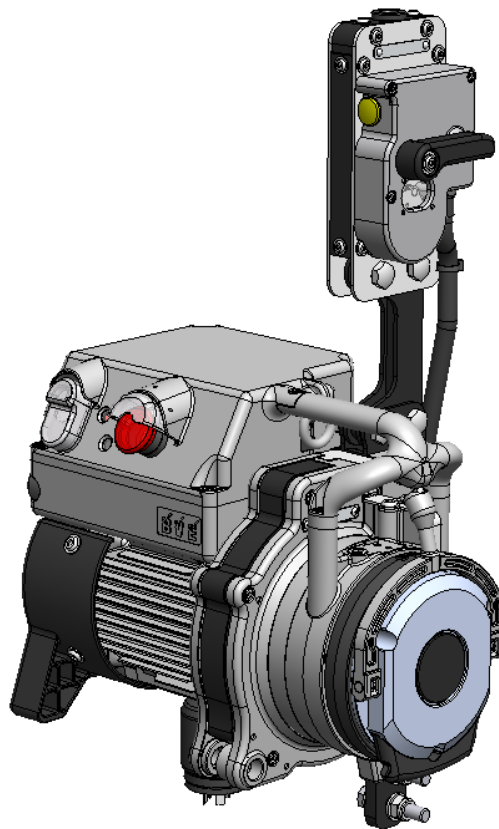

BISOMAC308L

Electric Traction Hoist Operator's Manual



NIHON BISOH CO., LTD.

IMPORTANT SAFETY INSTRUCTIONS

**READ ALL INSTRUCTIONS BEFORE USING THIS TRACTION HOIST.
Failure to follow the safety precautions and instructions in this manual
could result in serious injury, death or damage to the Hoist.**

WARNING

- All operators must read and understand this manual before operating this Hoist.
- All operators must be fully trained in the use of the equipment including its safety features.
- Each day before the equipment is used, the operator must carry out the Daily Tests and Inspections described in Section 7 of this manual to confirm that equipment is in a normal and safe operating condition.
- Only authorized and physically fit operators shall operate the equipment.
- Any operation in violation of these instructions is at the operator's own risk and may result in serious injuries.
- Ask for a replacement if this manual is ever lost or becomes illegible.
- Only use spare parts and steel wire rope provided and/or specified by NIHON BISOH CO., LTD.
- Use only machinery or incorporated component, which has been declared to be in conformity with UL1323 and national implementing.
- Before erecting or dismantling and use of suspended scaffold, please read CODE OF SAFE PRACTICES FOR ADJUSTABLE SUSPENDED SCAFFOLDS CO-DEVELOPED BY SCAFFOLDING, SHORING and FORMING INSTITUTE (SSFI) and SCAFFOLD & ACCESS INDUSTRY ASSOCIATION, INC. (SAIA).

MANUFACTURER: NIHON BISOH CO., LTD.

Contents

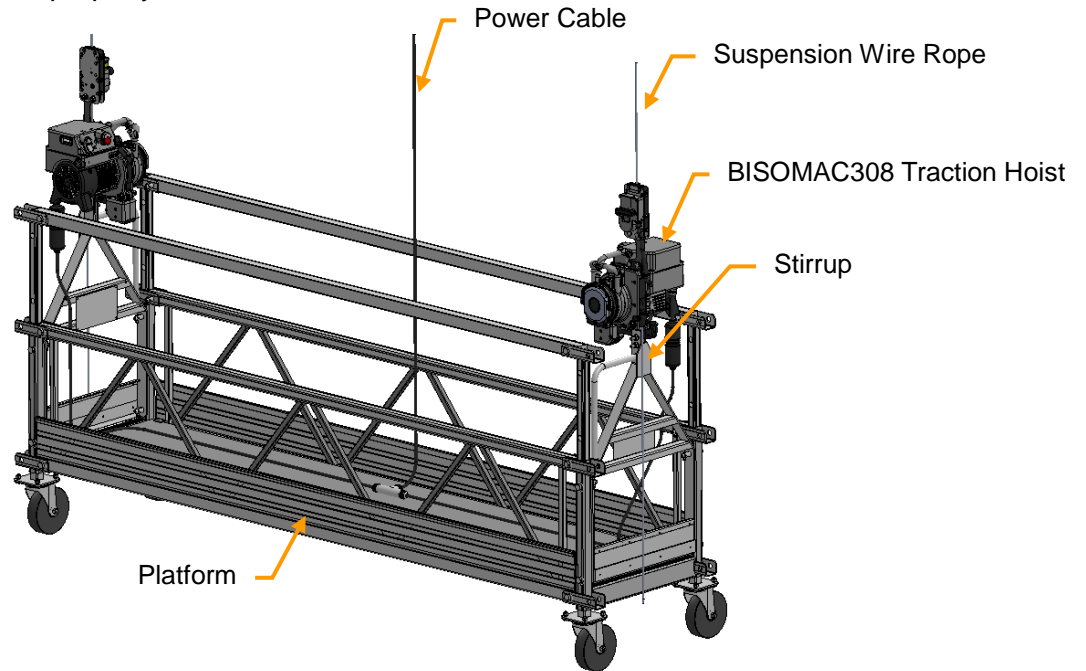
0. READ BEFORE USING BISOMAC308 TRACTION HOIST	1
1. FOR SAFE USE	3
1.1 General	3
1.2 Maintenance	3
1.3 Categories of Safety Instructions	4
2. SPECIFICATION	9
2.1 BISOMAC308 Traction Hoist	9
2.2 Wire Rope	10
2.3 Power Cable	10
3. FUNCTION AND DESCRIPTION OF EACH COMPONENT	11
3.1 BISOMAC308 Traction Hoist	11
3.2 Overspeed Detection Device	15
4. WORK ENVIRONMENT	16
5. SET UP INSTRUCTIONS	17
STEP 1 Installation of Safety Devices to the Hoist	21
STEP 2 Connection of Power Supply	23
STEP 3 Main Wire Rope Reeving	24
STEP 4 Mounting BISOMAC308 to the platform	24
STEP 5 Perform Daily Inspection	25
6. OPERATION / HANDLING METHODS	26
6.1 Carrying BISOMAC308	29
6.2 Operation and Use of Emergency Stop	29
6.3 Emergency Descent Lever	30
6.4 How to Reset Overspeed Detection Device	31
6.5 How to Handle the Fold-Up Stirrup Bar	32
7. DAILY TESTS AND INSPECTIONS	33
7.1 Test Procedure of Rigging	35
7.2 Test Procedure of Wire Rope	35
7.3 Test Procedures for Lifting and Use of Emergency Stop	38
7.4 Test Procedures for Controlled Descent Device	39
7.5 Test Procedures for Overspeed Detection Device	39
8. PERIODIC INSPECTIONS	41
9. TROUBLESHOOTING AT JOB SITE	42

Attachment:

1. *Electric Control and Electric Parts Function*
2. *CODE OF SAFE PRACTICES FOR ADJUSTABLE SUSPENDED SCAFFOLD*

0. READ BEFORE USING BISOMAC308 TRACTION HOIST

This Operator's Manual had been prepared for the safe and proper operation of the **BISOMAC308 Electric Traction Hoist** (referred to as "BISOMAC308"). To understand the usage of the BISOMAC308, please refer to the following explanation and system compositions. It is operator's responsibility to be sure that this hoist is used safely and properly.



1. Power Supply to the equipment must be fitted with

I. Main switch

NOTE:

Main switch with key-lock or Junction Box with key-lock shall be provided.

II. Residual Current Device (or Ground fault circuit interrupter) of 30 mA

III. Overcurrent Protective Device (Automatic fuse Type C)

NOTE:

Check that the specifications of the electrical supply cable match the power requirement of the platform and will avoid a voltage drop due to cable length.

2. Weather conditions

I. Temperature Range: 14°F (-10°C) and 104°F (+40°C)

II. Contaminants: Degree of protection IP54

III. Altitude: Less than 3,280 ft (1,000 meter)

3. Precautions prior to use

I. Before using the equipment, operators must carry out the Daily Tests and Inspections described in Section 7 of this manual and make sure that the equipment is in normal working condition.

- II. Before using the equipment, operators must confirm that there are no obstacles along the movement of the platform.
- III. Before using the equipment, the suspension system must be checked to ensure the stability of the platform at all times.
- IV. In case the area below the platform is open to the public, preventive measures have to be taken to safeguard the people below (e.g. barriers, roof protected walkways, etc.)
- V. All hazards related to the platform encountering obstructions are not completely covered by the platform's safety devices. The operator shall check for obstructions along the travel of the platform.
- VI. An area on the platform must be available to allow operators to operate the hoist safely.
- VII. Use approved personnel harnesses, lanyards, rope grabs, and independent lifelines at all times.

4. Precautions during use

- I. The operators must stop working with the equipment and notify the supervisor if faults, damage to the equipment or other circumstances may jeopardize safety.
- II. A suitable communication between the operator and the supervisor is recommended.
- III. When you leave a platform, shut off the power supply at the main switch and lock it so that no one else can operate it.
When the hoist stops for more than 30 minutes in low temperature, the hoist can be difficult to rise. In that case, allow the hoist 30 seconds to idle or lower the hoist before trying to use.

5. Forbidden Uses

- I. Two units or more of the BISOMAC308 are not allowed to use on one wire rope.
- II. The BISOMAC308 is not allowed to use by inserting a wire rope into the wire rope outlet.
- III. Do not tight end of suspension wire rope when using BISOMAC308.
- IV. Do not apply more than 45 lbs discharge resistance to the end of wire rope.
- V. The BISOMAC308 is not allowed to use in the water.
- VI. The BISOMAC308 is not allowed to use as a lifting device of a permanent elevator.
- VII. The BISOMAC308 is not allowed to use as a medical traction device.

1. FOR SAFE USE

1.1 General

This Operator's Manual is applicable to the BISOMAC308 Electric Traction Hoist manufactured by Nihon Bisoh Co., Ltd. The BISOMAC308 consists of Hoist Device (referred to as "Hoist") and Overspeed Detection Device.

- A) Read and fully understand this manual before using the BISOMAC308.
- B) The BISOMAC308 is designed for vertical ascent and descent of personnel-carrying suspended platforms. The BISOMAC308 should only be used for this purpose.
- C) All operators must be fully trained in the use of the equipment including its safety features.
- D) Daily Tests and Inspections described in Section 7 must be performed at the start of each work shift.
- E) Use Section 9 troubleshooting guide in this manual to solve problems. Understand the problem before attempting to solve it.

It is very important that anyone using the BISOMAC308 determine for themselves whether the BISOMAC308 is safe. You must be familiar with the operating characteristics of the BISOMAC308. You must understand how the BISOMAC308 will interact with other equipment and it is very important to confirm safety of the whole platform. You must also be certain not to jeopardize yourself or others, or cause damage to the surroundings, or the BISOMAC308.

1.2 Maintenance

Handling, maintenance, inspections and repairs of the following products must be performed by trained personnel only who have been read the BISOMAC308 Maintenance Manuals (another sheet).

BISOMAC308 consists of:



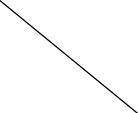
- I. Hoist Device
- II. Overspeed Detection Device

NOTE:

There are individual maintenance manuals for the hoist and safety devices.

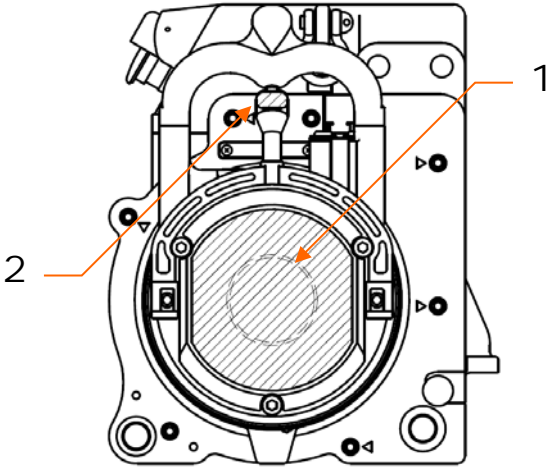
1.3 Categories of Safety Instructions

The safety instructions are classified according to risk levels.

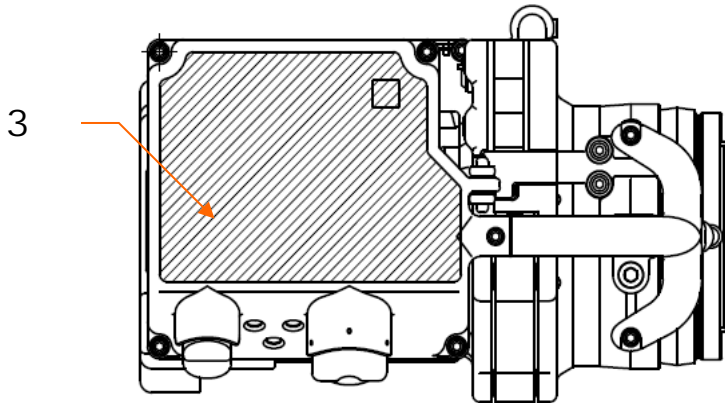
Symbol	Code Word	Meaning
	WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to show potential damage to property.
	NOTE	Indicates a potentially hazardous situation which, if not avoided, could result in damage of the BISOMAC308.

Warning labels attached to Hoist and Safety Devices

The operator must check that the following labels are attached properly and legible.

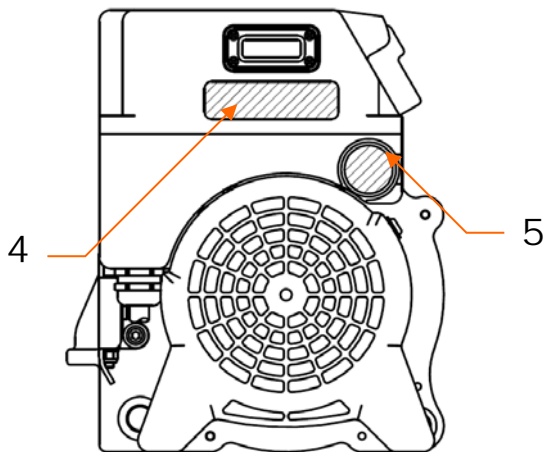
BISOMAC308 RIGHT SIDE	
	
Description	Message / LOCATION
1. Emergency Control Descent & Electromagnetic Brake Caution	<ul style="list-style-type: none"> • Instruction of Emergency Control Descent • Instruction of Electromagnetic Brake <p>ELECTROMAGNETIC BRAKE</p>
2. Lever Stopper	<ul style="list-style-type: none"> • Instruction of Brake Release Lever Stopper <p>LEVER STOPPER</p>

BISOMAC308 TOP SIDE



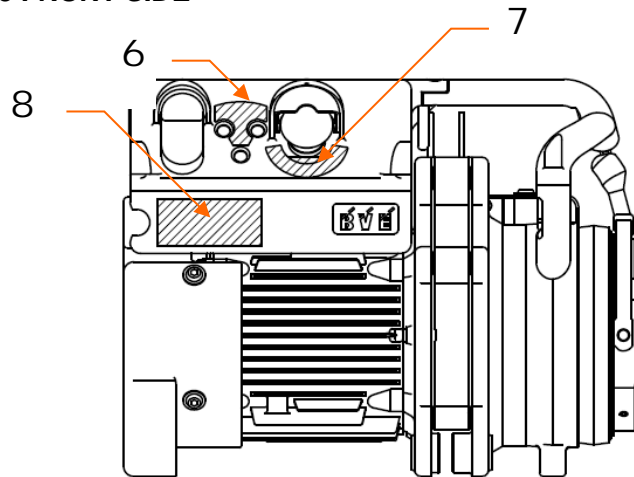
Description	Message / LOCATION
3. Specification and Operation	<ul style="list-style-type: none"> • Instruction of Specification and operation • With QR Code to access operator's manual by electronic device <p>CONTROL BOX COVER</p>

