Aboard A Rocket Ship For Mars

By ALTON BLAKESLEE, Associated Press correspondent in New York

Step aboard this passenger rocket ship for a trip to Mars.

It looks like a flying saucer. It spins like a merry-go-round.

You actually walk on the wall, sideways to the floor but without falling as you whiz through space at 25,000 miles an hour.

For exercise you sit in a bouncing or vibrating chair that does all the exercising work for you.

And if you like, you can visit the garden on this space ship—a garden producing the oxygen to keep you breathing.

All these are features — each with good reason—in a rocket passenger ship conceived and sketched by Lovell Lawrence Jr., assistant chief engineer of the Chrysler Missiles Operations of Chrysler Corporation and associates.

tion, and associates.

It was drawn up not just for fun, but because it's time to begin thinking about the problems and engineering of space travel, to be ready, Lawrence and his assistant, Alfred Africano, explain.

"Space travel is inevitable, and the only question is when," Lawrence said. "Some very optimistic predictions are in 10 years or so, but it's likely to be a good deal farther off than that."

In a year or so, man will send little artificial moons whizzing in orbits around the earth. What they radio back and tell by their flight about space will mark the first pioneering step toward human travel to the moon, Mars or other planets, or the oddest vacation excursions imaginable.

The sketch, by engineers producing rocket missiles for the military, meets most requirements now known, Lawrence said.

Saucer-like

Saucer-like

The ship is round and thin like a flying saucer, because that's a good aerodynamic design.

This ship would be about 50 ft .in diameter, but only 6 ft. or so high at its outer edge, thicker in the middle housing the power plant.

Lawrence doesn't believe in flying saucers, by the way.

The craft has two high tail fins, for it takes off and lands like a conventional aeroplane. In earth's atmosphere, or another planet's, it is actually a flying wing. It can take off as slowly as 35 miles an hour. Then the nuclear jets are opened wider to speed the ship to 25,000 miles an hour so it can escape from earth's pull of gravity and go hurtling through space.

The power plant is either an atomic reactor or one burning high energy gas. The jets of gas shoot out nozzles and through slots top and bottom to control direction, yaw and pitch

direction, yaw and pitch, even let this ship hover motionless in the air.

Once you leave earth's gravity, the ship starts spinning slowly to create artificial gravity. Otherwise you would be weightless, and quite startled, even uncomfortable. You'd float around in your cabin. The slightest push on the arms of your chair would propel you up against the ceiling. Water would float out of a glass as you tried to drink it.

The spinning motion, three revolutions a minute, creates centrifugal force equal to about one-fifth the ordinar pull of gravity, Lawrence said. That's enough to enable you to get along normally.

However, this centrifugal force would be directed toward the outer edge of the ship, toward what is ordinarily a wall on the inside as the ship sits on the ground. So in space, you'd walk and sleep on the wall, which would seem to be the real floor.

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At take-off, pilot, crew and passengers would sit in the control room, facing out one edge. This position would be the normal one until you left earth's field of gravity.

Chair Tilt

In space, the pilot tilts his chair way back when the ship begins spinning and creates artificial gravity. When the ship begins revolving, a gyro mechanism at the top holds the sighting mechanism in one plane. The pilot watches a TV screen and keeps on his target, which is always steadily in view.

For oxygen, one or more rooms grow algae, tiny one-celled plants, which use carbon dioxide and produce oxygen.

To keep down consumption of oxygen and food, a special exercising chair would keep you in trim during a long journey. You spend very little effort or oxygen while the chair does the work. You'll need

does the work. You'll need this toning-up, too. Even though you're travelling 4,200,000 miles per week, it still would take 9 to 12 weeks to go from earth to Mars one way.

There's another reason beside aerodynamics why the ship is a thin saucer, Lawrence said. In space the temperature is absolute zero. But the sun's rays are terribly intense, and heat up any solid object they strike. To reduce this temperature, the ship is tilted in space so that its edge always faces the sun, to present the least amount of surface and avoid over-heating.

This tilt, and the ship's fins, do not affect the control of your flight path in space. For space is empty, there is no air to act on the fins or other surfaces.

Pockets

Rooms along the outer rim of the ship must be pressurised. They would be compartmented, much

be compartmented, under like a Navy ship. In case a big meteorite hit, slamming in like an artillery shell, only one compartment would be decompressed and destroyed.

Very tiny m eorites, the size of dust specks, might be most hazardous, sand-blasing the skin of the ship. Lawrence said the ship would have to be coated with some material to offset this sand-blasting. The ship has double outer walls, with self-sealing coatings, to halt meteorites puncturing the outermost wall.

Through port holes you could see our earth shining more brilliantly than our own full moon does. You would see stars and constellations in awesome clarity such as no one has witnessed.

You could see the other side of the moon, the side that never faces earth. How does it look . . .? And here comes the landing on Mars. What do you see? What is it really like . . .?