

SRI Evaluation Sheet

A/C Type : A330										
SRI Number : 24960 & 24964										
<input checked="" type="checkbox"/> System <input type="checkbox"/> Cabin <input type="checkbox"/> Structure										
<input type="checkbox"/> ALD	<input type="checkbox"/> ALP	<input type="checkbox"/> ALC	<input checked="" type="checkbox"/> SDR	<input type="checkbox"/> LD						
<input type="checkbox"/> Accidental	<input type="checkbox"/> Environment	<input type="checkbox"/> Fatigue	<input type="checkbox"/> ALM	<input type="checkbox"/> EXT Repair						
<input type="checkbox"/> ALCA	<input type="checkbox"/> OPS									
Prepared by : Syamsurisal			Sign:							
Date : 19-July-2018										
ATA : 32										
Event Month (YYMM) : 1801										
PROBLEM STATEMENT : PK-GPM and PK-GPP GREEN HYDRAULIC LEAK FROM FLEXIBLE HOSE.										
PROBLEM DESCRIPTION : <ul style="list-style-type: none"> - On 1st of January 2018 GA860 PK-GPM landed at HKG with hydraulic leak from normal brake flexible hose. - On 03rd of July 2018 GA825 PK-GPP experience hydraulic leak from normal brake flexible hose. 										
PROBLEM ANALYSIS <p>Existing CAMP / AIMP Task : 2900000416 External Leak Inspection of MLG Wheel Well, Over-Wing Panel, And MLG Leg.</p> <p>Engineering Publication : TO-10000082248-002-00 NORMAL BRAKE MANIFOLD SUPPLY FLEXIBLE HOSE REPETITIVE REPLACEMENT.</p> <p>Manufacturer/Vendor Publication : AIRBUS ISI 32.00.00157 Preventive replacement of flexible Hoses on Landing Gears.</p> <p>Shop Findings (if applicable) : n/a</p>										
NO	PN	SN	SHOP FINDING							
N/A	N/A	N/A	N/A							
Chronology of event : PK-GPM <ul style="list-style-type: none"> - On 1st of January 2018 GA860 PK-GPM landed at HKG with hydraulic leak from normal brake flexible hose PN 201042322. - Performed flexible hose replacement and operational test and leak check performed result good and no leak detected. - PFR during event. 										
A/C...	Flight ...	Flight phase	Date Time	Transmission Date	ATA	Source	Class	Hard/I...	Title	Priority
PK-GPM	GA860	09-80 KTS	01 Jan 18 - 08:06	01 Jan 18 - 08:06	2911				HYD G RSVR UNDERFILLED	H
PK-GPM	GA860	09-80 KTS	01 Jan 18 - 08:07	01 Jan 18 - 08:07	2911				HYD G ENG1+2 PUMPS LO PR	H
PK-GPM	GA860	09-80 KTS	01 Jan 18 - 08:07	01 Jan 18 - 08:07	3250				WHEEL N/W STRG FAULT	H
PK-GPM	GA860	09-80 KTS	01 Jan 18 - 08:07	01 Jan 18 - 08:07	2911				HYD G ENG 2 PUMP LO PR	H
PK-GPM	GA860	09-80 KTS	01 Jan 18 - 08:07	01 Jan 18 - 08:07	3240				BRAKES AUTO BRK FAULT	H
PK-GPM	GA860	09-80 KTS	01 Jan 18 - 08:07	01 Jan 18 - 08:07	2911				HYD G RSVR LO LVL	H
PK-GPM	GA860	09-80 KTS	01 Jan 18 - 08:07	01 Jan 18 - 08:07	2911				HYD G SYS LO PR	H

Figure 1 PFR During Event

Chronology of event : PK-GPP

- On 03rd of July 2018 GA825 PK-GPP experience hydraulic leak from normal brake flexible hose.
- Performed flexible hose replacement and operational test and leak check performed result good and no leak detected.

