



Maritime Helicopters

CASS

Continued Airworthiness Surveillance System

Jan. 2019

Meeting minutes

CASS Meeting

01/10/19	2:00PM	MTF
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MEETING CALLED BY	Isaac Mackey - Fairbanks Lead
TYPE OF MEETING	CASS Meeting
FACILITATOR	Isaac Mackey - Fairbanks Lead
ATTENDEES	Dave Jones, Steve Slade, Brent Estep

Agenda Topics

1. Discuss old open action items
2. Review system reliability report trends
3. Review SDR,MIR,MDR reports
4. Review ASR,GOR reports
5. Review CAN's / CAS memos
6. Review tear down reports
7. Review Manufacture bulletins and AD's
8. Review notable items since last CASS meeting
9. Review AOG items
10. Discuss new open action items
11. Discuss recent audit findings
12. Review suggestions for next year's maintenance training
13. Safety Program Effectiveness
14. Other items
15. Schedule next meeting

OLD OPEN ACTION ITEMS	INITIATED BY	RESPONSIBLE PERSON	DEADLINE	CLOSED
RIN Overflight N407PA 06/22/18 ACTT 8017.3 Tonsina AT&T Contract aircraft. The communication of the RINs remaining on the Left and Right Hand Pylon Side Beams lapsed between the pilot/mechanic/CALM records. The exceedance for these beams ended up being 24 RINs. Crew attributes the failure to the inability to keep the CALM program sheets current during field operations and non-business hours at the home station. Left and Right Pylon beams were replaced. The aircraft was returning to Fairbanks for the completion of the AT&T fuel haul, maintenance found out that the RINs had been exceeded by 24. Mechanic had been called two days prior to this and informed that there were 90 RINs remaining. The crew was unaware when actual RINS were exceed. Fairbanks maintenance Lead discussed the issue with the field mechanic. Sept 18th CASS meeting moved this item to an open action item. Dec 6th CASS meeting kept this item open, in progress Training and standardization required. Jan 10th CASS left this as an open item. No update	Isaac Mackey	Dennis Busch	02/21/19	Open
Main rotor blade strike N316MH 07/20/18 ACTT 3354.6 Ignek Valley Inspected the aircraft IAW Bell 206L4 MM Ch. 5-51 Sudden stoppage/acceleration inspection. Replaced the following components with serviceable components: Both main rotor blades, the main rotor hub, the mast assembly, the transmission assembly, the input driveshaft, the freewheeling unit, and the engine gearbox. The following parts were removed, NDT inspected, and reinstalled: Engine mounts, all tail rotor driveshaft segments, hangers and disk packs. The aircraft was reassembled and all ground runs, leak checks, and torque checks were complied with. The aircraft was returned to service. Sept 18th CASS meeting moved this item to an open action item. Dec 6th CASS Meeting closed this item. Investigation complete	Isaac Mackey	Bennis Busch	12/15/18	Closed

OLD OPEN ACTION ITEMS	INITIATED BY	RESPONSIBLE PERSON	DEADLINE	CLOSED
N328MH 08/08/18 ACTT 6719.9 During post flight inspection two spindle bearings were found out of limits. The aircraft was ferried to Fairbanks and the spindles were replaced. No defects noted. The aircraft was returned to service. The contract was supported during the AOG by a substitute aircraft. Sept 18th CASS meeting moved this item to an open action item. Dec 6th CASS meeting left this item open. In progress, waiting on ferry permit revision. Revision to special flight permit program needed Special flight permit program revision 1 approved and posted Dec 14th Jan 10 CASS Meeting closed this item.	Isaac Mackey	Steve Slade	12/15/18	Closed
Power checks required company wide Dec 6th CASS Meeting left this item open. 12/06/18 Power check memo reissued by Ops O-18-02 12/21/18 Power check memo issued by maintenance as M-18-03 mirroring O-18-02. Jan 10th CASS meeting closed this item.	Isaac Mackey	Steve Slade	12/15/18	Closed

