

Gasoline Engine Powered **GSR260Z**

Fly, and catch the sky with JR.

ASSEMBLY INSTRUCTIONS



This photo depicts an assembled model

Specifications

Length	: 1,623mm
Height	: 704mm
Width	: 380mm
Main Rotor Dia.	: 1,765mm (with JRC800 main blades)
Tail Rotor Dia.	: 288mm
Gear Ratio	: 8:1:5.18
Gross Weight	: 7,800g ~ (including main rotor blades)
Practical Payload	: 4,000 ~ 5,000g

Precautions for use

This product is not designed for industrial applications. Because an industrial RC helicopter has a different concept from that of this product, never use this product for industrial applications or for the purpose of profit. It is designed as a model aircraft (for hobby use).

JR PROPO®

CONTENTS




1. CONTENTS	2
2. INTRODUCTION	3 ~ 8
3. PRODUCT WARRANTY AND INDEMNIFICATION OF LIABILITY	9
4. REPAIR AND AFTER-SALES SERVICE, TRANSFER OF THE PRODUCT	10
5. TOOLS REQUIRED FOR ASSEMBLY	11
6. ADDITIONAL ITEMS REQUIRED	12
7. TYPES OF BOLT AND NUTS, HOW TO DISTINGUISH SIZES	13
8. HOW TO AVOID LOOSENING OF BOLTS, ETC., EPOXY ADHESIVE, INSTANT ADHESIVE	14
9. BONDING OF INNER COLLAR, UNIVERSAL LINK	15
10. ASSEMBLY PROCEDURE 1	16 ~ 18
11. ASSEMBLY PROCEDURE 2	18 ~ 24
12. ASSEMBLY PROCEDURE 3	25 ~ 34
13. ASSEMBLY PROCEDURE 4	35 ~ 40
14. ASSEMBLY PROCEDURE 5	41 ~ 46
15. ASSEMBLY PROCEDURE 6	47 ~ 55
16. ASSEMBLY PROCEDURE 7	56 ~ 61
17. FINAL ADJUSTMENT AND SET-UP	62 ~ 72
18. PRE-FLIGHT CHECKS	73
19. CHANGES FOLLOWING THE TEST FLIGHT	74 ~ 75
20. BE SURE TO READ BEFORE FLIGHT	76 ~ 77
21. PARTS LISTS	78 ~ 99
22. MEMO	100 ~ 102
23. POSITIONING DECALS	103

INTRODUCTION

Thank you for purchasing JR's gasoline engine powered GSR260Z. The GSR260Z is an upgraded version of the multi-purpose RC Helicopter "Voyager GSR260" which was born in 2003 to meet users need. The frame layout has been revised while maintaining the ease of maintenance of the GSR260 - metal parts are used for the rotor head, control levers, etc. to achieve a feeling of rigidity and linear control response. The swash type has been adapted to CCPM. The drive section employs a spiral gear to minimise drive loss and gear noise. In addition, the engine cooling efficiency has been improved with a newly designed large-size cooling fan and fan cover. The GSR260Z also employs a stronger tail unit than that of the GSR260 to ensures reliable control. The FRP body has been refined and features outstanding visibility. To achieve full performance of the GSR260Z, please read and understand this manual completely. In particular, the following warnings and the sections describing assembly and adjustment. Please be sure to fully understand the instructions in this manual before commencing assembly.

Be Sure to Observe for Safety

Do not assemble or fly the product without seeking expert assistance. Be sure to receive guidance from our distributor or an advanced operator. An instructor is also requested to fully observe not only the instructions and precautions in this manual but also rules and manners for flight. In order to prevent a fire or injury, always observe the precautions with each flight. If you have caused an accident during flight or in other circumstances, we will take no responsibility for it or any resulting damages. When flying the product, care should be fully taken (at your responsibility) to enjoy, safe and pleasant flight. The manual describes warnings, dangers and cautions required for safe assembly and pleasant flight. They are very important for preventing accidents such as fire, injury, etc. Symbols are used to indicate the precautions for preventing accidents from erroneous handling of the product. These symbols have the following meanings. Read the precautions mentioned in each process before proceeding.

- | | | |
|--|----------------|--|
|  | DANGER | Neglect of this precautionary notice is very likely to result in death or serious injury of the user. |
|  | WARNING | Neglect of this precautionary notice is likely to result in death or serious injury or damage to properties. |
|  | NOTE | Neglect of this precautionary notice is not likely to result in death or serious injury but may result in wound or damage to properties. |
| | Request | This indication provides the information on assembly and handling, which you have to understand for safe and pleasant flight of the Product. |

"Serious injury" , "wound" , "damage to properties" , and "user" are defined below.

Serious injury: Refers to a fracture of bone, poisoning, etc. After effects may require you to be hospitalized or go to hospital for a long period of time.

Injury: Refers to an injury, burn (high-/low-temperature), electric shock, etc. which requires you to be hospitalized or go to hospital for a long period of time.

Damage on properties: Refers to expensive damage to a house, household goods, domestic livestock, or other animals.

User : Refers firstly to the person who assembles and operates the product. It also includes not only the person who purchased the product, but also his or her family, guests, and anyone else to whom the product has been lent or transferred.

This Product is not a toy. It requires expertise and skill to operate correctly. When flying care should be fully taken to correctly handle the fuel and electric accessories to ensure safety.

Keep in mind that a radio control helicopter, which is controlled by a weak electric radio frequency, may go out control for many reasons - always pay attention to yourself and your surroundings.

TAKE GUIDANCE FROM OUR DISTRIBUTOR OR ADVANCED OPERATOR

The GSR260Z is a large sized helicopter powered by a 26cc gasoline engine. Because it is designed with the assumption that it flies under payloaded conditions, there are various differences in handling from that of a normal glow fuel, electric motored, or small-sized R/C helicopter. If you are a beginner with R/C helicopter, do not try to assemble or fly this model by yourself.

Because the GSR260Z can be assembled with ease, it may look simple and easy to assemble it. However, it actually requires extremely delicate assembly, adjustment and operation. Take appropriate guidance from our distributor or an advanced operator so that you can fully exhibit its full performance and enjoy flying it. If you are an average user you may assemble the model according to the procedures detailed in the manual. If you may notice a fault or a failure you may not be able to proceed. When you cannot complete the assembly properly by yourself, it is recommended you take guidance from our distributor or an advanced operator. Also, at the time of flight be sure to take guidance. Flying the helicopter alone may involve great danger as well as damaging its precious body. Getting proper guidance helps prevent accidents and damage. Remember to assemble correctly and pay utmost attention to safety.

If an instructor has questions regarding assembly contact our distributor .

Buy a Radio Control Insurance Policy

Although this radio control helicopter is great fun, it could be a deadly weapon. Therefore, give sufficient consideration as to where to fly it and the surrounding circumstances. Be sure to buy a “radio control insurance policy” as a precaution. For details of how to buy this, inquire with our distributor or a nearby radio control model shop.

Take Special Care Handling the Fuel

For flight, the GSR260Z employs a mixture of gasoline fuel (or petrol) and oil. This fuel is very dangerous. Take special care to the following items (as well as reading precautions indicated on the fuel container).

Liquid fuel for this R/C model is very flammable. If it leaks, it may be ignited. NEVER use an open flame near the model or fuel tank. Because the flame from a cigarette may ignite it, do not smoke during use of the GSR260 Z. When carrying the fuel, be sure to put it into metallic, rigid tank and keep it in place with no fire. Do not store the fuel in the vicinity of potential sources of ignition such as batteries. During use, keep the fuel away from batteries and potential ignition sources. Do not use a plastic container, because the fuel is likely to leak from it. If the fuel leaks and adheres to the body of the model, wipe it off immediately. Leaving it may result in a fire.

Fuel is very volatile and may be vaporized in confined spaces. If it is ignited in such a space, it may explode and it is very dangerous. Keep the fuel in a well-ventilated, cool and dark place. Inside the trunk of a vehicle is likely to be very hot. Do not leave the fuel in such a place. When supplying fuel to the model, be sure to stop the engine and wait until it cools completely. If you do not fly the GSR260Z, remove the fuel from the tank. Be sure to handle the fuel outdoors.

Some engines require specific fuel. Refer to the instruction manual of the engine you use. Be sure to refer to the instruction manual for your engine to determine the correct type and amount of oil to mix with the fuel.

PRECAUTIONS FOR HANDLING

- Immediately after flight, the engine and muffler are very hot. Be careful for to avoid a fire or burn.
- The accessories such as battery and electrical parts should be handled with care. If its coating is torn or the connector is shorted, you could be burnt or injured. Read the instructions for use of such accessories before handling.
- Do not charge or discharge the battery near an open fire or in a hot environment
- Unnecessary disassembly or modification of any components is strictly prohibited. Neglect of this could result in a fault and/or accident.
- Stop the engine before doing the following actions:
 - ① when you make adjustments to the helicopter body or the control system;
 - ② when you replace any accessories or parts;
 - ③ when the helicopter has something wrong or when you note unusual noise, smell or vibration;
 - ④ when danger is expected.
- Use the parts within their service limits, if indicated.
- In order to realize a pleasant flight, try to keep an appropriate gear backlash, movable parts moving smoothly, bolts tightened, and parts lubricated or replaced as required..

Precautions for Safe Flight

Although you may believe you have taken all possible care during assembly, the model could still crash due to slight assembly failure, operational mistake, service failure (loose bolts. etc.), interference and so on. Always keep in mind that the radio control helicopter, which is controlled by radio frequency, may go out of control for some reason, and the operator should pay attention to himself/herself and the surrounding circumstances at all times for a safe flight.

- ◎ To fly the helicopter, it is necessary to fully master operational skills for flight as well as basic flight methods. Receive guidance from our distributor or an experienced operator and operate under their instructions.
- ◎ If you notice an abnormality before flight, be sure to eliminate the cause before flying.
- ◎ If two or more radio devices are used simultaneously on the same frequency, you cannot operate the helicopter because of interference. If someone else is using the same frequency, operation may stop. If there is interference despite no one using the same frequency, a source of interference exists. Never fly until this interference has been cleared.

Flying Site and Range

- ① The flying range of the helicopter is defined as a distance where it can receive the radio frequency signal from the transmitter. However its true range is where you can confirm the behaviors of the helicopter with your own eyes.
- ② Never operate the helicopter in a place where you may lose sight of it, or the radio signal from your transmitter fails to reach it - as a crash is very likely.
- ③ Try to understand the surroundings at all times and never fly in bad weather, such as strong wind or rain, at night or in low visibility.
- ④ Never fly in a place where there are people, cars, schools, hospitals, other buildings or obstacles, or by a river or on the seashore; fly at an exclusive airfield where radio signals are controlled.
- ⑤ Do not fly near roads, tracks, electric lines, high-tension lines or other objects determined dangerous.
- ⑥ Compared with a glow engine powered helicopter, this helicopter is considerably quieter, but try not to disturb the environment either by the exhaust note from the engine or wind roar from the main rotor.

Observe these rules and manners to help enjoy this R/C helicopter.

Precautions for the Operator

The following items are precautions for the operator flying the GSR260Z. Be sure to observe them - failure to observe them may result in serious accidents or injuries.

① The following persons or those in the following states should never operate the GSR260Z.

- infants, children, or other persons who have no knowledge or experience of R/C helicopters;
- pregnant woman;
- when you are tired, ill, under influence of medicine or alcohol and cannot make proper judgment in safe operation;
- when you are a beginner or borrow someone's radio control helicopter and have not taken sufficient safety guidance on the operating methods; or
- those who are believed to be incapable of flying a radio control helicopter.

② Wear easy-to-move clothes.

- Choose to wear clothes whose edges or hems can not come into contact with the rotating parts of the helicopter, the antenna or controls on the transmitter, endangering you.
- It is very dangerous if accessories such as rings, bracelets, etc. are caught by the helicopter or the transmitter. Remove them and bundle long hair so that they will not be caught.
- In order to protect your feet, wear solid, easy-to-move shoes, avoiding sandals or high-heel shoes.
- Wear a cap, gloves, sunglasses or goggles as required.

③ Do not fly the Helicopter in an unnatural posture.

- Avoid standing on an unstable or slippery place.
- Do not fly while looking backward, sitting or lying.
- Do not bring the helicopter too close to the operator or surrounding people (if there are bystanders, make sure that they are behind the operator).

④ Take sufficient flight breaks.

- An excessively long flight makes the operator lose his/her concentration due to fatigue, leading to accidents. Take adequate flight breaks. Avoid an unreasonably long flight, which could result in unexpected accidents or injuries.

Precautions for Starting

- ① Make sure that the bolts for the blades (main rotor, tail rotor) are properly tightened (there should be some movement possible). Check all the other screws to confirm they are properly tightened. Retighten any loosened screws.
- ② Make sure that no tool used for assembly or adjustment has been left in the helicopter body, and that all the parts affecting the flight performance are free from fault.
- ③ Keep the airfield as neat and tidy as possible and place the helicopter in a stable place (objects such as cables, wires, strings, debris of broken parts, screws, etc., may be scattered by the wind pressure from the rotor and damage the helicopter).
- ④ Make sure that the batteries in the transmitter and the receiver are fully charged.
- ⑤ Turn on the transmitter first and then turn on the receiver
- ⑥ Conduct a distance (range) test of the transmitter. With its antenna collapsed, move 15m or so from the helicopter. Move the controls and confirm movement of the helicopter servos follows the sticks. If it does not move properly, check the cause and have it repaired, if necessary.
- ⑦ Extend the transmitter' s antenna to its full length. Put the receiver' s antenna through an antenna pipe and make sure that it can easily receive the radio signal, paying heed to ensure it cannot to be caught by the movable parts (do not bend or bundle it).

◎ Starting

- ① When starting the engine, make sure that there is no person, animal or obstacle around the helicopter, which may be caught by the rotors.
- ② After starting the engine, make sure that it stops by shifting the throttle stick to the slowest position. Operate slowly, because it is very dangerous to increase the rotation abruptly. Shift the stick slowly to perhaps the 25% position and wait for some time. Once the rotation increases and follows the stick operation, it is ready to fly. If the throttle stick is moved suddenly to a high position the helicopter will dangerously leap up into the air.
- ③ When moving to a take-off site, note that if your clothes contact the transmitter' s stick, the rotor may start running abruptly. Please proceed with caution.
- ④ When floating the helicopter into the air, be sure to remain at least 10m or so from it.
- ⑤ To set up the transmitter or adjust the Helicopter, first land. Pay heed not to allow part of your body or clothes to contact the transmitter' s stick by mistake, and do not put the transmitter down in a standing position because wind, etc. may tip the transmitter over, bumping the throttle stick, causing the helicopter to leap into the air abruptly, endangering yourself or others.
- ⑥ Do not put your hand or any objects into the movable parts while they are running.
- ⑦ When checking the tracking adjustment stay at least 5m or more from the helicopter.

◎ Stopping

Once the engine and main rotor have completely stopped running, hold the head with your hand and turn off the power switch of the receiver. Turn off the power switch of the transmitter last.

Precautions during Flight

- ① If you note an abnormality such as unusual noise, vibration, etc. during flight, land the helicopter in a safe place swiftly and eliminate the cause prior to flying again
- ② If the main rotor comes into contact with the ground during flight its appearance may look faultless, but fine cracks or distortions may have occurred in different parts. If you continue to fly it in that condition, the cracks may extend, allowing the inner lead weight to fly out or cause the main rotor to come off the main rotor grip, thus leading to a serious accident. If the main rotor is damaged even slightly or if there is a possibility of damage, replace it with a new one immediately.
- ③ Never look away from the helicopter during flight. If you do so even for a short period of time, it may change its posture or you may lose sight of it, and lose control. Always assume the worst-case scenario and all care should be taken to prevent a crash.
- ④ Do not fly (or hover) the helicopter keeping the main rotor at eye level because it is dangerous. Always ensure that the main rotor is higher than eye level.
- ⑤ Always be careful and check the fuel level and voltage of the control system (transmitter and receiver).
- ⑥ Do not touch the main rotor or tail rotor while they are running.

Inspection after Flight

- ① After a flight is completed inspect the following: Check screws for tightness and parts for wear, deterioration and damage. Wipe off dirt and water drops from the helicopter (if dirt on the movable parts is left uncleaned for a long time, they may move less smoothly or more irregularly, having a bad effect on the flight performance).
- ② When storing the helicopter for a long period of time, clean it before storage.
 - Store it in a dry, safe place beyond the reach of infants.
 - If it has damage or a problem, repair or replace before storage.
- ③ To lubricate or replace the parts, follow the relevant parts assembly processes in the manual and the instructions in the parts lists.
- ④ Check whether or not the receiver and gyro are firmly secured, and free from problems.
- ⑤ Check the receiver antenna wire from time to time because its core may have been snapped. If snapped inside the coating it may not be apparent. Have it checked periodically by the manufacturer.
- ⑥ Once your flight is finished, be sure to remove the fuel from the helicopter.

Consumable Parts and Other Parts

When replacing the consumable parts, use our specified original parts or our authorized optional ones. Do not modify these parts. Our product warranty does not cover any troubles resulting from use of non-original parts. Do not use out-of-standard parts, because they may cause an accident or a problem exposing you to great danger.

PRODUCT WARRANTY AND LIABILITY INDEMNITY

SAFETY PRECAUTIONS

This is a sophisticated hobby Product and not a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the Product or other property. This Product is not intended for use by children without direct adult supervision. The Product manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or injury.

PRODUCT WARRANTY

Thank you for purchasing this product. The following describes the provisions on product warranty and liability indemnity. Read them thoroughly before using the product.

1. The product has been delivered to you after strict inspection. After unpacking the kit, be sure to check its contents. If there are any faulty parts, contact our Distributor prior to assembling the helicopter.
2. For any pre-assembled item (rotor head, etc.), be sure to check assembly of parts and tightness of bolts and nuts. If an abnormality is noted, contact our Distributor.
3. For product faults and failures noticed before completion of assembly, we will replace the relevant parts with new ones only when we have determined them as a clear incipient failure. Even if a specific faulty part has an effect on other faultless ones, our product warranty only covers the faulty item. If you have even the slightest suspicion on some parts during assembly, contact our Distributor.
4. Note that our product warranty does not cover any failures of parts which have resulted from your handling during assembly.
5. The component parts of the product have been fully examined and checked in their design phase and manufactured under a full management system. We have also confirmed through long-term tests that they have no quality problem. However wear, deterioration, service life of parts, and the performance of the helicopter depend greatly on the working environment at your site (assembly, adjustment, flight condition, storage), and the characteristics of the helicopter differ considerably depending on these unidentifiable factors. As it is virtually impossible for us to have direct involvement with the product under your management, we will take no responsibility for any product failures which have occurred during use after completion of assembly, and any accidents or losses attributable to them. Note also that we will take no responsibility when you have used parts other than our original ones or those produced by our authorized optional parts manufacturer, or for any other problems or accidents resulting from modifications.

LIABILITY INDEMNITY

1. The Product, by its nature, includes dangerous elements depending on how it is handled. When flying it, operate it at your own risk, paying full heed to the surrounding persons and objects as well as yourself. Note that we will take no responsibility for any accidents of whatever cause during use of this product. It is recommended to buy a radio control or recreation insurance policy just in case of unexpected accidents. For details of the radio control insurance policy, inquire with our distributor or a nearby radio control model shop or insurance agent.

REPAIR AND AFTER-SALE SERVICE, TRANSFER OF PRODUCT

REPAIR AND AFTER-SALE SERVICE

For Repair and After Sales Services of a JR Helicopter, please consult with your JR Helicopter distributor.

Transfer of Product

The manual may be accompanied by a supplemental manual, additional manual or errata because of improvements to the product or typographical errors of the manual. They may include very important information for flight.

[For Transferor]

When transferring the product hand over the accompanying documents together.

[For Transferee]

Check the accessories at the time of handing over the helicopter. If you are not sure what has accompanied the manual, check with your JR Helicopter distributor.

* These days an increasing number of goods have been transferred (sold and purchased) through Internet auction. The relevant parties are kindly requested to check the condition of the helicopter and the existence of the accessories and it is their responsibility to trade openly.

INSTRUCTIONS FOR DISPOSAL OF WEEE BY USERS IN THE EUROPEAN UNION

This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household where you purchased the product.

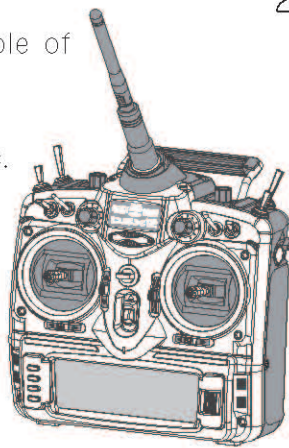
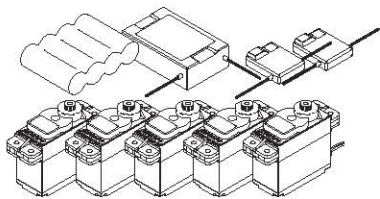


ADDITIONAL ITEMS REQUIRED

1

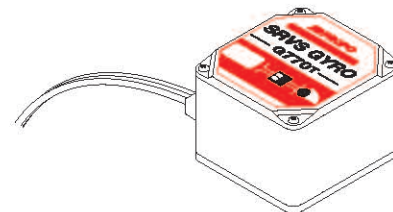
A complete radio system capable of 120 degree CCPM

11X Z-E-R-O DSX12
DSX 9 DSX7 , Etc.



2

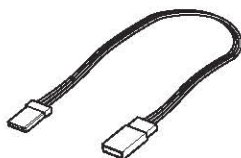
Gyro



3

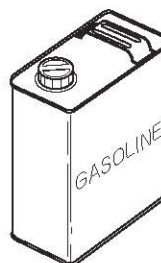
Lead harness

■ Gold, 60-core 150 LG (150mm)
Several may be required



4

Gasoline fuel & engine oil for 2-cycle use
(engine-specific or recommended fuel)



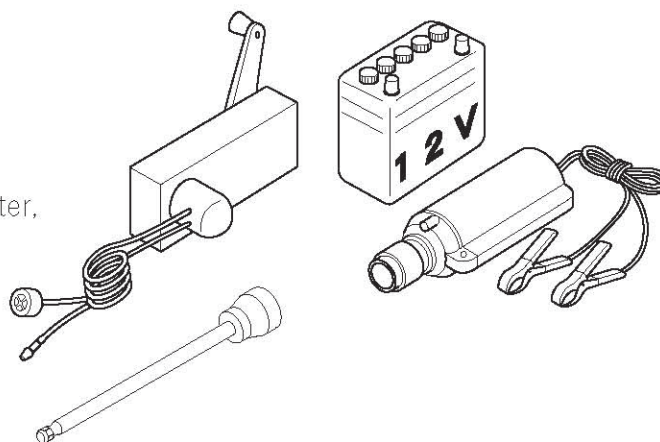
No.55100

5

Engine starter

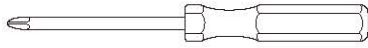
Hand-held fuel pump(gasoline-proof)

※ If a recoil starter is not used an electric starter, power supply and start shaft are required

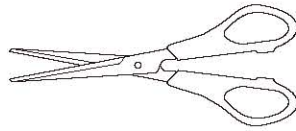


JR Starting Rod
NO.60227

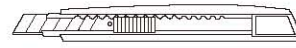
TOOLS REQUIRED FOR ASSEMBLY



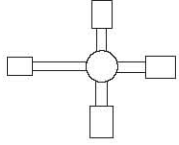
Phillips Screwdrivers
(Large · small)



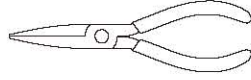
Scissors



Hobby knife



Nut Driver
(4 to 12mm)



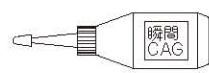
Long-nose Pliers



Rule: 25cm or longer



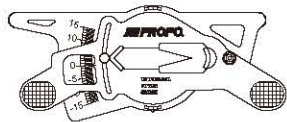
Drill: 3mm, 4mm, and 6mm



CA Glue



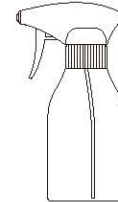
Epoxy Glue
(Hardening Time: 30 Min. or More)



Universal Pitch Gauge
NO.60326



Thrust Bearing Grease
NO.61005



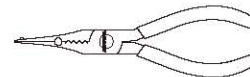
Diluted Soap Water and Spray

Other general tools required for making a model

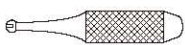
Useful Tools



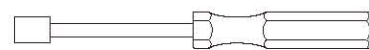
JR Universal Link Driver NO.61360



JR Universal Link Plier C NO.60242



JR Universal Link Trimmer NO.60219



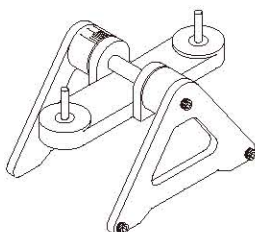
Nut Driver : 4.5mm, 5mm, and 5.5mm



Hexagon Driver: 1.5mm, 2mm, 2.5mm, 3mm, and 4mm



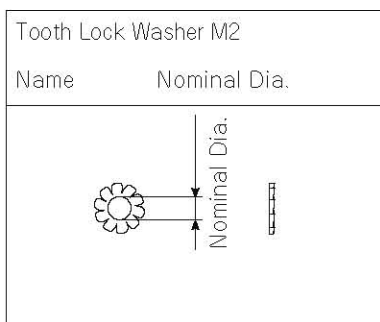
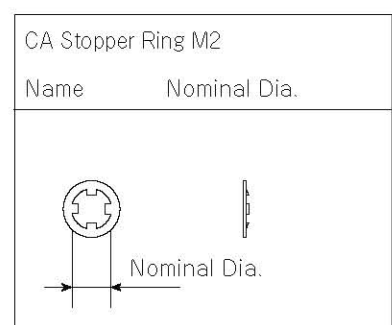
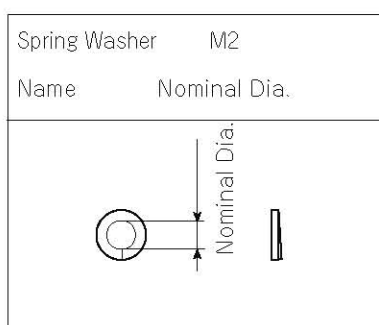
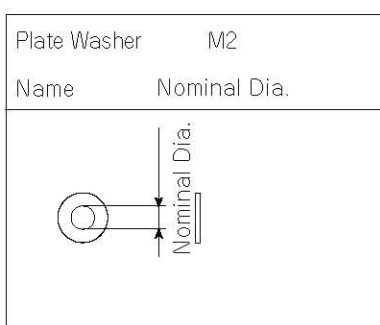
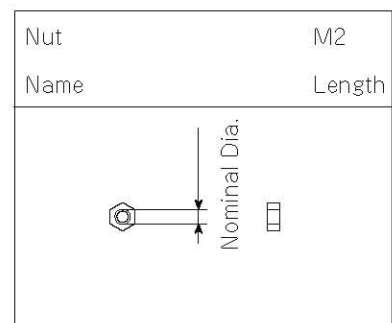
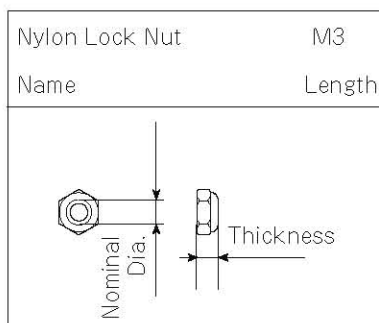
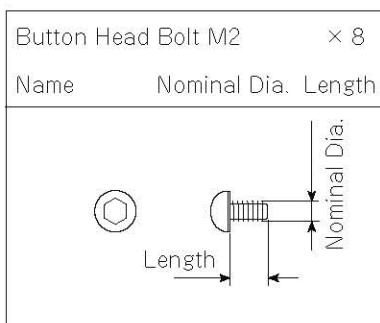
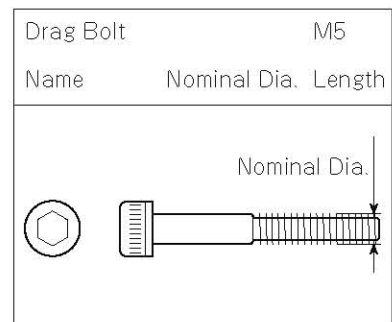
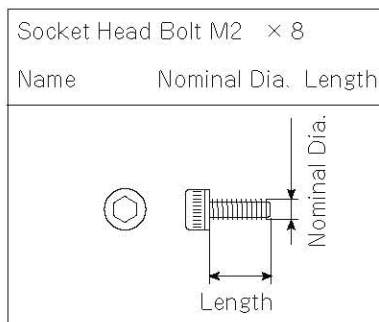
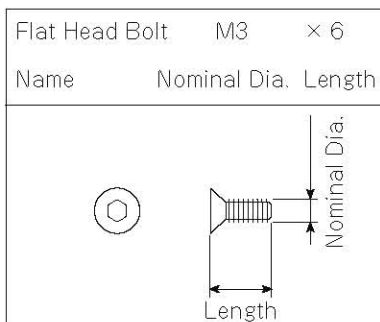
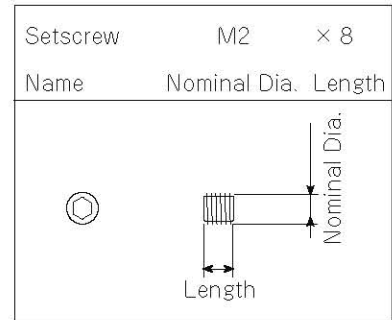
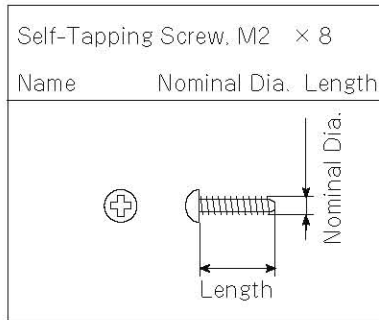
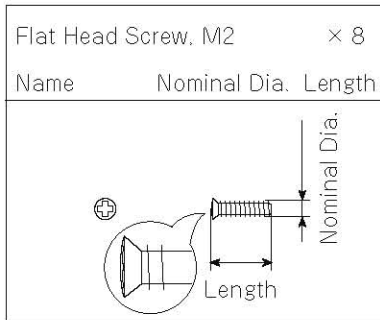
Reamer or Stepped Reamer



Blade Balancer

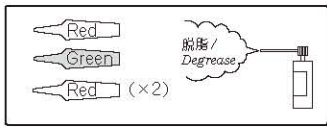
TYPES AND SIZES OF BOLTS AND NUTS

The following illustrates the bolts used for GSR260Z. Check the dimension of each part used during assembly. These are just examples for each type- several different sizes are used during assembly.



※The above shows full-size drawings of the bolts used in each assembly process. Refer to the drawings when assembling.


PREVENTION OF LOOSENED BOLTS


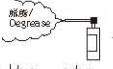


The bolts may be loosened if they are exposed to vibration for a long period of time. For this reason, it is necessary to take proper countermeasures to prevent them from being loosened. In each process, the bolts and mating tapped holes marked with the

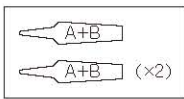
symbols shown above should be degreased with benzene or alcohol and adhered with a screw locking agent such as JR Thread lock (green: hard, red: soft).

The same applies for the parts marked with the same symbols. A parenthesized number added to the symbol indicates the number of bolts to be applied with the screw locking agent. For example, a spindle shaft is fixed with two bolts, and only one symbol is indicated, omitting the rest. However, the symbol is suffixed with a number such as (x 2). In this case, the screw locking agent needs to be applied to the two bolts (note that, if multiple pieces of the same part are used, the symbols including those for their bolts may be omitted).

Note: When applying the screw locking agent to a bearing-containing part, care should be taken not to allow it into the bearing (it could cause a problem). There are two kinds of screw locking agents. As mentioned above, green denotes a hard agent and red a soft one; use them properly, according to the instructions. When red (soft) agent is required, the mark is  used, and when the green (hard) one is required,

the  mark is used. Specifically important areas are marked with a symbol . If this symbol is indicated, degrease more elaborately. After assembly, if you want to remove the bolts, etc. secured with the screw locking agent, burn it off by adequately heating it with a torch or a soldering iron (if you try to remove them by force, you may damage the bolt or wrench and fail to remove the part). When burning off the screw locking agent, care should be taken not to deform the surrounding resin parts.

EPOXY ADHESIVE AGENT



Bond the relevant parts marked with the following symbol, using an epoxy adhesive agent with a hardening time of 30 minutes or more. As with the screw locking agent, a number "(x 2)" next to the symbol denotes the number of parts required to be adhered.

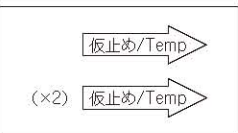
INSTANT ADHESIVE AGENT



Bond the relevant parts marked with the following symbol, using an instant adhesive agent.

As with the screw locking agent, a number "(x 2)" next to the symbol denotes the number of parts required to be adhered.

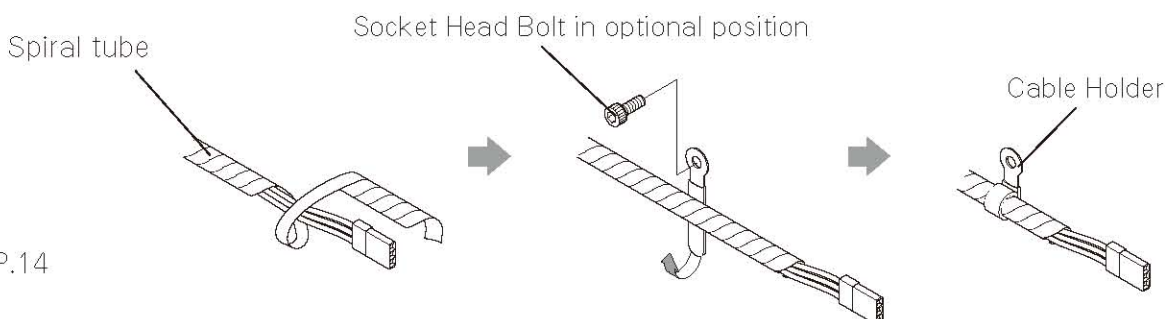
INDICATION OF TEMPORARY FIXATION



The areas marked with the following symbol should be temporarily fixed until assembly and relevant process are completed. A number "(x 2)" next to the symbol denotes the number of parts required to be temporarily fixed.

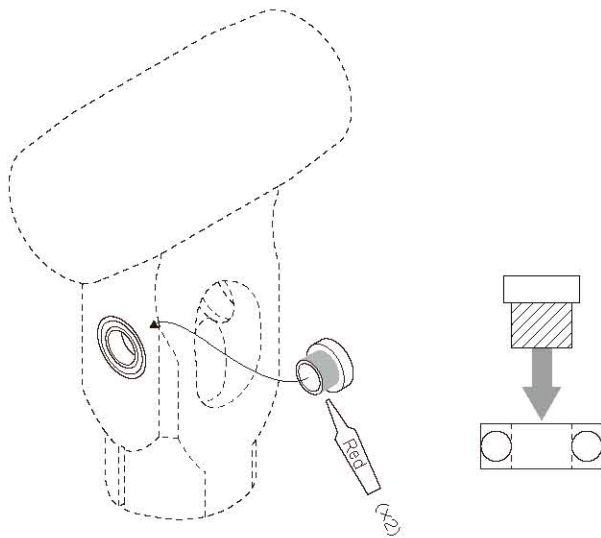
HOW TO USE CORD HOLDER AND SPIRAL TUBE

The following components are provided to protect lead harness of servo or gyro. Be sure to provide protection to prevent lead harness from entanglement with moving parts or rotating parts as shown below.



BONDING OF BEARING INNER COLLAR

In some assembly steps, there is an indication to bond an inner collar to a bearing. For portions with this indication, degrease the bearing and inner collar well, and bond them with screw lock agent as shown below.



The figure on the left shows an example of bonding a bearing to its collar. In this case, apply a small amount of screw lock agent to contact surfaces of the bearing (mounted to center hub) and its center collar. When bonding, be sure to avoid ingress of screw lock agent inside the bearing.

UNIVERSAL LINKS

There are four kinds of universal link.

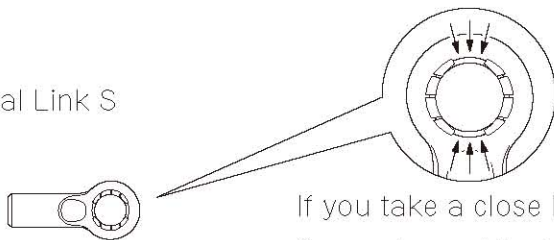
Each universal link has a front and back side and is mounted in the specified direction at the time of attaching the linkage. The following describes how to tell the front and back. At the time of attaching the linkage, pay heed to the direction of each universal link during assembly. (this is common to all JR models except the Parkmite)

Universal Link



The side marked "JR PROPO" is the front. At the time of fitting the linkage, attach the universal link to joint ball while pressing the back side onto the ball.

Universal Link S



If you take a close look at the central hole, its edge is stepped as shown in the figure above. Attach the universal link S to joint ball while pressing the stepped side onto the ball.

Double Link A



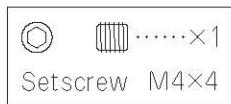
The side marked "JR PROPO" is the front. At the time of fitting the linkage, attach the double link A to joint ball while pressing the back side onto the ball.

Double Link L



The side marked "JR PROPO" is the front. At the time of fitting the linkage, attach the double link L to joint ball while pressing the back side onto the ball.

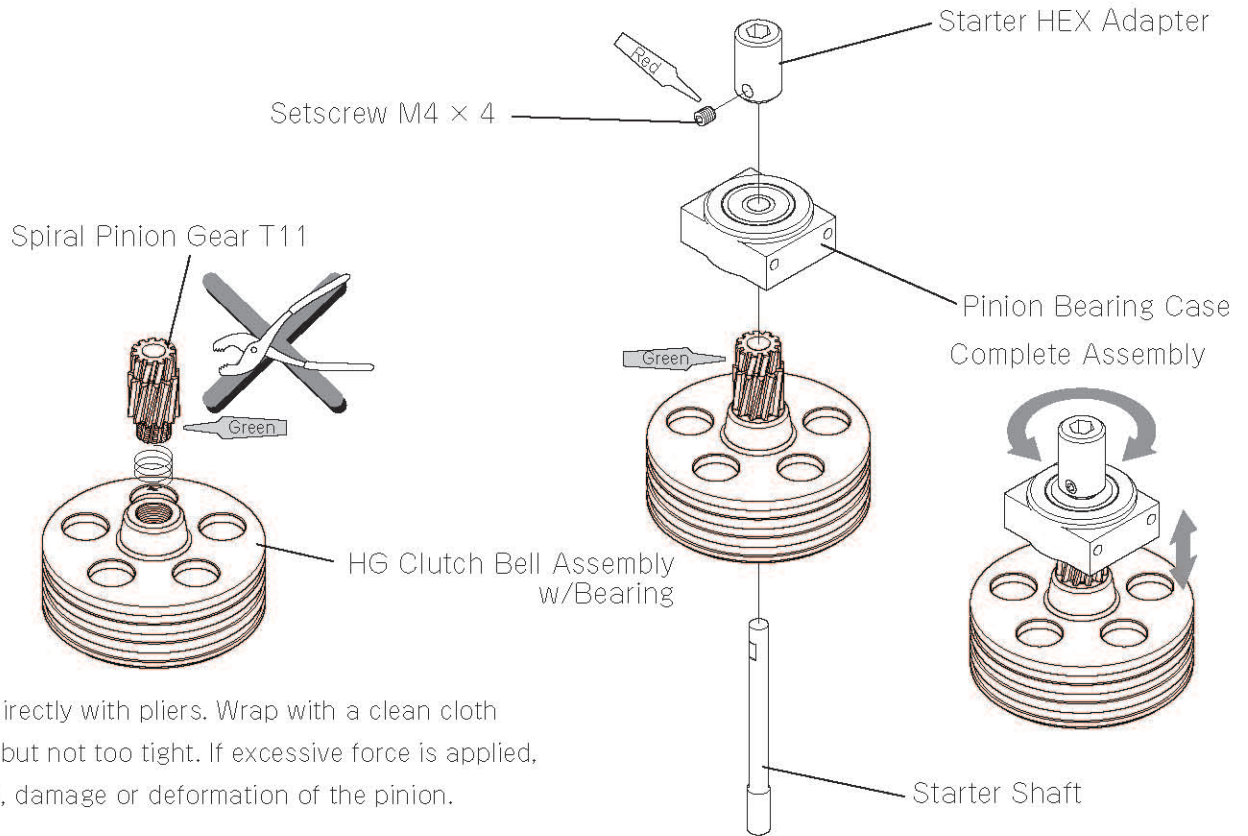
1-1 CLUTCH BELL · PINION BRG CASE ASSEMBLY



● Tighten the Setscrews for the hex adaptor at the point where the Starter HEX Adapter rotates easily and there is no movement vertically (if the Starter Shaft is pushed up to far, the Clutch Bell cannot rotate smoothly).

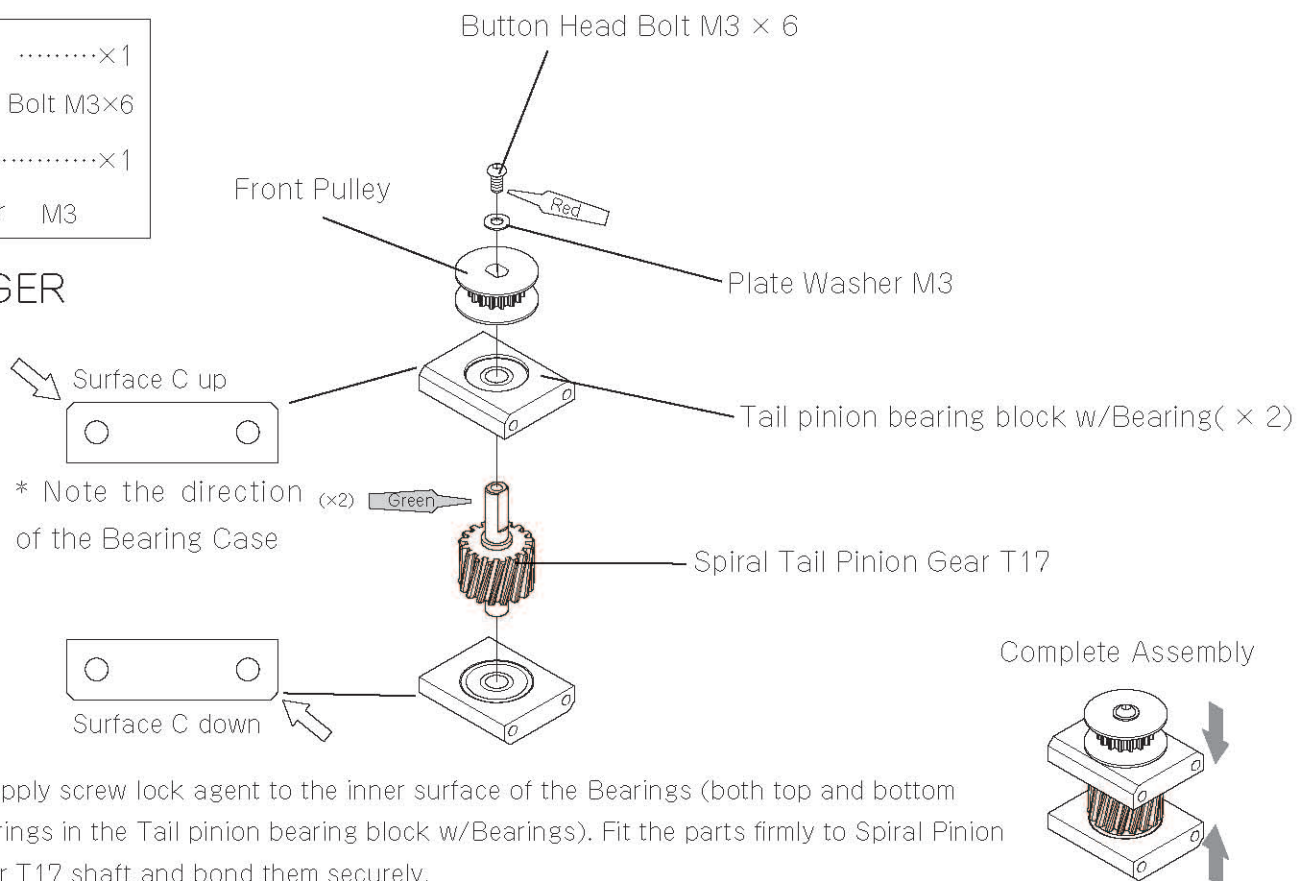
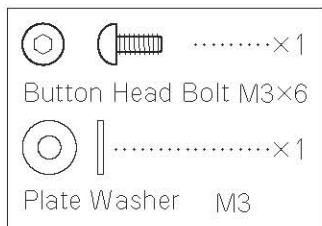


● The Pinion Gear T11 and Pinion Bearing should be secured by applying screw lock agent to the inside of the Bearing. The parts are a tight fit and must be inserted straight.



* Do not grip directly with pliers. Wrap with a clean cloth and grip firmly but not too tight. If excessive force is applied, it may result in, damage or deformation of the pinion.

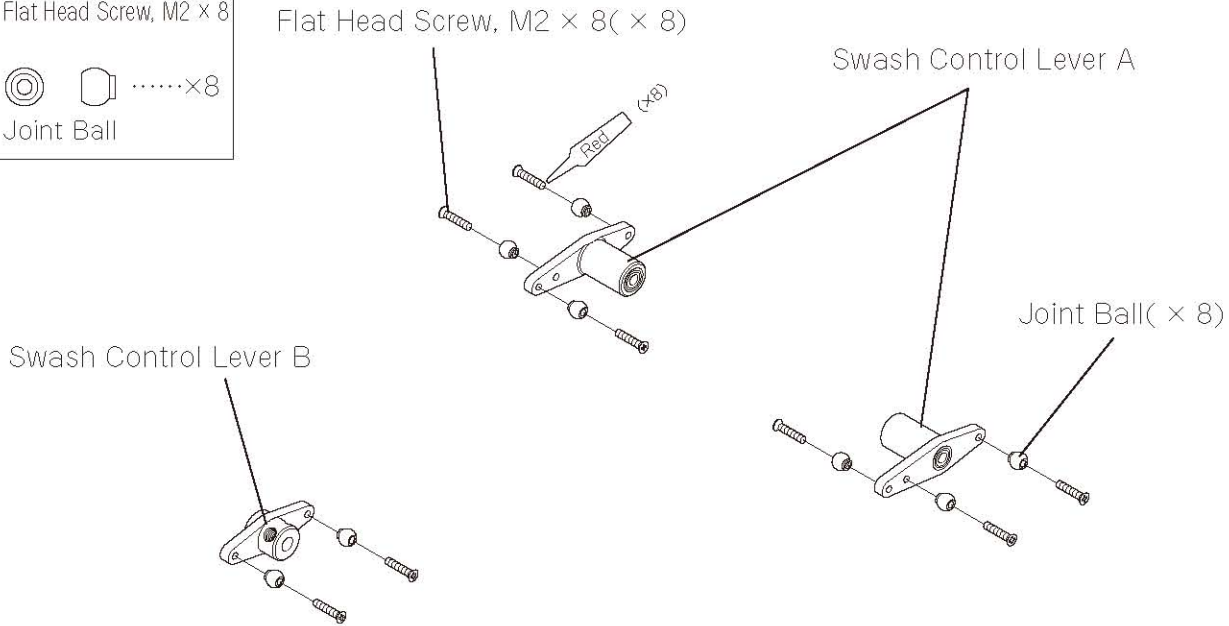
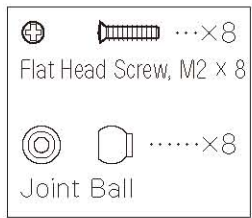
1-2 TAIL PINION GEAR ASSEMBLY



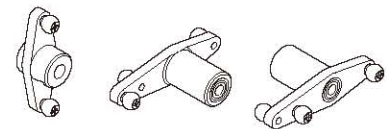
* Note the direction of the Bearing Case

● Apply screw lock agent to the inner surface of the Bearings (both top and bottom bearings in the Tail pinion bearing block w/Bearings). Fit the parts firmly to Spiral Pinion Gear T17 shaft and bond them securely.

1-3 SWASH CONTROL LEVER ASSEMBLY

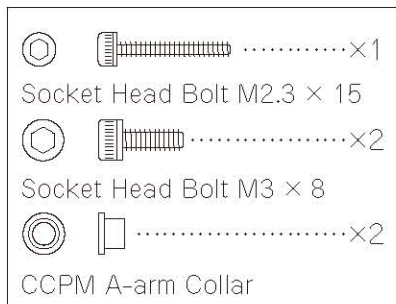


Complete Assembly

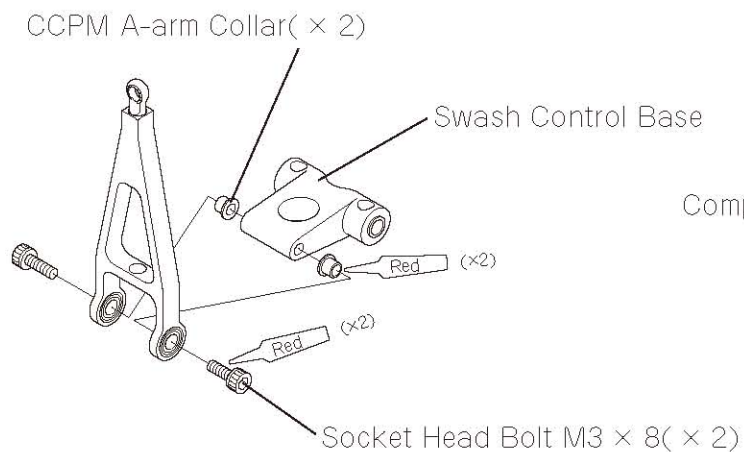
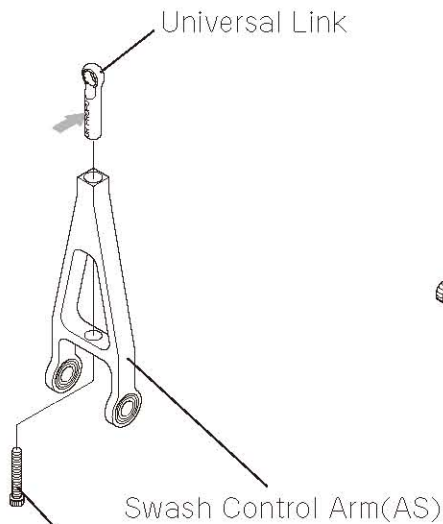


● Beware the direction of Swash Control Lever B.

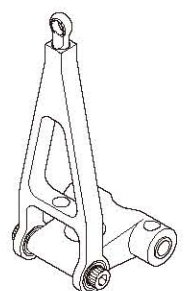
1-4 SWASH CONTROL ASSEMBLY



- Install the Universal Link so that the JR PROPO logo is orientated as in the figure below. Be sure there is no up-down movement of the link.
- Install the Swash Control Arm Bearing Collars from inside the Swash Control Arm.



