

# FOURWHEELING ACADEMY

# EXTREME AIRE COMPRESSORS

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This is yet another update to the original 1995 “Get It Up” and several other follow-on articles about inflating tires (portable air compressors and compressed gas tanks). It adds Extreme Outback Products’ ExtremeAire and ExtremeAire Junior portable units to the previous graph and chart (see Figure 2 on page 2). By the way, for article convenience, I call the regular ExtremeAire “senior” (“Sr.”) contrary to its proper name, just ExtremeAire.

## SPECIFICATIONS

Table 1 on page 2 compares the physical features of both portable ExtremeAires. The only difference between the portables and the basic compressors is that the portables come housed in a case. You can also buy the basic compressors that are designed for hard mount in the vehicle. Both have motor protection, sealed bearings and use a UniFilter, reusable air filter.

George Carousos, owner of Extreme Outback Products, works hard to stay on top of things. Consciously, in our best interest, he offers quality, well thought out products. The ExtremeAire compressors



*Figure 1 Portable ExtremeAire compressor by Extreme Outback Products. A- Gauge. B- 3/4 hp motor. C- Air filter. D- Flashlight. E- Hose and fittings. F- Mating power plugs.*

came about due to his commitment to provide the best at reasonable prices, and to meet and beat his competition. I’ll delve into compressor details to demonstrate his obsession with quality.

## DETAILS

Reference Figure 3 on page 3 for what follows. Immediately upon lifting the lid on the shipping containers, I had the feeling George wanted his products to arrive unscathed. Good packing job, George!

The next “lid” I lifted was on the quality metal portable case. When open, the potentially sharp case edges are rolled to prevent personal injury. Further, if the lid were to accidentally fall shut with the hose connected to the compressor output, there is little chance of cutting it. And so you’ll never be without a hose, and operating instructions and cautions are printed on the inside of the lid. Also, each case is large enough to store additional items like your

PRODUCT/SPEC	EXTREMEAIR	JR.
Max. working PSI	150	150
Max. current	42	22
CFM	4	1.5
Duty cycle	100%	50% (1 hour)
Horsepower	3/4	1/4
Size (without case)	14"x6"x9"	10.5"x6.5"x4"

Table 1 Specifications for both ExtremeAire compressors

Safety Seal® plugger kit contents (without case).

The 1/4-inch polyurethane coil air hose has brass fittings. Each fitting has a cuff that lessens the chance of breaking the hose at the fittings. George chose a polyurethane hose over nylon because of serviceability and its outstanding resistance to oxygen, ozone, sunlight and general weather conditions. You can drive over polyurethane and not crush or break it (tested). Further, it has a much lower freezing temperature than nylon, and remains flexible down to -90°F!. Try that with a traditional yellow nylon coil air hose!

The locking air chuck is the "straight-on" type that I prefer. I find these easier to use than the conventional angled type.

The reusable UniFilter, foam-oil air filter is about 10 times bigger than necessary. This means it only needs cleaning every year or two.

To avoid sparking at the battery or having high current switch failure, George uses polarized heavy duty connectors. The battery clamps at the end of the 11-foot long cables are neither ungraspable monsters nor underrated peewees. As best I can calculate, the wire (Jr. 10 AWG and Sr. 6 AWG – bigger than 10) is well oversized to ensure no voltage drop at maximum

current drain. And when questioned why he used tape versus shrink tubing at the electrical connections, he cites field reparability.

Both Jr. and Sr. come with gauge and flashlight. The Sr. has a killer high intensity Garrity light that I fell in love with. The bright little guy will fit in a shirt pocket along with the gauge. He doesn't want to leave you in the dark when it comes to nighttime pressure readings. The pencil gauge is of the deep throat valve stem connect type that virtually eliminates leaky readings.

The epitome of attention to subtle detail comes beneath the case. George uses stainless steel screws, nuts and giant washers to attach the compressor to the case. This not only means no rust, but you'll never see the compressor come loose from the case due to the screws "fatiguing" their way through the case.

