

Compass



Compass 2015

CHRONOS Compass

The further development of the 7HV Ultimate

The Chronos 700 size helicopter is a further development of the high performance Compass 7HV Ultimate. The updated airframe is optimized for the new, hard and uncompromising flying style, but easily handles all other areas of model helicopter flight. Due to the new/special geometry, adjustable damping, and increased stiffness, the Chronos excels, both in high RPM, hard 3D flying and low RPM (less than 1100 RPM) precision flight.

- The CRS * rotor head is a completely new design. For the first time, a model rotor head includes damping that can be adjusted from firm to soft in seconds, in the field and without disassembly. This makes it possible to easily optimize the Chronos for all flybarless systems and flying styles. In addition, the CRS rotor head has new, improved geometry. Flexible, but firm, "SZ" Drive Arms allow spindle flapping and provide precise control of phasing- eliminating tracking issues during extremely high cyclic movements. Over-center linkages from the cyclic servo arms to the swashplate, greatly reduce the effects of differential throw caused by conversion of the rotary movement of the servos to the linear movement of the pushrods.

- The Chronos has a large, 127 tooth, Mod 1, helical main gear, machined from Delrin. Designed to be indestructible in flight, this new gear main gear ensures quiet running and smooth, efficient power transfer, and long service life.

- The Chronos frame is constructed from four separate carbon fiber frame members. If damage occurs to any one frame member in a crash, it can be replaced individually-greatly reducing repair costs. The frame also features Carbon Fiber reinforcements in strategic locations, as well as mounting points for cable ties to make wire routing simpler.

- The automatic belt tensioner, as well as the entire tail rotor system, are carried over from the 7HV Ultimate. This extremely robust tail system is known for its power and precision.

- The hollow 14mm main rotor shaft and 10mm feathering shaft make the Chronos very stiff. This, combined with the newly designed and improved swash plate and geometry (described above), greatly increases precision in flight. New carbon fiber landing gear struts improve appearance, save weight, and greatly increase the strength of the landing gear assembly.



* CRS (Compass-Rotorhead-System) High precision rotor head geometry

CHRONOS Compass

A new era of 700 size helicopters



Compass CHRONOS flybarless
Item Number: CHR 700

Scope of delivery:

Pre-assembled airframe with all small parts needed to finish, painted canopy. You can find an overview of the various sets on page 12.



Technical Specifications

Length	1334mm
Height	410mm
Rotor diameter	1560mm (700mm sheets)
Rotor blades	690-710mm
Pinion sizes	10T, 12T, 13T, 14T, 15T
Gear ratio	(13T) 9.77 : 1 : 4.4
Take-off weight	4.8 - 5.8kg
Motor type	Electric Motor
Controller	120A brushless HV
Battery size	LiPo battery size with 12S (2x6s) 3700 - 6000mAh with at least 25C



FEATURES

- Automatic belt tensioner
- Sliding Battery Tray
- Pinion bearing mount
- Modul 1.0 teeth
- Optimized for Flybarless
- High placed center of gravity

Compass 6HV Ultimate

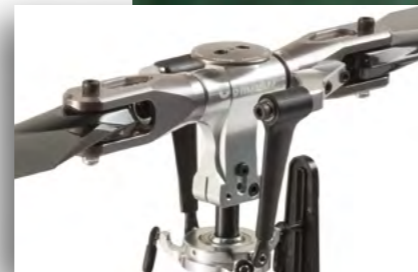
12 Cell Power in a compact 600size airframe

The 6HV Ultimate is a further development of the proven 6HV. Many improvements have been made to provide easier assembly, improved flight performance, and simpler maintenance. The updated main rotor head includes the same, new "SZ" arms as are found on the Chronos, allowing both flapping and precise swashplate timing. A third bearing block for the main rotor shaft has been added, and the diameter of the swashplate driver pin has been increased from M3 increased to M4. Servo installation and maintenance has been improved by the use of machined aluminum servo mounting brackets. The ESC is mounted on its own, dedicated Carbon Fiber tray. A second tray is provided for a BEC or receiver battery. Cable installation is greatly improved by the addition of special mounting points and routing holes in the frame. Like the Chronos, the 6HV Ultimate frame assembly is now made in four separate pieces of Carbon Fiber, making repairs after a crash both simpler and less expensive.

