



Special delivery

Preparing the Aero SUV to be the gift of a lifetime

By Marc E. Cook

IT'S perhaps appropriate that the Aero SUV is one of AOPA's big, century-ending gestures. At a time of optimistic prosperity in general aviation, we have completed one of the most complex and expensive sweepstakes projects extant. And not far into the year 2000—assuming that we all have electricity to run the pumps to fill the Cessna 206's four fuel tanks—we'll be delivering this sport-utility showpiece to some lucky member's airport. Could it be yours? ■ Overall, transforming this ordinary Cessna U206F into the vacation-inspiring Aero SUV has been a straightforward proposition. This level of refurbishment does not come cheaply, however. One question often posed where the Aero SUV is displayed is this: How much? Because of the generosity of many manufacturers and vendors, the accounting can be a bit misleading, but one figure is fairly realistic. Were you to undertake the project exactly as we did it, paying retail prices for

PHOTOGRAPHY BY MICHAEL P. COLLINS, MIKE FIZER, AND MARC E. COOK





While the Aero SUV's profile isn't much changed, the Airborne Electronics panel and high-end avionics are a world beyond the standard Cessna fare.





equipment and labor, your own Aero SUV would cost around \$335,000. Yes, right...that's really close to the price of a new Cessna 206. (A nonturbo Stationair sells for \$317,400 with the basic IFR avionics package and the large-tire option, but with none of the avionics goodies in the Aero SUV.)

In all fairness to the 1999-model U206H Stationair, our 23-year-old U206F is not in fact new, although the vast majority of it is either fresh out of the box or overhauled to like-new condition. But through modifications or improvements, our 206 has a few tricks up its sleeve that the new model does not. For example, the Flint wingtip fuel tanks provide an additional 30 gallons of fuel for a total of 106 gallons usable—the standard U206H carries 88 gallons. The Aero SUV can be loaded up to its 3,800-pound maximum takeoff weight, some 200 pounds greater than the new 206H model. On top of that, the Aero SUV's empty weight is actually a bit less than a new 206's, at 2,344 pounds. Do the math, and you get a total useful load of 1,456 pounds. Take away 636 pounds for full fuel—a load that will provide more than seven hours of total endurance—and you'll still have the payload for four 200-pounders and a little bit of luggage. With six 170-pound souls aboard, you'll have to restrict total fuel to 75 gallons; that's still five hours' absolute endurance, much longer than a half-dozen people will want to sit still.

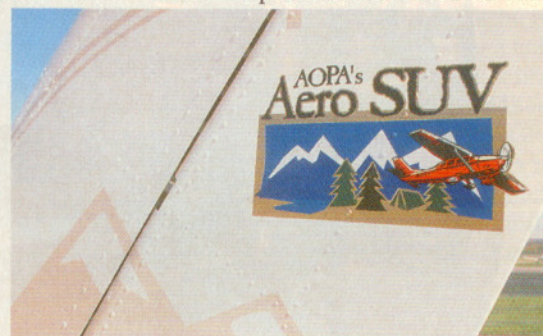
Overall endurance is improved by our choice of engines. One of the main differences between the old and new Stationairs is the engine—new 206Hs have a 300-horsepower Lycoming IO-540. We upgraded the standard IO-520 for a Continental Platinum IO-550. Historically, the large Continentals have been slightly less thirsty than similarly sized Lycomings, and our Platinum is no exception. High-cruise fuel consumption is between 16 and 17 gallons per hour, with much better economy available at higher altitudes or lean-of-peak-EGT mixture settings. That's around 2 gph lower consumption than the big Lycoming demands.

Since the engine change in June, we have racked up more than 150 hours with the Continental Platinum 550. It remains impressively smooth and pleasingly powerful. Better yet, it's shown signs of consuming a bit of oil;

many engine fanatics believe that shortened top-end life stems from an engine's lack of oil consumption. Moreover, after the break-in period, the engine temperatures have moderated so that it's absolutely no trouble keeping the hottest cylinder below 380 degrees Fahrenheit.

