Thank you for buying Agile products. Please read this manual carefully before assembling. We recommend that you keep this manual for future reference regarding tuning and maintenance.

SAFETY PRECAUTIONS
This radio controlled helicopter is NOT A TOY! It has some technical requirements, you must pay attention to the flying environment and correct operation. Never fly your radio controlled helicopter over people or near crowds. Teenagers must fly under the guardian’s guide. Beginners must fly under the guardian of experienced pilot.

Product Specifications
Length: 1120mm
Height: 350mm
Width: 176mm
Main Rotor Diameter: Ø1250mm
Main Blade Length: 550mm
Tail Rotor Diameter: Ø260mm
Tail Blade Length: 92mm
Motor Pinion: 21T
Motor KV: 1100KV
Driving Gear: (21/54)(17/56)
Gear Ratio: 21T(8.89:1)
Tail Gear Ratio: 3.86:1
Weight (w/o power): 2700g
Flying Weight: 3500g
Battery: 22.2V 5000mAh
ESC: 120A
Congratulations on your purchase of the Agile 5.5 radio controlled helicopter kit. Agile 5.5 was designed in Europe by Eng. Gaziano Roberto and is proudly manufactured by KDS Model. Our goal was to offer you something different with a minimum of parts, easy maintenance, and outstanding flying performances. It’s time to fly different...

Enjoy the built and have a great time with you Agile 5.5!

IMPORTANT NOTES
R/C helicopters, including the AGILE 5.5 are not toys. R/C helicopters utilize various high-tech products and technologies to provide superior performance. Improper use of this product can result in serious injury or even death. Please read this manual carefully before using and make sure to be conscious of your own personal safety and the safety of others and your environment when operating all AGILE products. Agile 5.5, KDS Model, their affiliates and authorized distributors are not responsible for personal injuries to the operators and others, and property damages that could occur from the assembly, maintenance or your use/misuse of this product. Always respect the rules provided by your local remote control aircraft organization.

NOTE FOR ASSEMBLY
The following manual provide important instructions to correctly assemble the model. It is structured in a logical way, based on the work done in previous step. If you change the order, it may result in additional or unnecessary steps. So we suggest you to read this user manual very carefully to understand correctly the assembly procedure. Failure to do so may not only downgrade performances but also increase the risk of danger. Apply thread lock as indicated, allow the threadlock to cure before mounting parts. It is recommended to use threadlock on each bolt or screw that are engaged with metal parts.

2. SAFETY NOTES

• LOCATE AN APPROPRIATE LOCATION
R/C helicopters fly at high speed, thus posing a certain degree of potential danger. Choose an appropriate flying site consisting of flat, smooth ground, a clear open field, or a large open room, such as gymnasium or warehouse without obstacles. Do not fly near buildings, high voltage cables, or trees to ensure the safety of yourself, others and your model. Do not play your model in inclement weather, such as rain, wind, snow or darkness.

• OBTAIN THE ASSISTANCE OF AN EXPERIENCED PILOT
Before turning on your model and transmitter, check to make sure no one else is operating on the same frequency. Frequency interference can cause your model, or other models to crash. The guidance provided by an experienced pilot will be invaluable for the assembly, tuning, trimming, and actual first flight(recommend you to practice with computer-based flight simulator).

• ALWAYS BE AWARE OF THE ROTATING BLADES
During the operation of the helicopter, the main rotor will be spinning at a high rate of speed. The blades are capable of inflicting serious bodily injury and damage the environment. Be conscious of your actions, and careful to keep your face, eyes, hands, and loose clothing away from the blades. Always fly the model a safe distance from yourself and others, as well as surrounding objects. Never take your eyes off the model or leave it unattended while it is turned on. Immediately turn off the model and transmitter when you have landed the model.
**PREVENT MOISTURE**
R/C models are composed of many precision electrical components. It is critical to keep the model and associated equipment away from moisture and other contaminants. The introduction or exposure to water or moisture in any form can cause the model to malfunction resulting in loss of use, or a crash. Do not operate or expose to rain or moisture.

**KEEP AWAY FROM HEAT**
R/C models are made up of various forms of plastic. Plastic is very susceptible to damage or deformation due to extreme heat and cold climate. Make sure not to store the model near any source of heat such as an oven, or heater. It is best to store the model indoors, in a climate-controlled, room temperature environment.

