llation

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

VI. AIRCRAFT MAINTENANCE AND INSPECTION TRAINING PROGRAM

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

VI. AIRCRAFT MAINTENANCE AND INSPECTION TRAINING PROGRAM

(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

VI. AIRCRAFT MAINTENANCE AND INSPECTION TRAINING PROGRAM

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

VI. AIRCRAFT MAINTENANCE AND INSPECTION TRAINING PROGRAM

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

VI. AIRCRAFT MAINTENANCE AND INSPECTION TRAINING PROGRAM

(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

VI. AIRCRAFT MAINTENANCE AND INSPECTION TRAINING PROGRAM

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

VI. AIRCRAFT MAINTENANCE AND INSPECTION TRAINING PROGRAM

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.**

(This Page Intentionally Left Blank)

CHAPTER TABLE OF CONTENTS

CHAPTER VII. AIRCRAFT AND GROUND EQUIPMENT SERVICING

SUBJECTCHAP/SEC/PAGECHANGE

1.FUELING PROCEDURES VII.1.100-Date>

A.GENERAL VII.1.100-<Date>

B.POSITIONING OF AIRCRAFT FUEL

SERVICING VEHICLES VII.1.100-<Date>

C.BONDING VII.1.200-<Date>

D.FIRE EXTINGUISHER VII.1.200-<Date>

E.OPERATION OF APU WHILE FUELING

AIRCRAFT VII.1.200-<Date>

F.PREVENTION AND CONTROL OF SPILLS VII.1.300-<Date>

G.EMERGENCY FUEL SHUTOFF VII.1.300-<Date>

H.OPERATION OF AIRCRAFT ENGINES

AND HEATERS VII.1.400-<Date>

I.EQUIPMENT AROUND AIRCRAFT VII.1.400-<Date>

J.ELECTRICAL EQUIPMENT USED ON

AIRCRAFT SERVICING RAMPS VII.1.400-<Date>

K.OPEN FLAMES ON AIRCRAFT FUEL

SERVICING RAMPS VII.1.500-<Date>

L.LIGHTNING PRECAUTIONS VII.1.500-<Date>

M.DEADMAN CONTROL MONITORING VII.1.600-<Date>

N.FUELING VII.1.600-<Date>

O.FUEL SPILLS VII.1.700-<Date>

2.DEFUELING PROCEDURES VII.2.100-Date>

A.GENERAL VII.2.100-<Date>

B.POSITIONING DEFUEL TRUCK VII.2.100-<Date>

C.BONDING VII.2.100-<Date>

D.FIRE EXTINGUISHER VII.2.200-<Date>

E.OPERATION OF APU WHILE DEFUELING

AIRCRAFT VII.2.200-<Date>

F.USE OF GROUND UNITS VII.2.200-<Date>

G.DEFUELING VII.2.200-<Date>

H.FUEL SPILLS VII.2.300-<Date>

CHAPTER TABLE OF CONTENTS

CHAPTER VII. AIRCRAFT AND GROUND EQUIPMENT SERVICING

SUBJECTCHAP/SEC/PAGECHANGE

3.FUEL TANK PURGING VII.3.100-<Date>

A.GENERAL VII.3.100-<Date>

B.SAFETY PRECAUTIONS VII.3.100-<Date>

4.AIRCRAFT FUEL CONTAMINATION

CONTROL VII.4.100-<Date>

A.GENERAL VII.4.100-<Date>

B.WHEN TO TEST FOR WATER - WHAT

METHOD TO USE VII.4.100-<Date>

C.VISUAL CHECK FOR CONTAMINATION VII.4.200-<Date>

5.AIRCRAFT GROUND HANDLING SAFETY VII.5.100-<Date>

A.GENERAL VII.5.100-<Date>

B.RESPONSIBILITY VII.5.100-<Date>

C.FIREGUARD VII.5.100-<Date>

E.EXTERNAL GROUND POWER UNITS VII.5.200-<Date>

F.ENGINE RUN-UP VII.5.200-<Date>

6.APPROVED MARSHALLING HAND SIGNALS VII.6.100-<Date>

A.ASSUMING GUIDANCE OF AIRCRAFT VII.6.100-<Date>