The tail rotor assembly is very similar to that of the 7HV, making it one of the largest and most precise to be found on a 600 sized helicopter. The 6HV Ultimate tail assembly has an aluminum tail arm, a 6mm tail rotor shaft, reinforced tail blade holders, and a stainless steel tail rotor hub. To further increase overall stiffness, the tail boom diameter has been increased to 25mm. From an appearance standpoint, the 6HV-U has a new, larger, highly visible canopy that features styling similar to that of the WARP 360. The landing gear stance has been changed to increase the ground clearance of the tail rotor. The automatic belt tensioner, which first appeared on the 7HV has been integrated into the 6HV Ultimate. Other improvement details include a backstop for the batteries, canopy break-aways, canopy quick-releases, slots for the Velcro straps to retain the batteries, a rotorhead brake, a new engine mount, a carbon fiber tail pushrod, and a high-quality helical main gear machined from Delrin. This uncompromising design will truly provide the "Ultimate" 600 sized helicopter flying experience.

Technical Specifications

Length	1217 mm
Rotor diameter	1380 mm (615mm blades)
Blades	580 - 620mm
Pinion size	10T, 12T, 13T, 14T
Gear ratio	(10T) 9.7 : 1 : 4.2
Take-off weight approx	3.5 - 3.8kg
Motor type	Electric Motor
Controller	70A brushless HV
Battery size	LiPo with 12S (2x6s) 2600-3300mAh with at least 25C



6HV Ultimate Compass

The consequent development



Compass 6HV Ultimate flybarless

Item Number: 6HVG-ULT

Scope of delivery:

Pre-assembled airframe with all small parts needed to finish, painted canopy. You can find an overview of the various sets on page 12.

FEATURES

- Developed for flybarless flying
- One of the lightest helicopters in his class
- Precise ECCPM 120° alloy-swash plate, alloy main and tail rotor
- Extremely capable carbon fiber main frames, robust Delrin helical, Mod 1 main gear
- Easy to build and to maintain, inexpensive spare parts
- Batterys can also be used in a 500 class helicopter
- High quality painted glassfiber canopy (available in different colours)



Atom 500

The Atom 500 is designed for the modeler who desires uncompromising 3D performance in a compact, 500 sized, machine. Simple, robust, and with a very low parts count, the Atom 500 has been a proven top performer for several years. The Atom features an efficient, over-sized drive train (mod 1 main gear), large diameter tail boom, simple belt tail drive, two piece Carbon Fiber frame assembly, and the classic Compass/SZ Main Rotor Head (the first of the modern driverless head designs). Flexible drive tubes between the swashplate and main blade grips, allow blade flapping and control phasing-providing both crisp cyclic handling and excellent centering. High quality aluminum parts and reinforced materials provide a strong, simple machine that resists wear.

Although designed for extreme 3D flying, the Atom 500 has excellent stability, making it suitable for all pilots from beginners to experts. For new or low RPM pilots, the flight time can be increased with the 8T pinion. For those who prefer an uncompromising, extreme 3D experience, a 10 tooth pinion is available.

The Atom 500 is easily upgraded a 550 size heli with a rotor diameter of 1130mm.

You can order the kit under Item Number: 550C



Atom 500 Compass

Compact Taker



Compass Atom 500 flybarless
Item Number: 500E FBL-a

Scope of delivery:

Pre-assembled airframe with all small parts needed to finish, painted canopy. You can find an overview of the various sets on page 12.

Specifications

Length	835mm
Height	270mm
Rotor diameter	962mm
Pinion size	8T, 9T, 10T
Gear ratio 8T	9.75:1:4.286
Gear ratio 9T	8.67:1:4.286
Gear ratio 10T	7.8:1:4.286
Flying-weight	ca. 1.75kg
Motor-size	500 BLHT
Motor type	electric KV: 1080
ESC	60A BL
Battery-size	LiPo 6S - 2650mAh 30C
Blades	430mm
Tail-blade	70mm

FEATURES

- **Pure 3D ability**
- **Precise eccpm 120° aluminium swashplate**
- **Aluminium rotor head, aluminium tail rotor**
- **Extremely tough carbon fiber frame**
- **M1 main gear**
- **Easy maintenance**
- **Inexpensive spare parts, 80% pre-assembled**
- **Designed for 6s LiPos**
- **Large diameter tail boom**
(little static discharges and no tail boom supports)

