

## About CG SINK RATE

On the 787, CG SINK RATE is calculated from accelerometers located in the center electronics bay. These accelerometers are located inside the Inertial Reference Units (IRU) and Attitude Heading Reference Units (AHRU). CG sink rate is the airplane CG sink rate in feet/min, which is used as a direct measure of the severity of the landing.

CG SINK RATE is displayed on the ATA 51 Landing Conditions maintenance page.

The CG sink rate calculation involves several parameters such as bank angle, pitch rate, etc. and is considered Boeing proprietary. Boeing regrets that this information cannot be shared outside Boeing. The closest match to the CG sink rate on the Landing Conditions Maintenance Page is CPL parameter FCEVERTSPDVTDCP\_DCAIOBix where x=1, 2, 3 and 4.

"FCEVERTSPDVTDCP\_DCAIOBix where x=1, 2, 3 and 4" is the Voted Captain's Vertical Speed from Flight Controls and published by Displays and Crew Alerting function. It is the vertical velocity value displayed on the Captain's PFD. There are four (4) different sources where this parameter is available for redundancy purpose, thus the 1, 2, 3 and 4. The four different parameters (with the same value at any given time) are FCEVERTSPDVTDCP\_DCAIOB1, FCEVERTSPDVTDCP\_DCAIOB2,

FCEVERTSPDVTDCP\_DCAIOBI3 and FCEVERTSPDVTDCP\_DCAIOBI4. The unit for this value is feet/min. FCEVERTSPDVTDCP\_DCAIOBI1 is recorded in the baseline CPL.

FCEVERTSPDVTDCP represents the vertical rate of the entire airplane as a whole. It is similar to the CG sink rate but due to the geometry of the airplane (pitch/roll/yaw rate, actual CG location on the airplane and the runway slope for this context) the CG sink rate could be slightly different from the vertical rate displayed on the PFD.

注：CPL 是连续参数列表，是 QAR 译码的一种数据库类型。FCEVERTSPDVTDCP\_DCAIOBI1 参数是 FCE VERT SPD Voted Captain -APP-DCA\_IO\_BITE-1，参数描述：Captain's Trusted Baro Inertial Vertical Speed from FCE. (FCE 是飞行控制电子组件)

Table 1: CG SINK RATE less than or equal to 360		
表 1: CG SINK RATE 小于等于 360		
	Minimum/最小值	Maximum/最大值
MAIN GEAR/主起落架		
PRIOR TO TOUCHDOWN/着地前		
CG Sink Rate (ft/min)/ 重心下降率 (ft/min)	NA	+360
Pitch Attitude/俯仰姿态	NA	+10
Crab Angle/偏航角	-20	+20
Roll Attitude/横滚姿态	-8	+8
Body Roll Rate/机体横滚速率	-9	+9
CG Norm Accel/重心加速度	+0.9	NA
TOUCHDOWN/着地时		
Peak CG Norm Accel /重心加速度峰值	NA	+1.8
NOSE GEAR/前起落架		
Body Pitch Rate/机体俯仰率	-7	NA

SYS MENU

MAINT  
DATA PGS

LATCHED  
MSG ERASE

MAINT  
CTRL PGS

CENTRAL  
MAINT

11:36:19

LANDING CONDITIONS

AUTO

DATE 16 JUN 21  
GROSS WEIGHT 166.7  
CG 23.7  
MAIN GEAR:  
UTC 09:41:11.0  
PRIOR TO TOUCH DOWN:  
CG SINK RATE +287.9  
PITCH ATTITUDE +2.5  
CRAB ANGLE +0.4  
ROLL ATTITUDE 0.0  
BODY ROLL RATE +0.3  
CG NORM ACCEL +1.1  
TOUCH DOWN:  
PEAK CG NORM ACCEL +1.7  
NOSE GEAR:  
UTC 09:41:15.0  
BODY PITCH RATE -0.6



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NAV RAD

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