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Fuji Mini-Mite 4 HVLP Review

by *Barry F. Burke, Jr.*

Purchased from Phelps Refinishing, as "Package #4" for \$824 (June, 2006), shipping included.



The Mini-Mite series of HVLP spray gear is Fuji's latest offering. The turbine is essentially a Q series unit without the noise reducing technology offered at a lower price. Fuji claims the Q and MM series both employ the same motor and turbine internals. The same Fuji XT spray gun is supplied with either Q or MM series kits. Since noise isn't a huge issue for me, I accepted the opportunity to upgrade from my Harbor Freight *bleeder* spray rig to a pro-quality 4 stage system and save \$200 over the Q4. I'll occasionally compare the two guns, but in no way is this review meant to be a comparison between \$70 and \$679 finishing tools.

The materials I usually spray are nitrocellulose lacquers, sanding sealers, dewaxed shellac (Seal Coat), dyes, and stains. Based on Fuji's air cap selection chart, I selected the #3 and #4 gun setups in my initial order. Fuji three and four stage kits include the same peripherals. If you know you'll never need a four stage turbine, you can save \$180 by buying the Mini-Mite 3. As I subscribe to the *cry once* school of tool purchasing, and have been bitten in the past by *never*, I bought the MM4.

I don't have any local dealers of HVLP turbine equipment of any brand and had originally

planned on ordering a Fuji kit from Amazon.com. As I was conducting pre-purchase research, Google produced a link to the Phelps Refinishing web site. Phelps offers a wealth of information, including online videos demonstrating the difference in sound between the MM and Q series turbines. After viewing several of the informative videos, I chose to reward the efforts of Phelps Refinishing with my business. I selected and ordered my kit late on a Monday evening. The seller emailed me a PDF of my order early the following morning. Thursday afternoon, the friendly brown bringer-of-stuff dropped off a single expertly packed box. The contents were neatly and securely packed by Phelps, and arrived in perfect condition.

Included in basic Mini-Mite 4kit:

- Fuji MM4 4 stage turbine
- Fuji XT non-bleed convertible gun, configured as siphon feed
- 25' Fuji Hi-flex hose w/ air control
- #4 setup
- Viscosity cup
- Gun tool kit
- Fuji manual

Items added by Package #4:

- (3) Small finish cups with lids
- 6' whip hose
- Spare turbine filters
- #3 setup
- "Worthy" brass siphon tube filters
- Finish cup maintenance kit

Upon initial examination, it was obvious that this is professional quality equipment. Everything has a nice, solid feel and all parts subject to wear are machined from various metals and anodized or plated. My early impression of fit and finish was excellent and I felt that I had received a good value. Fuji's manual is clear, easy to follow, and available online for download. I always like to keep the manual for a new tool handy, and since finishing is messy, extra copies will be useful. Downloadable manuals are also very useful when researching a tool purchase. As I unpacked, I noticed that the air hoses use standard garden hose fittings, and the power cord is a dime-a-dozen computer monitor style cord. As a big fan of the non-proprietary school of engineering, I liked these features. More on hoses later...

My Harbor Freight HVLP rig was a good value, retailing for about \$70, and providing an excellent introduction to HVLP spray finishing. However, after a good amount of use, some major shortcomings of the cheaper tool were exposed. The hose is short and uses special fittings, the hose can fall out of the gun if I get caught at the end of it, the turbine is weak, requiring very thin finishes, the gun adjustment is limited and touchy, the manual poorly translated, and spare parts availability is non-existent. However, the one characteristic of the HF unit that drove me nuts was the *bleeder* design of the gun. Air always flowed from the tip, even if the trigger wasn't depressed. The trigger controlled only the flow of liquid finish. More than once, I've blown dry air into semi-dry finish, causing craters or waves, or lofted airborne debris, all because I wasn't completely aware of where I was pointing the tip. The short hose didn't allow the air to cool much before reaching the gun, which was sometimes a problem during longer sessions with lacquer and shellac. My HF kit will semi-retire with dignity on jobs where none of the shortcomings will matter, spraying dyes and wood preservatives.

The Fuji Mini Mite 4 four stage turbine unit is cube shaped with a peaked top, and slightly larger than a typical six-pack cooler. The only control located on the turbine is a power switch. It's obvious that there isn't much wasted space inside the turbine, making it as small as possible for storage and transport. The case is constructed of metal and seems very durable. The dual replaceable intake filters are mounted externally—they would be a snap to change. One metal hose fitting, a built-in carrying handle and removable power cord round out the

turbine's features. The power cord is of the type used by many computers and monitors, so it would be easy to obtain a replacement should it grow wings. Chances are, you probably already own a replacement cord.

