

Canadian Kit-by-Section Program

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

The Kit-By-Section program here in Canada takes you from zero to a flyable aircraft - engine and everything else you need - in four steps. You time the delivery of the sub-kits to suit your cash flow and to coincide with your pace of assembly. This approach ends up costing slightly more than if you purchased a complete package in one go however if your piggy bank is not full this route has the huge advantage that it lets you get started now. It also helps stop life's other demands from usurping your savings before you get anywhere at all!

What we do is split up our complete packages into Airframe and Power Pack and then further subdivide the Airframe into three: tail, wings, and everything else. The typical purchase sequence is tail, wings, fuselage et al, engine et al.

You can purchase multiple sub-kits at one time to further reduce shipping and customs costs - for example the Tail and Wings together or even the complete Airframe now and the Power Pack later when you are close to completion.

The No-Charge Choices and Chargeable Options with the complete package descriptions also apply to the Kit-By-Section program. Simply make the appropriate choices and selections with the relevant sub-kit as shown below.

🇨🇦 Challenger II Tail Sub-Kit 🇨🇦

The Challenger II Tail sub-kit includes the vertical stabilizer and rudder and the horizontal stabilizers and elevators. Superflite fabric comes as pre-sewn socks. All the tail components are completely pre-built at the factory - you just do the hinges and the covering. This is a great way to see how simple and easy it is!

The Tail sub-kit is common to all three Canadian Challenger packages so at this stage you don't have to make a firm decision about the final configuration.

Purchase of the Tail sub-kit includes all of our Canadian documentation: the Quad City factory manuals, the Canadian 8-hour assembly video, and the Canadian Challenger Owners Manual. You also gain access to our web site's Canadian Support Section and are plugged into our support infrastructure.

Challenger II Tail Sub-Kit		
Challenger II 447 Classic	Challenger II 503 Deluxe	Challenger II 582 Premium
Cdn \$1,130	Cdn \$1,130	Cdn \$1,130

🇨🇦 Challenger II Wings Sub-Kit 🇨🇦

The Challenger II Wings sub-kit includes the pre-built wing frames, pre-shaped ribs and factory-built flaperons. You just attach the ribs, do the hinges and then cover. The Superflite fabric for the wings comes as pre-cut panels.

The Wings sub-kit with the long 31.5ft span is compatible with all packages.

The 26.5ft choice and the 29.5ft option are for the 503 Deluxe and 582 Premium.

Challenger II Wings Sub-Kit		
Challenger II 447 Classic	Challenger II 503 Deluxe	Challenger II 582 Premium
Cdn \$4,675	Cdn \$4,675	Cdn \$4,675
No Charge Choices: None - Long Wing Only	No Charge Choices: Long (31.5ft) / Clip (26ft)	No Charge Choices: Long (31.5ft) / Clip (26ft)
Chargeable Options: None	Chargeable Options: Midsize 29.5ft Span	Chargeable Options: Midsize 29.5ft Span

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🇨🇦 Challenger II Airframe less Tail & Wings 🇨🇦

The Challenger II Airframe less Tail and Wings is everything not power related: the base fuselage, cabin, instruments, flaperons and pitch trim plus for the 503 Deluxe and 582 Premium packages the streamlining, reinforced gear, brakes, electrical system, etc as detailed in the package descriptions. Every airframe item except tail and wings - even AN nuts and bolts! Superflite comes pre-cut.

The Airframe less Tail and Wings for 503 Deluxe and 582 Premium packages is identical so you don't have to make the final decision about which Power Pack to select until you are ready to place your order and can check the piggy bank!

Challenger II Airframe less Tail & Wings		
Challenger II 447 Classic	Challenger II 503 Deluxe	Challenger II 582 Premium
Cdn \$9,940	Cdn \$12,965	Cdn\$12,965
No Charge Choices: Lexan - Tinted or Clear (Cabin is Wide Only)	No Charge Choices: Lexan - Tinted or Clear; Cabin - Wide or Narrow	No Charge Choices: Lexan - Tinted or Clear; Cabin - Wide or Narrow
Chargeable Options: None - Tank Included	Chargeable Options: 17 US Gallon Fuel Tank	Chargeable Options: 17 US Gallon Fuel Tank

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🇨🇦 Challenger II Power Pack 🇨🇦

Our Canadian Challenger II Power Packs include everything you need to get the air rushing backwards and the airframe moving forwards! In summary that's not just an engine with electronic ignition, fuel pump, carburetion, muffler, etc but also the motor mount, exhaust mount, reduction drive and prop. The 582 Premium Power Pack even includes the radiator with mounts and plumbing!

The Challenger II 503 Deluxe and 582 Premium both include electric start as standard while the Challenger II 447 Classic uses a manual recoil starter.

We have OEM contracts with our suppliers and are their major customers so you, our customer, get the best terms, warranty and service in the market!

Challenger II Power Pack		
Challenger II 447 Classic	Challenger II 503 Deluxe	Challenger II 582 Premium
Cdn \$7,010	Cdn \$8,310	Cdn \$13,635
No Charge Choices: n/a	No Charge Choices: Prop - Climb or Cruise	No Charge Choices: n/a
Chargeable Options: Upgrade to Rotax 503	Chargeable Options: Ground Adj. 2-Blade Warp Drive Prop	Chargeable Options: 582 All Season Kit; 582 Oil Injection

🇨🇦 The Fine Print! 🇨🇦

Prices are in Canadian Dollars - list effective February 1, 2007 - subject to change without notice.
 Canada customs charges are Cdn\$75 for Tail sub-kits, Cdn\$75 for Wings sub-kits, Cdn\$125 for Fuselage sub-kits, Cdn\$75 for the 447 and 503 Power Packs, Cdn\$225 for the 582 Power Pack. 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 typically total CDN \$750 – \$1,000 for the complete 503 Deluxe. Your freight may be more or less depending on number of sub-kits, configuration and your location.

