

C A150-M Checklist

External Preflight

1. Control wheel lock-Remove
2. Ignition switch- OFF
3. Master switch on-check fuel
4. Flaps down
5. Master switch- OFF
6. Check fuel - ON
7. Check door release pins prior to acrobatic flight
8. Inspect seat belts and shoulder harnesses for condition
9. Remove seat insert cushions as necessary and securely stow prior to acrobatic flight
10. Main wheel tire 21#
11. Sample fuel & check fuel & cap secure
12. Check oil level to 6 quarts
13. Pull out strainer drain 4 seconds
14. Check propeller and spinner
15. Check landing light
16. Check air filter for restrictions
17. Check nose wheel strut and tire 30#
18. Static source opening on left
19. Pitot tube cover- Remove
20. Stall warning vent-Check
21. Fuel tank vent-Check

Before Starting Engine

1. Exterior Preflight -- COMPLETE
2. Seats, Belts, Shoulder Harnesses -- ADJUST and LOCK
3. Fuel Shutoff Valve -- ON.
4. Radios, Electrical Equipment -- OFF.
5. Brakes -- TEST and SET

Starting Engine

1. Mixture -- RICH
2. Carburetor Heat -- COLD
3. Master Switch -- ON
4. Prime -- AS REQUIRED
5. Throttle -- OPEN 1/4 INCH
6. Propeller Area -- CLEAR
7. Ignition Switch -- START (release when engine starts).
8. Oil Pressure -- CHECK
9. Flaps-retract
10. Beacon ON

Before Takeoff

1. Cabin Doors -- LATCHED
2. Flight Controls -- FREE and CORRECT
3. Elevator Trim -- TAKE-OFF
4. Fuel Shutoff Valve -- ON
5. Brakes -- SET
6. Throttle -- 1700 RPM
Magnetos -- CHECK (RPM drop should not exceed 150 RPM on either magneto or 75 RPM differential between magnetos)
7. Carburetor Heat -- CHECK (for RPM drop)
8. Engine Instruments and Ammeter -- CHECK
9. Suction Gage -- CHECK
10. Flight Instruments and Radios -- SET
11. Throttle Friction Lock -- ADJUST
12. Wing Flaps -- 0°

Take Off

NORMAL TAKE OFF

1. Wing Flaps -- 0°
2. Carburetor Heat -- COLD
3. Throttle -- FULL OPEN
4. Elevator Control -- LIFT NOSE WHEEL (at 55 MPH)
5. Climb Speed -- 70-80 MPH

Maximum Performance Take Off

1. Wing Flaps -- 0°
2. Carburetor Heat -- COLD
3. Brakes -- HOLD
4. Throttle -- FULL OPEN
5. Brakes -- RELEASE
6. Elevator Control -- SLIGHTLY
TAIL LOW
7. Climb Speed -- 70 MPH (with
obstacles ahead)

Enroute Climb

1. Airspeed -- 75-85 MPH
2. Throttle -- FULL OPEN
3. Mixture -- RICH (unless engine is
rough)

Cruise

1. Power -- 2000 to 2750 RPM (no
more than 75%)
2. Elevator Trim -- ADJUST
3. Mixture -- LEAN

Before Landing

1. Mixture -- RICH
2. Carburetor Heat -- ON (apply full
heat before closing throttle)
3. Airspeed -- 70-80 MPH (flaps UP)
4. Wing Flaps -- AS DESIRED (below
100 MPH)
5. Airspeed -- 60-70 MPH (flaps
DOWN)

Balked Landing

1. Throttle -- FULL OPEN
2. Carburetor Heat -- COLD
3. Wing Flaps -- RETRACT TO 20°
4. Airspeed -- 65 MPH
5. Wing Flaps -- RETRACT (slowly)

Normal Landing

1. Touchdown -- MAIN WHEELS
FIRST
2. Landing Roll -- LOWER NOSE
WHEEL GENTLY
3. Braking -- MINIMUM
REQUIRED

After Landing

1. Wing Flaps -- UP
2. Carburetor Heat -- COLD

Securing The Aircraft

1. Parking Brake -- SET
2. Radios, Electrical Equipment --
OFF
3. Mixture -- IDLE CUT-OFF
4. Ignition Switch -- OFF
5. Master Switch -- OFF
6. Control Lock -- INSTALL

