

# Who Mourns For Apollo?

## Part II

by

Mike Bara

CONTACT INFORMATION:

MICHAEL BARA [lunaranomalies@uswest.net](mailto:lunaranomalies@uswest.net)

STEVE TROY [malibu57350@yahoo.com](mailto:malibu57350@yahoo.com)

<http://www.lunaranomalies.com/fake-moon2.htm>

Linked from <http://enterprisemission.com/>

Since the publication of our initial report debunking the accusation that the Apollo Moon landings were hoaxed, the Fox television network has broadcast a special called "Conspiracy Theory -- Did we Land on the Moon?" Because this Special raised some additional issues we did not specifically cover in our previous article, in the interest of closure I have decided to address them here. Make no mistake, I was so unimpressed with this laughably stupid presentation initially that I was quite willing to let the previous piece be our final statement on the matter. I felt that we easily showed that a good 90% of the claims are totally without scientific or rational merit. Further, I felt we made it quite clear that the issues raised were so unutterably inane, and so easily explained, that the individuals making them had absolutely zero intellectual credibility left concerning the "un-addressed" claims in the program. With Richard Hoagland and Steve Troy working on detailed follow-up's of some key points, I was ready to move on to other, more substantive issues. Still, the idea that some of these idiotic claims had not been specifically refuted was eating at me. I kept thinking: "... there are a sizable number of people in the United States who believe that the Holocaust never really happened; or that Church's Fried Chicken truly has a 'secret ingredient' in it to sterilize Black men ..."

So I guess I can't resist. Hopefully, these next few articles will put all these "smokescreen" claims around Apollo permanently to rest -- clearing the way for a serious discussion of what NASA's really been hiding all these years vis-à-vis the Moon. That said, let's now address those additional "dumb" issues -- brought up on the Fox Apollo Special -- as we did before: one by one.

***1. - There are cross hairs on pictures taken on the Moon that appear to be behind objects, rather than in front of them, where they should be.***

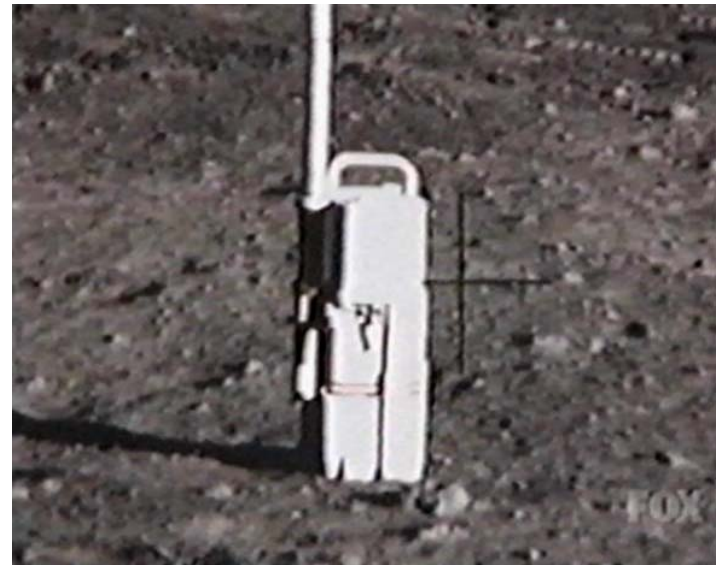
The crosshairs, called reseau marks, were geometric indicators specifically put in the Apollo cameras by the vacuum deposition of a set of whisker-thin aluminum "crosses" on an optical glass plate, subsequently placed just in front of the film plane. The purpose of this (according to NASA) was to enable the NASA-Houston developers of the film to align multiple image panoramas vertically and horizontally, so that they might appear geometrically correct when printed.

The Fox special showed four examples of the crosshairs appearing behind objects in the pictures. One example each from Apollo 11 and 16, and two from the same frame on Apollo 12. In addition, I found another example on the Project Apollo image archive, AS16-117-18818. The four that were presented on the show are the same ones that seem to make the rounds of all the Moon Hoax sites, and I have not seen any other examples although, as I just demonstrated, it seems fairly easy to do so.

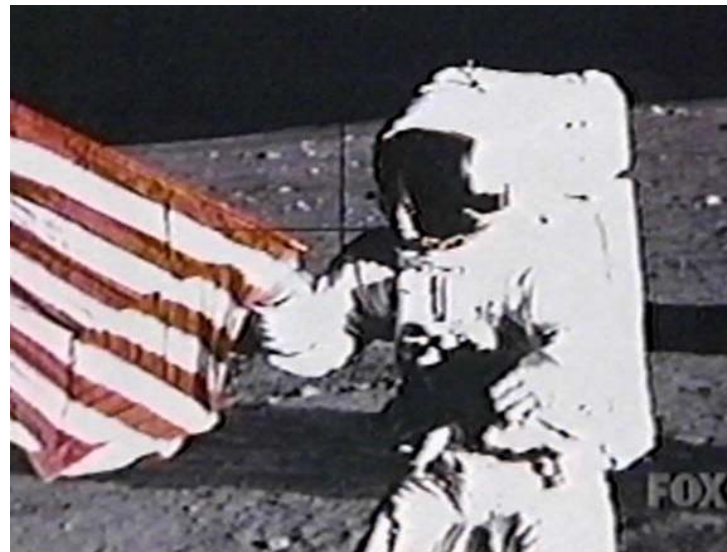
From AS16-107-17446



From AS11-40-5931



From AS12-47-6897



From AS12-47-6897

The argument made by the Moon Hoax advocates (primarily, James Collier, David Percy, Bill Kaysing, "brilliant lay physicist" Ralph Rene, and SPSR's Dr. Brian O'Leary) is that these obscured reseau marks "prove" that the photos taken on the Moon are "faked." They imply that the marks were added after the photos were taken to make it

appear that they were taken on the moon but that NASA "screwed up" some of these "fake" marks.

It's hard to follow this convoluted "logic." If NASA were faking these pictures in a movie studio at Area 51, as Fox and Kaysing allege, why wouldn't they simply have used cameras with the same aluminized, pre-marked plates in them that were used on the "real" Apollo cameras? Wouldn't that be easier than painstakingly adding the marks one by one by hand to every single Apollo hand held photograph? And if the pictures were all faked, why add the marks at all? Wouldn't it be easier to just avoid the whole hassle by skipping the reseau marks completely?

Now, in fairness, some of the "Hoax crowd" have claimed that these apparent "retouches" aren't truly just "stupid NASA mistakes" after all, but a deliberate code; that certain "patriotic Americans" working in the NASA photo lab, outraged by the huge hoax being perpetuated by Apollo, deliberately made "little mistakes" in placing the crosses on some photographs ... to telegraph the fact that the whole Moon program "was as fake as the photographs themselves." As ingenious as this "explanation" might appear to some, there is a far simpler and more likely solution (see below).

