

WELCOME | 欢迎

Car Care Workshop Level I: Basics and Vocabulary

中华友爱 CHINA FRIENDS



CAR I DON'T OWN: MCLAREN



CAR I DO OWN: TOYOTA COROLLA



WINDSHIELD | 挡风玻璃窗



WINDSHIELD WIPER | 雨刮

These go bad in the sun. After a few years they should be replaced. It is very easy.



HOOD | 发动机罩盖

The release for this is near the driver's seat.



HEAD LIGHT | 前灯



TAIL LIGHT | 尾灯



BUMPER | 保险杠



TRUNK | 后备箱



GEAR SHIFT LEVER | 变速杆



PARKING BRAKE | 驻车制动器

In certain situations, this brake lever is VERY IMPORTANT



GLOVE BOX | 儲物箱

手套箱



STEERING WHEEL | 方向盤



INSTRUMENT PANEL | 仪表



SPEEDOMETER | 速度计

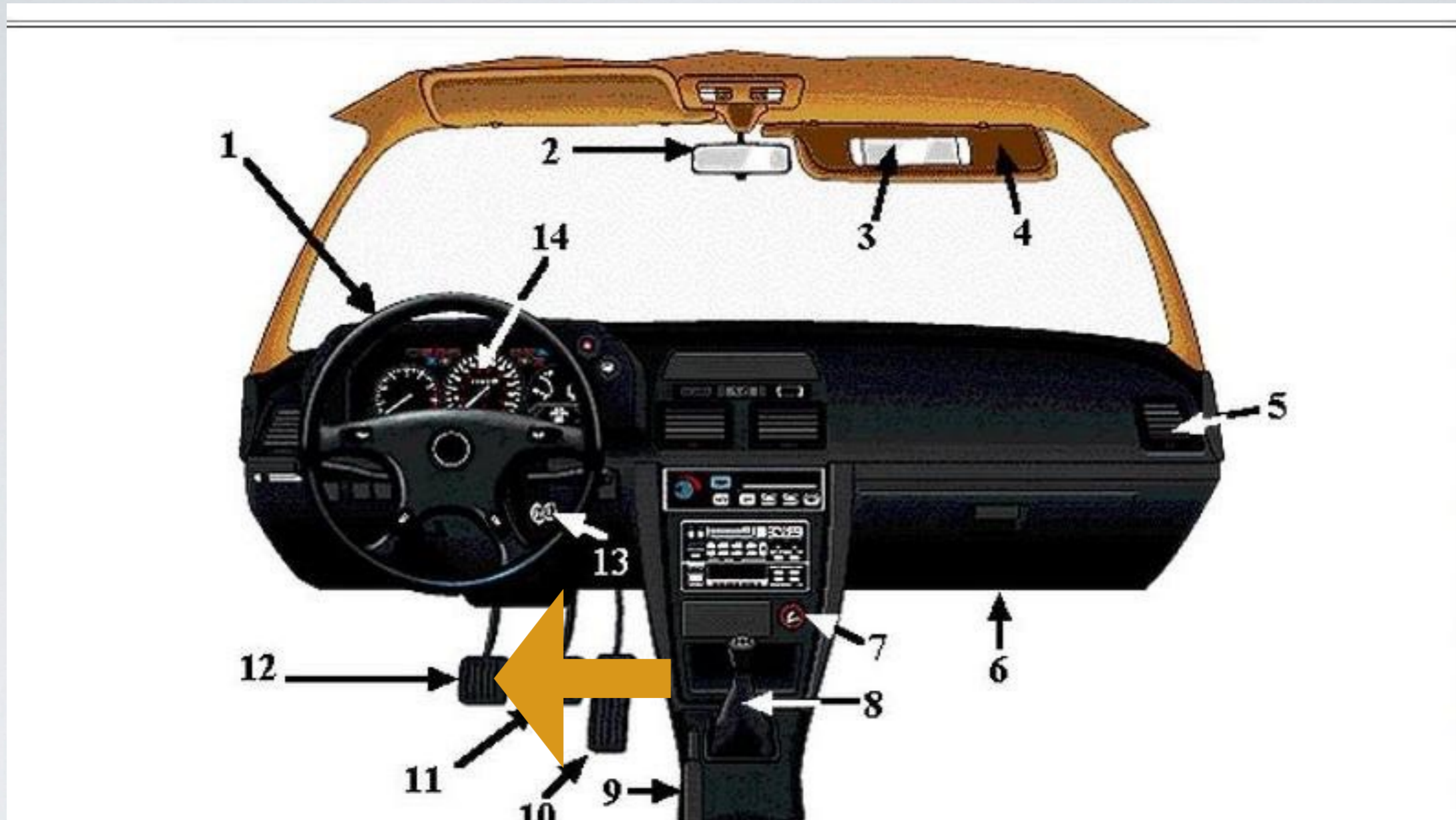


ODOMETER | 里程表



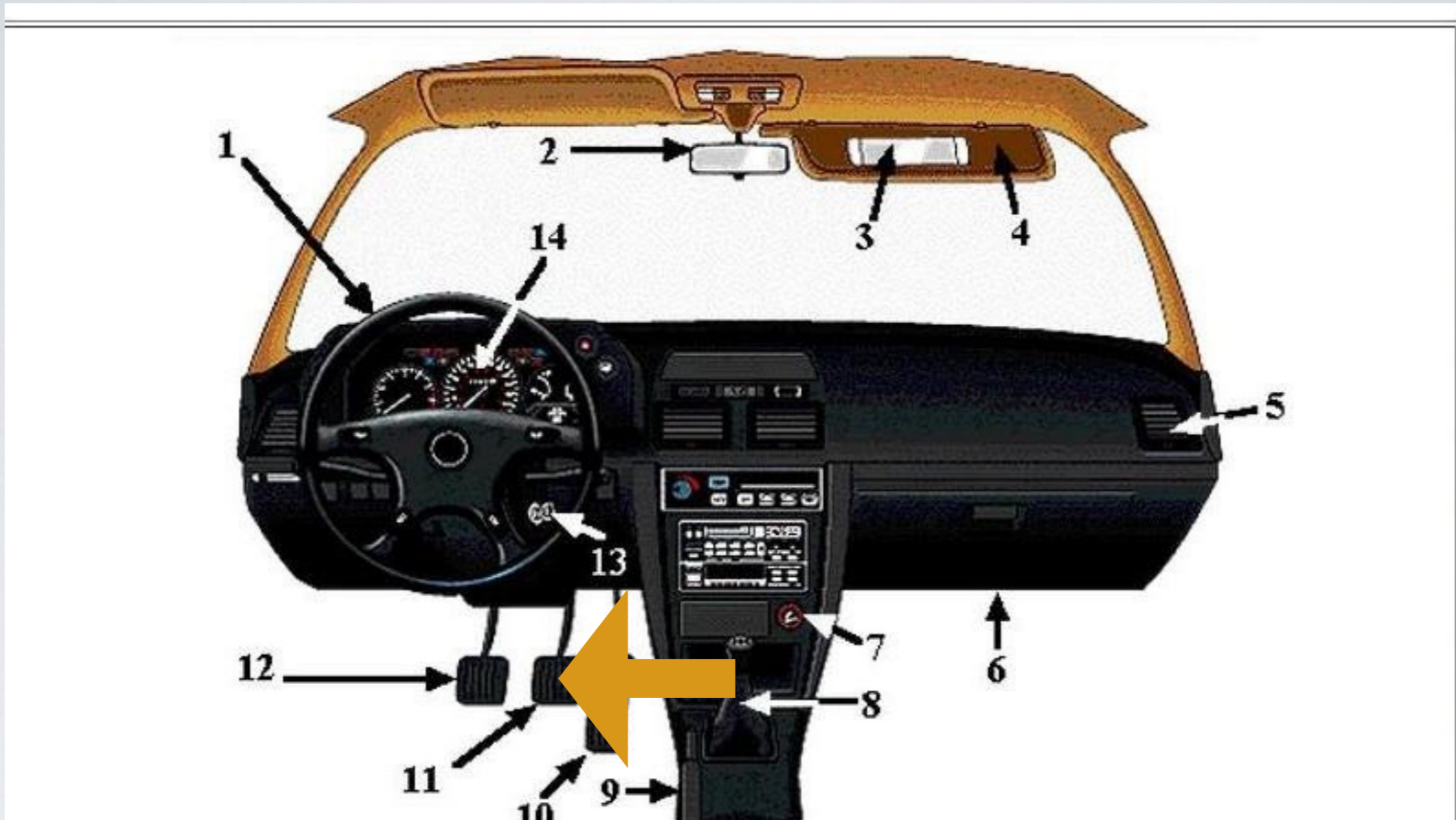
REARVIEW MIRROR | 后视镜

This mirror has a dimmer function that helps at night when another car is right behind you.



CLUTCH PEDAL | 离合踏板

This is only for Manual Transmissions. If you drive an automatic, you won't have one of these.



BRAKE PEDAL | 制动踏板



GAS PEDAL | 油门踏板



TIRE | 轮胎

This includes the tire, the valve stem, the rim, and of course, the treads.



TREAD | 胎面

The tread is important to pay attention to, especially when the weather gets bad. Bad treads can be dangerous.



VALVE STEM | 阀芯

This is where air is put into the tire.



RIM | 轮圈



LUG NUTS | 螺母

Lug nuts are of course important if you have to change a tire.