Traditionally in these programs we spend an inordinate amount of time during autumn hunting down and exterminating all the little bugs that are an inevitable part of such a comprehensive project. The Aero SUV was no exception. It returned to the West Coast in September to have some minor avionics work performed. This included touching up the instrument panel itself and finalizing the configuration of the inter-avionics networking.

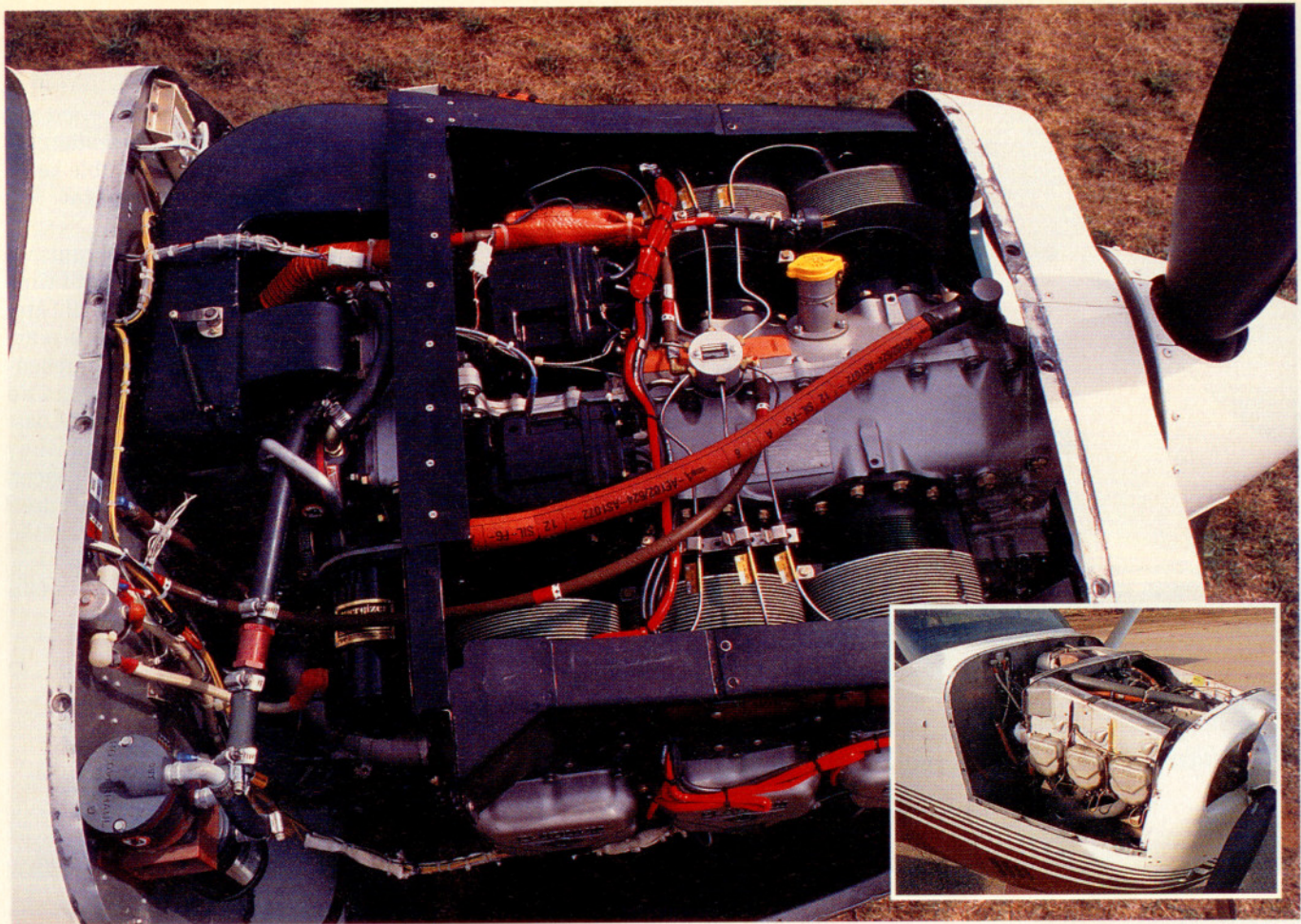
Garmin repaired one of the GNS 430s



Documented transformation: From serviceable Stationair to the ultimate sport-utility vehicle in just one year!

