

BORESCOPE INSPECTION

Overview of the findings on the T705 unit at Esso, performed by Luc Kerremans and Tom De Bock on Wednesday April 14th:

Turbine side .

A boroscope inspection has been carried out through the boroscope plugs . unfortunately only 2 plugs could be removed (Stg 1 fwd and stg 1 aft) so only the first stage could be inspected.

- No damage or impacts are noted on the stg 1 buckets only slide rubbing traces on the tip on suction side.
- No damage , cracks or impacts are noted on the nozzles . Local discoloration is noted as well on the inner and outer platform as on the airfoil. This discoloration is a result of corrosion due to the inactivity of the unit. Therefore we recommend a light refurbishment (strip and recoat) of those components before operation.

Combustion chamber .

A boroscope inspection and visual inspection has been carried out by the removal of the fuel nozzle of 3 combustion chamber (2 – 3 and 4).

- A regular discoloration on the combustion parts is noted
- No wear is noted on the fixation points of TP's , Liners or X- fire tubes.
- An inspection of the first stage nozzles revealed no damage on those components.

Compressor.

A boroscope inspection on stage 17 has been carried out through the therefore foreseen boroscope plug. On the other hand a visual inspection of the inlet through the manhole has been carried out to inspect the IGV's and compressor stage 1 .

- Light erosion has been noted on as well rotor as stator vanes on stage 17.
- No impact or damage is noted on the blades stage 17.
- Light corrosion is noted on the IGV's and inner support ring . Therefore we recommend an polishing before operation.

Conclusion.

The unit is in good condition and no damage is noted. However, since the unit has been out of operation for a long time we recommend before using it: to open the unit, inspect bearings, polish compressor components and strip and recoat the turbine components.

MAINTENANCE HISTORY CAPITAL COMPONENTS OBSOLETE MS6001B

		Estimated Life Time	2001 HGP 72.000	2002 CI 80.000	2003 CI 88.000	2004 MI 94.000 (94.137)	2005 CI 102.000	2006 CI 110.000	2007 HGP 118.000 (119.752)	2008 120.000	2009
Fuel nozzle										n.a.	
Cap & Liner sassy		72.000								n.a.	
Transition piece		72.000								n.a.	
Stage 1	Buckets	72.000							0	nihil	
	Nozzle	72.000							0	nihil	
	Shrouds	48.000									
Stage 2	Buckets	48.000				0	8.000	16.000	24.000	24.000	
	Nozzle	72.000				48.000	56.000	64.000	72.000	72.000	
	Shrouds	72.000									
Stage 3	Buckets	72.000				0	8.000	16.000	24.000	24.000	
	Nozzle	72.000	0	8.000	16.000	24.000	32.000	40.000	48.000	48.000	
	Shrouds	72.000									

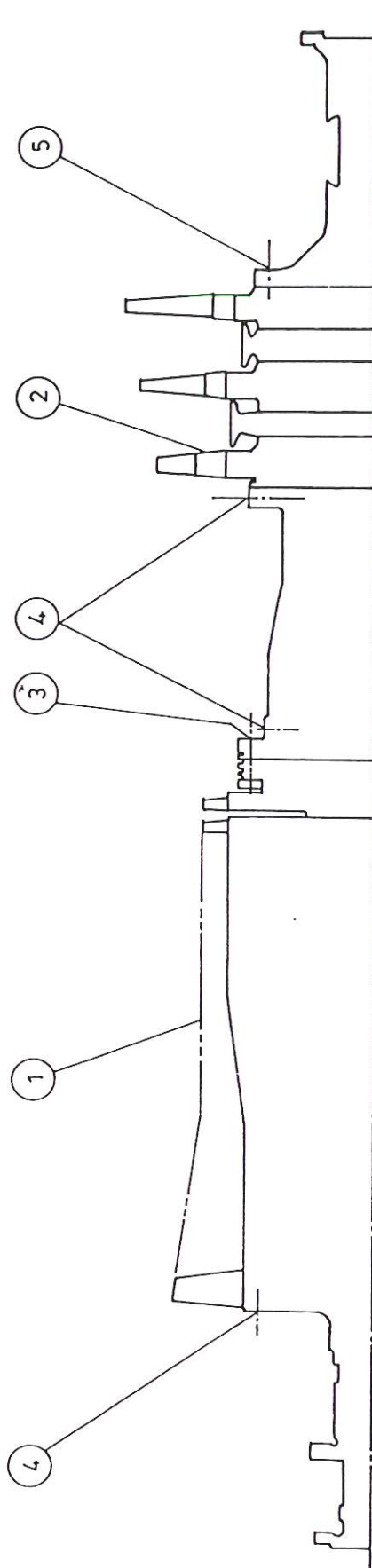
Recommendations:

Stage 1	Buckets	No corrective measures required
	Nozzle	No corrective measures required
	Shrouds	?
Stage 2	Buckets	In case 115E6727P001 ("6 holes buckets") - end of life otherwise to consider repair
	Nozzle	End of life however life time extension to consider after metalurgically examination
	Shrouds	?
Stage 3	Buckets	Necessity of repair to be considered
	Nozzle	Necessity of repair to be considered
	Shrouds	?

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EUROPEAN GAS TURBINES

GEC ALSTHOM

90018 BELFORT Cedex - FRANCE
Télex 360 965 F - Fax 84 57 74 73

ENSEMBLE ROTOR
ROTOR ASSEMBLY

91R-101255

PAGE : 1
SHEET
SUITE : F
CONT.

ITEM N° 1302

ESSO

EUROPEAN GAS TURBINES

▼
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90018 BELFORT Cedex - FRANCE
Télex 360965 - Fax 84 57 74 72

* SPARE PARTS LIST MANUAL *

SHEET: 001

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* PARTS LIST *

SERIAL NUMBER : T 709 /T 705

REFERENCE NUMBER.....	DENOMINATION.....	QTY.	ITEM
91101255G08	ROTOR ASM,COMPR & TURB.	1	1302
PART LIST NUMBER /VAR : 91-101255 /008 REV. -			

ENCLOSURE..... REV.
91-101255 -

ENCLOSURE..... REV.

REP.	DENOMINATION..... DIM-WID.-THI.-LGTH-WG	QTY.	REFERENCE NUMBER.	INSPEC.
0001	ROTOR ASM,COMPRESSOR	1	178C6594G12 5579,00	
0002	ROTOR ASM. TURBINE	1	91012146G08 5715,00	
0003	ROTOR STUD ASM.COMPRESS	30	213B1442G03 2,00	
0004	WEIGHT,BALANCING	SB	114A5677G01	
0005	WEIGHT,BALANCING	SB	B37B2187G01 0,06	
0006	LUBRICANT	SB	D6Y1	

ISSUED : 03 NOV 1992

TOME : 003 NA072 A