

1973 C-172M

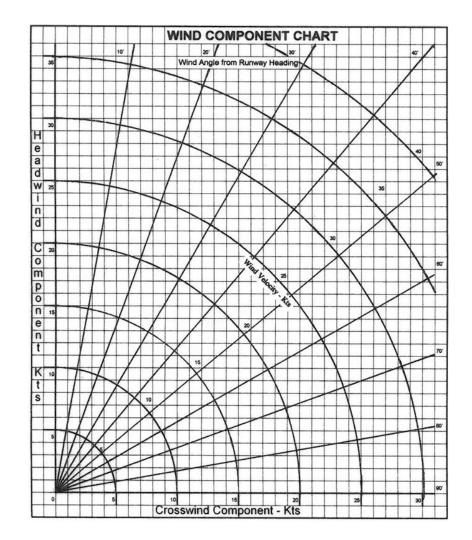
N13255

OPERATING

CHECKLIST

December 2023

Airport (Desig.)	Serv.	Freq.	Elev.	Rwy. & Patt.	Patt.	Length	Lgt.
Anacortes (74S)	Traf	128.25	241'	18 Rt/36 Lt	1,200'	3,000'	Lgt
Arlington (AWO)	Traf	122.725	142'	16 Rt/34 Lt	1,200'	5,300'	Lgt
LOC 111.5 342°	AWOS	135.625		11 Rt/29 Lt		3,500'	Lgt
Bellingham (BLI)	Twr	124.9	170'	16 Rt/34 Lt	1,200'	6,700'	Lgt
ILS 108.5 164°	ATIS	134.45					
Bremerton (PWT)	Traf	123.05	444'	01 Rt/19 Lt	1,444'	6,000'	Lgt
ILS 111.1 197°	AWOS	121.2					
Camano Is. (13W)	Traf	122.9	145'	16 Rt/34 Rt	1,200'	1,700'	
Concrete (3W5)	Traf	122.9	267'	07 Rt/25 Lt	1,300'	2,600'	
Darrington (1S2)	Traf	122.9	553'	10 Lt/28 Lt	1,500'	2,500'	
Fairchild (CLM)	Traf	122.975	291'	08 Lt/26 Rt	1,300'	6,300'	Lgt
ILS 108.9 089°	ASOS	135.175		13 Lt/31 Rt		3,200'	-3.
First Air (W16)	Traf	122.9	50'	07 Rt/25 Lt	1,100'	2,100'	
Harvey (S43)	Traf	123.0	23'	15 Rt/33 Lt	1,000'	2,400'	Lgt
Jefferson Co. (0S9)	Traf	123.0	110'	09 Rt/27 Lt	1,000'	3,000'	Lgt
	AWOS	119.025					
Oak Harbor (OKH)	Traf	122.8	193'	7 Rt/25 Lt	1,200'	3,300'	Lgt
,	AWOS	132.775					J
Paine (PAE)	Twr	132.95	608'	16R Rt/34L Lt	1,608'	9,000'	Lgt
V-110.6 I-109.3 163°	ATIS	128.65		16L Lt/34R Rt	1,000	3,000'	Lgt
Renton (RNT)	Twr	124.7	32'	16 Lt/34 Rt	1,032'	5,400'	Lgt
NDB 353	ATIS	126.95	52	10 2004 14	1,002	0,400	Lyi
Sanderson (SHN)	Traf	122.8	273'	05 Rt/23 Lt	1,300'	5,000'	1.~+
NDB 348	ASOS		215	05 RV25 LI	1,300	5,000	Lgt
Sequim (W28)	Traf	122.7	151'	09R Rt/27L Lt	1,100'	3,500'	Lgt
Skagit (BVS)	Traf	123.075	145'	11 Lt/29 Lt	1,145'	5,500'	Lgt
NDB 240	AWOS	121.125		4 Lt/22 Lt	.,	3,000'	Lgt
Tacoma Nar. (TIW)	Twr	118.5	295'	17 Lt/35 Rt	1,295'	5.000'	Lgt
ILS 109.1 167°	ATIS	124.05	200		1,200	0,000	-9.
Whidbey Air (W10)	Traf	122.9	271'	16 Lt/34 Lt	1,300'	2,500'	



Some Rules of Thumb:

1° at 1 nm = 100'; 1° at 60 nm = 1 nm

TAS is approximately IAS + 1.5% per 1,000' MSL

Density Altitude is approximately Field Elevation +/-(120 x temperature difference from standard temperature)

Standard Temperature = 15°C - 2°/1,000' MSL

WCA = Crosswind/TAS (in nm per minute)

