

Official Rules

FREE FLIGHT NOSTALGIA

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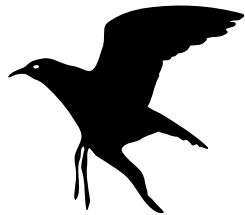
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PURPOSE AND PREAMBLE

Intent of the NFFS Nostalgia movement is to perpetuate interest in free-flight rubber and power designs and engines of the 1943-56 period. Free-flight Nostalgia is intended to be a more casual affair, for enjoyment of those building and competing with designs of the Nostalgia era. Consequently, no national records will be sought nor maintained.

Main purposes of the rules are to:

- (1) Ensure integrity of original designs, within confines of established guidelines. The 1943-56 period produced an abundance of designs, and scaling up or down is permitted except where noted.
- (2) Promote use of original engines of the era plus selected post-Nostalgia engines.

GENERAL RULES

Rules cycle. Officers of NFFS and its Nostalgia Committee are entrusted with administration and interpretation of Nostalgia rules. The rules cycle is in effect for a 3-year period which coincides with the current free-flight rules cycle promoted by the Academy of Model Aeronautics (AMA). The committee will entertain proposed rules changes according to this cycle. Once enacted, rules are in effect for three years, unless NFFS officials warrant emergency action.

Builder of the Model. Nostalgia recognizes and supports the Builder of the Model Rule.

Events. Unless otherwise noted, Nostalgia events will adhere to free-flight rules as established by AMA. Gas events are classified by engine displacement:

- Standard:(1/4A, 1/2A, A, B and C); Early 1/2A;
- Ignition: (Small and Large); PAA-Load (1/2A, A and B);
- Rise Off Water.

NOSTALGIA CHAMPIONSHIPS

NFFS will normally schedule the U.S. Nostalgia Championships (USNC) as part of the annual U.S. Outdoor Championships (USOC) in Muncie, Ind. Points earned in these events will determine the Nostalgia Gas and Rubber Champions. Organizers will use the approved system to determine points awarded for placings in individual events.

The Championships shall include Standard Nostalgia Glow and Rubber events, and may also include combining or eliminating other events (Ignition, Early 1/2A, PAA-Load, ROW) from the USOC schedule, at option of NFFS officials. These decisions will be announced in *Free Flight*, the NFFS Digest, sufficiently in advance.

Although USOC will provide the usual USNC venue, managers of other major contests may request the right to host USNC. After receiving such a request, the Nostalgia Committee chairman will poll the committee for awarding USNC to the applicant, subject to the following conditions:

- (1) The application was submitted in timely fashion.
- (2) Financial arrangements for contest awards and pre-event publicity are satisfactory.
- (3) The petitioning meet is a major recognized contest (AAA or larger) that attracts participation from a wide geographic area.

STANDARD NOSTALGIA GAS

Event	Displacement (cubic in.)
1/4A	up to .025
1/2A026-.050
A051-.199
B200-.300
C301-.650

Flights, scoring. Unless otherwise noted, AMA rules apply to Nostalgia: The contestant usually has six attempts to make three official flights of 40 seconds or longer. The final

score is the total times of up to three official flights plus any flyoff flights for which the contestant becomes eligible by achieving maximum time in each of the first three flights.

Fuel, fuel systems. Except for Ignition, Nostalgia Gas rules allow any fuel ingredients permitted by AMA regulations. Fuel feed may be suction or pressure.

Number of models. A contestant is permitted to fly two models in each event. The contestant must declare a model before attempting the first official flight with that model.

Design eligibility. Only model designs listed in the Nostalgia Design Supplement are eligible for competition. (Supplement is available from NFFS Publications and NFFS Web.)

Engine eligibility. See the Engine Section, beginning on page 10. It lists both eligible and ineligible engines, plus accepted modifications.

Scaling. You may scale the original design to any desired size for flying in Standard and ROW events. Scaling for PAA, Ignition or Early 1/2A is not permitted, except to other sizes as noted on the original plan or construction article.