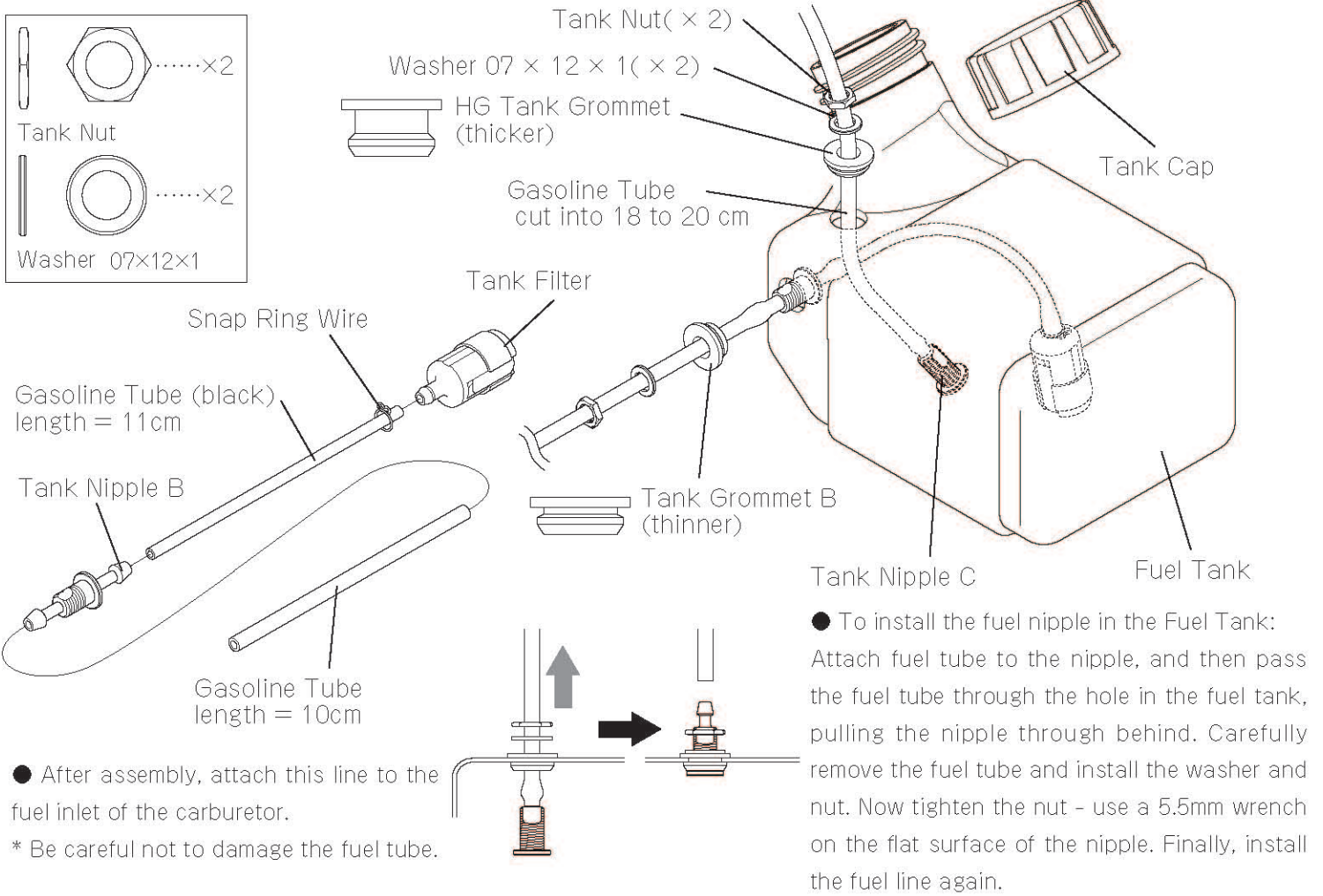
Complete Assembly



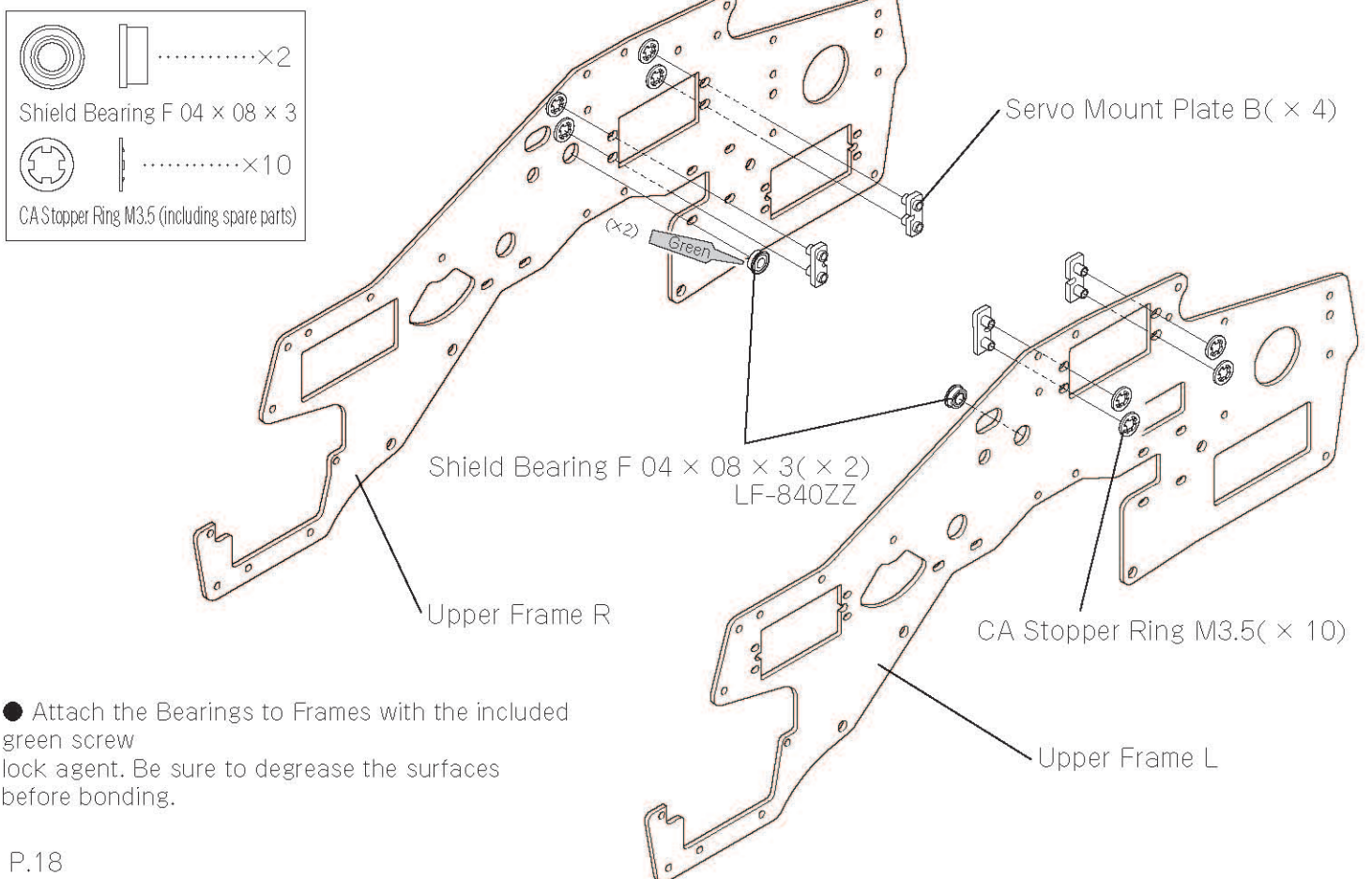
Socket Head Bolt M2.3 x 15

Note the orientation of the link.

1-5 FUEL TANK ASSEMBLY

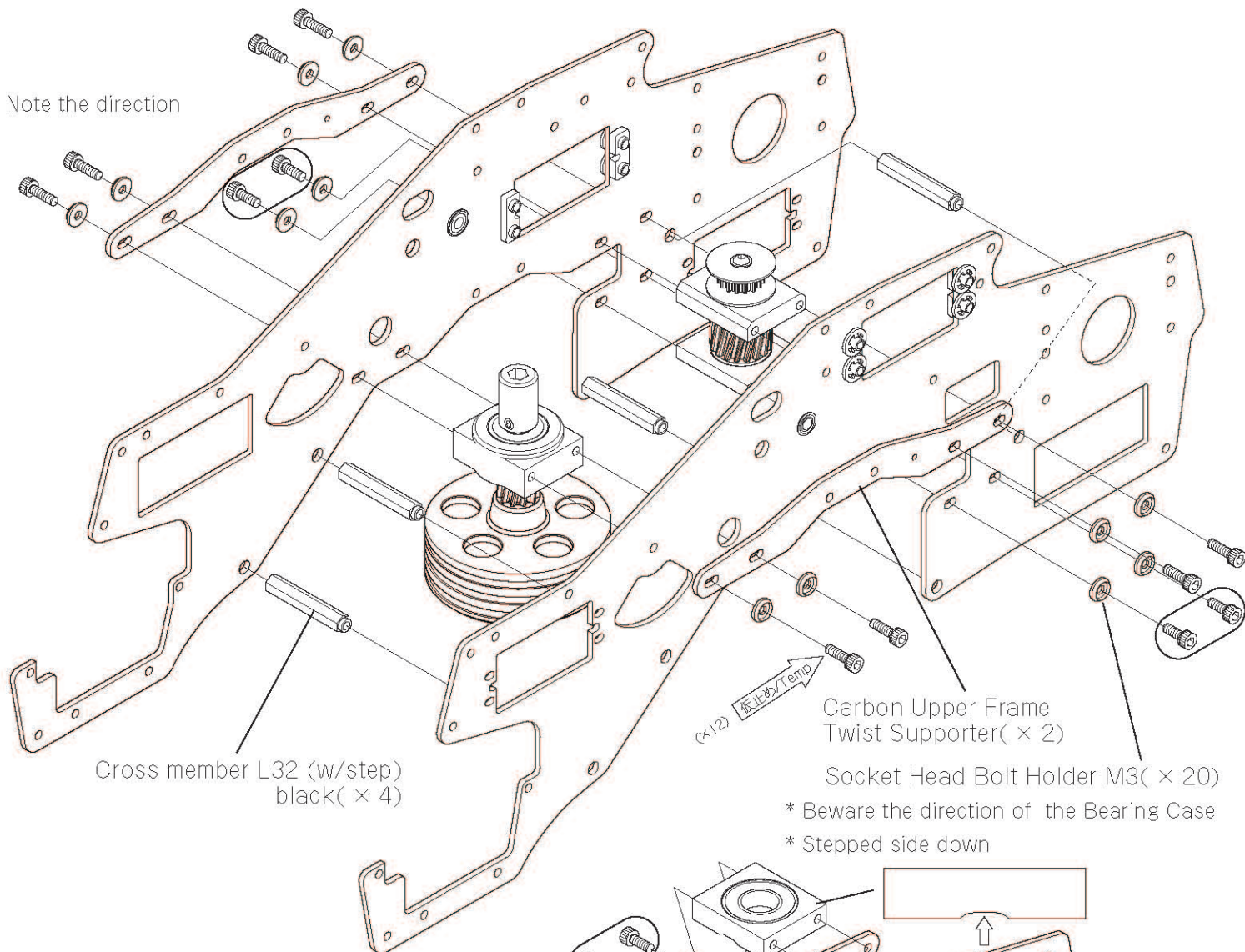


2-1 UPPER FRAME ASSEMBLY 1



2-2 UPPER FRAME ASSEMBLY 2

Note the direction

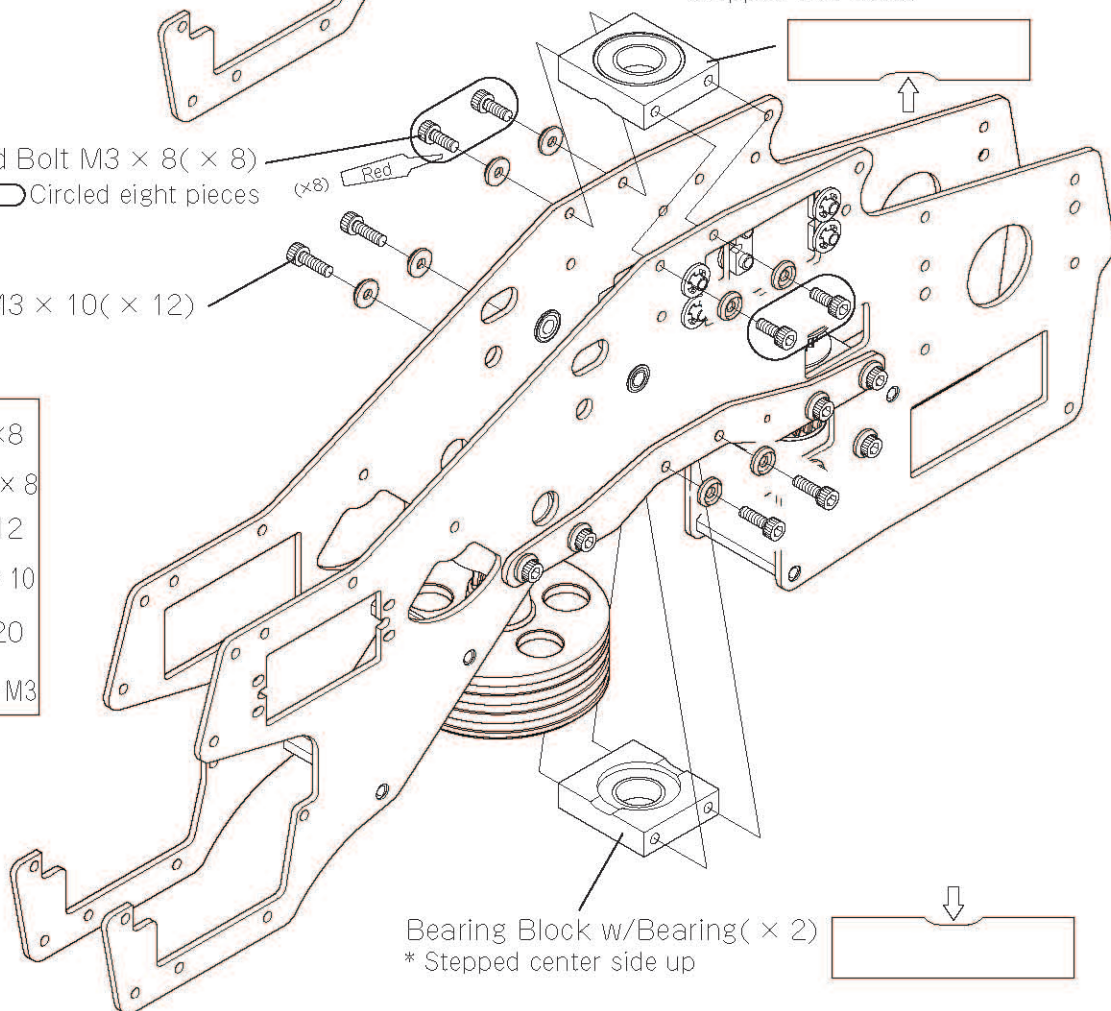


Socket Head Bolt M3 × 8 (× 8)

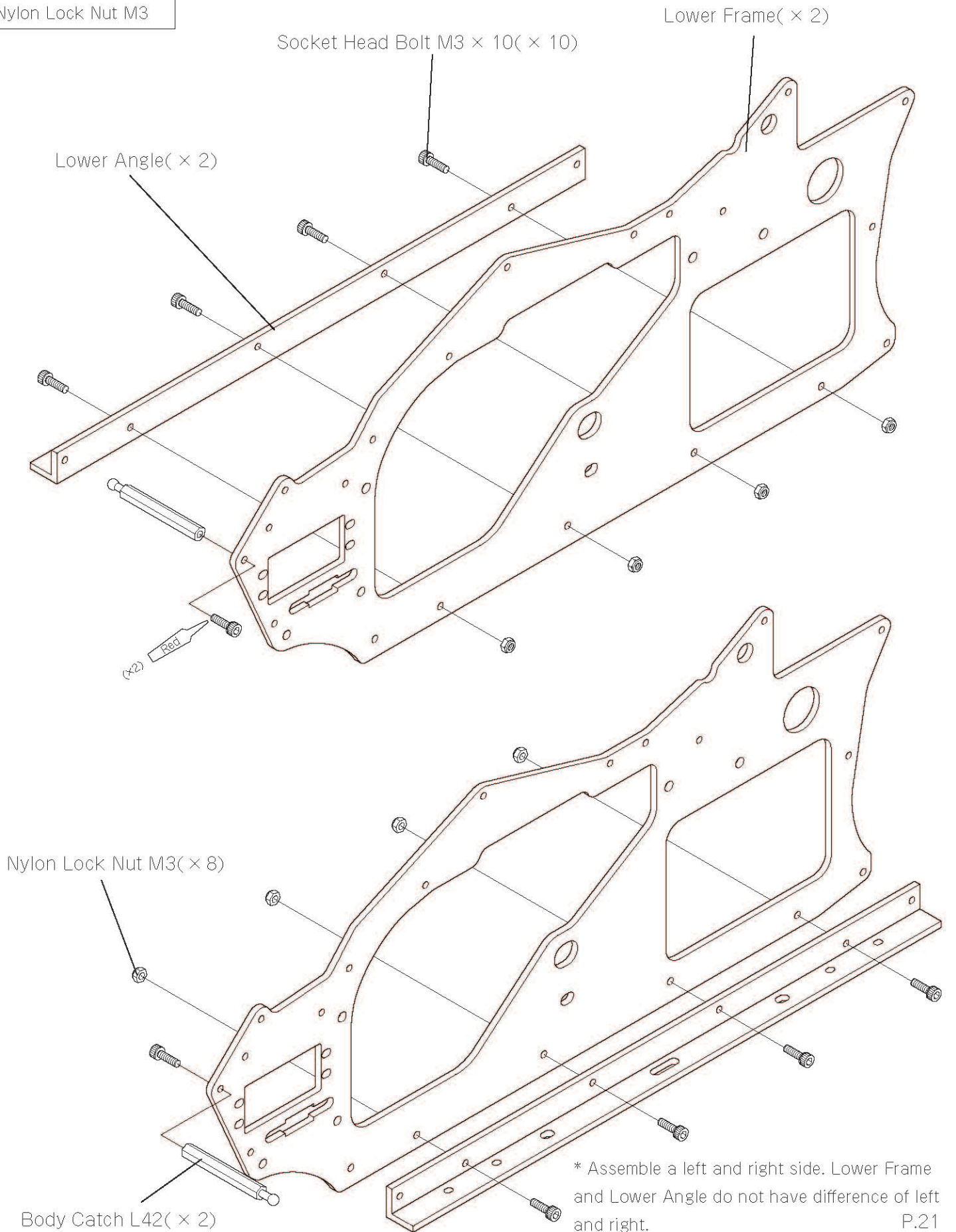
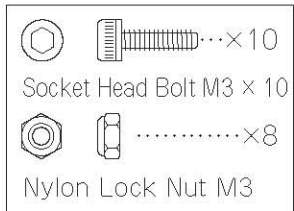
* (×8) Red

Socket Head Bolt M3 × 10 (× 12)

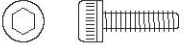
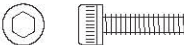


- | | |
|----------------------------|----------|
| |×8 |
| Socket Head Bolt M3 × 8 | |
| |×12 |
| Socket Head Bolt M3 × 10 | |
| |×20 |
| Socket Head Bolt Holder M3 | |

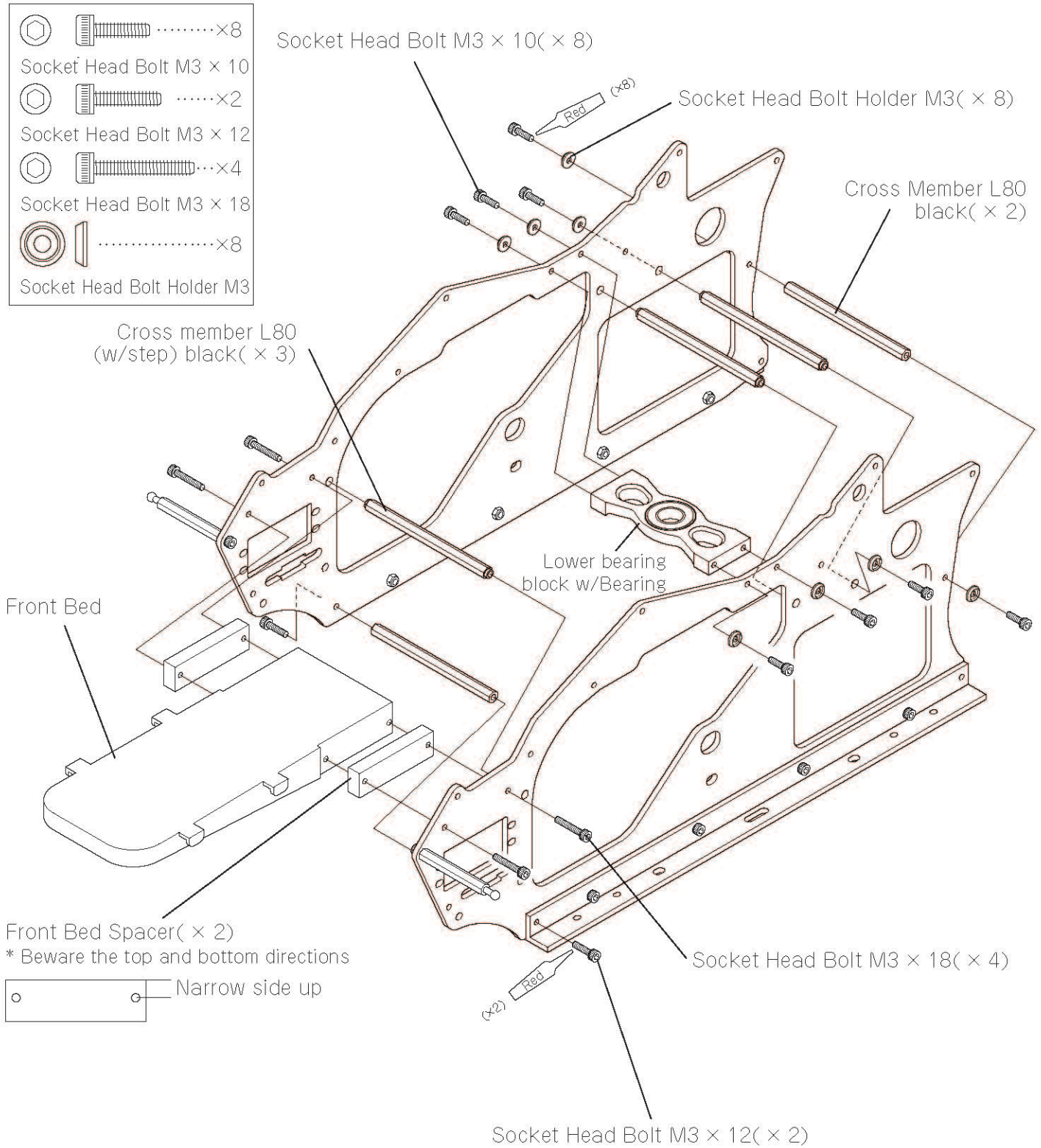


2-4 LOWER FRAME ASSEMBLY 1



2-5 LOWER FRAME ASSEMBLY 2

- x8
- Socket Head Bolt M3 x 10
- x2
- Socket Head Bolt M3 x 12
- x4
- Socket Head Bolt M3 x 18
- x8
- Socket Head Bolt Holder M3



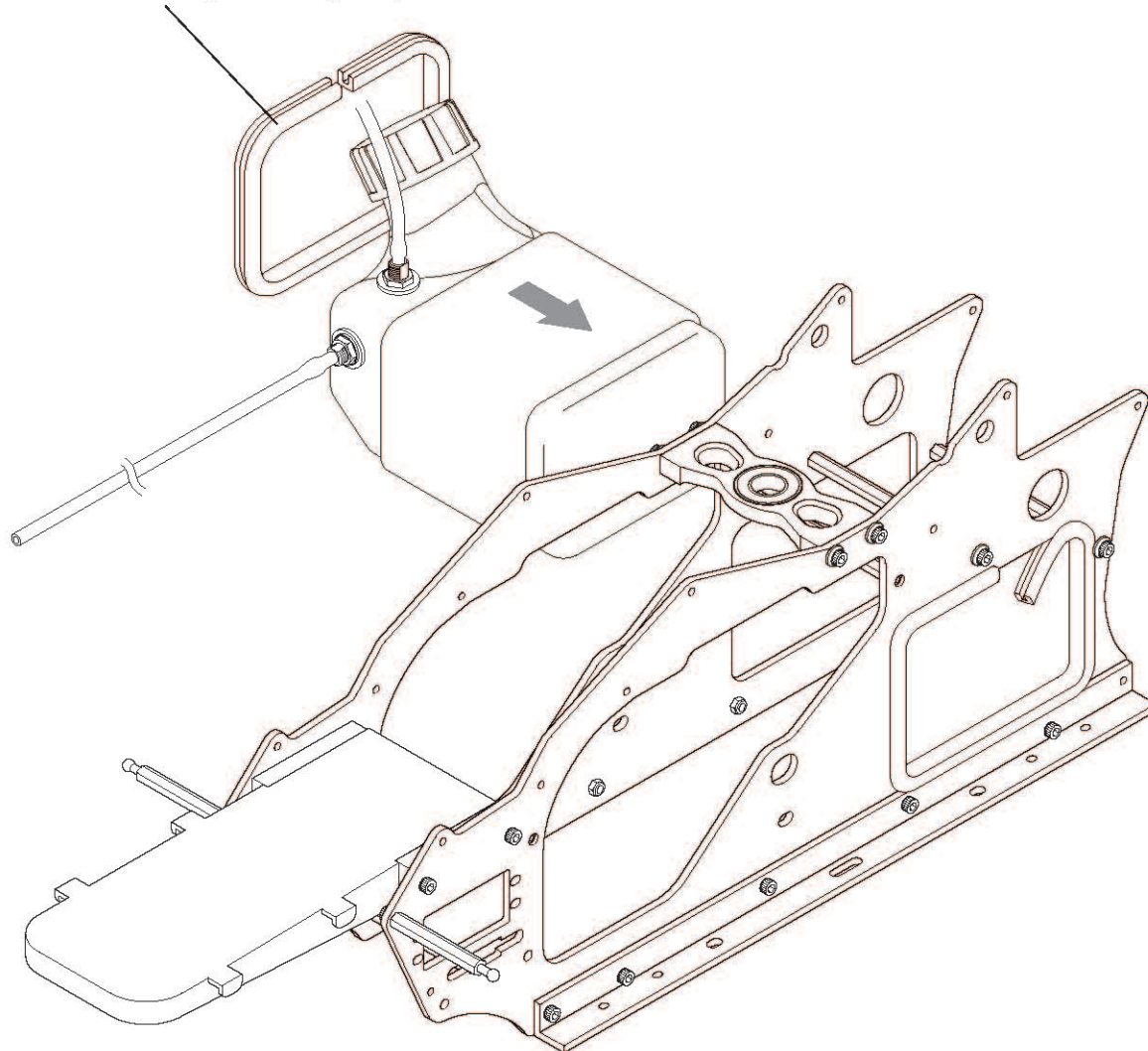
* Note the direction of the Bearing Case

Up



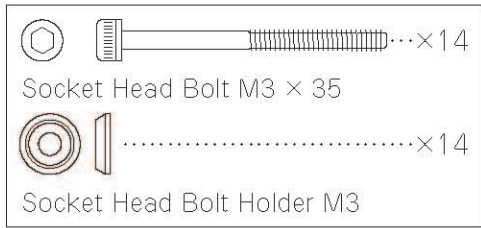
2-6 FUEL TANK ASSEMBLY

Tank Mounting Rubber(× 2)

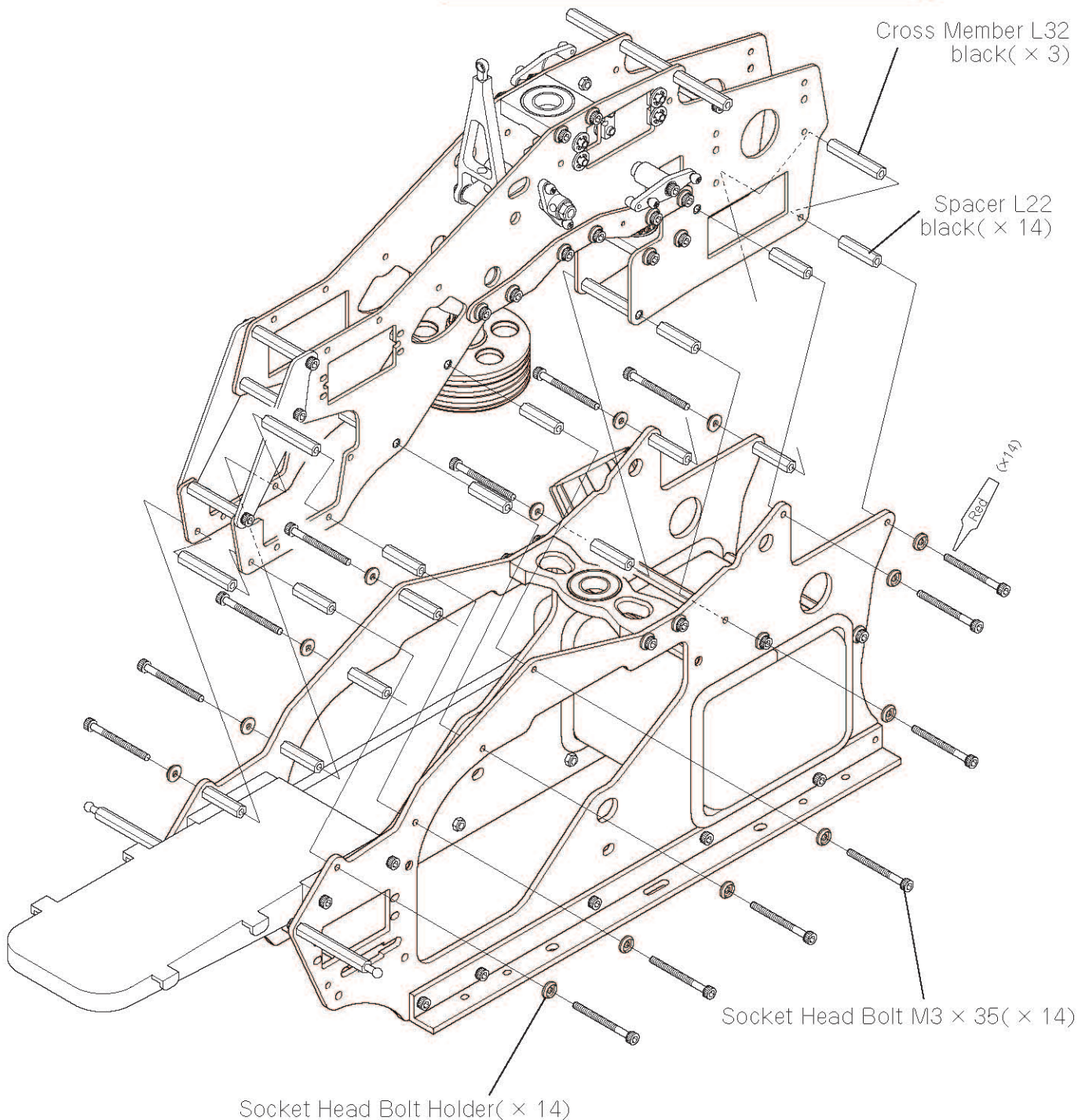
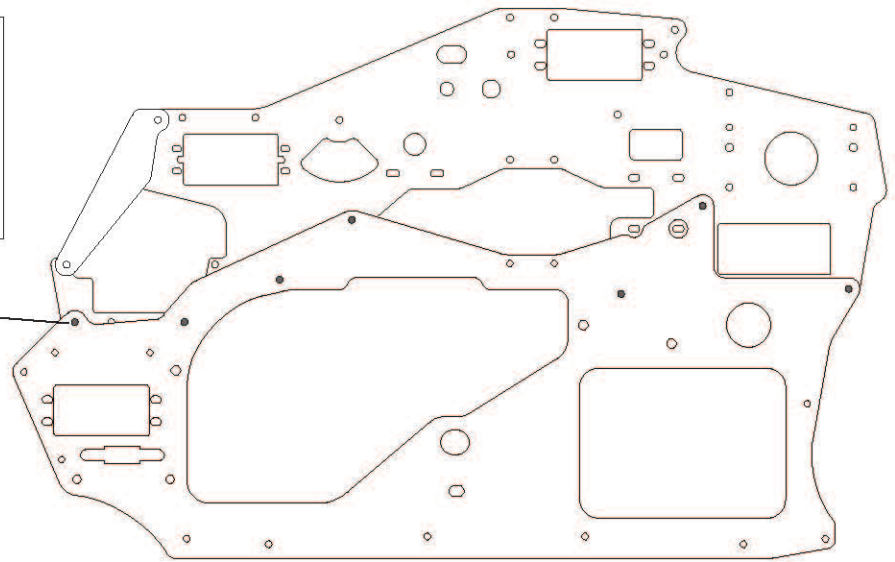


- First put the Tank Mounting Rubber on the left side of Lower Frame and install the Fuel Tank through from the right side. Then put the Tank Mounting Rubber on the right side of the frame to secure the tank.

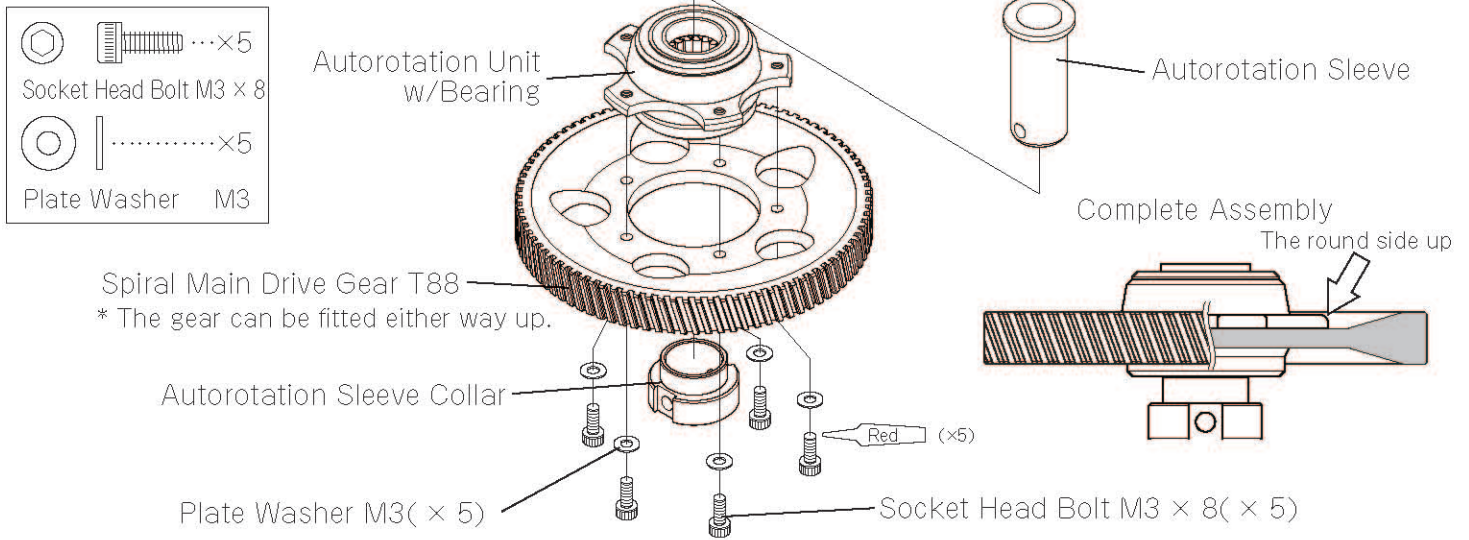
2-7 UPPER FRAME · LOWER FRAME ASSEMBLY



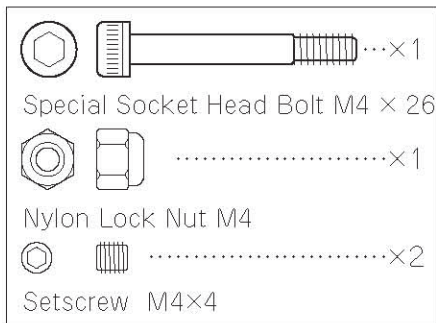
* Mounting position



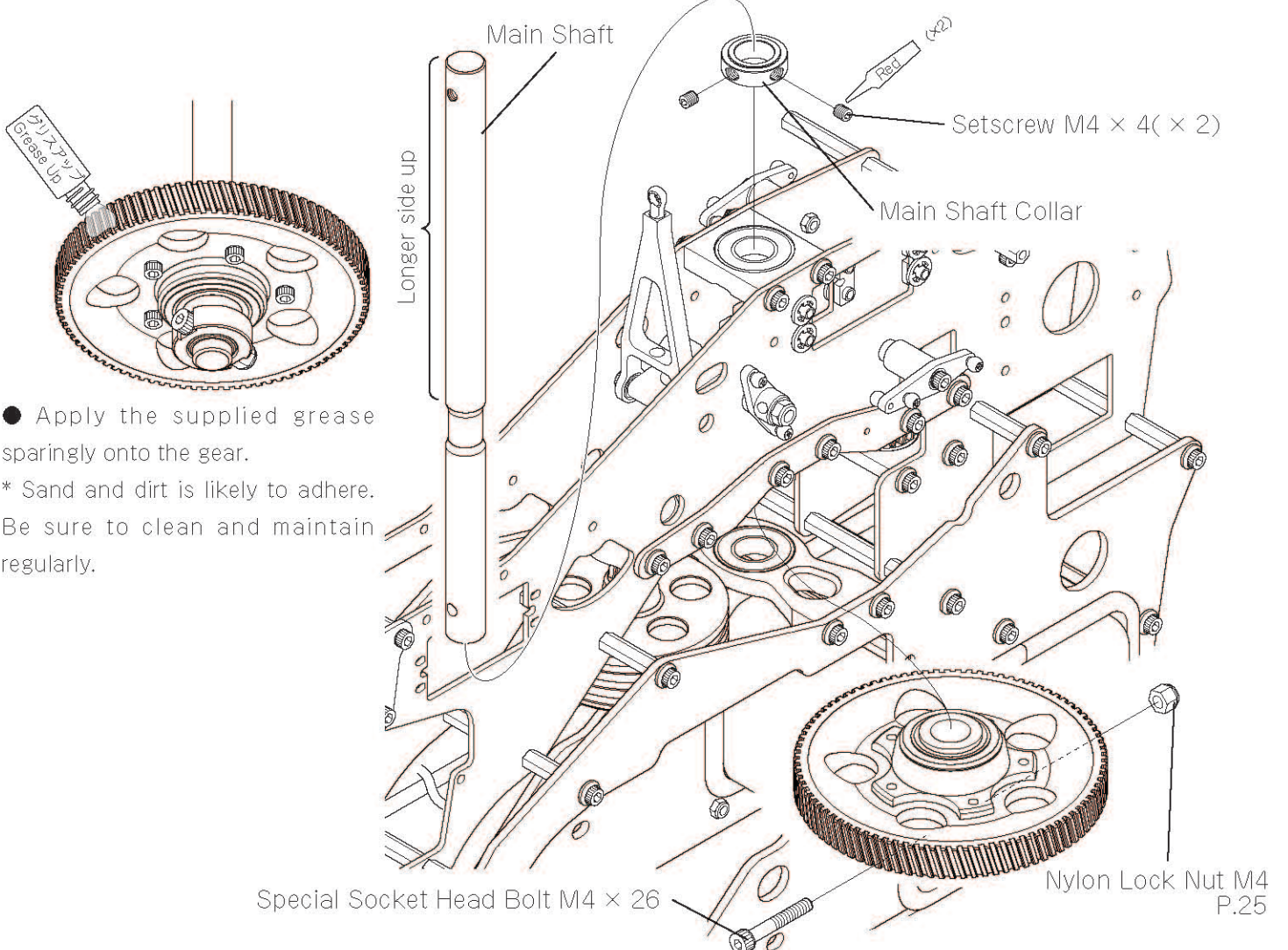
3-1 DRIVE GEAR ASSEMBLY



3-2 DRIVE GEAR INSTALLATION

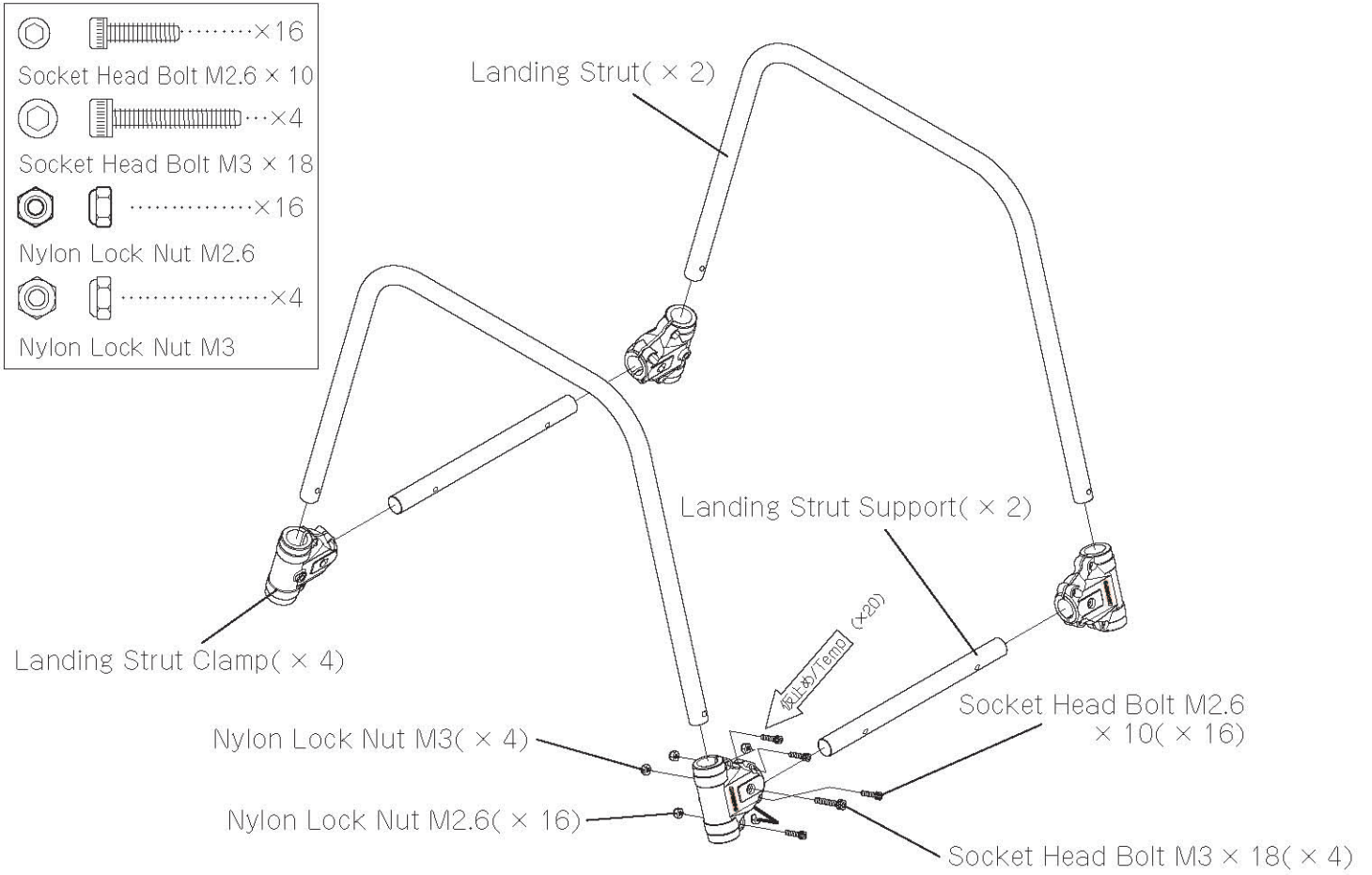


- First install the main shaft, passing it through the bearings and then the Autorotation Sleeve.
- Next fit the special socket head bolt (M4x26)
- Now pull up on the Main Shaft, and press down on the main shaft collar. Secure the Main Shaft Collar with four M4 Setscrews. Make sure that the Main Shaft does not move up and down.
- Adjust the backlash so that the gear rotates softly. Then apply screw lock agent to the bolts temporarily fixing the Bearing Case, and tighten them securely.
- * Adjust the backlash roughly to the thickness of two plastic bags containing components.

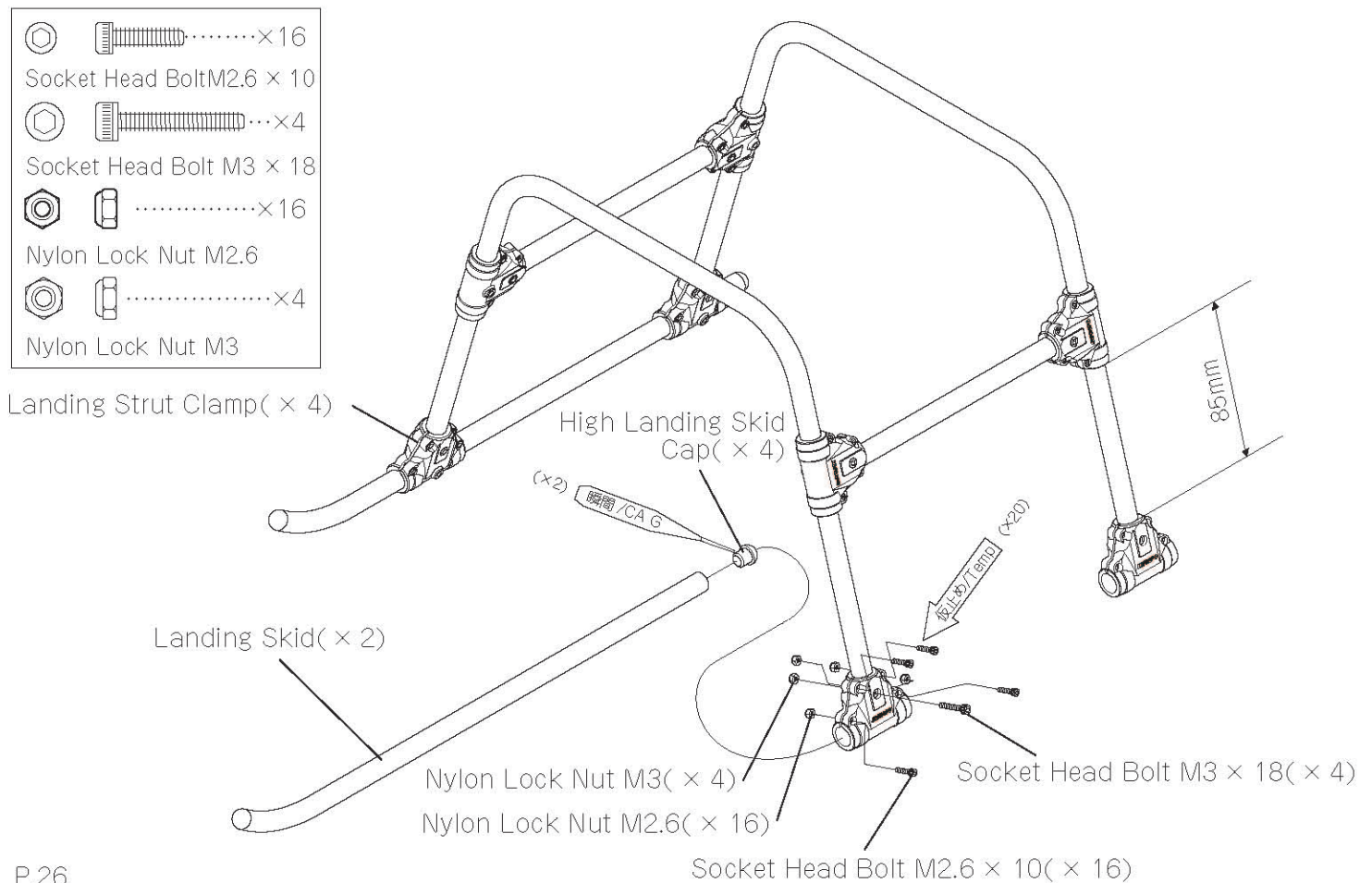


- Apply the supplied grease sparingly onto the gear.
- * Sand and dirt is likely to adhere. Be sure to clean and maintain regularly.

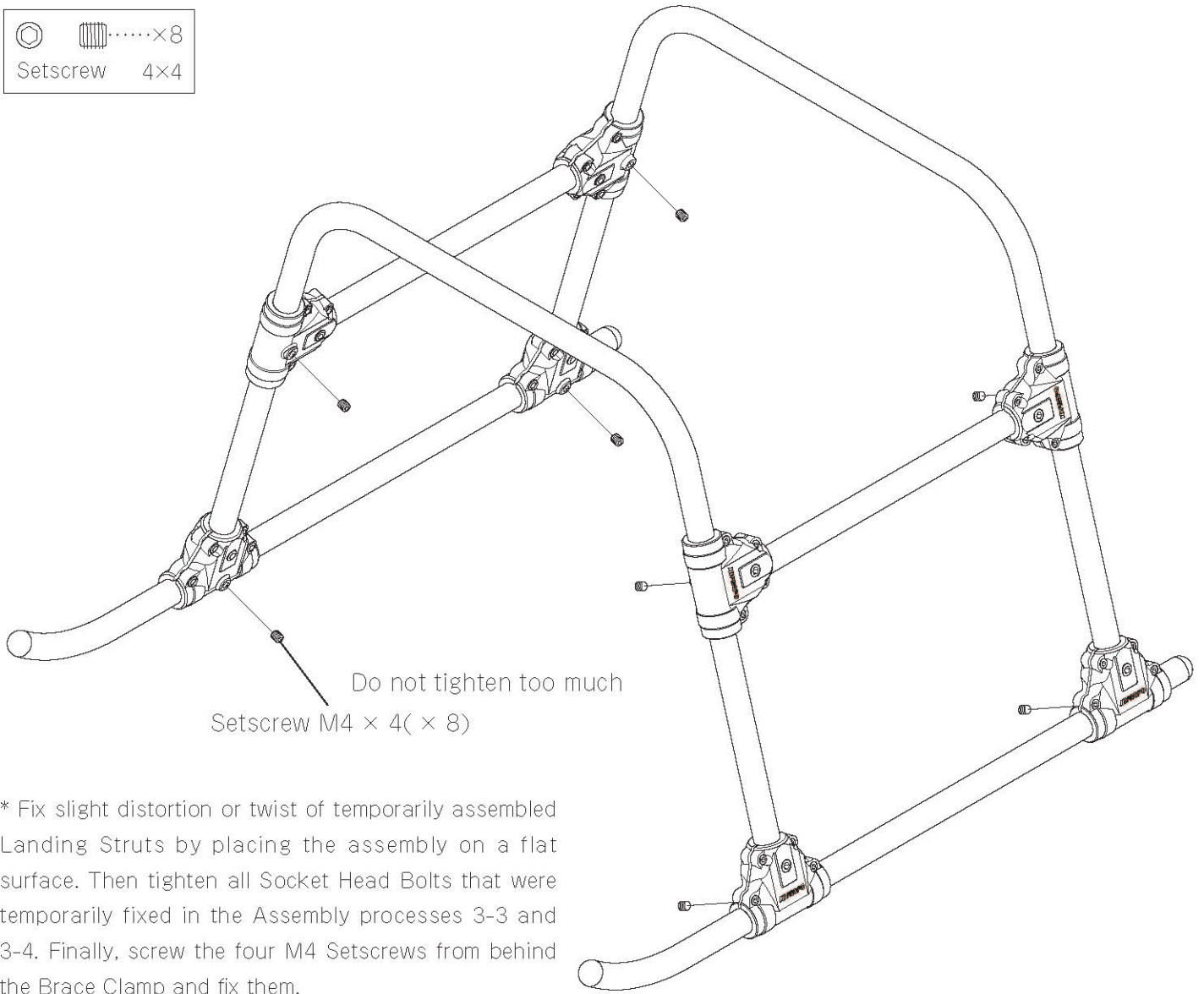
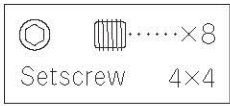
3-3 LANDING STRUT · LANDING STRUT SUPPORT ASSEMBLY



3-4 LANDING SKID ASSEMBLY

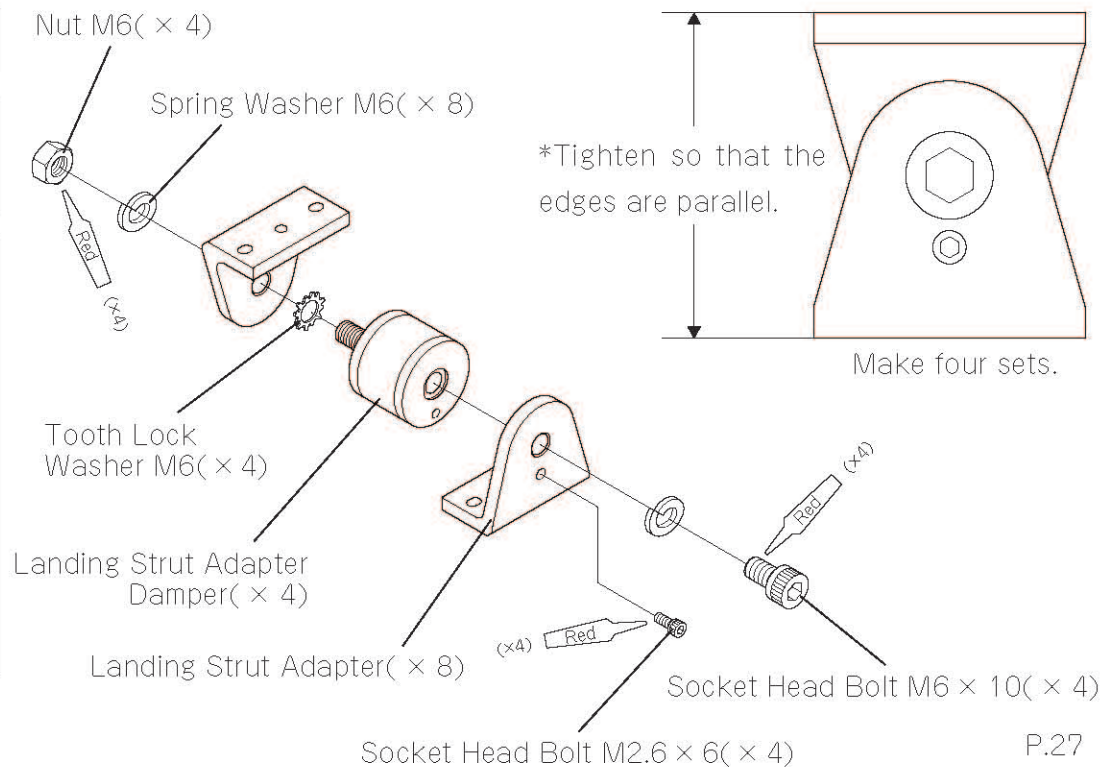
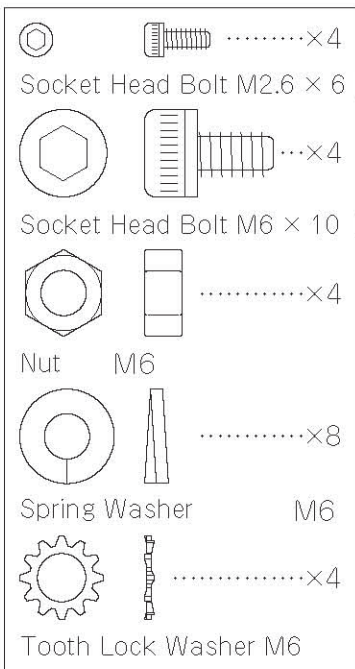


3-5 ATTACHING LANDING STRUT ADAPTER

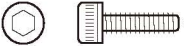
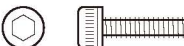




* Fix slight distortion or twist of temporarily assembled Landing Struts by placing the assembly on a flat surface. Then tighten all Socket Head Bolts that were temporarily fixed in the Assembly processes 3-3 and 3-4. Finally, screw the four M4 Setscrews from behind the Brace Clamp and fix them.

