

A600 TALON

" Vertical takeoffs, vertical landings... flights across treetops, down into canyons... lifting off from your own backyard... setting down on a dock... hovering over a waterfall or herding antelope across the mesa... it's all part of a dream that brings people into helioflight.

The A600 TALON will turn those dreams into reality..quickly, easily and inexpensively."

Dear Helicopter Enthusiast,

Thank you for your interest in our product and welcome to the exciting world of helioflight. Our current model, the A600 Talon has evolved over the past 40 years through extensive engineering, testing and quality control.

RotorWay International's objective in aviation and kit building has always been to be a leader in the industry. To maintain this role we stress top quality, peak performance, comprehensive engineering, and affordability. In addition we offer full factory support to our customers through our complete parts department and flight training facility.

By prefabricating many of the components here at the factory, the A600 Talon allows even the first time builder to reach the flight line in an incredibly short amount of time. The A600 Talon is sold complete, with everything you need to reach the flight line except paint and avionics.

Call us now! The amateur built aircraft market is thriving because the benefits are endless. Compare the initial price, anticipate money saved on maintenance expenditures - the knowledge gained building your own helicopter entitles you to perform your own maintenance! Discover the A600 TALON, the worlds best selling helicopter in kit form!

Let your adventure begin. Our sales department is waiting to take your call, to answer any questions you may have, or to schedule you for a factory tour.

Best Regards,

Darron Braymiller
RotorWay International Sales Dept.
Phone: 480-961-1001
Fax: 480-961-1514



A600 TALON

Craftsmanship

At RotorWay our craftsmen provide the aviation enthusiast worldwide with a safe, affordable way to experience their dream of rotary wing flight.

Pride of Ownership

Each year RotorWay owners reset the milestones for industry-wide design and performance recognitions.

Pedigree

The A600 Talon is RotorWay's eighth generation helicopter; the proud successor to the award winning Exec 162F.



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extraordinary!

 **ROTORWAY**
INTERNATIONAL





ROTORWAY HISTORICAL REWIND

Dedicated in respect and admiration to B.J. Schramm; RotorWay Aircraft Founder, Designer and Builder

The RotorWay success story is the culmination of over 4 decades of perseverance, progress in engineering development, resolute determination and genuine hard work.

Today RotorWay continues to be driven by individuals that believe in the company's mission -- To provide the rotor craft customer worldwide with a safe, affordable way to experience their dream of rotary wing flight.

JAVELIN

Though relatively unknown, the Javelin was the prototype for the model that preceded RotorWay's first "marketed" aircraft, The Scorpion. With testing as early as 1961, using a 40 horsepower motorcycle engine for power, the Javelin was the first design attempt by RotorWay Aircraft founder B.J. Schramm.

SCORPION I

Offered for purchase in 1967, the Scorpion was the first real personal helicopter on the market that actually flew. News of this ground-breaking aircraft generated tremendous excitement in the aviation world. The Scorpion was an experimental aircraft in the truest sense of the word; a pioneer in the concept of individual helicopter ownership and flight.

SCORPION II

In 1974, RotorWay Aircraft embarked on a major redesign of Scorpion I with the goal of reducing the amount of maintenance time required for every hour of flight. First to be addressed was the elimination of the inefficient 2 cycle engine.

Unable to find an engine manufacturer to make a 4-cycle engine suitable for a helicopter, RotorWay set forth on an aspect of the company that is unique to this day - manufacturing their own engine.

Called the RotorWay RW 133, this 4 cycle, 4-stroke engine now had the added power and torque the company was looking for.

ELETE AND EXEC ERA

In 1980, a whole new look evolved with the birth of the Exec, the Great Grandfather of the award-winning Exec 162F. The body had a modern, sleek appearance reflecting the forward thinking of the company.

One of the most significant improvements with this model was the elastomeric rotor system, which improved the "workhorse" capability of the helicopter. As design concepts evolved in the late 80's, RotorWay created the Elete, a larger, attractive two-place helicopter. The Elete had an RW 152, water-cooled, dual electronic, 4 stroke engine.

After selling three Elete helicopters the company was purchased by a former customer, John Netherwood, a businessman from England.

