

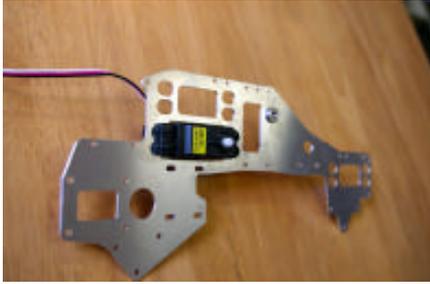
The Shocker 30



30 class helicopter shocker SP handling instruction manual v1 01 this time, thank you for buying quick of japan make radio helicopter kit "shocker SP", simply come, thank you truly. In order for you to build and fly this product safely, in beginning please read the book handling instruction manual to end. In addition, this commodity with the commodity which uses the cutting part of the metal, has become something which also air performance adjusts to the medium upper-class person. It becomes large amount different from those which use, the plastic part which such as repair when it breaks makes the one for beginner. Being not the heli for the beginner, please acknowledge. In addition, this instruction manual the method which has the experience which the radio-control helicopter flight is done we are produced in the object. This product is the kit only of the radi-control helicopter itself. Those which are necessary for the assembly and this item are other way necessary to flight. The engine, the main rotor blades and the radio controlling device, the fuel and the tool etc. are not included. Quick 500 section commercial matters (possession) quick RC division produces this product.

It does not limit main product of feature of this product, to either price low and many parts with the product which it cut was processed by the machine tool, it is superior in cost performance. The moving parts almost, all ball bearing is used. The ccpm system of 120 degree type is adopted to control system of swashplate, the control whose abnormal play is little. To publish the information of support of this product and the information of update, with our company Internet sight, because the ㇏ it is, please view. Address <http://www.9129.co.jp> helicopter which is necessary for other than main kit of //www.9129.co.jp, for info, mode of 120 degree type has been used. In addition, servo 5 being necessary. With the engine glow two cycle 30 class engine, those of the radio helicopter necessary are main point, (OS37 engine recommendation) the muffler which is agreeable to the muffler above-mentioned engine is necessary. In the especially 37 engines, please utilize those of the capacity which is in 37 engines. 550 millimeter main rotor of the main rotor wood product or the fiberglass make etc. is necessary. Power source in order heat to do the engine starting equipment plug and the starter and the start shaft in order to start the cord/code and the engine (6 angular types of 6 millimeters), power source is necessary. The glow fuel which is agreeable to the fuel pump and the above-mentioned engine in order to refuel to the fuel and the pump fuel tank is necessary. The radio helicopter, when you make a mistake in the use method, very much is a dangerous case, use caution when flying this heli. In addition, when without mastering usage and the like it is utilized, when the wound is done, it is. The case of this commodity utilization, standing on these things sufficiently, please utilize. In addition, do not operate near of the house and the place etc. where it is close to the place where the person gets together, being to be

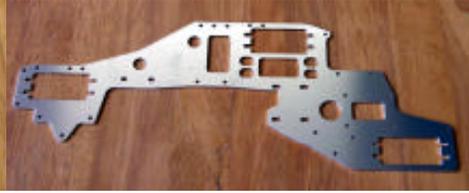
serious dangerous, please avoid utilization. As for the radio helicopter, many parts become the consumable. Utilizing experience, when consumption of the part was verified, please do sufficient point inspection always, exchange rapidly. Especially the case where the bear ring and the like consumes, there are times when also noise and the like comes out. Already, we request early exchange even with when you think that you can use a little.



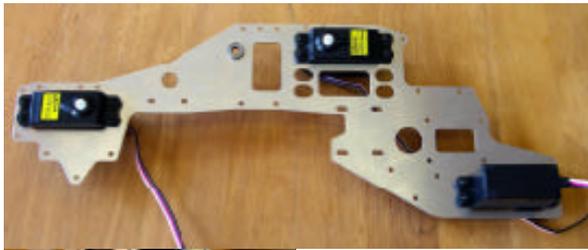
Upper right frame



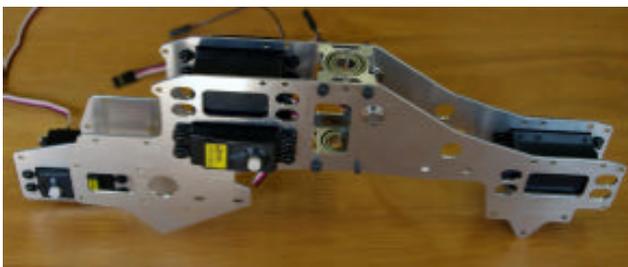
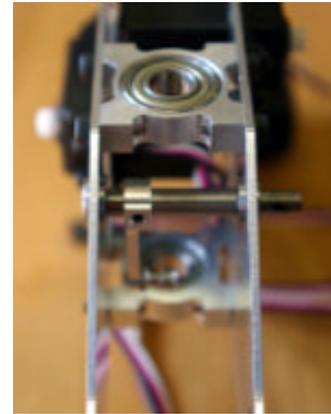
Upper right frame.



