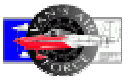


FLIGHT TEST PROGRAM
N686MS

Flight #: 1 – FIRST TEST FLIGHT		
Pilot:	Date:	Time:
Objectives: • **Validate Engine Reliability** • **Explore Flight Control Characteristics** • **Practice Slow Flight** • **Explore Fuel System Reliability** • **Check Communication System**		

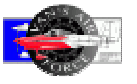
Check	Action
	DEPARTURE
	Do not use flaps
	Do not change throttle settings, mixture, or fuel tanks
	Remain above the airport
	Climb out at 110 MPH
	Climb to 4000' MSL and level off
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	Yaw rudder left and right 5 degrees
	360 degree clearing turns (10 degrees bank)
	360 degree clearing turns (20 degrees bank)

NOTES

FLIGHT TEST PROGRAM
N686MS

Check	Action
	SLOW FLIGHT
	Climb to 6000 feet
	Slowly decrease speed to 80 MPH – maintain altitude
	Check engine gauges especially CHT and Oil Temp
	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
	Tank Selection
	Check engine instruments
	Speed back up to cruise speed (2300 RPM)
	Airport in sight
	Switch Tanks (fuel pump on)
	Check engine gauges especially CHT and Oil Temp

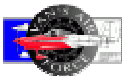
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	Communications Check
	Switch to 119.3 Atl. Center
	Request transponder verification
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	USE A MAXIMUM OF 20 DEGREES FLAPS
	Check engine gauges especially CHT and Oil Temp
	Taxi back and "Grin"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption
	Pull cowlings and inspect engine carefully
	Inspect airframe carefully

NOTES



FLIGHT TEST PROGRAM
N686MS

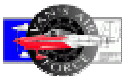
Flight #: 2 – CONFIRM FIRST FLIGHT RESULTS		
Pilot:	Date:	Time:

Objectives:

- **Validate Engine Reliability**
- **Explore Flight Control Characteristics**
- **Practice Slow Flight**
- **Explore Fuel System Reliability**
- **Check Communication System**

Check	Action
	DEPARTURE
	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
	CRUISE
	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)

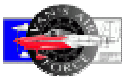
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	SLOW FLIGHT
	Climb to 6000 feet
	Slowly decrease speed to 80 MPH – maintain altitude
	Check engine gauges especially CHT and Oil Temp
	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
	Tank Selection
	Check engine instruments
	Speed back up to cruise speed (2300 RPM)
	Switch Tanks (fuel pump on)
	Check engine gauges especially CHT and Oil Temp

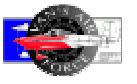
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	Communications Check
	Switch to 119.3 Atl. Center
	Request transponder verification
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	USE A MAXIMUM OF 20 DEGREES FLAPS
	Check engine gauges especially CHT and Oil Temp
	Taxi back and "Grin"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption
	Pull cowlings and inspect engine carefully
	Inspect airframe carefully

NOTES

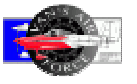


FLIGHT TEST PROGRAM
N686MS

Flight #: 3 – VALIDATE ENGINE RELIABILITY		
Pilot:	Date:	Time:
Objectives: • **Validate that actions affecting engine operation function properly**		

Check	Action
	DEPARTURE
	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
	CRUISE
	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)

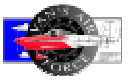
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	Open/close oil cooler door and note changes
	Record engine pressures and temperatures
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption
	Pull cowlings and inspect engine carefully
	Inspect airframe carefully

NOTES

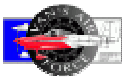


FLIGHT TEST PROGRAM
N686MS

Flight #: 4 – SLOW FLIGHT TEST		
Pilot:	Date:	Time:
Objectives: • **Become familiar with slow flight handling characteristics**		

Check	Action
	DEPARTURE
	Do not use flaps
	Climb out at 110 MPH
	Climb to 6000' MSL and level off
	CRUISE
	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

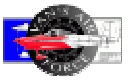
NOTES



FLIGHT TEST PROGRAM
N686MS

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
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES



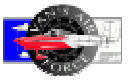
FLIGHT TEST PROGRAM
N686MS

Flight #: 5 – CLIMBS AND DESCENTS		
Pilot:	Date:	Time:
Objectives: • **Monitor engine performance during climbs and descents**		

Check	Action
	DEPARTURE
	Do not use flaps
	Climb out at 110 MPH
	Climb to 2000' MSL and level off
	CRUISE
	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

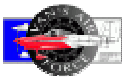
To obtain this test flight data you must use common sense. Don't cook your engine! Don't shock cool your engine! Elements of this testing might be done in conjunction with other test flights during several different flights to avoid overheating or shock cooling your engine.



