

FITTED: CARBON PARTS ON PROJECT M3

HOW-TO: FITTING CORBEAU SPORTS SEATS

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12-PAGE SHOW REPORT



**THE FUTURE
OF TUNING?**
YOU AND THE LAW



TUNER NEWS

THE LATEST NEWS, PRODUCTS AND RUMORS...



1. NÜRBURGRING WHEEL

TSW • MSRP: website

Info: tsw.com

With a name like Nürburgring, a wheel better live up to its legendary name, and the latest design from TSW aims to do just that. Created using TSW's Rotary Forging process, the wheel is forged while spinning at high speed to enhance its strength and reduce weight. It's available in matte gunmetal, gunmetal with mirror-cut face, and matte bronze, in diameters ranging from 17-20". With widths from 7.5-11", you're guaranteed that staggered look you're after.

2. POLARIZED SUNGLASSES

HABERVISION • MSRP: website

Info: habervision.com

Whether you're at the track, driving down Pacific Coast Highway or simply working outside, sunglasses are a must. Habervision has the newest technology for your vision needs with its new Corelex lenses. Not only do these glasses provide polarization, but some models even adjust to light conditions and match the color density. This helps with eye protection as well as increased clarity when you're working outside.

Having tried a pair of Habervision sunglasses, we can confirm the clarity is superb. The lightweight frames on the Nice model with light-adjusting photochromatic polarized lenses makes them extremely comfortable to wear at all times, even on bright, cloudy days. We opted for the black frames with the blue lenses for a cool look, but their small dimensions make them perfect for slipping in your pocket as well. Priced at \$385 they aren't cheap, but you get what you pay for. — Greg

3. SEAT HEATERS

CORBEAU • MSRP: \$99

Info: corbeau.com

Ever wished your car came with seat heaters or aftermarket sports seats? Well, thanks to Corbeau, you can have both heated buns and great lateral support with its new heating pads. Featuring patented heat flow technology, users can choose between high and low settings for quick heat or a constant temperature. The heaters can be trimmed to custom fit almost any vehicle, or into Corbeau seats. Don't beat the heat; heat the seat with Corbeau.

4. AUDI A4 CAI

aFe POWER • MSRP: from \$435

Info: afepower.com

Increasing airflow to your engine can be an easy and affordable way to increase power. Thanks to aFe Power, '06-08 Audi A4 owners can do just that. Utilizing a one-piece 18-gauge powdercoated heatshield to block engine heat, the intake claims an extra 10hp and 14 lb-ft of torque. The kit come with a choice of Pro-SR cotton filter or new Pro Dry S synthetic filter, which requires no oil recharge.

Beware the Fun Police

TUNING CARS IS A MULTI-BILLION DOLLAR INDUSTRY, BALANCED BETWEEN INNOVATION AND REGULATION. WE LOOK AT THE CURRENT AND FUTURE LEGISLATION.

As tuning enthusiasts, we assume our hobby has a tinge of outlaw about it. After all, it wasn't too long ago that modifying a car for racing and performance put you on the other side of civilized society.

If you were truly serious, and not just dabbling, you eliminated a lot of options from your future. No top-ranked university, no 25-year job at IBM, no gold watch at retirement; you wrote your own ticket, sink or swim.

Half a century later, tuning is a healthy, robust industry that creates jobs, innovates products and attracts government scrutiny.

Most of us can probably agree that some regulation can be a good thing. We can all embrace rules limiting airborne chemicals when painting a car, while standardizing the color and strength of oncoming headlights seems a reasonable request.

But rules and regs can also run amuck when politicians see profit or election motives. Too often, lawmakers draft bills to appease a small group of aggrieved voters, with limited input and little regard for economic impact.

With this in mind, SEMA (the Specialty Equipment Market Association), through the SEMA Action Network (SAN), gave us an idea of what the current rules are and what they might become in the future.

You thought SEMA was the organization that produced the parts-and-accessories trade show in Vegas every year, right? So did we... But it turns out SEMA also has an active lobbying presence in Washington DC, working with federal and state regulators to keep the business and pleasure of modifying cars working on both levels.

NOISE

Much of SEMA's most active work has



involved exhaust noise regulation, one of the most arbitrary areas of enforcement often left to the discretion of police. States are generally divided into those with noise standards and those without. Of states with a noise standard, many ignore their own guidelines when citing motorists.

And it's not for lack of vague criteria; states with an exhaust noise standard choose to measure sound level in decibels when the vehicle is in motion, usually from a distance of 50ft. Vehicles are also typically divided into classes, and separate standards set for roads marked above or below 35mph.

But laws on the books and enforcement on the road are two different things. One trooper's 50ft might be another's 40. And without a decibel meter – not a typical piece of gear in today's patrol car – "loud" could be dependant on an officer's perception, tolerance and mood.

Some states dispense with any notions of measurable standards and simply prohibit any "excessive or unusual noise," which is about as nebulous as it sounds.

Three states – CA, ME and MT – have enacted legislation that sets 95dB as the enforceable exhaust noise limit, based on an industry standard adopted by the Society of Automotive Engineers (SAE).

