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MMR



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MMR

- Table of Minimum Monitoring Requirements for Aircraft Monitoring Groups
- Aims to reduce monitoring burden on operators by reducing the frequency of required monitoring for Monitoring Groups where possible

Examples of Monitoring Groups

- Monitoring Group A380: includes all Airbus A380
- Monitoring Group A320: includes Airbus A319, A320, A321

1	<p>GROUP APPROVED: AIRCRAFT WHICH DEMONSTRATE LONG TERM CONFIDENCE IN COMPLYING WITH RVSM MASPS</p>	<p>A124, A30B, A306, A310-GE, A310-PW, A318, A320, A330, A340, A345, A346, A380, A3ST, AVRO, B712, B727, B737C, B737CL, B737NX, B747CL, B74S, B744-5, B744-10, B752, B753, B764, B767, B772, B773, BD100, BE40, C25A, C25B, C510, C525, C560, C56X, C650, C680, C750, CARJ, CL600, CL604, CL605, CRJ7, CRJ9, DC10, E135-145, E170-190, E50P, E55P, F100, F900, FA7X, GALX, GLEX, GL5T, GLF4, GLF5, H25B-800, J328, LJ40, LJ45, LJ60, MD10, MD11, MD80, MD90, PC12, PRM1, T154</p>
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2	<p>GROUP APPROVED: AIRCRAFT WHICH HAVE YET TO DEMONSTRATE CONFIDENCE IN LONG TERM PERFORMANCE</p>	<p>A148, A158, A350, AC90, AC95, AJ27, AN72, ASTR, ASTR-SPX, B701, B703, B731, B732, B744-LCF, B748, B787, BCS1, BD700, BE20, BE30, C25C, C441, C500, C550-B, C550-II, C550-SII, CRJ10, D328, DC85, DC86-87, DC91, DC93, DC94, DC95, E120, E45X, EA50, E545-550, F2TH, F70, FA10, FA20, FA50, G150, G280, GLF2, GLF2B, GLF3, GLF6, H25B-700, H25B-750, H25C, HA4T, HDJT, IL62, IL76, IL86, IL96, L101, L29B-2, L29B-731, LJ23, LJ24, LJ25, LJ28, LJ31, LJ35-36, LJ55, MU30, P180, P180 II, PC24, PAY4, SB20, SBR1, SBR2, SU95, T134, T204, T334, TBM, WW24, YK42</p>
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3	<p>NON-GROUP: RESERVED FOR AIRCRAFT WHICH ARE PRESENTED FOR RVSM APPROVAL ON AN INDIVIDUAL BASIS (i.e. NON-GROUP APPROVED AIRCRAFT)</p>	<p>A225, AN12, AN26, B190, B462, B463, B720, B74S-SOFIA, BA11, BE9L, GSPN, H25A, L29A, PAY3, R721, R722, SJ30, STAR</p>
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Monitoring Categories

- Category I
 - ✦ Aircraft which demonstrate long-term stable ASE
 - ✦ Least frequent monitoring schedule
 - ✦ Fewer airframes of each operator need to be monitored
- Category II
 - ✦ Aircraft which have yet to demonstrate stable ASE
 - ✦ Not enough data has been collected for evaluation
 - ✦ More frequent monitoring schedule
 - ✦ More airframes of each operator need to be monitored
- Category III
 - ✦ Non-group aircraft, experimental or test aircraft
 - ✦ Most frequent monitoring schedule
 - ✦ All airframes of each operator need to be monitored

New Monitoring Groups in the MMR

- All new Monitoring Groups to be initially placed in Category II
 - ✦ More airframes in each operator's fleet will be required to be monitored
 - ✦ More data will be collected to ensure proper ASE performance
- Minimum of two years in Category II
 - ✦ Ensures long-term stable ASE
- Evaluate moving the Monitoring Group to Category I
 - ✦ Group exhibits long-term stable ASE which complies with RVSM requirements
 - ✦ Reduce monitoring burden on operators
 - ✦ Require less frequent monitoring

Definition of a Monitoring Group; Placement of a Monitoring Group in the MMR

- Subject to change, should monitoring data indicate it
- Embraer E170-E190
 - ✦ Initially separate Monitoring Groups
 - ✦ Embraer illustrated why these Groups could be combined
 - ✦ ASE data were evaluated along with the manufacturer's statement, and the E170-E190 aircraft were combined into one Monitoring Group
- Bombardier GL5T
 - ✦ Bombardier requested we investigate long-term ASE performance with the goal of relocating the GL5T Monitoring Group from Category II to Category I
 - ✦ Similar GLEX Group was already found in Category I
 - ✦ ASE data were evaluated and the GL5T was relocated to Category I

Evaluating Monitoring Groups and MMR Monitoring Categories

- Historically Monitoring Group definitions and placement into the MMR were infrequently reviewed
- Need to regularly investigate and bring findings to RMACG
 - ✦ RMAs should review Monitoring Groups of interest
 - ✦ Review definitions of Monitoring Groups and placement in the MMR
 - ✦ Goal is to move Category II Groups to Category I if possible and supported by data
- Operators and manufacturers are encouraged to contact their RMA to initiate an investigation of these areas



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MMR Updates

- Continue to review assignment of Monitoring Groups to MMR Monitoring Categories
 - ✦ Boeing 787, in service since 2011, still in Category II
- ADS-B may lessen the importance of the MMR
 - ✦ ADS-B equipped aircraft will be frequently monitored
 - ✦ ADS-B will reduce monitoring burden

Conclusion

- MMR serves to reduce monitoring burden
- Monitoring Group Categories are subject to change if indicated by data
- Requests to investigate particular Groups are welcome
- ADS-B should reduce monitoring burden and the importance of the MMR in the future