

REGULATION OF THE MINISTER OF TRANSPORTATION OF
THE REPUBLIC OF INDONESIA

NUMBER PM 66 OF 2017

ON

THE FOURTH AMENDMENT TO THE DECREE OF THE MINISTER OF
TRANSPORTATION NUMBER KM 42 OF 2001 ON LICENSING OF PILOTS AND
FLIGHT INSTRUCTORS

BY THE BLESSING OF THE ALMIGHTY GOD

MINISTER OF TRANSPORTATION THE REPUBLIC OF INDONESIA,

- Considering :
- a. that the provisions on Licensing of Pilots and Flight Instructors have been regulated in the Decree of the Minister of Transportation Number KM 42 of 2001 on Licensing of Pilots and Flight Instructors;
 - b. that it is necessary to make adjustments to some provisions such as the provisions concerning related language proficiency requirements, the use of flight simulation training device, medical certificate and other provisions in the Decree of the Minister of Transportation as referred to in point a, to comply with the standards and recommended practices regulated in the ICAO Annex 1 Personnel Licensing Amendment 173;
 - c. that based on considerations as referred to in point a and point b, it is necessary to establish the Regulation of the Minister of Transportation on the Fourth Amendment to the Decree of the Minister of Transportation KM Number 42 of 2001 on Licensing of Pilots and Flight Instructors;

- Observing : 1. Law Number 1 of 2009 on Aviation (State Gazette of the Republic of Indonesia of 2009 Number 1, Supplement to the State Gazzete of the Republic of Indonesia Number 4956);
2. Regulation of the President Number 7 of 2015 on Organization of the State Ministries (State Gazette of the Republic of Indonesia of 2015 Number 8);
3. Regulation of the President Number 40 of 2015 on Ministry of Transportation (State Gazette of the Republic of Indonesia of 2015 Number 75);
4. Decree of the Minister of Transportation Number KM 42 of 2001 on Licensing of Pilots and Flight Instructors as frequently amended, last by with Regulation of the Minister of Transportation Number PM 50 of 2016 on the Third Amendement to the Decree of Minister of Transportation Number KM 42 of 2001 on Licensing of Pilots and Flight Instructors (State Bulletin of the Republic of Indonesia of 2016 Number 692);
5. Regulation of the Minister of Transportation Number PM 189 of 2015 on the Organization and Management of the Ministry of Transportation (State Bulletin of the Republic of Indonesia of 2015 Number 1844) as frequently amended, last by Regulation of the Minister of Transportation Number PM 44 of 2017 on the Second Amendement the Regulation of the Minister of Transportation Number PM 189 of 2015 on the Organization and the Management of the Ministry of Transportation (State Bulletin of the Republic of Indonesia of 2017 Number 816);

HAS DECIDED:

- To issue : REGULATION OF THE MINISTER OF TRANSPORTATION ON THE FOURTH AMENDEMENT TO DECREE OF THE MINISTER OF TRANSPORTATION NUMBER KM 42 OF 2001 ON LICENSING OF PILOTS AND FLIGHT INSTRUCTORS.

Article I

Decree of the Minister of Transportation Number KM 42 of 2001 on Licensing of Pilots and Flight Instructors has been frequently amended by Ministerial Regulation:

- a. Number KM 61 of 2008 on Amendment to Decree of the Minister of Transportation Number KM 42 of 2001;
- b. Number KM 30 of 2010 on the Second Amendment to Decree of the Minister of Transportation Number KM 42 of 2001;
- c. Number PM 50 of 2016 on the Third Amendment to Decree of the Minister of Transportation Number KM 42 of 2001 (State Bulletin of the Republic of Indonesia of 2016 Number 692);

amended as follows:

1. Section 61.7 point a is amended, section 61.7 to read as follows:

61.7 Language Proficiency Requirements

- (a) Aeroplane and helicopter pilots shall demonstrate the ability to speak and understand the language used for radiotelephony communications according to English Language Proficiency Rating Scale required by International Civil Aviation Organization (ICAO), as prescribed in Appendix C;
- (b) The language proficiency of airplane and helicopter pilots who demonstrate proficiency below the expert Level (Level 6) shall be formally evaluated at intervals in accordance with an individual's demonstrated proficiency levels, as follows:
 - (1) Those demonstrating language proficiency at the Operational Level (Level 4) should be evaluated at least every three years; and
 - (2) Those demonstrating language proficiency at the extended level (Level 5) should be evaluated at least once every 6 (six) years.

2. Section 61.9 reserved is amended, to read as follows:

61.9 Use of a flight simulation training device for the acquisition of experience and demonstration of skill
The use of a flight simulation training device for acquiring the experience or performing any manoeuvre required during the demonstration of skill for the issue of a licence or rating shall be approved by the DGCA.

3. Section 61.23 Duration of Medical Certificate changed , to read as follows:

61.23 Medical Certificate

(a) Holders of a licence shall not exercise the privileges of that licence if a medical certificate is not current or suspect or that their physical or mental condition renders them unfit to exercise such privileges.

(b) Classification of pilot medical certificate as follows:

(1) Class 1 Medical Certificate;

i. commercial pilot licences — aeroplane, airship, helicopter;

ii. airline transport pilot licences — aeroplane and helicopter.

(2) Class 2 Medical Certificate;

i. private pilot licences-aeroplane, airship, helicopter, gyroplane, gliders, and free balloon;

ii. sport pilot licenses;

iii. Student pilot licences.

(c) The validity of the medical certificate is in accordance with CASR part 67.

4. Section 61.65 is amended , to read as follows:

61.65 Instrument Rating

(a) General. To be eligible for an instrument rating (airplane) or an instrument rating (helicopter), an applicant must:

- (1) Hold at least a current private pilot license with an aircraft rating appropriate to the instrument rating sought;
- (2) Be able to read, speak, and understand the English language; and
- (3) Comply with the applicable requirements of this Part.

