

MD-80 SAMPLE ORAL QUESTIONS

December 2000

AIRPLANE

1. ***While parked at the gate, and air conditioning has been established with either air conditioning pack and external power in use, what caution should be adhered to? (PH 3-19)***

Do not operate either air conditioning pack when external electrical power is in use unless at least one pilot remains on board. Exception: It is permissible to use ram air to ventilate the cabin, provided the respective pneumatic crossfeed valve lever is closed.

Note: In the event of external power failure, the heat exchanger cooling air fans would become inoperative resulting in an air conditioning pack overheat condition. Ram air switch must be OFF when the right pack is operating to prevent reduced airflow over the right heat exchanger.

2. ***Is hydraulic extension of gear and flaps possible with the hydraulic system pumps in the low mode? (PH 3-69)***

With the hydraulic system in the low mode, slat operation is possible, but at a slower rate. Gear operation is possible, but the aircraft may need to slow below 165 knots for the nose gear to latch down. Full flap extension may not be possible due to high air loads.

3. ***How is freeze protection of the potable water system provided? (PH 5-28)***

The potable water tank cannot be drained by use of the water service panel controls. The tanks can be drained by manually opening a drain valve located on the tank bottom accessible by removing a sidewall panel located on the right side of the forward end of the mid cargo compartment. Freeze protection is provided by purging the potable water system or by heating the aircraft with the cargo, passenger, and service doors closed.

4. ***Under what conditions will the FASTEN SEAT BELT and RETURN TO CABIN signs illuminate when the SEAT BELTS switch is in the AUTO position? (PHB 5-53)***

- When leading edge slats are deployed (chime sounds)
- Remain illuminated with the landing gear in the DOWN position regardless of slat position
- If cabin altitude exceeds 10,000' (chime sounds)

5. ***Where is the interior tailcone jettison handle? (PH 5-75)***

The tailcone jettison handle is located on the left side of the fuselage at the aft end of the walkway. To jettison tailcone from inside the aircraft:

6. ***If the escape slide does not inflate, how do you manually inflate the tailcone slide? (PH 5-75)***

- Enter the tail area.
- Pull the interior tailcone jettison handle.
- This action should automatically deploy the escape slide.
- If the slide does not inflate:
 - Pull up the red tab to release it
 - Roll the slide out the opening
 - Jerk inflation handle to inflate the slide

POWERPLANT

7. ***When must fuel heat be off? (PH 2-18)***

Fuel heat must be **OFF** for takeoff, final approach/landing and go-around.

8. ***What is the minimum oil quantity for dispatch? If oil quantity is less than the minimum for dispatch, and servicing is not readily available, what may be accomplished? (PH 2-18 & 3-45)***

Minimum oil quantity for dispatch is 10 Quarts.

When the aircraft has been sitting for an extended period of time and oil quantity is less than the minimum for dispatch, the effected engine may be started and operated at idle for up to 2 minutes to increase quantity. This procedure is to be used only where service is not readily available.

9. ***If N₂ is less than 20% on an engine start, is it permissible to place the fuel control lever to the ON position? (PH 3-51)***

No.

If N₂ stabilizes at or above 20%, but less than 22%, it is permissible to place the fuel control lever to the ON position. Keep a hand on the fuel control lever until the start is successful.

ENG START switch OFF between 35% and 40% N₂ RPM

Start EGT - 475 C maximum

CAUTION: A starting fuel flow indication above 1,100 PPH is an indication of an impending hot start.

Note: If engine start time (from first indication of EGT rise to normal idle N₂) exceeds 40 seconds, make an "information only" write-up in the Aircraft Maintenance Logbook.

Stabilized idle engine indications:

- N₁ RPM Approx. 30%
- N₂ RPM 50% to 61%
- EGT 300C to 480C
- Fuel Flow 600 to 1,100 PPH
- Oil Pressure 40 to 55 PSI

Note: On a standard day, N₂ idle RPM will be approximately 53% to 55%. N₂ idle RPM values above 60% may indicate the engines are in approach idle.

10. ***What is the difference between CONT and OVRD positions of the engine ignition selector? (PH 16-1-4)***

The ignition switch provides OVRD/OFF/CONTIN positions. For conditions inflight that require high-energy ignition, the IGN switch is placed in the OVRD (override) position to supply high-energy ignition power to both igniters on both engines. Engine ignition power supplied to the ignition switch for the override function bypasses the fuel shutoff switches and the start switches. When the switch is in the CONTIN (continuous) position, continuous low energy ignition power is supplied to one igniter on each engine. When the switch is in the OFF position, OVRD and CONTIN functions are inhibited.

OVRD Duty Cycle: 2 Minutes ON – 3 Minutes OFF, 2 Minutes ON – 23 Minutes OFF

11. ***What action should be taken if there is no N₂ during start? (QRH 45 & FOM 5.4.3)***

[Tachometer circuits do not require airplane electrical power.]

1. Observe hydraulic pressure (to verify N₂ rotation) and N₁ rotation for maintenance information or second start attempt.
2. Discontinue start.
3. **If prior to dispatch:**
 - a. No N₂ Indication during Start Checklist complete.

Or **If after dispatch:**

- a. No N₂ Indication during Start Checklist complete, and
 - Consult MEL for start procedure.

SYSTEMS

12. ***What is USAirways policy regarding the resetting of circuit breakers in flight? (FOB 8-00)***

Policy.

On the Ground. A circuit breaker tripped by an unknown cause may be reset as part of an approved maintenance trouble-shooting process or after maintenance determines both the cause of the tripped circuit breaker and that it may be safely reset.

