Name: G Maddox

Date: 10-17-07

WINTER OPS REVIEW

Answers can be found in the POH. The subject reviewed is:
BE58

1. Minimum airspeed during icing conditions is 130 kts

2. Ground use of windshield heat is limited to 10 minutes at a time.

3. Do not hold Manual Deice Switch more that 8 seconds.

4. If the boots reinflate after Surface Deice Circuit Breaker is reset, what procedure must be implemented?
- Pull surface deice circuit breaker
- If boot reinflates after breaker reset use breaker switch as a manual surface deice switch

5. (True) / False. Prop heat: If the ammeter reads zero (0) and the switch has not tripped, check loadmeters for deflection as the switch is cycled on and off to confirm a malfunction of the ammeter. If loadmeters do not show a deflection, consider the propeller deice system to be inoperative.

6. (True) / False. Prop heat: Less than 14 amps, operation of the propeller deice system can continue unless serious propeller imbalance results from irregular ice shedding.

7. (True) / False. Prop heat: 18 to 23 amps, operation of the propeller deice system can continue unless serious propeller imbalance results from irregular ice shedding.

8. (True) / False. Prop heat: More than 23 amps, the should not be operated unless the need for propeller deicing is urgent.

9. (True) / False. When the airplane has been exposed to moisture and/or icing conditions (especially on the ground), the possibility of obstructed static ports should be considered.

10. Partial windshield deicing may be accomplished using the defroster

11. Surface deice system gage will indicate approximately 5 psi during periods when boots are not utilized.

12. When ice accumulates 1/2 to 1 inch: surface deice is switched to "AUTO (up)", deice pressure while boots are inflating is 9 to 20 psi, and fully inflated at 15 psi.

Name: G Madden

Date: 11-7-07

WINTER OPS REVIEW

Answers can be found in the FOM and POH. The subjects reviewed are:
WINTER OPS / SEVERE WX ACTION PLAN / TWIN PISTON / TBM / DEICE

1. Clear ice can be seen between what temperatures?

32°F to 14°F / 0°C to -10°C

2. Briefly explain the difference between Moderate and Severe icing.

Moderate: Rate of accumulation such that even brief encounters potentially hazardous. Heading or alt change required.

Severe: Rate of accumulation too much for equipment to control or reduce. Immediate heading or alt change required.

3. With a blockage of the static port by icing, what indication would be seen by the ASI, the ALT and VSI while descending?

ASI – Increases

ALT – Indicate same as where blockage occurred

VSI – 0

4. What are the recovery steps for Roll Upset and Tailplane Stall.

Roll Upset: Reduce angle of attack by increasing airspeed. Extend flaps to first setting, if at or below Ve

Tailplane Stall: Pull back on yoke
Reduce flaps
Reduce power

5. Sharp-edged surfaces are more susceptible to collecting ice than large blunt surfaces. For this reason, the tailplane may begin accumulating ice before the wings.

6. If glycol bottle is used anytime before completion of flight, what must be done? Notify mx utilizing Mx Discrepancy sheet

7. While using squeegee to remove snow or ice, care around boots, vortex generators and moving surfaces, avoid pulling snow across space between the aileron and wing.

8. The clean aircraft concept is essential for safe flight operations.

9. What is the speed restriction on the C310/BE58 pilot's side window? What must one be aware of if pilot's side window is opened?

No speed restriction
Static pressure change may affect IAS

GM

10. In the C310/BE58, what must be seen on the engine temperature gauges before takeoff? Must both be in green arc.

11. In the C310/BE58, below 15°F after shutdown, what must be done after shutdown? When does this procedure NOT apply?
Throttle and Mixture full rich.
Not applicable to final shutdown of day.

12. In the C310/BE58, during layovers in cold weather, what is the correct procedure for keeping engines warm at 14°F?
Start engines every 15 minutes.

13. (True) / False. In the TBM7, one must be cautious of elevator trim icing while autopilot is engaged.

14. In the TBM7, what is the typical gear light indication due to ice contamination? What are the steps to correct the problem?
3 green Compliant red.
Sharp object inserted and pressed in hole in back of gear actuator box (such as paper clip).

15. True / False. Due to forecasted severe weather, standby crews must consider staying at the company hangar for the duration of standby status.