TAKEOFF AND CLIMBV.60 mph (2,300 lb)55 mph (2,000 lb)V.60 mph (2,300 lb)63 mph (2,000 lb)(+1 mph2,000)63 mph (2,000 lb)(+1 mph2,000)86 mph (2,000 lb)(-1 mph2,000)90 mphCRUISE2,500' 65% B1IP2,500' 64% BHP2400 rpm7,500' 64% BHP2500 rpm7,500' 64% BHP2500 rpm7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr7,500' 64% BHP2500 rpm7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr7,500' 64% BHP2500 rpm7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr6 Glide1300-1400 rpm6 Glide1300-1400 rpm6 Glide1300-1400 rpm6 Jase1200 rlpm8 ase1300-1400 rpm6 MPH40° flaps13 ase1300-1400 rpm6 MPH40° flaps14 Left side and top of fuscage, ELT antenna14 Left side and top of fuscage, ELT antenna15 Left alloch or rubots16 Left side or rubot rubots </th <th></th> <th>1973 C-172M</th> <th></th> <th></th> <th>P. 12</th> <th>BEFORE EXTERIOR INSPECTION 1. Control wheel lock - Removed/stowed</th> <th>P. 1</th>		1973 C-172M			P. 12	BEFORE EXTERIOR INSPECTION 1. Control wheel lock - Removed/stowed	P. 1
V.63 mph (2,300 lb)63 mph (2,000 lb)3. Green the second				55 mph (2.000 lb)			
V.68 mph (2,300 lb)63 mph (2,000 lb)4. Master switch right ("Bat") half - On(+1 mph/2,000')5. Fuel quantity indicaros: all exterior lights; inderior lights (for right fights); and pitot heat (for IFR) - CheckV.90 mph (2,300 lb)86 mph (2,000 lb)(-1 mph/2,000')6. Flaps - Extend Full for exterior inspectionCruise climb = 95 to 100 mph9. Required papers (ARROW) - Aboard/stowedCRUISEExtENCI INSPECTION2,500' 65% BHP2400 rpm117 MPH7.2 gal/hr5,000' 64% BHP2400 rpm7,500' 64% BHP2500 rpm7,500' 64% BHP2500 rpm7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr7,500' 64% BHP2500 rpm7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr7,500' 64% BHP2500 rpm121 MPH (2,000 lb)104 MPH (2,000 lb)Nameuver extremantVa112 MPH (2,000 lb)Va112 MPH (2,000 lb)PATTERN AND LANDINGDownwind approx. 2000 rpm90 MPHDownwind approx. 2000 rpm90 MPHGlide1300-1400 rpmBase1300-1400 rpmBase1300-1400 rpmBase1300-1400 rpm6 MPH40° flapsFinal1300-1400 rpm6 MPH40° flapsFinal1300-1400 rpm6 MPH40° flapsFinal1300-1400 rpm6 MPH40° flapsFinal1300-1400 rpm6 MPH40° flapsFinal <td></td> <td>v_r oo mpn</td> <td>(2,300 10)</td> <td>55 mpn (2,000 lb)</td> <td></td> <td>▲</td> <td></td>		v _r oo mpn	(2,300 10)	55 mpn (2,000 lb)		▲	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		V 68 mph	(2,300,1b)	63 mph (2.000 lb)			
Vy90 mph (2,300 lb)86 mph (2,000 lb)(-1 mph/2,000')(-1 mph/2,000')Cruise climb = 95 to 100 mph(-1 mph/2,000')2,500' 64% BHP2400 rpm7,500' 64% BHP2450 rpm7,500' 64% BHP2500 rpm7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr7,500' 64% BHP2500 rpm7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr7,500' 64% BHP200 rbm7,500' 64% BHP104 MPH (2,000 lb)Best glide 80 MPH (2,300 lb)104 MPH (2,000 lb)PATTERN AND LANDING Downwind approx. 2000 rpm90 MPHClide1300-1400 rpmGlide1300-1400 rpmGlide1300-1400 rpmBase1300-1400 rpmBase1300-1400 rpm60 MPH40° flapsFinal1300-1400 rpm60 MPH40° fla				05 mpn (2,000 lb)			lights (for
V_r 90 mph (2,300 lb)86 mph (2,000 lb)6. Flaps - Extend Full for exterior inspection $(-1 mph/2,000')$ 7. Master switch (both halves) - OffCruise climb = 95 to 100 mph9. Required papers (ARROW) - Aboard/stowedCRUISE 2,500' 65% BHP2400 rpm117 MPH7.2 gal/hr $3,000'$ 64% BHP2400 rpm117 MPH7.2 gal/hr $5,000'$ 64% BHP2500 rpm119 MPH7.2 gal/hr $7,500'$ 64% BHP2500 rpm121 MPH7.1 gal/hr $7,500'$ 64% BHP2500 rpm104 MPH (2,000 lb)3. Echaust pipe - Secure $7,500'$ 64% BHP2,300 lb)104 MPH (2,000 lb)3. Ech wingip and wingi b [shts Lemator belt - Tight $MANEUVERING$ V_n 112 MPH (2,300 lb)104 MPH (2,000 lb)5. MPH (2,000 lb)Best glide 80 MPH (2,300 lb)75 MPH (2,000 lb)10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - UnobstructedGlide1300-1400 rpm80 MPH20° flapsBase1300-1400 rpm70 MPH30° flapsFinal1300-1400 rpm65 MPH40° flaps (2,300 lb)Final1300-1400 rpm65 MPH40° flapsFinal1300-1400 rpm65 MPH40° flapsFinal1300-1400 rpm65 MPH40° flapsFinal1300-1400 rpm65 MPH40° flaps <t< td=""><td></td><td>(+1 mpn/2,00</td><td>0)</td><td></td><td></td><td></td><td>ignus (101</td></t<>		(+1 mpn/2,00	0)				ignus (101
(-1 mph/2,000')7. Master switch (both halves) - Off 8. lignition switch - Off 9. Required papers (ARROW) - Aboard/stowedCRUISE 2,500' 65% BHP 2,500' 64% BHP 2,500' 64% BHP 2,500 rpm117 MPH 1.19 MPH 7.2 gal/hr7. 2 gal/hr5,000' 64% BHP 2,500 rpm119 MPH 1.21 MPH 7.1 gal/hr7. 2 gal/hr1. Cowling fasteners right side - Secure 8. Nose gear shock strut; scissors, steering arms, and shimmy dampener linkages; tire condition/inflation (31 psi) 3. Exhaus pipe - SecureMANEUVERING Va104 MPH (2,000 lb)104 MPH (2,000 lb)104 MPH (2,000 lb)Best glide 80 MPH (2,300 lb)104 MPH (2,000 lb)104 MPH (2,000 lb)PATTERN AND LANDING Downwind approx. 2000 rpm90 MPH 90 MPH (2,300 lb)104 MPH (2000 lb)Base Turn1300-1400 rpm80 MPH (2,300 lb)20' flapsBase Final1300-1400 rpm80 MPH (2,300 lb)20' flapsFinal1300-1400 rpm65 MPH (2,300 lb)20' flapsFinal1300-1400 rpm60 MPH (2,300 lb)40' flaps (2,300 lb)Final1300-1400 rpm60 MPH (2,300 lb)40' flaps (2,300 lb)Final1300-1400 rpm60 MPH (2,300 lb)40' flaps (2,300 lb)Final1300-1400 rpm60 MPH (2,300 lb)60 MPH (2,300 lb)Final1300-1400 rpm60 MPH (2,300 lb)40' flaps (2,300 lb)Final1300-1400 rpm60 MPH (2,300 lb)60 MPH (2,300 lb)Final1300-1400 rpm60 MPH (2,300 lb)60 MPH (2,300 lb)Final13		V., 90 mph	(2,300lb)	86 mph (2.000 lb)			
8. Ignition switch - OffCruise climb = 95 to 100 mph8. Ignition switch - Off2.500 65% BHP2400 rpm117 MPH2.500 65% BHP2400 rpm117 MPH7.500 64% BHP2450 rpm119 MPH7.500 64% BHP2500 rpm121 MPH7.500 64% BHP2500 rpm121 MPH7.500 64% BHP2500 rpm121 MPH7.1 gal/hr2. Kaust pipe - Secure8. Textration of the secure2. Nose gear shock strut; scissors, stering arms, and shimmy dampener linkages; tire condition/inflation (31 psi)9. ANEUVERING9. MPHVa112 MPH (2,300 lb)Na 112 MPH (2,300 lb)104 MPH (2,000 lb)Best glide 80 MPH (2,300 lb)75 MPH (2,000 lb)PATTERN AND LANDING0. Left wing strut/leading edge - Condition; Air vent, pilot tube, tuel vent - Unobstructed; test stall horn with squeeze bulb a Left wing strut/leading edge - Condition; Air vent, pilot tube, tuel vent - Unobstructed; test stall horn with squeeze bulb a Left wing strut/leading edge - Condition; Air vent, pilot tube, tuel vent - Unobstructed; test stall horn with squeeze bulb a Left wing strut/leading edge - Condition; Canding edge - Condition; Air vent, pilot tube, tuel vent - Unobstructed; test stall horn with squeeze bulb a Left wing sump drain - Sample fuelGlide1300-1400 rpm80 MPH10° flapsBase1300-1400 rpm65 MPH40° flapsFinal1300-1400 rpm65 MPH40° flapsFinal1300-1400 rpm60 MPH40° flapsFinal1300-1400 rpm60 MPH40° flapsFinal1300-1400 rpm60 MPH40° flaps<		· ·		00 mpn (2,000 10)		1 1	