•NOTE•

Maintenance may request flight crew assistance in the trouble-shooting process.

In Flight. Do not reset a tripped circuit breaker unless consistent with explicit procedures outlined in the Pilot's Handbook, or unless the captain deems the reset necessary to safely complete the flight.

Post Flight. The pilot will make a logbook write-up to include the exact conditions when the circuit breaker tripped, when reset, and results of the reset.

13. ***Non normal methodology assumes that at the first indication of smoke or noxious fumes/odor OXYGEN MASKS AND GOGGLES will be worn. (FOM 7.2.4)***

Oxygen masks and goggles are donned in accordance with the following table:

| Condition | Oxygen Mask | Smoke Goggle |
|--|---|---------------------|
| Loss of cabin pressure | Yes - If cabin altitude is 10,000' or Greater | If required |
| Use of fire extinguisher | Yes | If required |
| First indication of smoke or noxious fumes/odors | Yes | Yes |

WARNING

Some fumes (visible or not) can cause either temporary or permanent loss of vision.

If oxygen and/or smoke goggles are required, appropriately select the following:

- Emergency oxygen to provide positive pressure and to clear smoke goggles when necessary.
- 100% oxygen to prevent inhalation of contaminated air.
- Normal oxygen to prolong usage when the situation permits.

14. ***While on an approach in IMC, the GPWS Aural Warning ("TERRAIN" OR "PULL UP") sounds. What are the crew's instantaneous actions? (FOM 7.38 and PHB 18-26-1)***

If a GPWS "PULL UP" warning or "TERRAIN" alert occurs at night or in IMC, use the following GPWS Warning Escape Maneuver:

THRUST

- Autothrottles – disconnect
- **"FIREWALL POWER"**
- Set firewall power

PITCH

- Autopilot – disconnect
- Roll wings level
- Rotate (3 deg/sec) to 20 deg pitch attitude. If GPWS warning continues – increase pitch (respect stickshaker/buffet).

CONFIGURATION

- Verify speedbrakes are in
- Do not alter gear/flap configuration until terrain clearance is assured.

Climb to MEA or highest MSA, as appropriate.

PNF ACTIONS

- Verify all actions have been completed and call out any omissions.
- Monitor Radio Altimeter and call out information on flight path.
- Call out the MEA or highest MSA, as appropriate.
- Notify ATC

15. ***During what conditions will the Honeywell Windshear Detection and Recovery Guidance System (WSS) be desensitized, delaying alerts resulting from encountering windshear conditions? (PHB 2-14)***

WARNING: During sustained banks of greater than 15 degrees or during flap configuration changes, the Honeywell windshear detection and recovery guidance system (WSS) is desensitized and alerts resulting from encountering windshear conditions will be delayed.

16. ***When ground transferring fuel, does the FUEL X-FEED lever need to be opened? (PH 3b4)***

GROUND FUEL TRANSFER SUPPLEMENTAL NORMAL PROCEDURE

1. Interphone contact with crewEstablish
 2. Fuel Boost Pump Switches (supplying tank) ON
 3. Other Fuel Boost Pump Switches All OFF
 4. If fuel is being supplied from left main tank:
 - a. FUEL X-FEED Lever ON
 5. Request ground crew to open defueling valve and fill valve (for tank to be filled).
 6. Fuel Quantity Gages Monitor
- When Tanks are on schedule:**
7. Fuel Boost Pump Switches OFF
 8. FUEL X-FEED Lever OFF
 9. Request ground crew to close defueling valve and fill valves.
 10. Ground Fuel Transfer ChecklistComplete

17. ***What may occur during a crosstie check, if APU PWR or the EXT PWR switches on the ground service panel are left in the ON position? (PH 3-18)***

Performing the crosstie check too rapidly is the primary cause of crosstie lockouts. If the Ground Service Electrical Power Switches are not in the OFF position, an AC crosstie lockout may occur.

18. ***By what speed should the RUDDER TRAVEL UNRESTRICTED annunciator light illuminate during approach? If the light does not illuminate by that speed, but tests normal, what precaution must be taken? (PH 3-72 QRH 71)***

- Light should illuminate (during deceleration) at a minimum of 144 KIAS
- Concerns:
 - Crosswind capability
 - Controllability with asymmetric thrust
- Precautions:
 - Maximum Crosswind component is 12 knots.
 - Minimum approach speed is 135 KIAS until landing assured.
 - Minimum speed for an engine-out go-around is 135 KIAS, and a bank angle of up to 8 degrees (toward the operating engine) may be required.

19. ***What conditions must be met in order to charge the aircraft batteries? (PH 7-9-1)***

The battery is being charged when the battery switch is ON and the ground service bus is energized. When the emergency power switch is ON, the battery is connected to the DC emergency bus and disconnected from the battery charger.

The battery charger is in a charging condition when the ground service bus (GSB) is powered, the battery switch is ON, and the emergency switch is OFF. When the battery is fully charged, the battery charger will be in a pulsing mode.

20. ***When the battery state of charge is low, what are the charging amperage indications? (PH 7-9-1)***

If the battery is in a low state of charge, the ammeter will indicate a continuous current of approximately 65 amperes, gradually reducing to approximately 40 amperes, and then into a pulsating mode as the battery becomes fully charged.

21. ***What happens when the "EMER PWR" switch is ON? (PH 7-11-1)***

When the EMER PWR switch is on, and there is a complete loss of normal power, the battery will provide both AC and DC emergency power. The DC emergency bus will be powered from the battery direct bus, which will also power the emergency inverter to provide power to essential equipment for approximately 30 minutes. When emergency electrical power is in use, the battery charger is not available.

