



The GlaStar and Sportsman aircraft kits are one of the most complete and comprehensive in the industry. In fact, it is likely the easiest, quickest assembling and highest quality kit on the market today. The GlaStar and Sportsman kits include all major airframe components, along with wheels and brakes, fuel system firewall aft, fuel tanks, adjustable seats, etc. Firewall-forward items included in the kit are: spinner, cowling and engine mount. Most importantly, because we've done all the difficult things like fabricating the majority of the parts for you, you'll have fun in the process of assembling your kit. Building a GlaStar or Sportsman is more like an assembly process rather than a construction or fabrication process, which is different from many comparable kits available today.

As with most (non-ultra light) kits sold in the Experimental Aircraft Industry the GlaStar and Sportsman Kits do not come standard with Instruments, avionics, or electrical system. Raw materials and instructions to fabricate a flat aluminum panel are included in the standard kit. A molded fiberglass instrument panel and glare shield are available as an option. The following list includes other items not included in the Sportsman kit purchase price. They are available as options from Glasair Aviation.

- Lycoming Engine
- Engine Control cables
- Hartzell, McCauley, MT, or Sensenich Prop
- Prop Governor
- Shock Bushings for Lycoming Engines
- Engine Baffling
- Oil Cooler
- Induction System
- Exhaust System
- Fuel Pump Cooling Shroud
- Vacuum System
- Landing Light
- Aileron Electric Trim
- Pitot Static System

The following items are now included in Standard Kits in 2007

- Tow Bar-Trike
- Seat Belt Front Right
- Seat Belt Front Left
- Low Profile Molded Instrument Panel
- Glare Shield
- Door Lock Ignition switch Installation
- Control Cable Cabin Heat
- Cabin Heat Installation
- Cabin Air Vent Installation



Fuel Level Sending Units  
Stainless Steel Brake line Upgrade  
Firewall Blanket 8 feet  
Dual Brake Installation  
Drain Pan Installation  
Rear Seat Base

The design goal of the GlaStar and Sportsman was to not only create a highly versatile airplane, but also to make an airplane kit that is easy to assemble, with exceptional value for your money. The GlaStar and Sportsman design is a revolutionary new concept that combines aluminum, fiberglass composite and steel tube materials all in one package, which drastically reduces assembly time. The wings and tail group are all aluminum with pre-formed and pre-drilled parts. You Cleco the aluminum parts together, drill the pilot holes up to full size and rivet them together. It's that simple. We've eliminated all the time involved with typical aluminum construction (the setup and measuring), by using pre-drilled, pre-punched and pre-formed parts. The fuselage combines a steel safety cage combined with an aerodynamic fiberglass composite exterior shell. The fuselage shells are bonded together and bolted to the steel cage. Our customers are raving about the kit quality and how quick and easy it is to build.

The idea was to use the appropriate material in different areas of the structure that would make for a cost effective and production-efficient design. Fiberglass composite is great for the compound curves needed on the fuselage surfaces. With constant chord wings and tail surfaces, aluminum makes sense because it combines lightweight and low cost manufacturing processes. Most importantly, the steel safety cage is an excellent way to resolve all major load paths into one strong rigid structure and provide for the highest occupant protection and survivability as evidenced by the fact that nearly every racecar in all classes use similar steel safety cages.

The GlaStar and Sportsman can be purchased as a single complete kit or in what we've termed our System 3 kits. The System 3 plan breaks the kit down into three sub-assembly kits consisting of a Tail Group kit, a Wing Group kit and a Fuselage Group kit as described in the following lists.

We're confident that if you compare the quality and completeness of the GlaStar and Sportsman kit to any other on the market, you'll find it to be far above the rest. With outstanding performance, unmatched versatility and utility, a comfortable cockpit with safety cage and a quality kit all in one package, you simply will not find this much value for your money anywhere else. And when finished, you'll possess an enjoyable airplane, one you'll be proud to own. Why settle for less?

As improvements to the GlaStar and Sportsman kit occur frequently, minor changes to exact specifications and kit contents occur without notice.



