SEA LAND AIR
FLIGHT CENTRE

DA40-180
Aircraft Specifications and Limitations

Pilot: _____ Licence #: _____

Instructor: _____ Date: _____

Answer all of the following questions as completely and thoroughly as possible in preparation for your checkout flight. Refer to the particular Aircraft's POH for answers.

1) Provide the following information found in the POH regarding fuel & oil:

Total Fuel Capacity: _____ GALS Usable Fuel: _____ GALS

Grade of Fuel: _____ Color of Fuel: _____

Oil Capacity: _____ QTS Minimum Oil: _____ QTS

Type & Weight of Oil: _____

2) Provide the following information found in the POH regarding weight limitations:

Maximum Takeoff Weight? _____ lbs. Useful Load? _____ lbs.

Maximum Landing Weight? _____ lbs. Empty Weight? _____ lbs.

3) Give the definition and the corresponding airspeed for your aircraft:

	Definition of Abbreviation Speed (KIAS)	***Speed (KIAS)***
Vso		
Vs1		
Vy		
Vfe		
Va		
Vno		
Vne		
Best Glide Speed		
Turbulent Air Penetration Speed		
Maximum Demonstrated Crosswind Velocity		
Maximum Chartable Tailwind		

4) Provide the following information regarding the engine operation limitations:

What is the maximum continuous power setting? _____ RPM

5) List the possible causes and corrective actions for a rough running engine and/or a loss of power while in flight.

6) Describe the procedures for an engine failure with a forced landing (include all considerations given to your initial response, the field selection, any troubleshooting performed, radio communications, and passenger briefing you will perform).

7) Electrical

a) What does the loadmeter indicate?

b) How would an alternator malfunction be indicated?

c) What is the corrective action for alternator failure?

d) What is the corrective action for low voltage?

e) What electrical systems can still function if the alternator and battery both fail? Explain?

8) Can the starter be engaged with the Essential Bus Switch on? _____

9) What is the SLA recommended procedure for testing the loadmeter prior to flight?

_____

10) Describe the procedure for a balked landing/go around:

_____

_____

11) List the airspeeds and power settings for the following operations:

Operation	***Speed (KIAS)***	***Power Setting*** *Throttle/RPM*
Normal Takeoff	_____	_____
Normal Climb	_____	_____
Normal Cruise	_____	_____
Normal Landing (full flaps)	_____	_____
Short Field Landing	_____	_____
Balked Landing/Go Around	_____	_____

12) Proper Leaning Procedures

a) When should the mixture be leaned?

_____

_____

b) What is the procedure for leaning the mixture for Best Economy?

_____

_____

c) What is the procedure for leaning the mixture for Best Power?

_____

_____

d) When should the mixture be enriched for approach and landing?

_____

_____

13) The rear canopy must have the release handle lock engaged for takeoff. ► True / False (circle one)

14) Determine the following information regarding the aircraft's takeoff and climb limitations for the following conditions.

Field Elevation = Sea Level

Temperature/Altimeter setting = Standard Day (Which is ____ C, ____ F/ ___.___ hg)

Wind = Calm

Aircraft Weight = Maximum Takeoff (Which is _____ lbs.)

a) What is the airport pressure altitude? _____ FT

b) What is the density altitude for the airport under these conditions? _____

c) What is the runway length needed for:

Takeoff? _____ FT Landing? _____ FT

d) What is the minimum horizontal distance needed to clear a 50 foot obstacle for:

Takeoff? _____ FT Landing? _____ FT

15) Determine the following information regarding the aircrafts takeoff and climb limitations for the following conditions and compare the results with those parameters found in the previous question noting the effects of high density altitude on takeoff and climb performance.

Field elevation = 2,800 Ft. **Altimeter** = 29.80

Temperature = 80deg. F (which is ____ deg. C) **Wind**= 5 kts tail wind

Aircraft weight = maximum takeoff (which is_____ lbs.)

a) What is the airport pressure altitude = _____FT

b) What is the density altitude of the airport under these conditions? FT

c) What is the runway length needed for:

Takeoff? _____ FT Landing? _____ FT

d) What is the minimum horizontal distance needed to clear a 50 ft. obstacle:

Takeoff? _____ FT Landing? _____ FT

16) What is the endurance and range while flying this aircraft with full fuel? Assume sea level airport & standard temperature.

a) At 3,000' and 65% power? TAS _____ HRS _____ F/F _____ NM _____

b) At 5,000' and 65% power? TAS _____ HRS _____ F/F _____ NM _____

c) At 8,000' and 65% power? TAS _____ HRS _____ F/F _____ NM _____

17) How much weight is available for the pilot, passengers and baggage if the aircraft has full fuel for the following conditions?

Touch and go landings _____ Lbs. Cross Country Flight _____ Lbs.

Calculate the weight and balance for your aircraft with yourself and a passenger who weighs 190 lbs, 50 lbs in baggage area #1 and full fuel.

C - _____	WEIGHT	ARM	MOMENT
Basic Empty Weight			
Useable Fuel (6lbs/gal)			
Pilot & Front Passenger			
Rear Passenger(s)			
Baggage Area			
Ramp Weight			
Fuel Allowance for Start, Taxi & Run-up			
Takeoff Weight			
Takeoff CG			
Fuel Burn Engine			
Landing Weight			
Landing CG			

Does the CG fall within the legal limits?_____

18) What are the following voltages?

Alternator Voltage _____ Battery Voltage _____

19) If the "PITOT" annunciator is illuminated, it indicates: _____

20) GPS

a) How do you find the nearest airport using GPS?

_____

_____

21) Autopilot

a) What are all the different ways the autopilot can be disengaged?

_____

_____

_____

b) What limitations are associated with the autopilot?

_____

_____

_____

c) Does the autopilot hold heading, altitude, or both in this aircraft?

_____

_____

_____

22) Have you completed the G1000 course? ► Yes / No (circle one)

If yes, you will be asked to demonstrate use of the G1000 system in the aircraft.

➢ **DA40-180 Type Exam Completed Satisfactorily**

_____ _____

Flight Instructor's Signature Date

_____ _____

Pilots's Signature Date