**PROPER OPERATION**
Please use the replacement of parts on the manual to ensure the safety of instructors. This product is for R/C model, so do not use for other purpose.

**SAFE OPERATION**
Operate this unit within your ability. Do not fly under tired condition or improper operation, which may cause danger.

### 3. Safety Check Before Flying

Before flying, for safety reasons, make sure that no one else is operating a R/C model on the same frequency as yours.

Before flying, please check that the power of your transmitter and your helicopter are sufficient for the flight.

Before turning on the transmitter, please check that the throttle stick is in its lowest position, IDLE UP switch must be on OFF position.

When turning off the model, please follow the power on/off procedure. Power ON: turn on the transmitter first, then turn on helicopter power. Power OFF: turn off the helicopter power first and then turn off the transmitter. Improper operating procedure may cause the model to be out of control, so please do make this your habit.

Before operation, check that every movement is smooth and directions are correct. Inspect servos carefully for interferences and broken gears.

Check for missing or loose screws and nuts. See if there is any cracked and/or incomplete assembly of parts.

Check main rotor blades and rotor holders carefully. Broken and premature failures of parts might result in a dangerous situation or crash.

Check all ball links to avoid excess play and replace as needed. Failure to do so will result in poor flight stability.

Check that the battery and power plugs are fastened. Vibrations and violent flight might loosen the plugs and so lead to out of control.

Check for the tension of main drive belt.

### 4. Tools Required

- Hex drivers: 1.5, 2, 2.5, 3, 4mm
- Nut Drivers: 2, 4, 7mm
- Ball link pliers
- Diagonal cutting pliers
- Scissors
- Metric ruler
- Soldering iron + solder (for motor and ESC wiring)
- Pitch gauge (for set up)
- Swashplate leveller
- Threadlock blue * (medium)
- Threadlock red * (high strength)
- Bearing retainer compound
- Epoxy A+B Glue
- Grease
- Oil

*Colors may vary depending on your area.
When you see the marks as below, please use glue or grease to ensure flying safety.

<table>
<thead>
<tr>
<th>Epoxy</th>
<th>Threadlock (medium)</th>
<th>Bearing retainer compound</th>
<th>Threadlock (High strength)</th>
<th>Oil</th>
</tr>
</thead>
</table>

“A” Glue width: approx. 2mm

“Oil” Lubrication grease. “A” thread lock, apply a small amount on screws or metal parts and wipe surplus off. When disassembling, recommend to heat the metal joint about 15 seconds. (NOTE: Keep plastic parts away from heat.)

5. Equipment Required for Assembly

**RADIO TRANSMITTER AND ELECTRONIC EQUIPMENT REQUIRED FOR ASSEMBLY**

- Brushless electric motor: 6s Lipo - 1100KV / 1700W
  (4mm Bolt holes, 30mm mount width, 6mm * 37mm motor shaft)
- Speed controller: minimum 120A
  (ESC specs limits should be rated accordingly to the maximum amps handling by the motor)
- Lipo Batteries: 6s 4000-5500 mAh
- Electronic flybarless system
- 3 cyclic servos, standard size
- 1 tail rotor servo, standard size, high speed required
- 590 mm main rotor blades
- 95 mm tail rotor blades (included)
- 6 channel or more helicopter transmitter system, 2.4 Ghz frequency preferred
- Receiver 6 channel or more (working with your transmitter specs)

6. Package Illustration

- Tail boom x1
- Drive shaft (torque tube) x1
- Tail boom brace x2
- Tail pitch linkage rod x2
- Skid pipe x2

- Colorful painting canopy x1
- Main blade holder x1
- Metal parts of main Rotor Head x1
- Metal parts of main frame x1
- Metal parts of Tail Unit x1

Screws bag

Electronic Accessories Boxes
7. Assembly Process of Main Frames and Power System

REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

4x Screw M3X16
4x Frame washer

**PARTS LIST**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>KA-72-066</td>
<td>Servo Clamp</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
<td>Tail Servo</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>KA-72-066</td>
<td>Servo Spacer</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>KA-55-033</td>
<td>Right Main Frame</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>KA-72-074</td>
<td>Frame Aluminum washer</td>
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<tr>
<td>6</td>
<td>4</td>
<td>KA-72-066</td>
<td>Screw M3X16</td>
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<tr>
<td>7</td>
<td>1</td>
<td>KA-55-066</td>
<td>Screw ball nut M2</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>KA-55-077</td>
<td>Rudder servo ball</td>
</tr>
</tbody>
</table>

17mm is recommended, but may vary according to your rudder servo arm brand and the mechanical tail traver provided by the tail gyro function of your FBL system.

