

N947RV Weight & Balance - Fully equipped before exterior painting

| | Left Main | Rt. Main | Nose | | Total | Fuel Calculated at 6 Lbs/Gal |
|-----------|--------------------------------|----------|--------|-----------|-----------|------------------------------|
| Weight | 439.00 | 438.00 | 378.00 | | 1255.00 | Empty 8 Qts Oil |
| Component | Weight | * | Arm | = | Moment | |
| Lmain | 439.00 | | 97.50 | | 42802.50 | |
| Rmain | 438.00 | | 97.50 | | 42705.00 | |
| Nose | 378.00 | | 40.20 | | 15195.60 | |
| sub total | 1255.00 | | | | 100703.10 | |
| CG Limits | 82.08 to 88.24 in aft of datum | | | Empty C.G | 80.24 | |

| | | | |
|---------------|-------|---------|--|
| Datum | 72.00 | | Forward of wing leading edge, 14.5" aft of side firewall |
| CG Fwd Limits | 82.08 | 18% MAC | |
| CG Aerobatic | 86.00 | 25% MAC | Max Aft Limits |
| CG Aft Limit | 88.24 | 29% MAC | |

| Maximum Gross Weight CG Heavy Pilot/Pass/Bags/Fuel | | | |
|---|---------|--------|-----------|
| Item | Weight | Arm | Moment |
| Aircraft | 1255.00 | 80.24 | 100701.20 |
| Fuel 50 Gal | 300.00 | 81.97 | 24591.00 |
| Pilot | 200.00 | 99.83 | 19966.00 |
| Passenger | 200.00 | 99.83 | 19966.00 |
| Baggage | 100.00 | 129.48 | 12948.00 |
| Total | 2055.00 | | 178172.20 |
| CG: | 86.70 | | |

| Aerobatic CG - Max 1900Lb & 86.00CG Pilot & Instructor and 40 Gals Fuel | | | |
|--|---------|--------|-----------|
| Item | Weight | Arm | Moment |
| Aircraft | 1255.00 | 80.24 | 100701.20 |
| Fuel 40 Gal | 240.00 | 81.97 | 19672.80 |
| Pilot | 200.00 | 99.83 | 19966.00 |
| Passenger | 200.00 | 99.83 | 19966.00 |
| Baggage | 0.00 | 129.48 | 0.00 |
| Total | 1895.00 | | 160306.00 |
| CG: | 84.59 | | |

| Most Forward CG Standard Pilot Weight | | | |
|--|---------|--------|-----------|
| Item | Weight | Arm | Moment |
| Aircraft | 1255.00 | 80.24 | 100701.20 |
| Fuel 50 Gal | 300.00 | 81.97 | 24591.00 |
| Pilot | 170.00 | 99.83 | 16971.10 |
| Passenger | 0.00 | 99.83 | 0.00 |
| Baggage | 0.00 | 129.48 | 0.00 |
| Total | 1725.00 | | 142263.30 |
| CG: | 82.47 | | |
| Zero Fuel CG | 82.58 | | |

| Worst Case Forward CG Light Pilot No Baggage & Minimum Fuel | | | |
|--|---------|--------|-----------|
| Item | Weight | Arm | Moment |
| Aircraft | 1255.00 | 80.24 | 100701.20 |
| Fuel 2 Gal | 12.00 | 81.97 | 983.64 |
| Pilot | 130.00 | 99.83 | 12977.90 |
| Passenger | 0.00 | 99.83 | 0.00 |
| Baggage | 0.00 | 129.48 | 0.00 |
| Total | 1397.00 | | 114662.74 |
| CG: | 82.08 | | |
| Zero Fuel CG | 82.08 | | |

| Gross Weight Heavy Pilot & Pass with Bags and Reduced Fuel | | | |
|---|---------|--------|-----------|
| Item | Weight | Arm | Moment |
| Aircraft | 1255.00 | 80.24 | 100701.20 |
| Fuel 25 Gal | 150.00 | 81.97 | 12295.50 |
| Pilot | 240.00 | 99.83 | 23959.20 |
| Passenger | 240.00 | 99.83 | 23959.20 |
| Baggage | 74.00 | 129.48 | 9581.52 |
| Total | 1959.00 | | 170496.62 |
| CG: | 87.03 | | |

| Worst Case Aft CG Heavy Pilot/Pass/Bags and Out of Fuel | | | |
|--|---------|--------|-----------|
| Item | Weight | Arm | Moment |
| Aircraft | 1255.00 | 80.24 | 100701.20 |
| Fuel 2 Gal. | 12.00 | 81.97 | 983.64 |
| Pilot | 240.00 | 99.83 | 23959.20 |
| Passenger | 240.00 | 99.83 | 23959.20 |
| Baggage | 100.00 | 129.48 | 12948.00 |
| Total | 1847.00 | | 162551.24 |
| CG: | 88.01 | | |

| Gross Weight Heavy Pilot/Pass/Bags/Low Fuel | | | |
|--|---------|--------|-----------|
| Item | Weight | Arm | Moment |
| Aircraft | 1255.00 | 80.24 | 100701.20 |
| Fuel 5 Gal. | 30.00 | 81.97 | 2459.10 |
| Pilot | 240.00 | 99.83 | 23959.20 |
| Passenger | 240.00 | 99.83 | 23959.20 |
| Baggage | 100.00 | 129.48 | 12948.00 |
| Total | 1865.00 | | 164026.70 |
| CG: | 87.95 | | |

| Various Worksheet | | | |
|----------------------|---------|--------|-----------|
| Item | Weight | Arm | Moment |
| Aircraft | 1255.00 | 80.24 | 100701.20 |
| Fuel 50 Gal. | 300.00 | 81.97 | 24591.00 |
| Pilot | | 99.83 | 0.00 |
| Passenger | | 99.83 | 0.00 |
| Baggage | | 129.48 | 0.00 |
| Total | 1555.00 | | 125292.20 |
| CG: | 80.57 | | |