

# INFUSION 700N Pro

\*\*\*\*\* Instruction Manual



*Nigel Brown*  
DESIGNED BY  
NIGEL BROWN



## ENDLESS PURSUIT OF PERFECTION

Welcome to the TSA family and congratulations on your new purchase. Please read this instruction manual carefully to ensure you understand every step of the build process. Most of all happy building and we look forward to seeing you around the world at many events.

## Contents

- ★ 1~2. Introduction
- ★ 3. Safety instructions prior to assembly
- ★ 4~5. Tools required for assembly
- ★ 6~31. Parts assembly
- ★ 32. Blade tracking adjustment
- ★ 33~34. Operation mode
- ★ 35. Flying notes
- ★ 36~42. Parts package list



\*\*\*\*\* **INFUSION 7000**  
*Pro*



## While in flight

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- 1: Beginners should obtain safety and technical guidance from an experienced individual, since learning alone to operate this machine is potentially dangerous.
- 2: Choose a safe flying area that is free of obstruction and people.
- 3: Do not fly in a potentially dangerous environment.
- 4: Do not operate while standing on tilted ground to avoid loss of balance.
- 5: Do not insert hands and objects in rotating parts.
- 6: Keep a safe distance from the unit and be sure to operate the unit within the limits of your ability. Failure to operate this unit properly may result in serious harm such as physical injury, damages to property, and even death.
- 7: Enjoy flying while observing safety rules and regulations. Fatigue brought upon by continuous operation may result in impaired judgment that may lead to accidents.
- 8: Inquiries regarding repairs and services should only be made to TSA authorized dealers or TSA technical support department. Individual lacking proper training or knowledge necessary for repair may not only impair the unit's performance, but also increases the risk of accidents or injury. The engine must be turned off before performing any repairs or adjustments. Repair damaged parts before storage using only TSA manufactured parts. When storing or transporting the units, secure the unit carefully to avoid fuel loss, damage, or injury.



## Fuel for engine

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- 1: Only use glow fuel for glow model engines.  
Glow fuel is highly flammable and should be handled with care.
- 2: Before refueling, the engine should be turned off.
- 3: Do not refuel near a naked flame. Do not smoke while refueling. Avoid spillage and be sure to always completely wipe down any spilled fuel. Since fuel vapor and exhausted gas from the unit's operation are hazardous to health, this product is only intended to be used in an outdoor environment.
- 4: The fuel is hazardous. Do not consume and avoid getting fuel in the eyes. If an accident or swallowed occurs, obtain professional medical advice/treatment immediately.
- 5: Fasten the cap on the fuel bottle tightly and store in a cool shaded place. Keep the fuel out of reach of children. The ideal storage temperature should be around 10°C.



## Pre-flight inspection

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- 1: Check that tools used for assembly and maintenance has been put away.
- 2: Check that there are no loose screws and parts.
- 3: Check that the rotor blades are not damaged or cracked, especially in the vicinity of the blade holder.
- 4: Check the condition of the glow plugs and fuel, old glow plugs and fuel may not only cause difficulties to start the engine, but also the possibility of stalling and crashing in mid-flight.
- 5: Check that electronic equipment and servos operates smoothly.
- 6: Check that the position of the transmitter's throttle stick and engine carburetor are at their low position.
- 7: Check that the receiver receives signals properly.
- 8: Check and ensure that all necessary parts are sufficiently lubricated.
- 9: Check radio is assigned to the correct mode.



## In-flight safety inspection

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- 1: When starting the engine, be sure to hold the rotor head firmly so the rotor head does not rotate.
- 2: Since the engine and muffler is heated from the operation and remains extremely hot immediately after startup or shutdown, take extra precaution to prevent burns.
- 3: When taking off, the unit should be positioned at least 10 meters away from the operator. Be sure to check for people and dangerous object in the surrounding area before takeoff.
- 4: Adjust the blade tracking right before takeoff.
- 5: Land the unit immediately if abnormal noise or vibration is observed. Then stop the engine and perform complete check for cause of problem.
- 6: Be responsible when operating this unit, as reckless or improper behavior may cause accidents or injury to self or others. Observe all safety rules and regulation while enjoy operating this unit safely and responsibly.



## After-flight safety inspection

- 1: Immediately inspect parts after every flight. Be sure to replace, retighten any missing or loose screws and replace any damaged parts.
- 2: Wipe down grease, oil, dirt and dust with a clean cloth.
- 3: If the unit is to be stored out of operation for a long period of time, completely drain remaining fuel from the fuel tank and carburetor.
- 4: Store the unit in an area free of direct sunlight, or other areas that may result in rise in temperature (e.g., car). Instead, store in a shaded and ventilated area, and keep out of reach of children.




## Warning

- 1: To reduce the risk of accidents and injuries, do not use parts other than those found in this manual or TSA catalog. TSA will not be responsible for problems caused by using non-genuine TSA parts.
- 2: If the rotor blades should strike the ground during flight, there may be tiny cracks or loosening in various places even though damages may not be clearly visible to naked eyes. If damage to the rotor blade is not fixed before flight, cracks and loosening may increase during flight that would lead to severe consequences. The rotor head may disassemble from the blade holder, which spins at a speed of 1200/2000 rpm, and may fly off from the blade holder. If in doubt regarding the condition of any part, replace the part immediately using only genuine TSA parts.
- 3: TSA will not be held responsible for damages or crash as a result from any loose screws and/or improper maintenance.
- 4: Radio wave transmitting distance is approximately one kilometer or more, therefore operator must check no other operators in the surrounding vicinity are using the same radio frequency.
- 5: This remote control model is not a toy, rather a precise machine. Proper assembly and adjustments must be made in order to avoid the risk of injuries or accidents. Operator should operate this unit safely and properly. Failure to operate this unit properly may result in serious harm such as physical injury, damages to properties, and even death. The operator is responsible for all damages, because TSA cannot control how the unit was assembled and used.
- 6: Recommended 14+ years .



Caution

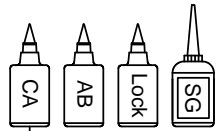
Please abide by regulations in your county while enjoying the pleasure brought to you by the  700N series.





## Preassembly precautions

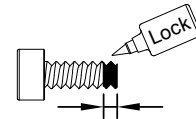
1. Before assembly, read the instruction manual thoroughly and familiarize yourself with the unit's structure and assembly procedures. Failure to assemble the unit properly may not only impair performance but also increases the risk of danger.
2. Before assembly, check description and quantity of parts. In the event of missing or defective items, contact retailer of original purchase where authorized distributor or TSA support department can be located.



Self-furnished

CA=Cynoacrylate adhesive  
 AB=5 minute epoxy / A=3 : B=1  
 Lock=Thread lock  
 SG=Silicone grease

Diagram for applying thread lock



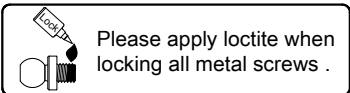
Glue width :1.5mm

3. Apply lubricant and retainers on locations as indicated .
4. In the instruction manual, refer to the left hand column to check the type and quantity of parts.

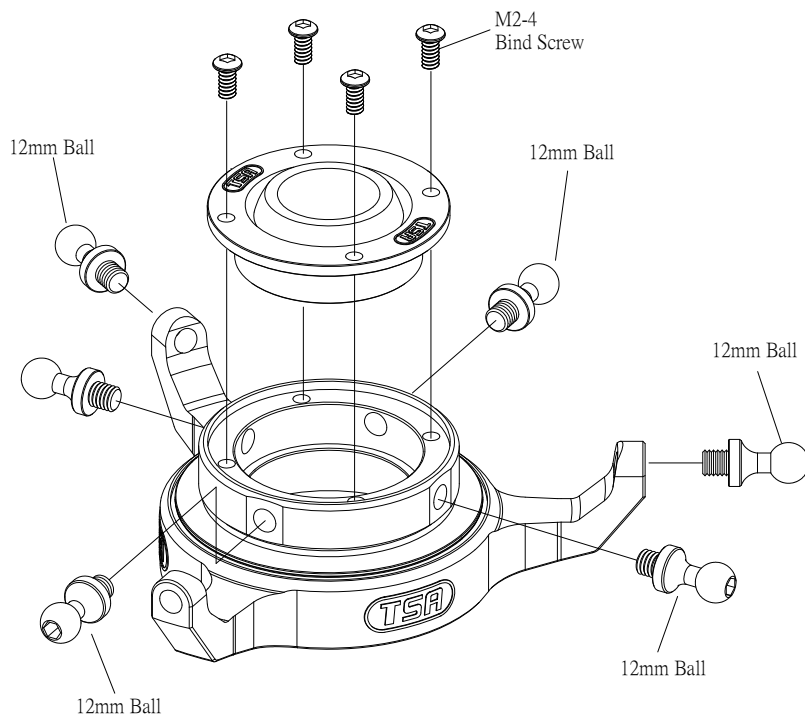
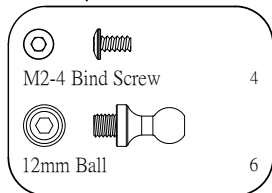
### Swashplate Assembly

T-016-04

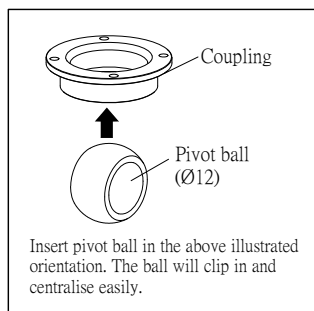
Parts order number



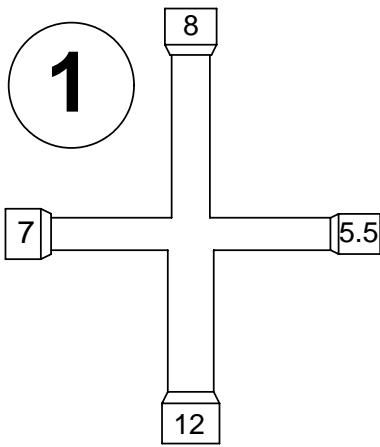
Part name and quantity in this diagram is to 1:1 ratio



#### Assembly Tip



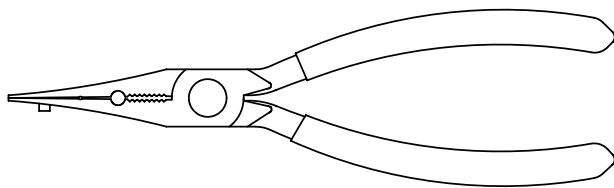
# TOOLS REQUIRED FOR ASSEMBLY



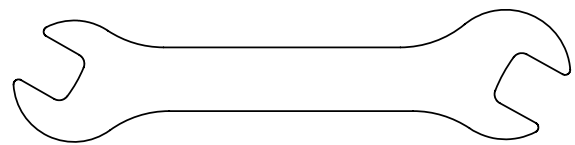
Cross wrench  
(5.5~12)



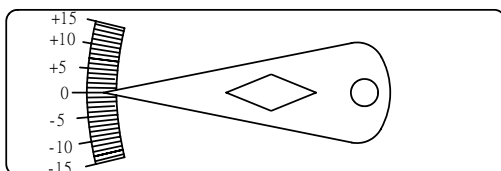
Metric ruler  
(Over 30cm)



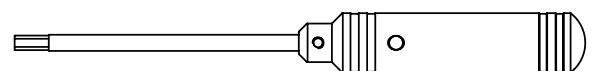
Universal ball link plier



Spanner  
(6mm/8mm/12mm/21mm)



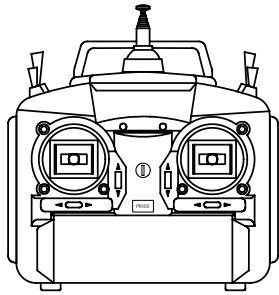
Pitch gauge



(Allen head) Screw drivers  
(1.5mm/2mm/2.5mm/3mm/3.5mm/  
4mm/5mm)

# EQUIPMENT REQUIRED FOR OPERATION

**1**

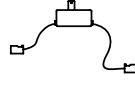


Transmitter(7 channels)

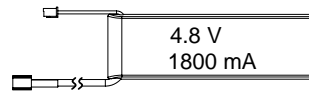
Receiver



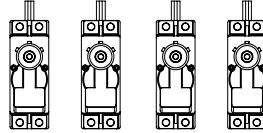
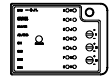
On/off switch



Receiver battery



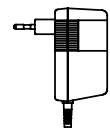
3 Axis gyro system



Servos



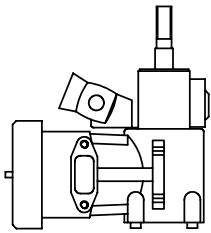
Rudder servo



Charger

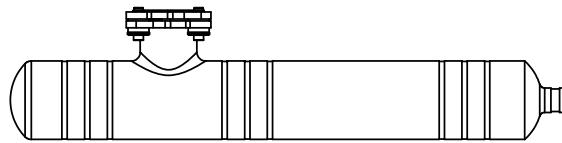
**2**

90 size helicopter engine



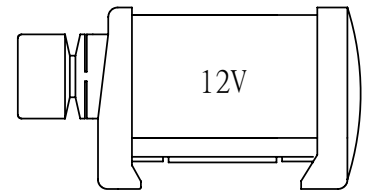
**3**

90 size helicopter muffler



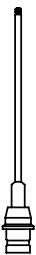
**4**

Starter



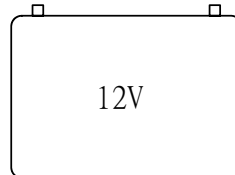
**5**

Starter shaft



**6**

12V Battery



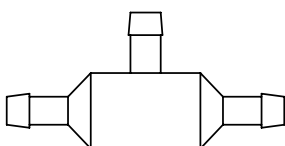
**7**

Remote glow plug adapter



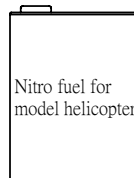
**8**

Fuel filter



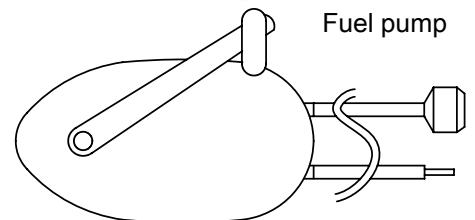
**9**

Nitro fuel for model helicopter (10~30%)



**10**


Fuel pump

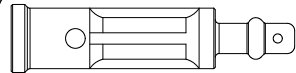


# 1

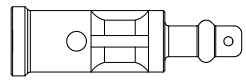
## Main Frame Assembly-1

T-001-13 T-007-03  
T-003-00  
T-005-00

 Please apply loctite when locking all metal screws .



37.5mm Canopy rear support 1



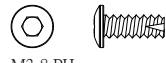
30.5mm Canopy front support 1



M2-6 Bind Screw 2



M3-6 Bind screw 4



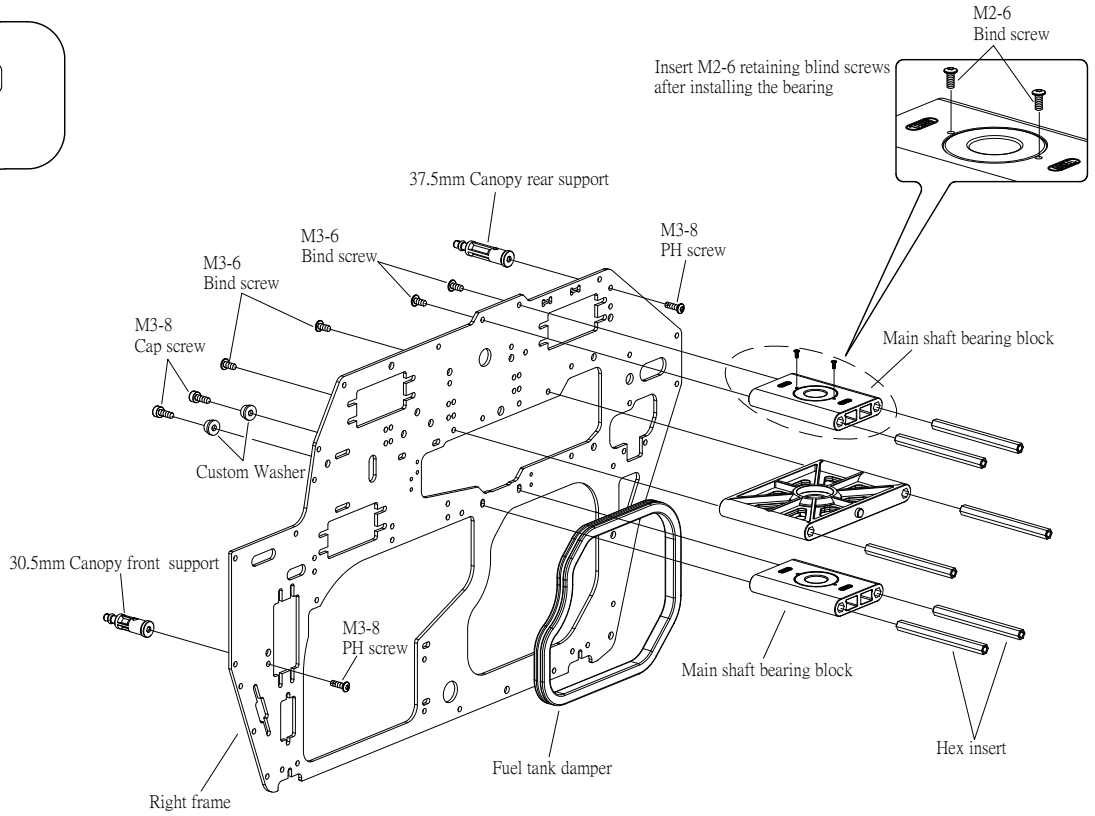
M3-8 PH screw 2



M3-8 Cap screw 2




Custom Washer 2

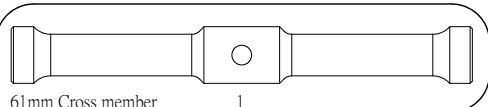


# 2

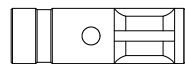
## Main Frame Assembly-2

T-001-13 T-009-00  
T-002-03 T-022-00  
T-005-00 T-031-00

 Please apply loctite when locking all metal screws .



61mm Cross member 1



23mm Servo support 2



Ø5xØ10x4 Flange Brg 1



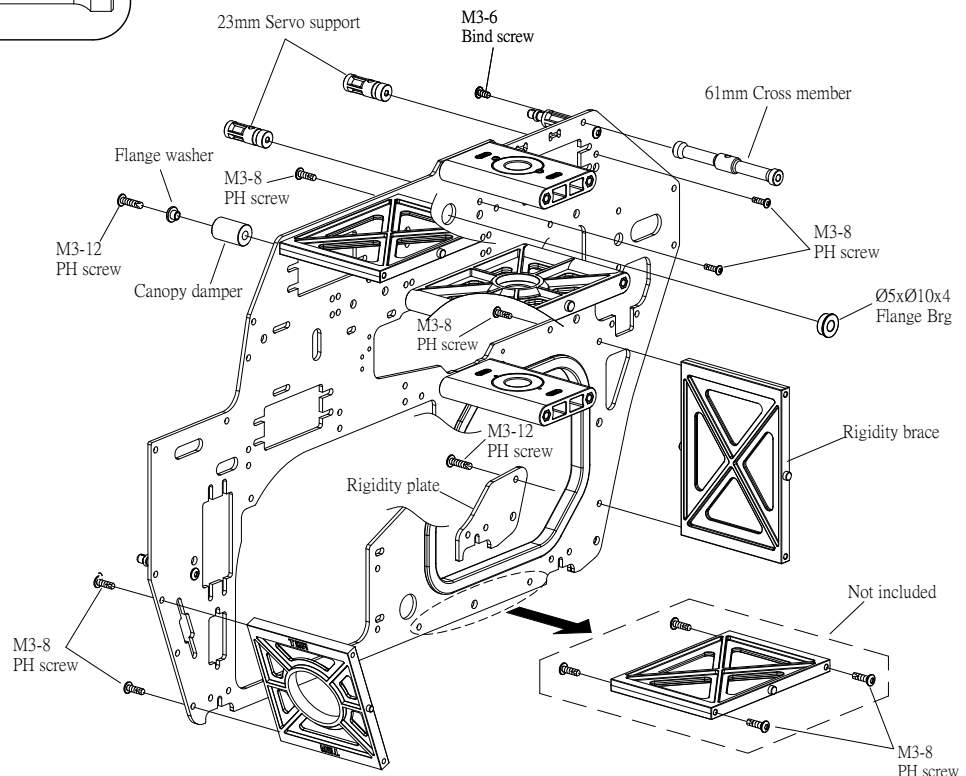
M3-6 Bind screw 1



M3-8 PH screw 6



M3-12 PH screw 2



# 3


## Main Frame Assembly-3

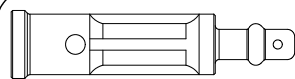
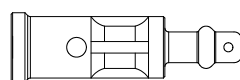
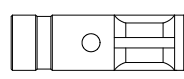


T-001-12

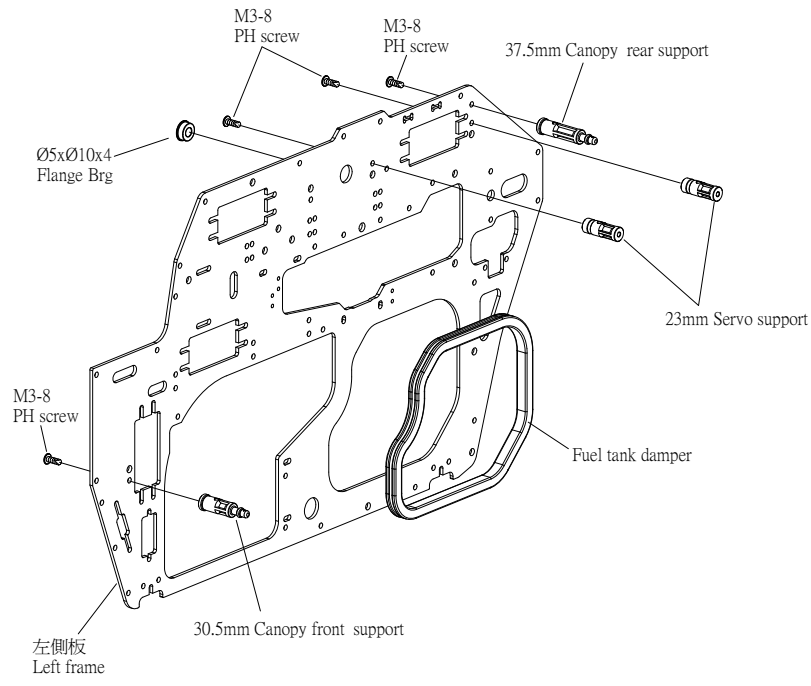
T-022-00

T-003-00

T-005-00

 Please apply loctite when locking all metal screws .

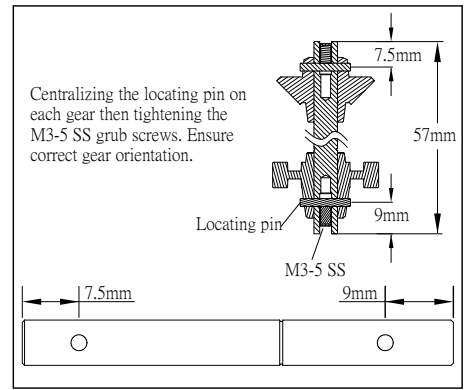
-  37.5mm Canopy rear support 1
-  30.5mm Canopy front support 1
-  23mm Servo support 2
-  M3-8 PH screw 4
-  Ø5xØ10x4 Flange Brg 1



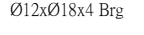
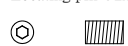




# 4

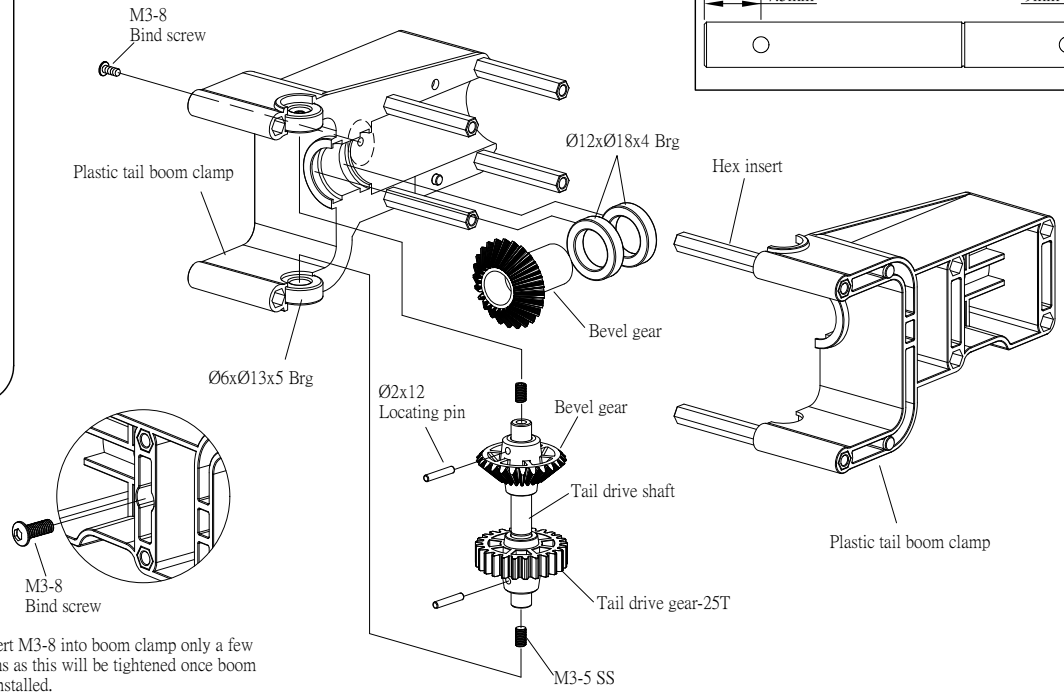
## Tail Drive Gear Assembly

T-019-00



-  Ø6xØ13x5 Brg 2
-  Ø12xØ18x4 Brg 2
-  Locating pin Ø2x12 2
-  M3-5 SS 2
-  M3-8 Bind screw 1

 Please apply loctite when locking all metal screws .





