



FACTORY SUPER CARS

CLASS OVERVIEW

Factory Super Cars is an eliminator designed for the Detroit-based OEM companies to compete heads-up with the 2008 and newer factory drag racing cars dubbed Chevrolet COPO, Dodge Drag Pak, and Ford Cobra Jet. It is the rebirth of factory muscle car drag racing on the quarter-mile dragstrip. Different year engine configurations may be transplanted into different year bodies as long as they are the same make and model. Example: 2017 Copo engine may be transplanted into a 2008 Camaro. Cross breeding of brands is strictly prohibited.

Note: This set of class rules is presented to all competitors under the assumption that any modifications not specifically written within these rules shall be deemed illegal, unless the competitor has the expressed written consent from the NMCA Tech Director.

RACING FORMAT

This class will be an all run, heads-up field, NHRA Pro Ladder, on a .500 Pro Tree, Autostart.

CLASS DESIGNATION = FSS

ENGINE, POWER ADDER - BASE WEIGHT

Ford 302 (2010 – 2016), 2.9L Whipple - 3450

Ford 327 (2019), 3.0L Whipple - 3575

Ford 351 (2019), 2.9L Whipple - 3575

GM 350 (2014 - 2018), 2.9L Whipple - 3450

GM 350 (2019 - 2022), 2.65L Magnuson - 3575

Mopar 354 (2015), 2.9L Whipple - 3500

Mopar 354 (2020-2021), 3.0L Whipple - 3575

REQUIREMENTS & SPECIFICATIONS

ENGINE: 1

AIR INLET TUBE

Optional. If used, air inlet tube must be OEM automotive or retain OEM configuration. Air inlet tube may be cut or trimmed, epoxying prohibited. If using the current engine combination in an older model year air inlet tube and must be approved by NMCA Technical Services before use.

CYLINDER HEADS

Must be correct casting number for year engine combination claimed. CNC porting of Intake runner, exhaust runner, and combustion chamber is permitted. Changing the configuration of

the Combustion Chamber is prohibited. Welding, epoxying any part of the intake, exhaust port is prohibited. Spark-plug hole must maintain stock location, size, and angle as machined by the OEM: spark plug adapters prohibited. Intake and exhaust manifold adapter plates prohibited. Valve-guide centerlines must maintain the stock lateral and front-to-back location as machined by the OEM. Cylinder heads are additionally restricted in that they must retain original-size valves at original angles +/- 1 degree and must be able to hold original cylinder-head volume. Runner volumes may not exceed the current Super Stock cylinder-head volumes as listed on www.NHRARacer.com. External modifications beyond normal repair prohibited. Final acceptance as determined by NMCA. Intake side of head may not be cut into any part of valve cover bolt holes or intake mounting holes. Valve-cover bolt holes must remain unaltered and in their original location. The following are permitted: polylocks, jam nuts, screw-in larger-diameter rocker studs or pinned studs, bronze-wall valve guides, cylinder head studs. Valve spring umbrellas optional. Cylinder head may have all of the seats replaced. Any valve-job permitted, O-ringing head prohibited.

BLOCK

Must be same make as car used, NMCA or NHRA-accepted aftermarket cylinder blocks permitted. Equipment other than original factory-installed prohibited. Engine must remain in stock location — height, setback, etc. Cylinder bores must not exceed .080-inch overstock. Bores are measured at top of cylinder where ring wear is not evident. Normal balance job (i.e., one piston/rod assembly untouched) permitted. Otherwise lightening of component parts prohibited. All throttle bodies, manifolds, heads, etc. must be tightened to prevent any air or fuel leaks. Vacuum lines must be securely connected or blocked off. Stroke tolerance is +/- .015-inch. Stock OEM, NMCA or NHRA accepted aftermarket crankshaft mandatory. Aftermarket crank must retain OEM configuration. Lightening of crankshaft other than normal balance job prohibited. Cylinder blocks may be sleeved. O-ringing cylinder blocks are prohibited. Aftermarket SFI Spec 18.1 harmonic balancer is mandatory. See NHRA General Regulations 1:2.

