

Akron/Canton OH HO T-jet Challenge Rules

Body:

- 1) Hard body injection molded material
 - a) Legal manufactures include
 - a. Aurora
 - b. Model Motoring
 - c. Johnny Lightning
 - d. Autoworld
 - e. Road Race Replica
 - f. Dash
 - g. Dash McClaren is Illegal
 - h. MEV (must be painted and clear coated)
 - i. Body By Brutus -(must be painted and clear coated)
 - j. Fairground bodies may be raced with push bars instead of bumpers
 - k. Indy style / open wheel bodies are not allowed.
- 2) Body must have two (2) screw post and must not be moved from original manufactured position.
- 3) Body posts may be sanded or ground to lower body
- 4) Body may be lightened by sanding or grinding but not cut through
- 5) Front and rear window openings can NOT be enlarged beyond factory molding/design
- 6) Wheel Wells may be ground to fit tire height
 - a. No more than an 1/8 inch or less gap will be between the tire and around wheel wells where material is removed.
 - b. Do not alter wheel wells from original wheel base
- 8) No windshields are required at this time
- 9) No material(s) will be added to a body that makes complete chassis underweight, that body is considered illegal and must be replaced. This includes adding stickers/tape to rocker area of bodies.
- 10) If a body is severely damaged during race, it will be weighed in post tech at race director's decision. All damaged parts must be present at post tech or car is considered illegal
 - a. Fenders, Hood, Trunk, Roof, and Front Grills, Bumpers
- 11) Body must be fastened to chassis by two screw
 - a. Screws cannot be magnetized
 - b. Screws may be countersunk into guide pin
- 12) There is currently no width restrictions on bodies
- 13) Impregnating or painting body's with magnetic material is illegal

Chassis:

1. All chassis must be original Aurora or Model Motoring.
2. There is no current replacement chassis at this time

Chassis Base:

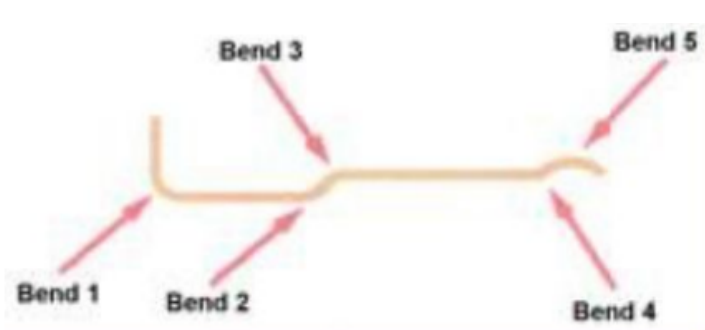
1. Chassis base may not be sanded or altered in any way from the original manufactured design except around the pickup shoe pins to allow free movement of pickup shoes
2. Chassis rivets may be pressed to tightened to chassis base
3. No shunt wires or tiger tails will be added to chassis base
4. Handling pans are not permitted
5. Ball bearing or bushings will not be permitted
6. Do not alter original holes except peening or honing axle holes to allow movement or remove excess movement of original Aurora axles
7. Guide pin must be made of plastic material
8. Guide pin can be glued to chassis base, but two(2) screws must still attach body to chassis base
9. Additional and/or Rear guides of any kind are not permitted
10. All conductive components must be of copper material - plated parts are not allowed
11. Grinding of any axle holes to allow quick changing of axles without removing rims is illegal
12. Grinding out bottom chassis so motor magnets sit lower in the chassis and/or are exposed through the bottom of the chassis is illegal
13. Chassis clip may be dimpled and/or bent for retention. It can NOT be cut or lightened in any manner and must be of copper material.
14. Idle gear pin can be spread to remove "slop" from idle gear
15. Brush tensioners may be dimpled and/or bent - however no additional material can be added
16. Impregnating or use of magnetic paint on the chassis is illegal
17. Traction magnets of any kind are illegal

Chassis top plate

1. Chassis top plate must be original Aurora or Model Motoring
2. Top plate rails may be ground to allow lowering of body
 - a. Front may not go passed the front of the armature shaft
 - b. Rear can only cut at an angle to allow body to be lowered
 - c. Rear angle may not exceed the teeth of the rear gear

Shoes:

The “step” in the pickup shoe must remain at a minimum height of .010 from the top of bend #2 to the bottom of bend #3. The first bend in the step, (Bend #2), may be changed slightly so that proper “pickup shoe” to “rail” contact can be achieved.



No attempts to “flatten” the “step”

are allowed. The area between Bend #1 and Bend #2 may be “flattened” to achieve better contact with the “rails”, however Bend #1 must remain as stock. The front vertical slotted portion of the pickup shoe may be bent to limit shoe travel. The rear hook portion of the pickup shoe may be bent to limit shoe travel and adjust shoe tension. The chassis’ copper pickup retainer may be bent slightly to improve electrical contact. There is absolutely no use of magnetic material on or in the shoes - NO material is allowed to be added to the shoes

Magnets:

- 1) There is absolutely no sanding of motor magnets
- 2) There is no machining of motor magnets
- 3) 0.700 plug must fit inside armature hole with magnets in the chassis. If there any free play with the magnets. They will be pushed towards the plug for measurement.
- 4) All motor magnets must be ceramic
- 5) Shimming magnets with not magnetic material is legal.
- 6) Magnets may be matched
- 7) Magnet may be “Zapped”
- 8) Downforce will not exceed 1.5 on a Peter Doane scale.
- 9) Shims or Flux blockers under the armature magnets are illegal

Armature:

Armature must ohm at a total of 48 ohms for three poles after being allowed to cool for no less than 5 minutes after the conclusion of the race.

