

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|---|
| Flight #: 1 – FIRST TEST FLIGHT | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Validate Engine Reliability • Explore Flight Control Characteristics | |
| Check | Action |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Do not change throttle settings, mixture, or fuel tanks |
| | Remain above the airport |
| | Climb out at 110 MPH |
| | Climb to 4000' MSL and level off |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | Yaw rudder left and right 5 degrees |
| | 360 degree clearing turns (10 degrees bank) |
| | 360 degree clearing turns (20 degrees bank) |
| | |

NOTES

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| Check | Action |
|-------|---|
| | <i>SLOW FLIGHT</i> |
| | Climb to 6000 feet |
| | Slowly decrease speed to 80 MPH – maintain altitude |
| | 360 degree clearing turns at 20 degrees bank |
| | Keep ball centered using rudder |
| | |
| | Increase speed to 100 MPH |
| | Apply half flaps |
| | Slowly decrease speed to 80 MPH – maintain altitude |
| | 360 degree clearing turns at 20 degrees bank |
| | Keep ball centered using rudder |
| | |
| | |
| | Check engine instruments |
| | Speed back up to cruise speed (2300 RPM) |
| | |
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| Check | Action |
|-------|--|
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | USE A MAXIMUM OF 20 DEGREES FLAPS |
| | Taxi back and "Grin" |
| | |
| | |
| | <i>POST FLIGHT</i> |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | Pull cowlings and inspect engine carefully |
| | Inspect airframe carefully |
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NOTES

**FLIGHT TEST PROGRAM
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|--|---|
| Flight #: 2 – CONFIRM FIRST FLIGHT RESULTS | |
| Pilot: | Date: Time: |
| Objectives: | |
| • Re-affirm the first flight findings | |
| Check | Action |
| | |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Do not change throttle settings, mixture, or fuel tanks |
| | Remain above the airport |
| | Climb out at 110 MPH |
| | Climb to 4000' MSL and level off |
| | |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | Yaw rudder left and right 5 degrees |
| | 360 degree clearing turns (10 degrees bank) |
| | 360 degree clearing turns (20 degrees bank) |
| | |

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| Check | Action |
|-------|---|
| | |
| | <i>SLOW FLIGHT</i> |
| | Climb to 6000 feet |
| | Slowly decrease speed to 80 MPH – maintain altitude |
| | 360 degree clearing turns at 20 degrees bank |
| | Keep ball centered using rudder |
| | |
| | Increase speed to 100 MPH |
| | Apply half flaps (20 Degrees) |
| | Slowly decrease speed to 80 MPH – maintain altitude |
| | 360 degree clearing turns at 20 degrees bank |
| | Keep ball centered using rudder |
| | Apply full flaps |
| | 360 turns |
| | Add power, climb like doing a go-around & raise flaps |
| | |
| | Check engine instruments |
| | Speed back up to cruise speed |
| | |
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| Check | Action |
|-------|--|
| | |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | Pull cowlings and inspect engine carefully |
| | Inspect airframe carefully |
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NOTES

**FLIGHT TEST PROGRAM
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|---|---|
| Flight #: 3 – VALIDATE ENGINE RELIABILITY | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Validate that actions affecting engine operation function properly | |
| Check | Action |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Do not change throttle settings, mixture, or fuel tanks |
| | Remain above the airport |
| | Climb out at 110 MPH |
| | Climb to 4000' MSL and level off |
| | |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | Apply carb heat and note changes |
| | Lean engine and note changes |
| | Switch fuel tanks and note changes (Boost Pump On) |
| | |

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**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|---|
| | Open/close oil cooler door and note changes |
| | Record engine pressures and temperatures |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | Pull cowlings and inspect engine carefully |
| | Inspect airframe carefully |
| | |
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**FLIGHT TEST PROGRAM
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|--|---|
| Flight #: 4 – SLOW FLIGHT TEST | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Become familiar with slow flight handling characteristics | |
| Check | Action |
| | |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Climb out at 110 MPH |
| | Climb to 6000' MSL and level off |
| | |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | Perform 2 clearing turns |
| | Slow to 65 MPH |
| | Feel untrimmed, then trim and maintain altitude |
| | 360 turn left, then 360 right, shallow bank |
| | Check CHTs & Oil Temp |
| | Slow to 60 MPH |

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**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|--|
| | Trim & Maintain Altitude |
| | 360 turn left, 360 turn right, shallow bank |
| | Check CHTs and Oil Temp |
| | Slow to 55 MPH |
| | Trim & maintain altitude |
| | 360 turn left, 360 turn right, shallow bank |
| | 10 degrees flaps, maintain airspeed, 360 left, 360 right |
| | 20 degrees flaps, maintain airspeed, 360 left, 360 right |
| | 40 degrees flaps, maintain airspeed, 360 left, 360 right |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
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NOTES

**FLIGHT TEST PROGRAM
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|--|--|
| Flight #: 5 – CLIMBS AND DESCENTS | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Monitor engine performance during climbs and descents | |
| Check | Action |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Climb out at 110 MPH |
| | Climb to 2000' MSL and level off |
| | |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | 125 MPH climb for two minutes – full power |
| | Record engine temperatures and pressures – and OAT |
| | Stabilize temperatures |
| | 110 MPH climb for two minutes – full power |
| | Record engine temperatures and pressures – and OAT |
| | Stabilize temperatures |

NOTES

To obtain this test flight data you must use common sense. Don't cook your engine! Don't shock cool your engine! Elements of this testing might be done in conjunction with other test flights during several different flights to avoid overheating or shock cooling your engine.