FLIGHT TEST PROGRAM
N686MS

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
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES



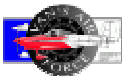
FLIGHT TEST PROGRAM
N686MS

Flight #: 6 – AIRSPEED IN-FLIGHT ACCURACY CHECK		
Pilot:	Date:	Time:
Objectives: • **Determine accuracy of the airspeed indicator throughout a range of airspeeds**		

Check	Action
	Determine altitudes at which you desire airspeed data.
	DEPARTURE
	Do not use flaps
	Climb out at 110 MPH
	Climb to 2000' MSL and level off
	CRUISE
	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.



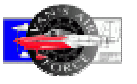
FLIGHT TEST PROGRAM
N686MS

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			



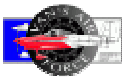
FLIGHT TEST PROGRAM
N686MS

Check	Action
	Set power 2000 RPM, constant altitude - 5500 MSL
	• Reset Mixture
	• 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

NOTES

Altitude: 5500 MSL
Throttle: 2000 RPM

	360	180	90
MAP			
IAS			
Ground Speed			



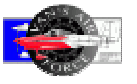
FLIGHT TEST PROGRAM
N686MS

Check	Action
	Set power 2400 RPM, constant altitude - 5500 MSL
	• Reset Mixture
	• 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

NOTES

Altitude: 5500 MSL
Throttle: 2400 RPM

	360	120	240
Manifold Pressure			
IAS			
Ground Speed			



FLIGHT TEST PROGRAM
N686MS

Check	Action
	Set power 2600 RPM, constant altitude - 5500 MSL
	• Reset Mixture
	• 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

NOTES

Altitude: 5500 MSL
Throttle: 2600 RPM

	360	120	240
Manifold Pressure			
IAS			
Ground Speed			

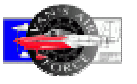
FLIGHT TEST PROGRAM
N686MS

Check	Action
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption
	Calculate True Airspeeds using the attached Excel Spreadsheet (True Airspeed Calculator)
	Update Aircraft Operations Manual

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.

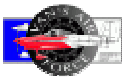


FLIGHT TEST PROGRAM
N686MS

Flight #: 7 – STALLS		
Pilot:	Date:	Time:
Objectives: • **Determine actual stall speeds in landing and takeoff configuration**		

Check	Action
	PRE-FLIGHT
	Fill fuel tanks to full
	DEPARTURE
	Do not use flaps
	Climb out at 110 MPH
	Climb to 6000' MSL and level off
	CRUISE
	Limit prop RPM to 2200
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight

NOTES

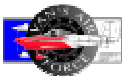


FLIGHT TEST PROGRAM
N686MS

Check	Action
	POWER OFF STALLS
	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

NOTES

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



FLIGHT TEST PROGRAM
N686MS

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
	POWER ON STALLS
	Set power to 2200 RPM
	Slowly pull back elevator
	Keep ball centered with rudder
	Note stall speed
	Recover altitude and speed

NOTES

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

FLIGHT TEST PROGRAM
N686MS

Check	Action
	Full power
	Slowly pull back elevator
	Keep ball centered with rudder
	Note stall speed
	Recover altitude and speed
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption
	Update POH with actual stall speeds

NOTES

SPEED IAS (MPH)

POWER-ON STALL, FULL POWER:

FLIGHT TEST PROGRAM
N686MS

Flight #: 8 – CLIMB SPEEDS		
Pilot:	Date:	Time:
Objectives: • **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
	PRE-FLIGHT
	Bring small stopwatch/timer
	DEPARTURE
	Do not use flaps
	Climb out at 110 MPH
	Climb to 1500' MSL and level off
	CRUISE
	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

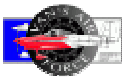
As mentioned before, use common sense. Don't cook your engine and don't shock cool your engine. These tests might be best done over several flights in conjunction with other tests.

