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9.1.6. AMERICAN SEDAN CATEGORY

These specifications are part of the SCCA GCR and all automobiles shall conform with GCR Section 9.

A. PURPOSE

The American Sedan (AS) class is intended to provide the membership with the opportunity to compete in V-8 powered automobiles, suitable for racing competition. To that end, cars will be those offered for sale in the United States. They will be prepared to manufacturer's specifications except for modifications and alternate specifications permitted by these rules. The Club may alter or adjust certain specifications to equate competitive potential.

B. INTENT

It is the intent of these rules to *allow* modifications useful and necessary to construct a safe, *more reliable*, competition automobile. Other than those items specifically allowed by these rules, no component or part normally found on a stock example of a given vehicle shall be disabled, altered, or removed for the purpose of obtaining any competitive advantage. Cars need not be eligible for state licensure or registration.

C. SPECIFICATIONS

1. To maintain the restricted basis of American Sedan, updating and/or backdating of components is only permitted within cars of the same make/model and listed on a single American Sedan Specification line. Any updated/backdated components shall be substituted as a complete assembly. No interchange of parts between assemblies is permitted, and all parts of an assembly shall be as originally produced for that assembly. No permitted or alternate component or modification shall additionally perform a prohibited function.
2. Cars are classified by make, model and engine displacement (see Section E.1., "Car Classification").
3. The SCCA shall specify the minimum weight for each classified car, as qualified or raced, with driver. Ballast is permitted.

D. AUTHORIZED MODIFICATIONS

The following modifications are authorized on all American Sedan Category cars. Modifications shall not be made unless specifically authorized herein. No permitted or alternate component or modification shall additionally perform a prohibited function.

1. **Engine (additional specs., see Section F – Engine Build Sheets)**
 - a. Induction System

Cars shall compete in American Sedan using the following method of induction.

 1. All cars shall fit the approved carburetor and manifold. The approved manifold may be ported and polished, but its design and configuration shall not be altered in any other way. The lowering of or boring of holes in the center divider is prohibited. Removal or obliteration of the manifold part number is prohibited.
 2. Only the approved carburetor (Holley #4776, 600cfm 4bll), optional insulator (Holley #108-12), and manifold (Edle-

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brock Performer RPM #7101-General Motors / #7121-Ford/Mercury) shall be fitted to cars.

3. Other than as provided for in these rules, the carburetor shall not be modified in any way. Any carburetor jets, *accelerator pump, pump cam, and accelerator pump nozzles* may be used. Power valves, metering blocks, and floats may be altered *or relaxed*. No venturi (including secondary or auxiliary) shall be modified in any way, but they may be aligned. Idle holes may be drilled in the throttle plates (butterflies). Carburetors may be modified to allow "four corner" idle adjustment.
 4. External throttle linkage to the carburetor may be modified or changed from original. Choke mechanisms, plates, rods, and actuating cables, wires, or hoses may be removed. No removal or alteration of the carburetor air horn is permitted.
 5. All air entering the intake tract shall pass through the carburetor air inlet.
- b. Any fuel pump(s), *fuel pressure regulators, or filters* may be used and may be relocated, but shall not be located in the driver/passenger compartment. If a mechanical pump is replaced, a blanking plate may be used to cover the original mounting location. Fuel line(s) may be replaced, relocated, and given additional protection. If the relocated line(s) passes through the driver/passenger compartment, it/they shall be metal or metal braided, and shall be securely fastened.
 - c. An open-sided, closed-top air cleaner assembly with a filter element having a maximum diameter of 14 inches and a maximum height of 3 inches is required. Filter element material is unrestricted. Velocity stacks, ram air, cowl induction, shrouding or ducting of air to the air cleaner or carburetor are not permitted.
 - d. Exhaust emission control air pumps, associated lines, nozzles, and other electrical/mechanical emission devices may be removed. If such items are not removed, they shall not be modified in any way. If EGR devices/nozzles are removed from a cylinder head or manifold, any holes remaining shall be completely plugged.
 1. Catalytic converter(s) may be removed.
 - e. Replacement exhaust manifolds, or "headers," may be used. Cylinder head mounting flange(s) shall be no thicker than 0.375 inch, and tubing diameter shall be no greater than 1.625 inch O.D., measured at any tube location one (1) inch from the flange to the collector. No exhaust pipe(s) shall pass over the engine, bellhousing, or transmission.
 1. Exhaust shall exit behind the driver, and shall be directed away from the car body. A suitable exhaust muffling system may be necessary to meet sound control requirements.
 - f. Any ignition system which utilizes the distributor for spark

timing and distribution is permitted. Any distributor that requires no modification to the engine may be fitted. Internal distributor components and distributor cap may be substituted.

