

# Remembering Our Friend Steve Ames



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## Second-Generation Salute... ...1970 1/2 Trans Am RestoMod



### One-Owner 1972 Trans Am ...Last Car Built ?



### Bring on the Mustangs! Tire-Shredding 2009 G8 GT



2021  
Model  
Buildoff



DIY Tech: Vintage Air Installation in 1970 LeMans

# Vintage and Cool...

## Installing Vintage Air's "Sure Fit" Climate Control System in a '70 LeMans

Story and Photos by Don Keefe



The condenser supplied in the Sure Fit kit is designed to drop right in using existing factory holes. It fits in the stock location right ahead of the radiator.

With the introduction of their new "Sure Fit" system series, Vintage Air has moved the concept of ready-to-install A/C systems in muscle cars to a new level of performance and ease of installation. While factory air systems were available back then, many are no longer operational and missing parts. Even when they are working, they are using older technology, are heavy, use a lot of power and rely on R-12 refrigerant, which is no

longer commercially available.

Like many modern climate control systems installed in new cars, the Vintage Air systems make use of efficient Sanden compressors, electronic controls and more environmentally-friendly R134A refrigerant, which has been used by the automotive industry since the early 1990s. The compressors only use two to three horsepower under most circumstances, as compared to more than 20 horsepower from the old Frigidaire systems used by GM in that era. Additionally, they are safe to operate at 6,000 rpm engine speed, so if you're running more aggressive gearing, you can run one of these systems. As you may recall, Pontiacs with factory-installed A/C systems were not available with rearend ratios above 3.08 or 3.23, depending on model and year.

As an added bonus, the Sanden compressors are also much lighter than the earlier Frigidaire-based



The underdash components for the Sure Fit system are specifically designed to fit the cars they are intended for. This 1968-72 Pontiac A-body system adapts the system to the existing dash openings, making for a clean installation that looks factory authentic. Electrical switches replace cumbersome mechanical rods and levers, which adds reliability.



Dash control looks very much like the factory system and the slide levers operate much in the same format, but is all electronic and is much more reliable than the old systems, which relied on levers and vacuum to run.



The Sanden compressors used in the Vintage Air kits use a modern short-stroke, multi-cylinder design and work efficiently with R134A. They also take much less power to drive, in the range of two or three horses. This helps with gas mileage and performance and doesn't add significant stress to the cooling system.



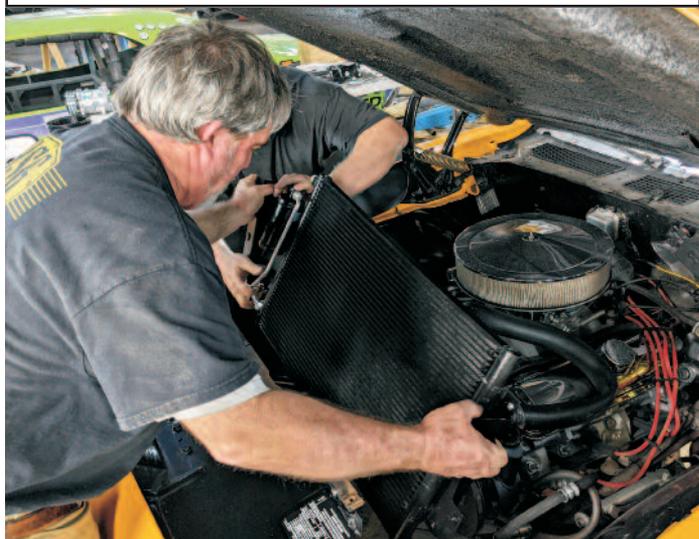
Unlike the older factory systems, which place the evaporator in the engine compartment, the Vintage Air Sure Fit system mounts in the passenger compartment, on the passenger-side firewall behind the dash. This protects the wiring from the elements and really cleans up the look of the engine compartment.



The receiver/drier mounts on the radiator core support near the condenser using a supplied bracket. It traps any liquid that might be in the system.



