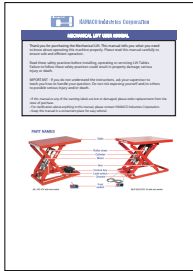
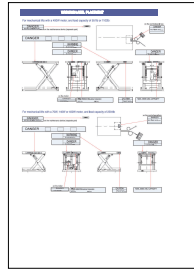


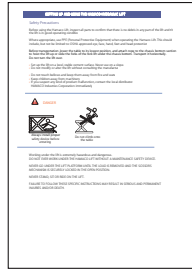
table of contents



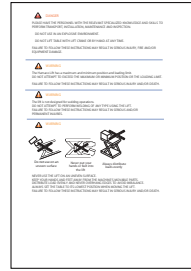
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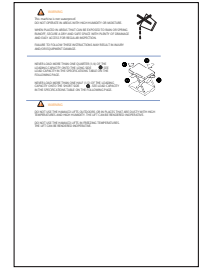
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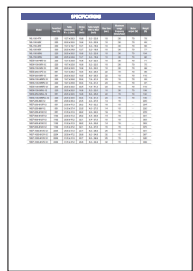
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6



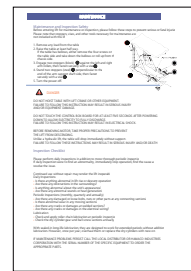
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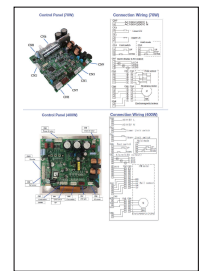
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9



10



11



12



MECHANICAL LIFT USER MANUAL

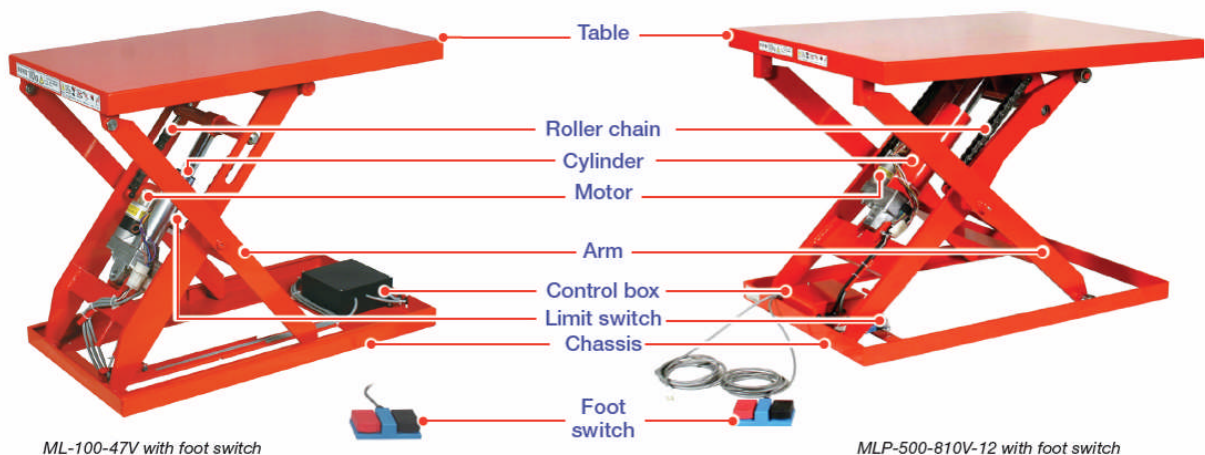
Thank you for purchasing the Mechanical Lift. This manual tells you what you need to know about operating this machine properly. Please read this manual carefully to ensure safe and efficient operation.

Read these safety practices before installing, operating or servicing Lift Tables. Failure to follow these safety practices could result in property damage, serious injury or death.

IMPORTANT - If you do not understand the instructions, ask your supervisor to teach you how to handle your question. Do not risk exposing yourself and/or others to possible serious injury and/or death.

- If this manual or any of the warning labels are lost or damaged, please order replacements from the store of purchase.
- For clarification about anything in this manual, please contact HAMACO Industries Corporation.
- Keep this manual in a convenient place for easy referral.

