

# Centra No.1

**AUTOGYRO**

Black – 60pt

**STABILIZER**

Extrabold – 60pt

**KICKDOWN**

Bold – 60pt

**TRANSAXLE**

Medium – 60pt

**AUXILIARIES**

Book – 60pt

**CABRIOLETS**

Light – 60pt

**BELLCRANKS**

Thin – 60pt

**SUSPENSION**

Hairline – 60pt

***FEATHERING***

Black Italic – 60pt

***HEADLIGHT***

Extrabold Italic – 60pt

***RADIATORS***

Bold Italic – 60pt

***TELEMATICS***

Medium Italic – 60pt

***ANTIFREEZE***

Book Italic – 60pt

***CONVERTER***

Light Italic – 60pt

***BOLSTERING***

Thin Italic – 60pt

***TENSIONERS***

Hairline Italic – 60pt

**Intermittent**

Black – 60pt

**Suspension**

Extrabold – 60pt

**Polarization**

Bold – 60pt

**Compressor**

Medium – 60pt

**Underwriter**

Book – 60pt

Decelerating

Light – 60pt

Retractability

Thin – 60pt

Turbocharger

Hairline – 60pt

***Obscuration***

Black Italic – 60pt

***Accelerator***

Extrabold Italic – 60pt

***Combustion***

Bold Italic – 60pt

***Intermittent***

Medium Italic – 60pt

***Windshields***

Book Italic – 60pt

***Immobilizers***

Light Italic – 60pt

***Tachometers***

Thin Italic – 60pt

***Compressors***

Hairline Italic – 60pt

**DUAL-CLUTCH**  
**Auto Transmission**

Black – 30pt

**SUBCOMPACT**  
**The Wind Resistance**

Extrabold – 30pt

**CLEARCOAT**  
**Clear Painted Coat**

Bold – 30pt

**HATCHBACK**  
**Full-Height Door**

Medium – 30pt

**INDUCTION**  
**To Increase Speed**

Book – 30pt

**AERODYNAMIC**  
**A Car Size Class**

Light – 30pt

**VALVETRAIN**  
**Collection of Parts**

Thin – 30pt

**WHEELSTAND**  
**Mainstay in Racing**

Hairline – 30pt

**ROADSTER**  
**2-Seat Convertible**

Black Italic – 30pt

**INSTRUMENTED**  
**Compression Ratio**

Extrabold Italic – 30pt

**CATALYTIC**  
**Emissions Standards**

Bold Italic – 30pt

**SUSPENSION**  
**Shock Absorbers**

Medium Italic – 30pt

**SYNCHROMESH**  
**Manual Transmission**

Book Italic – 30pt

**POWERTRAIN**  
**Max Torque RPM**

Light Italic – 30pt

**CADILLAC 452**  
**16-Cylinder Engine**

Thin Italic – 30pt

**LUNKENHEIMER**  
**Direct Injection System**

Hairline Italic – 30pt

18pt – Mixed Weights

Abbreviated as hp, as in 200-hp engine, or bhp (*brake horsepower or net horsepower*) to designate power produced by an engine. In general, the higher the horsepower, **the higher the vehicle's top speed**. One horsepower is the power needed to lift a 550-pound weight one foot in one second.

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14pt / 20 – Mixed Weights

The basic job of *an engine is to take fuel and convert its energy to some usable mechanical form (burn gasoline to spin a shaft and, ultimately, the wheels)*. Usually made from alloy & block. Its Cubic Capacity number [cc] represents the interior fuel space within it. The higher cc# the greater power it generates. **Most vehicles today are fitted with what is known as a 4-cycle internal combustion engine.**

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11pt / 17 – Mixed Weights

This tube of woven material is stiffer and stays inflated longer than a traditional airbag cushion. *The tube protects the occupant's head and torso in a side impact*, in part by keeping them away from the point of intrusion. The uninflated tube is tucked into the edge of the roof headliner. **The tube is attached at the base of the A-pillar in front of the occupant, and at the roofline behind the occupant.** When it inflates, the tube angles across the window to keep the occupants head from hitting the window glass or metal side pillar.