BISOMAC308 LEFT SIDE



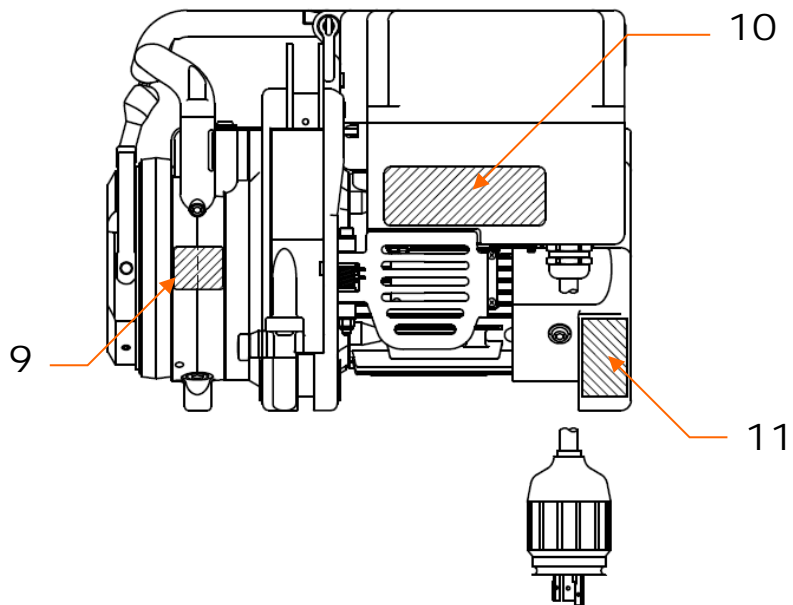
Description	Message / LOCATION
4. UL Classification	<ul style="list-style-type: none"> • UL Certification Label <p>CONTROL BOX COVER</p>
5. Operator's Manual	<ul style="list-style-type: none"> • Showing the location of Operation Manual <p>CONTROL BOX</p>

BISOMAC308 FRONT SIDE



Description	Message / LOCATION
6. Lamp	<ul style="list-style-type: none"> • Instruction of Overspeed (OS) and Reverse Phase (RP) <p>CONTROL BOX COVER</p>
7. Emergency Stop Button	<ul style="list-style-type: none"> • Instruction of Emergency Stop Button <p>CONTROL BOX COVER</p>
8. Restriction Use	<ul style="list-style-type: none"> • Instruction to Operator <p>CONTROL BOX</p>

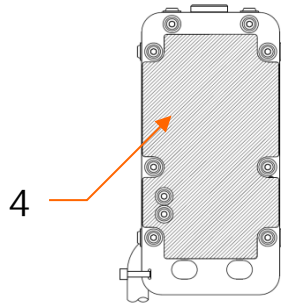
BISOMAC308 BACK SIDE



Description	Message / LOCATION
9. Gear Spec	• Specification of Gear GEAR BOX
10. Plug Mark	• Instruction of plug mark position of Safety Device CONTROL BOX
11. Power Voltage	• Instruction of Power Cable FAN COVER

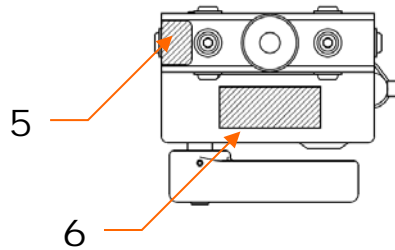
OVERSPEED DETECTION DEVICE RIGHT SIDE	
Description	Message / LOCATION
1. RESET 2	• Reset Lever Direction GOVERNOR COVER
2. Governor Inspection Window	• Instruction of Governor Rotation GOVERNOR COVER
3. OVERSPEED	• Instruction of Overspeed lamp. GOVERNOR COVER

OVERSPEED DETECTION DEVICE LEFT SIDE



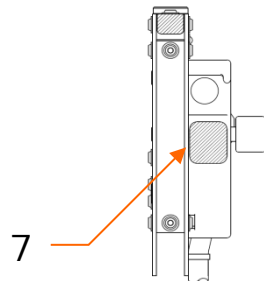
Description	Message / LOCATION
4. Instruction of Overspeed Detection Device	<ul style="list-style-type: none"> • Instruction of Overspeed Detection Device SIDE PLATE 2

OVERSPEED DETECTION DEVICE TOP SIDE



Description	Message / LOCATION
5. Wire Rope Diameter	<ul style="list-style-type: none"> • Instruction of Wire Rope Diameter SIDE COVER 1
6. Instruction of inability of lifting	<ul style="list-style-type: none"> • Instruction of inability of lifting GOVERNOR COVER

OVERSPEED DETECTION DEVICE FRONT SIDE



Description	Message / LOCATION
7. Instruction of Manual Trip Button	<ul style="list-style-type: none"> - Instruction of Manual Trip Button GOVERNOR COVER

2. SPECIFICATIONS

2.1 BISOMAC308 Traction Hoist and Safety Devices

PRODUCT LINEUP

	Model	Coverage	Capacity lbs.	Power	Hz	Wire Rope in. (mm)	Overload Device
1	1P-1000L	UL1323 <i>*For US</i>	1000	1-phase 208V, 11.5A	60	5/16 (8)	NO
2	1P-1258L		1250				
3	3P-1000L		1000	3-phase, 208V, 9.0A			
4	3P-1258L		1250				

2.1.1. Traction Hoist

Voltage	1 Phase: 208V (60Hz)	3 Phase: 208V (60Hz)
Ampere in Rated load	1 Phase: 11.5A	3 Phase: 9.0 A
Motor Power	1.1 KW (4P)	
Rated Speed	35 ft/min (10.6 m/min)	
Noise	68 dBA	
Protection Construction	IP54	
Dimension w/safety devices	26.0 in. (661.5 mm high) x 15.6 in. (396.5 mm width) x 11.8 in. (299 mm depth)	
Hoist Self Weight	88 lbs (40 kg)	
Weight including safety devices	101 lbs (46 kg) Note: Overspeed Detective Device:6.6lbs(3kg), Fold-Up Stirrup Bar 0.8lbs(0.4kg)	
Control Method	Independent Control Method	
Safety Features	<ol style="list-style-type: none"> 1. Electromagnetic Brake 2. Controlled Descent Device 3. Overspeed Detection Device 4. Emergency Stop – Cut all power to the electric motor 5. Motor built-in thermal protector (Temperature detection type) 6. Reversed Phase Detection Note: Only in 3-phase specifications 7. Thermal relay (Excess current detection type) Note: Only in 1-phase specifications 	

MAINTENANCE SPECIFICATIONS

Maintain every 100 hour of operation hour or no longer than every year. See Maintenance Manual for instructions on maintaining.

NOTE: THIS DIFFERS FROM CONDITION OF USE AT WORK SITES, refer to Section 4 Work Environment.

2.2 Wire Rope (Variety specified by us)

2.1.2 Overspeed Detection Device

Rated Load	1250 lbs (567 kg)		
Activation Speed	98.4 ft/min (30 m/min)		
Wire Rope	5/16 inch (8mm) or 3/8 inch (9mm)		
Dimension	8.9 in. (226 mm high) x 4.1 in. (105 mm width) x 3.7 in. (93 mm depth)		
Weight	6.6 lbs (3 kg)		
Control Feature	No descending while this device is activated.		
Use Voltage	208 V		
	TYPE 1	TYPE 2	TYPE 3
Construction	4x26	5x26	6x19
Diameter (mm)	8.3 mm	8.3 mm	8.2 mm
Min. Breaking Load (Actual)	44.9 kN (4,590 kg)	47.1 kN (4,806 kg)	50.5 kN (5,153 kg)
Treatment	Galvanized	Galvanized	Galvanized
Applicable Model	1P-1000L / 3P-1000L 1P-1258L / 3P-1258L		
NOTE	Variety specified by us.		



WARNING

USE only authorized Wire Rope shown as below. Using any other Wire Rope could make BISOMAC308 and Overspeed Detection Device malfunction. It could cause the platform to fall or tilt, possibly resulting in falls and serious injury or death.

2. 3 Power Cable

Recommended Type	SOOW
Core and Size	1P: 3 cores 10AWG 3P: 4 cores 10 AWG
Rated Voltage	600 V
Max Length	500 ft (152 m) per platform

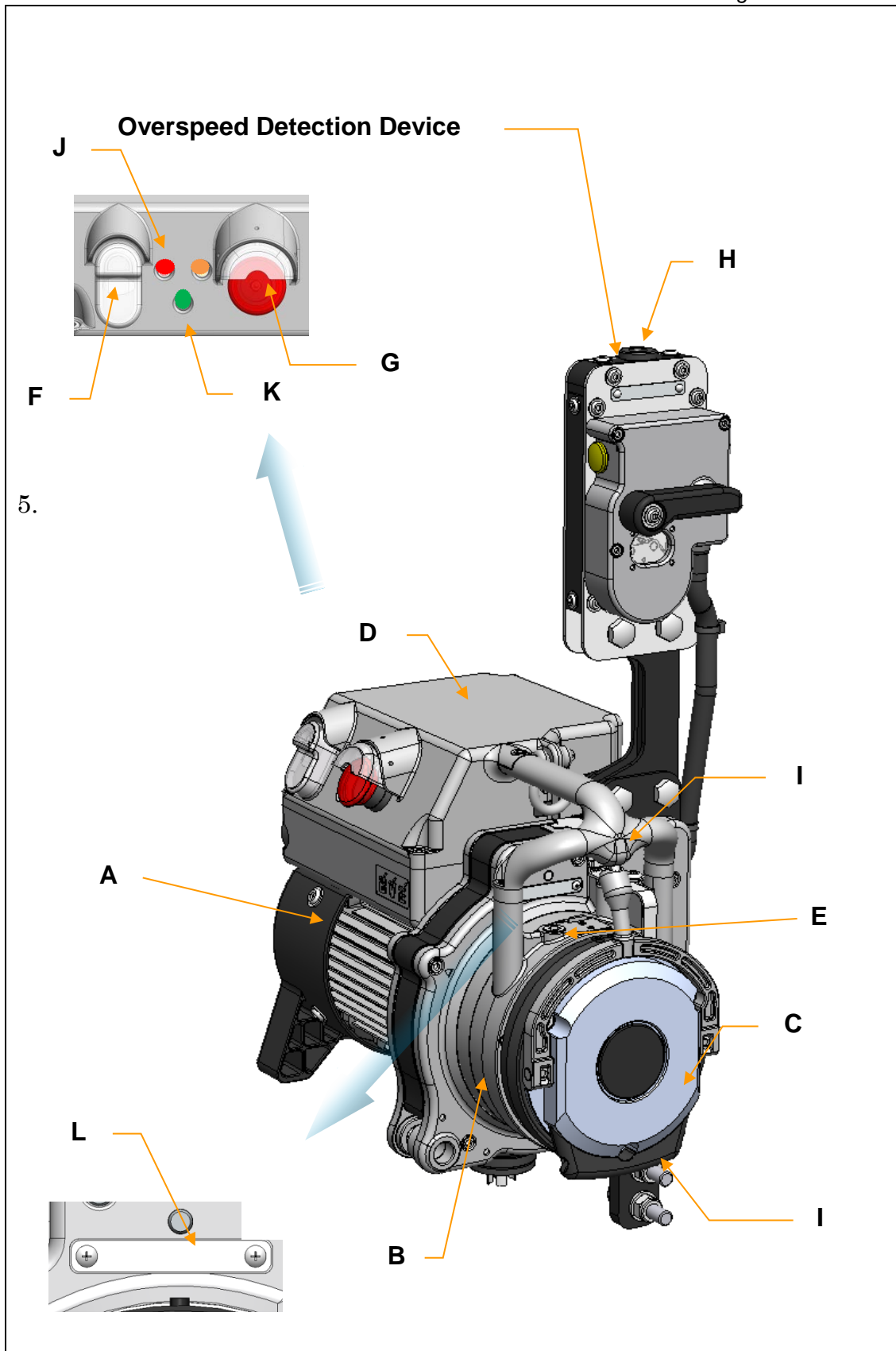
NOTE

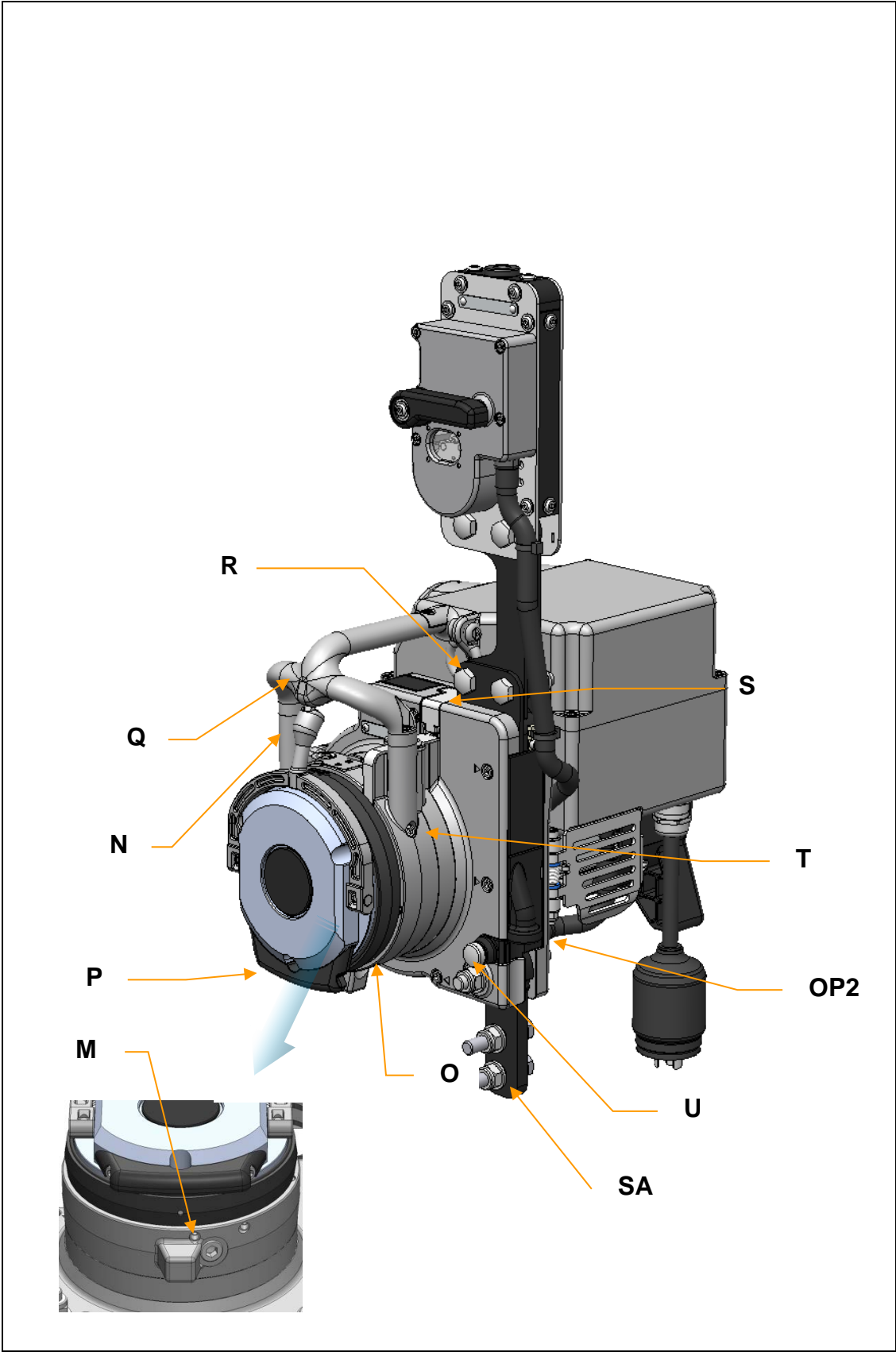
Due to the various possible suspended platform loading situations and electric voltage sources, IT IS NOT POSSIBLE TO SPECIFY THE MAXIMUM POWER CABLE LENGTH EXACTLY.

