1. **PURPOSE.** This advisory circular contains the listings of reference materials and subject matter knowledge codes for airman knowledge testing. It includes codes for pilots, instructors, flight engineers, dispatchers, navigators, pilot examiners, inspection authorization, parachute riggers, and aircraft mechanics.

2. **CANCELLATION.** AC 60-25E, Reference Materials and Subject Matter Knowledge Codes for Airman Knowledge Testing, dated 4/16/01, is canceled.

3. **GENERAL.** The listings of reference materials and subject matter knowledge codes have been prepared by the Federal Aviation Administration (FAA) to establish specific references for all knowledge standards. The listings contain reference materials to be used when preparing for all airman knowledge tests. The subject matter knowledge codes should be referred to when reviewing areas of deficiency on airman knowledge test reports.

4. **HOW TO OBTAIN ELECTRONICALLY.** The subject matter knowledge codes, some of the reference materials listed, and knowledge test guides specific to each certification testing level can be obtained from the Regulatory Support Division’s web site at http://afs600.faa.gov.

/s/ 6/8/2004
Joseph K. Tintera, Manager
Regulatory Support Division
Flight Standards Service
REFERENCE MATERIALS AND SUBJECT MATTER KNOWLEDGE CODES
FOR PILOTS, INSTRUCTORS, FLIGHT ENGINEERS, DISPATCHERS,
NAVIGATORS, PILOT EXAMINERS, INSPECTION AUTHORIZATION, AND
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K05 AC 00-55, Announcement of Availability: FAA Order 8130.21A
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K12 AC 20-32, Carbon Monoxide (CO) Contamination in Aircraft—Detection and Prevention
K13 AC 20-43, Aircraft Fuel Control
K20 AC 20-103, Aircraft Engine Crankshaft Failure
AC 20-121, Airworthiness Approval of Airborne Loran-C Navigation Systems for Use in the U.S. National Airspace System


AC 25-4, Inertial Navigation Systems (INS)

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AC 43-9, Maintenance Records

AC 43.9-1, Instructions for Completion of FAA Form 337

AC 43-11, Reciprocating Engine Overhaul Terminology and Standards

AC 43.13-1, Acceptable Methods, Techniques, and Practices—Aircraft Inspection and Repair

AC 43.13-2, Acceptable Methods, Techniques, and Practices—Aircraft Alterations

AC 60-4, Pilot's Spatial Disorientation

AC 60-22, Aeronautical Decision Making

AC 60-26, Stall Spin Awareness Training

AC 61-107, Operations of Aircraft at Altitudes Above 25,000 Feet MSL and/or MACH numbers (Mmo) Greater Than .75

FAA-G-8082-11, Inspection Authorization Knowledge Test Guide

AC 90-48, Pilots' Role in Collision Avoidance

AC 90-87, Helicopter Dynamic Rollover (Canceled/Replaced by FAA-H-8083-21)


AC 90-95, Unanticipated Right Yaw in Helicopters

AC 91-6, Water, Slush, and Snow on the Runway

AC 91-13, Cold Weather Operation of Aircraft

AC 91-14, Altimeter Setting Sources

AC 91-43, Unreliable Airspeed Indications

AC 91-46, Gyroscopic Instruments—Good Operating Practices

AC 91-50, Importance of Transponder Operation and Altitude Reporting

AC 91-51, Effect of Icing on Aircraft Control and Airplane Deice and Anti-Ice Systems

AC 91-67, Minimum Equipment Requirements for General Aviation Operations Under FAR Part 91

AC 103-4, Hazard Associated with Sublimation of Solid Carbon Dioxide (Dry Ice) Aboard Aircraft

AC 105-2, Sport Parachute Jumping

AC 120-12, Private Carriage Versus Common Carriage of Persons or Property

AC 120-27, Aircraft Weight and Balance Control

AC 120-58, Pilot Guide for Large Aircraft Ground Deicing

AC 121-195-1, Operational Landing Distances for Wet Runways; Transport Category Airplanes

AC 135-17, Pilot Guide—Small Aircraft Ground Deicing

AC 20-117, Hazards Following Ground Deicing and Ground Operations in Conditions Conducive to Aircraft Icing

AC 00-2, Advisory Circular Checklist

Soaring Flight Manual—Jeppesen-Sanderson, Inc.