## TAIL KIT DESCRIPTION

The tail group or empennage kit consists of the rudder; horizontal stabilizer, elevator and elevator trim tab assemblies. All components are made from aluminum materials. The exterior skins are 2024-T3 Alclad and the interior parts are all 6061-T6. All parts are highly finished and ready for assembly, with only minimal additional forming, trimming and drilling needed. The standard tail group kit crate is 70" by 8" by 26". Also included is a 125"-long, 4"-diameter cardboard tube, which houses the spars for the horizontal stabilizer and the elevator. The Jumpstart tail comes in a crate 115" by 35" by 16"

The optional Pre-built Tail assemblies are provided with a uniform coat of acid-etch primer on all inside surfaces and professionally assembled and riveted to the following stages:

Stabilizer- fully assembled with the exception of the tips.

Elevator- fully assembled with the exception of the elevator counterweights and tips.

Remaining tasks for the builder include trim tab assembly and installation

Rudder-Fully assembled.

This option reduces the assembly time for the average builder by 100-150 hours.

## DESIGN FEATURES

The horizontal stabilizer uses a 34" constant chord NACA 0010 section with a 10', 9" span and is easily removable for trailering similar to the way a glider's horizontal tail is removed. The stabilizer attaches with two bullet pins, which index into two self-aligning bearings housed in a machined attach fitting mounted to a bulkhead in the fuselage. Four bolts fasten the stabilizer's rear spar to the aft fuselage bulkhead. Tighten one bolt for the control linkage, hook up the trim cable for manual trim or a connector for electric trim, fasten the tail cone and rudder fairings in place and you're ready to go (only a five minute job!). The elevator is nearly 50 percent of the chord, which gives plenty of flare power during landing with just about any engine/prop combination. The elevator trim tab is actuated manually and is included as standard equipment, with electric trim available as an option.

## TAIL GROUP KIT CONTENTS

Metal Parts

Rudder Yoke Weldment

Rudder Forward Spar

Rudder Aft Spar

Rudder Root Rib

Rudder Counterweight Rib



Rudder Tip Rib  
Rudder Forward Spar/Counterweight Rib Bracket  
Rudder Forward Spar/Hinge Bracket  
Rudder Aft Spar/Counterweight Rib Bracket  
Rudder Aft Spar/Root Rib Bracket  
Rudder Hinge Mounting Plate  
Rudder Hinge  
Rudder Hinge Shim  
Rudder Skin  
Forward Rudder Skin  
Stabilizer Forward Spar  
Stabilizer Aft Spar  
Stabilizer Left-flange Main Ribs  
Stabilizer Right-flange Main Ribs  
Stabilizer Nose Ribs  
Stabilizer Forward Spar Caps  
Stabilizer Front Forward Spar Doublers  
Stabilizer Rear Forward Spar Doublers  
Stabilizer Main Rib Flange  
Stabilizer Left Skin  
Stabilizer Right Skin  
Stabilizer Aft Attach Bracket  
Stabilizer Forward Attach Bracket Assembly  
Stabilizer Alignment Pins  
Elevator Forward Spar  
Elevator Aft Partial Spar  
Elevator Inboard Ribs  
Elevator Outboard Ribs  
Elevator Tip Ribs  
Elevator Center Forward Spar/Hinge Doublers  
Elevator Outboard Forward Spar/Hinge Doublers  
Elevator Upper Left Skin  
Elevator Upper Right Skin  
Elevator Lower Left Skin  
Elevator Lower Right Skin  
Elevator Control Horn  
Elevator Control Horn Attach Angles  
Elevator Rib/Control Horn Stiffener  
Elevator Trim Cable Bracket Angle  
Elevator Trim Cable Bracket Sheet  
Elevator Trim Tab Skin  
Elevator Trim Tab Rib Angle  
Elevator Trim Tab Ribs  
Elevator Trim Tab Counterweight Arm  
Aluminum Tee



Sheet Lead  
Sheet Metal for Riveting Practice

All Necessary Hardware and Miscellaneous Material  
Extruded Piano Hinge with Pin  
Rolled Piano Hinge with Pin  
Bolts  
Screws  
Plain Nuts  
Nylon Self-Locking Nuts  
Nut plates  
Aluminum Washers  
Large Steel Washers  
Universal-Head Rivets  
Flush-Head Rivets  
Blind Rivets  
Aluminum Tape

#### WING KIT DESCRIPTION

The wing group kit consists of the wings, ailerons and flaps, all made from high quality aluminum components, ready for assembly. They are pre-formed, pre-punched and pre-drilled, (literally pre-made for you). The skins are Alclad 2024-T3 and internal parts are 6061-T6. The standard wing group is shipped in two crates, one measuring 120" by 34" by 20" and the other 192" by 6" by 6". The Pre-Built wing comes in a crate 185" by 42" by 22"

