

SCCA Spec Mustang (SMG)

Purpose and Intent

The Spec Mustang class is for the S197 Ford Mustang, built from 2005-2009. The goal of this class is to provide a fast and safe race car that is affordable to build when compared to other race cars in its category of performance.

The Spec Mustang (SMG) includes a spec, fully adjustable racing suspension, and bans the building, balancing and blueprinting of engines.

Cars must meet the general regulations of Section 9 of the SCCA General Competition Regulations (GCR) for Touring category cars.

Ford Racing Parts listed may or may not be available under the Ford brand since Ford may remove them from the Ford Racing listings without notice. However, THIS DOES NOT MEAN YOU ARE FREE TO FIND A SUITABLE REPLACEMENT ON YOUR OWN. We have listed the manufacturer (for Ford Racing) by any parts where supply or availability may be an issue. You ARE free to order the same part from the manufacturer (i.e. radiator from BE COOL rather than Ford Racing), as we have listed the same exact part with the manufacturer's part number as an alternative to buying the Ford Racing branded product. If, at any time we lose supply of any of these parts, please notify us immediately and we will, as a group, select an equivalent alternative.

The following items represent the only modifications and safety items permitted and/or required on Spec Mustangs other than safety items as required in Section 9 of the GCR. Permitted components or modifications must not perform a prohibited function.

1) Eligibility

Ford Mustang GT hardtops with manual transmissions from 2005-2009 (S197). Bullitt Option Mustangs and Shelby GT Option Mustangs are allowed, but must be brought to spec per the rules and part numbers listed below. Miller Cup Challenge cars (not FR500S), will be grandfathered in with their 6 speed transmissions, but they must be converted to the mandatory 4.10 rear end ratio. Miller cars must be in compliance with all other elements of the rules for the GCR and class.

Note: On Miller Cup Challenge car 6 speed transmissions. Original 6 speed was Ford PN M-7550-B, but replaced with 8R3Z-7003-AC service units. These translate to Tremec PN TUET 5800 and TUET 8175; either transmission is acceptable.

2) Specifications

- a) **Engine Type:** SOHC 24-valve V-8, aluminum block and heads, port fuel injection
Displacement: 281 cu in, 4601cc (4.6 liter) TRANSMISSION: 5-speed manual, factory (6-speed allowed in Miller Cup cars with Miller logbook)

- b) Dimensions:** Wheelbase: 107.1 inches; Length: 188.0 inches; Width: 73.9 inches
The Front and rear track measured from outside to outside of tires front and rear:

| **Front: 75 inches**

Rear: 74-3/8 inches

- c) Weight:** with driver: 3450 pounds

d) Allowed interior modifications:

- (1) Strip and/or remove all interior trim, door panels, sound system and components, air bags and related wiring, A/C, compressor and condenser with hoses/fittings, heater/heater motor/core, glove box, headliner, driver and passenger windows with hardware, column steering lock, seats and hardware/motors, carpeting and sound insulation, interior lighting, console. Radio/HVAC panel in center of dash may be removed. Otherwise, face of dash to remain intact with air vents removed. Blinkers and switches to be removed. Emergency brake may be removed. Removable steering wheel allowed.
- (2) Driver "dead pedal" allowed
- (3) Ballast, if required to be located on floor of front or rear passenger area, secured per GCR approved method
- (4) Interior rear view mirror is open

e) Body

- (1) Body to remain intact including rocker panel valance and must run with the addition of Steeda splitter and wing listed below. Fog lights may be removed and replaced with cosmetic panel. No flaring of fenders is allowed. Rolling of inner fender lips is allowed, but SCCA will monitor appearance of car and not allow cars with cracks in, or obvious stretching of fenders.
- (2) Stock windshield, rear backlight and quarter windows are required. Lexan is not allowed. Removal of side windows will be required to accommodate the rollover system side protection. Windshield and backlite may have retention straps installed.
- (3) Trunk lock assembly to be removed and replaced by external fastener(s)
- (4) Hood pins allowed
- (5) 1" square steel tube welded to inside body seam under each door for the purposes of jacking the car is allowed
- (6) Stock rear view mirrors to remain in place and functional
- (7) Fuel cells are not allowed
- (8) Radiator side air deflectors (M-8310-A or equivalent) and lower connecting plate is permitted as a replacement structure for air inlet flow to the radiator. It may not serve any other purpose and must be within the confined area of the OEM plastic lower air deflector. This will be used in conjunction with the OEM lower air deflector.

f) Safety:

- (1) Cars must meet the safety regulations of Section 9 of the SCCA GCR for Touring category cars.
- (2) SCCA General Competition Regulations compliant head restraint racing seat to be installed for driver. Optional similar seat for passenger is allowed. In no circumstances will the roll cage obstruct the passenger area from being functional if so desired for non-racing events. Six-point harness is required for driver and same for passenger if seat is installed. Window net to be installed on driver's side.
- (3) SCCA compliant fire bottle or fire system required.

