

# Whatcom Demo Derby Club

## Rule book disclaimer

The rules and/or regulations set forth herein are designed to provide for the orderly conduct of racing events and to establish minimum acceptable requirements for such events. These rules shall govern the condition of all events, and by participating in these events, all participants are deemed to have complied with these rules. No expressed or implied warranty of safety shall result from the publication of or compliance with these rules and regulations. They are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to a participant, spectator, or official.

The race director shall be empowered to permit reasonable and appropriate deviation from any of the specifications herein or impose any further restrictions that in his/her opinion does not alter the minimum acceptable requirements. No expressed or implied warranty of safety shall result from such alteration of specifications. Any interpretation or deviation of these rules is left to the discretion of the officials. Their decision is final.

## Truck Full Build

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## Small Truck Full Build

**IF ITS NOT IN THE RULES THAT DOSENT MEAN YOU CAN DO IT.**

**TECH HAS FINAL DECISION**

## Trucks

### Full size Trucks

1. Any full size truck or SUV, is legal for this class. No larger than 1 ton.
2. No k5 blazers, full frame jeeps, or standard full size truck or standard full size SUV in small truck class. If you have any questions on if your small truck classifies please call tech officials.
3. 4x4's are ok but you must remove the front drive shaft and the bumper height rule is followed.
4. No minivans, vans, box trucks or panel vans/trucks.
5. Minimum wheelbase for full size trucks is 103"
6. All sunroof openings must be covered with sheet metal from the outside of the truck and securely fastened to the roof.

7. No frame swaps. Frame must match the cab of the truck. Swapping truck beds and front sheet metal is ok.

## Truck Preparation

1. All glass must be removed. No glass removal allowed at the track
2. All light covers and bulbs, side mirrors, hub caps, grills, side chrome, plastic, door handles, locks, wheel weights, pot metal, gas tanks, and plastic inner fenders must be removed.
3. All flammable materials must be removed from inside the vehicle. This includes carpet, rear and passenger seat, all interior trim, door panels, roof liner, trash, leaves and other flammable debris.
4. All body panels must be free of debris
5. Inside of the doors must be free of debris including leaves and glass.
6. All trailer hitches, related brackets, reinforcements and hardware must be removed.
7. Aftermarket parts that are allowed: metal gas tank, transmission cooler, brake and gas pedal, shifter, battery box, steering column up to the steering box, drive line, pinion brake, lower saddle cradle with front plate up to the heads, motor, rear ends, seat and seat belts, distributor protector with halo (per the rules), and aluminum transmission bell. Axle Savers
8. **Nothing in the interior of the truck may be bolted or attached to the frame.**

## Fuel System

1. A metal fuel cell tank is required with a 6 gallon max fuel capacity
2. You must solidly mount the tank in the center of the rear seat area in front of the rear axle.
3. Gas tank may not be bolted to the frame.
4. No plastic tanks or boat tanks allowed.
5. All gas lines and fittings must be free from leaks no exceptions
6. All rubber fuel lines must be run in the center of the car, and must be run in through a larger hose where it goes through the fire wall or cab holes.
7. Each tank must have a vent hose that coils above the tank and goes through a hole in the floor in case of a roll over.
8. Electric fuel pumps are ok.
9. Gasoline only no alcohol, nitrous, or propane.
10. Gravity or bottom fed tanks must have a  $\frac{1}{4}$  turn shut off valve accessible to the officials.

## Batteries

1. Batteries must be relocated inside of the car and placed in a battery box made out of metal. Fully enclosed or open top clamp style ok.
2. Batteries must have an insulating barrier between the top of the battery and the lid.
3. 3 batteries max
4. Switches or wires used to power the car must be in the reach of the driver while harnessed in. There will be no acceptable excuse for not being able to shut your car off in an emergency.

## Radiators and Coolers

1. Radiators must remain in the stock location
2. Radiators and/or fans may be removed.
3. An expansion tank may be used instead of a radiator. It must be made of metal, and be no larger than 1 gallon.( the size of a milk jug) 1 gallon is equal to 231 cubic inches, multiply the length in inches times the width in inches times the height in inches, if this is more than 231 it is too big. It must be bolted in place using max 4  $\frac{3}{8}$  bolts, and cannot touch the frame in any way.
4. Transmission coolers may be mounted in the engine compartment or inside the car. You must use high pressure lines and they must be free from leaks.
5. Transmission coolers cannot be bolted to the frame in any way.

