# ASRA



## PILOT TRAINING BOOKLET

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# ASRA PILOT TRAINING BOOKLET

## APRIL 2020

## CHECKLIST OF CURRENT PAGES

Ensure your Pilot Training Booklet is complete by comparing pages with the checklist. Notify any deficiencies to the Operations Manager at the address printed on the inside cover of the latest GYRO NEWS, or that obtained from the ASRA website at http://www.asra.org.au

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# AMENDMENT RECORD

Upon receipt of an amendment to the Pilot Training Booklet, remove and destroy the pages indicated, insert the new pages, then annotate and sign the amendment record below.

| AMENDMENT NUMBER | AMENDMENT DATE | FILED BY SIG / DATE | AMENDMENT NUMBER | AMENDMENT DATE | FILED BY SIG / DATE |
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# TABLE OF CONTENTS

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# INTRODUCTION

This booklet is issued to all ASRA members who commence flight training in gyroplanes. It lays down the minimum requirements in respect of theory and in-flight training and provides the basis for a pilot to continue his self-education from all sources following qualification.

The booklet remains the property of the member to whom it was issued. Instructors are required to refer to the member's personal copy of the booklet prior to and during training. Instructors must note the progress of students after each and every training sortie in the section provided. Particular attention should be paid to completing the "Weather" line, noting such variables as windy, gusty, turbulent etc. In the Flight Time column, record: time logged this sortie/progressive total. (Note: this does not replace the requirement for pilot logbooks to be completed for each flight.) Copies of these Training Records must be retained by the instructor for future reference in the event that he is called upon during investigations involving the pilot's training. Copies of these pages are self carboning and perforated to allow their easy removal. Students will find these records useful for revision purposes as will other instructors when more than one instructor is utilised.

The column headed "**Pre Solo"** indicates the level of competency to be reached prior to the students first solo flight. The column headed "**Pilot Cert**" indicates the level of competency to be reached before the issue of a Pilot Certificate. The columns headed "**Stu**" and "**Ins**" are to be initialed by the student and instructor respectively when, in the case of the student he is satisfied that he has received adequate instruction on and has an understanding of the subject matter to the standard indicated, and in the case of the instructor, when he is satisfied that the student has achieved a standard which is at or above the minimum indicated. The date should be inserted when the appropriate columns are initialed.

To provide some degree of protection for students and instructors, a "certification" page is included. Completion of this page by both parties at the appropriate time is mandatory. The carbon copy must be retained by the instructor.

The minimum requirements for the issue of ASRA Pilot Qualifications are contained in various sections of the ASRA Operations Manual and will not be repeated in this booklet. Candidates for specific qualifications must familiarize themselves with the minimum requirements for the qualification they seek by referring to the ASRA Operations Manual in the first instance.

**NOTE 1:** An ASRA Examination on Flight Rules and Procedures must be passed **prior** to the students first solo, and an ASRA Examination on Basic Aeronautical Knowledge must be passed **prior** to the issue of an ASRA Pilot Certificate. Certification statements to this effect are contained in Section 2 of this booklet.

**NOTE 2:** Students are limited to a maximum of 3 hours of in-flight training per day.

This booklet is a “living document” and as such, will be added to and amended as and when necessary. Suggestions regarding the contents and format may be forwarded to the ASRA Operations Manager at the address published in the Gyro News and on the website at www.asra.org.au, or emailed to operations@asra.org.au

## Personal Information

**Name: ..... D.O.B. ..... M'Ship Number: .....**

**Medical : ..... Date Issued: ..... Expiry Date: .....**

**English Language Proficiency Assessed: Yes/No Date: .....**

**Risk Briefing Completed: Yes/No Date: .....**

## Previous Experience

**Licence/Certificate Type: Number: ..... Issued By: .....**
**.....**

**Total Hours: ..... Hours Dual: ..... Hours solo: .....**

**Endorsements: .....**

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## SYLLABUS of BASIC AERONAUTICAL KNOWLEDGE, FLIGHT

## RULES AND PROCEDURES and HUMAN FACTORS

The following syllabus specifies the MINIMUM standard of knowledge required.

