

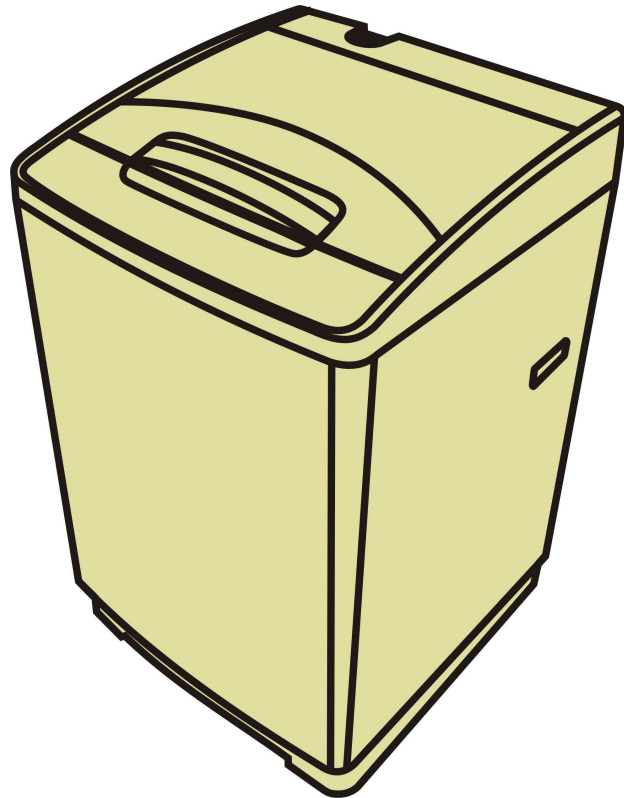


**SERVICE MANUAL**

**Automatic Washer**

**WWA-780**

**(Philippines)**



## **SPECIFICATION**

<b>Power source</b>	<b>AC 220V, 60Hz</b>
<b>Overall dimension(Net dimension)</b>	<b>540mmX562mmX940mm</b>
<b>Net weight</b>	<b>33kg</b>
<b>Power consumption</b>	<b>380W</b>
<b>Motor output</b>	<b>180W</b>
<b>Marked capacity of washing/spinning</b>	<b>7.8kg</b>
<b>Washing method</b>	<b>Automatic reverse turn</b>
<b>Water capacity</b>	<b>52Liters</b>
<b>Water consumption</b>	<b>127 Liters (Regular wash cycle Water level: High)</b>
<b>Pulsator speed</b>	<b>170 rpm(DELICATE 60 rpm)</b>
<b>Spinner tub speed</b>	<b>850 rpm</b>

**Specification: Subject to change without notice.**

## ABNORMAL CONDITION

When the washer is abnormal, the washer stops as the every actions turns off, beep tone sounds ON-0.1 second and OFF-0.1 second for 6 seconds and number window LED display abnormal code and blink on and off. The washer judges the following six conditions as abnormal condition.

### 1) Abnormal condition of water supply

In supplying with water, the water level does not reach 1 level within 10 minutes or does not reach your chosen water level within 20 minutes.

The number window LED display abnormal code: **E1** and begin blinking on and off at the same time and the electric buzzer sounds to indicate a problem.

### 2) Abnormal condition of drain

In draining, the water level does not go down below the reset level of the water level sensor within 8 minutes.

The number window LED display abnormal code: **E2** and the electric buzzer sounds to indicate a problem at the same time.

### 3) Abnormal condition of spin-dry

- The safety switch works 3 times continuously during the program of rinse-spin or works 1 time in the single program of spin-dry.

The number window LED display abnormal code: **E3** and the electric buzzer sounds to indicate a problem at the same time.

- The washer lid is opened.

The number window LED display abnormal code: **E4** and the electric buzzer sounds to indicate a problem at the same time.

### 4) Abnormal condition of wash (child lock) .

Running in setting child lock, the washer lid is opened beyond 4 seconds.

The number window LED display abnormal code: **E5** and the electric buzzer sounds to indicate a problem at the same time.

### 5) Abnormal condition of water level sensor.

The water level sensor malfunctions or the water level is overrunning the alert level when the water does not stop.

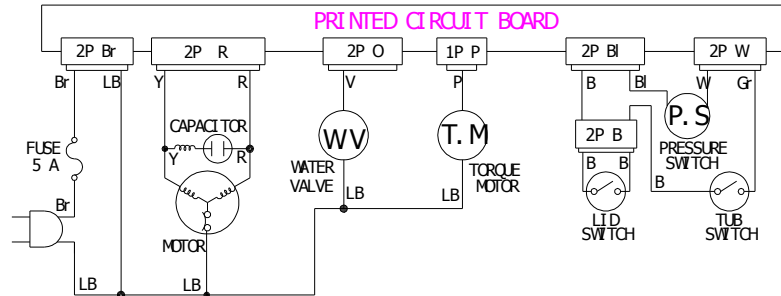
The number window LED display abnormal code: **E6** and the electric buzzer sounds to indicate a problem at the same time.

### 6) Abnormal condition of load sensor.

The number window LED display abnormal code: **E7** and the electric buzzer sounds to indicate a problem at the same time.

CIRCUIT DIAGRAM

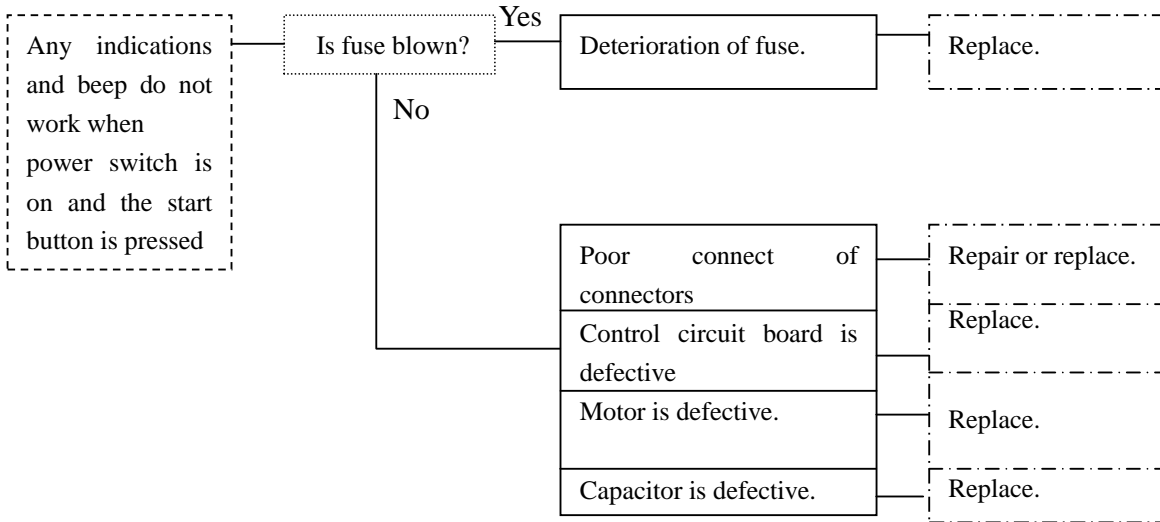
COLOR SYMBOL	
Gr	GRAY
Bl	BLUE
G	GREEN
B	BLACK
LB	LIGHT BLUE
Br	BROWN
O	ORANGE
P	PINK
R	RED
W	WHITE
Y	YELLOW
V	VIOLET



