

## BEFORE ENGINE START

- 1) Hobbs Time..... NOTED
- 2) Preflight..... COMPLETE
- 3) Fuel /Oil quantity .....ADEQUATE
- 4) Seats & Seat Belts .....ADJUSTED & LATCHED
- 5) Fuel selector ..... BOTH
- 6) Circuit breaker panel ..... CHECK

## STARTING ENGINE

- 1) Ignition switch ..... KEY IN - SWITCH OFF
- 2) Radio Master ..... OFF
- 3) Carb Heat ..... OFF
- 4) Beacon and/or Navigation lights ..... ON
- 5) Mixture ..... RICH
- 6) Primer..... AS NEEDED
- 7) Master switch ..... ON
- 8) Throttle..... OPEN ¼ inch
- 1) Brakes ..... HOLD
- 2) Propeller area..... CLEAR
- 3) Ignition..... START (10 seconds max)
  - o Throttle ..... 1000 RPM
  - o Oil pressure...NORMAL (within 30 seconds)
  - o Radio Master ..... ON
  - o Ammeter ..... Positive Charge
- 4) Mixture ..... LEAN for smooth idle

## AFTER START

- 1) AWOS/ ATIS ..... LISTEN
- 2) Lights ..... AS REQUIRED
- 3) Flaps..... RETRACT
- 4) Brake and steering check ..... ON TAXI
- 5) IFR taxi checks
  - RAIM/WASS Check
  - Alt with 75ft of field elevation
  - VSI =0
  - Airspeed =0 and not negative
  - Attitude indicator <5° during ground turns
  - Compass moves freely
  - Turn coordinator indicates turn
  - Ball moves freely to outside of turn
  - Clock working

## RUN UP

- 1) Brakes..... HOLD
- 2) Flight controls..... FREE & CORRECT
- 3) Fuel ..... BOTH
- 4) Flight instruments (Heading Ind) ..... SET
- 5) Elevator Trim ..... SET for TAKEOFF
- 6) Primer ..... IN/ LOCKED
- 7) Mixture ..... RICH
  - Throttle..... 1600 RPM
  - Magnetos ..... CHECK (150 Max, 75 DIF)
  - Carb heat..... CHECK
  - Ammeter..... POSITIVE CHARGE
  - Oil temp/ pressure ..... NORMAL RANGE
  - Vacuum gauge ..... CHECK
  - Throttle..... 1000 RPM
- 8) Door ..... LOCKED
- 9) Lights ..... AS REQUIRED
- 10) Flaps..... SET for TAKEOFF
- 11) Radios ..... Comm & Nav SET
- 12) NAV/GPS ..... SET
- 13) Power Loss on Takeoff Checklist..... REVIEWED

## PRE-TAKEOFF

- 2) Lights
- 3) Camera (Transponder)
- 4) Action
  - Fuel.....Both
  - Flaps.....Set
  - Mixture.....Rich
- Carb heat.....Cold
- Trim.....Takeoff
- Key.....On
- Master.....On
- Primer.....Locked

## TAKEOFF &amp; CLIMB

- 1) Normal takeoff ..... Flaps 0 degrees
- 2) Rotate..... 65 MPH (55 KTS)
- 3) Climb..... 80 MPH (70 KTS)
  - SHORT FIELD ..... Flaps 0 degrees
  - Climb..... 65 MPH (55 KTS)
  - SOFT FIELD ..... Flaps 10 degrees
- 4) Flaps ..... RETRACT
- 5) Mixture ..... LEAN above 3000 ft

## CRUISE

- 1) Level at altitude..... ACCELERATE
- 2) Throttle ..... SET DESIRED POWER (2400-2600)
- 3) Trim ..... for LEVEL FLIGHT
- 4) Mixture..... LEAN
- 5) Heading Indicator ..... TO COMPASS

## DESCENT

- 1) Throttle ..... (as necessary)
- 2) Mixture..... Richen only as necessary

## IN RANGE

- 1) ATIS – AWOS -- Advisories ..... NOTED
- 2) Altimeter ..... SET
- 3) Approach Plate ..... BRIEFED
- 4) Radios..... SET
- 5) NAV/GPS switch..... SET
- 6) Lights..... AS REQUIRED
- 7) Initial approach speed..... TRIMMED

## BEFORE LANDING

- 1) Mixture..... RICH
- 2) Carb Heat ..... ON
- 3) Flaps..... Flaps 10°– 80 MPH (70 KTS)
- 4) NORMAL LANDING..... Flaps 20° – 75 MPH (65 KTS)
- 5) SHORT FIELD..... Flaps 30°– 70 MPH (61 KTS)

## MISSED APPROACH / GO AROUND

- 1) Throttle ..... FORWARD
- 2) Speed ..... 80 MPH (70 KTS)
- 3) Flaps..... 20°
- 4) Flaps..... RETRACT at 70 MPH (65 KTS)

## AFTER LANDING

- 1) Flaps ..... UP
- 2) Trim ..... TAKEOFF SETTING
- 3) Carb Heat ..... OFF
- 4) Lights ..... AS REQUIRED
- 5) Mixture..... LEAN

## ENGINE SHUTDOWN

- 1) Throttle ..... IDLE
- 2) Radio master..... OFF
- 3) Mixture..... CUT OFF
- 4) Magnetos ..... OFF (remove key)
- 5) Lights ..... OFF
- 6) Master switch..... OFF