Left frame, mounts t/r servo.

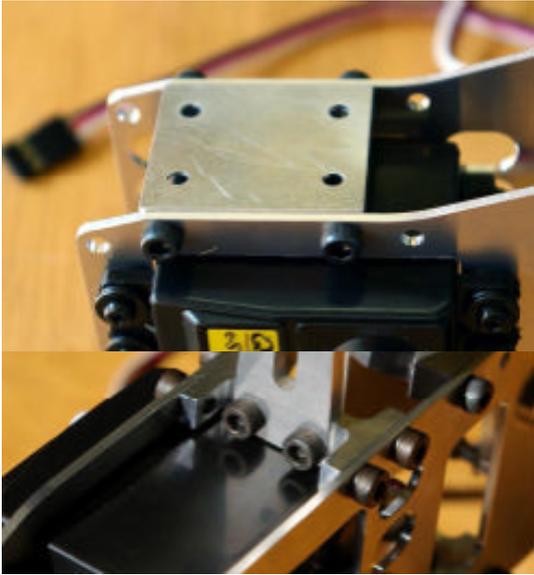


Upper left frame elevator, swashplate, & rudder servos.

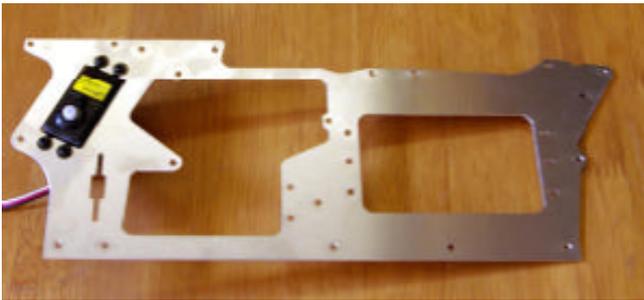


The flange side of the elevator shaft bearings goes to the insides of the upper frames, if the frames are reversed, the elevator shaft will not have the proper clearance for smooth travel.

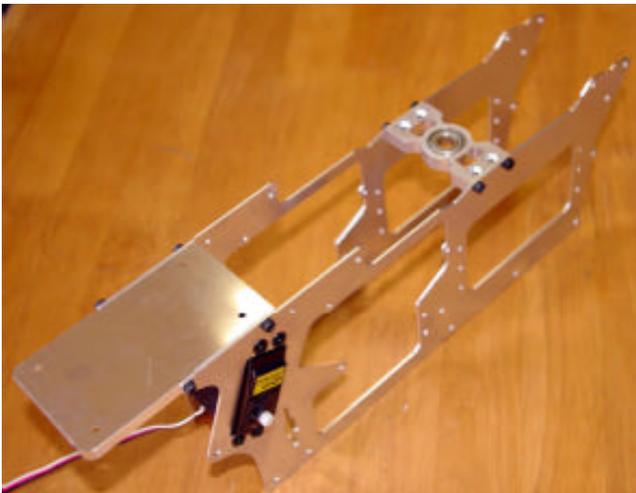
In main kit of the assembly of this kit, Permatex to lock all nuts and screws for locking prevention is necessary before the section screw is tightened. Permatex does not come in the kit.. Furthermore, because we do not clearly write the specification of screw lock tight in each section, please use securely at each place. Note above elevator arm is installed on elevator control shaft, installing it in the bearings in each side between the upper frames. Assemble frames per pictures above. Use the grommet and the flange, use the M2-12 screws and nuts to install. As for installation direction the above-mentioned photograph please reference. Assemble elevator control arm to shaft using set screw and install L6 pivot ball on arm. Mount main shaft bearing blocks and elevator between frames. The body mounts are installed afterwards.



Left, install the mount plate between the frames above the servo. Lower left, install radius stay mount and radius stay between frames. Lower, elevator linkage control arm on the left side of the heli, do not over tighten.

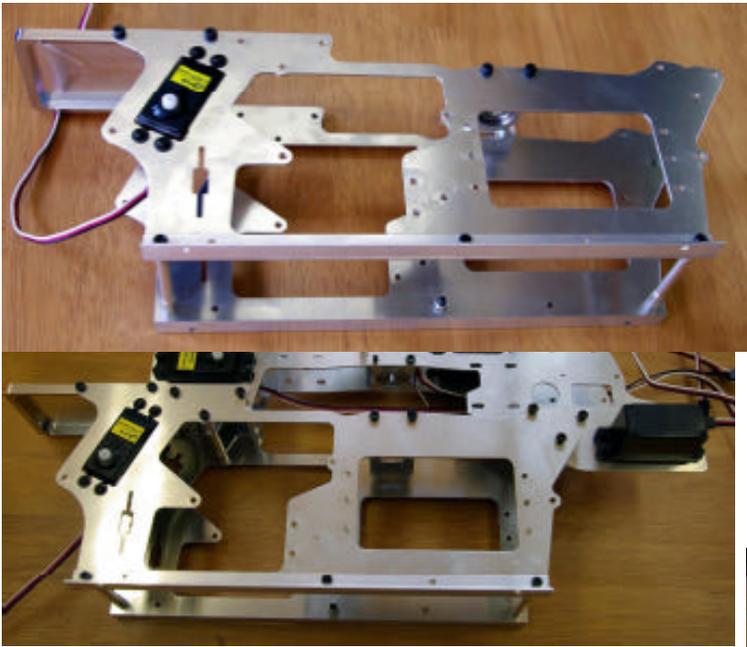


This shows the left side lower frame with the throttle servo installed in the frame.

