



Seated inside MQF are (l. to r.) Michael Collins, Edwin Aldrin and Neil Armstrong.

A Very Special Trailer . . .

It's moon men's first earth home after epic voyage.



Astronauts chat with President Nixon through MQF's window.

Aboard carrier, mobilehome quarantine facility awaits astronauts after splashdown.



A MODIFIED travel trailer built by Airstream met America's astronauts on their return to earth after history's first successful landing by men on the moon.

The Mobile Quarantine Facility, (MQF) as it was called, was aboard the aircraft carrier Hornet 3 which rendezvoused with Astronauts Neil Armstrong, Ed Aldrin and Mike Collins immediately following their splashdown 950 miles southwest of Hawaii. It saw them safely back to NASA's Manned Spacecraft Center in Houston, Texas.

Its job: To provide biological isolation to insure against the far-ought possibility that the astronauts might be carrying back to earth micro-organisms for which there was no natural immunity or known defense.

Built on contract to Melpar, an American-Standard Company of Falls Church, Virginia, the MQF was constructed at Airstream's Jackson Center, Ohio, factory. It closely resembled a standard 31-foot Airstream International and shared with its trailer cousins most of its basic construction and self-containment features.

Although mounted on a special base without
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wheels and with much associated special equipment, the Mobile Quarantine Facility was similar enough to the Airstreams of park and highway to prompt Airstreamers to respond as though to one of their own kind.

Paul Chamberlain, president of the Wally Byam Caravan Club International, and Henry Geisert, past president, immediately wrote the astronauts giving them honorary lifetime memberships in the travel trailer club.

"We are extending this to you as a token of our extreme pride in your magnificent achievements during the moon landing project," the two WBCC officers wrote. "That pride was made all the more touching and personal as we followed your dramatic homecoming in the Mobile Quarantine Facility.

"That vehicle is a modified version of the same make and kind of trailer in which our members travel over much of the earth's surface."

The letter also included a message from Art Costello, president of Airstream, making Airstream trailers and towing vehicles available to the astronauts and their families "for travel as you please anywhere on earth."

The trailer-like Mobile Quarantine Facility was the first major step in a detailed defense against a threat that sounded more like science fiction than scientific fact. Yet sober scientists decided in July 1964 that the precaution was necessary. A technical paper entitled "Potential Hazards of Back Contamination from the Planets" issued by a committee of the National Academy of Sciences set the quarantine program in motion.

Knowing that the problem of quarantining the astronauts would begin from the point of splashdown, NASA scientists and engineers prepared the design parameters for a containment vehicle to meet them there, quickly cut them off from direct contact with the earth and transport them to a much more elaborate quarantine facility in Houston.

NASA's technical description of the required vehicle was general in overall concept but made very specific demands upon the contractor who would build it. As originally envisioned, the vehicle would have an overall envelope 35 feet in length, eight feet six inches high and seven feet nine inches wide. It

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would be both water and air-tight.

It would contain, or have attached to its outer structure, everything required for life and reasonable travel comfort by up to six men living inside for as many as five days. It would be transportable on the sea, in the air and on land, availing itself of whatever hookups were possible with the transporting vehicle, but it also would be able to operate fully on its own. During its travel, regardless of what was placed, piped or conducted inside for use by the men, nothing larger in cross section than one-half a micron (one two-thousandths of the thickness of a dime) must be allowed to escape.

Set out for bids, this assignment was picked up by Melpar, the American-Standard Company. Melpar saw an effective and relatively simple way of producing the basic containment structure of the Mobile Quarantine Facility. In its "Technical Proposal of Recovery Quarantine Equipment for Apollo Astronauts" dated November 1966, the company wrote:

"Melpar has carefully reviewed the structural capabilities of a standard 30-foot Airstream trailer which we propose to modify for use as the recovery quarantine personnel transporter . . . Airstream uses heat-treated aluminum exclusively in its manufacturing of a true monocoque design structure, thus producing maximum structure strength and rigidity and low unit weight . . ."

The Melpar proposal called for a vehicle some 7500 lbs. lighter than the maximum set by NASA in its design parameters.

Melpar won the contract, and Airstream became the subcontractor. Fabrication of the MQF units took place at Airstream's Jackson Center plant, where other items of Melpar design and fabrication were installed. For Airstream, many of NASA's life support requirements could be translated into qualities already existent in standard models, qualities the trailer company has always referred to as "self containment" features.

Meanwhile, the MQF's required ability to withstand the stress of being craned to and from ships, airplanes and flatbed trucks with living men inside could be derived from principles previously borrowed from the aircraft industry and modified for trailer use, particularly in the judicious use of high strength alloy steel.

The Mobile Quarantine Facilities did require special sealing to make them air tight but "stock" Airstream construction managed the extreme temperature variations involved, since the trailers are heavily insulated over the entire body envelope, top, sides and beneath the flooring.

"It was a case of a technical 'switch'," Art Costello said later. "Ordinarily we expect many benefits to be spun off the space program for use by manufacturers serving the general public. We get many new materials, processes and techniques that way.

"But this time, we were able to give the space program something from an earth-bound consumer product."

The Melpar/Airstream Mobile Quarantine Facility apparently performed flawlessly during its long trip back to Houston. There was no report that any breach of biological isolation occurred during the long sea, air and highway transport to the Manned Spacecraft Center.

On August 10, Aldrin, Armstrong and Collins were released from their quarantine showing no signs of having brought back any alien form of life from the moon. There's a strong possibility, however, that the MQF's will continue to be used for a time in connection with moon landings.

Nor does that quite end the story. Future space exploration may involve landings on the planets Mars or Venus which some scientists feel could easily harbor radically different forms of life from those on earth. Come what may, Airstream is prepared to meet the challenge. X