1. Crank fire ignition systems are prohibited.
 2. Any spark plugs, single coil, and ignition wires may be used. Ignition timing is unrestricted.
 3. Any battery may be used. The battery may be relocated as per GCR section 9.3.9. Additional battery hold down devices may be used, and are strongly recommended.
- g. The camshaft may be replaced with a unit of any origin meeting specified maximum lift (see Section F – Engine Build Sheets), measured at the valve with zero lash. Mandatory solid lifters meeting the requirements of Section g.2., below, shall be used.
1. Cam timing, *timing chains*, gears, *woodruff keys*, *dowel pins*, and sprockets are unrestricted. Double row chains may be substituted for single row chains.
 2. Valve lifters shall be of the solid (flat tappet) type only. Roller, hydraulic, or “mushroom” lifters are prohibited. Section F – Engine Build Sheets for additional specifications.
 3. Valve springs are unrestricted except that they shall be made of steel. Heads may be machined to accommodate any valve spring. Valve spring retainers and keepers are unrestricted.
 4. Rocker arms may be replaced with any individual rocker arm. Shaft mounted rocker arms are prohibited unless fitted as standard. Valve train stud girdles are allowed.
 5. Pushrods may be replaced with any pushrods of steel (ferrous) material.
- h. Oil pans, pan baffles, scrapers, and windage trays, oil pickups, lines, and filters are unrestricted. Main cap girdles may be fitted. A pressure accumulator/“Accusump” may be fitted. The location of the filter and accumulator are unrestricted, but they shall be securely mounted within the bodywork. All oil lines that pass into or through the driver/passenger compartment shall be metal or metal braided hose. Engine oil and oil additives are unrestricted.
- i. Oil catch tanks are permitted. All engine breathers or vapor recirculation lines, if disconnected, shall vent to a catch tank of one (1) quart minimum capacity. Such catch tanks shall not be mounted in the driver/passenger compartment. *Valve covers are unrestricted.*
- j. Engines may be bored to a maximum of .040” over standard bore size. Engine block shall be cast iron as produced by the manufacturer for the specified displacement of the cars classified but shall not be restricted to the models or years listed. See Section F – Engine Build Sheets for additional specifica-

tions

1. Any aluminum replacement dished or flat-top (with valve relief's) piston with three piston rings and a stock diameter piston pin may be used. See Section F – Engine Build Sheets for additional specifications
 2. Piston rings are unrestricted.
 3. Stock or alternate factory OEM connecting rods are permitted. Alternate factory OEM replacement rods shall be available from the vehicle manufacturer as direct replacement OEM-type substitutes. Specifically approved aftermarket connecting rods are permitted. See Section F – Engine Build Sheets for additional specifications.
- k. Balancing and “blueprinting” of the engine assembly are permitted. Lightening of parts beyond the minimum material removal necessary to balance is prohibited. An alternate, commercially available, vibration dampener may be fitted.
- l. Cylinder head to intake/exhaust manifold port matching is permitted. No material shall be removed from the cylinder head(s) further than one (1) inch in from the manifold to cylinder head mounting face(s). External dimensions of the cylinder head or intake/exhaust manifold shall not be reduced to facilitate internal porting. Any modification of the cylinder head beyond that permitted in Section D.1.I., (below) and Section F. (Engine Build Sheets) is prohibited. See Section F – Engine Build Sheets for additional specifications.

Valve guide material is unrestricted.

Milling of the cylinder head to increase compression ratio is permitted.

Any or all valve seats may be replaced. Valve seat material must be ferrous.

- m. Solid, one-piece steel or stainless steel (no titanium/titanium alloy) intake and/or exhaust valves are permitted. Valve and valve seat specifications shall comply with Section F – Engine Build Sheets, Drawing 1 & 2.
- n. Any clutch disc and pressure plate of stock diameter may be used. Pressure plate/clutch cover assembly shall be ferrous only *and shall bolt in the original stock mounting location*. Balancing of the flywheel/clutch cover assembly/pressure plate is permitted. *Any flywheel of stock diameter and weighing a minimum of 15.0 lbs w. ring gear may be used*. SFI 1.1 or 1.2 spec flywheel and clutch are allowed *as long as they meet the above specifications*. Aftermarket starters mounted in stock location are permitted.
- o. Hardware items (nuts, bolts, etc.) may be replaced with similar items performing the same fastening function(s). Engine gaskets are unrestricted. Engine drive belts and pulleys may be replaced with any non-tooth drive belt and appropriate pulleys. *Power steering and alternator brackets may be modified or replaced with similar items performing the same mounting*

function. Alternate polyurethane motor mounts are permitted.

- p. All engine components not otherwise listed in these rules shall meet factory specifications for stock parts. Where factory specifications are absent or unclear, the Club may establish an acceptable dimension and/or allowable tolerance from stock.

2. Engine Cooling System

- a. Any radiator may be used, provided it can be mounted in the original location and requires no body or chassis modifications to install. Catch and/or expansion tanks may be added or substituted. Engine coolant fluid, coolant/heater hoses and clamps may be substituted. Heater hoses may be plugged. Heater water control valve(s) may be added or substituted. The entire heater assembly may be removed. This includes all hoses, lines, ducts, coils and controls. Any resulting holes in the firewall must be plugged or covered.
- b. *Engine and power steering oil cooler(s) may be added or substituted. Location within the chassis is free, provided that it/they are not mounted within the driver/passenger compartment.*
- c. Cooling fans may be removed or replaced. Electrically operated fans with manual or automatic actuation may be fitted.
- d. Thermostats may be modified, removed, or replaced with blanking sleeves or restrictors.
- e. Air conditioning systems may be removed in whole or in part.
- f. Screens of 1/4 inch minimum mesh may be mounted in front of the radiator and/or oil cooler(s) and contained within the bodywork.
- g. *Any mechanical (non-electrical) water pump may be used provided it is mounted in the original position.*

