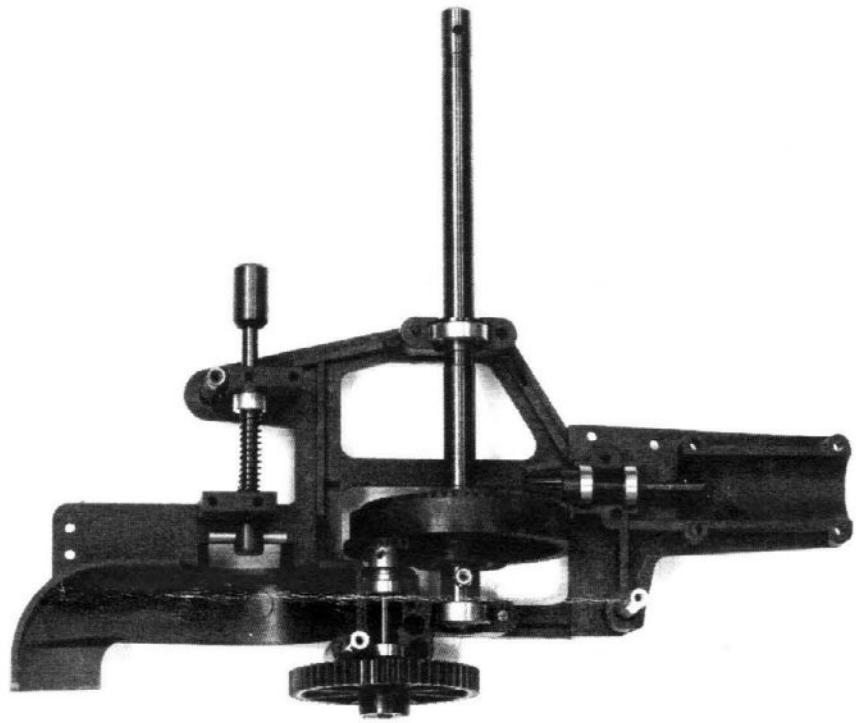
Scale Mechanics
Instruction Manual



SPECIFICATIONS

⇨ Main Rotor Diameter	53 in.
⇨ Tail Rotor Diameter	9.3 in.
⇨ Overall Length	47.5 in.
⇨ Height	15.2 in.
⇨ Engine	50

Century Helicopter Products

Designed and Developed in USA

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Introduction

Congratulations on your purchase of Century Helicopter Product's latest version of our scale series RC helicopter model. The Scale Mechanics helicopter is not only ideal for beginners new to the hobby, but also for the intermediate and right on through to the expert and 3D flyers. A 6 channel helicopter radio is recommended as the bare minimum to take advantage of the helicopter programming included in these radios. You may wish to check with us or your local dealer for compatible components.

Warning

This radio controlled model is not a toy! It is a precision machine requiring proper assembly and setup to avoid accidents. It is the responsibility of the owner to operate this product in a safe manner as it can inflict serious injury. It is recommended that if you are in doubt of your abilities, seek assistance from experienced radio control helicopter modelers and associations. As manufacturer, we assume no liability for the use of this product.

Pre-assembly Information

Upon opening the kit, all the major component parts are packaged in numbered bags to correspond to specific sections of the manual, greatly facilitating assembly. Various assemblies have been pre-assembled, only requiring the final assembly and installation of the various sub-assemblies. The screws and nuts required for each step are packaged in the same bag as the parts for that step. Be careful not to lose any of the hardware when opening each bag. Care has been taken in filling and packing of each bag.

Warranty

Your new equipment is warranted to the original purchaser against manufacturer defects in material and workmanship for 30 days from the date of purchase. During this period, Century Helicopter Products will repair or replace, at our discretion, any component that is found to be factory defective at no cost to the purchaser. This warranty is limited to the original purchaser and is not transferable. This warranty does not apply to any unit which has been improperly installed, mishandled, abused, or damaged in a crash, or to any unit which has been repaired or altered by any unauthorized agencies. Under no circumstances will the buyer be entitled to consequential or incidental damages. This limited warranty gives you specific legal rights. You also have other rights which may vary from state.

Century Helicopter Products
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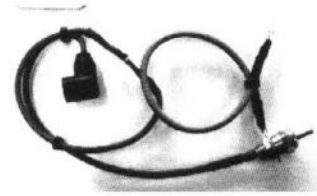
Required items for operation

This is the general list of items required to get started on any nitro R/C helicopter. Century produces a full spectrum of accessories and tools to assemble your helicopter. The Scale Mechanics is a mechanical cyclic collective pitch mixing type helicopter requiring a standard helicopter radio (the helicopter radio does not require eCCPM type mixing for this model). The Scale Mechanics uses 5 servos to operate critical systems. Gyroscopes are required to operate the model safely.

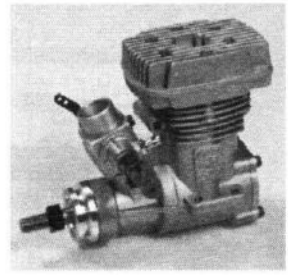
Necessary Items "Not Included" in the kit.

6 Channel Helicopter Radio or Equivalent.

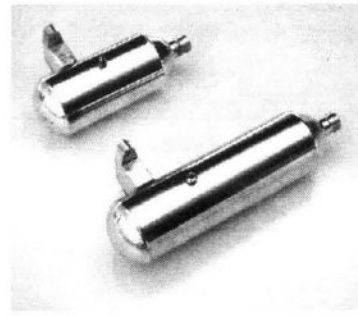
#PG2000 II dual rate piezo gyro
#CN2018 (or eqivalent)



Remote Glow Adapter
#CN2222 (optional)



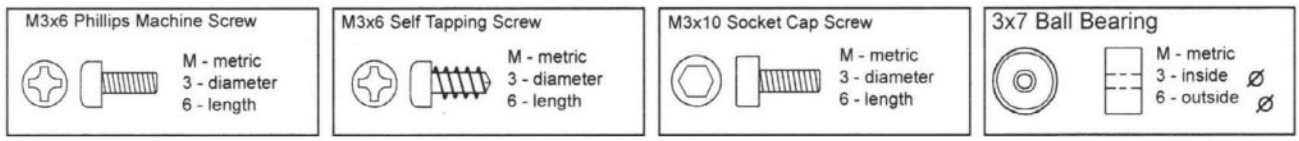
50 Helicopter Engine



Tuned Muffler (example #CN3033A)

Fastener and ball bearing dimensions

Hardware Description and Identification: M3x6 = 3x6mm and can refer to screws or ball bearings.



Recommended Tools & Accessories

The tools and materials listed below are the minimum needed to build the helicopter:

- Screwdrivers - Slotted and Phillips head
- Long-Nosed Pliers.
- Allen Wrenches - 1.5mm, 2.0mm, 2.5mm (supplied in kit) + 3.0mm
- Appropriate Socket Wrench (glow plug wrench for engine shaft nut)
- Hobby Scissors
- Double Sided Foam Tape (1/16" - 3/32")
- Foam Rubber (radio packing)
- JB Weld (bond clutch lining)
- Thread lock liquid (e.g. Locktite)
- Hobby Grease (Super Lube)
- Oil to lubricate sliding shafts
- "Y" Harness for 4 Ch Airplane Radio with 5 servo

In addition, the following will make assembly and setup easier, and prove useful later in your model toolbox:

Part#CN2015	Hardened Tip Hex Screw Driver Set
Part#CN2026	Pitch Gauge with Paddle Gauge
Part#CN2034A	15° Curve Tip Ball link Pliers
Part#CN2052	Main Blade Balancer
Part#CN2054P	Glow Plug Wrench Purple
Part#CN2055	Ball Link Sizing Tool
Part#CN2070	Universal Flybar Lock
Part#CN2155	Piston Locking Tool
Part#CN2219	Ball Link Easy Driver
Part#CN2255	Control Rod Guage
Part#CNWI26555	5.5mm Nut Driver
Part#CNWI26570	7.0mm Nut Driver

CN2024T Lubrication

Locktite
CN2025BS blue
CN2025RS red

15% or 30% Heli Fuel

12Volt Start Battery

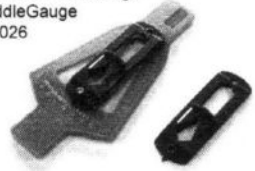
Fuel Line

12Volt Starter

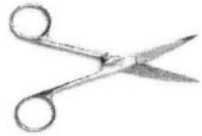
Servo Tape

Glow Plug

Main Blade Pitch Gauge w/PaddleGauge #CN2026



Hobby scissors



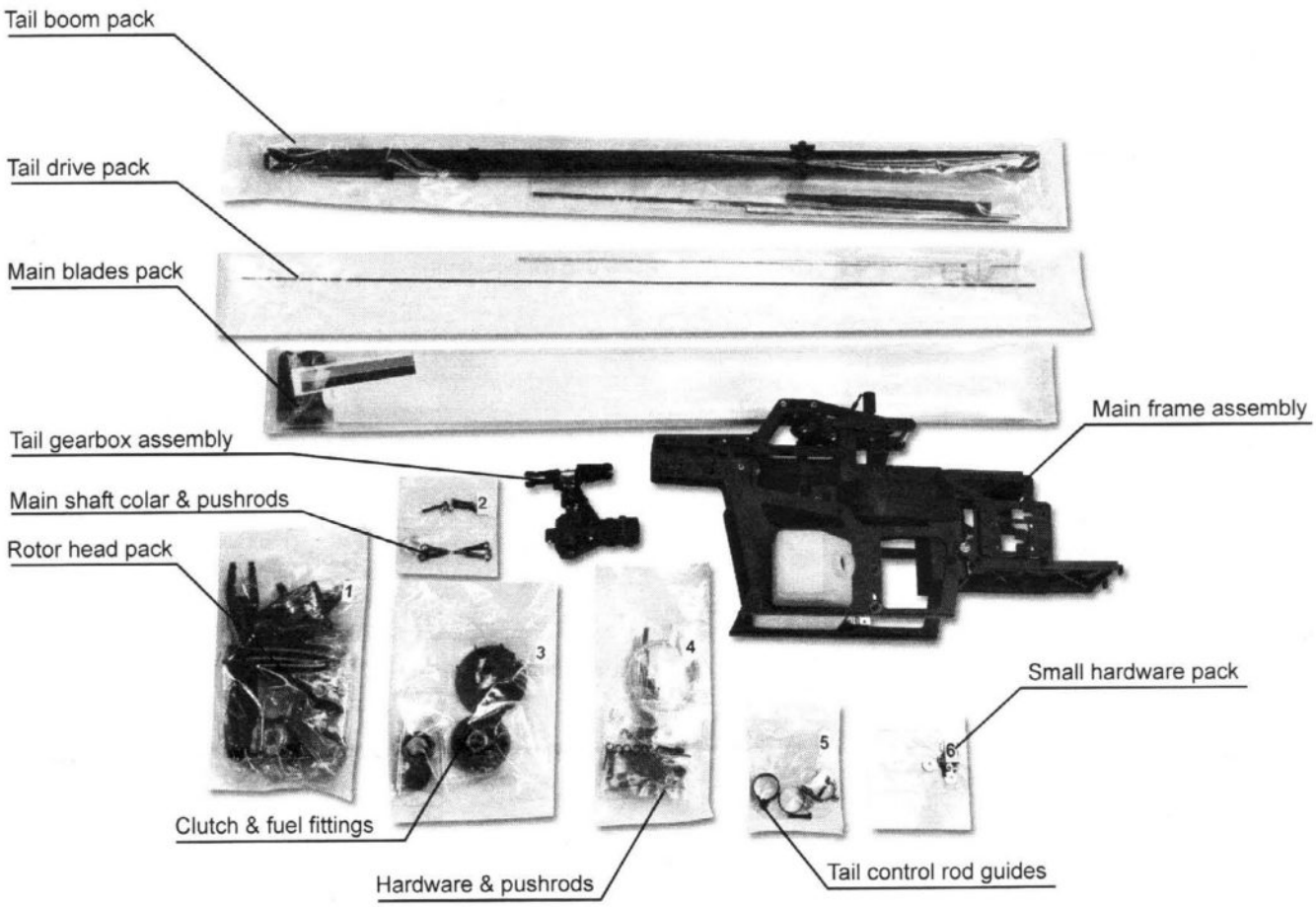
Needle Nose Plier & Cutter Pliers

Glow Driver w/Charger

Electric or Hand Fuel Pump

Package contents: Opening The Scale Mechanics for the first time

Time to inventory your Scale Mechanics! The helicopter is assorted into multiple bags contained inside the box. Each bag will have some parts that are not associated with that specific part bag. We recommend organizing all hardware and pieces and inventory them then keep them with their respective bags. It is common to have a few screws and/or washers left on the side after the build.



