

*The bomber crews nicknamed them  
"Little Friends"*



## **TITAN AIRCRAFT**

**T-51 Mustang  
3/4 Scale Kit**

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# Titan Aircraft Manufacturer of the T-51 Information

## Address

**Titan Aircraft**  
1419 State Route 45 South  
Austinburg, Ohio 44010

## Telephone

(440) 275-3205

## Website

<http://www.titanaircraft.com>

**email:** [info@titanaircraft.com](mailto:info@titanaircraft.com)

## **T-51 Mustang Brief Description**

The T-51 is a tandem two-seat, dual control aircraft. It can be built as an “N” numbered amateur built experimental aircraft or as a Light Sport Aircraft.

Quality of the materials and methods of construction are similar to that of the Titan Tornado Kits. All metal construction ensures longevity. When equipped with the Mini Merlin V6 engine the T-51 delivers breathtaking performance. For a more conservative approach, the 100 hp Rotax 912S offers a very respectable performance.

BUILD A TRIBUTE TO OUR HERTITAGE AND FREEDOM!

## **Titan Aircraft T-51 Mustang Description**

Titan Aircraft is proud to introduce the T-51 Mustang, the newest addition to our family of light aircraft. The T-51 incorporates material and systems not commonly found in aircraft comparably priced. This, combined with Titan Aircraft's renowned reputation for high quality, superior aircraft performance, and outstanding customer support, is sure to provide the pilot and kit builder a very pleasurable experience.

The kit has an estimated build time of 1,600 hours and includes all required material, components, and fasteners. The kit does not, however, include the engine, propeller, and instrumentation because of different customer preferences.

Titan Aircraft is providing a P-51D Replica that combines friendly low speed handling characteristics with agility and high performance. The T-51 is rated at a +6g/-4g limit load capability at a gross weight of 1,450 pounds. When operating with the Rotax 912S engine and landing gear retracted, the cruise speed is in the 150 mph range. The stall speed in landing configuration is in the low 40's.

We invite inquiries. Please contact a member of our sales team at [sales@titanaircraft.com](mailto:sales@titanaircraft.com).  
We look forward to speaking with you!!

# Titan Aircraft T-51 Mustang Specification and Performance

<b>T-51 SPECIFICATIONS</b>		<b>PERFORMANCE W/ 912S</b>		<b>W/ SUZUKI 2.5L V6</b>
<b>EMPTY WEIGHT</b>	850 lbs	<b>NEVER EXCEED SPEED</b>	197 mph	197 mph
<b>GROSS WEIGHT</b>	1450 lbs	<b>CRUISE SPEED</b>	150 mph	170 mph
<b>LENGTH</b>	23' 6"	<b>STALL SPEED</b>	Low 40's	High 40's
<b>HEIGHT</b>	9' 2"	<b>RANGE</b>	600 miles w/ reserves	600 miles
<b>WING SPAN</b>	24'	<b>CLIMB RATE</b>	1,200 ft/min	2,100 ft/min.
<b>WING AREA</b>	118 sq ft	<b>TAKEOFF RUN</b>	300 ft	350 ft
<b>CABIN WIDTH</b>	24"	<b>LANDING ROLL</b>	300 ft	350 ft
<b>CABIN HEAD ROOM</b>	48"	<b>CEILING</b>	16,000 ft	18,000 ft
<b>CABIN LEG ROOM</b>	46"	<b>Performance of aircraft varies with engine, propeller, gearbox, and installed options.</b>		
<b>FUEL CAPACITY</b>	25 gallons			
<b>**SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE**</b>				

\* The Rotax 914S Turbocharged engine is also available

# Titan Aircraft T-51 Mustang



*Titan T-51*

*North American P-51D*



*Serial Number 1 with 3 blade Prop &  
Serial Number 7 with 4 Blade Prop*



# Titan Aircraft T-51 Mustang

## Description of Kit Packages

Over the years many P-51D homebuilt kits and plans have been offered for sale, but the Titan's T-51 kit has captured its niche in the warbird replica market. The T-51 kit offers the builder the highest quality at a realistic price and operational affordability. Construction is such that the average homebuilder can build the aircraft without jigs and exotic tools.