🇨🇦 Challenger II 503 Deluxe Power Pack 🇨🇦



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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.

🇨🇦 Challenger II 582 Premium Power Pack 🇨🇦



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The Challenger II 582 Premium Power Pack is centered on the Rotax 582 UL DCDI Mod 99 engine and includes everything you need to produce thrust.

This engine, the well-proven second generation "Blue Head" version, has numerous internal improvements to enhance reliability, the benefit of Rotax's substantial real world service experience with the initial generation. The engine comes complete with dual electronic ignition, two spark plugs per cylinder, dual carbs, impulse fuel pump, air filter and a quite effective muffler. To attach this engine to the airframe we include the new motor mount with eight Lord mounts to isolate the airframe from vibration as well as stainless steel exhaust mounts.

The 582 is liquid cooled via an engine-driven water pump and thermostat so of course we include a complete radiator setup with everything you need to go flying - no trips to the hardware store, or the engineering department! This rad mounts in front of the engine on top of the wing parallel to the airflow rather than perpendicular so it creates the least possible drag. It is quite large to avoid 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 Premium package.

The reduction drive is the preferred "tall" 2.6-to-1 unit which turns a 60" prop.

The prop is the top-of-the-line Warp Drive 3-blade ground adjustable unit with upgraded HP-L machined aluminum hub and three carbon fibre blades with wide tips and nickel leading edges for protection from spray, slush and rain. Users say this prop is near indestructible - please don't try to disprove them!

A wonderful aspect of the 582 is that the peaks of the horsepower and torque curves overlap and are quite flat plus start at a relatively low rpm. This allows one to pitch the prop into the peak power range without giving up on cruise!

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🇨🇦 No-Charge Choices for the Challenger II 503 or 582 Deluxe Packages 🇨🇦

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 option.)

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

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 503/582 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.

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

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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🇨🇦 Chargeable Options for the Challenger II 582 Premium Package 🇨🇦

OPTIONAL 582 All Season Kit @ Cdn\$1,375

The optional 582 All Season Kit provides a cabin heat via a remote heater core with 3-speed electric blower and ducting plus cockpit-controllable louvres for modulating the airflow through the rad. The louvres function like the cowl flaps on high performance airplanes or like the shutters on some motor vehicles.

When the louvres are open they allow maximum airflow to avoid overheating during taxiing or prolonged climbs on hot days. Conversely, when closed they prevent overcooling during extended descents at low power settings. The louvres can be set to any interim position to keep the coolant temperature right in the middle of the operating range, the key to the high reliability of the 582.

This option is strongly recommended if you are going to be flying in the Canadian cold season (September through June!) or at high altitudes.

OPTIONAL 582 Oil Injection @ Cdn\$775

The optional 582 Oil Injection Kit includes the oil injection pump and control as well as two oil tanks which mount on either side of the radiator. In this setup the owner puts pure gas in the fuel tank instead of pre-mixing with oil. The metering system, based upon engine rpm and throttle position, delivers exactly the right amount of oil to each cylinder via diffuser jets in the intake manifold sockets. The tanks are quite large and contain enough oil for 10-12 hours of flight! The oil tanks have individual sight gauges and both gauges are visible from either side of the airplane. The oil tanks are designed with outlets front and rear and they are cross-linked so that oil is available in all flight attitudes.

Performance Table

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

All figures were at ICAO standard conditions.

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

Challenger II Performance		Long Wing	Clip Wing
Vne	This never exceed speed is very high for ultralight aircraft.	100 mph	120 mph
Top Level Speed	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.	96 mph	100 mph
Cruise Speed	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.	35-85 mph	40-90 mph
Stall Speed 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.	24/28 mph	32/37 mph
Rate of Climb (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.	1,100 / 750 fpm	1,000 / 650 fpm
Service Ceiling (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.	14,000 / 12,500 ft	14,000 / 12,500 ft
Glide Ratio	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.	11 to 1	9 to 1
Minimum Sink (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.	350/450 fpm	500/600 fpm
Takeoff & Landing	The large wing and light weight together with the high power-to-weight ratio give great STOL performance.	75-200 ft	125-250 ft

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Maximum Crosswind	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.	20 mph	30 mph
Fuel Consumption	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.	2.0-4.5 USgph	2.0-4.5 USgph
Endurance 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.	2.2-5.0 / 3.3-7.5 hrs	2.2-5.0 / 3.3-7.5 hrs
Range 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!	200 / 300 sm	200 / 300 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.
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Challenger II Specifications		Long Wing	Clip Wing
Wing Span (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
Wing Area (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
Length	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
Height	Puddlejumper amphibious floats add 20" to the height on the ground. Skis add an inch or two.	6 ft	6 ft
Empty Weight	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)
Gross Weight (+6G / -3G Ultimate Load Factors)	The Challenger employs a fully triangulated truss design which 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 lbs	960 lbs
Fuel Capacity	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.	10, 15 USgal	10, 15 USgal