

# COMPRESSOR KNOW-HOW 09



## Introduction

Looking at a matrix of compressors and their attributes on a printed page can be challenging. When I bought my first compressor, I had read a zillion articles (this was pre-Internet) but ended up calling a knowledgeable retailer and saying, “Help!” My needs were easy to diagnose and I got a compressor. A few years later, I bought another. With special gear, you tend to trade up as you know more, or because your business grows, or both. You musicians reading this know what I’m talking about.

I’m not here to push one product or another, but rather, present experienced viewpoints that touch on compressors in general as well as some specific models. You may like others; write or email us and tell us why.

Also, some disclosure here. I own a Silentaire TC-30. It’s a portable (well, luggable) oil-and-piston compressor that fills a small reservoir tank and has an auto shut-off valve. I had a Silentaire 20 that was a little smaller. I used the daylight hours out of it, never had a lick of problems, and gave it to my brother, who happily uses it to paint woodcraft items like duck decoys. He’s pushing thinned oil paints with it, I might add. But my TC-30 is perfect to take with me to do detail work on everything from leather to metal or the occasional small mural. In my book, the money you pay for a quiet compressor with a reservoir, filter, and automatic shutoff is worth the investment if you’re doing any kind of professional paint work, or want to. But if your needs are smaller, your compressor can be, too.

## Ask an Expert

So when I was assigned the task of making an introduction to *Airbrush Action’s* annual compressor round-up, I obviously needed to talk with somebody a lot smarter than me. (On a number of counts.) New gear has come out in the 10-odd years since I bought a compressor. I called David Monnig, who runs Coast Airbrush. He has some opinions about brands that he sells that are reliable and have features that he considers to be great. He fixes compressors also, and he knows which models get heavy use but don’t come back for repair or exchange. David’s willing to talk to anyone that’s buying a compressor and give advice for the price of a phone call. His staff is tuned-in and can assist as well. Thanks for your help on this piece, Dave. His contact information is at the end of this article.

The usual beginning is, “I want a compressor. Where do I start?”

David Monnig hears this all the time. He begins, “First let me talk about my experience with, and preferences for, some models

of compressors. I sell Silentaire models and even the small, light duty models for nails and tattoos.

“But for a comparison, I like Iwatas also. They are excellent products, designed and supported by a very experienced company. Very rarely do these compressors come back for service or return. I’m partial to the Studio series, and I’ll discuss some of them as we talk.”

## How do I choose?

Monnig feels that there are some first-order questions and answers.

First question in choosing a compressor: What price do you want to pay, and how many cubic feet per minute (CFM) of air are you looking to move?

David proposes, “We’ll address price differences later, but CFM is important if you intend to also power a spray gun from a compressor. If that’s the case, then a small studio compressor just won’t do. Especially if you’re using an HVLP gun, which might have a low nozzle pressure of 10 pounds-per-square-inch (psi), but eats up three times the volume of air that a conventional spray gun uses.”

General note also here from your writer: A lot of us have a home-improvement-store compressor in the garage to fill the Harley’s tires and blow the dust off of stuff. It probably has a 30- or 80-gallon tank. The thing raises pure noise hell when it runs, and gets hot. These kinds of compressors are generally unsuitable for powering your high-end paint projects, because of well, the ruckus, but more importantly, the heat from the simple diaphragm motor. Moisture condenses in the tank and the lines. Then, if you use an HVLP gun, these compressors usually run constantly, compounding your problems. So think about not using one as your home spraybooth air source, even with moisture traps and line filters. I know we’ll get a million emails from people who do, but just use your head, and it might be better to use your utility compressor for blowing primer on drywall and so on.

Second question for compressor shoppers: What kind of paint do you spray, and on what surface?

“If you’re doing two kinds of work, say T-shirts and automotive,” Dave answers, “get a compressor for the heaviest load, which is fabric paint. As a rough estimate, you’ll probably need a compressor that handles a steady 30- to 35-psi for automotive work, and 50- to 60-psi for textile paints if you do T-shirts.”

