

DEFENCE AVIATION SAFETY REGULATION

DASR 66

Introduction to DASR 66 Kent Chapman / Jock Larkin





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Course Objective

 To provide students with detailed knowledge of maintenance licensing concepts and an overview of the DASR 66 regulations and their implementation

Learning Outcomes:

- 1. Describe the need for DASR 66 Licensing
- 2. Describe the elements of a Military Aircraft Maintenance Licence
- 3. Describe correct utilisation and management of a MAML
- Describe the relationship between technical trade training and the DASR 66 syllabus
- 5. Describe licence exclusions/inclusions



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DASR 66 Overview

- EASA Regulations are arguably the most globally adopted regulation set in the civil aviation airworthiness environment.
- European Military Airworthiness Requirements (EMAR) are based on EASA Regs with added requirements to include Military Specific systems.
- EASA 66 was "adapted" by CASA for CASR Part 66. Part 66 requirements are enacted through legislation in the CASA Part 66 Manual Of Standards (MOS).
 - changed licensing requirements, for example the time requirement to attain a B category licence
- EMAR 66 was "adopted" for DASR 66
- DASR 66 can be met through various paths:
 - Alignment with CASA requirements, and / or
 - Service specific training assessed and accepted as equivalent
- 'black' text = EMAR 'green' text = Australian contextualised (contextualised)



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DASR 66 Contents

Regulations

66.A.1 Scope

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66.A.52 Extensions (Inclusions)

66.A.55 Evidence of qualification 66.A.70 Conversion provision

Appendices

Appendix I - Basic Knowledge Requirements Appendix II - Basic Examination Standard

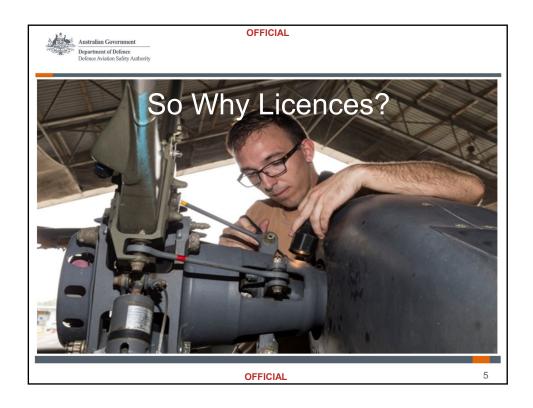
Appendix III - Military Aircraft Type Training and Examination Standard, and On-the-Job Training (OJT)

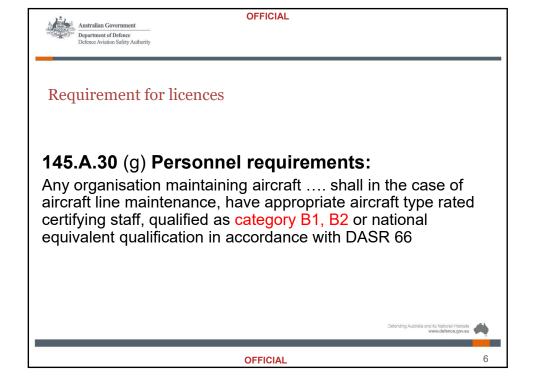
Appendix IV Experience requirements for an addition to an EMAR 66 Military Aircraft Maintenance Licence

Appendix V - Application Form - DASR Form 19

Appendix VI - Military Aircraft Maintenance Licence (MAML) - DASR Form 26











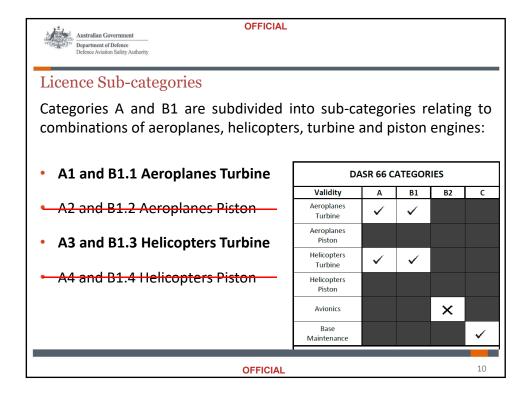
DASR 66 MAML

- A MAML is the authority issued by DASA, providing the scope of privileges for an individual to issue Certificates of Release to Service (CRS) following Aircraft Maintenance
- The MAML is based on an individuals' qualifications, training and experience (QTE)
 - Qualifications are based on Aeroskills Units of Competency (UoC) benchmarked against a recognised global syllabus
- DASR 66 MAML is the adoption of a globally recognised licensing standard for technical personnel



