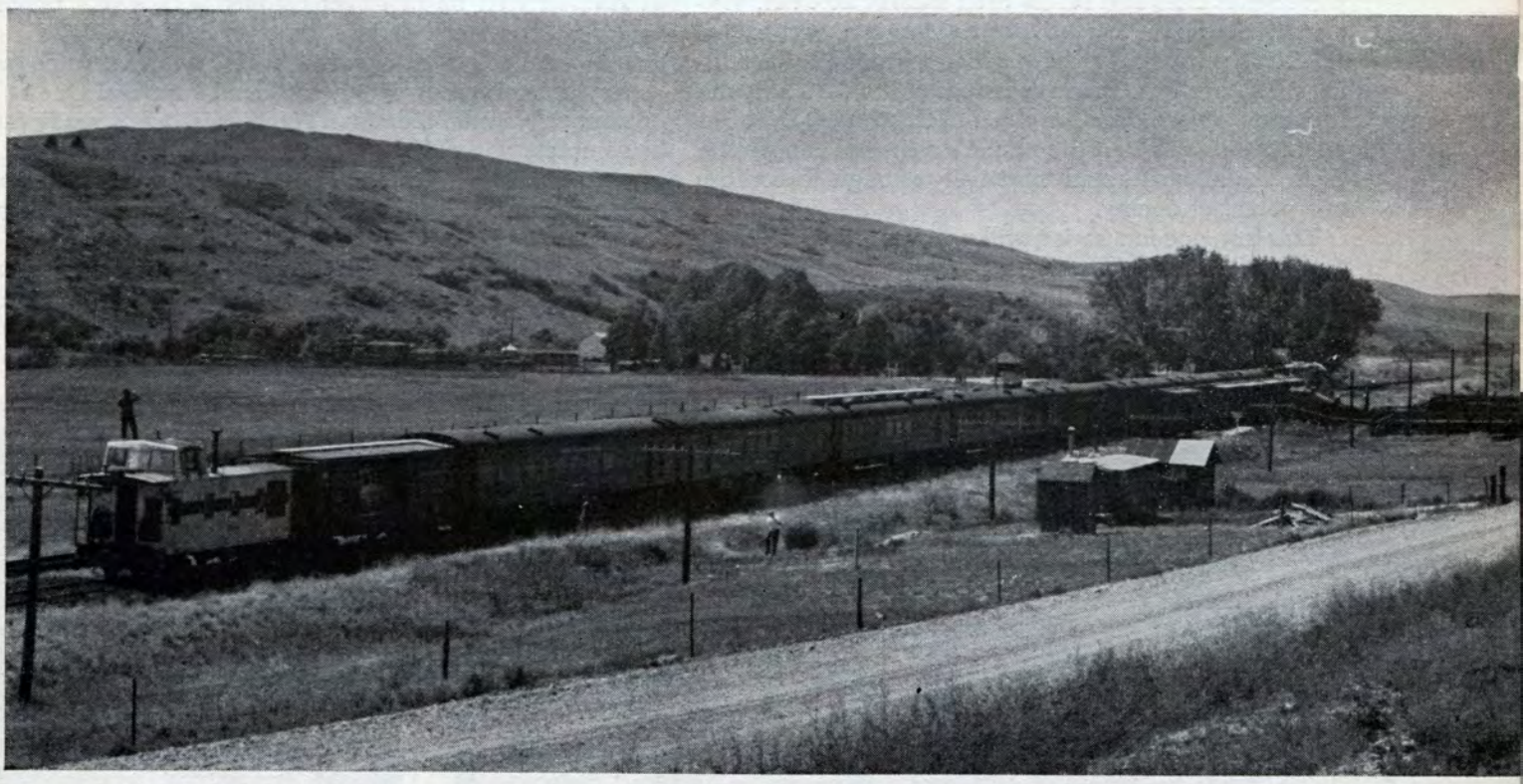
AIR FORCE
OCTOBER 1960

This summer, SAC recruited a blue-ribbon crew and conducted Minuteman missile mobility tests on rail lines in six western states. Tech Sergeant Jim Doherty, a SAC information specialist who took part in one of the historic train runs, here tells us what it was like . . .



Somewhere in Wyoming, SAC's Minuteman Missile Test Train pulls off onto a siding from which America's first solid-fuel ICBM might one day be launched. No missile was aboard this eleven-car train, which visited six western states.

WORKING ON THE RAILROAD . . . SAC STYLE

TSgt. James R. Doherty, USAF

WE CROUCH in the shade of the warehouse wall, forty-two of us—some in uniform, some out—squinting like one man at the train inching toward us down the sun-baked siding. It is nearly noon. The breeze that made the morning bearable has long since died, and the sky above Utah's Hill Air Force Base is blue, bone-dry, and burning.