Insert M3-8 into boom clamp only a few turns as this will be tightened once boom is installed.

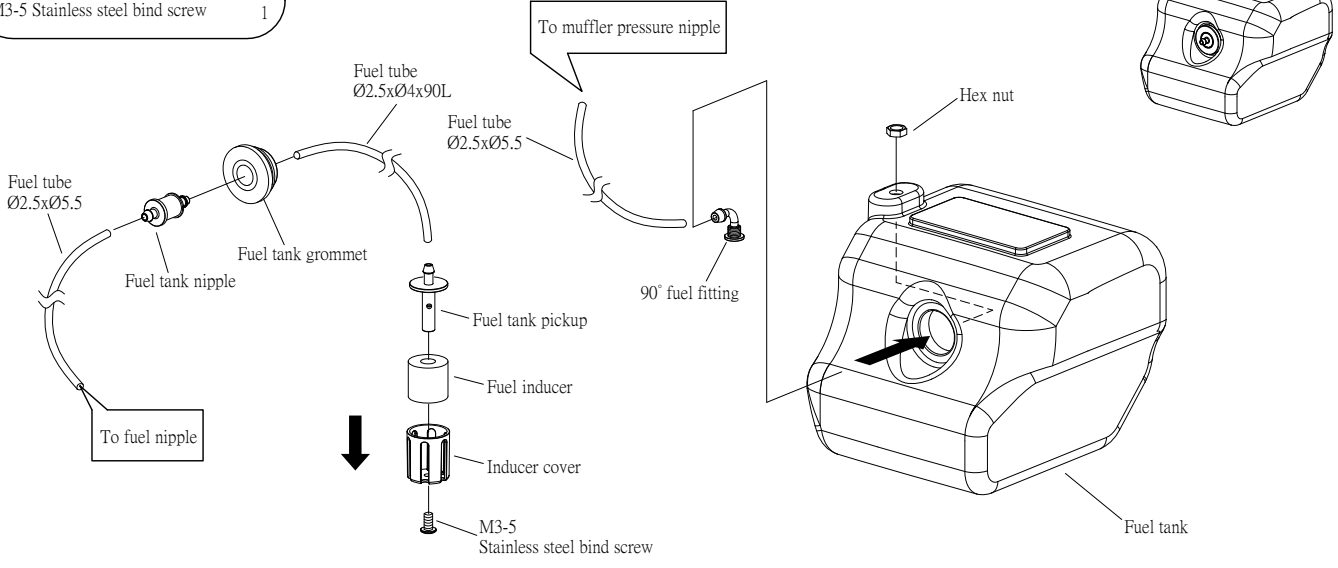
# 5

## Fuel Tank Assembly

T-003-00

 Please apply loctite when locking all metal screws .

-  M3-5 Stainless steel bind screw 1




# 6






## Main Frame Assembly-4

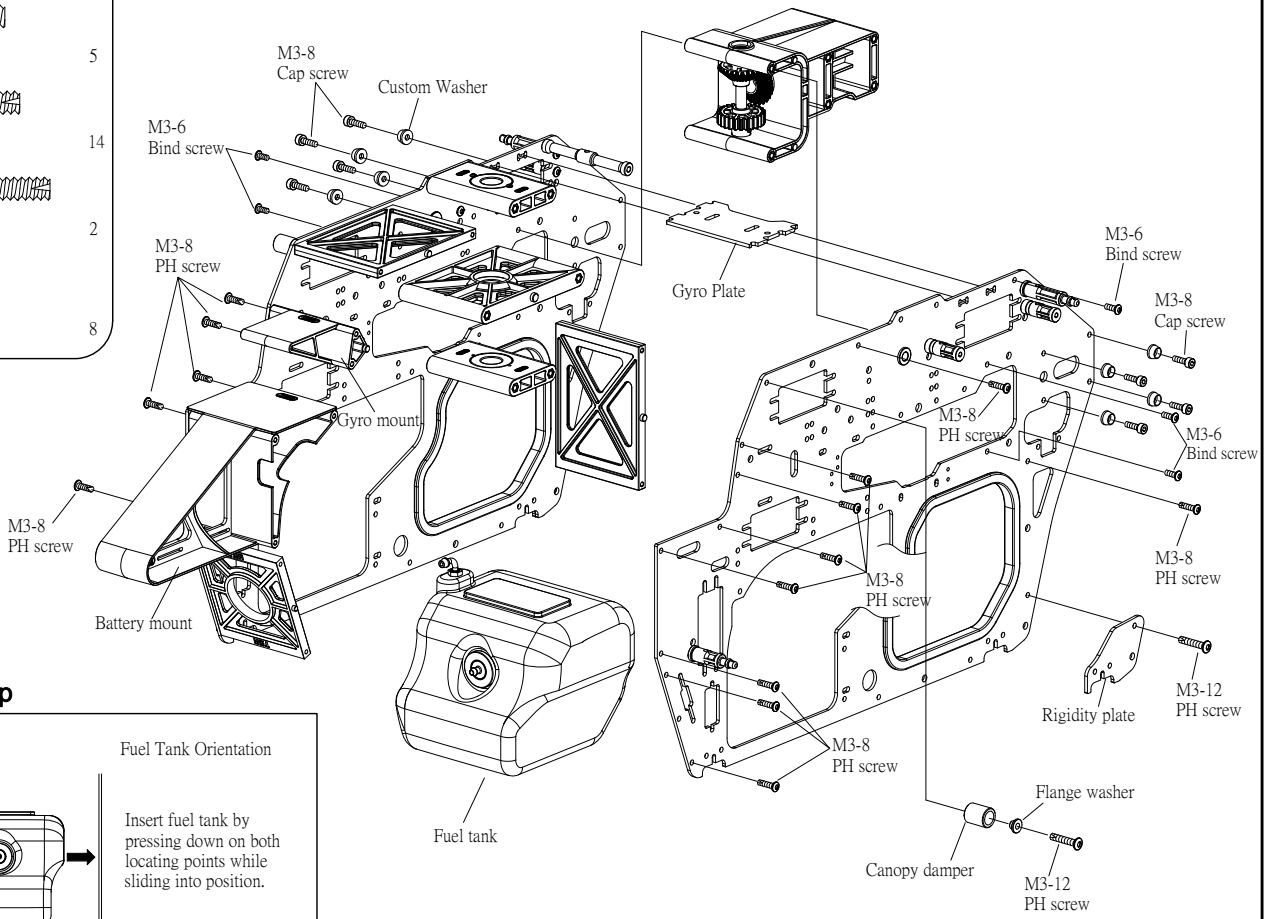
T-002-03 T-009-00

T-004-00 T-019-00

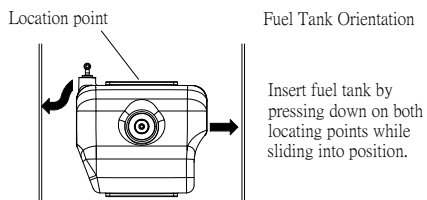
T-005-00 T-031-00

 Please apply loctite when locking all metal screws .

-  M3-8 Cap screw 8
-  M3-6 Bind screw 5
-  M3-8 PH screw 14
-  M3-12 PH screw 2
-  Custom washer 8



### Assembly Tip



# 7

## Main Frame Assembly-5


T-002-03



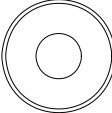



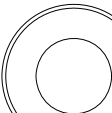







T-010-02

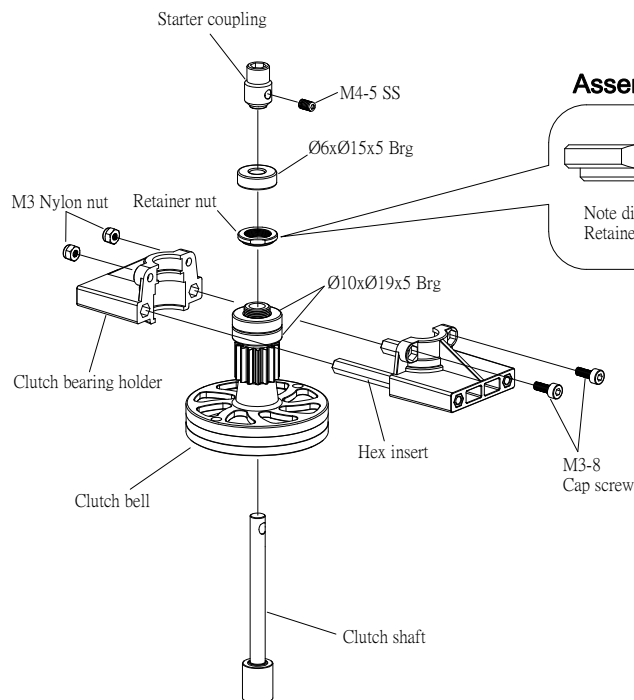
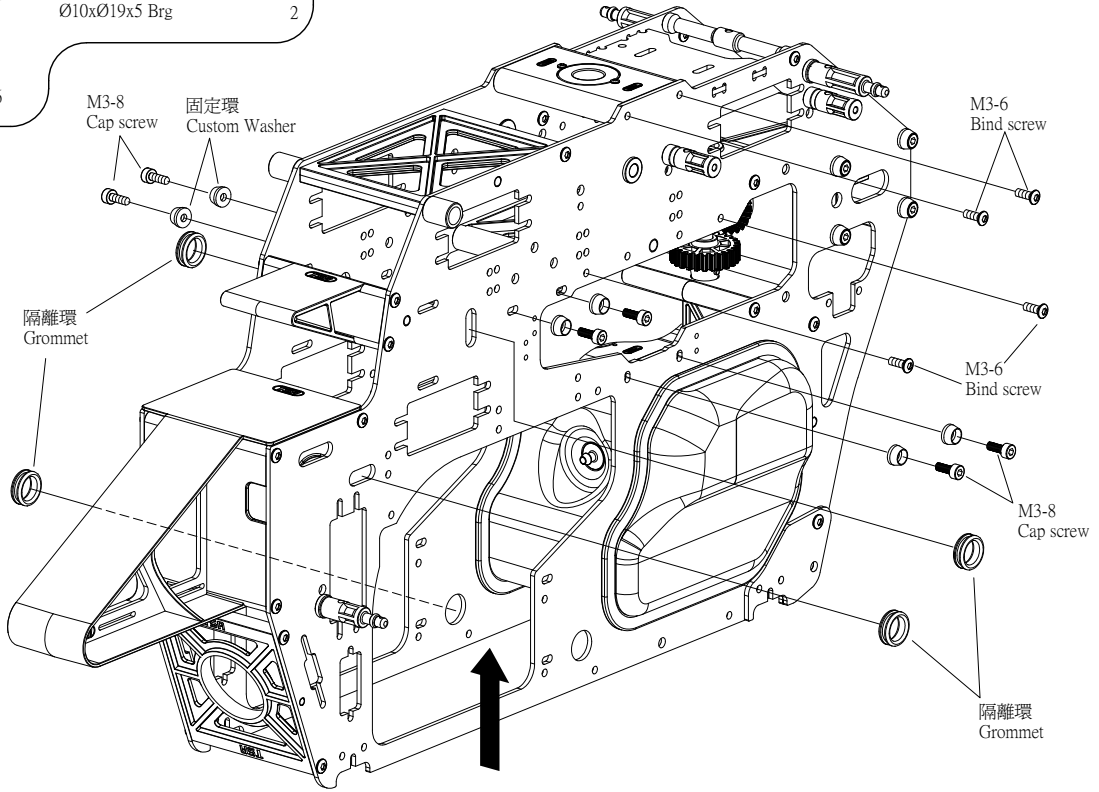
T-006-00

T-016-04

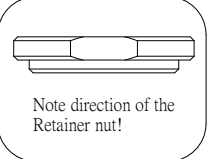
T-007-03

 Please apply loctite when locking all metal screws .

		1			1
		4			2
		8			
		2			
		6			



### Assembly Tip










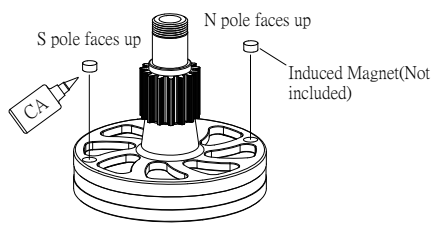
# 8

## RPM Sensor Assembly

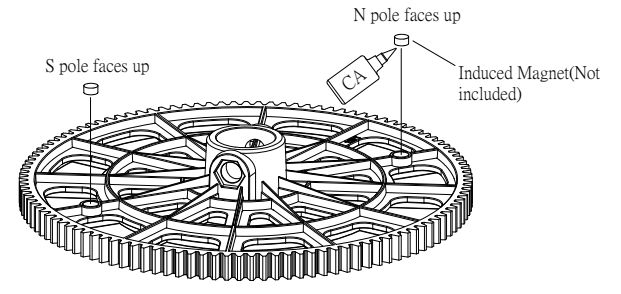
Two means of induced magnet RPM Sensor assembly are provided!

 Please apply loctite when locking all metal screws .

-  2
-  2
-  2
-  6



Suitable for both TSA and Futaba RPM Sensor assembly.



Only for TSA RPM Sensor assembly.

TSA RPM Sensor assembly means 1: ( only for right main frame assembly )

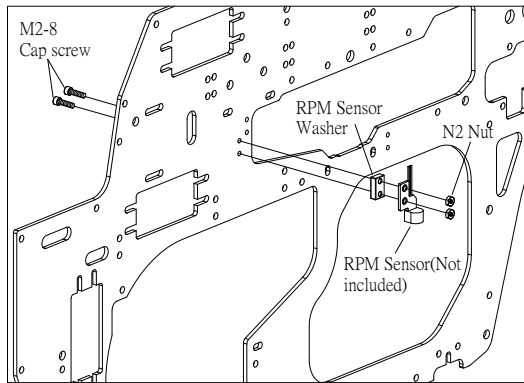
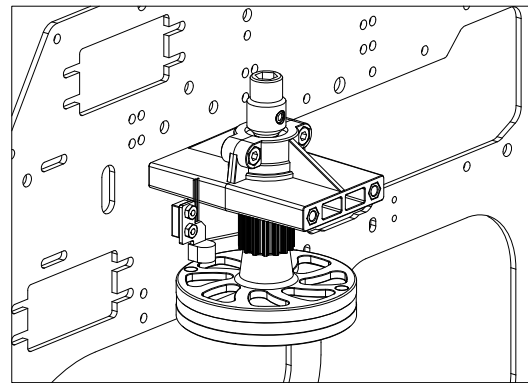


Diagram :



TSA RPM Sensor assembly means 2: ( only for left main frame assembly )

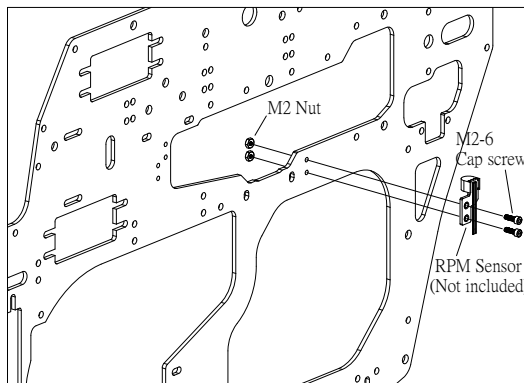
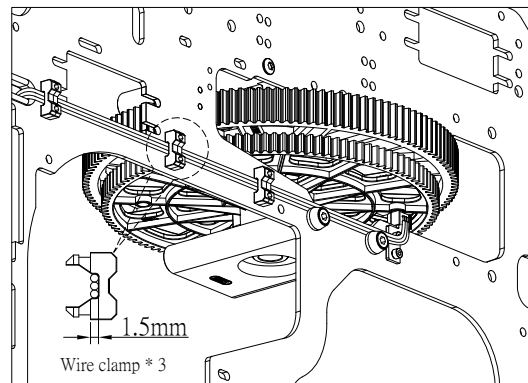


Diagram :



Futaba RPM Sensor assembly means : ( for both right and left main frame assembly )

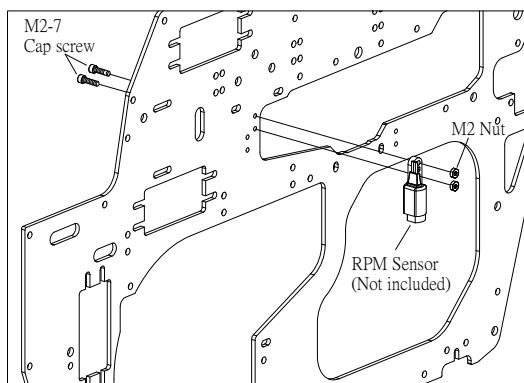
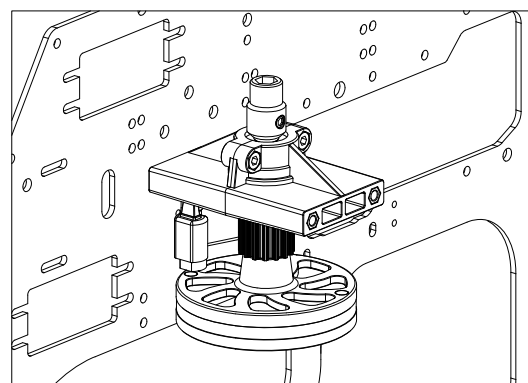



Diagram :






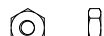



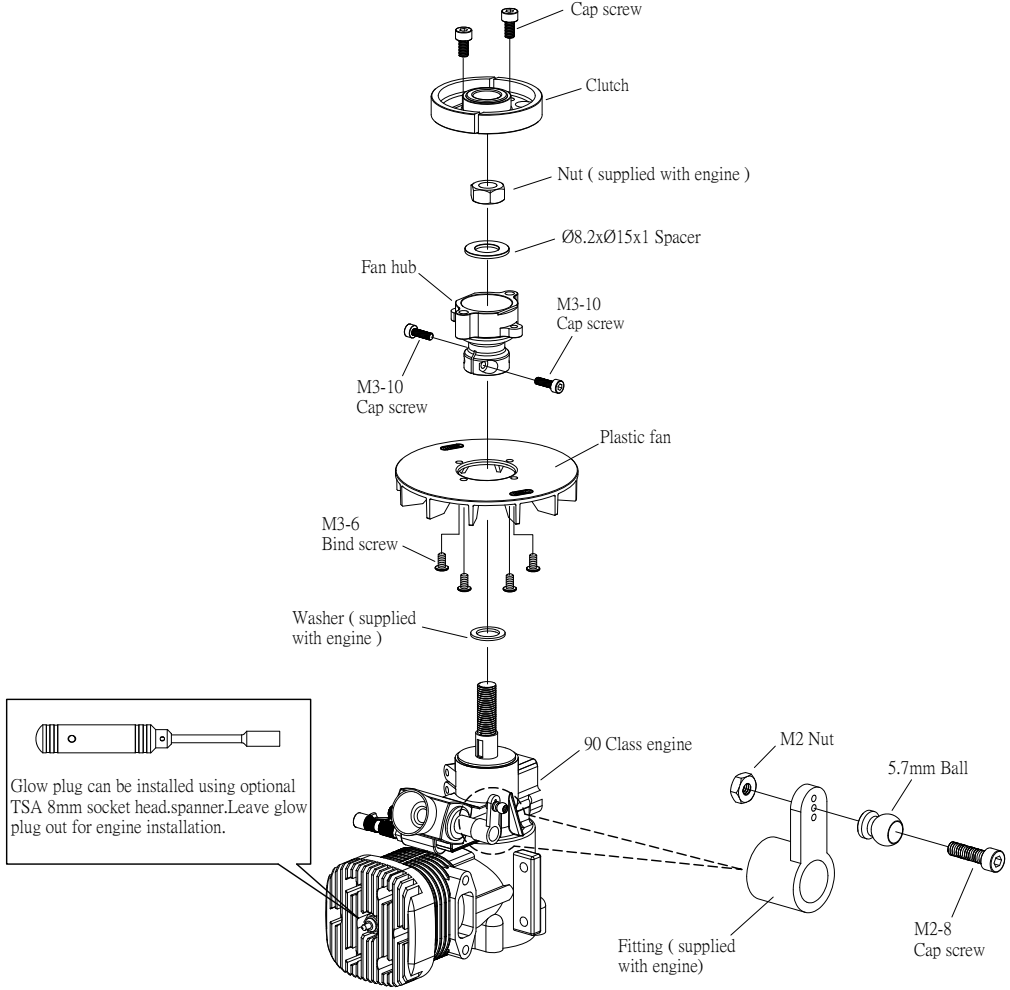
# 9

## Engine Assembly

T-010-02  
T-014-01

 Please apply loctite when locking all metal screws .





-  1
-  2
-  2
-  4
-  1
-  1
-  1

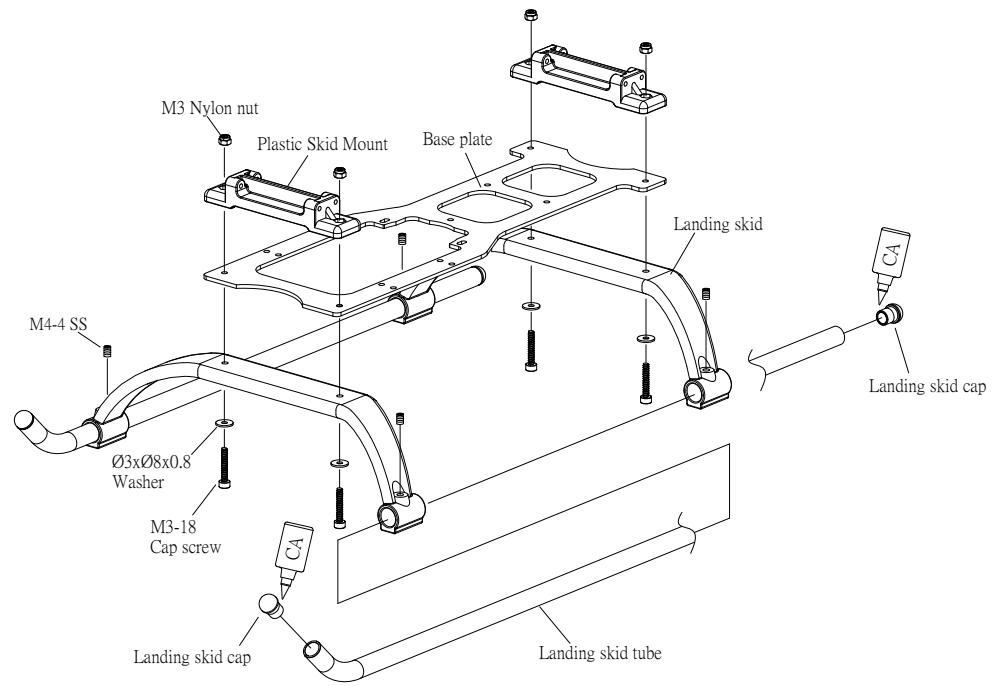


# 10

## Landing Gear Assembly-1

T-012-00  
T-013-01

-  4
-  4
-  4
-  4










# 11

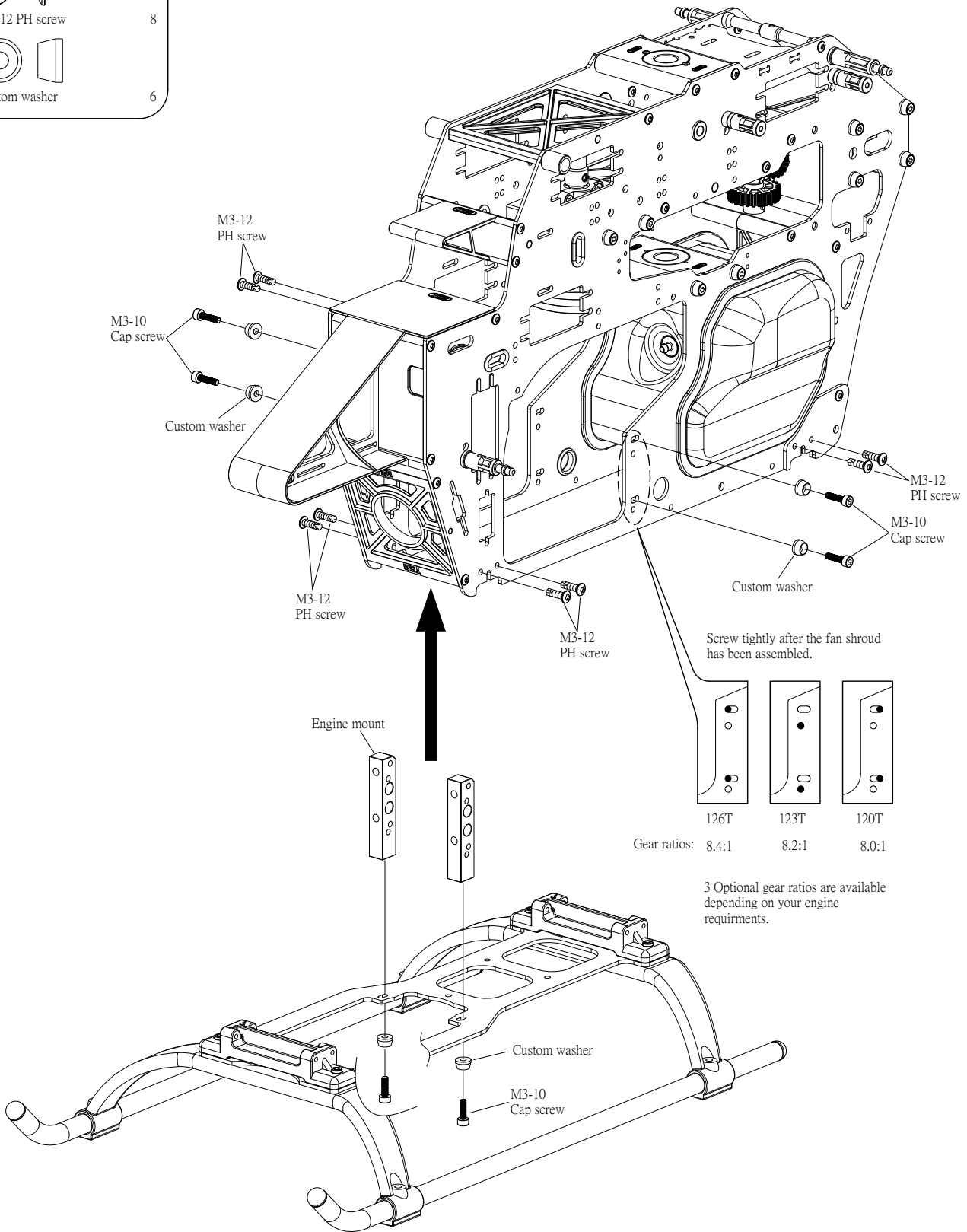
## Landing Gear Assembly-2

T-012-00

T-014-01

 Please apply loctite when locking all metal screws .


