



V-Speed & Limitations

- See V-Speeds sheet for details on these and other limitations.
 - Note the V_{LO} & V_{LE} speeds.

Systems

- Rudder trim - Uses a bungee system rather than aerodynamic trim.



Landing Gear

- Use caution during ground handling. You can damage gear doors with tow bar.
- Drops down 2 feet when being retracted.
 - Damage could occur during a low retraction.



Landing Gear

- Electro-hydraulic retraction and extension system.
- Power pack located in cockpit between pilot & instructor rudder pedals. Normal operating pressure of 1000-1500 PSI is automatically maintained in the system.



Landing Gear

- Gear is held up by hydraulic pressure (pump will cycle when pressure switch detects a pressure drop below limits).
- Positive mechanical down locks utilized on main and nose gear.
- Nose gear has a mechanically-actuated wheel well doors.



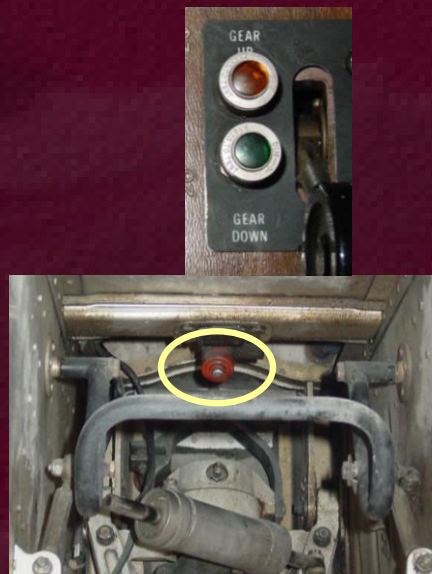
Landing Gear

- Gear handle is a mechanical valve that redirects the flow of the hydraulic fluid.
 - When redirected, the pressure switch in the power pack detects the pressure drop and activates the pump motor.
- Pull out to reposition the lever.



Landing Gear

- 2 gear lights - UP (amber) and DOWN (green).
 - Lights dimmed by twisting indicator.
 - 3 separate switches (6 total) must be closed to activate the amber gear up or green gear down lights.



Landing Gear

- Gear warning interconnect when flaps are extended beyond 20° with the gear retracted.
- Warning will also sound if throttle is retarded below approximately 12" MP with the gear retracted.
 - Mechanical switch in throttle linkage.



Landing Gear

- Squat switch on nose gear prevents the hydraulic power pack from actuating the pump motor when there is weight on the nose wheel.
 - It is not unusual for the pump motor to actuate for 1-2 seconds after liftoff to repressurize the system in the down direction.



Landing Gear

- Emergency extension hand pump available for manual gear extension (only).
 - Pull forward and pump up and down to extend (approximately 35 strokes).



Lycoming - O-360-FIAG

- 180 HP@2700 RPM
- Carbureted engine
- 3 cylinder manual primer
- Carb heat
- Accelerator pump activated by throttle control
- Horizontally mounted, side-draft, float-type carburetor mounted below the engine



Engine

- Fuel supplied by gravity and engine driven fuel pump with an electric auxiliary pump backup.
 - Engine will operate in level flight and descent without a fuel pump.



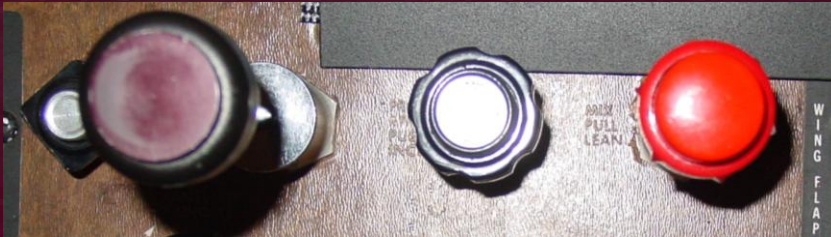
Engine

- Ram air for induction received through left opening in the cowling.
- Cooling air comes through both openings and is vented out the cowl flaps.
 - Adjust cowl flaps to maintain temperature around 2/3 of CHT green arc during cruise flight.



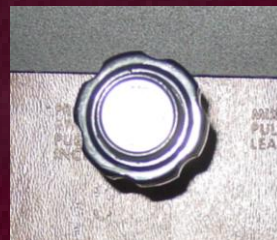
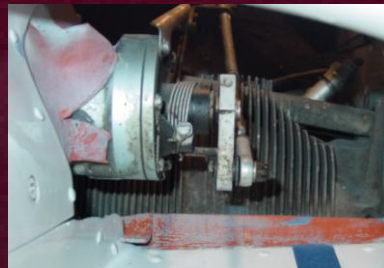
Engine

- Air from the carburetor heater is unfiltered. Will cause a 1" loss in MP at full power.
- Traditional engine control locations (T-P-M).



McCauley Constant Speed, Hydraulically Actuated Propeller

- Decrease in oil pressure to the piston in the propeller hub will allow centrifugal force and an internal spring to twist the blades to a low pitch, high RPM setting.
- Vernier control for minor adjustments.



Fuel System

- Four position fuel selector includes an OFF position.
- Auxiliary fuel pump should be turned on any time the pressure falls below 0.5 PSI.



Fuel System

- 4 fuel drains.
 - One for each wing tank.
 - One for the fuel selector (belly aft of access panel).
 - One for the strainer (left side of cowling).



Electrical System

- 28 volt DC system with 60 amp belt driven alternator.
- Battery located aft of the rear cabin wall.
- Primary and avionics bus. Avionics switch and breakers located on left cabin wall.



Electrical System

- Instrument lights switch controlled on dome light.



Audio Panel



Audio Panel

- HI/LO/MUTE switch sets sensitivity of marker beacons and allows audio muting (30 seconds).
- SPKR/OFF/PHN switch (below beacon lights) allows setting audio output for marker beacons and turning off marker beacons.
- XMTR switch selects the com to use for transmission.
- COM AUTO switch allows selecting speaker, off, or headphones for radio selected by XMTR (should normally be set to PHONE-down position).
- COM BOTH switch allows selecting speaker, off, or headphones for both com radios. Use for listening to weather.
- NAV 1 switch allows selecting speaker, off, or headphones for #1 nav radio.
- NAV 2, ADF, & DME switches have no function with current radios.
- ANN LTS NITE/DAY/TEST switch allows setting brightness or testing audio panel lights.

~~Other Avionics~~

- ~~• Com 1 uses a switch to set 25 kHz spacing frequencies.~~



Other Avionics

- GPS / Com 2 is a Garmin GNC 300XL. It is IFR approved and like nothing else in our fleet so review the manual.
- JPI EDM-700 Graphic Engine Monitor. Review the manual.

Other Avionics

- Push-to-talk for instructor is mounted on the panel.
- Jacks for pilot side head sets are under the panel on the far left.



Miscellaneous

- Pilot seat has a safety catch on the inboard seat rail that must be released before moving the seat back.
 - Instructor seat does not have this additional locking mechanism so use caution!
- Seat belts are anchored to the floor, not the seat. Move seat forward first before fastening.
- Overhead vents are "can" style.



Notes on Flying & Current Quirks

- Mixture control has a very short throw.
 - Very easy to over lean.
- Application of carb heat will enrichen the mixture.
 - May be too rich in some situations.
- Use 20" MP @ 2300 RPM with appropriate leaning for normal cruise in the practice area.
- Flaps are up for all takeoffs except soft field (subject to weight limitations).