[Sample Aviation]

Sample Syllabus - Aerial mustering (helicopter) endorsement

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# Course overview

This training course covers the aeronautical knowledge, practical flight skills and underpinning knowledge units and elements that are prescribed in the Part 61 Manual of Standards (MOS) for the grant of an aerial mustering (helicopter) endorsement. Following grant of an endorsement, further operational and experience requirements may be found in Chapter 17 of the Part 138 MOS.

Each training course should be tailored to the trainee's individual needs and depends on their entry level competencies, knowledge and current level of skills.

The training needs to be oriented to the practical application of skills in the airborne environment, recognising the unique circumstances of the location where the training is conducted. However, regardless of where the training is conducted, the training will still need to address the core competencies that apply.

Appropriate recognition of prior learning and current skills should be applied to the content of the training and notated accurately in the training records.

Relevant previous training can be counted towards the minimum flight training requirements that are prescribed in Part 61 MOS for the endorsement. Relevant training must be identifiable in the applicable competency standards that are prescribed for the endorsement.

References to mustering in this document are to aerial stock mustering in a helicopter.

The training course has the following components:

### Flight training and theory summary

The Flight training and theory delivery and assessment summary lists each training session with a reference number, its description, and the allocated time. The subsequent planning matrix and lesson plans referenced in the table list the skills and underpinning knowledge required according to Schedule 2 of the Part 61 MOS, however there is no examination prescribed in Schedule 4.

While there is no formal theory examination for the helicopter aerial stock mustering endorsement, the trainer must be satisfied that the trainee's underpinning knowledge is sufficient to support the practical competencies.

The summary includes sufficient flight training to meet the requirements for the grant of the rating and endorsement in accordance with Part 61. The length of each training session may be adjusted depending on the entry level of the applicant and the training they need to satisfy the prescribed competency standards in Schedule 2 of the Part 61 MOS.

Further guidance on training development and the application of the Part 61 MOS may be found in AC 61-09 - Competency-based training and assessment for flight crew.

The time taken to train a new mustering pilot can vary according to ability and experience. The lessons and times in this syllabus can be expanded and repeated as required. Training pilots should be encouraged to fly with the student for as long as is required to achieve competency. The more dual hours on as many different jobs and with as many different training pilots as possible, the safer and more effective the new mustering pilot is likely to be.

### Planning matrix

The planning matrix sets out the order in which the units and elements of training are presented as well as the anticipated performance standards for each lesson. The matrix is a model plan and can be adjusted according to the needs of the trainee at the time the training is being conducted.

### Achievement record

The achievement record is a record of the trainee achieving the practical flight standards that are prescribed for the rating and endorsement. The record should be completed progressively when the trainee has satisfactorily demonstrated competency for the unit and element on at least 2 occasions.

Trainees must achieve competency at performance standard 1 in each element of each unit in this achievement record prior to attempting the flight test for the grant of the aerial stock mustering (helicopter) endorsement. The performance criteria for the elements are prescribed in Schedule 2 of the Part 61 MOS.

The trainee may demonstrate competency using a combination of training course assessments and assessments of current competency that was achieved through prior training and operational experience.

The instructor conducting the training and assessments must certify that competency has been achieved by entering the relevant details in the table, and their ARN, signature and the date when the applicant achieved the required competency performance standard.

### Syllabus lesson plans

A lesson plan is provided for each lesson listed in the planning matrix.

Each lesson plan includes details on the:

* aeronautical knowledge topics that need to be covered as a precursor to the next practical flight training activity.
* associated underpinning knowledge topics that are to be addressed prior to commencing the flight training activity.

Due to the variable nature of mustering tasks, lessons 3-5 are described in one lesson plan. Instructors can adapt the plan to suit the task and time available. The elements covered, and standard achieved are to be recorded on the training record.

The resources described in the lesson plan are based on a model and could be modified with suitable equivalent resources.

The underpinning knowledge topics are taken from the relevant sections of the units of competency in Schedule 2 of the Part 61 MOS. Elements additional to the Part 61 MOS are denoted by a - bullet point.

The practical flight training section details the units and elements that need to be covered in the training lessons. The units and elements are prescribed in Schedule 2 of the Part 61 MOS.

### Training records

A training record is provided for each flight training lesson that is listed in the planning matrix and aligns with the associated syllabus lesson plan.

The training record includes the:

* header details for the instructor
* date of the activity
* aircraft used
* flight time.

Space is provided for free text comments.

### Course completion certificate

A sample course completion certificate is provided.

### Mentoring

Pilot distraction or lack of attention, time pressure, reduced visibility and lack of experience are the most commonly recorded causal factors in occurrences. These are generally associated with organisational and human factors.[[1]](#footnote-2). The risk of these is significantly reduced through supervision and mentoring programs consistent with Chapter 17 of the Part 138 MOS.

A typical extension of this syllabus would involve periodic PICUS flying, on the job, with a mustering instructor or training pilot. This is to ensure that the new pilot is developing good habits and to revisit the 4 main causes of accidents among mustering pilots:

* Turning downwind while reducing airspeed and then trying to arrest descent with more collective pitch rather than regaining airspeed.
* Tail rotor/main rotor strike.
* Poor recovery from partial power loss (e.g. stuck valve, magneto issues)
* Lack of situational awareness due to focussing too much on the animals/job, and/or fatigue.

The Head of Operations (HOO) must consider junior pilots will often feel under pressure to prove themselves and, when rostering, must ensure the operational risks for the assigned task are within the inexperienced pilot's capabilities.

Where possible, new pilots will build experience on multiple-helicopter musters with senior pilots.

The senior pilots will ensure the new pilot is tasked with the easier part of the paddock/area. To mentor effectively, a senior pilot should create a calm environment conducive to learning and regularly remind the junior pilots to slow down and ask for help. This is particularly important when the muster is stretching the new pilot by area or numbers, or they are having trouble blocking or bending a mob.

If a junior pilot is sent on a job by themselves, it will be helpful to communicate this to the client before sending the pilot. This will make sure the client is happy for a junior pilot to do the job and is not going to put undue pressure on them. Unfortunately, if junior pilots find themselves overwhelmed by a job, they may take risks beyond their level of skill or experience to get the job done. Often this is successful for a while, which reinforces the idea that they are capable of this kind of flying and that it is the best way to deal with a difficult job. If left unchecked the junior pilot will continue this practice with the likely outcome being an accident.

Freshly endorsed mustering pilots should be made aware of the fact that piloting and mustering are skills that will be constantly developing throughout their career. Many may *feel* capable of manoeuvring a machine in an extraordinary fashion, however, lack the ability to do it day in, day out without incident. Allowing time to build abilities will help curb the tendency to be overconfident. Concentrating on flying accurately and safely will produce more effective outcomes along with the realisation that, more often than not, extraordinary manoeuvring is unnecessary and counterproductive.

Further guidance on supervision and mentoring may be found in AC 61-20 Pilot supervision.

