



# CTEC

*Copperstate Turbine Engine Company*



## *Turbine Tips & Topics*

[www.copperstateturbineengineco.aero](http://www.copperstateturbineengineco.aero)

*Scottsdale - Glendale - Anchorage*

## “Turbine Tips and Topics”

*Eleventh Edition, 26 January 2018*

### Happy 40th Birthday to the TPE331-10 Engine

On January 20, 1978, approximately 13 years after the first TPE331 Pre-Century 575 SHP (-25,-43,-55,-61 etc.) models were introduced, and 8 years after first production availability of the 840 SHP Series (-3, 5, -6), the 1,000 SHP TPE331-10/-10U was officially FAA certified and introduced to the General Aviation marketplace.

The thermodynamic power increase from 840 to 1,000 SHP resulted from retaining the 840 Series compressor section in concert with a newly developed turbine section (turbine wheels, stators, combustor, plenum, and fuel distribution system.) The inter-stage turbine temperature (ITT) was replaced by an exhaust gas temperature (EGT) which then employed electronic signal conditioning to present the tailpipe temperature outputs. Gearbox limits were increased to 940 SHP (takeoff) and 900 SHP (max continuous).

#### TPE331-10 Aircraft Introductions:

- |                         |      |                         |
|-------------------------|------|-------------------------|
| • Mitsubishi Marquise   | 1979 | Starting With S/N 700   |
| • Mitsubishi Solitaire  | 1979 | Starting With S/N 365   |
| • Twin Commander 980    | 1980 | Starting with S/N 95000 |
| • Twin Commander 1000   | 1982 | Starting with S/N 96000 |
| • Fairchild Merlin IIIB | 1979 | Starting with S/N T276  |

Ultimately, the TPE331-10 would find applications in the CASA 212, Dornier 228, Jetstream 31, OV-10D, General Atomics MQ9 Reaper, and more than 1300 after-market -10 conversions of the -3U,-5,-6 and-8 engines which are used on a wide variety of applications. And speaking of birthdays, the -10’s cousin, the TPE331-11U, was FAA certified on September, 28, 1979...stand by...the party isn’t over yet!

### Texas Turbines Conversions Announces 140<sup>th</sup> TPE331 Conversion

Since 1996, Bobby Bishop, President of Texas Turbine Conversions, has been converting aircraft to the TPE331 turboprop. Beginning with the de Havilland DHC-3 Single Engine Otter, the original R1340 Pratt & Whitney radial engine(600SHP) was replaced by the TPE331-10R (1,000 SHP), to define a totally new performance profile for the sturdy DHC-3. In 2004, Texas Turbines introduced the Cessna Caravan conversion utilizing the TPE331-12JR (1,100 SHP). Together, the two programs are moving toward the 150 aircraft completed milestone.

*Cessna Caravan  
TPE331-12JR*



*de Havilland  
DHC-3 Otter  
TPE331-10R or -12JR*

Many of the Otters have also been equipped with the higher performance TPE331-12JR. Whether on floats or wheels, the high power, low fuel consumption, TPE331 continues defining new levels of operational and economic excellence.

## CTEC Announces Line Maintenance Training Schedule for 2018

Since 2007, CTEC has trained over 1000 individuals in accordance with our FAA approved TPE331 Line Maintenance Training course. Classes are conducted at customer locations around the world in addition to the classes available at our Scottsdale Training Academy.

Dates for the Scottsdale classes are as follows:

- March 19-23
- June 25-29
- October 24-28
- December 3-7

Registration details are available on our website [www.ctec.aero](http://www.ctec.aero) or contact [bob.vrabel@ctec.aero](mailto:bob.vrabel@ctec.aero)



## Attention Cessna Conquest II owners...

While a vast majority of the Conquest II aircraft have been converted to the 1,000 SHP TPE331-10N engine, CTEC is again offering the opportunity, at the time of overhaul, to convert your -8 or Super-8 to the Honeywell factory approved TPE 331-10N engine configuration. And of course, as always, we offer overhaul services for each of the Conquest II engine configurations.

***Please contact John Phoenix or Terry Cooley at 480-500-6677 for additional information regarding pricing and scheduling.***

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## Hindustan Aeronatic's HTT-40 Trainer Testing Continues

The HTT-40 turboprop Trainer may resemble a Pilatus, Embraer, or Beech two place turboprop trainer; but it is Indian through and through. India's "first made in India" training aircraft consists of 75-80% "in-country" content. The heart of the HTT-40 is the Honeywell TPE331-12B turboprop rated at 1,100 SHP, with a 2,000 RPM gearbox output speed. This is essentially the same engine that was introduced in the 1980s, aboard the 140+ Royal Air Force Shorts Tucano trainer. First flight of the HTT-40 was June 17, 2016, with the second test aircraft flown on May 19, 2017. Serial production begins later this year.



***For additional information, please contact Jim Morrison At 480-500-6677. [jim.morrison@ctec.aero](mailto:jim.morrison@ctec.aero)***