

## Section 18 – Pro-4

**Spec Muffler-** Schoenfeld #14272535 (-89 is not considered a compliant muffler) Minimum 1, must be unaltered and in otherwise in stock condition. Any car not running this muffler will be disallowed.

### 18.1 ELIGIBLE MODELS

18.1.1 Any fabricated tube-frame racecar, perimeter or offset, trucks with tech approval.

18.1.2 No Jeeps, dune buggies, or convertibles. No all wheel drive (AWD) cars allowed.

### 18.2 BODIES

18.2.1 All cars must have complete bodies with no sharp edges, fabricated of nonferrous materials that resemble a late model stock car complete with a nose. Tail piece optional.

18.2.2 All window materials, front, rear, and sides must be of polycarbonate, (Lexan) material. No acrylic, (Plexiglas) material. Minimum body height is 40 inches from highest point on roof to ground.

18.2.3 Hood scoop may not be higher than 5 inches .

18.2.4 Maximum rear spoiler height is 8 inches measured along the spoiler surface from the spoiler base to the spoiler top edge. Aluminum may be used up to a spoiler height of 5 inches . Polycarbonate, (Lexan) must be used if taller than 5 inches to maximum height. No acrylic, (Plexiglas) material.

Any left side sail panels shall be no taller than 24" as measured from the deck and extend no further forward than the back of the drivers window opening.

Any right side sail panels shall be no taller than 8" as measure from the deck and extend no futher forward than the right rear fender opening.

18.2.5 Rear view mirrors optional.

18.2.6 Firewalls, solid panels with no gaps or holes, of 24-gage steel or 0.065" thick aluminum, minimum, required between driver and engine, fuel cell, battery, and radiator. Interior trim panels beyond firewalls may be of steel or aluminum less than minimum thickness required for firewalls.

18.2.7 Body wheel wells must cover all four (4) tires.

### 18.3 CHASSIS

18.3.1 All chassis must be constructed of minimum 2 inches square (Rear clip and front clip may be of 1-1/2 inches square) or round by 0.090 inch minimum wall thickness 1018 or 1020 carbon steel tubing.

18.3.2 Roll cage must be not less than 1-1/2 inch diameter by 0.090 inch minimum wall thickness 1018 or 1020 carbon steel tubing.

18.3.3 Chassis track width must not exceed 78.00 inches measured outside-to-outside of the front tires at spindle height with toe-in or toe-out measurements at front of tire and rear of tire averaged.

18.3.4 Maximum left side weight is 58.00% with driver in drivers seat and fuel on board.

18.3.5 Chassis wheelbase, measured on the left side, is 94.00 inches minimum and 103.00 inchesmaximum.

18.3.6 Driver accessible weight adjusters are prohibited.

### 18.4 WHEELS & TIRES

18.4.1 Any 13" diameter stock car racing wheel of steel or aluminum construction not to exceed 10 inches in width. All wheels must have car number on them. Steel studs only and must protrude through lug nuts.

18.4.2 Hoosier Racing Tires class tire only. Tires to be purchased from Meridian Speedway only.

### 18.5 Engine Displacement & Race Car Weights

18.5.1 Drivers must complete weight calculation worksheet and turn into Meridian Speedway official when car is presented for initial Technical Inspection.

18.5.2 Maximum engine size is 2558 cc's.

18.5.3 Engines 2400 cc's and up must use 2 venturi induction system.

18.5.4 Minimum weight is 1700 pounds . All cars 2000cc or less will weight 1lb per cc. All cars 2001cc or more will use the formula to determine minimum weight to display.

18.5.5 No fuel injection, Super Charger, Turbo Charger, or Nitrous Injection

18.5.6 Base Race Car Wt. w/Driver, lbs = (M x Actual Engine Displacement cc's) + B

18.5.7 For Engine Displacements Base Wt. Range

From cc's T0 cc's Use: M = B = Min. Max.

2001cc 2060cc 0.6500 700 2001 lb 2039lb  
2061cc 2120cc 0.6333 735 2040 lb 2078lb  
2121cc 2180cc 0.6167 771 2079 lb 2115lb  
2181cc 2240cc 0.5833 841 2113 lb 2148lb  
2241cc 2300cc 0.5833 843 2150 lb 2185lb  
2301cc 2360cc 0.5500 920 2186 lb 2218lb  
2361cc 2420cc 0.5500 920 2219 lb 2251lb  
2421cc 2480cc 0.5167 1,001 2252lb 2282lb  
2481cc 2540cc 0.4833 1,083 2282lb 2311lb  
2541cc 2558cc 0.4833 1,083 2311lb 2319lb

## **18.6 Induction Credits and Penalties**

**(Engines with more than 2 valves per cylinder, see addition adds and deducts in worksheet below)**

18.6.1 credit – Base Race Car Weight w/Driver may be reduced by specified amount.