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MAML Limitations/Extensions (Exclusions/Inclusions)

Exclusions

- Limitations introduced on a MAML are exclusions from the certification privileges.
- Limitations are a result of gaps in training.

Inclusions

- Extensions introduced on a MAML may allow additional certification privileges.
- · Extensions are a result of additional training



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Military Aircraft Type Rating

- In order to be entitled to exercise certification privileges on a specific aircraft type, their MAML must be endorsed with the relevant Military Aircraft Type Ratings (MATR).
- Only B1, B2 and C licences require MATR endorsements.
 - A licences do not require MATR endorsement

MILITARY AIRCRAFT TYPE RATINGS		
Defence Aircraft Type Rating	Category	Stamp and Date
Orion AP3C	Fixed	29/07/2005
	B1.1 C	
Chinook CH47F	Rotary	04/09/2018
	B1.3 C	





Licence eligibility criteria

A / B1 / B2 / C Licence:



Eligible for a licence at 18 years old, but cannot exercise licence privileges until 21.



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DASR 66 MAML Fundamental Elements

There are 3 elements comprising a licence.

- 1. Basic Knowledge
 - Initial Aviation Technical Training with required theory & practical
 - Delivered by an approved DASR / CASR 147
 - ADF RAAFSTT (BAE ATT Air Domain 147)
 - DI RTO with CASR 147 MTO Part 1 approval
- 2. Basic Experience
 - Time based
 - On-aircraft practical maintenance experience
- 3. Military Aircraft Type Training
 - Approved 147 MTO type courses
 - Platform, category and system specific theory and practical



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66.A.25 Basic knowledge requirements

Knowledge requirements.

MAML applicants demonstrate by examination a level of knowledge in appropriate subject modules IAW Appendix I.

DASR 66 MAML is based on:

- For A category
- Certificate II in Aircraft Line Maintenance (ALM) (CASA pathway)
- Cert II ALM equivalent from Cert IV in Aeroskills Mechanical, Avionics, Structures, Life Support, Armament (ADF pathway)



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66.A.25 Basic knowledge requirements

- · For B category
 - Diploma in Aeroskills (CASA pathway)
 - Certificate IV in Aeroskills Mechanical, Avionics, Armament PLUS additional UoCs (DASA pathway)
- For C category
 - B category knowledge attainment

Academic Pathway:

- Engineering degree in Mechanical, Mechatronics, Aerospace, Aeronautical, Electronics, Software or Electrical
- Military TQ degree plus service engineering officer initial employment training

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66.A.30 Basic experience requirements

Experience requirements:

- For Category A1 / A3:
 - 3 years practical experience if relevant trade training not completed, or
 - 2 years practical experience if relevant trade training has been completed, or
 - 6 months of practical experience on operating military aircraft if required basic training has been completed *
- * Plus: DASR Syllabus Module 10 (Aviation Legislation) satisfied by completion of approved Module 10 training





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66.A.30 Basic experience requirements (cont)

Experience requirements:

- for Categories B1.1, B1.3 and B2 licences:
 - 5 years relevant practical experience if relevant trade training not completed, or
 - 3 years practical experience if relevant trade training has been completed, or
 - 3 years of practical maintenance experience on operating military aircraft and completion of a basic training course that does not provide the recommended minimum practical training, or
 - 2 years of practical maintenance experience on operating military aircraft and completion of a basic training course providing the minimum practical training



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66.A.30 Basic experience requirements (cont)

Experience requirements:

- for Category C licence:
 - 3 years **exercising** privileges of Category B1.1, B1.3 or B2 licence and/or in a Support Staff role
- Tertiary Qualified Engineers:
 - · Eligible for C licence
 - 1 year experience in a military environment directly associated with aircraft maintenance combined with
 - 6 months observation of Base maintenance
 - Completion of Type Course (minimum Level 1)

Note: First Type Course for C category is to be B cat level. (App III 1.a.iii)



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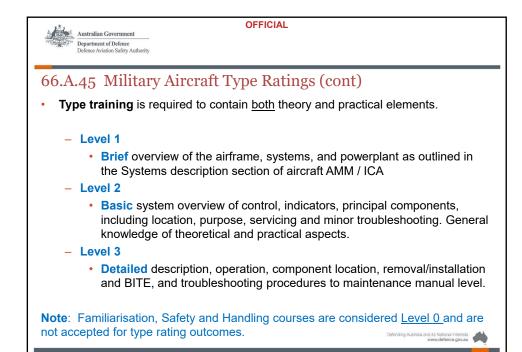
66.A.45 Military Aircraft Type Ratings

Type Training requirements:

- Licences must be endorsed with the relevant MATR after completing Type Training at a DASR 147 Maintenance Training Organisation (MTO) or approved Part 147 MTO
- Type training is to be IAW DASR 66 Appendix III
 - training subjects use S1000D
- CASA ratings are accepted for common State/Civil types
- First type rating requires OJT at AMO
- Subsequent type ratings do not require OJT

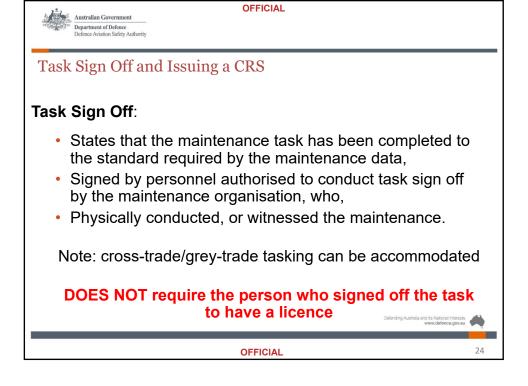


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Task Sign Off and Issuing a CRS

Issuing the CRS:

- Verifies that all maintenance ordered by the CAMO has been properly carried out
- there are no outstanding tasks/defects in this work package which are known to endanger flight safety
- can ONLY be issued by an authorised licence holder
 - A category Line maint within scope of MOE.
 - B category Line maint
 - C category Base maint





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66.A.20 Privileges – A licence

 An A category licence permits the holder to issue certificates of release to service following minor line maintenance and simple defect rectification and in accordance with the authorisations issued by the DASR 145 Maintenance Organisation.

Note: Can only issue the CRS when the licence holder has personally performed the maintenance.

Note: AMC to 145.A.10 lists example minor line maintenance



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B1 Licence

66.A.20 Privileges – B1 licence

- Category B1 MAML permit the holder:
 - to issue certificates of release to service in Line Maint and to act as support staff in Base Maint for:
 - · maintenance performed on aircraft structure, powerplant, mechanical systems and electrical systems
 - · work on avionic systems requiring only simple tests to prove their serviceability and not requiring troubleshooting

CRS can only be issued in accordance with the DASR 145 authorisations

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Note: B1 Licence includes the corresponding A licence privileges



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B2 Licence

66.A.20 Privileges – B2 licence

- Category B2 licence permits the holder:
 - to certify maintenance (where required by AMD)
 - to issue certificates of release to service in Line Maint and to act as support staff in Base Maint for:
 - · maintenance performed on avionic and electrical systems
 - electrical and avionics tasks within powerplant and mechanical systems

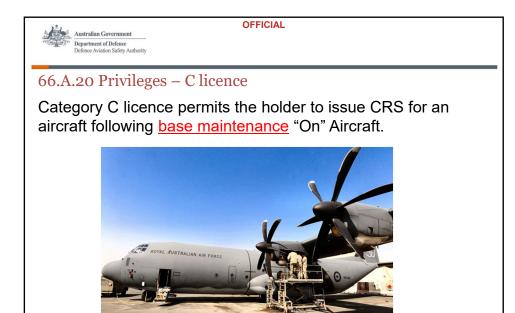
CRS can only be issued in accordance with the DASR 145 authorisations