EXEC 90

Now called RotorWay International, the company's new ownership reviewed the Exec aircraft from top to bottom. Improvements were made to almost every aspect of the aircraft including the method of packing and organizing the kit, the manuals and the customer service program; to assist the builder with technical information.

The outcome of the redesign was the Exec 90, the only piston-powered helicopter at the time to utilize an asymmetrical airfoil for improved autorotation characteristics and safety.

EXEC 162F

In 1994, the company took a hard look at the carbureted engine used in the Exec 90 and knew they could do better. A fuel injection system with electronic ignition and redundant FADECs (Full Authority Digital Electronic Controls) was developed and the revolutionary, award-winning Exec 162F was born. FADEC was a technological development unheard of in the experimental category and practiced only among few certified helicopter companies.

Also introduced to the 162F technology was ACIS (Altitude Compensation Induction System). Lightweight and efficient, the new ACIS allowed the RI 162F engine to maintain standard sea level performance at higher density altitudes.

Over the next decade RotorWay's 162 became the number one choice in the personal helicopter marketplace, having earned that spot by providing a safe, reliable and enduring way to enjoy rotor craft flight.

A600 TALON

The A600 Talon is the proud successor of the award winning Exec 162F. The eight-generation A600 Talon showcases decades of knowledge, pride-of-ownership and pure innovation. Today RotorWay is proud to deliver what our customers have asked for – the new A600 Talon.

BEST OF TRADITION

RotorWay International's New A600 Talon, accompanied with a heritage of craftsmanship, advanced technology and exceptional design, delivers the promise of extraordinary rotary wing flight.

PROGRESS IN DESIGN

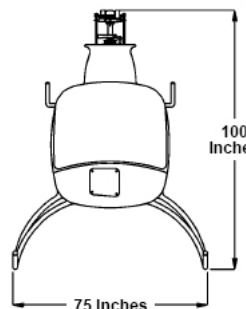
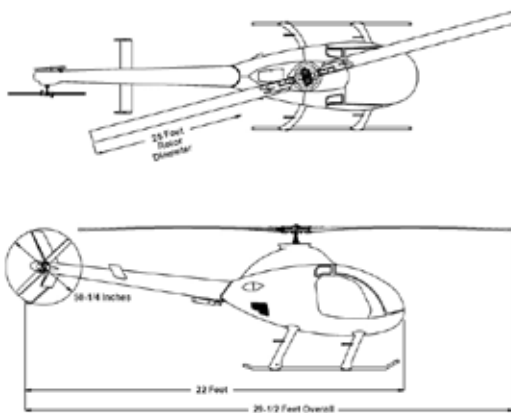
The A600 Talon showcases customer-initiated requests, 21st century electronics, progressive engineering and convenience items - standard. The Talon's all-glass, advanced MGL cockpit incorporates a completely re-designed and tuned FADEC system. With a secondary FADEC as a clone of the primary; any failure of the primary unit will be imperceptible to the engine; informing the pilot on the MGL display. The A600 Talon brings to rotary wing customers the long-awaited cog belt drive; for ease of maintenance and longevity, and the shaft driven tail rotor.

The Talon's useful load is 535 pounds, including a 100-pound luggage compartment. Economy cruise is a practical 90mph and fast long-distance cruise has already been demonstrated at 100 plus, with the doors off! The landing gear is 10 inches wider, 10 inches longer, and 7" higher than its smaller predecessor the Exec 162. This enables improvements in strength and stability, while offering greater accessibility underneath for the optional accessory luggage pod.

Process controls and designs for the new Talon's manufacture are specifically aimed at the company's plan to develop and deliver a certified helicopter. The result is a new RotorWay aircraft built to type certified standards, of certified materials and with all the processes and controls expected of a manufacturer with the pedigree of RotorWay – yet sold at kit prices.

FEATURES

- Next Generation FADEC
- Shaft Driven Tail Rotor
- Cog Belt Drive with Hydraulic Tensioner
- Glass Cockpit - HSI, CDI, GPS, TAWS, etc.
- Electric Water Pump
- Safer, Wider, Higher Landing Gear
- External Battery Connection
- Kevlar Skid Shoes
- Inertia Seat Belts
- Fuel Tank Drain
- Reinforced Tail Boom with Cherry Max Rivets
- Low RPM Warning System
- Lighter, More Powerful Battery
- Leather Interior (standard)



FIRST OF BREED

The A600 Talon is the first of a new generation of RotorWay machines; built on a tradition of craftsmanship and pride of ownership.