WARP 360

*Easy to maintain, aggressive and silent -
The powerful HV concept of the future!*

- The Warp360 represents a new generation of small, powerful, high performance 3D helicopters. Due to its innovative dual belt drive transmission, it is nearly silent and extremely smooth in flight. With Carbon Fiber plates providing minimal damping, the new rotorhead provides smooth, yet aggressive flight characteristics, and a feel similar to that of much larger machines. Designed from the outset as a flybarless helicopter, the Warp360 incorporates excellent geometry from the cyclic servos to the swashplate, and the rotorhead.
- The Warp 360 can be flown with 3s to 6s battery packs. Compass recommends using a 4s to 6s setup for optimal flight 3D flight performance and reduced current drain.
- The tail rotor is designed to be non-driven during autorotations, allowing greater efficiency and better energy retention. This makes autorotation both easier and safer in a small helicopter.
- High quality belts and the large-diameter pulleys allow the belts to be run at low tension without fear of them coming off in flight.
- The model is designed to easily fit all RC components in a compact, maintenance friendly frame-something that has been largely ignored, until now, in 450 size models.
- Stylish CF skids, and a large, modern, high visibility canopy fit the new designed frame of the Warp 360 perfectly.



WARP 360 Compass

HV concept of the future!



Compass WARP 360 flybarless
Item Number: WARP FBL-a

Scope of delivery:

Pre-assembled airframe with all small parts needed to finish, painted canopy. You can find an overview of the various sets on page 12.



FEATURES

- **Pure 3D ability**
- **One of the most lightweight models of his size**
- **Precise eccpm 120° aluminium swashplate**
- **Rigid rotorhead without rubber or polyurethane dampeners**
- **Aluminium/CF tail rotor**
- **Extreme tough CF frame**
- **6mm wide main drive belt**
- **Easy to assembly and maintenance-friendly**
- **Cheap spare parts**
- **High quality glass fibre canopy (available in different designs)**
- **No tail boom supports due to the 17mm tail boom**

Specifications

Length	693 mm
Height	220mm
Rotor diameter	800mm
Pinion size	16T, 17T, 18T
Gear ratio	8.44 : 1 : 4.22 (16T)
Flying-weight	920-1030g
Motor type	electric
Battery-size	LiPo 3S-6S 1300-2200mAh
Blades	320 - 360mm

Think different - we want to reinvent the 3D RC helicopter

550 Ultimate

Compass Servos
Full metal case with metal gears

Electric 550 size rc-helicopter for 6S Cell Power

Compass



Compass 550 Ultimate
Item Number: 550-ULT-a

Scope of delivery:

Pre-assembled airframe with all small parts needed to finish, painted canopy. You can find an overview of the various sets on page 12.

The 6HV Ultimate was the perfect root for our new 550 Ultimate. The frame is very compact build, stiff and designed for highest loads. The 550 Ultimate got a third bearing block, a strong helical main gear made from DELRIN and frame doublers on weak spots. The 550 Ultimate is without any doubt a real taker. The use of 6 cell batteries with about 4500-6000mAh gives the opportunity to use the 550 in combination with a 700 while using the same packs. Aluminium brackets are mounted into the carbon side frames, so the assembly of the servos is fast and easy and the ESC got his own mount. The tail is widely used from the 7HV Ultimate and got an aluminium tail control arm, a 6mm tail shaft, reinforced tail blade grips and a stainless tail center hub. The most distinctive features are the new canopy leant to the design of the

Warp360 and the new 25mm tail boom. The automatic belt tensioner first used in the 7HV is also used in the 550 Ultimate. Some fixing points for the wires are milled into side frames. New two-part side frames reduce the cost in case of a crash and make the helicopter easy to fix. Much more details like the notches for the velcro tapes, the head button, the canopy quick-releases, a new motor mount with counter bearing and the cf tail control rod make a perfect overall package.

