Airplane performance exercises

This is an exercise to determine applicable power settings, flap settings, and airspeeds to use in different situations when operating in mountain, canyon, and backcountry areas.

Part 1: Indicated stall speeds (Vs) and minimum controllable airspeeds (MCA)

This section is used to determine the indicated airspeed (IAS) at which the airplane stalls in different configurations, and the indicated airspeed at which the stall warning activates. The IAS for stall will change as aircraft weight and CG change, and we may practice at different weights and configurations as desired. At any fixed weight/CG, the stall IAS will be the same at different altitudes, but the power settings will change. Thus, we will also determine the power required to maintain level flight at MCA at your test altitude.

Test Altitude/ temp _____   **Aircraft Weight/CG** _____

Flap Setting	MCA	Power required for level flight at MCA
0	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Part 2: Power settings, airspeeds, and configurations for mtn/canyon flight

In this section we will determine the power settings and airspeeds for normal cruise flight, slow cruise, canyon maneuvering speed (also used for pattern speed), and final approach.

Test Altitude/temp _____   **Aircraft Weight/CG** _____

	Flaps	VSI	Airspeed	Power (mp/RPM)
Cruise	0	_____	_____	_____/_____
Slow cruise	_____	_____	_____	_____/_____
V_{CANYON}	_____	_____	_____	_____/_____
Final approach	_____	_____	_____	_____/_____

Part 3: Aircraft Performance Card

If desired, you can transfer the "numbers" for the aircraft from parts 1 and 2 onto the performance card below. This will serve as a quick reference for the suggested configurations, power settings, and airspeed for each flight situation.

Keep the performance card in the cockpit for reference when practicing for or flying in mountain and canyon areas.

Aircraft: _____   N#_____

Cruise:

	Flaps	**Airspeed**	**Power**
Slow cruise	_____	_____	_____
VCANYON	_____	_____	_____

Landing:

Downwind	_____	_____	_____
Final appch	_____	_____	_____

Takeoff:

Vx (initial)	_____	_____	_____
Vx (clean)	_____	_____	_____

Test altitude _____   A/C Weight _____

Flap setting	**Vs**	**MCA**	**Power req for level flight at MCA**
0	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Mountain/Canyon Checklist:

Takeoff: **Landing:**

CIGARTIP +   **GUMPS +**

Temperature	Temperature
Wind	Wind
Slope	Slope
Weight	Weight
Mixture	Planned departure path
Flaps	and emergency landing spots
Departure path and	Runway surface, game,
Emergency landing	other aircraft operations
Abort point	Abort point/plan