Fault Description, Analysis, and Solutions for Battery Strapping Tool A-16

Introduction

This document/video aims to assist distributors/users in quickly addressing common issues encountered during the use of the A-16 battery strapping tool. This document and video are for reference only. For any issues that cannot be resolved, please promptly contact your seller or manufacturer and provide a detailed customer complaint form to facilitate quick handling of your concerns.

Customer Complaint Process Form

客诉流程表

1.Customer information 客户信息

- Company Name 公司名称:_____ Contact person 联系人:_____
- Email/Phone 邮箱/电话:_____ Date of fill-in form 填表时间:_____

2. Product information 产品信息

- Model 产品型号：_____ Date mark of tool 机器代码：_____

3. Problem details 故障详情

- Date of complaint 客诉日期：_____
- Problem description 故障描述：Please provide a detailed description of the issue encountered, such as no tension, no sealing, no reversing action, no display , etc.请详细描述遇到的问题，比如不束紧，不熔接,不反转，不显示等。

_____

_____

- Cargo name 打包货物类型：_____
- Ambient temperature and humidity 环境温度和湿度：_____
- Problem description through picture 问题图片描述：

_____

- Problem description through videos 问题视频描述（建议按照以下步骤提供视频）：

1. Check if the battery is functioning properly and also check if the battery is fully charged by pressing the battery indicator button. 按下电池电量按钮,检查电池是否正常工作以及电量是否充足。
2. Put the strap in the tool, press the tightening button, sealing button, and lift the handle to start the reversing action in sequence to check the tool's status and make a video accordingly for the sellers' technician's reference. 将皮带放入机器后，依次按下束紧、熔接、抬起把手启动反转，检查机器状态,并拍摄相应视频，供卖家技术员参看。

4. Problem types 问题类型

☐ Quality problem 质量问题

☐ Functional fault 功能故障

☐ Misoperation 操作不当

☐ Environmental Factors 环境因素

☐ Others 其他:_____

The descriptions, analyses, and solutions for the A-16 battery strapping tool faults are as follows:

Overview: When encountering any machine fault, first check if the battery is normal and fully charged, if the battery is properly inserted, and confirm the type of goods being packed as well as the environmental humidity and temperature in which the strapping tool is operating. Generally, the faults encountered during strapping tool use can be categorized into the following six types:

1. **Slipping during tightening;**
2. **No tightening;**
3. **Poor welding effect;**
4. **No welding;**
5. **Inability to cut the strap;**
6. **No reverse action.**

Additionally, we have summarized the following eight usage tips to ensure your strapping tool can be used for as long as possible and perform optimally:

1. **Clean the inside of the machine with an air gun in a timely manner.**
2. **Use a brass brush or a sharp tool to clean strap debris from the tension wheel and the toothed plate.**
3. **Avoid dropping the tool from heights.**
4. **Use only plastic strap, not steel strap.**
5. **Do not run the tension wheel empty without a strap.**
6. **When not in use for a long time, fully charge the battery and remove it, storing it in a suitable environment.**
7. **Do not over-discharge the battery or charge it only when the battery is exhausted (avoid over-discharge).**
8. **In automatic mode (A-16, L-16), do not set the tension force higher than the maximum strength of the strap. Adjust from a low tension force level and gradually test upwards.**

Let's now look at the specific reasons for each type of fault, diagnostic methods, and repair solutions.

1.Slipping during tightening:

Usually caused by the following eight reasons:

① **Cause:** There are strap debris from the tension wheel and the toothed plate.--

Diagnostic Method: Check for debris/material on the tension wheel and toothed plate--

Solution: Use tools to remove the debris from the tension wheel and toothed plate.

② **Cause:** Worn tension wheel and toothed plate--

Diagnostic Method: Check for wear on the tension wheel and toothed plate---

Solution: Replace the tension wheel and toothed plate (usually replace as a set).

③ **Cause:** Excessive gap between the tension wheel and toothed plate or strap too thin---

Diagnostic Method: Check the gap size with the strap visually, and measure the strap thickness with a caliper. Straps thinner than 0.6mm are more easily to slip---

Solution: Add a pad spacer under the toothed plate.

④ **Cause:** Poor quality strap---

Diagnostic Method: Check if using poor quality PP strap or recycled PET strap

Solution: Adjust and reduce the tension or switch to better quality straps.