## Seats and Seat Belts

1. A lap and shoulder belt is mandatory, they must be securely mounted and have a minimum 2" diameter flat washer where it is mounted through sheet metal.
2. A 4 point harness is recommended
3. Seat can be OEM stock of any make/model car
  - a. Place a padded headrest on the upright behind the seat if the seat was not equipped with a headrest mandatory.
4. No fiberglass or plastic racing style seat will be allowed

## Exhaust and Carburetors

1. Stacks are allowed
2. Any stock exhaust is allowed
3. No stack protectors
4. Any gasoline carburetor is allowed
5. Air cleaner or suitable flame arrestor is required.
6. No alternative starting methods allowed. (I.E. starting fluid)
7. Stack holes must be a minimum 6"x6" for fire access
8. If you are running stock exhaust under the car you must cut 2 6"x6" minimum holes in your hood, one on each side of the carburetor for fire extinguisher access.

## Suspension, Steering and Brakes

1. A-arms may be welded down using (2) 3"x4"x1/4" flat strap per a-arm. This strap must weld to the a-arm and the frame and cannot extend farther forward or backward than 1" past the widest part of the a-arm. (this is not the bolt in the a-arm)
2. No other welding/bolting of the front springs, shocks or a-arms is allowed
3. No coil to leaf conversions or vice versa
4. Rear leaf springs must be made of stock spring material. 9 pack spring is allowed.
5. You must use the OEM stock spring shackles for the car that you are running
6. Spring shackle must remain in the stock location for the car you are running
7. You can re-clamp leaf springs, (4) clamps per spring pack, 2"x1/2" thick flat bar with (2) 3/8 bolts per clamp
8. You may double or change the coil springs to a stiffer spring.
9. No welding, bolting or solid rear shocks are allowed.
10. You may use a  $\frac{3}{8}$  chain around your axle to the frame hump with one wrap in the center of the hump. You may not weld the links together or to the frame.
  - a. 1/2 " bolt maximum size with 2" OD washer max size. Washer or chain may not be welded to frame in any way. May not be welded to fix it plates.
11. Front and rear bumper height is 16" minimum to the bottom of the bumper and a max of 26" at the bottom of the bumper.
12. All trucks must have working brakes and demonstrate the ability to stop for the Tech officials
13. Only OEM ball joints, center link and idler arm for a truck legal for the class will be allowed
14. Sway bar cannot be welded period.
15. Aftermarket Tie-Rods are Allowed

## Rear End, Wheels and Tires

1. Rear ends may be braced. Bracing may in not way strengthen the frame or act as a kicker. Rear end bracing must be a minimum of 4" clear from any portion of the frame.
2. Pinon brakes ok
3. Axle savers ok
4. No split rims.
5. Any tire may be used, doubled, foam filled or implement tires ok.
6. Any wheel may be used, wheel centers, bead locks, valve stem protectors (except split rims)

## Bumpers

1. Bumper swaps are allowed from any passenger car.
2. Only one set of bumper brackets may be used.
3. If not using the brackets that are stock to the truck you will be allowed a 10" long 4" wide  $\frac{3}{8}$ " thick bracket with a 4" (L) on one end to help mount the bumper to that may be located on the top, side, or bottom of the frame (NOT INSIDE the frame), or you may

cut a stock bumper shock down to 10" and mount to the frame the same as above. This is for the front bumper only. And it will be measured from the front of the frame to 10" back

4. Front and rear bumpers may be welded solid bumper to bumper, bumper to shock/bracket, shock/bracket to frame no add metal.
5. Bumper cannot be welded to the body except if you are using any welds that are securing the tailgate lid. (any questions call the head tech official)
6. Absolutely no stuffed or loaded bumpers will be allowed.
7. If you do not have a bumper you may use a max 5"x5"x1/4"" square tube, it must remain open ended and straight. It cannot extend more than 10" from the outside of the frame. Only one Tube allowed, You cannot weld two tubes together to achieve 5"x5"
  - a You may add a 2" point to the front of the tube. The width of the ends must be a minimum of 30" wide. Point must face forward.
8. No bumper straps allowed

