

2019
Rotorcraft Seminar
Continued Airworthiness
&
MORs

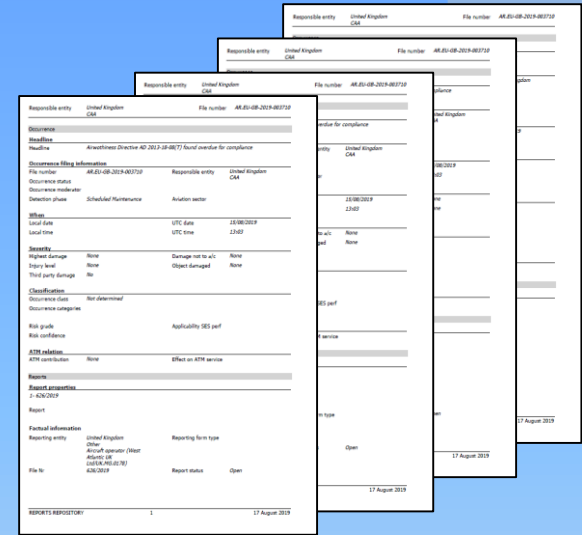
Airworthiness – Peter Moule
October 2019

MORs

- Some MOR Statistics
- Onshore and Offshore Working Groups
- CAW Feedback System
- So What Happens to Your MOR
- MOR Trending
- MORs - Authority to Authority Interaction
- MORs Post Brexit
- Summary - What would we like you to do / keep doing

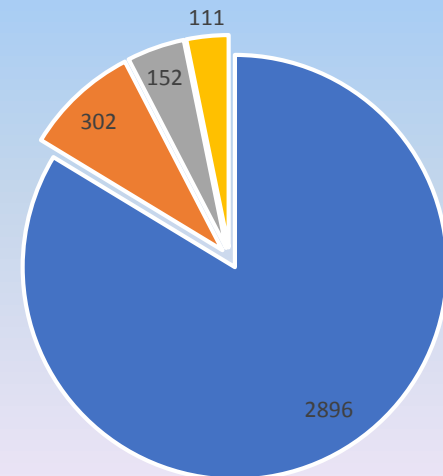
UK Industry - MORs

- 2019 – Over **22,000** Total CAA MORs
- 2019 – Over **5,500** MORs Reviewed by CAW



MORs	2019	%
Direct Airworthiness Related	2896	13%
Rotorcraft Airworthiness Related	302	10%
'Offshore' Airworthiness	152	5%
'Onshore' Airworthiness Related	111	4%

Airworthiness Related MORs 2019



Offshore vs Onshore fleet – MOR Reporting ratio / helicopter – **5:1**

UK Industry – MORs – CAP 1145 A31 / A26

CAP 1145 - Civil Aviation Authority – Safety review of offshore public transport helicopter operations in support of the exploitation of oil and gas - 2014

A26 CAA Airworthiness will meet with offshore operators periodically to compare the trends of MORs with operator in-service difficulty / reliability data to ensure that the complete risk picture is captured, addressed and that the desired outcomes are being achieved.

- Regular meetings Offshore and Onshore working groups – 2 / 3 meetings per year



UK Industry – MORs –Offshore A26

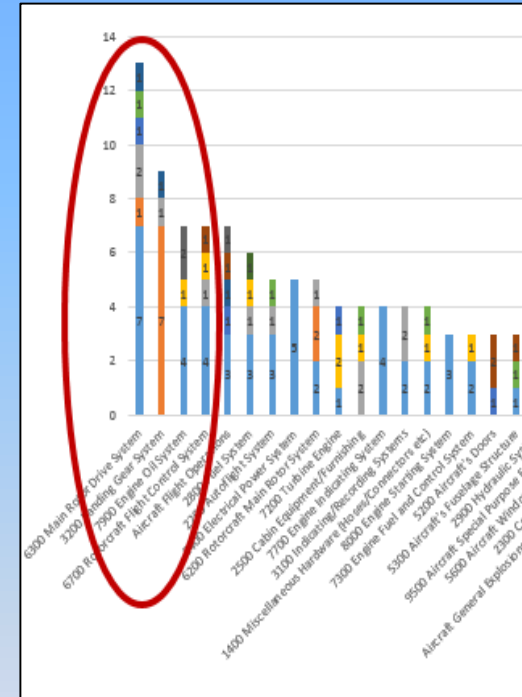
A26 - Technical Malfunction and Reliability – 26 June 2019