- 1) Only original Aurora stock armature is legal. There is no current replacement
- 2) Armature lams can be ground or have epoxy added to balance, but can not be ground to true the armature.
- 3) Armature commutator can be trued
- 4) Armature shafts can be sanded to allow free movement in the chassis
- 5) Dewatering or rewinding the armature is illegal.
- 6) Laminations cannot be aggressively ground and be considered balanced
- 7) Laminations cannot be ground flat from edge to edge.
- 8) Grinding the spacing between the 1st lam and 2nd lam all the way around the armature to lighten the is illegal

- 9) Removal of material from all three zones of of the armature lams as an effort to lighten the armature is not allowed. This will be determined by the head race director

Axle spacers, Axles, Rims, Wheels, Tires:

- 1) Complete wheel, axle, and tire assembly must pass through a 1 ½ tech block when assembled on chassis
- 2) Spacers can be added to axle assembly
- 3) Spacers must be made of non-magnetic metal or plastic material
- 4) Excessive brass spacers will be considered as a weighted front end, this will be determined by head race director.
- 5) Brass sleeves that fit over the rim (shoulder) hub are considered a weighted front end and are illegal
- 6) Weighted front assemblies are illegal
- 7) All axles must be STOCK original Aurora “short” (non-truck width) ONLY
- 8) Axles made from tungsten, titanium, and magnetic material are illegal
- 9) All axles must have knurling on ends and center of the shaft originally stock from the factory
- 10) Independent front axle assembly is illegal
- 11) Magnetic axle retainers are illegal.
- 12) Front axle assemblies must rotate as one unit.
- 13) Rear axles assemblies must rotate as one unit.
- 14) Machining or modifying of stock Aurora axles is illegal
- 15) ONLY Aluminum or plastic rims are legal
- 16) Steel, titanium, tungsten, magnetic material rims are illegal.
- 17) Any double flanged aftermarket rim must have a (shoulder) hub on the inner wall of the rim
- 18) Rim (shoulder)hub must face the chassis.
- 19) Any double flange rim that has no shoulder is considered illegal unless it is an original Aurora stock skinny rim, Note: The use of Aurora stock skinny rims will not have any spacers between the chassis and wheel, and must remain as factory manufactured at 1 inch width.
 - a. Example of rims that are NOT allowed based on design

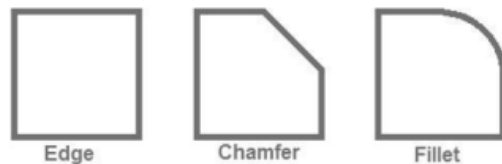


- 20) Removing or grinding any material away the rim’s (shoulder of rim) hub is illegal.
- 21) Stock Aurora skinny rims are legal but not suggested. If a car's tire(s) fall off of stock rims they are considered hazardous to race flow, this will result in a disqualified car.
- 22) There is no changing of wheels AND/OR tires after car is teched.
- 23) Rear tires assembled on rims must be a minimum of .350
- 24) Front tire assembled on rim must be a minimum of .300

- 25) Front and Rear tires must cannot be wider than .093" maximum width.
- 26) All tires must be of solid silicone rubber material
- 27) Silicone sponge tires are illegal
- 28) There is no changing of tire sizes during the race
- 29) Applying glue to the outside of tires is considered illegal
- 30) Taping or cleaning of tires between lane changes is legal. We do understand tape residue could go on the tires while cleaning.
- 31) There is absolutely no painting or polishing of the front tires.
- 32) Cutting slits or notches in tires is illegal
- 33) Impregnating magnetic material into tires is illegal

Gears:

- 1) All gear must be original Aurora stock. 14T armature, 24T idle gear, 24T drive gear, 9T pinion. 15T crown
- 2) Absolutely no machining of gears
- 3) Original Aurora stock black t-jet crown gears only. aftermarket, white nylon, AFX gears etc are NOT allowed.
- 4) White Aurora crowns are illegal
- 5) Impregnating or painting crown gears with magnetic material is illegal
- 6) Polishing gears is legal
- 7) Lapping gears is legal
- 8) Feather light gears are illegal
- 9) Drilling or grinding out material to make gears lighter is illegal.
- 10) Chamfering or fillet gears are illegal. All gears must as originally designed tooth must have an edge



- 11) Gears may be glued or soldered to their locations

Complete car:

- 1) Complete car must between a weight of a minimum of 18 grams or maximum of 23 grams
- 2) Complete chassis must pass through 1 1/8 tech block
- 3) Complete car must not exceed 1.5 grams of magnetic downforce
- 4) Complete car must have .300 minimum or larger front diameter tires
- 5) Complete car must have .350 minimum or larger rear diameter tires
- 6) Complete car must have all 4 tires touching the test track