BEST OF TRADITION

With the advent of state of the art facilities and the continued commitment toward certification of future designs, the A600 Talon exemplifies the spirit of RotorWay's strong traditions and fresh thinking.

PEDIGREE

The A600 Talon is the proud successor to the award winning Exec 162F. The eight generation A600 Talon showcases decades of knowledge, pride of ownership and pure innovation.





SPECIFICATIONS

AIRCRAFT SPECIFICATIONS

Power Plant	
Standard	RI 600N / 147HP
Supercharged	RI 600S / 167HP
Seats	2
Gross Weight	1,500 lbs. (680 Kg)
Empty Weight	965 lbs.
Equipped Useful Load	535 lbs.
Maximum Cabin Weight	450 lbs.
Minimum Pilot Weight (solo operations)	150 lbs. (68 kg)
HIGE	
Standard	6,000 ft.
Supercharged	7,500 ft.
HOGE	
Standard	4,000 ft.
Supercharged	6,000 ft.
Rate of Climb	1000 fpm
Cruise Speed	100 mph
Max. Airspeed at Sea Level, Standard Day (VNE)	120 mph
Max Airspeed in Turbulent Air	75 mph (65 knots)
Max Sideways, Rearwards Airspeed	20 mph (17 knots)
Range	190 Miles / 2 Hours
Fuel Capacity	17 U.S. Gallons (64 Liters)
Fuel Flow	8 gph
Tail Rotor RPM	2600
Rotor RPM	520
Recommended Fuel	92 Octane or 100 low lead AV gas (100LL)

ENGINE SPECIFICATIONS

Standard Rated Horsepower @ 4250 RPM	147
Torque @ 4250 RPM	185 ft. lb.
Max Torque @ 3950 RPM	191 ft. lb.
Operational RPM (calibrate with rotor RPM)	4250
Idle RPM	1750 - 2000
Bore, inches	4.00
Stroke, inches	3.228
Displacement, cubic inches	162
Compression Ratio	9:4:1
Flywheel Rotation (viewed from above)	Clockwise



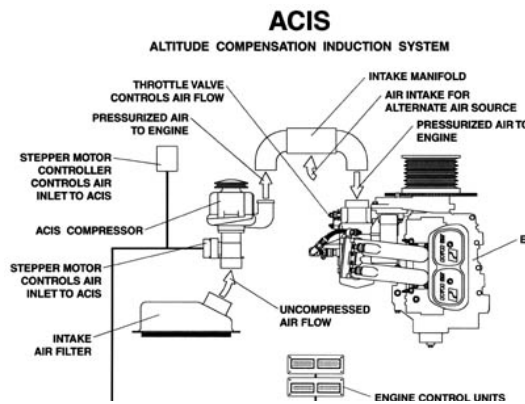


ACIS

ACIS - ALTITUDE COMPENSATION INDUCTION SYSTEM.

RotorWay International's ACIS is an efficient, lightweight system that allows the RI 600S engine to maintain standard sea level performance at higher density altitudes. By not demanding any more power at altitude than is produced at sea level, the life of the engine is unaffected, while its performance at higher altitude is enhanced.

How does it work? The principle of the ACIS is simple. Utilizing a belt-driven, supercharger concept, cooler outside air is compressed to a set pressure. This method does away with the hotter intake air and lag connected with a turbocharger.



Unique to this system is the continued redundancy of the RI 600S engine. The ACIS uses an electro-mechanical inlet gate control and is connected to the FADEC (Fully Authority Digital Electronic Control) which monitors and maintains proper limits. This follows RotorWay's goal to provide a fail-safe system for the A600 Talon. The pressurized air from the ACIS is made available to the intake system through the throttle valve. Manifold pressure is limited only by the amount of compressed air available.

