

Battery Guide No. 4.2





Battery warranty

ACDelco Batteries are warranted throughout Australia against faulty workmanship and materials. Depending on the battery and application the amount of time covered varies, refer to the table below for details.

If an ACDelco Battery is defective (other than for the warranty exclusions specified below) during that period, we will replace or repair it at our cost. To make a claim please return the part to the place of purchase, or your nearest authorised ACDelco stockists. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. The benefits under this warranty are in addition to other rights and remedies you may have at law.

This voluntary warranty is given by GM Holden Ltd (trading as ACDelco) of 191 Salmon Street, Port Melbourne, Victoria, Australia. For customer assistance, please call us toll free on 1800 ACDelco (1800 223 352).

SEALED MAINTENANCE FREE BATTERIES

Car / SUV - Private Use	30 Months
4WD / Light Truck	12 Months
Marine	24 Months
Trucks / Commercial / Industrial	12 Months
Taxi	6 Months
Deep Cycle	6 Months

LOW MAINTENANCE ACCESSIBLE BATTERIES

Car / SUV - Private Use	24 Months
4WD / Light Truck	12 Months
Trucks / Commercial / Industrial	12 Months
Taxi	6 Months

Warranty commences from date of purchase.

WARRANTY CONDITIONS

This warranty does not cover:

- / Normal wear and tear.
- / Labour for removal, and replacement of the unit, from the vehicle unless prior written approval has been obtained from ACDelco.
- / Parts which have been subjected to deliberate abuse.
- / Conditions resulting from abnormal wear, negligence, alterations or accidents.
- / Incorrect fitment.
- / Parts used in an incorrect application or parts that are not used for their intended purpose.

WARRANTY QUESTIONS AND ANSWERS

Q. Will using ACDelco parts void my new vehicle warranty offered by the vehicle manufacturer?

A. As ACDelco products are made to exacting standards, their use should not affect your vehicle warranty provided the correct part is used and is correctly fitted. However, if the use of a correctly installed ACDelco part causes a component failure in your vehicle that is not covered by the manufacturer, ACDelco will, subject to the above Warranty Conditions, cover the cost of repair.

Q. The manufacturer of my vehicle has rejected a warranty claim as they are claiming the failure was caused by a faulty ACDelco part, will ACDelco cover the repairs?

A. In the unlikely event that it is determined that an ACDelco part has lead to a component failure in your vehicle ACDelco will cover the cost of the repair, subject to the above Warranty Conditions.

Q. How do I make a warranty claim?

A. In the first instance contact the place of purchase. Should you require further assistance contact ACDelco on 1800 223 352.

COPYRIGHT STATEMENT

No part of this publication may be reproduced, stored in any retrieval system or transmitted in any form or by any means, including but not limited to electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of ACDelco. This includes all texts, illustrations, tables and charts.



Battery

guide no.4.2 - contents

WARRANTY

ACDelco Battery Warranty	2
--------------------------	---

PRODUCT INFORMATION

About ACDelco Batteries	4
The ACDelco Difference	5
Why You should Choose ACDelco Sealed Maintenance Free Batteries	6
Compare the ACDelco Sealed Maintenance Free Battery Advantage	7
Why You Should Choose ACDelco Low Maintenance Accessible Batteries	8
Compare The ACDelco Low Maintenance Accessible Battery Advantage	9
ACDelco Battery's Calcium Grid Technology Explained	10
ACDelco Cranking / Starting Batteries	12
ACDelco Marine Batteries	13
ACDelco Deep Cycle Batteries	14
Choosing The Correct Battery	16

WORK SHOP GUIDE

Battery Safety Precautions	18
Checking Batteries	19
Understanding Battery Terminology	20
Battery Installation Guidelines	21
Recharging Batteries	22
General Jump Starting Procedure	23

BATTERY CARE

General Guidelines	24
Possible Failure Causes	25

APPLICATION LISTING

Cars & Light Commercials	26
--------------------------	----

OTHER REFERENCES

Sealed Maintenance Free Battery Specifications - 12 Volt	58
Low Maintenance Accessible Battery Specifications - 12 Volt	61
Applications of ACDelco Batteries	62
Notes	63



About ACDelco batteries

Typically there are a number of different styles of batteries including:

STARTING / CRANKING (TRADITIONAL AUTOMOTIVE TYPE BATTERIES)

Designed primarily for short term minimal discharge but high cold cranking ability (e.g. start an engine).

SEMI CYCLE BATTERY

Fits in between a cranking / starting battery and a dual purpose deep cycle / cranking battery. Primarily it is a starting / cranking battery, but has the ability to be cycled (similar to deep cycle), but not to the same DOD (Depth of Discharge) as a deep cycle. These batteries would be used in applications that required high Cold Cranking Amps (CCA) (for starting) and were being discharged to 25% DOD (light duty cycle).

DUAL PURPOSE STARTING AND DEEP CYCLE (MARINE / RV BATTERIES)

Combine the characteristics of a deep cycle battery with the cold cranking ability of a traditional battery. These batteries are the perfect choice for the recreational boater, providing a balance between effective starting power and deep cycle power and recharge capacity.

DEEP CYCLE / HIGH CYCLE BATTERIES

Designed to be run down and then charged up again on a regular basis, e.g. running powered items in a boat, caravan or SUV. These batteries traditionally have limited cold cranking / starting ability and are generally not used for engine starts, although they can be depending on the nominated current draw for a particular engine.

The ACDelco Battery range consists mainly of two different battery designs:

ACDelco Sealed Maintenance Free Battery (SMF)



ACDelco Low Maintenance Accessible Battery (LMA)





The ACDelco difference

The ACDelco Sealed Maintenance Free (SMF) and Low Maintenance Accessible (LMA) manufacturing and design process differs from most other conventional batteries in several strategic ways.

ACDelco Batteries use wrought-lead calcium expanded grids that provide:

- / Strong corrosion resistance.
- / Long shelf life.
- / Maintenance free usage.
- / Resistance to overcharge.

Most other conventional batteries use cast antimony grids which make the battery more susceptible to corrosion and water loss.

The ACDelco flat-bottomed, polypropylene rib case provides improved vibration resistance and stronger durability.

While some other batteries use removable covers, the ACDelco SMF Battery incorporates sealed covers with built in flame arresters for better resistance to acid loss, electrolyte contamination and explosions from external sparks.

ACDelco SMF Batteries incorporate a patented Liquid Gas Separator which prevents electrolyte losses. The liquid is collected and returned to the reservoir.

ACDelco SEALED MAINTENANCE FREE ADVANTAGE

ACDelco Sealed Maintenance Free Batteries have a very low self-discharge rate below 27°C, see Figure 1. Although storage above 27°C increases self-discharge, ACDelco Sealed Maintenance Free Batteries stored at constant elevated temperatures (38°C) have a shelf life that:

- / Is three times longer than conventional wet antimony batteries.
- / Is comparable to dry charged batteries that are not vacuum sealed.
- / Permits installation without charging where good stock rotation and inventory control is maintained (three turns or more a year).

Cold temperatures are not harmful to ACDelco Sealed Maintenance Free Batteries when they are fully charged. When the hydrometer eye is green, these batteries may be stored at temperatures as low as – 29°C.

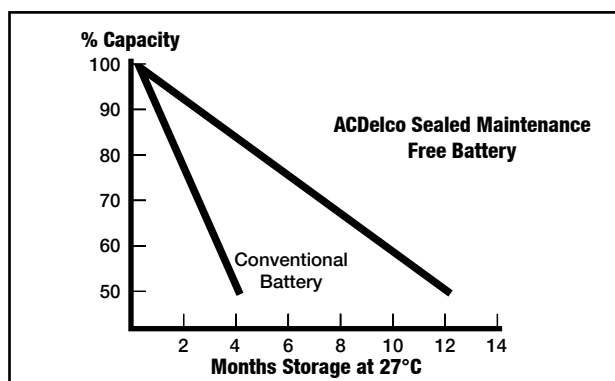


Figure 1

Caution:

To prevent electrolyte freezing and battery damage, do not store ACDelco Sealed Maintenance Free Batteries below -7°C unless it is fully charged and the green eye is visible in the state of charge indicator.



Why you should choose ACDelco SMF batteries

All ACDelco Sealed Maintenance Free (SMF) Batteries feature lead calcium expanded grids (lead calcium technology) for improved resistance to corrosion, overcharging, gassing, water usage, self discharge and thermal runaway, all of which limit battery life in conventional lead acid batteries. The range includes batteries to suit cranking / starting (traditional automotive), high cycle, dual purpose starting / deep cycle and deep cycle applications.

Features & Benefits

- / Inbuilt hydrometer (most batteries) - Indicates state of charge.
- / Factory sealed - Makes these batteries truly maintenance-free.
- / Polypropylene case - Reinforced design is precisely tailored to support the battery elements to withstand road shock and vibration. This strong durable material combines light weight with high impact strength.
- / Liquid-gas separator area - Returns liquid to reservoir for longer life.
- / Integrated or rope handle - For ease of transport and installation.
- / Flame arrestor - Safety system, prevents explosion from sparks outside the battery, minimizes acid leakage and prevents inflow of dust.
- / Heat sealed covers - Helps prevent electrolyte contamination and increase case strength.
- / Centered cast on plate strap - Stronger than thinner gas-burned conventional connectors.
- / Low resistance envelope separators - Encapsulated negative plates help to prevent shorting / treeing between negative and positive plates as well as aid in vibration durability.
- / Increased battery shelf life - Up to 12 months shelf life without charging due to the use of Calcium / Calcium grids (compared to conventional batteries).





Compare the ACDelco SMF battery advantage



ACDelco Sealed Maintenance Free Battery (SMF)



Conventional Battery - Other Brands

Comparison of ACDelco SMF Batteries to Conventional Batteries

ACDelco Sealed Maintenance Free Batteries (calcium / calcium)	VS	Typical Conventional Lead Antimony Batteries
Routine testing and maintenance not required		Require frequent checking and testing
All feature latest calcium / calcium grid technology		Generally use older type lead antimony cast grids
Inbuilt hydrometer – Check the charge of the battery at a glance		
Very low water loss rate		Higher water loss rate
Completely sealed design eliminates electrolyte leakage		– Require fill caps allowing electrolyte leakage that can reduce life, corrodes terminals, wiring and battery tray – Required regular maintenance resulting in potential acid contact
Liquid–gas separator area – Returns liquid to reservoir for longer life		
Acid contact risks eliminated		Required regular maintenance resulting in potential acid contact
Highly resistant to heat damage		Vulnerable to high temperature
Excellent resistance to vibration and road shock		Less resistant to vibration and road shock
Extremely low self–discharge rate, up to 12 months storage life		High self–discharge rate – Less than 4 months storage life when filled
Low gassing rate, reduces the explosion hazard during charging		High gassing rate, increases the explosion hazard during charging
No acid handling – Batteries are filled at the factory		Acid handling can increase exposure to the environment
Centered cast on plate strap – Stronger than thinner gas–burned conventional connectors		
Reduced recycling frequency (due to longer life) results in reducing environmental pollution		– High recycling frequency results in higher amount of scrapped batteries – Acid / lead handling increases exposure to the environment
Polypropylene case – Combines light weight with high impact strength		
Separator envelopes – Encapsulate plates to prevent shorting		
Integrated or rope/plastic handle – For ease of transport and installation (most part numbers)		



Why you should choose ACDelco LMA batteries

All ACDelco Low Maintenance Accessible (LMA) Batteries feature lead calcium expanded grids (lead calcium technology) for resistance to corrosion, overcharging, gassing, water usage, self discharge and thermal runaway, all of which limit battery life in conventional lead antimony batteries.

Features & Benefits

- / Accessible coin top vent caps (most batteries) to allow filling if required - Coin top vent caps also allow easier fitment for applications that require a flat top for top hold down bracket mounting.
- / Polypropylene case - Reinforced design is precisely tailored to support the battery elements, a strong durable material to withstand road shock and vibration. Combines light weight with high impact strength.
- / Integrated or rope / plastic handle - For ease of transport and installation.
- / Centered cast on plate strap - Stronger than thinner gas-burned conventional connectors.
- / Heat sealed covers - Help's prevent electrolyte contamination and increase case strength.
- / Low resistance envelope separators - Encapsulated negative plates help to prevent shorting / treeing between negative and positive plates as well as aid in vibration durability.
- / Increased battery shelf life - Up to 6 months shelf life without charging due to the use of calcium / calcium grids (compared to conventional batteries).





Compare the ACDelco LMA battery advantage



ACDelco Low Maintenance Accessible Battery (LMA)



Conventional Battery - Other Brands

Comparison of ACDelco LMA Batteries to Conventional Batteries		
ACDelco Low Maintenance Accessible Batteries (calcium / calcium)	VS	Typical Conventional Lead Antimony Batteries
Reduced testing and maintenance required compared to conventional lead antimony batteries		Require frequent checking and testing
All feature latest calcium / calcium grid technology		Generally use older type lead antimony cast grids
Very low water loss rate		Higher water loss rate
Accessible coin top vent caps to allow filling if required (most part numbers)		– Require fill caps allowing electrolyte leakage that can reduce life, corrodes terminals, wiring and battery tray – Required regular maintenance resulting in potential acid contact
Highly resistant to heat damage		Vulnerable to high temperature
Excellent resistance to vibration and road shock		Less resistant to vibration and road shock
Very low self-discharge rate, up to 6 months storage life		High self-discharge rate – Less than 4 months storage life when filled
Low gassing rate, reduces the explosion hazard during charging		High gassing rate, increases the explosion hazard during charging
Reduced recycling frequency (due to longer life) results in reducing environmental pollution		– High recycling frequency results in higher amount of scrapped batteries – Acid / lead handling increases exposure to the environment
Polypropylene case – Combines light weight with high impact strength		
Centered cast on plate strap – Stronger than thinner gas-burned conventional connector		
Separator envelopes – Encapsulate plates to prevent shorting		
Integrated or rope / plastic handle – For ease of transport and installation		



Battery's Calcium Grid technology explained

The grid is the heart of the battery because it carries current in and out of the plates.

Battery grids are made of lead mixed with other metals to give it greater strength. At one time, antimony was the preferred strengthening agent and is still more common in conventional batteries. However, grids in ACDelco SMF & LMA Batteries are made of lead and calcium.

Lead calcium grids have many advantages over lead antimony grids including their resistance to corrosion as shown here:

Lead Calcium Grid	VS	Lead Antimony Grid
Cold wrought (welded or forged)		Heat cast (formed in a mould)
Fine, uniform surface grain		Course surface grain
Resists corrosion		Accelerate corrosion

GRID CORROSION

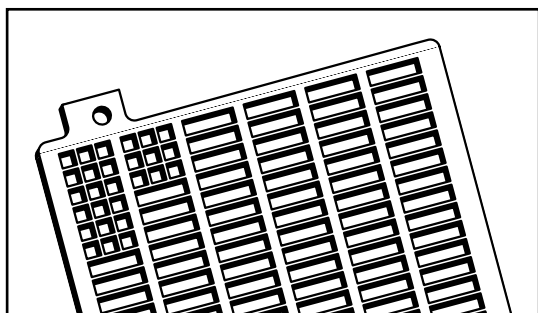
Gradual corrosion is a normal occurrence during the service life of a battery and it is the primary enemy of the positive grid. Corrosion begins on the grid surface at grain boundary sites (places where the grain touches and bonds) and penetrates into the interior of the grid along the grain boundaries. This effect is more prevalent in batteries with course grained grids.

As the grid corrodes, it is weakened because the cross section of the wires are reduced. This decreases the current carrying capacity of the grid. In extreme cases, sections of the grid wires become completely severed and removed from the electrical circuit.

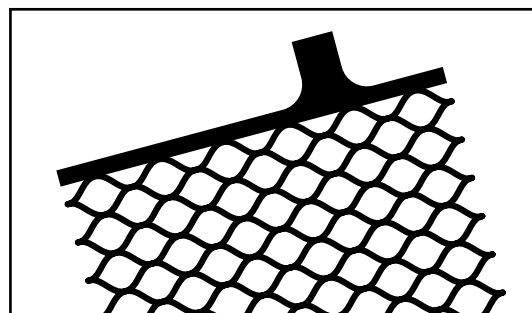
Corrosion takes place primarily at the positive grid, and the process is more pronounced in batteries that routinely experience overcharging.

LEAD ANTIMONY CAST GRID

At one time, lead antimony grids were readily available, inexpensive, easy to cast, and for many years, provided a rechargeable battery that offered optimum efficiency and low cost.



Lead Antimony Cast Grid



Lead Calcium Wrought Grid



Battery's Calcium Grid

technology explained (continued)

LEAD CALCIUM GRID

The Lead Calcium grid is wrought, therefore, it is substantially more resistant to corrosion as well as overcharging, gassing, water usage, self discharge, and thermal runaway, all of which limit battery life in conventional lead acid batteries, with cast grids.

PLATES AND PASTE

The plates are the active materials in the battery. The first step in making the plates is to paste a mud like material to the grid. The paste is a mixture of lead oxide, sulfuric acid and water. Fiber or plastic strips are often used to reinforce the plates for strength and resistance to vibration. The composition of the negative paste also contains expanders that prevent the hardened paste from shrinking and reverting to its dense inactive state. When the paste dries on the grid, the materials become a hardened plate.

During the manufacturing process, the plates are immersed in an electrolyte solution composed of sulfuric acid and water that gives them a forming charge. This charge alters the chemical properties of both plates. The process converts the lead oxide on the positive plate to lead dioxide. The same forming charge converts the lead oxide on the negative plate to sponge lead.

CELL LUGS

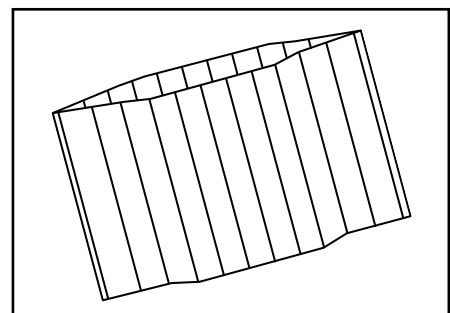
Cell lugs are connectors that attach to the tabs on the grids and link one cell to another at a position above the height of the plates. Each SMF & LMA battery cell has two lugs, one connects all the positive plates and the other connects all the negative plates, within the cell. The cells are then connected in series, using through the partition welds between the lugs of adjoining cells.

ENVELOPE SEPARATOR

Separators are nonconductive, micro porous materials that allow good electrolyte diffusion between the plates while preventing them from touching each other.

Separators in ACDelco SMF & LMA Batteries are made of polyvinyl chloride and shaped like an envelope. They are sealed on three sides. It helps prevent internal treeing between plates. Treeing is a condition that occurs when active material transfers from one plate through a hole in the separator, and forms a connection to the next plate. Treeing would test as a short circuit because the active material from one plate group forms a bridge to a plate group with an opposite charge.

Since positive plates and negative plates are placed alternatively next to each other, envelope separators need only be wrapped around every negative plate.



Envelope Separator



ACDelco Batteries

cranking / starting

ACDelco Cranking / Starting Batteries have been designed to provide large bursts of power for a short period of time, they provide minimal discharge capacity with high cold cranking ability (ie: starting an engine).

These batteries have been developed to provide you with safe, dependable engine starting performance when and where you need it.