CONNECTING RODS

Stock or NMCA accepted aftermarket connecting rods are permitted. Length must be stock +/- .025-inch center to center. The use of connecting rod and crank spacer bearing is prohibited. The combined weight of the piston, pin, rings and connecting must be equal to or greater than the NHRA stock replacement minimum assembly weight.

PISTONS & PINS

Stock or NMCA accepted aftermarket pistons and pins are permitted. Aftermarket pistons may be forged or cast and must retain as-cast or as-forged head configuration. Piston must be the same overall design with the same dome and/or dish configuration as the factory OEM piston. The

pistons must retain the correct number, location, depth and width of ring grooves. Any steel wrist pin of OEM diameter permitted. Any modifications to the piston and/or pin are prohibited.

FAN, ALTERNATOR, WATER PUMP

Alternator optional. May be relocated. Aftermarket pulleys permitted. Electrically driven fans and water pumps permitted. Remote water pump permitted. Use of “smog pump” or air pump for crankcase evacuation prohibited.

FUEL INJECTION

Electronic fuel injection permitted. Larger fuel injectors permitted, provided no modification or re-drilling of manifolds is performed. Only one injector per cylinder permitted. All entries must have an NMCA accepted ECU and firmware. If an ECU is not listed on the NMCA accepted Engine Management list, please contact NMCA Tech regarding the approval process.

Permitted ECUs under review pending FIRMWARE approval:

ACCEPTED ECU AND FIRMWARE					
MANUFACTURE	PART DESCRIPTION	MAKE	SOFTWARE	FIRMWARE	RPM LIMIT
HALTECH	NEXUS-R5	CHEVROLET	V1.14.1	V1.14.1-Release-1-NMCA-Chevy-10200.nex	10200
BIG STUFF 3	GEN 4	CHEVROLET	GEN4-STACK	gen4-stack-""-NewAccel_COPO_DPAK	10200
FUELTECH	FT450, FT550, FT600	CHEVROLET	4.81	Nexus-R5-V1.14.1-Release-5-NMCA-Chevy-102000.nex	10200
HOLLEY	DOMINATOR or HP EFI	CHEVROLET	V5 BUILD 171	HEFI_06002310_DOCH.EEP - V5 BUILD 180	10200
MOTEC	M1DOMINATOR or HP EFI50	CHEVROLET		nmcafactorysupercarsfirmware	10200
HALTECH	NEXUS-R5	DODGE	V1.14.1	V1.14.1-Release-1-NMCA-Dodge-10200.nex	10200
BIG STUFF 3	GEN 4	DODGE	GEN4-STACK	gen4-stack-""-NewAccel_COPO_DPAK	10200
FUELTECH	FT450, FT550, FT600	DODGE	4.81	Nexus-R5-V1.14.1-Release-4-NMCA-Dodge-102000.nex	10200
HOLLEY	DOMINATOR or HP EFI	DODGE	V5 BUILD 171	HEFI_06002310_DOCH.EEP V5 BUILD 181	10200
MOTEC	M150	DODGE		nmcafactorysupercarsfirmware	10200
HALTECH	NEXUS-R5	FORD	V1.14.1	V1.14.1-Release-1-NMCA-Ford-10700.nex Nexus-R5-V1.14.1-Release-6-NMCA-Ford-9800.nex	10700 9800
BIG STUFF 3	GEN 4	FORD	GEN4-STACK	gen4-stack-""-NewAccel_SCI gen4-stack-""-NewAccel_SCI-1	10700 9800
FUELTECH	FT450, FT550, FT600	FORD	4.81	FT450-NMCA-10700rpm-TBD FT550-NMCA-10700RPM-TBD FT600-NMCA-10700RPM-TBD	10700 9800
HOLLEY	DOMINATOR or HP EFI	FORD	V6 BUILD 220 V5 BUILD 171	HEFI_06002300_FORD.eep-V5 BUILD 180 HEFI_06002300_FORD.eep-V5 BUILD 182	10700 9800
MOTEC	M150	FORD		nmcafactorysupercarsfirmware	10700 9800

