MEL PRACTICE FLIGHT PROFILE

(this is not a training procedure, just a possible useful reference)

Normal Take off

Good practice to perform short delay on RWY and check critical parameters at full power (fuel press especially)

Climb to area

Passing 1,000' give a break to engines going to 2,500 rpm and 25 MAP max, once level or in the area, prop can go at 2,400 rpm

Clearing turns

Steep Turns

Slow Flight

70-ish mph and shallow turns, back on original heading at the end

Power Off Stall

Easy to do after slow flight, establish first 500 fpm descent then pull power to idle, then hold nose up pretending to try to make the RWY. Recover at stall.

Power On Stall

Suggested to do NOT at full power. If recovered properly, usually there is no altitude loss.

Engine Failure and Restart (suggested feathering only right engine to preserve HYD pump in case restart is not successful).

For the instructor: hide the mixture levers and pull mixture to cut off the engine that must be failed, keep mixtures hidden.First: Maintain aircraft control, Analyze the situation and Take proper actions, (which basically means fly towards an area that makes sense and pitch for Blue Line) THEN 3 Threes (Throttle, Mixture and Prop Fwd / Flap, Gear and Fuel / Identify, Verify and Feather).

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Student Pilot apply proper procedures, BEFORE feathering the engine, mention the troubleshooting (if altitude allows) and make sure you DO TRY if the power is restored (from the affected) engine after troubleshooting. If power is not restored, FEATHER affected engine.

Engine "unfeathering" and RESTART

After following (or mentioning) the "securing engine" checklist after failure, proceed with the Unfeather and restart checklist and procedure.
Please remember to reduce prop RPM to approx 2000 or so and very low MAP (like 15 or so) after restart, to allow a minute of warm up before matching RPM and MAP with the other engine.
After completing any Engine emergency procedure (or maneuver) which require FULL power and MAX RPM for one or both engines, remember to restore CRUISE power and RPM at earliest convenience.
That action will preserve engine life.

Engine Failure for VMC demo

For the instructor: This procedure will be for the VMC demo so it is a good idea to exercise on an additional failure, however at the end there will be no FEATHERING, but only WINDMILLING, for this reason you can fail the LEFT engine as it will remain windmilling...regardless, you could fail the HOTTEST engine at that time, depending on the previous failure you will have a very hot and a cold engine. Hide the mixture levers and pull mixture to cut off the engine that must be failed, keep mixtures hidden.
First: Maintain aircraft control, Analyze the situation and Take proper actions, (which basically means fly towards an area that makes sense and pitch for Blue Line) THEN 3 Threes (Throttle, Mixture and Prop Fwd / Flap, Gear and Fuel / Identify, Verify and feather.
Student Pilot apply proper procedures, BEFORE feathering the engine, mention the troubleshooting (if altitude allows) and make sure you DO TRY if the power is restored (from the affected) engine after troubleshooting. If power is not restored, mention you would FEATHER affected engine.
The Instructor will then give you WINDMILLING power (idle and appropriate mixture) on that engine.

VMC Demo

Full power on good engine, increase pitch to slow airspeed slowly until full rudder is required to maintain heading. Declare Loss of directional control and recover….reducing angle of attack and redusing power slightly, when speed comes back add power gently, level off and return to initial heading.

Engine Failure (during or just prior Return To Base "RTB")

For the instructor: This procedure will be for the RTB S/E so it is a good idea to exercise on an additional failure, however at the end there will be no FEATHERING, but only ZERO THRUST, for this reason you can fail any of the engine as it will remain running...regardless, you could fail the HOTTEST engines at that time, depending on the previous failure you will have a very hot and a cold engine. Hide the mixture levers and pull mixture to cut off the engine that must be failed, keep mixtures hidden.

First: Maintain aircraft control, Analyze the situation and Take proper actions, (which basically would mean at least fly towards an area that makes sense and pitch for Blue Line) THEN 3 Threes (Throttle, Mixture and Prop Fwd / Flap, Gear and Fuel / Identify, Verify and feather.

Student Pilot apply proper procedures, BEFORE feathering the engine, mention the troubleshooting (if altitude allows) and make sure you DO TRY if the power is restored (from the affected) engine after troubleshooting. If power is not restored, mention you would FEATHER affected engine.

The Instructor will then give you Zero Thrust power on that engine.

RTB and approach to full stop will be S/E.

ILS or LOC Single Engine Full Stop

Plan it in advance as a normal Instrument procedures other than different flap setting if desired to preserve power in case of need.

Short Field Take Off (overhead)*

Max Power on brakes, rotate at Vr, Climb at VX to 50 feet, then retract gear and transition to Vy.

Short Field Landing Full Stop

Choose an easy identifiable point on the RWY, touch down 0 or +100' from it.

***one of these take offs, you should practice an abort**

For the Instructor: At slow speed (possibly before “airspeed is alive”) hide mixtures and pull one of them to cut off.

Student should recognize and **abort** pulling Throttles to idle, maintaining directional control, etc.

If this is the case, as soon as the Throttles go on Idle, restore Mixture to normal on the affected engine.

If conditions allow, resume the take off from there.

If Student pilot does not immediately apply proper procedure for abort, pull both throttles to idle and gain directional control.

Restore Mixture to normal as soon as throttles reach Idle to keep affected engine running.

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