**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|--|
| | Moderate power descent to 2000 ' – do not exceed 180 MPH |
| | 100 MPH climb for two minutes – full power |
| | Record engine temperatures and pressures – and OAT |
| | Stabilize temperatures |
| | 90 MPH climb for two minutes – full power |
| | Record engine temperatures and pressures – and OAT |
| | Stabilize temperatures |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | |
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**FLIGHT TEST PROGRAM
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| | |
|---|--|
| Flight #: 6 – AIRSPEED IN-FLIGHT ACCURACY CHECK | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Determine accuracy of the airspeed indicator throughout a range of airspeeds | |
| Check | Action |
| | |
| | Determine altitudes at which you desire airspeed data. |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Climb out at 110 MPH |
| | Climb to 2000' MSL and level off |
| | <i>CRUISE</i> |
| | Limit prop RPM to 1700 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | Set Mixture |
| | |

NOTES

When you fly the three ground tracks for each power setting the IAS should be exactly the same. If not, make sure you're at the exact same altitude and just be patient --- sometimes it takes a few minutes for the airspeed to settle after a turn and a few burbbles.

**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|--|
| | 1700 RPM, constant altitude - 5500 MSL |
| | • Record OAT |
| | • Record MAP |
| | • Fly ground track 360 |
| | • Record IAS from airspeed indicator |
| | • Record ground speed from GPS |
| | • Fly ground track 180 |
| | • Record IAS from airspeed indicator |
| | • Record ground speed from GPS |
| | • Fly ground track 90 |
| | • Record IAS from airspeed indicator |
| | • Record ground speed from GPS |
| | • Record ground track from GPS |
| | |
| | |
| | |

NOTES

Altitude: 5500 MSL
Throttle: 1700 RPM

| | 360 | 180 | 90 |
|--------------|-----|-----|----|
| OAT | | | |
| MAP | | | |
| IAS | | | |
| Ground Speed | | | |

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | Set power 2000 RPM, constant altitude - 5500 MSL |
| | <ul style="list-style-type: none"> Reset Mixture |
| | <ul style="list-style-type: none"> Record MAP |
| | <ul style="list-style-type: none"> Fly ground track 360 |
| | <ul style="list-style-type: none"> Record IAS from airspeed indicator |
| | <ul style="list-style-type: none"> Record ground speed from GPS |
| | <ul style="list-style-type: none"> Fly ground track 180 |
| | <ul style="list-style-type: none"> Record IAS from airspeed indicator |
| | <ul style="list-style-type: none"> Record ground speed from GPS |
| | <ul style="list-style-type: none"> Fly ground track 90 |
| | <ul style="list-style-type: none"> Record IAS from airspeed indicator |
| | <ul style="list-style-type: none"> Record ground speed from GPS |
| | |
| | |
| | |
| | |
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NOTES

Altitude: 5500 MSL
Throttle: 2000 RPM

| | 360 | 180 | 90 |
|--------------|-----|-----|----|
| MAP | | | |
| IAS | | | |
| Ground Speed | | | |

**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|--|
| | Set power 2400 RPM, constant altitude - 5500 MSL |
| | <ul style="list-style-type: none"> Reset Mixture |
| | <ul style="list-style-type: none"> Record MAP |
| | <ul style="list-style-type: none"> Fly ground track 360 |
| | <ul style="list-style-type: none"> Record IAS from airspeed indicator |
| | <ul style="list-style-type: none"> Record ground speed from GPS |
| | <ul style="list-style-type: none"> Fly ground track 180 |
| | <ul style="list-style-type: none"> Record IAS from airspeed indicator |
| | <ul style="list-style-type: none"> Record ground speed from GPS |
| | <ul style="list-style-type: none"> Fly ground track 90 |
| | <ul style="list-style-type: none"> Record IAS from airspeed indicator |
| | <ul style="list-style-type: none"> Record ground speed from GPS |
| | |
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NOTES

Altitude: 5500 MSL
Throttle: 2400 RPM

| | 360 | 120 | 240 |
|--------------|-----|-----|-----|
| MAP | | | |
| IAS | | | |
| Ground Speed | | | |

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | Set power 2600 RPM, constant altitude - 5500 MSL |
| | <ul style="list-style-type: none"> Reset Mixture |
| | <ul style="list-style-type: none"> Record MAP |
| | <ul style="list-style-type: none"> Fly ground track 360 |
| | <ul style="list-style-type: none"> Record IAS from airspeed indicator |
| | <ul style="list-style-type: none"> Record ground speed from GPS |
| | <ul style="list-style-type: none"> Fly ground track 180 |
| | <ul style="list-style-type: none"> Record IAS from airspeed indicator |
| | <ul style="list-style-type: none"> Record ground speed from GPS |
| | <ul style="list-style-type: none"> Fly ground track 90 |
| | <ul style="list-style-type: none"> Record IAS from airspeed indicator |
| | <ul style="list-style-type: none"> Record ground speed from GPS |
| | |
| | |
| | |
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NOTES

Altitude: 5500 MSL
Throttle: 2600 RPM

| | 360 | 180 | 90 |
|--------------|-----|-----|----|
| MAP | | | |
| IAS | | | |
| Ground Speed | | | |

**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|--|
| | |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | Calculate True Airspeeds using the attached Excel Spreadsheet (True Airspeed Calculator) |
| | Update Aircraft Operations Manual |
| | |
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NOTES

By using the attached Excel Spreadsheet, your ground track does not have to be exactly on the cardinal heading. If it isn't, record the ground track you did have on the spreadsheet.

What you're testing is the accuracy of your airspeed indicator. Consider doing this test at close to stall speeds w/ & w/out flaps to get an idea of your TAS for stall speed.

