

# Messy Maintenance with Emma

Immediate attention: 911

Ice 1: \_\_\_\_\_

Ice 2: \_\_\_\_\_

Emergency contact: \_\_\_\_\_

Number: \_\_\_\_\_

Police: \_\_\_\_\_

Fire Department: \_\_\_\_\_

Insurance: \_\_\_\_\_

Road Side Assistance: \_\_\_\_\_

Hello everybody! I know it can be exhausting and tiring to do car maintenance, but it can be fun! (See what I did there... car puns!) This paper is for you to keep in your car in case you have an emergency while out on the road. I have included: how to jump a car, how to check the tire pressure, and how to change a flat tire. I have videos on how to do all of these tasks on YouTube in case you need a visual demonstration, and I have other videos on car maintenance posted on YouTube as well. The videos are based on the cars my family owns, but I will explain it in a way that is generic to all cars. If you are having trouble or your car is different, I will always recommend to check your car manual. I hope this is helpful and enjoy my senior project!

~ Emma Ochs :)

## How to jump a Car

### Materials:

- Jumper cables (the lower the gauge number the better. See video for more info)
- An “alive” Car (a car with a charged battery)
- Eye protection (not absolutely needed to jump a car but safety is important)

### Steps to jump a Car:

- 1) Park the cars close together so that the jumper cables can reach both cars.
- 2) Open the hoods of both cars.
- 3) Place the red cable on the positive part of the battery on the car that is “alive” (aka has a charge)
- 4) Place the black cable on the negative part of the battery on the car that is “alive”.
- 5) Place the other part of the red cable on the positive part of the battery on the “dead “ car (the car with no charge)
- 6) Place the other part of the black cable on any metal on the car not near the battery.
- 7) Start the “alive” car
- 8) Wait patiently...
- 9) Start the “dead” car.
- 10) Wait a bit more...
- 11) Turn off the “alive” car.
- 12) **DO NOT turn off the “dead” car because that would just defeat the purpose of jumping that car.**
- 13) Remove the jumper cables from both cars.
- 14) Thank the generous people who helped you jump your car.
- 15) Mentally celebrate because you just jumped a car!

## Checking tire pressure/air in tires:

### Materials:

- An air pump (found at a gas station or if you have your own air compressor that would work as well)
- A gauge to read the air pressure
- A smile on your face because you can do this!
- Your car manual

### Steps to checking tire pressure

- 1) Stay calm and do not get annoyed because you are probably only checking your tire pressure because the light went off in the car.
- 2) Find a gas station or an air compressor that happens to be in your garage.

- 3) Check your car manual or door jam/gas cap area for the right amount of air pressure that needs to be in the tires.
- 4) Remove the cap from the nozzle on the tire and do not lose this cap.
- 5) Use the gauge to check a tire and see if has the appropriate amount of air. If there is a good amount of air in the tire, then put the cap back on. If there is not enough air, move on to step 6.
- 6) Use the air compressor to fill your tire with enough air. Just place the end of the air compressor to the nozzle and fill the tire to the correct pressure. Place the cap back on the nozzle when finished.
- 7) Check every tire and make sure they all have about the same amount of air pressure.
- 8) Smile because you just finished and now you can go home to relax on your comfy couch.

## Changing a flat tire:

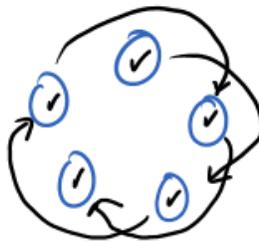
### Materials:

(should all be found in your car)

- Jack
- A spare tire
- Lug nut wrench
- Owners manual

(may not be found in your car)

- Block of wood/concrete or something heavy
- Sheet of wood
- 2 foot black iron bar (optional)



### Steps to changing a tire:

- 1) Find flat ground to jack the car up
- 2) Look in owner's manual for the proper place to jack up a car.
- 3) Place the jack on a piece of wood if you are on gravel or dirt.
- 4) Place the block of wood or something heavy behind one of the tires on the opposite side of the car.

- 5) Jack up the car only enough so that the tire is relieved of pressure. The tire should still be touching the ground.
- 6) Use the lug nut wrench to loosen the lug nuts on the tire. Do not remove them just yet.
- 7) Jack up the car so that the tire is off the ground.
- 8) Remove all the lug nuts and take the tire off the car. **DO NOT LOSE THE LUG NUTS!**
- 9) Get the spare tire from wherever it is located.
- 10) Put the spare tire on the car and screw the lug nuts in by hand. Alternate screws when screwing them in. (look at diagram)
- 11) Go around a couple more times in the same alternating pattern screwing them on tighter with the wrench.
- 12) Then take the jack down.
- 13) Remove the heavy object from behind the tire and pack up everything.
- 14) Drive to a gas station to make sure your spare tire has enough air in it.
- 15) Celebrate for a minute (or a life-time) because you just changed a tire!
- 16) Go to an auto store and buy yourself a new tire to replace that flat one.