208

Our Space Special this year is

entirely devoted to the topic which

appears likely to mark 1969 as a

historic year in the exploration ot

space: the American Apollo

project to land man on the Moon.

This particular special issue is

normally published in July, but it

has been brought forward to give

readers the opportunity of

acquainting themselves with this

tremendous undertaking well in

advance of the landing itself,

which may occur as early as July

18. The following article was

prepared by the assistant technical editor in collaboration with staff

artist Frank Munger, who was

responsible for all the cutaway

and other drawings. "Spacecraft

Scoreboard," normally included in

the Space Special each year,

will appear in an early issue of

"Flight."

FLIGHT International, 6 February 1969

FLIGHT" SPACE SPECIAL

By MICHAEL WILSON

MOON LANDING

1—BEGINNINGS

WE HAVE EXAMINED where we are strong and where we

are not, where we may succeed and where we may
not. . . . Now is the time to take longer strides—time
for a great new American enterprise—time for this nation to take a clearly leading role in space achievements which, in many ways, may hold the key to our future on Earth. . . . We have never made the national decision or marshalled the national resources required for such leadership. We have never specified goals on an urgent time schedule, or managed our resources and our time so as to ensure their fulfilment. . . . For while we cannot guarantee that we shall one day be first, we can guarantee that any failure to make this effort will make us last I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to Earth. No single space project in this period will be more impressive to mankind, or more important for the long-range exploration of space; and none will be so difficult or so expensive to accomplish."
With these words to Congress on May 25, 1961, the newly elected President Kennedy signified his approval for America's most expensive and ambitious civil and military aerospace project He did not allude to the fact that the world's first astronaut was a Russian (the late Yuri Gagarin had flown into space on April 12, less than six weeks before), or to the Bay of Pigs debacle in April 1961, both of which were

negative contributions to American world prestige. On the positive side, however, was NASA, created on October 20, 1958, full of enthusiasm to get to grips with space but needing a stimulus to weld together industry and government. With these pressures, therefore, the scheme was approved by Congress.

Plans for such a mission had been studied for some years previously and in July I960 NASA had begun discussions with industry for a project, known as Apollo, to fly three men around the Moon. It is interesting to recall, in this context, that the earliest serious studies were those of the British Interplanetary Society which, in 1939, published a detailed analysis of a rocket to carry three men to the Moon and back. Many aspects of this project are remarkable for their forward thinking and similarities to solutions adopted in the Apollo programme.

Long before the first Sputnik had been launched the need for large rockets had been appreciated and Wernher von Braun in America had initiated launch vehicle studies in April 1957. The aim of these was to create a booster of 1.51b million by clustering previously developed engines. In August 1958 the Advanced Research Project Agency formally initiated design of what was to become the Saturn project; this large vehicle was so named in February 1959. NASA took the programme over from ARPA (a military organisation) in March I960 and the first static firing of a Saturn I was conducted on April 29 of that year.