(b) Aeronautical knowledge

The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of an instrument rating, in at least the following subjects:

Air Law

- (1) rules and regulations relevant to flight under IFR; air traffic services related practices and procedures;
Aircraft general knowledge for the aircraft category being sought
- (2) use, limitation and serviceability of avionics, electronic devices and instruments necessary for the control and navigation of aircraft under IFR and in instrument meteorological conditions; use and limitations of autopilot;
- (3) compasses, turning and acceleration errors; gyroscopic instruments, operational limits and precession effects; practices and procedures in the event of malfunctions of various flight instruments;
Flight performance and planning for the aircraft category being sought
- (4) pre-flight preparations and checks appropriate to flight under IFR;

- (5) operational flight planning; preparation and filing of air traffic services flight plans under IFR; altimeter setting procedures; Human performance for the aircraft category being sought
- (6) human performance relevant to instrument flight in aircraft including principles of threat and error management; Meteorology for the aircraft category being sought
- (7) application of aeronautical meteorology; interpretation and use of reports, charts and forecasts; codes and abbreviations; use of, and procedures for obtaining, meteorological information; altimetry;
- (8) causes, recognition and effects of icing; frontal zone penetration procedures; hazardous weather avoidance;
- (9) in the case of helicopters and powered-lifts, effects of rotor icing; Navigation for the aircraft category being sought
- (10) practical air navigation using radio navigation aids;
- (11) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids; Operational procedures for the aircraft category being sought
- (12) application of threat and error management to operational performance;

- (13) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations, and instrument procedure charts for departure, en-route, descent and approach;
 - (14) precautionary and emergency procedures; safety practices associated with flight under IFR; obstacle clearance criteria;
Radiotelephony
 - (15) communication procedures and phraseology as applied to aircraft operations under IFR; action to be taken in case of communication failure.
- (c) Skill and flight instruction – airplanes. An applicant for the flight test for an instrumentrating (airplane) must present a logbook record certified by an flight instructor showing that he received instrument flight instruction in an airplane in the following pilot operations, and has been found competent in each of them.
- Skill
- (1) recognize and manage threats and errors;
 - (2) operate the aircraft for the category being sought, within its limitations;
 - (3) complete all manoeuvres with smoothness and accuracy;
 - (4) exercise good judgement and airmanship;
 - (5) apply aeronautical knowledge; and
 - (6) maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure or manoeuvre is assured.

Flight Instruction

- (1) pre-flight procedures, including the use of the flight manual or equivalent document, and appropriate air traffic services documents in the preparation of an IFR flight plan;
 - (2) pre-flight inspection, use of checklists, taxiing and pre-take-off checks;
 - (3) procedures and manoeuvres for IFR operation under normal, abnormal and emergency conditions covering at least:
 - a. transition to instrument flight on take-off;
 - b. standard instrument departures and arrivals;
 - c. en-route IFR procedures;
 - d. holding procedures;
 - e. instrument approaches to specified minima;
 - f. missed approach procedures;
 - g. landings from instrument approaches;
 - (4) in-flight manoeuvres and particular flight characteristics.
- (d) Instrument instruction and skill – (helicopter). An applicant for the flight test for an instrument rating (helicopter) must present a logbook record certified to by an authorized flight instructor showing that he has received instrument flight instruction in a helicopter in the following pilot operations, and has been found competent in each of them:
- (1) The control and accurate maneuvering of a helicopter solely by reference to instruments.

- (2) IFR navigation by the use of the VOR and ADF systems, including compliance with air traffic instructions and procedures.
 - (3) Instrument approaches to published minimums using the VOR, ADF, and ILS system (instruction in the use of the ADF and ILS may be received in an instrument ground trainer, and instruction in the use of the ILS glide slope may be received in an airborne ILS simulator).
 - (4) Cross-country flying under simulated or actual IFR conditions, on airways or as routed by ATC, including one flight of at least 100 nautical miles, including VOR, ADF, and ILS approaches at different airports.
 - (5) Simulated IFR emergencies, including equipment malfunctions, missed approach procedures, and deviations to unplanned alternates.
- (e) Flight experience. An applicant for an instrument rating must have at least the following flight time as a pilot:
- (1) A total of 125 hours of pilot flight time, of which 50 hours are as pilot in command in cross-country flight in a powered aircraft with other than a student pilot license. Each cross-country flight must have a landing at a point more than 50 nautical miles from the original departure point.
 - (2) 40 hours of simulated or actual instrument time, of which not more than 20 hours may be instrument instruction by an authorized

instructor in an instrument ground trainer acceptable to the Director General.

- (3) 15 hours of instrument flight instruction by an authorized flight instructor, including at least 5 hours in an airplane or a helicopter, as appropriate.
- (f) Written test. An applicant for an instrument rating must pass a written test appropriate to the instrument rating sought on the subjects in which ground instruction is required by Paragraph (b) of this Part.
- (g) Practical test. An applicant for an instrument rating must pass a flight test in an airplane or a helicopter, as appropriate. The test must include instrument flight procedures selected by the inspector conducting the test to determine the applicant's ability to perform competently the IFR operations on which instruction is required by Paragraph (c) or (d) of this Part.
- (h) Applicants who hold a private pilot licence shall have established their hearing acuity on the basis of compliance with the hearing requirements for the issue of a Class 1 Medical Assessment.
- (i) The privileges of the holder of an instrument rating with a specific aircraft category shall be to pilot that category of aircraft under IFR.