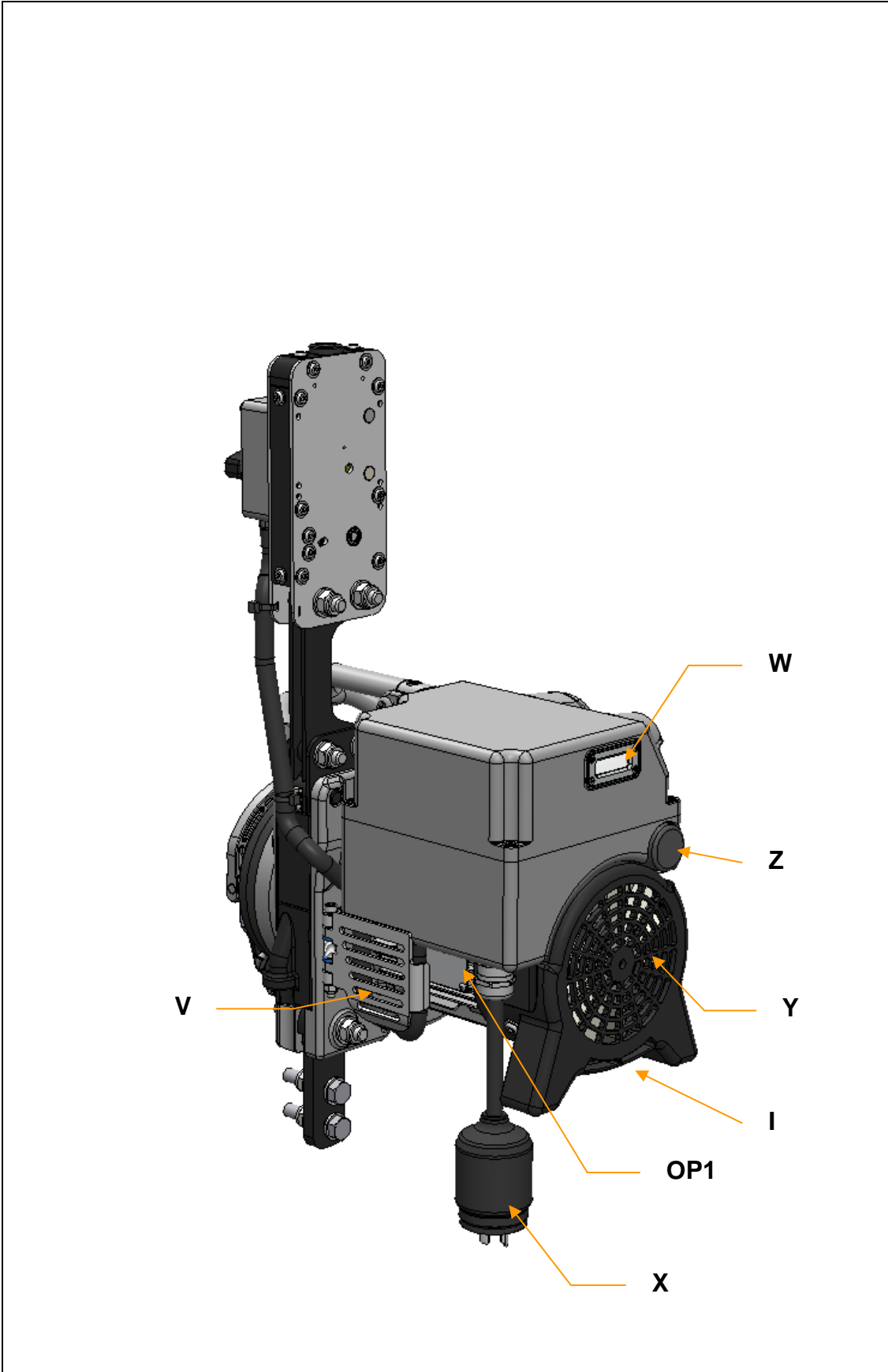
3. FUNCTION AND DESCRIPTION OF EACH COMPONENT

3.1 BISOMAC308 TRACTION HOIST

Image: 1P-1000L







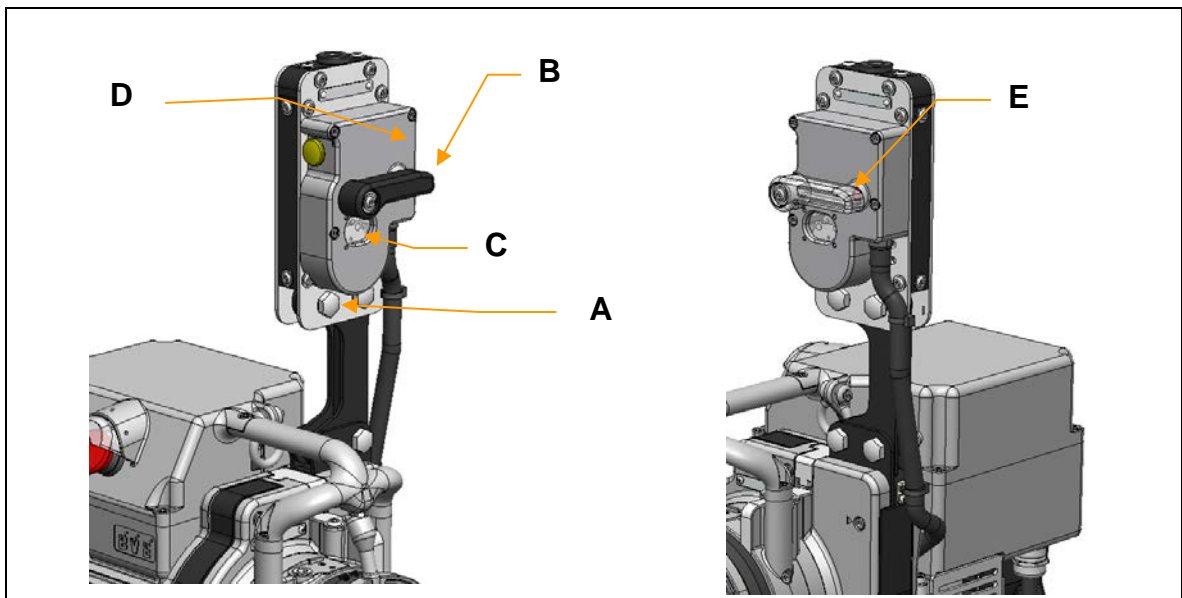
	FUNCTION	DESCRIPTION
A	Electric Motor	BISOMAC308 is powered by electricity through gear drive.
B	Gear Box	Decelerate motor's rotation for lifting appointed suspension load and speed.
C	Electromagnetic Brake	Electromagnetic Brake is released when the Operation Button is pressed. The BISOMAC stops when the Operation Button is released or the main power is disconnected.
D	Control Box	Electric components are assembled to control the BISOMAC308 lifting.
E	Fluid Refill Hole	Use when replacing oil.
F	Power Indication & Operation Button	The Power Indication is lit when connecting power. Controls the vertical motion of the BISOMAC308. Operation Button disengages when released.
G	Emergency Stop Button	This Button is for emergency stop. Press this Button in case the BISOMAC308 does not stop even releasing the Operation Button.
H	Suspension Wire Rope Inlet	For inserting main suspension wire rope.
I	Carrying Handles	Use when carrying BISOMAC308.
J	Overspeed Indicator Lamp	This Indicator lamp (RED) is lit, when Overspeed Detection Device is activated.
K	Reversed-Phase Detection Indicator Lamp	This Indicator lamp (GREEN) is lit, when Reversed-Phase is detected. Only for 3 phase model
L	Serial Number	BISOMAC308 Serial Number.
M	Fluid Drain Hole	Use when replacing oil.
N	Emergency Descent Lever	This allows the platform to be lowered at regular speed when electrical power to the BISOMAC308 is lost.
O	Protection Cover	Does not allow water and dirt to get into Electromagnetic Brake.
P	Water-proof Cap Bolt	Cap bolt with sealing to avoid water getting into the Electromagnetic Brake.
Q	Lever Stopper	Lock automatically to prevent misoperation and malfunction of Emergency Descent Lever. Locked automatically.
R	Shackle for Transportation	Only use at transportation of the BISOMAC308. Max lifting load is 110 lbs (50 kg).
S	Guard Plate for Brake Leads	Protect Brake Leads from damages.
T	Oil Level Gauge Plug	Use when replacing of oil.
U	Knob Stopper	Use to fix Fold-Up Stirrup Bar's position
V	Cable Guard	Protection Metal for Cable and Connector.
W	Hour Meter	Shows the BISOMAC308's integrated operating hours.
X	AC Power Plug	This plug is for connecting the BISOMAC308 to the worksite power supply.
Y	Fan Cover	Protects operator from being struck by the fan and prevents damage to the fan and motor
Z	Operator's Manual Cap	Install Operator's Manual.
SA	Fold-Up Stirrup Bar	Use to fix the BISOMAC to platform.
OP1	Inlet for Pendant Switch (Option)	Allow using Up/Down by remote control pendant switch. Pendant switch is optional and need to convert with special kit. Please contact local authorized the BISOMAC308 distributor.
OP2	Exit Tube (Option)	Can be installed by bolts (M5x8) to guide wire rope. Please contact local authorized the BISOMAC308 distributor.

3.2 Overspeed Detection Device

The Overspeed Detection Device engages wire rope when platform suddenly falls. Once Overspeed Detection Device activates, the platform would not descend due to electric interlock. You can confirm the activation visually by the indicator lamp (RED) on the hoist. During the activation, you can ascend but not descend. The indicator lamp (RED) on the Overspeed Detection Device is lit, when pressing “Down” Button.

WARNING

When platform suddenly falls and the Overspeed Detection Device activates, only trained and authorized personnel are allowed to reset this device. Contact the local authorized BISOMAC308 distributor and wait for rescue of the operators on the platform. Improperly resetting the device may result in the platform falling and tilting, allowing persons or things to fall and possibly resulting in serious injury, death or damage.



	FUNCTION	DESCRIPTION
A	Extension Bracket and Special Bolts/Washers/Nuts	Use to attach Overspeed Detection Device and Extension Bracket to BISOMAC308 (Bolt Q'ty: 4 pieces)
B	Reset Lever	Use for resetting the Overspeed Detection Device. NOTE: When huge power applies to the Device such as shock load, attempt to reset forcibly, the Safety Pin in the Lever will damage and will not allow resetting the Lever.
C	Governor Inspection Window	Confirm Rotating of Governor
D	Manual Trip Button	This Trip Button is for manual activation of the Overspeed Detection Device.
E	Overspeed Indicator	In case of activation of the Overspeed Detection Device, the Indicator is lit when pressing “Down” Button.

4. WORK ENVIRONMENT

Many work environments contain contaminants that could adversely affect the performance of the BISOMAC308 and the Safety devices. Perform the daily tests described in Section 7 to ensure that the BISOMAC308 is operating properly. If contaminants such as paint, epoxy, cement, corrosive chemicals or sand blasting is present at the work site, **use the protective cover for BISOMAC308 and the safety devices in accordance with instructions and precautions below on this page.**

The protective cover may obstruct some or all of the safety warnings and instruction labels on the BISOMAC308 and the safety devices. Before operating the BISOMAC308 and the safety devices equipped with the protective cover, the operator must remove the protective cover and read and understand all of the labels on the BISOMAC308. Each new operator must fully understand all warning and instruction labels before operating the BISOMAC308.

WARNING

ALWAYS test and inspect (Section 7) the BISOMAC308 on a daily basis especially in work environments contains contaminants. Maintain hoist (see Maintenance Manual) after completing work at each work site to remove dusts and foreign objects inside of the hoist. Improper maintenance may result in the platform falling or tilting, allowing persons or things to fall or tilt and possibly resulting in serious injury, death or damage.

WARNING

NEVER use the BISOMAC308 in an explosive atmosphere, under water, or in a marine environment. Especially, use in explosive or wet atmospheres could result in serious injury or death from fire, explosions, or electric shock.

NOTE: An explosive atmosphere is one in which flammable gases or vapors or small particles are or may be present in the air in quantities sufficient to produce an explosive or ignitable mixture.

CAUTION

Prolonged use of the BISOMAC308 with the protective cover in place may result in the motor overheating due to restricted air supply. This can cause the BISOMAC308 to stop moving. When using the protective cover, be sure that the cooling fan has an unobstructed air supply to the motor and the motor is not overheated.

NOTE: Make sure to use the protective cover for BISOMAC308 and the safety devices, if contaminants such as paint, epoxy, cement, corrosive chemicals or sand

blasting are present at the work site.

NOTE: Wrap the BISOMAC308 in a blanket when it is exposed to freezing temperatures or where water or moisture can enter; to keep the BISOMAC308 from the freezing, otherwise the BISOMAC308 may malfunction.

5. SET UP INSTRUCTIONS

This section describes procedure of the BISOMAC308 for safety operation. Before attempting set up, read and understand Steps 1 - 5 of this section which describes the installation procedures of the BISOMAC308 and the safety devices.

WARNING: INSTALLATION

WARNING

DO NOT allow anyone under suspended platform. If necessary, provide protection below the suspended platform to prevent potential serious injury or death to passers-by from falling objects.

WARNING

DO NOT use different types of hoists in the same platform. Otherwise, an operation error may occur from the difference in the hoists' performance (ascending and descending speed, etc.) and the difference of the operation method and the safety unit. This may result in the platform falling or tilting, allowing persons or things to fall or tilt and possibly resulting in serious injury, death or damage.

WARNING

When attaching the BISOMAC308 to the platform, it is necessary to plan how to attach safety devices in advance, otherwise, the safety devices may not activate. Failure to activate may cause serious injury, death or damage.

WARNING

Attach Ground Fault Circuit Interrupter to power source and ensure that is properly grounded. Failure to do so increases the risk of electric shock or electrocution.

WARNING

DO NOT use damaged or cracked power cable and control cables. Doing so could result in electrocution or death.

 **WARNING**

When connecting the plug to the Pendant Switch Inlet or the Safety Devices to BISOMAC308, verify that inner side of the plug is dry and there is no deposit of water. Due to malfunction of hoist, platform may fall down or topple the operator, and there is a risk of injury or death of the operator or the passerby.

 **CAUTION**

DO NOT install with the Overspeed Detection Device tilted.
Doing so could make the Inlet Guide wear badly and Overspeed Detection Device may malfunction.

CAUTION: CONNECTING POWER

 **CAUTION**

The Voltage supplied to the BISOMAC308 should not exceed $\pm 10\%$ rated voltage (See Section 2.1) while lifting. If the voltage is not in the proper range, the BISOMAC308 may not operate or the motor may overheat and malfunction or create a burn hazard.

Note: The rated voltage range shown above is permitted to only temporary operation. It is not permitted to continuous operation of the BISOMAC308.

 **CAUTION**

DO NOT pull AC power plug or hoist connection cable out by cord. Only pull on the plug or connector.

 **CAUTION**

Use protective cover over the BISOMAC308. Otherwise buttons and indicators may get dirty and malfunction.

 **CAUTION**

Replace rubber cover of the Power Indicator and the Operation Button if they get damage. Otherwise, the button and the indicator can get dirty and the control box may malfunction.

WARNING: MAIN WIRE ROPE AND SAFETY WIRE ROPE

 **WARNING**

The BISOMAC308 operation requires the use of authorized wire rope and the strict adherence to the operation methods and the instructions. If using a wire rope that is not required, the wire rope will have reduced strength and will be served. This may cause the platform to fall or tilt, resulting in falls and serious injury or death.

 **WARNING**

DO NOT expose the wire rope to fire, temperatures above 200° F (93° C), electrical current, or corrosive atmospheres and chemicals. Doing so will reduce the rope's strength and possibly allow the rope to break. This could result in platform falling or tilting, possibly causing serious injury, death or damage.

- Discard the wire rope if any damage is evident after completing the project.
- If there is anything suspicious, replace with a new wire rope.
- Discard wire rope that has been exposed to any of these conditions.

 **WARNING**

The suspension wire rope should be long enough (lifting height plus at least 6.56 ft. / 2 meter) to cover the height where the platform is placed on the ground or on the specified area. If the wire rope cannot cover the height where the platform can be placed on a stable area, the wire rope may slip out of the BISOMAC308. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

DO NOT operate the BISOMAC308 with a wire rope having a kink or deformation. Doing so will damage the hoist inside and interfere with the up and down movement of the BISOMAC308. Also, this may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

When fixing the suspension wire rope and the safety wire rope to the building material, be sure that these wire ropes are not contacting any sharp edge. Otherwise, if the wire rope becomes heavily loaded and severed by a sharp edge, this may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

The wire rope should be able to go through the inside of the BISOMAC308 freely. Inconsistent winding speed suggests the wire rope or the BISOMAC308 may be damaged. Stop operation at once and replace the wire rope or the BISOMAC308. If it is used continuously, the wire rope may be severed or the BISOMAC308 may stop. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

DO NOT fasten or apply load to the tail end of the suspension wire rope discharged from the BISOMAC308. Otherwise, the internal parts of the BISOMAC308 will become extremely worn and the wire rope may be damaged or severed. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **CAUTION**

DO NOT put your hand near the wire rope inlet when self-reveeing the wire rope and moving the platform up and down. Otherwise, your hand may be caught in the opening along with the wire rope, causing serious injury.

CAUTION: BISOMAC 308 INSTALLATIONS

 **CAUTION**

DO NOT throw or drop the BISOMAC308. The BISOMAC308 may become damaged and cannot be used and may result in serious injury or property damage.