⑤ **Cause:** Excessive tension force---

Diagnostic Method: Visually check if the strap is severely worn or broken, then adjust the tension to a suitable level---

Solution: Remove debris from the tension wheel and toothed plate, and adjust the tension force to an appropriate level.

⑥ **Cause:** Over-tightened tension wheel cover screws---

Diagnostic Method: Raise the lift handle to see if it feels very laborious, open the left side cover to check the tightness of the tension wheel cover screws.

⑦ **Cause:** Broken or detached spring on the lift handle, or broken pin on the handle (rare)---

Diagnostic Method: Open the left cover, visually inspect the spring and pin---

Solution: Replace the spring or pin.

⑧ **Cause:** Worn bevel gear---

Diagnostic Method: Open the equipment and visually inspect the bevel gear (rare)---

Solution: Replace the bevel gear.

2.No tightening or tightening failure:

Usually caused by the following six reasons:

① **Cause:** Broken tension button or poor connection---

Diagnostic Method: Sequentially press the tension button and friction button; if there is no tightening or welding response but there is a reverse response, the tension button is broken or poorly connected---

Solution: Check the wiring and replace the tension button.

② **Cause:** Faulty tension motor/poor connection---

Diagnostic Method: Sequentially press the tension button and friction button; if there is no tightening and reverse response, but there is a welding response, the tension motor is faulty. Test by connecting the battery to the tension motor wires---

Solution: Check the wiring and replace the tension motor.

③ **Cause:** Reverse micro switch not closing/faulty---

Diagnostic Method: 1)Raise the lift handle twice to check for a reverse response. If not, the reverse micro switch is faulty. 2) Check if the handle fully returns to position,if not,it will cause the reverse micro switch connection failure--- If the reset is not in place, the reverse micro switch contact failure occurs.

* One possibility is that the lift handle and the cover friction interference causes the lift handle can not be completely reset.* another possibility is that the handle spring is falling off, * There is also a possibility that the tension wheel cover screw is Over-tightened

Solution:
1.Replace the reverse micro switch if it is faulty
2.Check if the lift handle fails to reset, please check according to the following aspects: * Adjust the place where the handle interferes with the cover
* Replace the handle spring
* Adjust the tension wheel cover screw to the appropriate tightness.

④ **Cause:** Loose or worn reduction gear of the tension motor---

Diagnostic Method:

Listen: The tension motor is working, but it emits a humming noise. And the tension wheel does not run

Inspect: Disassemble the reduction gear cover and check if the reduction gears are loose or worn.

Solution:

- If the gear is loose but not worn, then re-secure the gears with screws coated with adhesive
- If the gears are loose and worn, replace the motor reduction gears.

⑤ **Cause:** Faulty PCB board---

Diagnostic Methods:

1. No response during operation for tension, welding, or reversing.
2. Automatic tension/welding action immediately once power-on.
3. During operation, only reverse action occurs with no response for tension/welding.

Solution: Replace the PCB board, recommend replacing the LED display as well.

⑥ **Cause:** Excessive tension in one-key mode causing cover or strap breakage---

Diagnostic Method: Check if the tension setting is too high, observe if operating in one-key mode.

Solution: Replace the cover, clean the tension wheel and tooth plate, adjust the tension to an appropriate level, or operate in semi-automatic mode with suitable straps.

3.Poor welding effect:

Usually caused by the following six reasons:

① **Cause:** Welding time is too long or too short---

Diagnostic Method: Excessive welding will cause material to overflow on both sides of the welded joint; insufficient welding will result in areas of the joint not being fused.

Solution: Standard welding time is 1-3 seconds; check the welding time of the machine, adjust to appropriate duration .

② **Cause:** The gap between the tension wheel and toothed plate too large or too small.

Diagnostic Method: Press the welding button, and check whether the gap between friction parts is too large or too small by gradually rotating the spring chamber nut and testing the welding, until the gap between friction parts is adjusted to the appropriate state

Solution: If the welding effect is insufficient, the spring cavity nut should be slightly adjusted counterclockwise to reduce the distance between the upper and lower friction parts; if the welding effect is excessive, the spring cavity nut should be slightly adjusted clockwise to increase the distance between the upper and lower friction parts.

③ **Cause:** Worn friction motor carbon brush

Diagnostic Method:

- Listen to the sound: During welding, you will generally hear a soft and weak sound from the motor (often occurs in brushed motors). Check whether the carbon brushes of the friction motor are worn.
- Check: If the carbon brush structure has sunk (compared with normal carbon brushes), it is worn.