5. Section 61.105 is amended, to read as follows:
61,105 Aeronautical Knowledge

(a) Airplane, Airship and Helicopter

Air Law

- (1) rules and regulations relevant to the holder of a private pilot licence; rules of the air; an altimeter setting procedures; appropriate air traffic services practices and procedures;

Aircraft general knowledge for aeroplanes, airships, and helicopters

- (2) principles of operation and functioning of engines, systems and instruments;

- (3) operating limitations of the relevant category of aircraft and engines; relevant operational information from the flight manual or other appropriate document;

- (4) for helicopters and powered-lifts, transmission (power trains) where applicable;

- (5) for airships, physical properties and practical application of gases;

Flight performance, planning and loading

- (6) effects of loading and mass distribution on flight characteristics; mass and balance calculations;

- (7) use and practical application of take-off, landing and other performance data;

- (8) pre-flight and en-route flight planning appropriate to private operations under VFR; preparation and filing of air traffic services and flight plans; appropriate air traffic services procedures; position reporting procedures; altimeter setting procedures; operations in areas of high-density traffic;

Human performance

- (9) human performance including principles of threat and error management;

Meteorology

- (10) application of elementary in aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry; hazardous weather conditions;

Navigation

- (11) practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;

Operational procedures

- (12) application of threat and error management to operational performance;
- (13) altimeter setting procedures;
- (14) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
- (15) appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards;
- (16) in the case of helicopters, and if applicable, powered-lifts, settling with power; ground resonance retreating blade stall;; dynamic rollover and other operating hazards; safety procedures, associated with flight in VMC;

Principles of flight

- (17) principles of flight;

Radiotelephony

- (18) communication procedures and phraseology of the U.S. applied to VFR operations; the action to be taken in case of communication failure.

- (b) Glider

Air Law

- (1) rules and regulations relevant to the holder of a glider pilot licence; water;

rules of the appropriate air traffic services practices and procedures;

Aircraft general knowledge

(2) principles of operation of gliders systems and instruments;

(3) operating limitations of gliders; relevant operational information from the flight manual or other appropriate document;

Flight performance, planning and loading

(4) effects of loading and mass distribution on flight characteristics; mass and balance considerations;

(5) use and practical application of launching, landing and other performance data;

(6) pre-flight and en-route flight planning appropriate to operations under VFR; appropriate air traffic services procedures; altimeter setting procedures; operations in areas of high-density traffic;

Human performance

(7) human performance relevant to the glider pilots including principles of threat and error management;

(8) application of elementary in aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry;

Navigation

(9) practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;

Operational procedures

- (10) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
 - (11) different launch methods and associated procedures;
 - (12) appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards;
Principles of flight
 - (13) principles of flight relating to gliders.
- (c) Free Balloon
- Air Law
- 1) rules and regulations relevant to the holder of a free balloon pilot licence; water; rules of the appropriate air traffic services practices and procedures;
Aircraft general knowledge
 - 2) principles of operation of free balloon systems and instruments;
 - 3) operating limitations of free balloons; relevant operational information from the flight manual or other appropriate document;
 - 4) physical properties and practical application of gases used in free balloons;
Flight performance, planning and loading
 - 5) effects of loading on flight characteristics; mass calculations;
 - 6) use and practical application of launching, landing and other performance data, including the effect of temperature;

- 7) pre-flight and en-route flight planning appropriate to operations under VFR; appropriate air traffic services procedures; altimeter setting procedures; operations in areas of high-density traffic;
Human performance
- 8) human performance relevant to the free balloon pilots including principles of threat and error management;
- 9) application of elementary in aeronautical meteorology; use of, and procedures for obtaining, meteorological information; altimetry;
Navigation
- 10) practical aspects of air navigation and dead-reckoning techniques; use of aeronautical charts;
Operational procedures
- 11) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
- 12) appropriate precautionary and emergency procedures, including action to be taken to avoid hazardous weather, wake turbulence and other operating hazards;
Principles of flight
- 13) principles of flight relating to free balloons.

6. Section 61.107 amended, to read as follows:

61.107 Skill and Flight Instruction

Skill

The applicant shall have demonstrated the ability to perform as pilot-in-command of an aircraft within the appropriate category of

aircraft, the procedures and manoeuvres described under this section with a degree of competency appropriate to the privileges granted to the holder of a private pilot licence, and to:

- (a) recognize and manage threats and errors;
- (b) operate the aircraft within its limitations;
- (c) complete all manoeuvres with smoothness and accuracy;
- (d) exercise good judgement and airmanship;
- (e) apply aeronautical knowledge; and
- (f) maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure or manoeuvre is assured.

Flight Instruction

- (a) Airplane
 - (1) recognize and manage threats and errors;
 - (2) pre-flight operations, including mass and balance determination, aeroplane inspection and servicing;
 - (3) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
 - (4) control of the aeroplane by external visual reference;
 - (5) flight at critically slow airspeeds; recognition of, and recovery from, incipient and full stalls;
 - (6) flight at critically high airspeeds; recognition of, and recovery from, spiral dives;
 - (7) normal and crosswind take-offs and landings;
 - (8) maximum performance (short field and obstacle clearance) take-offs; short-field landings;

- (9) flight by reference solely to instruments, including the completion of a level 180° turn;
- (10) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids;
- (11) emergency operations, including simulated aeroplane equipment malfunctions;
- (12) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
- (13) communication procedures and phraseology.

Helicopter

The instructor shall ensure that the applicant has operational experience in at least the following areas to the level of performance required for the private pilot:

- (1) recognize and manage threats and errors;
- (2) pre-flight operations, including mass and balance determination, helicopter inspection and servicing;
- (3) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- (4) control of the helicopter by external visual reference;
- (5) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;
- (6) ground manoeuvring and run-ups; hovering; take-offs and landings — normal, out of wind and sloping ground;

- (7) take-offs and landings with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stops;
- (8) cross-country flying using visual reference, dead reckoning and, where available, radio navigation aids, including a flight of at least one hour;
- (9) emergency operations, including simulated helicopter equipment malfunctions; autorotative approach;
- (10) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
- (11) communication procedures and phraseology.

Glider

- (1) pre-flight operations, including glider assembly and inspection;
- (2) techniques and procedures for the launching method used, including appropriate airspeed limitations, emergency procedures and signals used;
- (3) traffic pattern operations, collision avoidance precautions and procedures;
- (4) control of the glider by external visual reference;
- (5) flight throughout the flight envelope;
- (6) recognition of, and recovery from, incipient and full stalls and spiral dives;
- (7) normal and crosswind launches, approaches and landings;
- (8) cross-country flying using visual reference and dead reckoning;
- (9) emergency procedures.

