Appendix A

Clearance Shorthand

The following shorthand system is recommended by the Federal Aviation Administration (FAA). Applicants for the instrument rating may use any shorthand system, in any language, which ensures accurate compliance with air traffic control (ATC) instructions. No shorthand system is required by regulation and no knowledge of shorthand is required for the FAA Knowledge Test; however, because of the vital need for reliable communication between the pilot and controller, clearance information should be unmistakably clear.

The following symbols and contractions represent words and phrases frequently used in clearances. Most are used regularly by ATC personnel. By practicing this shorthand, omitting the parenthetical words, you will be able to copy long clearances as fast as they are read.

Example: CAF 44- RH RV V18 40 SQ 0700 DPC 120.4
Cleared as filed, maintain runway heading for radar vector to Victor 18, climb to 4,000, squawk 0700, departure control frequency is 120.4.

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</tr>
<tr>
<td>Bearing....................................</td>
<td>BR</td>
</tr>
<tr>
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<tr>
<td>Below .......................................</td>
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<tr>
<td>Below (Altitude, Hundreds of Feet).......</td>
<td>70</td>
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<tr>
<td>Center.....................................</td>
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<td>Clearance Void if Not Off By (Time)......</td>
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<td>Cleared to Depart From the Fix............</td>
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<td>H</td>
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</tr>
<tr>
<td>DME Fix (Mile)..............................</td>
<td>[21]</td>
</tr>
<tr>
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<tr>
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<td>△</td>
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<tr>
<td>Estimated Time of Arrival...................</td>
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Fan Marker........................................................................FM
Final.................................................................................F
Final Approach.................................................................FA
Flight Level........................................................................FL
Flight Planned Route..............................................................FPR
For Further Clearance.........................................................FFH
For Further Headings.........................................................FFH
From..............................................................................FM
Ground..............................................................................GND
GPS Approach.................................................................GPS
Heading.............................................................................HDG
Hold (Direction).................................................................H-W
Holding Pattern....................................................................M
ILS Approach........................................................................ILS
Increase Speed 30 Knots.....................................................+30 K
Initial Approach.................................................................I
Instrument Departure Procedure..........................................DP
Intersection.................................................................XN
Join or Intercept Airway/Jet Route/Track or Course..............\S
Left Turn After Takeoff.......................................................\L
Locator Outer Marker........................................................LOM
Magnetic..........................................................................M
Maintain.............................................................................M-
Maintain VFR Conditions On Top......................................VFR
Middle Compass Locator....................................................ML
Middle Marker.....................................................................MM
Missed Approach.............................................................MA
Nondirectional Beacon Approach........................................NDB
Out of (Leave) Control Area................................................\\
Outer Marker.....................................................................OM
Over (Station).................................................................OKC
On Course.........................................................................OC
Precision Approach Radar..................................................PAR
Procedure Turn....................................................................PT
Radar Vector.......................................................................RV
Radial (080° Radial).............................................................080R
Reduce Speed 20 Knots......................................................\-20 K
Remain This Frequency....................................................RTF
Remain Well to Left Side....................................................LS
Remain Well to Right Side..................................................RS
Report Crossing...............................................................RX
Report Departing..............................................................RD
Report Leaving...............................................................RL
Report on Course...........................................................R-CRS
Report Over.................................................................RO
Report Passing.................................................................RP
Report Reaching............................................................RR
Report Starting Procedure Turn...........................................RSPT
Reverse Course..............................................................RC
Right Turn After Takeoff....................................................\\(7
Runway Heading.............................................................RH
Runway (Number).............................................................RY18
Squawk.................................................................SQ
Standby.................................................................STBY
Straight-in Approach.......................................................SI
Surveillance Radar Approach..........................................ASR
Takeoff (Direction)............................................................T→N
Tower...............................................................................Z
Turn Left............................................................................TL
Turn Right...........................................................................TR
Until.................................................................................../
Until Advised (By)............................................................UA
Until Further Advised.......................................................UFA
VFR Conditions On Top....................................................OTP
Via.................................................................VIA
Victor (Airway Number)..............................................V14
Visual Approach.............................................................VA
VOR...............................................................................●
VOR Approach...............................................................VR
VORTAC.........................................................................T
While in Control Area......................................................△
Introduction
Flight instructors may use this guide in the development of lesson plans. The lessons are arranged in a logical learning sequence and use the building-block technique. Each lesson includes ground training appropriate to the flight portion of the lesson. It is vitally important that the flight instructor brief the student on the objective of the lesson and how it will be accomplished. Debriefing the student’s performance is also necessary to motivate further progress. To ensure steady progress, student pilots should master the objective of each lesson before advancing to the next lesson. Lessons should be arranged to take advantage of each student’s knowledge and skills.

Flight instructors must monitor progress closely during training to guide student pilots in how to properly divide their attention. The importance of this division of attention or “cross-check” cannot be overemphasized. Cross-check and proper instrument interpretation are essential components of “attitude instrument flying” that enables student pilots to accurately visualize the aircraft’s attitude at all times.

