

**LLC «A-TECHNICS»****ENGINE BORESCOPE REPORT 12092016-1**Attachment ☒ No ☐ Yes  $\Rightarrow$  Qty 10

MJSS/ AMOS WP No	AC Type	AC Reg	Engine Type	Engine S/N	Operating time	
BNK-110916- AW	B737NG-8K5	VQ-BNK	CFM56-7B26	888102	Hours 56887	Cycles 18542
Used tools or equipment:		OLYMPUS FX 6mm, 4mm				
Borescope ports		S0,S1, S2, S3,S4, S5, S6, S7, S8, S9, S12, S13, S14, S17, S18, S20, S21, S22.				

☐ Scheduled

Ref MJO No

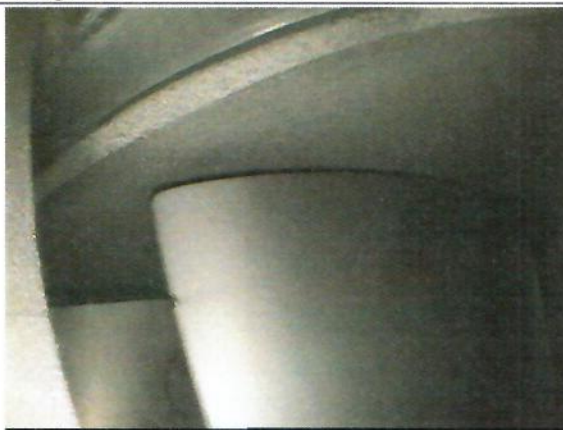
Reason for inspection ☒ Unscheduled

Ref ATL (AMOS WO) 502337353

**Inspection result:**

Full Borescope inspection ENG#2 has been performed in accordance with AMM 72-00-00/601

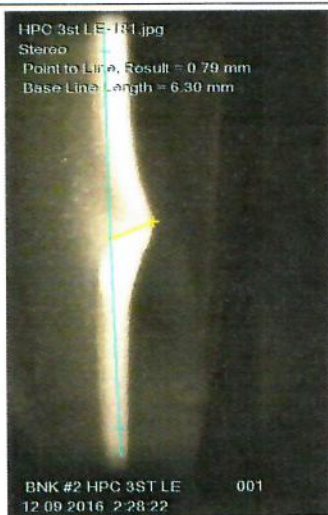
Rev.:60, Jun 15/2016.

**LPC was inspected:**2<sup>nd</sup> stage LE – discrepancies not found3<sup>rd</sup> stage TE – discrepancies not found4<sup>th</sup> stage LE : One blade has nick on LE**HPC was inspected:**1<sup>st</sup> stage – discrepancies not found2<sup>nd</sup> stage –was found:

- Evidence of contact between platforms TE, airfoil root fillet radius at the TE area of the stage 2 HPC rotor blades and stator hardware. See photos below:



3<sup>rd</sup> stage – 8 blades have damages For example see photos below:



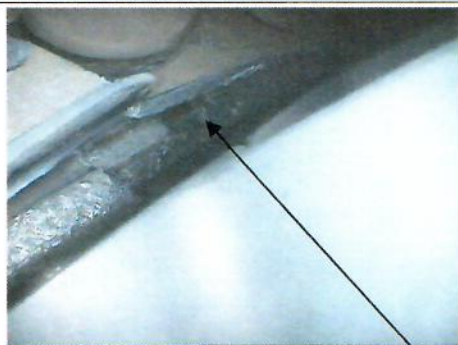
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- Evidence of contact between platforms TE, airfoil root fillet radius at the TE area of the stage 3 HPC rotor blades and stator hardware. See photos below (For example):
- 



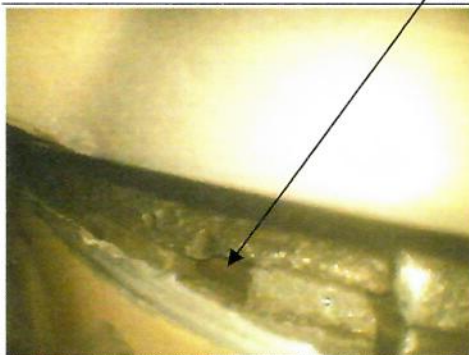
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- Forward side stage 3 J-hook has a worn (multiple dents). See photos below:
- 