There are two versions of the T-51 kit available for purchase. The first is the highly publicized homebuilt with retractable gear, which is registered and certified as an amateur built experimental and must be flown by rated pilots with retractable gear experience. The amateur built experimental version can be built so that it qualifies for the 1,200 lbs. and under weight category in New Zealand and Australia. The second version can be flown by a sport pilot in the U.S., but has fixed landing gear and a fixed pitch propeller with a maximum speed of 120 knots, stall speed of 45 knots, and a gross weight of no more than 1320 lbs.

**The T-51 utilizes aircraft grade 2024-T3 aluminum thicknesses of .016, .020, .025 .032, and .040 for the wing structure, flight controls, fuselage bulkheads and skins. The fuselage is manufactured by utilizing ½" x ½" square aviation grade 4130 steel tubing. The kit construction methods use blind rivets (known as pulled rivets) and structural adhesive throughout. An option is using solid aircraft rivets.**

### Main Wing (Outer) Panels Kit:

- Aileron assemblies, complete and ready to install
- Spars and wing leading edges (completed)
- Preformed ribs (14)
- Preformed aft spars and fittings
- Aileron Pushrods
- Wiring kits for strobes & marker lights
- Preformed webs and stringers
- Pre-cut wing skins
- Pitot tube and plumbing
- Manufactured flap hinge fittings
- Hardware kit, rivet kit, and adhesive kit.



This photo shows everything that is included in the wing kit.

## Center Wing Section Kit:

### Pre-built Center Section Consists of:

- Assembled main spar
  - Preformed skin panels, pre-drilled and located
  - Retractable main landing gear
  - Main landing gear hydraulic cylinders
  - Main landing gear oleo struts
  - Wing-to-fuselage fittings
  - Jack pads
  - Wheel, tire, & brake assemblies
- 
- Main fuel tanks (2)
  - Center fuel header tank
  - Pre-drilled flap hinge fittings
  - Hardware kit, rivet kit, and adhesive kit
  - Fuel system fittings
  - Fuel filler neck and cap assembly
  - Fuel gauges
  - Landing gear position limit-switches
  - Landing gear position indicators
  - Hydraulic pressure indicator and warning light
  - Landing gear emergency extension valves
  - Flap assemblies completed and ready to install
  - Main landing hydraulic system fittings & plumbing
  - Main landing brake system fittings & plumbing
  - Brake system remote reservoir

**NOTE:**  
**LSA AIRCRAFT ORDERS**  
**Retractable landing gear components are**  
**not included in the Light Sport (LSA) kit.**



**This photo shows everything that is included in the Center Section Kit.**



## **Fuselage Kit:**

- Fuselage frame, welded & stress relieved (4130 steel)
- Preformed fuselage bulkheads
- Pre-cut outer fuselage skins
- Polycarbonate material for windscreen
- Hydraulic pump w/ reservoir
- Fuel selector valve
- Control stick assemblies (front & rear)
- Rudder pedal assemblies (front & rear)
- Stainless steel firewall material
- Flap motor & electric flap system components
- Instrument panel material
- Pre-cut cockpit interior skins
- Pre-cut push/pull flight control tubes
- Hardware kit, rivet kit, & adhesive kit
- Elevator bellcrank components
- Rudder cable kit
- Tailwheel assembly complete
- Hydraulic cylinder for tailwheel assembly
- Engine component cowling structural components
- Engine cowling hardware kit
- Preformed vertical dorsal fin
- Tailwheel doors and associated hardware kit

**NOTE:**

**LSA AIRCRAFT ORDERS**

Retractable landing gear components are not included in the Light Sport (LSA) kit.



**This photo shows everything that is included in the Fuselage Kit**

## **Tail Kit:**

- Horizontal stabilizer spars & leading edges complete
- Preformed horizontal stabilizer aft spars
- Pre-cut upper & lower horizontal stabilizer skins
- Vertical stabilizer, assembled and ready to install
- Rudder structure, built & ready to cover
- Elevator structures, built & ready to cover
- Elevator trim tab with electric actuator install
- Hardware kit, rivet kit, and adhesive kit
- Rudder & elevator hinges, pre-drilled
- Rudder & elevator control horns
- Elevator trim indicator & control switch



