

IN THIS CHAPTER

- » Staying safe before you start
- » Identifying key parts and opening the hood with confidence
- » Fueling or charging your car the right way
- » Jacking and lifting the car safely
- » Changing a tire and understanding TPMS alerts
- » Handling roadside safety and emergencies

Chapter **1**

Introducing Essential Skills for Every Driver

Most people feel at least a little nervous about doing their own car maintenance. Maybe you've never popped the hood. Maybe you've heard horror stories about cars falling off jacks or mysterious dashboard lights that never go away. Relax — this chapter is here to show you that with the right gear, a little knowledge, and a healthy dose of common sense, you can take control of your car instead of the other way around.

This chapter gives you a no-nonsense foundation you can use right away. You start with safety and getting oriented to the parts and info every driver should know, including how to fuel or charge properly. Then you pop the hood with confidence, jack and lift the car safely, swap a tire, and understand TPMS. Finally, you can practice how to keep calm and safe if something goes wrong on the roadside.

HOW I GOT HERE — AND WHY I KNOW YOU CAN DO THIS, TOO

Before I was The SheMechanic®, I was a single mom working in healthcare, trying to hold everything together while working long shifts and spending hours every day in Atlanta traffic. I was exhausted, I was missing time with my kids, and I knew I needed to find another way. What started as a way to earn extra money became something much bigger when I began buying cars, fixing them, and selling them right out of my carport. That side hustle didn't just help me survive a hard season of life — it helped me discover what I was truly built to do.

I did not come into this business with years of formal shop experience. I taught myself. I started with Google and YouTube, then got more serious and pulled the curriculum from a local college program, ordered the books, and taught myself the material at home. I learned the same way a lot of people do when they are determined: by reading, studying, testing myself, getting my hands dirty, making mistakes, and refusing to quit. I started with smaller repairs, moved into deeper diagnostics, and eventually got to the point where I was tearing down engines, understanding every part, and building them back up. Along the way, I learned the programs, the tools, the software, and the business side, too.

As my skills grew, my kids were right there with me. We learned together. What began with flipping cars at home grew into a mobile mechanic business, with my tools in the trunk and me going wherever the work was. I recorded everything — the wins, the hard days, the setbacks, the breakthroughs, the happy moments, the frustrating moments, and the growth — because this journey changed my life in real time. Over time, that mobile business became Crown's Corner Mechanics, a thriving repair shop where we fix cars, build engines, serve our community, and keep breaking barriers in an industry that does not always expect to see women leading from the front.

This is exactly why I am so happy to write this book. I know what it feels like to start with no roadmap, no shop background, and no one handing you permission. I also know what can happen when you are willing to learn anyway. I am living proof that you do not have to come from the automotive world to understand it. You can learn this. You can do this. And I hope this book helps every reader feel more confident, more capable, and more connected to their vehicle — because if I could build this life one lesson at a time, I truly believe they can, too.

Getting Started Right

Picture this chapter as your starter kit for everything we're going to build on. We're kicking things off with the basics — like how to safely jack up your car and remove a wheel — because once you're comfy doing that, you'll breeze through the more advanced stuff. It's like learning to walk before you run — except with a lot more grease and a lot more laughs.

We picked these starting points because they're the building blocks for everything else. For example, once you've got a handle on the basics of wheel removal, checking your brakes or rotating your tires will be second nature. And when we dive into bigger repairs in later chapters, you'll be so glad you've got these fundamentals down.

Why did we choose these specific topics for this chapter? Because they're the core skills that will make every future task easier. Whether it's diagnosing a noise or tackling a bigger engine fix, these basics will keep you grounded and confident.

Using Personal Protective Gear

Before you so much as reach for a wrench, dress the part. You wouldn't fry bacon in the nude (at least we hope not), so don't go poking around under the hood without basic protection. This section walks you through the personal gear that helps you stay protected.

Even simple jobs can fling grit, drip fluids, or create sharp edges. Gear up with the basics:

- » **Safety glasses:** Shield eyes from rust, grit, and splashes. Keep a clear pair in the garage and a tinted pair for outdoor work.
- » **Mechanic's gloves:** Unlike fabric garden gloves, mechanic's gloves combine a snug fit, good dexterity, and palm materials that resist cuts and heat. Choose light-duty gloves for general work and heavier cut-resistant gloves when handling sharp metal.
- » **High-visibility vest:** Neon fabric with reflective tape makes you obvious at night or in rain. This visibility is essential for roadside work.

