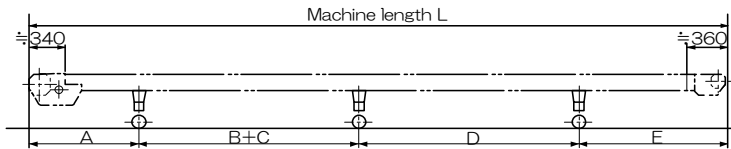
1. Installation of horizontal fixed stand (EF model) and horizontal portable stand (EC model)

Install horizontal fixed stand (EF model) or horizontal portable stand (EC model) to frame by fixing stand brackets to frame undersides with attachment bolts and nuts (2 sets on each side), as shown in figure right. For stand installation intervals, see table below.

● Installation of horizontal fixed stand (EF model) and horizontal portable stand (EC model)



●脚の取付け位置



Machine length (m)	Installation interval(mm)					Quantity of stands per machine
	A	B	C	D	E	
3.7	285	2,855	—	—	560	2
4.7	285	1,055	—	2,800	560	3
5.7	840	1,500	—	2,800	560	3
6.7	840	2,500	—	2,800	560	3
7.7	840	2,500	1,000	2,800	560	4
8.7	840	2,500	2,000	2,800	560	4
9.7	840	2,500	3,000	2,800	560	4

NOTE:

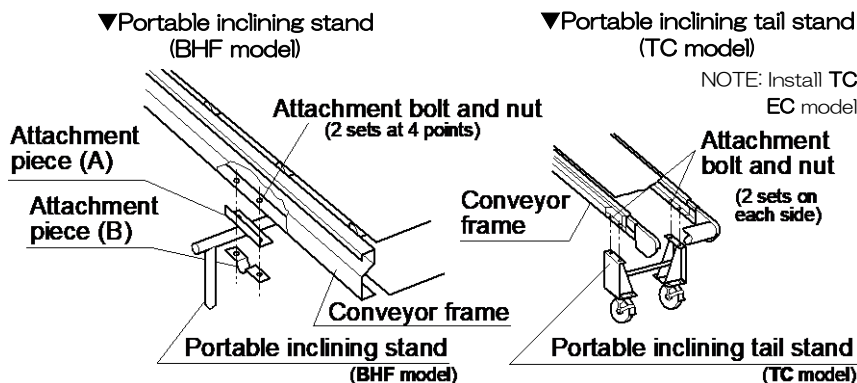
- Table shows installation intervals of EC model with materials of 50kg or less per meter.
- For EF model and for EC model with materials of 51 to 100 kg per meter, installation intervals A and C are half of values in table, and installation intervals D and E are 3,000mm or less. And in these cases, install stand at each frame joint.

2. Installation of portable inclining stand (BHF model)

Portable inclining stand (BHF model) is to be fixed to conveyor frame at four points. Install stand as follows:

Keep conveyor head unit raised. (→See the top figure on next page.) On both sides of conveyor, hold stand pipes with attachment pieces (A) and (B) as shown in figure right. Then fix attachment pieces (A) and (B) to frame undersides with attachment bolts and nuts (2 sets at 4 points).

NOTE: 1. When installing BHF stand to machine of 5.6m or less in length, be sure to place motor pulley on lower side (tail unit side) in order to prevent machine from toppling.

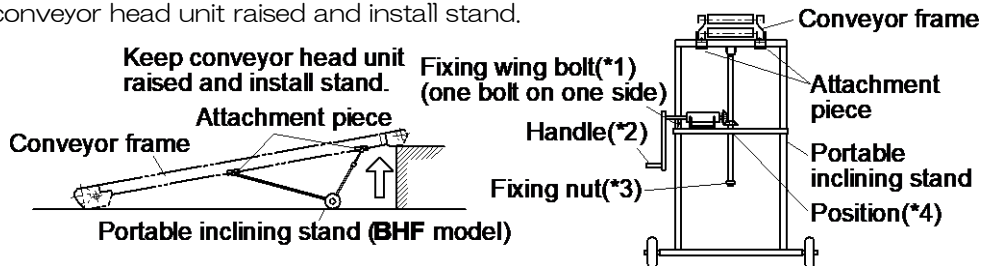


NOTE: Install TC model similarly to EF and EC models above.

2. When installing portable inclining tail stand or relocating conveyor with portable inclining tail stand installed, set inclined-angle at minimum, i.e. set machine height at minimum.
3. When changing inclined-angle, loosen fixing wing bolt(*1) (one bolt on one side) and turn handle(*2). After adjustment, be sure to retighten fixing wing bolt(*1).
4. If it is unnecessary to change inclined-angle for a long period, turn fixing nut(*3) up to the position(*4), i.e. fully.

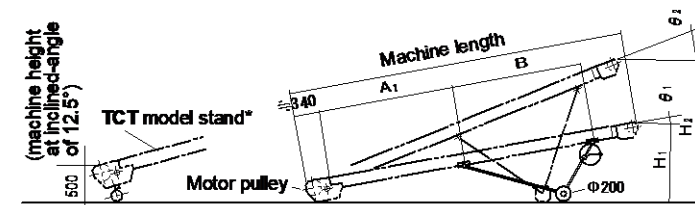
● **Caution when installing portable inclining stand (BHF model)**

Keep conveyor head unit raised and install stand.



● **Installation dimensions of standard portable inclining stand (BHF model)**

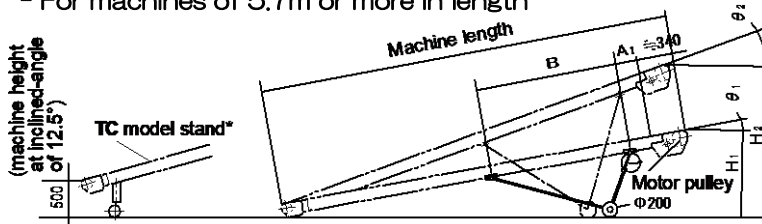
- For machines of 5.6m or less in length



*NOTE: Portable inclining tail stand TC and TCT models:

-TC model: This model is used when motor pulley is positioned on conveyor upper side. Install it under the frame of tail unit. (→See figure “Portable inclining tail stand (TC model)” on p.17.)

- For machines of 5.7m or more in length



-TCT model: This model is used when motor pulley is positioned on conveyor lower side. Install it under the drive side plates.

Conveyor		TC or TCT model*		Installation dimension(mm)		Height(mm)		Inclined angle	
Type	Machine length(m)	with / without	Tail height(mm)	A ₁	B	Minimum height H ₁	Maximum height H ₂	Minimum angle θ ₁	Maximum angle θ ₂
BF□-3.7	3.7	without	≒300	700	2,200	1,230	2,320	15° 10'	35° 10'
		with	≒500(510~460)	700	2,200	1,130	2,260	10° 10'	30° 50'
BF□-4.7	4.7	without	≒300	1,300	2,200	1,260	2,390	12°	27° 30'
		with	≒500(510~480)	1,300	2,200	1,150	2,300	8°	23° 40'
BF□-5.7	5.7	without	≒190	400	2,200	1,190	2,180	10° 10'	20° 50'
		with	≒500(540~470)	400	2,200	1,060	2,060	5° 20'	16° 20'
		without	≒190	400	1,400	1,500	2,340	13° 30'	23°
		with	≒500(520~460)	400	1,400	1,450	2,260	9° 30'	18° 40'
BF□-6.7	6.7	without	≒190	600	2,200	1,170	2,140	8° 30'	17° 10'
		with	≒500(540~490)	600	2,200	1,050	2,010	4° 20'	13° 10'
		without	≒190	600	1,400	1,520	2,330	11° 30'	19°
		with	≒500(520~480)	600	1,400	1,460	2,240	8°	15° 20'

NOTE:

1. In above table, belt width is shown in cm in □ of type. (Applied belt width: 350-500mm)
2. Installation dimensions show standard installation positions.
3. For machines of 5.6 m or less in length, place motor pulley on lower side (tail unit side) in order to prevent machine from toppling.
4. The maximum height H₂ (or maximum angle θ₂) is a possible dimension of incline. When using conveyor at a large inclined-angle, beware of material sliding and conveyor toppling.

3-4. INSTALLING BELT FEEDER (OPTIONAL)

For S-CON®FLAT BFGS model (Fixed inclined type)

Belt feeder unit is delivered in separate packaging. Install it to conveyor main body following procedure below:

1. Changing installation angles of interlocking plates or interlocking pulley plates

For smooth material transfer between inclined conveyor main body and belt feeder, change installation angles of interlocking plates or interlocking pulley plates depending on direction of belt travel, as follows. (Remove chain cover in advance. After belt feeder installation, reinstall chain cover to machine.)

● Conveyor for downward use only

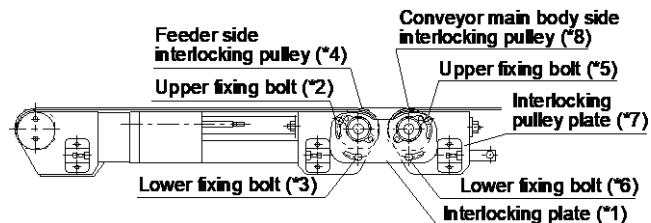
On both sides of belt feeder unit, upper fixing bolts(*2, *5) and lower fixing bolts(*3, *6) are tightened on interlocking plates(*1). Only on feeder side, loosen upper fixing bolts(*2) and lower fixing bolts(*3). Then remove upper fixing bolts(*2) only. To set interlocking plates(*1) at inclined-angle of conveyor main body, turn them using interlocking pulley(*4) shaft as rotation axis. Once angle adjustment is completed, fix interlocking plates(*1) by retightening upper fixing bolts(*2) and lower fixing bolts(*3).

● Conveyor for upward use only or for reversible use

On both sides of belt feeder unit, make sure that interlocking plates(*1) are set horizontally. Upper fixing bolts(*2, *5) and lower fixing bolts(*3, *6) are tightened on interlocking plates(*1). Only on conveyor main body side, loosen upper fixing bolts(*5) and lower fixing bolts(*6). Then remove upper fixing bolts(*5) only. To set interlocking pulley plates(*7) at inclined-angle of conveyor main body, turn them using interlocking pulley(*8) shaft as rotation axis. Once angle adjustment is completed, fix interlocking pulley plates(*7) by retightening upper fixing bolts(*5) and lower fixing bolts(*6).

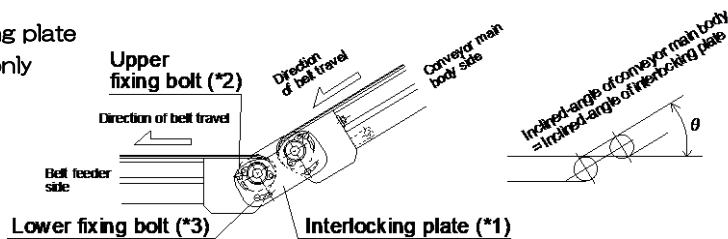
NOTE: 1. If endless belt is already installed to conveyor main body, remove interlocking pulley(*8) from belt feeder unit. Put interlocking pulley(*8) inside belt, and then reinstall it to belt feeder unit.
2. When connecting belt feeder unit to conveyor main body horizontally, make sure that both interlocking plates(*1) are set horizontally.

● Before installation

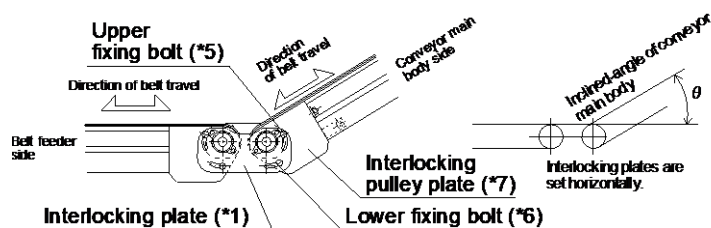


● Installation angle of interlocking plate

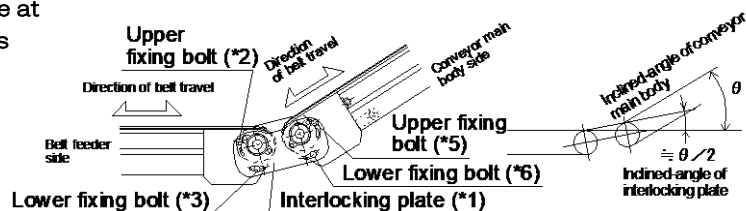
- Conveyor for downward use only



- Conveyor for upward use only or for reversible use



- Setting interlocking plate angle at half of conveyor main body's



2. Installing belt feeder unit to conveyor main body

Insert both interlocking pulley plates(*7) into tail frame end of conveyor main body, and fix them with attachment bolts and nuts(*9) (2 sets on each side).