22. ***Where can the operating ranges for the electrical system be found? (PH 7-23-1&2)***

The values shown in the NORMAL column are normal operating ranges. Indications outside the normal range indicate possible system abnormalities.

Limits shown in the ALLOWABLE column should not be exceeded, and sustained operation at these limits is not recommended.

CAUTION: Any condition which causes any indication in the ALLOWABLE column other than within the normal range, should be corrected at the earliest opportunity.

FOR Applicable Table see PH 7.23.1&2

23. ***How many fixed fire extinguishers are available to combat engine and APU fires? (PH 8-1-3)***

The fire extinguishing system consists of the following:

- **Two** fire extinguisher agent containers,
- Distribution lines,
- Control circuits, and
- Agent low lights.

Each container has separate discharge heads and distribution lines to each engine and APU.

24. ***What will indicate that an under-sink fire extinguisher has discharged in a lavatory? (PH 8-1-5)***

An automatic fire extinguishing system is located beneath the sink area in each lavatory. The extinguisher discharges non-toxic freon gas through one, or both of two heat-activated nozzles. One discharges toward the towel disposal container, the other directly under the sink. The color of the nozzle tip will change to an aluminum color when the extinguisher has discharged.

A temperature indicator placard is located on the inside of the access door below each sink. White dots on the placard will turn black when exposed to high temperatures. If an indicator has turned black, or a nozzle tip has changed color, it should be assumed that the fire extinguisher has discharged.

25. ***What effect does placing the RADIO RACK fan switch to VENTURI have on heating the forward cargo compartment? (PH 10-5-2)***

When the RADIO RACK switch is in the VENTURI position, forward cargo compartment heating is not provided, and air from the radio rack is exhausted overboard through the venturi.

26. ***What is the minimum pressure read on the pneumatic pressure gauge to supply adequate airflow for anti-ice operation? (PH 10-11-1)***

During anti-ice operation pneumatic pressure must be a minimum of 20 PSIG.

27. ***Describe the function of the AUTO and OVRD positions of the AIR COND AUTO SHUTOFF switch. (PH 10-11-3, PH 5-56)***

OVRD - Overrides automatic shutoff of air conditioning packs during single engine failure.

AUTO - Both air conditioning packs shut off automatically in the event of a single engine failure during takeoff or landing (cabin differential pressure below 1.3 PSI).

NOTE: At cabin differential pressure above 1.3 PSI, automatic shutoff of air conditioning packs during single engine failure is automatically overridden. Also with a single engine failure, wing landing lights will extinguish and retract automatically when landing gear is retracted after takeoff or go-around.

28. ***What additional warnings are given when the "CABIN ALT" annunciator illuminates? (PH 10-11-10)***

When the light illuminates, a warning horn will sound, followed by a vocal warning "CABIN ALTITUDE". The tone and voice warning will be cycled, one-second tone followed by one-second vocal message for duration of warning period. MASTER WARNING lights will also illuminate.

29. ***What causes the "CABIN ALT" light on the annunciator panel to illuminate? (PH 10-11-10)***

Pressurization system fails to maintain cabin pressure equivalent to a pressure altitude of 9,500 (+500 -0) feet or less.

30. ***What pressure should the left hydraulic pressure gauge indicate when the right hydraulic system is operating at 3,000 PSI and the left system is being powered by the transfer pump? (PH 11-1-5)***

Transfer pump pressure (as read on the left system pressure gauge when the right hydraulic system is providing 3,000 PSI of input) is 2,8000 (± 300) PSI during a steady demand operation. Fluctuations between 2,000 PSI and 3,000 PSI are normal during no-demand operations.

31. ***What hydraulic system operates the landing gear? The brakes? (PH 11-3-3)***

Landing Gear - Right Hydraulic or Transfer Pump

Brakes - Each brake has two independent systems of four pistons in each set. Each set is controlled by an independent hydraulic system.

32. ***During an ILS approach, if a red windshear warning is annunciated, will the flight director pitch bar command a windshear escape maneuver? (PH 14-4-4)***

Windshear Computer (WSC) guidance is not activated during the approach mode unless the TOGA button is pressed or either engine EPR is within 95% of the maximum go-around EPR limit.

33. ***What flight crew action is required if a flashing amber W/S warning light is activated by the Windshear Detection System? (PH 18-25-1)***

A flashing amber caution (increasing performance) should alert the pilot to the possibility of a decreasing performance windshear and s/he should be prepared to execute a windshear recovery if a flashing red warning should occur.

34. ***What flight procedure MUST be adhered to if a flashing red WINDSHR warning light in conjunction with an aural windshear warning is activated by the Windshear Detection System? (PHB 3a-70-1, 18-25-1, 14, FOM 10-56)***

An aural windshear warning in conjunction with the flashing red warning light (decreasing performance) will require a windshear recovery, except in the situation when at the pilot's

discretion it would be safer to complete the landing; i.e. warning activated close to runway with flare started and throttles at IDLE.

WARNING: Do not takeoff, land, or make an approach when there is a "Microburst Alert" for the takeoff/landing runway, or when it is not possible to maintain at least 3nm horizontal separation from severe weather when the aircraft is \leq 1000 feet AGL.

35. ***Are two generators required to accomplish and autoland? Can the APU be considered to be a working generator? (PH 18-35-9)***

Two generators are required for an autoland approach.

The APU generator may be used for one working generator.

OPERATIONAL AND PERFORMANCE FACTORS

36. ***The Captain must make all takeoffs when visibility is less than 1600 RVR OR 1/4 SM . (FOM 5.7.1)***

Low Visibility Takeoff. The captain will conduct the takeoff (ground roll through cleanup) when visibility is less than

- 1600 RVR for any RVR on that runway
- 1/4 sm (if no RVR is reported for that runway.)