Under this standard, a decibel meter

placed 20" from the exhaust outlet, at a 45° angle, measures decibel levels as the engine is run to 75% of its manufacturer's maximum rated horsepower.

This standard is inevitably open to subjective enforcement, so in 2001 SEMA conducted a series of exhaust noise tests in CA. The association invited SAN members (a nationwide grassroots group of enthusiasts and aftermarket industry professionals) who had recently been cited for loud

exhausts to test their cars for compliance.

Using a state-certified acoustic engineer to run the tests, SEMA says that only one vehicle exceeded the 95dB threshold. In '02, the association helped enact a new enforcement standard in CA. Enthusiasts can confirm the legitimacy of their exhaust system through testing administered by the California Bureau of Automotive Repair (BAR), which began an exhaust noise-testing program in '03.

Courts are also allowed to dismiss citations for exhaust systems that have already been tested and issued a certificate of compliance. Under the program, only those who've been cited are eligible to submit their vehicle for testing at one of the state's 40 Smog Check stations that also provide "referee" services.

Admittedly, three states out of 50 is a small step, but they represent a significant move towards something that could one day resemble a national standard.

Another area where SEMA has been working hard is in exhaust replacement legislation. On a monthly basis it seems one state or another is trying to restrict replacement exhaust systems to the manufacturer's OEM parts. But behind the scenes, SEMA is pointing out the restrictive cost implications of such a decision, preserving our freedom of choice when repairing and modifying our cars.



SWAPS

Not unlike exhaust noise regulations, engine swap rules vary from state to state and are also appropriately nuanced. Enforcement on the street or at your DMV will likely depend on an official's experience and competence.

But the simplest rule of thumb to follow is that your new engine must do no more "harm" than the one you're replacing. That is, it should be the same model year or newer than the one you're replacing (crate engines are acceptable if they basically have the same specification as one already certified by the EPA or CARB).

The swap engine should come from a vehicle certified to meet the same or more stringent emissions than the one being replaced, and vehicle class should remain the same. No medium-duty truck diesel in your Audi A4 project, in other words.

When swapping a new engine into a late-model chassis, you'll want to bring all of the relevant emissions control components with it: catalytic converter, OBD components, even the carbon canister. Some states have exceptions to this requirement, but generally you should expect to transfer as much as possible from the donor vehicle.

Anybody who's swapped an engine knows it's far more complex than a basic rule of thumb. Aside from mechanical issues (did they ship me the correct harness, etc), you're likely to end up dealing with referees and baffled DMV clerks.

The EPA and many states have specific enforceable policies and guidelines on legal engine swaps, accessible from their websites. Here are two sites you'll want to visit before embarking on a project:

www.epa.gov/compliance/resources/policies/civil/caa/mobile/engswitch.pdf
www.bar.ca.gov/80_barresources/07_autorepair/engine_change_guidelines.html

NITROUS

If you're thinking of avoiding an engine swap altogether, maybe you decided nitrous injection might be a simpler alternative.



However, nitrous is walking a very fine line. It's an easy target for legislators, so it's left to groups like SEMA to keep pressure on lawmakers not to ban the "happy gas" altogether.

Current SEMA proposals for legislators would allow nitrous systems to be fitted provided they are disconnected from the engine while driving on public roads. A more inconvenient solution, according to SEMA, stipulates that nitrous canisters be removed on public roads.

Such legislation, or variations of it, have been enacted in AR, GA, ME, MS, NE, VA, TN, and the Canadian province of Prince Edward Island.

PAINT



For most tuners and enthusiasts, paint is more of a financial concern than a legal one. And it's likely to become even more of a budget strain as the government focuses on small commercial painters; both legitimate and backyard sprayers.

If you're just applying a rattle-can finish, paint manufacturers are required to limit volatile organic compounds (VOC) used as propellant. While the hobbyist who perhaps paints one or two cars per year, the EPA will generally give you a pass on hazardous air pollutants (HAPS).

However, small and medium commercial enterprises are regulated by the EPA, where booths, guns, cleaning equipment and spraying methods all come under scrutiny. And as regulations evolve, and the danger of certain chemicals is better understood, commercial painters will need to keep up with newer, more compliant equipment – costs that will inevitably filter down into the estimate you receive.

For additional information visit: www.ccar-greenlink.org/paintrule.html

TINT

While paint is a prohibitive expense for many project cars, window tint is usually among the first modifications. It's a product that serves multiple purposes: helping cool the cabin, offering VIP privacy and toughening up the exterior style.

But like simmering nitrous legislation, lawmakers are constantly looking to unreasonably limit the use of tint materials. At present, the industry-accepted standard tint strength is not less than 35% light transmittance on all windows other than



the front windshield.

In CA, tinting has actually received some indirect legislative support. A bill progressing through the state's legislature directs CARB to reduce greenhouse gas emissions through reduced cabin temps – one of the benefits of tinting film. It's a small victory, but one that could shift the perception of aftermarket parts and accessories as a solution rather than a problem.

LIGHTS



Unfortunately, lighting is another category where federal and state laws overlap to create a gray enforcement muddle. On one hand, lighting technology has advanced faster than the government can keep up, with European automakers in particular developing energy-efficient LED and dynamic lighting systems that bend, spread and focus light as conditions warrant. And aftermarket companies are alongside, offering new technology for older vehicles.

