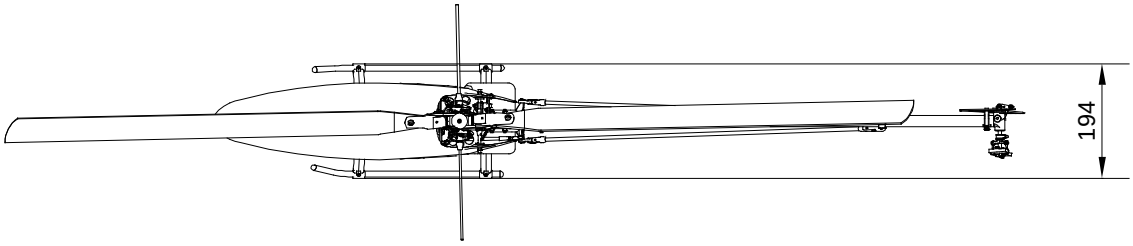
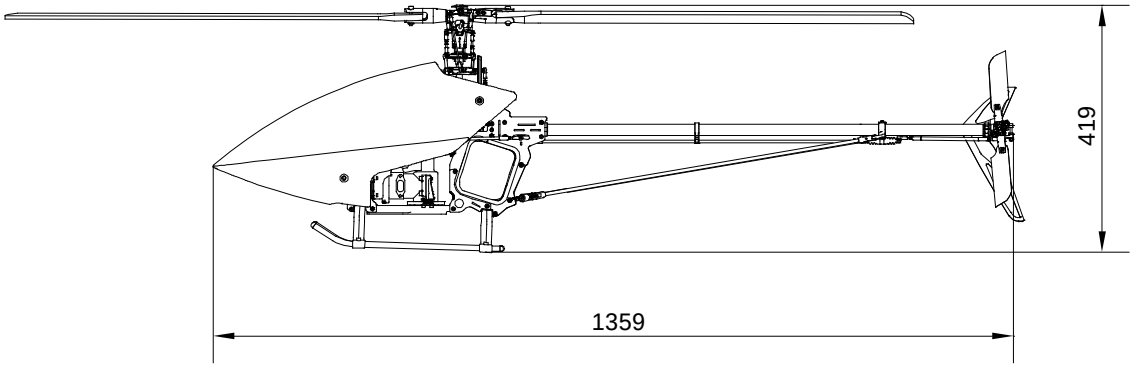
Designed By KASAMA

Cooperate With

Ultimate Heli-UAE





SRIMOK 90

THE NEXT LEVEL

INTRODUCTION

Thank you for your purchase of Srimok 90 radio controlled helicopter . The Srimok 90 was designed and developed by Mr. Kasama Thaworn. With strong and friendly support from Ultimate heli U.A.E. It combines both elements of his previous designs , newly advanced technologies and materials . The design ideas are not only from flying , but also from many years of rc experience . So the beginners and advanced 3-d fliers will definitely be impressed with Srimok 90.

This radio controlled helicopter is not a toy. It is a sophisticated piece of equipment that was designed for hobby use only .If it is not properly assembled , maintained or operated , it is capable of causing property damage and bodily harm to both operator and/or spectators . Kasama helicopters co., ltd. affiliates and its authorized affiliates assume no liability for damage that could occur from the assembly, use and/ misuse of this product. If you are new to the hobby we strongly recommend seeking help and advice from an experienced modeler. Srimok90 is a very high speed helicopter, it was not intended for beginners or novice building, setup or flying.

Operatiing a model helicopter requires a high degree of diligence and skill. if you are a newcomer to the hobby , it is best to seek help and guidance from experienced radio controlled helicopter pilots . This will both greatly speed up the learning process and make it much safer and enjoyable.

We also would strongly urge you to join the Academy of Model Aeronautics. The AMA is a non-profit organization that provides its member with a liability insurance plan as well as monthly magazine entitled Model aviation .All clubs operate in accordance with AMA principles at their fields. For further information ,contact the AMA at

Academy of Model Aeronautics

5151 East Memorial Drive

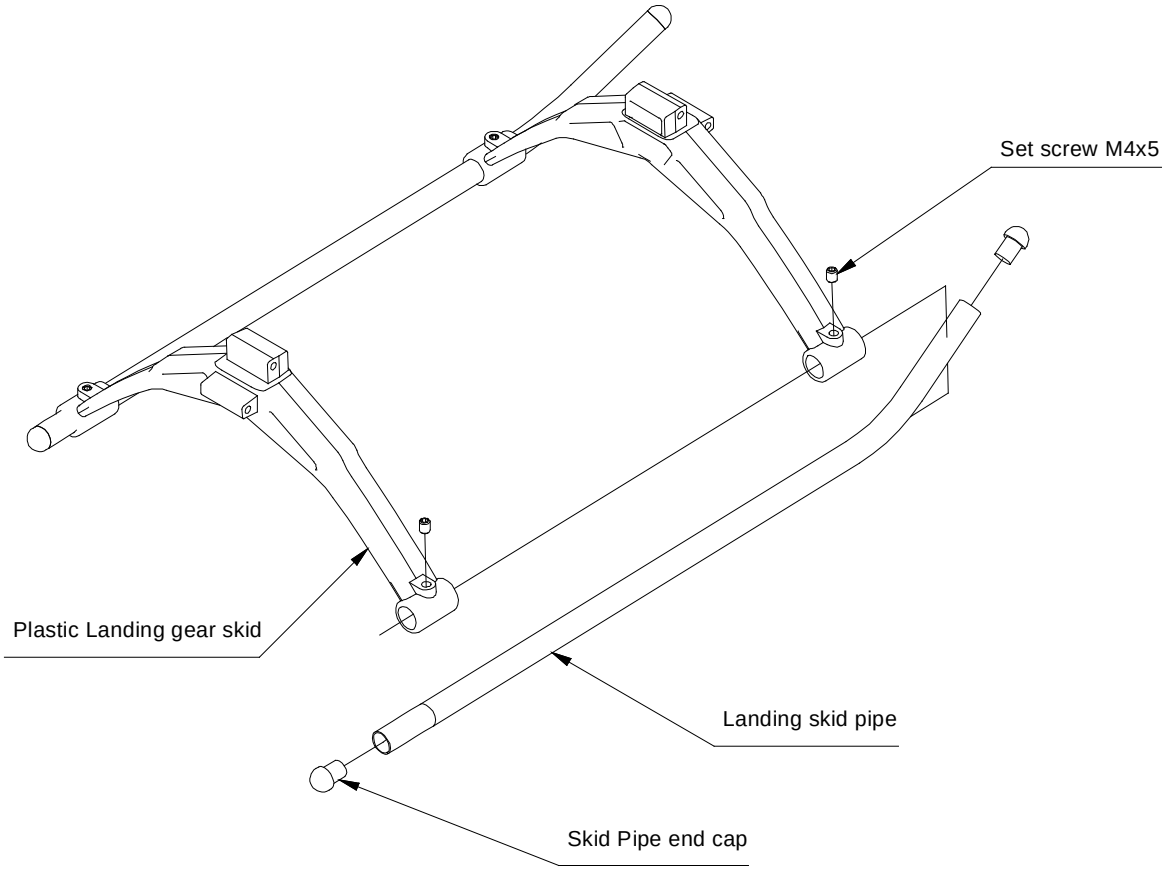
Muncie, in47302

[317] 287-1256

INDEX

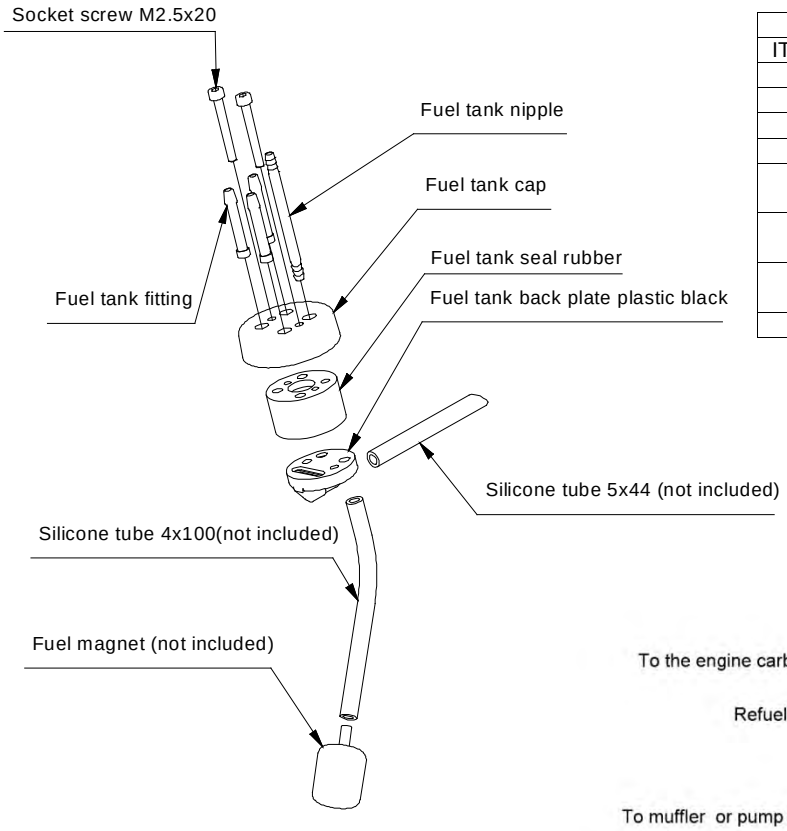
PLEASE READ THIS MANUAL CAREFULLY BEFORE INSTALLATION

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM70-F09	Skid Pipe end cap	4
2	KSM10-F25	Landing skid pipe	2
3	KSM60-019	Set screw M4x5	4
4	KSM70-F18H	Plastic Landing gear skid	2

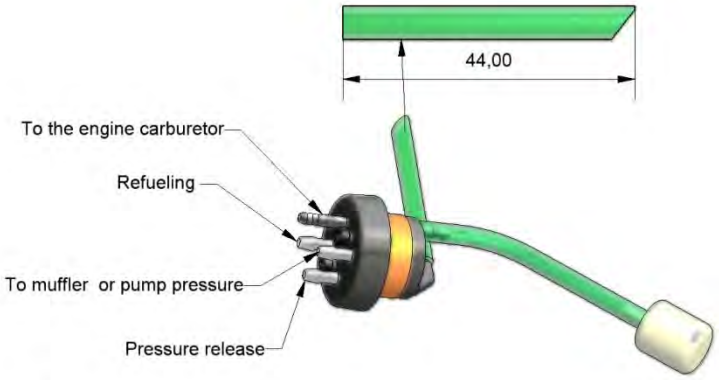


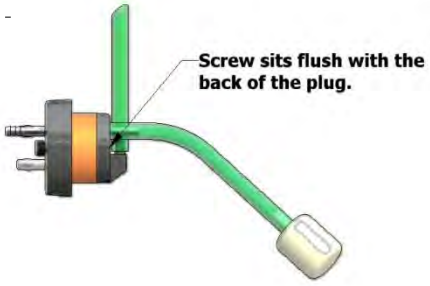
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

FUEL TANK PLUG ASSEMBLY 2-BOX1

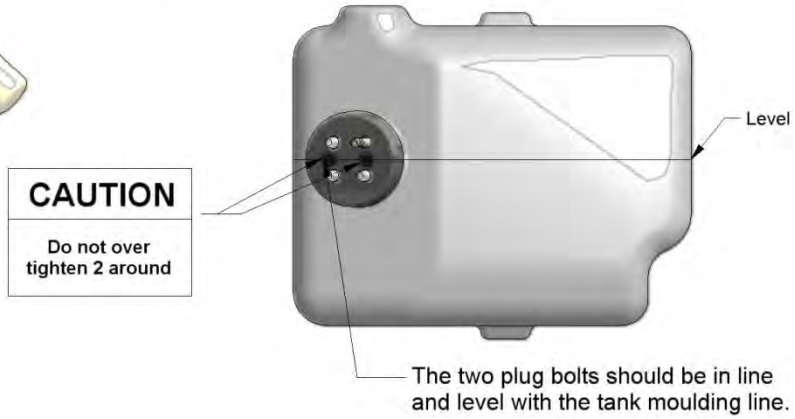


Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM70-FT02	Fuel tank cap	1
2	KSM70-FT06	Fuel tank seal rubber	1
3	KSM70-FT04	Fuel tank fitting	3
4	KSM70-FT09	Silicone tube 4x100	1
5	KSM70-FT05	Fuel tank back plate plastic black	1
6	KSM60-051	Socket screw M2.5x20	2
7	KSM70-FT01	Fuel tank plastic (600 cc)	1
8	KSM70-FT03	Fuel tank nipple	1





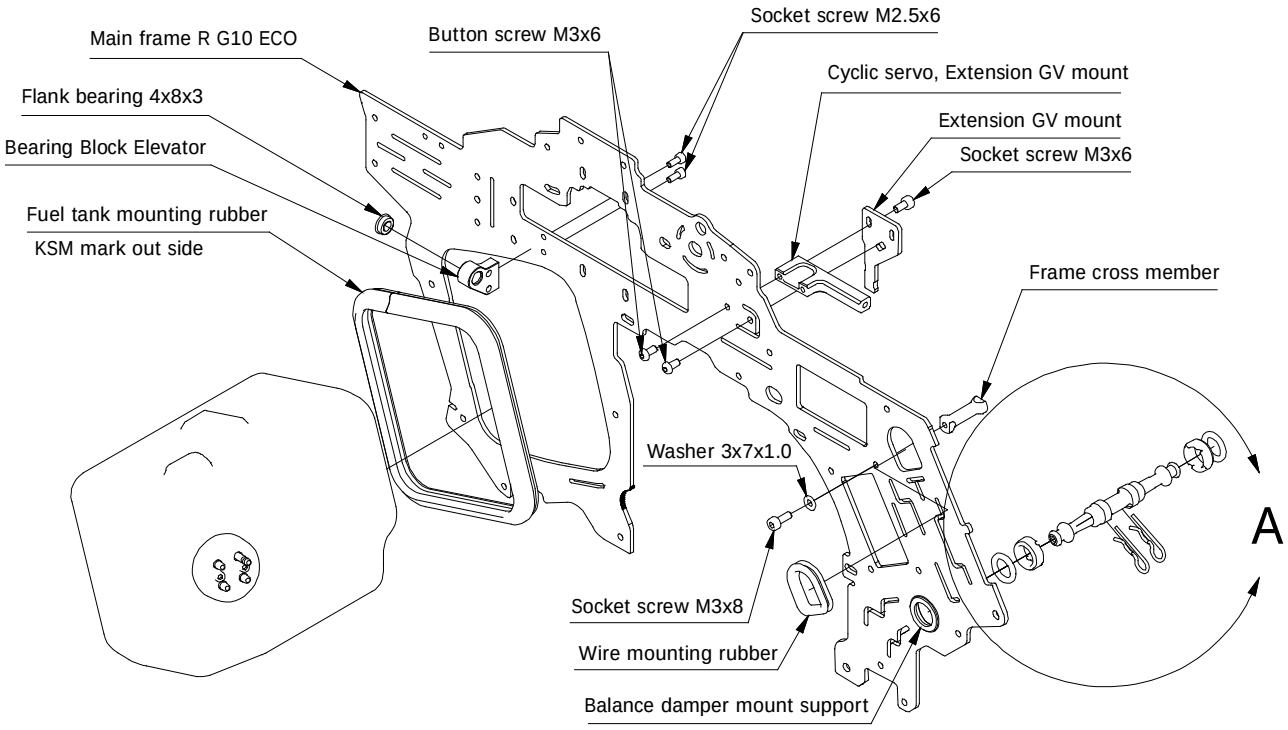
FUEL TANK ASSEMBLY



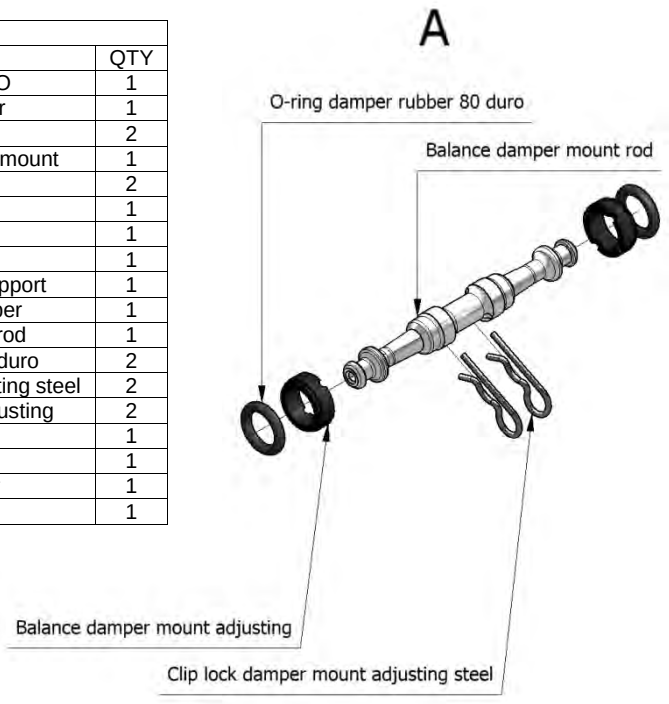
THE FUEL TANK CAP ASSEMBLY

1) Tighten the plug bolts until they are flush with the plug.
2) Insert plug fully into tank.
3) Rotate plug until bolts are level with tank mounding line
4) **Tighten plug bolts (M2.5x20) by punctuate each one around until full 2 around.**

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM40-90F05	Main frame R G10 ECO	1
2	KSM10-C10	Bearing Block Elevator	1
3	KSM60-048	Socket screw M2.5x6	2
4	KSM10-F05	Cyclic servo, Extension GV mount	1
5	KSM60-052	Button screw M3x6	2
6	KSM10-F02	Frame cross member	1
7	KSM60-034	Socket screw M3x8	1
8	KSM60-029	Washer 3x7x1.0	1
9	KSM10-F27	Balance damper mount support	1
10	KSM70-FT07	Fuel tank mounting rubber	1
11	KSM10-26	Balance damper mount rod	1
12	KSM70-F06	O-ring damper rubber 80 duro	2
13	KSM70-F08	Clip lock damper mount adjusting steel	2
14	KSM70-F06	Balance damper mount adjusting	2
15	KSM60-033	Socket screw M3x6	1
16	KSM40-F06	Extension GV mount	1
17	KSM70-F05	Wire mounting rubber	1
18	KSM30-118	Flank bearing 4x8x3	1

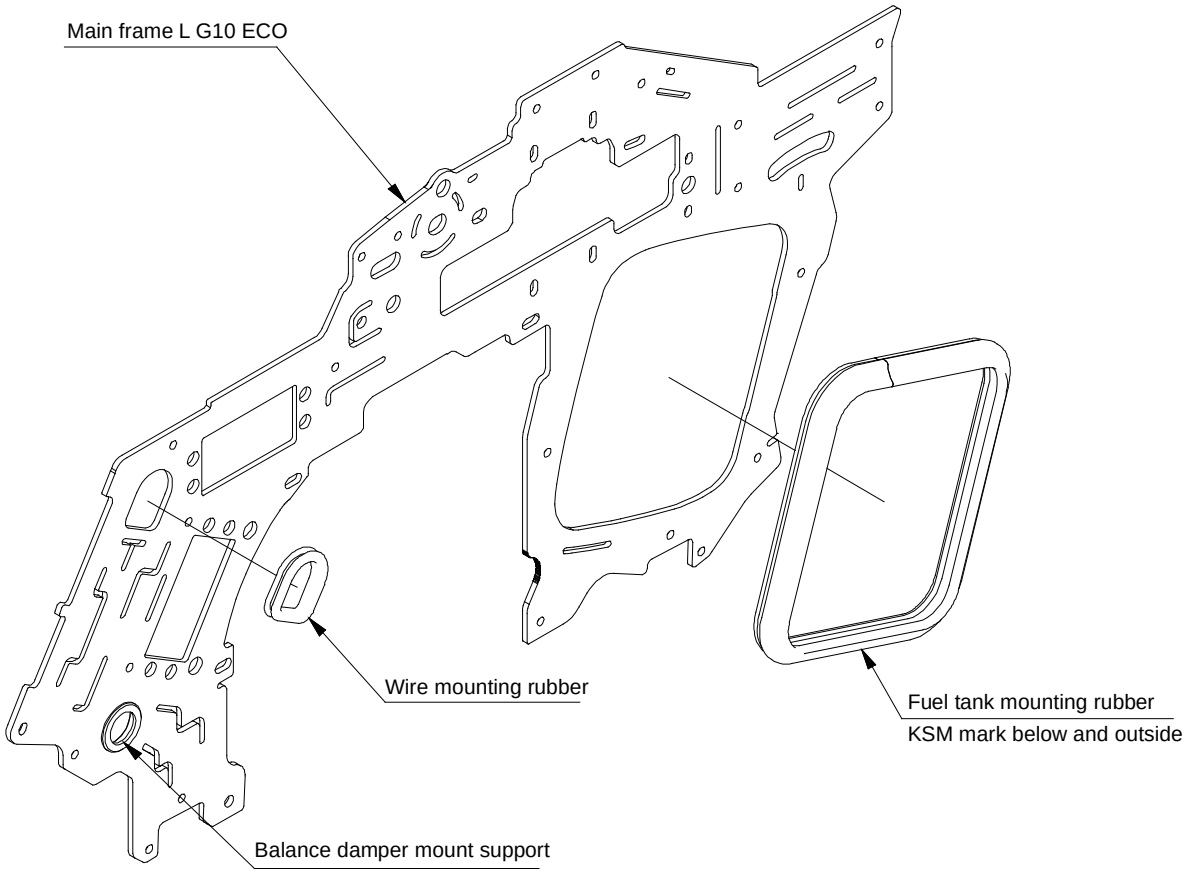


Balance damper mount body system

NOTE: To protect wiring and fuel tubing it is best to sand the G10 frame edges

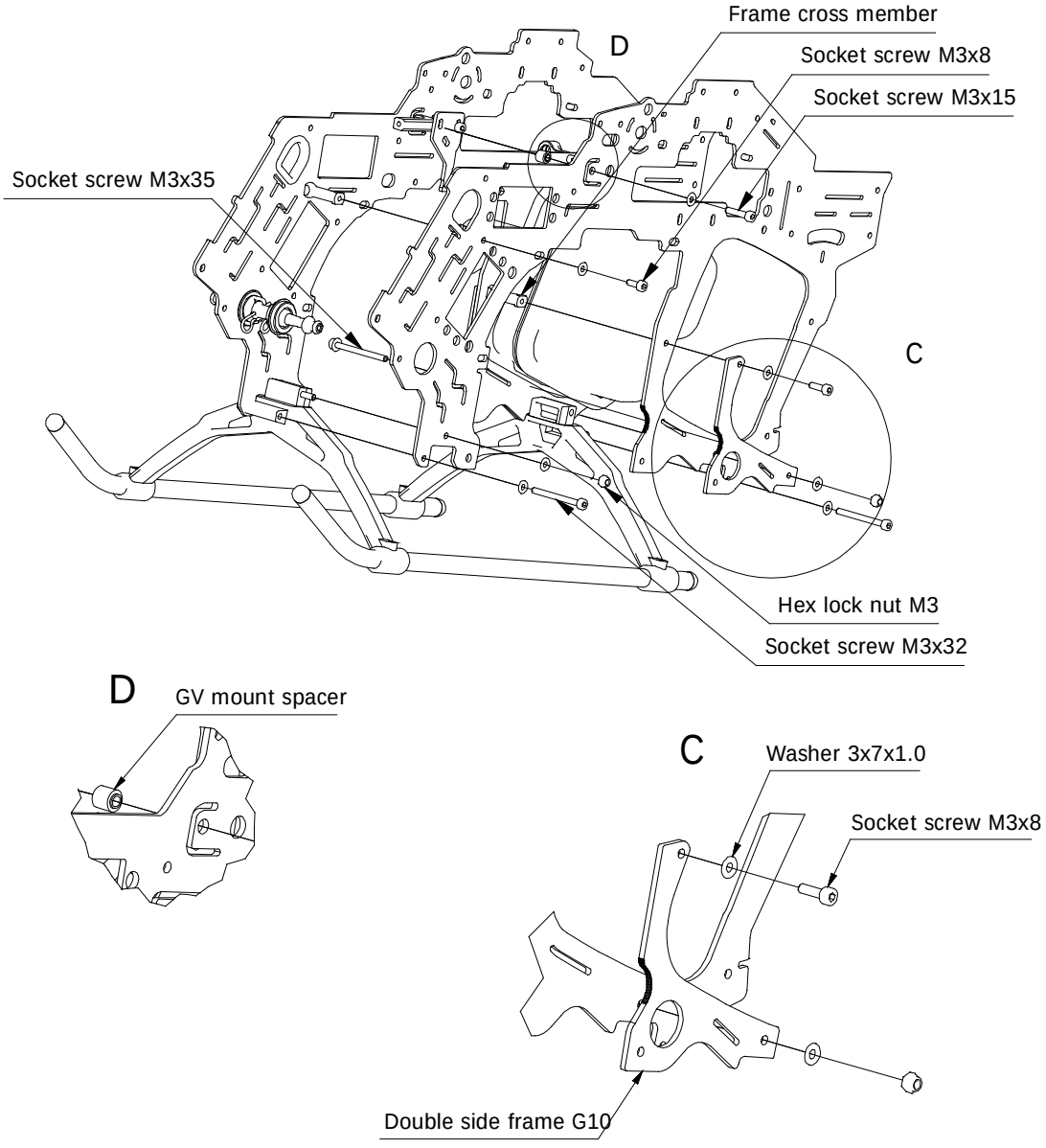
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM40-90F06	Main frame L G10 ECO	1
2	KSM10-F27	Balance damper mount support	1
3	KSM70-FT07	Fuel tank mounting rubber	1
4	KSM70-F05	Wire mounting rubber	1