鼓刹 **DRUM BRAKES**



DISC BRAKES

碟刹

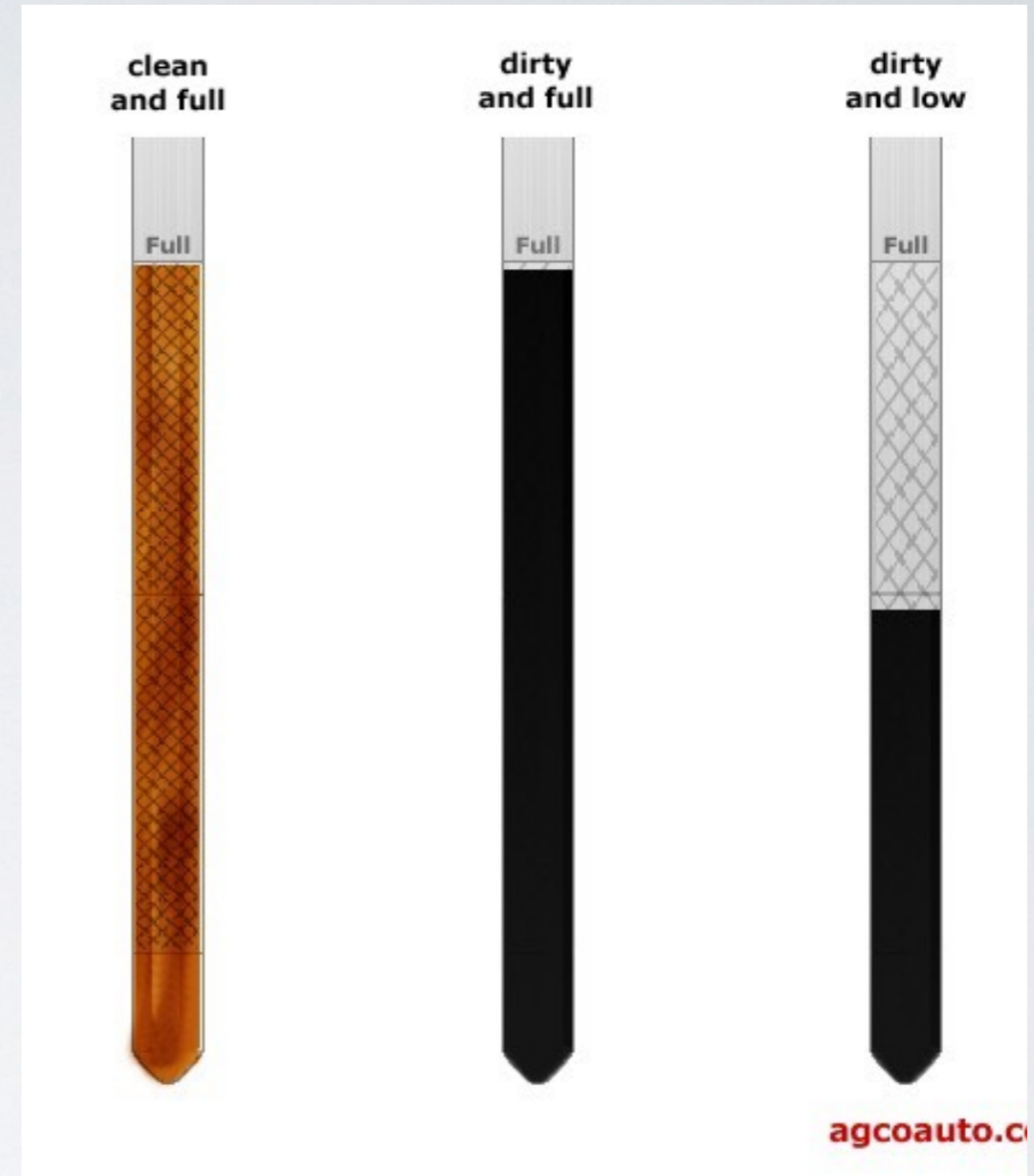
BRAKES | 车闸

Most cars today only use disc brakes.



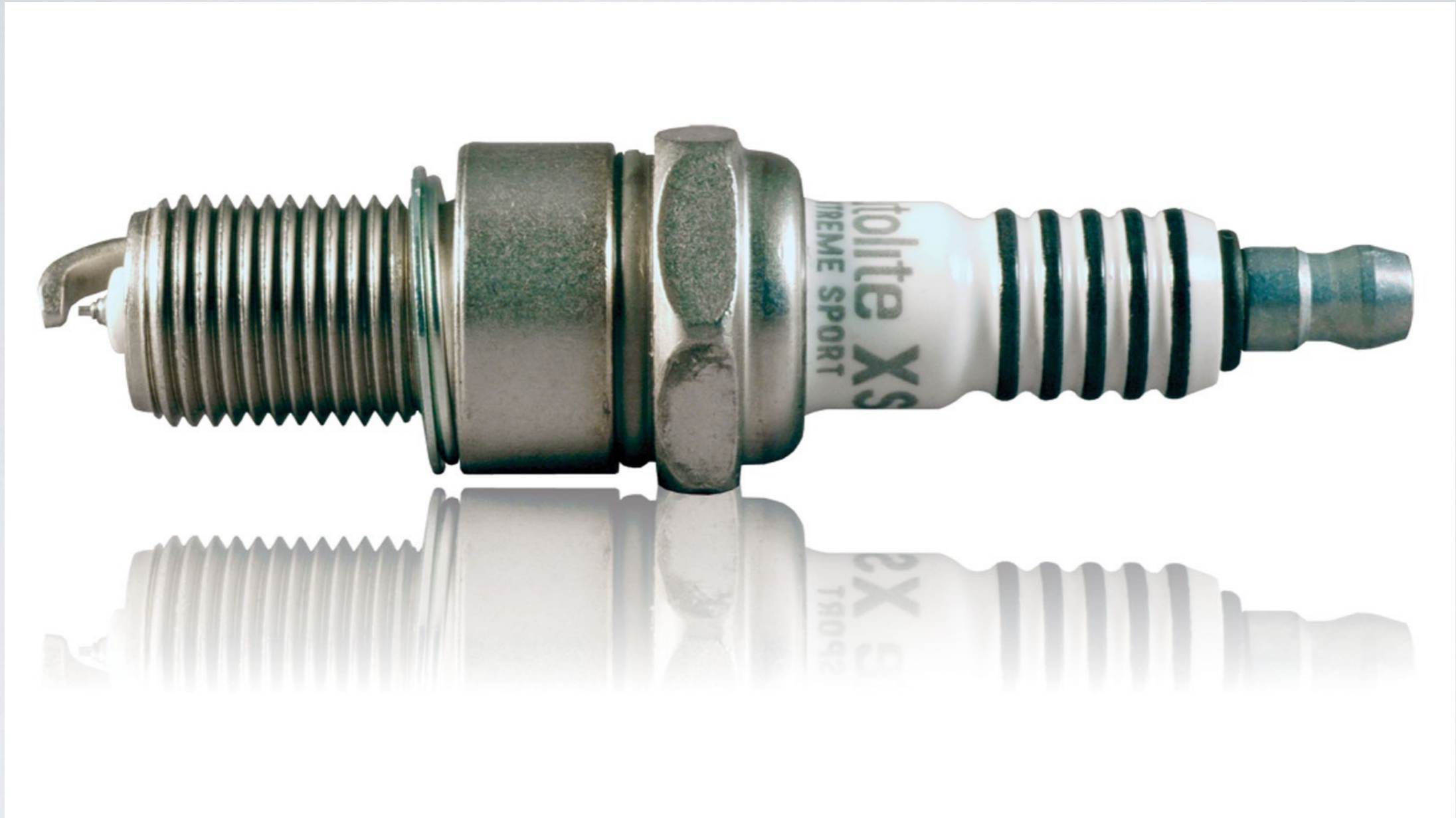
SUSPENSION | 悬挂装置

Suspension consists of shocks or struts. These make your car feel smooth even over rough roads.



OIL DIPSTICK | 机油尺

It is easy to check your oil and to fill the tank if you need to.



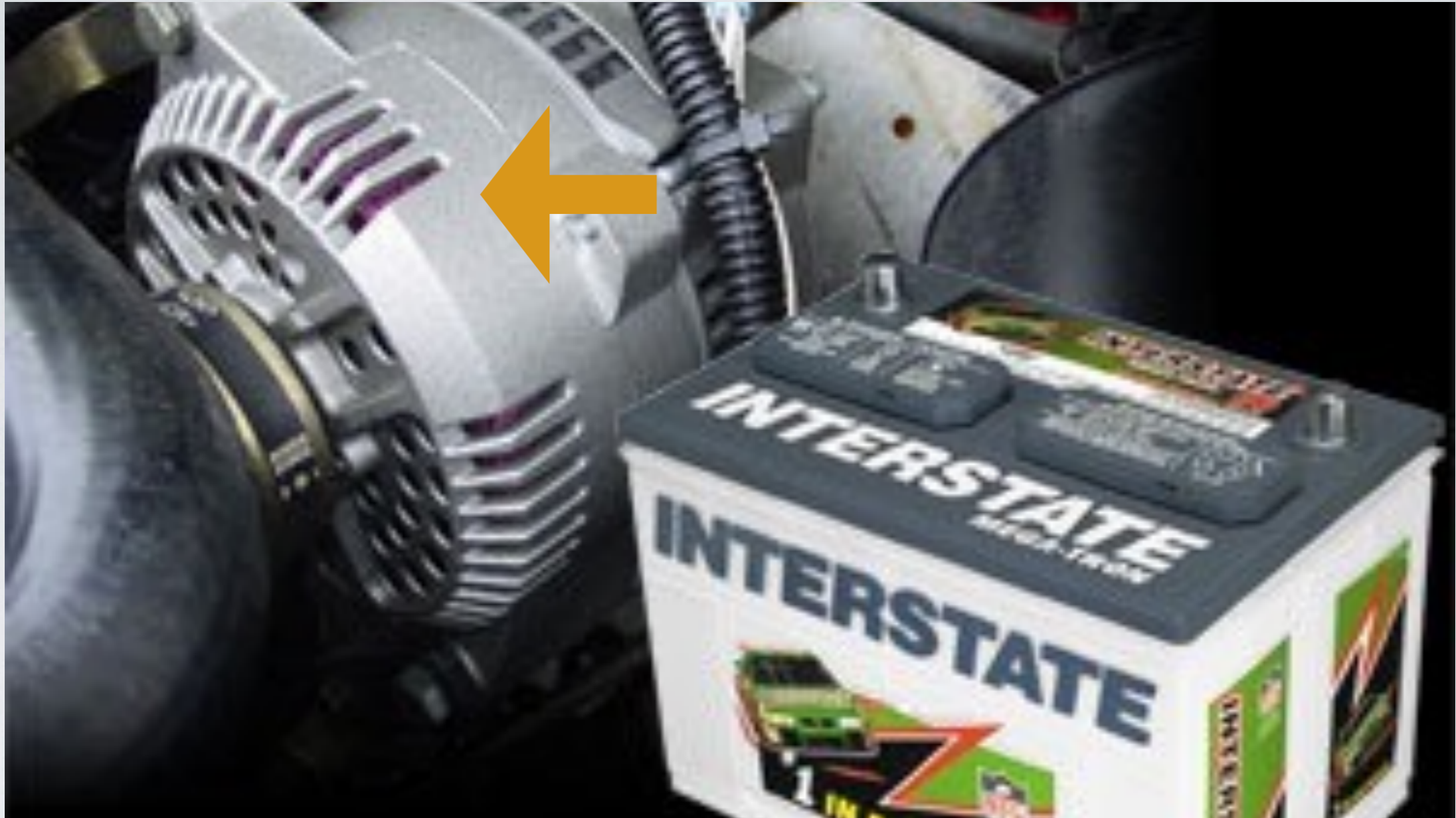
SPARK PLUG | 火花塞

These are small but important. Your car won't work without them!



BATTERY | 蓄電池

The battery can sometimes go bad and is easy to replace.



ALTERNATOR | 发电机

The alternator charges the battery while the car is running.



EXHAUST PIPE | 排气管



MUFFLER | 消音器

The muffler makes your car quieter. A hole in the muffler can make the car quite noisy.



