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### About this Mod:

This mod is a tribute to the 60's era of Sportscar and Prototype racing. When we saw some of the most innovative race cars, with relatively free technical regulations, the motorsport world witnessed the birth of some of the most iconic race car designs of all time. As the second half of the decade commenced, the racing world witnessed what has become known as the 'Ford Ferrari Wars'. Ford set out to conquer Le Mans at Ferrari's expense, which they did in comprehensive fashion. The Ford GT scored a 1-2-3 finish in 1966, and took victories again in 1967, 1968 and 1969. Ford may have scored four consecutive wins, but this was in response to Ferrari's six wins in a row from 1960 to 1965.

Many of the models in this mod were floating around the web for years. Our goal was to bring them up to current AC standards using the latest features of CM/ CSP. The models used are a variety of 3D build from scratch, conversions and updates. A lot of work has gone into them by several different authors and, as such, might have small inconsistencies, imperfections and differences between them. The pack as a whole is designed with on- and offline racing in mind, thus balancing details vs performance. We have taken the decision to add limited encryption to selected models, but would welcome assistance from modders willing to contribute updates and improvements to the 3D. Please reach out at the channels below if you are able to help with this project or upcoming expansions.

Another goal was to use a realistic physics set, with as much real data as possible. This means that most cars have unique 'build from scratch' suspension physics, aero properties, fuel consumption, engines and gearbox. We tried to reproduce the vehicle dynamics of the era, so you do need to balance the cars, be gentle with your inputs and drive the car with your feet!

Despite the big difference between the cars you can actually race them very closely, depending on tracktype, the (dis)advantages per car will be magnified. Enjoy the battle!

Up to 2024 standards with CSP:

- all cars have (refracting) headlights, wipers, improved shaders, high(er) res cockpits.
- most skins are 4k scratch made by Pasta, with help from Ben Nash and Dodge33.
- all cars have proper LoD's & 3d colliders for better VR/ multiplayer/ big grid AI racing.

# VI.2.1 Credits

- 3d Models:
  - Built from scratch: MacedoSTi (Chaparral), DobriD (Chevron, Maserati, Matra, Dino 206), NPanic (365 P2) Yamabushi (Lotus)
  - Conversions / updates/ add-ons: MacedoSTI, Gadu, Big Fat Luke, Sergio Cepeda, Norms, Mac Ten, Velo, GØD and DrDoomslab.
  - Kunos Ferrari 330P4 model → <u>Ferrari 70th Anniversary Pack DLC</u> needed
  - Meisterskinners Pasta & Ben Nash
- Historic Research: Dodge33, ValentinK, Bazza
- Physics: Bazza, AI by Parilla
- **Extension Configs:** ValentinK
- **Sounds:** Felix 789 (Chaparral 2F, Chevron BMW, Chevy GS, GT40, Ferrari 206, 250, 365, Jaguar XJ13, Matra, Lola T70, Porsche 906, 910, Shelby Daytona), AMA Fmod (Nissan 380), <u>Scibsound</u> (GT40 Ford 427 and Chevron B8 FVA), Kunos & unknown sources.
- **Skins:** new 4k skins by Pasta, Parrilla, Ben Nash and ValentinK + skins from the <u>RaceDepartment</u> community: Abookofcolors02, aguszamponi555 Barbiche, Carmar, CodyS1998, GT3RSAss, Hurcandzn, JawnKwan, JustGrayson, JU-Racing, susanthedeath2, Pierre Dery, Siep83, CHarles Fox, and GPLGEM, (sorry if I forgot someone)
- Testers: Valentin K, Felix 789 and the WSC crew

### Special Thanks:

**Youtube Channels:** Jake from <u>GPLaps</u>, for his contagious passion for historic simracing. You might also want to check out <u>Simrace Fantasy</u> to experience the lost art of simracing cinematics!

Websites / Fora: <u>The F1 Classic forum</u>, <u>GTP Forum</u>, <u>THR - THRracing</u> Discord: <u>THR - THRacing Discord</u>. <u>20ld4Forza Discord</u>, <u>Vintage AC Discord</u>

#### Note for proper installation:

You need <u>'Kunos Ferrari 70 Anniversary DLC pack'</u> to install the Ferrari 330 P4 Spyder.

### Click here if you'd like to donate something for our work:



#### Where to find us:

- We're based at the <u>**new** F1 Classic Forum</u> with many other vintage simracing fans.
- Discord: <u>https://discord.me/vintageac</u> Vintage Assetto Corsa Online Racing Community
- Discord: <u>https://discord.me/thracing</u> THR TH Racing; Vintage AC league / community
- Discord: 20ld4forza (USA Westcoast, minimum age 25+)

# May the domnforce be with you!

### 1967 Alfa Romeo Tipo 33 'Periscopica'

**Credits:** Model by Roman Chyzhykov: <u>https://sketchfab.com/chijikoff.roma/models</u> Reworked and conversion by: MacedoSTI Modified and used with permission under <u>Creative Commons licence v4.0</u>



Now officially Alfa Romeo's competition department, Carlo Chiti's Autodelta began the development of the replacement of the highly successful 'TZ' and 'TZ2' GT racers late in 1964. Dubbed the type '33', the new Alfa Romeo was an altogether more ambitious machine as it was intended to run in the small displacement prototype class where Porsches reigned supreme. Very few existing parts could be used on this project so it took over two years before the first car was actually raced.

In order to keep pace with the competition, Chiti's men designed Alfa Romeo's second ever midengined chassis. Unlike the TZ, which used a multi-tubular 'spaceframe' design, the 33 featured a simpler chassis built around three large diameter tubes constructed from riveted sheet aluminium. Two were used as side-members with the third connecting the two in the middle to create an 'H' shape. On both ends more conventional magnesium cross-members were also used to add further rigidity. The two side-members also housed the rubber fuel tanks.

The 33's suspension was more conventional with double wishbones at the front and lower wishbones, top links and twin trailing-arms at the rear. Ventilated discs were used on all four corners, with the pair the back mounted in-board. A six-speed gearbox was also developed specifically for the 33.

While the chassis was submitted to rigorous tests, the Autodelta engineers put the final touches on the all-new V8. Chiti had learned valuable lessons developing the ATS V8s, so much was expected from the new Alfa Romeo engine. Constructed from light alloys, it featured a twin-cam head with two valves and two spark plugs per cylinder. The earliest examples still sported Weber carburettors but by the time of its debut a more modern fuel-injection system was fitted. Despite its modest displacement of just 1995 cc, the high revving V8 produced a hefty 270 bhp at 9600 rpm. This was about the same as Porsche's similarly sized flat-8. Completed late in 1966, the first Alfa Romeo 33 was not shown to the media until March of the following year. The car sported a 'Spider' body with a periscopic engine intake that earned it the nick-name 'Periscopica'. The new car made a victorious debut at the Fleron hill climb in Belgium. Despite the long gestation period, the new 33 still proved fragile and failed to impress in international events that year. Additional victories were scored in hill climbs and also in a minor race at Vallelunga. Meanwhile development continued at Autodelta, focusing mostly on reliability and a more efficient body design. At Mugello a differently styled Spider was used but this remained a unique machine.





### 1967 Chaparral 2F

Credits: MacedoSTI - 3d Model design, skins by Pasta



**Note:** The wing uses DRS functions to activate, so it's critical to bind a key to activate. Just like the real car, the wing will be angled by default and flattens to improve top speed once active. When you brake, the wing will reset to the angled position. AI is able to use this function reasonably well too.

The mid-engined Chaparrals, built from 1963 through 1970, are among the most iconic sportsracing cars ever built, up there with vehicles such as the Ford GT40, Ferrari 330P4, and Porsche 917. The cars are significant for a number of reasons. First, they were cutting edge. Chaparral founder Jim Hall pioneered aerodynamic developments such as wings and ground effects, as well as alternative forms of construction.

Using wings to create downforce had been attempted in the '50s, but it was Jim Hall's advanced Chaparral 2F from 1967 that proved the idea. Motor racing was never the same again. While assorted pioneers had previously fitted aerodynamic aids to racing cars, it was Hall's Chaparral-Chevrolet Can-Am and World Championship of Makes designs that changed the face of racing. Hall would recall how he realised that the key was to "make [aerodynamic] forces work for you so that applied downforce improved traction". Hall admitted he didn't initially realise how far others had previously explored that field, while allowing that in 1961-62 Ferrari had tried a ducktail spoiler developed with its American test driver Richie Ginther: "I happened to ride to Sebring with him from the airport and I asked him about their tail spoiler. 'Well,' he said, 'it just stabilises the car, and it keeps the exhaust fumes out of the cockpit.'"

Back at base, Hall toyed with his early rear- engined Chaparral's body shape. A neutral-lift design proved "terrible" and prone to oversteer at higher speeds, so further changes came. The solution, Hall thought, was to "load them down, so they don't become oversteerers. They stay neutral and then you balance the car out over a big speed range, so it handles the way you want it, neutral or a little bit of understeer, throughout the whole speed range.

"We started with a little flip-up on the back until we got it neutral. Then we started putting more and more downforce on it, and finally we went faster and faster around the corners. But the straightaway speed was then so slow you couldn't pass anybody. "So then we put the flipper on, then we cured the nose-dive, then we put on the high suspension-mounted wing. We didn't start going to 4000lb springs like [later] Formula 1 cars. We were on 400lb springs, so we took the load off the suspension springs and put it directly onto the hub, and that's where the high wings came from. "The whole thing is putting downforce on the car to improve traction capabilities, without increasing weight by the same amount."

Chaparral's first test wing at Midland had been a sheet of 3/4-inch plywood. Mechanic Troy Rogers fitted it on one of their glassfibre-tub 2A cars. Team chiefs and drivers Hall and Sharp told him to drive it before they took the risk. Despite a strong wind ripping across their Rattlesnake Raceway test track, Rogers blasted around some laps and "couldn't believe how it stuck to the ground. I came in and said, 'You've got something here!'"

The Chaparral 2E Can-Am cars had more than just a tall wing high above the rear wheels. Their radiators were moved from a nose mounting to a midship position. This freed the nose and its top-ducted airway to be reprofiled to act as a venturi, accelerating airflow and generating downforce to balance the strutted wing's rear-end effect.

A flap in the intake was connected to a third pedal in the automatic-transmission car's previously two-pedal cockpit. The rear wing's at-rest position was leading-edge low/ trailing-edge high to generate downforce. Up front, the duct flap would then be open with airflow generating a balancing downforce upon the front end. When the driver hit the third pedal, the rear wing would flip into a neutral attack angle to minimise drag while the nose-duct flap would shut, reducing front-end downforce and drag from the flap.

Sharp and Hall were launching an ambitious assault upon the 1967 World Championship of Makes. At Midland, a new Chaparral-Chevrolet 2F coupé was being built to use an aluminium 7-litre big-block 'Porcupine' V8 engine with three-speed auto transmission and 2E-style nose venturi with tall strutted rear wing systems. Extraordinarily, the 2F did not use the surviving lightweight aluminium 2E for the new year's updated 2G Can-Am car. Instead, the 2F used one of the team's first three glass- fibre monocoques from 1963-64.

