

## Hangar Happenings for January and February 2019



**HRP/H-25 blade damper**



**HRP oleo strut**



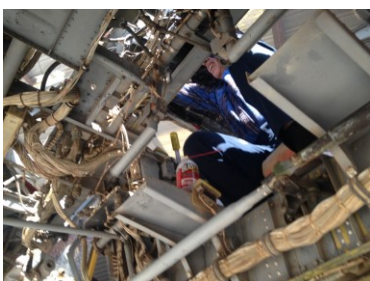
**H-25 with all blades in racks**



**Hanging H-25 blade**



**H-37 nose doors**



**Cleaning the H-37 cockpit**

### Rotorheads,

2019 didn't exactly start off with a bang, in fact it was pretty quiet start off here at the hangar. However, things picked up as we went along, moving pretty quickly through the second half of January and through February with restoration work on the HRP, H-21, H-25, H-37 and Quadrotor Drone.

On the HRP, the blade dampers were overhauled, then the aircraft was moved over to the other side of the hangar next to the H-37. The move was necessary to put it near a work station so the rear end could be lifted with a forklift and placed on jackstands in order to work on the main landing gear oleo struts. The oleo cylinders were removed and disassembled for restoration. Interestingly, the jacking leveled the cabin and cockpit as it would be in forward flight, giving a unique aspect to the display.

On the H-25, the blade dampers were removed, cleaned and reinstalled along with the blade pins. This was in preparation for putting the blades back on and into the blade racks which had been installed in December. On the H-37, the nose clam shell doors were palletized and fork lifted up to the upper pallet rack storage. The shorty-tail rotor blade (for outside storage under the tent in front) was replaced with a full size blade. The front cockpit windows (bullet hole, cracks, crazing) were removed and replaced with good glass. Cockpit cleaning to remove decades of fried on dirt is in work. On the H-21, the fuselage roof curvature was measured to make blade racks for it. This required using a special tool which could be set at the proper curvature then taken into the machine shop to cut the rack form. On the H-46, the main landing gear tires were serviced with



**Rear of HRP on jackstands**



**H-25 blade pins ready to install**



**Checking H-25 blade lock pins**



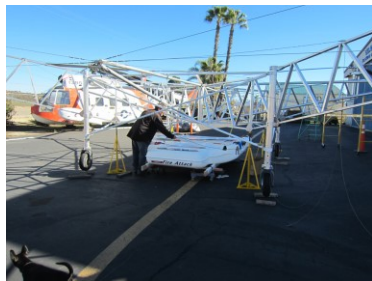
**Replacing H-37 windscreen**



**Measuring the H-21 curvature**



**Blade rack board on H-21 top**



**Installing Quaddrone tank**



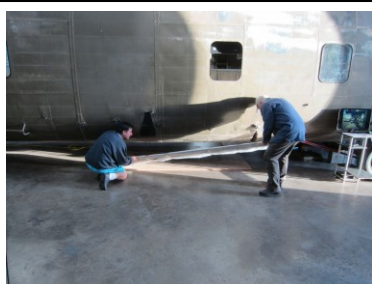
**H-37 parts rack**



**Moving H-37 parts**



**Working on 5-ton forklift**



**Moving H-53E TR blades**

nitrogen. And finally, on the Quadrotor Drone, the 250 gallon water tank arrived and was installed. Work was also done on the rotor heads.

A major project during this period was to host the Southern California Aircraft Restoration Council meeting during February. The SoCal Council is trying to meet quarterly at a different location each time. CR hosted with a BBQ lunch. 18 members showed up from all over southern CA. It was cold, with the hangar being like an icebox, so much appreciated space heaters were set up on the tables. The BBQ and sides came from a local Ramona restaurant. Another major

project was going up to LA to pick up a donated R-22. We are of the strong opinion that Frank Robinson is a modern day helo pioneer whose innovative venture into affordable

helicopters has radically changed the industry. Getting an R-22 to illustrate his contributions represents a major asset to the museum. Another project was inventorying our vast quantity of H-37 parts. This involved packaging, moving and making a separate parts storage rack next to the Mojave to facilitate working on it. The museum has also acquired a 5-ton forklift which was worked on to get it fully operational.

On the logistics front, several things happened. The model room door had to be trimmed for a better fit when it was closed. It was discovered that when it was raining, it was necessary to keep the model room doors closed overnight to keep excessive moisture from building up

inside the room. A super-pallet was constructed in order to mount stored rotor blades. Our set of H-53E



**Curvature tool in machine shop**



**SoCal Restoration Council mtng**



**R-22 and blades ready to go**



**Trimming model room door**



**Super pallet for blade storage**





**Sorting tie-down straps**



**Fence cover on lean-to hangar**



**SoCal Restoration Council tour**



**FBO change over meet & greet**



**VZ-1 Pawnee**

diameter ducted fan shroud and powered by two 44 HP piston engines

tail rotor blade was moved to temporary storage under the H-37. We also sorted and stored our abundance of tie-down straps. Finally, the Learjet was relocated to the front of the hangar to facilitate cleanup of the south side ramp area.

Infrastructure work included covering the fence between the lean-to hangar and the picnic area and cleaning out the outside front area drain which became clogged up during the recent heavy rains. It was also necessary to clean up the hangar deck under the HRP after it was moved.

Tours included the Restoration Council and a visit by helo pilot and author Lew Jennings. We also hosted a tour by the San Diego Home Schoolers who used our picnic area for a lunch afterwards.

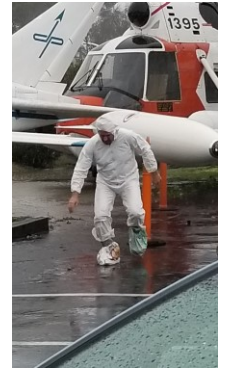
In addition to those tour groups, many separate small group tours took place during the two month period as well as a changing of the

FBO management and a birthday "party" for the boss with a helo decorated cake. The FBO (Fixed Base Operator) will still be known as Chuck Hall Aviation and although Chuck is fully retired, he still keeps his P-51 Mustang there.

Helo history-wise this time is that January of 1955 saw the first flight of the Hiller model 1031 Flying Platform. Hiller's unique vehicle was developed into the Army's VZ-1 Pawnee. This single person personal VTOL vehicle was developed under the Office of Naval Research for the Army. It consisted of 2 contra-rotating 7 foot props housed inside of an 8.3 foot



**Cleaning up the south ramp**



**Cleaning the drain**



**Author Lew tour**



**SD Home School tour at H-37**



**B-Day helo cake is great**



**Robinson R-22**

driving into a modified helicopter transmission. Capable of lifting 185 lbs with a top speed of 16 mph and service ceiling of 32 feet, it was deemed ineffective for the Army mission. The control mechanism was shifting body weight like the Segueway. In relation to our newly acquired R-22 are the words of its designer, builder and first pilot Frank Robinson who said in 1975, "I designed the helicopter I would want." While we don't have a VZ-1, we do have a Hughes Ring-Wing ducted fan UAV VTOL as well as several other Hiller aircraft in addition to a beautiful R-22. So, hope that your 2019 has gotten off to a good start. Now that the year is underway, hop into your personal wheeled beast of burden and come here to check out



our beautiful museum in a beautiful scenic setting. Bring a lunch and you can use the picnic area. You might even be fortunate enough to see the Sheriff Department helo at the CDF pad or even a large firefighting bird working the pattern as we did in January. See you when you get here.



Chip out