TROUBLE SHOOTING

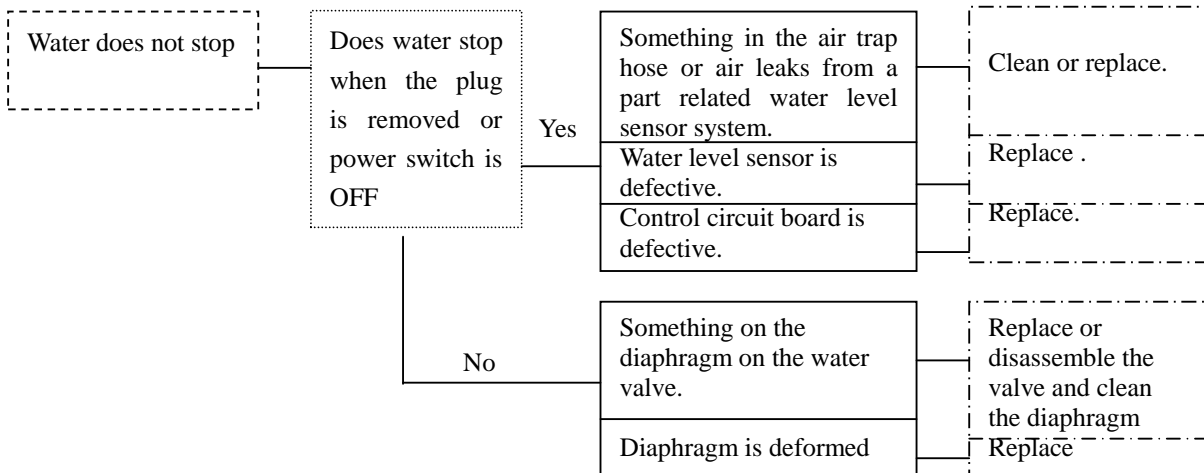
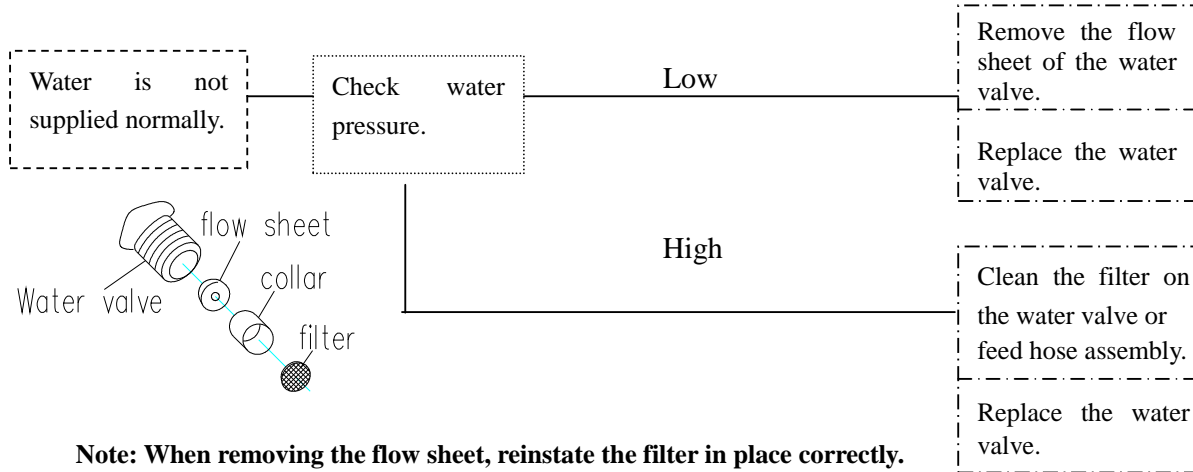
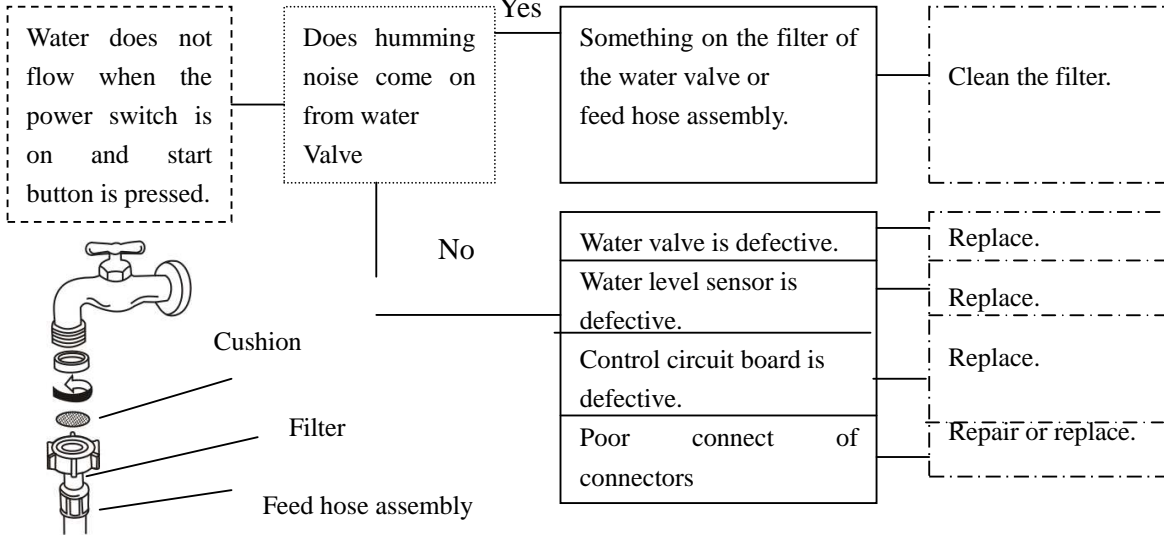
TROUBLE	INSPECTION	CAUSES	REMEDY
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a. Power Source