-   M3-10 Cap screw 6
-   M3-12 PH screw 8
-   Custom washer 6





















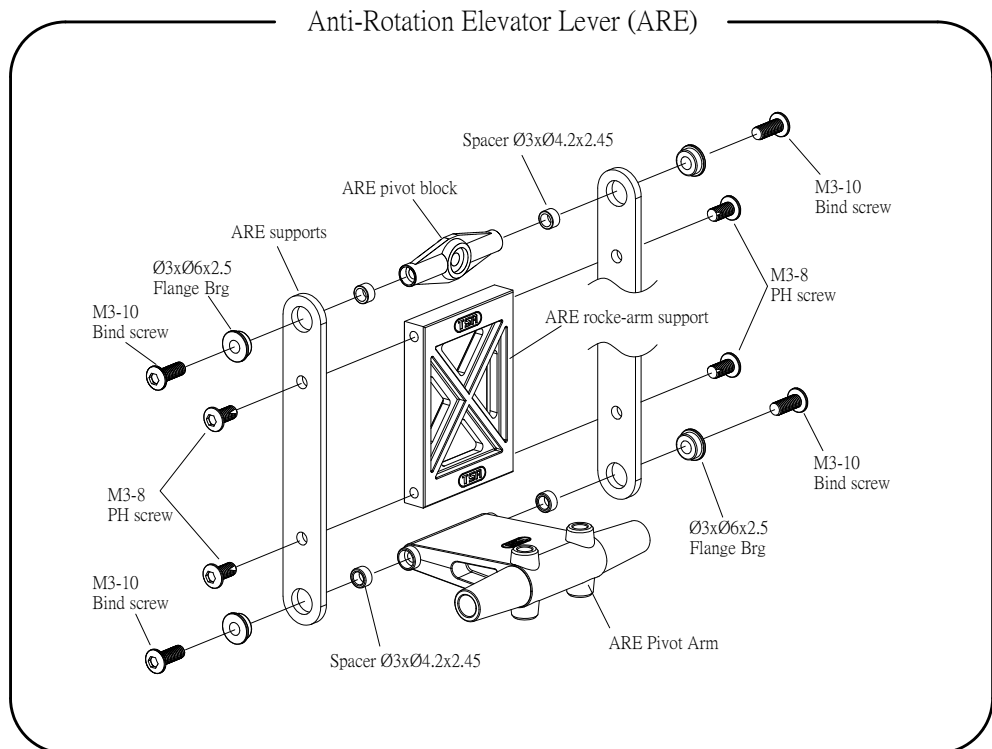
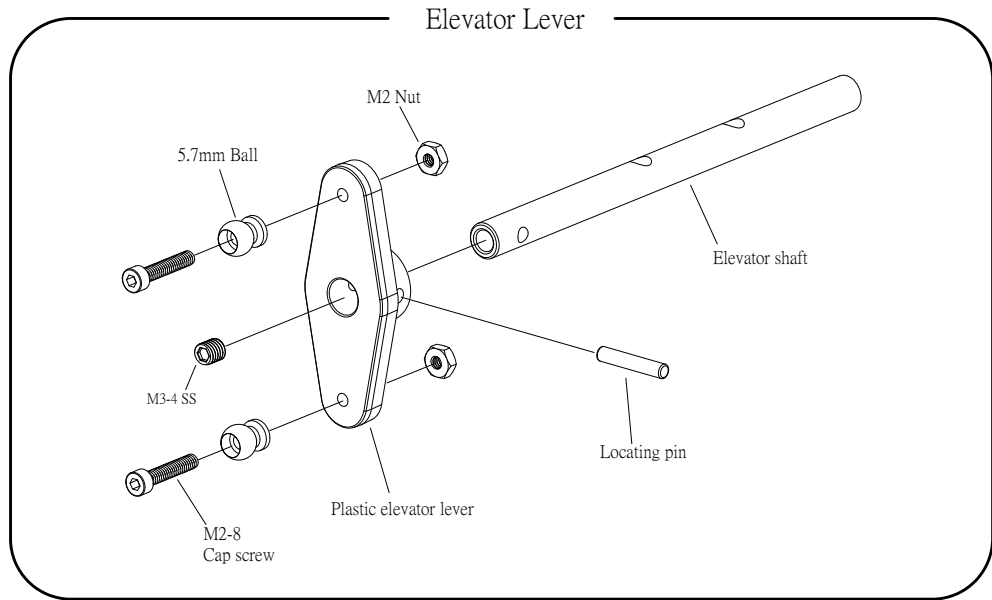
# 12

## Elevator Lever Assembly

T-011-03

 Please apply loctite when locking all metal screws .

		2
		4
		4
		1
		1
		2
		2
		4
		4










# 13

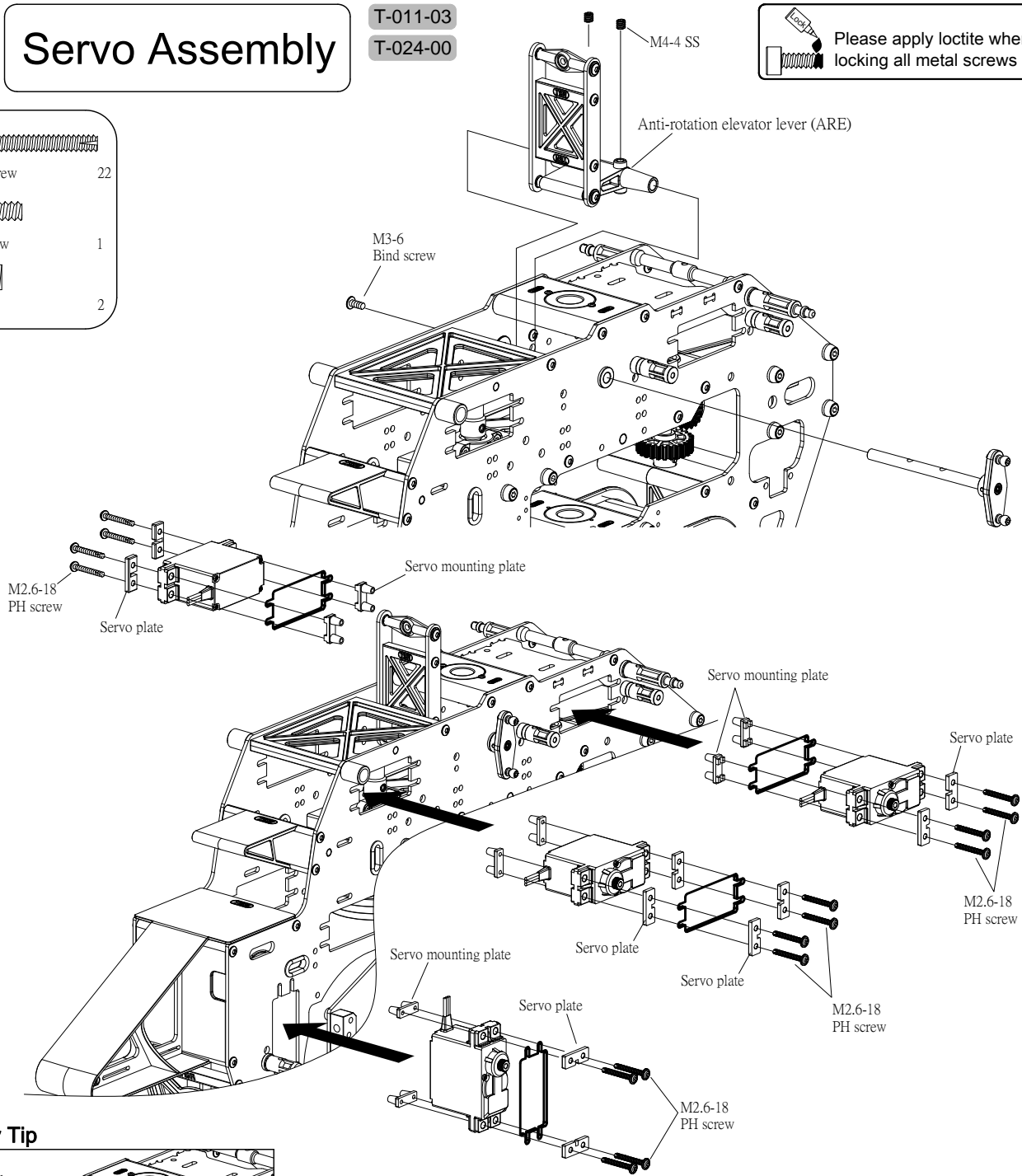
## Servo Assembly

T-011-03

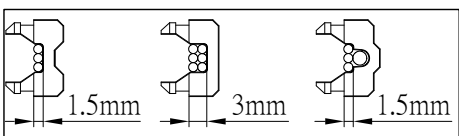
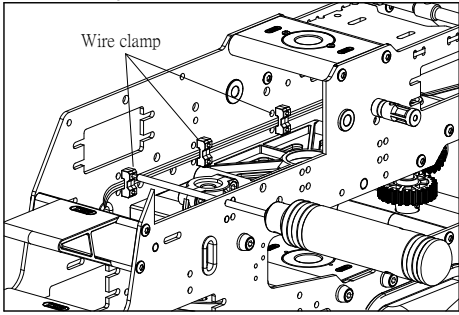
T-024-00

 Please apply loctite when locking all metal screws .

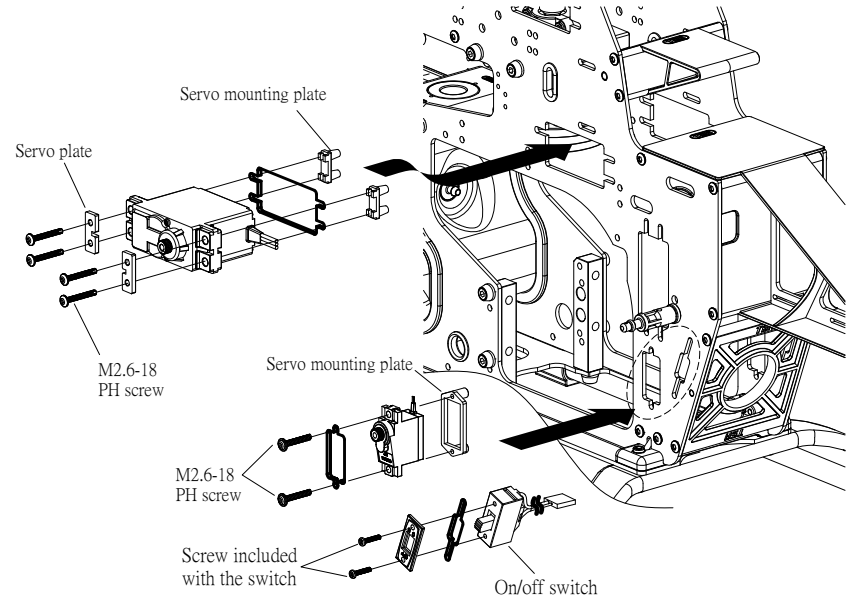
-   M2.6-18 PH screw 22
-   M3-6 Bind screw 1
-   M4-4 SS 2



### Assembly Tip



Use corresponding wire clamp according to the connecting means as shown in the diagram.



### Caution

All servo wires should be segregated to avoid being cut by the the main frame.


# 14

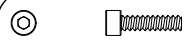


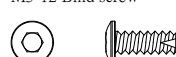





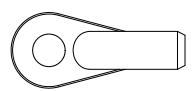
## Servo Support Assembly

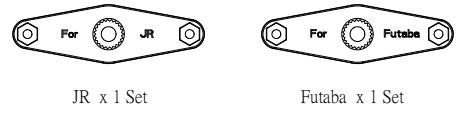
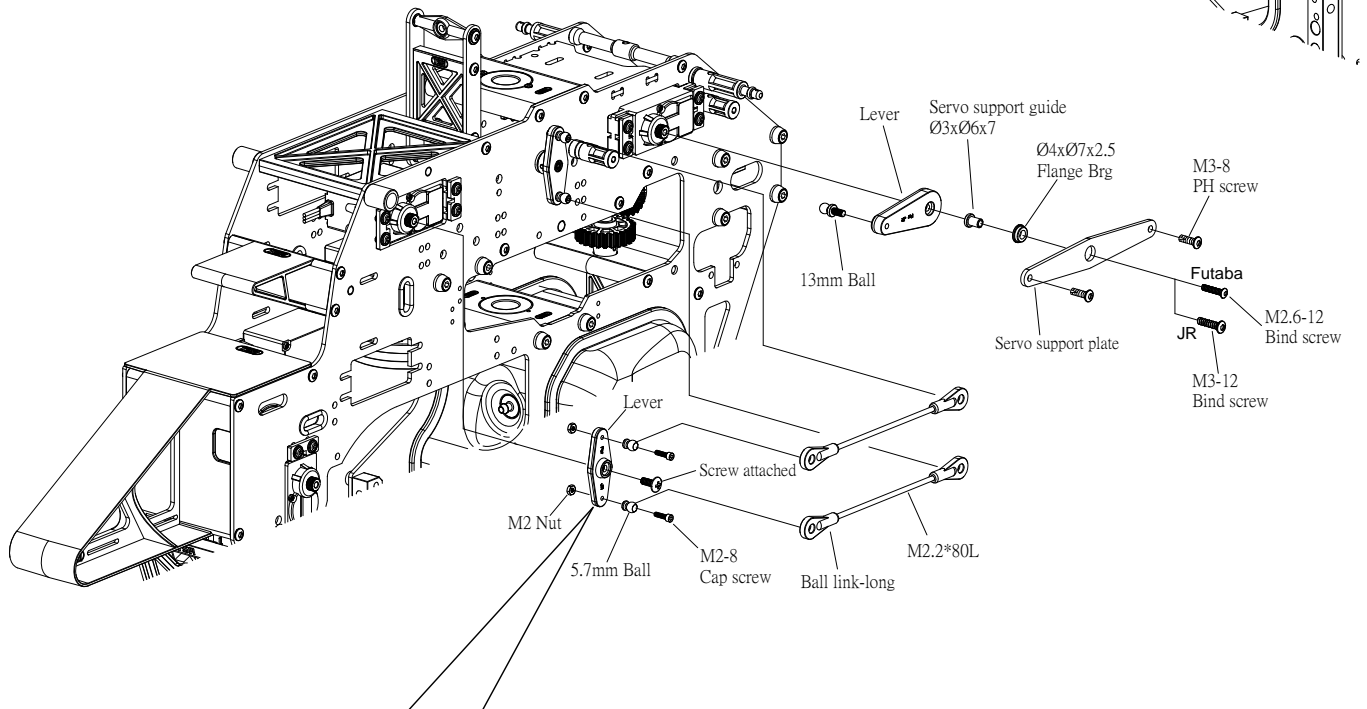
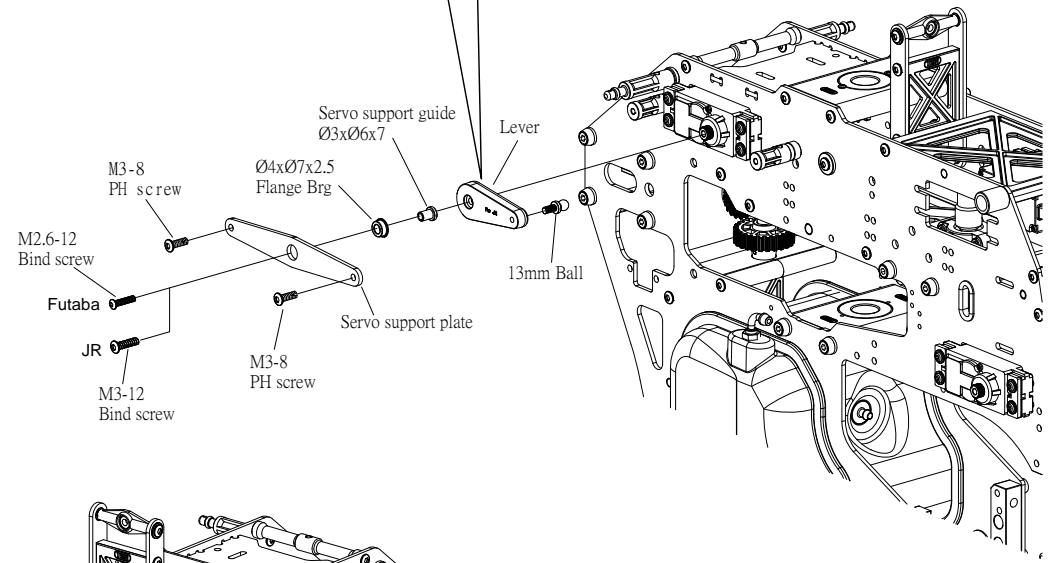
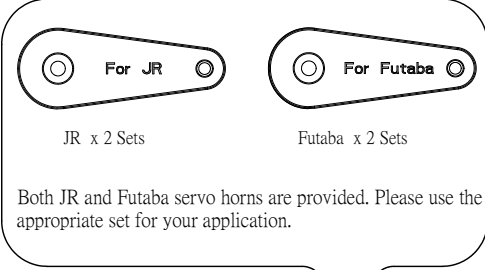
T-020-04

T-022-00

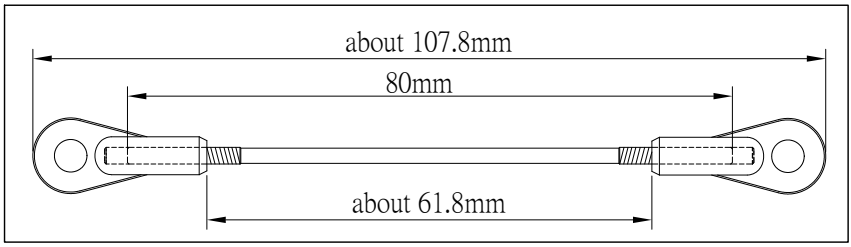
T-025-00

 Please apply loctite when locking all metal screws .

-  M2-8 Cap screw 2
-  M2.6-12 Bind screw 2
-  M3-12 Bind screw 2
-  M3-8 PH screw 4
-  Ø4xØ7x2.5 Flange Brg 2
-  Servo support guide Ø3xØ6x7 2
-  5.7mm Ball 2
-  13mm Ball 2
-  M2 Nut 2
-  Ball link-long 4



Both JR and Futaba servo horns are provided. Please use the appropriate set for your application.




# 15

## Fan and Engine Assembly







T-010-02

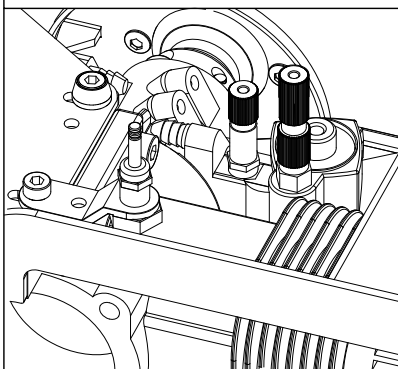
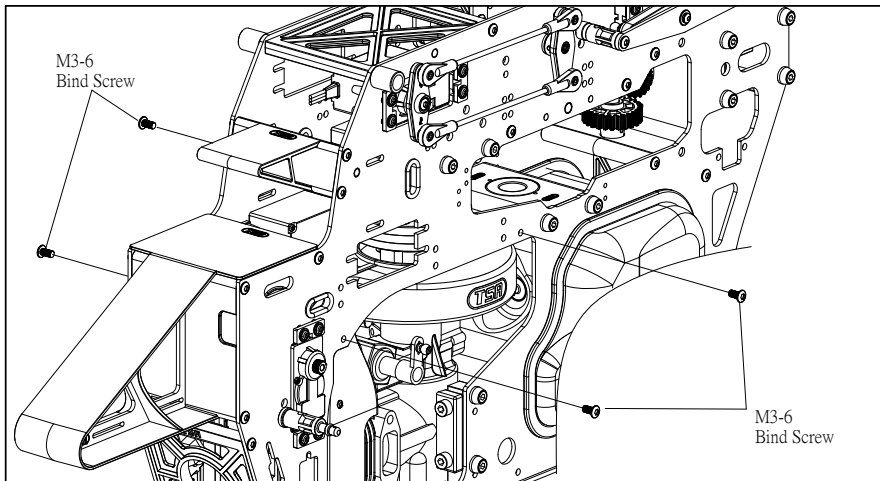
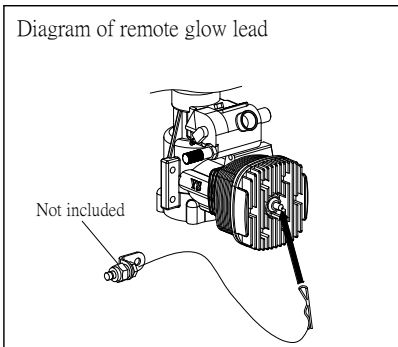
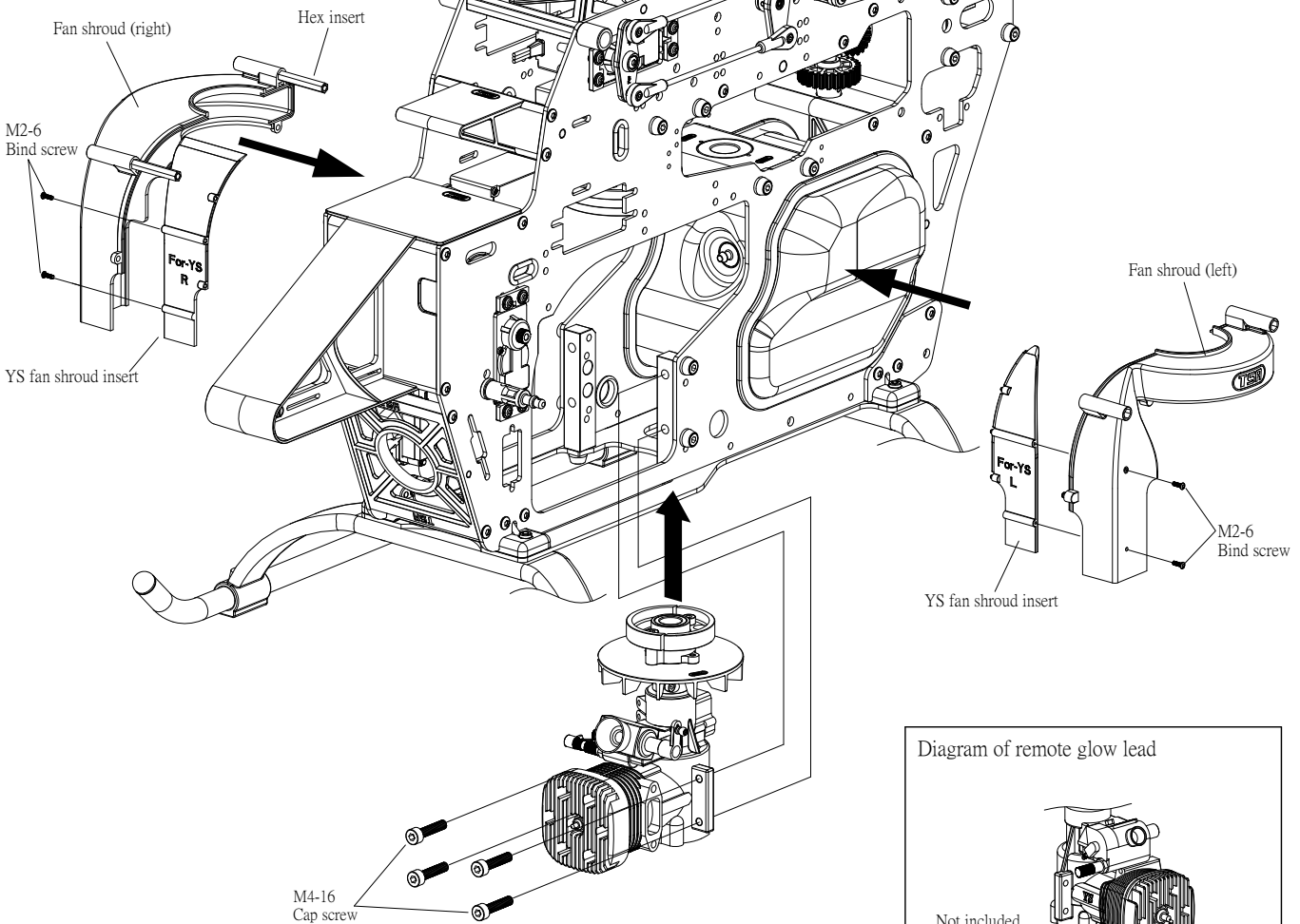
T-014-01

 Please apply loctite when locking all metal screws .