Sequired papers (ARROW) - Aboard/stowedCruise climb = 95 to 100 mph9. Required papers (ARROW) - Aboard/stowed $CRUISE$ EXTERIOR INSPECTION 2,500' 65% BHP2450 rpm117 MPH7.2 gal/hr1. Cowling fasteners right side - Secure5,000' 64% BHP2450 rpm119 MPH7.2 gal/hr1. Cowling fasteners right side - Secure7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr1. Cowling fasteners right side - Secure7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr4. Prop blades - No nicks; Spinner - Screws secure7,500' 64% BHP2000 rpm104 MPH (2,000 lb)3. Exhaust pipe - Secure5. Cowling fasteners left side and top - Secure7,500' 64% BHP200 lb)104 MPH (2,000 lb)9. Static port - Unobstructed9. Static port - Unobstructed8 est glide 80 MPH (2,300 lb)75 MPH (2,000 lb)104 MPH (2,000 lb)1. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed; test stall horn with squeeze bulb a Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed; test stall horn with squeeze bulb a Left aileron, counterweights, hinges, nuts, and rod end c. Left flap, flap tracks, rollers, nuts, and rod end d. Left wing sump drain - Sample fuel11. Left main gear strut, brake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition and inflation (29 psi)Base1300-1400 rpm80 MPH20° flapsBase1300-1400 rpm65 MPH40° flapsFinal1300-1400 rpm65 MPH40° flapsFinal1300-1400 rpm<		(1 mpn 2 ,000	,)				
2,500° 65% BHP2400 rpm117 MPH7.2 gal/hr1. Cowling fasteners right side - Secure5,000° 64% BHP2450 rpm119 MPH7.2 gal/hrNose gear shock strut; scissors, stering arms, and shimmy dampener linkages; tire condition/inflation (31 psi) 3. Exhaust pipe - Secure7,500° 64% BHP2500 rpm121 MPH7.1 gal/hrStatus pipe - Secure7,500° 64% BHP2500 rpm121 MPH7.1 gal/hrProp blades - No nicks; Spinner - Screws secure7,500° 64% BHP2500 rpm121 MPH7.1 gal/hrAr filter - Condition; Landing/taxi lights - Lenses/filamentsMANEUVERINGVa112 MPH (2,300 lb)104 MPH (2,000 lb)9. Static port - UnobstructedBest glide 80 MPH (2,300 lb)75 MPH (2,000 lb)9. Static port - UnobstructedPATTERN AND LANDING Downwind approx. 2000 rpm90 MPHcleanLeft wingtip and wingtip lights b. Left aileron, counterweights, hinges, nuts, and rod end c. Left wing sump drain - Sample fuelGlide1300-1400 rpm80 MPH20° flaps11. Left main gear strut, foake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition and inflation (29 psi)Base1300-1400 rpm65 MPH40° flaps14. Left side and top of fuselage, ELT antennaFinal1300-1400 rpm60 MPH40° flaps (2,000 lb)14. Left side vertical stabilizer, antenna, beacon, tail light a. Left side vertical stabilizer, rudder, antennaFinal1300-1400 rpm60 MPH40° flaps (2,000 lb)60 MPHFinal1300-1400 rpm60 MPH40° flaps (2,000 lb)16. Left side		Cruise climb	= 95 to 100 mpl	h		0	
2,500° 65% BHP2400 rpm117 MPH7.2 gal/hr1. Cowling fasteners right side - Secure5,000° 64% BHP2450 rpm119 MPH7.2 gal/hrNose gear shock strut; scissors, stering arms, and shimmy dampener linkages; tire condition/inflation (31 psi) 3. Exhaust pipe - Secure7,500° 64% BHP2500 rpm121 MPH7.1 gal/hrStatus pipe - Secure7,500° 64% BHP2500 rpm121 MPH7.1 gal/hrProp blades - No nicks; Spinner - Screws secure7,500° 64% BHP2500 rpm121 MPH7.1 gal/hrAr filter - Condition; Landing/taxi lights - Lenses/filamentsMANEUVERINGVa112 MPH (2,300 lb)104 MPH (2,000 lb)9. Static port - UnobstructedBest glide 80 MPH (2,300 lb)75 MPH (2,000 lb)9. Static port - UnobstructedPATTERN AND LANDING Downwind approx. 2000 rpm90 MPHcleanLeft wingtip and wingtip lights b. Left aileron, counterweights, hinges, nuts, and rod end c. Left wing sump drain - Sample fuelGlide1300-1400 rpm80 MPH20° flaps11. Left main gear strut, foake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition and inflation (29 psi)Base1300-1400 rpm65 MPH40° flaps14. Left side and top of fuselage, ELT antennaFinal1300-1400 rpm60 MPH40° flaps (2,000 lb)14. Left side vertical stabilizer, antenna, beacon, tail light a. Left side vertical stabilizer, rudder, antennaFinal1300-1400 rpm60 MPH40° flaps (2,000 lb)60 MPHFinal1300-1400 rpm60 MPH40° flaps (2,000 lb)16. Left side		CDURE				EVERIOD INCRECTION	
 5,000' 64% BHP 2450 rpm 119 MPH 7.2 gal/hr 7,500' 64% BHP 2500 rpm 121 MPH 7.1 gal/hr 7,500' 64% BHP 2500 rpm 121 MPH 7.1 gal/hr 7,500' 64% BHP 2500 rpm 121 MPH 7.1 gal/hr 8 Exhaust pipe - Secure 9 Prop blades - No nicks; Spinner - Srews secure 5. Cylinder cooling fins and starter ring gear teeth - Condition 6. Alternator belt - Tight 7.4 ni12 MPH (2,300 lb) 104 MPH (2,000 lb) 8 Best glide 80 MPH (2,300 lb) 75 MPH (2,000 lb) 9 PATTERN AND LANDING 9 DATTERN AND LANDING 9 OMPH clean 9 Glide 1300-1400 rpm 80 MPH 10° flaps 9 Gase Turn 1300-1400 rpm 80 MPH 20° flaps 8 Final 1300-1400 rpm 65 MPH 40° flaps 1300-1400 rpm 65 MPH 40° flaps 1300-1400 rpm 60 MPH 40° flaps 2. Nose gear shock strut; scissors, steering arms, and shimmy dampener linkages; tire condition/inflation (31 psi) 2. Nose gear shock strut; scissors, steering arms, and shimmy dampener linkages; tire condition/inflation (31 psi) 3. Exhaust pipe - Secure 5. Cylinder cooling fins and starter ring gear teeth - Condition 6. Alternator belt - Tight 7. Attract the condition (20 psi) 8. Eat alternation (2,000 lb) 9. MPH 10° flaps 10. Left side and top of fuselage, ELT antenna 1300-1400 rpm 60 MPH 40° flaps 1300-1400 rpm 60 MPH 40° flaps 1300-1400 rpm 60 MPH 40° flaps 2. Rudder actuators (bolts, nuts; securely attached to right elevator 16. Left side of rudder, rudder finge bolts and nuts b. Right side vertical stabilizer, underna, and cotter pins) 			011D 0400 m	117 MDU	7.2 col/law		
5,000' 64% BHP2450 rpm119 MPH7.2 gal/hrshimmy dampener linkages; tire condition/inflation (31 psi)7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr3. Exhaust pipe - Secure4. Prop blades - No nicks; Spinner - Screws secure7,500' 64% BHP2500 rpm121 MPH7.1 gal/hr4. Prop blades - No nicks; Spinner - Screws secureMANEUVERINGVa112 MPH (2,300 lb)104 MPH (2,000 lb)Best glide 80 MPH (2,300 lb)75 MPH (2,000 lb)PATTERN AND LANDINGDownwind approx. 2000 rpm90 MPH <t< td=""><td></td><td>2,500 65% E</td><td>3HP 2400 r</td><td>pin 11/MPH</td><td>7.2 gal/nr</td><td></td><td></td></t<>		2,500 65% E	3HP 2400 r	pin 11/MPH	7.2 gal/nr		
 3. Exhaust pipe - Secure 3. Exhaust pipe - Secure 4. Prop blades - No nicks; Spinner - Screws secure 5. Cylinder cooling fins and starter ring gear teeth - Condition 6. Alternator belt - Tight 7. Air filter - Condition; Landing/taxi lights - Lenses/filaments 8. Cowling fasteners left side and top - Secure 9. Static port - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed; test stall horn with squeeze bulb a. Left wing trut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed; test stall horn with squeeze bulb a. Left wing sump drain - Sample fuel Glide 1300-1400 rpm 80 MPH 10° flaps Base Turn 1300-1400 rpm 80 MPH 20° flaps Base 1300-1400 rpm 70 MPH 30° flaps Final 1300-1400 rpm 65 MPH 40° flaps Final 1300-1400 rpm 60 MPH 40° flaps Final 1300-1400 rpm 60 MPH 40° flaps Final 1300-1400 rpm 60 MPH 40° flaps Cyoon lb) 		5 000' CAN D	011D 0450 m	110 MDU	7.2 col/law		(21 mai)