Rotor head pack (bag 1):
-Rotor head (1)
-Small pushrod (2)
-Flybar paddles (2)
-Flybar weights (2)
-Swashplate (1)
-Washout assembly (1)
-M3x4 set screw (2)
-Flybar control yoke (1 set)
-Pushrods (2)
-M4x5 set screw (2)
-M3x12 socket head cap screws (2)
-Double threaded steel balls (2)
-M4x6 washer (2)
-M4x8 ball bearing (2)

Main shaft collar & pushrods (bag2):
-Main shaft collar (1)
-M4x5 set screws (2)
-Pushrods (2)
-M3 locknut (3)
-M3x16 socket head cap screw (1)
-M3x20 socket head cap screw (1)
-M3x30 socket head cap screw (1)

Clutch & fuel fittings (bag 3):
-Clutch bell (1)
-Clutch shoe (1)
-Cooling fan (1)
-M3x16 socket head cap screw (4)
-M9x14 washer (1)
-M5x13 washer (1)
-Fuel fittings (1 set)
-Long tube (1)
-Short tube (1)
-Clunk (1)
-M3x18 phillips self tapping screw (1)
-Tie wrap (1)
-Fuel line (5 inches)

Hardware & pushrods (bag 4):
-Fuel line (14 inchaes)
-Pushrods (7)
-M2 steel control balls (7)
-Servo mounting tabs (4)
-Tail pushrod coupler (1)
-Allen wrench (3 sizes)
-M2 nut (7)
-Long ball links (14)
-M3x26 socket head cap screws (5)
-M3 locknut (5)
-M4x30 socket head cap screw (2)
-M4 locknut (2)
-M2.5x12 phillips tapping screws (20)

Tail control rod guides (bag 5):
-Tail blades (2)
-Tail control rod guides (3)
-M3x20 socket head cap screws (2)
-M3 locknut (2)

Small hardware pack (bag 6):
-M3x10 washer (4)
-M3 locknut (4)
-M3x10 socket head cap screws (4)

Main blades pack:
-Blade fittings (4)
-Wood main blades (2)
-Countersunk blade root screws (4)

Tail boom pack:
-Tail boom pipe (1)
-Flybar (1)
-Tail pitch control rod (1 short 1 long)
-Main shaft (1)
-Tail control rod guides (1)
-Horizontal fin clamp (1, not used)

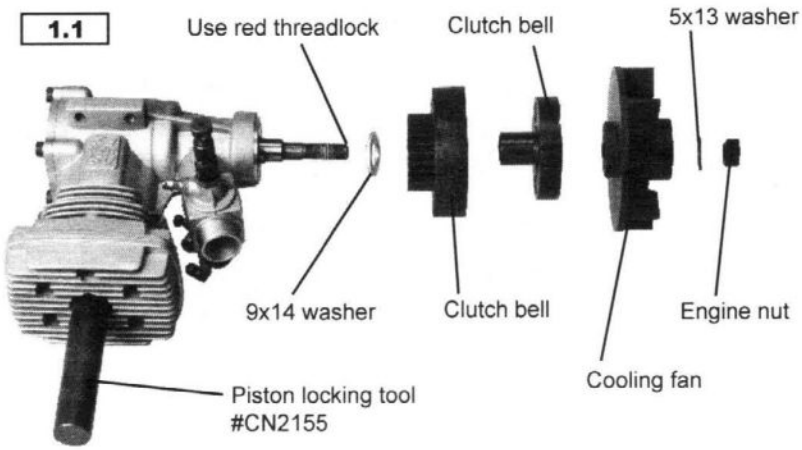
Tail drive pack:
-Tail drive shaft (1)
-Tail drive shaft brass sleeve (1)
-Tail drive shaft guides (3)

Not in bags:
-Tail gearbox assembly (1)
-Main frame assembly (1)

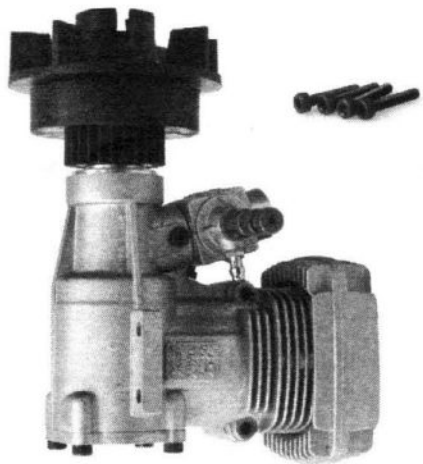
Section 1: Preparing the engine

Remove the thrust washer that comes on the engine from the factory. Only use the 9x14 washer that comes with the fan and clutch package. Mount that washer first and the clutch (1.1) to the engine using red thread lock. Mount the fan so the two protruding portions on the underside slide into the slots machined in the clutch. Remove the stock engine throttle arm and use the one provided with the helicopter kit (packed with the fuel hardware/ pushrods pack). Place the 5x13 Washer (packed with fan and clutch also) between the fan and the crankshaft nut and tighten using thread lock (1.4). In order to tighten the assembly properly, the piston must not be allowed to turn (you can use the optional #CN2155 piston locking tool).

1.1



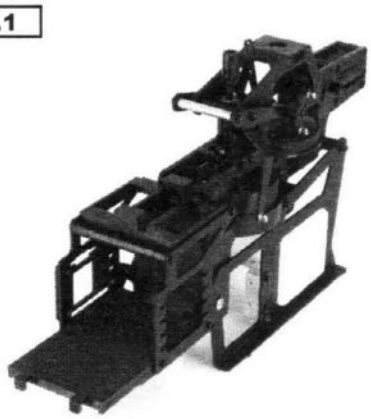
1.2



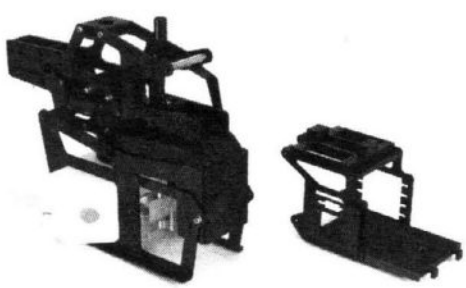
Section 2: Preparing the engine mount

In order to install the engine the frames will need to be taken apart (2.1-2.5). Blue threadlocking compound will be needed when reassembling certain portions of the frame. Separate the upper and lower side frames from the servo tray only removing the fasteners that connect those assemblies. Next separate the upper and lower side frames setting the hardware aside. Next, the engine mount must be removed from the lower side frames. Once the engine mount is removed, one of the lower frames may be removed. Install the engine onto the engine mount and then the loaded mount onto the frame. (the engine mount must be installed with the curved portion facing the rear and the motor mounting holes lower on the mount.

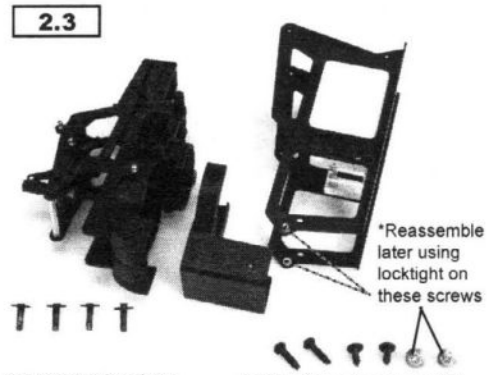
2.1



2.2



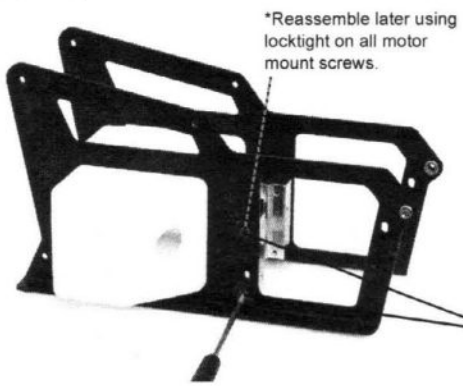
2.3



3x12 socket head cap screws (4)
M3x7 washer (4)

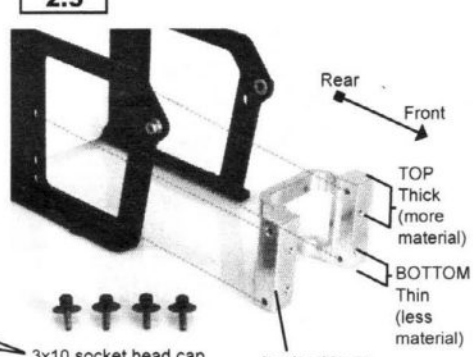
3x10 self tapping screws (2)
3x6 self tapping screws (2)
3x6 Phillips washer screws (2)

2.4



3x10 socket head cap screws (4)
M3x11 washer (4)

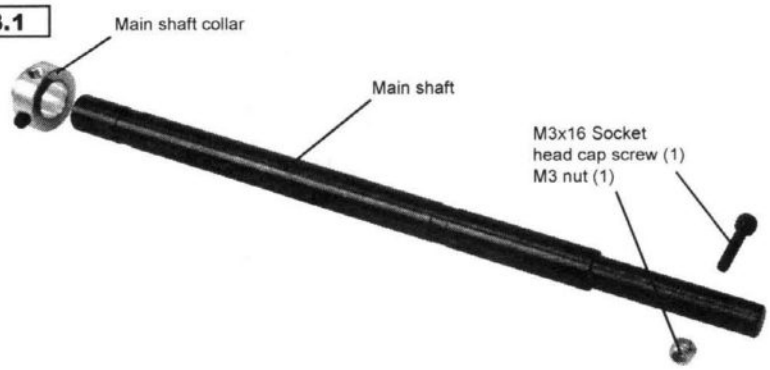
2.5



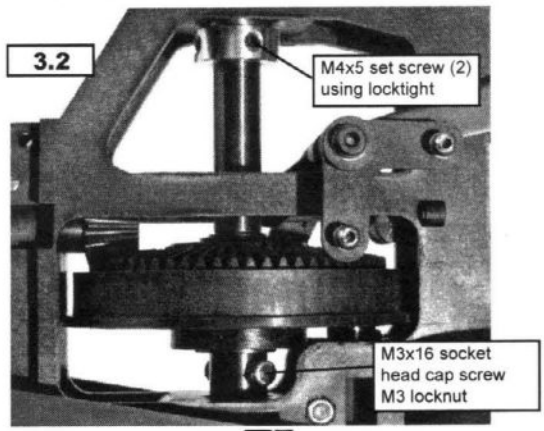
Section 3: Installing the main shaft, swashplate & washout

Prepare the main shaft assembly to insert inside the upper side frames (3.1). Before inserting the main shaft hold the main shaft collar underneath the top most bearing block with the tapered lip against the inner race of the ball bearing in the upper side frame (3.2). Slide the main shaft with the tapered end first into the upper bearing block and through the collar then the main gear and autorotation bearing (3.2). Use the included hardware to fasten the main shaft to the autorotation portion of the main gear. Only tighten the set screw for the main shaft collar after the shaft is bolted in place. When the main shaft is installed mount the swashplate as pictured. Connect the elevator lever to the middle ball on the outer ring of the swashplate. Connect the washout radius links to the long bells on the inner portion of the swashplate (3.3-3.4)

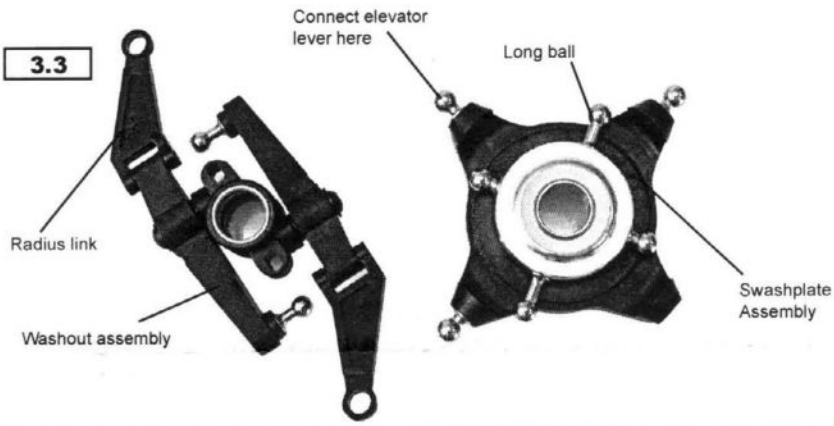
3.1



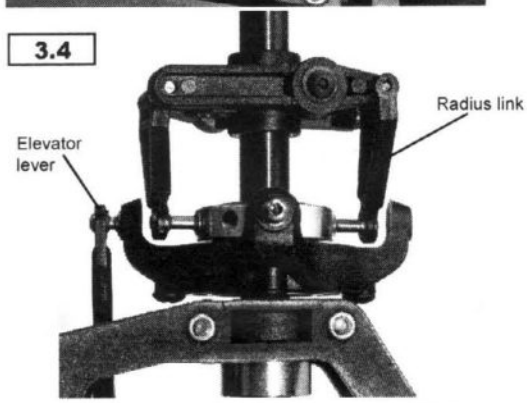
3.2



3.3



3.4

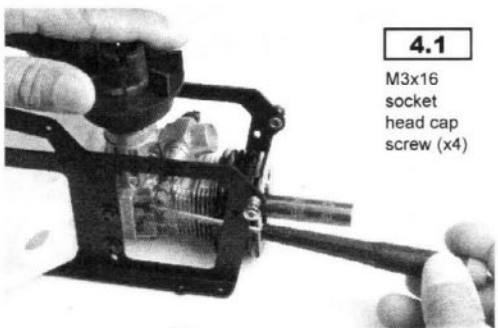


Section 4: Installing the engine and frames

Using thread lock, mount the engine assembly to the engine mount in the lower side frame assembly (4.1). After the engine is installed, combine the upper and lower side frame sections (4.2) Before bolting, attach the fan shroud securely to the frame assembly slightly overlapping the fan shroud portion of the upper side frames (4.3). Use hardware provided to finish assembling the frames. (4.4 & 4.5). The upper and lower frames are now assembled (4.6).