 **Caution**

Fan shroud insert is only for YS engine, it is not necessary for OS engine.

-   M2-6 Bind Screw 4
-   M3-6 Bind Screw 4
-   M4-16 Cap screw 4






# 16

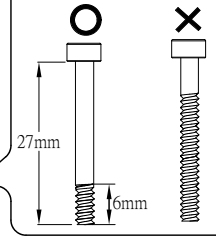
## Main Gear Assembly

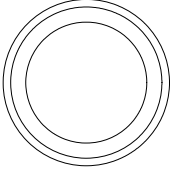
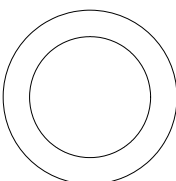
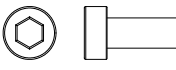


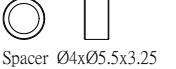
T-015-02

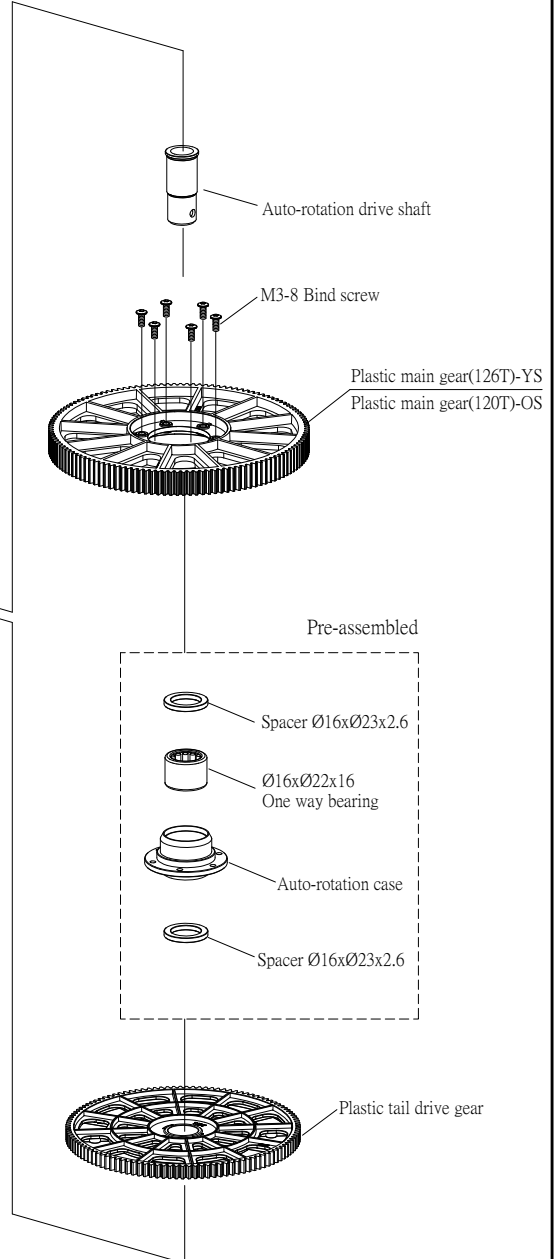
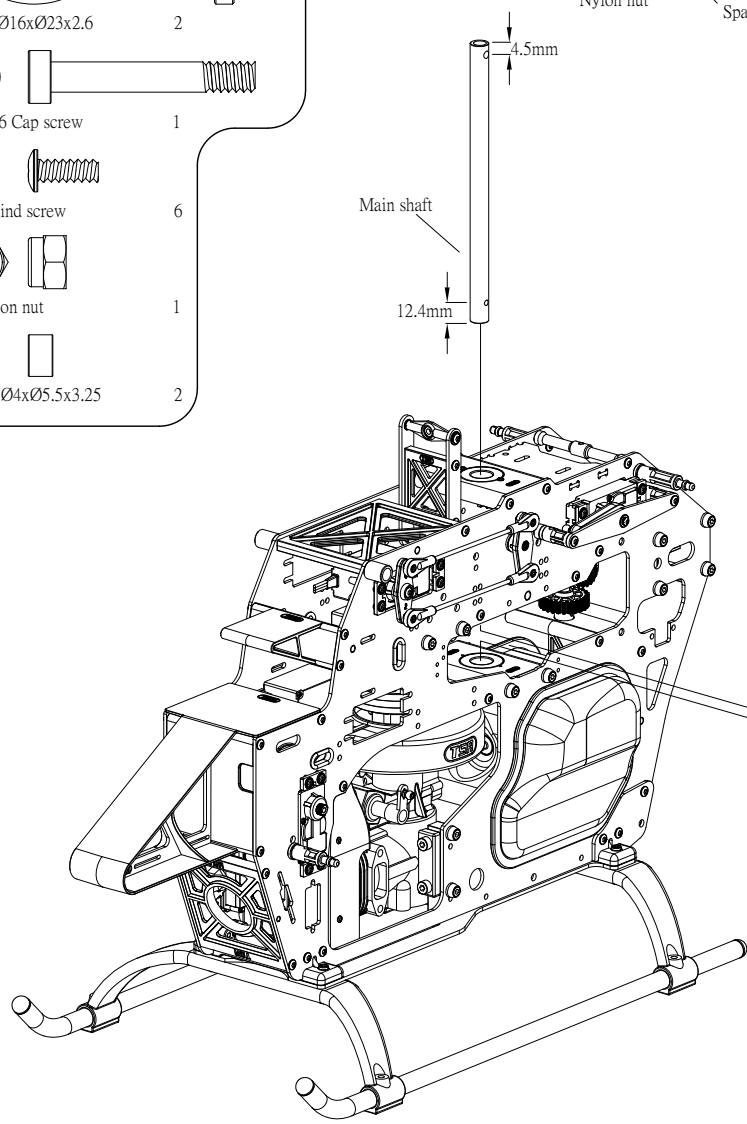
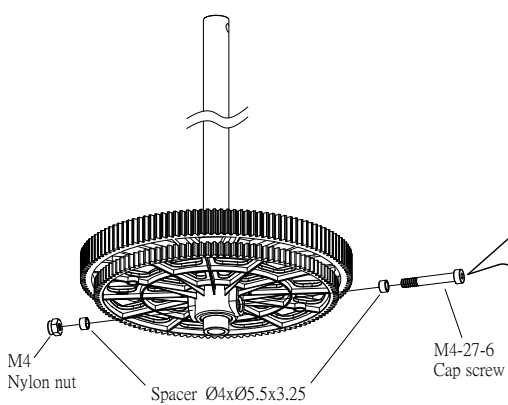
 Please apply loctite when locking all metal screws .

**Caution**

Only use long shank M4 mounting screw!

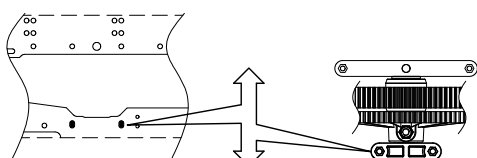


-  Ø16xØ22x16 One way bearing 1
-  Spacer Ø16xØ23x2.6 2
-  M4-27-6 Cap screw 1
-  M3-8 Bind screw 6
-  M4 Nylon nut 1
-  Spacer Ø4xØ5.5x3.25 2



**Caution**

Main shaft free play adjustment





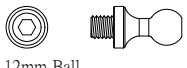
Loosen lower bearing block bolts. Insert main gear assembly and main shaft. While pressing up on the bearing block tighten the 4 lower bearing block bolts. Ensure no up/down free play by pulling on the main shaft.

# 17

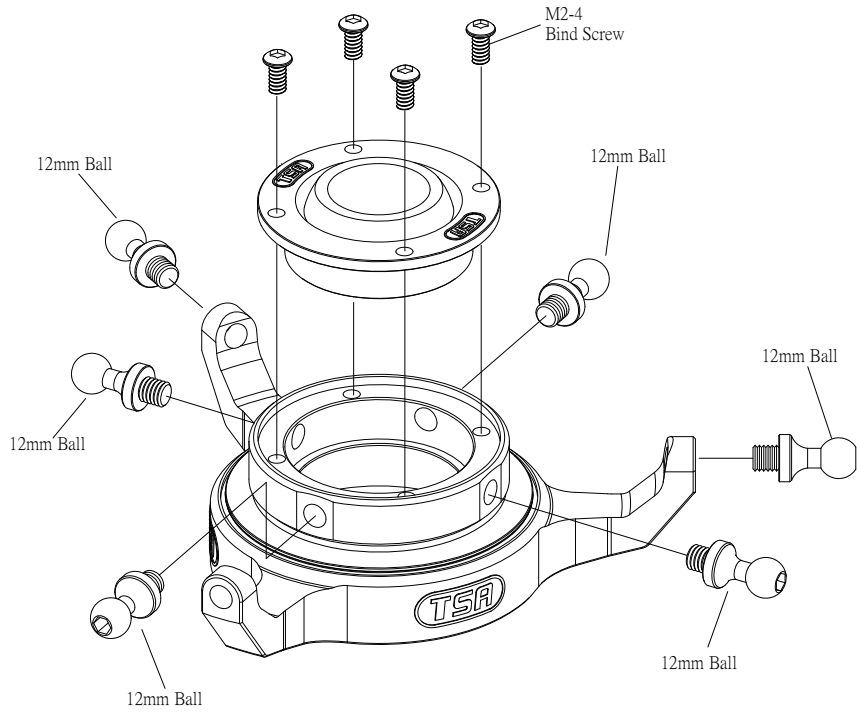
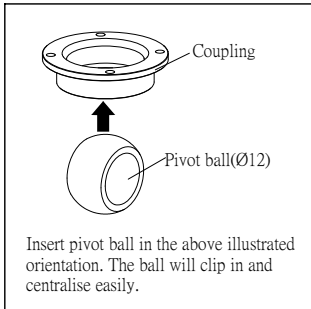
## Swashplate Assembly

T-016-04

 Please apply loctite when locking all metal screws .

-  M2-4 Bind Screw 4
-  12mm Ball 6


### Assembly Tip

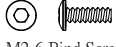
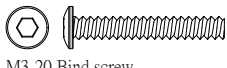
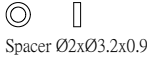
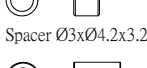
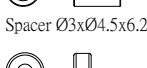
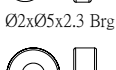
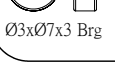


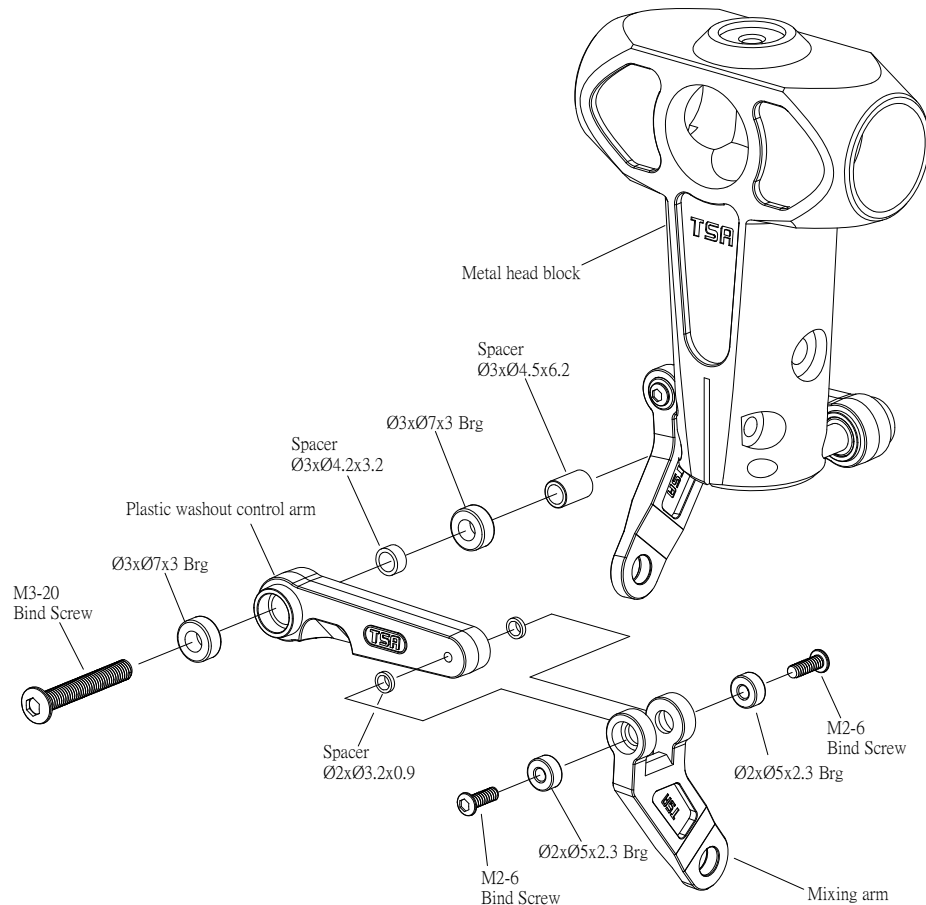
# 18

## Washout Assembly

T-016-04

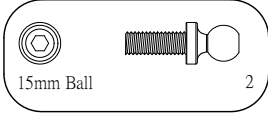
 Please apply loctite when locking all metal screws .

-  M2-6 Bind Screw 4
-  M3-20 Bind screw 2
-  Spacer Ø2xØ3.2x0.9 4
-  Spacer Ø3xØ4.2x3.2 2
-  Spacer Ø3xØ4.5x6.2 2
-  Ø2xØ5x2.3 Brg 4
-  Ø3xØ7x3 Brg 4



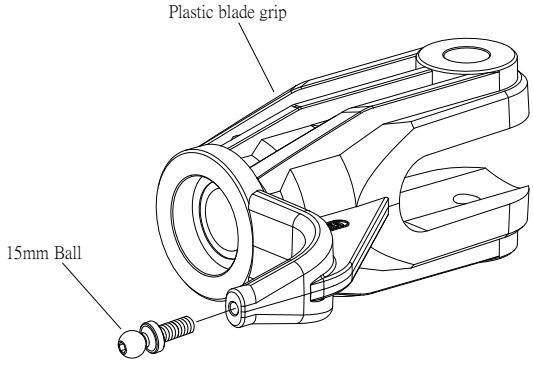
# 19

## Pitch Arm Assembly



Please apply loctite when locking all metal screws .

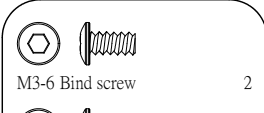
T-016-04



**Caution**  
Two must be assembled

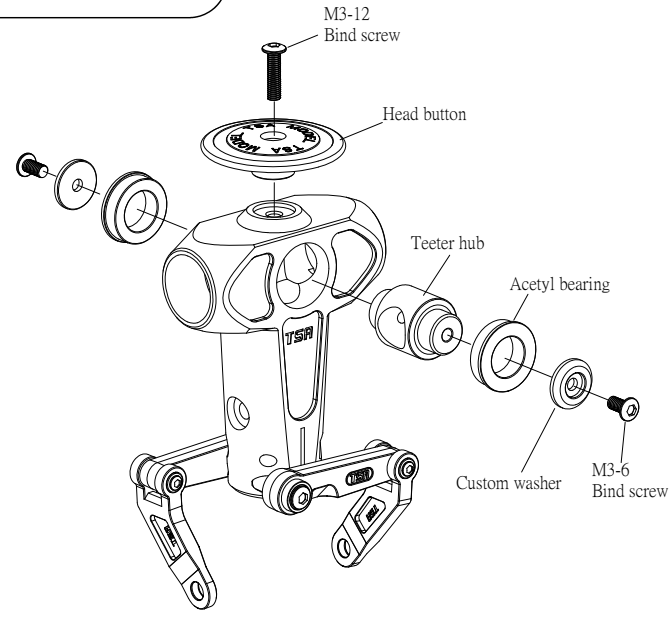
# 20

## Head Block Assembly



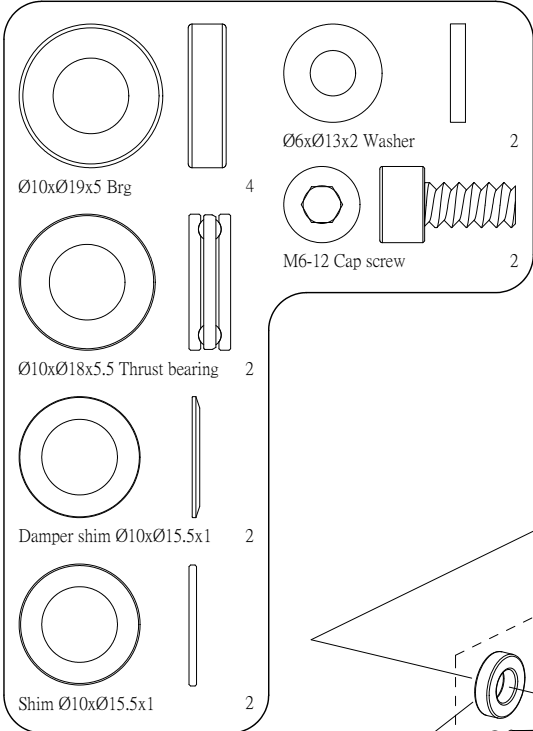
Please apply loctite when locking all metal screws .

T-016-04



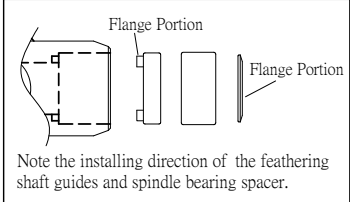
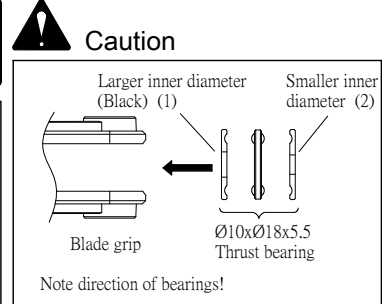
# 21

## Blade Holder Assembly

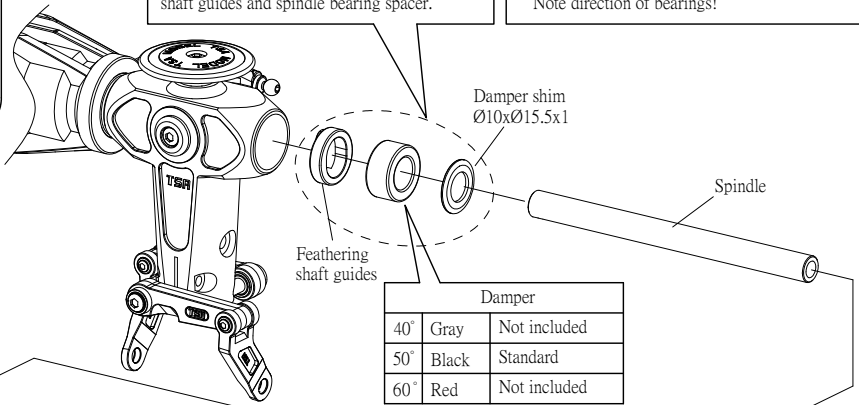


T-016-04

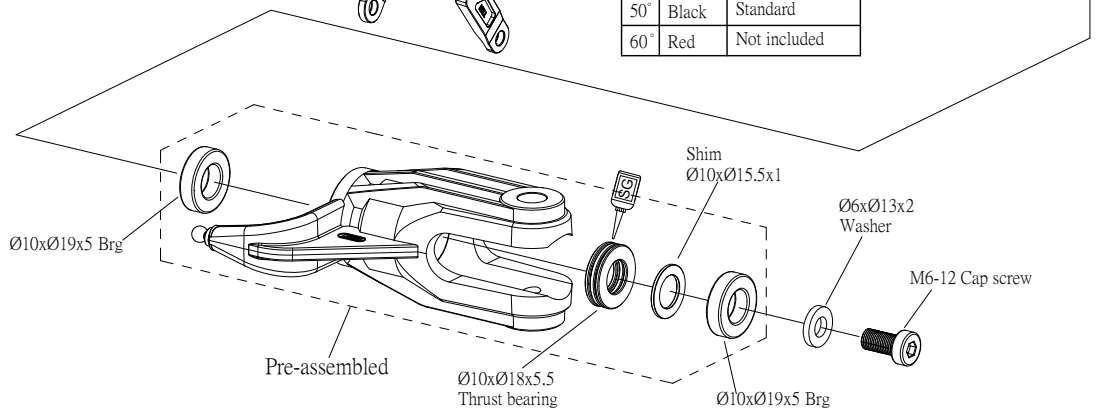
Please apply loctite when locking all metal screws .



Note the installing direction of the feathering shaft guides and spindle bearing spacer.



Damper		
40°	Gray	Not included
50°	Black	Standard
60°	Red	Not included







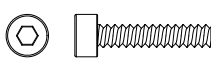
# 22


## Rotor Head Complete Assembly

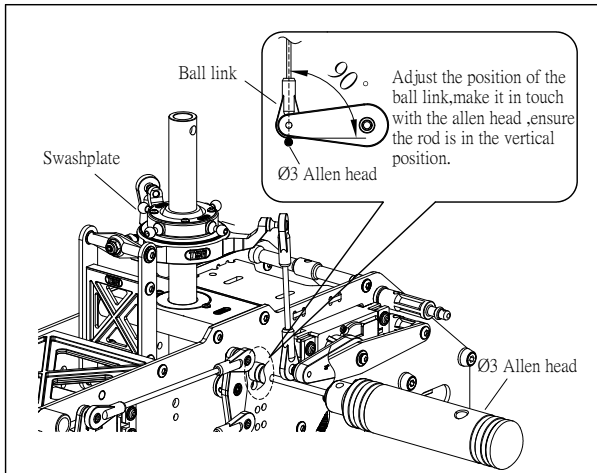
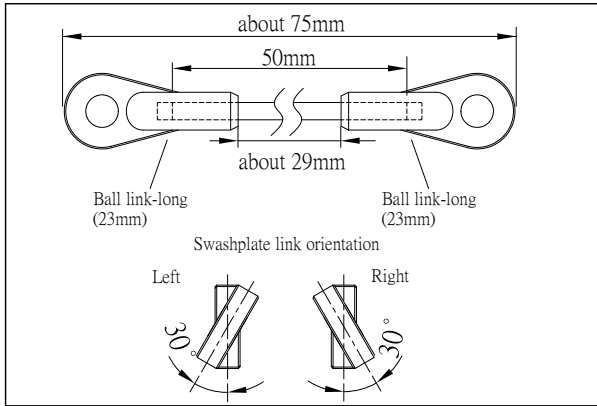
T-011-03

T-016-04

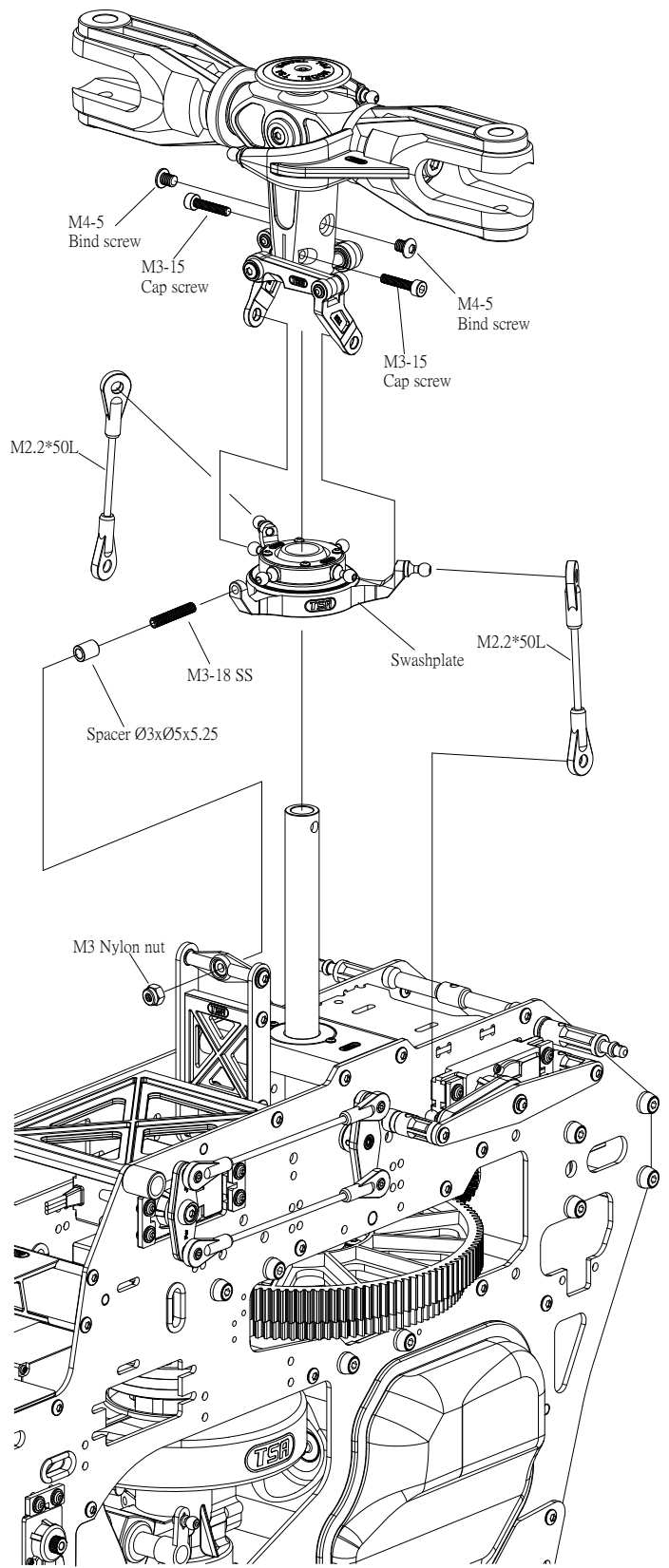
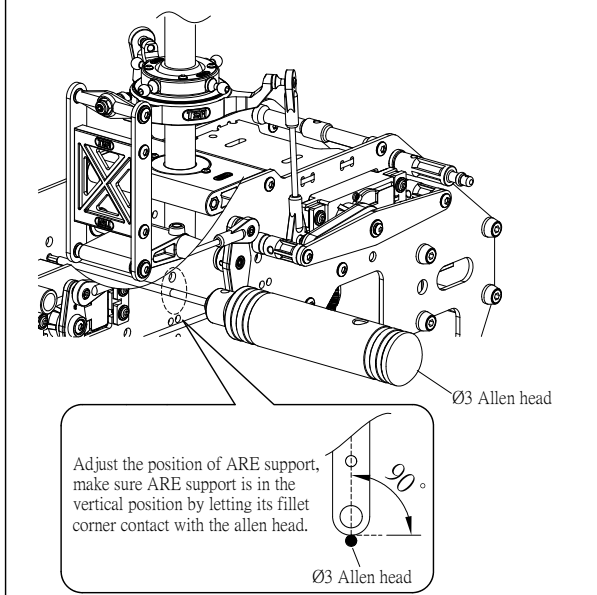
T-020-04

- |   |   |   |   |
|---|---|---|---|
|  | 1 |  | 1 |
|  | 2 |  | 1 |
|  | 2 |   |   |

 Please apply loctite when locking all metal screws .