ORIGINALLY PRESENTED SLIDE INCLUDED A26 ISSUES ASSOCIATED WITH FOLLOWING TYPES

- **MORs and Technical issues**
 - AW189 / AW169
 - S92
 - H175

UK Industry – MORs – Onshore A26

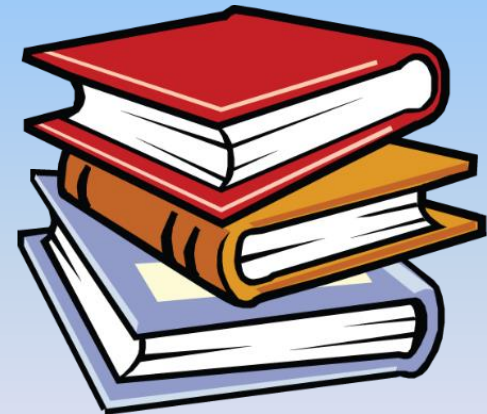
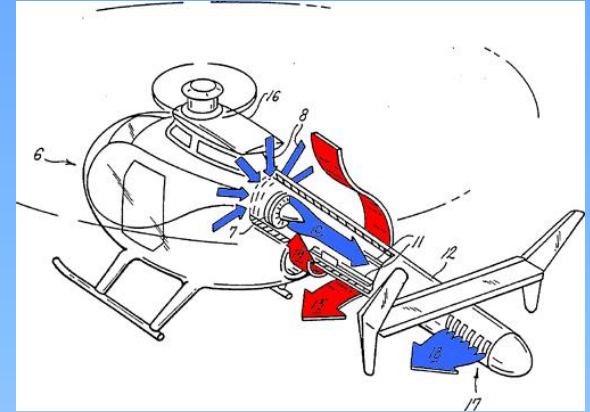
- **ORIGINALLY PRESENTED SLIDE INCLUDED A26 ISSUES ASSOCIATED WITH FOLLOWING ATA CHAPTERS AGAINST TYPES**
- **Onshore Meeting – July 2019 – review of 2018 / 2019 MORs**
 - EC135/MD900/AW169/EC145/A109/AS350/AS355/AW139/AS365/EC155/Bell 206
- ATA63 – Main Rotor Drive
- ATA32 – Landing Gear
- ATA79 - Engine Oil
- ATA67 – Flight Control



UK Industry – MORs – Onshore A26

Completeness and Timely Availability of Instructions for Continued Airworthiness

- MOR – Received from other European NAA
- Highlighted a perceived error in – ‘Overdue/ incomplete’ Maintenance from a UK CAMO
- Investigation showed MOR partially correct, but highlighted difficulty in interpretation of ICAs
- Ongoing discussion with EASA on ICA’s and how this can be improved for the future.
 - What level of ICA is required at Type Certification?
 - What level of validation of the ICA’s is appropriate?