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|---|
| Flight #: 7 – STALLS | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Determine actual stall speeds in landing and takeoff configuration | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Fill fuel tanks to full |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Climb out at 110 MPH |
| | Climb to 6000' MSL and level off |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2200 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|--|
| | <i>POWER OFF STALLS</i> |
| | No flaps |
| | Slowly decelerate while maintaining altitude |
| | Keep ball centered with rudder |
| | Note stall speed |
| | Recover altitude and speed |
| | |
| | Slow down to 100 MPH |
| | Apply half flaps |
| | Slowly decelerate while maintaining altitude |
| | Keep ball centered with rudder |
| | Note stall speed |
| | Retract flaps |
| | Recover altitude and speed |
| | |
| | |
| | |
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NOTES

| | SPEED IAS (MPH) |
|---------------------------|-----------------|
| POWER-OFF STALL, NO FLAP: | |
| POWER-OFF STALL, ½ FLAPS: | |

**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|--|
| | |
| | Slow down to 100 MPH |
| | Apply full flaps |
| | Slowly decelerate while maintaining altitude |
| | Keep ball centered with rudder |
| | Note stall speed |
| | Retract flaps |
| | Recover altitude and speed |
| | |
| | <i>POWER ON STALLS</i> |
| | Set power to 2200 RPM |
| | Slowly pull back elevator |
| | Keep ball centered with rudder |
| | Note stall speed |
| | Recover altitude and speed |
| | |
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NOTES

| | SPEED IAS (MPH) |
|------------------------------------|-----------------|
| POWER-OFF STALL, FULL FLAPS: | |
| POWER-ON STALL, 2200 RPM, NO FLAP: | |

**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|-------------------------------------|
| | |
| | Full power |
| | Slowly pull back elevator |
| | Keep ball centered with rudder |
| | Note stall speed |
| | Recover altitude and speed |
| | |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | Update POH with actual stall speeds |
| | |
| | |
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NOTES

| | SPEED IAS (MPH) |
|-----------------------------|-----------------|
| POWER-ON STALL, FULL POWER: | |

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**FLIGHT TEST PROGRAM
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| | |
|--|---|
| Flight #: 8 – CLIMB SPEEDS | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Establish best rate of climb speed (Vy) • Establish best angle of climb speed (Vx) • Establish best glide rates • Learn to visualize power-off glide descent rate | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Bring small stopwatch/timer |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Climb out at 110 MPH |
| | Climb to 1500' MSL and level off |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2200 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight, Full rich mixture |
| | Do 2 clearing turns |
| | |
| | |

NOTES

As mentioned before, use common sense. Don't cook your engine and don't shock cool your engine. These tests might be best done over several flights in conjunction with other tests.

| | |
|-------|--|
| Check | Action |
| | <i>CLIMB TEST#1</i> |
| | Establish 140 MPH climb - Trim hands off |
| | Begin 1 minute timer as we pass thru 2000 MSL |
| | At end of 1 minute, record altitude |
| | Ending Altitude= FPM= |
| | Trim Level, Cool Engine |
| | <i>GLIDE TEST #1</i> |
| | Descend at 140 MPH - Trim hands off |
| | Record descent rate from VSI |
| | Perform a 90 degree turn @ 15 deg. bank and record altitude lost |
| | Perform 180 degree turn @ 15 deg. bank and record altitude lost |
| | Perform 360 degree turn @ 15 deg. bank and record altitude lost |
| | <i>CLIMB TEST#2</i> |
| | Establish 130 MPH climb - Trim hands off |
| | Begin 1 minute timer as we pass thru 2000 MSL |
| | At end of 1 minute, record altitude |
| | Ending Altitude= FPM= |
| | Trim Level, Cool Engine |
| | Descend at 130 MPH, Trim hands off, Record Rate |
| | Perform & record altitude lost in 90, 180 & 360 turns |

NOTES

| IAS | Climbed to: | Climb Rate (FPM) | Descent Rate (FPM) | 90 Turn | 180 Turn | 360 Turn |
|-----|-------------|------------------|--------------------|---------|----------|----------|
| 140 | | | | | | |
| 130 | | | | | | |

**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|---|
| | <i>CLIMB TEST#3</i> |
| | Establish 120 MPH climb - Trim hands off |
| | Begin 1 minute timer as we pass thru 2000 MSL |
| | At end of 1 minute, record altitude |
| | Ending Altitude= FPM= |
| | Descend to 1500 MSL |
| | Trim Level, Cool Engine |
| | Descend at 120 MPH, Trim hands off, Record Rate |
| | Perform & record altitude lost in 90, 180 & 360 turns |
| | <i>CLIMB TEST#4</i> |
| | Establish 110 MPH climb - Trim hands off |
| | Begin 1 minute timer as we pass thru 2000 MSL |
| | At end of 1 minute, record altitude |
| | Ending Altitude= FPM= |
| | Descend to 1500 MSL |
| | Trim Level, Cool Engine |
| | Descend at 110 MPH, Trim hands off, Record Rate |
| | Perform & record altitude lost in 90, 180 & 360 turns |
| | |
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NOTES

| IAS | Climbed to: | FPM |
|-----|-------------|-----|
| 120 | | |
| 110 | | |

**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|--|
| | <i>CLIMB TEST#5</i> |
| | Establish 100 MPH climb - Trim hands off |
| | Begin 1 minute timer as we pass thru 2000 MSL |
| | At end of 1 minute, record altitude |
| | Ending Altitude= FPM= |
| | Descend to 1500 MSL |
| | Trim Level, Cool Engine |
| | Descend at 100 MPH, Trim hands off, Record Rate |
| | Perform & record altitude lost in 90, 180 & 360 turns |
| | <i>CLIMB TEST#6</i> |
| | Establish 90 MPH climb - Trim hands off |
| | Begin 1 minute timer as we pass thru 2000 MSL |
| | At end of 1 minute, record altitude |
| | Ending Altitude= FPM= |
| | Descend to 1500 MSL |
| | Trim Level, Cool Engine |
| | Descend at 90 MPH, Trim hands off, Record Rate |
| | Perform & record altitude lost in 90, 180 & 360 turns |
| | |
| | |

NOTES

| IAS | Climbed to: | FPM |
|-----|-------------|-----|
| 100 | | |
| 90 | | |

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| Check | Action |
|-------|---------------------------------------|
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Grin" |
| | |
| | <i>POST FLIGHT</i> |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | Use graph to compute V_y and V_x |
| | Use graph to compute best glide speed |
| | |
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NOTES

Although this climb test can be done at slower airspeeds, **BE CAREFUL!** At 80 mph and 70 mph, this aircraft is at a very nose high configuration and is on the back side of the power curve. Unless you have a great deal of prior experience with the RV-series of aircraft, 90 is probably as slow as you need to go for these tests.

