

# TIMBERLINE SPEEDWAY

## 2017 LIMITED MODIFIED RULES

### “RACECIEVERS MANDATORY”

**\*ALL CARS MUST HAVE WAORKING FIRE EXTINGUISHER WITH IN DRIVERS REACH.**

**1. SAFETY EQUIPMENT:** Rules apply at all times car is on track. Snell-rated SA2005, SA2010 or SA2015 helmet required. Roll bar padding required in driver compartment. *Recommended: Fire retardant padding.* SFI-approved full fire suit required. Fire retardant gloves, shoes and neck brace (or head and neck restraint) required. Right and left seat head supports required if using head and neck restraint system. *Recommended: Fire retardant head sock and underwear, collapsible steering shaft.* Driver-side window net required, minimum 16 inch by 20 inch ribbon or mesh style, and must be mounted to roll cage so latch is at top front of window. Maximum four inch tall visor attached to window net. Minimum three inch (two inch with head restraint system) wide SFI-approved five point safety belt assembly required, must be mounted securely to main roll cage. *Recommended: Safety belts no more than two years old.* Kill switch required within easy reach of driver and must be clearly marked ‘OFF’ and ‘ON’.

**2. FRAME:** (see frame drawing) 1978-1987 OEM midsize GM metric full frame only. Minimum wheelbase 107 inches, maximum 109 inches, both sides, maximum one inch difference from side to side. Frame must be full and complete, cannot be widened, narrowed, shortened, lengthened, or be cut, bent, or altered to change suspension brackets, except upper control arm brackets on front end. All frame bolt holes must remain in OEM location. Front frame horns may be removed in front of steering box. Front frame may be cut for radiator clearance. Frame may be notched for seat clearance. Transmission crossmember mounts may be removed, no further forward than frame welds. Rear of frame, behind upper shock mounts, may be replaced with round, square, or rectangular tubing. No part of frame can be lower than five inches from ground except front crossmember. No other frame alterations allowed. See [www.imca.com](http://www.imca.com) for OEM frame dimensions.

**3. ROLL CAGE:** Must consist of continuous hoops, minimum 1.5 inch O.D. tubing, with a minimum wall thickness of .095 inch for main cage. Cages must be steel or chrome-moly. Main cage no further forward than rear of engine and no further back than front edge of rear tire. Four bars, two per side, may extend from main roll cage to main frame points in front of the upper control arms. These bars may have two additional braces per side to the main frame. Six bars may extend from the main cage to the rear. X-bracing is allowed. Driver’s head must not protrude outside cage with helmet on. Roll cage must be securely supported and braced with minimum one cross bar in top halo. All bars forward of cage must be lower than hood.

**4. DOOR BARS:** Minimum three driver side door bars required, minimum 1.5 inch O.D. and .083 inch wall thickness, must be parallel to ground and perpendicular to driver, and welded to front and rear of roll cage. Minimum two passenger side door bars required, must have at least one cross door bar, horizontal or angled, and one horizontal top door bar. Steel door plate, 18 gauge or .049 inch, required.

**5. BODY:** Outlaw Bodies OK. No composite or plastic body panels allowed except roof rock guard and hood scoop. Body must be same width, front to rear, and parallel to OEM frame. Aluminum nose panel must be flat. Maximum 2.250 inch side fins allowed on aluminum nose. IMCA-approved plastic nosepieces allowed. Nose must be mounted in an approved manner and can extend no higher than front top of hood. Nose piece must remain inside confines of front bumper (exception is plastic valance) and be no lower than four inches below frame horns. Cooling holes allowed. Engine compartment must remain open (no side panels). Hood must cover radiator, be level or sloped down at front, enclosed and maximum two inches above interior deck at rear. No reverse hood rake allowed. No panel in front of right door to engine compartment. No inner panels. No complete or half-car covers, rear tail cover allowed in personal pit area only. Must have front and rear roof support posts. Driver and passenger side windows must have at least 12 inch opening (height and width). Full size, fiberglass or aluminum roof only (see diagram). No dished roofs allowed. Driver roof hatch allowed. Maximum 1.5 inch rolled down rock guard allowed on roof front. Maximum four inch roof sides allowed. Maximum one inch ridge down sides of roof. Maximum one inch rear roof stiffener (must face down). Solid sail panels must resemble all aspects of drawing and may not extend ahead of back of seat. Rear spoiler (optional) may be minimum one inch or maximum eight inches in material height and maximum 67 inches wide. Spoiler may have rear stiffener, must be one inch or more down from top. Maximum three spoiler braces allowed, must be mounted in line. Spoiler braces must resemble all aspects of drawing. Spoiler must be mounted within confines of spoiler braces. No fins, lips, wings or vortex generators allowed. Maximum four inch plastic skirting allowed on bottom of doors and quarters. Car number must be minimum four inches thick and 20 inches tall and clearly visible, on both sides and roof of car; six inches tall on rear and front if possible.