Engine runs, max flights. The contest director may establish engine run and maximum flight times, depending on weather and flying-site conditions. Otherwise, the following times (in seconds) are suggested for all Standard and Early 1/2A events. (The contestant has option of hand launch or 1-point VTO in Category I and Category II events; Category III flights are hand launched.)

Model weight. Model must weigh at least 100 oz per cu. in. of displacement (without fuel).

Engine runs, maximum times. Unless the contest director determines otherwise, Standard Nostalgia engine runs and maximum flight times will adhere to the following schedule:

	—Engine Runs—		
	1st Three Flights	Flyoffs	Max Time
CAT I			
Hand launch	14 sec	8 sec	300 sec
VTO	17 sec	12 sec	300 sec
CAT I			
Hand launch	12 sec	8 sec	180 sec
VTO	15 sec	11 sec	180 sec
CAT III			
Hand launch	9 sec	6 sec	120 sec

EARLY 1/2A

Eligible designs. Any approved Nostalgia design is eligible for Early 1/2A.

Scaling. Not permitted for this event.

Timing. Engine run and maximum flight guidelines are the same as for Standard Nostalgia (above).

Engines. Early 1/2A engines are restricted to OK Cub 049 (Original A, B, and X); Atwood and Holland Wasp; Anderson (Baby Spitfire 045, Spitzzy and Spitzzy Sr. 045); first K&B Torpedo 049. Not eligible: OK-Cub reed valves and diesels.

RISE-OFF WATER (ROW)

Design. Any Nostalgia design is acceptable for ROW. Scaling is permitted. Engine eligibility and weight requirements are the same as for Standard Nostalgia. Engine classes are combined. The contest director will use site considerations to determine engine runs and flight-time limits.

IGNITION

These are designs of the World War II and late-'40s years that were still powered by spark-ignition engines. Plans must show a spark-ignition engine or it must be referenced in a published article. The design must have originally flown with an ignition engine.

Approved designs are indicated on the plans list by an asterisk (*) preceding the wingspan.

Plans that indicate the model used either glow or ignition engines (Civy Boy, kitted Zeek, Super Slicker, etc.) are not eligible. However, designs that show both ignition and diesel engines are eligible.

Several designs are legal for both Nostalgia Ignition and SAM Old Timer. The design list identifies them by an asterisk and a plus sign (*+) preceding the model's wingspan.

Scaling. Not permitted for Ignition, unless other sizes are noted on the original plan or construction article.

Classes. Nostalgia Ignition events may be flown in two classes:-Small (.09-.28 cu. in.)- and Large (.281-1.20 cu. in). Combining classes is the discretion of contest management or (regarding USNC) NFFS-officials.

	— Engine Runs, Max Times—		
	1st 3 Flights	Flyoffs	Max Time
CAT I			
H.L.	16 sec	11 sec	300 sec
ROG	20 sec	15 sec	300 sec
CAT II			
H.L.	16 sec	11 sec	180 sec
ROG	20 sec	15 sec	180 sec
CAT III			
H.L.	16 sec	11 sec	120 sec

Ignition systems. Engine shutoff must be by timer-operated electrical circuit breaker. Use of transistorized components other than for ignition systems is not approved.

Fuel. Fuels legal for SAM Old Timer Free Flight Ignition events are acceptable for NFFS Nostalgia Ignition.

Weight. Model must weigh at least 8 oz/sq ft of projected wing area, less fuel. If flown in Standard Nostalgia category, an Ignition-powered model will be subject to the same engine-run and power-loading requirements as a glow-powered model.

Eligible ignition engines include:

- (1) Pre-1952 original ignition engines;
- (2) Approved replicas and certain recently manufactured ignition engines. Examples are: Morrill Hornet 19 and Simplex 25; J&J Torpedo 29 and 32; Wahl Bunch Tiger, Brown, Gold Seal and Hurlleman; MG and RJL Forster front intake 29 and 35; Orwicks by Dunham and Kustom Kraft; Spielmaker Golden Eagle Megow 19 and Bantam 16; Edco 65, Super Cyclone, 1949 McCoy and Bantam 19 replicas; Remco 29; Shilen K&B Torpedo, Orr.
- (3) Glow engines produced during the ignition-glow transition period, offered in either version and converted to ignition. Examples: Ohlsson, 1948 Torpedo, Mighty Midget, twin-stack Torpedo Special, Atwood, Bullet, Orwick, Forster, Bantam, McCoy 36 Sportsman Jr. and 55 Sportsman Sr., Anderson Spitfire.