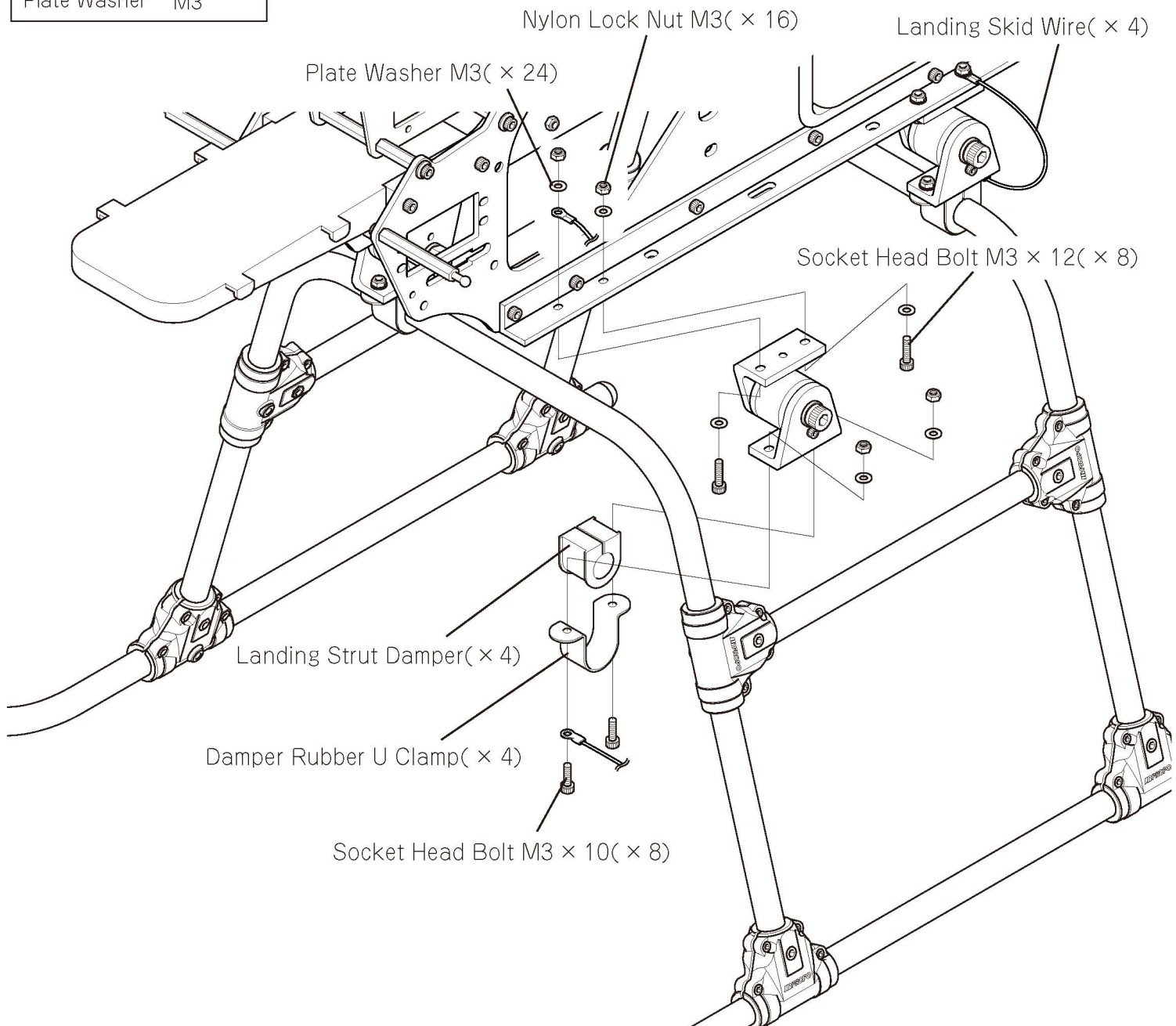
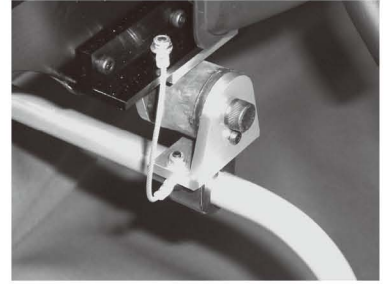
3-6 LANDING STRUT ADAPTER DAMPER ASSEMBLY



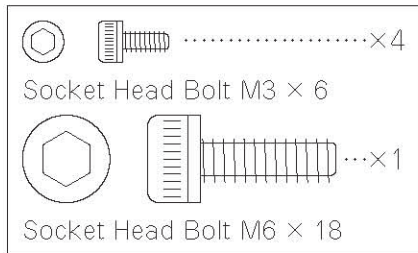
3-7 LANDING STRUT INSTALLATION

	.....x8
Socket Head Bolt M3 x 10	
	.....x8
Socket Head Bolt M3 x 12	
	.....x16
Nylon Lock Nut M3	
	.....x24
Plate Washer M3	

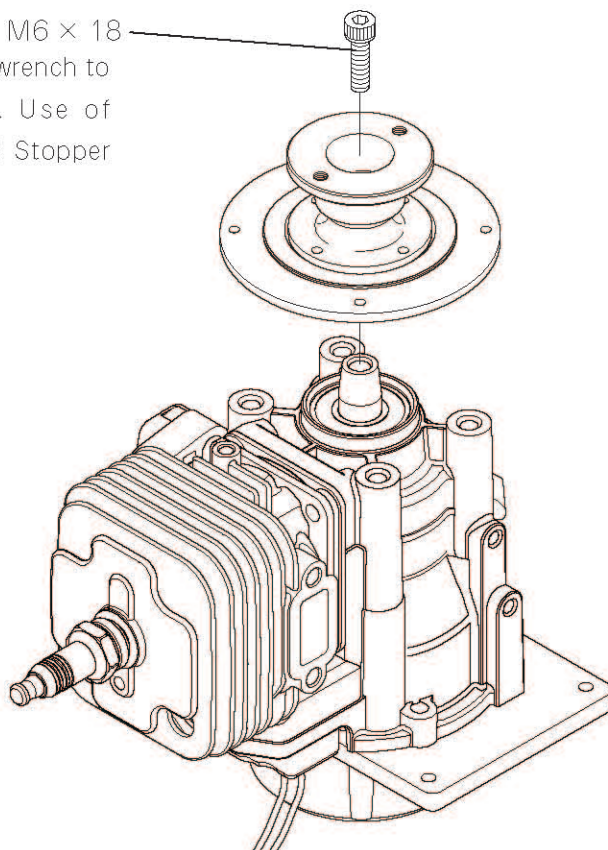
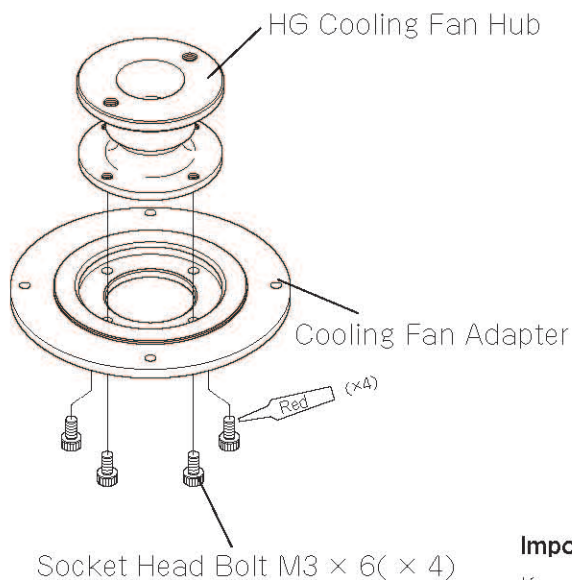
* Example of Landing Skid Wire



3-8 COOLING FAN SHAFT INSTALLATION



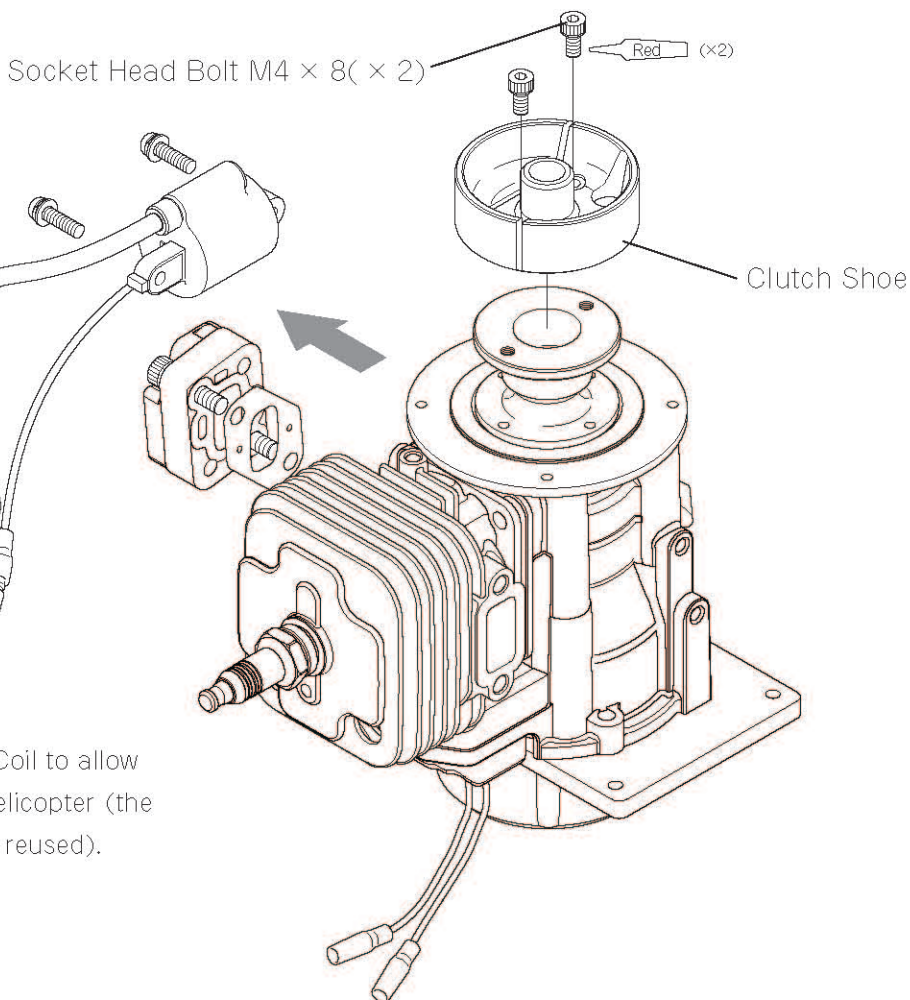
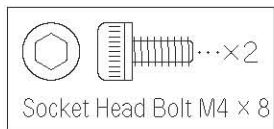
Socket Head Bolt M6 × 18
 * Use the included wrench to tighten securely. Use of optional No.55076 Stopper is recommended.



Important!

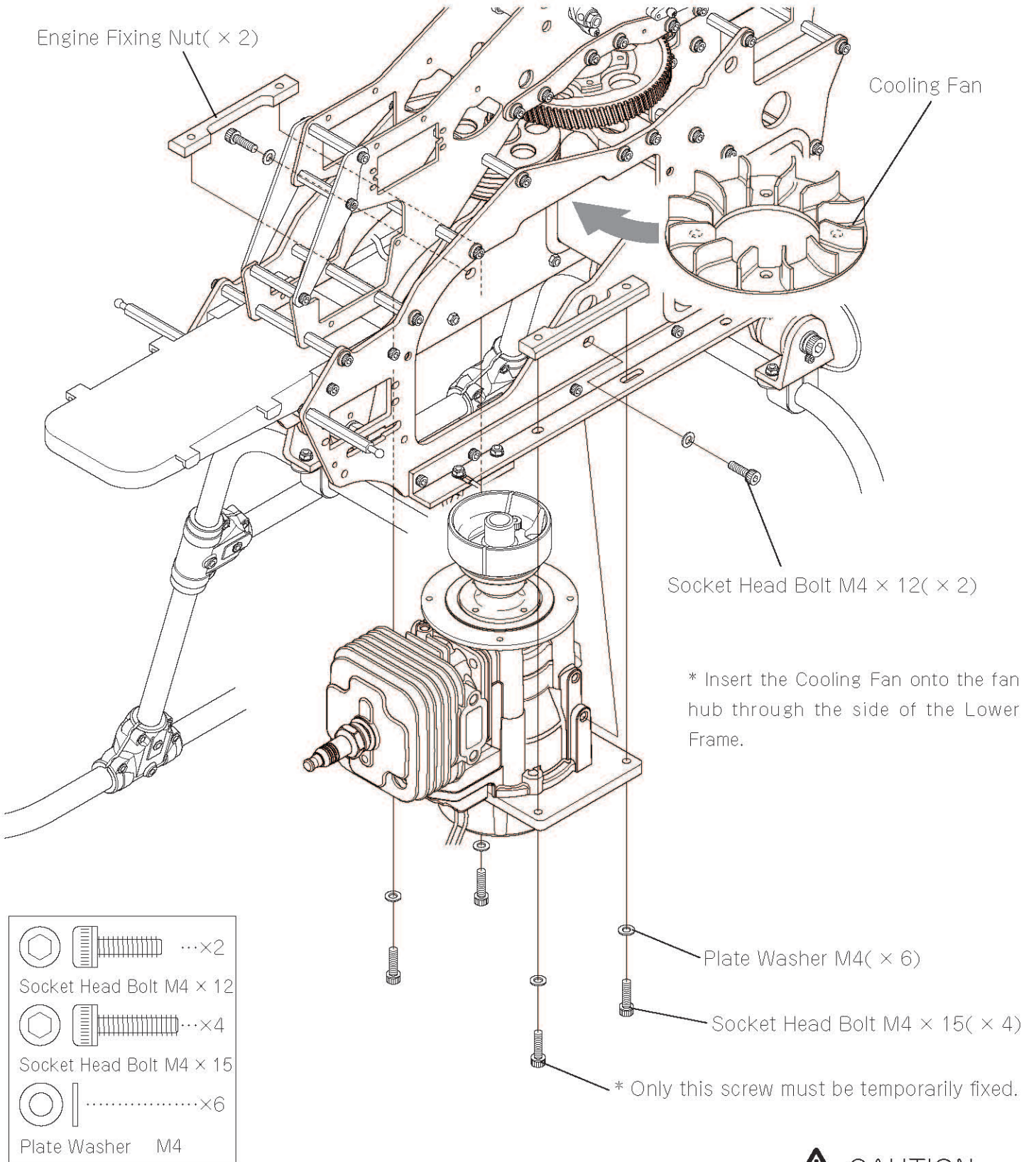
If you tighten the Socket Head Bolt while pressing the back of the engine down on a hard surface the recoil starter may be damaged. Take care.

3-9 CLUTCH SHOE INSTALLATION & REMOVAL OF INSULATOR, ETC.



* Remove the Insulator, Gasket and Coil to allow installation of the Engine into the helicopter (the original coil mounting screws are not reused).

3-10 ENGINE INSTALLATION



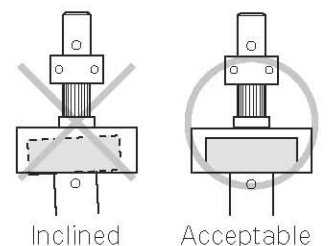
* Insert the Cooling Fan onto the fan hub through the side of the Lower Frame.

* Only this screw must be temporarily fixed.

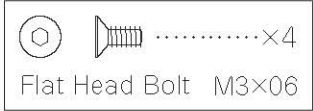
⚠ CAUTION

● Referring to the drawing on the right, align the Engine so that the bottom of Clutch Shoes and that of Clutch Bell are parallel. If the Clutch is inclined, loosen the bolts (four, left and right) of the Pinion Bearing Case, adjust the angle and readjust the backlash. After adjustment, fix them securely.

● To improve ease of maintenance, screw lock agent should not be used for two types of Socket Head Bolts fixing the Engine. Therefore, tighten the bolts securely to avoid loosening. Make sure that there is no loosening at regular intervals during use and tighten them as required.



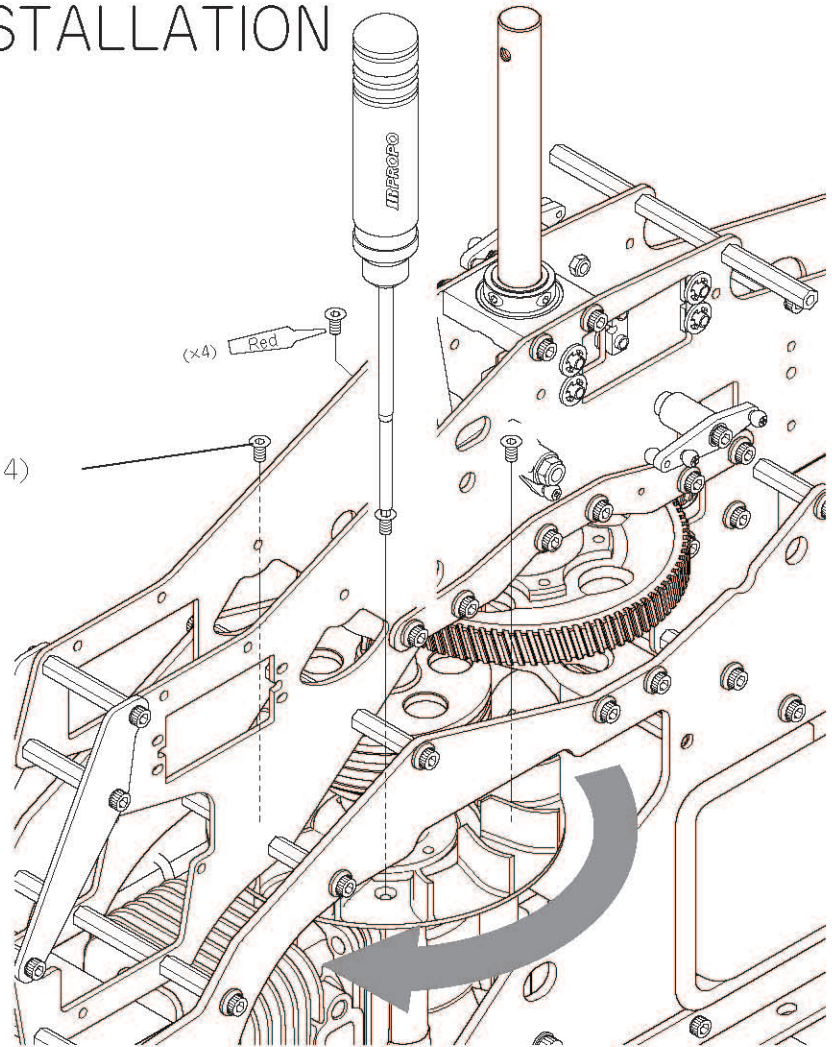
3-11 COOLING FAN INSTALLATION



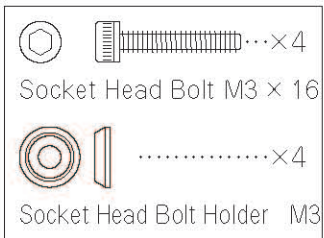
● Insert six M3 Flat Head Bolts into between the frame to fix the Cooling Fan.

* Do not over tighten.

Flat Head Bolt M3 × 6(× 4)



3-12 COOLING FAN SHROUD INSTALLATION

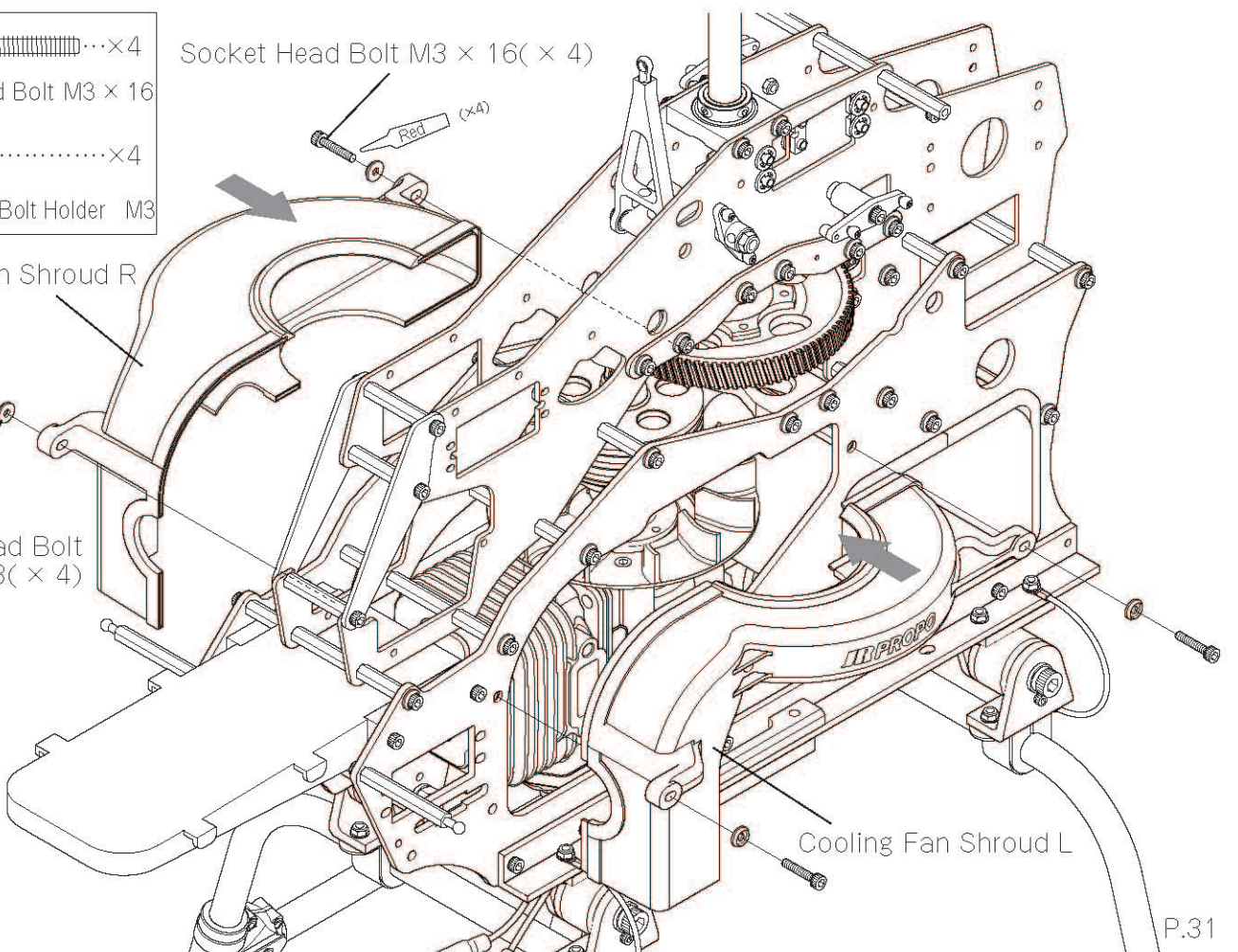


Socket Head Bolt M3 × 16(× 4)

Cooling Fan Shroud R

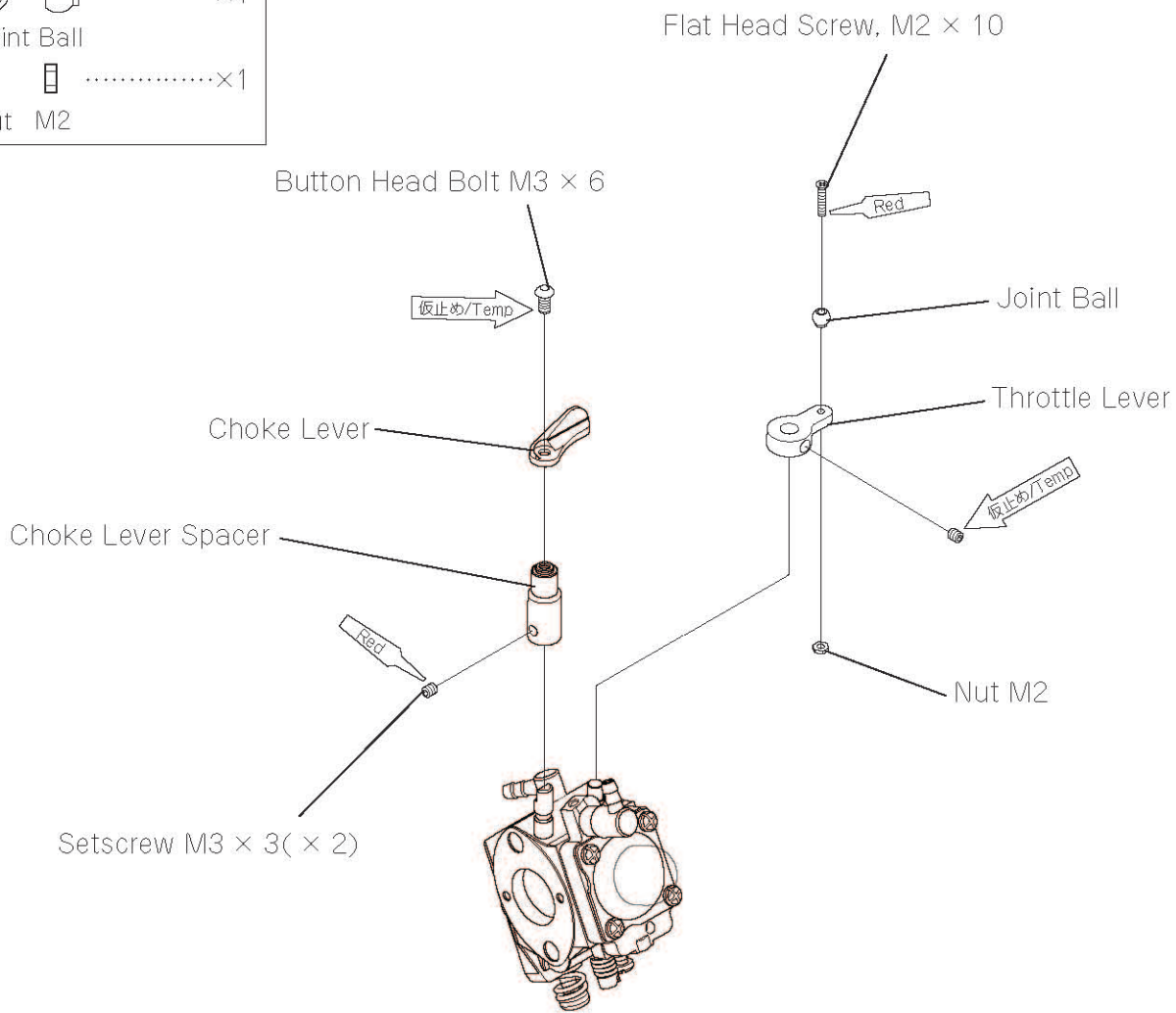
Socket Head Bolt Holder M3(× 4)

Cooling Fan Shroud L



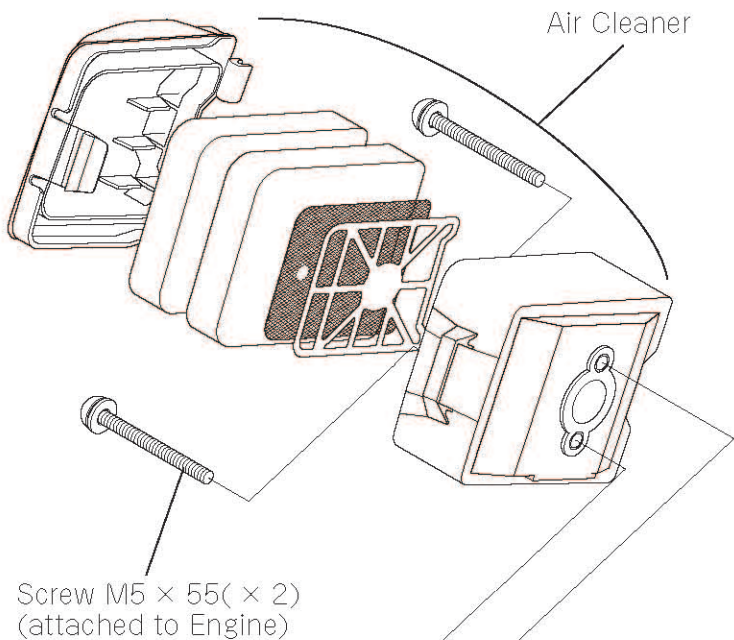
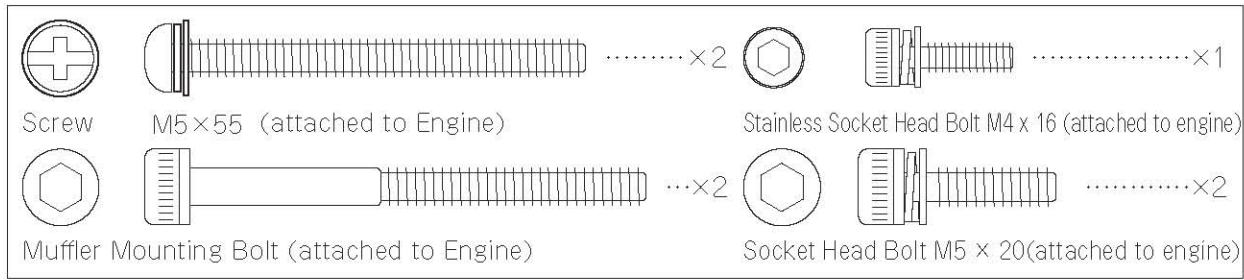
3-13 CHOKE LEVER INSTALLATION

		.....x2
Setscrew M3x3		
		.....x1
Button Head Bolt M3 x 6		
		.....x1
Flat Head Screw, M2 x 10		
		.....x1
Joint Ball		
		.....x1
Nut M2		

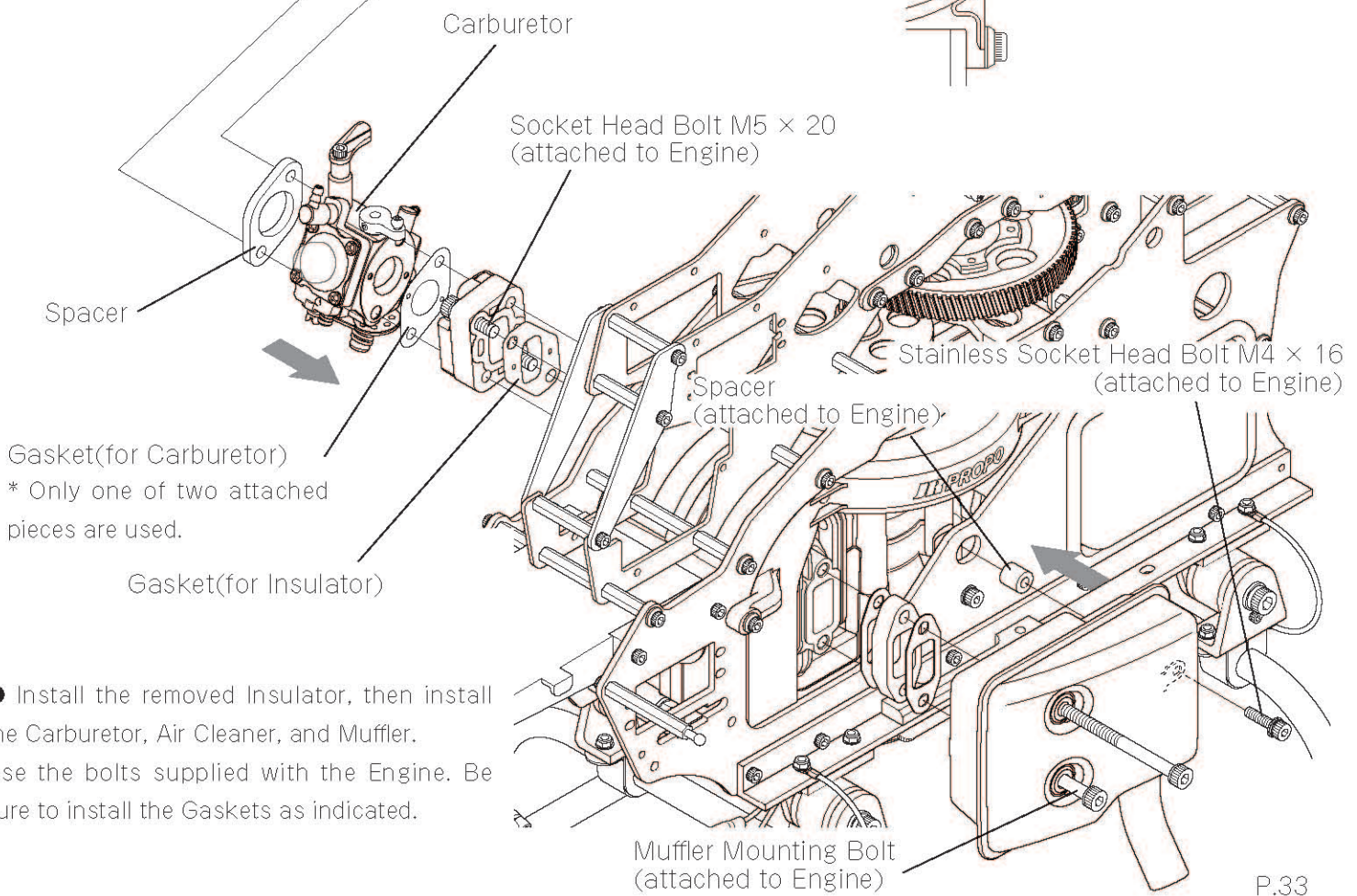
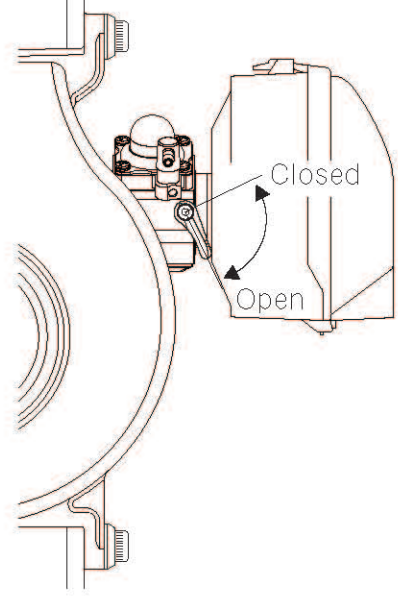


- Adjust the Choke Lever angle so as it does not touch the Cooling Fan Shroud or Air Cleaner in the subsequent steps, and then tighten securely.
- Fix the Throttle Lever temporarily. After adjustment of its angle setting up the throttle linkage, tighten securely.

3-14 MUFFLER · CARBURETOR INSTALLATION

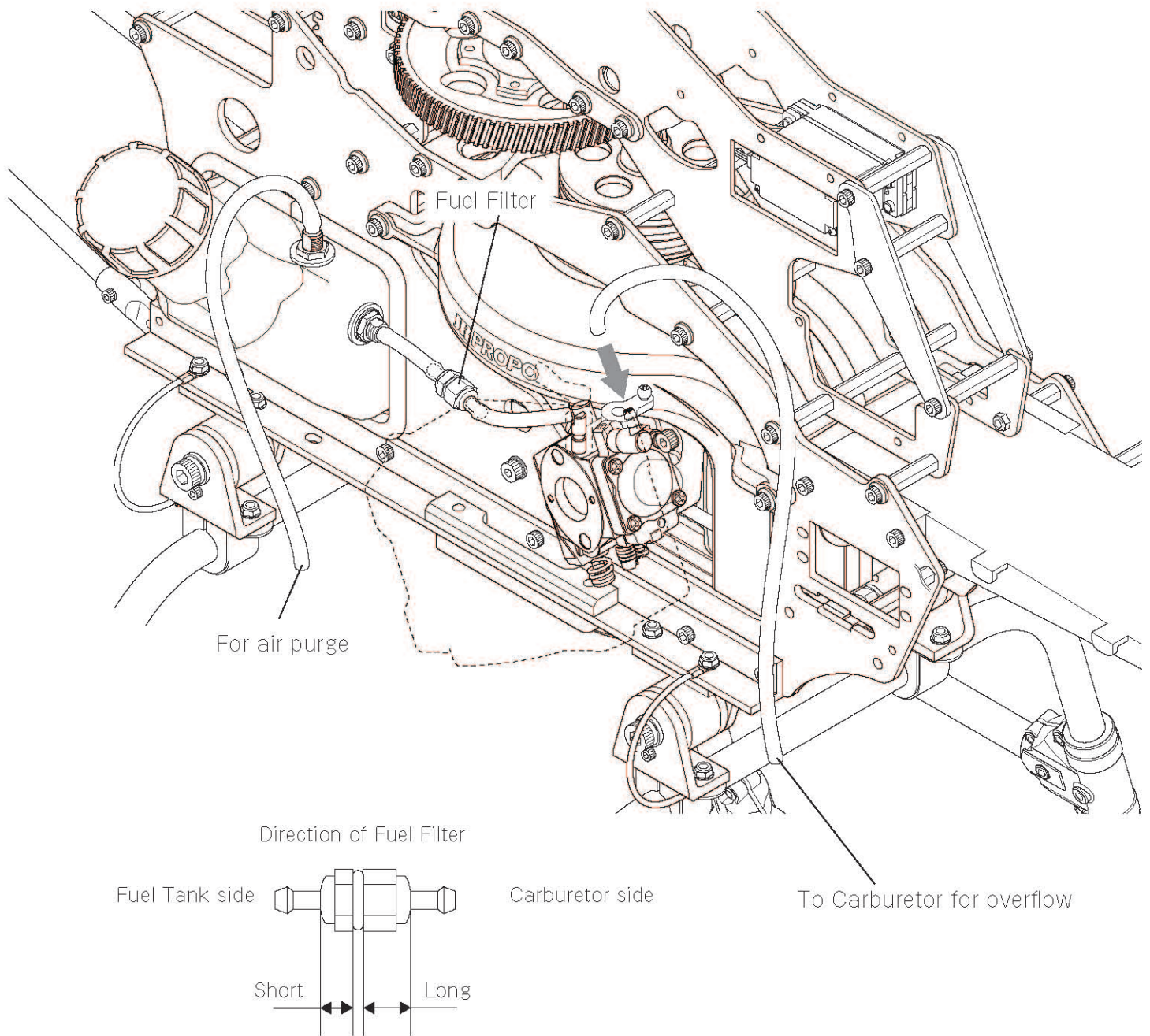


● After installation of the Air Cleaner, adjust the Choke Lever to an angle so as it does not touch the Fan Shroud or Air Cleaner when opening and closing it. Then apply the screw lock agent to the M3 Button Head Bolt installed in the previous step and secure.



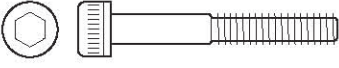
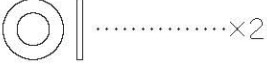
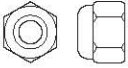

● Install the removed Insulator, then install the Carburetor, Air Cleaner, and Muffler. Use the bolts supplied with the Engine. Be sure to install the Gaskets as indicated.

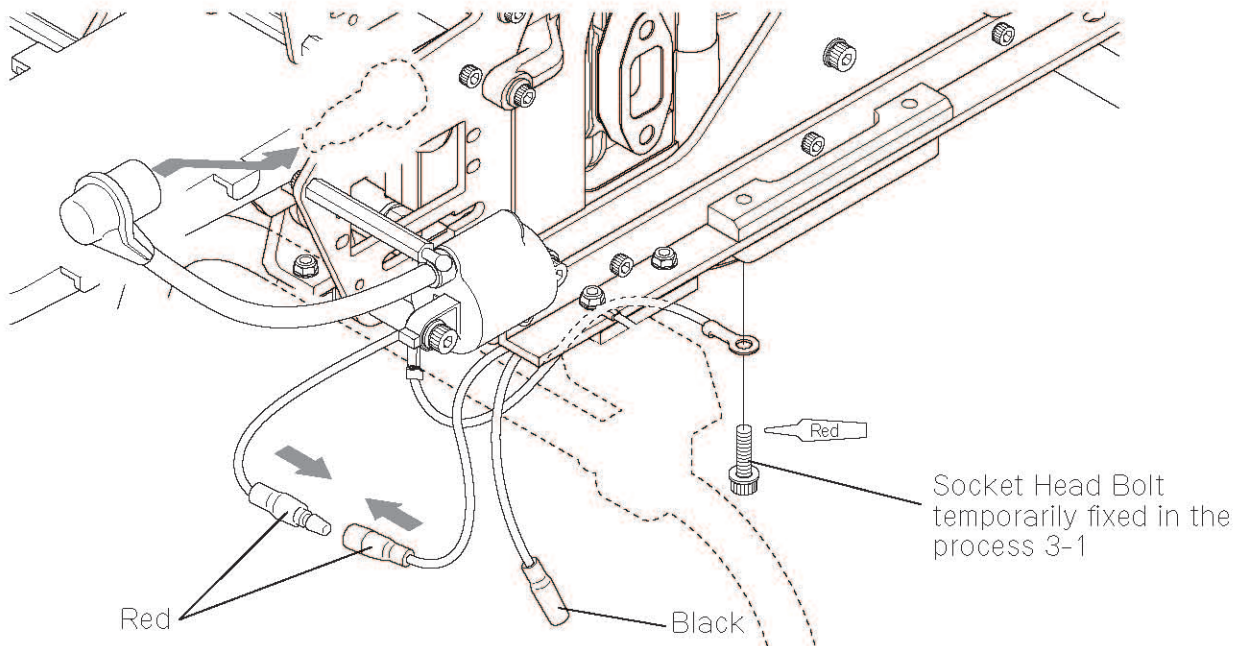
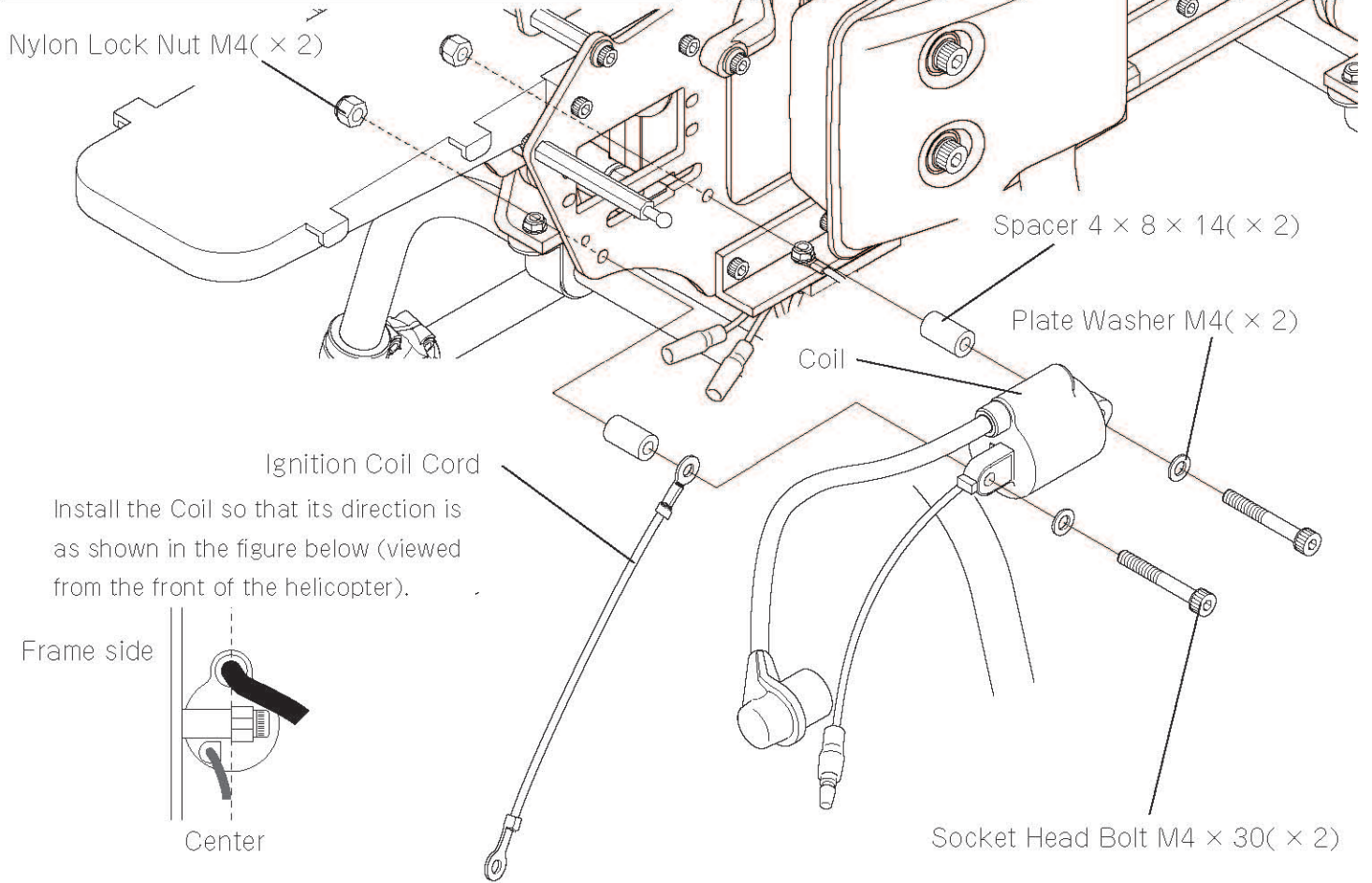
3-15 INSTALLING FUEL LINES



- Install the Fuel Filter in the middle of Fuel Tube connected to the Carburetor. Attach the Fuel Tube for air purge and that for overflow to the helicopter body by means of Nylon Ties, etc. Fix the tubes to avoid fuel on the helicopter body (because fuel may come out of the tubes).

3-16 COIL INSTALLATION

	.....x2		.....x2
Socket Head Bolt M4 x 30		Plate Washer M4	
	.....x2		.....x2
Nylon Lock Nut M4		Spacer 4x8x14	

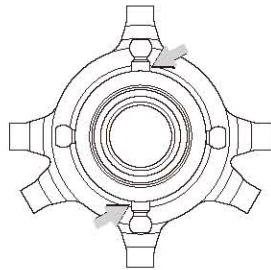


- When mounting the Coil, be sure to fasten one end of the Ignition Coil Cord as shown above.
- After installation of the Coil, put the Plug Cap on the spark plug of the engine and connect the lead coming out of Coil (not the Ignition Coil Cord) with the red lead at the bottom of engine (the black lead of engine is a grounding wire for stopping the engine. Attach it so that it cannot touch the engine or frame directly).

4-1 SWASHPLATE ASSEMBLY

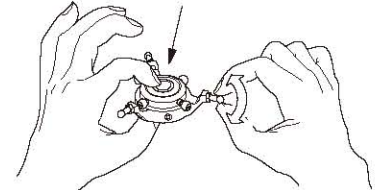
	.....x3
Ball Arm L9	
	.....x2
Joint Ball Spacer t2.75	
	.....x4
Joint Ball	
	.....x3
Setscrew M4x4(Nylok)	
	.....x2
Flat Head Screw, M2 x 8	
	.....x2
Flat Head Screw, M2 x 10	

● Adjust the Swashplate by tightening four M4 Setscrews to minimize unsteadiness (slop) of the upper plate and lower plate of Swashplate. If there is such unsteadiness, tighten the four M4 Setscrews as shown in the figure below and adjust them to minimize the unsteadiness. Be sure to tighten them gradually. If you tighten them too much, the lower plate may be deformed, damaged or may not rotate smoothly (if you do not feel unsteadiness, you do not have to use these bolts). Note that the unsteadiness of Swashplate cannot be completely eliminated - do not tighten the bolts too much.

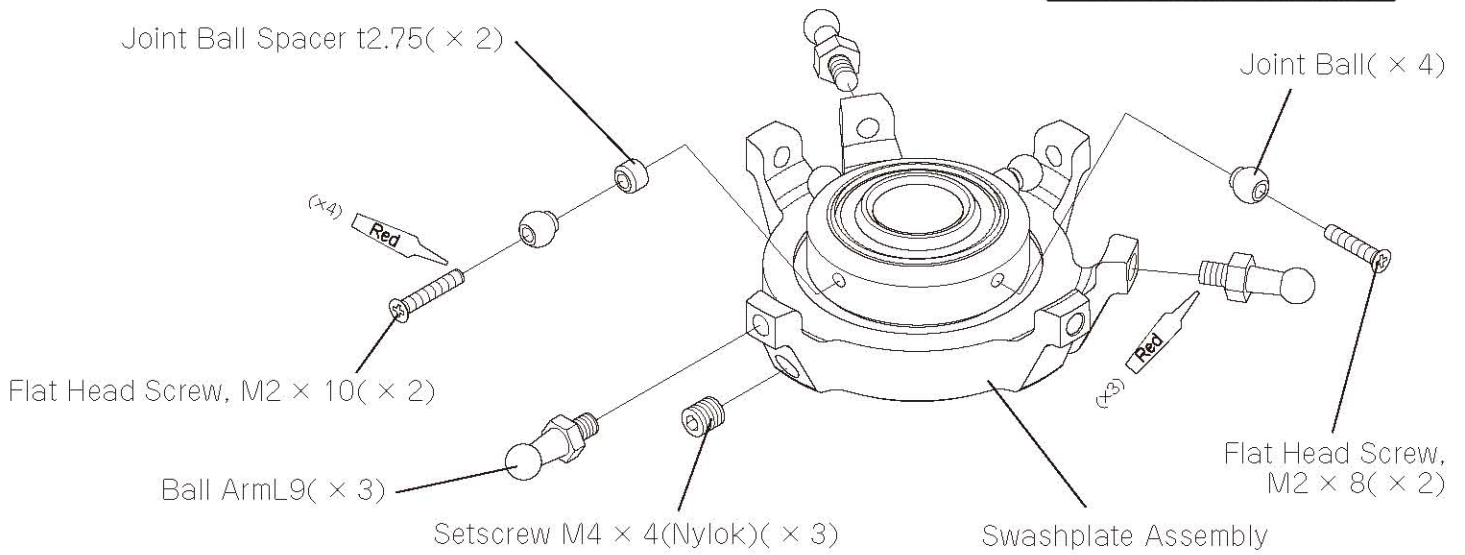


* Install Joint Ball Spacer (t = 2.75) in two positions only.

* Do not hold the ball in the center, but hold the upper part of the swashplate plate.

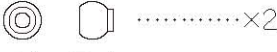

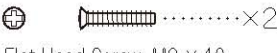



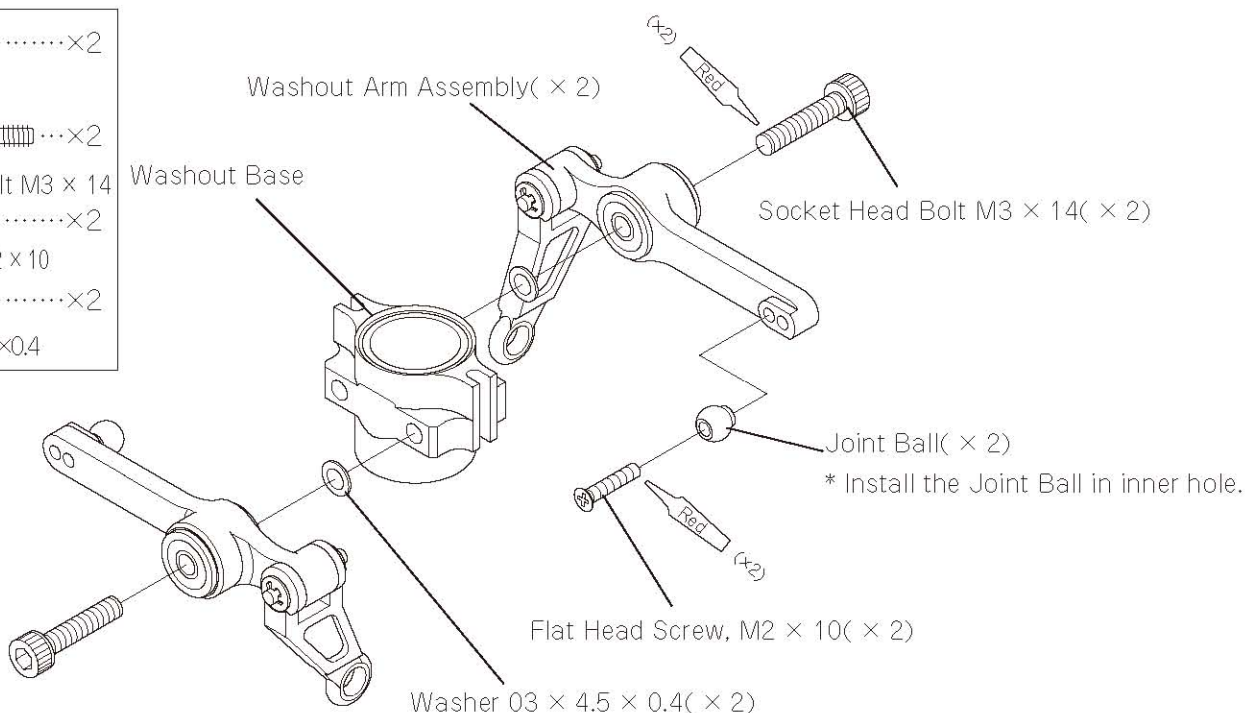
Checking the Swashplate



* These special Nylok setscrews do not require screw lock.

4-2 WASHOUT ARM ASSEMBLY

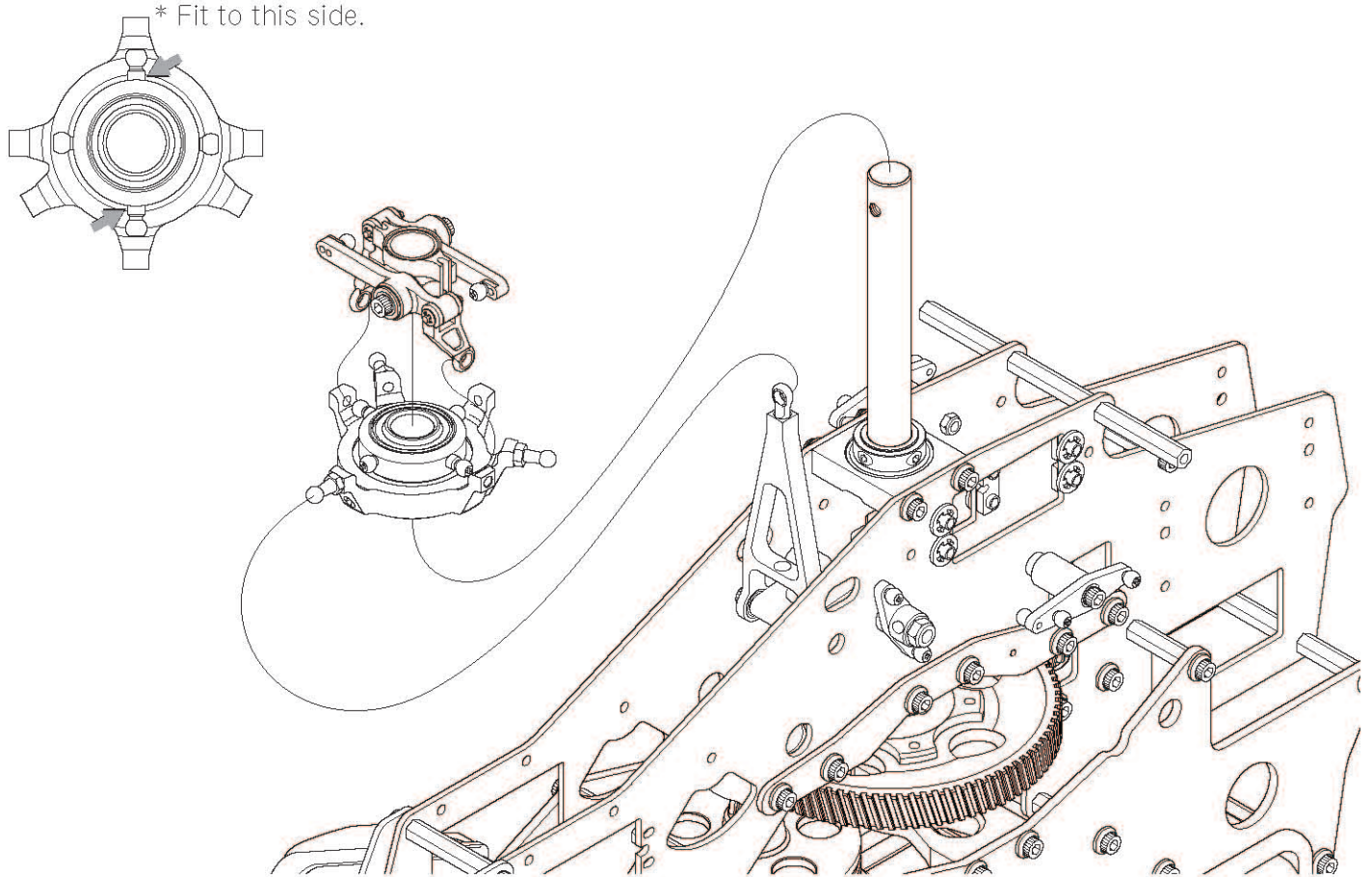
	.....x2
Joint Ball	
	.....x2
Socket Head Bolt M3 x 14	
	.....x2
Flat Head Screw, M2 x 10	
	.....x2
Washer 03x4.5x0.4	



* Install the Joint Ball in inner hole.