CRUISE PERFORMANCE AEROBAT (WITH SPEED FAIRINGS)

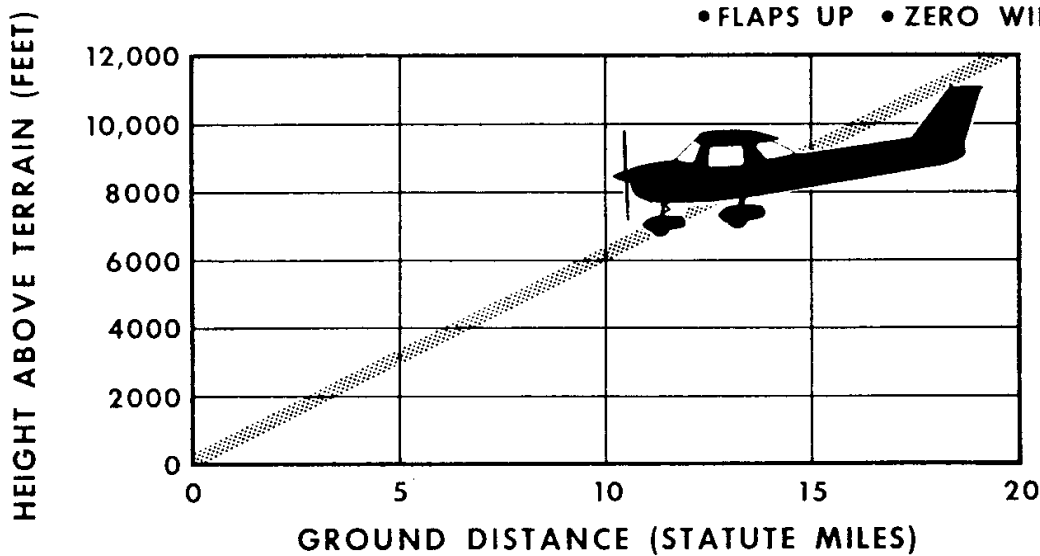
	75% POWER		65% POWER		55% POWER	
ALTITUDE	TAS	MPG	TAS	MPG	TAS	MPG
Sea Level	114	20.4	107	21.8	101	24.0
3500 Feet	117	20.9	111	22.7	104	24.8
7000 Feet	121	21.6	114	23.3	107	25.5

Standard Conditions

Zero Wind

MAXIMUM GLIDE

- SPEED 70 MPH (IAS)
- PROPELLER WINDMILLING
- FLAPS UP • ZERO WIND



CRUISE PERFORMANCE

— AEROBAT —

Gross Weight - 1600 Lbs.
Standard Conditions
Zero Wind
Lean Mixture

- NOTES: 1. Maximum cruise is normally limited to 75% power.
2. Cruise speeds are shown for an aircraft equipped with optional speed fairings, which increase the speeds by approximately 2 MPH.
3. No allowances for take-off, climb, or reserve.

ALTITUDE	RPM	% BHP	TAS MPH	GAL/HOUR	22.5 GAL (NO RESERVE)		35.0 GAL (NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	2750	87	123	6.6	3.4	425	5.3	660
	2700	82	120	6.1	3.7	440	5.7	685
	2600	72	115	5.4	4.2	475	6.5	740
	2500	64	109	4.8	4.7	510	7.3	790
	2400	56	104	4.3	5.2	545	8.2	845
	2300	50	98	3.8	5.9	580	9.2	900
	2200	44	93	3.4	6.5	610	10.2	945
	2100	38	87	3.1	7.3	630	11.3	980
5000	2750	80	122	6.0	3.8	455	5.8	710
	2700	75	119	5.6	4.0	475	6.2	740
	2600	67	114	5.0	4.5	510	7.0	790
	2500	59	108	4.5	5.0	545	7.8	845
	2400	52	103	4.0	5.6	575	8.7	895
	2300	46	97	3.6	6.2	605	9.7	945
	2200	41	91	3.2	6.9	630	10.8	985
	7500	2750	73	121	5.5	4.1	495	6.4
2700		69	118	5.2	4.3	510	6.7	795
2600		62	113	4.7	4.8	545	7.5	845
2500		55	107	4.2	5.4	575	8.4	895
2400		49	102	3.8	6.0	610	9.3	945
2300		43	96	3.4	6.6	635	10.3	985
2200		39	89	3.1	7.2	645	11.3	1005
10000		2700	64	117	4.8	4.7	545	7.3
	2600	57	111	4.3	5.2	580	8.1	900
	2500	51	106	3.9	5.8	610	8.9	950
	2400	45	100	3.5	6.3	635	9.9	990
	2300	41	94	3.2	6.9	650	10.8	1010
12500	2650	56	113	4.3	5.3	600	8.2	930
	2600	53	110	4.1	5.6	610	8.6	950
	2500	47	104	3.7	6.1	640	9.5	995
	2400	43	98	3.4	6.7	655	10.4	1015
	2300	39	90	3.1	7.2	650	11.2	1015