that had developed a dislike for quickly locking onto satellites. It was, to be fair, a very early production unit, and it had sat outside in the heat of two major airshows this spring and summer, running merrily the whole time. Save for this intermittent glitch, our love affair with the 430s continues. They are just the right combination of functional simplicity and subcutaneous sophistication; you can get as involved in the subsystems and features as you want. Garmin also took the opportunity to update one of the units to accept lighting information from the remotely mounted WX 500 Stormscope. Now it displays through the 430 as well as the Sandel 3308 Electronic HSI.

Despite plowing some new ground in the combination of avionics elements and their installation in a Cessna 206, the avionics suite in the Aero SUV has turned out to be extremely well-man-



The Air Mod interior is flexible, comfortable, and beautiful while the original furnishings at least removed the worry of the kids' messing it up.





The original Continental IO-520 has been supplanted by a new Platinum-series IO-550 with more power and a longer warranty.



nered. For example, we had significant early troubles getting the Sandel HSI to communicate with the S-Tec remote gyro and flux gate. Through the summer, representatives from Sandel, S-Tec, and Airborne Electronics (the installing firm) got together and ferreted out the problems. They came down to this: The Sandel HSI simply is not happy connected to the S-Tec gyro. Sandel is now strongly encouraging customers to mate the 3308 with the more common Bendix/King or Collins gyros.

For its part, the S-Tec System 55 autopilot works superbly in the Cessna. The pilots flying the 206 around this year who also happen to be familiar with S-Tec's more-common System 50 autopilot were comprehensively spoiled by the 55's vertical-speed modes and approach coupling. The remaining instrument-panel occupants have behaved splendidly—including the JPI EDM-700 engine analyzer, Davtron clock and atmospheric computer, Avionics Innovations CD player, and Sigma-Tek gyros.

Staying inside for a moment, we're pleased to report that the Air Mod interior, so tastefully done in fabrics and leather, has held up extremely well. Because of schedule constraints, the Aero SUV has had to make several maximum-duration flights, and we're here to say that Dennis Wolter's seats are vastly superior to the original Cessna pews. It also seems that many of the materials that you see on display with the airplane had been consigned to travel in the 206's baggage area. Naturally, the airplane doesn't seem to mind the load, but it's encouraging to note that the heavy wool carpets and fabric sidewalls back there show no evidence of the Aero SUV's acting the part of a pickup truck.

While the airplane was in for detail work at Airborne Electronics in Sacramento, California, we had the crew of Clarksburg Air Repair's satellite facility at Executive Airport come over and perform a late-season annual inspection. At the same time, we repaired cracks in the fiberglass upper nose cowling that had already been fixed once in January, and generally just cleaned up after all the various people who had worked on the airplane in the past year. Moreover, we fixed a curious flap problem. During its late-summer stay on the East Coast, the 206 began to exhibit a flap-control anomaly; with the lever pulled down to 10 degrees, the flaps would in fact come all the way down. Eventually, this problem was traced to a failed link in the follow-up cable—this cable runs from the upper

cabin area all the way to the lower instrument panel and positions the little pointer and synchronizes a set of limit switches.

These items fixed, the sturdy Cessna made a cross-country thrash for AOPA Expo, wanting only for a rebuilt alternator along the way. (It was, alas, one of the very few items left from the original airplane, deemed to be in good enough condition to continue. Another lesson learned.) The airplane stopped in Batavia, Ohio, at Air Mod for some minor tweaks and for Wolter and Perfect Finish's Joe Conrad to work into the wee hours to install the Aero SUV livery on the tail. Based on the fact that every important system in the airplane has been tinkered with or replaced, we expect the Aero SUV to be as squawk-free as can be for the lucky winner.

