

	Ergo 30	Ergo 46	Ergo 60	Ergo Z230 Gas	Robbe Futura Millennium 60	Robbe Futura Super Sport	Robbe Futura SE	Hirobo Eagle2	Hirobo GPH346	Hirobo Shuttle Challenge	Hirobo Shuttle RG	Hirobo Shuttle IS	Hirobo Shuttle ZX	Hirobo Shuttle ZXX	Hirobo Tsurugi XX
Cost	\$350.00	\$400.00	\$499.00	\$1,090.00	\$1,080 fl.2625?	fl.1400 (Quartel)	\$1,080.00 fl.2500 (Quartel)	\$1,100.00	\$399.00 fl.1355 wo engine	\$299.00 1985	\$650.00 1990 ofzo? \$569 (model airplane news)	\$250.00	fl.1295 met OSMax32 SX-H engine fl. 1389 met SX-HX. fl.600 wo engine	\$380-\$400 fl.1175 incl engine and 1 turles (modelbouw.com?); fl.1459+32SX-HX \$51.96	\$620.00
Crash Index	\$56.39	\$56.39	\$76.98	\$78.00	\$98.27		\$98.27	\$98.95	\$49.73		\$45.39	\$51.96			\$97.59 This includes the yoke \$20.74 Moderate Fair Moderate
Ease of building	Easy	Easy	Easy	Easy	Moderate		Easy	Lots of pieces! Typical Hirobo	moderate	easy	moderate	easy		easy	
Instructions	Good	Good	Good	Good	Ok		Ok	Looks tough	Ok	ok	Ok	ok		ok	
Ease of repair	Easy	Easy	Easy	Easy	Easy		Easy		moderate	easy	moderate	easy		easy	
Parts Count	Low	Low	Low	Low	Low		Low	Very High	Medium	low	Medium	low		low	Low
Ball Bearing Count	Coming soon	Coming soon	Coming soon	Coming soon	Coming soon		High/Complete	Very High	High	mediocre	High	mediocre		high (36 balls)	Very High
Canopy Material	Tough Plastic	Tough Plastic	Tough Plastic	Tough Plastic	Tough Plastic		Plastic/Glass and prepainted available	FRP	Plastic	Plastic One Piece	High fiber glass	Plastic One Piece		Plastic One Piece	Plastic 2 piece
Frames	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum		Aluminum/Carbon available	Metal	Aluminum	Plastic	Aluminum	Plastic		Plastic	Aluminum
Tail Drive	Belt	Belt	Belt	Belt	Belt		Torque Tube/Aluminium	Torque Tube or Belt	wire or belt	Belt	Belt	Belt		Belt	Torque Tube Stainless Steel
Blades	Wood 550mm	Wood 560mm	Wood 680mm	Wood 680mmds	None included. Accepts up to 710mm		None / Will accept 710mm NHP710s recom. r=900mm	Wood	Wood	550mm Wood	None	550mm Wood		550mm Wood	660mm Wood
Tail Rotor Blades	Plastic	Plastic	Plastic	Plastic	None included. NHP 105mm are ideal.		None / NHP 105mm recommended	Plastic	Plastic	Plastic	Plastic	Plastic		Plastic	Plastic
Head	Metal hub/Plastic Grips	Metal hub/Plastic Grips	Metal hub/Plastic Grips	Metal hub/Plastic Grips	Metal/Plastic Grips		Metal/Plastic Grips	All Metal	All Metal	Metal Hub/Plastic Grips	All Metal	Metal Hub/Plastic Grips		Metal Hub/Plastic Grips	Metal /Composite very durable
Linkages	Ball Links	Ball Links	Ball Links	Ball Links	Ball Links		Ball Links	All Ball Link	All Ball Link	Z bend/Ball Link	All Ball Link	Z bend/Ball Link		All Ball Link	All Ball Link
Start System	Hex w /one way bearing	Hex w / one way bearing	Hex w / one way bearing	Pull Start	Hex with one way bearing		Hex / no one way bearing	6mm one way bearing	6mm one way bearing	Hex w /one way bearing		Hex w /one way bearing		Hex w /one way bearing	6mm one way bearing
Pegae Compatible	Yes *Part #1045 specify for Ergo Plastic	Yes	Yes	No	Yes		Yes	yes #1039	yes	Yes		Yes		Yes	Yes
Fins	Plastic	Plastic	Plastic	Plastic	Plastic/Carbon 3d fins available		Plastic / Carbon 3d available	Plastic	Plastic	Plastic	Plastic	Plastic		Plastic	Plastic
Engine	.30ci=5cc?	.46=7.5cc?	.6ci=10cc?	2.3ci=38cc?	10cc		10cc	OSMax46FX-H (fl.475)			OSmax.32SX-H		OSMax.32 SX-H (5.23cc?) (fl.600) OSMax.32SX-HX (fl. 689)	OSMax.32 SX-H (5.23cc?) (fl.600) OSMax.32SX-HX (fl. 689)	Rear, 250 cc=20 minutes flying
Fuel Tank	Front	Front	Front		Rear, 620ml		Front, 600ml	Rear	Rear	Rear	Rear	Rear		Rear	Rear
Main Shaft	10mm	10mm	10mm	10mm	10mm/ Same as Futura SE		10mm	10mm	10mm	8mm	8mm	8mm		8mm	10mm
Axle/Spindle	5mm solid	5mm solid	8mm	8mm	8mm		8mm	8mm	6mm solid	5mm Solid	6mm solid	5mm Solid		5mm Solid	Yoke and 8mm spindle are integrated 10 lbs
Weight	7 1/2 WAG	7 3/4 WAG	10 3/4	13 WAG	10 1/4 (4.8kg vliegklaar?)		10 1/2	4800g.	3500g.		2950g.	2350g.		2400g.	
