shows significant and sensible differences between designing for minimum life cycle cost and other figures of merit. The minimum life cycle cost design is identical to that of the minimum direct operating cost and minimum drag designs. This showed the need for a more sensitive acquisition cost model which is not based on weight engineering. With one in place the minimum life cycle cost would be a balance between a low operating cost and low investment cost according to the economic factors chosen. The development and inclusion of such a model is necessary if continued work is to be done in this area. Other recommendations for future work can be seen below.

9.1 Recommendations for Future Work

The work presented in this dissertation is only the beginning of work that is needed in this area. The MDO methodology is developed in a modular fashion to better facilitate the update of the individual models. Future work should include the improvement of all of the analyses. Higher fidelity cost models are required, especially for the acquisition cost. The further development of low-order aerodynamic analyses should be continued for 3-D flow over bodies with boat tails. The lack of a 3-D flow separation model restricts such methods to flows over bodies with know separation locations, such as the boat tail bodies. The 3-D vortex panel method code should be extended for lifting flows on thick bodies. This should be pursued in order to eventually perform full 3-D configuration optimizations. Once this capability is achieved, higher dimensional optimization problems can be attempted. Future work should also be done to develop a problem formulation with smoother design space without adding highly convex equality constraints.

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