GAS TANK

Fuel cell permitted; maximum capacity 5 gallons. Fuel cell must be located in the trunk area only, a firewall of minimum .032-inch aluminum or .024-inch steel must be installed to totally seal driver compartment from fuel cell.

OIL CONTAINMENT DEVICE

All entries must have a properly fitting lower engine oil containment device.

OIL SYSTEMS

Dry-Sump oil systems prohibited. External single-stage oil pumps permitted: no additional pump stages permitted

THROTTLE BODY

Must be correct year, make and model specified for cars engine. Smaller than Stock dimension Throttle Body permitted. Sandblasting, grinding, flash removal, dry film coating, or any other modification to throttle body prohibited. If OEM throttle body(s) was equipped with electronic throttle control (i.e., drive by wire), the throttle body(s) may be adapted to mechanical throttle linkage if an aftermarket OEM-type electronic-fuel injection system is used.

SUPERCHARGER / INTAKE MANIFOLD / INTERCOOLER

Must be correct year, make and model specified for cars engine package. Sandblasting, grinding, flash removal, dry film coating, or any other modification to Supercharger Intake Manifold and Intercooler prohibited.

YEAR	BRAND	CID/HP	SUPERCHARGER	UPPER	LOWER
<u>2014-2015</u>	<u>Camaro COPO 350</u>	530 HP	2.9L Whipple	3.250	8.000
<u>2016-2018</u>	<u>Camaro COPO 350</u>	580 HP	2.9L Whipple	3.250	8.000
<u>2017-2018</u>	<u>Camaro COPO 350</u>	590 HP	2.9L Whipple	3.125	8.000
<u>2019-2022</u>	<u>Camaro COPO 350</u>	630 HP	2.65L Magnuson 34J/32R or 32J/34R	3.125	8.000
<u>2015</u>	<u>Challenger Drag Pak 354</u>	540 HP	2.9L Whipple	3.000	7.950
<u>2021</u>	<u>Challenger Drag Pak 354</u>	630 HP	3.0L Whipple	3.375	8.000
<u>2010</u>	<u>Mustang Cobra Jet 330</u>	500 HP	2.9L Whipple	3.970	8.125
<u>2012</u>	<u>Mustang Cobra Jet 330</u>	510 HP	2.9L Whipple	3.970	8.125
<u>2013</u>	<u>Mustang Cobra Jet 302</u>	500 HP	2.9L Whipple	3.500	8.000
<u>2014</u>	<u>Mustang Cobra Jet 302</u>	525 HP	2.9L Whipple	3.375	8.000
		560 HP	2.9L Whipple	3.000	8.000
<u>2016</u>	<u>Mustang Cobra Jet 302</u>	565 HP	2.9L Whipple	3.250	8.000
		575 HP	2.9L Whipple	3.250	8.000
<u>2019</u>	<u>Mustang Cobra Jet 327</u>	610 HP	3.0L Whipple	3.625 <u>3.375</u>	6.938
<u>2019</u>	<u>Mustang Cobra Jet 351</u>	570 HP	2.9L Whipple	3.500	8.000

OILING SYSTEM

Any oil pan permitted. Stock or aftermarket OEM type oil pump is permitted. Oil pump location, oil pump drive, and complete oiling system must remain as originally produced. The use of an accumulator is permitted.

RADIATOR

Full size stock type radiator for year, make and model being claimed is required. Aluminum radiators are permitted, must retain stock dimensions, remote cooling reservoir and/or expansion tank prohibited. Cutting, denting or elimination of any body, fender radiator, or grille panels prohibited.

