VHORS T-JET SHOOT OUT - ALL RULES

GENERAL RULES:

Purpose

The purpose of this document is to present the currently supported rules of VHORS (Vintage HO Racing Series). This document, either in electronic or printed form, represents the standing rules by which all VHORS Shootout participants shall follow.

Overview

The following rules are in effect for the entire VHORS Shootout. The Shootout Rules Committee reserves the right to change the rules in the interest of maintaining the fairness of the majority of the competition.

These rules are based on the use of Aurora Thunder Jet OEM parts, new parts, after market parts, re-manufactured parts, and those made by "cottage industry" vendors. All parts must be specifically manufactured for the Thunder Jet chassis with the exception of wheels, tires and axles.

Modifications, adjustments or practices not specifically addressed in these rules as allowed or not allowed shall be presented to the Shootout Rules Committee in private prior to the race in question for a decision.

These decisions will be made public in the FAQ page. Assuming and not asking prior to a race may render your car illegal.

Rigorous honesty is the VHORS credo. Err on the side of caution. Any Shootout Rules Committee member(s) present will address any questions or interpretations of the rules. The discretion of the Shootout Rules Committee comes into play for any rule infringement case. The decision of the Shootout Rules Committee will be final.

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Race Specifics

If a racer is not sure his or her car is legal, they may have their car checked prior to the start of the races. If any driver suspects that another car may not be legal, they may "challenge" the other car at any time to verify whether or not it is within accordance to VHORS Rules.

If it is a Team Event, then the entire team challenging must present their challenge. A second Team would then be asked if they second the challenge. If two Teams agree to the challenge then the car(s) in question will be checked for VHORS rules accordance. Once each driver has qualified for a starting position, their car will be pre-inspected for compliance to the rules and then impounded. The overall top 4 finishers will have their cars fully inspected at the end of the final heats completion once the statistics are tabulated.

Tech Committee:

Each participating team will appoint ONE member of said team to act as a “Tech” to determine legality and compliance to the VHORS rules. It shall be the sole responsibility of these appointees to do so. NO outside observers or other racers/team members shall be permitted to assist or consult in this undertaking. The decision of the Tech Committee is final. Each member of the Tech committee will be provided with a “Yea” and “Nay” secret voting device to be used if a question arises. This vote will be read by a VHORS Rules Committee Member. NO VHORS Rules Committee members shall be permitted to act as a “Tech” inspector.

Definitions

Vintage Style Bodies: Car bodies must be molded with traditional vintage styling in mind. This means simply that no intentionally added weight, “handling pan" characteristics, thick roofs, thick hoods, thick trunks, rocker panels, moldings, or side panels are allowed. As is the case in some applications the bumpers and screw posts are made thicker to prevent damage in a crash, this will be handled on a case by case basis. If there is obviously excessive amount of material the body may not pass inspection. Again, this is left to the discretion of the Shootout Rules Committee.

False Start: A predetermined point on the host track where each starting car must pass in order to declare the heat a valid race. Typically after the first turn set.

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Cottage Industry: Any manufacturer of T-Jet parts whose parts are not obtainable on the common mass retail market. Typically these products are obtainable directly from the manufacturer or specialized store or location, such as an online auction site, slot car show, etc, as opposed to from a distributor or authorized dealer.

Post-Inspection: The act of disassembling a racer's car in order to verify the car is within proper rules compliance for the event.

Pre-Inspection: Cars are inspected by the Shootout Rules Committee and the Shootout Tech Committee or a delegate responsible for car inspection at the current event. Upon passing pre-inspection the car is deemed "legal" for the duration of the events that day.

Track/Track Call: In the likely event of an accident during a race, or a de-slot in a location which is not easily reached by a Turn Marshal, either the Racer or a Marshal may call out "Track". This signals the host or track operator to halt the current race. Drivers are not permitted to work on or modify their cars unless the "Track" call is for a mechanical malfunction. The race will resume once the accident or de-slot is cleared. Mechanical Malfunction: An occurrence by which the car or controller is not physically operable. For example, slipping gear, missing tire, meltdown, etc. would constitute a mechanical malfunction.

"On Market": In reference to a new product either by a Cottage Industry or known manufacturer who introduces a new product to the slot car market. Announcement of new products must be made to the VHORS Yahoo group 60 days prior to the event to be allowed. Please follow the link and register with the group. (http://groups.yahoo.com/group/VintageHoRacing).