Ineligible ignition engines. Other glow engines converted to ignition; Shilen OT 19.

PAA-LOAD

Designs, scaling. Eligible designs are identified on the Model Design List with a minus sign (-) preceding the wingspan. Scaling is not permitted.

Classes. Maximum classes (by displacement) are: 1/2A (up to .050); A (.051-199); and B (.200-.299). Contest management may opt to combine classes.

Model weight. Total weight, less dummy, must equal a power loading of 100 oz/cu. in.

Dummies. Dummy occupant(s) must be readily removable, and must face forward in an enclosed compartment that provides visibility through a transparent area measuring at least 3/4-in. high (for 1/2A) or 1-in. high (for A/B) to the front and to each side of the dummy's head.

Dummy specs. 1/2A PAA-Load models must carry one 4-oz dummy with a 3/4-in. cubical head centered on a body 1-1/2 in. wide x 2 1/4-in. tall x 3/4-in. thick (3-in. total ht). Class A PAA-Load models must carry one 8-oz dummy; Class B models, two 8-oz dummies. Both have the following dimensions: a 1-in. cubical head centered on a body measuring 3-in. wide x 3-in. tall x 1-in. thick (4-in. total height).

Engine runs, max flights. Suggested engine runs and max flight times are:

—Engine Run, Max Flights—			
	First 3 Flights	Flyoffs	Max Flight
CAT I	17 sec	13 sec	300 sec
CAT II	16 sec	12 sec	180 sec
CAT III	14 sec	10 sec	120 sec

NOSTALGIA GAS DESIGNS AND REQUIREMENTS

Eligibility. Any free-flight power model that was first available in kit form or whose plans first appeared in a commercial publication between Jan. 1, 1943 and Dec. 31, 1956 is automatically eligible.

The NFFS Nostalgia Committee will consider models kitted or published after the 1956 cutoff date, if the designer or person proposing the design can prove it flew in the Nostalgia timeframe. (See Approval Procedures, below.) The committee will also consider models that were not commercially kitted or published, but which otherwise qualify:

- Some designs were kitted or published after 1942 but were also available prior to World War II. They are not eligible for Nostalgia competition. Examples are Pacer, Comet Zipper A, 1939 Zipper, Sailplane, Interceptor, Strato Streak and Brooklyn Dodger.
- Designs which first appeared just after the end of the Nostalgia timeframe are not eligible. They include: post-1942 Texan, Starduster, Satellite, Space Rod, Mk 3 Lucky Lindy, Vector Director, Dixielander, Wizard, Viking, Hi-Thrust Blazer, Near Miss, East Wind and Heat Wave. (See Design Index.)

Any question of proof regarding eligibility of model or engine is the responsibility of the contestant.

Approval procedures. Those desiring to have a model design approved for competition must complete a standard design-information form, available from the NFFS Committee, and submit it, with other supporting documentation, (photos, articles, etc.) to the Committee Chairman. Include a 3-view plan with airfoils and sufficient construction detail. A 3-view measuring 8-1/2 x 11-in., is acceptable, but a full-size plan must be available if requested. Following Committee approval, the design and plan will be featured in *Free Flight*, the NFFS Digest.

DESIGN MODIFICATIONS

Changes to an original Nostalgia-eligible design, made during the Nostalgia timeframe, must go through the standard design-approval procedures (above) to be eligible for competition. The Committee will consider any documentation intending to prove a design flew during the Nostalgia timeframe with such alterations. Otherwise, the builder should faithfully maintain all original dimensions and construction details, except for minor differences in nose moment and thrust line, and the following modifications.