3. Transmission/Final Drive

- a. Any final drive ratio is permitted provided it fits the stock differential housing without modification to the housing.
- b. Any limited slip or locked differential is permitted.
- c. No alteration to the stock transmission gear ratios is allowed.
- d. Hardware items (nuts, bolts, etc.) may be replaced by similar items performing the same fastening function(s). Driveshaft may be modified to fit alternate differentials. Factory driveshafts may be replaced with any one-piece driveshaft of steel or aluminum construction. Minimum driveshaft diameter shall be no smaller than stock.
- e. Driveshaft loops are recommended.
- f. Any conventional H-pattern, non-sequential shifter may be used.
- g. Ford 9" rear axle is permitted in all cars. Center section shall be of ferrous material.

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- h. C-clip eliminators are permitted.
- i. Full floater axles are permitted.
- j. *Alternate polyurethane transmission mounts are permitted.*
- k. Richmond "Super T-10 Race Ready" transmissions (GM - R0141640, Ford R0241640) may be used, but the "CC" ratios must be installed - 2.88, 1.91, 1.33, 1.00. An alternate bellhousing may be used to facilitate installation. TEX "Super T-10 Race Ready" transmission may be used with the "CC" gear ratios (2.88, 1.91, 1.33, 1.00). The magnesium case and tail shaft are allowed. *Dog-ring gear engagement is prohibited.*
- l. Tremec 3550TKO, 3550, or TKO500 with the following ratios (3.27, 1.98, 1.34, 1.00, 0.68). Ford applications are permitted to change the input bearing retainer as needed to accommodate fitment in any AS classed Ford chassis. No other modifications are allowed. Any bellhousing meeting applicable AS rules may be used. Any pilot bearing may be used.

GM applications are allowed to change the input shaft and bearing retainer as needed to accommodate fitment in any AS classed GM chassis. Transmission cases may be machined to permit torque arm mounting and GM bolt patterns for mounting in GM applications only. No other modifications are allowed. Any bellhousing meeting the AS rules may be used.

- m. When alternate transmissions are installed, transmission cross-members must be modified to insure that engine location is kept in its original location and to facilitate installation of the transmission.
- n. Concentric hydraulic clutch release bearings may be used.
- o. Aftermarket or modified rear differential covers are allowed.

4. Suspension

a. Ride Height

Minimum ride height is five (5) inches, to be measured at the lowest point of the rocker panel, but not to include welded seams or fasteners.

b. Springs and Shock Absorbers

1. Springs of any origin may be used, provided they are of the same number and type as originally fitted and that they may be installed in the original location.
2. Any shock absorbers may be used, provided they attach to the original mounting points. The number of shock absorbers shall be the same as stock. Remote reservoir shock absorbers are permitted. The location of the reservoir is unrestricted. No shock absorber may be capable of adjustment while the car is in motion.
3. Strut equipped cars may substitute struts and/or may use any insert. On cars where the strut assembly also serves to locate a spring, the lower spring seat ride height location may be altered from stock. Spacers, including threaded units with adjustable spring seats, may be used.

4. Spacers, including threaded units with adjustable spring seats (weight jacks), may be used with coil springs. If spacers are used, they shall be located on and shall be permanently attached to existing chassis or suspension structure, but shall not serve as a reinforcement to that structure. Material may be removed from the upper or lower spring seat to facilitate installation of the spacers. Material may be removed from the chassis, but not the bodywork, to facilitate adjustment of the spacers.
5. Limiting straps to preclude a spring from becoming dislodged are permitted.

c. Suspension Control

1. Any anti-roll bar(s), traction bar(s), panhard rod or watts linkage may be added or substituted, provided its/their installation serves no other purpose. The mounts for these devices may be welded or bolted to the structure of the vehicle. No suspension control mount or component shall be located in the trunk or driver/passenger compartment unless installed by the manufacturer as original equipment.

d. Suspension Mounting Points

1. Cars equipped with strut suspension may decamber wheels by the use of eccentric bushings at control arm pivot points, by the use of eccentric bushings at the strut-to-bearing-carrier joint, and/or by use of slotted adjusting plates at the top mounting point. If slotted plates are used, they shall be located on existing chassis structure. Material may be added or removed from the top of the strut tower to facilitate installation of adjuster plate.
2. On other forms of suspension, camber adjustments may be achieved by the use of shims and/or eccentric bushings. Rear camber shall be no more than 1/2 degree negative per side.
3. All forms of suspension may adjust caster by means of shims or eccentric bushings. Additionally, MacPherson strut equipped cars may adjust caster at the upper strut mounting point/plate.
4. One (1) stayrod may be fitted between the upper front strut/shock towers. One (1) stay rod may be fitted between each front strut/shock tower and the firewall, but no stayrod shall attach to any other front chassis, body, or engine location unless fitted as standard equipment.
5. Bushing material is unrestricted except that control arm to spindle ball joints must be stock or equivalent replacement. *Ball joint may be welded or positively attached.* Original unmodified control arms must be retained. Pins, keys, or weldment may be used to prevent the rotation of alternate bushings, but may serve no other purpose than that of retaining the bushing in the desired position.
6. Rubber bump stops may be removed, *modified, or replaced*, but their chassis mounts, brackets, etc., shall

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not be altered in any way.