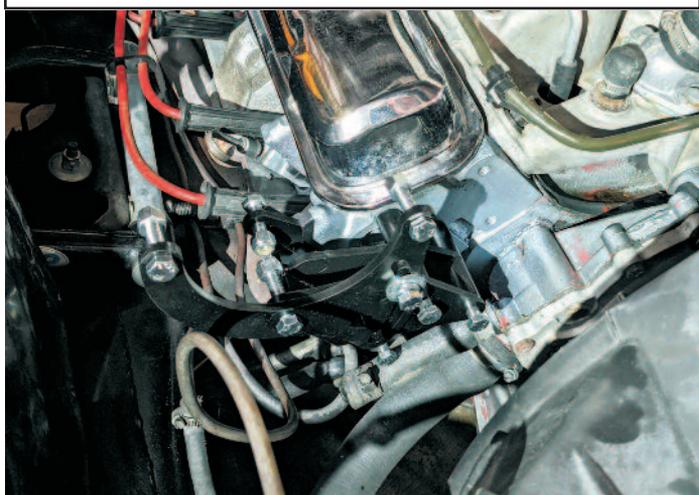
The A/C mounting bracket is included in the kit and mates the Sanden compressor to the Pontiac V-8, using the stock mounting points.



After removing the radiator, Mark finds the locating points and bolts the condenser in using the holes already drilled in the core support.



With the condenser bolted in, the team can now turn their attention to the compressor. The kit is well-engineered and uses factory mounts whenever possible.



The compressor mount bolts to the engine using the factory mounting locations on the passenger side cylinder head.



Shannon mounts the compressor on the bracket and makes sure that the pulleys line up with the factory pulleys that the compressor will take its power from.



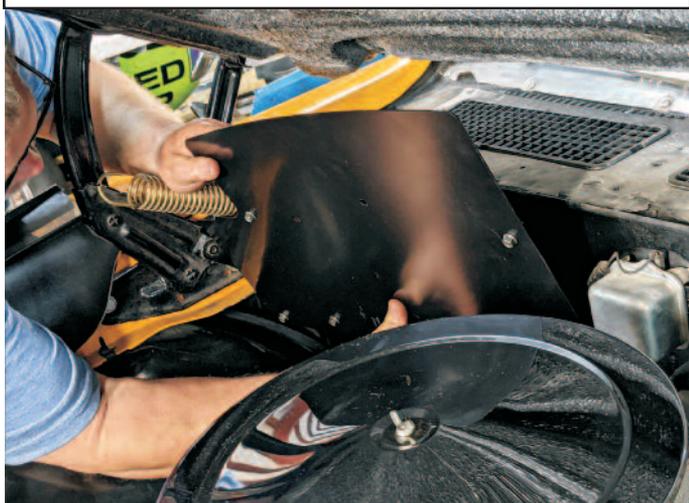
With the compressor fastened, the refrigerant hoses are bolted in place. The lines are then routed around into the area between the inner and outer fender...



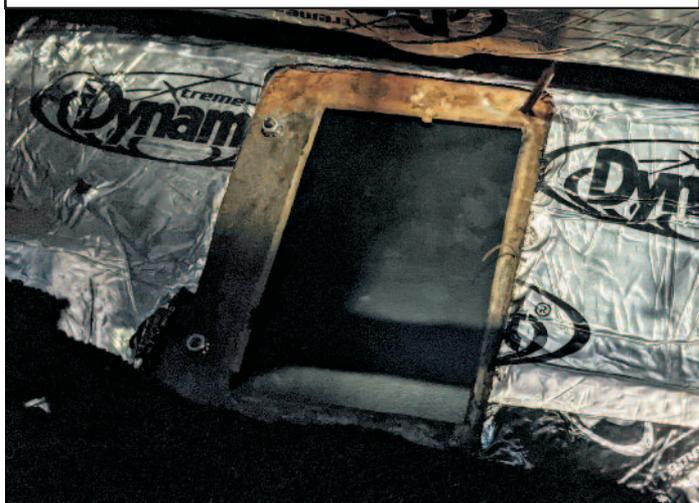
...and into the passenger compartment through the opening in the cowl. Heater hoses and wiring will also go through this factory hole.



The mounting plate is very sturdy and mounts on the engine compartment side of the firewall and locates the evaporator under the dash.