- » **Hearing protection:** Use industrial hearing protectors — not winter ear warmers. Wear them whenever you're using impact tools, grinding, or hammering. You'll use hearing protection during tire changes and again during wheel/brake and wheel-service work (see Chapters 16 and 18).
- » **Respiratory protection (N95–P100):** A disposable N95 filters most dust; a P100 filters finer particles (ideal for brake dust and rust).
- » **Fire extinguisher (ABC):** Multipurpose A-B-C extinguishers (see Figure 1-1) handle ordinary combustibles, flammable liquids, and electrical fires. Keep a small, charged unit in the garage (and a second in the trunk, if you do roadside work).



WARNING

Never blow brake dust with compressed air. Instead of removing the dust safely, compressed air just spreads it everywhere — onto nearby components, your clothing, tools, and into the shop air, making cleanup harder, not easier. Wipe or use a vacuum with a HEPA filter.

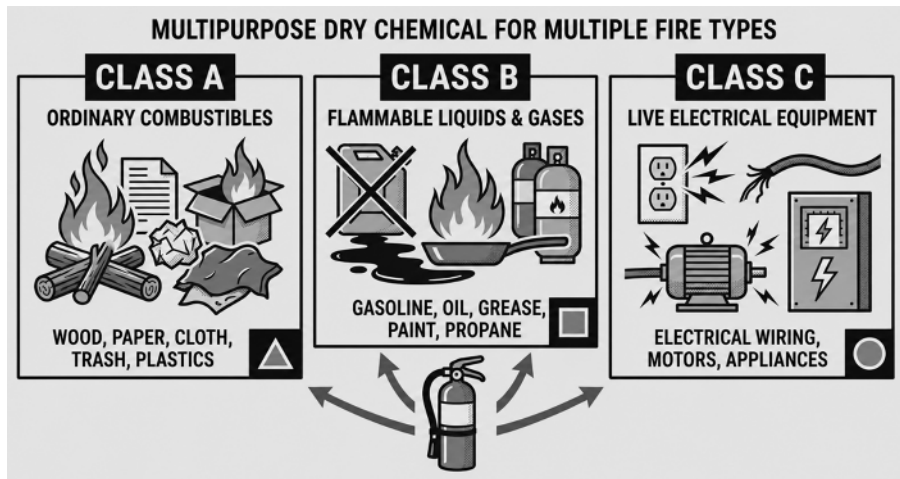


FIGURE 1-1:
Fire extinguisher
(ABC): What
it means.

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- » **Work lighting:** A headlamp or LED shop light frees both hands and helps you see leaks, fasteners, and alignment marks.
- » **First-aid kit:** Stock adhesive bandages (including fingertip/knuckle sizes), antiseptic wipes, burn cream/gel, tweezers, saline eye wash, and nitrile gloves — items you'll actually use in a garage.

- » **Clothing:** Wear close-fitting sleeves, avoid dangling jewelry, and tie back long hair.
- » **Footwear:** Wear closed-toe, grippy shoes or boots; steel toes are a plus when handling wheels or brake rotors.

Auto parts stores, hardware/big-box stores, and online retailers carry all of these items. If you're on a budget, start with glasses, gloves, and a vest; add the rest as you go.

Practicing Roadside Safety

If your car breaks down, your first job isn't playing mechanic — it's making yourself visible and staying out of traffic. Safety comes first; the fix can wait.

This short list of gear keeps you safe and seen while doing roadside repairs (see “Using Personal Protective Gear” earlier in the chapter, for more):

- » **Reflective triangles:** Don't park one triangle right behind the bumper. Place triangles 100 to 200 feet back; if you have three, stagger them — one near the car, one farther back, and one offset if the road curves — to warn drivers early.
- » **Portable roadside lights:** LED beacons or electronic flares are bright, compact, reusable, and far safer than old-school burn-type flares.
- » **Phone power:** Keep a charged power bank in the glove box so that your phone doesn't die when you need to call for help.

If you have to stop on the roadside, follow these steps to stay safe:

- 1. Pull over to the safest spot you can find.**

Aim for a wide shoulder or exit ramp; avoid blind curves. Keep wheels turned away from traffic.

- 2. Turn on your hazards and stay belted.**

If traffic is heavy or visibility is poor, stay in the vehicle until it's safe to get out.

- 3. Put on a hi-vis vest before exiting.**

Step out on the passenger-side if possible. Face traffic when walking near the roadway and never turn your back on moving cars — even for a second.

