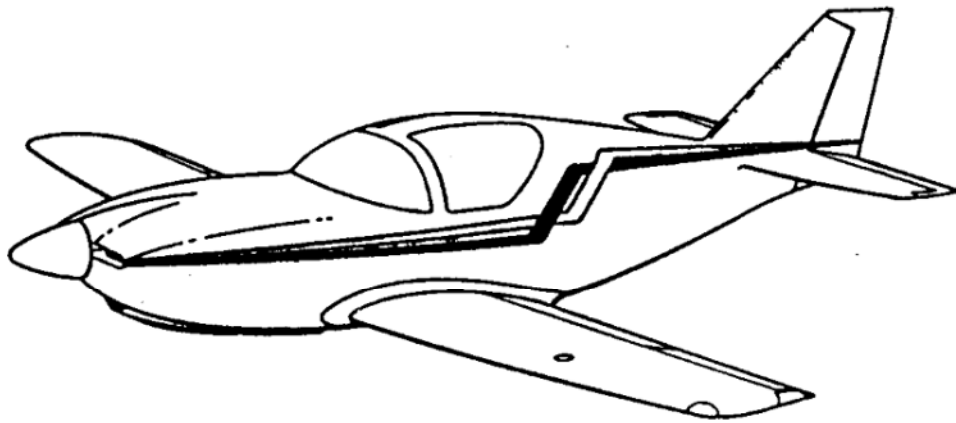


GLASAIR RG

Model SH-2R



OWNER'S MANUAL

Serial # _____

P/N 400-10115-01

1-2 IMPORTANT NOTICE

This manual is not designed, nor can it serve as a substitute for adequate and competent flight instruction. It is not intended to be a guide of basic flight instruction, nor a training manual.

This manual should be read thoroughly and carefully by the owner and operator in order to become familiar with the operation of the aircraft. It is intended to serve only as a guide under most circumstances, but cannot take the place of good sound judgement during flight operations. Multiple emergencies, adverse weather, terrain, etc., may require deviation from the recommended procedures.

The owner and operator should be familiar with the Federal Aviation Regulations applicable to the operation and maintenance of an airplane, and FAR Part 91 General Operating and Flight Rules. Further, the airplane must be operated and maintained in accordance with FAA Airworthiness Directives which may be issued against it in regards to powerplants, propellers, etc., which includes any parts not manufactured by Stoddard-Hamilton Aircraft. Revisions, Addendums, or Service Bulletins issued by Stoddard-Hamilton that are mandatory in nature must be complied with.

The performance data presented in this manual is based on data gathered during flight tests of Stoddard-Hamilton's RG prototype, N87SH. Due to differences in the engine and propeller installed, quality of workmanship, and many other variables, each airplane will vary somewhat in performance. Do not assume that your aircraft will have the exact same characteristics as our prototypes.

1-3 USE OF THE MANUAL

The Glasair RG Owner's Manual is designed to maintain documents necessary for the safe and efficient operation of the aircraft. It has been prepared in loose leaf form for easy revision updates and in a convenient size for storage in the airplane. The manual is divided into nine major sections which are listed in the Table of Contents. Each section also has its own individual Table of Contents.

1-4 REVISING THE MANUAL

Immediately following the title page are the "Log of Revisions" pages. The Log of Revisions pages list all revisions to the manual by a revision letter and date. Revisions to pages of this manual are indicated by a revision letter and a revision date at the bottom of the page along with the page number. After receiving a revision, remove all the obsolete pages and insert the revised pages. Insert the latest "Log of Revisions" page on top of the previous one, behind the title page. Discard the obsolete pages.

1-5 WARNINGS, CAUTIONS, AND NOTES

The following definitions apply to WARNINGS, CAUTIONS, and NOTES throughout this manual.

WARNING--Procedures, practices, etc., which may result in personal injury or loss of life if not carefully followed.

CAUTION--Procedures, practices, etc., which if not strictly observed may result in damage or destruction of equipment.

NOTE --An operating procedure, condition, etc., which it is considered essential to emphasize.

NOTE

These listed aerobatic maneuvers are maneuvers that can be performed in the Glasair, however pilot ability and skill will determine whether they can be accomplished safely. Do not expect that 10 hours of dual aerobatic instruction time in a Cessna 152 Aerobat or Citabria will prepare you for flying the Glasair aerobatically. You should fly a Pitts or an Eagle and become proficient in it before attempting any serious aerobatics in the Glasair. Treat any aerobatic maneuvers with respect, and approach all practice with a calm, disciplined attitude. Wear a parachute at all times and never attempt any maneuvers below 3000 feet AGL.

NOTE

Adhere to FAR Part 91.71 when engaging in aerobatic maneuvers. Refer to FAR Part 91.15 on the use of parachutes, and FAR Part 91.70 on aircraft speed limits.

W A R N I N G

Snap rolls, tailslides, torque rolls, lomcevak, or any other high empennage or fuselage loading maneuvers are prohibited in the Glasair.

W A R N I N G

The Glasair is a high performance aircraft. Aerobatics in the Glasair are to be approached with caution and only after prior dual instruction from an expert aerobatic instructor. The aircraft has such a low drag coefficient that in the event of falling out of a maneuver, red line velocity can be reached or exceeded in very little time.