With respect to "On Market" car bodies, bodies must be from a production run that renders the body readily and freely available to the public in mass quantity for at least 60 days prior to the event. It is incumbent upon the manufacturer to prove the necessary announcement of the product and market availability as discussed above.

A sample of each "On Market" car body shall be submitted in final market ready form to the VHORS Shootout Rules Committee for consideration and possible approval at least 120 days prior to an event for consideration and possible approval.

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All other items other than car bodies must be announced to the VHORS Yahoo group 60 days prior to the event, as discussed above.

Manufacturer: Designation for mass production and cottage industry producers of HO slot car related items and accessories.

Handling Pan: Any metal or plastic piece attached to the bottom of the car to improve handling. This also includes extra molded or attached plastic/resin into a body to produce a handling pan effect.

Nonferrous: Any metal substance that does not contain iron. Therefore the material does not have magnetic properties.

VHORS Official: In reference to an official piece of equipment as deemed by the Shootout Rules Committee for purposes of measuring and/or operating function in support of the event and/or the event rules.

VHORS Super Stock (SS): The 1 5/16" car setup natively known to VHORS racers. Also known as V-Jets.

VHORS Classic: The basic 1 1/8" width car setup which supports a more "vintage" style of Thunder Jet appearance.

General Event Rules

GR:GRE-01. The Shootout Rules Committee will determine the means for deciding the starting positions of drivers for the individuals race(s). If it is a Team based event, the predetermined racing order of teams will be drawn lottery style. Order of racers within the teams shall be determined by the teams themselves.

GR:GRE-02. Drivers will be given ample time to run practice laps prior to racing on practice day. It may become necessary to limit the practice time of each driver should there be a large number of drivers. Practice times
set on the tracks shall be controlled by one main timer and therefore cannot be tampered with to extend practice times. Those refusing to comply will be disqualified from event participation.

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NOTE: If you need practice time, plan on getting to the event early enough to do so. Late starts due to last minute practice sessions are not permissible.

GR:GRE-03. Each driver will race all lanes in a rotating order under TrakMate Championship mode for the team race. Order for the individuals will be determined by the Shootout Rules Committee before the individuals event. This also includes the format of the individuals race as well.

GR:GRE-04. All drivers are expected to take their turn marshaling when their series of heats has completed. It is a courtesy to the oncoming drivers as well as a help to the flow of the event. There will be a 45 minute time limit for the team event. This is per two teams and per table, so marshaling should be taken care of by team members not currently running their rotation on the track. Again the individual event will be handled separately, and therefor marshaling will be e required after you run your heat and for the first group up, the last group to run shall marshal for them since that would be their turn in rotation.

GR:GRE-05. Drivers are not permitted to marshal any cars during their heats in a race. Often times the excitement of the race leads to self marshaling which we ask the drivers to kindly refrain from doing.

GR:GRE-06. Between heats drivers will be allowed to clean their tires, clean pickup shoes, and oil your car. This will ONLY take place at the track side. No driver is permitted to leave the track during their heats unless it's an emergency or a race official allows the departure.

GR:GRE-07. No chemical additives are permitted on the surface of the tires. E.g. belt dressing, tire dressing, oil, etc.

GR:GRE-08. If a driver experiences a mechanical difficulty, break down, broken guide pin, or a chassis-to-body retention screw falls out during a heat the car is rendered unable to finish the heat. The driver receives a "DNF" for that heat. Repairs may take place after the heat has completed or a possible substitution will be allowed before the next heat in the succession. If the car is down for the entire race, the driver may use their backup car. However, the down car is out for the duration of the event and the backup car must then be used exclusively.

GR:GRE-09. In the event of a multi-car accident, the timer and power will be stopped to allow the marshals to put the cars back on the track.

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GR:GRE-10. A "Track Call" constitutes an automatic stop of the timer and power to the track.

GR:GRE-11. Turn marshals or drivers in the case of multi-car pileups or deslots may find situation out of reach for some reason. A "Track Call" should result. In the case of a "rider", where a car jumps to another lane and it is then under the control of another driver shall also warrant a "Track call" unless the marshals can fix the situation while the heat is in progress.

GR:GRE-12. A "Track Call" will be called automatically for any car that goes completely off the racetrack table.

