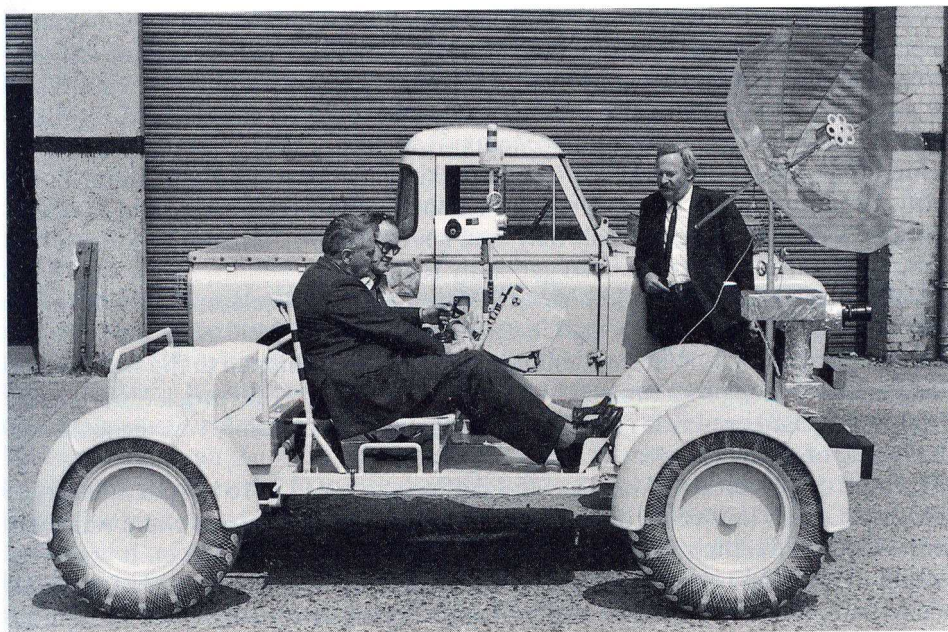




Title 218

When the BBC had a training version of the **Moon Rover** shipped to London to add reality to its television transmissions, the Author (leaning on his own white Landrover ARM 51) had a chance to compare the two vehicles with Patrick Moore (nearer the camera), the astronomer and commentator on the Apollo 15 program and James Burke, the Link man (sitting next to Patrick) a few days before the Apollo 15 launch 26 July 1971, during rehearsals. *Courtesy BBC Television.*

Apollo 15 was launched from Cape Kennedy on 26 July 1971 and was the second longest flight of the series, a total of 295 hours, 11 minutes and 53 seconds, only surpassed by Apollo 17, the last ever, with a flight time of 301 hours, 51 minutes and 59 seconds. Apollo 15 was also the first spacecraft to take a car to the Moon, to extend the range of the exploring astronauts.

Of all the 'firsts' which the Apollo technology demonstrated, the Moon Rover, or the 'Buggy' as it was soon called, was one of the most remarkable and its electrical drive with electronic controls may well have foretold more of the future of the ordinary family car than has been generally realised.

Called the 'Lunar Roving Vehicle', LRV in NASA's officialese, four of these cars were built, jointly by the Boeing Company and General Motors, at a cost at that time of £ 350 000 each. When a training version of it was shipped to the BBC in London for a television programme, I had a chance, together with Patrick Moore, to see it in close-up and even ride on it for a short distance. It certainly was the most unusual mode of all my travels.

It could drive a total of 5 km in a straight line at a speed of 16 km p h. It had been calculated that 5 km would be the longest distance the astronauts could walk back to their Lunar Landing Module in case of a break-down of the Rover. It was transported to the Moon as an outside attachment of the Lunar Landing Module, and it needed no more than a pull on two thin ropes by the astronauts, to detach and unfold itself automatically and drop on to the lunar surface. This alone, its mode of transport to the Moon and its own erection, was a great engineering achievement, I wrote.

On Earth the Rover weighed about 225 kg, 37 kg on the Moon and was designed to carry twice its own weight on the Moon. (On Earth an ordinary car carries about one half of its own weight.) It could manoeuvre slopes of 25 degrees inclination and its non-rechargeable silver-zinc batteries gave it a 78 hour lifetime. Its four wheels, 82 cm diameter, individually driven electrically, and each steerable, were constructed from steel piano wire, woven into a flexible mesh structure. With them, the Rover could negotiate steps 30 cm high. In case of breakdown, each wheel could be electrically uncoupled.

The most unearthly part of this strange vehicle is its complete computer control, showing headings, bearings, distance travelled in kilometers, range and sun shadow indicator to correct for drift of the inbuilt gyroscope. Its speedometer, also calibrated in kilometers, gives an accurate reading, whether moving forwards or backwards. An electric vehicle of the future will certainly have many of its features. The Rover was highly successful on the Moon. Previously I had driven it in a simulator during a visit to Grumman, Title 135.