CONSTRUCTION GUIDELINES

The builder should follow all plan construction details, with the following exceptions:

- You may add strengthening and reinforcing materials by using gussets, doublers, larger wood sizes, etc.;
- Additional wing spars at any point, except for turbulator spars in the forward one-third of the upper airfoil, are permissible. One additional spar, flush with the rib surface in the forward upper-airfoil area, is allowed; addition of false ribs is permitted, as is strengthen-

ing of the wing center section with sheet;

- Adding ribs and formers when scaling up is permissible, as is reducing ribs and formers when scaling down. Other construction restrictions include:
- No variation in stab location. (Changing location from the bottom of the fuselage to the top is prohibited, unless you can prove this variation flew during the Nostalgia time-frame);
- No geodetic or Warren truss-type construction is allowed unless it is shown on original plans;
- No addition of sheet to wing and/or stab leading edges is permitted; no substitution of sheet for built-up sections on fuselages is allowed, except in high-stress areas like the engine mounting area, pylon base and stab mounting area;
- Auto surfaces are prohibited, even if they may be shown on the original plans.

Covering. Any commercially available covering material is acceptable.

Wheels, skids. The purpose of Nostalgia rules is to enforce following the designer's original plans and intentions for installation of wheel(s) or skid. The model must have at least as many wheels as shown on the construction plan. When scaling up or down, scaling factor will determine the present model's minimum wheel diameter.

If original plans show neither wheel nor skid, the option of using wheel, skid or no undercarriage is up to the builder. Some designs had versions with both wheels and skids. If the model is built from—or scaled from—one of these plans, the builder may use whichever undercarriage is shown on that plan.

NOSTALGIA GLOW ENGINES

Pre-1957 engines. Glow or diesel engines produced and made commercially available prior to 1957 are eligible for Standard events. Cox Tee Dee .010 and .020 engines are eligible for 1/4A Nostalgia.

Pre-1963 engines. Any, plain-bearing, loop-scavenged engine that was produced and commercially available prior to 1963 is also eligible.

Ineligible exceptions are ABC or Perry-ported engines; .049-.152 Cox Tee Dees; all post-1956 ball-bearing Cox engines except 1957 Olympic 15.

Reproductions. Certain reproduction engines are eligible, but they must first have been approved by the NFFS Nostalgia Committee. Companies considering manufacturing a reproduction engine for potential Nostalgia competition should contact NFFS prior to commercial release of such a product.

Currently eligible reproduction engines are shown on the engine list, by name of manufacturer.

Custom-built. Home-built engines are not eligible. Even those flown during the Nostalgia era must be approved by the NFFS Nostalgia Committee to gain eligibility.

Special post-1956 engines. Certain post-1956 engines are eligible for Nostalgia. They are designated with an "SE" suffix on the engine list.

Modifications. Standard engine reworking practices are acceptable, as is substitution of needle-valve assemblies and standard-configuration venturis. Illegal procedures include changing an ineligible ball-bearing engine to plain bearing; changing intake location, or changing from glow to diesel operation (or vice versa) unless the engine manufacturer supplied such parts for changeover during the Nostalgia timeframe.

Glow plugs/heads. This section applies to any Nostalgia engine. In addition to stock items, the following glow plugs and glow heads are acceptable:

o Any screw-in glow plug, including GloBee and Nelson, is legal for use on any Nostalgia engine. Note: the flat-coil GloBee head (insert/button type) is specifically prohibited for NFFS Nostalgia.

- Turned-down Cox 325 glow head, for use with a screw-in ring, as offered by Doug Galbreath for the Holland Hornet, is acceptable.
- Special Restriction: Cox Killer Bee must use only Cox 325 plug.

- Cox 1702 head is permitted only on the Cox Thermal Hopper and Space Hopper.
- Otherwise, any other plug/head combination is acceptable, so long as it is commercially available (advertised for sale in letterpress commercial publications—including the classified or display ads in *Free Flight*, the NFFS Digest), and is thus available to anyone.

ELIGIBLE GLOW ENGINES

Anderson. All models of 045, 049 and 065 (Spitzzy, Baby and Royal Spitfire); 60 and 65 Spitfires.

Atwood. All 049 and 051 (Signature, Wasp, Atwood, Cadet and Shriek); 49 and 51 Triumph; Champion and Super Champion, GD 60-65 Series.