**FLIGHT TEST PROGRAM
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| | |
|--|---|
| Flight #: 9 – STABILITY AND CONTROL CHECKS | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Determine longitudinal stability • Determine lateral-directional stability • Determine spiral stability | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | These tests cannot be accomplished until any necessary trim tabs have been installed so the aircraft can be flown hands off |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Climb out at 110 MPH |
| | Climb to 6000' MSL and level off |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | |
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**FLIGHT TEST PROGRAM
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| Check | Action |
|-------|--|
| | <i>LONGITUDINAL STABILITY TEST</i> |
| | Record airspeed at 2300 RPM (Airspeed ____ = A) |
| | Lightly pull on stick to reduce airspeed by 10% |
| | New airspeed: A-10%= ____ = B |
| | Does the acft. require continued pull force to maintain the new airspeed? |
| | If yes: Pull stick to reduce airspeed to A-20% = ____ = C |
| | Does acft. require still more pull force to maintain airspeed C? |
| | If yes: N9X has POSITIVE static stability |
| | If no to either B or C airspeed, N9X has NEUTRAL static stability |
| | If N9X requires a push force for B or C airspeeds, then N9X has NEGATIVE static stability |
| | ---- repeat test using a PUSH test instead of PULL test |
| | <i>TEST FOR POSITIVE DYNAMIC LONGITUDINAL STABILITY (SHORT PERIOD)</i> |
| | Trim for cruise @ 2300 RPM |
| | Push nose down 5 degrees, then up to level attitude |
| | As attitude reaches level, release stick |
| | If N9X briefly oscillates about the trim attitude before settling at trim attitude then N9X has POSITIVE DYNAMIC LONGITUDINAL STABILITY (SHORT PERIOD) |
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NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|---|
| | <i>TEST FOR POSITIVE DYNAMIC LONGITUDINAL STABILITY (LONG PERIOD)</i> |
| | Trim for cruise @ 2300 RPM, Record Airspeed ____ = A |
| | Pull stick for A - 5 MPH and release stick |
| | Expect N9X to oscillate about the trim speed before in dampens out |
| | If amplitude INCREASES with time = NEGATIVE DLS |
| | If amplitude CONTINUES to oscillate = NEUTRAL DLS |
| | If N9X returns to cruise trim & speed = POSITIVE DLS |
| | |
| | <i>TEST FOR LATERAL/DIRECTIONAL CONTROL STABILITY</i> |
| | Set low cruise speed (BELOW MANEUVERING SPEED) & trim |
| | Slowly enter a sideslip until either full rudder or full aileron deflection |
| | Release aileron while holding full rudder |
| | ---> low wing should raise to level |
| | |
| | <i>TEST FOR STATIC DIRECTIONAL STABILITY</i> |
| | Set low cruise speed (BELOW MANEUVERING SPEED) & trim |
| | Slowly yaw N9X with rudder while keeping acft level with aileron ----- release rudder |
| | N9X should return to no yaw condition |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>TEST SPIRAL STABILITY</i> |
| | (This will demonstrate the aircraft's tendency to raise the low wing when controls are released in a bank) |
| | Bank 15 to 20 degrees and release controls |
| | ---> If bank angle DECREASES = POSITIVE SS |
| | ---> If bank angle STAYS THE SAME = NEUTRAL SS |
| | ---> If bank angle INCREASES = NEGATIVE SS |
| | |
| | |
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|--|---|
| Flight #: 10 – ACCELERATED STALLS | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Further explore stall characteristics of the aircraft | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Consider wearing a parachute & practice egress |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Climb out at 110 MPH |
| | Climb to 10,000' MSL and level off |
| | <i>CRUISE</i> |
| | Limit Airspeed to MANEUVERING SPEED |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|---|
| | <i>ACCELERATED STALL TEST</i> |
| | Hold 15 degrees bank and slow the aircraft until stall |
| | ---> Airspeed at stall with 15 degrees bank = ____ |
| | ---> Airspeed at stall with 30 degrees bank = ____ |
| | ---> Airspeed at stall with 45 degrees bank = ____ |
| | ---> Airspeed at stall with 60 degrees bank = ____ (2g) |
| | |
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|--|
| Flight #: 11 – "G" LIMIT TESTING | |
| Pilot: | Date: Time: |
| Objectives: Ensure aircraft meets the "G" limit capabilities | |
| • | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Ensure Weight & Balance is within Aerobatic limits |
| | Consider wearing parachute and practice egress |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Climb out at 110 MPH |
| | Climb to 10,000' MSL and level off |
| | |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | Make 2 clearing turns |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|---|
| | Establish 30 degree bank & pull on stick to achieve 2 G |
| | Release pressure & fly straight & level |
| | |
| | Establish 30 degree bank & pull on stick to achieve 3 G |
| | Release pressure & fly straight & level |
| | |
| | Establish 30 degree bank & pull on stick to achieve 4 G |
| | Release pressure & fly straight & level |
| | |
| | Establish 30 degree bank & pull on stick to achieve 5 G |
| | Release pressure & fly straight & level |
| | |
| | Establish 30 degree bank & pull on stick to achieve 6 G |
| | Release pressure & fly straight & level |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