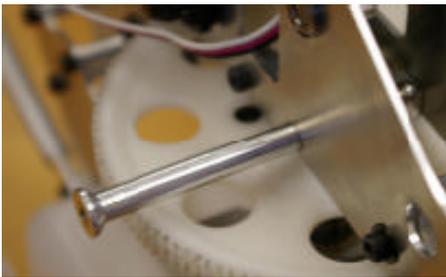
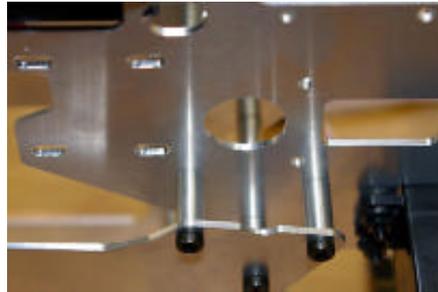


Flush side of bearing block is installed upward. Radio tray can be installed flat side up or down, per pilot preference. Build frame on flat surface for best alignment of frames. This picture shows the lower main shaft bearing block Bolted in between the lower frames.

Install low angles on each side, fitting the left rail to the left side and right rail on the right side using the 54mm x members using M3-10 screws and the M3-8 on the center holes as shown in left picture. Join the upper and lower frames with the 26mm x members between the upper frames and the 12.5mm x members

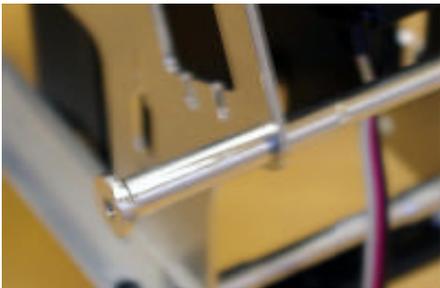


between the lower frames and upper x members using 12 M3-22 screws.

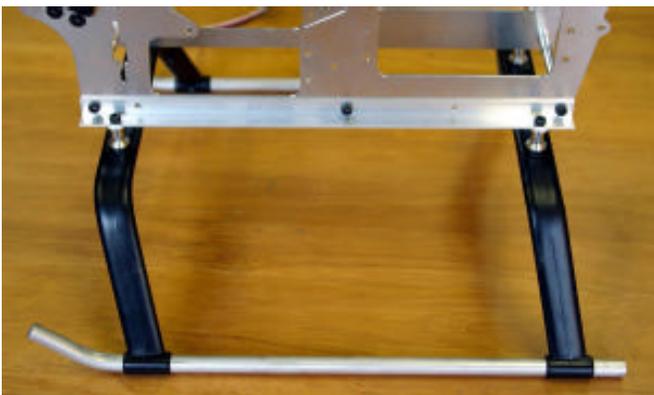


Upper body mount screwed into the main bearing housing.

The short mounts are the lower mounts pictured lower left.



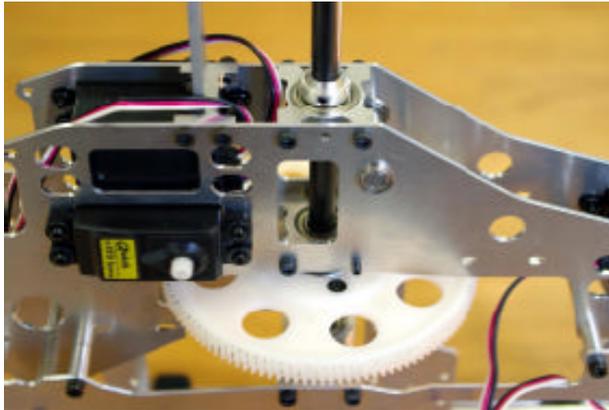
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Assemble skids and braces, use M3-28 screws to mount frame to braces using spacer.

Install the one-way shaft in the one-way system with the long portion to the bottom side. Install the G ring on the one-way shaft. The main gear is installed on the one-way unit with flat head screws. The gear on the one-way unit is installed on the main shaft on the heli with the long portion of the one-way shaft to the bottom. When installed later, the counter gear should line up with the main gear. When the M3 bolt is installed through the main shaft under the main gear, the shaft can be pulled upward removing end play and then install main shaft locking collar above the upper main shaft top bearing.

Note: Anytime the one-way shaft is removed, put a light coating of a good quality grease on the one way bearing.