GR:GRE-13. Turn marshals will do their best to replace cars to the track in the least amount of time and allowing for oncoming traffic to pass without being disturbed.

GR:GRE-14. Turn marshals are urged to attempt to replace the "last off" car as the "first on" in a multiple car pileup. The car that caused the accident should be replaced last whenever possible.

GR:GRE-15. A false start will be declared if any car de-slots before completing the first series of turns as determined for each track. Cars will be returned to the starting line and the race will be started again.

GR:GRE-16. Only one false start is allowed to be declared per heat.

GR:GRE-17. Following completion of their own heat races, drivers are required to marshal the next set of heats as a courtesy to other racers. During the Team event, since two teams are assigned to a race table, this should be taken care of in a quick and orderly fashion.

GR:GRE-18. No one will be permitted "free power for just a second" to test their car. (Test strips, or 9 volt batteries are often available as an alternative.)

GR:GRE-19. If a car fails to start, a false start will be called. At the next start, a track marshal will "push" any/all cars to ensure that everyone leaves the starting line. Only one false start is allowed per heat.

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GR:GRE-20. After racing your heat(s) unplug your controller and stand by the racers station for the lane you just ran. This is so proper tabulation of results can occur swiftly and without asking who was which car/team in a particular lane.

GR:GRE-21. One of a kind, custom, or home-brew parts are not permitted.

GR:GRE-22. Swapping of parts once a car passes tech is strictly forbidden.

GR:GRE-23. TrakMate output screen will be the final decision maker. Whatever TrakMate shows is what goes and that's the final word for the heats and races in a dispute.

Team Event

GR:TE-01. The Team Event is in support of the VHORS Super Stock T-Jet Class.

GR:TE-02. All Teams will need to pre-register, this will ensure each team a position in the event. Pre-registration entails a race packet being downloaded and printed by the Team Captain. Included in the download packet will be VHORS Tech Forms which will need to be filled out completely and signed individually by each member of the team. Tech Forms are to ensure the legality of the car(s) being submitted for the event.

GR:TE-03. Practice day is on Saturday before the event. Practice rotations will be 3 minutes long on each lane. All tracks will be controlled by a single main timer that will be observed at all times by someone from the Race Committee.

GR:TE-04. If you are present on Saturday for practice, your cars will be tech'd and impounded. Anyone who does not tech in on Saturday that shows for practice will not be allowed to participate on Saturday's events.

GR:TE-05. Saturday from 3pm until closing tech ins will be accepted.

GR:TE-06. Cars will be kept in impound at all times once tech'd in and that is final. Cars will be handed to the drivers at the beginning of their heats while at trackside and will immediately be impounded when the heat is done if the driver is finished and rotation takes them off the table.

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GR:TE-07. Two teams will be assigned to a race table. They will get 45 minutes to go through the entire rotation of their teams. All team members not racing at the current time will either marshal or assist in running the race controls.

GR:TE-08. Trak Mate will be the end all decision maker for placement in finishes. Trak Mate will be running in Championship mode, it will be the onus of the Team Captains to ensure each team member's name is entered for rotation and that no two team members are side by side racing during the rotations.

GR:TE-09. If the 45 minutes elapses and the heats are not completed, the scores will be taken as standing completed. 45 minutes is plenty of time to complete an entire rotation.

GR:TE-10. Should the teams complete their heats and are done, they may take a break for the remainder of the time while other teams / tables finish up. But racers must be ready for the next set of heats at the top of the hour. The team event begins promptly at 9:00am for the fist run. The following run is at 10:00am, then 11:00am, and a break for lunch. Racing resumes at 1:00pm and will again follow the 45 minute to the top of the hour sequence until all races are complete.

GR:TE-11. Each set of teams must work as a team for running the table when it's their time on to get their heats in and manage the entire set of heats. This format will ensure marshals at every table, and allow everyone a fair chance at racing without major issues and interruptions. Should there be a problem on the table, the Shootout Rules Committee can be called upon.

GR:TE-12. In case of a finish dispute, the final word will be from Trak Mate.

GR:TE-13. Team entry fee will be $120.00 for a four man team. Each additional team member will be $25.00. For example, 5 man team is 145.00, 6 man 170.00.
Checks should be made payable prior to August 1st to:
Kevin Chesney
29 East Wilson Avenue
Moorestown, NJ 08057

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Individuals Event

GR:IE-01. The Individuals Event is in support of the VHORS Classic T-Jet Class.