And the third question: What’s the difference in compressors? “These things [compressors] are basically just refrigerant mo-

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|-------------------------------|-------------------|----------------|------------------|-----------------------|---------------|------------------|------------------|------------------|-------------------|
| COMPRESSOR TYPE               | Silent            | Silent         | Dual-Piston      | Dual-Piston           | Dual-Piston   | Piston           | Piston           | Piston           | Piston            |
| WEIGHT                        | 76 lbs.           | 55 lbs.        | 27.5 lbs.        | 17.5 lbs.             | 17.5 lbs.     | 6.3 lbs.         | 8.4 lbs.         | 14 lbs.          | 8.4 lbs.          |
| SIZE (INCHES)                 | 19x14x29          | 19x14x13       | 17.5x7.7x15.9    | 10.5x12x6             | 10.5x12x6     | 6x6x6            | 7.9x7.5x6.7      | 26.5x31x15.5     | 7.9x7.5x6.7       |
| MAXIMUM PRESSURE              | 114 psi           | 114 psi        | 70psi            | 70psi                 | 70psi         | 30psi            | 40psi            | 40psi            | 40psi             |
| AIR FLOW @ 20 PSI             | 2.25 cfm          | 2.15 cfm       | 1.15 cfm         | 1.15 cfm              | 1.15 cfm      | .33 cfm          | .64 cfm          | .64 cfm          | .64 cfm           |
| HORSEPOWER                    | 5/8 hp            | 1/2 hp         | 1/6 hp           | 1/6 hp                | 1/6 hp        | 1/10 hp          | 1/8 hp           | 1/8 hp           | 1/8 hp            |
| NUMBER OF AIRBRUSHES          | 4                 | 3              | 2                | 2                     | 2             | 1                | 1                | 1                | 1                 |
| NOISE LEVEL                   | 50 db             | 47 db          | 55 db            | 55 db                 | 55 db         | 40 db            | 50 db            | 50 db            | 50 db             |
| VIBRATION LEVEL               | Low               | Low            | Low              | Low                   | Low           | Low              | Low              | Low              | Low               |
| TANK CAPACITY                 | 4 Gal             | 1.5 Gal.       | 1.5 Gal          |                       | 1.5 Gal       |                  |                  |                  |                   |
| HOURS OF SERVICE              | 5,000             | 5,000          | 5,000            | 5,000                 | 5,000         | 500              | 5,000            | 1,000            | 5,000             |
| REPLACEABLE INTAKE FILTER     | ✓                 | ✓              | ✓                | ✓                     | ✓             | N/A              | N/A              | ✓                | ✓                 |
| OILLESS                       |                   |                | ✓                | ✓                     | ✓             | ✓                | ✓                | ✓                | ✓                 |
| COOLING SYSTEM                | ✓                 | ✓              | Fan              | Fan                   | Fan           | N/A              | N/A              | N/A              | Fan               |
| ON/OFF SWITCH                 | ✓                 | ✓              | ✓                | ✓                     | ✓             | ✓                | ✓                | ✓                | ✓                 |
| AUTOMATIC SHUTOFF             | ✓                 | ✓              | ✓                | ✓                     | ✓             | N/A              | ✓                | ✓                | ✓                 |
| AIR REGULATOR                 | ✓                 | ✓              | ✓                | ✓                     | ✓             | ✓                | ✓                | ✓                | ✓                 |
| MOISTURE TRAP                 | ✓                 | ✓              | ✓                | ✓                     | ✓             | ✓                | ✓                | ✓                | ✓                 |
| BLEEDER VALVE                 | ✓                 | ✓              | ✓                | ✓                     | ✓             | ✓                | ✓                | ✓                | ✓                 |
| UL-LISTED (OR EQUIVALENT)     |                   | ✓              | ✓                | ✓                     | ✓             | ✓                | ✓                | ✓                | ✓                 |
| WARRANTY                      | 12 mos.           | 12 mos.        | 12 mos.          | 12 mos.               | 12 mos.       | 12 mos.          | 12 mos.          | 12 mos.          | 12 mos.           |
| <b>SUGGESTED RETAIL PRICE</b> | <b>\$2,000</b>    | <b>\$1,200</b> | <b>\$675</b>     | <b>\$440</b>          | <b>\$440</b>  | <b>\$199</b>     | <b>\$330</b>     | <b>\$419</b>     | <b>\$280</b>      |

tors that have been tuned and improved. But each is a little different,” Dave offers. “Let’s talk about the major kinds.”