*Note: A 4 g turn is a bit painful. Anything over that is **quite** painful. There is a good chance you will black out if you are not used to pulling G's. Use your own judgment to determine if anything over 4.5 g's is really appropriate for you and/or your airplane.*

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|--|
| Flight #: 12a – EXPLORE WEIGHT & BALANCE LIMITS | |
| Pilot: | Date: Time: |
| Objectives: Determine affect of change to aft balance and progressively increasing weights to establish maximum weight | |
| <ul style="list-style-type: none"> • Pilot (me) plus 80 lb. passenger & max. fuel | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Carefully weigh and secure ballast |
| | Compute & record new weight & balance |
| | <i>DEPARTURE</i> |
| | Note: 10% flaps can help lift tail as aft weight is added. |
| | Climb out at 110 MPH |
| | Climb to 6000' MSL and level off |
| | Record climb performance: FPM = _____ |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | <i>SLOW FLIGHT & STALLS</i> |
| | 360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover |
| | Execute power-on stalls @ 2200 RPM |

NOTES

Salt bags work well as ballast. Make sure they are securely belted in.

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>STABILITY & CONTROL CHECKS</i> |
| | Longitudinal Stability: Record Airspeed @ 2200 RPM (A) |
| | Pull to reduce to A-10%=B, require continued pull for B? Yes=Positive LS |
| | Do push test |
| | Lateral/Directional Control Stability: Sideslip |
| | Release Aileron (keep rudder), Do wings level? |
| | Static Directional Stability: Yaw w/ level wings, release rudder. Return to no yaw? |
| | Spiral Stability: Bank 15 deg., release. Return to level? |
| | <i>ACCELERATED STALLS</i> |
| | 15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60 |
| | <i>DESCENT RATE</i> |
| | Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

These weight & balance tests were specifically designed for RV-4 N9X. Other aircraft will require uniquely different weight & balance configurations. The objective is to incrementally test the affect of increased weight and aft weight on the aircraft handling. DO NOT EXCEED GROSS WEIGHT. STAY WITHIN THE FORE/AFT CG LIMITS.