Airship

- (1) recognize and manage threats and errors;

- (2) pre-flight operations, including mass and balance determination, airship inspection and servicing;
- (3) ground reference manoeuvres;
- (4) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- (5) techniques and procedures for the take-off, including appropriate limitations, emergency procedures and signals used;
- (6) control of the airship by external visual reference;
- (7) take-offs, landings and go-arounds;
- (8) maximum performance (obstacle clearance) take-offs;
- (9) flight by reference solely to instruments, including the completion of a level 180° turn;
- (10) navigation, cross-country flying using visual reference, dead reckoning and radio navigation aids;
- (11) emergency operations (recognition of leaks), including simulated airship equipment malfunctions; and
- (12) communication procedures and phraseology.

Free Balloon

- (1) pre-flight operations, including balloon assembly, rigging, inflation, mooring and inspection;
- (2) techniques and procedures for the launching and ascent, including appropriate limitations, emergency procedures and signals used;
- (3) collision avoidance precautions;
- (4) control of the free balloon by external visual reference;

- (5) recognition of, and recovery from, rapid descents;
- (6) cross-country flying using visual reference and dead reckoning;
- (7) approaches and landings, including ground handling;
- (8) emergency procedures.

7. Section 61.118 is amended, to read as follows:

61.118 Private Pilot Privileges And Limitations : Pilot In Command

- (a) Subject to compliance with validity and type rating requirements, the privileges of the holder of a private pilot license - airplane shall be to act, but not for remuneration, as pilot-in-command or co-pilot of any airplane engaged in non-revenue flights.
- (b) Before exercising the privileges at night, the license holder shall have received dual instruction in airplanes in night flying, including take-offs, landing and navigation.
- (c) The privileges of the holder of a glider pilot licence shall be to act as pilot-in-command of any glider provided the licence holder has operational experience in the launching method used.

8. Section 61.119 is amended, to read as follows:

61.119 Free balloon Rating: Limitations

- (a) If the applicant for a free balloon rating takes his flight test in a hot air balloon with an airborne heater, his pilot license contains an endorsement restricting the exercise of the privilege of that rating to hot air balloons with airborne heaters. The

restriction may be deleted when the holder of the license obtains the pilot experience required for a rating on a gas balloon.

- (b) If the applicant for a free balloon rating takes his flight test in a hot air balloon without an airborne heater, his pilot license contains an endorsement restricting the exercise of the privileges of that rating to hot air balloons without airborne heaters. The restriction may be deleted when the holder of the license obtains the pilot experience and passes the tests required for a rating on a free balloon with an airborne heater or a gas balloon.
- (c) If the privileges of free balloon rating are to be exercised at night, the applicant shall have gained, under appropriate supervision, operational experience in free balloons in night flying.

9. Section 61.125 is amended, to read as follows:

61.125 Aeronautical knowledge

(a) Airplane, airship, and helicopter

Air law

- (1) rules and regulations relevant to the holder of a commercial pilot licence; rules of the air; appropriate air traffic services practices and procedures; Aircraft general knowledge for aeroplanes, airships, helicopters and powered-lifts
- (2) principles of operation and functioning of engines, systems and instruments;
- (3) operating limitations of the relevant category of aircraft and engines; relevant operational information from

- the flight manual or other appropriate document;
- (4) use and serviceability checks of equipment and systems of appropriate aircraft;
 - (5) maintenance procedures for airframes, systems and engines of appropriate aircraft;
 - (6) for helicopters and powered-lifts, transmission (power trains) where applicable;
 - (7) for airships, physical properties and practical application of gases;
Flight performance, planning and loading
 - (8) effects of loading and mass distribution on aircraft handling, flight characteristics and performance; mass and balance calculations;
 - (9) use and practical application of take-off, landing and other performance data;
 - (10) pre-flight and en-route flight planning appropriate to commercial operations under VFR; preparation and filing of air traffic services flight plans; appropriate air traffic services procedures; altimeter setting procedures;
 - (11) in the case of airships, helicopters and powered-lifts, effects of external loading on handling;
Human performance
 - (12) human performance including principles of threat and error management;

Meteorology

- (13) interpretation and application of aeronautical meteorological reports, charts and forecasts; use of, and procedures for obtaining, meteorological information, pre-flight and in-flight; altimetry;
- (14) aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation; the movement of pressure systems, the structure of fronts, and the origin and characteristics of significant weather phenomena which affect take-off, en-route and landing conditions;
- (15) causes, recognition and effects of icing; frontal zone penetration procedures; hazardous weather avoidance;

Navigation

- (16) air navigation, including the use of aeronautical charts, instruments and navigation aids; an understanding of the principles and characteristics of appropriate navigation systems; operation of airborne equipment;
- (17) in the case of airships:
 - Operational procedures
- (18) application of threat and error management to operational performance;
- (19) use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
- (20) altimeter setting procedures;
- (21) appropriate precautionary and emergency procedures;

- (22) operational procedures for carriage of freight; potential hazards associated with dangerous goods;
 - (23) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from aircraft;
 - (24) in the case of helicopters, and if applicable, powered-lifts, settling with power; ground resonance; retreating blade stall; dynamic rollover and other operating hazards; safety procedures, associated with flight in VMC;
Principles of flight
 - (25) principles of flight;
Radiotelephony
 - (26) communication procedures and phraseology as applied to VFR operations; action to be taken in case of communication failure.
- (b) Free balloons.
- (1) The regulations of the CASRs pertinent to commercial free balloon piloting privileges limitations, and flight operations;
 - (2) The use of aeronautical charts and the magnetic compass for free balloon navigation;
 - (3) The recognition of weather conditions significant to free balloon flight operations, and the procurement and use of aeronautical weather reports and forecasts appropriate to free ballooning;
 - (4) Free balloon flight and ground instruction procedures; and

- (5) Operating principles and procedures for free balloons, including emergency procedures such as crowd control and protection, high wind and water landings, and operations in proximity to buildings and power lines.