B.COME AHEAD SIGNAL VII.6.100-<Date>

C.RIGHT TURN VII.6.100-<Date>

D.LEFT TURN VII.6.100-<Date>

E.SLOW DOWN VII.6.100-<Date>

F.STOP SIGNAL - BRAKES ON VII.6.200-<Date>

G.CUT ENGINE(S) VII.6.200-<Date>

H.CHOCKS INSERTED - BRAKES OFF VII.6.200-<Date>

I.SET BRAKES VII.6.300-<Date>

J.CHOCKS REMOVED VII.6.300-<Date>

K.START ENGINES VII.6.300-<Date>

CHAPTER TABLE OF CONTENTS

CHAPTER VII. AIRCRAFT AND GROUND EQUIPMENT SERVICING

SUBJECTCHAP/SEC/PAGECHANGE

7.TAXIING AIRCRAFT VII.7.1 00-<Date>

A.GENERAL VII.7.100-<Date>

B.STANDARD TAXI LIGHT SIGNALS VII.7.200-<Date>

C.PARKING OF AIRCRAFT VII.7.200-<Date>

D.<Your Agency> HANGAR AND RAMP SAFETY VII.7.300-<Date>

8.AIRCRAFT TOWING/REPOSITIONING VII.8.100-<Date>

A.GENERAL VII.8.100-<Date>

9.AIRCRAFT DEICING AND COLD WEATHER

GROUND OPERATIONS VII.9.100-<Date>

A.GENERAL VII.9.100-<Date>

B.PRECAUTIONS VII.9.100-<Date>

C.DEICE PROCEDURES VII.9.200-<Date>

D.FLUID APPLICATIONVII.9.300-<Date>

E.APPROVED ACFT DEICING FLUIDSVII.9.400-<Date>

F.PERSONAL PROTECTIONVII.9.400-<Date>

G.POTABLE WATER TANKSVII.9.500-<Date>

10.TIRES VII.10.100-<Date>

A.GENERAL VII.10.100-<Date>

B.SERVICING VII.10.100-<Date>

11.CHEMICAL TOILETS VII.11.1 00-<Date>

A.GENERAL VII.11.100-<Date>

12.AIR CONDITIONING UNITS VII.12.100-<Date>

A.GENERAL VII.12.100-<Date>

B.SAFETY MEASURES VII.12.100-<Date>

CHAPTER TABLE OF CONTENTS

CHAPTER VII. AIRCRAFT AND GROUND EQUIPMENT SERVICING

SUBJECTCHAP/SEC/PAGECHANGE

13.HYDRAULIC AND OIL SERVICING VII.13.100-<Date>

A.GENERAL VII.13.100-<Date>

B.SERVICING EQUIPMENT VII.13.100-<Date>

C.SERVICING CONTAINERS VII.13.100-<Date>

14.HIGH PRESSURE GAS CYLINDER SERVICING

PROCEDURES VII.14.100-<Date>

A.GENERAL VII.14.100-<Date>

B.RECHARGING PROCEDURES FOR

HIGH PRESSURE CYLINDERS VII.14.100-<Date>

15.HAZARDOUS MATERIALS VII.15.1 00-<Date>

A.GENERAL VII.15.100-<Date>

B.DEFINITION OF HAZARDOUS MATERIAL VII.15.100-<Date>

C.AUTHORITY TO TRANSPORT VII.15.100-<Date>

D.EXAMPLES OF HAZARDOUS MATERIALS VII.15.200-<Date>

E.SPECIAL AUTHORITY TO TRANSPORT

HAZARDOUS MATERIALS VII.15.300-<Date>

F.RELEASE TO MAINTENANCE AFTER

SPECIAL MISSIONS VII.15.300-<Date>

G.SPECIAL SEARCH VII.15.300-<Date>

16.AIRCRAFT CLEANING - SPECIAL HEALTH

PRECAUTIONS VII.16.100-<Date>

A.INTERIOR VII.16.100-<Date>

17.FOREIGN OBJECT DAMAGE (FOD) PROG VII.17.1 00-<Date>

A.GENERAL VII.17.100-<Date>

B.RAMP INSPECTIONS VII.17.100-<Date>

C.AIRCRAFT PROTECTION VII.17.100-<Date>

D.FOD AUDIT VII.17.100-<Date>

18.STORED AIRCRAFT PROGRAM VII.18.100-<Date>

A.GENERAL VII.18.100-<Date>

CHAPTER TABLE OF CONTENTS

CHAPTER VII. AIRCRAFT AND GROUND EQUIPMENT SERVICING

SUBJECTCHAP/SEC/PAGECHANGE

19.FLY AWAY KITS VII.19.100-<Date>

A.BOEING 727 VII.19.100-<Date>

20.HANGAR MAINTENANCE VII.20.1 00-<Date>

(This Page Intentionally Left Blank)

