

“OPS THERMAL COVER”

FROM MY APOLLO MEMORABELIA COLLECTION

FIGURE 1



THE ABOVE PHOTO REPRESENTS AN “OXYGEN PURGE SYSTEM” (OPS) THERMAL COVER USED WITH ASTRONAUT KSC CREW TRAINING PORTABLE LIFE SUPPORT SYSTEM (PLSS) BACKPACKS. BACKPACKS USED FOR CREW TRAINING WERE CALLED CRYOPACKS RATHER THAN PORTABLE LIFE SUPPORT SYSTEMS.

THE PLSS WAS DESIGNED FOR USE IN THE VACUUM OF SPACE AS THE PLSS SUBLIMATOR THAT PROVIDES COOLING FOR THE PGA LCG WATER TRANSPORT LOOP WILL ONLY WORK IN THE VACUUM OUTER SPACE INCLUDING OF COURSE, THE MOON. THE CRYOPACK USED CRYOGENIC AIR FOR BREATHING.

THE “OPS THERMAL COVER” SHOWN ABOVE IN **Figure 1** THAT I HAVE IN MY COLLECTION WAS USED BY APOLLO 14, APOLLO 15, APOLLO 16, AND APOLLO 17 PRIME AND BACKUP CREWS.

THE PHOTOS BELOW LABELED **FIGURE 2, 3, 4, 5, and 6** SHOW TWO CROSSED OUT OPS CHECKOUT INSTRUCTIONS ON THE OPS CHECKOUT LABEL THAT MATCH THE TWO CROSSED OUT INSTRUCTIONS ON THE OPS COVER IN MY COLLECTION VERIFYING THE VALIDITY OF THE SUBJECT OPS THERMAL COVER.

FIGURE 2

Apollo 17 Eugene Cernan & Harrison Schmitt KSC Crew Training Using The “OPS Thermal Cover” From My Memorabilia Collection