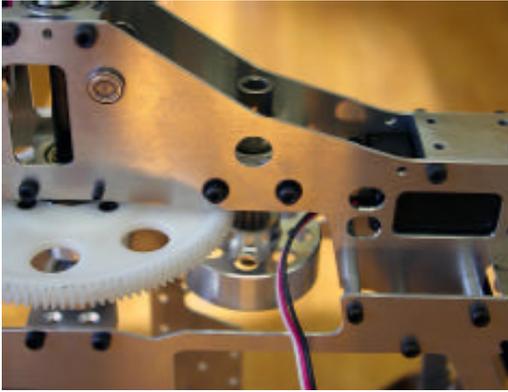


Lower left, the pinion gear is screwed in the clutch bell. Do not damage the pinion gear tightening it. The other picture shows installing the clutch lining in the clutch bell. Do not cut the lining off too short. You may use 5 minute epoxy to lightly glue the lining in the clutch bell. Only lightly rough up the lining and the inside of the clutch bell for installing the lining, removing too much material will cause too much clearance between the clutch and lining, causing the clutch to crack or break.



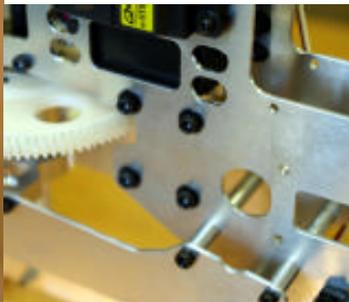
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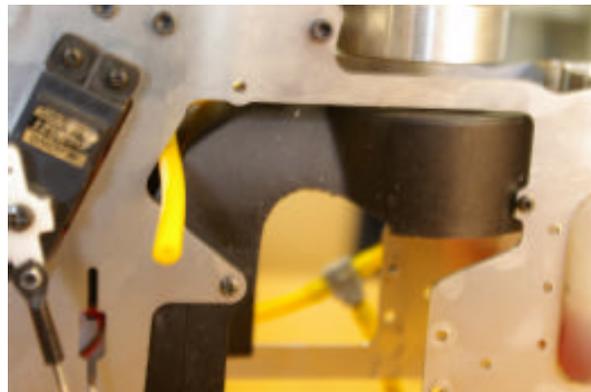
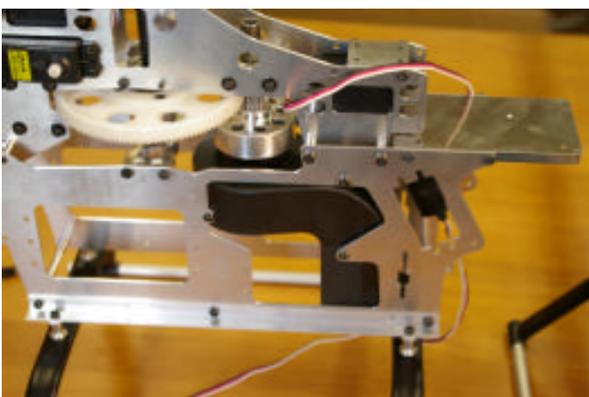


Screw pinion in clutch bell, carefully tighten. Attach bearing Block on top of pinion. Insert start shaft through clutch bell And attach start cone, tightening M4 set screw. Note: Leave About .005 inch endplay clearance.

Mount motor pinion assembly between frames, do not tighten Wait till motor is in place and align motor and assembly as A complete unit, then using approx. 2 layers of tissue paper Between the pinion and main gear, align and tighten.



After installing countershaft gear pin, install gear and counter gear pulley on shaft. Install bearing Blocks on ends of the counter gear shaft, flush sides go toward the inside or inward. Install the counter Gear assembly between the frames and install 8 of the M3 screws. Use paper to set proper main Gear to counter gear clearance for smooth operation, then tighten M3 screws. Clearance is set The same way the motor pinion gap was set. NOTE: The counter gear assembly must be installed So that the counter gear runs on the main shaft gear, and the tail belt **MUST BE INSTALLED** before The assembly is mounted between the frames or you may remove the lower bearing block.



The fan cover is held in place with 4 screws. Enlarge hold in cover so the clutch will install.

Mount motor and remove carb and reinstall after motor is positioned in heli before bolting in position. Use 4 flat head screws to mount hub on fan. Install unit on motor shaft, test fit in heli before

Tightening motor bolt. You may use a washer under the crankshaft nut. You can mount the motor on the mount now. Caution: Use long bolts on motor base, use shorter M3 screws in mount.

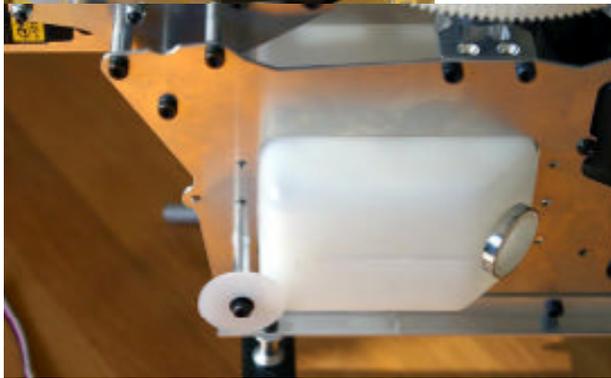


The clutch is mounted using the 2 M3-8 screws. NOTICE: The clutch must be dial-indicated to make sure it is seated properly for smooth operation. If you do not dial indicate this unit, it is possible that you could have clutch or clutch bell failure causing damage.

