

DUNCAN INTELLIGENCE

Edited by Ken Kuchenreuther & Dan Arrick • Fall 2002

Bird Strike Inspection

By Dan Arrick

It is that time of year when we share the sky with groups of our migratory feathered friends. Should you have an unfortunate encounter and ingest one or more of these guys in your engine, here is a quick inspection guide to help determine if your JT15D is still in serviceable condition. Be sure to reference the appropriate airframe and engine maintenance manuals for complete procedures for your specific engine model.

1. Investigate each instance of FOD with respect to cause and circumstance.
2. Consider the integrity of the complete engine when evaluating damage to LP compressor stage or inlet cone. This is especially true in instances where damage incurred exceeds heavy maintenance limits.
3. Inspect leading edges of impeller vanes and LP compressor boost stage rotor blades for damage.
4. If impeller or boost stage rotor damage limits are exceeded, or if it is suspected that a foreign object has passed through the primary gas path beyond the impeller, send the engine to an approved overhaul facility for inspection and repair.
5. Inspect the fan blades. A typical indication of damage is an outward bend at or near the leading edge tip of the blade.
6. Inspect LP compressor stator assemblies and retaining rivets.

If you have any questions, please contact Dan Arrick or Ken Kuchenreuther in BTL or Lanny Renshaw in LNK.

Oil Filter Inspection

By Dan Arrick

When inspecting oil filters on JT15D engines, always make sure the filter element is not completely plugged or partially plugged due to contaminants that in most cases cannot be detected visually. Even following cleaning processes, filters can remain clogged enough to prevent proper filtration and cause erroneous oil pressure readings in the cockpit. A quick way to ensure the filter is not plugged is to observe the oil in the filter while removing it from the housing. This process requires keeping the oil in the filter housing while removing it from the engine. If the oil drains from the filter fairly quickly, then it is most likely in serviceable condition. Be sure to follow the maintenance manual recommendations for inspecting and cleaning the oil filter. Please call Dan Arrick or Ken Kuchenreuther in BTL for additional information.

JT15D Oil Leaks

By Dan Arrick

Engine oil leaks have always been a concern for aircraft operators. Learning a little about the causes of these leaks and corrective actions may help when a puddle of oil is found under an engine.

Many oil leaks on the JT15D are discovered the day following a trip or a few hours after engine shutdown. The first step in troubleshooting the problem is to remove the cowling and ensure that the engine does not have an external oil leak (a loose fitting or defective hose, etc.) Next, determine if the oil is dripping out of the breather tube or an accessory drain line. Oil dripping from either of these areas a short period of time after shutdown usually indicates a stuck oil check valve or a defective o-ring in the check valve itself.

Oil dripping from these areas after a few days to a week can be a defective oil pump or an internal engine leak. Troubleshooting a defective oil pump or an internal engine leak requires 12 to 24 hours to obtain accurate results.

Oil leaks are not always as serious as they appear and can be corrected with little downtime, but they should always be addressed before further engine operation.

Be sure to always maintain proper oil levels and consult the maintenance manual for approved procedures.

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 269.969.8486.

*In Battle Creek, MI, contact **Dan Arrick** at
269.969.8400 or 1.800.525.2376*

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