Carbon load landing

boom area [1.20582918e-03 6.54669482e-04 8.65985195e-05 3.17913788e-04

1.13755805e-03 2.16013029e-03 3.35551613e-03 4.73166933e-03]

area due to force [0.00257419 0.00298782 0.00350579 0.00416949 0.00504276 0.00623037

0.00792403 0.01051648]

area due to buckling [0.05895943 0.05779304 0.05645386 0.05494295 0.05326674 0.05146004

0.04965397 0.04820711]

Ireq for buckling [0.00027663 0.00026579 0.00025362 0.00024022 0.00022579 0.00021073

0.0001962 0.00018493]

critical stress [ 6112442.17076639 7237813.87232107 8694002.15476529 10624263.14380303

13253804.39820425 16950077.61105818 22341900.6956626 30541281.07739422]

skin mass 3036.734443009811

spar mass 11.215531004854943

boom mass [2265.87947966 1230.19260748 162.727699 597.39334402 2137.5908544

4059.11132811 6305.36667115 8891.30283723]

strut mass [1987.75024349 1772.75543172 1561.60016381 1356.30652254 1159.18595529

973.32668204 803.54485236 657.44938374]

total mass [17622.52685279 14794.58908727 11916.60655538 12063.51212044

14450.24236025 17639.24687778 21534.29745435 26192.06168171]

total cost [34540.15263148 28997.39461105 23356.54884854 23644.48375606

28322.4750261 34572.92388044 42207.22301053 51336.44089616]

Nmin

boom area [0.00215172 0.00131222 0.00064185 0.00168258 0.00296677 0.00450155

0.0062485 0.00820877]

area due to force [0.00377511 0.00437404 0.00512198 0.0060795 0.00733388 0.00903479

0.01145424 0.01514998]

area due to buckling [0.0714 0.06992614 0.068237 0.06634446 0.0642375 0.06196869

0.05969859 0.05786048]

Ireq for buckling [0.00040568 0.00038911 0.00037054 0.00035027 0.00032837 0.00030559

0.00028361 0.00026641]

critical stress [ 7402180.30340475 8757324.62467607 10508629.09507799 12828961.23773541

15983544.81010843 20411451.52847312 26861501.02734264 36657106.00061433]

skin mass 3036.734443009811

spar mass 11.215531004854943

boom mass [ 4043.30549226 2465.80177044 1206.11009925 3161.74278521

5574.87620217 8458.87747606 11741.57929631 15425.13287629]

strut mass [2407.16971865 2144.92871322 1887.54001024 1637.7609975 1397.93074524

1172.08964158 966.09599923 789.10218889]

total mass [22653.31070197 18575.48047975 15150.34954966 18182.64573752

22164.95294953 27138.22351231 32978.73813288 39723.00631467]

total cost [44400.48897586 36407.94174031 29694.68511733 35637.98564554

43443.30778108 53190.91808412 64638.32674045 77857.09237676]

Ndive

boom area [0.0047243 0.00296922 0.00375119 0.00605564 0.00880655 0.01192036

0.01535319 0.01908258]

area due to force [0.0074151 0.00857045 0.01000186 0.01180458 0.01412388 0.01718409

0.02134995 0.0272372 ]

area due to buckling [0.10006719 0.09788133 0.09535455 0.09244764 0.08914536 0.08546267

0.08150408 0.07758132]

Ireq for buckling [0.00079684 0.00076241 0.00072356 0.00068011 0.00063239 0.00058122

0.00052863 0.00047897]

critical stress [10374165.68510179 12258342.49714653 14684782.78849755 17876505.89525006

22181106.22446886 28149974.54155618 36672923.18849279 49151107.61992253]

skin mass 3036.734443009811

spar mass 11.215531004854943

boom mass [ 8877.45510207 5579.47600693 7048.87593829 11379.17555079

16548.42416167 22399.5972555 28850.24745861 35858.16667484]

strut mass [3373.65160937 3002.4318985 2637.65280935 2282.1367673 1939.97331149

1616.45993304 1318.97187489 1058.05533608]

total mass [35722.64746108 27820.37180725 29475.5186727 36885.06144592

46019.48979786 56583.39650187 68437.84019715 81535.51663226]

total cost [ 70016.38902373 54527.92874221 57772.01659849 72294.720434

90198.20000381 110903.45714367 134138.16678641 159809.61259923]

Nmax

boom area [0.00514715 0.00357284 0.00269822 0.00467675 0.00710966 0.00995626

0.01318493 0.01679212]

area due to force [0.00685925 0.00794232 0.00929236 0.01099672 0.01319862 0.01611654

0.02010708 0.02577527]

area due to buckling [0.09624356 0.09422624 0.09191028 0.0892282 0.08617593 0.08276547

0.07909618 0.07547057]

Ireq for buckling [0.00073711 0.00070654 0.00067223 0.00063357 0.00059097 0.00054512

0.00049785 0.00045326]

critical stress [ 9977762.58249166 11800590.9427055 14154358.68295048 17253966.0036465

21442254.14663396 27261563.41618001 35589481.13849926 47813851.85465677]

skin mass 3036.734443009811

spar mass 11.215531004854943

boom mass [ 9672.0412305 6713.74137516 5070.23417965 8788.10782713

13359.79235703 18708.85967355 24775.87027689 31554.1582016 ]

strut mass [231.25192041 243.62446074 257.04103441 271.46189206 287.2270888

304.83190426 325.39081024 351.52361049]

total mass [26253.75498973 20380.69409182 17140.89245373 24627.38656423

33826.23315181 44586.31890758 56792.68664418 70441.2234869 ]

total cost [ 51457.35977987 39946.16041997 33596.14920932 48269.67766589

66299.41697754 87389.18505885 111313.66582259 138064.79803433]