PASADENA, Calif. (AP) — Viking officials believe they have diagnosed, and can easily solve, a malfunction on the Mars lander that caused its soil-scooping arm to jam.

If their theory of the failure is correct, Project Manager Jim Martin said Thursday night, the beginning of the Mars life search next Wednesday will not be affected.

Martin said the telescoping arm, which was designed to reach out for a handful of Martian soil and dump it in a small biology laboratory, jammed Thursday after being extended for a test.

It jammed while being retracted, he said, apparently because a locking pin that should have faller free did not do so.

He said that was the ‘“‘most probable cause” of the trouble. The cure, which will be tried Sunday, is to command the robot lander to extend the arm again until the pin falls to the ground.

If that was indeed the cause, said Martin, it is likely that there will be no effect on the mission ‘‘and we will be able to continue on our present timeline.”

A special team of trouble shooters came up with the theory after duplicating the problem on an identical Viking lander that sits in a sandbox at Jet Propulsion Laboratory here.

Martin described the failure as a

“human error.’ He said the lander’s computer had been fed — long before Viking 1 arrived on Mars — with an erroneous command. As a result, the telescoping arm did not extend far enough to let the pin fall away.

Martin said there had been no progress on two other problems plaguing the lander’s investigation of the red, rocky surface on which it landed Tuesday.

One was the seismometer, designed to monitor marsquakes, which never recovered from the dormant state it remained in during Viking's journey from Earth. But it was too soon to write it off, officials said.

Communications with the lander over 212 million miles of space were somewhat limited by a balky transmitter on the lander. As a result of the un-diagnosed malfunction, data were being received for a shorter time each day than had appeared possible at first.

One result could be, said Martin, ''that we won't be able to take as many pictures as we had planned

Engneers were still working on those problems. They were also continuing to study the sampler arm failure, because if the locking pin theory turns out not to be the cause, there may be some other cause that would be harder to fix and could affect the life search.