**Vertical Stabilizer & rudder installed straight from factory.**



**This photo shows everything that is included in the Tail Kit**



**Horizontals built & elevators installed**

## Finish Kit:

- Preformed canopy
- Canopy crank & latch kit
- Preformed canopy frame
- Canopy hardware & seal kit
- Fabric covering kit for rudder & elevator
- Fiberglass wing tips
- Fiberglass nose cowling
- Fiberglass belly scoop
- Rudder & vertical tips
- Elevator & horizontal tips
- Seat frames & associated hardware kit
- Seat cushions with upholstery
- Seat belts & shoulder harnesses
- Inspections panels
- Wing to fuselage fairings
- Horizontal fuselage fairings
- Main landing gear doors & hardware kit
- Throttle quadrants
- Flight controls stick grips, fighter style
- Interior trim components & associated hardware
- Landing gear position selector, assembled
- Hardware kit, rivet kit, & adhesive kit



**This photo shows everything that is included in the Finish kit**

# TITAN AIRCRAFT

## T-51 MUSTANG

**The T-51 Mustang was designed and is manufactured so that you as the builder can customize the aircraft's configuration to suit your requirements. That said, a lot of forethought is required by you to make the decision about the engine, propeller, instrumentation & avionics (day VFR, night VFR or IFR), and the category (experimental or light sport).**

The following is a list of components to be considered by the customer to license the aircraft in whatever category is decided upon.

- Flight Instrumentation
- Engine Monitoring Instrumentation
- Cockpit Lighting
- Navigation Radio Equipment
- Communication Radio Equipment
- Landing & Taxi Lights
- Wiring and Related Components Required to Make a Fully Functional Aircraft Electrical System such as Circuit Breaker, Terminal end, Switches, etc. (Basic circuit breakers, wire and battery are included in the kit).
- Navigation Lighting (Position Lights and/or Strobe Light System)
- Antenna and Associated Hardware Required for Navigation and Communications
- Data Plate, Decals Required by FAA, and Custom Decals to Reflect Historic Replica
- Battery and Battery Box and Associated Hardware
- Radiator, Associated Hardware and Plumbing

There are many other items too numerous to mention but be advised that during the process of customizing the configuration of your aircraft, you must follow all applicable FAA regulations. The best sources of information on building and operating a HOMEBUILT or LIGHT SPORT AIRCRAFT are the EAA and your local EAA chapter's Technical Advisor. Also, your Titan factory authorized Dealer/Representative is a great source of information.

# Rotax Aircraft Engines A Bombardier Company

## Specifications and Performance – Description of 912 power plant

### Technical description

**Horizontally opposed 4 stroke 4 cylinder, air-cooled cylinders, liquid cooled heads, overhead valve, and dual electronic ignition.**