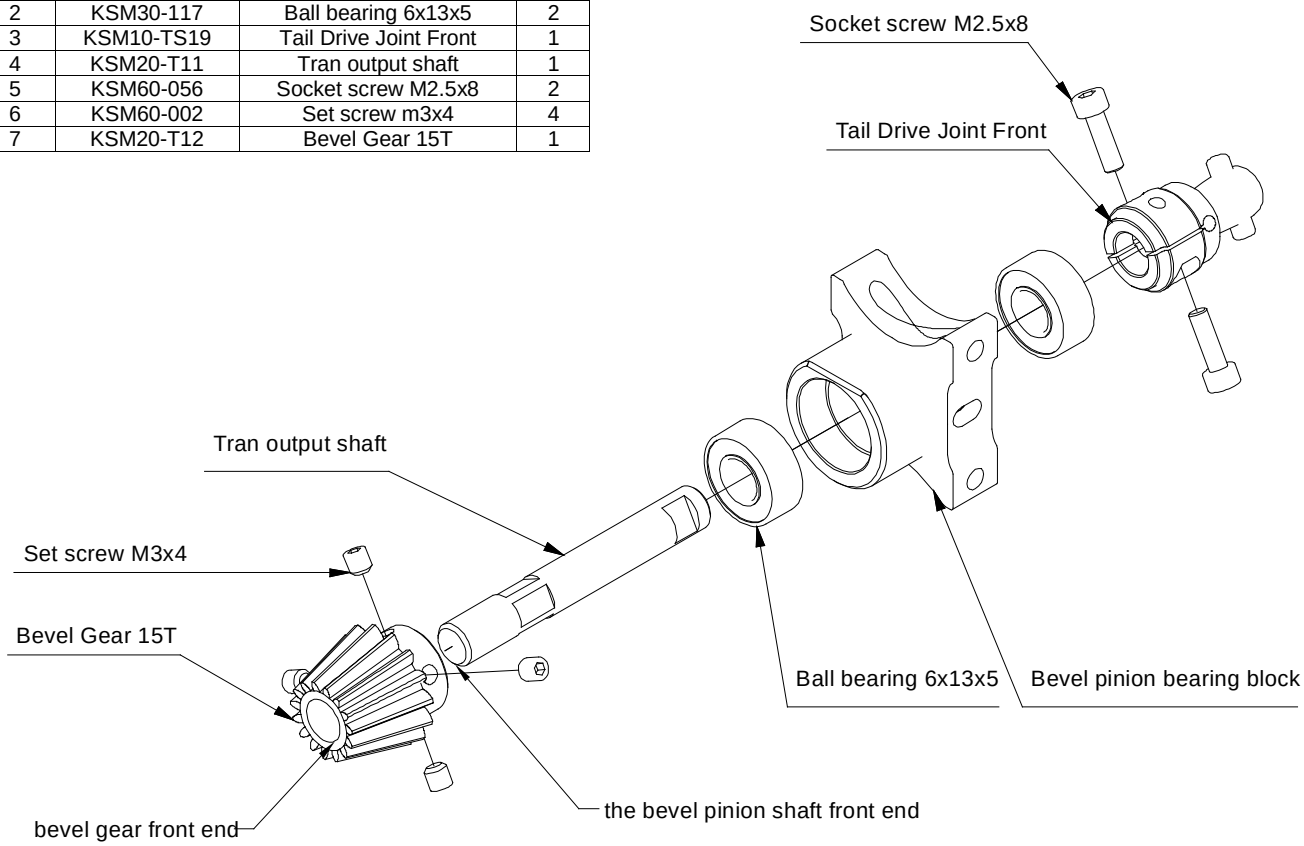
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

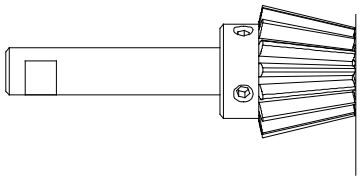
Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-031	Socket screw M3x32	3
2	KSM60-091	Socket screw M3x35	1
3	KSM60-034	Socket screw M3x8	3
4	KSM60-029	Washer 3x7x1.0	12
5	KSM60-027	Hex lock nut M3	4
6	KSM60-008	Socket screw M3x15	1
7	KSM10-F06	GV mount spacer	1
8	KSM40-F13	Double side frame G10	2
9	KSM10-F02	Frame cross member	1

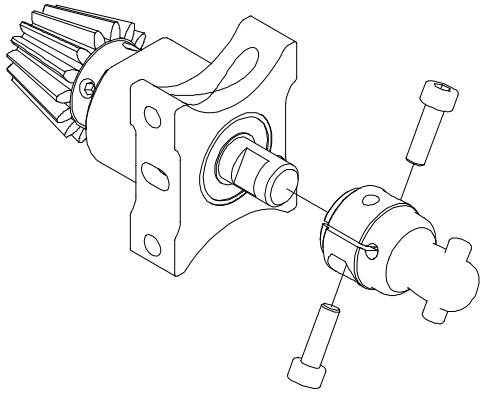


Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-T08	Bevel pinion bearing block	1
2	KSM30-117	Ball bearing 6x13x5	2
3	KSM10-TS19	Tail Drive Joint Front	1
4	KSM20-T11	Tran output shaft	1
5	KSM60-056	Socket screw M2.5x8	2
6	KSM60-002	Set screw m3x4	4
7	KSM20-T12	Bevel Gear 15T	1



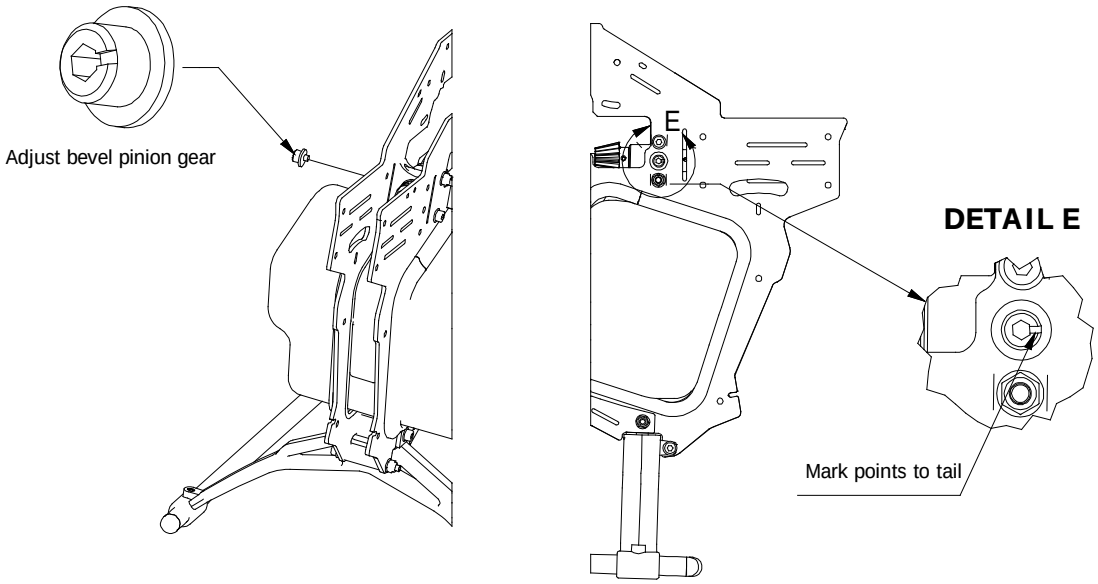


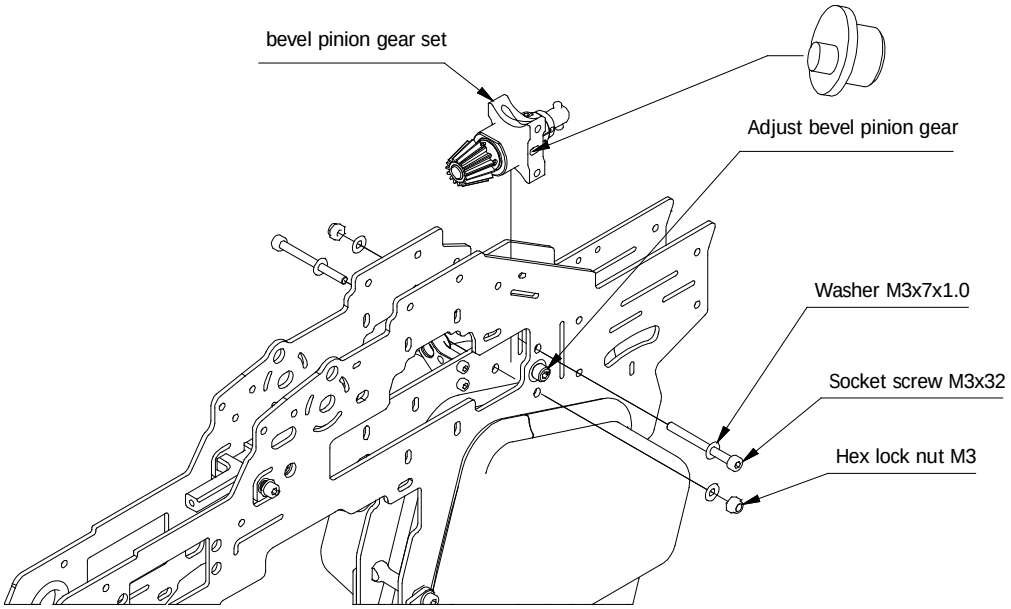


NOTICE : The pinion shaft must reach and be level with the end of the front bevel gear and tighten the 4 M3 Set screws.

NOTICE : Press the two parts together and tighten the 2 M3 pinch bolts. Make sure the shaft runs smoothly.

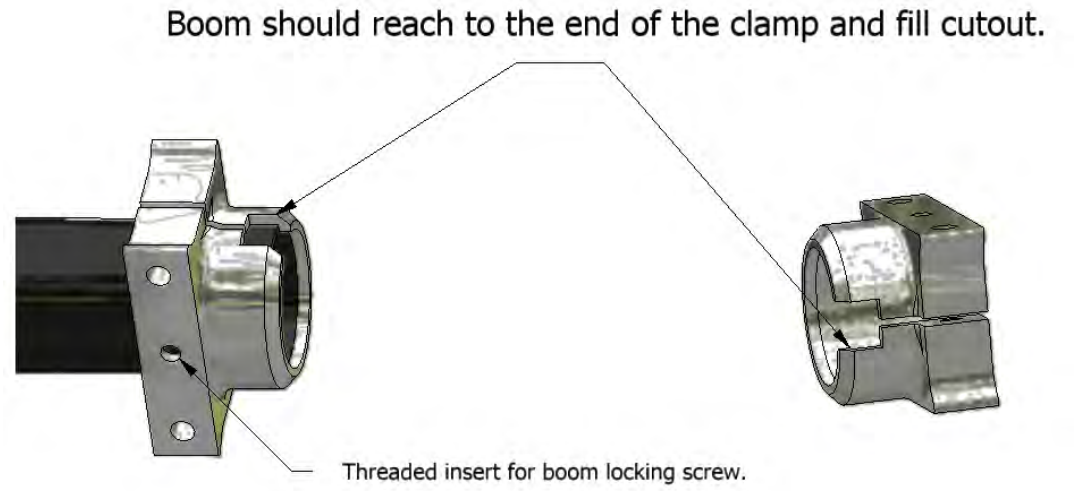
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



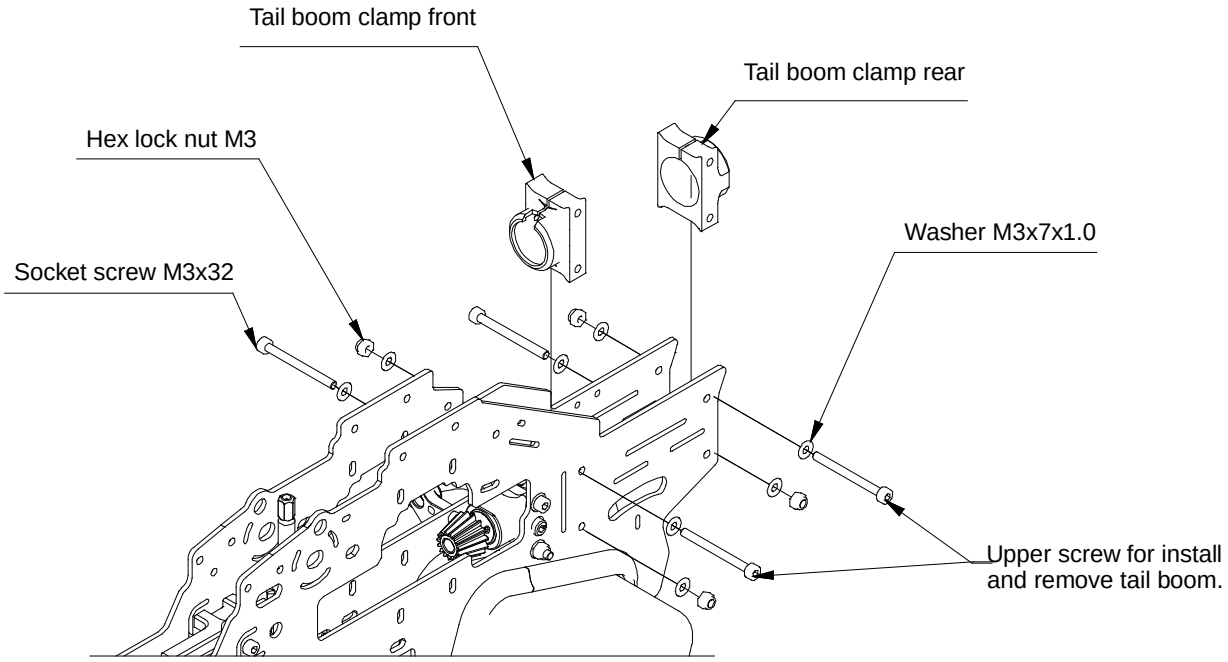


Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-027	Hex lock nut M3	2
2	KSM60-031	Socket screw m3x32	2
3	KSM60-029	Washer M3x7x1.0	4
4	KSM20-TS09	Adjust bevel pinion gear	1

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

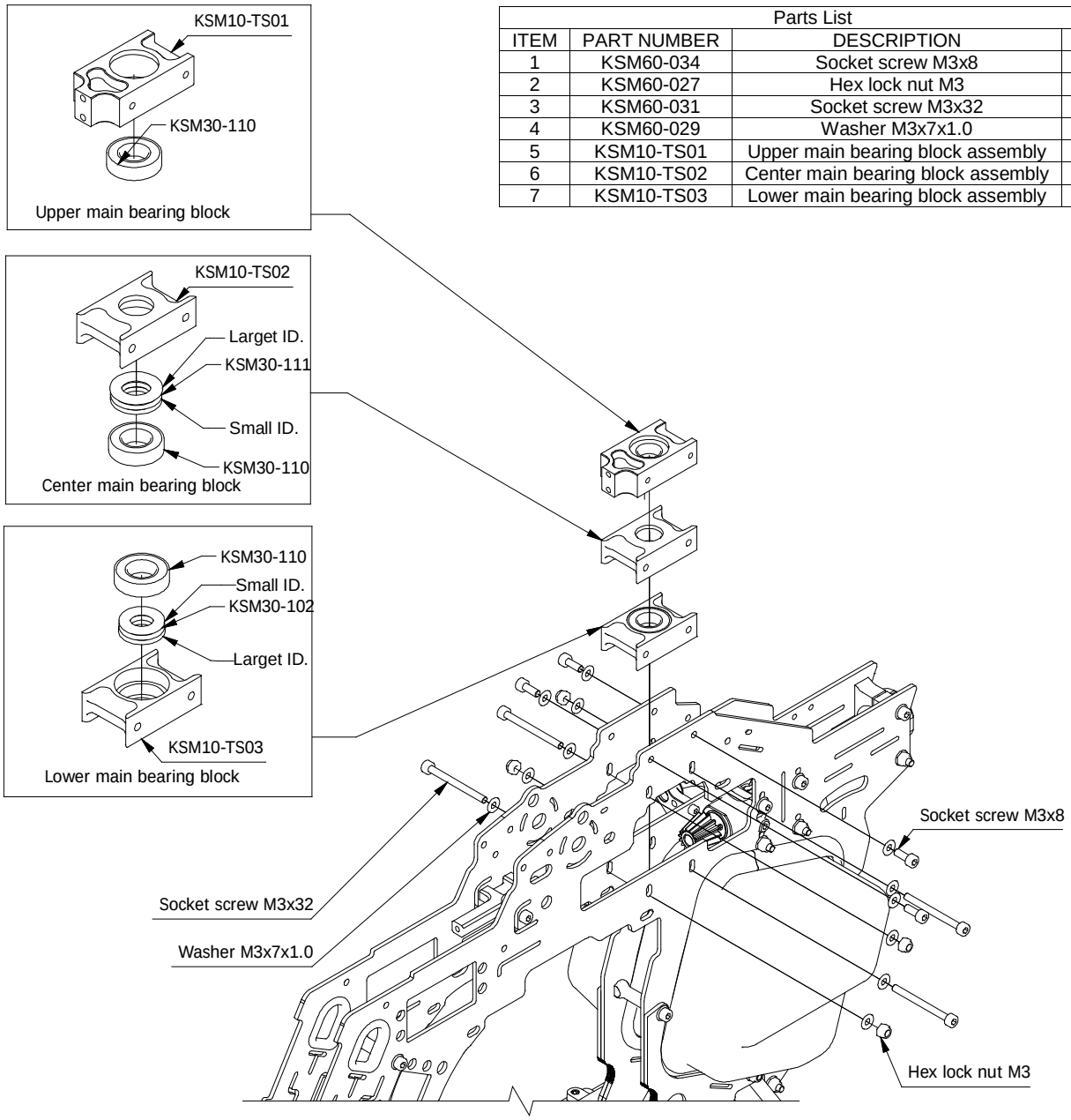


Optional plastic film included if required



Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-027	Hex lock nut M3	4
2	KSM60-031	Socket screw M3x32	4
3	KSM60-029	Washer M3x7x1.0	8
4	KSM10-T06	Tail boom clamp front	1
5	KSM10-T07	Tail boom clamp rear	1

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

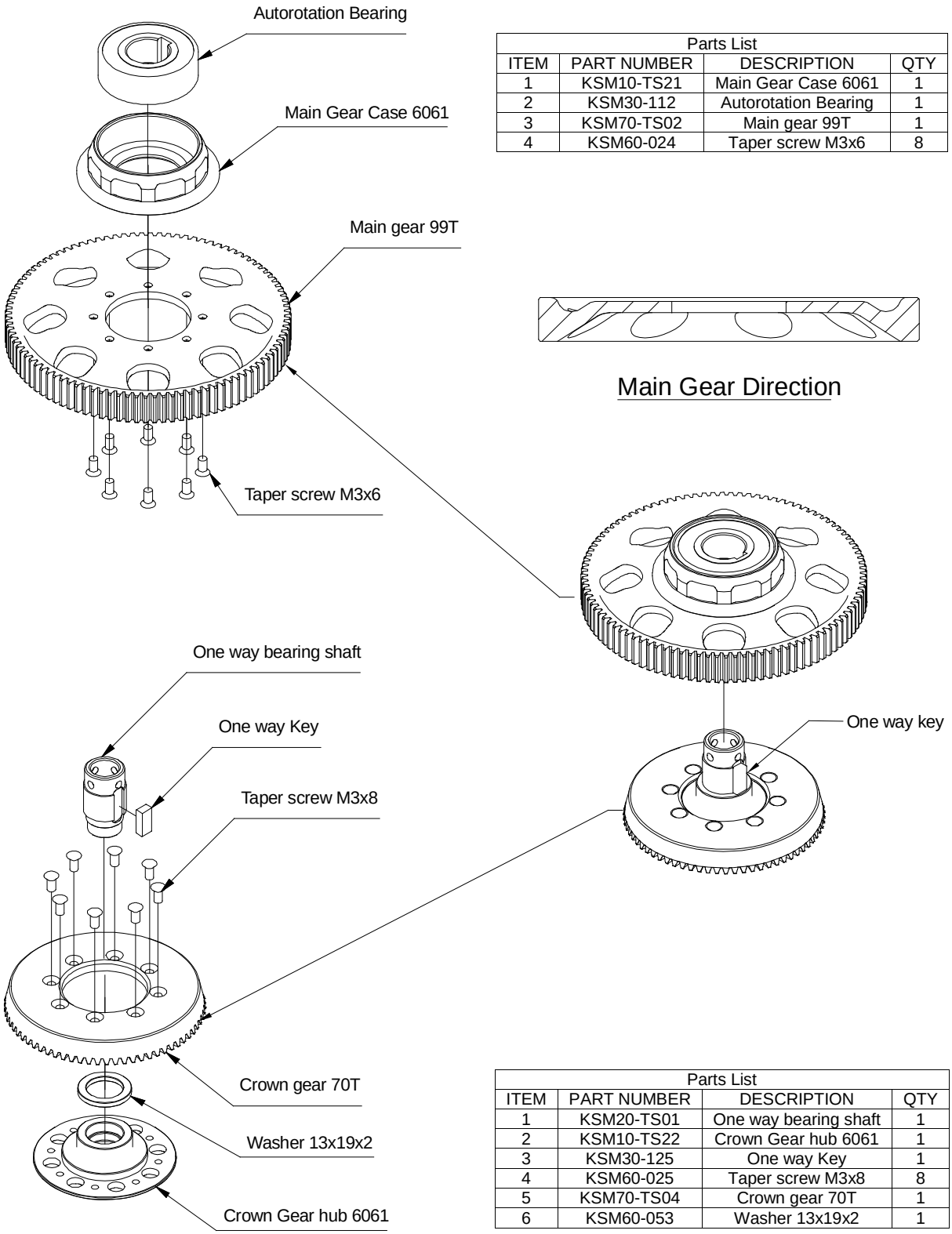


Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-034	Socket screw M3x8	4
2	KSM60-027	Hex lock nut M3	4
3	KSM60-031	Socket screw M3x32	4
4	KSM60-029	Washer M3x7x1.0	12
5	KSM10-TS01	Upper main bearing block assembly	1
6	KSM10-TS02	Center main bearing block assembly	1
7	KSM10-TS03	Lower main bearing block assembly	1

BEARING BLOCK INSTALLATION

1) Slide Lower and Middle Bearing Blocks into place between the G10 frames and insert M3x32 bolts and apply washers and nuts.
2) Insert Top Bearing Block and insert M3x8 screws but do not tighten.
3) Insert mast through 3 bearing blocks.
4) Push DOWN on Lower Block and gently tighten bolts.
5) Push UP on Middle Block and gently tighten bolts.
6) Tighten Top Block M3 bolts and remove mast-remove Top Block bolts one at a time-thread lock and re-tighten.