A set of Davids Aviation wheel fairings was to have been a late addition to the airplane. But here we ran into a collision of modifications, which is not uncommon in highly altered airplanes. Davids' speed kit—for which Knots 2U just bought the STC—includes pieces to be attached to the lower cowling, which would directly conflict with the Atlantic Aero remote-mount oil cooler. At press time, we were trying to determine if we could install just part of the speed fairing kit. Should that prove to be a dead end, we'll repair and repaint the stock wheel pants and install them. In either case, the Aero SUV, large wheels and tires hanging out in the breeze, will still touch 150 KTAS at optimum altitude and maximum-recommended cruise power. There may be five to seven knots to be liberated by the stock wheel pants.

When the AOPA prize patrol arrives in your town early next year, what you see on the ramp will be only the tip of the iceberg. Expect to see the UPS guys groaning up to your door shortly thereafter with a treasure trove of extras, including a full set of camping gear; a custom-built, over-the-wing tent; the two rear seats (with them in the airplane, you cannot carry the folding bed); a pair of folding mountain bikes; and the Tanis prop cover and engine blanket. You'll need a hangar or at least something on the order of a Chevy Suburban to carry all the stuff that comes with this, AOPA's biggest and most elaborate sweepstakes prize ever. Are you ready? □

i Links to additional information about the Aero SUV may be found on AOPA Online (www.aopa.org/pilot/links.shtml). E-mail the author at marc.cook@aopa.org

Aero SUV assistance

AOPA would like to thank the following companies that donated or discounted their products and services to refurbish the Aero SUV or otherwise assisted in the project.

Airframe repairs

Aero West Specialties
3203 Lightning Street
Santa Maria, California 93455
805/928-3601
Fax 805/928-3603

Airframe work, additional

Clarksburg Air Repair
6273 Freeport Boulevard
Sacramento, California 95822
916/421-6756
airrepair@softcom.net

Aircraft painting

Ada Aircraft Painting
2800 Airport Road
Hangar D
Ada, Oklahoma 74820
580/332-6086
Fax 580/332-4547
adaairpt@chickasaw.com

Auxiliary fuel tanks

Flint Aero Inc.
1935 North Marshall Avenue
El Cajon, California 92020
619/448-1551
Fax 619/448-1571
lagreca@home.com

Avionics installation

Airborne Electronics
6365 Freeport Boulevard
Sacramento, California 95822
916/428-3392
Fax 916/428-4366

Avionics dual IFR-approved GPS/com/navs, audio panel/ intercom, transponder

Garmin Communication and
Navigation
1200 East 151st Street
Olathe, Kansas 66062
913/397-8200
Fax 913/397-8282
www.garmin.com

Backup vacuum system

Aero Safe Corporation
603 Soda Springs Road
Millsap, Texas 76066

800/433-5689
817/682-7662

Cabin cover and cowl plugs

Ground Tech Inc.
2210 West Zion Road
Salisbury, Maryland 21801
410/749-6693
www.cabincover.com

Control wheels (salvage)

Dodson Aviation
Municipal Airport
Ottawa, Kansas 66067
913/242-4000
Fax 913/242-7312
dodson@avion.com

Composite soundproofing

Skandia Inc.
5002 North Highway 251
Davis Junction, Illinois 61020
815/393-4600
Fax 815/393-3501

Electronic HSI

Sandel Avionics
2401 Dogwood Way
Vista, California 92083
760/727-4900
www.sandelavionics.com

ELT and dual altitude encoders

ACK Technologies Inc.
440 West Julian Street
San Jose, California 95110
408/287-8021
Fax 408/971-6879

Engine analyzer and fuel computer

J.P. Instruments
Box 7033
Huntington Beach, California 92646
800/345-4574
714/557-9840
www.jpinstrument.com

Engine and installation

Teledyne Continental Motors
Post Office Box 90
Mobile, Alabama 36601
334/438-3411
www.tcmlink.com

Engine STC, six-point engine mount, remote oil cooler

Atlantic Aero Inc.
Piedmont Triad International Airport
Post Office Box 35408

Greensboro, North Carolina
27425-5408
336/668-0411
800/334-2001
Fax 336/668-4434
www.atlantic-aero.com
info@atlantic-aero.com

