



## RCU Magazine Review - World Models Ultimate 120R



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# The World Models ULTIMATE-120R

Review by: [Mike Buzzeo \(MinnFlyer\)](#) [Email Me](#)



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### Dealer Info



**The World Models**  
Manufacturing Co., Ltd.  
Made in China

Distributed through AirBorne Models, LLC  
2403 Research Drive,



## Introduction

The now famous Ultimate 10-300 originated as Full-Scale Pilot/Designer Gordon Price's desire to improve the looks and performance of his Pitt's Special. After he had produced new wings, canopy, fuselages, and wheel pants for the Pitts, it was a natural step to produce his own airplane. The original 10-100 flew with a 100 HP engine, and while the plane flew well, vertical performance was limited

The next version (10-200) was 6" longer, and could accommodate a larger power plant, but eventually, Gordon updated the design to the

10-300, which was 3 feet longer than the 200, and could handle a 300 HP engine.

The rest, as they say, is history.



**Gordon Price's Original Modified Pitt's Special**

It wasn't long afterward that the R/C community got their hands on the design, and it is now one of the most copied airframes in the industry. And why not? We modelers know a good thing when we see - or should I say, "fly" it!

"The World Models" now offers a complete line of this dynamic airframe, which includes a 100cc size, a 50 cc size, a .40 2-stroke size, and this 120 4-stroke size. The latter is probably my favorite size airplane - Not too big, but not too small either - Large enough to support the extra weight of an auxiliary feature like Smoke (which I plan to use), but small enough to easily haul around without the need of a trailer.

So without further ado, let's open the box!

## Specifications

**Name:** The World Models Ultimate-120R

**Price:** \$329.99

**Wingspan:** 53.5 in / 1360 mm

**Video**

**Window Media Player  
The World Models  
Ultimate-120R**

**Ratings**

Poor:	★
Acceptable:	★★
Good:	★★★
Excellent:	★★★★
Outstanding:	★★★★★

Packaging:	★★★★★
Construction:	★★★★★
Hardware:	★★★★★
Manual:	★★★★
Ease of Assembly:	★★★★★
Completeness of Kit:	★★★★★
Covering Quality:	★★★★
Takeoff:	★★★★★
Landing:	★★★★★
Basic Flight:	★★★★★
Advanced Flight:	★★★★★
Stall Characteristics:	★★★★★

**Hits**

- Very Complete
- Excellent Parts Fit
- Well Designed and Engineered
- "Flying" Stab and Fin
- Pull-Pull Rudder
- Parts Bags Numbered by Steps
- Control Surfaces Pre-Hinged w/ Metal

### Hinges

- Pre-Cut Canopy
- Engine mount easily rotated for either Horizontal or inverted mounting
- Excellent Flight Characteristics!

**Wing area:** 989 sq in / 63.8 sq dm

**Weight per Mfg:** Total: 9.9 lbs / 4480 g

**Actual Flying Weight:** Total: 9.8 lb

**Skill level:** Advanced

**Radio Used:** Futaba 6XAS / Futaba R148DF FM Rx

(3) Futaba S-3004 Servos for Throttle, Ailerons (2)

(2) Hitec HS-5475 for Elevator, Rudder

**Channels Used:** 5 total - Elevator, Aileron, Rudder, Throttle, Smoke

**Prop Used:** APC 16 x 4w

**Required to Complete:**

- 4-5 channel radio with 5 Servos
- Two 12" Servo Wire Extensions
- 1 "Y" Cord
- CA glue
- 30-Min epoxy
- .90 - 1.20 cu in 4-stroke Engine, w/ Propeller
- Standard building tools



### Misses

- Some trim covering not adhered well
- Lack of written instruction in Manual
- Wrong Firewall-to-Engine Thrust Plate dimension in Manual