**6. DRIVER COMPARTMENT:** Must have minimum three windshield bars in front of driver. Lexan or aluminum cowl panel in front of driver can be no wider than cockpit and no further back than steering wheel. Floor pan must be metal or aluminum and cover entire driver compartment. Aluminum highback seat only, must be securely bolted, using minimum 0.375 inch bolts, to roll cage and support system. Bottom of seat can be no lower than bottom of frame rail. Driver must be sealed off from track, driveline, engine, fuel cell, cannisters and pumps. No oil coolers allowed in driver compartment. No devices that would enable driver adjustment to alter wheelbase or for weight jacking while car is in competition. No mirrors of any kind.

**7. FRONT SUSPENSION:** All components and mounts must be steel, unaltered OEM, in OEM location, and match frame. All A-frame bushings may be aftermarket, but no offset or bearing type. Sway bars (optional) and brackets must remain OEM. No jack bolts allowed. Exceptions are: adjustable spring buckets are allowed. OEM upper A-frame mount may be moved or replaced (*OEM material no longer required*) with aftermarket steel non-adjustable mount matching upper A-frame bolt on design. OEM upper A-frame may be replaced using aftermarket upper A-frame, must display "IMCA approved" decal. Upper shock mount may be maximum four inches above frame. Lower A-frame mount may be notched for clearance. OEM or OEM replacement ball joints allowed, may be tacked in. No suspension stops of any kind allowed.

**8. STEERING:** All components must be steel, unaltered OEM, in OEM location and match frame. Exceptions are: replacement spindle with Speedway Motors raised cast - part number 91034501; bolt on OEM spindle savers allowed; steel steering shafts and knuckles only. Steering quickener (optional), steering wheel and quick release (required) may be aluminum. Power steering pump and reservoir must remain one unit. Driver compartment steering may be modified, must be kept on left side. No rack and pinion.

**9. SHOCKS:** One unaltered steel, nonadjustable, OEM mount shock, in OEM location, per wheel. All shocks must completely collapse at any time. No external or internal bumpers or stops. Mounting spacers and weld or screw-on shock ends allowed. No coil-over shocks, air shocks, remote reservoir shocks, or shock covers. No Schrader or bladder type valve allowed. One or all shocks may be claimed per event for \$50 each, counting as one claim on card, following shock claim procedures. (Refer to [www.imca.com](http://www.imca.com)).

**10. SPRINGS:** One steel spring (racing allowed) per wheel only. Minimum 4.5 inches O.D., non-progressive coils only. No torsion bars or air bags.

**11. REAR SUSPENSION:** All components and mounts must be steel, unaltered OEM or OEM replacement, in OEM location, and match frame. No jack bolts allowed. Adjustable spring buckets allowed, may be dropped as long as they remain in OEM location. If upper spring cup uses all thread, it must be securely welded to chassis. Lower spring cups must be centered on housing. Control arms may be reinforced, but cannot be shortened or lengthened, must remain OEM length. All control arm bushings may be aftermarket, but no offset or bearing type. Bushings cannot be drilled. No suspension parts may be altered or lightened. No aluminum parts allowed, other than bushings. No suspension stops of any kind allowed.

**12. REAR END:** Must use OEM 7.5 inch GM 10 bolt rear end (bracing optional), must remain stock width. No Ford or floater rear end allowed. Housing end, from control arm mount out, may be modified with three inch tubing to accept nine inch Ford axle. If Ford axles are used, rear end must remain minimum GM width or maximum three inches wider. Steel components only. OEM mounts on lower control arms must remain in OEM location on original 7.5 inch tube housing. Aftermarket axles, mini-spools and C-clip eliminators allowed. Locked rear ends only, no torque dividing differentials allowed. No full or aluminum spools allowed. Pinion angle cannot be changed. Any gear ratio allowed but housing must remain unaltered. No quick change devices.