Solution: Replace the friction motor

④ **Cause:** Damaged 101712 bearing in the friction part bracket---

Diagnostic Method: The strap is not cut, and there is no welding. The upper friction piece has a short forward and backward movement or high resistance, preventing it from moving properly, and the friction motor does not respond-

Solution: Replace the bearing, ensure proper lubrication and dust protection.

⑤ **Cause:** Worn friction parts

Diagnostic Method: Visually inspect the parts

Solution: Adjust the spring chamber nut counterclockwise, the welding effect is still not improved, replace the friction parts.

4.No welding:

Usually caused by the following nine reasons:

① **Cause:** Faulty friction motor/poor connection

Diagnostic Method: Operate the tension button and friction button in sequence. If the tension action is normal, but there is no welding, it is most likely a friction motor fault.

- Visually inspect by opening the casing and checking if the carbon brushes of the friction motor are worn out; if the carbon brushes are sunken, they are worn.
- Test by connecting a fully charged battery to the friction motor to check if the motor operates normally

Solution: Check the wiring and replace the tension motor..

② **Cause:** Friction Button is Damaged or has Poor Contact

Diagnostic Method: In the case where the PCB board is functioning normally and the friction motor is also normal (tested with a fully charged battery), if pressing the tension/friction buttons sequentially results in a tension response but no welding response, it can be concluded that the friction button is damaged or has poor contact.

Solution: Replace the friction button.

③ **Cause:** Worn friction part bracket causing excessive gap

Diagnostic Method: Inspect the two rows of ball bearings on both sides of the friction part bracket for wear that causes the slot to enlarge. When enlarged, the positional error of the friction part bracket's back-and-forth movement also increases, leading to no welding or failure to cut the strap.

Solution: Adjusting the spring chamber nut counterclockwise to reduce the gap between the upper and lower friction components. If there is no significant improvement in welding, replace the friction part bracket assembly.

④ **Cause:** Worn friction parts

Diagnostic Method: Visual inspection:-->Disassemble and check the wear of friction parts

Solution: Adjusting the spring chamber nut counterclockwise. If there is no improvement in welding, replace the friction component assembly..

⑤ **Cause: :** Worn/Damaged 101712 bearing in the friction part

Diagnostic Method: The strap is not cut, and there is no welding. The upper friction piece has a short forward and backward movement or high resistance, preventing it from moving properly, and the welding motor does not respond-

Solution: Replace the bearing, ensure proper lubrication and dust protection.

⑥ **Cause:** Faulty PCB board---

Diagnostic Method:

- Press the tension button/friction button/lift handle in sequence, but there is no response for tension, welding, or reverse operation.
- As soon as it is powered on, it will automatically tension, weld, or reverse.
- Press the tension/friction button/lift handle in sequence, there is no response for tension and welding, but there is a response for reverse operation.

Based on these three points, it can be determined that the PCB board is faulty.

Solution: Replace the PCB board, recommend replacing the LED display as well.

⑦ **Cause:** Cutter wear--

Diagnostic Method: First, understand that the strapping machine cuts the strap before welding. Visually inspect whether the cutter is severely worn and unable to cut the strap. If the strap cutting fails, there will be no welding action.

Solution: Regularly check and replace the cutter. When installing the cutter, ensure it is installed correctly: the cutter should be able to slide up and down without gaps in the front and back.

⑧ **Cause:** Insufficient battery power or mismatched battery

Diagnostic Method: Check the battery power level, and understand the environmental humidity and temperature, as well as the voltage of the battery being used.

Solution: Test after fully charging the battery or replace the battery.

5.Inability to cut the strap:

Usually caused by the following six reasons:

① **Cause:** cutter wear

Diagnostic Method: Visually inspect whether the cutter is worn, causing the strap not to be cut.

Solution: Regularly inspect and replace the cutter (ensure proper installation when locking the cutter: the cutter should slide vertically and have no horizontal play).

② **Cause:** Excessive gap between friction parts

Diagnostic Method: Press the friction button and visually check the gap between the upper and lower friction parts to see if the cutter and the lower friction part are tightly contacted or if there is a gap.

Solution: Adjust the spring chamber nut counterclockwise to reduce the gap between the upper and lower friction parts until the strap can be cut normally.