So, if these pictures are not faked, what "gives" with the obscured reseau marks? Actually, there are a couple of very good, very logical (and completely non-conspiratorial) explanations.

For one thing, in all the pictures presented, the marks are obscured by white areas of the pictures. Be they the white stripes of the American flag, the white covering of a scientific instrument, or an astronaut's spacesuit. Anyone who has ever developed color film will tell you that white tends to bleed a bit into other colors, and given that the crosshairs are only a few thousandths of an inch across, it's easy to assume that this is the explanation. As far as I know, none of the Moon Hoax advocates has ever actually examined the negatives of these frames, either. Certainly, if the blotting out of the crosshairs is an anomaly of the printing process, then the negatives should probably have the full reseau marks visible and we will have our explanation. It is also probable that the highly reflective white surfaces just got slightly overexposed in some photographs, simply blotting out the razor thin marks.

But, failing in that, there is another, even better explanation. The pictures were deliberately altered.

Wait a minute, doesn't that imply just what the Moon Hoax advocates are saying? That the photos are really faked -- and for over thirty years someone's been trying to "blow the whistle?"

No. Of course it doesn't.

There is a huge, huge difference between "altered" and "faked." It's a fairly safe bet that numerous Apollo pictures were altered, and there is nothing sinister at all about it.

In each case that I have seen, including the one that I personally found, the altered crosshairs (if that's what they are) are from the NASA press release collection for the Apollo Program. It is an entirely common practice for press release photos to be "cleaned up" before publication, and there is no reason at all to think that the Apollo Missions to the Moon were excluded from this practice. It is difficult for us, in this digital age, to appreciate the importance of print media in the days of the Apollo Program. Most Americans got their view of Apollo not from TV, but from newspapers and magazines

like Look, Life, and National Geographic. A potential press release quality photo (say, of an astronaut standing next to the American Flag) would of course be cropped, blots and flaws would be "airbrushed" out, and perhaps an offending reseau mark would be kept from crossing in front of the Flag itself.

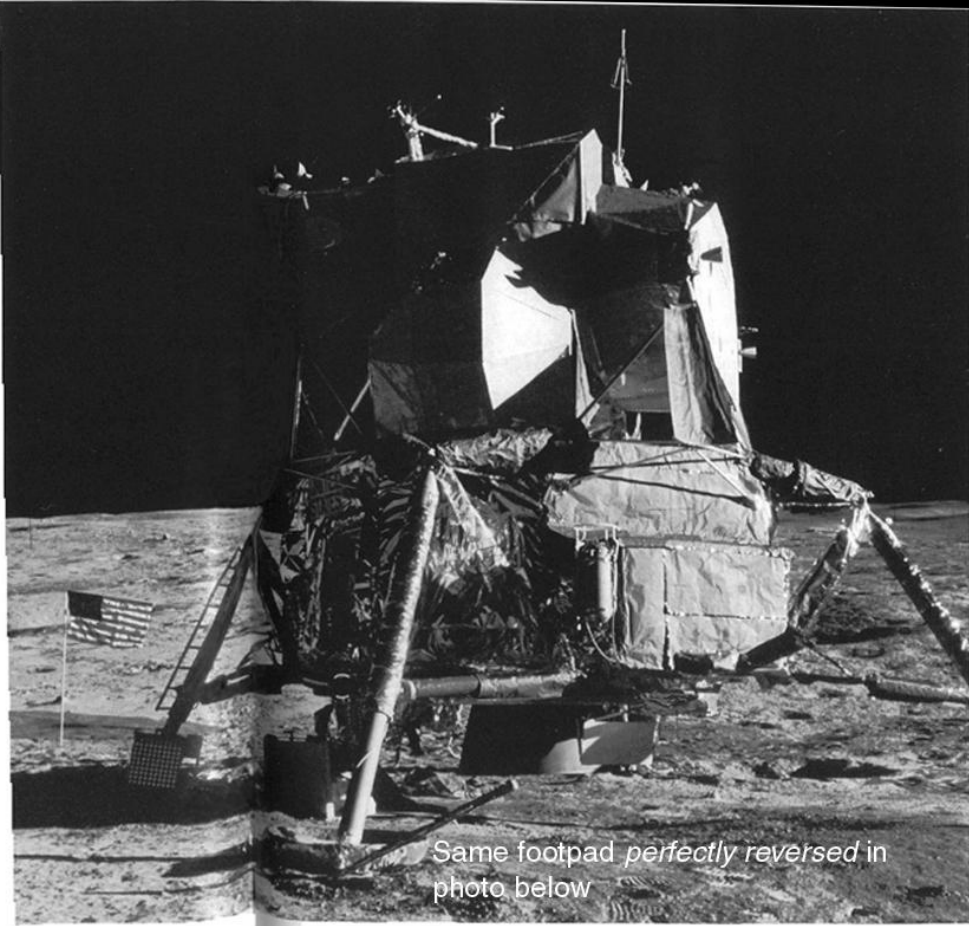
Contrast these harmless alterations to an outright, overt fake which recently appeared in Alan Shepard's chronicle of his life and journey to the Moon: "Moon Shot."

# Fake "Golfshot" in Alan Shepard's "Moonshot!"

The Apollo 14 photograph (below) depicts Lunar Module "Antares" at Fra Mauro. View is from the southeast and is authentic. The second image on this page is a reverse print of *this same photo*, with the addition of *several fake objects!!*



where they made two outside excursions, in February 1971. Following their return to Houston, Mitchell, Roosa and Shepard (below) inspected some of the 92 pounds of moon rocks they collected on the surface.



Same footpad *perfectly reversed* in photo below

Fake objects inserted into this *reversed photograph* (below) include: a) astronaut Mitchell, b) astronaut Shepard, c) high-gain antenna (with fake shadows), d) fake American flag, and e) fake "golf ball" Shepard hit for "miles and miles" across the Moon. Why is this *fake* image the *centerpiece* of Shepard's book??!

And ... who took this picture??!!