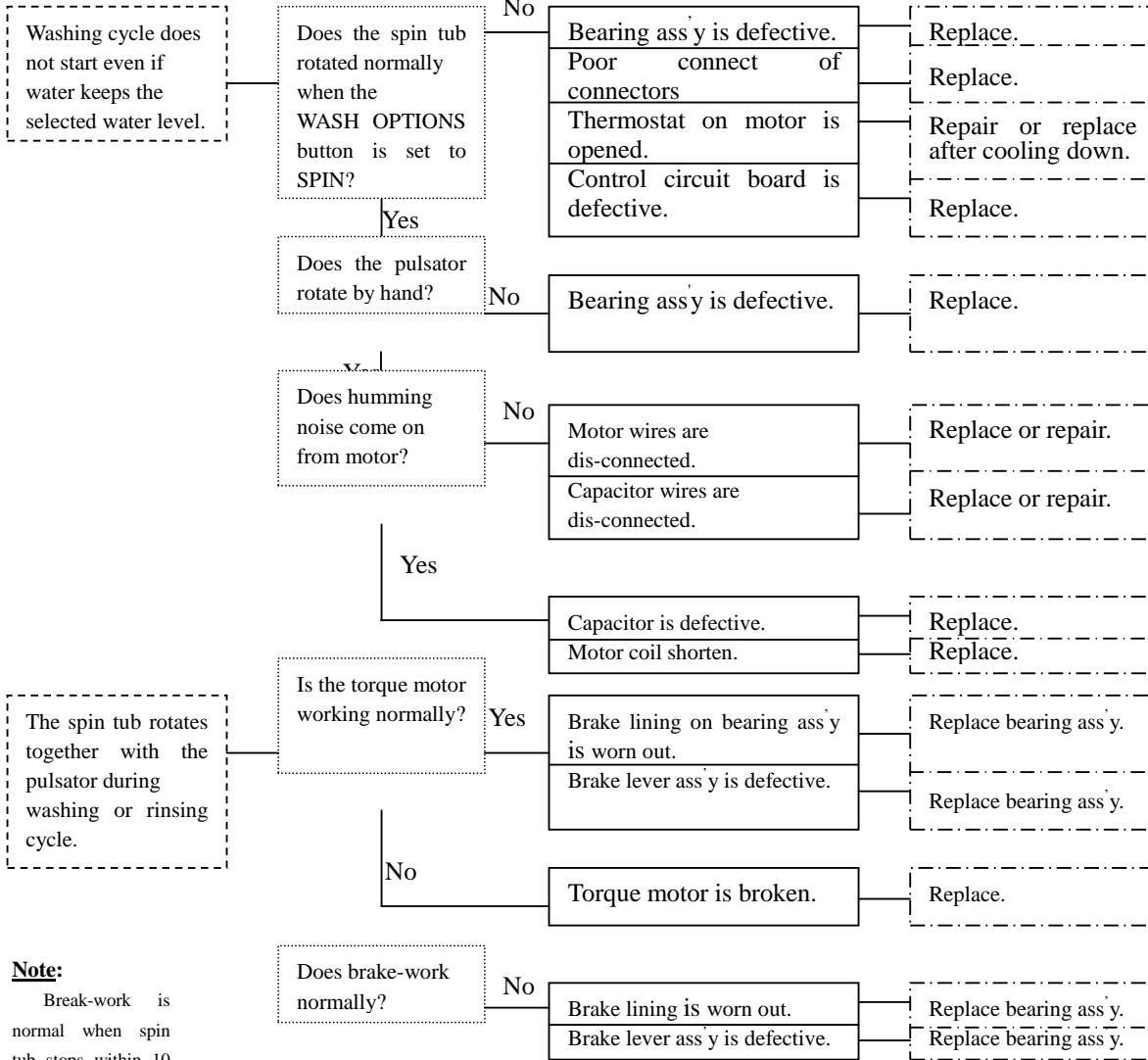
TROUBLE	INSPECTION	CAUSES	REMEDY
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b. Water Supply



TROUBLE	INSPECTION	CAUSES	REMEDY
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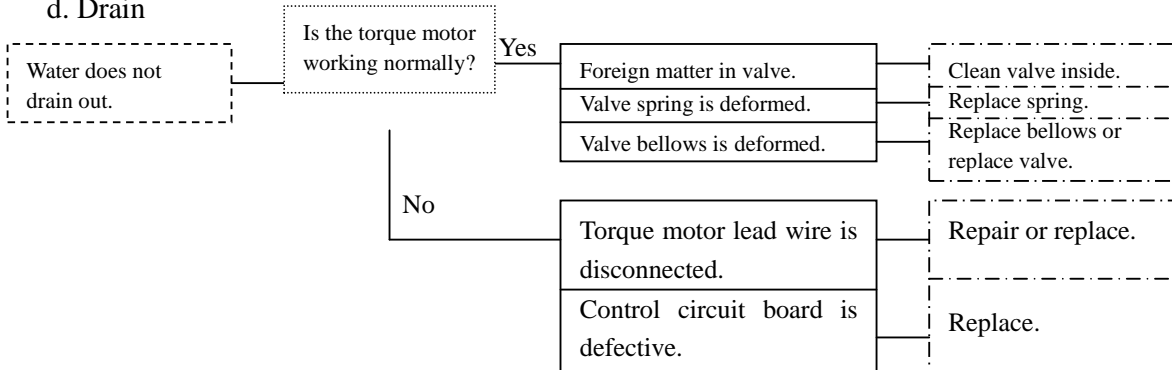
c. Wash/Rinse



**Note:**

Break-work is normal when spin tub stops within 10 sec. under no-load.