CHAPTER VII. AIRCRAFT AND GROUND EQUIPMENT SERVICING

LIST OF EFFECTIVE PAGES

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Supervisor of Maintenance - Date

(This Page Intentionally Left Blank)

VII. AIRCRAFT AND GROUND EQUIPMENT SERVICING

1.FUELING PROCEDURES.

A.GENERAL.

The following standard practices and procedures shall be used in conjunction with the instructions contained in the aircraft maintenance manual for each specific type aircraft to be serviced.

(1)When aircraft are located and serviced at the <Your Agency> maintenance facility, an A&P certificated mechanic will be assigned to the servicing operation. For servicing away from the <Your Agency> maintenance facility and when an A&P certificated mechanic is not available, the pilot in command will have responsibility for servicing operations.

B.POSITIONING OF AIRCRAFT FUEL SERVICING VEHICLES.

(1)Position the servicing vehicle so that a path of egress from the aircraft is maintained. The fuel servicing vehicles shall not be positioned under the wing of the aircraft during over wing fueling. Fuel servicing vehicles shall not be positioned within a 10-foot radius of aircraft fuel system vent openings. Minimum distance between aircraft being serviced and other aircraft shall be as follow: For large aircraft such as Sabreliners, B727, etc., 20 feet; for small aircraft such as Cessna 310, Cessna 210, Cessna 185, Cessna Citation, etc., 10 feet.

(2)When approaching an aircraft to be fueled, the tank truck driver should approach the aircraft parallel to the wings, unless single point locations on the aircraft require a different approach.

NOTE: The servicing vehicle shall not be driven or parked under any portion of the aircraft.

(3)Position mobile fueling equipment so it can either be rapidly driven or towed away from the aircraft in the event of an emergency. Do not park ramp equipment where it will obstruct the movement of the fuel truck.

VII. AIRCRAFT AND GROUND EQUIPMENT SERVICING

C.BONDING.

(1)Prior to making any fueling connection to the aircraft, the fueling equipment shall be bonded to the aircraft by use of a cable, thus providing a conductive path to equalize electrical potential between the fueling equipment and aircraft. The bond shall be maintained until fueling connections have been removed.

(2)In addition to the above, when fueling over wing, the nozzle shall be bonded to a metallic component of the aircraft that is metallically connected to the tank filler port. The bond connection shall be made before the filler cap is removed. If there is no plug receptacle or means for attaching a clip, the operator shall touch the filler cap with the nozzle spout before removing the cap so as to equalize the electrical potential between the nozzle and the filler port. The spout shall be kept in contact with the filler neck until the fueling is completed.

(3)Bonding and fueling connections shall be disconnected in the reverse order of connection.

D.FIRE EXTINGUISHER.

(1)Position two dry chemical or CO2 fire extinguishes so they will be available in case of a fuel spill, or fire.

(2)Each aircraft fuel servicing vehicle shall have at least two fire extinguishes, each having a rating of 20B, one mounted on each side of the vehicle.

E.OPERATION OF APU WHILE FUELING AIRCRAFT.

(1)The APU can be operated during fueling of the B727 if the following precautions are taken.

(2)A minimum of one crewmember or properly trained maintenance personnel must be in the cockpit.

VII. AIRCRAFT AND GROUND EQUIPMENT SERVICING

NOTE: Except for aircraft equipped with an external APU control panel with APU shutdown controls.

(3)The APU shall be shut down immediately and fueling discontinued in the event of fuel spill, APU malfunction, and/or APU fire.

F.PREVENTION AND CONTROL OF SPILLS.

(1)

Generated

Generated

Generated

Generated

Generated

Generated

Generated

Generated