# Flight training and theory delivery and assessment summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Training session number** | **Training session description** | **Theory briefing** | **Dual****day** | **Total flight time** |
| LL-AMH1 | Classroom long brief | 4-8 |  |  |
| LL-AMH2 | Low-level revision and basic mustering techniques | 0.5 | 1.0 - 4.0 | 1.0 - 4.0 |
| LL-AMH3 | Scenario training 1 Introduction to mustering | 0.5 | 1.0 - 5.0 | 2.0 - 9.0 |
| LL-AMH4 | Scenario training 2 Intermediate | 0.5 | 1.0 - 6.0 | 3.0 - 15.0 |
| LL-AMH5 | Scenario training 3 Skilled | 0.5 | 1.0 - 7.0 | 4.0 - 22.0 |
| LL-AMH6 | Scenario training 4 Test preparation | 0.5 | 1.0 - 8.0 | 5.0 - 30.0 |
| ***Flight test*** | **1.0** | **1.5 – 8.0** | **6.5 - 31.5** |

Flight times for lessons may vary greatly due to the nature of aerial stock mustering operations.

Training conducted for the endorsement within a 138 operator under CASA 05/23 calls for at least 20 hours of dual instruction in mustering operations.

Lessons 3-6 can be repeated as necessary.

Take advantage of situations as they arise on the job. If it is a difficult job beyond the capability of the student, then spend more time demonstrating. If the job is well within the capabilities of the student, then allow them space to make their own decisions, only interjecting if necessary. If there’s not much happening and the animals are moving along okay, then spend some time building the student’s general handling and emergency skills, without the distraction of the animals. Build the student’s capability over time.

# Planning matrix

|  |  |  |
| --- | --- | --- |
| **Legend**K = Knowledge training in classroomR = RevisionA = Assessment T = Flight Test (independent assessment) | **Low level rating – Aerial stock mustering endorsement (helicopter)** |  |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| **Performance Standards** | Classroom Long Brief | Low-level revision and basic mustering techniques | Scenario training 1 Introduction to mustering | Scenario training 2 Intermediate | Scenario training 3 Skilled | Scenario training 4 Test Preparation | Test |
| **3 =** Has received training in the element, however, is not able to consistently demonstrate competency to the standard required for qualification issue.**2 =** Is able to achieve competency to the standard required for qualification issue on the majority of occasions and is safe to operate solo under direct supervision.**1 =** Achieves competency to the standard required for qualification issue. |
|   | Dual day |  | **1-4** | **1-5** | **1-6** | **1-7** | **1-8** | **1-8** |
|   | Assessment | **A** | **A** | **A** | **A** | **A** | **A** | **T** |
| **Units and Elements** |   |
| **LL-H** | **Helicopter low-level operations** |   |   |   |   |   |   |  |
| LL-H.1 | Plan low-level operations | **R** | **1** |  |  |  | **1** | **T** |
| LL-H.2 | Flight component | **R** | **1** |  |  |  | **1** | **T** |
| LL-H.4 | Low-level handling (<200’/>5’) | **R** | **1** |  |  |  | **1** | **T** |
| LL-H.5 | Execute autorotative forced landing (simulated) from below 500 feet AGL | **R** | **1** |  |  |  | **1** | **T** |
| LL-H.7 | Operate at low level in hilly terrain | **R** | **1** |  |  |  | **1** | **T** |
| **LL-M** | **Aerial mustering operations** |  |
| LL-M.1 | Plan a stock mustering operation | **K** |  | **3** | **2** | **1** | **1** | **T** |
| LL-M.2 | Manoeuvre aircraft to the limits of the flight –manoeuvring envelope  | **K** | **3** | **3** | **2** | **1** | **1** | **T** |
| LL-M.3 | General manoeuvring | **K** |  | **3** | **2** | **1** | **1** | **T** |
| LL-M.4 | Conduct a stock mustering operation using an aircraft | **K** |  | **3** | **2** | **1** | **1** | **T** |
| **NTS1** | **Non-technical skills 1** |  |  |  |  |  |  |  |
| NTS1.1 | Maintain effective lookout | **K** | **1** | **1** | **1** | **1** | **1** | **T** |
| NTS1.2 | Maintain situational awareness | **K** | **2** | **2** | **2** | **1** | **1** | **T** |
| NTS1.3 | Assess situations and make decisions | **K** | **3** | **2** | **2** | **1** | **1** | **T** |
| NTS1.4 | Set priorities and manage tasks | **K** | **3** | **2** | **2** | **1** | **1** | **T** |
| NTS1.5 | Maintain effective communications and interpersonal relationships | **K** | **3** | **2** | **1** | **1** | **1** | **T** |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **NTS2** | **Non-technical skills 2** |  |  |  |  |  |  |  |
| NTS2.1 | Recognise and manage threats | **K** | **2** | **2** | **1** | **1** | **1** | **T** |
| NTS2.2 | Recognise and manage errors | **K** | **2** | **2** | **1** | **1** | **1** | **T** |
| NTS2.3 | Recognise and manage undesired aircraft state | **K** | **2** | **2** | **1** | **1** | **1** | **T** |
| \* Assessment conducted in VMC by day |  |  |  |  |  |  |  |  |  |

.

# Achievement record

### Helicopter aerial stock mustering endorsement

|  |  |
| --- | --- |
| Trainee’s name |  |
| Trainee’s ARN |  |
| Date commenced training |  |
| Date of assessment of prior learning and current competency (if applicable) |  |

|  |  |  |
| --- | --- | --- |
|  | Performance Standard |  |
| **3** | **2** | **1** |
| Has received training in the element, however, is not able to consistently demonstrate competency to the standard required for the grant of the authorisation. | Is able to achieve competency to the standard required for the grant of the authorisation on the majority of occasions and is safe to operate as pilot in command under direct supervision. | Achieves competency to the standard required for the grant of the authorisation. |

|  |  |  |
| --- | --- | --- |
| Aeronautical Knowledge Examination pass | **Date:** | Not applicable |
| Knowledge Deficiency Report assessment  | **Date:** | Not applicable |

##### Unit LL-H Helicopter low-level operations

| ELEMENT | Date | Instructor’s ARN | Instructor’s signature |
| --- | --- | --- | --- |
| LL-H-1 Plan low-level operations |  |  |  |
| LL-H-2 Flight component |  |  |  |
| LL-H-4 Low level handling |  |  |  |
| LL-H-5 Execute forced landing from below 500 feet AGL |  |  |  |
| LL-H-7 Operate at low level in hilly terrain |  |  |  |

##### Unit LL-M Helicopter aerial mustering endorsement

| ELEMENT | Date | Instructor’s ARN | Instructor’s signature |
| --- | --- | --- | --- |
| LL-M.1 Plan a stock mustering operation |  |  |  |
| LL-M.2 Manoeuvre aircraft within the limits of the flight – manoeuvring envelope |  |  |  |
| LL-M.3 General manoeuvring |  |  |  |
| LL-M.4 Conduct a stock mustering operation using an aircraft |  |  |  |

##### Unit NTS1 Non-technical skills

| ELEMENT | Date | Instructor’s ARN | Instructor’s signature |
| --- | --- | --- | --- |
| NTS1.1 Maintain effective lookout  |  |  |  |
| NTS1.2 Maintain situational awareness |  |  |  |
| NTS1.3 Assess situations and make decisions |  |  |  |
| NTS1.4 Set priorities and manage tasks |  |  |  |
| NTS1.5 Maintain effective communications and interpersonal relationships |  |  |  |