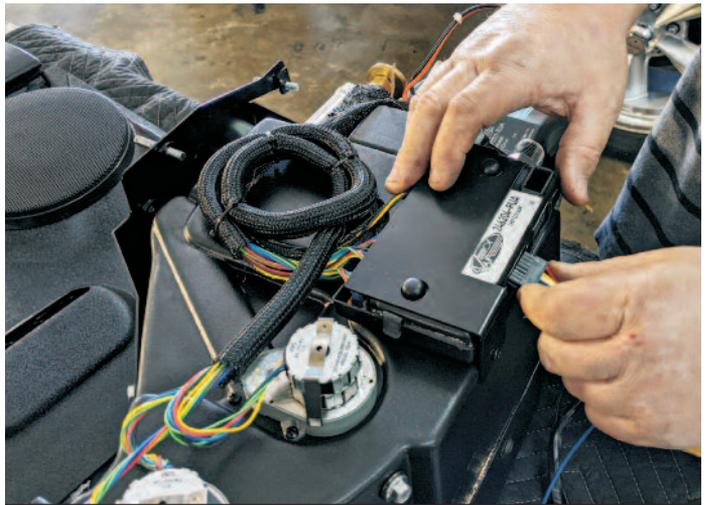
After installing the bolts and lockwashers in and putting a bead of seam sealer around the perimeter and around the bolt holes, Shannon installs the plate.



Seen from inside the car under the dash, the studs that stick are used to mount the evaporator on the inside of the firewall under the dash.



Mark installs the mount that mates the evaporator to the firewall mounting plate. It helps support the unit and prevents stress cracks or warping.



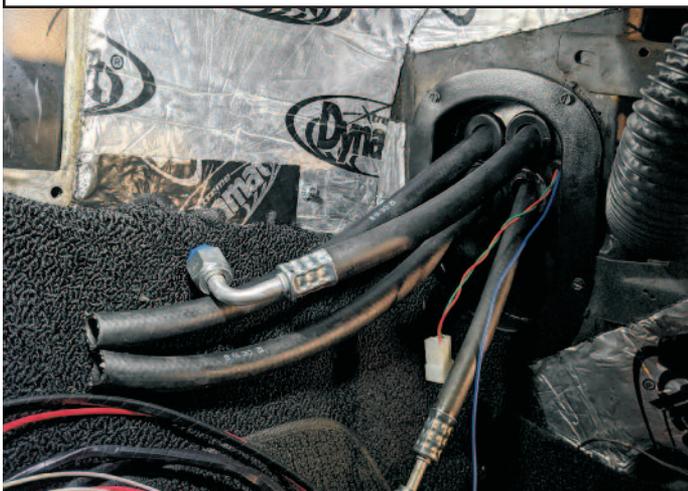
All controls are electronic, so there are solenoids to open and close the ducts and there are no mechanical levers. Plug and play is the name of the game.



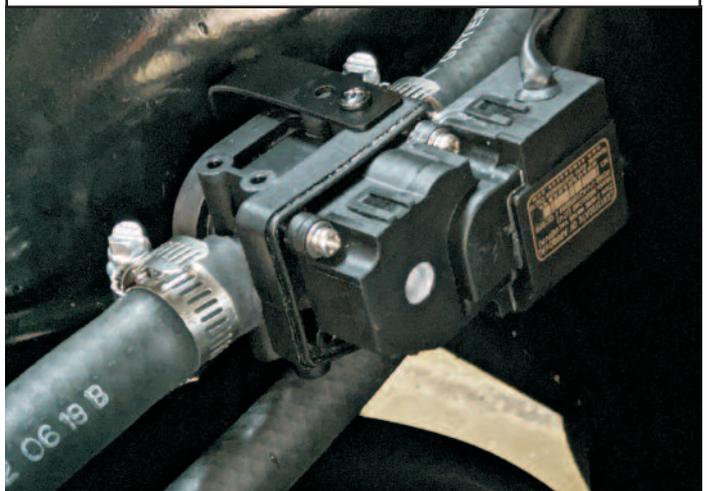
Mark adds fittings to the heater element inlet and outlet. Using two wrenches prevents the pipes from being damaged during installation.



Shannon loads the evaporator system into place and secures it to the mounting plate. There is still enough room for the stock glovebox in this build.