**Description – 912 ULS/3**

**Engine weight – 128 lbs**

**Bore – 3.31”**

**Stroke – 2.4”**

**Displacement – 82.5 cu/in**

**Compression ratio – 10.5: 1**

**Performance – 95 hp @ 5500 rpms & 100 @ 5800 rpms**

**Torque – 94 ft/lbs @ 5100 rpms**

**Max rpm - 5800**

**Dry sump forced lubrication system (Premium HD motorcycle oil)**

**Dual breakerless capacitor discharge ignition**

**Constant depression carburetors (2) (Fuel unleaded premium or 100 LL)**

**Mechanical fuel pump**

**Prop reduction gearbox (2.43: 1)**

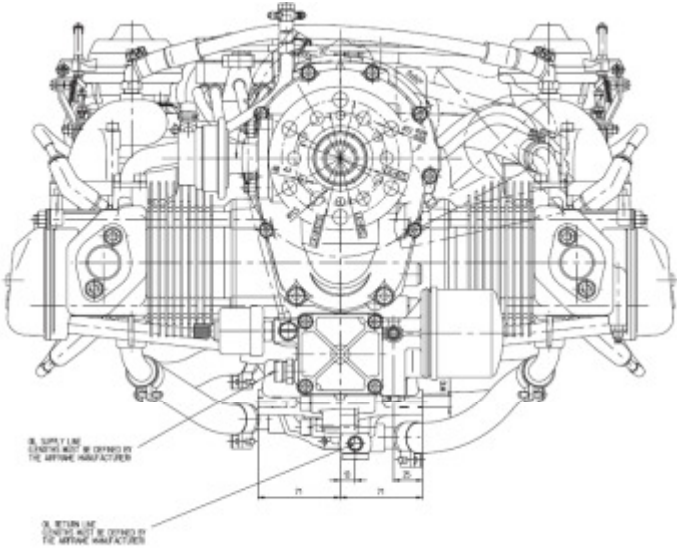
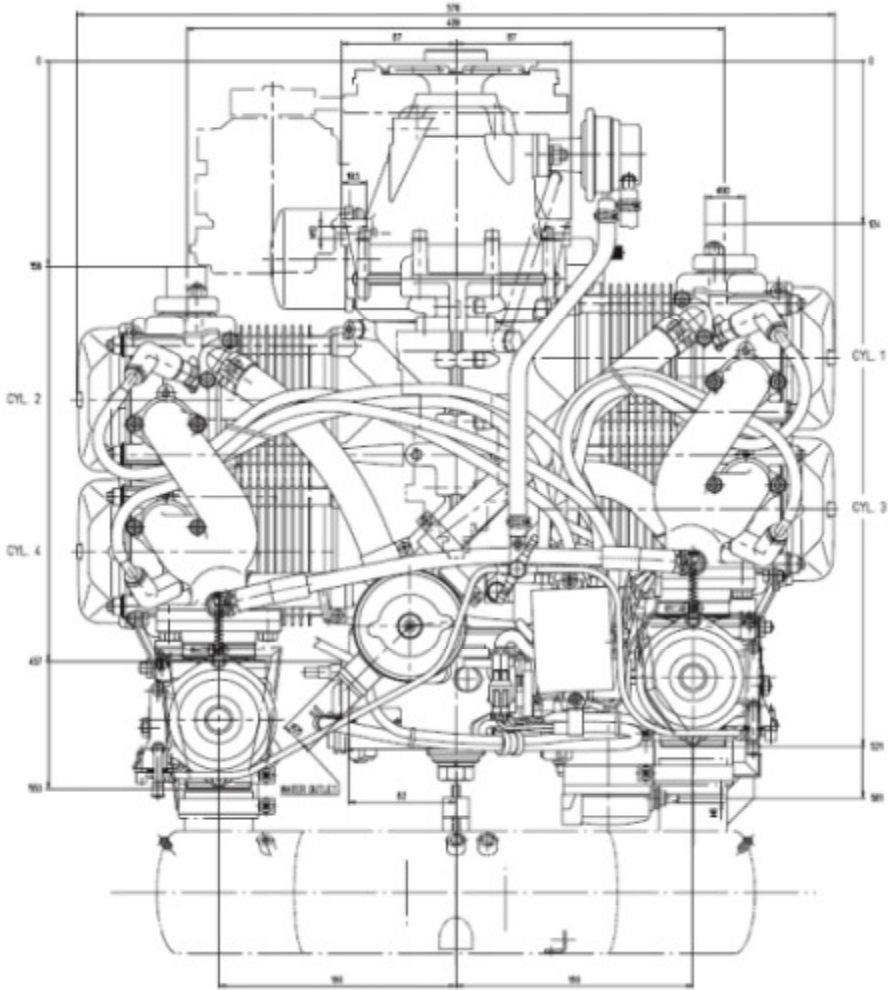
**Accessory drive pad vacuum pump or hydraulic constant speed prop governor**

**Electric starter (12v)**

**External alternator (12v 40 amp) - Optional**

# Rotax Aircraft Engines

A Bombardier Company  
Drawings and Pictures



912 ULS

## Alternative Engines

The T-51 Mustang was designed to fly well with either the Rotax 100 hp 912 ULS or the Rotax 115hp turbocharged engine. Either engine can be equipped with a hydraulically operated four-blade propeller. The weight and balance works out well with either engine. Both engines are recommended power plants, and both are available through Titan Aircraft.

Because the T-51 is a kit aircraft and because many builders are also innovators, the question of possible alternative engines arises often. We don't want to discourage innovation, but if a reliable aircraft is the goal, it is highly recommended that one of the two Rotax engines be installed. If the builder is an innovator and is willing to be responsible for the design, fabrication and testing of an alternative engine installation, other engine options could be possible. It is our experience that engines not designed to be installed in aircraft, such as auto conversions, tend to be less reliable than engines that were designed for aircraft use. Be aware of this before choosing an engine.

