HOT SECTION INSPECTION

(PT6A-114A)

The purpose of this form is to **record** that the activities have been performed **in accordance with the P&WC Maintenance Manual Turboprop Gas Turbine Engine Model PT6-Series**. For the correct methods, fits and clearances, torque figures, safety locking requirements, lubrications, sealants etc. refer to the appropriate manual sections.

REFERENCE: P&WC MM PN. 3043512 Task 72-00-00

Customer		Engine Model	
Aircraft Registration		A/C Total Time	
Engine SN.		A/C Landing	
Engine TSN.		Date Performed	
Engine CSN.		Work. No.	

- **PRE HOT SECTION INSPECTION**

No.	Description	Stamp Eng.
A.	**Hot Section Inspection Items.**	
1.	Ground Performance Run **Note:** Perform for Normal Schedule Only	
2.	Remove Externals included the RGB strainer, the main oil filter and the chip detector(s). Verify the debris.	
3.	Remove power section. Note : Make sure T5 Terminal Harness already removed before split the power section on C flange	
4	Measure Pre-HSI CT Blade to segments radial tip clearance Note: 0.012 – 0.015 (inch) for New Segments 0.010 – 0.017 (inch) for run segments on engines with good performances	

5.	Remove CT Disk assembly.	
6.	Remove combustion chamber inner liner.	
7.	Remove CT stator assembly, shroud housing and small exit duct. **Note:** Do not separate parts unless CT stator damage exceeds limits.	
8	Remove Large exit duct.	
B. Internal Components Inspections.		
B.1. Gas Generator Case.		
1.	Examine for general condition, including cracks, distortion, corrosion and evidence of overheating. **Note:** - **Measure and takes pictures of defects and damage found.** - **Machined surfaces (bosses and pads) with corrosion pitting less than 0.010 inch deep and less than 75% of the surface is acceptable without repair.** Place for Picture	

2.	**Removed Parts Records.** Description | PN. | SN. | Qty. | | | | | | | | | |	
B.2. Combustion Chamber Liners, Large and Small Exit Ducts.		
1.	Examine for general condition, including cracks, distortion, burning, blockage of cooling holes due to repair and coating loss. Any amount of coating loss is acceptable provided burning of parent metal has not occurred. Verify the cooling ring gaps. **Note:** - **Measure and takes pictures of defects and damage found.** - **Crack of this nature are acceptable, provided they do not exceed 0.300 inch in length and are stop drilled using 1/16 drill.** - **Acceptable buckling and cracking in cooling rings, crack must not extend into seam weld.** - **A maximum of seven cracks, each crack not exceeding one inch long, is acceptable in the inner wall of the damaged end of the inner liner.** Place for Picture	
2.	**Removed Parts Records.** Description | PN. | SN. | Qty. | | | | | | | | | |	

<table>
<tr><td colspan="3">B.3. Compressor Vane Ring Assembly, Shroud Housing.</td></tr>
<tr><td>1.</td><td>Examine for general condition including cracks, coating loss, erosion of parent metal or impact damage. Examine vane ring cooling air inlet and outlet ports for blockage.</td><td></td></tr>
<tr><td>1.</td><td><u>Note:</u>
Measure and takes pictures of defects and damage found.

Place for Picture</td><td></td></tr>
<tr><td>2.</td><td>Removed Parts Records.

<table><tr><td>Description</td><td>PN.</td><td>SN.</td><td>Qty.</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table></td><td></td></tr>
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<table>
<tr><td colspan="3">B.4. Compressor Turbine Shroud Segments.</td></tr>
<tr><td>1.</td><td>Examine for general condition including cracks, distortion, erosion and metal build-up.

<u>Note:</u>
Measure and takes pictures of defects and damage found.

Place for Picture</td><td></td></tr>
<tr><td>2.</td><td>Removed Parts Records.

<table><tr><td>Description</td><td>PN.</td><td>SN.</td><td>Qty.</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table></td><td></td></tr>
<tr><td colspan="3">B.5. Compressor Turbine Disk Assembly.</td></tr>
<tr><td>1.</td><td>Measure Compressor Turbine Rotor Diameter.</td><td></td></tr>
<tr><td>2.</td><td>Examine CT blades for tip rub, erosion, impact damage, coating loss, cracks, shift and circumferential movement. If a crack is found on any blade, ship the CT disk assembly to an approved overhaul facility. The complete set of blades must be discarded and replaced with a new set of CT blades.</td><td></td></tr>
</table>

3.	Examine blade retaining rivets for condition.	
4.	**ENGINE OBSERVATIONS:** **Check the blade mark by SB1669** **Note:** **Measure and takes pictures of defects and damage found.** Place for Picture	
5.	**Removed Parts Records.** Description | PN. | SN. | Qty. | | | | | | | | | |	

B.6. Inter stage Sealing Rings.