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-TS21	Main Gear Case 6061	1
2	KSM30-112	Autorotation Bearing	1
3	KSM70-TS02	Main gear 99T	1
4	KSM60-024	Taper screw M3x6	8

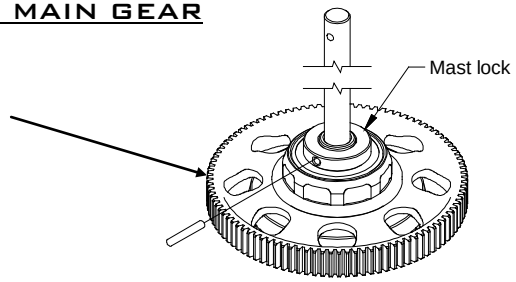
Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM20-TS01	One way bearing shaft	1
2	KSM10-TS22	Crown Gear hub 6061	1
3	KSM30-125	One way Key	1
4	KSM60-025	Taper screw M3x8	8
5	KSM70-TS04	Crown gear 70T	1
6	KSM60-053	Washer 13x19x2	1

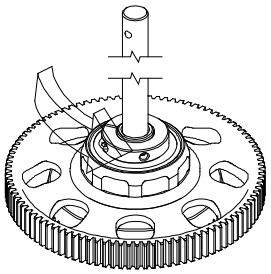
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM20-TS03	Mast lock Pin	1
2	KSM20-TS02	Main Mast	1
3	KSM10-TS15	Mast lock Pin	1
4	KSM60-026	Socket screw M2.5x15	1

TEST ASSEMBLE THE MAIN SHAFT AND MAIN GEAR

1) Insert the main mast into the main gear set. Adjust the holes of the main mast, mast lock and one way shaft bearing to the same position.

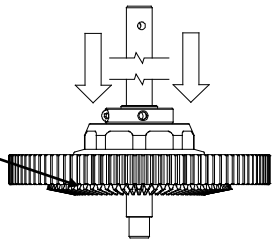




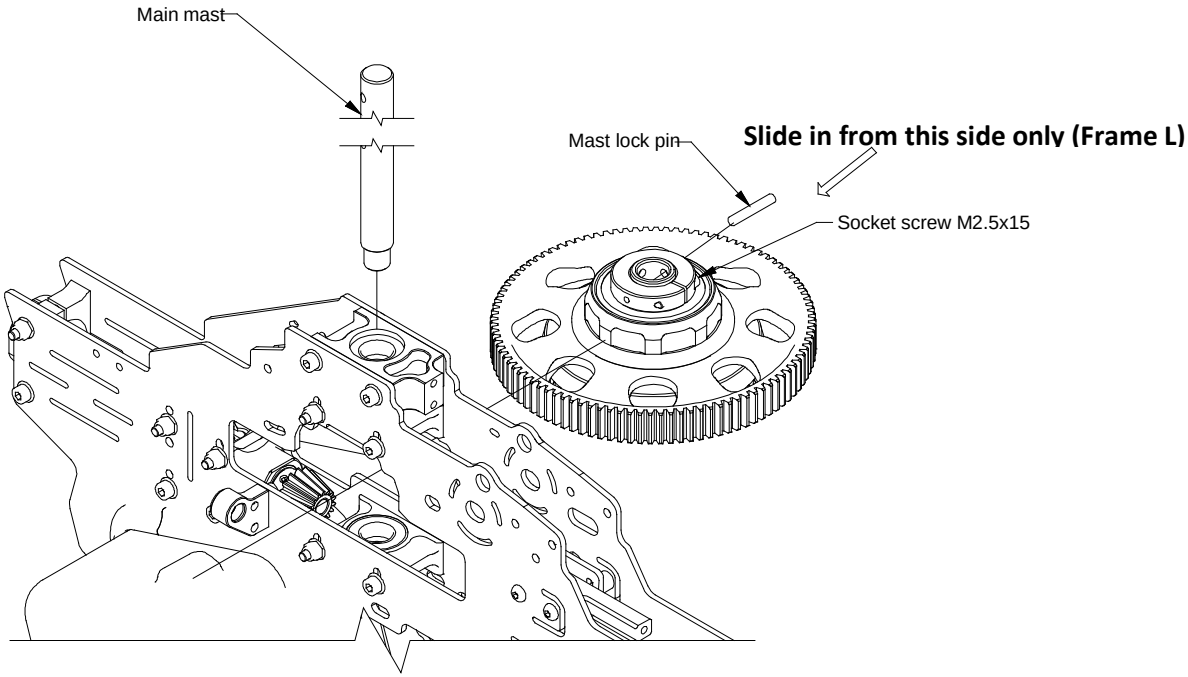
2) Insert mast lock pin into that hole. Then lock the mast lock cap by turning it at the same direction as the arrow to close that hole.

NOTICE: The Arrow mark direction was shown on the mast cap.

3) Insert the main mast into the main gear set. Adjust the holes of the main mast, mast lock and one way shaft bearing to the same position.



MAIN GEAR INSTALLATION TO FRAME



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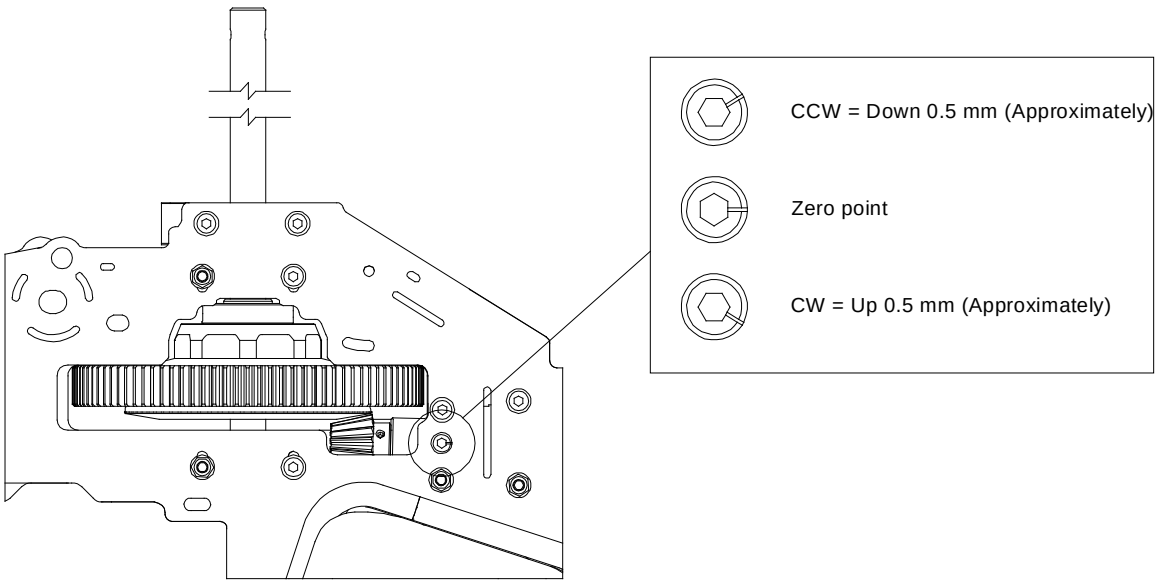
⚠ WARNING

BEVEL PINION GEAR ADJUSTMENT



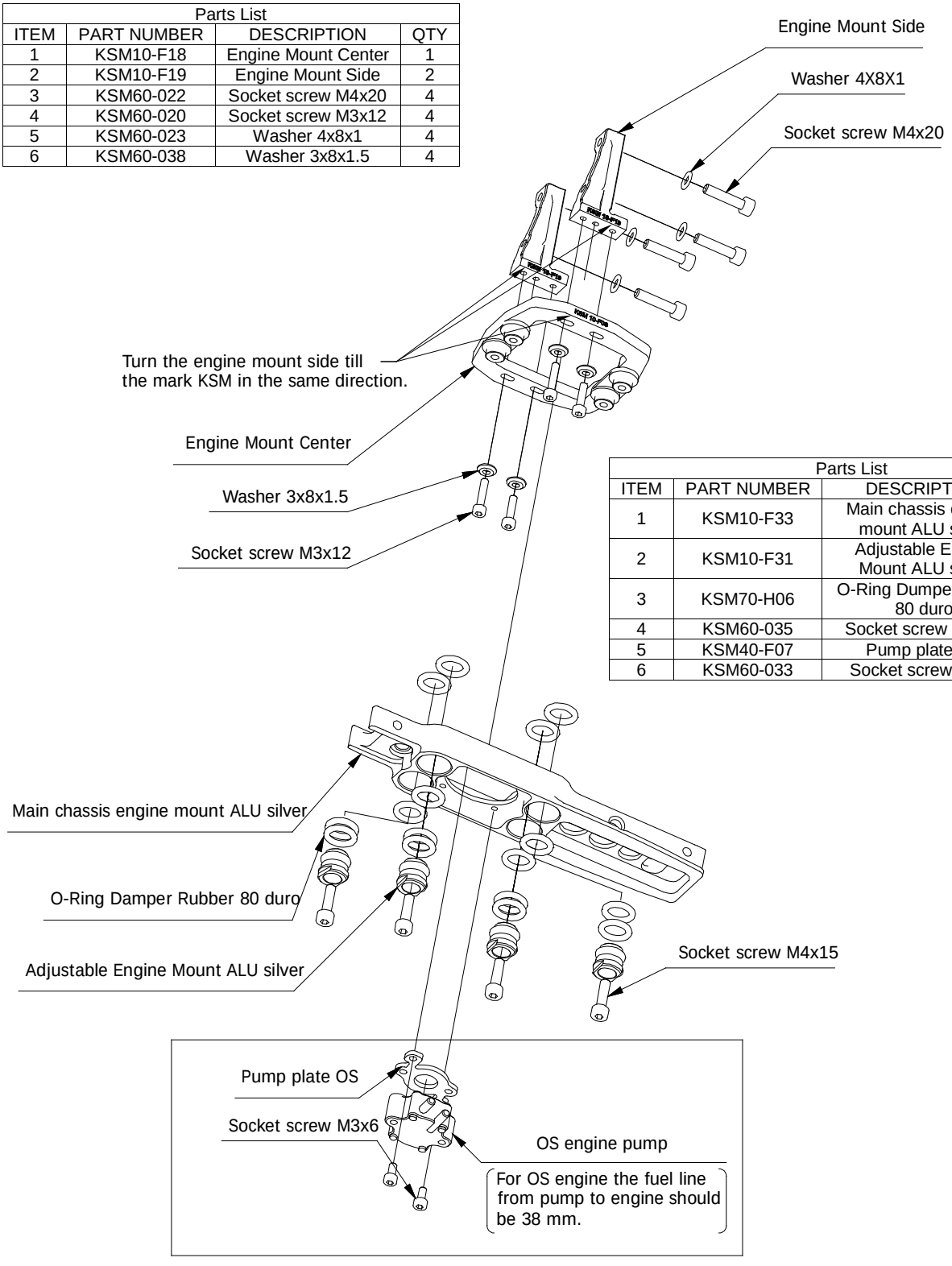
After Main Gear is inserted you can adjust bevel gear up and down 1mm. by turning the Bevel Gear Adjuster clockwise to raise the bevel gear and anti-clockwise to lower it.

1) Raise the bevel gear to its highest position by turning the Adjuster clockwise – lock bevel gear block in place by tightening the two M3x32 bolts.
2) Loosen Lower Bearing Block bolts and push block down to allow Main crown Gear to sit on Bevel Gear.
3) Loosen Center bearing Block bolts and push it down to sit on top of One Way Bearing then tighten M3x32 bolts firmly.
4) Loosen Lower Bearing Block M3 bolts and push Block up till it rests on the bottom of the OWB and tighten bolts.
5) Test Main Gear end-float by pulling Main Shaft up and down.
6) If there is no end-float tighten Lower and Center Bearing Block mounting bolts firmly – if there is movement of gear and mast repeat steps 2-4.
7) Loosen Bevel Gear Block M3 bolts and rotate Adjuster until Bevel Gear has ~0.3-0.5 mm. backlash on Main Gear. You can also 'tune it' by ear by spinning main gear till you get the smoothest and quietest sound of the gears running.

Step in assembly BEVEL PINION GEAR clearly more above can see in Tips & Information at www.kasama.com

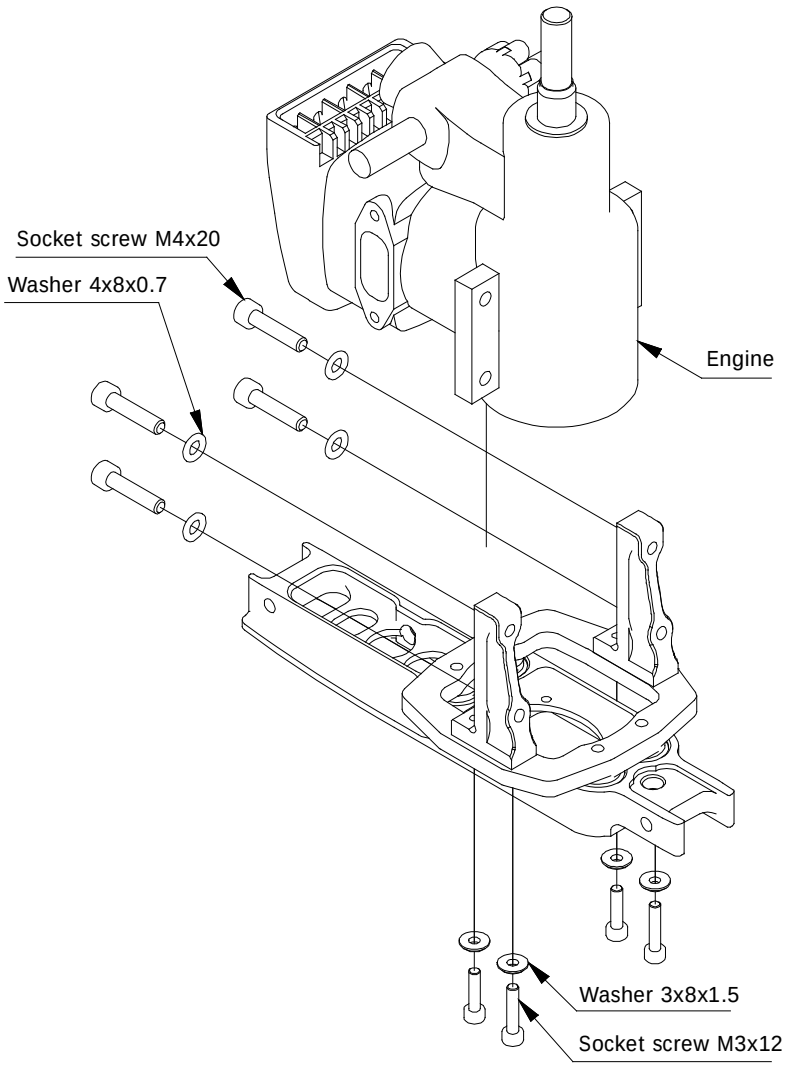
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-F18	Engine Mount Center	1
2	KSM10-F19	Engine Mount Side	2
3	KSM60-022	Socket screw M4x20	4
4	KSM60-020	Socket screw M3x12	4
5	KSM60-023	Washer 4x8x1	4
6	KSM60-038	Washer 3x8x1.5	4



Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-F33	Main chassis engine mount ALU silver	1
2	KSM10-F31	Adjustable Engine Mount ALU silver	4
3	KSM70-H06	O-Ring Dumper rubber 80 duro	16
4	KSM60-035	Socket screw M4x15	4
5	KSM40-F07	Pump plate OS	1
6	KSM60-033	Socket screw M3x6	2

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



ENGINE MOUNT ASSEMBLY

1) Insert the M3x12 screws to attach the engine side mount to the engine center mount. Make sure the screws are not too tight and the engine side mount can be able to slightly move forward and backward.
2) Put the engine on the engine side mounts. Pull the engine down slightly and use M4x20 screws to lock the engine. Do not tighten up the screws yet.
3) Make sure that the engine is attached to the side mount firmly. Then slightly tighten the screws again without locking it.
4) Check that the engine is perfectly square front and back and side to side to the engine center mount. Tighten all screws locking the engine firmly.
5) If unsure that the engine is installed properly, restart the process from step 2 again.
6) If you are certainly sure that the engine is properly installed, take off the M4x20 screws individually one at a time to apply thread lock and tighten it firmly.

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

PRACTISE ASSEMBLY

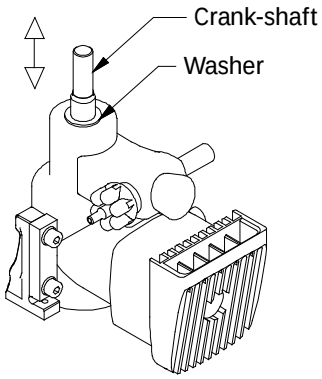
1. Before assembling the cooling fan and hub to the engine, pull the crankshaft up and down to ascertain the degree of movement – this is eliminated in the following steps.
2. Put the cooling fan on the crankshaft and pull the crankshaft up whilst pushing the fan down – gently tighten the M3x12 clamp bolts.
3. Check free play by pulling the shaft up and down and repeat step 2 if there is discernible movement.
4. If the shaft has no any end-play, moderately tighten the M3x12.
5. Screw the starter shaft clockwise onto the crankshaft with an 8mm. wrench – you will need to hold the fan or preferably lock the engine through the back cover with a locking tool.
6. Check there is no end float by pulling the starter shaft up and down and checks fan movements to exclude binding.

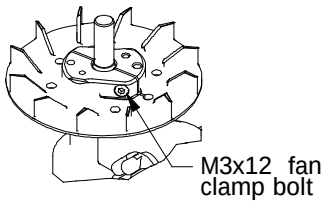
REAL ASSEMBLY

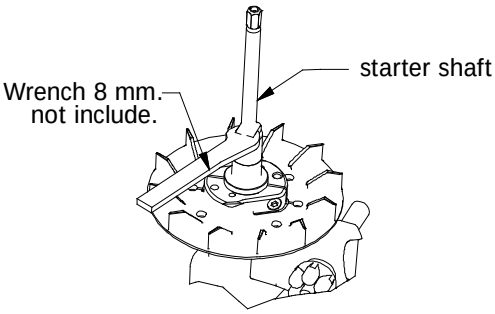
Repeat above steps 106 but apply thread lock to fan clamp bolts and step 2. Before mounting starter shaft in step 5 apply thread lock. Place clutch over starter shaft and rotate it down over the fan center hub-this may be a little tight and require drawing down with M4x8 bolts. If all is well the clutch shoes will lie on the fan center hub and the shoes will be centered. Remove M4 bolts, thread lock and then re-apply to clutch-finally insert M3x8 bolts.

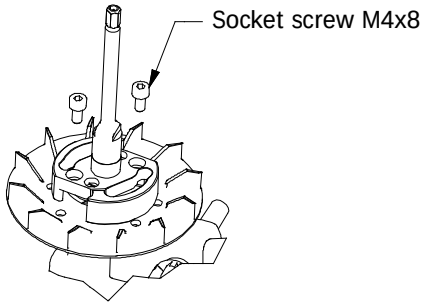
NOTE

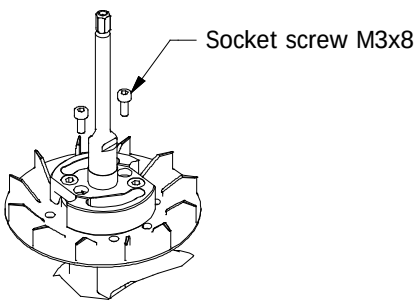
Our system was specially designed to mount the clutch close to the engine this help balance high rpm vibration and lowers the CG point too.