Qualifying letters are used to indicate the levels of knowledge necessary for each individual item within a particular subject as follows:

**A** A **basic** understanding of the subject matter, sufficient, with some assistance from an instructor, for the solution of simple problems either by calculation or exercise of judgment.

**B** A **sound** understanding of the subject matter, sufficient, without assistance, for the solution of more advanced practical problems either by calculation or by the exercise of judgment.

**C** A **thorough** understanding of the subject matter, achieving without assistance, a first attempt accuracy of 80% in the solution of advanced practical problems either by calculation or the exercise of judgment.

**P** Practical application of relevant procedures.

**Note:** The pass mark for the set ASRA BAK, FR&P and HUMAN FACTORS examinations is 80%

| PRINCIPLES OF FLIGHT | Pre Solo | Pilot Cert. | Stu | Ins | Date |
|---|---|---|---|---|---|
| <u>An understanding of the following terms:</u><br><br>Rotors: cord, diameter and pitch<br>Weight, lift, thrust and drag as forces acting on a gyroplane<br>Angle of attack of a rotor blade and rotor disc<br>Rotor loading<br>Lift/drag ratio and glide angle<br>Dissymmetry of lift<br>Hinging (Flapping) – causes and remedies<br>Autorotation, self-governing and precession forces | A | B | | | |
| <u>Relationship of the following factors in the production of lift and drag by rotor blades:</u><br><br>Air density<br>Surface area<br>Angle of attack<br>Rotor speed<br>Forward speed<br>Air foil shape | A | B | | | |
| <u>An understanding of the following controls and how they should be used:</u><br><br>Primary controls – control column (cyclic stick), rudder and throttle<br>Ancillary controls – trim springs and tab, pre-rotator, adjustable pitch and roll trim | B&P | C&P | | | |

| PRINCIPLES OF FLIGHT | Pre Solo | Pilot Cert. | Stu | Ins | Date |
|---|---|---|---|---|---|
| <u>How a gyroplane is manoeuvred:</u> | | | | | |
| Straight and level (under power) | B&P | C&P | | | |
| How a gyroplane is flown at various airspeeds and attitudes | B&P | C&P | | | |
| Limiting airspeeds and factors affecting them | B | C | | | |
| <u>Climbing:</u> | | | | | |
| How a gyroplane climbs at various speeds and power settings to achieve varying rates and angles of climb | B&P | C&P | | | |
| <u>Descending:</u> | | | | | |
| How a gyroplane descends at various speeds and power settings to achieve varying rates and angles of descent | B&P | C&P | | | |
| Normal glide (engine idling) | B&P | C&P | | | |
| <u>Turning:</u> | | | | | |
| How a gyroplane is turned and the relationship between airspeed, angle of bank, rate of turn radius of turn and rotor RPM | B&P | C&P | | | |

| PRINCIPLES OF FLIGHT | Pre Solo | Pilot Cert. | Stu | Ins | Date |
|---|---|---|---|---|---|
| <u>Behind the Power Curve:</u> | | | | | |
| Causes – the relationship between power available vs. power required | B | C | | | |
| Indications of impending sink | B | C | | | |
| Use of controls to recover from “sink” | C&P | C & P | | | |
| The relationship between attitude and airspeed | B | C | | | |
| The relationship between angle of bank and airspeed | B | C | | | |
| The effect of aircraft weight on “sink” rate | B | C | | | |
| <u>Take-off:</u> | | | | | |
| The effect of propeller rotation and crosswind on directional control on take-off | B&P | C & P | | | |
| <u>Approach and Landing:</u> | | | | | |
| The effect of crosswind and how it is overcome | B&P | C & P | | | |
| The effect of wind gradient and how it is overcome | B&P | C & P | | | |
| <u>Ground Handling:</u> | | | | | |
| How a gyroplane is controlled and handled on the ground under various wind conditions | B&P | C & P | | | |
| Taxiing | B&P | C & P | | | |
| Rotor handling | B&P | C & P | | | |

