
GLOSSARY OF TECHNICAL TERMS

<i>“active energy-absorbing steering column(s)”</i>	a steering column which uses a pyrotechnic actuator to optimize the energy absorbed during a collision to help improve driver protection
<i>“Advanced Development Process”</i>	process by which we develop a new project design as a part of our research and design efforts
<i>“aftermarket”</i>	the secondary market of the automotive industry concerned with the manufacturing, remanufacturing, distribution, retailing and installation of all vehicle parts, chemicals, tools, equipment and accessories for light and heavy vehicles, after the sale of the vehicle by the OEM to the consumer
<i>“API”</i>	Annual Physical Inventory testing, which is conducted at least once per year in each plant and measures overall discipline in inventory management and accuracy in reporting inventory levels
<i>“assist mechanism(s)”</i>	provides assistive power through either the steering column or the steering gear
<i>“assistive power”</i>	when power is added to an apparatus through the use of a motor or hydraulic system
<i>“axle shaft(s)” or “front axle(s)” or “rear axle(s)”</i>	a central shaft for a rotating wheel or gear which transmits power to the wheels
<i>“bearing(s)”</i>	a machine element that constrains relative motion between moving parts to only the desired motion
<i>“brushless EPS”</i>	an EPS system with brushless motor technology, which utilizes permanent magnets and rotational position sensors to precisely control motor torque and rotation
<i>“bundled hose(s)”</i>	type of steering hose where the hoses are tied together
<i>“carbon dioxide equivalent(s)”</i>	metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential
<i>“casting(s)”</i>	a manufacturing process by which a liquid material is poured into a mold, which contains a hollow cavity of the desired shape, and then allowed to solidify
<i>“CIS”</i>	steering column and intermediate shafts

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<i>“Column Assist EPS” or “CEPS”</i>	an EPS system which integrates the system electronics (motor, controller and sensor) and the assist mechanism with the steering column
<i>“compact modular power pack(s)”</i>	a modular power pack is an integrated unit consisting of the motor, controller and gear reduction units required to provide steering assist
<i>“computer module(s)”</i>	a selection of independent electronic circuits packaged onto a circuit board to provide a basic function within a computer
<i>“containment and sorting system(s)”</i>	a system in which we identify and segregate non-conforming parts during the manufacturing process
<i>“controller(s)”</i>	electronic hardware that regulates a chip or expansion card that interfaces with a peripheral device, the performance of the motor and EPS system
<i>“cooler(s)”</i>	small thermal radiating devices used to cool power steering fluid
<i>“coupling(s)”</i>	device used to connect two shafts together at their ends for the purpose of transmitting power
<i>“Cross-Glide”</i>	an inboard joint providing premium NVH performance for rear wheel drive applications that require only moderate operating angles
<i>“Customer Ship Performance”</i>	a metric which measures how often our customer shipments are on-time
<i>“cutting”</i>	the separation of a physical object or portion thereof into two or more portions through the application of an acutely directed force
<i>“data coordinator(s)”</i>	supports the Production Control and Logistics Team of our Group and is responsible for the coordination of inventory activities and the accuracy of a plant’s inventory balance
<i>“DIO”</i>	Days Inventory Outstanding
<i>“drilling”</i>	a cutting process that uses a drill bit, or rotary cutting tool, to cut or enlarge a hole of circular cross-section in solid materials

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<i>“driveline disturbance issue(s)”</i>	any objectionable noise or vibration that may be detected by vehicle occupants
<i>“driveline system(s)”</i>	the components that transfer power from the transmission and deliver it to the drive wheels, which include front wheel drive halfshafts, intermediate drive shafts, rear wheel drive halfshafts and propeller shaft joints
<i>“electric motor(s)” or “motor(s)”</i>	an electromechanical device that converts electrical energy into mechanical energy
<i>“electro-mechanical engineering”</i>	the analysis, design, manufacture and maintenance of equipment and products based on the combination of electrical circuits and mechanical systems
<i>“EPS”</i>	electric power steering, which uses an electric motor to assist driver steering
<i>“error-proofing system(s)”</i>	a system in which we detect and remove defective parts before they are produced
<i>“failure mode and risk analysis”</i>	a process by which potential problems are identified early in the development cycle when they are easier to resolve
<i>“front-axle load(s)”</i>	the total weight felt by the roadway for all wheels connected to the front axle
<i>“front wheel drive halfshaft(s)”</i>	transmits torque at constant velocity from the transmission to the front wheel of the vehicle
<i>“front wheel drive vehicle(s)”</i>	a form of engine and transmission layout where the engine drives the front wheels only
<i>“full-size truck(s)”</i>	a large pickup truck suitable for hauling heavy loads and performing other functions
<i>“green technologies”</i>	the application of one or more of environmental science, green chemistry, environmental monitoring and electronic devices to monitor, model and conserve the natural environment and resources and to curb the negative impacts of human involvement
<i>“heat treatment”</i>	a group of industrial and metalworking processes used to alter the physical, and sometimes chemical, properties of a material that involve the use of heating or chilling to extreme temperatures to achieve the hardening or softening of a material