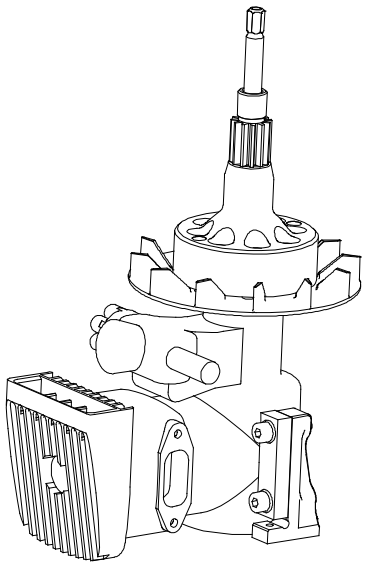




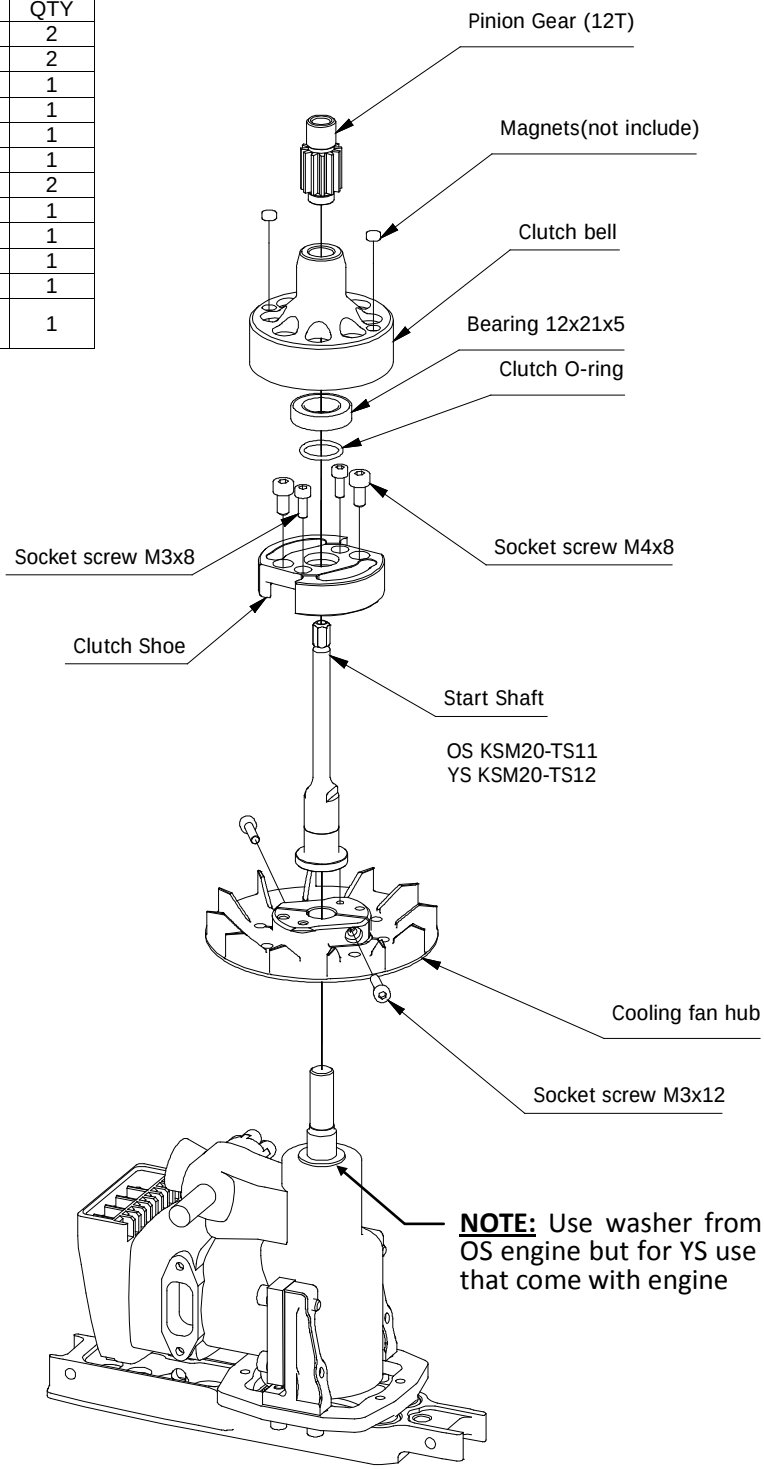


Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-034	Socket screw M3x8	2
2	KSM60-020	Socket screw M3x12	2
3	KSM10-TS12	Cooling fan hub	1
4	KSM20-TS11	Start Shaft OS	1
5	KSM20-TS12	Start Shaft YS	1
6	KSM20-TS05	Clutch Shoe	1
7	KSM60-021	Socket screw M4x8	2
8	KSM70-TS05	Clutch O-ring	1
9	KSM10-TS11	Clutch bell	1
10	KSM30-115	Bearing 12x21x5	1
11	KSM20-TS08	Pinion Gear (12T)	1
12	KSM60-055	Washer 9.5x16x1.4 (for OS engine only)	1

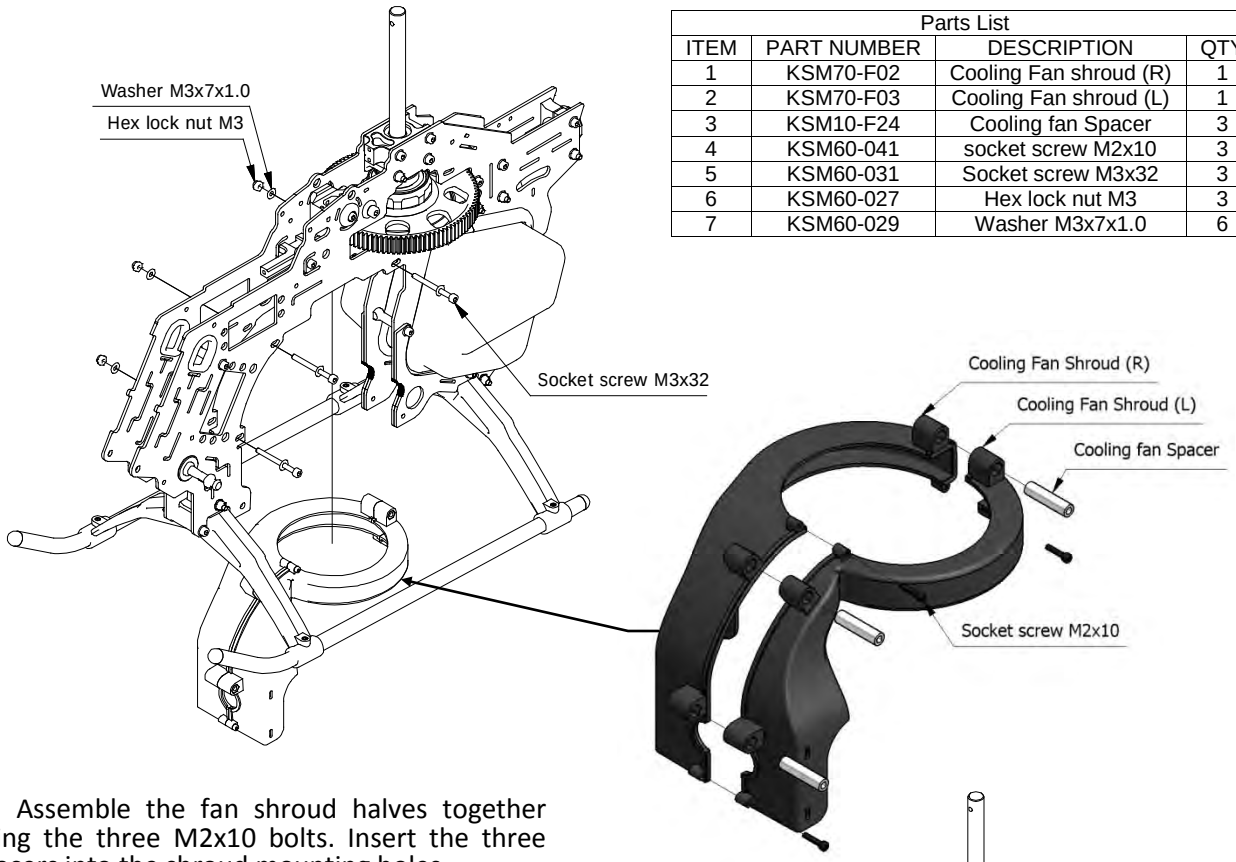


COMPLETE ASSEMBLY



NOTE: Use washer from kit for OS engine but for YS use washer that come with engine

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM70-F02	Cooling Fan shroud (R)	1
2	KSM70-F03	Cooling Fan shroud (L)	1
3	KSM10-F24	Cooling fan Spacer	3
4	KSM60-041	socket screw M2x10	3
5	KSM60-031	Socket screw M3x32	3
6	KSM60-027	Hex lock nut M3	3
7	KSM60-029	Washer M3x7x1.0	6

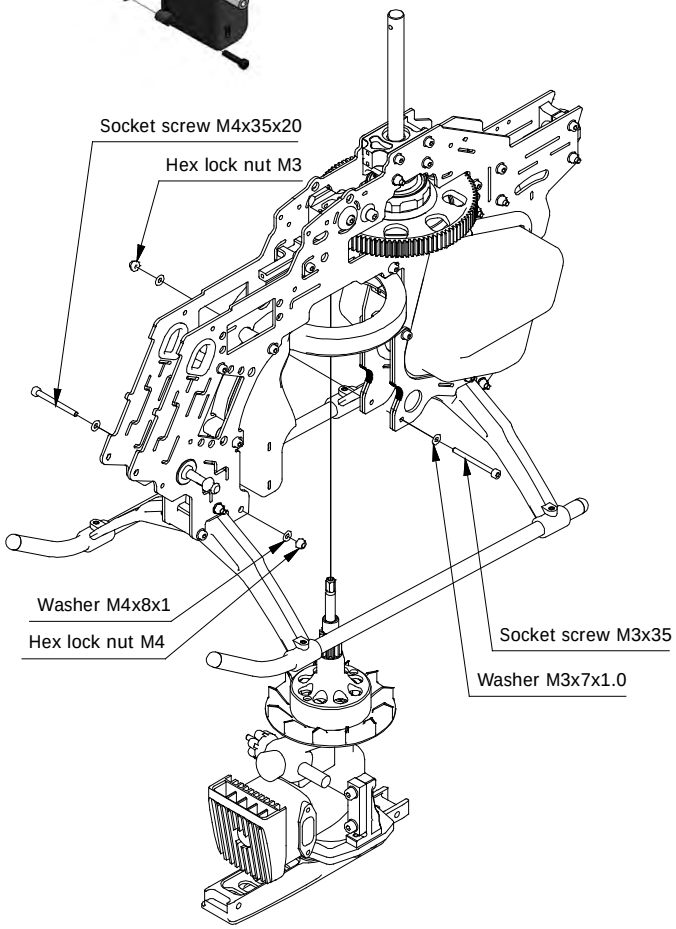
1) Assemble the fan shroud halves together using the three M2x10 bolts. Insert the three spacers into the shroud mounting holes.

2) Loosen the 4 M3x32 bolts securing the CF frames to the main chassis mount and lift the frames away from the mount.

3) Slide the Cooling Fan Shroud into the frames then secure in place with the M3x32 bolts.

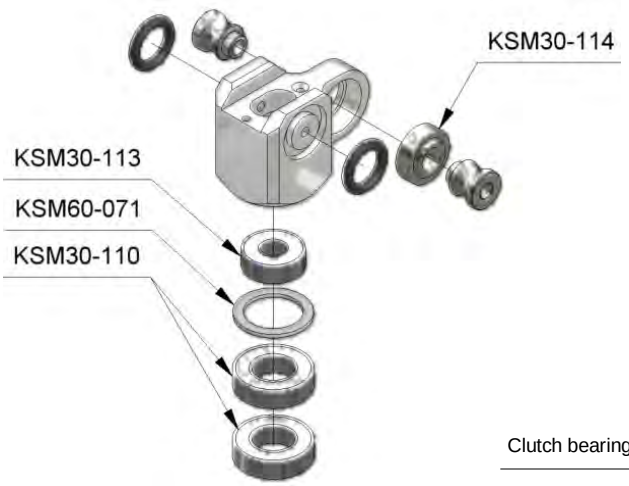
NOTE: Do not tighten all mounting bolts until you have ensured that the engine fan is centered in the shroud and not binding.

4) When sure fan is centered in shroud secure all mounting bolts tightly.

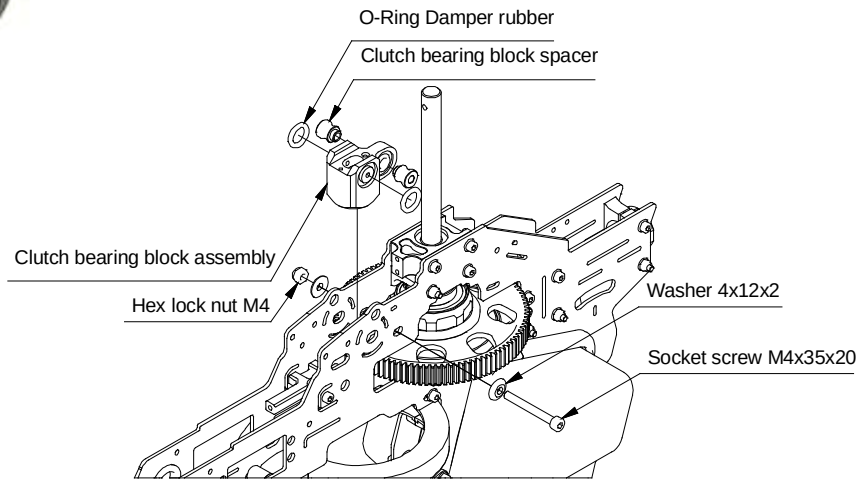


Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-059	Socket screw M4x35x20	1
2	KSM60-045	Hex lock nut M4	1
3	KSM60-023	Washer M4x8x1	2
4	KSM60-091	Socket screw M3x35	1
5	KSM60-027	Hex lock nut M3	1
6	KSM60-029	Washer M3x7x1.0	2

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

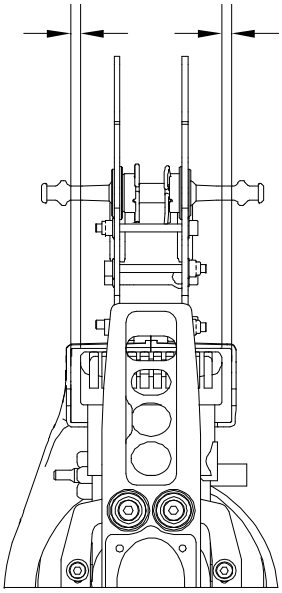


Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM70-H06	O-Ring Damper rubber	2
2	KSM10-TS06	Clutch bearing block Assembly	1
3	KSM10-TS08	Clutch bearing block spacer	2
4	KSM60-059	Socket screw M4x35x20	1
5	KSM60-060	Washer 4x12x2	2
6	KSM60-045	hex lock nut M4	1



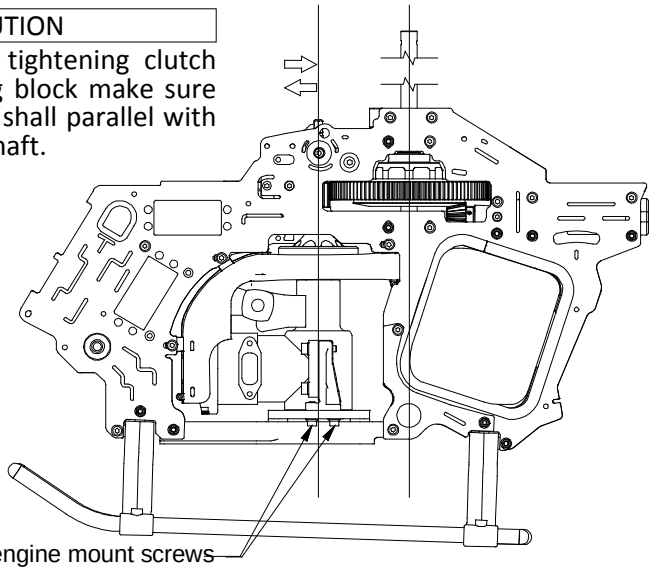
⚠ CAUTION

Gap between cylinder head and cooling shroud should be the same on both sides.



⚠ CAUTION

Before tightening clutch bearing block make sure starter shall parallel with main shaft.

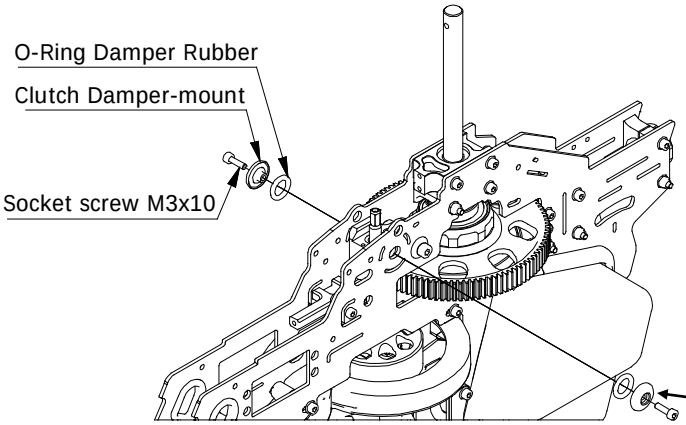


HOW TOADJUST MAINGEAR AND PINION GEAR

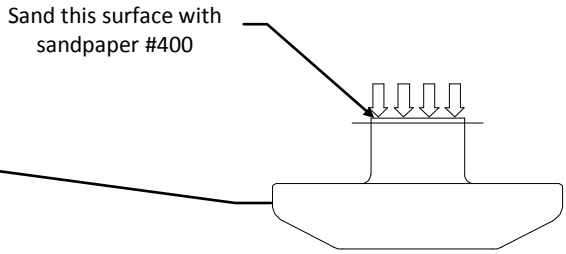
Loosen up the four M3x12 engine mount screws to allow the engine to be able to move towards + backwards not up or down. Then, adjust the position of engine to set suitable backlash ~ 0.3-0.5 mm. between the pinion gear and main-gear. After that moderately tighten the four M3x12 screws, recheck the backlash. Use the M4x35 screw to lock clutch bearing block.

Alternatively, you can insert a piece of paper or plastic sheet between the two gears, press the gears together, then lock the engine mount nuts, pull out the paper, then check the gears backlash again. Using this method the main gear and pinion gear have to be parallel.

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM70-H06	O-Ring Damper Rubber	2
2	KSM10-TS07	Clutch Damper-mount	2
3	KSM60-054	Socket screw M3x10	2

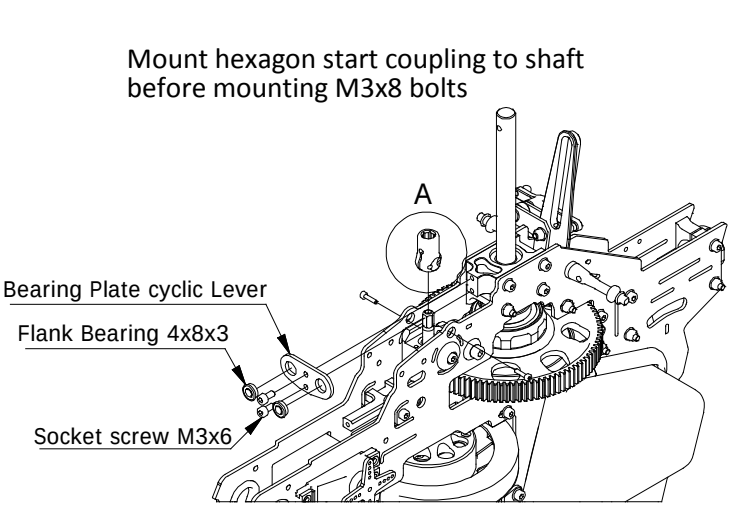


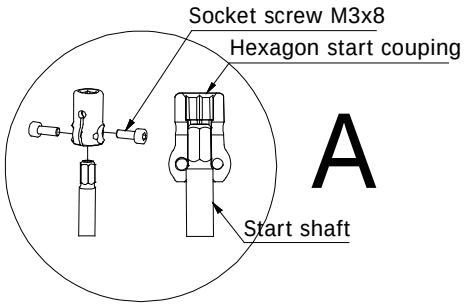
⚠ CAUTION If adjust not suitable it may cause of vibration and main gear damage.

HOW TO ADJUST CLUCTH BEARING BLOCK MOUNT

Special feature of the Srimok is to allow slight movement of the clutch block to prevent binding during slight frame movements encountered in extreme 3D flight. As each frame and o-ring dampener varies slightly it is necessary to customize each bearing block to allow it to move slightly in flight.
Assemble the o-ring damper on its mount and screw it into the frame with the M3x10 bolt-when you just feel the mount start to bind on the frame screw it in a further ½ turn for normal flight or ¾ turn for high RPM 3D-if the damper won't go in that far remove it and sand the base and try again until the required pre-load of the o-ring and bearing block is achieved.
NOTE: Each Damper Mount is customized for each side and may not be the same-it is therefore important not to switch sides with the damper after final adjustment.