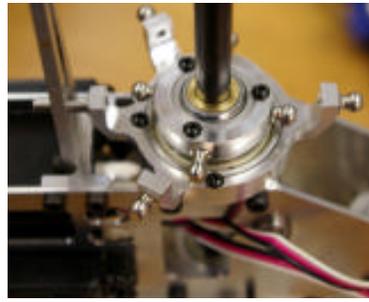
The carb can be reinstalled when motor is partly installed in heli. When installing motor unit in heli, make sure clutch is fully seated up in the clutch bell. Install motor mount bolts in each side of the frames. Make sure the fan turns freely and does not hit the cover. Line up the motor and the clutch bell motor pinion unit as one complete unit, setting the gear mesh as mentioned earlier.



The picture shows the complete power train unit bolted in position.



The tank is installed in the frames with the outlet on the right side. The M3-18 are used with the nylon washers to hold the tank in position. Notice the right photo, the short link is installed on the left side to hold the tank in position. The M3 with washers are used with the nylon washers.

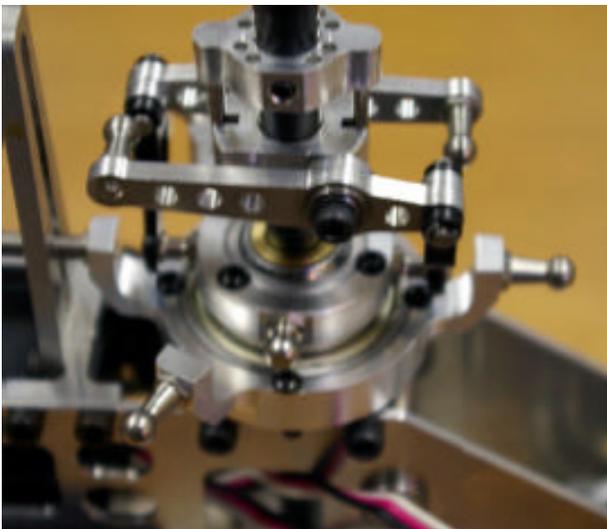


Install the three L8 pivot balls in the 120 degree lower swashplate and the radius pin in the rear Middle section as shown. The two L4 and L6 pivot balls are installed opposite each other in the Upper part of the swashplate. The swashplate is installed on the main shaft and the radius pin is Put in the radius guide to hold the swashplate straight as it moves up and down.



washout installed wrong. The cone side will be Installed upward, and will not cause any pitch range problems.

The M3-10 are used to put the washout arms on the washout Base putting the small washer next to the base. Use the pins And clips to put the washout links on the arms. Top right Picture shows the unit assembled. The washout is installed with the flat side to the bottom, the photo below shows the



Install the unit on the main shaft and swashplate as shown In this picture. Install the washout base guide above in Position as shown using set screw to hold in position Tightening it after installing the head to make sure it is Positioned near the top so it will not limit swashplate travel.

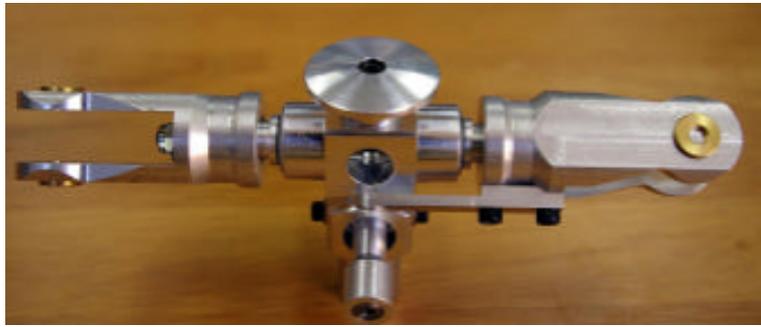
Bottom left picture: Install 2 bearings in head block, then Position seesaw in head block. Use M3 screws and seesaw Collars to put through bearing to hold the seesaw in Position. Do not overtighten, there are a limited amount of Threads to hold the screws.

Install the seesaw bearings in the ends of the seesaw and One of the L8 pivot balls on each side of the seesaw. These Will link to the mixing bases on the pitch arms. The unit Together is pictured bottom right.



Install the 2 dampers on the damper spacer, install one in each side of the center hub. Install spindle shaft through Hub. Install each blade grip on spindle shaft using lock nut To secure on each side. Install head button with screw.





Install each pitch arm on opposite sides as pictured above. Install the mixing bases on the pitch arms. Install head on Main shaft securely with bolt and lock nut. Note: Blade grips Are designed to have some play in the grips. Install the pivot Balls on the mixing bases which were installed on the pitch Arms using the M3 bolts.