"Golf ball" NOT motion streaked

In the middle of the book -- literally the centerpiece of his memoir -- Shepard has placed an image of his famous "golf shots at Fra Mauro" that is an easily-determined fake. (Video showing the real A-14 TV shots of this event can be found [here](#).) The picture in "Moonshot," on the other hand, is spliced together from a number of other, actual Hasselblad frames taken on the Apollo 14 Mission. The LM is taken from another view of Fra Mauro printed one page earlier in the book (but flipped!); astronaut Edgar Mitchell is spliced (and also flipped) -- though somewhat imperfectly -- from the famous "Mitchell under glass" frame AS14-66-9391 (see below). There is even the "final touch" of a fake golf ball "caught in flight" off Shepard's club. Obviously, since both astronauts are in the picture, apart from the individual, easily proven fake elements, there is NO possibility that this composite itself is a legitimate Apollo 14 photograph; for, who possibly could have been with Shepard and Mitchell on the lunar surface ... to take this particular "historic" frame?!



"It's All Done With Mirror ... Images"

Or ...

"Where Are Mitchell's Arms ..?"

AS-14-66-9391

"Original Mitchell"



"Mitchell Reversed"

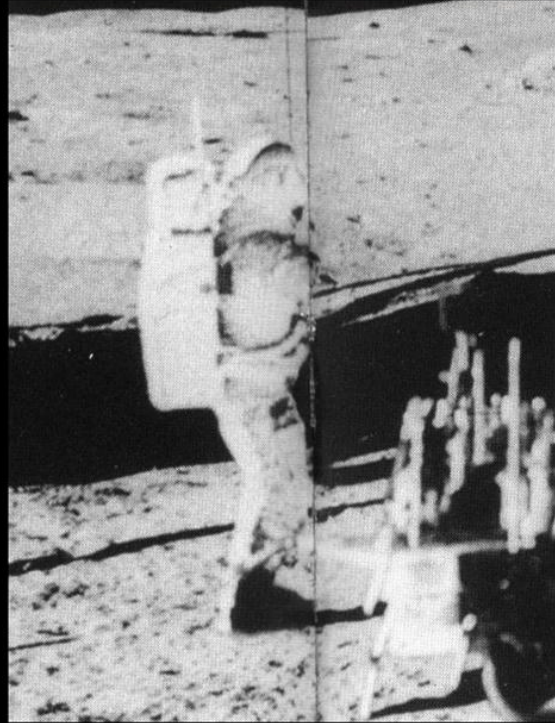


Image in "Moonshot"

(C) 2001 The Enterprise Mission

What Shepard was apparently trying to do in "Moonshot" was to recreate the scene from the famous NASA-TV footage of his two golf shots (below). However, as you can see from this screen capture, the quality of the TV footage was probably deemed (by unnamed persons) "far below that required for an historical document," like Shepard's memoir.



So apparently, in violation of all journalistic ethics, he provided (or, certainly approved) a genuine fake for publication in his book (the ethics violation lies in the fact that the caption attempts to pass the photo off as the real thing)! Inquiries to his publisher (Turner Publishing, Inc.) resulted in an explanation that the picture "came from NASA," although this is impossible to confirm. The difference between this overt (and very bad) fake, and simply "cleaning up a few crosshair marks" is obviously substantial. But does it prove that the Moon landings themselves were also faked?

No, in fact we think it points to a much bigger picture, one which fits exactly our own model of the true mysteries of the Apollo Program. We do not, for instance, think that Shepard's choice of the "Mitchell Under Glass" frame, from which he (or someone) took the cutout of Mitchell, is a mere "coincidence." Shepard was the one who took that extraordinary photograph, and he would certainly be better equipped to know what was on it -- in the background and above the horizon -- than anyone else. By putting a deliberately bad fake of his infamous "golf shot" in his own book (his one claim to unique "lunar fame"), Shepard was telling us that "all is not as it seems with Apollo ... And these are the pictures you should carefully examine to prove it!" The problem is that the Moon Hoax advocates have latched onto these kinds of discrepancies and clues -- and divined exactly the wrong Apollo message!

If you want to see the NASA press release collection for the Apollo program online, the images can be found [here](#). However, the NASA versions are highly compressed. Generally better versions can be found at the [Project Apollo image archive](#).

One final point. Over the last ten years, Richard Hoagland, Steve Troy and myself have examined literally thousands of Apollo pictures taken on the lunar surface. The only ones which have had this issue with the crosshairs have come from the press release collection -- exclusively. We have simply not seen this phenomena on any of the non-press pictures -- or, more importantly, their negatives.

## ***2. - Other photographic anomalies.***





Another picture that has made the rounds of the Moon Hoax sites is the infamous "C" rock. This is supposedly a picture from an Apollo surface photograph showing what appears to be the letter "C" on it. Moon Hoax advocates claim that this is a mark for stage props, so the stage hands would know where to place the "rock." The problem is that on none of the sites -- not one -- have I ever seen a NASA frame number associated with this picture. Until this is provided (or even a link to a NASA site with the appropriate frame number) so that a proper verification can be done, it is safe to assume that this picture is a fake. This is further supported by the fact that I have never seen the full context photograph, only this crop. Presumably, if we had the full picture, it would be fairly easy to identify from which "real" Apollo photograph this was lifted -- which apparently is what the artist is afraid of.

One other point here. If this were a "prop rock" from a studio collection, why would NASA use a classification system (the Arabic alphabet) that limited them to only 26 "prop rocks" in any given lunar landscape? Obviously, they wouldn't.

***3. Perfect framing of pictures. According to Kaysing, "All" of the Apollo pictures are perfectly centered and framed. This is supposedly "impossible" given the problems associated with lunar photography.***

There are three points to be made here. First, the majority of Apollo surface photography is very good for one extremely simple reason -- the astronauts practiced it incessantly. By the time they made it to the Moon, each of them had taken literally thousands of photographs with the same equipment they used on the lunar surface and in orbit, and knew exactly how to get excellent results.



*Edwin Aldrin practicing lunar photography*

The second point is that once again, the Moon Hoax advocates are obviously looking strictly at NASA's "press release" collection. Every image shown in the Fox Special was from this NASA PR record. Obviously, these images are all "cleaned up" -- as I pointed out before. One dead giveaway points back to the crosshairs themselves: those recorded on the photos are all the same size -- except for the one at the exact center of the photo, which is deliberately twice as large. There are many examples of photos from the NASA press collection which show this double-size crosshair ... but distinctly "off-center" in the frame! These are the pictures that obviously have been cropped in order to correct the original framing. Again, there is no mystery to this "perfect framing" question; it's due to plenty of astronaut practice, and later cropping of a few key photos for the press kits. And, as with the crosshairs non-mystery, there are plenty of Apollo pictures not in the NASA PR packets that are hardly "perfectly-framed" at all. We've seen them ... lots of them.