With the optional Pre-Built Wing Installation, the wing and the control surfaces come ready to hang on the airplane! Not only is the basic wing structure assembled but also all flight control brackets, bell cranks and pulleys are installed, the leading edge D-section is complete, and all the lower wing skins, stiffeners and lift strut beam structures are riveted and bolted in place. The upper skins and stiffeners are match drilled to the spar/rib structure and primed on the inside surface- you simply rivet them in place after drilling the wing struts, rigging the flight controls and completing the wing fuel tank plumbing and wiring. The ailerons and flaps are complete and ready to hang. Interior surfaces of all components are acid-etch primed for anti-corrosion protection. The assembly of Pre-Built wings, flaps, and ailerons is accomplished by professional sheet-metal mechanics to high factory standards. This option reduces the assembly time for the average builder by 400-600 hours.

#### Design Features

The wing uses a very high lift LS (1)-0413 airfoil with a 44" constant chord and employs Frise type ailerons and Fowler flaps. Wing area is 128 square feet for the GlaStar and 131 square feet for the Sportsman, since the Sportsman flaps are 2" wider in cord length.



The Frise ailerons reduce adverse yaw, minimizing rudder input at low airspeeds, and the Fowler flaps create high lift during landing, eliminating the need for a larger wing. Fowler flaps actually increase wing area when deployed. Another added benefit of the high lift LS (1)-0413 airfoil is a little higher wing loading per square foot which provides a smoother ride in flight when encountering turbulence. Spanwise loading with the 35-foot long wing creates very nice handling qualities, which is a desirable feature seen on new designs such as the Piper Malibu. After flying the GlaStar or Sportsman you'll see why this is such a great feature. The fiberglass wing tips have a Hoerner-type shape for improved effective span.

A very simple jig, consisting of a bench with a 4" by 4" wood post at each end, is required to begin assembly of the wing. We've discovered when working with aluminum structures that riveting is the easy part—it's getting an assembly to the riveting stage that takes the time. By pre-forming, pre-punching, and pre-drilling the parts for you, much of the setup and jiggling time is eliminated. Aluminum construction is easy, especially when we've done all the hard parts for you. The main and rear spars are made of extruded 6061-T6 aluminum. This also saves time because not only are they pre-made for you, they also come pre-drilled for all rib and bracket locations. The trailing edge of the pre-formed front D-section wing skin is riveted behind the C-shaped main spar shearweb, as is the leading edge of the aft wing skins. This makes the rivets easily accessible when bucking. The self-contained aluminum fuel tanks in the wing are independent of the wing skins and eliminate the problems associated with sealing integral tanks. It is the sum of many of these unique design features that makes building a GlaStar or Sportsman an enjoyable and easy project.

## WING GROUP KIT CONTENTS

### Metal Parts

- Left Wing Forward Spar
- Right Wing Forward Spar
- Left Wing Forward Spar Front Root Doublers
- Right Wing Forward Spar Front Root Doublers
- Wing Forward Spar Root Doublers Angles
- Wing Forward Spar Rear Root Doublers
- Wing Forward Spar Strut Beam Doublers
- Left Wing Aft Spar
- Right Wing Aft Spar
- Wing Aft Spar Front Root Doublers
- Wing Aft Spar Root Doublers Angles
- Wing Aft Spar Rear Root Doublers
- Wing Aft Spar Strut Beam Doublers
- Left Wing Main Root Rib
- Right Wing Main Root Rib
- Left-flange Outboard Main Wing Ribs
- Right-flange Outboard Main Wing Ribs