The Fuji XT gun I selected arrived configured for siphon feed, where the finish is siphoned from a cup hanging from the bottom of the gun. For a reasonable price, the gun can be converted to gravity feed, with the cup on top, or a remote pressure feed, where a pressurized container feeds the finish through a hose to the gun. Economy guns are also offered, perfect for cases where a cheaper second gun would be useful. Phelps offers many kits, conversion packages, and gun replacement parts. Users who would prefer a different gun configuration than I purchased will save money by having the kit made up with any gun or tip at the time of order. With the appropriate parts, the same gun could be configured and reconfigured to the user's needs without needing multiple guns.

Features of the XT gun include all stainless steel fluid passages, an insulated handle, and non-bleeding design. Adjustments include spray pattern (vertical, horizontal, or round) and pattern size via rotation of the air cap or nozzle. Fluid feed is adjusted via a rear knob that moves the needle in and out. A fourth adjustment is airflow, which is controlled by a valve on the hose. All adjustments are right at hand, and felt smooth and positive. Nothing is adjusted at the turbine, so it can be placed as far as practical from the user.

While running, the turbine is about as loud as a typical shop vacuum, at a similar pitch. When using a short hose, ear protection would be in order for more than a few minutes use. The typical woodworker probably wouldn't mind the turbine noise at 50+ feet, but this is definitely not a tool you'll be using in the attached garage or basement while the family sleeps, or on-site during office hours. If a quiet turbine is needed, the extra money for the Q series will need to be spent.

To date, all of my spraying with the Fuji has been various incarnations of M.L. Campbell clear nitrocellulose lacquer. I've sprayed projects ranging in size from a king-sized platform bed, including drawers and headboard, all the way down to small wood retail jewelry display devices. The bed required multiple refills of the one quart cup during a single session. I really appreciated the quick release cup mount, as screwing on a large cup while holding the rest of the spray rig can be a pain.

In each case, I thinned the lacquer to Fuji's manual specifications, using the included viscosity cup, tested my settings on cardboard, and had at it. The manual provides very clear descriptions of the purpose and order of gun adjustments. Simply following directions, I was rewarded every time with fantastic results and little overspray. All of my spraying has been with the #4 cap/needle setup. I don't anticipate using the #3 setup until my next dye spraying session. Cleanup was quick and easy, with the manual clearly describing cleanup do's and don'ts.

The gun felt comfortable and well-balanced in my hand during short and long sessions. Everything is easy to adjust, and the trigger is smooth and sure. Fuji recommends not placing the gun on a table or the floor, as it will fall or tip over. This is obvious during the first use, as the air hose will always force the gun into a precarious position. An effective hanging hook is cast into the top of the gun body, and the finish cup is easily removed with the gun hung up. The non-bleeding design brought a smile to my face the first time I released the trigger.

Earlier in the review, I promised more information on hoses. Fuji's hose and connectors are garden hose compatible. The hoses and fittings included with the unit are of high quality. Typical garden hose quality can be cheesy, so this comparison should not be read as any sort of cost cutting. Fuji doesn't use typical retail store garden hose. The bed project mentioned earlier is too large for my turntable, so I needed to walk around it while spraying. No mention of hose length is found in the Fuji manual, so I decided to give hose extensions a shot. The garden hose fittings allow lots of extension options, such as copper and PVC pipe, or flexible hot water hose.

HVLP air can get hot—the manual warns of hot hose fittings after extended sessions—so I knew a standard vinyl garden hose probably wouldn't hold up. For about \$25, I found a Craftsman 50' x $\frac{5}{8}$ " black rubber garden hose, rated for 160°F hot water, at a local Sears Hardware store. During different sessions, I experimented with 25', 50', and 75' hoses attached to the 6' plastic flex hose. Not only did the 50' hose provide lots of user to turbine distance, but 50 and 75 feet of hose allowed the supply air to cool before reaching the gun, helping the lacquer to flow out better. No unusual turbine noises or unusual effects were noted with the longer hoses. Since Fuji doesn't specifically mention hose length, I would check with them about warranty issues if you choose to extend the hose and worry about warranty coverage.

In conclusion, I'm very happy with the Fuji Mini-Mite 4, and feel very comfortable recommending the unit to anyone needing a complete HVLP setup. This isn't a cheap tool, but I think a well-designed and carefully manufactured product is a good value and should last many years. Parts and accessory availability appears good, with reasonable prices. I'd buy a Fuji Mini-Mite 4 again in a heartbeat. Fuji's website is www.fujispray.com. Phelps Refinishing can be found via Fuji's **Where to Buy** links.

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