Technical Specifications

Length	1105mm
Height	322mm
Rotor diameter	1250mm: (550mm)
Pinion size	12T 515 - 560mm
Gear ratio	8.08 : 1 : 4.36
Flying-weight	with Battery: 3000 - 3400g
Motor type	1000-1200KV (6S)
Battery-size	LiPo with 6S 4500-6000mAh, 25-60C
Blades	515 - 560mm



High quality servos for helicopters of the 450 / 360 size. The full metal case with metal gears and a high grade coreless motor are responsible for a long life time and precision while having a lot of torque and speed. A well-priced and sturdy servo set for most helicopters in this size. This servos are available as a set (Item no.: E-0001) or separate.

Mini Servo CM301 – Cyclic

Technical Specification:

- Bearings:** 2 Ball Bearings
- Motor:** Coreless
- Frequency:** 1520 μ s / 200 Hz
- Size:** 22.9 x 12 x 27.3 mm
- Weight:** 20g
- Working Voltage:** 4.5 - 8.5V
- Speed / Torque:**
7.4V: 0.05 s/60° / 3.7 kg/cm
6.0V: 0.06 s/60° / 3.1 kg/cm
4.8V: 0.07 s/60° / 2.5 kg/cm

Item no.: E-CM301



Mini Servo CM301N – Rudder

Technical Specification:

- Bearings:** 2 Ball Bearings
- Motor:** Coreless
- Frequency:** 760 μ s / 333 Hz
- Size:** 22.9 x 12 x 27.3mm
- Weight:** 20g
- Working Voltage:** 4.5 - 6V
- Speed / Torque:**
6.0V: 0.045s/60° / 3.0kg/cm
4.8V: 0.055s/60° / 2.3kg/cm

Item no.: E-CM301N



Item Number	WARP 360	WARP 360-b	WARP 360-CB	500E FBL	500E FBL-a	500E FBL-b	550-ULT-a	550-ULT-b	6HVULT	6HVULT-a	6HVULT-b	CHR 700	CHR-A 700	CHR-B 700
Frame	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber	Carbon Fiber
Blade Size	Carbon Fiber 350mm	Carbon Fiber 350mm	Carbon Fiber 350mm	Carbon Fiber 430mm	Carbon Fiber 430mm	-	Carbon Fiber 550mm	Carbon Fiber 550mm	Carbon Fiber 615mm	Carbon Fiber 615mm	Carbon Fiber 615mm	Carbon Fiber 700mm	Carbon Fiber 700mm	-
Pinion	16T	16T	16T	9T	9T	9T	12T	12T	10T	10T	10T	14T	14T	14T
Speed Controller	-	-	X	X	-	-	-	-	X	-	-	-	-	-
Motor	X	-	X	X	X	-	X	-	X	X	-	X	-	-
Motor Type	Electric	Electric	Electric	Electric	Electric	Electric	Electric	Electric	Electric	Electric	Electric	Electric	Electric	Electric
CRS-Rotor Head	-	-	-	-	-	-	-	-	-	-	-	X	X	X
Flybarless Head	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Size	450pro	450pro	450pro	500	500	500	550	550	600	600	500	700	700	700
Model	WARP 360	WARP 360	WARP 360-Combo	Atom 500 FBL	Atom 500 FBL	Atom 500 FBL	550 Ultimate	550 Ultimate	6HV Ultimate	6HV Ultimate	6HV Ultimate	CHRONOS 700	CHRONOS 700	CHRONOS 700

Some of our helicopter kits are available in several canopy designs. Please ask for these options at your local dealer or visit www.compassmodel.com

Compass Model offers a comprehensive range of main and tail rotor blades.

Compass blades are characterized by

- High precision trailing edge improves aerodynamic performance
- The blade profile, weight and center of gravity are optimized for modern flying style offering fast in response, precision and stability.
- Suitable for all types of flying
- Manufactured from high quality materials
- Safety features reduce the risk of injury in case of a crash



Rotor Blades

Length	Width	Thickness	Thickness at blade root	Hole size	Weight	Lag	Item Number
95mm	28mm	3.6mm	4,9mm	3.1mm	6g	ca. 0.9° / 1.8mm	F05-0095T
115mm	30.5mm	4mm	4,9mm	3.1mm	7.6g	ca. 0.9° / 1.8mm	F-05-0115T
350mm	34.3mm	4.6mm	4,7mm	3.1mm	24g	ca. 0.3° / 1.9mm	F-40-CD350
430mm	42mm	5.3mm	9mm	3.1mm	66g	ca. 0.4° / 3.0mm	F-06-0430T
515mm	48.5mm	6.5mm	10mm	3.1mm	78g	ca. 0.4° / 3.5mm	F-04-515T
615mm	55mm	7.5mm	12mm	4.1mm	124g	ca. 0.3° / 3.5mm	F-04-0250T
700mm	60mm	8.2mm	14mm	5.1mm	195g	ca. 0.3° / 4.0mm	F-40-4700

