

# TEST PROJECT - AIRCRAFT MAINTENANCE

WSC2017\_TP14\_M9\_gas\_turbine\_inspection\_actual

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Member Country/Region: UK





# COMPETITOR'S WORKING DOCUMENT

DEFECT REPORT – HOT SECTION INSPECTION	
<b>Objective</b>	<p>To test the Competitor's ability to <b>Borscope</b> a Gas Turbine engine hot section in accordance with the Manufacturer's Maintenance Manual [Pratt and Whitney PT6-34 (<i>note to obtain the latest version possible and ensure the references still work</i>) commencing with <b>72-00-00 page 601</b> including the use of a rigid or flexible boroscope (as per the extra instructions provided at the competition). This work will be carried out in accordance with (i.a.w.) the appropriate Engine Maintenance Manual. The engine shall be treated as a 'live' engine in a 'live' aircraft and the maintenance manual followed accordingly.</p> <p>NOTE: Check issue date of the Manufacturer's Maintenance Manual (Pratt and Witney PT6-34)</p>
<b>Time allotted</b>	3.5 hours
<b>Process</b>	
<b>1</b>	Remove Fuel Manifold Adapter and insert Guide Tube (Part Number PWC34910-200), to allow boroscope (Part Number PWC34910-101) to internal access to Leading and Trailing Edges of Compressor Turbine (CT) Vane Ring Assembly (that is accessible through the guide tube in this position) and, CT Blades and Shroud Segments.
<b>2</b>	Complete a defect report for the boroscope inspection of the Leading and Trailing Edges of CT Vane Ring Assembly (that is accessible through the guide tube in this position) and, CT Blades and Shroud Segments. A minimum of two (2) defects for the Leading and Trailing Edges of CT Vane Ring Assembly and a minimum of six (6) defects for the CT Blades are to be identified and documented on the attached 'Defect Report – Boroscope Inspection'. Once completed this is then submitted to the judge.



## MARKING SCHEME

PPE	1.00
Use and handling of the boroscope unit	2.00
Properly completed defect report of the Compressor Turbine and Leading and Trailing Edges of Compressor Turbine Vane Ring Assembly	4.00
Removal and installation of all associated components and specialist tools in order to carry out said boroscope	2.00
Usage of the manufacturer's Maintenance Manual for Boroscope Inspection	1.00
<b>TOTAL</b>	<b>10.00</b>

### NOTES

1. P and W PT6-34 series Maintenance Manual procedures.
2. The boroscope is to be a fully flexible (the end being rotatable in all plains) type with the appropriate instructions for the boroscope being supplied by the Host Country/Region for this project.

### PARTS LIST

The parts listed below are those that are required as consumables for this TP:

- a. Fuel Manifold 'O' Ring Seals – unless a decision is made to not replace 'O' ring seals.
- b. Locking wire AMS5687 MS9226-03 - 0.025" diameter.

### SPECIALIST TOOLS LIST

There are a number of specialist tools called for within the maintenance manual and they are listed below:

- a. Guide Tube PWC34910-200.
- b. Holding Fixture PWC34913.
- c. Torque Wrench (with suitable drive) capable of providing torque loading of 32 to 36 lb.in.
- d. Transfer Tube Puller PWC32366.
- e. Boroscope Assembly PWC34910-101.
- f. Wrench PWC34941.
- g. Imperial Feeler Gauges for 0.003" and 0.001" use.
- h. Dye Marker (PWC05-027).

### LUBRICANTS/GREASES LIST

Below is a list of lubricants/greases required to complete this test i.a.w. the appropriate maintenance manual:

- a. Grease synthetic PWC04-001
- b. Engine Oil.



## DEFECT REPORT – BOROSCOPE INSPECTION

Engine type: \_\_\_\_\_

Serial#: WSC2017 \_\_\_\_\_

Date: \_\_\_\_\_

DEFECT #	DEFECT DESCRIPTION	INITIALS

<b>Signature:</b>	<b>Print Name:</b>	<b>Competitor Number:</b>	<b>Date:</b>