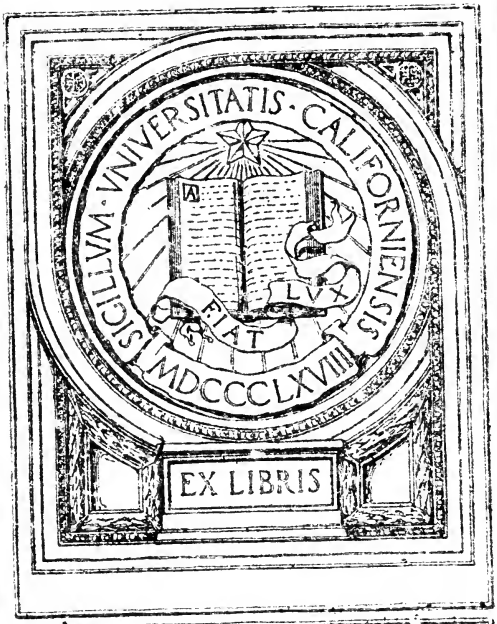
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The Society of Automobile Engineers

29 W. 39th St., New York

AUTOMOBILE NOMENCLATURE

Including Names of Car Parts and Items of Terminology

From the Report of the
Nomenclature Division, adopted by the Society, Aug. 1, 1916

OFFICIAL PUBLICATION
S.A.E.
Sept.
1916

S.A.E. STANDARD AUTOMOBILE NOMENCLATURE

For several years there has been an insistent demand for standardization of names of car parts. Uniformity in the use of names and terminology would save many of the delays common in parts replacement service, and make for clearness and brevity in the use of automobile terms generally.

The nomenclature contained in the following list was developed at a series of meetings of engineering and service representatives of several of the leading automobile manufacturers of America. It has been approved in detail by the Nomenclature Division of the Standards Committee, and has been passed upon in turn by the Standard Committee, the Council and adopted by the members of the Society of Automobile Engineers.

An attempt has been made to include in the list the more important parts throughout the whole car, bolts, studs and the like being indicated in general terms. Body parts have not been included generally nor parts of some units such as carbureter, which vary so much in construction as to make anything like uniform nomenclature very difficult.

Definitions of different types of construction have been included for several units in order to encourage uniform terminology in descriptions appearing in the trade press and in catalogs, as well as in the technical discussions of the Society. Definitions of different types of bodies are also included, because it is thought that some authority should take action to make possible the use of names which will be understood generally, rather than those which are meaningless except to persons conversant with the terminology peculiar to individual manufacturers. It is surprising how many distinctly different types of body are being sold under the name "brougham," for instance.

A scheme of classification based entirely on assemblies is impracticable for general use, on account of diverse arrangement of elements of so-called conventional cars. The classification adopted is therefore based largely on function.

In most cases the names do not need defining to anyone familiar with automobile construction, especially when considered in connection with the other names in the same group.

For spring nomenclature see sheets 49, 49xa and 49b in the S.A.E. Handbook. (Reprints furnished upon request.)

GENERAL DIVISIONS

I Cylinders
II Valves
III Cooling System
IV Fuel System
V Exhaust System

General Divisions—Continued

VI	Lubrication
VII	Ignition
VIII	Starting and Lighting Equipment
IX	Miscellaneous Electrical Equipment
X	Clutch
XI	Transmission
XII	Rear Axle
XIII	Braking System
XIV	Front Axle and Steering
XV	Wheels
XVI	Frame and Springs
XVII	Hoods, Fenders and Shields
XVIII	Body and Top
XIX	Accessories

DIVISION I—CYLINDERS

Group 1—Cylinders
Group 2—Crankcase
Group 3—Crankshaft
Group 4—Starting-crank
Group 5—Connecting-rods
Group 6—Pistons

DIVISION II—VALVES

Group 1—Camshaft
Group 2—Valves

DIVISION III—COOLING SYSTEM

Group 1—Fan
Group 2—Radiator
Group 3—Pump
Group 4—Pipes and Hose

DIVISION IV—FUEL SYSTEM

Group 1—Carbureter and Inlet Pipe
Group 2—Carbureter Control
Group 3—Carbureter Air-heater
Group 4—Fuel Tank
Group 5—Fuel Pipes and Feed System