7. Pick-up points on the rear axle housing may be relocated. The removal and / or replacement of the rear suspension torque arm on GM F-body cars and the upper arm on Ford Mustangs is allowed.
8. Hardware items (nuts, bolts, etc.) may be replaced by similar items performing the same fastening function(s).
9. The use of offset steering rack bushings is permitted. Offset tie rod ends for bump steer correction are allowed. Spindles may be machined so that tapered tie-rod end bolts can be replaced with straight bolts.

5. Brakes

- a. Brake pads, brake linings, and brake fluid are unrestricted.
- b. Backing plates and dirt shields may be ventilated or removed. Air ducts may be fitted to the brakes, provided that they extend in a forward direction only, and that no changes are made in the body/structure for their use. Brake drums shall not be modified other than for truing within manufacturer's specifications.
- c. Any hub/rotor may be used within the following limitations:
 1. One piece front or rear hub with rotor may be replaced with separate hub, rotor hat, and rotor.
 2. Hubs shall be of ferrous material or aluminum.
 3. Rotor hat shall be of ferrous material or aluminum and may be part of the hub or rotor.
 4. Rotor shall be of ferrous material, vented. Rotor shall be the same diameter and thickness as the standard or alternate listed on the specification line for the vehicle.
- d. Rear caliper mounting brackets may be substituted.
- e. Brake lines may be replaced with steel lines or Teflon lined metal braided hoses. Lines/hoses may be relocated and may be given additional protection. Brake fittings, adapters, and connectors are unrestricted. Brake system circuitry may be revised. *The original master cylinder may be replaced by an OEM or equivalent master cylinder of the same specifications. No modification of its location or mounting is permitted.*
- f. Brake proportioning valves may be used provided that they are of the inline, pressure limiting type.
- g. Parking brakes, mechanisms, and actuating components may be removed.
- h. The Club may permit alternate brake system components. Any such component shall be specifically authorized on the specification line for that vehicle.
- i. Front calipers: Any aluminum bodied caliper using four (4) or

fewer pistons and using one (1) brake line per caliper as listed on the specification line for that vehicle is allowed.

1. Front spindles may be modified to facilitate mounting of alternate brake calipers. Spindle modifications shall serve no other purpose.
 2. Alternate calipers shall be mounted in the factory location.
- j. Rear calipers: *Any ferrous or aluminum caliper using four or fewer pistons and using one brake line per caliper.*

6. Wheels/Tires

- a. Any wheel/tire may be used within the following limitations:
1. Cars may fit any wheel sixteen (16) inches in diameter or smaller. Maximum wheel width is eight (8) inches. Knockoff/quickchange type wheels are prohibited.
 2. Only DOT-approved tires are permitted. Racing, recapped, or regrooved tires are not allowed. Tire size is unrestricted.
 3. Track may be changed to accommodate larger tires, provided that there is safe tire/fender/chassis clearance under all conditions of steer, bump, and rebound. Wheel spacers are permitted.
 4. Tire tread (that portion of the tire that contacts the ground) shall not protrude beyond the fender opening when viewed from the top perpendicular to the ground.
 5. Any wheel stud, bolt, and/or nut is permitted.

7. Body/Structure

- a. Fenders and wheel openings shall remain unmodified. It is permitted to roll under or flatten any interior lip on the wheel opening for tire clearance. Cars with plastic/composite fenders may remove any interior wheel opening lip, but the resulting material edge shall be no thinner than the basic fender material thickness. Non-metallic inner fender liners may be removed, *replaced, or altered*. Engine compartment and door rubber seals *may be removed*.
- b. A front spoiler/air dam is permitted. It shall not protrude beyond the overall outline of the body when viewed from above perpendicular to the ground. The spoiler/air dam shall be mounted to the body, and shall extend no higher than four (4) inches above the horizontal centerline of the front wheel hubs. It shall not cover the normal grille opening(s) at the front of the car. Openings are permitted for the purposes of ducting air to the brakes, cooler, and radiator. Front parking light assemblies may be removed for ducting of air. *Headlights and headlight operating ancillaries may be removed. All resulting openings shall be covered by panels of an alternate material. These covers shall be of the same contour as the original lens.* Rear spoilers or wings shall be as originally fitted or as specifically authorized on the classification line for that vehicle.

