



**WEIGHT AND BALANCE**

Basic Empty Weight:  
Max landing weight:  
Useful load:  
Max payload w/full fuel:  
Max baggage weight:

Weight and balance sample for your aircraft during training:

	<u>WEIGHT</u>	<u>ARM</u>	<u>MOMENT</u>
BEW N7539Y	2364.00lbs	82.96"	196,114.68 LB-IN
Front seats	.....	84.80"	
Rear seats	.....	120.50"	
Baggage	.....	142.00"	
Fuel main 54gals	324.00lbs	90.00"	
Fuel aux 30gals	180.00lbs	95.00"	
<u>TOTAL</u>			

**ELECTRICAL SYSTEM**

1. Describe the electrical system on this airplane: Volts? Battery amps? Alternator amps?
  
2. What can be done about an alternator failure during flight?
  
4. What happens to the electrical system when one engine fails?
  
5. Describe your actions in the event of an electrical fire:

**ENGINES**

1. What is the definition of a critical engine and which one is critical on this aircraft?
  
2. What is the recommended use of cowl flaps?

### **MISC. ENGINE OPERATIONS**

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 (ground and flight)?
3. Is the mixture automatically leaned on climb by the servo regulator?
4. Explain how you lean the mixture:
5. How do you detect induction ice?
6. What can you do about it?

### **FUEL SYSTEM**

1. Which tanks do you have to be on for take-off, climb, desc., landing?
2. When do you use the aux fuel pumps? How many settings? How long should you wait between turning each one off?
3. Describe engine cross feed procedures:

**PROPELLER SYSTEM** (Hartzell HC-E2Y-2B)

1. When RPM is increased by the pilot, explain what happens to the propeller and how this occurs:
  
2. When RPM is decreased by the pilot, explain what happens to the propeller and how this occurs:
  
3. Describe how the propeller goes into the feather position and how long does it take?
  
4. What is the function of accumulators?
  
5. Is this airplane equipped with accumulators?
  
6. Describe how to unfeather a propeller in flight:
  
7. Can the propellers be feathered on the ground? Explain why/why not? Minimum RPM to feather?
  
8. You initiate a climb, do you increase RPM first then manifold? Explain:
  
9. Before initiating a full power go around, you verify that the props are in which position? Why?
  
10. 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. How do you know the gear is down and locked?
5. What are the unsafe gear indications (visuals and audio)?
6. Where is the squat switch located?
7. What is the emergency gear extension procedure?
8. Can you practice emergency gear extension in this aircraft?
9. Tire pressure: Main? Nose?

## **MALFUNCTIONS**

1. You are on the takeoff roll, the airplane swerves to the right. What should you do and why?
2. You are at 50' after takeoff, gear is down, one engine quits. What are you going to do?
3. You are at 100' after takeoff, gear is up, one engine quits. What are you going to do?
4. You are cruising along at 7500', the left engine runs rough and quits. What are you going to do?

## **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: Two engine:

Single engine:

Max gross weight, 7500' pressure altitude, 25°C: Two engine:

Single engine:

- CRUISE: (7500', 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<sup>o</sup>C:

Landing roll:

50' obstacle:

• ACCELERATE STOP DISTANCE: (no wind)

Max gross weight, sea level, standard temperature, 0 kts headwind:

Max gross weight, 671' (KIZA), standard temperature, 0 kts headwind:

Max gross weight, 6000', standard temperature, 0 kts headwind:

**TRAINING LIMITATIONS AND RECOMMENDATIONS FROM POH**

Simulated zero thrust: 10" and 2200rpm

Minimum altitude to practice stalls: 5000 feet agl

No full stalls, recover at first indication of pre-stall buffet or warning light

Do not carry passengers when doing stalls

Do not practice stalls when heavily loaded

Do not practice stalls when CG near max aft

Do not practice single engine stalls

Do not practice stalls with asymmetric power

Minimum altitude for Vmc demonstration: 3500 feet