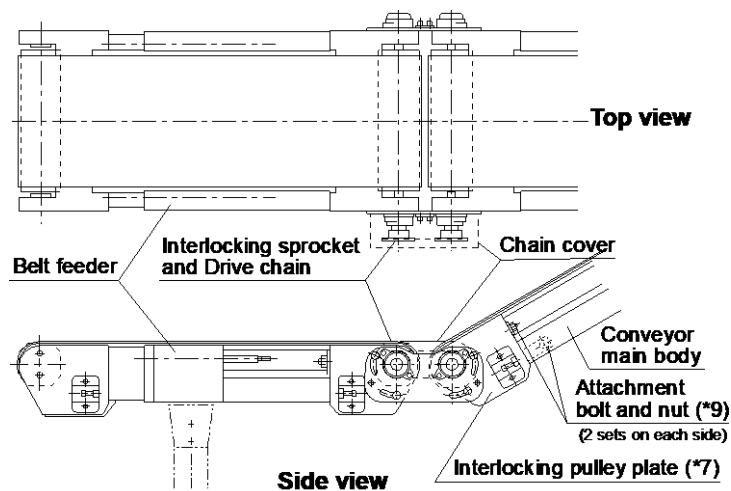
NOTE: 1. If interlocking drive chain is not installed, install it to interlocking sprockets of conveyor main body and belt feeder unit. When running conveyor, be sure to install chain cover.

2. In operation after setting up machine, if it is necessary to make material transfer smoother, be sure to switch off power supply and loosen upper fixing bolts(*2, *5) and lower fixing bolts(*3, *6). Then set angles of interlocking plates(*1) at half of conveyor main body's. (See the bottom figure on p.19.) For proper material transfer condition, make further angle adjustment if necessary. Once adjustment is completed, retighten upper fixing bolts(*2, *5) and lower fixing bolts(*3, *6).

3. Apply oil to drive chain every 3 months or every 1,000 operating hours.

4. For belt feeder with intermediate take-up, similarly install it to conveyor main body.

● After installation (eg Conveyor for upward use only or for reversible use)

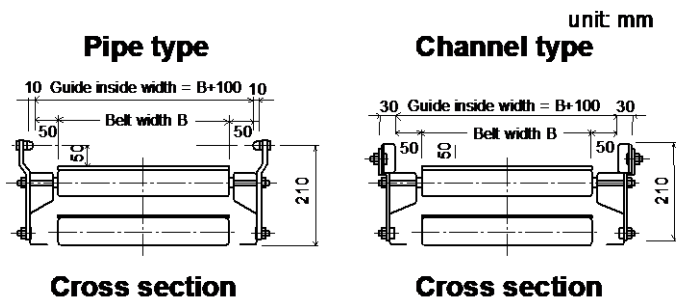


3-5. INSTALLING GUIDE RAILS OR GUARDRAILS (OPTIONAL)

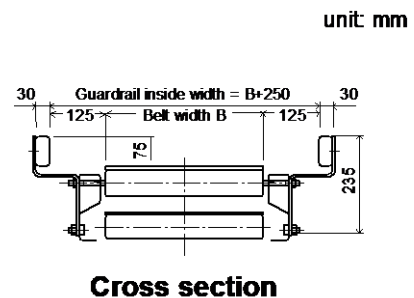
For S-CON®FLAT BF, BFG and BFGS models

Install guide rails or guardrails by attaching brackets to conveyor frame with bolts and nuts, as shown in figures below.

● Installing guide rails



● Installing guardrails



4

RUNNING THE CONVEYOR

4-1. BEFORE TURNING ON START SWITCH

Before turning on start switch, be sure to check items below:

1. Loose/missing bolts or nuts:
may cause parts to come off conveyor or frame to be bent. Before operation, retighten bolts and nuts. Supply spares if there are any missing ones.
2. Grounding:
To prevent electric shock, be sure to ground earth wire.
3. Damaged connectors or switch:
may cause electric leakage or motor to burn out due to overload etc. Replace them, if any.
4. Electrical wiring:
To prevent electric leakage or electric shock, make sure that there is no unshielded portion in electrical wiring.
5. Frame:
Confirm full length of frame is level on top, straight and not bent in any place. Incorrect frame condition may cause belt deviation or unexpected accidents.
6. Rotation malfunction of tail pulley or rollers:
may damage belt. Replace defective tail pulley or rollers, if any. Remove foreign substances such as strings, if any.
7. Belt slack:
may cause belt to slip and reduce conveyor performance, and it may damage belt or pulleys. Take up belt properly. → See “5 TAKING UP THE BELT” , p.23.
8. Inappropriate power source or voltage:
If not sure, contact appropriately qualified specialists.

CAUTION



■ Emergency stop

If it is possible to go close to the conveyor or to work beside the conveyor, be sure to install an emergency stop switch near the conveyor for safety. Before starting conveyor, check an emergency stop switch for position and also check if it works correctly.



■ 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.

4-2. AFTER TURNING ON START SWITCH

When the following problems occur after turning on start switch, perform as follows:

1. Belt does not run (Motor pulley does not rotate):

Turn off start switch and power supply immediately, or motor pulley may burn out. Check electrical wiring and motor pulley. → Refer to “10 INSPECTION AND MAINTENANCE” , p.41.

NOTE: For motor pulley with backstop, it does not run if electrical wiring is set to reverse belt travel. In this case, correct electrical wiring.

2. Belt is running in wrong direction:

Turn off start switch. Disconnect male connector from female connector. Reconnect male connector to female connector upside-down.

3. Belt is not correctly aligned:

It may cause belt to become damaged or motor pulley to burn out due to overload.

Adjust belt alignment. → See “ 6 BELT ALIGNMENT ADJUSTMENT” , p.25.

4. Motor pulley or rollers make abnormal noise:

Contact our local agent.

5. Belt speed is different from set speed:

It is possible that belt has jammed or become slack. Check and correct belt condition.

For other problems, refer to “10 INSPECTION AND MAINTENANCE” on p.41-45 or contact our local agent.

CAUTION



■ **Do NOT touch the conveyor when it is running**

There is considerable risk of being caught and injured by the conveyor.



■ **Beware of entanglement**

When working close to the conveyor, take care not to get caught in it. There is a risk of unexpected injury.

5

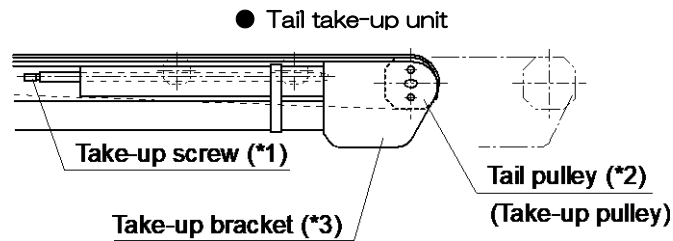
TAKING UP THE BELT

When belt is slackened off, take up the belt following procedure below:

5-1. TAKING UP BELT USING TAIL TAKE-UP UNIT

For S-CON[®]FLAT (BF, BFG and BFGS models), S-CON[®]BT (BT and BTG models)

For machines with tail take-up unit, move tail pulley(*2) together with take-up brackets(*3) outward by turning right and left take-up screws(*1) clockwise with a spanner. Belt will then be taken up. When turning take-up screws(*1), adjust them alternately, little by little, to keep their movement lengths the same.

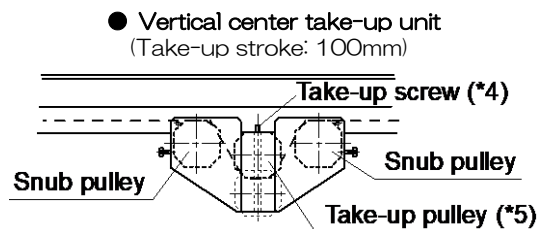


5-2. TAKING UP BELT USING CENTER TAKE-UP UNIT

For S-CON[®]FLAT (BF, BFG and BFGS models)

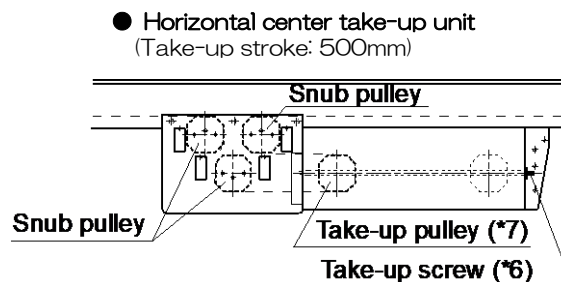
1. Machine with vertical center take-up unit

Move take-up pulley(*5) by turning right and left take-up screws(*4) counterclockwise with a spanner. Belt will then be taken up. When turning take-up screws(*4), adjust them alternately, little by little, to keep their movement lengths the same.



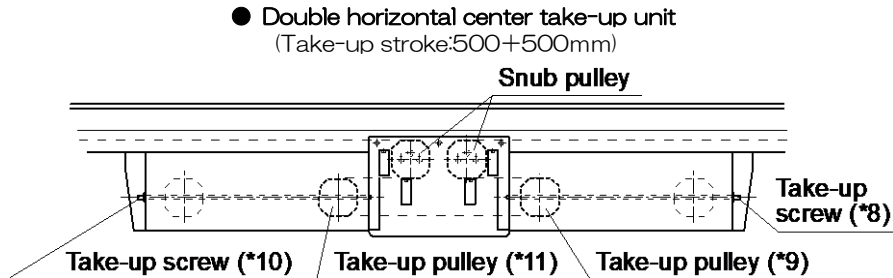
2. Machine with horizontal center take-up unit

Move take-up pulley(*7) by turning right and left take-up screws(*6) counterclockwise with a spanner. Belt will then be taken up. When turning take-up screws(*6), adjust them alternately, little by little, to keep their movement lengths the same.



3. Machine with double horizontal center take-up unit

First move either of take-up pulleys(*9 or *11) by turning right and left take-up screws(*8 or *10) counterclockwise with a spanner. Next similarly move the other take-up pulley(*9 or *11) by turning right and left take-up screws(*8 or *10) counterclockwise. Belt will then be taken up. When turning take-up screws(*8 or *10), adjust them alternately, little by little, to keep their movement lengths the same.



■ Belt tension

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

NOTE: Excessive belt take-up may overload motor or shorten service lives of belt and pulleys.

● Standard belt expansion percentage (when provided with standard belt)

Belt width (mm)	Belt expansion per meter	Standard belt expansion percentage
350~450	3.0mm	0.3%
500	2.5mm	0.25%
600	2.0mm	0.2%

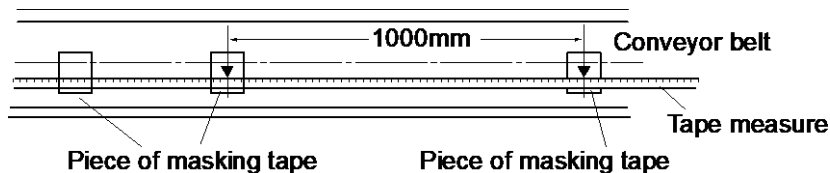
NOTE: How to measure belt expansion percentage (→ See figure below.)

Before taking up the belt, paste a piece of masking tape on the belt center. Then paste another piece of masking tape on the belt at distance of 1000mm. For example, take up the belt until the distance between these 2 pieces of tape becomes 1003mm. The belt expansion percentage will then be 0.3%.

However this value is just standard, so keep in mind that it may vary depending on the situation.

NOTE: After taking up the belt, if it is not properly aligned, adjust belt alignment. → See “6 BELT ALIGNMENT ADJUSTMENT” , p.25.