Left Wing Root Nose Rib  
Right Wing Root Nose Rib  
Left-flange Outboard Nose Wing Ribs  
Right-flange Outboard Nose Wing Ribs  
Left Wing Root Flap Cove Rib  
Right Wing Root Flap Cove Rib  
Left-flange Flap Cove Wing Ribs  
Right-flange Flap Cove Wing Ribs  
Left-flange Aileron Cove Wing Ribs  
Right-flange Aileron Cove Wing Ribs  
Wing Upper Hat Sections  
Wing Lower Hat Sections  
Left Inboard Leading Edge Wing Skin  
Right Inboard Leading Edge Wing Skin  
Left Center Leading Edge Wing Skin  
Right Center Leading Edge Wing Skin  
Left Outboard Leading Edge Wing Skin  
Right Outboard Leading Edge Wing Skin  
Left Upper Inboard Wing Skin  
Right Upper Inboard Wing Skin  
Left Upper Center Wing Skin  
Right Upper Center Wing Skin  
Left Upper Outboard Wing Skin  
Right Upper Outboard Wing Skin  
Left Lower Inboard Wing Skin  
Right Lower Inboard Wing Skin  
Left Lower Center Wing Skin  
Right Lower Center Wing Skin  
Left Lower Outboard Wing Skin  
Right Lower Outboard Wing Skin  
Wing Lower Center Skin Stiffener Channels  
Wing Forward Spar Cap Strips, 72"  
Wing Forward Spar Cap Strips, 36"  
Wing Lower Inboard Skin Doublers  
Wing Upper Left Root Rib Doublers  
Wing Upper Right Root Rib Doublers  
Wing Lower Left Root Rib Doublers  
Wing Lower Right Root Rib Doublers  
Wing Lower Center Skin Gussets  
Flap Bellcrank Brackets  
Upper Flap Bellcrank Bracket Attach Angles  
Lower Flap Bellcrank Bracket Attach Angles  
Upper Aileron Bellcrank Brackets  
Lower Aileron Bellcrank Brackets  
Left Aileron Bellcrank Upper Attach Bracket





Right Aileron Bellcrank Lower Attach Bracket  
Lower Aileron Bellcrank Attach Brackets  
Wing Left-flange Strut Beams  
Wing Right-flange Strut Beams  
Wing Forward Strut Beam Attach Angles  
Wing Aft Strut Beam Attach Angles  
Left Wing Strut Attach Arm  
Right Wing Strut Attach Arm  
Flap Tracks  
Left-flange Flap Track Ribs  
Right-flange Flap Track Ribs  
Flap Bellcrank Pulleys  
Upper Left/Lower Right Flap Bellcrank Arms  
Lower Left/Upper Right Flap Bellcrank Arms  
Flap Bellcrank Bearing Housings  
Flap Bellcrank Spacers  
Aileron Hinge Arms  
Aileron Hinge Arm Bearing Doublers  
Left-flange Aileron Hinge Ribs  
Right-flange Aileron Hinge Ribs  
Left-flange Aileron Hinge Attach Angles  
Right-flange Aileron Hinge Attach Angles  
Left Inboard Aileron Hinge Attach Angle  
Right Inboard Aileron Hinge Attach Angle  
Flap Pulley Bracket Angle  
Outboard Aileron Pulley Bracket Angle  
Aileron Bellcrank Halves  
Opposite Aileron Bellcrank Halves  
Left Aileron Spar  
Right Aileron Spar  
Left-flange Aileron Nose Ribs  
Right-flange Aileron Nose Ribs  
Left-flange Aft Aileron Ribs  
Right-flange Aft Aileron Ribs  
Left Aileron Skin  
Right Aileron Skin  
Inboard Aileron Hinge Brackets  
Outboard Aileron Hinge Brackets  
Aileron Inspection Hole Doublers  
Aileron Inspection Hole Covers  
Left-flange Aileron Counterweight Nose Ribs  
Right-flange Aileron Counterweight Nose Ribs  
Flap Spars  
Left-flange Flap Nose Ribs  
Right-flange Flap Nose ribs





Left-flange Aft Flap Ribs  
Right-flange Aft Flap Ribs  
Flap Skins  
Flap-track Guide Arms  
Flap Deployment Arms  
Aluminum Sheet  
Aluminum Angle Stock

All Necessary Hardware  
Bellcrank Bearings  
Ball Bearings  
Bushings  
Spacers  
Pulleys  
Bolts  
Castle Nuts  
Nylon Self-Locking Nuts  
Nut plates  
Round-Head Machine Screws  
Aluminum Washers  
Thin Aluminum Washers  
Cotter Pins  
Universal-Head Rivets  
Flush-Head Rivets  
Blind Rivets  
Flush-Head Blind Rivets

#### FUSELAGE KIT DESCRIPTION

The fuselage group kit contains all components necessary to complete the fuselage structure aft of the firewall, including the landing gear, wheels and brakes, control systems, seat assemblies, cockpit doors and windows, and wing and tail surface final assembly and installation. Firewall Forward items included in the kit are Spinner, Cowling and Engine Mount. It includes all fiberglass materials for lamination. All fiberglass work is accomplished in the fuselage and final assembly sections of the Assembly Manual. The wing tanks are installed in the wing during final assembly. The fuselage crate is 234" by 56" by 67".