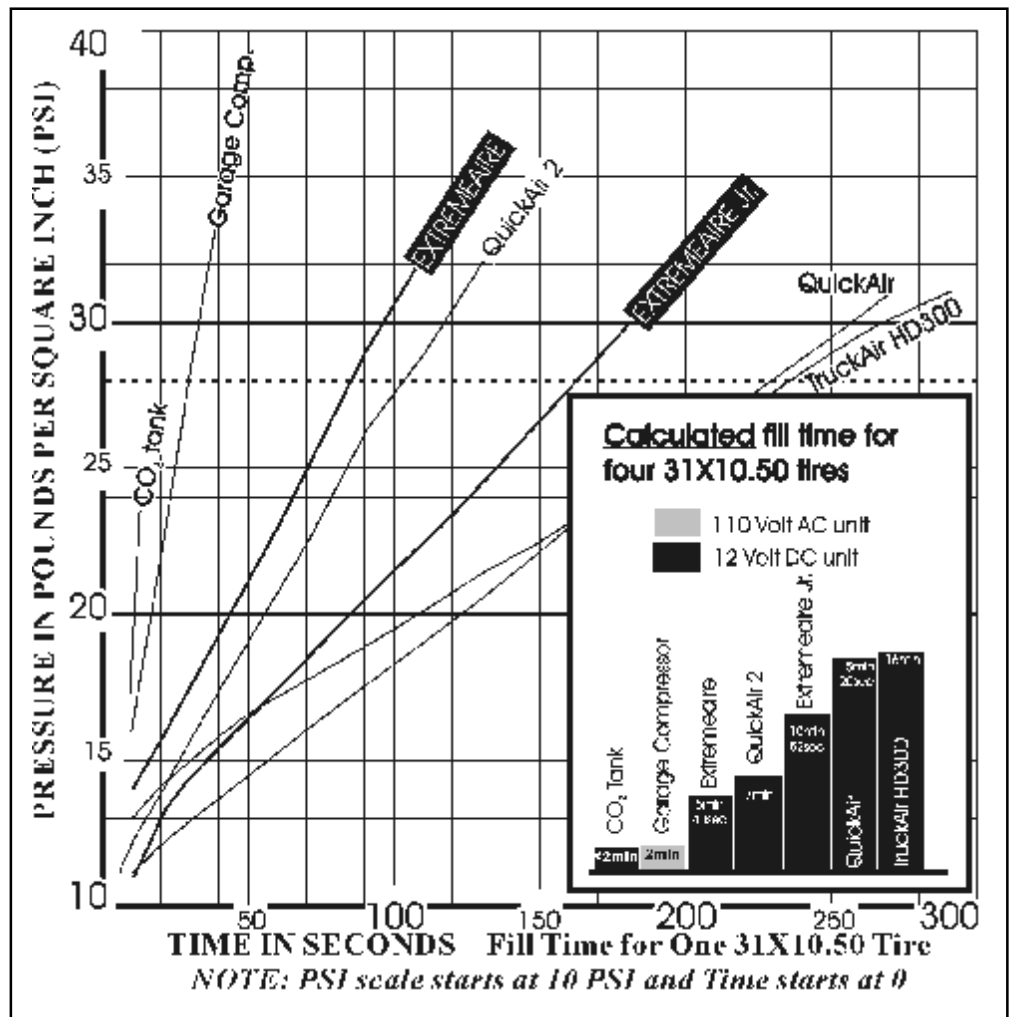


Figure 2 Comparative inflation times for various compressors

## TEST PROCEDURE

As with all prior tests, conditions were controlled as much as practical. A shaded 31X10.50X15 test tire on the car, on the ground, at approximately the same temperature, was used for all tests. The test tire was inflated in timed 10 second intervals from 10-PSI (typical sand pressure), to 28-PSI (typical street pressure). We would stop the pump at each timed interval, then measure the pressure, and repeat the process up to 28-PSI or more. The pressure gauge pulsed too badly to simply measure while pumping.

My special test fixture meant we only connected to the tire once per test, from start to finish. Any possibility of connection/disconnection loss was eliminated. No bleed-down was observed for either pump during the short measurement intervals. And even after five minutes, the pumps held the full 28 PSI pressure.

As an aside, I experimented with flow restrictions just to satisfy my own curiosity about what effect that had on airing up. I used a shorter hose and removed the valve core in the test fixture. These are real world restrictions that we have some control over. But in a nut shell, at low pressure, it didn't matter too much. However, I could see the less restricted flow starting to come into play (reduced air-up time) as I approached street pressure.