## Frame

1. No welding of the frame other than what is stated below. If you are caught to have welding done on the frame that is outside of the rules you will not be allowed to compete.
2. You may weld the frame seems top, bottom and sides from the front of the a-arms forward. (if is bolts on that is not a seam and cannot be welded)
3. Absolutely no painting or fresh undercoating of the frame, your car will not even be inspected.
4. You may tilt the frame by cold/heat at the transmission crossmember only. You are not allowed to cut the crush boxes loose and reweld the seems.
5. You may use a 2"x2"x1/4" square tube for a transmission crossmember, it may be welded in place to the frame rails only. If you are using tubing for the crossmember you may not use the old one as well.
  - a. To help with the mounting of the Tranny crossmember you may use a 2"x 2"x 1/4" angle iron 8" long so that you can weld or bolt the transmission crossmember in place if bolting (2) 1/2" bolts one on each end.

## Body

1. No welding to the body other than what is specified in the rules below.
2. Doors may be secured shut by either welding, bolting or chaining. **May not touch the frame or go around the frame**
  - a. You may weld the outer door seams with 2"x1/8" flat bar or 3/8 rebar or equivalent.
  - b. If you only bolt the doors shut you may use a minimum of (6) 1/2" bolts per door.
  - c. If you only use chain you must use a minimum of (6) loops of chains no larger than 3/8 thick per door.
3. You may weld the outer door panel to the inner door panel, on the ~~passenger~~ drivers door using a 2"x1/8" flat bar.
4. Hoods can be secured in a maximum of 6 places other than stock only 2 of the 6 can be secured to the frame. You may use bolts or chains.

- a. bolt size must be a minimum of  $\frac{1}{2}$ " and a maximum of 1" in diameter. The only bolts that can attach to the frame are one on either side of the radiator. Bolts may only extend 4" above the surface of the hood. Max plate size is 6"x6" diameter  $\frac{1}{4}$ " thick.
- b. You may use a 3"x3"x6" long angle iron or flat bar to the fender and 1 to the hood and bolt them together. 2-  $\frac{1}{2}$ " bolts per connection
- c. chains must be a minimum  $\frac{3}{8}$ " or max 1/2" chain. Single loop and bolted together with a minimum  $\frac{3}{8}$ " max 1/2" bolt.

5. Hoods must be opened for tech.
6. Must bring hood with you to tech if you are running one.
7. You may re-bolt the hood skins together. You are allowed (15)  $\frac{3}{8}$ " diameter bolts with a max 1" flat washer on each side of the bolt
8. Tailgates may be welded solid.
  - a. You may use filler no larger than 2"x1/8" flat bar or  $\frac{3}{8}$ " rebar or equivalent.
  - b. (2) 1" bolts/all thread are allowed to secure to the frame, with a max angle iron of 6"x6" in diameter  $\frac{1}{4}$ " thick, plates cannot be welded to the body or the frame.( these will be counted as bed bolts)
  - c. chains must be min  $\frac{3}{8}$ " or max 1/2" weld type chain with a single loop fasted to itself with a min  $\frac{3}{8}$ " or max 1/2" diameter bolt. (if you use the chain and it wraps the frame it will also be counted as a bed pin)
9. You are allowed (5)  $\frac{3}{8}$ " diameter bolts with 1" flat washer per corner of the truck to re-bolt outer and inner body skins together. (5) in each fender, (5) in each quarter panel. These bolts cannot touch the frame, be used to secure the hood, tailgate, doors, or bumper to the body.
10. Body bushings may be removed, if you are replacing the bolts you may use  $\frac{1}{2}$ " diameter bolts. Body bolts must remain in the stock location. Washers must not cover the body mount hole on the exterior of the frame. If the body bolt passes through the body you may use a 2" diameter flat washer.
11. You may repair floor pans only in the front passenger area to allow you to mount your seat, battery box, or trans cooler. You may only use sheet metal and it must stop where the firewall starts to go up, and no further back than the flat part of the rear seat area in front of the rear axle. This is the only way to repair a rusty floor. The rust repair must be cut out completely, and you are only allowed to overlap the new panel 2"
12. You may cut a hole in the firewall for distributor clearance, but the hole must be covered by tin or a rubber mat.(duct tape is not acceptable for covering holes)
13. You may have 2 chains, or 2 flat bar 3"x3/16", or (2) 1"x1"x1/8" pipe down the center of the windshield from top to bottom. Window bars may be connected together in no more than 3 places like a ladder. Window bars must be bolted in place with a min.  $\frac{3}{8}$ " or max
  - a.  $\frac{1}{2}$ " diameter bolts. Bars may only extend onto the firewall 6" and 12" onto the roof from the front edge. Max 6"x6"x1/4" mounting plate at the end of each bar.
14. Truck box may be welded to the cab on the outside seam only. You may use 2" wide  $\frac{1}{8}$ " thick flat bar as a filler.
15. You are allowed 4 extra bed pins. 1" diameter and the plate size will be 6"x6"x1/4"thick.
  - a. (tailgate bolts that are connected to the frame will be counted as two of the extra bed bolts)
16. Truck beds may be wedged (bed sides folded down) but can only be wedged half of the original bed height. This will be measured at the back of the cab. Example: The truck