FUEL SYSTEM

Any electric fuel pump permitted. Electric fuel pump must shut off with vehicle's ignition switch or master cut-off switch. Fuel lines may be changed to any size line with in-line fuel filters and fuel regulators permitted.

FUEL

Gasoline is the only acceptable fuel allowed. NMCA reserves the right to inspect fuel at any time during competition. Failure to pass Fuel Check is grounds for disallowance of the run during competition and disqualification from the event during eliminations.

Fuel must read no greater than "0" on the Kavlico Model FT-K01 Fuel Check meter. No oxygenated fuels permitted.

DRIVETRAIN: 2

AUTOMATIC TRANSMISSION

Any model transmission, same make as car, with a maximum of three forward speeds.

Transmission case must be OEM or aftermarket OEM replica from a standard, automotive application as found in the Official NHRA Stock Car Classification Guide. Aftermarket case must meet SFI Spec. 4.1. NHRA-accepted adapter plates permitted. Modifications to shifting patterns are permitted, provided full shift pattern is retained. Full shift pattern must include park and reverse. Any gear change must occur as a result of an internal function of the transmission or from direct action by the driver. Shifting with the use of pneumatic, electric, hydraulic, etc. is prohibited. Lockup converters of any kind are prohibited. Wires for a trans brake, line lock, starting line enhancer (bump box), wheel speed, driveshaft speed or GPS signal to transmission prohibited. Deepened stock or aftermarket transmission oil pans permitted. Functional neutral safety switch mandatory. Transmission brake prohibited. Starting line staging devices are prohibited. Tailshaft modifications for bushing replacement, or NHRA-accepted aftermarket tailshaft permitted. Must be equipped with a transmission shield meeting SFI Spec 4.1. Any car

running quicker than 9.99, SFI 29.1 automatic transmission flexplate and SFI 30.1 flexplate shield mandatory. See General Regulations 2:12, 2:14
Lockup Torque Convertor prohibited.

TRANSMISSION, MANUAL

Manual transmission prohibited.

DRIVELINE

Any steel or aluminum driveshaft is required. Carbon fiber driveshaft is prohibited. Driveshaft safety loop is required.

BRAKES, STEERING & SUSPENSION: 3

BRAKES

Front and rear hydraulic brakes are required. Carbon brakes are prohibited. Automated brakes are prohibited. The application and release of the brakes must be a function of the driver. Dual reservoir master cylinder is required. Line-lock is permitted only on the front wheels using one line-lock button and solenoid. Any other electrical, pneumatic, hydraulic, etc. switch in braking system is prohibited.

SHOCKS/STRUTS

No pneumatic or electronic shocks permitted unless such items are Factory OEM equipped. No additional reservoirs permitted.

FRONT SUSPENSION

Must retain complete stock front suspension system as produced by manufacturer for body used, aftermarket tie rods with Heim joints permitted. Travel limiters permitted. Sway bar optional. See NHRA General Regulations 3:4

REAR SUSPENSION

Must remain as produced by the OEM, NMCA or NHRA accepted except for the following: Coils may be changed (clamped or spaced) as long as stock mounting points are maintained. Solid bushings in rear suspension permitted. Cars with rear coil springs may relocate the upper control arm at rear-end attachment point. Rear trailing arms may be replaced with NHRA-accepted OEM-type aftermarket units. Aftermarket lower unit must be non-adjustable and have bushed ends (no heims). Aftermarket upper unit may be adjustable and use heim ends instead of bushings. Sway bar(s) optional. OEM or aftermarket torque arm permitted only on vehicles OEM-equipped with a torque arm. OEM torque-arm attachment points at rear end must be retained. See NHRA General Regulations 3:4.

WHEELIE BARS

Wheelie bars are permitted and cannot be longer than 48-inches or to the rear bumper, whichever is greater.