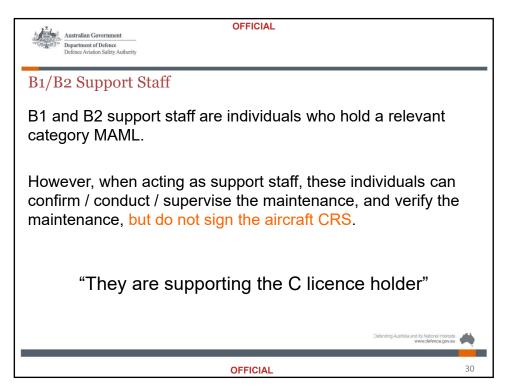
Note: B2 Licence for ADF/ex-ADF personnel will:

- · include the corresponding A licence privileges
- have a licence inclusion for oxygen systems maintenance



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Structural Technician Interim Military Maintenance Authority

- ADF MAML coverage gap
 - ATECH (B1) exclusion for minor structural repairs
 - ASTTECH not issued MAML
- Interim Military Maintenance Authority (iMMA) issued to ASTTECHs to allow issue of CRS for on-aircraft structural repairs
- iMMA should be managed in the same way as a B1 MAML
 - Require maintenance organisation authorisation
- Alternate means of compliance will expire 1 Dec 2023
- DASR 145 MOs should prioritise iMMA applications based on actual operational need, to allow all DASR 145 MOs fair and equal access to obtain timely iMMA authorisations from DASA.



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Structural Technician Interim Military Maintenance Authority

- Basic Knowledge Requirements:
 - Eligible for an A MAML (including Mod 10 completion)
 - Hold a Certificate IV in Aeroskills (Structures)
 - Demonstrate Fixed Wing (Pressurised Aircraft), or Rotary Wing (Unpressurised Aircraft) competencies
 - ADF Trade Supervisor Course or equivalent If iMMA holder will be required to supervise others.
 - Specialised Materials and Processes training Composites/Nonmetallic (optional).
- Practical Maintenance Experience:
 - 2 years of relevant practical maintenance experience on civil/military aircraft.
- Refer to AC 001/2021 for more details, and for applications. Australia and its National Interests www.defence.gov.au



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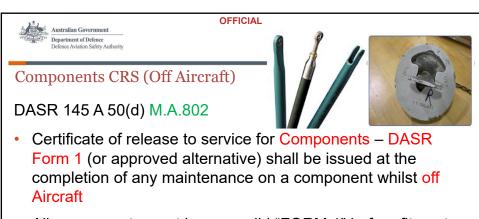


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Air Force ARMTECHs

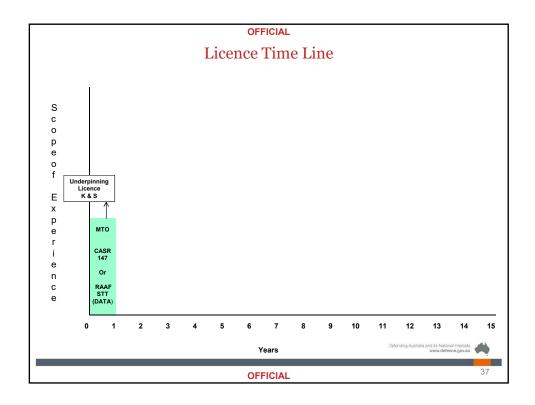
- Trade that falls between the defined B1 / B2 structure
- DASA decided to align with B1 category and manage the training gaps via multiple exclusions
- ARMTECHs with ATECH / AVTECH backgrounds will be entitled to relevant B1 / B2 categories on their licence as they have attained the Basic Knowledge.
- Utilisation of mixed background ARMTECHs is dependant upon DASR 145 QMS and the individuals knowledge, type training and experience.