4-3 SWASHPLATE · WASHOUT INSTALLATION

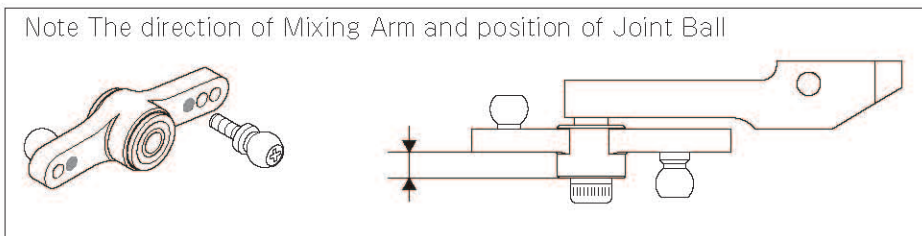
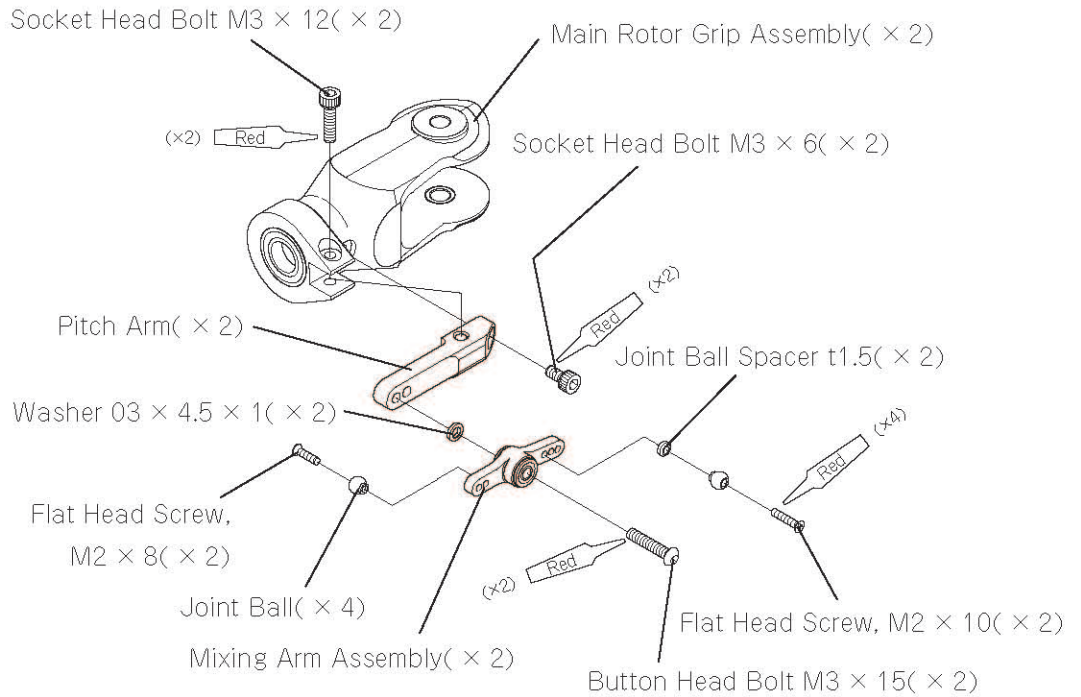
● Fit the washout link of washout Assembly to the Swashplate balls with Joint Ball Spacers.



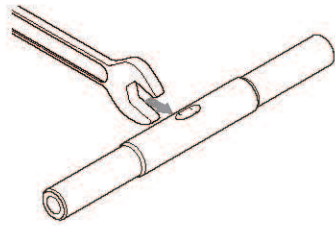
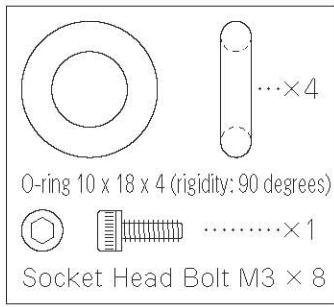
4-4 MAIN ROTOR GRIP ASSEMBLY

* Make two sets.

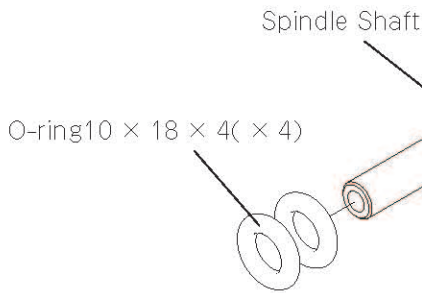
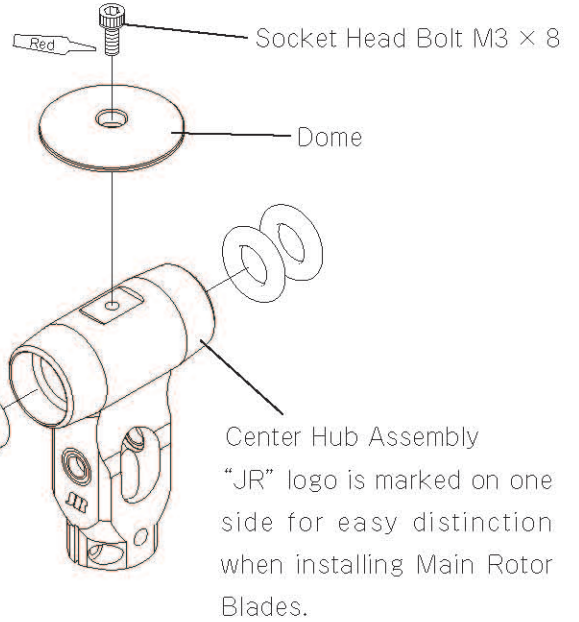
	Washer 03×4.5×1	.....×2
	Joint Ball	.....×4
	Joint Ball Spacer t1.5	.....×2
	Socket Head Bolt M3 × 6	.....×2
	Socket Head Bolt M3 × 12	.....×2
	Button Head Bolt M3×15	.....×2
	Flat Head Screw, M2 × 8	.....×2
	Flat Head Screw, M2 × 10	.....×2



4-5 CENTER HUB ASSEMBLY

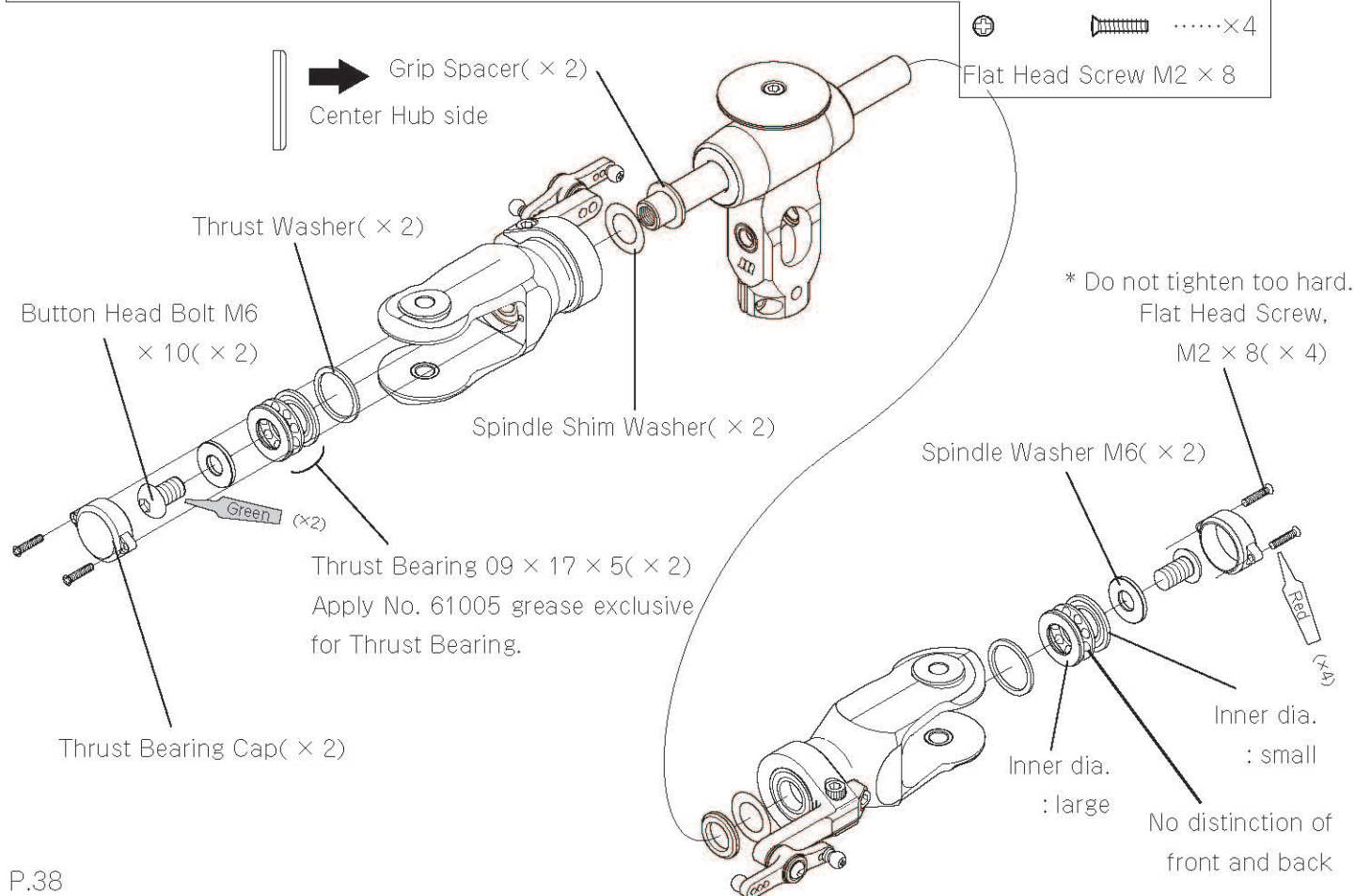


● When doing maintenance, hold the part of Spindle Shaft shown in the figure with spanner.

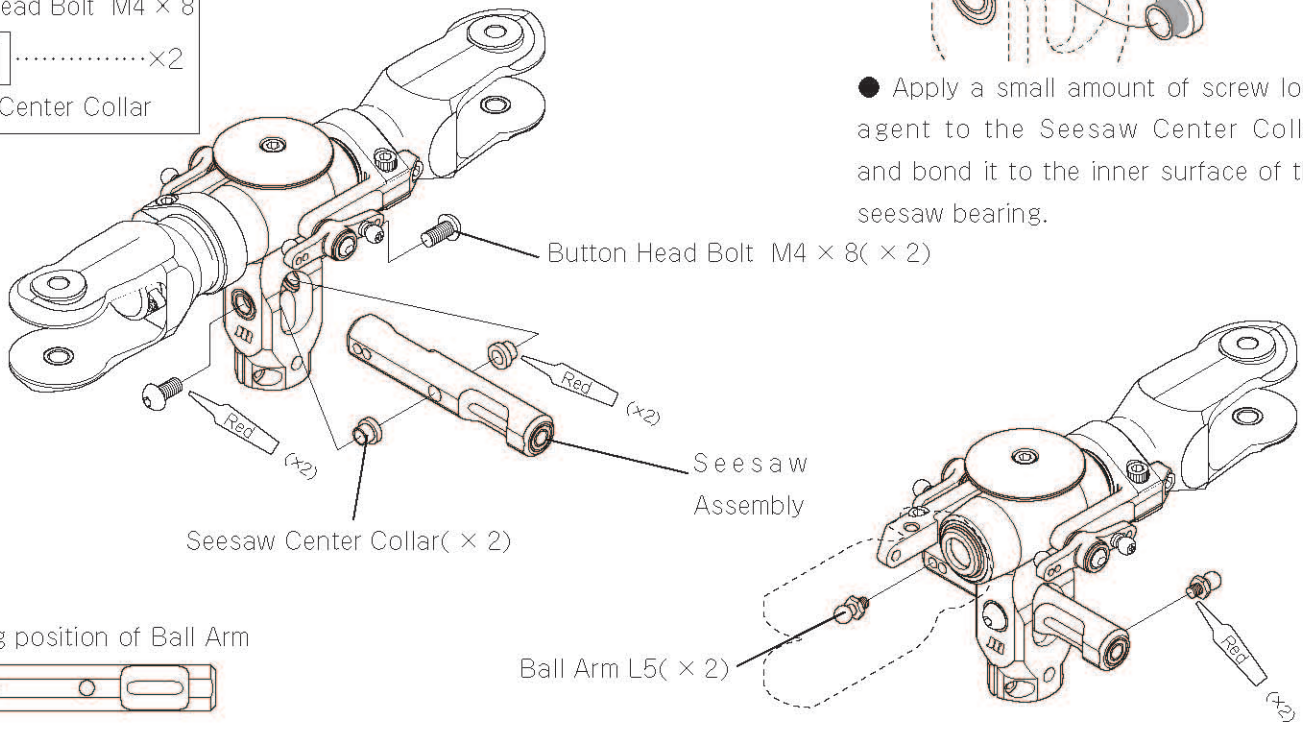
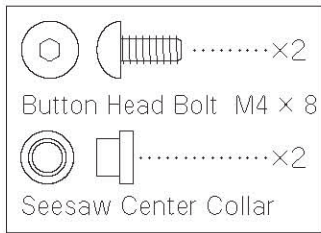


Spindle Shaft Tube
* If the Spindle Shaft Tube and O-ring are hard to insert, apply a small amount of O-ring lubricant.

4-6 MAIN ROTOR GRIP INSTALLATION

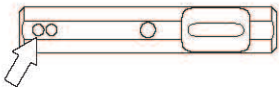


4-7 SEESAW INSTALLATION



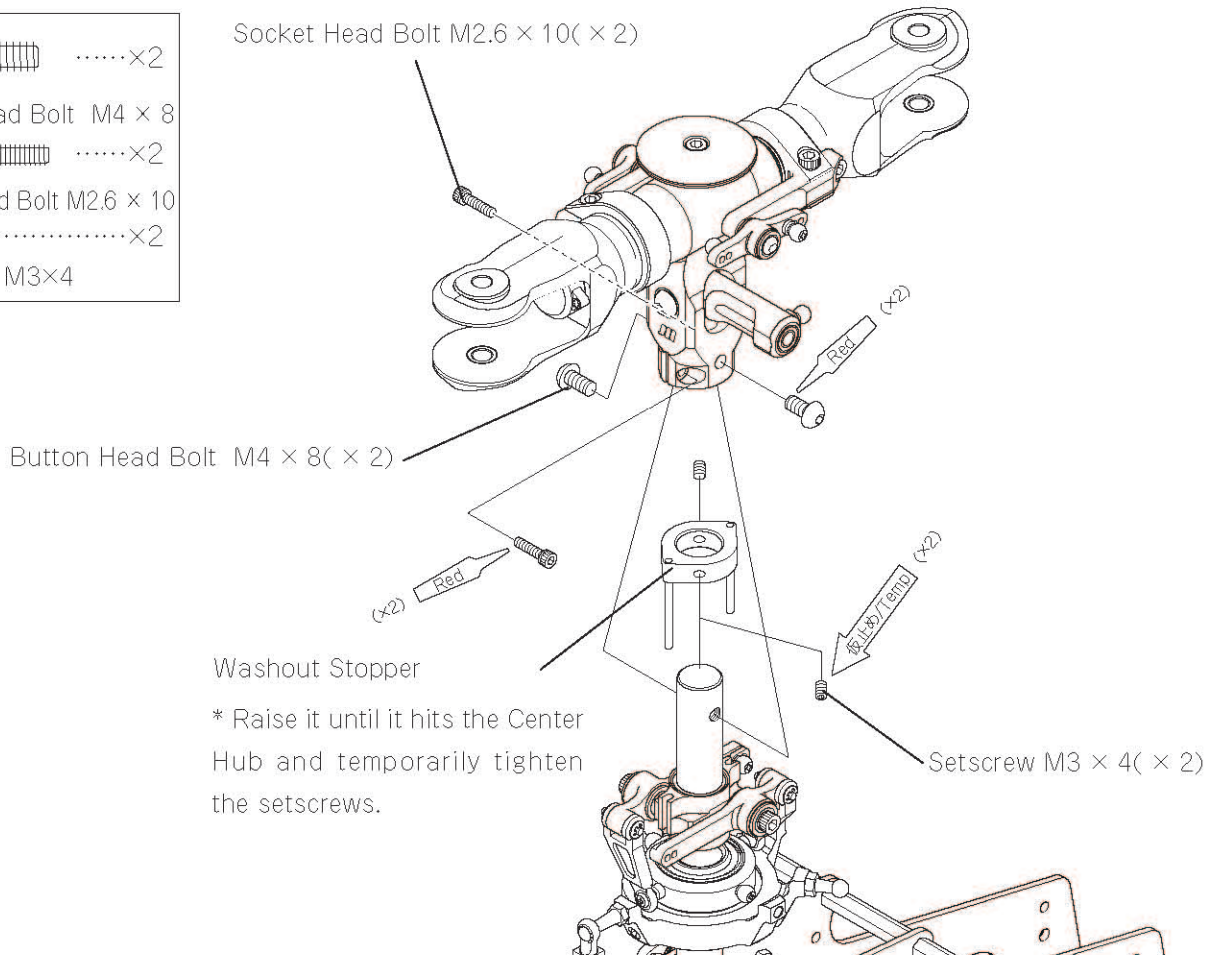
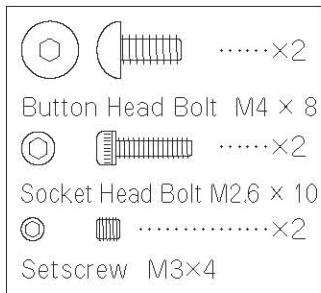
● Apply a small amount of screw lock agent to the Seesaw Center Collar and bond it to the inner surface of the seesaw bearing.

Mounting position of Ball Arm



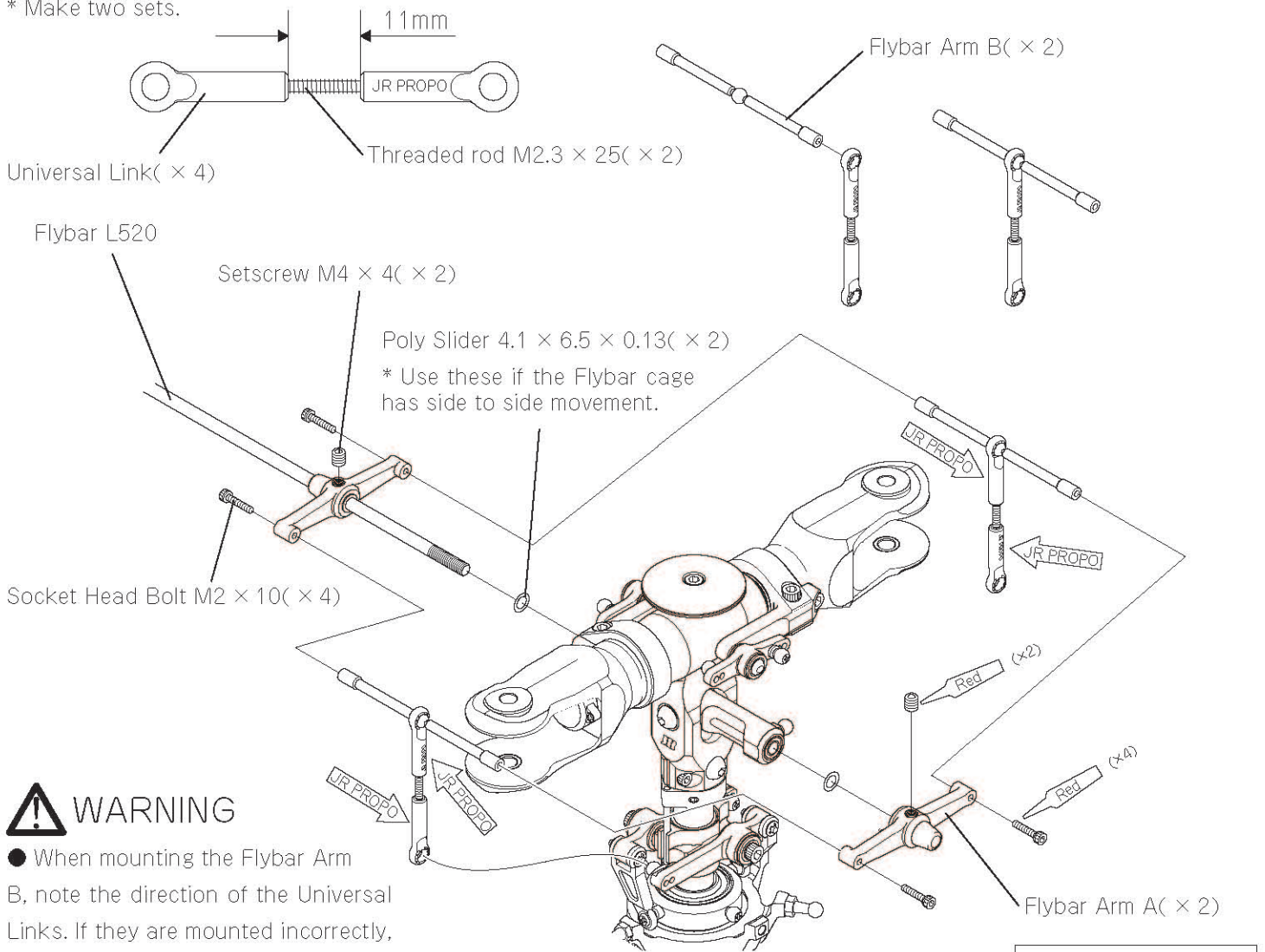
Mount on outer side.

4-8 MAIN ROTOR HEAD INSTALLATION



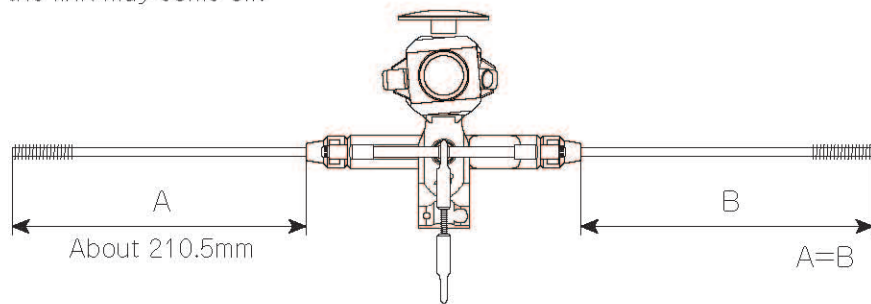
4-9 FLYBAR ARM INSTALLATION

* Make two sets.



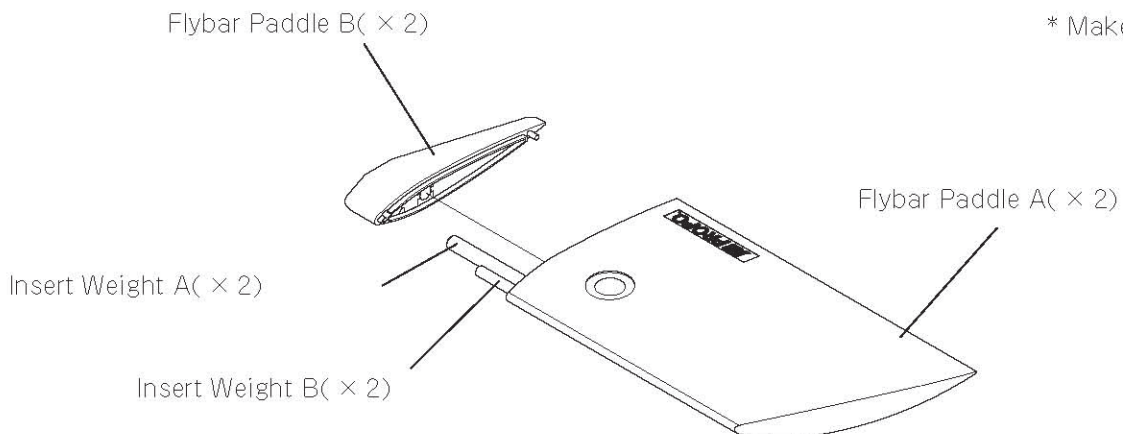
⚠ WARNING

● When mounting the Flybar Arm B, note the direction of the Universal Links. If they are mounted incorrectly, the link may come off.



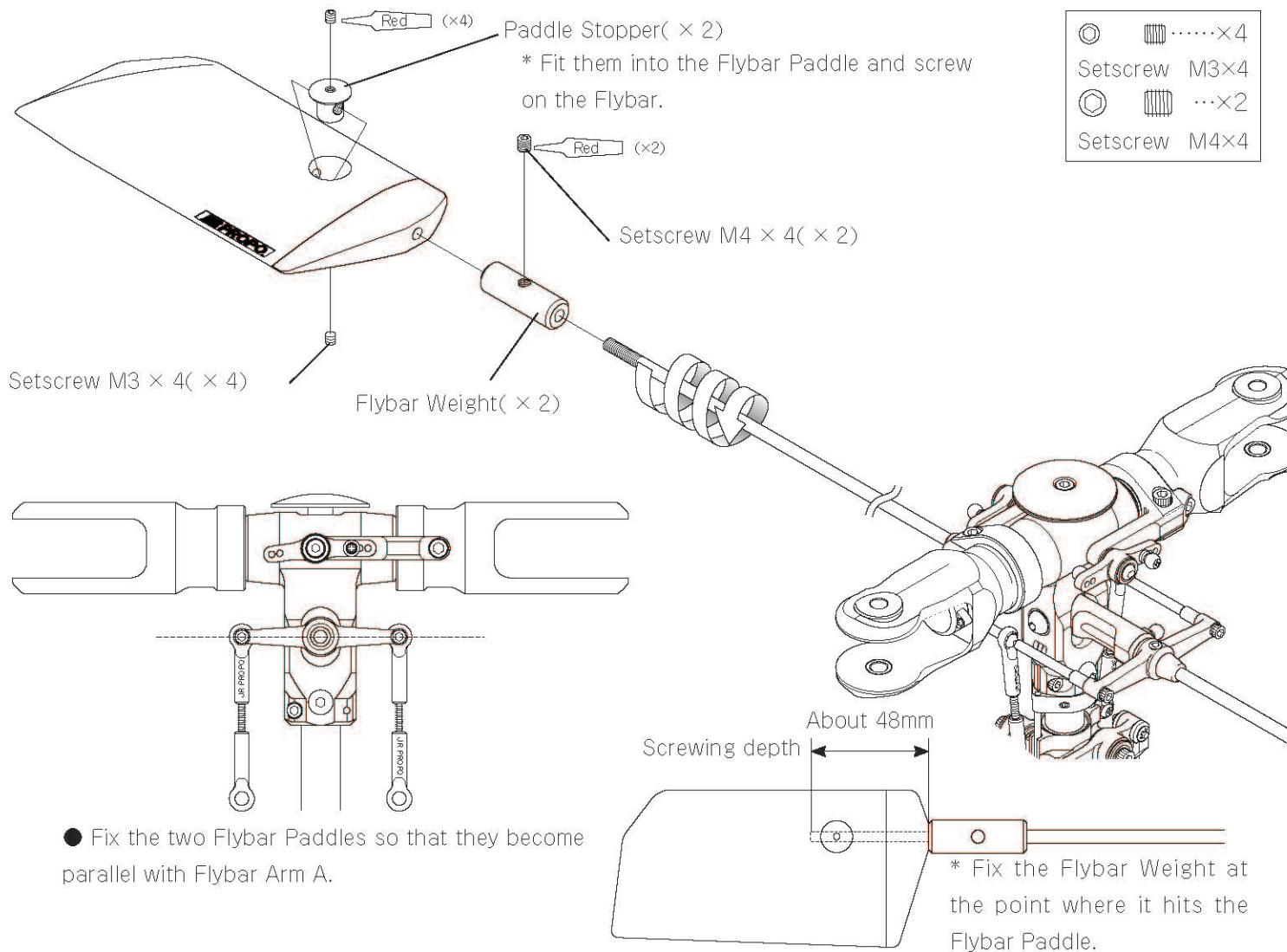
		...×4
Socket Head Bolt M2 × 10		
		.....×2
Setscrew M4×4		
		.....×2
Poly Slider 4.1×6.5×0.13		

4-10 FLYBAR PADDLE ASSEMBLY

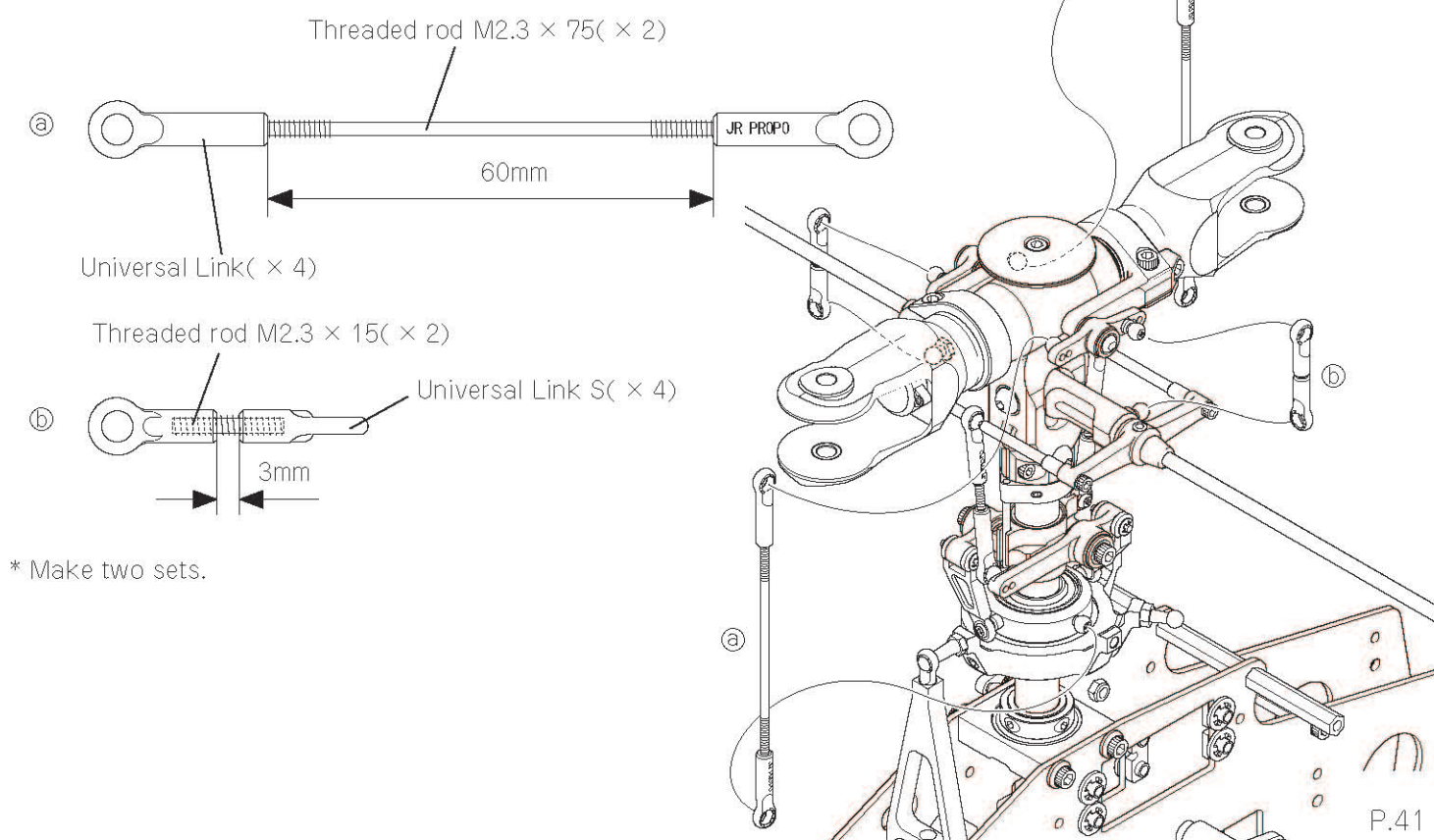


* Make two sets.

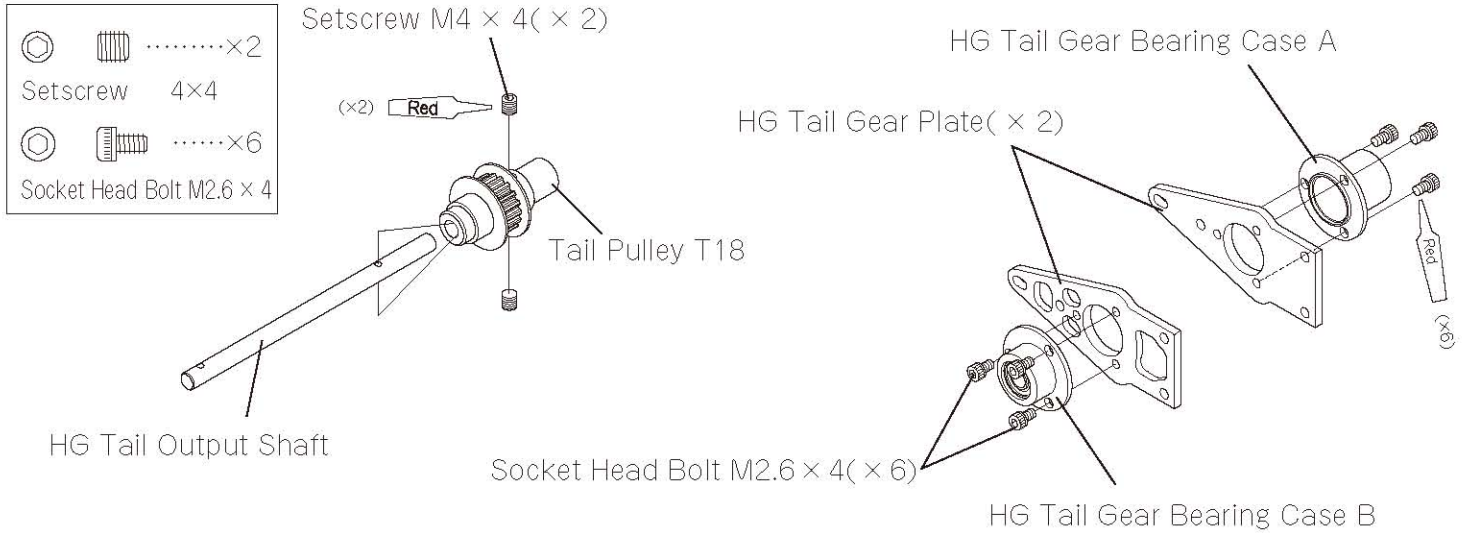
4-11 FLYBAR PADDLE INSTALLATION



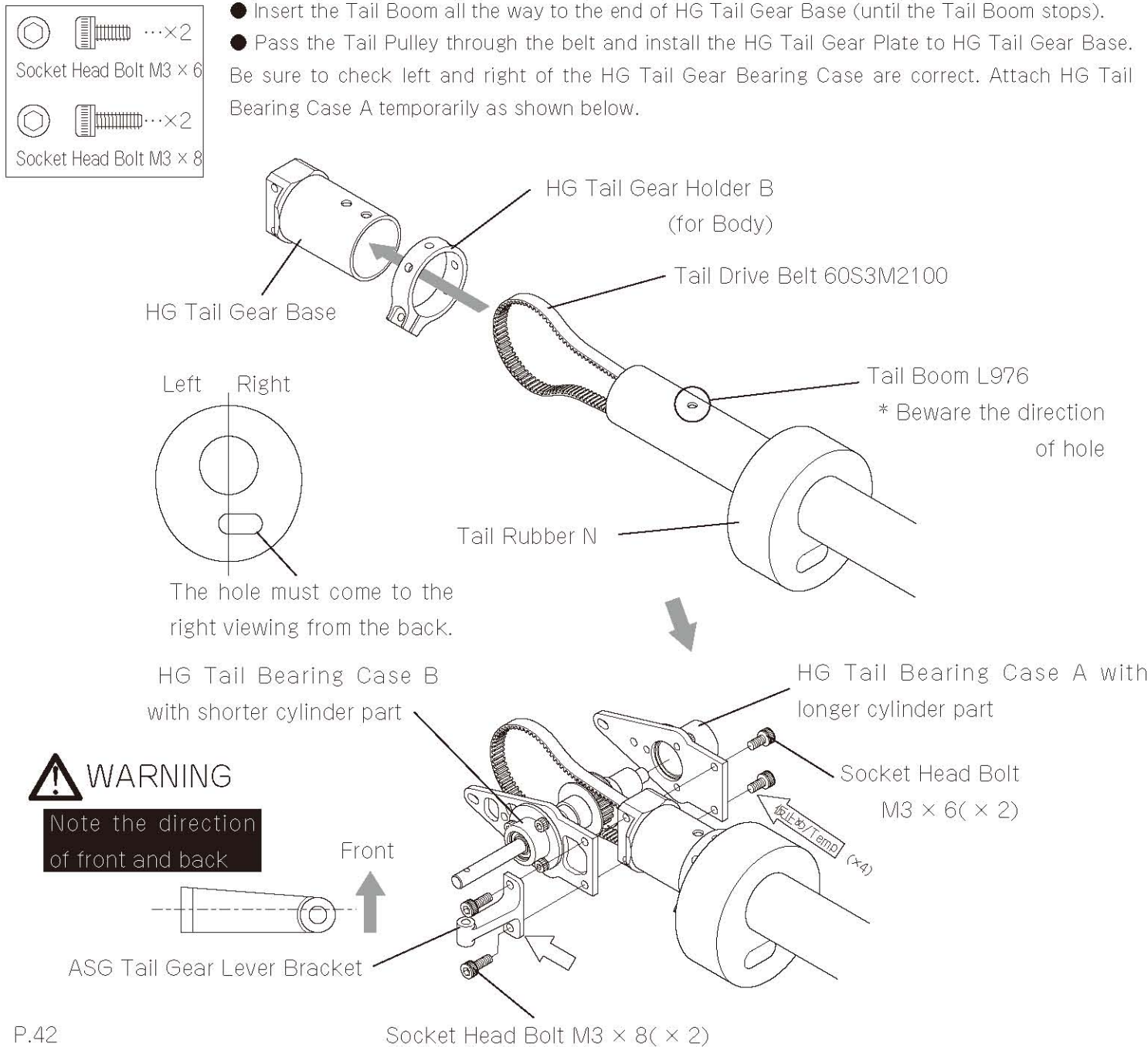
4-12 UNIVERSAL LINK INSTALLATION



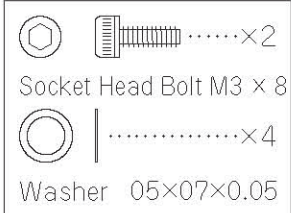
5-1 HG TAIL GEAR CASE ASSEMBLY 1



5-2 HG TAIL GEAR CASE ASSEMBLY 2

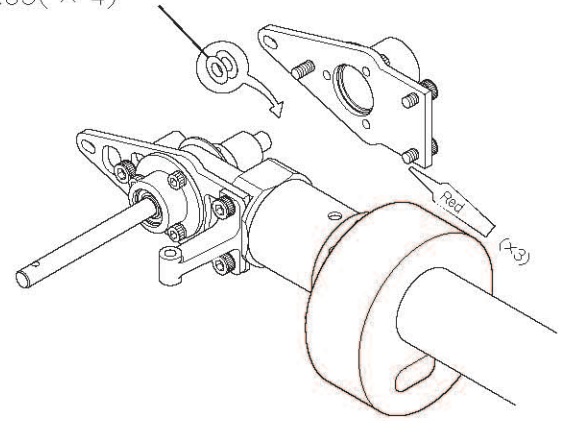
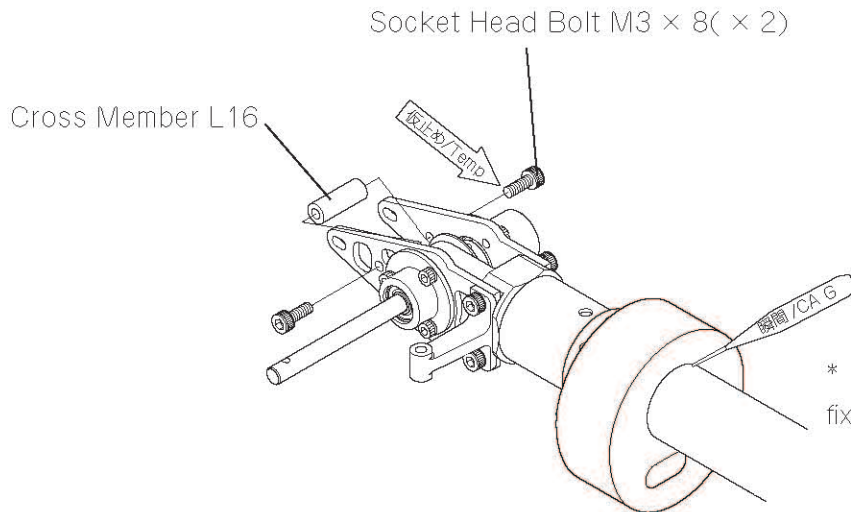


5-3 HG TAIL GEAR CASE ASSEMBLY 3



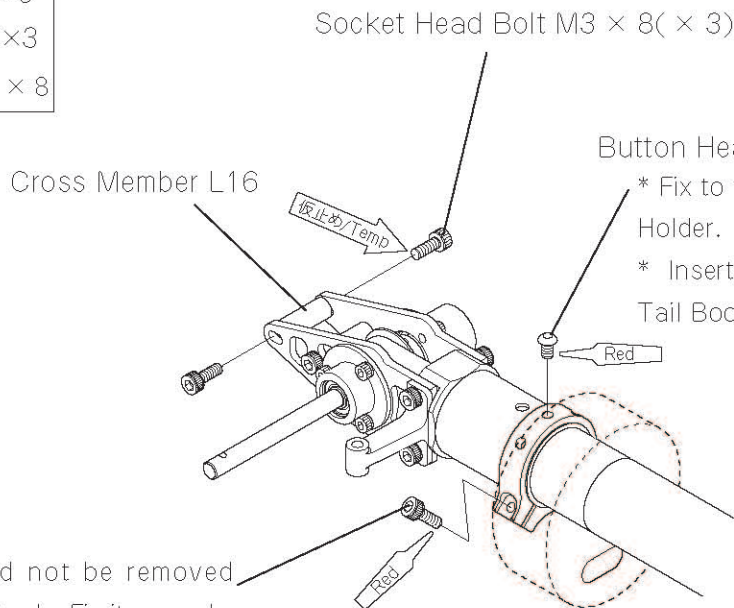
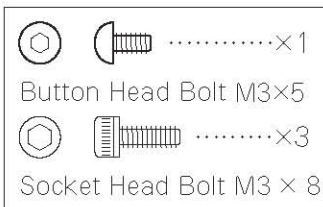
● If the Tail Output Shaft has any back and forth movement in the direction of shaft when temporarily assembled, remove HG Tail Bearing Case A (temporarily fixed) and insert Washers (05 x 07 x 0.05) as required to eliminate this movement, as shown in the drawing on the right. After installation of the Rear Body, apply the screw lock agent to the temporarily fixed bolts and tighten securely.

Washer 05 x 07 x 0.05 (x 4)



* Move the Tail Rubber to Tail Gear Base and fix it to Tail Boom with instant adhesive.

5-4 HG TAIL GEAR CASE ASSEMBLY 4





Button Head Bolt M3 x 5

* Fix to the hole on the front of HG Tail Gear Holder.

* Insert the Button Head Bolt to the hole of Tail Boom and fix it.

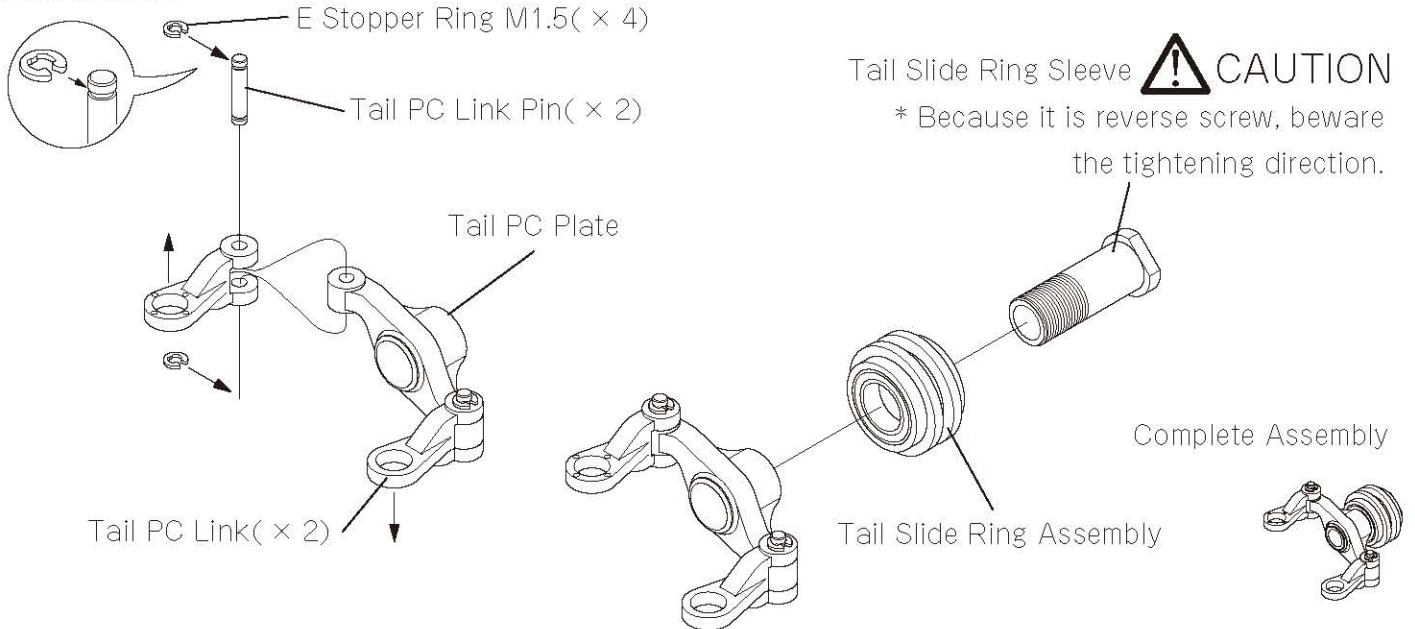
* This bolt should not be removed when installing the body. Fix it securely.

5-5 TAIL SLIDE RING ASSEMBLY







- x2
Tail PC Link Pin
- x5
E Stopper Ring M1.5 (including spare ones)

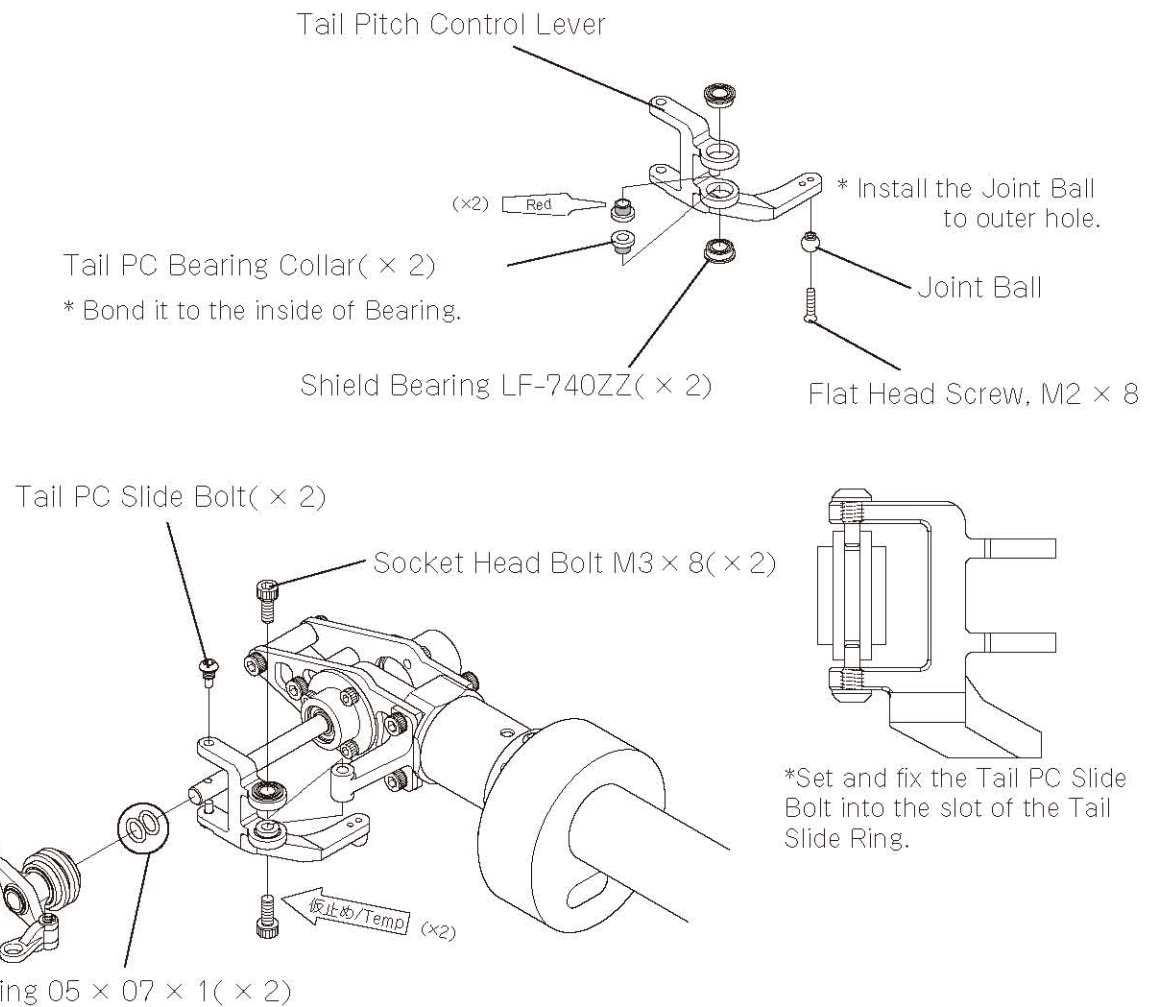
- Note the direction of the Tail PC Link. Fit with the side showing four circles in the direction indicated.
- The Tail Slide Ring Sleeve is reverse thread. Beware the tightening direction.

* Fit the Stopper Ring to the slot securely.

