

Item	Description	Analysis	Solutions
1	Abnormal or fault code display on dashboard		
2	Refer to table "Fault Code and Stettings"	1. Check all corresponding circuit and connectors in good condition 2. Replace related parts and pick up the defective ones	
3	"B" displayed on dashboard	Accelerator connection failure or accelerator fault	Replace the accelerator on condition that circuit connectors work in normal
4	"C" or "C0" or "EC" displayed on dashboard	Motor Hall fault or connection failure	Replace the motor on condition that circuit connectors work in normal
5	"F0" displayed and not available in riding	Controller in high temperature protection	reuse after rest
6	Fault "E1" and "E7" displayed and motor stops working	E1: Dashboard receiving controller data communication failure E7: Controller receiving dashboard data communication failure	1. Check communication connection 2. Separate communication line and motor phase line
7	Double image or flicker displayed on dashboard	Happens after APP lock while stepping on the accelerator without response and pushing with phone vibrates	Unlock App on phone
8	Wrong speed displayed on dashboard	1. Speed displayed was calculated by wheel diameter and rotate speed. Wheel diameter changes in different tire pressure and loadings. 2. If actual speed tested by GPS, accuracy depends on GPS signal and update frequency	1. Actual speed calculated by effective wheel diameter 2. Actual speed can be adjusted if requested
Item	Description	Analysis	Solutions
9	Unpowered, failed to start and rotate		
10	New sample failed to start	Refer to Table "Trouble Shooting on Startup". Defective controller with high probability	Replace related parts
11	Failed to start and charge after use several times	Refer to Table "Trouble Shooting on Startup". Defective controller with high probability	Replace related parts
12	Powered off after start or shift gears	Startup communication fault. Started normally but powered off in 5 seconds	Check communication connection and wire covering integrity
13	Motor lost driving force while riding	1. Speed up accelerator abnormal. "B" displayed on dashboard 2. Motor Hall signal fault. "C" displayed on dashboard 3. Controller system fault 4. Happens during maintenance. Pay attention to the match between controller and dashboard	Check related parts while fault codes appears otherwise check the controller
14	Motor stuck	Motor technical problem with internal interference	Replace moter
15	Manual rotating motor stuck after startup	Motor phase line short-circuit. Disconnect the motor and controller to judge defective Reason 1: Phase line connector defective, or protective cover came off Reason 2: Controller fault in driving circuit abnormal Reason 3: Motor internal process failed	Reconnection or replace related parts
16	Motor noisy and not able to rotate	1. Check motor hall wire in order while accelerator stuck 2. Check if getting stuck by rotating motor manually and find out defective part	
Controller Failure		Analysis	Solutions
17	Controller or Related Parts Fault		
18	Connector of controller phase line burnt after replacing	1. M30 plug weld or insertion not in place 2. Connector loose 3. Connector insertion not in place	1. Replace MR30 with bullet connector 2. Check connection
19	Connection of battery and controller burnt	Controller power short-circuit	Replace controller
20	How to judge the controller burnout	1. Failed to start 2. Motor unpowered 3. Motor stucked	Elimination methods Change controller with same model and software version to test
21	About Range		
22	Range Test Corresponding to Battery Capacity	5AH (Battery Made in China): 10~20km 6.4AH (Panasonic Battery): 15~25km 10.4AH: 25~35km 12.8AH: 35~45km	1. Influence Factors ①Capacity ②Load ③Temperature ④Wind Speed ⑤Road Condition ⑥Operation 2. Range for less than minimum rating is abnormal while riding new at load 75kg and gear 2
23	Riding powered off suddenly at power three-grid or four-grid	Battery Fault on Cell Voltage Imbalance	Replace battery
24	Brake stopping distance	Less than 4.5m at 20km/h with 75kg when electric brake and disc brake starts up at the same time	
Controller Failure		Analysis	Solutions
25	Battery Fault		
26	Independent charging not available but chargeable after being assembled in scooter	Charger port failed to connect	Replace battery
27	Not available in charge after being assembled in scooter but chargeable for independent part	1. Controller charging failure 2. Charger cable to discharge terminal defective	
28	Charger shows green, power shows less than 5 grids and nothing wrong with range while	Controller fault	Replace controller
29	Charger shows green, power shows less than 5 grids and nothing wrong with range while installing or removing the battery	1. Check charger voltage to ensure 42V or above 2. Check battery voltage to ensure 41.5V or above	