4. Set reflective triangles.

Walk facing traffic, place them back from the car as described in the preceding list, and add LED beacons if you have them.

5. Call for help and share your location.

Use your app/roadside number; drop a map pin if needed.

6. Re-enter traffic carefully.

When help arrives or you're ready to leave, pack up triangles and merge when it's clearly safe.



TIP

Practice using your triangle kit and LED beacons at home in daylight so deployment is automatic when it's dark or raining.



WARNING

If you're on a high-speed road with a narrow shoulder or poor visibility, stay in the vehicle with your seatbelt on and call for help rather than standing outside.

Review the information in the “Using Jacks and Stands to Lift Safely” section, later in this chapter, before attempting any roadside tire work.

Unlocking Vehicle Info with Your VIN

Every car has a story — and your *Vehicle Identification Number* (VIN) is the 17-character decoder ring that tells it. Think of the VIN like your car's birth certificate, medical chart, and driver's license all rolled into one. The VIN tells you what engine you've got, what kind of transmission it's rockin', what emissions system it uses — all the stuff parts people care about, but you probably don't (yet).

Finding your VIN

You can usually find your VIN in one of these places:

- » **On the dashboard:** Stand outside the car and peek through the windshield on the driver's side, near where the glass meets the dash. There's usually a little metal plate tucked in there. Found it? You just leveled up.
- » **On the door jamb:** Open the driver's door and look where the door latches. There's often a white or silver sticker with a barcode and your VIN. It might look boring, but it's VIP info.

» **On your paperwork:** Your VIN is also printed on your registration and insurance card. If your glove box looks like a receipt explosion, this is a good time to organize it.



TIP

If the dashboard VIN doesn't match the title or registration, stop and investigate. If only the door-jamb label differs, ask whether the vehicle had collision repair or a replacement label and verify the history before buying parts or trusting the paperwork.

Getting car-specific information

Running your VIN means entering the 17 characters into a trusted lookup so you get car-specific information. Think of it like scanning a product barcode to pull up the exact model and options — no guesswork. The VIN is public vehicle data tied to the car, not your personal info.

Use free lookups for safety recalls (for example, the federal recall portal) and Search by VIN on manufacturer/parts sites to confirm that a part matches your exact year, make, model, engine, and trim. For history reports (accidents, title issues), services like Carfax and AutoCheck are paid. Your owner portal or dealer can also use the VIN to retrieve build info and service bulletins.



TIP

If any parts site offers a Search by VIN option, always use it. It's like telling a barista your coffee order in your exact voice instead of letting them guess based on your hair color and vibe.

Getting the most out of your VIN

With your VIN in hand, you're able to do the following things:

- » **Order the right parts.** Your VIN locks in the exact combo of engine, trim, transmission, and emissions package so that you don't buy the radiator that fits only the obscure export variant.
- » **Check for recalls.** A quick VIN search shows whether your car needs a free safety fix, or a *recall* — don't skip them.
- » **Verify the vehicle's history (used-car shopping).** History reports surface accidents, title problems, and odometer issues.
- » **Pull exact specs.** Fluid types and service information vary by build, and the VIN points you to the right data so that you avoid using the wrong fluid or following the wrong procedure.

Wanting to go deeper?

See Chapter 3 for tools like torque wrenches, plus how to use them, and Chapter 14 for the full breakdown on oil types, viscosity, and fluid know-how.

Keeping Your Car Running with the Right Fuel (or Charge)

Back in the day, your only concern was picking the right pump handle — black for regular and green for diesel, and you didn't mix them up. One modern gotcha: Pump nozzles are different sizes. The diesel nozzle is larger, which usually prevents you from jamming diesel into a gas car — but the smaller gasoline nozzle fits many diesel fillers, so it's possible to misfuel a diesel with gas. We see it all the time, and it causes a big (and expensive) issue. Today, you may be juggling gas stations, charging stations, or both, depending on what's parked in your driveway.

Gasoline: The old classic

Gas stations are still the most common fueling stop, but there are some rules of the road:



TIP

- » **Don't top off after the nozzle clicks.** All you're doing is overfilling the charcoal canister in your *EVAP system* — basically drowning the part of your car that filters fuel vapors. You'll be rewarded with a glowing Check Engine Light and maybe a lecture from your mechanic.
- » **Tighten the cap.** A loose gas cap is the No. 1 cause of mystery check engine lights. If your car rattles on you, check the cap before you panic.
- » **Watch the octane.** Premium isn't better unless your engine calls for it. Feeding your Corolla 93-octane is like buying filet mignon for a goldfish.