Some considerations should be physical size and weight of the engine. The engine compartment width is about 23 ½ inches. The length is about 32 inches. The height is about 35 inches at the back and about 30 inches at the front. The weight should be limited to about 250 lbs. If the engine is heavier than 250 lbs., some structural modifications will need to be made forward of the cockpit. Also, some weight needs to be moved aft. Moving the battery is probably a good place to start, although that may not be enough.

### **Possible engine alternatives are:**

The most common is the "Mini Merlin" Suzuki V6 conversion 2.5L or 2.7L, which has become so popular the factory, is providing full support.

The LOM 332A aircraft engine from the Czech republic (will need modifications to the forward airframe)

The Innodyn turboprop (Modifications to the airframe are likely and are being explored at the Titan factory).

The Jabiru 3300 six cylinder aircraft engine (Air cooled; cooling system needs engineering).

Other commercially available small auto conversion engines like the CAM 125, Raven, and some rotary engines may fit, although extensive modifications are likely.

### **Engines that are **not** appropriate for the T-51 airframe:**

Four and six cylinder opposed Lycoming or Continental engines are too wide to fit inside the airframe.

Big V8 engines like the Chevrolet or Ford are too heavy and too large.

## T-51 Mustang Kit and Modular Kit Pricing

<b>T-51 Mustang Kit: Includes items listed below</b>	<b>\$54,900.00*</b>
<b>T-51 Modular Kit: Main Wing Panel Kit</b>	<b>\$10,450.00</b>
<b>T-51 Modular Kit: Center Section Kit</b>	<b>\$17,600.00</b>
<b>T-51 Modular Kit: Fuselage Kit</b>	<b>\$15,950.00</b>
<b>T-51 Modular Kit: Tail Kit</b>	<b>\$7,700.00</b>
<b>T-51 Modular Kit: Finish Kit</b>	<b>\$7,700.00</b>
<b>Crating Charge for Freight Shipments</b>	<b>\$1,200.00</b>
<b>Shipping to home destination</b>	<b>Call for Quote**</b>

\*Sport Plane Version (LSA) does not include retractable landing gear system: \$53,400.00.

\*\*Call Titan Aircraft (440) 275-3205 for latest quote on shipping costs from Austinburg, Ohio.

The basic T-51 kit includes the parts to build a complete airframe plus throttle/choke levers and cables, two main fuel tanks & a center tank, control stick grips (fighter style), basic switches, circuit breakers (25 amp master, 20 amp gear, 15 amp lights, 10 amp flaps & trim, 5 amp avionics), fuel gauges, hydraulic pressure gauge, all retract system switches, wires, seat cushions and seat belts.

Items not included with the kit are the engine, propeller, radiator, oil cooler, hoses & clamps, coolant overflow bottle, fluids, spinner, instruments, avionics and powder coating.

If a Whirlwind aviation propeller is purchased, Titan will include the spinner and spinner bulkheads fit to the propeller and balanced as an assembly at no charge.

If a propeller governor is purchased, Titan will include the propeller control lever at no charge.

\*\*Prices are subject to change without notice\*\*



## Contact Information

### WORLDWIDE

#### Titan Aircraft Factory

1419 State Route 45 South  
Austinburg, Ohio 44010, USA  
440-275-3205

[info@titanaircraft.com](mailto:info@titanaircraft.com)  
[www.titanaircraft.com](http://www.titanaircraft.com)

### NEW ZEALAND & AUSTRALIA

#### Campbell Aviation Company LTD

Ivan Campbell  
183 Stonyflat Road  
Loburn, Rangiora R.D.2, New Zealand  
64-03-312-8008

[ivan@campbellaeroclassics.com](mailto:ivan@campbellaeroclassics.com)  
[www.campbellaeroclassics.com](http://www.campbellaeroclassics.com)

### CANADA

#### Ross Hesom Aerocrafter

299 Prairiewood Drive  
Winkler Manitoba, Canada R6W

[aerocrafter@mts.net](mailto:aerocrafter@mts.net)  
<http://www.mts.net/~maros>

### UNITED KINGDOM

#### Euro Aviation LTD

David Smith & Chris Firth  
26 Pepper Hill North Fleet  
Gravesend, Kent  
England DA118EY

[euroaviation@btinternet.com](mailto:euroaviation@btinternet.com)  
[www.slomanpettitt.co.uk/tonystigle05/TitanT51/TitanT51.htm](http://www.slomanpettitt.co.uk/tonystigle05/TitanT51/TitanT51.htm)