18.6.2 Penalty – Base Race Car Weight w/Driver must be increased by specified amount.

18.6.3 Induction systems with 4 ventures: No Credit or Penalty

18.6.4 Induction systems with 2 ventures:100lb Credit

18.6.5 Aftermarket aluminum head: 100 lb Penalty

18.6.6 Esslinger Ford D-Port or Eurosport "untouched" replacement head: 50 lb Penalty

18.6.7 Pushrod Motor: 50 lb Credit

18.6.8 Heads with 3, 4 or 5 valves per chamber not specifically manufacturer designed to be mounted on the engine block in use are not allowed. Example: No Mazda/Volvo 4-valve aluminum heads adapted to a 2.3L Ford block permitted.

18.6.9 Minimum Race Car Weight w/Driver = Base Race Car Weight w/Driver + (Plus) all Induction Penalties – (Minus) all Induction Credits

## **18.7 Rotary Motors**

18.7.1 12A Stock block must weigh 2000 lbs ; 12A Ported block must weigh 2300 lbs .

18.7.2 13B Stock block must weigh 2500 lbs ; 13B Ported block not allowed.

## **18.8 General Rules**

18.8.1 Any 4 cylinder, rotary, 4 cycle gas engine produced for use in foreign or domestic automobiles for sale in the United States and Canada allowed. **Any car utilizing Fuel injection will need the Stock for Make OEM Fuel Log at minimum. Aftermarket Fuel Injection systems will not be approved.**

18.8.2 No limited production engines. No mid-engine cars allowed.

18.8.3 No aftermarket aluminum blocks allowed.

18.8.4 Racing or pump fuel allowed. No methanol racing fuel. No oxygenated fuel additives permitted.

18.8.5 Engine size, weight of car, and wheelbase must be displayed on dash near left "A" pillar. 18.8.6 Minimum Weight Calculation Worksheet with current base weight and all applicable credits and penalties must be completed and available for review by officials. Accurate weight requirement along with the wheelbase measurement must be noted in min. 1" tall numbers on the left front corner of the windshield or the left front corner of the roof.

18.8.7 Maximum engine set back is 6 inches measured from center of left lower ball joint to center of number 1 cylinder.

18.8.8 Any transmission with 2 forward gears and operable reverse may be used. Any transmission adapter may be used. Tech approval required.

18.8.9 Starter and clutch assembly must be operable. Cars using open stock style clutch must use scatter shield minimum 180 degrees on driver's side of bell housing; 270 or 360 degrees are recommended. Minimum steel thickness is 3/16 inch. Minimum aluminum thickness is 1/4 inch. Tech approval required.

18.8.10 Oil cooler, remote oil filter, dry-sump, external drain lines and attachments shall be of proper design and strength to resist bursting or leaking. Tech approval required.

18.8.11 Any rear end, including quick change, may be used.

18.8.12 Suspension type is open. Titanium or magnesium components are prohibited.

## **18.9 Roll Cage**

18.9.1 Six point roll cage mandatory of 1-1/2 inch minimum diameter x 0.090 inch wall thickness minimum ERW or DOM , 1018 or 1020 carbon steel tubing.

18.9.2 Roll bar shall have at least one diagonal brace from top of hoop to bottom.

18.9.3 Minimum of 3 horizontal door bars required on driver's side of cage and 2 door bars required on right side of cage. All door bars shall have vertical braces welded between them. Top left door bar may not be lower than 3 inches below driver's window opening.

18.9.4 Required: One overhead bar from front to rear in center of the halo that is out of reach of the driver's helmet when driver is strapped in the car.

18.9.5 One vertical bar (Earnhart Bar) is required from middle of halo hoop front down to cage front hoop at dash level.

18.9.6 Two braces from within 6 inches of the top of the main roll bar hoop down to the rear clip are required. Braces are to extend as far back as the body will allow.

18.9.7 Minimum of 3 windshield braces must be placed behind windshield.

18.9.8 Nerf bars shall be minimum 1" square or 1" diameter round tubing with rounded ends located within body.

#### **18.10 Bumpers**

18.10.1 Bumpers required on front and rear of car inside front nose piece and rear bumper cover.

#### **18.11 Battery Box and Mounting**

18.11 Battery and box must be securely attached to the frame or chassis and shall not be installed outside of the frame rails. Battery must be separated from driver by a firewall. If battery is installed inside driver compartment, it must be enclosed inside a metal box of 20 gage minimum thickness.