Finally -- and this cannot be overstated -- NASA and the astronauts had a "secret photographic advantage" that has not been publicly known, let alone adequately discussed, for more than thirty years: the "super color film" NASA quietly developed and took to the Moon. In his planned section of this series, Richard Hoagland will reveal some extraordinary details about this amazing color film, how it was developed, how he actually got to test it before it went to the Moon, and how it was cleverly used by NASA darkroom technicians when the astronauts got home to not only eliminate almost all traces of the lunar ruins we now know are there ... but also to enable the astronauts to publish "all too perfect pictures" taken on the Moon.

#### ***4. - The footprints left by the astronauts are proof that the Moon landings are fake.***

This one is also essentially a two pronged argument. First, the Fox show charged that the LM engine was so powerful that the upper layer of dust should have been blown away around the LM, so there should not be any footprints. Others have charged that the

footprints should not be there since in the absence of water as a bonding agent, they should not maintain coherent shapes and sharp outlines.



While we addressed the power of the LM descent engine in our first installment, we did not address the issue of the footprints. In essence, the critics' argument is that footprints like those seen on the Apollo photographs can only occur if the ground has moisture in it; they then compare the "lunar footprints" to those that appear on Earth in wet sand. At first, this may seem like a logical argument. However, it is dependent -- as so many of the Moon Hoax arguments are -- on an assumption that the Moon and Earth are essentially the same place. Critics wrongly assume (since they obviously haven't been there!) that since there is no moisture on the Moon, footprints must fill-in -- like they do in bone dry, sandy deserts here on Earth.

But, of course, in this area as well their poor understanding of space physics is glaringly apparent; there are other well-known bonding agents that can create coherent, stable footprints in a vacuum, like those seen in the Apollo photographs taken on the lunar surface.

The lunar surface is pretty much made up of a variety of materials that fall under the general category of "silicates." Silica has a natural tendency/ability to bond with other silica, making large "chains" of atoms and molecules. When a meteorite impacts a body (or, in our model, a massive glass-based protective lunar structure), a lot of the energy released goes into fracturing the surrounding structure, if not its rock foundation. These fractures are, in fact, breaks in molecular bonds in the artificial and naturally-occurring minerals. These fractures, in turn, leave many "exposed" bonds. On Earth, these fractures are quickly filled by oxygen in the atmosphere (a process called "oxidation" or "weathering"). With a total lack of oxygen (such as on the lunar surface), these molecules with bonding potential simply have nothing to attach to ... until something changes (an impact event) and places two molecules or atoms side-by-side. This is how, in the

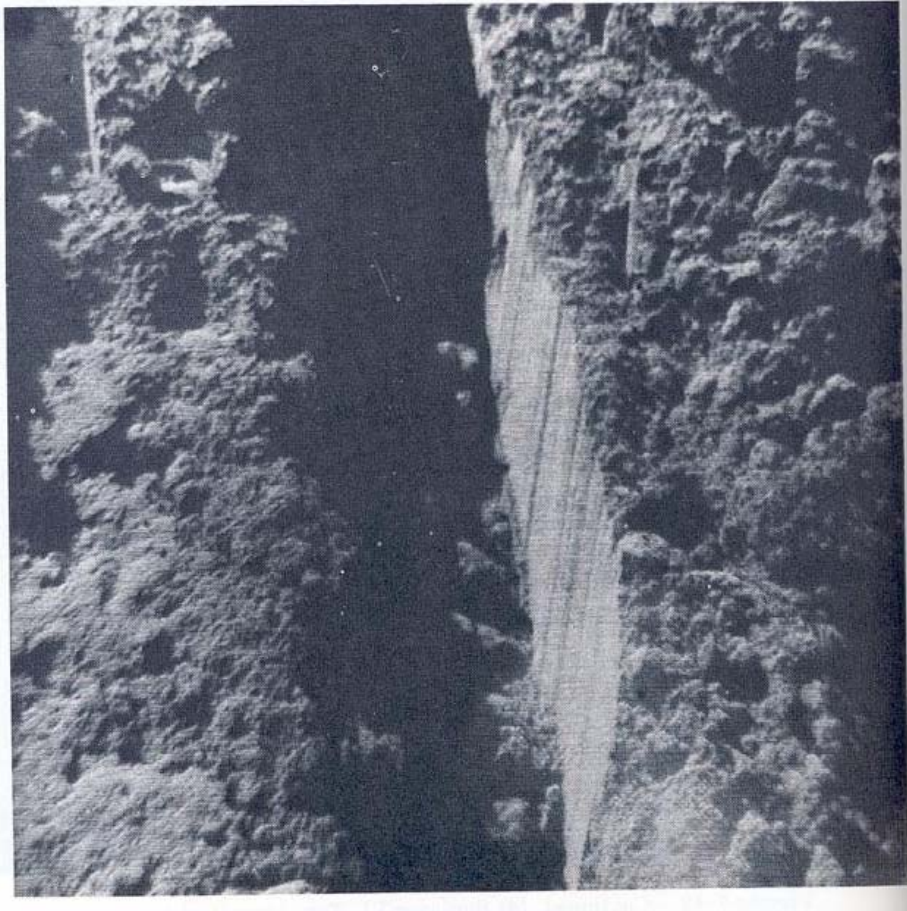


absence of a "wetting agent" (like water), this dust (the lunar soil) can form not only "large clumps" -- but stick to itself like a mold, forming "mirror images" of any outside "deforming structures" (like spacecraft landing pads, or the cleats of astronaut boots). The consistency of this pulverized dust, incessantly battered over literally eons, is finer than talcum powder or cement dust. This incidentally is exactly how the astronauts described the lunar surface dust ... like "talcum powder or wet sand ..."



FIGURE 7-33.—(a) Early view of surface-sampler operations area showing bearing strength test sites, *a*, and object, *b*, which was selected for magnetic-attraction test on the basis of its luster, shape, and gray tone. (b) Surface-sampler operations area after trenching efforts (Catalog 7-SE-16).

Of course, all of this was pretty well known concerning the lunar surface before the astronauts ever set their booted feet upon the Moon. The earlier Surveyor series of unmanned probes was designed to land gently on the airless lunar surface, testing it's "bearing strength" for later spacecraft (and for astronauts), and then take soil samples. When they did so, the trenches scooped out did not fill in (as they would in dry desert sand on Earth), but rather held their shape ... creating "walls" more like they would in "wet" sand. In one case (below), you can even see the grooves cut in the sides of the trench by the serrated edges of Surveyor's scoop!



Clearly, the Apollo footprints are consistent not only with the theoretical concepts outlined above, but (far more important!) with the actual, earlier experiential and surface photographic results from the Surveyor Missions themselves. Of course, the Moon Hoax advocates can always argue that Surveyor never made it to the Moon either, but this is problematic since, paradoxically, they need unmanned spacecraft to take certain equipment to the lunar surface ... to successfully "fake" Apollo! At least one of the Moon Hoax advocates (Percy) argues that the unmanned missions had to have made it to the Moon, as this is the only way he can account for the presence of the laser reflectors at all the Apollo landing sites (which were actually carefully placed there by the astronauts, Dave).