**13. BUMPERS/RUB RAILS:** (see diagram) Steel bumpers must be on front and rear at all times and welded, or mounted with minimum 0.375 inch bolts. Two bar front bumper must be minimum 1.25 inch O.D. tubing with minimum .065 inch wall thickness (maximum 0.095 inch) mounted frame end to frame end. Rear bumper must be constructed of minimum 1.25 inch tubing, 0.095 wall thickness. Maximum 1.50 inch O.D. tubing, .095 inch wall thickness fuel cell protection bar required, must cover rear and extend past both sides of cell, may be welded to rear bumper. Rear bumper may be maximum six inches beyond rear deck. All bumpers and rub rails must be capped with no sharp edges. Single bar rub rail from front to rear wheel allowed on each side, no center supports allowed, maximum 1.50 inch O.D. tubing and .095 inch wall thickness, must be mounted to cage at front and rear of rub rail.

**14. TIRES/WHEELS:** Must use unaltered Hoosier '500' Race tire, with IMCA stamped on sidewall or Hoosier H500 Non Stamped. 27 x 8 x 15 or 26.5 x 8 x 15 'stagger tire' allowed. No chemical softening, conditioning or grooving of tires. Tires may be ground or siped within confines of tread. All wheels must display white "IMCA approved" decal and wheel manufacturer decal. Any offset allowed. May use IMCA approved bead lock, on right rear only. External steel bead lock only and it cannot make wheel any narrower than eight inches and no wider than 8.75-inches. Steel bolts only. Foam type or plastic outer mud cover allowed on right side wheels. Inner mud cover allowed on left rear only. No bleeder valves. Must use minimum one inch O.D. steel lug nuts and 0.625 inch studs are recommended. No wheel spacers allowed with OEM studs. Wheel adapters are treated as spacers and may be aluminum, maximum 1.50 inches thick.

**15. BRAKES:** Must be steel OEM, operative four wheel, drum or disc. Right front brake shut-off allowed. Must maintain minimum OEM dimensions for hubs/rotors and calipers, cannot be lightened. No oil bath front hubs. Bolt pattern may be changed. Larger studs allowed. Single or dual aftermarket master cylinders allowed. Driver adjustable dual pedal brake bias allowed. Additional proportioning valve (in-line type) allowed, must be out of driver reach. Rear rotors may be aftermarket, minimum 0.81 inch thickness (new), maximum 12 inch O.D. Vented solid surface rotors only, no scalloped or ceramic coated rotors. Rear caliper brackets must be welded to housing.

**16. EXHAUST:** Any Style Header as long as the tubes are 1 5/8 into a 3 inch Collector. Turn down (maximum 10 inches) allowed. No header modifications allowed. No exhaust sensors, merge collectors, cross-overs, extensions, inserts, cones or balance tubes. Coated headers allowed. NO TRI-Y ALLOWED. Collector and turn down length maximum nineteen inches total. No pan evac systems, exhaust sensors, merge collectors, cross-overs, extensions, inserts, cones or balance tubes. Coated headers allowed.

**17. FUEL SYSTEM:** Racing fuel cell required, maximum 22 gallon capacity (*Recommended: 12 gallon*), must be in minimum 20 gauge steel container. Must mount with minimum one inch square tubing or two solid steel straps around entire cell, two inches wide and 0.125 inch thick, between frame rails and behind rear axle. Fuel cell vents, including cap vent, must have check valves. If fuel cell does not have aircraft style positive seal filler neck/cap system - a flapper, spring or ball type filler rollover valve is required. *Fuel shut-off recommended.* No part of cell can be lower than protective tubing. No regulators, bypass fuel systems, pressurized, or return lines allowed. One fuel filter allowed. No cool cans. Any air cleaner allowed. No cold air boxes or ducting of any kind between engine and hood. Mechanical OEM type push rod fuel pumps only. Maximum 0.100 inch thick carburetor gaskets on all engines. **CLAIM ENGINE:** must use IMCA approved naturally aspirated, unaltered 500 c.f.m. Holley – part no. 0-4412, may be modified to Holley HP Dorton part no. 0-80583-1 specs only. Float bowl must face forward. Any adapter, maximum one inch thick. No throttle bore adjustable carburetor spacers. **GM CRATE ENGINE:** may use any Holley four-barrel carburetor, all components (float bowls and main body) must be Holley manufactured. Metering blocks and base plate may be billet aluminum non-Holley. No aerosol-style carburetors allowed. May use Speedway Motors part #545-64940 or Moroso part #64940 carburetor spacer on crate.