Insert the allen head into the hole as shown in the diagram , make sure the rocker-arm is parallel with the swashplate.


















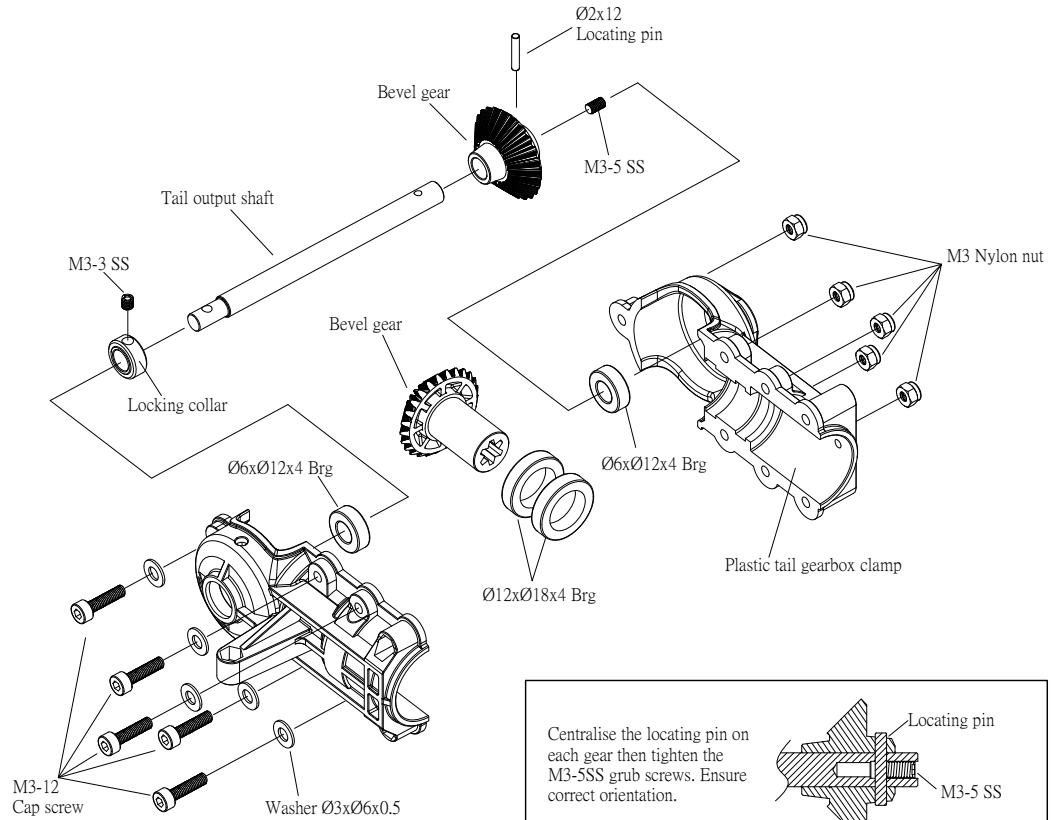
# 23

## Tail Gearbox Assembly-1

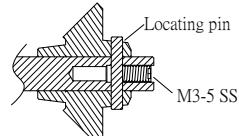
T-016-04

 Please apply loctite when locking all metal screws .

-   1
-   1
-   5
-  1
-   5
-   5
-   2
-   2




Centralise the locating pin on each gear then tighten the M3-5SS grub screws. Ensure correct orientation.
















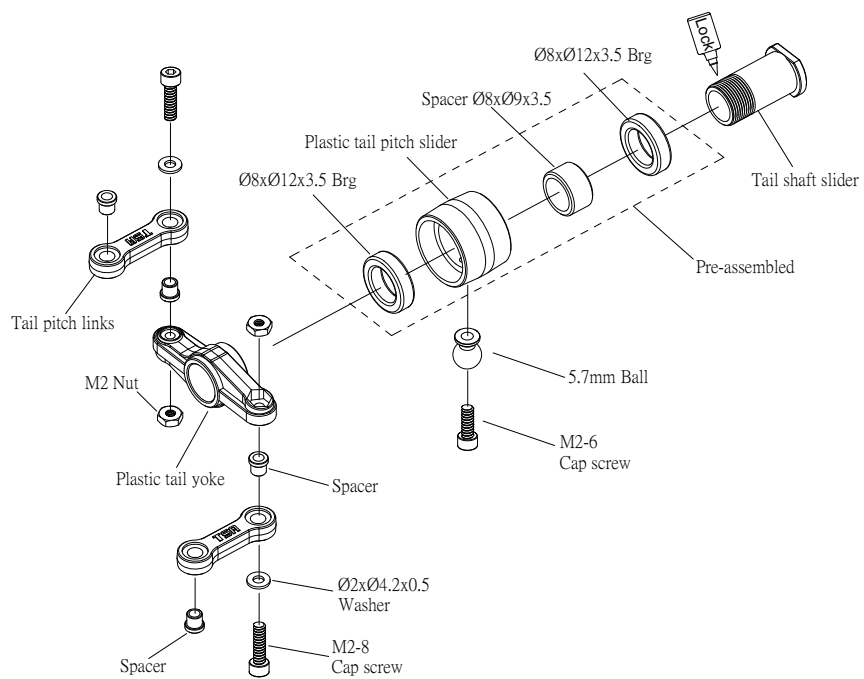
# 24

## Tail Gearbox Assembly-2

T-017-00

 Please apply loctite when locking all metal screws .


-   1
-   2
-  1
-   2
-   2
-   1
-   2










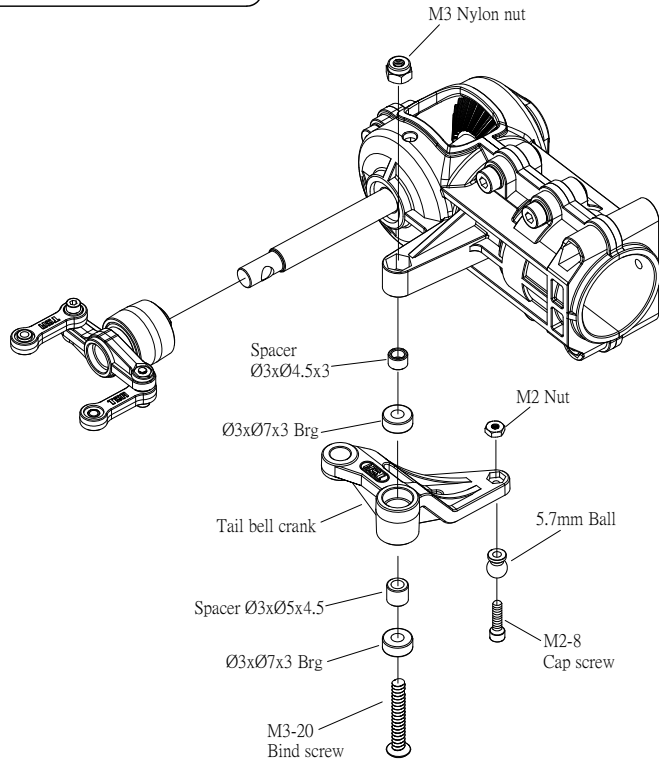
# 25

## Tail Gearbox Assembly-3

T-018-01

 Please apply loctite when locking all metal screws .


-  M2-8 Cap screw 1
-  M3-20 Bind screw 1
-  5.7mm Ball 1
-  M2 Nut 1
-  M3 Nylon nut 1
-  Spacer Ø3xØ5x4.5 1
-  Spacer Ø3xØ4.5x3 1
-  Ø3xØ7x3 Brg 2








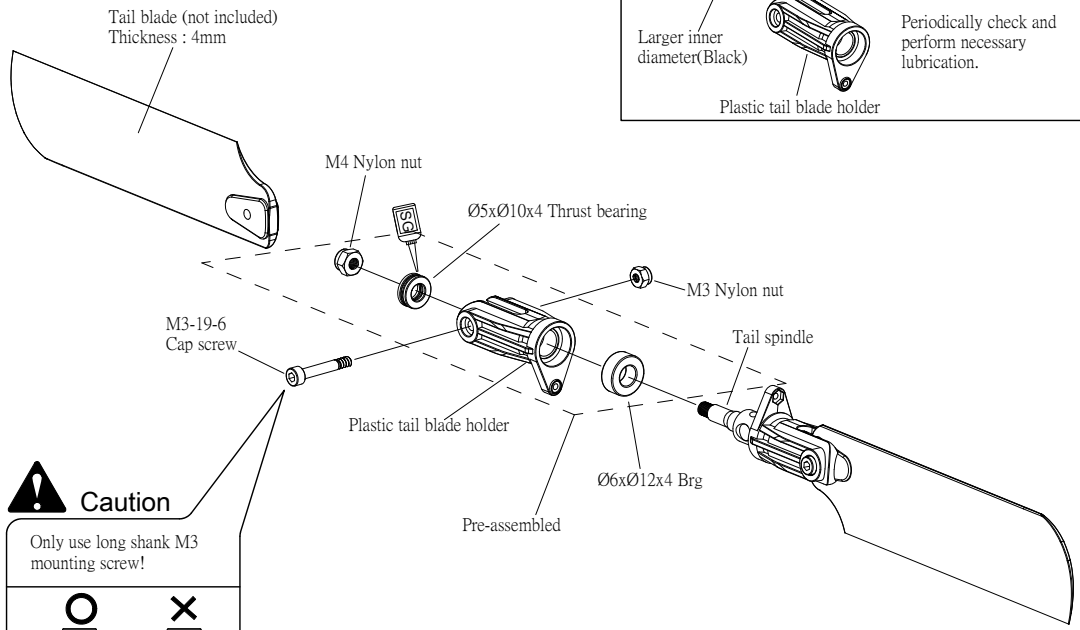
# 26

## Tail Gearbox Assembly-4

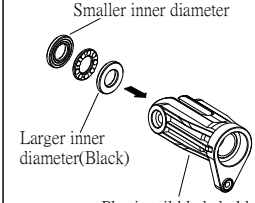
T-016-04

 Please apply loctite when locking all metal screws .

-  M3-19-6 Cap screw 2
-  M3 Nylon nut 2
-  M4 Nylon nut 2
-  Ø5xØ10x4 Thrust bearing 2
-  Ø6xØ12x4 Brg 2



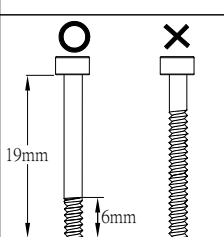
**Caution**



Note direction of bearings!  
Periodically check and perform necessary lubrication.

**Caution**

Only use long shank M3 mounting screw!



**Caution**


Fasten the tail blade to permit only slight movement .  
Note the direction of the tail blade and the tail blade grip .

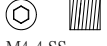
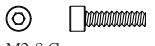


# 27

## Tail Gearbox Assembly-5

T-016-04

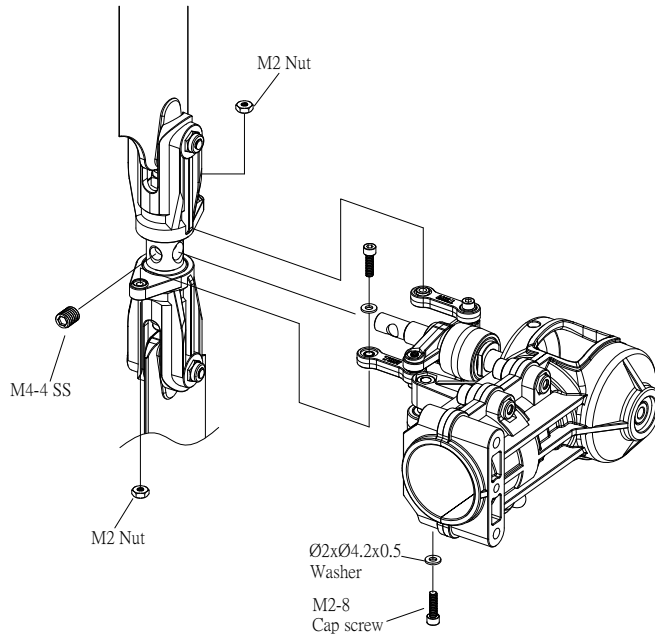
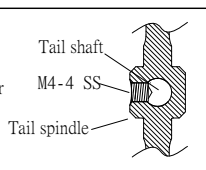
T-017-00

 Please apply loctite when locking all metal screws .

-  M4-4 SS 1
-  M2-8 Cap screw 2
-  Ø2xØ4.2x0.5 Washer 2
-  M2 Nut 2

### Caution

Use the M4-4SS screw to fasten the tail shaft and spindle. Ensure grub screws are seated into receiver grooves.




# 28

## Tail Gearbox Assembly-6

T-026-00





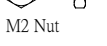

T-027-02

T-028-16

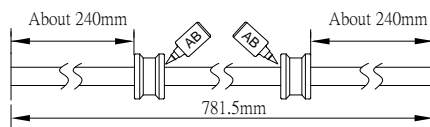
 Please apply loctite when locking all metal screws .

### Assembly Tip

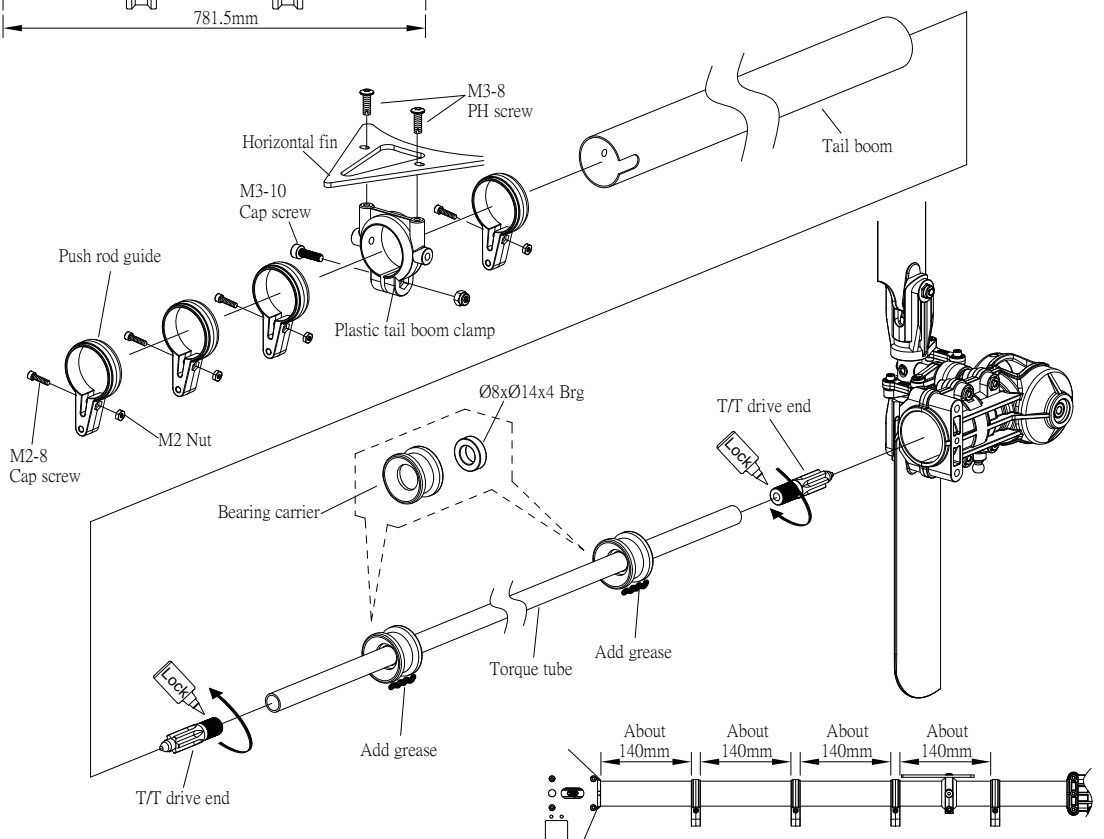
Apply oil to tail boom bearing carrier and inside tail boom for easy T/T installation.

-  M2-8 Cap screw 4
-  M3-8 PH screw 2
-  M3-10 Cap screw 1
-  M2 Nut 4
-  M3 Nylon nut 1
-  Ø8xØ14x4 Brg 2

Torque tube bearing location :



Apply AB glue to shaft then slide bearing overtop and allow to dry.









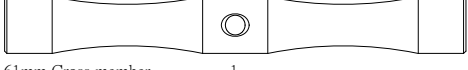







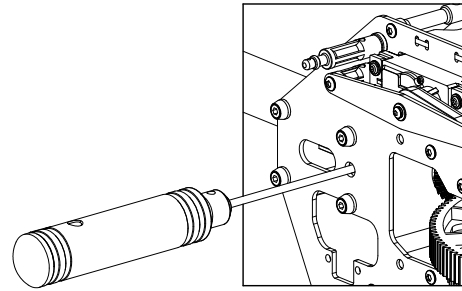
# 29

## Tail Boom Support Assembly

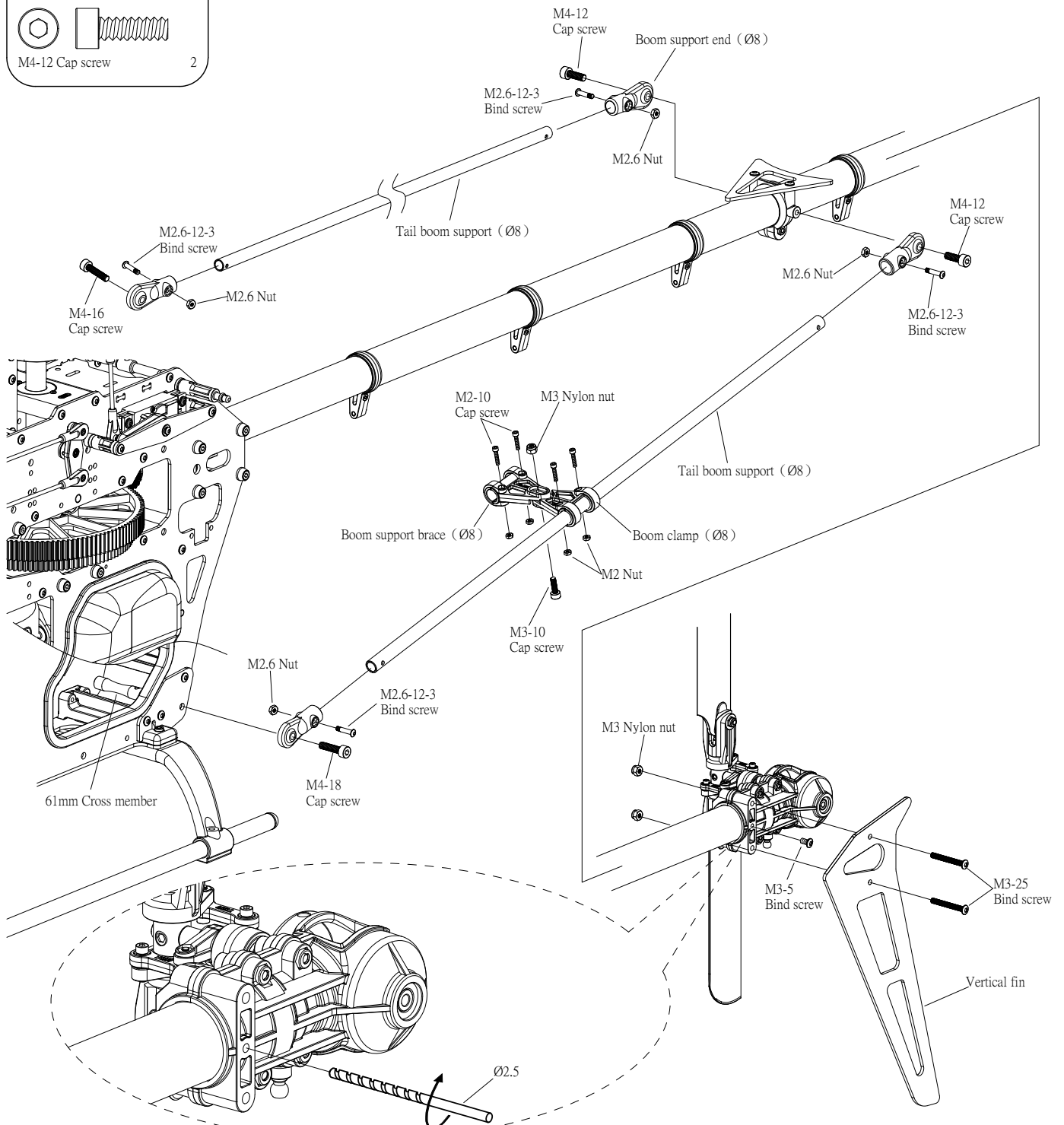
- T-016-04
- T-026-00
- T-027-02
- T-028-16

 Please apply loctite when locking all metal screws .

			
M3-25 Bind screw 2	M2 Nut 4	M2.6 Nut 4	M3 Nylon nut 3
			
M2.6-12-3 Bind screw 4	61mm Cross member 1		
			
M2-10 Cap screw 4	M4-18 Cap screw 2		
			
M3-5 Bind screw 1			
			
M3-10 Cap screw 1			
			
M4-12 Cap screw 2			




After inserting the tail boom tighten the previously installed retaining screw.