37. ***What are the maximum turbojet holding airspeeds? (FOM 5.8.3)***

| | | |
|------------------------------------|-------------|-------------|
| Above 14,000 ft. | - 265 KIAS | 1.5 minutes |
| Above 6,000 ft. through 14,000 ft. | - 230 KIAS* | 1 minute |
| MHA through 6,000 ft. | - 200 KIAS | 1 minute |

*(210 KIAS where published)

Note: CHART NOTAMS US-101: MAXIMUM holding pattern airspeed for civil turbojets holding above 6,000 ft through 14,000 ft is 230 KIAS except within the New York and Washington ARTCC areas where maximum airspeed is restricted to 210 KIAS.

38. ***If an electronic glideslope is available during a visual approach, pilots must fly at or above the electronic glideslope between glideslope intercept and the middle marker. What are the glideslope requirements between the middle marker and the touchdown point? (FOM 5.10.11)***

If an electronic glideslope is available, fly at or above the *visual* glideslope (VASI/PAPI) from middle marker to runway threshold. If visual guidance is not available, maintain constant approach angle from the middle marker to the 1,000-foot touchdown point.

If an electronic glideslope is not available, fly at or above the *visual* glideslope (VASI/PAPI) until crossing the runway threshold.

39. ***What Non-Precision weather minimums apply when flying straight-in to a runway (runway aligned within 30° of the final approach course) that has only circle-to-land minimums published? (FOM 5.11.2)***

Runway Aligned Within 30° and No Published Straight-in Minima. If straight-in minima are not published and the landing runway is aligned within 30° of the final approach course following the completion of an instrument approach, USAirways pilots are authorized to land straight-in using **published circle-to-land** minima providing that the runway is in sight in sufficient time to make a normal approach and landing. In this case, a circling maneuver is not executed and the circling maneuver restrictions are not applicable.

40. ***If you have a TPS, do you need a final weight and balance? (FOM 9.2 and TPS Training Aid)***

Yes.

In all cases a final weight and balance message (ACARS/hard copy/radio relay) is still required to provide data not obtainable from the TPS Departure Plan (e.g. **actual** weight of aircraft, **actual** passenger load, **actual** stab trim).

Any pilot may calculate **runway specific MTOW**. Use Takeoff Performance system (TPS) Departure Plan after completing ground school training.

The Captain:

- Will confirm conditions and loads used where possible,
- Have TOW and W&B data in possession prior to takeoff,
- Ensure aircraft is operated within the provided TOW and W&B limitations, and
- Coordinate special performance requests **prior** to gate departure to avoid delays.

•Note•

If the automated system is inoperative, and the captain is concerned about the TOW and W&B information, the dispatcher will reconfirm data at captain's request.

41. ***Definitions for runway/intersection departure designations (e.g. Rwy 28LX) can be found in what section of the TPS? (FOM 9.4.5)***

Airport Notes Section: This section contains free text to include intersection takeoff runway performance designation, special turn procedures, VFR takeoffs, and temporary runway analysis descriptions.

42. ***When is it recommended that the APU be running, with the APU L & R BUS switches ON, for takeoffs and landings? (PHB 3a-10-14, 3a-10-19)***

- Heavy rain
- Standing water
- Slush
- Visibility less than 1800 RVR

43. ***With GROUND SPOILERS armed, what will cause automatic spoiler extension? (PH 12-11-2)***

When the system is armed and throttles are at IDLE, the spoilers will automatically extend after wheel spin-up on ground contact or after nose gear oleo actuates ground shift.

44. ***What will cause the takeoff warning to sound? (PH 12-17-1)***

When the airplane is on the ground, the following conditions will cause the aural and vocal warning system to activate:

- Both Throttles are advanced for takeoff; and

- The flap/slat handle, after being positioned to the takeoff flap setting, is not in agreement with the value set in the flap window of the takeoff condition computer, or
- Horizontal stabilizer is not set in the GREEN-band area of the longitudinal trim indicator, or
- The slats are not extended, or
- The spoiler handle is not in the retract detent, or
- The parking brake is set.

45. ***How do you calculate the approach speed additive to compensate for wind? (PH 18-33-1)***

The minimum additive to V_{REF} ($1.3 V_S$) is 5 knots; the maximum additive is 20 knots. The additive is computed by adding $\frac{1}{2}$ of any steady-state wind and all of the gust.

46. ***When a Weight Restricted Header appears on the top of the TPS, it means there is a _____ . (TPS Line Training Aid 10-2)***

There is a weight and balance gate hold (FOM 9.1.5). This header only appears when the flight is within 500 pounds of MTOW. Inform dispatcher if one of these headers exists and if fuel on board is greater than GATE REL by any amount. (TPS Line Training Aid 10-1)

47. ***The TPS is used at the gate to indicate weight restricted/capped flights; as a planning tool for takeoff thrust, V-speeds, flaps and weight, and to brief any non-standard _____ ENGINE OUT _____ altitude. (TPS Line Training Aid 10-2)***

48. ***During the taxi out, when should the TPS be used to determine takeoff thrust, V-speeds and MTOW? (TPS Line Training Aid 10-2)***

The TPS should be used for departure **only** when the final weight and balance message does not cover the actual takeoff condition (different runway, anti-ice, wind, etc.). When this occurs, use the TPS in the following order:

- * Thrust/V-speed Data for Takeoff
- * Airport Analysis Data for Takeoff

In all cases a final weight and balance message (ACARS/hard copy/radio relay) is still required to provide data not obtainable from the TPS Departure Plan (e.g. **actual** weight of the aircraft, **actual** passenger load, **actual** stab trim).