FIGURE 3

**Apollo 16 John Young & Charlie Duke KSC Crew Training Using The
"OPS Thermal Cover" FROM My Memorabilia Collection**

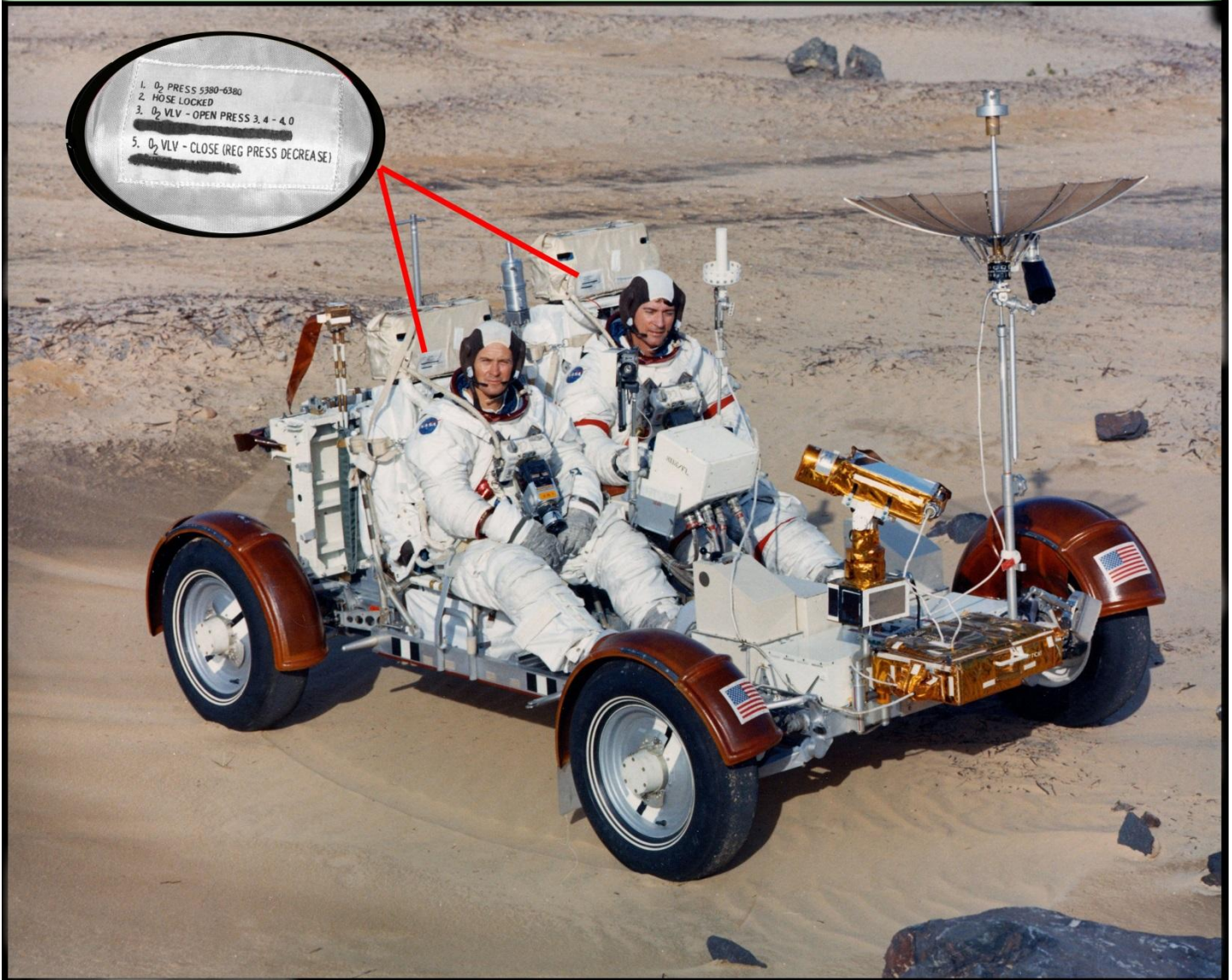


FIGURE 4

KSC Crew Training Using The “OPS Thermal Cover” From My Memorabilia Collection

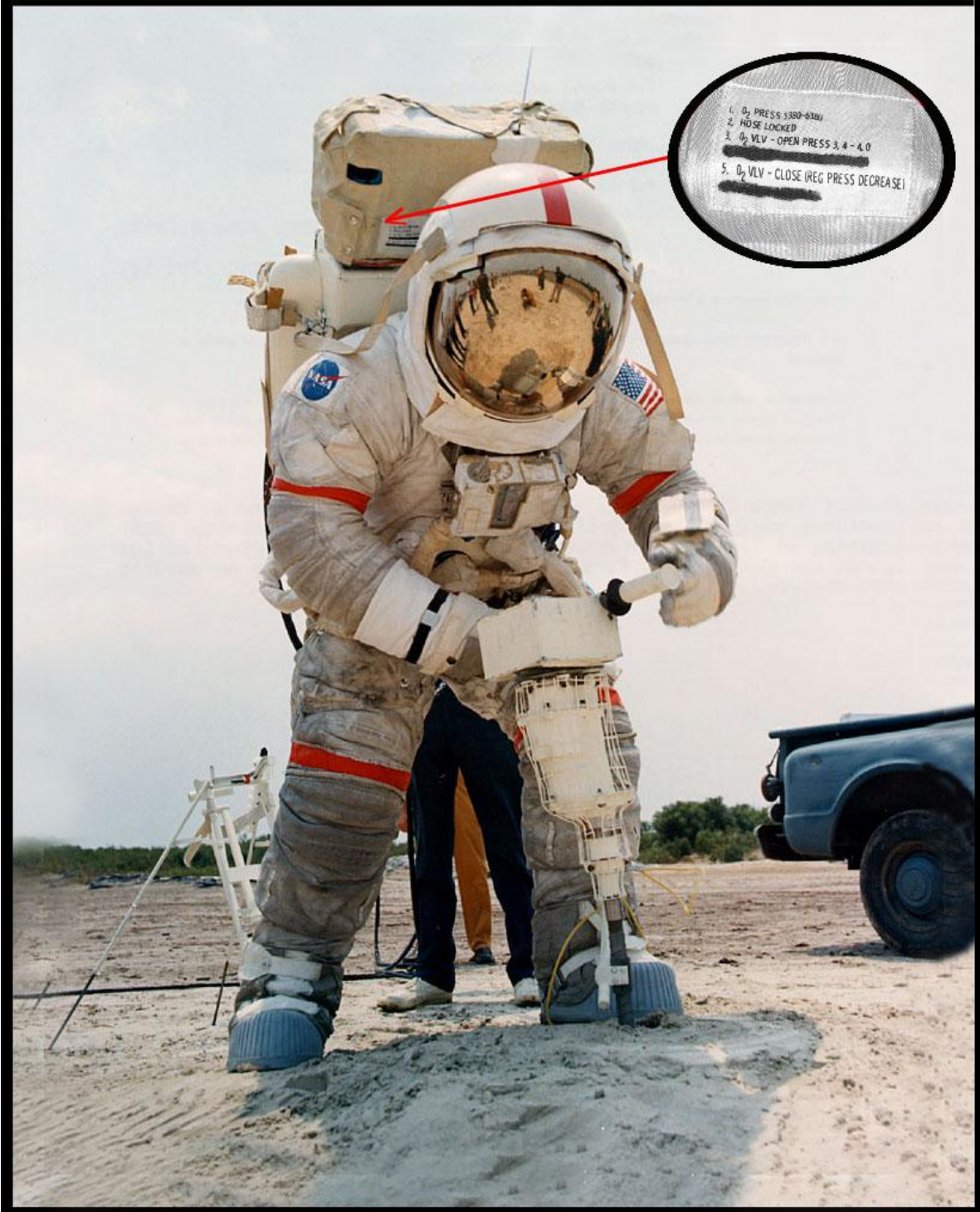
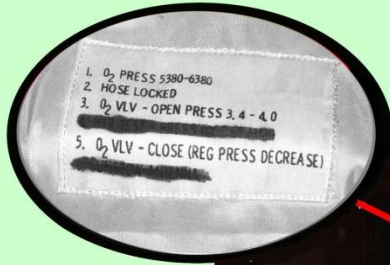