STARTER AND BEARING PLATE CYCLIC INSTALLATION

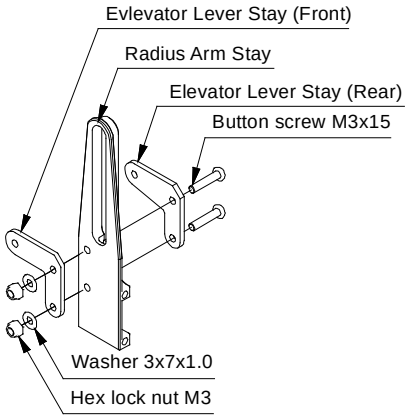




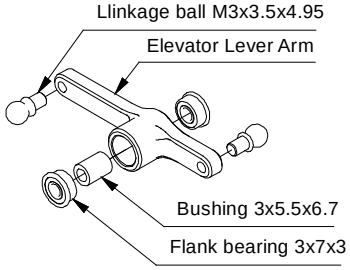
Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM30-118	Flank Bearing 4x8x3	2
2	KSM60-033	Socket screw M3x6	2
3	KSM40-C04	Bearing Plate cyclic Lever	1
4	KSM20-TS10	Hexagon Start Couping	1
5	KSM60-034	Socket screw M3x8	2

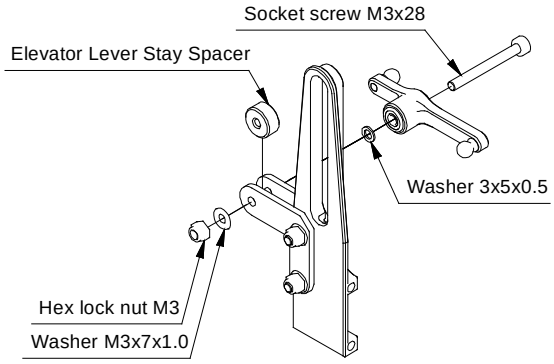
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

ANTI ROTATION BLACKET ASSEMBLY 14-BOX-3



Parts List **14-1**			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-C04	Radius Arm Stay	1
2	KSM40-C02	Elevator Lever Stay (Rear)	1
3	KSM40-C03	Elevator Lever Stay (Front)	1
4	KSM60-027	Hex lock nut M3	2
5	KSM60-004	Button screw M3x15	2
6	KSM60-029	Washer 3x7x1.0	2

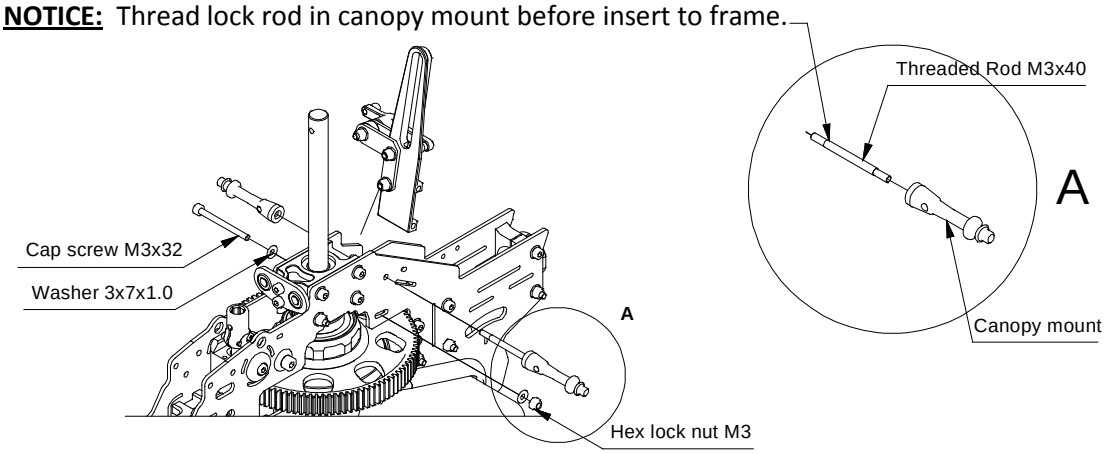




Parts List **14-2**			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-061	Elevator Lever Stay Spacer	1
2	KSM60-027	Hex lock nut M3	1
3	KSM10-C06	Elevator Lever Arm set	1
4	KSM60-028	Socket screw M3x28	1
5	KSM60-029	Washer 3x7x1.0	1
6	KSM53-110	Linkage ball M3x3.5x4.95	2
7	KSM60-030	Washer 3x5x0.5	1

ANTI ROTATION BLACKET INSTALLATION

NOTICE: Thread lock rod in canopy mount before insert to frame.

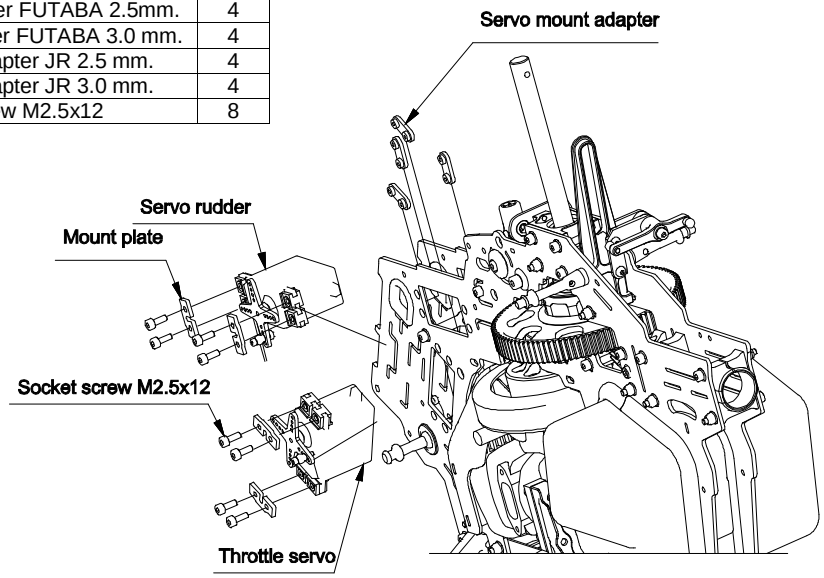


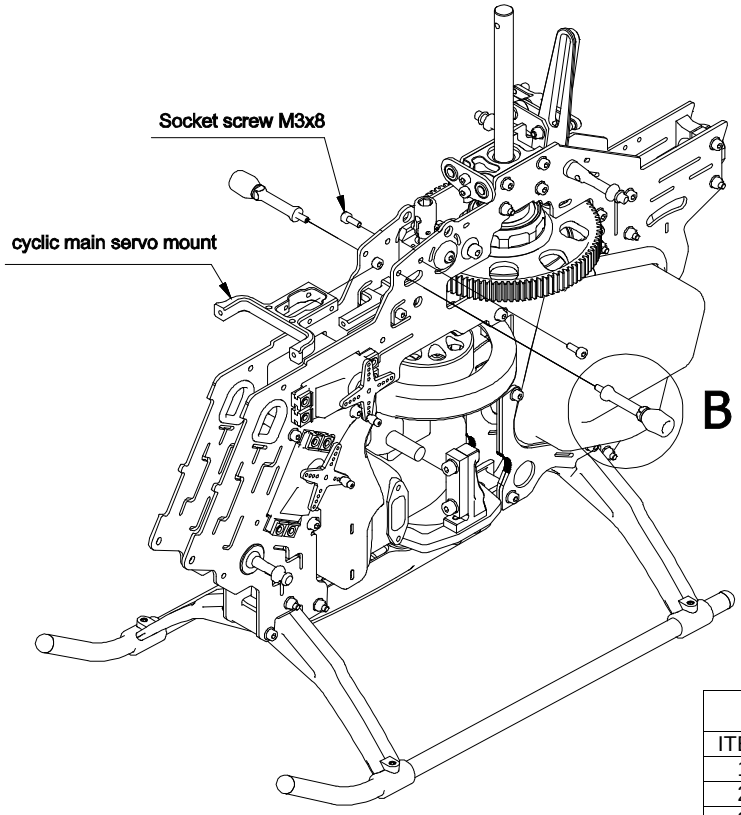
Parts List **14-3**			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-027	Hex lock nut M3	1
2	KSM60-029	Washer 3x7x1.0	2
3	KSM60-031	Socket screw M3x32	1
4	KSM60-032	Threaded Rod M3x40	1
5	KSM10-F14	Canopy mount	2

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

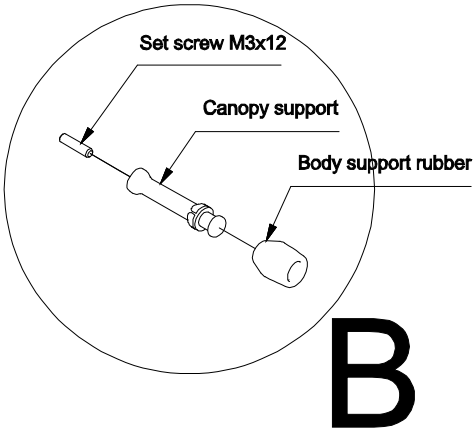
Parts List 15-1			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM40-C05	Mount plate	4
2	KSM70-F12	Servo mount adapter FUTABA 2.5mm.	4
3	KSM70-F13	Servo mount adapter FUTABA 3.0 mm.	4
4	KSM70-14	Servo mount adapter JR 2.5 mm.	4
5	KSM70-15	Servo mount adapter JR 3.0 mm.	4
6	KSM60-070	Socket screw M2.5x12	8

⚠ CAUTION
Choose suitable mount adaptors and screws from parts supplied.



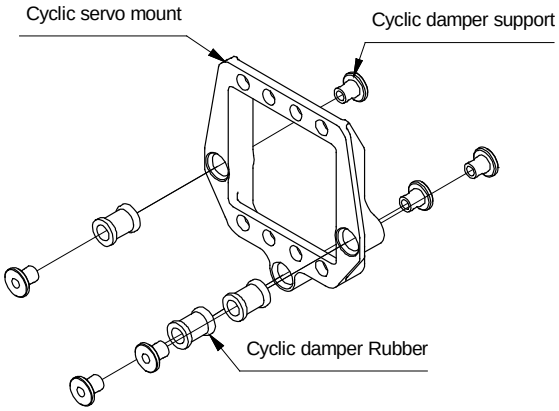


NOTICE: Must thread lock this set screw M3x12 to canopy support first.



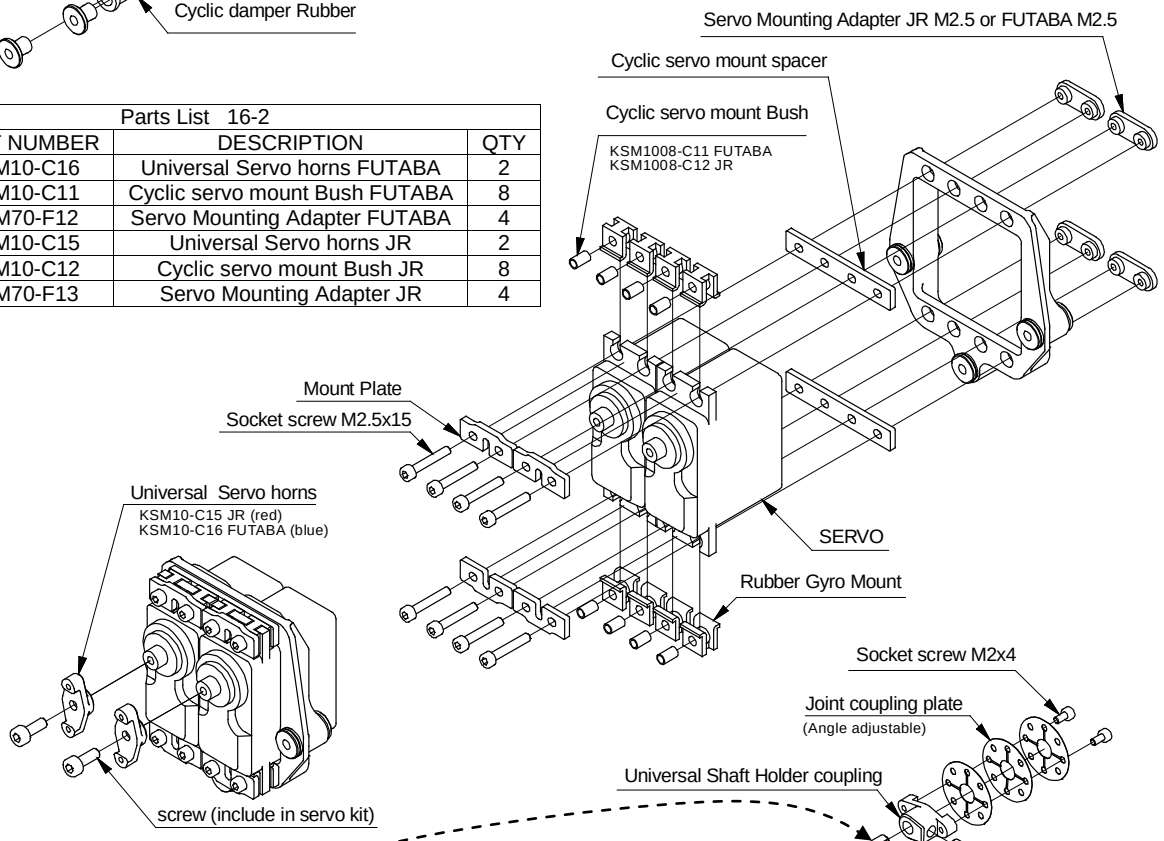
Parts List 15-2			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-034	Socket screw M3x8	2
2	KSM10-F23	Cyclic main servo mount	1
3	KSM60-062	Set screw M3x12	2
4	KSM10-F21	Canopy support	2
5	KSM70-F11	Body support rubber	2

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



Parts List 16-1			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-C08	Cyclic servo mount	1
2	KSM70-C01	Cyclic damper Rubber	3
3	KSM10-C17	Cyclic damper support	6
4	KSM60-047	Socket screw M3x20	3
5	KSM60-026	Socket screw M2.5x15	8
6	KSM40-C05	Mount Plate	4
7	KSM40-C01	Cyclic servo mount spacer	2

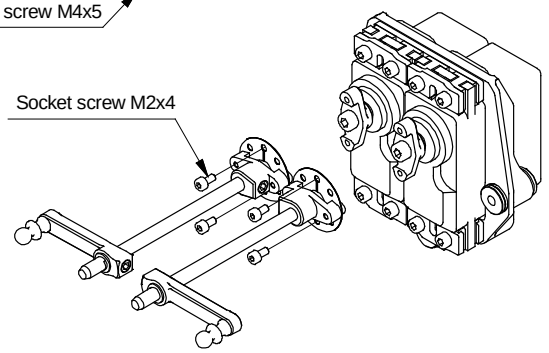
Parts List 16-2			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-C16	Universal Servo horns FUTABA	2
2	KSM10-C11	Cyclic servo mount Bush FUTABA	8
3	KSM70-F12	Servo Mounting Adapter FUTABA	4
4	KSM10-C15	Universal Servo horns JR	2
5	KSM10-C12	Cyclic servo mount Bush JR	8
6	KSM70-F13	Servo Mounting Adapter JR	4



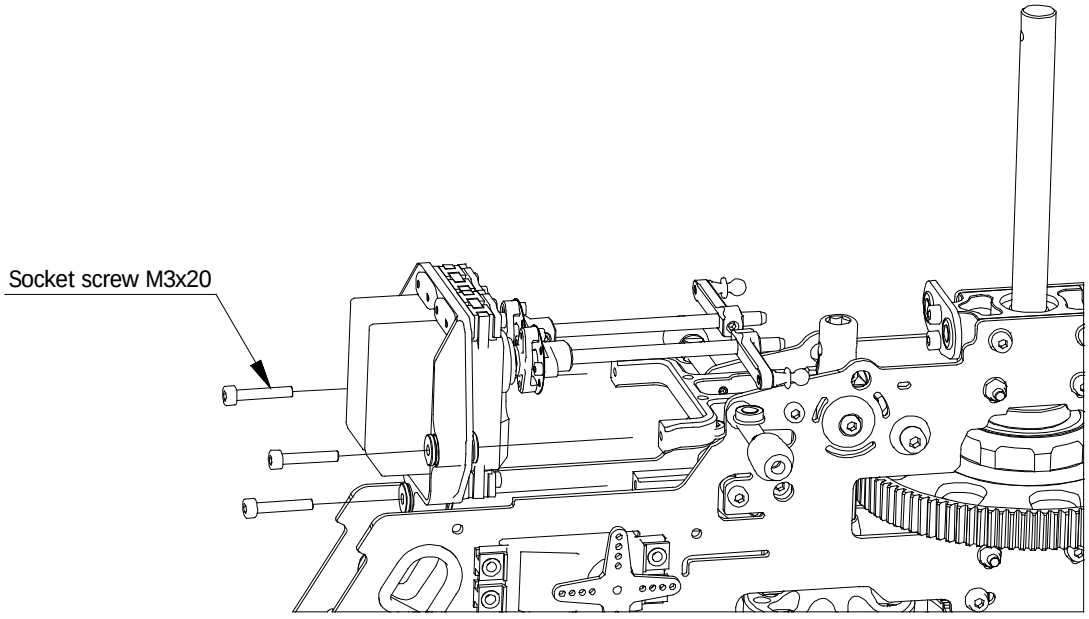
⚠ Tip & Trick

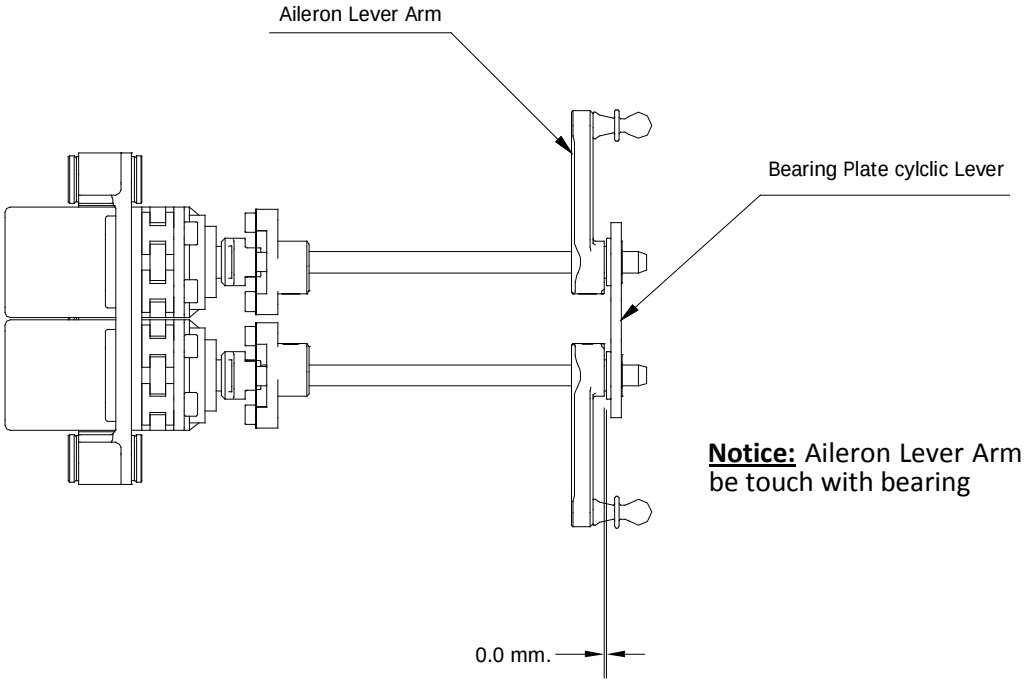
Use red thread lock between Lever arm & Holder coupling to shaft will more durable.

Parts List 16-3			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM53-111	Linkage ball M3x4.95x8.7	2
2	KSM60-050	Socket screw M2x4	8
3	KSM60-019	Set screw M4x5	4
4	KSM20-C05	Cyclic servo Shaft Drive	2
5	KSM10-C14	Universal Shaft Holder coupling	2
6	KSM10-C13	Aileron Lever Arm	2
7	KSM20-C01	Joint coupling Pate	6



Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

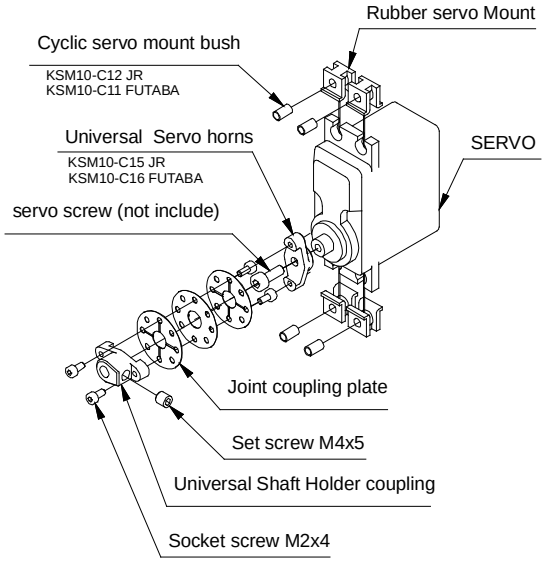


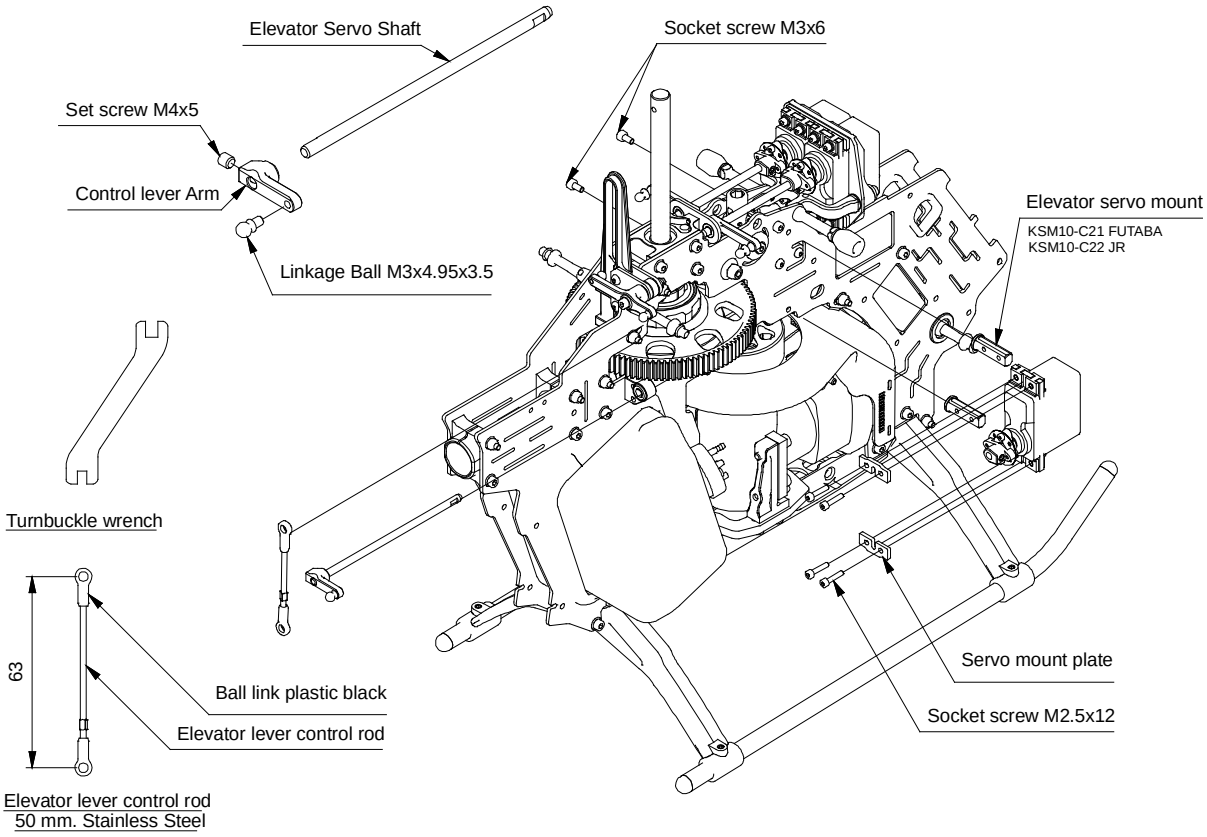


Notice: Aileron Lever Arm must be touch with bearing

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

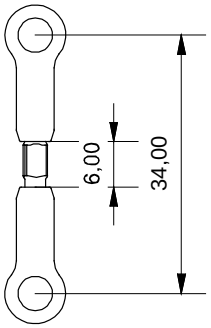
Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-C14	Universal Shaft Holder coupling	1
2	KSM20-C01	Joint coupling Pate	3
3	KSM10-C15	Universal Servo horns JR	1
4	KSM10-C16	Universal Servo horns FUTABA	1
5	KSM60-050	Socket screw M2x4	4
6	KSM60-019	Set screw M4x5	2
7	KSM10-C09	Control lever Arm	1
8	KSM53-110	Linkage Ball M3x4.95x3.5	1
9	KSM60-070	Socket screw m2.5x12	4
10	KSM60-033	Socket screw M3x6	2
11	KSM10-C21	Elevator servo mount FUTABA	2
12	KSM10-C22	Elevator servo mount JR	2
13	KSM20-C12	Elevator lever control rod 50mm. Stainless Steel	1
14	KSM10-C07	Turnbuckle wrench	1
15	KSM70-H03	Ball link plastic black	2
16	KSM40-C14	Servo mount plate	2
17	KSM10-C11	Cyclic servo mount bush Futaba ALU silver	4
18	KSM10-C12	Cyclic servo mount bush JR ALU silver	4