OLD OPEN ACTION ITEMS	INITIATED BY	RESPONSIBLE PERSON	DEADLINE	CLOSED
GOR 2018-12 10-19-2018 Bell 206 M/R Hub Found M/R Pillow Block Shim pushed away from the Bolt and coming out during a daily check. Removed M/R Hub assembly and sent to MHI Fairbanks for repair. Repair Station Teardown Report: PN 206-011-001-159 S/N A-253 Pillow block shims protruding out Trunnion P/N, S/N removed and new P/N, S/N installed with no record of work performed. Grease appears to be purged shortly before removal from aircraft Pitch horn seal folded over inboard (approx.) 1/4" of circumference of seal. Yoke cavity filled approx. 2/3 of the way with grease Yoke has Brinelling .001 inch deep with spalling in two locations .003 inch deep Strap Pin pitted beyond limits Strap fitting pitted beyond limits Grease Relief Valve on pitch horn has plier marks. Total cost for repairs \$30,150 Dec 6th CASS meeting moved this item to a new open action item. Cycle Akutan mechanics thru Homer base for recurrent training. Recordkeeping	Isaac Mackey	Steve Slade		
N316MH 11/10/18 ACTT 3692.4 Pilot reports intermittent engine surging on flight. After troubleshooting removed and replaced Engine Fuel Control S/N BR57117 and installed Fuel Control S/N BR50858 IAW RR C30MM and BHT206L4MM. Ops check good. Aircraft returned to service. Dec 6th CASS meeting moved this item to a new open action item. Jan 10th CASS left this as an open action item. Waiting on teardown report	Isaac Mackey	Isaac Mackey	02/21/19	

OLD OPEN ACTION ITEMS	INITIATED BY	RESPONSIBLE PERSON	DEADLINE	CLOSED
N328MH 11/17/18 ACTT 6800.4 Bell 412, While folding aircraft blades, attached the 2 forward blade fold kit attachments to aircraft, then went to attach third point. The support tilted forward and could not stop fold kit from contacting the pitot tube. The support bracket was damaged. Removed damaged support and replaced with new (\$412.65). Repainted and performed pitot static test. Talked to the mechanic about slowing down the task and assessing the risk beforehand. This was damage that could have easily been avoided. Dec 6th CASS meeting moved this item to a new open action item. Jan 10th CASS left this as an open item. Waiting on Dennis	Isaac Mackey	Dennis Busch	02/21/19	
N309MH Engine start issue Dec 6th CASS meeting moved this item to a new open action item. Waiting on FIR 12/12/18 Received FIR Pilot attempted a normal engine start but had no light off. He performed the start a second time with the same result. On the third start attempt it was determined the igniter was not firing. Troubleshooting to the ignition system was performed via phone. The following day the mechanic replaced the exciter box and the aircraft was returned to service. Jan 10th CASS meeting closed this item	Isaac Mackey	Brent Estep		Closed
N309MH Cargo mirror Dec 6th CASS meeting moved this item to a new open action item. Waiting on FIR 12/12/18 Received FIR Pilot reported the cargo mirror departed in flight. Maintenance removed cargo mirror provisions. Jan 10 CASS meeting closed this item.	Isaac Mackey	Brent Estep		Closed