There is an ACDelco Cranking / Starting Battery to suit your specific vehicle requirements. Check the CCA (Cold Cranking Amps) rating battery required for your vehicle.

You can select from a wide range of ACDelco cranking / starting batteries including:

- / **LMA** - Low Maintenance Accessible battery
- / **SMF** - Sealed Maintenance Free
- / **Heavy Duty** - Heavy Duty Application
- / **DIN** - European Applications



ACDelco Sealed Maintenance Free Battery (SMF)



ACDelco Low Maintenance Accessible Battery (LMA)



ACDelco Batteries

marine

ACDelco Marine Batteries are designed and tested for use in demanding marine and recreational vehicle applications. They use expanded wrought lead calcium grids, which are far more durable and stronger than conventional cast type grids. To handle deep cycle requirements they also have thicker grids and over twice the active plate material of standard automotive batteries.

These batteries have twin marine terminals for multiple accessory load connections. All ACDelco Marine Batteries come with a 24 month warranty, refer to page 2 of this catalogue for terms & conditions.

The range of ACDelco Marine Batteries combine the benefits of a deep cycle and starting battery with the advantages of a maintenance free battery.



Features & Benefits

- / Heavy duty full frame grids & plates to deliver longer life.
- / Deep pocket, polyethylene envelope plate separators - protects against internal short circuits.
- / Special fibreglass mat plate wrap for maximum deep cycle performance and improved plate strength.
- / Vibration resistant design.
- / High density plate paste, lasts longer.

The ACDelco Marine Range:

ACDelco Part No.	Capacity (20HR)	RC (MIN)	CCA
M24SMF600	70	115	600
M27SMF730	90	145	730
M31SMF830	100	180	850



Dual Terminals



ACDelco Batteries

deep cycle

ACDelco Deep Cycle Batteries are called upon to deliver small amounts of current over continuous periods, hours, or days, rather than seconds. These batteries are specifically designed to withstand the rigors of deep discharges and long recharges.

They are ideal for use running items such as a radio, TV, depth sounder in a boat, caravan or SUV and offer excellent performance in hot temperatures and under severe use conditions.

These batteries traditionally have limited cold cranking ability and are generally not used for engine starts, although they can be depending on the nominated current draw for a particular engine.

ACDelco Deep Cycle Batteries differ from traditional batteries with:

- / Thicker plates to resist corrosion.
- / More paste on plates for additional capacity.
- / High density paste for increased endurance.
- / Thicker separators to resist punctures and treeing shorts.
- / Additional reserve electrolyte for longer battery life.

All ACDelco Deep Cycle Batteries have the combined benefits of a true deep cycle (BCI/SAE J2185 deep cycle test compliance) and calcium/calcium maintenance free technology and they are sealed maintenance free for worry free operation.

ACDelco have a wide range of deep cycle batteries to suit most applications. Refer to the chart on the following page to determine which ACDelco Deep Cycle Battery is ideal for your needs.





ACDelco Batteries

deep cycle (continued)

ACDelco Part No.	TYPE	AH	RC (MIN)	CCA (@ -18 C)	Dimension (MM)		
		(20HR)			L	W	TH
DCM24SMF	Deep Cycle / Marine	82	130	600	260	174	225
DCM24LSMF	Deep Cycle / Marine	82	130	600	260	174	225
DCM27SMF	Deep Cycle / Marine	95	160	670	304	173	225
DCM27LSMF	Deep Cycle / Marine	95	160	670	304	173	225
HCM24SMF	High Cycle / Marine	82	137	600	260	176	225
HCM24LSMF	High Cycle / Marine	82	137	600	260	176	225
HCM27SMF	High Cycle / Marine	97	162	680	304	173	225
HCM27LSMF	High Cycle / Marine	97	162	680	304	173	225
HCM31SMF	High Cycle / Marine	110	200	830	330	173	240
HCM31LSMF	High Cycle / Marine	110	200	830	330	173	240
HC27SMF	High Cycle Heavy Duty	94	170	670	303	173	225
HC31SMF	High Cycle Heavy Duty	110	200	800	330	173	240
HC31SMFS	High Cycle Heavy Duty	110	200	800	330	173	240





Choosing the correct ACDelco Battery

SELECTING THE RIGHT TYPE OF ACDELCO BATTERY

It is important to choose the correct type of ACDelco battery to suit your needs (what you intend to use it for), for example: Cranking only (typical passenger car use), Deep Cycle (marine or recreation use) or any of the hybrid combinations that are available.

Your local ACDelco Battery Stockist can help you choose the right ACDelco Battery to meet your power needs.

SELECTING THE RIGHT SIZE ACDELCO BATTERY

As a guide, the chart below will help you identify the correct size ACDelco Battery you will need to meet your Ah requirements.

Calculate your requirements as shown.

Equipment Used	Load (Watts)	X	Estimated Hours	=	Watts Hours
Lights	25	X	4	=	100
Fridge	50	X	8	=	400
Radio	10	X	8	=	80
			Total Watt Hours	=	580

Once you have calculated the total Watt Hours then:

- / Divide the total Watt Hours by the voltage used multiplied by 0.8 to obtain your requirement*
- / Then add a further 25% safety margin for cable loss, over use and other contingencies (add 20% more if using the battery to crank an engine)

* The 0.8 reflects the maximum discharge allowance for a dedicated deep cycle battery, the discharge allowance is 40% (0.4) for cranking batteries and 60% (0.6) for marine batteries.

E.g. Total Watt Hours **580 / 9.6** (12 volts x 0.8) = **60.4 Ah** + 25% = **75.5 Ah**

Using this calculation means that you require a battery that can supply **75.5 Ah** per day, this also means that it requires this amount to be replenished each day by a power source e.g. solar panel, generator or vehicle alternator.

Choosing the right size battery will save you time and money in the long run.



Choosing the correct ACDelco Battery (continued)

DISCHARGE AND CHARGING RECOMMENDATIONS

To achieve maximum life, batteries should not be discharged below the recommended depth of discharge:

- / 80% for deep cycle batteries
- / 40% for cranking batteries
- / 60% for marine batteries

And should be recharged as soon as possible after discharge.

Batteries should be stored in a fully charged state or a batteries or it will permanently reduce their capacity and longevity. Use of a multi stage charger is strongly recommended for on all calcium batteries to help achieve maximum life between charges.

Please contact your local ACDelco Stockist for any information or help you require.



Battery

safety precautions*

CORRECT LIFTING PROCEDURE

- / Caution batteries are heavy therefore ACDelco recommends using correct lifting procedure when handling.

USE A SEALED BATTERY TO HELP AVOID BATTERY ACID BURNS

- / Wherever possible, use a Sealed Maintenance Free Battery to all but eliminate the risk of contact with battery acid under normal conditions.
- / Use extreme care, especially when handling a conventional or a non sealed maintenance free battery as you are more likely to accidentally come into contact with battery acid / electrolyte.

IF ELECTROLYTE IS SPILLED

- / If electrolyte is spilled or splashed onto clothing or the body, wash with water and neutralize with a solution of baking soda and water.
- / Electrolyte splashed into eyes is extremely dangerous. If this occurs, gently open eyes and wash with cool clean water for 5 minutes. Call a doctor.

IF ELECTROLYTE IS SWALLOWED

- / Drink lots of water or milk. Follow with milk of magnesia, beaten eggs or vegetable oil. Call a doctor.

PREPARING ELECTROLYTE

- / Using rubber gloves is a good idea when handling a battery, a must when handling electrolytes.
- / Always add the concentrated acid to the water never add water to the acid.

ELECTROLYTE STORAGE

- / Electrolyte should be stored in plastic containers with a sealed cover. Do not store in the sun or near any other heat source.

EXPLOSIVE RISK

- / Batteries generate explosive gases during operation and when charged. Keep batteries away from flames, sparks, burning cigarettes or other ignition sources.
- / Avoid placing any metallic objects on top of the battery as it could cause shorting.

VENTILATE AND PROTECT YOUR EYES

- / When charging batteries, always shield eyes and work in a well-ventilated area never in a closed room.

DISCONNECTION SAFETY

- / Always turn battery charger or ignition off before disconnecting a battery.

BATTERY CHARGING SAFETY PRECAUTIONS

- / Please refer "Recharging Batteries" on page 22

Material Safety Data Sheets can be found on-line at acdelco.com.au

*ACDelco recommends you wear appropriate protective clothing and safety glasses when handling batteries.





Checking batteries*

ALL TYPES

- / Is the battery loose or tight in the carrier?
- / Loose batteries can fail due to prolonged vibration.
- / Does the battery look damaged or mishandled?
- / This can also cause failures.

APPLY THE HEADLIGHT TEST

- / Park near a wall or outside a garage door after dusk.
- / Turn the engine off and put the hand brake on.
- / Turn on the headlights - if bright, the battery is OK.
- / If the headlights are dim, start the engine (making sure the car is in park or neutral).
- / If the lights brighten up with the engine on, the battery is bad and needs replacing.

VOLTMETER TEST

- / You may also use a voltmeter to check the battery's voltage.
- / A normal fully charged battery should read around 12.5 to 13.5 volts.
- / If the battery is under 12.5 volts, recharge the battery.

ACDelco SEALED MAINTENANCE FREE BATTERY



READ THE INBUILT HYDROMETER WHERE FITTED

- / On top of the battery you'll find the inbuilt hydrant charge indicator - look into it.
- / If there is no 'light', it usually means there is no charge in the battery - it's flat.
- / If you see a coloured 'light', review the label near the charge indicator for details on how charged or otherwise your battery is based on the colour of the light.

*ACDelco recommends you wear appropriate protective clothing and safety glasses when handling batteries.





Checking batteries* (continued)

LOW MAINTENANCE ACCESSIBLE BATTERIES

Is the Electrolyte Below the Tops of the Separators?

- / This indicates overcharging or poor maintenance.
- / Overcharge condition may be due to incorrect voltage setting, low voltage caused by heat or internal defects, or batteries of an old age.

Is any Electrolyte on the Top of the Battery?

- / This can indicate overcharging or overfilling.

Check Hydrometer Reading

- / A fully charged battery will have a specific gravity reading of 1.260 - 1.290 when electrolyte is 27°C (higher or lower temperatures will cause variances in reading).
- / A low specific gravity reading of 1.220 or less in all cells indicates a flat (discharged) battery.
- / It must be charged before further examination and testing can occur.
- / The battery may be flat due to problems in the electrical system (e.g.: slipping alternator belt, poor voltage regulator, faulty alternator, or high resistance due to corrosion).
- / The battery may be shorting internally due to manufacturing defects, or shorts through the ageing process or vibration damage.

Understanding battery terminology

RESERVE CAPACITY

Number of minutes a new, fully charged battery can be discharged at 25 amps and maintain a terminal voltage higher than 1.75 volts per cell at 27°C.

COLD CRANKING AMPS (CCA)

The current that a, fully charged battery can deliver for 30 seconds and maintain a terminal voltage greater than or equal to 1.2 volts per cell at -18°C.

CYCLE LIFE

Number of charge / discharge cycles a battery can endure before it loses its ability to hold a useful charge (highly dependent on depth of discharge).

AMP HOUR CAPACITY

The ability of a fully charged battery to deliver a specified quantity of electricity at a given rate over a period of time.

*ACDelco recommends you wear appropriate protective clothing and safety glasses when handling batteries.





Battery

installation guidelines

GENERAL PRECAUTIONS

- / Wear appropriate protective clothing and safety glasses.
- / Before removing an old battery, make sure the engine, lights and all accessories are turned off.
- / Check if vehicle has a computerized electrical system. If so, an alternative power source to maintain electronic memory when battery is disconnected may be required (to avoid damage to the main computer or other segments of the vehicle's electronically controlled equipment).
- / Check if vehicle has air bags fitted. If so, see following...

SAFETY PRECAUTIONS FOR VEHICLES FITTED WITH AN AIR BAG

- / Always check to ensure that the ignition is **off** before removing either of the battery terminals.
- / Don't sit behind the steering wheel or in other seats with an air bag while any electrical service work is carried out on the vehicle.
- / Removing or replacing battery terminals will not unintentionally trigger an air bag system, however removal of battery terminals with the ignition on can cause damage to electronic components, including the air bags - so don't do it.
- / If you need to work on the electrical system beyond replacing the battery, you must electrically disable the air bag system first.
- / Never indiscriminately probe the electrical wiring / connectors in or near the steering column.
- / Most air bag systems use bright yellow wiring and harness connectors - do not interfere with any harness of this colour.

REMOVAL OF OLD BATTERY

- / Note location of positive (+) terminal and mark polarity on positive cable.
- / Remove the negative or earth (-) terminal first to avoid damaging the wiring or battery by accidentally grounding tools.
- / Remove positive (+) terminal.
- / Undo the hold-down clamp and remove old battery, noting position of terminal posts.

NEW BATTERY INSTALLATION

- / Inspect tray and area for corrosion and replace or repair as necessary.
- / To clean tray, scrub the area with water and baking soda (sodium bicarbonate), then rinse with water.
- / Dry and paint corroded steel parts with acid proof paint.
- / Clean and brush terminals.
- / Check cable and starter motor connections tighten if necessary.
- / Replace terminal clamps and / or cables if badly corroded.
- / Sit the new battery in the tray ensuring it's level and that the terminal posts are correctly positioned.
- / Secure battery with hold-downs, tightened to ensure battery can't move in the tray.
- / Apply a thin coating of high temperature grease to the posts and cable connections.
- / Replace cables ensuring that the earth (-) terminal is connected last.
- / Tighten connections but don't over tighten.
- / Never hammer cable connections onto battery posts as this can damage your battery.

Recharging batteries*

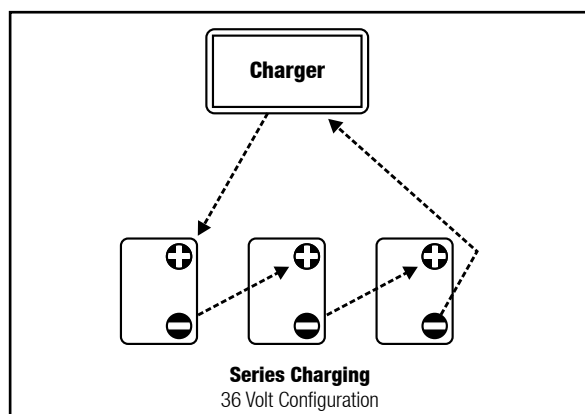
SAFETY PRECAUTIONS

- / Before you attach, rock, or remove terminal clamps, you **MUST** turn the charger off.
- / Charge in well ventilated area away from open flames or sparks.
- / Ensure vent caps are in place.
- / Follow the battery charger manufacturer's instructions.

CHARGING TIMES

Charging rates or times will vary due to a number of other features such as:

- / The electrical capacity of the battery.
- / Temperature of the electrolyte.
- / Battery state of charge at the start of the charging period.
- / Battery age and condition.

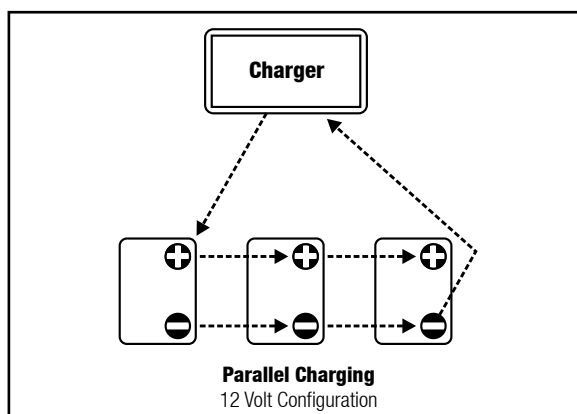


- / Set the charger to maintain a charging rate of 5 to 10 amps.
- / Monitor each battery every 30 to 60 minutes for spewing, gassing, temperatures above 61°C or charging voltage above 16 volts. If any of these occur, remove and test the battery.
- / Check the charger indicator on each battery hourly for a green dot, gently shake the battery, as necessary. If a green dot is not visible, continue charging. When a green dot appears and remains, the battery is charged.
- / Turn off the charger and disconnect any recharged battery. Remove it from the series and load test it.
- / Reconnect the remaining batteries in series and continue charging.

Notice:

When batteries are removed from series charging, readjust the charger to maintain proper charging current rate for the remaining batteries.

*ACDelco recommends you wear appropriate protective clothing and safety glasses when handling batteries.



- / Set the charger to the highest setting.
- / Adjust the charger so the measured voltage does not exceed 16 volts.
- / Monitor batteries every 30 to 60 minutes for spewing, gassing and temperatures above 52°C; if any of them occur, remove the battery with this condition and test it.
- / Check the hydrometer on each battery hourly for a green charge indicator, gently shaking the battery, as necessary. If a green charge indicator is not visible, continue charging. When a green charge indicator appears and remains, the battery is charged.
- / Turn the charger off.
- / Disconnect all batteries when the charge indicator is green.
- / Continue recharging all remaining uncharged batteries.





Battery

general jump starting procedure*

Warning:

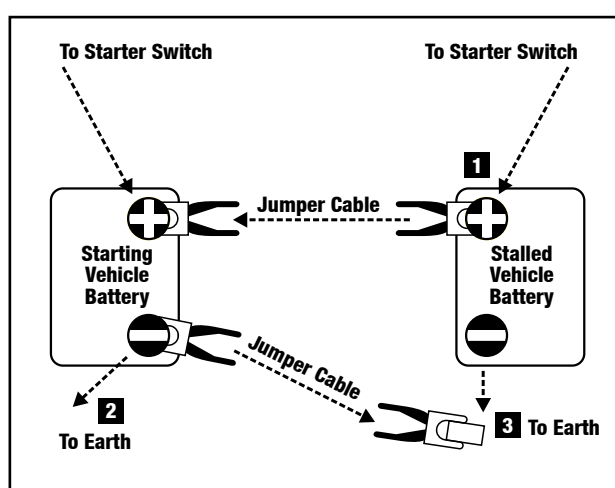
Do not jump start modern vehicles with electronic management systems without “protected” jump starter leads. You must also refer to the owner’s handbook for vehicle-specific procedures.

INITIAL CHECKLIST

- / Check batteries are the same voltage.
- / Turn off the engines and all electrical loads.
- / Make sure vehicles aren’t touching.
- / Ensure vehicles are in park or neutral (with handbrake on).
- / Make sure vehicles have the same terminal earthed. If not, check manufacturers instructions.
- / Ensure cables aren’t frayed or damaged.

DO THE FOLLOWING STEPS IN SEQUENCE

1. On a negative grounded system, connect each end of one cable to the positive (+) terminal on both batteries.
2. Connect an end of the other cable to the negative (-) terminal of the booster battery.
3. Connect the other end of the same cable away from the battery, to the engine block or frame of the vehicle to be started.
4. Make sure both cables are clear of fan blades and other moving parts.
5. Start the engine of the booster car.
6. Attempt to start the engine of the vehicle with the flat battery.
7. If vehicle does not start within 30 seconds, call an auto electrician.
8. After starting, remove cables in reverse order, starting with the cable connected to engine block or frame.



*ACDelco recommends you wear appropriate protective clothing and safety glasses when handling batteries.