1. Examine for general condition including Wear, fretting and distortion.

Note:
Measure and takes pictures of defects and damage found.

Place for Picture

2. **Removed Parts Records.**

Description	PN.	SN.	Qty.

<table>
<tr><th colspan="3">B.7. Fuel Nozzles, Fuel Nozzle Sheaths</th></tr>
<tr><td>1.</td><td>Dissimilarity of carbon build-up. Perform functional test or replaced with serviceable set of cleaned and inspected fuel nozzle set (Ref. 73-10-05).</td><td></td></tr>
<tr><td>2.</td><td>Examine for general condition including Fretting wear, erosion and carbon build-up.

<u>Note:</u>
Measure and takes pictures of defects and damage found.

Place for Picture</td><td></td></tr>
<tr><td>3.</td><td>Removed Parts Records.

<table><tr><th>Description</th><th>PN.</th><th>SN.</th><th>Qty.</th></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table></td><td></td></tr>
</table>

B.8. Compressor Inlet.

1. Remove air inlet screen, examine inlet area and struts, first-stage blades and vanes for dirt deposits, corrosion and cracks.

   Note:
   Measure and takes pictures of defects and damage found.

   Place for Picture

2. **Removed Parts Records.**

Description	PN.	SN.	Qty.

B.9. Trim Thermocouple.

1. Check attachment of lugs and leads. Carry out operational check.

Note:
Measure and takes pictures of defects and damage found.

Place for Picture

2. **Removed Parts Records.**

Description	PN.	SN.	Qty.

C. Power Section Module		
C.1. Power Turbine Stator Housing		
1.	Cracks, none permitted. Check for proper sealing with inter stage sealing rings. **<u>Note:</u>** **Measure and takes pictures of defects and damage found.** Place for Picture	
2.	**Removed Parts Records.** Description | PN. | SN. | Qty. | | | | | | | | | |	

C.2. T5 Temperature Sensing System		
1.	Attachment, wiring harness and lugs. Check operation. **<u>Note:</u>** **Measure and takes pictures of defects and damage found.** Place for Picture	
C.3. Power Turbine Disk Assembly		
1.	Examine for general condition Blades for impact damage, erosion and cracks. **<u>Note</u>:** **Measure and takes pictures of defects and damage found.** Place for Picture	

C.4. Power Turbine Stator Assembly		
1.	Examine for general condition Cracks, erosion and impact damage. **Note:** **Measure and takes pictures of defects and damage found.** Place for Picture	
C.5. Exhaust Duct.		
1.	Examine for general condition Cracks and distortion. **Note:** **Measure and takes pictures of defects and damage found.** Place for Picture	

C.6. Reduction Gearbox Oil Strainer.		
1.	Remove and examine assembly for foreign matter. **Note:** **Measure and takes pictures of defects and damage found.** Place for Picture	
C.7. Chip Detector		
1.	Remove and inspect chip detector for metal deposits. **Note:** **Measure and takes pictures of defects and damage found.** Place for Picture	

2.	**Removed Parts Records.** Description | PN. | SN. | Qty. | | | | | | | | | |	

- **INSTALLATION OF POWER SECTION INSPECTION (HEAVY MAINTENANCE ONLY)**

No.	Description	Stamp	
		Eng.	RII
1.	Install large exit duct, CT stator assembly, shroud housing, and small exit duct.		
2.	Install CT disk assembly.		
3	Measure Post HSI CT Blade to segments radial tip clearance Note : 0.012 – 0.015 (inch) for New Segments 0.010 – 0.017 (inch) for run segments on engines with good performances		
4.	Install combustion chamber inner liner.		
5.	Make sure of cleanliness and no FOD in gas generator case before preparing Power Section installation		
6.	Install power section (Ref. SERVICING).		

NOTE: Before Perform need the last update P&W Maintenance Manual Turboprop Gas Turbine Engine Model PT6A-114A manual part no.3043512

- **POST HOT SECTION INSPECTION**

No.	Description	Sign.	RII
1.	Installed power section to Engine Ref. P&WC Manual.		
2.	Remove hoist and sling from engine.		

