

**San Joaquin OH-58A+; N177SJ; Accident Date: 8/10/2005**

**Weight & Balance Calculation**

<b>Item</b>	<b>Source</b>	<b>Weight (lbs)</b>	<b>Arm (Inch)</b>	<b>Moment (In. * Lbs.)</b>
Empty Weight	(1.-Wt.& Arm)	2040.5	116.39	237,494
Pilot	(5.-Wt.); (2.-Arm)	196	65	12,740
Spray Material	(6.-Wt.); (1.-Arm)	847.5	106	89,835
Fuel 39 gal @ 6.8 lbs/gal	(7.-Wt.); (2.-Mom.)	265	115.85	30,700
Pilot's Gear	(7.-Wt.); (2.-Arm)	10	65	650
Baggage/Avionics Compart. (A), (B)	(7.-Wt.); (4.-Arm)	15	148	2,220
		<b>3374</b>	<b>110.74</b>	<b>373,639</b>

Sources:

1. San Joaquin Weight & Balance Report--Dated 3/22/2001
2. U.S. Army OH-58A/C Operator's Manual--TM 55-1520-228-10
3. FAA Type Certificate Data Sheet No. R00002LA
4. Bell Helicopter 206B3 Flight Manual
5. LA County Coroner's Report--Case No. 2005-06080
6. Weight of Spray Material provided by operator
7. Information determined during investigation

Notes:

- (A) Note from Army Ops. Manual--"No cargo shall be in the avionics compartment"  
(B) Bell 206B-3 Flight Manual lists arm of "Baggage Compartment" as 148 inches.  
Since the "Avionics Compartment" in the OH-58A/C is located in the same location as the "Baggage Compartment" in a 206B-3, it is a valid assumption to specify arm as 148 in.

Results:

Comparing Results to values found in the Type Certificate Date Sheet (R00002LA):

- Over gross weight at time of the accident: Gross Wt. Of 3374 lbs is 174 lbs above limit of 3200 lbs.
- The helicopter CG was 110.74 inches. Upper CG limit is 111.4 inches at Max GWT of 3200 lbs.