Use this opening to get your rudder servo wire inside frame.
8. Assembly Process of Main Frames and Power System

REM: Apply Medium Thread lock or Equivalent to all screws, balls, and thread which are engaged with metal parts.

<table>
<thead>
<tr>
<th>PARTS LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITEM</td>
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<tr>
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<td>3</td>
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<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
</tbody>
</table>

4XScrew M3X16
4XFrame washer

20mm is recommended, length may vary according to your cyclic servo arm brand, and the mechanical cyclic/pitch traver provided by your FBL system settings.
### 9. Assembly Process of Main Frames and Power System

REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

#### PARTS LIST

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
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<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
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<td>KA-55-011</td>
<td>Main shaft bearing</td>
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<tr>
<td>2</td>
<td>1</td>
<td>KA-55-011</td>
<td>Bearing 6x10x19x3</td>
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<tr>
<td>3</td>
<td>1</td>
<td>KA-55-011</td>
<td>Bearing 6x9x20x6</td>
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#### 4 Flat head screw M2.5x6

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
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<tr>
<td>1</td>
<td>4</td>
<td>KA-55-077</td>
<td>Flat head screw M2.5x6</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>KA-55-035</td>
<td>ESC Frame</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>KA-55-060</td>
<td>Spacer</td>
</tr>
</tbody>
</table>

#### 2 Flat head screw M2.5x6

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>KA-55-077</td>
<td>Flat head screw M2.5x6</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>KA-55-035</td>
<td>Gyro mount</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>KA-55-060</td>
<td>Spacer</td>
</tr>
</tbody>
</table>

#### 4 Flat head screw M2.5x6

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>KA-55-077</td>
<td>Flat head screw M2.5x6</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>KA-55-037</td>
<td>Bottom board</td>
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<tr>
<td>3</td>
<td>2</td>
<td>KA-55-060</td>
<td>Spacer</td>
</tr>
</tbody>
</table>
10. Assembly Process of Main Frames and Power System

REM: Apply Medium Thread lock or Equivalent to all screws, balls, and thread which are engaged with metal parts.

Ensure that a flat surface exists on the motor shaft. Thus you could tighten the M4 motor pulley setscrew.

Line up the set screw motor pulley with the motor shaft flat surface.

The motor pulley must be aligned to the pulley by adjusting the height with the main gear of the first stage, so that the belt will stay perfectly horizontal, thus works as well as can be expected.

Shaft length Recommended 39 mm at Minimun

Shaft Diameter ∅ 6 mm

PARTS LIST

<table>
<thead>
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<th>DESCRIPTION</th>
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</thead>
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<tr>
<td>1</td>
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<td>BL4020-1100KV</td>
<td>Motor KV: 1100–1200</td>
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<tr>
<td>2</td>
<td>1</td>
<td>KA-72-018</td>
<td>Motor mount</td>
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<td>2</td>
<td>KA-55-011</td>
<td>Screw M4X8</td>
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<tr>
<td>4</td>
<td>2</td>
<td>KA-55-024</td>
<td>SET Screw M4X4</td>
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<tr>
<td>5</td>
<td>1</td>
<td>KA-55-024</td>
<td>Motor pulley Z-21</td>
</tr>
</tbody>
</table>
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

**PARTS LIST**

<table>
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<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
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<td>3</td>
<td>KA-72-068</td>
<td>Bearing 10X10X5</td>
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<tr>
<td>2</td>
<td>1</td>
<td>KA-55-010</td>
<td>Main shaft middle bearing mount</td>
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<td>3</td>
<td>2</td>
<td>KA-72-061</td>
<td>Screw M2X6</td>
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<tr>
<td>4</td>
<td>1</td>
<td>KA-55-033</td>
<td>Swashplate Anti-rotation bracket</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>KA-55-012</td>
<td>Screw M4X52</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>KA-55-009</td>
<td>Main shaft upper bearing block mount</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>KA-55-012</td>
<td>Main shaft bearing block pillar</td>
</tr>
</tbody>
</table>

3XScrew M4X52

2XScrew M2X6
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and thread which are engaged with metal parts.