FLIGHT TEST PROGRAM
N686MS

Check	Action
	CLIMB TEST#1
	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
	GLIDE TEST #1
	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
	CLIMB TEST#2
	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						

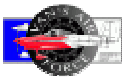


FLIGHT TEST PROGRAM
N686MS

Check	Action
	CLIMB TEST#3
	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
	CLIMB TEST#4
	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

NOTES

IAS	Climbed to:	FPM
120		
110		

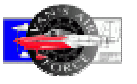


FLIGHT TEST PROGRAM
N686MS

Check	Action
	CLIMB TEST#5
	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
	CLIMB TEST#6
	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		



FLIGHT TEST PROGRAM
N686MS

Check	Action
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Grin"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption
	Use graph to compute Vy and Vx
	Use graph to compute best glide speed

NOTES

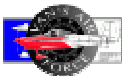
Although this climb test can be done at slower airspeeds, BE CAREFUL! At 80 mph and 70 mph, this aircraft is at a very nose high configuration and is on the back side of the power curve. Unless you have a great deal of prior experience with the RV-series of aircraft, 90 is probably as slow as you need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

FLIGHT TEST PROGRAM
N686MS

Flight #: 9 – STABILITY AND CONTROL CHECKS		
Pilot:	Date:	Time:
Objectives: • **Determine longitudinal stability** • **Determine lateral-directional stability** • **Determine spiral stability**		

Check	Action
	PRE-FLIGHT
	These tests cannot be accomplished until any necessary trim tabs have been installed so the aircraft can be flown hands off
	DEPARTURE
	Do not use flaps
	Climb out at 110 MPH
	Climb to 6000' MSL and level off
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight

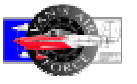
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	LONGITUDINAL STABILITY TEST
	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: N686MS has POSITIVE static stability
	If no to either B or C airspeed, N686MS has NEUTRAL static stability
	If N686MS requires a push force for B or C airspeeds, then N686MS has NEGATIVE static stability
	---- repeat test using a PUSH test instead of PULL test
	TEST FOR POSITIVE DYNAMIC LONGITUDINAL STABILITY (SHORT PERIOD)
	Trim for cruise @ 2300 RPM
	Push nose down 5 degrees, then up to level attitude
	As attitude reaches level, release stick
	If N686MS briefly oscillates about the trim attitude before settling at trim attitude then N686MS has POSITIVE DYNAMIC LONGITUDINAL STABILITY (SHORT PERIOD)

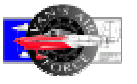
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	TEST FOR POSITIVE DYNAMIC LONGITUDINAL STABILITY (LONG PERIOD)
	Trim for cruise @ 2300 RPM, Record Airspeed ___ = A
	Pull stick for A - 5 MPH and release stick
	Expect N686MS 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 N686MS returns to cruise trim & speed = POSITIVE DLS
	TEST FOR LATERAL/DIRECTIONAL CONTROL STABILITY
	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
	TEST FOR STATIC DIRECTIONAL STABILITY
	Set low cruise speed (BELOW MANEUVERING SPEED) & trim
	Slowly yaw N686MS with rudder while keeping acft level with aileron ----- release rudder
	N686MS should return to no yaw condition

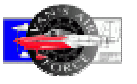
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	TEST SPIRAL STABILITY
	(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
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES

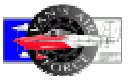


FLIGHT TEST PROGRAM
N686MS

Flight #: 10 – ACCELERATED STALLS		
Pilot:	Date:	Time:
Objectives: • **Further explore stall characteristics of the aircraft**		

Check	Action
	PRE-FLIGHT
	Consider wearing a parachute & practice egress
	DEPARTURE
	Do not use flaps
	Climb out at 110 MPH
	Climb to 10,000' MSL and level off
	CRUISE
	Limit Airspeed to MANEUVERING SPEED
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight

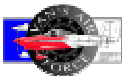
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	ACCELERATED STALL TEST
	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)
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES



FLIGHT TEST PROGRAM
N686MS

Flight #: 11 – "G" LIMIT TESTING		
Pilot:	Date:	Time:
Objectives: Ensure aircraft meets the "G" limit capabilities •		

Check	Action
	PRE-FLIGHT
	Ensure Weight & Balance is within Aerobatic limits
	Consider wearing parachute and practice egress
	DEPARTURE
	Do not use flaps
	Climb out at 110 MPH
	Climb to 10,000' MSL and level off
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	Make 2 clearing turns

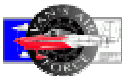
NOTES

FLIGHT TEST PROGRAM
N686MS

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
	POST FLIGHT
	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.*



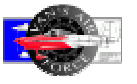
FLIGHT TEST PROGRAM
N686MS

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 • **Pilot (me) plus 80 lb. passenger & max. fuel**		

Check	Action
	PRE-FLIGHT
	Carefully weigh and secure ballast
	Compute & record new weight & balance
	DEPARTURE
	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 = ____
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	SLOW FLIGHT & STALLS
	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.

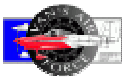


FLIGHT TEST PROGRAM
N686MS

Check	Action
	STABILITY & CONTROL CHECKS
	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?
	ACCELERATED STALLS
	15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60
	DESCENT RATE
	Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES

These weight & balance tests were specifically designed for RV-4 N686MS. 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 WITHING THE FORE/AFT CG LIMITS.

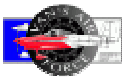


FLIGHT TEST PROGRAM
N686MS

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 • **Pilot (me) plus 160 lb. passenger & max. fuel**		

Check	Action
	PRE-FLIGHT
	Carefully weigh and secure balast
	Compute & record new weight & balance
	DEPARTURE
	Climb out at 110 MPH
	Climb to 6000' MSL and level off
	Record climb performance: FPM = ____
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	SLOW FLIGHT & STALLS
	360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover
	Execute power-on stalls @ 2200 RPM

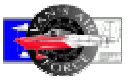
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	STABILITY & CONTROL CHECKS
	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?
	ACCELERATED STALLS
	15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60
	DESCENT RATE
	Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES

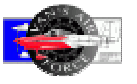


FLIGHT TEST PROGRAM
N686MS

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 • **Pilot (me) plus 200 lb. passenger & max. fuel**		

Check	Action
	PRE-FLIGHT
	Carefully weigh and secure balast
	Compute & record new weight & balance
	DEPARTURE
	Climb out at 110 MPH
	Climb to 6000' MSL and level off
	Record climb performance: FPM = ____
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	SLOW FLIGHT & STALLS
	360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover
	Execute power-on stalls @ 2200 RPM

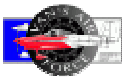
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	STABILITY & CONTROL CHECKS
	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?
	ACCELERATED STALLS
	15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60
	DESCENT RATE
	Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES

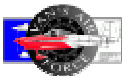


FLIGHT TEST PROGRAM
N686MS

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 • **Pilot (me) plus 200 lb. passenger, max. fuel & 20 lbs. cargo**		

Check	Action
	PRE-FLIGHT
	Carefully weigh and secure balast
	Compute & record new weight & balance
	DEPARTURE
	Climb out at 110 MPH
	Climb to 6000' MSL and level off
	Record climb performance: FPM = ____
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	SLOW FLIGHT & STALLS
	360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover
	Execute power-on stalls @ 2200 RPM

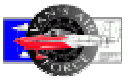
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	STABILITY & CONTROL CHECKS
	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?
	ACCELERATED STALLS
	15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60
	DESCENT RATE
	Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES

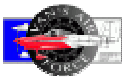


FLIGHT TEST PROGRAM
N686MS

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 • **Pilot (me) plus 200 lb. passenger, max. fuel & 40 lbs. cargo**		