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Octane isn't a power booster — it's a resistance rating. It measures how well gasoline can handle heat and pressure without spontaneously igniting inside your engine. The higher the octane, the more heat and compression it can take before it says, "I'm gonna blow."

EV charging: Welcome to the future

Electric cars don't sip gas — they gulp electricity. Here's what that means in day-to-day driving:

- » **Level 1 (110 to 120 volts):** A plain wall outlet. Adds about three to five miles of range per hour. This level is fine for short hops; otherwise it's like filling a swimming pool with a coffee straw.
- » **Level 2 (240 volts):** A home charger or public station. Adds 20 to 30 miles per hour. This level is the overnight sweet spot: Plug in before bed, wake up full.
- » **DC fast charging:** The espresso shot of EV fueling. Adds 60 to 100-plus miles in 20 to 30 minutes. Perfect for trips, but not a daily diet — frequent fast charging can age a battery faster than Level 2.



REMEMBER

If you install Level 2 at home, check your panel capacity first and ask the electrician about rebates. On road trips, precondition the battery (via the car's settings/app) on the way to a fast charger — it shortens charge time and saves you dollars at pay-by-the-minute stations.

Hybrids: The overachievers

Hybrids burn gas, store electricity, and switch between the two without asking your permission. Some even plug in for bonus range. Translation:

- » **Yes, you still need gas.** The charge port won't save you when the tank is empty.
- » **Sometimes you need both.** Monday: gas station. Tuesday: charging station. Wednesday: explaining why it sounds like a lawnmower one minute and a spaceship the next.

Opening the Hood

For some folks, popping the hood feels like trying to break into Fort Knox. The lever hides like it's playing peek-a-boo, the latch never wants to cooperate, and when you finally get it open, you're staring into what looks like the engine room of the Millennium Falcon. Relax — opening the hood is easier than it looks.

Just follow these steps:

1. Pull the release lever to unlock the hood.

Most cars keep the release lever by the driver's left knee, but some hide it down by the pedals. Pull it, and you'll hear a faint clunk as the hood unlatches. Congratulations — you've just beaten level one.

2. Slide your hand under the hood's front edge to release the latch and lift the hood.

Find the little metal lever in there — push, pull, or wiggle it (depending on your car) while lifting the hood. Don't worry if you look awkward; every mechanic does the hood shuffle at least once a day.

3. Prop it up.

Older cars come with a *prop rod* — a skinny metal stick that you must fit into a hole like you're assembling IKEA furniture. Newer cars usually have hydraulic struts that hold the hood up for you. If yours has struts, give thanks; if it has a rod, welcome to arm-day training. Before you work under the hood, make sure the prop rod is fully seated or the struts are holding the hood securely.



WARNING

A hood can fall if the prop rod isn't seated properly or if weak hood struts stop holding. Before you put your head or hands under the hood, make sure the prop rod is fully seated in the correct hole or that the struts are holding the hood securely. If the hood sags, shifts, or won't stay up, stop and fix the support before you continue.

Once the hood is up, take a minute to get familiar with the basics. You don't need to know how to rebuild an engine (yet), but spotting these parts (see Figure 1-2) makes you look 10 percent more confident instantly:

- » **Battery:** Usually a black box with two cables. Pro tip: Don't touch both posts at once unless you enjoy being a human fuse.
- » **Oil dipstick:** A little handle (often yellow or orange) that lets you check oil level. Think of the dipstick as your car's version of a bathroom scale.
- » **Coolant reservoir:** A translucent plastic jug with MAX and MIN lines. If the jug is empty, your car's basically dehydrated.
- » **Brake fluid reservoir:** A small container near the back of the engine bay. Keeping this reservoir topped up means your brakes will stop you instead of just suggesting it.
- » **Fuse box:** A black plastic box full of tiny fuses. Blow one, and your headlights or radio may go on strike.



TIP

Take a quick picture of the engine bay with your phone. Later, when you're asking, "What's that thing again?" you'll have your own cheat sheet.