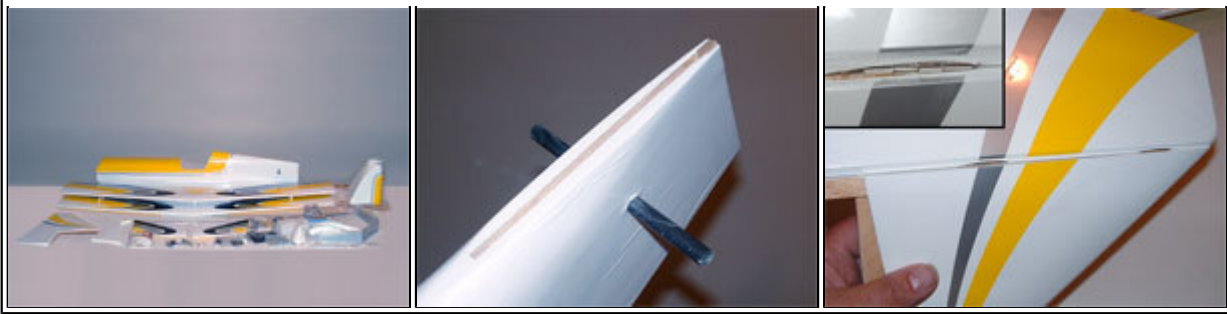


# First Look



The box lists the major specs, and shows a picture of the Ultimate in the two available colors. The parts were very well packaged, with individual wrapping and cardboard dividers between each compartment.





As I went through the inventory, several very nice features caught my attention. One of the first things I noticed was the Carbon Fiber tube, which ran through the rear of the Fuse for holding the Aluminum Stab Tube. I was also impressed by the fact that the Ultimate has an airfoil shaped Stab and Fin, and all control surfaces were pre-hinged with metal hinges.



Now here's something that I found very impressive - The parts were packaged according to the steps in the Manual, and the Step Number was listed on each bag.

A few other nice features were Plywood wing alignment guides, and the Cowl was encased in a clear plastic "Dummy" cowl that serves as both shipping protection, and as a guide for cutting out the Cowl.



Other goodies include a few Decal Sheets, a pilot figure, and a very nice Spinner.

## Manual

The Manual is like many I've come to be familiar with. While it has some good pictures and illustrations, it severely lacks in text. But

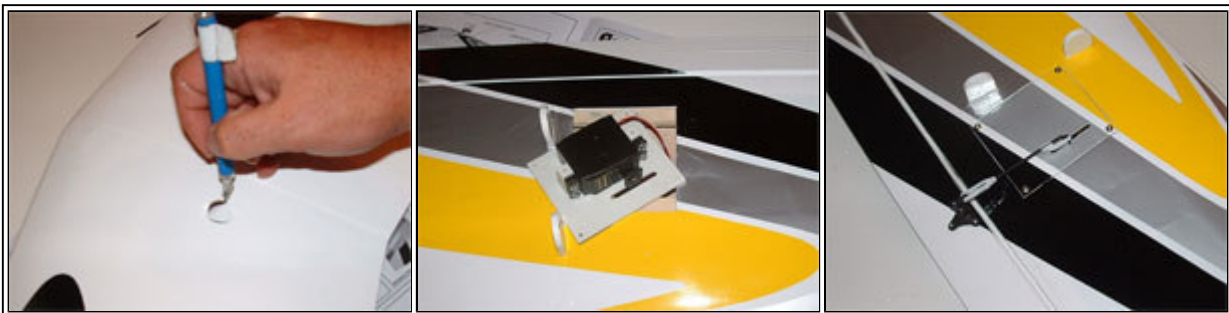


then, as I have said before, if you're flying a plane in this advanced category, you should have enough assembly experience that would make the Manual a moot point.



# Assembly

## WING ASSEMBLY



There's not much to do on the wings. Since both top and bottom wing come out of the box in one piece and the ailerons are already attached, all that's needed for now is to install two servos in the Lower Wing, install Control Horns, and hook up the pushrods. The Manual made no mention of what type of servos to use, but I can see in the picture that they used Futaba s3003's so I went with Standard Servos in the wing.