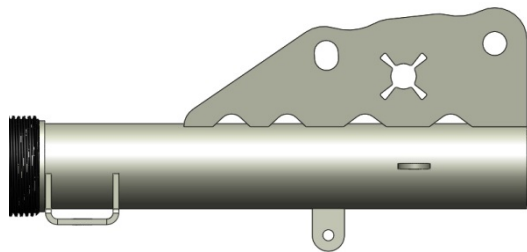
- (4) GCR compliant, (per Section 9.4 GT and Production Car specs) roll cage installed, double side bars required both sides.-SMG cars limited to 6 points of contact to the car. Optionally, two additional bars, extending forward to, but not penetrating the firewall for foot protection may be added. Additional gusseting connecting the cage to the body is also prohibited.
- (5) Master on/off switch to be mounted at lower front of driver's window, not to block rear view mirror.
- (6) Welded tow hooks required front and rear.

g) Suspension:

- (1) The Cortex Racing Spec Mustang Xtreme-Grip Suspension Kit PN CCS-40-1000SPEC is required. Suspension modifications are limited to this kit as specified below. Any replacement of items in this kit must be the current component part number from this kit.
- (2) **Either:** Koni Struts and Rear coilover Shock with Springs Kit comprised of single adjustable, Koni struts and Koni rear coilover dampers with matching springs. Strut system part number: CFS-40-1000SPEC, rear shock system PN: SHK-40-1000SPEC.
Or: Jri Single Adjustable Coilover Kit Part #CCK-40-1000-JRI-SA
No mixing of the Koni and Jri shocks is allowed.
- (3) Spring rates: 600 lbs. OR 500 lbs. front, 450 lbs. OR 400 lbs. rear.
 - (a) Eibach part numbers
 - 1. Front 0700.250.0600; 0700.250.0500
 - 2. Rear 0800.250.0400; 0800.250.0450
- (4) **Maximum negative front camber is 3.5 degrees. The approved technique to accomplish this is by using the Cortex P/N CFS-40-ALIGN-SMG, SMG Alignment kit (which includes camber slugs P/N CFS-40-1010), in all SMG strut housings. Installation guidelines are provided by Cortex Engineering. The JRI front strut housing will already have this feature. This CFS-40 kit is allowed, not required. But this IS the only allowed means to go beyond 3.0 degrees of negative camber. Potential tire clearance issues, resulting from this modification, are addressed in Section: o)**

No machining of body to allow further travel. Caster: min. +6.35; max. +7.85.
Camber plate PN MM5CC-5 or CCP197-05-09.

Illustration of strut housing modification discussed in section g) 4



**Figure 1: SMG Strut housing with Slotted Upper Hole.
(Note: JRI housings have the slot on the bottom hole)**

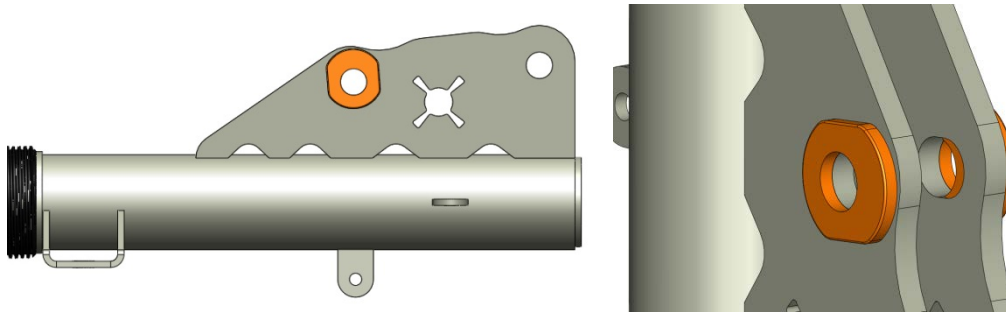


Figure 2: SMG Strut Housing with Camber Slug Installed.

