

FOR BETTER NAVION FLYING

OOPS! CORRECTION PLEASE

Those of you who read the first article in last month's issue of Operating Tips will recall that it contained the following statement: "High quality oils usually have a low viscosity index so do not thin unduly when normal operating temperature is reached. Aviation grade oils normally have a low viscosity index". Thanks to the alertness of the Texas Company personnel, who by the way operate a fleet of Navion

planes, we were promptly notified of our mistake. We wish to take this opportunity to state that the truth of the matter is that the HIGHER a viscosity index an oil has, the less tendency it will have to thin unduly when normal operating temperature is reached. Thus, the best aviation grade oils should have a comparatively high rather than a low viscosity index.

OBSCURE CAUSE OF BATTERY CHARGING CIRCUIT TROUBLE DISCOVERED

An investigation prompted by two recent cases of malfunction in the battery charging circuit which could not be corrected by replacement of the generator, regulator or battery revealed the following facts:

The design and function of the voltage regulator used on both Continental and Lycoming powered Navions is such that it imposes a resistance in the field circuit between the generator and ground in order to maintain the correct charging rate. Inserted in this circuit is the generator field disconnect switch and therein is apt to lie the answer to a stubborn case of intermittent generator circuit trouble. If a short circuit to ground occurs anywhere in the generator disconnect

switch wiring or in the switch itself, the voltage regulator on the firewall will cease to regulate generator output and the charging rate, as indicated on the ammeter, will suddenly increase beyond the desired maximum. If the short is intermittent, a large fluctuation of the ammeter pointer may result. Should this condition be allowed to continue without correction, burning out of the voltage regulator, damage to the generator and/or buckling of the battery plates and case is likely to occur. Look this circuit over carefully for shorts to ground whenever any difficulty is suspected in the voltage regulator or if a sudden increase or erratic charging rate is noted.

WHY DID IT COST THAT MUCH?

The operators of airplane service shops throughout the world are faced with a common problem which can be greatly alleviated by a better understanding on the part of airplane owners. We are all familiar with the time-pressed airplane owner who leaves his airplane for re-license or repair, requests an estimate for the work and then disappears to parts unknown until the job has been finished. When he receives a bill for more than the estimate, he hits the ceiling and vows that aircraft service shops just don't know how to operate their business.

Of course, every good business man or woman wants to know what his service job will cost before authorizing the work. We definitely advocate the use of esti-

mates because they are a basis for agreement and they keep service shops on their toes in hewing to a competitive line. But, let's remove the confusion which sometimes surrounds the estimate. Is it a flat rate agreement to perform a complete job at a specified price regardless of developments; is it a price quotation for only the items discussed without a definite arrangement for unforeseen repairs; or is it an approximate price which is subject to change as the work progresses without consultation between owner and operator.

First, we must understand that no one, not even a magician, can give an iron-clad estimate of the exact amount of time and parts required to repair or re-license

an airplane which has popped out of the sky and is sitting out on the service ramp. There are too many concealed parts and structures. Your airplane is a streamlined machine which has been enclosed in a smooth package to make it faster. No one, without X-ray eyes, can tell the condition of all of the components within the sleek surfaces of this modern conveyance.

Therefore, the best estimate that can be given for this type of work is an approximate figure based upon the experience which the operator has accumulated. When the various assemblies of the airplane are opened and inspected, the mechanics can then determine the exact extent of parts required and repairs which should be made. Sometimes this may be more or less than the approximate estimate which was given without the benefit of this closer scrutiny.

Now, when the work is being done, it would help the service station operator if the owner of the aircraft would let him know where he can be reached and otherwise keep in contact with him. As the need for decisions come up during the progress of the work, the owner can then advise the shop just what to do. Otherwise, the mechanics are faced with one of two alternatives, either of which may cause owner resentment. They can hold up on the work until the owner comes back and risk his criticism because a delay in completion of the job has been incurred. Or, they can go ahead, put in the required new parts and labor, and hope that the owner will approve their decisions and

will also understand the necessary increase in the bill.

Believe us, both owners and service station operators are equally anxious to avoid "surprises" in the amount of the bill and the little "scene" which such surprises sometimes set off. It seems the best way to accomplish this happy state of affairs is by means of a better understanding all the way around. When you next bring your airplane to the shop for re-licensing, or similar work which cannot be accurately estimated beforehand, please remember the limitations of the service shop operator in trying to meet your needs and also enjoy your good will. When you leave the shop, either let the office know where you can be reached or arrange to telephone in at a stated time in order to consult about any unforeseen repairs or parts which may be indicated for your plane's best welfare,

Now, of course, some repair and service jobs can be quite accurately estimated for you because they are standard and the picture can be visually appraised without the need for unbuckling the airplane. But, airplanes being what they are, there are still a number of the type which cannot. Another reason for better understanding about these matters is the increased costs of parts which have gone up, like everything else, because of higher labor and material prices. Of course, the value of your airplane has also risen, proportionally, and we sincerely hope that its intrinsic value to you will continue to rise because of the satisfactory service which it can give you.

**NO OTHER PLANE COMBINES
SO MANY FEATURES SO WELL**