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8pt / 12 – Mixed Weights

The basic job of an engine is to take fuel and convert its energy to some usable mechanical form (*burn gasoline to spin a shaft and, ultimately, the wheels*). Usually made from alloy & block. Its Cubic Capacity number [cc] represents the interior fuel space within it. **The higher cc# the greater power it generates.** Most vehicles today are fitted with what is known as a 4-cycle internal combustion engine. *The four cycles are: Intake, Compression, Power, Exhaust.*

6pt / 10 – Mixed Weights

*Braking systems which sense wheel rotation and automatically "pump" the brakes for the driver in emergency braking conditions.* The pumping and the prevention of wheel lockup allow the driver to retain steering capabilities during the braking emergency. **Any Fool purchasing a vehicle with such a system would be well advised to insist on the dealership demonstrating the proper use and maintenance of it.** Most of these systems work when the driver applies heavy, constant braking pressure, and do not work properly if the driver "pumps" the brakes as he may have been previously taught.



90pt

# Camber

40pt / 45

**The angle *between the vertical axis of the wheels and the vertical axis of the vehicle.***

30pt / 35

**If the top of the wheel is farther out than the bottom, it is called *positive camber.***

20pt / 25

**Camber angle alters the handling qualities of a particular suspension design; in particular, *negative camber improves grip when cornering.* This is because it places the tire at a better angle to the road, transmitting the forces through the vertical plane of the tire.**

18pt / 24

**Another reason for negative camber is that a rubber tire tends to roll on itself while cornering. The inside edge of the contact patch would begin to *lift off of the ground if the tire had zero camber*, reducing the area of the contact patch. This effect is compensated for by applying negative camber, *maximizing the contact area*.**

14pt / 20

**On the other hand, for maximum straight-line acceleration, the greatest traction will be attained when the camber angle is zero and the tread is flat on the road. Proper management of camber angle is a major factor in suspension design, *and must incorporate not only idealized geometric models, but also real-life behavior of the components; flex, distortion, elasticity, etc.***

11pt / 17

**In cars with double wishbone suspensions, camber angle may be fixed or adjustable, but in MacPherson strut suspensions, it is normally fixed. The elimination of an available camber adjustment may reduce maintenance requirements, but if the car is lowered by use of shortened springs, the camber angle will change. *Excessive camber angle can lead to increased tire wear and impaired handling.* Significant suspension modifications may correspondingly require that the upper control arm or strut mounting points be altered.**

8pt / 12

**Aftermarket plates with slots for strut mounts instead of just holes are available for most of the commonly modified models of cars. Off-road vehicles such as agricultural tractors *generally use positive camber*. Some single-engined general aviation aircraft that are primarily meant to operate from unimproved surfaces have their taildragger gear's main wheels equipped with positive-cambered main wheels to better handle the deflection of the landing gear, as *the aircraft settles on rough, unpaved airstrips*.**

6pt / 10

**Camber thrust is approximately linearly proportional to camber angle for small angles, reaches its steady-state value nearly *instantaneously after a change in camber angle*, and so does not have an associated relaxation length. Bias-ply tires have been found to generate more camber thrust than radial tires. Camber stiffness is a parameter used to describe the camber thrust generated by a tire and it is influenced by inflation pressure and normal load. The net camber thrust is usually in front of the center of the wheel and so generates a *camber torque, twisting torque, or twisting moment*. The orientation of this torque is such that it tends to steer a tire towards the direction that it is leaned.**

90pt

# Convertible

40pt / 45

**A medium-large sized car seating upto 5 people and having possibly 4 doors.**

30pt / 35

**Largely occurring in America, as with a top that can be either *lowered* or *removed*.**

20pt / 25

**Originally, many popular American cars were of this design, but soon the protection of the *closed in sedan* gained dominance. Convertibles have always had a niche except for a brief period in the '70's and '80's when they disappeared due to safety concerns.**

18pt / 24

**Historically, a retractable roof consisted of an articulated frame covered with a folding, textile-based fabric similar to that on an open carriage evolved into the most common form. A lesser seen detachable hardtop provided a *more weather-proof and secure alternative.***