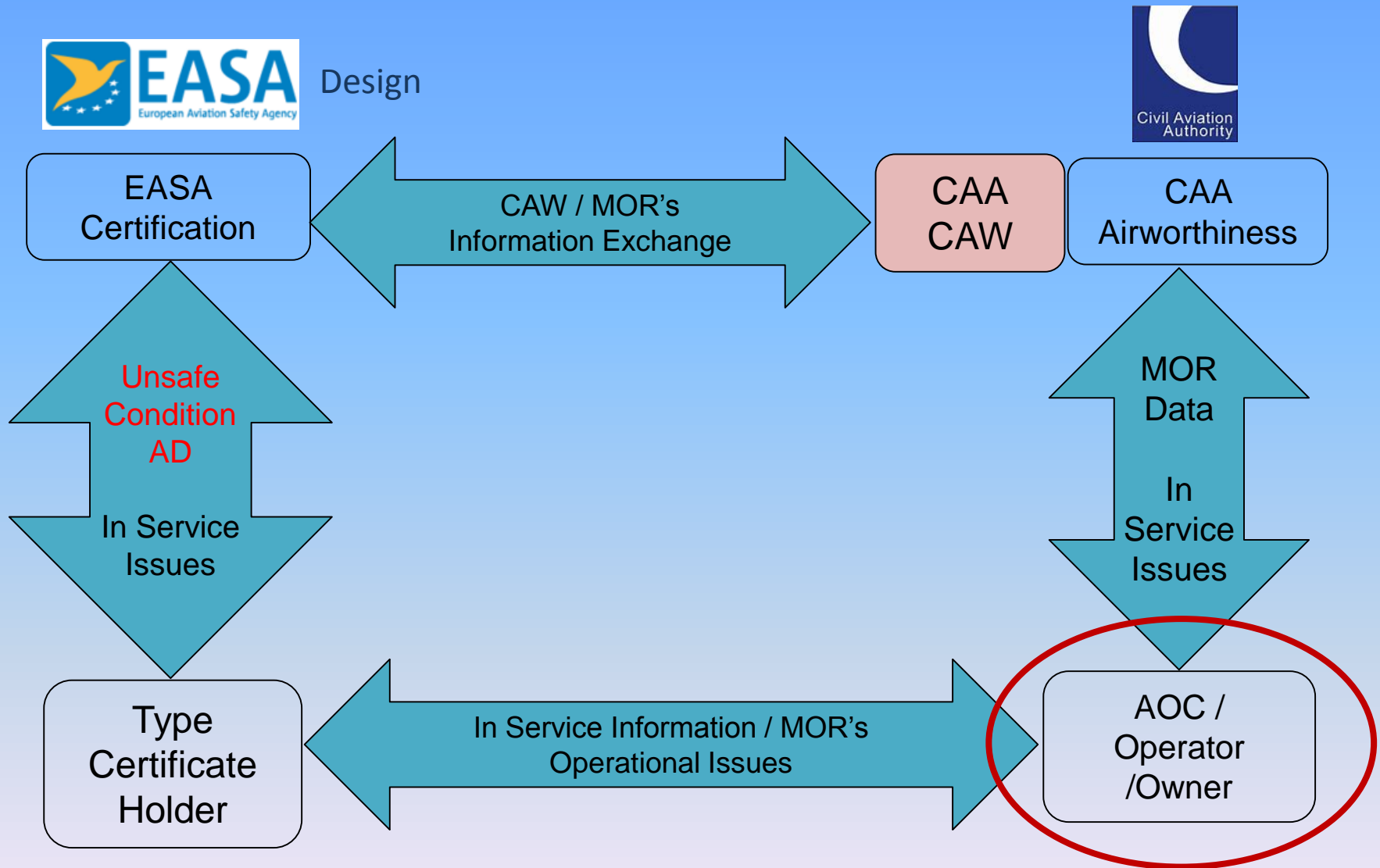
UK Industry – MORs – Rotorcraft - 2019

2019 - Rotorcraft Significant MORs

Note 66% of those MORs transferred to EASA are Rotorcraft

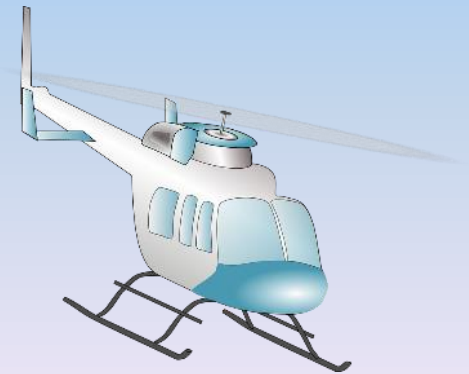
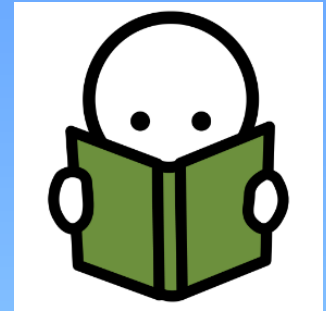
Manufacturer/model	Headline
AEROSPATIALE - SA365	ORIGINAL PRESENTATION OUTLINED SIGNIFICANT ISSUES VS TYPE INVESTIGATED BY CAA / EASA
AGUSTA - A109	
AGUSTA - AW139	
AGUSTA - AW169 / AW189	
AGUSTA BELL - AB139	
EUROCOPTER - EC135	
EUROCOPTER - EC175	
SIKORSKY - S92	
Bell 429	

