GE
Aero Energy

Engine Removal \ Installation Report
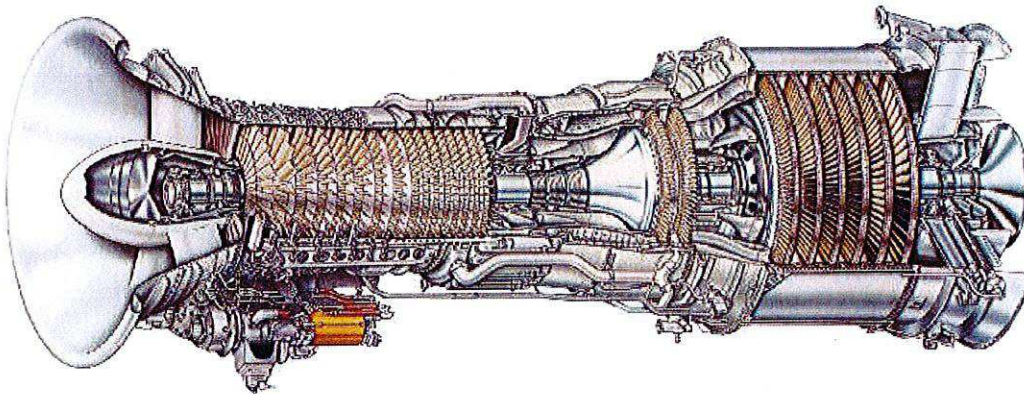
Aug 15 , 2018

For

████████████

Compressor B train

ESN 481-723 Removed
ESN 481-724 Installed

GE Oracle Project 50010081

Customer Representative:
GE Field Service Representative:

Report completed by –

CONCLUSIONS & RECOMMENDATIONS

The purpose of this visit was to remove engine 481- 723 and install engine 481-724

Outage Data:

Removed engine:

ESN	481 723	Engine Fired Hours	?	Gas	
Model	LM2500 SAC	Engine Fired starts			

Maintenance Data:

WP, SB, SL, PB, PL Performed	Revision/manual reference	Date completed	Comments
WP301 00	GG Assembly replacement	15/8-18	
WP 505 00	GG transfer to/from shipping cont.	15/8-18	

Parts Data

Description	PN Removed		Qty		PN Installed	SN Installed
Ignitor cable			1		9600M37P13	
Ignitors			2		100002494	
Starter gasket			1		100002693	
Starter o-ring			1		J221P222	
Nut			96		9610M50P02	

Open Action Items:

On inspection of exhaust it was seen that on the anti-vibration ring some of the bolts had come loose and began fretting against the flange, customer informed and they shall carry out repair

DETAILS AND DATA

NOTES:

GE \ FieldCore performed this outage in co-operation with JKP Fieldservice and Total platform technicians

Purpose of visit:

The purpose of this visit was to remove engine ESN 481-723 and install engine 481-724

Work performed:

- Engine removed 481 723 and placed in a trolley
- Package floor cleaned
- Engine lifted up to container deck and placed in the container
- The new engine 481 724 lifted from the container to a trolley outside the enclosure
- The new engine installed
- Inlet plenum floor cleaned
- New gasket on the inlet plenum door
- Found a damage on one of the ignitorcables.Changed it to a new one.
- Two of the attach/clamps on the vent hoses was not properly attached, this was fixed
- Inspection of the exhaust(customer)
- Changed two syntetic oil filters (supply,scavenge)
- VSV calibration/schedule
- HP Recoup calculation

Daily activites:

07.8.18   Arrived on site 12.30
          Induction course
          Had a safety meeting with all the involved personel for the job.

08.8.18   Started with a Toolbox talk.
          Began to open the plenum doors.And then with removal of connections to the turbine.
          The platform riggers installed the lifting beam inside the enclosure.
          The nightshift continued with removal of connections and GG/PT split flange.

09.8.18   During nightshift engine removed to transport trolley and lifted further to the containerdeck. The new
          engine was taken out of the container and into a trolley next to the enclosure.The old engine installed
          into container and secured.
          Dayshift continued,and lifted in the new engine,and installing of the connections.
          The old starter was assembled on the new engine.

