SERVICE BULLETIN 19

SUBJECT: Engines, propellers, and propeller governors for the GLASAIR III

APPLICATION: All GLASAIR III aircraft

We would like to inform you about the engine, propeller, and propeller governors used with the Glasair III.

ENGINES:

In selecting an engine, the greatest concern is to find an engine to match your particular type of flying. Almost any Lycoming O-540 engine can be converted to the configuration required, by changing parts, making it close to an IO-540-K1H5 engine configuration like we have in our prototype, N540RG.

You will want a "straight out the back" injector adapter with a Bendix fuel injection system. The exhaust ports must exit out the bottom of the cylinder. If the airplane is being built for aerobatics, the heavy crankshaft should be used as in all the "K" series IO-540 engines. If turbo charging is planned, piston cooling jets are a must.

NOTE: We have yet to prototype a turbo charged engine and therefore can not support such a modification at this time.

PROPELLERS:

Our research and development has determined that the Hartzell propeller (HC-C2YK-1BF/F8475D-4 which we recommend) needs its high pitch stop adjusted to 38^{o} to accomodate the high speeds. If you have purchased a propeller longer than 80", it most likely can be shortened to the 80" dimension required for proper propeller clearance. (These adjustments can easily be accomplished by taking your propeller to any certified propeller repair station.)

Hartzell constant speed propellers also have a maximum shelf life of 5 (five) years, after which the seals must be replaced. Because of the limited duration of the factory warranty and the limited shelf life, we recommend purchasing your Hartzell propeller as close as possible to the anticipated completion date of your Glasair.

GOVERNORS:

Propeller governors for a Lycoming IO-540 engine should be a spring-driven ball-head type to dampen out cam shaft vibration associated with the O-540 engines. Before purchasing your governor, check the serial number of your engine - the suffix letter "A" at the end indicates a wide deck engine, whereas no suffix letter indicates a narrow deck engine. All wide deck engines, standard magneto drive or dual magneto drive, have a .947 to 1 governor drive gear ratio. All narrow deck engines, with standard magneto drive, have a .895 to 1 governor drive gear ratio. The appropriate governor can then be matched to your engine. The governor should be a "pressure to increase pitch" type.

NOTE: We recommend the standard magneto drive configuration. The dual magneto accessory case has not been prototyped at this time, and therefore are not sure if it fits to our installation

NOTE: All twin engine governors are "pressure to decrease pitch" type and have counter weighted propellers. We do not supply a spinner for a counterweighted propeller and do not recommend using one due to their heavier weight. Some of these governors have a port for an accumulator fitting on top, used for aerobatics. Because of the close cowl clearance in this area, we do not recomend its use. An aerobatic accumulator would only be needed for zero - "G" maneuvers where the prop may cavitate or stall causing it to overspeed such as in a tail slide.

The current governors that we recommend are the Woodward C-210-761 for the wide deck engines and the D-210-761 for the narrow deck engines.

We will soon be supplying Woodward governors and Hartzell propellers as options, set up for the Glasair III, for your convience.

If you have further questions on this subject feel free to contact the Technical Advisory division of Stoddard Hamilton Aircraft at 206-435-8533.