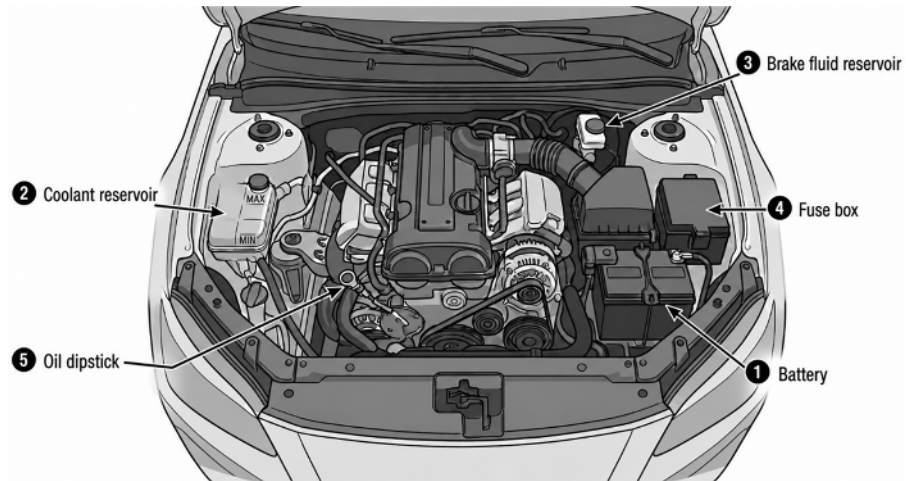


FIGURE 1-2:
Where to find
parts under
the hood.

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Taking Things Apart

The biggest rookie mistake? Not recording how something came apart. Losing or mixing up fasteners can derail a repair, and moving a ground wire to the wrong spot can keep the car from starting. Avoid that headache with three habits that take seconds and save hours later.

Before you even loosen the first bolt:

1. Take clear before photos.

Snap close-ups from a few angles. Get the routing of hoses and the order of washers/spacers in the frame. One photo can save a lot of head-scratching later — and it's satisfying to compare the before/after when you're done.

2. Bag and label hardware.

Think of each small part or group of parts as a little *sub-assembly* — basically a mini-unit of the bigger puzzle. When you take something apart, you want to keep all the nuts, bolts, and screws from each sub-assembly together in a labeled bag. That way, when you're putting it all back, you know exactly which little group of hardware goes where. It makes re-assembly way easier and a lot less of a guessing game.

3. Tag wires and connectors.

Wrap a small strip of color-coded electrical tape and add a quick note (A-A, B-B, or short words). You'll avoid a late-night wiring-diagram rabbit hole.

FIRST TEARDOWN CONFIDENCE

The first engine I took apart was with my 16-year-old son, right in the front yard. We bagged every bolt (labeled to its part) and stuck matching labeled tape on each piece laid out on the dining table in disassembly order. When it was time to put it back together, those bags and labels turned two first-timers into a team with a plan — and the engine ran. Use that approach for any job, big or small.



WARNING

Before unplugging electrical connectors (12-volt systems), disconnect the negative battery cable to prevent shorts. Never touch or open anything with orange-sheathed high-voltage cables — hybrid/EV work is for trained pros.

Here's a quick re-assembly checklist:

- » Match your tags (A-A, B-B) and confirm grounds are back on clean metal.
- » Hand-start all bolts and then torque in sequence to spec.
- » Do a final photo compare with your before shots.



REMEMBER

Grounds matter. A *ground* is the wire or strap that connects an electrical part to the car's metal body or frame so that electricity can return to the battery. Put each ground wire back on bare, clean metal in the exact location it came from. If the engine won't start after re-assembly, recheck your grounds and your photos/tags first. For a deeper dive into grounding, wiring, and other electrical troubleshooting, see Chapter 6.

Using Jacks and Stands to Lift Safely

Whether you're checking fluids or lifting a vehicle, a few simple safety steps can make the difference between a quick fix and a serious injury.



WARNING

Lifting a car is where safety gear really matters. Do it right, and the job feels routine; do it wrong, and you risk damage or injury.

Gathering big safety tools

Think of big safety tools like this: The *jack* is like a strong friend who can lift the car but can't hold it forever. That's what *jack stands* are for: They step in and do the heavy holding while you work safely underneath. And wheel chocks? They're

like parking boots for your tires; they keep the car from rolling away mid-job. Anytime you're lifting a car, you need all three: Lift it, lock it, and block it. No exceptions.