DIVISION V—EXHAUST SYSTEM

Group 1—Exhaust Manifold
Group 2—Exhaust Pipe and Muffler

DIVISION VI—LUBRICATION SYSTEM

Group 1—Oil Pan or Reservoir
Group 2—Oil Pump
Group 3—Oil Pipes, Strainers, Gages

DIVISION VII—IGNITION

Group 1—Spark-plugs, Cables and Switches
Group 2—Ignition Distributor
Group 3—Magneto
Group 4—Ignition Control

DIVISION VIII—STARTING AND LIGHTING EQUIPMENT

Group 1—Generator
Group 2—Starting Motor
Group 3—Wiring
Group 4—Battery

DIVISION IX—MISCELLANEOUS ELECTRICAL EQUIPMENT

Group 1—Lamps and Wiring
Group 2—Switches and Instruments
Group 3—Horn
Group 4—Miscellaneous

DIVISION X—CLUTCH

Group 1—Clutching Parts
Cone Clutch
Disk Clutch
Plate Clutch
Group 2—Releasing Parts

DIVISION XI—TRANSMISSION

Group 1—Transmission
Group 2—Shifting Mechanism
Group 3—Control
Group 4—Propeller-shaft

DIVISION XII—REAR AXLE

Group 1—Housing
Group 2—Torque-arm and Radius-rod
Group 3—Drive Pinion
Group 4—Differential
Group 5—Axle Shafts

DIVISION XIII—BRAKES

Group 1—Outer Brake
Group 2—Inner Brake
Group 3—Pedal (or outer) Brake Control
Group 4—Hand (or inner) Brake Control

DIVISION XIV—FRONT AXLE AND STEERING

Group 1—Axle Center
Group 2—Steering-knuckles
Group 3—Steering-rods
Group 4—Steering-gear

DIVISION XV—WHEELS

Group 1—Front Wheels
Group 2—Rear Wheels

DIVISION XVI—FRAME AND SPRINGS

Group 1—Frame
Group 2—Frame Brackets and Sockets
Group 3—Front Springs
Group 4—Rear Springs

DIVISION XVII—HOOD, FENDERS AND SHIELDS

Group 1—Hood
Group 2—Engine Shield
Group 3—Fenders and Running-boards
Group 4—Windshield

DIVISION XVIII—BODY

Group 1—Floor-boards and Dash
Group 2—Body
Group 3—Upholstering
Group 4—Top

DIVISION XIX—ACCESSORIES

Group 1—Speedometer
Group 2—Tire-pump

GENERAL

Where terms "front" and "rear" are used, "front" should always be toward the front end of the car. These terms are sometimes confused in regard to parts that are mounted on the dash. The front side of the dash is always that next the engine.

Where parts are numbered, No. 1 should be toward the front of the car. For instance, No. 1 cylinder is the one nearest the radiator (in conventional construction).

"Right" and "left" are to the right- and left-hands when sitting in one of the seats of the car.

Studs, screws and bolts shall take names from parts they serve to hold in place, although they are assembled with other parts. For example, the cylinder stud is permanently screwed into crankcase but holds the cylinder in place.

The name "engine" should be used rather than "motor" to avoid confusion with electric motors and to secure a lower freight rate.

DIVISION I—CYLINDERS

Group 1—Cylinders

Cylinder
L-head cylinder (valves on one side of cylinder)
T-head cylinder (valves on opposite sides of cylinder)
I-head cylinder (valves in cylinder head)
F-head cylinder (one valve in head, other on side directly operated)
(Cast in block, not cast en bloc)
(Cylinders of V-type engines should be numbered IR, IL, 2R, etc.)
Inlet-valve cap
Exhaust-valve cap

Group 1—Cylinders—Continued

Valve-cap gasket
Cylinder-head
Cylinder-head gasket
Cylinder-head plug
Water-jacket top cover
Water-jacket top cover gasket
Water-jacket side (or front or rear) cover
Valve-spring cover
Valve-spring-cover gasket
Valve-spring-cover stud
Valve-stem guide
Priming-cup