With the strutted wing mounted on the rear suspension uprights to exert downforce directly to the wheels and tyres and the nose venturi and flap system up front, the 2F's radiators were hipmounted, as on the 2E. The shorter pipe runs minimised overall coolant capacity, and thereby weight, while the cockpit could be cooler than the preceding 'FIA' Chaparral 2D coupés. Rearward weight bias was increased while, relieved of warm radiator air passing over the cabin roof, cold air could feed the carburettors without the 2D-type roof-top intake. Roof-shape, windscreen and door glazing were taken straight from the 2D design, but the body sides were flat-topped and slab-sided. Innovative use was made of aerospace – or surfboard-style – glassfibre sandwich mouldings, and Hall saved weight by using two small aircraft batteries, one behind each seat. Can-Am 2E-style 16in wheels housed 12in diameter disc brakes. Where the 2D coupé had used bolt-on wheels, the 2F was much more orientated towards endurance racing and pit stops, with centre-lock triple- Heared knock-off attachments.

Years later, Hall declared, "I enjoyed the 2F, quite a nice car. It was fun to compete against Ford at that time. It was a David and Goliath deal. I believe that the 2F was a better car than the Ford Mark IV, a faster race car. Had the transmission not been a problem we would have won a lot of those races. The engine was good by that time and the chassis were durable. We could have continued another year."

### 1963 Chevrolet Grand Sport Roadster & Coupe

Credits: 3d Model conversions by Big FAT Luke, Mac Ten & Geroda74, rescaled by MacedoSTI, skins by Pasta





The Grand Sport was a direct development of the 1958 FIA ruling that limited international sports/racing cars to three liters engine displacement. Up until that moment, Chevrolet had been hard at work on some exotic big-engined sports/racers, the last of which, the Corvette SS, ran at the 1957 Sebring race in the hands of Piero Taruffi and John Fitch.

Seeing no benefit to passenger-car engineering in perfecting a 3-liter racing engine, Chevrolet stayed away from road racing until their resident competition wizard, Zora Arkus-Duntov, spotted a loophole in the FIA rules that would permit Chevrolet's return.

Because no displacement limits were set on GT cars, Duntov and his talented design group set out to build a lightweight, big-engined Grand Tourer that would be powerful enough to win not only the GT class, but also the supposedly faster sports/racing category as well. The goal was no less than an overall victory at the Le Mans 24-hour classic.

Chevrolet, still shying away from an all-out racing car disguised as a GT car, wanted their Grand Sport to look like a production car - in this case, their brand new Sting Ray. Duntov and his Corvette engineers reckoned that it would take 600 horsepower to push the Sting Ray up the straight at Le Mans at a competitive top speed, 4-wheel disc brakes to slow it down, and a vehicle weight of 1800 lbs. to achieve competitive lap times.

In 1962, Zora Arkus-Duntov initiated a program to produce a lightweight version based on a prototype that mirrored the new 1963 Corvette. Concerned about Ford and the Shelby Cobra, Duntov's program included plans to build 125 examples of the Corvette Grand Sport to allow the model to be homologated for international Grand Touring races. After the GM executives learned of the secret project, the program was stopped, and only five cars were built. All five cars have survived and are in private collections. They are among the most coveted and valuable Corvettes ever built, not because of what they accomplished, but because of what might have been.

The cars were driven by famed contemporary race drivers such as Roger Penske, A. J. Foyt, Jim Hall, and Dick Guldstrand among others. Dick Thompson was the first driver to win a race in the Grand Sport. He won a 1963 Sports Car Club of America race at Watkins Glen on August 24, 1963, driving Grand Sport 004.

The Corvette Grand Sports were raced with several different engines, but the most serious factory engine actually used was a 377 cubic inch displacement, all-aluminum, small block with four Weber side-draft carburetors and a cross-ram intake,

Body panels were made of thinner fiberglass to reduce weight and the inner body structure 'birdcage' was aluminum rather than steel. The ladder-type frame utilized large seamless steel tubular side members connected front and rear with crossmembers of about the same diameter tubes. Another crossmember was just aft of the transmission and a fourth one at the rear kick-up anchored the integral roll cage. The frame was slightly stiffer than the 1963 Corvette production frame and was 94 lb (43 kg) lighter. A number of other lightweight components were utilized to reduce overall weight to about 800 pounds less than the production coupe. Initially the Grand Sport project was known simply as "The Lightweight".



### 1967 Chevron GT & FVA

Credits: DobriD - 3d, conversion by SergioC and Dodge33; skins by Pasta, Parrilla, Ben Nash, Carmar and Dodge33



Despite receiving no formal training, Derek Bennett had made quite a name for himself preparing, repairing and modifying a colourful variety of road and racing cars. He had set up shop in Bolton in North England in the late 1950s where he mainly repaired accident damage, often by welding undamaged halves of two cars together. Today this method is heavily frowned upon, but Bennett's meticulous repair work brought many wrecks back to as-new condition. In his spare time he showcased his other talent on the racing track where he successfully campaigned a host of custom racing cars. Both his mechanical and driving skills resulted in a large number of fans for the modest Englishman.

In the past his creations were simply known as Derek Bennett Specials. After brainstorming for weeks to find an appropriate name for his cars, Bennett glanced over the Highway Code symbols. One of them had the simple description 'Chevrons', which immediately appealed to him. So Chevron it was.

Orders for more cars came in after the Chevron's successful debut and four additional Clubman racers were constructed along the lines of the first cars. The success of the B1 and B2 as they were later referred also sparked the interest for a 'GT' version to take on Lotus' other dominating circuit racer, the Elan.

Instead of modifying the existing design, Bennett played around with the idea of completely new, mid-engined racer. For the time being it only resulted in a small model placed on his office desk to remind him of what could be up next. When a potential customer, Alan Minshaw, visited the factory and saw the model, he became so interested that he put down a 100 Pounds deposit.

Excited by the prospect of building another new car, Bennett set out to turn his imagination into a race winner again. Apart from the spaceframe chassis, the rear uprights and the wishbones, most of the mechanicals were again sourced from a wide variety of race and road cars. Following the latest trend, Bennett decided to mount the engine between the driver and the rear axle.

Two completely different four cylinder engines were considered, the Ford 1.6 litre twin cam lifted from an Elan and the German BMW 2 litre unit of the 2002 road car. Two cars were constructed, the Ford engined B3 for Martland and the BMW powered B4 for Bennett to race himself and to serve as a rolling test bed. An aluminium body was created that was both purposeful and attractive. Peter Gethin shook down the B3 at the local Oulton Park track and although much of the bodywork was not yet fitted he was impressed with Bennett's latest creation. A third car was sold on the spot. A few days later Martland drove the B3 to Chevron's 'traditional' debut victory at the same track.

A 'production' run of a B4 derived GT car was planned for 1967. Bennett had to increase his workforce, but he did not have to look far. Many of his friends already helped him in their evening hours and were more than happy to spend the day time in the 'factory' as well.

The main differences between the production B6 and the B4 was body, which was now constructed from fiberglass by Specialised Mouldings. Owens went back to Munich with a van to collect the engines himself. Seven cars were completed, six with the modified two-litre BMW and one with the Ford twin-cam unit.

Martland received the first example and promptly drove it to another debut victory. A dozen more major victories were scored that season with a B3, the B5 and the B6s. Especially Brian Redman's win with the BRM engined B5 in the in the international Group 6 race at Brands Hatch was noteworthy. It was not only Chevron's first 'international' win, but it also was the first in Chevron for Redman who would later become the team's highly successful works driver.

For international racing the Chevron B6 was considered a prototype and was required to run in the Group 6 class against advanced Ferraris and Porsches. Bennett took a bold step and set out to construct enough examples of the mid-engined racer to homologate it for the Group 4 GT class.

In order to qualify at least 50 examples were required to be produced. With no type indication yet in place all versions were considered the same so 'just' 39 additional chassis were required to be build. With a Formula 3 single seater commissioned by a customer designated B7, the 1968 'GT-racer' was dubbed B8.

By the time the FIA dropped by to count the cars, there were not sufficient cars completed, but there were enough supplies available to construct the remaining cars. Satisfied with their findings, the FIA homologated the new racer. Eventually 44 examples were constructed, equipped with a wide variety of engines.

Unusually, the B8 had to wait almost a month to score the maiden victory, the first of many. It was not until 1969 that the B8 started to rack in Group 4 victories, including a class win in the prestigious Daytona 24 Hours. The ultimate version of the B8 body style appeared in 1968, when the unique B12 appeared, with a 3 litre Repco engine, which in proper Chevron style won its first race on its debut in Silverstone.





After the success of the 250P, Ferrari wanted to take the rear engine formula a step further by creating a version that would run the sports car class for road-going cars. In doing so, he needed to make the 250P look like road car, and convince the governing FIA of this. Ferrari and Pininfarina revealed the 250LM at the 1963 Paris Motor Show. Aside from the generous appointments added by Pininfarina just before the show, the 250LM was very much like the Ferrari 250 P with a roof. Both cars shared the same lengthened Dino sports prototype (SP) chassis and the well tested 250 GT V12. Since this engine fit well within the three liter limit for racing cars, it was an easy choice.

Chassis detail was quite complex and robust. It included four tubes that carried oil and water to the front-mounted radiators. This helped maintain a better weight balance, but did make both systems venerable to accident damage while also increasing cockpit heat. To further balance weight, two 65 liter fuel tanks were located in front of the rear wheels. Fully independent suspension was fitted, as was inboard rear brakes which demanded very strong half shafts to cope with the load.

Unfortunate for Ferrari, the FIA and was not convinced that the rear engine 250LM was a version of the front-engine 250 GT which had the necessary production figures for homologation. While both the cars shared the same engine, they were radically different in concept. Ferrari's attempt to bully the FIA by threatening to boycott several events, including F1 entries, did not sway the officials; the 250LM would race as a prototype instead of a road car. This decision forced the car to compete with true prototypes, thus decreasing its chances of victory. Since Ferrari had much faster prototypes available for the 1964 season, the 250LM seemed classless and the 250GTO didn't have a proper replacement. In May 1963, Ferrari increased displacement from the prototype's 3.0 liter engine to 3.3 liters and started selling copies to private teams like NART, Maranello Concessionaires, Scuderia Filipenetti and Ecurie Francorchamps. These teams drove the LM home to many overall victories in support races and hill climbs. By 1966 the 250LM was finally homologated as a sports car, but only after it was almost outdated by the GT40.

### 1966 Ferrari 365 P2 Spyder

Credits: NPanic - 3d Model design, AC Model Import by GØD, skins by Pasta



Ferrari scored the first outright victories for a mid-engined car at Le Mans in 1963 and 1964 with evolutions of the same car; the 250 P and 275 P. As a response to Ford's new GT40 program, a more substantial evolution was developed for the 1965 season; the 275/330 P2.

n many ways, the P2 was the refinement of the sports prototype it replaced. Carried over was the tried and trusted steel tubular spaceframe chassis with double-wishbone suspension on all four corners. The all aluminium bodywork was recognisably different. In an attempt to increase the aerodynamic efficiency of the design, the panels were wrapped more tightly around the mechanicals, while a narrower windshield was fitted. The roll-over hoop behind the driver doubled as a primitive aerofoil.

What Ferrari feared most about Ford's GT40 was the grunt of its considerably larger small block and later even big block V8s. Instead of simply increasing the displacement of the choice of V12s available, Ferrari decided to develop a new twin-cam head for the works cars. Available in 3.3- and 4-litre versions, the new four-cam V12s produced between 350 and 400 bhp. Not quite ready to sell the sophisticated new engine to customers, Ferrari also made the P2 available with a 4.4-litre single-cam V12; the 365 P2.

The first P2 debuted at the Daytona 2000 km, where it was fastest in qualifying but uncharacteristically was forced to retire with a rear axle failure, handing victory to one of the GT40s. Back in Europe, the P2s showed better form by setting the fastest time in the Le Mans test and then winning the Targa Florio, Nürburgring 1000 km, Monza 1000 km and Reims 1000 km. The race at Le Mans was not as successful with all P2s retiring from the race. Ferrari's honour was defended by a privately entered 250 LM, which scored the marque's final Le Mans win.