7,500° 64% BHP2500 rpm121 MPH7.1 gal/hr4. Prop blades - No nicks; Spinner - Screws secure7,500° 64% BHP2500 rpm121 MPH7.1 gal/hr4. Prop blades - No nicks; Spinner - Screws secure6. Alternator belt - Tight6. Alternator belt - Tight7.1 filter - Condition, Landing/taxi lights - Lenses/filamentsMANEUVERING104 MPH (2,000 lb)8. Cowling fasteners left side and top - Secure9. Static port - UnobstructedBest glide 80 MPH (2,300 lb)75 MPH (2,000 lb)9. Static port - Unobstructed10. Left wing strut/leading edge - Condition, Air vent, pitot tube, fuel vent - UnobstructedPATTERN AND LANDING0. Left alleron, counterweights, hinges, nuts, and rod end d. Left wing sump drain - Sample fuel11. Left main gear strut, brake line, brake disc and pads; Axle nut - Cotter pinnet; Tire - Condition and inflation (29 psi)Base Turn1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secureFinal1300-1400 rpm65 MPH40° flaps14. Left side and top of fuselage, ELT antennaFinal1300-1400 rpm60 MPH40° flaps14. Left side of rudder, rudder hinge bolts/nuts; securely attached to right elevatorFinal1300-1400 rpm60 MPH40° flaps16. Left side vertical stabilizer, antenna, beacon, tail light a. Left side of rudder, rudder, rudder ninge bolts/nuts; securely attached to right elevatorFinal1300-1400 rpm60 MPH40° flaps2. Rudder actuators (bolts, nuts, and cotter pins)		5,000 64% E	3HP 2450 r	pin 119 MPH	7.2 gal/nr		(31 psi)
 5. Cylinder cooling fins and starter ring gear teeth - Condition 6. Alternator belt - Tight 7. Air filter - Condition; Landing/taxi lights - Lenses/filaments 8. Cowling fasteners left side and top - Secure 9. Static port - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed 11. Left wing sump drain - Sample fuel 12. Baggage door - Unlocked, secure 13. Top of left wing, antenna 13. Top of left wing, antenna 14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer, - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 16. Left side vertical stabilizer, rudder, natenna 20. Left side vertical stabilizer, rudder, antenna 20. Collision of top fusels and nuts 20. Rudder		7 500' 640/ B	DUD 2500 m		7.1 col/br	1 1	
MANEUVERING Va112 MPH (2,300 lb)104 MPH (2,000 lb)6. Alternator belt - TightMANEUVERING Va112 MPH (2,300 lb)104 MPH (2,000 lb)9. Static port - UnobstructedBest glide 80 MPH (2,300 lb)75 MPH (2,000 lb)9. Static port - UnobstructedBest glide 80 MPH (2,300 lb)75 MPH (2,000 lb)10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed; test stall horn with squeeze bulb a. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed; test stall horn with squeeze bulb a. Left wing sum drain - Sample fuelGlide1300-1400 rpm80 MPH10° flapsBase1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secure 13. Top of left wing, antennaBase1300-1400 rpm65 MPH40° flaps (2,300 lb)14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator (2,300 lb)Final1300-1400 rpm60 MPH40° flaps (2,000 lb)16. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna (2,000 lb)Final1300-1400 rpm60 MPH40° flaps (2,000 lb)5. Rudder actuators (bolts, nuts, and cotter pins)		7,300 0470 E	511F 2500 1		7.1 gai/iii	· ·	ondition
MANEUVERING Va7. Air filter - Condition; Landing/taxi lights - Lenses/filaments 8. Cowling fasteners left side and top - Secure 9. Static port - Unobstructed 10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed; test stall horn with squeeze bulb a. Left wingtip and wingtip lights b. Left aileron, counterweights, hinges, nuts, and rod end c. Left flap, flap tracks, rollers, nuts, and rod end d. Left wing sump drain - Sample fuelGlide1300-1400 rpm80 MPH20° flaps11. Left main gear strut, brake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 13. Top of left wing, antenna 14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 16. Left side vertical stabilizer, rudder, nutenna t. Left side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)							mannon
MANEUVERING V_a 8. Cowling fasteners left side and top - Šecure V_a 112 MPH (2,300 lb)104 MPH (2,000 lb)8. Cowling fasteners left side and top - ŠecureBest glide 80 MPH (2,300 lb)75 MPH (2,000 lb)9. Static port - UnobstructedPATTERN AND LANDING Downwind approx. 2000 rpm90 MPHcleanGlide1300-1400 rpm80 MPH10° flapsBase Turn1300-1400 rpm80 MPH20° flapsBase1300-1400 rpm80 MPH20° flapsFinal1300-1400 rpm65 MPH40° flapsFinal1300-1400 rpm60 MPH40° flapsFinal1300-1400 rpm60 MPH40° flapsFinal1300-1400 rpm60 MPH40° flapsFinal1300-1400 rpm60 MPH40° flapsCould by80 MPH40° flapsCould by80 MPH40° flapsCould by80 MPH500 flapsFinal1300-1400 rpmKernel60 MPHKernel60 MPH						e	ilamonta
Va112 MPH (2,300 lb)104 MPH (2,000 lb)9. Static port - UnobstructedBest glide 80 MPH (2,300 lb)75 MPH (2,000 lb)9. Static port - UnobstructedBest glide 80 MPH (2,300 lb)75 MPH (2,000 lb)10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed; test stall horn with squeeze bulb a. Left wing ip and wingtip and wingtip lightsPATTERN AND LANDING Downwind approx. 2000 rpm90 MPHcleanc. Left flap, flap tracks, rollers, nuts, and rod end d. Left wing sump drain - Sample fuelGlide1300-1400 rpm80 MPH10° flaps11. Left main gear strut, brake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition and inflation (29 psi)Base1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secure 13. Top of left wing, antennaFinal1300-1400 rpm65 MPH40° flaps (2,300 lb)14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 16. Left side vertical stabilizer, nudder, nudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)		MANEIWED	INC				naments
Best glide 80 MPH (2,300 lb)75 MPH (2,000 lb)10. Left wing strut/leading edge - Condition; Air vent, pitot tube, fuel vent - Unobstructed; test stall horn with squeeze bulb a. Left wingtip and wingtip lights b. Left aileron, counterweights, hinges, nuts, and rod end c. Left flap, flap tracks, rollers, nuts, and rod end d. Left wing sump drain - Sample fuelGlide1300-1400 rpm80 MPH10° flaps11. Left wing sump drain - Sample fuelBase Turn1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secure 13. Top of left wing, antennaBase1300-1400 rpm65 MPH40° flaps14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator i A. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)				104 MPH ()	000.1b)	č 1	