14pt / 20

**As technology improved, a retractable hardtop which removes and stows its own rigid roof in its trunk appeared, increasingly becoming the most popular form. *A semiconvertible also known as a cabrio coach has a retractable or removable top which retains fully framed windows on its doors and side glass. A landaulet is a semienclosed convertible with a fully enclosed front cabin.***

11pt / 17

**In British English: all-weather tourer, a four-door car, and for a two-door car drophead coupé were used for high-quality, *fully enclosed versions of the body style known as the “convertible” in the United States.* Other common terms include cabriolet, cabrio, soft top, and drop top, and where the roof is little more than emergency weather protection, open two-seater, rag top, spider, and spyder. Consistency is rare about the use of cabriolet in preference to convertible.**

8pt / 12

**The collapsible textile roof section (of cloth or vinyl) over an articulated folding frame may include linings such as a sound-deadening layer or *interior cosmetic headliner* (to hide the frame) – or both – and may have electrical or electrohydraulic mechanisms for raising the roof. The erected top secures to the windshield frame header with manual latches, semimanual latches, or fully automatic latches. *The folded convertible top is called the stack.***

6pt / 10

**Contemporary convertible design may include such features as electrically heated glass rear window (for improved visibility), seat belt tensioners, boron steel-reinforced A-pillars, front and side airbags, safety cage construction – a *horseshoe like structure around the passenger compartment* – and rollover protection structures (ROPS) with pyrotechnically charged roll hoops hidden behind the rear seats that deploy under rollover conditions whether the roof is retracted or not. The Volvo C70 retractable hardtop includes a door-mounted side-impact protection inflatable curtain which inflates upward from the interior belt-line – vs. downward like the typical curtain airbag.[10] *The curtain has an extra stiff construction with double rows of slats that are slightly offset from each other.***

90pt

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# Differential

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40pt / 45

**Allows outside wheels to *turn faster than* the inside wheels during cornering.**

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30pt / 35

**A mechanical gearbox or fluid coupling that allows wheels to rotate *at different speeds*.**

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20pt / 25

**Four-wheel-drive and all-wheel drive vehicles have two differentials, one for the rear axle and one for the front. All-wheel drive vehicles also may have a *third or center differential* on the drive shaft that runs between the front and rear axles.**

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18pt / 24

**In automobiles and other wheeled vehicles, the differential allows the outer drive wheel to rotate faster than the inner drive wheel during a turn. *This is necessary when the vehicle turns*, making the wheel that is traveling around the outside of the turning curve roll *farther and faster* than the other.**

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14pt / 20

**An increase in the speed of one wheel is balanced by a decrease in the speed of the other. The average of rotational speed of the two driving wheels equals the input rotational speed of the drive shaft. When used in this way, *a differential couples the input shaft to the pinion*. On rear wheel drive vehicles the differential connects to half-shafts inside an axle housing.**

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11pt / 17

**Front wheel drive vehicles tend to have the pinion on the end of the main-shaft of the gearbox and the differential is enclosed in the same housing as the gearbox. There are individual drive-shafts to each wheel. Under normal conditions, *with small tire slip*, the ratio of the speeds of the two driving wheels is defined by the ratio of the radii of the paths around which the two wheels are rolling, which in turn is determined by the track-width of the vehicle (*the distance between the driving wheels*).**

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8pt / 12

**Two of the differential's three shafts are made to rotate through angles that represent (are proportional to) two numbers, and the angle of the third shaft's rotation represents the sum or difference of the two input numbers. The earliest known use of a differential gear is in the *Antikythera mechanism*, circa 80 BCE, which used a differential gear to control a small sphere representing the moon from the difference between the sun and moon position pointers.**

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6pt / 10

**The ball was painted black and white in hemispheres, and graphically showed the phase of the moon at a particular point in time. See also the Chinese *South-pointing chariot*. An equation clock that used a differential for addition was made in 1720. In the 20th Century, large assemblies of many differentials were used as analog computers, calculating, for example, the direction in which a gun should be aimed. However, *the development of electronic digital computers has made these uses of differentials obsolete*. Military uses may still exist, for example, for a hypothetical computer designed to survive an electromagnetic pulse. Practically all the differentials that are now made are used in automobiles and similar vehicles.**

90pt

# Engine

40pt / 45

Heat engines burn a fuel to create heat, *which is then used to create a force.*

30pt / 35

An engine or motor is a machine designed to convert *one form of energy* into mechanical energy.