### Small diaphragm (hobbyist) models

“Well, they’re inexpensive,” Dave starts. “However, the manufacturer might say it produces air at, say, 45 psi, but when you press the trigger, the pressure drops significantly. So if you’re just doing small hobby jobs, it might be OK. Some of them pulse and deliver surges of air that make paint flow unpredictably.”

“One problem is that some manufacturers and retailers sell these small diaphragm compressors for ‘beginners.’ Unfortunately, these models might not be up-to-speed for a beginner who, say, is starting to do T-shirts or auto work. Any time your airbrushing requires a constant flow of air, with the trigger down, you need a larger compressor with a reservoir. And that description fits a whole lot of artists buying a new compressor,” he adds.

“Here’s what I find. A new artist buys one of these small, diaphragm compressors because it says ‘beginner.’ Then the artist starts having problems. Paint won’t flow. There’s moisture coming out of the airbrush and ruining the job. Then the newbie, because he or she doesn’t know any better, blames the airbrush, the paint, or both. Sometimes people get frustrated and give up. When in reality, a better compressor for a few more dollars would provide steady air pressure, filter out a lot of the moisture (or never produce it to begin with), and in the bargain run a whole lot quieter.

“In the small compressor category, the Iwata Smart Jet develops around 35-psi. It’s simple and could be a good choice for a

hobbyist, nail artist, or other light work. It even has a moisture trap and is head-and-shoulders ahead of some of the cheaper models. But automotive work and T-shirts need more air pressure from a larger compressor,” Monnig advises.

### “Silent,” Automatic Shut-Off Compressors

Regarding this type, Dave begins, “These come with an auto shut-off switch. When the compressor fills to a certain capacity, the motor shuts off. This is good for motor life, and keeps the compressor from getting hot. Heat can create problems with moisture cycling through and into the air line.”

“There are two basic kinds, those using oil for piston pressure, and oil-less. There are a number of different ways that a compressor regulates pressure and lets the air flow. Some models come with a diaphragm regulator, versus a spring-loaded bleeder. Also, there are single-piston models, and twin-piston. The twin-pistons build up pressure faster, for sustained airflow.”

Basic physics says that the temperature of a gas has a direct relationship with pressure when volume is constant. If temperature increases, then pressure increases, and vice versa, when volume is constant. But as we’ve mentioned, it’s usually direct motor heat, generated by the friction of moving parts, that has to be dealt with.

David Monnig has a point regarding this phenomenon and some of his compressor models. “Interestingly, the Power Jet Pro is larger but runs a little warmer filling the larger air tank. This can attract moisture that must be filtered out, so the advantage in capacity can be cancelled out by the moisture issue.”