Best glide 80 MPH (2,300 lb)75 MPH (2,000 lb)fuel vent - Unobstructed; test stall horn with squeeze bulb a. Left wingtip and wingtip lights b. Left aileron, counterweights, hinges, nuts, and rod end c. Left flap, flap tracks, rollers, nuts, and rod end d. Left wing sump drain - Sample fuelGlide1300-1400 rpm80 MPH10° flaps11. Left main gear strut, brake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition and inflation (29 psi)Base1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secure 13. Top of left wing, antennaBase1300-1400 rpm70 MPH30° flaps14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 16. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)			11 (2,300 10)	104 1011 11 (2	,000 10)	1	nitot tube
PATTERN AND LANDING Downwind approx. 2000 rpm90 MPH 90 MPHcleana. Left wingtip and wingtip lights b. Left aileron, counterweights, hinges, nuts, and rod end c. Left flap, flap tracks, rollers, nuts, and rod end d. Left wing sump drain - Sample fuelGlide1300-1400 rpm80 MPH10° flaps11. Left main gear strut, brake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition and inflation (29 psi)Base1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secure 13. Top of left wing, antennaBase1300-1400 rpm70 MPH30° flaps14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 16. Left side vertical stabilizer, antenna, beacon, tail light a. Left side vertical stabilizer, rudder, antenna (2,000 lb)Final1300-1400 rpm60 MPH (2,000 lb)40° flaps (2,000 lb)b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)	Best glide 80 MPH (2 300 lb) 75 MPH (2)00 lb)		-		
PATTERN AND LANDING Downwind approx. 2000 rpm90 MPHcleanb. Left aileron, counterweights, hinges, nuts, and rod end c. Left flap, flap tracks, rollers, nuts, and rod end d. Left wing sump drain - Sample fuelGlide1300-1400 rpm80 MPH10° flaps11. Left main gear strut, brake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition and inflation (29 psi)Base1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secure 13. Top of left wing, antennaBase1300-1400 rpm70 MPH30° flaps14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 16. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)		Dest glide 00	1011 11 (2,500 10)	75 WH H (2,0	,00 10)	•	le ouro
Downwindapprox. 2000 rpm90 MPHcleanc. Left flap, flap tracks, rollers, nuts, and rod end d. Left wing sump drain - Sample fuelGlide1300-1400 rpm80 MPH10° flaps11. Left main gear strut, brake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition and inflation (29 psi)Base1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secure 13. Top of left wing, antennaBase1300-1400 rpm70 MPH30° flaps14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 16. Left side vertical stabilizer, antenna, beacon, tail light a. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)		PATTERN A	ND LANDING				rod end
Glide1300-1400 rpm80 MPH10° flapsd. Left wing sump drain - Sample fuelBase Turn1300-1400 rpm80 MPH20° flaps11. Left main gear strut, brake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition and inflation (29 psi)Base1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secure 13. Top of left wing, antennaBase1300-1400 rpm70 MPH30° flaps14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 16. Left side vertical stabilizer, antenna, beacon, tail light a. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)					clean		ou enu
Glide1300-1400 rpm80 MPH10° flaps11. Left main gear strut, brake line, brake disc and pads; Axle nut - Cotter pinned; Tire - Condition and inflation (29 psi)Base Turn1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secure 13. Top of left wing, antennaBase1300-1400 rpm70 MPH30° flaps14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator (2,300 lb)Final1300-1400 rpm65 MPH (2,300 lb)40° flapselevator hinge bolts/nuts; securely attached to right elevator 16. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)			.pp10 2 000 ip1		oroun		
Base Turn1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secure 13. Top of left wing, antennaBase1300-1400 rpm70 MPH30° flaps14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 16. Left side vertical stabilizer, antenna, beacon, tail light a. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)		Glide	1300-1400 rpn	n 80 MPH	10° flaps		s: Axle
Base Turn1300-1400 rpm80 MPH20° flaps12. Baggage door - Unlocked, secureBase1300-1400 rpm70 MPH30° flaps14. Left side and top of fuselage, ELT antennaFinal1300-1400 rpm65 MPH (2,300 lb)40° flaps15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevatorFinal1300-1400 rpm65 MPH (2,300 lb)40° flaps16. Left side vertical stabilizer, antenna, beacon, tail light a. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)			···· I		- ···	•	
Base1300-1400 rpm70 MPH30° flaps13. Top of left wing, antennaBase1300-1400 rpm70 MPH30° flaps14. Left side and top of fuselage, ELT antennaFinal1300-1400 rpm65 MPH (2,300 lb)40° flapselevator hinge bolts/nuts; securely attached to right elevatorFinal1300-1400 rpm60 MPH (2,000 lb)40° flaps16. Left side vertical stabilizer, antenna, beacon, tail light a. Left side vertical stabilizer, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)		Base Turn	1300-1400 rpn	n 80 MPH	20° flaps	1	· · · /
Base1300-1400 rpm70 MPH30° flaps14. Left side and top of fuselage, ELT antenna 15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator (2,300 lb)Final1300-1400 rpm65 MPH (2,300 lb)40° flaps (2,300 lb)16. Left side vertical stabilizer, antenna, beacon, tail light a. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)			1		1		
Final1300-1400 rpm65 MPH (2,300 lb)40° flaps15. Horizontal stabilizer - Condition of top and underside; elevator hinge bolts/nuts; securely attached to right elevator 16. Left side vertical stabilizer, antenna, beacon, tail light a. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)		Base	1300-1400 rpn	n 70 MPH	30° flaps		
Final1300-1400 rpm65 MPH (2,300 lb)40° flapselevator hinge bolts/nuts; securely attached to right elevator 16. Left side vertical stabilizer, antenna, beacon, tail light a. Left side of rudder, rudder hinge bolts and nuts b. Right side vertical stabilizer, rudder, antenna c. Rudder actuators (bolts, nuts, and cotter pins)			1		Ĩ		de;
Final1300-1400 rpm60 MPH (2,000 lb)40° flapsa.Left side of rudder, rudder hinge bolts and nuts b.B.Right side vertical stabilizer, rudder, antenna c.Rudder actuators (bolts, nuts, and cotter pins)		Final	1300-1400 rpn	n 65 MPH	40° flaps	-	
Final1300-1400 rpm60 MPH40° flapsb. Right side vertical stabilizer, rudder, antenna(2,000 lb)(2,000 lb)c. Rudder actuators (bolts, nuts, and cotter pins)				(2,300 lb)	Ĩ		
(2,000 lb) c. Rudder actuators (bolts, nuts, and cotter pins)						a. Left side of rudder, rudder hinge bolts and nuts	-
		Final	1300-1400 rpn	n 60 MPH	40° flaps	•	
17. Right elevator; trim-tab hardware; horiz. Stabilizer			_	(2,000 lb)		c. Rudder actuators (bolts, nuts, and cotter pins)	
						17. Right elevator; trim-tab hardware; horiz. Stabilizer	