##### Unit NTS2 Non-technical skills

| ELEMENT | Date | Instructor’s ARN | Instructor’s signature |
| --- | --- | --- | --- |
| NTS2.1 Recognise and manage threats |  |  |  |
| NTS2.2 Recognise and manage errors |  |  |  |
| NTS2.3 Recognise and manage undesired aircraft state |  |  |  |

##### Trainee’s confirmation

|  |  |
| --- | --- |
| I have received the training specified in the elements, which have been certified on this competency achievement record. |  |
| Trainee’s signature | Date: \_\_\_\_/\_\_\_\_/\_\_\_\_\_ |

# Syllabus lesson plans

## Lesson plan – LL-AMH1: Classroom long brief

### Aeronautical knowledge training

|  |  |
| --- | --- |
| Agenda | * Long briefing 4-8 hours depending on RPL
* Underpinning knowledge as detailed.
 |
| Resources | * Briefing room with white board and whiteboard markers
* Notebook with PowerPoint and projector
* Aircraft model and other relevant visual aids as required
* Aircraft flight manual and checklist
* Company standard instructor briefing notes.
 |

| Content – aeronautical knowledge LL-AMH1 | Teaching technique | Trainee activity |
| --- | --- | --- |
| Long briefing * How to formulate a stock mustering operation
* Methods of determining the location and boundaries of the area of operation including terrain features, watering points, general behaviour of the stock
* Planning muster with stock owner/manager/head stockman
* Multi-aircraft operations - role and responsibilities of the team leader on the ground and in the air. Working as a team
* Positioning and role of ground staff
* Safety briefing for ground staff when near a working helicopter
* Methods of Communication and signals. Working as a team with ground personnel.
* Type of operation e.g. all helicopter, coacher mustering, central point aerial mustering with subsequent ground handling.
* Techniques for moving stock calmly and successfully with a helicopter. Minimising stock stress.
* Limitations and serviceability of aircraft used to conduct mustering operations. Note: type of aircraft often not flexible
* Positioning of fuel caches - includes ETA of fuel and communication with re-fuel operator if applicable.
* Actual and forecast weather conditions – effect on aircraft performance and its effect on stock in different seasons.
* Local weather anomalies such as fog, prevailing winds, morning glory
* Hazard identification and risk assessment - wires, fences, sun, dust
* Safety planning for operations remote of ground personnel.
* Emergency procedures to ensure the safe and effective operations-includes multiple aircraft ops
* Positioning the helicopter accurately in relation to the stock to create the desired response.
* Maintaining situational awareness of the aircraft whilst working stock.
* Utilising wind and translational lift to keep power required to a minimum.
* Minimising exposure to the avoid area of the height/velocity diagram.
* Recognising the early stages of settling into downwash and avoid it developing further.
* Recovery from low RRPM/low airspeed situations.
* avoid negative ‘g’ forces in teetering main rotor head systems.
* Leading throttle governor to anticipate and avoid loss of RRPM or rotor over-speed.
* Protecting tail rotor and main rotor from a strike and how to respond to a TR or MR strike.
* Avoiding landing /operating in dust.
 | * Long briefing
 | * Take notes
* Ask/answer questions
* Interact.
 |
| Underpinning knowledge topics – unit LL-Mand revision of unit LL-H* The topics mentioned in Section 2.5, Low-level rating in Schedule 3 of the Part 61 MOS
* Maximum rate and minimum rate turn criteria
* The effect of wind velocity in low-level operations
* The effect of aircraft inertia at low level
* Effects of illusions
* Obstruction avoidance techniques
* Critical operational conditions, including, retreating blade stall, blade flap, and negative ‘g’ effects
* Meteorological factors affecting performance at low level
* Terrain following techniques
* Safety hazards and risks of low-level operations and methods of control.

Underpinning knowledge topics – unit NTS1* Effective communication under normal and non-normal circumstances
* Task management.

***Underpinning knowle***dge ***topics- unit NTS2**** Effective communication under normal and non-normal circumstances
* Threat and error management detailing processes that can be used to identify and mitigate or control threats and errors
* The application of situational awareness to identifying real or potential environmental or operational threats to flight safety
* Developing and implementing plans of action for the following:
* Removing and mitigating threats
* Removing and mitigating errors
* Undesired aircraft states, including prevention, identifying and controlling
* How an undesired aircraft state can develop from an unmanaged threat or error
* What aspects of multi-crew operations (if applicable) can prevent an undesired aircraft state
* Use of checklists and standard operating procedures to prevent errors.
* Task management, including:

workload organisation and priority setting to ensure optimum safe outcome of the flight* event planning to occur in a logical and sequential manner
* anticipating events to ensure sufficient opportunity is available for completion
* using technology to reduce workload and improve cognitive and manipulative activities
* task prioritisation and protection whilst filtering and managing real time information.
 | * Discuss/ask questions
* Include in long briefing.
 | * Take notes
* Ask/answer questions
* Interact.
 |

## Lesson plan – LL-AMH2: Low level revision and basic mustering techniques

### Practical flight training for LL-AMH2

|  |  |
| --- | --- |
| Agenda | * Pre-flight briefing 0.5 hour
* Underpinning knowledge as detailed
* Flight time 1.0-4.0 hours dual relevant to RPL.
 |
| Content summary | * Revision of helicopter low-level operations
* Quick stops, downwind quick stops
* Low level turns
* Low-level autorotation
* Terrain flying
* Low-level flying in hilly environment
* Basic mustering techniques.
 |
| Resources | * Suitable training helicopter
* Area map
* Aircraft flight manual and checklist
* Headsets and helmets.
 |