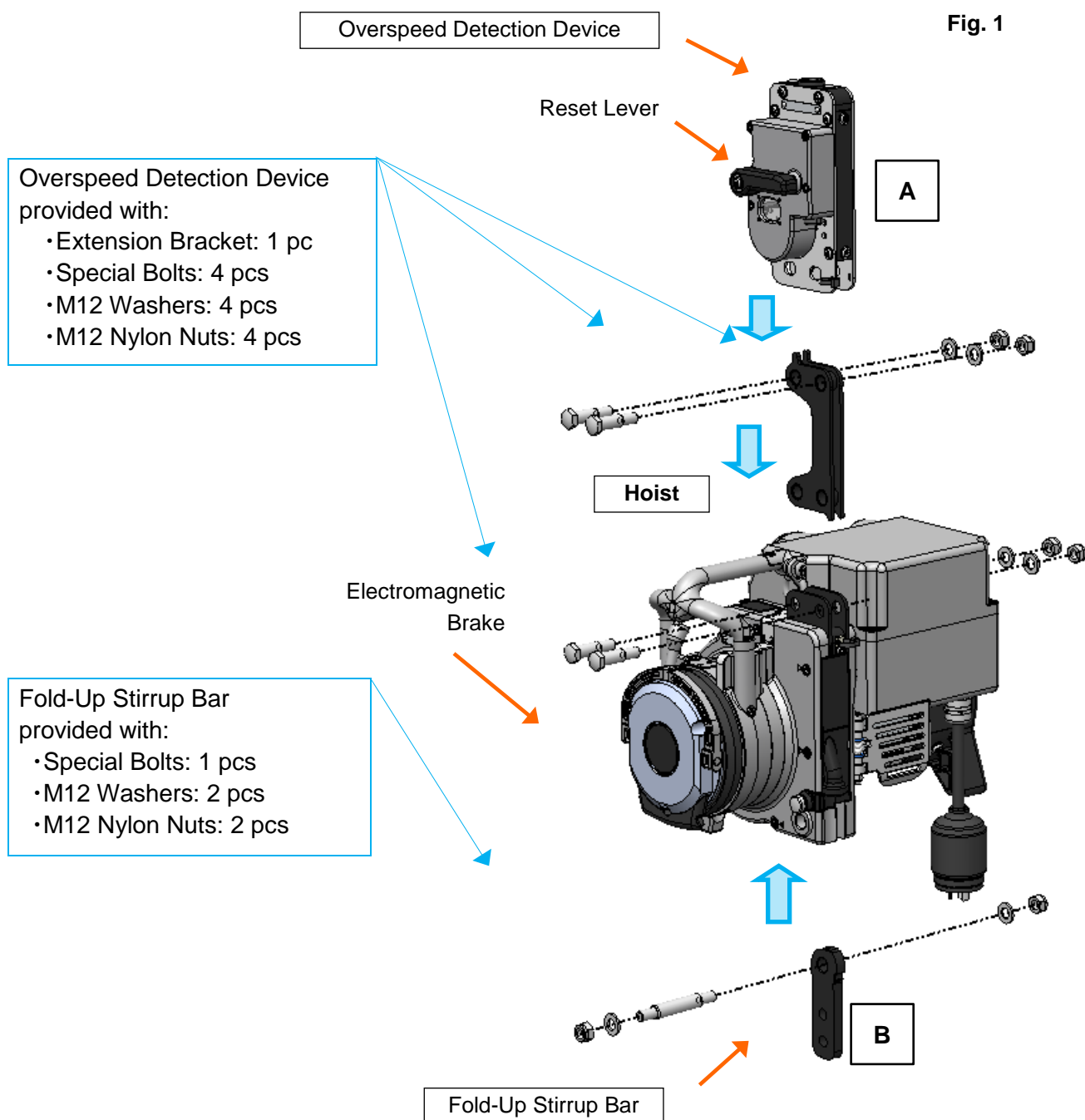
 **CAUTION**

DO NOT pull or step the cables of the safety device.
Lead the cables and connector to break, BISOMAC308 and Safety Devices cannot be used.

STEP1 Installation of Safety Devices to the Hoist

First install the Overspeed Detection Device and Fold-Up Stirrup Bar to Hoist.
See instructions below.

BOX CONTENTS



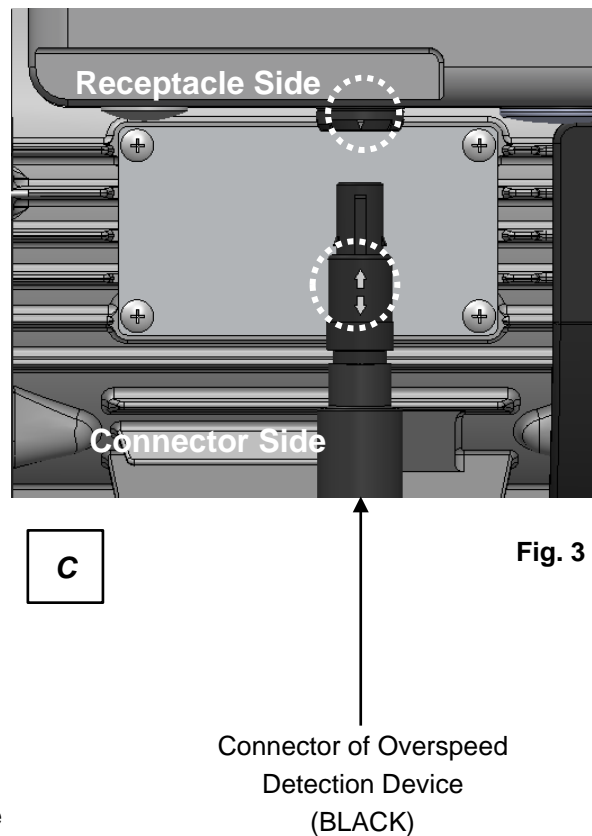
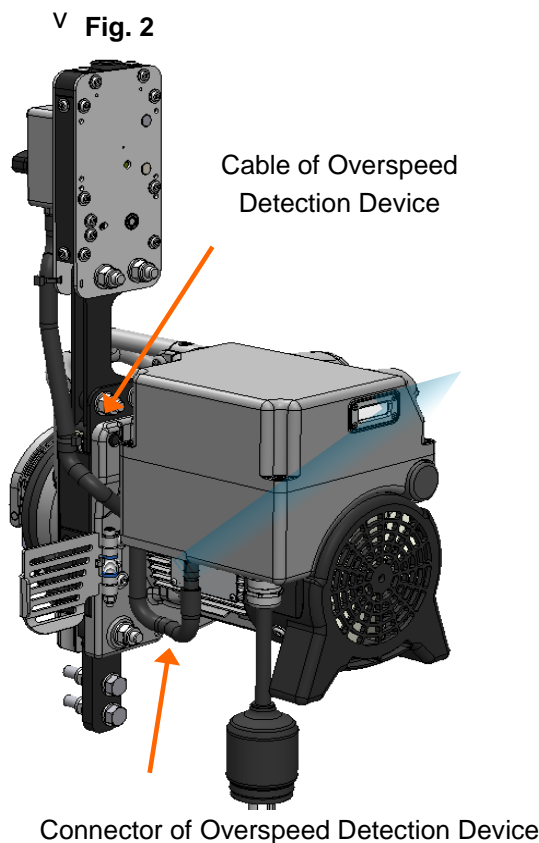
A Attach the Extension Bracket to the Overspeed Detection Device with tightening 2 Special Bolts, 2 Washers and 2 Nylon Nuts. Insert it into the Hoist from the top as shown and tighten with 2 Special Bolts, 2 Washers, and 2 Nylon Nuts. Install it so that the Electromagnetic Brake and the Reset Lever will face the same side. Use Torque Wrench to tighten the Bolts.

Torque Standard: 76 N·m (770 kgf·cm)

B Attach the Fold-Up Stirrup Bar with the Hoist from the bottom as shown and tighten with a Special Bolt provided, 2 Washers and 2 Nylon Nuts. Use Torque Wrench to tighten the Bolts.

Torque Standard: 76 N·m (770 kgf·cm)

C Connect the Plug of the Overspeed Detection Device to the Hoist as shown. Insert the connector of Overspeed Detection Device such that arrow on the receptacle side and arrow on the connector side arrow are aligned. When removing, hold both sides of arrow on the connector side, and pull downwards.



STEP 2 Connection of Power Supply

⚠ CAUTION

Use electric power source and power cable suitable for BISOMAC308.
When electric power source not suitable to specifications is used, it may heat up and damage the cable etc., and equipment may no longer operate normally.

A Connect the AC Power Plug of the BISOMAC308 to power distribution board.
Please check the types of connector.

The types of female connector and the cover are shown below.

- 1 Phase: HBL2323 (Maker: HUBBEL)
- 3 Phase: HBL2423 (Maker: HUBBEL)
- Cover: HBL6032 (Maker: HUBBEL)

B Necessary power per units is shown below.

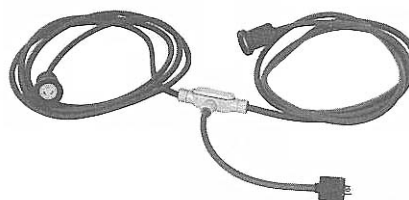
Power of Each Mode

I

	11.5A	9.0A
Model	1P-1000L	3P-1000L
	1P-1258L	3P-1258L

If pair of hoists is used on the same platform, install “Y” electric supply yoke in the power line to provide power to each hoist.

Picture. 1



C Ensure that the Emergency Stop Button of the BISOMAC308 and the interlock of the Safety Devices are reset.

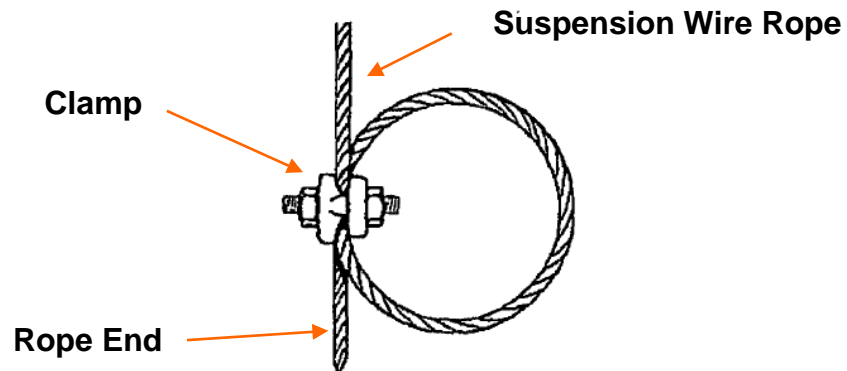
D Ensure that current capacity and size of circuit fuse is adequate, refer to specification in section 2.

E Check if connector has any sign of deterioration.

STEP 3 Main Wire Rope Reeving

- A** Insert the bullet end of the wire rope approximately 16 in. (40 cm) into the suspension wire rope inlet of the BISOMAC308.
- B** Press the "UP" Button while maintaining downward pressure on the wire rope until self-reeving starts.
- C** Make sure the wire rope can freely exit the BISOMAC308 and is not blocked by any parts.
- D** Install the suspension wire rope so that rope-to-rope distance of platform side and rigging side become equal.
- E** To avoid run off the suspension wire rope from the BISOMAC308, make the loop on the end of the suspension wire rope and fix it using the clamp as shown in the illustration.

Fig. 4

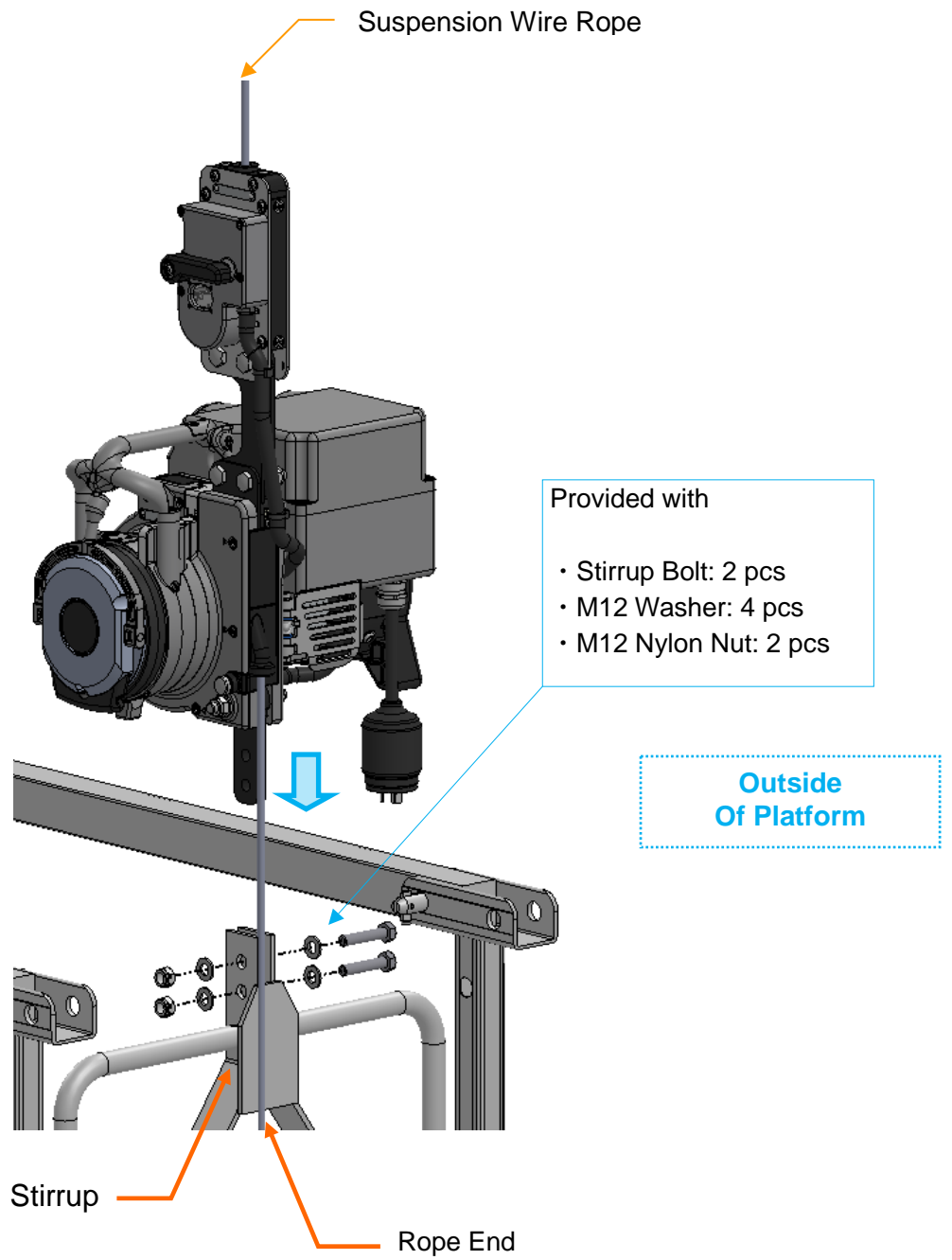


STEP 4 Mounting BISOMAC308 to the platform

Press the "UP" Button to lift the BISOMAC308 from ground so that the hole in the Fold-Up Stirrup Bar and the hole in stirrup are lined up, and then attach the hoist to the stirrup as shown in below with 2 Special Bolts, 4 Washers and 4 Nylon (provided by Nihon Bisoh). Position of the Rope End should be outside of the platform as shown. Use Torque Wrench to tighten the Bolts

Torque Standard: 76 N·m (770 kgf·cm)

Fig. 5



STEP 5 Perform Daily Inspection

Follow Daily Tests and Inspections procedures in Section 7.

6. OPERATION / HANDLING METHODS

This section describes the following methods to safely handle and operate of the BISOMAC308.

- I. Explanation of operation and storage of the BISOMAC308
- II. Explanation of operation methods of the BISOMAC308
- III. Explanation of each device's function and feature.

WARNING

Each BISOMAC308 operator has to understand this operator's manual and the warning label before using. If the operator operates the BISOMAC308 improperly, this may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

WARNING

DO NOT exceed the maximum load of the BISOMAC308. The rigging portion may fall, resulting in potential of death or injury to operators or passers-by.

CAUTION

DO NOT apply excess load on the shackle for transportation.

Applying load of 110lbs (50 kg) above may damage the bow shackle, because of which BISOMAC308 may fall down and cause injury and damage the surrounding objects.

CAUTION: STORAGE

CAUTION

When not in use, set the Fold-Up Stirrup Bar horizontal position and store BISOMAC308. If not, BISOMAC308 is unstable and might fall down, resulting in injury to the people. Refer to Section 6.5.

NOTE: DO NOT stack up BISOMAC308 because it may damage BISOMAC308 making it unusable.

WARNING: LIFTING AND EMERGENCY STOP

WARNING

DO NOT have the Operation Button continuously depressed. Otherwise, the BISOMAC308 cannot stop. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

Always allow the BISOMAC308 to come to a full stop before changing the direction of travel. Failure to do so may result in control circuit failure, or may prevent the BISOMAC308 from stopping. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

DO NOT use the BISOMAC308 if the Emergency Stop Button does not operate. Failure to do so may result in control circuit failure, or may not prevent the BISOMAC308 from stopping. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

Manually operate the emergency stop button and the raising/lowering button. Operating the buttons using tools etc. may damage the switch cover and the switch. Because of this, water may seep in and BISOMAC308 may not stop operating. Platform may tilt and operator or loaded objects may fall down resulting in injury or death of the operator or the passerby.