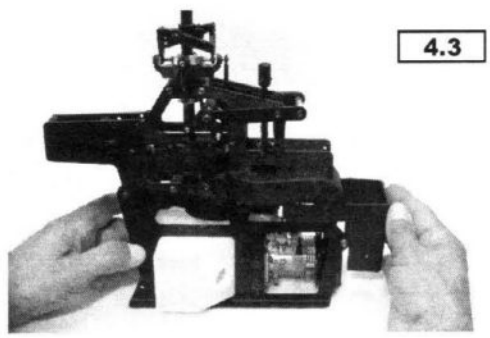
4.1

M3x16
socket
head cap
screw (x4)



4.2

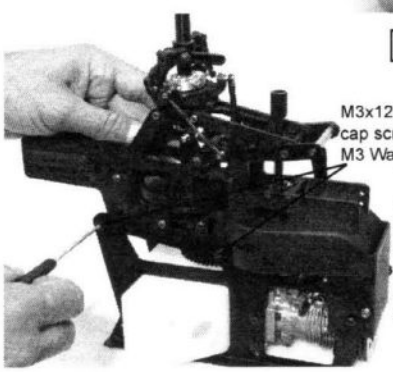
4.3



4.4

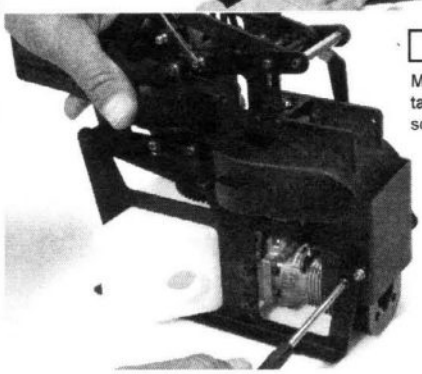
M3x12 socket head
cap screw (x4)
M3 Washer (x4)

The M3x12 screws in this step are stapled to your manual or kit.

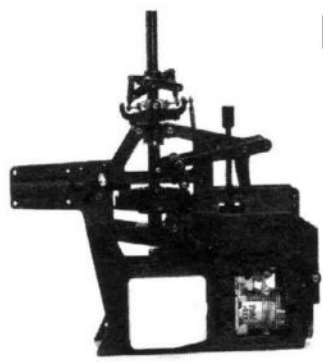


4.5

M3x6 self
tapping
screw (x2)



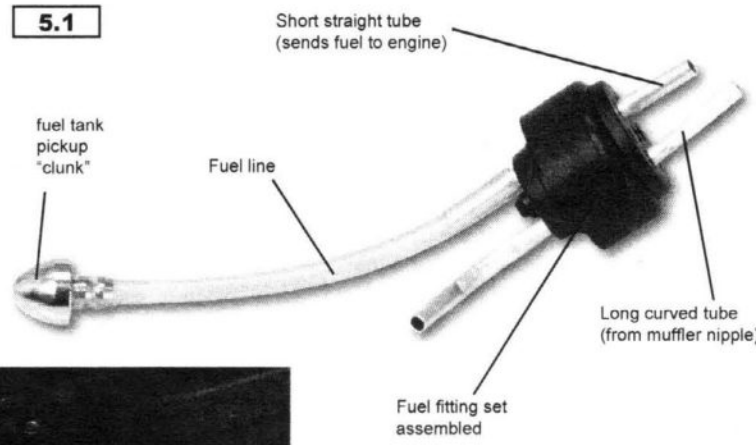
4.6



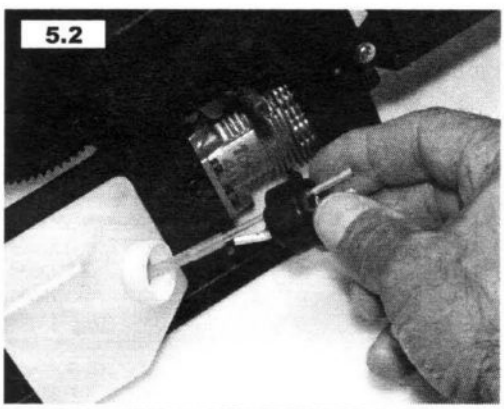
Section 5: Fuel tank & fittings

Assemble the fuel stopper (found in the bag with the clutch parts) (5.1) by bending the longer aluminum tube (connects to muffler nipple) so it will end at the top inside the fuel tank. Align the short straight aluminum tube level to the engine carburetor fuel intake. Secure with M3x18 screw supplied in clutch/fan package and tie wrap (5.2 & 5.3)

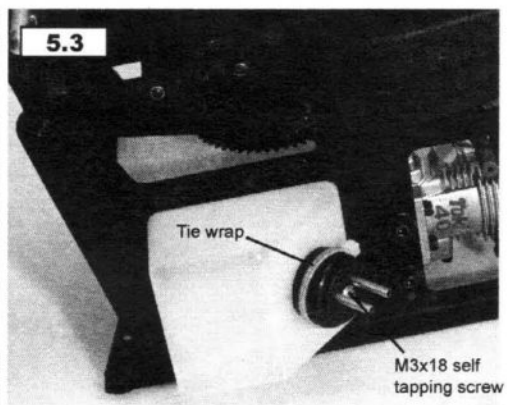
5.1



5.2



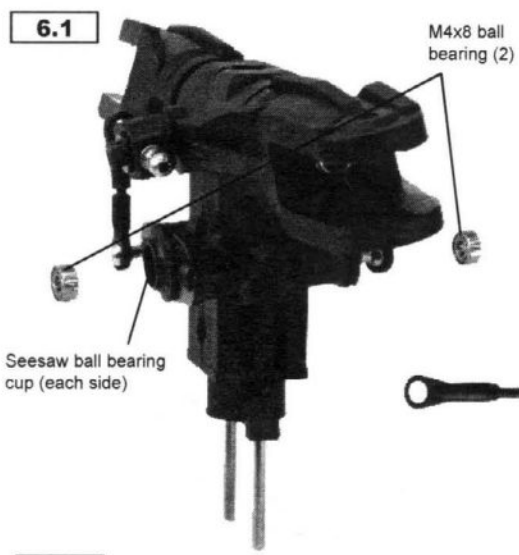
5.3



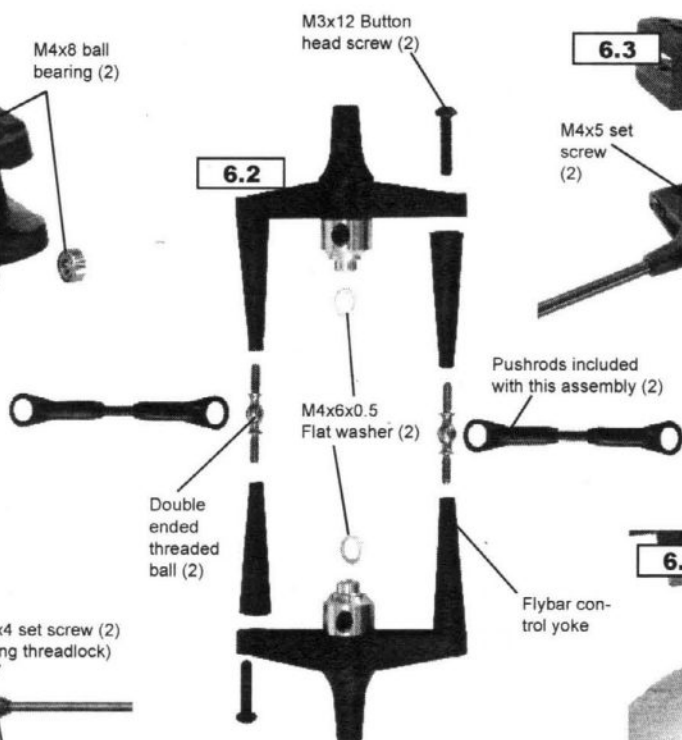
Section 6: Flybar & head assembly

Seat the two flybar control yoke ball bearings into the bearing cups on the seesaw assembly (6.1). Attach the included pushrods to the double ended steel balls before assembling the flybar control yoke. Assemble the flybar control yoke partially in order to attach to the rotor head (6.2). Be sure to insert the brass micro washer between the flybar control arms and the ball bearings on either side of the seesaw assembly (6.2). The angle built in to the flybar control yoke should be sloping downward (6.3). Slide the flybar into the completed assembly adjusting it's position until the flybar is the same length on either side of the rotor head. Slide the weights onto the flybar with the flat side facing outward. Thread the flybar paddles completely onto the flybar shaft (6.4). Flybar paddles and yoke should be level with the seesaw assembly (leading edge of flybar paddle should rotate clockwise). Secure the flybar weights after the paddles are installed and level. Place the rotor head onto the main shaft and bolt using hardware provided (6.5).

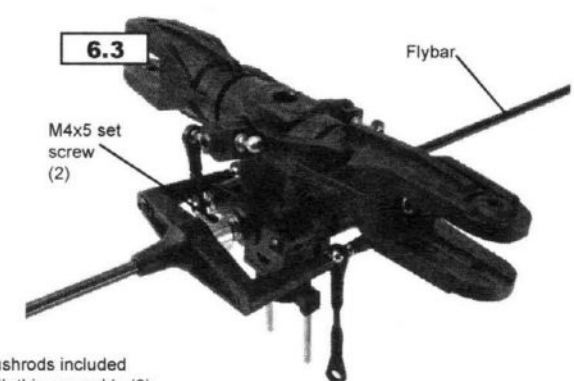
6.1



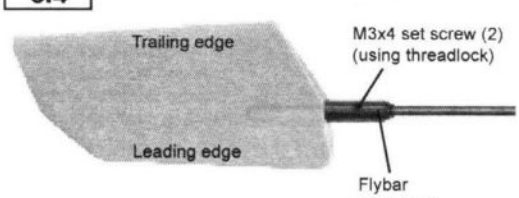
6.2



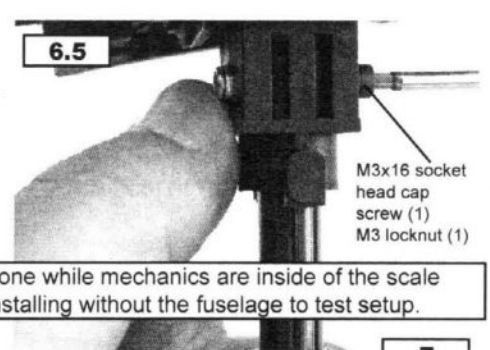
6.3



6.4



6.5

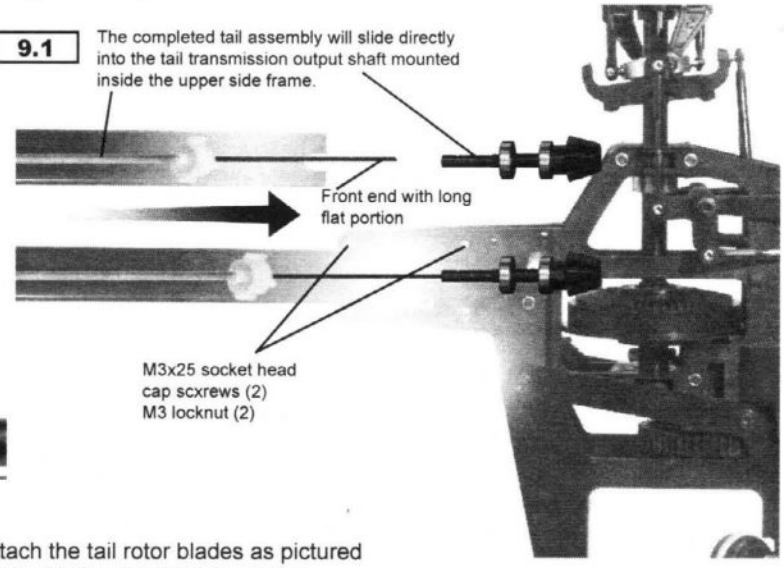


IMPORTANT #6.5 must be done while mechanics are inside of the scale fuselage. Try installing without the fuselage to test setup.

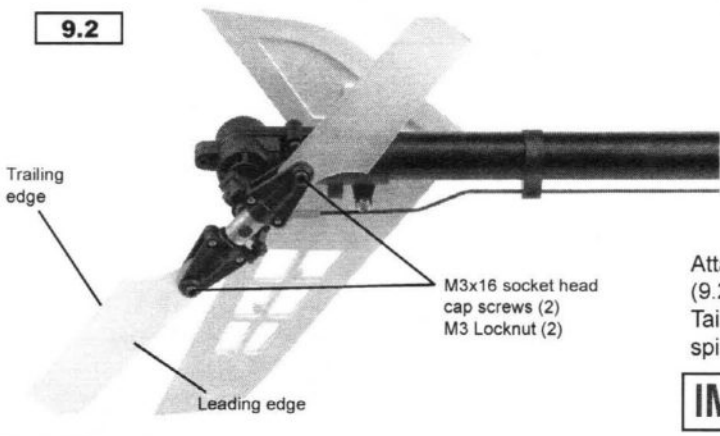
Section 9: Tail drive system installation (part 2)

Once the tail gearbox is connected the front portion of the tail boom will need to be attached to the rear portion of the upper side frames. Slide the tail boom assembly into the recess with the tail pitch lever on the underside of the tail boom. Two notches are cut into the front portion of the tail boom that meet with standoffs inside the upper side frame. At the same time the long flat end of the tail drive shaft meets with the inside of the tail transmission output shaft. The tail boom should not be able to rotate in the frame once tightened by the provided hardware. (9.1)

9.1



9.2



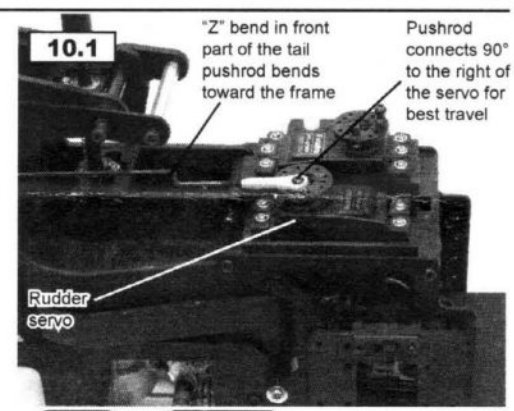
Attach the tail rotor blades as pictured (9.2) with the provided hardware. Tail blades leading edge should spin counter-clockwise (9.2).