The ACIS system is the result of hundreds of hours of research and successful testing, meeting strict standards set by RotorWay International for all new product additions. The ACIS is offered as an option to A600 Talon buyers for just \$6,077.00 and as a retrofit to current owners of the RI 600N engine for as little as \$8,675.00 depending on required engine modifications. (Prices are subject to change without notice)

	ACIS		Turbo Charger		Super Charger	
	Advantage	Disadvantage	Advantage	Disadvantage	Advantage	Disadvantage
Weight	X		X			X
Power Required	X		X			X
Engine Changes	X			X		X
Heat of Intake Air	X			X		X
Reliability	X			X		X
Oiling of Unit	X			X		X
Control of Boost	X			X		X





FADEC

FADEC - FULL AUTHORITY DIGITAL ELECTRONIC CONTROL SYSTEM

RotorWay International's award winning FADEC system is a computerized, fully redundant electronic engine control system; the result of extensive research and development.

This patented system controls the A600 Talon power plant. The processing unit provides the power plant with the correct fuel, air and ignition ratios required for optimum performance with minimum fuel expenditure. Sensors monitor the engine's vital functions. These are provided to the pilot via a digital display in the cockpit. This display will also automatically indicate any system operating out of its normal range -- on the ground or in the air.



Unique to this system is its component redundancy. All systems have a backup. In the event of a malfunction or total failure of any system component, including the electronic control unit, a redundant system will automatically engage for uninterrupted operation of the aircraft.

With the introduction of the A600 Talon important advancements were made on the secondary unit of the FADEC system; making the patented system adaptable to a wide variety of applications and markets, including fixed-wing aircraft. Previously, the secondary ECU unit, or second "brain", would backup the primary unit at predetermined settings. New advancements allow the secondary control function to monitor and backup the primary unit to current environmental conditions.

GLOBAL DIAGNOSTICS

Another new feature of the FADEC system is the ability to record the last 900 hours of flight. With readings taken every second, this stored information can be used to diagnose problem areas as well as review recent flight history. Utilizing the latest online technology and the sophisticated capabilities of the FADEC system, RotorWay International is able to diagnose and adjust a customer's engine and FADEC directly from the factory to anywhere in the world.

PRAISE FOR FADEC

"It provides a fail-safe, totally redundant, self-monitoring, fully automatic power solution... It's by far the most advanced power plant on any kit plane in the world, probably on any light aircraft in the world." - Robert Goyer, Sport Pilot Magazine.

"Essentially, the FADEC is a self-monitoring, self-operating, redundant fail safe setup." - Kenneth Armstrong, Kit-Planes Magazine.

"This is the sort of technology you would expect to find in just a handful of advanced military and transport aircraft, and frankly, I was amazed to find it being used on a two-place piston powered kit-built helicopter." - Larry Pius, AVWEB (Internet Magazine).

A600 TALON

A600 TALON, COMPLETE ASSEMBLY PACKAGE: \$97,700.00 (factory direct)

AIRFRAME

Frame
Landing Gear
Engine Mount

TAIL BOOM

Boom
Tail Rotor
Tail Drive / Shaft

DUAL CONTROLS

Cyclic Control
Collective Control
Directional Control

ROTOR BLADES

Asymmetrical Blades

POWER PLANT

RI 600N Engine
FADEC System
Stainless Steel Exhaust System

COOLING SYSTEM

Oil Cooling System
Water Cooling System
Fan Shroud
Fan Drive

BODY

Cabin
Floor Pan / Instrument Pod
Doors
Windscreen
Skid Fairings
Form Fitted Fabric Seats
Seat Belts
Cabin Heat Package
Ground Handling Wheels

DRIVE TRAIN

Main Shaft Drive
Elastomeric Rotor Hub
Cog Belt

FUEL SYSTEM

Fuel Tank (17 gal)
Fuel Pump
Hoses / Clamps

INSTRUMENTS

MGL Glass Cockpit
Engine Instruments
Rotor Tach
Hour Meter
Flight Instruments
Compass
Wiring

DOCUMENTATION

Construction Videos
Construction Plans
See-do Manuals
Templates
Maintenance Manual
Power Plant Manual