Example of belt expansion percentage measurement



6

BELT ALIGNMENT ADJUSTMENT

When belt is not properly aligned, check machine condition and adjust belt alignment as follows:

6-1. PRIOR CHECKING

1. Frame:

Confirm full length of frame is level on top, straight and not bent in any place. Particularly, carefully check frame joints. → See figures below.

2. Foreign substances on pulleys and rollers:

Check each pulley and roller for foreign substances. If any, remove them and clean pulleys and rollers.

3. Foreign substances on belt undersurface:

Check belt undersurface for foreign substances. If any, remove them and clean belt undersurface.

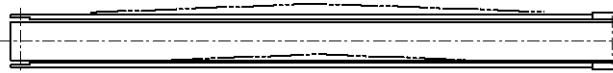
4. Obstacles to belt:

Check belt for obstacles to its correct travel. If any, remove or relocate them.

5. Loading condition:

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

Bent



Not level



Lopsided



(Cross section of intermediate frame)

6-2. BELT ALIGNMENT ADJUSTMENT

1. Checking belt deviation

Check how belt is deviating before adjusting alignment. Reset positions of parts below as instructed while running conveyor slowly, and then continue running it for a while to check any further belt deviation.

(→ See figure below.)

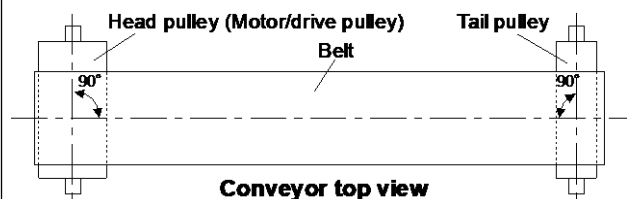
-Pulleys of head, tail and take-up units: Set at right angle to frame.

-Take-up pulley of take-up unit: Position and adjust it equally on right and left sides.

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. Moreover, pay attention to belt tension when adjusting belt alignment. → For belt tension, see p.24.

● Setting pulleys at right angle to frame



2. Belt alignment adjustment of conveyor for normal directional use

Depending on machine type, adjust belt alignment following steps [A] to [L] below. Finish adjustment when belt is properly aligned. It may not be necessary to proceed to further steps.

- [Head drive type machine] with tail take-up unit: Perform steps [A] to [E].
[For S-CON[®]FLAT (BF, BFG and BFGS models), S-CON[®]BT (BT and BTG models)]
- [Head drive type machine] with center take-up unit: Perform steps [A] to [G].
[For S-CON[®]FLAT (BF, BFG and BFGS models)]
- [Center drive type machine] with center take-up unit: Perform steps [H] to [L]. And additionally steps [B] to [G] are also applied.
[For S-CON[®]FLAT (BF, BFG and BFGS models)]

[A] Adjustment using head pulley (motor pulley or drive pulley)

● For motor pulley driving type (→See fig. 3.)

On opposite side of cabtire cable connector, make adjustment depending on direction of belt deviation, as follows. (It is impossible to make adjustment on cabtire cable connector side.)

When belt is deviating towards opposite side of cabtire cable connector: Loosen lock nut(*3). Move motor pulley(*1) shaft end slightly outward by turning adjustment bolt(*2). Motor pulley(*1) will then be set diagonally and belt will center itself. (→See fig. 1.)

When belt is deviating towards cabtire cable connector side: Loosen lock nut(*3). Move motor pulley(*1) shaft end slightly inward by turning adjustment bolt(*2). Motor pulley(*1) will then be set diagonally and belt will center itself. (→See fig. 2.) Once adjustment is complete, retighten lock nut(*3).

Head drive type machine

fig.1: Deviation towards opposite side of cabtire cable connector or chain cover

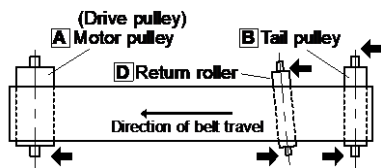


fig.2: Deviation towards cabtire cable connector or chain cover side

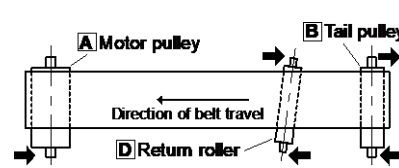
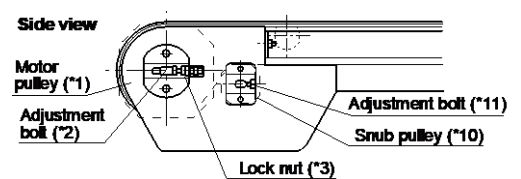


fig.3: Head unit of motor pulley driving type



● For geared motor driving type (→See fig. 4 and fig. 5.)

On opposite side of chain cover, make adjustment depending on direction of belt deviation, as follows.

When belt is deviating towards opposite side of chain cover: Loosen attachment bolts and nuts(*6) of bearing(*5). Move bearing(*5) slightly outward by turning adjustment bolt(*7). Drive pulley(*4) will then be set diagonally and belt will center itself. (→See fig. 1.)

When belt is deviating towards chain cover side: Loosen attachment bolts and nuts(*6) of bearing(*5). Move bearing(*5) slightly inward by turning adjustment bolt(*7). Drive pulley(*4) will then be set diagonally and belt will center itself. (→See fig. 2.)

Once adjustment is complete, retighten attachment bolts and nuts(*6). Then remove chain cover and be sure to check if drive chain tension is proper. (→See “Taking up drive chain”, p. 41.)

fig.4: Head unit of geared motor driving type (eg S-CON[®]FLAT BFG model)

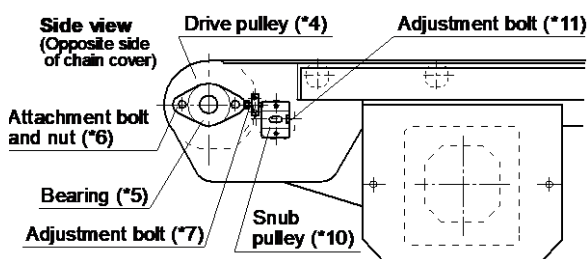
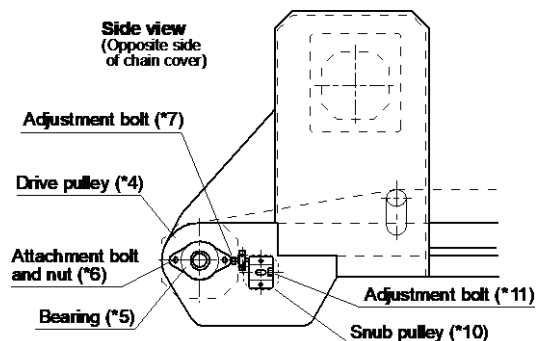
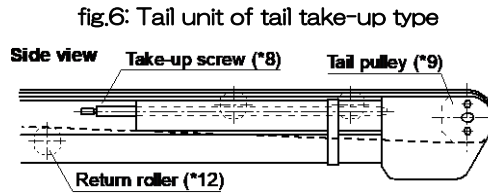


fig.5: Head unit of geared motor driving type (eg S-CON[®]BT BTG model)



B Adjustment using tail pulley (→See fig. 6, and fig. 1 and fig. 2 on p.26)

On side to which belt is deviating, move tail pulley(*9) shaft end slightly outward by turning take-up screw(*8) clockwise with a spanner. Tail pulley(*9) will then be set diagonally and belt will center itself. Alternatively adjust on opposite side. In this case move tail pulley(*9) shaft end slightly inward by turning take-up screw(*8) counterclockwise with a spanner. Tail pulley(*9) will then be set diagonally and belt will center itself.



C Adjustment using snub pulley of head unit (→See fig. 1 to fig. 5 on p.26)

On side to which belt is deviating, loosen lock nut of adjustment bolt(*11) with a spanner. Then move snub pulley(*10) shaft end slightly outward by turning adjustment bolt(*11). Snub pulley(*10) will then be set diagonally and belt will center itself. When belt is deviating to opposite side, move snub pulley(*10) shaft end slightly inward by turning adjustment bolt(*11) in reverse direction. Snub pulley(*10) will then be set diagonally and belt will center itself. Once adjustment is complete, retighten lock nut of adjustment bolt(*11).

NOTE: For geared motor driving type, make adjustment only on opposite side of chain cover.

D Adjustment using return roller of tail unit (→See fig. 6 and fig. 7, and fig. 1 and fig. 2 on p.26)

Be sure to stop conveyor. On side to which belt is deviating, find the closest return roller(*12) to tail unit. Loosen attachment bolts and nuts(*14) (2 sets on one side) of bracket(*13) of this return roller(*12) with a spanner. Then move return roller(*12) together with bracket(*13) slightly outward. Return roller(*12) will then be set diagonally and belt will center itself. Alternatively adjust on opposite side. In this case move return roller(*12) together with bracket(*13) slightly inward. Return roller(*12) will then be set diagonally and belt will center itself. Once adjustment is complete, retighten attachment bolts and nuts(*14).

NOTE: For longer machines, similarly adjust a few return rollers closer to tail unit.

E Adjustment using carrying roller

● For S-CON®FLAT (BF, BFG and BFGS models) (→See fig. 7, and fig. 1 and fig. 2 on p.26)

Be sure to stop conveyor. On side to which belt is deviating, loosen attachment bolts and nuts(*17) of adjustment plate(*16) attached to carrying roller(*15) shaft end. Then slightly move carrying roller(*15) shaft end together with adjustment plate(*16) in direction of belt travel. Carrying roller(*15) will then be set diagonally and belt will center itself. When adjustment plate(*16) is attached on opposite side, similarly move carrying roller(*15) shaft end in reverse direction of belt travel. Carrying roller(*15) will then be set diagonally and belt will center itself. Once adjustment is complete, retighten attachment bolts and nuts(*17).

NOTE: Adjustment plates of carrying rollers are attached on both sides of intermediate frame on halves. eg For intermediate frame of 3m and carrying roller pitch of 300mm, 4 adjustment plates are attached on one side; for intermediate frame of 3m and carrying roller pitch of 200mm, 6 adjustment plates are attached on one side.

fig.7: Rollers of intermediate frame (eg S-CON®FLAT BF or BFG model)

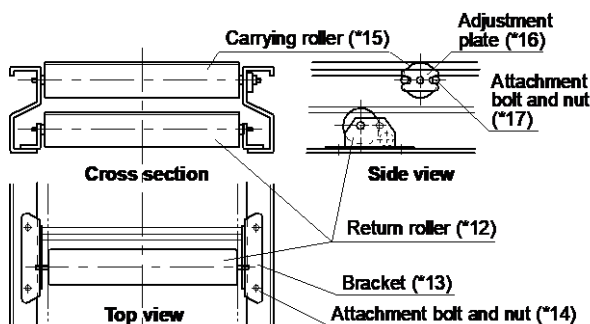
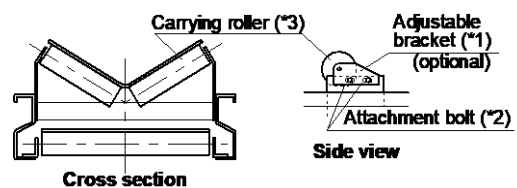


fig.8: Rollers of intermediate frame (eg S-CON®BT BT or BTG model)



● For S-CON®BT (BT and BTG models)

For standard machines, it is impossible to adjust carrying rollers.

NOTE: When adjustable bracket(*1) (optional) of carrying roller(*3) is attached, loosen attachment bolts(*2) and move carrying roller(*3) together with bracket(*1) slightly diagonally. Belt will then center itself. Retighten attachment bolts(*2) after adjustment. (→See fig. 8 on p.27, and fig. 1 and fig. 2 on p.26.)

F Adjustment using snub pulley of center take-up unit

● For vertical center take-up unit (→See fig. 11, fig. 9 and fig. 10.)

On side to which belt is deviating, loosen fixing bolts(*6) of snub pulley attachment plates(*5). Then move snub pulleys(*4) together with attachment plates(*5) slightly diagonally by turning adjustment bolts(*7). Belt will then center itself. When belt is deviating to opposite side, move snub pulleys(*4) together with attachment plates(*5) slightly diagonally by turning adjustment bolts(*7) in reverse direction. Belt will then center itself. Once adjustment is complete, retighten fixing bolts(*6).