Group 2—Crankcase

Crankcase
Barrel-type crankcase
Split-type crankcase (split horizontally, at or near center line of crankshaft)
Crankcase upper half
Crankcase lower half (used only when the lower half contains bearings. A crankcase of either barrel or split type, in which all the bearings are mounted directly on the part to which the cylinders are attached, is called a "crankcase," the terms "upper half" and "lower half" not being used)
Oil-pan (used for lower part of split-type or barrel-type crankcase, whether this serves as an oil reservoir or not)
Oil-pan drain-cock (or -plug)
Breather
Oil-pan gasket
"Bushing" instead of "bearing" for removable and renewable lining used in a plain bearing.
Crankshaft front bearing bushing (upper half and lower half)
Crankshaft front bearing cap
Crankshaft front bushing support (sometimes used in barrel-type crankcase)
Crankshaft rear bearing bushing
Crankshaft rear bearing shims (other shims accordingly)
Crankshaft center bearing bushing (if only three bearings or if all except end bearings are alike)
Crankshaft second bearing bushing, etc. (if more than three bearings, for example, front bearing, second bearing, third bearing, fourth bearing, rear bearing)
Hand-hole cover
Hand-hole-cover gasket
Timing-gear cover
Timing-gear-cover gasket
Flywheel housing
Generator bracket (other brackets take name of part supported)

Group 3—Crankshaft
- Crankshaft
- Flywheel
- Crankshaft timing-gear (or sprocket)
- Crankshaft timing-gear key
- Flywheel starter-gear
- Crankshaft starter-sprocket
- Flywheel studs
- Clutch-spring stud
- Crankshaft starting jaw (or pin)

Group 4—Starting-crank
- Starting-crank
- Starting-crank jaw
- Starting-crank shaft
- Starting-crank handle
- Starting-crank-handle pin

Group 5—Connecting-rods
- Connecting-rod
- Straight connecting-rod } V-type engine
- Forked connecting-rod }
- Connecting-rod cap
- Connecting-rod bushing (upper half and lower half)
- Connecting-rod cap stud (or bolt)
- Connecting-rod cap nut
- Connecting-rod bearing shims
- Connecting-rod dipper
- Piston-pin bushing

Group 6—Pistons
- Piston
- Piston-pin
- Piston-pin lock-screw (in connecting-rod or piston)
- Piston-ring
- Piston-ring groove

DIVISION II—VALVES

Group 1—Camshaft
- Camshaft
- Eccentric shaft (Knight engine)
- Camshaft timing-gear
- Camshaft timing-gear key
- Camshaft idler gear
- Camshaft oil-pump gear
- Camshaft ignition-distributor gear
- Exhast cam
- Inlet cam
- Oil-pump eccentric (or cam)

Group 2—Valves

Valves should be numbered 1 Ex, 1 In, 2 Ex, 2 In, etc., according to the number of the cylinder. On V-type engines the numbers should be 1 REx, 1 LEx, etc.

Poppet valve
Inlet valve
Exhaust valve
Valve-spring
Valve-spring retainer
Valve-spring retainer lock
Valve-lifter
Valve-lifter guide
Valve-lifter-guide clamp
Valve-lifter roller
Valve-lifter-roller pin
Valve adjusting screw
Valve adjusting screw nut
Valve-rocker (either at cam or at overhead valve; if both, upper and lower)
Valve push-rod (intermediate between lifter and valve in I-head engine)

DIVISION III—COOLING SYSTEM

Group 1—Fan

Fan
Stationary fan support
Adjustable fan support
Fan hub
Fan-blades
Fan pulley
Fan-belt
Fan driving pulley

Group 2—Radiator

Radiator core
Radiator shell
Radiator upper tank
Radiator right side
Radiator left side
Radiator lower tank
Radiator filler-cap
Radiator strainer
Radiator drain-cock

Group 3—Pump

Water-pump
Water-pump impeller
Water-pump-impeller key
Water-pump body (in case of doubt, body is member mounted on engine)
Water-pump cover

Group 3—Pump—Continued

Water-pump shaft
Water-pump gland (part in contact with packing, whether threaded or not)
Water-pump-gland nut (or screw, or other part used to compress gland)
Water-pump shaft gear

Group 4—Pipes and Hose

Engine water outlet
Engine water inlet
Radiator hose (upper and lower)
Radiator water fitting (upper and lower)
Water-pump outlet pipe

DIVISION IV—FUEL SYSTEM

Group 1—Carbureter and Inlet Pipe

Carbureter
Inlet manifold (more than one connection to cylinder)
Inlet pipe (only one connection to cylinder)
Inlet manifold or pipe gaskets (at cylinders)
Carbureter gasket.