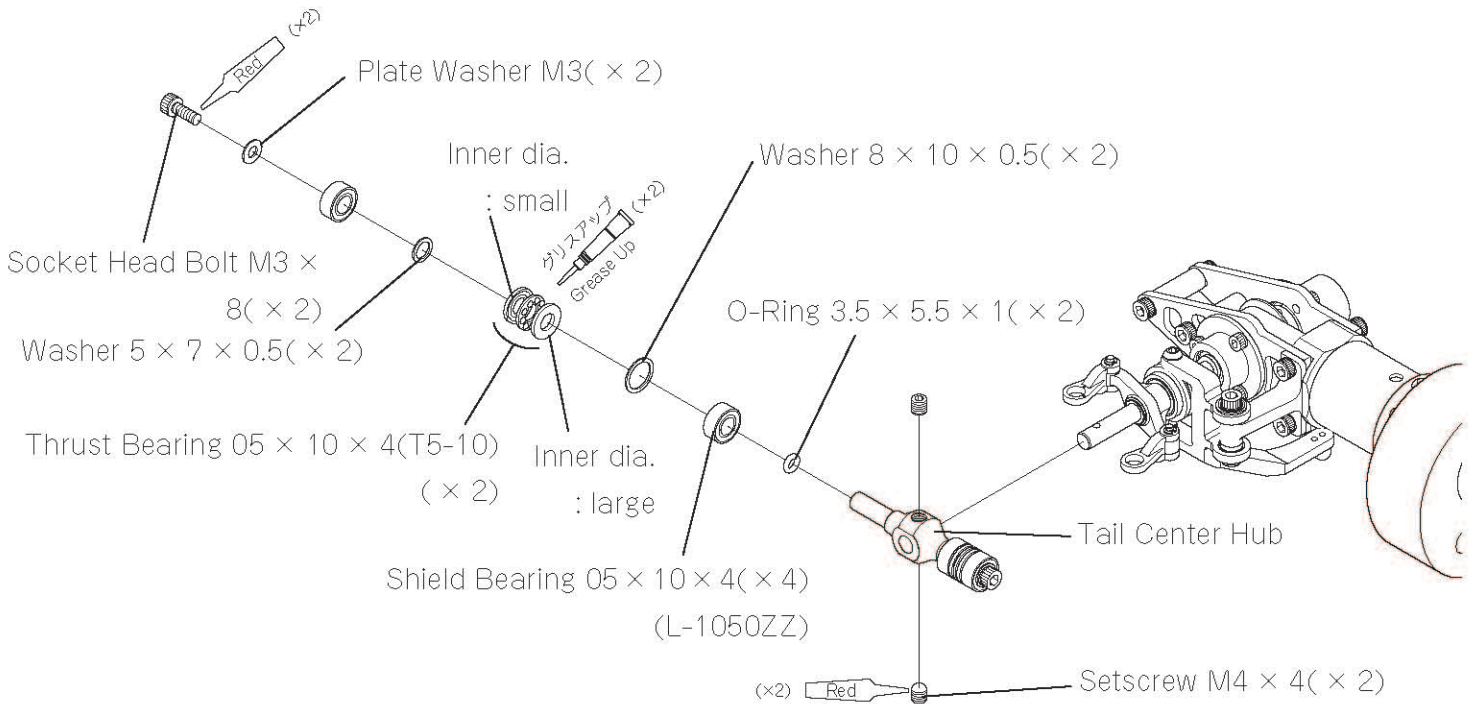


5-6 TAIL PC LEVER INSTALLATION

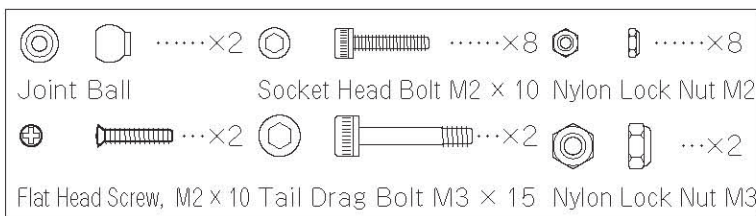
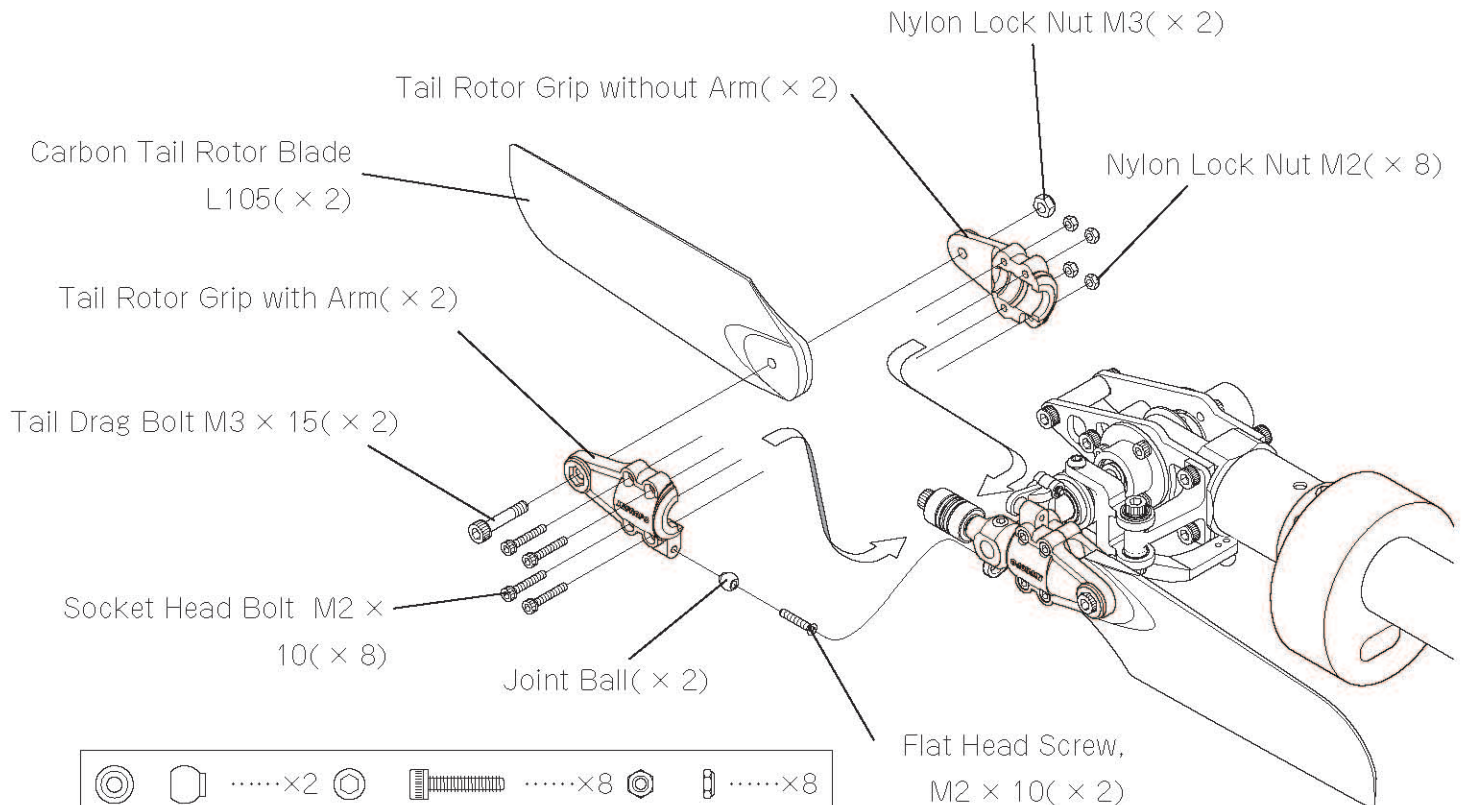
- x2
Tail PC Bearing Collar
- x1
Joint Ball
- x2
O-Ring 05x07x1
- x2
Tail PC Slide Bolt
- x2
Socket Head Bolt M3 x 8
- x1
Flat Head Screw, M2 x 8



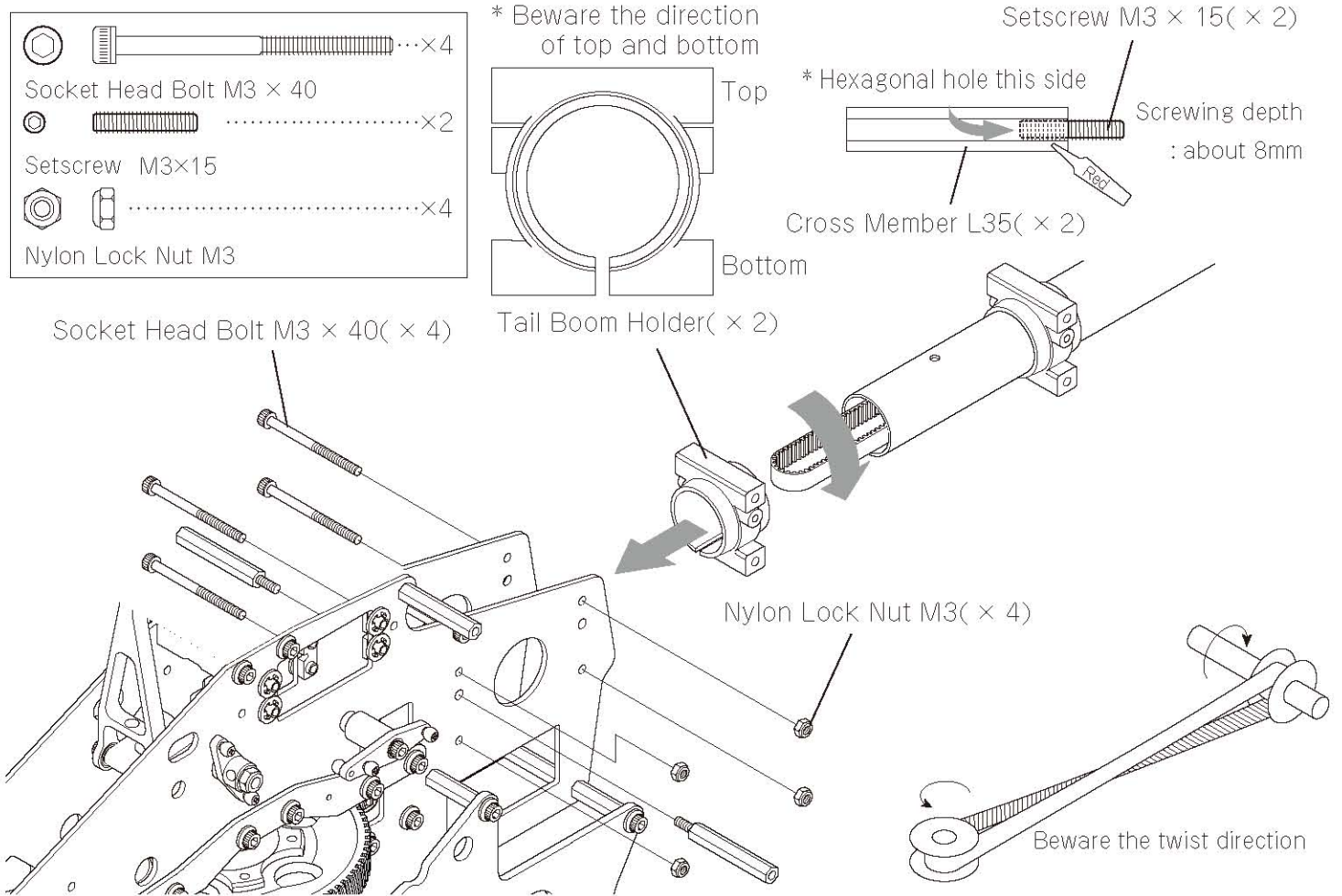
5-7 HG TAIL CENTER HUB ASSEMBLY



5-8 TAIL ROTOR GRIP ASSEMBLY

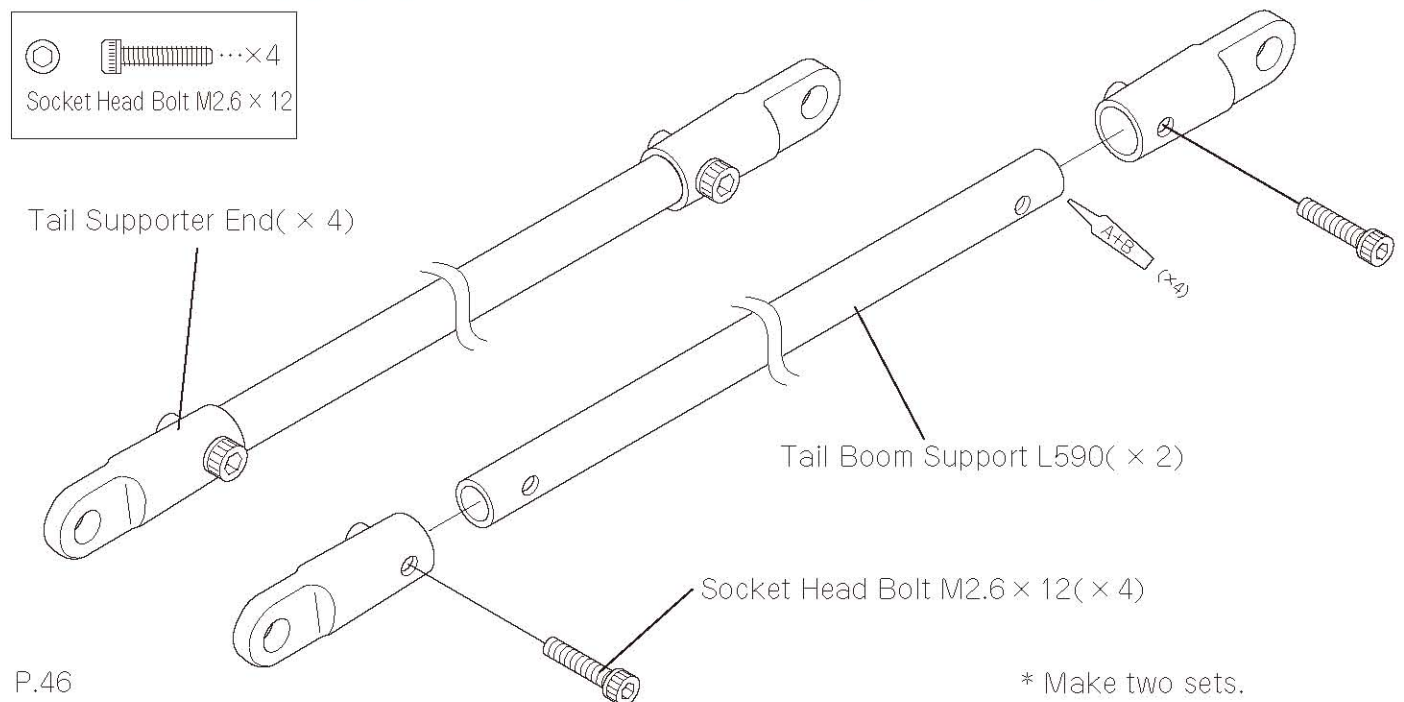


5-9 TAIL BOOM INSTALLATION



- Move the Tail Boom forward to make it possible to fit the belt. Note the twist direction and hook the Tail Drive Belt to the Front Pulley. Then pull the Tail Boom backward and stretch the belt moderately and tighten the M3 Socket Head Bolts and M3 Nylon Lock Nuts securely.
- The tension of belt should be to the extent of flexure of about a few millimeters when you push the side of belt around the Pulley.
- When fixing the bolts securing the Tail Boom Holders, keep the Tail Boom horizontal when viewed from the side of the helicopter and adjust the angle of Tail Output Shaft so as it is at a right angle to the mast.
- If you tighten the bolt tighter than required when fixing the Tail Boom, the Tail Boom Holder may be damaged. Be sure to check the status of Tail Boom Holder during the tightening process.

5-10 TAIL BOOM SUPPORT ASSEMBLY



5-11 TAIL BOOM SUPPORT INSTALLATION

Socket Head Bolt M3 × 22(× 2)

Plate Washer M3(× 6)

Tail Support Clamp AS

Nylon Lock Nut M3(× 2)


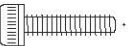

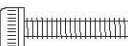






Cross Member L20

Cross Member L80

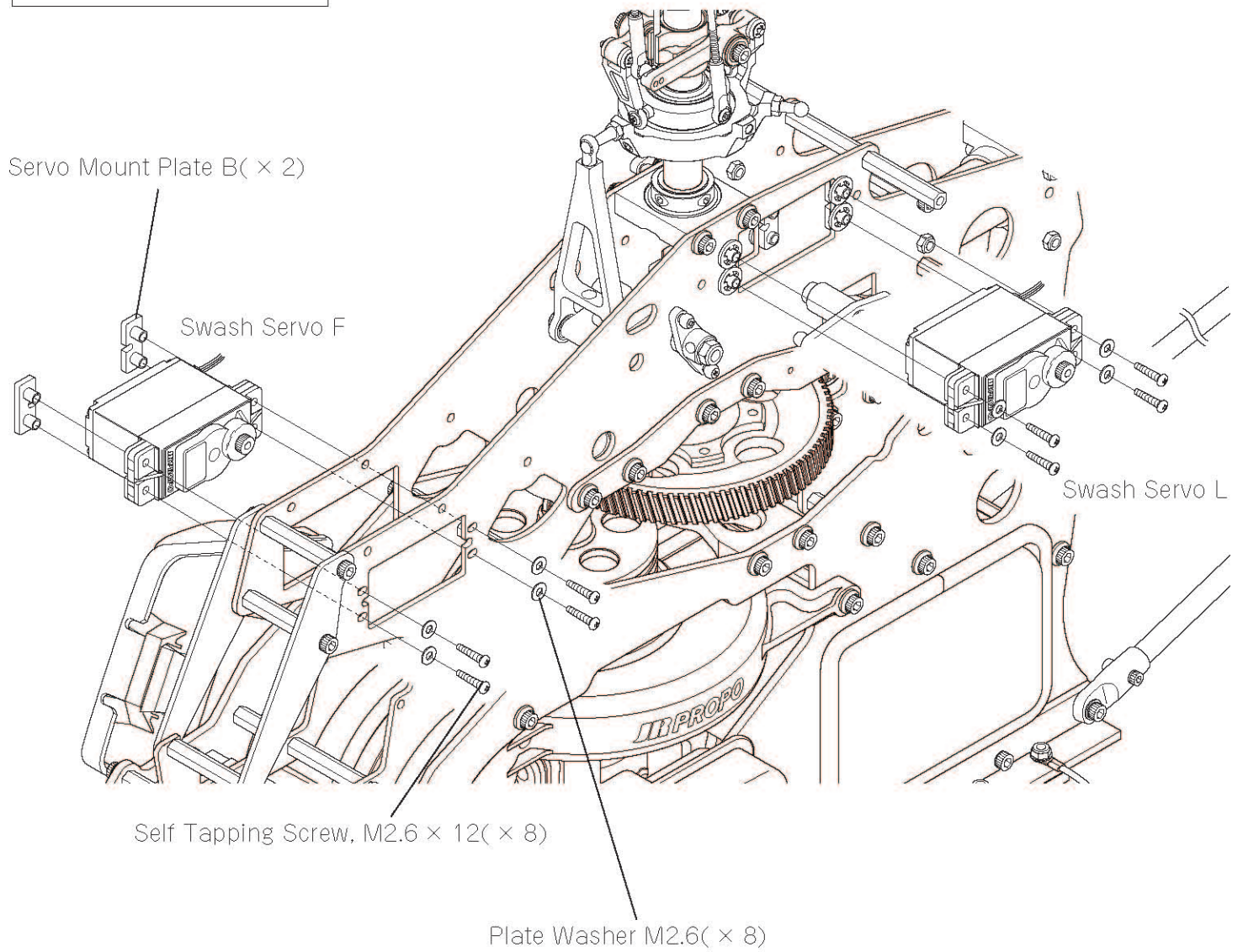
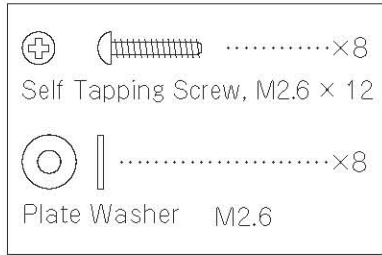
Socket Head Bolt M3 × 12(× 2)

* Fix securely after installation of the Rear Body.



Socket Head Bolt M3 × 16(× 2)

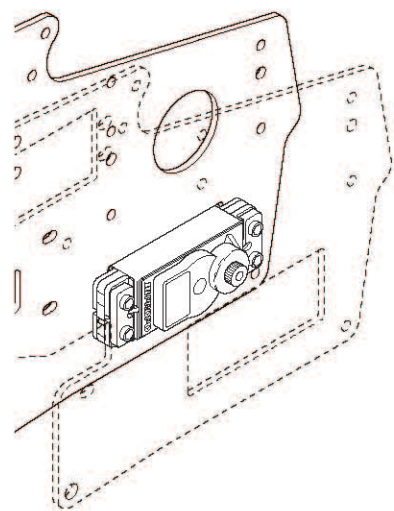
		.....×2
Socket Head Bolt M3 × 12		
		.....×2
Socket Head Bolt M3 × 16		
		.....×2
Socket Head Bolt M3 × 22		
		.....6
Plate Washer M3		
		.....×2
Nylon Lock Nut M3		

6-1 SERVO INSTALLATION 1

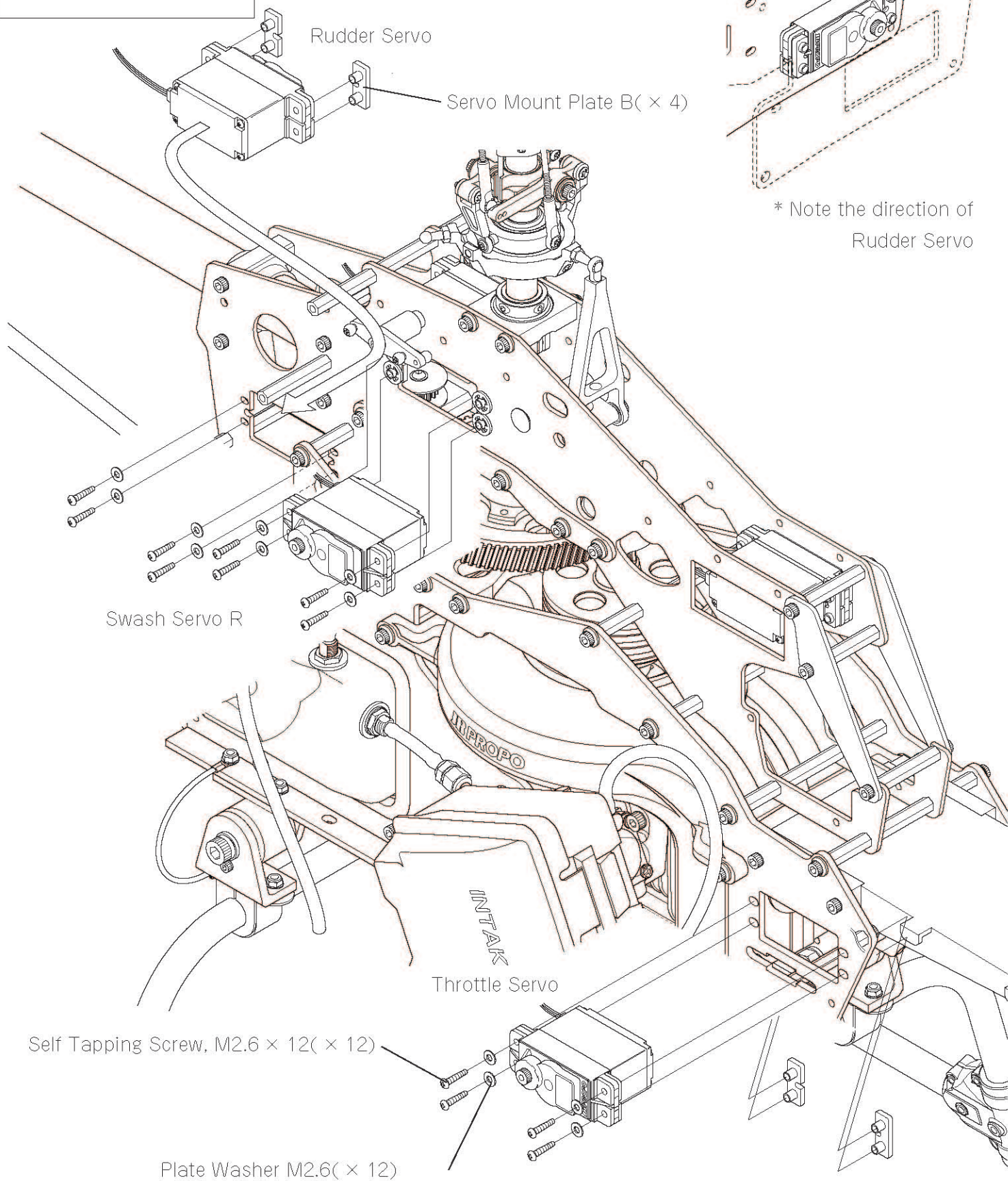


6-2 SERVO INSTALLATION 2

- x12
Self Tapping Screw, M2.6 x 12
- x12
Plate Washer M2.6

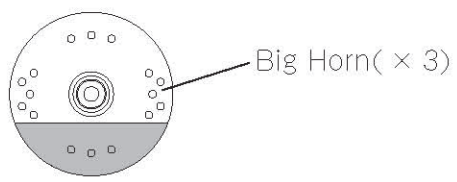
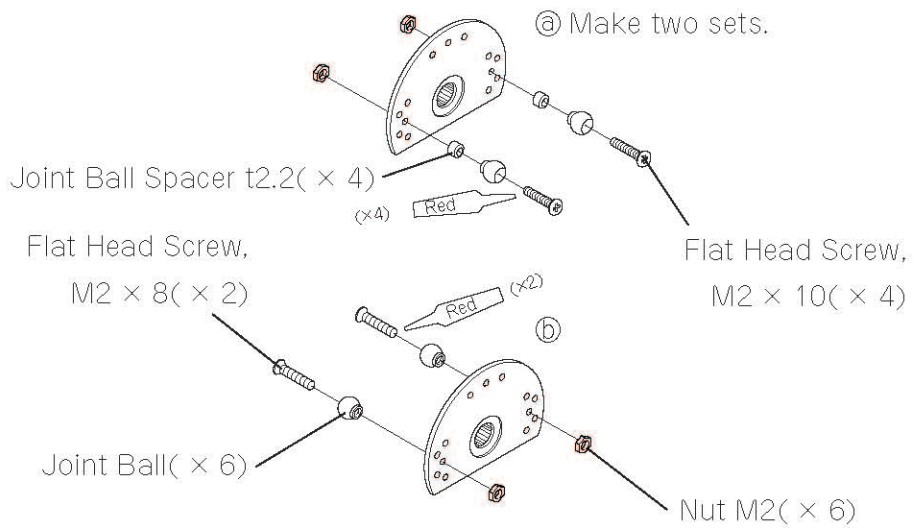


* Note the direction of Rudder Servo

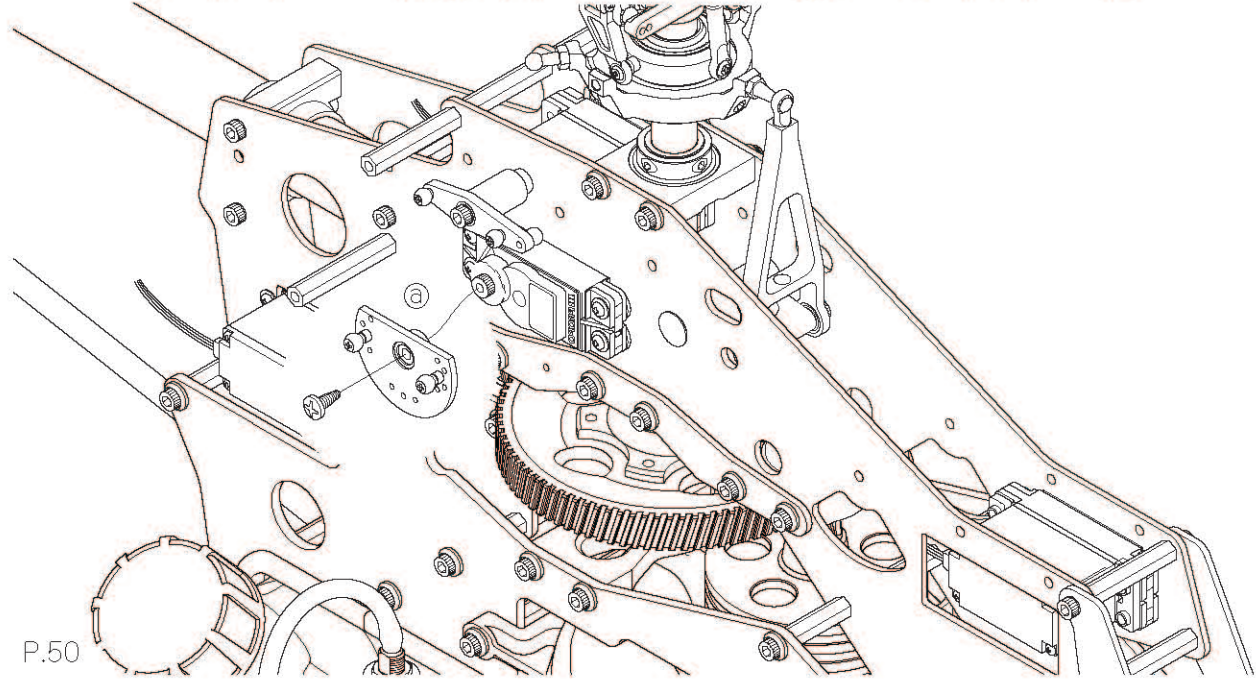
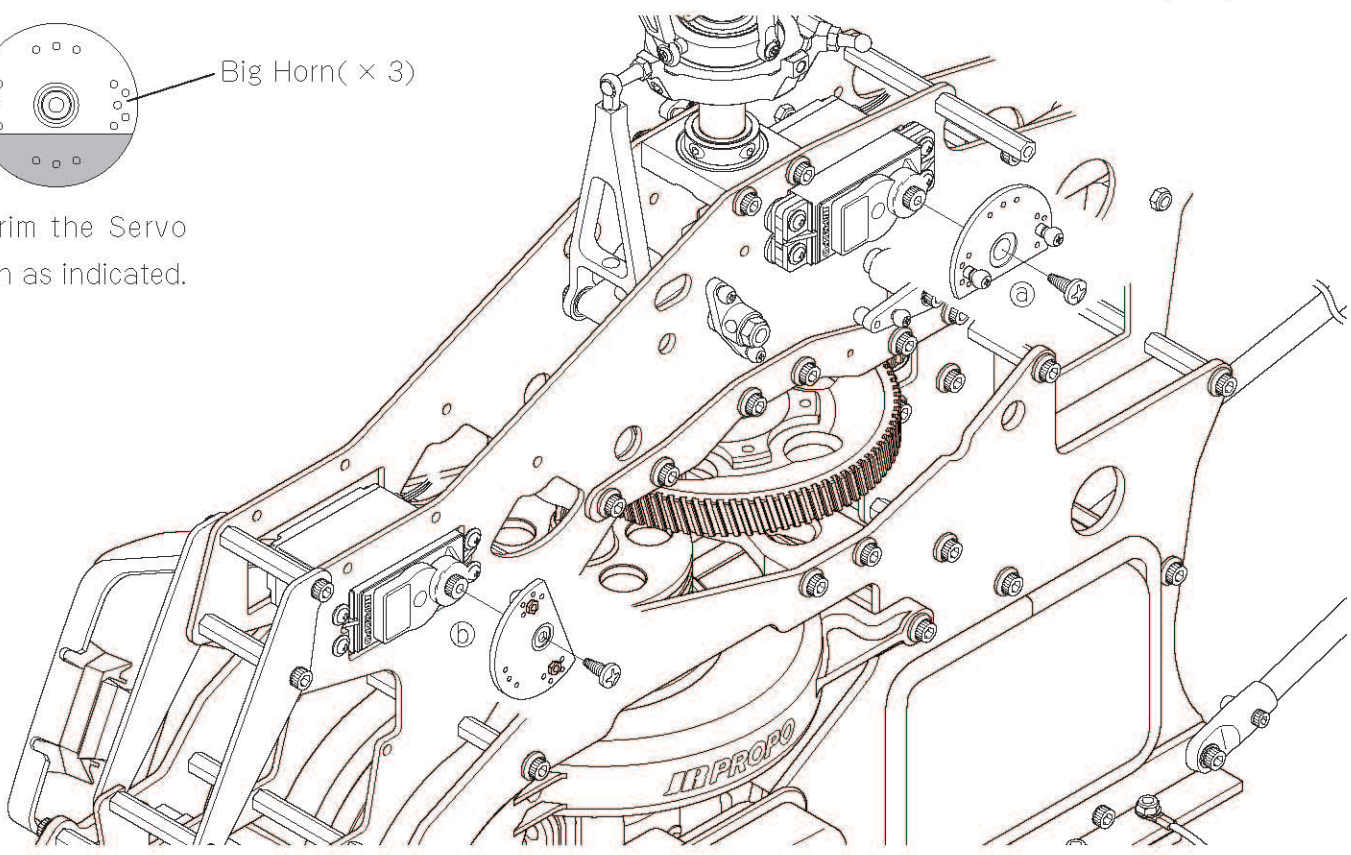


6-3 SERVO HORN INSTALLATION

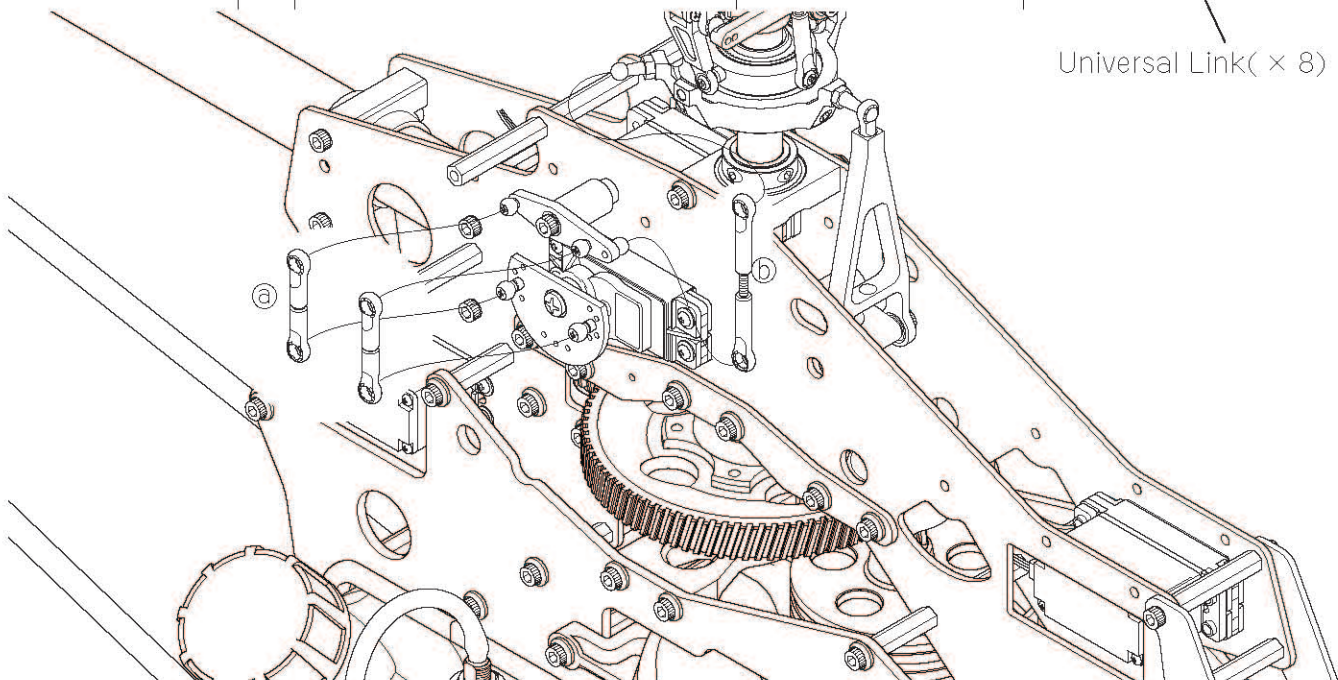
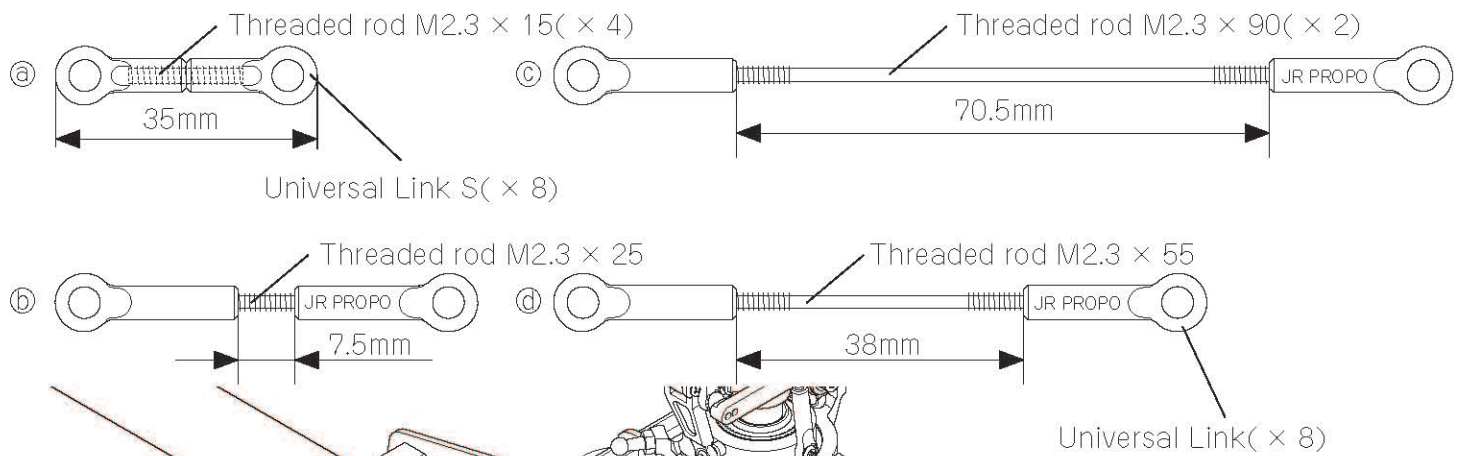
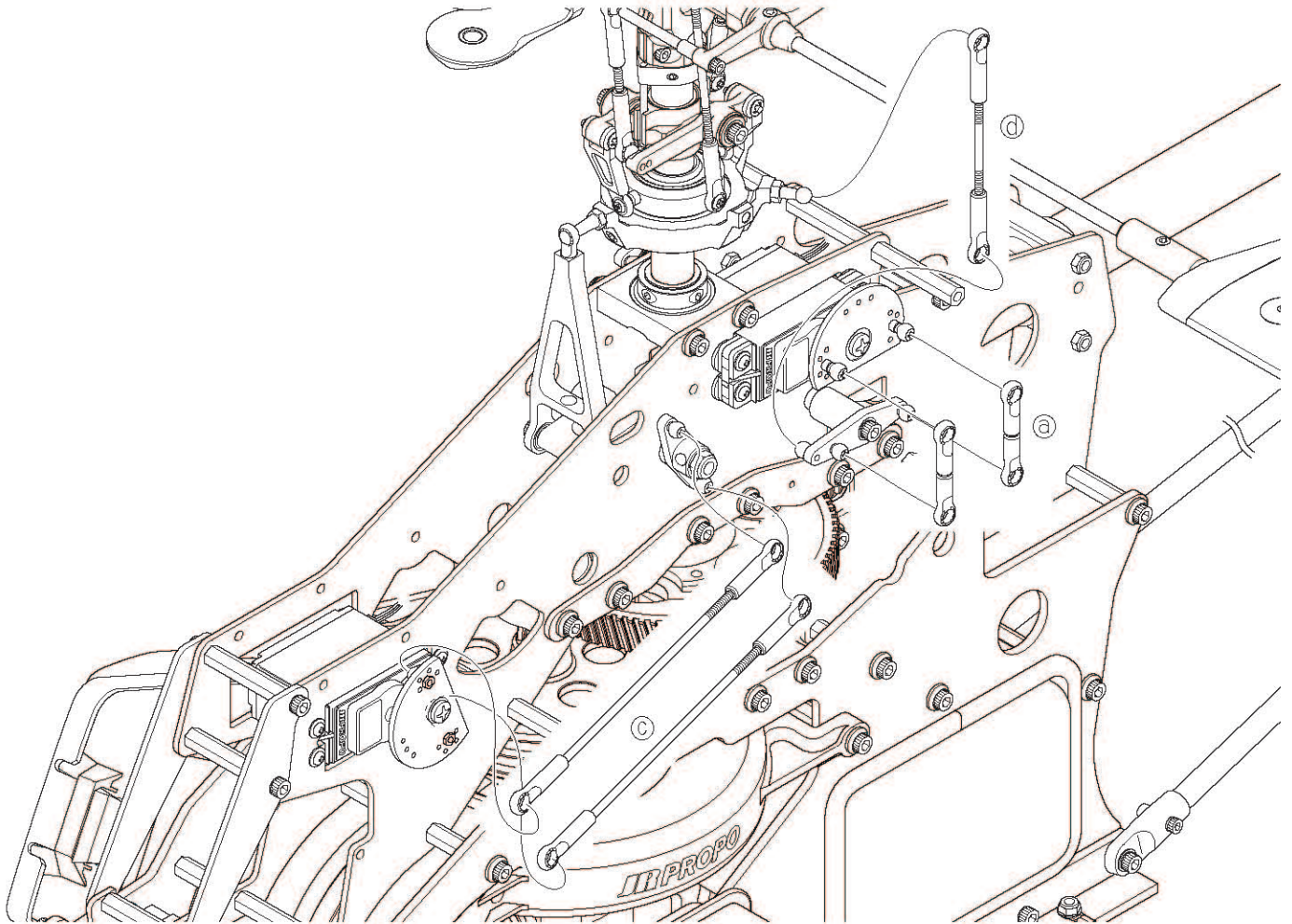
		.....x6
Joint Ball		
		.....x4
Joint Ball Spacer	t2.2	
		.....x2
Flat Head Screw, M2 x 8		
		.....x4
Flat Head Screw, M2 x 10		
		.....x6
Nut M2		



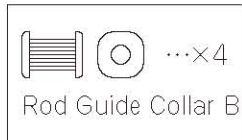
* Trim the Servo Horn as indicated.



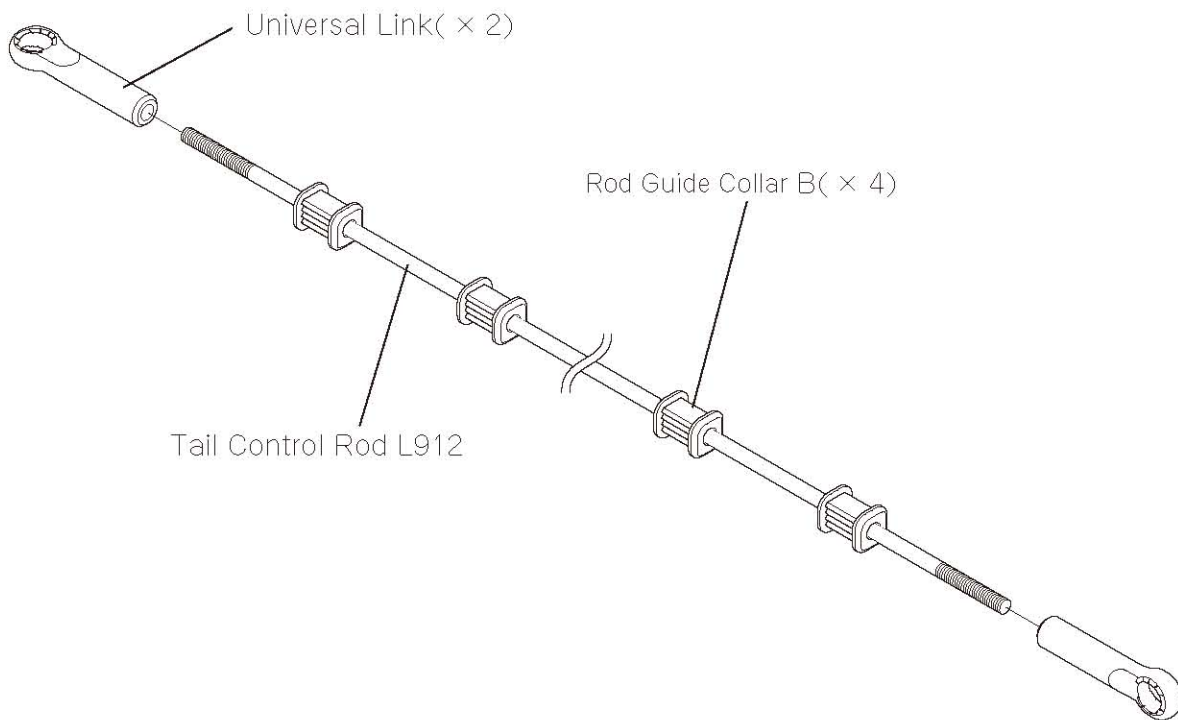
6-4 SWASH SERVO LINKAGE



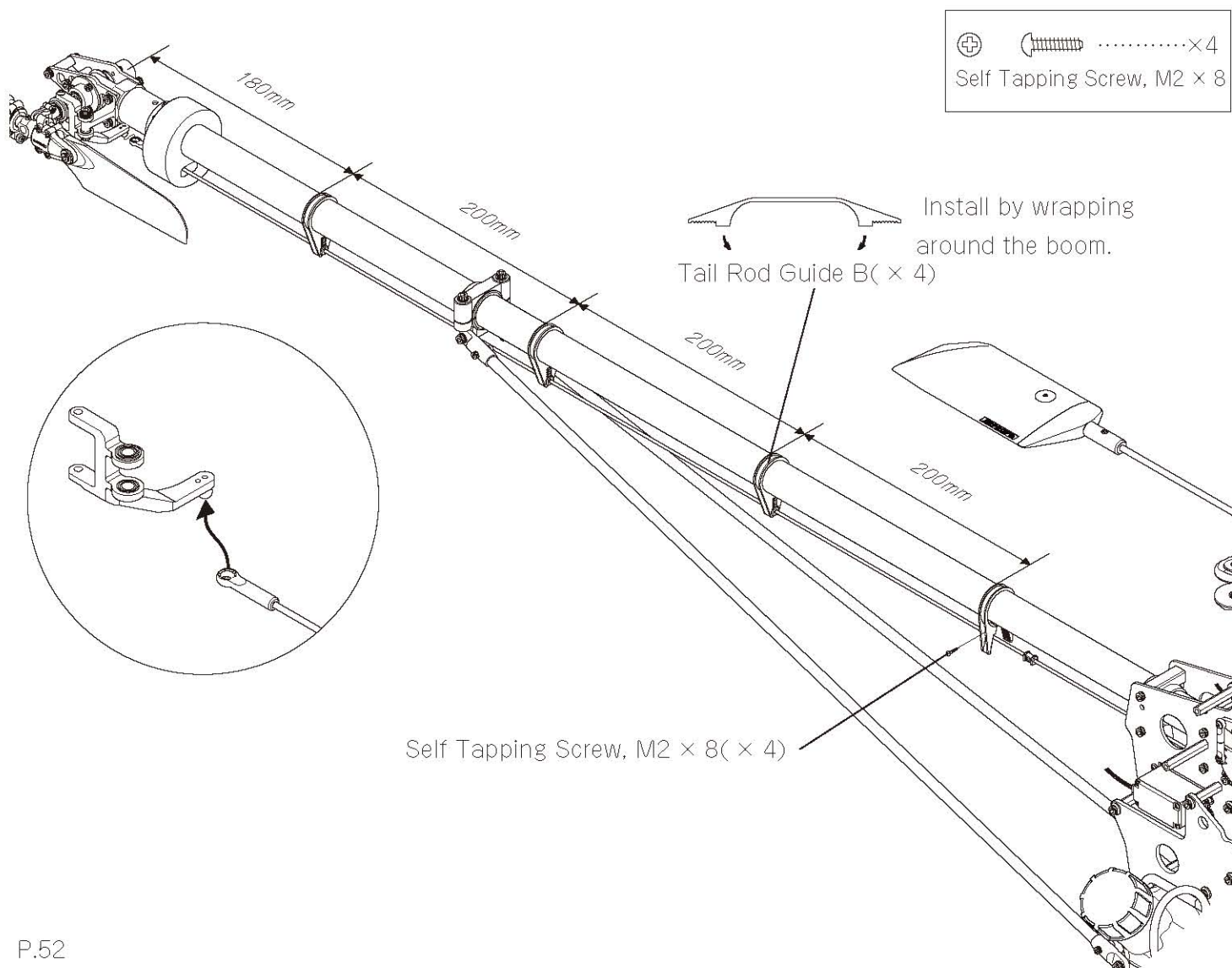
6-5 RUDDER SERVO LINKAGE







* Screw the Universal Link on about 9mm.

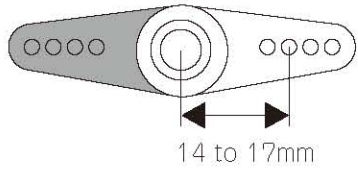


6-6 TAIL CONTROL ROD INSTALLATION

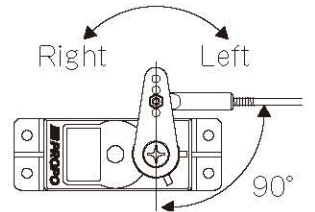
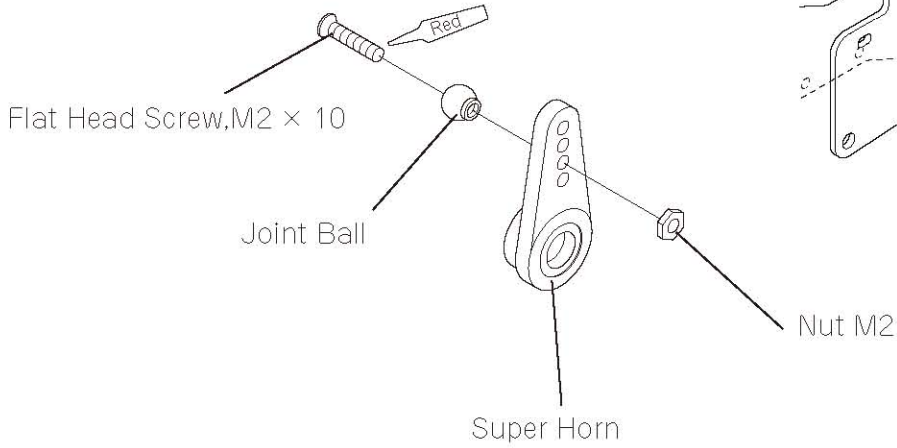
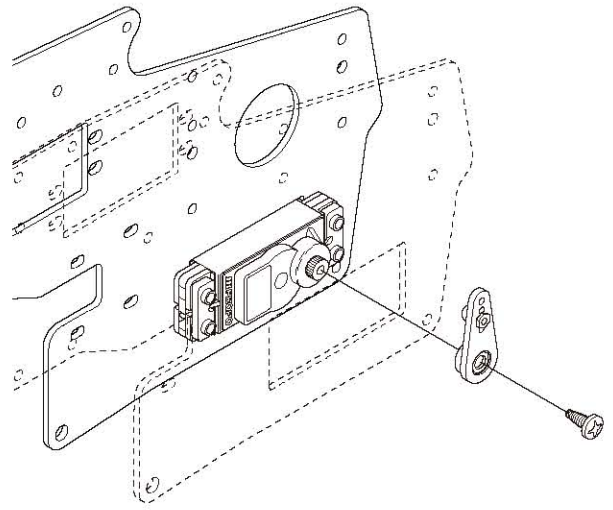


6-7 RUDDER SERVO LINKAGE




-  ×1
- ×1
- ×1

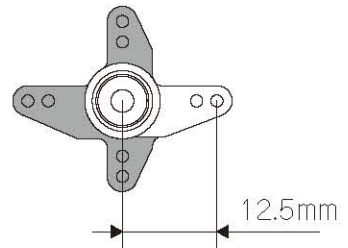
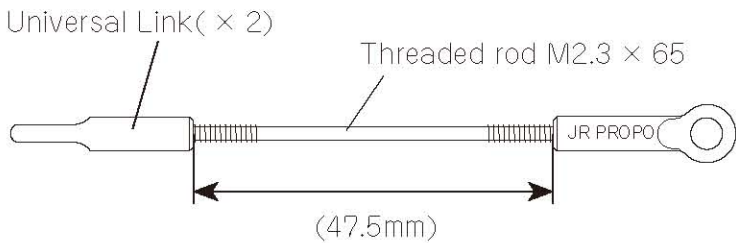


* Trim the Servo Horn as indicated.

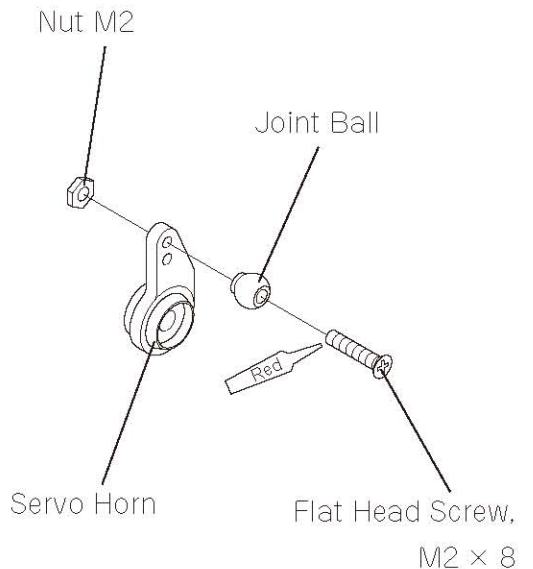
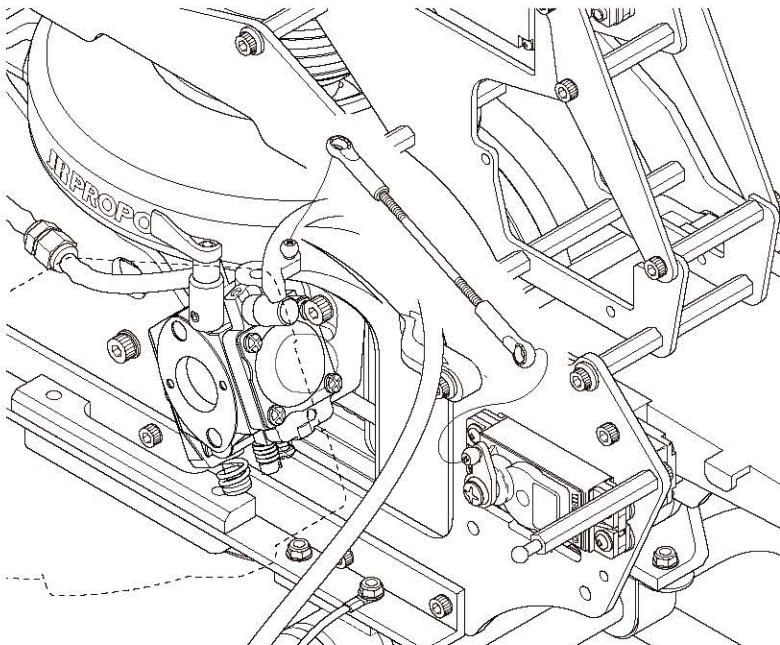


6-8 THROTTLE SERVO LINKAGE

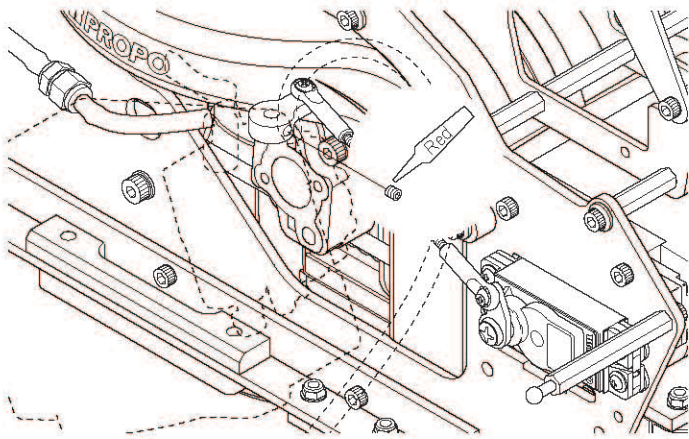
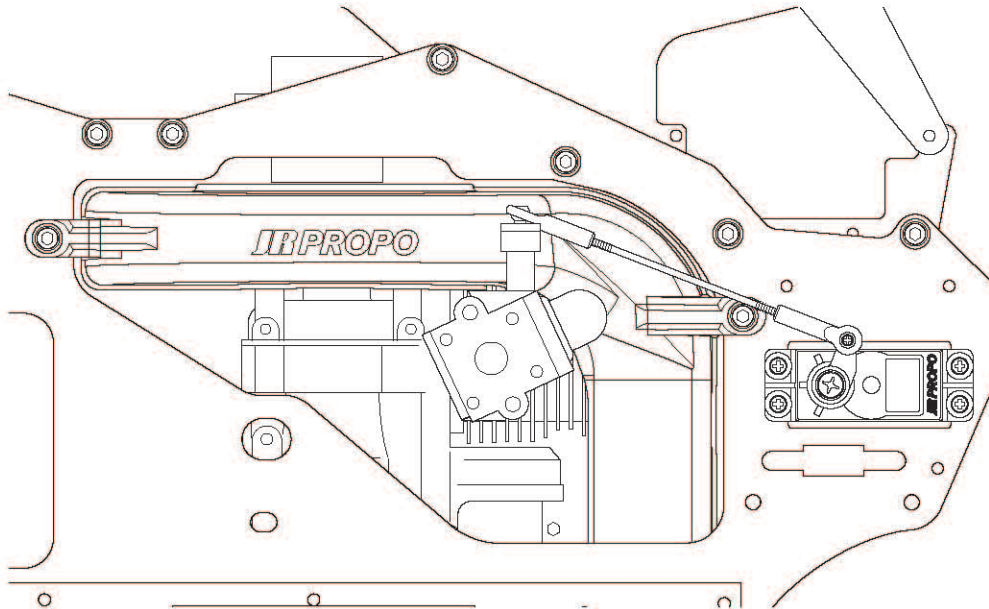
- ×1
- ×1
- ×1



* Trim the Servo Horn as indicated.