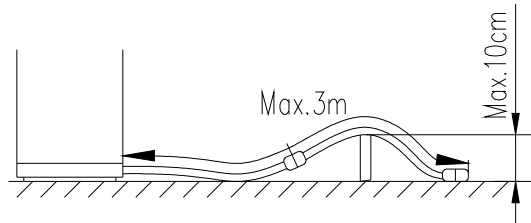
d. Drain



TROUBLE	INSPECTION	CAUSES	REMEDY
Drain takes time too long.		Valve bellows is deformed.	Replace.
		Drain hose ass y is deformed.	Repair or replace.
		Hose is connected in the wrong way.	Repair.
		Hose is too long or position of hose is too high.	Repair.

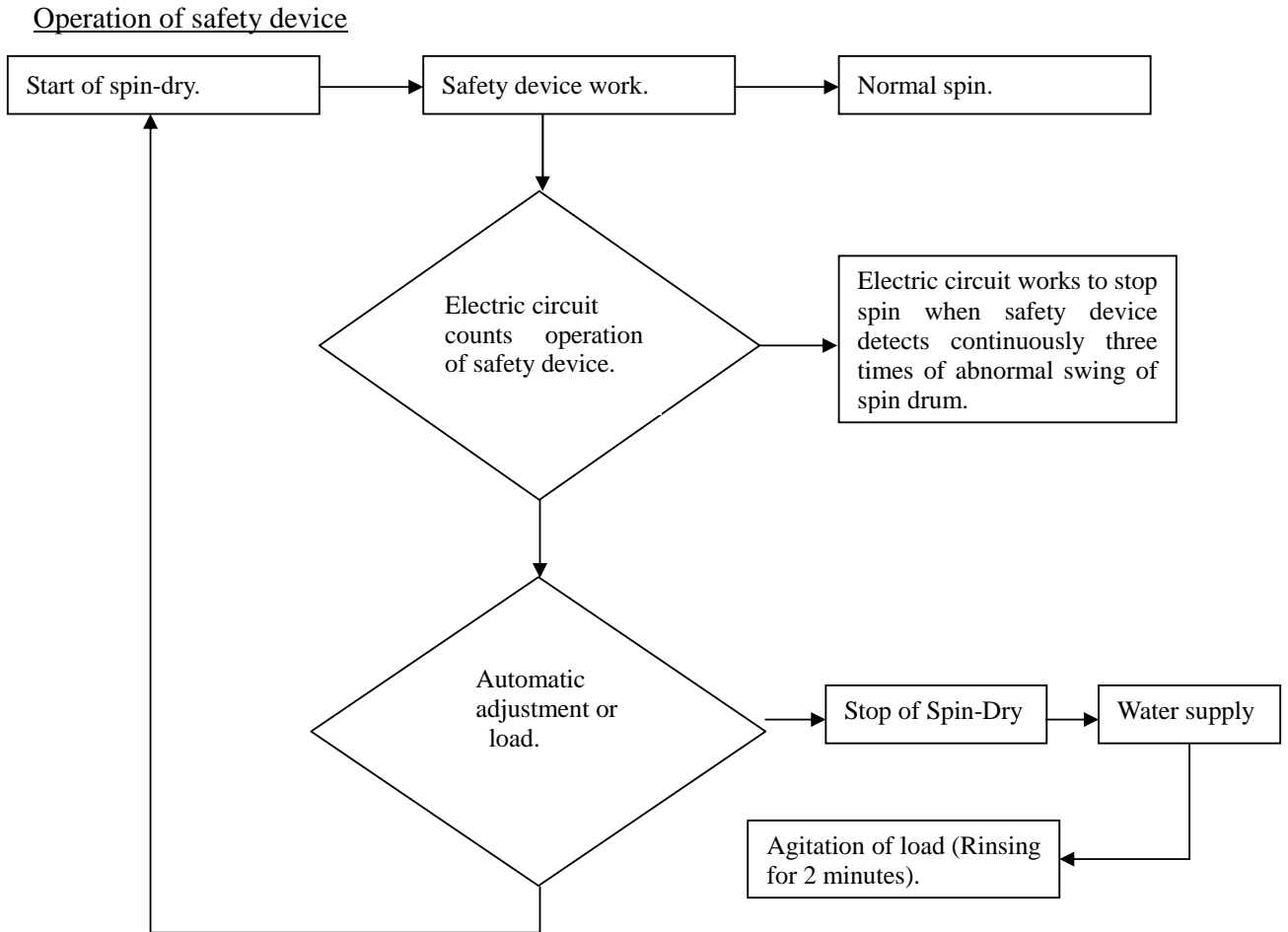
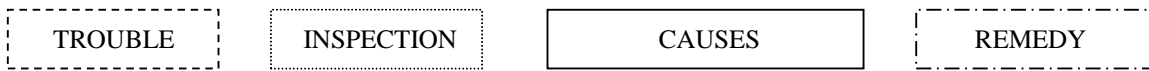
**Note:** In draining, the water level sensor can not reset in 10 minutes. The number window LED display abnormal code: E2 and begin blinking on and off at the same time and the electric buzzer sounds to indicate a problem.

- If the Drain Hose is too long or high, it may make draining impossible.
- The extend Drain Hose to a maximum long of 3 meters and maximum high of 10 centimeters.



e. Spin Drying

Spin drying cycle does not work.	Does safety device work?	Yes	Machine inclines.	Replace with level.
	No		The V-belt is slipping.	Adjust the motor position.
<p><b>Note:</b></p> <ol style="list-style-type: none"> <li>1. The safety switch works 3 times continuously or works 1 time in the single program of spin-dry. The number window LED display abnormal code: E3 and begin blinking on and off at the same time and the electric buzzer sounds to indicate a problem.</li> <li>2. Do not disconnect the wire from the capacitor, because this wire acts as de-pressing noise from outside to the micro-computer.</li> </ol>			The V-belt is snapped.	Replace.
			Small pulley mounting screw is loosed.	Tighten up.
			Motor is disconnected or burnt.	Replace.
			Capacitor is broken or disconnected.	Replace.
			Bearing ass y is defective.	Replace.
			Torque motor is defective.	Replace.
			Brake lever is defective.	Repair or replace.
			Thermostat on motor is opened.	Repair or replace after cooling down.
			Poor contact of connectors	Repair or replace.
			Control circuit board is defective.	Replace.