bed measures 24" tall at the cab, the bed sides must measure 12" or more at the tailgate.

## Safety Bracing

1. Nothing may extend more than 24" from the back of the cab. This rule will strictly be enforced
2. A single front cross brace must be installed above the steering column from window post to window post. (in the former position of the dashboard) This front cross brace must be 5" minimum away from the firewall and distributor protector. All attachments must be 6" off of the floor and 4" off of the transmission tunnel. It must be made of a minimum 2" diameter pipe or square tubing  $\frac{1}{8}$ " thick and securely fastened into place. ( the dash bar is a single bar that has nothing sticking off of it other than a flag holder.)
3. All trucks must have a door bar on the drivers and passenger doors. They must be securely fastened to the truck so that they do not come off.
  - a. Outside door bars minimum 8" wide 3/16 thick, max of 14" wide  $\frac{1}{2}$  " thick, and no longer than 7'. Must not extend past the wheel wells. Each door bar must be securely fastened to the car using a minimum of (3) 3/4 bolts that extend through the inner panels of the door, with a 4"x4" backing plate.
  - b. Door bars may be welded to the sheet metal, and they cannot extend any further forward than 6" in front of the front door seam. With a 45 degree bevel on each end.
  - c. door bars may be ran on the inside of the truck instead of the outside. They must be a minimum of 4"x4"x1/4 tube or a minimum 8" wide 3/16 channel iron, or a max of 14" wide 1/2 thick channel iron. The door bars must be 6" off the floor of the cab minimum and cannot be further forward than 6" in front of the front inside door seam and no more than 6' in length. The inside door bars must be securely fastened in place to keep them in place(either by welding them to the body or by bolting), Door bars are straight pieces with no down bars they must be 6" off the floor. If Running a inside cage you must have a door skin on the outside of the drivers door  $\frac{1}{8}$ " thickness welded to the door. Drivers door only.
4. A rear cross brace must be installed behind the driver's seat, if you are running a single cab truck the cross brace may be placed in the bed as close as possible to the cab. It must be made of 3" diameter  $\frac{1}{8}$ " thick pipe or square tubing with plates welded on each end. The plates may not extend more than 24" from the back of the cab. It must be mounted with a minimum of (1)  $\frac{3}{4}$ " bolt on each end that extends through the side irons. The cross brace must also be bolt to the frame with a max of (2) 1" bolts. If you run 2 cross braces they must be attached to each other and be a maximum of 24" from the back of the cab. Only one of the cross braces can be bolted to the frame.
5. All trucks must have 1 vertical upright placed directly behind the driver's seat. Upright must be a minimum of 2" diameter  $\frac{1}{8}$ " thick pipe or square tube with a minimum 4x4" plate welded on each end. The upright will extend from the roof to the cross brace or from the roof to the floor as close to the seat as possible. Optional you may add a second upright may be added to the passenger side.

