service.

6Recurrent training of RII designees is required annually and will consist of reading General Maintenance Manual Section III.21. This review must be documented in the employee's training record.

7After satisfactory completion of the RII Training, a qualification test will be administered prior to certification.

8All training will be documented.

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(l)Nondestructive Test (NDT) Training

NDT training will be completed in accordance with NDT Test Standards, TI 4151.1 prior to certification.

(m)Recurrent Training

Additional training will be scheduled when a supervisor or manager determines the need, a deficiency is discovered through surveillance, and/or analysis of data from the reliability program reflects that such training would be beneficial to the aircraft maintenance program. Recurrent training will include at least the following:

1Review and upgrade of training given during both indoctrination and technical training.

2Input from maintenance bulletins and newsletters.

3Employees qualified for run-up and taxi, Required Inspection Items, and Non-destructive Testing will receive recurrent training annually through OJT, with documentation made to the training records.

E.TRAINING RECORDS

(1)The official records for formal training are maintained in the <Your Agency or Contractor> records.

(2)It is the responsibility of the <your agency or contractor>Training Officer to maintain the Individual Training Records in the proper files.

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5.ON-THE-JOB TRAINING OUTLINE

A.GENERAL

The following course outline has been developed as a guide for the maintenance instructor. A memorandum to the mechanic or technician's training file will be prepared by the instructor, certifying that the mechanic or technician has been trained on a particular system. The mechanic or technician will sign the memorandum to certify (s)he has received the training.

B.AIRCRAFT MECHANIC COURSE

(1)Objective - to provide the mechanic with a thorough understanding of the aircraft in the <your agency> fleet, the aircraft systems, and the maintenance thereof.

(2)Course Outline

(a)Ground Handling

(b)Engine Start and APU

(c)Taxiing

(d)Engine Run-up

(e)Electrical

(f)Flight Controls

(g)Fuel

(h)Power plants and Propellers

(i)Hydraulic system, landing gear, brakes, wheels and struts

(j)Environmental

(k)Anti-ice and de-ice

(l)Fire protection

(m)Oxygen

(n)Nickel Cadmium Battery

(o)Security

(p)Hazardous Materials

(3)Reference

Applicable aircraft maintenance, parts, and wiring diagram manuals as contained in the Technical Library.

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(4)OJT Course Detail Outline

(a) Ground Handling

1Basic procedures for working around aircraft

aProper procedures for pushing, pulling, towing and parking aircraft

bAircraft tie downs

cProper procedures for shutting and locking doors

dCleaning aircraft

eSafety – work stands, ladders, oil spills

2Cowling

aRemoval

bInspection

cRepairs

dCleaning

eInstallation

3Jacking

aProper selection of jacks

bUse of ballast

cSafety pins

dRemoving aircraft from jacks

eStrut deflation and inflation

4Lubrication

aTypes of lubricants to use

bHow often to lubricate

cLocation of lubrication points

(b)Engine Start and APU

1Pre-flight inspection (oil, tires, shocks, obstructions)

2Use of checklist

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3Cockpit familiarity with controls, and switches

4Use of starters

5Instrument readings

6Engine monitoring

(c)Taxiing

1Engine monitoring before taxiing

2Lights, use of radio

3Brakes

4Use of power to aid turning

5Judgement of speed

6Stopping - nose gear steering, use of brakes

(d)Engine Run-up

1Normal

aUse of checklist

bWhat to look for

cMonitoring engines

dEmergency shut-down

eProper cool down

2Max Power

aClearance from other aircraft or obstructions

bNose gear

cUse of brakes

dMaximum time period of run-up

eSteady reduction of power

fProper Shut-down

(e)Electrical Systems

1Battery - location, removal, inspection, servicing, installation battery box, use of auxiliary power

2Primary Buss System - solenoids, lights, starter system, cables

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3Electrical motors - flaps, heaters, fuel pumps, boost pumps, landing gear

4Starter-Generators

5Lights and auxiliary system

6Switches and circuit breakers

7Indicating and monitoring systems

8Troubleshooting and repair

(f)Flight Controls and Steering

1Principals of operation

2Removal and installation

3Inspection

4Repairs

5Rigging

(g)Fuel Systems

1Fuel tanks - type, inspection, servicing, installation

2Valves, Pumps, Controls - inspection servicing, removal, installation, rigging, trouble-shooting, repairs

3Plumbing - inspection and repair, manufacturing, assembling and installation of lines

4Fuel gauges - inspection, removal, installation, troubleshooting, calibration

(h)Power Plants and Propellers

1General inspection and servicing

aEngine

bPropeller and governor

cIgnition system

dFuel system

eLubrication system

fAir induction

gAccessories

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2Removal, installation, rigging, adjustment

aEngines

bPropellers and governors

cFuel system

dIgnition

eEngine oil

fInduction

(i)Hydraulic System, landing gear, brakes, wheels, and struts

1Description and principals of operation

2Inspection

3Servicing

4Rigging

5Troubleshooting

6Removal, repair, and installation of components

(j)Environmental System

1Heating

aPrincipals of operation

bInspection

cServicing

dRigging

eTroubleshooting

fRemoval, repair, and installation of components

2Air Conditioning

aPrincipals of operation

bInspection

cServicing

dRigging

eTroubleshooting

fRemoval, repair, and installation of components

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(k)Anti-Ice and Deice System