3.	Connect electrical leads to propeller overspeed governor.		
4.	Connect Py reference line at propeller governor.		
5.	Install Beta follow-up cable to mounting bracket "C" flange.		
6.	Connect front clevis of Beta follow-up cable and propeller governor interconnect rod to propeller reversing lever. Install propeller speed control cable to propeller governor speed lever. Check propeller control cable rigging.		
7.	Install propeller reduction gearbox chip detector in sump of propeller reduction gearbox.		
8.	Install electrical leads at propeller tachometer generator.		
9.	Install fire detector loop.		
10.	Connect torque indicator system pressure and vent lines at top right front of engine. Bleed system as required.		
11.	Install primary exhaust duct.		
12.	Install oil cooler. Note: If necessary for access		
13.	Install propeller. Note: If necessary for access		

MAINTENANCE RELEASE

I hereby certify that the aircraft has been maintained in accordance with the PW&C Engine Maintenance Manual and is determined to be for Return to Service.

Name & Stamp:_____ Date:_____

smartaviation	**CT BLADE TIP CLEARANCE DISASSEMBLY**	**REF FORM SCA-MTC 089 – HOT SECTION INSPECTION ITEM NO. A-4**

JOB. NO:	CUSTOMER:	ENGINE MODEL:	ENGINE SN:

CAUTION THIS WORKSHEET SERVES AS RECORD OF COMPLIANCE AND SHOULD BY NO MEANS BE USED AS REFERENCE DOCUMENT FOR CARRYING OUT ENGINE BUILD. THE MAINTENANCE/OVERHAUL MANUAL SHOULD AT ALL TIMES BE REFERRED TO FOR DETAILED INSTRUCTION

