This year sees the maiden flight of the thirteenth-generation Delta launch vehicle, the Delta II, built

for the US Air Force but already leading the US commercial launcher market. Tim Furniss

describes the new vehicle, and

an uprated 14th version to be introduced in 1990.

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n May 13, 1960, Cape Canaveral was the scene of the maiden flight of the Thor Delta, a combination of the Thor intermediate-range ballistic missile and an Able upper stage from the Vanguard satellite launcher. The vehicle, carrying the Echo A-10 reflective balloon satellite, failed due to

a second-stage malfunction. It was the 25th US launcher failure in 47 launch attempts. Since then, the Thor Delta has become known simply as the Delta. It has been uprated 11 times, and has .maintained a 94 per cent success rate—176 successes out of 182 launches—or 98 per cent over the last ten years, with 47 successes in 48 launches. Now Delta II, the 13th version of the McDonnell Douglas vehicle, is set to fly 12 missions a year for military and commercial clients. The Delta II was conceived mainly as a result of the Challenger disaster, and the apparent inability of the Space Shuttle to launch enough US Air Force Navstar II Block 1 and Block 2 global positioning satellites into orbit to meet the schedule. An uprated 14th version is to be introduced in 1990.

The USAF issued requests for proposals

for a new Medium Launch Vehicle (MLV), and on January 21, 1987, McDonnell Douglas, which was about to shut down its Delta production line before the Challenger tragedy, won the $316-5 million contract to build and launch seven Delta II MLVs. The contract included an option on 13 more MLVs at a total value of $669 million. The order has since been increased to 20 vehicles. The award of the contract con-veniently coincided with the entry into the commercial market of MDC's existing Delta 3920, which first flew in 1982. Delta II later joined it.
There is a tail to the US Air Force
contract, in the form of an additional $65
million in incentive awards. These comprise

An artist's impression of a Delta II launched from
Vandenberg

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