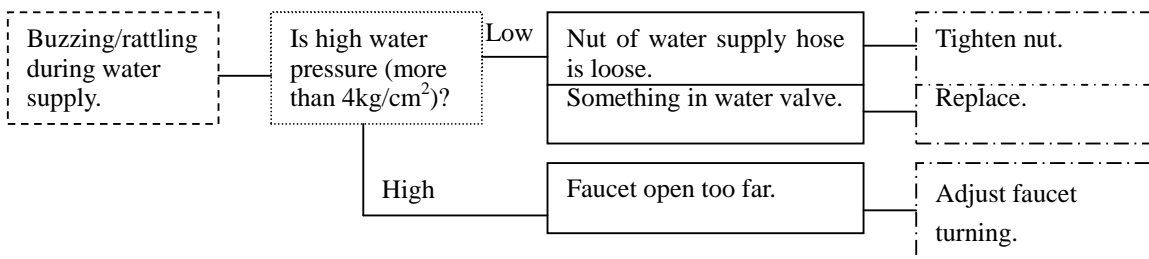


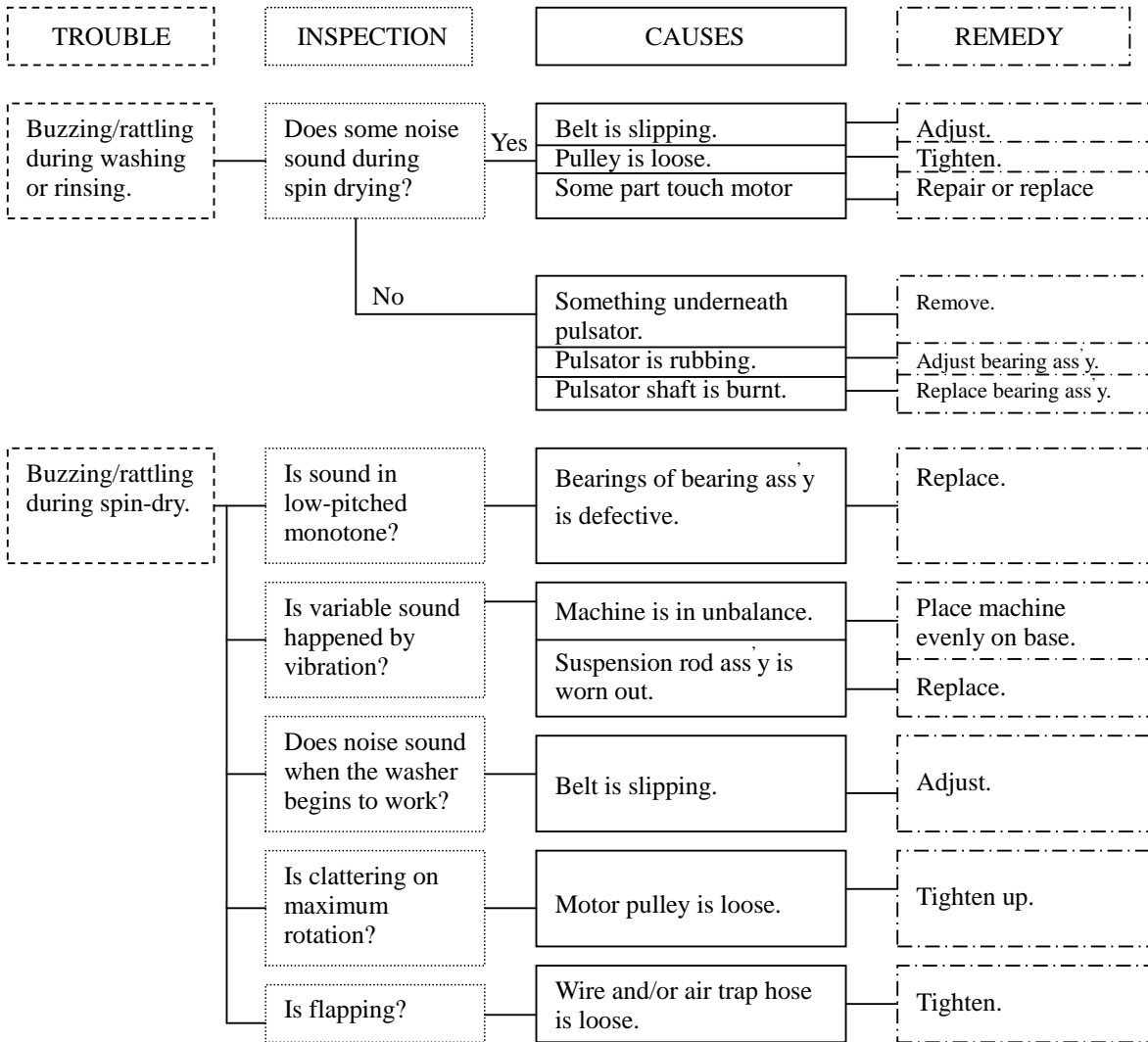
When the safety device works by abnormal swing of spin drum, machine works automatically to stop Spin-Dry cycle and operates water supply valve to pour water into the Wash/Spin Tub and then starts washing cycle for replacing washing clothes evenly.

After above operation has down twice, if safety device works again, machine will stop, and the number window LED display abnormal code: **E3** and begin blinking on and off at the same time and the electric buzzer sounds to indicate a problem.

- Open the Wash Lid and rearrange the clothes evenly around the Wash/Spin Tub.
- Close the Wash Lid and press the START/PAUSE button again.