PART NAMES

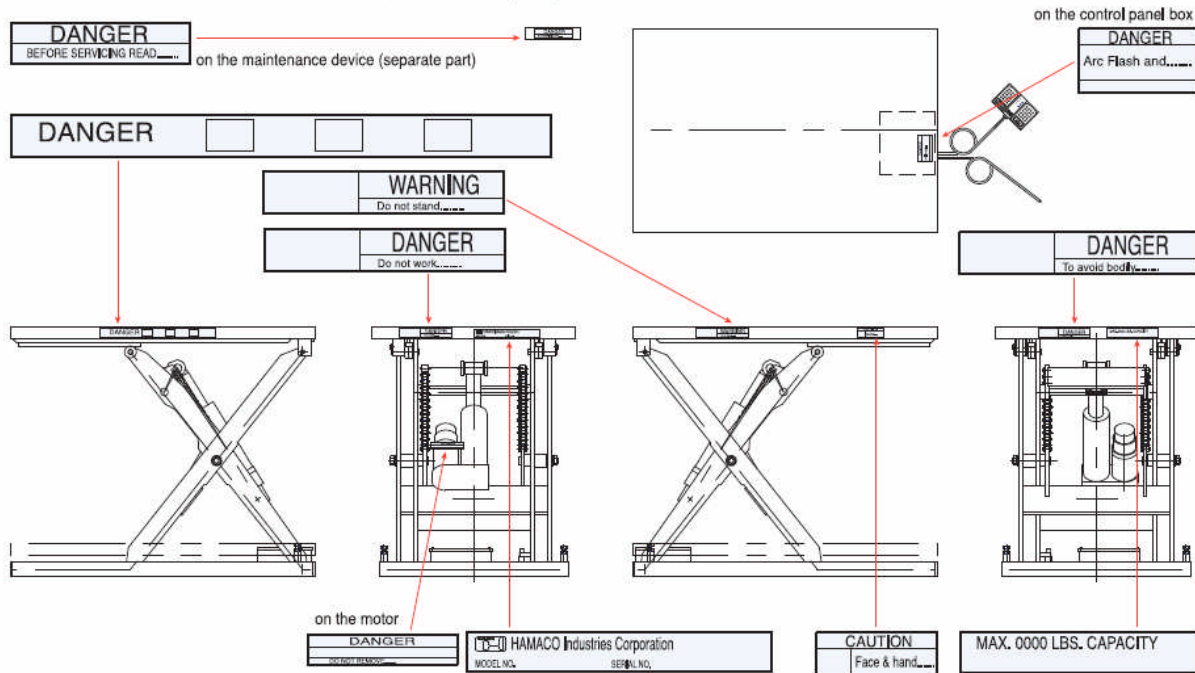


ML-100-47V with foot switch

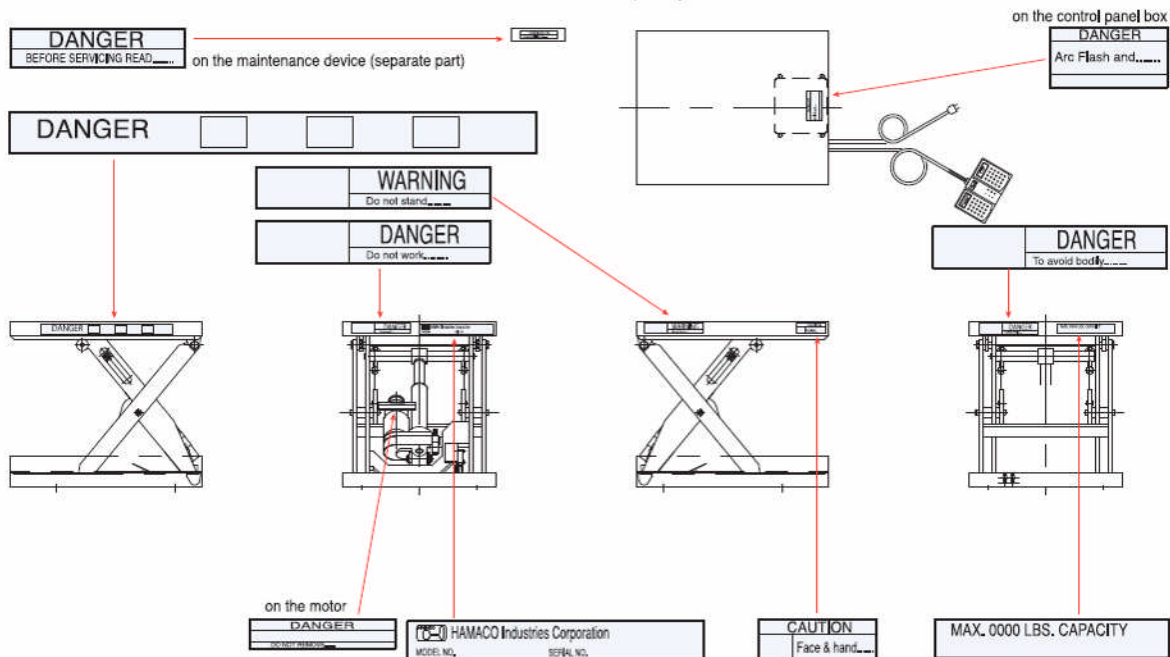
MLP-500-810V-12 with foot switch

WARNING LABEL PLACEMENT

For mechanical lifts with a 400W motor, and load capacity of 551lb or 1102lb



For mechanical lifts with a 70W, 140W or 400W motor, and load capacity of 2204lb



Safety Precautions

Before using the Hamaco Lift, inspect all parts to confirm that there is no debris in any part of the lift and that the lift is in good operating condition.

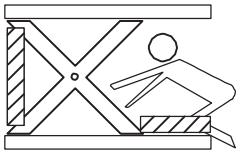
Where appropriate, use PPE (Personal Protective Equipment) when operating the Hamaco Lift. This should include, but not be limited to: OSHA approved eye, face, hand, feet and head protection.

Before transportation, lower the table to its lowest position, and attach rope to the chassis bottom section to hoist the lift up or slide the forks of the fork lift under the chassis bottom. Transport it horizontally. Do not turn the lift over.

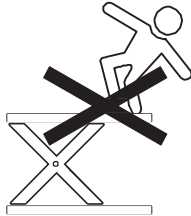
- Set up the lift on a level, stable cement surface. Never use on a slope.
- Do not modify or alter the lift without consulting the manufacturer.
