

## **SAM Talks posting by Jim Hainen**

### **Purchasing and Running Brown Jr. engines**

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If you are contemplating the purchase of a Brown Jr. engine on eBay I would like to offer some advice.

First of all, there are basically two kinds of Browns, lapped (B models) and ringed (D models). Forget the A models, they are too few around to think about and the C model is generally a ringed model like the D. Just think in terms of B and D models for all practical purposes.

Generally a good lapped one is slightly more powerful than the ringed one.

However when you buy a lapped Brown on eBay you have no idea how the compression is on the engine. This is ultra important on the Brown. When the lapped ones lose good compression they are poor runners. What is important to remember is that if you get an engine like this on eBay you are most of the time stuck with it or at best repacking it and paying shipping charges twice. That is if the seller will take it back, most won't. Finding someone to chrome plate and refit the piston/cylinder is very difficult and if you find someone it probably will be expensive. If the seller won't guarantee that the engine has very good compression I would stay away from it.

When bidding on a ringed Brown (D model) you are much safer. If you receive a ringed D model and the compression is low and performance is poor you can send it to Ringmaster for \$25.00 plus postage, (best to send him just the cylinder, piston with rod assembly so he has less work). He will true the cylinder and fit new rings to the piston and for all practical purposes you will have an almost new ringed Brown that will run and start well.

There are two types of timers that Brown used. They both work well. The banjo model may need a shim washer to get the right point setting. No big deal. Another fix for the banjo is to simply lock the timer in about the 1:30 position at the correct distance so that the breaker points have a decent gap and close correctly. Remember the drive washer with the bump on it has to be in the correct position to fire at the right time.

Whether you use gasoline or alcohol fuel is simply a choice. More important is that you have at least twenty-five to thirty percent oil in the fuel mix. Personally I use alcohol for LER events and gasoline fuel for Texaco events. The needle setting will be a little more touchy with gasoline. Just get used to it. Alcohol fuel gives a little more power and gasoline fuel gives a longer engine run for Texaco events. For Texaco events I restrict the intake about fifty percent and retard the spark about five degrees more than I would use for LER. You can restrict the intake many ways. You can use a piece of dowel with a hole drilled in the center or fit a custom machined plug, etc. If your intake has the knurled cap on the end use it about half open (experiment) For Texaco I like to use a filter with a separate tank and if you have a stock attached tank, be sure the tank is clean and the fuel strained. Always blow the needle valve out before a Texaco run. That's a mighty small opening. Don't use alcohol fuel in the plastic stock tank.

Props. Another choice of preference. For LER events, I like a 13/6 APC or good wood 13/6. For Texaco you might want to experiment a little. I have seen props of all size used for Texaco. I like a 16/6 wood. However I have also used a 15/6 and 14/6. I recommend a 14/6 for break-in at slightly richer setting and an additional five percent or more oil. A two to one gasoline mixture would be good. An alternate method is to use a glow plug adapter, alcohol fuel with two to one mixture, and run for about a half hour with start and stops ever five to ten minutes.

This saves set up time for break-in.

I use Champion or NGK spark plugs, makes little difference. Make sure you have the thick washer for the NGK. For ignition I use both the old fashion coil and condenser system as well the newer transistor type. Makes little difference. Browns like a hot spark so do use a fully charged battery pack for each flight.

One thing though, we won't run out of Browns. There were well over sixty thousand Browns manufactured. So fly Browns with that unmistakable sound and re-create the powered flight that started powered model airplane flight. Help preserve our model history. A SAM model contest without the Brown event is just inconceivable to me.

See you at the flying field and the Champs.

Jim Hainen

Extra note and pictures by Dave Harding

At the 2010 Muncie Champs we featured the Brown Jr. events and Jim Hainen sponsored them by giving an engine to each competitor. He laid out a variety of engines and allowed each competitor to select one in order of their finishing. Don Bekins won the overall event and was awarded a fine Brown Jr. engine.



Above is a picture of the Brown competitors with their engines. Jim is the fellow in the black T Shirt standing to our right of the person kneeling.



Also above is a picture of Don Bekins with his winning Folly.