10. Section 61.127 amended, to read as follows:

61.127 Skill and Flight Instruction

Skill

The applicant shall have demonstrated the ability to perform as pilot-in-command of an aircraft within the appropriate category of aircraft, the procedures and manoeuvres described under this section with a degree of competency appropriate to the privileges granted to the holder of a commercial pilot licence, and to:

- a. recognize and manage threats and errors;
- b. operate the aircraft within its limitations;
- c. complete all manoeuvres with smoothness and accuracy;
- d. exercise good judgement and airmanship;
- e. apply aeronautical knowledge; and
- f. maintain control of the aircraft at all times in a manner such that the successful outcome of a procedure or manoeuvre is assured.

Flight Instruction

(a) Airplane

- (1) recognize and manage threats and errors;
- (2) pre-flight operations, including mass and balance determination, aeroplane inspection and servicing;
- (3) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;

- (4) control of the aeroplane by external visual reference;
 - (5) flight at critically slow airspeeds; spin avoidance; recognition of, and recovery from, incipient and full stalls;
 - (6) flight with asymmetrical power for multi-engine class or type ratings;
 - (7) flight at critically high airspeeds; recognition of, and recovery from, spiral dives;
 - (8) normal and crosswind take-offs and landings;
 - (9) maximum performance (short field and obstacle clearance) take-offs; short-field landings;
 - (10) basic flight manoeuvres and recovery from unusual attitudes by reference solely to basic flight instruments;
 - (11) cross-country flying using visual reference, dead reckoning and radio navigation aids; diversion procedures;
 - (12) abnormal and emergency procedures and manoeuvres including simulated aeroplane equipment malfunctions;
 - (13) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
 - (14) communication procedures and phraseology.
- (b) Helicopter
- (1) recognize and manage threats and errors;
 - (2) pre-flight operations, including mass and balance determination, helicopter inspection and servicing;

- (3) aerodrome and traffic pattern operations, collision avoidance precautions and procedures;
- (4) control of the helicopter by external visual reference;
- (5) recovery at the incipient stage from settling with power; recovery techniques from low-rotor rpm within the normal range of engine rpm;
- (6) ground manoeuvring and run-ups; hovering; take-offs and landings - normal, out of wind and sloping ground; steep approaches;
- (7) take-offs and landings with minimum necessary power; maximum performance take-off and landing techniques; restricted site operations; quick stops;
- (8) hovering out of ground effect; operations with external load, if applicable; flight at high altitude;
- (9) basic flight manoeuvres and recovery from unusual attitudes by reference solely to basic flight instruments;
- (10) cross-country flying using visual reference, dead reckoning and radio navigation aids; diversion procedures;
- (11) abnormal and emergency procedures, including simulated helicopter equipment malfunctions, autorotative approach and landing;
- (12) operations to, from and transiting controlled aerodromes, compliance with air traffic services procedures; and
- (13) communication procedures and phraseology.

- (c) Gyroplanes.
 - (1) Preflight operations, including line inspection and gyroplane servicing;
 - (2) Straight and level flight, turns, climbs, and descents;
 - (3) Flight maneuvering by ground references;
 - (4) Maneuvering at critically slow airspeeds, and the recognition of and recovery from high rates of descent at slow airspeeds;
 - (5) Normal and crosswind takeoffs and landings;
 - (6) Airport and traffic pattern operations, including collision avoidance precautions and radio communications;
 - (7) Cross-country flight operations; and
 - (8) Emergency procedures, such as power failure, equipment malfunctions, maximum performance takeoffs and landings and simulated liftoffs at low airspeed and high angles of attack.
- (d) Airships.
 - (1) Ground handling, mooring, and preflight operations;
 - (2) Straight and level flight, turns, climbs, and descents, under VFR and simulated IFR conditions;
 - (3) Take off and landings with positive and with negative static lift;
 - (4) Turns and figure eights;
 - (5) Precision turns to headings under simulated IFR conditions;
 - (6) Preparing and filing IFR flight plans, and complying with IFR clearances;

- (7) IFR radio navigation and instrument approach procedures;
 - (8) Cross-country flight operations, using pilotage, dead reckoning, and radio aids; and
 - (9) Emergency operations, including engine out operations, free ballooning an airship, and ripcord procedures (may be simulated).
- (e) Freeballoons.
- (1) Assembly of basket and burner to the envelope, and rigging, inflating, and tethering of a free balloon;
 - (2) Ground and flight crew briefing;
 - (3) Ascents;
 - (4) Descents;
 - (5) Landings;
 - (6) Operation of airborne heater, if balloon is so equipped; and
 - (7) Emergency operations, including the use of the ripcord (may be simulated), and recovery from a terminal velocity descent if a balloon with an airborne heater is used.

11. Section 61.153 is amended, to read as follows:

61.153 Airplane Rating: Aeronautical Knowledge

The applicant shall have demonstrated a level of knowledge appropriate to the privileges to the holder of an airline transport pilot license - airplane, in at least the following subjects:

Air Law

- (a) rules and regulations relevant to the holder of an airline transport pilot license - airplanes; rules of the air; appropriate air traffic services practices and procedures;

Aircraft General Knowledge

- (b) general characteristics and limitations of electrical, hydraulic, pressurisation and other airplane systems; flight control systems, including autopilot and stability augmentation;
- (c) principles of operation, handling procedures and operating limitations of airplane powerplants; effects of atmospheric conditions on engine performance; relevant operational information from the flight manual or other appropriate document;
- (d) operating procedures and limitations of appropriate airplanes; effects of atmospheric conditions on airplane performance;
- (e) use and serviceability checks of equipment and systems of appropriate airplanes;
- (f) flight instruments; compasses, turning and acceleration errors; gyroscopic instruments, operational limits and precession effects; practices and procedures in the event of malfunctions of various flight instruments;
- (g) maintenance procedures for airframes, systems and powerplants of appropriate airplanes;
Flight performance and planning
- (h) effects of loading and mass distribution on airplane handling, flight characteristics and performance; mass and balance calculations;
- (i) use and practical application of take-off, landing and other performance data, including procedures for cruise control;
- (j) preflight and en-route operational flight planning; preparation and filing of air

traffic services flight plans; appropriate air traffic services procedures; altimeter setting procedures;