Group 2—Carbureter Control

(Throttle control rods will take names from parts they connect, shafts by location or arrangement, and brackets by parts they support)
Accelerator pedal
Accelerator pedal bracket
Accelerator pedal pin
Accelerator pedal rod
Accelerator pedal rod-end pin
Carbureter mixture hand-regulator
Carbureter choke

Group 3—Carbureter Air-heater

Carbureter air-heater
Carbureter hot-air pipe

Group 4—Fuel Tank

Fuel tank
Fuel reserve tank
Fuel gage
Fuel gage float
Fuel gage glass
Fuel tank outlet strainer
Fuel tank outlet (flange, fitting, etc.)
Fuel tank pressure flange (or fitting)

Group 5—Fuel Pipes and Feed Systems

Main fuel valve
Reserve fuel valve
Fuel pipe, main tank to auxiliary tank (or names of other parts connected)

Fuel pressure-pump (power pump)
Fuel hand-pump
Fuel pressure-gage pipe
Fuel pressure-gage tee
Fuel pressure pipe to tank
Fuel pressure-pump pipe
Fuel hand-pump pipe
Fuel hand-pump tee
Fuel pressure gage

DIVISION V—EXHAUST SYSTEM

Group 1—Exhaust Manifold
Exhaust manifold
Exhaust manifold gasket
Group 2—Exhaust Pipe and Muffler
Muffler
Exhaust pipe (extends from exhaust manifold to muffler. If in more than one part name sections front and rear. For V-type engines with two pipes, name right and left)
Muffler outlet pipe

DIVISION VI—LUBRICATION SYSTEM

Group 1—Oil-pan or Reservoir
Oil-pan
Oil tank (when separate)
Oil-filler strainer
Oil-filler cap
Group 2—Oil-pump
Oil-pump
Oil-pump body (any type of pump)
Oil-pump plunger
Oil-pump-plunger spring
Oil-pump inlet valve
Oil-pump outlet valve
Oil-pump shaft
Oil-pump shaft gear (outside the pump)
Oil-pumping shaft gear (inside the pump)
Oil-pumping follower gear
Oil-pump cover
Group 3—Oil Pipes, Strainers, Gages
(Oil pipes should be named from the parts they connect, as "Oil-pump to pressure-gage pipe")
Circulating-oil strainer
Oil strainer cap
Sight feed
Sight-feed glass
Oil level-gage
Oil level-gage float
Oil level-gage glass
Oil pressure-gage

DIVISION VII—IGNITION

Group 1—Spark-plugs, Cables and Switches

Spark-plugs
Spark-plug cables (numbered according to cylinders)
Coil high-tension cable
(Low-tension cables should be named from the parts they connect, as: "Storage battery to ignition switch cable." In case of more than one conductor the cable should be designated as double, triple, etc.)
Ignition coil
Ignition switch
Dry cell (two or more cells make a dry battery)

Group 2—Ignition Distributor

Ignition-distributor breaker
Ignition-distributor breaker-arm
Ignition-distributor breaker-arm point
Ignition-distributor fixed breaker-point
Ignition-distributor brush
Ignition-distributor shaft
Ignition-distributor shaft gear

Group 3—Magneto

Magneto
Magneto distributor
Magneto breaker-box
Magneto breaker-arm
Magneto fixed breaker-point
Magneto breaker-arm point
Magneto distributor brush
Magneto-collector-ring brush
Magneto coupling, pump end
Magneto coupling, center member
Magneto coupling, magneto end

Group 4—Ignition Control

Spark control rod (name parts connected)
(Other control parts named as explained under throttle control)

DIVISION VIII—STARTING AND LIGHTING EQUIPMENT

General

A one-unit system uses a starter-generator.
A two-unit system uses a generator and a starting motor.
A combined unit system uses a duplex starter-generator.