Cox. *Class 1/4A:* All front- and rear-intake .010 and .020 engines (SE)..

Class 1/2A:

(1) All rear-intake .049 engines produced and advertised prior to 1955 (Black Widow, Golden Bee, Baby Bee, Thermal Hopper and Space Hopper.

(2) Killer Bee .049, produced in 1995 (SE). It must be flown in stock condition, with no parts interchanged or modified, other than for radial mounting. Any fuel system or tank is acceptable.

(3) Medallion .049 (SE), as sold in the early 1990s. It contains four small exhaust slits of the same size and two intake bypasses with one boost port per bypass. The engine must be used in stock condition, except for the following modifications:

a. Enlarging the inside diameter of the venturi.

b. Reducing the outside diameter of the stock needle-valve spraybar to increase airflow;

c. Replacing the needle-valve assembly as noted below.

Class A: .051 Killer Bee (SE) and Medallion (SE) of the above vintages and with the same restrictions as for 1/2A; Sportsman 15; Olympic 15 (SE).

Parts Restrictions. Use of Tee Dee parts in Killer Bee or Medallion (or in any otherwise legal Nostalgia engine) is not allowed, except for glow-plug use as described below.

Note to Contest Directors: The Tee Dee cylinder has boost ports in the bypasses, with two open-type exhaust slots; the Medallion has four small exhaust slits.

You can replace the needle-valve assembly. However, the Tee Dee needle-valve assembly or its parts is not an acceptable substitution.

Dooling. All 29 and 60 models.

Enya. 049; 060; 09 models #3001 and #09-II; 15 models #3101 (15-I) and #15-II; 19 models #4001, #4002, #4003, #4004; 29 models #5001, #5002, #5103; 35 models #5001 and #6001; 45 #6001 plain bearing with smooth head; 60 first model.

ETA. 19 Mk I; 29 Mk I-IV manufactured 1949-1956 (ball bearing).

Forster. All original and MG/JRL reproductions of front and rear intake 29, 301, 31, 35 and 99.

Fox. All 049, 070, 09 rear intake, 10 front intake, 15, 19, 201, 25 29 Stunt/R/X; 35 Stunt; 35 Rocket (red or aluminum head); 35 Combat (black head); 40 Combat/Stunt; 59 with long and short shaft. All 049, 15X, 29 and 35 manufactured post-1962 with plain bearings and cast-on round intakes.

Herkimer (OK). 025 twin exhaust; all models 039-049, 06, 074, 09, 14, 19, 29, 35; OK Super 60.

Holland. 049 and 051 Hornet; 049 Wasp.

Hornet. 19 and 60.

Johnson. 09 Bulldog; all plain-bearing 29, 32 and 35.

K&B. See Torpedo.

McCoy. All 049s; Testor/McCoy 049; all rear-rotor 19-60; all Stunt and Super Stunt front-rotor 09, 19, 29, 36; Red Head and Blue Head Stunt 19, 29, 35, 40; Testor/McCoy Custom Series 19, 29, 35, 40 (with lightning bolt on crankcase); Solinburger reproduction 29 rear rotor.

Merco. 29 and 35 plain bearing with orange or aluminum head, manufactured prior to 1963.

Ohlsson. All models, 049 through 60.

OK. See Herkimer.

Orwick. All 23, 29, 32, 64 and 73 (73 for ignition only); Dunham/KK/Daniel reproductions.

OS. Plain bearing with steel fins—06, 09 Pet, 19, twin-exhaust 29 and 36; Max Series I, II and III—15, 29, 35; 29X/35X III; last model Pet 09 with aluminum fins.

Super Tigre. Pre-1957 ball-bearing and plain-bearing 15, 29, 35 with vertical and slanted intakes, no removable backplates and no "V" on crankcase; 1962 plain-bearing 35 Model C35.

Torpedo. 020, 035, 049; Tornado 049 and 060; all Stallion 049 and 35; all Sky Fury; Torpedo green head and aluminum head 09, 15, 19, 201, 23, 24, 29, 29R/S, 32, 35, 35C, 45; all J&J and Shilen 24, 29 and 32 reproductions.

