Attachment 15

Operational Factors Group Chairman's Factual Report

DCA00MA030

Approach Envelop for All Approaches

about equal to the altitude remaining. For example; 2000 feet to go, vertical speed 2000 fpm. For more on descent planning see the rules of thumb at the back of this section.

Finally be careful to use the speedbrakes smoothly and remember that the roll rate increases with the speedbrakes deployed.

Approach

Probably one of the toughest areas to master during your first few months is deciding when to configure during the approach phase. The gouges you were given in class really do work, but throw in a lot of traffic and some tricks from ATC, and you may have a hard time applying them. Ideally, if you are at 2000 feet AGL and 250 knots about 12 nautical miles from the field on a straight in visual, you will have room to slow and configure by the book.

New First Officers need to be particularly aware of aircraft handling during the approach phase. If the speedbrakes are deployed, the roll rate increases. This is more pronounced with partial speedbrakes. If you are doing some turning with the boards out, take care to initiate your rollins and rollouts with slow, smooth inputs. To minimize tail buffeting, try to avoid using the speedbrakes with any flaps extended.

Keep in mind that ATC turns to intercept final are based on standard rate. Avoid sudden pitch inputs and be aware that the aircraft will not slow down very quickly if you are descending. If you are behind you may need to level off and configure to landing flaps in order to be fully configured and stabilized prior to 500 feet AGL. In these cases, do not hesitate to use altitude hold. If you find yourself requiring landing gear down before flaps on a regular basis you are "pressing" the airport.

Using the autopilot during flap extension seems to give a smoother ride than hand-flying the aircraft. The autopilot will trim the pitch so you can disengage it at 1000 feet AGL and be fully configured and trimmed.

After you are configured, avoid chasing airspeed fluctuations that are a function of turbulence or winds. If the aircraft is configured and trimmed with the power set properly to hold the target airspeed, generally very little additional thrust lever movement will be required to make a safe, smooth approach. Passengers are very aware of frequent or unusual power changes. In fact, a survey indicated that sudden power changes were one of the most disconcerting control adjustments for passengers. As you configure, be sure to keep a close eye on the airspeed and lead thrust application by at least 10 knots to avoid reaccelerating. It is easy to let the aircraft decelerate too quickly and get a little slow. Then an extra amount of power is required to reestablish airspeed. After a few months on the line you will find yourself adjusting your profile to meet the needs of ATC and/or traffic automatically.

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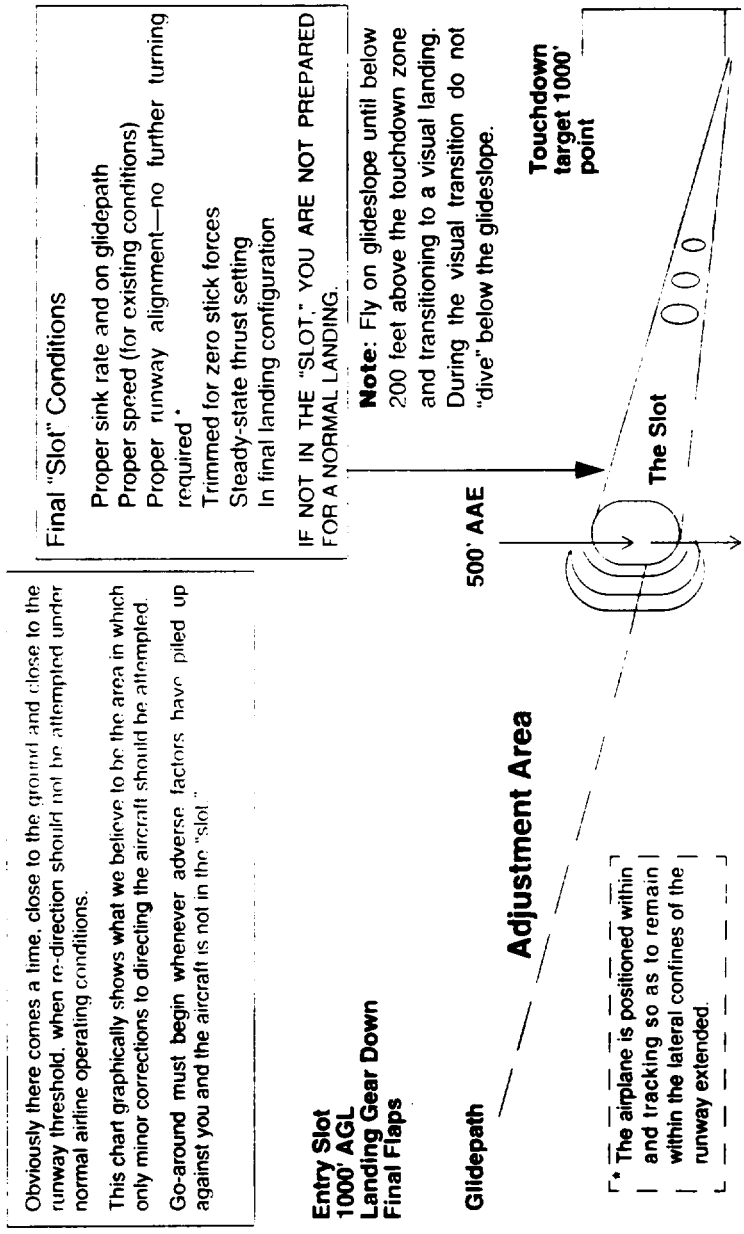

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