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- There is not anti-rotation pin at 9:00 o'clock position. See photos below:
- 



*No pin*



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- In two places segments are displaced relative to each other. See photo below:

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View from LE of stator



View from TE of stator

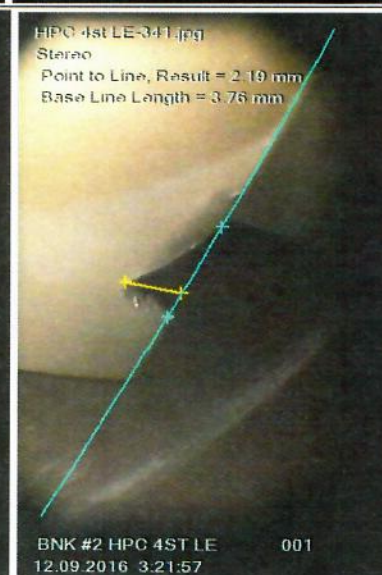
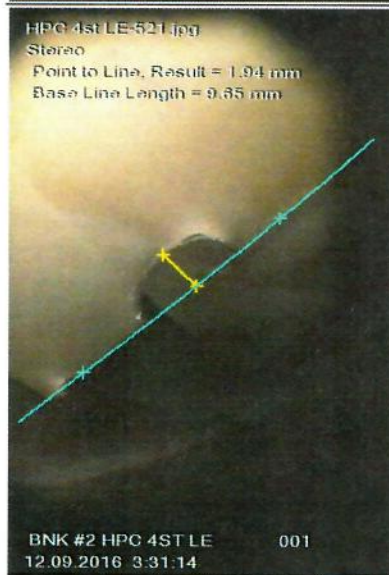
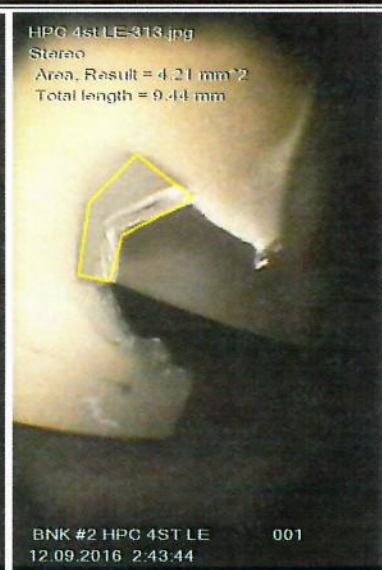
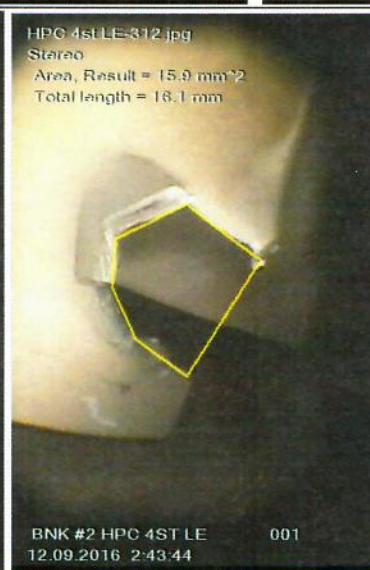
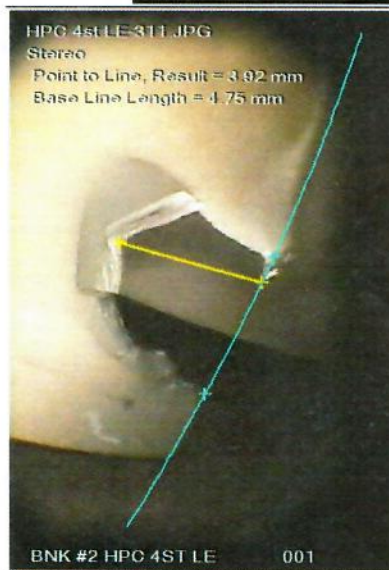