f. Buzzing and rattling







## PART LIST

Key No.	Part No.	Description	部件名称	规格•用途	Qty
1	301285150T140	Wire bunch	洗衣机线束		1
2	3012811203140	Nylon Wire fix	尼龙扣	固定洗衣机线束在电脑板上	2
3	3012175656140	Shielding plate A	电脑板盒盖 A	阻燃等级 5VA	1
4	3010874579040	Control Circuit Board Complete	电脑板完成		1
5	3012175657140	Board lid B	电脑板盒盖 B		1
6	STATN408ROSE-	SCR 4×8E	螺钉 4×8E	固定电脑板盒盖 B	1
7	ST1TN40160SE-	SCR 4×16E	螺钉 4×16E	固定电脑板完成	7
8	301217670N140	Panel sticker	控制塑贴印刷完成		1
9	STATN40100SE-	SCR 4×10E	螺钉 4×10E	紧固磁性开关	1
10	3012152514140	Reed Switch fixture	压线片	固定磁性开关	1
11	3014292S04140	Reed Switch	磁性开关		1
12	3012160510145	Screw Lid	螺钉盖	亮灰色, 贴在面架上	2
13	ST1TN40120SE-	SCR 4×12E	螺钉 4×12E	固定面架	2
14	3012160141040	Top Plate	面架	亮灰色	1
15	3012143454140	Cushion	橡胶垫	安装在面架上	2
16	3012256137141	Detergent Tray	粉末盒印刷完成		1
17	3012161334040	Lid assembly	洗涤上盖组件		1
17-1	3012161418044	Washer Lid A	洗涤上盖 A	透明灰	4
17-2	3012161419040	Washer Lid B	洗涤上盖 B	亮灰色	4
17-3	3012160454140	Lid Handle A	盖板把手 A	亮灰色	1
17-4	3012160455140	Lid Handle B	盖板把手 B	亮灰色	1
17-5	ST1TN40120UK-	SCR 4×12	螺钉 4X12E	固定把手, 不锈钢	1
18	3012160613140	Hinge Shaft	上盖轴销		1
19	3012160717140	Lid Spring	盖板弹簧		1
20	3012161202140	Gradienter Cover	水平仪罩	无色透明	1
21	3010161102140	Gradienter	水平仪	黄绿色	2
22	ST1TN40140SE-	SCR 4×14E	螺钉 4×14E	固定桶开关	1
23	3010571005140	Safety Device Switch	桶开关组件		1
24	3014291S03140	Water Level Sensor	水位传感器		1
25	3012334002140	Hose Band	软管卡簧	通气软管水位传感器端用	1
26	3012324212140	Air Trip Hose	通气软管	L=580	1
27	3012143414140	Cushion	海绵套环	保护通气软管用	2
28	ST1TN40120SE-	SCR 4×12E	螺钉 4×12E	固定面架	2
29	ST1TN40120SE-	SCR 4×12E	螺钉 4×12E	固定后板	2
30	301213144V140	Norms nameplate	规格铭牌	贴于面架后端中间	1
31	3012131726140	Notice Label	注意铭牌	贴于后板右上面	1
32	3012175137140	Back Plate	后板	亮灰色	1
33	3010317129040	Pour Inlet Complete	进水箱完成		
33-1	ST1TN40120SE-	SCR 4×12E	螺钉 4×12E	固定进水阀与进水箱组件用	3
33-2	3014294S37140	Water Valve connector	进水阀		1
33-3	3012324905140	Water Valve tie-in	进水阀连接器		1
33-4	3012212701140	Pour Inlet assembly	进水阀接头		1

33-5	3010317128040	Water Valve connector	进水盒组件		1
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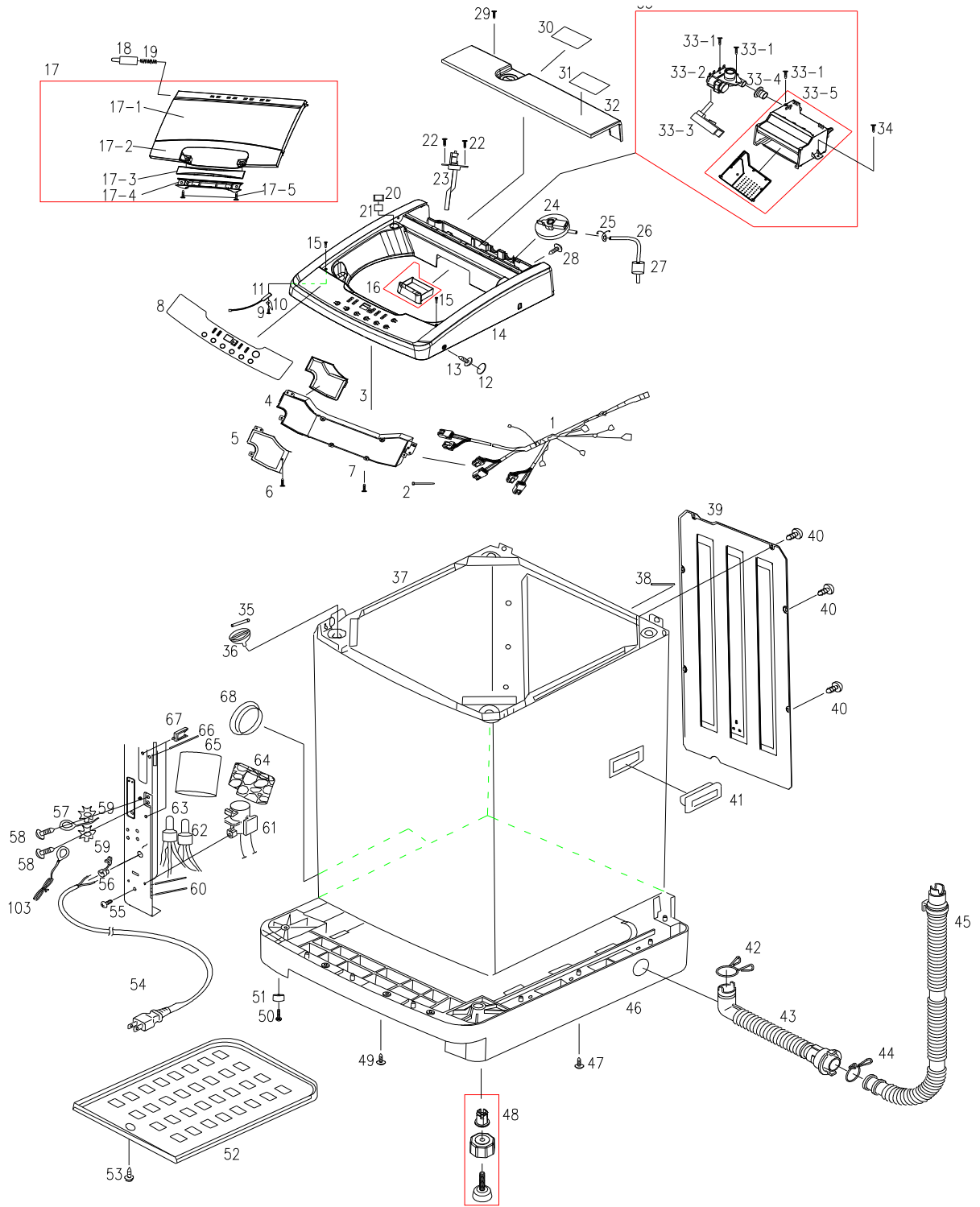
Key No.	Part No.	Description	部件名称	规格·用途	Qty
34	ST1TN40120SE-	SCR 4×12E	螺钉 4×12E	固定进水盒完成	3
<del>35</del>	<del>3012914201140</del>	<del>Stopping Pin</del>	<del>止退销</del>	<del>电气镀锌</del>	<del>4</del>
<del>36</del>	<del>3012234201140</del>	<del>Spring Damper Base</del>	<del>吊杆球座</del>	<del>白色</del>	<del>4</del>
37	3010111033045	Frame Complete	箱体铆接组件	亮灰色	1
38	3016942S01140	Fiber Tape	纤维胶带	贴于箱体后边缘(辅料, BOM中不出现)	1
39	3012122201140	Back Cover	后罩盖	亮灰色	1
40	3012912223140	SCR 4×8E	螺钉 4×8E	固定后罩盖	6
41	3012122101142	Frame Handle	箱体把手	亮灰色	2
42	3012334001140	Hose Band	软管卡簧	紧固排水阀-排水内管	1
43	3010324702140	Drain Hose assembly(Inside)	排水内管组件		1
44	3012334004140	Hose Band	软管卡簧	紧固排水内管-排水管	1
45	3010325103141	Drain Hose assembly(Outside)	排水软管组件		1
46	3012152302141	Leg	底托	淡灰色	1
47	ST1TN40120SE-	SCR 4×12E	螺钉 4×12E	固定底托	4
48	3010143002140	Adjuster Assembly	可调脚组件		1
49	ST1TN40160SE-	SCR 4×16E	螺钉 4×16E	固定底托前端	5
50	ST2TN60200SE-	SCR 6×20E	螺钉 6×20E	固定缓冲垫	3
51	3012143401140	Cushion	缓冲垫		3
52	3012234301140	Sound-Proof Board	底托屏蔽板	淡灰色, 安装于底托上	1
53	ST1TN40140SE-	SCR 4×14E	螺钉 4×14E	固定底托屏蔽板	1
54	3010812012140	Cord Assembly	电源线组件	J2 插头	1
55	ST1TN40100SE-	SCR 4×10E	螺钉 4×10E	固定电容器组件	1
56	3012152501140	Cord Stay	电源线束缚		1
57	3010856501140	Earthing Wire Assembly	地线组件		1
58	SFSPG40100SA-	SCR 4×10A	螺钉 4×10A	箱体接地用	2
59	SVCNN40KA----	Washer SPR 4	垫片	箱体接地用	2
60	3012152502140	Wire Stay	导线束缚	L=160, 线束与箱体固定用	2
61	3010868006140	Capacitor Assembly	电容器组件	10.5 μ F/500V Ac	1
62	3012871103140	Compressed Connector	压接套管	阻燃 V-0	4
63	3012871102140	Compressed Connector	压接套管	阻燃 V-0	1
64	3012234109140	Sound-Proof Board	防音板	阻燃不织布 150×157 包裹扎线塑料袋	1
65	3012813007140	Part Bag	扎线塑料袋	阻燃 150×105	1
66	3012152502140	Wire Stay	导线束缚	L=160L 通气软管与外桶固定用	2
67	3012152503140	Lead Stay	导线卡	线束固定用	2
68	3012122301145	Drain Cap	排水口盖	淡灰色	1
69	3012411301140	Pulsator Screw	波轮螺钉		1
70	3012411401140	Pulsator Screw Washer	波轮螺钉衬垫		1
71	3012411007044	Pulsator	波轮	亮灰色	1
72	3012411501140	Pulsator Screw Washer	波轮垫片		1
73	ST1TN40140SE-	SCR 4×14E	螺钉 4×14E	固定外桶盖	4
74	3012221202140	Outer Tub Cover	外桶盖	亮灰色	1
75	3010240022040	Spin Tub Complete	脱水桶完成		1
75-1	3010240103045	Balance Weight Assembly	平衡环组件	亮灰色	1