Veco. All aluminum and gray matte-finish, plain bearing 19, 29, 29R, 31, 35 and 35C models.

Wen Mac. All 049s with standard glow plugs; all Hot Shot series with glow heads.

Other glow engines. Arden, Bullet, Cameron, Frog 500, JW Firecracker, Gilbert, Mighty Midget, Pagco, Pogo, Super Hurricane, Torpedo Special.

Ineligible Glow Engines

Cox. All Tee Dees except 010 and 020; Medallions except for the .049 and .051 described above; factory prototype 15 with angled rear intake; engines manufactured after 1995, stock or modified by Cox personnel; Killer Bees and Medallions not approved by the Nostalgia Committee.

Enya. Series III and IV 09 models, 09 and 09-IV; Series III and IV 15 #3303 and #3304; Series V 19 #4005; Series IV 29 #5224; Series III and IV 35 #5224; first model 45 #6001.

ETA. Mk II 19; Mk V and later 29.

Fox. Square-intake 29, 35, 36, 40 with ball or needle bearings; 1970 36 and 40 Stunt engines; rear rotor 29X, post-1956, ball bearing; post-1962 bolt-on intake models.

Johnson. 35 ball-bearing models.

McCoy. Black head Series 21, front intake with Dykes rings.

Merc. Black head models, manufactured after 1962.

OS. All ball-bearing versions; all aluminum-finned models other than 09 Pet.

Super Tigre. Ball-bearing models, vertical and slanted intakes, with removable backplate and "V" symbol on crankcase; 1960 G20 and G21 ball-bearing models, post-1962 plain-bearing C35 (light matte color and centered intake; 1963 plain-bearing 46 (dark matte finish).

Torpedo. Series 61 and 64 ball-bearing models manufactured post-1957 in front and rear intake versions; Series 75 plain bearing model with bright aluminum finish; ignition or glow Shilen 19 repro.

Veco. Ball-bearing 19 and 45 models.

ELIGIBLE DIESEL ENGINES

(Note abbreviations: cv, clapper valve; fi, front intake; pb, plain bearing; bb, ball bearing; rv, reed or rotor valve.)

Aero. 150 (1.5 cc, fi, pb); 250 (2.5 cc, fi, pb).

ALAG. (1.5 cc fi, pb) X-3, X-4 and X-5.

Allbon. Dart .54 cc (fi, pb); Javelin MkI and MkII 1.5 cc (pb, fi); 2.8 cc (3 port, pb and bb).

Allen Mercury. (1 cc) green head; (1.5 cc) blue head; (2.5 cc) black head; (3.5 cc) red head; all pb, fi).

AMA. (2.5 cc, fi, pb).

Amco. .87 cc (3 port, pb) MkI and MkII; 3.5 cc bb (slanted ri); 3.5 cc (fi, pb).

Aquila Baby. (1 cc, fi, pb).