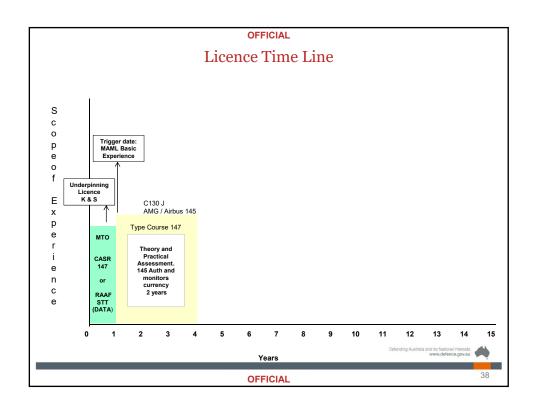


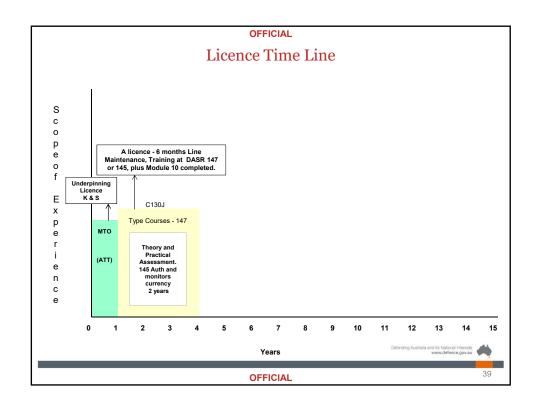


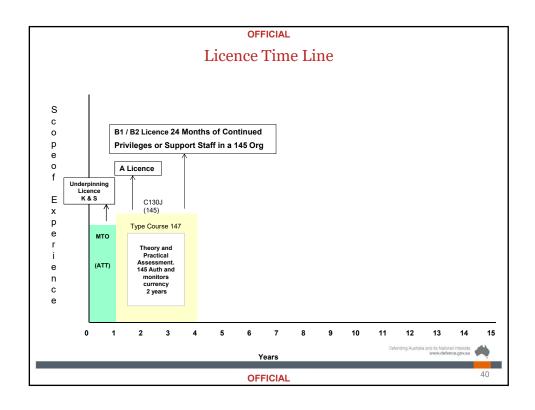
- All components must have a valid "FORM 1" before fitment to an aircraft.
- DASR 145 MO holds approval for component maintenance under their 145 scope
- Therefore, licences **are not** required to certify components off aircraft, but 145 authorisation is.