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|-------------------------------|---------------|---------------|---------------|----------------|-------------------|--------------------|--------------------|---------------------|---------------------|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| COMPRESSOR TYPE               | Silent        | Silent        | Silent        | Silent         | Silent            | Silent             | Silent             | Silent              | Silent              | Silent              | Silent          | Silent          | Silent          | Silent          | Silent          |
| WEIGHT                        | 13 lbs.       | 19 lbs.       | 15 lbs.       | 21 lbs.        | 43 lbs.           | 46 lbs.            | 51 lbs.            | 50 lbs.             | 52 lbs.             | 67 lbs.             | 53 lbs.         | 71 lbs.         | 61 lbs.         | 69 lbs.         | 74 lbs.         |
| SIZE (INCHES)                 | 10x5x8.5      | 10x6x8.5      | 12x6x7        | 11x12x9        | 16x7x12           | 12x11x11           | 12x11x11           | 9x18x20             | 9x18x20             | 9x18x20             | 14x14x16        | 17x8x18         | 15x15x21        | 16x16x24        | 16x16x30        |
| MAXIMUM PRESSURE              | 85 psi        | 85 psi        | 85 psi        | 85 psi         | 85 psi            | 114 psi            | 114 psi            | 114 psi             | 114 psi             | 114 psi             | 114 psi         | 114 psi         | 114 psi         | 114 psi         | 114 psi         |
| AIR FLOW @ 20 PSI             | .5 cfm        | .5 cfm        | 1.1 cfm       | 1.1 cfm        | .6 cfm            | .88 cfm            | 1.6 cfm            | .6 cfm              | .88 cfm             | 1.6 cfm             | 1.8 cfm         | 1.8 cfm         | 1.8 cfm         | 1.8 cfm         | 1.8 cfm         |
| HORSEPOWER                    | 1/8 hp        | 1/8 hp        | 1/6 hp        | 1/6 hp         | 1/5 hp            | 1/3 hp             | 1/2 hp             | 1/5 hp              | 1/3 hp              | 1/2 hp              | 1/2 hp          | 1/2 hp          | 1/2 hp          | 1/2 hp          | 1/2 hp          |
| NUMBER OF AIRBRUSHES          | 1             | 1             | 2             | 2              | 1                 | 2                  | 3                  | 1                   | 2                   | 3                   | 4               | 4               | 1Ts-5Illus      | 1Ts-7Illus      | 1Ts-7Illus      |
| NOISE LEVEL                   | 45 db         | 45 db         | 47 db         | 47 db          | 30 db             | 30 db              | 30 db              | 30 db               | 30 db               | 30 db               | 40 db           | 40 db           | 40 db           | 40 db           | 40 db           |
| VIBRATION LEVEL               | Low           | Low           | Low           | Low            | None              | None               | None               | None                | None                | None                | None            | None            | None            | None            | None            |
| TANK CAPACITY                 | N/A           | N/A           | N/A           | 1 Gal.         | .4 Gal.           | .9 Gal.            | .9 Gal.            | 1 Gal.              | 1 Gal.              | 2 Gal.              | 2 Gal.          | 2.3 Gal.        | 4 Gal.          | 6 Gal.          | 6 Gal.          |
| HOURS OF SERVICE              | 2,000         | 2,000         | 2,000         | 2,000          | 5,000             | 5,000              | 5,000              | 5,000               | 5,000               | 5,000               | 5,000           | 5,000           | 5,000           | 5,000           | 5,000           |
| REPLACEABLE INTAKE FILTER     |               |               | ✓             | ✓              | ✓                 | ✓                  | ✓                  | ✓                   | ✓                   | ✓                   | ✓               | ✓               | ✓               | ✓               | ✓               |
| OILLESS                       | ✓             | ✓             | ✓             | ✓              |                   |                    |                    |                     |                     |                     |                 |                 |                 |                 |                 |
| COOLING SYSTEM                | N/A           | N/A           | N/A           | N/A            | N/A               | N/A                | N/A                | N/A                 | N/A                 | N/A                 | N/A             | N/A             | N/A             | N/A             | ✓               |
| ON/OFF SWITCH                 | ✓             | ✓             | ✓             | ✓              | ✓                 | ✓                  | ✓                  | ✓                   | ✓                   | ✓                   | ✓               | ✓               | ✓               | ✓               | ✓               |
| AUTOMATIC SHUTOFF             | ✓             | ✓             | ✓             | ✓              | ✓                 | ✓                  | ✓                  | ✓                   | ✓                   | ✓                   | ✓               | ✓               | ✓               | ✓               | ✓               |
| AIR REGULATOR                 | ✓             | ✓             | ✓             | ✓              | ✓                 | ✓                  | ✓                  | ✓                   | ✓                   | ✓                   | ✓               | ✓               | ✓               | ✓               | ✓               |
| MOISTURE TRAP                 | ✓             | ✓             | ✓             | ✓              | ✓                 | ✓                  | ✓                  | ✓                   | ✓                   | ✓                   | ✓               | ✓               | ✓               | ✓               | ✓               |
| BLEEDER VALVE                 |               |               |               | ✓              | ✓                 | ✓                  | ✓                  | ✓                   | ✓                   | ✓                   | ✓               | ✓               | ✓               | ✓               | ✓               |
| UL-LISTED (OR EQUIVALENT)     | ✓             | ✓             | ✓             | ✓              | ✓                 | ✓                  | ✓                  | ✓                   | ✓                   | ✓                   | ✓               | ✓               | ✓               | ✓               | ✓               |
| WARRANTY                      | 6 mos.        | 6 mos.        | 6 mos.        | 6 mos.         | 12 mos.           | 12 mos.            | 12 mos.            | 12 mos.             | 12 mos.             | 12 mos.             | 12 mos.         | 12 mos.         | 12 mos.         | 12 mos.         | 12 mos.         |
| <b>SUGGESTED RETAIL PRICE</b> | <b>\$229.</b> | <b>\$306.</b> | <b>\$328.</b> | <b>\$525.</b>  | <b>\$841.</b>     | <b>\$1,079.</b>    | <b>\$1,263.</b>    | <b>\$958.</b>       | <b>\$1,123.</b>     | <b>\$1,290.</b>     | <b>\$1,528.</b> | <b>\$1,672.</b> | <b>\$1,588.</b> | <b>\$1,683.</b> | <b>\$1,955.</b> |