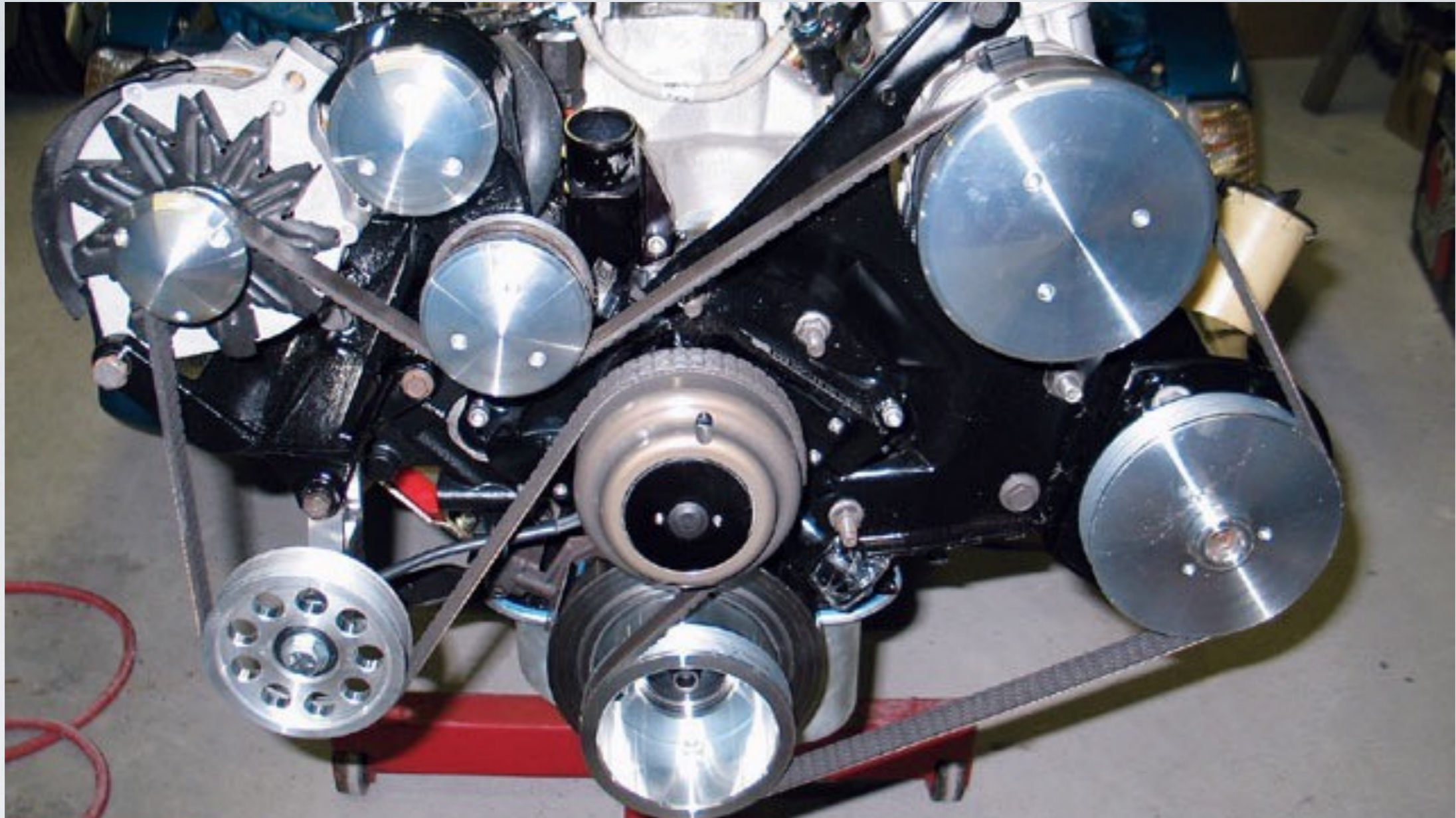
CATALYTIC CONVERTER

This cleans the exhaust air so that it comes out of the car as clean as possible.



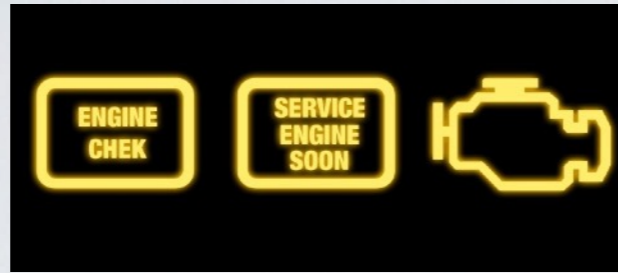
AIR FILTER | 空气滤芯

Cleans the air that the engine breathes. These need to be replaced once in a while.

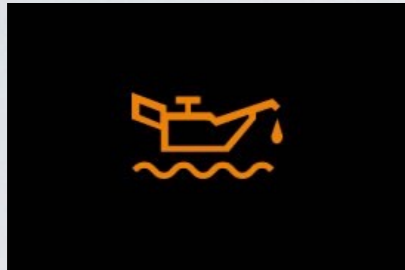


SERPENTINE BELT | 蛇形皮帶

On a cold day, an old belt like this will squeak very loudly when a car starts or begins to move.



CHECK ENGINE



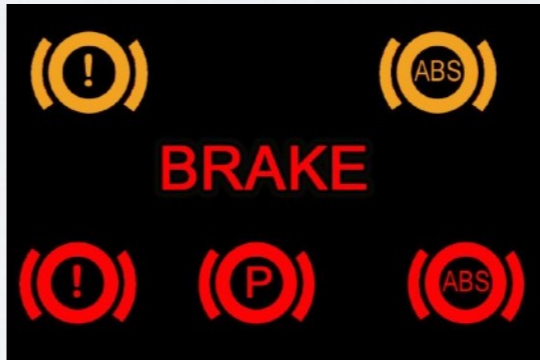
OIL LEVEL



HIGH BEAMS
BRIGHTS



BATTERY



BRAKE
ISSUE



LOW GAS

INDICATOR LIGHTS | 指示灯

There are many more, but these are worth memorizing.

\$\$ BUYING A CAR \$\$

- What are my needs??
- Should I buy new or used??
- How do I know it's a good car??
- American, European, or Japanese??
- Test driving



BUYING A CAR: MY NEEDS??

- Cost: \$\$ or \$\$\$\$\$
 - Cost to purchase vs cost to drive
- New or experienced driver?
- Just local driving, or long distance?
- Need a car for 1 year, or 10 years?
- Will be driving in winter weather!



NEW VS USED

New

- Loses at least 10% of value immediately after purchase.
- More expensive all around.
- May have a dealer warranty and service contract.
- Smells and looks awesome.

Used

- Holds value better, better resale.
- Cheaper, including taxes and insurance.
- Many are as reliable as new.
- May not have any warranty or service contract.

NEW VS USED

From Dealer

- Should know how to bargain
- More expensive all around.
- May have a dealer warranty and service contract.
- Can test drive many cars

From Individual

- Holds value better, better resale.
- Cheaper, including taxes and insurance.
- Needs to be checked by Mechanic
- May not have any warranty or service contract.

HOW DO I KNOW IT'S A GOOD CAR?

- Reliability : A car with minimal problems, Minimal repair.
- Cost : Within my budget.
- Safety : A car that makes me feel safe.
- Skill level : A car that suits my stage in life. (explain)



RESOURCES

- www.jdpower.com
- www.edmunds.com
- www.kbb.com

J.D. POWER



AMERICAN JAPANESE OR EUROPEAN?

- Common Assumption: A German car is heavier, therefore it is safer to drive.
- **Japanese cars** have their faults, but they are typically more dependable. Higher maintenance costs, but fewer repairs
- **European cars** are well designed, ride very nice and quiet, and have high satisfaction. But they have lots of maintenance and repair issues.
- **American cars** have numerous annoying faults, but have improved greatly. These cars are usually more practical in design, and there are several that stand out as very reliable.



