



Beijing TT Aviation Technology Co., Ltd.

Add: No.1 TTA Building, Niantou Industrial Park ,Changping District,Beijing, China

TTA AG Drone Maintenance Manual V1.1



北方天途航空技术发展（北京）有限公司
Beijing TT Aviation Technology Co.,Ltd.

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Record of Revisions

| Issue No. | Issue. Date | Reason for Revision | Insert Date |
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| V1.0 | 2019/12/04 | Manual issued | |
| V1.1 | 2020/12/24 | Revision | |

TT AVIATION



1. Preventive Periodic Maintenance Schedule

| Preventive Maintenance - Multicopter (v1.1) | | | | | 2020.12. | TTA / DSMT |
|---|-----------------------|--|--------------------------|--|---------------------------------|---------------------------------------|
| - SR: Stacus Replacement item 상태교환 - TBO: Replacement by time 시간교환 | | - 30~50시간: 주간~월간정비 (운영자) - 100~300: 연간정비 (지정 정비센터, Shop) - 500~1000시간: 오버홀 (제작사/지정 정비공장) | | O : Operator replacement 운영자 교환 S : Maintenance Shop replacement 정비샵 교환 D : Depot(factory) Replacement | | |
| Name명칭 | Replacement condition | Overhaul (Shop/Depo rt) | Yearly Inspection (Shop) | Check (Operator) | Maintenan ce Level 정비단계 (O/S/D) | Remarks (비고) |
| Airframe 동체 | SR | 3 Year | 1 Year | 100 Hour | S | Crack |
| Boom 붐 | SR | 3 Year | 1 Year | 100 Hour | S | Crack |
| Landing Gear 착륙장치 | SR | 3 Year | 1 Year | 100 Hour | O | Crack |
| Rotor 로터 | SR | 3 Year | 1 Year | 100 Hour | O | Crack/holder bolt & washer |
| BLDC Motor 모터 | SR | 3 Year | 1 Year | 100 Hour | S | crach, Bearing, cleaning |
| ESC 모터변속기 | TBO/SR | 3 Year or 5,000 Hour | 1 Year or 1000 Hour | 100 Hour | S | heating, cleaning |
| Battery 배터리 | SR | 3 Year | 1 Year | 100 Hour | O | swelling, charging quantity below 70% |
| FCS 비행제어컴퓨터 | SR | 3 Year | 1 Year | 100 Hour | S | malfunction, SW update |
| GPS module, GPS 안테나/ 수신기 모듈 | SR | 3 Year | 1 Year | 100 Hour | S | malfunction, SW update |
| IMU 모듈, 관성측정센서 | SR | 3 Year | 1 Year | 100 Hour | S | malfunction, SW update |
| Convertor 변압기 | TBO/SR | 3 Year or 5,000 Hour | 1 Year or 1000 Hour | 100 Hour | S | Output |
| Wire Hanes/Connector 배선 / 커넥터 | SR | 3 Year | 1 Year | 100 Hour | S | Heating, cut line |
| Charger 충전기 | SR | 3 Year | 1 Year | 100 Hour | S/D | Balancing charging |
| Controller 조종기 | SR | 3 Year | 1 Year | 100 Hour | S/D | Anttena, stick potential meter |
| Water pump 펌프 | SR | 3 Year | 1 Year | 100 Hour | S | Pump operation |
| Chemical Tank 약제통 | SR | 3 Year | 1 Year | 100 Hour | O | crack, cleaning |
| Nozzle 노즐 | SR | 3 Year | 1 Year | 100 Hour | O | Nozzle tip, rubber packing |



2. Thrust System Maintenance

2.1 Propellers

- (1) Clean propellers by wet clean cloth.
- (2) Blades of propeller should keep intact. Hold the tip of propeller, lift up or push down gently to check the propeller. If there are any cracks or breakage, the propeller should be replaced.
- (3) Rotate propeller to check whether it is loose. If loose, tighten the retaining screws by screwdriver.

Tightness of all the blades should be suitable and be similar. Replace the propeller gaskets/washer with new ones when blades cannot spin smoothly, or gaskets/washer are badly worn.

- (5) Blades should be folded well and be held by the blade holder or belts after flight and should be released and put straight before takeoff.

2.2 Motors

- (1) Rotate the motor rotor to check whether it gets blocked.
- (2) Gently pull the motor rotor vertically upwards to check whether rotor gets loose.
- (3) Try to shake the motor leftward and rightward gently to check the connections between motor, motor holder and arm tube. Make sure the retaining screws of motor holder does not get loose. Make sure limit connector of holder and limit screw of arm joint not get worn.

2.3 ESC should be or be suggested to be replaced:

- (1) When Esc output obviously different from other ones.
- (2) When damaged in crash

3. Spraying System Maintenance

3.1 Clean residual chemical inside the spraying system by using clean water to prevent chemical erosion and clogged issue after each day's work.

3.2 Clean foreign substances stuck in nozzles and strainers to prevent clogging after each day's work.

3.3 Check the hose connections of spraying system (tank, pump, flowmeter etc.) to ensure no looseness, no breakage, no liquid leakage, to prevent pesticide leakage and air inflow.

3.4 Check whether nozzle and decompression valve have leakage issue. If yes, replace their according sealed gasket.

Notice: The spraying system cannot spray any kinds of powder which can make



spraying system gets clogged and largely shorten its life expectancy. The spraying system which is used to spray power will be out of warranty.

4. Fuselage Maintenance

- 4.1 Check the plug screws of arm and tighten them if loose.
- 4.2 Use clean wet cloth to wipe off the residual chemical, soil on fuselage and landing gear.
- 4.3 Check if there are any cracks or breakages on the arm, arm joint, land gear etc. If yes, replace damaged parts.
- 4.4 Check the radar's appearance, fixed condition, and wire connection. Appearance and connector breakage, crack will affect radar's waterproof and dustproof performance and may lead to short-circuit and damage.
- 4.5 Check antennas' appearance and fixed conditions. Loose connection and malfunction antenna will obviously shorten control distance causing communication problems.
- 4.6 Regarding M8A PRO, M6A PRO, pay attention to the GPS appearance. Appearance breakage may lead to short-circuit issue.

5. Storage

- 5.1 Pump out all liquid from spraying system to prevent accessories from aging before long-time storage.
- 5.2 Drone should be stored in a cool, dry, well-ventilated, no direct-sunlight indoor place.
Since many accessories of drone are made of rubber, carbon fiber, nylon, etc., these parts are susceptible to aging and deterioration due to the effect of oxygen in the air and ultraviolet rays in the sunlight, leading to swelling and cracks. Therefore, keep drone away from the dark, damp corner and do not store it outdoors.
- 5.3 Ensure that the storage environment is free from pests and rodents. Drone can't be stacked with corrosive substances such as fertilizer and pesticide to prevent drone from being damaged by corrosion.

This content is subject to change.

If you have any questions, please contact TTA: lan.li@ttaviation.com

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