***5. - There is no dust on LM footpads. -- According to Kaysing and Fox, this is the strongest evidence that the Moon landings are faked. They allege that with the swirling dust from LM descent engine, the foot pads should be covered with dust.***

As with all the other Moon Hoax charges, this one is flat wrong on several counts. First, the allegation that there is no Moon dust on the landing pads is wrong. Second, it is far from accurate that there should be dust on the pads, since there is no "swirling dust" in a vacuum. Finally, contrary to the claims made by Fox, an absence of dust would actually prove, rather than discount, that the LM had put down in an alien environment.



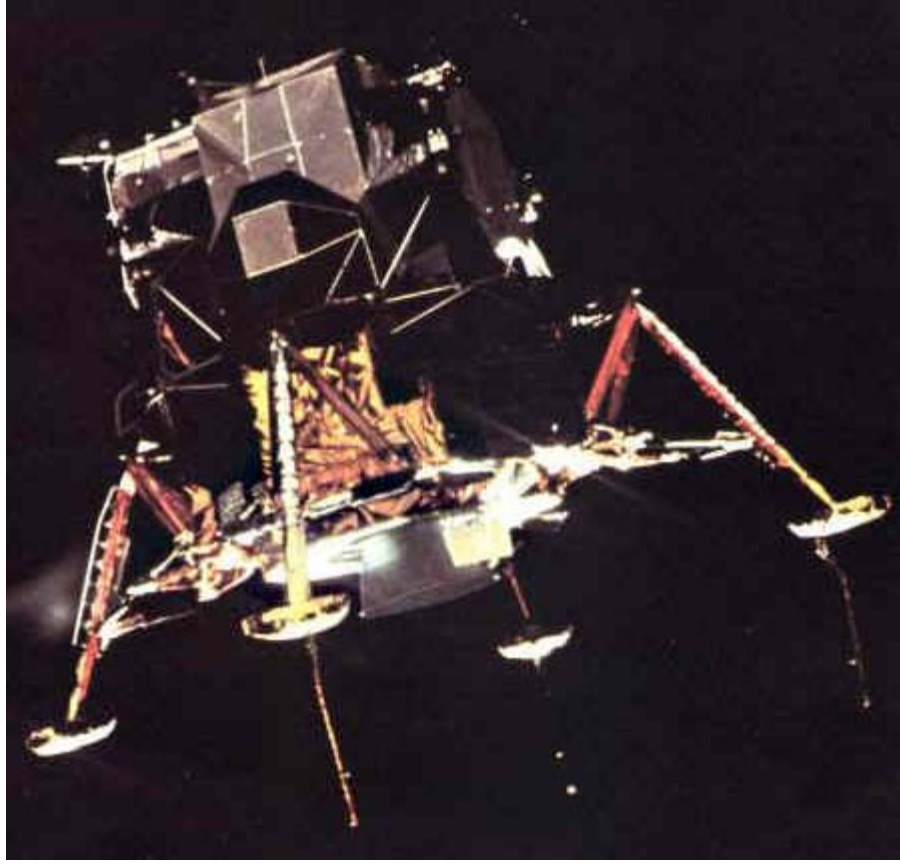
It was fairly easy to disprove Kaysing's claim that there was "no dust" on any of the Lunar footpads.



Here is an Apollo 16 picture, NASA frame AS16-107-17442. Obviously, the moon dust can be plainly seen on the footpad. Now, it is remotely possible that the dust got there by being kicked onto it by one of the astronauts, but since this is not the pad below the ladder, that's unlikely. Still, the fact that there is dust there at all is really a matter of luck as it does not necessarily follow, as Fox and Kaysing wrongly assume, that the "swirling dust" should settle on the footpad.

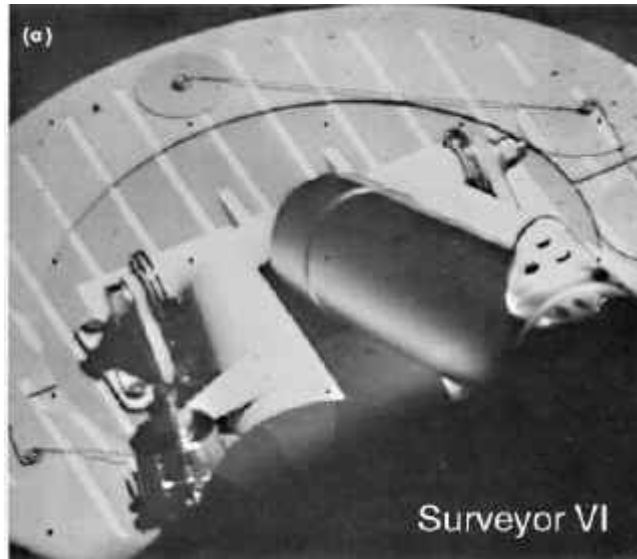
As we have already shown, the descent engine of the LM is not nearly as powerful as Kaysing and the Moon Hoax advocates assume it is. Beyond that, the thrust does not behave in the airless vacuum the same way it does on Earth. As an example, the thrust in a vacuum is spherically shaped, as opposed to a tight, coherent tube on Earth. Further, without the air to help push around the dust particles of the Lunar surface, there is very little distribution of the particles. So Kaysing's expectation of the dust swirling around the LM is just wrong, only a small amount of dust in the direct path of the thruster blast would be affected.

There is also the issue of the height of the LM off the Lunar surface.

