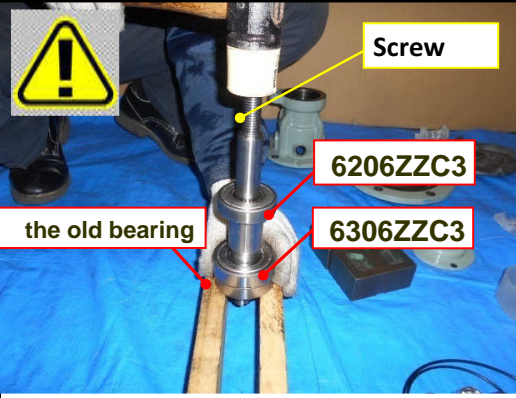
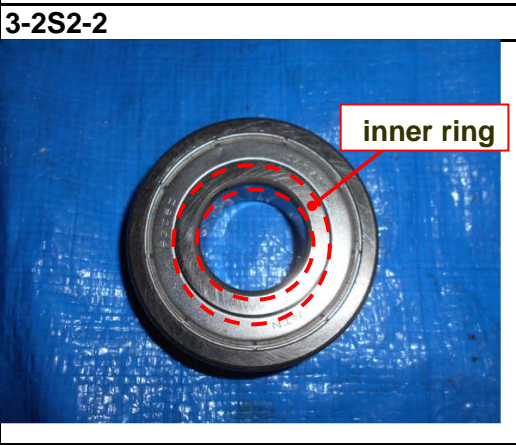

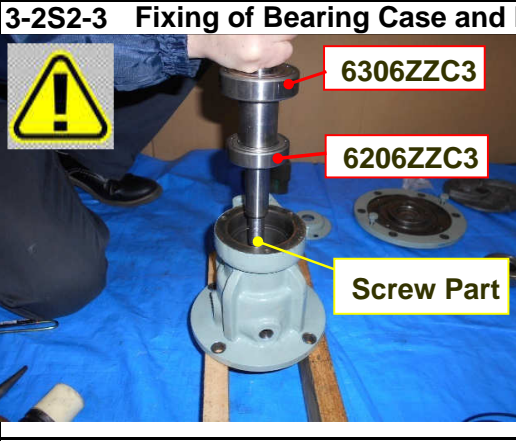

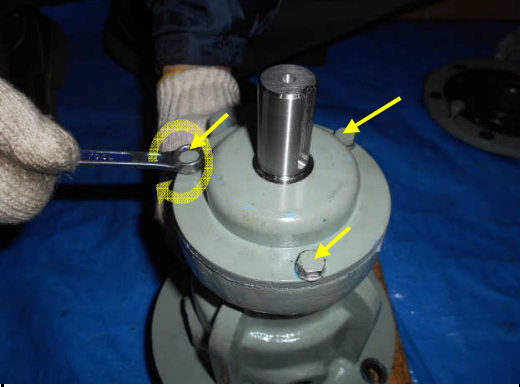


### [3. Method of Assembling Casing Side]

3-2S2-1 Insertion of Bearing (Fixing of Bearing)			
	Working Process	<p>Insert the shaft into the bearing while hitting the shaft. Set the bearing on blocks of wood so that the inner ring (see 3-2S2-2) of the bearing is supported by the blocks of wood.</p> <p>It is safer to insert an old bearing under the above-mentioned bearing.</p>	<b>Tools to Be Used</b> Block of Wood Plastic Hammer  (Oil Hydraulic Press) (Bearing Heater)
	point	<p>Don't use Metallic Hammer. The screws of the shaft will be crushed. Hit the shaft evenly so as to prevent the bearing from tilting.</p> <p>By using an oil hydraulic press device as shown in the drawing below, a bearing heater, or the like, the bearing can be inserted more smoothly and accurately.</p>	
3-2S2-2			
	Working Process	<p>Set the bearing case on blocks of wood. Insert the shaft into the bearing case.</p>	<b>Tools to Be Used</b> Block of Wood
point			
3-2S2-3 Fixing of Bearing Case and Insertion of Shaft			
	Working Process	<p>Hit the shaft with a plastic hammer and insert it vertically.</p>	<b>Tools to Be Used</b> Plastic Hammer
point		<p>When the bearing is deeply recessed, the sound generated when the plastic hammer hits the shaft will change to a higher-pitched sound.</p>	
3-2S2-4 Insertion of Shaft			

**3-2S2-5 Attachment of the bearing case cover**



<b>Working Process</b>	Attach the bearing case cover, and tighten three bolts evenly with a combination spanner (10).
<b>point</b>	

<b>Tools to Be Used</b>
Combination Spanner (10)

**3-2S2-6 Attachment of the Key**



<b>Working Process</b>	Attach the key to the leading end of the shaft, and set it by hitting it with a hammer.
<b>point</b>	If it is hard to insert the key, adjust the size of the key by filing it.

<b>Tools to Be Used</b>
Hammer

**3-2S2-7 Mounting of Mechanical Seal**

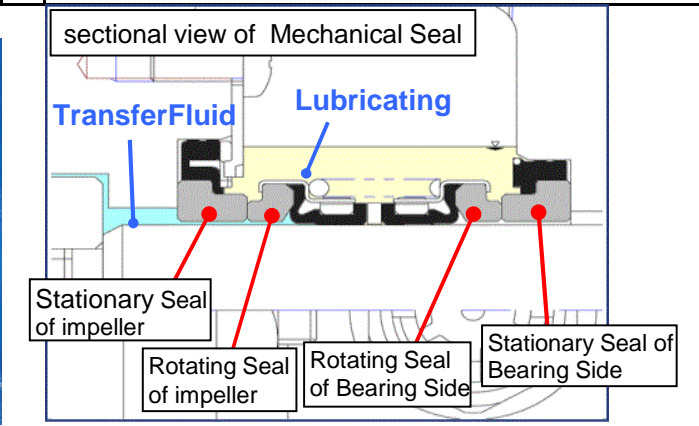


<b>point</b>	A mechanical seal is a precision component. A mechanical seal should be mounted with great care because any dirt, a foreign object, or the like on the mechanical seal or in the interior of the mechanical seal chamber may cause an early-stage seal leakage. at the time of component shipment
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<b>Tools to Be Used</b>
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Stationary seal on bearing side, rotating seal on bearing side, rotating seal on impeller side, and stationary seal on impeller side from above  
 \* The rotating seals on the impeller and bearing sides have the same

**3-2S2-8**


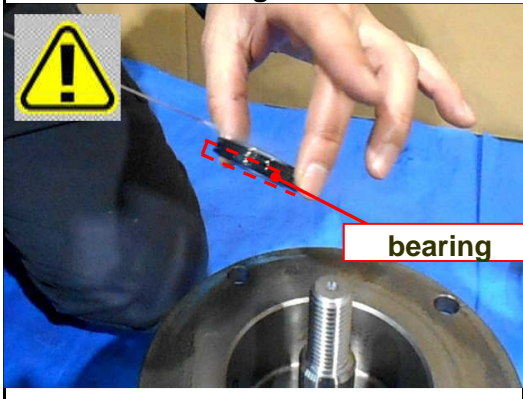
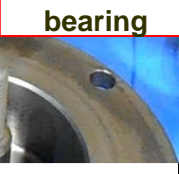



<b>Tools to Be Used</b>
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**3-2S2-9 Mounting of Mechanical Seal (Fixing of Bearing Case)**

 	Working Process	Set the bearing case on a platform that has a hole in it as shown in the drawing on the right.	Tools to Be Used a platform
	point	Make the hole big enough the shaft to pass through.	


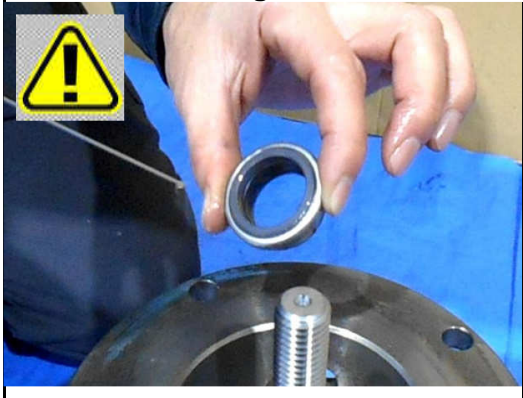

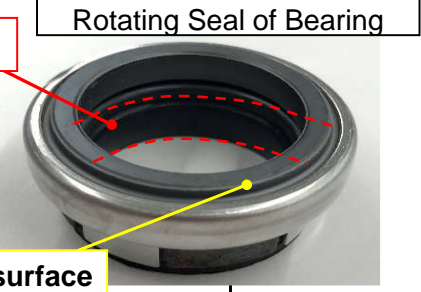
**3-2S2-10 Mounting of Mechanical Seal (Stationary Seal of Bearing Side)**

 	Working Process	Apply oil to the circumferential surface of the stationary seal on the bearing side (see the drawing on the right).	Tools to Be Used Oil Spray
	point		


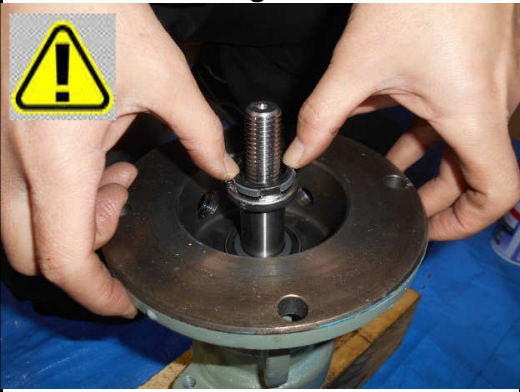

**3-2S2-11 Mounting of Mechanical Seal (Stationary Seal of Bearing Side)**

 	Working Process	Straightly insert the stationary seal on the bearing side with its seal surface facing upward. Push the rubber part without touching the seal surface.	Tools to Be Used Special tool
	point	It is easier to insert the seal if you use a special tool (see the drawing on the right).	




**3-2S2-12 Mounting of Mechanical Seal (Rotating Seal of Bearing Side)**

 	Working Process	Apply oil to the inside of the packing and the seal surface of the rotating seal on the bearing side (see the drawing on the right).	Tools to Be Used Oil Spray
	point		




### 3-2S2-13 Mounting of Mechanical Seal (Rotating Seal of Bearing Side)

 	Working Process	Straightly insert the stationary seal on the bearing side with its seal surface facing downward. Push the rubber part without touching the seal surface.	Tools to Be Used Special tool
	point	It is easier to insert the seal if you use a special tool (see the drawing on the right).	



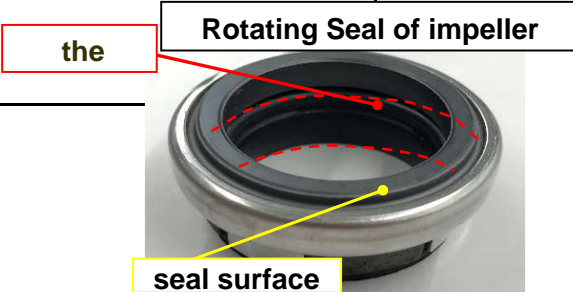
### 3-2S2-14 Mounting of Mechanical Seal (cushion ring)

 	Working Process	Insert the cushion ring.	
	point		




### 3-2S2-15 Mounting of Mechanical Seal ( spring)

 	Working Process	Insert the spring.	
	point		

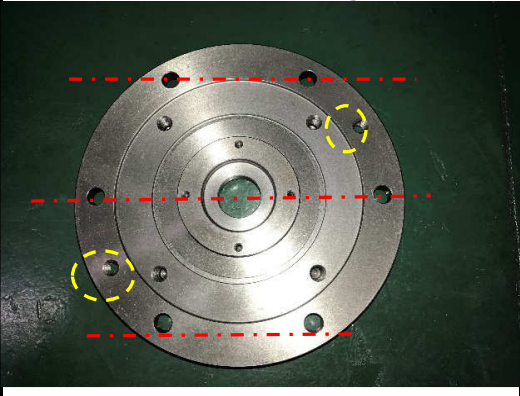
### 3-2S2-16 Mounting of Mechanical Seal (Rotating Seal of impeller Side)

 	Working Process	Apply oil to the inside of the packing of the rotating seal on the bearing side (see the drawing on the right).	Tools to Be Used Oil Spray
	point		


