

## 🇨🇦 Challenger II 503 Deluxe Package 🇨🇦

*These pricing packages apply only to Challengers sold in Canada.  
Elsewhere there are differences in packages, pricing and currencies.*

The Challenger II 503 Deluxe Package at **Cdn \$26,550\*** (List) consists of the **Challenger II Deluxe Airframe** with all the trimmings plus the ubiquitous 50 hp air-cooled **Rotax 503 Power Pack**.

*\*Prices shown are subject to further reduction due to Soaring Super Loonie Discounts!  
Please contact us for a quotation*

## 🇨🇦 Challenger II 503 Deluxe Airframe 🇨🇦

The Challenger II 503 Deluxe Airframe includes all the options, accessories and upgrades to provide maximum performance, utility and comfort in Canada.

The tail, wings and fuselage are pre-built at the factory from aircraft grade 6061-T6 aluminum. All hardware is provided and is AN aircraft quality.

Superlite fabric is provided pre-sewn into socks for the tail, pre-cut into top and bottom sections for the wings, and pre-cut into panels for the fuselage.

Full dual controls - sticks and rudder pedals - are installed at the factory. Throttles are provided for front and rear seats. Cushions and seatbelts with shoulder straps are standard for both seats. In-flight adjustable flaperons and pitch trim are standard with this package.

The cabin is fully enclosed with a Lexan wraparound windscreen plus doors on both sides. Very few ultralights have doors on both sides which is significant on floats when docking - the wind often takes away the choice of which side to put towards the dock so if you only have one door then half the time there is no way to get from the cockpit to the wharf!

The instruments included are Air Speed Indicator, Altimeter, Tachometer, Hour Meter, Compass and for the 503 a Cylinder Head Temperature gauge.

A full electrical system is provided including regulator/rectifier, solenoid and electric start for the engine.

A 10 US Gallon fuel tank is included as standard.

For maximum speed, and good looks, the package includes the fibreglass nose fairing and three-piece mid-wing gap covers as well as full streamline strut and gear fairings plus wheel pants for the mains and nose gear.

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The landing gear includes upgraded main gear legs of 2024-T3 aluminum with chromoly steel inserts. All three wheels have upgraded aluminum rims and the main wheels are oversize with larger tires. The new third generation brakes are included to complete the gear configuration.

## 🇨🇦 Challenger II 503 Deluxe Power Pack 🇨🇦



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**ROTAX**  
AIRCRAFT ENGINES

The Challenger II 503 Deluxe Power Pack is centered on the Rotax 503 UL DCDI engine and includes everything you need to create thrust and go.

This engine, purpose-built for aircraft and well-proven via thousands of real world installations, has numerous internal improvements to enhance reliability. The engine comes complete with dual electronic ignition, two spark plugs per cylinder, dual carbs, impulse fuel pump, air filter and a very effective muffler. To attach this engine to the airframe we include the motor mount with Lord mounts to isolate the airframe from vibration as well as a stainless steel exhaust mount.

The 503 is air-cooled via an engine-driven fan and is virtually immune to overheating on even the most trying days in the most trying circumstances.

An integrated generator produces AC current (12V 170W) which is converted by the supplied regulator/rectifier to 12V DC (nominal). Electric start is standard with our Deluxe package.

The reduction drive is the preferred "tall" 2.6-to-1 unit. This turns a highly efficient 60" two-blade fixed pitch wooden prop which comes standard with epoxy leading edge protection to mitigate the impact of spray, slush and rain.

This prop is the simplest, lightest and most economical choice for the 503. With the 503 there is no advantage to turning a 3-blade prop, in fact performance will actually diminish. The 3-blade works best with the 582 and is in fact required.

## 🇨🇦 No-Charge Choices for the Challenger II 503 Deluxe Package 🇨🇦

**CHOOSE WING SPAN:** long = 31.5 ft for max lift for floats and soaring OR clip = 29.5 ft for more speed and maneuverability. (See also chargeable mid-size wing option.)

**CHOOSE CABIN:** wide with low cockpit side rails OR narrow with high sides.

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**CHOOSE LEXAN:** tinted OR clear wraparound windscreen and doors.

**CHOOSE PROP:** fine pitch for best takeoff/climb OR coarse pitch for cruise.

## 🇨🇦 Chargeable Options for the Challenger II 503 Deluxe Package 🇨🇦

### **OPTIONAL Midsize 29.5 Ft Wing @ Cdn\$525\***

The optional 29.5 ft wing span is achieved via a special fibreglass wingtip that takes off a foot on either side. The wing itself is the same as the 31.5 ft version but the standard 1.5 ft bow wingtips are replaced with the optional 0.5 ft ones.

The benefits are a slightly higher cruise speed (still not a Lear jet though!) as well as a quicker roll rate for more sporty handling. This mid point between the long wing and the clip wing is suitable for float operations.

### **OPTIONAL 17 US Gallon Aluminum Fuel Tank @ Cdn\$650\***

The factory 17 US Gallon aluminum long range fuel tank represents by far the best value in terms of dollars per gallon versus other large aftermarket tanks. Many owners install long range tanks for their convenience and flexibility.