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- c. No body component, including the spoiler/air dam, shall be lower than the lowest part of the wheel rims. OEM (factory) radiator baffle is permitted and may extend below the lowest part of the wheel rims only if installed in the stock location.
- d. Hood and trunk pins, clips, or positive action external latches are permitted. Stock hood and trunk latches may be disabled or removed; if so, some positive action external fastening method shall be used.
- e. Sunroofs (original or aftermarket) may be retained if bolted in. T-tops are prohibited.
- f. All chassis/structural repair, if performed, shall be in concurrence with factory procedures, specifications, and dimensions. Unless specifically authorized by the manufacturer for repair or allowed by these rules, no reinforcement, i.e., seam welding, material addition, etc., is permitted.
- g. Body repair shall be performed using every reasonable effort to maintain stock body contours, lips, etc.. Any body repair modification having as its purpose increased clearance is prohibited. In those circumstances where stock trim/molding pieces are unavailable through all normal replacement channels, proof of such unavailability shall be provided by the competitor.
- h. *Under hood bracing on stock hoods may be modified or removed. The external profile of the hood shall remain stock.*

8. Driver/Passenger Compartment - Trunk

- a. The driver's seat (only) shall be replaced with a one-piece bucket-type race seat. Factory seat tracks/brackets may be modified, reinforced, and/or removed to facilitate replacement mountings provided they perform no other function. All other seats may be removed.
- b. Any steering wheel except wood rimmed types may be used. Any shift knob may be used.
- c. *Gauges and instruments are unrestricted. The instrument panel may be modified or replaced.*
- d. Any interior or exterior mirrors may be used.
- e. Rear seat back, rear seat bottom cushion(s), sun visors, seat belts and their attaching hardware and bracketry may be removed. In those automobiles where the rear seat back provides the only solid bulkhead between the driver/passenger compartment and an exposed stock gas tank, a metal bulkhead completely filling the exposed seat back opening shall be installed.
- f. In those automobiles where rear seat back removal does not expose the stock gas tank directly to the driver/ passenger compartment, a metal (only) bulkhead is optional.
- g. Complete removal of interior panels is allowed. Other than to provide for the installation of required safety equipment or other authorized modifications, no other driver/passenger compartment alterations or gutting are permitted.

- h. Any removable covers used to cover spare tires, tools, bins, etc., may be removed along with attaching hardware and bracketry. Carpets, mats, and their insulating or attaching materials may be removed from the floor and recesses of the cargo/trunk/spare tire area. Door and rear hatch weather-stripping may be removed or replaced provided the modification serves no other purpose.
- i. Dead pedal/foot rest and heel stop may be added.
- j. Removal of wiring associated with a component which may be removed by these rules is permitted. All non-essential wiring, *switches, gauges, horns, flashers, relays, and lights* may be removed. Existing wiring may be substituted.
- k. Modifications may be made to the foot pedals to improve the comfort of and control accessibility to the driver.
- l. Frame or subframe shall be stock for body used. The front and rear subframes may be tied together (front to rear, without crossing the centerline of the chassis) with subframe connectors consisting of curved or straight steel tubing (round, square, or rectangular section) with a maximum wall thickness of 0.125". These connectors may be bolted or welded to the subframes. These connectors may extend under the floor or may extend through the floor with the floor completely welded to this member.
- m. Windshield defrosters are allowed as long as they serve no other purpose. *Windshield wipers, motors, arms and brackets may be removed or replaced.*

9. Safety

- a. Original door hinges, safety intrusion beam, and remainder of door structure shall be retained. Doors may be pinned, not bolted, for safety. All door glass and winding mechanisms may be removed.
- b. Steering lock mechanisms and airbags/ passive restraint systems shall be removed.
- c. Fuel cells are mandatory. Cell size is not restricted. It shall be located within twelve (12) inches of the original fuel tank location. Additional reinforcement may be added to support the fuel cell, but such reinforcement shall not attach to the roll cage. Floor pan may be modified for installation.
- d. OEM light assemblies (i.e. fog lamps, driving lights, etc.) mounted on or below (but not in) the bumper shall be removed. Resulting holes may be used for the purpose of ducting air to the brakes, cooler and or radiator as permitted in D.7.b.
- e. Steering knuckle flexible coupling may be replaced with steel universal joint.

E. CAR CLASSIFICATION

No automatic transmissions, turbochargers/ superchargers, or convertibles are permitted in American Sedan. Cars are classified by body style and engine displacement. All components and/or assemblies utilized,

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except for engine block, shall originate on a vehicle of the body style and displacement classified or be authorized on the car's specification line. NOTE: For competition in American Sedan 1993 + Chevrolet Camaros and Pontiac Firebirds shall be prepared to 1982-1992 Chevrolet Camaro and Pontiac Firebird engine and transmission specifications per current American Sedan Category Specifications. *Ford Mustangs shall be prepared to the 79-93 Mustang engine and transmission specifications per the current American Sedan Category Specifications.*

F. ENGINE BUILD SHEETS

Chevrolet / Pontiac GENERAL

Manufacturer: General Motors Corp.

Model/Year: Camaro/Firebird 1982-92 (Includes 1993- Camaro/Firebird and 04-06 GTO prepared to SCCA American Sedan specifications)

L / (CID): 5.0L / (305 CID)

No. of Cylinders: V-8

Bore (Range): 3.7400-3.7800"

Stroke: 3.4750-3.4800"

Firing Order: 1-8-4-3-6-5-7-2

Compression Ratio: 10.30 Max.