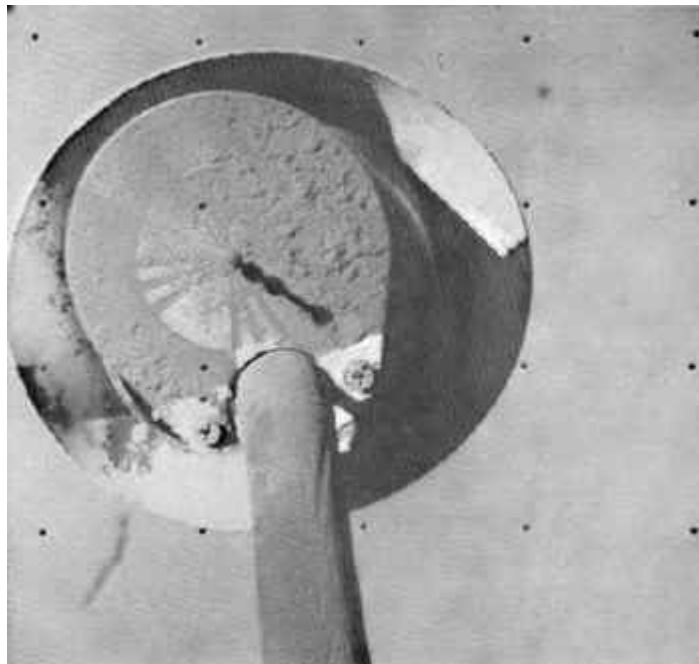


The LM had landing sensors hanging down below three of its four footpads (see photo, above). When any one of these six-foot-long sensors first touched the Lunar surface, a light went on in the cabin, and the LM pilot switched the descent engine to "off." Without air to trap and circulate the surface dust particles, the lunar dust (which actually could not "swirl" in a vacuum anyway, but was shot radially away from the ground directly underneath the engine ... at ultra-high speed -- several thousand feet per second!) essentially ceased within milliseconds of the engine cutoff. As a result, it is not at all unexpected that there would be little or no build up of dust on the footpads from the landing -- it simply couldn't settle on them in the first place, as it was being blasted radially across them at several thousand feet per second!

Additional proof of this can once again be obtained from the earlier Surveyor unmanned landers.



Pictures transmitted from the lunar surface of the Surveyor foot pads (above) show that -- just as in Apollo -- there was essentially NO dust build-up on the footpads. In fact, only when a couple of the Surveyors were commanded to "hop" a few feet across the lunar surface (by briefly firing their main thrusters again, sometime after landing) did any significant amount of dust accumulate on ANY exposed surface of the spacecraft -- and then only on a color chart placed inside a cone-shaped boom, which trapped the fleeing surface dust at right angles to the radial engine blast (photo below).



What these images prove is that it is entirely reasonable -- if not absolutely normal -- for there to be no dust build up on the footpads of landed lunar spacecraft. Assumptions to the contrary are based on ignorance of not only the theoretical physics of

landing on an airless alien world, but the actual televised experience of the Surveyor Lunar Program.

***6. - The LM was so unstable that it could not have possibly maneuvered in the vacuum and landed on the Moon.***

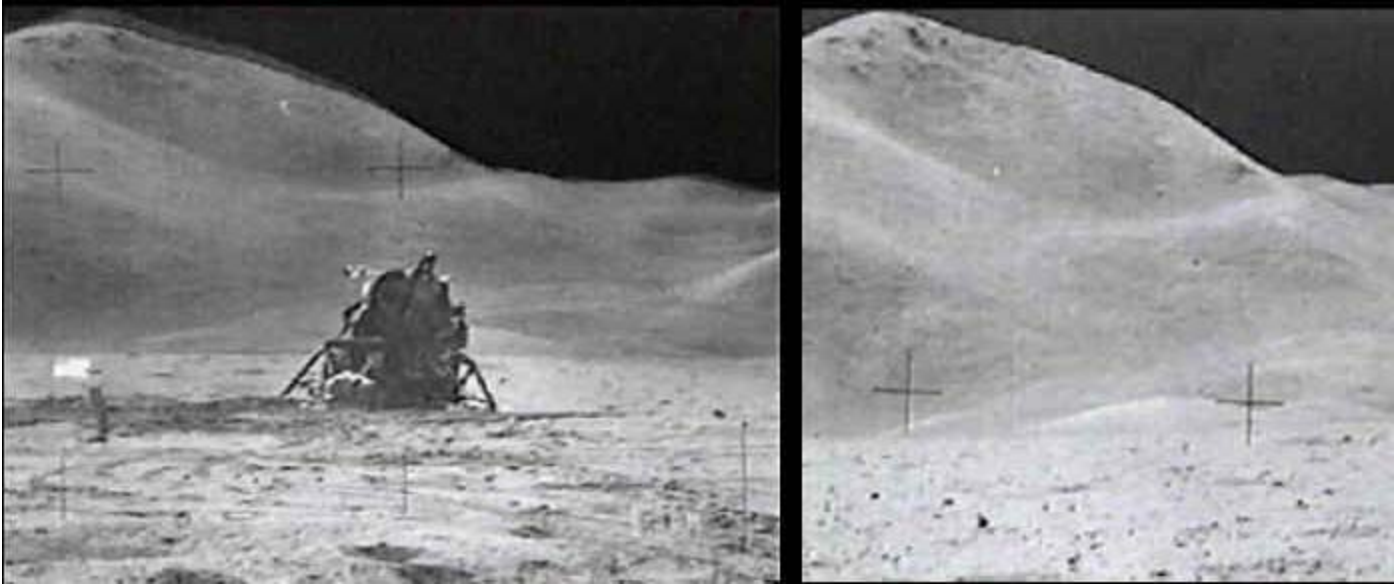
This one is primarily the domain of "brilliant lay physicist" (Collier's term) Ralph Rene. Essentially, he argues that LM was so delicately balanced on its single descent engine that in the vacuum of the Lunar surface, the slightest shift of the center of gravity would send it tumbling out of control. While he acknowledges that the LM had thrusters to control the attitude of the LM, he argues that were insufficient to right the spacecraft if one of the astronauts shifted his weight "even a tenth of an inch."

To put it bluntly, "brilliant lay physicist" Ralph Rene is a complete idiot. He has evidently never heard of gyroscopes, computers, or weightlessness. As this NASA page states emphatically, the LM had an automatic computer control guidance and inertial control system. This system was designed to measure the attitude of the LM several times per second using a system of gyroscopes measured against a "stable member" mounted in the LM structure. If it found that the LM was out of proper attitude, it automatically rotated (gimbaled) the main descent engine, and/or throttled it back, and fired the Reaction Control Subsystem (RCS) thrusters as needed to stabilize the spacecraft. The LM pilot could, if he chose, manually control all of this, but usually left it to the computers because they could react much more rapidly than he could manually. In the weightless environment of space or the one-sixth gravity of the near Lunar surface, the RCS thrusters had plenty of force to push the spacecraft around as necessary to keep it stable.

This issue is prime example of not only the lack of basic scientific knowledge on the part of the Moon Hoax advocates, but on the shoddiness of their research skills. If Rene had bothered to examine the NASA documents on the subject, he would have known how wrong his assumptions about the performance characteristics were. That is, assuming he was capable of understanding them.

***7. - Some of the Apollo pictures have identical backgrounds, but the LM is only visible in one of them.***

Once again, this is one of the dumber and most easily explained "mysteries" found by the Moon Hoax advocates. While the claim is made in the Fox Special that there are "several" pictures supposedly taken from the same spot with identical backgrounds but different foregrounds, the show covers only one case. Still, this case is easily cast aside.

