

DUNCAN INTELLIGENCE

• Edited by Ken Kuchenreuther & Dan Arrick • Spring 2001

Oil Leaks

By Ken Kuchenreuther

The JT15D is a very reliable, trouble-free engine; however, over time, some irritating problems may develop so slowly that they are hard to recognize. Because Duncan Aviation sees so many of these engines, it becomes easier for us to notice a trend.

There are three rubber lip seals on the accessory gearbox (four, if you include the oil pump seal with tach generator models) to seal oil into the gearbox/oil pump. Oil may leak past the lip seals, through the drain lines and end up back in the lower cowl. The most noticeable leakage has been on the JT15D-5D series engines. The leaks can be taken care of by removing the affected accessory and replacing the rubber lip seals with new ones using special tools.

ITT SPLIT ON JT15D-5A, -5D

By Ken Kuchenreuther

When ITT splits show up in the air, there are several things you can do to troubleshoot before you land. If the right engine has a high ITT and high N2, conditions may allow you to do some troubleshooting.

Make sure not to exceed any parameters while doing checks. Match the N1s with the engines in a cruise configuration and engine fan sync on. Then pull the left engine power lever back about .5% N1. The right engine should follow if the sync is working, and the N1 reading on the gauge should be the same as the left. This indicates that the N1 gauges are accurate and in sync with each other (they usually are on the Citation V).

Again, conditions permitting, pull the hot engine power lever back to idle, open the Rt. BOV circuit breaker located on the pilots CB panel and push the power lever back to match the N1s again. At this point, if the ITT and N2s are together with matched N1s, then the problem is in the engine bleed valve system. Pull the power lever back, reinstate the circuit breaker and resume your normal flight.

Upon landing, plan a visit to your maintenance base for the repair. The engine bleed valve should always be closed at N2 speeds greater than 86% with the BOV circuit breaker in. A little troubleshooting in the air is of great benefit to the technicians on the ground.

If you encounter ITT splits, call me on your flight phone at 616.969.8486 or cell at 616.358.9348 as there are other checks that can be done in the air.

Take Good Care Of Your Ignition System

By Ken Kuchenreuther

In the unlikely event that your engine flames out in-flight, you can relight it within the air start envelope but not without working igniters. This means the ignition system should be on top of your "to make engine run list." Here's a couple of things to help you achieve this.

Pratt & Whitney SB #7567 adds a ground strap between the ignition exciter box and the engine case to prevent arcing of the exciter box. This applies to all JT15D engines and is supported by Commercial Support Program #A00014R1 until November 30, 2003. Parts are available at no charge to operators, and Duncan Aviation recommends taking advantage of this at your next opportunity.

When removing the igniter for inspection, shine a light in the combustion chamber liner to see if the igniter grommet sealing washer is still in place. The washer is movable and the inside diameter is slightly larger than the firing end of the igniter, so the igniter will fit inside, thus preventing a huge amount of cooling air from passing by the igniter tip. Cooling of the igniter is accomplished by the little holes around the tip. Fuel laden air needs to pass by the sparking tip to have ignition. If both igniter grommet washers are missing, the engine probably won't start, and if one is missing the starts may be delayed or intermittent. When they fall out, the engine must be disassembled and the combustion chamber liner repaired. This should be done as soon as possible.

For JT15D technical info, we have the experts with whom you should speak.

Our JT15D Engine Teams consist of technicians with hundreds of combined years of experience.

Need technical advice? Call Duncan's JT15D Tech Rep, Ken Kuchenreuther, at 616.969.8486.

*In Lincoln, NE, contact **Jon Dodson** at
402.475.2611 or 1.800.228.4277*

*In Battle Creek, MI, contact **Dan Arrick** at
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