



### Approach Briefing & Descent Planning

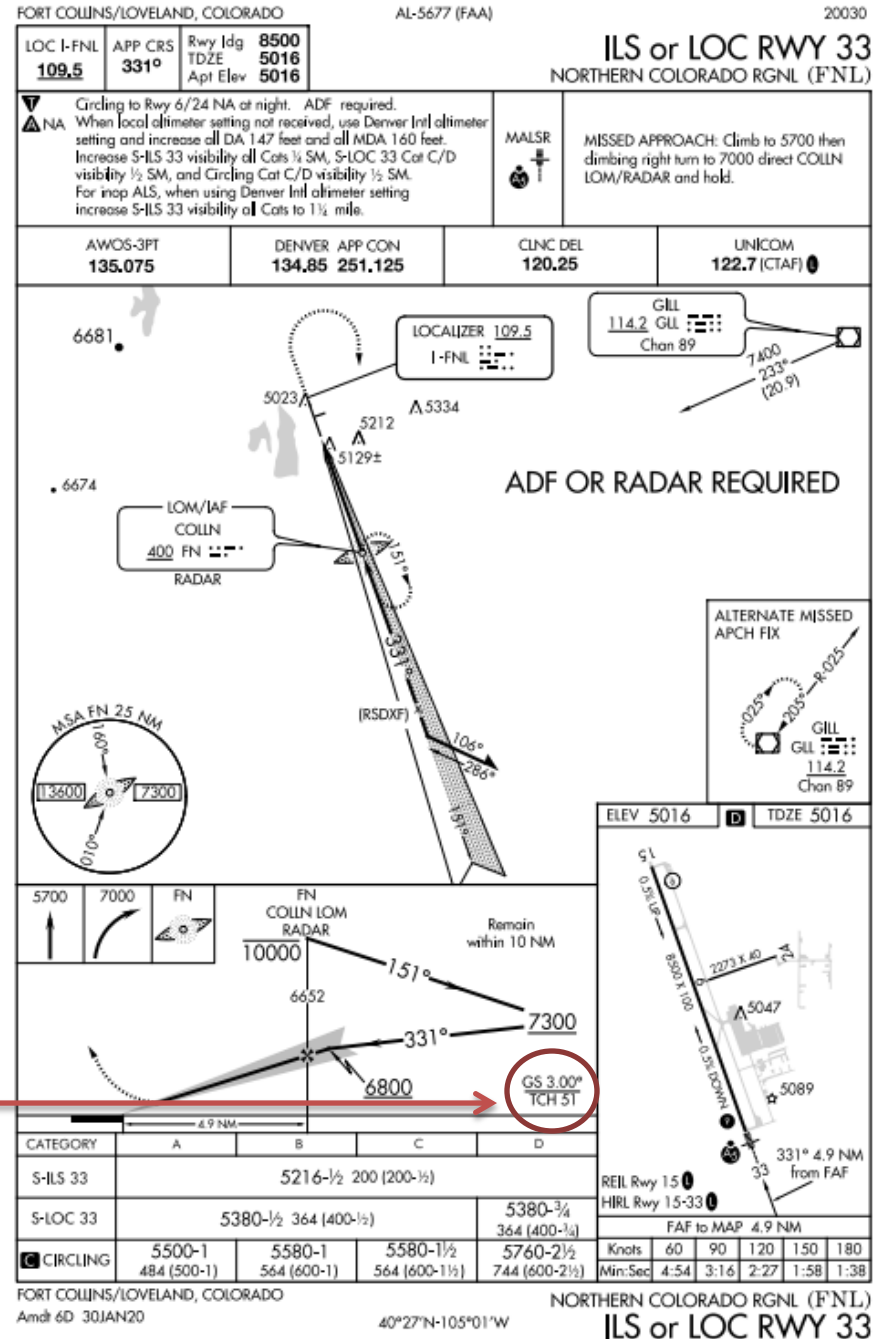
After obtaining the most recent weather from ATIS, ASOS, or AWOS, it's recommended that pilots conduct an "Approach Briefing". An example is described below.

- Type of approach: "This will be a straight-in ILS approach to Runway 33 at Northern Colorado Regional Airport."
- Frequencies: "ILS frequency is 109.5, CTAF is 122.7."
- Headings: "Final approach course is 331degrees."
- Altitudes: "The DH for this approach is 5216'."
- Rate of descent:** "The required rate of descent is approximately 500 fpm."
- Timing: Time from FAF to MAP @ 90kts GS is 3:16
- Elevations: "Field elevation is 5,016; touchdown zone elevation is 5,016."
- Rwy length/ wind: "Runway 33 is 8,500ft. Expect a crosswind from the east of 10kts"
- Notes: "ADF or RADAR required; use KDEN altimeter setting if local setting not received & adjust minimums; For inop MALSR & KDEN altimeter adjust minimums."
- Missed approach: "Missed APP: Climb to 5,700 then climbing right turn to 7,000 direct COLLIN and hold."