| Content – practical flight training LL-AMH2 | Teaching technique | Trainee activity |
| --- | --- | --- |
| Pre-flight briefing* Review flight sequences, what to expect, see & do
* Check essential knowledge of low-level operations
* Check knowledge of management of all UAS resulting in a return to normal operation
* Reinforce threat & error management
* Reinforce significant airmanship points
 | * Pre-flight briefing
 | * Take notes
* Ask/answer questions
* Interact.
 |
| LL-H.1 – Plan low-level operations* Identify, evaluate and manage risks at low level
* Complete consultation with all stake holders involved in the low-level operation to confirm task requirements
* Ensure aircraft type and performance is appropriate for the task
* Assess and allow for the effects of fatigue and physical health on pilot performance
* Analyse and apply actual and forecast weather conditions to low-level operations
* Identify area of operations using chart and geographical features
* Assess geographical characteristics of the area of flying operations to ensure safe completion of the task
* Identify and avoid all obstructions
* Identify and avoid buildings, personnel, vehicles, animals, vegetation and nuisance areas.
 | * Monitor
* Assess.
 | * Perform tasks with guidance
* Perform tasks with monitoring
* Perform task.
 |
| LL-H.2 – Flight component* Correctly perform pre-flight inspection and determine aircraft serviceability for intended flight
* Correctly operate aircraft
* Correctly perform take-off.
 | * Monitor
* Assess.
 | * Perform tasks with guidance
* Perform tasks with monitoring
* Perform task.
 |
| LL-H.4 – Low-level handling* Manage the aircraft energy state
* Perform straight flight as follows:
* adjust height according to terrain to maintain assigned height above ground level
* recognise and manage the effect of rising and descending terrain on aircraft performance
* compensate for drift
* Perform turning at various bank angles up to 60° angle of bank at normal cruise speed as follows:
* adjust power as required
* recognise and manage the effect of rising and descending terrain on aircraft performance
* compensate for the effect of gradient wind
* anticipate rollout
* Demonstrate use of escape routes and rising ground
* Demonstrate flight at various speed and configurations not below translational lift
* Operate adjacent to powerlines and wire
* Demonstrate awareness of wind effect in the vicinity of obstructions, mountainous terrain and illusions
* Recognise and control the illusion of slipping and skidding during turns close to the ground
* Recognise the effect of rising and descending terrain on aircraft performance
* Maintain a constant altitude over featureless terrain or water
* Conduct procedure turns from a fixed ground reference point
* Demonstrate knowledge of the effect of false horizons
* Recognise and manage impact of sun glare on increased risk of collision with obstacles
* Identify escape routes and rising ground
* Identify the requirement to operate near powerlines and wires and assess risk
* Identify and avoid powerlines (wires) by a minimum of 15 ft when crossing overhead
* Identify and avoid all powerlines and wires
* Identify poles, cross trees, wires and insulators to assist powerline and wire location
* Identify and avoid pole stay wires
* Perform quick stop manoeuvres; into wind and downwind entry as follows:
* identify termination point
* decelerate helicopter
* balance helicopter and maintain direction and altitude
* maintain helicopter outside height velocity diagram requirements
* hover over the termination point
* perform quick stop manoeuvres, downwind entry
* identify termination point
* turn 180° by controlled corrective action (downwind entry)
* turn helicopter into wind and initiate deceleration
* balance helicopter and maintain direction and altitude
* Perform flight at various speed and configurations
* identify and maintain safe distance from pole stay wires
* navigate to a predetermined destination at altitude below 500 ft AGL
* comply with airspace requirements and procedures
* demonstrate correct navigation techniques and procedures at low level
* correctly perform low level circuit and landing
* correctly perform after landing and shutdown checks.
 | * Monitor
* Assess.
 | * Perform tasks with guidance
* Perform tasks with monitoring
* Perform task.
 |
| LL-H.5 – Execute autorotative forced landing (simulated) from below 500 ft AGL* Identify potential forced-landing areas prior to and during low-level operations
* Recognise engine failure or any other emergency requiring a forced landing and conduct recall actions
* Maintain control of the aircraft – select the most appropriate landing area within gliding distance while avoiding any powerlines or obstructions
* Manoeuvre the aircraft to a landing area that achieves the safest outcome
* Explain plan of action and the landing techniques that would ensure the safest outcome when committed to a forced landing on unfavourable terrain or water.
 | * Monitor
* Assess.
 | * Perform tasks with guidance
* Perform tasks with monitoring
* Perform task.
 |
| LL-H.7 – Operate at low level in hilly terrain* Safely manipulate the helicopter at low level in hilly terrain
* Establish and maintain safe height relevant to terrain
* Demonstrate safe contour flying
* Identify and select appropriate natural markers to aid situational awareness
* Demonstrate safe approaches to higher ground, including identification of escape routes
* Demonstrate safe turns in hilly terrain
* Demonstrate awareness and management of the effects of wind and turbulence in hilly terrain, including lee effects
* Demonstrate awareness of illusions in hilly terrain, including false horizon effect and shadows.
 | * Monitor
* Assess.
 | * Perform tasks with monitoring
* Perform task.
 |
| Basic mustering techniques* Utilising wind and translational lift to keep power required to a minimum
* Minimising exposure to the avoid area of the height/velocity diagram
* Recognising the early stages of settling into downwash and avoid it developing further
* Recovery from low RRPM/low airspeed situations
* avoid negative ‘g’ forces in teetering main rotor head systems
* Leading throttle governor to anticipate and avoid loss of RRPM or rotor over-speed
* Protecting tail rotor and main rotor from a strike and how to respond to a TR or MR strike
* Avoiding landing/operating in dust.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| NTS1* Maintain effective lookout
* Maintain situational awareness
* Assess situations and make decisions
* Set priorities and manage tasks
* Maintain effective communications and interpersonal relationships.
 | * Direct
* Monitor
* Assess.
 | * Perform tasks with guidance
* Perform tasks with monitoring
* Perform task.
 |
| NTS2* Recognise and manage threats
* Recognise and manage errors
* Recognise and manage undesired aircraft state
* Recognise an undesired aircraft state
* Prioritise tasks to ensure an undesired aircraft state is managed effectively
* Apply corrective actions to recover an undesired aircraft state in a safe and timely manner.
 | * Direct
* Monitor
* Assess.
 | * Perform tasks with guidance
* Perform tasks with monitoring
* Perform task.
 |

### Debriefing for LL-AMH2

|  |  |  |
| --- | --- | --- |
| Content – debriefing LL-AMH2 | Teaching technique | Trainee activity |
| * Training review and outcomes achieved against lesson objectives and the Part 61 MOS competency standards
* Recommendations for next lesson (including any carryover/remedial training)
* Trainee preparation for next lesson
* Training record completion & sign off.
 | * Open discussion
* Feedback
* Ask/answer questions.
 | * Open discussion
* Feedback
* Ask/answer questions
* Sign off on training record.
 |

## Lesson plan – LL-AMH3-5: Scenario training

### Practical flight training for LL-AMH3-5

|  |  |
| --- | --- |
| Agenda | * Pre-flight briefing 0.5 hour
* Underpinning knowledge as detailed
* Flight time………………………………1.0-7.0 hours dual (job size/student fatigue)
 |
| Content summary | * Scenario based aerial mustering operation
* Plan and conduct an aerial mustering operation
* Due to mustering training being on the job, this lesson plan covers all elements of LL-M and should be adapted as necessary by the instructor to suit the job/lesson for the day.
* All elements may be covered to some degree in one lesson and sometimes only a few elements may be covered.
* At the end of every job/lesson the instructor will use the training record to record which elements were covered and to what standard.
* Before completing the Achievement Record, the HOO will review the training records to ensure all elements of the Part 61 MOS have been covered and a 1 has been achieved by the student on 2 consecutive occasions.
* This kind of dot point denotes elements additional to Part 61 MOS.
 |
| Resources | * Aircraft that is suitable for the training and operation
* Station/paddock map
* Aircraft flight manual and checklist
* Headsets and helmets
 |