Battery Care

general guidelines*

The amount of care and maintenance required varies dramatically between maintenance free batteries and conventional filler cap batteries. Under normal operating conditions, ACDelco Sealed Maintenance Free Batteries should never require watering or similar maintenance. However it is a good idea to conduct through visual battery inspection at regular intervals. The following should be inspected.

CHECK CABLE CONNECTIONS

- / Check the cable connections from time to time to ensure they are secure, tight and clean. Corrosion tends to build up on terminals and cable clamps.
- / Disconnect the cables and clean the battery terminals and cable clamps separately, using a wire brush and baking soda / water solution [Avoid getting baking soda (sodium bicarbonate) / water solution into the battery].
- / If one or more of the cables is deteriorated from excessive corrosion, it should be replaced.

CHECK BATTERY HOLD DOWNS AND TRAY

- / Make sure the hold down clamp is tightened to specifications. Normal vehicle vibration can loosen the hold down clamp over time.
- / Check the mechanical integrity of the under hood battery tray. It should be capable of supporting the battery in a level position.

CHECK IF THE BATTERY IS CLEAN AND DRY

- / Use a cloth with baking soda and water solution to regularly wipe the battery cover and case.
- / Avoid getting baking soda (sodium bicarbonate) / water solution into the battery.

*ACDelco recommends you wear appropriate protective clothing and safety glasses when handling batteries.





Batteries

possible failure causes

OVERCHARGING

Caused by incorrect voltage setting, low voltage caused by heat or internal defects, or old batteries.

POOR MAINTENANCE

Conventional and non sealed maintenance free batteries all require more care than a sealed maintenance free battery. Failure to maintain correct electrolyte levels will damage the battery and shorten its life.

HEAT DEFECTS

Battery damaging heat coming from both the environment and higher vehicle operating temperatures can cause conventional and non sealed maintenance free batteries in particular to suffer from:

- / Higher gassing and resultant water loss.
- / Higher grid corrosion or oxidation.
- / Overcharging, and plate failure.
- / Higher battery discharge capacity.
- / Higher self-discharge rate.

OLD AGE

All batteries have a limited lifespan and will naturally break down over time and use (ACDelco's Sealed Maintenance Free Batteries have features which make them one of the longest lasting batteries on the market).

VIBRATION

Batteries can fail due to prolonged vibration, usually caused by a loose tray and or broken hold-downs.

MISTREATMENT

- / Striking a battery terminal or cable end with a hammer to loosen it can totally ruin a battery.
- / Dropping a battery or tipping it on its end or upside down can also damage a battery.
- / Storing batteries near flames or sparks can cause the battery to explode.



Cars & Light Commercial

application list

Information in this application listing section has been compiled from data published from Original Equipment Manufacturers and other parties. This data may change from time to time and ACDelco is unable to warrant the accuracy of this data and does not accept responsibility for loss or damage of any kind caused as a result of such data being inaccurate.

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
ALFA ROMEO					
Alfa Romeo	145 146	1994-on	56318WC	S56318	
Alfa Romeo	147 2.0 Twin Spark	2001-2003	55457WC	S56220	
Alfa Romeo	147 Ti Selespeed	2004	55457WC	S56220	
Alfa Romeo	156 Twinspark Sportwagon GTA	2000-on	55457WC	S56220	
Alfa Romeo	156 JTS Selespeed	1986-1994	56318WC	S56318	
Alfa Romeo	156 932 4cyl 2.0	1997-2000	55457WC	S56220	
Alfa Romeo	156 932 4cyl 2.0/6 cyl 2.5/6 cyl 3.2	2000-2005	56638WC	S56638	
Alfa Romeo	159 4cyl 1.9/2.0	2005-on		S58014	
Alfa Romeo	159 5cyl 2.4/ 6cyl 3.2	2006-on		S58014	
Alfa Romeo	164 1.8 2.0 4.0 V6 Turbo	1988-92	56318WC	S56318	
Alfa Romeo	166 3.0 V6	1998-2007	56318WC	S56318	
Alfa Romeo	33	1974-1992		S54316	
Alfa Romeo	33 1.3L / 1.4L & 1.7L	1992-on	55457WC	S56220	
Alfa Romeo	75 3.3 V6/90	1984-on	56318WC	S56318	
Alfa Romeo	75 4cyl 2.0	1987-1992	56318WC	S56318	
Alfa Romeo	75 6cyl 2.5	1986-1992	56318WC	S56318	
Alfa Romeo	75 6cyl 3.0	1987-1992	56318WC	S56318	
Alfa Romeo	90	1985-1992	56318WC	S56318	
Alfa Romeo	Alfasud / Alfetta	1974-1992		S54316	
Alfa Romeo	Brera 4cyl 2.0 / 6cyl 3.2	2006-on		S58014	
Alfa Romeo	GT 6cyl 3.2 /4cyl 2.0	2003-on	56318WC	S56318	
Alfa Romeo	GTV 2.0 3 Twin Spark	2000-on	56318WC	S56318	
Alfa Romeo	GTV 6	1980-on	55458WC	S55458	
Alfa Romeo	GTV JTS	2004	56318WC	S56318	
Alfa Romeo	Giulia	1965-1975	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Alfa Romeo	Giulietta	1974-1992		S54316	
Alfa Romeo	MiTo	2009-on	56318WC	S56318	
Alfa Romeo	Spider	1995-on	56318WC	S56318	
Alfa Romeo	Sprint / Coupe / Veloce	1977-87	55457WC	S56220	
ASIA / GB					
Asia / GB	Rocsta	1994-98		S70D23L	
Asia / GB	Ceres Rocsta Diesel	1992-on	NX1207WC	S95D31RHD	
Asia / GB	Ceres Rocsta Petrol	1992-on	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
ASTON MARTIN					
Aston Martin	DB7 6cyl 3.2 / 12cyl 5.9	1994-2002	58827WC	S58827	S60038
Aston Martin	DB9 / Vanquish / Vantage	2004-on	58515WC	S58515	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
AUDI					
Audi	100	1985-1994	55457WC	S56220	
Audi	200	1986-1991	55457WC	S56220	
Audi	200 / 200 Quattro	1985-1990	55457WC	S56220	
Audi	80 / 80 Quattro	1986-1995	55457WC	S56220	
Audi	80/100 6 Cyl	1994-on	56318WC	S56318	
Audi	90 / 60 Quattro	1987-1991	56318WC	S56318	
Audi	A1	2010-on		S58014	
Audi	A3	1997-2009	55457WC	S56220	
Audi	A3	2010-on	56638WC	S56638	
Audi	A3 Cabriolet	2008-on	55457WC	S56220	
Audi	A3 Quattro	1997-on	56318WC	S56318	
Audi	A4	1994-on	58515WC	S58515	
Audi	A4 A4 Avant	1994-on	56318WC	S56318	
Audi	A4 4cyl 2.0	2007-on	56318WC	S56318	
Audi	A4 6cyl 2.7	2007-2008	56318WC	S56318	
Audi	A4 Quattro Avant	1994-2008	56318WC	S56318	
Audi	A5 Coupe	2007-on	58515WC	S58515	
Audi	A6 6cyl 2.6 / 2.8	1994-1997		S58014	
Audi	A6 6cyl 2.8 / 2.4	1997-on	58827WC	S58827	S60038
Audi	A6 Quattro 6cyl 3.2 / 3.0	1996-2000	56318WC	S56318	
Audi	A6 Quattro 6cyl 2.4 6cyl/ 2.8 / 8cyl 4.2	2000-2006	58515WC	S58515	
Audi	A6 Quattro 6cyl 2.6	1994-1997	56318WC	S56318	
Audi	A6 Quattro Avant 6 / 8 cyl	1998-2008		S58014	
Audi	A6 V8 AWD	1994-on	56318WC	S56318	
Audi	A8 / A8 Quattro / Q7 / RS4	1994-on	56318WC	S56318	
Audi	Avanti Quattro / Wagon	1983-1997	56318WC	S56318	
Audi	Q7	2006-2009	56318WC	S56318	
Audi	Quattro Turbo/TT Coupe Roaster	1999-2003	55457WC	S56220	
Audi	RS4	2006-on	56318WC	S56318	
Audi	RS5	2010-on	58515WC	S58515	
Audi	RS6	2002-2004		S58014	
Audi	R8 4.2L V8 FSI QUATTRO	2008-on		S58014	
Audi	S3 / S4 Quattro	1993-on	55457WC	S56220	
Audi	S4	1994-2001	56318WC	S56318	
Audi	S4	2003-on	56318WC	S56318	
Audi	S6 Avant S8	2000-on	58515WC	S58515	
Audi	TT Quattro	1998-2006	55457WC	S56220	
Audi	TT Quattro	2006-on	56318WC	S56318	
Audi	V8 Quattro	1990-1992	56318WC	S56318	
BENTLEY					
Bentley	Arnage / Azure / Brooklands	1992-2006	56318WC	S56318	
Bentley	Continental	1991-1995	58515WC	S58515	
Bentley	Continental GT 8cyl 6.8	2003-on	58515WC	S58515	
Bentley	Continental GT 12cyl 6.0	2004-on	NX1207LWC	S95D31LHD	
Bentley	Eight	1984-1992	55457WC	S56220	
Bentley	Mulsanne	1987-1997	NX1105LWC	S80D26L	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
BMW					
BMW	116i E87	2004-on	55457WC	S56220	
BMW	118i E87	2004-on	56318WC	S56318	
BMW	120d E87	2004-on	55457WC	S56220	
BMW	120i Cabrio E88 / 125i E82 / 125i Cabrio	2008-on	55457WC	S56220	
BMW	120i E87	2005-on	56318WC	S56318	
BMW	130i E87	2005-on	55457WC	S56220	
BMW	135i E82	2007-on	55457WC	S56220	
BMW	135i E88	2008-on	55457WC	S56220	
BMW	316i E46 / E36 Compact	1997-on	55457WC	S56220	
BMW	316Ti Compact E36	1994-2004	56318WC	S56318	
BMW	316Ti Compact E46	2001-2004	56318WC	S56318	
BMW	318i Cabriolet E30 / 318is E30	1990-1993	56318WC	S56318	
BMW	318i E30 4cyl 1.8	1987-1991	56318WC	S56318	
BMW	318i E36 4cyl 1.8	1990-1998	56318WC	S56318	
BMW	318i E46 4cyl 2.0	2001-2005	56318WC	S56318	
BMW	318is E36	1993-1998	56318WC	S56318	
BMW	318ti E46	2004-2004	56318WC	S56318	
BMW	320 Ci E46	2000-2006	56318WC	S56318	
BMW	320d E90	2005-on		S58014	
BMW	320i E30 / E90	1985-on	56318WC	S56318	
BMW	320i E36 / E46 / Touring E90	1990-1995	56318WC	S56318	
BMW	323Ci E46	1998-2000	56638WC	S56638	
BMW	323i Cabriolet E36 / 323ti E36	1995-2000	56318WC	S56318	
BMW	323i Coupe E92 / Touring E91	2005-on	56318WC	S56318	
BMW	323i E36 / E46 / E90	1994-on	56318WC	S56318	
BMW	325i Cabriolet E36	1993-1999	56318WC	S56318	
BMW	325Ci Cabriolet E46	2000-2006	56318WC	S56318	
BMW	325i Coupe E92 / 325ti Compact E46	2001-on	56318WC	S56318	
BMW	325i E30	1986-1991	56318WC	S56318	
BMW	325i E36 / E46 / E90 / E93 Cabrio	1990-on	56638WC	S56638	
BMW	328 Cabriolet E36	1995-1999	56318WC	S56318	
BMW	328Ci E46	1998-2000	56638WC	S56638	
BMW	328i E36	1994-1998	56318WC	S56318	
BMW	328i E46	1998-2000	56318WC	S56318	
BMW	330Ci Cabriolet E46	2000-2006	56318WC	S56318	
BMW	330i E46 / E90	2000-on		S58014	
BMW	335i E90 / E91 Touring/ E92 Coupe / E93 Cabrio	2006-on	56638WC	S56638	
BMW	All 5 Series 6 Cylinder	1973-on	56318WC	S56318	
BMW	All 5 series 8 Cylinder	1973-on	58515WC	S58515	
BMW	All 6 Series	1977-on	56318WC	S56318	
BMW	All 7 Series (Located in boot)	1987-on	58515WC	S58515	
BMW	All 7 Series (Under Rear Seat)	1987-on	58515WC	S58515	
BMW	8 Series	1990-on	2 X 56318WC	2 X S56318	
BMW	M3 Cabriolet E46	2001-2006	58515WC	S58515	
BMW	M3 E36 / E46 / E92 / CSL Series (Located in boot)	1995-on	56318WC	S56318	
BMW	M3 E36 / E46 / E92	1995-on	58827WC	S58827	S60038
BMW	M5 E34 6cyl 3.6/ E39 8cyl 5.0	1999-2003	56318WC	S56318	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
BMW	X3 E83	2004-on	58515WC	S58515	
BMW	X5 E53 / E70	1999-on	58515WC	S58515	
BMW	X6 (Under Plastic Tool Box)	2009-on	58827WC	S58827	S60038
BMW	Z3 E36 / E37	1995-2002	56318WC	S56318	
BMW	Z4 E85 / E86	2002-on	56318WC	S56318	
BUICK					
Buick	All Models	1987-1989	NX1207WC	S95D31RHD	
CADILLAC					
Cadillac	All Models	1956-1984	NX1105WC	S80D26R	
CHEVROLET					
Chevrolet	Most Early Models	1956-1991	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Chevrolet	Camaro	1982-2003		S756MF	
Chevrolet	Corvette	1991-1999		S786MF	
Chevrolet	Corvette	2006-on	55457WC	S56220	
CHRYSLER					
Chrysler	300c Series Petrol	2005-on	56318WC	S56318	
Chrysler	300c Series Diesel	2007-on	58515WC	S58515	
Chrysler	Crossfire	2004-on	56318WC	S56318	
Chrysler	Grand Voyager GS V6	1996-2000	56318WC	S56318	
Chrysler	Grand Voyager RG	2001-on		S56640	
Chrysler	Grand Voyager MPV SE/LX/LTD	2001-on		S78DT6MF	
Chrysler	Grand Voyager Limited LWB/RG	2004-on		S56640	
Chrysler	Imperial	1953-1966	NX1105WC	S80D26R	
Chrysler	Imperial	1967-1975	NX1207WC	S95D31RHD	
Chrysler	Neon	1995-1999		S58R6MF	
Chrysler	PT Cruiser (Battery located under air filter box)	2001-on		S586MF	
Chrysler	Prowler	2002-on		S586MF	
Chrysler	Sebring (Remove L/H front wheel & inner guard)	2007-on		S58R6MF	
Chrysler	Valiant	1970-1981	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Chrysler	Voyager SE SWB	1997-on	56318WC	S56318	
Chrysler	Voyager SE LWB RG	2004-on		S56640	
Chrysler	Voyager MPV SE	2001-on	56318WC	S56318	
CITROEN					
Citroen	19GT TR TZ	1986-1994	55457WC	S56220	
Citroen	2400CX	1977-1983	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Citroen	AX All Models	1986-on	56318WC	S56318	
Citroen	Berlingo Van Diesel	2000-2005	56318WC	S56318	
Citroen	Berlingo Van Petrol	2000-2005	55457WC	S56220	
Citroen	Berlingo Van	2006-on		S50D20L	
Citroen	BX1	1986-on	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Citroen	BX16 / 19 All Models	1986-on		S50D20L	
Citroen	C2	2005-on	55457WC	S56220	
Citroen	C3 Diesel	2003-on	56318WC	S56318	
Citroen	C3 Petrol	2003-on	55457WC	S56220	
Citroen	C4 1.6 VTR SX HDI, 2.0 VTS	2005-on	55457WC	S56220	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Citroen	C4 Safari 4WD	2006-on	56318WC	S56318	
Citroen	C5 Diesel	2000-on	56318WC	S56318	
Citroen	C5 Petrol	2000-2006	55457WC	S56220	
Citroen	C6	2001-on	58515WC	S58515	
Citroen	Club	1978-1983		S54316	
Citroen	Club	1984-1990	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Citroen	CX 2200	1976-on	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Citroen	CX 2500 CX Pallas	1984-1985	55457WC	S56220	
Citroen	Diesel Models	1976-1988	58515WC	S58515	
Citroen	Dispatch G9	2007-on	56318WC	S56318	
Citroen	DS & D Series	1959-1978	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Citroen	Dyane	1968-1983		S56316	
Citroen	Evasion	1998		S56316	
Citroen	GS Club 1200/1220/Pallas	1972-1978	55457WC	S56220	
Citroen	GSA	1984-1990	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Citroen	Picasso	2005-on	56318WC	S56318	
Citroen	SAXO Diesel	1997	55457WC	S56220	
Citroen	SAXO Petrol	1997		S54316	
Citroen	Xantia Break X1 / X2	1995-2001	56318WC	S56318	
Citroen	Xantia X1 / X2	1993-2001	56318WC	S56318	
Citroen	XM V6	1990-on	55457WC	S56220	
Citroen	Xsara	1998-on	55457WC	S56220	
Citroen	ZX Volcane	1993-1998		S55066	
DAEWOO					
Daewoo	1.5i	1994-1995	22F66WC	22F530SMF	22F600SMF 22F660SMF
Daewoo	Applause	1989-1995	NS40ZLWC	S40B20L	
Daewoo	Cielo 4cyl 1.5	1994-1997	56318WC	S56318	
Daewoo	Espero 6cyl 2.0	1991-on	56318WC	S56318	
Daewoo	Kalos	2003-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Daewoo	Korando	1998-on	NX1105WC	S80D26R	
Daewoo	Lacetti	2003-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Daewoo	Lanos 4cyl 1.5 / 1.6	1997-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Daewoo	Leganza 4cyl 2.0/2.2	1997-on	55D23RWC	S55D23R	S70D23R
Daewoo	Matiz	1999-on	NS40ZWC	S40B20R	
Daewoo	Nubira	1997-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Daewoo	Tacuma	2000-on	NX1105WC	S80D26R	
DAIHATSU					
Daihatsu	1.5 / 2.0 / 3.0 Tonne	1990-1999	N100WC	SN100	
Daihatsu	1.5 Tonne	1987-1989	NX1105WC	S80D26R	
Daihatsu	Applause	1989-1997	NS40ZLWC	S40B20L	
Daihatsu	Centro	1989-1995	NS40ZWC	S40B20R	
Daihatsu	Centro	1996-on	NS40ZLSWC	S40B20LS	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Daihatsu	Charade	1978-1980	NS40ZWC	S40B20R	
Daihatsu	Charade GTI	1987-1991	NS40ZLWC	S40B20LS	
Daihatsu	Copen	2000-2003	NS40ZLWC	S40B20L	
Daihatsu	Cuore	2001-on	NS40ZLWC	S40B20L	
Daihatsu	Delta Diesel	1978-1990	2 X 22FR66WC	2 X 22FR530SMF	2 X 22FR600SMF 2 X 22FR660SMF
Daihatsu	Delta Petrol	1977-on	NS40ZWC	S40B20R	
Daihatsu	Delta Twin Cab	1978-on	NS40ZLWC	S40B20L	
Daihatsu	Delta Trucks Diesel	2002		S31901MF	
Daihatsu	Duet	1989-1995	NS40ZLWC	S40B20L	
Daihatsu	Feroza	1989-1995	NS40ZWC	S40B20R	
Daihatsu	Feroza Diesel	1993-on	NS40ZWC	S40B20R	
Daihatsu	Feroza Series II	1993-on	NS40ZWC	S40B20R	
Daihatsu	Handivan Hijet 1000 Van	1981-1999	NS40ZLWC	S40B20L	
Daihatsu	MAX 538/540/580	1971-1975	NS40ZWC	S40B20R	
Daihatsu	Mira	1990-1994	NS40ZLWC	S40B20L	
Daihatsu	Move 3cyl 0.9	1997-2000	NS40ZLWC	S40B20L	
Daihatsu	Pyzar	1998-on	NS40ZLWC	S40B20L	
Daihatsu	Rocky	1984-on	NS40ZLWC	S40B20L	
Daihatsu	Rocky Diesel	1984-on		S31901MF	
Daihatsu	Scat	1982-1983	NS40ZLWC	S40B20L	
Daihatsu	Scat Diesel	1982-1983	N100WC	SN100	
Daihatsu	Sirion	2004-on	NS40ZLWC	S40B20L	
Daihatsu	Terios 4 WD / YRV	2000-2005	NS40ZLWC	S40B20L	
DATSUN					
Datsun	1300 / 1500 / 2000 / 240	All	NX1105WC	S80D26R	
Datsun	1600 / 180B / 200B / 240 / 260	1968	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Datsun	620 / 720 Diesel	All	NX1207WC	S95D31RHD	
Datsun	620 / 720 Petrol	All	NX1105WC	S80D26R	
DAIMLER					
Daimler	All Models	1953-on	NX1105WC	S80D26R	
DODGE					
Dodge	Avenger (Remove L/H front wheel & inner guard)	2007-on		S58R6MF	
Dodge	215 / 245 UTE	1973-1985	NX1105WC	S80D26R	
Dodge	Caliber Petrol	2006-on		S58R6MF	
Dodge	Caliber Diesel	2007-2010	NX1105WC	S80D26R	
Dodge	Journey	2008-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Dodge	Nitro Petrol	2007-on		S58R6MF	
Dodge	Nitro Diesel	2007-2010		S657MF	
Dodge	Viper	1997-on	55458WC	S55458	
FERRARI					
Ferrari	355	1994-on	56318WC	S56318	
Ferrari	360 / 456 / 456GT	1993-on	56318WC	S56318	
Ferrari	512 / 512M	1992-on	56318WC	S56318	
Ferrari	512 / 512i	1993-on	55457WC	S56220	
Ferrari	550 Maranello	1997-on	58515WC	S58515	
Ferrari	575 / 612	2002-on	56318WC	S56318	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Ferrari	599GTB	2006-on	56318WC	S56318	
Ferrari	All Models 330 / 365 / V12	1965-1993	NX1105WC	S80D26R	
Ferrari	All Other Models	1974-1994	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Ferrari	F50	1995-on	NX1105LWC	S80D26L	
Ferrari	F430	2008-on	56318WC	S56318	
Ferrari	Mondial / 348	1989-1994	56318WC	S56318	
Ferrari	Testarossa	1995-on	56318WC	S56318	
FIAT					
Fiat	100	1984-1986		S54316	
Fiat	131	1982-1988	55457WC	S56220	
Fiat	190	All	58515WC	S58515	
Fiat	500	2007-2008		S55066	
Fiat	500	2008-on		S58014	
Fiat	Argenta	1983-1985		S54316	
Fiat	Bravo	1996-2006		S54316	
Fiat	Bravo 1.4 / 1.9 / JTD Sport	2007	55457WC	S56220	
Fiat	All Models	1958-1982	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Fiat	Chroma	1988-1989	55457WC	S56220	
Fiat	City Van	1989-1991		S54316	
Fiat	Coupe	1995	55457WC	S56220	
Fiat	Ducato	2002-2006	58515WC	S58515	
Fiat	Fiorino Van	1989-1997	58515WC	S58515	
Fiat	Grande Punto	2006		S54316	
Fiat	Marea Sedan & Weekend	1998		S54316	
Fiat	Multipla	2001	NX1105WC	S80D26R	
Fiat	Nuovo Ducato	1988-1992	58515WC	S58515	
Fiat	Panda	1986-1990		S54316	
Fiat	Punto	2006-on	55457WC	S56220	
Fiat	Regata	1987-1989	55457WC	S56220	
Fiat	Ritmo	2007-on		S56030	
Fiat	Stilo	2002-2006	55457WC	S56220	
Fiat	Tempra	1991-1996	55457WC	S56220	
Fiat	Tipo	1989-1995	55457WC	S56220	
Fiat	Scudo	2007-on	58827WC	S58827	S60038
Fiat	Yugo	1986-1983		S54316	
Fiat	Super Brava X 1-9	1983-1992	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
FORD					
Ford	Bronco	1980-1990	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Capri V6 GT3000 RS3100	1968-1974	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Capri(Australian Build)	1989-1992	NS40ZLSWC	S40B20LS	
Ford	Corsair	1989-1992	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Cougar Coupe	1999-on	56318WC	S56318	
Ford	Courier 2WD 4X4 Petrol	2003-2004	55D23RWC	S55D23R	S70D23R