W A R N I N G

Do not exceed the structural design limits of the aircraft. The limits are +6 G's and -4 G's at an aerobatic weight of 1500 lbs. Structural failure can occur.

NOTE

Sustained inverted flight requires inverted oil and fuel systems. The six gallon header tank on the firewall is easily converted into an inverted fuel system by means of a flop tube fuel line installation. We recommend a Christen Industries inverted oil system. For aerobatics, we also recommend an aerobatic counterweighted propeller on which the blades go to coarse pitch to prevent engine or propeller damage in the event of engine oil pressure loss.

W A R N I N G

Any negative, slipping, or cross-controlling maneuvers require an inverted fuel system to prevent unporting the fuel system. If an injector or pressure carburetor equipped engine is unported during flight, the engine will stall and quit under power.

2-9 INTENTIONAL SPINS PROHIBITED

Due to many variables that affect spin recovery, and our lack of control over these variables, we prohibit the Glasair from intentional spins. Some of the variables are: pilot technique, the manner in which the spin is entered, incidence angle of the wing and horizontal stabilizer, CG, number of turns into the spin, spin direction, aileron position, power carried, rudder size, and control rigging and adjustment.

2-10 FLIGHT IN ICING CONDITIONS

Flight in icing conditions is prohibited in the Glasair RG. The Glasair must not be exposed to icing encounters of any intensity. If the airplane is inadvertently flown into icing conditions, the pilot must make an immediate diversion by flying out of the area of visible moisture or going to an altitude where icing is not encountered.

CAUTION

The manual relief valve must be rethreaded completely back into the pump, after an emergency gear extension, before the pump is allowed to run. Otherwise, the high pressure fluid being pumped past the O-rings in the partially open valve will tear the seals, making subsequent gear retraction impossible.

3-5 SPINS AND SPIRAL DIVES3-5.1 SpinsW A R N I N G

Intentional spins are prohibited in the Glasair.

Since the wing must be stalled for a spin to occur, inadvertent spins can be prevented by avoiding inadvertent stalls. The pilot must be thoroughly familiar with the Glasair's stall and pre-stall behavior to avoid inadvertent stalls. Remember that a stall can occur at any airspeed and attitude; a pilot who is thoroughly familiar with the Glasair's stall behavior under all conditions will be unlikely to enter an inadvertent spin.

The stall strips must be installed on the inboard wing leading edges to help ensure there is no tendency for a wing to drop during the stall.

If a spin is entered inadvertently, standard spin recovery control inputs should be immediately applied.

Standard spin recovery procedures are:

1. Power off.
2. Apply full immediate opposite rudder to direction of rotation.
3. Release stick.
- as rotation stops-
4. Neutralize rudder.
5. Take hold of stick.
6. Pull out of dive.

If a wing drops during a stall, immediately apply opposite rudder to catch the wing drop and apply forward stick to break the stall before the situation can progress to a fully developed spin.

WARNING: If a spin is entered inadvertently, do not push full forward stick. This action will substantially delay recovery, accelerate the spin, and could prevent recovery. Neutral stick will effect recovery; however this may be hard to determine in a spin, therefore we recommend letting go of the stick as noted in our standard spin recovery procedures.

The Glasair RG should not be intentionally stalled with any heavy baggage in the baggage compartment unless it is securely fastened down. When practicing stalls, be sure to check the air space for any conflicting traffic.

NOTE

Stall strips are mandatory on the Glasair RG to induce the wing roots to stall first. Without these stall strips properly installed, the stall is unpredictable and can be rather erratic. Refer to the Final Assembly section of the Glasair RG Instruction Manuals for a description of stall strip installation. The stall strips make a nice gentle stall possible.

W A R N I N G

Intentional spins are prohibited in the Glasair RG. We strongly recommend that stalls be practiced at least 3000 ft. AGL. Be familiar with standard spin recovery procedures in the event of inadvertent spin entry while practicing stalls.

Remember that an airplane can stall at any airspeed and attitude (high speed stalls) but the recovery is always the same: stick forward and add power. The rudder is effective in keeping the wings level throughout the stall.

With flaps applied, the plane feels more stabilized, the stall speed is lowered by a few mph, the actual point of the stall is a little more sudden, and the nose drops slightly lower. Because of the extra drag with the flaps lowered, the stall is more pronounced and there is less time lag between the wing root buffet and the nose dropping. The stall with full flaps is still quite gentle and a quick recovery with minimal altitude loss is possible. Release back pressure on the stick, apply full power, stabilize the plane back into a climb and gently ease the flaps off.

4-8.3 Power On Stalls:

Do not practice these types of stalls with the engine above 1800 rpm or lower than 5000 ft. AGL. Power on stalls are more pronounced or sudden because of the high angle of attack, but recovery is the same as with power off stalls: stick forward and add power. With power applied, the torque effects of the engine and propeller induce rolling and yawing forces during the stall. For this reason, a wing drop is more likely to occur in a power on stall.

W A R N I N G

Power on stalls can more easily lead to a spin entry. Give yourself plenty of recovery room for safety in the event of an inadvertent spin. As the power is increased above 1800 rpm, a spin becomes more and more likely during power on stalls.