| Content – practical flight training for LL-AMH3-5 | Teaching technique | Trainee activity |
| --- | --- | --- |
| Pre-flight briefing* Review the paddock map
* Discuss the terrain, stock type and weather
* Plan the muster in conjunction with the manager
* Check essential knowledge
* Reinforce threat & error management
* Reinforce significant airmanship points.
 | * Pre-flight briefing
 | * Take notes
* Ask/answer questions
* Interact.
 |
| LL-M.1 – Plan a stock mustering operation* Formulate a stock mustering operation plan, including:
* determination of location and boundaries of the area of operation, terrain features
* suitability and serviceability of aircraft, starting point, positioning of support personnel, final destination of stock, location and suitability of landing areas
* present and forecast weather
* methods of communication and signals
* hazards and obstructions
* emergency procedures to ensure the safe and effective operation.
* plan a muster in conjunction with another pilot/s where applicable, including:
* communication
* separation
* teamwork
* splitting paddock and workload
* adapting and recommunicating plan, as necessary.
 | * Demonstrate
* Direct
* Monitor.
 | * Take notes
* Ask/answer questions
* Interact
* Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| LL-M.2 – Manoeuvre aircraft to the limits of the flight-manoeuvring envelope* Manoeuvre aircraft in all planes below 500 ft AGL, up to and not beyond the limits of the flight-manoeuvring envelope, without exceeding the operating limitations of the aircraft
* In addition to the performance criterion in paragraph (a), for helicopters, perform reversal turns, decelerations, steep turns, climb and descent manoeuvres, low and high-speed manoeuvres within the following standards:
* ensure power available exceeds power required
* conduct hovering only when OGE power is available for the gross weight, density altitude and relative wind conditions
* avoid conditions conducive to loss of tail rotor effectiveness
* avoid negative ‘g’ and reduced disc loading flight manoeuvres in teetering main rotor head systems
* avoid vortex ring conditions during quick stop/deceleration manoeuvres and recovery from low airspeed descending manoeuvres
* remain below VNE limits
* comply with height/velocity avoid combinations
* Maintains situational awareness of the aircraft whilst working stock
* Utilises wind and translational lift to keep power required to a minimum
* Recognises the early stages of settling into downwash and avoids it developing further
* Recovers from low RPM/low airspeed situations
* Leads throttle governor to anticipate and avoid loss of RRPM or rotor over-speed
* Protects TR from strike
* Protects MR from strike
* Avoids landing/operating in dust.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| LL-M.3 – General manoeuvring* Achieves desired ground tracks
* Maintains visual contact with the ground
* Manages the effect of wind and turbulence.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| LL-M.4 – Conduct a stock mustering operation using an aircraft* Coordinates and conducts the assembly and movement of stock to predetermined destination in the time available, safely and effectively, using an aircraft
* Establishes and maintains an effective communication system with stock mustering people on the ground.
* Positions helicopter accurately in relation to stock to create desired response
* Understands animal flight zones and pressure and release techniques
* Minimizes stock stress and fatigue.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| NTS1.1 – Maintain effective lookout* Maintain traffic separation using a systematic visual scan technique at a rate determined by traffic density, visibility and terrain
* Maintain radio listening watch and interpret transmissions to determine traffic location and intentions
* Perform airspace-cleared procedures before commencing any manoeuvre.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| NTS1.2 – Maintain situational awareness* Monitor all aircraft systems using a systematic scan technique
* Collect information to facilitate ongoing system management
* Monitor flight environment for deviations from planned operations
* Collect flight environment information to update planned operations.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| NTS1.3 – Assess situations and make decisions* Identify problems
* Analyse problems
* Identify solutions
* Assess solutions and risks
* Decide on a course of action
* Communicate plans of action (if appropriate)
* Allocate tasks for action (if appropriate)
* Take actions to achieve optimum outcomes for the operation
* Monitor progress against plan
* Re-evaluate plan to achieve optimum outcomes.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| NTS1.4 – Set priorities and manage tasks* Organise workload and priorities to ensure optimum outcome of the flight
* Plan events to occur sequentially
* Anticipate events and tasks to ensure sufficient opportunity for completion
* Use technology to reduce workload and improve cognitive and manipulate activities.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| NTS1.5 – Maintain effective communications and interpersonal relationships* Establish and maintain effective and efficient communications and interpersonal relationships with all stakeholders to ensure the optimum outcome of the flight
* Define and explain objectives to stakeholders
* Demonstrate a level of assertiveness that ensures the optimum completion of the flight
* Works as a team with other helicopters and ground crew, where applicable.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| NTS2.1 – Recognise and manage threats * Identify relevant environmental or operational threats that are likely to affect the safety of the flight
* Identify when competing priorities and demands may represent a threat to the safety of the flight
* Develop and implement countermeasures to manage threats
* Monitor and assess flight progress to ensure a safe outcome, or modify actions when a safe outcome is not assured.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| NTS2.2 – Recognise and manage errors* Apply checklists and standard operating procedures to prevent aircraft handling, procedural or communication errors
* Identify committed errors before safety is affected or the aircraft enters an undesired state
* Monitor the following to collect and analyse information to identify potential or actual errors:
* aircraft systems using a systematic scan technique
* the flight environment
* other crew
* Implement countermeasures to prevent errors or take action in the time available to correct errors before the aircraft enters an undesired state.
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |
| NTS2.3 – Recognise and manage undesired aircraft state* + - * + Recognise an undesired aircraft state
				+ Prioritise tasks to ensure an undesired aircraft state is managed effectively
* Apply corrective actions to recover an undesired aircraft state in a safe and timely manner
 | * Demonstrate
* Direct
* Monitor.
 | * Observe
* Perform tasks with guidance
* Perform tasks with monitoring.
 |

### Debriefing for LL-AMH3-5

|  |  |  |
| --- | --- | --- |
| Content – debriefing LL-AMH3-5 | Teaching technique | Trainee activity |
| * Training review and outcomes achieved against lesson objectives and the Part 61 MOS competency standards
* Recommendations for next lesson (including any carryover/remedial training)
* Trainee preparation for next lesson
* Training record completion & sign off.
 | * Open discussion
* Feedback
* Ask/answer questions.
 | * Open discussion
* Feedback
* Ask/answer questions
* Sign off on training record.
 |

## Lesson plan – LL-AMH6: Scenario training and review - Pre-test

**Practical flight training for LL-AMH6**

|  |  |
| --- | --- |
| Agenda | * Pre-flight briefing 0.5 hour
* Underpinning knowledge as detailed
* Flight time 1.0-8.0 hours dual (job size/fatigue).
 |
| Content summary | * Scenario based aerial mustering operation
* Plan and conduct an aerial mustering operation
* Review LL-H and LL-M in preparation for AMH test
* If the requirements of the job do not allow review of all elements, in particular emergencies, then a separate lesson not on the job may be required.
* This kind of dot point denotes elements additional to Part 61 MOS.
 |
| Resources | * Aircraft that is suitable for the training and operation
* Station/paddock map
* Aircraft flight manual and checklist
* Headsets and helmets.
 |