FIGURE 5

Fred Haise



**KSC
Crew
Training
Using
The "OPS
Thermal
Cover"
From My
Memorabilia
Collection**



FIGURE 6

KSC Crew Training Using The **Ops Thermal Cover** From My Memorabilia Collection



THE STORY BEHIND THE CROSSED OUT INSTRUCTIONS IS INTERESTING AND IS AS FOLLOWS:

CROSSED OUT STEP #4 OF THE INSTRUCTIONS STATED:

“HTR TEST – PRESS - LIGHT ON”

THE HEATER CHECK WAS VALID FOR OPS’S USED FOR APOLLO 11, 12 AND 13. AFTER APOLLO 13, FURTHER TESTING OF THE OPS RESULTED IN THE CONCLUSION THAT THE OPS HEATER WAS NO LONGER NEEDED TO PREVENT OPS REGULATOR FREEZING.

RATHER THAN REMOVING THE EXISTING OPS CHECKOUT LABEL AND REPLACING IT WITH A NEW LABEL, I, AS LEAD PLSS/OPS CREW TRAINING ENGINEER MADE THE DECISION TO CROSS OUT (USING A BLACK MAGIC MARKER) THE NO LONGER NEEDED INSTRUCTION #4 REQUIRING OPS HEATER CHECKOUT.

CROSSED OUT STEP #6 OF THE OPS CHECKOUT INSTRUCTIONS STATED:

“REMOVE OPS ANTENNA CONNECTOR”

IT WAS DECIDED AFTER APOLLO 11 THAT REMOVING THE OPS ANTENNA CONNECTOR SHOULD NOT BE INCLUDED IN THE OPS CHECKOUT INSTRUCTIONS SINCE REMOVING THE OPS ANTENNA CONNECTOR WAS ONLY APPLICABLE WHEN THE OPS WAS BEING PREPARED FOR MOUNTING ON THE PLSS. NOTE THAT THE OPS ANTENNA CONNECTOR IS CONNECTED TO THE EVCS (PLSS RADIO) MOUNTED ON THE PLSS.

TWO OTHER USES OF THE OPS DO NOT REQUIRE USE OF THE OPS ANTENNA CONNECTOR:

THE FIRST IS WHEN THE OPS IS MOUNTED IN THE BACK OF THE ASTRONAUT’S HELMET WHEN RETRIEVING FILM PACKS FROM THE SCIENTIFIC INSTRUMENT SERVICE MODULE CAMERA, WITH RADIO COMMUNICATIONS PROVIDED VIA HARDLINE UMBILICAL CONNECTION FROM THE LM TO THE ASTRONAUT.

THE SECOND OPS USE NOT REQUIRING THE OPS ANTENNA CONNECTION IS THE CONTINGENCY TRANSFER FROM THE LM TO THE COMMAND MODULE WITH THE OPS BEING MOUNTED TO THE ASTRONAUTS WAIST.