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Flight Instructor Manual—Balloon Federation of America

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AGTP—Aircraft Gas Turbine Powerplants—Jeppesen Sanderson, Inc.

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The Aircraft Gas Turbine Engine and Its Operation—United Technologies Corporation, Pratt Whitney, 1988

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ATD—Aircraft Technical Dictionary—Jeppesen Sanderson, Inc.

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Aircraft Basic Science—Glencoe/McGraw-Hill, Seventh Edition

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TCAS—Transport Category Aircraft Systems—Jeppesen Sanderson, Inc.

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V10 FAA-P-8740-41, Medical Facts for Pilots
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V15 FAA-P-8740-51, How to Avoid a Midair Collision
V16 FAA-P-8740-52, The Silent Emergency
FTP—Flight Theory for Pilots—Jeppesen Sanderson, Inc.

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Fly the Wing—Iowa State University Press/Ames, Second Edition

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Practical Test Standards

Z01  FAA-S-8081-6, Flight Instructor Practical Test Standards for Airplane
Z02  FAA-S-8081-7, Flight Instructor Practical Test Standards for Rotorcraft
Z03  FAA-S-8081-8, Flight Instructor Practical Test Standards for Glider

NOTE: AC 00-2, Advisory Circular Checklist, transmits the status of all FAA advisory circulars (ACs), as well as FAA internal publications and miscellaneous flight information, such as Aeronautical Information Manual, Airport/Facility Directory, knowledge test guides, practical test standards, and other material directly related to a certificate or rating. The checklist is available on the Internet at:

http://www.faa.gov/aba/html_policies/ac00_2.html
LIST OF REFERENCE MATERIALS
AND SUBJECT MATTER KNOWLEDGE CODES

The publications listed in the following pages contain study material you need to be familiar with when preparing for aviation mechanic knowledge tests. These publications can be purchased through the U.S. Government Printing Office (GPO), commercial aviation supply houses, or industry organizations. The latest revision of the listed references should be requested. Additional study material is also available through these sources that may be helpful in preparing for aviation mechanic knowledge tests. All publications listed would be excellent for a mechanic to have in a personal reference library.

AVIATION MECHANIC—GENERAL

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<td>AEE</td>
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<td>MBM</td>
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<td>ECD</td>
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<td>ATD</td>
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<td>A &amp; P Technician Powerplant Textbook—Jeppesen Sanderson, Inc.</td>
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Basic Electricity—AC 65-9A, AMT-G, AEE, MBM, ECD, AB, JSGT

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<tr>
<td>A01</td>
<td>Calculate and measure capacitance and inductance</td>
</tr>
<tr>
<td>A02</td>
<td>Calculate and measure electrical power</td>
</tr>
<tr>
<td>A03</td>
<td>Measure voltage, current, resistance, and continuity</td>
</tr>
<tr>
<td>A04</td>
<td>Determine the relationship of voltage, current, and resistance in electrical circuits</td>
</tr>
<tr>
<td>A05</td>
<td>Read and interpret electrical circuit diagrams, including solid state devices and logic functions</td>
</tr>
<tr>
<td>A06</td>
<td>Inspect and service batteries</td>
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</tbody>
</table>


<table>
<thead>
<tr>
<th>Code</th>
<th>Knowledge Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>B01</td>
<td>Use drawings, symbols, and system schematics</td>
</tr>
<tr>
<td>B02</td>
<td>Draw sketches of repairs and alterations</td>
</tr>
<tr>
<td>B03</td>
<td>Use blueprint information</td>
</tr>
<tr>
<td>B04</td>
<td>Use graphs and charts</td>
</tr>
</tbody>
</table>
Weight and Balance—AC 65-9A, 14 CFR § 23.29

C01  Weigh aircraft
C02  Perform complete weight and balance check and record data

Fluid Lines and Fittings—AC 65-9A, ABS, JSGT

D01  Fabricate and install rigid and flexible fluid lines and fittings


E01  Identify and select appropriate nondestructive testing methods
E02  Perform dye penetrant, eddy current, ultrasonic, and magnetic particle inspections
E03  Perform basic heat-treating processes
E04  Identify and select aircraft hardware and materials
E05  Inspect and check welds
E06  Perform precision measurements