Cold Weather Ops With Preheat

1. With ignition switch OFF and throttle closed, prime the engine four to ten strokes as the propeller is being turned over by hand

NOTE

Use heavy strokes of primer for best atomization of fuel

After priming, push primer all the way in and turn to locked position to avoid possibility of engine drawing fuel through the primer

2. Propeller Area -- CLEAR
3. Master Switch -- ON
4. Mixture -- FULL RICH
5. Throttle -- OPEN 1/4 INCH
6. Ignition Switch -- START
7. Release ignition switch to BOTH when engine starts
8. Oil Pressure -- CHECK

Without Preheat

1. Prime the engine eight to ten strokes while the propeller is being turned by hand with throttle closed. Leave primer charged and ready for stroke
2. Propeller Area -- CLEAR
3. Master Switch -- ON
4. Mixture -- FULL RICH
5. Ignition Switch -- START
6. Pump throttle rapidly to full open twice. Return to 1/4 inch open position
7. Release ignition switch to BOTH when engine starts
8. Continue to prime engine until it is running smoothly, or alternately pump throttle rapidly over first 1/4 of total travel
9. Oil Pressure -- CHECK
10. Pull carburetor heat knob full on after engine has started. Leave on until engine is running smoothly
11. Primer -- LOCK

NOTE

If the engine does not start during the first few attempts, or if engine firing diminishes in strength, it is probable that the spark plugs have been frosted over. Preheat must be used before another start is attempted.

IMPORTANT

Pumping the throttle may cause raw fuel to accumulate in the intake air duct, creating a fire hazard in the event of a backfire. If this occurs, maintain a cranking action to suck flames into the engine. An outside attendant with a fire extinguisher is advised for cold starts without pre-heat.

RECOMMENDED ENTRY SPEED

Chandelles	120 MPH
Lazy Eights	120 MPH
Steep Turns	110 MPH
Stalls (Except Whip Stalls) Use Slow Deceleration	
Spins	Use Slow Deceleration
Loops	130 MPH
Cuban Eights.	145 MPH
Immelmans	145 MPH
Aileron Rolls	130 MPH
Barrel Rolls	30 MPH
Snap Rolls	90 MPH
Vertical Reversements	90 MPH

AIRSPEED LIMITATIONS (CAS)

Never Exceed Speed (glide or dive, smooth air).	193 MPH
Maximum Structural Cruising Speed.	140 MPH
Maximum Speed, Flaps Extended	100 MPH
*Maneuvering Speed	118 MPH

*The maximum speed at which you may use abrupt control travel.

EMERGENCY PROCEDURE

ENGINE FAILURE AFTER TAKE-OFF

1. Airspeed -- 70 MPH
2. Mixture -- IDLE CUT-OFF
3. Fuel Shutoff Valve – OFF
4. Ignition Switch – OFF
5. Wing Flaps -- AS REQUIRED (40°recommended)
6. Master Switch – OFF

ENGINE FAILURE DURING FLIGHT

1. Airspeed -- 75 MPH
2. Carburetor Heat – ON
3. Fuel Shutoff Valve – ON
4. Mixture – RICH
5. Ignition Switch -- BOTH (or START if propeller is not wind-milling)
6. Primer -- IN and LOCKED