16. Severe Weather Action Plan, 'Alert' Status: What two (2) flight specific assessments must be considered when evaluated safe en route and/or safe landing criteria? Airport specific weather minimums
General Flight weather minimums

17. What five (5) items must be checked within five (5) minutes prior to takeoff?
1) Both pilot windshields and side windows
2) Both wing leading edges
3) Both wing upper surfaces
4) Leading edge left horizontal stabilizer
5) Full and complete flight control movement check

18. Calculate the following Holdover Time:
Night
1°C
Light Freezing Rain
Wind 10kts
C310
What type(s) of fluid(s)? Type I
Holdover Time? 0:02

19. Calculate the following Holdover Time:
Night
16°F
Light Snow for 5 minutes,
then changes to Moderate.
Wind 5kts
TBM7
What type(s) of fluid(s)? Type I
Holdover Time? 0:05

Name: G Maddox

Date: 10-17-07

WINTER OPS REVIEW

Answers can be found in the POH. The subject reviewed is:
PC12

1. In the event of a balked landing go-around with residual ice on the airframe, the flaps should not be retracted from the 15 degree position.

2. Operation of the pneumatic de-ice boot system in ambient temperatures below −40 degrees Celsius and above +40 degrees Celsius may cause permanent damage to the boots.

3. Icing conditions can exist when the OAT on the ground and for take-off is 10 degrees Celsius.

4. True / (False:) All wing icing inspection lights must be MEL'd before flight into known icing conditions.

5. If airframe is not free of ice accretion, during landing approach, keep minimum approach speed above 130 KIAS. The total landing distance will be longer by up to 90 percent.

6. If total forward visibility is lost, and has not cleared by time of landing, use OV window if required.

7. (True) / False: AOA probe deice failure in icing conditions can cause a false activation of the stall protection system.

8. (True) / False: AOA probe deice failure in icing conditions may activate stick shaker at higher than normal speeds. If this occurs, increase speed until shaker stops.

9. (True) / False: AOA probe deice failure in icing conditions, keep minimum landing approach speed above 105 KIAS or shaker activation speed, whichever is highest. The total landing distance will be up to 55 percent.

10. (True) / False: For takeoff and landing on runways covered with surface snow, ice, standing water, or slush, the inertial separator must be open. For flight in heavy precipitation the inertial separator must be open.

GM

11. The minimum recommended speeds for icing encounters and with residual ice on the airfram are:

Climb, Flaps 0°, Pusher Ice Mode	= 125 KIAS
Holding Pattern, Flaps 0°	= 140 KIAS
Landing Approach, Flaps 15°, Pusher Ice Mode	= 105 KIAS
Landing Approach, Flaps 0°, Boot Failure Pusher Ice Mode	= 130 KIAS
Balked Landing (Go-Around) Flaps 15°, Pusher Ice Mode	= 105 KIAS
Balked Landing (Go-Around) Boot failure Flaps 0°, Pusher Ice Mode	= 130 KIAS

12. When taking-off in or into know icing conditions, the rotation speed increases by 9 KIAS.

13. After failure of the airframe pneumatic deice boots in icing conditions, the landing is performed with 0° flaps and an approach speed of 130 KIAS

GM

During the preflight, you discover a thin coating of frost about the roughness of medium sandpaper only on the outboard section of the pilot's side wing. If you had missed this contamination and had attempted to take off, the aircraft would have probably:

A. Flown fine, thin layers of frost have little effect.

B. Had a longer take off roll but no other effect.

C. Had a pitch upset

(D.) Had a roll upset

As you are conducting your preflight, you discover some loose snow and ice on the wing outboard from the engine. Another pilot tells you not to worry about those chunks, because they'll just come off during the takeoff roll. Is he right?

A. Yes. Loose chunks of ice are only an ingestion hazard.

B. No. Loose chunks of ice could lodge in the control surfaces.

C. No. Loose chunks of ice may remain on the wing during the takeoff roll.

(D.) B and C

During preflight you notice your co-pilot looking at the top of the horizontal stabilizer but not bending to look under the tail. Should you ask him to go back and check the bottom of the tail?

A. No. The bottom of the tail is not a critical surface.

B. No. If the top of the horizontal stabilizer is clean, the bottom will be clean.

(C.) Yes. Although the bottom of the tail is not a critical surface, ice deposits there cause drag.