Toolset: Item Number: T-0001

High quality tools are a must have for every modeler. The Compass ten-piece tool set includes two Phillips screwdrivers as well as the all important Allen keys and hex drivers in popular sizes.

The rotating end caps of the screwdrivers are designed in different colors. This allows a quick differentiation of the various sizes. The handle is ergonomically shaped and allows building without aching fingers.

The set comes with a high quality bag. Each drivers is also available separately as well as spare driver pins.



Ball Link Sizer: Item Number: E-XQT-01

Low friction ball links are a must for an correct function of a helicopter and optimal performance of the tail gyro or flybarless system. With this ball link sizing tool you can quickly and effectively customize the ball links to the corresponding balls.



Spring Pin Tool: Item Number: T-2000

Spring pins are essential engineering parts that can be found on many helicopter designs, but their insertion and removal come often be a tedious task. This spring pin tool can make things a lot easier. The drift pin of this tool is replaceable.



Blade Caddy

Our new blade caddies have a fresh design without compromise on performance. They are made from thick high quality long lasting foam and clamp securely on the tail boom. They are available for all Compass Model helicopters as well as other brands.



Compass Accessoires

Article	Special Features	Item Number
Tollset 10pcs	High quality tool set in tool bag	T-0001
Single Screw Driver 1.5mm Hex	Ergonomic aluminum handle, grinded and slightly oversize tip	T-0015
Single Screw Driver 2mm Hex	Ergonomic aluminum handle, grinded and slightly oversize tip	T-0020
Single Screw Driver 2.5mm Hex	Ergonomic aluminum handle, grinded and slightly oversize tip	T-0025
Single Screw Driver 3mm Hex	Ergonomic aluminum handle, grinded and slightly oversize tip	T-0030
Single Screw Driver Phillips middle	Ergonomic aluminum handle, high grade steel	T-0101
Single Screw Driver Phillips small	Ergonomic aluminum handle, high grade steel	T-0102
Single Screw Driver Nut 4mm	Ergonomic aluminum handle, high grade steel	T-0240
Single Screw Driver Nut 5mm	Ergonomic aluminum handle, high grade steel	T-0250
Single Screw Driver Nut 5.5mm	Ergonomic aluminum handle, high grade steel	T-0255
Single Screw Driver Nut 7mm	Ergonomic aluminum handle, high grade steel	T-0270
Toolbag	Nice looking tool bag for up to 10 tools	T-1000
Spring Pin Tool	Tool to disassemble the spring pin	T-2000
Blade Caddy WARP 360	For 17mm tail booms, printed WARP Logo	10-BC1
Blade Caddy Atom 500	For 22mm tail booms, printed Atom 500 Logo	06-BC
Blade Caddy 6HV Ultimate	For 25mm tail booms, printed 6HV Ultimate Logo	02-BC1
Blade Caddy 7HV	For 25mm tail booms, printed 7HV Logo	09-BC1
Blade Caddy CHRONOS 700	For 25mm tail booms, printed CHRONOS Logo	09-BC2
Blade Caddy TDR	For 25mm tail booms, printed TDR Logo	09-BC-TDR
Blade Caddy 22mm	For 22mm tail booms, 3Dplus, Knight, 6HV	02-BC
Compass Assembling Towel	Microfibre assembling towel with Compass Logo	02-0007
Canopy Quick Release 19mm	Fast canopy mounting in seconds with quick release. Atom 500	06-8703C
Canopy Quick Release 26mm	Fast canopy mounting in seconds with quick release. 7HV / 6HV	06-8703A
Canopy Quick Release 30mm	Fast canopy mounting in seconds with quick release. 6HV Ultimate	06-8703D
Canopy Quick Release 50mm	Fast canopy mounting in seconds with quick release. X7	06-8703B



www.compassmodel.com

info@compassmodel.net

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