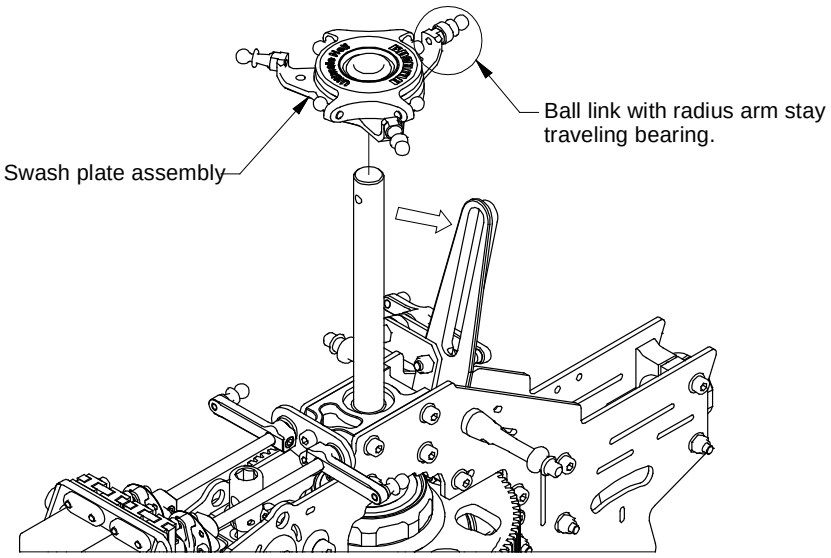


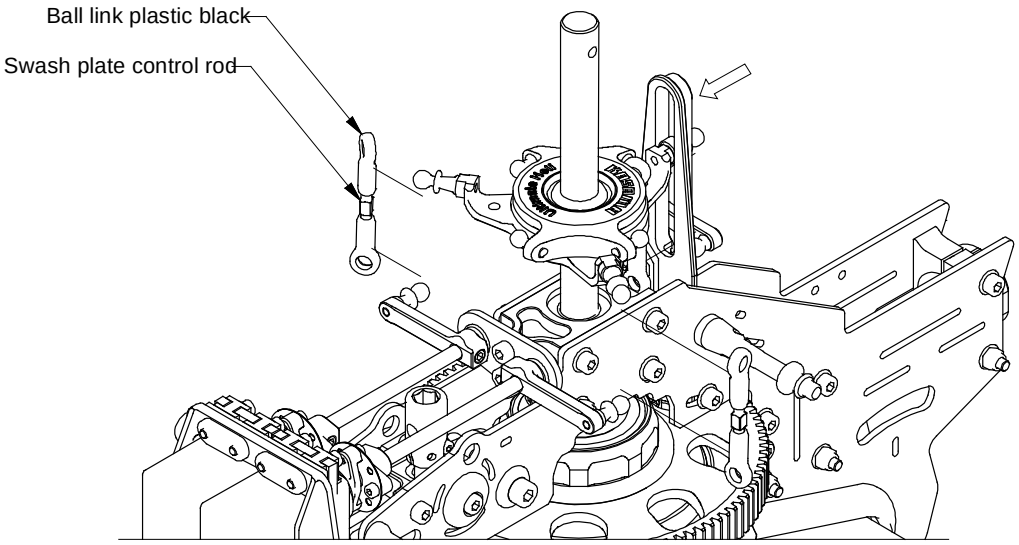


Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-C01	Swash plate assembly	1
2	KSM20-C08	Swash plate control rod	3
3	KSM70-H03	Ball link plastic black	6

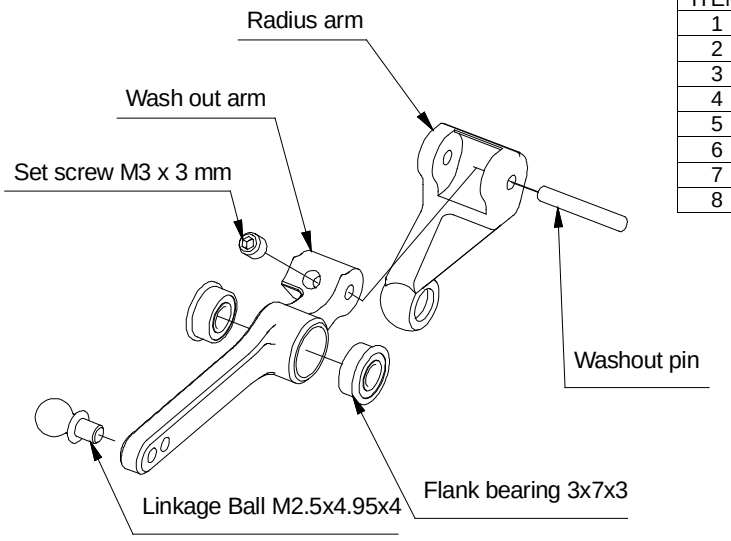




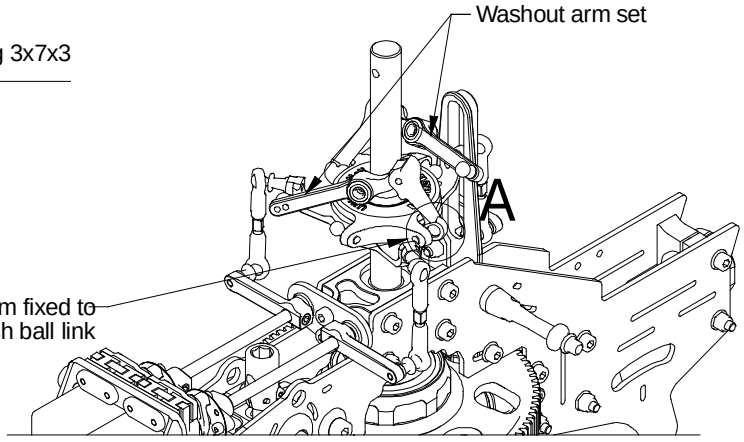


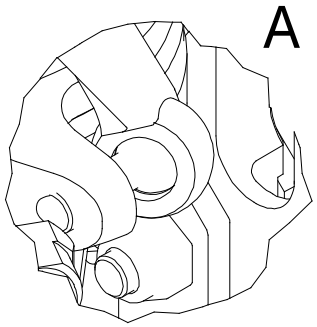
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

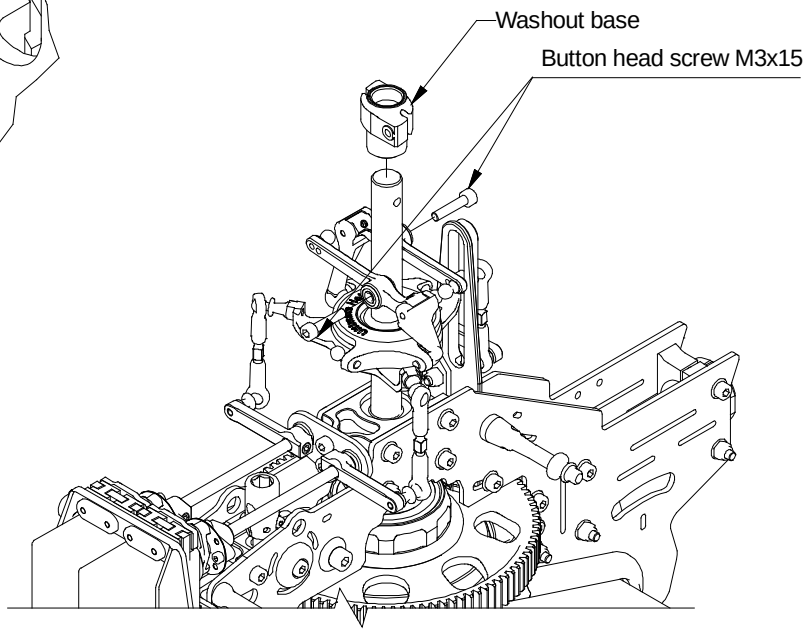
Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-H08	Washout arm	2
2	KSM70-H01	Radius arm	2
3	KSM30-104	Flank bearing 3x7x3	4
4	KSM20-H05	Washout pin 2x13	2
5	KSM53-101	Linkage ball M2.5x4.95x4	2
6	KSM60-001	Set screw M3x3 mm.	2
7	KSM10-H11	Washout Base	1
8	KSM60-004	Button head screw M3x15	2



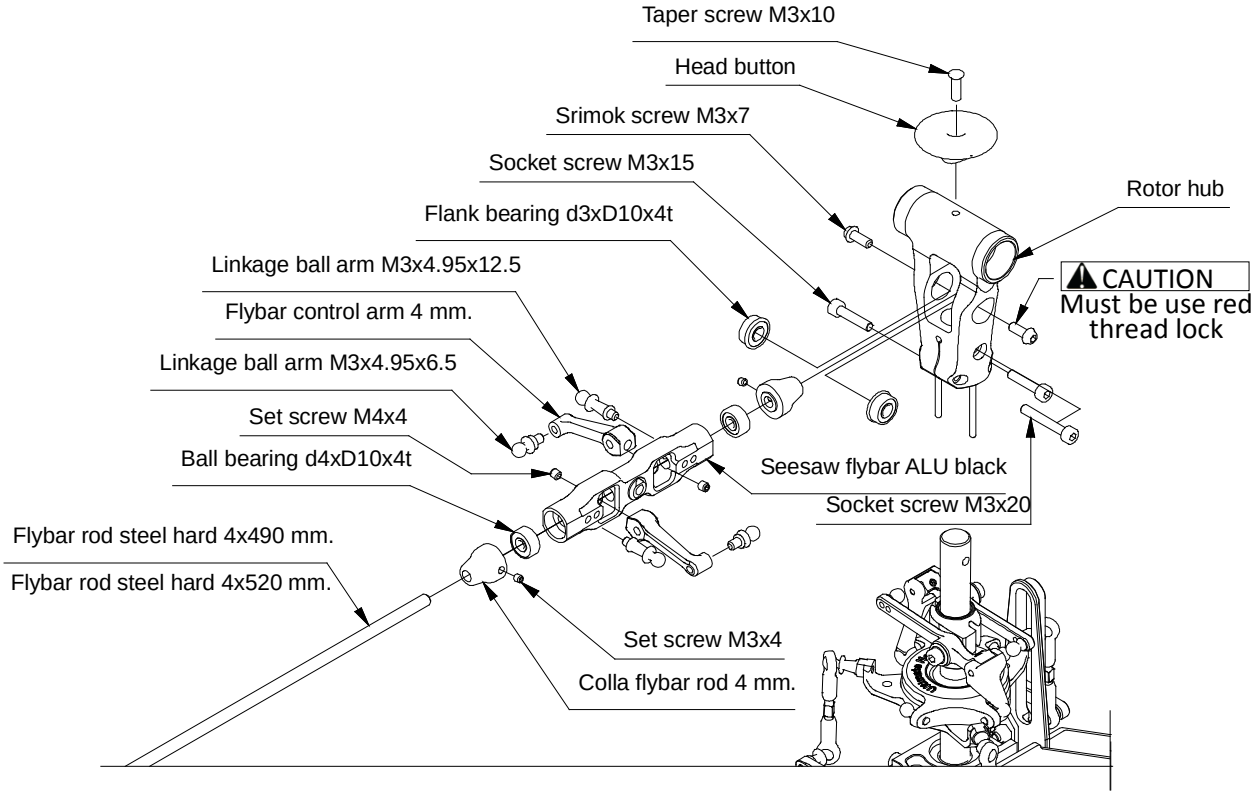
Wash out arm and Radius arm assembly







Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

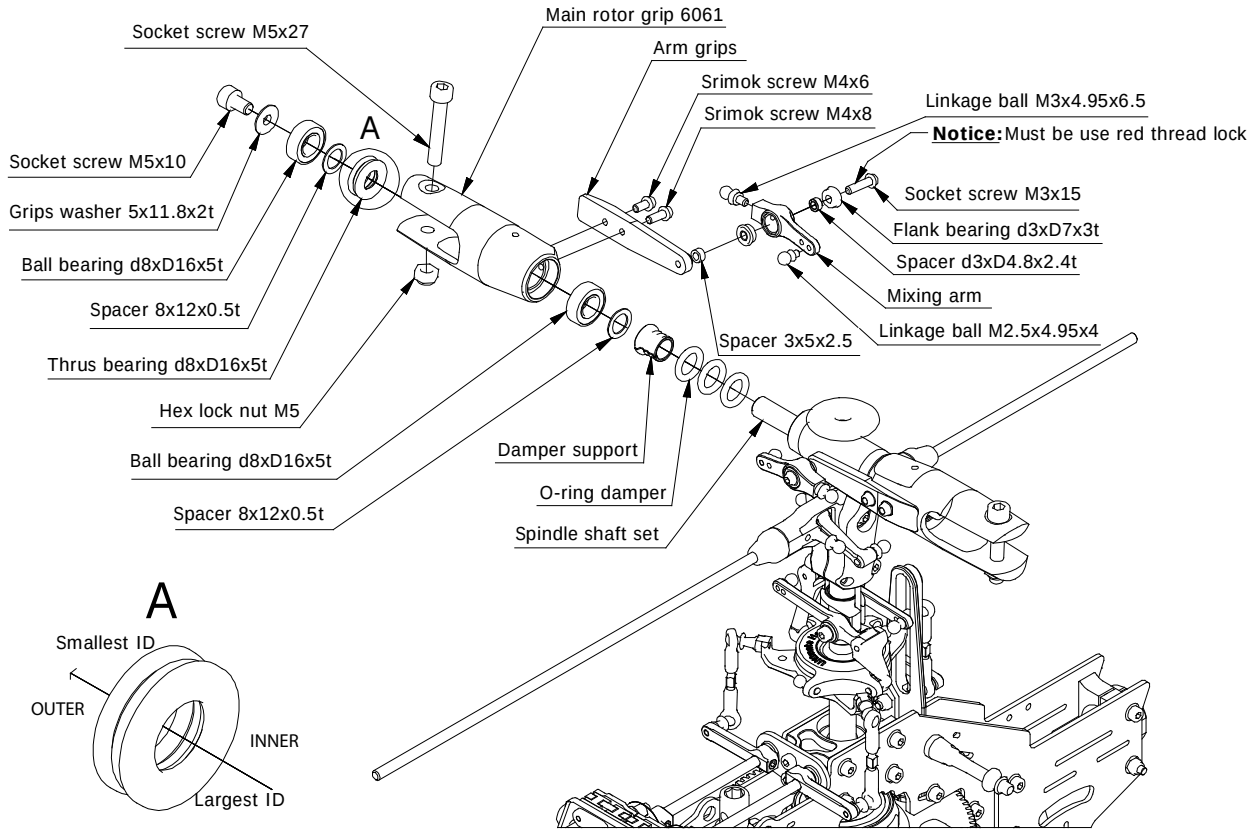


Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-90H01	Rotor Hub	1
2	KSM10-H01	Head button	1
3	KSM10-H07	Seesaw Flybar ALU black	1
4	KSM10-90H07	Flybar control arm 4 mm.	2
5	KSM10-90H06	Colla flybar rod 4mm.	2
6	KSM20-90H07	Flybar rod steel hard 4x490 mm.	1
7	KSM20-90H06	Flybar rod steel hard 4x520 mm.	1
8	KSM60-010	Taper screw M3x10	1
9	KSM60-009	Srimok screw M3x7	2
10	KSM60-008	Socket screw M3x15	2
11	KSM60-007	Socket screw M3x20	1
12	KSM60-002	Set screw M3x4	2
13	KSM60-003	Set screw M4x4	2
14	KSM30-103	Flank bearing d3xD10x4t	2
15	KSM30-105	Ball bearing d4xD10x4t	2
16	KSM53-107	Linkage ball arm M3x4.95x12.5	2
17	KSM53-106	Linkage ball arm M3x4.95x6.5	2

CAUTION:

1) Socket Screw M3x15 in ITEM 9 should be softly tightened. Tighten both sides evenly.
2) Should be use 490-520 mm. flybar wire.

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



Parts List 21-1			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM20-90H02	Damper support	2
2	KSM70-H06	O-Ring damper	6
3	KSM60-063	Spacer 8x12x0.5t	4
4	KSM60-017	Socket screw M5x27	2
5	KSM60-018	Hex lock nut M5	2
6	KSM60-016	Socket screw M5x10	2
7	KSM20-H04	Grips washer 5x11.8x2t	2
8	KSM20-90H01	Spindle shaft set	1

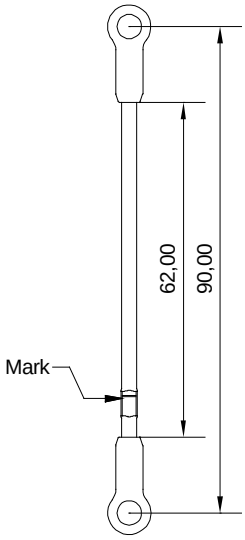
Parts List 21-2			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM53-101	Linkage ball M2.5x4.95x4	2
2	KSM53-106	Linkage ball M3x4.95x6.5	2
3	KSM60-008	Socket screw M3x15	2
4	KSM60-036	Srimok screw M4x6	2
5	KSM60-042	Srimok screw M4x8	2
6	KSM60-058	Spacer 3x5x2.5	2
7	KSM10-H04	Mixing arm	2
8	KSM30-104	Flank bearing d3xD7x3t	4
9	KSM60-012	Spacer d3xD4.8x2.4t	2
10	KSM10-90H09	Arm grip	2
11	KSM10-90H13	Main rotor grip 6061	2
12	KSM30-101	Ball bearing d8xD16x5t	4
13	KSM30-102	Thrust bearing d8xD16x5t	2
14	KSM60-063	Spacer 8x12x0.5t	2

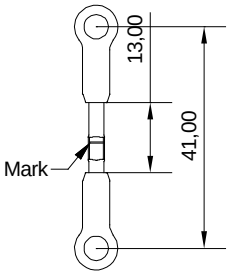
CAUTION:

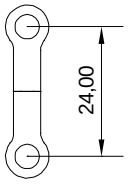
1) Secure O-Ring (KSM70-H06) onto damper Support (KSM20-90H02) before inserting into Center Hub.
2) Lubricate by silicone grease at DAMPER before assembly.
3) For Arm Grip Assembly, Should be tighten the long one of SRIMOK SCREW (KSM60-015) first.
4) Should check DAMPER every 30-40 flight and lubricate by grease.
5) Spacer requirement may vary with climate.