**18. FUEL:** Gasoline only. Racing fuel allowed. No E85. No performance enhancing additives or scented additives. Fuel must pass both dielectric meter and chemical tests. Fuel sample may be taken from any car at any time

**19. WEIGHT:** Minimum weight limit of 2,350 pounds after race with driver in car. Weights must not be used in driver compartment or outside body. All weights must be securely mounted with at least two 0.5 inch bolts, painted white with car number on it. No titanium, magnesium, stainless steel or carbon fiber components. Solid steel fasteners only.

**20. BATTERY/STARTER:** One 12 volt battery only, must be securely mounted between frame rails and positive terminal must be covered. Aftermarket starter allowed, must bolt in OEM location and directly engage flexplate/flywheel. Car must have capability of starting without being pushed or pulled. Car must leave initial staging area on demand, unaided, or go to rear of that race.

**21. GAUGES/ELECTRONICS:** No unapproved cameras, transmitting or listening devices (exception is one-way Race Receiver radio by officials), timing retard controls, or digital gauges (including tach). No electronic monitoring computer devices capable of storing or transmitting information except memory recall analog tach. 12 volt ignition system and OEM HEI style ignitions only. Ford/Chrysler may use HEI distributor. No crank triggers. Any module that fits inside distributor with no alteration allowed. Crate engine MUST use original HEI distributor with MSD #8728 or #8727CT rev-control and 6,200 rpm chip. Claim engine MAY use MSD #8728 rev-control with any rpm chip. No unapproved or additional ignition accessories allowed. All components must be out of reach of driver, but with rev-control easily accessible facing up or out for inspection. All wiring must be visible for inspection. Only gauges allowed are analog oil pressure, fuel pressure, brake bias, water temperature and tach. OEM type alternator with internal regulator allowed. No electronic traction control devices. (Refer to [www.imca.com](http://www.imca.com) for automatic penalties).

**22. TRANSMISSION/DRIVE SHAFT:** Only OEM production transmissions allowed. No aftermarket transmissions allowed. No 'in and out' boxes or quick change devices allowed. With engine running and car in a still position, must be able to engage car in gear and move forward, then backward. Functioning shift levers must be in OEM location. Transmission fluid coolers allowed. Flywheel, flexplate and converter must be steel. **Automatic:** Any OEM automatic transmission allowed. Must use functioning, minimum 10 inch diameter steel torque converter. No direct drives, couplers, valved pumps, or bleeder style valve bodies. Must have at least one forward gear and reverse gear, gears must function. Must have an approved scattershield constructed of .125 inch by three-inch steel, 270 degrees around top of flexplate. GM automatic must be used with GM engine, may be used with Ford or Chrysler engine. Stall converters allowed. Steel OEM style flexplate only, must be bolted directly to end of crankshaft. No bump starts allowed.

**Manual:** Three, four or five speed OEM manual transmissions only. All gears must function. Must have functioning 10.5 inch minimum diameter clutch and OEM appearing pressure plate bolted directly to steel flywheel. These components must rotate, consistent with engine rpm, while car is in any gear. Must use explosion-proof steel bellhousing 180 degrees around top of clutch and flywheel. No mini-clutches or couplers. Minimum 9-inch diameter Ford clutch allowed. Hydraulic slave cylinder/throw out bearing allowed.

**Drive Shaft:** Steel slip-yokes only. Minimum two inch diameter, white, steel drive shaft only. 360-degree drive shaft loop required, constructed of at least 0.125 inch by two inch steel, or one inch tubing, mounted six inches back from front U-joint.

**23. ENGINE COMPARTMENT:** Rear of engine (bellhousing flange) must be mounted at least 70 inches forward from centerline of rear axle. Minimum 11 inch engine height from ground to center of crankshaft. One radiator allowed, steel or aluminum, 27 inches by 19 inches maximum in size, must be mounted in front of engine. Racing cap and electric fans allowed. No sprinklers. Power steering pump and reservoir must remain one unit and mount in front of engine. Side engine mounts only (OEM or 45-degree style) must be steel, aluminum mid-plate allowed. No vacuum pumps, oil coolers or remote oil filters. Belt driven, OEM style water pumps only, no aluminum water pumps on GM engine.