Slowly, the train pulls alongside. We stand up. The air-conditioned interiors of the blistered cars look dark and inviting. But the signal to climb aboard does not come.

The man who must give it is standing alone at the edge of the loading platform. He is Lt. Col. Carleton V. Hansen, late of SAC's Arizona-based 303d Bomb Wing.

The officer turns, finally, and his grin is self-assured.

(Continued on following page)

After a moment he speaks, and his voice is friendly yet authoritative.

"Gentlemen, our quarters have arrived. If you'll be kind enough to grab yourselves a handful of Pullman car, we'll get the show on the road."

My ten-day TDY aboard SAC's Minuteman Test Train has begun. In the next week and a half, our eleven-car entourage will visit six western states. En route back to Hill AFB, our starting point, we'll explore main lines and rarely used sidings in Utah, Wyoming, Nebraska, South Dakota, Montana, and Idaho.

SAC is at work on a new idea—that mobile launching platforms for America's new, solid-fuel ICBM, the Minuteman, are feasible when Minuteman becomes operational—and that the nation's railroads can shuttle them about swiftly and effectively enough to confuse our potential enemy.

This test, one in a series, will pose a number of questions to the team of perspiring technicians now clambering aboard. How well can the Minuteman be expected to stand up under the wear and tear of rail travel? Are communications adequate between the train and its controlling headquarters? Can random movement be safely effected over existing rail networks?

To find the answers, SAC has recruited a blue-ribbon crew made up of thirty-one uniformed technicians and eleven civilians. Most boast specialties that fit very well into train operations. Some are diesel mechanics, others are electricians, communications technicians, or experts in rail transportation.

Civilian members of the squad include observers and technicians from the Boeing Airplane Company—prime Minuteman contractors—the Collins Radio Company, and other defense-associated firms. There is also a civilian group aboard representing the Association of American Railroads.

From one of the old hands, I discover that these cars are former railroad "ambulances," converted, at SAC's request, to a home on wheels for the Minuteman train pioneers.

In addition to cars for quarters, there is at least one piece of rolling stock—a "Command and Control Car," which must surely be unique in railroad annals.

In this equipment-jammed nerve center, the train commander will make his mobile headquarters. Its most arresting feature is a complete single-sideband and UHF radio station, designed for instantaneous communications between the train and the Task Force Control Center at Hill AFB. And at times Colonel Hansen well be in direct contact with SAC's underground command post at Offutt AFB, Neb.

A total of eleven cars makes up our train. Some are for the storage of water, fuel, and supplies. One is a modestly appointed diner. Another is a crew ready car, complete with TV and hi-fi sets.

Only one vital piece of equipment is missing: the big, three-stage bird, itself. But this is not a test of Minuteman hardware. That will come later.

Colonel Hansen's voice sounds on the PA system:

"This is your train commander. We will be departing the base in a very few minutes, eastbound over Union Pacific. To all of you: Welcome aboard—and here's hoping our trip will be pleasant and profitable. Car chiefs will please stand by to report their cars secured and all personnel accounted for."

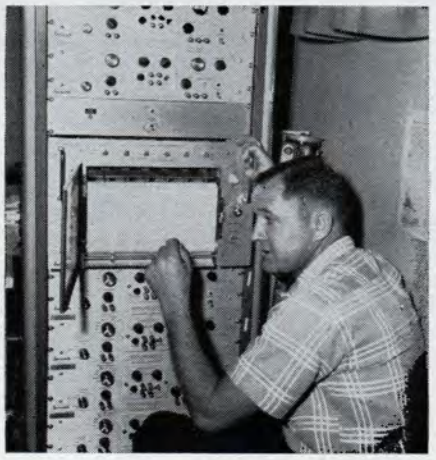
I slip into the seat alongside my private picture window. Then, at long last, we are rolling.

Our pace seems brisk enough. But then I look up and glimpse the graceful horizon-to-horizon contrails of a passing B-47 Stratojet. Suddenly, we appear to be creeping.

The irony of the situation is inescapable. SAC, the nation's premier dealer in aerospace, has taken a step backward in time. On the surface, that is. This return to the rails might better be termed a marriage of yesterday and the present, that may yet serve to guarantee tomorrow.

By suppertime, we are lancing across the vastness of southwestern Wyoming in the vicinity of Green River. Chow lives up to advance billing, and so does the weather.

Above, the Missile Test Train waits on a siding at Bitter Creek, Wyo. The two tank cars are to transport fuel and water. Boeing representative at the left is taking grade measurements.



Boeing engineer Boyd Barker operates the Brush Recorder aboard the Test Train, seeking information to help engineers design shock mountings for Minuteman as it travels the country.

A team of engineers from Boeing check the settling rate at this particular siding. How much the track sinks under a heavy load could affect the aiming formula for the ICBM at this site.