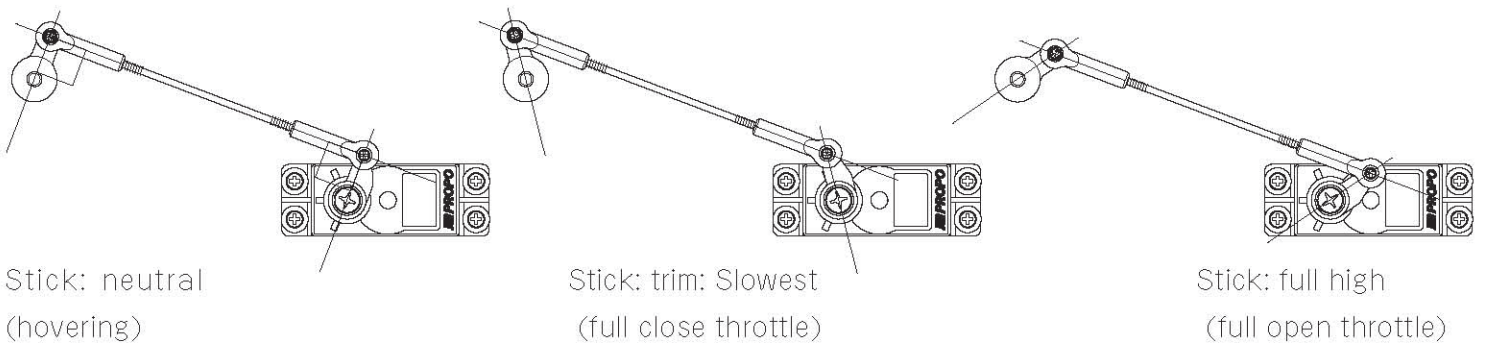
6-9 NEUTRAL ADJUSTMENT OF THROTTLE SERVO



WARNING

● Apply screw lock agent to the three M3 Setscrews temporarily fixed in step 3-13 and tighten them securely.

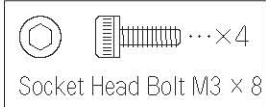
● The length of linkage rod should be same as that from the center of Throttle Lever to that of Servo Horn. In principle, the angle of Threaded Rod to the Servo Horn should be 90° .



*** In the above figure, the direction of throttle level is changed for easiness of your understanding.**

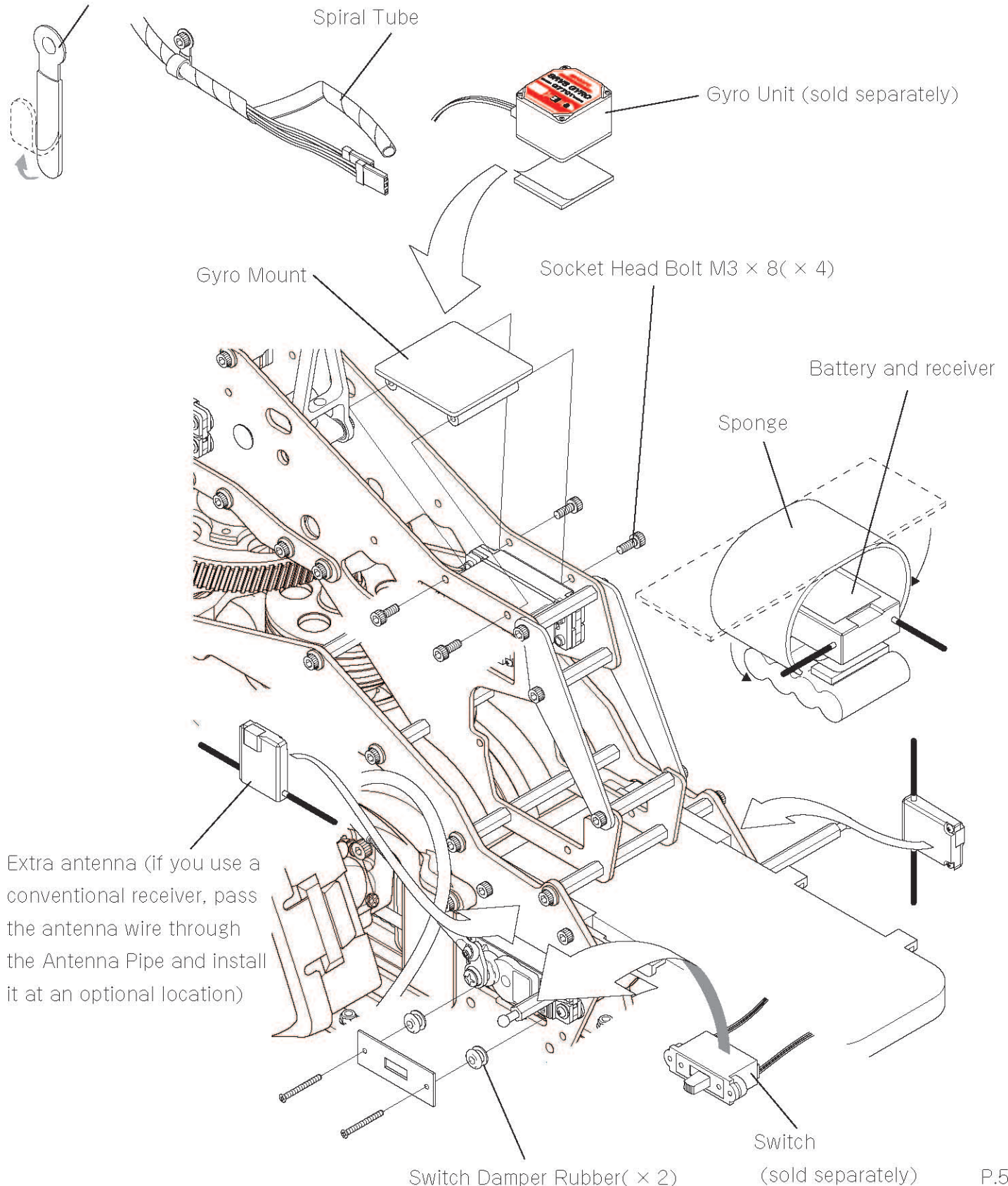
- Set the throttle trim to the slowest setting.
- With the Throttle Stick of the Transmitter in the middle (Throttle Servo is neutral - as shown above and left), adjust the mounting angle of Servo Horn and the length of the rod so that the angle of Servo Horn with the rod and that of the rod with Throttle Lever of Engine are 90° , respectively. Then make sure that the opening of the actual Carburetor is 50% under this condition (remove the rod on the Throttle Lever side and adjust the mounting angle of the Throttle Lever so that it rotates to High side and Slow side over the same angle from the above-mentioned reference angle respectively).
- Use the Travel Adjust function of the transmitter to adjust the steering angle of the Servo so as the carburettor fully opens and closes. Fix the Servo Horn securely with the screw which came with the Servo.

6-10 INSTALLATION OF GYRO MOUNT AND OTHER PARTS



- Protect the portion of cable from the servos and gyro in contact with frames, etc. by wrapping with Spiral Tube as shown below.
- When fixing the receiver and battery, wrap them with sponge first and fix them with Hook and Loop Strap, etc.
- When fixing devices with double-sided tape (eg the gyro), decrease the bonding surfaces.
- Fix the switch via the Switch Damper Rubber as shown below.
- Fold the Cable Holder in the middle and fix the wires at optional locations.

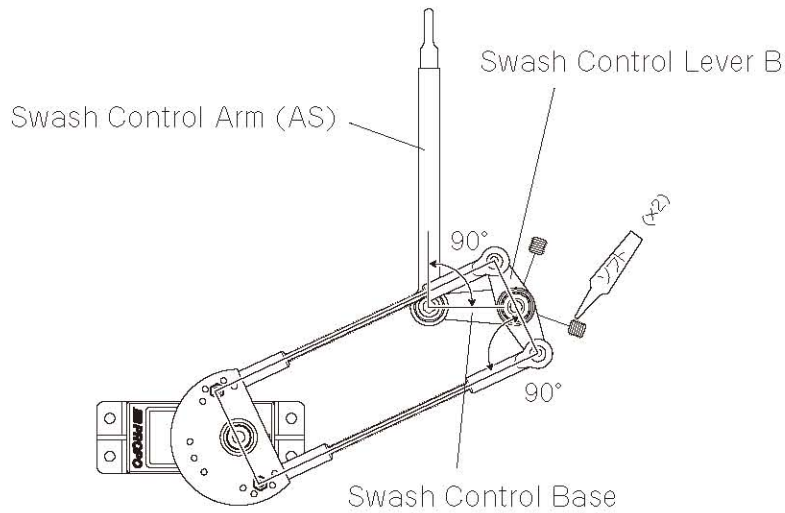
Cord Holder (x 4)



6-11 FIXING SWASH CONTROL LEVER

● Make sure that the rod for each linkage is correctly connected and turn on the Transmitter and receiver. Set all the stick positions for aileron, elevator, and pitch (throttle) to neutral. Under this condition, tighten the Nylon Lock Nut and Setscrew of Swash Control Lever B (previously temporarily fixed) securely. Further, adjust so that the angle of Swash Control Arm (AS) with the Swash Control Base is 90° as shown below.

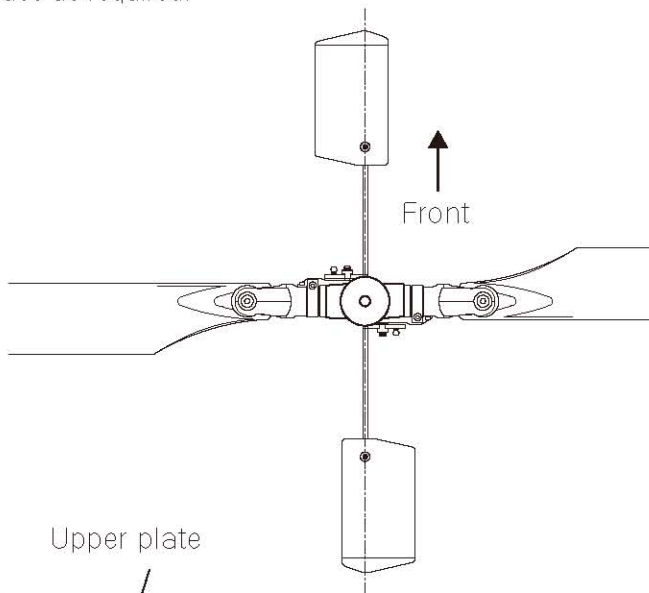
⚠ DANGER



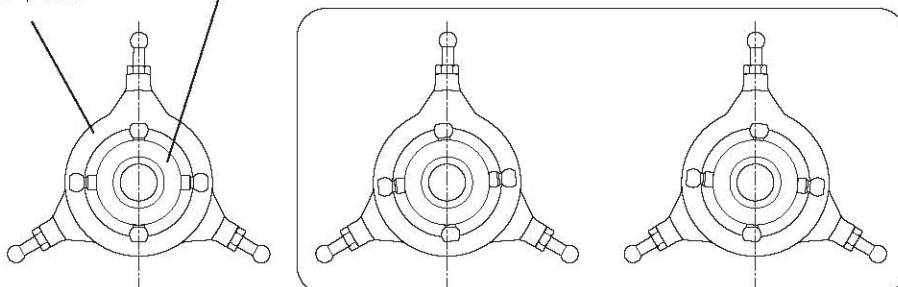
6-12 FIXING WASHOUT STOPPER

● Attaching the Washout Stopper (phase adjustment)

Phase adjustment is a very important and may directly affect operability. If this adjustment is not made properly, aileron and elevator will interfere with each other and adversely affect control of position when hovering or during flight. Make correct adjustments as described. At first, make the center line of the helicopter body and that of Flybar completely parallel. Under this condition, make sure that the angle of upper part of the swashplate matches the lower part as in the diagram. If the Joint Balls are in line, this is the reference position (no phase gap). At first, fly with this condition and then adjust the phase as required.

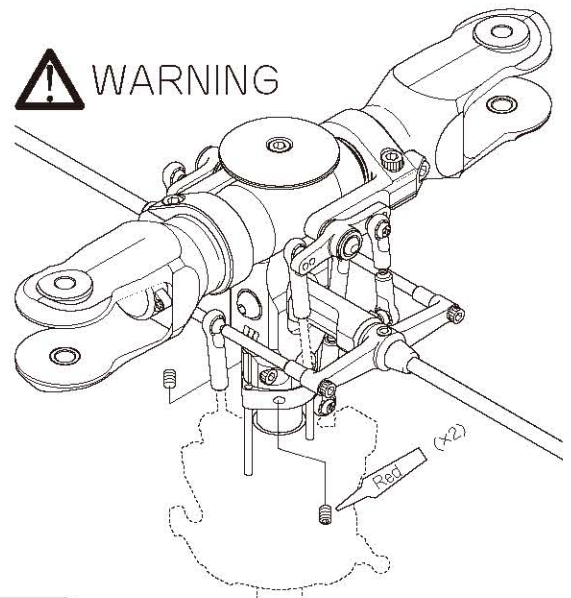


Upper plate
Lower plate



P.56 No phase gap

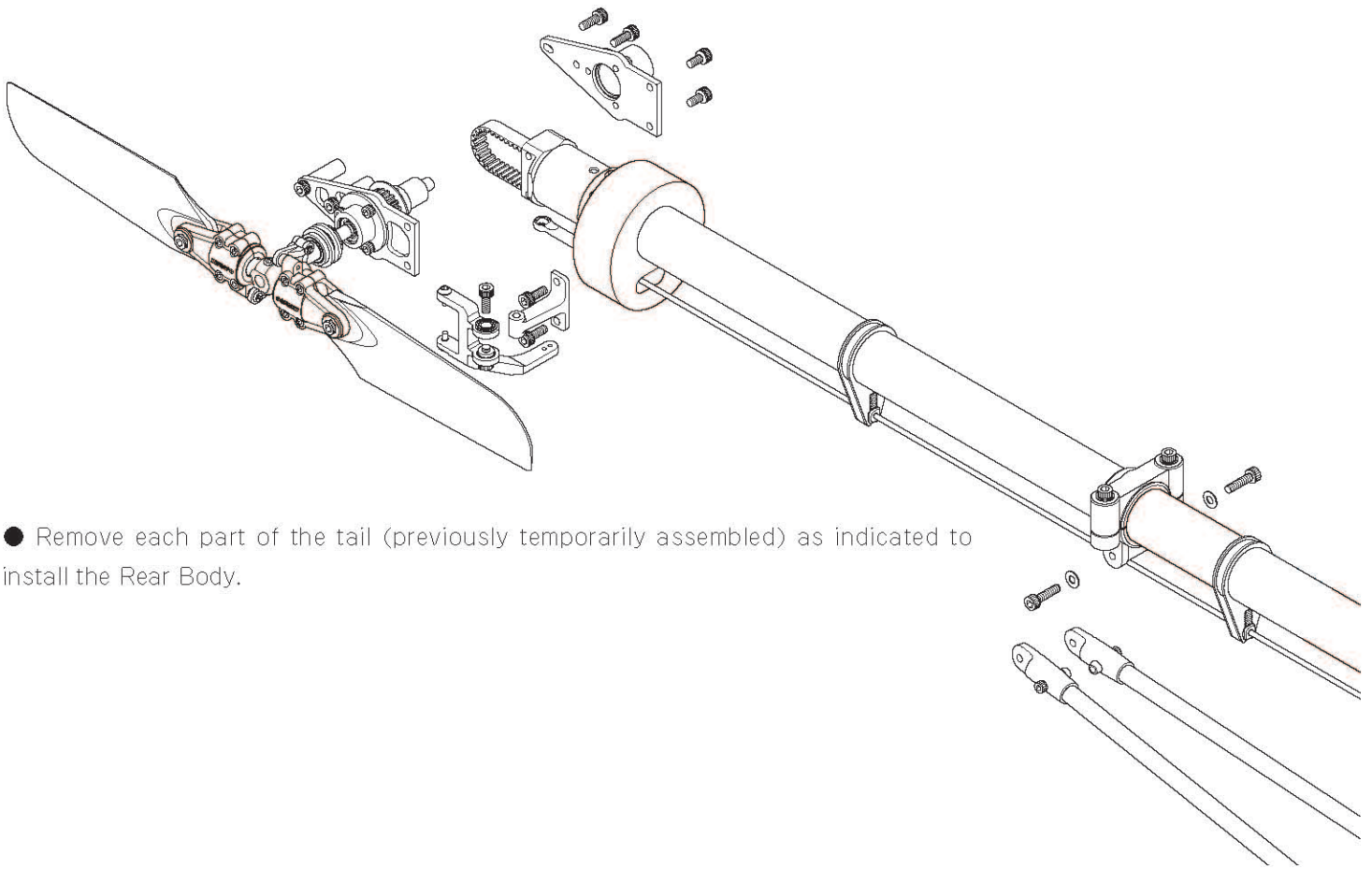
There is phase gap



⚠ WARNING

* After adjustment, tighten the Washout Stopper.







7-1 REAR BODY INSTALLATION 1

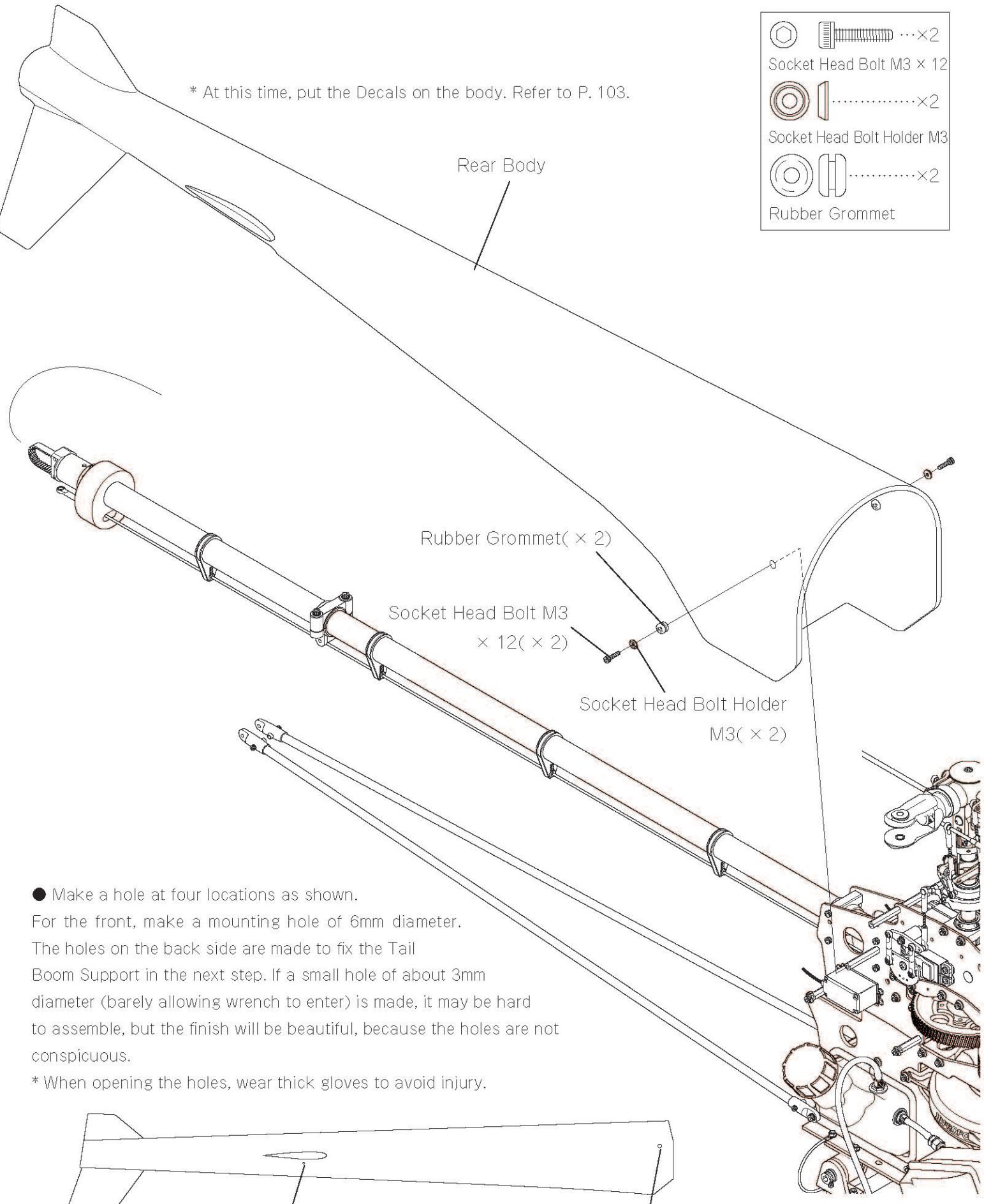


● Remove each part of the tail (previously temporarily assembled) as indicated to install the Rear Body.

7-2 REAR BODY INSTALLATION 2

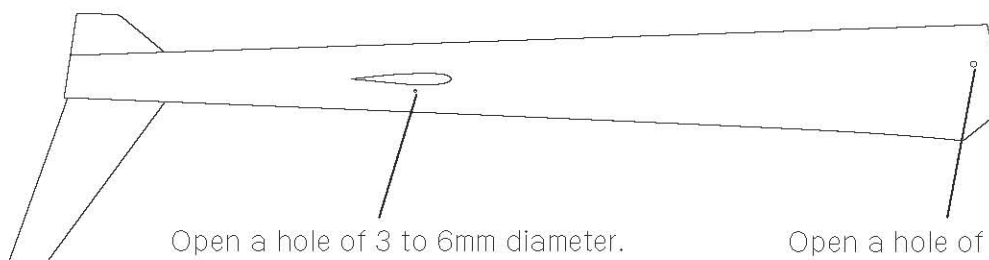
* At this time, put the Decals on the body. Refer to P. 103.

		...x2
Socket Head Bolt M3 x 12		
		.....x2
Socket Head Bolt Holder M3		
		.....x2
Rubber Grommet		

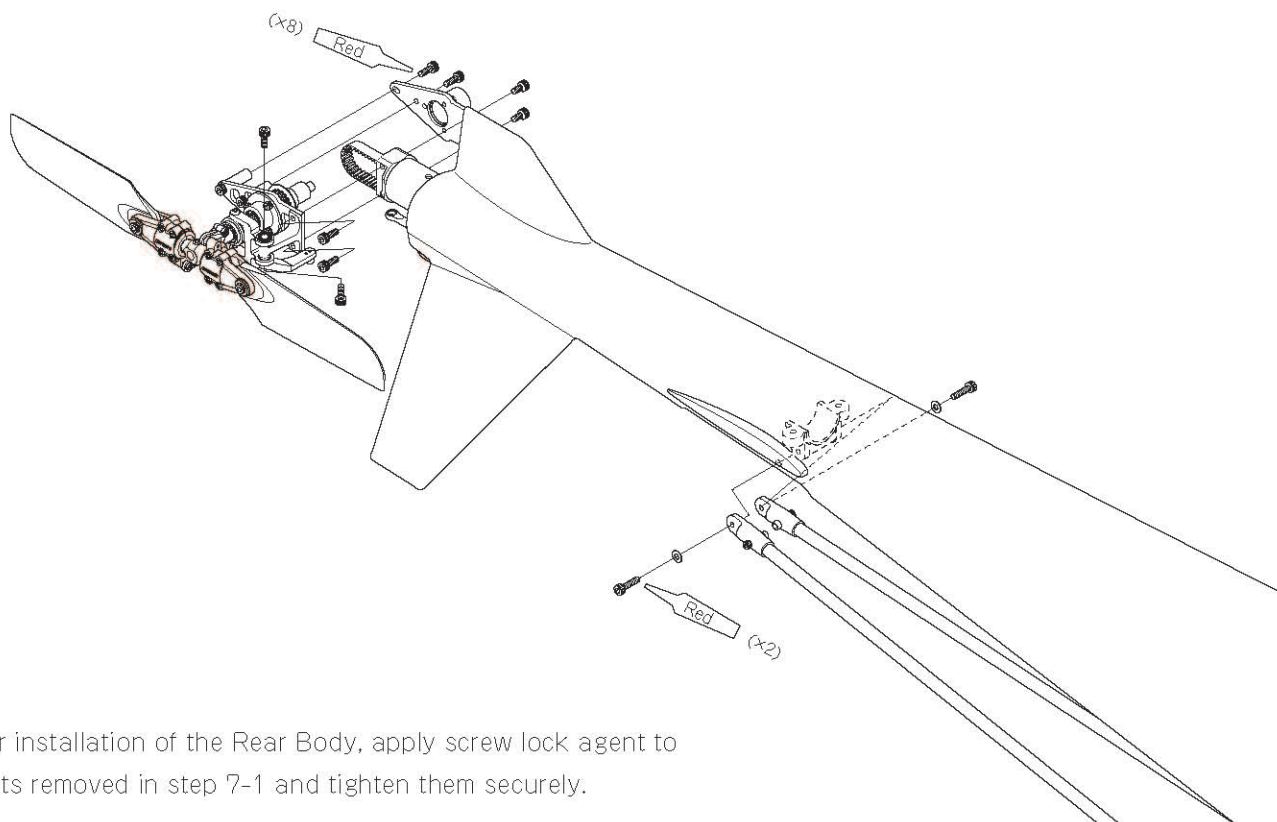


- Make a hole at four locations as shown.
For the front, make a mounting hole of 6mm diameter.
The holes on the back side are made to fix the Tail Boom Support in the next step. If a small hole of about 3mm diameter (barely allowing wrench to enter) is made, it may be hard to assemble, but the finish will be beautiful, because the holes are not conspicuous.

* When opening the holes, wear thick gloves to avoid injury.

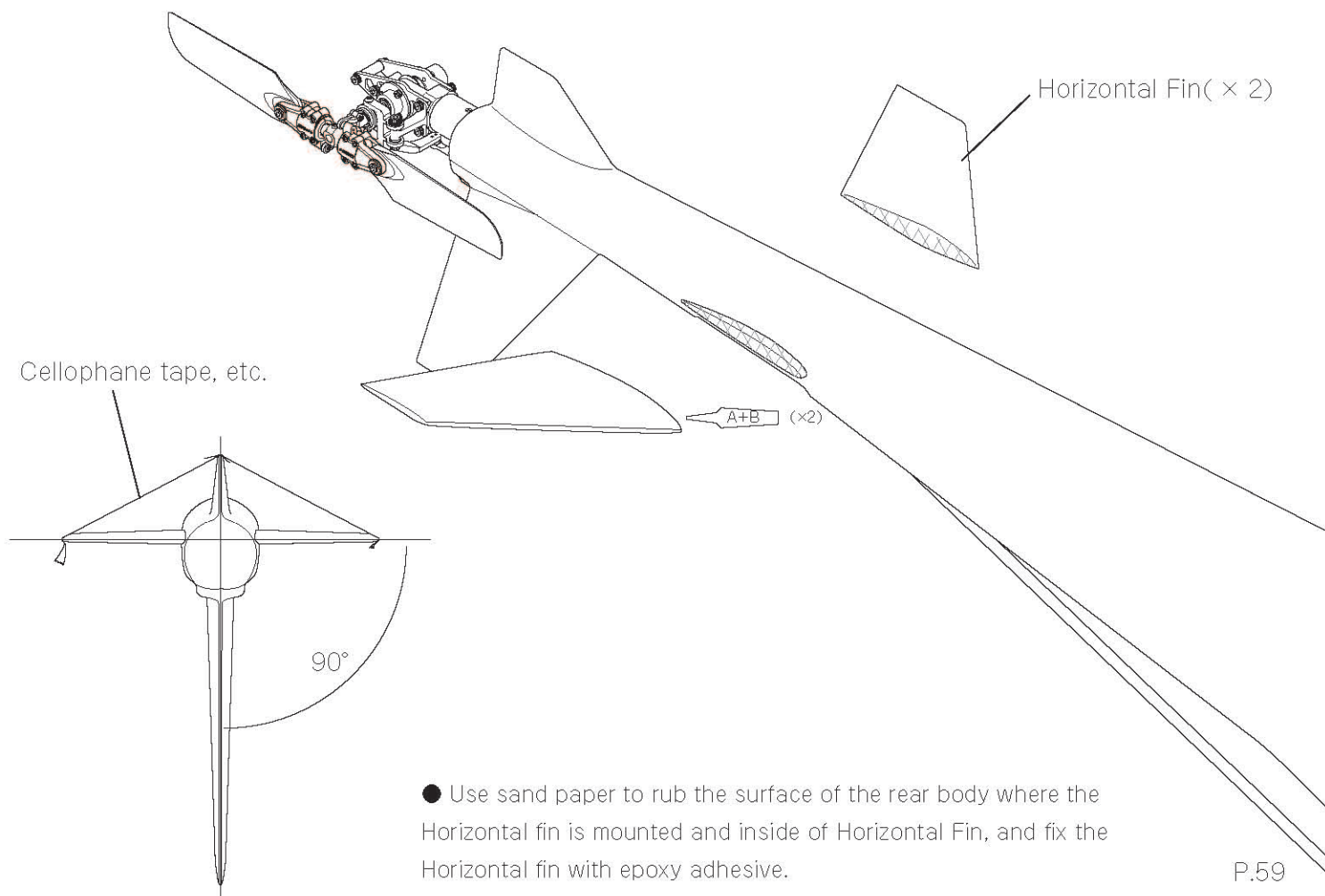


7-3 REAR BODY INSTALLATION 3



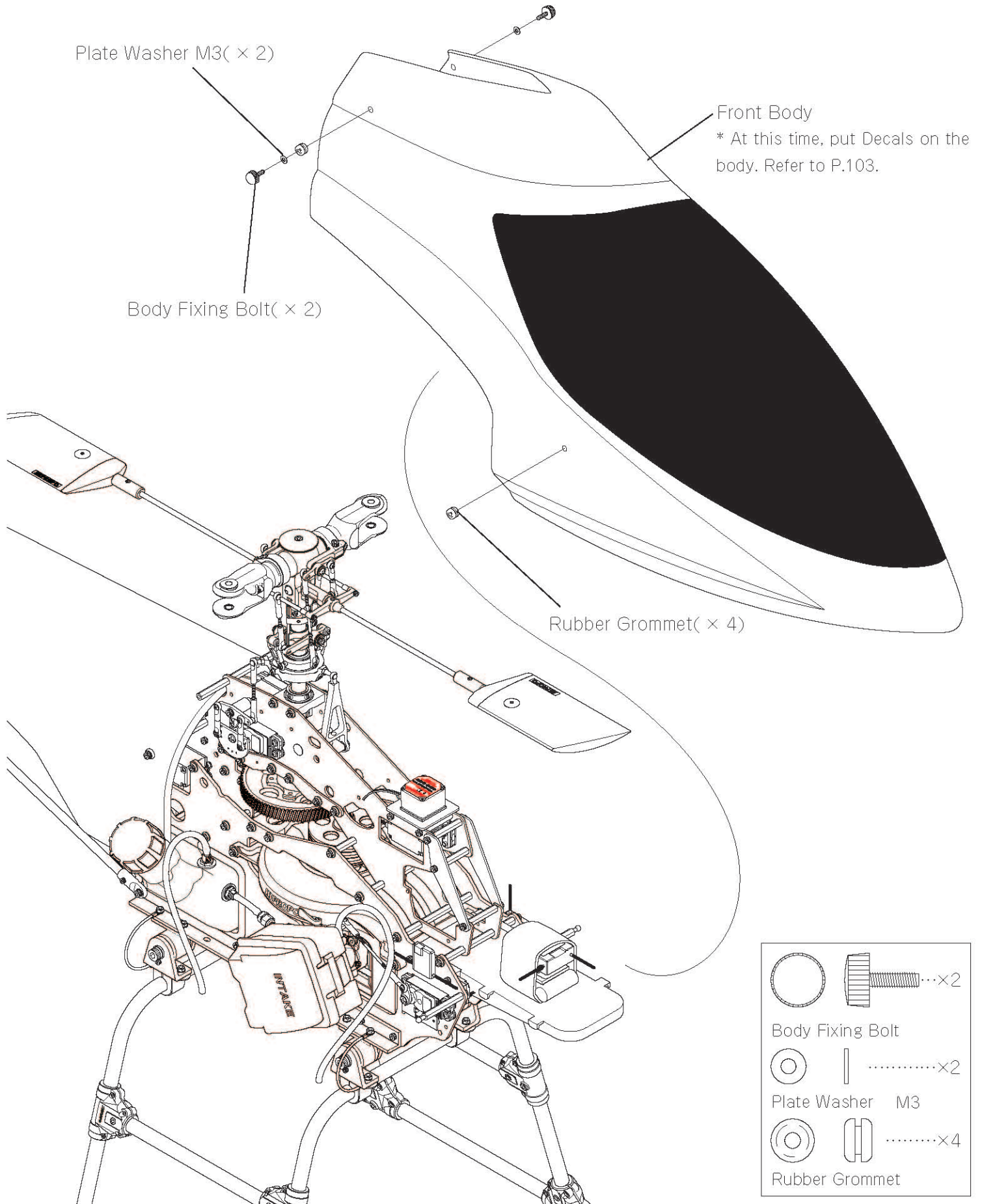
- After installation of the Rear Body, apply screw lock agent to the parts removed in step 7-1 and tighten them securely.

7-4 INSTALLATION OF HORIZONTAL FIN



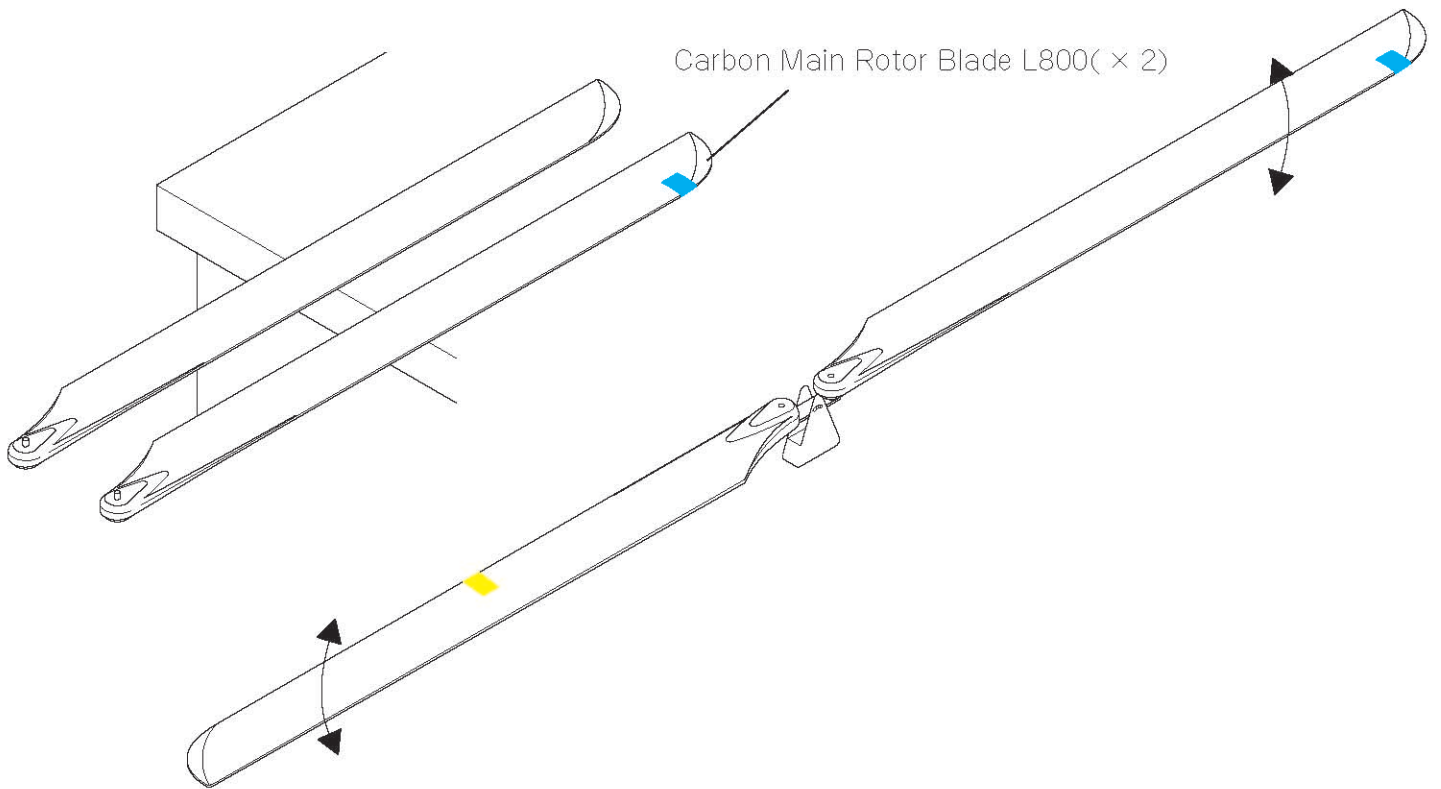
- Use sand paper to rub the surface of the rear body where the Horizontal fin is mounted and inside of Horizontal Fin, and fix the Horizontal fin with epoxy adhesive.

7-5 FRONT BODY INSTALLATION



- Make a hole of 6 mm diameter at four locations as shown.
 - If a conventional receiver is used, open up a hole of 4mm diameter at an optional location at the bottom of the front body, to allow installation of a Damper Rubber, and for routing of the Antenna Wire.
- * When opening the holes, wear thick gloves to avoid injury.

7-6 ADJUSTMENT OF BALANCE OF MAIN ROTOR BLADES



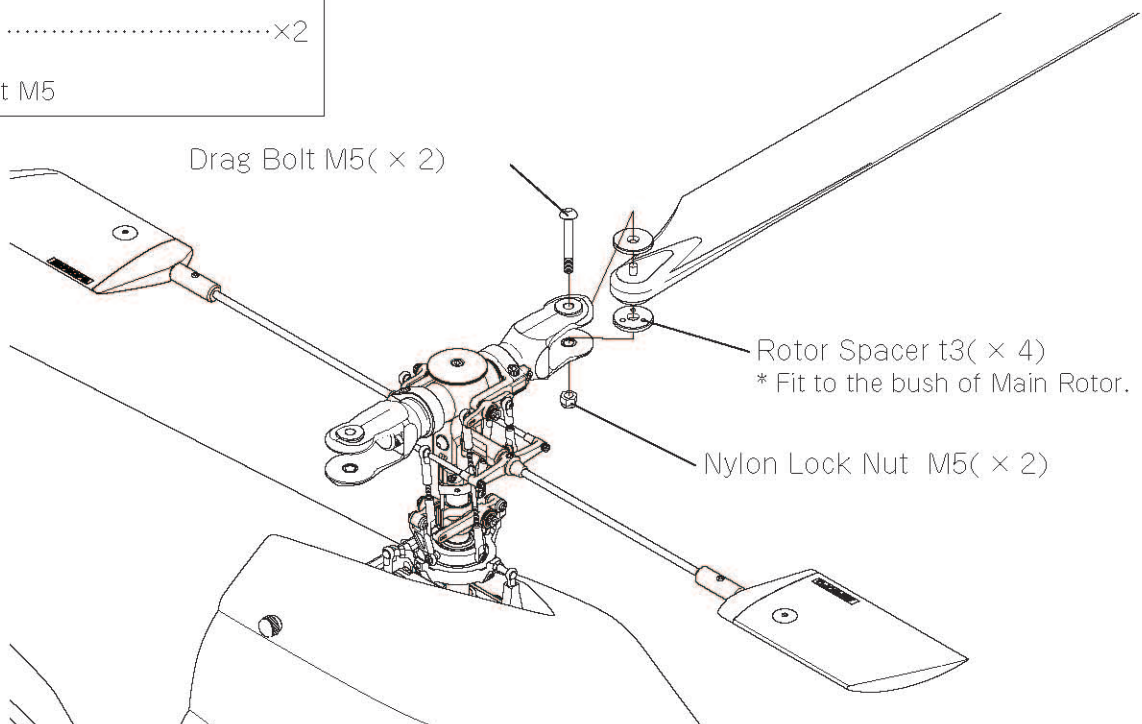
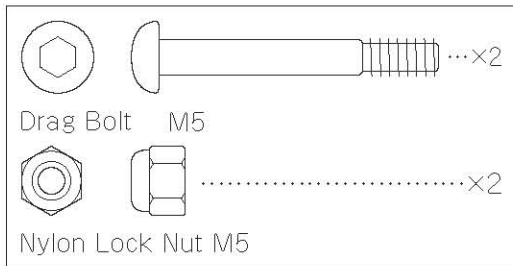
● Longitudinal balance

Place the Rotor Blades on a desk edge or a mast-like object. Mark the center of gravity position of each Rotor Blade itself. Wrap tape at the tip of one blade so the center of gravity position of the two blades is within 5mm.

● Static balance

After adjusting the longitudinal balance, adjust the balance of the two rotors together (static balance). Wrap tape around the center of gravity (position of longitudinal balance) of the lighter blade until the blades hang level.

7-7 MAIN ROTOR BLADE INSTALLATION



OVERALL BASIC ADJUSTMENT AFTER ASSEMBLY

* The following information is very important and has a great effect on flight performance. Read it thoroughly and fully understand the contents.

The Helicopter does not function correctly without basic settings in the transmitter and of the helicopter mechanics. Before test flying it is very important to establish this basic setup. Optimum settings for the helicopter are up to you, and determined by personal preference. Note that the information given here is not final and the best setting for your transmitter and helicopter can only be determined after test flights.

1、【Initial Settings for the Radio System】

Using the "Radio System Settings Instruction Manual for JR CCPM" separately provided and the Instruction Manual for the radio system, apply the initial settings required to the transmitter.

2、【Receiver Wiring】

See the wiring diagram in the "Radio System Settings Instruction Manual for JR CCPM" and the Instruction Manual for the gyro to connect the battery, each servo, and gyro.

Each of the three servos to be linked to the Swashplate (JR CCPM) are not called "aileron, elevator, pitch servo" like previously. In this paragraph, they are called "Swash Servo F (Front)", "Swash Servo R (Right)" and "Swash Servo L (Left)" respectively.

The "Rudder (Tail) Servo" and "Throttle Servo" are referred to as usual. Check the connections for each servo carefully.

If they are not correctly connected, subsequent adjustments cannot be correctly made. Basic connections are the same for both JR-made and FUTABA-made servos, but the channel arrangement on the receiver differs.

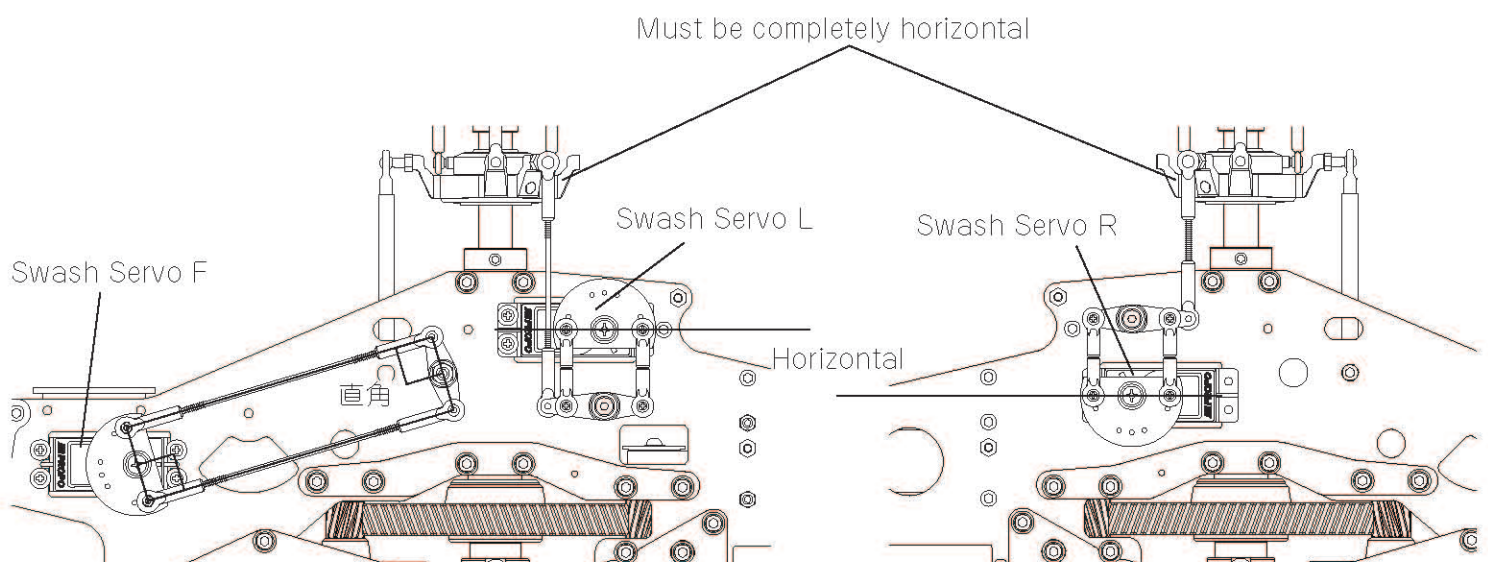
3、【Servo Neutral Adjustment - 1】

Turn on the transmitter and the receiver (switch on the helicopter) and ensure that all the servos function properly. Next, we will adjust the neutral positions of the Swash Servos F, R and L. Confirm the transmitter's aileron and elevator trims are in the neutral position. If your transmitter has hovering pitch and pitch trim levers set them to neutral (center) also.

Enter the pitch curve function of the transmitter and find the neutral position of the pitch (throttle) stick by seeing an input value in the middle of the travel (the spot indicating the output value "50" is the neutral position). The servo position at this time serves as a reference. Next check whether

or not the Swash Servos F, R and L are at the reference positions shown in the figure below. For the Throttle Servo and Rudder Servo, check whether or not they are positioned as indicated in each assembly process.

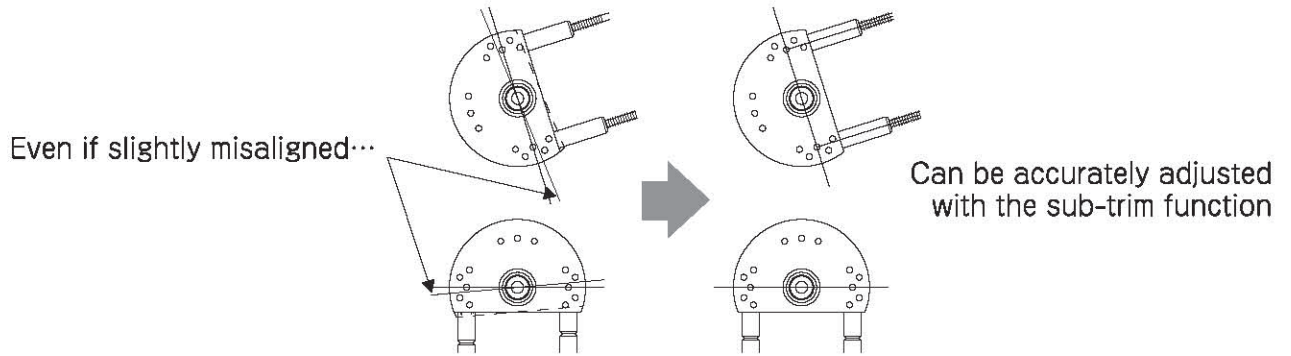
If any of the Servo Horns is not appropriately aligned, remove and re-attach the Servo Horns so that they will be aligned as close as is possible with their reference positions.



P.62 * Check that each servo horn is aligned with its reference position as shown in the above figure.

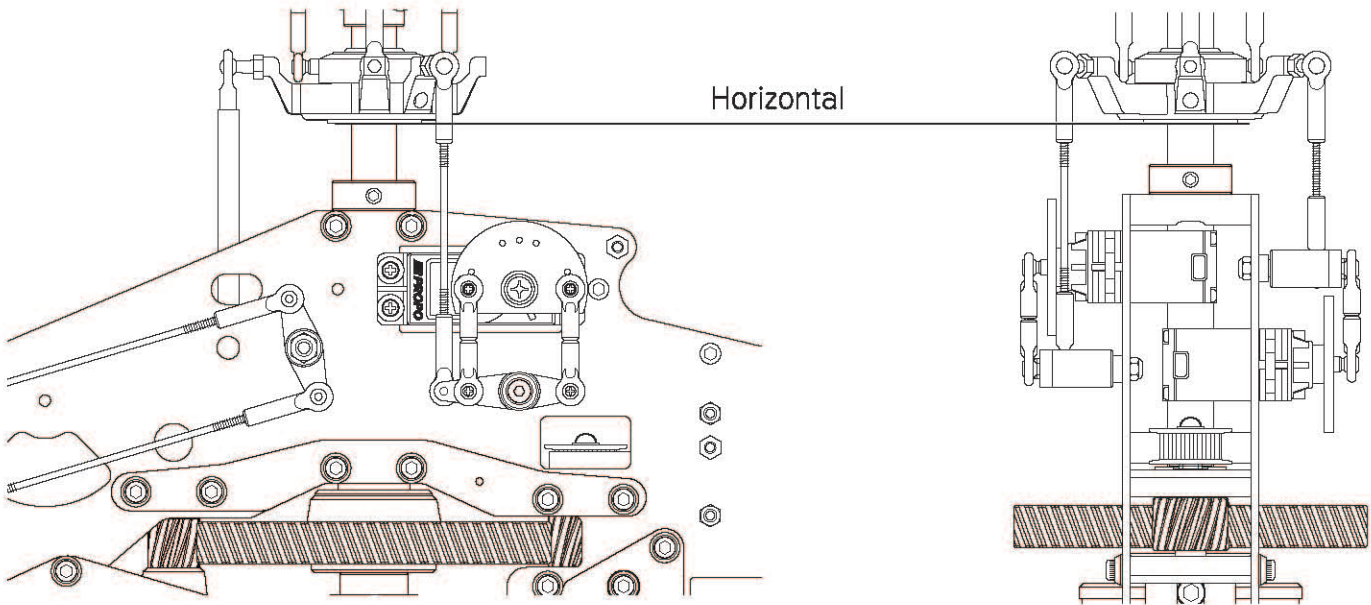
4. 【Servo Neutral Adjustment - 2】

Next use the sub-trim function to adjust any slight misalignment between the neutral position of the transmitter and that of each servo (this function provides adjustment for individual servos). Do not confuse this with the mechanical trim function adjustment knobs on outside of the transmitter. Use the sub-trim function of the transmitter only for fine angle deviation, which cannot be adjusted by replacing the Servo Horns.



5. 【Swashplate Reference Position Check】

Check the Swashplate sits horizontal (flat). If the reference positions of the Servo Horns attached to the Swash Servos F, Rand L are correct, the Swashplate should be properly held horizontally at the specified length of each rod (look at the helicopter from the front and rear, and the right and left to see whether or not the Swashplate is perfectly horizontal). If the Swashplate is not horizontal despite the recommended rod lengths, please go back and confirm the reference positions of the servos are correct. If the Swashplate is slightly tilted after confirming correct servo reference positions, the rod lengths should be adjusted to accurately level the Swashplate. This adjustment should be limited to a couple of turns at most. Ideally the rod lengths should be equal to the specified length.



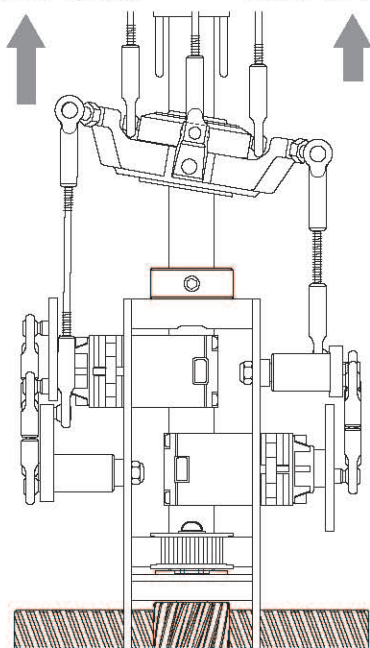
Note that the sub-trim function is used only when adjusting the Servo Horn reference positions. Do not use this function to correct a tilted Swashplate.