- Do not touch bellows and keep them away from fire and water.
- Keep children away from machinery.
- If you suspect any kind of product malfunction, contact the local distributor or HAMACO Industries Corporation immediately



DANGER



Always install proper safety device before entering



Do not climb onto the table

Working under the lift is extremely hazardous and dangerous.

DO NOT EVER WORK UNDER THE HAMACO LIFT WITHOUT A MAINTENANCE SAFETY DEVICE.

NEVER GO UNDER THE LIFT PLATFORM UNTIL THE LOAD IS REMOVED AND THE SCISSORS MECHANISM IS SECURELY LOCKED IN THE OPEN POSITION.

NEVER STAND, SIT OR RIDE ON THE LIFT.

FAILURE TO FOLLOW THESE SPECIFIC INSTRUCTIONS MAY RESULT IN SERIOUS AND PERMANENT INJURIES AND/OR DEATH.



DANGER

PLEASE HAVE THE PERSONNEL WITH THE RELEVANT SPECIALIZED KNOWLEDGE AND SKILLS TO PERFORM TRANSPORT, INSTALLATION, MAINTENANCE AND INSPECTION.

DO NOT USE IN AN EXPLOSIVE ENVIRONMENT.

DO NOT LIFT TABLE WITH LIFT CRANE OR BY HAND AT ANY TIME.

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY, FIRE AND/OR EQUIPMENT DAMAGE.



WARNING

The Hamaco Lift has a maximum and minimum position and loading limit.

DO NOT ATTEMPT TO EXCEED THE MAXIMUM OR MINIMUM POSITION OR THE LOADING LIMIT.

