Project Diana

Apollo 18 / Diana 1

During the Saturn V Project, develop the next Lunar Launcher, the Neptune VI. Which could carry not only the Command Service Module, but an extended length (7 meter) Lunar Excursion Module, and additional 8 meter long Lunar Supply Module, that is intended to land on the moon, but not take off again. Apollo 18 would then carry the three modules to the moon, Landing both the LEM and LSMs near the polar regions (one astronaut Pilot each), underneath the LEM would be a Lunar Rover, and the LSM would have four compartments the lower one would be one meter in depth and have the landing thrusters and their fuel. Any remaining fuel remaining would be transferred into a few of the pressure bottles used for storing the fuel as possible and moved to the LEM. The remaining empty bottles and thruster systems would be dismantled and set aside. This then would give standing room access to the second compartment 2 meter high, 4 meters across, and 4.5 meters deep. As the doors to this compartment are opened from below, they swing down to reveal two sets of shelves holding building materials with a .5 meters space below to work in each shelf is partially hinged to allow four one meter square interlocking honeycombed aluminum plates to be removed from each side. Three centimeters thick in a shelf of four centimeters a total of 200 plates are stored in the lower half of the compartment. After the plates are removed, the shelves can be unbolted from the LSM, and reconfigured as a scaffold to climb higher into the building material compartment. The 200 plates will be set aside outside of the immediate area of the LSM.

Prior to departing back for Earth, the astronaut aboard the LCM, will rendezvous with the LEM named Orion from Apollo 16, and stabilize its orbit.

Two LSM Pads of 5 meters by 5 meters, one for the current LSM being used, worked on, dismantled, and one for the next LSM to land. Total plates needed 2x5x5 = 50.

Two LEM pads of 4 meters by 4 meters, one for the current LEM to be used as an Emergency Life Boat if the situation requires, and one for the next LEM to land, to be called Lunar Port Emergency Pad 1, and Lunar Port Landing Pad 1 respectively. The LSM landing pad mentioned above will be called Lunar Port Landing Pad 2. Total Plates needed 2x4x4 = 32

The Honeycombed Plates will act much like those used as temporary runways by the USMC in remote combat locations, and the technology has been proven since the 1940’s, and with Aluminum will be much more lightweight. These will also help keep the LEMs and LSMs from sinking into the Lunar Dust and make prelaunch or movement of same easier.

The remaining 112 plates would create the beginning of a track between the Lunar Port and the Lunar Base. It is recommended that the base and the port be at least 1 kilometer separated in case of any unforeseen circumstance or dust/particles/rocks displaced by the landing of an LEM or LSM should cause damage to the base. Extending 56 meters total between the two locals it is only 5.6 % of the total needed for now.

After the plates are off loaded the plates for the Base will be carried via the rover to the location for the Lunar Base and the pads there will be constructed. After this is completed and all of the plates are off loaded and the beginning of the track erected, than the Rover will be driven under the CSM whose total mass has thus been reduced. A gurney will be erected from select pieces of the shelving, designed and fitted to connect onto the top of Lunar Rover and into special slots under the LSM, which when bolted will allow the Rover to take the weight of and carry the mass of the LSM to the Base Site. The landing legs will then be raised, the CSM moved, the leg will then be lowered taking the strain off the rover, and the gurney will be disassembled.

The upper half of Compartment Two is the hexagonal interlocking pieces of a Geodesic Dome. Filling up the upper two meters of the compartment are the slightly curved pieces that will allow the construction of two three meter domes and one four meter dome, and a passageway that is two meters tall by one meter tall and twenty one meters in length. The larger dome will have an integral airlock build inside (two meters by two meters) with the equipment necessary to evacuate and store atmosphere and will allow one astronaut at a time to enter the system, and disrobe his space suit, and then leave the airlock and the allow his partner to do the same. The larger dome will be equipped with lockers to store the space suits, and each smaller dome is essentially a small private get away for each astronaut with a bunk, dresser, desk and chair, for when he needs to just be alone. In addition to these Dome pieces, there are about 6 square meters of Solar Photovoltaic Panels, and batteries to save the charge created by same. It is planned that between the solar panels, batteries and onboard fuel for the generator, the CSM has enough power for four months.

The primary living quarters or Mission One will remain the upper compartment of the CSM with 16 square and 64 cubic meters of space, approximately 575 cubic feet of volume for the two astronauts. In addition to two bunks, there is the toilet, shower, cooking area, communications center for the Mission, as well as a small library of books and audio tapes.

The final compartment between the building materials compartment and the living quarter’s compartment is the two meter high supplies compartment, one side of which is the fresh water tanks, 15 separate kiloliter tanks of water, with one tank for accepting waste water. It is calculated over three months; each astronaut will need 540 liters for drinking 1 kiloliter for food preparation, and 2-3 kiloliters for washing. This should give the combined team of two astronauts 6 months of water for their three month mission. Likewise, the food storage takes up 16 cubic meters of space, with space designated to store the empty boxes and packages.

Any time left in the three month mission after constructing the pads, and geodesic domes will be split between scientific exploration of the moon’s surface, and preventative maintenance of the various modules equipment, including Air Purifiers, Water Purification System, Communications Equipment, Battery Charging and Electrical Storage Systems, and other housekeeping measures necessary for the Base to continue until relief by Apollo 19 / Diana 2.

Apollo 19 / Diana 2

Three months later June 17, 1973, the second mission lands, with a second LEM (Pinta), and a second LSM (Selena), the first two being nicknamed Nina and Diana respectively. The two replacement Astronauts will begin the turnover: including helping the original two lift the Emergency LEM onto its pad, packing, and signing off on the various checklists and experiments from their stay. While this is happening the Astronaut left in the CSM, will rendezvous with the LEM left over from Apollo 16, stabilize its orbit, and wait the return of the first two astronauts.

Within three days the Diana 1 team will return to lunar orbit via use of the LEM Pinta, docking first with the LCM, and then prior to departure joining the Pinta and the Orion externally with pre-positioned bars kept on the outside of the LCM for this purpose.