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

Parts List 21-3			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM70-H03	Ball link plastic	8
2	KSM20-H10	Mixing arm rod 78 mm. Stainless Steel	2
3	KSM20-H12	Stabilizer control rod 30 mm. Stainless Steel	2
4	KSM70-H02	Pitch rod	2

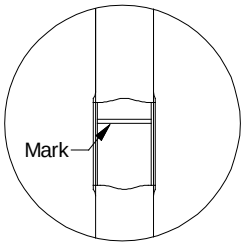


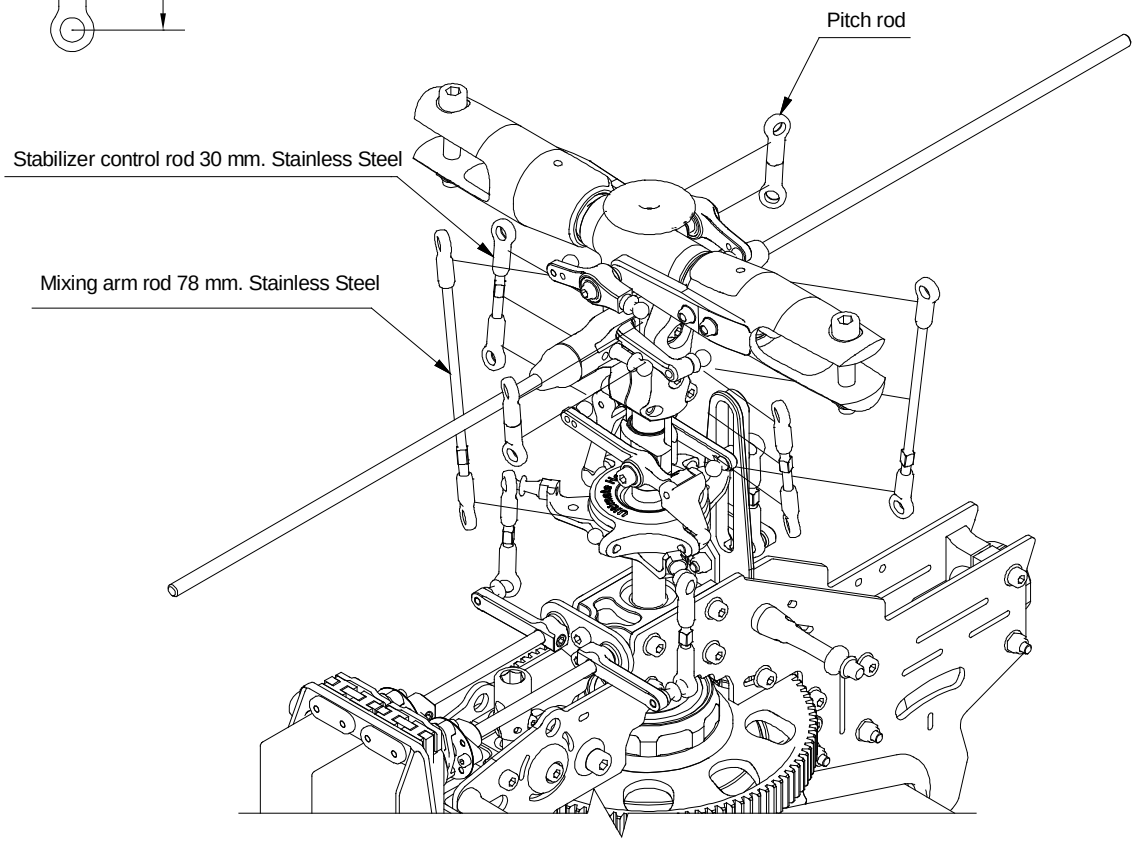




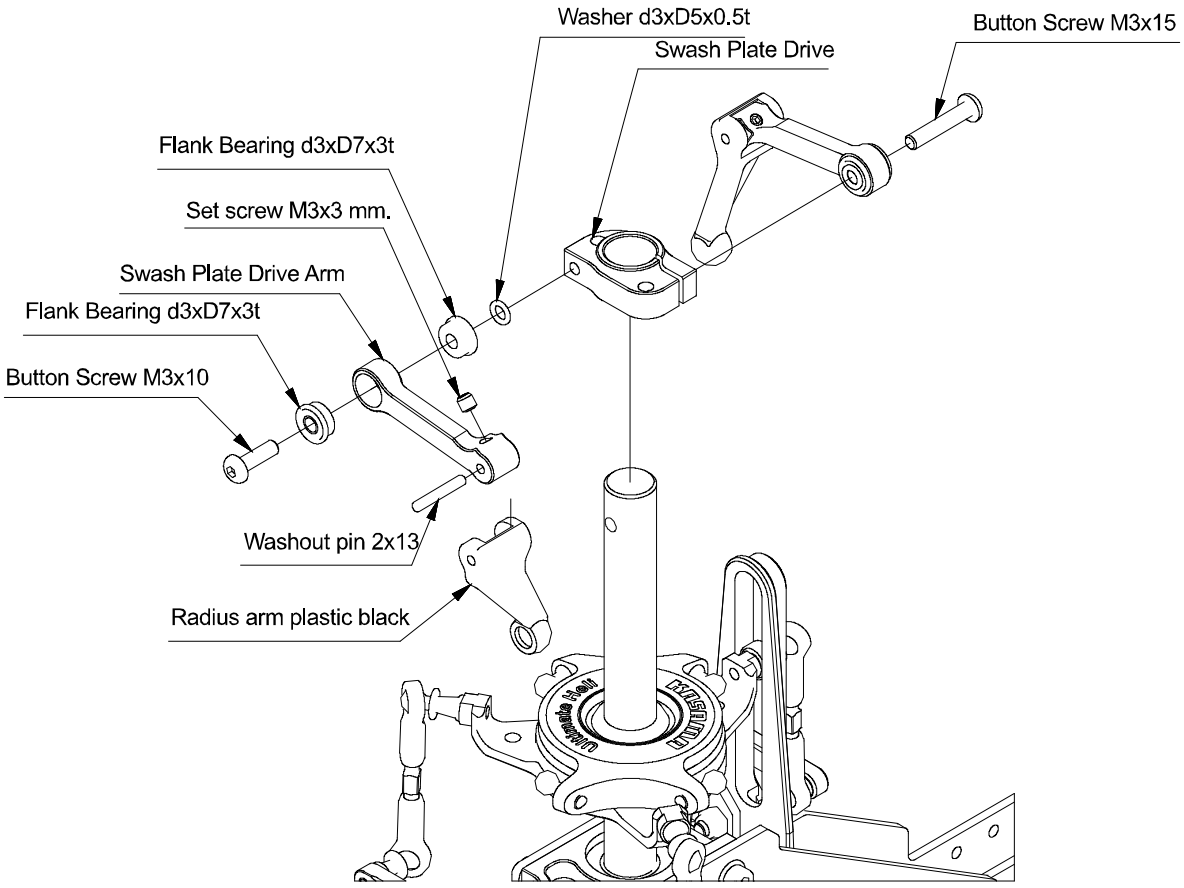
⚠ CAUTION

Mark on turnbuckle should be up.



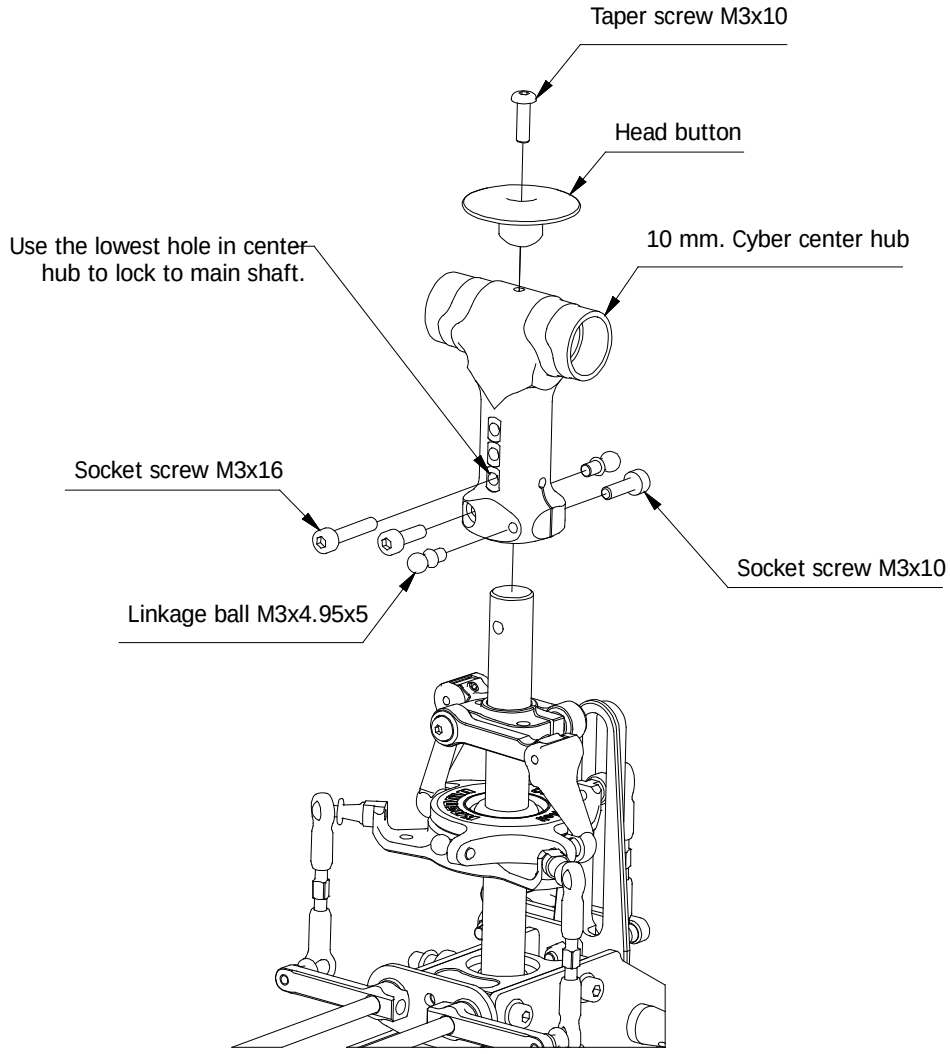


Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



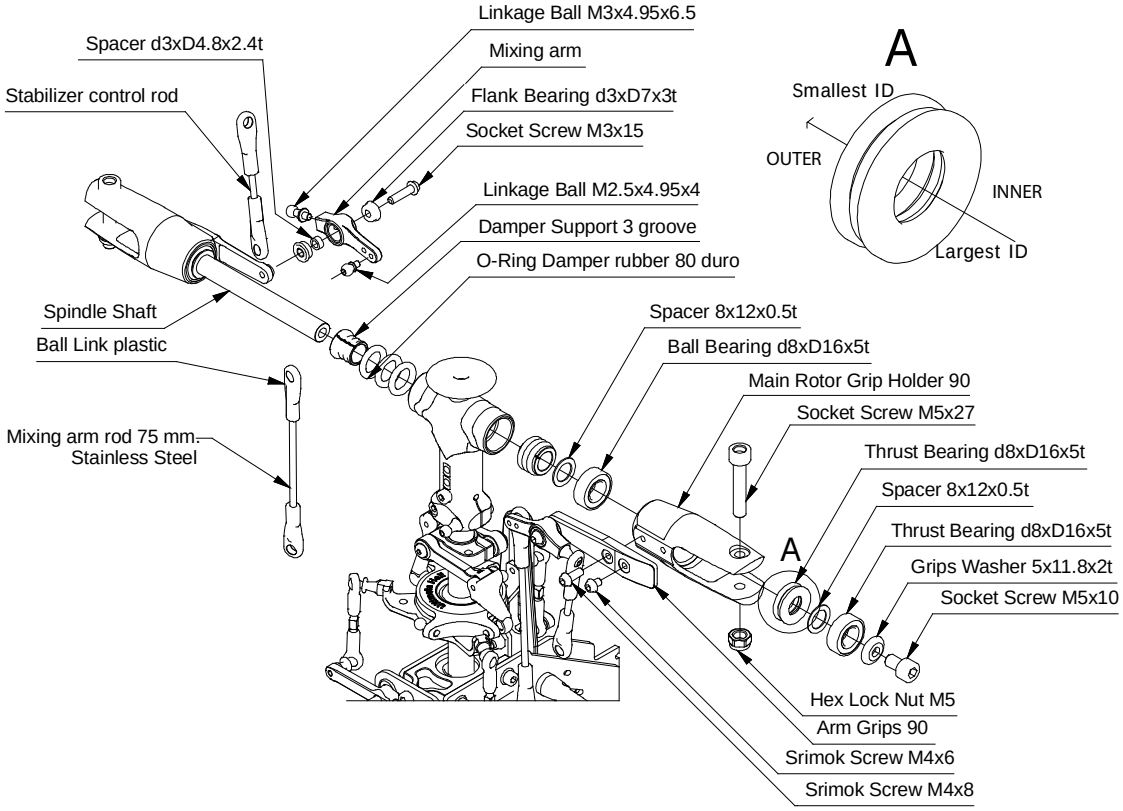
Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-004	Button screw M3x15	1
2	KSM10-H09	Swash Plate Drive	1
3	KSM60-030	Washer d3xD5x0.5t	2
4	KSM30-104	Flank Bearing d3xD7x3t	4
5	KSM10-H10	Swash Plate Drive Arm	2
6	KSM60-076	Button Screw M3x10	1
7	KSM20-H05	Washout pin 2x13	2
8	KSM70-H01	Radius arm plastic black	2
9	KSM60-001	Set screw M3x3 mm.	2

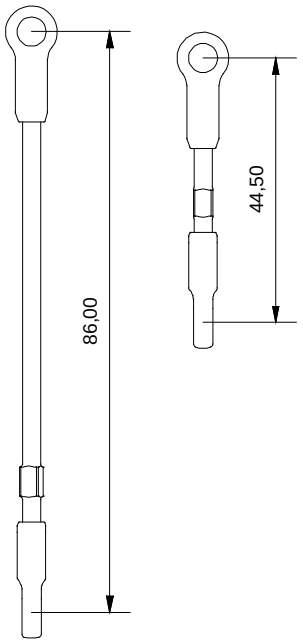
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-90H04	10 mm. Cyber center hub	1
2	KSM53-103	Linkage ball M3x4.95x5	2
3	KSM10-H01	Head button	1
4	KSM60-010	Taper screw M3x10	1
5	KSM60-054	Socket screw M3x10	2
6	KSM60-075	Socket screw M3x10	1

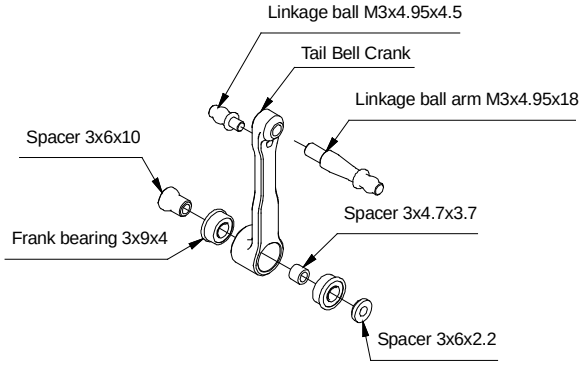
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



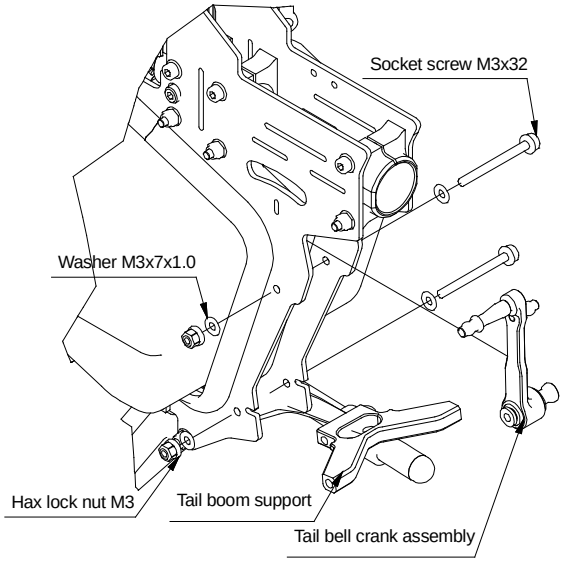


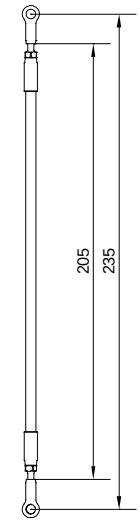
Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM20-90H02	Damper Support 3 groove	2
2	KSM70-H06	O-Ring Damper rubber 80 duro	6
3	KSM30-101	Ball Bearing d8xD16x5t	4
4	KSM10-90H08	Main Rotor Grip Holder 90	2
5	KSM30-102	Thrust bearing d8xD16x5t	2
6	KSM60-063	Spacer 8x12x0.5t	6
7	KSM20-H04	Grips Washer 5x11.8x2t	2
8	KSM60-016	Socket Screw M5x10	2
9	KSM10-90H09	Arm Grips 90	2
10	KSM60-036	Srimok Screw M4x6	2
11	KSM53-101	Linkage Ball M2.5x4.95x4	2
12	KSM60-017	Socket Screw M5x27	2
13	KSM60-018	Hex Lock Nut M5	2
14	KSM60-008	Socket Screw M3x15	2
15	KSM60-042	Srimok Screw M4x8	2
16	KSM70-H03	Ball Link plastic	8
17	KSM20-H11	Mixing arm rod 75mm. Stainless Steel	2
18	KSM20-H02	Stabilizer control rod	2
19	KSM53-106	Linkage Ball M34x4.95x6.5	2
20	KSM20-90H01	Spindle Shaft	2
21	KSM10-H04	Mixing arm	2
22	KSM30-104	Flank Bearing d3xD7x3t	4
23	KSM60-012	Spacer d3xD4.8x2.4t	2

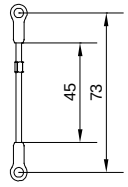
Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

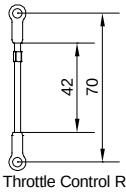


Parts List 22-1			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-029	Washer M3x7x1.0	2
2	KSM60-064	Spacer 3x6x2.2	1
3	KSM60-065	Spacer 3x6x10	1
4	KSM60-027	Hex lock nut M3	1
5	KSM60-031	Socket screw M3x32	1
6	KSM53-109	Linkage ball arm M3x4.95x18	1
7	KSM53-108	Linkage ball M3x4.95x4.5	1
8	KSM30-121	Frank bearing d3xD9x4t	2
9	KSM60-092	Spacer 3x4.7x3.7	1
10	KSM10-T02	Tail Bell Crank	1





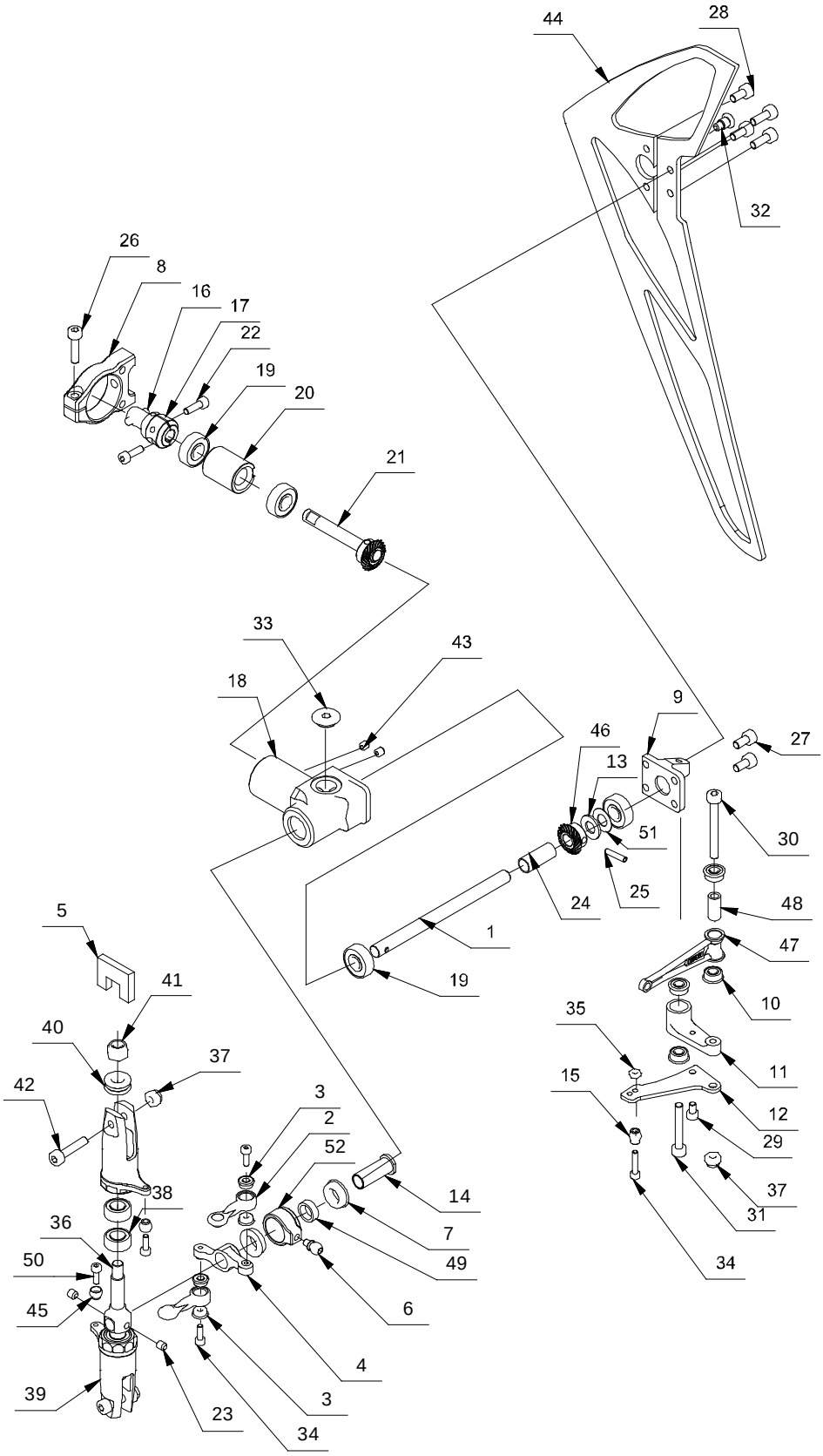




Parts List 22-2			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM40-T01	Rudder control rod (Front)	1
2	KSM20-C13	Throttle control rod 60 mm. Stainless Steel	1
3	KSM70-H03	Ball link plastic	4
4	KSM60-041	Socket screw M2x10	3
5	KSM60-049	Nut M2	3
6	KSM53-112	Linkage ball 2x4.95x2.5	3

Parts List 22-3			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-031	Socket screw M3x32	1
2	KSM60-027	Hex lock nut M3	1
3	KSM60-029	Washer M3x7x1.0	2
4	KSM10-T01	Tail Boom Support	1

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

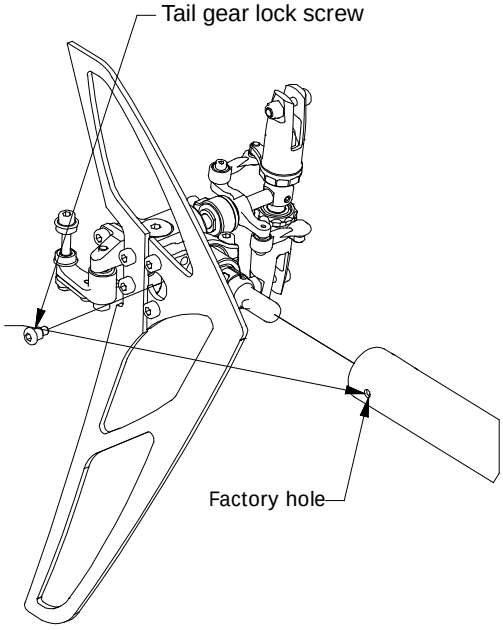


Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM20-T02	Tail rotor shaft steel	1
2	KSM70-T06	Tail Pitch Link	2
3	KSM30-106	Flang Bearing 2x5x2.5t	4
4	KSM10-T24	Tail slider pitch	1
5	KSM10-T04	Tail grip wrench	1
6	KSM53-102	Linkage ball M3x4.75x3.2	1
7	KSM30-122	Frang Bearing d6xD10x3t	2
8	KSM10-T10	Tail Gear Box Holder	1
9	KSM10-T16	Tail Gear case cap	1
10	KSM30-104	Frang Bearing d3xD7x3t	4
11	KSM10-T17	Tail rotor control arm	1
12	KSM40-T09	Tail control arm CF	1
13	KSM20-T25	Tail gear spacer	1
14	KSM20-T10	Tail Pitch Control Slide Bushing	1
15	KSM53-112	Linkage Ball M2x4.95x2.5	1
16	KSM20-T04	Tail input Shaft Cola Pin	1
17	KSM10-TS18	Tail drive joint rear 5 mm.	1
18	KSM10-T13	Tail Gear Box case	1
19	KSM30-116	Ball bearing d5xD13x4t	4
20	KSM10-T03	Tail Gear Box	1
21	KSM20-T21	Tail Input Shaft and gear set CNC	1
22	KSM56-056	Socket screw M2.5x8	2
23	KSM60-002	set screw M3x4	2
24	KSM20-T24	Tail gear bush bronz	1
25	KSM20-T03	Spring pin	2
26	KSM60-020	Socket screw M3x12	1
27	KSM60-033	Socket screw M3x6	2
28	KSM60-034	Socket screw M3x8	4
29	KSM60-048	Socket screw M2.5x6	1
30	KSM60-028	Socket screw M3x28	1
31	KSM60-047	Socket screw M3x20	1
32	KSM60-043	Stap screw Tail gearbox lock M4	1
33	KSM10-T18	Service Cap Tail Gear Box	1
34	KSM60-041	Socket screw M2x10	3
35	KSM60-049	M2 nut	1
36	KSM20-T01	Tail Center Hub	1
37	KSM60-027	Hex lock nut M3	3
38	KSM30-123	Ball bearing 5x10x4	4
39	KSM10-T25	Tail grip blade	2
40	KSM30-124	Thrust bearing 5x10x4	2
41	KSM60-045	Hex lock nut M4	2
42	KSM60-008	Socket screw M3x15	2
43	KSM60-001	Set screw M3x3	2
44	KSM40-T10	Vertical Fin G10	1
45	KSM53-113	Linkage Ball 4.95x3.7	2
46	KSM20-T20	Tail bevel gear (L) steel CNC	1
47	KSM70-T05	Tail control arm holder	1
48	KSM60-067	Spacer 3x4.7x9.8	1
49	KSM60-068	Spacer 6x8x2.7	1
50	KSM60-046	Socket screw M2x6	2
51	KSM20-T26	Shim (0.1-0.3)	1
52	KSM10-T23	Bearing ring control pitch ALU black	1

CAUTION

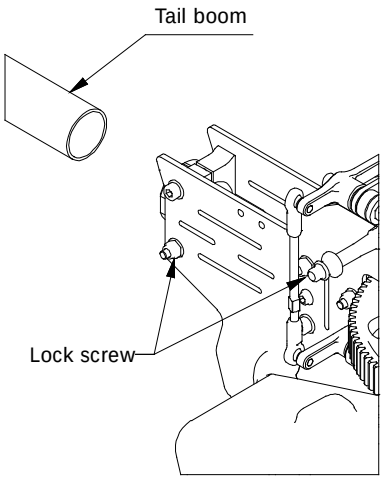
Use tail grip wrench KSM10-T04 to tighten hub lock nut

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

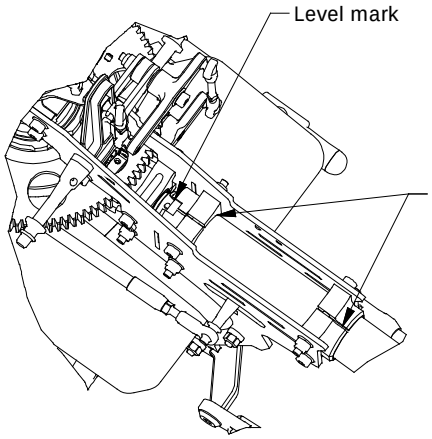


1) Assemble tail gear case to boom using Tail Gear lock screw.