30	Full power plunged after riding	Power at critical state and drops more for riding upslope	Test again at full power
31	Power Plunge from full grid while riding	Battery fault if power drops by 2 grids in 5 minutes	Replace battery
32	Riding powered off suddenly at three-grid or four-grid power remaining	Battery Fault on Cell Voltage Imbalance	Replace battery
33	Test Panasonic battery with 12.8AH results in 8.55AH, and with 6.4AH results in 5.8AH	Battery fault - Testing method: Discharge from voltage 42V to 27V at constant current and full power to test the total capacity in process	Replace battery
34	After installing Panasonic battery with X7-6.4AH in full power, riding powered off in 2 seconds after startup and not able to continue unless replacing new battery	Battery fault in bad connection of connectors	Replace battery
35	Red light on charger flickers while charging	Charger protection at voltage lower than 10V	Keep charging and charge in time at low power
36	How to judge if battery slept or damaged	1. Test Voltage; Protection at voltage higher than 25V and lower than 27V; Voltage lower than 25V affects battery lifespan; Voltage higher than 10V can activate the charger. Otherwise battery totally damaged 2. While voltage lower than 5V, charging should be activated by regulated power supply at 5V and change to 10V to activate again after voltage raises. If voltage not go up, battery totally damaged	
37	How to distinguish battery made in China from importing one	1. Label and Laser carving; Label shows brand code and Laser carving shows cell code 2. Take battery apart to check brand according to printing code	
38	Charging time	Charging time T = Capacity(Ah)/Current(A) + 1h	
39	Lifespan	Capacity remains 70% after discharging 1000 times circularly for importing batteries, while the ones made in china remains 80% after discharging 500 times circularly	
	Other Failure	Analysis	Solutions
40	Motor and Rear Wheel		
41	Motor noisy while riding	Motor process problems or motor Hall fault	
42	Failed to pump in vacuum tyre	Tyre processing problems	Improved
43	Tyre leaking	Tyre processing problems	Improved for many times and defective rate decreases from 3% to 1%
44	Front wheel swaying	Offset is ±1mm in normal	
45	How to judge motor burned out	"C" displayed on dashboard if controller works in normal; Damage rate for other parts is very low or "0"	
46	Mechanical Fault		
47	Plastic and decorative covers on both sides of fork discoloured due to overheating motor	1. Motor surface temperature reached up to 60 degree after continuous riding on slope with load and for more than half an hour 2. Covers has no touch with motor so that their temperature is close to ambient temperature 3. Plastic changes color due to sun and rain not motor. The lighter the color is, the easier it changes	1. Replace plastic covers 2. Never place it in outdoor
48	throttle on X8 sample broken	Caused by impact of external forces	Replacing the brake or Throttle
49	Front and rear fenders broken	1. Fenders may be hanged to steps or objects, resulting in reverse impact to make big distortion 2. <u>Not broken under positive distortion or twisted 90 degree</u>	Replace fenders
50	Disc brake too tightened with brake and brake failure	1. Disc deflection 2. Disc installation and correction not in place 3. Right and left shift caused hub and locking size deviation	1. Correct Disc and Installation 2. Replace hub
51	Pole shaken while riding and rotated with abnormal noise	Screws on the pole loosen while riding	
52	Pole crunched while riding	Screws on the pole loosen while riding	
53	Large gap for X6 anti-slip pedal	1. Processing error 2. Overload 200kg caused pedal distortion	Replace pedal
	Other Failure	Analysis	Solutions
22	About Range: Range Test Corresponding to Battery Capacity	5AH (Battery Made in China): 10~20km 6.4AH (Panasonic Battery): 15~25km 10.4AH: 25~35km 12.8AH: 35~45km	1. Influence Factors ①Capacity ②Load ③Temperature ④Wind Speed ⑤Road Condition ⑥Operation 2. Range for less than minimum rating is abnormal while riding new at load 75kg and gear 2
55	Accelerator not working (Scooter rushes out without touching accelerator)	1. Spring not rebound in place (Spring fall off inside or not able to rebound for loosen screws sticking) 2. Accelerator Fault; Accelerator starts working at 1.4V. Voltage is 0.8-1.4V in normal without push	1. Adjust spring installation 2. Tighten accelerator fixed screws down 3. Replace accelerator
56	Accelerator spring fall off easily	1. Spring installation improperly 2. Shell distortion by external force and spring fall off	Adjust installation or replace accelerator
57	X7 taillights not working while braking	1. Bad connection for taillights 2. False welding in taillights circuit	1. Check connection 2. Replace taillight board or controller

58	Poor lighting for lamp at higher location	Assembling error	Fix the screws
59	ABS function available in X7/X8?	Yes. Disconnected from motor by electronic brake and ABS function working	
60	How to keep the speed at 20km/h or 32km/h?	Both 20km/h and 32km/h available in general program. Set P4 referring to instruction " Fault Code and Settings"	
61	X7/X8 APP bluetooth unable to connect. One in three connection available	1. Something wrong with phone compatibility. Version 5.1 or above asked for Android and no requirements for IOS 2. MAC address not uploading to server and bluetooth locked	
62	Processing and Packaging Problems		
63	Accessories omissive or misplaced	Packaging mistake	Resend new parts to replace
64	Serious scratch	Processing or transportation problems	Relace scooter
65	Accessories missing	Packaging check missed	Resend new parts
66	Customer Maintainece itself Caused Exceptions		
67	Speed becomes lower after replacing new matched controller and dashboard	Controllers from different factories can not match with each other in procedure	Replace matched controller and dashboard
68	No display on dashboard	① Bad or wrong connection with connectors in assembling ② Controller and dashboard not matched and dashboard burned out ③ Dashboard or controller fault	
69	Replacing controller time-cousuming and scews slipped	1. Tool not matched with screw size and not be tightened. 2. All screws are fixed with thread adhesive against forces and vibrations to ensure a safe riding	1. Use impact wrench 2. Knock by pentagan plum wrench in force and take them out
70	Requests and Additional Questions		
71	Can power be increased with double motors?	Yes. Double motors could be customized to increase the power.	
72	Can scooters be made up to 700W?	No. 350W mostly currently and 400W available.	
73	Can X7/X8 add a bluetooth speaker?	Not currently. But can be customized on special requests	
74	Can scooters add GPS? How?	Yes. Adding GPS module	
75	Can scooters add function "SHARE"	Yes. Custom for different areas and requests	
76	When will battery lock come out with software control?	Custom on requests	
77	Is it possible to add adjustable funtion on battery cell? Same as xiaomi and segway?	Yes. Costom on special requests but cost much higher. Balance design currently is perfect to ensure sufficient capacity	
78	Can battery be replaced with maintainable one? Customers can remove and repair themselves to improve utilization?	Not recommended and out of service. Professional technique and equipment needed	
79	Can waterproof be upgraded?	Maximum IP54	
80	Can materials be replace with carbon fiber to reduce weight?	Yes. Custom with double cost	
81	Can scooters add a bracket to put portable battery in which is more convenient?	Yes. Custome on requests	
82	Is there any other scooters for children besides X6	Under Planning	