10.8.18   The last connections finished,and the plenum door closed.Plenum cleaned.
          Opened the exhaustduct door,and standby for permit to access the exhaust.

11.8.18   The nightshift entered the exhaust for inspection.This was done by the customer.
          Nightshift turned over to dayshift.
          Standby waiting for permit for PM check.
          Two syntetic oil filters changed (supply,scavange)

12.8.18   VSV calibration
          PM check finished (customer)
          Standby

13.8.18   Standby for startup

14.8.18   Standby for startup
          The engine was cranked at 1700
          Startup at 2100,the engine tripped after five minutes on idle (8400 RPM) due to a transmitter fault
          on the compressor.Entered the enclosure for leakcheck,no visible leaks found.
          Engine started up again, VSV schedule was carried out.

15.8.18   HP Recoup calculation
          Leaving the platform

Report completed by –
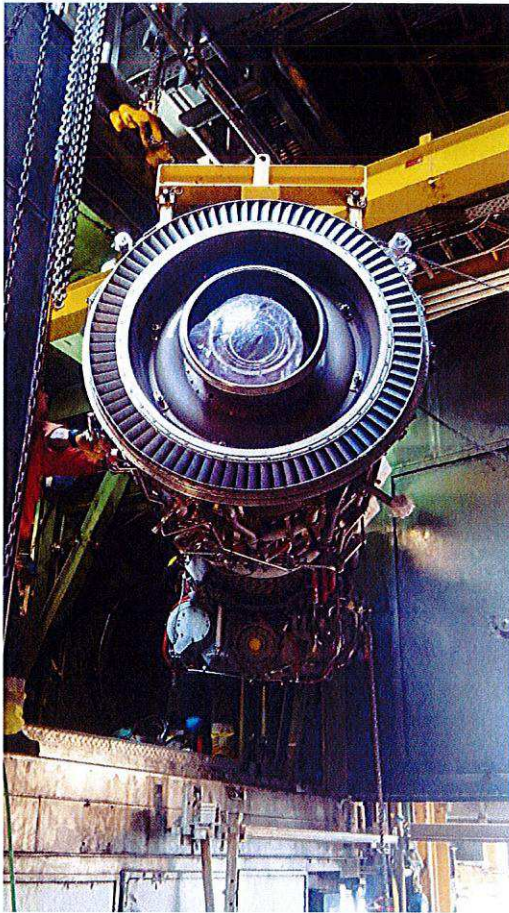
Results:

Old engine removed (481-723)

Old engine placed in dolly

New engine (481-724) lowered from upper deck
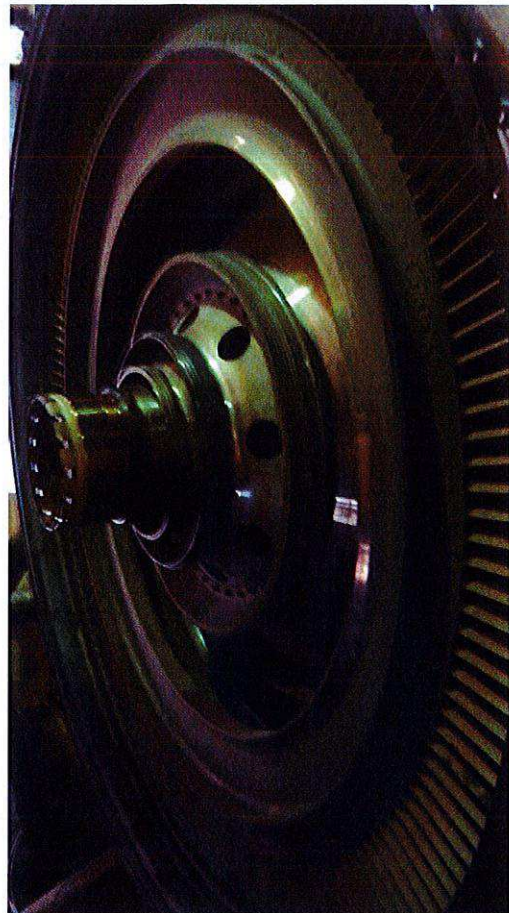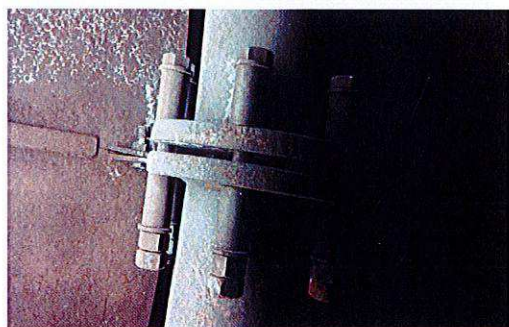
New engine into enclosure