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<i>“hemianechoic chamber(s)”</i>	an echo-free chamber designed to completely absorb reflections of either sound or electromagnetic waves to provide a quiet open space of infinite dimension which is useful when exterior influence would otherwise give false results
<i>“high output, rack-based 12-volt steering system”</i>	a high power steering system capable of delivering rack output force in excess of 15 kilonewtons
<i>“HPS”</i>	hydraulic power steering, which uses high pressure fluids to assist driver steering
<i>“in-process coating”</i>	the application of a thin film of functional material to a substrate to improve the surface properties of the substrate
<i>“intermediate drive shaft(s)”</i>	works in conjunction with the halfshafts to improve vehicle handling and eliminate driveline disturbance issues on front wheel drive vehicle, with unequal length axles, higher torque and running angles
<i>“intermediate shaft(s)” or “I-Shaft(s)”</i>	connects the end of the steering column to the Rack and Pinion Gear
<i>“large van(s)”</i>	full-size vans
<i>“Lean Design Methodology”</i>	methodology seeking to create value with the least amount of waste
<i>“luxury vehicle(s)”</i>	a vehicle with high quality equipment, superior performance, precise construction and advanced design or features that convey status or prestige
<i>“machined part(s)”</i>	a part produced through a machining process
<i>“machining” or “machining process(es)”</i>	a process in which a piece of raw material is cut into a desired final shape and size by a controlled material-removal process
<i>“make to print” model</i>	the in-house design of products and the partnership with third-party suppliers to manufacture such products
<i>“manufacturing footprint”</i>	the geographic areas in which a company’s manufacturing plants are located
<i>“Nexteer Production System”</i>	an integrated system that organizes manufacturing and logistics, including interaction with suppliers and customers, with a focus on Lean Design Methodology

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<i>“non-adjustable steering column(s)”</i>	a steering column that remains in a fixed position and cannot be changed by the driver
<i>“NVH”</i>	noise, vibration and harshness, the study and modification of the noise and vibration characteristics of vehicles, particularly cars and trucks
<i>“OEM(s)”</i>	original equipment manufacturer(s), generally referring to large automotive manufacturers that use OEM components in the production of cars, which is in line with standard industry practice
<i>“Pareto Analysis”</i>	a statistical technique in decision making that is used for selection of a limited number of tasks that produce significant overall effect
<i>“PC&L Team”</i>	our Production Control and Logistics Team, which oversees inventory control and is responsible for inventory management
<i>“Pinion Assist EPS” or “SPEPS”</i>	an EPS system that integrates the controller motor unit of the system electronics and the assist mechanism with the steering gear pinion shaft
<i>“polishing”</i>	a finishing process for smoothing a part’s surface using an abrasive and a work wheel
<i>“power adjustable steering column(s)”</i>	a steering column with electrical power control of tilt and telescopic adjustments, which provides ease of driver entry, exit and comfort and provides drivers with more wheel-position options
<i>“power electronics”</i>	the application of solid-state electronics for the control and conversion of electric power
<i>“power one-touch adjustable column(s)”</i>	a steering column which replaces a manual lever with one-touch button located within easy reach on the steering wheel that the driver can press and hold while adjusting the column to meet individual preferences
<i>“powertrain”</i>	a group of components that generate power and deliver it to the road surface
<i>“pressure hose(s)”</i>	long-lasting hose designed to handle constant high pressure

