

# ADVANTAGE AVIATION INC. MULTI ENGINE CHECKOUT

Aircraft Make & Model: \_\_\_\_\_  
Instructor: \_\_\_\_\_

Name: \_\_\_\_\_  
Date: \_\_\_\_\_

## AIRSPEEDS Knots/Miles per hour (circle one)

V<sub>S</sub>: \_\_\_\_\_  
V<sub>SO</sub>: \_\_\_\_\_  
V<sub>MCA</sub>: \_\_\_\_\_  
Rotate V<sub>R</sub>: \_\_\_\_\_  
V<sub>Y</sub>: \_\_\_\_\_  
V<sub>YSE</sub>: \_\_\_\_\_  
V<sub>X</sub>: \_\_\_\_\_  
V<sub>XSE</sub>: \_\_\_\_\_  
V<sub>A</sub>: \_\_\_\_\_  
V<sub>App</sub>: \_\_\_\_\_  
V<sub>App</sub> (single engine): \_\_\_\_\_

Short field approach: \_\_\_\_\_  
Go around: \_\_\_\_\_  
Cruise climb: \_\_\_\_\_  
V<sub>FE</sub>: \_\_\_\_\_  
V<sub>NO</sub>: \_\_\_\_\_  
V<sub>LE</sub>: \_\_\_\_\_  
V<sub>LO</sub>: \_\_\_\_\_  
V<sub>NE</sub>: \_\_\_\_\_  
Max crosswind: \_\_\_\_\_  
Best glide: \_\_\_\_\_

## ENGINE

Manufacturer: \_\_\_\_\_  
Horsepower: \_\_\_\_\_

Model: \_\_\_\_\_  
Type: \_\_\_\_\_

## OIL

Absolute minimum: \_\_\_\_\_  
Maximum: \_\_\_\_\_

Minimum for operation: \_\_\_\_\_  
Grade: \_\_\_\_\_

## FUEL

Grade: \_\_\_\_\_  
Max Capacity (total): \_\_\_\_\_  
Max Capacity (usable): \_\_\_\_\_

Color: \_\_\_\_\_  
Max total cap. at tabs: \_\_\_\_\_  
Max usable cap. at tabs: \_\_\_\_\_

## WEIGHT AND BALANCE

Max ramp weight: \_\_\_\_\_  
Max landing weight: \_\_\_\_\_  
Useful load: \_\_\_\_\_

Max takeoff weight: \_\_\_\_\_  
BEW: \_\_\_\_\_  
Max payload w/full fuel: \_\_\_\_\_

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
BEW	_____	_____	_____
Front seats	_____	_____	_____
Rear seats	_____	_____	_____
Baggage	_____	_____	_____
Fuel	_____	_____	_____
<u>TOTAL</u>	_____	_____	_____

CG in/out: \_\_\_\_\_ Correction: \_\_\_\_\_  
CG position after 3hrs flight: \_\_\_\_\_

**MISC**

1. During run-up, one of the magnetos on one engine is running rough. What is happening and what will you do about it? \_\_\_\_\_  
\_\_\_\_\_
2. When should the mixture be leaned? \_\_\_\_\_  
\_\_\_\_\_
3. Explain how you lean the mixture: \_\_\_\_\_  
\_\_\_\_\_
4. How do you detect carburetor/induction ice? \_\_\_\_\_
5. What can you do about it? \_\_\_\_\_
6. When should you use carburetor heat? \_\_\_\_\_  
\_\_\_\_\_

**MALFUNCTIONS**

1. You are on the takeoff roll, the airplane swerves to the right. What should you do and why? \_\_\_\_\_  
\_\_\_\_\_
2. You are at 100' on the upwind at Palo Alto, one engine quits. What are you going to do? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. You are cruising along at 7500', the left engine runs rough and quits. What are you going to do? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ELECTRICAL SYSTEM**

1. Describe the electrical system on this airplane: \_\_\_\_\_  
\_\_\_\_\_
2. If the low voltage warning light illuminates, what might have happened? \_\_\_\_\_  
\_\_\_\_\_
3. What can be done about it during flight? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. What happens to the electrical system when one engine fails? \_\_\_\_\_  
\_\_\_\_\_
5. Describe your actions in the event of an electrical fire: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PROPELLER SYSTEM**

1. When RPM is increased by the pilot, explain what happens to the propeller and how this occurs: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Describe how the propeller goes into the feather position: \_\_\_\_\_  
 \_\_\_\_\_
3. What is the function of accumulators? \_\_\_\_\_  
 \_\_\_\_\_
4. Is this airplane equipped with accumulators? \_\_\_\_\_
5. Can the propellers be feathered on the ground? Explain why/why not: \_\_\_\_\_  
 \_\_\_\_\_
6. What happens when the RPM is decreased? \_\_\_\_\_  
 \_\_\_\_\_
7. You initiate a climb, do you increase RPM first then manifold? Explain: \_\_\_\_\_  
 \_\_\_\_\_
8. What causes propeller over-speed and what should you do if this should occur? \_\_\_\_\_  
 \_\_\_\_\_

**GEAR SYSTEM**

1. What type of gear system is this airplane equipped with? \_\_\_\_\_
2. Explain the gear system: \_\_\_\_\_  
 \_\_\_\_\_
3. While taxiing, you bring the gear lever to the up position. What might happen? \_\_\_\_\_  
 \_\_\_\_\_
4. What are the unsafe gear indications? \_\_\_\_\_  
 \_\_\_\_\_
5. What is the emergency gear extension procedure? \_\_\_\_\_  
 \_\_\_\_\_

**ENGINES**

1. What is the definition of a critical engine? \_\_\_\_\_  
 \_\_\_\_\_
2. What is the critical engine on this airplane? \_\_\_\_\_
3. What is the recommended use of cowl flaps? \_\_\_\_\_  
 \_\_\_\_\_

**PERFORMANCE**

Service ceiling of this aircraft: \_\_\_\_\_

- TAKE-OFF DISTANCE: (max gross weight)
  - Max gross weight, sea level, standard temperature, 10 kts headwind:
    - Takeoff roll: \_\_\_\_\_
    - 50' obstacle: \_\_\_\_\_
  - Max gross weight, 6000' pressure altitude, 28°C, 5 kts headwind:

Takeoff roll: \_\_\_\_\_

50' obstacle: \_\_\_\_\_

- CLIMB PERFORMANCE: (no wind)

Max gross weight, sea level, standard temperature: \_\_\_\_\_

Max gross weight, 7000' pressure altitude, 25°C: \_\_\_\_\_

- CRUISE: (7000', 15°C, 65% power, full fuel)

Max flight duration with 45 minutes reserve: \_\_\_\_\_

How many gallons of fuel used: \_\_\_\_\_

- LANDING DISTANCE: (no wind)

Max gross weight, sea level, standard temperature, 10 kts headwind: \_\_\_\_\_

Max gross weight, 6000' pressure altitude, 28°C:

Landing roll: \_\_\_\_\_

50' obstacle: \_\_\_\_\_