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | | |
|---|--|-------|
| Flight #: 12b – EXPLORE WEIGHT & BALANCE LIMITS | | |
| Pilot: | Date: | Time: |
| Objectives: Determine affect of change to aft balance and progressively increasing weights to establish maximum weight | | |
| <ul style="list-style-type: none"> Pilot (me) plus 160 lb. passenger & max. fuel | | |
| Check | Action | |
| | <i>PRE-FLIGHT</i> | |
| | Carefully weigh and secure balast | |
| | Compute & record new weight & balance | |
| | <i>DEPARTURE</i> | |
| | Climb out at 110 MPH | |
| | Climb to 6000' MSL and level off | |
| | Record climb performance: FPM = ____ | |
| | <i>CRUISE</i> | |
| | Limit prop RPM to 2300 | |
| | Check engine gauges especially CHT and Oil Temp | |
| | Trim hands off level flight | |
| | <i>SLOW FLIGHT & STALLS</i> | |
| | 360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover | |
| | Execute power-on stalls @ 2200 RPM | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>STABILITY & CONTROL CHECKS</i> |
| | Longitudinal Stability: Record Airspeed @ 2200 RPM (A) |
| | Pull to reduce to A-10%=B, require continued pull for B? Yes=Positive LS |
| | Do push test |
| | Lateral/Directional Control Stability: Sideslip |
| | Release Aileron (keep rudder), Do wings level? |
| | Static Directional Stability: Yaw w/ level wings, release rudder. Return to no yaw? |
| | Spiral Stability: Bank 15 deg., release. Return to level? |
| | <i>ACCELERATED STALLS</i> |
| | 15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60 |
| | <i>DESCENT RATE</i> |
| | Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|--|
| Flight #: 12c – EXPLORE WEIGHT & BALANCE LIMITS | |
| Pilot: | Date: Time: |
| Objectives: Determine affect of change to aft balance and progressively increasing weights to establish maximum weight | |
| <ul style="list-style-type: none"> Pilot (me) plus 200 lb. passenger & max. fuel | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Carefully weigh and secure balast |
| | Compute & record new weight & balance |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH |
| | Climb to 6000' MSL and level off |
| | Record climb performance: FPM = _____ |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | <i>SLOW FLIGHT & STALLS</i> |
| | 360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover |
| | Execute power-on stalls @ 2200 RPM |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>STABILITY & CONTROL CHECKS</i> |
| | Longitudinal Stability: Record Airspeed @ 2200 RPM (A) |
| | Pull to reduce to A-10%=B, require continued pull for B? Yes=Positive LS |
| | Do push test |
| | Lateral/Directional Control Stability: Sideslip |
| | Release Aileron (keep rudder), Do wings level? |
| | Static Directional Stability: Yaw w/ level wings, release rudder. Return to no yaw? |
| | Spiral Stability: Bank 15 deg., release. Return to level? |
| | <i>ACCELERATED STALLS</i> |
| | 15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60 |
| | <i>DESCENT RATE</i> |
| | Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns |
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|--|
| Flight #: 12d – EXPLORE WEIGHT & BALANCE LIMITS | |
| Pilot: | Date: Time: |
| Objectives: Determine affect of change to aft balance and progressively increasing weights to establish maximum weight | |
| <ul style="list-style-type: none"> Pilot (me) plus 200 lb. passenger, max. fuel & 20 lbs. cargo | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Carefully weigh and secure balast |
| | Compute & record new weight & balance |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH |
| | Climb to 6000' MSL and level off |
| | Record climb performance: FPM = _____ |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | <i>SLOW FLIGHT & STALLS</i> |
| | 360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover |
| | Execute power-on stalls @ 2200 RPM |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>STABILITY & CONTROL CHECKS</i> |
| | Longitudinal Stability: Record Airspeed @ 2200 RPM (A) |
| | Pull to reduce to A-10%=B, require continued pull for B? Yes=Positive LS |
| | Do push test |
| | Lateral/Directional Control Stability: Sideslip |
| | Release Aileron (keep rudder), Do wings level? |
| | Static Directional Stability: Yaw w/ level wings, release rudder. Return to no yaw? |
| | Spiral Stability: Bank 15 deg., release. Return to level? |
| | <i>ACCELERATED STALLS</i> |
| | 15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60 |
| | <i>DESCENT RATE</i> |
| | Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns |
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|--|
| Flight #: 12e – EXPLORE WEIGHT & BALANCE LIMITS | |
| Pilot: | Date: Time: |
| Objectives: Determine affect of change to aft balance and progressively increasing weights to establish maximum weight | |
| <ul style="list-style-type: none"> Pilot (me) plus 200 lb. passenger, max. fuel & 40 lbs. cargo | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Carefully weigh and secure balast |
| | Compute & record new weight & balance |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH |
| | Climb to 6000' MSL and level off |
| | Record climb performance: FPM = _____ |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | <i>SLOW FLIGHT & STALLS</i> |
| | 360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover |
| | Execute power-on stalls @ 2200 RPM |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>STABILITY & CONTROL CHECKS</i> |
| | Longitudinal Stability: Record Airspeed @ 2200 RPM (A) |
| | Pull to reduce to A-10%=B, require continued pull for B? Yes=Positive LS |
| | Do push test |
| | Lateral/Directional Control Stability: Sideslip |
| | Release Aileron (keep rudder), Do wings level? |
| | Static Directional Stability: Yaw w/ level wings, release rudder. Return to no yaw? |
| | Spiral Stability: Bank 15 deg., release. Return to level? |
| | <i>ACCELERATED STALLS</i> |
| | 15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60 |
| | <i>DESCENT RATE</i> |
| | Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns |
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|--|
| Flight #: 12f – EXPLORE WEIGHT & BALANCE LIMITS | |
| Pilot: | Date: Time: |
| Objectives: Determine affect of change to aft balance and progressively increasing weights to establish maximum weight | |
| <ul style="list-style-type: none"> Pilot (me) plus 160 lb. passenger, max. fuel & 80 lbs. cargo | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Carefully weigh and secure balast |
| | Compute & record new weight & balance |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH |
| | Climb to 6000' MSL and level off |
| | Record climb performance: FPM = _____ |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | <i>SLOW FLIGHT & STALLS</i> |
| | 360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover |
| | Execute power-on stalls @ 2200 RPM |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>STABILITY & CONTROL CHECKS</i> |
| | Longitudinal Stability: Record Airspeed @ 2200 RPM (A) |
| | Pull to reduce to A-10%=B, require continued pull for B? Yes=Positive LS |
| | Do push test |
| | Lateral/Directional Control Stability: Sideslip |
| | Release Aileron (keep rudder), Do wings level? |
| | Static Directional Stability: Yaw w/ level wings, release rudder. Return to no yaw? |
| | Spiral Stability: Bank 15 deg., release. Return to level? |
| | <i>ACCELERATED STALLS</i> |
| | 15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60 |
| | <i>DESCENT RATE</i> |
| | Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns |
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|--|
| Flight #: 12g – EXPLORE WEIGHT & BALANCE LIMITS | |
| Pilot: | Date: Time: |
| Objectives: Determine affect of change to aft balance and progressively increasing weights to establish maximum weight | |
| <ul style="list-style-type: none"> Pilot (me) plus 140 lb. passenger, max. fuel & 100 lbs. cargo | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Carefully weigh and secure balast |
| | Compute & record new weight & balance |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH |
| | Climb to 6000' MSL and level off |
| | Record climb performance: FPM = _____ |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | <i>SLOW FLIGHT & STALLS</i> |
| | 360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover |
| | Execute power-on stalls @ 2200 RPM |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|-------|--|
| Check | Action |
| | <i>STABILITY & CONTROL CHECKS</i> |
| | Longitudinal Stability: Record Airspeed @ 2200 RPM (A) |
| | Pull to reduce to A-10%=B, require continued pull for B? Yes=Positive LS |
| | Do push test |
| | Lateral/Directional Control Stability: Sideslip |
| | Release Aileron (keep rudder), Do wings level? |
| | Static Directional Stability: Yaw w/ level wings, release rudder. Return to no yaw? |
| | Spiral Stability: Bank 15 deg., release. Return to level? |
| | <i>ACCELERATED STALLS</i> |
| | 15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60 |
| | <i>DESCENT RATE</i> |
| | Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns |
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|--|
| Flight #: 12h – EXPLORE WEIGHT & BALANCE LIMITS | |
| Pilot: | Date: Time: |
| Objectives: Determine affect of change to aft balance and progressively increasing weights to establish maximum weight | |
| <ul style="list-style-type: none"> Pilot (me) plus 140 lb. passenger, max. cargo, low fuel, FULL AFT C.G. | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Carefully weigh and secure balast |
| | Compute & record new weight & balance |
| | ENSURE ENOUGH FUEL ONBOARD TO RETURN WITH AT LEAST 12 GALLONS!!! |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH |
| | Climb to 6000' MSL and level off |
| | Record climb performance: FPM = _____ |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2300 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | <i>SLOW FLIGHT & STALLS</i> |
| | 360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover |
| | Execute power-on stalls @ 2200 RPM |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>STABILITY & CONTROL CHECKS</i> |
| | Longitudinal Stability: Record Airspeed @ 2200 RPM (A) |
| | Pull to reduce to A-10%=B, require continued pull for B? Yes=Positive LS |
| | Do push test |
| | Lateral/Directional Control Stability: Sideslip |
| | Release Aileron (keep rudder), Do wings level? |
| | Static Directional Stability: Yaw w/ level wings, release rudder. Return to no yaw? |
| | Spiral Stability: Bank 15 deg., release. Return to level? |
| | <i>ACCELERATED STALLS</i> |
| | 15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60 |
| | <i>DESCENT RATE</i> |
| | Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns |
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|--|---|
| Flight #: 13a – FUEL CONSUMPTION | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Determine fuel burn during takeoff/climb/descent to/from 3500 feet • Determine fuel burn at various power settings at 3500 feet | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Create GPS racetrack w/ 10 mile legs |
| | Fill both tanks to full |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH USING RIGHT TANK |
| | Climb to 3500' MSL and level off |
| | <i>CRUISE</i> |
| | Trim for cruise 2300 RPM, Record IAS ____ |
| | Start Timer for 30 minutes, Fly racetrack |
| | Record MAP, OAT, and everything else |
| | |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>LANDING</i> |
| | At end of 30 minutes, switch tanks & descend to land |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | Measure fuel in each tank & fill |
| | Record fuel burned & compute consumption rate |
| | Left tank fuel added (burned) x 2 = GPH @ 2400 RPM (XX% power) @ 3500 feet. |
| | Right tank fuel added (burned) = fuel required to climb/descent to 3500 feet. |
| | |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | |
| | <ul style="list-style-type: none"> • Repeat at this altitude using 2500, 2600 and 2700 RPM |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|--|---|
| Flight #: 13b – FUEL CONSUMPTION | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Determine fuel burn during takeoff/climb/descent to/from 5500 feet • Determine fuel burn at various power settings at 5500 feet | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Create GPS racetrack w/ 10 mile legs |
| | Fill both tanks to full |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH USING RIGHT TANK |
| | Climb to 5500' MSL and level off |
| | |
| | <i>CRUISE</i> |
| | Trim for cruise 2300 RPM, Record IAS ____ |
| | Start Timer for 30 minutes, Fly racetrack |
| | Record MAP, OAT, and everything else |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>LANDING</i> |
| | At end of 30 minutes, switch tanks & descend to land |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | Measure fuel in each tank & fill |
| | Record fuel burned & compute consumption rate |
| | Left tank fuel added (burned) x 2 = GPH @ 2400 RPM (XX% power) @ 5500 feet. |
| | Right tank fuel added (burned) = fuel required to climb/descent to 5500 feet. |
| | |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | |
| | <ul style="list-style-type: none"> • Repeat at this altitude using 2500, 2600 and 2700 RPM |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|--|---|
| Flight #: 13c – FUEL CONSUMPTION | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Determine fuel burn during takeoff/climb/descent to/from 7500 feet • Determine fuel burn at various power settings at 7500 feet | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Create GPS racetrack w/ 10 mile legs |
| | Fill both tanks to full |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH USING RIGHT TANK |
| | Climb to 7500' MSL and level off |
| | |
| | <i>CRUISE</i> |
| | Trim for cruise 2300 RPM, Record IAS ____ |
| | Start Timer for 30 minutes, Fly racetrack |
| | Record MAP, OAT, and everything else |
| | |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>LANDING</i> |
| | At end of 30 minutes, switch tanks & descend to land |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | Measure fuel in each tank & fill |
| | Record fuel burned & compute consumption rate |
| | Left tank fuel added (burned) x 2 = GPH @ 2400 RPM (XX% power) @ 7500 feet. |
| | Right tank fuel added (burned) = fuel required to climb/descent to 7500 feet. |
| | |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | |
| | <ul style="list-style-type: none"> • Repeat at this altitude using 2500, 2600 and 2700 RPM |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|--|---|
| Flight #: 13d – FUEL CONSUMPTION | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Determine fuel burn during takeoff/climb/descent to/from 9500 feet • Determine fuel burn at various power settings at 9500 feet | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Create GPS racetrack w/ 10 mile legs |
| | Fill both tanks to full |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH USING RIGHT TANK |
| | Climb to 9500' MSL and level off |