FORCED LANDINGS EMERGENCY LANDING WITHOUT ENGINE POWER

1. Airspeed -- 75 MPH (flaps UP)
65 MPH (flaps DOWN)
2. Mixture -- IDLE CUT-OFF
3. Fuel Shutoff Valve – OFF
4. Ignition Switch – OFF
5. Wing Flaps -- AS REQUIRED (40°recommended)
6. Master Switch – OFF
7. Doors -- UNLATCH PRIOR TO TOUCHDOWN
8. Touchdown -- SLIGHTLY TAIL LOW
9. Brakes -- APPLY HEAVILY

PRECAUTIONARY LANDING WITH ENGINE POWER

1. Drag over selected field with flaps 20° and 70 MPH airspeed, noting

the preferred area for touchdown for the next landing approach. Then retract flaps upon reaching a safe altitude and airspeed

2. Radio, Electrical Switches – OFF
3. Wing Flaps -- 40°
4. Airspeed --65 MPH
5. Master Switch – OFF
6. Doors -- UNLATCH PRIOR TO TOUCHDOWN
7. Touchdown -- SLIGHTLY TAIL LOW
8. Ignition Switch – OFF
9. Brakes -- APPLY HEAVILY

FIRES

ENGINE FIRE DURING START ON GROUND

1. Continue cranking in an attempt to get a start which would suck the flames and accumulated fuel through the carburetor and into the engine
2. If the start is successful, run the engine at 1700 RPM for a few minutes before shutting down to inspect the damage
3. If engine start is unsuccessful, continue cranking for two or three minutes with throttle full open while ground attendants obtain fire extinguishers
4. When ready to extinguish fire, discontinue cranking and turn off master switch, ignition switch, and fuel shutoff valve
5. Smother flames with fire extinguisher, seat cushion, wool blanket, or loose dirt. If practical, try to remove carburetor air filter if it is ablaze
6. Make a thorough inspection of fire damage, and repair or replace damaged components before conducting another flight

ENGINE FIRE IN FLIGHT

1. Mixture -- IDLE CUT-OFF
2. Fuel Shutoff Valve – OFF
3. Master Switch – OFF
4. Cabin Heat and Air -- OFF (except overhead vents)
5. Airspeed -- 100 MPH. If fire is not extinguished, increase glide speed to find an airspeed which will provide an incombustible mixture
6. Execute a forced landing as outlined in preceding paragraphs

ELECTRICAL FIRE IN FLIGHT

1. Master Switch – OFF
2. All Radio/Electrical Switches – OFF
3. Vents/Cabin Air/Heat – CLOSED
4. Fire Extinguisher -- ACTIVATE (if available)
If fire appears out and electrical power is necessary for continuance of flight
5. Master Switch – ON
6. Fuses and Circuit Breaker -- CHECK for faulty circuit, do not reset
7. Radio/Electrical Switches -- ON one at a time, with delay after each until short circuit is localized
8. Vents/Cabin Air/ Heat---Open once fire is out

Emergency Descent Through Clouds

1. Apply full rich mixture
2. Use full carburetor heat
3. Reduce power to set up a 500 to 800 ft. /min. rate of descent
4. Adjust the elevator trim tab for a stabilized descent at 80 MPH
5. Keep hands off the control wheel
6. Monitor turn coordinator and make corrections by rudder alone

7. Check trend of compass card movement and make cautious corrections with rudder to stop the turn
8. Upon breaking out of clouds, resume normal cruising flight

RECOVERY FROM A SPIRAL DIVE

1. Close the throttle
2. Stop the turn by using coordinated aileron and rudder control to align the symbolic aircraft in the turn coordinator with the horizon reference line
3. Cautiously apply elevator back pressure to slowly reduce the indicated airspeed to 80 MPH
4. Adjust the elevator trim control to maintain an 80 MPH glide
5. Keep hands off the control wheel, using rudder control to hold a straight heading
6. Apply carburetor heat
7. Clear engine occasionally, but avoid using enough power to disturb the trimmed glide
8. Upon breaking out of clouds, apply normal cruising power and resume flight

Spin Recovery

1. RETARD THROTTLE TO IDLE POSITION
2. APPLY FULL RUDDER OPPOSITE TO THE DIRECTION OF ROTATION
3. AFTER ONE-FOURTH TURN, MOVE THE CONTROL WHEEL FORWARD OF NEUTRAL IN A BRISK MOTION
4. AS ROTATION STOPS, NEUTRALIZE RUDDER, AND MAKE A SMOOTH RECOVERY FROM THE RESULTING DIVE