F01  Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards
F02  Identify and select fuels

Cleaning and Corrosion Control—AC 65-9A, AC 65-12A, AC 43.13-1B, AC 43-4A, AC 43-205, JSGT

G01  Identify and select cleaning materials
G02  Inspect, identify, remove, and treat aircraft corrosion and perform aircraft cleaning


H01  Extract roots and raise numbers to a given power
H02  Determine areas and volumes of various geometrical shapes
H03  Solve ratio, proportion, and percentage problems
H04  Perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers


I01  Write descriptions of work performed including aircraft discrepancies and corrective actions using typical aircraft maintenance records
I02  Complete required maintenance forms, records, and inspection reports


J01  Use and understand the principles of simple machines; sound, fluid, and heat dynamics; basic aerodynamics; aircraft structures; and theory of flight
Demonstrate ability to read, comprehend, and apply information contained in FAA and manufacturer’s aircraft maintenance specifications, data sheets, manuals, publications, and related Federal Aviation Regulations, Airworthiness Directives, and Advisory material

Read technical data

Exercise mechanic privileges within the limitations prescribed by 14 CFR part 65

**AVIATION—MECHANIC AIRFRAME**

**ABBREVIATIONS AND REFERENCES**

AC Advisory Circular
AMT-A Aviation Maintenance Technician Series Airframe—Aviation Supplies and Academics (ASA) Publications
DAT Dictionary of Aeronautical Terms—Aviation Supplies and Academics (ASA) Publications
AAC Aircraft Air Conditioning (Vapor Cycle)—Jeppesen Sanderson, Inc.
FMS Aircraft Fuel Metering Systems—Jeppesen Sanderson, Inc.
AHS Aircraft Hydraulic System—Jeppesen Sanderson, Inc.
AOS Aircraft Oxygen Systems—Jeppesen Sanderson, Inc.
JSAT A & P Technician Airframe Textbook—Jeppesen Sanderson, Inc.
JSGT A & P Technician General Textbook—Jeppesen Sanderson, Inc.
ABS Aircraft Bonded Structure—Jeppesen Sanderson, Inc.
WG Welding Guidelines with Aircraft Supplement—Jeppesen Sanderson, Inc.
ARS Aircraft Radio Systems—Jeppesen Sanderson, Inc.
AC Advanced Composites—Jeppesen Sanderson, Inc.
14 CFR Title 14 of the Code of Federal Regulations (part or § [section])—Government Printing Office (GPO)
47 CFR Title 47 of the Code of Federal Regulations (part or § [section])—Government Printing Office (GPO)
49 CFR Title 49 of the Code of Federal Regulations (part or § [section])—Government Printing Office (GPO)
MBM Marathon Battery Manual
MMM Manufacturer’s Maintenance Manual
TSO Technical Standard Order
SUND Sundstrand IDG and BITE 767 Line Maintenance/Servicing
Wood Structures—AC 65-15A, AC 43.13-1B, AMR

A01 Service and repair wood structures
A02 Identify wood defects
A03 Inspect wood structures

Aircraft Covering—AC 65-15A, AC 43.13-1B, AMR

B01 Select and apply fabric and fiberglass covering materials
B02 Inspect, test, and repair fabric and fiberglass

Aircraft Finishes—AC 65-15A, AC 43.13-1B, AMR, JSAT

C01 Apply trim, letters, and touchup paint
C02 Identify and select aircraft finishing materials
C03 Apply finishing materials
C04 Inspect finishes and identify defects


D01 Select, install, and remove special fasteners for metallic, bonded, and composite structures
D02 Inspect bonded structures
D03 Inspect, test, and repair fiberglass, plastics, honeycomb, composite, and laminated primary and secondary structures
D04 Inspect, check, service, and repair windows, doors, and interior furnishings
D05 Inspect and repair sheet-metal structures
D06 Install conventional rivets
D07 Form, lay out, and bend sheet metal

Welding—AC 65-15A, AC 43.13-1B, AMR, WG, JSAT

E01 Weld magnesium and titanium
E02 Solder stainless steel
E03 Fabricate tubular structures
E04 Solder, braze, gas-, and arc-weld steel
E05 Weld aluminum and stainless steel