A600 TALON PRODUCT OPTIONS

AVIONICS PACKAGE

ICOM Transceiver IC-A200
Comm Antenna CI-121
Bendix King Transponder KT 76A
Transponder Antenna CI-105/KA-60
Ameri-King Encoder AK 350 20K
Intercom PS Engineering PM-501
Headset Sennheiser HME 110 Series
Avionics Wiring Package

TOTAL WITH HEADSETS \$5,745.00

TOTAL WITHOUT HEADSET \$4,945.00

ACIS (A600 Talon)

\$6,077.00

ACIS (Retrofit)

\$8,675.00

TUB SCOOPS

\$87.00

HELIPAC

\$1,113.00

STORAGE

\$67.00

LIGHTING SYSTEM

\$1,794.00



A600 TALON, FOUR-STAGE PURCHASE PROGRAM

Introducing the most affordable way for you to own your own A600 Talon. It's an old concept with an exciting new twist. Buy an aircraft a section at a time. The A600 Talon - Now available for purchase in four groups.

GROUP 1	\$19,940
DOCUMENTATION	Construction, Engine, Maintenance and Flight Manuals, Blueprints and Templates, Complete Construction Video Series, Complete Packing List.
MAIN COMPONENTS	4130 ChromeMoly Steel Airframe, Tail boom, Landing Gear, Ground Handling Wheels, Engine Mount; 18 Hardware Cards, Vertical and Horizontal Fins, Cyclic Collective and Directional Controls, Fuel Tanks, Heat Shields, Assorted Bulk Parts.
GROUP 2	\$23,680
MAIN COMPONENTS	Elastomeric Rotor System, Main Shaft Assembly, 17 Hardware Cards, Battery.
BODY	Doors, Cabin, Windscreen, Fan Shroud, Form Fitted Leather Seats, Seat Belts, Floor Pan/Instrument Pod, Assorted Parts and more.
GROUP 3	\$27,320
MAIN DRIVE ASSEMBLIES	Secondary Drive, Fan Drive, Oil Cooling System, Water Cooling System, Tail Rotor Drive, Cog Belt System.
SUPPORT ASSEMBLIES	Cabin Heat Package, Clutch and Torque Links, Fuel Pumps, Hoses and Clamps, Tail Rotor; 31 Hardware Cards, Enigma, Engine Instruments, Hour Meter; Flight Instruments, Wiring, Assorted Parts and more.
GROUP 4	\$28,760
ROTOR BLADES	
RI 600N ENGINE	
FADEC SYSTEM	

A600 TALON

FLIGHT AND MAINTENANCE TRAINING

This program is designed to assure that RotorWay customers can safely fly and properly maintain their helicopters. It is geared to the amateur building-pilot and open to RotorWay owners only.

PHASE ONE

Reviews construction, final rigging, service and maintenance and various hover maneuvers. Includes up to 12 hours of dual instruction with CFI. Five days. Monday through Friday.

PHASE TWO

Consists of ground school preparation for the oral checkout and items in the PTS, including cross-country, aerodynamics and airspace as well as flying at altitude. Includes up to 12 hours of dual instruction with CFI. Solo altitude and cross-country endorsement. Five days. Monday through Friday.

PHASE THREE

Check-ride for a Private Pilot license Rotor craft/Helicopter rating. Done with FAA Certified Examiner at RotorWay. Allow 3-5 days depending on how prepared you are. Check-ride with an FAA Certified Examiner. Examiners fee and aircraft rental during check-ride is extra.

COST

Phase One: \$2500 USD

Phase Two: \$2500 USD

Phase Three: \$700 (average by hour)

To hold training dates for each session, a non-refundable deposit fee of \$1000 USD per session is required in advance. Requested dates are not considered reserved until payment is received. Phase Three examiner's fee is \$300 plus \$185 per hour of aircraft rental.

THINGS YOU NEED TO KNOW

- All dual day VFR training is conducted in Exec 90, Exec 162F and A600 Talon aircraft. NO solo flight allowed. Three hours of dual night VFR is required and must be obtained outside of RWI.
- Maximum pilot weight is 200 lbs. Full flight control movement must be available with the student and instructor on board.
- Check with flight school prior to booking.
- All phases require a medical certificate (minimum third class), valid student pilot certificate or private pilot certified for an add on-rating, current ID and a log book.
- Classes begin at 6:00 AM - 2:30 PM, M-Thursday and 6:00 pm to 12:00 pm Friday at the west side of the building.
- No classes are scheduled on weeks with major holidays.
- Schedules and prices are subject to change without notice.
- Phase One and Two are not offered in June, July and August due to AZ heat.