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<i>“propeller shaft joint(s)”</i>	the part of the complete propeller shaft assembly that transmits torque from the transmission or transfer case to the front and rear axles
<i>“rack and pinion gear(s)” or “R&P gear(s)”</i>	a pair of gears that convert rotational motion into linear motion
<i>“Rack Assist EPS” or “REPS”</i>	an EPS system which integrates the system electronics (motor, controller and sensor) with the steering rack
<i>“rare earth material(s)”</i>	a set of 17 chemical elements in the periodic table, specifically the 15 lanthanides plus scandium and yttrium
<i>“rear differential”</i>	a device with a differential which allows the wheels of vehicle to rotate at different speeds
<i>“rear wheel drive halfshaft(s)”</i>	transmits torque from the rear differential to the wheels
<i>“remote reservoir hose(s)”</i>	hose linked to the remote reservoir, an external reservoir that increases fluid capacity
<i>“return hose(s)”</i>	a hose assembled with end fittings or user applied clamps for use in automotive power steering applications as flexible connections
<i>“sensor(s)”</i>	a converter that measures a physical quantity and converts it into a signal which can be read by an observer or by an electronic instrument
<i>“Six Sigma” or “Six Sigma Analysis”</i>	an advanced problem solving tool used to identify and remove the root causes of product defects and variability in manufacturing processes
<i>“small car(s)”</i>	a classification of cars that are larger than a subcompact car but smaller than a mid-size car
<i>“sport utility vehicle(s) ”</i>	vehicle similar to a station wagon or estate car, usually equipped with four-wheel drive for on- or off-road ability
<i>“steel tubing”</i>	steel tube used in power steering applications
<i>“steering column(s)” or “column(s)”</i>	connects the steering wheel to the steering mechanism and controls steering by transferring the driver’s input torque from the steering wheel

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<i>“steering gear(s)”</i>	provide directional control of a vehicle by converting hydraulic pressure to a rotation force that moves the steering linkage left or right
<i>“steering gear pinion shaft(s)”</i>	a shaft that attaches the steering gear to the pinion shaft, so the steering gear spins when the steering wheel is turned, moving the rack
<i>“steering hose(s)” or “hose(s)”</i>	a wide range of products for bundled hoses, pressure hoses, return hoses, coolers and remote reservoir hoses
<i>“steering linkage”</i>	the part of an automotive steering system that connects to the front wheels
<i>“steering pump(s)” or “power steering pump(s)” or “pump(s)”</i>	provide the hydraulic power for HPS
<i>“steering system(s)”</i>	the components that control the direction of vehicular motion
<i>“system electronics”</i>	consist of the power electronics required to deliver precisely controlled current/force to assist the driver by reducing required steering effort
<i>“Tier 1 suppliers”</i>	direct suppliers to OEMs
<i>“ton”</i>	a unit of weight equal to 2,000 pounds avoirdupois (907.19 kg)
<i>“tooling”</i>	manufacturing aids of a specialized nature used for specific production line or the performance of a specific job
<i>“torque”</i>	the tendency of a force to rotate an object about an axis, fulcrum or pivot, defined mathematically as the cross product of the lever-arm distance and force, which tends to produce rotation
<i>“transfer case”</i>	a part of a four-wheel-drive system which is connected to the transmission as well as to the front and rear axles by means of the drive shaft that receives power from the transmission and sends it to both the front and rear axles
<i>“transmission”</i>	an assembly of parts including the speed-changing gears and the propeller shaft by which the power is transmitted from an engine to an axle

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<i>“Tri-Glide”</i>	premium inboard joint that incorporates an added degree of freedom to deliver superior NVH performance
<i>“TS-16949”</i>	an International Organization for Standardization technical specification prepared by the International Automotive Task Force that aims to develop a quality management system that provides for continual improvement, emphasizing defect prevention and the reduction of variation and waste in the supply chain of the automotive industry
<i>“tumbling”</i>	a technique for smoothing and polishing a rough surface on relatively small parts in which a horizontal barrel is filled with the parts and tumbling media
<i>“vehicle model(s)” or “model(s)”</i>	a particular brand of vehicle sold under a marque by a manufacturer, usually with a range of models which are of different sizes or capabilities
<i>“vehicle platform(s)”</i>	a shared set of common design, engineering, and production efforts, as well as major components over a number of outwardly distinct models and even types of vehicles
<i>“zero defect manufacturing measures”</i>	a manufacturing process that aims to produce a specific product with no defects in either quality or performance
<i>“zoning”</i>	the precision matching of mating parts through measurement, classification and assembly