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4<sup>th</sup> stage – 35 blades have damages For example see photos below:

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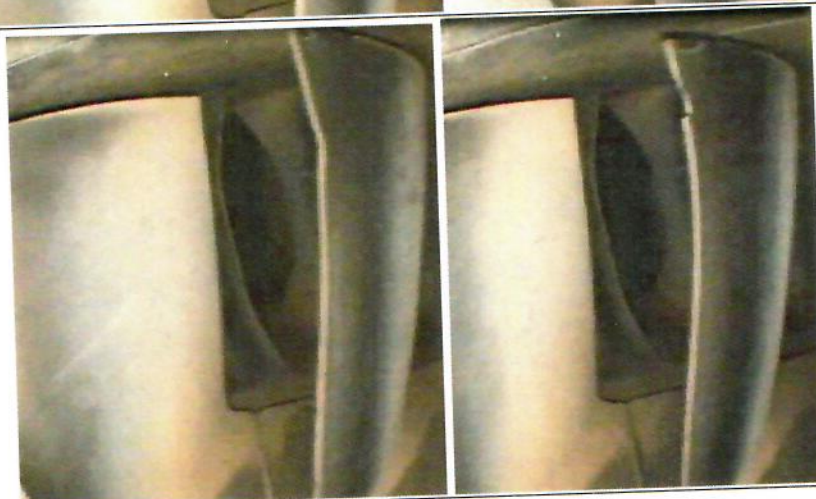


5<sup>th</sup> stage –25 blades have damages For example see photos below:

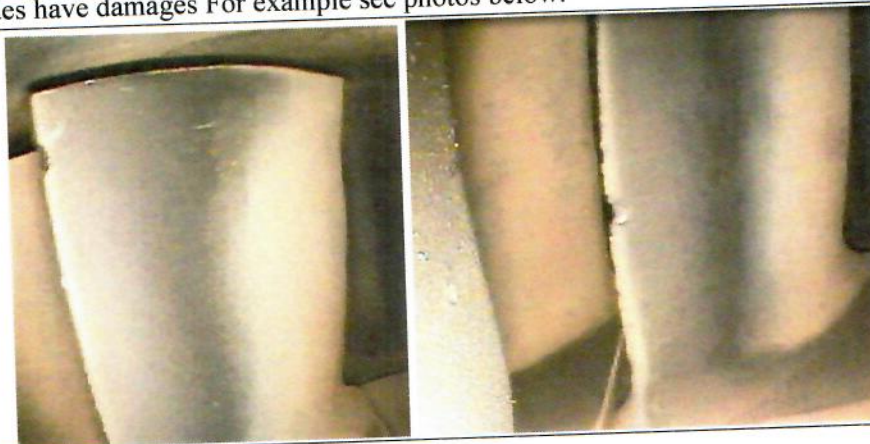


6<sup>th</sup> stage –9 blades have damages For example see photos below:





7<sup>th</sup> stage – 3 blades have damages For example see photos below:



8<sup>th</sup> stage – 7 blades have damages For example see photos below:





9<sup>th</sup> stage –4 blades have damages For example see photos below:



**Combustion Section was inspected:**

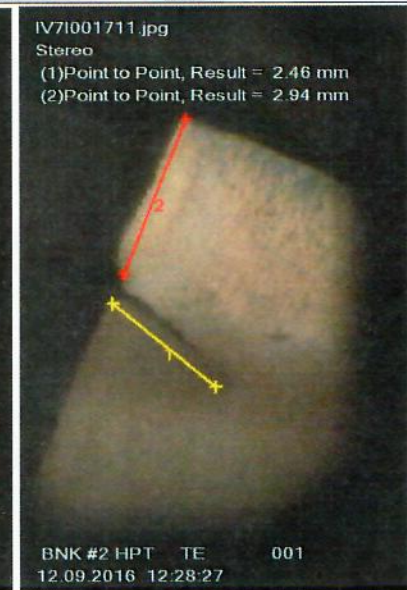
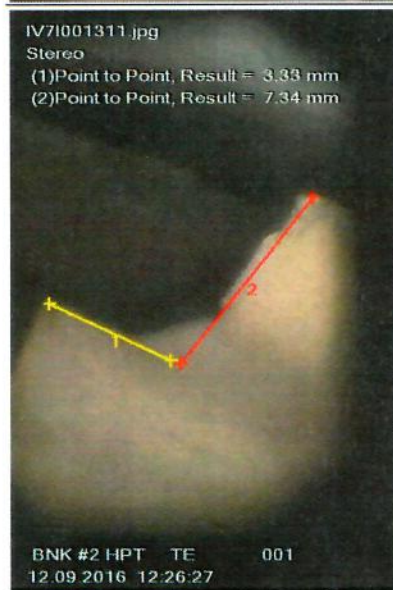
All surfaces – discrepancies not found;

The dome assembly – discrepancies not found;

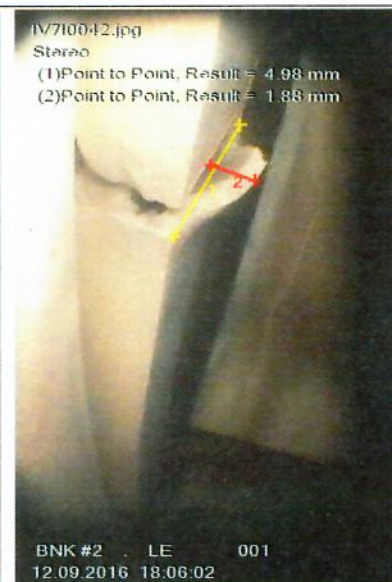
The inner and outer liners – discrepancies not found;