NORMAL, NON-NORMAL, AND EMERGENCY

49. ***According to Enhanced Crew Awareness Procedures (ECAP), what response is required from the flight crew when a taxi clearance includes instructions to hold short of a runway? (FOM 5.5.1)***

Both pilots will monitor taxi clearance. The pilot will read back all hold short instructions. The captain will verbalize to first officer any hold short instructions (first officer will request if not received).

50. ***In the event of an evacuation due to an engine fire, what checklist(s) should be accomplished? (FOM 7.2.2)***

On the ground, when evacuation of the aircraft is required, all necessary actions are included in the Evacuation Checklist; other checklists need not be referenced.

51. ***Who should fly while non-normal checklists are completed? Who communicates with ATC? (FOM 7.2.5)***

When a non-normal situation is evident, methodically accomplish the following steps:

1. **PF - Maintain Aircraft Control**
2. **Identify the Non-normal**
PNF Cancel the warning
3. **Accomplish Immediate Action Items**
4. **Captain Assigns PF**
5. **Accomplish the Checklist**

52. ***What must be done to ensure that positive airflow is supplied to the smoke goggles for smoke and fume elimination? (PH 15-1-2)***

If goggles are required, they must be worn over the outside of the mask. This allows an oxygen flow into the goggles to clear any existing smoke or fumes trapped in the goggles.

53. ***When executing a delayed engine start procedure, how long, prior to the application of takeoff power, must the right engine be started? Which pilot starts the right engine? (PH 18-9-1&2)***

- Engine warm-up: allow engines to operate for **5 minutes** prior to applying takeoff thrust.
- Shutdown: right engine may be shut down no sooner than 5 minutes after landing or upon gate arrival, whichever occurs first.

Whenever possible, the Captain should set the parking brake and start the right engine. The Captain may direct the First Officer to start the right engine while the aircraft is taxiing. In this case, the Captain will monitor communications.

54. ***Describe the F/O's duties during a rejected takeoff. (PH 18-11-12)***

- If the F/O is executing the takeoff, assure positive transfer of aircraft control to the Captain.
- Note the speed at which the reject occurs.
- Apply light forward pressure on the control column.
- Ensure that all operating engines respond to throttle movement. If not, it may be an indication of fuel control unit failure. In that case, at the direction of the Captain, shut down the affected engine with the fuel control lever.
- Call reverse EPR applied.
- Call out indicated airspeeds as the aircraft decelerates.
- Advise ATC of the reject.
- After obtaining guidance from the Captain, use the PA to inform the flight attendants and passengers of the situation. Refer to FOM 7.9.9 "Communication" for additional information.

- Refer to QRH, "Brake Cooling Chart" prior to taxiing to the ramp or to the runway for subsequent takeoff.

55. ***What actions must the crew accomplish following an engine failure on takeoff after attaining V_{FTO} speed? (PH 18-11-14)***

At Final Segment Climb (V_{FTO}) speed, the PF will select/request IAS HOLD and command "AIR CONDITIONING SHUTOFF OVERRIDE, MCT." The PNF will accomplish these items and call "MCT SET."

56. ***List chronologically the PF and PNF callouts during a missed approach. (PH 18-41-3)***

| GO-AROUND | | |
|-----------------------------|--|--|
| | PF | PNF |
| Go-Around | | |
| | <p>"GO-AROUND"</p> <ul style="list-style-type: none"> Press either TO/GA button <p>"GO-AROUND POWER"</p> <ul style="list-style-type: none"> Verify throttles to GA thrust Rotate to F/D commanded attitude <p>"FLAPS 15" ("FLAPS 11," if landing flaps were at 28)</p> <ul style="list-style-type: none"> Maintain at least $V_{ref}+5$ knots | <ul style="list-style-type: none"> Verify EPR G/A, ALT, GO RND, GO RND annunciate on the FMA A/T, arm, roll, and pitch windows respectively Select flaps 15 or 11 Make final thrust adjustments <p>"POWER SET"</p> |
| Positive Rate of Climb | <ul style="list-style-type: none"> Verify positive rate of climb <p>"GEAR UP, ADVISE ATC, ARM MISSED APPROACH"</p> | <p>"POSITIVE RATE"</p> <ul style="list-style-type: none"> Position gear lever UP Advise ATC |
| | <p>Select/Request as level of automation dictates</p> <ul style="list-style-type: none"> Verify missed approach altitude is armed Pull HDG select knob (if appropriate) Set airspeed command bug to appropriate maneuver speed Set missed approach course and Nav radios | |
| | <ul style="list-style-type: none"> Execute published missed approach or proceed as instructed by ATC | <ul style="list-style-type: none"> Disarm spoilers Monitor Missed approach procedure |
| Climbing through 1,000' AFE | <ul style="list-style-type: none"> Select/Request HALF RATE Reduce pitch and accelerate | <ul style="list-style-type: none"> Select one-half vertical rate (not less than 1,000 FPM), if requested |
| At flap retraction speed | "FLAPS UP, CLIMB POWER" | <ul style="list-style-type: none"> Retract flaps and select CL on the TRI |
| At slat | "SLATS RETRACT, AFTER | |

| | | |
|-------------------------------|--|---|
| retraction speed | TAKEOFF CHECKLIST" | <ul style="list-style-type: none"> ▪ Retract slats ▪ Accomplish checklist |
| At appropriate maneuver speed | <ul style="list-style-type: none"> ▪ Select/Request SPD/SEL, desired VERT SPD and BANK ANGLE 25° or 30° | <ul style="list-style-type: none"> ▪ Select SPD SEL, vertical speed, and bank angle 25° or 30°, if requested. <li style="text-align: center;">-or- ▪ Select IAS HOLD and bank angle 25° or 30°, if requested |

*NOTE: "ARM MISSED APPROACH" callout is only required when PNF is requested to arm missed approach.