 **CAUTION**

DO NOT operate the BISOMAC308 more than 30 minutes during any 2 hours period. If you do so, the brake surface will become very hot and could result in burns if it is touched.

WARNING: EMERGENCY DESCENT LEVER

 **WARNING**

DO NOT use the Emergency Descent Lever when operating the Operation Button. Otherwise, the BISOMAC308 may not stop, and this may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

Confirm that the Emergency Descent Lever is locked by the Lever Stopper and in the vertical position before operating the BISOMAC308 up and down.

The brake may not function properly, causing the platform to continue to descend. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

Always operate the Emergency Descent Lever by hand. After using, the Emergency Descent Lever locks automatically. Make sure the Brake is not released. Otherwise, BISOMAC308 cannot be stopped instantly. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **CAUTION**

Be sure to remove the AC Power Plug of the BISOMAC308 from power source when using the Emergency Descent Lever. Otherwise, sudden movement may be induced when the power is regained. This may cause serious injury, death or damage to operators or passers-by.

 **CAUTION**

Pull the Emergency Descent Lever as far as it go toward. If failed to do so, it may result in serious burns, overheating of the BISOMAC308 and premature brake wear. If this occurs, the brake may become not repairable.

NOTE:

DO NOT use the BISOMAC308 if the platform does not descend using the Emergency Descent Lever. Otherwise, the platform may not descent and it may not be possible to rescue operators in the event of a power failure. DO NOT use the BISOMAC308 until it is repaired and retested.

WARNING: OVERSPEED DETECTION DEVICE

 **CAUTION**

Ensure to manually operate the Manual Trip Button.

If not, it could make the Manual Trip Button break and Overspeed Detection Device may malfunction.

 **CAUTION**

DO NOT reset Overspeed Detection Device forcibly.

The pin inside the reset lever to brake and Overspeed Detection Device may not function properly.

WARNING: CARRING

 **CAUTION**

The Carrying Handle is designed for carrying.

Using for other purpose may cause injury or damage the surrounding objects.

 **CAUTION**

The Carrying Handle must be used by hand.

If not, BISOMAC308 may fall down because of the serious damage of handle while moving, which may cause injury or damage the surrounding objects.

6.1 Carrying BISOMAC308

- Separate the BISOMAC308 and Overspeed Detection Device to safely carry each device, refer to section 5, step 1.
- Carry the BISOMAC308 by grasping the carrying Handle.
The weight of the BISOMAC308: approximately 88 lbs (40 kg)
The weight of the Overspeed Detection Device and Fold-UP Stirrup Bar: approximately 7 lbs (3.4 kg)
- Use the specified bolts and nuts to connect the BISOMAC308 Overspeed Detection Device, refer to section 5, step 1.

6.2 Operation and use of Emergency Stop

- Make sure the BISOMAC308 ascends by pressing “Up” Button and descends by pressing “Down” Button.
- Make sure the BISOMAC308 stops by pressing “Emergency Stop Button” and the BISOMAC308 will not ascend or descend.

6.3 Emergency Descent Lever

- In the event of loss of electric power, the BISOMAC308 may be lowered at regular speed using this Emergency Descent Lever.
 - The procedure is shown as below.
- A) Disconnect the AC Power Plug of the BISOMAC308 from Power source.
 - B) Unlock the sliding knob from the lever stopper. (Fig.6)
 - C) Release the Electromagnetic Brake by gently pulling the Emergency Descent Lever as far as it will go toward the arrow as shown. The BISOMAC308 safely lowers at regular speed. (Fig.7)
 - D) Release your hands from the Emergency Descent Lever, then the Emergency Descent Lever locks automatically by the Lever Stopper. And stop the BISOMAC308.

Fig. 6

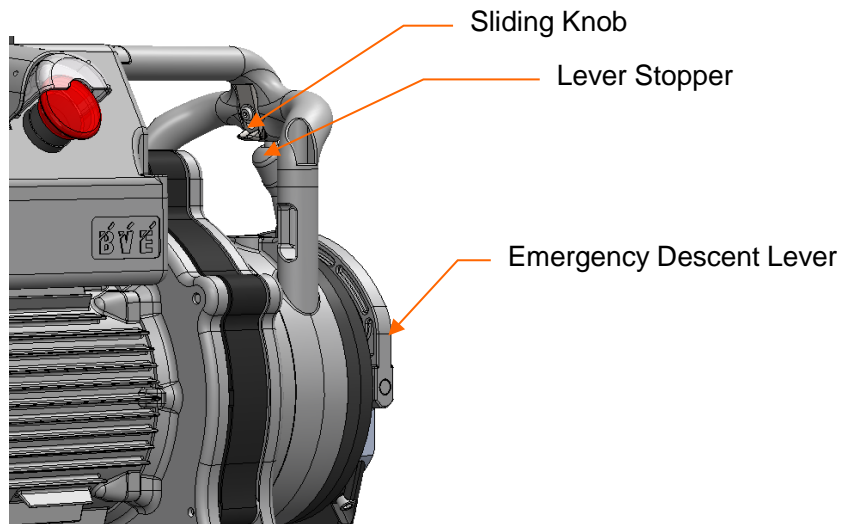
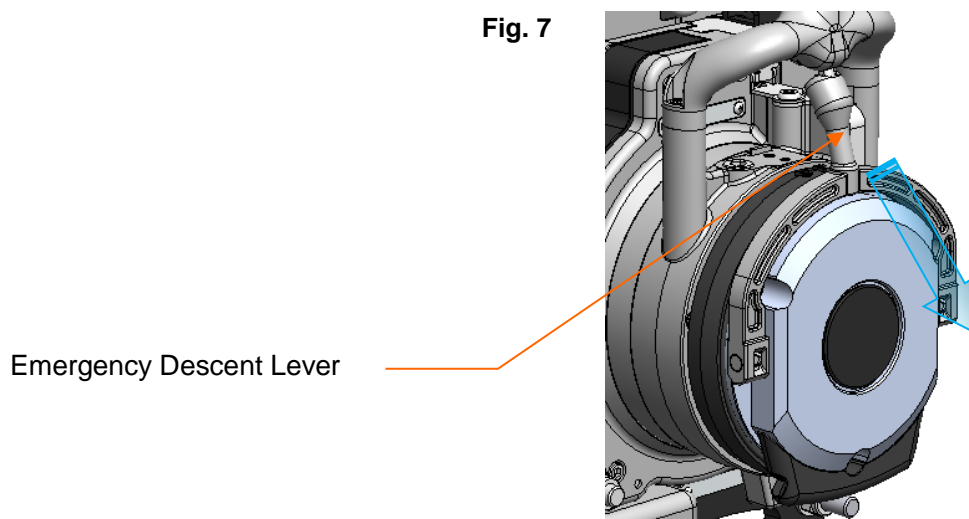


Fig. 7



6.4 How to Reset Overspeed Detection Device

WARNING

DO NOT reset the Overspeed Detection Device until the safety is confirmed.

This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

Please follow the following instructions how to Reset Overspeed Detection Device.

- A) Push “UP” button and reel in wire rope approx. 2in (5cm).
 - B) Push the Reset Lever downward to reset the Overspeed Detection Device.
(Fig.8)
- NOTE: It makes easier to do this while pushing the “UP” button of the Hoist.
- C) Confirm whether the Overspeed Detection Device properly is reset.

- The indicator lamp (RED) on the Overspeed Detection Device's is not lit.
- The Overspeed indicator lamp (RED) on the Hoist is not lit. (Fig.9)

When the Overspeed Detection Device is activated, the Rest Lever is the up position shown as Fig.8. It set to the horizontal position and hides the Indicator Lamp, when it is reset.

Fig. 8

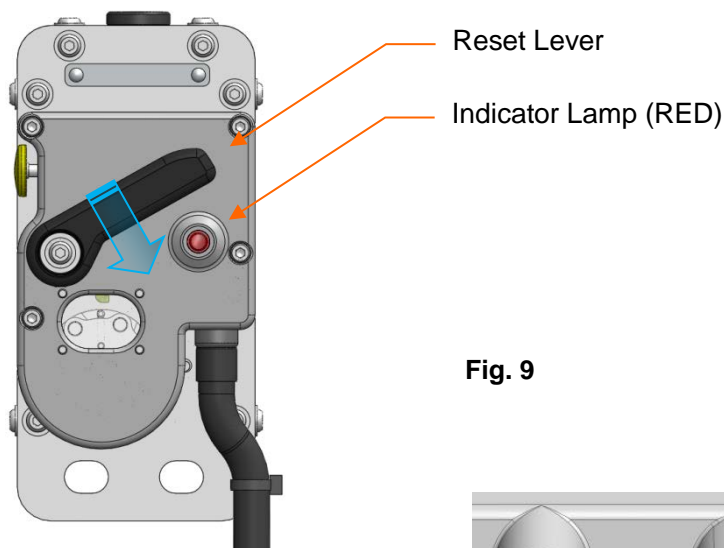
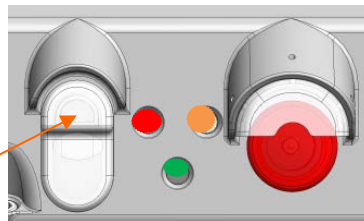


Fig. 9

Overspeed Indicator Lamp
(RED) on the Hoist



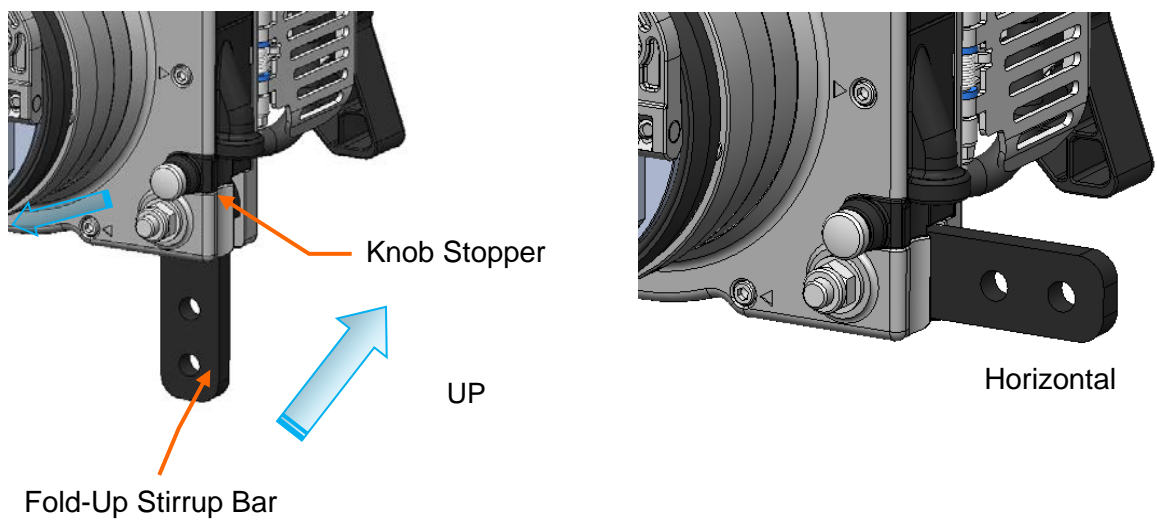
6.5 How to Handle the Fold-Up Stirrup Bar

Please follow the following instructions how to handle the Fold-Up Stirrup Bar.

WHEN NOT IN USE or TRANSPORTING

While pulling the Knob Stopper forward, slide up the Fold-Up Stirrup Bar. Release your hand from the Knob Stopper when the Hold-Up Stirrup Bar set on the level, then it is locked. (Fig.10)

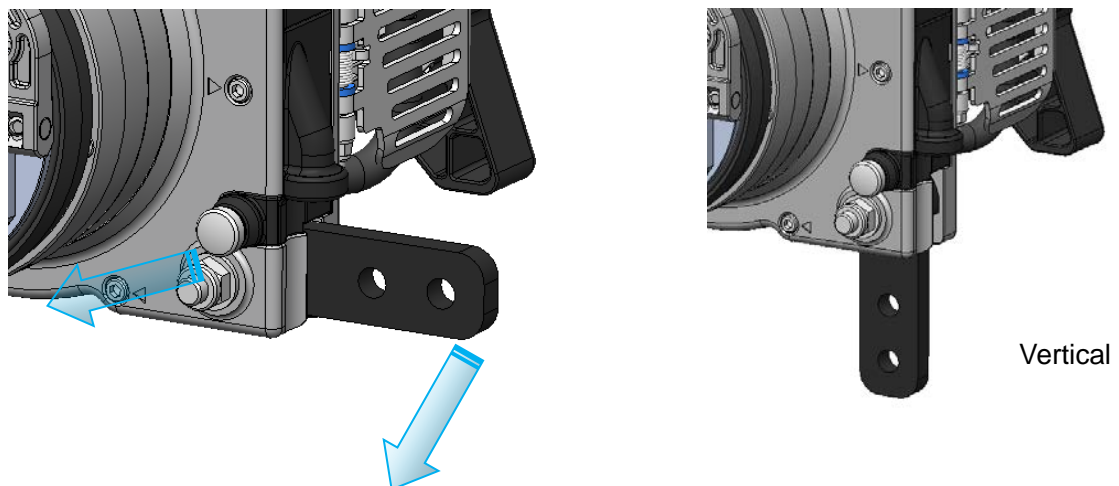
Fig. 10



INSTALLATION

While pulling the Knob Stopper forward, slide down the Fold-Up Stirrup Bar. Release your hand from the Knob Stopper when the Hold-Up Stirrup Bar set on the vertical, then it is locked. (Fig.11)

Fig. 11



DOWN

7. DAILY TESTS AND INSPECTIONS

This section describes necessary test procedure before and after installation of the BISOMAC308.

- Read and understand Steps 7.1 to 7.5 of this section describing the inspection and installation procedures of the BISOMAC308 before using.
- Follow each device's maintenance manuals if the daily tests and inspections are not described in this manual.



WARNING

DO NOT allow anyone under suspended platform. If necessary, provide protection below the suspended platform to prevent potential of death or injury to passers-by from falling objects.



WARNING

NEVER perform any disassembly, maintenance, repair, or part replacement of the BISOMAC308 when it is suspended in air or is under load. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.



WARNING

ALWAYS test and inspect the BISOMAC308 on a daily basis, otherwise the BISOMAC308 may malfunction. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

WARNING: TEST PROCEDURE OF RIGGING METAL



WARNING

If the Rigging is in an abnormal condition, STOP using platform. If the wire rope runs out from rigging or wire rope is cut, this may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

WARNING: TEST PROCEDURE OF WIRE ROPE

 **WARNING**

The Wire Rope will wear out with repeated operation. Therefore, it must be regularly inspected to be sure it is in good condition. If you use a wire rope that is deformed or damaged, it will have reduced strength and may break. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

WARNING: TEST PROCEDURE OF LIFTING PLATFORM AND EMERGENCY STOP FUNCTION

 **WARNING**

If you hear any strange noises such as grinding during operation or if the BISOMAC308 does not appear to work normally, STOP it immediately. DO NOT continue to use the BISOMAC308 until it is replaced. It is possible that parts inside the BISOMAC308 have been damaged. Continuing to use the BISOMAC308 may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

STOP the BISOMAC308 immediately, when the BISOMAC308 is suspended in the air and the motor is running but the wire rope is not moving through the BISOMAC308. Damaged wire rope may be jammed inside the BISOMAC308. Any attempt to move the BISOMAC308 up or down can damage the equipment and/or sever the wire rope, making the BISOMAC308 unable to sustain a load. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **WARNING**

DO NOT use the BISOMAC308 if the Indication light is not visible when the Emergency Stop Button is pressed. Otherwise, the Emergency Stop device may not be operating and this may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

 **CAUTION**

When oil is leaking from BISOMAC308, stop using BISOMAC308 and replace with a defect-free product.

Reduction in the amount of oil increases the temperature of the Gear Reducer which may cause burn injury. Besides, operating it at high temperature may emit smoke from Gear Reducer and it may not be possible to ascent or descent the equipment.