Barbini. B38 (1 cc, fi, pb)
BWM. 25OD (2.5 cc, fi, pb).
Burford. Sabre 250 MkI and MKII (2.5 cc, fi, pb).
Byra. (2.5 cc and 3.5 cc, rv, bb).
CIE. (.12 cu in. and .16 cu in.)
David Andersen. Satellite (1 cc and 2.5 cc, fi, pb); (2.5 cc, 3 port, pb).
Davies Charlton. Allbon Bambi .015 cc (fi, pb); Dart MkII (.55 cc, fi, pb); DC 350; Manxman 350; (both are 3.5 cc, pb, fi); Merlin (.76 cc, fi, pb); Sabre (1.5 cc, fi, pb); Spitfire (1 cc, fi, pb); Wildcat MkI-III , 5 cc (3 port, pb).
Deezil (2 cc, 3 port, pb); repros by Gordon Burford and CS.
Drone. (5 cc, fi, pb and bb).
E.D. Baby, MkI and MkII (.047 cc, fi, pb); Bee MkI and MkII (1 cc); MkI, MkII and SeriesII (rv, pb); Cadet 1 cc (3 port, pb); Hornet 1.4 cc (rv, pb); Comp Special 2 cc (3 port, pb); MkIII 2.5 cc (fi and pb, rv and pb); 3.46 Hunter MkI-IV, bb, rr; Pep .8 cc, (fi, pb); CS Hunter reproduction Racer 2.5 cc bb;.
Elfin. Baby .49 cc; 1.49 cc, 1.8 cc and 2.49 cc fi, pb and bb; 2.49 cc BR MkI and MkII, rr, bb; Reproduction 1949 2.49 cc by Dunham/Argo/ Buford/CS; BR 1.49 (rv, bb); BR 1.8 (rv, bb); BR 2.49 (rv, bb).
Engel. 1 cc (fi, pb); 1.5 cc (fi, pb); 2.5 cc (fi, pb).
Enya. 15 Series I; 15 Series II; .061D 2 cc (rv, pb).
E.P.C. Moth .85 cc (3 port, pb).
ETA. "5" 5 cc (3 port, pb).
Frog. 2.49 cc (bb, fi, natural aluminum head); 3.49 cc (rr, pb, white aluminum finish); 50 .5 cc (fi, pb); 100 1 cc (fi, pb); 149 Vibramatic (cv, pb); 150 1.5 cc (fi, pb); 150R 1.5 cc (fi, pb); 250 2.48 cc (fi, pb); 180 1.66 cc (fi, pb).
Jaguar. .8cc (fi, pb); "2.5D" 2.47 cc (fi, pb).
Jasolka. 2.5 cc (fi, pb).
J.E. Ballard. JB Atom 1.5 cc (fi, pb).
K Model Engineering. Falcon 2 cc and 2.5 cc (fi, pb); K Hawk .2 cc (fi, pb); Kestral 1.9 cc (fi, pb); Vulture 5 cc (fi, pb).
Kalper. .32 cc SeriesI and SeriesII (3 port, pb).
Katipo. 1.5 cc Series I and SeriesII (fi, pb).
Letmo. .6 cc (3 port, pb); 2.5 cc (3 port, pb); MD 2.5, 2.47 cc (rv, pb).
Marown Engineering. Heron I cc (fi, pb); Snipe 1.5 cc (fi, pb).
McCoy. .049 cu in. (fi, pb); .099D (fi, pb); .049D (fi, pb, shaft valve and clapper valve).
Meteor. 2.47 cc (fi, pb).
Micro. 2 cc (3 port, pb).
Miles Spec. 4.9 cc (rv, bb).
Mills. .75 cc (3 port, pb) MkI and MkII; 1.3 cc 3 port, pb) MkI and MkII; 2.4 cc (rv, pb); .75 cc repros by G. Burford, Aurora and Irvine; 1.3 cc repro by Aurora and Irvine.
Mite. .09 cu in. fixed compression (fi, pb).
Oliver. BattleAxe 2.5 cc 3 port, pb); 1.5 cc Cub Mk I, with removable intake; 2.5 cc MkI, II, III, pre-1957 bb; CS reproduction 2.5 cc Mk III; Fury 2 cc (3 port, pb); Jaguar 2.5 cc (3 port, pb; also sold as Rayline Panther).
Owat. 5 cc (fi, pb);
P.A.W. 2.5 cc (fi, pb and bb); 1.49 cc pb with vertical fi; 3.2 cc.
Pepperell. 2 cc (fi, pb).
Pfeffer. 2.5 cc (rv, bb).
Rawlings. 1.8 cc (3 port, bb).
Reeves. Goblin 2.5 cc (rv, pb); Goblin 3.4 cc (fi, pb); H18 1.8 cc (pb).
Schlosser. 2.5 cc (fi, pb) blue head.
Star. 5 cc (fi, pb).
Super Tigre. GB .16b 5.65 cc (fi, pb); G19A 4.82 cc (fi, pb); G22 1.23 cc (fi, pb); G23

2.47 cc (fi, pb); G25 1 cc (fi, pb); G26 1.5 cc (fi, pb); G27 3.2 cc (fi, pb); G28 .5 cc (fi, pb); G29 .8cc (fi, pb); G31 1.5 cc (cv, bb).

Taifun. Hurrikan 1.5 cc (bb, rv).