D. Yes. The bottom of the tail is a critical surface.

You are planning an early departure tomorrow morning. The current weather at 2000 local is: wind 210 at 03 KT, visibility 10 SM, clear, temperature 3C, dew point -1C, and altimeter 30.02 in HG (1016.6 hPa). The forecast calls for winds, visibility and cloud cover to remain unchanged through the night. Should you ask the FBO to put the plane in the hangar overnight to avoid frost?

GM

A. Yes, if you can afford it. It is likely that frost will form overnight.

B. No. It is unlikely that frost will form under these conditions. There isn't a cloud in the sky.

C. Can't tell from this information

It is a cold clear morning in the mountains. You and more than a few other pilots are ready to take advantage of a break in the weather that covered the airport with snow and slush the night before. While waiting for your turn to take off, your airplane is splashed by slush kicked up by jet blast from the aircraft in front of you. You take a good look at the wings from the cockpit, and everything looks fine so you elect to take off. The engine instruments look good as you roll down the runway but just past rotation the airspeed indicator stops moving. Shortly after take off, your airspeed apears to function again. As you continue to climb, everything looks normal for a while, then your airspeed begins to climb way above normal. What is happening? What should you do?

A. Ice has blocked the engine sensors. Your engine is starting to overspeed. Reduce power and run the checklist.

B. Ice has blocked the static ports. Open the alternate static source.

C. Ice has blocked the pitot tube. Fly pitch and power.

D. B and C

You are flying a light twin out of a mountain airport. It is cold; during the preflight there was ice on the aircraft, but you de-iced and everything looks good. The instruments look good as you roll down the runway and rotate into IMC. During the climb out, everything appears normal but your airspeed begins to decrease. The altimeter appears frozen. What should you do?

A. Pitch over. Ice has frozen on the aircraft and you are probably about to stall.

B. Fly pitch and power. The pitot heat has failed and the pitot tube is blocked.

C. Check the engine gauges. One of the engines has probably ingested a piece of ice.

D. Open the alternate static source. The static ports have

The ATIS reports that light snow is falling at the airport, but from where you sit it looks a lot more intense. How can this be?

GM

A. *The ATIS may be old; conditions have changed.*

B. *The conditions are different where the weather observer is standing.*

C. *The snowfall rate is the same, it just looks different.*

(D.) *All of the above*

While taxiing in light rain, you notice the OAT reads 0C. Shortly after the plane lifts off, you feel the aircraft shudder without warning. Could this be an incipient wing stall?

A. *No. Even if there were ice accretion on the aircraft, the stall warning would activate before the aircraft begins to stall.*

B. *Yes. Ice accretion could be preventing the stall warning system from operating normally.*

C. *Yes. Ice accretion on the wing could cause the aircraft to stall before the stall warning system activates.*

(D.) *Yes, B and C.*

Section 1 Quiz - Thunderstorms

George Maddox
4-30-08

Question 1

What kind of front can result in a flight quickly encountering a thunderstorm after flying in relative calm?

1. Cold
2. Warm
3. Stationary
4. Occluded

Question 2

The best policy regarding flight near thunderstorms is:

1. Never regard any thunderstorm lightly even when echoes are reported "light intensity"
2. Avoidance is the safest option
3. Never fly underneath
4. All three

Question 3

If penetration is unavoidable, before entering

1. Tighten your safety belt
2. Put on your shoulder harness if equipped
3. Secure all loose objects
4. All three

Question 4

To avoid the most critical icing, penetrate thunderstorms:

1. At an altitude below the freezing level
2. Above the level of –15 deg Celsius
3. Both are right
4. Both are wrong

Question 5

During thunderstorm penetration...

1. Keep your eyes on the instruments to reduce risk of temporary blindness from lightning
2. Maintain a constant attitude
3. Do not turn back once in
4. All three

Section 2 Quiz – Microbursts

Question 1

Microbursts are usually

1. Large in size, long life, always involves surface precipitation
2. Small in size, long life, can exist without surface precipitation
3. Small in size, short life, can exist without surface precipitation
4. Large in size, short life, always involves surface precipitation

Question 2

The parent cloud of a microburst is a

1. Low or middle layer convective cloud commonly found in the heavy rain area of a thunderstorm
2. High layer convective cloud with strong downdrafts
3. Cumulus cloud with strong downdrafts outside the storm
4. Storm separate from the thunderstorm