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY AND/OR DEATH.



WARNING

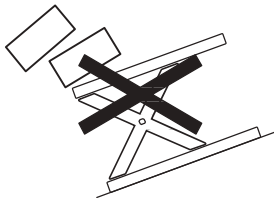
The lift is not designed for welding operations.

DO NOT ATTEMPT TO PERFORM WELDING OF ANY TYPE USING THE LIFT.

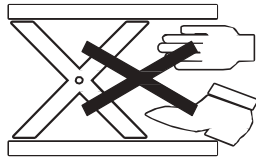
FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS AND/OR PERMANENT INJURIES.



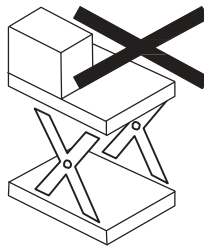
WARNING



Do not use on an uneven surface



Never put your hands or feet into the lift



Always distribute loads evenly

NEVER USE THE LIFT ON AN UNEVEN SURFACE.

KEEP YOUR HANDS AND FEET AWAY FROM THE MACHINE'S MOVABLE PARTS.

DISTRIBUTE LOAD EVENLY AND NEVER OVERHANG EDGES TO AVOID IMBALANCE.

ALWAYS SET THE TABLE TO ITS LOWEST POSITION WHEN MOVING THE LIFT.

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY AND/OR DEATH.



WARNING

This machine is not waterproof.
DO NOT OPERATE IN AREAS WITH HIGH HUMIDITY OR MOISTURE.

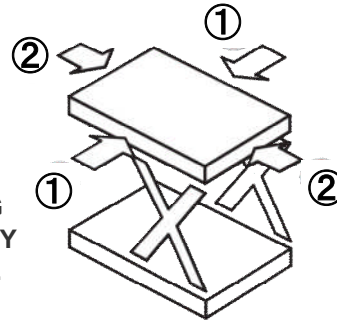
WHEN PLACED IN AREAS THAT CAN BE EXPOSED TO RAIN OR SPRING RUNOFF, SECURE A DRY AND SAFE SPACE WITH PLENTY OF DRAINAGE AND EASY ACCESS FOR REGULAR INSPECTION.



FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN INJURY AND/OR EQUIPMENT DAMAGE.

NEVER LOAD MORE THAN ONE QUARTER (1/4) OF THE LOADING CAPACITY ONTO THE LONG SIDE ①- SEE LOAD CAPACITY IN THE SPECIFICATIONS TABLE ON THE FOLLOWING PAGE.

NEVER LOAD MORE THAN ONE HALF (1/2) OF THE LOADING CAPACITY ONTO THE SHORT SIDE ② - SEE LOAD CAPACITY IN THE SPECIFICATIONS TABLE ON THE FOLLOWING PAGE.



WARNING

DO NOT USE THE HAMACO LIFTS OUTDOORS OR IN PLACES THAT ARE DUSTY WITH HIGH TEMPERATURES AND HIGH HUMIDITY. THE LIFT CAN BE RENDERED INOPERATIVE.

DO NOT USE THE HAMACO LIFTS IN FREEZING TEMPERATURES.
THE LIFT CAN BE RENDERED INOPERATIVE.

