

# 'Must Have' STC for 1966 thru 1974 T206, T207, T210

By John Frank

Cessna started putting turbocharged engines in the 206 and 210 beginning with the 1966 model year. When the factory installs an engine on the assembly line they have the engine all built up with the turbocharger and exhaust installed and the whole unit is dropped into the engine compartment. This is just fine for the assembly line but because there was no access panels to the lower right side of the engine compartment where the turbocharger sits, maintenance of the turbocharger was a real pain for the mechanic. Also, the added amount of time the mechanic had to spend getting at the turbocharger components due to the extremely limited access, increased the bill for the owner.

After hearing mechanics complain about this situation for years, Cessna finally got around to dealing with this problem at the start of the 1975 model year. At that time the factory made the lower right side cowling removable. However, no retro fit kit was available, so those of us with 1966 thru 1974 turbocharged Cessna singles continued to struggle to do any maintenance in the area of the turbocharger.

That is the way the situation stayed until a couple of years ago when Norm Ellis and Kevin Gass started working on a STC to make at least a portion of the lower right side cowl removable. That STC has now been approved on several model years of the T206 and T210 and will be approved for all model years of the T206, T207 and T210 between 1966 and 1974 as conformity inspections get made to each model year.

To perform the modification the entire lower right side cowl skin is removed. It is then cut into three pieces and two of those pieces are riveted back in place. The third piece, which is the large center section of the skin, is drilled and dimpled for flush screws and doublers, and nut plates are installed on the airframe. Ellis and Associates estimates 15 man-hours, CPA's best guess is that it will take 20 or so man hours to do one for the first time.

Ellis and Associates is marketing the STC for \$1500. This seems a bit steep for what is essentially just instructions and drawings, no parts. However, Ellis and Associates have invested considerable time and expense in getting FAA approval, and with a limited market, need to charge that amount to make it worth their efforts. You will invest another couple hundred bucks or so in materials.

## CPA's View

It is rare that we label something as "Must Have." However, all four of the CPA Tech Staff agree that this modification should be at the top of the list for anyone who owns a 1966 through 1974 turbocharged 206, 207 or 210.

This modification doesn't provide quite as much access as the later factory design. With the factory design the upper cowling channel is removable while on the Ellis STC it remains fixed in place.

However, our experience has shown this to be a non-issue. This modification provides all the access anyone could want. The approximate \$3000 completed cost is signifi-

cant, but over time a portion of that will be recovered in lower bills for turbocharger maintenance. Also, this modification will allow much better inspection of the turbocharger, wastegate, oil lines going to and from the wastegate, and the right side exhaust. Considering that failure of one of those oil lines will cause total loss of engine oil, anything that makes inspection easier is a definite plus from a safety standpoint.

This modification is currently approved by STC for the TU206E and F, and the T210F, H, and K with the T210G approval expected shortly. All other T206, T207 and T210 in the 1966 through 1974 model years can be added to the STC. If your aircraft is the first of a certain model year to have the modification done, you will need to coordinate with Ellis and Associates and a local FAA Designated Airworthiness Representative (DAR) to have a conformity inspection done.

The cost for the STC is \$1500 with a five percent discount for CPA members. You can contact Norm Ellis at: **Ellis & Associates CADD/Technical Illustration, 22355 Caminito Tecate, Laguna Hills, CA 92653. Business phone 949/830-0743, Fax 949/830-5817 or e-mail: nellis2996@cox.net**



This is what Cessna did beginning in 1975. The whole lower cowling on the right side is removable.



Here is what the STC does. The upper channel remains in place. Lower portion of cowling becomes removable.

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First the entire skin on the lower right side is removed.



The STC instructions say to use shears to cut the skin, using a small cutting wheel in a Dremel Moto-Tool, gave a very clean cut.



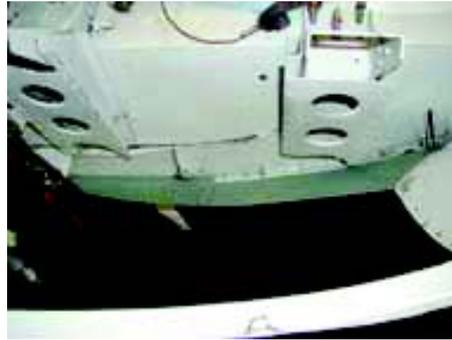
And the top strip is riveted back in with a doubler beneath it for the top fasteners.



Holes with nutplates are also fabricated on the lower doubler attached to the removable panel.



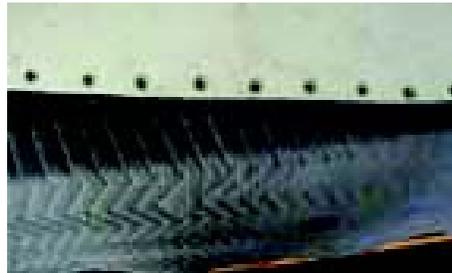
Then the skin is marked to be cut in three pieces.



The lower portion of the skin is riveted back to the wheel well structure.



Holes with nutplates behind them are fabricated on the upper doubler.



The removable panel has dimpled screw holes for flush screws.



The finished modification.

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