Piston to Deck Clr: Not to exceed 0.000" above block deck surface (zero deck)

Valve Lift: 0.4800" Max. @ 0.0000" lash

Block Casting #'s: 14010201, 14010202, 14010203, 14010231, 14016381, 10164548, 11068561, 14088551, 14093627, 14094766, 14093627, 14094766, 10049047, 14102058, 14016383, 355909, 361979, 460776, 460777, 460778, 10243878

Head Casting #'s: 14101081, 14014416

Crankshaft Casting #'s: 3932442, 14088526, 14088835, 566607

Notes:

1. Any commercially available steel crankshaft which meets approved stroke, journal diameters and other specified dimensions and requirements is permitted. The minimum weight for any steel crankshaft shall be 48#.
2. Crankshaft casting seam flash may be deburred.
3. Steel main bearing caps may be fitted provided no other modifications are made to any approved part or specified dimension.

BLOCK

Crankshaft Housing Bore: 2.6406-2.6416"

Block Deck Height: 9.0070-9.0430"

Bore Spacing: 4.4000"

Lifter Bore: 0.8430-0.8450" (Lifter bore sleeving is permitted – 2 lifter bores maximum.)

Options:

1. One-piece rear main seal adapter (with seal) may be used.
2. Cylinder block oil restrictors may be installed.
3. Block may be machined for the purpose of installing cylinder O-rings.
4. Block may be machined to true warped surfaces
5. Block casting seam flash may be deburred.

CONNECTING RODS

Big End Bore: 2.2247-2.2252"

Pin Fit: Floating or Interference Fit

Center to Center: 5.6985-5.7015"

Material: Forged Steel / Cast Iron (No Billet)

Alternate Manufacture: *Any rod meeting the AS specs is permitted.*

Options:

1. Wrist pin oiling holes may be added.

CAMSHAFT

Drive Type: Single or Dual-row chain

Lifter Type: Solid, flat-tappet

Lifter Dia: .8420" nominal

Options:

1. Camshaft thrust button may be installed

CRANKSHAFT

Main Journal Dia (Range): 2.4183-2.4493"(1-4), 2.4178-2.4488" (5)

Rod Journal Dia (Range): 2.0690-2.1000"

Options:

1. Crankshaft casting seam flash may be deburred.

PISTON

Material: Aluminum (Cast or Forged)

Ring Configuration: 3 rings, above pin

Dome Configuration: Flat-top max. (dished piston dome permitted)

Pin Diameter: .927" nominal

Options:

1. Pins may be centered or offset. Offset shall not exceed factory specifications.

CYLINDER HEADS

Valve Job (Head): (Refer to Drawing 1)

Valve Job (Valve): (Refer to Drawing 2)

Intake Valve Size: 1.8350-1.8400"

Exhaust Valve Size: 1.4950-1.5000"

Valve Stem Diameter: (Refer to Drawing 2)

Port Volume (Max.): 081 casting: 170.00cc IN / 65.00cc EX

416 casting: 168.00cc IN / 60.00cc EX

Options:

1. Angle milling permitted on head gasket or intake manifold gasket surface(s) only. Modification or machining of exhaust manifold surfaces of cylinder head is prohibited.
2. Intake manifold surface may be milled to match angle milled head.
3. Heads may be machined to accept pushrod guide plates.
4. Heads may be machined to accept screw-in rocker studs.
5. Heads may be machined to for the purpose of installing integral o-ring head gaskets.
6. Heat riser passage may be blocked from intake manifold side of cylinder head only.
7. Valve spring pockets may be machined.

Notes:

1. Absolutely no modification, machining, tooling, etc. of the combustion chambers is permitted.

MISCELLANEOUS

1. Direct replacement high volume/pressure oil pumps may be fitted provided that no modification to the engine is required for their installation. Alternate oil pump drive shafts may be fitted.

Ford / Mercury

GENERAL

Manufacturer: Ford Motor Company

Model/Year: Mustang 1979-95 (Includes 1996- Mustang prepared to

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SCCA American Sedan specifications), Mercury Capri 1979-86

L / (CID): 5.0L / (302 CID)

No. of Cylinders: V-8

Bore (Range): 4.0000-4.0400"

Stroke: 2.9950-3.0000"

Firing Order: 1-3-7-2-6-5-4-8 or 1-5-4-2-6-3-7-8

Compression Ratio: 10.30 Max.

Piston to Deck Clr: Not to exceed 0.013" above block deck surface

Valve Lift: 0.5000" Max. @ 0.0000" lash

Block Casting #'s: Any D, E, or F Ford Windsor 302 block casting with 2-bolt main bearing caps.

Head Casting #'s: F3ZE-AA (GT40), F1ZE-AA (GT40), F77E-AA (GT40-P)

NOTE: All other legal Ford (Non-GT-40) head castings (w/ 1.780" IN & 1.450" EX valve sizes) may be used. No additional preparation is permitted and no consideration will be given to lack of competitiveness in comparison to the GT-40/GT-40P cylinder heads.

Crankshaft Casting #'s: 2M, 2MA, 2MAB, 2MAC, 2MAD, 2MAE, E1AE-AA, E7AE-AA

Notes:

1. Ford Motorsport block number M-6010-B50 is permitted.
2. Any commercially available steel crankshaft which meets approved stroke, journal diameters and other specified dimensions and requirements is permitted. The minimum weight for any steel crankshaft shall be 42#.
3. Crankshaft casting seam flash may be deburred.