### **OPTIONAL Upgrade to Adjustable Warp Drive Prop @ Cdn\$525\***

The optional prop is an extremely durable, weatherproof Warp Drive 2-blade ground adjustable unit with the upgraded HP-L machined aluminum hub. The two carbon fibre blades have wide tips and nickel leading edges for protection from spray (floats), slush (skis) and rain (wheels).

The horsepower curve of the 503 is quite steep. With the Warp Drive you can set the pitch to hit the maximum power rpm for the best takeoff and climb performance on floats. When the floats come off in the fall you can easily reset the pitch to a lower rpm for better cruise speeds during wheel and ski flying.

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## 🇨🇦 The Fine Print! 🇨🇦

Prices are in Canadian Dollars - list effective February 1, 2007 - subject to change without notice. Canada customs charges are Cdn\$125. Federal and Provincial sales taxes are not included and are in addition at applicable prevailing rates. Shipping is not included - freight charges to major Canadian cities will typically total CDN \$750-\$1,000 for the 503 Deluxe. Your freight may be more or less depending on your location and optional equipment ordered.

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## Performance Table

The following figures apply only to the newest Challengers and engines.

All figures at ICAO standard conditions.

Performance of older airplanes and engines will not achieve these levels.

<b>Challenger II Performance</b>		<b>Long Wing</b>	<b>Clip Wing</b>
<b>Vne</b>	This never exceed speed is very high for ultralight aircraft.	<b>100 mph</b>	<b>120 mph</b>
<b>Top Level Speed</b>	With a top speed of 96 mph and a stall of 24 mph, the long wing Challenger delivers an impressive high end without sacrificing friendly, low speed approaches and handling. A 4 to 1 speed range is unusually wide, few general aviation aircraft can exceed 2.8 to 1.	<b>96 mph</b>	<b>100 mph</b>
<b>Cruise Speed</b>	Low drag tandem seating, an engine tucked out of the slipstream, and attention to streamlining result in an unusually high cruise speed. Few if any designs can deliver this speed with such an economical engine.	<b>35-85 mph</b>	<b>40-90 mph</b>
<b>Stall Speed</b> flaperons extended (solo/dual)	The Challenger's large wing area and low weight result in a very low speed and exceptionally gentle stall. This is key to short field performance and is an important safety feature. It also contributes to the long wing Challenger's unequalled soaring capability.	<b>24/28 mph</b>	<b>32/37 mph</b>
<b>Rate of Climb</b> (solo/dual)	The rate of climb is very strong by any standard. This together with a climb speed in the low 40s means the plane goes forward quite slowly while going up quite quickly, resulting in a helicopter-like angle of climb! Getting out of short fields (and lakes) is a snap.	<b>1,100 / 750 fpm</b>	<b>1,000 / 650 fpm</b>
<b>Service Ceiling</b> (solo/dual)	Most people think of ultralights as only flying low, near the ground. The Challenger goes high too, up into oxygen country. The heated cabin takes the nip out of the thin air found at these exalted altitudes.	<b>14,000 / 12,500 ft</b>	<b>14,000 / 12,500 ft</b>
<b>Glide Ratio</b>	The glide ratio of Challengers is excellent by powered aircraft standards. From 5000 feet you can glide 11 miles with the engine off! Key to the unique soaring capability of the long wing are the low drag tandem seating and low wing loading, which result in a low sink rate, plus the low stall speed, which permits very small diameter turns in the thermal's core.	<b>11 to 1</b>	<b>9 to 1</b>
<b>Minimum Sink</b> (solo/dual)	Engine off, the long wing Challenger drifts down at an unusually gentle rate, taking a full quarter hour to reach the ground from 5000 feet. Apart from aiding soaring, this low sink rate has obvious safety benefits. The clip wing sinks faster than the long wing but is still very gentle by General Aviation standards.	<b>350/450 fpm</b>	<b>500/600 fpm</b>
<b>Takeoff &amp; Landing</b>	The large wing and light weight together with the high power-to-weight ratio give great STOL performance.	<b>75-200 ft</b>	<b>125-250 ft</b>

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<b>Maximum Crosswind</b>	The crosswind capability of the Challenger actually equals or exceeds that of many General Aviation aircraft. As an example, the Cessna 172 has a crosswind capability of 17 mph. Puddlejumper amphibious floats have a steerable nose wheel which allows Challengers so equipped to retain their crosswind capabilities.	<b>20 mph</b>	<b>30 mph</b>
<b>Fuel Consumption</b>	Few two-seat aircraft are as miserly on fuel. Challengers can use auto gas, avgas or marine gas, which may be intermixed. Most owners prefer auto gas because it keeps costs to a minimum.	<b>2.0-4.5</b> USgph	<b>2.0-4.5</b> USgph
<b>Endurance</b> no reserve (10 / 15 USgal)	Endurance depends of course on how fast you want to cruise - low and slow for sightseeing or blistering along to get somewhere soon. The factory offers a 10 US gallon fuel tank and a 15 US gallon long range tank is available from a Canadian supplier of Challenger accessories.	<b>2.2-5.0</b> / <b>3.3-7.5</b> hrs	<b>2.2-5.0</b> / <b>3.3-7.5</b> hrs
<b>Range</b> no wind no reserve (10 / 15 USgal)	Range varies with the size of your fuel tank, how fast you cruise, how much reserve you allocate for contingencies, and of course the wind. Non-stop flights of over 300 miles have been made but it's actually more fun to make intermediate pit stops and be greeted by groundlings as if you're a movie star in a Ferrari!	<b>200</b> / <b>300</b> sm	<b>200</b> / <b>300</b> sm