When possible, each lesson should incorporate radio communications, basic navigation, and emergency procedures so the student pilot is exposed to the entire IFR experience with each flight. Cross-reference the Instrument Training Lesson Guide with this handbook and the Instrument Practical Test Standards for a comprehensive instrument rating training program.

Lesson 1—Ground and flight evaluation of student’s knowledge and performance
Aircraft systems
Aircraft performance
Preflight planning
Use of checklists
Basic flight maneuvers
Radio communications procedures
Navigation systems

Lesson 2—Preflight preparation and flight by reference to instruments
Ground Training
Instrument system preflight procedures
Attitude instrument flying
Fundamental instrument skills
Instrument cross-check techniques

Flight Training
Aircraft and instrument preflight inspection
Use of checklists
Fundamental instrument skills
Basic flight maneuvers
Instrument approach (demonstrated)
Postflight procedures

Lesson 3—Flight instruments and human factors
Ground Training
Human factors
Flight instruments and systems
Aircraft systems
Navigation instruments and systems

Flight Training
Aircraft and instrument preflight inspection
Radio communications
Checklist procedures
Attitude instrument flying
Fundamental instrument skills
Basic flight maneuvers
Spatial disorientation demonstration
Navigation systems
Postflight procedures

Lesson 4—Attitude instrument flying
Ground Training
Human factors
Flight instruments and systems
Aircraft systems
Navigation instruments and systems
Attitude instrument flying
Fundamental instrument skills
Basic flight maneuvers

**Flight Training**
Aircraft and instrument preflight inspection
Checklist procedures
Radio communications
Attitude instrument flying
Fundamental instrument skills
Basic flight maneuvers
Spatial disorientation
Navigation
Postflight procedures

**Lesson 5—Aerodynamic factors and basic flight maneuvers**

**Ground Training**
Basic aerodynamic factors
Basic instrument flight patterns
Emergency procedures

**Flight Training**
Aircraft and instrument preflight inspection
Checklist procedures
Radio communications
Basic instrument flight patterns
Emergency procedures
Navigation
Postflight procedures

**Lesson 6—Partial panel operations**

**Ground Training**
ATC system
Flight instruments
Partial panel operations

**Flight Training**
Aircraft and instrument preflight inspection
Checklist procedures
Radio communications
Basic instrument flight patterns
Emergency procedures
Partial panel practice
Navigation
Postflight procedures

**Lesson 7—Recovery from unusual attitudes**

**Ground Training**
Attitude instrument flying
ATC system
NAS overview

**Flight Training**
Preflight
Aircraft and instrument preflight inspection
Checklist procedures
Radio communications
Instrument takeoff
Navigation
Partial panel practice
Recovery from unusual attitudes
Postflight procedures

**Lesson 8—Navigation systems**

**Ground Training**
ATC clearances
Departure procedures
IFR en route charts

**Flight Training**
Aircraft and instrument preflight inspection
Checklist procedures
Radio communications
Intercepting and tracking
Holding
Postflight procedures

**Lesson 9—Review and practice**

**Ground Training**
Aerodynamic factors
Flight instruments and systems
Attitude instrument flying
Navigation systems
NAS
ATC
Emergency procedures

**Flight Training**
Aircraft and instrument preflight inspection
Checklist procedures
Radio communications
Review and practice as determined by the flight instructor
Lessons 10 through 19—Orientation, intercepting, tracking, and holding using each navigation system installed in the aircraft

Ground Training
Preflight planning
Navigation systems
NAS
ATC
Emergencies

Flight Training
Aircraft and instrument preflight inspection
Checklist procedures
Radio communications
Departure procedures
En route navigation
Terminal operations
Partial panel operation
Instrument approach
Missed approach
Approach to a landing
Postflight procedures

Lessons 20 and 21—Cross-country flights

Ground Training
Preflight planning
Aircraft performance
Navigation systems
NAS
ATC
Emergencies

Flight Training
Emergency procedures
Partial panel operation
Aircraft and instrument preflight inspection
Checklist procedures
Radio communications
Departure procedures
En route navigation
Terminal operations

Lessons 22 and 23—Review and practice

Ground Training
Human factors
Aerodynamic factors
Flight instruments and systems
Attitude instrument flying
Basic flight maneuvers
Navigation systems
NAS
ATC
Emergency operations

Flight Training
Aircraft and instrument preflight inspection
Checklist procedures
Radio communications
Review and practice as determined by the flight instructor
Instrument approach
Partial panel operations
Unusual attitude recoveries
Radio communications
Navigation systems
Emergency procedures
Postflight procedures

Lessons 24 and subsequent—Practical test preparation

Ground Training
Title 14 of the Code of Federal Regulations (14 CFR) parts 61, 71, 91, 95, and 97
Instrument Flying Handbook
Practical test standards
Administrative requirements
Equipment requirements
Applicant’s requirements

Flight Training
Review and practice until the student can consistently perform all required tasks in accordance with the appropriate practical test standards.

NOTE: It is the recommending instructor’s responsibility to ensure that the applicant meets 14 CFR part 61 requirements and is prepared for the practical test, including: training, knowledge, experience, and the appropriate instructor endorsements.