Check	Action
	PRE-FLIGHT
	Carefully weigh and secure balast
	Compute & record new weight & balance
	DEPARTURE
	Climb out at 110 MPH
	Climb to 6000' MSL and level off
	Record climb performance: FPM = ____
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	SLOW FLIGHT & STALLS
	360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover
	Execute power-on stalls @ 2200 RPM

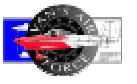
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	STABILITY & CONTROL CHECKS
	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?
	ACCELERATED STALLS
	15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60
	DESCENT RATE
	Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES

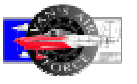


FLIGHT TEST PROGRAM
N686MS

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 • **Pilot (me) plus 160 lb. passenger, max. fuel & 80 lbs. cargo**		

Check	Action
	PRE-FLIGHT
	Carefully weigh and secure balast
	Compute & record new weight & balance
	DEPARTURE
	Climb out at 110 MPH
	Climb to 6000' MSL and level off
	Record climb performance: FPM = ____
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	SLOW FLIGHT & STALLS
	360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover
	Execute power-on stalls @ 2200 RPM

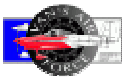
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	STABILITY & CONTROL CHECKS
	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?
	ACCELERATED STALLS
	15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60
	DESCENT RATE
	Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES

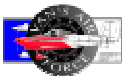


FLIGHT TEST PROGRAM
N686MS

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 • **Pilot (me) plus 140 lb. passenger, max. fuel & 100 lbs. cargo**		

Check	Action
	PRE-FLIGHT
	Carefully weigh and secure balast
	Compute & record new weight & balance
	DEPARTURE
	Climb out at 110 MPH
	Climb to 6000' MSL and level off
	Record climb performance: FPM = ____
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	SLOW FLIGHT & STALLS
	360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover
	Execute power-on stalls @ 2200 RPM

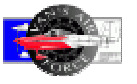
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	STABILITY & CONTROL CHECKS
	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?
	ACCELERATED STALLS
	15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60
	DESCENT RATE
	Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES

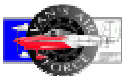


FLIGHT TEST PROGRAM
N686MS

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 • **Pilot (me) plus 140 lb. passenger, max. cargo, low fuel, FULL AFT C.G.**		

Check	Action
	PRE-FLIGHT
	Carefully weigh and secure balast
	Compute & record new weight & balance ENSURE ENOUGH FUEL ONBOARD TO RETURN WITH AT LEAST 12 GALLONS!!!
	DEPARTURE
	Climb out at 110 MPH
	Climb to 6000' MSL and level off
	Record climb performance: FPM = ____
	CRUISE
	Limit prop RPM to 2300
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	SLOW FLIGHT & STALLS
	360 turns, slow flight & power off stall w/ no flaps, 1/2 flaps, full flaps, recover
	Execute power-on stalls @ 2200 RPM

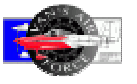
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	STABILITY & CONTROL CHECKS
	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?
	ACCELERATED STALLS
	15 Degree bank, slow until stalls: Repeat w/ 30, 45, 60
	DESCENT RATE
	Descend @ 90 MPH, record rate. Record loss of elevation w/ 90, 180, 360 degree turns
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES

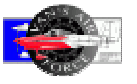


FLIGHT TEST PROGRAM
N686MS

Flight #: 13a – FUEL CONSUMPTION		
Pilot:	Date:	Time:
Objectives: • **Determine fuel burn during takeoff/climb/descent to/from 3500 feet** • **Determine fuel burn at various power settings at 3500 feet**		

Check	Action
	PRE-FLIGHT
	Create GPS racetrack w/ 10 mile legs
	Fill both tanks to full
	DEPARTURE
	Climb out at 110 MPH USING RIGHT TANK
	Climb to 3500' MSL and level off
	CRUISE
	Trim for cruise 2300 RPM, Record IAS ___
	Start Timer for 30 minutes, Fly racetrack
	Record MAP, OAT, and everything else

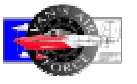
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	LANDING
	At end of 30 minutes, switch tanks & descend to land
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	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/descend to 3500 feet.
	Prepare corrective action list
	Record fuel and oil consumption
	• **Repeat at this altitude using 2500, 2600 and 2700 RPM**