For the 1967 season, Ferrari stepped up to the even more sophisticated 330 P3 and the remaining P2s were sold to privateers with single-cam V12s. Although not as well known as its achingly beautiful successors, the P2 did score four major victories in its single season of works racing.

# 1967 Ferrari 330 P4 Berlinetta & Spyder

Credits: (Berlinetta): conversion by ACL team; enhancement by MacedoSTI; skins by Pasta and Ben Nash





NOTE: For proper working of Spyder, you need to have the DLC Ferrari 330P4 installed.

First seen in action in 1961, the Dino 246 SP was Ferrari's first step into mid-engine sportcars. After two years of racing with smaller engined prototypes the first V12 engined car was launched, the 250 P. In the years to come the P-series would form the mainstay of Ferrari's sportscar program. Enzo Ferrari was proven right, after his cars scored the final front-engined victory at Le Mans in 1962, the 250 P took the first ever mid-engined win a year later. On the track Ferrari's dominance was as big as ever both in the prototype and GT class, but across the Atlantic Ocean a scheme was designed to break the Scuderia's stronghold. At first Henry Ford tried to buy Ferrari, but when negotiations failed, Ford set out to design a car that could beat those 'fast little red cars' as he called them. With the Lola Mk 6 as base, the Ford GT made its debut at the 1964 24 Hours of Le Mans.

Now fitted with a four litre engine, the 330 P proved both quicker and more reliable than the little tested Ford GT. With no Fords finishing, Ferrari scored an impressive 1-2-3. In the GT-class Ford scored a first success by beating the GTOs with the AC Cobra Daytona Coupe. No expense was spared on either side of the ocean and Ferrari wheeled out the new P2 which would face Ford's 7-litre GT40. Again reliability problems let Ford down, but Ferrari's prototypes didn't fare much better, with the only surviving P2 finishing in 7th position. Ferrari's face was saved by the NART entered 250 LM.

For the 1966 season the FIA dropped the minimum windshield width regulations. The narrower windshields helped improve the top speed of the cars by around 15 km/h. Alarmed by Ford's 1965 pace, Ferrari set out to revise the P2 to suit the new regulations and bring it up to GT40 speed. In Ferrari tradition, modifications were made to the already reliable chassis.

Sleeker than ever, the P3 featured fiberglass doors. It was the first time the Maranello based team favoured the lightweight material over the aluminium used on the previous prototypes. The clutch was relocated from right behind the gearbox to between the gearbox and engine. The gearbox was a new ZF five speed unit. Lovely looking, but now getting outdated, the six Weber Carburetors found on the 330 P2 were replaced by a Lucas Fuel Injection system on the P3's engine. The engine provided slightly more power, but the wider track added some weight, giving the P3 a similar power to weight ratio as the P2. Three P3s were constructed.

Results in the opening races of the season were promising. Piloted by Mike Parkes the P3 won the 1000 km races at Monza and Spa with John Surtees and Ludovico Scarfiotti respectively as co-drivers. Luck changed for Ferrari as labor problems at the factory prevented proper preperations for the 24 Hours of Le Mans race. Down on development time, none of the P3s made it past the 17th hour of the race. In contrast, Henry Ford had his Le Mans victory with a stunning 1-2-3, a feat previously only displayed by 'those fast little red cars'.

Despite Ford's immense budget, Ferrari was reluctant to give up and the first tests with the P3's replacement were conducted in December of the same year. Apart from some cosmetic changes the most important new part of the P4 was its engine. Still displacing 4 litres, the unit was derived from the 3 litre F1 engine. Main new feature of the engine was the new head, with 3 valves per cylinder, one exhaust and two intake. The Lucas Fuel Injection was moved from between the cylinder banks to between the camshafts. The engine was rated at 450 bhp at 8200 rpm.

After 560 test laps at Daytona in December 1966, the P4 was ready for action. Two of the three P3s were fitted with P4 style bodywork and a Weber carbureted engine. Two unfinished 330 P3s were built up to the same specifications and dubbed 412 P. All four cars were sold to privateers,

to back up the factory P4 effort. New from Ford at the 1967 24 hours of Le Mans was the Mk IV version of the GT40, featuring an American built aluminium-honeycomb monocoque and the familiar 7 litre V8.

All the testing at Daytona paid off as Ferrari dominated on Ford's home soil in the Daytona 24 hours race. The podium was filled by Ferrari drivers which underlined the Scuderia's dominance when the three winning cars crossed the line together. The first two were P4s and the third a P3. At Le Mans, Ford was back with the new Mk IV and beat the sophisticated Ferraris on horsepower. Reliability again almost got the better of Ford, but one of the two surviving Mk IV finished on top, closely followed by two P4s. Ferrari did win that year's overall sportscar World Championship, for the 12th time in 14 years.





### 1965 Ferrari Dino 206s Spyder & Berlinetta

Credits: 3d Model by DobriD, AC Import by SergioC, updated by GADU. skins by Pasta, Parilla and Ben Nash





The Dino 206 S is a sports prototype produced by Ferrari in 1966–1967 under the Dino marque. Ferrari intended to produce at least fifty examples for homologation by the CSI in the Sport 2.0 L Group 4 category. As only 18 were made, the car had to compete in the Prototype 2.0-litre class instead. In spite of this handicap the Dino 206 S took many class wins. The 206 S was the last of the Dino sports racing cars and simultaneously the most produced.

The first racing result was a fifth place in the 1966 12 Hours of Sebring, driven by Lorenzo Bandini and Ludovico Scarfiotti. Three cars entered the 1966 Targa Florio the same year under Ferrari SEFAC team. Jean Guichet and Giancarlo Baghetti finished the race in second place also with a class win. Other cars finished fourteenth and not at all. 1000 km Spa netted sixth and first in the prototype class for Richard Attwood and Jean Guichet. At the 1000 km Nürburgring, Scarfiotti and Bandini won the Prototype 2.0 class being second overall. Their Dino was 90 seconds behind the 5.4-litre Chaparral. Third was Pedro Rodríguez and Richie Ginther's car out of four Dino cars that entered.

Rodriguez also scored a class win at the Nassau Trophy. At the Brands Hatch GP circuit, Mike Parkes scored sixth overall and first in class. The Dino 206 S won VI Coppa Citta di Enna. Also in 1966, the Swiss Mountain Grand Prix was won by Ludovico Scarfiotti.

In 1967, Swedish driver Gustaf Dieden finished Swedish National Falkenberg and GP Swerige in fifth and ninth respectively. Ferdinando "Codones" Latteri and Pietro Lo Piccolo scored many overall and class wins between 1967 and 1969.



### 1965 Ford GT40

Credits: conversion by HSS; 3D improvements by Nugget; enhancement by MacedoSTI; skins by Pasta, Parrilla and Ben Nash



Henry Ford II had wanted a Ford at Le Mans since the early 1960s. In early 1963, Ford reportedly received word through a European intermediary that Enzo Ferrari was interested in selling to Ford Motor Company. Ford reportedly spent several million dollars in an audit of Ferrari factory assets and in legal negotiations, only to have Ferrari unilaterally cut off talks at a late stage due to disputes about the ability to direct open-wheel racing. Ferrari, who wanted to remain the sole operator of his company's motorsports division, was angered when he was told that he would not be allowed to race at the Indianapolis 500 if the deal went through, since Ford fielded Indy cars using its own engine and didn't want competition from Ferrari. Enzo cut the deal off out of spite and Henry Ford II, enraged, directed his racing division to find a company that could build a Ferrari-beater on the world endurance-racing circuit.

The effort began in the early 1960s when Ford Advanced Vehicles began to build the GT40 Mk I car, based upon the Lola Mk6, at their base in Slough, UK. After disappointing race results, the engineering team was moved in 1964 to Dearborn, Michigan, USA to design and build cars by Kar Kraft. All chassis versions were powered by a series of American-built Ford V8 engines modified for racing.

After a season-long series of dismal results under John Wyer in 1964, the program was handed over to Carroll Shelby after the 1964 Nassau race. The cars were sent directly to Shelby, still bearing the dirt and damage from the Nassau race. Carroll Shelby was noted for complaining that the cars were poorly maintained when he received them, but later information revealed the cars were packed up as soon as the race was over, and FAV never had a chance to clean and organize the cars to be transported to Shelby.

Shelby's first victory came on their maiden race with the Ford program, with Ken Miles and Lloyd Ruby taking a Shelby American-entered Ford GT40 to victory in the Daytona 2000km in February 1965. One month later, Ken Miles and Bruce McLaren came in second overall (to the winning Chaparral in the sports class) and first in prototype class at the Sebring 12-hour race. The rest of the season, however, was a disappointment.

New rules taking effect for the 1966 season dictated that at least 50 examples had to be made to run the GT competition class. By the end of the 1965, specification was finalized, and production versions of the GT40s began with chassis GT40P/1000.

This was a major step for a program which had produced 12 cars of varying specification in 1964 and 1965 with limited results. Mid-1965 production began on series of race and road GT40s from Ford Advanced Vehicles in Slough, England from a finalized tub-chassis design.

Ford changed little for their road-going orders, handing over keys to Le Mans-ready cars for diminutive street use. Under the large clamshell hood, the production GT40 used the Ford Fairlane V8 which was first installed by Shelby American. For the road, Ford supplied 335 bhp, in competition trim, with a lighter flywheel and no mufflers, this engine produced 380+ bhp.

In total, 87 production GT40s were made from chassis GT40P/1000 to GT40P/1086. Around 30 of these were delivered with full interiors and wire wheels for use on the road.





# 1966 Ford GT X1 Roadster

Credits: conversion by GØD, enhancement by norms, skins by Pasta and Ben Nash



In late 1965, two experimental, all-alumimum GT40 chassis were manufactured by Abbey Panels in England. One of the tubs was shipped back to Ford's Kar Kraft's Dearborn for testing, never to be seen again. The remaining aluminum chassis, GT110, was shipped to McLaren to become a lightweight open version of the 427 GT40 which raced at the 1965 LeMans. Under contract, McLaren would assemble, prepare and race the aluminum car.

The X-1 was a roadster built to contest the Fall 1965 North American Pro Series, a forerunner of Can-Am, entered by the Bruce McLaren team and driven by Chris Amon. The real purpose of this car was to test several improvements originating from Kar Kraft, Shelby and McLaren. Unfortunately the X1 was unable to secure a victory in its original McLaren configuration. At the hands of Chris Amon, the X1 raced in four times in 1965, most of which resulted in the car not finishing.

To the disappointment of McLaren, the X1 was handed over to Shelby American at the end of the 1965 season. Shelby studied and the roadster and then it was sent to Kar Kraft to be extensively modified as a test car. Heavier headers and a heavier T44 manual transmission were installed.

It was later upgraded to Mk.II specifications with a 7.0-liter (427 ci) engine and a standard four ratio Kar Kraft (subsidiary of Ford) gearbox, however the car kept specific features such as its open roof and lightweight aluminum chassis. Other temporary modifications to the X1 included testing of Ford's two speed automatic transmission, and aerodynamic work, both of which led to shape the Ford J Car. After the testing was finshed, a standard Mark II nose was fitted to the X1.

The final race for GT110 came at the 1966 Sebring Race. Driven by Ken Miles and Lloyd Ruby, the red painted roadster took the overall victory despite competition from Ferrari's 330 P3, Chapparals and Porsches. After the race, provisions were made for Holman & Moody to rebuild X1, but sadly the plan was never acted upon.

The X-1 was a one-off and having been built in the United Kingdom and being liable for United States tariffs, was later ordered to be destroyed by United States customs officials.