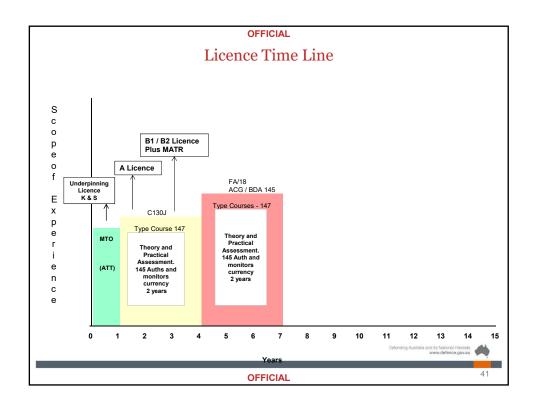


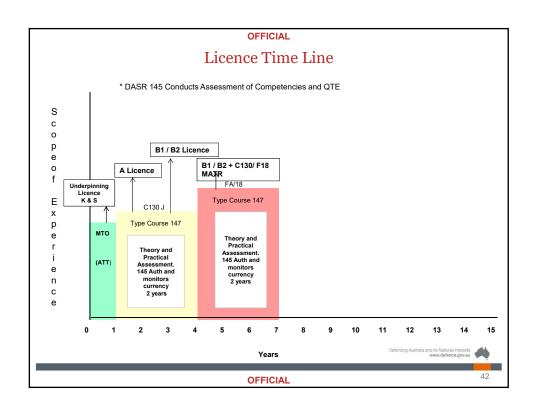


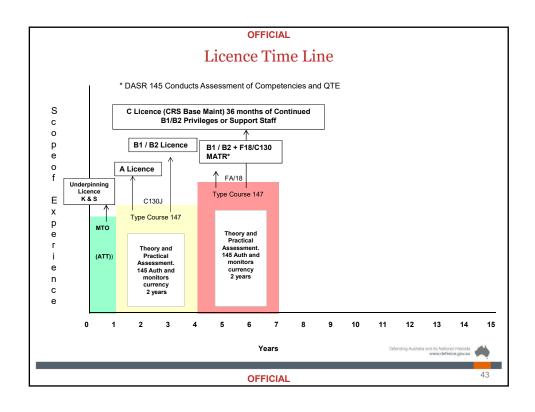


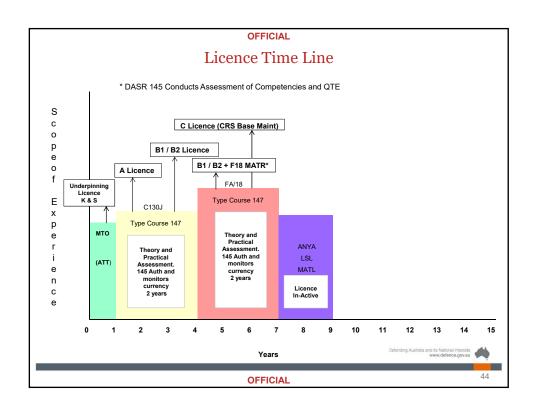


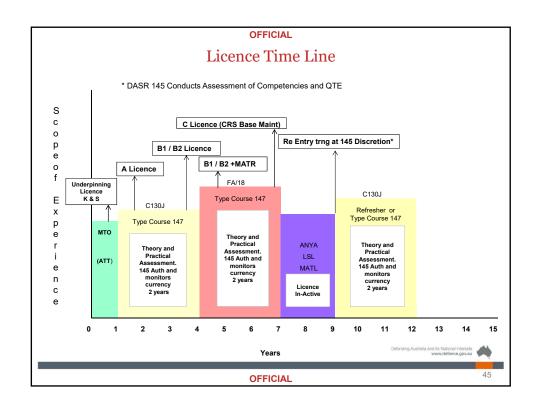


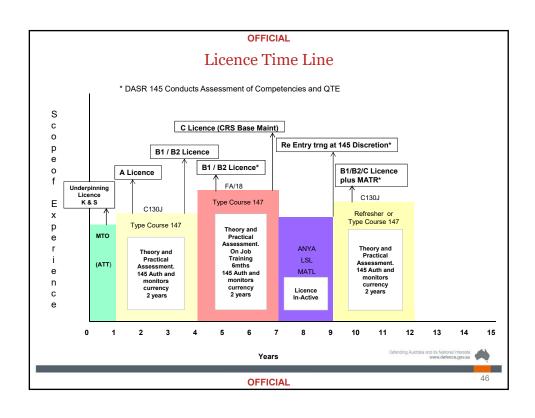


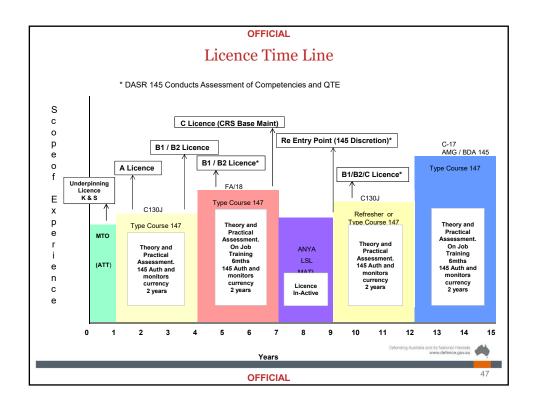


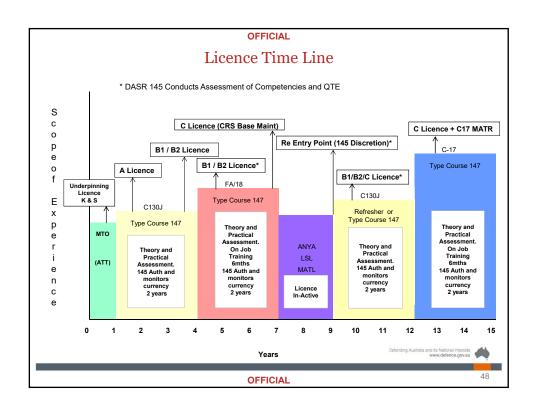




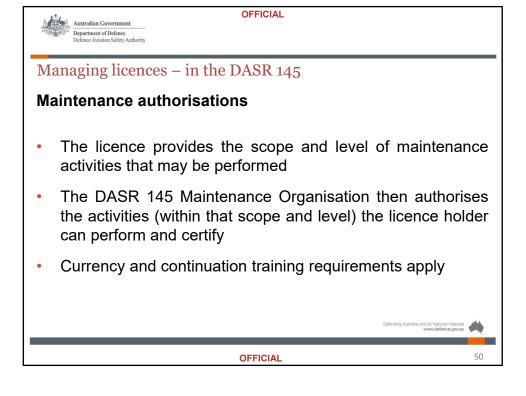














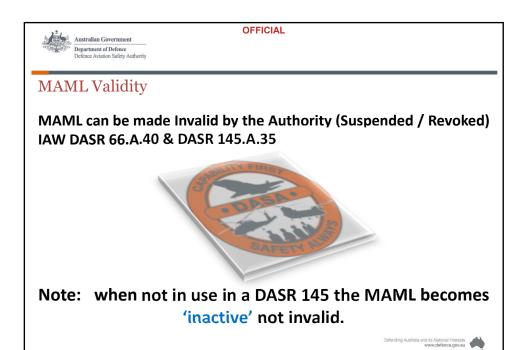
Managing licences – in the DASR 145 MO

Currency and continuation training

- Currency (66.A.20)
 - in the preceding 2-year period has had 6 months of maintenance experience, or
 - flexibility provisions when unable to meet currency*
- Continuation training (145.A.35)