57. ***Who is the PF during PRM approaches, and can a PRM approach be hand flown? (PH FIL 99-3)***

- Captain assumes PF duties prior to commencing approach.
- **Use of autopilot is required** and use of autothrottles is recommended.

58. ***What is the maximum rate of descent permitted during a PRM descending breakout?" (PH FIL 99-3)***

ATC does not expect nor US Airways recommend greater than 1000 FPM rate of descent on breakouts. (FOB 99-10-4)

59. ***What are the memory items for EXCESSIVE CABIN ALTITUDE? (QRH i)***

1. Captain assumes PF duties.
2. Oxygen Masks/Regulators VerifyOn/100%

60. ***What are the memory items for LOSS OF THRUST ON BOTH ENGINES? (QRH i)***

1. EMER PWR Switch ON
2. ENG IGN Switch/Selector..... OVRD

61. ***What is the memory item for Reverser Deployed or ENG REVERSE THRUST/UNLOCK (In Flight)? (QRH i)***

1. Throttle (affected engine)IDLE

62. ***What is the memory item for TOTAL LOSS OF AC POWER? (QRH ii)***

1. EMER PWR Switch ON

63. ***What are the memory items for RUNAWAY STABILIZER TRIM? (QRH ii)***

1. AutopilotDisconnect
2. Control Wheel Trim Switches/Trim HandlesTrim opposite runaway

64. **What are the memory items for SMOKE/FUMES? (QRH ii)**

- 1. Oxygen Masks/RegulatorsVerify..... ON/100%
- 2. Smoke Goggles ON

65. **What is the memory item for SPOILER FLOAT? (QRH ii)**

- 1. FLAPS Retract to 28

66. **What is the memory item for Hot Start? (QRH iii)**

- 1. FUEL Control Lever OFF

67. **Where is the procedure for Tailpipe Fire or Torching during Start found? (QRH iii and 48)**

The **Tailpipe Fire or Torching during Start** procedure is found in the QRH, and includes IMMEDIATE ACTION items to be accomplished.

68. **What are the memory items for START VALVE OPEN after Start [On the Ground]? (QRH iv)**

- 1. PNEU X-FEED VALVE Lever (affected engine) CLOSE

69. **What pilot action is required if the START VALVE OPEN annunciator light remains illuminated after start? (QRH iv & 47)**

After performing the memory item above (stop the aircraft and set parking brake if in motion), access the QRH and perform the immediate actions:

- 1. PNEU X-FEED VALVE Lever (affected engine) CLOSE
- 2. FUEL Control Lever (affected engine) OFF
- 3. Immediate Action items complete, go to page 47.

Page 47, START VALVE OPEN AFTER START (ON THE GROUND)

ENG IGN Switch OFF

WARNING

Shutdown should be completed prior to ground personnel approaching the engine.

- 5. START VALVE OPEN Checklist complete, and
 - ☛ Maintenance action required.

70. **What is the first step to be taken in the case of uncommanded yaw? (QRH 80)**

DFGC 1-2 Switch Select other position

AIRPLANE FLIGHT MANUAL AND FLIGHT OPERATIONS MANUAL

71. ***What is SPAR? What pilot action is required if a MEL states "Refer to SPAR"?***
(FIL 2-00)

The **S**ystems **P**erformance **A**justments **R**eference (SPAR) provides takeoff performance guidance when, procedures, conditions, and MEL/CDL items are applicable to the flight. MEL's stating "refer to the SPAR" may be interpreted as referencing the SPAR Matrix. If additional information is needed, contact the dispatcher who has access to the complete SPAR manual which includes this matrix.

WARNING

Even though the matrix may *authorize* the performance condition/procedure pair, the captain and dispatcher assessment will determine whether or not the performance condition/procedure pair is *acceptable*.

72. ***Information on whether or not an airport has ASR capability is located ___ in the AIRPORT ADVISORY PAGES ___*** (FOB 6-00)

73. ***When requesting an ASR approach the ___ PILOT ___ determines if the lost communications procedures are adequate.*** (FOB 6-00)

74. ***During an ASR, the final controller is required to issue advance notice of where descent will begin and issue the straight-in MDA before ___ BEGINNING A DESCENT ON THE FINAL APPROACH SEGMENT ___.*** (FOB 6-00)

75. ***A controller is required to issue missed approach instructions during an ASR when ___ ANY PORTION OF THE FINAL APPROACH IS IN INSTRUMENT CONDITIONS. ___*** (FOB 6-00)

76. ***What conditions must be met prior to accomplishing the BEFORE START checklist?*** (FOM 4.5.6)

- All pilots will be at their duty station while accomplishing the checklists. *Exception:* The Safety & Power ON, and the Securing portion of the Parking & Securing Checklists.
- Checklists should be accomplished before calling for the pertinent checklist. The crew should accomplish their specific functions and duties by following established flow patterns.

77. ***What is the pilot's primary focus during the last 1,000 feet of altitude change?***
(FOM 4.12.21)

Both pilots will focus on instrument scanning and include visual monitoring for outside traffic when VMC.

78. ***What is the variance of gate release fuel load allowed?*** (FOM 5.3.11)

Gate Release Fuel Variance. A variance of 500 pounds or 1% of the "Gate Release fuel load (whichever is greater) is allowed.