③ **Cause:** Strap thickness too thin or too thick---

Diagnostic Method: Use a caliper to measure the thickness of the strap. Generally, if the thickness is less than 0.6mm or more than 1.4mm, the strap may not be cut.

Solution: Adjust the spring chamber nut counterclockwise to reduce the gap between the upper and lower friction parts until the strap can be cut normally.

④ **Cause:** Mismatched spring and strap

Diagnostic Method: Check the type of strap. Generally, machines shipped from the factory use hard/short springs suitable for PET straps. If using PP straps, the strap may not be cut.

Solution: Replace the hard/short spring with a soft/long spring. Note: PET straps use short/hard springs, PP straps use soft/long springs.

⑤ **Cause:** Wear on the friction part bracket

Diagnostic Method: Visually inspect the friction part bracket or ball bearings for wear that causes the space to enlarge, increasing the vertical movement amplitude of the friction motion. Wear on the friction part bracket can lead to the strap not being cut or not being welded.

Solution: Replace the friction part bracket.

⑥ **Cause:** Friction part bracket bearing 101712 damage or wear

Diagnostic Method: If the strap cannot be cut and there is no welding, and the upper friction part moves a short distance back and forth or has significant resistance preventing it from moving, and the friction motor does not respond.

Solution: Replace the bearing and ensure the bearing is protected from dust and lubricated (especially in harsh environments such as brick factories and stone factories).

6.No reverse action:

Usually caused by the following reason:

① **Cause:** Faulty reverse micro switch or poor connection

Diagnostic Method: 1. Check if the lift handle has fully returned to its original position. If it hasn't, it may cause a contact issue with the reversal micro switch. Possible causes include:

- The lift handle is rubbing against the cover, preventing it from fully returning.
- The lift handle spring has come off.

- The tension wheel side cover screws are too tight.

2. Lift the lift handle twice consecutively to check for reversal action. If there is a reversal action, the reversal micro switch is functioning normally.

Solution:

1) If the lift handle fails to return, investigate the following:

- Adjust or file down the areas where the handle and casing interfere.
- Replace the handle spring.
- Adjust the tension wheel side cover screws to an appropriate tightness.

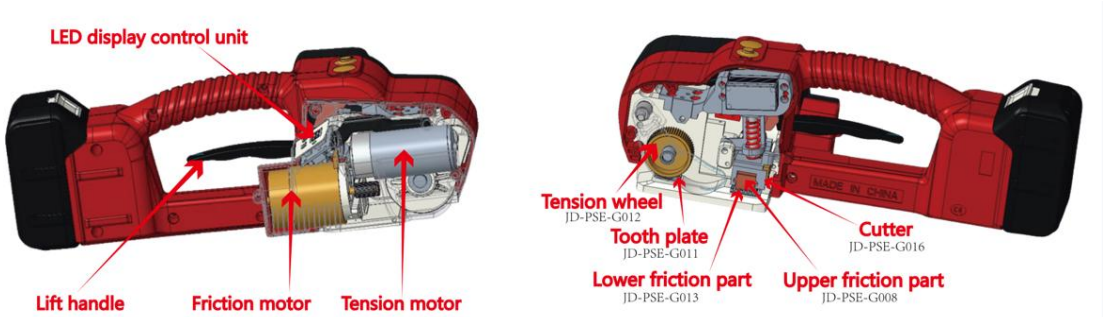
2) Replace the reversal micro switch.

Usage Tips:

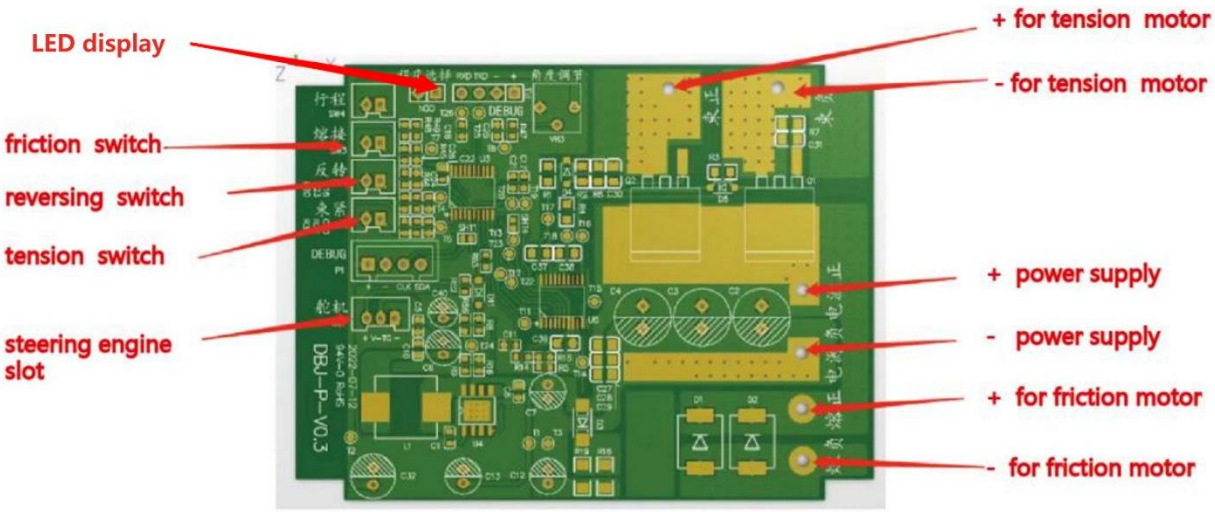
1. Regularly clean internal debris with an air gun.
2. Clean strap debris from the tension.

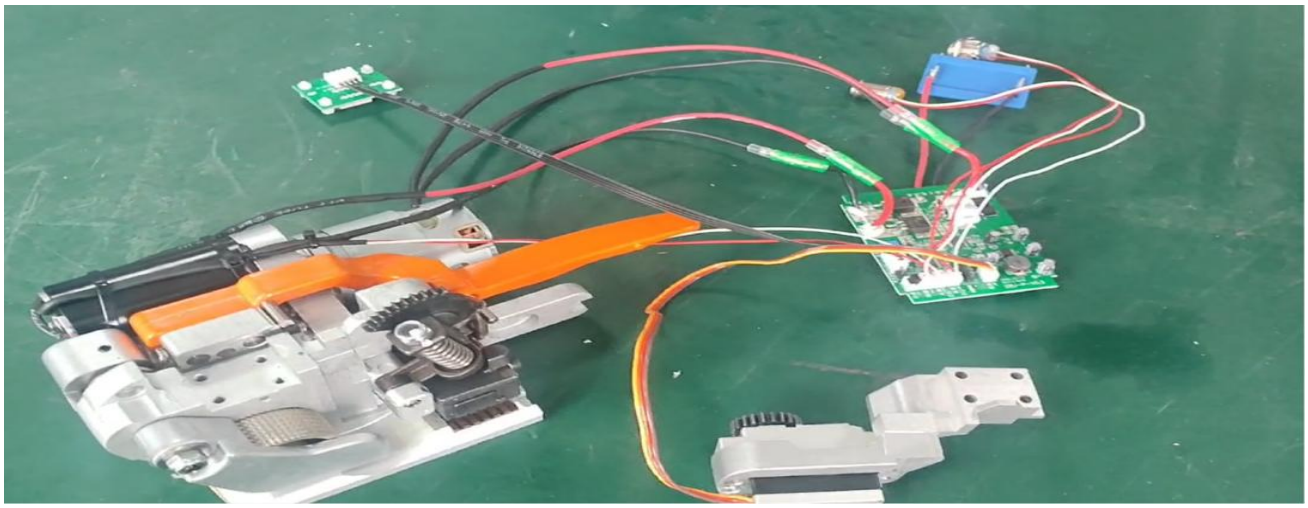
Attachment:

1. Internal and external structure of A-16



2.A-16 circuit connection diagram





3.A-16 Exploded View and BOM Table

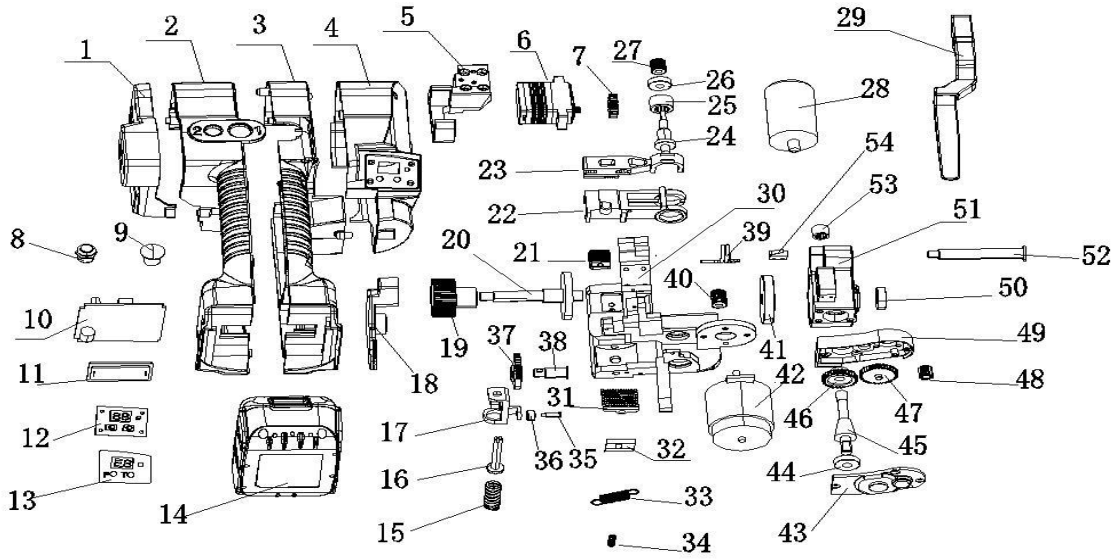


Table : Comparison table of parts assembly

No.	Part Name	Material Code	Qty.
1	left cover 1	JD-A16-G01	1
2	left cover 2	JD-A16-G02	1
3	right cover 1	JD-A16-G04	1
4	right cover 2	JD-A16-G03	1
5	base of steering engine	JD-A16-G01-1	1
6	steering engine	JD-A16-E01	1
7	gear ofsteering engine	JD-A16-G004	1
8	friction button	JD-PSE-E039-1	1
9	tension button	JD-PSE-E039	1
10	PCB board	JD-A16-E019	1
11	battery adapter frame	JD-L16-G06	1
12	digital tube module	JD-L16-G05	1
13	Digital display adhesive tape	JD-A16-G07	1
14	battery	JD-PSE-E051	1
15	Compression sprin	JD-PSE-G020	1
16	shaft	JD-PSE-G022	1
17	Cam base	JD-PSE-G010	1

No.	Part Name	Material Code	Qty.
18	tensioner cover plate	JD-A16-G007	1
19	Tension wheel	JD-PSE-G012	1
20	Curved umbrella tooth	JD-PSE-G029	1
21	Toothed plate	JD-PSE-G011	1
22	Friciton part bracket	JD-PSE-G009	1
23	Upper friction part	JD-PSE-G008	1
24	Eccentric shaft	JD-PSE-G024	1
25	Bearing IKO	JD-PSE-E014	1
26	Bearing 606	JD-PSE-E011	2
27	Synchronous wheel	JD-PSE-G035	1
28	Tension motor	JD-PSE-E017	1
29	Lift handle	JD-PSE-G004	1
30	Base bracket	JD-A16-G001	1
31	Lower friction part	JD-PSE-G013	1
32	cutter	JD-PSE-G016	1
33	drag spring	JD-PSE-G017	1

No.	Part Name	Material Code	Qty.
34	spring for cutter	JD-PSE-G018	1
35	4*12.5 pin	JD-PSE-E022	1
36	Cam driver	JD-PSE-G038	1
37	gear for pression	JD-A16-G014	1
38	Shaft pin	JD-PSE-G023	1
39	Torsion spring	JD-PSE-G019	1
40	Synchronous wheel	JD-PSE-G034	1
41	Bearing cover	JD-PSE-G015	1
42	Friction motor (DC)	JDH-16-E03	1
43	Cover for gearbox	JD-PSE-G006	1
44	Bearing 607	JD-PSE-E012	1
45	Worm gear	JD-PSE-G030	1
46	Connect-gear for worm	JD-PSE-G033	1
47	Double gear	JD-PSE-G031	1
48	Gear for tension motor	JD-PSE-G032	1
49	Reduction gearbox 1	JD-PSE-G002	1

No.	Part Name	Material Code	Qty.
50	bear	JD-PSE-G010	2
51	Reduction gearbox 2	JD-PSE-G003	1
52	M6 boss pin	JD-PSE-G021	1
53	Bearing HK0810	JD-PSE-E015	1
54	Reverse switch	JD-PSE-E007	1