Visibility Comments	Good	Good	Excellent	Excellent	Very good Excellent Kit - Constant Drive Tail Standard. Very rigid and designed for 3d. Stock paddles are very quick. Single reduction gear drive transmits more power to the blades. Easy to see rear tank. W: Millennium is successor of Futura and Contest. Single step transmission. Metal Horizontal Fin mount has a better grip on the tail boom. 3D Carbon fins are lighter and IMHO better looking That's it. No more. Lots of metal stuff available, but not recommended.		Very good My personal favorite helicopter. Constant Drive Tail Standard Double reduction belt drive is very easy to install and isolates vibration. Rear facing engine makes glow plug access a snap. W: Double step gear. Millennium is its successor.	Very Good	Good	Fair Comes with training gear, and a certificate for free parts...up to \$50	Fair full 3D seems possible - there are settings for it. Mild 3D has been reported.	Fair		Fair	Very Good If the spindle bends, the entire yoke must be replaced. Normally this part isn't damaged. Please take this into consideration when comparing the crash index to other machines. The yoke is \$20.74 and is included in the crash index.
Worthwhile upgrades								Metal Horizontal Fin mount has a better grip on the tail boom. 3D Carbon fins are lighter and IMHO better looking That's it. No more. Lots of metal stuff available, but not recommended.							



	Vario Kobold SFr. 670 \$470 fl.990	Vario Sky Fox SFr. 408 fl.1750 (10cc) fl.1120 (7.5cc)	Vario Sky Dragon	Vigor Belt Drive	XCell MA 30	XCell MA 60	XCell MA Gas Graphite	XCell MA Custom 60	XCell MA Graphite 46	XCell MA Pro II	XCell MA Graphite 60	XCell MA Graphite 60 SE
Cost	\$469.42 fl.990 (quartel) ?			\$899	\$365.00	\$450.00	\$1,050.00	\$608.00	\$659.00	\$1,380.00	\$899.00	\$1,020.00
Crash Index Ease of building				\$96.19 Easy	\$71.29 Moderate to Hard	\$74.68 Moderate to Hard	\$80.76 Moderate to Hard	\$76.84 Moderate to Hard	\$94.32 Moderate to Hard	\$95.10 Moderate to Hard	\$90.70 Moderate to Hard	\$94.22 Moderate to Hard
Instructions Ease of repair				Good Easy	Excellent Moderate to Hard	Excellent Moderate to Hard	Excellent Moderate to Hard	Excellent Moderate to Hard	Excellent Moderate to Hard	Excellent Moderate to Hard	Excellent Moderate to Hard	Excellent Moderate to Hard
Parts Count Ball Bearing Count				Low All except elevator bellcranks	High Mediocre	High High	High High	High High	High High	High High	High High	High High
Canopy Material Frames	plastic?	Aluminium		Tough Plastic Aluminium	Plastic 2 piece Stacked Aluminium	Plastic 2 piece Stacked Aluminium	Fiberglass Graphite	Fiberglass Stacked Aluminium	Fiberglass Graphite	Fiberglass Graphite	Fiberglass Graphite	Fiberglass Graphite
Tail Drive Blades Tail Rotor Blades Head	750mm	Torque tube? GRP (plastic?)		Belt None Plastic	Wire 550mm Wood Plastic	Wire 648mm Wood Plastic	Torque Tube 710mm Wood Plastic	Torque Tube 690mm Wood Plastic	Torque Tube 580mm Wood Carbon	Torque Tube 690mm Carbon Carbon	Torque Tube 690mm Wood Carbon	Torque Tube None Carbon
Linkages Start System		Metal + Plastic?		Metal hub/Plastic Grips	Ball Link Cone	Ball Link Cone	Ball Link Pull Start	Ball Link Cone	Ball Link Cone	Ball Link Cone	Ball Link Cone	Ball Link Cone
Pegae Compatible Fins		Cone?		Yes Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Fuel Tank	10cc	Webra WM edition		Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Light weight Carbon, Large Horizontal.	Plastic	Light weight Carbon
Main Shaft Axle/Spindle Weight Visibility		Rear		Front 20 oz. 10mm 8mm	Front 10mm 8mm 71/4 Lbs=3220g	Front 10mm 8mm 9 1/2 Lbs.	Front 10mm 8mm 12 1/2 Lbs.	Front 10mm 8mm 9 3/4 Lbs	Front 10mm 8mm 7 lbs.	Front 10mm 8mm 9 1/2 lbs.	Front 10mm 8mm 9 1/2 lbs.	Front 10mm 8mm 9 1/2 lbs.
Comments Worthwhile upgrades	4.5kg = 9.92 pounds two-step gear?	two-step gear?	two-step gear?	Very Good This is a very nice flying machine.The design is beautiful and it should be a popular kit.	10 1/2 Pretty good	Very Good	Very Good	Very Good	Good	Very Good	Very Good	Very Good