Notable A/C items since last CASS meeting			
Item	Notes or Preventable measures to prevent this from occurring again.	Move to open action items	Responsible Person
Engine Start	N405LP 12/13/18 ACTT Unk No FIR/GOR Information from Steve on 01/10/19 7-20-18 - Cannibalized fuel control from Arrows new replacement engine, that we had sitting in hangar, for starting issues on old engine that was soon to be removed for overhaul. 8-31-18 - Engine was changed, put the same removed fuel control back on the replacement engine and installed the new engine on 405. Engine had still had starting issues. Matt removed and pressure checked all lines and also changed fuel nozzle. 10-12-18 – With pilots mentioning still a slow start, we replaced worn out throttle cable section that sits right under the engine. The ball socket was worn out. But still had starting issues. So.. 10-25-18 - Arrow sent us a replacement fuel control we installed. Still had starting issues. So.. 11-6-18 - We again pulled the fuel nozzle out, cleaned and re-shimmed. Additionally, we pulled the hot end off and cleaned and inspected the burner can and liner. Aircraft started within limits 35 second start with good temps. Thought starting issues had been resolved, but... Friday 12-14-18 – Received call that 405LP was stuck out on the Spark with a hug start. Pilots ran battery down trying to start it three times. Brent talked with the Rolls Royce Rep Greg Houston. He suggested it was the fuel control not letting the start get past 35% during start. This problem seems to happen once the Engine gets cold soaked such as sitting on the rig in 14-degree weather for 3 hours. No Tannis installed NOTE: Pilot later reported he had a 56 second start when he first started to go out to rig. Probably should not have gone or at least not shut down. We were not advised of this until later. Saturday 12-15-18 – Brent drives up to Kenai and was flown to the rig. He heated the Fuel control up, tried starting, twice it hung at 35% using a start cart. Continued heating the fuel but this time during start used a rubber mallet and tapped on the fuel control which worked to start the engine. The pilot (Dan Leary) said each time I tapped on it he could see the N1 jump and finally it continued its acceleration to idle. That being said we figured it was the fuel control that was getting hung up internally as suggested by Greg Houston.		

Notable A/C items since last CASS meeting			
Item	Notes or Preventable measures to prevent this from occurring again.	Move to open action items	Responsible Person
	<i>Monday 12-17-18 – At RR suggestion, we again changed the fuel control this time using 305MH’s fuel control (known to be good). The fuel control was already out and sitting on the bench due to engine being removed for a leaking seal replacement. As a side note, during flight in, GEN light came on. So we also changed the starter generator in Kenai thinking the GEN had been cooked due to multiple failed starts. Ended up being the voltage regulator.</i> <i>Tuesday 12-18-18 – Send Rob up to replace the fuel nozzle. With 305 FC and yet another nozzle it resulted in a 45 second start.</i> <i>NOTE: This time, the helicopter was warm from being in the hangar for this start.</i> <i>Wed 12/19/20 - Helicopter ferried to Homer. The pilot said it started very cool, did fine up to 45% the but slowed down a little thru 45% but did never did completely not stop.</i> <i>NOTE: The helicopter again was warm from being in the hangar for this start.</i> <i>Let aircraft sit outside to cold soak, then starts to see how it performs and continue trouble shooting as required.</i> <i>Thursday 12/20/18 - During rhw further troubleshooting, I noticed a good amount of smoke coming out during the start during the period it was hanging, unburnt fuel. It did eventually start but close to 47 seconds. Although the start was under the MM limit of 60 seconds it was still having the same problem. But this was the first time I was able to observe one of the slow starts and noticed the smoking starting around 35%.</i> <i>Fridays 12/21/18 - I instructed the mechs to take the burner can out and put in another as my thinking there was some kind of mixture problem. After a new burner can was installed, we put it out in the cold for 3 hours and attempted a start; it started perfectly in 26 seconds. For some reason the burner can was not mixing the fuel/air correctly. Although rare, I’ve seen this before. The removed can looks fine, but was just not working properly with this aircraft the first the new engine was installed.</i> <i>We obtained an new burner can from Arrow and the aircraft has had no further starting issues.</i> Jan 10th CASS Meeting closed this item.		

Notable A/C items since last CASS meeting			
Item	Notes or Preventable measures to prevent this from occurring again.	Move to open action items	Responsible Person
Engine Start issue	N314MH 12/15/18 ACTT 10,373.3 While at Coldfoot Repeater the aircraft had three failed attempts at a start. The engine would light off normally but when the Ng reached 35% it would stall and stay there until the starting time limits were reached. At that point ASPC security was contacted along with Dave Jones letting them know the situation. The PS4 helicopter was sent down to pick up the pilot and 2 AT&T employees and return them to PS5. The next morning the PS4 helicopter flew the Mechanic and an AT&T employee up the site. The aircraft was covered and heat was apply to the engine components. The aircraft was started on the second attempt and then flown back to PS5. After landing the engine fuel nozzle was replaced and several successful starts were performed. The aircraft was returned to service. Waiting on teardown for fuel nozzle from HASS Jan 10th CASS moved this to an open item. Waiting on teardown report.	Open	Isaac Mackey