F01 Rig rotary-wing aircraft
F02 Rig fixed-wing aircraft
F03 Check alignment of structures
F04 Assemble aircraft components, including flight control surfaces
F05 Balance, rig, and inspect movable primary and secondary flight control surfaces
F06 Jack aircraft
Airframe Inspection—AC 65-9A, 14 CFR part 43, 14 CFR part 65, 14 CFR part 91

G01 Perform airframe conformity and airworthiness inspections
HXX Reserved
IXX Reserved
JXX Reserved


K01 Inspect, check, service, and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems

Hydraulic and Pneumatic Power Systems—
AC 65-9A, AC 65-15A, AMR, AHS, JSAT, AMT-A

L01 Repair hydraulic and pneumatic power system components
L02 Identify and select hydraulic fluids
L03 Inspect, check, service, troubleshoot, and repair hydraulic and pneumatic power systems


M01 Inspect, check, service, troubleshoot, and repair heating, cooling, air-conditioning, pressurization, and air cycle machines
M02 Inspect, check, troubleshoot, service, and repair oxygen systems


N01 Inspect, check, service, troubleshoot, and repair electronic flight instrument systems and both mechanical and electrical heading, speed, altitude, temperature, pressure, and position indicating systems to include the use of built-in test equipment
N02 Install instruments and perform a static pressure system leak test


O01 Inspect, check, and troubleshoot autopilot, servos and approach coupling systems
O02 Inspect, check, and service aircraft electronic communication and navigation systems, including VHF, passenger address interphones and static discharge devices, aircraft VOR, ILS, LORAN, radar beacon transponders, flight management computers, and GPWS
O03 Inspect and repair antenna and electronic equipment installations


P01 Check and service fuel dump systems
P02 Perform fuel management, transfer, and defueling
P03 Inspect, check, and repair pressure fueling systems
P04 Repair aircraft fuel system components
P05 Inspect and repair fluid quantity indicating systems
P06 Troubleshoot, service, and repair fluid pressure and temperature warning systems
P07 Inspect, check, service, troubleshoot, and repair aircraft fuel systems


Q01 Repair and inspect aircraft electrical system components; crimp and splice wiring to manufacturer’s specifications; and repair pins and sockets of aircraft connectors
Q02 Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devices
Q03 Inspect, check, troubleshoot, service, and repair alternating and direct current electrical systems
Q04 Inspect, check, and troubleshoot constant speed and integrated speed drive generators


R01 Inspect, check, and service speed and configuration warning systems, electrical brake controls, and antiskid systems
R02 Inspect, check, troubleshoot, and service landing gear position indicating and warning systems

**Ice and Rain Control Systems—**AC 65-15A, AMT-A

S01 Inspect, check, troubleshoot, service, and repair airframe ice and rain control systems

**Fire Protection Systems—**AC 65-9A, AC 65-15A, AP, JSAT

T01 Inspect, check, and service smoke and carbon monoxide detection systems
T02 Inspect, check, service, troubleshoot, and repair aircraft fire detection and extinguishing systems
AVIATION MECHANIC—POWERPLANT

ABBREVIATIONS AND REFERENCES

AC    Advisory Circular
AEE   Aircraft Electricity and Electronics—Glencoe Division, Macmillan/McGraw-Hill Publication Co.
AMT-P Aviation Maintenance Technician Series Powerplant—Aviation Supplies & Academics, (ASA) Inc.
DAT   Dictionary of Aeronautical Terms—Aviation Supplies & Academics (ASA), Inc.
TCAS  Transport Category Aircraft Systems—Jeppesen Sanderson, Inc.
APC   Aircraft Propellers and Controls—Jeppesen Sanderson, Inc.
ATD   Aircraft Technical Dictionary—Jeppesen Sanderson, Inc.
JSGT  A & P Technician General Textbook—Jeppesen Sanderson, Inc.
JSPT  A & P Technician Powerplant Textbook—Jeppesen Sanderson, Inc.
AGTP  Aircraft Gas Turbine Powerplants—Jeppesen Sanderson, Inc.
14 CFR Title 14 of the Code of Federal Regulations (part or § [section])—Government Printing Office (GPO)