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Ford	Courier 4X4	1987-1996	22F66WC	22F530SMF	22F600SMF 22F660SMF
Ford	Courier 4X4 Diesel	1987-on	NX1207WC	S95D31RHD	
Ford	Courier Petrol	2004-on	NS40ZLSWC	S40B20LS	
Ford	Econovan Diesel	1985-1997	NX1207WC	S95D31RHD	
Ford	Econovan JG Petrol	1997-1998	NS40ZLWC	S40B20L	
Ford	Econovan Maxi	1997-1998	NS40ZLSWC	S40B20LS	
Ford	Econovan Maxi diesel	1985-1987	NX1207WC	S95D31RHD	
Ford	Econovan Petrol	1985-1997	NS40ZLWC	S40B20L	
Ford	Escape	2001-2002	NX1105LWC	S80D26L	
Ford	Escape 4CYL	2003-on	55D23LWC	S55D23L	S70D23L
Ford	Escape V6	2000-on	NX1105LWC	S80D26L	
Ford	Explorer V6	2003-2005	NX1105LWC	S80D26L	
Ford	Explorer V6 & V8	1996-2002		S657MF	
Ford	Explorer V8	2003-2005		S657MF	
Ford	F100 / 150 / 250 / 350 V6 & V8	1974-1994	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	F250 350 V8 Diesel	2003-2005		2 X S657MF	
Ford	F350 5.4L V8 Petrol	2004-on		S657MF	
Ford	Fairlane ZF - ZK	1972-1984	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Fairlane ZL - NA	1984-1991	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Fairlane NC	1991-1995	AU2266WC	AU22530SMFDF	AU22600SMFDF AU22660SMFDF
Ford	Fairlane NF / NL / AU / BA / BF	1995-2007	AU22R66WC	AU22R530SMF	AU22R600SMF AU22R660SMF
Ford	Falcon XA - XE	1972-1984	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Falcon XF-EA	1985-1991	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Falcon EB / ED	1991-1994	AU2266WC	AU22530SMFDF	AU22600SMFDF AU22660SMFDF
Ford	Falcon EF / EL / AU	1994-2002	AU22R66WC	AU22R530SMF	AU22R600SMF AU22R660SMF
Ford	Falcon BA / BF / FG	2002-on	AU22R66WC	AU22R530SMF	AU22R600SMF AU22R660SMF
Ford	Falcon Ute & Panel Van XG	1993-1996	AU2266WC	AU22530SMFDF	AU22600SMFDF AU22660SMFDF
Ford	Falcon Ute XH / AU / BA / BF / FG	1996-on	AU22R66WC	AU22R530SMF	AU22R600SMF AU22R660SMF
Ford	Festiva 1.6L	2004-on		S54316	
Ford	Festiva WA	1991-1993	NS40ZLSWC	S40B20LS	
Ford	Festiva WB	1994-1997	55D23LWC	S55D23L	S70D23L
Ford	Festiva WF	1997-on		S50D20L	
Ford	Festiva XR4	2007-on	55457WC	S56220	
Ford	Fiesta	2001-on		S54316	
Ford	Focus LR / LS	1998-2007	56318WC	S56318	
Ford	Focus LS	2007-on	56318WC	S56318	
Ford	Focus ST170	2002-on	56318WC	S56318	
Ford	FPV all models BA / BF / FG	2003-on	AU22R66WC	AU22R530SMF	AU22R600SMF AU22R660SMF

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Ford	Ka	1999-on		S54316	
Ford	Laser KJ	1994-1996	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Laser KA - KF	1981-1991	NS40ZLSWC	S40B20LS	
Ford	Laser KH	1991-1994	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Laser KL - KN	1996-2000	55D23LWC	S55D23L	S70D23L
Ford	Laser KQ	2001-on	55D23LWC	S55D23L	S70D23L
Ford	Liata	1994-1996	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Liata	1996-on	55D23LWC	S55D23L	S70D23L
Ford	LTD DA	1988-1991	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	LTD DC	1991-1994	AU2266WC	AU22530SMFDF	AU22600SMFDF AU22660SMFDF
Ford	LTD DF / DL	1994-1998	AU22R66WC	AU22R530SMF	AU22R600SMF AU22R660SMF
Ford	LTD AU / BA / BF	1999-2007	AU22R66WC	AU22R530SMF	AU22R600SMF AU22R660SMF
Ford	Lynx KJ	1994-1996	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Maverick Diesel	1989-1995	NX1207LWC	S95D31LHD	
Ford	Maverick Petrol	1989-1995	NX1105LWC	S80D26L	
Ford	Meteor	1982-1987	NS40ZLSWC	S40B20LS	
Ford	Mondeo	1995-1997	55457WC	S56220	
Ford	Mondeo	1998-on		S58014	
Ford	Mustang	1963-1987		S586MF	
Ford	Mustang Cobra	2001-on		S58R6MF	
Ford	Probe	94-1998		S586MF	
Ford	Raider	1991-1996	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Ranger	2009-on	NX1207WC	S95D31RHD	
Ford	Sierra	1984-on	NX1207WC	S95D31RHD	
Ford	Spectron Diesel	1983-1995	NX1207WC	S95D31RHD	
Ford	Spectron Petrol	1983-1995	NS40ZLWC	S40B20L	
Ford	T Series TE50	1999-on	AU22R66WC	AU22R530SMF	AU22R600SMF AU22R660SMF
Ford	Taurus	1996-on		S586MF	
Ford	Telstar	1983-1989	NS40ZLSWC	S40B20LS	
Ford	Territory All Petrol Models	1999-on	AU22R66WC	AU22R530SMF	AU22R600SMF AU22R660SMF
Ford	Territory Diesel	2011-on		S57220	
Ford	Transit Van 6 CYL	1973-1981	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Ford	Transit Van 2.5L Diesel	1994-2005	56318WC	S56318	
Ford	Transit Van 2.5L Diesel	2006-2009		2 X S58014	
Ford	Transit Van 2.5L Diesel	2009-on	2 X 56318WC	2 X S56318	
GREAT WALL					
Great Wall	V240 SUV	2008-on	NX1105WC	S80D26R	
Great Wall	V240 4x4 Ute & T/Cab	2010-on	55D23LWC	S55D23L	S70D23L

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
HOLDEN					
Holden	1 Tonner All Models	2003-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Holden	Adventra VY /VZ 6cyl / VZ 8cyl	2004-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Holden	Apollo JK - JL	1989-1993	NS40ZLWC	S40B20LS	
Holden	Apollo JM - JP	1993-1997		S70D23L	
Holden	Astra TR / TS / AH / Convertible / Coupe - Petrol	1996-on	56318WC	S56318	
Holden	Astra AH Diesel	2006-2009		S56820	
Holden	Barina MB / ML / MF / MH	1985-1993	NS40ZLWC	S40B20L	
Holden	Barina SB 1.2L / 1.4L / 1.6L	1994-2000	55457WC	S56220	
Holden	Barina XC	2003-2006	56318WC	S56318	
Holden	Barina TK	2006-2011	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Barina TM	2012-on		S56030	
Holden	Barina Spark MJ	2010-on		S55066	
Holden	Calibra YE X20XEV	1995-1997	56318WC	S56318	
Holden	Camira SL SLE SLX	1983-1989	NS40ZSWC	S40B20RS	
Holden	Caprice VQ / VR / VS	1990-1998	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Caprice WH / WK / WL	1999-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
Holden	Caprice WM	2006-on		S57220	
Holden	Captiva Petrol	2006-2008		S56640	
Holden	Captiva Petrol	2008-2010		S57220	
Holden	Captiva Petrol 4 Cyl	2011-on		S56030	
Holden	Captiva Petrol V6	2011-on		S57220	
Holden	Captiva Diesel 2.2 Ltr	2011-on		S60038	
Holden	Colorado RC 3.0L Turbo Diesel	2008-on	NX1207LWC	S95D31LHD	
Holden	Colorado RC Petrol V6	2008-on	NX1105LWC	S80D26L	
Holden	Combo Van SB	1994-2000	55457WC	S56220	
Holden	Combo Van XC	2001-on	56318WC	S56318	
Holden	Commodore / Calais VK / VL / VN / VP / VR / VS	1985-1997	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Commodore / Calais / VT / VX / VY / VZ	1997-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
Holden	Commodore VE - Police Pack	2006-on		S57220	
Holden	Commodore / Calais VE	2006-on	56638WC	S56638	S57220
Holden	Commodore Ute VG / VP / VR / VS	1990-2000	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Commodore Ute VU / VY / VZ	2000-2007	22F66WC	22F530SMF	22F600SMF 22F660SMF
Holden	Commodore Ute VE	2007-on	56638WC	S56638	S57220
Holden	Crewman VYII / VZ	2003-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
Holden	Cruze AWD YG	2002-2005	NS40ZLWC	S40B20L	
Holden	Cruze JG / JH Petrol	2009-on	55457WC	S56220	
Holden	Cruze JG / JH Diesel	2009-on		S59542	
Holden	Drover QB	1985-1987	NS40ZSWC	S40B20RS	
Holden	Epica EP Petrol	2007-on	22FR66WC	22FR660SMF	
Holden	Frontera V6 UES	1999-2002	NX1105LWC	S80D26L	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Holden	Frontera Sport UT	1995-1998	56318WC	S56318	
Holden	Gemini Diesel	1975-1984	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Holden	Jackaroo Diesel	1982-1992	NX1207WC	S95D31RHD	
Holden	Jackaroo Diesel UBS 3.1L	1992-1997	NX1105WC	S80D26R	
Holden	Jackaroo Diesel UBS 3.0L	1998-2000	NX1105WC	S80D26R	
Holden	Jackaroo Diesel UBS 3.0L	2000-2003	2 x NX1105WC	2 x S80D26R	
Holden	Jackaroo Monterey	2001-2003	NX1105WC	S80D26R	
Holden	Jackaroo Petrol UBS 3.2L V6	1992-1997	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Jackaroo Petrol UBS 3.5L V6	1998-2003		S70D23R	
Holden	Kingswood	1983-1985	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Monaro V2 / V2II / V2III / VZ	2001-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
Holden	Nova LG	1994-1996	56318WC	S56318	
Holden	Piazza YB Turbo	1986-1997	22F66WC	22F530SMF	22F600SMF 22F660SMF
Holden	Rodeo Diesel	1981-1999	NX1207WC	S95D31RHD	
Holden	Rodeo Diesel	2000-2007	NX1207LWC	S95D31LHD	
Holden	Rodeo Petrol RA 2.4L C24SE	2003-2007		S55B24LS	
Holden	Rodeo Petrol RA V6 6VE1	2003-2007		S70D23L	
Holden	Rodeo Petrol RA V6 HFV6	2003-2007	NX1105LWC	S80D26L	
Holden	Rodeo Petrol TF 2.2L	1988-1995	55D23RWC	S55D23R	S70D23R
Holden	Rodeo Petrol TF	1996-1999	55D23RWC	S55D23R	S70D23R
Holden	Rodeo Petrol TF 2.6L	2000-2002	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Rodeo Petrol TF 3.2L V6	1997-2002	55D23LWC	S55D23L	S70D23L
Holden	Sandman	1974-1979	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Scurry	1985-1987	NS40ZSWC	S40B20RS	
Holden	Shuttle Diesel	1983-1987	NX1207WC	S95D31RHD	
Holden	Statesman VQ / VR / VS	1990-1998	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Statesman WH / WK / WL	1999-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
Holden	Statesman WM	2006-2011		S57220	
Holden	Suburban CK	1998-1999		S786MF	
Holden	Sunbird	1977-1980	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Tigra XCT	2005-on	56318WC	S56318	
Holden	Torana 4&6 CYL	1970-1980	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Vectra JR / JS / JSII / ZC 4&6 cyl	1999-on	56318WC	S56318	
Holden	Viva JF	2006-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Holden	Zafira TT	2005-on	56318WC	S56318	
HSV					
HSV	Avalanche Utility VVII / VZ	2004-2005	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Avalanche Utility VVII / VZ	2004-2005	22F66WC	22F530SMF	22F600SMF 22F660SMF