- (5) Bump stops - Stock rear bump stops require modification or removal to install the Cortex suspension. The shocks and struts that come with the Cortex Kit have bump stops installed and must be retained.
- (6) Cortex Rear lower control arm bracket, PN CLCA-40-1001 (left), CLCA-40-1003 (right).
- (7) Rear tubular lower control arms with heim joints and angle-correction spacers at both ends (set), PN CLCA-1000.
- (8) Rear shock mounts allowing fitment of up to 18" x 10.5" rear wheels, PN RUSM-40-1000L-ASSY, RUSM-40-1000R-ASSY, RLSM-40-1000L-ASSY, RLSM-40-1000R-ASSY
- (9) Cortex Watts Link package, PN CWL-40-1000SPEC
 - (a) Cortex's differential cover: incorporates the Watts pivot mount as well as provision for a differential cooler and temperature sensor (allowed option), PN CWL-1001.
 - (b) Eibach PN 35101.310 (formerly Ford Racing) front, adjustable anti-sway bar or Ford Racing PN M5490A (Front only)
 - (c) Ford Racing PN M-20201F Strut tower brace – Also Hotchkiss PN 2016016
 - (d) Upgraded ball joints (Steeda X5), PN 555-8108
 - (e) Lower control arm part #M-3075-RA is allowed
- (10) For technical questions about the Cortex Suspension Kit, contact Filip Trojanek: filip@cortexracing.com
- (11) Allowed modification not included in Cortex Package: front, lower control arm bushings: Prothane PN 6-218-BL forward bushing PN 6-220-BL Rearward bushings (replace large hydro-bushing). This is not seen as a significant performance enhancement, rather a cost savings when bushings are worn. This allows them to be replaced without entire control arm replacement.
- (12) Cortex Racing Adjustable length anti-roll bar end links for corner balance adjustment, PN ARB-40-1002. (Included with CSS-40-1000SPEC)
- (13) Cortex Racing bump steer adjustment kit, PN CBS-40-1000 (Included with CSS-40-1000SPEC)
- (14) Steeda 555-4104 upper link/differential mount spherical bearing is permitted
- (15) Any type/origin of upper 3rd link and mount bracket assembly may be used. Factory original locations for mounting holes (on both body and differential)

must be retained.

(16) Rear anti-sway bar allowed – must be OEM, either 18mm (6R335A771BB) or 22mm (Ford Racing # M-5490-AR Eibach #35101.12).

(17) Rear lower control arm to axle housing relocate bracket, and the rear lower shock mount bracket may be welded for reinforcement

h) Brakes:

(1) Stoptech STR40 Trophy front brake kit (PN 87.330.4C00.R1) with 355mmx35mm rotors (PN 31.747.1101.87, 31.747.1102.87) and the STR40 calipers (PN 379.444.7133, 379.44.7134). Aftermarket rotor of same size allowed.

(2) Rear brakes stock caliper required. Aftermarket rotor of stock size allowed. Elimination of the parking brake and adjuster cylinder is allowed, which will require the installation of the Stoptech knockback spring.

(3) Shelby GT500 ABS module required Ford Racing PN M-2353A

(4) Stainless braided lines are allowed

(5) Brake pads free

(6) Ducting to front and rear brakes is allowed

(7) Removal of dust shields front and rear is allowed (highly recommended)

(8) The OEM brake booster assembly from a 2007-2009 Shelby GT500 (7R3Z-2005-AA/8R3Z-2005-AB) is permitted and recommended.

i) Transmission/Differential:

(1) Stock transmissions: 5 speed to run with 3.73 ratio rear end. 6 speed to run with a 4.10 (Miller Cup cars only) stock. Grandfathered Miller Challenge 6speed cars will be allowed to compete only through the 2015 season. All SMG cars will be 5speed/3.73 ratios for the 2016 season.

(2) Ford Racing Short-shift kit with knob allowed Ford PN M-7210T– Also available as Hurst PN 391-0201 – This part is not required. Additional shifter allowed is MGW Short Throw shifter for 2005-2009 Mustang GT (not including GT500 option). Stock shifter can be run.

(3) Eaton Truetrac limited slip differential required (PN 913A561); overflow bottle allowed. If housed inside cabin this triggers need for full bulkhead of trunk area

(4) Safety straps or loop to protect the driveshaft from dropping in case of failure are required

(5) Metallic, one-piece driveshaft is allowed

j) Engine:

(1) No modifications to the engine are allowed except where specifically authorized within these rules. RACE-BUILT ENGINES ARE NOT ALLOWED. All engines will be as built and delivered by Ford Motor Company.

(2) Cars in this class are to run stock 4.6 liter engines from 2005-2009 cars at no more than 315 rear wheel horsepower, and 325 ft lbs of torque. Updating or backdating of entire engine long block is allowed.

(3) Dyno testing may be required if it appears than an engine in a competing car has an edge in power. Determination of any potential power advantage will be made by SCCA stewards. Test to be done at owner's expense by dyno shop

approved by the SCCA.