P. 2

- 18. Right side and bottom of fuselage, antennas
- 19. Top of right wing, antenna
- 20. Right main gear strut, brake line, brake disc and pads; Axle nut Cotter pinned; Tire Condition and inflation (29 psi)
- 21. Right wing sump drain Sample fuel
 - a. Right flap, flap tracks, rollers, nuts, and rod end
 - b. Right aileron, hinges, nuts, rod end, counterweights
 - c. Right wingtip, lights, leading edge, wing strut, air vent
- 22. Oil quantity minimum 6 quarts, dipstick secured
 - a. Fuel strainer drain knob pull for 4 sec. (1st flt. of the day)
 - b. Fuel strainer drain valve closed (not dripping)
 - c. Oil dipstick access door closed/latched securely
- 23. Flaps Up
- 24. Fuel tanks Check fuel quantity sufficient for planned flight plus reserve; Fuel caps Secure
- 25. Windscreen Clean

BEFORE STARTING ENGINE

- 1. Seats, seat belts, shoulder harnesses Adjust and lock
- 2. Spot Tracker- On
- 3. Pray
- 4. Brakes Test hydraulic pressure (pedal resistance)
- 5. Fuel selector valve Both
- 6. Electrical equipment, avionics power switch Off

STARTING ENGINE

- 1. Mixture Rich
- 2. Throttle Closed
- 3. Carb heat Cold
- 4. Master switch right ("Bat") half On
- 5. Primer 2 to 6 strokes (depending on temp.), then locked
- 6. Prop area Clear
- 7. Brakes Hold (parking brake off/released)
- 8. Throttle Open 1/8 inch
- 9. Ignition switch Start (not longer than 30 seconds); after engine starts, release to Both
- 10. Oil pressure Check
- 11. Master switch left ("Alt") half On; Ammeter Check
- 12. Beacon On
- 13. Avionics power switch On; Radios Set
- 14. Transponder Altitude

ENGINE FIRE IN FLIGHT

1. Mixture – IDLE CUT-OFF

- 2. Fuel selector valve OFF
- 3. Primer IN and LOCKED
- 4. Cabin heat and air CLOSE (except wing root vents)
- 5. Pitch 100 mph glide/dive (increase airspeed to blow out fire)
- 6. Radio Call MAYDAY on present frequency or 121.5
- 7. Avionics power switch (when radio is not needed) OFF
- 8. Master switch OFF

If fire is not extinguished

- 9. Emergency descent EXECUTE [p. 10]
- 10. DO NOT RESTART ENGINE
- 11. Forced landing EXECUTE [p. 9]

ELECTRICAL FIRE IN FLIGHT

- 1. Avionics power switch OFF
- 2. Master switch (both halves) OFF
- 3. All other electrical switches OFF
- 4. Vents/cabin air/cabin heat CLOSED
- 5. Fire extinguisher ACTIVATE if needed

If fire appears out and electrical power is necessary:

- 7. Master switch right ("Bat") half ON
- 8. Master switch left ("Alt") half ON
- 9. Circuit breakers CHECK for faulty circuit (do not reset)
- 10. Avionics power switch ON
- 11. Radios/electrical switches ON (one at a time, looking for fire)
- 12. Vents/cabin air/cabin heat OPEN (when certain fire is out)

CABIN FIRE

- **1.** Master switch (both halves) OFF
- 2. Vents/cabin air/cabin heat CLOSED (to avoid drafts)
- 3. Fire extinguisher ACTIVATE
- 4. Cabin VENTILATE after discharging extinguisher in closed cabin
- 5. Land the airplane as soon as practical to inspect for damage

WING FIRE

- **1.** Navigation light switch OFF
- 2. Pitot heat switch OFF
- 3. Strobe light switch OFF
- 4. Emergency descent EXECUTE [p. 10]

Sideslip to keep flames away from fuel tanks and cabin. Land as soon as possible, using flaps only as required for final approach/touchdown.