Question 3

Microburst intensity can have

1. Downdrafts as high as 2000 feet per minute, winds as strong as 35 knots
2. Downdrafts as high as 1500 feet per minute, winds as strong as 25 knots
3. Downdrafts as high as 4000 feet per minute, winds as strong as 40 knots
4. Downdrafts as high as 6000 feet per minute, winds as strong as 45 knots

Question 4

In the first phase of a microburst encounter an aircraft will experience

1. Decreased performance from a headwind
2. A loss of altitude from intense downdrafts
3. Increased performance from a headwind
4. Decreased performance from a tailwind

Question 5

In the second phase of a microburst encounter an aircraft will experience

1. An increasing headwind, stronger updraft, decreasing performance
2. A decreasing headwind, a stronger downdraft, decreasing performance
3. An increasing headwind, stronger downdraft
4. No change in wind but stronger downdraft, and decreasing performance

Question 6

In phase 3 of a microburst encounter an aircraft will experience

1. Strong downdraft, followed by a rapidly increasing tailwind
2. Strong updraft, followed by a rapidly increasing headwind
3. Weak downdraft, followed by a strong headwind
4. Weak updraft, followed by a strong headwind

Section 3 Quiz – Wind Shear

Question 1

Wind shear is often associated with strong temperature inversions or density gradients. This can happen at:

1. High or low altitudes
2. Only high altitudes
3. Only low altitudes
4. Only near thunderstorms

Question 2

Frontal wind shears can develop when:

1. The surface temperature difference across the front is 5 degrees or more or the front is moving 15 knots or more
2. The surface temperature difference across the front is 10 degrees or more or the front is moving 30 knots or more
3. The surface temperature difference across the front is 15 degrees or more or the front is moving 15 knots or more
4. None are correct

Question 3

Wind shear from a thunderstorm's first gust:

1. Can change wind direction drastically, as much as 180 degrees
2. Wind velocities can reach 100 kts as far as 10 miles ahead of the storm
3. Wind speed can increase 50 percent from the surface to 1,500 feet, most of it within 150 feet
4. All three

Question 4

Vertical wind shear from a thunderstorm can exceed

1. 1000 feet per minute at 600 feet AGL
2. 720 feet per minute at 300 feet AGL
3. 1500 feet per minute at 800 feet AGL
4. 800 feet per minute at 400 feet AGL

Question 5

A sudden decrease in headwind during approach will result in the aircraft experiencing

1. A transient loss of airspeed
2. A loss of lift
3. An increased descent rate
4. All three

Question 6

A sudden decrease in tailwind during approach will result in the aircraft experiencing:

1. A decrease in lift causing the aircraft to descend
2. An increase in lift causing the aircraft to climb
3. No change in lift
4. No change in flight path

Section 4 Quiz – Clear Air Turbulence

Question 1

Clear air turbulence is likely to form:

1. At high altitudes
2. Near the jet stream
3. When cold polar air collides with warm air from the south
4. All three

Question 2

Clear air turbulence is:

1. Most pronounced during summer, convective currents are the strongest
2. Most pronounced during winter, temperature gradients are the highest
3. Not affected by season
4. None are correct

Question 3

Which statement is true regarding clear air turbulence?

1. Usually located on the cold side of a jet stream
2. Can exist without a well-defined jet stream
3. Can be located in an upper trough
4. All three

Question 4

Clear air turbulence can:

1. Extend from a mountain crest to 5,000 ft above the tropopause
2. Range 100 miles or more downwind from the mountain
3. Both are correct
4. Both are incorrect

Question 5

When clear air turbulence is caused by strong winds:

1. Forecast areas do not show drift
2. Forecast areas only show region where it originated
3. Forecast areas are elongated to show probable drift
4. There are no forecasts for CAT

Section 5 Quiz – Quest Summer Operations

Question 1

If a thunderstorm is in progress in the vicinity of the airport or in the departure path

1. Takeoff is allowed if winds are less than 25 knots
2. A takeoff will not be attempted
3. After takeoff turn to a heading away from the storm
4. Takeoff with extreme caution

Question 2

When thunderstorms are in the vicinity, radar will be used to scan the departure path for storm locations

1. Prior to departure
2. During takeoff
3. During climb
4. None are correct

Question 3

If severe weather is along the route of flight:

1. Never allow a condition to develop where a suitable airport cannot be reached without penetrating the severe weather
2. Avoid suspected severe storm cells by 20 miles
3. During the development stages of a cell, the top of the storm may easily exceed the climb capability of the aircraft
4. All are correct