| | <i>CRUISE</i> |
| | Trim for cruise 2300 RPM, Record IAS ____ |
| | Start Timer for 30 minutes, Fly racetrack |
| | Record MAP, OAT, and everything else |
| | |
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NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>LANDING</i> |
| | At end of 30 minutes, switch tanks & descend to land |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | Measure fuel in each tank & fill |
| | Record fuel burned & compute consumption rate |
| | Left tank fuel added (burned) x 2 = GPH @ 2400 RPM (XX% power) @ 9500 feet. |
| | Right tank fuel added (burned) = fuel required to climb/descent to 9500 feet. |
| | |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | |
| | <ul style="list-style-type: none"> • Repeat at this altitude using 2500, 2600 and 2700 RPM |
| | |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|--|---|
| Flight #: 13e – FUEL CONSUMPTION | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Determine fuel burn during takeoff/climb/descent to/from 11,500 feet • Determine fuel burn at various power settings at 11,500 feet | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Create GPS racetrack w/ 10 mile legs |
| | Fill both tanks to full |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH USING RIGHT TANK |
| | Climb to 11,500' MSL and level off |
| | <i>CRUISE</i> |
| | Trim for cruise 2300 RPM, Record IAS ____ |
| | Start Timer for 30 minutes, Fly racetrack |
| | Record MAP, OAT, and everything else |
| | |
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| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|--|
| | <i>LANDING</i> |
| | At end of 30 minutes, switch tanks & descend to land |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | Measure fuel in each tank & fill |
| | Record fuel burned & compute consumption rate |
| | Left tank fuel added (burned) x 2 = GPH @ 2400 RPM (XX% power) @ 11,500 feet. |
| | Right tank fuel added (burned) = fuel required to climb/descent to 11,500 feet. |
| | |
| | |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | |
| | <ul style="list-style-type: none"> • Repeat at this altitude using 2500, 2600 and 2700 RPM |
| | |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|--|---|
| Flight #: 13f – FUEL CONSUMPTION | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Determine fuel burn during takeoff/climb/descent to/from 13,500 feet • Determine fuel burn at various power settings at 13,500 feet | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Create GPS racetrack w/ 10 mile legs |
| | Fill both tanks to full |
| | USE OXYGEN |
| | <i>DEPARTURE</i> |
| | Climb out at 110 MPH USING RIGHT TANK |
| | Climb to 13,500' MSL and level off |
| | |
| | <i>CRUISE</i> |
| | Trim for cruise 2300 RPM, Record IAS ____ |
| | Start Timer for 30 minutes, Fly racetrack |
| | Record MAP, OAT, and everything else |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|---|
| | <i>LANDING</i> |
| | At end of 30 minutes, switch tanks & descend to land |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | Measure fuel in each tank & fill |
| | Record fuel burned & compute consumption rate |
| | Left tank fuel added (burned) x 2 = GPH @ 2400 RPM (XX% power) @ 13,500 feet. |
| | Right tank fuel added (burned) = fuel required to climb/descent to 13,500 feet. |
| | |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | |
| | <ul style="list-style-type: none"> • Repeat at this altitude using 2500, 2600 and 2700 RPM |
| | |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|--|---|
| Flight #: 14 – MAGNETIC COMPASS CALIBRATION | |
| Pilot: | Date: Time: |
| Objectives: | |
| • Adjust compass & calibrate compass card | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Loosen compass adjustment cover |
| | Make or buy a brass screwdriver |
| | Pick a very calm morning |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Climb out at 110 MPH |
| | Climb to 2000' MSL and level off |
| | <i>CRUISE</i> |
| | Limit prop RPM to 2400 |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|-------|------------------------------------|
| Check | Action |
| | <i>CRUISE</i> |
| | Fly North along a N/S Road |
| | Check GPS compass heading |
| | Adjust compass to read 360 degrees |
| | Fly South, adjust compass |
| | Fly East, adjust compass |
| | Fly West, adjust compass |
| | Fly NW, record error _____ |
| | Fly NE, record error _____ |
| | Fly SE, record error _____ |
| | Fly SW, record error _____ |
| | Fly North, record error _____ |
| | Fly South, record error _____ |
| | Fly East, record error _____ |
| | Fly West, record error _____ |
| | |
| | |
| | <i>LANDING</i> |
| | Use checklists |
| | Fly pattern at 85 MPH |
| | Taxi back and "Smile" |
| | |
| | <i>POST FLIGHT</i> |
| | Record errors on compass card |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|---|---|
| Flight #: 15 – AEROBATIC TESTING | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Ensure aircraft performs all aerobatic maneuvers as predicted. | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | Consider wearing parachute |
| | Practice Egress |
| | |
| | <i>DEPARTURE</i> |
| | Do not use flaps |
| | Climb out at 110 MPH |
| | Climb to 8000' MSL and level off |
| | |
| | <i>CRUISE</i> |
| | Limit prop RPM to |
| | Check engine gauges especially CHT and Oil Temp |
| | Trim hands off level flight |
| | Perform two clearing turns |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|---------------------------------|
| | <i>AEROBATICS</i> |
| | |
| | Aileron Roll |
| | |
| | Loop |
| | |
| | Hammerhead |
| | |
| | Spin |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | <i>POST FLIGHT</i> |
| | |
| | Prepare corrective action list |
| | Record fuel and oil consumption |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| | |
|--|---|
| Flight #: 16 – NIGHT OPERATION | |
| Pilot: | Date: Time: |
| Objectives: | |
| <ul style="list-style-type: none"> • Ensure lighting, etc. is safe for night flights | |
| Check | Action |
| | <i>PRE-FLIGHT</i> |
| | All test flight hours must have been accomplished before night operations can be executed with N9X |
| | Sit in aircraft in the dark |
| | Ensure flashlight is handy & has fresh batteries |
| | Set interior light brightness |
| | <ul style="list-style-type: none"> • Are all instruments illuminated? |
| | <ul style="list-style-type: none"> • Turn on all electricity. Does it exceed 80% (28 amps) of alternator capacity? |
| | <ul style="list-style-type: none"> • Taxi aircraft at least 1/2 hour at night before flying at night (watch CHT & Oil Temps) |
| | |
| | <i>FLIGHT #1</i> |
| | Start test at dusk w/ a little light remaining |
| | Perform at least 3 takeoffs & landings |
| | <i>END TEST #1</i> |
| | <i>Post flight Questions:</i> |
| | <ul style="list-style-type: none"> • Are taxi & landing lights effective? |
| | <ul style="list-style-type: none"> • Is the strobe reflecting off anything? |
| | <ul style="list-style-type: none"> • Are interior lights effective? |
| | <ul style="list-style-type: none"> • Do lights reflect off canopy? |
| | <ul style="list-style-type: none"> • Do any lights cause radio interference? |
| | |
| | |

NOTES

**FLIGHT TEST PROGRAM
YOUR AIRPLANE HERE**

| Check | Action |
|-------|-----------------------------------|
| | |
| | <i>FLIGHT TEST #2</i> |
| | Fly to Greenwood Airport & Return |
| | |
| | |
| | <i>POST FLIGHT</i> |
| | Prepare corrective action list |
| | Record fuel and oil consumption |
| | |
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NOTES