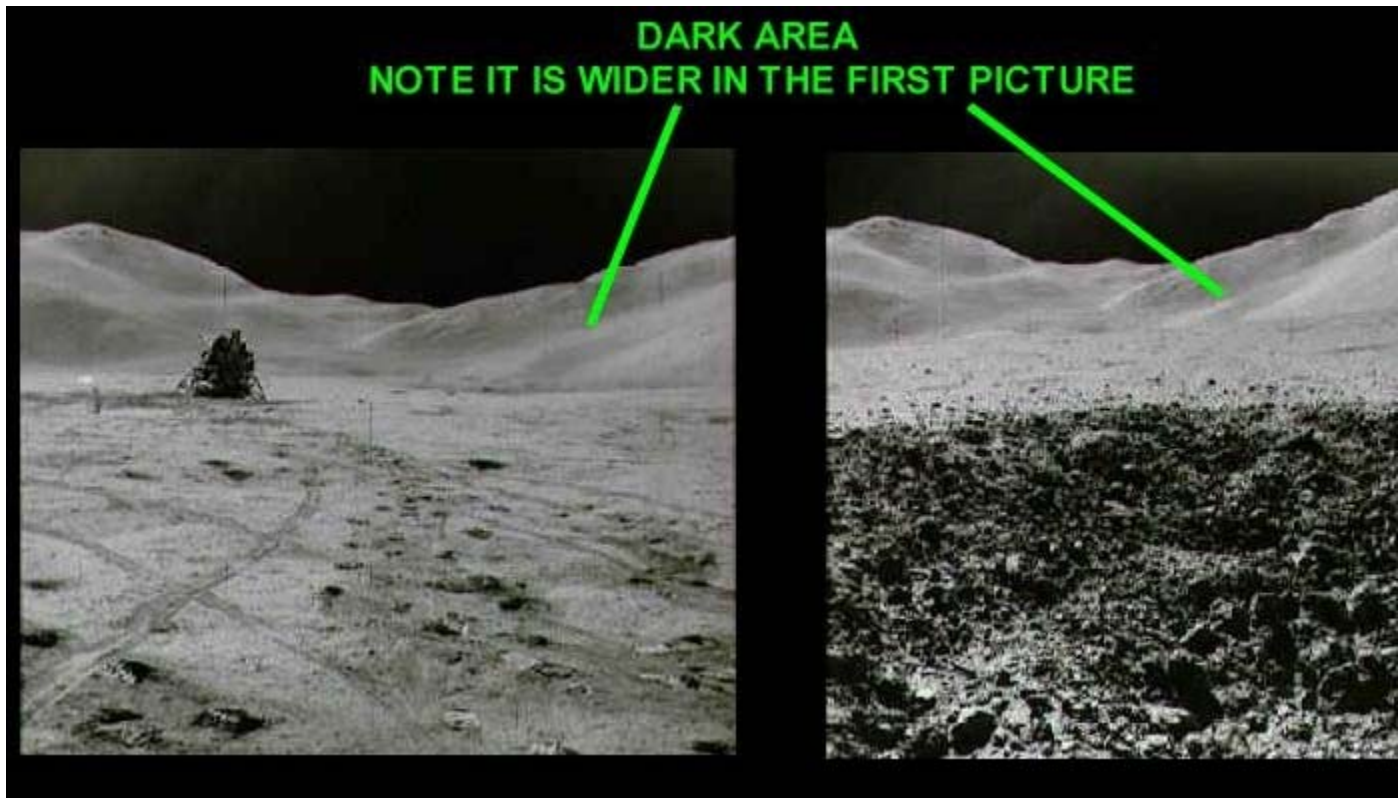


The Fox Special shows two shots from Apollo 15, supposedly taken from the "same spot." In one, the LM is visible in the near field in the foreground. In the other, it is not. Fox argues that this is proof that the mountains are merely an identical backdrop used by mistake on that mythical Area 51 soundstage. The truth is that the pictures have been cropped from the two frames below to make it look like the location is the same. However, it's clear when you look at the un-cropped version of the pictures that they were not taken in the same spot. The second picture without the LM in it was probably taken several hundred feet to the right of the first one, which is why the LM does not appear in the second frame.





But how then can the background mountains look the same? The simple truth is they don't. If you look closely, you can see a number of differences between the two frames consistent with the notion that the second picture was taken some distance to the right of the first one. For instance, note how in the version below the dark area (marked up) has become skinnier in the second photo. This is because the photographer has moved to his right, and the lighter colored hillside to the right has obscured more of the darker area.



Beyond that, we would expect the background to be pretty much the same, since the mountains are some distance -- perhaps several miles -- from the spacecraft. Untrained observers, like the Moon Hoax advocates, are once again expecting the Moon to be exactly like the Earth. Without the standard visual queues to go by, like haze, they are assuming that the mountains are right on top of the spacecraft. In truth, they aren't. As you can see from this EVA map for Apollo 15, the Apennine mountains (which are the ones in the pictures) are about 4 km away. In another case, the Fox program used footage from a NASA video tape that showed the same hill on "two different EVA's, miles apart." The reality is simply that the video was wrong. The two films are from the same EVA, which is why it was included on the same tape for the same mission. When you take this all into account, it's obvious that the supposed "identical backgrounds" are a non-issue.

**8. - In some Apollo video, the American flag can be seen to be waving in the wind.**

I've saved the stupidest charge for last. In the Fox special, the claim was made that American flag could be seen to "wave," which according to Bill Kaysing, was caused by a sudden gust of wind on the "soundstage." In reality, it is plainly obvious that the flag is being moved around by the astronauts as they twist the pole into the hard Lunar surface.



From the first Apollo landing, astronauts commented on how difficult it was to insert the flag into the ground. They encountered very hard ground at about 9-11 inches, and had to twist the metal pole repeatedly to get it to seat in the surface properly. It is this motion which Kaysing is seeing and attributing to wind. Despite his attempt to discount the actions of the astronauts, the Fox special did not show any video of the flag "waving" without an astronaut tugging on it. Not one frame.

