Private Pilot Flight Lesson: No-Flap Landings and Go-Arounds

Objectives:
1. exhibit knowledge relating to no-flap landings
2. be able to perform no-flap landings
3. exhibit knowledge of go-arounds
4. be able to perform go-arounds

Justification:
1. develops proper go-around techniques and judgement
2. go-arounds may be required in a variety of situation
3. in case of a flap failure, no-flap landings must be performed
4. maneuvers are required for the Private Pilot checkride

Schedule:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Est. Time</th>
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</thead>
<tbody>
<tr>
<td>Ground</td>
<td>0.25</td>
</tr>
<tr>
<td>Preflight/Taxi</td>
<td>0.25</td>
</tr>
<tr>
<td>Flight</td>
<td>1.0</td>
</tr>
<tr>
<td>Debrief</td>
<td>0.25</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1.75</strong></td>
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Recommended Readings:

<table>
<thead>
<tr>
<th><strong>AFH</strong></th>
<th>Ch 8: 8-11 to 8-13</th>
</tr>
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<tbody>
<tr>
<td><strong>AOPA</strong></td>
<td><a href="http://www.aopa.org/members/ftmag/article.cfm?article=5407">http://www.aopa.org/members/ftmag/article.cfm?article=5407</a></td>
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Elements Ground:
- no-flap landing overview
- no-flap landing procedure
- go-around
- go-around procedure

Elements Air:
- no-flap landings
- go-arounds

Completion Standards:
1. when the student is able to perform a go-around with minimal assistance
2. when the student is able to perform no-flap landings with minimal assistance

Common Errors:
- No-flap landings
  - does not lengthen pattern
  - too high on final
  - lowers nose to “regular” landing attitude, resulting in a high airspeed
  - student dives for the runway
- go-around
  - rushes go around
  - retracts all the flaps at once
  - student turns cross wind too early
  - student forgets to advise the tower
Presentation Ground:

no-flap landing overview

<table>
<thead>
<tr>
<th>PTS Standards</th>
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<tbody>
<tr>
<td>initial airspeed</td>
</tr>
<tr>
<td>touchdown</td>
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1. simulates any failure of the flap system
2. what do flaps do?
   (1) increase lift - reduced stall speed
   (2) add drag - steeper angle of descent
   (3) change in chord line - plane flies at a more nose low attitude
3. so without flaps:
   (1) higher approach speed
   (2) shallower flight path, requiring an extended traffic pattern
   (3) higher nose attitude on approach causing poorer forward visibility
   (4) minimal flare and longer float (because of less drag)
   (5) greater risk of ballooning if the flare is too pronounced
   (6) risk of tail strike if the nose is raised too high in a prolonged float
   (7) longer ground roll due to higher landing speed and lower aerodynamic braking
4. it is important to control airspeed and flight path precisely
   (1) a “clean” wing takes longer to bleed off airspeed, which can lengthen the float considerably if airspeed isn’t held appropriately

no-flap landing procedure
1. approach
   (1) extend downwind longer to account for shallower flight path
   (2) begin descent earlier (reduce power earlier) or hold less power
   (3) approach at recommended no-flap speed (usually +5 over normal approach speed)
2. flare and touchdown
   (1) less attitude change in the flare
   (2) longer period of holding off in a nose high attitude
   (3) expect a longer landing run due to the higher approach speed

go-around overview
1. :stopping a descent to land and climbing away
   (1) also known as “rejected landing”
2. reasons for go-around
   (1) another airplane on the runway
   (2) instructed to by control tower
   (3) conditions are too severe to land
   (4) approach is unstable
   (5) aircraft too high to land safely and stop in time
3. always act decisively, calmly and procedurally in a go-around
go-around procedure
1. power - full (carb heat - off)
2. pitch to climb attitude (Vy)
3. retract flaps to 20° initially
4. at positive rate of climb, retract other flaps incrementally while maintaining attitude
5. fly runway heading (unless instructed otherwise) and rejoin pattern
   (1) note: altitude at which turn is usually started will be reached sooner, so be aware of sequence in the pattern
6. notify tower of go-around if time permits

Presentation Air:
1. no-flap landings
2. go-arounds