The National Highway Traffic Safety Administration (NHTSA) is the federal agency responsible for regulating original and aftermarket lighting products, and its attention is focused on non-compliant HID (high-intensity discharge) conversion kits. You know the ones; you've seen them; you might even have them on your car.

Lamps set at incorrect height, burning white and blue, and blinding when you catch an eye-fel coming towards you – the Feds are watching these, along with tail lamp covers, marker lamps, blue headlamp bulbs, and combo lamps missing required functions.

Optional lighting such as fog lamps or auxiliary beams (like those used for off-roading) is not regulated at the federal level. States are free to regulate as they choose. And this is where it gets confusing...

For required lighting equipment the states can't deviate from the minimum requirements



mandated at the federal level. If Washington DC says all turn indicators need to be amber, CA can't decide to make them pulsing blue, for example.

But with optional lighting, states may regulate based on brightness (candlepower), location, placement, aiming, or even times, places and conditions under which the lighting may be used.

Some states only allow additional lighting that is installed at the factory or dealer by the automaker itself – the ultimate buzzkill for enthusiasts and aftermarket manufacturers.

SUSPENSION

The bane of an aftermarket lobbyist's argument in favor of modified suspension is the Metal Mulisha/MMA fanboy in his 20" lifted Silverado. Since most states have laws restricting maximum bumper or frame height it's hard to convince regulators to soften their positions on vehicles that, even to the naked eye, challenge gravity.

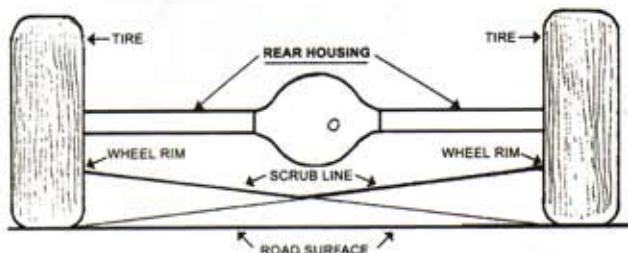
Lowered coupes and sedans don't attract as much attention, but a car lowered beyond legal limits coupled with non-compliant HID headlights, is a regulation waiting to happen.

One compromise struck between regulators and modifiers is the scrub line. Used in PA primarily for street rods, it's an imaginary surface created if lines were drawn from the bottom of one wheel rim to the bottom of the opposite tire, creating an "X". No suspension or chassis component, excepting exhaust and sheet metal, can fall below the top portion of the "X".

But states are still free to enforce their own rules. RI, for example, uses the automaker's specified height and prohibits deviations of more than 4" from that standard. In MN, a lowered vehicle is measured at its bumper height and may vary up to 6" from the factory specs.

Others prohibit modifications that would cause the chassis or frame to touch the

DIAGRAM OF THE REAR SUSPENSION, AND HOW TO CHECK SCRUB LINE



PA scrub line diagram; no chassis components may drop below top portion of the X line

ground, expose the fuel tank to damage in a collision, or cause the wheels to contact the body, giving all you HellaFlush guys something to consider...

AND SO...

Where does this leave you? As a tuning enthusiast, you need to learn about laws in your state. The more modified your project, the more legal soup you might be getting into.

States can arbitrarily enforce or introduce laws that have evolved over generations. They may not be fair, and enforcement may be incorrect, but you'll still need to go before the court to acquit yourself. And anybody who has ever successfully fought a traffic ticket knows the hassle and inconvenience makes it a bittersweet victory.

Fortunately, this is where groups like SEMA and SAN battle on the frontlines in Washington DC and state capitals around the country, ensuring lawmakers understand the cultural and economic impact of their decisions. All of those dollars you, your friends and your forum connections spend on parts add up to about \$30 billion a year, according to SEMA. That represents jobs and tax revenue, two sacred cows lawmakers are loathed to screw up in their districts.

One of the best things you can do is simply be informed. Learn the names of your state and congressional representatives. Bookmark

their website. If you hear the Fun Police want to ban superchargers for not being green enough, you might want to drop them a line. You might also discover a number of legislators are also enthusiasts working on behalf of hobbyists to protect your rights to modify and enjoy your car.

And don't ruin it for the rest of us. You, guy with the fart-can exhaust, louder than an equally-illegal Harley; you with the presidential limo tint; you with the blue headlamp bulbs – don't be the guy we have to kick out of the party. We just want to enjoy ourselves without legislation getting in the way.

If you want to be more active, join SAN. The SEMA Action Network is a partnership between enthusiasts, vehicle clubs and members of the specialty automotive parts industry in the US and Canada who have joined forces to promote hobby-friendly legislation and oppose unfair laws. With nearly 40,000 members and an ability to reach 30 million enthusiasts through print and press, SAN is the premier organization defending the rights of the vehicle hobby. It's free to join with no obligations or commitments.

With states seeking new avenues for generating revenue, and new ways to dictate what you can do with your vehicle, the hobby needs a body like SAN more than ever. You can join at seman.com **et**