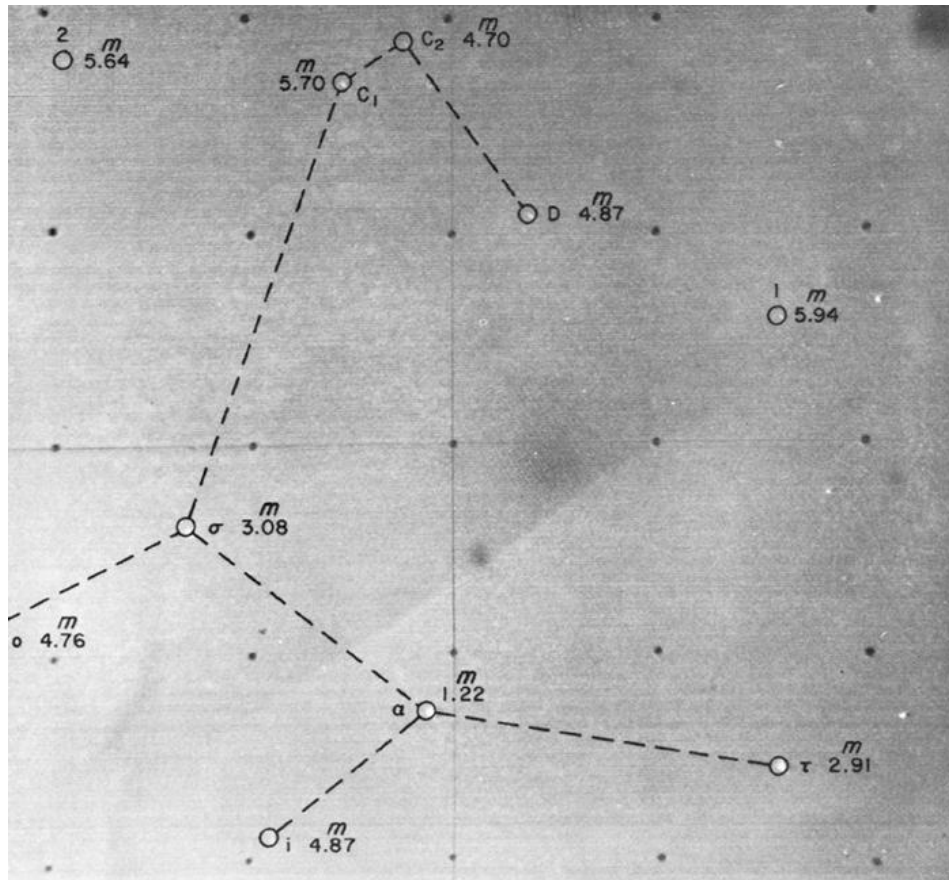
And they never will. Because it never happened. The flag was on the airless Moon, just as we all knew all along.

For a full history of the American flags taken to the Moon, please read "Where No Flag Has Gone Before" [here](#). I personally wish Kaysing or Fox had. Maybe they wouldn't have made such fools of themselves on national TV.

## **Additional Data on Issues Addressed in Part One**

Since the publication of my first article in this series (assisted by Richard C. Hoagland and Steve Troy) some new information has come to light on several issues which were previously discussed.

***Why aren't there any stars in the background of pictures taken from the Lunar surface?***



*Surveyor 6 picture of constellation Scorpius taken from the Lunar surface*

In the first article, we discussed the allegation that stars "should" have been visible in the background of the Apollo photographs. The true explanation was that in the harsh light of the sunlit lunar surface, very short exposure times were needed to keep the film from overexposing foreground objects -- like the surface and the astronauts themselves. As a result, faint, distant objects (like stars) are simply NOT visible in any of the photographs taken of foreground action on the Moon -- nor should they!

We have since found other pictures, taken by several unmanned Surveyor spacecraft from the lunar surface, that overwhelmingly demonstrate our point. In order to get the stars even to show up (for navigation and location purposes), the Surveyor cameras had to use (in one example) a three-minute time exposure to record them. By contrast, the average exposure time of the hand-held, film photographs taken on the lunar surface by Apollo astronauts is about one 250th of a second -- or an average of forty-five thousand times shorter than the exposure required (three full minutes) to actually record stars in the airless lunar sky. Clearly, if these "disbelievers" believe at least in the reality of the unmanned lunar landings (which at least some say they do), this simple example should satisfy even the densest Moon Hoax advocates as to the nagging question of "why

stars aren't visible" in the background of any Apollo surface photographs. Because they're simply too damn dim!

*Why isn't there any flame visible when the LM ascent engine fires?*



In the Fox show, it was charged that there "should" have been visible flame coming from the LM ascent stage engine when it was filmed taking off from the surface. As "evidence," the Fox program pointed to "NASA's own illustrations" as "proof" that there should have been a visible flame. Again, this assumption is based on a complete misunderstanding of the physics in a vacuum. Exhaust flame is made visible by the interaction of the hot gas expelled from the engine with atmosphere, something the Moon doesn't have. Without oxygen to interact with, there is nothing for the exhaust flame to ignite, and nothing can be seen from the engine. How then does the engine work? Oxygen is pumped into the mix chamber to facilitate ignition, but once the hot gasses have escaped, there is nothing more for them to consume so you don't see a flame.

And illustrations are intended to "illustrate" a point in an exciting and dramatic way. Not to be a literal physics lesson. It's doubtful the artist who painted this ever cracked a physics book.

With the possible exception of the "Rooster tail" kicked up by the Lunar Rover (because some dust particles are moving faster than others, after being caught up in the mesh "tires," and subsequently collide with each other ... and thus deflect from a perfect ballistic arc), as far as I know this pretty much covers the litany of "evidence" that "we didn't go to the Moon," as presented on the Fox show. As I have repeatedly demonstrated, all of these charges are simply without merit, either from a scientific or simple common



sense perspective. Although Steve and Richard are proceeding with their follow-ups, this is the last time (I promise) I will visit this "non-issue."

The simple truth is that the people presenting this nonsense (primarily James Collier, David Percy, Bill Kaysing, "brilliant lay physicist" Ralph Rene, and SPSR's Dr. Brian O'Leary) are just plain stupid. They either lack the scientific/engineering expertise to separate fact from fantasy, the diligence to properly research their claims before they make them, or ... they have a decided "political" agenda. All they have done is to muddy the waters around what is a very significant and ongoing real "honesty problem" at NASA -- as illustrated by Shepard's outright photographic fraud, presented here (above). I suspect that some of these people were well-meaning in the beginning, and simply latched on to the wrong explanation ("We didn't go to the Moon!") as the only rational means (to their knowledge) of understanding the actual "inexplicable" lunar problems they stumbled across.

Yes, the video from the Moon should have been better. Yes, it is bizarre that the FBI destroyed all the blueprints of the Saturn rockets and Apollo spacecraft. Yes, it is unbelievable that NASA ordered Ken Johnston to destroy all the duplicate sets of Apollo photography, essentially trying to confine the control of the visual record to one set of prints that NASA could manipulate. But it wasn't to cover up that we never went! It was to cover up what we found when we got there!

I hope, with this series of articles, we have proven one key point -- that the real "NASA problem" lies before us, still waiting to be solved. -- MB.