## TAIL FEATHERS



Mounting the Stab was pretty easy; with the Aluminum Joiner Tube installed in one side, drill a hole at the pre-punched position and drive a sheet metal screw into the hole. Then uncover the two setscrews near the LE and loosen them up.



Next, a 3mm Anti-Rotation Rod is inserted through a predrilled hole, the Stab sides are slid into place, the other side of the Aluminum Tube is drilled, and the set screws are tightened down on the Anti-Rotation Rod.

An interesting note here is that it appears that this Anti-Rotation Rod may serve as a way to adjust the Stab Incidence, but without any written instructions, it's hard to tell



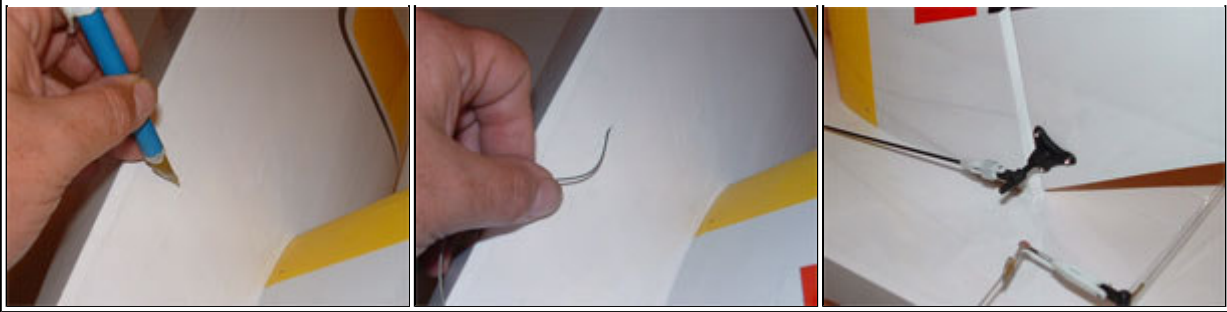
Now the Fin gets epoxied in place, and the Tail Wheel is installed.

## CONTROLS



The World Models supplies everything needed for the Rudder Pull-Pull system. I want to also point out here that all of the hole locations are pre-punched which makes placement a breeze! And the supplied hardware was very good in most cases.





With the Pull-Pull wires attached to the Control Horn, the guide tubes are first located (Locations shown in Manual), the covering is slit open, and the wires are inserted into the Fuse.

The Elevator Control Horns and Pushrods are installed next.

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## LANDING GEAR



My only complaint here is that the Manual listed no Axle Hole location, so I had to make an educated guess. This was no problem for me, but I can see where some people may find this difficult.

Aside from that, the Landing gear installation went like clockwork.

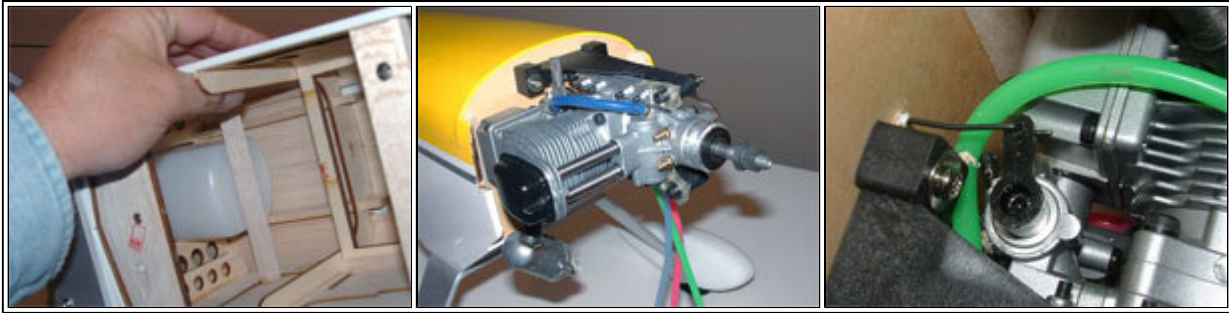
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## ENGINE AND TANK



T W M supplies a nice Shock-Absorbing engine mount. It's a little complicated in it's setup, and I omitted the bushings that are supposed to go through the engine's mounting holes (They didn't fit, and I didn't want to enlarge the mounting holes), but all in all, it looks like a workable setup, and later flights proved that it worked well.