Do not takeoff

- With less than T.O. MIN fuel.
- In excess of maximum takeoff/climb weights.

79. ***When is the fuel on board entered into the ACARS?*** (FOM 5.3.12)

Entering FOB into ACARS. Enter the **actual** fuel on board into ACARS *only* after fueling is complete, the fuel load is within the allowable variance, each flight deck crewmember has

confirmed the correct fuel load. Pilots may truncate the last two digits of the fuel load number.
Example: If the fuel load is 17,386 pounds, pilots can load in ACARS and call out 17.3.

80. ***What are the procedures for pushback when there is no interphone communication with the tractor operator? (FOM 5.4.2)***

Do not start an engine when aircraft is being directed by hand signals only.

81. ***Are crewmembers required to have taxi chart in view during ground operation? (FOM 5.5.1)***

Airport Orientation. Both pilots must be thoroughly familiar with airport orientation and taxi route. When necessary have taxi chart in view.

82. ***What are the required items for the PF to brief prior to an instrument approach? Prior to a visual approach? (FOM 5.10.1)***

The approach briefing consists of the following items which must be verified/cross-checked by both pilots:

- Approach name and runway
- Approach chart date
- Primary navaid frequency
- Final approach course
- Final Approach Verification Altitude¹
- DA(H), AH or MDA/MAP¹
- TDZE
- Highest MSA
- Visibility
- Missed approach¹

Any applicable special considerations such as:

- Unique airport advisory approach information
- Unique noise abatement procedures
- Unique Engine Failure During Missed Approach procedures
- Significant terrain or obstacles in the terminal area relative to approach routing
- Significant weather conditions
- Any other known risks and intentions

¹Not required if a visual approach can be expected.

83. ***Describe the flight parameters of a stabilized approach when below 1000 feet AFE (IMC) or 500 feet AFE (VMC). (FOM 5.10.9)***

Flight parameters. Below 1,000 AFE (IMC) or 500 feet AFE (VMC), the aircraft is

- On a proper flight path (visual or electronic) with only small changes in pitch and heading required to maintain that path,
- At a speed no less than V_{ref} and not greater than $V_{ref} + 20$ allowing for transitory conditions, with engines spooled up,
- In trim, and
- In an approved landing condition.

84. ***Visual approaches must be stabilized prior to leaving 500 feet AFE? (FOM 5.10.9)***

85. ***What are the five steps that a crewmember must accomplish methodically when a non-normal situation becomes evident? (FOM 7.2.5)***

Procedures. When a non-normal situation is evident, methodically accomplish the following steps:

1. **PF - Maintain Aircraft Control**
2. **Identify the Non-normal**
PNF Cancel the Warning
3. **Accomplish Immediate Action Items**
4. **Captain Assigns PF**
5. **Accomplish the Checklist**

86. ***When can a cellular telephone be operated inside the aircraft? (FOM 8.4.3)***

Policy. At the captain's discretion, the use of approved portable electronic devices (including personal cellular phones) during extended ground delays (inbound & outbound), is authorized. Use of cellular phones is also permitted on ground prior to door closing.

87. ***The Normal Antenna Position (NAP) is set by selecting a range 4 times your altitude divided by 1,000 feet AGL and selecting the tilt so that ground returns start at 2.5 times your altitude divided by 1,000 feet AGL. (FOM 10.4.5)***

- Select range approximately 4 times your altitude divided by 1,000 ft AGL (Range = 4 x ALT / 1000).
- Select tilt so that ground returns start at 2.5 times your altitude divided by 1,000 ft AGL (2.5 x ALT / 1,000). This places the bottom of the radar beam 4 degrees below the horizon.

Example: At 20,000 ft AGL, select the range closest to 80 nm. Select tilt so ground returns start at 50nm.

As altitude changes, only the range must be adjusted. The same NAP and tilt setting will keep the bottom of the radar beam 4 degrees below the horizon. Radar should be left in the NAP when not actively using tilt. NAP provides radar fault monitoring, automatic threat identification, minimal terminal workload, optimal terrain mapping, and radar shadow identification.

88. ***The Departure/Arrival Hazardous Wx Decision Aid should be used any time there is a potential for hazardous weather within 15 MILES OF THE AIRPORT ? (FOM 10.6.3, QRH OD-4)***

When severe weather hazards threaten operations during approach or departure such as:

- ATC report of echo VIP level 5 or greater
- Steep and/or asymmetrical radar gradients
- Notches, hooks, fingers, or scalloped radar edges
- Heavy rain with convective activity
- A radar echo with a shadow behind it or a magenta radar return

89. ***If you can't maintain at least 3NM horizontal separation from severe weather when the aircraft is <1,000 feet AGL, DO NOT TAKEOFF OR LAND UNTIL CONDITIONS IMPROVE . (FOM Figure 10-6 and QRH OD-4)***

90. ***Severe hail has been encountered as much as 20 miles downwind of large thunderstorms. (FOM 10.6.4)***

91. ***If a MEL requires a follow-up action that can be accomplished by the flight crew, where and how can it be acknowledged that the check has been completed? (FOM 11.4.3, FOM 5.3.7, MEL Book DP 8)***

The captain will enter the date, flight number, and his initials in the logbook anytime the flight crew completes an applicable FR check. This entry is informational *only* and does not require maintenance clearance.

Note: "Prior to flight" items must be completed before all flights, not just origination.