**PRE-MANEUVER**

- 1) Clearing Turns ..... 2x 90°
- 2) Altitude ..... Adequate
- 3) Fuel ..... Both
- 4) Mixture ..... Set
- 5) Carb Heat ..... Off In Green Arc

**CHANDELLES**

- 6) Clearing Turns ..... 2x 90°
- 7) Cruise Speed ..... +100 MPH (90Kts)
- 8) Add full power (Remain coordinated)
  - Roll into 30° bank,
  - Pitch up 15° by 90° (Constant bank – chg pitch)
  - At 90° hold pitch, beg roll out const pitch- chg bank
  - Wings level at 180°, just above stall
  - +/- 10° on heading

**EIGHTS ON PYLONS**

- 9) Clearing Turns ..... 2x 90°
- 10) Cruise Speed ..... 100 MPH (90Kts)
- 11) Pivotal Alt: Groundspeed<sup>2</sup>/15= MPH
  - 100 MPH=670 ft
  - 110 MPH= 810ft
- 12) First turn into wind. Points 0.5 Miles apart or 20 sec

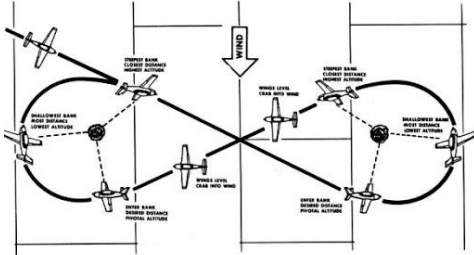


Figure 11-10 Eights-On-Pylons

**LAZY EIGHTS**

- 13) Clearing Turns ..... 2x 90°
- 14) Cruise Speed (2350rpm) ..... 107 MPH (97Kts)
  - 45°= 15° Pitch/ 15°Bank
  - 90°= 0° Pitch/ 30°Bank (5-10 kts above stall)
  - 135°= -5° Pitch/ 15° Bank
  - 180°= Level
- 15) Left first then right.
  - R-rudder on right turn
- 16) ACS:
  - Heading: +/- 10°
  - Airspeed: +/- 10 Kts
  - Altitude: +/- 100 ft

**STEEP SPIRALS**

- 17) Clearing Turns ..... 2x 90°
- 18) Alt. .... 6000ft
- 19) Enter into the wind
- 20) Power to Idle, carb heat
- 21) Trim for 80MPH (70KTS)
- 22) 3 turns- constant radius
- 23) Clear engine on upwind
- 24) Recover on turn 3
- 25) ACS
  - Heading: +/- 10°
  - Airspeed: +/- 10 Kts

**ACCELERATED STALLS**

- Power to 1500
- Slow to 100
- 45° turn
- Maint altitude
- At 80mph pull back

**Recover**

- Full power
- Release back pressure
- Level wings
- Vy

**POWER LOSS ON TAKEOFF**

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1) On Ground                     <ul style="list-style-type: none"> <li>• Pull power</li> <li>• Brake as necessary</li> <li>• Mayday call</li> </ul> </li> <li>2) Runway remaining                     <ul style="list-style-type: none"> <li>• Pitch 80mph</li> <li>• Land</li> <li>• Mayday call</li> </ul> </li> </ol> | <ol style="list-style-type: none"> <li>3) No Runway Remaining                     <ul style="list-style-type: none"> <li>• Pitch 80mph</li> <li>• Land straight or 30° either way</li> <li>• Mayday Call</li> </ul> </li> <li>4) 1000 ft                     <ul style="list-style-type: none"> <li>• Pitch 80mph</li> <li>• Return to airport- Land</li> <li>• Mayday call</li> </ul> </li> </ol> |
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**POWER LOSS IN FLIGHT**

- 1) Best Glide ..... 80MPH (70KTS)
- 2) Best Field ..... PICKED

**ENGINE RESTART**

- 3) Fuel ..... BOTH
- 4) Mixture ..... RICH
- 5) Throttle ..... FULL
- 6) Carb Heat ..... ON
- 7) Mags ..... BOTH
- 8) Master ..... ON
- 9) Primer ..... LOCKED
- 10) Key ..... START

**EMERGENCY LANDING**

- 11) Fuel ..... Off
- 12) Mixture ..... Cut Off
- 13) Throttle ..... IDLE
- 14) Mags ..... OFF
- 15) Primer ..... LOCKED
- 16) Transponder ..... 7700
- 17) Radio: 121.5 unless in contact with ATC
  - DECLARE EMERGENCY
- 18) Harnesses ..... SECURED
- 19) Passengers ..... BRIEFED
- 20) Master ..... OFF
- 21) Doors ..... UNLATCHED

**ELECTRICAL FIRE IN FLIGHT**

- 22) Master ..... OFF
- 23) Avionics master ..... OFF
- 24) All Switches besides Ignition ..... OFF
- 25) Land ..... NEAREST AIRPORT

**ENGINE FIRE IN FLIGHT**

- 26) Mixture ..... Idle Cut Off
- 27) Fuel ..... OFF
- 28) Master ..... OFF
- 29) Cabin Heat ..... OFF
- 30) Overhead Vents ..... OPEN
  - Increase Airspeed to Extinguish
- 31) Land ..... ASAP

**V Speeds (MPH/Kts)**

- Vso: 49/43
- Vs1: 57/50
- Vr: 65/56
- Vx: 65/56
- Vy: 80/70

- B Glide: 80/70
- Vfe: 100/87
- Va: 122/106
- Vno: 140/122
- Vne: 174/151
- Max X-wind: 15kts