| Content – practical flight training for LL-AMH6 | Teaching technique | Trainee activity |
| --- | --- | --- |
| ***Pre-flight briefing**** Review the paddock map
* Discuss the terrain, stock type and weather
* Plan the muster in conjunction with the manager
* Check essential knowledge
* Reinforce threat & error management
* Reinforce significant airmanship points.
 | * Pre-flight briefing
* Assess.
 | * Perform tasks
 |
| LL-H.1 – Plan Low-level operations* Identify, evaluate and manage risks at low level
* Complete consultation with all stake holders involved in the low-level operation to confirm task requirements
* Ensure aircraft type and performance is appropriate for the task
* Assess and allow for the effects of fatigue and physical health on pilot performance
* Analyse and apply actual and forecast weather conditions to low-level operations
* Identify area of operations using chart and geographical features
* Assess geographical characteristics of the area of flying operations to ensure safe completion of the task
* Identify and avoid all obstructions
* Identify and avoid buildings, personnel, vehicles, animals, vegetation and nuisance areas.
 | * Assess
 | • Perform tasks |
| LL-H.2 – Flight component* Correctly perform pre-flight inspection and determine aircraft serviceability for intended flight
* Correctly operate aircraft
* Correctly perform take-off.
 | * Assess
 | * Perform tasks
 |
| LL-H.4 – Low-level handling* Manage the aircraft energy state
* Perform straight flight as follows:
* adjust height according to terrain to maintain assigned height above ground level
* recognise and manage the effect of rising and descending terrain on aircraft performance
* compensate for drift
* Perform turning at various bank angles up to 60° angle of bank at normal cruise speed as follows:
* adjust power as required
* recognise and manage the effect of rising and descending terrain on aircraft performance
* compensate for the effect of gradient wind
* anticipate rollout
* Demonstrate use of escape routes and rising ground
* Demonstrate flight at various speed and configurations not below translational lift
* Operate adjacent to powerlines and wire
* Demonstrate awareness of wind effect in the vicinity of obstructions, mountainous terrain and illusions
* Recognise and control the illusion of slipping and skidding during turns close to the ground
* Recognise the effect of rising and descending terrain on aircraft performance
* Maintain a constant altitude over featureless terrain or water
* Conduct procedure turns from a fixed ground reference point
* Demonstrate knowledge of the effect of false horizons
* Recognise and manage impact of sun glare on increased risk of collision with obstacles
* Identify escape routes and rising ground
* Identify the requirement to operate in the vicinity of powerlines and wires and assesses risk
* Identify and avoid powerlines (wires) by a minimum of 15 ft when crossing overhead
* Identify and avoid all powerlines and wires
* Identify poles, cross trees, wires and insulators to assist powerline and wire location
* Identify and avoid pole stay wires
* Perform quick stop manoeuvres; into wind and downwind entry as follows:
* identify termination point
* decelerate helicopter
* balance helicopter and maintain direction and altitude
* maintain helicopter outside height velocity diagram requirements
* hover over the termination point
* perform quick stop manoeuvres, downwind entry
* identify termination point
* turn 180° by controlled corrective action (downwind entry)
* turn helicopter into wind and initiate deceleration
* balance helicopter and maintain direction and altitude
* Perform flight at various speed and configurations
* identify and maintain safe distance from pole stay wires
* navigate to a predetermined destination at altitude below 500 ft AGL
* comply with airspace requirements and procedures
* demonstrate correct navigation techniques and procedures at low level
* correctly perform low level circuit and landing
* correctly perform after landing and shutdown checks.
 | * Assess
 | * Perform tasks
 |
| LL-H.5 – Execute autorotative forced landing (simulated) from below 500 ft AGL* Identify potential forced-landing areas prior to and during low-level operations
* Recognise engine failure or any other emergency requiring a forced landing and conduct recall actions
* Maintain control of the aircraft – select the most appropriate landing area within gliding distance while avoiding any powerlines or obstructions
* Manoeuvre the aircraft to a landing area that achieves the safest outcome
* Explain plan of action and the landing techniques that would ensure the safest outcome when committed to a forced landing on unfavourable terrain or water.
 | * Assess
 | * Perform tasks
 |
| LL-H.7 – Operate at low level in hilly terrain* Safely manipulate the helicopter at low level in hilly terrain
* Establish and maintain safe height relevant to terrain
* Demonstrate safe contour flying
* Identify and select appropriate natural markers to aid situational awareness
* Demonstrate safe approaches to higher ground, including identification of escape routes
* Demonstrate safe turns in hilly terrain
* Demonstrate awareness and management of the effects of wind and turbulence in hilly terrain, including lee effects
* Demonstrate awareness of illusions in hilly terrain, including false horizon effect and shadows.
 | * Assess
 | * Perform tasks
 |
| LL-M.1 – Plan a stock mustering operation* Formulate a stock mustering operation plan, including:
* determination of location and boundaries of the area of operation, terrain features
* suitability and serviceability of aircraft, starting point, positioning of support personnel, final destination of stock, location and suitability of landing areas
* present and forecast weather
* methods of communication and signals
* hazards and obstructions
* emergency procedures to ensure the safe and effective operation.
 | * Monitor
* Assess.
 | * Perform tasks with monitoring
* Perform tasks.
 |
| LL-M.2 – Manoeuvre aircraft to the limits of the flight-manoeuvring envelope* Manoeuvre aircraft in all planes below 500 ft AGL, up to and not beyond the limits of the flight-manoeuvring envelope, without exceeding the operating limitations of the aircraft
* In addition to the performance criterion in paragraph (a), for helicopters, perform reversal turns, decelerations, steep turns, climb and descent manoeuvres, low and high-speed manoeuvres within the following standards:
* ensure power available exceeds power required
* conduct hovering only when OGE power is available for the gross weight, density altitude and relative wind conditions
* avoid conditions conducive to loss of tail rotor effectiveness
* avoid negative ‘g’ and reduced disc loading flight manoeuvres in teetering main rotor head systems
* avoid vortex ring conditions during quick stop/deceleration manoeuvres and recovery from low airspeed descending manoeuvres
* remain below VNE limits
* comply with height/velocity avoid combinations.
 | * Monitor
* Assess.
 | * Perform tasks with monitoring
* Perform tasks.
 |
| LL-M.3 – General manoeuvring* Achieves desired ground tracks
* Maintains visual contact with the ground
* Manages the effect of wind and turbulence.
 | * Monitor
* Assess.
 | * Perform tasks with monitoring
* Perform tasks.
 |
| LL-M.4 – Conduct a stock mustering operation using an aircraft* Coordinates and conducts the assembly and movement of stock to predetermined destination in the time available, safely and effectively, using an aircraft
* Establishes and maintains an effective communication system with stock mustering people on the ground.
 | * Monitor
* Assess.
 | * Perform tasks with monitoring
* Perform tasks.
 |
| NTS1 – Maintain effective communications and interpersonal relationships* Establish and maintain effective and efficient communications and interpersonal relationships with all stakeholders to ensure the optimum outcome of the flight
* Define and explain objectives to stakeholders
* Demonstrate a level of assertiveness that ensures the optimum completion of the flight.
 | * Monitor
* Assess.
 | * Perform tasks with monitoring
* Perform tasks.
 |
| ***NTS2.1*** – ***Recognise and manage threats*** * Identify relevant environmental or operational threats that are likely to affect the safety of the flight
* Identify when competing priorities and demands may represent a threat to the safety of the flight
* Develop and implement countermeasures to manage threats
* Monitor and assess flight progress to ensure a safe outcome, or modify actions when a safe outcome is not assured.
 | * Monitor
* Assess.
 | * Perform tasks with monitoring
* Perform tasks.
 |
| ***NTS2.2*** – ***Recognise and manage errors**** Apply checklists and standard operating procedures to prevent aircraft handling, procedural or communication errors
* Identify committed errors before safety is affected or the aircraft enters an undesired state
* Monitor the following to collect and analyse information to identify potential or actual errors:
* aircraft systems using a systematic scan technique
* the flight environment
* other crew
* Implement countermeasures to prevent errors or take action in the time available to correct errors before the aircraft enters an undesired state.
 | * Monitor
* Assess.
 | * Perform tasks with monitoring
* Perform tasks.
 |
| ***NTS2.3*** – ***Recognise and manage undesired aircraft state**** Recognise an undesired aircraft state
* Prioritise tasks to ensure an undesired aircraft state is managed effectively
* Apply corrective actions to recover an undesired aircraft state in a safe and timely manner.
 | * Monitor
* Assess.
 | * Perform tasks with monitoring
* Perform tasks.
 |