Build flybar control arms as pictures shows, install flybar and spacers in Seesaw and center. Note: Rod ends must be installed on control arms Before locking arms on flybar. Flybar paddles are screwed on flybar each Side approx. 25mm, measure depth in paddle and install that depth. Line up paddles parallel with flybar control arms.



Put the tailbelt through the tailboom and assemble boom. See notes next page below.



The notes below are for the page above and for the next page of photos.

Photos above: The tailboom is built in these steps above. Be sure and locate tail pulley set screw on tail rotor output shaft in the correct position so set screw will seat in shaft. The Pitch change lever Mount can only be mounted on one side of the tailrotor bearing plates. Use the small screws to mount it on the side you plan to run the tailrotor. The tailrotor can be run on either side and in a clockwise direction or a counter clockwise direction. The direction of rotation of the tailrotor can be changed by reversing the belt on the tailrotor pulley. NOTICE: Look in the tailboom and make sure the belt is not twisted. After unit is assembled and tailrotor is completely on the heli the blades should have approx. 3-4 degrees of angle with the pitch change lever arm in a neutral position making near a 90 degree angle with the tailrotor pushrod. This can vary, per pilot desire. After final setup, go back and clean and Permatex the tailrotor output shaft in the bearings to make sure the shaft does not spin inside the bearing ID. If that happens, the tailrotor output shaft can heat up and fail. Final tightening any allen screw is by not overtightening, but by tightening and slightly loosening it then retightening it a few times. Use lightweight oil on the pitch change unit and the tailrotor output shaft.

Pictures Below: The photos show the tailboom holder plastic pieces in position between the frames. Use the 4 M3 screws and locknuts to hold in position. Before tightening, after tailboom is fully assembled, you adjust the belt tension by pulling the tailboom rearward and tightening the 4 screws. Do not run the belt too tight. Check tension by pressing on the top of the belt just in front of the tail pulley, it should deflect 1/16th to maybe 1/8th of an inch.

The photo of the tail blades shows they are setup for clockwise rotation. Make sure all bolts are locked using your locking compound of choice.

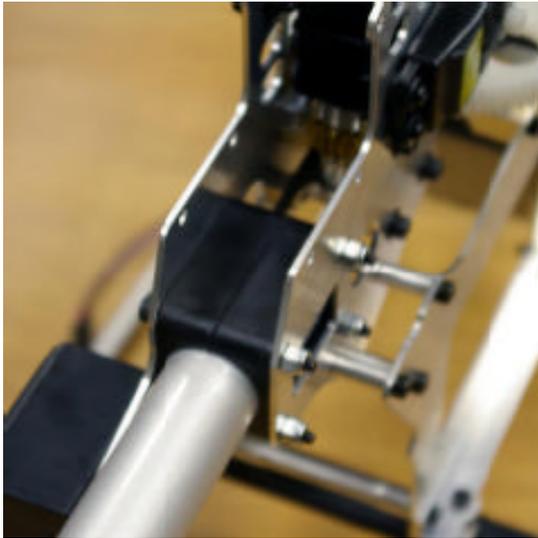
The pitch change unit is shown with the L4 pivot ball installed, when assembled on heli, this ball

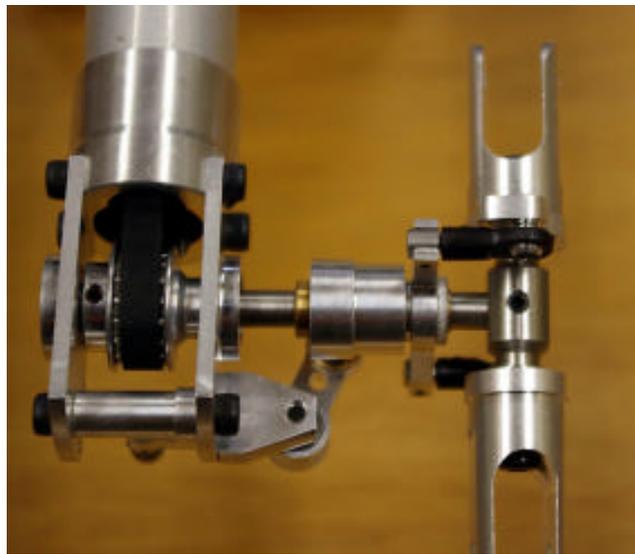
Should be installed in hole shown in other photo of the pitch change lever. The pitch change lever also shows an L4 pivot ball installed, this is to connect the plastic rod end to of the tail rotor push rod. The connector ends to attach the push rod to the plastic rod ends can be epoxied if the rod is roughed up good with coarse sand paper. Some pilots like JB Weld on this.

Notice on the pitch change unit that slides on tail rotor output shaft that the 2 small plastic rod ends are screwed on almost all the way. Note: The plastic rod ends have a small side and a slightly larger side for the ball. Snap the rod end on the balls from the larger side.