IMPORTANT #9.1 must be done inside of the scale fuselage. Try installing without the fuselage to test setup.

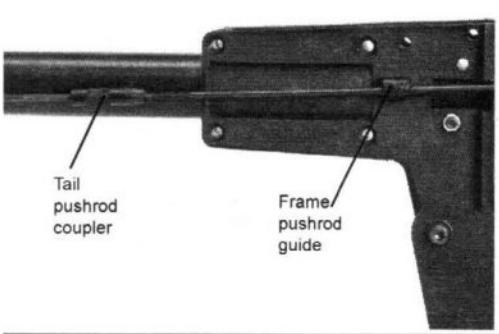
Section 10: Tail control rod installation

Connect the front portion of the pushrod to the servo so the servo pushrod has maximum travel (roughly 90° to the right from the servo output center) (10.1). Feed the pushrod through the guide molded into the frame and join with the aft section of the pushrod using the small plastic coupler found in the hardware bag (10.2). Position the pushrod guides for maximum rudder pushrod movement and fix them in place with glue (10.3). Adjust the pushrod length so that when the servo ball link connects 90° from servo output the tail pitch slider is on the center of the tail output shaft (10.4). Continue to set up the rudder in the radio for equal travel both directions. Be prepared to fine tune until the rudder control is to your liking.

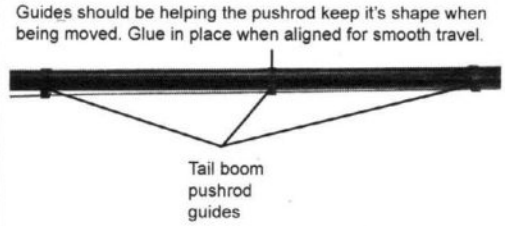
10.1



10.2



10.3

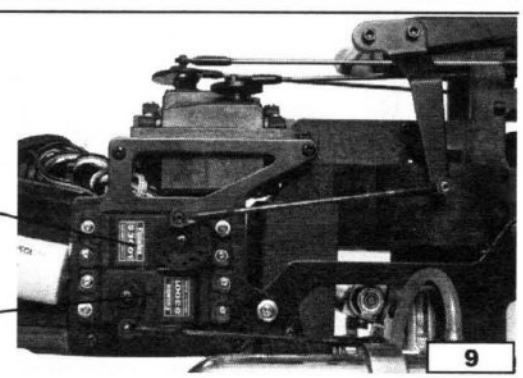


10.4

IMPORTANT #10.2 must be done inside of the scale fuselage. Try installing without the body to test setup.

Section 11: Throttle & Collective linkage

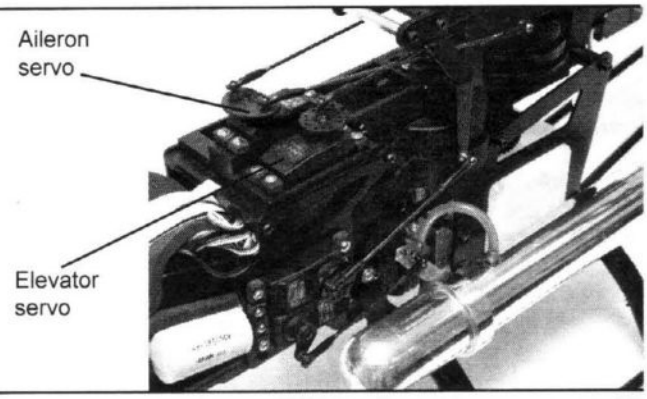
*Pushrod measurements include ball links from plastic end to plastic end. Before any pushrod adjustments are made center both sticks and all servos on the transmitter. Attach the 103mm throttle control rod to the throttle servo and the throttle arm on the carburetor. Be sure that when the throttle collective stick is in the middle, that the throttle servo arm is straight up, and that the carburetor barrel is half open and its control arm is also pointed straight up. Adjust the collective control rod to 102mm for training or to 100mm for 3D. Attach this rod to the collective control lever and collective servo. Be sure the collective servo wheel is attached so that at mid stick it is pointed straight up.



Section 12: Cyclic servo linkage

Before any pushrod adjustments are made center both sticks and servos on the transmitter.

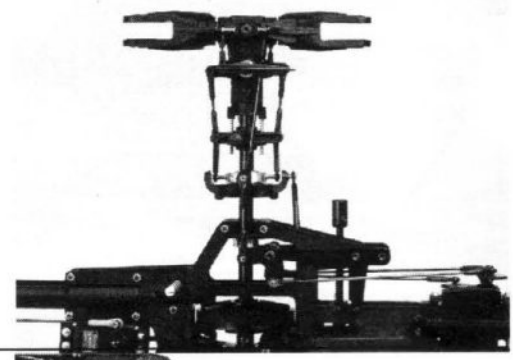
*Pushrod measurements include ball links from plastic end to plastic end. Adjust the two aileron control rods to 158mm and attach the two balls on the aileron servo wheel and to the two aileron bellcranks. Adjust the elevator control rod to 135mm and attach to the elevator servo arm and elevator bellcrank.



Section 13: Rotor head linkage

Before any pushrod adjustments are made center both sticks and servos on the transmitter.

*Pushrod measurements include ball links from plastic end to plastic end.
Attach two 104mm pushrods to the short balls on the swashplate and to the short balls on the bell mixers on the main rotor blade grips.
NOTE: For faster cyclic response in 3D you may want to change the bell/hiller ratio by moving the A-arms from the washout assembly to the short balls on the inner star of the swashplate and attach these 106mm rods to the longer balls on the inner star.



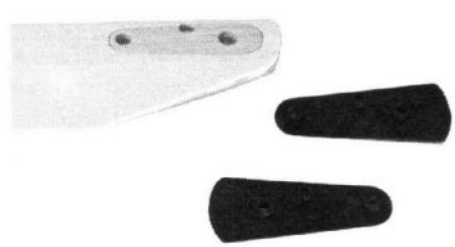
Section 14: Connect the electronics

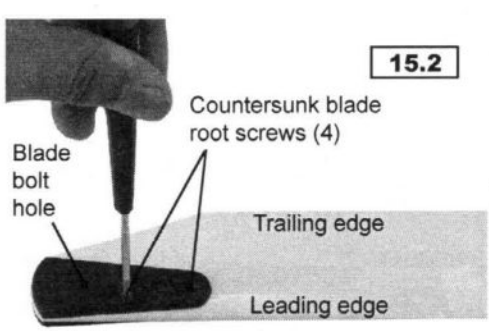
Refer to the instructions for your transmitter and other radio components for the correct numbering of channels before connecting . Plug in the switch, servos and gyro to the radio receiver. Wrap the receiver and the battery pack with the proper foam protection Secure to the top of the battery/receiver platform at the lower front of the servo tray (use #64 rubber bands).

Section 15: Main rotor blade installation

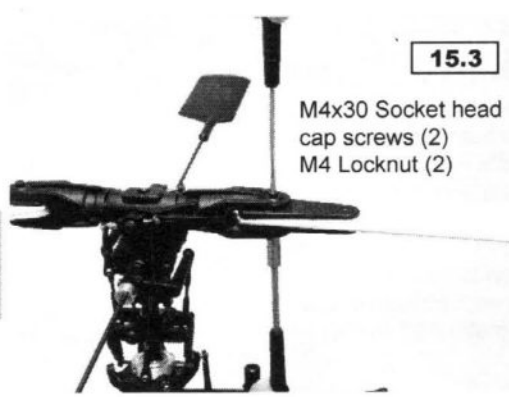
Each rotor blade has 3 holes drilled in the root. Use epoxy to glue the plastic root ends to the exposed wood pre-cut by the factory (15.1). Use the countersunk screws (15.2) to secure the root ends to the blades and let the glue dry. Use the 2 M4x30 blade bolts and M4 locknuts to secure the blades to the blade grips on the main rotor head (15.3). Main rotor blades should have their leading edge turning clockwise.

15.1





15.2



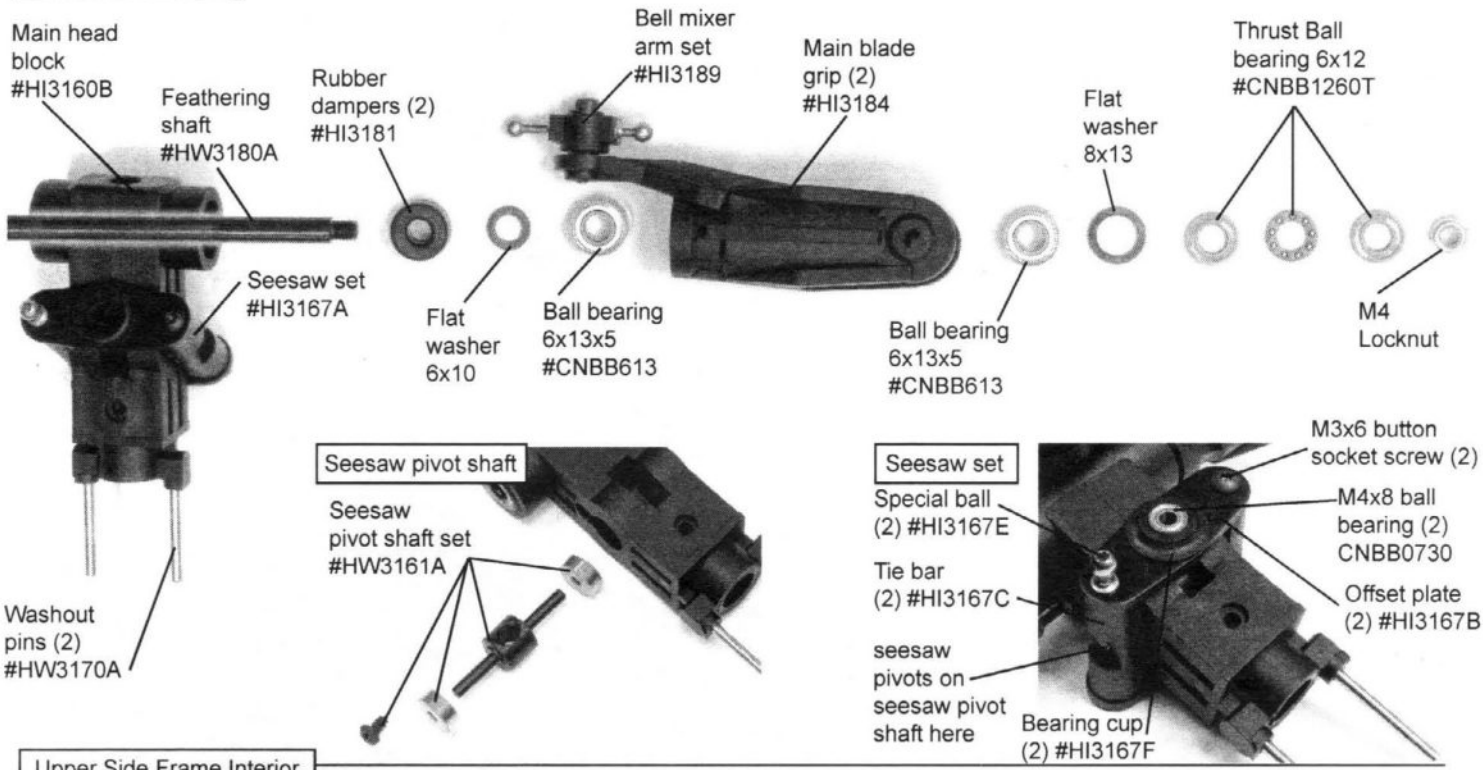
15.3

Please refer to the fuselage installation manual to contiue building.