REM: Before mounting servo arms, do not forget to set their neutral position. Check the manual of your flybarless system for more information.

---

**PARTS LIST**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
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<tr>
<td>1</td>
<td>8</td>
<td>KA-55-009</td>
<td>Screw M2.5X10</td>
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<td>4</td>
<td></td>
<td>Servo Plate</td>
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<tr>
<td>3</td>
<td>2</td>
<td>KA-55-064</td>
<td>Ball link M2</td>
</tr>
</tbody>
</table>

---

20mm is recommended, but may vary according to your rudder servo arm brand and the mechanical tail traver provided by the tail gyro function of your FBL system.
13. Assembly Process of Main Rotor Head

REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

2X Screw M3X14
2X Screw M3X6
Linkage Ball M3 KA-55-064
Main rotor branch control arm KA-55-004

Bearing φ8X16X5 KA-72-87
Screw M3X14 KA-55-004

Plastic main rotor holder KA-55-002
Washer φ12x15.8x0.5 KA-55-002

Screw M3X6 KA-55-004

Thrust bearing KA-55-080

Thrust Bearing Assembly
Put Some Bearing Grease here
Larger ID
Smaller ID

2X Screw M5X12
2X Screw M5X12

Feathering shaft KA-55-014

Washer φ3x5x0.5 KA-55-005

Washer φ6.5x13x2.0 KA-55-003

Damper rubber KA-55-003
Washer φ8x12x1.0 KA-55-003

Washer φ5x13x1.2 KA-55-014

Screw M5X12 KA-55-014

Screw M3X16 KA-55-005
14. Assembly Process of Main Frames and Power System

REM: Apply Medium Thread lock or Equivalent to all screws, balls, and thread which are engaged with metal-parts

5X Screw M3X8
5X Frame washer

1X Set Screw M3X12

2X Round head screw M3X6

REM: Bearings Facing UP

Front

Bearing 10X19X5

Bearing 9X20X8

PARTS LIST

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>KA-72-062</td>
<td>Canopy standoff mounting bolt</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>KA-72-062</td>
<td>Set Screw M3X12</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>KA-55-060</td>
<td>Round head screw M3X6</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>KA-55-060</td>
<td>Frame Brace</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>KA-72-046</td>
<td>Front drive shaft mount</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>KA-72-046</td>
<td>Bearing ø5X10X4</td>
</tr>
</tbody>
</table>
15. Assembly Process of Main Frames and Power System

REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

1X Nylstop nut M4

1X Screw M4X25

2X Screw M3X8
2X Frame washer

### PARTS LIST

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>KA-55-027</td>
<td>Nylstop nut M4</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>KA-55-027</td>
<td>Second reduction gear</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>KA-55-026</td>
<td>First reduction gear 54T</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>KA-55-027</td>
<td>Screw M4X25</td>
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<tr>
<td>5</td>
<td>1</td>
<td>KA-72-046</td>
<td>Set Screw M3X12</td>
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<tr>
<td>6</td>
<td>1</td>
<td>KA-72-046</td>
<td>Canopy Standoff</td>
</tr>
</tbody>
</table>

7X Screw M3X8
7X Frame washer

2X Round head screw M3X6

1X Set Screw M3X12
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

6X Screw M3X8
6X Frame washer

3M-213 Synchronous belt
KA-55-021

4X Screw M4X10
4X Frame washer
1. Push the motor in the opposite direction of the main shaft as far as you can (by hand).
2. Tighten slide screws #1
3. Tighten motor mount locking screws #2
4. Rotate the motor several times by hand. Ensure that belt is correctly aligned with the big pulley.
5. You can check the belt tension by hand, you just have to push the belt with one of your finger through the round opening on frame #3. It should be difficult to push the motor belt.
18. Assembly Process of Main Frames and Power System

REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

**Parts List**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>KA-55-013</td>
<td>Main shaft</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>KA-55-016</td>
<td>Lock collar</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>KA-55-016</td>
<td>Set Screw M5X5</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>KA-55-019</td>
<td>Screw M4X20</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>KA-55-076</td>
<td>Washer 9.2x13, 8x0.5</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>KA-55-019</td>
<td>Nylstop nut M4</td>
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<td>7</td>
<td>4</td>
<td>KA-55-044</td>
<td>Round head screw M3X6</td>
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<td>4</td>
<td>KA-72-074</td>
<td>Landing skid</td>
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<td>9</td>
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<td>KA-72-066</td>
<td>Screw M3X10</td>
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<td>10</td>
<td>4</td>
<td>KA-55-066</td>
<td>Set Screw M3X3</td>
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<td>11</td>
<td>2</td>
<td>KA-55-043</td>
<td>Skid pipe</td>
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</table>

**Additional Notes**

- Tail boom broce mount must fixing in the Heat shrinkable tube.