NOTES

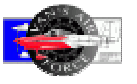


FLIGHT TEST PROGRAM
N686MS

Flight #: 13b – FUEL CONSUMPTION		
Pilot:	Date:	Time:
Objectives: • **Determine fuel burn during takeoff/climb/descent to/from 5500 feet** • **Determine fuel burn at various power settings at 3500 feet**		

Check	Action
	PRE-FLIGHT
	Create GPS racetrack w/ 10 mile legs
	Fill both tanks to full
	DEPARTURE
	Climb out at 110 MPH USING RIGHT TANK
	Climb to 5500' MSL and level off
	CRUISE
	Trim for cruise 2300 RPM, Record IAS ___
	Start Timer for 30 minutes, Fly racetrack
	Record MAP, OAT, and everything else

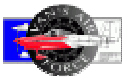
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	LANDING
	At end of 30 minutes, switch tanks & descend to land
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	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/descend to 5500 feet.
	Prepare corrective action list
	Record fuel and oil consumption
	• **Repeat at this altitude using 2500, 2600 and 2700 RPM**

NOTES

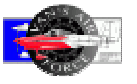


FLIGHT TEST PROGRAM
N686MS

Flight #: 13c – FUEL CONSUMPTION		
Pilot:	Date:	Time:
Objectives: • **Determine fuel burn during takeoff/climb/descent to/from 7500 feet** • **Determine fuel burn at various power settings at 7500 feet**		

Check	Action
	PRE-FLIGHT
	Create GPS racetrack w/ 10 mile legs
	Fill both tanks to full
	DEPARTURE
	Climb out at 110 MPH USING RIGHT TANK
	Climb to 7500' MSL and level off
	CRUISE
	Trim for cruise 2300 RPM, Record IAS ___
	Start Timer for 30 minutes, Fly racetrack
	Record MAP, OAT, and everything else

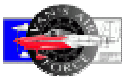
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	LANDING
	At end of 30 minutes, switch tanks & descend to land
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	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/descend to 7500 feet.
	Prepare corrective action list
	Record fuel and oil consumption
	• **Repeat at this altitude using 2500, 2600 and 2700 RPM**

NOTES

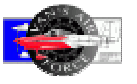


FLIGHT TEST PROGRAM
N686MS

Flight #: 13d – FUEL CONSUMPTION		
Pilot:	Date:	Time:
Objectives: • **Determine fuel burn during takeoff/climb/descent to/from 9500 feet** • **Determine fuel burn at various power settings at 3500 feet**		

Check	Action
	PRE-FLIGHT
	Create GPS racetrack w/ 10 mile legs
	Fill both tanks to full
	DEPARTURE
	Climb out at 110 MPH USING RIGHT TANK
	Climb to 9500' MSL and level off
	CRUISE
	Trim for cruise 2300 RPM, Record IAS ___
	Start Timer for 30 minutes, Fly racetrack
	Record MAP, OAT, and everything else

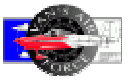
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	LANDING
	At end of 30 minutes, switch tanks & descend to land
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	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/descend to 9500 feet.
	Prepare corrective action list
	Record fuel and oil consumption
	• **Repeat at this altitude using 2500, 2600 and 2700 RPM**

NOTES

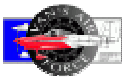


FLIGHT TEST PROGRAM
N686MS

Flight #: 13a – FUEL CONSUMPTION		
Pilot:	Date:	Time:
Objectives: • **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
	PRE-FLIGHT
	Create GPS racetrack w/ 10 mile legs
	Fill both tanks to full
	DEPARTURE
	Climb out at 110 MPH USING RIGHT TANK
	Climb to 11,500' MSL and level off
	CRUISE
	Trim for cruise 2300 RPM, Record IAS ___
	Start Timer for 30 minutes, Fly racetrack
	Record MAP, OAT, and everything else