75-2	ST1TN50210UK-	SCR 5×21K	螺钉 5×21K	固定平衡环组件与脱水桶体	6
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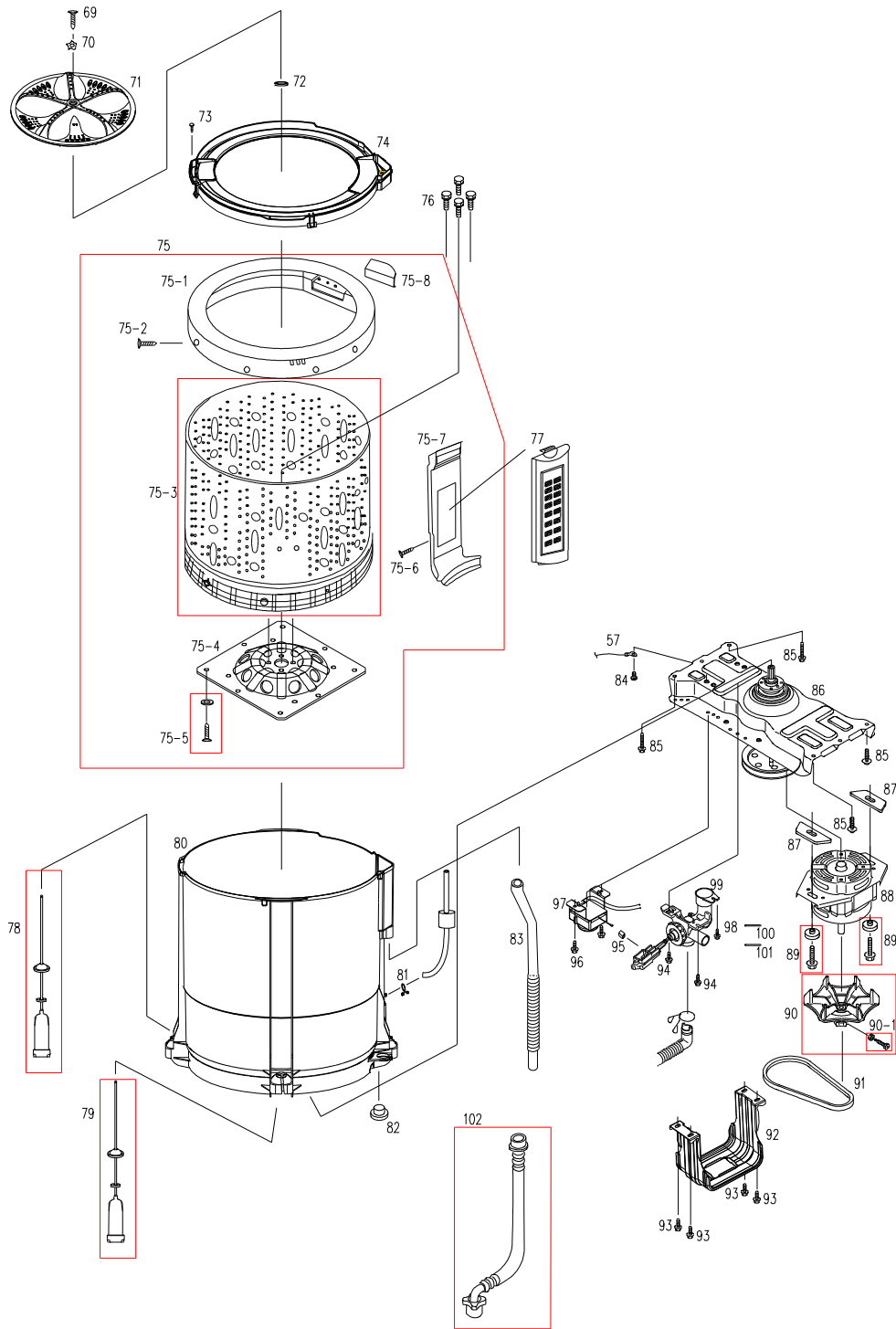
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Key No.	Part No.	Description	部件名称	规格•用途	Qty
75-3	3010241106042	Spin Tub Assembly	脱水桶组件		1
75-4	3012240205140	Spin Tub Boss	脱水桶法兰		1
75-5	3010912305140	Boss Screw Assembly	法兰螺钉组件	固定脱水桶法兰	8
75-6	ST1TN40120UK-	SCR 4×12K	螺钉 4×12K	固定循环水道	4
75-7	3012324510140	Circulate Hose	循环水道	亮灰色	1
75-8	3012241205141	Cap	软化剂口盖	亮灰色	1
76	3012912202140	Screw Assembly	螺栓组件	固定脱水桶完成	4
77	3010212305142	Lint filter Assembly	滤网组件	亮灰色	1
78	3010234421140	Suspension Rod Complete	吊杆完成	自然色, 电机反侧用	3
79	3010234422140	Suspension Rod Complete	吊杆完成	黑色, 电机侧	1
80	3012221112041	Outer Tub Drum	外桶体		1
81	3012334002140	Hose Band	软管卡簧	用于通气软管外桶端	1
82	3012212202140	Drain Pipe	底栓		1
83	3012324102140	Overflow Hose	溢水软管		1
84	SFSPG40100SA-	SCR 4×10A	螺钉 4×10A	用于电机台接地	1
85	3012912208140	Special Screws M6×30	特种螺钉 M6×30	固定离合器	4
86	3010420003140	Bearing Assembly	离合器部件		1
87	3012915202140	Insulator Plate	绝缘板	用于电机安装	2
88	3014522S19140	Motor Complete	电机完成		1
89	3010912304140	Screw Assembly	电机螺栓组件	固定电机	2
90	3010412202140	Motor Pulley assembly	小皮带轮组件		1
<del>90-1</del>	<del>3010421901140</del>	<del>Motor Pulley Screw assembly</del>	<del>小皮带轮螺钉组件</del>	<del>(BOM中不出现)</del>	<del>1</del>
91	3012991704140	V-Belt	V型皮带		1
92	3012152201140	Motor Angle Holder	电机角架		1
93	3012912209140	Special Screws M5×25	特种螺钉 M5×25	固定电机角架	4
94	3012912203140	Special Screws M5×14	特种螺钉 M5×14	固定排水阀	2
<del>95</del>	<del>3012422002140</del>	<del>Break Collar</del>	<del>刹车套环</del>	<del>(辅料, BOM中不出现)</del>	<del>1</del>
96	3012912207140	Special Screws M6×16	特种螺钉 M6×16	固定扭矩电机	2
97	3014264S13140	Torque Motor	扭矩电机		1
98	ST1TN40140SE-	SCR 4×14E	螺钉 4×14E	固定阀与外桶体	1
99	3010342101140	Drain valve Assembly	排水阀组件		1
100	3012152510140	Wire Stay	导线束缚	L=115, 固定电机、扭矩电机线束	1
101	3012152510140	Wire Stay	导线束缚	L=115, 固定电机、扭矩电机线束	1
102	3010325405140	Feed Hose Assembly	进水软管组件		1
103	3010856504140	Earthing Wire Assembly	地线组件		1