GR:IE-02. The Individuals Event will take place on Saturday.

GR:IE-03. Individuals Event is a laps and sections race. Highest accumulated score wins.

GR:IE-04. Individual entry fee will be $25.00 (for those only racing on Saturday).

Vendor Tables

GR:VT-01. Racers whom are also vendors may do so from their pit area for $30.00 for the entire weekend. No special tables will be provided.

GR:VT-02. Vendor tables will be available for $60.00 each for the entire weekend for non-racing vendors.

GR:VT-03. Vendor tables must be manned at all times by someone.

GR:VT-04. VHORS claims no responsibility for missing goods from vendor tables. Vend at your own risk.

GR:VT-05. This is subject to change pending location and days rented.

Controllers

GR:CTL-01. Any type of nonadjustable or adjustable (OHM value only) controller is permitted.

GR:CTL-02. Any type of controller is permitted as long as it passes tech.

GR:CTL-03. Additional electronics on controllers for changing OHM value is permitted.

GR:CTL-04. Additional electronics or hardware on controllers for changing any type of output power to the car such as power to run the car when track power is cut are not permitted.

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GR:CTL-05. Additional electronics or hardware on controllers for changing any type of brake adjustment are not permitted.

GR:CTL-06. Additional electronics or hardware on controllers enabling "coast" or "autopilot" features where power is supplied to the car when the trigger is fully released by the operator are permitted.

GR:CTL-07. VHORS tracks are not wired for brakes, thus only a two-wire hook up is necessary.

GR:CTL-08. Any controller or replacement parts must meet the VHORS defined "On Market" requirements.

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CLASSIC CLASS:

Purpose of this document

The purpose of this document is to set forth the rules specific to VHORS Classic Class racing. This document, either in electronic or printed form, represents the standing rules by which all VHORS Shootout participants shall abide for the VHORS Classic Class.

Overview

Whereas, in recent years, racing of Aurora Thunder Jet chassis slot cars has tended to explore the bounds of engineering sophistication and creativity, the Classic Class is created to allow racing of Aurora Thunder Jet chassis cars in a condition which more accurately reflects the condition of cars when they were raced in the 60's and 70's. These Rules shall be interpreted with this in mind.

Therefore, in the event of a conflict in the interpretation of these Rules, the interpretation favoring less modification is favored and shall prevail. Likewise, the interpretation which is closest to the spirit of this Rule is favored and shall prevail.

These rules are in effect for the entire VHORS Shootout and for every event which chooses to adopt VHORS Rules for the event.

These rules are based on the use of Aurora Thunder Jet OEM parts, new parts, after market parts, re-manufactured parts, and those made by "cottage industry" vendors. All parts must be specifically manufactured for the Thunder Jet chassis with the exception of wheels, tires and axles.

Rigorous honesty is the VHORS credo. Err on the side of caution. Your reputation in this small community is on the line if you are caught breaking the rules.

It is suggested that any questions or concerns regarding applicability of a rule to parts, manufacturers, modifications, adjustments or practices not specifically addressed or contemplated by the spirit and intent of these rules shall be presented to the Shootout Rules Committee at least seventy-two (72) hours prior to the race in question for a Rules interpretation. These interpretations will be made public in the FAQ page of the

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official VHORS website. The risk of assuming a compliance with the Rules is that an adverse race-day decision may not leave you adequate time to field a legal car.

Regarding any Rules compliance issues after the doors open for a race, any present Shootout Rules Committee member(s) will address any questions or interpretations of the Rules, in consideration of the spirit and intent of the Classic Class, as set forth above. The decision of the Shootout Rules Committee will be final.

Race Specifics

At any time, except during a race, and so as not to delay the start of any race, any racer may "challenge" another racer's car to verify whether or not it is in compliance with these Rules. If this Rule is abused to gain an advantage of any sort, the challenger's car shall be disqualified.

In the event of "challenges" in the Team Events, the above Rules shall apply, with the added conditions being that the entire team must present the challenge of another's car AND this challenge must be endorsed by a second Team before the car is subject to a compliance check.