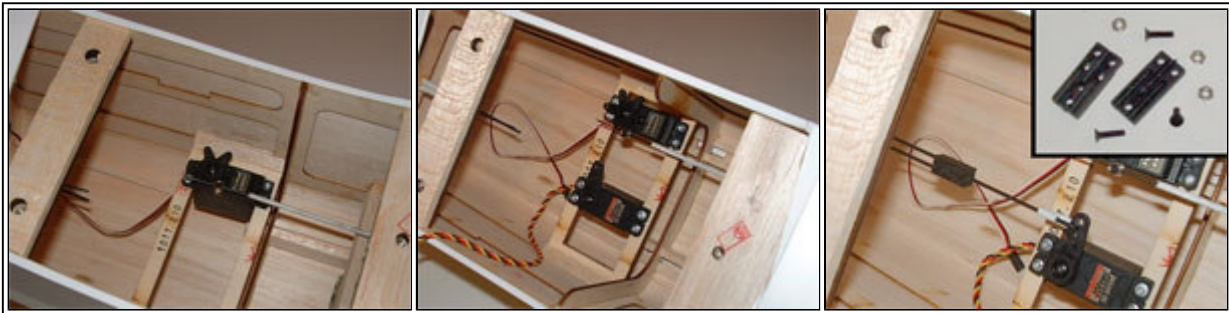
Another thing I was glad to see is that while the Manual shows the Engine mounted inverted, I was easily able to rotate the mount 90 degrees to a horizontal position (which I prefer).



Tank and Engine installation went well with one exception: My Thrust Plate to Firewall Dimension was 5" and the Manual stated that it should be at 4". I left it as it was for now, but later found that it needed to be a length of 5" (See Cowling Installation).

With the engine installed, the hole can be drilled for the Throttle Pushrod.

## RADIO INSTALLATION



Radio installation was simple. The lower mounting plate for the Throttle and Elevator servos was pre-installed. Again, there was no mention of Servo type, so a Futaba s3003 was used for throttle, and I opted for Hitec HS5475 Digitals on the Elevator and Rudder. These are probably overkill, but I had them readily available, so I went with them.

The elevator pushrods are now sandwiched between two molded plates, and connected to the servo. I was a bit apprehensive about this arrangement, but it has held up well even after some torturous maneuvers.



A second plate is epoxied in place for the Rudder Servo. Once the Servo was in

place, the other ends of the Pull-Pull cables can be assembled and connected.

TWM supplies a block of foam with cutouts for the receiver and battery pack. I also installed a Du-Bro Quick Charge Jack, just 'cause I like them so much.

## FINISHING



The Pilot Figure is attached with a double-sided foam sticky pad. Then, clear double-sided tape is applied to the inside of the canopy, and the canopy is further secured with 4 screws and vibration grommets. The Grommets are a nice touch, and they are also used on the Cowl.



I found that I needed to shim the engine mount forward ? to a total distance of 5 ? from the Firewall. Then, using the Clear Dummy Cowl to find the hole locations, the Cowl was opened up with a Dremel Tool and attached with the same Screw/Grommet arrangement as the Canopy.



With the Lower Wing bolted in place, the Upper Wing is suspended by the two provided Wing Alignment Jigs while the center Cabane struts are assembled. Next, the End Struts are drilled and attached with screws.