Question 4

Flight beneath a developed anvil of a thunderstorm should never be attempted since

1. Severe turbulence could result in loss of control
2. Severe icing is likely
3. Large amounts of hail may be present from upper level winds blowing through the cell itself forcing hail on the leeward side
4. All three

Question 5

A line of clouds aligned with a storm

1. Should never be penetrated or flown below the base since downburst or severe wind shear could exist
2. Can be penetrated or flown underneath the base if winds are reported light
3. Indicates severe turbulence in clouds and should be avoided
4. Usually appear ahead of a storm

Name: George Maddox Date: 11-07-05 Score: 100%

QUIZ

1. When evacuating a burning building you should close doors and windows behind you as you leave.

   True ●
   False O

2. In case of fire and you are uncomfortable with the situation for any reason, do not try to extinguish it, let the fire department handle it.

   True ●
   False O

3. Any non-metal in a liquid state, on fire is classified as

   Class A O
   Class B ●
   Class C O
   Class D O

4. Never attempt to extinguish a fire if it is spreading rapidly beyond the spot where it started.

   True ●
   False O

5. In case of a fire you should never activate the building fire alarm. After all, some building alarm systems are not even connected to the fire department.

   True O
   False ●

6. Never attempt to extinguish a fire if you do not know what is burning.

   True ●
   False O

7. When synthetic materials such as the nylon in carpeting or foam padding in a sofa burn, they can produce highly toxic gases. These gases can be fatal.

   True ●
   False O

8. If a fire is producing large amounts of smoke that you would have to breath in order to fight it, it is best not to try.

   True ●
   False O

9 Solid combustible materials that are not metals such as wood, paper, cloth, trash and plastics are classified as

- Class A ●
- Class B O
- Class C O
- Class D O

10 Not all fuels are the same, using the wrong type of extinguisher on the wrong type fuel does not matter.

- True O
- False ●

Quest Diagnostics
FLIGHT OPERATIONS

Certificate of Completion

This certifies that

George Maddox

has successfully completed

Summer Operations Training

on 1st of June, 2005.

E-Learning
Instructor Name

Signature

William G Welch
Training Manager Name

[redacted]
Signature

You scored **90%** on this test. Below is a summary of your test score for you to review your performance.

Student: George Maddox

Test Date: 06-01-2005

Course Name:	**Summer Operations**
Test Name:	**Summer Ops**
Total Questions:	**20**
Passing Grade:	**75%**
Your Score:	**90% - Passed!**

Answer Key
● Correct Answer
● Incorrect Answer

Windshear is often associated with strong temperature inversions or density gradients. This can happen at
● High or low altitudes

Which thunderstorm stage is most prolonged and has the strongest downdrafts and weakening updrafts?
● Dissipating

Which airmass thunderstorm is the most common and frequent during summer months?
● Convective

Windshear is
● A change in wind speed and/or direction over a short distance, horizontally or vertically

Flight beneath a developed anvil of a thunderstorm should never be attempted since
● Large amounts of hail may be present as a result of upper level winds blowing through the cell itself forcing hail on the leeward side

What kind of front can result in a flight quickly encountering a thunderstorm after flying in relative calm?
● Warm

Tornadoes generally will be
● Southwest corner of severe thunderstorms near the south end of squall lines if present

If thunderstorm penetration is unavoidable, before entering
● All are correct

Which thunderstorm stage is indicated by the appearance of precipitation, strong downdrafts and gusty conditions?
● Mature

Which type of thunderstorm is typically active late at night or early morning between spring and summer?
● Nocturnal

Deviations around severe thunderstorms should be made to the
● North

Which thunderstorm stage is dominated by updrafts within the cumulus cloud ?
● Cumulus

When thunderstorms are in the vicinity, radar will be used to scan the departure path for storm locations

- Prior to departure

Clear air turbulence is

- Most pronounced during winter, temperature gradients the highest

If a thunderstorm is in progress in the vicinity of the airport or in the departure path

- A takeoff will not be attempted

Thunderstorm anvils may

- All three

For flight over a known or suspected severe thunderstorm

- Clear top by at least 2,000 feet
- Clear top by at least 1,000 feet for each 10 knots wind speed at cloud top

Overcorrecting for a sudden decrease in headwind during approach will place the aircraft

- Above the glideslope, and may land long and fast if near the runway

An occluded front can have an icing zone with a vertical depth as much as

- 10,000 feet
- 20,000 feet

Occluded front thunderstorms are

- All are correct

Print This Page

Quest Diagnostics
FLIGHT OPERATIONS

Certificate of Completion

This certifies that

George Maddox

has successfully completed

Flight Operations Manual Training

on 30th of March, 2005.