NOTE: CHECK SERVICE BULLETIN STATUS FOR CORRECT TIP CLEARANCE

RECORD MINIMUM REQUIRED: _____

MINIMUM TIP CLEARANCE: _____

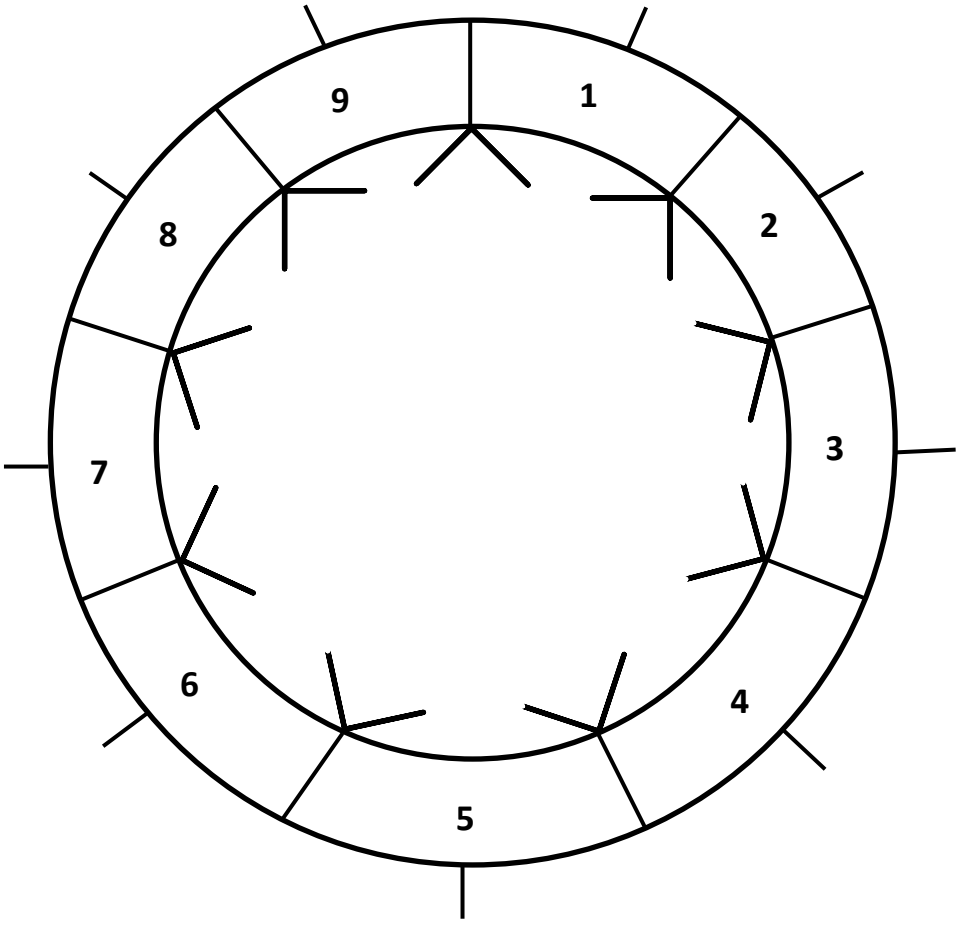
MAXIMUM TIP CLEARANCE: _____

MUST BE RESPECTED AT ALL POINTS

(Disc loaded in direction of measurement)

AVERAGE TIP CLEARANCE: _____

MARK LOCATION OF RUB



NOTE: During tip clearance checks, if the measurement is less than minimum.

*Remove CT Disc and reindex shroud assembly to better centralize.

*Recheck clearance and grind localized high spots as necessary

DATE:		ENGINNER STAMP/SIGN:	

smartaviation	**CT BLADE TIP CLEARANCE ASSEMBLY**	**REF FORM SCA-MTC 089 – HOT SECTION INSPECTION ITEM NO. A-4**

JOB. NO:	CUSTOMER:	ENGINE MODEL:	ENGINE SN:

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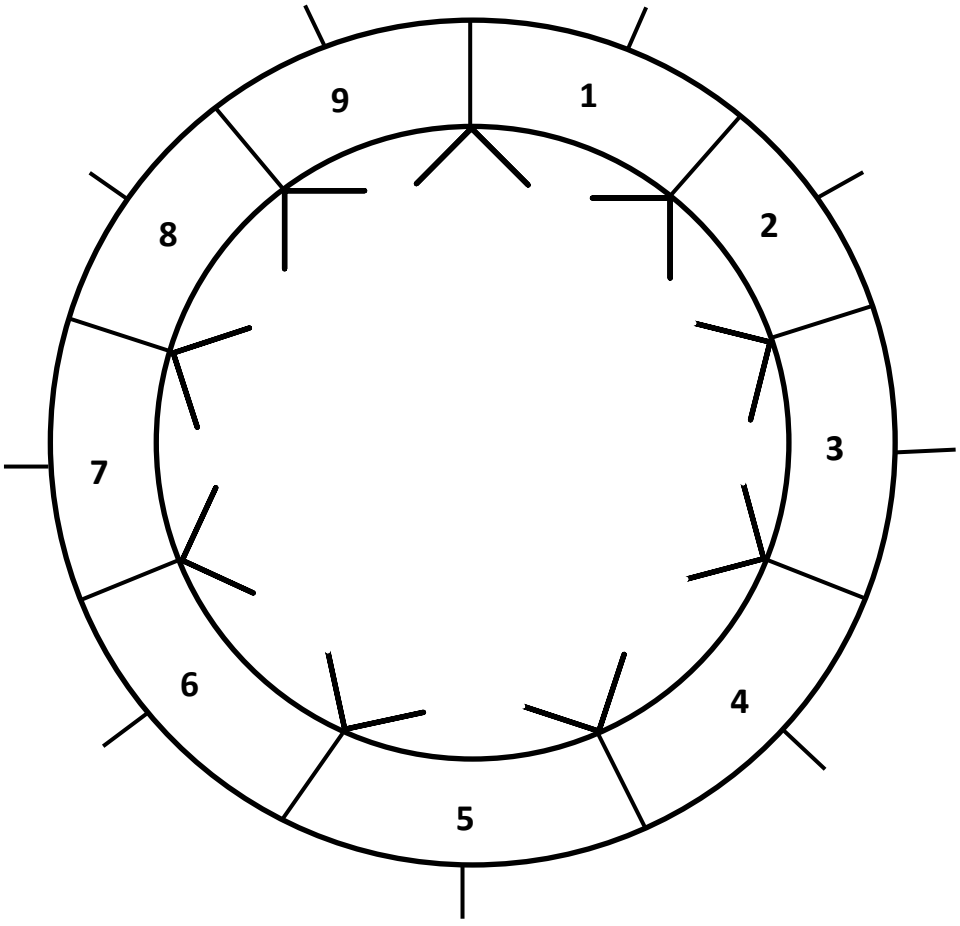

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