WARNING: TEST PROCEDURE OF CONTROLLED DESCENT DEVICE

 **WARNING**

If the BISOMAC308 has a defect, replace it with one that has passed the pre-shipment inspection by certified personnel. BISOMAC308, which has not passed the pre-shipment inspection, may malfunction or not perform normally. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

WARNING: TEST PROCEDURE OF OVERSPEED DETECTION DEVICE

 **WARNING**

DO NOT use the BISOMAC308 if the Overspeed Detection Device does not engage the wire rope. Replace it with a properly operating Overspeed Detection Device, failure to do so may cause the suspension wire rope to be cut, the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

7.1 Test Procedure for Rigging

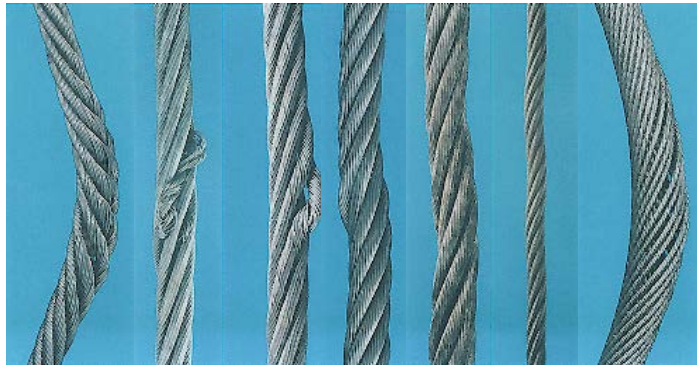
Inspect all components of the suspended platform, especially the components supporting loads, to be sure there are no signs of damage or excessive wear and that all fasteners (nuts, bolts, clamps, wire-clip, shackle, etc.) are properly and securely tightened.

7.2 Test Procedure for Wire Rope

7.2.1 Profile and Dimension of Wire Rope

- Wire rope **MUST** be taken out of service when **ANY** of the following conditions apply, refer to Picture.2.

Picture. 2



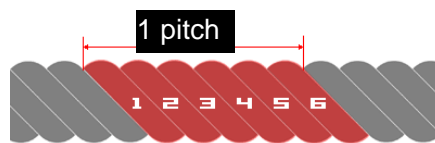
A Loose, kinked, crushed, bird caged wire rope, waviness (more than $4/3d$) or any damage resulting in distortion of the rope structure.

B More than 10% of single wire is broken in one lay. (Fig.10)

Example: Wire Rope construction 6 x 19

$$6 \times 19 = 114 \text{ wires} \times 10 \% = 11 \text{ wires}$$

Fig. 10



C In case the average diameter of wire rope is;

5/16inch (8mm)

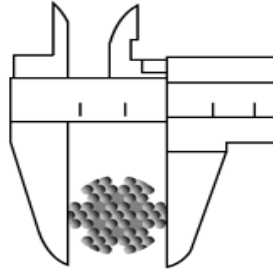
[Dropped below ϕ 0.307inch. (7.8mm)
Exceeded ϕ 0.331inch.(8.4mm)

D Pitting on wire surfaces due to rusting corrosion.

E Evidence of exposure to temperatures above 200° F (93° C).

- With the load applied on the wire rope, measure the average value by taking measurement of diameter of circumference at two diagonally opposite places. Take measurement at few places in the length direction of rope. (Fig.11)

Fig. 13



NOTE: DO NOT use wire rope that has been worn, kinked, bird caged or damaged. Replace it with new wire rope

7.2.2 Preparation of the end of the wire rope

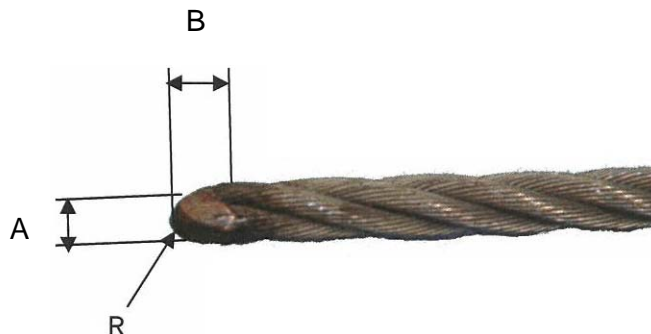
- The end of the wire rope must be prepared for insertion into the BISOMAC308, refer to Picture.3.
- The end of the wire rope treatment is shown as below.

	5/16inch (8mm)
A. Wire rope diameter	0.315inch.(8mm) to 0.33inch.(8.4mm)
B. Braze distance	Within 0.197inch.(5mm)
R. Top Radius	0.118inch.(3mm)

NOTE:

Improperly prepared bullet can cause the wire rope to jam in the BISOMAC308 and the wire may get stuck in the hoist.

Picture.3



7.3 Test procedures for Lifting and use of the Emergency Stop

- A) Check that none of the bolts/nuts and Operator's Manual Cap are loose.
- B) Check the visual appearance of the Traction Hoist (Include Cables and Connectors) that there is no damaged place such as crack or deformation.
- C) Check that the emergency stop button cover and ascent/descent button cover are not damaged such as crack.
- D) Make sure the BISOMAC308 is connected to the stirrup properly and the AC Power Plug is connected to power source properly. And check circuit breaker.
- E) Raise the platform about 40 in. (100 cm) off the ground and then lower it to its original position. Repeat this procedure several times. Check that there is not abnormal vibration such as the Traction Hoist is shaking.
- F) Check that hour meter is working normally.
- G) Press the Emergency Stop Button to disconnect the power to the BISOMAC308.
- H) Make sure that the Indication light (RED) for the Emergency Stop Button is lit.
- I) Press the Operation Button to confirm that the BISOMAC308 will not operate.
- J) Reset the Emergency Stop Button and confirm that the BISOMAC308 will operate.

Testing procedure when REMOTE CONTROL PENDANT SWITCH is connected

- A) Check that none of the bolts/nuts and Operator's Manual Cap are loose.
- B) Check the visual appearance of the Traction Hoist (Include Cables and Connectors) that there is no damaged place such as crack or deformation.
- C) Check that the emergency stop button cover and ascent/descent button cover are not damaged such as crack.
- D) Make sure the BISOMAC308 is connected to the stirrup properly and the AC Power Plug is connected to power source properly. And check circuit breaker.
- E) Press the Operation Button of the PENDANT SWITCH to raise the platform about 40 in. (100 cm) off the ground and then lower it to its original position. Repeat this procedure several times. Check that there is not abnormal vibration such as the Traction Hoist is shaking.
- F) Check that hour meter is working normally.
- G) Press the Emergency Stop Button of the PENDANT SWITCH and shutdown the power supply of BISOMAC308.
- H) Verify that the red color display lamp of the Emergency Stop Button of the main body lights up.
- I) Press the Operation Button of the PENDANT SWITCH and verify that BISOMAC308 doesn't operate.
- J) Press the Operation Button of the main body and verify that BISOMAC308 doesn't operate.
- K) Reset the Emergency Stop Button of the PENDANT SWITCH, and verify that the platform moves up and down once again.
- L) Press the Emergency Stop Button of the main body and shutdown the power supply of BISOMAC308.
- M) Verify that the red color display lamp of the Emergency Stop Button of the main body lights up.

- N) Press the Operation Button of the PENDANT SWITCH and verify that BISOMAC308 doesn't operate.
- O) Press the Operation Button of the main body and verify that BISOMAC308 doesn't operate.
- P) Reset the Emergency Stop Button of the main body, and verify that the platform moves up and down once again.

7.4 Test procedures for Controlled Descent Device

 **CAUTION**

Be sure to remove the AC Power Plug of the BISOMAC308 from power source when using the Emergency Descent Lever. Otherwise, sudden movement may be induced when the power is regained. This may cause serious injury, death or damage to operators or passers-by.

 **CAUTION**

Pull the Emergency Descent Lever as far as it go toward. If failed to do so, it may result in serious burns, overheating of the BISOMAC308 and premature brake wear. If this occurs, the brake may become not repairable.

- A) Raise the platform about 40 inches. (100 cm) off the ground.
- B) Disconnect the AC Power Plug of the BISOMAC308 from power source.
- C) Release the Lever Stopper.
- D) Release the Electromagnetic Brake by gently pulling the Emergency Descent Lever as far as it will go toward the arrow. The BISOMAC308 should safely lower at regular speed.
- E) The platform should descend at a controlled speed not greater than 35 ft./min (10.6 m/min). If the descent speed exceeds 35 ft./min (10.6 m/min) contact local BISOMAC308 distributor.

NOTE:

If the descent speed exceeds 35 ft./min (10.6 m/min), contact local BISOMAC308 distributor.

7.5 Test procedures for Overspeed Detection Device

 **CAUTION**

Ensure to manually operate the Manual Trip Button. If not, it could make the Manual Trip Button break and Overspeed Detection Device may malfunction.

Perform the following procedure to confirm of the Overspeed Detection Device is operating normally.

- A) Insert about 12 in. (30 cm) of wire rope into the Overspeed Detection Device inlet.
- B) Pull up the wire rope quickly. The Reset Lever turns anticlockwise and the Overspeed Indicator lamp (RED) is lit.
- C) Make sure that the wire rope is engaged.
- D) Make sure the Overspeed Indicator lamp (RED) is lit when pressing the "Down" Button.
- E) Push down the Reset Lever to reset the Overspeed Detection Device.
- F) Make sure the Overspeed Indicator lamp (RED) is not lit when pressing the "Down" Button.

Perform the following procedures to make sure the Overspeed Detection Device holds loads normally.

- A) Raise the platform about 20 in. (50 cm) off the ground.
- B) Press the Manual Trip Button to activate the Overspeed Detection Device. The Reset Lever turns anticlockwise and the Overspeed Indicator lamp (RED) is visualized.
- C) Release the Electromagnetic Brake by pulling the Emergency Descent Lever to lower the platform.
- D) The Overspeed Detection Device engages the wire rope and the platform stop descending.
- E) Press "Down" Button to confirm the platform will not descent.
- F) Confirm that the Overspeed Indicator lamp (RED) is lit when pressing "Down" Button.
- G) Press down the Reset Lever while pressing "UP" Button to reset the Overspeed Detection Device.
- H) Push Operation Button to raise platform and confirm that the Governor is rotating.
- I) Perform same procedure to the other side of the Overspeed Detection Device.

NOTE:

If the Overspeed Detection Device does not engage the wire rope, contact the BISOMAC308 local distributor and replace it with a properly functioning Overspeed Detection Device.

8. PERIODIC INSPECTIONS

The BISOMAC308 has to conduct the following periodic inspections if the BISOMAC308 experiences the following conditions. The periodic inspections have to be performed by certified personnel.

The following time periods should be used to determine to perform periodic inspections. However, depending on job and environmental conditions, periodic inspections may need to be done sooner.

- A) Unit is more than 1 year old after purchasing
- B) Unit over 1 year after previous periodic inspection
- C) Unit operation hour is over 100 hours since last periodic inspection
- D) When BISOMAC308 used in a bad work environment, such as dirt, dust, etc.

NOTE: Follow the Traction Hoist Maintenance Manual concerning periodic inspections.

WARNING

ALWAYS test and inspect the BISOMAC308 on a daily basis, otherwise the BISOMAC308 may malfunction. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

WARNING

ALWAYS test and inspect the BISOMAC308 on a daily basis especially in work environments that contain contaminants. Maintain hoist (see maintenance manual) after completing work at each work site to remove dusts and foreign objects inside of hoist. Failure to do so may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

WARNING

Only trained and certified personnel may replace the Brake, Motor, or Gearbox. Otherwise, the BISOMAC308 may malfunction or not perform normally. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

WARNING

DO NOT replace any BISOMAC308 parts with ones that are not approved. Such replacement may cause the BISOMAC308 to malfunction or not perform adequately. This may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

9. TROUBLESHOOTING AT JOB SITE

PROBLEM FROM MISHANDLING

The following information is intended to help identify faults that can occur and recommended corrections

WARNING

If the problems (Case 1 – Case 8) cannot be solved by performing the corrective measures below, replace the hoist or contact local authorized BISOMAC308 distributor. All repairs and solution of these problems must be performed by trained and certified service personnel, otherwise, this may cause the platform to fall or tilt, and consequently operators or objects might fall, resulting in serious injury, death or damage to operators or passers-by.

CASE 1 <i>Press “UP” or “Down” Buttons but BISOMAC308 will not Operate.</i>		
Problem		Solution
1	Main power is not connected.	Confirm the main power and the AC Power Plug connections are proper.
2	Emergency Stop Button is pushed.	Check the Power Indication lamp (RED) and reset the Emergency Stop Button.
3	Overload protection feature is activated due to overload.	Unload the weight in platform.
4	Reversed-Phase Detection Indicator is lit. Only for 3 phase model.	Check the phase of power supply and reconnect.

CASE 2 <i>Press “UP” Button, but BISOMAC308 will not Ascend.</i>		
Problem		Solution
1	Voltage is too low.	Supply power within allowable power of BISOMAC, see Section 2.1.
2	Power Cable is too long or size is too small.	Shorten power cable or use larger size.

CASE 3 <i>Motor runs but Hoist will not self-reeve</i>		
Problem		Solution
1	Inadequate bullet on the wire rope.	Make sure the proper wire rope is used, see Section 7.2.2.
2	Wire rope is worn or damaged.	Stop operation of the BISOMAC308 immediately and replace wire rope.
3	The exit of wire rope is blocked.	Remove obstruction which caused blockage.

CASE 4 <i>Hoist self-reeves, but will not lift platform</i>		
Problem		Solution
1	Inadequate wire rope is used.	Make sure the proper wire rope is used, see Section 2.2.
2	Wire rope is worn or damaged.	Replace wire rope.

CASE 5 <i>BISOMAC308 ascending speed is too low.</i>		
Problem		Solution
1	Power voltage is too low.	Check that voltage and replace it with correct power cable, see Section 2. Supply proper voltage, see Section 2.
2	Wire rope is worn or damaged.	Replace wire rope.

CASE 6 <i>BISOMAC308 makes unusual noise</i>		
Problem		Solution
Each device's bolts and nuts are loosened.		Check them and tighten properly.

CASE 7
BISOMAC308 is too hot

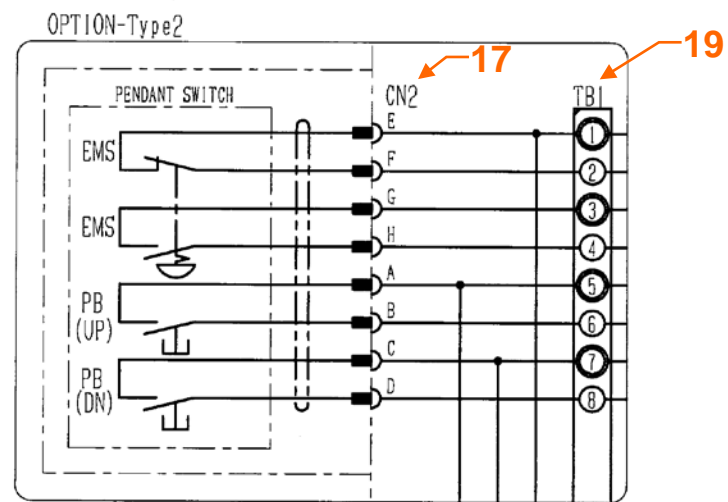
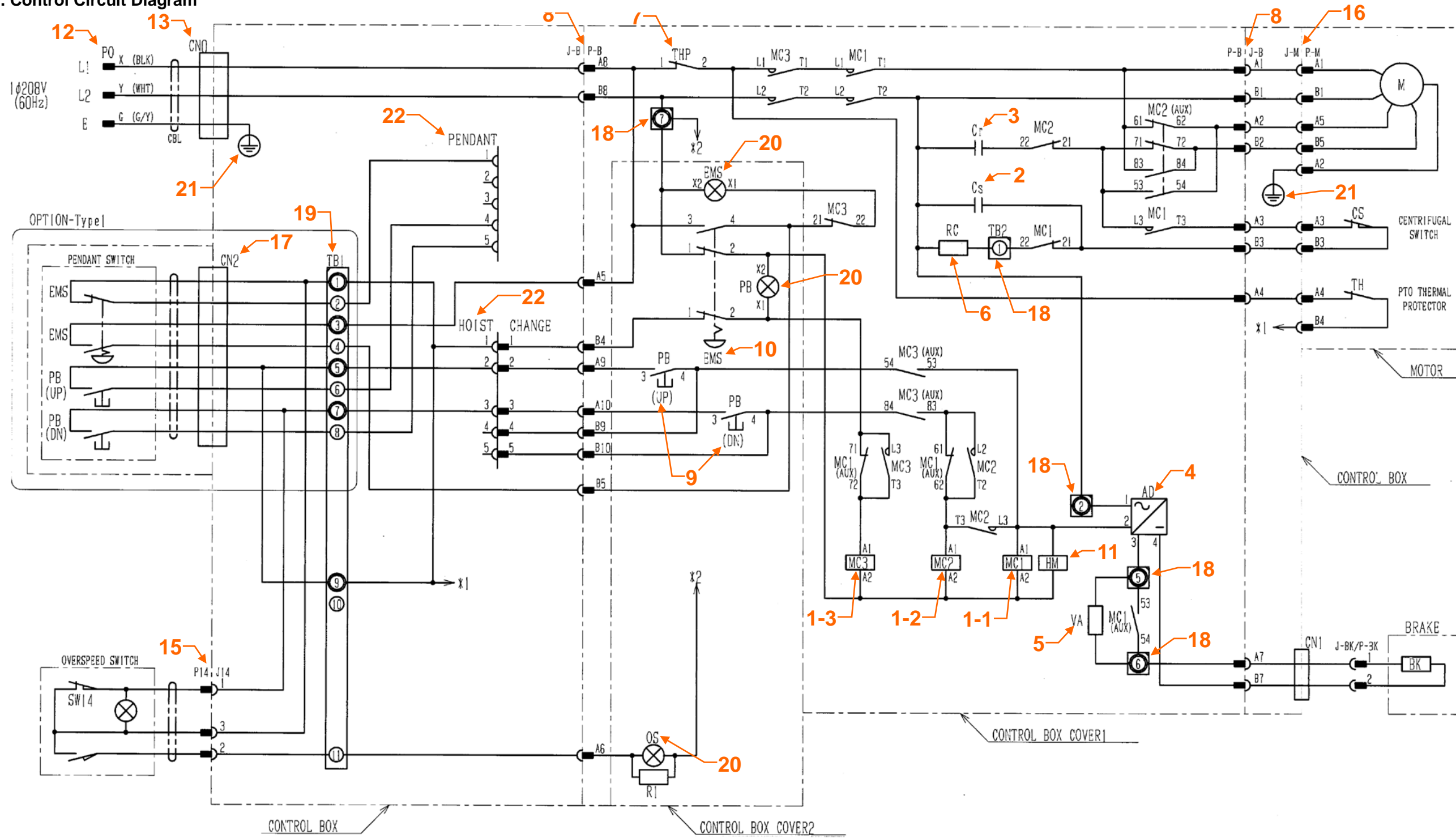
Problem		Solution
1	Voltage of input power is too high	The supply voltage should not exceed +10 %, see Section 2.1.
2	Air supply to Motor is in bad condition.	Improve air ventilation on fan cover of BISOMAC308
3	Frequency use of BISOMAC308.	Strict observance of BISOMAC308 operation hours, see Section 6.