BLOCK

Crankshaft Housing Bore: 2.4412-2.4420"

Block Deck Height: 8.1880-8.2240"

Bore Spacing: 4.3800"

Lifter Bore: 0.8730-0.8750" (Lifter bore sleeving is permitted – 2 lifter bores maximum.)

Options:

1. Cylinder block oil restrictors may be installed.
2. Block may be machined for the purpose of installing cylinder O rings.
3. Block may be machined to true warped surfaces
4. Block casting seam flash may be deburred.

CONNECTING RODS

Big End Bore: 2.2390-2.2398"

Pin Fit: Floating or Interference Fit

Center to Center: 5.0885-5.0915"

Material: Forged Steel / Cast Iron (No Billet)

Alternate Manufacture: *Any rod meeting the AS specs is permitted.*

Options:

1. Wrist pin oiling holes may be added.

CAMSHAFT

Drive Type: Single or Dual-row chain

Lifter Type: Solid, flat-tappet

Lifter Dia: .8740" nominal

CRANKSHAFT

Main Journal Dia (Range): 2.2182-2.2490"

Rod Journal Dia (Range): 2.0928-2.1236"

Options:

1. Crankshaft casting seam flash may be deburred.

PISTON**Material:** Aluminum (Cast or Forged)**Ring Configuration:** 3 rings, above pin**Dome Configuration:** Flat-top max. (dished piston dome permitted)**Pin Diameter:** .912" nominal**Options:**

1. Pins may be centered or offset. Offset shall not exceed factory specifications.

CYLINDER HEADS**Valve Job (Head):** (Refer to Drawing 1)**Valve Job (Valve):** (Refer to Drawing 2)**Intake Valve Size:** 1.8350-1.8400" (GT40 & GT40-P), 1.775-1.780" (non-GT-40)**Exhaust Valve Size:** 1.5350-1.5400" (GT40), 1.4450-1.4500" (GT40-P & non-GT40)**Valve Stem Diameter:** (Refer to Drawing 2)**Port Volume (Max.):** 143.0cc IN / 54.0cc EX (GT-40 & GT-40P)**Options:**

1. Angle milling permitted on head gasket and/or intake manifold gasket surface(s) only. Modification or machining of exhaust manifold surfaces of cylinder head is prohibited.
2. Intake manifold surface may be milled to match angle milled head.
3. Heads may be machined to accept pushrod guide plates.
4. Heads may be machined to accept screw-in rocker studs.
5. Heads may be machined to for the purpose of installing integral o-ring head gaskets.
6. Heat riser passage may be blocked from intake manifold side of cylinder head only.

Notes:

1. Absolutely no modification, machining, tooling, etc. of the combustion chambers is permitted.

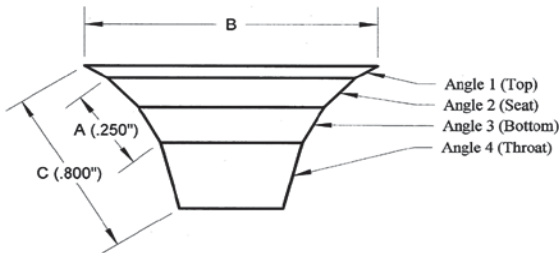
MISCELLANEOUS

1. Direct replacement high volume/pressure oil pumps may be fitted provided that no modification to the engine is required for their installation. Alternate oil pump drive shafts may be fitted.

G. MEASUREMENT STANDARDS

Measurement standards shall be as specified in Appendix C. with the following exceptions: Wheelbase has a tolerance of + 2"/- 1".

DRAWING 1 - ACCEPTED AMERICAN SEDAN VALVE JOB



A - Distance from top of Angle 2 (Seat) to bottom of Angle 3 (Bottom) not to exceed .250"

B - Angle 1 (Top) shall be no larger than .250" more than head diameter of valve (.125" per side).

C - Distance from top of Angle 1 (Top) to bottom of Angle 4 (Throat) not to exceed .800".

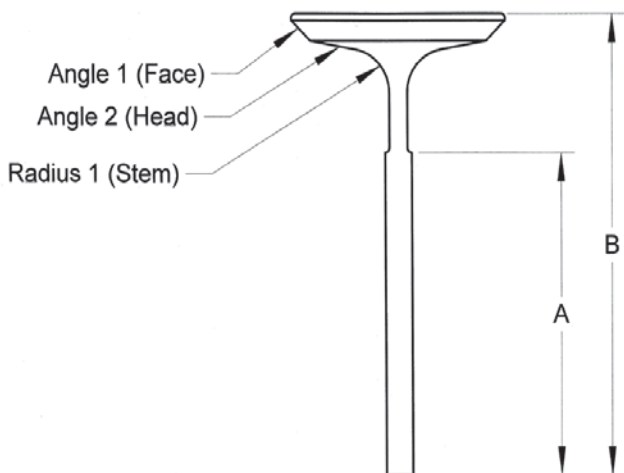
Angle 1 (Top) - Any single angle less than Angle 2 (Seat).

Angle 2 (Seat) - Single angle, 44 to 46 degrees, any width.

