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roy marquardt, the ramjet man

by Lois Philmus

Since time began, man's imagination and ingenuity has perpetrated the great explorations of the world. And now it is man's faculties again that will permit the greatest exploration of all time—the plunge into space and the universe. Beginning a new series on the men with the brain power to provide the where-withal to get there.

Roy Marquardt, founder of the Marquardt Aircraft Company.





"The ramjet is not through by a long way."

Does the ramjet engine have a place in the space age?

Yes, says Roy Marquardt—the man who rediscovered the ramjet and expanded its principles. "Satellite probes indicate that the atmosphere is higher than we previously thought. Thus, we can make better use of the oxygen through the wider use of ramjets."

The advantages? Weight and cost savings. The nuclear powered ramjet, now under research and feasibility studies as the Air Force sponsored Project Pluto, shows great promise for the future, Marquardt declared.

"The objective of the nuclear powered ramjet is to achieve better propellant consumption while still in the atmosphere by using the free oxygen rather than carrying it along in first and second stages as present systems do," Marquardt explained.

The theoretical savings in weight and cost

through ramjet application could be music to the ears of the spacemen. As we advance farther and farther into the technology of travel into the universe, the entire program is threatened by estimates of the fantastic booster weights required to thrust larger and larger payloads farther and farther into space.

But what of the ramjet's one flaw—impotence in static thrust? Marquardt's company in Van Nuys is working on that solution also by combining the advantages of the ramjet with those of the rocket.

The marriage of a chemically powered rocket and the ramjet would provide the advantages of the rocket's static thrust to operate out of the atmosphere with the ramjet's superior performance at high Mach numbers while still in the atmosphere.

Possible?

Revealed Marquardt: "We have a working model under test."

Known as the perturbation cycle ramjet, a scale model has been successfully run combining ramjet-rocket power in which the rocket engine disturbs the incremental cycle of the ramjet.

Marquardt envisions that the perturbation cycle ramjet could be used in a concept which has ramjet engines as booster powerplants for space vehicles, instead of large rocket engine first stages.

His company holds Air Force contracts to explore the new space propulsion concept.

"The nuclear ramjet alone," Marquardt stated, "can carry a larger payload through the atmosphere at less weight and cost than present ballistic missile vehicles.

The very nature of the ramjet—a fantastically simple engine oft described as a "stove-pipe"—is to carry large payloads for infinite distances at high speed through the atmosphere.

Just this summer Marquardt established a nuclear systems division to accelerate research (Cont. on P. 39)