= Radioplane RP @-@ 77 =

The Radioplane RP @-@ 77 was a small target drone missile , constructed largely of plastic materials , produced by the Radioplane division of the Northrop Corporation . Although the RP @-@ 77D was successfully tested by the United States Army , the decision was made not to procure the aircraft .

= = Design and development = =

The development of the RP @-@ 77 began in 1955 . Similar in outline to Radioplane 's earlier OQ @-@ 19 , four prototypes of the RP @-@ 77 were constructed , two each of the RP @-@ 77 , powered by a four @-@ cylinder McCulloch piston engine , and of the RP @-@ 77A , powered by a six @-@ cylinder Lycoming engine . Results of flight @-@ testing were insufficient to interest the U.S. Army , however in 1957 a proposal for an improved RP @-@ 77D , powered by a Boeing 502 turboprop , resulted in a contract for the construction of 20 aircraft .

The design of the RP @-@ 77D made extensive use of glass @-@ polyester plastic materials . The drone was launched using a rocket @-@ assisted take @-@ off system consisting of four Loki rockets , and was fitted with a radio control apparatus that , with the assistance of radar tracking , allowed the drone to be operated at a considerable distance from its launching point . In addition to equipment typically carried by target drones , the RP @-@ 77D could be equipped with reconnaissance or meteorological sensors , or with air sampling equipment . The RP @-@ 77D utilised the RPTA tracking system , developed by Radioplane , using audio frequency tones for control . Tip tanks allowed for carriage of additional fuel to extend the aircraft 's range , and recovery at the end of the flight was by parachute .

An improved version of the RP @-@ 77D was projected , with provision for launching RP @-@ 76 target missiles .

= = Operational history = =

Following its maiden flight in March 1958 , evaluation of the RP @-@ 77D by the U.S. Army took place throughout the remainder of that year , nearly 40 test flights being conducted . Although the test results were generally satisfactory , it was determined that the performance of the aircraft was an insufficient improvement over existing types in service to have the aircraft ordered into production , and the project was cancelled , along with the improved RP @-@ 86 , a dedicated reconnaissance variant .

Following the termination of the Army 's evaluation , Radioplane , as a private venture , conducted an improvement program for the RP @-@ 77D , fitting the aircraft with a larger wing , along with other modifications that improved the performance of the drone . However these improvements were insufficient to produce a renewed interest from the Army .

= = Variants = =

RP @-@ 77
Prototype model powered by McCulloch piston engine ; two built .
RP @-@ 77A
Prototype model powered by Lycoming IMO @-@ 360 piston engine ; two built
RP @-@ 77B
Proposed version of RP @-@ 77 with turbo @-@ supercharged McCulloch engine , none built .
RP @-@ 77C
Proposed version of RP @-@ 77A with turbo @-@ supercharged Lycoming SO @-@ 360M engine , none built .
RP @-@ 77D
Production prototype with Boeing 502 turboprop ; twenty built for evaluation .

RP @-@ 86
Proposed reconnaissance version of RP @-@ 77D ; none built .

= = Specifications (RP @-@ 77D) = =

Data from
General characteristics
Crew : None
Length : 14 ft 10 in (4 @.@ 53 m)
Wingspan : 15 ft 3 in (4 @.@ 66 m)
Height : 5 ft 2 in (1 @.@ 58 m)
Gross weight : 1 @,@ 050 lb (476 kg)
Powerplant : 1 × Boeing 502 @-@ 10F turboprop , 285 shp (213 kW)
Propellers : 2 @-@ bladed
Performance
Maximum speed : 425 mph (684 km / h ; 369 kn)
Endurance : One hour at 40 @,@ 000 feet
Service ceiling : 47 @,@ 000 ft (14 @,@ 326 m)