#### **18.12 Driveline**

18.12.1 Aluminum or steel drive shafts permitted.

18.12.2 Composite drive shafts are prohibited.

18.12.3 Must be painted white

#### **18.13 Brakes; Driver adjustable brake biasing mechanisms are approved.**

#### **18.14 Fire Extinguisher and Fire Suppression System**

18.14.1 A 2.5 lb. (minimum) carbon dioxide or dry powder, Coast Guard approved, with gage in working order and fully charged extinguisher is required in the car.

18.14.2 An on board Halon fire suppression system is recommended, but not required. If installed, minimum one nozzle each in engine bay and driver area. Safety note: Position nozzle and aim it away from driver in direction of anticipated flame sources.

#### **18.15 Driver Seat**

18.15.1 Seats - see General Rules. Must have headrest behind driver's helmet. Right side head restraint required. Left side head restraint recommended. Right and left side leg restraint panels are recommended.

#### **18.16 Sample Base Race Car Weight Calculations**

1. For a calculated displacement of 1782 cc's: Base Race Car Weight w/Driver =  $M(0.7500) \times \text{Displacement cc's}(1782) + B(510) = 1846 \text{ lbs}$  .

2. For a calculated displacement of 2000 cc's: Base Race Car Weight w/Driver =  $M(0.6833) \times \text{Displacement cc's}(2000) + B(633) = 2000 \text{ lbs}$  .

3. For a calculated displacement of 2030 cc's: Base Race Car Weight w/Driver =  $M(0.6500) \times \text{Displacement cc's}(2030) + B(700) = 2020 \text{ lbs}$  .

4. For a calculated displacement of 2220 cc's: Base Race Car Weight w/Driver =  $M(0.6167) \times \text{Displacement cc's}(2220) + B(771) = 2140 \text{ lbs}$  .

5. For a calculated displacement of 2336 cc's: Base Race Car Weight w/Driver =  $M(0.5500) \times \text{Displacement cc's}(2336) + B(920) = 2205 \text{ lbs}$  .

6. For a calculated displacement of 2558 cc's: Base Race Car Weight w/Driver =  $M(0.4833) \times \text{Displacement cc's}(2558) + B(1,083) = 2319 \text{ lbs}$  .

Note: Minimum Race Car Weight w/Driver = Base Race Car Weight w/Driver + Induction System Penalties – Induction System Credits. All induction system credits and/or penalties given in the table of Induction Credits and Penalties are applied to the Base Race Car Weight w/Driver to arrive at the Minimum Race Car Weight w/Driver that must be achieved on the Technical Inspection Scales on race day.

2019 Pro-4  
Appendix A  
Minimum Weight Calculation Worksheet

Pro-4 Car Number: \_\_\_\_\_

Car Owner: \_\_\_\_\_

Driver: \_\_\_\_\_

Engine Mfg.: \_\_\_\_\_ Bore: \_\_\_\_\_ (cm) Stroke: \_\_\_\_\_ (cm)

-- Base Weight & Minimum Race Car Weight w/Driver & Fuel Computations:

[Total Displacement (cc's) Times "M"(See Chart) Plus "B" (See Chart) = Base Wt.]

Displacement (cc's) \_\_\_\_\_ X "M" \_\_\_\_\_ + "B" \_\_\_\_\_ = Base Wt. \_\_\_\_\_ lbs.

Induction systems with 4 venturis: No Credit or Penalty \_\_\_\_\_ + 0 lbs .

Induction systems with 2 venturis: 100 lb Credit \_\_\_\_\_ - \_\_\_\_\_

Aftermarket aluminum head: 100 lb Penalty \_\_\_\_\_ + \_\_\_\_\_

Except -- Esslinger Ford D-Port replacement head: 50 lb Penalty \_\_\_\_\_ + \_\_\_\_\_

Heads with 3 valves per chamber\*: 0.05 lb/cc Penalty \_\_\_\_\_ + \_\_\_\_\_

Heads with 4 valves per chamber\*: 0.10 lb/cc Penalty \_\_\_\_\_ + \_\_\_\_\_

Heads with 5 valves per chamber\*: 0.12 lb/cc Penalty \_\_\_\_\_ + \_\_\_\_\_

Pushrod Motor: 50 lb Credit \_\_\_\_\_ - \_\_\_\_\_

(Check each of the 7 Credits or Penalties that apply and enter value.)

[Base Weight  $\pm$  all applicable credits and penalties = Minimum Weight w/Driver & fuel]

Minimum Race Car Weight w/Driver & Fuel = \_\_\_\_\_

Wheelbase = \_\_\_\_\_

Car Owner: Date: