

Portable Automatic Gas Cutter



BJA03B05

RAIL FOR IK-72T

OPERATION MANUAL



For every person who will be engaged in operation and maintenance supervision, It is recommended to read through this manual before any operations, so as to permit optimum operation of this machine.

KOIKE SANZO KOGYO CO.,LTD.

1 Attaching the rail

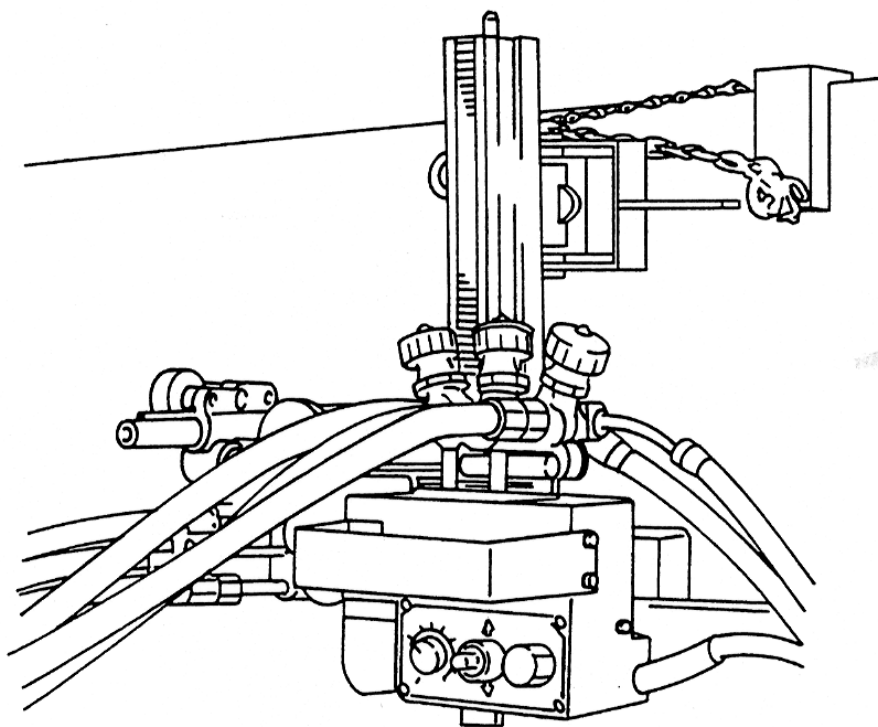


1. Attach the rail to the steel plate.
2. Be careful not to get your hands caught between the magnet removal lever and the steel plate when attaching the rail to the steel plate.

■Attaching the safety bracket



- During upward or vertical cutting, there is a danger that the rail may fall with the machine depending on workpiece thickness, condition of the adsorption surface, heat effects, vibration, etc. Be sure to fasten the hook bolts securely and safety fittings on both ends of the rail with ropes or others. Do not operate under unsecured situation without fall-prevention measures.
- If the magnet is not completely attached to the workpiece due to the condition of the workpiece affected by rust, paint, deflection, etc., or if the magnetic force get weak by rise of temperature, the rail may falls with the machine. Remove all obstacles attached on the magnets before use to avoid dropping the magnetic force and any cutting failure.

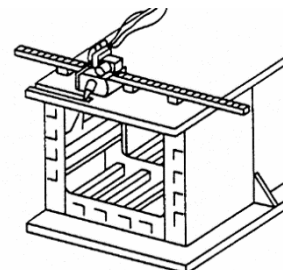




Rail may fall with machine depending on the operating conditions such as workpiece thickness, condition of absorption surface, thermal effect and others. Especially, since the surface of 1D rail is flat, the magnetic force may get weak depending on the condition of the workpiece such as rust, paint, deflection and others.

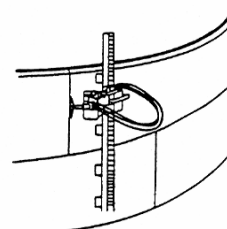
- **1D rail (straight AL rail)**

Used for cutting straight surfaces.
e.g. Straight cutting of ceilings or walls



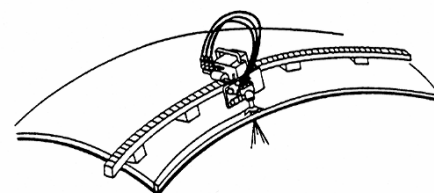
- **2D rail (two-dimensional rubber rail)**

Used for cutting two-dimensional curved surfaces.
e.g. Two-dimensional curved surfaces of tanks, etc.



- **3D rail (three-dimensional rubber rail)**

Used for cutting three-dimensional curved surfaces.
e.g. Three-dimensional curved surfaces of ships, etc.



■ Mounting the rail

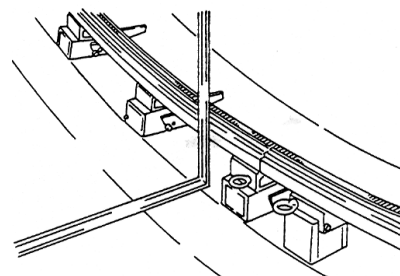
Never hit the rail rack or the running surface with a hammer when aligning the tip with a marking line. Dents on the rack or the running surface may result in irregular running such as knocking.

- **1D rail (straight AL rail)**

This rail is used for cutting flat plate. Four permanent magnets with detaching levers are provided on this rail. Lift the lever, and while one side is being lifted, align then lower the lever for adhesion. Confirm alignment with the cutting line with jigs and then attach the rail.

- **2D rail (two-dimensional rubber rail)**

This rail is used for cutting two-dimensional curved surfaces. Five permanent magnets with detaching levers are provided on this rail. Lift the lever, and while one side is being lifted, align then lower the lever for adhesion. The alignment procedure is the same as that for the 1D rail.



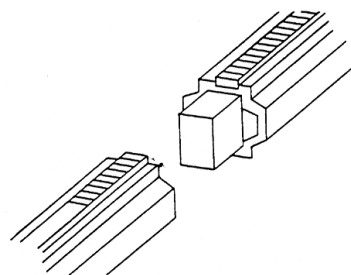
- **3D rail (three-dimensional rubber rail)**

This rail is used for cutting three-dimensional curved surfaces. Five permanent magnets with detaching levers are provided on this rail. Lift the lever, and while one side is being lifted, align then lower the lever for adhesion. The alignment procedure is the same as that for the 1D rail.

■Rail connection method

• 1D rail (straight AL rail)

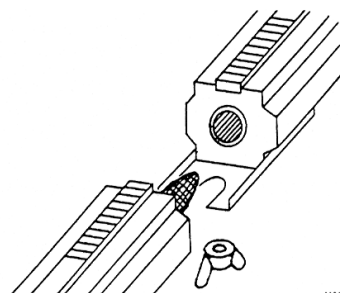
1. Turn OFF the magnet on the connection rail.
2. Align the connecting direction as shown in the figure.
3. Insert the fixed rail.
4. After positioning, fix the rail with the magnet.



• 2D rail (two-dimensional rubber rail)

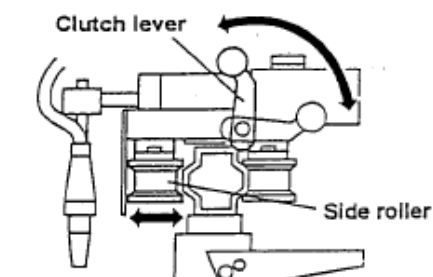
• 3D rail (three-dimensional rubber rail)

1. Lift the magnet detaching lever on the connection rail to lift one side.
2. Align the connecting direction as shown in the figure.
3. Insert the fixed rail.
4. After positioning, fix the rail with the magnet.



2 Mounting the body

Raise the clutch lever, and a side roller on one side will open outward. Insert the body from the rail end while the side roller is open to mount the body on the rail.

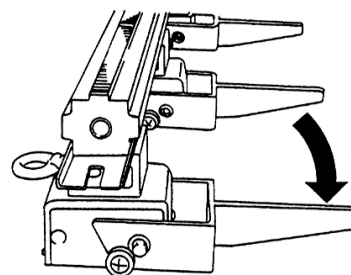


■Moving the rail

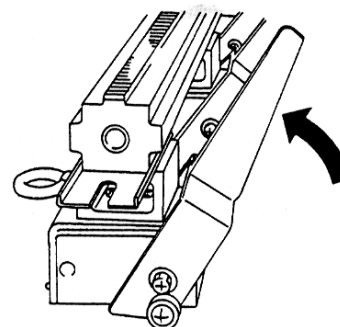
- When moving the rail, be sure to remove the body from the rail.
- Set all detaching levers on the rail fixing magnet in the OFF position.

■Detaching the rail

- Lower the detaching lever to fix the rails to the steel plate.



- To remove the rails from steel plate, lift the detaching lever.



Troubleshooting

The magnet of the rail comes off from the adsorbed surface of the workpiece.

Causes	Inspection point	Correction	Remarks
Presence of an obstacle between the magnet and the adsorbed workpiece.	Adsorption surface is painted or processed.	Remove paint and processed material.	
	Adsorption surface is rusted.	Remove rust.	
	Sputter or iron scrap is stuck on the magnet.	Remove it.	
There is a gap between the magnet and adsorbed workpiece.	Adsorbed workpiece is not flat.	Consider using 2D or 3D rail not 1D rail.	
Magnet and workpiece are adsorbed obliquely.	The workpiece to be adsorbed is slightly curved.		
	Workpiece to be adsorbed get curved during cutting.		
Magnet becomes hot.	The magnet is hit by cutting flame.	Keep the magnet rail away from torch.	Refer to photo 1 and 2. Situation shown in photo 2 is recommended.
	Operated in closed space.	Heat get filled up, and cause the magnet to become hot especially in case of upward cutting. Ventilate air to avoid getting high temperature.	
Thickness of adsorbed workpiece is thin.	Thickness less than 6mm.	-----	
Rough surface of adsorbed workpiece.		It might be improved by polishing the surface.	

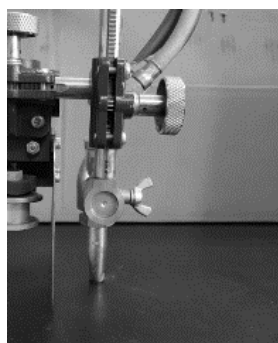


Photo1

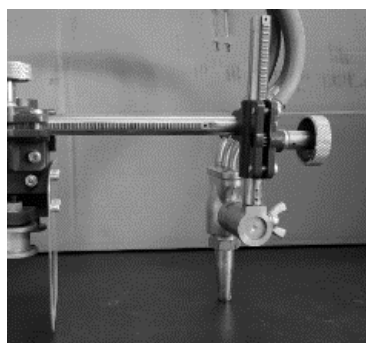


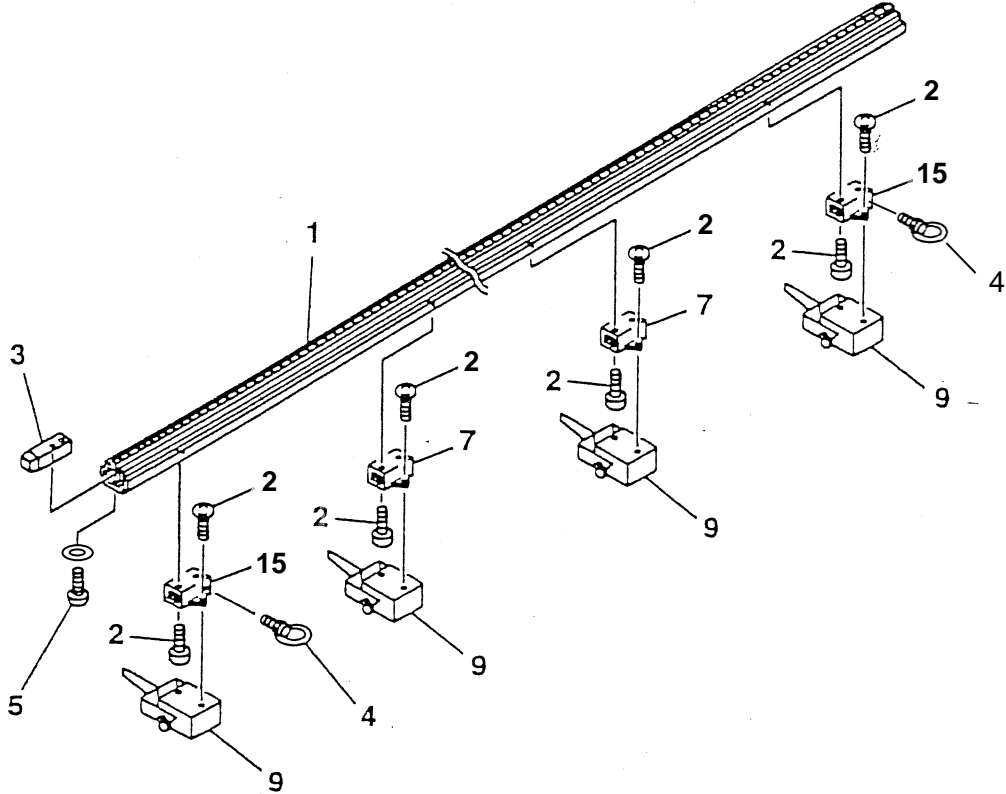
Photo2

Magnets may drop the magnetic force due to heat, and the rail may fall when the magnetic force get weaker. Use safety fittings for upward cutting and vertical cutting. Take measures to prevent falls, and do not use the product under unsecured situation.

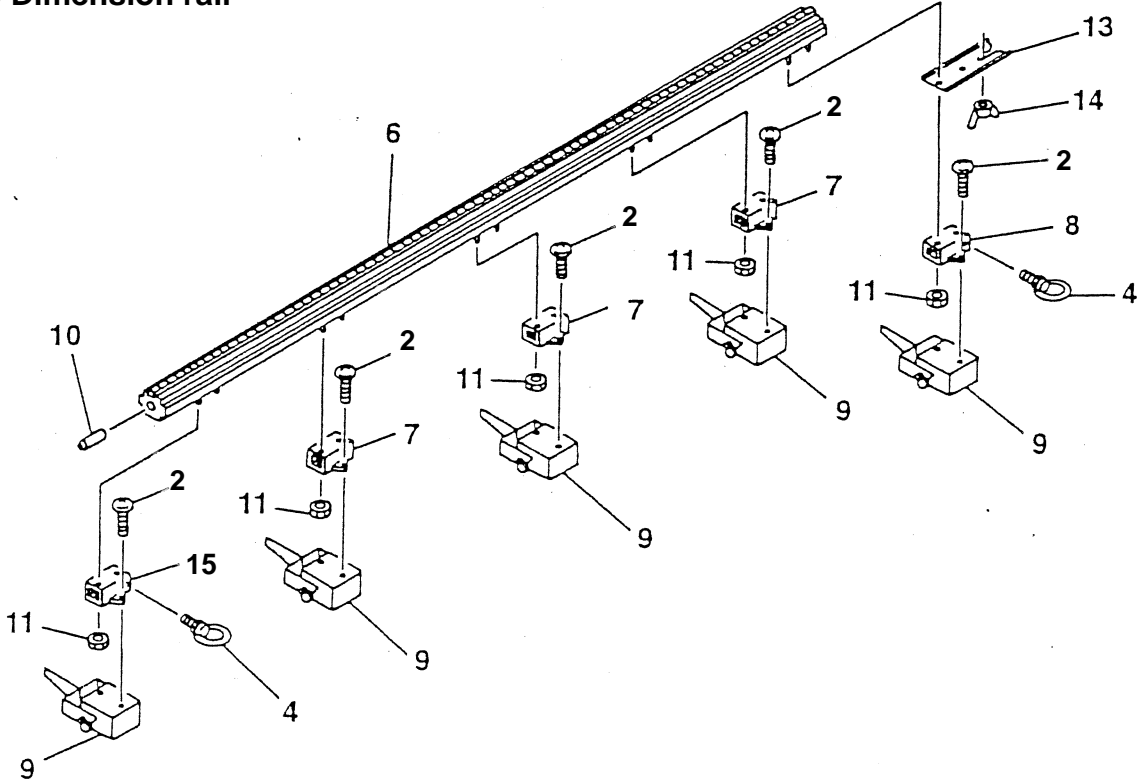
Table: Magnetic power factor of magnets

Magnet temperature	Magnetic power factor of a magnet for 1D or 2D or 3D rail
20°C	100%
50°C	About 90%
100°C	About 80%
200°C	About 50%
300°C	---

Rail unit
Straight rail



2,3 Dimension rail



Rail for IK-72T (Parts list)

Date of issue:	Oct.2009
2nd	Jan.2013
3rd	Nov.2013
4th	Dec.2017
5th	Jun.2018
6th	Aug.2021

KOIKE SANSO KOGYO CO., LTD.

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