## Wet, Soggy Stuff in the Middle of the Night

“On that note, let’s really get to moisture traps. I think they’re critical if you’re serious about airbrushing,” Dave cautions.

We’ll add to David’s advice for a moment. Use your imagination; it’s 2:00 am and you’re finishing a tricky, beautiful job, and your airbrush blasts a spurt of water along with your paint and ruins everything. It’s a mural of ‘Mom’ (isn’t all popular art a variation on tattoos?), on a big-twin motorcycle that belongs to the Prez of the local chapter of the Death Dudes motorcycle club. He’s picking it up when your shop opens at 8:00. A good moisture trap might have come in handy.

Dave continues, “Iwata, anyway, has a coiled hose underneath some of its Studio compressor bodies (the Smart Jet Pro and Power Jet models come to mind), which then feeds into the moisture trap. This is great, because it allows the air to cool, then the remaining moisture is removed more efficiently in the moisture trap. This means very little water getting into your final air line and onto your work.”

## Other Common Malfunctions and Basic Troubleshooting

This isn’t that last word, because compressors have many moving parts and a number of stress points. But here are some common sense ideas from the *Airbrush Action* brain trust.

**Power.** Check that the compressor is plugged in. (Not kidding here. You’d be surprised, or you wouldn’t.)

Compressor motors, and compressor electrical cords, draw lots of amps. They could overheat and cause mayhem. 110-volt compressors can quickly max out a home or light-duty electrical system. Try not to use extension cords; plug the compressor in close to a power source that’s built to code. If you must use an extension, make it as short as possible, and use a heavy-duty cord.

Of course, if your compressor is some big suckah putting out shop air, you already had a qualified electrician run 220-volts to the thing. But most of you reading this guide are shopping for a smaller machine.

**Air leaks.** Make sure that if the compressor has a moisture trap, the airtight drain is closed and locked against air leaks. All air connections should be tight. Check the intake filter. Then try to run the compressor and put your finger over the intake (minus the filter). There should be a steady suction. If there isn’t, it’s possible that there is a leak in the tank connections, or a faulty valve is routing air back around the jacket of the tank or elsewhere.

**Dirt.** This seems simple, but keep the outside of your compressor clean. Dirt, oil, and other foreign substances can seem benign, but can keep heat inside your compressor instead of it transferring through the outer metal to the air, cooling the components.