After a race is completed, the top 4 finishers' cars shall be impounded by the Shootout Rules Committee or Tech Committee member (s) present at the time. These cars shall, as soon as practical after the conclusion of the race, be fully inspected for compliance with these Rules.

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Cars - General

CC: CO-01. Each racer may have one only one car pre-inspected for the entire VHORS Classic Class event. After a car has been inspected for an event, there shall be no substitutions or replacements. The only exception to the substitution/replacement Rule is where, in the judgment of the Shootout Rules Committee or Tech Committee member(s) present at the time, extreme circumstances are present, such as where a car becomes physically unfit for participation. Such a decision lies within the sound discretion of the Committee member(s) and is final.

CC:CO-02. There is no weight limit for the fully assembled VHORS Classic Class car.

CC:CO-03. Cars should pass freely through the Official Tech Block: 1 1/8" (1.125” +/-.002”) width.

CC:CO-04. No part of any wheel or tire shall extend beyond the body of the car.

CC:CO-05. Every component on the car shall meet the “On Market” requirement.

Bodies

CC: B-01. Bodies shall be injection molded plastic.

CC: B-02. Bodies must be modeled after actual automobiles that were manufactured for the public or racing up to and including model year 1975.

CC: B-03. Bodies may be lowered only by means of shortening the body posts.

CC: B-04. Bodies may be ground out a slightly in the front end but only to allow room for pickup shoe travel.

CC: B-05. Bodies must be complete with full windows, bumpers, drivers, roll bars and other accessories which accompanied the car as originally manufactured.

CC: B-06. Bodies must contain the original two screw posts. The original position of screw posts must remain intact and shall not be relocated to suit a different setup or wheelbase. Further, the posts shall be included and designed as part of the body specifically for mounting to an Aurora Thunder Jet Chassis. Some

examples of acceptable bodies: Aurora, Bauer, Nu-Rora, Marx, Model Motoring, Playing Mantis/Johnny Lightning, Atlas. This is not an exhaustive list.

CC: B-07. Body must be fastened securely to the chassis using two screws.

CC: B-08. OEM wheelbase must be maintained.

CC: B-09. Windows must completely fill window opening in the front and rear. Grinding of windows is allowed only if the window bottom extends into the body cavity, in which case the window only may be ground, but only to the point where it is flush with the inside of the body, and without grinding the body itself.

CC: B-10. Side windows must be intact.

CC: B-12. There shall be no substitute materials for original injection molded plastic windows.

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Chassis

CC: C-01. Chassis shall be stock Aurora Thunder Jet with all copper components.

CC: C-02. Brush springs shall not be modified in any way. They may be adjusted only in their original configuration to change the tension on the brushes.

CC: C-03. Guide pins shall be original design. They shall not be metal.

CC: C-04. Guide pins may be glued to chassis.

CC: C-05. Guide pins may be shortened in length to accommodate different tracks.

CC: C-06. Two mounting screws shall be used to hold the body securely on the chassis.

CC: C-07. The gear plate clamp may be bent (but not cut or otherwise altered) to improve fitment.

Pickup shoes and springs

CC: PSS-01. Pick up shoes and springs shall be solid copper and manufactured by Aurora, Model Motoring or American Line.

CC: PSS-02. Pick up shoe springs may be cut (coils removed) to desired length.

CC: PSS-03. Pick up shoe springs may be stretched to desired length.

CC: PSS-04. The pickup shoe may be bent, but only for the purposes of adjusting the original contact area to accommodate different rail heights of the various tracks.

CC: PSS-05. Pick up shoe travel may only be adjusted by 1) bending the front "window" portion of the shoe that hooks to the front of the chassis, 2) bending the rear hook which attaches to the chassis' copper hardware, or 3) bending the hangers on the chassis into which the rear hook of the shoe connects. .

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Magnets

CC: M-01. Magnets shall be manufactured by Aurora and originally supplied with the Thunder Jet chassis.

CC: M-02. Magnets may be shimmed using non-ferrous materials only.

CC: M-03. Magnets may be matched.

CC: M-04. All paint on magnets shall have original factory paint. There shall be no substantial removal of paint.

CC: M-05. Painting of magnets shall not be allowed.

Armatures

CC: A-01. Only original, stock, unaltered armatures, with gray tips shall be allowed.

CC: A-02. Armatures shall measure 15 ohms or greater at each pole.

CC: A-03. There shall be no modifications to the armature.