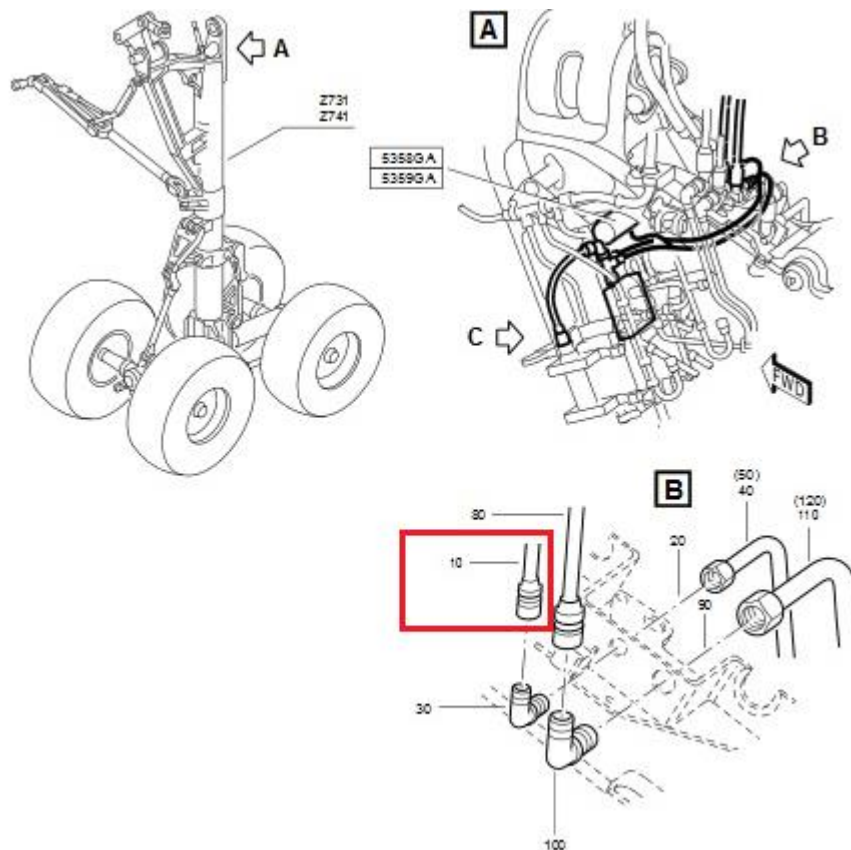


Figure 2 Flexible Hose Position



Figure 3 Flexible Hose Position

Historical Data Flexible Hose PN 201042322

MSN	PN	Installation Date	Removal Date	Flexible Hose Removal Data		
				Years	FH	FC
1446 (GPR)	201042322	26-Sep-13	13-Apr-17	3.56	13966.59	3270
1560 (GPU)	201042322	23-Sep-14	09-Jul-17	2.79	10798.55	2483
1214 (GPM)	201042322	16-Apr-11	02-Jan-18	6.72	26386.99	6350
1585 (GPW)	201042322	09-Dec-14	22-Feb-18	3.2	12179.38	2792
1364 (GPP)	201042322	01-Dec-12	02-Jul-18	5.58	19302.71	5246

Base on above data we've performed Weibull analysis with classic method. The result shown MTTF is 7430 FC (3.7 years).