4X Round head screw M3X6

6X Flat head screw M3X10

4X Set Screw M3X3
19. Assembly Process of Main Frames and Power System

REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threaded which are engaged with metal parts.

- 2X Rod Linkage Cyclic (38mm)
- 1X Rod Linkage Cyclic (56mm)
- 6X Plastic Ball Linkage

- 1X Cyclic Servo Rod
- 1X Pitch Servo Rod

- 1X Elevator Servo Rod

- Right Thread
- Left Thread

- 4X Ball linkage
- 2X Ball linkage
- 1X Ball linkage Guide

- Pitch Servo
- Elevator Servo
- Aileron Servo
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

2X Set Screw M4x4
1X Cylindrical Pin 3X12mm
2X Bearing ø6X13X5

2X Set Screw M4x4
1X Cylindrical Pin 3X12mm
2X Bearing ø8X16X5
2X Bearing ø5X14X5

4X Round head screw M2x4
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

1XCollar φ7X8X2.6
2XBearing φ7X13X3
4XClip φ1.5
2XGrooved Shaft φ2X9mm

Bronze slider KA-55-053
Outer Ring Slider KA-55-053
Spring Clip KA-55-053

Bearings φ7X13X3 KA-55-053
Colar KA-55-053
T-ARM KA-55-053
Control linkage Arm KA-55-053

Grove shaft KA-55-053

Tail Rotor Hub KA-55-055
Linkage Ball KA-55-055
Tail Rotor Holder KA-55-053

Locknut M3 KA-55-055
Washer 3X8X0.6 KA-55-055
Blade Spacer KA-55-055

Bearing φ7X13X3 KA-55-053
Socket head Screw M3X20 KA-55-053

Washer 7X9.8X0.5 KA-55-055
Thrust bearing KA-55-055
Locknut M3 KA-55-055
CF Tail blade

Thrust Bearing Assy

Rem: Apply Grease on Thrust Bearing

Smaller ID
Larger ID
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and thread which are engaged with metal parts.

2X Round head screw M2.5X6
2X Round head screw M2X6
1X Linkage Ball (M2)
1X Nut M2

Tail rocker arm mount KA-55-054
Tail rocker arm KA-55-054

Bearing φ2.5X6X2.6 KA-55-054

Round Head Socket Screw M2.5X6 KA-55-054
Linkage Ball KA-72-072
Tail control arm KA-72-072

Round Head Socket Screw M2X6 KA-72-072

4X Round head screw M2.5X6
2X Washer φ2.6X5X0.5
1X Set Screw M4X4

Washer 2.6X5X0.5 KA-55-055

Round Head Socket Screw M2.5X6 KA-55-054
Set Screw M4X4 KA-75-55
24. Torque Tube Bearing Guide Assy 1

REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal-parts

2XBearing φ8X14X4

2XCylindrical Pin 3X12mm

Torque tube Assy

No Need to glue bearings on the torque tube!
Step1-Slightly scratch with sandpaper both ends of the torque tube on about 8mm long
Step2-Slide the 3 bearing guides assy
Step3-Clean with Alcohol the tube and the internal surface of the coupling
Step4-Apply some glue inside the coupling. Use ONLY two components epoxy(A+B)
Step5-Secure the coupling with the lock pin

Rem:
Wait 24H at least before flying to be sure that Epoxy is Completely dry

Rem:
Use Oil to lubricate the rubber before to insert them into the carbon tail boom

Keep the Cut at the front side
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

1X Flat head screw M3X8
1X Lock Nut M2
1X Flat head screw M2X10

Tail boom brace mount
Screw M3X8
KA-55-069
Hex socket cap screw
Screw M2X10
KA-55-071
Lock Nut M2
KA-55-071

Screw M3X14
KA-55-047
Tail boom mount
KA-55-040

Screw M3X12
KA-55-068
Screw M3X8
KA-55-068
Screw M3X6
KA-55-068

Heat-shrinkable tube
KA-55-069
Vertical stabilizer mount
KA-55-068

CF Vertical stabilizer
KA-55-041

2X Flat head screw M3X14
2X Flat head screw M3X8
1X Screw M3X6
1X Frame washer
1X Screw M3X12
1X Frame washer
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and thread which are engaged with metal parts.