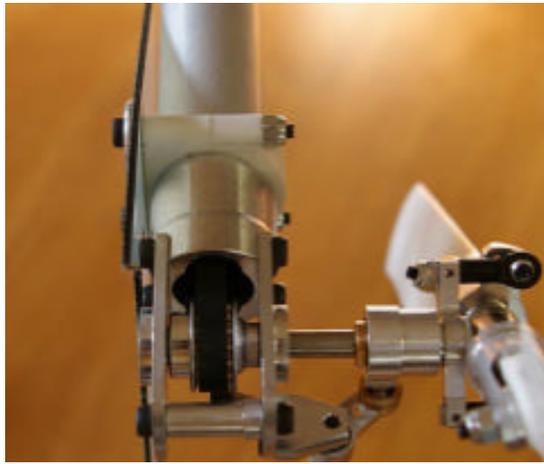
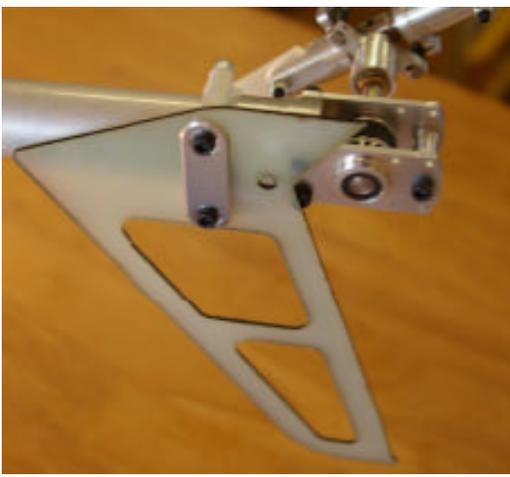
The pitch change lever arm is attached by the M3 screw while installing the pivot ball on the unit in the brass cup on the lever. You may use your choice of lube here if you desire.

Notes Page, do not count this page.





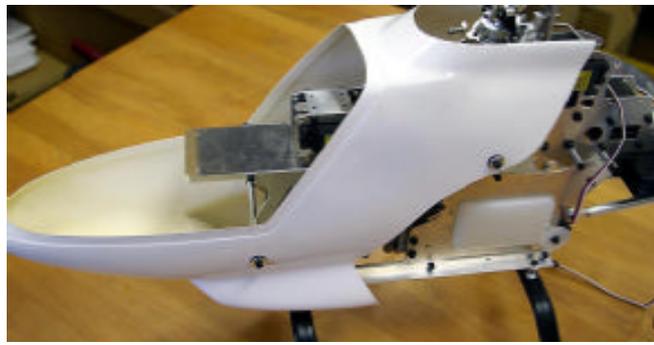
The tail yoke is installed on the output shaft with the M3 set screw. The ball with bases are installed in the outer holes on the blade Grips. The blade grips are installed on the tail yoke with the M3 Screws. Note in the above picture that a few degrees pitch will be in the blades with the lever approx. 90 degrees to the Tailrotor control rod linkage. Make sure M3 set screws are seated in the hole for the set screw in the output shaft. Make sure Linkage and rod ends move freely. Use a sizing tool carefully, Rod ends must not be loose. Install tail blades with leading edge toward the direction of rotation. Mount vertical fin in the vertical position. Antenna wire is shown in Picture.



This shows the horizontal fin mount on the tailboom and the fin installed on the tailboom using M3 screws. Note bolt hole on side of mount for boom brace bolts.



The boom brace ends can be glued in the tubes, rough up lightly. Mount tailboom braces and Do the final tightening on the horizontal fin and rear frame brace ends after the braces are mounted in position.



5? In the installation tail pipe of 6 tail planes and the tail supporter, the tail plane holder clamping, it places the tail plane, mediating/helping doing the protecting plate, M3? It temporarily locks with 10CAP. On the tail supporter both ends, it glues the end with the epoxy adhesive. In the frame and the horizontal tail wing mount, you install this and connect. Frame side M3? With 12CAP and ナイロンナット, tail plane mount side M3? You install with 10CAP. Please put out the horizontality of the tail plane, lock. In order remainder not to tighten too strongly, please note. (6) Installation 6 of body? It adjusts to the installation mount position of 1 body, the hole which can insert in the body the rubber grommet it can be less crowded. Please pay attention to position sufficiently. It glues the rubber grommet to body with such as instantaneous adhesive agent. Through body stopper, the body in the body mount M3? You install with 10CAP and the ま do. As for the canopy, after installing the body, removing fat sufficiently, installing with the cellophane tape, and the like the occasion where it is the く.

7? As for linkage servo horn of 1 elevator servo 20mm please utilize from the center. Servo horn of servo it is connected to all スワツシュ has the necessity to make the same length. The linkage rod uses 70mm, ボ - length between ル becomes 86mm. Inside elevator linkage, M2 3? You use 15 linkage rods, connect with swash ユプレート. Length between the ball makes approximately 45mm. The linkage in order for the rod end respectively 90 to become degrees vertical, sets the occasion where you screw in. 7? Frame left side of 2 スワツシュリンクエー ジ left side スワツシュプレート (photograph position) it is the linkage. Length between the ball is 45mm. M2 3? 20 linkage rods are used. 7? The frame right side of 3 スワツシュリンクエー ジ right side スワツシュプレート (photograph position) it is the linkage. Length between the ball is 66mm. M2 3? 20 linkage rods are used. In order for スワツシュ to become parallel, fine you adjust the length of the linkage to スワツシュ of the above-mentioned 3 places. In addition, when the one which is modified more or less with the method of taking the pitch, is good, it is.