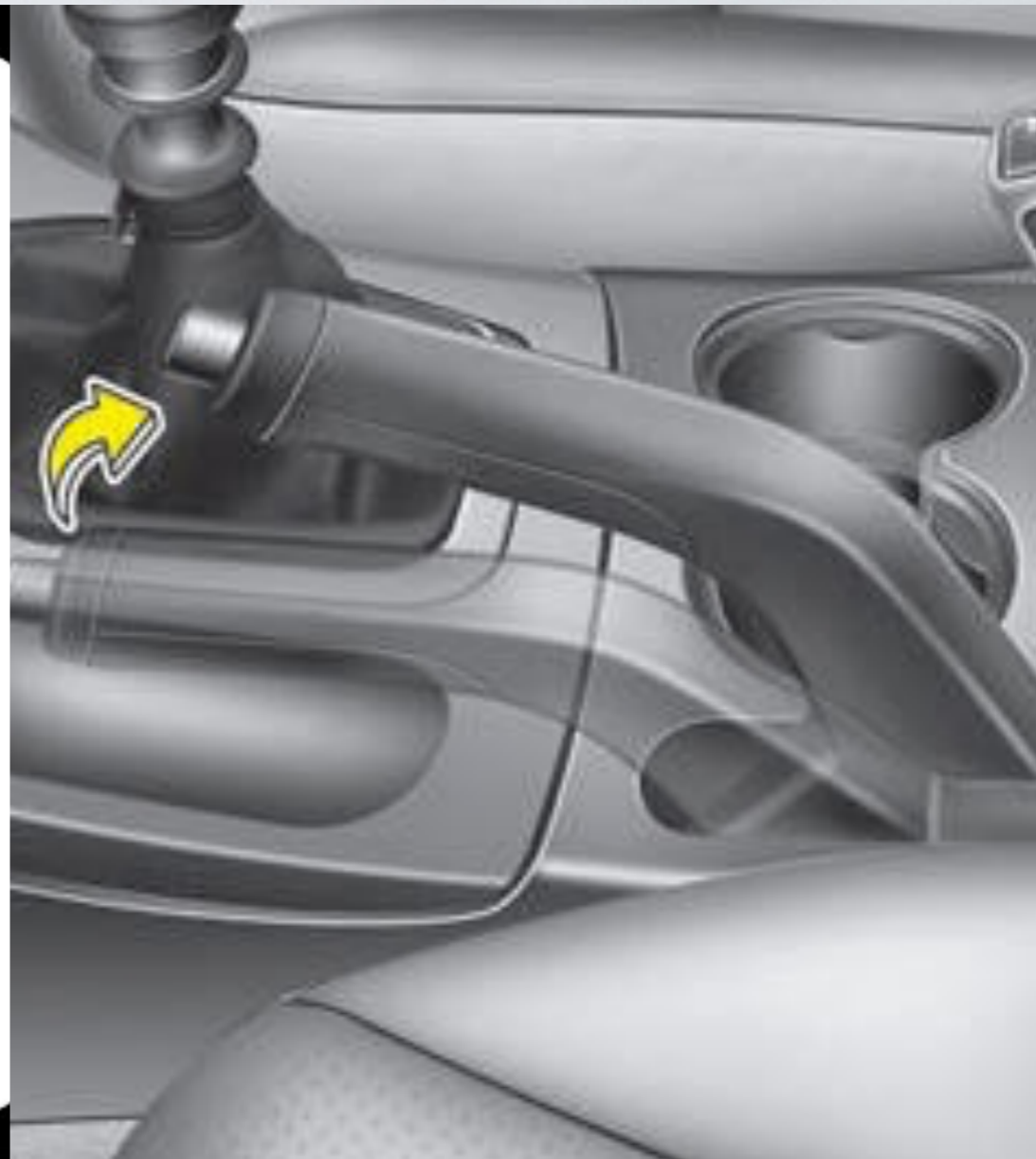
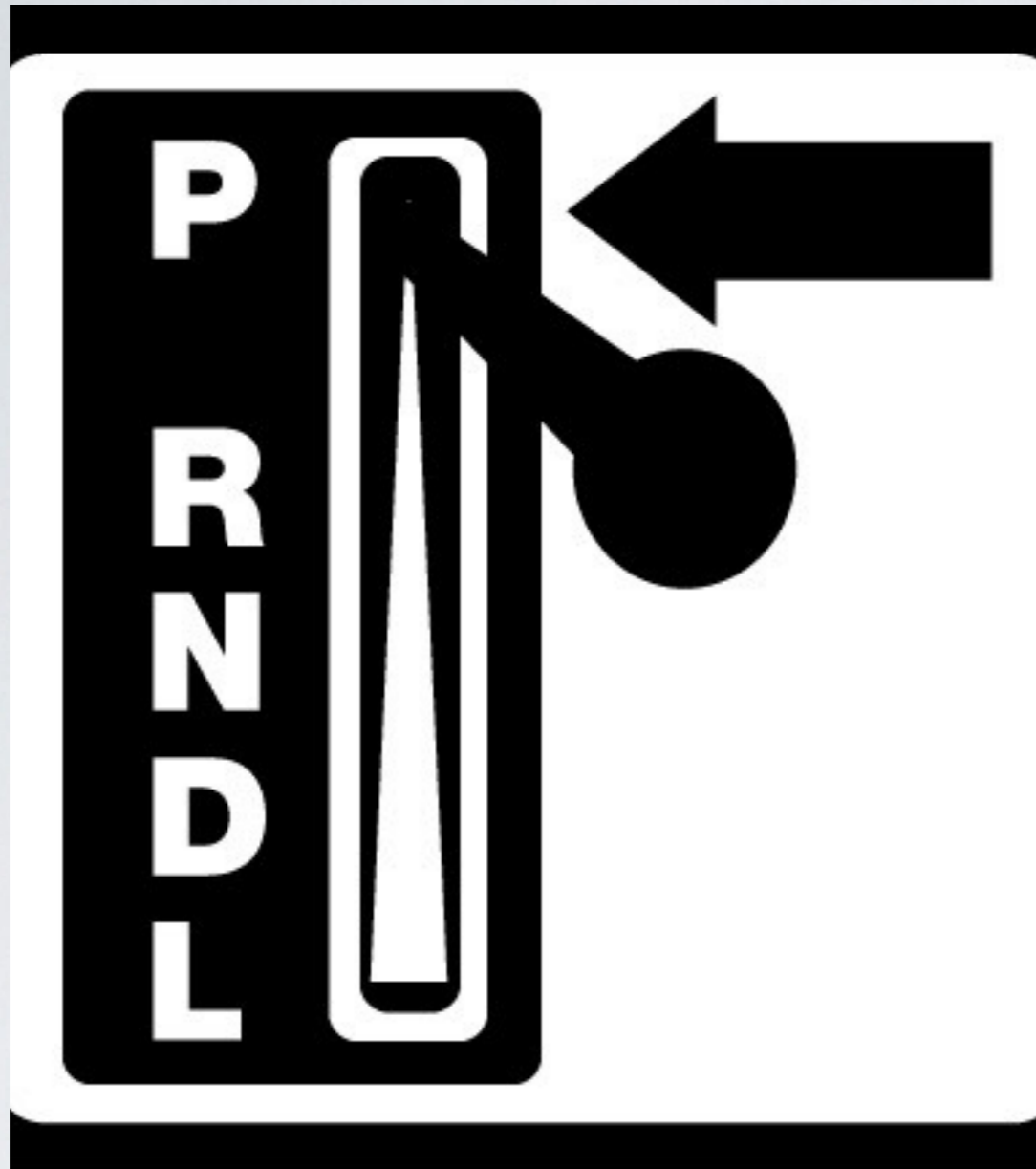
HOW TO CHANGE A TIRE

Whether you want to rotate tires or you need to repair a flat on the road. This is good info.

CHANGING A TIRE | 更换轮胎

- If you ever have a flat tire, the first step is always to pull over to the side of the road so that you will be out of the way of other cars.





CAR SHOULD BE IN PARK, AND EMERGENCY BRAKE ON.

将车挂至P档，拉起手刹



TURN ON YOUR HAZARD LIGHTS

开危险警告灯吧



FIND THE SPARE TIRE AND TOOLS

找到备胎和工具



TOOLS WILL INCLUDE A TIRE IRON, AND A JACK.

工具包括扳手和螺母千斤顶



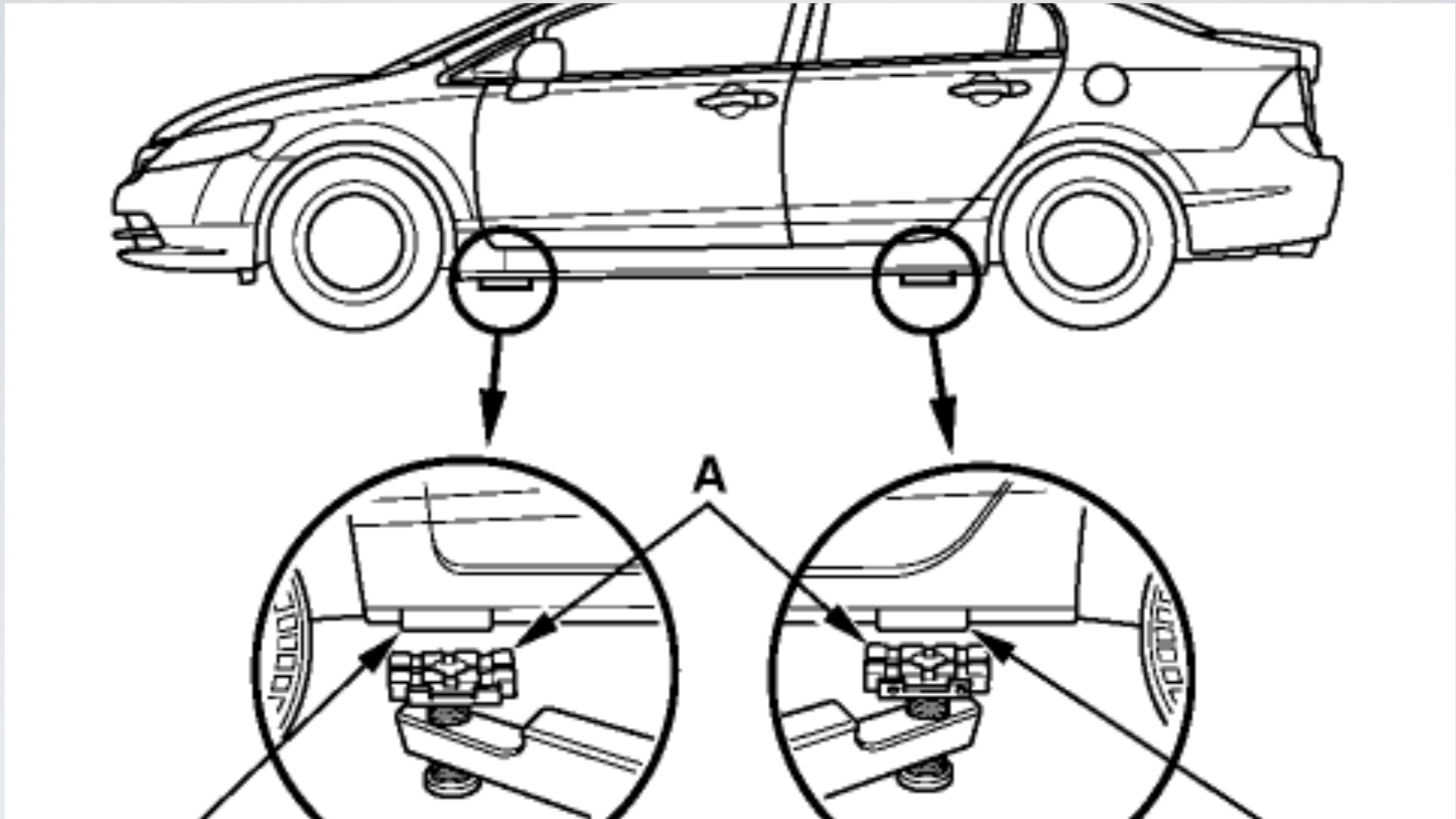
FIRST, LOOSEN THE LUG NUTS

先，用扳手放松螺母



USE THE JACK TO LIFT THE CAR NEAR THE
DAMAGED TIRE.

其次，用千斤顶举车



LOCATE THE JACK POINT NEAR THE TIRE TO
PLACE THE JACK.