20pt / 25

Electric motors convert electrical energy into mechanical motion; *pneumatic motors* use compressed air and *clockwork motors* in wind-up toys use elastic energy. In biological systems, molecular motors, use chemical energy to create forces and eventually motion.

18pt / 24

The word engine derives from Old French *engin*, from the Latin *ingenium*—the root of the word *ingenious*. *Pre-industrial weapons of war*, such as catapults, trebuchets and battering rams, were called *siege engines*, and *knowledge of how to construct them was often treated as a military secret*.

14pt / 20

The word *gin*, as in *cotton gin*, is short for engine. Most mechanical devices invented during the industrial revolution were described as engines—*the steam engine being a notable example*. However, the original steam engines, such as those by Thomas Savery, were not mechanical engines but pumps. In this manner, a fire engine in its original form was merely a water pump.

11pt / 17

In modern usage, *the term engine typically describes devices*, like steam engines and internal combustion engines, that burn or otherwise consume fuel to perform mechanical work by exerting a torque or linear force (usually in the form of thrust). Devices converting heat energy into motion are commonly referred to simply as engines. *Examples of engines which exert a torque include the familiar automobile gasoline and diesel engines, as well as turboshafts*.

8pt / 12

When the internal combustion engine was invented, the term *motor* was initially used to distinguish it from the steam engine—which was in wide use at the time, powering locomotives and other vehicles such as steam rollers. *The term motor derives from the Latin verb moto which means to set in motion, or maintain motion*. Thus a motor is a device that imparts motion. Motor and engine later came to be used largely interchangeably in casual discourse. However, technically, *the two words have different meanings*.

6pt / 10

An engine is a device that burns or otherwise consumes fuel, changing its chemical composition, whereas a motor is a device driven by electricity, air, or hydraulic pressure, which does not change the chemical composition of its energy source. However, rocketry uses the term *rocket motor*, even though they consume fuel. A heat engine may also serve as a prime mover—a component that transforms the flow or changes in pressure of a fluid into mechanical energy. *An automobile powered by an internal combustion engine may make use of various motors and pumps*, but ultimately all such devices derive their power from the engine. Another way of looking at it is that a motor receives power from an external source, and then converts it into mechanical energy, while an engine creates power from pressure.



90pt

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# Transmission

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40pt / 45

A machine in a power system, providing *controlled application* of the power.

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30pt / 35

Often refers simply to the gearbox that uses gears to provide *speed and torque conversions*.

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20pt / 25

In British English, the term transmission refers to the whole drivetrain, including clutch, gearbox, prop shaft, differential, and final drive shafts. In American English, however, *the term refers more specifically to the gearbox alone*, and detailed usage differs.

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18pt / 24

The most common use is in motor vehicles, where the transmission adapts the output of the internal combustion engine to the drive wheels. *Such engines need to operate at a relatively high rotational speed, which is inappropriate for starting, stopping, and slower travel.*

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14pt / 20

The transmission reduces the higher engine speed to the slower wheel speed, *increasing torque in the process.* Transmissions are also used on pedal bicycles, fixed machines, and where different rotational speeds and torques are adapted. *Often,* a transmission has multiple gear ratios with the ability to switch between them as speed varies. This switching may be done manually or automatically.

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11pt / 17

In motor vehicles, the transmission generally is connected to the engine crankshaft via a flywheel or clutch or fluid coupling, *partly because internal combustion engines cannot run below a particular speed.* The output of the transmission is transmitted via the driveshaft to one or more differentials, which drives the wheels. *While a differential may also provide gear reduction,* its primary purpose is to permit the wheels at either end of an axle to rotate at different speeds.

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8pt / 12

Conventional gear/belt transmissions are not the only mechanism for speed/torque adaptation. Alternative mechanisms include torque converters and power transformation (e.g. diesel-electric transmission and hydraulic drive system). *Hybrid configurations also exist.* Automatic transmissions use a valve body to shift gears using fluid pressures in conjunction with an ecm. Early transmissions included the right-angle drives and other gearing in windmills, horse-powered devices, and steam engines.