# Exploded View (1)



### Exploded View (2)



## TEARDOWN SECTION

This section will describe how to remove components from a top load washer. Unless stated, the procedure will be the same on all top load washers, Unless stated, reverse the procedure to reinstall the component.

**Warning: Always remove electrical power from the washer when working in an area where electrical power is present.**

### Removing the washer lid



Open the washer lid, move the hinge shaft on the washer lid with slotted screwdriver, then remove the washer lid.

### Removing the Lid Handle



Open the washer lid, use cross-style screwdriver to demount the two screws fixed on the Lid Handle.

## Removing the back plate



First use cross-style screwdriver to demount the two screws fixed on the back plate. Then use slotted screwdriver to warp the back plate assembly, and sway the back plate assembly gently, then the back plate assembly can be removed.

## Removing the safety device switch



Use cross-style screwdriver to demount the two screws fixed on the safety device switch, pull out the jack, draw the safety device switch out from the slot.

## Removing the pour inlet assembly



First remove the back plate, then use cross-style screwdriver to demount the three screws fixed on the pour inlet assembly, pull out the jack, draw the pour inlet assembly from the step surface.



## Removing the water level sensor



Warp the fastener on the top plate, pull out the jack and air trip hose, then draw the water level sensor out from the top plate.

## Removing the control circuit board complete



First open the zygomorphic screw cap on the top plate, then demount the two screws by cross-style screwdriver. Second demount the two screws behind the top plate, slant the top plate, demount the seven screws on the control circuit board complete, pull out the jack, then the control circuit board complete can be removed.



### **Removing the reed switch**



Use cross-style screwdriver to demount the special screw fixed on the reed switch, pull out the jack, then the reed switch can be removed.

### **Removing the top plate**

Complete all the previous steps, draw out the wire bunch, the top plate can be removed without difficulty.

### **Removing the motor complete and the motor pulley**



First of all, the outer tub drum assembly must be removed. Demount the two screw assembly on the motor complete, then the motor complete is demounted.

At the same time, the motor pulley is removed for it is connected with the axis of the motor.