As I lug my steak and potatoes down the dining car aisle, I marvel at the blackness of the thunderheads stacked above the plains. When the storm breaks, it is something to see.

Within seconds after the first drop of rain is toggled earthward, the low spots in the prairie have been converted to a chain of shallow, wind-driven lakes. The thunder is an ominous drumbeat above the roar of the train.

After supper, as we sprawl on our collective spines in the crew ready car, I make the acquaintance of our train commander. Colonel Hansen, who will be forty years old less than a week after our trip ends, looks like a working middleweight, minus the scar tissue. He is prematurely gray, and his matching mustache looks as if it belongs.

During World War II, the colonel was the pilot of a much publicized Italy-based B-24, *Bucket of Bolts.* Later, he shifted his attention to the South Pacific, where he wound up as a squadron operations officer in the autumn of 1945. His log book shows a total of fifty-nine combat missions and more than 4,000 hours in the cockpit.

Colonel Hansen's job now is to verify the adequacy of the military train crew and the test train configuration to support an extended deployment. He is not ranking officer aboard. That honor goes to Col. Lucion N. Powell, who heads the entire SAC task force charged with proving the feasibility of this mobile concept.

Colonel Powell, who won his wings at Kelly Field, Tex., in 1935, formerly commanded the 5th Bombardment Wing, at Travis AFB, Calif. The day may be not far off when a fleet of elusive Minuteman trains will be shuffling around the country. When that time comes, Colonel Powell will be back-of-the-hand familiar with both the big picture and the small.

It is pitch dark when we pull into our first "RON" siding. The place: a whistle stop in the Wyoming wastelands known as Bitter Creek.

Straining my eyes against the outside blackness, I see a single light. It glows atop a two-by-four general store that comprises the settlement's entire business district.

A highlight of the evening that follows is the showing of "Third Man on the Mountain," the first of four full-length films we will ogle during our boondock cruise. The picture is a rouser, and proves excellent "OJT" for the subsequent ascent to my narrow upper berth.

At breakfast, the chow is again superb. Our food service officer, CWO Oscar B. McKinney, knows his stuff. Chief cook is SSgt. George R. Brock, Jr., who could hack it as head chef at the Waldorf-Astoria any day.

In Bitter Creek, we enjoy an hour or two of outdoor exercise. An impromptu horseshoe tournament develops, and we succeed in scratching up a number of spanking new softballs in the cindered topsoil. At noon, as a half-dozen of the hamlet's sunburned citizens look on enviously, we back onto the main line and resume our journey eastward. It turns out to be a short and uneventful run. Less than four hours later, we are bivouaced on a siding at Hanna, a division point on the Union Pacific Railroad that is but one step removed from Bitter Creek on the ladder of Wyoming way stations.

Hanna's one saving grace turns out to be a cow-pasture baseball diamond that lies within hailing distance of the tracks. The post-supper contest, which turns out to be an extra-inning affair, had to be called on account of exhaustion.

At 11:20 the next morning, Colonel Hansen starts us rolling southeast toward Cheyenne. I head for the control car, hot on the heels of the Boeing engineering team.

As prime Minuteman contractor, Boeing has assumed a vital role in the success of SAC's so-called "mobile missile concept." A company squad of at least six highly trained engineers will be aboard on all test deployments. I corner two of them in their none-too-spacious "office" that adjoins the train's communications center.

A large, dial-studded instrument that looks a good deal more ominous than its name implies dominates the room. The gadget is a Brush Recorder.

With the Brush Recorder, Boeing is detailing the acceleration, or "G" forces, that Minuteman will be subjected to as the bird is trundled about by rail.

In the train's elaborately equipped communications center, Maj. Alvin Herrewig, Chief Command Post Controller, and his assistant, MSgt. Gerald Swift, can keep in touch at all times with the Hill AFB headquarters or with Hq. SAC's famed underground command post at Offutt AFB, Neb.

Among other things, the machine's findings will influence the design of shock mounts on the missile car itself. While the train is in motion—and at odd times when we are standing still—the recorder's sensitive needles are busily tracing their nervous lines across reams of annotated graph paper.

The Boeing engineers also maintain an around-the-clock watch on a cathode ray oscilloscope, mounted in one corner of the room. The big-eared machine picks up every electrical disturbance for miles around the train, including emissions from telegraph and power lines, from the motors aboard the train, and from lightning.

After pinpointing their sources and determining the strength of such emissions, proper shielding can be devised. Their recommendations will also be useful in helping to improve the quality of radio transmission and reception aboard the train.

(Continued on page 107)

At each park site, Boeing men collect soil samples and run a battery of tests to determine the rate, if any, at which the track may be expected to settle under a standing load. Some tracks will settle unevenly, with one rail lower than the other. The peculiarity could make a decided difference in the Minuteman's final trajectory equation.