Human performance and limitations

- (k) human performance and limitations relevant to the airline transport pilot - airplane;

Meteorology

- (l) interpretation and application of aeronautical meteorological reports, charts and forecasts; codes and abbreviations; use of, and procedures for obtaining, meteorological information, preflight and in-flight; altimetry;
- (m) aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation; the movement of pressure systems; the structure of fronts, and the origin and characteristics of significant weather phenomena which affect takeoff, en-route and landing conditions;
- (n) causes, recognition and effects of engine and airframe icing; frontal zone penetration procedures; hazardous weather avoidance;
- (o) practical high altitude meteorology, including interpretation and use of weather reports, charts and forecasts; jetstreams;

Navigation

- (p) air navigation, including the use of aeronautical charts, radio navigation aids and area navigation systems; specific navigation requirements for long-range flights;
- (q) use, limitation and serviceability of avionics and instruments necessary for the control and navigation of airplanes;

(r) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids;

(s) principles and characteristics of self-contained and external-referenced navigation systems; operation of airborne equipment;

Operational procedures

(t) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations, and instrument procedure charts for departure, en-route, descent and approach;

(u) precautionary and emergency procedures; safety practices associated with flight under IFR;

(v) operational procedures for carriage of freight and dangerous goods;

(w) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from airplanes;

Principles of flight

(x) principles of flight relating to airplanes; sub-sonic aerodynamics; compressibility effects, manoeuvre boundary limits, wing design characteristics, effects of supplementary lift and drag devices; relationships between lift, drag and thrust at various airspeeds and in different flight configurations;

Radiotelephony

(y) radiotelephony procedures and phraseology; action to be taken in case of communication failure.

In addition to the above subjects, the applicant for an airline transport pilot license applicable to the airplane category shall have met the knowledge requirements for the instrument rating described in under Part 61.65.

12. Section 61.155 is amended, to read as follows:

61.155 Airplane Rating: Aeronautical Experience

- (a) An application for an airline transport pilot license with an airplane rating must hold a commercial pilot license or a foreign airline transport pilot or commercial pilot license without limitations, issued by a member state of ICAO, or he must be a pilot in a Armed Force (TNI) of the Republic of Indonesia whose military experience qualifies him for a commercial pilot license under Part 61.73.
- (b) An applicant must have had :
 - (1) At least 250 hours of flight time as pilot in command of an airplane, or as copilot of an airplane performing the duties and functions of a pilot in command under the supervision of a pilot in command, or any combination thereof at least 100 hours of which were cross-country time and 25 hours of which were night flight time; and
 - (2) At least 1,500 hours of flight time as a pilot, including at least :
 - (i) 500 hours of cross-country flight time; of which not less than 100 hours shall be as pilot-in-command or as pilot-in-command under supervision;

- (ii) 100 hours of night flight time;
and
- (iii) 75 hours of actual or simulated instrument time, at least 50 hours of which were in actual flight.

Flight time to meet the requirements of Paragraph (b)(1) of this Part may also be used to meet the requirements of Paragraph (b)(2) of this Part. Also, an applicant who has made at least 20 night takeoffs and landings to a full stop may substitute one additional night takeoff and landing to a full stop for each hour of night flight time required by Paragraph (b)(2)(ii) of this Part. However, not more than 25 hours of night flight time may be credited in this manner.

- (c) The holder of a pilot license, when acting as a co-pilot of an aircraft required to be operated with a co-pilot, shall be entitled to be credited with not more than 50 per cent of the co-pilot flight time towards the total flight time required for a higher grade of license.

13. Section 61.157 is amended, to read as follows:

61.157 Airplane Rating: Skill and Flight Instruction

- (a) An applicant for an airplane transport pilot license must pass a practical test that includes the Sections set forth in Appendix A of this part. The DGCA inspector or designated examiner may modify any required maneuver where necessary for the reasonable and safe operation of the airplane being used and, unless

specifically prohibited in Appendix A, may combine any required maneuvers and may permit their performance in any convenient sequence.

- (b) Whenever an applicant for an airline transport pilot license does not already have an instrument rating he shall, as part of the oral part of the practical test, comply with Part 61.65(g), and, as part of the flight part, perform each additional maneuver required by Part 61.65(g) that is appropriate to the airplane.
- (c) The applicant shall have demonstrated the ability to perform, as pilot-in-command of an aircraft within the appropriate category required to be operated with a co-pilot, the following procedures and manoeuvres:
 - (1) pre-flight procedures, including the preparation of the operational flight plan and filing of the air traffic services flight plan;
 - (2) normal flight procedures and manoeuvres during all phases of flight;
 - (3) abnormal and emergency procedures and manoeuvres related to failures and malfunctions of equipment, such as engine, systems and airframe;
 - (4) procedures for crew incapacitation and crew coordination, including allocation of pilot tasks, crew cooperation and use of checklists; and
 - (5) in the case of aeroplanes, procedures and manoeuvres for instrument flight described in 61.65, including simulated engine failure.

- (d) In the case of an aeroplane, the applicant shall have demonstrated the ability to perform the procedures and manoeuvres as pilot-in-command of a multi-engined aeroplane.
- (e) The applicant shall have demonstrated the ability to perform the procedures and manoeuvres according with a degree of competency appropriate to the privileges granted to the holder of an airline transport pilot license, and to:
 - (1) recognize and manage threats and errors;
 - (2) smoothly and accurately, manually control the aircraft within its limitations at all times, such that the successful outcome of a procedure or manoeuvre is assured;
 - (3) operate the aircraft in the mode of automation appropriate to the phase of flight and to maintain awareness of the active mode of automation;
 - (4) perform, in an accurate manner, normal, abnormal and emergency procedures in all phases of flight;
 - (5) exercise good judgement and airmanship, to include structured decision making and the maintenance of situational awareness; and
 - (6) communicate effectively with other flight crew members and demonstrate the ability to effectively perform procedures for crew incapacitation, crew coordination, including allocation of pilot tasks, crew cooperation, adherence to standard operating procedures (SOPs) and use of checklists.