1Propellers

aPrincipals of operation

bInspection

cServicing

dRigging

eTroubleshooting

fRemoval, repair,and replacement of components

2Windshields, Pitot, and stall warning detectors

aPrincipals of operation

bInspection

cServicing

dRigging

eTroubleshooting

fRemoval, repair,and replacement of components

3Pneumatic Systems

aPrincipals of operation

bInspection

cServicing

dRigging

eTroubleshooting

fRemoval, repair, and replacement of components

(l)Fire Protection

1Fire Detection

aPrincipals of operation

bInspection

cTesting

eTroubleshooting

fServicing

gRemoval, repair and replacement of components

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2Fire Extinguisher (engine)

aPrincipals of operation

bInspection

cTesting

eTroubleshooting

fRemoval, repair, and replacement of components

(m)Oxygen

1Principals of operation

2Inspection

3Testing

4Troubleshooting

5Removal, repair, and replacement of components

(n)Nickel Cadmium Batteries

1Theory of operation

2Installation and removal

3Preventive maintenance

4Battery repair

5Charging

6Troubleshooting

(o)Security

1See Chapter IX, page 1.1

(p)Hazardous Materials

1OSHA-Material Safety Data Sheets

2HMR 175-Transportation of Hazardous Materials aboard aircraft

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C.AVIONICS MAINTENANCE COURSE

(1)Objective: To provide the Avionics Technician with a thorough understanding of the avionics systems on the aircraft in the <your agency> fleet and the maintenance thereof.

(2)Course Outline:

(a)DATA INSTRUMENTS

Description and Operation

1 Air Data Computer

2Airspeed Indication

3Altimeter

4Mach/Airspeed

5True Airspeed

6Vertical Speed

(b)TEMPERATURE INDICATION

Description and Operation

1Total Air Temperature

2Total Air Temperature Probe

(c)AIRSPEED WARNING

Description and Operation

1Warning Horns

2Warning Switches

(c)ATTITUDE REFERENCE

Description and Operation

1Flight Director Indicator

2Horizontal Situation Indicator

3Roll and Pitch Servos and Amplifiers

4Vertical Gyro

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(d)AUTOMATIC DIRECTION FINDER

Description and Operation

1ADF Controls

2ADF Antennas

3ADF Receivers and Coupler

(e)LORAN SYSTEM

Description and Operation

1Control Panel

2Antenna and Coupler

3Indicator

4Receiver

(f)RADAR NAVIGATION AND WEATHER RADAR

Description and Operation

1Indicator

2Transmitter-Receiver

3Antenna and Wave Guide

4Accessory Unit

5Controls

(g)DME

Description and Operation

1Indicators

2Control Panel

3Antenna

4Interrogators

(h)RADIO NAVIGATION AND VOR/NAVIGATION

Description and Operation

1Attitude Director Indicator

2Control Panel

3Glide Slope

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4Horizontal Situation Indicator

5Navigation Unit

(i)POSITION COMPUTING AND FLIGHT DIRECTOR

Description and Operation

1Altitude Sensor

2Course Deviation Indicator

3Flight Director Computer

4Flight Director Indicator

5Flight Director Control Panel

(j)DOPPLER NAVIGATION

Description and Operation

(k)RADAR ALTIMETER

Description and Operation

1Indicator

2Receiver-Transmitter

3Antenna

4Controls

(l)TURN AND BANK

Description and Operation

(m)FLIGHT DIRECTOR

Description and Operation

1Course Deviation Indicator(CDI, RDI, PDI)

2Flight Director Control

3Flight Director Indicator (FDI, ADI, HDI)

4Instrument Amplifiers

5Progress Display Annunciator

6Servo-Amplifier - ILS Rack

7Steering Computer

8Vertical Gyro Switching

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D.SAMPLE TEST.

1. General Information Written Test. True or False - Circle the correct answer.

**T F (1)Chocks should be utilized for all engine starts unless aircraft is to be taxied.**

**T F (2)A fireguard is mandatory prior to engine starts.**

**T F (3)All landing gear safety pins should be removed prior to starting engines.**

**T F (4)Engine run-ups may be performed in any location.**

**T F (5)The minimum crew required to tow a multi-engine aircraft in a clear area is one person**

**T F (6)A flashing green light from the tower means to hold present position.**

**T F (7)A steady red light from the control tower means to stop and then return to starting position.**

**T F (8)Ground control should be called for any aircraft movement.**

**T F (9)Aircraft should be taxied fast due to better engine cooling.**

**T F (10)It is possible to over boost an engine on the ground.**

**T F (11)The person in the pilot's seat of the aircraft is in charge during towing operations.**

**T F (12)During night taxi and run-up operations the exterior lights should not be on unless the aircraft is on a designated taxiway.**

**T F (13)The ground APU must have the brakes set when parked near an aircraft**

**T F (14)Aircraft brakes need not be set for starting engines because the aircraft is difficult to start moving.**

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