SPECIFICATIONS

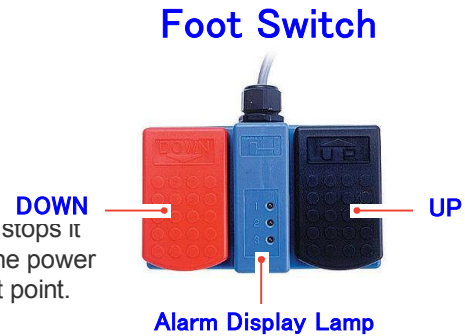
Model	Permitted load (lb)	Table dimensions W x L (inch)	Stroke ST (inch)	Table height MIN to MAX (inch)	Rise time (sec.)	Maximum usage frequency (times/hour)	Motor output (W)	Weight (lb)
ML-100-47V	220	15.7 x 28.3	19.6	3.2 - 22.8	10	30	70	79
ML-100-58V	220	20.5 x 33.5	19.6	3.2 - 22.8	10	30	70	93
ML-150-45V	330	15.7 x 19.7	13.7	3.2 - 16.9	10	30	70	68
ML-150-56V	330	20.5 x 24.8	13.7	3.2 - 16.9	10	30	70	77
ML-100-58VJ	220	20.5 x 33.5	19.6	3.2 - 22.8	10	30	70	104
ML-150-56VJ	330	20.5 x 24.8	13.7	3.2 - 16.9	10	30	70	86
MLM-100-46V-12	220	15.7 x 25.6	16.8	5.2 - 22.0	10	30	70	71
MLM-100-56V-12	220	19.7 x 25.6	16.8	5.2 - 22.0	10	30	70	75
MLM-100-58V-12	220	20.5 x 33.5	16.8	5.2 - 22.0	10	30	70	88
MLM-250-47V-12	551	15.7 x 28.3	19.5	6.0 - 25.5	22	15	70	99
MLM-250-58V-12	551	20.5 x 33.5	19.5	6.0 - 25.5	22	15	70	110
MLM-100-46WV-12	220	15.7 x 25.6	33.4	7.9 - 41.3	23	15	70	93
MLM-100-56WV-12	220	19.7 x 25.6	33.4	7.9 - 41.3	23	15	70	97
MLM-100-58WV-12	220	20.5 x 33.5	33.4	7.9 - 41.3	23	15	70	110
MLM-100-58VJ-12	220	20.5 x 33.5	16.8	5.2 - 22.0	10	30	70	108
MLM-250-58VJ-12	551	20.5 x 33.5	19.6	6.0 - 25.6	22	15	70	132
MLM-100-58WVJ-12	220	20.5 x 33.5	33.4	7.9 - 41.3	23	15	70	130
MLP-250-69V-12	551	23.6 x 35.4	23.5	4.0 - 27.5	14	15	-	220
MLP-250-610V-12	551	23.6 x 41.3	28.2	4.0 - 32.2	18	15	-	254
MLP-250-89V-12	551	31.5 x 37.4	23.5	4.0 - 27.5	14	15	-	232
MLP-250-810V-12	551	31.5 x 41.3	28.2	4.0 - 32.2	18	15	-	276
MLP-500-610V-12	1102	23.6 x 41.3	28.2	5.4 - 33.6	14	15	-	331
MLP-500-612V-12	1102	25.6 x 47.2	32.1	5.4 - 37.5	15	15	-	353
MLP-500-810V-12	1102	31.5 x 41.3	28.2	5.4 - 33.6	14	15	-	353
MLP-500-812V-12	1102	31.5 x 47.2	32.1	5.4 - 37.5	15	15	-	375
MLP-1000-610V-12	2204	25.6 x 41.3	22.7	6.2 - 28.9	25	15	-	331
MLP-1000-612V-12	2204	25.6 x 47.2	28.6	6.2 - 34.8	32	15	-	397
MLP-1000-810V-12	2204	31.5 x 41.3	22.7	6.2 - 28.9	25	15	-	342
MLP-1000-812V-12	2204	31.5 x 47.2	28.6	6.2 - 34.8	32	15	-	408

Installation

- Indoors only
- Ambient temperature: 32-104°F
- Ambient humidity: less than 85%
- Altitude: lower than 3,280 feet

Operation

1. Plug the power cord into a power socket (single phase current capacity 5A min.; 115 VAC)
2. Press the "UP" foot switch to raise the lift.
3. Press the "DOWN" foot switch to lower the lift.
4. Release the foot switch to stop movement.
5. When the table reaches its upper or lower limit, the limit switch stops it automatically. The second time the limit switch is triggered after the power is turned on, the table decelerates and stops just short of that limit point.



CAUTION

- Use with adequate margin to avoid exceeding maximum regulation usage frequency.
- The electromagnetic brake makes a clicking sound as it opens and closes during table height adjustment and is normal.
- Immediately release switch when table reaches its upper or lower limit to avoid triggering the alarm.