# 1966 Ford GT40 Mk II



Credits: enhancement by \_EASY\_, MacedoSTI and norms; skins by Pasta, Pierre Dery and Ben Nash

After an increasingly successful two year program, Ford and their partner Shelby American continued to campaign the GT40 in prototype endurance racing. The 1965 version of the GT40 proved itself capable and was primary opposition for Ferrari's P2. For the new season, Ford concentrated on developing the Mark Two GT40 which would compete against Ferrari's radically different 330 P3.

During the 1965 LeMans, Ford received much attention for two large-displacement GT40s entered in the race. These two cars were prepared by Kar Kraft, a subsidiary of Ford run by Roy Lunn. They chopped up the GT40 chassis to accept the 427 CID Galaxie engine. Unfortunately, development time on these cars was short and the decision to run them at Le Mans was unexpected.

The initial performance of the 427 GT40 was promising. The car could reach 210 mph down the Mulsanne straight and qualified almost ten seconds faster than any Ferrari. During the opening hours of the race, prototype GT40s were in the lead. Unfortunately transmission problems arose, retiring both cars. Afterwards, it was clear that the 427 GT40 would be the car to race and a more robust transmission was necessary to make the distance.

The 1965 car left many problems which Kar Kraft could not have reversed during their short development time. Although the car was basically the same as the Mark I it had several hundred additional pounds of reinforcing and a longer nose which interfered with aerodynamics. Even though these problems arose, it was decided that the relatively cheap, NASCAR-proven 427 would power the 1966 Mark Two GT40.

Upon knowing Ford was to use the 427, Shelby inquired to have Ford's Engine and Foundry Division reduce the weight of the NASCAR V8. Aluminum heads with smaller valves and other refinements helped shed 50 lbs off the engine.

Other modifications to the engine included the conversion to dry-sump lubrication with the help of NASCAR oil coolers and the move to a single Holley 4-barrel carburetor. After all was done the engine produced 485 bhp which was below the 520 BHP NASCAR unit, and well below the 100hp per liter achieved by the competition.

Special attention was paid to the gearbox and differential to properly deliver the tremendous torque generated buy the engine. Kar Kraft used many resources and development time to ensure the transmission failures of 1965 would not repeat. Surprisingly, Kar Kraft did not incorporate ZF's new 5-Speed into the car.

Most of the chassis and suspension work was carried out by Shelby American. They revised suspension points, and reinforced the chassis only were needed. Since the Girling discs were already reaching their limits in the small block GT40s, it is no surprise they were having a hard time stopping the faster and heavier 427 cars. Since there was little room to enlarge the disc and ducting already cooled them at too high a rate, a new solution was needed. Phil Remington, Shebly's chief engineer, designed a method to quickly change the discs during a race. The system comprised of a retainer which allowed rapid removal of the brake caliper to provide fast access to the discs. Since the life a disc was roughly 13 hours, during longer races discs swaps would be mandatory.

In 1966, the Mk.II began dominating the world famous 24 Hours of Le Mans race in France. With Henry Ford II himself in attendance at Le Mans, the Mk II GT40 provided Ford with the first overall Le Mans victory for an American manufacturer. The Mk.II took Europe by surprise and beat Ferrari to finish 1-2-3 in the standings.





# 1967 Ford GT40 Mk IV

Credits: conversion by AC Legends, skins by Pasta



Perhaps the most significant post-war American race car ever produced was Fords Mk IV GT40, and it is nothing short of a racing legend. It was the ultimate development of the GT40 platform, and it took the fight straight to Ferrari, dominating a field that included the Ferrari 330 PF and the Chaparral 2F, as well as its predecessors, the GT40 Mk I and Mk IIB.

As history would reveal, the Mk IV would only be campaigned in two races, at the 1967 12 Hours of Sebring, where Mario Andretti and Bruce McLaren piloted a Mk IV to victory, and at the 1967 24 Hours of Le Mans, where Dan Gurney and A.J. Foyt outperformed all to the checkered flag and won the Index of Performance for the most efficient car. That victory is the only all-American outright win of an American-built chassis, engine, team, and drivers at the fabled Le Mans 24-hour endurance race.

The 7 litre Ford engine had the durability to go 24 hours, providing the rpm range could be controlled. Ford issued a firm edict to all drivers that 6200 rpm was the limit. No exceptions, even though the engine had a safe limit of 7400 rpm for short-term use. To this end, each car's tach was accurately calibrated and a calibration chart taped in the driver's side door jamb.

Due to the Mk IVs unparalleled performance, the FIA quickly relegated the Mk IV to racing extinction by outlawing any prototype car that had larger than three-liter motors.

### 1965 Iso Grifo A3/C



Credits: conversion by Velo; enhancement by DrDoomsLab and SergioCepeda; skins by Pasta

Thanks to his test-driving and engineering skills, Giotto Bizzarrini was hired by Ferrari in 1957. Here he first fine-tuned existing models and eventually was given the responsibility to develop a new line of GT racers. He was busy developing the 250 GTO, when he together with a number of other key people left the company in the infamous 'palace revolution' of 1961.

Bizzarrini started as a consultant for Count Volpi for whom he created the 'Breadvan' Ferrari and for Feruccio Lamborghini for whom he designed the V12 engine that would power Lamborghini sports cars for decades to come.

In 1962, he teamed up with Renzo Rivolta, who was turning his Iso company into a manufacturer of sports cars. Bizzarrini's first job was to help develop a sophisticated platform chassis for the 'Iso Rivolta' 2+2 coupe. He was then commissioned to turn the Iso Grifo A3/L two-seater into a race winning machine; this was most certainly more up his ally. Pretty much independent from Iso, he conceived the exceptionally low A3/C that was an Iso Grifo in name only.

One of Bizzarrini's priorities had always been to mount the engine as far back in the chassis for a good weight balance and with the A3/C he took it one step further; the engine pertruded so far into the cabin that the distributors had to be accessed through small latches in the dashboard. The engine itself was a Corvette derived V8 engine, that in competition spec produced an impressive 405 bhp. Bizzarrini worked in close cooperation with Bertone's Giorgietto Giugiaro to sculpt the A3/C's aluminium skin. Being a racing car, the main priority was to create as little frontal area as possible, but nevertheless the result was quite pleasing to the eye. Drogo constructed the body for Bizzarrini.

Two Grifos were displayed at the 1963 Turin Auto Show and they were literally the talk of the show. The prototype racing car was sold then and there and Bizzarrini also received an order from American Ed Hugus, who wanted to race a Grifo A3/C in the upcoming Sebring 12 Hours race.

The car still bore the Iso badge, but they were built by Bizzarrini's men in his own workshop. Alongside the racing car, a road going version of the A3/C was also produced. In Hugus' hands,

the A3/C made its racing debut early in 1964. It proved quite competitive until it was thrown down the leaderboard with transmission problems. The gearbox had to be swapped twice and the car eventually finished in a lowly 39th position.

Back in Europe, the first A3/C also showed great potential and clocked the tenth fastest time during the Le Mans trials. A new car was readied for the Le Mans race and it was on its way to a very commendable finish when a poorly installed fresh brake pad ripped the rotor to pieces. Two hours were lost and the Grifo could do no better than fourteenth. It was the start of a pretty successful racing career, highlighted by a class win in the 1965 24 Hours of Le Mans. The press was understandably impressed by the racing successes and even more so by the performance of the road going A3/Cs, which still packed a 365 bhp punch. Especially the road holding received universal acclaim.

n the summer of 1965 the relationship between Rivolta and Bizzarrini quickly deteriorated. The Iso owner wanted Bizzarrini to put his successful A3/C Stradale into series production, but Bizzarrini was far more interested in continuously improving the car. The two ideas conflicted and eventually all ties were severed. Bizzarrini was now fully indepent and while Iso continued to deliver parts, he was not allowed to use the Grifo name. From then on, after about two dozen Grifo A3/Cs were built, the cars were marketed as the Bizzarrini 5300 GT. The racing cars received the 'Corsa' monniker and the road cars were badged 'Strada'. Not much later the Strada was joined by the 'America' model, which sported a fiberglass body and a double wishbone rear suspension.



### 1966 Jaguar XJ-13

Credits: conversion by MacedoSTI; skins by Pasta & carmar



With five wins between 1951 and 1957 (two by C-types and three by D-types), Jaguar were the most successful manufacturer to participate at Le Mans during the 1950s. Jaguar were best known for their smooth and powerful straight six engines, but a dual overhead camshaft V12 had long been under consideration. Such an engine finally came to fruition in July 1964 with a view to spawning a single overhead cam derivative for production use.

1964 was a watershed season for sportscar racing. Ferrari had largely dominated the scene since Jaguar's exit, but a new Anglo-American challenger emerged at the Le Mans Test that April: the Ford GT40. Henry Ford II had sanctioned the multi million dollar GT40 programme after Enzo Ferrari reneged on a deal to sell his company. Thus began perhaps the greatest battle in sportscar history.

Compared to the single cam Ferrari V12 and Ford's pushrod V8, the new Jaguar V12 seemed to have an edge. Understandably, the competition department in Coventry thought it the ideal power unit for an all new prototype racing car that could return Jaguar to Le Mans.

A small team started work on designing a brand new mid-engined challenger: the XJ13. The XJ13 was based around an all new aluminium monocoque chassis. The engine and gearbox were used to carry the rear suspension while the front assembly was attached to a bolt-on subframe. Front suspension was via double wishbones. At the back, the driveshafts were used as upper transverse links (similar to the E-type) with two radius arms per side and a single transverse lower link. Coil sprung Armstrong dampers were fitted all round. Two enormous fuel tanks with a combined capacity of 41 gallons were located either side of the engine, up against the rear bulkhead.

Jaguar's Claude Bailey-designed 60° V12 was essentially two XK six cylinder engines on a common crankshaft. Initially, six SU sidedraught carburettors were used and the engine developed 445bhp at 7000rpm. Jaguar soon switched to Lucas mechanical fuel-injection which led to a marked increase: 503bhp at 7600rpm. In this configuration, the peak torque rating was 518Nm at 6300rpm. A five-speed manual ZF 5DS-25 transaxle was employed.

The XJ13's aluminium bodywork was designed by feted aerodynamicist, Malcolm Sayer, who had previously been responsible for both the C and D-type. Shoulder-mounted rear wing intakes fed fresh air into the engine bay, but unlike most sports racing cars of the era, Sayer eschewed a Kamm tail in favour of a pointed rear end with E-type lights. Bodywork was fabricated from aluminium by Abbey Panels just down the road in Coventry. Exposed rivets were a feature of both the interior and exterior. Although at 1040kg, the XJ13 prototype was a little on the heavy side, it could still hit 195mph. 0-62mph took under four seconds.

Working mostly evenings and weekends, the small team had the first car running in March 1966. However, with few staff, little time and an almost non-existent budget, it wasn't until a year later that testing began in earnest.

Nine tests were variously held at Silverstone and MIRA between March and August of 1967. Unfortunately, just a few weeks earlier, the FIA had dropped a bombshell that killed any prospect of the XJ13 ever going racing.

The day after Le Mans, it was announced a three-litre engine limit would be imposed on Group 6 Prototype racing cars from 1968 in an effort to reduce speeds. The decision was made without any manufacturer consultation, but top flight prototypes had become so fast that the governing body felt drastic action was needed.

As a consequence, a whole raft of cars were made obsolete practically overnight.