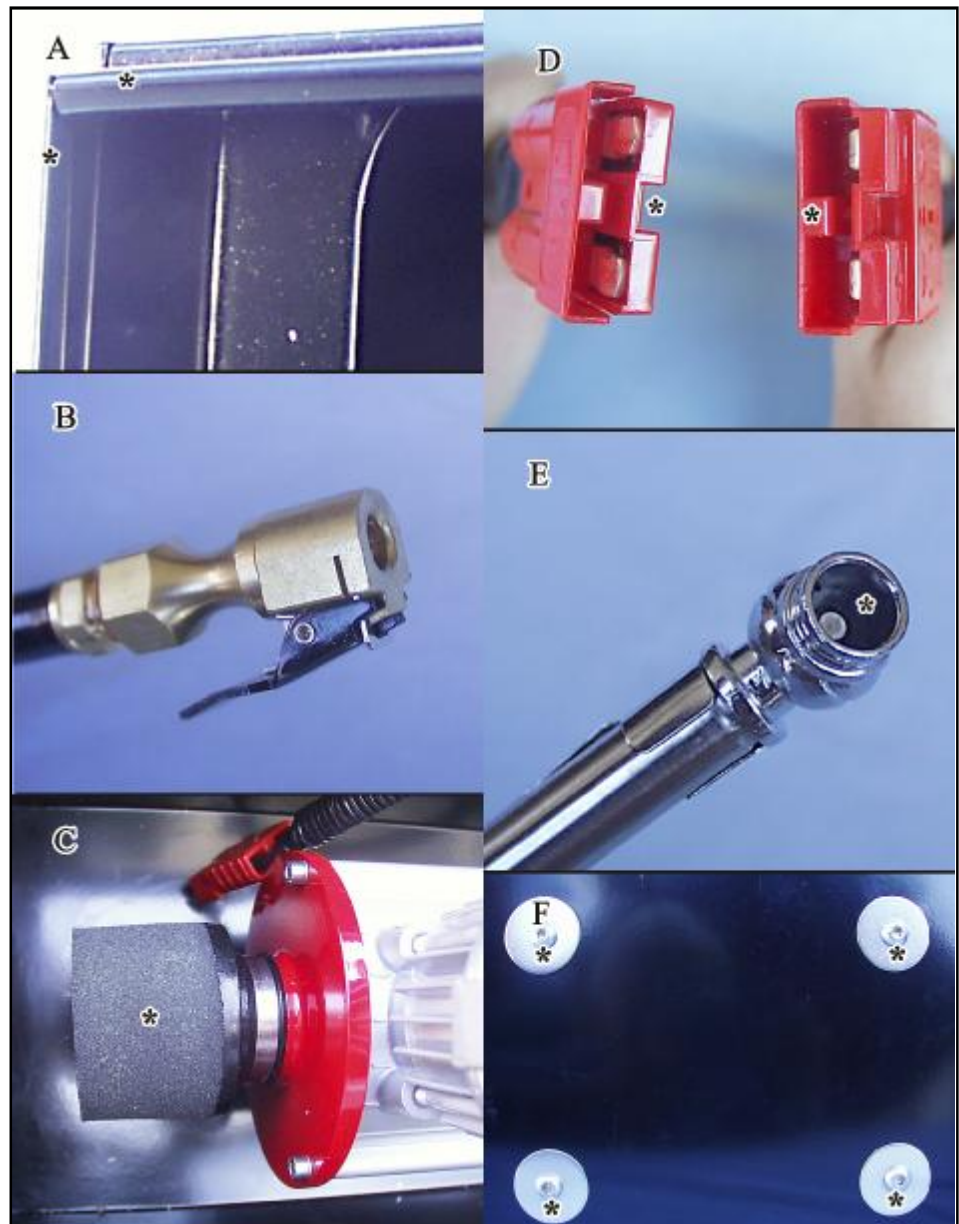
No effort was made to calibrate or determine the absolute accuracy of the gauge. The absolute pressure value was not as important as a repeatable, comparative value.

For the 12-volt tests, the compressor was connected directly to the battery. We observed a not-too-surprising difference with the 4X motor running and without. Motor running is definitely faster. See MOTOR RUNNING on page 4 of the March-April 2004 newsletter for details.

Duty cycle was a non-consideration. Sr. has a 100% duty cycle and Jr. is 50% (one hour), more than enough time to fill four tires of virtually any size.

## RESULTS

Figure 2 shows the time versus PSI curve details. If curves confuse you, dwell on the bar chart insert. Here, I've projected air-up times for four tires and various compressors. Since the original charts and graphs reported many compressors that are no longer on the market, or too slow, they were removed.



*Figure 3 A- Rounded case edges means no lost skin or cut hoses. B- Straight-on locking chuck is easier to use. C- 10X air filter means less frequent cleaning. D- Mating cable connectors means no chance of reverse battery connection. E- Deep throat gauge means no air-loss readings. F- Stainless steel hardware means no rust and long life.*

## CONCLUSION

Once again, bucks are a significant factor when purchasing a compressor, and in this case, you certainly get what you pay for when you buy an ExtremeAire. If you tend to go out with others, as I do, the faster the compressor, the more you can share your "speed demon" with your friends. If you air-down frequently, consider the ExtremeAire (Sr.).

## TO PURCHASE

To purchase either ExtremeAire, go to: [www.extremeoutback.com](http://www.extremeoutback.com) Also check out his other quality products that we'll be reviewing in the near future.