Commutator Brushes

CC: CB-01. Commutator brushes shall be manufactured of a copper/carbon compound.

CC: CB-02. Both the top and bottom surfaces shall remain flat.

CC: CB-03. Brushes must remain unmodified from their original out of the package condition.

CC: CB-04. Replacement brushes must meet VHORS required “On Market” definition requirements.

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Gears

CC: G-01. The armature pinion, idler gear and driven gear shall be brass.

CC: G-02. The armature pinion gear shall have 14 teeth.

CC: G-03. The idler gear shall have 24 teeth.

CC: G-03. The driven gear shall have 24 teeth.

CC: G-04. The final pinion shall have 9 teeth.

CC: G-05. The Crown gear shall have 15 teeth.

CC: G-06. The Crown gear shall not be metal.

CC: G-07. The Crown gear shall not be shimmed.

CC: G-08. Gears may be soldered or glued to their respective shafts.

CC: G-09. Gears may be lapped and/or polished. They shall not be beveled.

Tires/Wheels/Axles

CC: TWA-01. All tires shall be equal to or greater than 0.350" diameter.

CC: TWA-02. Tires may be made of silicone.

CC: TWA-03. Replacement wheels may be double flanged and may be of the screw on or pressed on variety.

CC: TWA-04. Axle nuts, spacers or springs shall be kept on the outer side of the chassis.

CC: TWA-05. Spacers shall be made only of plastic, copper, aluminum, brass, or steel.

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CC: TWA-06. Axles shall not exceed 1-1/8” in length.

CC: TWA-07. All four tires shall simultaneously touch the test track in the static position.

CC: TWA-08. Lateral movement of the front tire/axle assembly shall not exceed 1/32" (.03")

CC: TWA-09. Any tire/hub combination may be used for front and/or rear. Tires may not exceed standard replacement width for acceptable after market narrow tires i.e., Thunder Slicks, Black Hawks, Heister’s, etc.

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SUPER STOCK:

Purpose of this document

The purpose of this document is to set forth the rules specific to VHORS Super Stock (“SS”) Class racing. This document, either in electronic or printed form, represents the standing rules by which all VHORS Shootout participants shall abide for the VHORS Super Stock Class.

Overview

It is the desire and intention of your VHORS Rules Committee to encourage and increase participation in VHORS Super Stock Class. We believe that the means by which to accomplish this is to establish Rules so that all who choose to make and race Super Stock cars can do so on a competitive level and one that defines success not only by one’s ability to set up a car for a given track, but also by one’s driving skill. These Rules shall be interpreted with this in mind.

In the event of a conflict in the interpretation of these Rules, the interpretation favoring less modification is favored and shall prevail. Likewise, the interpretation which is closest to the spirit of this Rule is favored and shall prevail.

These rules are in effect for the entire VHORS Shootout and for every event which chooses to adopt VHORS Rules for the event.

These rules are based on the use of Aurora Thunder Jet OEM parts, new parts, after market parts, re-manufactured parts, and those made by "cottage industry" vendors. All parts must be specifically manufactured for the Thunder Jet chassis with the exception of wheels, tires and axles.

Rigorous honesty is the VHORS credo. Err on the side of caution. Your reputation in this small community is on the line if you are caught breaking the rules.

It is suggested that any questions or concerns regarding applicability of a rule to parts, manufacturers, modifications, adjustments or practices not specifically addressed or contemplated by the spirit and intent of these rules shall be presented to the Shootout Rules Committee at least seventy-two (72) hours prior to the

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race in question for a Rules interpretation. These interpretations will be made public in the FAQ page of the official VHORS website. The risk of assuming a compliance with the Rules is that an adverse race-day decision may not leave you adequate time to field a legal car.

Regarding any Rules compliance issues after the doors open for a race, any present Shootout Rules Committee member(s) will address any questions or interpretations of the Rules, in consideration of the spirit and intent of the Super Stock Class, as set forth above. The decision of the Shootout Rules Committee will be final.

Race Specifics

At any time, except during a race, and so as not to delay the start of any race, any racer may "challenge" another racer's car to verify whether or not it is in compliance with these Rules. If this Rule is abused to gain an advantage of any sort, the challenger's car shall be disqualified.

