

The Stinson 108 Frequently Asked Questions
<http://www.westin553.net>
By Joe Dexter - April 10, 1999
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Listed here are some of the most Frequently Asked Questions about the Stinson 108 and the Franklin engine. The questions are in no specific order. Hopefully they will answer a question you have about the Stinson or a Franklin engine. Did not include the names of those asking since each has been asked multiple times.

Q 1 - What is the difference between the -1, 2 and 3 models of the 108 series, and which one would be recommended for a first Stinson?

A 1 - The 108, 108-1, 108-2 are "Small" tail airplanes, the -3 is a "Big" tail. The -3 carries more fuel and is more stable in straight and level flight. In my opinion there is no proffered "First" they are all good solid airframes.

Q 2 - What is the feeling on conversion of the engine to a Lycoming or Continental?

A 2 - As to engines, I re-engined mine with a 220 hp Franklin and it is an excellent performer. There are conversions to continental and Lycoming engines. Take time and visit Hangar 9 Aeroworks at URL <http://www.hanger9aeroworks.com/108main.html> where you can examine the large number of engine conversions for the Stinson 108.

Q 3 - Most of the engine STCs are for a 108-1 and beyond. I own a straight 108 with a Franklin 150. Is there any STCs to upgrade a straight 108 to a 108-1 or -2?

A 3 - Univair has an STC to install the Lycoming O-360 of 180HP for the Stinson 108 (straight model 108). This installation also works for 108-1, 108-2 and 108-3 aircraft. It uses a fixed pitch prop.

Q 4 - 108-2 wing frame, trammeling, washout, drag/anti-drag brace adjustment etc. I am looking for a check list or instructions on the procedure.

A 4 - Do not know of any check list. I set the wing in a jig, stretch 2 string lines along the spars and loosen all drag wires. Then I tighten each second wire each side until the spars are straight with the string lines, be careful, one can damage the spars.

Q 5 - I own a Stinson 108 with the Franklin 150H.P. engine. I love it. This past summer I rebuilt the engine from the rod bearings out; overhauled cylinders. by Charlie Hart, rings pistons, rod bearings, new slick mags and harness, ADC oil filter kit, overhauled oil cooler and generator, real gaskets etc. I am concerned if I need parts in the future. I have been told parts are almost nonexistent for these engines. I would appreciate any information you can give me on parts availability.

A 5 - Undoubtably This is the most often asked question, so here are three different opinions: Want to make you aware that John Baker's Stinson 108 site has extensive information about alternative engines. Take time and visit Hangar 9 Aeroworks at URL <http://www.hanger9aeroworks.com/108main.html> where you can examine the large number of engine conversions for the Stinson 108.

(From Joe Dexter) Some parts are becoming difficult to find for the 150/165 engines, notably pistons and exhaust valves, both of these items have replacements. I am trying this year to get an STC for 220 valves in the 150/165 and for a piston manufactured in Calif. Eventually there will be VERY few parts, I'll be an old man by then and will not be able to fly! I replaced the 165 in my airplane with a 220 for the very reason you are concerned about.

(From Tom Roach) There are shops who continue to provide parts and overhaul Franklin engines. Call George & Irene Heinly at (903)626-5122. Other engine rebuilders with some parts are:
Rich Coon (916) 343-7101 Chico, Ca.,
Rick Hoffman (541) 617-0788.

Give these folks a call, I'm sure they can help. I had my Stinson for 22 yrs and overhauled it twice. Happy Flying!

(From Larry Westin) The shops below still overhaul the Franklin engines. While these shops do have parts in some cases they prefer to keep the parts for their own overhaul business. Suggest a call can provide specific information. Carl Baker Co. sells parts only, Rick does not do overhauls any longer.

Li'L Red Aero, Inc.
Don Maxfield
FAA CRS MS2R016L
R.R. 1, Box 120
Municipal Airport
Kearney, Nebraska 68847
(308) 234-1635

Southern Aero, LLC
Robert Still
142 Commercial Park Drive
Thomasville, NC
336-476-9094
<http://www.southernaero.com>

Franklin Aerospaceparts.
Thomasville, NC 27360
Office: (336) 474-1960
Fax: (336) 472-4766
Kelly: (704) 968-3730
<http://www.franklinaerospace.us>

Susan Prall - Owner
A-1 Service
300 PR 5881-A
Jewett, Texas 75846
Phone (903) 626-5115
Fax (903) 626-6658
<http://www.franklinparts.com>

Carl Baker Co.
Rick Hoffman
62980 Boyd Acres Road,
Unit D-2
Bend, Oregon 97701
(541) 617-0788

Coastal Aviation Industries
Connecticut
(203) 748-7303

Charles Sullivan
C&S Engineering
P.O. Box 1112
Bolingbrook, IL 60439
Voice (630) 759-5775
FAX (630) 722-6330

Leggat Aviation Inc.
Toronto Bottonville Airport
Markham, Ontario, CANADA
L3P3J9
(905) 477-7900

The list above is current as of this writing. NOTE there is a list titled "Stinson and Franklin Parts and Service Sources" which you should check. It is updated frequently.