*1967 Lola TTO Mk3-GT* Credits: conversion by MacedoSTI; improvements by SergioCepeda; skins by Pasta



Based on Lola's potent Can-Am challenger, the T70 Mk3 Coupé could be seen as GT40 replacement. That's because Eric Broadley was watching the first GT40 win at Le Mans in 1967 and he was involved in the car since its inception. Like the GT40, the T70 Coupé used a mid-mounted American V8 in a thoroughly European chassis.

Aerodynamicist Tony Southgate was responsible for the new sleek body which was much more efficient than the GT40 and the T70 could theoretically reach a top speed of 200 mph on the Mulsanne straight. The result was the T70 Mk III effectively a Can-Am car with a roof and on paper a match for the best from Maranello, Dearborn or Stuttgart. The high, flat rear deck with a rear lip spoiler eschewed the conventional wisdom of a gentle slope down at the rear (as on the Ford Mk IV). And while this created more drag (it's Cd of 0.47 compared poorly to 0.35 of the slippery Ford) it generated three times the downforce. The T70 Coupe was the first Lola design to benefit from wind tunnel work and the result not only looked fabulous, it proved to be a well balanced car with fine handling and excellent roadholding.

Broadley thus introduced the concept of trading drag for down force (at the time the shape was misunderstood by some who criticised its drag, which was inevitably higher than other GT cars of the period, which were, as was normal then designed for minimum drag.

The Lola T70 was therefore well suited to tracks with fast sweeping bends such as Spa, where the trade off of drag for down force meant that it could take corners flat which other cars had to lift for. The T70 was not very successful at endurance racing such as Le Mans, due mostly to lack of a competitive engine. The racing small block Chevy of the period was developed for the high octane fuels then available in the USA, and did not thrive on European fuel. However it achieved considerable success in shorter races such as the BOAC 500 where its good handling and light weight made it very competitive.

Note: This car is fitted with a Cam & Pawl Diff.

### 1966 Lotus 47 GT

Credits: 3D by Yamabushi; conversion by SergioCepeda, なんだこばんだ and Dodge33; skins by Pasta, Ben Nash and carmar



Introduced late in 1966, the Lotus Europa was one of the first mid-engined production road cars. Although officially intended for use on the street, the Europa's competition roots were hard to miss. Accordingly, it was hardly surprising that a competition car quickly followed. Built for the production-based Group 4 class, it was dubbed the 47 GT. As on the Europa and also the Elan for that matter, the 47 GT featured a sheet-steel central backbone chassis. Suspension was by double wishbones at the front, while the rear featured a multi-link setup consisting of reversed lower wishbones, top links and twin trailing arms. Disc brakes on all four corners provided the stopping power. The lightweight fibreglass was also directly derived from the Europa but obviously lacked unnecessary trim like bumpers.

What really set the 47 GT apart from the Type 46 Europa was the drivetrain. Although both mounted amidships, the Europa featured a relatively docile Renault engine and gearbox, whereas the competition car boasted the latest version of the Ford Cosworth based twin-cam engine, mated to a Hewland FT 200 gearbox. Initially equipped with Weber carburettors but later also sporting a fuel injection system, the 1.6 litre 'four' was good for around 165 bhp.

Entered by the works Lotus Components team, the Lotus 47 GT debuted on Boxing day 1966 at Brands Hatch, where John Miles drove it to outright victory. It was the start of a remarkably successful career for the diminutive Lotus, particularly on the British isles. In addition to many national events, Miles together with Jackie Oliver also won their class at the Brands Hatch 500 World Championship round ahead of a fleet of Porsches in 1967 and 1968.

Deliveries of the customer cars started early in 1967 and these cars were also raced with great success on all corners of the world. To keep the 47 GT competitive, development work also continued, resulting in the 47A GT announced in 1968. Production of the 47 GT lasted until the end of 1968, even though the Europa would continue to be offered well into the 1970s. Although exact figures are not known, it is believed that around 55 examples were built, including a handful of the 47A evolution. The featherweight Type 47 remains as the last truly successful Lotus sports car.

Note: This car is fitted with a Cam & Pawl Diff.

### 1964 Maserati 151/3

Credits: 3D by DobriD; conversion by SergioCepeda; enhanced by Gadu and Dodge33; skins by Pasta and Dodge33



The Maserati Tipo 151 was one of those cars which never quite came good in period, despite demonstrating devastating pace. At Le Mans the car had no trouble getting into the lead of the race and is believed to be the first car ever to crack the 300kph barrier along the Mulsanne Straight, but a lack of investment as well as a shortcoming in the luck department meant that it's great speed was never converted into winners laurels. The Tipo 151 marked a return to more traditional concepts of car design and used a frame comprising a trellis of both round and oval large tubes, an independent front suspension and a De Dion axle which was modified to act like a swing-arm axle. The V8 engine was derived from the 450S, with changes including four gear-driven camshafts, a dry sump lubrication system and four Weber 45 IDMs carburettors.

The aluminium body was designed by Giulio Alfieri and refined using a wind tunnel at Milan University. It was reminiscent of the Frank Costin designed Zagato bodied 450S, but with an accentuated Kamm Tail, jokingly called the 'racing van' for its unique new body design. The mandatory doors opened halfway up the side due to the longitudinal tubes of the frame and the lateral fuel tanks.

Early testing revealed handling problems which were solved by adding a homokinetic joint to the suspension system suggested by Bruce McLaren, one of the drivers of the Cunningham team. There were also ventilation problems and excessive rear tyre wear which were never resolved because of lack of proper testing due to the cars being completed shortly before the Le Mans race.

The Maserati France car was sent to the factory for revision for the 1963 Le Mans event. Improvements included a 4,941 cc engine derived from the 5000 GT but with single ignition and Lucas indirect injection rated at 430 hp (321 kW). The car was renumbered as 151 003. The car was campaigned in the 1963 season but retired after a transmission failure. For 1964, the changes included a new 37 inch tall body designed by Piero Drogo (built by Allegretti), a lengthened chassis, a wider track and a switch to dry sump lubrication for the engine, reducing the power output to 410 hp (306 kW). It performed well during the race recording a top speed of 310.0 km/h (192.6 mph) on the Mulsanne Straight but retired after 99 laps due to electrical and braking issues.

### 1967 Matra M8630 BRM

Credits: 3d Model by DabriD, AC import by MacedoSTI skins by Pasta



Even though it's hosted in the heart of France, the world's most famous endurance race has traditionally been dominated by the Italians, Brits and Germans. By the mid 1960s, it had been well over a decade before the last French victory in the 24 Hours of Le Mans and it did not look like that would change any time soon. So when in 1967 Matra announced their desire to win the 1969 F1 World Championship and the 1970 Le Mans with a completely French machine, the many French enthusiasts were ecstatic. It was quite an ambitious desire as the aerospace company had only become involved in the automotive business just a few years earlier.

The reason why the rather wild claim could be taken seriously was the major revision of the sports car rules for 1968, which limited prototype engines to 3 litres. This was the same displacement limit as in Formula 1 and meant that Matra's new engine could serve a dual purpose. While waiting for the new engine to be developed, the company campaigned single seaters and sports cars with foreign powerplants. Dubbed the MS620 and MS630, the first Matra sports cars featured a traditional spaceframe chassis and a fiberglass body. Campaigned in 1966 and 1967, they used BRM and Ford V8 engines.

The Matra-Simca MS630 was a Group 5 prototype race car introduced in 1967 for the World Championship for Makes.

For 1967, Matra decided to use a 1.9-litre version of the BRM Formula One V8 engine. (capable of producing 245 hp at 9,000 RPM.) Matra planned to have Johnny Servoz-Gavin/Jean-Pierre Jaussaud to drive the MS630 at both the 1967 1000 km of Spa and 1967 1000 km of Nürburgring but the entries for both races were withdrawn.

The MS630 only made one appearance in 1967, the 24 Hours of Le Mans. Matra entered two cars for Servoz-Gavin/Jean-Pierre Beltoise and Jaussaud/Henri Pescarolo. Servoz-Gavin/Beltoise retired with a broken oil pipe and Jaussaud/Pescarolo also retired with broken suspension.

In the World Championship for Makes, Matra scored no points during the year. The MS630 was considered one of the most advanced prototypes of its time.

The previous year was the 24 hours of Le Mans, the highlight of the Matra sports car team. The test run at the 12-hour race at Reims duly went wrong, since both of Mantra's cars turned out early to technical defects. In Le Mans, there were only two MS630 at the start. Matra had learned the lessons from the problems of the previous year and decided against a third vehicle to join with them. Nevertheless, the race in Le Mans was a failure for Matra. The MS630 by Henri Pescarolo and Jean-Pierre Jaussaud retired after a break from the rear suspension after 43 laps. Just before midnight, the journey of the second MS630 was over. Jean-Pierre Beltoise and Johnny Servoz-Gavin stopped defective valve damage to save the BRM engine.

Back in 1966, Matra had experimented with a 4.7-liter engine from Ford. The MS620 was sent to the assembly in the Le Mans pre-test, but quickly turned out that the engine was too heavy for the more delicate lattice frame. Near the end of the 1967 season, this engine was used in the MS630. Its tube-frame chassis was much stiffer and Henri Pescarolo raced in the "1000 km from Paris" in Montlhéry with Matra-Ford until an engine failure eliminated him from the race.

In 1968, a Matra with a 3-liter 12-cylinder engine was developed. This engine would drive in the future not only the sports car, but also in Formula 1 cars, there the MS11 was used. The MS630 was modified so that it could accommodate the new engine. Its debut was in the car 1000-kilometer race at Spa. At the Le Mans competition in 1968, only one car was used. The Pescarolo/Servoz-Gavin duo raced on Sunday morning and won second place overall as the MS630 broke the suspension and had to give up both. The MS630 were also sporadically used in the 1969 World Sportscar Championship. Before Matra completed their new model, the Matra MS650 was used. In the 1969 Le Mans, Jean Guichet and Nino Vaccarella came in 5th.





### 1967 Nissan R380-11



Credits: Conversion by MacedoSTI, enhancements by Gadu, SergioCepeda and Legion; skins by Pasta

The R380 was a racing car built in 1965 by the Prince Motor Company which, after the merger with Nissan, became Nissan R380-II (also known as R380 Mk.II) to compete in the Japanese Grand Prix racing.

For a powertrain, Prince would use the same G series engine, but modified it specifically for the R380 racing project. A twin cam straight six displacing 1,996CC (121.7 CID), using 4 valves per cylinder, and being equipped with triple Weber DCOE carburetors, the new GR-8 made 194 BHP and 172 Nm of torque. Transmitting that power to the rear wheels was a Hewland 5 speed manual gearbox. Prince finished the R380 just in time for a race that never happened. The Japanese Grand Prix was cancelled in 1965.

Prince decided to use the cars for land speed record breaking and testing high speed aerodynamics. The R380 set new speed records in 1965 and 1967. First, on October 6/14, 1965, the R380-I established 5 world records. Then, on October 8,1967, the successor, – Type II (modified type II) – set no fewer than 7 international records (50km, 50 miles, 100km, 100 miles, 200km, 200 miles, 1 hour) on a course in Yatabe, Ibaraki. However, since the cars were not FIA approved, the 6 new records could not be categorized as international records, only as Japanese records.

The 1966 Japanese Grand Prix took place at Fuji Speedway. Prince entered in four R380s, whilst rivaling Porsche entered a trio of their best race cars at the time, the 906. Prince was able to pull in the win that year, beating Porsche's 906s with an overall win, Yoshikazu Sunako would take first ahead of Hideo Oishi's second place.