SDR,MIR,MDR, not listed on the notable A/C items list

GOR, FIR, HAZARD REPORTS not listed on the notable A/C items list

CANS, CAS MEMOS not listed on the notable A/C items list
CAN 19-01 AD 2018-25-17

Tear down reports		
Aircraft and item name	Reason removed	Tear down report finding
None		

Recent AD's and manufactures bulletins not listed above		
Number	Aircraft	Description
None		

Other Notable Non A/C items since last CASS meeting		
Item	Notes	Move to open action items

AOG's for 2018	
1.	N305MH - 02/05/18 - Akutan - N1 indicator failed
2.	N314MH - 03/07/18 - PS5 - Hyd. servo leaking
3.	N319MH - 04/18/18 - PS4 - Lower chip detector failed
4.	N316MH - 04/27/18 - MTF - Torque fluctuates
5.	N312MH - 05/01/18 - GRB - Engine torque
6.	N407PA - 06/22/18 - MTF - R/H restraint spring
7.	N319MH - 06/30/18 - PS4 - FADEC Degrade light
8.	N314MH - 05/19/18 - PS5 - Cracked cyclic assembly
9.	N326MH - 06/06/18 - MTF - Engine start
10.	N407PA - 07/17/18 - Tonsina - Broken thermocouple terminal
11.	N316MH - 07/20/18 - Deadhorse - Blade strike
12.	N328MH - 07/20/18 - Deadhorse - #2 fire detection system test fail
13.	N328MH - 08/03/18 - Deadhorse - #2 engine torque transducer
14.	N328MH - 08/08/18 - Deadhorse - Debonding damper bearing
15.	N319MH - 11/15/18 - MTF - Fuel signal conditioner
16.	N405LP - 12/13/18 - Nikiski - start issue
17.	N314MH - 12/15/18 - PS5 - Coldfoot repeater - engine start issue - fuel nozzle

AOG's for 2018 by Location	
PS4	2
PS5	3
MTF	4
GRB	1
Tonsina	1
VDZ	
HOM	1
Kodiak	
Akutan	1
Coldfoot	
Deadhorse	4

NEW OPEN ACTION ITEMS	INITIATED BY	RESPONSIBLE PERSON	DEADLINE	CLOSED

Recent audit maintenance findings	
Finding	Corrective action
Pending	

Suggested maintenance training for next year

Safety Management System	Evidence	Effectiveness
Emergency Response Plan	Earth Quake on 30 Nov Calls made to All stations	There may be some redundancy with Alyeska and Maritime all contacting for Aircraft readiness, etc. But continuing to contact all stations after natural emergencies.
Station Checklists-Audit Program	Still working on conversion to iAuditor, but continuing paper audits are working. Due to Alyeska/ISNetWorld intervention, going to have to start behavior based observations as part of audits. Change coming to Internal Evaluation Manual	Attempted Fall audits at Pump Stations 4&5, turned back for icy roads. Reschedule and now schedule Homer and Fairbanks audits.
Management of Change	AW119	Need Status update from Steve? Bob and Isaac Report from Canada
Overall Safety Effectiveness	New Driving policy added to HSE Manual to meet Alyeska Requirements in ISNetWorld. New BBS coming. Monthly Audits working well. Still haven't purchased new ladders for Fairbanks (went to backburner as there were many opinions on what to buy) Fire Alarm Drill at Fairbanks was successful-good lessons learned. ISNetWorld Grades back to A's from Bs. New EMR rates added to ISNetworld and are at least as low or lower than 2017. Still need a major ERP exercise at both bases.	No Recordable Injuries Less FIRs this quarter, but maybe recording needs to be more accurate with a couple of unrecorded incidents (Cargo Mirror, FADEC issues) Behavior based Safety Observations will be a large cultural change for company to conform with Alyeska reqs. Keep stressing Toolbox talks! (record)

Next CASS meeting scheduled for	02/21/19
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