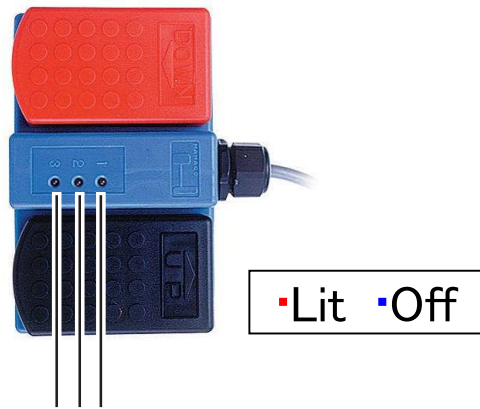
CAUTION

The upper- and lower-end limit switches are set to their limit values at the factory. When adjusting them, be careful not to exceed their limits to avoid damage.

Alarm Display

An internal microcomputer continuously monitors safety levels. If a hazard or abnormality is detected, the foot switch lamp lights to indicate the location. If the alarm display appears, immediately stop operation, find the cause and resolve the issue.

Alarm Indications



- 1: • • • – Ascent side current detected. This can be caused by an overload, upper limit switch defect, excess current through the motor when the table was rising, or other reasons.
- 2: • • • – Descent side current detected. This can be caused by an overload, lower limit switch defect,
- 3: • • • – Ascent defect (did not go up for some reason)
- 4: • • • – Descent defect (did not go down for some reason)
- 5: • • • – Limit switch abnormality (the upper and lower limit switches come ON at the same time due to
- 6: • • • – Sensor abnormality (hall sensor abnormality).
- 7: • • • → • • • → • • • Repeat – foot switch abnormalities (when the power is first turned on, a foot switch is ON).

How to Reset the Alarm

Alarms 1–4: Press down the opposite side foot switch.

Alarms 5 and 6: Turn off the power.

Other Functions

Please consult manufacturer before performing any modifications or alterations.

(Use the connection wiring diagram on the following page for reference.)

Hold Mode (3-point push-button type)

Please consult manufacturer before performing any modifications or alterations.

Add the stop input and turn ON DIP switch 1 on the board

(Use the connection wiring diagram on the following page for reference.)

Sequencer Input

Always input with dry contacts.

(Input from not a voltage contact but non-voltage contacts, such as a transistor point of contact.)



WARNING

DO NOT OPERATE UNTIL THE LED LIGHT ON THE BOARD TURNS COMPLETELY OFF AFTER POWERING DOWN.



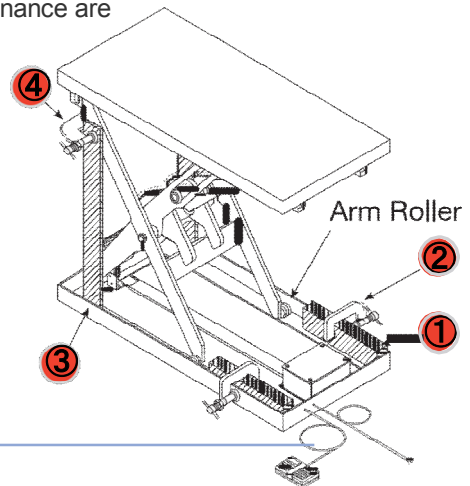
CAUTION

Check that the upper and lower limit switches are working properly. Malfunction can damage the machine.

Maintenance and Inspection Safety

Before entering lift for maintenance or inspection, please follow these steps to prevent serious or fatal injuries. Please note that stoppers, vises, and other tools necessary for maintenance are not included with this lift.

1. Remove any load from the table
2. Raise the table at least half way.
If the table has bellows, either remove the four screws on the table side and take down the bellows or roll up from the chassis side.
3. Engage two stoppers (block) ① against the left and right arm rollers, then fasten securely with a vise ②.
4. Stand two stoppers (steel) ③ perpendicular to the end of the arm support shaft side, then fasten securely with a vise ④.
5. Turn the power off.