Head drive type machine with center take-up unit

fig.9: Deviation towards opposite side of cabtire cable connector or chain cover

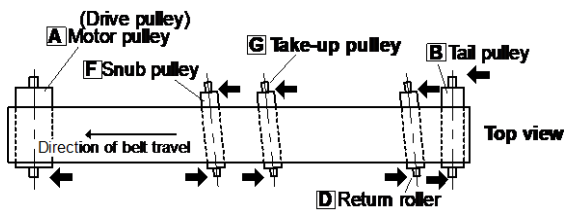
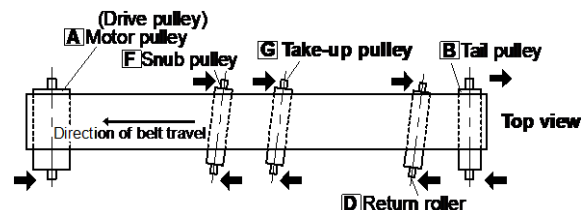


fig.10: Deviation towards cabtire cable connector or chain cover side



● For horizontal center take-up unit (→See fig. 12, fig. 9 and fig. 10.)

On side to which belt is deviating, loosen fixing bolts(*10) of snub pulley attachment plates(*9). Then move snub pulleys(*8) together with attachment plates(*9) slightly diagonally by turning adjustment bolts(*11). Belt will then center itself. When belt is deviating to opposite side, move snub pulleys(*8) together with attachment plates(*9) slightly diagonally by turning adjustment bolts(*11) in reverse direction. Belt will then center itself. Once adjustment is complete, retighten fixing bolts(*10).

● For double horizontal center take-up unit

Adjust both take-up units similarly to horizontal center take-up unit mentioned above.

fig.11: Vertical center take-up unit

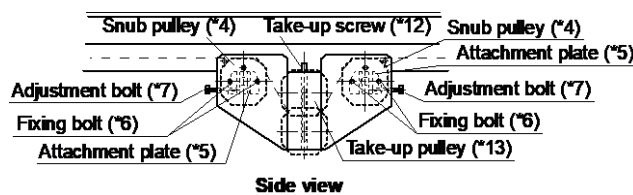
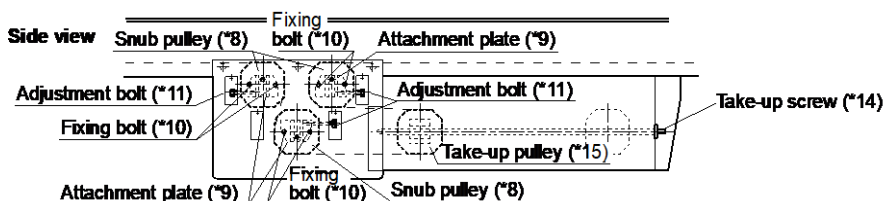


fig.12: Horizontal center take-up unit (eg take-up stroke of 500 mm)



G Adjustment using take-up pulley of center take-up unit

- For vertical center take-up unit (→See fig. 11, fig. 9 and fig. 10 on p.28.)

On side to which belt is deviating, move take-up pulley(*13) shaft end slightly downward by turning take-up screw(*12). Take-up pulley(*13) will then be set diagonally and belt will center itself. Alternatively adjust on opposite side. In this case move take-up pulley(*13) shaft end slightly upward by turning take-up screw(*12) in reverse direction. Take-up pulley(*13) will then be set diagonally and belt will center itself. When belt is deviating to opposite side, adjust oppositely to above.

- For horizontal center take-up unit (→See fig. 12, fig. 9 and fig. 10 on p.28.)

On side to which belt is deviating, move take-up pulley(*15) shaft slightly diagonally by turning take-up screw(*14). Belt will then center itself. Alternatively adjust on opposite side. In this case move take-up pulley(*15) shaft end slightly diagonally by turning take-up screw(*14) in reverse direction. Belt will then center itself. When belt is deviating to opposite side, adjust oppositely to above.

- For double horizontal center take-up unit

Adjust both take-up units similarly to horizontal center take-up unit mentioned above.

H Adjustment using head pulley (→See fig. 15, fig. 13 and fig. 14.)

For center drive type machines for normal directional use only, head pulley section is as shown in fig. 15. On side to which belt is deviating, loosen fixing bolts(*3) (2 bolts on one side) of pulley attachment plate(*2) with a spanner. Then move attachment plate(*2) slightly outward by turning adjustment bolt(*4) clockwise. Head pulley(*1) will then be set diagonally and belt will center itself. Alternatively adjust on opposite side. In this case similarly move pulley attachment plate(*2) inward. Head pulley(*1) will then be set diagonally and belt will center itself. Once adjustment is complete, retighten fixing bolts(*3).

Center drive type machine with center take-up unit

fig.13: Deviation towards opposite side of cabtire cable connector or chain cover

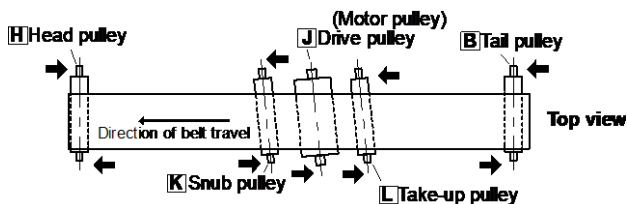


fig.14: Deviation towards cabtire cable connector or chain cover side

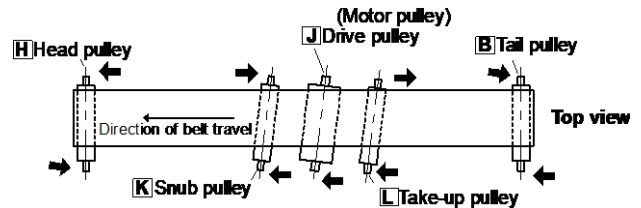


fig.15: Head pulley of head unit

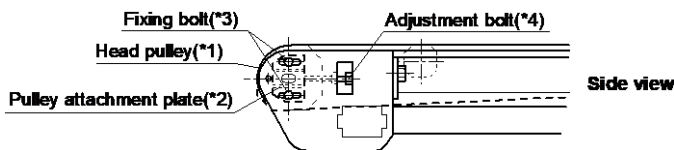
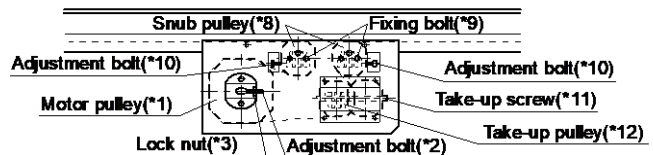


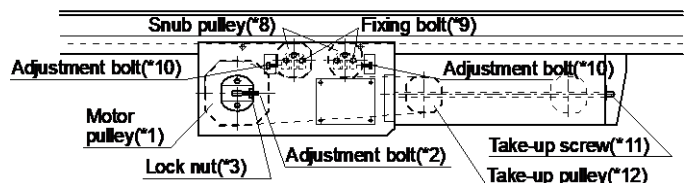
fig.16: Drive unit of motor pulley driving type
- For take-up stroke of 100 mm

Side view



- For take-up stroke of 500 mm

Side view



I Adjustment using drive pulley

- For motor pulley driving type (→See fig. 16, fig. 13 and fig. 14.)

Make adjustment only on opposite side of cabtire cable connector. (It is impossible to adjust motor pulley shaft end on cabtire cable connector side.)

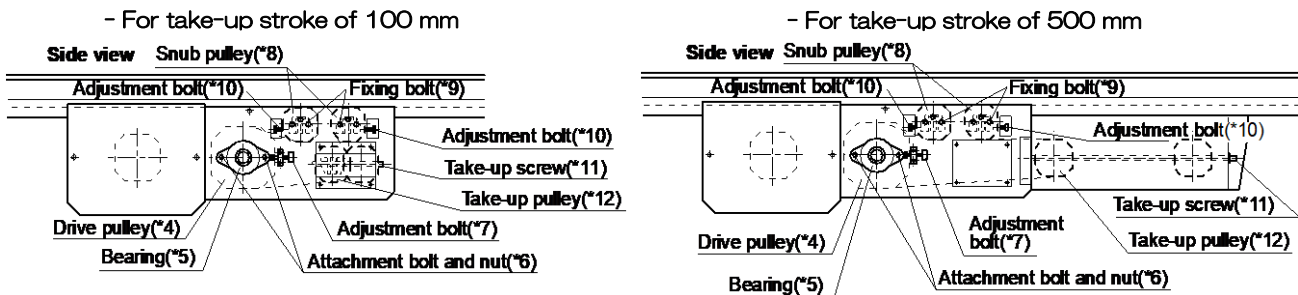
When belt is deviating to opposite side of cabtire cable connector, loosen lock nut(*3) of adjustment bolt(*2). Then slightly move motor pulley(*1) shaft end towards tail unit by turning adjustment bolt(*2). Motor pulley(*1) will then be set diagonally and belt will center itself. When belt is deviating to cabtire cable connector side, similarly move motor pulley(*1) shaft end towards head unit by turning adjustment bolt(*2) in reverse direction. Motor pulley(*1) will then be set diagonally and belt will center itself. Once adjustment is complete, retighten lock nut(*3).

● For geared motor driving type (→See fig. 17, and fig. 13 and fig. 14 on p.29)

Make adjustment only on opposite side of chain cover as follows:

When belt is deviating to opposite side of chain cover, loosen attachment bolts and nuts(*6) of drive pulley bearing(*5). Then slightly move bearing(*5) towards tail unit by turning adjustment bolt(*7). Drive pulley(*4) will then be set diagonally and belt will center itself. When belt is deviating to chain cover side, similarly move bearing(*5) towards head unit by turning adjustment bolt(*7). Drive pulley(*4) will then be set diagonally and belt will center itself. Once adjustment is complete, retighten attachment bolts and nuts(*6). Then remove chain cover and be sure to check if drive chain tension is proper. (→See “Taking up drive chain” , p. 41.)

fig.17: Drive unit of geared motor driving type



J Adjustment using snub pulley of center drive unit

(→See fig. 17, fig. 16 and fig. 13 and fig. 14 on p.29.)

On side to which belt is deviating, loosen fixing bolts(*9) of snub pulley(*8) attachment plates. Then move snub pulleys(*8) together with attachment plates slightly diagonally by turning adjustment bolts(*10). Belt will then center itself. When belt is deviating to opposite side, move snub pulleys(*8) together with attachment plates slightly diagonally by turning adjustment bolts(*10) in reverse direction. Belt will then center itself. Once adjustment is complete, retighten fixing bolts(*9).

K Adjustment using take-up pulley of center drive unit

(→See fig. 17, fig. 16 and fig. 13 and fig. 14 on p.29.)

On side to which belt is deviating, move take-up pulley(*12) shaft slightly diagonally by turning take-up screw(*11). Belt will then center itself. Alternatively adjust on opposite side. In this case similarly move take-up pulley(*12) shaft slightly diagonally by turning take-up screw(*11) in reverse direction. Belt will then center itself. When belt is deviating to opposite side, adjust oppositely to above.

3. Belt alignment adjustment of reversible conveyor

For S-CON®FLAT (BF, BFG and BFGS models)

First check belt deviation referring to “1. Checking belt deviation”, p. 25. Then adjust belt alignment depending on direction of belt travel as follows, and finish adjustment when belt is properly aligned. It may not be necessary to proceed to further steps.

NOTE: For reversible conveyor, set pulleys around which belt is winding at 180° or more (head, tail, drive and take-up pulleys etc.) as precisely as possible. When using them for belt alignment adjustment, make fine adjustments only.

(1) When traveling in normal direction (→See fig. 18 and fig. 19.)

Perform steps **M**, **D** and **E** in this order.

L Adjustment using snub pulley of tail unit (→See fig. 20, fig. 18 and fig. 19.)

Reversible conveyor is usually provided with snub pulley in tail unit. Adjust belt alignment using it as follows.