- (f) Unless the Director General requires certain or all maneuvers to be performed, the person giving a flight test for an airline transport pilot license or additional airplane class or type rating may, in his discretion, waive any of the maneuvers for which a specific waiver authority are required by DGCA if a pilot being checked:
 - (1) Is employed as a pilot by a Part 121 certificate holder; and
 - (2) Within the preceding 6 calendar months, has successfully completed that certificate holder's approved training program for the airplane type involved.
- (g) The Sections specified in Paragraph (a) of this Part may be performed in the airplane simulator or other training device required by DGCA for the particular Section if:
 - (1) The airplane simulator or other training device meets the requirements of Part 121.407 of the CASRs; and
 - (2) The applicant has successfully completed the training. However, the DGCA inspector or designated examiner may require to be performed in the airplane if he determines that action is necessary to determine the applicant's competence with respect to that maneuver.
- (h) An approved simulate may be used instead of the airplane to satisfy some of the in-flight requirements of this part, if the simulator Is approved under Part 121.407 of the CASRs and meets appropriate simulator requirements acceptable to DGCA:

- (i) An applicant for a type rating to be added to an airline transport pilot license must :
 - (1) Have completed ground and flight training on the maneuvers and procedures of Appendix A of this part that is appropriate to the airplane for which a type rating is sought and received an endorsement from an authorized instructor in the person's logbook or and training records certifying satisfactory completion of the training; or
 - (2) For a pilot employee of a Part 121 or Part 135 certificate holder, have completed ground and flight training that is appropriate to the airplane for which a type rating is sought and is approved under Parts 121 and 135.
- (j) The applicant shall have received the dual flight instruction required at 61.127 for the issue of the commercial pilot license and at 61.65 for the issue of the instrument rating

14. Section 61.159 is amended, to read as follows:

61.159 Helicopter Rating: Aeronautical Knowledge

An applicant for an airline transport pilot license with a helicopter category and a helicopter class rating must pass a written test on :

Air Law

- (a) rules and regulations relevant to the holder of an airline transport pilot license - airplanes; rules of the air; appropriate air traffic services practices and procedures;
Aircraft General Knowledge
- (b) general characteristics and limitations of electrical, hydraulic, pressurisation and

other airplane systems; flight control systems, including autopilot and stability augmentation

- (c) principles of operation, handling procedures and operating limitations of airplane powerplants; effects of atmospheric conditions on engine performance; relevant operational information from the flight manual or other appropriate document;
- (d) operating procedures and limitations of appropriate airplanes; effects of atmospheric conditions on airplane performance;
- (e) use and serviceability checks of equipment and systems of appropriate airplanes;
- (f) flight instruments; compasses, turning and acceleration errors; gyroscopic instruments, operational limits and precession effects; practices and procedures in the event of malfunctions of various flight instruments;
- (g) maintenance procedures for airframes, systems and powerplants of appropriate airplanes;

Flight performance and planning

- (h) effects of loading and mass distribution on airplane handling, flight characteristics and performance; mass and balance calculations;
- (i) use and practical application of take-off, landing and other performance data, including procedures for cruise control;
- (j) preflight and en-route operational flight planning; preparation and filing of air traffic services flight plans; appropriate air traffic services procedures; altimeter setting procedures;

Human performance and limitations

- (k) human performance and limitations relevant to the airline transport pilot - airplane;

Meteorology

- (l) interpretation and application of aeronautical meteorological reports, charts and forecasts; codes and abbreviations; use of, and procedures for obtaining, meteorological information, preflight and in-flight; altimetry;
- (m) aeronautical meteorology; climatology of relevant areas in respect of the elements having an effect upon aviation; the movement of pressure systems; the structure of fronts, and the origin and characteristics of significant weather phenomena which affect takeoff, en-route and landing conditions;
- (n) causes, recognition and effects of engine and airframe icing; frontal zone penetration procedures; hazardous weather avoidance;
- (o) practical high altitude meteorology, including interpretation and use of weather reports, charts and forecasts; jetstreams;

Navigation

- (p) air navigation, including the use of aeronautical charts, radio navigation aids and area navigation systems; specific navigation requirements for long-range flights;
- (q) use, limitation and serviceability of avionics and instruments necessary for the control and navigation of airplanes;
- (r) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids;

- (s) principles and characteristics of self-contained and external-referenced navigation systems; operation of airborne equipment;

Operational procedures

- (t) interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations, and instrument procedure charts for departure, en-route, descent and approach;
- (u) precautionary and emergency procedures; safety practices associated with flight under IFR;
- (v) operational procedures for carriage of freight and dangerous goods;
- (w) requirements and practices for safety briefing to passengers, including precautions to be observed when embarking and disembarking from airplanes;

Principles of flight

- (x) principles of flight relating to airplanes; sub-sonic aerodynamics; compressibility effects, manoeuvre boundary limits, wing design characteristics, effects of supplementary lift and drag devices; relationships between lift, drag and thrust at various airspeeds and in different flight configurations;

Radiotelephony

- (y) radiotelephony procedures and phraseology; action to be taken in case of communication failure.

In addition to the above subjects, the applicant for an airline transport pilot license applicable to the airplane category shall have met the knowledge requirements for the instrument rating described in under Part 61.65

15. Section 61.171 is amended , to read as follows:

61.171 General Privileges and Limitations

The privileges of the holder of an airline transport pilot license shall be:

- (a) to exercise all the privileges of the holder of a private and commercial pilot license in an aircraft within the appropriate aircraft category and, in the case of a license for the aeroplane and powered-lift categories, of the instrument rating; and
- (b) to act as pilot-in-command, in commercial air transportation, of an aircraft within the appropriate category and certificated for operation with more than one pilot.