*Check the Swashplate is horizontal when each Servo Horn is aligned with their reference positions as shown in the above figure (some parts are omitted in the illustration for your easy understanding).

6-③ 【Swashplate Vertical Movement Check: Aileron tilt at High Pitch】

Once you have confirmed that the Swashplate is horizontal when the aileron, elevator and pitch (throttle) sticks of the transmitter are in the neutral position, shift the pitch (throttle) stick to the high pitch side. The Swashplate should move up, and remain horizontal (when this is done, if the Swashplate is greatly tilted or moves down, repeat the steps again from "1. Initial Setting of the Transmitter"). At this time, look at the helicopter from the front and rear, and the right and left to check whether or not the Swashplate still remains horizontal, as before. It should be horizontal in most cases. If it is tilting even a small amount, it needs adjustment. If there is some tilt this is caused by a slight variation of the maximum movement of each Swash Servo. At first, look at the Swashplate from the rear of the helicopter to check for any tilt in the aileron axis. Suppose it is tilted to the right. As the Swashplate was horizontal when it was at the reference position (intermediate pitch), the Swash Servo L worked more than the Swash Servo R to raise the left side of the Swashplate further, thus tilting it to the right. Given this perspective, it is evident that the tilted Swashplate must not be corrected with the sub-trim function. In this case, it is necessary to use the travel adjust function to align the maximum angle of the Swash Servos R and L. This involves changing the travel adjust values for the aileron channel and the pitch (Aux 1) channel. If the Swashplate is tilted to the right, increase the value for the pitch (Aux 1) channel or decrease that for the aileron channel until the Swashplate becomes horizontal. You only need to adjust one of these servos. If the Swashplate was tilted to the left, the direction on these changes should be reversed.

Large stroke Small stroke



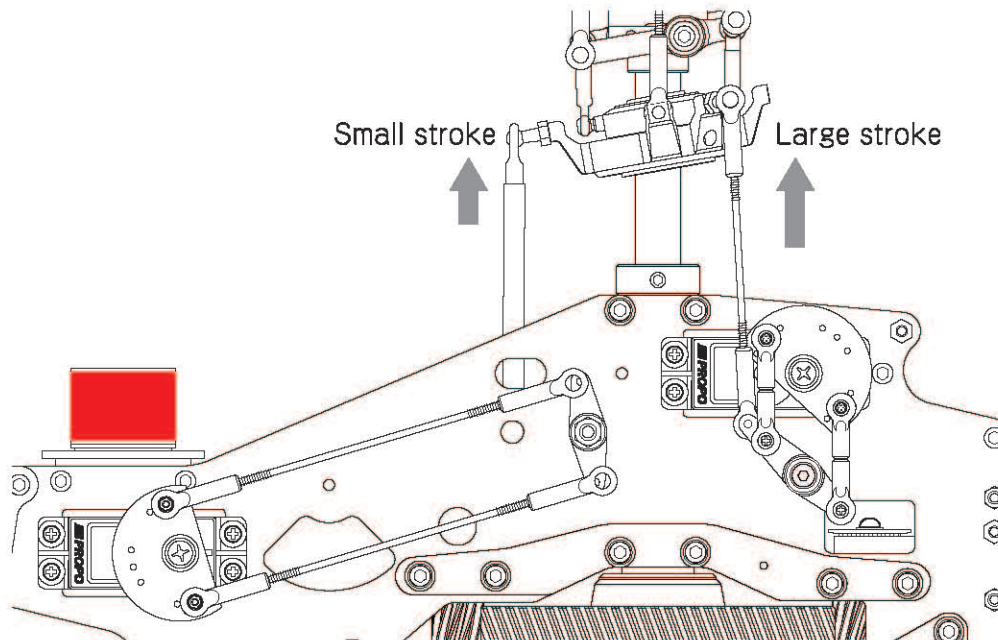
Adjustment Method

- Display the travel adjust setting screen on the transmitter. Adjust the travel adjust values for the Aileron and Pitch servos to equalize the stroke of the Swash Servos (to keep the Swashplate horizontal) when the throttle stick is shifted to the high side. Be sure the pitch (throttle) stick is set at the high position during this adjustment.

6- ⑥ 【Swashplate Vertical Movement Check: Elevator tilt at High Pitch】

Once you have corrected the crosswise (left-right) tilt of the Swashplate, look at the helicopter side-on to check the elevator axis (front and rear) for any tilt. If the moving the Swashplate up resulted in down elevator (forward) tilt, that means the Swash Servos R and L worked more than the Swash Servo F to raise the rear side of the Swashplate to far. In this case, you only need to correct one servo. Increase the operating angle of Swash Servo F. Do this by increasing the travel adjust value for the elevator channel until the Swashplate becomes horizontal. If the Swashplate was tilted toward the rear (up elevator), the adjustment will be in the opposite direction.

- When correcting Swashplate tilt, be sure to begin adjustment with the aileron. This is because if the elevator is adjusted first, its reference may be disturbed by subsequent adjustment of the aileron.
- The following figure shows the case when the elevator is tilting forward. In this case, increase the travel adjust values for the Swash Servo F. The travel adjust function for the elevator requires only one servo being adjusted and there is no concern about disturbing adjustment of the aileron.



6- ⑦ 【Swashplate Vertical Movement Check: Aileron and Elevator tilt at Low Pitch】

After finishing the two adjustments above, you have obtained the "Swashplate remaining horizontal at high pitch".

Now, adjust it so as it is horizontal at low pitch.

- The travel adjust function allows for separate adjustment of the Swashplate with both the pitch stick at the high and low positions. To make this adjustment at high pitch, shift the pitch (throttle) stick up. To adjust at low pitch, shift the stick down. Shift the pitch (throttle) stick to the low pitch side. The Swashplate should move down. Check its tilt in the same manner as above. If tilted even a small amount, correct this with the travel adjust function. Aligning the movement of the servos in this way, the Swashplate will be able to move up and down, maintaining a perfect horizontal position.

7. 【Throttle · Rudder Servo Setting】

When setting up the “throttle” and “rudder” , use the normal functions of transmitter. A brief description of the functions of the transmitter are described below, but please also refer to the Instruction Manual which accompanies your transmitter.

① Reverse switch (reversing the direction of each servo): It must be confirmed that each channel works in the correct direction. For the cyclic channels (aileron, elevator, pitch) this is done in conjunction with the JR CCPM setting. If the throttle or rudder functions move in an incorrect direction, use the reverse switch in this function to correct the movement.

② Travel adjust (left and right servo motion adjustment): This function is used to increase or decrease the maximum servo movement obtained with up & down (or left & right) motion of each corresponding transmitter stick.

These settings have been described previously but can be checked again now. For “rudder” , the setting varies with the servo and gyro used. In general,

the maximum movement of the servo is actually adjusted by the gyro (please refer to the gyro Instruction Manual) - adjust maximum movement of the servo according to operating stroke of Tail Pitch Slider. The transmitter "rudder" travel adjust setting is typically used to set the maximum pirouette rate of the helicopter. Again, please refer to your gyro Instruction Manual for recommended initial settings.

For “throttle” , you need to adjust the maximum movement of the servo to the stroke of carburetor. With the throttle stick at the slowest position (throttle closed) and the trim pulled all the way back, adjust the travel adjust function so that the carburetor completely closes.

Now move the throttle stick to the fully open position, and adjust the travel adjust function so as the carburetor completely opens. If the maximum movement of the servo is too great the servo will attempt to run beyond the fully open or fully close position resulting stress to the servo and other components. Use the Travel Adjust function to prevent this. Although the Travel Adjust function allows you to adjust left and right (or up and down) separately (with neutral as the center), the adjustment should be set so as the values are approximately equal in both directions. If you set Travel Adjust for one side to 150 and for the other to 50 (this is an extreme example), the servo travel becomes non-linear and it adversely affects the response of the helicopter.

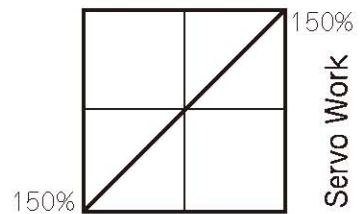
It is very important to keep the values of the Travel Adjust approximately equal for each channel - however a difference of about 10% is acceptable.

③ Sub-trim (internal transmitter trim adjustment): In principle, the angle of the control rod for the linkage to Servo Horn arm should be 90 degrees as shown below. If you cannot install the control horn to provide exactly this angle use sub-trim to make fine adjustment to achieve 90 degrees.

*It is important to keep the input value to sub-trim as minimum as possible.

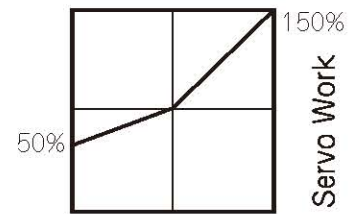
*Often transmitter sub-trim should not be used on the "rudder" channel - please refer to the Instruction Manual for your gyro.

Equal travel adjust values for left and right

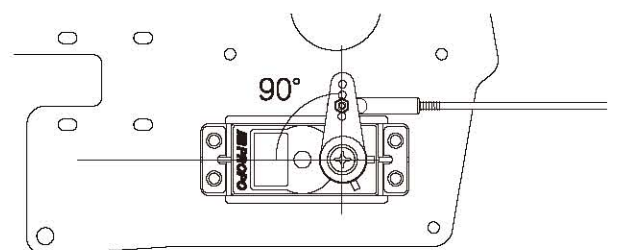


Linear motion is achieved

Different travel adjust values for left and right



Differential motion



Now the basic transmitter settings for the helicopter are almost complete.

The following describes the setting and adjustment of the transmitter in preparation for flying the helicopter. These functions control the movement of the Swashplate and directly relate to response in flight. The setting of the pitch curve is done at this time, too.

1、【Dual Rate (Control Responsiveness Setting)】

Two different control sensitivities may be set for aileron, elevator and rudder which can be changed with a switch during flight. The basic setting is as follows (the switch position is indicated with a "0" or "1"). Set the dual rate percentages as follows. "Position 0" is for a payload of 0kg, and "Position 1" is for a payload of 4 to 5kg.

Setting Example

Function / Switch Position	0	1
Aileron	60~80%	80%
Elevator	60~80%	80%
Rudder	60~80%	80%

2、【Exponential (Control Sensitivity at Center Stick Position)】

This setting allows you to change the control feel near the stick center to either a soft or quick (sensitive) feel.

This is not initially used for the aileron or the elevator but can be added after test flying. When using a gyro with high rudder performance, hunting is reduced and controllability is improved by inputting exponential of about +40% to +60% for the rudder. For details, see the Instruction Manual for your gyro.

3、【Sub-trim (Transmitter Internal Trim Function)】

This function has been used for the aileron, elevator and pitch in adjustment of the JR CCPM. Never use this function again for those three servos (otherwise, you will have to readjust the JR CCPM). For the throttle, this is available for adjustment of servo neutral position (however, it is preferred to adjust the neutral position with the Servo Horn). The correct use of Rudder sub-trim depends on the gyro used - please refer to your gyro Instruction Manual.

4、【Throttle Hold (Transmitter Throttle Hold Function)】

In the case of an autorotation landing, this function stops the engine (or holds it at an idling position) and allows you to control pitch operation independently. If the engine is set to hold at an idle position, this allows continuous repetitive practice and can also be cancelled halfway through an autorotation. The throttle hold switch of the transmitter is enabled by activating this function. Set the function to the stop position of the engine (or optimum idle position of the engine).

5、【Revolution Mixing (Transmitter Tail Rotor Mixing Function)】

The reaction torque produced by rotation of the Main Rotor is changed when the pitch on the Main Rotor Blades is altered.

In line with that change, this function changes the pitch of the Tail Rotor. This can be set for each flight mode. This value needs to be changed according to the gyro used, setting or a flight style. For details, see the Instruction Manual for your gyro. Note that for most modern gyros this functions should not be used.

Note: This helicopter has a right hand rotation rotor head helicopter. When inputting values here, pay heed to this.

6. 【Gyro Sensitivity Setting (gyro sensitivity adjustment, sensitivity switching function)】

The gyro system functions to eliminate reaction torque caused by the Main Rotor by altering the position of the rudder servo (tail rotor command). Most modern gyros have a remote gain control capable of being adjusted and changed from the transmitter. For wiring and operation, see the Instruction Manual for the gyro and the transmitter. "Position 0" is typically used for hovering. Set the sensitivity rather high.

"Position 1" is for forward flight. Set the sensitivity rather low. The required gyro sensitivity differs depending on the gyro and rudder servo used. The values shown in the table are approximate – please refer to your gyro Instruction Manual and adjust as required after a test flight. Note that different gyro sensitivities may be required depending on whether or not the helicopter is carrying a payload.

The final sensitivity adjustment is to be made during a series of flights. As you increase the gyro sensitivity gradually, the tail starts hunting (rapidly moving back and forth). Once you see that symptom, decrease the sensitivity to a position slightly before hunting occurs.

*Special tail rotor (rudder) servos are available. It is recommended to use one as recommended by your gyro manufacturer.

Example of gyro sensitivity	
Position 0 (payload: 0kg)	80%
Position 1 (payload: 4 to 5kg)	60%

7. 【Gyro Output Direction Check】

Check whether or not the gyro output direction is correct. If you hold the tail and swing it to the right (the nose is directed left), the Tail Rotor must change in pitch to resist this movement. If it moves in the wrong direction, change the output direction with the reverse switch on the gyro.

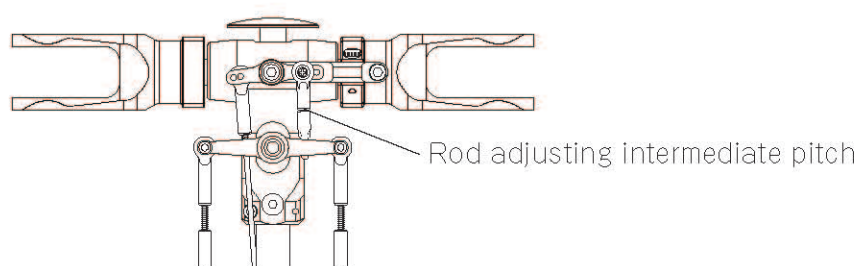
8. 【Rotor Pitch Setting】

Measure the pitch of the Main Rotor Blades with a JR Universal Pitch Gauge (No. 60326, separately sold) and make adjustments based on the results.

	Low pitch	Intermediate pitch	High pitch
Reference pitch	-6°	+3°	+12°
Payload 0g	-3°	+4°	+9°
Payload 4 ~ 5Kg	-3°	+6°	+9°

Measure the entire pitch range possible. High pitch should be +12° and low pitch -6° , totaling 18° .

The intermediate (middle) value is calculated as $[12 - (18/2) = 3]$, you can see that with the pitch stick in its middle position there should be 3° of pitch. With the pitch stick in the middle of its travel measure the pitch of the Main Rotor Blades to check whether or not the pitch is 3° . If not, adjust the length of the rod shown in the following figure to accurately set the pitch to 3° .



Once the intermediate pitch has been adjusted to 3° by rod adjustment, measure the high and low pitches again. It is presumed that they are almost as described in the table. If they are slightly higher or lower, use the already set "swash type (mix)" function to adjust the pitch stroke. Increase or decrease the pitch percent value as required. In this case, the high and low pitches cannot be separately adjusted. If the above-mentioned intermediate pitch has been correctly adjusted, adjusting either the high or low pitch should automatically result in the figures seen in the table. If this is not the case, change the rod length and the pitch percent value in the swash mix, ignoring the intermediate value, so that the high and low pitches are properly adjusted.

9. 【Control Movements】

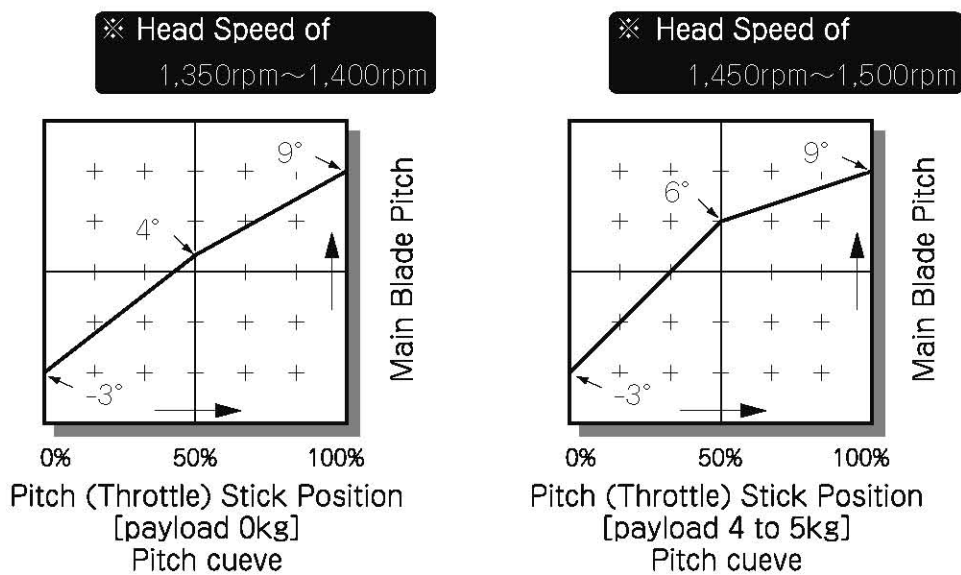
Each control movement should now be correctly set (by the assembly and adjustments so far), but you may adjust them as required depending on your taste after a test flight. Note the following two items:

㊤ Use the "Swash type (mix)" function for setting the total movement of aileron, elevator, and pitch functions.

㊦ Use the "Travel Adjust" function for adjusting the movement of the throttle servo or responsiveness of the rudder.

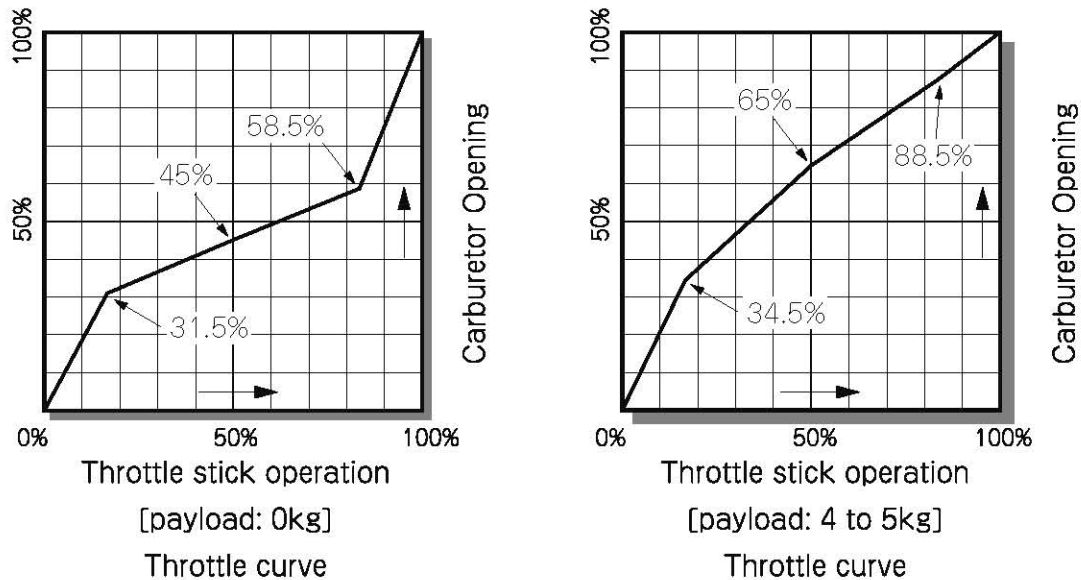
10. 【Pitch Curve (Transmitter pitch curve adjustment)】

This function allows you to freely make adjustment between specific points as to how much Main Rotor Blade pitch should be set at a particular pitch (throttle) stick position. This is one of the basic important adjustments of the helicopter. This adjustment depends on the Main Rotor Blades used and interaction with the throttle curve. To begin with make adjustment as shown in the following figure, referring also to the table in the previous section. Make fine adjustments after test flying.



11. 【Throttle curve (Transmitter Throttle Curve Function)】

This function allows free adjustment of carburetor opening to throttle stick position between specific points and closely relates to the “pitch curve” to maintain correct head speed and load. As the pitch of the rotating rotor becomes close to 0° , the load becomes almost nil. This means there is nothing to limit the increase of rotation of the Main Rotor Head. Operation with this setting is very dangerous to both the engine and helicopter mechanics. Therefore, adjust the throttle opening around 0° pitch so that engine rotation (rpm) does not increase excessively. The remainder of the throttle curve is adjusted to maintain constant rotor speed. The exact settings depend on the condition of the engine, fuel used, pitch curve, etc. At first, adjust according to the following table and readjust after test flying the helicopter.



* Regarding the engine used in the GSR260Z, the torque around hovering is very large due to its output characteristics.

Therefore the degree of throttle opening needs to be carefully set around hover so excessive rotor speed does not occur. This would not only make the helicopter hard to fly but also very dangerous.

Set the throttle opening when hovering so that the rotor's rotation is between 1,350 to 1,400 rpm with a payload of 0kg, and 1,450 to 1,500 rpm with a payload of 4 to 5kg.

12. 【Handling and Adjustment of the Engine】

③ Fuel

Use well-mixed fuel, consisting of commercially available gasoline (it does not matter whether it is regular or high-octane, but do not use alcoholic fuel or alcohol-added fuel) and our “gasoline engine oil” (No. 55100) in a ratio of **40:1** (gasoline:oil). At the beginning of use, it is necessary to run-in (break-in) the engine. Use this mix of fuel for run-in as well as general use. To run-in the engine, hover for about 10 to 20 tanks. If more

oil is added for this run-in operation, adhesion of carbon may result in malfunction. Stick to the ratio of **40:1** (gasoline:oil).

* The above ratio is for general flying. For special purposes, the ratio may require adjustment.

* The carburetor in the engine contains a filter with fine mesh. If the fuel mixture contains impurities, the filter will be clogged and the engine will malfunction. Be sure to use a fine mesh fuel filter (#300 or better) in the middle of fuel line supplying the engine to filter out these impurities. Be sure to clean the filter regularly.

* If oil other than that specified is used, follow the Instruction Manual described on the oil container.

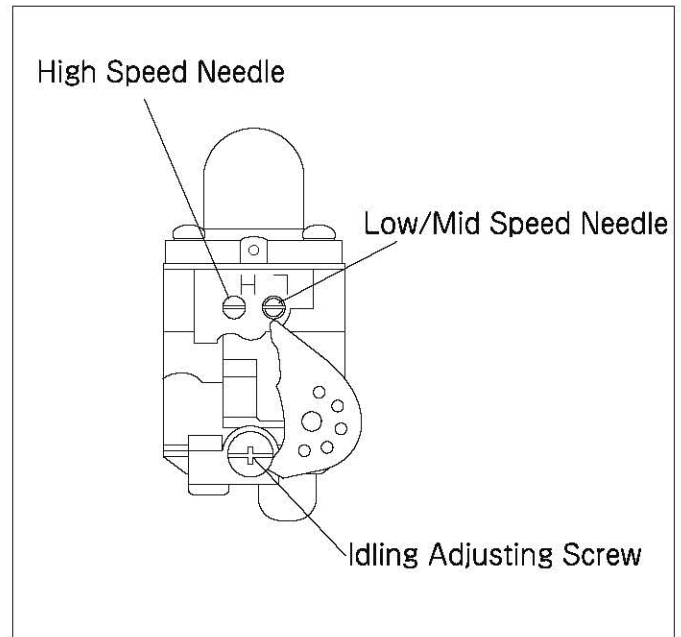
Because some types of oil may cause malfunction or damage to the engine, you should use the oil we recommend. We will not be liable for warranty or repair in case of troubles (such as engine damage, burn-up, etc.) when using oil not specified by us.

⑥ Starting the engine

First fill the Fuel Tank then press the primer valve (transparent dome on the top of the carburetor) a few times to bring fuel to the Carburetor (even if you press the valve several times, over-supply of fuel will not occur). While holding the Rotor Head securely fully close the Choke Lever, open the throttle to 1/3 of the full open position, and pull the Recoil Starter quickly. When the engine starts, return the Choke Lever gradually to the open position and at the same time return the throttle to the idle position. If the Choke Lever is returned too quickly to the fully open position, engine rotation may increase dangerously. Hold the Rotor Head securely and return the throttle to the idle position. If the engine does not start by pulling the Recoil Starter for 4 or 5 times, return the Choke Lever to the fully open position. Set the throttle to the idle position and pull the Recoil Starter for 4 or 5 times again. In most cases, the engine will start. If the Recoil Starter is pulled too many times with the Choke Lever fully closed, over-choking and wetting of Spark Plug may result in difficulty starting the engine. If the engine still does not start, close the Choke Lever again and open the throttle approximately 1/3 and pull the Recoil Starter 4 or 5 times. Repeat these steps until the engine starts. If you use an electric starter, it must be of sufficient torque. After pressing the primer valve on the carburetor a few times, the engine will start with the Choke Lever in the fully open position like a normal glow engine (you do not need to close the Choke Lever when using an electric starter).

⑦ Adjustment of the carburetor

The needle settings of the Carburetor are factory-set. Confirm their positions based on the following table and try a test flight. The idle adjusting screw is used to ensure that the Carburetor opening does not fall below a certain level of rotation. Loosen this screw so that the degree of opening of the carburetor is such that the engine is able to completely stop. Adjust the mixture from idle to hover with the low/mid speed needle. Use high speed needle for adjustment in the full throttle range (such as a flight up in the air). Different from a glow engine, the correct mixture setting can not be easily estimated from the appearance of the exhaust gases, because the exhaust has very little smoke even when the mixture is correct. It will take some experiences to determine the optimum mixture. When



the smoke is emitted relatively more, and the exhaust note is intermittent (pulses and is unstable) with no power, the mixed is too rich. Screw in (clockwise) the corresponding needle with increments of 1/8 of a turn. Conversely, if no smoke is emitted and the exhaust note is “dry” with decreasing power, the mixture is too lean - in this case you should open the needle. In both cases, a clear peak is hard to find so adjustment over several flights is required. Adjustment should be made gradually (1/8 rotation or less). Because the relationship of the pitch curve and throttle curve will significantly change the running conditions of engine, it is also important that the mixture needles are re-balanced with these settings are changed.

If you are not clear on the optimum position of needle opening, return to the original positions given in the table below and try adjustment again.

Standard Needle Positions

H	L
$1\frac{1}{2} \pm \frac{1}{4}$	$1\frac{1}{4} \pm \frac{1}{4}$

(* The values represent the number of turns open from the fully closed position)

Ⓢ Spark plug

The spark plug used in this engine is different from that used in common, general-purpose two stroke petrol engines because it has in built noise suppression. If you use a spark plug different from that specified, the transmitter may not operate correctly and you may loose control of the helicopter. When replacing the spark plug, be sure to use the one specified (please refer to the parts list for details).

Ⓢ Spare parts

We sell several spare parts which are listed in the parts list. If you need spare parts for repair, etc., check the part number and name of the part and contact your model shop or our distributor.

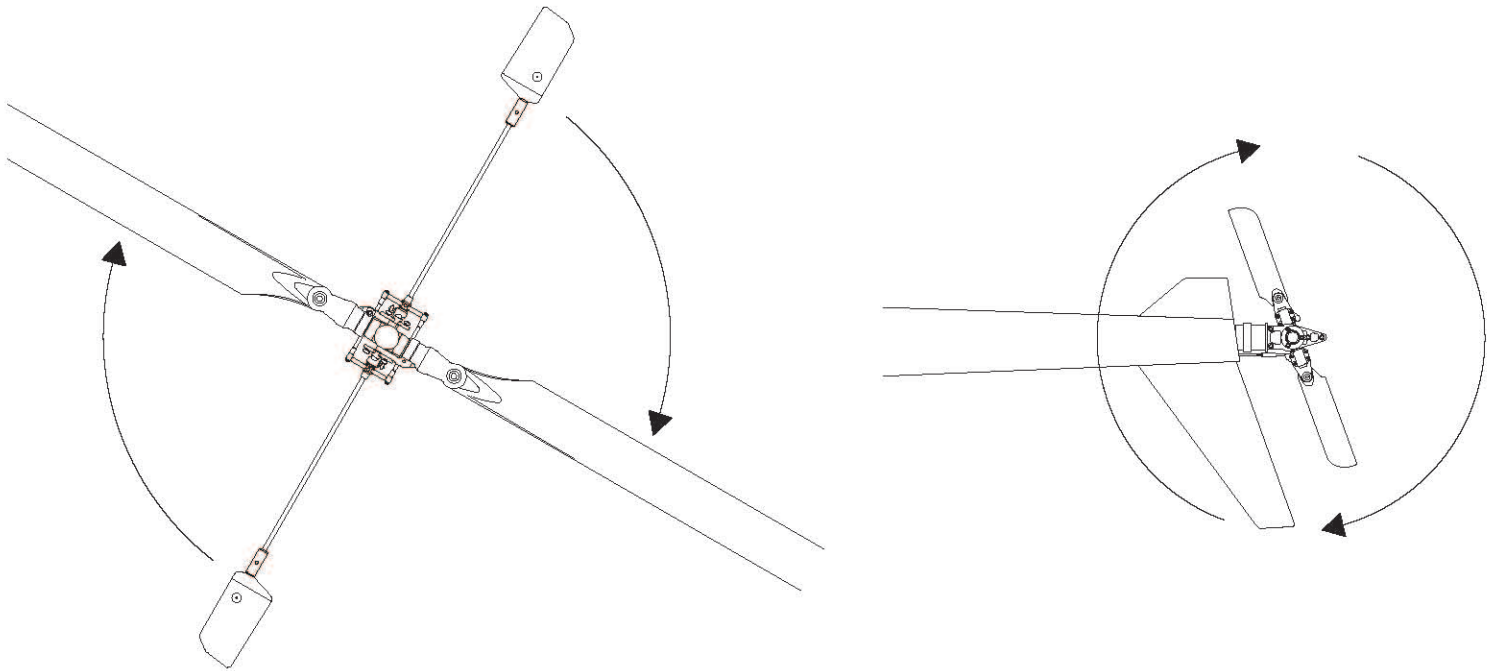
FINAL CHECK PRIOR TO FLIGHT

Though there are still some items to be checked prior to flight. Check the following:

① Look through all the steps in the Instruction Manual again and make sure that all bolts are firmly tightened. Check in particular the bolts used for mounting the balls to the levers, and each bolt which was tightened after backlash adjustment of the gear mesh was completed.

② Check the rotation direction of the Tail Rotor.

When turning the Tail Rotor in the direction of the arrows, confirm that the Main Rotor Blades rotate in the direction indicated by the arrows. If not, check the direction of twist of the belt.



③ Confirm all the servos function smoothly, the operating direction is correct, and that the Servo Horn screws are firmly tightened.

④ Make sure that the gyro control direction is correct.

⑤ Make sure that the battery in the transmitter and that powering the receiver (in the helicopter) is fully charged.

⑥ Check that the receiver, gyro and battery are firmly secured.

⑦ Make sure that the Main Rotor Blades and the Tail Rotor Blades are attached in the correct orientation.

If no problems are found after checking the above items, test hover the helicopter.

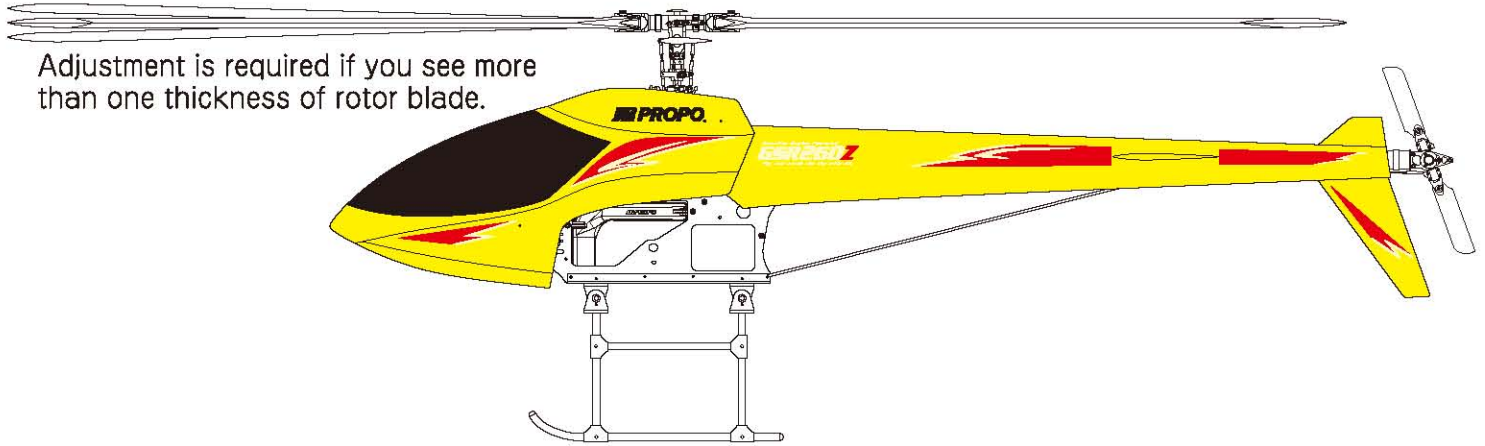
If possible, it is recommended to fly under the guidance of an experienced operator.

CHANGES FOLLOWING THE TEST FLIGHT

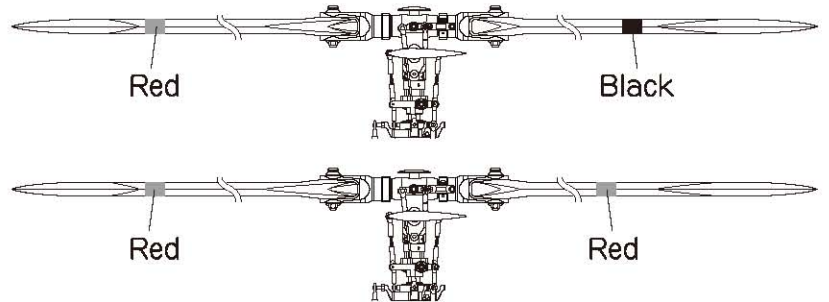
【Items to Be Changes Following The Test Flight】

Tracking Adjustment

This is to adjust both Main Rotor Blades to the same pitch, so each produces the same amount of lift. If they are not uniform, their trajectory is not seen as an identical line as shown in the figure below. This leads to vibrations and a helicopter which does not fly well.



To adjust tracking, it is necessary to know which Main Rotor Blade is higher or lower. For this purpose, mark the Main Rotor Blades with color tapes.

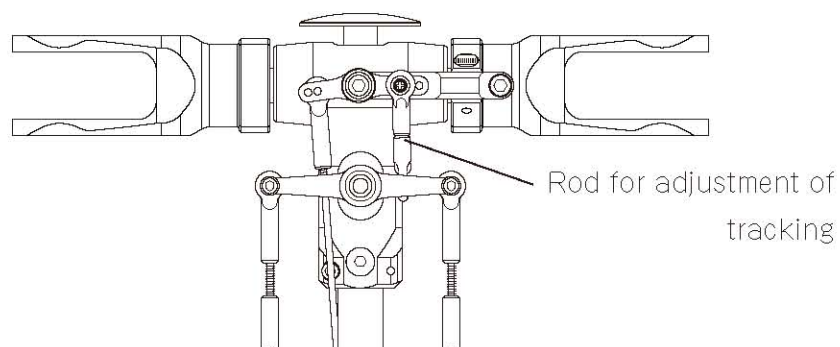


There are two methods to apply the tape. Figure A shows wrapping different color tapes around the ends of each blade, and Figure B shows wrapping the same color tape around each blade at different positions. Use of bright colors is recommended.

WARNING

Tracking adjustment is dangerous. Remain 5m or more from the helicopter at all times.

When the helicopter is about to leave the ground, look at the plane of rotation of the Main Rotor Blades from the side. No adjustment is required if the trajectory of the Main Rotor Blades is seen as an identical line. If vertically misaligned, pitch adjustment on one blade is required. On either the 'high' or 'low' blade adjust the Universal Link of the rod shown in the following figure in such a manner that the blade pitch is increased or decreased as required.



FURTHER NOTES REGARDING JR CCPM

1、【Trim Lever】

These levers are used to correct trim (direction) in flight. By operating the aileron or elevator trim lever, two servos are simultaneously activated for aileron trim, and three for elevator trim, respectively. For a transmitter with a pitch trim lever (or pitch trim knob), this allows the rotor pitch to be trimmed as well.

2、【Pitch Curve Function】

This function is capable of setting the pitch of the Main Rotor Blade corresponding to the transmitter stick position. This function is most important in adjustment of the helicopter. The set pitch curve is reflected in the movement of the three Swash Servos.

3、【Hovering Pitch Knob】

This function is used to change the Main Rotor Blade pitch in the hovering area, within a certain range. The pitch while hovering can be finely adjusted without accessing the pitch curve function. Adjustment with this knob is reflected on the three Swash Servos.

4、【Swash Type】

This is a basic function to control the JR CCPM. When doing the "Initial Setting of the Radio", this function was already set to 120° - a setting to activate the three Swashplate servos. Further, this function allows you to make adjustments corresponding to conventional settings for aileron, elevator and pitch servo movements and reversing.

㊸、Control angle adjustment - swash mix percent (similar to regular travel adjust function)

This function is to increase/decrease control movement of the aileron, elevator and pitch functions respectively. Different settings are possible for aileron, elevator and pitch functions - their control movements can be adjusted by changing the corresponding values of the swash mix percentage. Regardless of a plus (+) or a minus (-) sign, the control angle changes in proportion to the magnitude of the set value. It is generally found that the initial setting pose no problem for flight, but you can change the values as necessary. Too high a percentage may cause the servos to over-travel and jam, so please check carefully.

㊹、Control reversing function (similar to regular reverse switch)

The control motion adjusting function above is to increase/decrease the control throws. If the control throw value is continuously decreased, it will reach 0%, and then, be prefixed with a minus (-) sign if further decreased. In case of originally a negative value, a plus (+) sign will appear as it is increased. When this is done, the movement of the control will be reversed.

BE SURE TO READ PRIOR TO FLIGHT

This helicopter is not a toy. It is intended for those having had prior experience flying a radio control helicopter, knowledge and skills. It could crash due to an assembly failure, operational mistake, service failure (loose bolts, etc.), radio interference, and so on. Always keeping in mind that a radio control helicopter, which is controlled with a weak radio frequency signal, may go out of control for some reason. The operator should pay attention to himself/herself and the surrounding circumstances at all times for a safe flight. Even an advanced operator well-versed in radio control helicopters may forget the safety precautions. Refresh your memory by reading the following.

Fly the helicopter in a manner suitable for the operator's skills, avoiding an unnecessary risk during flight. For maneuvers demonstrated in a competition, emulate them after fully understanding and mastering the operating methods and skills. When flying the helicopter not only a beginner or intermediate operator, but an advanced operator should never fly alone. Listen to explanations from an assistant or an instructor having expertise and fly under their Instruction Manual. Be sure to buy a "radio control insurance policy" as a precaution (for details, contact our distributor or a nearby radio control model shop).

1. 【Precautions after Assembly】

㊦ Check all bolts are fully tightened. Tighten any loose ones.

㊧ Be sure to use screw locking agent when tighten all bolts, if so instructed in the Instruction Manual.

When doing this, degrease the bolts and nuts completely.

㊨ Check the rotating parts (Main Rotor Blades, Tail Rotor) and that their bolts are fully tightened.

However, in the case of the Drag Bolts securing the main and tail rotor blades it is necessary that the blades can be moved slightly back and forth so they can set their own 'lead' and 'lag'.

㊩ Always first turn on the transmitter, which has been fully charged with the throttle stick set to the slowest position, then turn on the receiver (on the helicopter). Always turn on these switches in this order. Operate the sticks (throttle/pitch, aileron, elevator and rudder) to confirm correct function.

㊪ Never cut or bundle the antenna wire. Put it in the antenna tube so that it will not be caught by the rotor or the main gear.

㊫ Securely hold the helicopter with both hands when moving it. The GSR260Z has sharp parts (such as machined metal) pay attention to avoid injury.

2. 【Precautions Prior to Flight】

㊬ When putting fuel into the Tank, make sure that there is no leakage due to cracks, etc. If there is leakage, locate the damaged part and replace.

㊭ Make sure that the Main Rotor Blades and Tail Rotor are free from any cracks or damage. If they are damaged even just a little, do not use them.

㊮ With the stick at the slowest position, turn on the transmitter then receiver and check for correct control movements. In particular, check the engine carburetor closes fully at the slowest position of engine control. If it does not, the engine may not be able to be stopped. Adjust the linkage as appropriate.

㊯ Care should be taken not to catch your cloths on the transmitter sticks when moving the helicopter. Move the helicopter to the takeoff position using two or more persons - one holding the helicopter with both hands and the other carrying items required for flight, such as the transmitter.

㊰ Be sure to check the remaining capacity of the battery prior to flight to confirm that both transmitter and helicopter (receiver) battery have been fully charged.

① Conduct a distance (range) test of the transmitter. With the transmitter antenna collapsed, move 15m or more from the helicopter. Move all the sticks and confirm the movement of the helicopter servos follows the sticks. If they do not move properly determine the cause and correct before flight. Please follow your radio manufacturers Instruction Manual for the exact range check procedure. Radio systems on 2.4G have different range check Instruction Manual which must be followed.

② If using an electric starter, only remove the starting rod from starter hex after rotation completely stops.

③ If two or more Radios are used simultaneously on the same frequency you cannot fly the radio control helicopter because of interference. If someone else is using the same frequency, wait until he or she has finished operation. If there is interference despite no one using the same frequency, it is conceivably an external interference source exists. Never fly until that interference source has been cleared.

④ Be sure to stop the Main Rotor Blades prior to needle adjustment, and carry out the adjustment with the Rotor Head held securely.

⑤ Before starting the engine, make sure that the engine control stick of the transmitter is at an appropriate idle position. If the stick is at higher position than the idle position, the engine rpm may increase after starting the engine and Main Rotor Blades maybe forced to rotate rapidly. When starting the engine, hold the Rotor Head of the helicopter securely.

3. 【Precautions during flight】

① Never fly the Helicopter near houses, high-tension lines or a heavy-traffic road.

② Never fly it above people, houses, behind you or too far away. If the helicopter crashes or comes into contact with the human body, it could cause serious injury.

③ Keep your eyes on the helicopter during flight. If you look away even for a short period of time, it may change its position or you may lose sight of it and lose control.

④ Do not fly (or hover) with the Main Rotor Blades at eye level because it is dangerous. Always ensure that the Main Rotor Blades are higher than eye level.

⑤ Pay constant attention to the remaining fuel in the Tank. Never fly the helicopter when the remaining amount is within 1cm from the bottom.

⑥ When stopping the Main Rotor Blades never touch them or the Flybar. Wait for them to stop naturally.

⑦ If you notice an abnormality during flight, land the helicopter immediately and check for any loose bolts, etc. Do not fly it again until the cause has been completely eliminated.

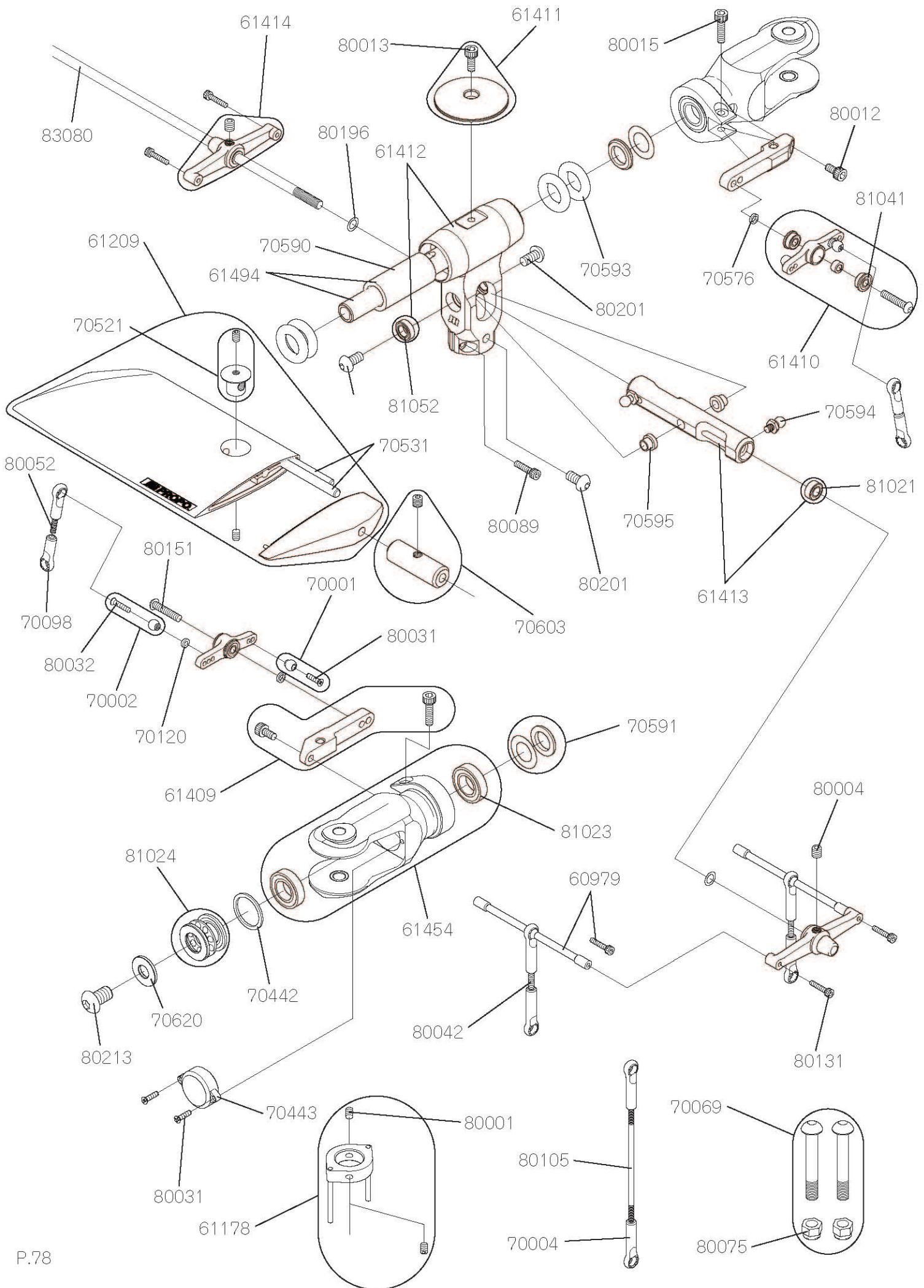
4. 【Precautions after flight】

① Check for any loose bolts or shaky parts. If there is any abnormality, repair them before the next flight.

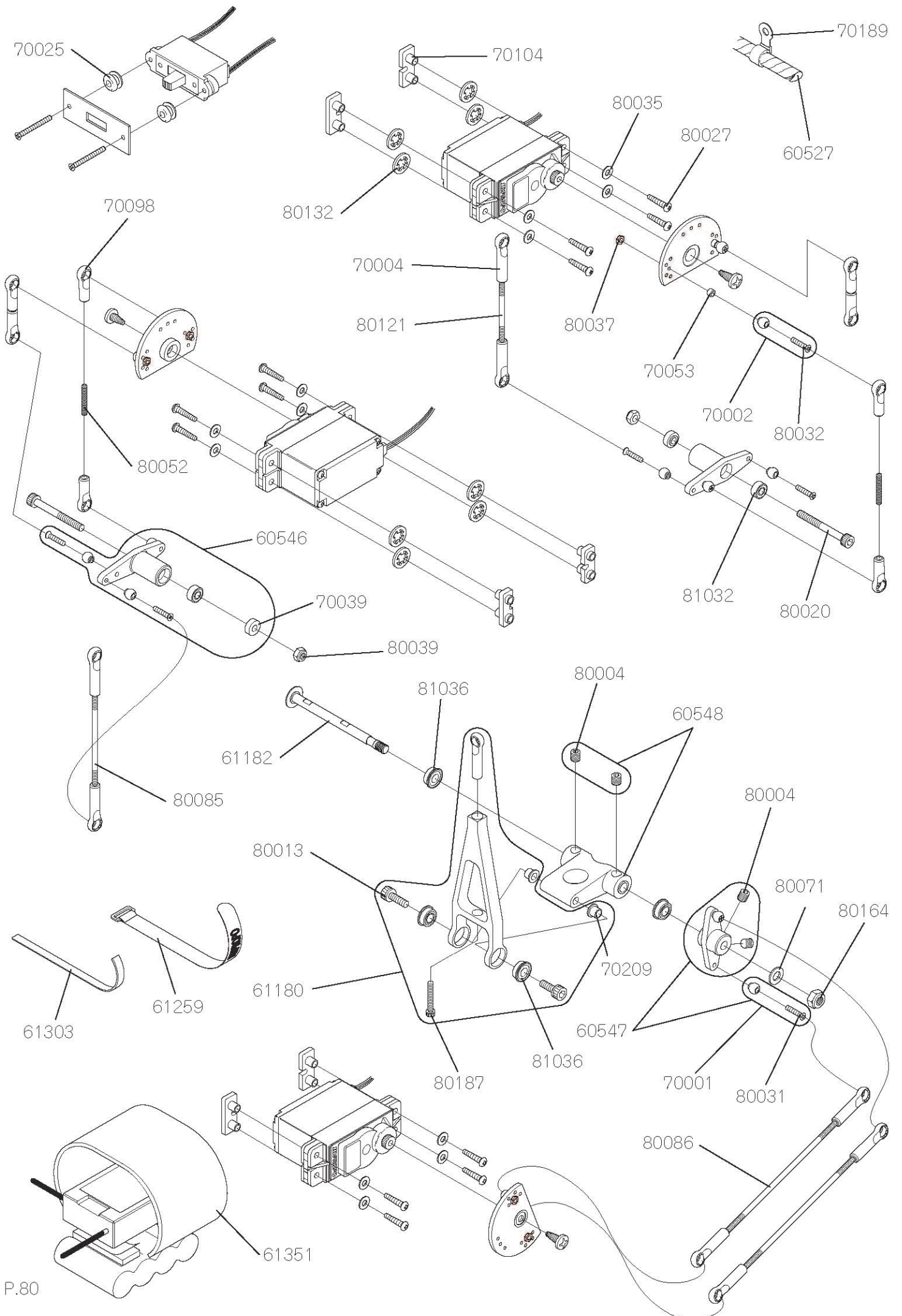
② If the Main Rotor Blades or any other part comes into contact with the ground during flight, do not use those parts even if their appearance looks faultless. Replace them with new ones.

③ Check whether or not the battery, receiver, gyro, etc. are firmly secured.

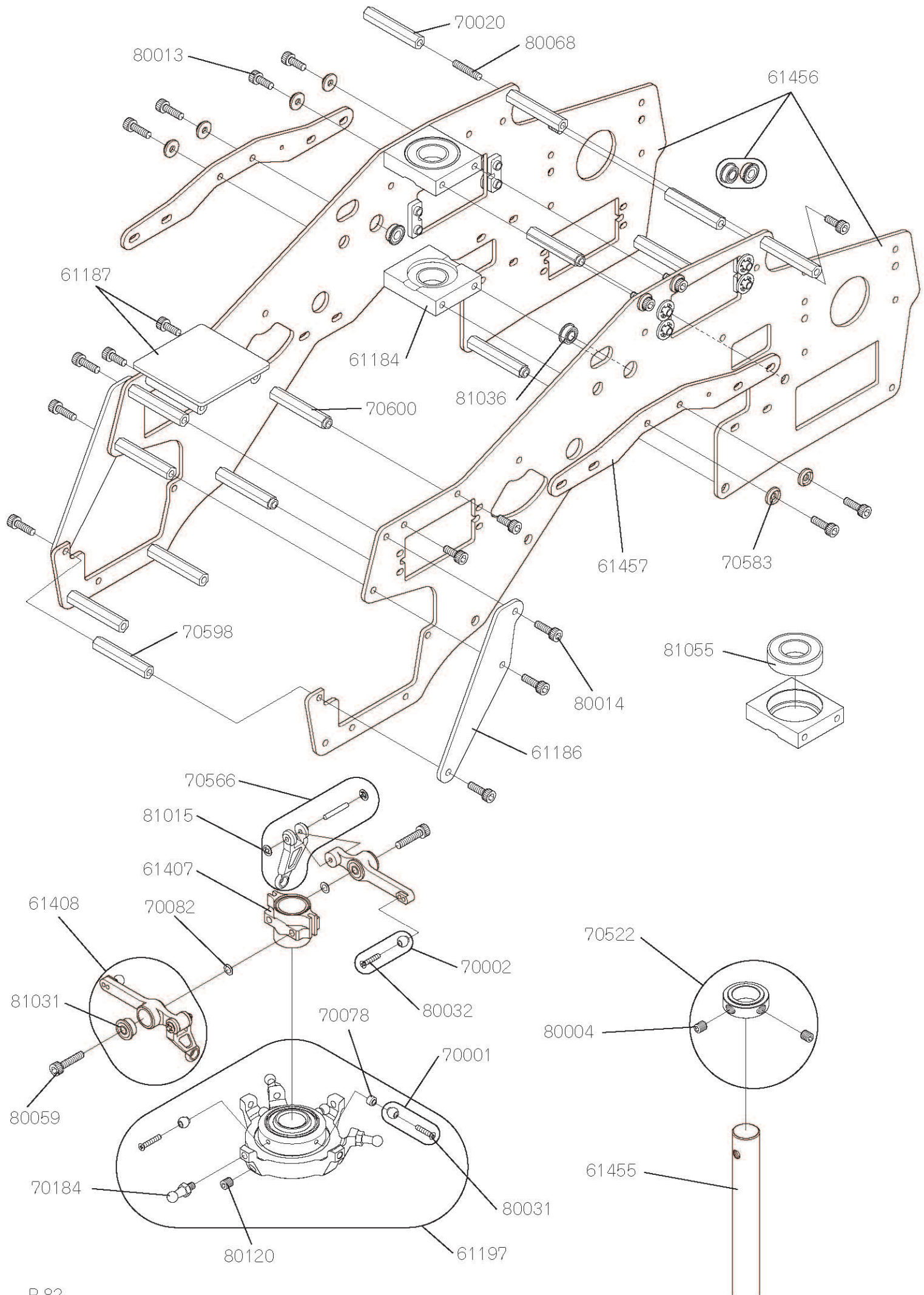
④ Check the antenna wire from time to time because its core may have been snapped. If snapped within the coating, it may not be immediately apparent. Refer to the manufacturer periodically for servicing.



