

Operating Tips . . .

FOR BETTER NAVION FLYING

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FUEL SYSTEM LEAKS

Some confusion relative to the proper method of locating fuel leaks in Navion airplane has been brought to our attention. Although this information is adequately covered in your Navion Service Manual, it is repeated in this publication for the benefit of those owners whose manuals have been misplaced or lost.

1. Drain all tanks and connect a standard mercury manometer or low pressure air gauge to the main fuel system vent outlet.
2. Turn fuel selector valve to "Main" ("on" if no auxiliary fuel tank is installed), and mixture control to idle cutoff.
3. Carefully apply air pressure to the vent system until a pressure of 1-1/2 psi (3.06 inches of mercury) is obtained and pinch off with a suitable clamp.
4. Observe manometer or pressure gauge for approximately two minutes. Any noticeable drop of pres-

sure in the system indicates a leak.

5. Carefully and systematically check each connection in the fuel and vent system by applying soap-suds solution to the fitting examined.

6. The auxiliary tank system can be checked in a similar manner by applying air pressure to its vent system with the selector valve in the "off" or "auxiliary" position.

Leaks in wing tanks are particularly difficult to locate, however, careful examination of the exposed areas will usually reveal a reddish-brown stain on the tank surface adjacent to the leak. Should no evidence of leaks be seen and it is still suspected that there is a tank leak, fill tank with fuel, turn fuel selector off and pressurize through the vent as outlined above. Leaks in this test should appear as fuel seepage on the external portions of the tank.

Don't Lean Out too Soon.

Many instances of short engine life have been attributed to over-leaning of the mixture. This cannot be proven without carefully watching the flying habits of each individual pilot, but the possibility of engine damage cannot be overemphasized.

The engine manufacturers for all model Navions recommend the following procedure:

1. Use full Rich at all times below 5000 feet altitude.
2. At altitudes above 5000 feet, lean mixture as required to provide maximum power. Avoid excessive leaning, even at altitude.

Use of the following procedure is recommended:

1. Slowly pull mixture control aft until engine roughness is felt.
2. Move mixture control approximately 1/4 inch forward from rough position. If engine operation is not smooth, continue to push control forward until smooth operation is obtained.

The above suggestions do not apply to airplanes equipped with a Bendix PS-5BD carburetor with automatic altitude compensator. This carburetor should be operated "full rich" at all times unless the compensator malfunctions.