In the event of "challenges" in the Team Events, the above Rules shall apply, with the added conditions being that the entire team must present the challenge of another's car AND this challenge must be endorsed by a second Team before the car is subject to a compliance check.

After a race is completed, the top 4 finishers' cars shall be impounded by the Shootout Rules Committee or Tech Committee member (s) present at the time. These cars shall, as soon as practical after the conclusion of the race, be fully inspected for compliance with these Rules.

Cars General

SS:CO-01. Each racer may have up to two cars pre-inspected for the entire VHORS Super Stock Class event. After the cars have been inspected for an event, there shall be no substitutions or replacements. The only exception to the substitution/replacement Rule is where, in the judgment of the Shootout Rules Committee or Tech Committee member (s) present at the time, extreme circumstances are present, such as where a car becomes physically unfit for participation. Such a decision lies within the sound discretion of the Committee member (s) and is final.

SS:CO-02. Every fully assembled VHORS "SS" car shall weigh no less than 19.00 grams, and no more than 23.00 grams.

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SS:CO-03. Each car shall pass freely through the Official Tech Block: 1 5/16" (1.3125”) +/- .002”.

SS:CO-03. Every component on the car shall meet the “On Market” requirement.

Bodies

SS:B-01. Bodies shall only be made of injection molded plastic or resin cast

SS:B-02. Bodies shall be molded or cast based on actually manufactured cars.

SS:B-03. Bodies must be complete with full windows, bumpers, drivers, roll bars and other accessories which accompanied the car as originally manufactured.

SS:B-04. . Bodies must contain the original two screw posts. The original position of screw posts must remain intact and shall not be relocated to suit a different setup or wheelbase. Further, the posts shall be included and designed as part of the body specifically for mounting to an Aurora Thunder Jet Chassis. Some examples of acceptable bodies: Aurora, Bauer, Nu-Rora, Marx, Model Motoring, Playing Mantis/Johnny Lightning, Atlas, Road Race Replica, Fandango. This is not an exhaustive list.

SS:B-06. Body shall be fastened securely to the chassis using two screws.

SS:B-07. Bodies may be lightened to reduce weight; however, there shall be no holes present as a result of this process.

SS:B-08. Interiors may be removed from bodies that have a roof. The roof shall be replaced in its original position and securely fastened.

SS:B-09. OEM wheelbase shall be maintained.

SS:B-10. Screw posts may be cut, shaved or sanded to lower the body. The original position of the screw posts shall not be changed.

SS:B-11. Split or damaged screw post may be repaired using plastic or non-ferrous metal sleeves.

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SS:B-12. Stripped screw posts may be repaired with plastic or non-ferrous metal inserts.

SS:B-13. Missing screw posts shall only be replaced with plastic and shall be positioned at the original OEM location.

SS:B-14. Windshields and windows may be sanded for purposes of allowing the body to sit lower on the chassis.

SS:B-15. Windows shall completely fill both the front and rear body window openings.

SS:B-16. Side windows may be removed.

SS:B-17. Windows shall be made only of OEM injection molded plastic, acetate, Lexan or resin.

SS:B-18. Spoilers, scoops, wings, exhaust pipes, etc. may be added to enhance the car's appearance, but shall be made of the same material as the body, shall remain within the 1 5/16" width limit, and shall not be added for the purpose of enhancing the handling characteristics of the car.

SS:B-19. The thickness of body side walls, roofs, trunks, hoods, running boards, front and rear bumper areas (excluding separate bumper pieces) shall not exceed 1/8”.

SS:B-20. Bodies shall have no modifications which appear to have the intention of replicating or approximating a handling pan.

Chassis

SS:C-01. Chassis must be stock Aurora Thunder Jet with all copper components.

SS:C-02. Non-ferrous bearings, bushings, shims, and spacers are permitted on the axle.

SS:C-03. Non-ferrous magnet shims are permitted except for sanded "Johnny Lightning/JL" magnets.

SS:C-04. There shall be no modifications to the chassis.

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SS:C-05. Gear plate rails may be cut or sanded only for purposes of lowering the body, and shall only be cut or sanded to the level of the top surface of the gear plate.

SS:C-06. Brush springs may be adjusted only in their original configuration to change the tension on the brushes.

SS:C-07. Brush springs may be glued at to the chassis at a point no more than half the distance from the rivet point to the commutator brush hole in the chassis. No gluing shall be allowed from the point half the distance between the rivet and commutator brush hole to the brush hole. .