E-Learning
Instructor Name

Signature

William G Welch
Training Manager Name

[redacted]
Signature

You scored **88%** on this test. Below is a summary of your test score for you to review your performance.

Student: George Maddox

Test Date: 03-30-2005

Course Name:	**Flight Operations**
Test Name:	**Flight Operations Manual**
Total Questions:	**25**
Passing Grade:	**80%**
Your Score:	**88% - Passed!**

Answer Key
● Correct Answer
● Incorrect Answer

The AFM will be used as a reference to _____
● determine aircraft limitations in the event of severe weather is encountered.

Flight crews will adhere to the AFM as specified in the FOM, AFM and checklists and FAR's. In single pilot operations, _____
● company designated checklist based flows will be used for all phases of flights.

In preparation for anticipated and unavoidable severe weather operations, the PIC will refer to the _____
● FOM.

Primary concern for all Flight Operations personnel is_____
● safety.

Crewmembers should be clean-shaven, except for mustaches, to avoid interference with the use of _____
● oxygen systems.

A landing will not be attempted on a runway with breaking action reported as _____
● "nil."

When the flight involves a systems check critical to the safety of flight, only the authorized flight crew and maintenance representative will be allowed on the flight.
● True.

CPs may be asked to assist with the _____
● Route Service Coordinator (Van).

CORPORATE FLIGHTS Rest Period is the time express in hours which begins _____
● 1/2 hour after the last flight of the flight period terminates and ending one (1) hour before the next scheduled flight.

Taxiing should be made under aircraft's _____
● own idle power.

In the interest of security and privacy, Flight Operations personnel should not discuss details of scheduled flight activities, specifically _____
● all three

SPECIMEN FLIGHTS Duty Period is time expressed in hours which begins _____
● 1/2 hour before scheduled flight time and ends 1/2 hour after the last flight terminates at its' final destination.

To avoid the possibility of food poisoning affecting both pilots on the same flight, crews eating the same meal shall wait _____

- 30 minutes apart.

There are three (3) levels of automation and their appropriate use. What is Level One?

- No automation is employed.

Meal expenses per diem for Specimen flights are _____

- Duty time 1700 through 1900 Supper $13.00.

On scheduled overnights, crews normally released from duty status after _____

- 1700 local time or one (1) hour after completion of post flight requirements, whichever is later.
- 1700 local time or 30 minutes after completion of post flight requirements, whichever is later.

If a duty period exceeds 25 hours in a 48 hour period the pilot shall have a minimum scheduled rest period of _____

- 24 hours.
- 16 hours.

Full attention will be on taxiing the aircraft. In single pilot operations, the aircraft will _____

- not be in motion when copying clearances, searching for maps, charts, etc.

Takeoff

- all three

If a Specimen PIC lands with less than two (2) hours of fuel, he/she shall _____

- debrief the Chief Pilot and submitt a Quest Diagnostics ASR Form to the Safety Officer within 24 hours.

Exception to Flight Duty & Duty Time: The seven (7) day duty period may be exceeded up to five (5) additional hours with prior approval by the _____

- Director of Flight Operations.
- Chief Pilot.

The CP of a flight operations flight may refuse to load any baggage or cargo that fails to meet any of the requirements of _____

- all three.

Pilots may be assigned as Standby Status if _____

- an aircraft is available for dispatch.

If the PIC is authorized by a maintenance supervisor to have the repair done by a local repair facility, the PIC shall not accept the aircraft until Flight Operations Maintenance Department _____

- all three

Online flight crews will be advised when a SEVERE WEATHER ACTION ALERT is in effect by _____

- any of the ways, just be sure dispatch can contact you.

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Quest Diagnostics
FLIGHT OPERATIONS

Certificate of Completion

This certifies that

George Maddox

has successfully completed

MEL Training

on 10th of November, 2004.