 - DASR 145 Org to ensure licence holders undergo CT in each 2 year period



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MAML Administration

- DASA issue and hold the master licence and supporting evidence for personnel in Objective.
- The MAMLs are accessible to ADF QM representatives and authorised Defence Industry personnel for their own company folders.
- Licence holder qualifications, details, proficiencies and training are retained by DASA.
- MAMLs are signed by the holder and stored under DASR 145 QMS processes.



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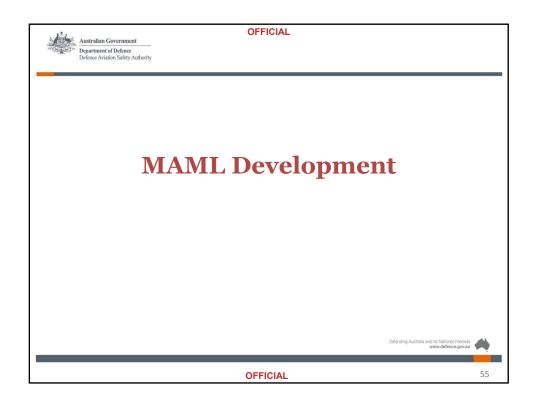
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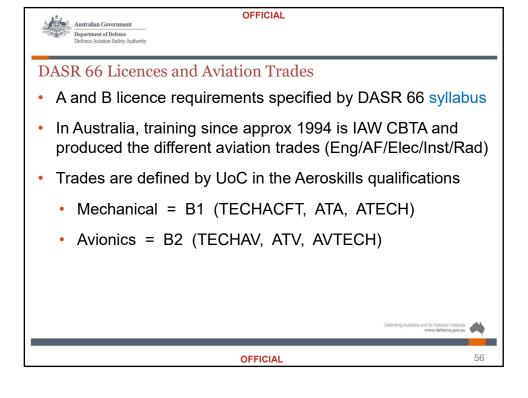
MAML Application