To make reservations, call the parts department at RotorWay at 480-961-1001. Training is based on a first come/first serve basis. Due to the demand, customers are urged to make their reservations well in advance.

*Transition training for type rating is available for rated helicopter pilots. Per flight hour cost is \$185/hour. Typical flight time is 5-8 hours over a one week period. Plan on about one flight per day with instructor. Transition pilots are encouraged to attend during Phase One weeks to receive construction, maintenance, service and rigging training. This portion costs \$500. Call for details.

If you would like more information on this program and the A600 Talon, please call 480-961-1001. Thank you.



A600 TALON

TOOLS REQUIRED FOR BUILDING THE A600 TALON

POWER TOOLS:

90 degree drill or equivalent
 Band saw
 Bench grinder
 Drill press
 Grinder (air or electric)
 Hand drill (air or electric)
 Heat gun

HAND TOOLS:

Adjustable wrench 10"
 Allen wrench 1/4"
 "C" Clamps
 Center punch
 Countersink
 Crimpers (for wire connections)
 Drift punch
 Files
 Floor Jack
 Hacksaw
 Hammer
 Mallet (Rubber)
 Metal cutting snips
 Needlepoint pliers
 Nut driver
 Oil can
 Pliers
 Pop rivet gun
 Scissors
 Screwdriver
 Side cutters
 Snap ring pliers
 Soldering iron
 Spring clamps
 Tap handle
 Taps of the following sizes:
 5/16-18
 5/16-24
 Vise
 Vise grips
 Wire strippers

MEASURING/LAYOUT TOOLS:

Chalk line
 Dial calipers
 Dial indicator with magnetic base
 Framing square
 Grease pencil or marker
 Level
 Plumb bob
 Protractor level
 Ruler or yardstick
 Spring scale
 Straight edge
 String or twine
 Tape measure
 Torque wrench

DRILL BITS OF THE FOLLOWING SIZES:

1/16"
 3/32"
 1/8"
 5/32"
 3/16"
 1/4"
 19/64"
 5/16"
 3/8"
 7/16"
 1/2"
 #19
 #32
 #40
 #47
 Letter "D"
 Uni-bit or Step drill

RATCHET WITH SOCKETS OF THE FOLLOWING SIZES:

1/4"
 5/16"
 3/8"
 7/16"
 1/2"
 9/16"
 11/16"
 3/4"
 7/8"

WRENCHES OF THE FOLLOWING SIZES:

1/4"
 5/16"
 3/8"
 7/16"
 1/2"
 9/16"
 5/8"
 11/16"
 3/4"
 13/16"
 7/8"
 15/16"

TOOLS SUPPLIED WITH A600 TALON KIT:

Belt tension tool
 Cleco
 Cleco pliers
 Dzus tool
 Photo tach
 Tap test hammer

A600 TALON**TIME BEFORE OVERHAUL AND MAINTENANCE****MAINTENANCE**

Engine	1000 Hours
Rotorhead and Shaft	1000 Hours
Main Rotor Blades	1500 Hours
Tail Rotor Blades	500 Hours
Secondary Shaft	500 Hours

MAINTENANCE COST PER HOUR

0 - 1000 hours, including TBO on engine and rotor systems = \$29.00 per hour.

RECOMMENDED CHANGE-OUT TIMES FOR MAJOR COMPONENTS

Oil and Oil Filter	25 Hours
Spark Plugs	100 Hours
Cog Belt Drive	500 Hours
Main Drive Belts	500 Hours
Tail Rotor	500 Hours
Exhaust System	1000 Hours
Main Rotor Blades	1500 Hours
Tail Boom	2000 Hours
Airframe	2000 Hours

CALENDAR

Cog Belt	5 Years or 1000 Hours
Water Hoses	5 Years or 500 Hours or On Condition
Battery	2 Years or On Condition