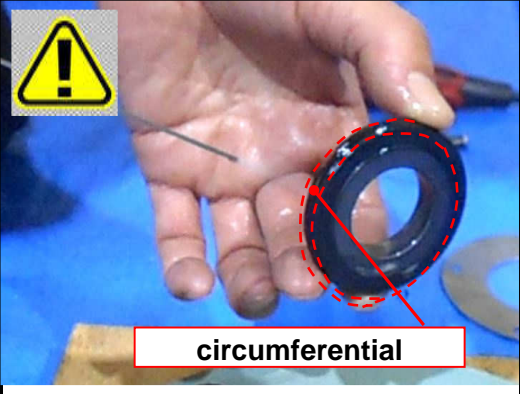
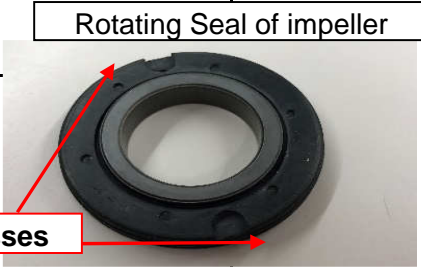
### 3-2S2-17 Mounting of Mechanical Seal (Rotating Seal of impeller Side)

 	Working Process	<p>Straightly insert the stationary seal on the impeller side with its seal surface facing upward. Push the rubber part without touching the seal surface.</p>	Tools to Be Used Special tool
	point	<p>It is easier to insert the seal if you use a special tool (see the drawing on the right).</p>	


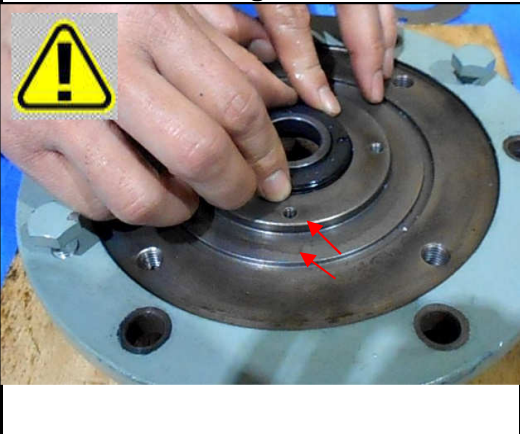

### 3-2S2-18 Check of Casing Cover Orientation


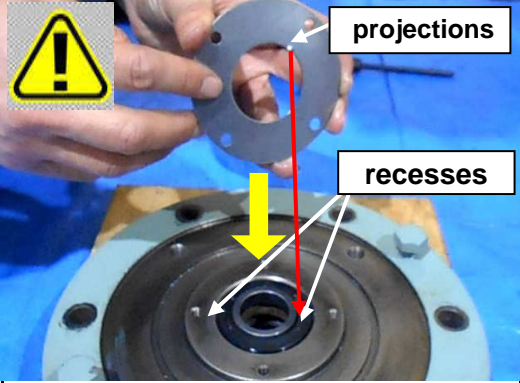

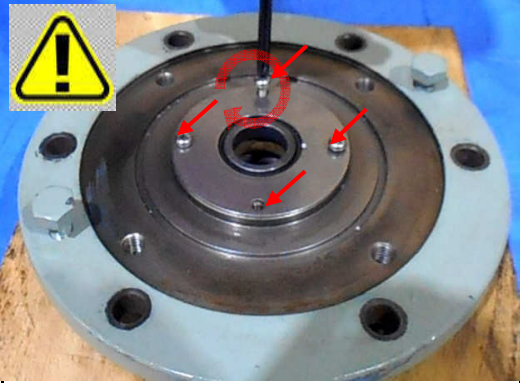
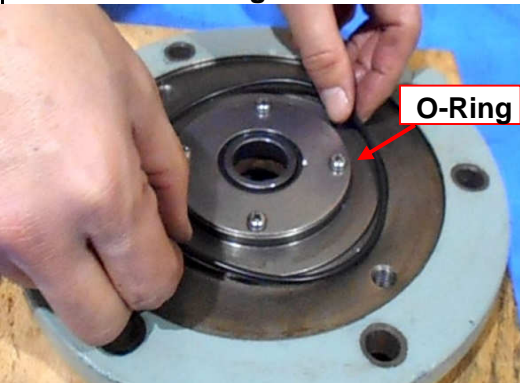