CASE 8
***Press “Down” Button, but
BISOMAC308 will not descend.***

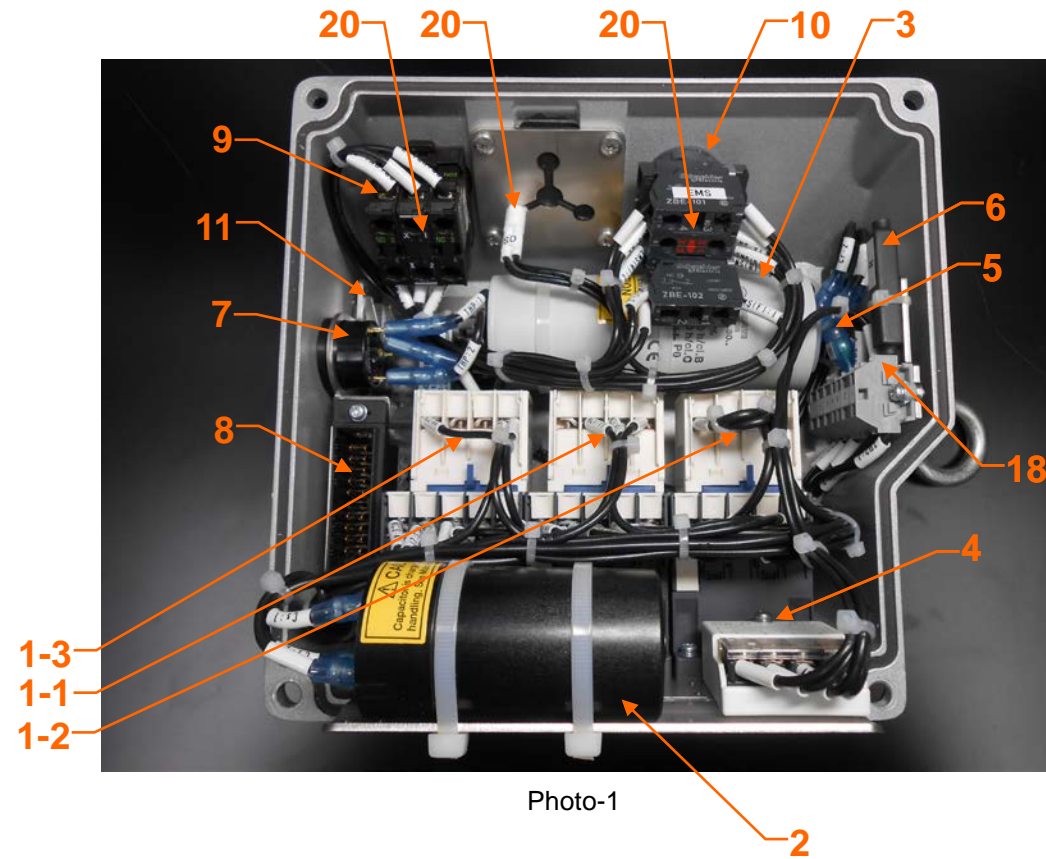
Problem		Solution
1	Connector of Overspeed Detection Device is unplugged.	Connect Connector of Overspeed Detection Device properly.
2	Overspeed Detection Device may be activated.	<p>Reset Overspeed Detection Device.</p> <p>HOW TO RESET</p> <p>A) Lift the hoist by about 4 inch (10 cm). B) Lower the Reset Lever of Overspeed Detection Device.</p> <p>NOTE: DO NOT reset forcefully. When the pin inside the lever of Overspeed Detection Device is damaged, you may not be able to reset Overspeed Detection Device.</p>

Electrical Control and Electric Parts Function for 1 phase models "L"

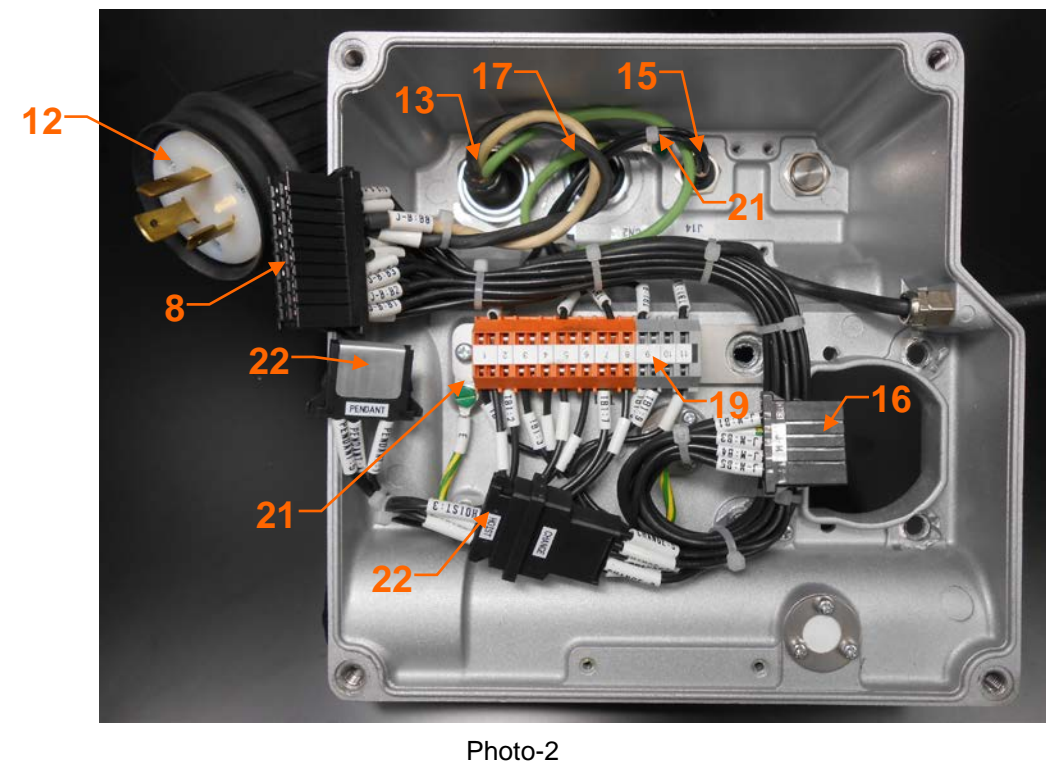
1. Control Circuit Diagram



2. Inside of Control Box Cover and Control Box
【Control Box Cover】



【Control Box】



3. Part Name and Part Function

【Control Box Cover】

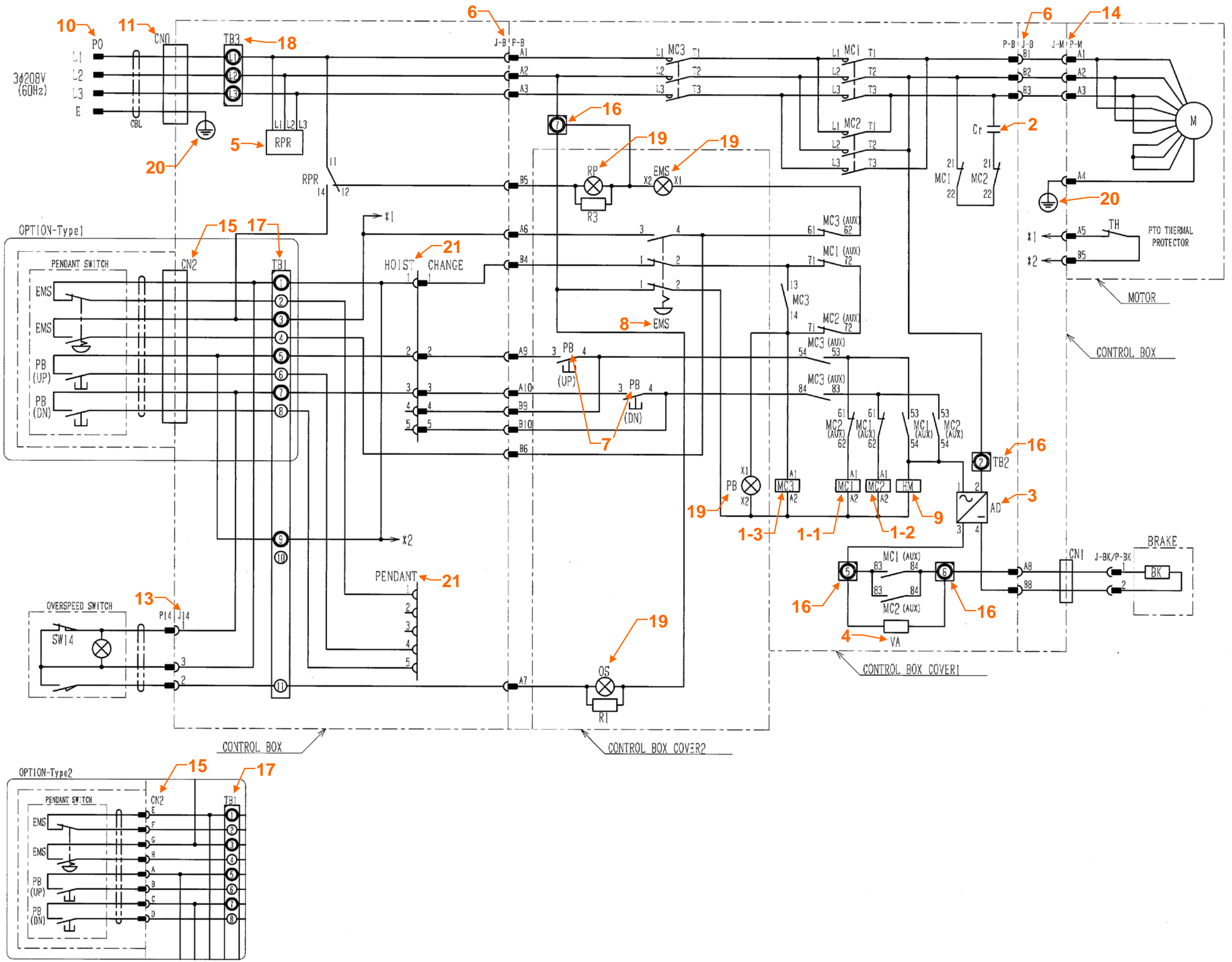
No	Tag No.	Part Name	Function
1-1	MC-1	Electromagnetic contactor for Starting Motor	Starts motor
1-2	MC-2	Electromagnetic contactor for Running Motor	Controls rotation of motor.
1-3	MC-3	Electromagnetic contactor for Emergency Stop	Shut down the main power.
2	Cs	Starting Condenser	Supplies the starting torque to the motor.
3	Cr	Running Condenser	Supplies the running torque to the motor and controls the descending speed at the time of manual brake release.
4	AD	Brake Power	Supplies the power to the electromagnetic brake.
5	VA	Varistor	Prevents the contact from being damaged by surge voltage.
6	RC	Discharge Resistance	Prevents the contact from being damaged by surge current.
7	THP	Thermal Protector	Detects surge current and shut down the power
8	J-B P-B	Control Box Connector	Connects the Control box and the Control box cover.
9	PB	Ascending/Descending button	Controls the electromagnetic contactor and electromagnetic brake.
10	EMS	Emergency Stop Switch	Turns off the power to the control circuit.
11	HM	Operating time integrating meter	Displays the operating time.
18	TB2	Terminal Block	Connects and branch wires
20	PB EMS OS	PB: Power supply injection lamp EMS: Emergency Stop Activation Lamp OS: Overspeed Activation Lamp	Inform the working conditions of the device to operator by lighting and lights out of the lamp

【Control Box】

No	Tag No.	Part Name	Function
12	P0	Power Plug	Connect the power cable.
13	CN0	Power Cable Ground	Secures the power cable.
15	J14	Socket for the Overspeed Detection Device	Connect the interlock of the Overspeed Detection Device
16	J-M P-M	Motor Connector	Connects the motor and the control box.
17	CN2	Socket for the Pendant Switch (OPTION)	Connect the Pendant Switch. Pendant Switch is optional and need to convert with special kit. Please contact with BISOMAC308 local distributor.
19	TB1	Terminal Block	Connects and branch wires
21	E	Ground	Prevent damage and electric shock of the device by the short circuit and over voltage
22	PEMDANT / HOIST	Switching Connector of Pendant and Hoist	Switch the operation by connecting with Pendant: Operation by Pendant Switch Hoist: Operation by Switch button on the hoist.