The rate of descent isn't depicted on some approach plates.

Assuming a 3° glide slope the following "rules of thumb" can be used to determine the approximate rate of descent:

1. Multiply the groundspeed by 5.  
With a groundspeed of 90kts ( $90 * 5 = 450\text{fpm}$ )  
- or -
2. Take half the groundspeed & add a zero to the end.  
With a groundspeed of 90kts ( $90 / 2 = 45$  add 0=  
450fpm)



## CLIMB/DESCENT TABLE

For planning purposes, increased accuracy and for glide slope angles other than 3° the CLIMB/DESCENT table can be referenced. This table is located on the inside of the back cover of the FAA Terminal Procedures Publication.

1. Groundspeed 90 knots
2. Descent angle 3°
3. Rate of Descent in fpm

Descent from cruise

Planning the descent from cruise is also important because of the need to dissipate altitude and airspeed in order to arrive at the initial approach fix altitude properly configured.

The following "Rule of Thumb" can be used to determine when to start your descent prior to the point at which you desire to arrive at your new altitude.

1. Divide the altitude needed to be lost by 300.  
If cruising at 10,000 feet and you want to descend to an altitude of 7300 ft for the ILS procedure turn into KFNL.  
 $10,000 - 7300 = 2700\text{ft}$  is the altitude needed to lose.  
 $2700/300 = 9$  nm.
2. Therefore, you need to start your descent 9 NM out.

With a ground speed of 120kts, the aircraft will be traveling at 2nm per minute. The descent should take 4.5 minutes.

1. Multiply the groundspeed by 5.  
With a groundspeed of 120kts ( $120 * 5 = 600\text{fpm}$ )
2. Chart  
With a groundspeed of 120kts @ 3° = 637fpm

## CLIMB/DESCENT TABLE 10042

INSTRUMENT TAKEOFF OR APPROACH PROCEDURE CHARTS RATE OF CLIMB/DESCENT TABLE (ft. per min)												
A rate of climb/descent table is provided for use in planning and executing climbs or descents under known or approximate ground speed conditions. It will be especially useful for approaches when the localizer only is used for course guidance. A best speed, power, altitude combination can be programmed which will result in a stable glide rate and altitude favorable for executing a landing if minimums exist upon breakout. Care should always be exercised so that minimum descent altitude and missed approach point are not exceeded.												
CLIMB/ DESCENT ANGLE (degrees and tenths)	ft./NM	GROUND SPEED (knots)										
		90	120	150	180	210	240	270	300	330	360	
2.0	210	210	320	425	530	635	743	850	955	1060	1165	1275
2.5	265	265	400	530	665	795	930	1060	1195	1325	1460	1590
2.7	287	287	430	574	717	860	1003	1147	1290	1433	1576	1720
2.8	297	297	446	595	743	892	1041	1189	1338	1486	1635	1783
2.9	308	308	462	616	770	924	1078	1232	1386	1539	1693	1847
3.0	318	318	478	637	797	956	1115	1274	1433	1593	1752	1911
3.1	329	329	494	659	823	988	1152	1317	1481	1646	1810	1975
3.2	340	340	510	680	850	1020	1189	1359	1529	1699	1869	2039
3.3	350	350	526	701	876	1052	1227	1402	1577	1752	1927	2103
3.4	361	361	542	722	903	1083	1264	1444	1625	1805	1986	2166
3.5	370	370	555	745	930	1115	1300	1485	1670	1860	2045	2230
4.0	425	425	640	850	1065	1275	1490	1700	1915	2125	2340	2550
4.5	480	480	715	955	1195	1435	1675	1915	2150	2390	2630	2870
5.0	530	530	795	1065	1330	1595	1860	2125	2390	2660	2925	3190
5.5	585	585	880	1170	1465	1755	2050	2340	2635	2925	3220	3510
6.0	640	640	960	1275	1595	1915	2235	2555	2875	3195	3510	3830
6.5	690	690	1040	1385	1730	2075	2425	2770	3115	3460	3805	4155
7.0	745	745	1120	1490	1865	2240	2610	2985	3355	3730	4105	4475
7.5	800	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800
8.0	855	855	1280	1710	2135	2560	2990	3415	3845	4270	4695	5125
8.5	910	910	1360	1815	2270	2725	3180	3630	4085	4540	4995	5450
9.0	960	960	1445	1925	2405	2885	3370	3850	4330	4810	5295	5775
9.5	1015	1015	1525	2035	2540	3050	3560	4065	4575	5085	5590	6100
10.0	1070	1070	1605	2145	2680	3215	3750	4285	4820	5355	5890	6430

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