### Debriefing for LL-AMH6

|  |  |  |
| --- | --- | --- |
| Content – debriefing LL-AMH6 | Teaching technique | Trainee activity |
| * Training review and outcomes achieved against lesson objectives and the Part 61 MOS competency standards
* Recommendations for next lesson (including any carryover/remedial training)
* Trainee preparation for next lesson
* Training record completion & sign off.
 | * Open discussion
* Feedback
* Ask/answer questions.
 | * Open discussion
* Feedback
* Ask/answer questions
* Sign off on training record.
 |

# Training records

## Training record LL-AMH2: Low level revision and basic mustering techniques

Suggested flight time at least 1.0 hour dual relevant to student experience and ability.

|  |  |  |
| --- | --- | --- |
| Trainee’s details | Name |  |
|  | ARN |  |
| Instructor details | Name |  |
|  | ARN |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Aircraft details | Aircraft registration |  | Aircraft type |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Flight details | Date |  | Flight time |   |

|  |  |  |  |
| --- | --- | --- | --- |
| Completion dates | Long briefing  | Pre-flight briefing  | Underpinning knowledge |
|  |  |  |  |

|  |  |  |
| --- | --- | --- |
|  | Performance Standard |  |
| **3** | **2** | **1** |
| Has received training in the element, however, is not able to consistently demonstrate competency to the standard required for qualification issue | Is able to achieve competency to the standard required for the grant of the authorisation on the majority of occasions, and is safe to operate as pilot in command under direct supervision | Achieves competency to the standard required for qualification issue |

| Unit/Element | Description | Required standard | Demonstrated standard |
| --- | --- | --- | --- |
| LL-H.1 | Plan low-level operations | 1 |  |
| LL-H.2 | Flight component | 1 |  |
| LL-H.4 | Low-level handling | 1 |  |
| LL-H.5 | Execute autorotative forced landing from below 500’ AGL | 1 |  |
| LL-H.7 | Operate at low level in hilly terrain | 1 |  |
| LL-M.2 | Manoeuvre aircraft to the limits of the flight-manoeuvring envelope | 3 |  |
| NTS1.1 | Maintain effective lookout | 1 |  |
| NTS1.2 | Maintain situational awareness | 2 |  |
| NTS1.3 | Assess situations and make decisions | 3 |  |
| NTS1.4 | Set priorities and manage tasks | 3 |  |
| NTS1.5 | Maintain effective communications and interpersonal relationships | 3 |  |
| NTS2.1  | Recognise and manage threats | 2 |  |
| NTS2.2 | Recognise and manage errors | 2 |  |
| NTS2.3 | Recognise and manage undesired aircraft state | 2 |  |

***Note:*** *Where an element has either not been conducted, or where the trainee has not attained the required performance standard, that element is to be covered during the next training session.*

|  |
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| **Comments** |
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| --- | --- | --- |
| Proceed to next training session? | YES | NO |

|  |  |
| --- | --- |
| Instructor’s signature | Trainee’s signature |
|  |  |

## Training record LL-AMH3: Scenario training 1 - Introduction to mustering

Suggested flight time 1.0-5.0 hours dual relevant to size of job and student fatigue

|  |  |  |
| --- | --- | --- |
| Trainee’s details | Name |  |
|  | ARN |  |
| Instructor details | Name |  |
|  | ARN |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Aircraft details | Aircraft registration |  | Aircraft type |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Flight details | Date |  | Flight time |   |

|  |  |  |  |
| --- | --- | --- | --- |
| Completion dates | Long briefing  | Pre-flight briefing  | Underpinning knowledge |
|  |  |  |  |

|  |  |  |
| --- | --- | --- |
|  | **Performance Standard** |  |
| **3** | **2** | **1** |
| Has received training in the element, however, is not able to consistently demonstrate competency to the standard required for qualification issue | Is able to achieve competency to the standard required for qualification issue on the majority of occasions, and is safe to operate solo under direct supervision | Achieves competency to the standard required for qualification issue |

| Unit/Element | Description | Required standard | Demonstrated standard |
| --- | --- | --- | --- |
| LL-M.1 | Plan a stock mustering operation | 3 |  |
| LL-M.2 | Manoeuvre aircraft to the limits of the flight-manoeuvring envelope | 3 |  |
| LL-M.3 | General manoeuvring | 3 |  |
| LL-M.4 | Conduct a stock mustering operation using a helicopter | 3 |  |
| NTS1.1 | Maintain effective lookout | 1 |  |
| NTS1.2 | Maintain situational awareness | 2 |  |
| NTS1.3 | Assess situations and make decisions | 2 |  |
| NTS1.4 | Set priorities and manage tasks | 2 |  |
| NTS1.5 | Maintain effective communications and interpersonal relationships | 1 |  |
| NTS2.1 | Recognise and manage threats | 2 |  |
| NTS2.2 | Recognise and manage errors | 2 |  |
| NTS2.3 | Recognise and manage undesired aircraft state | 2 |  |

***Note:*** *Where an element has either not been conducted, or where the trainee has not attained the required performance standard, that element is to be covered during the next training session.*

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| **Comments** |
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| --- | --- | --- |
| Proceed to next training session? | YES | NO |

|  |  |
| --- | --- |
| Instructor’s signature | Trainee’s signature |
|  |  |

## Training record LL-AMH4: Scenario training 2 - Intermediate

Suggested flight time 1.0-6.0 hours dual relevant to size of job and student fatigue

|  |  |  |
| --- | --- | --- |
| Trainee’s details | Name |  |
|  | ARN |  |
| Instructor details | Name |  |
|  | ARN |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Aircraft details | Aircraft registration |  | Aircraft type |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Flight details | Date |  | Flight time |  D |  S |

|  |  |  |  |
| --- | --- | --- | --- |
| Completion dates | Long briefing  | Pre-flight briefing  | Underpinning knowledge |
|  |  |  |  |

|  |  |  |
| --- | --- | --- |
|  | Performance Standard |  |
| **3** | **2** | **1** |
| Has received training in the element, however, is not able to consistently demonstrate competency to the standard required for qualification issue  | Is able to achieve competency to the standard required for qualification issue on the majority of occasions, and is safe to operate solo under direct supervision | Achieves competency to the standard required for qualification issue |

| Unit/Element | Description | Required standard | Demonstrated standard |
| --- | --- | --- | --- |
| LL-M.1 | Plan a stock mustering operation | 2 |  |
| LL-M.2 | Manoeuvre aircraft to the limits of the flight-manoeuvring envelope | 2 |  |
| LL-M.3 | General manoeuvring | 2 |  |
| LL-M.4 | Conduct a stock mustering operation using a helicopter | 2 |  |
| NTS1.1 | Maintain effective lookout | 1 |  |
| NTS1.2 | Maintain situational awareness | 2 |  |
| NTS1.3 | Assess situations and make decisions | 2 |  |
| NTS1.4 | Set priorities and manage tasks | 2 |  |
| NTS1.5 | Maintain effective communications and interpersonal relationships | 1 |  |
| NTS2.1 | Recognise and manage threats | 2 |  |
| NTS2.2 | Recognise and manage errors | 2 |  |
| NTS2.3 | Recognise and manage undesired aircraft state | 2 |  |