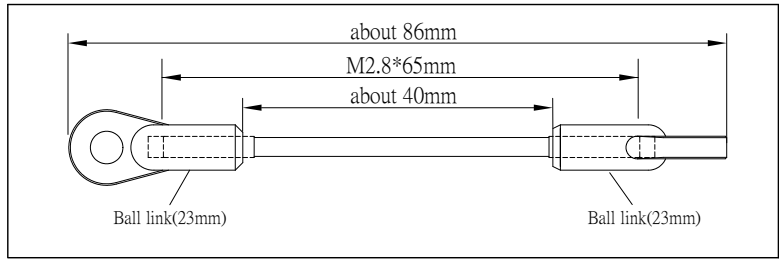
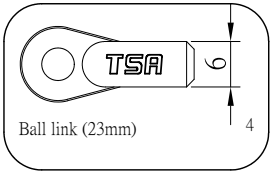


# 30

## Rotor Head Linkage Assembly

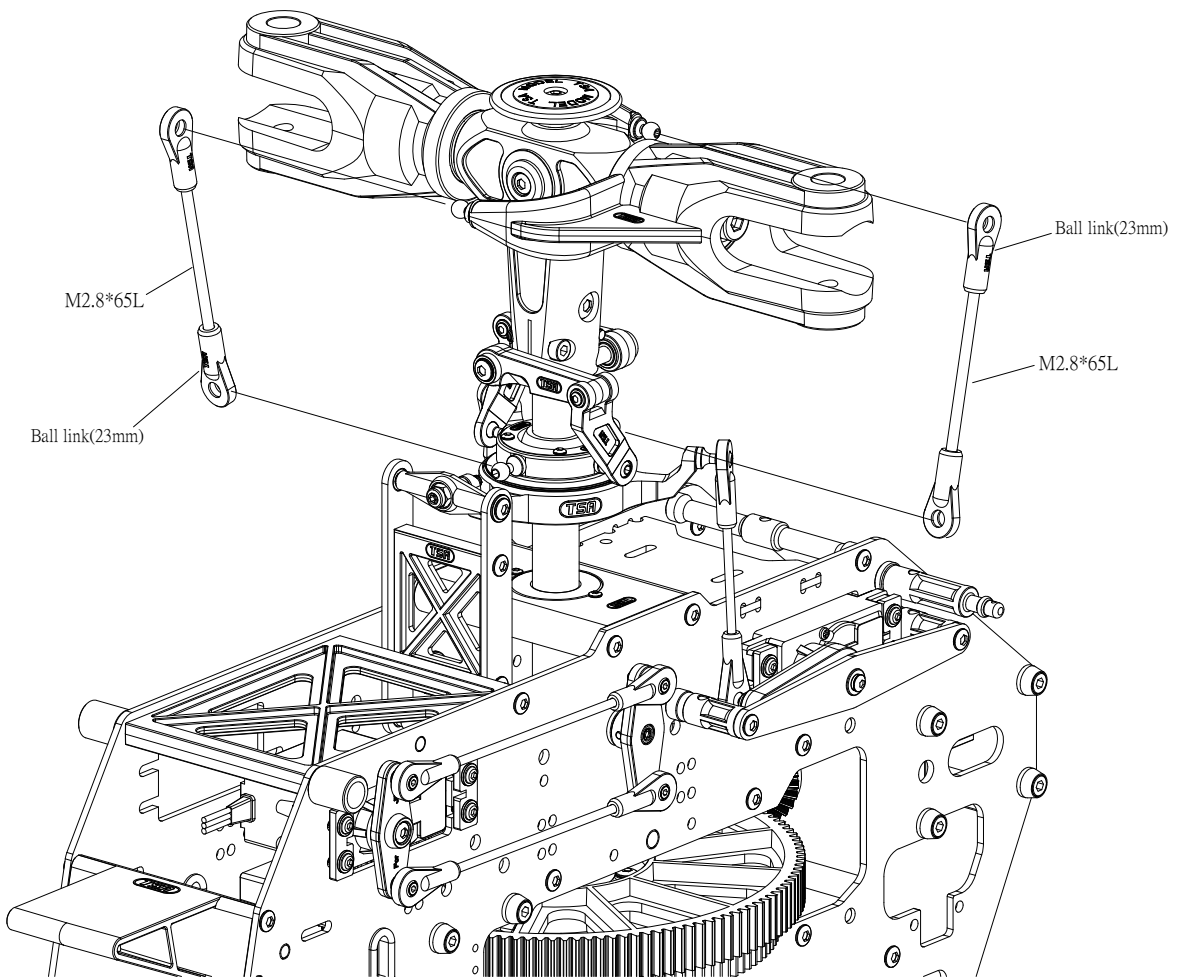
T-016-04

 Please apply loctite when locking all metal screws .



### Caution

Measure the pitch angle after assembly of the blades, and then make the adjustment .




# 31







## Linkage Rod Assembly

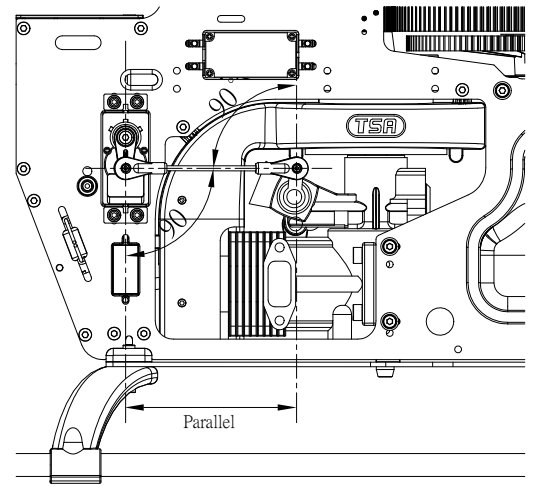
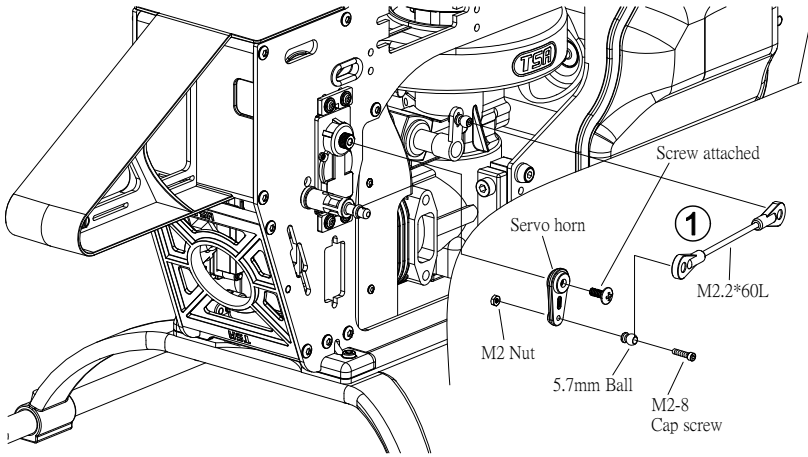
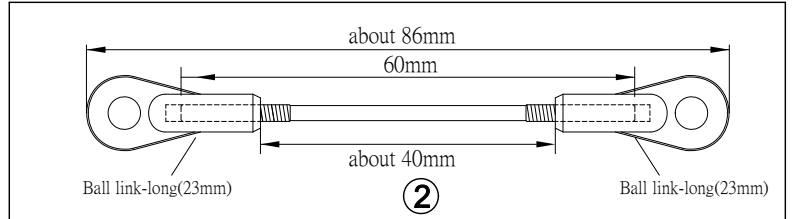
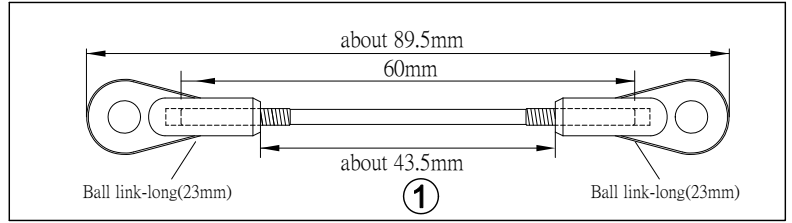
T-020-04

T-021-01

T-024-00

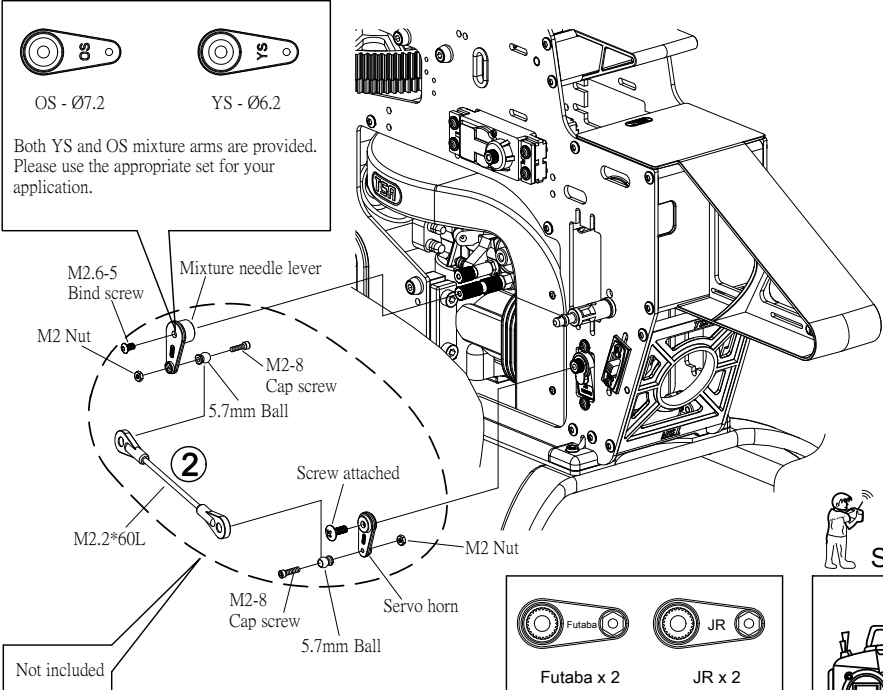
 Please apply loctite when locking all metal screws.

-   M2-8 Cap screw 3
-   M2.6-5 Bind screw 1
-  5.7mm Ball 3
-  M2 Nut 3



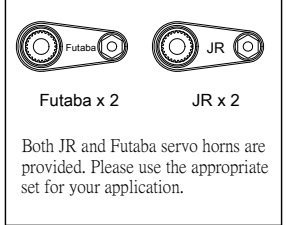
-  OS - Ø7.2
-  YS - Ø6.2

Both YS and OS mixture arms are provided. Please use the appropriate set for your application.

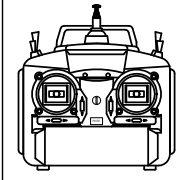


Not included

The rod's length varies depending on the servo. Adjust the length according to the instructions and verify once fitted on the model.



### Setup Tips



Turn on the transmitter before installing the servo rod, ensure the radio has a linear throttle/pitch curve and the throttle is set to mid stick 50% travel. This will enable close to equal travel limits for high/low throttle.

# 32


## Rudder Linkage Assembly

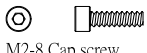






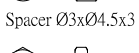



T-023-00

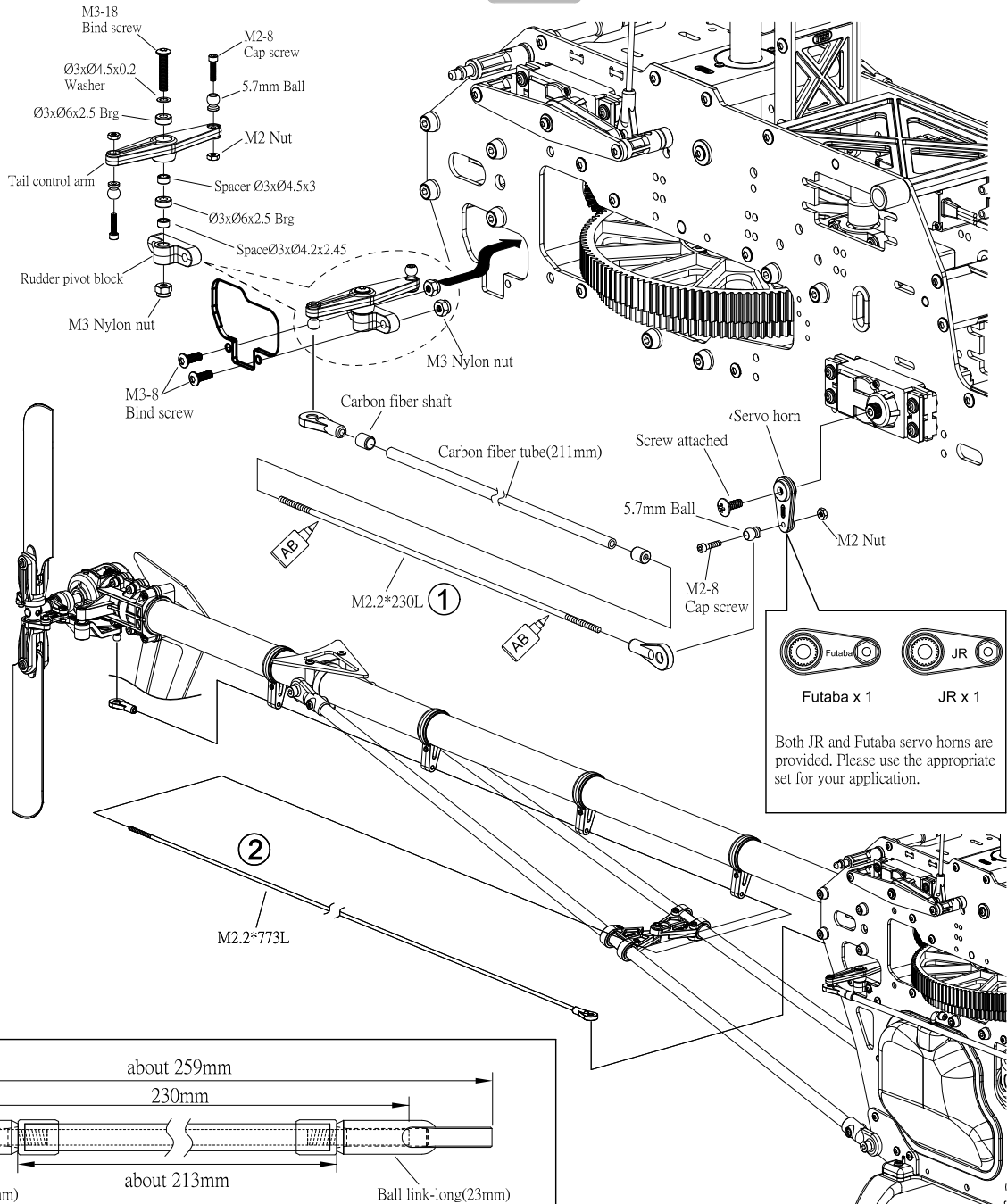
T-024-00



T-027-02

T-028-16

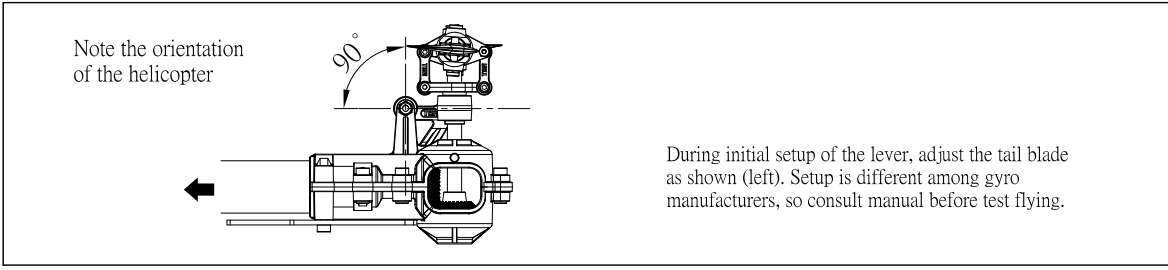
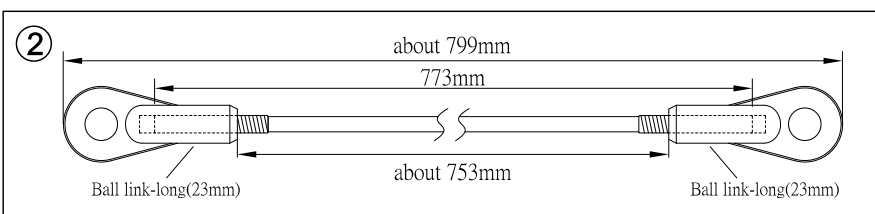
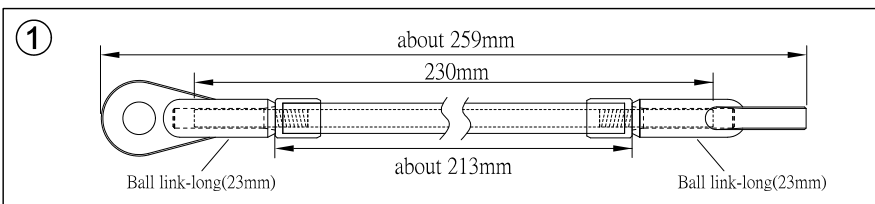
 Please apply loctite when locking all metal screws .

-  3
-  2
-  1
-  3
-  1
-  1
-  1
-  1
-  3
-  3
-  2



 Futaba x 1     JR x 1

Both JR and Futaba servo horns are provided. Please use the appropriate set for your application.



# 33

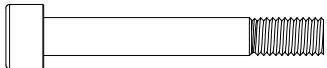
## Main Blade Assembly

T-016-04



M5-37-8 Cap screw

2



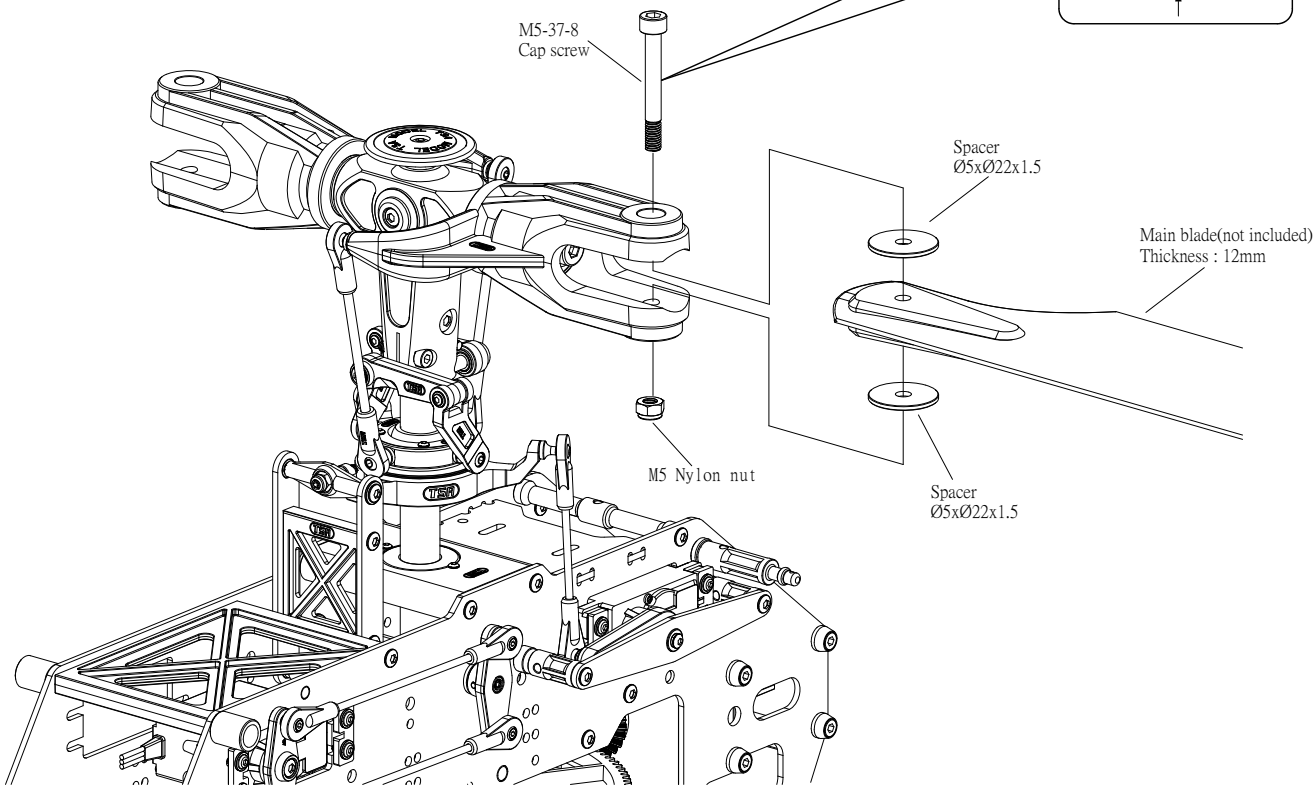
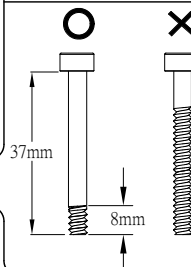
M5 Nylon nut

2



### Caution

Only use long shank M5 mounting screw!



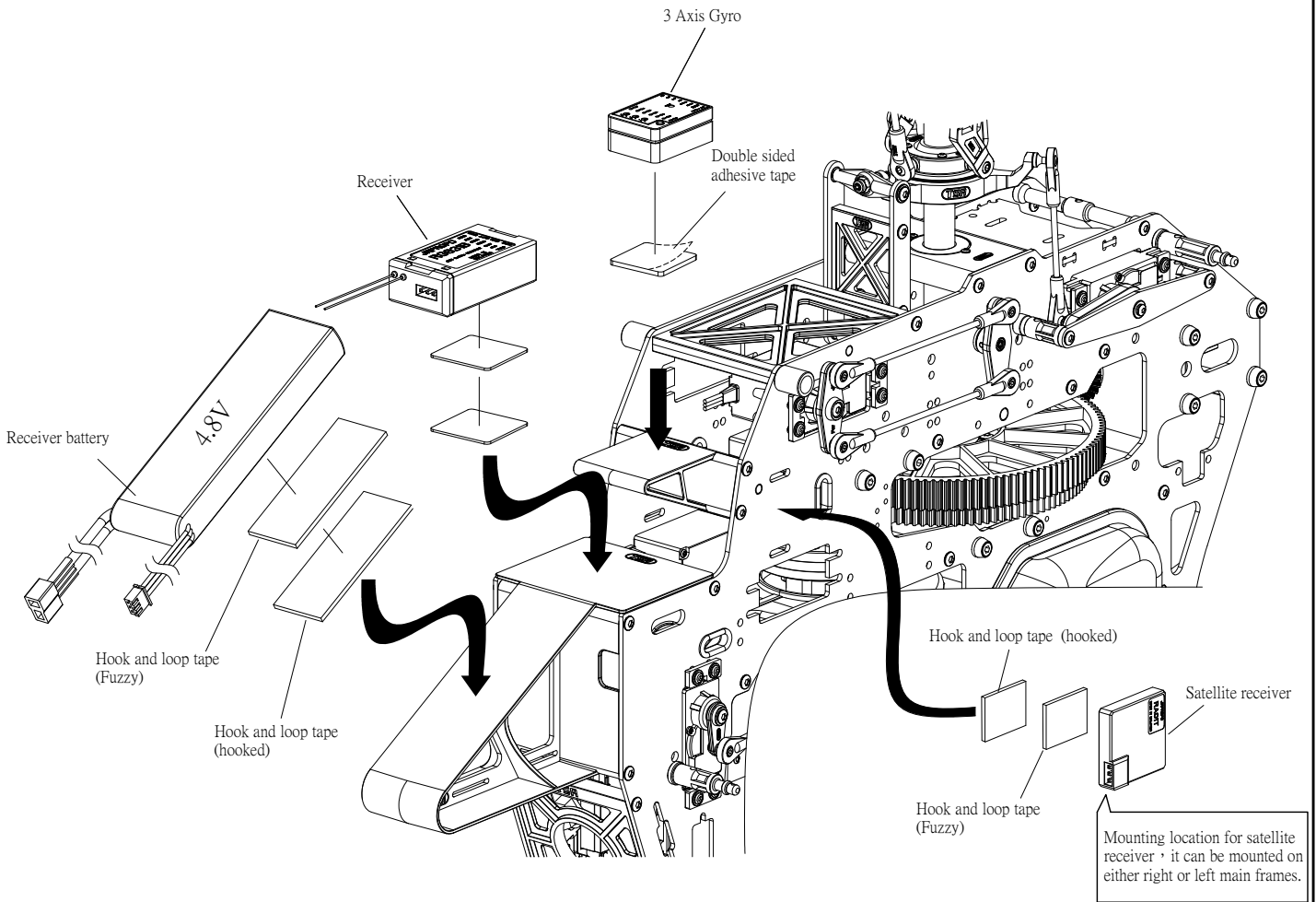
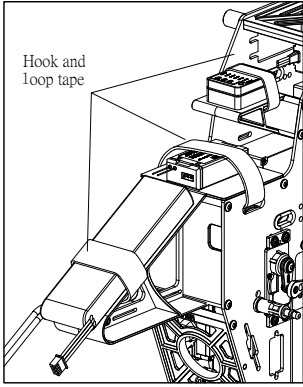
# 34

## Receiver and Gyro Assembly

### Caution

The gyro sensor has a special orientation when installed. Install it according to the gyro's instruction manual .

For JR



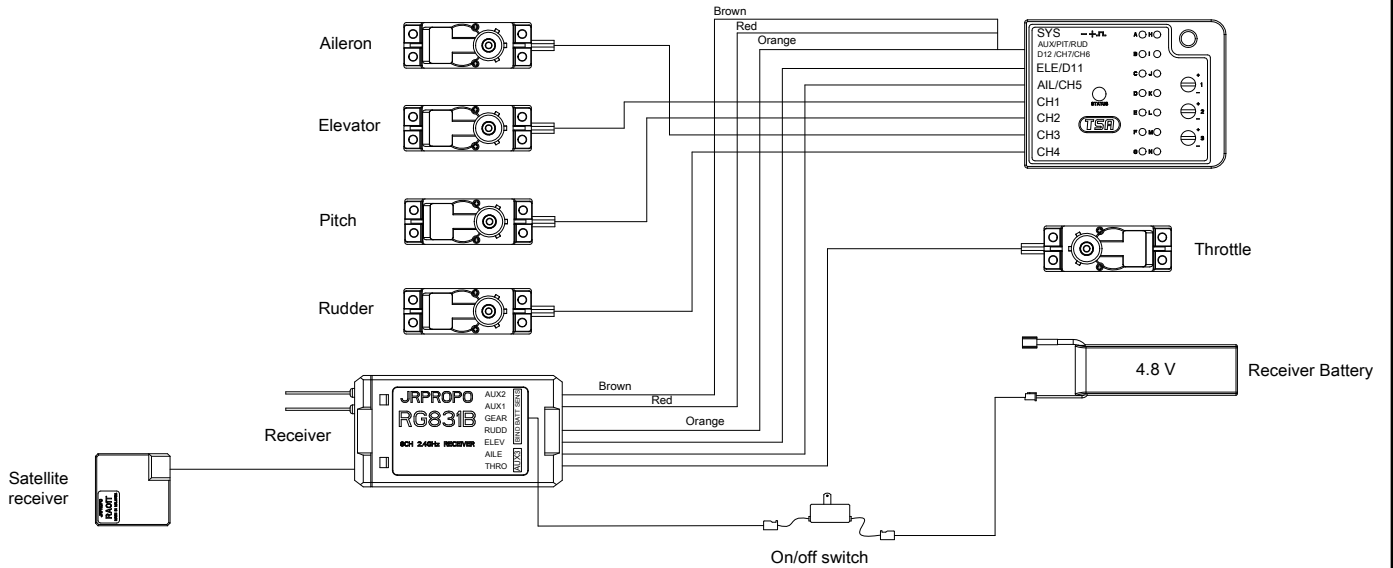
### Caution

The electrical control system as stated above shall be assembled in according to its corresponding instruction manual.

