

REDUCTION TO PRACTICE OF SPACE INVENTIONS

by

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The legal concept of actual reduction to practice can be a significant factor in obtaining patent protection for an invention. For example, it may be used to overcome a reference applied by the Patent Office, it may establish priority of invention between two conflicting patent applications, or it may be determinative of rights between a contractor and a government agency. It is well established that to prove actual reduction to practice it must be shown that the invention worked as intended in its practical contemplated use; and that the acts relied on for reduction to practice occurred in the United States.

To show that an invention worked as intended in its practical contemplated use, a complete operative embodiment must be constructed and subjected to some degree of testing; and depending on the circumstances this testing may be under conditions of actual use in the intended functional setting, it may be in a simulated environment which duplicates the essential conditions of actual use, or in some instances it may be bench testing which does not duplicate or simulate all conditions of actual use, provided a relationship can be shown between the tests that were performed and the intended functional

N 68-33768 (ACCESSION NUMBER)	4 (PAGES)
(THRU)	34 (CODE)
TAX-60468 (NASA CR OR TMX OR AD NUMBER)	
(CATEGORY)	

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setting of the invention. The nature and degree of testing necessary to show reduction to practice is discussed, with emphasis on inventions intended for use in a space environment.

Consideration is given to situations where the established requirements for testing have not been or cannot be complied with, such that reduction to practice must necessarily be shown by successful operation of the invention in outer space. The extent of territorial sovereignty in the airspace above a nation's boundaries and the ramifications of operation of an invention beyond this territorial sovereignty, above a foreign country, or in the airspace above the high seas is discussed. If this operation is to be relied on to establish actual reduction to practice, two approaches are considered.

First, although an invention is carried on a spacecraft remote from the United States, it may be operated by and under the control of command signals originating from a point located in the United States, and accordingly, may be considered as not being removed from the United States by reason of the spacecraft being necessarily distant.

Secondly, for spacecraft operating beyond sovereign airspace, a free space doctrine may be applied. Here legally relevant events, such as reduction to practice, come under the jurisdiction of the launching or registry nation analogous to the manner that jurisdiction extends to the decks of vessels on the high seas.

It is concluded that since many space inventions represent enormous expenditures on the part of both the government and private industry, it would be an anomaly to exclude such inventions from the same considerations as terrestrial inventions because the inventive act of reduction to practice is of such magnitude that it must necessarily extend beyond traditional national boundaries. Either of the above approaches may provide a basis for finding a reduction to practice in the United States, even though the acts relied on occurred in outer space.