| AIRFRAME | Pre Solo | Pilot Cert. | Stu | Ins | Date |
|---|---|---|---|---|---|
| <u>Recognition of defects in:</u> | | | | | |
| Landing Gear | P | P | | | |
| Flying controls and cables | P | P | | | |
| Rotor and rotor head bolts | P | P | | | |
| Tail surface attachment points | P | P | | | |
| Bracing wires and stays | P | P | | | |
| Engine mounts | P | P | | | |
| Propeller | P | P | | | |
| Vibration – Causes. Consequences of significant increase in-flight | C&P | C & P | | | |

| LOADING | | | | | |
|---|---|---|---|---|---|
| <u>An understanding of:</u> | | | | | |
| Hang test and its limits | A | B | | | |
| The importance of the limits | B | C | | | |
| Precautions when loading | B&P | C & P | | | |
| Effects of loading on take-off, climb and landing performance | A | B | | | |

| AIRCRAFT OPERATION | Pre Solo | Pilot Cert. | Stu | Ins | Date |
|---|---|---|---|---|---|
| <u>Administration:</u> | | | | | |
| The use and purpose of the Gyroplane Log Book and the Gyroplane Pilot Log Book | B&P | C & P | | | |
| ASRA Operations Manual | B&P | C & P | | | |
| <u>Ground Operation:</u> | | | | | |
| Daily and pre-flight inspection of airframe and engine | B | C | | | |
| Quality control and fire prevention during re-fuelling | B | C | | | |
| Precautions to be taken during start, warm-up, run up and run down | B | C | | | |
| Tie down procedures | B | C | | | |
| <u>In-flight Operation:</u> | | | | | |
| Power limitations | B | C | | | |
| <u>Weight and Balance:</u> | | | | | |
| The proper loading of the gyroplane in accordance with specified limitations | B | C | | | |

| GYROPLANE SYSTEMS | Pre solo | Pre Cert. | Stu | Ins | Date |
|---|---|---|---|---|---|
| <u>Propellers:</u> | | | | | |
| Pitch | A | B | | | |
| Effect on engine and aircraft performance: | | | | | |
| (1) of fine pitch propeller | A | B | | | |
| (2) of coarse pitch propeller | A | B | | | |
| Propeller care | B | C | | | |
| Reduction drives | A | B | | | |
| Vibration – Causes, consequences and remedies | C&P | C&P | | | |
| <u>Rotors:</u> | | | | | |
| Effect on gyroplane performance: | | | | | |
| (1) of rotor diameter | B | C | | | |
| (2) of rotor blade pitch settings (angle of incidence) | B | C | | | |
| Vibration – Causes consequences and remedies | C&P | C&P | | | |

| ENGINE AND ASSOCIATED SYSTEMS | Pre Solo | Pilot Cert. | Stu | Ins | Date |
|---|---|---|---|---|---|
| An understanding of how a piston engine functions | A | B | | | |
| Ignition system: | | | | | |
| The main components, effect on engine operation of ignition, faults | A | B | | | |
| Purpose of ignition harness shielding | A | B | | | |
| Carburetion systems: | | | | | |
| An understanding of fuel systems | A | B | | | |
| Carburettor icing – causes and remedies | A | B | | | |
| Fuel and fuel systems: | | | | | |
| Fuel selection applicable to engine performance | A | B | | | |
| Detonation and its causes and effects | A | B | | | |
| Octane numbering and fuel grading | A | B | | | |
| Difference between gravity and pump fed systems | A | B | | | |
| Venting | A | B | | | |
| Usable and unusable fuel | A | B | | | |
| Control of engine and indications of performance | B&P | B & P | | | |