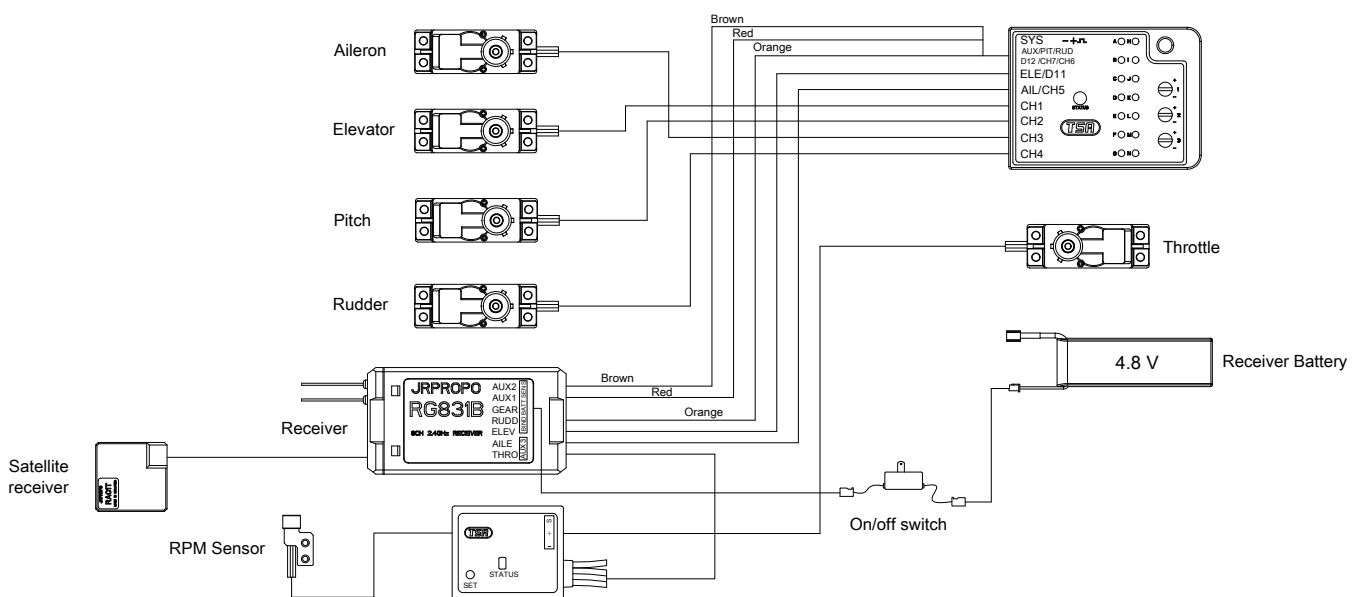
# 35

## Electrical Control System Wiring Diagram

JR / 7CH receiver wiring



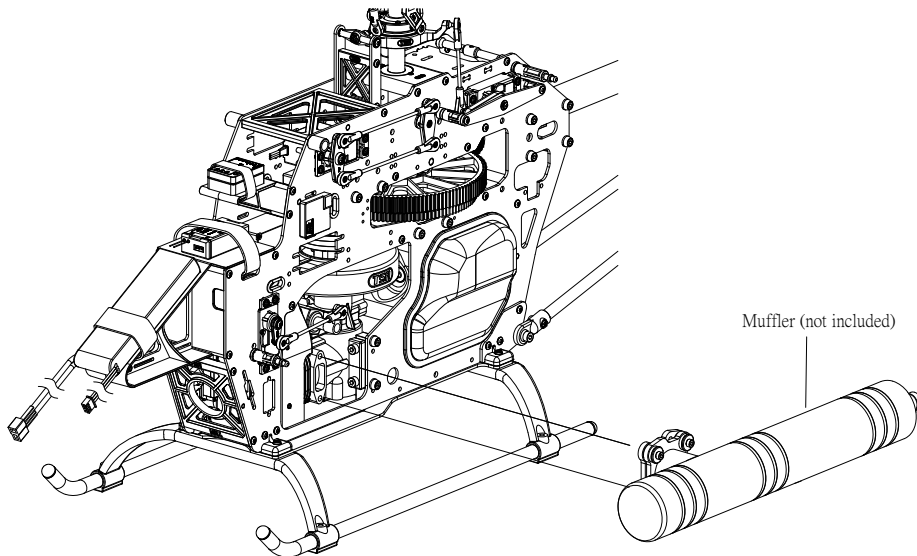
JR / 7CH receiver wiring/Governor





# 36

## Muffler Assembly

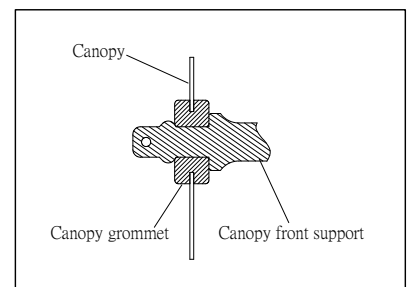
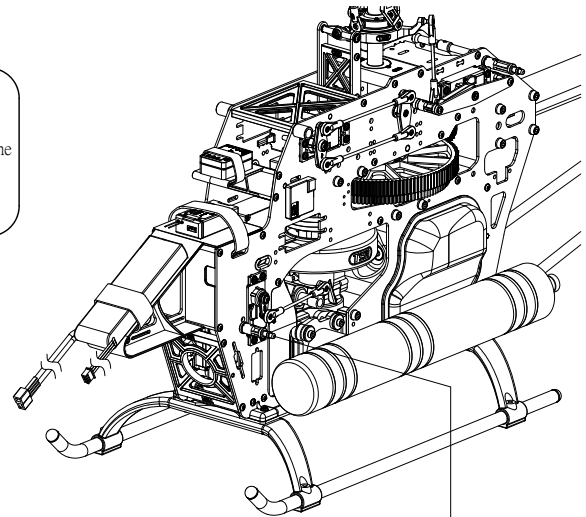
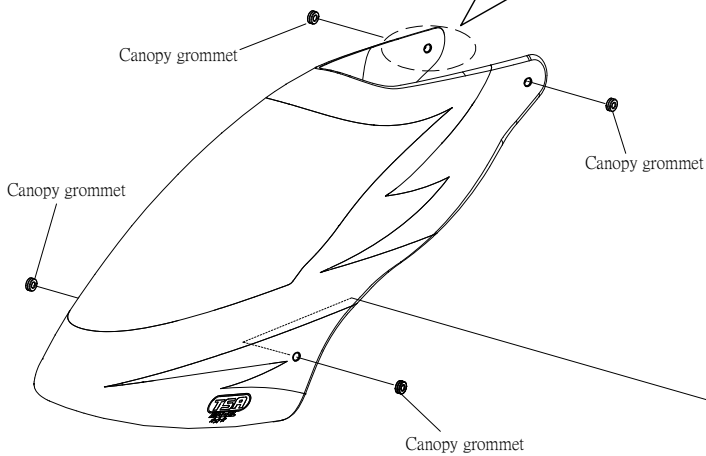
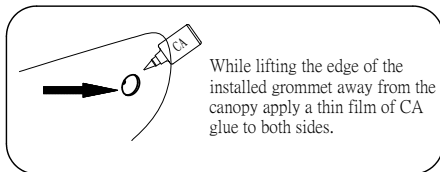
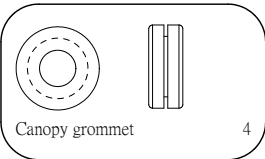


# 37

## Canopy Assembly

T-005-00

Optional custom designed canopies are available. Please check website for availability.





## Flybarless gyro setup-3 Axis gyros

### Caution

Please refer to the Flybarless gyro instruction manual for setting up the cyclic and tail servo along with the rotor head. This will be specific for each system.



## Main blade adjustment

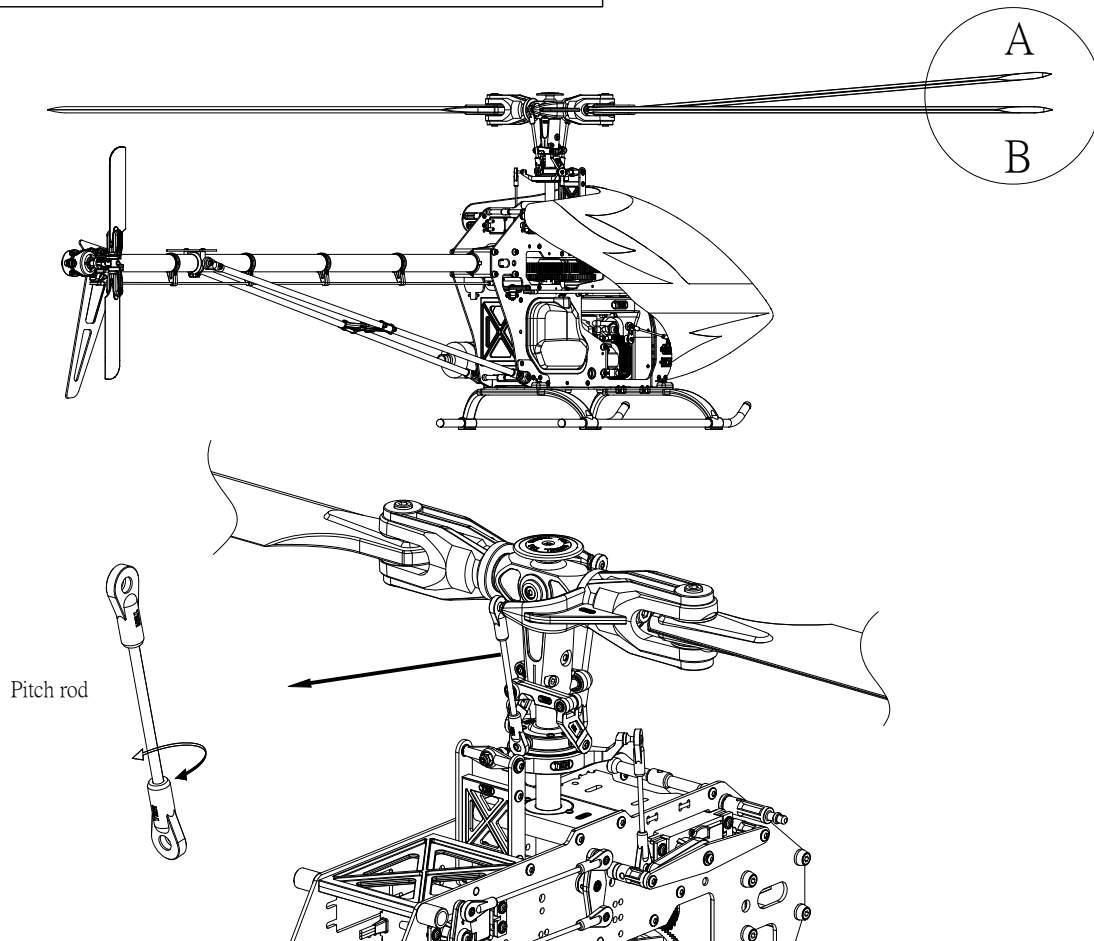
### Caution

Precaution during initial setup is for the safety of yourself and others, so please make sure the heli is flying at least 10m away from any person.

1. Increase pitch slowly until the helicopter comes to a stable hover. Note any separation in the rotor blades.
2. Observe the blade tracking:  
If main blades are in the same track, then no adjustment required. However, if one blade appears higher than the another blade, then adjustments must be made.
3. Adjust pitch rod tracking:  
A. Main blade is higher → reduce length of linkage rod  
B. Main blade is lower → add the length of linkage rod

### Caution

Improper tracking will result in vibration, Adjust track until both blades are tracking in the same plane.

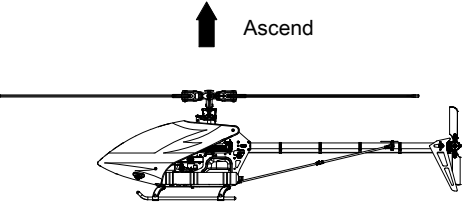
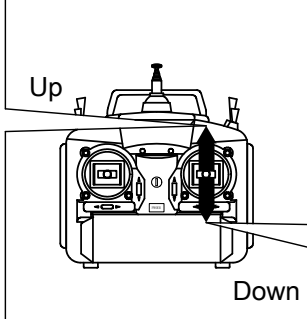
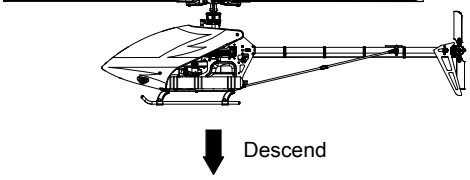
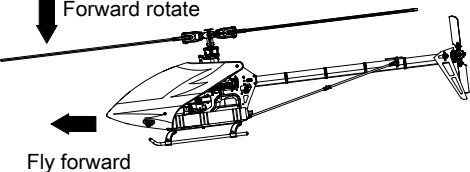
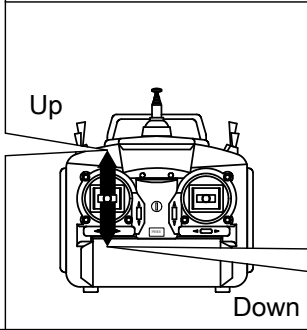
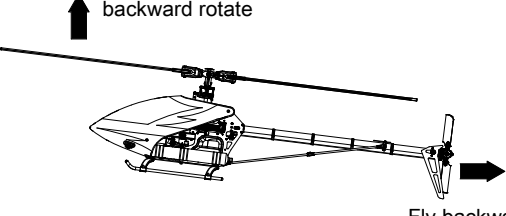
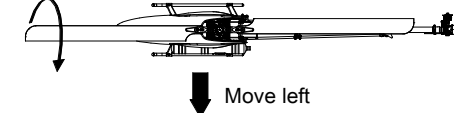
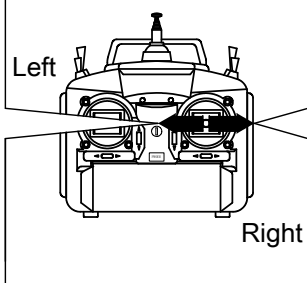
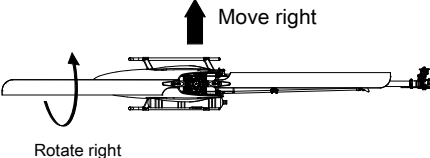
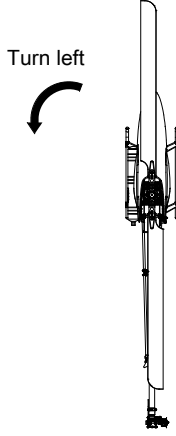
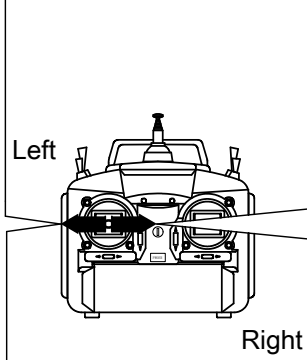
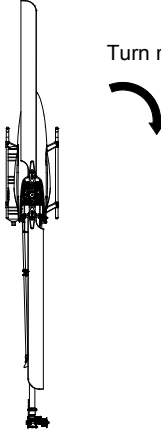




Caution

Beginners should know the designated operating mode of (TSA)700N-3D before operating to avoid accidents

(Mode 1)

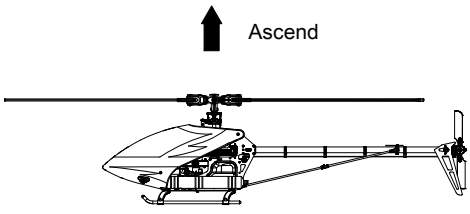
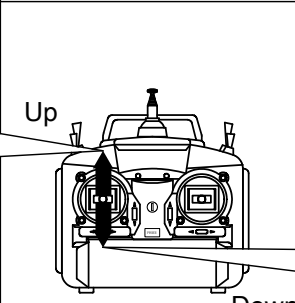
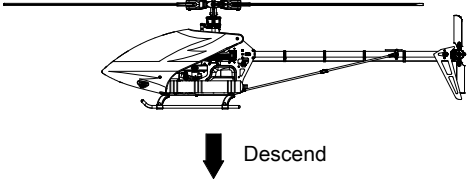
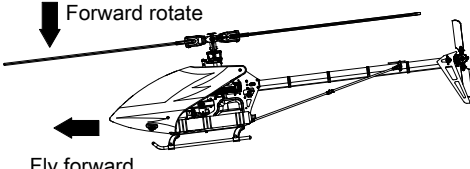
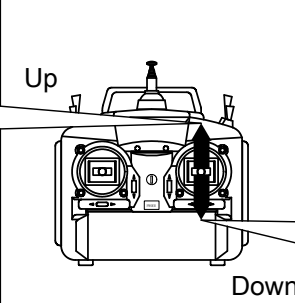
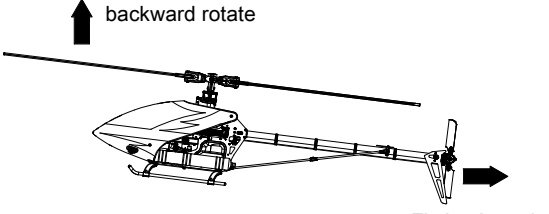
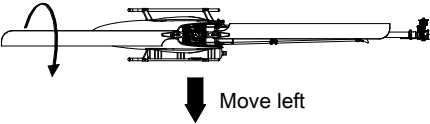
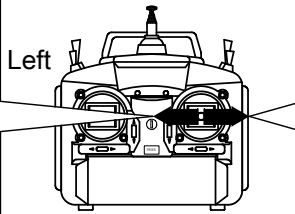
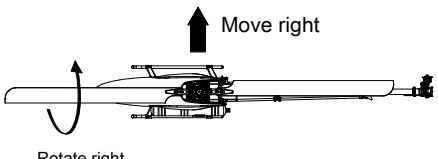
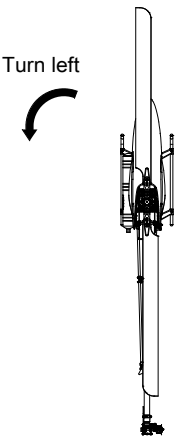
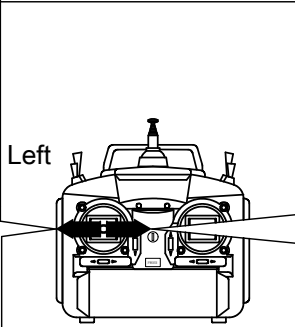
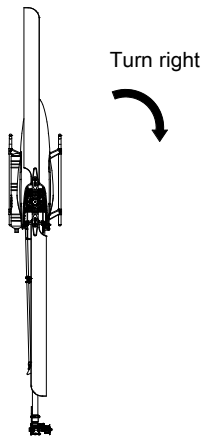
 <p>Pushing the pitch control upward will cause the unit to ascend.</p>	<p>Throttle / Pitch</p>  <p>Up Down</p>	 <p>Push the pitch control down, then the unit will descend.</p>
 <p>Pushing the elevator control up, then the unit will go forward.</p>	<p>Elevator</p>  <p>Up Down</p>	 <p>Push the elevator control down, then the unit will go backward.</p>
 <p>Push the aileron control left, the unit will move to the left.</p>	<p>Aileron</p>  <p>Left Right</p>	 <p>Push the aileron control right, then the unit will move to the right.</p>
 <p>Push the rudder control to the left, the body and nose of unit will rotate to the left.</p>	<p>Rudder</p>  <p>Left Right</p>	 <p>Push the rudder control to the right, the body and nose of unit will rotate to the right.</p>



Caution

Beginners should know the designated operating mode of (TSA)700N-3D before operating to avoid accidents

(Mode 2)

 <p>Pushing the pitch control upward will cause the unit to ascend.</p>	<p>Throttle / Pitch</p>  <p>Up Down</p>	 <p>Push the pitch control down, then the unit will descend.</p>
 <p>Pushing the elevator control up, then the unit will go forward.</p>	<p>Elevator</p>  <p>Up Down</p>	 <p>Push the elevator control down, then the unit will go backward.</p>
 <p>Push the aileron control left, the unit will move to the left.</p>	<p>Aileron</p>  <p>Left Right</p>	 <p>Push the aileron control right, then the unit will move to the right.</p>
 <p>Push the rudder control to the left, the body and nose of unit will rotate to the left.</p>	<p>Rudder</p>  <p>Left Right</p>	 <p>Push the rudder control to the right, the body and nose of unit will rotate to the right.</p>

The helicopter's main and tail rotors spin at very high speed. Make sure to follow these instructions to ensure a safe and enjoyable flight.

## Transporting the unit

When transporting the unit to an airfield, secure it to prevent the unit from tipping over. Avoid causing damage to the components which may adversely affect flight performance and safety.

## Check the unit before flight

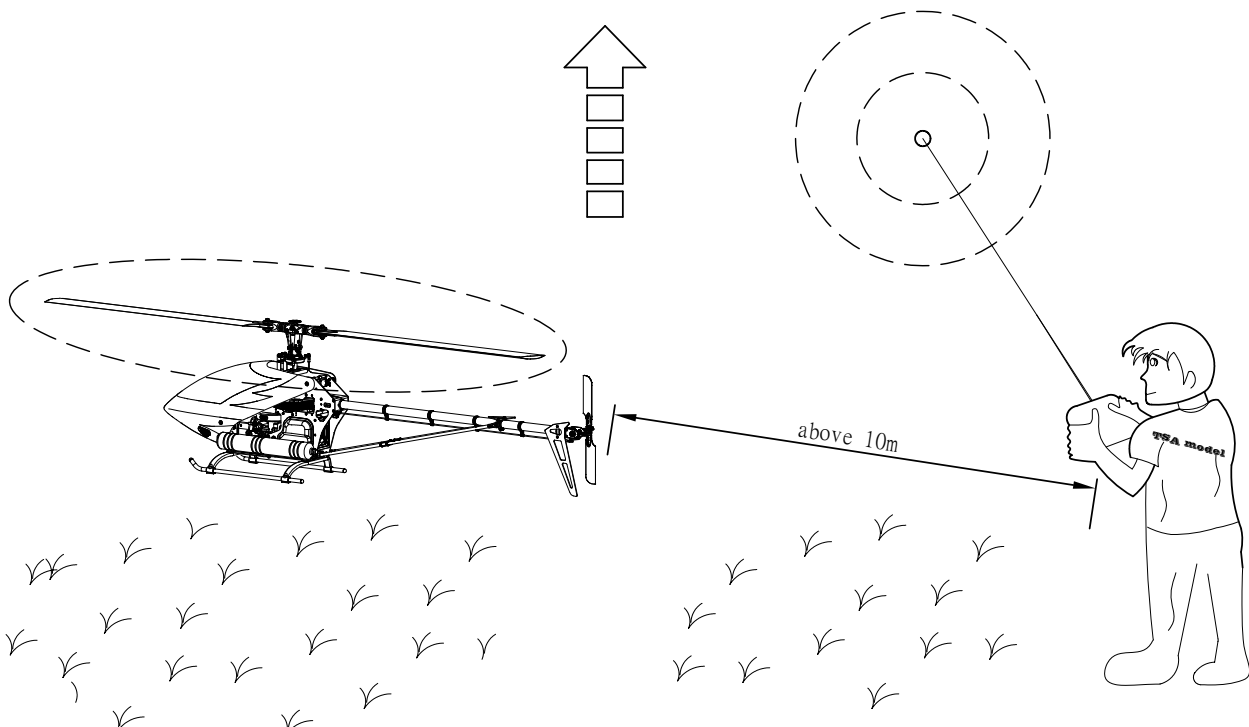
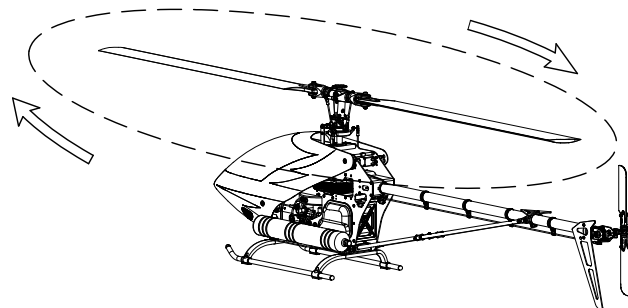
Check that all of the screws are securely fastened. New unit tends to have loose screws. Make sure to check them all before each flight. Check that the transmitter and receiver batteries are fully charged.