FRAME: 4

CHASSIS

All vehicles must have a chassis that meets the guidelines set by SFI for their respective speed and elapsed time. A valid NHRA serialized Chassis sticker is mandatory for any car running 9.99 or quicker, or 135mph or faster at a NHRA member track.

ROLL CAGE

Roll cage meeting SFI 25.5 is mandatory. See NHRA General Regulations 4:4, 4:11, 10:6.

FRAME

Front and rear frame rails must remain unaltered and in the stock locations. Rear frame rails may be notched for tire clearance only. Notching rear frame rails for rear end clearance/ride height purposes is prohibited. Sub frame connectors are permitted.

WHEELBASE

Entries must retain stock wheelbase dimensions of + or – 1 inch. Maximum wheelbase variation from left to right is 1 inch.

GROUND CLEARANCE

A minimum of 4 inches from the front of the vehicle to 12 inches behind front spindle centerline is mandatory. A minimum of 3 inches for the rest of the vehicle is mandatory (except for oil pan and exhaust headers).

BUMPERS

Complete stock bumpers, guards, and braces (front and rear) mandatory, consistent with make, model, year claimed. Energy absorbing apparatus may not be removed. Rear bumper cover or valance only (i.e., not the bumper) may be notched or slotted for clearance around wheelie bars. Opening maximum is to allow for wheelie-bar movement only. Removal of rear bumper cover or trimming rear bumper cover the full width of wheelie bar prohibited.

TIRES & WHEELS: 5

TIRES

The use of 30-inches tall by 9-inches wide or smaller slicks is required. Rear tires may not exceed 10-inches wide regardless of wear. Tire tread may not extend outside of the fender.

WHEELS

Aftermarket racing wheels permitted.

ELECTRICAL:6

BATTERIES/CHARGING SYSTEM

Battery may be relocated and must be an automotive type

DISTRIBUTOR

Any battery operated, stock type ignition is permitted. Crank trigger systems prohibited unless OEM distributor-less ignition. Distributor-less ignition must retain OEM number of coils.

IGNITION

Two-step permitted. Two-step must be foot-activated through brake pedal, or pressure switch. Hand release prohibited. All wiring associated with the ignition system must be fully visible, labeled, and traceable. See NHRA General Regulations 8:3.

MASTER CUTOFF

A master cutoff switch is mandatory on all vehicles with a battery located in the trunk.

STARTER

Aftermarket starters, in stock location permitted.

INTERIOR: 7

UPHOLSTERY

Must have full factory type upholstery, including carpet, door panels, headliner, and factory dash. Driver's seat is required and mounted in the stock location. Aftermarket front seats are permitted and must be upholstered. Rear seat, heater and A/C controls may be removed.

STEERING COLUMN/WHEEL

OEM or stock type steering column required. Steering column must have a factory appearance. Removable steering wheel is permitted.

PEDALS & PEDAL LOCATION

Stock type pedals and linkage in the factory location are required.

BODY: 8

BODY

Body must retain original appearances and profiles for year, make and model being used. OEM body shell must be intact. Light weight body panels are restricted to hood, bumpers and

deck-lid/truck-lid or hatch. Hood may be a lift-off style and deck-lid/trunk-lid or hatch must be hinged. Lift off style deck-lid/trunk-lid or hatch is prohibited. Alterations or aerodynamic modifications are prohibited.

HOOD SCOOPS

The use of aftermarket forward facing hood scoops is prohibited. Factory OEM hood scoops are permitted.

COWL AREA

Complete OEM cowl is required.

GRILLE

Grille must be full production for make, model and year being claimed. Covering in front of or behind the grille is prohibited.

FIREWALL

Stock, unaltered firewall is required. Any holes in firewall must be sealed to separate the engine bay from interior.

FENDER SPLASH PANS

Full, factory OEM or aftermarket inner fenders are required.