将千斤顶放置至千斤顶支撑点（靠近轮胎的位置），架起车辆



REMOVE THE LUG NUTS

移除螺母



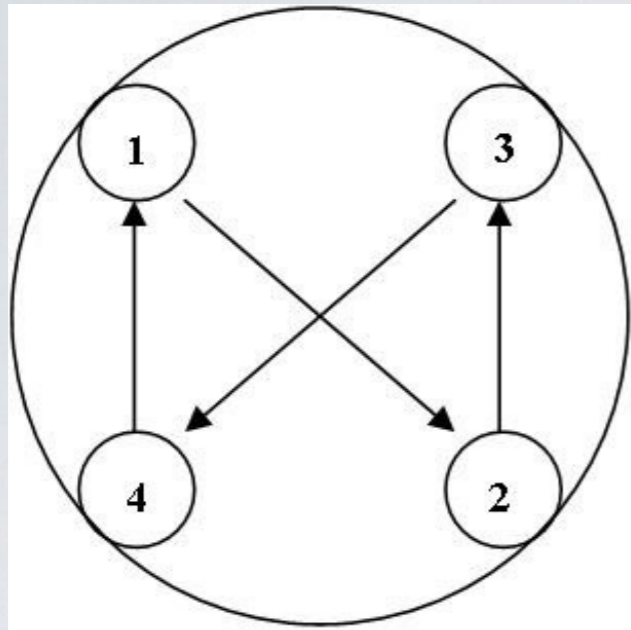
REMOVE THE TIRE

移除轮胎

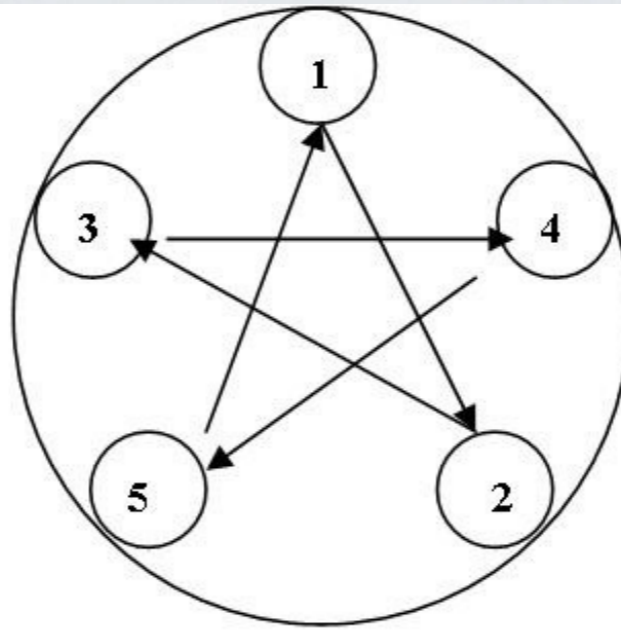


REPLACE THE DAMAGED TIRE WITH THE
SPARE

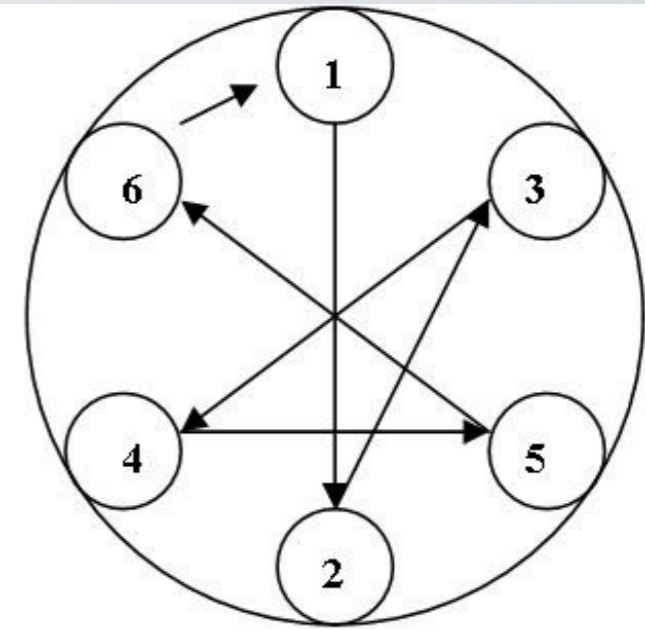
用备胎代替坏的轮胎



Four-Bolt



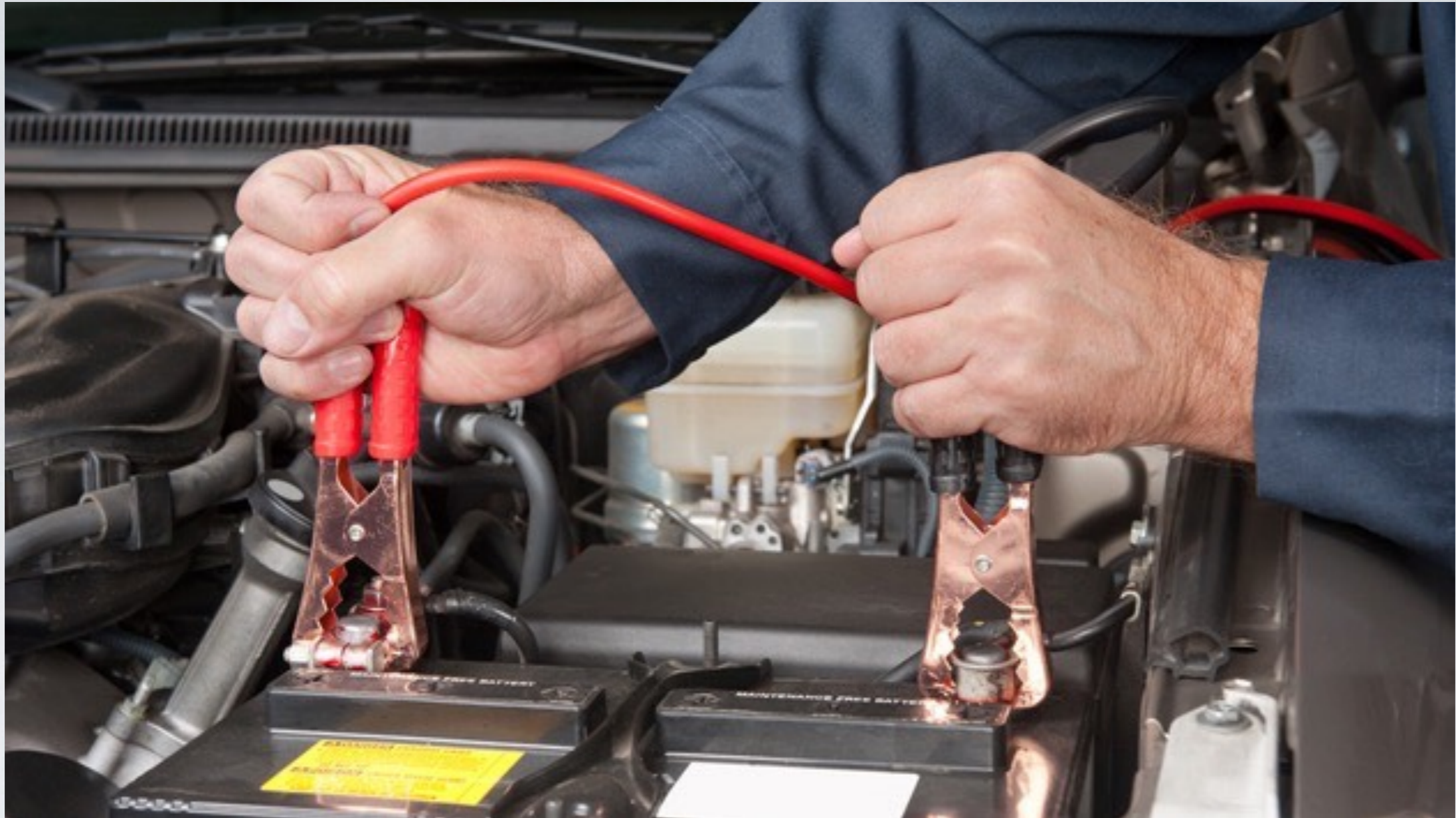
Five-Bolt



Six-Bolt

USING THE PATTERNS ABOVE,
REPLACE AND TIGHTEN LUG NUTS.

用上的方式， 更换并勒紧螺母



HOW TO JUMP A CAR

What to do when your battery dies!

HOW DO I KNOW MY BATTERY IS DEAD?

- Your Electrical door lock doesn't work
- Your lights don't turn on when you open the door
- When you turn the key, nothing happens
- When you turn the key, you hear the starter straining



WHY IS MY BATTERY DEAD?

- You may have left lights on
- You may have an electrical “leak”
- Your battery is too old
- Your alternator has died