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
HSV	Avalanche Wagon	2003-2005	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Avalanche XUV	2004-2005	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Clubsport VN / VP / VR / VS	1988-1997		22FR660SMF	22FR660SMF
HSV	Clubsport VT / VTII / VX / VY / VYII / VZ	1997-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Clubsport R8 VTII / VX / VY / VYII / VZ	1999-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Clubsport VE	2006- on	56638WC	S56638	
HSV	Coupe GTO V2 / V2II / V2III / VZ	2000-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Coupe GTS V2 / V2II / V2III	2000-2004	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Coupe4 V2III / VZ	2004-2005	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Grange VS	1995-1997		22FR660SMF	22FR660SMF
HSV	Grange WH / WK / WL	1998-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Group A VN	1991-1991		22FR660SMF	22FR660SMF
HSV	GTS VP / VR / VS	1991-1997		22FR660SMF	22FR660SMF
HSV	GTS VT / VTII / VX / VY / VZ	1998-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	GTS VE	2006-on	56638WC	S56638	
HSV	Maloo R8 VU / VY / VZ	2001-2007	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Senator VP / VR / VS	1991-1997		22FR660SMF	22FR660SMF
HSV	Senator VT / VTII / VX / VY / VYII / VZ	1998-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	Senator Signature VE	2008-on	56638WC	S56638	
HSV	SV6000 VZ	2004-2006	22F66WC	22F530SMF	22F600SMF 22F660SMF
HSV	VXR	2006-on	56638WC	S56638	
HSV	XU6 VT / VX / VY	1997-2003	22F66WC	22F530SMF	22F600SMF 22F660SMF
HUMMER					
Hummer	H2	1992-2003		S78DT6MF	
Hummer	H3	2007-2010		22FR660SMF	22FR660SMF
HONDA					
Honda	600 / 1300 / 20T / Life	1968-74	NS40ZLWC	S40B20L	
Honda	Accord	1978-1985	NS40ZLSWC	S40B20LS	
Honda	Accord Euro	2003-on		S55B24LS	
Honda	Accord Exi Vti Wagon	1995-2002	55D23LWC	S55D23L	S70D23L
Honda	Accord V6	1998-on	NX1105WC	S80D26R	
Honda	Accord Vti	1997-2002	55D23RWC	S55D23R	S70D23R
Honda	Accord Vti	2003-on		S55B24LS	
Honda	Accord Aerodeck	1993-1996		S70D23L	
Honda	City	2009-on	NS40ZLWC	S40B20L	
Honda	Civic EC / ED / EE	1987-1991		S55B24RS	
Honda	Civic EG / EH	1991-1995		S55B24RS	
Honda	Civic EJ / EK / EJ	1995-2005		S55B24RS	
Honda	Civic ES	2001-2005		S55B24LS	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Honda	Civic Hybrid	2004-on	NS40ZLWC	S40B20L	
Honda	Civic FD	2006-on		S55B24LS	
Honda	Civic UH	2006-on		S55B24LS	
Honda	Civic HatchBack FK/FN	2007-on		S55B24LS	
Honda	Civic Type R	2006-on		S55B24LS	
Honda	Concerto	1989-1991		S55B24RS	
Honda	CR-V	1998-2001		S55B24RS	
Honda	CR-V	2002-on		S55B24LS	
Honda	CR-X	1988-1997		S55B24RS	
Honda	HR-V	1999-2000		S55B24LS	
Honda	Insight	1989-1999	NS40ZLWC	S40B20L	
Honda	Insight Hybrid	2011-on	NS40ZLWC	S40B20L	
Honda	Integra	1986-1989		S55B24RS	
Honda	Integra LS	1990-1993		S70D23R	
Honda	Integra Type-R, VTiR, Gsi	1994-2002		S55B24RS	
Honda	Integra Type-R	2002-2006		S55B24LS	
Honda	Jazz	2003-on	NS40ZLWC	S40B20L	
Honda	Legend	1986-1990	NX1105LWC	S80D26L	
Honda	Legend	1991-on	NX1105WC	S80D26R	
Honda	MDX	2003-2006	NX1105LWC	S80D26L	
Honda	NSX / NSX-T	1991-1995		S70D23L	
Honda	NSX	1996-2004	NX1105LWC	S80D26L	
Honda	Odyssey	1995-1999		S70D23L	
Honda	Odyssey 4 CYL	2000-on		S55B24LS	
Honda	Odyssey V6	2000-2003		S70D23R	
Honda	Prelude	1988-1991	NX1105WC	S80D26R	
Honda	Prelude S	1992-1996		S55B24LS	
Honda	Prelude Si	1997-2001		S55B24LS	
Honda	Prelude Si/SRS	1993-1996	55D23LWC	S55D23L	S70D23L
Honda	Prelude VTiR	1994-2001	NX1105LWC	S80D26L	
Honda	S2000	2000-2009		S55B24LS	
Honda	Shuttle	1998-on		S55B24RS	
HYUNDAI					
Hyundai	Accent GL GLS	2000-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	Atoz	1998	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Hyundai	Coupe SX FX	1996-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	Elantra GL GLS	2000-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	Excel GL GLS	1986-1987	NS40ZLSWC	S40B20LS	
Hyundai	Excel	1988-2000	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	Getz	2003-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	Grandeur	2008-on	NX1105LWC	S80D26L	
Hyundai	Grandeur 3.0L/XG V6	1999-2005	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	i20	2011-on		S50D20L	
Hyundai	i30 Diesel	2007-on	NX1105LWC	S80D26L	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Hyundai	i30 Petrol	2007-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	ix35 2.0L Diesel	2009-on	NX1207WC	S95D31RHD	
Hyundai	ix35 2.4L Diesel	2009-on	NX1105WC	S80D26R	
Hyundai	ix35 2.0L Petrol	2009-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	i45	2010-on	NX1105LWC	S80D26L	
Hyundai	iLoad	2008-on	NX1207WC	S95D31RHD	
Hyundai	iMax	2008-on	NX1207WC	S95D31RHD	
Hyundai	Lantra	1991-1994	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Hyundai	Lantra SE/GL/GSL	1998-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	Lavita MPV GLS	2001-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	S Coupe	1990-1997	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Hyundai	S Coupe SX SFX FX	1998-on	NX1105LWC	S80D26L	
Hyundai	Santa Fe CRDI	2007-on	NX1207LWC	S95D31LHD	
Hyundai	Santa Fe GL GLV6	2000-on	NX1105LWC	S80D26L	
Hyundai	Sonata	1989-1999	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Hyundai	Sonata GL GLV6	2000-2005	NX1105LWC	S80D26L	
Hyundai	Sonata GLE	1994-1995		S55B24RS	
Hyundai	Sportswagon	1999-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Hyundai	Stellar	1984-on	NS40ZLWC	S40B20L	
Hyundai	Terracan Diesel	2004-on		S31901MF	
Hyundai	Terracan Highlander	2002-on	NX1105WC	S80D26R	
Hyundai	Terracan Petrol	2004-on		S70D23L	
Hyundai	Tiburon	2002-on	NX1105LWC	S80D26L	
Hyundai	Trajjet GL GLS	2000-on	NX1105LWC	S80D26L	
Hyundai	Tucson	2004-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
ISUZU					
Isuzu	D-Max Ute	2008-on	NX1207LWC	S95D31LHD	
IVECO					
IVECO	Dally 29 L 14	2004-2006	56318WC	S56318	
IVECO	Dally 35 C14 / C17 / S13	2004-2006	58515WC	S58515	
IVECO	Dally 35 S14 / S17	2004-2006	56318WC	S56318	
IVECO	Dally 40 C14 / C17	2004-2006	56318WC	S56318	
IVECO	Dally 50 C14 / C15 / C17	2004-2006	56318WC	S56318	
IVECO	Dally 65 C14 / C15 / C17	2000-2006	56318WC	S56318	
JAGUAR					
Jaguar	Daimler	1986-1990	55457WC	S56220	
Jaguar	Daimler	1986-2002	55457WC	S56220	
Jaguar	Sovereign	1987-1994	55457WC	S56220	
Jaguar	S-Type CCX	1998-2008	58827WC	S58827	S60038
Jaguar	XJR / XJR 8 / XJS / XJ6 / XJ8 / XJ12	1992-on	58515WC	S58515	
Jaguar	XKR8 / XK8	1996-on	58515WC	S58515	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Jaguar	V12	1972-1994	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Jaguar	X Type	2001-on	56318WC	S56318	
Jaguar	XF	2011-on	58515WC	S58515	
Jaguar	XJ40	1987-1994	55457WC	S56220	
Jaguar	XJ6 Sovereign	1972-1994	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Jaguar	XJ8 3.2 4.0 Sport S-Type	2001-on	58515WC	S58515	
Jaguar	XJS V12/Style	1991-2001	56318WC	S56318	
JEEP					
Jeep	Cherokee Renegade	1979-1996		S58R6MF	
Jeep	Cherokee Renegade Wagoneer	1979-1994		S58R6MF	
Jeep	Cherokee XJ	1994-2001	56318WC	S56318	
Jeep	Cherokee KJ	2002-2007	56318WC	S56318	
Jeep	Cherokee 5.7 V8 Hemi	2007		S59542	
Jeep	Commander	2006-2009	58827WC	S58827	S60038
Jeep	Compass	2006-on		S78DT6MF	
Jeep	Grand Cherokee ZJ	1993-1998		S58R6MF	
Jeep	Grand Cherokee WJ	1999-2004	56318WC	S56318	
Jeep	Grand Cherokee WH	2005-on	58515WC	S58515	
Jeep	Patriot	2007-on		S78DT6MF	
Jeep	Renegade YJ	1987-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Jeep	Wrangler TJ	1987-1996		S58R6MF	
Jeep	Wrangler TJ	1996-2005		S56640	
Jeep	Wrangler JK	2007-on	NX1207WC	S95D31RHD	
KIA					
Kia	Carens	1999-2002	55457WC	S56220	
Kia	Carnival	1999-on	NX1105LWC	S80D26L	
Kia	Cerato EX	2007-on		S70D23L	
Kia	Ceres Diesel	1995-on	NX1207WC	S95D31RHD	
Kia	Ceres Rocsta	1992-1993	22F66WC	22F530SMF	22F600SMF 22F660SMF
Kia	Credos Mentor GLX.SLX	1996-on	55457WC	S56220	
Kia	Grand Carnival Diesel	2008-on	NX1105WC	S80D26R	
Kia	Grand Carnival Petrol	2008-on	55D23LWC	S55D23L	S70D23L
Kia	K 2700	1998-on	NX1207LWC	S95D31LHD	
Kia	K 2900	2008-on	55D23LWC	S55D23L	S70D23L
Kia	Magentis	2006-on	NX1105LWC	S80D26L	
Kia	Mentor	1998-2000	55458WC	S55458	
Kia	Optima	2003-on	NX1105LWC	S80D26L	
Kia	Pregio Van Petrol	2003-on	NX1207LWC	S95D31LHD	
Kia	Pregio Van Diesel	2003-on	NX1207LWC	S95D31LHD	
Kia	Pride	1991-1996	56318WC	S56318	
Kia	Rio	2000-on		S70D23L	
Kia	Rocsta Deluxe	1994-on	55D23RWC	S55D23R	S70D23R
Kia	Rondo	2008-on	55D23LWC	S55D23L	S70D23L
Kia	Shuma	2000-on	55457WC	S56220	
Kia	Sorento	2003-on	NX1105WC	S80D26R	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Kia	Sorento Diesel	2006-on	NX1207WC	S95D31RHD	
Kia	Soul	2008-2009	55D23LWC	S55D23L	S70D23L
Kia	Soul Diesel	2010-on	NX1105LWC	S80D26L	
Kia	Soul Petrol	2010-on		S54316	
Kia	Spectra	2001-on	55458WC	S55458	
Kia	Sportage	2006-on	NX1105LWC	S80D26L	
Kia	Sportage 4WD B547GSE SE	2001-on	55457WC	S56220	
Kia	Sportage 4WD GSE SE	1996-1998		S58R6MF	
LADA					
LADA	Cabriolet	1983-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
LADA	2104 / 2105 / 2107	1986-1994	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
LADA	Cevaro	1983-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
LADA	Niva	1983-1999	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
LADA	Samara	1988-1996	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
LADA	Toro	1983-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
LADA	TAIGA	1991-1996	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
LADA	Volante	1983-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
LAMBORGHINI					
Lamborghini	Countach	1977-1987	56318WC	S56318	
Lamborghini	Diablo	1990-2001	56318WC	S56318	
Lamborghini	Murcielago	2002-on		S56640	
LANCIA					
Lancia	Most Models	1966-on	55457WC	S56220	
Lancia	Beta	1974-1985	55457WC	S56220	
Lancia	Delta HF Turbo Dedra	1985-1991	55457WC	S56220	
Lancia	Saloon	1974-1976	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Lancia	Thema V6 IE / Turbo	1986-1991	55457WC	S56220	
Lancia	Gamma	1974-1985	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
LANDROVER					
Landrover	Landrover Petrol	1977-1984	NX1207WC	S95D31RHD	
Landrover	Landrover 110 Petrol	1984-1991	2 X 22FR66WC	2 X 22FR530SMF	2 X 22FR600SMF 2 X 22FR660SMF
Landrover	Defender Petrol	1984-1992	NX1105WC	S80D26R	
Landrover	Defender Petrol & Diesel	1992-1995	NX1207WC	S95D31RHD	
Landrover	Defender Diesel	2003-2006	NX1207WC	S95D31RHD	
Landrover	Defender Diesel	2007-on	58828WC	S58828	
Landrover	Discovery Series 1 Petrol & Diesel	1991-1996	NX1105WC	S80D26R	
Landrover	Discovery Series 2 Petrol	1999-2003	NX1207WC	S95D31RHD	
Landrover	Discovery Series 2 Diesel	1999-2003		S31901MF	
Landrover	Discovery Series 3 Petrol	2004-2007		S58014	
Landrover	Discovery Series 3 Diesel	2004-2007	58515WC	S58515	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Landrover	Discovery Series 4 Diesel	2008-on	58515WC	S58515	
Landrover	Freelander Petrol & Diesel	1998-2005	56318WC	S56318	
Landrover	Freelander II	2006-on		S58014	
LEXUS					
Lexus	CT200H	2011-on		S55B24R	
Lexus	ES300 / ES300S / IS200	1990-on	55D23LWC	S55D23L	S70D23L
Lexus	GS300 / GS450 / GS450H / LX470 / LS430 4WD / SC400 / IS300	1997-on	NX1105LWC	S80D26L	
Lexus	IS250	2006-2008	NX1105LWC	S80D26L	
Lexus	IS250	2008-2010	55D23LWC	S55D23L	S70D23L
Lexus	IS250 / IS350	2011-on	NX1105LWC	S80D26L	
Lexus	L100H	2008-on		S55B24LS	
Lexus	LS400	1990-1999	56318WC	S56318	
Lexus	LS430 / LS460 - 460HL / LX570 / RX330 / RX350 / RX400 / SC430	2001-on	NX1105LWC	S80D26L	
Lexus	RS460H		NX1105LWC	S80D26L	
LEYLAND					
Leyland	Marshall	1968-1971	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Leyland	P76	1973-1975	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
LOTUS					
Lotus	Elan	1989-1992	55457WC	S56220	
Lotus	Elise / 111 / S2	2000-on		S54316	
Lotus	Elise 111R Touring	2004-on	56318WC	S56318	
Lotus	Esprit Turbo	1989-1992	56318WC	S56318	
Lotus	Esprite V8	1997-on	56318WC	S56318	
Lotus	Excel	1985-1992	55457WC	S56220	
Lotus	Exige	2001-on	56318WC	S56318	
MAHINDRA					
Mahindra	Ute	2008-on	NX1207WC	S95D31RHD	
MASERATI					
Maserati	3200 GT	1998-2001	56318WC	S56318	
Maserati	Biturbo 425 / Coupe / Spyder	1987-1990	55457WC	S56220	
Maserati	Spyder GT Cambiocorsa	2001-on	55458WC	S55458	
Maserati	Granturismo	2007-on	56318WC	S56318	
Maserati	Quattroporte	2003-on	56318WC	S56318	
Maserati	All Models	1987-89	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
MAZDA					
Mazda	121	1976-1994	NS40ZLSWC	S40B20LS	
Mazda	121	1994-1995		S55B24LS	
Mazda	121	1996-1997	NS40ZLSWC	S40B20LS	
Mazda	121	1997-1999		S50D20L	
Mazda	323	1994-1996	55D23LWC	S55D23L	S70D23L
Mazda	323	1977-1980	NS40ZLSWC	S40B20LS	
Mazda	626	1994-1999	55D23LWC	S55D23L	S70D23L
Mazda	626	1984-1988	NX1105LWC	S80D26L	
Mazda	626	1992-1994	55D23LWC	S55D23L	S70D23L
Mazda	626	1978-1983	NS40ZSWC	S40B20RS	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Mazda	626	2002-2003	55D23LWC	S55D23L	S70D23L
Mazda	800 Lellenia	1994-on	NX1105LWC	S80D26L	
Mazda	929 4 Cyl	1973-1982	NS40ZLSWC	S40B20LS	
Mazda	929 6CYL	1990-1997	55D23LWC	S55D23L	S70D23L
Mazda	Astina	2003-on	55D23LWC	S55D23L	S70D23L
Mazda	B Series 1800 / 2000	1986-1989	NX1105WC	S80D26R	
Mazda	B Series 2500 T.D.	2003-on	NX1207WC	S95D31RHD	
Mazda	B2000 Petrol	1980-1995	NS40ZLSWC	S40B20LS	
Mazda	B2200 Diesel E2000	1980-1995	NX1207WC	S95D31RHD	
Mazda	B2500	2000-on	NX1207WC	S95D31RHD	
Mazda	B2600	1996-2002	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mazda	Bravo Diesel	2006-on	NX1207WC	S95D31RHD	
Mazda	Bravo V6	2006-on	55457WC	S56220	
Mazda	BT50 Turbo Diesel	2007-on	NX1207WC	S95D31RHD	
Mazda	Capella RX2	1970-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mazda	CX7 PETROL	2007-on	55D23LWC	S55D23L	S70D23L
Mazda	CX7 DIESEL	2009-on	NX1105LWC	S80D26L	
Mazda	CX9	2007-on	NX1105LWC	S80D26L	
Mazda	E Series Petrol	2003-on	NS40ZLSWC	S40B20LS	
Mazda	E1300 E1400 E1600	1978-1986	NS40ZLSWC	S40B20LS	
Mazda	E2000	1984-1995	NS40ZLWC	S40B20L	
Mazda	Eunos 30X V6 300	1992-1996	55D23LWC	S55D23L	S70D23L
Mazda	Eunos 500	1993-1996	55D23LWC	S55D23L	S70D23L
Mazda	Eunos 800	1993-1996	55D23LWC	S55D23L	S70D23L
Mazda	Mazda 2	2005-on	NS40ZLWC	S40B20L	
Mazda	Mazda 3	2005-2006		S50D20L	
Mazda	Mazda 3	2006-on	55D23LWC	S55D23L	S70D23L
Mazda	Mazda 3 Diesel	2007-on	NX1207LWC	S95D31LHD	
Mazda	Mazda 6	2003-on		S50D20L	
Mazda	Mazda 6 MZR Diesel	2003-on	NX1105LWC	S80D26L	
Mazda	Millenia	2000-on		S70D23L	
Mazda	MPS 3	2006-on		S50D20L	
Mazda	MPS 6	2006-on	55D23LWC	S55D23L	S70D23L
Mazda	MPV	1993-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mazda	MPV 4x4	1996-1997		S70D23L	
Mazda	MPV Incl V6	1998-on		S70D23L	
Mazda	MX6 4CYL & Turbo	1987-1991	NS40ZLSWC	S40B20LS	
Mazda	MX6 6CYL Prot	1991-1995	55D23LWC	S55D23L	S70D23L
Mazda	Premacy	2003-on		S50D20L	
Mazda	Protege	2003-on		S50D20L	
Mazda	RX3 RX4 RX5 RX7	1972-1995	22F66WC	22F530SMFDF	22F600SMFDF 22F660SMFDF
Mazda	RX7	1995-1998		S50D20L	
Mazda	RX8	2003-on	NX1105LWC	S80D26L	
Mazda	Savanna 808 / 1600	1972-1989	NS40ZLWC	S40B20L	
Mazda	SV 20	2003-on		S50D20L	
Mazda	Traveller	1983-1989	NS40ZLWC	S40B20L	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Mazda	Tribute	2000-on	NX1105LWC	S80D26L	
Mazda	Tribute - Classic 3.0	2004	NX1105WC	S80D26R	
MERCEDES					
Mercedes	240 Elegance / Avantgarde	2004	58515WC	S58515	
Mercedes	180E	1991-1994	56318WC	S56318	
Mercedes	190D / 190E	1985-1993	56318WC	S56318	
Mercedes	220E	2009		S59542	
Mercedes	230E / 230TE / 260E / 300CE / 300D / 300E	1984-1993	56318WC	S56318	
Mercedes	300SE / 300TD / 300TE / 320CE / 320E	1979-1993	58515WC	S58515	
Mercedes	400S / 400SE / 450S SEL SLC	1973-1980	58515WC	S58515	
Mercedes	500SE / 500SEC / 500SL	1989-1993	58515WC	S58515	
Mercedes	560SL / 560SEC / 560SEL 600SEL	1986-1992	58515WC	S58515	
Mercedes	A160 / A190	1999-on	56638WC	S56638	
Mercedes	A160 Classic Piccadilly	2004	56318WC	S56318	
Mercedes	A170	2008-on	55457WC	S56220	
Mercedes	A180 Petrol	2008-on	55457WC	S56220	
Mercedes	A180 Diesel	2008-on	56318WC	S56318	
Mercedes	A200	2004-2005	56318WC	S56318	
Mercedes	A Class	1998-on	56318WC	S56318	
Mercedes	B Class	2006-2008	56318WC	S56318	
Mercedes	B180	2005-on	58827WC	S58827	S60038
Mercedes	B200	2005-on	56318WC	S56318	
Mercedes	C Class Diesel	2006-on	58515WC	S58515	
Mercedes	C Class Petrol	2006-on	56318WC	S56318	
Mercedes	C180K C200K C240	1997-1998	58515WC	S58515	
Mercedes	C200K C40 C320	1994-on	56318WC	S56318	
Mercedes	C220CDI	2001-on	58515WC	S58515	
Mercedes	C32 AMG Kompressor / C36AMG / C43AMG / C55AMG	1997-2007	58515WC	S58515	
Mercedes	Centura 6Cyl	1968-95	56318WC	S56318	
Mercedes	CL500 CL55AMG CL600	1998-on	58515WC	S58515	
Mercedes	CL55 AMG / AMG Kompressor / CL63 AMG	1999-on	58515WC	S58515	
Mercedes	CL65 AMG / CL400 / CL600	1999-on	58515WC	S58515	
Mercedes	CLC200 Kompressor	2008-on		S57220	
Mercedes	CLK200	1998-1999	55457WC	S56220	
Mercedes	CLK200 / CLK230 Kompressor	2000-2006	58515WC	S58515	
Mercedes	CLK240	2002-2005	58515WC	S58515	
Mercedes	CLK280 / CLK320 / CLK350 / CLK430 / CLK500	1998-on	56318WC	S56318	
Mercedes	CLK55 AMG	1999-2006	58515WC	S58515	
Mercedes	CLK63 AMG	2006-on	58827WC	S58827	S60038
Mercedes	CLS 350	2009-on	58827WC	S58827	S60038
Mercedes	E200K E240 E270 E320 E55AMG	2001-on	58515WC	S58515	
Mercedes	E220 E240 E320 (Under Seat)	1997-1998	56318WC	S56318	
Mercedes	E220 E280	1998-on	55457WC	S56220	
Mercedes	E250 E350	2009-on	56638WC	S56638	
Mercedes	E500 / Avantgarde / Elegance	1998-on	58515WC	S58515	
Mercedes	S430 S500L S600L	2001-on	58515WC	S58515	
Mercedes	S500L S600L	1998-2000	58515WC	S58515	
Mercedes	SL280	1995-1999	58827WC	S58827	S60038