Finally, Control Horns are installed on all four Ailerons, and the Upper Ailerons are attached to the Lower Ailerons with Pushrods. With that, the Ultimate is ready to be charged up and taken to the field!



# Photo Shoot



# Flight Report

As it turned out, the first day the Ultimate was charged up, the weather was perfect. I wasted no time loading it up in the car and heading out to the field (Note: The WM Ultimate fits in the back of my Blazer without dismantling - a big plus in my book). I cranked up the YS 110 and set her on the runway. The Landing Gear are very sturdy, and hold the Ultimate's nose high enough that the 16x4 APC Prop had no trouble clearing the ground. I immediately liked the way it sits, fairly high, but close to level. My plan was to taxi around a bit first, but I felt so confident with this plane that I had no sooner set it down when I pushed the throttle to the max and blasted off.

There's no doubt that it had enough power! After a few minor trim adjustments, she was flying "hands off", so it was time to put her through a few basic maneuvers.

Rolls were quick and straight, and it had no problem tracking through loops. Knife-Edge caused a bit of a pitch toward the belly, but nothing unmanageable. Vertical performance was mind-blowing! On just about every flight since the maiden, I have gone from Take-Off straight to vertical until it's outrageously high! Maneuvers were crisp and clean, and it does an outstanding Inverted Flat Spin!

Ok, so far I'm very impressed. This plane is fast, stable, and VERY maneuverable! Now let's see what it's 3-D capabilities are.

The only mention of 3-D anywhere is one of the included decals, which reads, "Team 3-D". I really wasn't expecting much in the way of 3-D performance due to the plane's weight and the size of the ailerons, but since the decal implied it, I had 3-D Pilot Josh Moen put it to the test.

3-D performance was marginal. It did hover, and easily went into a Torque Roll, but it lacked the power to pull out of the hover with authority, and rolling harriers caused the small ailerons to stall. But this is such a good aerobatic performer that I'm not put off by it's lack of 3-D. Frankly, if the plane didn't come with the decal, I never would have even bothered to try it, nor would I have been disappointed.



# Video

**The World Models Ultimate 120R**  
*Windows Media Player Format*

**High Res**



**7 Meg**

*High Resolution*  
7m

**Med Res**



**3 Meg**

*Med Resolution*  
3m

**Low Res**



**612 k**

*Low Resolution*  
612k



# Summary

I can sum this plane up in one word?WOW!

It handles like a dream, it's fast and VERY aerobatic, yet it can be slowed down

nicely for landings.

It WILL do some moderate 3-D, but if 3-D is your main objective, you may be disappointed, however, you can easily slip any 90ish 4-stroke under the hood and have yourself an excellent aerobatic performer that will provide tons of fun!

All in all, I'm very impressed with the World Models Ultimate 120R. I just might have to look into their new 50 and 100cc sizes!



# Contact Info



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Made in China

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## **Du-Bro**

Everything For The R/C Hobbyist  
Phone: 1-800-848-9411  
Website: [www.dubro.com](http://www.dubro.com)