- 6x Locknut M3
- 2x Canopy Standoff
- 8x Shoulder washer
- 4x Long threaded shaft M3x72
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

2X Flat head screw M3X14
2X Flat head screw M3X8
2X Frame washer

Flat head screw M3X14

Tail linkage rod KA-55-058
Push link connecting set KA-55-058
Ball link KA-55-058

The best solution to mount tail boom brace correctly is to apply some epoxy as shown. Then, screw them on position of Agile main frames and tail boom clamp. Insert set screws to secure. And let epoxy drying for at least 24H.
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and thread which are engaged with metal parts.
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal parts.

1) Check the servo direction, according to your flybarless module.
2) Make sure your helicopter is well balanced in terms of center of gravity passing through the main shaft.

**Calculation for your total ratio:**

Pigeon Z=20  
\[(54/20) \times (56/17) = 8.89\]

Pigeon Z=21  
\[(54/21) \times (56/17) = 8.46\]
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal-parts.
32. Assembly Process of Main Frame and Power System

REM: Apply Medium Thread lock or Equivalent to all screws, bolts, and threads which are engaged with metal-parts.
REM: Apply Medium Thread lock or Equivalent to all screws, balls, and threads which are engaged with metal-parts.
36. PARTS LIST 2

- Front spiral bevel gear 1ST
  KA-55-029
- Front drive spiral bevel gear 1ST
  KA-55-030
- Back-end drive spiral bevel gear (metal rear gear) 1ST
  KA-55-031
- Tail shaft spiral bevel gear (umbrella gear) 1ST
  KA-55-032

- GT right side plate (lyf side main frame)
  KA-55-033
- GT left side plate (lyf side main frame)
  KA-55-034
- GT front electronic board
  KA-55-035
- GT front internal plate
  KA-55-036

- GT bottom plate
  KA-55-037
- GT ruddr-end electronic board
  KA-55-038

- Tail boom mount
  KA-55-040
- GT vertical stabilizer
  KA-55-041

- Tail boom double-headed screw
  KA-72-042
- Aluminum landing gear pipe
  KA-55-043
- Landing gear
  KA-55-044

- 4 x Landing gear
  4 x Socket head screw M3X30
  4 x Roundhead socket head screw M3X6
  2 x Socket head screw M3X14
  4 x Set screws M3X3

- 2 x Tail boom mount
- 2 x Landing gear mount
  6 x Cup head socket head screw M6x8mm
  6 x Cup head socket head screw M6x14mm

- Front drive shaft mount
  KA-72-046
- Middle drive shaft mount
  KA-55-047
- Drive shaft (torque pipe)
  KA-55-048
- Drive shaft damping
  KA-55-049

- 4 x Cup head socket head screw M5x18mm
  2 x Plane bearing (ball diam. 15x25x5mm)
  1 x Gear bearing mount

- 1 x drive shaft mount
  2 x Bearing (10x19x5mm)
  2 x Socket head screw M3x16

- 1 x drive shaft (socket pipe)
  2 x Tail-drive bearing mount
  2 x Tail-drive shaft pin (9x32x2mm)

- 2 x Sleeve bearing 10x10x4mm
  2 x Pullyer ring
  2 x Tail drive bearing mount

- Back-end universal joint drive shaft
  KA-55-030
- Front universal joint drive shaft
  KA-55-031
- Tail gear box
  KA-55-032
- Tail pitch slider
  KA-55-033

- 1 x Back-end universal joint drive shaft
  1 x Joint 10x12x2mm

- 1 x Tail drive shaft bush 10x12x2mm
- 1 x Front universal joint for tail drive shaft

- 1 x Tail gear
  1 x pin M3X12

- 2 x Sleeve bearing 10x10x4mm
  2 x Bearing 15x18x5mm
  6 x Round head socket head screw M3X16
  2 x Socket head screw M3X16