The rest of the lines and wiring are connected to the evaporator unit. The electrical connections from the compressor amount to just one plug.



The heater control valve is electrically-operated and allows hot water into the heater core only when needed. It mounts on the passenger side inner fender.



The air ducting is fed from the evaporator to the factory dash openings using these application-specific openings that are part of the Sure Fit system.



The dash controller is much shallower than the factory unit, making its installation much easier. Simple plug-in connectors keep things simple and tidy.



The vent in the dash was missing and the hole blocked off, so our buddy Curtis Judd came to the rescue in less than an hour with a used replacement.



Though the piece was in great shape, all of the chrome had worn off. Trim restoration expert Todd Humphrey carefully disassembled the unit and cleaned it up.



Todd then painted it with some chrome spray paint. We weren't going after showcar points, but Todd did a much better job on it than we were expecting.



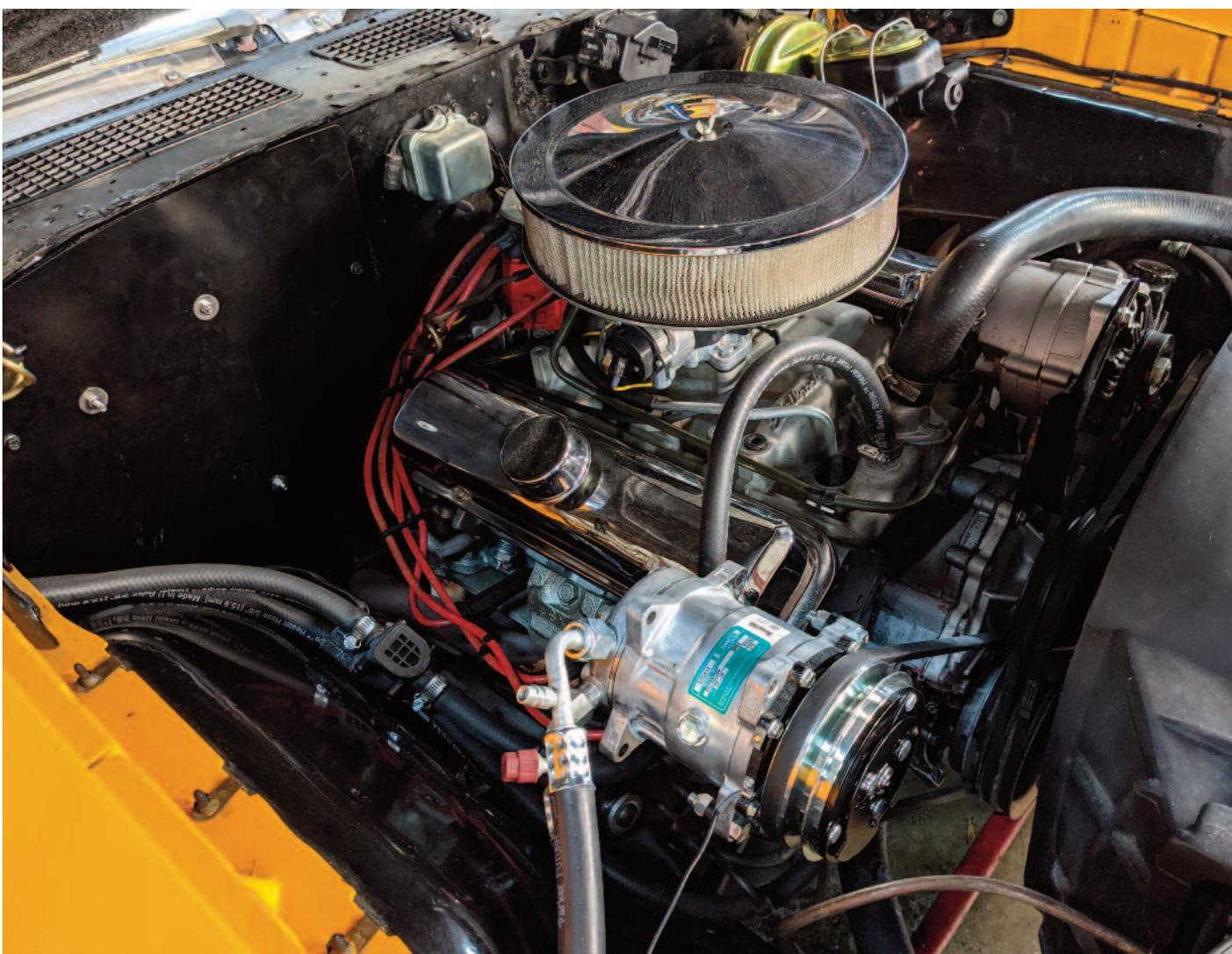
The blockoff was removed and the restored vent duct was put back in place. Once installed, the dash looked very much like it did when new—and works better.