With the optional Pre-built Fuselage, the composite shells are delivered having already been precisely jigged and fitted to the cage, with the dorsal and belly seam laminates in place and the exterior seams filled, sanded, primed and ready for final preparation and paint. All cage attach hard points are injected in the shells and most of the cage to shell attach hardware is installed. In addition, all five bulkheads are prefabricated and installed. The Pre-Built fuselage also includes a high performance, zero drag COM antenna bonded into the vertical fin.



All Pre-Built fuselages come with the top deck installed with exterior leading edge and aft seams filled, primed and ready for final preparation and paint. Also the cabin area of the fuselage and top deck are pre-painted with a lightly textured, gray Zolatone finish, so as to provide the builder with a nice looking, completed interior straight from the factory. This feature provides builders with the opportunity to save weight, cost and difficulty associated with installing unneeded, bulky interior cover panels. And at the same time, further reduces build time.

We estimate the Pre-Built Fuselage option will save the average builder from 150-200 hours or more of assembly and finish labor.

## DESIGN FEATURES

The fuselage assembly consists of a steel tube safety cage in the cockpit area surrounded by fiberglass composite shells. The steel safety cage is the backbone of the entire kit. The cage is a welded structure made of 4130 aircraft-grade tubing. It is made in a very exact weld jig tool so you need no jiggling or setup during assembly. This feature saves a tremendous amount of time because everything is just bolted to it. In many other types of kits the structure for all these items has to be fabricated. All welds are quality inspected using primarily a tungsten inert gas (TIG) process, which creates consistent, high strength, uniform welds. The fuselage composite panels in the cockpit area act as fairings, whereas the cage is the main structural component, which also gives the added benefit of superior occupant protection in a mishap. The main landing gear legs are held in place with one bolt each. Consider this: all of the items listed below are simply bolted to the cage. Those who have constructed other types of kitplanes can appreciate these timesaving features.

- main tricycle or taildragger landing gear legs
- float attach points
- float hoist attach points
- nose gear leg
- engine mount
- wing struts
- wing spars
- control cable guides
- pulley brackets
- door latches
- door hinges
- flap handle and ratchet plate
- control sticks/torque tube
- wing folding mechanism
- seat adjustment rails
- seat backs
- instrument panel
- structural attach points



The seats are adjustable and fold forward for easy access to the large baggage area, and are also removable. Bicycles and anything imaginable can be put into the baggage area through the large doors and by folding the seat backs forward. The baggage door is lockable and the cabin doors employ a unique four-point latching mechanism that seals out moisture and noise, something not found on many comparable kits. The side windows in the doors come standard with a convex shape that gives great shoulder width (46") and allows visibility nearly straight down. The Sportsman rear cargo door measures 26" x 31" allowing ease of ingress and egress for rear seat passengers or large, bulky cargo.

The fiberglass composite shells for the fuselage consist of two main halves and an upper deck panel in the wing root area. Besides bonding the center seams between the fuselage shell halves, you will install structural bulkheads in the tail for stiffness and for mounting the horizontal stabilizer. The flanges for the windshield, windows and doors are all pre-molded and factory-trimmed to net size. The firewall consists of a riveted, .016" stainless steel assembly.

All controls use stainless steel cables for actuation and at least one end of each cable assembly is pre-swaged. The cable controls for the ailerons and flaps provide an important safety feature—when folding the wings, nothing needs to be disconnected! The cables, securely held with cable guards and fairleads, go slightly slack when the wings fold and return to full tension when the wing is extended and pinned. . The flexible fuel lines, electrical wiring and static system all rotate around the aft spar pivot points. There's nothing to unhook. Two pins are used to lock the forward spars into place and two pre-made composite panels in the wing root area are easily removed to allow clearance for the flaps when the wings are folded.

Several powerplant options are offered for the GlaStar. The first is the fuel-injected Continental IO-240- B engine. This engine produces 125 h.p. swinging a Sensenich fixed-pitch metal prop and delivers exceptional performance in an economical package. An optional exhaust system provides unusually quiet operation as well. For builders who desire even better climb and cruise performance, we also offer the popular, normally aspirated 180/160/150 h.p. Lycoming models with either a Sensenich fixed-pitch metal prop or a Hartzell constant-speed prop. The Sportsman was designed to use the popular and reliable 180 h.p. O-360 engine and limited models of the 200 h.p. Lycoming engine (with forward facing injectors).