Recommendation - the engine parts problem can be helped if you join a Stinson club. Clubs have members with all kinds of expertise. Bringing them together can help find solutions to the parts problems.

Q 6 - Just wanted to know why 108s have such small flaps, there appears to be enough room for a wider cord flap, I note that there is not a great deal of difference in stall speed flaps up 64.5mph, and flaps down 61.4mph at 2400lbs. Seems like a rather high stall speed.

A 6 - The airplane runs out of elevator authority, (You can't get any pitch up) at speed less than about 65 KTS. This is part of the design that makes the airplane spin proof. Engineering like life is always a constant concession between competing elements. Eddy and his boys decided spin proof with slightly higher stall speed was more attractive. You may not know this but Eddie was also the first manufacturer to install wheel brakes on airplanes! (From Joe Dexter) I am currently working to have vortex generators STC'd for 108 series airplanes. IF, and when this is approved, I expect to see the stall speed reduced another 10 Kts. or so. Watch the SWSC newsletter for more info.

Q 7 - I purchased a 108 with a 150 Franklin tt 968 hrs/460hrs smoh. Do you feel that living in Minnesota I should go to a straight weight oil or stay with a multi grade? (no Tanis heater yet.) I try to get preheat whenever possible, but I am worried about the multi grade running off the oil covered parts.

A 7 - I have come to the following conclusion after consulting with two different individuals, both highly competent, who have given me different viewpoints on the oil to use in the Franklin. Others may well return different opinions about the oil. Both individuals seem to say as cold as it gets in Minnesota the multi-grade is preferable. Sun belt states probably do not need the extra cost of multi-grade oil.

Multi-grade does not adhere to engine components as well as single viscosity oil AFTER engine shutdown. So an additional factor is involved. If you fly frequently, more than once a month, the multi-grade is fine. If you let your airplane set for an extended period without running the engine, the single viscosity oil may be better.

Pulling the engine through by hand is not the same as running it. When you run the engine, letting the temperatures build up to normal operating values, moisture is

removed from the internal working parts and oil circulated again covers these parts. Just pulling the engine through by hand, without operating it, will draw in moist air, especially in cold ambient temperatures with high humidity. If you let the engine sit after pulling the prop through the added moisture can cause internal steel parts to rust.

Q 8 - My buddy has a 108-2 that originally had metalized wings. At some point in time before he purchased it the metal was removed from the wings due to some damage. He would like to recover it with fabric as opposed to replacing metal. Has this / can this be done and if so what are the requirements?

A 8 - Replacing the metalized wings is becoming more and more popular as the modern fabrics far outlast the old cotton fabric. Some minor work need to be done on the wing tip bows, otherwise it is a pretty easy project.

Q 9 - While doing a pre-flight on my 108-3 I discovered the lower rudder hinge was broken at the attach point on the rudder. It was cracked all the way around the 4 bolts that hold the hinge to the rudder. I believe the repair will not be a problem ,but am curious if this is a common problem . Also what could be the cause of this? I had a problem with tail wheel shimmy but have corrected that. Could that have contributed to the breaking out of the rudder? When the rudder was installed (plane was a basket case when I purchased it) all of the hinges appeared to be in alignment. Let me know if there is something else I need to check or look at as I hate to do any more damage to an original rudder assembly.

A 9 - This fatigue fracture was covered in the SWSC Technotes a few years ago. There are 2 separate problems, one: tail wheel shimmy, two: vibration and subsequent loss of torque on the bolts that hold the horn to the rudder main.

Q 10 - Just bought a 1946 Stinson 108. Standard 150 hp franklin motor. No engine driven vacuum. Can this airplane/engine combo be made into an IFR bird at reasonable cost? (Light IFR capability only---mostly for training and short local flights.) Also very interested in adding minimal autopilot. (Wing leveler w/heading bug.)

A 10 - There is an adapter that bolts into the right mag drive, a right angle drive arrangement that will allow a vacuum pump to be added. Drive = \$125 pump, = \$350. A wing leveler usually means a new turn co-ordinator, all in about \$1000. New AI DG and regulator probably about \$1000. You should really add a heated pitot and a ILS, add \$1750 more.

Note - Walt Marple has been successful adding a combination alternator/vacuum pump. This installation does not have an STC but has been approved on a one time basis. You can contact Walt at Marple Aviation Inc., 350 B East Santa Maria St., Santa Paula Airport, Santa Paula, Calif. 93060, (805) 525-9711

Well that's it folks for the first try at a Stinson and Franklin Frequently Asked Questions. As other questions get asked I will try and add them here.

Look forward to your comments. If you have points I've missed please contact me.

Postal Address

Larry Westin
21721 Verde St
Tehachapi, California
U.S.A. 93561-9437
Phone (661) 823-4707

E-Mail

Larry Westin
westin@westin553.net

Fly Safe!