Vivell. .035 cu in. (fi, pb); .099 cu in rv, pb).

WAF. 1 cc (fi, pb); 5 cc (fi, pb).

Webra. Bulley 3.5 cc (pb, fi) blue head; Komet 2.5 cc (pb, fi) red head; Mach I, 2.5 cc (bb, rr) green head, small or large intake; Piccolo .8 cc (fi, pb); Record 1.5 cc (fi, pb); Winner 2.5 cc (fi, pb).

Wilo. 2.45 cc (crank disk rv, pb).

Zeiss. Jena 2 cc (rv, bb); 2.5 cc (rv, bb).

Ineligible Diesel Engines

E.D. 1.5 cc bb Super Fury 1958; 2.5 cc Racer 5th model, aluminum case, rr.

Elfin. 1950 1.49 cc Russian reproduction with ABC construction.

Frog. Post-1956 2.49 cc bb, fi with red head; 3.49 cc rr, pb with white aluminum finish.

Oliver Tiger. Mk II Cub; Mk IV 2.5 cc bb.

P.A.W. All sizes with bb (these models have ball race at aft end and sleeve at front.

Super Tigre. G33 1.5 cc.

Webra. Mach II 2.5 cc frr.

NOSTALGIA RUBBER

Design eligibility. The period of eligibility for Nostalgia Rubber designs shall be from January 1, 1943 through December 31, 1956. To be eligible to compete in Nostalgia Rubber, a model must have been designed and the original plans published or otherwise verified by the contestant to have been drawn and used for construction during the Nostalgia period. Multiple versions of a model design are permitted provided the above criteria are met. Final authentication shall be the responsibility of the contestant. SAM-legal rubber models shall not be eligible for Nostalgia Rubber.

Events. There shall be two Nostalgia Rubber Events: 1) Nostalgia Rubber, including only non-Wakefield designs, and 2) Nostalgia Wakefield. The Events may be flown individually or combined. Either the individual Events or the combined Event may be conducted at a contest.

Contest processing. There shall be no weight requirements for models or restrictions on rubber weight. The name of the model design(s), the designer(s), and the vintage(s) of at least one model shall be declared at initial registration.

Number of models. Contestants shall be allowed two models in an individual or combined Event. At least one of the two models shall be declared before attempting an Official flight (see # 3 above; the second model may be declared after initial registration but must be declared before attempting an Official or Fly-off flight with that model.

Scaling. Scaling up or down of model parameters or components shall not be allowed.

Construction. The flying surfaces, airfoils, and propeller shall be the same as the original design. A design may be modified only sufficiently to allow a blast tube and a dethermalizer.

Model source. The Builder of the Model Rule applies.

Launch requirements. Nostalgia Rubber Event models designed and intended to be hand-launched shall be hand-launched. Nostalgia Wakefield Event models designed to be launched R.O.G. shall be launched unassisted R.O.G., using all points of the designed take-off gear, from a flat surface positioned not higher than 30 inches above ground level unless flown in a combined Nostalgia Rubber / Nostalgia Wakefield Event in which case hand-launching is permitted.

Official flights and scoring. The NFFS Nostalgia General Rules and AMA Competition Regulations apply to Nostalgia Rubber and Nostalgia Wakefield Events, unless otherwise noted. Official flights and Fly-off flights may be attempted only with the two declared models (see #3 and #4 above). Six attempts are permitted to achieve three Official flights of 40 seconds or longer. Flights of less than 40 seconds may be recorded as Official flights at the option of the contestant if declared immediately but the decision may not be reversed. The final score is the total of up to three Official flights plus the recorded time of any Fly-off flights for which the contestant becomes eligible by achieving maximum time in each of the three Official flights. Maximum flight times for all site Categories (I, II and III) shall be: three Official flights of two minutes, followed by Fly-off flights beginning at three minutes and progressively increased by one minute. Fly-off flights may continue until the contestant's model fails to reach the duration limit for that flight. Only one attempt is permitted for each Fly-off flight. Official and fly-off flights must be launched prior to the end of the contest as determined and signaled by the Contest Director.

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