**HPT Nozzle Guide Vanes** – discrepancies not found

**HPT Blades :** 3 blades has missing material on the tip corner and 2 blades has crack on the TE (see photos below)



**HPT Shrouds:** one segment have curl (see photos below)

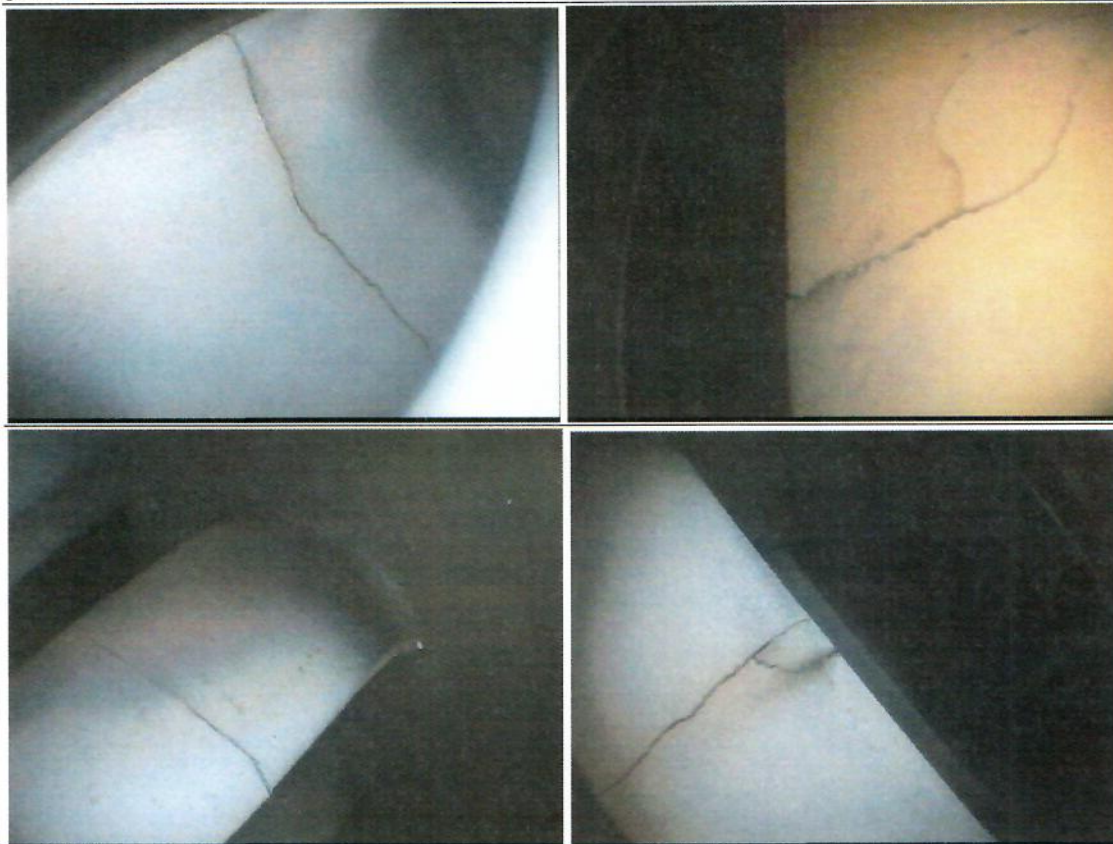


**1-4 Stages LPT Blades** - discrepancies not found.

**1 LPT Nozzle Guide Vanes:** tree blades have axial cracks convex and concave side length of 100 percent of the chord

all the cracks in different segments

one of the blades has a connecting axial and radial cracks length  $\frac{3}{4}$  of the chord— convex side (see photos below)





**2-4 LPT Nozzle Guide Vanes** - discrepancies not found.

**Inspector's comments on result.**

<b>Surname:</b> Ivashchenko M.	<b>Sign:</b> 	<b>Stamp:</b> BI- 09 	<b>Date:</b> 12.09.2016	<b>Station:</b> VKV
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Form 3112 Rev.0

		<b>Rossiya Airlines</b> Pilotov street 18/4 Saint-Petersburg 196210 Russian Federation Russia	W/O <b>502337353</b> Working Copy	Barcode  WO502337353	Registration <b>VQ-BNK</b> B737NG 8K5
Type <b>S</b> SCHED	Origin <b>N/A</b>	ATA <b>72-00-00</b> ENGINE	Position <b>N/A</b>	Zone <b>N/A</b>	Area <b>N/A</b>
Due Date <b>14.Sep.2016</b>		Due at TAH <b>58226</b>		Due at TAC <b>20002</b>	
Workpackage					
Workpackage No. / Sequence No. <b>BNK/L-120916D-47</b> DAILY CHECK-47		Planning-Date Start - Planned-Date End <b>12.Sep.16, 12:05 - 12.Sep.16, 14:05</b> Flight-No.		Maintenance Provider <b>A-TECHNICS LLC</b>	

Description Step 1 Natalya Shurygina (P107212), 12.Sep.2016

#### FULL BSI OF ESN 888102

PLEASE PERFORM FULL BSI OF ESN 888102 (B737-800 VQ-BNK #2) IAW:

1. AMM TASK 72-00-00-200-802-F00 BORESCOPE INSPECTION PREPARATION
2. AMM TASK 72-00-00-200-803-F00 STAGES 2 THROUGH 4 BOOSTER BLADES AND VANES BORESCOPE INSPECTION
3. AMMTASK 72-00-00-200-804-F00 HP COMPRESSOR BLADES BORESCOPE INSPECTION
4. AMM TASK 72-00-00-200-817-F00 HP COMPRESSOR BLADES (STAGES 2,4,6 AND 8) BORESCOPE INSPECTION
5. AMM TASK 72-00-00-200-805-F00 COMBUSTION SECTION BORESCOPE INSPECTION
6. AMM TASK 72-00-00-200-806-F00 - HPT NOZZLE GUIDE VANES BORESCOPE INSPECTION (SAC ( /1 ) AND DAC ENGINES)
7. AMMTASK 72-00-00-200-807-F00 BORESCOPE INSPECTION OF THE HPT BLADES
8. AMM TASK 72-00-00-200-815-F00 BORESCOPE INSPECTION OF THE HPT SHROUDS
9. AMM TASK 72-00-00-200-808-F00 BORESCOPE INSPECTION OF THE STAGE 1-3 LPT BLADES
10. AMM TASK 72-00-00-200-809-F00 BORESCOPE INSPECTION OF THE STAGE 4 LPT BLADES
11. AMM TASK 72-00-00-200-811-F00 STAGE 1 LPT NOZZLE GUIDE VANES INSPECTION
12. AMM TASK 72-00-00-200-812-F00 STAGE 2-4 LPT NOZZLE GUIDE VANES INSPECTION
13. AMM TASK 72-00-00-200-814-F00 PUT THE AIRPLANE BACK TO ITS USUAL CONDITION