On side to which belt is deviating, loosen lock nut of adjustment bolt(*2) with a spanner. Then move snub pulley(*1) shaft end slightly outward by turning adjustment bolt(*2). Snub pulley(*1) will then be set diagonally and belt will center itself. Alternatively adjust on opposite side. In this case move snub pulley(*1) shaft end slightly inward by turning adjustment bolt(*2). Snub pulley(*1) will then be set diagonally and belt will center itself. When belt is deviating to opposite side, move snub pulley(*1) shaft end slightly inward by turning adjustment bolt(*2) in reverse direction. Snub pulley(*1) will then be set diagonally and belt will center itself. Once adjustment is complete, retighten lock nut.

D Adjustment using return roller of tail unit (→See p.27.)

E Adjustment using carrying roller (→See p.27.)

Reversible conveyor traveling in normal direction

fig.18: Deviation towards opposite side of cabtire cable connector or chain cover

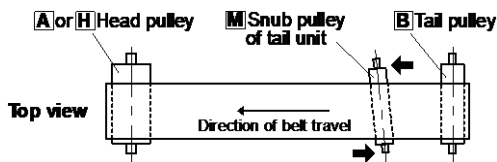


fig.19: Deviation towards cabtire cable connector or chain cover side

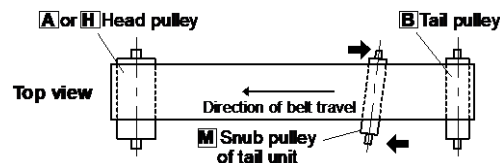
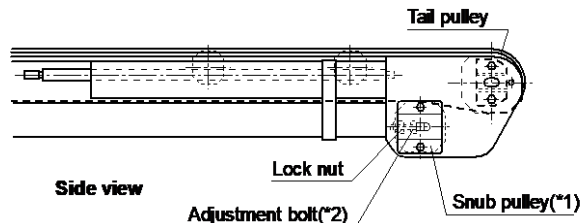


fig.20: Snub pulley of tail unit



(2) When traveling in reverse direction (→See fig. 21 and fig. 22.)

Perform steps **N**, **D**, **F** and **E** in this order.

M Adjustment using snub pulley of head unit (→See fig. 23, fig. 21 and fig. 22.)

Reversible conveyor is usually provided with snub pulley in head unit (tail unit in reverse operation). Adjust belt alignment using it as follows.

On side to which belt is deviating, loosen lock nut of adjustment bolt(*2) with a spanner. Then move snub pulley(*1) shaft end slightly outward by turning adjustment bolt(*2). Snub pulley(*1) will then be set diagonally and belt will center itself. Alternatively adjust on opposite side. In this case move snub pulley(*1) shaft end slightly inward by turning adjustment bolt(*2). Snub pulley(*1) will then be set diagonally and belt will center itself. When belt is deviating to opposite side, move snub pulley(*1) shaft end slightly inward by turning adjustment bolt(*2) in reverse direction. Snub pulley(*1) will then be set diagonally and belt will center itself. Once adjustment is complete, retighten lock nut.

Reversible conveyor traveling in reverse direction

fig.21: Deviation towards opposite side of cabtire cable connector or chain cover

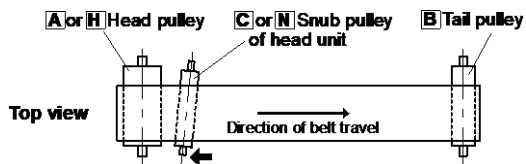


fig.22: Deviation towards cabtire cable connector or chain cover side

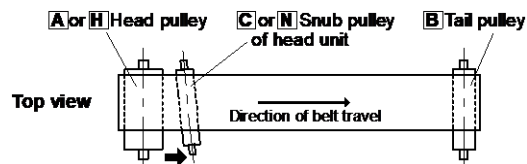
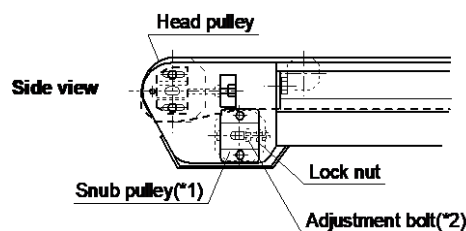


fig.23: Snub pulley of head unit (Center drive type machine)



D Adjustment using return roller of tail unit (→See p.27.)

F Adjustment using snub pulley of center take-up unit (→See p.28.)

(for machine with center take-up unit)

Among snub pulleys of center take-up unit, adjust only ones around which belt is winding at 90° or less, referring to step **F**.

NOTE: For these snub pulleys, make fine adjustments only.

E Adjustment using carrying roller (→See p.27)

7

BELT REPLACEMENT

Depending on replacement belt condition, there are two kinds of procedures as follows:

- Replacing with endless belt (preprocessed loop-form belt)
- Carrying out belt endless processing at site where conveyor is used

Replace belt as follows depending on replacement belt condition, drive type and take-up type.

7-1. REPLACING WITH ENDLESS BELT

1. **Head drive type machine** with **tail take-up unit**

(1) To slacken belt fully, move tail pulley(*2) inward by turning right and left take-up screws(*1).

(2) If covers are attached on conveyor undersurface, remove them all by loosening attachment bolts.

NOTE: For S-CON®BT (BT and BTG models) with head scraper, skirts or hopper in tail unit, remove them by loosening attachment bolts.

(3) Remove head snub pulley(*3) together with attachment plates. Remove frame brace(*4) by loosening attachment bolts.

NOTE: 1. If machine has snub pulley in tail unit or other frame braces on belt return side, remove them also.

2. For geared motor driving type, see NOTE 1, p.34.

3. For machine with center take-up unit, see NOTE 2, p.34.

(4) Remove all the return rollers(*5) together with brackets by loosening attachment bolts on frame undersurface.

(5) If machine has frame supports such as stands, to make a space to replace belt, remove their attachment bolts only on one side and raise frame.

(6) Remove belt sideways and correctly install replacement endless belt.

NOTE: If it is impossible to insert belt into machine, remove tail pulley together with brackets. Reinstall them in initial positions after inserting belt.

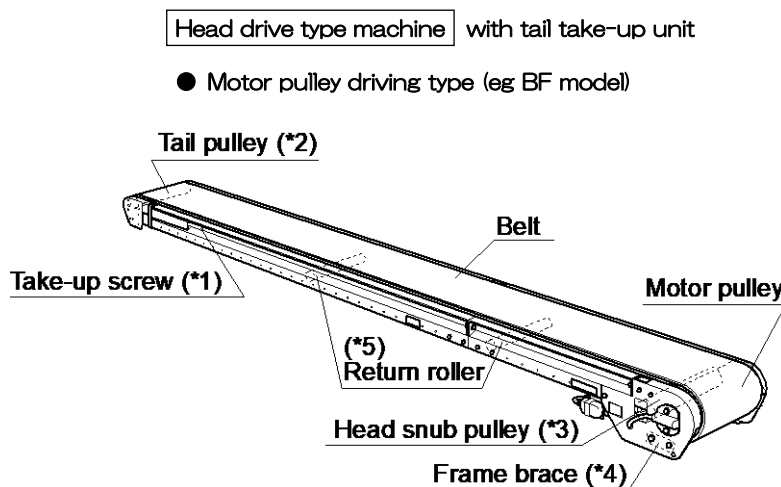
(7) Reinstall frame supports such as stands in initial positions.

(8) Reinstall parts removed in steps above (return roller, snub pulley, frame brace, lower cover, etc.) in initial positions.

(9) Fit belt center to conveyor center. To take up belt slack, move tail pulley(*2) outward by turning take-up screws(*1).

NOTE: To make belt tension equal on both sides of conveyor, turn right and left take-up screws(*1) alternately, little by little. → See “**5** TAKING UP THE BELT”, p.24.

(10) If belt is not correctly aligned in operation, adjust belt alignment. (→ See “**6** BELT ALIGNMENT ADJUSTMENT”, p.25.)



NOTE: 1. Inserting belt into **head drive type geared motor driving type machine:**

Remove chain cover. Next remove lower cover, brace and snub pulley(*6) of head unit, and then remove drive unit side plate(*7 or *13) following procedures below. After inserting belt into machine, reinstall removed parts in reverse order.

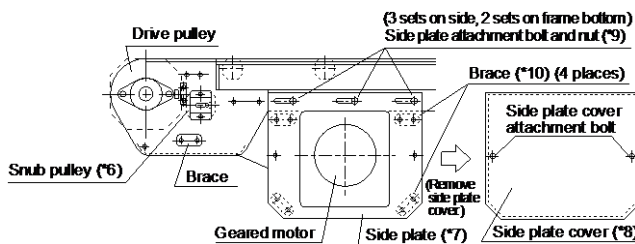
● **S-CON®FLAT (BFG and BFGS models)**

On opposite side of chain cover, remove side plate cover(*8) of drive unit. Next remove side plate attachment bolts and nuts(*9) (3 sets on side and 2 sets on frame bottom) and attachment bolts and nuts of braces(*10) (4 places). Then remove side plate(*7) and correctly insert belt into machine.

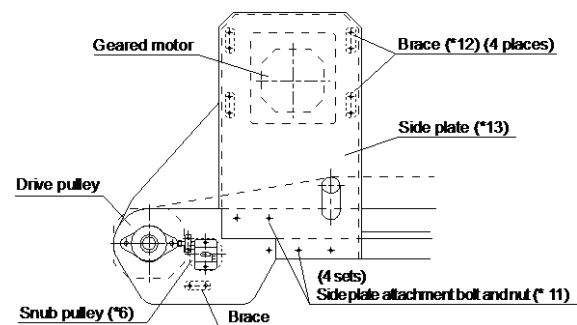
● **S-CON®BT (BTG model)**

On opposite side of chain cover, remove side plate attachment bolts and nuts(*11) (4 sets on one side) and attachment bolts and nuts of braces(*12) (4 places). Then remove side plate(*13) and correctly insert belt into machine.

● **Geared motor driving type S-CON®FLAT (Head drive type BFG and BFGS models)**



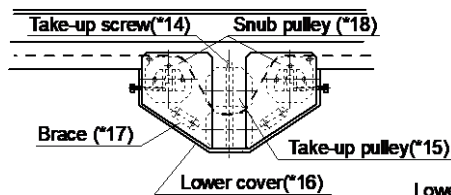
● **Geared motor driving type S-CON®BT (BTG model)**



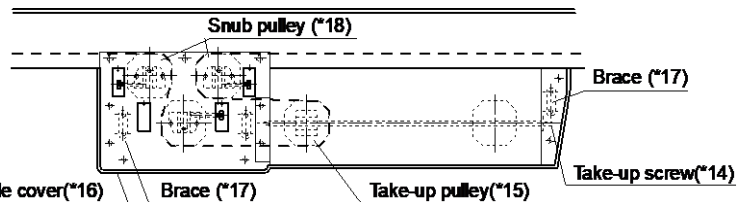
NOTE: 2. Inserting belt into **S-CON®FLAT with center take-up unit:**

To slacken belt fully, move take-up pulley(*15) by turning right and left take-up screws(*14). Then remove lower cover (or lower & side cover) (*16), braces(*17) and snub pulleys(*18). For horizontal center take-up unit, also remove take-up pulley(*15) if it is difficult to insert belt into machine. After inserting belt in correct position, first reinstall two snub pulleys(*18). If take-up pulley(*15) has been removed, next reinstall it. Then reinstall all the removed parts in initial positions.

● **S-CON®FLAT with vertical center take-up unit**



● **S-CON®FLAT with horizontal center take-up unit (eg Take-up stroke of 500mm)**



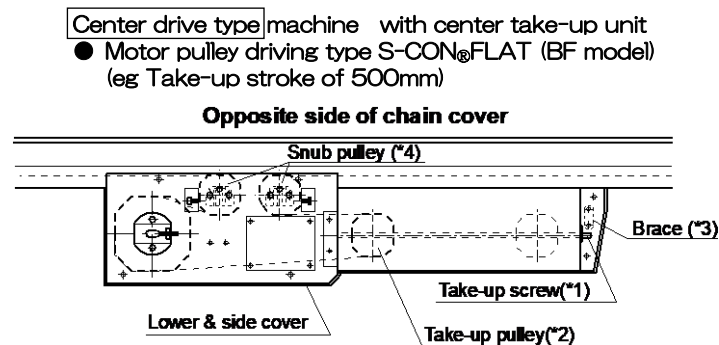
NOTE: (1) For each pulley removal, see "9-1. REMOVAL OF PULLEYS", p.39.