Electrical Control and Electric Parts Function for 3 phase models "L"

1. Control Circuit Diagram



2. Inside of Control Box Cover and Control Box
【Control Box Cover】

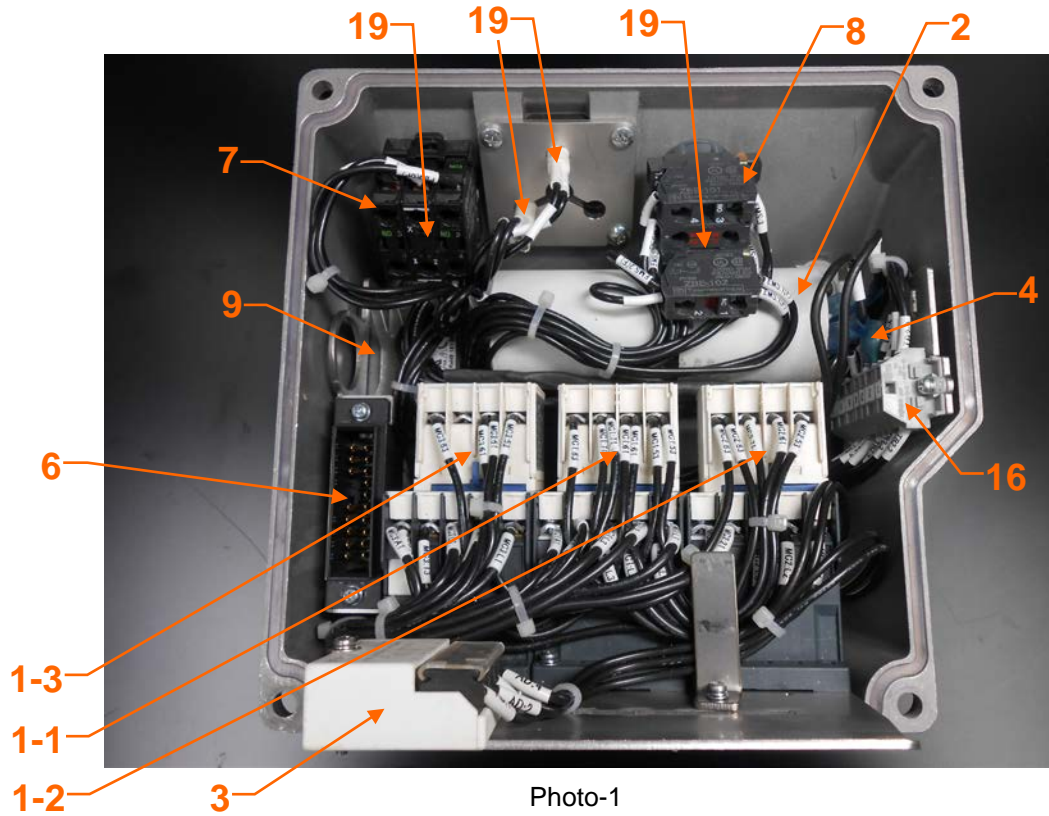


Photo-1

【Control Box】

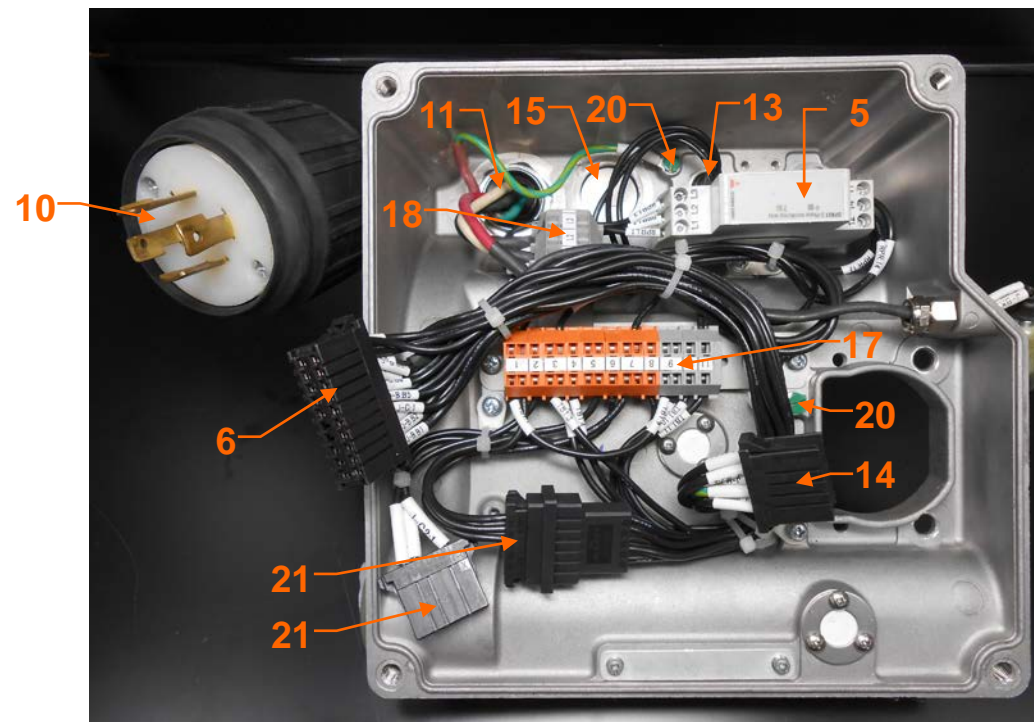


Photo-2

3. Part Name and Part Function
【Control Box Cover】

No	Tag No.	Part Name	Function
1-1	MC-1	Electromagnetic contactor for Starting Motor	Starts motor
1-2	MC-2	Electromagnetic contactor for Running Motor	Controls rotation of motor.
1-3	MC-3	Electromagnetic contactor for Emergency Stop	Shut down the main power.
2	Cr	Condenser	Controls the descending speed at the time of manual brake release.
3	AD	Brake Power	Supplies the power to the electromagnetic brake.
4	VA	Varistor	Prevents the contact from being damaged by surge voltage.
6	J-B P-B	Control Box Connector	Connects the Control box and the Control box cover.
7	PB	Ascending/Descending button	Controls the electromagnetic contactor and electromagnetic brake.
8	EMS	Emergency Stop Switch	Turns off the power to the control circuit.
9	HM	Operating time integrating meter	Displays the operating time.
16	TB2	Terminal Block	Connects and branch wires
19	PB / EMS OS / RP	PB: Power supply injection lamp EMS: Emergency Stop Activation Lamp OS: Overspeed Activation Lamp RP: Reversed Phase Detection Lamp	Inform the working conditions of the device to operator by lighting and lights out of the lamp

【Control Box】

No	Tag No.	Part Name	Function
5	RPR	Reverse Phase Detection device	Shut down the power when Reversed Phase is detected.
10	P0	Power Plug	Connect the power cable.
11	CN0	Power Cable Ground	Secures the power cable.
13	J14	Socket for the Overspeed Detection Device	Connect the interlock of the Overspeed Detection Device
14	J-M P-M	Motor Connector	Connects the motor and the control box.
15	CN2	Socket for the Pendant Switch (OPTION)	Connect the Pendant Switch. Pendant Switch is optional and need to convert with special kit. Please contact with BISOMAC308 local distributor.
17	TB1	Terminal Block	Connects and branch wires
18	TB3	Terminal Block	Connects and branch wires
20	E	Ground	Prevent damage and electric shock of the device by the short circuit and over voltage
21	PENDANT / HOIST	Switching Connector of Pendant and Hoist	Switch the operation by connecting with Pendant: Operation by Pendant Switch Hoist: Operation by Switch button on the hoist.

CODE OF SAFE PRACTICES

FOR

ADJUSTABLE SUSPENDED SCAFFOLDS

CO-DEVELOPED BY SCAFFOLDING, SHORING and FORMING INSTITUTE (SSFI)
and SCAFFOLD & ACCESS INDUSTRY ASSOCIATION, INC. (SAIA)

It shall be the responsibility of all users to read and comply with the following common sense guidelines which are designed to promote safety in the erecting, dismantling and use of adjustable suspended scaffolds. These guidelines do not purport to be all-inclusive nor to supplant or replace other additional safety and precautionary measures. If these guidelines conflict with any local, provincial, state, federal or other government regulations, the regulations shall supersede these guidelines and it shall be the responsibility of each user to comply therewith.

I. GENERAL GUIDELINES

- A. **POST THESE SAFE PRACTICES** in a conspicuous place. Be sure that all persons who erect, use, relocate or dismantle adjustable suspended scaffold systems are fully aware of them. Use them in tool box safety meetings.
- B. **FOLLOW ALL EQUIPMENT MANUFACTURER'S RECOMMENDATIONS** as well as all local, provincial, state and federal codes, ordinances and regulations relating to adjustable suspended scaffold systems.
- C. **SURVEY THE JOB SITE.** A competent person shall survey the job site for hazards such as exposed electrical wires, obstructions and unguarded roof edges or openings.
- D. **INSPECT ALL EQUIPMENT BEFORE EACH USE.** Never use any equipment that is damaged or defective in any way. Mark it or tag it as damaged or defective and remove it from the jobsite.
- E. **ERECT AND DISMANTLE ADJUSTABLE SUSPENDED SCAFFOLD EQUIPMENT** in accordance with the design and/or manufacturer's recommendations.
- F. **DO NOT ERECT, DISMANTLE OR ALTER ADJUSTABLE SUSPENDED SCAFFOLD SYSTEMS** except under the supervision of a competent person.
- G. **DO NOT ABUSE OR MISUSE ADJUSTABLE SUSPENDED SCAFFOLD EQUIPMENT.** Never overload any equipment.
- H. **ERECTED ADJUSTABLE SUSPENDED SCAFFOLDS ARE TO BE INSPECTED REGULARLY** by the user to be sure that they are maintained in a safe condition. Stop work and report any unsafe condition to your supervisor.
- I. **NEVER TAKE CHANCES! IF IN DOUBT REGARDING THE SAFETY OR USE OF ADJUSTABLE SUSPENDED SCAFFOLDS, CONSULT A QUALIFIED PERSON.**
- J. **NEVER USE ADJUSTABLE SUSPENDED SCAFFOLD EQUIPMENT FOR PURPOSES FOR WHICH IT WAS NOT INTENDED.**
- K. **A COMPETENT PERSON SHALL CONSIDER STOPPING WORK WHEN WIND SPEED EXCEEDS 25 MPH FOR TWO-POINT ADJUSTABLE SUSPENDED SCAFFOLDS OR 20 MPH FOR SINGLE-POINT SUSPENSION.** If materials on a platform create a sail effect, stopping work at lower wind speeds must be considered.

- L. **ADJUSTABLE SUSPENDED SCAFFOLD SYSTEMS** are to be installed and used in accordance with the manufacturer's recommended procedures.
- M. **ADJUSTABLE SUSPENDED PLATFORMS MUST NEVER BE OPERATED NEAR LIVE POWER LINES** unless proper precautions are taken. Contact the power service provider for advice.
- N. **ALWAYS UTILIZE FALL ARREST EQUIPMENT** when working on adjustable suspended scaffolds or when working near unguarded edges.
- O. **DO NOT WORK FROM, INSTALL OR MOVE ADJUSTABLE SUSPENDED SCAFFOLDS** if you are sick or impaired in any way.
- P. **DO NOT WORK ON ADJUSTABLE SUSPENDED SCAFFOLDS** when under the influence of alcohol or drugs.
- Q. **DEBRIS SHOULD NOT BE STORED OR ALLOWED TO ACCUMULATE ON A PLATFORM.**
- R. **INDEPENDENT ADJUSTABLE SUSPENDED SCAFFOLDS ARE TO BE POSITIONED SO AS TO AVOID OVERLAPPING OR POSSIBLE INTERFERENCE FROM ANOTHER SCAFFOLD.**

II. GUIDELINES FOR ERECTION AND USE OF ADJUSTABLE SUSPENDED SCAFFOLD SYSTEMS

A. RIGGING:

1. **UTILIZE FALL PROTECTION EQUIPMENT** when rigging near unguarded edges.
2. **SUPPORTING DEVICES** must be capable of supporting the hoist rated load with a safety factor of four.
3. **ALL OVERHEAD RIGGING** must be secured from unwanted movement in any direction.
4. **COUNTERWEIGHTS USED WITH OUTRIGGER BEAMS** must be of a non-flowable material and must be secured to the beam to prevent accidental displacement.
5. **OUTRIGGER BEAMS THAT DO NOT USE COUNTERWEIGHTS** must be installed and secured to the roof structure with bolts or other direct connections. Direct connections shall be evaluated by a competent person.
6. **TIE BACK ALL TRANSPORTABLE RIGGING DEVICES.** Tieback shall be equivalent in strength to the suspension ropes.
7. **INSTALL TIEBACKS AT RIGHT ANGLES TO THE FACE OF THE BUILDING** and secure them without slack, to a suitable anchor capable of supporting the hoist rated load with a safety factor of four.
8. **IN THE EVENT THAT TIEBACKS CANNOT BE INSTALLED AT RIGHT ANGLES,** two tiebacks at opposing angles must be used to prevent movement.
9. **RIG AND USE HOISTING MACHINES DIRECTLY UNDER THEIR SUSPENSION POINTS** to prevent movement or side loading.

B. WIRE ROPE AND HARDWARE:

1. **USE ONLY WIRE ROPE AND ATTACHMENTS** specified by the hoisting machine manufacturer.
2. **HANDLE WIRE ROPE WITH CARE.** Always use gloves.
3. **COIL AND UNCOIL WIRE ROPE** in accordance with manufacturer's instructions in order to avoid kinking or damage.

4. **ASSURE THAT THE WIRE ROPE IS LONG ENOUGH** to reach to the lowest possible landing.
5. **CLEAN AND LUBRICATE WIRE ROPE** in accordance with the wire rope manufacturer's instructions.
6. **INSPECT WIRE ROPE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. DO NOT USE WIRE ROPE THAT IS KINKED, BIRDCAGED, CORRODED, UNDERSIZED, OR DAMAGED IN ANY WAY.** Do not expose wire rope to fire, undue heat, corrosive atmosphere, electricity, chemicals or damage.
7. **WIRE ROPES USED WITH TRACTION HOISTS MUST HAVE PREPARED ENDS.** Follow hoist manufacturer's recommendations.
8. **USE THIMBLES AT ALL WIRE ROPE SUSPENSION TERMINATIONS.**
9. **USE J-BOLT WIRE ROPE CLAMPS OR SWEDGE FITTINGS. DO NOT USE U-BOLT CLAMPS.**
10. **TIGHTEN THE J-BOLT WIRE ROPE CLAMPS** in accordance with the manufacturer's instructions.

C. POWER SUPPLY FOR MOTORIZED EQUIPMENT:

1. **USE PROPERLY GROUNDED ELECTRICAL POWER CORDS.** Protect them with circuit breakers.
2. **USE POWER CORDS AND AIR HOSES OF THE PROPER SIZE THAT ARE LONG ENOUGH** for the application.
3. **POWER CORD and AIR HOSE CONNECTIONS MUST BE RESTRAINED** to prevent separation.
4. **USE STRAIN RELIEF DEVICES TO ATTACH POWER CORDS AND AIR SUPPLY HOSES TO THE PLATFORM,** to prevent them from separation.
5. **PROTECT POWER CORDS AND AIR HOSES FROM SHARP EDGES.**
6. **USE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) WITH POWER TOOLS.**

D. FALL ARREST EQUIPMENT:

1. **EACH PERSON ON AN ADJUSTABLE SUSPENDED SCAFFOLD** must be attached to an independent fall arrest system.
2. **EACH VERTICAL LIFELINE SHALL BE ATTACHED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS** to a separate anchorage capable of supporting a minimum of 5000 pounds (2267 kg) or an anchorage designed by a qualified person.
3. **DO NOT WRAP LIFELINES AROUND STRUCTURAL MEMBERS** unless lifelines are protected and a suitable anchorage connection is used.
4. **PROTECT LIFELINES AT SHARP CORNERS AND EDGES** to prevent chafing.
5. **RIG FALL ARREST SYSTEMS** to minimize free fall.
6. **INSTALL VERTICAL LIFELINES SO THEY HANG FREELY.**
7. **USE LIFELINES** that are compatible with the rope grab.
8. **INSTALL ROPE GRAB IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.** Rope grab must be properly oriented.
9. **KEEP ROPE GRAB POSITIONED ABOVE YOUR HEAD.**
10. **UTILIZE FULL BODY HARNESSSES of the proper size and fit.**
11. **UTILIZE SHOCK ABSORBING LANYARD** attached to the D-ring at the center of your back between the shoulder blades.

12. **INSPECT FALL PROTECTION ANCHORAGE / EQUIPMENT BEFORE EACH USE.** Consult the fall protection supplier for inspection procedures.
 13. **WHEN A SECONDARY WIRE ROPE SYSTEM IS USED** instead of a vertical lifeline, attach the lanyard to a horizontal lifeline or an approved platform anchor.
- E. DURING USE:**
1. **USE ALL EQUIPMENT AND ALL DEVICES** in accordance with the manufacturer's instructions.
 2. **DO NOT OVERLOAD OR MODIFY EQUIPMENT.**
 3. **INSPECT ALL EQUIPMENT INCLUDING HOISTS, PLATFORM, AND RIGGING** before each use.
 4. **INSPECT WIRE ROPE BEFORE AND DURING USE.**
 5. **USE CARE TO PREVENT DAMAGE TO EQUIPMENT.**
 6. **CLEAN AND SERVICE EQUIPMENT REGULARLY.** Follow manufacturers' recommendations.
 7. **ALWAYS MAINTAIN AT LEAST (4) FOUR WRAPS OF WIRE ROPE ON DRUM TYPE HOISTS.**
 8. **DO NOT CONNECT PLATFORMS** unless the installation was designed for that purpose.
 9. **DO NOT MOVE ADJUSTABLE SUSPENDED SCAFFOLDS HORIZONTALLY** unless safe work practices are followed.
 10. **WHEN RIGGING FOR ANOTHER DROP** assure sufficient wire rope is available before moving the suspended platform horizontally to the next location.
- F. WELDING FROM SUSPENDED SCAFFOLDS REQUIRES SPECIAL TRAINING:**
1. **ASSURE PLATFORM IS GROUNDED TO THE STRUCTURE** using a grounding conductor.
 2. **INSULATE WIRE ROPE ABOVE AND BELOW THE PLATFORM.**
 3. **INSULATE WIRE ROPE AT SUSPENSION POINT AND ASSURE WIRE ROPE DOES NOT CONTACT THE STRUCTURE ALONG ITS ENTIRE LENGTH.**
 4. **PREVENT THE WIRE ROPE END FROM BECOMING GROUNDED.**
 5. **INSULATE EACH HOIST WITH A PROTECTIVE COVER.**
 6. **INSULATE TIE BACK WIRE ROPES AT THE CONNECTION POINTS.**

Since field conditions vary and are beyond the control of the SSFI and the SAIA, safe and proper use of adjustable suspended scaffolding is the sole responsibility of the user.

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NOTE:

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Operator's Manual
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