



why **NASA** selected the
fisher
space pen



Fisher PEN COMPANY OF CALIFORNIA

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FOR IMMEDIATE RELEASE

FISHER SPACE PEN ABOARD APOLLO 11

SPACE CENTER, HOUSTON, TEXAS-A new type of ball pen with a sealed-pressurized ink cartridge will be used by the Apollo 11 astronauts when their LM lands on the surface of the moon. This unique new Space Pen was previously used on the Apollo 7, 8, 9 and 10 and by the Russian cosmonauts on their Soyuz 3, 4 and 5 flights.

Mr. Paul C. Fisher, president of the Fisher Pen Company and inventor of the pen, started development on the unique pressurized ink cartridge several years ago with the idea that a new type of pen would be required for use in outer space. After many frustrating failures and after spending more than one million dollars of his own money, he developed a new pen that not only writes in space but also writes so well on earth that it is rapidly becoming a commercial success with orders far exceeding his small company's capacity to produce. He now has an unfilled backlog of orders for over 300,000 of his \$2.95 pens.

In 1967 NASA ordered pens for testing to determine if they were tough and good enough to travel with the astronauts in space. Torturous tests, almost as demanding as those required for astronaut selection, included sending temperatures as high as 155 degrees, then dropping them to 50 degrees below zero.

Three pens were placed in the unyielding, airless void of a vacuum chamber and 450 degrees of heat-simulating the sun's
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rays on the moon's surface.

Later, engineers placed three different pens into the 100 per cent oxygen environment that a spaceship would encounter. The pen passed these tests.

The final requirement was to see if the pen could still write after all that torture. NASA required that each pen write 1,653 feet of continuous traces, or for about $4\frac{1}{2}$ hours. The three pens were placed in an automatic writing machine and far out passed the qualifications. The first pen wrote for 54 hours and 50 minutes and 15,346 feet. The second finished after 18,303 feet. The third, writing on a new, highly absorbant paper, still wrote for 7,484 feet.

NASA, impressed with the superior performance, ordered 400 pens for \$2.95 each. The NASA order required unusual and expensive pre-shipment inspection as a safeguard against defects. The write-anywhere ball point pens have flown with the astronauts around the moon twice and on the test flights of Apollo 7 and 9.

The uniqueness of the pen is its ability to write in any position, even upside down--the only ball point pen that can. All other ball pens depend on gravity to make the ink flow and have a small air hole in the top of the ink cartridge through which the ink slowly evaporates and sometimes leaks out. The only way these pens can write is in a downward position. There is no hole in the Fisher Space Pen and it writes in any position because it is pressurized with nitrogen gas--50 pounds per square inch to be exact. This pressure seals air out, preventing evaporation and oxidation of the inks, and providing more reliability than the gravity method.

Because of the pressurization, a special chewing gum-like ink had to be invented because ordinary ball pen inks ooze out of the point if pressure is applied to the ink column. The new ink is

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a high viscosity, thixotropic ink. It is nearly solid: Friction from the revolving ball momentarily liquifies the ink just enough to produce smooth writing. The ink again solidifies when the ball stops turning.

The ball acts as a ball seal valve and keeps the heavy viscoelastic, gel-type ink from oozing. The pen races over the flame-proof paper of the flight plan, maps, and charts never smudging, never leaking, never missing a single stroke while in normal use. The ink, sheltered from outside influences, has an estimated shelf life of 100 years.

The pen is finely balanced to fit tightly in an astronaut's heavy pressurized space glove. The chrome-plated barrel is deeply grooved for "gripability." It weighs a mere .04 pounds.

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FOR IMMEDIATE RELEASEFISHER SPACE PEN--SEASONED MOON TRAVELER

SPACE CENTER, HOUSTON, TEXAS-Apollo 11 astronauts have with them the only ball point pen that can write on the moon.

The Fisher Space Pen, a seasoned, write-anywhere, space traveler, is the only ball point pen with a pressurized ink cartridge. This allows commander Neil Armstrong, command module commander Michael Collins and lunar module commander Edwin E. Aldrin Jr. to use the pen even in the strange 1/6th gravity airless environment of the moon with its alternately intense heat and cold.

The unique pen, designed and manufactured to be the best ball point on earth, has been cleared for the historic flight after proving itself in two trips around the moon and four Apollo missions.

Each astronaut has two pens. Armstrong and Aldrin will carry their pen down to the moon's surface. Meanwhile, Collins will be circling the moon and he too will have the pen to use as he needs it.

Mr. Paul C. Fisher, president of the Fisher Pen Co., commenting on the historic mission and the role of the pen he invented will play, said:

"Landing U.S. astronauts on the moon is a proud moment in our nation's history. I am especially proud that the Fisher Space Pen was honored as the only ball point pen to make this historic trip with our three brave astronauts. Our role is small compared to the immensity of the project, but we take pride in the

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fact that we are helping and are a part of the whole."

Mr. Fisher developed the pen after he saw a need for a pen that could operate in the space environment. He spent several years and \$1 million of his own money before the pen was finally ready for use.

The National Aeronautics and Space Administration purchased the pen for the Apollo flights for \$2.95 each. Now an almost identical but later model Fisher Space Pen can be purchased on the retail market for \$3.95.

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