(2) For horizontal center take-up unit, it is unnecessary to remove snub pulleys inside belt.

(3) For double horizontal center take-up unit, perform the similar work on both take-up units.

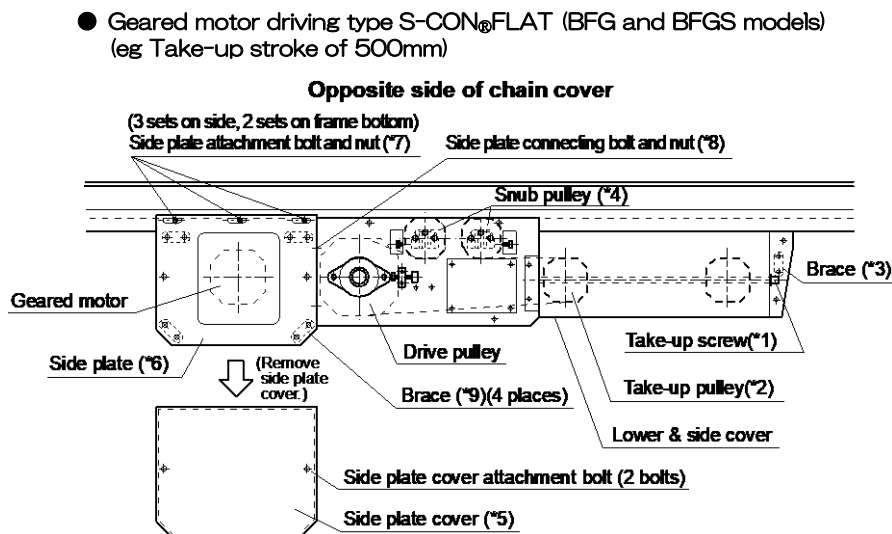
2. Center drive type S-CON®FLAT with center take-up unit

- (1) To slacken belt fully, move take-up pulley(*2) by turning right and left take-up screws(*1).
- (2) If covers (lower & side cover etc.) are attached, remove them all.
- (3) Remove all the braces(*3) and two snub pulleys(*4). (If it is difficult to insert belt into machine, also remove take-up pulley(*2) by pulling out split pins.)
- (4) Remove all the return rollers. If machine is provided with supporting stands, to make a space to replace belt, remove their attachment bolts only on one side and raise frame.
- (5) Replace belt.
- (6) After inserting belt into correct position, first reinstall two snub pulleys(*4). If take-up pulley(*2) has been removed, next reinstall it. Then reinstall all the removed parts in initial positions.



NOTE: 1. For each pulley removal, see “9-1. REMOVAL OF PULLEYS” , p.39.

2. For center drive type geared motor driving type machines (BFG and BFGS models), on opposite side of chain cover, remove side plate cover(*5), side plate attachment bolts and nuts(*7) (3 sets on side and 2 sets on frame bottom), connecting bolts and nuts(*8) (2 sets on one side) and braces(*9) (4 places). Then remove side plate(*6).



7-2. CARRYING OUT ENDLESS BELT PROCESSING AT SITE

The endless belt processing (optional) can be carried out at the site where the machine is used. In this case the belt replacement is usually carried out by a professional. But depending on the situation, we may ask for your assistance (cover removal etc.). The cleaning after the belt replacement and dealing with the old belt are usually charged.

The endless belt processing needs a sufficient work space and could need the change or rearrangement of the place where it is carried out. Please consult us before your order.

MOTOR-PULLEY/GEARED-MOTOR REPLACEMENT

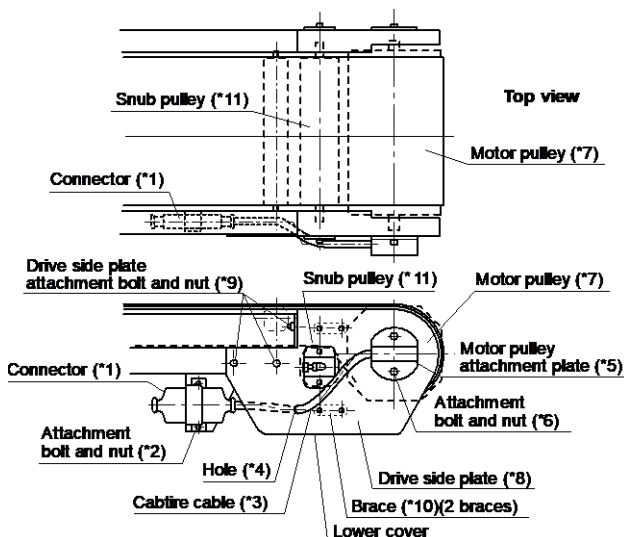
8-1. MOTOR PULLEY REPLACEMENT

NOTE: Before starting procedures below, be sure to stop conveyor and switch off power supply.
Pay special attention not to drop motor-pulley/geared-motor in order to avoid injury.

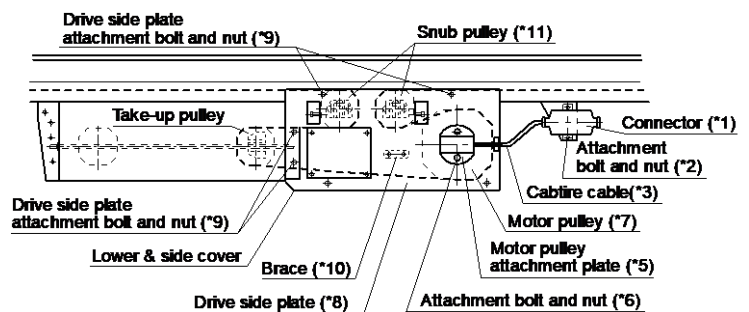
1. To slacken belt fully, move take-up pulley by turning right and left take-up screws.
2. Remove attachment bolts and nuts(*2) of connector(*1). Then remove cabtire cable(*3) from connector(*1) and pull it out of the hole(*4).
3. On cabtire cable side, remove motor pulley attachment plate(*5) together with cabtire cover by loosening attachment bolts and nuts(*6).
4. Pull motor pulley(*7) out of machine sideways. If difficult, remove lower cover (or lower & side cover). And on cabtire cable side, remove drive side plate(*8) by removing attachment bolts and nuts(*9) and attachment bolts of braces(*10). In this case also remove snub pulleys(*11).
5. Put replacement motor pulley inside belt. Insert motor pulley shaft end into shaft hole of motor pulley attachment plate (not removed from machine, on opposite side of cabtire cable). In case drive side plate(*8) and snub pulleys(*11) have been removed, reinstall them in initial positions.
6. Insert the other motor pulley shaft end into shaft hole of the removed motor pulley attachment plate(*5). Then reinstall motor pulley attachment plate(*5) together with cabtire cover in initial position with attachment bolts and nuts(*6).
7. Insert cabtire cable(*3) into the hole(*4) of drive side plate(*8), and connect it to connector(*1). Reinstall connector(*1) in initial position with attachment bolts and nuts(*2).
8. Take up belt slack by turning take-up screws. (→ See “5 TAKING UP THE BELT” , p.23.)
9. If machine is provided with head scraper, make sure that its rubber plate is contacting belt correctly.
10. If belt is not correctly aligned in operation, adjust belt alignment.
(→ See “6 BELT ALIGNMENT ADJUSTMENT” , p.25.)

NOTE: For each pulley removal, see “9-1. REMOVAL OF PULLEYS” , P.39.)

● Head drive type motor pulley driving type machine (BF and BT models)



● Motor pulley driving type S-CON₆FLAT (BF model) (eg Center drive type with take-up stroke of 500 mm)

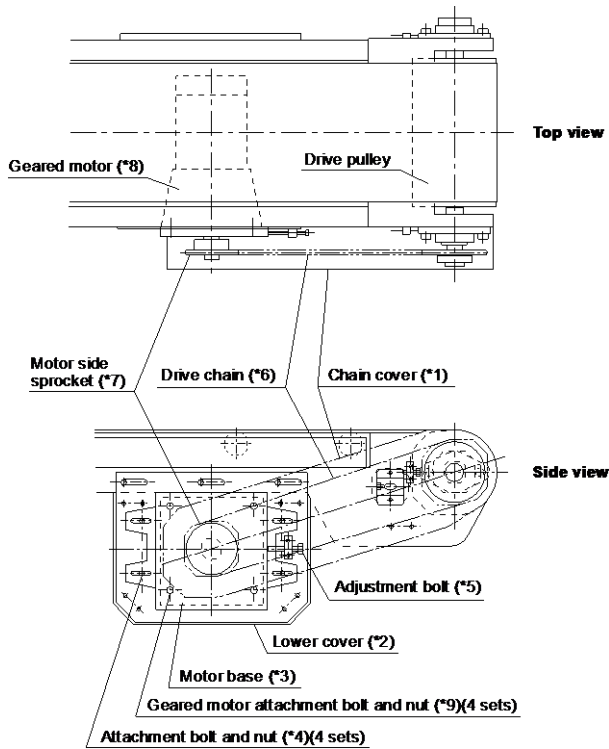


8-2. GEARED MOTOR REPLACEMENT

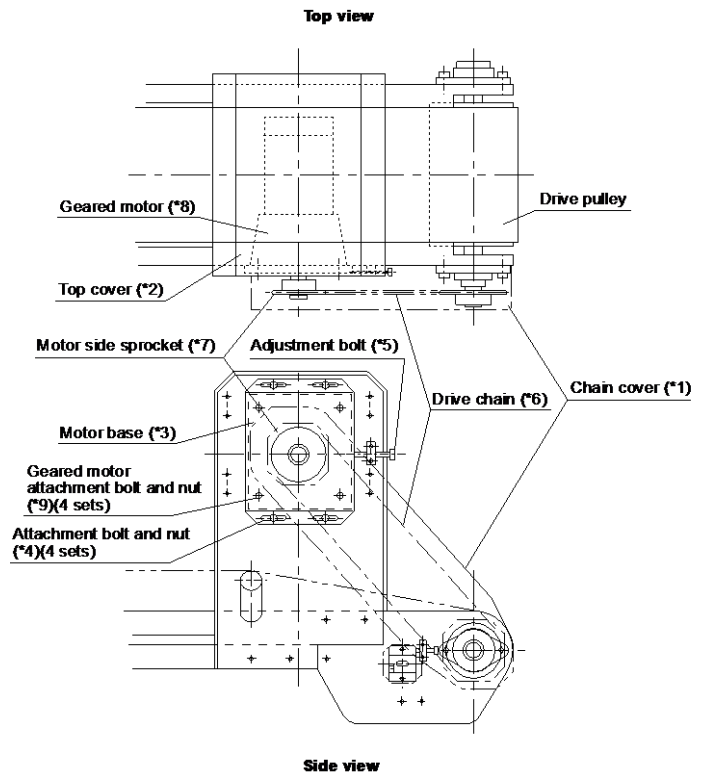
NOTE: Before starting procedures below, be sure to stop conveyor and switch off power supply.
Pay special attention not to drop motor-pulley/geared-motor in order to avoid injury.

1. Remove chain cover(*1) by loosening attachment bolts. (If lower/top cover(*2) is attached to drive unit, remove it.)
2. Slightly loosen attachment bolts and nuts(*4) (4 sets) of motor base(*3). To slacken drive chain(*6), move the whole motor base towards head unit by turning adjustment bolt(*5) counterclockwise. Then remove drive chain(*6) from motor side sprocket(*7).
3. Loosen fixing screws of motor side sprocket(*7), and pull motor side sprocket(*7) out of geared motor shaft.
4. Disconnect electrical wiring to geared motor(*8). Then remove geared motor(*8) by loosening attachment bolts and nuts(*9) (4 sets).
5. Firmly fix replacement geared motor to machine with attachment bolts and nuts(*9) (4 sets).
6. Reinstall motor side sprocket(*7) to geared motor shaft.
7. Correctly reinstall drive chain(*6) to motor side sprocket(*7).
8. To take up drive chain(*6), move the whole motor base towards tail unit by turning adjustment bolt(*5) clockwise. Check if drive chain tension is proper. (→ See “Taking up drive chain”, p.45.)
9. Retighten attachment bolts and nuts(*4) (4 sets) of motor base(*3).
10. Correctly connect electrical wiring to geared motor.
11. Reinstall chain cover(*1) in initial position. If lower/top cover(*2) has been removed, reinstall it with attachment bolts.
12. If belt is not correctly aligned in operation, adjust belt alignment.
(→ See “6 BELT ALIGNMENT ADJUSTMENT”, p.25.)