- ADF
 - Form 19A available on the DASA website
 - Automated process in tool
 - Tool is reliant upon updated PMKeyS Proficiency codes for applicants
 - PMKeyS data extract for tool is done monthly
- Defence Industry
 - Form 19 available on DASA website
 - Manual assessment using MAML tool
 - Applicant and QM review prior to submission
 - Supporting evidence for qualifications, training and experience required



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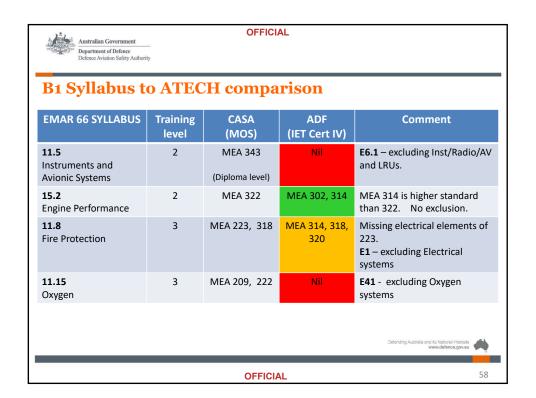


DASR 66 Licences and Aviation Trades

- CASA mapped Aeroskills UoCs to EASA syllabus for B1 / B2
 - Cert IV + extra UoCs = Diploma of Aeroskills
 - EASA endorsed the CASA mapping to issue a Part 66 licence
- DASA mapped ADF training to Aeroskills UoCs for trades
 - ADF Technical IET has a defined pathway for services
 - IET is different than CASA licence pathway
 - Results in ADF licence eligibility, category, exclusions & inclusions



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Licence Exclusions (Limitations) and Inclusions (Extensions)

Basically the difference between licence syllabus requirements and trade training,

- gaps become licence exclusions
- additional training becomes licence inclusions







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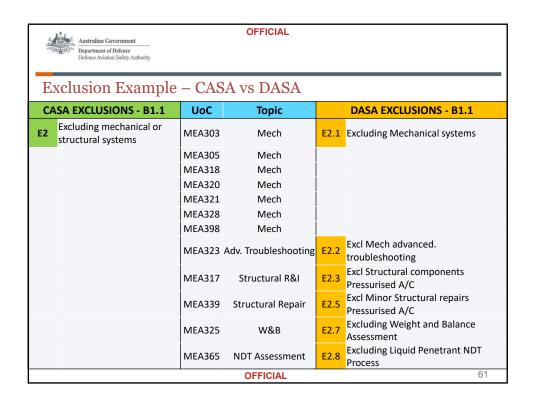
DASR 66 Exclusions / Inclusions

- CASR Part 66 Exclusions are listed in the Part 66 Manual Of Standards (MOS)
- Exclusion removal is based around completing UoC for A / B cat in MOS.
- DASR 66 Exclusions do not directly align with CASA list accommodating the different training pathway in the ADF.
- DASR 66 Inclusions:
 - Utilise CASA standard inclusions (e.g. I-2 Oxygen Systems)
 - Military specific inclusions (e.g. M-3 Weapons/Gunnery)
 - ADF IET currently doesn't cover all Basic Knowledge military modules
 - Combination of Aeroskills UoC and Type specific training

Exclusions/Inclusions documented in "MAML Exclusions, Inclusions and Endorsements" document - on DASA website



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Interpreting exclusions

- Exclusions need to be interpreted within the licence privileges. Eg:
 - Cert IV (Mech) produces a B1 with a range of avionics and electrical exclusions, for example E6.1 – excluding Inst/Avionic/Radio LRUs
 - Therefore a B1 is <u>not</u> able to issue CRS following simple avionics maintenance (eg LRU change), if the exclusion is present on licence.
 - For ADF Technicians the Cert IV (AV) provides an A1 or A3 with an engine exclusion

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 Can still issue a CRS following maintenance to an engine, provided that the maintenance was to the engine's electrical or avionics sub-systems.



