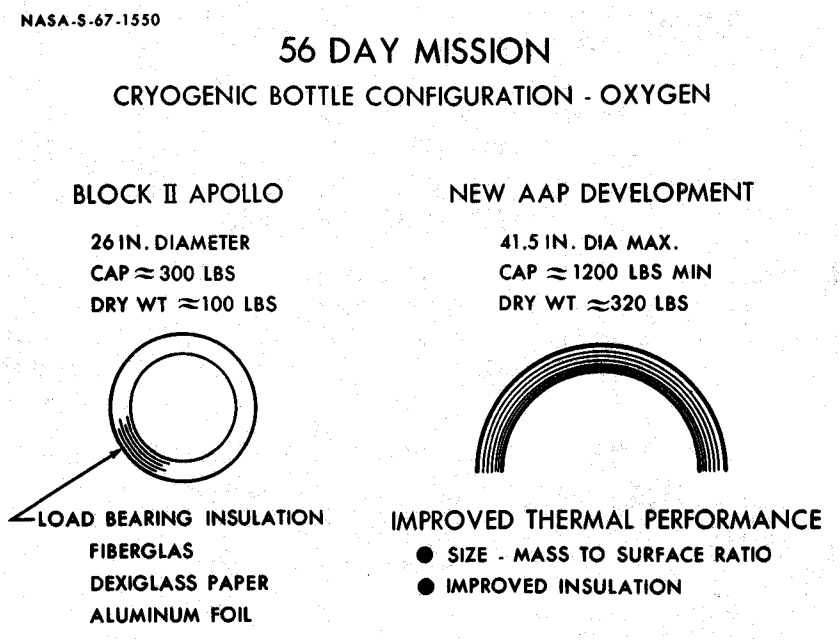

FIGURE 11

the inner pressure vessel and the outer shell of the bottle. These new techniques of reducing the amount of heat that is radiated or conducted into the cold liquid from the outside have evolved from our supporting development work that has been conducted in parallel with our mainstream manned flight programs. As shown in figure 10, three of these new bottles are expected to meet our planned oxygen use rate for the 56-day mission and they have been sized to fit the existing Apollo CSM. The improved thermal performance of the AAP bottle is shown by comparing the two minimum use rate curves. This oxygen system discussion has indicated to you an example of the type of activity necessary to adopt the basic Apollo hardware to our Apollo Applications program.

The discussion here today has attempted to convey to you a "feel" for what is implied in utilizing the basic Apollo technology and hardware in the Apollo Applications program. We have discussed both modifications to existing systems and new developments. This additional activity is "in itself" a very significant undertaking. For example, the increases in flight duration discussed are very advanced steps which must be undertaken very carefully, hence the "open-ended" or "see how it goes" philosophy. Also, the systems engineering changes will "in detail" be very difficult and require significant advancement. However, when we evaluate the additional program effort required against the very significant improvement in flight capability and hardware utilization, then opportunity of capitalizing on our investment is very encouraging. An Apollo Applications program funding requirement summary for fiscal year 1968 is presented in figure 12.