## **NoBS Batteries, Inc..**

139 Oak St  
Patchogue NY 11772-2844  
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Website: [www.hangtimes.com/nobsbatteries.html](http://www.hangtimes.com/nobsbatteries.html)  
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<u>Photo</u>	<u>Manufacturer</u>	<u>Product</u>	<u>Summary</u>	<u>Reviewed</u>
	<b>Great Planes</b>	<b>U-Can-Do 3D Ep</b>	One thing Great Planes isn't shy about is trying a revolutionary approach to solving a common problem. In this case, the issue is practicing those low-and-slow 3D maneuvers without fear of doing major damage to the airplane when the "dumb thumbs" come a-calling.	11/20/2005 <b>New!</b>
	<b>Graupner</b>	<b>Starlet - 50</b>	The Starlet 50 is an open frame design based on Graupner's UNI EXPERT mechanics. Powered by a .46 to .50-size heli engine, the Starlet is primarily for the novice heli pilot although it is a capable aerobatic performer well suited for the more advanced pilot.	11/20/2005 <b>New!</b>
	<b>World Models</b>	<b>P-51 Mustang - Miss America</b>	The Miss America Mustang is great flying and nice looking stand off scale Mustang. It looks like a real Mustang in the air and flies like one.	11/19/2005 <b>New!</b>
	<b>Balancing</b>	<b>Upside Down!</b>	It seems that lately we have been getting a lot of questions asking if it is correct to balance a low wing plane upside-down. The simple answer to this is "Yes", but a more accurate answer would be "Usually, but not necessarily always". Once you understand the basic principle, you'll easily see why.	11/13/2005 <b>New!</b>
	<b>Precision Aerobatics</b>	<b>Bad Boy V2</b>	Precision Aerobatics have set a new standard for Almost-Ready-To-Fly models. I have never seen another ARF that has been this high quality. The plane does everything you tell it to do and will definitely become a frequent flyer in my hanger.	11/07/2005
	<b>Model Tech</b>	<b>Twister ARF</b>	Model Tech's NEW Twister ARF is a aerobatic platform that can fly precise pattern or awesome 3D freestyle with just a click of your high and low rate switch. With it's sleek lines and exceptional covering, this bird looks good in the air and sitting in the pits.	11/07/2005
	<b>Bill Pryor</b>	<b>How to Crate/Ship a Giant Scale Air</b>	I often see ads for planes that say you can pick them up, but they're too big to ship. Wrong! Nothing is too big to ship.	11/05/2005
	<b>World Models</b>	<b>Cessna Skylane EP</b>	The Cessna Skylane EP has full house controls (ailerons, elevator, rudder, and throttle) which extend maneuvering limits and deliver scale flying. The strong wood structure and tough covering give the airframe low wingloading and the capability for further power upgrades.	10/31/2005
	<b>Gary Wright</b>	<b>E3D ARF</b>	Gary Wright originally designed the E3D kit to fill a gap in the market for a fully acrobatically capable electric plane that could exist on an expensive power system. Today that mission statement continues to live on, however with one improvement, it is now sold as an ARF	10/25/2005
<b>CEN Racing</b>	<b>Genesis 46 LE RTR Limited</b>		The Cen Genesis 46 LE may offer up feelings of d 鬱? vu to anyone who has driven the original version of the truck. It certainly gave me that very feeling for me, once I pulled it out of the box. However, despite the facts that things appear the same, there are	10/25/2005



**Edition**

some significant differences that have been incorporated with the truck this time around. I'm definitely curious to dive into this truck and see what all Cen has changed.



**RD Logics**

**SHO**

Despite how impressive the buggy looks, it isn't going to prove itself sitting beside the box. After all, this buggy arrived at my doorstep, and I'm not known for being a pushover in regards to putting a vehicle through a torture test. So, it's time to head to the hobby store and grab some nitro.

10/16/2005



**Model Tech**

**Magic Formula 3D**

Modeltech introduces the the Magic Formula 3D to its line of 3D type aircraft. It includes large control surfaces and expertly covered in genuine Monokote.

10/07/2005



**Proboat**

**Vortex .46 Airboat RTR**

The Vortex is one sleek looking watercraft, which is a fact that can't be denied. Just viewing it after pulling it from the box, gave me some visions of power and speed.

10/07/2005



**Hobbico**

**Superstar - EP**

The Hobbico Superstar EP ARF is available in three versions to suit your needs and level of completeness. In stock form, the direct drive Speed 600 motor provides adequate power and flight times of around 5 minutes.

10/07/2005



**Skyshark RC**

**Christian Eagle**

So a while back, when I was surfing the Internet, I came across Skyshark R/C's ad for their upcoming new ARF - A Christen Eagle! This plane seemed to have everything - Nice lines, good aerobatic capability, and a color scheme that not only fits its name, but that is one of the most beautiful and recognizable in the industry.

10/07/2005



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