92. ***The normal mode for TCAS II operation is TA/RA. Under what conditions should TA be selected? (FOM 12.3.3)***

- When taking off toward known traffic in visual contact. RA should be selected as soon as practical after the potential for an unwarranted RA ceases to exist.
- During parallel approaches.
- In visual conditions when intentionally flying in close proximity to another aircraft.
- TA should be selected as soon as possible following an engine failure.
- At particular airports, during particular procedures, or in circumstances that have significant potential for unwarranted or inappropriate RA's.

93. ***What pilot actions are required if a resolution advisory (RA) is issued by the TCAS II system? (FOM 12-40, PHB 13)***

Compliance with a TCAS II RA is necessary unless the pilot considers it unsafe to do so, or, unless the pilot has better information (e.g. - ATC guidance, definitive visual acquisition, etc.) about the cause of the RA and can maintain safe separation.

Using every available means, clear the airspace into which you will maneuver. If a RA requires a change of flight path, disconnect the autopilot if engaged, promptly and smoothly maneuver out of the red and into the green colored arc. Continue to clear for traffic and be prepared to respond if TCAS updates the RA information. Deviation from an ATC clearance is permitted in order to comply with a RA.

Caution: Once a RA is issued, safe separation could be compromised if current vertical speed is changed, except as necessary to comply with the RA. The intruder aircraft may be TCAS II equipped, thereby causing a TCAS II to TCAS II resolution coordination. Any change in vertical speed other than issued by the RA may decrease the effectiveness of compliance by both aircraft.

A TCAS RA is based on the pilot initiating maneuver within approximately 5 seconds, and within approximately 2 ½ seconds if an additional corrective RA, e.g., increase or reverse is issued.

94. ***How do the stall recovery procedures compare to the windshear recovery technique? (PHB 18-23-1, 18-25-1)***

Recoveries are identical except you must disconnect BOTH the autopilot and autothrottles during the stall recovery (Except for the note that if the stall occurs in a clean configuration below FL250, extending the slats will expedite the recovery. Above FL250, it may be necessary to descend to a lower altitude in order to accelerate).

Once the Windshear Computer (WSC) detects a windshear condition, the WSC provides pitch guidance commands for all windshear encounters during takeoff (after liftoff) and go-around operations and is to be followed.

95. ***List the five conditions during which single-engine taxi is not permitted. (PH 18-9-1)***

- On the first flight of the day
- For powerouts from the gate
- When braking action on the ramp or taxiways is less than good

- When RVR is 1200' or less
- If the APU is inoperative, except as necessary to perform off-gate cross bleed start procedures.

96. ***Describe the recovery technique if windshear is encountered after lift-off or while on approach? (PHB 18-25-1 & 2)***

- **THRUST** – Disconnect autothrottles, advance the throttles to the mechanical stops and call “FIREWALL POWER”. Maintain this power setting until the aircraft has accelerated to the cleanup phase.
- **PITCH** - Increase or decrease pitch towards an initial target attitude of 15 degrees ANU and roll wings level. Always respect stickshaker, using intermittent stickshaker as the upper pitch limit. If the attitude has been limited to less than 15 degrees, increase pitch toward 15 degrees as soon as stickshaker stops. If required, increase pitch beyond 15 degrees to ensure an acceptable flight path.

Once the Windshear Computer (WSC) detects a windshear condition, the WSC provides pitch guidance commands for all windshear encounters during takeoff (after lift-off) and go-around operations and is to be followed. The PNF must monitor basic flight instruments to ensure pitch guidance is adequate and valid.

- **CONFIGURATION** - Maintain existing configuration until aircraft acceleration and climb allows cleanup. Minimum altitude to commence cleanup is 1,000' AGL or OCA.

97. ***When do the altitude awareness procedures apply? (PHB 18-27-2)***

- AIRCRAFT ON AUTOPILOT:
 - PF sets the FGCP altitude, points to, and verbally states the selected altitude and “ARMED”
 - PNF verbally states the ATC assignment and points to the selected altitude and confirms “ARMED”
- AIRCRAFT NOT ON AUTOPILOT:
 - PNF sets the FGCP altitude, points to and verbally states the selected altitude and “ARMED”
 - PF verbally states the ATC assignment and points to the selected altitude and confirms “ARMED”

Do not vacate existing altitude until this altitude verification procedure has been accomplished.

98. ***Describe the alternate configuration technique if you intercept the localizer and glide slope and are cleared for the ILS approach a considerable distance from the runway. (PH 18-35-3)***

ALTERNATE ILS CONFIGURATION TECHNIQUE

It is not uncommon to intercept the localizer and glideslope and be cleared for the ILS approach while still a considerable distance from the runway. When it is prudent to delay configuring the aircraft for landing, the following technique may be used.

NOTE: *This technique does not replace the requirement to be stabilized in accordance with the FOM.*

Configure the aircraft so as to arrive 1,500' above the published glideslope intercept approach altitude with flaps 15°

| AIRCRAFT ALTITUDE WITH REFERENCE TO THE OM/FAF ALTITUDE | ACCOMPLISH THE PROCEDURES ASSOCIATED WITH: |
|--|---|
| 1000' above | 1-1/2 dots |
| 500' above | 1/2 dot |
| Descending through | G/S Intercept |

99. *At a point no later than DA/DH on a precision approach or MAP on a non-precision approach, the PF must make what callout? (PHB 18-37-4)*

- Runway environment IS in sight - **"LANDING"**
- Runway environment NOT in sight - **"GO-AROUND"**

100. *On a non-precision approach, when the PNF calls "Minimums," what does the PF command? (PH 18-37-4)*

"SET MISSED APPROACH"

Additionally:

Runway in sight **"LANDING"**

Runway not in sight by MAP or a safe landing is not possible **"GO AROUND"**