Angle 3 (Bottom) - Single angle - 60 degrees.

Angle 4 (Throat) - Single angle - 80 degrees.

DRAWING 2 - ACCEPTED AMERICAN SEDAN VALVE CONFIGURATION



A - Minimum stock stem diameter shall be maintained for at least 70% of the overall valve length (measured from stem tip).

B - Overall valve length shall not exceed stock specifications (+/- 0.050").

Angle 1 (Face) - Single angle, 44 to 46 degrees, any width.

Angle 2 (Head) - Any single angle less than Angle 1.

Radius 1 (Stem) - Any single radius is permitted.

9.1.6. Sedan Category Specifications

AS	Wheel- base (inch)	Gear Ratios (Std.)	Gear Ratios (alt.)	Gear Ratios (alt.)	Gear Ratios (alt.)	Brakes (Max) (mm)	Weight (lbs)	Notes:
Camaro & Firebird (82-92)	101.0	3.42, 2.28, 1.45, 1.00	2.95, 1.94, 1.34, 1.00, 0.73	3.35, 1.93, 1.29, 1.00, 0.61	3.35, 1.93, 1.29, 1.00, 0.61	12.2 x 1.25 Disc	3280	Dana 44 axle permitted. Harwood fiberglass hood (P/N 12100) is permitted.
Camaro & Firebird (93-02)	101.1	2.95, 1.94, 1.34, 1.00, 0.73	3.35, 1.93, 1.29, 1.00, 0.61	3.35, 1.93, 1.29, 1.00, 0.61	3.35, 1.93, 1.29, 1.00, 0.61	12.2 x 1.25 Disc	3280	Dana 44 axle permitted. Alt Hood: American Sports Car Design, Inc. (Part # S-400) w/rear opening closed. Right side wiper mechanism may be removed and underside of cowl may be modified to facilitate carb installation. P/S bracket may be modified or replaced to accommodate the P/S pump. The cowl and shock tower metal may be modified to allow the installation of an 82-92 F-body brake booster and master cylinder. Camaro SS hood from SLP or SVD is permitted with ram air opening sealed to prevent the passage of air. Engine/transmission installation procedure as provided by SCCA Club Racing shall be utilized. W56 hood is permitted with ram air opening sealed to prevent the passage of air.
Mustang Incl. Cobra & Cobra R (79-93)	100.4	3.07, 1.72, 1.00, 0.70	2.95, 1.94, 1.34, 1.00, 0.63	3.35, 1.99, 1.33, 1.00, 0.68	3.35, 1.99, 1.33, 1.00, 0.68	12.2 x 1.25 Disc	3180	Permitted: Rear disc brake kit (M-2300-C) and/or 5-lug kit (M-2300-F).
Mustang Incl. Cobra thru 95 (94-98)	101.3	2.95, 1.94, 1.34, 1.00, 0.63	3.35, 1.99, 1.33, 1.00, 0.68	3.35, 1.99, 1.33, 1.00, 0.68	3.35, 1.99, 1.33, 1.00, 0.68	12.2 x 1.25 Disc	3380	Cobra R hood (F5ZV-16612-AA) is permitted with rear opening closed off. Hydro boost braking system is not permitted. Any 1994, and up, Mustang vacuum assisted braking system shall be used.
Mustang Incl. Cobra (99-02)	101.3	2.95, 1.94, 1.34, 1.00, 0.63	3.35, 1.99, 1.33, 1.00, 0.68	3.35, 1.99, 1.33, 1.00, 0.68	3.35, 1.99, 1.33, 1.00, 0.68	12.2 x 1.25 Disc	3380	Cobra R bodywork and independent rear suspension not permitted. '94-'95 Mustang K-member may be used to facilitate installation of 302 engine. Under no circumstances is the '99-'00 K-member to be modified. Hydro boost braking system is not permitted. Any 1994, and up, Mustang vacuum assisted braking system shall be used.
Mustang GT (2005)	107.1	3.38, 2.00, 1.32, 1.00, .675	2.95, 1.94, 1.34, 1.00, 0.63	3.35, 1.99, 1.33, 1.00, 0.68	3.35, 1.99, 1.33, 1.00, 0.68	12.2 x 1.25 Disc	3380	Engine/transmission installation procedure as provided by SCCA Club Racing shall be utilized.
Capri (79-86)	100.4	3.07, 1.72, 1.00, 0.70	2.95, 1.94, 1.34, 1.00, 0.63	3.35, 1.99, 1.33, 1.00, 0.68	3.35, 1.99, 1.33, 1.00, 0.68	12.2 x 1.25 Disc	3180	Permitted: Rear disc brake kit (M-2300-C) and/or 5-lug kit (M-2300-F).
GTO (04-06)	109.8	2.95, 1.94, 1.34, 1.00, 0.73	3.35, 1.93, 1.29, 1.00, 0.61	3.35, 1.93, 1.29, 1.00, 0.61	3.35, 1.93, 1.29, 1.00, 0.61	12.2 x 1.25 Disc	3480	Engine/Transmission installation procedure as provided by SCCA Club Racing shall be utilized (TBD). Production IRS allowed w/ a maximum camber of -0.5° at static ride height.