Group 1—Generator

Generator
Generator brush
Generator brush-holder
Generator gear
Generator shaft
Generator coupling (members as indicated under magneto coupling)

Group 2—Starting Motor
Starting motor
Starting-motor brush
Starting-motor brush-holder
Starting-motor pinion
Starting-motor intermediate gear
Starting-motor intermediate-gear shaft
Starting-motor intermediate pinion
Overrunning clutch

Group 3—Wiring
(Cables and conduits should be named from parts they connect)
Starting switch
Starting-switch pedal (or lever)

Group 4—Battery
Storage battery
Filler cap
Terminal post
Connector strip

DIVISION IX—MISCELLANEOUS ELECTRICAL EQUIPMENT

Group 1—Lamps and Wiring
Head-lamp
Tail-lamp
Side-lamp
Instrument lamp
Tonneau lamp
Dome lamp
Pillar lamp
Inspection lamp
Inspection-lamp cord
Inspection-lamp plug
Inspection-lamp socket
Head-lamp socket
Head-lamp support
Head-lamp support tie-rod
Tail-lamp support
(Cables and conduits should be named from the parts they connect)
Junction-box (wires not attached to box)
Junction-box screw
Junction-box cover
Fuse-box
Fuse-box cover
Fuse-block
Fuse-clip
Fuse (designated by name of part fed by circuit)
Junction panel

Group 2—Switches and Instruments
Lighting switch
Ammeter
Voltmeter
Volt-ammeter
Charging indicator
Reverse current cutout
Current regulator
Group 3—Horn
(No names have been selected for horn parts)
Group 4—Miscellaneous
(Will include any additional electrical equipment such as electrical gearshift)

DIVISION X—CLUTCH

General

Plate clutch (one plate clamped between two others)
Disk clutch (more than three disks)
Dry disk clutch
Lubricated disk clutch
Cone clutch (leather faced, asbestos faced)
Expanding clutch
Group 1—Clutching Parts

Cone Clutch

Clutch cone
Clutch facing
Clutch-facing spring
Clutch-facing-spring plunger
Clutch spring
Clutch thrust-bearing
Clutch cone hub
Clutch cone bushing
Clutch-spring spider (for cone clutch with multiple springs)
Clutch-spring stud
Clutch-spring retainer
Clutch-spring nut
Clutch spindle
Clutch shaft (not attached to crankshaft)
Clutch shaft bearing (not in transmission case)

Disk Clutch

Clutch case (rotating member)
Clutch housing (non-rotating member)
Clutch cover
Clutch housing cover
Clutch driving disk
Clutch driven disk
Clutch driving disk stud

Clutch pressure plate (front and rear, if two—used on both disk and plate clutches)
Clutch driven spider (or drum—driving and driven if two)
Clutch cork-inserts
(Facing, spring, thrust-bearing, etc., as under cone clutch)

Plate Clutch

Clutch driven plate
Clutch driving plate
Clutch pressure levers
(Other parts as under cone and disk clutches)

Group 2—Releasing Parts
Clutch release sleeve
Clutch release shoe or clutch release bearing housing
Clutch release bearing
Clutch release fork
Clutch release fork shaft
Clutch pedal shaft
Clutch pedal adjusting link
Clutch release fork lever
Clutch pedal
Clutch pedal pad
Clutch brake
Clutch brake facing

DIVISION XI—TRANSMISSION

Group 1—Transmission
Transmission case (upper half and lower half, if bearings seat in both)
Transmission case cover
Clutch gear
Clutch gear bearing (front and rear if two)
Clutch gear bearing retainer
Countershaft
Countershaft front bearing (if ball or roller)
Countershaft front bearing bushing (if plain bearing)
Countershaft front bearing retainer
Countershaft rear bearing retainer
Countershaft drive gear
Countershaft second-speed gear
Countershaft low-speed gear
Countershaft reverse gear
Reverse idler gear
Reverse idler gear shaft
Reverse idler gear bushing
Transmission shaft
Transmission shaft pilot bearing
Transmission shaft pilot bearing bushing (if plain)

Group 1—Transmission—Continued

Transmission shaft rear bearing
Transmission shaft rear bearing retainer
Second and high sliding gear
Low and reverse sliding gear

Group 2—Shifting Mechanism

High-gear shift fork
Low-gear shift fork
Reverse shift fork (if three are used)
High-gear shift bar
Low-gear shift bar
Reverse shift bar

