

Operating Tips . . .

FOR BETTER NAVION FLYING

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Published by the Field Service Department of the Ryan Aeronautical Company, San Diego, to help those who own, operate, and service Navion airplanes obtain the full utility and satisfaction of which the Navion is capable.

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COLD WEATHER GROUND RUNNING AND ENGINE WARM UP

Severe engine damage can result and has resulted from excessive ground operation by some Navion owners. Unknowingly, maximum allowable cylinder head temperatures are exceeded by prolonged operation at 1400 to 1500 RPM in an effort to obtain normal oil temperature prior to take-off. This can happen even in below freezing temperatures. It is therefore recommended that the warm up be conducted with the airplane headed into the wind at between 1100 and 1200 RPM for approximately 5 minutes or less, depending on outside temperatures. The prop check, mag check and full throttle run up should be as brief as possible after the foregoing warm up. Usually after this warm up and the checks, a slight drop in oil pressure will be obtained and the engine will be ready for take-off, provided the throttle response is satisfactory.

This cold weather procedure will extend the life of your engine by preventing excessive cylinder head temperatures which can result in sticking valves and rings, piston scoring and even complete piston failure in the event detonation develops from the high head

temperatures. (The maximum allowable cylinder head temperature measured by spark plug gasket thermocouple on the lee side of the cylinder is 525° F.)

In installations equipped with cylinder head temperature indicators, the engine may be considered warm enough for take-off as soon as a head temperature of 300° F to 350° F (150° C to 175° C) is obtained, regardless of what the oil temperature instrument indicates. From the foregoing remarks on winter operation, it may be concluded that ground operation should also be held to a practical minimum during warm weather.

For extremely cold weather operations, it may be necessary to lag the oil cooler and all external oil lines. Preheating of engine oil is also sometimes necessary in the case of unhangered airplanes. When cruising oil temperature runs 120° F or below, SAE 30 oil is recommended.

NOTE: The above recommendations have been endorsed by Continental Motors Corporation.

FUEL FILLER NECK SCUPPER DRAIN LINES CLOGGED?

During a recent rain, it was noted that the fuel filler neck scuppers on several Navions parked outdoors were filled with water almost flush with the upper surface of the wing. There is a strong possibility that water was running into the wing fuel tanks on these Navions; therefore, it is quite important that scupper drain lines be periodically checked for obstructions

to insure proper draining of the scupper. A flexible wire probe or low air pressure (5-7 psi) may be used to remove obstructions from the scupper drain line, the outlet end of which is located on the underside of the right wing just forward of the main landing gear strut well. Check it now.

PRACTICE MAKES PERFECT

It's a wise pilot who practices emergency procedures so that there will be no hesitation or indecision on his part, if and when he needs to use them. Every pilot should make it a frequent practice to lower the landing gear and flaps on his Navion in flight by the

prescribed emergency methods. This practice will make the emergency operation of the equipment semi-automatic on the part of the pilot, enabling him to devote his thoughts to other phases of any emergency which might exist.

THE WHY OF SERVICE BULLETINS AND SERVICE LETTERS

Enclosed is a copy of Navion Service Letter No. 67, which is self-explanatory. While the subject matter of this particular letter is limited to older model Navions, a copy is being forwarded to all owners and service agencies because to us, it has implications which go beyond this particular instance, in that other similar maintenance deficiencies in the field may lead to fur-

ther CAA directives. We are acutely conscious of the reaction of owners who, when they receive a service publication requiring changes to be made, or work to be done, naturally feel they are being imposed upon. It is our sincere desire to keep mandatory changes at a minimum. We are constantly applying knowledge gained from experience to improve the basic Navion design,

and you, as owners and operators, can expect much better satisfaction from your present airplane if it is systematically and carefully maintained.

The automobile today is far more reliable than in days gone by. Many can recall when broken axles, steering links, brake lines and other mechanical failures were not at all uncommon. Even today, with all the extensive research and testing which goes on, cars too, are not entirely free of troubles. Good maintenance and careful operation can contribute as much as good design to the service life of any mechanical product. This is particularly true of an airplane, which must of necessity represent the best possible compromise between weight, performance and serviceability.

The government has established the Civil Aeronautics Board which is charged with making regulations for aircraft safety and investigating accidents. The Civil Aeronautics Administration is responsible for the enforcement of design requirements and making checks, both with the manufacturer and in the field, to insure that airplanes are built and maintained in accordance with an approved design. When an accident occurs, or in some instances when a malfunction develops which might potentially lead to an accident, a report is made by the C. A. B. to the manufacturer with a request that he make recommendations as to corrective action to be

taken. In instances which are recognized as being isolated cases, or unusual conditions, no further action may be required, but where it is decided that the same trouble might develop on other airplanes, it has been our policy to notify all parties affected and thereby obviate the necessity for the CAA to issue an Airworthiness Directive. However, because in some instances Ryan issued instructions are either overlooked or ignored, the tendency is toward the issuance by the CAA of an AD in addition. We recognize this can represent a hardship for some owners who do effectively maintain their airplanes, and find it burdensome to have to make changes within a limited period.

It is our sincere belief that many mandatory Bulletins could be entirely avoided if proper steps were taken to maintain the aircraft in the best possible condition at all times. It should also be remembered that the factory maintains a Field Service Department, whose function it is to assist Navion owners and service organizations in the correction of operating and maintenance difficulties. This department is anxious to hear immediately of any and all difficulties encountered in the field so that items, which might otherwise ultimately result in the issuance of a mandatory Airworthiness Directive, can be corrected before such drastic action becomes necessary.

HYDRAULIC SYSTEM FILTER CARTRIDGE CHECK IS GOOD INSURANCE

In case you didn't know or have forgotten, the hydraulic system fluid reservoir on your Navion contains a replaceable filter cartridge. The purpose of this filter is to screen out all impurities such as dirt and metal shavings that sometimes accumulate in a hydraulic system. If this foreign matter is permitted to circulate within the system, it can easily damage or hasten the wearing out of units comprising the system.

Filters have been known to become clogged with

foreign material or ruptured so as to be completely ineffective; therefore, we recommend they be examined and washed in alcohol or replaced at each 100 hour inspection, or oftener if system pollution is suspected.

The filter is easily replaced by removing the center bolt, and lifting the top from the reservoir. When replacing filter, be sure gaskets are installed properly. New filter cartridges are available from your Navion dealer at a nominal cost.