WING/SPOILERS

Factory OEM rear wing/spoiler are permitted. Any adjustments to the wing/spoiler during a run are prohibited.

WINDSHIELD & WINDOWS

Factory type OEM glass is required and must be operational. All windows and windshields must be clear except for factory tinted safety glass and be in good condition. Aftermarket pre-fitted and formed polycarbonate windows permitted (ie., Proglass, Optic Armor, etc.) Must be installed like OEM glass to give OEM appearance, no rivets or fasteners should be visible. Construction style Plexiglass prohibited. See NHRA General Regulations 7:8.

FLOOR

Complete stock floor, in the stock location is mandatory. Any holes in floor and/or transmission tunnel must be sealed.

WHEEL WELLS

Factory wheel wells/tubs are required.

STREET EQUIPMENT

Headlights and operational taillights/brake lights are required.

APPEARANCE

All cars in competition must be painted or wrapped. Advertising graphics are permitted on the body. In order to be eligible for the NMCA official contingency program, all contingency sponsors' decals must be easily visible and located on the outside of the vehicle. Failure to do so can result in the driver forfeiting all claimed contingencies for that particular event. The NMRA does require all entries to run the following decals:

1. NMCA Windshield Banner: Decal needs to be located on the top of the windshield or just above the windshield located on the body.
2. NMCA Drag Racing Series: Decals (2) must be located on each side of vehicle. Either on the side windows or decals can be located on the body right beside the side windows.
3. Class Sponsor: Decal must be located on the passenger's side lower portion of the windshield.
4. VP Racing Fuels: Official Fuel decals (2) required. Must be located on each side of vehicle. (In a contingency decal manner)
5. Aerospace Winners Circle: Decals (2) must be prominently displayed on each side of vehicle. Failure to do so can result in the winning driver forfeiting his/hers Winner's Trophy & Payout.
6. Class & Competition Numbers: Numbers must be easily visible/legible and located on the front, back, and both side windows

SUPPORT GROUPS: 9

COMPUTER/DATA RECORDERS

Original OEM computer may be replaced with an aftermarket computer. Data recorders are permitted.

BRACKET RACING AIDS

The use of any bracket racing aids such as optical sensors, delay boxes, shutter boxes, throttle stops, etc. are prohibited. The use of any device (electrical or mechanical) that allows a driver to ascertain the position of their vehicle to the starting line is prohibited.

TOW VEHICLES

The use of tow-vehicles is permitted.

DRIVER: 10

HEAD AND NECK RESTRAINT DEVICE/SYSTEM

A head and neck restraint device/system meeting SFI 38.1 mandatory and must display a valid SFI label. At all times that the driver is in the race vehicle, from the ready line until the vehicle is

on the return road, driver must properly utilize an SFI 38.1 head and neck restraint device/system, including connecting the helmet as required for full functionality of the device. The head and neck restraint device/system, when connected, must conform to the manufacturer's mounting instructions, and it must be configured, maintained, and used in accordance with the manufacturer's instructions. Modification of the device is prohibited.

DRIVER

The driver when in the vehicle, from the ready line until the vehicle is safely stopped on the return road, **is required to have all safety restraint systems (including the helmet) on and be securely fastened in the vehicle at all times**

CREDENTIALS

A Valid state or government issued driver's license beyond a learner/s permit level is mandatory for cars running 10.00 or slower. A valid NHRA competition license is mandatory for cars running 9.99 or quicker, at a NHRA Member Track. A valid NHRA or an IHRA competition license is mandatory at an IHRA Member Track.

Note: It is ultimately the competitor's responsibility to familiarize themselves with the NMCA class requirements as well as ***all NHRA safety requirements***. The competitor agrees they bear the ultimate responsibility when it comes to safety and how it complies with the NMCA and NHRA rule books. The competitor also agrees that no one else other than the competitor is in the best position to know about how their particular race car has been constructed and how to safely operate it.