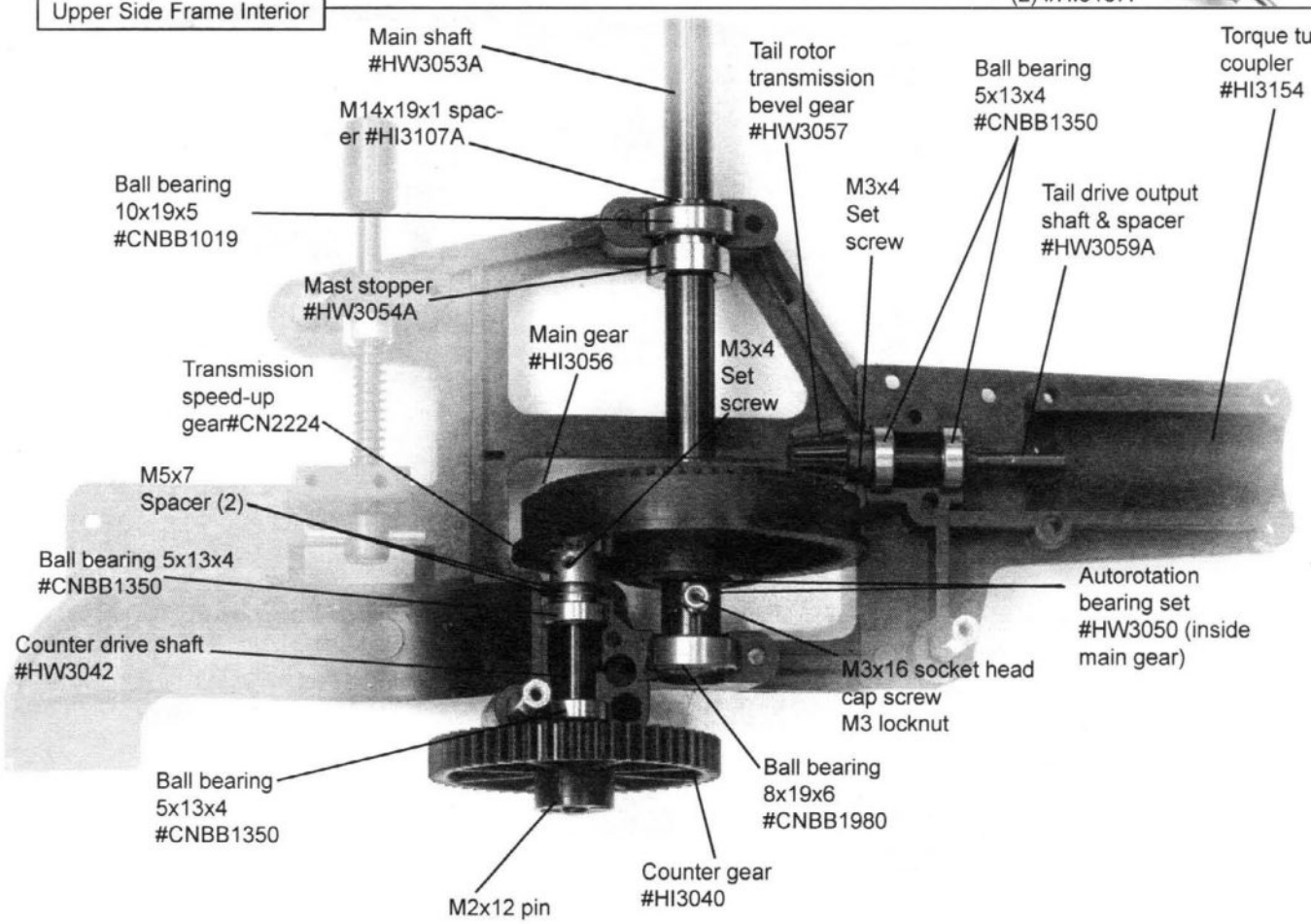
Main Sub-Assemblies

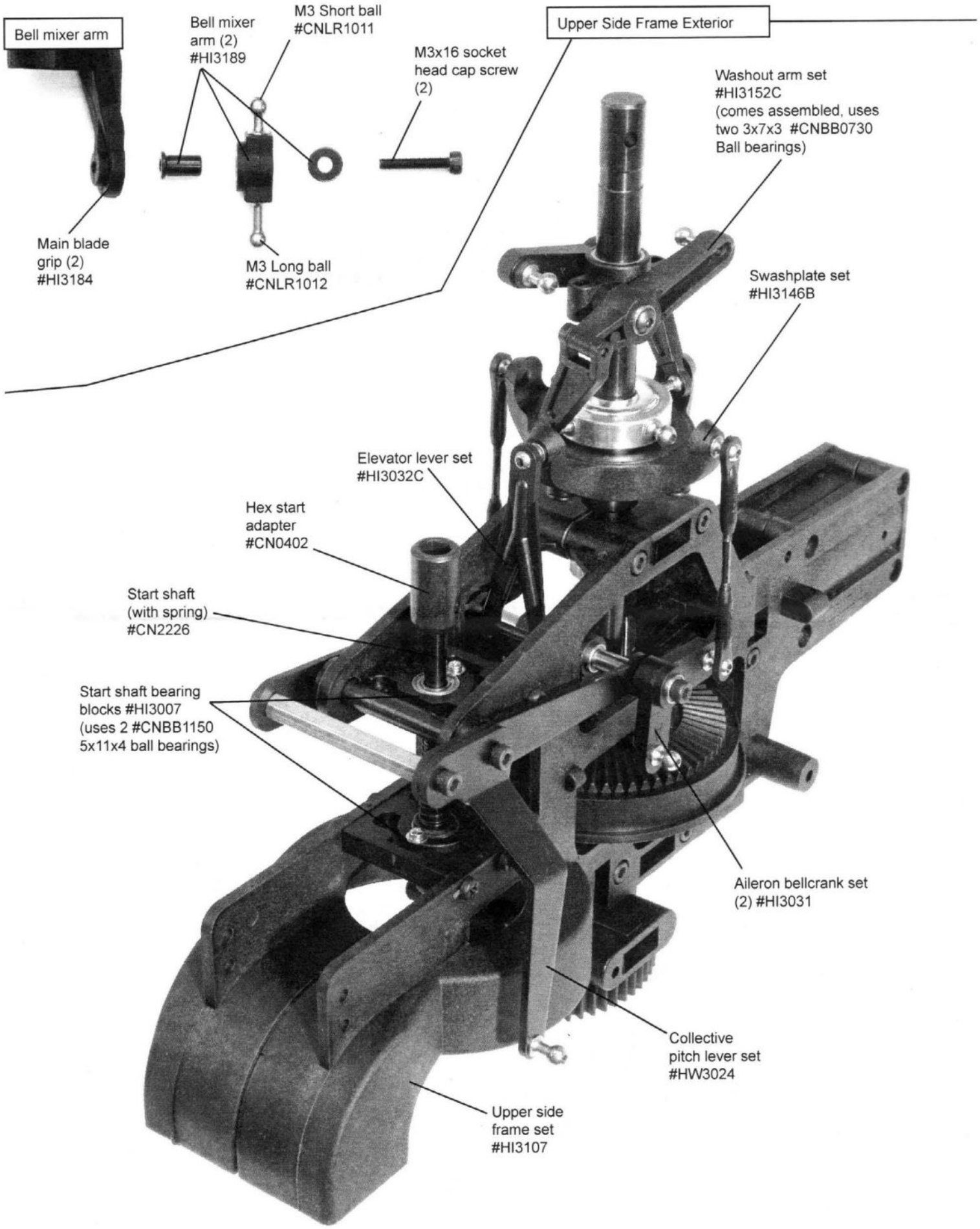
This section will overview parts that came pre assembled from the factory. Items not attached to main sub assemblies can be found in the parts list.