SS:C-08. Guide pins shall be original design. They shall not be metal.

SS:C-09. Guide pins may be glued to chassis.

SS:C-10. Guide pins may be shortened in length to accommodate different tracks.

SS:C-11. Two mounting screws shall be used to hold the body securely on the chassis.

SS:C-12. The gear plate clamp may be bent (but not cut or otherwise altered) to improve fitment.

Pickup Shoes and Springs

SS: PSS-01. Pick up shoes and springs shall be solid copper and manufactured by Aurora, Model Motoring, American Line, or BSRT (model 504 only).

SS: PSS-02. Pick up shoe springs may be cut (coils removed) to desired length.

SS: PSS-03. Pick up shoe springs may be stretched to desired length.

SS: PSS-04. The pickup shoe may be bent, but only for the purposes of adjusting the original contact area to accommodate different rail heights of the various tracks.

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SS: PSS-05. Pick up shoe travel may only be adjusted by 1) bending the front "window" portion of the shoe that hooks to the front of the chassis, 2) bending the rear hook which attaches to the chassis' copper hardware, 3) bending the hangers on the chassis into which the rear hook of the shoe connects or 4) adding heat shrinkable tubing to the top of the front window.

Magnets

SS:M-01. The only allowable magnets are stock Aurora or JL/R2.

SS:M-02. Magnets may be sanded for fitment.

SS:M-03. JL/R2 magnets shall not be shimmed; stock Aurora magnets may be shimmed with non-ferrous material.

SS:M-04 Magnets may be matched .

SS:M-05. Magnets shall not be affixed to the chassis by any means.

SS:M-06. All paint on magnets shall have original factory paint. There shall be no substantial removal of paint.

SS:M-07. Painting of magnets shall not be allowed.

SS:M-08. Unpainted and unstriped magnets shall not be allowed.

SS:M-09. Spacing between magnets shall be at least. .700" +/- .002".

Armatures

SS:A-01. With the exception of SS:A-03 below, only original, stock, unaltered armatures, with gray tips shall be allowed.

SS:A-02. Armatures shall measure 15 ohms or greater at each pole.

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SS:A-03. Armatures may be balanced. You may add weight, place a vertical notch in one, two or three poles OR you may grind/sand material from one, two or three poles to achieve balancing.

SS:A-04. Armatures shall not be trued. Traces of gray paint must remain visible on all exterior edges of poles.

Commutator Brushes

SS:CB-01. Commutator brushes shall be manufactured of a copper/carbon compound.

SS:CB-02. Both the top and bottom surfaces shall remain flat.

SS:CB-03. Brushes shall remain unmodified from their original out of the package condition.

Gears

SS:G-01. The armature pinion, idler gear and driven gear shall be brass.

SS:G-02. The armature pinion gear shall have 14 teeth.

SS:G-03. The idler gear shall have 24 teeth.

SS:G-04. The driven gear shall have 24 teeth.

SS:G-05. The final pinion shall have 9, 12 or 14 teeth.

SS:G-06. The Crown gear shall have 15 teeth.

SS:G-07. The Crown gear shall not be metal.

SS:G-08 The crown gear “boss” may be sanded or trimmed to accommodate different gear ratios.

SS:G-09. The crown gear may be shimmed inside and/or outside the chassis.

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SS:G-10. Gears may be soldered or glued to their respective shafts.

SS:G-11. Gears may be lapped and polished. They shall not be beveled or otherwise be altered.

Tires/Wheels/Axles

SS:TWA-01. Axle nuts, spacers or springs must be kept on the outer side of the chassis.

SS:TWA-02. Spacers shall be made only of plastic, copper, aluminum, brass, or steel.

SS:TWA-03. All four tires shall simultaneously touch the test track in the static position.

SS:TWA-04. The width of the fully assembled tire/wheel/axle assembly shall not exceed 1-5/16".

SS:TWA-05. "Hub caps" or other wheel inserts shall fit entirely within the wheel.

SS:TWA-06. Lateral movement of the front tire/axle assembly shall not exceed 1/32" (.03")

SS:TWA-07. Shims may be used on the rear axle both inside and outside the chassis.

A Final Rule:

If anything is not specifically stated or addressed in the above rules it is NOT permitted.

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