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Mercedes	SL500	1993-1998	56318WC	S56318	
Mercedes	SL500	1998-2008	58515WC	S58515	
Mercedes	SL500	2009-on	56638WC	S56638	
Mercedes	SL600	1998-2008	58515WC	S58515	
Mercedes	SL600	2009-on	56638WC	S56638	
Mercedes	SLK200	1997-2000	56318WC	S56318	
Mercedes	SLK200 Kompressor	2000-2004	56638WC	S56638	
Mercedes	SLK200K / SLK230	2000-on	58515WC	S58515	
Mercedes	SLK230 Supercharged	1998-on	56318WC	S56318	
Mercedes	SLK320 / SLK 320 AMG	2000-on	58515WC	S58515	
Mercedes	SLK350	2009-on	56638WC	S56638	
Mercedes	Smart	2009-on		S55066	
Mercedes	Sprinter	1998-on	56318WC	S56318	
Mercedes	Sprinter CDI	2000-on	58827WC	S58827	S60038
Mercedes	TE	1974-1995	56318WC	S56318	
Mercedes	Viano	2003-on	56638WC	S56638	
Mercedes	VITO Van 108 CDI Diesel	1999-on	58515WC	S58515	
Mercedes	VITO Van 112 CDI Diesel	2001-on	56318WC	S56318	
MG					
MG	Magnette	1954-1968	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
MG	MGF	1998-on	55457WC	S56220	
MG	TF	2002-on	55457WC	S56220	
MG	ZR	2001-2005	55457WC	S56220	
MG	ZT	2001	56318WC	S56318	
MG	ZT 230	2003-on	55457WC	S56220	
MINI					
Mini	All Models	2004-on	55457WC	S56220	
Mini	Cooper (in hood)	2001	56318WC	S56318	
Mini	Mini	2007-on	56638WC	S56638	
Mini	Mini Cooper S R50	2002-2007		S56030	
MITSUBISHI					
Mitsubishi	380 - all models except VRX	2005-on	55D23LWC	S55D23L	S70D23L
Mitsubishi	380 VRX	2005-on	55D23RWC	S55D23R	S70D23R
Mitsubishi	ASX Petrol	2010-on	55D23LWC	S55D23L	S70D23L
Mitsubishi	Centura 4Cyl & 6Cyl	1975-1979	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	Challenger / 4 x 4	1999-on	NX1105WC	S80D26R	
Mitsubishi	Challenger LS	2001-2004	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	Challenger PA	1998-on	NX1105WC	S80D26R	
Mitsubishi	Colt All Models RA RE	1981-1991	NS40ZSWC	S40B20RS	
Mitsubishi	Colt	1991-2007	55D23LWC	S55D23L	S70D23L
Mitsubishi	Colt Concept / Ralliart	2005-on	55D23LWC	S55D23L	S70D23L
Mitsubishi	Cordia	1983-1989	NS40ZLSWC	S40B20LS	
Mitsubishi	Delica	1986-1999	NX1207WC	S95D31RHD	
Mitsubishi	Eclipse	1990-1995	NS40ZLWC	S40B20L	
Mitsubishi	Express Diesel	1979-1987	NX1207WC	S95D31RHD	
Mitsubishi	Express Petrol	1979-2002	NS40ZLSWC	S40B20LS	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Mitsubishi	Express Petrol	2003-on		S55B24RS	
Mitsubishi	FT0	1994-2000	55D23RWC	S55D23R	S70D23R
Mitsubishi	Galant 4CYL	1995	NS40ZLSWC	S40B20LS	
Mitsubishi	Galant GSR 24 Valve	1994-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	Gallant (import)	1990-1995	NS40ZWC	S40B20R	
Mitsubishi	Grandis V6	2006-on	55D23RWC	S55D23R	S70D23R
Mitsubishi	L200 / L300 diesel	1982-1986	55D23RWC	S55D23R	S70D23R
Mitsubishi	L200 / L300 Petrol	1993-1998	NS40ZLWC	S40B20L	
Mitsubishi	L300 diesel	2000-2007	NX1207WC	S95D31RHD	
Mitsubishi	Lancer - Some models use S40B20L JIS Post	1989-1992	NS40ZSWC	S40B20RS	
Mitsubishi	Lancer GSR	1992-1996	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	Lancer	1993-2004	NS40ZLSWC	S40B20LS	
Mitsubishi	Lancer / EVO VIII	2004-2005	NS40ZLWC	S40B20L	
Mitsubishi	Lancer / EVO	2005-on	55D23LWC	S55D23L	S70D23L
Mitsubishi	Magna	1985-2000	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	Magna Solara	1998-on	55D23RWC	S55D23R	S70D23R
Mitsubishi	Magna	2000-2006	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	Magna VRX	2000-2004	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	Mirage	1996-2005	NS40ZLSWC	S40B20LS	
Mitsubishi	Nimbus UA / UB / UC	1984-1991	NS40ZLSWC	S40B20LS	
Mitsubishi	Nimbus UG	1998-2004		S55B24LS	
Mitsubishi	Outlander 4x4	2003-on	55D23LWC	S55D23L	S70D23L
Mitsubishi	Pajero Diesel	1983-2002	NX1207WC	S95D31RHD	
Mitsubishi	Pajero Diesel	2003-on	NX1207LWC	S95D31LHD	
Mitsubishi	Pajero Exceed 3.2L	2003-2008	NX1207LWC	S95D31LHD	
Mitsubishi	Pajero I0 / 4x4 1.6L 3Door / 4x4 1.8L 5 Door	1999-2000		S70D23L	
Mitsubishi	Pajero Petrol V6	1983-1996	NX1105WC	S80D26R	
Mitsubishi	Pajero Petrol V6 3.0L / 3.5L	1996-1997	55D23RWC	S55D23R	S70D23R
Mitsubishi	Pajero Petrol V6 3.5L	1997-2000	55D23RWC	S55D23R	S70D23R
Mitsubishi	Pajero Petrol V6 3.5L	2000-2004	55D23LWC	S55D23L	S70D23L
Mitsubishi	Pajero Petrol V6 3.8L	2003-on	55D23LWC	S55D23L	S70D23L
Mitsubishi	Pajero Safari	1997	NS40ZLWC	S40B20L	
Mitsubishi	Rosa Bus	2000-2005	55D23RWC	S55D23R	S70D23R
Mitsubishi	Sigma 1600 / 1850	1977-1987	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	Sigma 2000 / 2600	1977-1987	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	Starion	1982-1987	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	Starwagon 2.0L / 2.4L	1985-1995	NS40ZLWC	S40B20L	
Mitsubishi	Starwagon 2.0L / 2.4L	2003-on		S55B24R	
Mitsubishi	Starwagon 3.0L	1995-on	NX1105WC	S80D26R	
Mitsubishi	Triton Cab Utility	1987-1992	NX1105WC	S80D26R	
Mitsubishi	Triton Cab Utility	1993-2005	55D23RWC	S55D23R	S70D23R
Mitsubishi	Triton Cab Utility Petrol	2006-on	55D23LWC	S55D23L	S70D23L
Mitsubishi	Triton Diesel 2.8L	1996-2005	NX1207WC	S95D31RHD	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Mitsubishi	Triton Diesel 2.5L	2006-on	NX1105WC	S80D26R	
Mitsubishi	Triton V6 3.0 / GL 3.0 2.4L	1996-on	NX1105WC	S80D26R	
Mitsubishi	Verada	2003-on	55D23RWC	S55D23R	S70D23R
Mitsubishi	Verada V6	1990-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Mitsubishi	VRX	2000-2003	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
NIKI					
Niki	All Models	1989-1994	55457WC	S56220	
NISSAN					
Nissan	1600 / 180B / 200B	1967-1981	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	180SX	1988-1997		S55B24L	
Nissan	180SX (Modified for intercooler)	1988-1997	NS40ZLWC	S40B20L	
Nissan	200SX S14	1994-1999	NX1105WC	S80D26R	
Nissan	200SX S14 (Import/ intercooler mod)	1994-1999	NS40ZLWC	S40B20L	
Nissan	200SX S15	2000-2002		S55B24R	
Nissan	200SX S15 (Import/ intercooler mod)	1999-2003	NS40ZLWC	S40B20L	
Nissan	240 / 260 / 280 / 300C	1967-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	300ZX Fairlady	1984-on	NX1105WC	S80D26R	
Nissan	350Z Fairlady	2002-on	55D23RWC	S55D23R	S70D23R
Nissan	370Z	2008-on	55D23LWC	S55D23L	S70D23L
Nissan	720 Diesel	1980-1985	NX1207WC	S95D31RHD	
Nissan	720 Petrol	1980-1985	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	Bluebird / Stanza	1981-1986	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	Bluebird SSS	1994-on	55D23LWC	S55D23L	S70D23L
Nissan	Bluebird V6 SGX Turbo	1986-on	NX1105WC	S80D26R	
Nissan	Dualis Ti 4WD	2007-on		S56030	
Nissan	E20	1974-1980	NX1105WC	S80D26R	
Nissan	EXA	1983-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Nissan	EXA Turbo	1983-on	22F66WC	22F530SMF	22F600SMF 22F660SMF
Nissan	Fairlady 2000 / Z3000 / ZX3000	1989-2000	22F66WC	22F530SMF	22F600SMF 22F660SMF
Nissan	Fairlady Z2800	1978-1983	NX1105WC	S80D26R	
Nissan	Gazelle	1983-1988	NS40ZLSWC	S40B20LS	
Nissan	Skyline GT-R R32	1991-1994	NS40ZLWC	S40B20L	
Nissan	Skyline GT-R R33	1994-1998		S55B24R	
Nissan	Skyline GT-R R34	1998-2004		S55B24R	
Nissan	GT-R R35	2007-on		S55B24R	
Nissan	Infiniti	1992-1997	55D23LWC	S55D23L	S70D23L
Nissan	Maxima	1990-1995	22F66WC	22F530SMF	22F600SMF 22F660SMF
Nissan	Maxima	1995-1999	NX1105LWC	S80D26L	
Nissan	Maxima A33 V6 / Touring 30s / ST V6	1996-on	55D23LWC	S55D23L	S70D23L
Nissan	Micra	1995-1996	NS40ZLWC	S40B20L	
Nissan	Micra	1996-on		S55B24LS	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Nissan	Murano	2005-on	55D23LWC	S55D23L	S70D23L
Nissan	Navara Diesel	1985-2005	NX1207WC	S95D31RHD	
Nissan	Navara Diesel	2005-2008		S57220	
Nissan	Navara Diesel STR22	2009		S57220	
Nissan	Navara D22 * Requires 2 x Opposing Terminal Batteries	2010-on	1 X NX1105WC 1 X NX1105LWC	1 X S80D26R 1 X S80D26L	
Nissan	Navara D40 * Spain Build	2010-on	NX1105LWC	S80D26L	
Nissan	Navara Petrol	1986-1996	55D23RWC	S55D23R	S70D23R
Nissan	Navara Petrol	1996-2002	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	Navara Petrol	2003-on	55D23RWC	S55D23R	S70D23R
Nissan	Nomad	1987-1993	NS40ZLSWC	S40B20LS	
Nissan	NX Coupe	1991-1996	NS40ZLWC	S40B20L	
Nissan	Pathfinder	1986-2005	55D23RWC	S55D23R	S70D23R
Nissan	Pathfinder	2005-2010	56318WC	S56318	
Nissan	Pathfinder	2011-on	56638WC	S56638	
Nissan	Patrol Diesel	1974-on	NX1207LWC	S95D31LHD	
Nissan	Patrol Petrol	1974-2002	NX1207WC	S95D31RHD	
Nissan	Patrol 4.2L	2003-on	NX1207LWC	S95D31LHD	
Nissan	Patrol ST V6	2003-on	55D23RWC	S55D23R	S70D23R
Nissan	Pintara	1986-1989	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	Prairie	1983-1985	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	Pulsar	1981-1994	NS40ZLSWC	S40B20LS	
Nissan	Pulsar Hatchback	2002-2006	55457WC	S56220	
Nissan	Pulsar N15	1995-2000	NS40ZLWC	S40B20L	
Nissan	Pulsar N16	2000-on	NS40ZLWC	S40B20L	
Nissan	Pulsar N16 Euro	2000-on	55457WC	S56220	
Nissan	Pulsar SSS 5Door	1998-on	55D23LWC	S55D23L	S70D23L
Nissan	Serena	1992-1994	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	Serena Wagon	1993-on	NX1105WC	S80D26R	
Nissan	Silvia S13 Import	1988-1994	NS40ZLWC	S40B20L	
Nissan	Skyline	1978-1990	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	Skyline R32	1990-1993	NS40ZLWC	S40B20L	
Nissan	Skyline R33	1993-1998		S55B24R	
Nissan	Skyline R34 / GTT / GTS /GTR Import	1999-2007	NS40ZLWC	S40B20L	
Nissan	Skyline R35 GTR	2008-on		S55B24L	
Nissan	Stanza	1978-1984	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	SX V6 3Ltr	1994-on	55D23LWC	S55D23L	S70D23L
Nissan	Terrano II Diesel	1996-on	NX1207WC	S95D31RHD	
Nissan	Terrano II Petrol	1996-on	55D23RWC	S55D23R	S70D23R
Nissan	Tiida	2006-on		S55B24L	
Nissan	Urvan Diesel	1981-on	NX1207LWC	S95D31LHD	
Nissan	Urvan Petrol	1974-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	Vanette	1981-1983	NS40ZLSWC	S40B20LS	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Nissan	Vector	1988-1993	NS40ZLSWC	S40B20LS	
Nissan	Vector	1986-1988	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Nissan	W40 Civilian Bus	1985-on	NX1105WC	S80D26R	
Nissan	X-Trail ST / Ti / TiL	2001-2010	22F66WC	22F530SMF	22F600SMF 22F660SMF
Nissan	X-Trail ST-X / XT-X 4x4 Wagon	2002-2010	55D23LWC	S55D23L	S70D23L
Nissan	X-Trail	2011-on	NX1105LWC	S80D26L	
Nissan	Y61 Turbo Wagon Diesel	2000-2002	NX1207LWC	S95D31LHD	
PEUGEOT					
Peugeot	106	1992-1998		S55066	
Peugeot	205/206	1987-2001	55457WC	S56220	
Peugeot	206 Petrol & Diesel	2001-on		S56030	
Peugeot	207	2006-on	55457WC	S56220	
Peugeot	306	1996-1997		S55066	
Peugeot	306 All Models	1998-2000	55457WC	S56220	
Peugeot	307 All Models	1997-on	55457WC	S56220	
Peugeot	308	2008-on	56638WC	S56638	
Peugeot	405	1989-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Peugeot	405	1995-1996	55457WC	S56220	
Peugeot	405	1996-on		S55066	
Peugeot	406 Petrol	1996-on	55457WC	S56220	
Peugeot	406 Diesel	1996-on	56318WC	S56318	
Peugeot	407	2005-on	55457WC	S56220	
Peugeot	407 Diesel	2008-2009	56318WC	S56318	
Peugeot	407 Diesel	2010-on	NX1207WC	S95D31RHD	
Peugeot	407 HDI v6	2005-on	56638WC	S56638	
Peugeot	4007	2007-on	56318WC	S56318	
Peugeot	504 / 505 Petrol	1975-1976	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Peugeot	504 GLD / 505 Diesel Turbo	1979-1989	NX1207WC	S95D31RHD	
Peugeot	604/605 GL	1978-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Peugeot	607	2001-on	56318WC	S56318	
Peugeot	Expert Van Diesel	2007-on	56318WC	S56318	
Peugeot	Partner	2008-on	56318WC	S56318	
Peugeot	Signature Range	1995-1996	55457WC	S56220	
PORSCHE					
Porsche	924	1977-on	55457WC	S56220	
Porsche	968	1992-1995	55457WC	S56220	
Porsche	911 GT2 GT3	1989-on	58515WC	S58515	
Porsche	911 Most Models	1969-on	56318WC	S56318	
Porsche	911E	1969-1994		2 X S54316	
Porsche	928 928C 928S	1978-on	58515WC	S58515	
Porsche	928 S4	1987-on	56318WC	S56318	
Porsche	944 All Models	1982-1991	56318WC	S56318	
Porsche	944S	1983-1992	55457WC	S56220	
Porsche	986 Boxster	1997-2000		S58014	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Porsche	Boxster	1997-on	56318WC	S56318	
Porsche	Carrera GT	2004-2006	58515WC	S58515	
Porsche	Cayenne	2003-on	58515WC	S58515	
Porsche	Cayman	2005-on	56318WC	S56318	
Porsche	Panamera	2007-on		S58014	
PROTON					
Proton	Gen 2	2001-on	55458WC	S55458	
Proton	Jumbuck	2008-on	55D23LWC	S55D23L	S70D23L
Proton	Persona	1993-1995	55D23LWC	S55D23L	S70D23L
Proton	Persona	2007-on	55458WC	S55458	
Proton	S16	2011-on		S55B24RS	
Proton	Saga	1987-1994	NS40ZLSWC	S40B20LS	
Proton	Satria	1996-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Proton	Satria Neo	2006-on	55D23RWC	S55D23R	S70D23R
Proton	Savvy	2007-on		S55B24LS	
Proton	Waja	2000-on	55D23RWC	S55D23R	S70D23R
Proton	Wira	1995-1996	55D23RWC	S55D23R	S70D23R
RANGE ROVER					
Range Rover	Range Rover 4.0L/4.6L	1996-on		S31901MF	
Range Rover	Range Rover 75 Series	2000-2003	56318WC	S56318	
Range Rover	Range Rover Petrol	1974-1983	NX1207WC	S95D31RHD	
Range Rover	Range Rover Petrol	1984-1995	NX1105WC	S80D26R	
Range Rover	Range Rover Diesel	1990-1993	NX1207WC	S95D31RHD	
Range Rover	Range Rover Diesel	1996-1998	NX1105WC	S80D26R	
Range Rover	Range Rover Diesel	2007-on	58515WC	S58515	
Range Rover	Range Rover HSE	2003-on	58827WC	S58827	S60038
Range Rover	Range Rover Sport	2011-on	58827WC	S58827	S60038
Range Rover	Range Rover Vogue	2011-on	58515WC	S58515	
RENAULT					
Renault	19	1996-on		S55066	
Renault	19	1982-1994	55457WC	S56220	
Renault	20TS	1979-1984	22F66WC	22F530SMF	22F600SMF 22F660SMF
Renault	25GTV	1985-1991	55457WC	S56220	
Renault	Alpine	1986-1991	55457WC	S56220	
Renault	Clio II	1998-2001		S55066	
Renault	Clio II	2001-2006	55457WC	S56220	
Renault	Clio III	2006-on	55457WC	S56220	
Renault	Fuego GTX	1982-1987	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Renault	Kangoo / Trafic	1994-on	56318WC	S56318	
Renault	Koleos	2005-on	NX1105LWC	S80D26L	
Renault	Laguna 2.2 dci Diesel / Laguna II V6	2005-on	56318WC	S56318	
Renault	Laguna / Laguna II V6	1994-2004	56318WC	S56318	
Renault	Laguna III Diesel	2005-on		S59542	
Renault	Laguna III Petrol	2005-on	56638WC	S56638	
Renault	Laguna Estate	2010-on	55457WC	S56220	
Renault	Latitude V6	2011-on	58515WC	S58515	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Renault	Master Van	2005-on	58515WC	S58515	
Renault	Megane Scenic	1998-2000	55457WC	S56220	
Renault	Megane Sport	2001-2005	55457WC	S56220	
Renault	Megane Coupe / Manual	2005-on		S55066	
Renault	Megane 11 Auto	2005-on	56318WC	S56318	
Renault	Megane Cabrio / Sport	2005-on	55457WC	S56220	
Renault	Megane RS 175 Diesel	2005-on	56638WC	S56638	
Renault	R21	1986-1994	22F66WC	22F530SMF	22F600SMF 22F660SMF
Renault	R25	1986-1992	55457WC	S56220	
Renault	R25 GTX	1982-1987	22F66WC	22F530SMF	22F600SMF 22F660SMF
Renault	RS250 Sport	2011-on	56318WC	S56318	
Renault	Scenic	2001-2004	55457WC	S56220	
Renault	Scenic Auto	2005-on	56318WC	S56318	
Renault	Scenic Manual	2005-on		S55066	
ROLLS ROYCE					
Rolls Royce	All Models	1955-1986	NX1207WC	S95D31RHD	
Rolls Royce	All Models	1986-on	NX1105WC	S80D26R	
Rolls Royce	Phantom	2008-on	NX1207WC	S95D31RHD	
ROVER					
Rover	75	1999-2005	56318WC	S56318	
Rover	200	1997-on		S55066	
Rover	400	1995-on	58515WC	S58515	
Rover	110 / 90	1984-1998	22F66WC	22F530SMF	22F600SMF 22F660SMF
Rover	114 SL	1990-1991		S55066	
Rover	200 SLI / 214 SLI / 216 SLI	1990-1994		S55066	
Rover	216 Series	1990-1998		S55066	
Rover	2600 / 3500	1977-1986	56318WC	S56318	
Rover	416i	1987-1989	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Rover	418 GSD / 420 GSD	1993-on		S55066	
Rover	600 / 620 SLI	1996-on	58515WC	S58515	
Rover	820 SL / 820 SE	1988-1992	55457WC	S56220	
Rover	Cabriolet	1993-1997	55457WC	S56220	
SAAB					
Saab	All Early Models	1984-1992	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Saab	9-3 all models	1993-2002	55457WC	S56220	
Saab	9-3 all models	2003-on	56638WC	S56638	
Saab	9-5 all models	1998-2009	56638WC	S56638	
SEAT					
Seat	Cordoba	1993-2002	56318WC	S56318	
Seat	Cordoba Diesel	1994-on	55457WC	S56220	
Seat	Cordoba Petrol	1994-on	55457WC	S56220	
Seat	Ibiza	1993-1999	56318WC	S56318	
Seat	Toledo Diesel	1991-1999	56318WC	S56318	
Seat	Toledo Petrol	1991-1999	55457WC	S56220	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
SKODA					
Skoda	120L	1976-1990	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Skoda	Felicia	1995-1998		S55066	
Skoda	Octavia	2004-on	56638WC	S56638	
Skoda	Octavia Combi	2000-on	56318WC	S56318	
Skoda	Octavia Tdi	2007-on	56638WC	S56638	
Skoda	Roomster	2006-on		S56030	
Skoda	Superb	2011-on		S56030	
SSANGYONG					
Ssangyong	290S	2006-on	NX1207WC	S95D31RHD	
Ssangyong	A200S 4WD	2006-on	NX1207WC	S95D31RHD	
Ssangyong	Actyon 4WD Diesel	2006-on	NX1207WC	S95D31RHD	
Ssangyong	Chairman	2003-2008	58827WC	S58827	S60038
Ssangyong	Korando 4WD Petrol	1998-on	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Ssangyong	Korando 4WD Diesel	2003-on	NX1207WC	S95D31RHD	
Ssangyong	Kyron	2006-on	NX1207WC	S95D31RHD	
Ssangyong	Musso	1996-2007	NX1207WC	S95D31RHD	
Ssangyong	Rexton	2006-on	NX1207WC	S95D31RHD	
Ssangyong	Stavic	2006-on	NX1207WC	S95D31RHD	
SUBARU					
Subaru	1800 Series	1973-1990	NS40ZLWC	S40B20L	
Subaru	Alcyone 2.0L / 2.7L	1987-1995	NX1105WC	S80D26R	
Subaru	Awd Wagon	1983-1990	NS40ZLWC	S40B20L	
Subaru	Brumby - some models use S40B20R	1980-1994	NS40ZLWC	S40B20L	
Subaru	Forester	1997-on	55D23LWC	S55D23L	S70D23L
Subaru	Forester Diesel	2010-on	NX1105LWC	S80D26L	
Subaru	Impreza	1993-2007	NS40ZLWC	S40B20L	
Subaru	Impreza	2007-on	55D23LWC	S55D23L	S70D23L
Subaru	Impreza WRX	1993-on		S55B24L	
Subaru	Impreza WRX Sti	2001-on	55D23LWC	S55D23L	S70D23L
Subaru	Legacy	2003-2009	NS40ZLWC	S40B20L	
Subaru	Leone	1983-1995	NS40ZLWC	S40B20L	
Subaru	Liberty	1989-2007	NS40ZLWC	S40B20L	
Subaru	Liberty 2.5L / 3.6L	2008-on	55D23RWC	S55D23R	S70D23R
Subaru	Omega	1986-on	55D23LWC	S55D23L	S70D23L
Subaru	Outback 4WD / LTD	1996-2001	NS40ZLWC	S40B20L	
Subaru	Outback 2.5i / Premium / 3.0	1997-2003		S55B24L	
Subaru	Outback	2003-2004	NS40ZLWC	S40B20L	
Subaru	Outback 2.5i / Premium / 3.0 / 3.6	2004-on	55D23LWC	S55D23L	S70D23L
Subaru	Sherpa	1983-1989	12N243WC	SU1R60	
Subaru	Sherpa	1989-1992	NS40ZLWC	S40B20L	
Subaru	Sports Wagon	1986-1998	NS40ZLWC	S40B20L	
Subaru	SVX	1992-1996	22F66WC	22F530SMF	22F600SMF 22F660SMF
Subaru	Tribeca	2006-2007	55D23LWC	S55D23L	S70D23L
Subaru	Tribeca	2008-2010		S586MF	
Subaru	Tribeca	2011-on		S70D23L	
Subaru	Vortex	1987-1993	NS40ZLWC	S40B20L	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
SUZUKI					
Suzuki	Alto	1983-on	NS40ZLSWC	S40B20LS	
Suzuki	Alto	2010-on		S55B24R	
Suzuki	APV	2004-on	NS40ZLWC	S40B20L	
Suzuki	Baleno / X90 / X91	1995-1996	NS40ZLWC	S40B20L	
Suzuki	Baleno (Wagon & GTX)	1995-on	NS40ZLSWC	S40B20LS	
Suzuki	Baleno GTX / Wagon / GL / Cavaliero / GLX	1996-on		S55B24L	
Suzuki	Carry	1999-on	NS40ZLWC	S40B20L	
Suzuki	Cappuccino	1993-1995	NS40ZLWC	S40B20L	
Suzuki	Cino	1983-on	NS40ZLWC	S40B20L	
Suzuki	Grand Vitara 4 & 6 Cyl	1998-1999	55D23LWC	S55D23L	S70D23L
Suzuki	Grand Vitara	2000-2004	22F66WC	22F530SMF	22F600SMF 22F660SMF
Suzuki	Grand Vitara 4 & 6 Cyl	2005-on	55D23LWC	S55D23L	S70D23L
Suzuki	Hatch	1983-on	NS40ZWC	S40B20R	
Suzuki	Ignis	2001-on	NS40ZLWC	S40B20L	
Suzuki	Jimny	1999-on	NS40ZWC	S40B20R	
Suzuki	Kizashi	2010-on	55D23LWC	S55D23L	S70D23L
Suzuki	Liana	2000-on	NS40ZLWC	S40B20L	
Suzuki	LJ50/LJ80/LJ81/LJ80FWD	1971-1982	NS40ZWC	S40B20R	
Suzuki	Mighty Boy	1983-on	12N243WC	SU1R60	
Suzuki	RT Wagon	1998-on	NS40ZWC	S40B20R	
Suzuki	Sierra	1990-1995	NS40ZLWC	S40B20L	
Suzuki	Swift/Sierra/Swift	1983-2005	NS40ZWC	S40B20R	
Suzuki	Swift	2005-on		S55B24R	
Suzuki	SX4	2006-on		S55B24R	
Suzuki	Vitara	1986-1993	NS40ZWC	S40B20R	
Suzuki	Vitara V6/Grand/Sierra	1998-2005	55D23LWC	S55D23L	S70D23L
Suzuki	XL-7 / XLT	2001-2005	55D23LWC	S55D23L	S70D23L
Suzuki	X90 Targa	2000-on	NS40ZLWC	S40B20L	
TATA					
Tata	Safari Turbo Diesel	2000-on	NX1207WC	S95D31RHD	
TOYOTA					
Toyota	4 Runner 4 Cyl	1984-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Toyota	4 Runner V6	1974-1995	NX1105WC	S80D26R	
Toyota	Aristo Imported	1991-1997	55D23LWC	S55D23L	S70D23L
Toyota	Alteza	1999-on	NS40ZLWC	S40B20L	
Toyota	Aurion	2006-on	55D23LWC	S55D23L	S70D23L
Toyota	Avalon	2000-2005	55D23LWC	S55D23L	S70D23L
Toyota	Avensis	2000	55D23LWC	S55D23L	S70D23L
Toyota	Avensis	2001-2003		S55B24LS	
Toyota	Avensis	2003-on	55D23LWC	S55D23L	S70D23L
Toyota	Camry	1987-on	55D23LWC	S55D23L	S70D23L
Toyota	Camry Hybrid	2010-on	55D23LWC	S55D23L	S70D23L
Toyota	Celica	1985-1986	22F66WC	22F530SMF	22F600SMF 22F660SMF
Toyota	Celica	2000		S55B24LS	
Toyota	Corolla	2000-2002	NS40ZLWC	S40B20L	
Toyota	Corolla	2002-2006	NS40ZSWC	S40B20RS	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Toyota	Corolla	2006-on	NS40ZLSWC	S40B20LS	
Toyota	Corolla Levin	1999-on	NS40ZLWC	S40B20L	
Toyota	Corona	1985-1992	NS40ZLSWC	S40B20LS	
Toyota	Corona	1993-1996	NX1105LWC	S80D26L	
Toyota	Cressida	1988-1996	55D23LWC	S55D23L	S70D23L
Toyota	Cresta	1990-2001	55D23LWC	S55D23L	S70D23L
Toyota	Crown	1971-1988	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Toyota	Crown- Royal	1983-1988	22F66WC	22F530SMF	22F600SMF 22F660SMF
Toyota	Echo	1999-2003		S55B24RS	
Toyota	FJ Cruiser	2011-on	NX1105LWC	S80D26L	
Toyota	Hiace Commuter	1993-on	NX1207WC	S95D31RHD	
Toyota	Hiace Diesel	1998-2000	NX1105WC	S80D26R	
Toyota	Hiace Diesel	2000-on	NX1207WC	S95D31RHD	
Toyota	Hiace Petrol	1984-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Toyota	Hiace Petrol	1997-2005		S70D23L	
Toyota	Hiace Petrol	2005-on	55D23RWC	S55D23R	S70D23R
Toyota	Hilux LN51/56/60/61/65	1984-1998	55D23RWC	S55D23R	S70D23R
Toyota	Hilux RN50/55/58/61/67	1984-1998	55D23RWC	S55D23R	S70D23R
Toyota	Hilux Diesel	1997-2005	NX1207WC	S95D31RHD	
Toyota	Hilux Diesel	2005-on	NX1207LWC	S95D31LHD	
Toyota	Hilux 4Cyl Petrol	2007-on	55D23LWC	S55D23L	S70D23L
Toyota	Hilux V6 Petrol	2008-on	NX1207WC	S95D31RHD	
Toyota	Hilux Surf	1989-2005	NX1105WC	S80D26R	
Toyota	Hilux Surf Diesel (Requires 2 batteries with opposing terminals)	2000-on	NX1105WC / NX1105LWC	S80D26R / S80D26L	
Toyota	Kluger	2003-on	NX1105LWC	S80D26L	
Toyota	Landcruiser Petrol & Diesel	1974-1990	NX1207WC	S95D31RHD	
Toyota	Landcruiser 80 Series FJ80 3F Petrol	1990-1992	NX1207WC	S95D31RHD	
Toyota	Landcruiser 80 Series FZJ80	1992-on	NX1207WC	S95D31RHD	
Toyota	Landcruiser 100 Series Petrol & Diesel	1998-on	NX1207LWC	S95D31LHD	
Toyota	Landcruiser FZJ -105R	1999-on	NX1105LWC	S80D26L	
Toyota	Landcruiser HDJ-80R Turbo Diesel	1991-on	NX1207WC	S95D31RHD	
Toyota	Landcruiser Cab Chasis	1990-2000	NX1207WC	S95D31RHD	
Toyota	Landcruiser HJZ75 Cab Chasis	2000-on	NX1105WC	S80D26R	
Toyota	Landcruiser HZJ 105 series	2000-on	NX1207WC	S95D31RHD	
Toyota	Landcruiser HDJ-100R Turbo Diesel *Req 2 opp batts	2001-on	1 X NX1207LWC 1 X NX1207WC	1 X S95D31LHD 1 X S95D31RHD	
Toyota	Landcruiser 200 Series Petrol & Diesel (Requires 2 batteries with opposing terminals)	2007-on	NX1105WC / NX1105LWC	S80D26R / S80D26L	
Toyota	Landcruiser Prado Petrol	1996-on		S70D23L	
Toyota	Landcruiser Prado Diesel	2000-2003	NX1207WC	S95D31RHD	
Toyota	Landcruiser Prado Diesel	2003-2010	NX1105LWC	S80D26L	
Toyota	Landcruiser Prado Diesel KDJ150	2011-on	NX1207LWC	S95D31LHD	
Toyota	Lexcen	1989-1997	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Toyota	Liteace	1985-1992	NS40ZLWC	S40B20L	
Toyota	Liteace Diesel	1988-1992	NX1105WC	S80D26R	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Toyota	MR2	1989-1999		S55B24LS	
Toyota	NXR Coupe	1983-on		S55B24L	
Toyota	Paseo	1991-1995	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Toyota	Prius	2000-on	NS40ZLWC	S40B20L	
Toyota	Rav4	1996-2003		S55B24RS	
Toyota	Rav4	2003-2005	55D23RWC	S55D23R	S70D23R
Toyota	Rav4	2005-on	55D23LWC	S55D23L	S70D23L
Toyota	Rukus	2011-on	55D23LWC	S55D23L	S70D23L
Toyota	Soarer All Models	1991-2005		S70D23L	
Toyota	Spacia	1993-2001	NS40ZSWC	S40B20RS	
Toyota	Starlet	1989-1999		S55B24RS	
Toyota	Supra	1988-2002	55D23LWC	S55D23L	S70D23L
Toyota	Tarago	1983-1987	NS40ZLWC	S40B20L	
Toyota	Tarago	1988-2000	55D23LWC	S55D23L	S70D23L
Toyota	Tarago	2000-2003		S55B24LS	
Toyota	Tarago	2003-on	55D23LWC	S55D23L	S70D23L
Toyota	Tarago Diesel	1983-1990	NX1207WC	S95D31RHD	
Toyota	Town Ace	1997-on	NS40ZSWC	S40B20RS	
Toyota	Town Ace SBV	1997-on	NS40ZLWC	S40B20L	
Toyota	Town Ace SBV	1992-1997	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Toyota	Town Ace Petrol	2003-on	NS40ZWC	S40B20R	
Toyota	Ultima	1987-1993	NS40ZLSWC	S40B20LS	
Toyota	Ultima Corolla	2000-on	NS40ZLWC	S40B20L	
Toyota	Vienta	1995-2000	55D23LWC	S55D23L	S70D23L
Toyota	Yaris	2006-On		S55B24LS	
VOLKSWAGEN					
Volkswagen	9C	1999-on	55457WC	S56220	
Volkswagen	Amarok	2011-on	58515WC	S58515	
Volkswagen	Beetle Diesel	2001-on	56318WC	S56318	
Volkswagen	Beetle Petrol	2001-on	55457WC	S56220	
Volkswagen	Bora	1998-2005	55457WC	S56220	
Volkswagen	Caddy	2004-on	56318WC	S56318	
Volkswagen	California	2003-2009	56318WC	S56318	
Volkswagen	Caravelle	1982-1997	55457WC	S56220	
Volkswagen	Caravelle	1998-on	56318WC	S56318	
Volkswagen	Crafter 35	2006-on		S57220	
Volkswagen	Crafter 50	2006-on		S57220	
Volkswagen	EOS	2006-on	56318WC	S56318	
Volkswagen	Golf all models	1990-2002	55457WC	S56220	
Volkswagen	Golf V	2003-on		S58014	
Volkswagen	Golf GT	2007-on		S57220	
Volkswagen	Jetta V	2006-on	56318WC	S56318	
Volkswagen	LT 35	2004-on	58515WC	S58515	
Volkswagen	Kombi	1974-1987	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Volkswagen	Multivan	2003-on	58515WC	S58515	
Volkswagen	Passat	1995-2000	55457WC	S56220	

MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Volkswagen	Passat	2000-2005	56638WC	S56638	
Volkswagen	Passat 1.8T	2000-on	56318WC	S56318	
Volkswagen	Passat Diesel	1975-1983	56318WC	S56318	
Volkswagen	Passat FSI Turbo	2006-on	56318WC	S56318	
Volkswagen	Passat GL	1997-on	55457WC	S56220	
Volkswagen	Passat Petrol	1974-1978	55457WC	S56220	
Volkswagen	Passat Turbo 3B Series	1998-2001	55457WC	S56220	
Volkswagen	Passat V6	2001-2004		S58014	
Volkswagen	Polo Petrol	2001-on	55457WC	S56220	
Volkswagen	Polo 1.9Tdi Diesel	2005-on		S56030	
Volkswagen	Tiguan	2007-on		S56030	
Volkswagen	Touareg	2002-2008	58515WC	S58515	
Volkswagen	Transporter	1985-2006	56318WC	S56318	
Volkswagen	Transporter	2006-on		S59542	
Volkswagen	VR6	1999-on	55457WC	S56220	
VOLVO					
Volvo	740	1984-1992	55457WC	S56220	
Volvo	760	1986-1990	55457WC	S56220	
Volvo	850	1991-1997	55457WC	S56220	
Volvo	240 / 242 / 244 / 245	1975-1986	NX1105WC	S80D26R	
Volvo	240 /242 / 244 / 245	1986-1991	56318WC	S56318	
Volvo	240 Series	1985-1993	22FR66WC	22FR530SMF	22FR600SMF 22FR660SMF
Volvo	260 Series	1975-1986	NX1105WC	S80D26R	
Volvo	360 Series	1984-1987	55457WC	S56220	
Volvo	440 Series	1993-1995	55457WC	S56220	
Volvo	740 Series	1985-1991	56318WC	S56318	
Volvo	760 Series	1983-2001	56318WC	S56318	
Volvo	800 Lellenia	1975-1986	NX1105WC	S80D26R	
Volvo	850 Series	1992-1997	56318WC	S56318	
Volvo	940 Series	1991-1996	56318WC	S56318	
Volvo	960 Series	1991-1995	56318WC	S56318	
Volvo	C30	2006-on	55457WC	S56220	
Volvo	C70 / C70II	1997-on	56318WC	S56318	
Volvo	C70 Coupe	1998-2004	55457WC	S56220	
Volvo	C70 Coupe	2006-on		S58014	
Volvo	Crosss Country Strn Wagon	2000-on	56318WC	S56318	
Volvo	Frontera Sport UT	1993-1995	55457WC	S56220	
Volvo	S40 / S60	1995-on	56318WC	S56318	
Volvo	S70	1997-2000	55457WC	S56220	
Volvo	S80	1999-2006	56318WC	S56318	
Volvo	S80	2006-on		S58014	
Volvo	S90	1997-1998	56318WC	S56318	
Volvo	Santa Fe CRDI	1984-1987	55457WC	S56220	
Volvo	V40	1996-2004	55457WC	S56220	
Volvo	V50	2004-on		S58014	
Volvo	V60	2011-on	55457WC	S56220	
Volvo	V70 / V90	1997-on	56318WC	S56318	



