

**PRE-FLIGHT CHECK LIST**

Check Hobbs  
 All switches OFF  
 Check fuel gages  
 Main sump  
 Extend flaps

**Right Wing**

Inspect flap and aileron  
 Inspect wing tip  
 Visual inspect both fuel tanks and sump  
 Inspect pitot  
 Inspect leading edge  
 Inspect landing gear assembly  
 Inspect fresh air intake

**Nose Inspection**

Cowling secure  
 Spinner secure  
 Alternator belt secure  
 Inspect nose wheel assembly  
 Check oil quantity – 8 qt minimum

**Left Wing**

Inspect fresh air intake  
 Inspect leading edge  
 Inspect landing gear assembly  
 Inspect stall warning tag  
 Visual inspect both fuel tanks and sump  
 Inspect wing tip  
 Inspect flap and aileron

**Empennage**

Inspect belly  
 Inspect and secure all antenna  
 Inspect tail and rudder  
 Inspect stabilator  
 Secure luggage door  
 Inspect all windows, clean as necessary  
 Inspect running lights for night ops

**IFR PRE-FLIGHT CHECK LIST**

VOR currency test  
 Pitot tube heat working  
 Mag compass freely moving  
 Flight instruments normal  
 Test radios  
 Marker beacon working  
 Transponder working

**STARTING ENGINE**

Select fuel tank  
 Seat adjusted  
 Seatbelts secure  
 Brake set  
 All switches OFF  
 Lights OFF  
 Circuit breakers IN  
 Carb head cold  
 Prop full  
 Mixture rich  
 Throttle ¼" open  
 MASTER ON  
 Fuel pump ON  
 Tail beacon ON  
 Prime COLD engine 3 times  
 CLEAR PROP  
 Engage starter: after one rev switch to left mag  
 Engage both mags after start  
 Check oil pressure  
 Warm engine 800-1200 RPM for 2 minutes  
 Nav lights ON if needed  
 Fuel pump OFF  
 Avionics ON

**PRE TAKE OFF / ENGINE RUN UP**

Brakes set  
 Throttle to 2150  
 Check oil pressure  
 Mag check – max drop 125 RPM  
 Carb heat – max drop 100 RPM  
 Cycle prop 3 times slowly  
 Suction gage check  
 Ampmeter check

Idle check  
 Throttle to 1000 RPM  
 Flight controls free and correct  
 Flap test and set  
 Set trim tab  
 Set rudder trim  
 Altimeter set  
 DG set  
 Flight instruments normal

**CONTINUED ON BACK SIDE**

**PRE TAKE OFF / ENGINE RUN UP - continued**

- Primer in and LOCKED
- Fuel pump on – note gauge change
- Carb heat cold
- Prop full RPM
- Mixture rich
- Door closed and latched
- Transponder to ALT

**Approach Check List**

- Listen and write ATIS/AWOS
- Check altimeter
- DG to compass
- Set GPS for approach
- Select proper approach plate
- Set tower frequency
- Set ILS frequency
- Verify Morse code for nav frequency
- Enter final approach bearing in OBS
- Set missed approach frequency
- Review plate info: heading; minimums
- Vocalize missed approach procedures
- Vocalize airport elevation
- GUMP check
- Confirm ALT at OM
- Call out altitude to DH by 100s

**Landing**

- Fuel pump ON
- Fuel selector to proper tank
- Mixture rich
- Flaps up 115 MPH
- Downwind – 100 MPH
- Base - 90 MPH
- Final - 80 MPH
- Short final - 70 MPH

**After Landing**

- Fuel pump OFF
- Carb heat OFF
- Retract flaps

**Shut Down**

- Avionics OFF
- Mix idle cut off
- Lights OFF
- Ignition OFF
- Master OFF
- FUEL OFF

**Closing up airplane**

- Refuel – note gallons
- Record Hobbs
- Clean interior
- Clean windows
- Fasten seatbelts
- SECURE FOR WIND if outside
- Lock as necessary

**ENGINE POWER FAILURE**

- Maintain glide speed
- Find landing site
- Carb heat ON
- Mixture rich
- Fuel pump ON
- Switch fuel tanks
- Primer IN/LOCKED
- Ignition BOTH
- Attempt restart
- Call ATC
- Prepare for off field landing

**OFF FIELD LANDING**

- Maintain approach speed
- Fuel pump OFF
- Fuel selector OFF
- Mixture idle cut-off
- Throttle closed
- Ignition OFF
- Master OFF
- Seat belts tight
- Cabin door ajar

**IN FLIGHT CABIN FIRE**

- Master OFF
- Open vents
- Heater/Defrost OFF
- Call ATC
- Immediate landing

**IN FLIGHT ENGINE FIRE**

- Open vents
- Fuel selector OFF
- Throttle closed
- Mixture idle cut off
- Master OFF
- Heat/Defroster closed
- Choose landing site
- Call ATC
- Prepare off field landing

	<b>N235MA</b>
	<b>235</b>
	<b>MPH</b>
V r	65
V x	90
V y	100
V cc	115
	24"/25
V a	138
V no	156
V ne	197
V fe	115
V le	
V lo	

V so	60
V s1	70

DWind	100
Base	90
Final (1.3 Vso)	80

V go	80
V mdc (.2 Vso)	15
V bg (1.4 Vso)	90