DANGER

**DO NOT HOIST TABLE WITH LIFT CRANE OR OTHER EQUIPMENT.
FAILURE TO FOLLOW THIS INSTRUCTION MAY RESULT IN SERIOUS INJURY
AND/OR EQUIPMENT DAMAGE.**

**DO NOT TOUCH THE CONTROL BOX BOARD FOR AT LEAST FIVE SECONDS AFTER POWERING
DOWN TO ALLOW ELECTRICITY TO FULLY DISCHARGE.
FAILURE TO FOLLOW THIS INSTRUCTION MAY RESULT IN ELECTRICAL SHOCK.**

**BEFORE REMOVING MOTOR, TAKE PROPER PRECAUTIONS TO PREVENT
THE LIFT FROM DESCENDING.**

Unlike a hydraulic lift, the table will drop immediately without support.

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY AND/OR DEATH

Inspection Checklist

Please perform daily inspections in addition to more thorough periodic inspections. If daily inspection were to find an abnormality, immediately stop operation, find the cause and resolve the issue.

Continued use without repair may render the lift inoperable.

Daily Inspections

- Is there anything abnormal in lift rise or descent operation?
- Are there any obstructions in the surroundings?
- Is anything abnormal about the unit's appearance?
- Are there any abnormal sounds or heat generation?

Periodic Inspections (monthly, quarterly and annually)

- Are there any damaged or loose bolts, nuts or other parts at any connecting sections?
- Is there abnormal wear in any moving sections?
- Are there any cracks or damages at welded sections?
- Are there any cracks or damages in the electrical wiring?

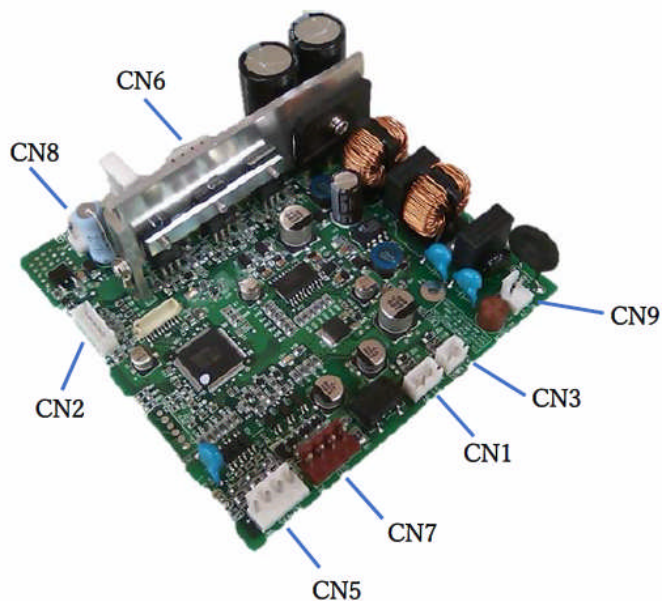
Lubrication

- Check and apply roller chain lubrication at periodic inspection.
- Check the dry cylinder gear and ball screw sections annually.

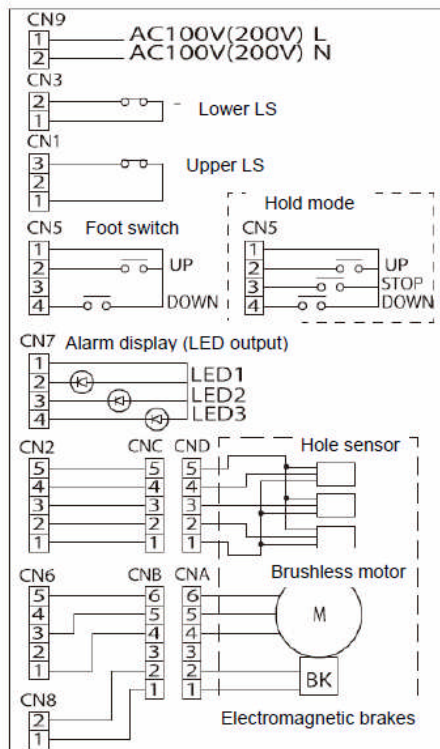
With sealed-in long-life lubrication, they are designed to work for extended periods without additional lubrication. However, once per year, overhaul them or replace the dry cylinders with new ones.