MAKE	MODEL	YEAR	LMA	SMF	SMF HEAVY DUTY
Volvo	XC60	2011-on		S56030	
Volvo	XC70	1999-2002	55457WC	S56220	
Volvo	XC70	2003-on	56318WC	S56318	
Volvo	XC90	2003-on	56318WC	S56318	
Volvo	XC90 Diesel	2003-on	58515WC	S58515	
Volvo	XC90 V8	2006-on	55457WC	S56220	

Sealed Maintenance Free

battery specifications (12 volt)

ACDELCO PART NO.	TYPE	AH	RC (MIN)	CCA (@ -18 C)	DIMENSION (MM)			CELL LAYOUT	TERMINAL SHAPE	BHD
		(20HR)			L	W	TH			
S40B20LBH	JIS	35	52	330	187	127	226	A	SM	B1
S40B20L	JIS	35	52	330	187	127	226	A	SM	
S40B20R	JIS	35	52	330	187	127	226	B	SM	
S40B20LS	JIS	35	52	330	187	127	226	A	STD	
S40B20RS	JIS	35	52	330	187	127	226	B	STD	
S55B24L	JIS	45	80	430	238	129	225	A	SM	
S55B24R	JIS	45	80	430	238	129	225	B	SM	
S55B24LS	JIS	45	80	430	238	129	225	A	STD	
S55B24RS	JIS	45	80	430	238	129	225	B	STD	
S50D20L	JIS	50	85	400	202	173	225	A	STD	
S50D20R	JIS	50	85	400	202	173	225	B	STD	
S85B60R	JIS	55	84	550	231	174	206	B	STD	B1
S85B60L	JIS	55	84	550	231	174	206	A	STD	B1
S55D23R	JIS	60	100	500	232	173	225	B	STD	
S55D23L	JIS	60	100	500	232	173	225	A	STD	
S70D23R	JIS	65	110	580	232	173	225	B	STD	
S70D23L	JIS	65	110	580	232	173	225	A	STD	
S80D26L	JIS	70	130	600	260	176	225	A	STD	B1
S80D26R	JIS	70	130	600	260	176	225	B	STD	B1
S75D31L	JIS	75	150	660	304	172	225	A	STD	
S75D31R	JIS	75	150	660	304	172	225	B	STD	
S95D31LHD	JIS	90	160	730	304	172	225	A	STD	
S95D31RHD	JIS	90	160	730	304	172	225	B	STD	
S1111H	JIS	100	182	830	330	173	240	G	STD	
S1110H	JIS	100	182	830	330	173	240	G	Stud	
S1150	JIS	100	180	780	330	173	240	G	Stud	
S1151	JIS	100	180	780	330	173	240	G	STD	
S755MF	BCI	54	84	550	230	179	185	F	Side	B1
S756MF	BCI	58	97	615	230	179	185	F	Side	B1
S586MF	BCI	60	100	530	236	183	177	B	STD	B1
S58R6MF	BCI	60	100	530	236	183	177	A	STD	B1
S786MF	BCI	72	120	760	260	179	185	F	Side	B1
S78DT6MF	BCI	72	120	760	260	179	205	B	DT	B1
S656MF	BCI	72	125	650	292	189	191	B	STD	B1
S657MF	BCI	80	130	730	292	189	191	B	STD	B1
S31900MF	BCI	112	200	930	330	173	240	G	Stud	
S31901MF	BCI	112	200	930	330	173	240	G	STD	
22F530SMFDF	22F Series	54	95	530	240	174	211	A	DF	B9
22F530SMF	22F Series	54	95	530	240	174	205	A	STD	B9
22FR530SMF	22F Series	54	95	530	240	174	205	B	STD	B9
AU22530SMFDF	22F Series	54	95	530	231	169	211	A	DF	



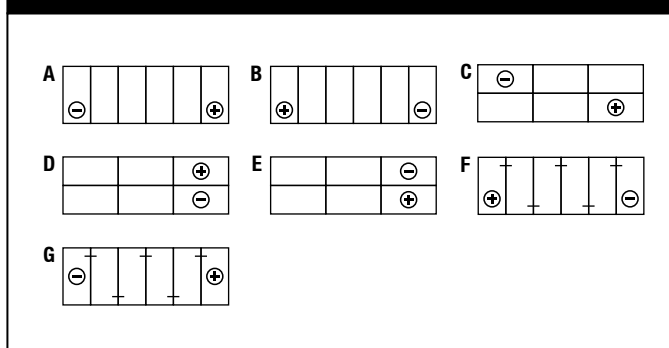
ACDELCO PART NO.	TYPE	AH	RC (MIN)	CCA (@ -18 C)	DIMENSION (MM)			CELL LAYOUT	TERMINAL SHAPE	BHD
		(20HR)			L	W	TH			
AU22R530SMF	22F Series	54	95	530	231	169	205	B	STD	
22F600SMFDF	22F Series	58	95	600	240	174	211	A	DF	B9
22F600SMF	22F Series	58	95	600	240	174	205	A	STD	B9
22FR600SMF	22F Series	58	95	600	240	174	205	B	STD	B9
AU22600SMFDF	22F Series	58	95	600	231	169	211	A	DF	
AU22R600SMF	22F Series	58	95	600	231	169	205	B	STD	
22F660SMFDF	22F Series	62	100	660	240	174	211	A	DF	B9
22F660SMF	22F Series	62	100	660	240	174	205	A	STD	B9
22FR660SMF	22F Series	62	100	660	240	174	205	B	STD	B9
AU22660SMFDF	22F Series	62	100	660	231	169	211	A	DF	
AU22R660SMF	22F Series	62	100	660	231	169	205	B	STD	
S54316	DIN	43	70	380	211	176	175	A	STD	B3
S54317	DIN	43	70	380	211	176	175	A	FORD	B3
S54459	DIN	44	71	370	208	176	190	A	STD	B3
S54464	DIN	44	71	370	208	176	190	B	STD	B3
S54519	DIN	45	80	430	245	175	175	A	STD	B4
S55066	DIN	50	86	415	208	175	190	A	STD	B3
S55457	DIN	54	90	500	245	175	175	A	STD	B3
S55458	DIN	54	90	500	245	175	175	B	STD	B3
S55459	DIN	54	90	500	245	175	175	A	FORD	B3
S55523	DIN	55	94	500	245	175	190	A	FORD	B3
S56030	DIN	60	100	520	245	175	190	A	STD	B3
S56220	DIN	62	100	530	245	175	175	A	STD	B3
S56318	DIN	63	105	580	278	175	175	A	STD	B3/B4
S56323	DIN	63	110	580	277	175	175	A	FORD	B3
S56330	DIN	63	110	580	278	175	175	A	STD	B3
S56640	DIN	66	110	580	278	175	190	B	STD	B3
S56638	DIN	66	110	580	278	175	190	A	STD	B3
S56820	DIN	68	115	620	278	175	175	A	STD	B3
S56821	DIN	68	115	620	278	175	175	A	FORD	B3
S57220	DIN	72	120	640	278	175	190	A	STD	B3
S58014	DIN	80	135	700	315	175	175	A	STD	B3
S58515	DIN	85	158	780	353	176	175	A	STD	B3
S58827	DIN	88	175	770	353	176	190	A	STD	B3
S58828	DIN	88	175	770	353	176	190	B	STD	B3
S59542	DIN	90	160	830	315	175	190	A	STD	B3
S60038	DIN	100	180	820	353	176	190	A	STD	B3
S68032	DIN	180	370	1100	513	222	220	E	STD	B0/B3
SN100	Heavy Duty	100	182	740	410	175	235	B	STD	
SN100L	Heavy Duty	100	182	740	410	175	235	A	STD	
SN120	Heavy Duty	120	230	900	505	183	240	E	STD	
SN120L	Heavy Duty	120	230	900	505	183	240	D	STD	
SN150	Heavy Duty	150	300	1000	508	222	241	E	STD	
SN150L	Heavy Duty	150	300	1000	508	222	241	D	STD	
SN200	Heavy Duty	200	430	1200	523	279	248	E	STD	
SN200L	Heavy Duty	200	430	1200	523	279	248	D	STD	
SPN90	Semi Cycle	90	160	600	304	172	224	B	STD	
SPN120	Semi Cycle	120	230	700	505	183	240	E	STD	

ACDELCO PART NO.	TYPE	AH	RC (MIN)	CCA (@ -18 C)	DIMENSION (MM)			CELL LAYOUT	TERMINAL SHAPE	BHD
		(20HR)			L	W	TH			
SPN150	Semi Cycle	150	300	870	508	222	241	E	STD	
SPN200	Semi Cycle	200	400	1100	523	279	243	E	STD	
M24SMF600	Marine	70	115	600	260	174	225	A	TM	B1
M27SMF730	Marine	90	145	730	304	173	225	A	TM	B1
M31SMF830	Marine	100	180	850	330	173	240	A	TM	
SU160	Lawn Mower	30	45	300	195	130	183	B	LUG	
SU1R60	Lawn Mower	30	45	300	195	130	183	A	LUG	
DCM24SMF	Deep Cycle / Marine	82	130	600	260	174	225	B	TM	B1
DCM24LSMF	Deep Cycle / Marine	82	130	600	260	174	225	A	TM	B1
DCM27SMF	Deep Cycle / Marine	95	160	670	304	173	225	B	TM	B1
DCM27LSMF	Deep Cycle / Marine	95	160	670	304	173	225	A	TM	B1
HCM24SMF	High Cycle / Marine	82	137	600	260	176	225	B	TM	B1
HCM24LSMF	High Cycle / Marine	82	137	600	260	176	225	A	TM	B1
HCM27SMF	High Cycle / Marine	97	162	680	304	173	225	B	TM	B1
HCM27LSMF	High Cycle / Marine	97	162	680	304	173	225	A	TM	B1
HCM31SMF	High Cycle / Marine	110	200	830	330	173	240	B	TM	B1
HCM31LSMF	High Cycle / Marine	110	200	830	330	173	240	A	TM	B1
HC27SMF	High Cycle Heavy Duty	94	170	670	303	173	225	B	STD	
HC31SMF	High Cycle Heavy Duty	110	200	800	330	173	240	B	STD	
HC31SMFS	High Cycle Heavy Duty	110	200	800	330	173	240	B	Stud	

ABBREVIATIONS

B1	2 bottom hold-downs 10.5mm high on long sides
B3	4 bottom hold-downs 10.5mm high on all four sides
B4	2 bottom hold-downs 19mm high on long sides
B9	4 bottom hold-downs 10.5mm high on short sides, 29.0mm high on long sides
B3/B4	B4 BHD available with adaptor on long sides
BN	Bolt nut terminal
DF	Dual fit terminal
SM	Small terminal
STD	Standard terminal
TM	Twin marine

ASSEMBLY LAYOUT

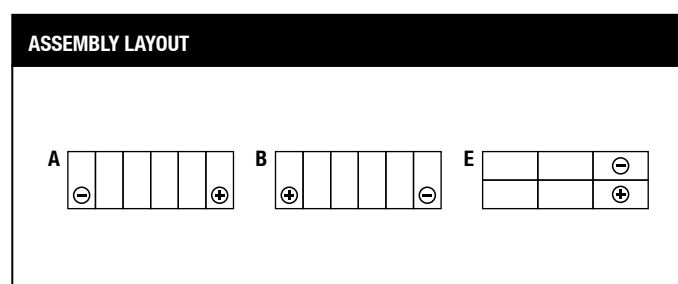




Low Maintenance Accessible battery specifications (12 volt)

ACDELCO PART NO.	TYPE	CAPACITY (20HR)	RC (MIN)	CCA (@ -18 C)	DIMENSION (MM)			CELL LAYOUT	TERMINAL SHAPE	BHD
					L	W	TH			
NS40ZLSWC	JIS	30	44	270	187	127	224	A	STD	
NS40ZLWC	JIS	30	44	270	187	127	224	A	SM	
NS40ZSWC	JIS	30	44	270	187	127	224	B	STD	
NS40ZWC	JIS	30	44	270	187	127	224	B	SM	
55D23LWC	JIS	60	100	500	232	173	225	A	STD	
55D23RWC	JIS	60	100	500	232	173	225	B	STD	
NX1105LWC	JIS	70	115	600	260	170	222	A	STD	
NX1105WC	JIS	70	115	600	260	170	222	B	STD	
NX1207LWC	JIS	75	120	660	303	172	225	A	STD	
NX1207WC	JIS	75	120	660	303	172	225	B	STD	
30HL102WC	JIS	100	180	830	330	173	230	A	STD	
22FR66WC	22F Series	47	78	450	240	174	211	B	STD	B9
22F66WC	22F Series	47	78	450	240	174	211	A	DF	B9
AU2266WC	22F Series	47	78	450	230	174	211	A	DF	
AU22R66WC	22F Series	47	78	450	230	174	211	B	STD	
55457WC	DIN	54	85	440	245	175	175	A	STD	B3
55458WC	DIN	54	85	440	245	175	175	B	STD	B3
56318WC	DIN	63	110	580	280	175	175	A	STD	B3/B4
56330WC	DIN	63	100	520	280	175	175	A	STD	B3
56638WC	DIN	66	110	580	280	175	190	A	STD	B3
58515WC	DIN	85	158	770	353	175	175	A	STD	B3
58827WC	DIN	88	140	700	353	175	190	A	STD	B3
58828WC	DIN	88	140	700	353	175	190	B	STD	B3
60044WC	DIN	100	175	850	353	175	190	A	STD	B3
N100WC	Heavy Duty	100	165	680	408	175	233	B	STD	
N120WC	Heavy Duty	113	219	800	505	183	236	E	STD	
N150WC	Heavy Duty	143	285	1000	508	222	238	E	STD	
N200WC	Heavy Duty	195	410	1100	525	281	243	E	STD	
12N243WC	Lawn Mower	26	38	250	186	126	181	A	BN	
12N244WC	Lawn Mower	26	38	250	186	126	181	B	BN	

ABBREVIATIONS	
B3	4 bottom hold-downs 10.5mm high on all four sides
B4	2 bottom hold-downs 19mm high on long sides
B9	4 bottom hold-downs 10.5mm high on short sides, 29.0mm high on long sides
BN	Bolt nut terminal
DF	Dual fit terminal
SM	Small terminal
STD	Standard terminal





Applications of ACDelco batteries

ACDelco BATTERY RANGE



Cars, Ride on Mowers



Cars



Marine, SUVs, RVs, Tractors



Commercial, Trucks, Buses, Industrial



Marine, Caravans

ACDelco has the following range of batteries available:
/ Sealed Maintenance Free (calcium / calcium)
/ Low Maintenance Accessible (calcium / calcium)

ACDelco Batteries can be used for specific purposes:
/ Starting / Cranking / High Cycle
/ Deep Cycle / Dual Purpose - Starting / Deep Cycle

BATTERY APPLICATIONS

To suit Most Makes Most Models of:



Passenger Cars



Light Commercials



Caravans



Motor Homes



House Boats



Recreational Vehicles



4x4 Vehicles



Ride on Mowers



Trucks



Buses



Marine



Heavy Industrial Applications



Agricultural Harvesting Equipment



Tractors



Earth Moving & Mining Equipment



Imported Vehicles



Available from:

1800 ACDelco
acdelco.com.au

ACDelco