Group 3—Control

Gearshift bar selector
Gearshift lever shaft
Low gearshift connecting-rod
High gearshift connecting-rod
Gearshift hand lever ("hand" may be omitted)
Gearshift hand lever bracket ("hand" may be omitted)
Gearshift housing (center control)
Gearshift gate

Group 4—Propeller-shaft

Propeller-shaft
Propeller-shaft front universal-joint (assembly—"propeller-shaft" may be omitted)
Propeller-shaft rear universal-joint (assembly—"propeller-shaft" may be omitted)
Propeller-shaft front bearing (with enclosed shaft)
Transmission shaft universal-joint flange (substitute name of any other shaft on which flange is mounted)
Universal-joint flange yoke
Universal-joint slip yoke
Universal-joint plain yoke
Universal-joint center cross (ring or block)
Universal-joint bearing bushing
Universal-joint pin (may be designated as long and short, straight and shoulder, etc.)
Universal-joint inner casing
Universal-joint outer casing
Universal-joint casing packing
Universal-joint casing nut
Universal-joint trunnion (for trunnion type joint)
Universal-joint trunnion block

DIVISION XII—REAR AXLE

General Types

Dead Axle—An axle carrying road wheels with no provision in the axle itself for driving them.

Live Axle—General name for type of axle with concentric driving shaft.

Plain Live Axle—Has shafts supported directly in bearings at center and at ends, carrying differential and road wheels.

(The plain live axle is practically extinct.)

Semi-Floating Axle—Has differential carried on separate bearings, the inner ends of the shafts being carried by the differential side gears, and the outer ends supported in bearings.

The semi-floating axle shaft carries torsion, bending moment, and shear. It also carries tension and compression if the wheel bearings do not take thrust, and compression if they take thrust in only one direction.

Three-Quarter Floating Axle—Inner ends of shafts carried as in semi-floating axle. Outer ends supported by wheels, which depend on shafts for alignment. Only one bearing is used in each wheel hub.

The three-quarter floating axle shaft carries torsion and the bending moment imposed by the wheel on corners and uneven road surfaces. It also carries tension and compression if the wheel bearings are not arranged to take thrust.

Full-Floating Axle—Same as three-quarter floating axle except that each wheel has two bearings and does not depend on shaft for alignment. The wheel may be driven by a flange or a jaw clutch.

The full-floating axle shaft is relieved from all strains except torsion, and in one possible construction, tension and compression.

Types of Axle Drive

The different types of live axle can be driven by *Bevel Gear, Spiral Bevel Gear, Worm, Double-reduction Gear* or *Single Chain.*

In other constructions, the rear wheels are driven by *Double Chains, Internal Gears,* or *Jointed Cross-shaft.*

Group 1—Housing

Rear-axle housing (if one piece)
Right and left halves (if two pieces)
Bevel (or worm) gear housing
Right rear-axle tube } (if three pieces)
Left rear-axle tube
Rear-axle-housing cover
Differential carrier (bolted to housing)
Rear-axle spring-seat
Axle brake-shaft bracket (right and left)

Group 1—Housing—Continued

Wheel brake-support, right and left ("wheel" may be omitted)
Wheel brake-shield ("wheel" may be omitted)

Group 2—Torque-arm and Radius-rod

Radius-rods

Group 3—Drive Pinion

Axle drive bevel pinion (or worm)
Axle drive pinion (or worm) shaft
Axle drive pinion front bearing
Axle drive pinion rear bearing
Axle drive pinion thrust-bearing
Axle drive pinion front bearing adjuster
Axle drive pinion front bearing adjuster lock
Axle drive pinion rear bearing adjuster
Axle drive pinion rear bearing adjuster lock
Axle drive pinion adjusting sleeve (containing both bearings)
Axle drive pinion (or worm) carrier

Group 4—Differential

Axle drive bevel (or worm) gear
Differential
Differential case, right
Differential case, left
Differential side gear
Differential spider pinion ("spider" may be omitted)
Differential spider (or pinion shaft)
Differential bearing
Differential thrust-bearing
Differential bearing adjuster
Differential bearing adjuster lock

Group 5—Axle Shafts

Axle shaft (right and left)
Axle shaft wheel-flange (or clutch)

DIVISION XIII—BRAKES

General

In the following list of brake parts the terms "outer" and "inner" are used, being applicable to any case of two sets of brakes on the rear wheels. Where the brakes are external and internal these terms may be substituted for "outer" and "inner." Where one brake is located at the wheels and the other at the transmission the terms "wheel brake" and "transmission brake" should be substituted. With other concentric or side-by-side brakes the terms "outer" and "inner" should be retained, "outer" indicating in the latter case the ones nearer the wheels.

