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## Fire Fighting P-3A Orions

Aero Union Corporation's Contribution to the P-3 Family

by David Reade

The new Aerostar can dump 3000 gallons of "phos-chek", a fire retardant powder mixed with water. All or one of eight doors, controlled by the pilot, may be selected for desired coverage. The keys to success in aerial fire fighting are the combination of pilot accuracy and tank system operation.

A new shape has appeared in the skies over many smoking California forest fires. P-3A Orion aircraft, which have been converted to air tankers and renamed the Aerostar, are joining the business of airborne fire fighting. The used Navy ASW planes have been found to be superbly suited for their new role.

The old P-3s have flying qualities that lend themselves well to the forestry mission. Approaching slowly over burning forest fires, the tanker can dump as much as 3000 gallons of fire retardant chemicals at once, or spread it out with sequential drops. Speed and maneuverability allow pilots to work the narrow valleys where more sluggish aircraft are excluded. Sufficient power to weight ratio gets the planes in and out of remote civil airfields, but the greatest advantages are payload and speed.

Currently, there are four Aerostars in operation. By the end of 1992 there will be an additional three. They are owned and operated by the Aero Union Corporation in Chico, California and are under contract to the U.S. Forest Service. "This has been a fantastic year," stated Charlie Isele, Director of Operations, "the P-3 proved itself beyond everyone's expectations."

Aero Union received the ex-U.S. Navy Orions by special arrangement from the Davis-Monthan AFB "bone yard", correctly known as "MASDC", the 836th Military Air Storage/Deposit Center in Arizona. Part of the deal was for the company to trade a vintage aircraft for use by military air museums in exchange for each surplus airframe.

Aero Union is not allowed to select their tanker candidates, so each one must be graded after delivery. "Warts", or rejects, are

used for spare parts.

The P-3s are completely stripped of unnecessary weight including the air conditioning/pressurization system. Then tanker modification begins. Aero Union designs, constructs and installs the custom tanks. Their FAA approval was received in 1962 for their first retrofit on a B-17. They have since provided tanks for the Fairchild C-119, DC-4, DC-6, DC-7, Grumman S-2F, Lockheed C-130 and now the P-3A.

The new Aerostars responded to many of the 1990 season's fires throughout California. They have also done duty in Tallahassee, Florida and the Grand Canyon. Air Tanker #25, operating in northern California from June to August, dispatched against the "Devil Fire" raging near Shasta Lake and the "Kamaka Fire" blazing near the Whiskeytown Reservoir in the Trinity National Recreational Area. Other fires included the "Long Valley Fires" east of Burney, California and the forest bordering the Mendocino National Forest.

Staging out of southern California, Air Tanker #27, engaged in fighting the "Ynes and Pendola Fires" of the Los Padres National Forest. Later, the P-3A worked the "Stormy" and "Black" wild fires in the Sequoia National Forest, west of Lake Isabella. Ignited by lightning, both these fires eventually burned together into one huge inferno. August found the Aerostar assisting other aircraft, dropping on the "Steamboard", "A-rock" and "Savage Fires" bordering Yosemite National Park. But for #27, the "Painted Caves Fire" of Santa Barbara was the most challenging. Engulfing 30,000 acres and 600 homes, pilots found many of their usual



Looking fore and aft in a stripped P-3 can be a real shock. All “non-essential” materials are removed. Aero Union obviously has a very short list of essential equipment. The modification, from arrival to finished and flying, takes only four to six months.

tactics precluded by the high mountains and narrow ravines where the fire was concentrated.

Dale Newton, Aero Union President, says, “the Lockheed P-3A is the best of our fleet of large fire fighting aircraft.” Plans are that the company will be an all turboprop fleet which will include their SP-2H Neptunes.

The U.S. Forestry Service has based the four Aerostars in Santa Barbara, Redding, California, Ft. Smith, Arkansas, and La Grande, Oregon.

### Aero Union Dispatch Comparison, 50 NM

	DC-4	P-3
Time/RT	48 min	36 min
Gal/hr	2000	3000
Cost/gal	\$.467	\$.495

**P-3 delivery rate is 2 times greater**

#### ASSUMPTIONS

<b>P-3</b>	250 kts 3000 gallon tank	4 Round Trips before refuel 18 Minutes to Fuel (Single Point Pressure)
	Wet Cost Per Hour	\$2475.00/@ 1.45 per gallon
<b>DC-4</b>	163 kts 2000 gallon tank	3 Round Trips before refuel 42 Minutes to fuel (Individual Tank Gravity)
	Wet Cost Per Hour	\$1167.00/@ 1.65 per gallon



Aero Union sources report receiving a request from a Seattle Company for a bid to convert another batch of bone yard P-3s to oil well fire fighters. Their ultimate destination would be Saudi Arabia. Tanks are fabricated by Aero Union (rt.)