| GYROPLANE INSTRUMENTATION | Pre Solo | Pilot Cert. | Stu | Ins | Date |
|---|---|---|---|---|---|
| Engine Instruments: | | | | | |
| An understanding of the following instruments and the units of measurement used: | | | | | |
| Tachometer | A | B | | | |
| Water Temperature | A | B | | | |
| Oil pressure | A | B | | | |
| Cylinder Head temperature, | A | B | | | |
| Exhaust gas temperature | A | B | | | |
| Voltmeter and Ammeter | A | B | | | |
| The interpretation and use of the above instruments | B | C | | | |
| Flight Instruments: | | | | | |
| An understanding of the principles of operation of the following instruments and units of measurement: | | | | | |
| Pressure altimeter | A | B | | | |
| Airspeed indicator | A | B | | | |
| Vertical speed indicator | A | B | | | |
| The interpretation and use of the above instruments | B | C | | | |
| Magnetic compass – danger of placing metallic materials in the vicinity of | A | B | | | |
| Errors in indications to be anticipated during turning and accelerating | | | | | |

| FLIGHT RULES AND PROCEDURES | Pre Solo | Pilot Cert. | Stu | Ins | Date |
|---|---|---|---|---|---|
| Right of way rules | P | P | | | |
| Airspace classification | A | P | | | |
| Operations at Aerodromes | A | P | | | |
| Visual flight rules | A | P | | | |
| Flight procedures | A | P | | | |
| Use of QNH altimeter settings | A | P | | | |
| ASRA Operations Manual requirements | A | P | | | |
| ASRA pilots relationship to the CARs, CAOs and CASRs | A | P | | | |

| HUMAN FACTORS | Pre Solo | Pilot Cert. | Stu | Ins | Date |
|---|---|---|---|---|---|
| Alcohol and Drug related risks and maximum test levels | A | C | | | |
| Identify Fatigue and related risks | A | C | | | |
| Situational Awareness | A | C | | | |
| Understand Perceptual and Violation errors | A | C | | | |

| METEOROLOGY | Pilot Cert. | X-country | Stu | Ins | Date |
|---|---|---|---|---|---|
| <u>Atmospheric Pressure:</u> | | | | | |
| Units of measurement | A | C | | | |
| Variation with height | A | C | | | |
| Pressure altitude | A | C | | | |
| Effects of pressure altitude | B | C | | | |
| ICAO Standard Atmosphere (ISA) | A | C | | | |
| <u>Atmospheric Temperature:</u> | | | | | |
| Units of measurement | A | C | | | |
| Variation with height | A | C | | | |
| Density altitude | A | C | | | |
| Effects of density altitude | B | C | | | |
| ICAO Standard Atmosphere (ISA) | A | C | | | |
| Temperature inversion | A | C | | | |
| <u>Pressure systems and fronts:</u> | | | | | |
| Depression or low pressure | A | C | | | |
| Anti-cyclone or high pressure | A | C | | | |
| Cold and warm fronts | A | C | | | |
| General characteristics of pressure systems and fronts over Australia | A | C | | | |
| Horizontal pressure gradients | A | C | | | |
| Isobars | A | C | | | |

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|---|---|---|---|---|---|
| Moisture, humidity and clouds | A | C | | | |
| Visibility | A | C | | | |
| Effects of haze, smoke and fog on visibility | A | C | | | |

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|---|---|---|---|---|---|
| <u>Turbulence:</u> | | | | | |
| Mechanical | A | C | | | |
| Terrain | A | C | | | |
| Convection | A | C | | | |
| Local winds | A | C | | | |
| Slipstream | A | C | | | |
| Wake | A | C | | | |
| Mountain waves | A | C | | | |
| The recognition and evaluation of potential areas of low-level turbulence and its potential effect of gyroplane operations | B | C | | | |