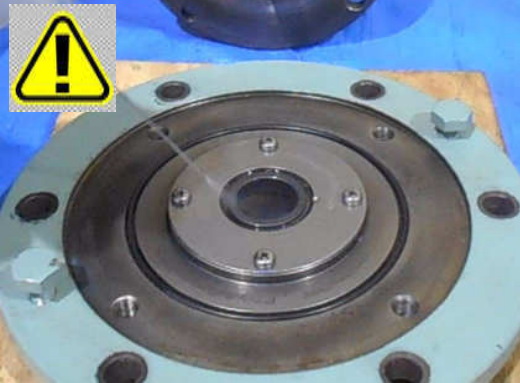
	Working Process	<p>Set the casing cover in the same manner as the bolt hole positions shown in the drawing on the left.</p>	
	point		

### 3-2S2-19 Mounting of Mechanical Seal (Stationary Seal of impeller Side)

 	Working Process	<p>Apply oil to the circumferential surface of the stationary seal on the impeller side (see the drawing below).</p>	Tools to Be Used Oil Spray
	point		

### 3-2S2-20 Mounting of Mechanical Seal (Stationary Seal of impeller Side)

 	Working Process	<p>Insert the stationary seal on the impeller side into the casing cover. With the surface of the stationary seal on the impeller side facing upward, insert the seal by pushing the rubber part into the casing cover. At this time, make the recesses of the rubber part correspond to the angles of the screw hole positions.</p>	Tools to Be Used Special tool
	point	<p>It is easier to insert the seal if you use a special tool (see the drawing on the right).</p>	

<b>3-2S2-21 Mounting of Mechanical Seal (Stationary Seal of impeller Side)</b>		
 	Working Process	Attach a fixing plate by matching the projections of the fixing plate and the recesses of the rubber of the stationary seal on the impeller side.
	point	
<b>3-2S2-22 Mounting of Mechanical Seal (Stationary Seal of impeller Side)</b>		
 	Working Process	tighten four screws with equal torque using the Cross Slot Screw Driver.
	point	Tools to Be Used Cross Slot Screw Driver
<b>3-2S2-23 Mounting of Mechanical Seal (Attachment of the O-ring)</b>		
	Working Process	Attach the O-ring to the casing cover.
	point	
<b>3-2S2-24 Mounting of Mechanical Seal (Stationary Seal of impeller Side)</b>		
 	Working Process	Apply oil to the surface of the stationary seal on the impeller side.
	point	Tools to Be Used Oil Spray
		Make sure there is no dirt or such like on the surface.

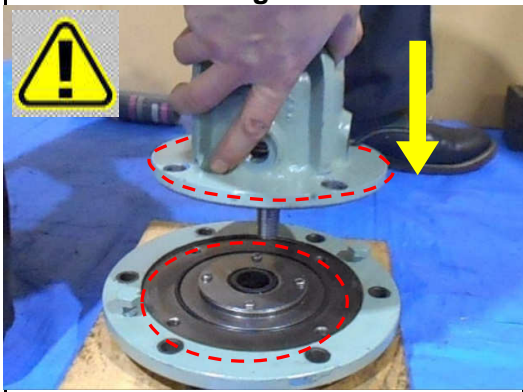
### 3-2S2-25 Fixing of Casing Cover



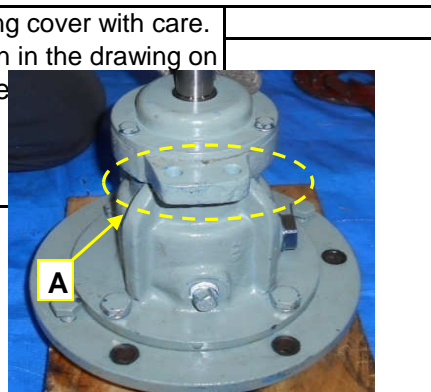
Working Process	Place the casing cover on a platform.
point	