**24. ENGINE OPTIONS AND SPECIFICATIONS:** All cars utilizing a GM602 crate engine must clearly display on both front roof posts the word **CRATE**. Must be contrasting in color from body, minimum two inches tall. **Markers not acceptable.**

**(A) CRATE ENGINE:** Must use unaltered sealed GM #88958602 or #19258602 crate engine. Upon inspection, any different, altered or missing GM seal bolts will result in disqualification, loss of all points and money for the night. GM seal bolt exception is IMCA approved and issued Cable-Lok repair system, and oil pan may be replaced by IMCA certified repair center with Champ pan #CP57LTRB and Champ pick-up #1012SB, or Kevko pan #1090NRHw/ISP and Kevko pick-up #1003-3/4. Disqualification for any crate engine not using required spacer, distributor, pushrods, valve springs or rocker arms. Disqualification for utilizing altered rev-limiter components. Any driver using crate engine cannot claim engine or have engine claimed. During same season, no driver is allowed to claim an engine after competing with a crate. If a driver switches to a crate after claiming an engine, the crate engine is then claimable.

**(B) ENGINE:** All engines must be able to be used in conventional passenger car without alterations. External engine casting and threaded holes cannot be altered.

**BLOCK:** OEM steel passenger vehicle production block only. No GM bowtie, Ford SVO or Chrysler W-2 components allowed. GM approved blocks are: 10105123, 10066034, 283, 302, 305, 307, 327, 350. Ford: 260, 289, 302, 351. Chrysler: 273, 318, 340, 360, no hemis. Maximum cubic inch limits: GM 364, Ford 363, Chrysler 370, no tolerance. No 400 or larger cubic inch parts allowed. Any flat top or dished pistons allowed, no gas ported pistons. Stroke must match block. Maximum 175 lbs. per cylinder compression, no tolerance. Compression checked with one spark plug removed, turned five engine compression revolutions (with throttle closed). Engines may be balanced and block decked. Oil filter system must remain OEM. 'Wet' sump oiling system only. No accumulators. OEM or OEM appearing replacement steel crankshaft only - cannot be lightened. No aerowing, bullnose, knife edge, undercut or drilling of second or third rod throws allowed. OEM or OEM appearing replacement steel rods only - GM must use maximum 5.7-inch rod or GM Vortec rod part number 10108688. Cap screw rods allowed. No splayed main caps. Racing oil pans allowed. Mandatory one inch inspection hole in all pans - no obstructions to crank and rods. Engine bolts may be aftermarket. Fluid dampener balancer allowed. No roller bearings allowed.

**CYLINDER HEADS:** Steel only. GM OEM approved head numbers are (last 3 digits): 126, 185, 336, 441, 445, 487, 487X, 493, 598, 624, 862, 882, 920, 993, 997, with valve no larger

than 1.94 inch intake and 1.50 inch exhaust. May use Stock Replacement (SR) cylinder heads: Engine Quest (EQ) GM part number CH350I, (EQ) Chrysler part number CH318B, World Products Ford part number 53030 - 1.250 inch ( $\pm .015$  tolerance) maximum O.D. valve springs. All SR heads must remain as produced, seat angles and valve sizes can not be changed: three angle valve job only (absolutely no casting removal in valve pocket of EQ or World Products head, for any reason). No porting, polishing, or unapproved alterations allowed to ANY cylinder head or intake, disqualification if illegal. Any cast iron OEM Ford and Chrysler heads allowed with valves no larger than 2.04 inch intake and 1.70 inch exhaust. Headers must bolt directly to heads with correct numbers. No vortec, bowtie, SVO, or W-2 heads allowed. Flat milling allowed. Guide plates, screw in shouldered studs (0.375 inch max) and polylocks allowed. No stud girdles. Steel roller tip rocker arms allowed. Chrysler may use OEM rocker arm bars. Any length push rods allowed. OEM diameter springs (GM - 1.250 inch maximum O.D.) must match heads, no beehive valve springs allowed.

**INTAKE:** Unaltered, approved OEM cast iron low rise, two- or four-barrel. Only unaltered (no porting or polishing) aftermarket aluminum intakes allowed are: Weiand GM #7547, #7547-1; Ford #7515, #8023 or #7516; Chrysler #8022; Edelbrock GM #2701; Ford #7121, #7181, #7183; Chrysler #2176. Cooling lines allowed on aluminum intakes. Ford may use OEM aluminum intake, no under air or hi-rise.

**CAMSHAFT:** Conventional flat tappet cam and lifters allowed, cannot alter lifter bores. OEM firing order cannot be changed (GM: 1-8-4-3-6-5-7-2). No maximum cam lift. No vacuum rule. Must be chain driven, no gear/belt drives.

**25.EIRI:** (Except in rare instances) Decisions of officials are final and binding without exception. In some cases, track safety rules may take precedence over rules - any discrepancy between track.

**26. Protest Rule: See General Rules**