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|---|---|---|---|---|---|
| <u>Wind:</u> | | | | | |
| Wind velocity | A | C | | | |
| Wind shear | A | C | | | |
| Wind gradient | B | C | | | |
| Backing and veering | A | C | | | |
| Sea breezes | A | C | | | |
| Valley winds | A | C | | | |
| Anabatic and katabatic winds | A | C | | | |

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|---|---|---|---|---|---|
| <u>Meteorological forecasts:</u> | | | | | |
| Terms and abbreviations | A | C | | | |
| Procedures for obtaining pre-flight information | A | C | | | |

| **NAVIGATION** | | **X-country** | | | |
|---|---|---|---|---|---|
| Latitude and longitude | | B | | | |
| Direction by 360 degree system | | B | | | |
| True north | | B | | | |
| Magnetic north | | B | | | |
| Variation | | B | | | |
| Topographical charts | | B | | | |
| Use of charts | | B | | | |
| Measuring tracks and distances | | B | | | |
| Principal chart symbols | | B | | | |
| Depiction of airspace | | C | | | |
| Contour lines | | B | | | |
| Fuel planning | | C | | | |

# SYLLABUS OF GYROPLANE FLIGHT TRAINING

The following syllabus specifies the minimum competency standard that is required by ASRA Student Pilots. Qualifying numbers are used to indicate the degree of competence required for each individual item within a particular subject as follows:

## CODES

1 Assisted by the Instructor, ability to perform the activity correctly.

2 Ability to perform the activity correctly without assistance, under carefully supervised conditions.

3 Without instructional assistance or supervision, ability to perform the activity correctly and adjust actions to cope with emergencies.

| SYLLABUS | Pre solo | Pilot Cert | Stu | Ins | Date |
|---|---|---|---|---|---|
| Gyroplane Assembly | 1 | 3 | | | |
| Preparation for Flight: | | | | | |
| Gyroplane Documents | 1 | 3 | | | |
| Pre-flight Inspection | 2 | 3 | | | |
| Starting and warm-up | 2 | 3 | | | |
| Power Check | 2 | 3 | | | |

| | | | | | |
|---|---|---|---|---|---|
| <u>Ground Handling:</u> | | | | | |
| Use of power | 2 | 3 | | | |
| Control of direction | 2 | 3 | | | |
| Use of brakes | 2 | 3 | | | |
| Rotor ground handling techniques | 2 | 3 | | | |
| Pre takeoff checks | 2 | 3 | | | |

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|---|---|---|---|---|---|
| <u>Operation of Controls:</u> | | | | | |
| Primary effects of controls | 2 | 3 | | | |
| Effect of slipstream and airspeed | 2 | 3 | | | |
| Bank/rudder co-ordination | 2 | 3 | | | |
| Further effects of rudder | 2 | 3 | | | |
| Power/rudder co-ordination | 2 | 3 | | | |
| Ancillary controls: | | | | | |
| (1) Trim | 2 | 3 | | | |
| (2) Engine controls | 2 | 3 | | | |

| | | | | | |
|---|---|---|---|---|---|
| <u>Straight and level flight:</u> | | | | | |
| Control of attitude, altitude and direction | 2 | 3 | | | |
| Maintenance of heading at different speeds | 2 | 3 | | | |
| Instrument indications | 2 | 3 | | | |
| Look out and separation from other traffic | 2 | 3 | | | |
| Recognition of and recovery from PIO (discussion only) | 2 | 3 | | | |

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|---|---|---|---|---|---|
| <u>Climbing:</u> | | | | | |
| At recommended power and airspeed | 2 | 3 | | | |
| Maximum rate | 2 | 3 | | | |
| Maximum angle | 2 | 3 | | | |
| Engine handling | 2 | 3 | | | |
| Instrument indications | 2 | 3 | | | |
| Lookout and separation from other traffic | 2 | 3 | | | |

| | | | | | |
|---|---|---|---|---|---|
| <u>Descending:</u> | | | | | |
| With power | 2 | 3 | | | |
| Without power | 2 | 3 | | | |
| Engine handling | 2 | 3 | | | |
| Instrument indications | 2 | 3 | | | |
| Lookout and separation from other traffic | 2 | 3 | | | |

| | | | | | |
|---|---|---|---|---|---|
| <u>Turning:</u> | | | | | |
| Lookout and separation from other traffic | 2 | 3 | | | |
| Level flight: | | | | | |
| (1) Medium | 2 | 3 | | | |
| (2) Steep | 2 | 3 | | | |
| Descending turns: | | | | | |
| (1) Medium | 2 | 3 | | | |
| (2) Steep | 2 | 3 | | | |
| Spiral descending turns and recovery | 2 | 3 | | | |
| Climbing turns | 2 | 3 | | | |
| Instrument indications | 2 | 3 | | | |

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|---|---|---|---|---|---|
| <u>Slow Speed Flight:</u> | | | | | |
| Approach to and recovery from flight on the back side of the power curve | 2 | 3 | | | |
| Avoidance of and recovery from flat spins (discussion only) | 2 | 3 | | | |
| Engine handling | 2 | 3 | | | |
| Instrument indications | 2 | 3 | | | |
| Lookout and separation from other traffic | 2 | 3 | | | |

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|---|---|---|---|---|---|
| <u>Takeoff:</u> | | | | | |
| Into wind | 2 | 3 | | | |
| Cross wind | 2 | 3 | | | |
| Short field takeoff | 2 | 3 | | | |
| Soft field takeoff | 2 | 3 | | | |
| Aborted takeoff | 2 | 3 | | | |

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|---|---|---|---|---|---|
| <u>Circuit planning:</u> | | | | | |
| Standard gyroplane circuit | 2 | 3 | | | |
| Joining a circuit | 2 | 3 | | | |
| Departing a circuit | 2 | 3 | | | |
| Lookout and separation from other traffic | 2 | 3 | | | |

| | | | | | |
|---|---|---|---|---|---|
| <u>Approach and Landing:</u> | | | | | |
| a. Approach | | | | | |
| (1) With power | 2 | 3 | | | |
| (2) Glide approach | 2 | 3 | | | |
| b. Landing: | | | | | |
| (1) Normal | 2 | 3 | | | |
| (2) Cross wind | 2 | 3 | | | |
| (3) Short/soft field | 2 | 3 | | | |
| (4) Minimum ground roll | 2 | 3 | | | |
| c. Missed approach and go-around | 2 | 3 | | | |

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|---|---|---|---|---|---|
| <u>Engine failures (simulated):</u> | | | | | |
| During takeoff | 2 | 3 | | | |
| In the circuit | 2 | 3 | | | |
| During cruise, high and low level | 2 | 3 | | | |
| Checks and procedures | 2 | 3 | | | |

| | | | | | |
|---|---|---|---|---|---|
| <u>Precautionary search and landing</u> | 2 | 3 | | | |

**NOTE:** A student shall not make his first solo circuit unless he has passed a written examination on Flight Rules and Procedures and achieved a pass mark of at least 80%.

**NOTE:** A student shall not be flight checked for an ASRA Pilot Certificate until he has passed a written examination on Gyroplane Basic Aeronautical Knowledge and achieved a pass mark of at least 80%.

| | Pre Solo Nav Flight | X - Country | Stu | Ins | Date |
|---|---|---|---|---|---|
| <u>Flight Planning:</u> | | | | | |
| Preparation for flight: Pilot, aircraft & equipment | 2 | 3 | | | |
| Interpretation and use of weather charts and forecasts | 1 | 3 | | | |
| Interpretation and use of aeronautical publications, documents and charts | 2 | 3 | | | |
| Basic navigation computer skills | 2 | 3 | | | |
| Flight Notification | 1 | 3 | | | |
| Flight plan use including: | | | | | |
| Cruise level selection | 2 | 3 | | | |
| Track, distance, heading, groundspeed and time interval calculations | 2 | 3 | | | |
| Fuel planning and management including fuel reserve calculations | 2 | 3 | | | |
| | 2 | 3 | | | |

| | | | | | |
|---|---|---|---|---|---|
| <u>Navigation:</u> | | | | | |
| Map reading | 2 | 3 | | | |
| Compass use and errors | 2 | 3 | | | |
| Medium and low level navigation | 2 | 3 | | | |
| Flight log management | 2 | 3 | | | |
| Diversion procedures | 2 | 3 | | | |
| Lost Procedure | 2 | 3 | | | |

# ASRA PILOT CERTIFICATE

## Certification Statements

I hereby certify that I have thoroughly briefed……..on the causes, hazards and remedies of PILOT INDUCED OSCILATION (PIO) and that he has exhibited a thorough understanding of the subject.

Instructor Name:……Signature:……Date:……

I hereby certify that I have received a thorough briefing on the causes, hazards and remedies of PILOT INDUCED OSCILATION (PIO) and that I have a thorough understanding of the subject.

Student Name:……Signature:……Date:……..

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I hereby certify that I have thoroughly briefed……..on the causes, hazards and remedies of POWER PUSHOVER (PPO) and that he has exhibited a thorough understanding of the subject.

Instructor Name:……Signature:……Date:……

I hereby certify that I have received a thorough briefing on the causes, hazards and remedies of POWER PUSHOVER (PPO) and that I have a thorough understanding of the subject.

Student Name:……Signature:……Date:……..

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I hereby certify that I have thoroughly briefed……..on the causes, hazards and remedies of NEGATIVE ‘G’ and that he has exhibited a thorough understanding of the subject.

Instructor Name:……Signature:……Date:……

I hereby certify that I have received a thorough briefing on the causes, hazards and remedies of NEGATIVE ‘G’ and that I have a thorough understanding of the subject.

Student Name:……Signature:……Date:……..

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I hereby certify that I have thoroughly briefed……..on the hazards of and the techniques for operating safely in TURBULENT conditions and that he has exhibited a thorough understanding of the subject.

Instructor Name:……Signature:……Date:……

I hereby certify that I have received a thorough briefing on the hazards of and the techniques for operating safely in TURBULENT conditions and that I have a thorough understanding of the subject.

Student Name:……Signature:……Date:……..

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I certify that …… passed an examination on ASRA Flight Rules and Procedures……, achieved a pass mark of ……% and that this examination was passed prior to the students first solo flight.

Instructor Name ……Signature …….. Date …….

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I certify that …… passed an ASRA Basic Aeronautical Knowledge examination on ……, achieved a pass mark of ……..% and that this examination was passed prior to the issue of an ASRA Pilot Certificate.

Instructor Name …….. Signature …….. Date ……..

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I certify that …… passed an ASRA Human Factors examination on ……, achieved a pass mark of ……% and that this examination was passed prior to the issue of an ASRA Pilot Certificate.

Instructor Name …….. Signature …….. Date ……..

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I hereby certify that the student, whose signature appears below, has passed a flight check and met the required competencies for the issue of an ASRA Pilot Certificate and that this Certification Statement will be uploaded to the students online documents folder.

Instructor Name:……..……Signature:……Date:……

I hereby certify that I have been advised by the Instructor above, that I have satisfactorily completed the pilot training required by the ASRA Operations Manual and will be issued with an ASRA Pilot Certificate.

Student Name:……..……Signature:……Date:……

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# SYLLABUS OF ASRA RADIO OPERATOR ENDORSEMENT

Holders of radio operator qualifications issued by CASA and other Sport Aviation disciplines, may apply for the issue of an ASRA Radio Operator Endorsement based on these qualifications. Photocopies of these qualifications must accompany such an application.