FIND A FRIEND WITH A CAR



FIND YOUR HOOD RELEASE



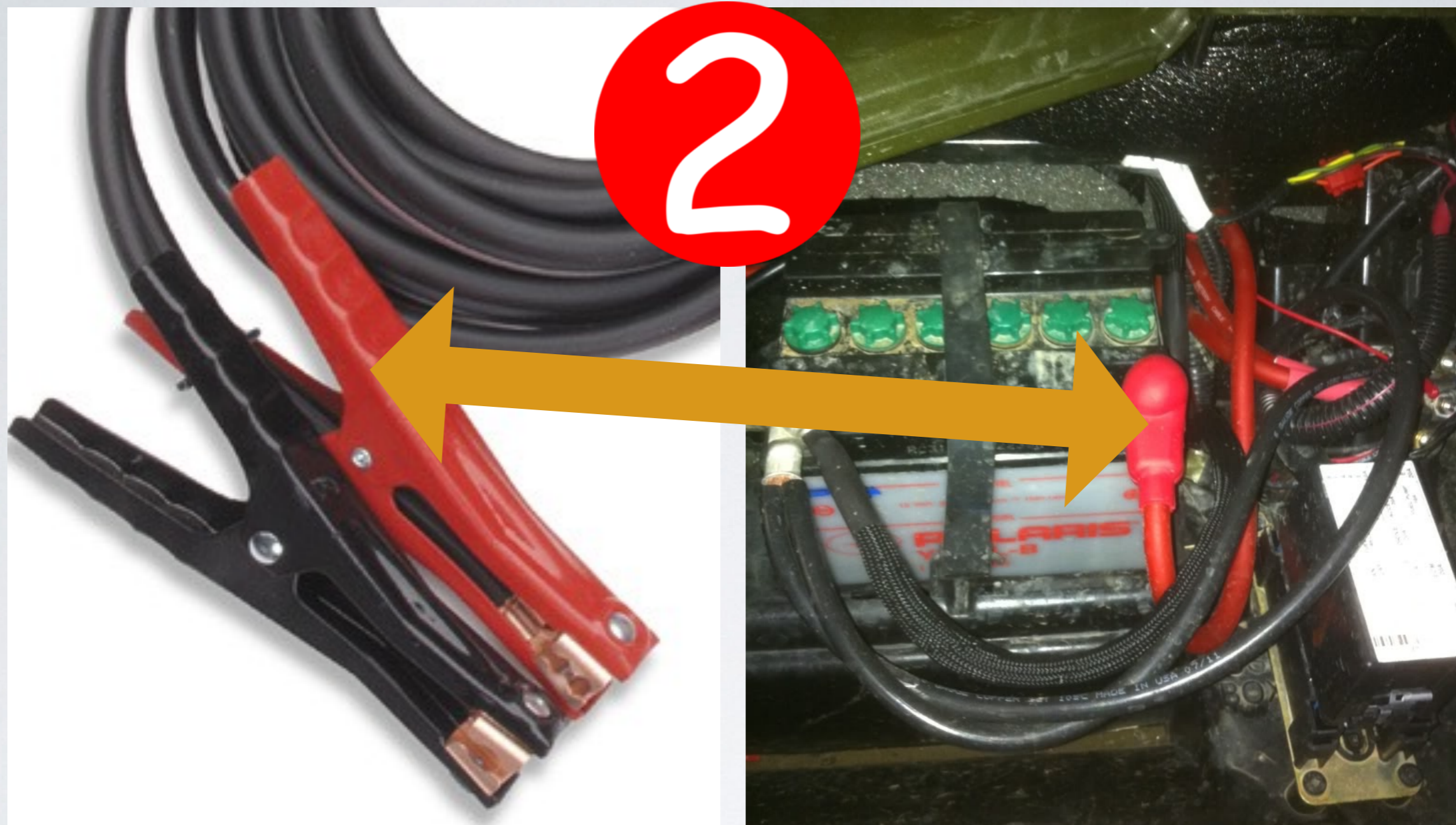
BE PREPARED WITH JUMPER CABLES



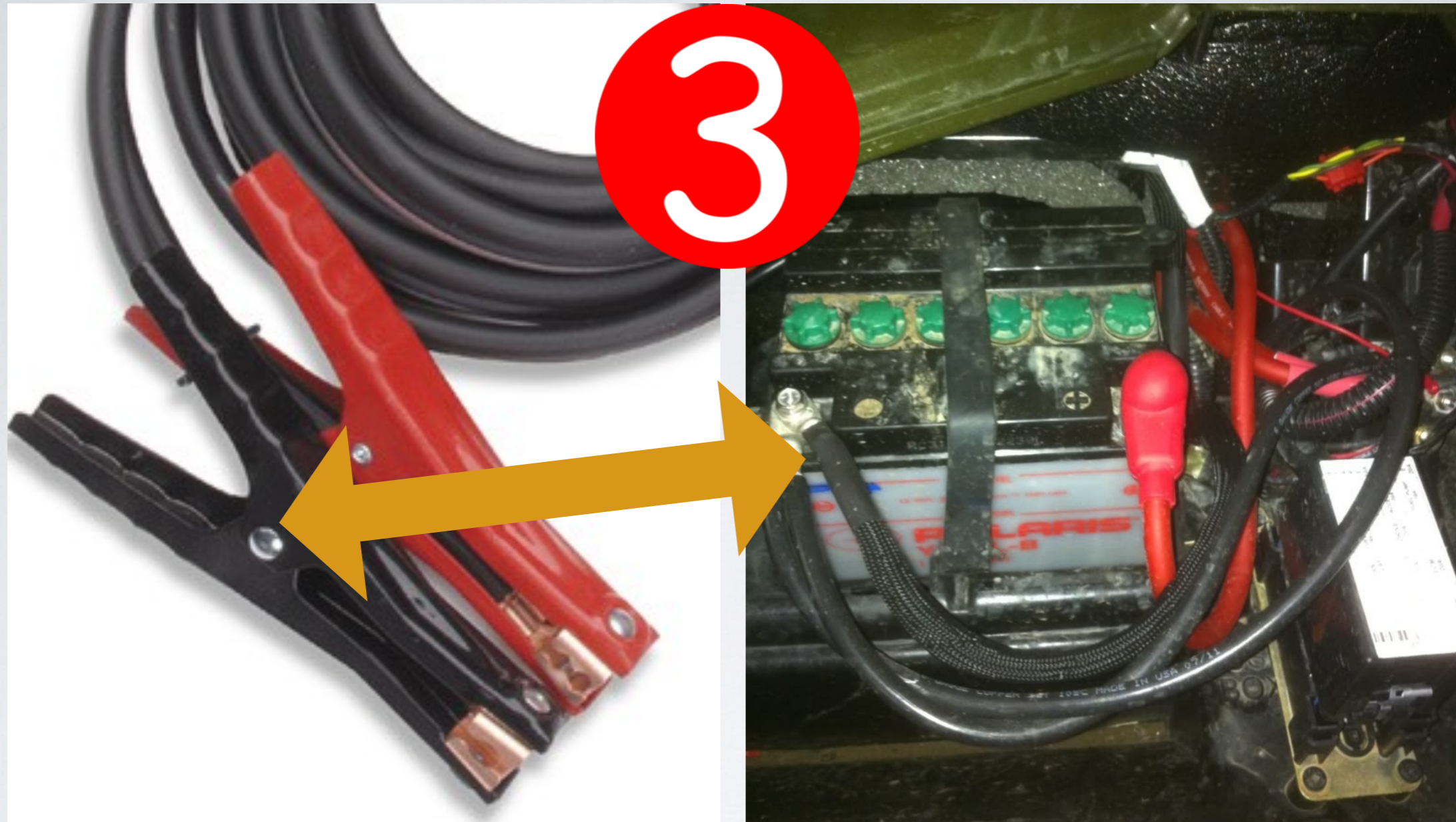
LOCATE YOUR CAR BATTERY TERMINALS
(RED AND BLACK)



- REMOVE THE RED TERMINAL COVER ON YOUR BATTERY
- ATTACH ONE RED JUMPER CLAMP



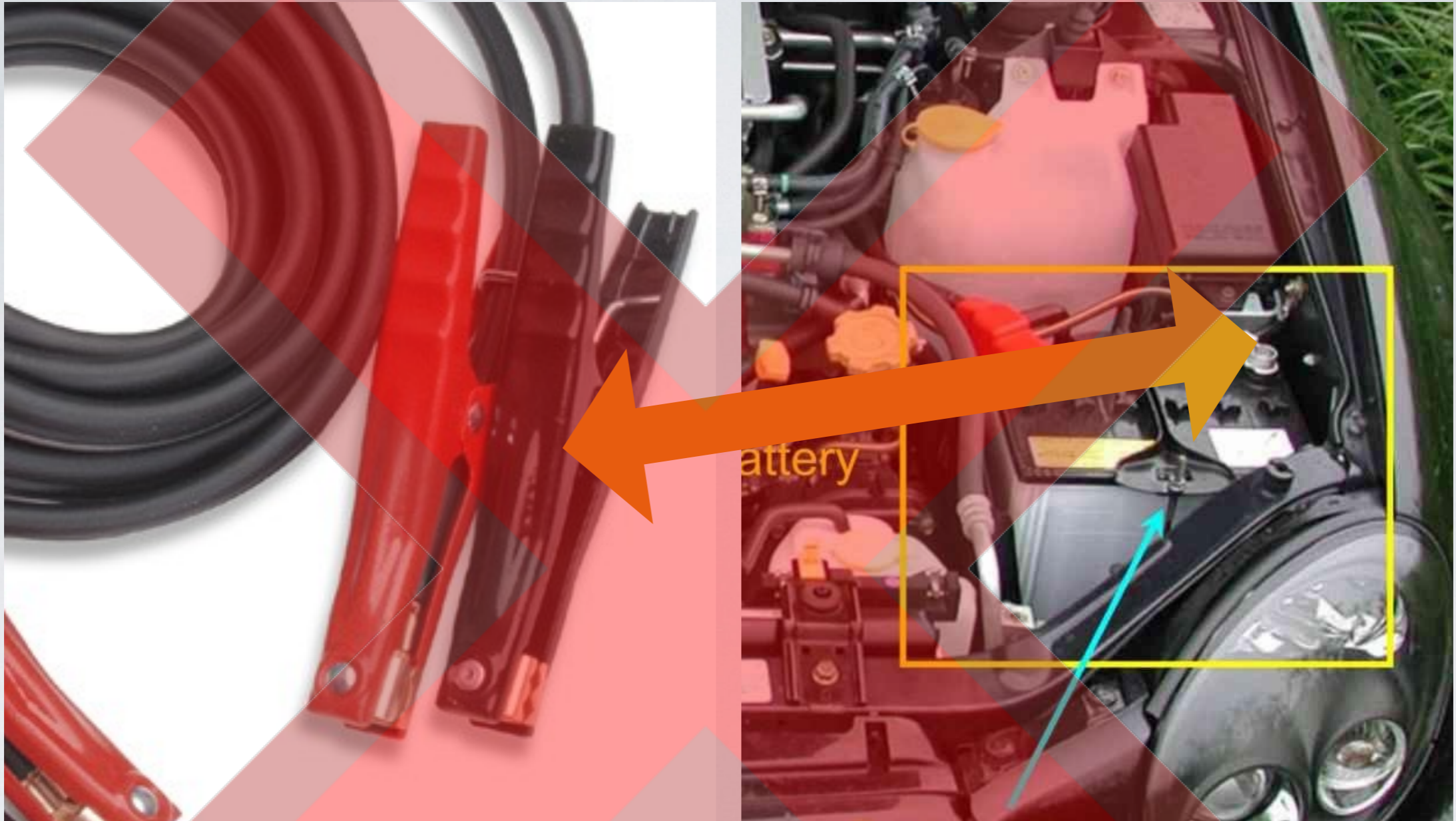
- REMOVE THE RED TERMINAL COVER
ON YOUR FRIEND'S BATTERY
- ATTACH ONE RED JUMPER CLAMP



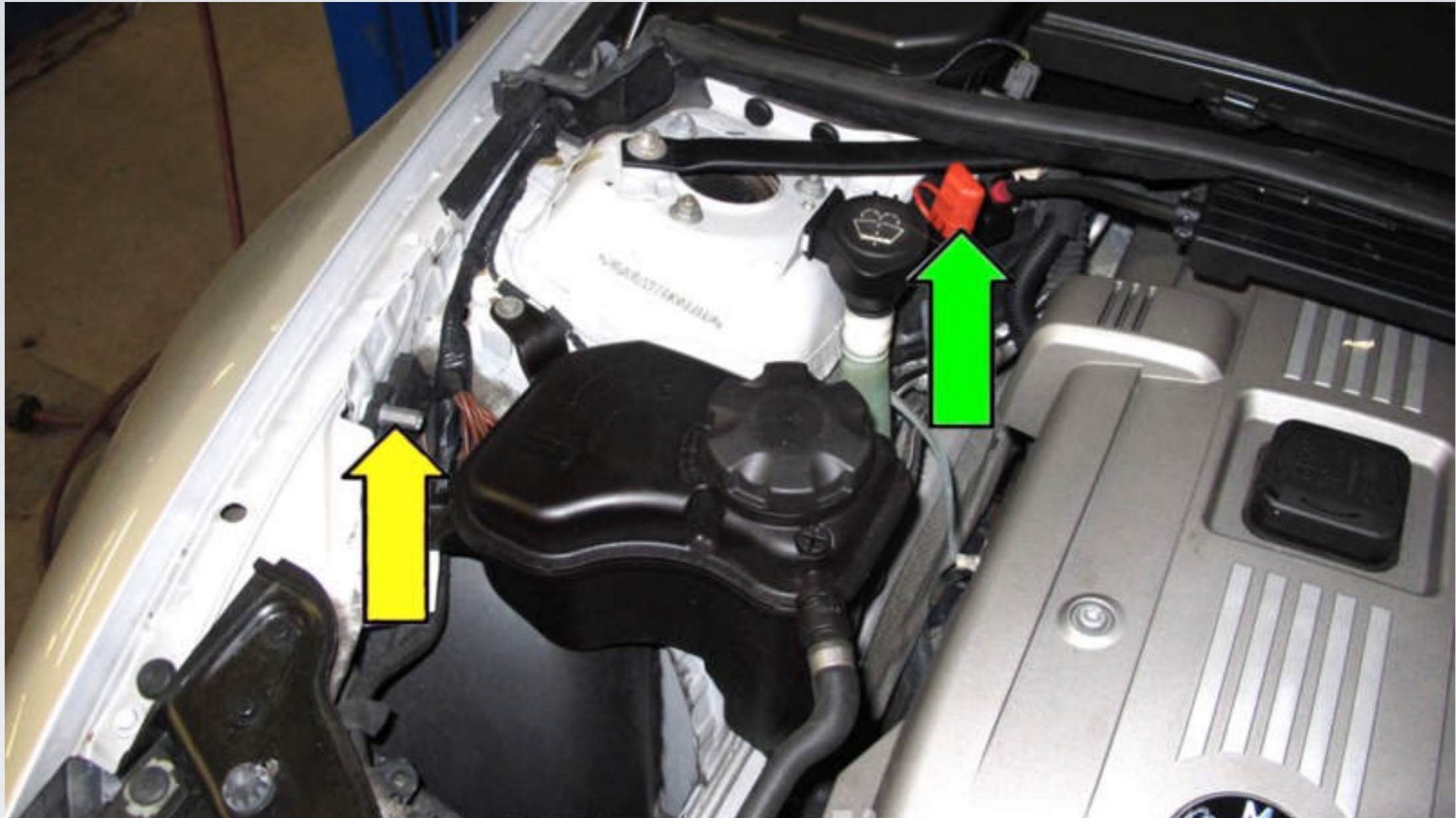
ATTACH ONE BLACK CLAMP
ON YOUR FRIEND'S BATTERY



ATTACH THE LAST BLACK CLAMP
ONTO AN UNPAINTED METAL
SURFACE IN YOUR CAR



DO NOT ATTACH LAST BLACK CLAMP DIRECTLY TO BATTERY



SOME CARS MAY HAVE "SAFE" TERMINALS
AWAY FROM THE BATTERY

1



2



-ASK YOUR FRIEND TO START HIS/
HER CAR
-START YOUR CAR



WAIT A FEW MOMENTS, THEN REMOVE THE
CLAMPS IN REVERSE ORDER



IF YOUR CAR DOESN'T STAY RUNNING!?