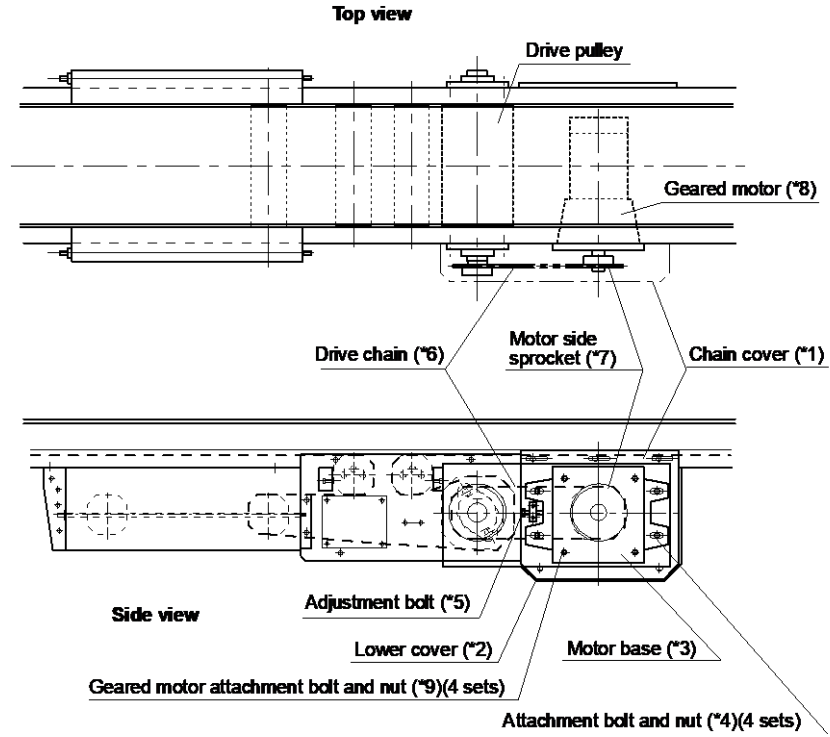
● Head drive type geared motor driving type
S-CON₆FLAT (BFG and BFGS models)



● Geared motor driving type S-CON₆BT (BTG model)



- Center drive type geared motor driving type
S-CON_®FLAT (BFG and BFGS models)
(eg Take-up stroke of 500mm)



REMOVAL OF PULLEYS AND ROLLERS

9-1. REMOVAL OF PULLEYS

Slacken belt by turning take-up screws, and remove each pulley as follows:

1. Snub pulley removal

- Snub pulley in head unit of head drive type machine
(See fig. 1.)

Remove attachment bolts(*3). Then remove snub pulley(*1) together with right and left pulley attachment plates(*2).

- Snub pulleys of center take-up unit (See fig. 3.)

Remove fall-prevention bolts(*6) tightened in centers of right and left pulley attachment plates(*5). Snub pulleys(*4) may then be removed upwards.

2. Take-up pulley removal

- Tail take-up pulley of tail take-up unit (See fig. 2.)

Remove fall-prevention bolts(*9) of right and left pulley attachment plates(*8). Tail take-up pulley(*7) may then be removed sideways.

- Take-up pulley of center take-up unit (See fig. 3.)

Pull fall-prevention split pins(*12) out of right and left screw bearings(*11). Take-up pulley(*10) may then be removed sideways.

3. Drive pulley removal of geared motor driving type machine (See fig. 4.)

Remove chain cover, and loosen fixing screws of drive pulley side sprocket(*13). Remove drive pulley side sprocket(*13) (together with drive chain) from pulley shaft. Remove right and left bearings(*14) by loosening attachment bolts and nuts(*15). Then remove drive pulley(*16).

If it is difficult to remove drive pulley(*16), also remove snub pulley(*17). (→ See “1. Snub pulley removal” above.)

After reinstalling pulleys, check if drive chain tension is proper. (→ See “Taking up drive chain”, p.45.)

NOTE: 1. Reinstall pulleys in reverse order.

2. After reinstalling pulleys, be sure to adjust belt alignment. (→ See “6 BELT ALIGNMENT ADJUSTMENT”, P.25.)

fig.1: Snub pulley of head unit
(eg Motor pulley driving type machine)

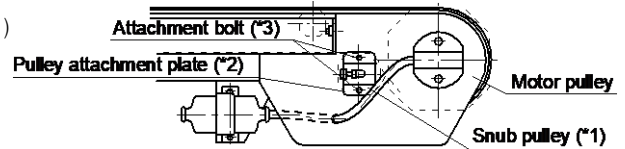


fig.2: Take-up pulley of tail take-up unit

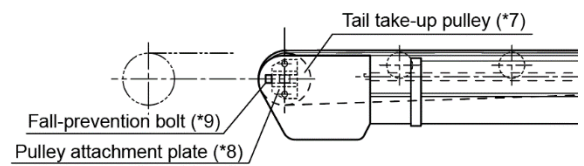


fig.3: Take-up pulley and snub pulley of center take-up unit
(eg Take-up stroke of 500mm)

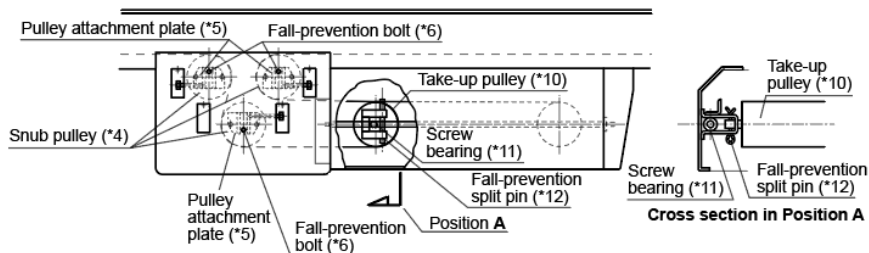
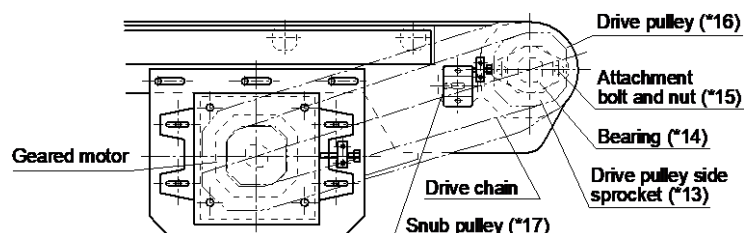


fig.4: Drive pulley of geared motor driving type machine
(eg Head drive type S-CON₆FLAT)

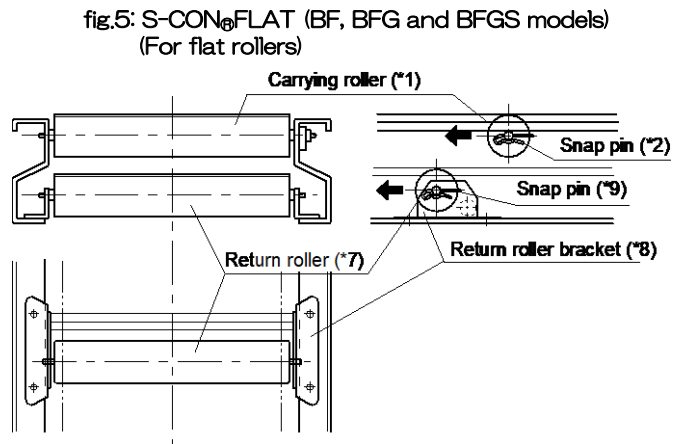


9-2. REMOVAL OF ROLLERS

1. Carrying roller removal

● S-CON₆FLAT (BF, BFG and BFGS models) (See fig. 5.)

Remove snap pin(*2) from one end of carrying roller(*1) shaft with a tool such as a pair of pliers. Remove roller shaft from frame by moving it slightly sideways, and then remove the whole carrying roller(*1) upwards.

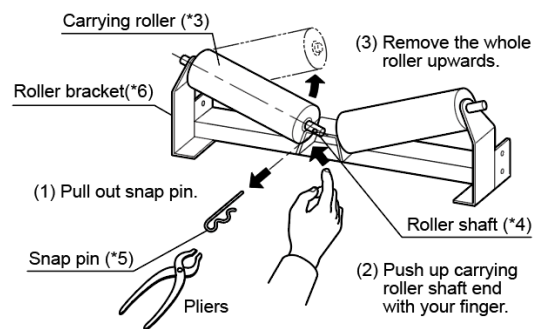


● S-CON₆BT (BT and BTG models)

For 2-roller-trough type (See fig. 6.):

- (1) Remove snap pin(*5) from one end of carrying roller shaft(*4) with a tool such as a pair of pliers.
- (2) Push up roller shaft(*4) with your finger, and remove shaft end from carrying roller bracket(*6).
- (3) Remove the whole carrying roller(*3) upwards.

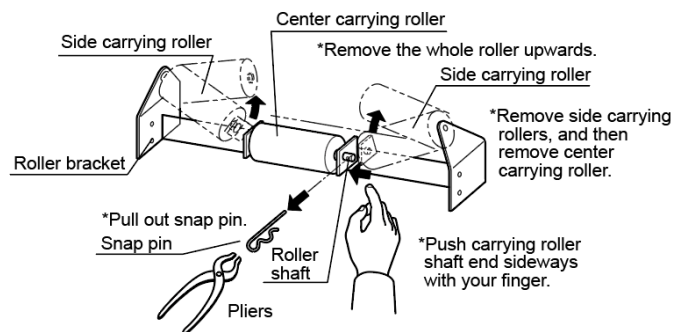
fig.6: S-CON₆BT (BT and BTG models)
(For 2-roller-trough type)



For 3-roller-trough type (See fig. 7.):

Remove side carrying rollers and center carrying roller in this order similarly to 2-roller-trough type.

fig.7: For 3-roller-trough type



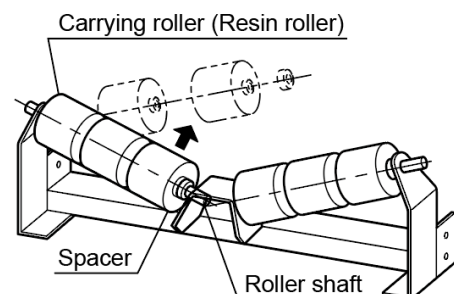
NOTE: For resin rollers (See fig. 8.), remove them similarly to 2/3-roller-trough type. However, each roller unit consists of 2 to 4 rollers and will be disassembled when roller shaft is removed. Be careful when removing the rollers.

2. Return roller removal (See fig. 5.)

Loosen attachment bolts and nuts on frame undersurface. Then remove return roller(*7) together with brackets(*8) from frame. Pull snap pin(*9) out of roller shaft end, and remove return roller(*7) from brackets by moving roller shaft slightly sideways.

NOTE: For replacement rollers, reinstall them in reverse order.

fig.8: S-CON₆BT (BT and BTG models)
(For resin rollers) (eg 3 rollers a unit)



To use conveyor performance fully and make its service life longer, it is necessary to carry out inspection and maintenance properly. For electrical matter, inspection and maintenance should be carried out by appropriate qualified specialists.