PT fwd side

Stg 6 LPT nozzles
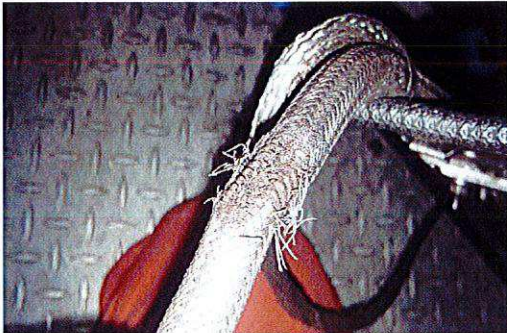

Loose bolts on Anti vibration ring

Damaged Ignitor cable
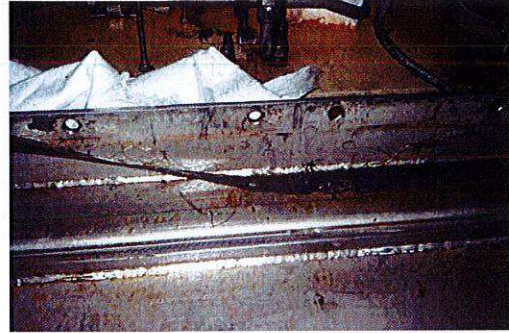
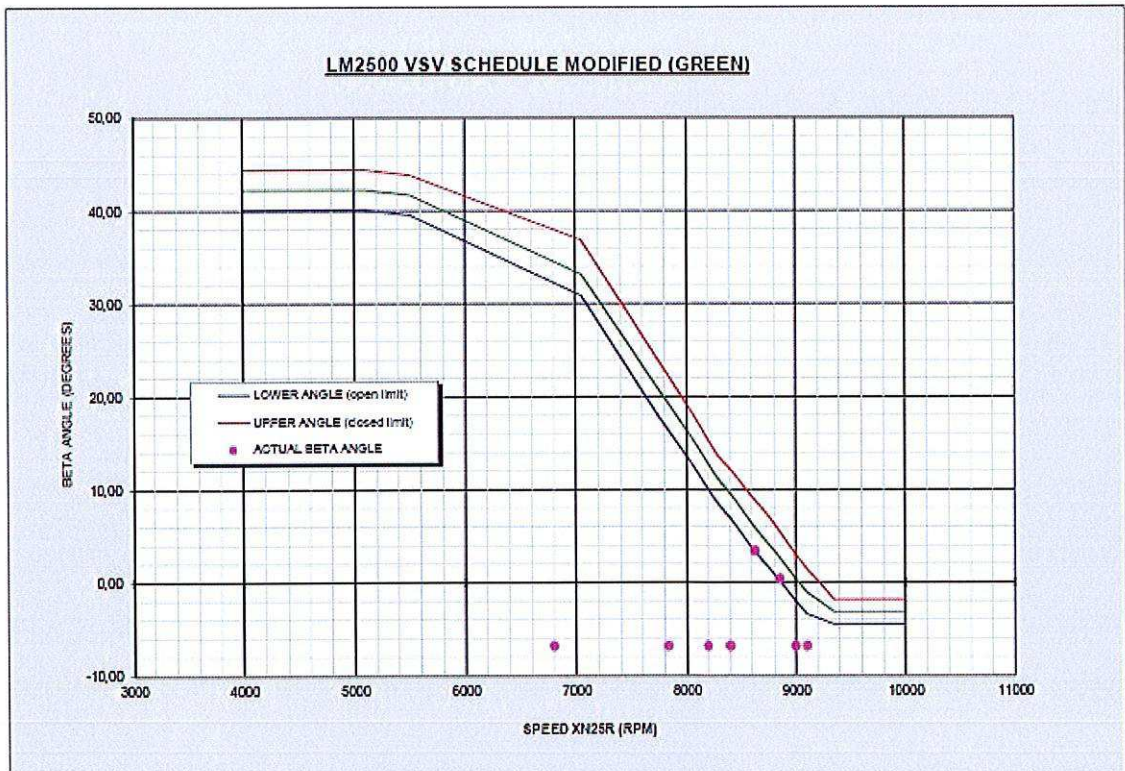Old gasket ,plenum door