The problem could be your alternator. This is not a roadside problem. Get a tow.

GOOD TO HAVE WITH YOU (ESPECIALLY ON LONG DRIVES)

- Flashlight
- Road Flare
- Spare Light Bulbs
- Spare Oil
- Tire Gauge
- Blanket (Esp. in Winter)
- Water and food (Esp. in Summer)
- Gloves and a rag



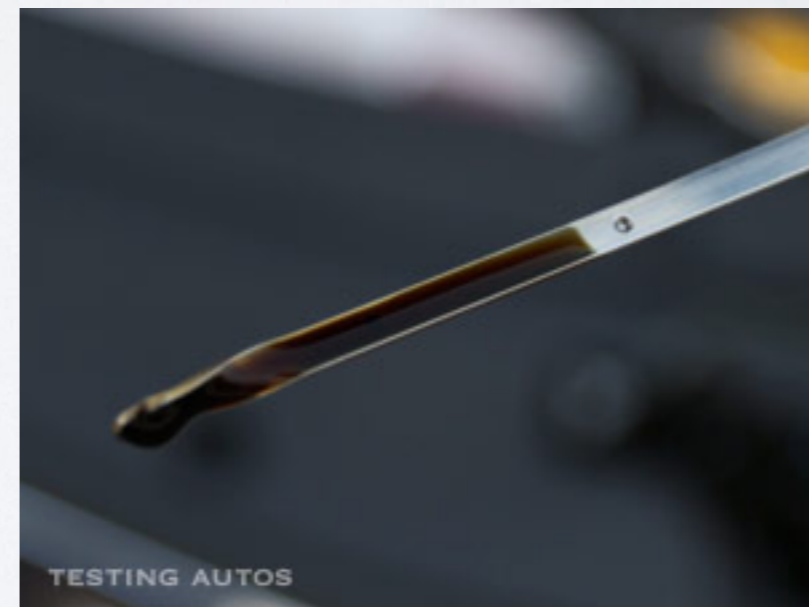


HOW TO CHANGE OIL

如何更换机油

WHEN TO CHANGE OIL

- Every 3000 miles
- 每 3000 英里
- Every 3 months
- 每 3 个月
- When oil is dirty
- 当机油很脏



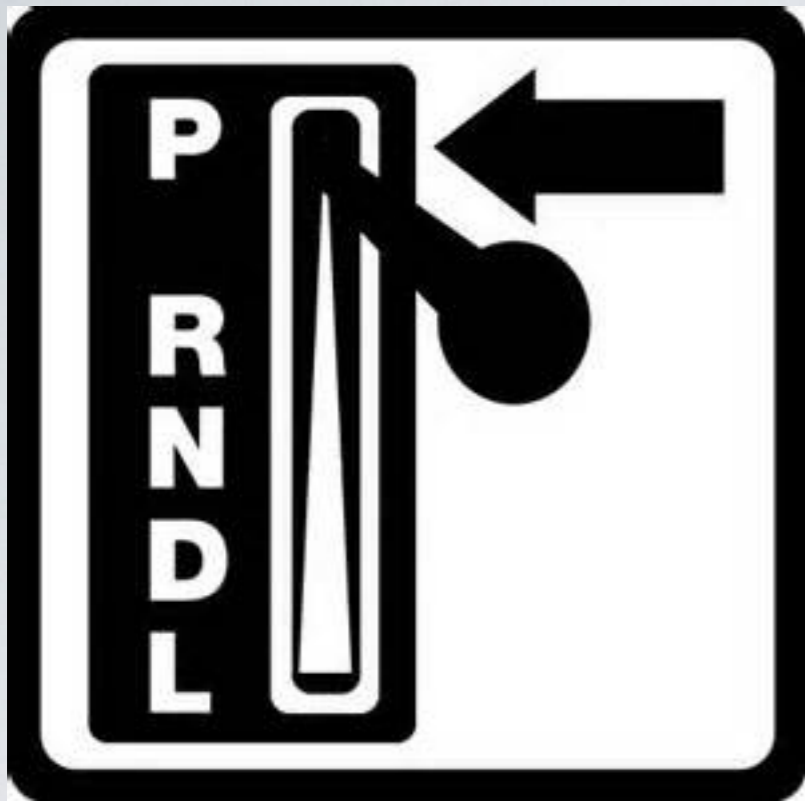
YOU WILL NEED/您将需要

- A Jack / 千斤顶
- Jack Stands / 千斤顶支架
- Oil Change Pan / 换油盆
- Oil / 机油
- A Wrench / 扳手
- Gloves and a towel / 和毛巾



手套

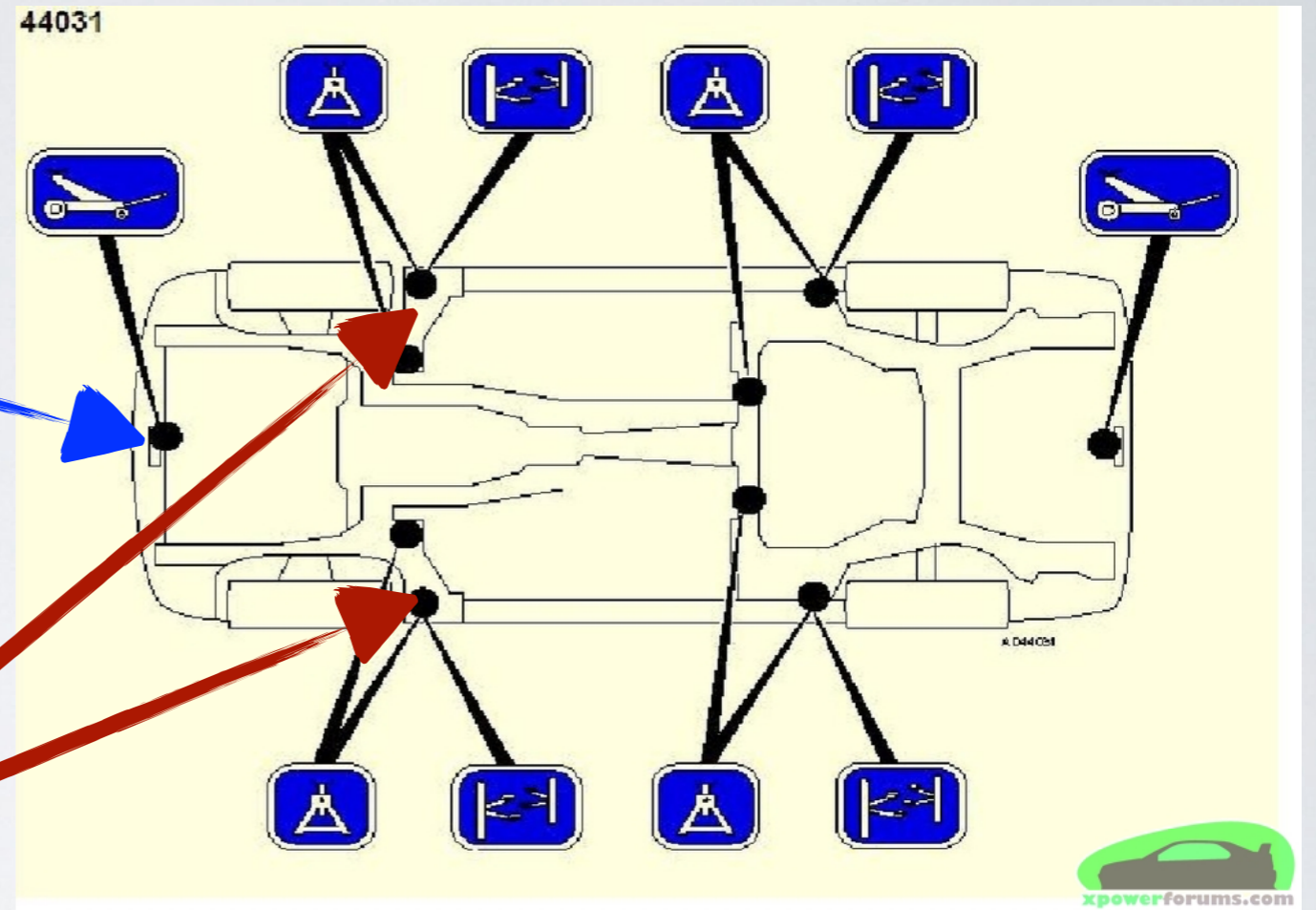




***Turn Off
Engine***

E-BRAKE, PARK, TURN ENGINE OFF

将车挂至P档，拉起手刹，关闭发动机



USE THE JACK TO LIFT THE CAR, AND THE STANDS TO SUPPORT THE CAR.

用千斤顶将车顶起，然后用千斤顶支架支持



REMOVE OIL CAP UNDER HOOD, AND
LOCATE THE OIL PLUG.

