## DMAA SPORTSMAN GOODYEAR RACING RULES
## JANUARY ~~2014~~ ~~2020~~ ~~2021~~ 2023

**OBJECTIVE**: Sportsman Goodyear racing is intended to be a low-key sport racing event which can be enjoyed by both novices and experienced racers. By disallowing expensive, high performance racing engines, both cost and performance are kept down to a level which all modelers can manage.

**APPLICABILITY**: All AMA general and CL general rules, the AMA Unified Control Line Racing Rules, and rules for event #317 Control Line Scale Racing shall apply unless modified below. In the case of a dispute, the event director shall have the final decision.

**ENTRIES**: Once a contestant has used an aircraft or engine in the event, that aircraft or engine may not be used by another contestant in the same event.

**CONTROL LINE SPECIFICATIONS**: Models must employ two multi-strand lines of at least .015" diameter. [Four-strand, brass plated lines of nominal .0145" diameter, such as those marketed by "controlineparts.com", are specifically disallowed.] Line length shall be 52' 6" ± 6", measured from the grip portion of the handle to the center line of the fuselage. Pull test is 25 pounds.

**RACES**: Heat races shall be 80 laps, with a minimum of one required pit stop. Feature races shall be 160 laps, with a minimum of three required pit stops. Races should run three-up whenever possible.

**FIELD LAYOUT**: The inner circle shall have a radius of 58'. The outer circle shall have a radius of 68'.

**MODEL SPECIFICATIONS**: Per Control Line Scale Racing. The builder of the model rule shall not apply. Only one fuel tank is allowed, with a maximum capacity of one fluid ounce. The fill, vent, and pickup tubes shall have a maximum outside diameter of 1/8". Quick fills are prohibited. Fuel shutoffs are permissible. Hot glove or hot thumb electrical contacts shall not be permitted.

**PROPELLER SPECIFICATIONS**: Only commercially available wood or injection molded plastic propellers are permitted. Composite propellers (carbon or glass fibers with synthetic resins) are not allowed.

**ENGINE SPECIFICATIONS**: Non-schneurle ported engines may be of plain bearing or ball bearing construction. Schneurle ported engines must be of plain bearing construction only, except that the Fox 15BB schneurle engine is specifically permitted in accordance with the constraints outlined below. Plain bearing conversions of ball bearing engines are specifically prohibited.

The following major components of the engine must have been produced by the original manufacturer for the specific engine in quantities of at least 1000: the complete crankcase including front and rear

ends, or upper and lower portions as applicable, the crankshaft, cylinder and piston. Engine parts may be modified by removing material only, except that cylinder plating is permissible. Non-stock cylinder heads or head buttons may be employed, however glow engines must use a 1/4-32 thread glow plug if the stock cylinder head or glow head is not used.

**ENGINE SPECIFICATIONS FOR MAGNUM/ASP/SH ENGINES ONLY: These rules supersede the above specifications for specific engines listed.**
The Magnum XLS 15A and ASP S15A engines are identical other than the name on the crankcase. They are characterized by schneurle porting, ABC piston/ cylinder metallurgy, dual ball bearings, and a 4-bolt blue anodized cylinder head. The Magnum XLS 15 is sold as part #210605, and the ASP S15A is being sold as part # 72P-S15A.

The SH 15 engine is made in Taiwan, ROC. It is a front intake, side exhaust engine with schneurle porting, ABC metallurgy, dual ball bearings, and a cast helicopter-type head clamp with separate head button. The manufacturer's part number is FS15S01R1.

Engines must be of stock configuration only. No material may be added or removed (except through normal wear and use), except the engine mounting holes may be enlarged or elongated **and cylinder head shims may be added or removed**. No non-stock parts may be substituted except for the glow plug, venturi, needle valve assembly, ball bearings, **head** shims, gaskets, screws, prop **drive washer, front** washer and prop nut. On the SH 15 (only), the stock head clamp may be cut own to a more appropriate size, but must still be used.

Engines shall be equipped with a venturi and spraybar meeting the following specifications. **For Magnum and ASP engines,t**he venturi shall have an inside circular bore of no more than 0.251". **For SH engines, the venturi shall have an inside circular bore of no more than 0.267"**.The venturi shall maintain this diameter for at least .155" at the throat of the venturi where the spraybar is located. The spraybar assembly shall be located precisely through the center of the venturi bore and shall have a constant circular cross section of at least .153" diameter for the portion of the spraybar in the throat of the venturi.