The last procedure before adding the refrigerant is to use a vacuum pump to eliminate the air from inside the system.



Shannon adds the R134A refrigerant to the system and checks for leaks before firing up the car and checking its operation.



The completed installation is clean and very attractive. The relocation of the evaporator under the dash eliminates the unsightly box jutting out of the firewall on the passenger side. The use of modern componentry adds efficiency and reliability. Replacement parts like the Sanden compressor are easily sourced and the R12 refrigerant is not harmful to the ozone layer.

systems and take up much less room in the engine compartment.

The car that we used for the Vintage Air "Sure Fit" system is a 1970 LeMans restomod that is owned by Contributing Editor Dave Bonaskiewich. It is a very clean street car, powered by a fairly conventional 400 with 6X heads, Crane cam, Edelbrock intake and 625 Road Demon carburetor, HEI, Hedman headers and Magnaflow dual exhaust. The car was originally equipped with a factory A/C system but it had long since been removed, which actually made the installation that much easier.

The other things that made Dave's LeMans the ideal installation candidate is that the car has tinted glass and Dave lined the entire interior with Dyna-Mat, both of which help insulate the car from the intense Florida heat and sun. Having those elements in the car already benefits maximizing the performance of the new A/C system.

The Sure Fit systems are specifically designed to fit the more popular cars out there and offer a higher level of pieces custom-tailored and engineered for those applications. Items like mounting plates, ducting and controls are designed for maximum performance, ease of installation and OE-style appearance to complement the interiors of those cars.

Pontiac fans will be happy to know that in addition to the new 1968-72 A-body system, there are Sure Fit systems for 1964-67 A-body models, 1967-68 Firebird, 1969 Firebird and 1970-81 Firebird. Each system is designed for easy

installation and reliable operation. Versions of each are available for cars that came with factory A/C and those that did not.

For other Pontiacs, such as full-size cars or other applications, there are builder kits, which can be custom-tailored for specific cars using a mix and match list of components that can be chosen with a worksheet found in the Vintage Air Catalog or by a phone consultation with a Vintage Air technician.

Additionally, depending on year, some Sure Fit kits intended for comparable Chevys could possibly be made to work in a Pontiac. Depending on year, a Chevrolet Impala Sure Fir system may be modified to work in a Pontiac Catalina using a Pontiac V-8 engine bracket. Additionally, a Chevy Nova system could be adapted to a Ventura with a minimum of alteration.

Due to the COVID-19 pandemic, we were forced to change our plan for this installation story. Dave was quickly deemed an essential worker at his regular job, which eliminated any free time he had reserved for this project. After some conversations with Chris Brown, the head honcho at Iron Stable Garage in nearby Clearwater, he agreed to help us out. With technicians Mark Roberts, Shannon Showalter and Todd Humphrey on the job, the process went very smoothly and the car was blowing cold air in about 12 hours of steady work.

"We have installed many Vintage Air kits in customer cars over the last few years, quite a few in the last six months or so," Chris reported. "Right now in the shop, we have

five cars with Vintage Air systems going in." He added that, "The techs here like the Sure Fit systems because they are specifically designed and engineered for their intended cars. That makes the installations easier and they really work well. Down here in Florida, we can't afford to have mediocre systems attached to our name."

Follow along with us as we outline the installation. Though this photo sequence doesn't illustrate every detail of the process, it nonetheless gives an accurate description of the broad strokes involved with the installation. The kit also comes with a detailed instruction manual and tech support is also a phone call away at Vintage Air. PP

## Sources

### Vintage Air

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