Reciprocating Engines—AC 65-9A, AC 65-12A, 14 CFR part 43, AP, JSPT, AMT-P

A01   Inspect and repair a radial engine
A02   Overhaul reciprocating engine
A03   Inspect, check, service, and repair reciprocating engines and engine installations
A04   Install, troubleshoot, and remove reciprocating engines


B01   Overhaul turbine engine
B02   Inspect, check, service, and repair turbine engines and turbine engine installations
B03   Install, troubleshoot, and remove turbine engines


C01   Perform powerplant conformity and airworthiness inspections

DXX   Reserved
EXX   Reserved
FXX   Reserved
GXX   Reserved

H01 Troubleshoot, service, and repair electrical and mechanical fluid rate-of-flow indicating systems
H02 Inspect, check, service, troubleshoot, and repair electrical and mechanical engine temperature, pressure, and RPM indicating systems


I01 Inspect, check, service, troubleshoot, and repair engine fire detection and extinguishing systems


J01 Repair engine electrical system components
J02 Install, check, and service engine electrical wiring, controls, switches, indicators, and protective devices


K01 Identify and select lubricants
K02 Repair engine lubrication system components
K03 Inspect, check, service, troubleshoot, and repair engine lubrication systems

Ignition and Starting Systems—AC 65-12A, AC 65-15A, AEE, AMT-P, AP, AGTP, JSPT

L01 Overhaul magneto and ignition harness
L02 Inspect, service, troubleshoot, and repair reciprocating and turbine engine ignition systems and components
L03 Inspect, service, troubleshoot, and repair turbine engine electrical starting systems
L04 Inspect, service, and troubleshoot turbine engine pneumatic starting systems


M01 Troubleshoot and adjust turbine engine fuel metering systems and electronic engine fuel controls
M02 Overhaul carburetor
M03 Repair engine fuel metering system components
M04 Inspect, check, service, troubleshoot, and repair reciprocating and turbine engine fuel metering systems


N01 Repair engine fuel system components
N02 Inspect, check, service, troubleshoot, and repair engine fuel systems

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**Induction and Engine Airflow Systems—AC 65-9A, AC 65-12A, AC 43.13-1B, AP, AGTP, JSPT, AMT-P**

O01 Inspect, check, troubleshoot, service, and repair engine ice and rain control systems

O02 Inspect, check, service, troubleshoot, and repair heat exchangers, superchargers, and turbine engine airflow and temperature control systems

O03 Inspect, check, service, and repair carburetor air intake and induction manifolds

**Engine Cooling Systems—AC 65-12A, ABS, AP, JSPT, AMT-P**

P01 Repair engine cooling system components

P02 Inspect, check, troubleshoot, service, and repair engine cooling systems

**Engine Exhaust and Reverser Systems—AC 65-12A, AC 43.13-1B, AP, JSPT**

Q01 Repair engine exhaust system components

Q02 Inspect, check, troubleshoot, service, and repair engine exhaust systems

Q03 Troubleshoot and repair engine thrust reverser systems and related components

**Propellers—AC 65-9A, AC 65-12A, AC 43.13-1B, 14 CFR part 43, 14 CFR part 65, AP, ATD, APC, JSPT, AMT-P**

R01 Inspect, check, service, and repair propeller synchronizing and ice control systems

R02 Identify and select propeller lubricants

R03 Balance propellers

R04 Repair propeller control system components

R05 Inspect, check, service, and repair fixed pitch, constant speed and feathering propellers, and propeller governing systems

R06 Install, troubleshoot, and remove propellers

R07 Repair aluminum alloy propeller blades

**Auxiliary Power Units—DAT, TCAS, ATD, AGTP**

T01 Inspect, check, service, and troubleshoot turbine-driven auxiliary power units

**NOTE:** AC 00-2, Advisory Circular Checklist, transmits the status of all FAA advisory circulars (ACs), as well as FAA internal publications and miscellaneous flight information such as Aeronautical Information Manual (AIM), Airport/Facility Directory, knowledge test study guides, and other material directly related to a certificate or rating. The checklist is available on the Internet at:

http://www.faa.gov/aba/html_policies/ac00_2.html