16. Section 61.185 is amended, to read as follows:

61.185 Aeronautical Knowledge

- (a) Present evidence showing that he has satisfactorily completed a course of instruction in at least the following subjects:
 - (1) techniques of applied instruction;
 - (2) assessment of student performance in those subjects in which ground instruction is given;
 - (3) the learning process;
 - (4) elements of effective teaching;
 - (5) student evaluation and testing, training philosophies;
 - (6) training programme development;
 - (7) lesson planning;
 - (8) classroom instructional techniques;
 - (9) use of training aids, including flight simulation training devices as appropriate;
 - (10) analysis and correction of student errors;

- (11) human performance relevant to flight instruction including principles of threat and error management;
 - (12) hazards involved in simulating system failures and malfunctions in the aircraft.
- (b) Have logged ground instruction from an authorized ground or flight instructor in all of the subjects in which ground instruction is required for a private and commercial pilot license, and for an instrument rating, if an airplane or instrument instructor rating is sought.

17. Section 61.187 is amended, to read as follows:

61.187 Skill and Flight Instruction

Skill

The applicant shall have demonstrated, in the category and class of aircraft for which flight instructor privileges are sought, the ability to instruct in those areas in which flight instruction is to be given, including pre-flight, post-flight and ground instruction as appropriate.

Flight instruction

The applicant shall, under the supervision of a flight instructor accepted by the Licensing Authority for that purpose:

- (a) have received instruction in flight instructional techniques including demonstration, student practices, recognition and correction of common student errors; and
- (b) have practised instructional techniques in those flight manoeuvres and procedures in which it is intended to provide flight instruction.

18. Section 61.189 is amended, to read as follows:

61.189 Flight Instructor Records

- (a) Each licensed flight instructor shall sign the logbook of each person to whom he has given flight or ground instruction and specify in that book the amount of the time and the date on which it was given. In addition, he shall maintain a record in his flight instructor logbook, or in a separate document containing the following:
 - (1) The name of each person whose logbook or student pilot license he has endorsed for solo flight privileges. The record must include the type and date of each endorsement.
 - (2) The name of each person for whom he has signed a certification for a written, flight, or practical test, including the kind of test, date of his certification, and the result of the test.
- (b) The record required by this Part shall be retained by the flight instructor separately or in his logbook for at least 3 years.

19. Section 61.193 is amended, to read as follows:

61.193 Flight Instructor Authorizations

- (a) The holder of a Flight Instructor License is authorized, within the limitations of that person's Flight Instructor License and ratings, to give the-
 - (1) Flight instruction required by this part for a pilot license or rating;
 - (2) Ground instruction course required by this part for a pilot license and rating;
 - (3) Ground and flight instruction required by this subpart for a flight instruction

license and rating, if that person meets the requirements prescribed in Part 61.187 (b);

- (4) Flight instruction on a flight simulation training device;
 - (5) Flight instruction required for an initial solo or cross-country flight;
 - (6) Flight review required in Part 61.56 in a manner acceptable to the Director General;
 - (7) Instrument competency check required in Part 61.157(e)(2);
 - (8) Pilot in command flight instruction required under Part 61.101 (d); and
 - (9) Ground and flight instruction required by this part for the issuance of the endorsement specified in Paragraph (b) of this Part.
- (b) The holder of a Flight Instructor License is authorized within the limitations of that person's Flight Instructor License and ratings, to endorse-
- (1) In accordance with Part 61.87(m) and 61.93(c) and (d), the pilot license of a student pilot the flight instructor has instructed authorizing the student to conduct solo or solo cross-country flights, or to act as pilot in command of an airship requiring more than one flight crew member;
 - (2) In accordance with Part 61.86(m) and 61.93(b) and (d), the logbook of a student pilot the flight instructor has instructed, authorizing single or repeated solo flights;
 - (3) In accordance with Part 61.93(d), the logbook of a student pilot whose

preparation and preflight planning for a solo cross-country flight the flight instructor has reviewed and found adequate for a safe flight under the conditions the flight instructor has listed in the logbook;

- (4) In accordance with Part 61.59, the logbook of a student pilot the flight instructor has instructed authorizing solo flight in a class B airspace area or at an airport within a Class B airspace area.
- (5) The logbook of a pilot or another flight instructor who has been trained by the person described in Paragraph(b) of this Part, certifying that the pilot or other flight instructor is prepared for an operating privilege, a written test, or practical test required by this part;
- (6) In accordance with Part 61.57(e)(2) and 61.101(d) the logbook of a pilot the flight instructor has instructed authorizing the pilot to act as pilot in command;
- (7) In accordance with Part 61.101 (g) and (h), the logbook of a sport pilot the flight instructor has instructed authorizing solo flight.

Article II

This Ministerial Regulation comes into force on the date of promulgation.

In order that every person may know hereof, it is ordered to promulgate this Ministerial Regulation by its placement in the State Gazette of the Republic Of Indonesia.

Issued in the Jakarta
on 4 August 2017

MINISTER OF TRANSPORTATION OF
THE REPUBLIC OF INDONESIA,

signed

BUDI KARYA SUMADI

Promulgated in Jakarta
on 8 August 2017

DIRECTOR GENERAL
OF LEGISLATION MINISTRY OF LAW AND HUMAN RIGHTS OF
THE REPUBLIC OF INDONESIA,

signed

WIDODO EKATJAHJANA

STATE BULLETIN OF THE REPUBLIC OF INDONESIA OF 2017 NUMBER 1102

Jakarta, 16 August 2017

Has been translated as an Official Translation
on behalf of Minister of Law and Human Rights
of the Republic of Indonesia,

DIRECTOR GENERAL OF LEGISLATION,


WIDODO EKATJAHJANA