**MODEL SPECIFICATIONS FOR MAGNUM/ ASP/*SH* ENGINES ONLY**: Lines may attach directly to the bellcrank, or leadouts may be used. The bellcrank and leadouts or lines must be external to the normal contours of the wing. The line/ leadout guide(s) may be inset into the wing, but shall cover no more than 1/2" of the lines or leadouts. The bellcrank may pass through the fuselage but must be visible and not fully enclosed. The pushrod and elevator control horn shall not be recessed or enclosed in the fuselage. Fuel shutoff linkages are exempt from any of the above regulations.

**Background Information**

**SPORTSMAN GOODYEAR SUMMARY  January 2014  Bill Bischoff**

For many years the Fox 15BB has been the only competitive engine in our Sportsman Goodyear event. Some of these engines run very well, others not so much. In recent months we have been working with the Magnum and ASP engines as alternatives for Sportsman Goodyear. What we have found is that they are of consistent quality, their ABC design makes for excellent restarting, they are fast, and work well right out of the box with no special fitting or modifications. All of these qualities make them attractive to novices and experienced competitors alike.

Once satisfied with their suitability, we were then faced with the task of drafting rules that would allow them to compete with the Foxes on an equal basis. Based on our testing, these venturi and airframe restrictions will accomplish that goal.

To summarize, here are the changes/ additions to the rules effective for 2014 in Dallas:

1)REQUIRE .015 STRANDED LINES FOR ALL ENTRIES. This will slow all the models down a bit, and stranded lines are MUCH easier to deal with!

2)ALLOW ONLY WOOD OR PLASTIC PROPS; NO GLASS OR CARBON. This may not be necessary, but it will keep things more "beginner friendly".

3)REQUIRE 3 PIT STOPS IN THE FINAL FOR ALL ENTRIES. Not all of the Fox entries can make the final in only two pit stops. The ASP and Magnum get much better mileage and can easily make the final in two pits. Requiring three pits for everyone levels the field, and emphasizes the team aspect of racing a bit more.

4)ALLOW THE MAGNUM AND ASP ENGINES, BUT REQUIRE STOCK ENGINES AND A SPECIFIC VENTURI SIZE. Based on current testing, a 1/4" venturi puts these engines on par with my (better than average) Fox. A venturi restriction is also a proven method of keeping an event's performance under control, as it can easily be changed.

5)REQUIRE EXTERNAL CONTROLS FOR MAGNUM AND ASP POWERED AIRPLANES. Requiring external controls simplifies model construction. This should make the event more attractive to novices and "casual" racers. By imposing this restriction only on Magnum and ASP powered airplanes, no existing equipment is obsoleted.

## January 2020

### A NEW ENGINE FOR SPORTSMAN GOODYEAR

As I'm sure everybody knows by now, the ASP engine factory in China has closed its doors for good. That means the ASP and Magnum 15's that were so successful in Sportsman Goodyear are now out of production. Fortunately, there is a new engine that has recently become available, and it has been tested and approved for the DMAA Sportsman Goodyear event.

The engine is the SH 15. It has the same mounting pattern as the ASP, takes the same venturi, has the

same crankshaft  thread, and even has the same backplate bolt pattern (so your backplate mounted shutoff will fit). It is dual ball bearing, and a true ABC. It differs from the ASP in that it has a head button and clamp arrangement rather than a one-piece head. This is good, since the stock head clamp is big and rectangular, more like a helicopter head. The one modification that will be allowed is to turn down the stock head clamp to a more appropriate size. More about that later. Also like the ASP, the factory head clearance may be a bit excessive, and removing one or both head shims may yield a small performance improvement (also legal).

If you want to buy one of these bad boys today, go to justengines.co.uk. I got mine for about $90 USD including shipping. I paid with Paypal and let them worry about the dollars to British Pounds exchange. If you can wait until March, mikegoesflying.com will also have them available. If you remember, they were the ones selling the Magnum 15 after Hobby Shack went away. I assume their price will be similar.

Let it be known that this engine may create a temptation to cheat. I say that because there is also an SH 16 engine. I bought one before I found out where to buy the 15. Externally, the longer mounting lugs and the fact the crankcase is marked "16" are giveaways. Internally, the 15 and 16 have the same stroke (same actual crankshaft), and the same liner outside diameter. This makes it a simple matter to drop the 16 piston/liner/rod and head button into the 15, but please don't. Removing the head and measuring the bore will quickly reveal the misdeed that only netted you a few tenths of a second anyway. Since we now all know it's possible, nobody needs to try. 'nuff said.