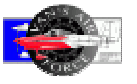
NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	LANDING
	At end of 30 minutes, switch tanks & descend to land
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	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/descend to 11,500 feet.
	Prepare corrective action list
	Record fuel and oil consumption
	• **Repeat at this altitude using 2500, 2600 and 2700 RPM**

NOTES

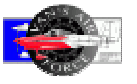


FLIGHT TEST PROGRAM
N686MS

Flight #: 13a – FUEL CONSUMPTION		
Pilot:	Date:	Time:
Objectives: • **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
	PRE-FLIGHT
	Create GPS racetrack w/ 10 mile legs
	Fill both tanks to full
	USE OXYGEN
	DEPARTURE
	Climb out at 110 MPH USING RIGHT TANK
	Climb to 13,500' MSL and level off
	CRUISE
	Trim for cruise 2300 RPM, Record IAS ___
	Start Timer for 30 minutes, Fly racetrack
	Record MAP, OAT, and everything else

NOTES



FLIGHT TEST PROGRAM
N686MS

Check	Action
	LANDING
	At end of 30 minutes, switch tanks & descend to land
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	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/descend to 13,500 feet.
	Prepare corrective action list
	Record fuel and oil consumption
	• **Repeat at this altitude using 2500, 2600 and 2700 RPM**

NOTES

FLIGHT TEST PROGRAM
N686MS

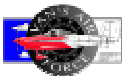
Flight #: 14 – MAGNETIC COMPASS CALIBRATION		
Pilot:	Date:	Time:
Objectives: • **Adjust compass & calibrate compass card**		
Check	Action	
	PRE-FLIGHT	
	Loosen compass adjustment cover	
	Make or buy a brass screwdriver	
	Pick a very calm morning	
	DEPARTURE	
	Do not use flaps	
	Climb out at 110 MPH	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

NOTES

FLIGHT TEST PROGRAM
N686MS

Check	Action
	CRUISE
	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 _____
	LANDING
	Use checklists
	Fly pattern at 85 MPH
	Taxi back and "Smile"
	POST FLIGHT
	Record errors on compass card
	Prepare corrective action list
	Record fuel and oil consumption

NOTES



FLIGHT TEST PROGRAM
N686MS

Flight #: 15 – AEROBATIC TESTING		
Pilot:	Date:	Time:
Objectives: • **Ensure aircraft performs all aerobatic maneuvers as predicted.**		

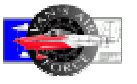
Check	Action
	PRE-FLIGHT
	Consider wearing parachute
	Practice Egress
	DEPARTURE
	Do not use flaps
	Climb out at 110 MPH
	Climb to 8000' MSL and level off
	CRUISE
	Limit prop RPM to
	Check engine gauges especially CHT and Oil Temp
	Trim hands off level flight
	Perform two clearing turns

NOTES

FLIGHT TEST PROGRAM
N686MS

Check	Action
	AEROBATICS
	Aileron Roll
	Loop
	Hammerhead
	Spin
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES



FLIGHT TEST PROGRAM
N686MS

Flight #: 16 – NIGHT OPERATION		
Pilot:	Date:	Time:
Objectives: • **Ensure lighting, etc. is safe for night flights**		

Check	Action
	PRE-FLIGHT
	All test flight hours must have been accomplished before night operations can be executed with N686MS
	Sit in aircraft in the dark
	Ensure flashlight is handy & has fresh batteries
	Set interior light brightness
	• Are all instruments illuminated?
	• Turn on all electricity. Does it exceed 80% (28 amps) of alternator capacity?
	• Taxi aircraft at least 1/2 hour at night before flying at night (watch CHT & Oil Temps)
	FLIGHT #1
	Start test at dusk w/ a little light remaining
	Perform at least 3 takeoffs & landings
	END TEST #1
	Post flight Questions:
	• Are taxi & landing lights effective?
	• Is the strobe reflecting off anything?
	• Are interior lights effective?
	• Do lights reflect off canopy?
	• Do any lights cause radio interference?

FLIGHT TEST PROGRAM
N686MS

	FLIGHT TEST #2
	Fly to Greenwood Airport & Return
	POST FLIGHT
	Prepare corrective action list
	Record fuel and oil consumption

NOTES