- a. A halo will count as your upright, it must be attached to the cross brace it can be welded to the sheet metal but cannot be attached to the frame in any way.
- 6. Gas tank protector/mount is allowed and it must stay with in the 24" of the back of the cab. Maximum height is 16" from the bottom of the protector. It can be a maximum of 36" wide and must be centered in the truck.

## Motors and Transmissions

- 1. Engine and transmission swaps are allowed.
- 2. All engines can only be mounted to the engine k-member. (cannot be mounted to the frame rails)
- 3. A lower saddle cradle or lower saddle cradle with front plate may be used.(an engine cradle is any metal device that connects the motor mounts together underneath the engine. Engine cradle may not be taller than the lowest point of the valve cover. (engine cradle cannot touch the dp in any way (6" gap min.)
- 4. A front pulley protector may be used. It may not be connected to the frame in any way and can only stick past the front of the crank pulley by 4" max.
- 5. Only 1 mount per side of the engine, each mount can be no larger than 6"x6"
- 6. Distributor protectors are allowed, and can have a mid plate that it attaches too. The distributor protector can be a max of 12"x12", mid plate must be no taller than the valve cover and max 3" wider than the engine at its widest point and no lower than the bottom of the oil pan. The mid plate or distributor protector cannot be attached to the frame or firewall or window bars in any way
- 7. You may have a halo (carburetor hoop) it may attach to the distributor protector and to the intake, it may not stick past the water pump on the front of the engine and may not be wider than the valve covers. It can be no larger than 1.75" O.D. tubing and it can only be 1" above the air cleaner.
- 8. You may also chain the engine in place with 1 chain on each side of the engine max  $\frac{3}{8}$  chain. Chain may only be attached to the front of the head and 1 link to the top of the frame. You may weld the 1 link to the top of the frame. You may not weld any other links of the chain together.
- 9. Absolutely no transmission braces.
- 10. Absolutely no stack protectors.

## Roof signs

- 1. All trucks must have a roof sign with your number in contrasting colors.(black numbers on a white sign)
- 2. Numbers must be 18" high and minimum 2" thick
- 3. If the roof sign is unreadable you will not run until corrected.

4. You must not use the roof sign to strengthen the car in any way (this will be up to the techs. discretion.)

## Misc. and Repairing of pre-ran trucks

1. Fire extinguishers are not mandatory but are ok to have. They must be securely mounted within reach of the driver while buckled in.
2. Frame repairs are only allowed on pre-ran trucks and can only be done in the following way.
  - a. If the frame seam is torn or separated you may weld the seam/tear only where it is torn. If this is the case please take a picture before repairing.
  - b. You will be allowed 2 frame repair plates per corner of the truck. Repair plates are max 4"x6"x1/4" thick flat plate. The plate can be bent or cut to fit the frame but if you cut it you will not be allowed to use the cut pieces. You may weld all 4 sides of the plate but there must be a hole put in the center of the plate to check for thickness.
3. If the body panels are separated or torn you may stitch weld them back together 2" on 2" off. No adding extra metal.
4. Cannot weld the body of the truck to the frame no exceptions.
5. You will be able to repair bent tie rods with a 1" max piece of pipe must use the stock ends.
6. No re-stubing or replacing the front or rear frame on a pre-ran car.
7. No #9 wire, cables or extra chain unless its being used to secure doors, hood or tailgate as part of your original 6 points
8. All of the repairs will be inspected and anything outside of the guidelines will not be allowed to run. So if there is a question ask one of the tech officials.

## Race Procedures

1. Drivers doors hits may result in loss of placing, payout and/or the ability to race in the next event if they are deemed by the officials that you could have avoided it.
2. All of the drivers body parts must remain in the vehicle at all times while the event is going.
3. Do not build your truck in the pits
4. You must make an aggressive hit every 2 minutes or you will be timed out
5. You are allowed 2 fires, if you have a 3rd fire your time will stop and that will be your placing based on your time.
6. After you pass tech your vehicle must be lined up in the heat that you are placed in. (do not go back to your pits)
7. You must wear a helmet, safety glasses, long sleeve shirt, long pants and closed toed shoes.