Continued Airworthiness – Feedback System



What is Industry's Role

- Determine the significance of the event – Mandatory / Voluntary – Risk Rating
- Report those event types in accordance with the Regulation
- Determine your own actions
- Ensure (in the majority of cases) that the Type Design Organisation is notified
- Follow up in accordance with the timescales
- Review effect within your Safety / SMS system



So What Happens to Your MOR

Reporter

- Determine action – Voluntary /Mandatory/SAG
- Determine Action – OPEN / CLOSED
- Submit initial Report 72 Hours
- Update 30 days / Closure 3 months

CAA Safety Data

- **Receive / Review / Process / Taxonomize**
- Initial Status – OPEN / CLOSED

CAA CAW

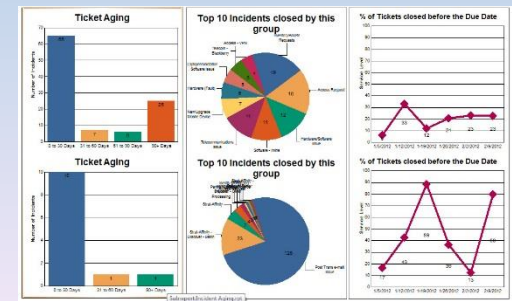
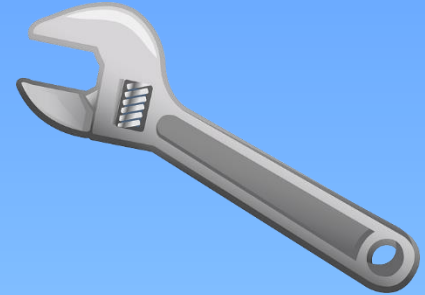
- **Weekly Review all Airworthiness MOR**
- Agree Status – OPEN / CLOSED
- Significant MORs - Propose Actions – Ratified at Weekly Management Committee Meeting
- Distribute to Surveyors

CAA Surveyor

- **Receive all MORs for their organisations**
- Agree Status – OPEN/CLOSED
- Either highlighted for awareness (CLOSED) / Or for action (OPEN)

What Do We Do with the MOR Data

- Significant Individual Events
 - Request the Surveyor liaise directly with the organisation – to help determine any immediate mitigating action
 - Design related issues - notify and transfer to EASA
 - Inform up thorough the Management Chain – MC / LT / CAA Board
 - Liaise with other NAAs, as appropriate
- Trending
 - Rolling review of trends 24 monthly basis – present view / analysis at Airworthiness Management Committee meetings
 - Longer term – set automated alert levels
 - Understand organisation culture / MOR performance
- Information to Support
 - Onshore Helicopter Review
 - A31 / A26 Activities / Deep Dive Report
 - Trent 1000
 - EC135 / MD900 / AS350 / AS355 / A109
 - CAA Annual Safety Review - CAP1595



Airworthiness MOR Trending

SPI Event	Rotorcraft
Chip	Automated Search Available
False Fire Warning	Simplified Search Available
Fire	Simplified Search Available
FOD	In Progress
High Severity MORs RW	Simplified Search Available
ICAs	In Progress
IFSD	Simplified Search Available
LG Extension	Simplified Search Available
Lithium Battery / PEDs	In Progress
MD900 Pins	Simplified Search Available
Production and Design	Simplified Search Available
RTB (Technical)	Simplified Search Available
Suspect / Bogus Parts	Simplified Search Available
Tech Log	Simplified Search Available
Tooling	Simplified Search Available
AD Overruns	Simplified Search Available
ATA Chapters	Simplified Search Available
Birdstrike with Damage	Simplified Search Available
Failure to Reach Life Limit	Simplified Search Available
High Severity MORs RW	Simplified Search Available
Maintenance Errors	Simplified Search Available
MEL Overrun	Simplified Search Available
Panel Loss	Simplified Search Available
Rotorcraft - Main Rotor & Drive System (ATA62 & 63)	Simplified Search Available
Rotorcraft - Tail Rotor & Drive System (ATA64 & 65)	Simplified Search Available



Are we trending the right events?