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6pt / 10

Most modern gearboxes are used to increase torque while reducing the speed of a prime mover output shaft (e.g. a motor crankshaft). This means that the output shaft of a gearbox rotates at a slower rate than the input shaft, and this reduction in speed produces a mechanical advantage, *increasing torque.* A gearbox can be set up to do the opposite and provide an increase in shaft speed with a reduction of torque. Some of the simplest gearboxes merely change the physical rotational direction of power transmission. *Many typical automobile transmissions include the ability to select one of several gear ratios.* In this case, most of the gear ratios (often simply called "gears") are used to slow down the output speed of the engine and increase torque. However, the highest gears may be "overdrive" types that increase the output speed.

90pt

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# Hydraulic

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40pt / 45

Installed into an automobile that allows for an *adjustment in height* of the vehicle.

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30pt / 35

These suspensions are placed often in a lowrider, *modified so that its ground clearance is less than its original design.*

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20pt / 25

These modifications done to the automobile can enable the body and wheels of the car to be electronically lifted off the ground, *while being controlled by remote.* With the added kit, this enables these automobiles to jump and hop, *upwards of six feet from off the ground.*

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18pt / 24

Lowrider automobiles originated in Mexican American communities in Southern California. Car hydraulics were originally very expensive to have installed, *and were only used to be shown at car shows*. However, after WWII, more Mexican Americans were able to afford older, *less expensive*, automobiles.

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14pt / 20

In the early 1960s, these automobiles, many times classics from the 1950s, began to be modified and customized to riding low to the ground. This was not favored by many police in Southern CA and owners of these cars were ticketed. This is the reason behind why car hydraulics were installed. This enabled these car drivers to adjust these cars to the original height when put in a compromising position.

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11pt / 17

Today, lowriders can be found anywhere, *worldwide*, however the greater percentage is in the Western States in the United States. In 1979, Japan received a shipment of Low rider magazines, which shown on the cover was a lowered Chevy in front of Mount Fuji. This magazine, *Orlie's Lowriding Magazine*, was a profitable magazine that advertised lowriders and hydraulic kits for their consumers. Along with these magazines came mail-order forms to purchase automotive hydraulics kits.

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8pt / 12

The original pumps, valves and cylinders used for the modifications to these cars were originally used for operations done for airplanes. *Using these materials took a lot of engineering ability in order to get these cars back in working condition after being stripped*. For many automobile owners, it was too expensive to have an auto shop install the hydraulics in their car for them. In the early 1960s, *owners were left to do the mechanics for their own cars because the kits were not sold in stores until the later 1960s*. These hydraulic kits were known as "trays" to many consumers.

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6pt / 10

Many times, since these batteries, pumps and valves were made for such large aircraft originally, extra batteries were needed to assist in the hydraulics. This would run the batteries down more often than the original usage for these batteries so, *it was necessary for the owners of these automobiles to charge the automobile's batteries more frequently*. After using aircraft materials, liftgate trucks' materials were found to be more manageable on the car as well as the maintenance of the car. These cylinders, two or more, are connected to one pipe that is filled with oil, the basic fluid used for a hydraulic system. The cylinders are used to compress enough pressure on the oil, fluid being supplied by the pump, to *push the automobile up*. The motion of car is defined by the amount of cylinder pumps installed in the vehicle. Depending on the amount and placement of the pumps, determines the range of motion the automobile has.

90pt

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# Carburetor

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40pt / 45

Device that blends *air & fuel* for an internal combustion engine in the proper ratio.

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30pt / 35

It is sometimes colloquially shortened to *carb in the UK and North America* or *carby in Australia*.

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20pt / 25

To carburate or carburet (*and thus carburation or carburetion, respectively*) is to blend the air and fuel or to equip (*an engine*) with a carburetor for that purpose. A buret or burette is equipment for measuring liquids accurately.

