RAMCO
Laundry Machinery, Inc.

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RAMCO SWE350-450T
Washer/Extractor Series

MAINTENANCE
&
TROUBLESHOOTING

Chapter 6 Maintenance

6.1 Outline

Though the machine is well designed and manufactured daily maintenance has been reduced as less as possible, some necessary daily maintenance must be done. Then the machine will have a long service life and create good profit.

6.2 Daily Maintenance

a. Before operation, please check whether the over-vibration system is in good condition or not.
b. Before operation, please check the door interlock function whether it is in good condition or not.
c. Check the drainage valve.
d. Clean and flush the agent box, clean the box cover.
e. Clean the front, rear and side panels.
f. Drain off the water from the air dehydrator and inject lubricate (sewing machine oil) into oil atomizer.
g. Check all stop valves to make sure no leakage.
h. Check the door sealing condition carefully .If there is any leakage, please maintain or replace it at once.

6.3 Weekly Maintenance

a. Inject lubrication oil for all lubricating points (such as main bearing, spherical plain bearing, etc.)
b. Clean dust and add lubricant for movable place of each valve and cylinder.
c. Check the loose and worn condition of V belt, check the alignment condition between two wheels.
d. Check the drainage pipe whether there is any leakage.
e. Check all water inlet pipes whether there is any leakage.
f. Check the safe range of over-vibration switch stroke.

6.4 Monthly Maintenance

a. Dismantle and clean the mesh of filter .In case of block age, please clean or replace it.
b. Clean the dust inside the machine, check and make sure that any electrical component is not moist or covered with dust.
c. Check all hoses of water and steam inlet pipes, if there exists aging, please replace it.
d. Check fastening condition of all connectors monthly.
e. Check the bolts and fasten them if necessary.

Warning:
Before maintenance, make sure that the main power of the machine has been cut off!

Important Explanation: After finishing weekly or monthly maintenance, any panel must be returned its original place.

6.5 Yearly Maintenance

a. Check working condition of each motor and make sure that all of them are in good condition.
b. Replace seriously damaged or worn parts, such as belt.
c. Check bumper springs whether they are in good condition or damaged.
d. Conduct a rust prevention treatment for the machine.

Points for attention: In order to avoid any personnel injury, maintenance must be done carefully. All materials and parts for maintenance and repair should be in accordance with the requirements of the machine. (If there is any question, you may ask our company.) In case of adopting or treating improperly, it will cause loss or harm, even damage the machine .Any damage caused by above reasons, our company won't keep the warranty and service.

6.6 Stainless Steel Maintenance

For protecting surface of stainless steel, users should pay attention to following points to keep its fine appearance and prolong its service life.

1) Keeping clean is the most important thing for a machine. General dirt or greasy dirt can be removed by detergent and water. If it is possible, operator may finally use cloth to clean its surface. Regularly cleaning will keep a bright and anticorrosive surface.
2) Remove the dirt in gaps and at corners of stainless steel. In order to avoid scratch marks, operator must mop the surface in accordance with stainless steel veining while using abrasive cleaner.

Never use primary steel wool or steel brush to clean. In result, carbon steel grains will be inlaid stainless steel surface and cause rust. Operator may use stainless steel wool or other nonmetal soft brush.

3) Keep from other metals. While meeting with salt or acid solution, electronic corrosion will aggravate.
4) Discoloration caused by overheat and temper color may be removed with some powder agent or special chemical solvent.
5) Keep from wood or carbon steel for a long term.
6) Don't keep sterilization or bactericidal solvent in stainless steel container for a long term, because there is chlorine in solvent, which will corrode stainless steel.

7) Some parts made of iron or steel such as nail or screw will rust and influence stainless steel. You may paint thick protective coating on carbon steel parts to solve this problem.

Points for Attention: Any cleanser or other chemicals used for the machine inside or outside must follow manufacture's advice. Some cleansers may be poisonous or flammable. In case of improperly using, it might cause hurt. Never use volatile solvent, such as acetone, banana oil, enamel reducer, tetrachloroethylene, gasoline, benzol, or other volatile oil as cleaning agent!

Chapter 8 Trouble Shooting

8.1 Outline

This chapter will introduce you how to use the machine efficiently, find and solve troubles. Before trouble shooting, please check following respects:

1) To be sure that all operation steps are proper and all connected pipes, and wiring are in good condition.
2) Cut off power before maintaining.
3) Check all joints of wires and pipes. Any loose will influence operation.
4) Check dielectric character of components, make sure that electrical insulating character is good.

8.2 Trouble Shooting

Trouble	Possible reason	Trouble shooting
A. Failure to start	1. No power 2. Air pressure is low or cut –out. 3. Door switch is damaged or the distance is not proper. 4. Over-vibration switch has not reset. 5. 24V fuse in controller has burned.	1. a) Check main fuse or breaker in electrical box. b) Check the fuse of computer board. a) Check the cable whether it is broken or cut. 2.Switch on compressed air and adjust the pressure up to 0.4-0.5 MPa. 1.Maintain and adjust it. 2.Replace. 3.Adjust and repair.
B. Distribution result is bad.	1.Water level is too low. 2.Belt is slipped. 3.Water drainage valve has not opened or opened too early. 4.Garments float because distributing time is too long. 5.Distributing speed is improper.	1. Add water to middle –high level. 2. Adjust tension or replace. 3. a) Check water drainage valve; b) Reset valve opening time to while distributing. c) Adjust distributing time.

		d) Adjust distributing speed.
C. Serious vibration while middle and high extracting	1.Distribution is unsatisfied. 2.Something wrong with shock absorber. 3.Sewage has not fully drained off.	1.Solve it. For details, refer to B. 2.Check and replace damaged spring. 3.Fasten joints which may be loose or check drainage valve.
D. Drainage speed is too low.	1.Drainage pipe has blocked. 2.Something wrong with the drainage valve	1. Clean the pipe line 2. Check the pressure of compressed air. 3. Replace aging cylinder.
E. Water level is incorrect.	1.Pipe line of fluviograph is leaking; 2.Something wrong with fluviograph.	1.Check and replace pipe line; 2.Replace.
F. Noise comes from front bearing	1. The bearing is lack of grease to cause imlubrication friction; 2. Water has entered bearing and caused rust.	1. Inject grease regularly. 2. Replace sealing part and bearing.
G. Supply water slowly	1. Pressure is too low. 2. Filter of water inlet valve has blocked. 3. Water inlet valve has damaged. 4. Water level switch has damaged. 5. Drainage valve can be fully closed.	1. Water pressure should keep 0.2-0.3 MPa. 2. Clean filter. 3. Replace. 4. Repair. 5. Maintain the valve.
H. Door can’t be opened	1. Air pressure is too low. 2. Magnetic valve has damaged. 3. Water in drum hasn’t been fully drained off.	1. Check the air pressure. 2. Replace. 3. Completely drain off remaining water.