Authority to Authority Interaction



- Continuous liaison with EASA /other NAA's – sharing of information



EASA

European Type Certificate Holder Production Issues
FAA MRO with an EASA Approval



Italian Authority
ENAC

Concerns regarding CAMO helicopter maintenance tasks
Issues with the ICA's



Greek Authority
HCAA

145 identified anomalies with the main rotor blades – HCAA followed up with Greek Operator



German LBA

German 145 - non-approved engineer conducting work



Romanian Authority

Investigated Airworthiness Directive (AD) status statement from a Romanian CAMO



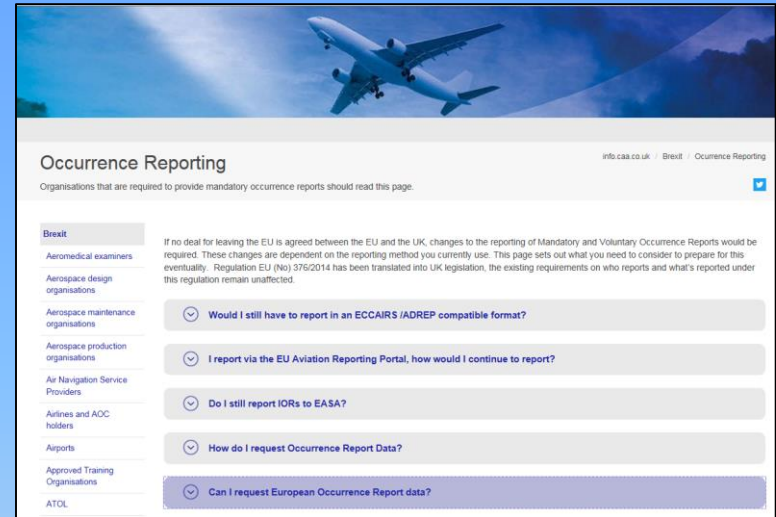
South African Authority

Poorly Overhauled Emergency Equipment – Maintenance Organisation Approval Suspended

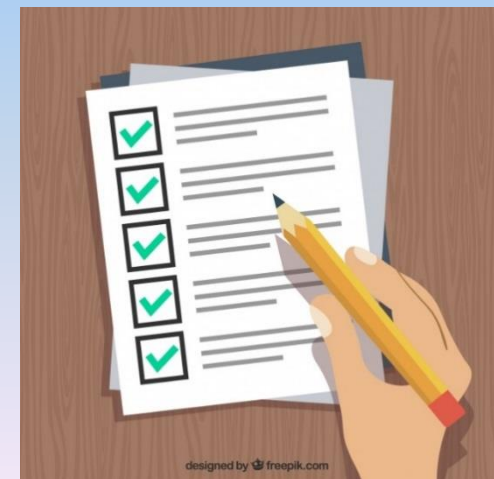


MORs Post Brexit

- Continue Reporting to the CAA
- Continue Reporting to the Type Certificate Holder
- CAA will retain the ECCAIRS platform
- Bespoke Software – those already compliant with EU376/2014 via approved software - **Unaffected**.
- EU Aviation Reporting Portal – CAA will provide new suite of report forms – **New improved Forms**



<https://info.caa.co.uk/brexit/ocurrence-reporting/>



Summary

- Your MORs are important – individually and for trending.
- We review every Airworthiness MOR
- We use the information to influence and inform – EASA / Other NAAs / Type Certificate Holders (TCHs)
- Please follow up with TCH's to ensure that they are aware
- Please contact us directly when the more significant events occur / or you do not feel you are making progress on a safety issue
- We are developing our trending techniques to help us assess the MOR data, to better inform our focus and actions
- Are we trending the right things?

Any Comments Questions

Comments & Questions