10-1. PROBLEMS AND REMEDIES

PROBLEM	CAUSE	REMEDY
(1) Belt		
1. Belt is not properly aligned.	(1) Rollers, pulleys, etc. are set at incorrect angles. (2) Materials are not in belt center. (3) Materials have stuck to rollers, pulleys, etc. (4) Belt has expanded and become loose. (5) Belt form is incorrect. (Failure in endless belt processing) (6) Frame is not straight. (7) Frame is not level on top. (Belt tends to deviate to lower side.) (8) Belt has excessive resistance to winding. (Inappropriate belt has been chosen.)	(1) Adjust attachment angles of rollers, pulleys, etc. (2) Put materials in belt center, distributing them equally. (3) Clean and remove any foreign matter. (4) Take up belt slack. (5) Redo endless belt processing, or replace belt. (6) Correct frame condition. (7) Correct frame condition. (8) a. Keep belt running without load until it fits machine. b. Replace with appropriate one.
2. Belt undersurface has become worn unusually.	(1) Belt slips on motor pulley (or drive pulley). (2) There are materials or foreign substances between belt and pulleys. (Foreign substances have stuck to pulleys.) (3) Rotation malfunction of rollers, pulleys, etc.	(1) Take up belt slack. (2) a. Remove any foreign matter. b. Properly put materials on belt so that they will not get inside machine. (3) Replace defective rollers, pulleys, etc.
3. Belt has been damaged. (Belt tears vertically.)	(1) Materials or foreign substances have stuck to hopper, scraper, etc. (2) Rollers, pulleys, etc. have come off and brackets are touching belt. (3) Rollers with rotation malfunction have holes on surfaces after wearing out. (4) Shock by heavy materials falling onto conveyor (5) Materials have projections.	(1) Remove any foreign matter. (2) Correctly reinstall rollers, pulleys, etc. into brackets. (3) Replace defective rollers. (4) Properly put materials on belt considering their weight so that they will not damage belt. (5) Do not carry materials with projections by conveyor.
4. Belt has expanded unusually.	(1) Belt has been taken up too much. (2) Expansion by materials of high temperature (3) Expansion by overload (4) Belt has expired.	(1) Loosen belt to proper tension. (2) Replace for heat-resistant belt. (3) Reduce load. (4) Replace belt.
5. Belt has warped.	(1) Materials contain oil (if belt has warped to lower cover side). (2) Warp by materials of high temperature (3) Materials contain acid or alkali.	(1) Remove cause of oil, or replace with oil-resistant belt. (2) Replace with heat-resistant belt. (3) Replace with acid-resistant or alkali-resistant belt.

PROBLEM	CAUSE	REMEDY
(2) Connector		
Breakage		Replace connector. (Be sure to start and stop conveyor with switch, not with connector.)
(3) Scraper		
Abrasion, breakage	Materials or foreign substances have stuck to scraper.	a. Remove any foreign matter so that scraper rubber plate will touch belt correctly. b. Replace scraper.
(4) Roller, pulley, etc.		
1. Abnormal noise	(1) Rotation malfunction (2) Wires, strings, etc. have wound around roller shaft.	(1) Replace defective rollers, pulleys, etc. (2) Remove any foreign matter.
2. Breakage	Shock by heavy materials falling onto conveyor	Properly put materials on conveyor considering their weight so that they will not damage rollers, pulleys, etc.
(5) Hopper		
Breakage (particularly breakage of rubber plate)	Materials have firmly stuck to hopper.	Replace hopper.
(6) Motor pulley (or Geared motor)		
NOTE: Problems of motor pulley (or geared motor) should be checked and corrected by appropriate qualified specialists.		
A When motor pulley (or geared motor) does not run unloaded		
1. Abnormal noise	(1) Connection failure of switch, connector, etc. (2) Earth leakage breaker has been activated. (Breakage of fuse) (3) Breakage in wiring has caused single-phase operation. (4) Breakage of stator coils (5) Abrasion of motor bearing has caused stators and rotors to touch each other. (6) Voltage drop	(1) Inspect plugs and metallic parts of switch. Tighten screws. (2) Check rated capacity and reset or replace earth leakage breaker. (Be sure to use earth leakage breaker with the rated capacity which suits motor.) (3) Check if wiring from power source to connector is broken. (4) Repair or replacement (5) Repair or replacement (6) Inspection, investigation
2. Motor pulley (or geared motor) can be turned in both directions manually.	(1) Breakage in wiring has caused single-phase operation. (2) Breakage of wires inside motor pulley (or geared motor) has caused single-phase operation. (3) Unbalance of power source and voltage	(1) Inspect and investigate earth leakage breaker (fuse), switch and connector. (2) Repair or replacement (3) Inspection, investigation
3. Motor pulley (or geared motor) does not make any sound.	(1) Trouble of power source a. Power stoppage b. Breakage in wiring c. Earth leakage breaker has been activated. (Breakage of fuse) d. Defective switch (2) Breakage of lead wire on motor pulley side (or geared motor side)	(1) Inspection, investigation Reset, repair or replacement (2) Repair or replacement
4. Earth leakage breaker is activated. (Fuse breaks.)	(1) Breakage of cable (Short circuit has occurred.) (2) Breakage of stator coils on motor pulley side (or geared motor side) (3) Breakage of lead wire on motor pulley side (or geared motor side) (Short circuit has occurred.)	(1) Repair or replacement (2) Repair or replacement (3) Repair or replacement

PROBLEM	CAUSE	REMEDY
(6) ...cont. from "Motor pulley (or Geared motor)"		
B When motor pulley (or geared motor) runs unloaded		
1. Motor pulley (or geared motor) rotates in wrong direction.	Wiring failure	a. Switch positions of any two of three power supply leads. b. Reconnect male connector to female connector upside- down.
2. Earth leakage breaker is activated (i.e. fuse breaks) in a short time.	(1) Imperfect short circuit in wiring (2) Imperfect short circuit inside motor pulley (or geared motor)	a. Remove motor pulley (or geared motor) from conveyor and investigate the cause. b. Repair or replace motor pulley (or geared motor).
3. Abnormal noise	(1) Excessive current in connection between stator coils (2) Excessive current caused by clearance unbalance between rotor and stator coil (3) Overheat (one-phase short circuit of stator coils)	a. Remove motor pulley (or geared motor) from conveyor and investigate the cause. b. Repair or replace motor pulley (or geared motor).
C Other problems		
1. Electric shock is received from metallic parts.	(1) Electric leakage from wiring to metallic parts (2) Insulation decline is about to occur inside motor pulley (or geared motor). (3) Insulation decline has occurred inside motor pulley (or geared motor).	(1) Remove motor pulley (or geared motor) from conveyor and measure insulation resistance of wiring. (2) Measure insulation resistance. Repair or replace motor pulley (or geared motor) if $1M\Omega$ or less. (3) Measure insulation resistance. Surely ground conveyor if $1M\Omega$ or more.
2. Electric shock is received from metallic parts, and earth leakage breaker is activated (i.e. fuse breaks) in a short time.	(1) Electric leakage from wiring to metallic parts (2) Electric leakage inside motor pulley (or geared motor) (3) Electric leakage caused by wet electrical parts	(1) Inspection, investigation Repair or replacement (2) Repair or replacement (3) Check if electrical parts are wet, and clean and dry them.
3. Overheated switch etc.	(1) Insufficient switch capacity (2) Overload	(1) Replace switch with higher capacity version. (2) Reduce load.
4. Earth leakage breaker is activated. (i.e. fuse breaks.)	(1) Insufficient switch capacity (2) Overload	(1) Replace switch with higher capacity version. (2) Reduce load.

10-2. 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	Remove any foreign matter. Cleaning
		Getting jammed	Visual inspection	Check and correct belt condition.
		Damage on surface	Visual inspection	Investigate cause and repair.
	Motor pulley (or Drive pulley)	Foreign substances	Visual inspection	Remove any foreign matter. Cleaning
	Pulleys	Foreign substances	Visual inspection	Remove any foreign matter. Cleaning
Monthly	For geared motor driving type machines Drive chain	Slackening Lubrication	Visual inspection and manual check	Take up slack. (→See NOTE 2.) Apply oil. (→See NOTE 1.)
	Sprocket	Abrasion and damage of sprocket teeth	Visual inspection and manual check	Inspection Adjustment or replacement
Three monthly	Motor pulley (or Geared motor)	Rotation malfunction Loose bolts	Visual inspection and manual check	Inspection Tighten loose bolts.
		Overheated motor Abnormal noise	Visual inspection and manual check	Inspection Adjustment or replacement
Six monthly	Motor pulley (or Drive pulley)	Abrasion of surface Rotation malfunction	Visual inspection and manual check	Inspection Adjustment or replacement (→See NOTE 3.)
	Pulleys and rollers	Rotation malfunction Loose bolts	Visual inspection and manual check	Inspection and repair Tighten loose bolts.
		Overheated bearings Abnormal noise	Manual check and listening	Inspection Adjustment or replacement (→See NOTE 4.)
	Frame, stands and attachments	Loose bolts	Visual inspection and manual check	Tighten loose bolts.
Damages		Visual inspection and manual check	Inspection Adjustment or replacement	

NOTE: 1. Apply oil to drive chain every 3 months or every 1,000 operating hours.

2. For taking up drive chain, see p.45.

3. For motor-pulley/geared-motor replacement, see p.36.

4. For removal of pulleys and rollers, see p.39.

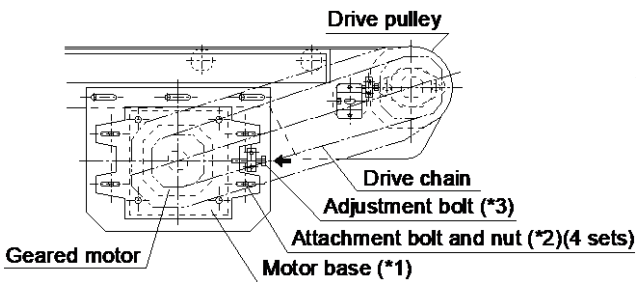
Taking Up Drive Chain

When drive chain is slackened off, take up drive chain as follows:

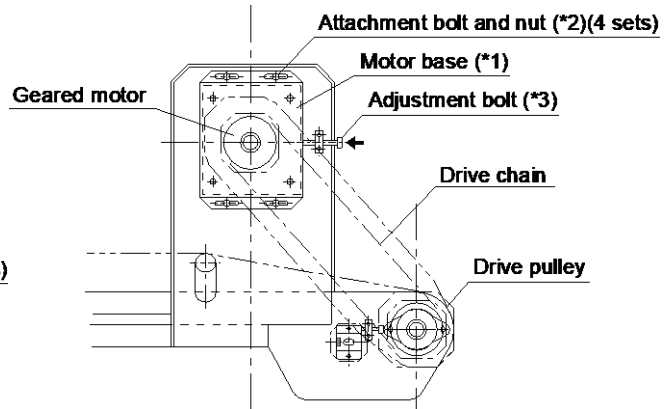
NOTE: Before starting procedures below, be sure to stop conveyor and switch off power supply.

Remove chain cover. Loosen attachment bolts and nuts(*2) (4 sets) of motor base(*1). Slightly move motor base(*1) together with geared motor inward by turning adjustment bolt(*3) as shown in figure right. Drive chain will then be taken up. Make sure that drive chain looseness is proper. (→See “Standard drive chain looseness” below.) Retighten attachment bolts and nuts(*2) and reinstall chain cover. If belt deviates after taking up drive chain, adjust belt alignment. (→ See “6 BELT ALIGNMENT ADJUSTMENT” , p.25.) When adjusting belt alignment, make sure that chain cover is installed.

● S-CON₆FLAT (Head drive type BFG model)



● S-CON₆BT (BTG model)

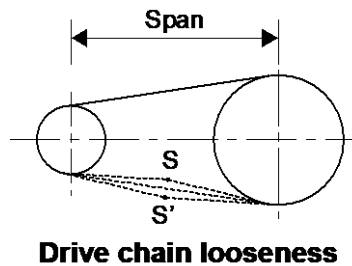


● Standard drive chain looseness (→See figure below.)

Standard drive chain looseness (length between S and S') is about 3 to 4 % of the span (length between sprocket-centers).

If machine is provided with standard geared motor support, standard drive chain looseness is about 15 to 20mm.

Properly adjust drive chain looseness referring to these standard values.



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Contact us

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