旋开发动机罩下的油盖，找到油塞。



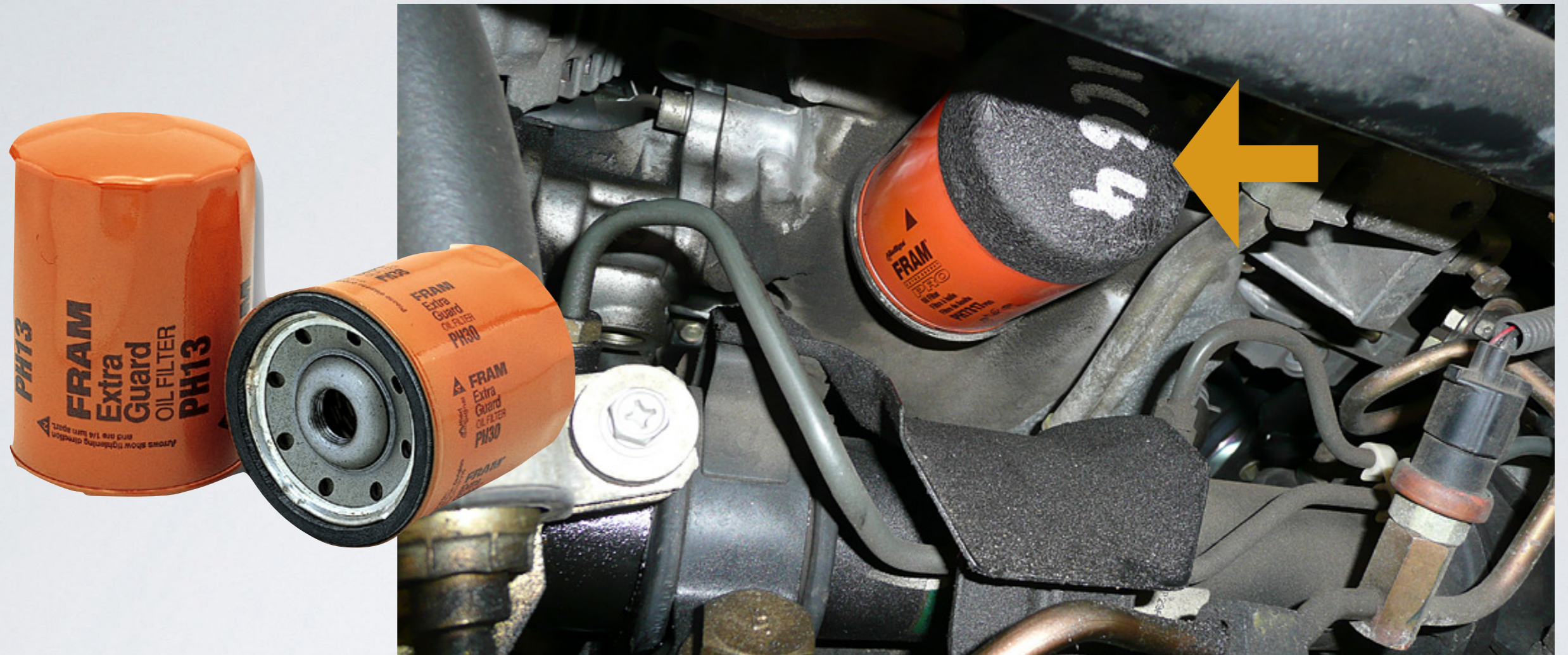
PUT THE PAN IN PLACE, AND REMOVE THE
PLUG.

放换油盆到位，拔出插头



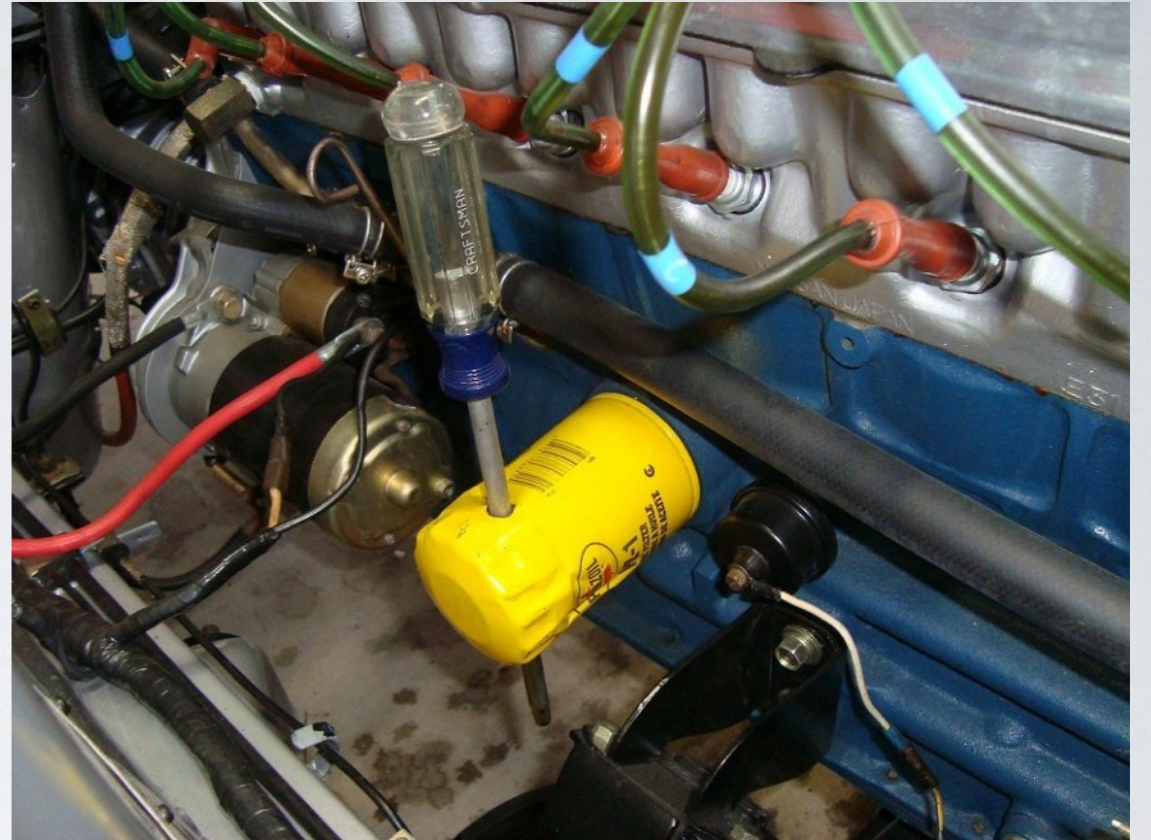
ALLOW OIL TO DRAIN UNTIL THE FLOW IS
REDUCED TO A SLOW DRIP.

让机油自然流出，直到流量减小，缓慢至油滴



LOCATE AND REMOVE THE OIL FILTER

找到并取出机油滤清器



THERE ARE SEVERAL TOOLS AVAILABLE FOR
OIL FILTERS.

有很多用于取出机油滤清器的工具



USE YOUR FINGER TO PUT FRESH OIL ON THE
GASKET OF THE NEW OIL FILTER.

用手指把新鲜机油涂抹于过滤器衬垫



INSTALL THE NEW OIL FILTER

安装新的机油滤清器



PUT THE OIL PLUG BACK

放回油塞



REMOVE THE SUPPORTS AND LOWER THE
CAR.

取出千斤顶支架和缓慢降低汽车



ADD OIL FROM UNDER THE HOOD

从引擎盖下加入机油



关机油盖

启动汽车

让汽车运行5分钟

WHEN THE DIPSTICK SHOWS THE OILS FULL,
REPLACE THE CAP, AND START THE CAR.

待油尺显示满格状态，旋回机油盖，启动汽车



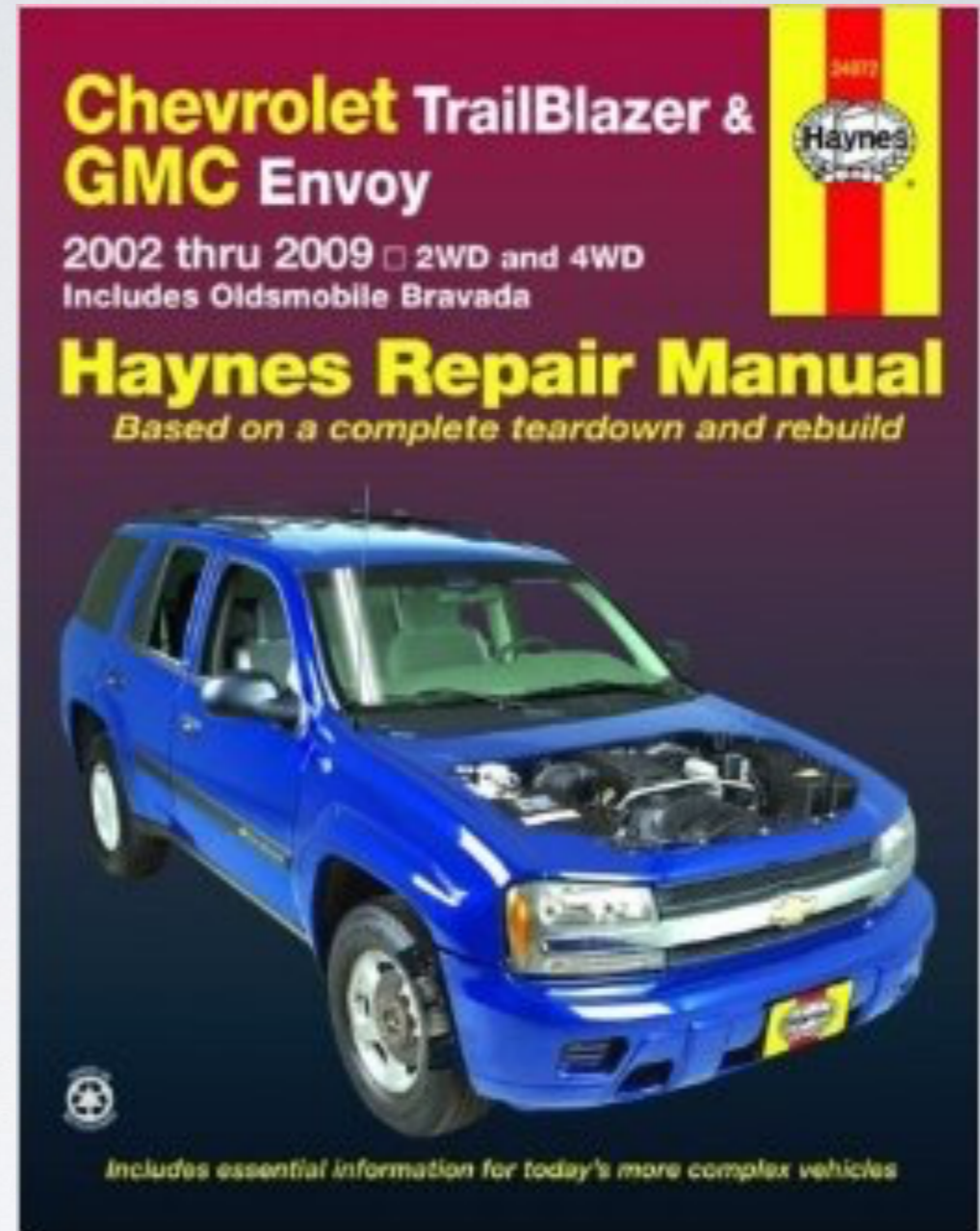
TURN CAR OFF, ADD OIL AS NEEDED,
REPLACE CAP.

关闭发动机，根据机油尺显示加适量油，旋回机油盖



DON'T REMOVE CAP WHILE CAR IS
RUNNING

当汽车运行时，不要取下机油盖



IMPORTANT RESOURCES

重要资源

ONE MORE GREAT
RESOURCE