<b>Tools to Be Used</b> a platform
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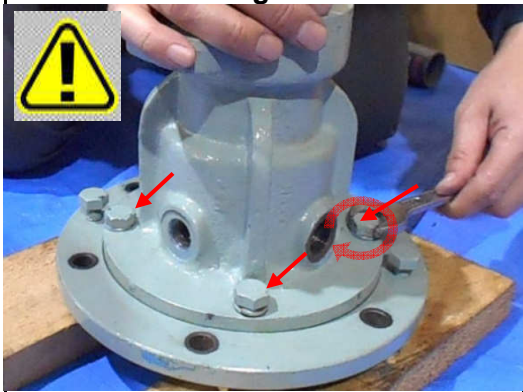
### 3-2S2-26 Mounting of Mechanical Seal



Working Process	Insert the bearing case into the casing cover with care. Insert the cover so that part A, shown in the drawing on the right, of the bearing case faces the front.
point	Take care that the shaft does not come into contact with the seal surface.



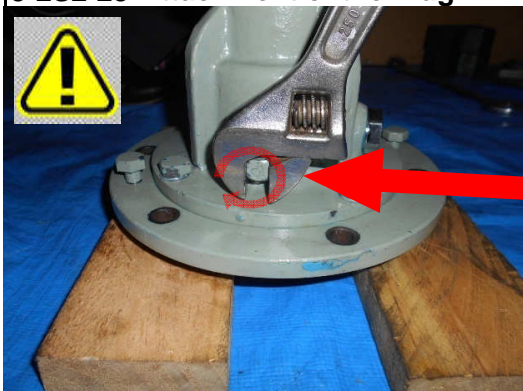
### 3-2S2-27 Mounting of Mechanical Seal



Working Process	Tighten spring washers and four bolts with equal torque using the combination spanner (17).
point	Rotate the shaft by hand, and make sure that the shaft rotates smoothly. If any abnormality is felt, dismount the bearing case from the casing cover and investigate the reason.

<b>Tools to Be Used</b> Combination Spanner (17)
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### 3-2S2-28 Attachment of the Plug


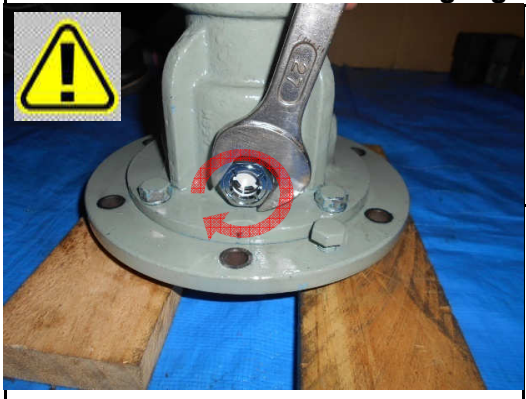


Working Process	Wind some seal tape around the plug, and tighten the plug in the lower part of the bearing case using a monkey wrench.
point	



<b>Tools to Be Used</b> Industrial sealant tape Monkey wrench
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### 3-2S2-29 Attachment of the Oil gauge

 		Attach the Oil gauge with the Combination Spanner.	<b>Tools to Be Used</b> Combination Spanner (27)
		Note that excessive tightening increases the risk of breaking the oil gauge.	



### 3-2S2-30 Pressure hold check

 	Working Process	Here, a pressure hold check should be carried out. Attach the Pressure Gauge to the top part of the Bearing case while referring to the drawing on the left. Then, apply an air pressure of 0.3 Mpa and hold it for 10 minutes.	<b>Tools to Be Used</b> Pneumatic Device Pressure Gauge
	point	If the pressure drops, dismount again and clean, and then mount the components again.	

### 3-2S2-31 Mounting of Mechanical Seal (Filling of Oil)

 	Working Process	Put oil in the amount of 165 cc into the interior of the mechanical seal chamber. If the amount of oil can be visually checked, add oil until the spring is immersed.	<b>Tools to Be Used</b> Oil #10
	point	If you are using a standard oil, it is recommended to use oil VG10 or VG32.	