Following the merger of the Prince Motor Company and Nissan in 1966, Nissan decided the 194 HP wasn't enough. They took the GR-8 and upped the ante by adding mechanical fuel injection, getting a claimed 220 HP out of it. With a now more powerful 220 HP GR-8, Nissan dubbed this iteration the R380-II, and entered four of them in the 1967 Japanese GP. Here Porsche got it's revenge for the loss the year prior, the 906s won over the four R380-IIs entered that year, the Nissans settling for second, third, fourth, and sixth places. The margin of victory was almost two minutes.

All was not lost however, Nissan went about setting 7 new speed records in the same 31-124 miles (50-200kms) in 1967 under T. Yokoyama and the Nissan Racing Team. Now that the cars were FIA approved, the 7 new records could now be considered world records.

After the defeat at the 1967 Japanese GP, Nissan went on to develop the R381, a continuation of the 380 series with modified bodywork, but had a monstrous 5.5 liter Chevy V8 with 450 HP, over twice the horsepower of the GR-8.



### 1965 Porsche 904/8

Credits: Conversion by MacTen; enhancements by DrDoomslab, ValentinK; skins by ValentinK and Pasta



Today the 904 or Carrera GTS remains as one of the finest and most successful Porsches ever constructed. It kickstarted a program of racing cars, that would eventually result in the all conquering 917. It also holds a unique spot in the manufacturer's history as the last dual-purpose sportscar Porsche ever built. The radical 904 was the first Porsche to use a ladder-type frame – spaceframe construction was too expensive for what was, in essence, a production car – and glassfibre body, with the manufacturing turned over to Heinkel Flugzeugwerke in Speyer. It was novel in that the rather unevenly sprayed glassfibre body was bonded directly to the steel chassis to add stiffness, the upshot being that it was more rigid than the previous spaceframe cars. Also, the 904 was commendably light at 675kg, its 2mm-thick (give or take) glassfibre shell weighing only 85kg. The shark nose helped give a drag coefficient of 0.34, low for the time, and a top speed of 160mph, after reaching 60mph in 5.5 seconds from rest.

During 1964 and 1965, the Porsche factory team raced a total of three 904 Coupés with a 2.0 Liter version of the Type 771 flat-8 engine that was tuned to approximately 240 hp in the Coupé and increased its weight to 690 kg as opposed to a typical 904 GTS's 655 kg in race trim. The 904/8 Coupé usually stood in the shadow of its more successful GT cousin (Carrera GTS with a flat-4 engine) and the 904/6 Coupé that joined the 904/8 in the 2.0 Liter Prototype class for 1965 and already had chassis numbers that started with "906" in anticipation of becoming the production 906, which didn't happen. The best results that the 904/8 Coupé achieved in international endurance races were a pair of overall 3rd places in the 1965 editions of the Nürburgring 1000 km and Paris 1000 km, combined with the class win in the 2.0 Liter Prototype class on both occasions.

At Le Mans, however, the 904/8 Coupé never lasted beyond roughly the halfway point of the event before it succumbed to engine or clutch failures. The car already comes with accurate skins for each of the events that the three 904/8 Coupé chassis 904-008, 904-009 and 904-082 participated in or were brought to as a backup car during competition from 1964 to 1966. The racing legacy of the 904/8 ended at the 1966 Nürburgring 1000 km race, where 904-009 was retrofitted to the 904 GTS's flat-4 engine and became the pioneer of live onboard TV coverage in motorsport by delivering the racing action straight from the cockpit of the racing journalists Paul Frère and Rainer Günzler to the living rooms of Germany's ZDF TV audience.

### 1966 Porsche 906-E



Credits: Conversion by MacTen; enhancements by SergioCepeda; skins by Pasta and Ben Nash

After the victorious and race inspired Porsche 904 Carrera GTS in 1964-65, the newly appointed Ferdinand Piech, grandson of Ferdinand Porsche, at the helm of a now more dedicated Racing Department, was ready to build a more purposefully built race car than the heavy 904 when facing the Ferrari 206 Dino. To enter the racing class 'Group 4' Porsche needed to build 50 race cars within a year according to the rules. This gave us in 1966 the Porsche 906, also referred to as the Porsche Carrera 6.

The Porsche 906 was to be the last legal road going Porsche Race Car until the 1996-98 Porsche GT1. Lotus suspension components were used and street legal 15 inch wheels were fitted, but their 5-bolt design didn't help when needing to change tires during a race.

Sculpted for the first time in a wind tunnel, the Porsche 906 had a more rakish and Sport Prototype shape than the 904 GTS. The headlights were still plexiglass covered, but the whole front-end and its chiseled air-intake appeared flatter and lower than the 904, which also provided downforce on the front axle.

Also in 1966 Porsche started to build nine 906 Prototypes to enter in 'Group 6 Prototype' Class as Factory cars and were named Porsche 906 E, meaning 'Einspritzung' or 'Injection'. These prototypes had an early Bosch Fuel Injection system that when tuned to its best produced up to 220 hp at 8100 rpm giving a 280 km/h / 174 mph top speed on the Mulsanne Straight.

### 1966 Porsche 910/6

Credits: Base Conversion by MacTen; 3d update by pixelinside, enhancements by MacedoSTI,; skins by Pasta and Ben Nash



A purpose built racing car, the Porsche 910, was designed specifically for international endurance racing. Based heaving on the Porsche 906, the 910 was produced and entered in 1966 and 1967.

The 910 differed from the original 906 with its use of 13-inch wheels and tires like in Formula One , and it was shorter and lighter which made it good competition for the more powerful GT40 and Ferrari prototypes. The 910 also featured a single large central nut rather than the 5 lugs in the 904 and 906's, which made the racecar not street suitable, but it definitely saved time at pitstops.

Featuring a more rounded design everywhere and the roof panel was removable. Because of this targa roof, the cool-looking gullwing doors of the 906 had to be forgotten.

The 910 was quicker than 906 thanks to its Formula 1 tyres (higher cornering speeds), but the brakes had to be smaller because of the 13" wheels. Quicker car with smaller brakes – it is a very good evidence of the mentality of the era, motorsport was for the brave ones.

The factory only racing the 910 for about a year during which it was very successful. The 910's main class rival was Ferrari Dino 206P which was quickly beaten. In 1967 at the 1000 km Nürburgring a fleet of 6 factory cars were entered in an effort by Porsche to score the first overall win in Porsche's home event. Though two of the three 8-cylinder engines broke down, the remaining one finished 4th place.

Giving Porsche their first outright win in a third major event of the World Sportscar Championship for Porsche, the three 6-cyl won 1-2-3. The new Porsche 907 'long tails' was already entered in Le Mans and finished 5th in front of a 910 and two 906's.

### 1964 Shelby Daytona Coupe

Enhancements by Norms and ValentinK; skins by Pasta and RD community: Barbiche, JawnKwan, susanthedeath2, and GPLGEM.



During much of his active racing career Carroll Shelby raced against Ferrari(s). On the highspeed tracks that hosted the FIA GT World Championship rounds the Shelby Cobra was let down by its poor (brick-like) aerodynamics.

In 1963, the Shelby Cobra roadster had already proven itself by smashing the Corvette on the short tracks of America. Shelby also took the roadster to Europe and prepared a hardtop version for Le Mans but placed 4th in class behind the Ferrari GTOs. The turning point came with the Daytona Coupe, a hand-made supercar that would put America at the forefront of sports car racing.

Shelby realized that far more drastic measures were needed and he asked his head of special projects Pete Brock to pen a low drag coupe body. Convinced by Brock, Shelby gave the go-ahead to rebody his 289 Cobra to include a closed cockpit for better aerodynamics. All the design work was done by eye and used no aides like a wind-tunnel. The final result was far from conventional combining an elegant round nose with a steeply raked windshield and a 'cut-off' Kamm-tail. This resulted in a Cobra having a much lower center of gravity and less aerodynamic drag.

The first Cobra Coupe was completed early in 1964 and extensively tested at the nearby Riverside track. The testing revealed that although somewhat unusual, Brock's design worked remarkably well. Miles clocked a 183 mph top speeds, beating the original Cobra Roadster by 20 mph.

In the hands of Dan Gurney and Bob Bondurant, it was quick enough to upset the order and clinch the GT-class win and fourth overall. It was the first time that Ferrari had not won the GT at Le Mans, since it was established in 1959.



# Le Mans Topspeeds in Qualifying & Race 1961-1979

	ESSAIS	COURSE
1961	280 km/h MASERATI	265 km/h FERRARI
1962	295 km/h FERRARI	280 km/h MASERATI
1963	302 km/h FERRARI	280 km/h ASTON MARTIN
1964	310 km/h FERRARI	310 km/h MASERATI
1965	310 km/h FORD	302 km/h FORD
1966	320 km/h FORD	325 km/h FORD
1967	340 km/h FORD	343 km/h FORD
1968	300 km/h PORSCHE	308 km/h PORSCHE
1969	312 km/h PORSCHE 917	319 km/h PORSCHE 917
1970	312 km/h PORSCHE	331 km/h PORSCHE
1971	359 km/h FERRARI	362 km/h PORSCHE
1972	331 km/h LOLA	332 km/h FERRARI
1973	331 km/h FERRARI	340 km/h MATRA-SIMCA
1974	332 km/h MATRA-SIMCA	334 km/h MATRA-SIMCA
1975	312 km/h GULF FORD GR8	301 km/h GULF FORD GR8
1976	327 km/h PORSCHE 936	337 km/h RENAULT ALPINE A442
1977	345 km/h RENAULT ALPINE A442	352 km/h RENAULT ALPINE A442
1978	367 km/h RENAULT ALPINE A443	362 km/h RENAULT ALPINE A443
1979	363 km/h PORSCHE 936	341 km/h PORSCHE 936

### Changelog v1.2

Most cars have updated ext\_config.ini files by ValentinK, with updated (interior) lights and working milage counters. New AI files were made by Parilla.

#### 1967 Alfa T33 Periscopica (NEW)

3D Model - Sketchfab: chyzhykov.roman, Modified, conversion by: MacedoSTI

#### 1967 Chaparral 2F

3d Model: Working independent rear wing animation by Dodge33 Physics: Adjusted front steering rack, adjusted rear tie rods.

#### 1963 Chevrolet Corvette Grand Sport

- Added Roadster Model, credits to Geroda74 for model conversion
- Rebuilt rear suspension geometry, adjusted front steering rack.

#### 1967 Chevron GT &FVA

- 3d Model fixes & tweaks by IRBrainiac
- SFX update for BMW by Felix789
- Physics: Adjusted front steering rack

#### 1964 Ferrari 250 LM

- Physics: Adjusted front steering rack, adjusted rear tie rods.
- SFX update by Felix789

#### 1966 Ferrari 365 P2 (NEW)

- 3d Model by NPanic, updated by GADU
- SFX update by Felix789

#### 1967 Ferrari 330 P4 Berlinetta & Spyder

- Berlinetta: Added txDamageMask, txDamage, txDust and txNormals textures
- Physics: Adjusted front steering rack, adjusted rear tie rods. Lowered rear CoG

#### 1966Ferrari 206S Dino (Spyder & Berlinetta)(NEW)

- 3d Model: DobriD, AC Import by SergioC, updated by GADU.
- SFX by Felix789

#### 1966 Ford GT X1 Roadster

- 3d Model update by GØD,
- Physics: Adjusted front steering rack, adjusted rear tie rods. Aero: Added Gurney flap.

#### 1966 Ford GT40 Mk II

• Physics: Adjusted front steering rack, adjusted rear tie rods.

#### 1967 Ford GT40 Mk IV

• Physics: Adjusted front steering rack, adjusted rear tie rods. Engine: reduced to 500 hp according to 67 spec.

#### 1966 Jaguar XJ-13

• Physics: Adjusted front steering rack, reduced mass. Aero: increased drag.