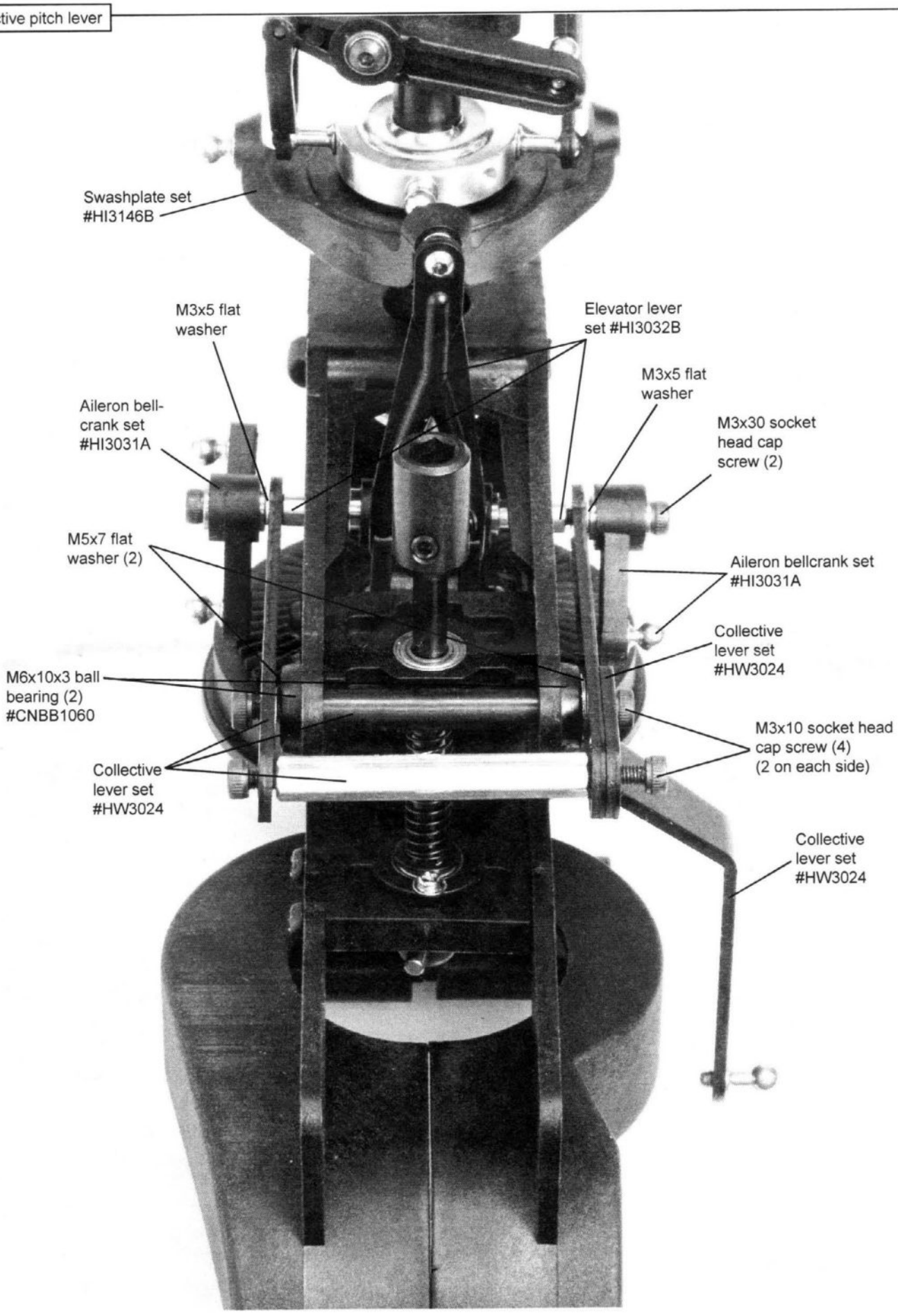
Main Rotor Head



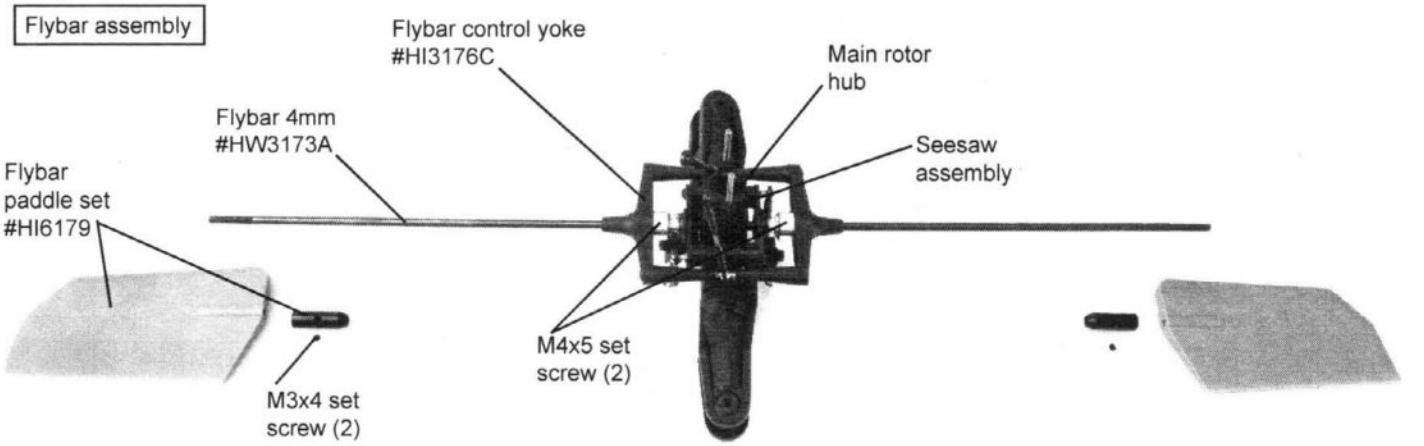
Upper Side Frame Interior



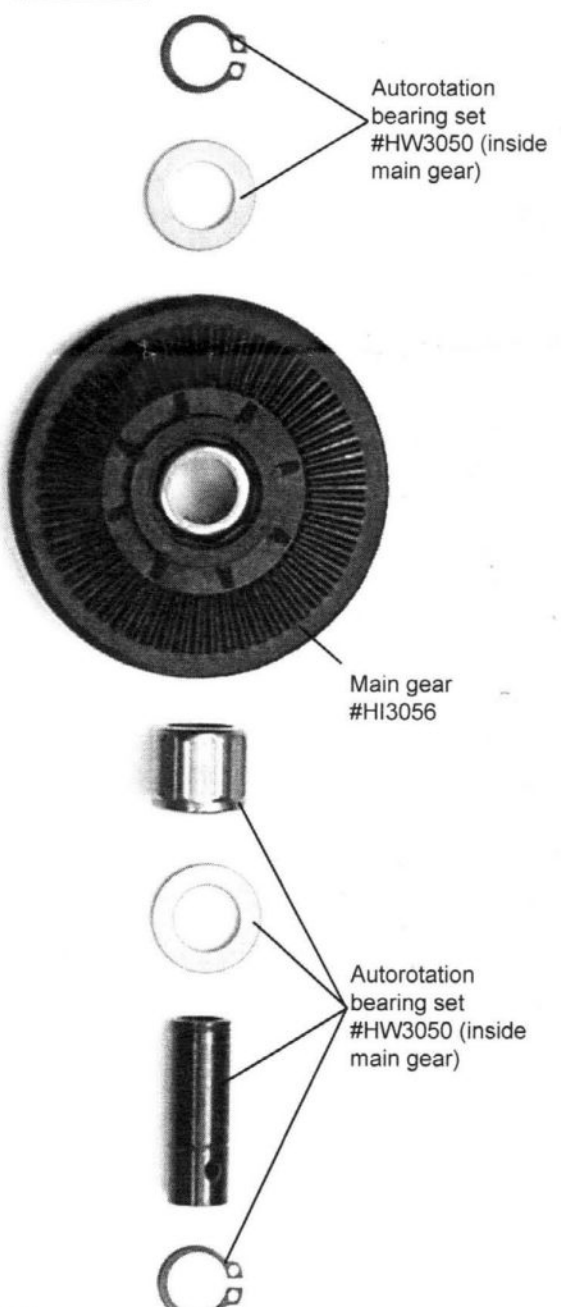

Bell mixer arm
Bell mixer arm (2) #HI3189
M3 Short ball #CNLR1011
M3x16 socket head cap screw (2)
Upper Side Frame Exterior
Washout arm set #HI3152C (comes assembled, uses two 3x7x3 #CNBB0730 Ball bearings)
Main blade grip (2) #HI3184
M3 Long ball #CNLR1012
Swashplate set #HI3146B
Elevator lever set #HI3032C
Hex start adapter #CN0402
Start shaft (with spring) #CN2226
Start shaft bearing blocks #HI3007 (uses 2 #CNBB1150 5x11x4 ball bearings)
Aileron bellcrank set (2) #HI3031
Collective pitch lever set #HW3024
Upper side frame set #HI3107


Swashplate set #HI3146B
M3x5 flat washer
Elevator lever set #HI3032B
M3x5 flat washer
Aileron bell-crank set #HI3031A
M3x30 socket head cap screw (2)
M5x7 flat washer (2)
Aileron bellcrank set #HI3031A
Collective lever set #HW3024
M6x10x3 ball bearing (2) #CNBB1060
M3x10 socket head cap screw (4) (2 on each side)
Collective lever set #HW3024
Collective lever set #HW3024