**Oil.** If you’re using your oil compressor off and on, 9-5, every day, professionally, change the oil every six months. For heavy use—such as shirts in a mall, running day in, day out, change the oil every three months. But for average studio or home use, one change per year is usually sufficient.

| Si-Air 100-24   | Si-Air 100-50   | Si-Air 150-50   | Si-Air 200-100  | Vai-Air 50-15 AL | Vai-Air 50-24 AL | Vai-Air 50-T-Aire (Terry Hill Pro) | Vai-Air 100-24 AL | Vai-Air 100-50 AL | Vai-Air 150-50 AL | Vai-Air 200-100 AL | Vai-Air 300-100 AL | AMP 50-24     | AMP 50-6-D    | AMP 50-8-TC   | Oil 24 oz (1 bottle per motor) |
|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------------------------|-------------------|-------------------|-------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------------------|
| Silent          | Silent          | Silent          | Silent          | Silent           | Silent           | Silent                             | Silent            | Silent            | Silent            | Silent             | Silent             | Silent        | Silent        | Silent        |                                |
| 152 lbs.        | 184 lbs.        | N/A             | 276 lbs.        | N/A              | 69 lbs.          | 106 lbs.                           | 148 lbs.          | 166 lbs.          | N/A               | 282 lbs.           | 378 lbs.           | 54 lbs.       | N/A           | N/A           |                                |
| 27x13x26        | 41x13x27        | 41x13x27        | 53x20x32        | 15x15x21         | 16x16x24         | 22x16x32                           | 27x13x26          | 41x13x27          | 41x13x27          | 53x20x34           | 53x20x34           | 17x17x26      | N/A           | N/A           |                                |
| 114 psi         | 114 psi         | 114 psi         | 114 psi         | 114 psi          | 114 psi          | 114 psi                            | 114 psi           | 114 psi           | 114 psi           | 114 psi            | 114 psi            | 100 psi       | 100 psi       | 100 psi       |                                |
| 3.6 cfm         | 3.6 cfm         | 5.4 cfm         | 7.2 cfm         | 1.8 cfm          | 1.8 cfm          | 1.8 cfm                            | 3.6 cfm           | 3.6 cfm           | 5.4 cfm           | 7.2 cfm            | 10.8 cfm           | 2.1 cfm       | 2.1 cfm       | 2.1 cfm       |                                |
| 1 hp            | 1 hp            | 1.5 hp          | 2 hp            | 1/2 hp           | 1/2 hp           | 1/2 hp                             | 1 hp              | 1 hp              | 1.5 hp            | 2 hp               | 3 hp               | 5/8 hp        | 5/8 hp        | 5/8 hp        |                                |
| 2Ts-10Illus     | 2Ts-14Illus     | 3Ts-18Illus     | 4Ts-22Illus     | 1Ts-5Illus       | 1Ts-7Illus       | 1Ts-5Illus                         | 2Ts-10Illus       | 2Ts-14Illus       | 3Ts-18Illus       | 4Ts-22Illus        | 6Ts-30Illus        | 1T-5Illus     | 4             | 4             |                                |
| 40 db           | 40 db           | 40 db           | 40 db           | 42 db            | 42 db            | 42 db                              | 42 db             | 42 db             | 42 db             | 42 db              | 42 db              | 62 db         | 62 db         | 62 db         |                                |
| None            | None            | None            | None            | None             | None             | None                               | None              | None              | None              | None               | None               | Low           | Low           | Low           |                                |
| 6 Gal.          | 13 Gal.         | 13 Gal.         | 26 Gal.         | 4 Gal.           | 6 Gal.           | 6 Gal.                             | 6 Gal.            | 13 Gal.           | 13 Gal.           | 26 Gal.            | 26 Gal.            | 6 Gal.        | 2 Gal.        | 2 Gal.        |                                |
| 5,000           | 5,000           | 5,000           | 5,000           | 5,000            | 5,000            | 5,000                              | 5,000             | 5,000             | 5,000             | 5,000              | 5,000              | 4,000         | 4,000         | 4,000         |                                |
|                 |                 |                 |                 |                  |                  |                                    |                   |                   |                   |                    |                    |               |               |               |                                |
|                 |                 |                 |                 |                  |                  |                                    |                   |                   |                   |                    |                    |               |               |               |                                |
| N/A             | N/A             | N/A             | N/A             | N/A              | N/A              |                                    |                   |                   |                   |                    |                    |               |               |               |                                |
|                 |                 |                 |                 |                  |                  |                                    |                   |                   |                   |                    |                    |               |               |               |                                |
|                 |                 |                 |                 |                  |                  |                                    |                   |                   |                   |                    |                    |               |               |               |                                |
|                 |                 |                 |                 |                  |                  |                                    |                   |                   |                   |                    |                    |               |               |               |                                |
|                 |                 |                 |                 |                  |                  |                                    |                   |                   |                   |                    |                    |               |               |               |                                |
|                 |                 |                 |                 |                  |                  |                                    |                   |                   |                   |                    |                    |               |               |               |                                |
| 12 mos.         | 12 mos.         | 12 mos.         | 12 mos.         | 12 mos.          | 12 mos.          | 12 mos.                            | 12 mos.           | 12 mos.           | 12 mos.           | 12 mos.            | 12 mos.            | 12 mos.       | 12 mos.       | 12 mos.       |                                |
| <b>\$2,647.</b> | <b>\$2,912.</b> | <b>\$3,838.</b> | <b>\$4,616.</b> | <b>\$1,716.</b>  | <b>\$1,827.</b>  | <b>\$2,193.</b>                    | <b>\$3,142.</b>   | <b>\$3,282.</b>   | <b>\$4,263.</b>   | <b>\$5,018.</b>    | <b>\$6,385.</b>    | <b>\$925.</b> | <b>\$895.</b> | <b>\$895.</b> | <b>\$22.50</b>                 |