7? As for linkage linkage rod of 4 エンコン, M2 3? 45 is used. As for rod end M2 3? For use it designates L as the both ends, using servo dynamic work angle with full, it is exactly good it decides the ball of servo horn, at the rank position. Engine throttle side, please install the ball. Between of the ball is 68mm. 7? Mixing arm スワツシュプレートアツパー section and ヘッドピッチア - the side which is shorter than the mixing arm center which is installed in ム is connected from 5 スワツシュアツパー. The linkage rod uses 70mm, designates between the ball as 95mm. Left and right 2 it makes this. 7? ピポット of 6 wash out and the ヒラーコントロールアーム wash out point and the ball section of head section ヒラーコントロールアーム are

connected. As for linkage rod 2.3? 30mm is used. Try between baud ル to become 49mm. 2 sets please make this, connect. 7? 7 mixing arms and the seesaw seesaw and the mixing arm are connected. As for linkage rod M2 3? 10mm is used and rod end 2.3 SS is used 2 respectively. It designates the length between the ball, as 24 mm. This is made 2 sets.

7? In one side of 8 ladder linkage piano lines, rod end and ball phosphorus ク are installed. As for the rod end the instantaneous adhesive agent as for the く it glues securely with the epoxy adhesive. The ladder linkage guide is installed in 3 place tail pipes. When the guide beforehand テ - winds the vinyl tape in ルパイ プ, from on that locks with the instantaneous adhesive agent it becomes difficult and to come off increases. In addition, in the guide the bush is locked with the adhesive of rubber type. In order that it becomes, in order to become the straight line, please position the linkage rod. The ball is installed to ladder servo, but when in general サ of 20mm - ボホーン is used from 15mm, it is good, probably will be. It decides the length of the linkage, cuts off the piano line, installs the rod end and connects servo and the lever with ball link. 7? Loading and the balance station gyro of 9 mechanics stick to the gyro mount with the both sides tape. In addition, it loads the receiver and the battery onto the mechanic plate. In vibrating measure, the receiver and the battery etc. come being the rubber, it is please be. In addition, balance station of the fuselage is thought that the position where the occasion where the mast is raised the fuselage becomes parallel with the land is optimum. The method which does 3D the one and the like where we would like to do the flight of the back, when the method which makes some rear heavy is better, it is. 7? As for the basis of adjustment phase adjustment of 10 phases, the fact that ピポット which is installed in the rocker arm which controls the link section ball of the wash out which is installed in the スワツシュプレートアツパー section and the control paddle of the head comes on the identical line is the basis. In beginning the case where flight it does, in order to become this position, please lock radius block. The assembly is completion at above.

As for the main rotor we have not belonged to main kit of the main rotor which is utilized. The occasion which other way buys our company make 550 carbon rotors, or the main rotor of length of 550 millimeters of other companies make buying seeking it turns it is. At this kit the case where it flies 3D flight and the like severely, please choose the rotor which had sufficient strength. The carbon make and the fiberglass make are the male be completed. The helicopter of first flight radi-con does with serious difficult forcing ones. The case where the beginner for the first time does flight, attending to the veteran by all means, we recommend the fact that it receives strongly. In addition, around at the sufficiently wide place, by any chance fall, influence, please go at the place where it does not point. By all means to be good definite recognizing/ admitting there is no making a mistake of the closing forgetting and the linkage etc. of the screw of the section before the flight, or do. There is no radi-con insurance operation mistake and the like the て, there are times when the accident which is expected with electrical interference and damage etc. of the part is caused and the ま do. Making provision for in these cases, we recommend the fact that it joins to radi-con insurance before the flight and increase. The request from our company usually in case of the manned helicopter, it is designed in such a way that most parts are exchanged by time. But, in case of the helicopter of radi-con, it cannot specify the consumption time of the part unconditionally with the difference of method of throwing and extent etc. of fall. But, as for all parts the consumable please think distantly. After fixed period flight, please exchange the section item with the judgement of the flier. When the defectiveness of the part occurs with the responsibility of our company, only replacement of the particular part does to do the ま. Depending upon the responsibility of the part of our company, there being fall and the like, guarantee other than the particular part makes outside the object. Please note. Before the flight, by all means flight, in regard to the basket verification which does not have the damage and damage etc. of the section, enjoying the occasion where it is the く. In addition, as for the place where it flies making provision for the accident of the unlikely event, please enjoy at the place where it does not have the private house and the other works etc..

The inquiry tip quick 500 section commercial matters limited company quick RC division TEL 028 for this product? 645? 9129 FAX 028? 659? 5897