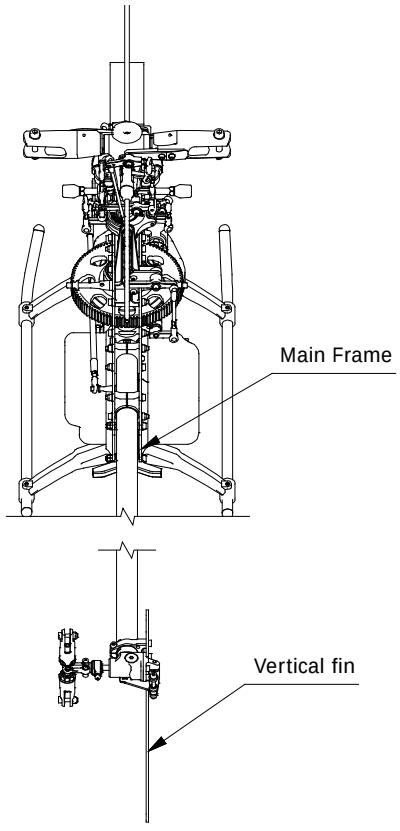
Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM40-T02	Tail boom	1



2) Put tail boom in frame boom case and lightly tighten bolts.

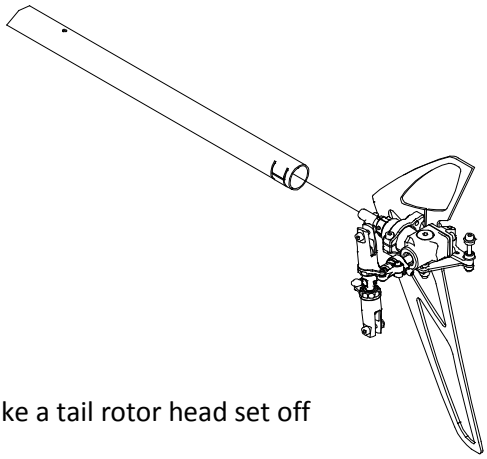


3) Insert tail boom into frame case until it fills the boom mount cut out and is flush with the end of the boom mount.

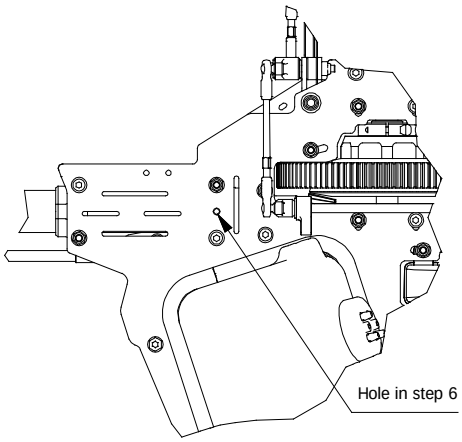


4) Rotate fin until it is vertical in line with main shaft then tighten tail case bolts.

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



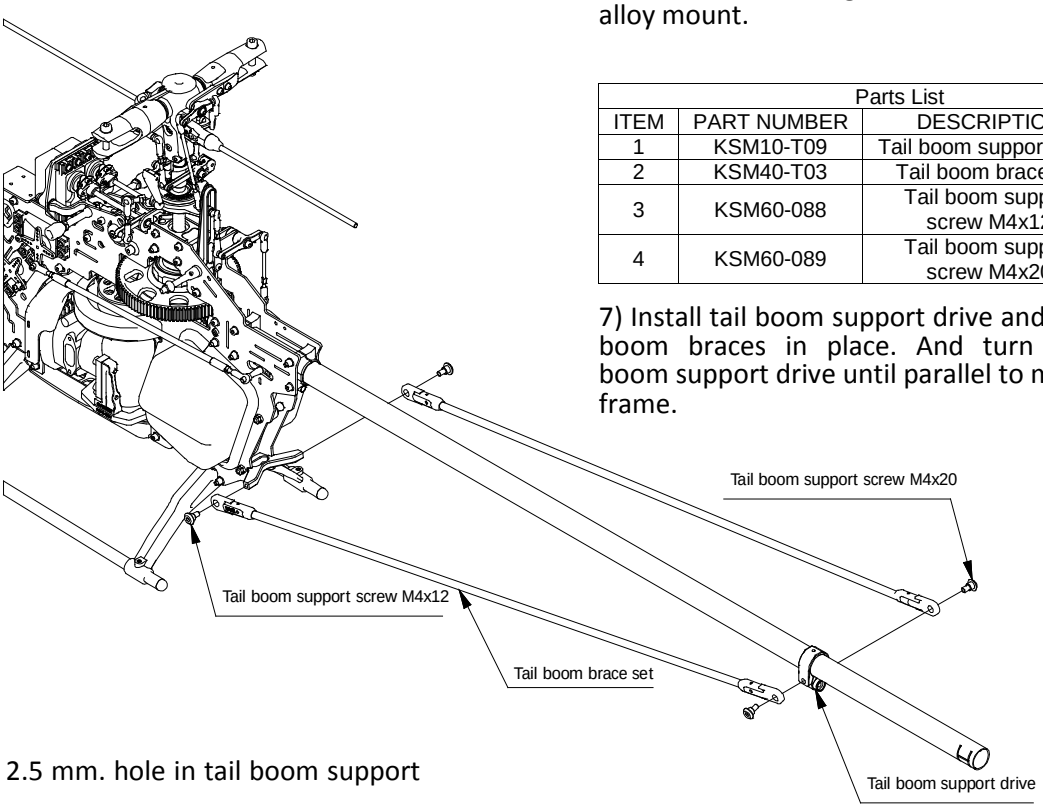
5) Take a tail rotor head set off



6) Drill a 2.5 mm. hole in tail boom through frame and boom mount being careful not to damage the thread in the alloy mount.

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-T09	Tail boom support drive	1
2	KSM40-T03	Tail boom brace set	2
3	KSM60-088	Tail boom support screw M4x12	3
4	KSM60-089	Tail boom support screw M4x20	1

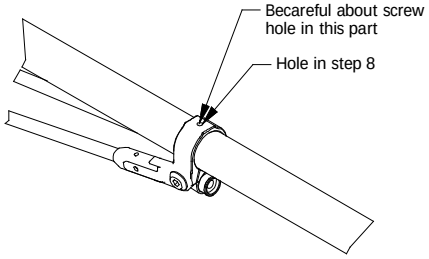
7) Install tail boom support drive and tail boom braces in place. And turn tail boom support drive until parallel to main frame.



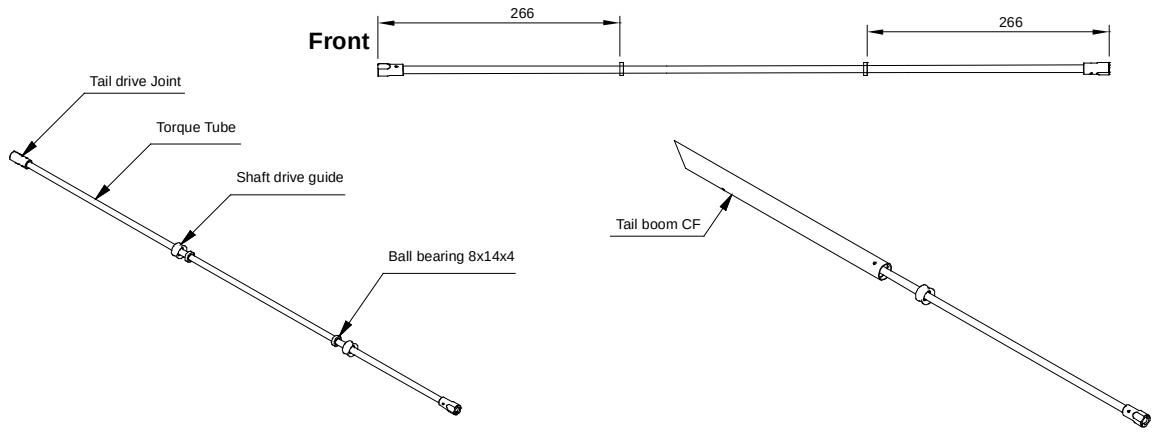
8) Drill 2.5 mm. hole in tail boom support drive.

9) Disassemble all step 7 and tail boom.

10) Drill 3 mm. holes in the previously drilled 2.5 mm. holes in the boom from steps 6&8. Clean swarf from inside of boom.



Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



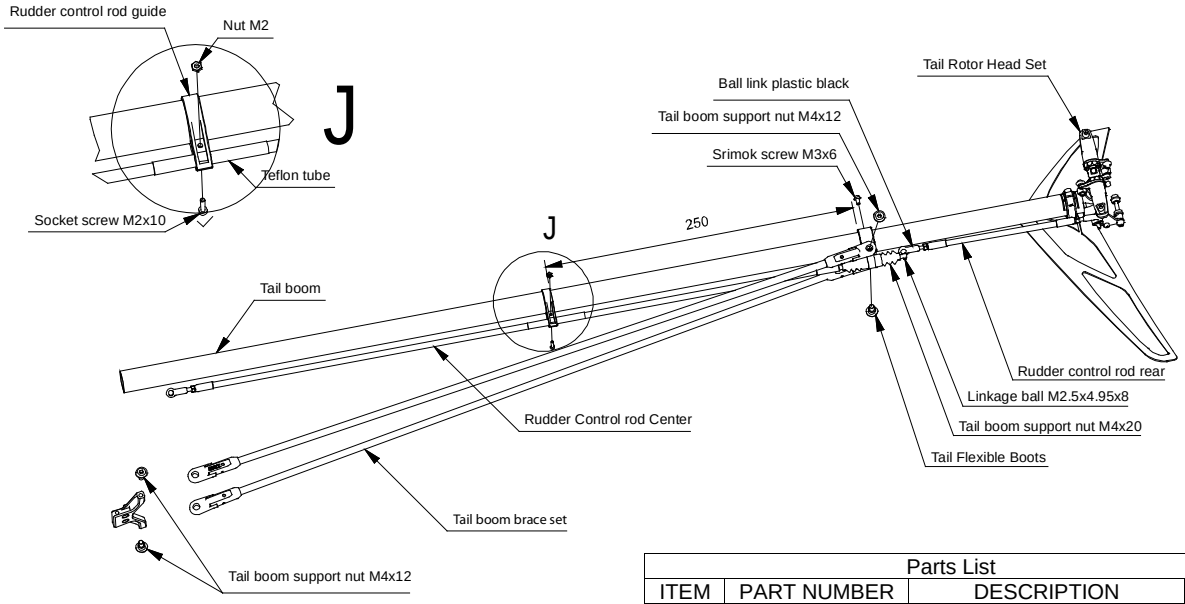
Tip to fix the torque tube

1) When inserting torque tube into boom lubricate rubber shaft guides with some light oil or silicon spray.

2) To insert the torque tube may take multiple passes pushing & pulling to work the rubber guides down the tube. Check the TT for smooth rotation when finished.

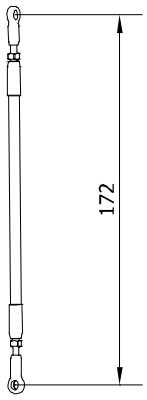
3) Push the tail boom into the tail boom clamp.

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM10-T27	Torque Tube	1
2	KSM70-T04	Tail drive Joint	2
3	KSM30-120	Ball bearing 8x14x4	2
4	KSM70-T08	Shaft drive guide	2

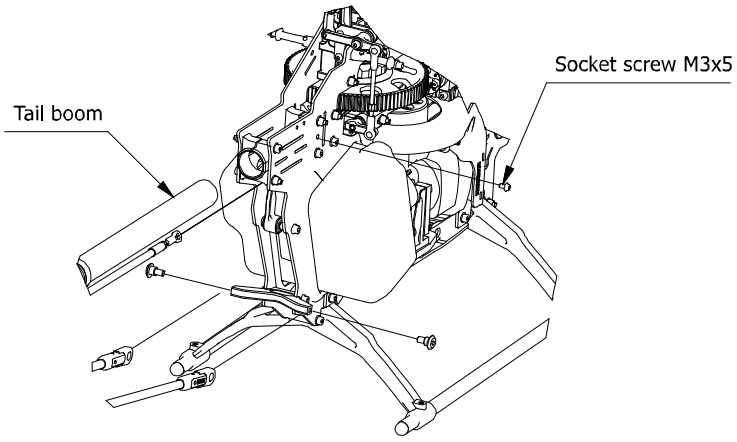


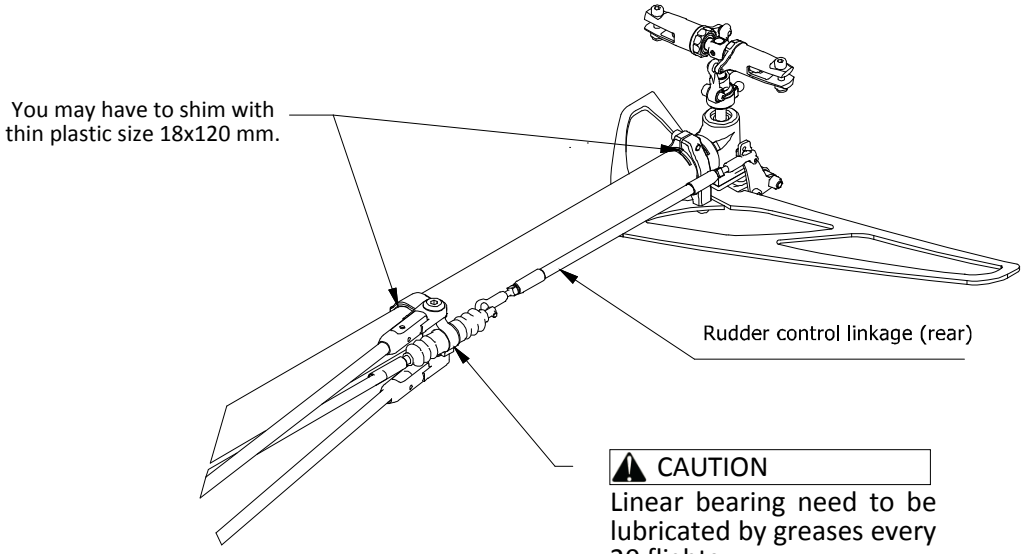
Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-014	Srimok screw M3x6	1
2	KSM70-T03	Tail Flexible Boots	2
3	KSM70-H03	Ball link plastic black	3
4	KSM70-T07	Rudder control rod guide	1
5	KSM53-114	Linkage ball M2.5x4.95x8	1
6	KSM40-T07	Rudder control rod rear	1
7	KSM40-T04	Rudder control rod Center	1
8	KSM70-T09	Teflon tube	2
9	KSM60-049	Nut M2	1
10	KSM60-041	Socket screw M2x10	1
11	KSM60-040	Socket screw M3x5	1

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.



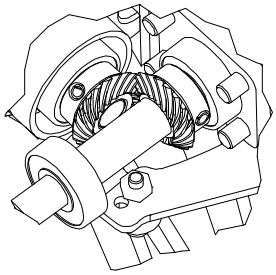
Rudder control linkage (rear)





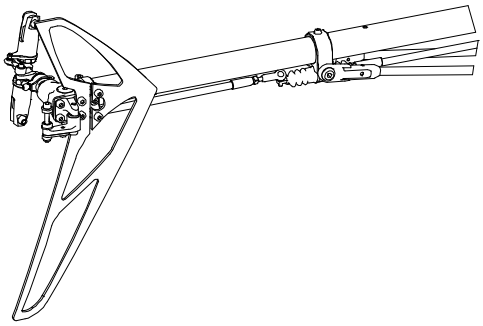
⚠ CAUTION

Linear bearing need to be lubricated by greases every 20 flights.



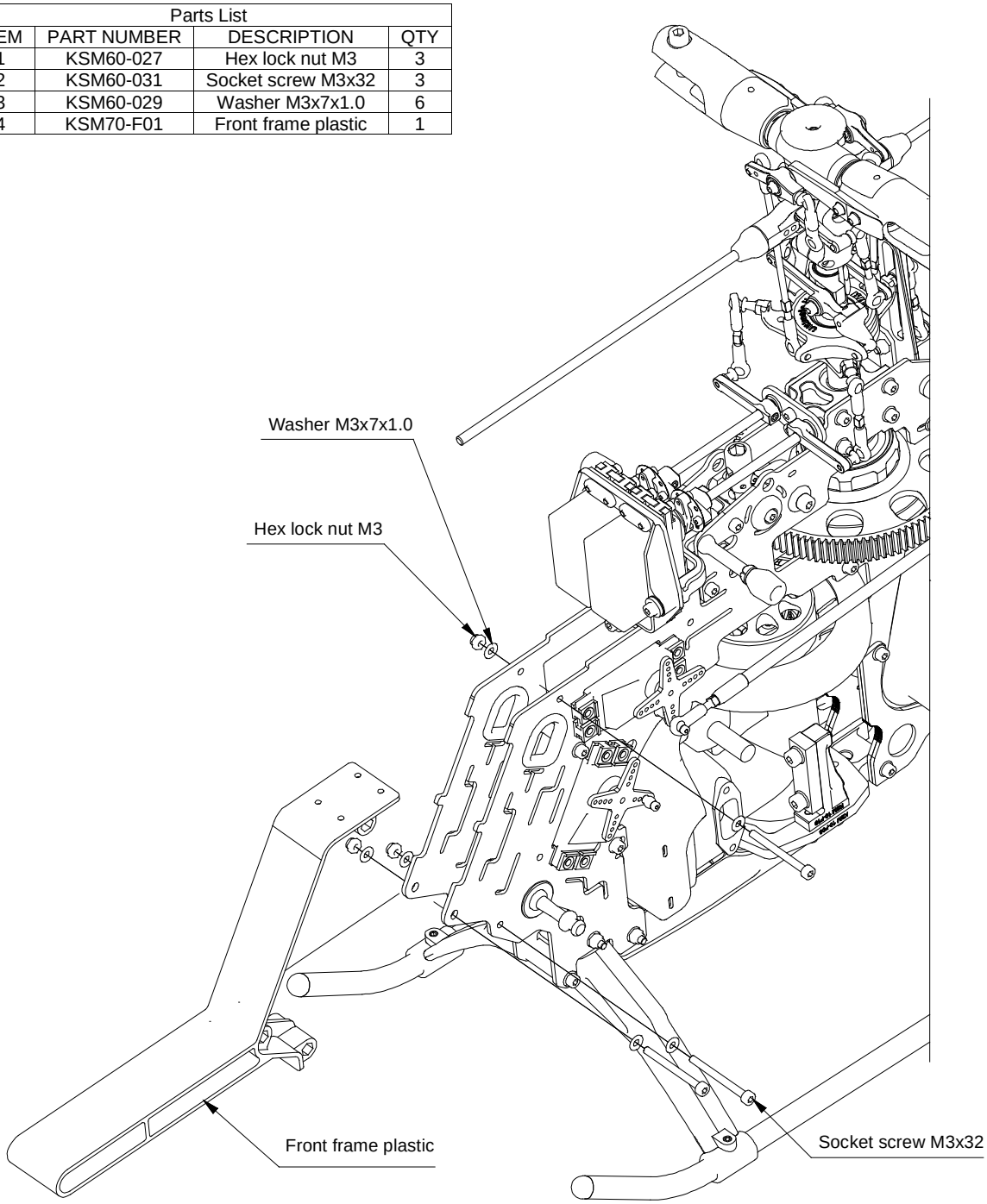
⚠ CAUTION

Gearbox lubrication: Apply a drop of grease on four quadrants of the spiral gear whilst turning. Every 30 flights re-grease gears and drop oil onto ball bearings.



Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM60-027	Hex lock nut M3	3
2	KSM60-031	Socket screw M3x32	3
3	KSM60-029	Washer M3x7x1.0	6
4	KSM70-F01	Front frame plastic	1



⚠ CAUTION

Do not install the electronic parts directly to main frame because vibration may be damage them. Use rubber foam under electronic parts before install.

Note: Apply blue thread lock to all screws, balls, and threads which it be fixed to metal-parts. For non-metal parts apply CA Glue.

Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	KSM70-F07	Canopy	1
2	KSM70-F04	Rubber grommet	4