## FUSELAGE GROUP KIT CONTENTS

The following list is for a Tricycle Gear GlaStar or Sportsman. The tail dragger kit is similar except, of course, that it includes all the necessary tail wheel gear components instead of the nose gear components.

### Fiberglass Parts



Left Fuselage Shell  
Right Fuselage Shell  
Upper Cowling Half  
Lower Cowling Half  
Spinner  
Top Deck  
Lower Left Wing-Fold Hatch Half  
Lower Right Wing-Fold Hatch Half  
Upper Left Wing-Fold Hatch Half  
Upper Right Wing-Fold Hatch Half  
Baggage Door  
Lower Left Horizontal Stabilizer Strake Half  
Lower Right Horizontal Stabilizer Strake Half  
Upper Left Horizontal Stabilizer Strake Half  
Upper Right Horizontal Stabilizer Strake Half  
Left Cabin Door  
Right Cabin Door  
Lower Left Wingtip Fairing Half  
Lower Right Wingtip Fairing Half  
Upper Left Wingtip Fairing Half  
Upper Right Wingtip Fairing Half  
Main Gear Wheel Pant Left Halves  
Main Gear Wheel Pant Right Halves  
Nose Gear Wheel Pant Left Half  
Nose Gear Wheel Pant Right Half  
Nose Gear Leg Fairing Left Half  
Nose Gear Leg Fairing Right Half  
Tail Cone  
Rudder Base Fairing  
Rudder Tip Fairing  
Horizontal Stabilizer Tip Fairings  
Elevator Tip Fairings  
Left Seat Pan  
Right Seat Pan

Plexiglas Parts  
Windshield  
Left Door Window  
Right Door Window  
Left Quarter Window  
Right Quarter Window  
Skylights

Fabrication Materials



DBM Cloth  
Bi-directional Cloth  
All Necessary Foam Sheet  
Mill Fibers  
Q-cells  
Cabosil  
Vinyl Ester Resin  
MEKP Catalyst  
Cobalt Promoter  
DMA Accelerator

#### Metal Parts

Fuselage safety Cage  
Engine Mount  
Wing Pivot Brackets  
Left Fuselage Strut  
Right Fuselage Strut  
Vertical Fin Spar  
Upper Rudder Hinge  
Lower Rudder Hinge  
Upper Elevator Bellcrank Bracket  
Lower Elevator Bellcrank Bracket  
Upper Elevator Bellcrank Half  
Lower Elevator Bellcrank Half  
Wing Struts  
Fuselage Wing Strut Attach Fittings  
Forward Spar Attach Pins  
Inspection Hole Doublers, 4.45"  
Inspection Hole Covers, 4.45"  
Inspection Hole Doublers, 5.75"  
Inspection Hole Covers, 5.75"  
Inspection Hole Doublers, 6.2" X 4.7"  
Inspection Hole Covers, 6.2" X 4.7"  
Left Fuel Tank  
Right Fuel Tank  
Note: Sportsman also includes Aux Fuel Tank Installation Standard PN 933-01000-03  
Fuel Tank Filler Necks  
Fuel Filler Caps  
Left Rudder Control Weldment  
Right Rudder Control Weldment  
Rudder Pedal Pivot Angle  
Rudder Pedal Brake Actuator Angle  
Elevator/Aileron Control Yoke  
Control Stick Pivot Brackets  
Control Stick Interconnect Rod