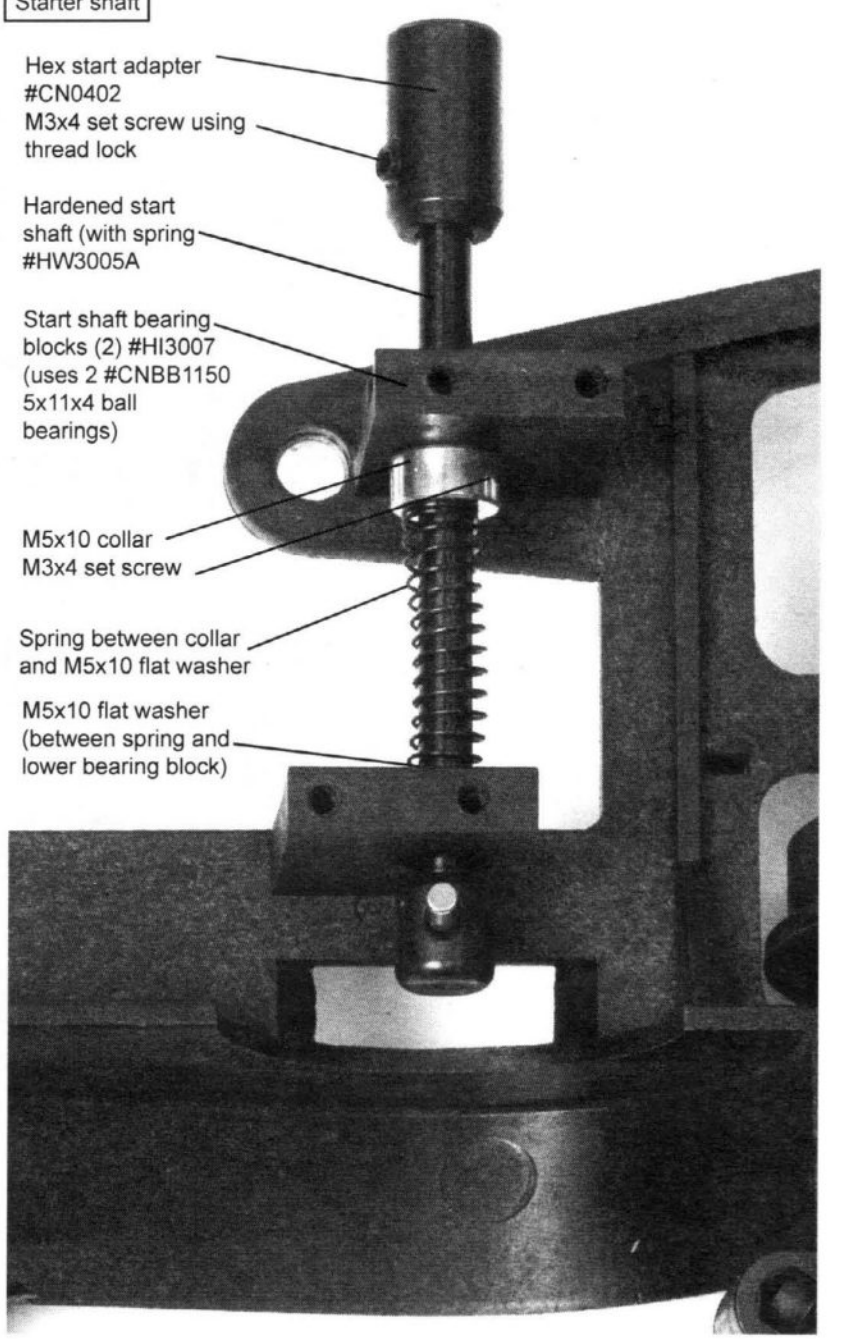
Flybar assembly



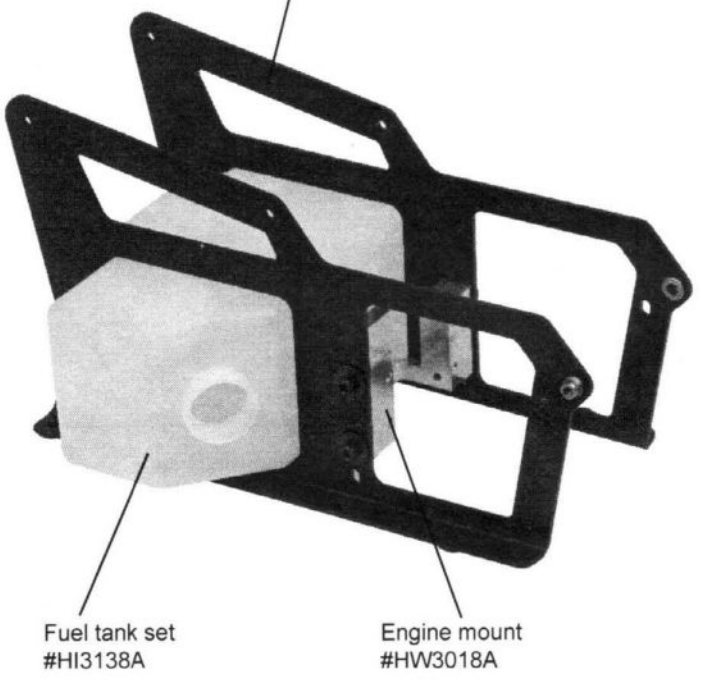
Main gear



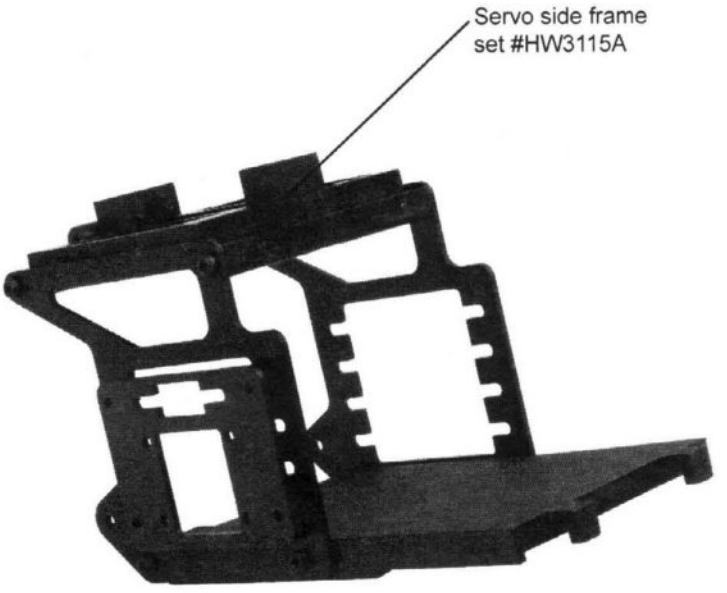
Starter shaft



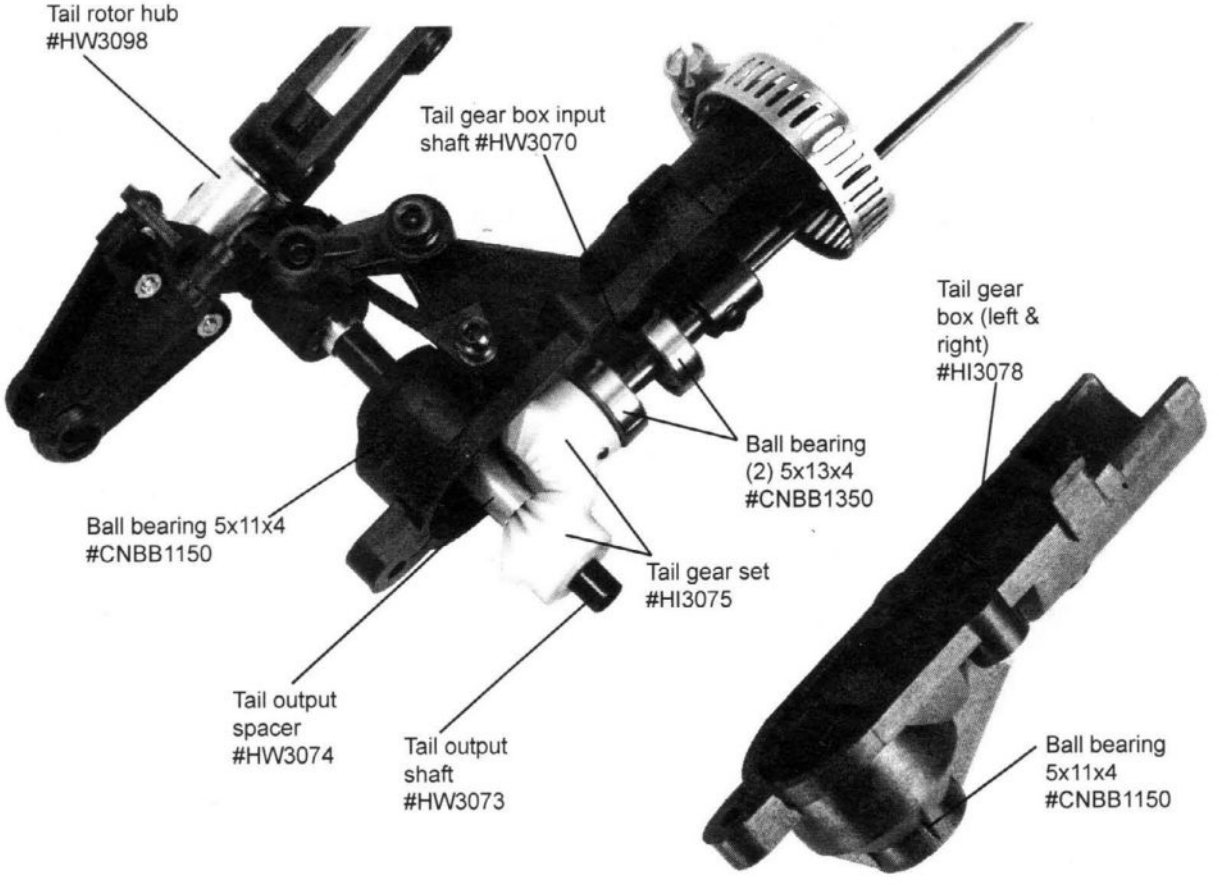
Lower Side Frames

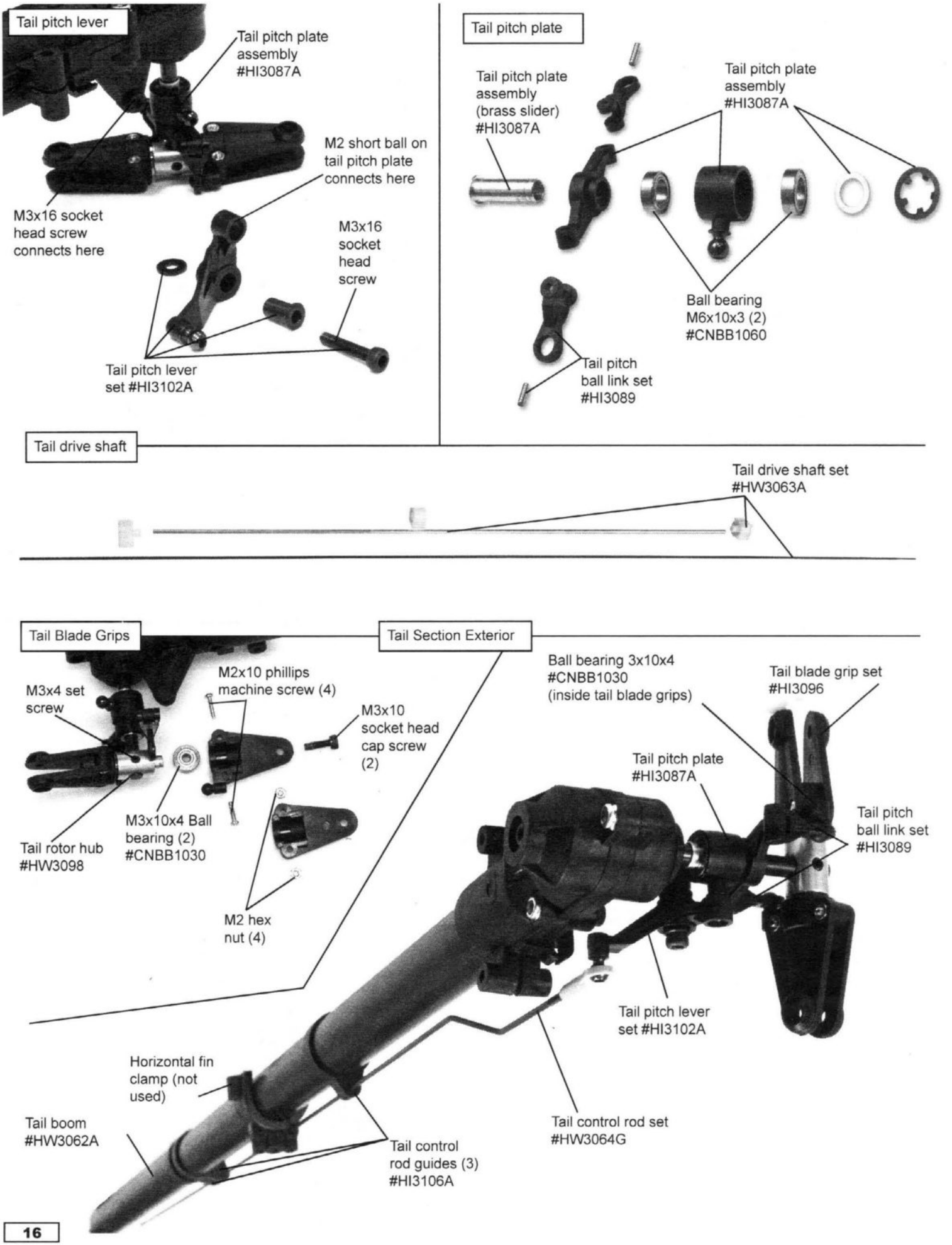


Servo Side Frame Set



Tail Section Interior




Tail pitch lever
Tail pitch plate assembly #HI3087A
M2 short ball on tail pitch plate connects here
M3x16 socket head screw connects here
M3x16 socket head screw
Tail pitch lever set #HI3102A
Tail pitch plate
Tail pitch plate assembly (brass slider) #HI3087A
Tail pitch plate assembly #HI3087A
Ball bearing M6x10x3 (2) #CNBB1060
Tail pitch ball link set #HI3089
Tail drive shaft
Tail drive shaft set #HW3063A
Tail Blade Grips
M3x4 set screw
M2x10 phillips machine screw (4)
M3x10 socket head cap screw (2)
M3x10x4 Ball bearing (2) #CNBB1030
Tail rotor hub #HW3098
M2 hex nut (4)
Tail Section Exterior
Ball bearing 3x10x4 #CNBB1030 (inside tail blade grips)
Tail blade grip set #HI3096
Tail pitch plate #HI3087A
Tail pitch ball link set #HI3089
Tail pitch lever set #HI3102A
Horizontal fin clamp (not used)
Tail boom #HW3062A
Tail control rod guides (3) #HI3106A
Tail control rod set #HW3064G

Scale Mechanics Replacement Parts

CN2230H4	CRASH KIT -(Main Blades, Main Shaft, Tail Boom, Feathering Shaft and Flybar)	1
HW3000	HARDWARE PACK	1
CN0402	HEX START COUPLER	1
HW3005A	STARTER SHAFT SET	1
HI3007	STARTER SHAFT BEARING BLOCKS	1
HI3009	COOLING FAN	1
HI3010	CLUTCH BELL & LINING	1
HW3011	CLUTCH SHOES	1
HW3018A	ENGINE MOUNT	1
HI3020A	COOLING FAN SHROUD	1
HW3024	COLLECTIVE PITCH LEVER SET	1
HI3031A	AILERON BELLCRANKS (L&R CYCLIC)	2
HI3032B	ELEVATOR LEVER SET (LONG)	1
HI3032C	ELEVATOR LEVER ONLY (LONG)	1
HI3035A	ADJUSTABLE CYCLIC PUSHROD LINKS	2
HI3040	COUNTER DRIVE GEAR	1
HW3042	PRIMARY DRIVE SHAFT	1
CN2224	ALLOY DRIVE GEAR 14T	1
HW3050	AUTOROTATION BEARING SET	1
HW3053A	10mm MAIN SHAFT	1
HW3054A	10mm MAIN SHAFT LOCK RING	1
HI3056	MAIN GEAR	1
HW3057	TAIL DRIVE BEVEL GEAR	1
HW3059A	TAIL DRIVE PRIMARY SHAFT	1
HW3062A	TAIL BOOM 50	1
HW3063A	TAIL DRIVE SHAFT ONLY	1
HW3064D	TAIL PITCH CONTROL ROD	1
HW3070	TAIL GEARBOX INPUT SHAFT	1
HW3073	TAIL GEARBOX OUTPUT SHAFT	1
HW3074	TAIL GEARBOX SPACER TUBE	1
HI3075	TAIL GEAR SET	1
HI3078	TAIL GEARBOX L&R	1
HI3087A	TAIL PITCH SLIDER SET	1
HI3089	TAIL PITCH BALL LINKS	2
HI3096	TAIL BLADE GRIP SET	1
HW3098	TAIL ROTOR HUB	1
HI3099	TAIL ROTOR BLADES (PAIR)	1
HI3102A	TAIL PITCH LEVER SET	1
HI3106A	TAIL CONTROL ROD CLAMPS	3
HI3107	UPPER SIDE FRAMES	2
HI3107A	10mm BEARING SPACER 14x19x1	2
HW3112C	LOWER SIDE FRAMES	2
HW3115A	SERVO MOUNT FRAME SET	2
HI3122	LANDING STRUTS (PLASTIC)	2
HW3123	LANDING SKIDS (METAL)	2
HI3138A	FUEL TANK	1
HI3145	BALL LINKS (16 LONG & 6 SHORT)	1
HI3146B	SWASHPLATE WITH STEEL BALL END	1
HI3152C	WASHOUT SET	1
HI3152A	RADIUS LINK WITH PIN	2
HI3160B	ROTOR HEAD BLOCK	1
HW3161A	FLYBAR SEESAW SHAFT SET	1
HI3167B	SEESAW OFF SET PLATE	2
HI3167C	SEESAW TIE BAR	2
HI3167F	SEESAW BEARING CUP	2
HI3167E	SPECIAL BALL M3X6	2
HW3170A	WASHOUT PINS	2
HW3173A	FLYBAR 4MM	1
HI3176C	STABILIZER CONTROL ARM	2
HI6179	FLYBAR PADDLES	2
HW3180A	FEATHERING SHAFT	1
HI3181	DAMPING RUBBERS	2
HI3184	ROTOR BLADE GRIP	2
HI3189	MIXING ARM SET	1
CN2324	MAIN ROTOR BLADES (PAIR)	1
HW3192	LINKAGE SET (11 RODS)	1
HW3202B	T/B SUPPORT STRUTS (PAIR)	1
HW3204	THROTTLE EXTENSION	1
CNBB0730	Bearings 3X7X3 (Flybar,Elevator Lever)	2
CNBB816	Bearing tail drive shaft	1
CNBB1019	Bearings 10X19X6 (Top Main Shaft)	2
CNBB1030	Bearings 3X10X4 (Seesaw,Tail Grips)	2
CNBB1060	Bearings 6X10X3 (Collective Axle, Pitch Plate)	2
CNBB1150	Bearings 5X11X4 (Start Shaft,Tail Shaft)	2
CNBB1350	Bearings 5X13X4 (Counter shaft,Blade grips)	2
CNBB1150	Bearings 5X11X4 (Start Shaft, Tail Shaft)	2
CNBB1980	Bearings 8X19X6 (BottomMain Shaft)	2
CNBB1218	Bearing 12x18x4 (Clutch Bell)	1
HW3050	Autorotation Bearing 12X18X16	1
CNLR1014	Stainless M3 Ball joint with short standoff	2
CNLR1015	Stainless M3 Ball joint with medium standoff	2
CNLR1016A	Stainless M3 Ball joint with long standoff	2
CNLR1013	M2 Ball joint with short standoff	2

Scale Mechanics Upgrade Parts & Accessories

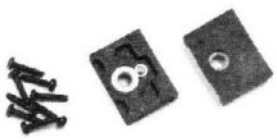
CN0427	Hex start wand with one-way bearing
CN2005	Main Blade Transport Supports
CN2007A	Trainer Pod 30-50 w/4 Legs
CN2015	Hardened Tip Hex Wrench Set (1.5mm/2.0mm/2.5mm/3.0mm tips)
CN2016	4.8V Battery Monitor/Alarm
CN2018	PG-2000II Dual Rate Remote Gain Piezo Gyro
CN2022	Single rate micro piezo gyro
CN2046	Basic Heli Setup Tool Kit (pitch gauge, blade balancer & pliers)
CN2052	Accuratech Blade Balancer -**blue**
CN2056	CNC Machined Aluminum Swashplate
CN2079	Fast 3-D Hot dog fly bar paddles (R red, O orange, Y yellow)
CN2137	2 oz Header Tank w/ Universal Bracket -**purple**
CN2155	Piston Locking Tool - **purple**
CN2153	Machined Throttle Extension - OS 46-50 -**purple**
CN2176	**CNC machined servo arm pack (5 pcs. Futaba purple)**
CN2177	**CNC machined servo arm pack (5 pcs. JR purple)**
CN2179H	**CNC machined servo arm pack (5 pcs. Hitec purple)**
CN2202	**Aluminum Turbo cooling fan - purple**
CN2275	**CNC Machined Bell Mixing Arms (2)**
CN2208B	Metal Swashplate Anti-rotation Bracket - **black**
CN2208P	Metal Swashplate Anti-rotation Bracket - **purple**
CN2213	2oz Header Tank w/ Machined Mount Bracket - **purple**
CN2214B	Air Filter (OS 50)
CN2215B	Machined Head Button (threaded) - **black**
CN2215P	Machined Head Button (threaded) - **purple**
CN2217P	Machined Color Caps - **purple**
CN2218P	Machined Color Washers - **purple**
CN2126F	Ultra Light Carbon Graphite Tail Boom
CN2239C	Carbon tail boom mount for rear rudder servo
CN266001	RotorTech Carbon Blades - 600mm Fully Sym 3D
CN3033	Speed torpedo 30 HV Muffler - **Polished Aluminum**
CN3055H	Millennium Pipe System - **Polished Aluminum**

Scale Mechanics Replacement Parts

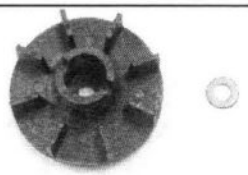
HW3000
Hardware pack

CN0402
Hex start adapter

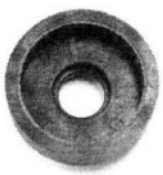
CN2226
Hardened start shaft



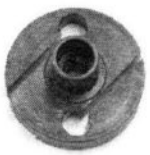
HI3007
Starter bearing blocks



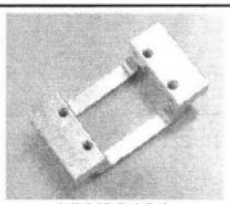
HI3009
Cooling fan



HI3010
Clutch bell

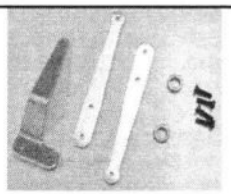


HW3011
Clutch shoe



HW3018A
Engine mount (.50 size)