### 3-2S2-32 Attachment of the Plug

 	Working Process	Wind some seal tape around the plug, and tighten the plug in the lower part of the bearing case using a monkey wrench.	<b>Tools to Be Used</b> Monkey wrench
	point		

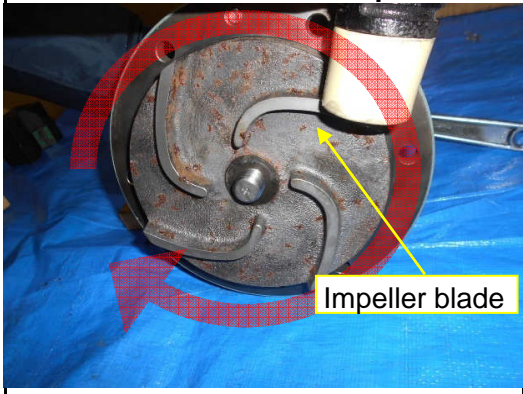


### 3-2S2-33 Attachment of Impeller (Fixing of Shaft)



<b>Working Process</b>	Make sure that the shaft does not rotate. Fix the shaft with the Monkey wrench, and rock the key part. Make sure not to damage the shaft.	<b>Tools to Be Used</b> Monkey wrench
<b>point</b>	May be substituted by the Vice.	Vice

### 3-2S2-34 Attachment of Impeller



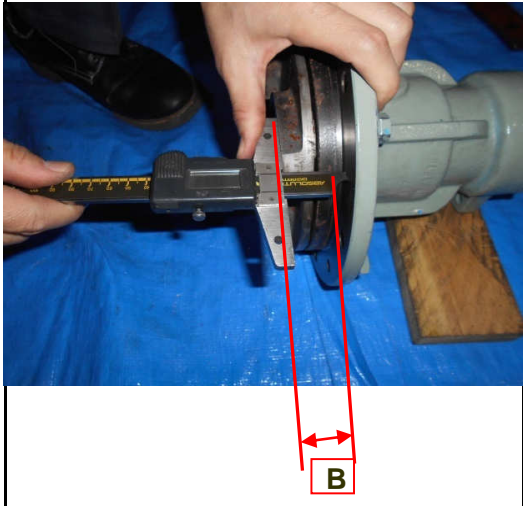
<b>Working Process</b>	Insert the impeller onto the shaft, and lightly hit the impeller blades with a plastic hammer to tighten the impeller.	<b>Tools to Be Used</b> Plastic Hammer
<b>point</b>		

### 3-2S2-35 Attachment of Impeller



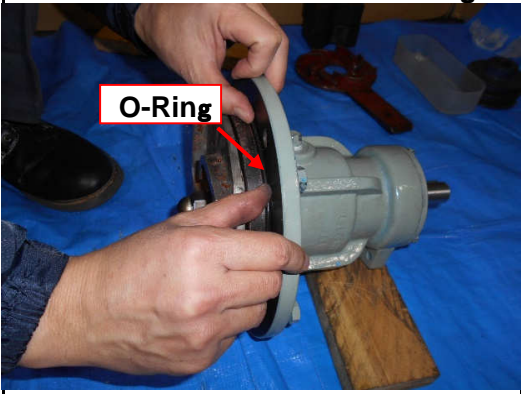
<b>Working Process</b>	Insert a washer and a nut onto the shaft in that order. Rotate the nut clockwise with a combination spanner (27) to tighten it.	<b>Tools to Be Used</b> Combination Spanner (27)
<b>point</b>	Make sure that the shaft rotates correctly with your hands.	

### 3-2S2-36 Clearance Check



<b>Working Process</b>	Measure dimension B, shown in the drawing on the left, using a depth gauge. The design dimension of the specifications for motor 4P is 37.2mm. (For the specifications for motor 2P, please contact the sales agent of the product. ) If dimension B has become smaller due to wear, the pumping power will be affected by that dimension change. (for example, 36 mm or less) In such a case, please replace the impeller.	<b>Tools to Be Used</b> Depth gauge
<b>point</b>		

### 3-2S2-37 Attachment of the O-ring



Working Process	attach the O-ring.	
point		

### 3-2S2-38 Insertion of V Pully or Coupling



Working Process	Straightly insert the V pully or coupling onto the shaft. The insertion should be carried out with care using a plastic hammer.	<b>Tools to Be Used</b> Plastic Hammer
point	Note that strongly hitting the component may cause it to break.	

### 3-2S2-39 Insertion of V Pully or Coupling



Working Process	Rotate the 2 bolts with a Hex key (6mm).	<b>Tools to Be Used</b> Hex key (6mm)
point		

### 3-2S2-40 Completion



Working Process	Attachment of the rotating part is completed.	
point		