- (4) Engine is to be unmodified internally. No balancing or blueprinting is allowed.
- (5) Ford Racing radiator required: M-8005-MGT Also available as BE COOL PN 60205
- (6) Ford Racing de-gas overflow bottle/radiator cap allowed: PN M-8080-A Or Moroso PN 63768
- (7) Long tube headers: Borla PN 17237 which includes the X pipe. This is the same header system that was formerly a Ford Racing part. (Ford Racing short tube on Miller cars grandfathered)
- (8) Cold air intake kit: M-9603-M463; Steeda #555-3131 or Ford Racing #M-9603-GT06. (Does not come with Ford calibration tool which is good since we cannot use it anyways)
- (9) Ford Racing power steering cooler required: Ford PN M3746A or Deraile PN 13225
- (10) Ford Racing idler pulley required: PN M19216-D46 Also available as Dorman PN 34191
- (11) ECU tuning is allowed but this does not change the HP limit regulation listed above.
- (12) The Steeda PN 701-0005A which is an Underdrive Pulley System consisting of a water pump pulley and a SFI rated crankshaft pulley/damper" is allowed, but does not exempt competitor from meeting HP and torque limits. (Optional)
- (13) Fuel shall comply with GCR Section 9.3.26.
- (14) Clutch replacement: The following specified replacement clutch parts are stock-sized 11" disc that represent no performance enhancement, but some additional longevity:
 - (a) 5 speed: Clutch disc Centerforce PN DF380800 (2) 6 speed: Clutch disc Centerforce PN 388144Clutch disc limited to OEM diameter (11") with OEM equivalent pressure plate and flywheel.
- (15) Both transmissions: Stock pressure plate: Ford PN 8R3Z-7563-A or Sachs PN SC70272.
- (16) Both transmissions: Dorman throw out bearing Ford PN 4R3Z-7A-508-AA, or Dorman PN CS650109.
- (17) Road racing oil pan, Moroso P/N 20548/18548 is allowed
- (18) Ford Racing high volume oil pump #M-6600-F46 is allowed
- (19) EVAP/emissions system components on engine and chassis may be modified, removed, or disabled but, not vented from engine to exhaust or any vacuum source other than the engine air intake. An engine oil /air separator is permitted but is restricted to the driver's side PCV hose and must be mounted within the engine compartment. Charge motion delete plates or plugs are permitted.
Throttle body spacers are NOT PERMITTED.
- (20) Rehagen Racing (Ford Racing# M-6038-R) or Prothane (#6-505-BL) motor mounts are permitted as a replacement to the OEM motor mounts. The engine must retain its original mounting location and height.

l) Exhaust:

- (1) Stock GT exhaust to be retained with catalytic converters and resonators removed. Car to be legally able to run at 92db at 100 feet.

m) Electrical:

- (1) For any issues with wiring harnesses on the 2005-2006 cars, consult with Dean Martin of Rehagen Racing to obtain an allowed update to the wiring.

n) Aero package:

- (1) All Spec Mustangs will run the Steeda fixed rear wing, PN 307-0009
- (2) Splitter, two options allowed:
 - (a) Classic Design Concepts – Steeda PN 067-110020 Chin Spoiler-GT
 - (b) Front fascia that includes integrated splitter: Steeda part PN 555-0500
- (3) Miller Cup Mustang carbon fiber splitter grandfathered

o) Wheels/Tires:

- (1) Jongbloed Wheel, Part PN 70010545 - 18" X 10.5" front and rear. All tires and wheels on car must be the same size.
- (2) For the 2014 season and beyond, all participants must qualify and race on Jongbloed wheels.
- (3) Wheels for practice and rain conditions are free; they must all be the same size.
- (4) Tires: The spec tire for SMG is the BF Goodrich R1-S size P285/30ZR18. SMG cars competing in T2 may run any tire that meets 9.3.45 and that meets the size specified by the SMG rules.**
- (5) 0.5" hub-centric wheel spacers are an allowed option in front only.**

p) Graphic requirements:

- (1) All Spec Mustang must have SCCA Club Racing decals on each side and front
- (2) Mandatory stickers on sides of car:
 - (a) Hooked On Driving
 - (b) Cortex Racing
 - (c) Jongbloed Wheels
 - (d) Competitors who wish to be eligible for the On Edge Performance L.L.C. contingency must display a total of three 'BFGoodrich' & 'On Edge Performance' decals in the following positions: one on each front fender and one on the front bumper.**

q) Allowed options:

- (1) Tiger racing vented, fiberglass hood
- (2) AIM dash/transponder system
- (3) Oil Cooler - Derales PN 52508