PRECAUTIONARY LANDING (with power)

- 1. Radio Call PAN-PAN on present frequency or 121.5
- $2. \ Passengers-BRIEF$
 - a. Seat belts/harness TIGHT
 - b. Doors OPEN and LOCKED (handles forward)
- 3. CHOOSE LANDING SITE and DRAG IT [p. 8]
- 4. Avionics power switch (when radio is not needed) OFF
- 5. Electrical equipment OFF
- On Final
- 6. Flaps -40°
- 7. Approach speed 60-65 MPH
- 8. Touchdown GENTLY WITH POWER
- 9. Throttle IDLE
- 10. Yoke FULL AFT
- 11. Mixture IDLE CUT-OFF
- 12. Master Switch OFF
- 13. Ignition switch OFF
- 14. Brakes AS REQUIRED

DITCHING (as close as possible to land or boats)

- 1. Transponder 7700
- 2. Radio Call MAYDAY on present frequency or 121.5
- 3. Establish glide
 - a. With power set approximately 1400 rpm, Flaps 40°, establish 300 ft/min descent at 60-65 MPH;
 - b. Engine out -70 mph, flaps 10°
- 4. Passengers BRIEF
 - a. Heavy objects SECURE or JETTISON
 - b. Seat belts/harness TIGHT
 - $c. \quad Doors-OPEN \ and \ LOCKED \ (handles \ forward)$
 - d. Face CUSHION
- 5. Approach PARALLEL TO SWELLS or ON BACKSIDE
- 6. Touchdown As slowly (near stall) as possible
- 7. EVACUATE airplane (flood cabin if necessary to open doors)
- 8. Life vests/raft INFLATE (after exiting airplane)

EMERGENCY DESCENT

- 1. Carburetor heat FULLY ON
- 2. Throttle IDLE
- 3. Bank STEEP BANK will lower nose & increase descent rate
- 4. Flaps- FULL DOWN (below 100 MPH)
- 5. Pitch LOWER NOSE for airspeeds: do not exceed 100 mph (VFE)
- 6. Throttle CLEAR ENGINE periodically (except for fire)

BEFORE TAKEOFF

P.10

- 1. Flight controls Check free and correct
- 2. Fuel selector valve Both
- 3. Elevator trim Takeoff
- 4. Mixture Full rich
- 5. Cabin doors and window Closed and locked
- 6. Set 1700 rpm; Mags Check (125 rpm max drop/50 max diff)
 - a. Carb heat Check (for rpm drop), then Cold
 - b. Engine instruments/ammeter/suction gauge Check
- 7. Flight instruments and radios Set
- 8. Transponder Code set; recheck in Alt mode
- 9. Review takeoff data and engine failure procedures

RUNWAY LINEUP

- 1. Align aircraft on centerline; set DG compass to rwy. heading
- 2. Check windsock, anticipate/set crosswind controls

NORMAL TAKEOFF (Flaps Up)

- 1. Throttle Smoothly to full open (approximately 2300 rpm)
- 2. Airspeed indicator Check for movement
- 3. Rotate at 60 mph (max wt.), 55 mph (light wt.)

NORMAL (Vy) CLIMB or CRUISE CLIMB

- 1. Set pitch for 90 mph (-1 mph per 1,000' MSL) or 95-100 mph
- 2. Throttle Full open
- 3. Mixture (above 3,000' density altitude) Lean for max rpm

LEVEL OFF/CRUISE

- 1. Set pitch for level flight at planned cruise airspeed
- 2. Throttle Set for cruise (typically 2400-2500 rpm)
- 3. Trim
- 4. Mixture Lean to 50° rich of peak EGT

DESCENT (LET-DOWN)

- 1. Plan a descent point (altitude to lose, distance to go)
- 2. Throttle As required (approximately -500 rpm per -500 fpm)
- 3. Carb heat On if below 1500 rpm
- 4. Mixture Adjust (enrich periodically for smooth operation)

BEFORE LANDING - DOWNWIND

- 1. Airspeed 90 mph (approximately 2000 rpm)
- 2. Fuel selector valve Both
- 3. Mixture Full rich
- 4. Carb heat Fully on

ABEAM TOUCHDOWN POINT

- 1. Throttle Set 1300 rpm to 1400 rpm
- 2. Flaps 10°
- 3. Lower nose to establish 80 mph glide
- 4. Trim

TURNING BASE

- 1. Flaps 20°
- 2. Pitch for 70 mph

BASE

- 1. Airspeed 70 mph
- 2. Flaps 30°
- 3. Trim

FINAL

- 1. Flaps 40°
- 2. Airspeed 60 mph (light weight) to 65 mph (max weight)
- 3. Trim

LANDING

- 1. Throttle Idle
- 2. Touchdown on main wheels, lower nose gently
- 3. Braking Minimum required

GO-AROUND/REJECTED LANDING

- 1. Throttle Smoothly to full open (approximately 2300 rpm)
- 2. Carb heat Cold
- 3. Flaps Raise to 20° immediately
- 4. Trim Nose down trim as necessary to help control pitch-up
- 5. Set pitch to takeoff attitude to climb and accelerate
- 6. Flaps 10° ('til obstacles cleared); Retract at 65 mph

STOP-AND-GO AFTER LANDING/BEFORE TAKEOFF

- 1. Brake normally to a stop
- 2. Flaps Retract
- 3. Carb heat Off
- 4. Trim Takeoff

ROUGH-RUNNING ENGINE (no indication of engine damage)

1. Mixture – ADJUST

If still rough, magneto or magneto timing may be a problem...

- 2. Ignition SELECT EACH MAGNETO INDIVIDUALLY
- 3. If roughness disappears, leave ignition on that magneto
- 4. Land as soon as practical

GRADUAL LOSS OF POWER (usually carburetor ice)

- 1. Carburetor heat FULLY ON
- 2. Mixture ADJUST

SUDDEN LOSS OF POWER (usually fuel starvation)

- 1. Fuel selector valve LEFT or RIGHT for 1 min., then switch to opposite side
- 2. Mixture RICH

ENGINE FAILURE DURING FLIGHT

- 1. Pitch SET FOR 80 MPH and TRIM
- 2. Carburetor Heat FULLY ON
- 3. Fuel Selector Valve BOTH, (or if already in BOTH) select LEFT or RIGHT for 1 min., then switch to opposite side
- 4. Mixture RICH
- 5. Primer IN and LOCKED
- 6. Landing field SELECT and MANEUVER TOWARD IT
- 7. Ignition switch BOTH (or START if propeller is stopped)

If power not restored – EXECUTE FORCED LANDING [below]

FORCED LANDING (without power)

- 1. Transponder 7700
- 2. Radio Call MAYDAY on present frequency or 121.5
- 3. Passengers BRIEF
 - a. Seat belts/harness TIGHT
 - $b. \quad Doors-OPEN \ and \ LOCKED \ (handles \ forward)$
- 4. Mixture IDLE CUT-OFF
- 5. Fuel Selector Valve OFF
- 6. Ignition switch OFF
- 7. Flaps AS REQUIRED (maneuvering)
- 8. Final approach speed 60-65 MPH (Flaps down)
- 9. Flaps -40°
- 10. Master Switch OFF
- 11. Touchdown as slowly (near stall) as possible
- 12. Yoke FULL AFT
- 13. Brakes AS REQUIRED