#### 1967 Lola T70 Mk3 GT

- Physics: Adjusted front steering rack.
- SFX update by Felix789

#### 1966 Lotus 47 GT

- 3d Model: Fixed interior textures
- Physics: Adjusted front steering rack, reworked rear suspension. Lowered rear CoG
- SFX update by Felix789

#### 1964 Maserati 151/3

- Physics: Adjusted front steering rack, reworked rear suspension. Aero: increased drag.
- SFX update by Felix789

#### 1967 Matra MS630 BRM (NEW)

- 3d Model by DabriD , AC import by MacedoSTI skins by Pasta
- SFX by Felix789

#### 1966 Porsche 906-E

- Physics: Corrected tank position, corrected brake temperatures. adjusted weight distribution, adjusted front caster, camber upto default factory settings. Rebuilt engine curve.
- SFX update by Felix789

#### 1966 Porsche 910

#### (NEW)

- 3d Model Conversion by: Mac Ten, updated by MacedoSTI
- SFX by Felix789

### Changelog 1.2.1 Hotfix

#### 1967 Alfa T33 Periscopica

• New Dashcam

#### 1967 Chaparral 2F

• Wiper Correction

#### **1963 Chevrolet Corvette Grand Sport**

• Fixed issue with rear suspension parts sticking through body on load

#### 1966 Ferrari 365 P2

- 3d Driver model update
- New CSP config
- Corrected lights.ini
- Updated digital instruments.ini
- New Goodyear tires for skin #19
- LoD update

#### 1966 Ferrari 206S Dino (Spyder & Berlinetta)

- SFX updates by Felix789
- Harmonized pit stop parameters in-line with whole WSC60' pack

#### 1966 Ford GT X1 Roadster

- GØD credits added
- Resized phystics tire diameters to align with 3d-model

#### 1965 Ford GT40 Mk I

• Updated digital instruments.ini and corrected main kn5 model

#### 1967 Ford GT40 Mk IV

• Fixed headlight behavior when switching LoD's, lights and CSP config fix.

#### 1966 Jaguar XJ-13

• Visual fix package, updated dashboard lights(kn5 and CSP config fix)

#### 1967 Matra MS630 BRM

- Fixed F6 cams
- Visual fix: lights, flames, CSP Config
- Harmonized pit stop parameters in-line with whole WSC60' pack

#### 1966 Porsche 910

- Visual fix: lights, flames, CSP
- Fixed swapped mirrors
- Sorted disappearing taillights when switching LoDs

# Recommended CSP Settings

To get the best out of this mod you need to have Content Manager /CSP installed. Download: <u>https://acstuff.ru/app/</u> With a small donation to x4fab you can enable extra features.

We have included working wipers and proper lights, so you can do 24 hour races with changing weather conditions. Standard weather/ rain implementation is done through weatherFX in CSP, combined with the Sol Shader: <u>https://www.racedepartment.com/downloads/sol.24914/</u>

Weather FX						
New fully dyna More info.	mic fully customizable weather s	ystem which allo	ows for 2	4 hour races and more.		
Extension:						
✓ Active	Controller script:	Sol		Weather script:	Sol	
Audio:						
Audio volume for weather-specific sounds						
Performance:						
Vse compatible sky shader	Extra sharp stars NEW			✓ Extra clouds fidelity NEW		
Miscellaneous:						
Force AI headlights	If date is not set, use ori	ginal sun trajectory		Add mirage-like reflections		
✓ Turn headlights on and off when AI does that	✓ Use seasonal adjustment	ts				

#### With this you can enable 'basic' rain settings wich look in car like this:



In game: CSP 0.1.60 with Sol 1.6.2



To have the most immersive wet race experience, you need to activate RainFX in CSP. To enable, first you'll need to become a patreon of x4fab: <u>https://www.patreon.com/x4fab</u>



CSP patreon version + RainFX + Sol:





For the best visual experience: enable ExtraFX features in CSP:

In CM goto: Settings  $\rightarrow$  CSP (Custom Shaders Patch)  $\rightarrow$  left bar: ExtraFX check 'active' and at least enable the features on the following page:

#### ExtraFX, enabled settings;

#### Warning, not potato friendly, can cause high CPU/ GPU load! (disable for VR)

Extra FX				
Adds an option for secondary rendering pass allowing to work if AC's motion blur is enabled.	use more visual effects. For no	ow, only works for single scree	en without VR, with post-proc	essing enabled. Also, doesn't
Extension:				
✓ Active	Disable everything for interi	or cameras		
G-Buffer prepass:				
Resolve MSAA for color				
Analyze depth to improve shadow mapping and other effects:				
Active	GPU-to-CPU delay: 3 frames			
Motion blur:				
Active	Amount of blur: 60%		Noise: 100%	
Disable for interior cameras	Quality:	Simple (high, recom -		
Temporal anti-aliasing:				
Active	Disable for interior cameras			
Sample spread: 100%	Extra sharpness			
For the best look, disable extra sharpness and then enable F	idelityFX by AMD in Graphics Adju	stments section.		
Local reflections (SSLR):				
✓ Active	Quality:	Medium 👻	Resolution: 100%	(1.1.60)) (
Disable for interior cameras	<ul> <li>Long speculars for wet tracks</li> </ul>			
Ambient occlusion (ASSAO by Intel):				
Active New	Opacity: 80%			
Disable for interior cameras	Quality:	High 🔫		
Ambient occlusion (HBAO+ by NVIDIA):				
✓ Active	✓ Disable for interior cameras		Opacity: 80%	
Ambient occlusion (old and not very good):				
Active	Opacity: 80%		Blur resolution: 50%	a start start and
Disable for interior cameras	Resolution: 50%			
Extra space-screen lighting (e.g. sparks):				
✓ Active	Resolution: 100%			
Simple light bounce emulation for supported tracks (requires space-screen	lighting):			
✓ Active				
Simple light bounce (SSGI):				
Active	Resolution: 50%			
✓ Disable for interior cameras	Brightness: 100%			
Volumetric headlights:				
✓ Active	Resolution: 20%			
V Disable for interior cameras	Luminocity: 150%	The second second second		
Fog blur:				
Active	V Disable for interior cameras		Distance multiplier: 100%	
✓ Include heat distortion	Add a bit of distant blur			

### Recommended Force Feedback Settings

We know that force feedback is a matter of personal taste, but decide to include some personal settings. Thus giving you at least the option to have a baseline in accordance with the feel/feedback as intented.

Below are some settings for both TM T300 and SC2:

#### **Thrustmaster T300:**

Windows 85% Overall Force (to keep linear force behavior)

								put method	
Back	( options menu			Start configuration	ı wizard	wheel / custom	xbox	Con amenad	keyboard / mouse
	Configurati	on Presets			Main Controls	Shifters Se	condary	Advanced	
Control Auignments	Default Fanatec CSR Wheel 900 + CS Pedals Fanatec Porsche GT3 RS Wheel 900 Fanatec_CSW_V2_F1_Wheel_no_shifter Fanatec_CSW_V2_F1_Wheel_shifter Fanatec_CSW_V2_Porsche918_shifter Fanatec_CSW_V2_XB1_Wheel_no_shift Fanatec_CSW_V2_XB1_Wheel_shifter	s + CS Pedals sr 2 ter 2	appy prest	Force Feedback Gain Filter Minimum Force Kerb Effects Road Effects Slip Effects ABS Effects Lenhancee Ha	k invert 1009 10	Steering S Steering S G G G G G G G G G G G G G G G G G G G	Settings amma Filter sitivity amma Combine w	th keyboard in	1.00 0.00 0.00
	Thrustmaster T300RS Racing Wheel	8 Speed PRO Shifter	н					saved cont	roller configurations
Detected Controllers a 2 9 9 5 5 7 5 5		waiting for input							

# Simucube 2 Pro:

General		
Edit profile name	AC optimal	
Overall strength		50%
Actual maximum torque	12.5 Nm (11.4 A)	
Steering range	900°	
Rumpston feel	Medium 👻	
Bumpstop range		900° (lock-to-lock)
Constantly Operating Filters		
Simucube Force Reconstruction filter™	3 -	
<u>Torque bandwidth limit</u>	Unlimited 👻	
Other Filters		Strength
Damping		9%
Friction	<b></b>	10%
Inertia	<b>—</b> [	12%
Static Force Reduction		Off
Slew Rate Limit (Nm/ms)		Off
Ultra Low Latency Mode		15%
Peaking and notch filter		
Center frequency Hz	Filter disabled	
Attenuation dB		
Q Factor		
DirectInput Effect Fine Tuning		Strength Active
Damping		0% 0
Friction		0% -
Spring		0% -

**In game** I use **100% ffb gain,** mostly for physics editing/ preventing clipping of the game engine and creating the highest amount of dynamic range and fidelity in the signal. Hence I lower the wheel 'overall strength/ amperage".

Positive side effect: your wrist are saved in case of a crash/ AI bump.

input method:	Wheel	
		AXIS BUTTONS SYSTEM PATCH FORCE FEEDBACK
Gain: 100%	THE REAL PROPERTY.	Post-processing:
Invert FFB		Center boost gain: 0%
ilter: 0%		Center boost range: 0%
Ainimum force: 1.0%		Enable FFB post-processing
Effects:		Lower speeds FFB reduction
erb effect: 60%		Low speed threshold: 3 km/h
toad effect: 50%		Low speed FFB strength: 1%
lip effect: 0%		Experimental:
ABS effect: 1%	a a sola sola a cecar a	Unlock experimental options (be carefult)     Gyroscopic effect
Miscellaneous:		Damper gain: 0%
Soft lock		Minimum damper level: 0%
Skin EED stans: 0		

#### AC/ Content Manager → FFB Tweak → Enable Gyroscopic Effects

- Enable more physically accurate gyro
- Enable MacPherson strutFFB adjustment

#### AC Basic FFB settings:

- Minimum force at 2% adds a tiny bit of 'compression' for the lowest forces, meaning you don't have to amp up the wheel to glacier melting Amperages.
- CM → CSP (Custom Shaders Patch) → FFB Tweaks → Active & Enable 'More physically accurate gyro implementation' ! → Traction Loss, under/oversteer are way more pronounced
- **Effects:** I prefer to add some road / kerb effect with DD, for more fidelity.