VSV SCHEDULE (GREEN) BELLCRANK

Page 1

HP RECOUP ORIFICE SELECTION WORKSHEET
LM2500 PE, PL, GE, GJ, PJ, GN, GS, PN, PS, PI, and PF MODELS ONLY

SITE Tyra West		DATE:	15.08.2018	RESET FORM	LOG DATA
ESN:	481 724	MODEL:	PE/PL		

Remove steam injection for a data point.
Fill in the below information for a data point: TARGET DATA POINT BETWEEN 8000 AND 9400 RPM AND ABOVE 40 PSIA P5.4

CURRENT ORIFICE DIA		0,700	Inches	{A}
INLET TEMPERATURE	(T2)	67,0	Deg F	{1}
INLET PRESSURE	(P2)	14,6	Psia	{2}
HP RECOUP PRESSURE	(HPRCP)	74,0	Psia	{3}
CDP	(PS3)	23,5	Psia	{4}
GG SPEED	(NGG)	8880	RPM	{5}
LPT INLET PRESSURE	(P5.4)	53,7	Psia	{6}

Corrected Measurments:

Corrected HPRC Pressure ([HPRCP/Delta] X 14.696) 14.696 * (74,00 / 14,60) = 74,49
14.696 x ({3} / {2}) = {7}   {3}   {2}   {7}

Corrected CDP Pressure ([PS3/Delta] X 14.696) 14.696 * (23,50 / 14,60) = 23,65
14.696 x ({4} / {2}) = {8}   {4}   {2}   {8}

Temperature Ratio (SQ RT of Theta) SqRt of [(67,00 + 459.67) / 518.67] = 1,008

SqRt of [({1} + 459.67) / 518.67] = {9}   {1}   {9}

Corrected Gas Generator Speed (NGGR) 8880,00 / 1,01 = 8812
{5} / {9} = {10}   {5}   {9}   {10}

HPT Pressure Ratio (PS3 / P5.4) 23,50 / 53,70 = 0,438
{4} / {6} = {11}   {4}   {6}   {11}

4B Bearing Optimization Calculations:

			Calculation Constant =		682,86	{12}
{7} x 1.3041 = {13}	{7}	74,49	x	1.3041	=	97,14	{13}
{8} x 0.55675 = {14}	{8}	23,65	x	0.55675	=	13,17	{14}
{10} x -0.074472 = {15}	{10}	8812	x	-0.074472	=	-656,27	{15}
{11} x -27.856 = {16}	{11}	0,44	x	-27.856	=	-12,19	{16}
Sum Total {12}+{13}+{14}+{15}+{16} = {17}						24,71	{17}
If {17} is > 30.58 then {18} = {17} - 30.58					=	0,00	{18}
If {17} is < 16.92 then {19} = {17} - 16.92					=	0,00	{19}

Predicted ADJUSTMENT needed to Current Orifice Diameter (inches)
{18} / 78 = {20} OR {19} / 78 = {20}   0,000   {20}

NEW ORIFICE DIAMETER (Inches =	0,700