If you find any discoloration, or especially a burnt smell in the oil, it is breaking down and needs to be changed to ensure the full future life of your compressor. And use the oil that the manufacturer recommends, not the stuff you pour into your powerboat or ATV engine.

## Advanced Malfunctions

Dealing with thornier compressor problems might tax your ability, tool set, or both. When in doubt, contact a warranty repair facility, but David ran through some common mechanical problems that he's seen and repaired.

### Burnt or corroded valve plate

If a silent compressor keeps running, or has other flow problems that aren't obvious, it's possible that you have a burnt or corroded valve plate, and air could be leaking out into the motor housing instead of remaining sealed. Take the intake off and put your finger on the intake tube while the compressor is running. Make sure there's suction coming in. If not, it's repair time.

### Ball chuck or one-way valve

This valve can get dirty or overheated. In the latter case, the valve components can actually swell and stick, keeping the valve in the open position. This can be a source of your airflow or motor malfunctions.

### Seized motor

The piston can stick in its cylinder if an oil compressor runs low, or runs out of oil. This can be tricky to fix, but sometimes not impossible. When the components cool, the piston may respond to pro-

gressive traction or pressure, depending on where in the cylinder the piston is stuck.

### Heavier electrical problems

On a bigger motor, a starter relay or capacitor can fail, and the motor won't start or run. Some compressors also have circuit breakers in the form of a thermal switch, which heats while under excess load, then resets. If the element or metal inside corrodes or breaks, the compressor doesn't start. A lot of motorcycles have a main breaker up under the seat or elsewhere that functions the same way, if that helps you visualize this. The main breaker is usually the first place you start with electrical problems, besides making sure there's electricity.

## Conclusion

Naturally, there are entire programs in compressor maintenance taught at community colleges across our land, and so it's hard to squeeze the topic into a buyer's guide introduction. But we've presented a new buyer some ideas, and experienced artists are encouraged to look at some of the new compressor models. You might be surprised at the range of innovations.

And we'll probably ask David Monnig to come back in future issues to discuss this topic. He knows compressors (and every other piece of airbrush hardware) backwards and sideways. You can contact David Monnig and his staff at Coast Airbrush at (714) 635-5557 during business hours in the U.S. Pacific time zone. His web site is coastairbrush.com. We wish you the best of success in your next art adventures, with your new compressor. ■