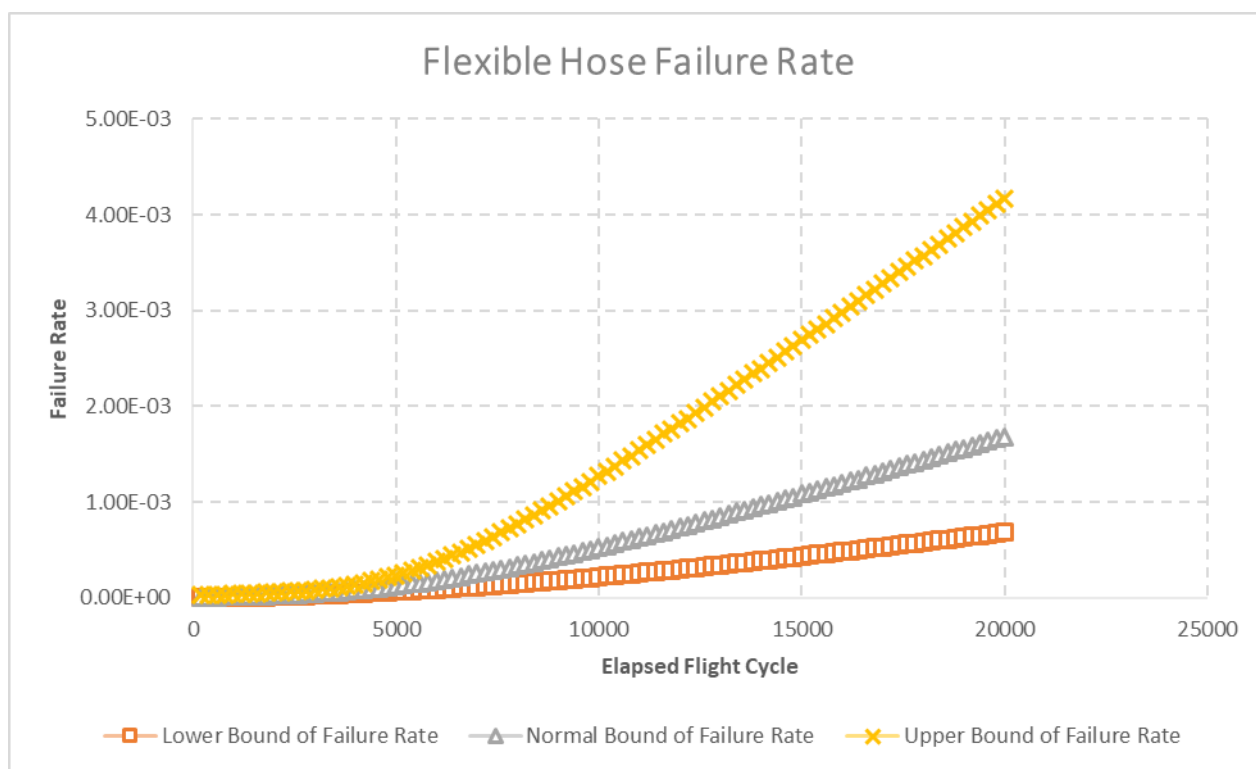


Figure 4 Failure rate

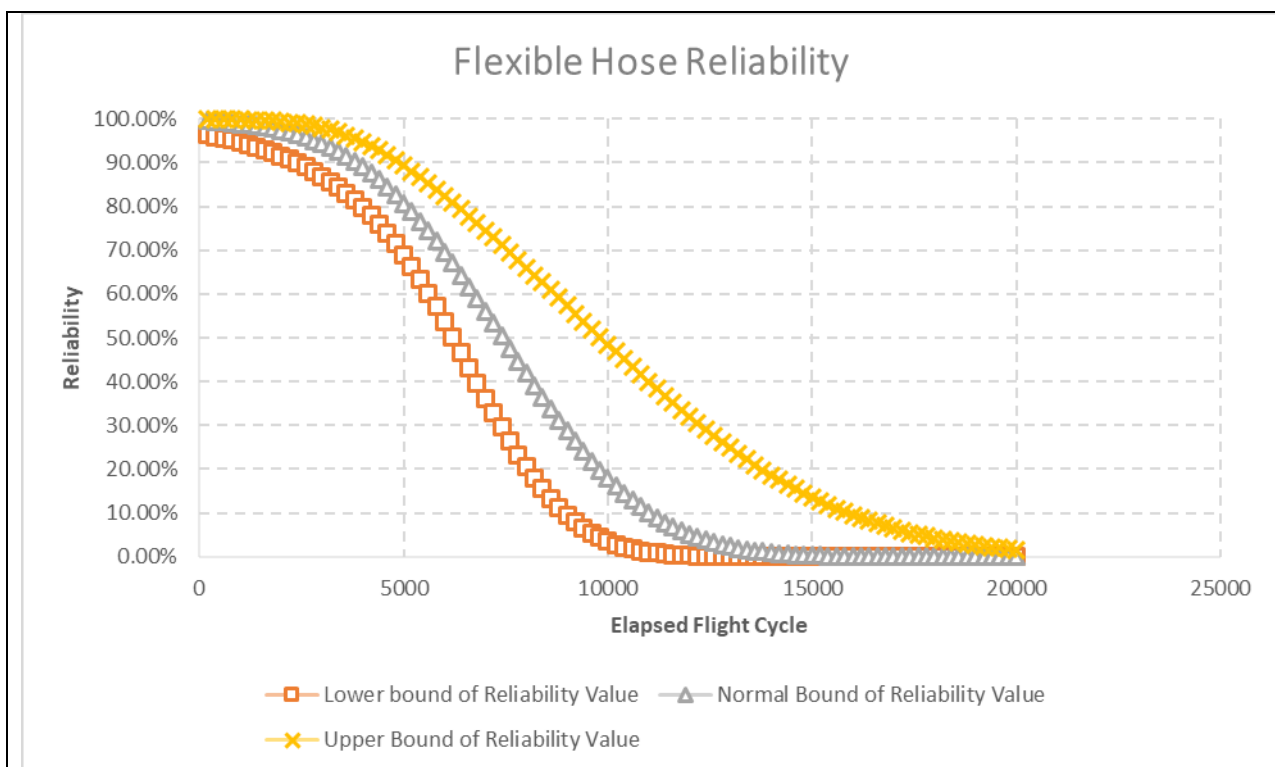


Figure 5 Reliability Data

Conclusion:

Flexible Hose PN 201042322 is recommend by Airbus for repetitive replacement refer to ISI 32.00.00157 every 4 years and based on our database the MTTF interval is 3.7 years. However, the approval for replacement issued on the beginning of 2018. It takes time to prepare material and ground time for the aircraft. To ensure the problem isn't happened again, flexible hose with more than 4 years needs to be replaced soon.

ROOT CAUSE

- ☐ Specific Tail Number / Modification Status
- ☐ Specific Line Station
- ☐ Maintenance Practice / Performance
- ☐ Maintenance Personnel Skill
- ☐ Maintenance Program
- ☐ System / Component Design Defect
- ☐ Material and Spares
- ☐ Maintenance Procedures
- ☐ Maintenance Work Card / Sheets
- ☐ Material and Process Specification
- ☒ Excessive Failure Rate
- ☐ Excessive NFF
- ☐ Operation Procedures
- ☐ Tool and Equipment
- ☐ Modification

Note: root cause of the problem is reliability issued on hose PN 201042322.

ACTION & FOLLOW-UP

Solution Description	Effectivity	Resp. Unit	Start Date	Finish Date
Speed up accomplishment TO-10000082248-002-00 (Replacement of hose PN 201042322) for registration more than 4 years.	PK-GPA to PK-GPV	TLP	19-July-18	14-Dec-18

Cost Analysis:

- Flexible hose replacement total cost: USD 861.80 x 24 REG = USD 20683.20

GMF Manager TEA Reviewed by:	GMF FTM Evaluated by:	GIA Approved by:
Name : Date : Signature :	Name :Prima Edy S. Date :25 jul '18 Signature :	Name : Date : Signature :