Figures are for two-seaters on wheels with standard fuel and 170 lb. occupants.  
 Numbers assume the Rotax 503 engine and average sea level conditions.

## Specifications Table

The following figures apply only to the newest Challengers and engines.

Performance of older airplanes and engines will not achieve these levels.

Challenger II Specifications		Long Wing	Clip Wing
<b>Wing Span</b> (opt Fiberglass - std Bow tips)	The span of the long wing can be reduced 2 feet by replacing the standard bow wingtips with the new optional fiberglass tips, thus increasing roll rate and cruise speeds. The shorter span of the clipped wing gives still higher speeds and faster roll rates plus a more aggressive, sportier feel.	29.5 ft - 31.5 ft	26.0 ft
<b>Wing Area</b> (opt Fiberglass - std Bow tips)	A low empty weight and a very large wing with a 5.625 foot chord are the keys to the impressive carrying capacity of the Challenger. The long wing has 40-70% more lifting surface than competitive designs. Even the clip wing has 20-40% more area. More lift means less horsepower is required to achieve goals.	166 sqft - 177 sqft	146 sqft
<b>Length</b>	The fuselage fits nicely in most garages, making that a popular place for assembling Challenger kits. The wings fit easily too because there are two of them!	20 ft	20 ft
<b>Height</b>	PuddleJumper amphibious floats add 20" to the height on the ground. Skis add an inch or two.	6 ft	6 ft
<b>Empty Weight</b>	A very light airframe, built by the factory using triangulated 6061-T6 aircraft-grade aluminum, is the secret to the Challenger's unusually low weight. A low weight benefits all aspects of performance. Most competitive aircraft are 100-200 pounds heavier! Weights quoted are typical and very by the builder's construction technique and accessories!	~ 300 - 350 lbs (Wheels/Skis)  ~ 410 lbs (PJ Floats)	350 lbs (Wheels/Skis)
<b>Gross Weight</b> (+6G / -3G Ultimate Load Factors)	The Challenger employs a fully triangulated truss design that is not just lighter but is significantly stronger than alternatives. Since construction of such a design is beyond the capabilities of most homebuilders, every Challenger airframe is completely built in jigs at the factory.	960 <sup>1</sup> lbs	960 <sup>1</sup> lbs

<sup>1</sup> For Challenger II long wing serial numbers before #0603, gross weight is 800 lbs at +6G / -3G. All Challenger II aircraft with the Rotax 447 engine are limited to a gross weight of 800 lbs. Options and accessories increase empty weight.

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<b>Fuel Capacity</b>	Canadian Challengers are normally equipped with a 10 US gallon fuel tank. We can supply a 15 US gallon long-range fuel tank manufactured by a Canadian company and approved for use in Challengers.	<b>10, 15</b> USgal	<b>10, 15</b> USgal
<b>Seats</b>	The Challenger uses tandem seating rather than side-by-side to achieve less drag for higher speed as well as to place the pilot ahead of the wing for magnificent helicopter style visibility in all directions - even in turns. Tandem seating with doors on both sides makes docking on floats a snap. Most tandem ultralights only have one door - what do they do when the wind forces docking on the other side? They can only go elsewhere!	<b>2</b>	<b>2</b>
<b>Cabin Width</b>	Two cabin sizes are available: a wide body with low cockpit side rails and a narrow body with high sides. The wide body is easier to enter and exit. The narrow body has somewhat less drag. Compare with the Cessna 172 cabin with only 39.5" for two people across!	Wide Body <b>32</b> in  Narrow Body <b>26</b> in	Wide Body <b>32</b> in  Narrow Body <b>26</b> in
<b>Head Room</b>	The Challenger is famous for it's spaciousness - it was designed by a big guy for big guys and over the years it has gotten even bigger. And we do mean big! 6' 5"? No Problem! 6' 7"? Call us - we can tailor to you!	Front <b>43</b> in  Back <b>40</b> in	Front <b>43</b> in  Back <b>40</b> in
<b>Leg Room</b>	While we do suggest you leave your stilts at home, even those long in the leg will fit comfortably in recent model Challengers. Redesigned seats and supports add all important inches front and back and give passengers additional footrests and increased knee room.	Front <b>46</b> in  Back <b>44</b> in	Front <b>46</b> in  Back <b>44</b> in