***Note:*** *Where an element has either not been conducted, or where the trainee has not attained the required performance standard, that element is to be covered during the next training session.*

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| **Comments** |
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| --- | --- | --- |
| Proceed to next training session? | YES | NO |

|  |  |
| --- | --- |
| Instructor’s signature | Trainee’s signature |
|  |  |

## Training record LL-AMH5: Scenario training 3 - Skilled

Suggested flight time 1.0-7.0 hours dual relevant to job and student fatigue

|  |  |  |
| --- | --- | --- |
| Trainee’s details | Name |  |
|  | ARN |  |
| Instructor details | Name |  |
|  | ARN |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Aircraft details | Aircraft registration |  | Aircraft type |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Flight details | Date |  | Flight time |  D |  S |

|  |  |  |  |
| --- | --- | --- | --- |
| Completion dates | Long briefing  | Pre-flight briefing  | Underpinning knowledge |
|  |  |  |  |

|  |  |  |
| --- | --- | --- |
|  | Performance Standard |  |
| **3** | **2** | **1** |
| Has received training in the element, however, is not able to consistently demonstrate competency to the standard required for qualification issue  | Is able to achieve competency to the standard required for qualification issue on the majority of occasions, and is safe to operate solo under direct supervision | Achieves competency to the standard required for qualification issue |

| Unit/Element | Description | Required standard | Demonstrated standard |
| --- | --- | --- | --- |
| LL-H.1 | Plan low-level operations | 1 |  |
| LL-H.2 | Flight component | 1 |  |
| LL-H.4 | Low-level handling | 1 |  |
| LL-H.5 | Execute autorotative forced landing from below 500’ AGL | 1 |  |
| LL-H.7 | Operate at low level in hilly terrain | 1 |  |
| LL-M.1 | Plan a stock mustering operation | 1 |  |
| LL-M.2 | Manoeuvre aircraft to the limits of the flight-manoeuvring envelope | 1 |  |
| LL-M.3 | General manoeuvring | 1 |  |
| LL-M.4 | Conduct a stock mustering operation using a helicopter | 1 |  |
| NTS1.1 | Maintain effective lookout | 1 |  |
| NTS1.2 | Maintain situational awareness | 1 |  |
| NTS1.3 | Assess situations and make decisions | 1 |  |
| NTS1.4 | Set priorities and manage tasks | 1 |  |
| NTS1.5 | Maintain effective communications and interpersonal relationships | 1 |  |
| NTS2.1 | Recognise and manage threats | 1 |  |
| NTS2.2 | Recognise and manage errors | 1 |  |
| NTS2.3 | Recognise and manage undesired aircraft state | 1 |  |

***Note:*** *Where an element has either not been conducted, or where the trainee has not attained the required performance standard, that element is to be covered during the next training session*

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| **Comments** |
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| --- | --- | --- |
| Proceed to next training session? | YES | NO |

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| --- | --- |
| Instructor’s signature | Trainee’s signature |
|  |  |

## Training record LL-AMH6: Scenario training 4 - Test preparation

Suggested flight time 1.0-8.0 hours dual relevant to job size and student fatigue.

|  |  |  |
| --- | --- | --- |
| Trainee’s details | Name |  |
|  | ARN |  |
| Instructor details | Name |  |
|  | ARN |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Aircraft details | Aircraft registration |  | Aircraft type |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Flight details | Date |  | Flight time |  D |  S |

|  |  |  |  |
| --- | --- | --- | --- |
| Completion dates | Long briefing  | Pre-flight briefing  | Underpinning knowledge |
|  |  |  |  |

|  |  |  |
| --- | --- | --- |
|  | Performance Standard |  |
| **3** | **2** | **1** |
| Has received training in the element, however, is not able to consistently demonstrate competency to the standard required for qualification issue  | Is able to achieve competency to the standard required for qualification issue on the majority of occasions, and is safe to operate solo under direct supervision | Achieves competency to the standard required for qualification issue |

| Unit/Element | Description | Required standard | Demonstrated standard |
| --- | --- | --- | --- |
| LL-H.1 | Plan low-level operations | 1 |  |
| LL-H.2 | Flight component | 1 |  |
| LL-H.4 | Low-level handling | 1 |  |
| LL-H.5 | Execute autorotative forced landing from below 500’ AGL | 1 |  |
| LL-H.7 | Operate at low level in hilly terrain | 1 |  |
| LL-M.1 | Plan a stock mustering operation | 1 |  |
| LL-M.2 | Manoeuvre aircraft to the limits of the flight-manoeuvring envelope | 1 |  |
| LL-M.3 | General manoeuvring | 1 |  |
| LL-M.4 | Conduct a stock mustering operation using a helicopter | 1 |  |
| NTS1.1 | Maintain effective lookout | 1 |  |
| NTS1.2 | Maintain situational awareness | 1 |  |
| NTS1.3 | Assess situations and make decisions | 1 |  |
| NTS1.4 | Set priorities and manage tasks | 1 |  |
| NTS1.5 | Maintain effective communications and interpersonal relationships | 1 |  |
| NTS2.1 | Recognise and manage threats | 1 |  |
| NTS2.2 | Recognise and manage errors | 1 |  |
| NTS2.3 | Recognise and manage undesired aircraft state | 1 |  |

***Note:*** *Where an element has either not been conducted, or where the trainee has not attained the required performance standard, that element is to be covered during the next training session*

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| **Comments** |
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| --- | --- | --- |
| Proceed to test? | YES | NO |

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| --- | --- |
| Instructor’s signature | Trainee’s signature |
|  |  |

# Course completion certificate

|  |  |
| --- | --- |
| Name of course | Aerial stock mustering endorsement - Helicopter |
| Training provider name |  |
| Training provider ARN |  |
| Trainee’s name |  |
| Trainee’s ARN |  |
| Date commenced training |  |
| Date of final assessment  |  |
| Certification | The certificate confirms the trainee has completed the described course to the standards prescribed in the relevant Appendix of Schedule 2 of the Part 61 Manual of Standards and is eligible to take the flight test for the grant of the aerial stock mustering endorsement - helicopter. |
| Head of operations name |  |
| Signature |  |
| Date  |  |

1. Sector Risk Profile for the aerial mustering sector, 2015, Civil Aviation Safety Authority [↑](#footnote-ref-2)