PLEASE PROVIDE THE ASSOCIATED BORESCOPE REPORT WITH THE DETAILED DESCRIPTION OF DISCREPANCIES AND PHOTO.

Action Step 1-1

Anton Rulin (AT345), 12.Sep.2016

#### FULL BSI OF ESN 888102

FULL BSI OF ESN 888102 (B737-800 VQ-BNK #2) WAS PFMD IAW AMM 72-00-00/601 REV 60 15JUN2016. SEE ENG BORESCOPE REPORT# 12092016-1 RESULT:

LPC

-4ST STAGE LE: ONE BLADE HAS NICK ON LE

HPC

-2ND STAGE: EVIDENCE OF CONTACT BETWEEN PLATFORMS TE, AIRFOIL ROOT FILLET RADIUS AT THE TE AREA OF THE STAGE 2 HPC ROTOR BLADES AND STATOR HARDWARE.

-3RD STAGE: 8 BLADES HAVE DAMAGES, EVIDENCE OF CONTACT BETWEEN PLATFORMS TE, AIRFOIL ROOT FILLET RADIUS AT THE TE AREA OF THE STAGE 3 HPC ROTOR BLADES AND STATOR HARDWARE, FORWARD SIDE STAGE 3 J-HOOK HAS A WORN (MULTIPLE DENTS), THERE IS NO ANTI-ROTATION PIN AT 9 O'CLOCK POSITION, IN TWO PLACES SEGMENTS ARE DISPLACED RELATIVE TO EACH OTHER

-4TH STAGE: 35 BLADES HAVE DAMAGES

-5TH STAGE: 25 BLADES HAVE DAMAGES

-6TH STAGE: 9 BLADES HAVE DAMAGES

-7TH STAGE: 3 BLADES HAVE DAMAGES

-8TH STAGE: 7 BLADES HAVE DAMAGES

-9TH STAGE: 4 BLADES HAVE DAMAGES

HPT BLADES

- 3 BLADES HAS MISSING MATERIAL ON THE TIP CORNER AND 2 BLADES HAS CRACK ON THE TE

HPT SHROUD

- ONE SEGMENT HAVE CURL

LPT NOZZLE GUIDE VANES:

- TREE BLADES HAVE AXIAL CRACKS CONVEX AND CONCAVE SIDE LENGHT OF 100 PERCENT OF THE CHORD, ALL THE CRACKS IN DIFFERENT SEGMENTS, ONE OF THE BLADES HAS A CONNECTING AXIAL AND RADIAL CRACKS LENGHT 3/4 OF THE CHORD- CONVEX SIDE BORESCOPE INSPECTION PERFORMED BY IVASHCHENKO M. (BI09)

Performed

**AT345**

Anton Rulin (AT345)

Inspection Step 1-1-1

Anton Rulin (AT345), 12.Sep.2016

#### FULL BSI OF ESN 888102

Performed

**AT345**

Anton Rulin (AT345)



	Rossiya Airlines Pilotov street 18/4 Saint-Petersburg 196210 Russian Federation Russia	W/O  <b>502337353</b> Working Copy	Barcode  WO502337353	Registration  <b>VQ-BNK</b> B737NG 8K5
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