18pt / 24

The first carburetor was invented by Samuel Morey in 1826. Another carburetor was developed by Enrico Bernardi at the University of Padua in 1882, *for his Motrice Pia*, the first petrol combustion engine (one cylinder, 121.6 cc) prototyped on 5 August 1882. A carburetor was among the early patents by Karl Benz (1888).

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14pt / 20

Early carburetors were the surface carburetor type, in which air is charged with fuel by being passed over the surface of gasoline. In 1885, Wilhelm Maybach and Gottlieb Daimler developed a float carburetor for their engine based on the atomizer nozzle. *The Daimler-Maybach carburetor* was copied extensively, but British courts rejected the *Daimler company's* claim of priority in favor of Edward Butler's 1884 carburetor.

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11pt / 17

Hungarian engineers János Csonka and Donát Bánki patented a carburetor for a stationary engine in 1893. Frederick William Lanchester of Birmingham, England, experimented with the wick carburetor in cars. In 1896, Frederick and his brother built the first gasoline-driven car in England: a single cylinder 5 hp (3.7 kW) internal combustion engine with chain drive. Unhappy with the performance and power, *they re-built the engine the next year into a two-cylinder horizontally opposed version using his new wick carburetor design.*

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8pt / 12

In Australia, some cars continued to use carburetors well into the 1990s; these included the Honda Civic (1993), the Ford Laser (1994), the Mazda 323 and Mitsubishi Magna sedans (1996), the Daihatsu Charade (1997), and the Suzuki Swift (1999). Low-cost commercial vans and 4WDs in Australia continued with carburetors even into the 2000s, the last being the Mitsubishi Express van in 2003. Elsewhere, certain Lada cars used carburetors until 2006. Many motorcycles still use carburetors for simplicity's sake, since a carburetor does not require an electrical system to function.

6pt / 10

In Europe, carburetor-engined cars were being gradually phased out by the end of the 1980s in favor of fuel injection, *which was already the established type of engine on more expensive vehicles including luxury and sports models.* EEC legislation required all vehicles *sold and produced* in member countries to have a catalytic converter after December 1992. This legislation had been in the pipeline for some time, with many cars becoming available with catalytic converters or fuel injection from around 1990. However, some versions of the *Peugeot 106* were sold with carburetor engines from its launch in 1991, as were versions of the Renault Clio and Nissan Primera (launched in 1990) and initially all versions of Ford Fiesta range except the XR2i when it was launched in 1989. Luxury car manufacturer Mercedes-Benz had been producing mechanically fuel-injected cars since the early 1950s, while the first mainstream family car to feature fuel injection was the Volkswagen Golf GTI.

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90pt

# Solenoid

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40pt / 45

Term was invented by French physicist André Ampère to designate a *helical coil*.

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30pt / 35

In physics, the term refers to a coil whose length is *substantially greater* than its diameter.

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20pt / 25

Producing a uniform magnetic field in a volume of space (where some experiment might be carried out) when an electric current is passed through it. *A solenoid is a type of electromagnet when the purpose is to generate a controlled magnetic field.*

18pt / 24

If the purpose of the solenoid is instead to impede changes in the electric current, a solenoid can be more specifically classified as an *inductor rather than an electromagnet*. Not all electromagnets and inductors are solenoids; for example, the first electromagnet, invented in 1824, *had a horseshoe rather than a cylindrical shape*.

14pt / 20

In engineering, the term may also refer to a variety of transducer devices that convert energy into linear motion. *The term is also often used to refer to a solenoid valve*, which is an integrated device containing an electromechanical solenoid which actuates either a pneumatic or hydraulic valve, *or a solenoid switch*, which is a specific type of relay that internally uses an electromechanical solenoid to operate an electrical switch.

11pt / 17

An electromechanical solenoid. Solenoid bolts, a type of electronic-mechanical locking mechanism, also exist. The magnetic field inside an infinitely long solenoid is homogeneous and its strength neither depends on the distance from the axis, nor on the solenoid's cross-sectional area.

8pt / 12

We confirm this by applying the right hand grip rule for the field around a wire. If we wrap our right hand around a wire with the thumb pointing in the direction of the current, the curl of the fingers shows how the field behaves. Since we are dealing with a long solenoid, all of the components of the magnetic field not pointing upwards cancel out by symmetry. *Outside, a similar cancellation occurs, and the field is only pointing downwards*. Now consider the imaginary loop  $c$  that is located inside the solenoid. By Ampère's law, we know that the line integral of  $B$  around this loop is zero.

