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MEMORANDUM

I am opposed to granting $3,000,000 to industrial organizations for engine research in place of the $8,400,000 recommended by the National Advisory Committee for Aeronautics for a governmental engine research station. We have twenty-five years of experience to assure us that funds entrusted to the National Advisory Committee for Aeronautics for research will be efficinetly used and will yield valuable results. We know that the $8,400,000 estimate is not a figure of the imagination but an amount chosen by engineering experts as that amount needed to provide adequate facilities for research on aircraft power plants.

Today's airplane is a highly efficient vehicle. Its efficiency does not result from chance but from concerted efforts and efficiently organized research. The engine is the heart of the airplane. In order to further increase the performance of our airplanes it is necessary that fundamental improvements be made upon the engine. To accomplish such improvements, highly specialized research facilities are required. This need has been visualized by the National Advisory Committee for Aeronautics and expert representatives from the Government and Industry have been assembled around a table and advantage taken of their combined experience. The result is the request of $8,400,000 for a government aircraft engine research station.

I do not see how $3,000,000 distributed among several engine manufacturers can possibly provide the facilities and useful research that would result from a grant of $8,400,000 to a central-

ized governmental research agency. It is only natural that the competitive efforts and economic incentives would act to prevent inter-change of information obtained through researches conducted by engine manufacturers. The very life of industry depends upon competition even as all progress depends upon research. It follows then that without inter-change of information research efforts will be largely duplicated among the various manufacturers, with several groups of men independently working to solve problems common to them all.

A government research organization can avoid this difficulty and is further enabled to share the confidence and experience of all the manufacturers' efforts. The central government research organization can also be entrusted with the confidential experience of the military services and thereby have at its disposal valuable information that would of necessity be denied to industrial organizations.

It is likewise evident that research programs undertaken by the manufacturers will be unavoidably influenced by immediate problems of perhaps low fundamental significance but of high specific interest to that individual company. Trends, therefore, will be more and more toward development and less toward research. While practical developments are essential, true and far-reaching progress must rely upon carefully planned and executed fundamental investigations. It will be natural also that the engine manufacturers show a proportionately small interest in investigations pertaining to those engine components which they

FGW 6-11-4

are accustomed to buy from outside sources. These components may, nevertheless, be exceedingly important to both present and future power plants and merit equal research effort.

The suggested $3,000,000 is obviously inadequate in view of the carefully considered $8,400,000 item recommended by the National Advisory Committee for Aeronautics. Particularly, is this evident when it is realized that a single and a most valuable piece of equipment, the engine research wind tunnel, will, in itself, cost $3,142,500.

Not only would the $3,000,000 item be most inadequate but its distribution among several sources of research would render it even less effective. Finally, I submit that an established governmental organization for twenty-five years associated with aeronautical research is in better position to more quickly and actively appreciate the power plant demands of our future aircraft. It is not only logical but imperative that for maximum advances in our civil and military aircraft aeronautical research and engine research should be jointly directed and promulgated.

The National Advisory Committee for Aeronautics has a record of excellent service in adding to the efficiency of our civil and military aircraft. Its recommendation for an $8,400,000 aircraft engine research station is prompted only by a far-sighted view of the requirements essential to upholding our standards in aircraft leadership.

I firmly endorse and recommend approval of an allocation of $8,400,000 to the National Advisory Committee for Aeronautics for the establishment of an aircraft research station.

FGW
6-11-40