BASIC IN-FLIGHT EMERGENCY PROCEDURES P. 8

1. MAINTAIN AIRCRAFT CONTROL

- 2. ANALYZE THE SITUATION AND TAKE PROPER ACTION
- 3. LAND AS SOON AS PRACTICAL

ENGINE FIRE DURING START ON THE GROUND

- **1. Ignition START** (continuing cranking pulls flames into engine) *If engine starts:*
- 2. Throttle 1700 RPM for a few minutes
- 3. Engine SHUTDOWN and inspect for damage

If engine fails to start:

- 4. Throttle FULL OPEN
- 5. Mixture IDLE CUT-OFF
- 6. Ignition START (continuing cranking for another 30 seconds)
- 7. Engine SECURE
 - a. Fuel selector valve OFF
 - b. Ignition switch OFF
- 8. Radio CALL FOR ASSISTANCE
- 9. Master switch OFF
- 10. Aircraft EVACUATE
- 11. Fire extinguisher USE TO EXTINGUISH FIRE

12. Aircraft – INSPECT for fire damage (*repair damage or replace damaged components or wiring before attempting another flight*)

ENGINE FAILURE DURING TAKEOFF RUN

- 1. Throttle IDLE
- 2. Brakes APPLY
- 3. Wing Flaps RETRACT (if stopping distance critical)
- 4. Mixture IDLE CUT-OFF
- 5. Ignition Switch OFF
- 6. Radio Inform tower/CTAF of aborted takeoff
- 7. Master switch OFF (if departing runway surface)

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

- 1. Lower nose maintain 75 to 80 MPH
- 2. Choose landing site STRAIGHT AHEAD
- 3. Mixture IDLE CUT-OFF
- 4. Fuel Selector Valve OFF
- 5. Ignition switch OFF
- 6. Doors OPEN and LOCKED (handles forward)
- 7. Wing Flaps AS REQUIRED
- 8. Radio Make MAYDAY call if able
- 9. Master Switch OFF
- 10. Approach speed 60-65 mph (flaps DOWN)

BEFORE TAKEOFF (MULTIPLE PATTERNS) P. 5

- 1. Fuel selector valve Both
- 2. Trim Takeoff
- 3. Mixture Full rich
- 4. Carb heat Off

SHORT-FIELD TAKEOFF

- 1. Flaps Up
- 2. Brakes Hold
- 3. Throttle Smoothly to full open (approximately 2300 rpm); at density altitudes above 3,000' lean for max rpm
- 4. Brakes Release
- 5. Yoke lift nosewheel at 60 mph
- 6. Set pitch for 68 mph **until obstacles cleared** (Vx at S.L., + 1 mph per 2,000' MSL)
- 7. Flaps Retract
- 8. Set pitch for normal Vy climb (90 mph -1 mph/1,000' MSL)

SHORT-FIELD LANDING

- 1. Airspeed 60 mph
- 2. Flaps 40°
- 3. At touchdown Lower nosewheel to ground, retract flaps
- 4. Bring yoke to full aft as you apply heavy braking as required

SOFT-FIELD TAKEOFF

- 1. Flaps 10° (prior to entering takeoff surface)
- 2. Yoke Full aft and hold it there until nosewheel lifts off
- 3. Taxi onto airstrip and align without stopping
- 4. Throttle Smoothly advance to full open as aircraft aligns
- 5. At nosewheel liftoff Ease yoke forward, hold takeoff attitude
- 6. Aircraft will fly off at min airspeed (below 40 mph)
- 7. Yoke Ease forward to level off in ground effect
- 8. Accelerate to 60 mph, pitch for Vy (90 mph), retract flaps

SOFT-FIELD LANDING

- 1. Airspeed 60 mph (light weight) to 65 mph (max weight)
- 2. Flaps 40°
- 3. Make a gentle touchdown with power
- 4. Yoke Ease it to full aft
- 5. Flaps Leave down
- 6. Throttle As necessary to keep aircraft rolling

NO-FLAP LANDING

- 1. Base airspeed 70 mph (light weight) to 75 mph (max wt.)
- 2. Final airspeed 65 mph (light weight) to 70 mph (max wt.)
- 3. Braking as necessary (do not plan to use normal turnoff)

SIMULATED ENGINE-OUT (S.E.O.) LANDING ABEAM TOUCHDOWN POINT

- 1. Carb heat Fully on
- 2. Throttle Idle
- 3. Flaps 10°
- 4. Lower nose for 80- mph glide and trim

BASE

- 1. Fly tighter base to insure making runway
- 2. Airspeed -75 to 80 mph
- 3. Flaps Use judiciously to control airspeed and glidepath **FINAL**
- 1. Airspeed 65 mph (light weight) to 70 mph (max weight)
- 2. Flaps As required; do not select 40° until landing assured
- 3. Airspeed 60 mph (light weight) to 65 mph (max weight)

AFTER LANDING (clear of runway)

- 1. Flaps Retract
- 2. Carb heat Cold
- 3. Pitot heat Off
- 4. Landing light Off
- 5. Spot tracker (last landing) \sqrt{OK} button until green light on
- 6. Flight plan (if applicable) Close

ENGINE SHUTDOWN

- 1. Throttle Idle
- 2. Avionics power switch Off
- 3. Master switch left ("Alt") half Off
- 4. Ignition switch L, then R, then Off, then back to Both (mag grounding check)
- 5. Mixture Idle cut-off
- 6. Ignition switch Off (after prop stops turning)
- 7. Master switch right ("Bat") half Off
- 8. Key Remove from ignition
- 9. Spot tracker Off

DRAGGING A FIELD

Assess the field suitability with **Wind LASSO** Wind (strength and direction)

- L Length
- A Altitude (elevation to figure pattern altitude, density altitude)
- S Slope (upslope/downslope and sideslope)
- S Surface condition (grass [length], dirt, gravel, sand, ruts, etc.)
- O Obstructions (rocks, stumps, etc. on the field; also obstructions on the final approach and departure corridors)
- 1. Overfly the field along its length at a safe altitude
- 2. If the field is on a slope, fly from uphill to downhill
- 3. Airspeed approximately (but not slower than) 70 mph
- 4. Flaps 20°
- 5. Estimate length of field (100 ft/sec times number of seconds):
 - c. Fly GPS groundspeed of 60 kts (in calm or headwind)
 - d. Time the pass over the field in seconds, multiply by 100
 - e. The product is the approximate length of the field in feet
 - f. If 60 kts GS is less than 70 mph (in tailwind), fly90 kt GS and use 150 ft/sec times number of seconds
- 6. Make low pass(es) at approx. 50' AGL to assess field slope, surface condition, and obstructions