Alan Griffin
Instructor Name

[redacted]
Signature

William G Welch
Training Manager Name

[redacted]
Signature

MINIMUM EQUIPMENT LIST FINAL EXAMINATION 100 %

Name: George Maddox Date: 11-10-04

✓1) b
✓2) d
✓3) a
✓4) c
✓5) b
✓6) a
✓7) c
✓8) d
✓9) b
✓10) a
✓11) d
✓12) c
✓13) b
✓14) a
✓15) b

G Maddox
Summer Ops
2009

Section 1 Quiz - Thunderstorms

Question 1

What kind of front can result in a flight quickly encountering a thunderstorm after flying in relative calm?

1. Cold
2. Warm
3. Stationary
4. Occluded

Question 2

The best policy regarding flight near thunderstorms is:

1. Never regard any thunderstorm lightly even when echoes are reported "light intensity"
2. Avoidance is the safest option
3. Never fly underneath
4. All three

Question 3

If penetration is unavoidable, before entering

1. Tighten your safety belt
2. Put on your shoulder harness if equipped
3. Secure all loose objects
4. All three

Question 4

To avoid the most critical icing, penetrate thunderstorms:

1. At an altitude below the freezing level
2. Above the level of –15 deg Celsius
3. Both are right
4. Both are wrong

Question 5

During thunderstorm penetration…

1. Keep your eyes on the instruments to reduce risk of temporary blindness from lightning
2. Maintain a constant attitude
3. Do not turn back once in
4. All three

G Madden
2009

Section 2 Quiz – Microbursts

Question 1

Microbursts are usually

1. Large in size, long life, always involves surface precipitation
2. Small in size, long life, can exist without surface precipitation
3. Small in size, short life, can exist without surface precipitation
4. Large in size, short life, always involves surface precipitation

Question 2

The parent cloud of a microburst is a

1. Low or middle layer convective cloud commonly found in the heavy rain area of a thunderstorm
2. High layer convective cloud with strong downdrafts
3. Cumulus cloud with strong downdrafts outside the storm
4. Storm separate from the thunderstorm

Question 3

Microburst intensity can have

1. Downdrafts as high as 2000 feet per minute, winds as strong as 35 knots
2. Downdrafts as high as 1500 feet per minute, winds as strong as 25 knots
3. Downdrafts as high as 4000 feet per minute, winds as strong as 40 knots
4. Downdrafts as high as 6000 feet per minute, winds as strong as 45 knots

Question 4

In the first phase of a microburst encounter an aircraft will experience

1. Decreased performance from a headwind
2. A loss of altitude from intense downdrafts
3. Increased performance from a headwind
4. Decreased performance from a tailwind

Question 5

In the second phase of a microburst encounter an aircraft will experience

1. An increasing headwind, stronger updraft, decreasing performance
2. A decreasing headwind, a stronger downdraft, decreasing performance
3. An increasing headwind, stronger downdraft
4. No change in wind but stronger downdraft, and decreasing performance

G Maddox 2009

Question 6

In phase 3 of a microburst encounter an aircraft will experience

1. Strong downdraft, followed by a rapidly increasing tailwind
2. Strong updraft, followed by a rapidly increasing headwind
3. Weak downdraft, followed by a strong headwind
4. Weak updraft, followed by a strong headwind

Section 3 Quiz – Wind Shear

G Maddox 2009

Question 1

Wind shear is often associated with strong temperature inversions or density gradients. This can happen at:

1. High or low altitudes
2. Only high altitudes
3. Only low altitudes
4. Only near thunderstorms

Question 2

Frontal wind shears can develop when:

1. The surface temperature difference across the front is 5 degrees or more or the front is moving 15 knots or more
2. The surface temperature difference across the front is 10 degrees or more or the front is moving 30 knots or more
3. The surface temperature difference across the front is 15 degrees or more or the front is moving 15 knots or more
4. None are correct

Question 3

Wind shear from a thunderstorm's first gust:

1. Can change wind direction drastically, as much as 180 degrees
2. Wind velocities can reach 100 kts as far as 10 miles ahead of the storm
3. Wind speed can increase 50 percent from the surface to 1,500 feet, most of it within 150 feet
4. All three

Question 4

Vertical wind shear from a thunderstorm can exceed

1. 1000 feet per minute at 600 feet AGL
2. 720 feet per minute at 300 feet AGL
3. 1500 feet per minute at 800 feet AGL
4. 800 feet per minute at 400 feet AGL

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Question 5

A sudden decrease in headwind during approach will result in the aircraft experiencing