The list is made up for external contracting and internal expanding brakes. If both brakes are of one type the necessary changes will be obvious. The designation of brake parts on the rear axle

as foot-brake or hand-brake parts, or by equivalent terms, is too remote to be clear, especially in the case of stock axles whose brakes may be connected either way according to chassis design. Nearly the same condition prevails in regard to designating parts on the chassis according to whether they are connected to the inner or outer brakes at the axle.

The terms "service brake" and "emergency brake" should not be used. Better designations are "foot brake" and "hand brake"; or if both brakes foot-operated, "right foot-brake" and "left foot-brake."

Group 1—Outer Brake

Outer brake band
Outer brake band lining
Outer brake band adjusting nut (yoke, etc.)
Outer brake hand lever
Outer brake lever shaft
Outer brake shaft inner end lever
Outer brake shaft outer end lever

Group 2—Inner Brake

Inner brake shoe (or band)
Inner brake shoe (or band) lining
Inner brake toggle (link, etc.)
Inner brake toggle lever
Inner brake toggle shaft
Inner brake cam
Inner brake camshaft
Inner brake camshaft (or toggle shaft) lever

Group 3—Pedal (or outer) Brake Control

Outer brake rod
Outer brake rod yoke
Outer brake intermediate shaft (or tube)—right and left
Outer brake intermediate shaft (or tube)—right lever
Outer brake intermediate shaft (or tube)—left lever
Outer brake intermediate shaft (or tube)—center lever
Outer brake right equalizer lever
Outer brake left equalizer lever
Outer brake equalizer
Brake pedal
Brake pedal rod
Brake pedal rod yoke
Brake pedal pad
Brake pedal shaft

Group 4—Hand (or inner) Brake Control

Inner brake rod
Inner brake rod yoke
Inner brake intermediate shaft (or tube)—right and left
Inner brake intermediate shaft (or tube)—right lever
Inner brake intermediate shaft (or tube)—left lever

Group 4—Hand (or inner) Brake Control—Continued

Inner brake intermediate shaft (or tube)—center lever
Inner brake right equalizer lever
Inner brake left equalizer lever
Inner brake equalizer
Brake hand lever rod
Brake hand lever rod yoke
Brake hand lever
Brake lever segment (or sector)
Brake lever pawl
Brake pawl spring
Brake pawl button
Brake pawl finger lever
Brake pawl rod

DIVISION XIV—FRONT AXLE AND STEERING

Group 1—Axle Center
Front axle center
Front spring seats
Front axle bushing

Group 2—Steering-knuckles
Right steering-knuckle
Left steering-knuckle
Steering-knuckle bushing (upper and lower)
Steering-knuckle pivot
Steering-knuckle-pivot nut
Steering-knuckle thrust-bearing
Right steering-knuckle arm
Left steering-knuckle arm
Steering-knuckle gear rod arm

Group 3—Steering-rods
Steering-knuckle tie-rod
Steering-knuckle tie-rod end
Steering-knuckle tie-rod clamp bolt
Steering-knuckle tie-rod pin
Steering-gear connecting-rod

Group 4—Steering-gear
Steering-gear case
Steering-gear-case cover
Steering-gear bracket
Steering-gear arm
Steering-arm shaft (if separate from sector or other operating member)
Steering-wheel rim
Steering-wheel spider
Steering-wheel tube (or shaft)
Spark and throttle sector
Spark and throttle sector tube

Spark hand-lever
Spark hand-lever tube (or rod)
Throttle hand-lever
Throttle hand-lever tube (or rod)
Steering-column tube (stationary)
Steering-column cowl (or dash or floor) bracket

The various bushings in the steering-column take names from parts to which they are permanently fitted, being further distinguished as upper and lower, inner and outer, if necessary. Bushings in the steering-gear case take names from the worm and sector or other main operating parts which they support, as: Steering-gear worm upper bushing; although the steering-wheel tube may be the member which turns inside the bushing.