## The airfield

Do not fly

1. Near people ,
2. Near buildings ,
3. Near roads, railway tracks, or power lines .

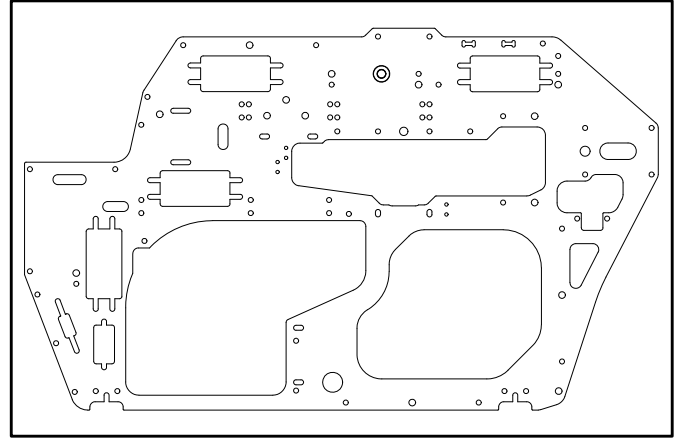
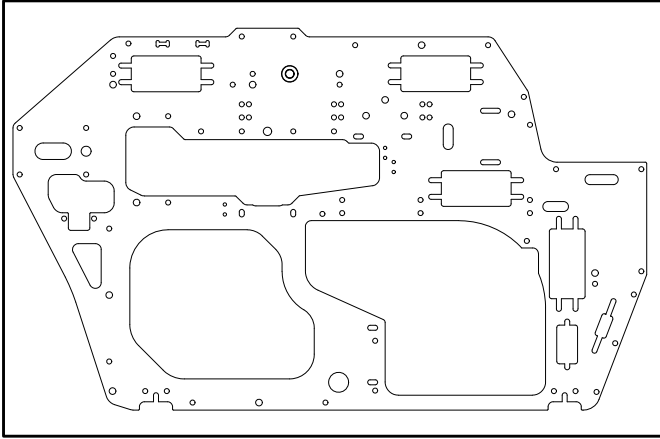
## The distance of flight



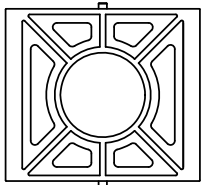
# Spare parts

❖ Order Number: TPA00118XX(Left)

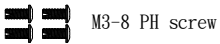
❖ Order Number: TPA00119XX(Right)



Order Number: TPA00402XX

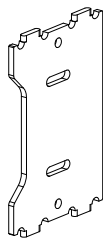


Rigidity brace



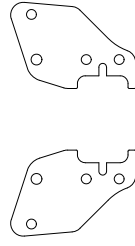
M3-8 PH screw

Order Number: TPA0276000



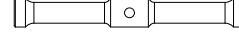
Gyro Plate

Order Number: TPA0283106

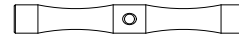


Rigidity plate

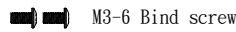
Order Number: TPA00300XX



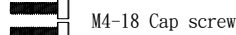
Cross member



Cross member



M3-6 Bind screw



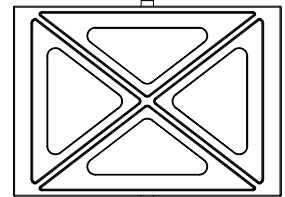
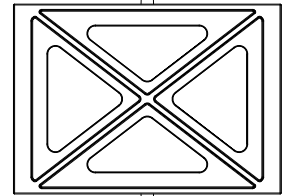
M4-18 Cap screw

Order Number: A-0145-000



Grommet

Order Number: TPA00400XX



Rigidity brace



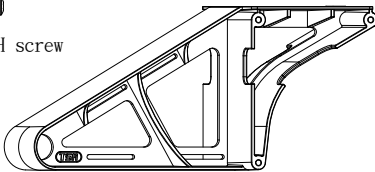
M3-8 PH screw

M3-12 PH screw

Order Number: TPA00500XX



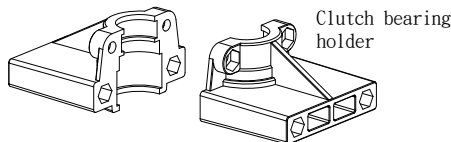
Gyro mount



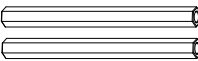
Battery mount

M3-8 PH screw

Order Number: TPA00600XX



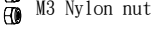
Clutch bearing holder



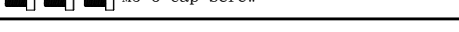
Hex insert



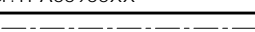
Custom Washer Bearing  $\phi 6 \times \phi 15 \times 5$



M3 Nylon nut



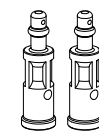
Bearing  $\phi 10 \times \phi 19 \times 5$



M3-8 Cap Screw

Order Number: TPA01300XX

Order Number: TPA01000XX

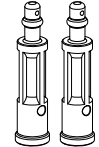


Canopy front support



M3-8 PH screw

Order Number: TPA01200XX



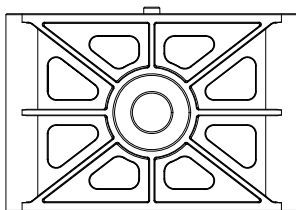
Canopy rear support



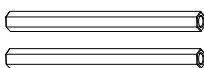
M3-8 PH screw

❖ Order Number: TPA00900XX

❖ Order Number: TPA00700XX



Centre main shaft bearing block

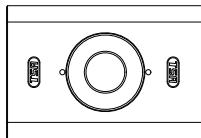


Hex insert

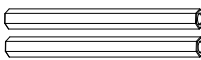


M3-6 Bind screw

❖ Order Number: TPA00800XX



Main bearing holder

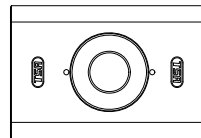


Hex insert

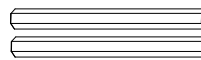


M3-6 Bind screw

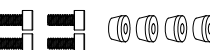
M2-6 Bind screw



Main bearing holder



Hex insert



M3-8 Cap screw

Custom Washer

Order Number: TPA01100XX



Canopy damper



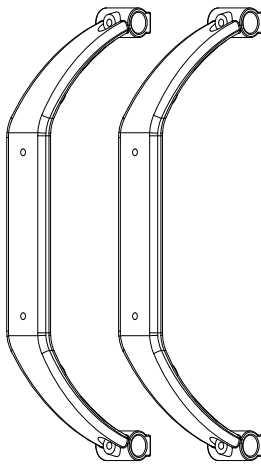
Flange washer

❖ Parts with this symbol have been assembled by the bearing factory !

# Spare parts

Order Number: TPA01601XX

Order Number: TPA01400XX

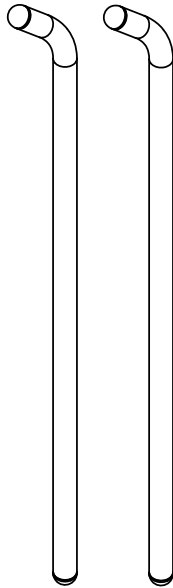


Landing skid



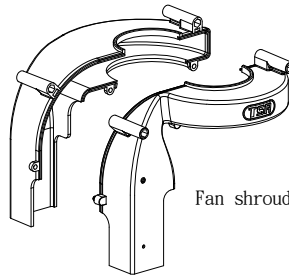
M4-4 SS

Order Number: TPA01501XX

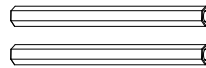


Landing skid tube

Order Number: TPA01801XX



Fan shroud

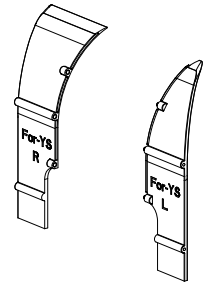


Hex insert



M3-6 Bind screw

Order Number: TPA01700XX

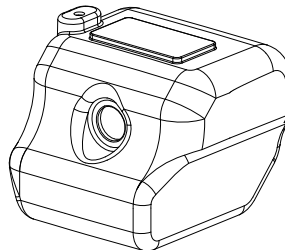


fan shroud insert



M2-6 Bind screw

Order Number: TPA02200XX



Fuel tank (600CC)



Fuel fitting

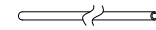


Hex nut

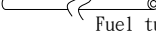


Fuel tank grommet

Order Number: TPA02010XX

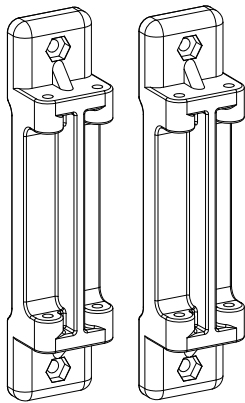


Fuel tube(Ø2.5xØ4x90mm)



Fuel tube(Ø2.5xØ5.5x500mm)

Order Number: TPA01900XX



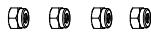
Plastic Skid Mount



M3-12 PH screw



M3-18 Cap screw



M3 Nut

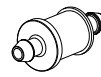


Washer Ø3xØ8x0.8

Order Number: TPA02000XX



Fuel tank pickup



Fuel tank nipple



Fuel inducer

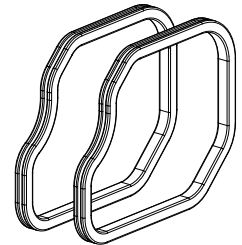


Inducer cover



M3-5 Stainless steel bind screw

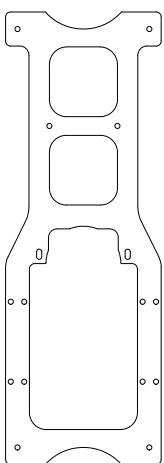
Order Number: TPA0147000



Fuel tank guard

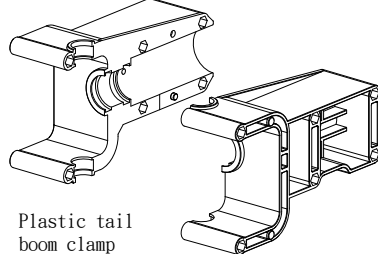
Order Number: TPA02800XX

Order Number: TPA0262000



Base plate

Order Number: TPA0340000



Plastic tail boom clamp

Order Number: TPA02700XX

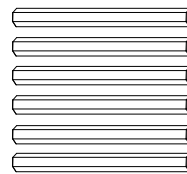


Bearing Ø6xØ13x5



Bearing Ø12xØ18x4

Order Number: TPA02500XX



Hex insert



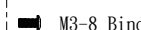
Custom Washer



M3-8 Cap screw

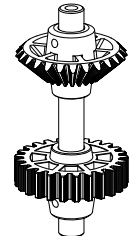


M3-6 Bind screw



M3-8 Bind screw

Order Number: TPA02600XX



Bevel gear



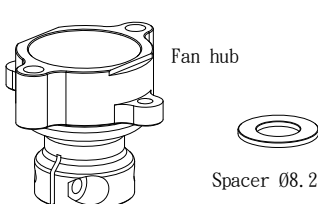
Locating pin (Ø2\*12mm)



M3-5 SS

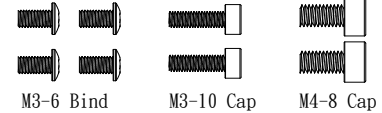
# Spare parts

Order Number: TPA02901XX



Fan hub

Spacer Ø8.2\*Ø15\*1

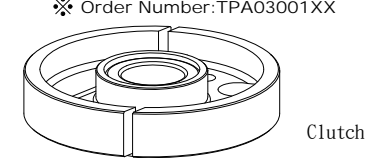


M3-6 Bind screw

M3-10 Cap screw

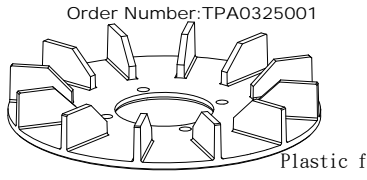
M4-8 Cap screw

❖ Order Number: TPA03001XX



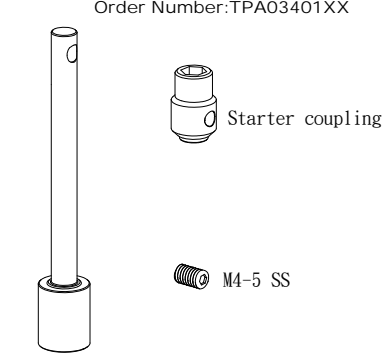
Clutch

Order Number: TPA0325001



Plastic fan

Order Number: TPA03401XX

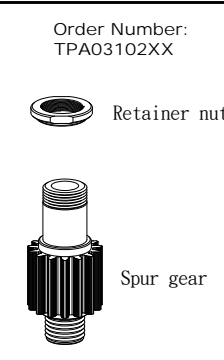


Clutch shaft

Starter coupling

M4-5 SS

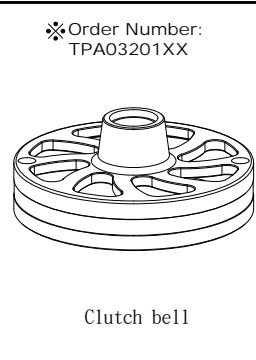
Order Number: TPA03102XX



Retainer nut

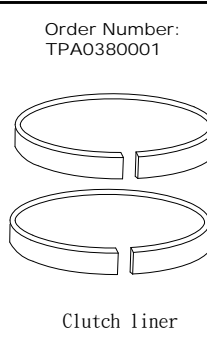
Spur gear

❖ Order Number: TPA03201XX



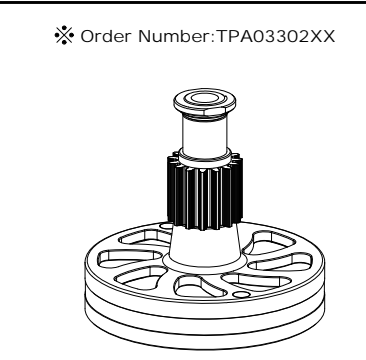
Clutch bell

Order Number: TPA0380001

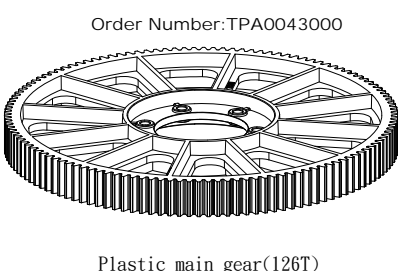


Clutch liner

❖ Order Number: TPA03302XX

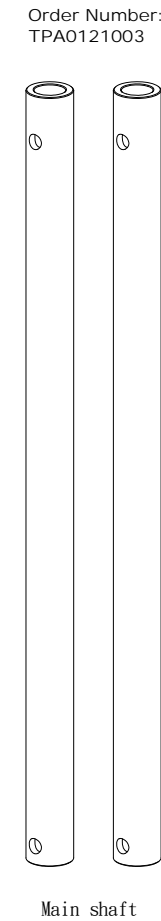


Order Number: TPA0043000



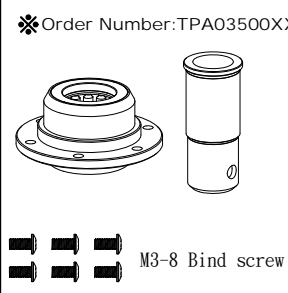
Plastic main gear(126T)

Order Number: TPA0121003



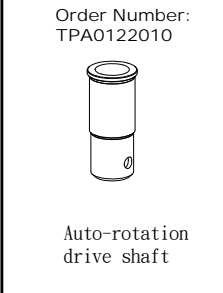
Main shaft

❖ Order Number: TPA03500XX



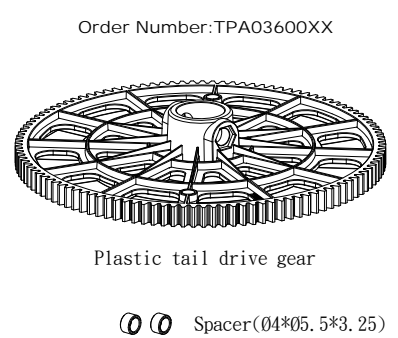
M3-8 Bind screw

Order Number: TPA0122010



Auto-rotation drive shaft

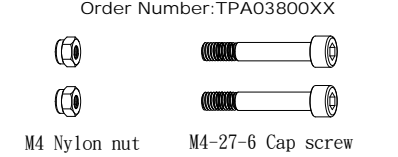
Order Number: TPA03600XX



Plastic tail drive gear

Spacer(Ø4\*Ø5.5\*3.25)

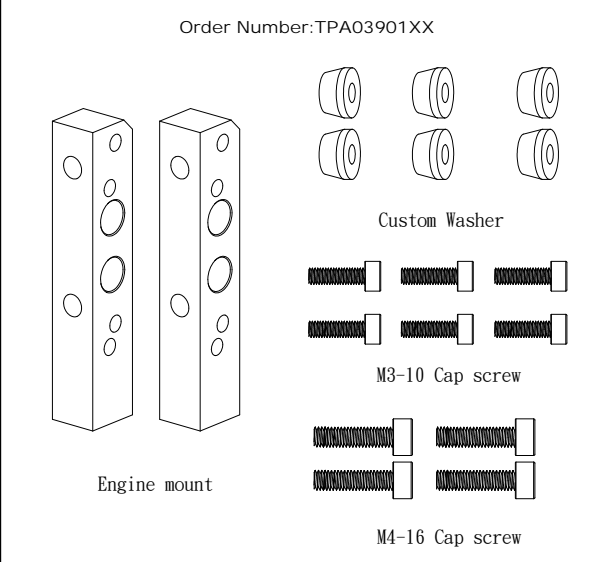
Order Number: TPA03800XX



M4 Nylon nut

M4-27-6 Cap screw

Order Number: TPA03901XX



Engine mount

Custom Washer

M3-10 Cap screw

M4-16 Cap screw



# Spare parts

※Order Number: TPA04603XX

Spacer (3\*5\*5.25mm)

M3-18 SS

M3 Nylon nut

Order Number: TPA04000XX

Pivot Arm

Spacer M3-10 Bind screw M4-4 SS (03\*04.2\*2.45)

Order Number: TPA04100XX

Elevator shaft

Locating pin (02\*11mm) M3-4 SS M3-6 Bind screw

Order Number: TPA04200XX

Plastic elevator lever

5.7mm Ball

M2 Nut

M2-8 Cap screw

Order Number: TPA04300XX

ARE rocker-arm support

M3-8 PH screw

※Order Number: TPA04403XX

ARE supports

※Order Number: TPA04500XX

Plastic Pivot block

M3-18 SS

M3-12 Bind screw

M3 Nylon nut

Spacer (3\*5\*5.25mm)

※ Order Number: TPA20100XX

12mm Ball

M2-4 Bind screw

Order Number: TPA20000XX

Coupling

Pivot ball

Order Number: TPA20200XX

15mm Ball

12mm Ball

13mm Ball

※Order Number: TPA20400XX

※Order Number: TPA20300XX

Washout control arm

Spacer (02\*03.2\*0.9mm)

M2-6 Bind screw

Order Number: TPA0306000

Mixing arm

Order Number: TPAB00100X

Bearing (02x05x2.3)

Order Number: TPA04700XX

5.7mm Ball

M2 Nut

M2-8 Cap screw

Order Number: TPA20901XX

Order Number: TPA20801XX

Metal head block

M4-5 Bind screw

M3-15 Cap screw

Spacer(Ø3\*Ø4.5\*6.2mm)

M3-20 Bind screw

Order Number: TPA20601XX

Teeter hub

Acetyl bearing

Custom washer

M3-6 Bind screw

Order Number: TPA0302001

Feathering shaft sleeve

Order Number: TPA0141001

Damper50° (black)

Order Number: TPA20700XX

Top plate

M3-12 Bind screw

Order Number: TPA20501XX

Spindle(Ø10\*111.2mm)

M6-12 Cap screw

Washer  
Ø6xØ13x2

\* Order Number: TPA21202XX

Blade grip

Spacer(Ø5\*Ø22\*1.5mm)

M5 Nylon nut

15mm Ball

M5-37-8 Cap screw

Order Number: TPA21001XX

M5 Nylon nut

M5-37-8 Cap screw

Order Number: TPA21301XX

Rod(M2.8\*65mm)

Ball link

\* Order Number: TPA42000XX

M3 Nylon nut

M3-19-6 Cap screw

M4-4 SS

\* Order Number: TPA41900XX

Tail blade holder

Order Number: TPA41800XX

M3 Nylon nut

M3-19-6 Cap screw

Order Number: TPA41700XX

Tail spindle

M4-4 SS

M4 Nylon nut

✳ Order Number: TPA42100XX

- spacer (03\*04.5\*3mm)
- M3 Nylon nut
- M3-20 Bind screw

Order Number: TPA41300XX

- spacer (03\*04.5\*3mm)
- M3-5 Bind screw
- M3-20 Bind screw
- M3-25 Bind screw
- Tail gearbox clamp
- M3-12 Cap screw
- 03x06x0.5 Washer
- M3 Nylon nut

Order Number: TPA40900XX

- Metal tail output shaft
- Locating pin (02x12mm)
- M3-5 SS

Order Number: TPA41302XX

- 06x012x4 Bearing
- 012x018x4 Bearing

Order Number: TPA40800XX

- Locking collar
- M3-3 SS

Order Number: TPA02300XX

- Bevel gear
- Bevel gear

✳ Order Number: TPA41000XX

Tail bell crank

- 5.7mm Ball
- M2-8 Cap screw
- M2 Nut

Order Number: TPA40002XX

Plastic tail boom clamp

- M3-8 PH screw
- M4-12 Bind screw
- M3 Nylon nut
- M3-10 Cap screw

Order Number: TPA41400XX

Tail pitch links

- 02x04.2x0.5 Washer
- Spacer
- M2-8 Cap screw

Order Number: TPA41600XX

Order Number: TPA42300XX

- Vertical fin
- Horizontal fin

Order Number: TPA04800XX

Servo support

- M3-8 PH screw

Order Number: TPA04900XX

Servo support plate

- M2.6-12 Bind screw (Futaba)
- M3-12 Bind Screw (JR)
- Servo support guide

Order Number: TPA05202XX

- Rod (M2.2\*50mm)
- Rod (M2.2\*60mm)
- Rod (M2.8\*65mm)
- Rod (M2.2\*80mm)

✳ Order Number: TPA05000XX

- M3 Nylon nut
- M3-8 Bind screw

Order Number: TPA05100XX

- Rod (M2.2\*230mm)
- Carbon fiber tube (211mm)
- Carbon fiber shaft
- Ball link-long

Order Number: TPA05500XX

Servo horn (JR)

Lever (JR)

5.7mm Ball

M2 Nut

M2-8 Cap screw

Order Number: TPA05300XX

Ball link

Ball link-long

Order Number: TPA05400XX

Lever (JR)

13mm Ball

Order Number: TPA05700XX

Servo mounting plate

Servo mounting plate

M2.6-18 PH screw

Order Number: TPA05501XX

Servo horn (Futaba)

Lever (Futaba)

5.7mm Ball

M2 Nut

M2-8 Cap screw

Order Number: TPA06500XX

Wire clamp

Wire clamp

Wire clamp

Order Number: TPA05401XX

Lever (Futaba)

13mm Ball

Order Number: TPA40201XX

Boom support brace (Ø8)

Boom clamp (Ø8)

M2 Nut

M2-10 Cap screw

M3 Nylon nut

M3-10 Cap screw

Order Number: TPA40100XX

Push rod guide

M2-8 Cap screw

M2 Nut

Order Number: TPA0333000

Servo plate

Order Number: TPA0172000

T/T drive end

Order Number: TPA40301XX

Boom support end (Ø8)

M2.6-12-3 Bind screw

M2.6 Nut

Order Number: TPA40600XX

Bearing carrier

Order Number: TPA40701XX

Topque tube (781.5mm)

Order Number: TPA90000XX

Silicone grease

Retainer

5 minute epoxy

Order Number: TPA40502XX

Ball link-long

Rudder rod (M2.2\*773mm)

Order Number: TPA40409XX

Tail boom support (Ø8\*597mm)

Order Number: TPA60201XX

Canopy

Canopy grommet

Order Number: TPA0084001

tail boom (788mm)

## Specifications

★ Full length of fuselage -----	1373mm
★ Full width of fuselage -----	215mm
★ Height -----	419mm
★ Flying weight (approx) -----	4280g
★ Main rotor diameter -----	1580mm
★ Tail rotor diameter -----	262mm
★ Engine class -----	90~120 Nitro
★ Gear ratio -----	8.0~8.4:1:4.52
★ Main gear ratio -----	15T:120T/126T
★ Tail gear ratio -----	113T:25T
★ Full tank capacity -----	650cc
★ Main blade (not included) -----	680~710mm
★ Tail blade (not included) -----	90~110mm



**INFUSION 7000**  
*Pro*

Customer Support: [sales@tsamodel.com](mailto:sales@tsamodel.com)



### Safety Precautions

Helicopter spinning blades are potential dangerous. Please ensure to maintain a minimum distance of 10m from the aircraft at all times. It is the responsibility of the builder to ensure the aircraft is airworthy and safe to operate in the designated area. On going maintenance is required by the operator to ensure continuous safe use and all damaged parts should be replaced immediately.

Small components are included in the kit, please ensure the kit parts are kept out of children's reach, as they are small enough to swallow.

Use only TSA Model genuine parts, failure to do so could result in damage to both the aircraft and personal in the area. TSA Model takes no responsibility for the operational use of the aircraft.



### Caution

Reproduction of the manual and any TSA components are strictly prohibited.

The contents of this manual are subject to change without prior notice.

Every effort has been made to ensure that this manual is complete and correct.