6pt / 10

We have shown above that the field is pointing upwards inside the solenoid, so the horizontal portions of loop  $c$  do not contribute anything to the integral. *Thus the integral of the up side 1 is equal to the integral of the down side 2*. Since we can arbitrarily change the dimensions of the loop and get the same result, the only physical explanation is that the integrands are actually equal, that is, the magnetic field inside the solenoid is radially uniform. Note, though, that nothing prohibits it from varying longitudinally, which in fact it does. A similar argument can be applied to the loop  $a$  to conclude that the field outside the solenoid is radially uniform or constant. This last result, *which holds strictly true only near the centre of the solenoid where the field lines are parallel to its length*, is important as it shows that the flux density outside is practically zero since the radii of the field outside the solenoid will tend to infinity.



## Centra No.1 Roman & Italic Open Type Features

### Stylistic Set 01 - Square Dots

i → i      Poseidon's → Poseidon's  
 ü → ü      Grünen → Grünen

### Stylistic Set 02 - Alternate Uppercase W

W → W      Winter → Winter

### Stylistic Set 03 - Alternate Lowercase 'g'

g → g      Georgia → Georgia

### Stylistic Set 04 - Alternate Lowercase 't'

t → t      Tactful → Tactful

### Stylistic Set 05 - Reverse Quotes

‘ “ → ’ ”      The quick “brown fox” →  
 The quick “brown fox”

### LOCL - Localised Accent Forms For Romanian

ș → ș      Artiști → Artiști

### Automatic Fractions

0123456789/0123456789

## Centra No.1 Roman &amp; Italic Open Type Features

## Case Specific Punctuation

()[]{}/\|!;:«»‹›••–

(cat) → (CAT)

## Proportional Figures

123

## Proportional Lining (Default)

1234567890

## Proportional Oldstyle

1234567890

## Tabular Figures

1 → 1

## Tabular Lining

1234567890

## Tabular Oldstyle

1234567890

## Ordinals

abcdefghijklmnopqrstuvwxy<sup>z</sup>

Jan 23<sup>rd</sup>

## Superiors

1 → 1<sup>1</sup>

10<sup>2</sup> x 9<sup>3</sup>

## Inferiors

1 → 1<sub>1</sub>

C<sub>2</sub>CO<sub>3</sub>

## Numerators

1 → 1<sup>1</sup>

1/2 3/4 5/8

## Denominators

1 → 1<sub>1</sub>

1/2 3/4 5/8



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## Languages

### ISO 8859-1 / Latin1

Afrikaans, Albanian, Basque, Breton, Catalan, Danish, English (UK & US), Faroese, French, Galician, German, Icelandic, Irish (new orthography), Italian, Kurdish (The Kurdish Unified Alphabet), Latin (basic classical orthography), Leonese, Luxembourgish (basic classical orthography), Norwegian (Bokmål & Nynorsk), Occitan, Portuguese (Portuguese & Brazilian), Rhaeto-Romanic, Scottish Gaelic, Spanish, Swahili, Swedish, Walloon

### ISO 8859-2 / Latin2

Bosnian, Croatian, Czech, German, Hungarian, Polish, Romanian, Serbian (when in the Latin script), Slovak, Slovene, Upper Sorbian & Lower Sorbian

### ISO 8859-3 / Latin3

Esperanto, Maltese, Turkish

### ISO 8859-4 / Latin4

Estonian, Latvian, Lithuanian, Greenlandic, Sami

### ISO 8859-9 / Latin5

Turkish

### ISO 8859-10 / Latin6

Nordic languages

## File formats

Desktop: OTF

Web: WOFF, TTF, EOT

App: OTF

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## About Sharp Type Co.

Sharp Type is a digital typeface foundry based in New York City. The foundry produces custom & retail typefaces for print, digital, environmental design, brands, corporations, and publications.

Sharp Type designs typefaces with utility and beauty for the modern era.