The standard to be achieved by applicants for the issue of an ASRA Radio Operator Endorsement for each element of the syllabus is specified by the following codes:

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**CODES**

**A** **Basic** theoretical understanding
**B** **Thorough** theoretical understanding
**C** **Basic** practical application
**D** **Thorough** practical application

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| | Std | Stu | Ins | Date |
|---|---|---|---|---|
| Privileges and limitations of nthe certificate holder: | | | | |
| CAOs and ASRA Operations Manual | B | | | |
| Required use of ACA approved radios | B | | | |
| Requirements for use of handheld radio equipment | A,D | | | |
| Communications – General | | | | |
| Phonetic alphabet and numbers | D | | | |
| Standard phraseology | D | | | |
| Gyroplane callsign | D | | | |
| Strength and clarity definitions | A,D | | | |
| Definitions relating to communications (Ref. AIP – GEN) | A | | | |
| Date and time system, UTC | B,D | | | |
| Documentation: | | | | |
| AIP | A,D | | | |
| ERSA | A,D | | | |
| Charts (ERC,VTC,PCA,WAC,VNC) | A,D | | | |
| NOTAM | A,D | | | |
| Characteristics of VHF – AM Radio: | | | | |
| Line of sight | B | | | |
| Carrier wave | A | | | |
| Modulation | A | | | |
| Use of squelch | D | | | |
| VHF aviation band frequency designation | A,C | | | |

| | | | | |
|---|---|---|---|---|
| <u>Practical operation of radio equipment:</u> | | | | |
| Normal operation – on/off, frequency change, squelch | A,D | | | |
| Faultfinding – on/off, frequency, squelch, volume, fuse/circuit breaker, power supply, aerial type and location, electrical interference | A,D | | | |
| <u>Search and Rescue categories:</u> | | | | |
| SARTIME – use and cancellation of | B,D | | | |
| Flight Note | B,D | | | |
| SAR action taken by ATS units | A | | | |
| <u>Broadcast Procedures:</u> | | | | |
| When required – mandatory, pilot discretion | B | | | |
| Broadcast procedures – conflict resolution | B | | | |
| Broadcast procedures – format of broadcasts, taxi, local operations, intention to change level, position, inbound, circuit area, landed | B,D | | | |
| <u>Certified and Registered Aerodrome requirements:</u> | | | | |
| Use of documents to determine status of aerodrome and frequencies | | | | |
| Mandatory broadcasts | | | | |
| ATIS | | | | |
| AFRU, Unicom | | | | |
| <u>Emergency procedures:</u> | | | | |
| Declaring an emergency – circumstances | B | | | |
| MAYDAY and PAN, PAN calls | D | | | |
| Priority of calls | B | | | |
| Action by other stations | B | | | |
| Loss of communications | B,C | | | |
| <u>Unauthorized transmissions:</u> | | | | |
| Profane or obscene language | B | | | |
| Deceptive or false nature | B | | | |
| Improper use of another callsign | B | | | |
| Use not pertaining to operational requirements | B | | | |
| Not in the English language | B | | | |

# PILOT CERTIFICATE

## Training Record

Student Name: …… Mem. No……
Instructor Name: …….. Mem. No……
Exercise: ……
Weather: …… Date: ……..
Flight Time Dual: ……/…… Flight Time Solo: ……/……
Comments: ……
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**NOTE: Maximum 3 hours in-flight training per day.**

Student Name: …… Mem. No……
Instructor Name: …….. Mem. No……
Exercise: ……
Weather: …… Date: ……..
Flight Time Dual: ……/…… Flight Time Solo: ……/……
Comments: ……
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**NOTE: Maximum of 3 hours in-flight training per day**

Student Name: …… Mem. No……
Instructor Name: …….. Mem. No……
Exercise: ……
Weather: …… Date: ……..
Flight Time Dual: ……/…….. Flight Time Solo: ……/……
Comments: ……
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**NOTE: Maximum of 3 hours in-flight training per day**