HI3020A
Cooling fan shroud

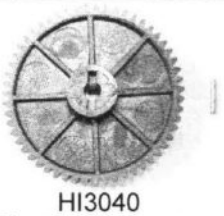


HW3024
Collective pitch lever set

HI3031A
Aileron bellcrank set

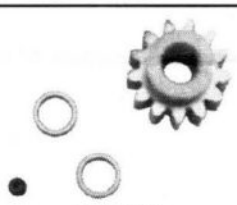
HI3032B
Elevator lever set

HI3035A
Adjustable cyclic link set



HI3040
Counter drive gear

HW3042
Primary drive shaft



CN2224
Alloy drive gear

HW3050
Autorotation bearing set

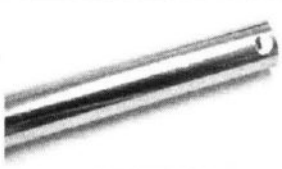
HW3053A
Main shaft

HW3054A
Main shaft collar

HI3056
Main gear

HW3057
Tail transmission bevel gear

HW3059
Tail drive primary shaft



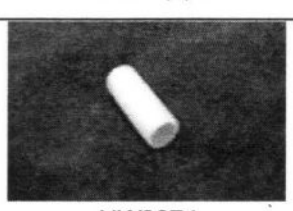
HW3062A
Tail boom pipe

HW3063A
Tail drive shaft set

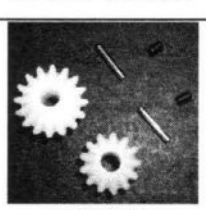
HW3064D
Tail control rod

HW3070A
Tail gearbox input shaft

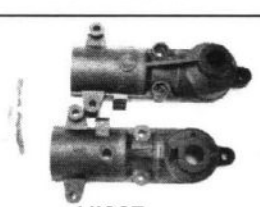
HW3073
Tail output shaft



HW3074
Tail output shaft spacer



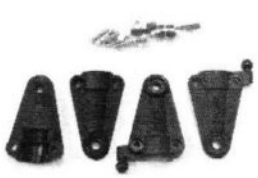
HI3075
Tail gear set



HI307
Tail gearbox

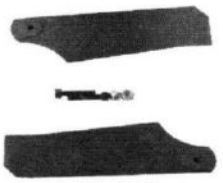
HI3087A
Tail pitch slider set

HI3089
Tail pitch ball links

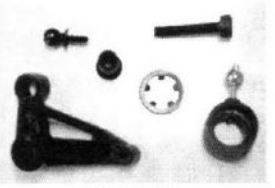


HI3096
Tail blade grip set

HW3098
Tail rotor hub



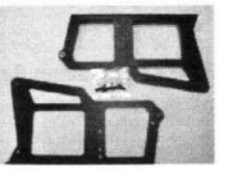
HI3099
Tail rotor blades



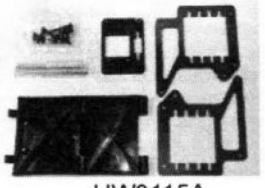
HI3102A
Tail pitch lever

HI3106A
Tail pushrod guides

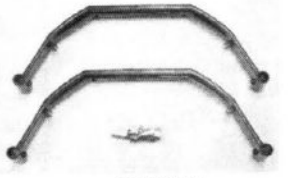
HI3107
Upper side frame set



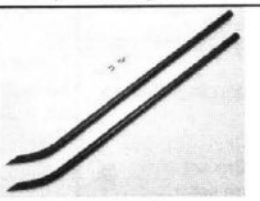
HI3112C
Lower side frame set



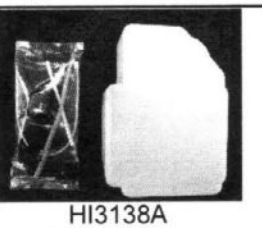
HW3115A
Servo frame set



HI3122
Landing struts

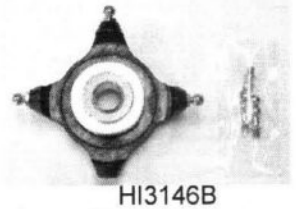


HW3123
Landing skids



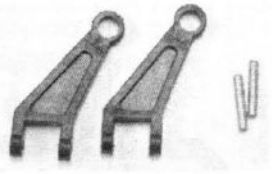
HI3138A
Fuel tank parts set

HI3145
Ball link set

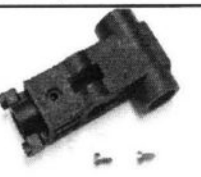


HI3146B
Swashplate set

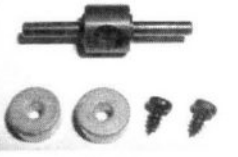
HI3152C
Washout unit



HI3152A
Radius links



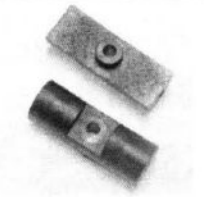
HI3160B
Main rotor hub



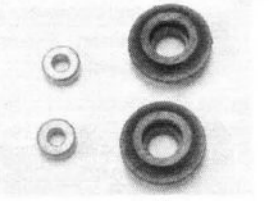
HW3161
Seesaw pivot lever

HI3167A
Seesaw lever set

HI3167B
Seesaw offset plate



HI3167C
Seesaw tie bars

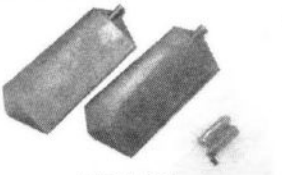


HI3167F
Seesaw Bearing cups

HI3167E
Special ball M3x6

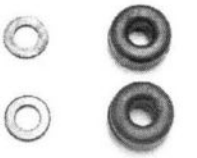
HW3170A
Washout pins

HW3173A
Flybar

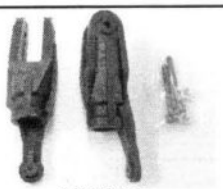


HI3179A
Flybar paddle set

HW3180A
Feathering shaft set

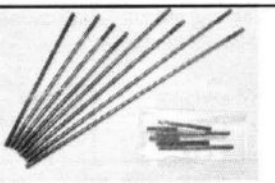


HI3181
Dampening rubbers

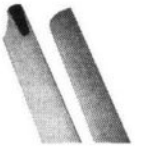


HI3184
Main rotor blade grips

HI3189
Bell mixing arms



HW3192
Cyclic pushrod set

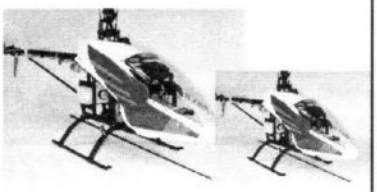


CN2324
Main rotor blades

HI3107A
M9x14 spacer (upper frames)

Century Scale Mechanics Upgrades

Fiber Glass Whip Antenna



Kit comes with a hollow fiber tube and CNC base mounts that allow you to insert antenna into the tube. Antenna will be better protected and look so cool.

CN2124-NG Antenna Neon Green
CN2124-NY Antenna Neon Yellow

CNC Machined Aluminum Servo Arm Pack

(for plastic output/gear servos)

Completely eliminate slop from flexing servo arms (purple)

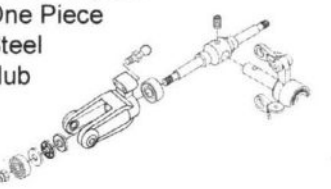
CN2176 (Futaba) Arm set
CN2177 (JR/Air) Arm set
CN2179H (Hitec) Arm set

Color Machined Finish Cap & Washer

These caps and washers will add a lot to the looks of our Scale Mechanics (colors: Silver, Red, Blue, Gold, Purple, green, black 10pcs/pack)

CN2217B (screw cap blue)
CN2218R (nut washer red)

Triple Ball Bearing Tail Blade Grips & One Piece Steel Hub



Heavy duty dual B.B and a trust bearing tail grip permits solid precise control. One piece hardened steel hub for long-lasting precision and durability.

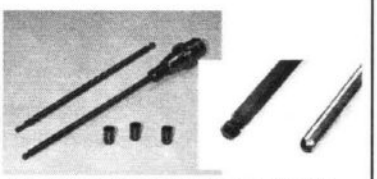
CN2235 Triple B.B tail assembly

Tuff landing Gear Systems

3 times stronger then most 30-50 size helicopter landing gear. Tuff struts act as shock absorbers to help reduce jolts caused by hard landing.

CN2243 Tuff landing gear

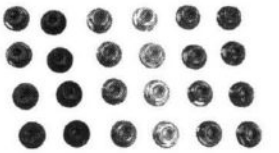
Reversible Hex One Way & Hex Start System



Adapts to starter shaft push into rubber insert. Extension adapts to most starters.

CN0426 Standard hex wand
CN0427 One-way hex start ext.

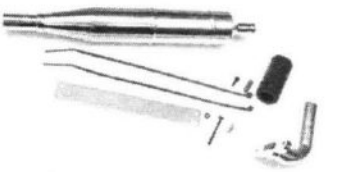
Color Machined Lock Nut w/Flange



(color: silver, red, blue, gold, purple & black 10pc pack.

CN2211B lock nuts blue
CN2211BK lock nuts black
CN2211R lock nuts red
CN2211G lock nuts green
CN2211S lock nuts silver

Millenium Tuned Pipe System



This tuned pipe flattens the power band while boosting additional 10-15% of the overall power from the engine.

CN3055H Tuned Pipe Set

Neon Color 3-D Paddles

Speed up your 3D cyclic response with these lightning quick paddles!

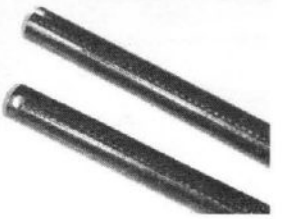
CN2079Y (Neon Yellow)
CN2079R (Glow Red)
CN2079O (Glow Orange)

Main Shaft Thrust Bearing Kit

Transfers all loading from the regular radial bearings to the thrust bearing.

CN2220A Thrust Bearing Kit (main shaft)

Carbon Fiber Tail Boom



Get that attractive woven Carbon Fiber look with these light carbon fiber tail booms

CN2126F Carbon tail boom

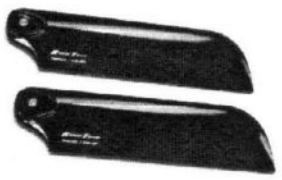
Century Scale Mechanics Upgrades

Head Button (Hawk, Falcon & Phoenix)

Left hand threaded Black or Purple anodized head button for easy stopping of the rotor head.

CN2215B Black
CN2215P Purple

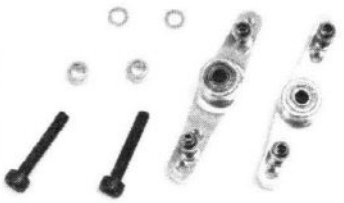
RotorTech Carbon High performance tail blades



The ultimate competition winning carbon tail blade. Maximum tail control is yours!

CN260853 carbon tail blades 85mm
CN260923 carbon tail blades 92mm

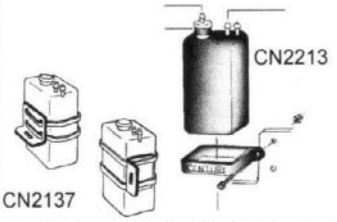
Metal Bell Mixer Arm Set



Remove slop tranferring to blade grips.

CN2275A Metal color
CN2275P Purple color

2 oz Header Tank w/ CNC Machined or Die-cut Mount



Get 2 extra ounces of fuel and reduce any fuel foaming in one easy step!

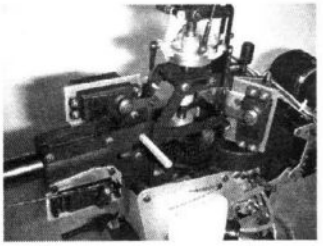
CN2213 Machined Mount
CN2137 Die Cut Mount

RotorTech Carbon High performance main blades

The ultimate competition winning carbon blade. 6 out of 10 professional pilots choose RotorTech!

CN266001 600mm carbon fiber main rotor blades

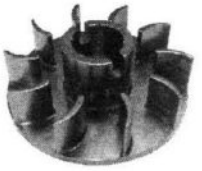
CCPM Conversion



Outstanding for rigid, slop free elevator control.

CN1061A CCPM conv. 10mm

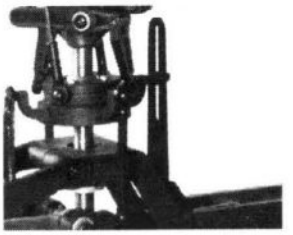
Aluminum Turbo Cooling Fan



Increased air flow, lower engine drag, cooler and smoother high speed operation & cooler clutch shoes.

CN2202 Turbo cooling fan

Metal Swash Plate Anti-rotation Bracket



Improves timing precision of the swash plate (purple or black)

CN2208P Purple
CN2208B Black

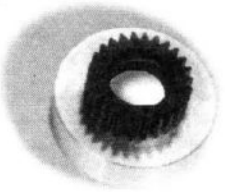
Constant Tail Drive

Descending or in autorotations, full tail rotor control is maintained in proportion to the main rotor speed.

CN2263A Constant Tail Drive

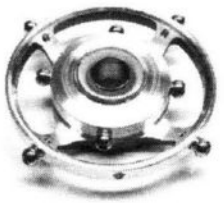
Aluminum Clutch Bell

CNC precision machined aluminum clutch bell with replaceable gear and lining



CN2225 Clutch bell w/gear
HI3010A Bell only
HI3010B 2-Stroke Gear (26T)
CN2020L Clutch lining (2)

Precision Metal Swashplate

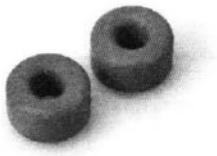


This beautiful CNC precision machined aluminum swashplate will increase precision control for all flight maneuvers. (**Silver**)

CN2056 Metal Swashplate

Extra hard Rubber dampeners

Get extra supercrisp flying with hard cyclic dampeners. Soft fluttering will switch to lightning quick response



HI3181A 85 degree hardness damping rubbers

CENTURY
HELICOPTER PRODUCTS

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