Steering worm
Steering-worm sector (or gear) } (worm and sector gear)
Steering-worm shaft

DIVISION XV—WHEELS

Group 1—Front Wheels
Front wheel felloe
Front wheel felloe band
Front wheel rim
Rim bolts
Rim clamps
Front wheel hub
Front wheel hub-flanges
Front wheel hub-cap
Front wheel outer bearing
Front wheel outer bearing inner race
Front wheel outer bearing outer race
Front wheel outer bearing balls
Front wheel outer bearing ball retainer
Front wheel outer bearing rollers
Front wheel outer bearing roller cage
Front wheel inner bearing (parts same as outer bearing)
Front wheel bearing spacer
Front wheel bearing nut
Front wheel bearing lock nut
Front wheel bearing locking washer
Group 2—Rear Wheels
Rear wheel hub
Rear wheel hub-flange
Rear wheel hub-cap
Rear wheel outer bearing
Rear wheel inner bearing
Wheel brake-drum
(Other parts named like front wheel parts)

Group 1—Frame
- Frame side member (right and left)
- Front cross member
- Rear cross member
- Center cross member
- (As above if only three cross members, as below if more than three)
- First cross member
- Second cross member, etc.
- Sub-frame side member (right and left)
- Sub-frame cross member (front and rear)
- Right rear gusset (upper and lower)
- (Gussets at other cross members named according to member)

Group 2—Frame Brackets and Sockets
- Front spring front bracket (right and left)
- Front spring rear bracket (right and left)
- Rear spring front bracket (right and left)
- Rear spring rear bracket (right and left)
- Running-board bracket (front, right, etc., if not duplicates)
- Running-board bracket brace
- Engine front support bracket
- Engine rear support bracket
- Torque-arm bracket
- Radius-rod bracket

Group 3—Front Springs
- Front spring (right and left)
- Front spring shackle
- Front spring shackle-bolt (upper and lower)
- Front spring front bolt
- Front spring rebound-clip
- Front spring seat
- Front spring seat pad
- Front spring clip
- Front spring clip plate
- Front spring center-bolt

Group 4—Rear Springs
- Rear springs (upper and lower for elliptic and three-quarter elliptic)
- Rear spring pivot bolt (or pin) } (for half-elliptic cantilever spring)
- Rear spring pivot seat } (for half-elliptic cantilever spring)
- Rear spring double shackle } (for platform spring)
- Rear side spring } (for platform spring)
- Cross spring } (for platform spring)
- (Other parts as for front springs)

DIVISION XVII—HOOD, FENDERS AND SHIELDS

Group 1—Hood
- Hood
- Hood sill
- Hood handle
- Hood fastener
- Hood fastener bracket (spring, lever, etc.)

Group 2—Engine Shield
- Engine shield
- Engine shield fastener
- Engine shield bracket (spring, etc.)

Group 3—Fenders and Running-boards
- Running-board (right and left)
- Running-board linoleum covering
- Running-board outside binding
- Running-board inside binding
- Running-board front binding
- Running-board rear binding
- Running-board shield (right and left)
- Right front fender
- Left front fender
- Right rear fender
- Left rear fender
- Fender support socket
- Right front fender front support
- Right front fender rear support
- (Other fender supports accordingly)

Group 4—Windshield
- (Names for windshield parts have not been selected)

DIVISION XVIII—BODY

Types of Bodies

Roadster—An open car seating two or three. It may have additional seats on running-boards or in rear deck.

Coupelet—Seats two or three. It has a folding top and full-height doors with disappearing panels of glass.

Coupe—An inside operated, enclosed car seating two or three. A fourth seat facing backward is sometimes added.

Convertible Coupe—A roadster provided with a detachable coupe top.

Clover Leaf—An open car seating three or four. The rear seat is close to the divided front seat and entrance is only through doors in front of the front seat.

Touring Car—An open car seating four or more with direct entrance to tonneau.

Salon Touring Car—A touring car with passage between front seats, with or without separate entrance to front seats.

*Names for parts in these groups have not been selected.