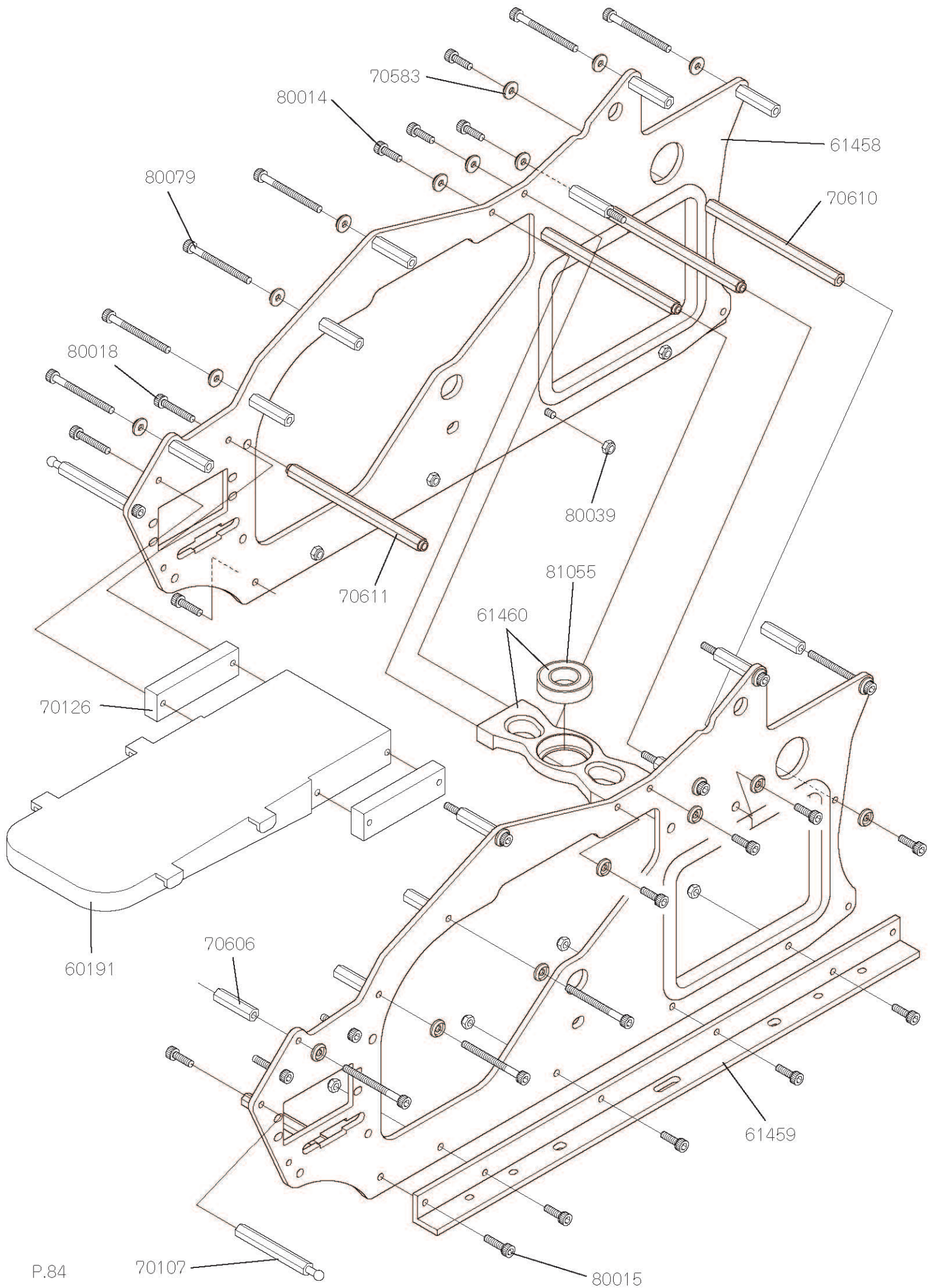
60979	Flybar Arm B	× 2	
61209	Flybar Paddle	× 2	
61178	Washout Stopper	× 1	w/Pin
61409	Pitch Arm	× 1	w/Socket Head Bolt M3 x 12, M3 x 6
61410	Mixing Arm Assembly	× 1	w/LF-730ZZ Bearing · Joint Ball
61411	Dome	× 1	w/Socket Head Bolt M3 x 8
61412	Center Hub Assembly	× 1	L-950ZZ Bearing
61413	Seesaw Assembly	× 1	L-840ZZ Bearing
61414	Flybar Arm A	× 2	w/Setscrew M4 x 4
61454	Main Rotor Grip Assembly	× 1	L-1790ZZ Bearing
61494	Spindle Shaft (ϕ 10)	× 1	w/Spindle Shaft Tube · Button Head Bolt · Washer
70001	Joint Ball A	× 10	w/Flat Head Screw, M2 x 8
70002	Joint Ball B	× 10	w/Flat Head Screw, M2 x 10
70004	Universal Link	× 10	
70069	Drag Bolt Set M5	× 1	w/M5 x 30 · Nylon Lock Nut M5 for 1 Kit
70098	Universal Link S	× 5	
70120	Joint Ball Spacer t1.5	× 2	
70442	Thrust Washer	× 2	
70443	Thrust Bearing Cap	× 2	
70521	Paddle Stopper	× 2	
70531	Insert Weight A, B	× 4	(A · B × 2)
70576	Washer 03 × 4.5 × 1	× 2	
70590	Spindle Shaft Tube	× 1	
70591	Grip Spacer Set	× 2	w/Spindle Shim Washer
70593	Damper O-ring 10 × 18 × 4	× 4	Hardness 90°
70594	Ball Arm L5	× 2	
70595	Seesaw Spacer Collar	× 2	
70603	Flybar Weight	× 2	w/Setscrew M4 x 4
70620	Spindle Washer M6	× 2	
80001	Setscrew M3 × 4	× 10	
80004	Setscrew M4 × 4	× 10	
80012	Socket Head Bolt M3 × 6	× 10	
80013	Socket Head Bolt M3 × 8	× 10	
80015	Socket Head Bolt M3 × 12	× 10	
80031	Flat Head Screw, M2 × 8	× 10	
80032	Flat Head Screw, M2 × 10	× 10	
80042	Threaded Rod M2.3 × 30	× 2	
80052	Threaded Rod M2.3 × 15	× 2	
80075	Nylon Lock Nut M5	× 10	
80089	Socket Head Bolt M2.6 × 10	× 10	
80105	Threaded Rod M2.3 × 80	× 2	
80131	Socket Head Bolt M2 × 10	× 10	
80151	Button Head Bolt M3 × 15	× 10	
80196	Poly Slider 4.1 × 6.5 × 0.13	× 5	
80201	Button Head Bolt M4 × 8	× 10	
80213	Button Head Bolt M6 × 10	× 10	
81021	Shield Bearing 04 × 08 × 3	× 2	L-840ZZ
81023	Shield Bearing 09 × 17 × 5	× 2	L-1790ZZ
81024	Thrust Bearing 09 × 17 × 5	× 2	SST-1790DSG
81041	Shield Bearing F03 × 07 × 3	× 2	LF-730ZZ
81052	Shield Bearing 05 × 09 × 3	× 2	L-950ZZ
83080	Fly Bar L520	× 2	
84033	ASG Main Rotor Head 90(for AS)	× 1	1 set



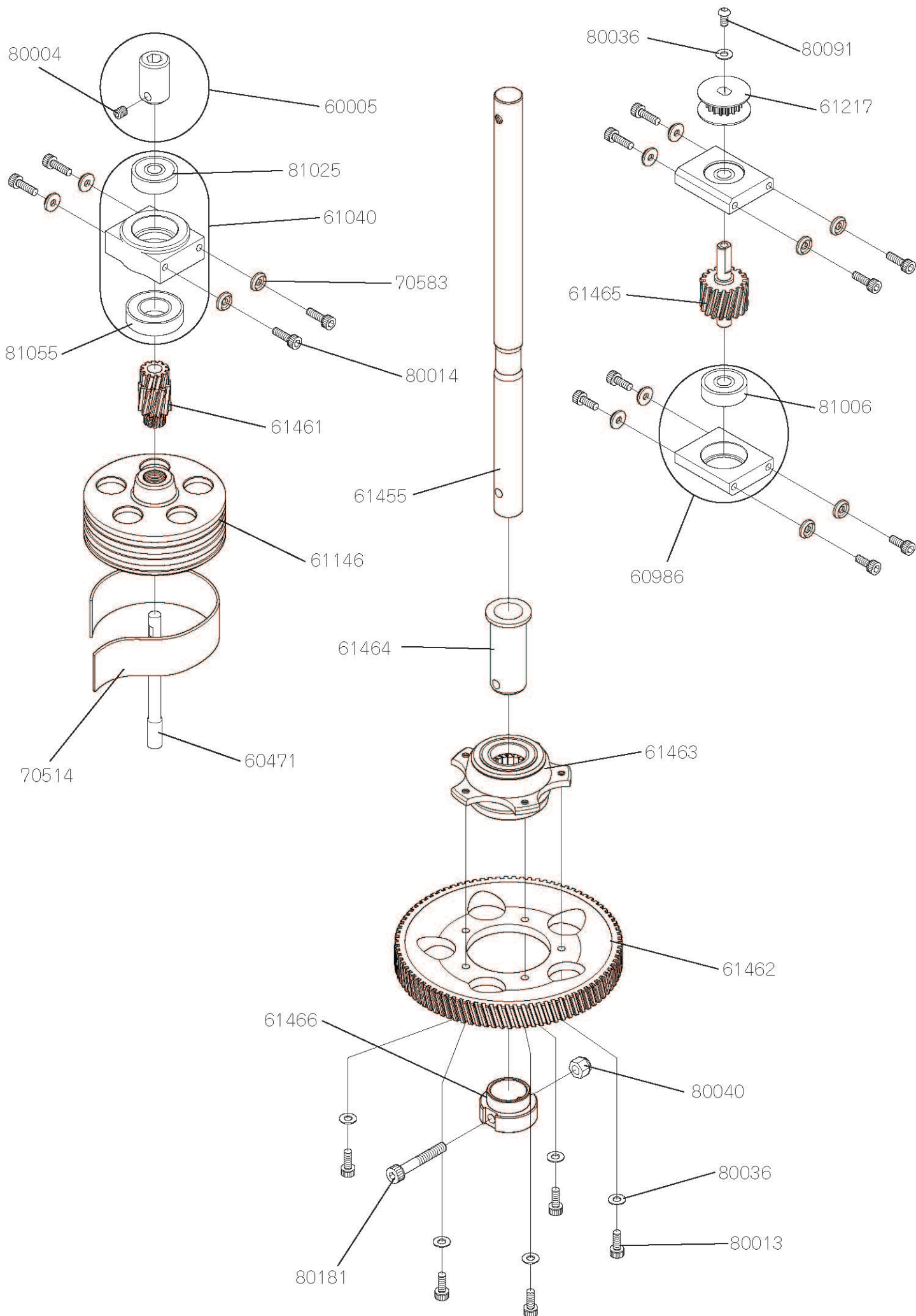
60527	Spiral Tube	× 1m		
60546	Swash Control Lever A	× 1	w/Joint Ball	
60547	Swash Control Lever B	× 1	w/Joint Ball	
60548	Swash Control Base	× 1		
61180	Swash Control Arm(AS)	× 1	w/Bearing	
61182	Base Spindle Shaft(AS)	× 1		
61259	Hook and Loop Strap L	× 2	Color: red	L : 270
61303	Hook and Loop Strap S	× 2	Color: red	L : 200
61351	Sponge (80 × 250 × 4)	× 1		
70001	Joint Ball A	× 10	w/Flat Head Screw, M2 x 8	
70002	Joint Ball B	× 10	w/Flat Head Screw, M2 x 10	
70004	Universal Link	× 10		
70025	Switch Damper Rubber	× 4		
70039	Pitch Lever Spacer	× 1		
70053	Joint Ball Spacer t2.2	× 2		
70098	Universal Link S	× 5		
70104	Servo mount plate B	× 10		
70189	Cord Holder	× 10	w/Plate Washer M3	
70209	CCPM A-arm Collar	× 2		
80004	Setscrew M4 × 4	× 10		
80013	Socket Head Bolt M3 × 8	× 10		
80020	Socket Head Bolt M3 × 28	× 10		
80027	Self Tapping Screw M2.6 × 12	× 10		
80031	Flat Head Screw, M2 × 8	× 10		
80032	Flat Head Screw, M2 × 10	× 10		
80035	Plate Washer M2.6	× 10		
80037	Nut M2	× 10		
80039	Nylon Lock Nut M3 t2.8	× 10		
80052	Threaded Rod M2.3 × 15	× 2		
80071	Plate Washer M4	× 10		
80085	Threaded Rod M2.3 × 55	× 2		
80086	Threaded Rod M2.3 × 90	× 2		
80121	Threaded Rod M2.3 × 25	× 2		
80132	CA Stopper Ring M3.5	× 10		
80164	Nylon Lock Nut M4 t3.8	× 10		
80187	Socket Head Bolt M2.3 × 15	× 5		
81032	Shield Bearing 03 × 07 × 3	× 2	L-730ZZ	
81036	Shield Bearing F04 × 08 × 3	× 2	LF-840ZZ	



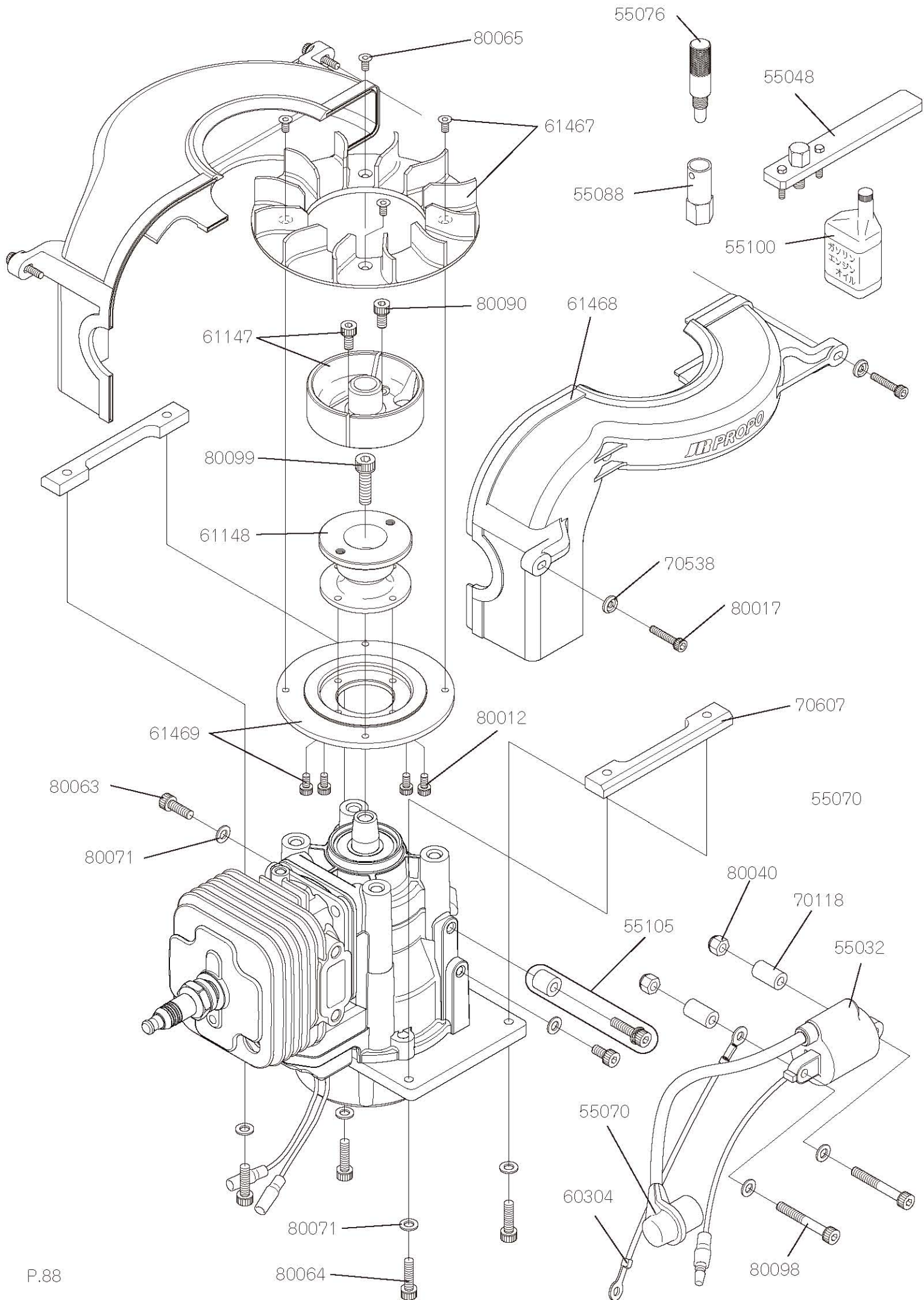
61184	Bearing Block w/Bearing	× 1	
61186	SG Upper Frame Support Plate	× 2	
61187	Gyro Mount	× 1	
61197	Swashplate Assembly	× 1	w/Ball Arm · Joint Ball
61407	Washout Base	× 1	
61408	Washout Arm Assembly	× 1	w/RF-830ZZ · Socket Head Bolt M3 x 14
61455	Main Shaft ϕ 12	× 1	
61456	Upper Frame Z	× 2	w/LF-840ZZ
61457	Upper Frame Twist Supporter Z	× 2	
70001	Joint Ball A	× 10	w/Flat Head Screw, M2 x 8
70002	Joint Ball B	× 10	w/Flat Head Screw, M2 x 10
70020	Cross Member L32	× 2	
70078	Joint Ball Spacer t2.75	× 2	
70082	Washer 03 × 4.5 × 0.4	× 10	
70184	Ball Arm L9	× 1	
70522	Main Shaft Collar	× 1	
70566	Washout Link B	× 2	
70583	Socket Head Bolt Holder M3	× 10	
70598	Cross Member L32 black	× 2	
70600	Cross member L32 (w/step) black	× 2	
80004	Setscrew M4 × 4	× 10	
80013	Socket Head Bolt M3 × 8	× 10	
80014	Socket Head Bolt M3 × 10	× 10	
80031	Flat Head Screw, M2 × 8	× 10	
80032	Flat Head Screw, M2 × 10	× 10	
80059	Socket Head Bolt M3 × 14	× 10	
80068	Setscrew M3 × 15	× 10	
80120	Setscrew M4 × 4	× 10	Nylok
81015	CA Stopper Ring M2	× 10	
81031	Shield Bearing F03 × 08 × 4	× 2	RF-830ZZ
81036	Shield Bearing F04 × 08 × 3	× 2	LF-840ZZ
81055	Shield Bearing 12 × 24 × 6	× 2	6901ZZ



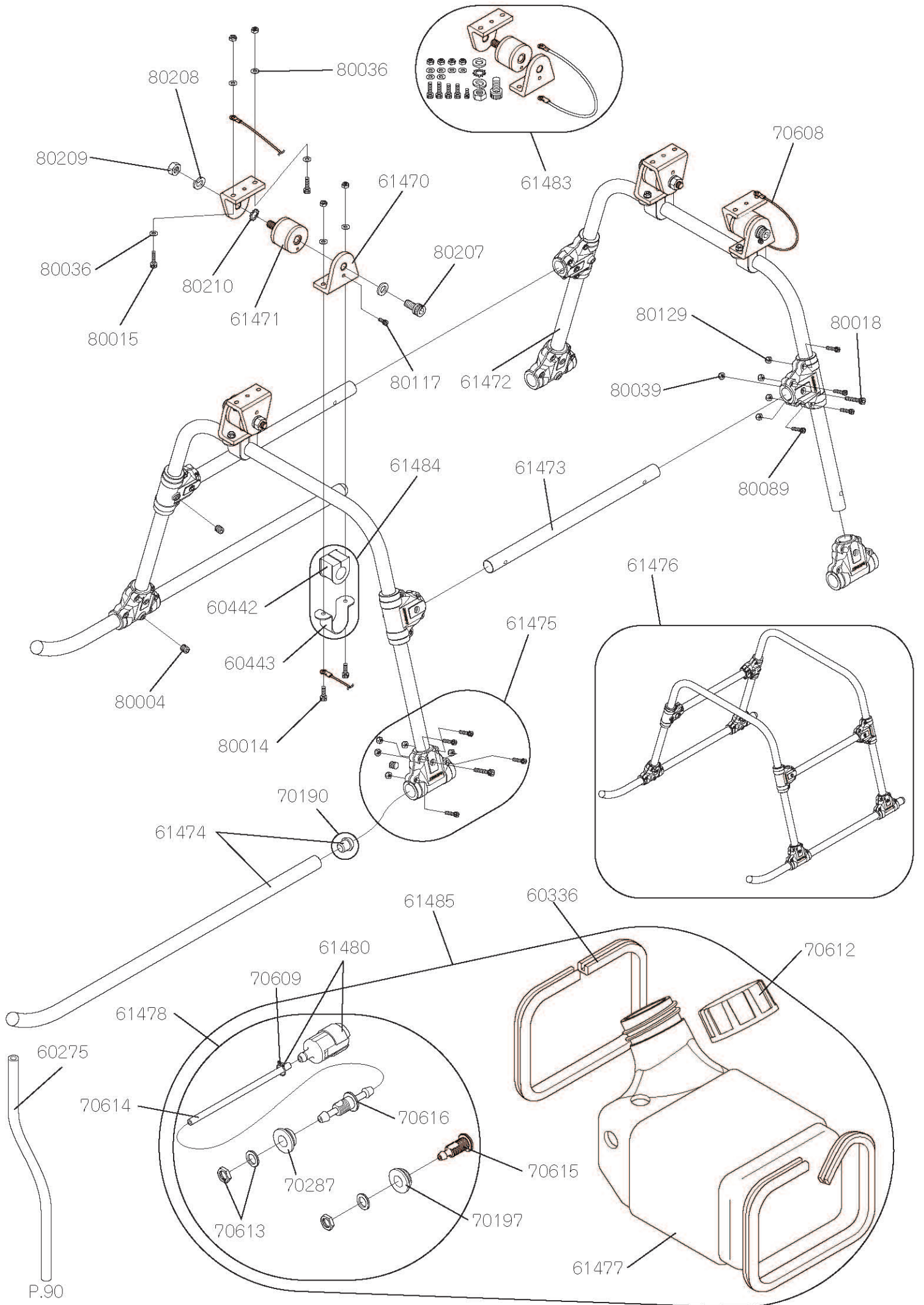
60191	Front Bed	× 1	
61458	Lower Frame Z	× 2	
61459	Lower Angle	× 2	
61460	Lower bearing block w/Bearing	× 1	
70107	Body Catch L42	× 2	
70126	Front Bed Spacer	× 2	
70583	Socket Head Bolt Holder M3	× 10	
70606	Spacer L22 black	× 2	
70610	Cross Member L80 black	× 2	
70611	Cross member L80 (w/step) black	× 2	
80014	Socket Head Bolt M3 × 10	× 10	
80015	Socket Head Bolt M3 × 12	× 10	
80018	Socket Head Bolt M3 × 18	× 10	
80079	Socket Head Bolt M3 × 35	× 10	
81055	Shield Bearing 12 × 24 × 6	× 1	6901ZZ



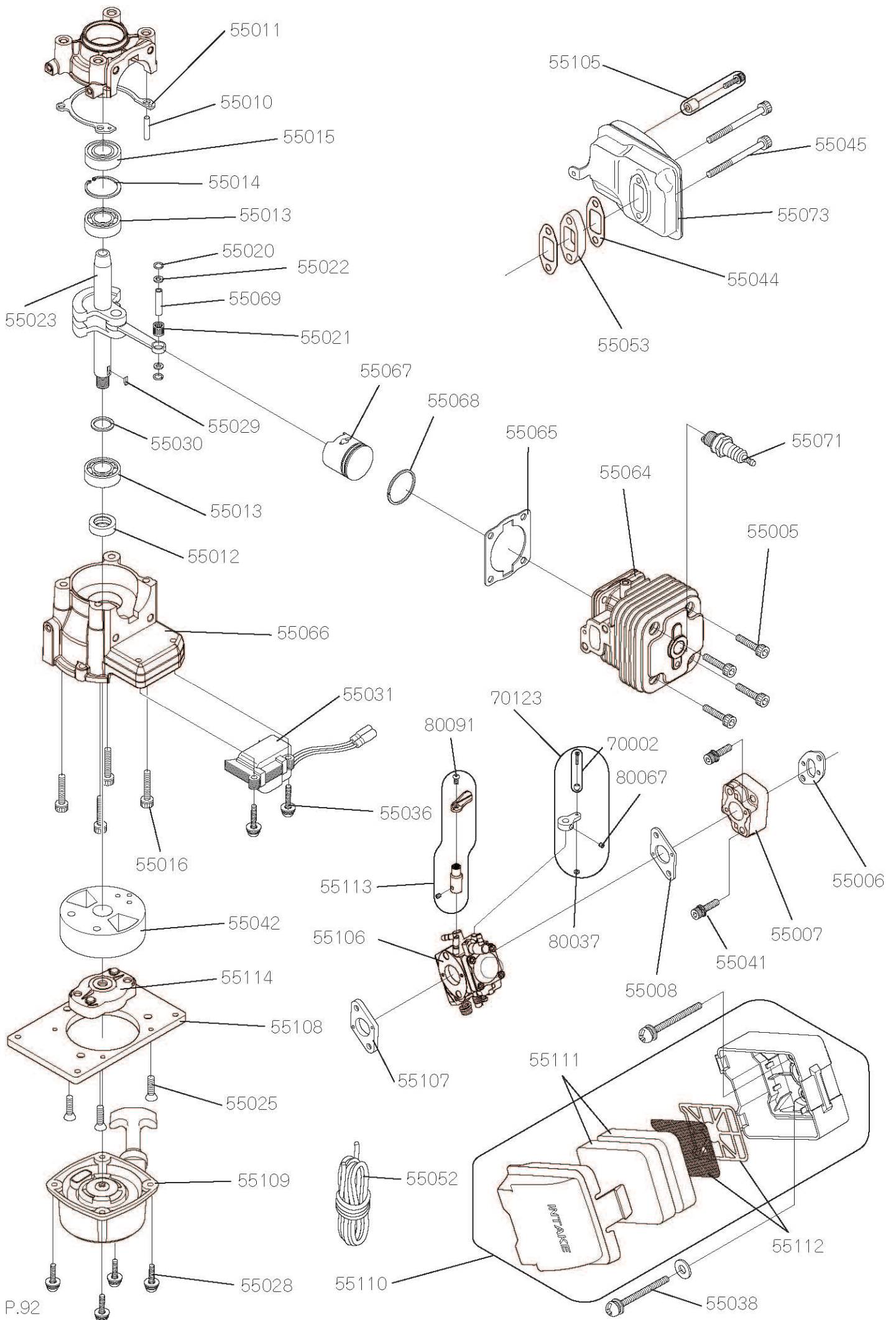
60005	Starter HEX Adapter	× 1	w/Setscrew M4 x 4
60471	Starter Shaft	× 1	
60986	Tail pinion bearing block w/Bearing	× 1	
61040	Pinion Bearing Case Assembly (ϕ 12-5)	× 1	
61146	HG Clutch Bell Assembly	× 1	
61217	Front Pulley T18	× 1	
61455	Main Shaft ϕ 12	× 1	
61461	Spiral Pinion Gear T11	× 1	
61462	Spiral Main Gear T88	× 1	
61463	Autorotation Unit w/Bearing	× 1	
61464	Autorotation Sleeve	× 1	
61465	Spiral Tail Pinion Gear T17	× 1	
61466	Autorotation Sleeve Collar	× 1	
70514	Clutch Lining	× 1	
70583	Socket Head Bolt Holder M3	× 10	
80004	Setscrew M4 × 4	× 10	
80013	Socket Head Bolt M3 × 8	× 10	
80014	Socket Head Bolt M3 × 10	× 10	
80036	Plate Washer M3	× 10	
80040	Nylon Lock Nut M4	× 10	
80091	Button Head Bolt M3 × 6	× 10	
80181	Special Socket Head Bolt M4 × 26	× 2	
81006	Shield Bearing 06 × 19 × 6	× 2	R-1960ZZ
81025	Shield Bearing 05 × 19 × 6	× 2	635ZZ
81055	Shield Bearing 12 × 24 × 6	× 1	6901ZZ



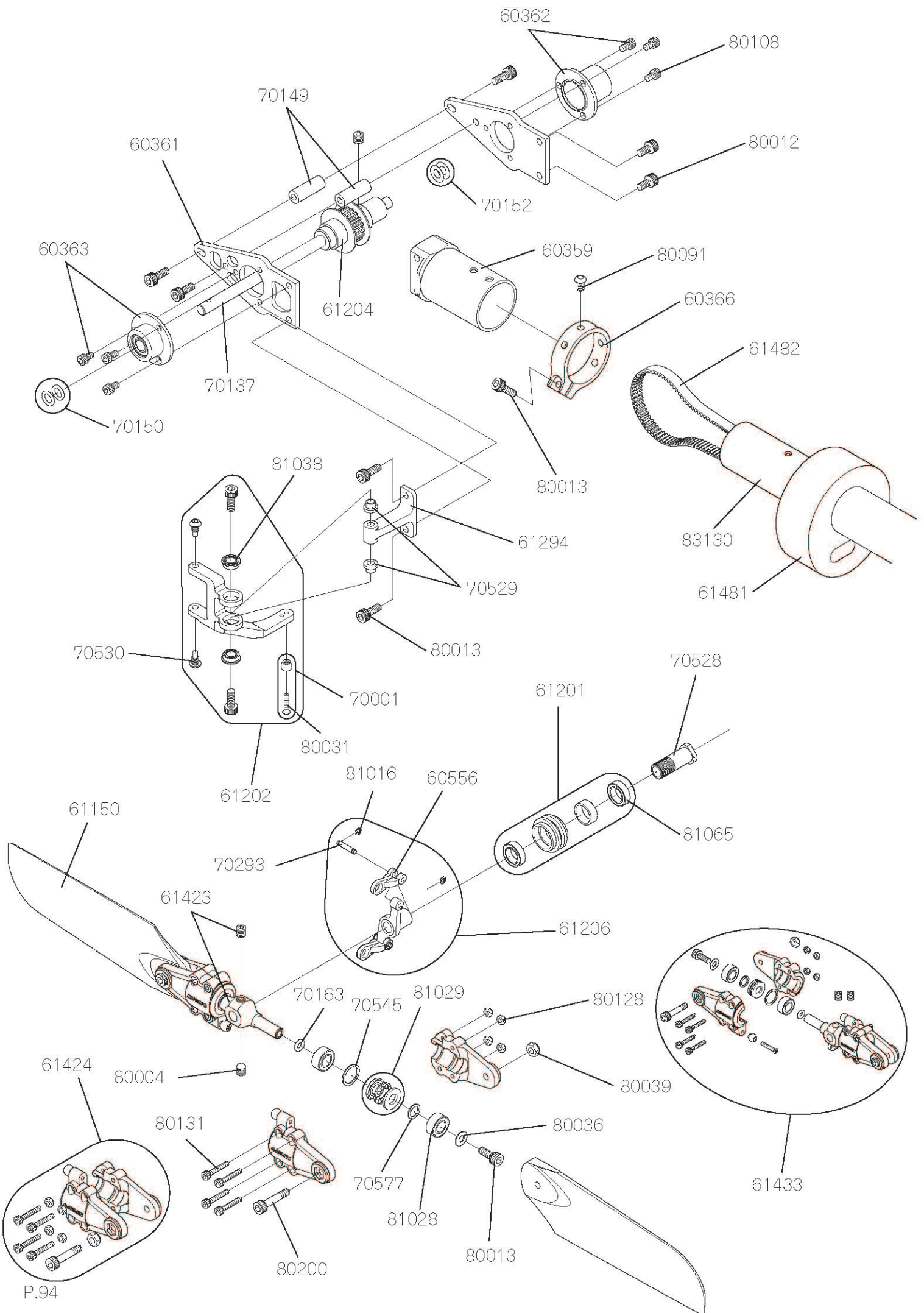
55048	Puller Assembly	× 1	
55070	Plug Cap	× 1	
55076	Stopper	× 1	
55088	Socket	× 1	
55100	Gasoline Engine Oil	× 1	
55105	Muffler Mounting Bolt	× 1	w/Spacer
55032	Coil	× 1	
60304	Ignition Coil Cord	× 1	
61147	HG Clutch Shoe Assembly w/Bearing	× 1	
61148	HG Cooling Fan Shaft	× 1	
61467	Cooling Fan	× 1	w/Flat Head Bolt M3 × 6
61468	Cooling Fan Shroud	× 1	L/R set
61469	Cooling Fan Adapter	× 1	w/Socket Head Bolt M3 × 6
70607	Engine Fixing Nut	× 1	
70118	Spacer 04 × 08 × 14	× 2	
70583	Socket Head Bolt Holder M3	× 10	
80012	Socket Head Bolt M3 × 6	× 10	
80017	Socket Head Bolt M3 × 16	× 10	
80040	Nylon Lock Nut M4	× 10	
80063	Socket Head Bolt M4 × 12	× 10	
80064	Socket Head Bolt M4 × 15	× 10	
80065	Flat Head Bolt M3 × 6	× 10	
80071	Plate Washer M4	× 10	
80090	Socket Head Bolt M4 × 8	× 10	
80098	Socket Head Bolt M4 × 30	× 10	
80099	Socket Head Bolt M6 × 18	× 5	



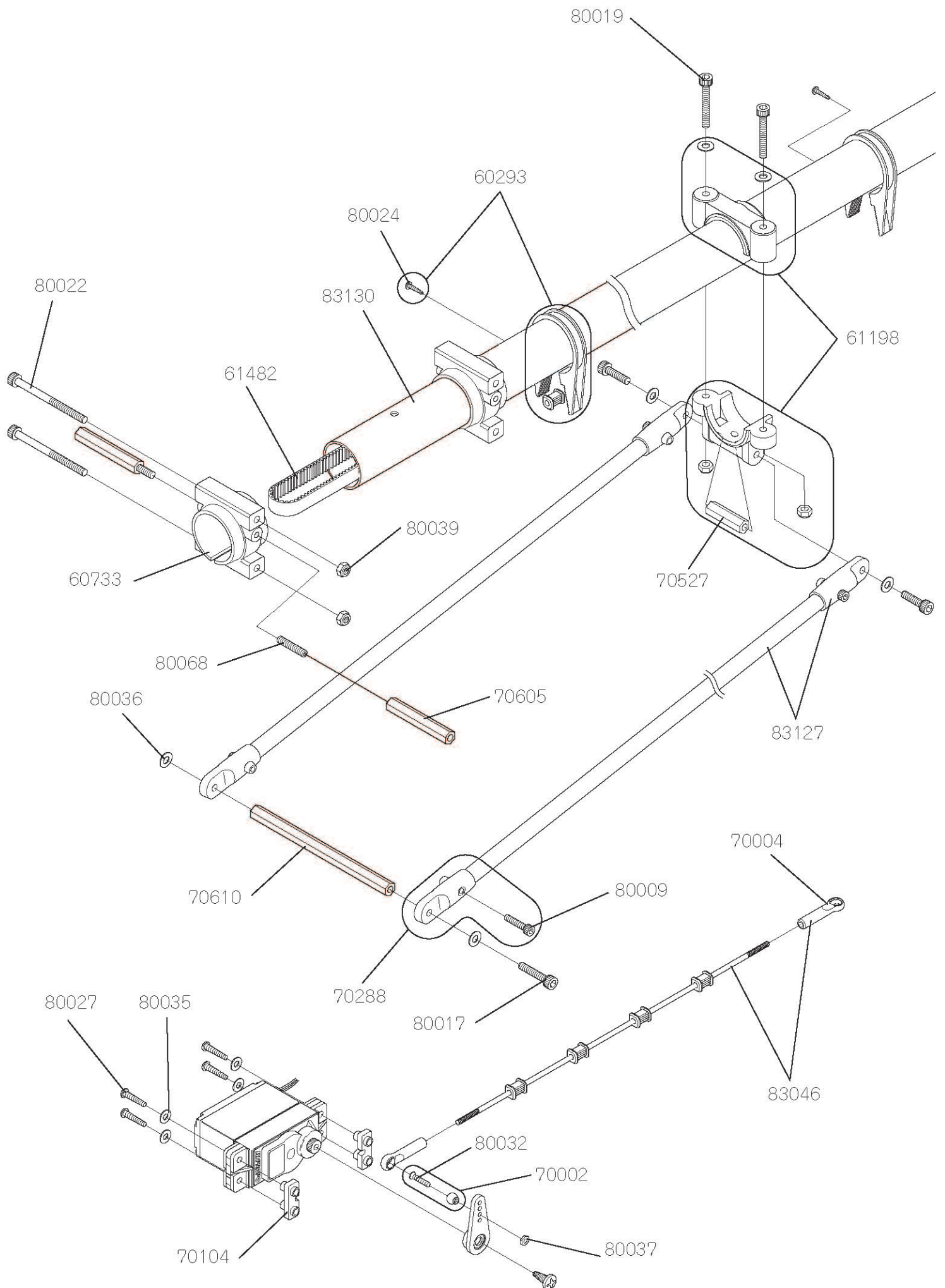
60275	Gasoline Tube 2.5 × 5	1m	
60336	Tank Mounting Rubber	1m	
60442	Landing Strut Damper	× 4	
60443	Damper Rubber U Clamp	× 2	
61470	Landing Strut Adapter	× 2	
61471	Landing Strut Adapter Damper	× 1	
61472	Landing Strut	× 2	
61473	Landing Strut Supporter	× 2	
61474	Landing Skid	× 2	w/High Landing Skid Cap
61475	Landing Strut Clamp Set	× 1	2 pcs (4 pcs needed for 1 kit)
61476	Landing Strut Set	× 1	for 1 kit
61477	Fuel Tank	× 1	w/Fuel Tank Cap
61478	Tank Grommet Set	× 1	1 set
61480	Tank Filter	× 1	w/Snap Ring Wire
61483	Landing Strut Adapter Set	× 1	w/2 Landing Strut Dampers and 1 Adapter Rubber
61484	U clamp set	× 1	w/Landing Strut Damper · Damper Rubber U Clamp 2 pieces each
61485	Fuel Tank Set	× 1	w/Tank Grommet Set · Tank Mounting Rubber
70190	High Landing Skid Cap	× 4	
70197	Tank Grommet	× 2	
70287	Tank Grommet B	× 2	
70608	Landing Skid Wire	× 4	
70609	Snap Ring Wire	× 2	
70612	Fuel Tank Cap	× 1	
70613	Tank Nut	× 1	w/Washer 07 × 12 × 1
70614	Gasoline Tube 2 × 4	× 1	150mm, Color: black
70615	Tank Nipple C	× 1	
70616	Tank Nipple B	× 1	
80004	Setscrew M4 × 4	× 10	
80014	Socket Head Bolt M3 × 10	× 10	
80015	Socket Head Bolt M3 × 12	× 10	
80018	Socket Head Bolt M3 × 18	× 10	
80036	Plate Washer M3	× 10	
80039	Nylon Lock Nut M3 t2.8	× 10	
80089	Socket Head Bolt M2.6 × 10	× 10	
80117	Socket Head Bolt M2.6 × 6	× 10	
80129	Nylon Lock Nut M2.6	× 10	
80207	Socket Head Bolt M6 × 10	× 5	
80208	Spring Washer M6	× 10	
80209	Nut M6	× 5	
80210	Tooth Lock Washer M6	× 10	



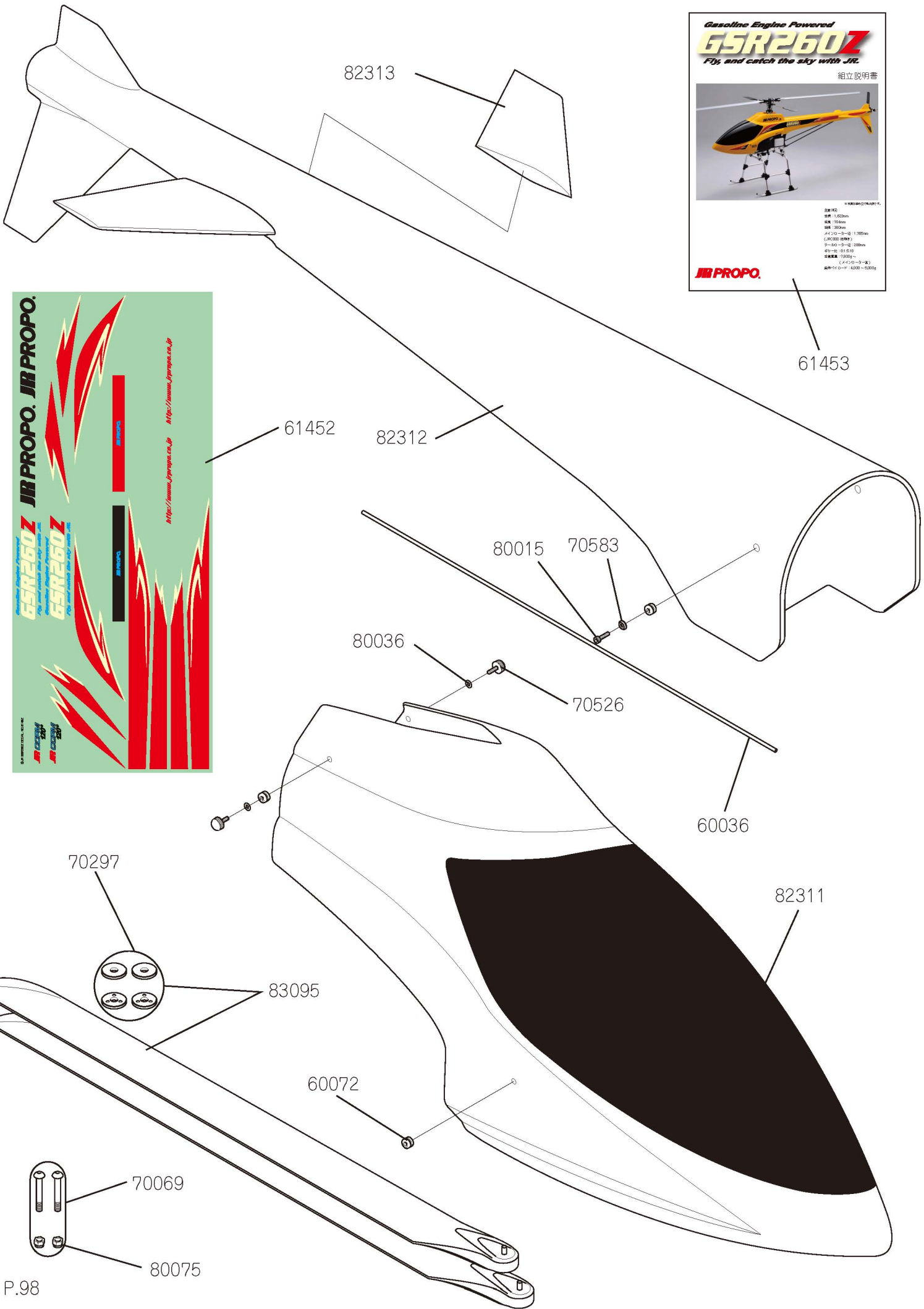
55005	Bolt M5 × 20	× 4	
55006	Gasket (Insulator)	× 2	
55007	Insulator	× 1	
55008	Gasket (Carburetor)	× 2	
55010	Pin	× 3	
55011	Gasket (Case)	× 2	
55012	Seal 12 × 22 × 7	× 1	
55013	Bearing	× 2	
55014	Snap Ring	× 2	
55015	Bearing	× 1	
55016	Bolt M5 × 30	× 4	
55020	Snap Ring	× 2	
55021	Bearing	× 1	
55022	Thrust Washer	× 2	
55023	Crank Shaft Complete	× 1	
55025	Screw M5 × 16	× 3	
55028	Screw M4 × 14	× 4	
55029	Key	× 1	
55030	Shim	× 2	
55031	Coil	× 1	
55036	Screw M4 × 22	× 2	
55038	Screw M5 × 55	× 2	
55041	Bolt M5 × 20	× 2	w/Washer
55042	Rotor	× 1	
55044	Gasket (Muffler)	× 2	
55045	Bolt M5 × 60	× 2	
55052	Rope	× 1	
55053	Spacer	× 1	
55064	Cylinder	× 1	
55065	Gasket (Cylinder)	× 1	
55066	Crank Case Complete	× 1	
55067	Piston	× 1	
55068	Piston Ring	× 1	
55069	Piston Pin	× 1	
55071	Spark Plug RZ7C	× 1	
55073	Muffler	× 1	
55105	Muffler Mounting Bolt	× 1	w/Spacer
55106	Carburetor	× 1	For 26 cc
55107	Air Cleaner Spacer	× 1	
55108	Mount Plate J	× 1	
55109	Recoil Assembly	× 1	
55110	Air Cleaner Assembly	× 1	
55111	Sponge Filter	× 2	For Air Cleaner
55112	Plate Set	× 1	For Air Cleaner
55113	Choke Lever J	× 1	w/Choke Lever Spacer
55114	Pulley	× 1	
70002	Joint Ball B	× 10	w/Flat Head Screw, M2 x 10
70123	Throttle Lever	× 1	w/Joint Ball · Setscrew
80037	Nut M2	× 10	
80067	Setscrew M3 × 3	× 10	



60359	HG Tail Gear Base	× 1	
60361	HG Tail Gear Plate	× 2	
60362	HG Tail Gear Bearing Case A	× 1	
60363	HG Tail Gear Bearing Case B	× 1	
60366	HG Tail Gear Holder B	× 1	
60556	Tail PC Link B	× 2	
61150	Carbon tail rotor blades L105	× 1	For 1 kit
61201	Tail Slide Ring	× 1	w/Bearing
61202	Tail Pitch Control Lever Set	× 1	w/Bearing
61204	Tail Pulley T18	× 1	
61206	Tail PC Plate	× 1	
61294	ASG Tail Gear Lever Bracket	× 1	
61423	Tail Center Hub	× 1	w/Setscrew M4 x 4
61424	Tail Rotor Grip	× 1	For 1 kit
61433	HG Tail Center Hub Set	× 1	For 1 kit
61481	Tail Rubber N	× 1	
61482	Tail Drive Belt 60S3M2100	× 1	
70001	Joint Ball A	× 10	w/Flat Head Screw, M2 x 8
70137	HG Tail Output Shaft	× 1	
70149	Cross Member L16	× 2	
70150	O-ring 05 × 07 × 1	× 2	
70152	Washer 05 × 07 × 0.05	× 2	
70163	O-ring 5 × 7 × 1	× 2	
70293	HG Tail PC Link Pin	× 2	
70528	Tail Slide Ring Sleeve	× 1	
70529	Tail PC Bearing Collar	× 2	
70530	Tail PC Slide Bolt	× 2	
70545	Washer 08 × 10 × 0.5	× 2	
70577	Washer 05 × 07 × 0.5	× 2	
80004	Setscrew M4 × 4	× 10	
80012	Socket Head Bolt M3 × 6	× 10	
80013	Socket Head Bolt M3 × 8	× 10	
80031	Flat Head Screw, M2 × 8	× 10	
80036	Plate Washer M3	× 10	
80039	Nylon Lock Nut M3 t2.8	× 10	
80091	Button Head Bolt M3 × 6	× 10	
80108	Socket Head Bolt M2.6 × 4	× 10	
80128	Nylon Lock Nut M2	× 10	
80131	Socket Head Bolt M2 × 10	× 10	
80200	Tail Drag Bolt	× 1	M3 x 15 -w/ Nylon Lock Nut
81016	E Stopper Ring M1.5	× 10	
81028	Shield Bearing 05 × 10 × 4	× 2	L-1050ZZ
81029	Thrust Bearing 05 × 10 × 4	× 2	T5-10
81038	Shield Bearing F04 × 07 × 2.5	× 2	LF-740ZZ
81065	Shield Bearing 07 × 11 × 3	× 2	L-1170ZZ
83130	Tail Boom L976 (silver)	× 1	



60293	Tail Rod Guide B Set	× 4	w/Rod Guide Collar B
60733	Tail Boom Holder	× 2	
61198	Tail Support Clamp (AS)	× 1	
61482	Tail Drive Belt 60S3M2100	× 1	
70002	Joint Ball B	× 10	w/Flat Head Screw, M2 x 10
70004	Universal Link	× 10	
70104	Servo mount plate B	× 10	
70288	Tail Supporter End (60)	× 4	
70527	Cross Member L20	× 2	
70605	Cross Member L35	× 2	
70610	Cross Member L80 black	× 2	
80009	Socket Head Bolt M2.6 × 12	× 10	
80017	Socket Head Bolt M3 × 16	× 10	
80019	Socket Head Bolt M3 × 22	× 10	
80022	Socket Head Bolt M3 × 40	× 10	
80024	Self Tapping Screw M2 × 8	× 10	
80027	Self Tapping Screw M2.6 × 12	× 10	
80032	Flat Head Screw, M2 × 10	× 10	
80035	Plate Washer M2.6	× 10	
80036	Plate Washer M3	× 10	
80037	Nut M2	× 10	
80039	Nylon Lock Nut M3 t2.8	× 10	
80068	Setscrew M3 × 15	× 10	
83046	Tail Control Rod L912	× 1	w/Universal Link
83127	Tail Boom Support Set L590	× 1	For 1 kit w/Tail supporter end
83130	Tail Boom L976 (silver)	× 1	



60036	Antenna pipe	× 3	
60072	Rubber Grommet	× 4	
61452	Decal (260Z)	× 1	
61453	Assembly Instructions(260Z)	× 1	
70069	Drag Bolt M5	× 2	w/Nylon Lock Nut
70297	Rotor Spacer	× 4	t=3
70526	Body Fixing Bolt	× 4	
70583	Socket Head Bolt Holder M3	× 10	
80015	Socket Head Bolt M3 × 12	× 10	
80036	Plate Washer M3	× 10	
80075	Nylon Lock Nut M5	× 10	
83095	Carbon Main Rotor Blade JRC800	× 1	
82311	Front Body (260Z)	× 1	
82312	Rear Body(260Z)	× 1	
82313	Horizontal Fin(260Z)	× 2	

DECAL PLACEMENT

- Affix the Decals to the helicopter body according to the figure below.
- Before affixing the decals, degrease the surface of the body with alcohol, etc.
- Before affixing, spray diluted soapy water (water mixed with a small amount of neutral kitchen detergent) onto the body. This allows you to slide the Decals into position. Only attach one at a time. Affix them little by little so as not to trap air underneath.

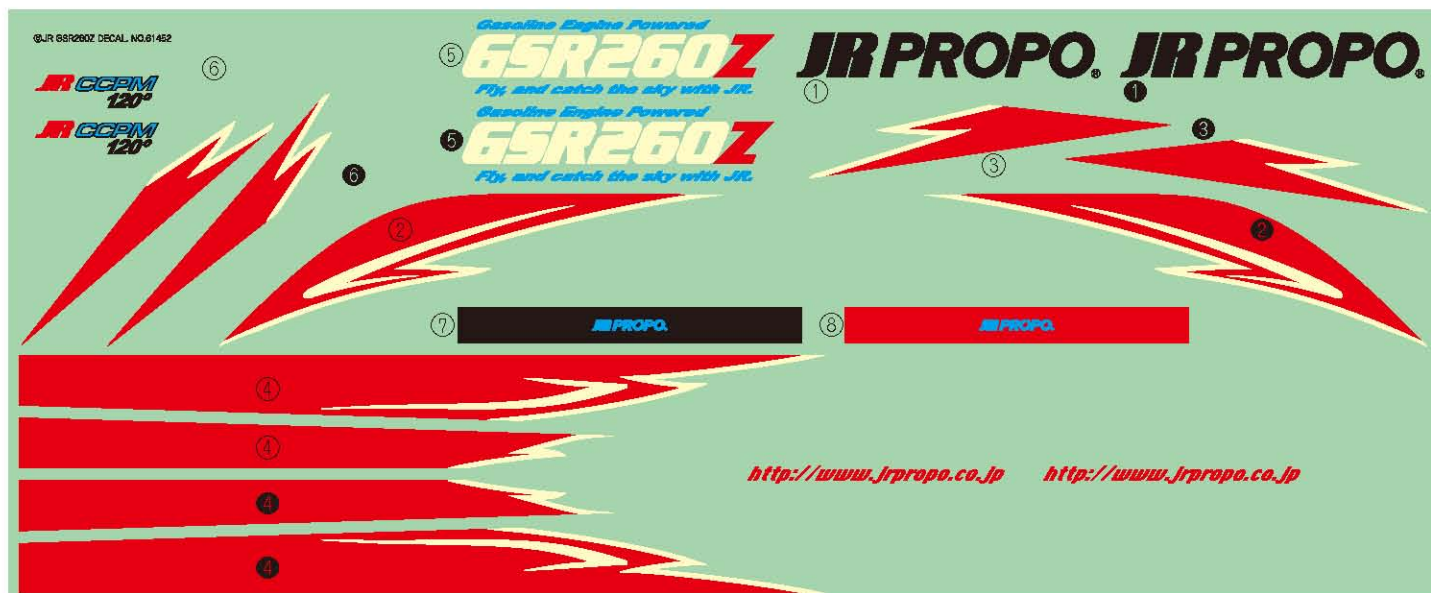
● If air is trapped, do not remove the Decals by force. Make a tiny hole in the air-bubble area and push out the air.

Affix the decals ① L through ⑥ L on the left side and ① R through ⑥ R on the right side of the helicopter (④ L and ④ R are separate).

Unnumbered decals may be affixed on any location you choose.

Decals ⑦ and ⑧ are for tracking adjustment - affix these to the Rotor Blades.

If the Body or Decals become dirty, use neutral detergent to clean. Use of a solvent such as thinner may discolor and damage them.





LOT NO.

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