Rail alignment, the grade of a siding, and its elevation are other data that Boeing personnel are charged with gathering at every park site.

For the next three days, we rattle steadily eastward. The weather, by turns, is either comfortably cool or miserably hot—but in our moving blue oasis we could care less.

Life aboard the train settles quickly into a routine not too unlike that of the average base. As the train rolls along, the countryside gradually turns from brown to green outside our unblinking windows. We leave Wyoming behind for the gently undulating wheat fields of Nebraska.

Sometime during a wet and restless night, we turn north. The following morning we awaken on a siding near Alliance, Neb. From Alliance, we angle northeast, along a track that cuts across a corner of South Dakota and back into Wyoming. Our immediate big town port of call is Billings, Mont. By early evening, we are racing through the pleasant valley of the Little Big Horn, where Gen. George Armstrong Custer fought and died.

At Billings, we turn further to the northeast. For a portion of the night, our route parallels the Yellowstone River. Dawn is just around the bend as we jolt to a stop at the village of Forsyth. Rumor has it we will be here until noon.

Today is Sunday. Traffic will be light in the train's communications center, so I buttonhole our Chief Command Post Controller, Maj. Alvin Herrewig. He volunteers the "unclassified skinny" on this most important aspect of Minuteman deployments.

Major Herrewig, who is permanently assigned to the 1st Missile Division at Vandenberg AFB, Calif., escorts me into the closely guarded room. The place is a babble of sound. Voices crackle from a half-dozen concealed speakers. Seated at the control panel, microphone in hand, a noncom is deep in conversation with the pilot of a SAC bomber flying in the vicinity.

"What we're doing here, in a small way, of course, is simulating the operation in the usual SAC command post," Major Herrewig explains. "We monitor a number of frequencies. On occasion, we may initiate some traffic ourselves. On this deployment, however, it's being kept to a minimum.

"We learned early in the game that keeping in touch was no great problem. And there is the security angle. It would be relatively easy for a long-range direction finder to follow us about, if we were on the air constantly. It won't be a practice when we become operational, so we don't do it now."

"What about the numerous tests I hear you're conducting?" I ask.

"Much of this is classified, as you probably suspect. But I can tell you this: We're leaving nothing undone to assure that there is no place—in a tunnel, behind a mountain, beneath an overpass—where these trains will be out of touch."

We are dispatching our second cup of communications center coffee, when the train commander himself knocks for admittance.

"On our first deployment," the colonel informs me, "SAC called the shots. When we were ready to get under way, we contacted Task Force Headquarters back at Hill AFB. After getting the OK from SAC, they passed along our request to the railroad concerned.

"This time, we're doing things a bit differently. Our schedule of movement, although planned well in advance, has not been given to the railroads. When the time to get rolling approaches, I personally contact the nearest division point.

"We may give them thirty minutes, an hour—maybe even two hours—advance notice. The idea is to see just how quickly the various lines can accommodate us.

"Once we're rolling, they never know when or where we plan to stop. From the communications center here, the word is flashed by radio telephone through Hill AFB, SAC, or via whichever Air Force base we happen to be near, to the proper railroad authorities. So far, the plan has worked to perfection. In only one instance have we failed to get the exact parking spot, on the exact siding, that we requested."

In the days that follow, we clank eastward, from Forsyth to Miles City, Mont., where we do a classic one-eighty and head back west. It is evening of the seventh day when we reach Great Falls, the most northerly point along our 2,300-mile itinerary.

By now, we have traveled on more railroads than I can readily recall. Among them are the Union Pacific, the Southern Pacific, the Milwaukee Road, and the colorful Great Northern.

From Great Falls, we begin the three-day stretch run for home. On the docket is an extended layover at Hardy, Mont., followed by another in the bleak railroad town of Garrison. From the latter, it is virtually a continuous ramble, via Pocatello, Idaho, to the finish line at Ogden.

We chug into Hill AFB, back to our warehouse siding, squeaking to a stop in the midst of a train-wide "GI party" that has been going on since 6:30 a.m.

Bags, of course, have long since been packed. Most crew members are planning quick trips home before the next deployment in the series begins in a week.

In his straightforward fashion, Colonel Hansen sums up the thinking of every man aboard with his final announcement:

"Congratulations to each of you. It's been a pleasant trip, I hope you will agree. As for me, I'd do it all over again, gladly, with the same crew, anytime. Thanks—and good luck."—END

The author, TSgt. Jim Doherty, is an information specialist at SAC Headquarters, Offutt AFB, Neb. He is a veteran of fifteen years of military service, twelve in the Air Force and three in the Coast Guard. During World War II, he flew thirty-five missions as radio operator-waist gunner with the Fifteenth Air Force in Italy.