Entertainment system

Avionics Innovations
2450 Montecito Road
Ramona, California 92065
760/788-2602
Fax 760/789-7098
www.concentric.net/~aidave

Flexible baffle seals

Gee-Bee
Post Office Box 5061
Palm Springs, California 92263
800/556-3160
Fax 760/341-6947

Flight control system

S-Tec Corporation
One S-Tec Way
Municipal Airport
Mineral Wells, Texas 76067
940/325-9406
Fax 940/325-3904
www.s-tec.com

Fixed harnesses and lap belts

Aircraft Belts Inc.
2000 Anders Lane
Kemah, Texas 77565
281/538-1284
Fax 281/538-2225

Fuel cells (bladders)

Aero Tech Services
8354 Secura Way
Santa Fe Springs, California 90670
562/696-1128
Fax 562/945-1328

GAMIjector fuel injectors

General Aviation Modifications Inc.
2800 Airport Road
Hangar A
Ada, Oklahoma 74820
888/FLY-GAMI
580/436-4833
www.gami.com

Graphics and Camloc installation

Perfect Finish
2800 Bobmeyer Road
Hamilton, Ohio 45015

513/867-0303
Fax 513/867-0332

Gyroscopic instruments

Sigma-Tek Instruments and Avionics
1001 Industrial Road
Augusta, Kansas 67010
316/775-6373
Fax 316/775-1416
www.sigmatek.com

Inertia reel harnesses

BAS Inc.
13319 419th Street East
Eatonville, Washington 98328
360/832-6566
Fax 360/832-6466

Instrument overhaul, remarking, and lighting

The Gyro House
2389 Rickenbacker Way
Auburn, California 95602
530/823-6204
Fax 530/823-5875

Interior fabrication and installation

Air Mod
2025 Sporty's Drive
Batavia, Ohio 45103
513/732-6688
Fax 513/732-6690

Multifunction atmospheric computer, chronometer

Davtron Inc.
427 Hillcrest Way
Redwood City, California 94062
415/369-1188

Landing gear fairings

Knots 2U
703 Airport Road
Burlington, Wisconsin 53105
262/763-5100
Fax 262/763-5125

Logo decals

Moody Aero-Graphics
Post Office Box 1450
Belleview, Florida 34421
800/749-2462

Paint (Sherwin-Williams Acry-Glo)

Advanced Aircraft Coatings
1216 North Council Road
Oklahoma City, Oklahoma 73127
405/495-7545
Fax 405/495-7548

Preheater

Tanis Aircraft Services Inc.

Post Office Box 117
Glenwood, Minnesota 56334
800/443-2136
Fax 320/634-4772
info@tanair.com
www.tanair.com

Propeller, spinner, and governor

McCauley Propeller Systems
3535 McCauley Drive
Vandalia, Ohio 45377
800/621-PROP (7767)
Fax 937/890-6001
www.mccauley.textron.com

Recombinant-gas battery

Concorde Battery Corporation
2009 San Bernardino Road
West Covina, California 91790
626/813-1234
Fax 626/813-1235
www.aircraftbattery.com

Stainless steel exterior hardware kit

Skybolt, Airmotive Company
551 North Park Avenue
Apopka, Florida 32712
800/223-1963
Fax 407/889-8103
www.skybolt.com

STOL kit

Horton STOL Kit
Wellington Municipal Airport
Wellington, Kansas 67152
800/835-2051
Fax 316/326-2244

Teflon hoses

Sacramento Sky Ranch
6622 Freeport Boulevard
Sacramento, California 95822
916/421-7672
Fax 916/421-5719

Weather avoidance: WX-500

Stormscope

BFGoodrich Aerospace
5353 52nd Street Southeast
Grand Rapids, Michigan 49588
616/949-6600
Fax 616/285-4224
www.bfgavionics.com

Windows

LP AeroPlastics
RD 1, Box 201B
Jeanette, Pennsylvania 15644
724/744-4448
Fax 724/744-7372
windshields@lpaero.com
www.lpaero.com