Page 32

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38. PARTS LIST 4

Thrust bearings
KA-55-079
2 x Thrust bearings F5-10M

Flange bearings
KA-72-082
2 x Flange bearings Ø7x11x3.0mm

Surface bearings
KA-72-085
2 x Surface bearings Ø5x10x4mm

Surface bearings
KA-72-086
2 x Surface bearings Ø5x10x4mm

Surface bearings
KA-72-087
2 x Surface bearings Ø8x10x5mm

Surface bearings
KA-72-088
2 x Surface bearings Ø10x13x5mm

Surface bearings
KA-55-089
2 x Surface bearings Ø10x16x2.5mm

Brushless motor
BE4020-1100KV
1 x Brushless motor

CF Tail blade
KA-55-094
2 x CF Tail blade

CF Main blade
1133-10
2 x CF Main blade

AGILE competition grade
1133-10

1 x AGILE 5000MAH 65-50C
Regular maintenance is required to keep the KDS AGILE 5.5 helicopter in optimal and safe flying condition. The model requires precise configuration of the components and settings to be kept by the owner. Maintain regular maintenance on the model to avoid accidents or loss, and optimum performance.

MAIN ROTOR CHECKLIST
1. Main Rotor Housing: when the main rotor housing is worn or faulty, there will be obvious vibration and poor flight control. Check the main rotor, main shaft, and feathering shaft for wear or deformity. Replace parts as necessary to eliminate imbalance.
2. O-Rings: The O-Rings will lose their elasticity over time. This will cause excess play on rotor and cause instability. Replace them as needed.
3. Main Rotor Holder: When the helicopter does not fly or reacts sluggishly, even after checking for proper setting of pitch and throttle, check the following items: Plastic parts, Bearings, Ball bearings, Rotor Blades. Check for excess play or broken parts, or binding or restricted movement. It is important to check for main rotor balance before each flight. Operating the model when out of balance will cause excessive wear and premature failure of parts, possibly resulting in a dangerous situation.
4. Control Arm Assembly: Check regularly for cracked, worn, bent or binding control arms and pushrods. Smooth movement of control arms and linkages is required for stable, vibration free flight.
5. Swashplate: Check for excess slop in the main ball where the main shaft rides on, and slop or looseness between the plastic and metal surfaces. Swashplate wear will result in poor stability and lack of control during flight. Replace them as necessary.

FUSELAGE/CHASSIS
1. Main Shaft Bearing: Normal replacement interval for proper operation is between 60-100 flights. If flying 3D or extreme aerobatics often, inspect the bearing more frequently and shorten the interval as necessary.
2. One-way Bearing: One-way bearings have longer lifetimes. Failure is not common. To keep the one-way bearing in good operation, remove it to clean and lubricate after every 50 flights. If the main drive gear is loose, you should replace the one-way bearing.
3. Drive Belt: Agile and KDS uses only top quality, stretch-proof belts. It is however, impossible to prevent the belt from stretching or wearing out. Check belt tension regularly, and check for the wear on the teeth. Replace it as necessary.

LINKAGE RODS & CONNECTING PARTS
During assembly, take special care to keep the connecting parts in smooth operation, and avoid excess play or binding. Failure to do so will result in poor flight stability. The linkage rods and ends will break and wear due to normal usage, crashing, and poor maintenance and environment. Check for wear and proper operation regularly, replace them as needed.

TAIL ROTOR SYSTEM
1. Tail Rotor Control Set: Check the tail rotor bearing regularly. If there is excess play or gaps, replace it immediately. Avoid any binding or improper contact on the tail components and bearings as this will cause excess wear and heat, potentially melting or deforming the tail system.
2. Tail Unit Assembly: Avoid flying in tall grass or weeds. If grass or weed becomes lodged in the tail rotor unit, it will interfere with the operation, and cause the helicopter to lose control. Always check for foreign objects in the tail and clean them off immediately. Avoid using lubricants on the exposed surfaces of the model as it will attract and collect dirt and debris, and cause failure.
3. Tail Rotor Housing: Disassemble tail rotor housing for cleaning and maintenance after every 50 flights. If the tail does not operate smoothly or shows any signs of stress or wear, please replace immediately.
4. Tail Rotor: Check the tail rotor blades regularly for damage, especially if the helicopter ever strikes the ground while flying, or after hard landings. Damaged tail rotor blades can induce vibration.
... it's time to fly different!!!