1. A transient loss of airspeed
2. A loss of lift
3. An increased descent rate
4. All three

Question 6

A sudden decrease in tailwind during approach will result in the aircraft experiencing:

1. A decrease in lift causing the aircraft to descend
2. An increase in lift causing the aircraft to climb
3. No change in lift
4. No change in flight path

G Madday 2009

Section 4 Quiz – Clear Air Turbulence

Question 1

Clear air turbulence is likely to form:

1. At high altitudes
2. Near the jet stream
3. When cold polar air collides with warm air from the south
4. All three

Question 2

Clear air turbulence is:

1. Most pronounced during summer, convective currents are the strongest
2. Most pronounced during winter, temperature gradients are the highest
3. Not affected by season
4. None are correct

Question 3

Which statement is true regarding clear air turbulence?

1. Usually located on the cold side of a jet stream
2. Can exist without a well-defined jet stream
3. Can be located in an upper trough
4. All three

Question 4

Clear air turbulence can:

1. Extend from a mountain crest to 5,000 ft above the tropopause
2. Range 100 miles or more downwind from the mountain
3. Both are correct
4. Both are incorrect

Question 5

When clear air turbulence is caused by strong winds:

1. Forecast areas do not show drift
2. Forecast areas only show region where it originated
3. Forecast areas are elongated to show probable drift
4. There are no forecasts for CAT

Section 5 Quiz – Quest Summer Operations

G Madden 2009

Question 1

If a thunderstorm is in progress in the vicinity of the airport or in the departure path

1. Takeoff is allowed if winds are less than 25 knots
2. A takeoff will not be attempted
3. After takeoff turn to a heading away from the storm
4. Takeoff with extreme caution

Question 2

When thunderstorms are in the vicinity, radar will be used to scan the departure path for storm locations

1. Prior to departure
2. During takeoff
3. During climb
4. None are correct

Question 3

If severe weather is along the route of flight:

1. Never allow a condition to develop where a suitable airport cannot be reached without penetrating the severe weather
2. Avoid suspected severe storm cells by 20 miles
3. During the development stages of a cell, the top of the storm may easily exceed the climb capability of the aircraft
4. All are correct

Question 4

Flight beneath a developed anvil of a thunderstorm should never be attempted since

1. Severe turbulence could result in loss of control
2. Severe icing is likely
3. Large amounts of hail may be present from upper level winds blowing through the cell itself forcing hail on the leeward side
4. All three

Question 5

A line of clouds aligned with a storm

1. Should never be penetrated or flown below the base since downburst or severe wind shear could exist
2. Can be penetrated or flown underneath the base if winds are reported light
3. Indicates severe turbulence in clouds and should be avoided
4. Usually appear ahead of a storm

Name George Maddox $\frac{11.5}{13} = 88\%$ Date 7-30-08

MEL Examination

1. With regards to an MEL, what do (O) and (M) stand for?

M - specific mx procedures which must be accomplished prior to operation with inop equip.

O - Operating procedure that must be accomplished prior to operating with inop equip.

2. True or False? Only mechanics may perform (M) procedures.

False

3. True or False? It is acceptable to placard an instrument inoperative by writing the word "Inoperative" on a piece of masking tape and placing it on the instrument.

True. Letters must be at least 1/8 inch tall.

4. Per 91.205(b)(9), fuel gauges are required for Day VFR flight. During a preflight, a Quest Diagnostics pilot notices that the left fuel gauge in a BE58 is inop. Will the pilot be able to depart?

~~According to 91.205(b)(9) alone no.~~

According to our MEL yes.

↑ It governs. Since we have an MEL we have to follow it.

5. A Quest Diagnostics pilot notices that the autopilot in a BE58 is inop. Describe the necessary placarding, disabling, and paperwork requirements that must be completed. Please consider Quest Diagnostics Flight Operations policy as well as the FAR's.

May be inop VFR for carrying PX
May be inop cargo only
Qualified mx tech must
- Pull & collar Auto pilot CB
- check elec system for no hazard
- with elec pwr on check no interference with servos & controls.

Pilot Fill out discrepancy log.

-1/2

6. During a pre-flight for a night flight, a Quest Diagnostics pilot notices that the strobe light system in a BE58 is inop. The date is March 5th. May the pilot depart? If so, by what date and time must the strobe light system be fixed?

You may depart.

~~By midnight March 16~~

↑ repair intervals don't apply to Part 91