### FFB TWEAKS

A couple of FFB tweaks, more might be coming later.		
Basic		
✓ Active		
More physically accurate gyro implementation:		
✓ Active		
Additional post-processing:		
Range compression: 100%	Range compression assist	
Dirt vibration: 0%	Dirt vibration frequency:	0.2
Dirt vibration variation: 1, 3	Dirt vibration remap:	0, 1
Additional post-processing script:		
Active		
Custom soft lock (smoother and less bouncy):		
Active	Lock area: 10°	
Shift lock outside: 80%	Force factor: 100%	
Speed factor: 100%	Damper intensity: 0%	
Output real steering forces to wheel:		
Active	Wheel peak torque: 35 Nm	
Override car setting		
Intended for Direct Drive Wheel users only,		
Output real brake pressure from pedals:		
Active	Max Pedal Force: 0 kgf	
Max Percentage W/O Data: 100%	Clamp Brake Forces	
Intended for load cell pedals only.		
Miscellaneous tweaks:		
✓ MacPherson struct FFB adjustment	✓ Disable FFB during loading	

# Preview 68-69 & 70-71 WSC Packs (upcoming release)

#### Featuring:

**WSC 68-69:** Lola T70 Mk3-b, Porsche 908/02 K, Porsche 908 LH, Porsche 917 and perhaps a few bonus cars....

WSC70-71: Ferrari 512S, M and CL, Porsche 917 K, LH, Porsche 917/20













#### W8C60's

#### Season Tracks

Daytona 60's https://www.racedepartment.com/downloads/daytona-1960s-1970s.56288/ Sebring 66 https://www.racedepartment.com/downloads/sebring-1966.53663/ Monza 1000km https://www.racedepartment.com/downloads/monza-66-1000km-layout.62864/ Targa Florio https://www.racedepartment.com/downloads/targa-florio-73-alpha.23298/updates https://www.patreon.com/abulzz Spa 66 https://mega.nz/file/UBcywTjY#7bHjTSptX1R016Y8y8za 9p5UAl0fcp01B2XMtInosw Nordschleife\_67 https://www.racedepartment.com/downloads/nurburgring-1967.28207/ https://www.overtake.gg/downloads/le-mans-1967-complete-texture-update.69690/ Le Mans 67 OSRW 36 pitbox update add on for stock Kunos track and faster AI by Parrilla Silverstone 67 Imola pre '73 https://www.mediafire.com/file/saaemds16owfpb9/imola pre 73.7z/file Hockenheim 60's https://f3classictracks.sellfy.store/p/fgkn/ Bremgarten 50's https://www.racedepartment.com/downloads/bremgarten-1950s.43576/ Zeltweg 74-77 https://www.mediafire.com/file/amt1ninbcbhdcfg/Spielberg74and77 v2.5 by ZWISS.rar/file Zandvoort 67 (paid) https://www.f3classictracks.com/sandevoerde Stardust 60's https://f3classictracks.sellfy.store/p/60s-stardust-for-assetto-corsa/ Other Historic tracks: 60's America Pack https://f3classictracks.sellfy.store/p/america-pack-1-greenwood-marlboro-vaca-valley/ https://www.racedepartment.com/downloads/60s-prinzen-park.65329/ 60's Prinzen Park Battenberg Ring https://www.racedepartment.com/downloads/battenbergring.51838/ https://www.racedepartment.com/downloads/bremgarten-1950s.43576/ Bremgarten https://www.racedepartment.com/downloads/bryar-motorsport-park.50320/ Bryar Motorsport Park Dessauer Rennstrecke 1956 <u>https://www.racedepartment.com/downloads/dessauer-rennstrecke-1956.62072/</u> Deutschland Ring https://www.racedepartment.com/downloads/deutschlandring.25977/ https://www.racedepartment.com/downloads/dijon-prenois-1979.62153/ Dijon-Prenois '79 Djursland https://sellfy.com/p/U5AG/ Donington 1938 https://www.racedepartment.com/downloads/donington-park-grand-prix-circuit-1938.17313/ Bridgehampton https://www.racedepartment.com/downloads/bridgehampton-race-circuit.6604/ https://www.racedepartment.com/downloads/bugatti-circuit-1967.57045/ Bugatti Le Mans Charade 65 https://www.racedepartment.com/downloads/circuit-de-charade-clermont-ferrand-1965.61917/ **Crystal Palace** https://www.racedepartment.com/downloads/crystal-palace-1969.63976/ East London 1965 https://www.racedepartment.com/downloads/prince-george-circuit-1965.61928/ Feldbergring https://www.racedepartment.com/downloads/feldbergring.21195/ Fonteny https://www.racedepartment.com/downloads/fonteny.30137/ Fuji Speedway 68 https://www.racedepartment.com/downloads/fuji-speedwav-1968-williamtriker-overhaul-and-fixing.61887/ https://www.racedepartment.com/threads/goodwood-circuit.141009/ Goodwood LIDAR: https://mega.nz/file/sFNSHAAR#T7acvw2g7C 58gWiTBwu6rL5Z6NFFuweIhT31wifAks Goodwood texture updates: Halle Saale Schleife https://www.racedepartment.com/downloads/halle-saale-schleife-1967.62074/ Hernad Valley https://www.racedepartment.com/downloads/hernad-valley.47320/ Interlagos 75 https://sharemods.com/ncsfumg1hb1g/interlagos 1975 updated.7z.html Kansas 63/ Lake Garnett GP https://www.racedepartment.com/downloads/lake-garnett-gp-1963.46925/ https://www.racedepartment.com/downloads/keimola.49563/ Keimola Kvalami 67 https://www.mediafire.com/file/3gb9lbg6vtzekia/kvalami 1967.zip Laguna Seca 60s https://www.racedepartment.com/downloads/laguna-seca-60s.61923/ Longford\_1967 https://www.racedepartment.com/threads/longford-1967.90233/ Leipzig Stadpark Rennen (2021 update) http://www.mediafire.com/file/47fyyoo14kwcg2x/leipzig stadtpark v0.4.7z https://www.racedepartment.com/downloads/meadowdale-raceways.35502/ Meadowdale Int. https://www.overtake.gg/downloads/mexico-gran-premio-1967-redux.66405/ Mexico 67 Monaco 66 https://www.overtake.gg/downloads/monaco-1966-complete-texture-update.69604/ https://www.overtake.gg/downloads/mosport-2023-60s-reskin-grid-layout.72272/ Mosport 60's skin http://www.mediafire.com/file/vb0j22wb2h06nnl/Montjuich+1975+v1.01+by+Rainmaker.7z Montiuich 75 Mont Tremblant 69 https://www.racedepartment.com/downloads/le-circuit-mt-tremblant-1969-st-jovite.50949/ Nivelles-Baulers74 https://www.overtake.gg/downloads/nivelles-baulers-1974.70150/ https://f3classictracks.sellfy.store/p/norisring-for-ac/ Norisring 60's **Oulton Vintage** https://mega.nz/file/X91030wR#aNrVq9u630h-Nc9SS-Ltpu4MKuInfuKT0pwvSqUEEkI Paramount Ranch https://www.racedepartment.com/downloads/paramount-ranch-raceway.63066/ Riverside https://www.racedepartment.com/downloads/riverside-international-raceway.9492/ Reims 30's (paid) https://f3classictracks.sellfy.store/p/reims-golden-age/ Roskilde https://sellfy.com/p/uor1be/ Rostock Osthafen kurs (2021 update) https://www.mediafire.com/file/oy0okelm8s20kdk/rostock osthafenkurs gtr2 leBluem.7z/ https://f3classictracks.sellfy.store/p/rouen-for-assetto-corsa/ Rouen 60's (paid) Roy Hesketh 65 https://www.racedepartment.com/downloads/roy-hesketh-1965.54597/ Silkeborg https://sellfy.com/p/NvLI/

#### **Other Historic tracks -** Continued

Silvercity	https://www.racedepartment.com/downloads/silver-city-1966.59523/
Salzburg Ring 70's skin	https://www.overtake.gg/downloads/salzburgring-1970s-skin-csp-required.73297/
Solitude 1964	https://www.racedepartment.com/downloads/solitude-1964.61942/
Sudschleife	https://f3classictracks.sellfy.store/p/Kddf/
Suzuka 60's	https://f3classictracks.sellfy.store/p/60s-suzuka/
Thomson Road	https://www.racedepartment.com/downloads/thomson-road-grand-prix.13694/
Tulln-Langenlebarn 1968	https://www.overtake.gg/downloads/tulln-langenlebarn-1968.73948/
Uruguay 60's Track Pack	https://f3classictracks.sellfy.store/p/uruguay-track-pack/
Vake-Saburtalo	https://www.overtake.gg/downloads/vake-saburtalo-1960s-city-track.73975/
Watkins Glen 67	https://f3classictracks.sellfy.store/p/watkins-glen-for-assetto-corsa/
Zeltweg 66	https://www.overtake.gg/downloads/zeltweg-1966.67840/
Zolder 1967	https://www.racedepartment.com/downloads/zolder-1967.62156/

### Modern but with flow |non Tilkefied (also called 'real racetracks'):

Auverhat/ Modern Charade https://www.racedepartment.com/downloads/auverhat-by-pixsim.51347/ Croft 2019: https://www.racedepartment.com/downloads/croft-2019.62957/ Bannochbrae http://www.mediafire.com/file/95vwpk28poctrpt/rt bannochbrae 1.3.7z/file Daytona: https://www.mediafire.com/file/iidtvsadeno9h3o/rt daytona v1.3.7z/file Dijon 2016: https://sharemods.com/oyvdcldyzyy3/dijon-prenois2016.7z.html Donington https://www.racedepartment.com/downloads/donington-park.3031/ Gentrack: https://sharemods.com/anwl6a9popf5/gentrack1.7z.html Grobnik: https://sharemods.com/awwccrtx7uii/grobnik.7z.html Horsma Raceway https://www.racedepartment.com/downloads/horsma-raceway.27713/ Knutstorp https://www.mediafire.com/file/2hraql9uix26w94/knutstorp.zip Kunos Laguna Seca oldskool Camel GT: https://www.racedepartment.com/downloads/laguna-seca-camel-gt.23822/ Le Mans 1982 https://www.racedepartment.com/downloads/le-mans-1982.52192/ Limerock Park https://www.mediafire.com/file/8pnw5ceo5cx7y09/rt lime rock park.7z/file Mont Tremblant https://www.mediafire.com/file/imj91fix98t79x4/rt mont tremblant.7z/file Mid Ohio http://www.mediafire.com/file/avi9vr85jz6gko2/zw midohio v2.0 by ZWISS.rar/file Misty Loch https://www.mediafire.com/file/m4g2kfrjyhtm620/rt misty loch.7z/ Mosport Park https://www.racedepartment.com/downloads/mosport-2021-ctmp.24486/ New Jersey https://www.racedepartment.com/threads/new-jersey-motorsports-park-lightning.132641/ Oulton Island No chicane GP http://www.mediafire.com/file/5ywk5d6dk4j44o5/Oulton+Park+Reboot+Version+1.3.2.rar Pacific Raceways <u>https://www.mediafire.com/file/urhu1j3hfz4h4vr/rj pacific.7z/file</u> Road Atlanta https://www.racedepartment.com/downloads/road-atlanta-2022.44533/ Road America https://www.racedepartment.com/downloads/road-america.32732/ Road America 60's Can Am skin: https://www.racedepartment.com/downloads/60s-can-am-road-america-skin.52309/ Sachsenring https://www.racedepartment.com/downloads/sachsenring.41511/ Sebring Int. http://www.mediafire.com/file/p001bbbq20w5t7b/Sebring+International+Raceway+-+Reboot+Version+1.1.zip Sonoma Raceway https://www.mediafire.com/file/12ekectonyn9s1v/rt sonoma 1.0.rar/file Thruxton https://www.racedepartment.com/downloads/thruxton.6192/ Tsukuba DDM https://sharemods.com/uvdgkug1ctti/ddm tsukuba.zip.html Virginia https://www.racedepartment.com/downloads/virginia-international-raceway.11892/ Watkins Glen https://www.racedepartment.com/downloads/watkins-glen-international.20204/ Willow Springs DDM https://sharemods.com/pwkekeshlexq/ddm gts willow springs.rar.html Zwartkops Raceway https://www.racedepartment.com/downloads/zwartkops-raceway.52403/

### Other historic car & track mods:





### Miscellaneous

Great Simracing screenshots + Tutorials by Technoluddite: <u>https://www.nutrimatic.cc/</u>

#### Vintage Simracing Leagues (English spoken)

- THR THRacing: <u>https://thracing.de/</u> Discord: <u>https://discord.me/thracing</u>
- VAC; Vintage AC: <u>https://discord.me/vintageac</u>
- 2old4forza <u>https://2old4forza.com/</u>Discord: <u>https://discord.gg/mrkBhVd</u>
- Simracing Online: <u>https://simracingonline.co.uk/forums/assetto-corsa.97/</u>