Flap Handle Ratchet Plate  
Flap Handle  
Flap Handle Plunger Extension  
Flap Handle Plunger  
Flap Pushrods  
Aileron Pushrods  
Cable Retainer Clips  
Control Cable Attach Tabs  
Cable Retainer Strap Stock  
Rod End Inserts  
Left Aft Lower Door Hinge Half  
Right Aft Lower Door Hinge Half  
Left Aft Upper Door Hinge Half  
Right Aft Upper Door Hinge Half  
Left Forward Door Hinge Halves  
Right Forward Door Hinge Halves  
Left Forward Upper Door Latch  
Right Forward Upper Door Latch  
Left Center Door Latch  
Right Center Door Latch  
Exterior Door Handles  
Inboard/Outboard Flap Cove Skins  
Center Flap Cove Skins  
Aileron Cove Skins  
Wing Trailing Edge Doublers  
Left Aileron Counterweight  
Right Aileron Counterweight  
Control Sticks  
Seat Backs  
Seat Bases  
Inboard Seat Tracks  
Left Outboard Seat Track  
Right Outboard Seat Track  
Aft Control Cable Cover Angles  
Forward Control Cable Cover Angles  
Threaded Steel Rod  
Stainless Steel Rod  
Aluminum Sheet  
Steel Sheet  
Stainless Steel Sheet  
Formed Aluminum Angle  
Extruded Aluminum Angle  
Aluminum Tubing  
Aluminum Tee Stock



#### Landing Gear and Brake Parts

Main Gear Legs

Main Gear Axle Spacers

Main Gear Axle Washers

Main Gear Axle Nuts

Brake Mounting Flanges

Main Wheel and Brake Kit (GlaStar main wheels and tires are 5.00 x 5, the Sportsman has 6.00 x 6 standard)

Main Gear Tires and Tubes

Nose Gear Leg

Spring washers

Nose Gear Axle Nut

Laminated Washer

Lower Nose Gear Trunnion

Upper Nose Gear Trunnion

Nose Gear Pivot Stop Assembly

Nose Wheel Axle Spacer

Nose Wheel Axle

Nose Gear Fork

Nose Wheel Assembly (GlaStar nose wheel and tire is a 5" wheel with 11.4 x 5 tire, the Sportsman has 5" wheel with 5.00 x 5 tire standard)

Nose Gear Tire and Tube

Brake Master Cylinders

Brake Fluid Reservoir

#### Control Cables

Forward Rudder Cables

Empennage Cables

Down Elevator Cable

Up Elevator Cable

Primary Flap Cables

Primary Flap Retraction Cable

Final Flap Deployment Cables

Final Flap Retraction Cables

Primary Aileron Actuation Cables

Secondary Aileron Actuation Cables

Left Aileron Crossover Cable

Right Aileron Crossover Cable

#### Fittings and Fuel System Components

Brass Elbows

Brass Unions

Brass Union Tees

Reducer Bushing

Aluminum Elbows





Plugs

Swagelok Union Tee

Swagelok Female Branch Tee

Fuel Shut-Off Valve

Nylon Male Tubing Connector

Nylon Tubing Connector Inserts

Drain Valves

Finger Screens

Miscellaneous

UHMW Polyethylene Sheet

Polyethylene Block

Phenolic Sheet

Cable Fairleads

Cable Ties

Control Yoke Bearing Blocks

Flap Handle Button

Door Seal

Door Latch Knobs

Spiral Wrap

Rubber Grommets

Nylon Tubing

Rubber Hose

Hose Clamps

Rudder Control Springs

Flap Handle Spring

Aft Door Latch Over-Center Springs

Forward Door Latch Over-Center Springs

Seat-Back Locking Springs

All Necessary Hardware

Bellcrank Bearing

Roller Bearings

Rod-End Bearings

Plain Steel Bushings

Flanged Steel Bushings

Flanged Bronze Bushings

Clamp-Up Bushings

Rolled Hinge with Pin

Aluminum Spacers

Steel Spacers

Pulleys

Cable Shackles

Cable Thimbles

NicoPress Sleeves



Turnbuckle Locking Clips  
Roll Pins  
Dowel Pins  
Lock Pins  
Cotter Pins  
Clevis Pins  
Clevis Forks  
Turnbuckle Barrels  
Cable Eyes  
Strap Shackles  
Bolts  
Drilled-Shank Bolts  
Drilled-Head Bolts  
Thin Nylon Washers  
Thick Nylon Washers  
Lock Washers  
Steel Washers  
Thin Steel Washers  
Aluminum Washers  
Thin Aluminum Washers  
Large Steel Washers  
Tinnerman Washers  
Acorn Nuts  
Rivnuts  
Push Nuts  
Jam Nuts  
Castle Nuts  
High-Temperature Self-Locking Nuts  
Nylon Self-Locking Nuts  
Nutclips  
Nut plates  
Floating Nut plates  
Flush-Head Machine Screws  
Round-Head Machine Screws  
Universal-Head Rivets  
Flush-Head Rivets  
Aluminum Blind Rivets  
Monel Blind Rivets