IF MAINTENANCE PROBLEMS PERSIST CALL THE LOCAL DISTRIBUTOR OR HAMACO INDUSTRIES CORPORATION WITH THE SERIAL NUMBER OF THE SPECIFIC EQUIPMENT TO ORDER THE APPROPRIATE PARTS.

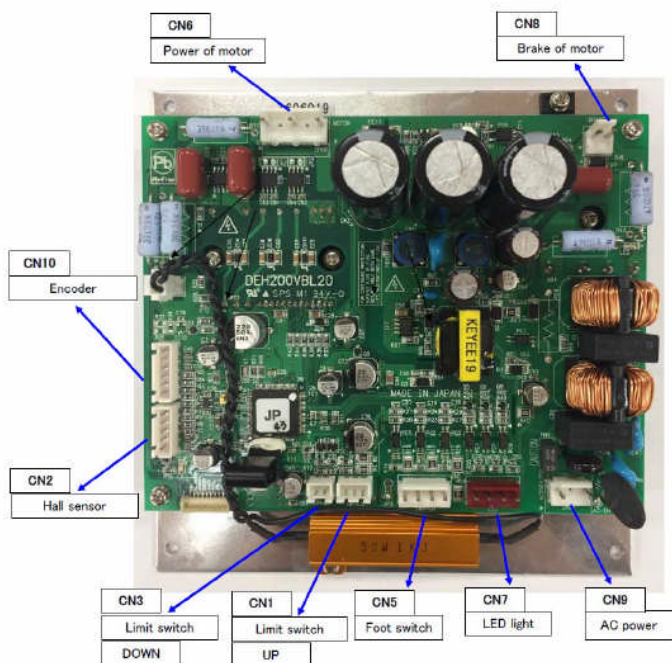
Control Panel (70W)



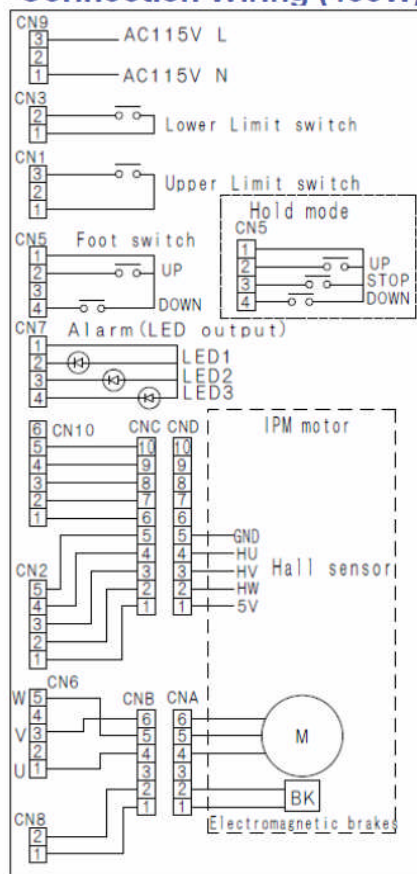
Connection Wiring (70W)



Control Panel (400W)



Connection Wiring (400W)



WARRANTY

1. The warranty period is one year from the date of delivery or 40,000 cycles whichever comes first.
2. If the machine is used normally and in accordance with the user manual during this period but a breakdown occurs and HAMACO Industries Corporation recognizes the defect, HAMACO Industries Corporation will repair it at no charge.
3. Even within the warranty period, there will be a charge for the following:
 - Repairs required due to breakdown or damage caused by **mistaken usage** or **inappropriate repair or modification/alteration**.
 - Repairs required due to breakdown or damage caused by **fire**, **natural disaster** or **pollution**.
 - Repairs required due to breakdown or damage recognized as having been caused by an **accident**.
 - Repairs required due to breakdown or damage caused by **inadequate assembly or installation**.
 - Consumables such as bearing lubricant, hydraulic oil, lubricating oil, etc.
4. The warranty is not valid if the machine is used outside United States.



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