Here's a more in-depth explanation of each one:

- » **Hydraulic floor jack:** This tool lifts the vehicle off the ground. It rolls on wheels and uses a long handle to pump fluid through a metal plunger called a *piston*, giving you the power to raise even a heavy car with minimal effort. You place the flat pad under a designated *jack point*. (Check your owner's manual — the jack point is usually a reinforced pinch weld or metal cross-member.) Don't just pick a random spot; the wrong placement can crush parts or crack the body.
- » **Jack stands (rated in tons):** Jack stands are your real support system. Once the car is lifted, you slide them under the vehicle at proper jack points and adjust them to equal height. Then you lower the jack slightly so that the full weight rests on the stands, not the jack. Make sure the ground is hard and level — no gravel, no slanted driveways. Also, check the weight rating — a pair rated 2 tons means it can support 4,000 pounds total when used correctly (but that's split across both stands, not one).
- » **Wheel chocks:** You tuck these solid wedges in front of or behind the tires that stay on the ground — usually the opposite end of where you're lifting. So if you're raising the front of the car, chock both rear wheels. *Wheel chocks* stop the car from rolling or shifting while you work, even if it's in Park or gear. Think of wheel chocks as a cheap insurance policy that keeps gravity from becoming your enemy.



WARNING

Never crawl under a car supported by a jack — jacks can slip or leak. Set rated jack stands on a solid, level surface. Chock the wheels and do a quick shake test before going under. If the vehicle rocks, shifts, wobbles, or a stand or chock moves, do not go under it. Lower the vehicle, reset the jack stands and wheel chocks, and test again until the vehicle feels rock-solid.

Lifting an auto

Follow these steps — every time — in this order to safely lift an auto:

1. Park, prep, and secure the vehicle.

Work on level, solid ground. Put the transmission in Park (or in gear for a manual), set the parking brake, and place wheel chocks on the opposite end of the car from where you'll lift.

2. Find the jack points.

Use the owner's manual to identify reinforced lift points (often notches/ridges at the pinch welds or reinforced pads on trucks/SUVs). Only lift at these spots to avoid crushing bodywork or components.

3. Position the jack and raise the car slowly.

Center the jack pad on the lift point and raise the vehicle just high enough to place your jack stands at their support points. Pause if anything shifts or creaks.

4. Set jack stands and lower onto them.

Place rated stands under the correct support points at equal height. Lower the car onto the stands and remove light pressure from the jack.

5. Do a shake test.

Give the vehicle a firm push at a safe body point. If it wobbles, reset your stands and chocks until it's rock-solid.

6. Lower safely when finished.

Raise the car slightly, remove the stands, and lower slowly. Remove chocks last.



WARNING

A word of caution for EV & hybrid cars: Many vehicles have a battery pack under the floor. Don't place a jack under the battery. Use the EV/hybrid-specific lift points shown in the owner's manual; some models require adapter pucks.



WARNING

Check weight ratings on your jack and stands and be sure they meet or exceed your vehicle's weight. Some stand ratings are per pair, others per stand — confirm the manufacturer's convention.



TIP

As an additional backup (not a substitute for stands), you can slide a removed wheel under a sturdy rocker area away from your work zone. It won't hold the car, but it adds a margin of protection if something slips.

Dealing with Tire Changes

Flat tires never schedule themselves around your convenience. They show up in the rain, in the dark, or when you're already late. Knowing how to handle one — and having the right gear — keeps a hassle from becoming a hazard.



TIP

Even if you have roadside assistance, practice a tire change at home once. A sunny-driveway rehearsal beats learning on the shoulder while traffic blasts by. Also, familiarize yourself with these items:

- » **Wheel lock key:** Some cars use locking lug nuts to discourage thieves. The key looks like a funky socket and usually lives in the glove box or with the spare/jack kit. No key equals no wheel off, so confirm you have it before a trip.
- » **Torque wrench basics:** A *torque wrench* is a tool that lets you tighten bolts to a specific amount of force so that you hit that just-right zone — neither too tight nor too loose. There's a Goldilocks zone for lug nuts: Too tight can warp rotors or strip studs, and too loose risks a wobbly wheel. Use a torque wrench to tighten in a star pattern to the specified torque in your owner's manual or service info. For more on using a torque wrench and other essential tools, see Chapter 3.
- » **Modern alloys versus hubcaps:** Many newer cars have exposed lug nuts and no hubcaps. If your car has a center cap over the lugs, pop it off gently per the manual.
- » **Portable tire inflators:** A compact 12-volt or battery-powered inflator can top up a slow leak long enough to reach a shop. It's a temporary assist, not a repair.
- » **Plug kits:** For small tread punctures (think nails, not sidewalls), a simple plug kit can get you rolling. Treat plugs as temporary and have a pro inspect or repair the tire internally.
- » **Work lights:** A rechargeable LED work light or headlamp makes you visible and turns a roadside scramble into an organized task.
- » **Gloves and mats:** A pair of work gloves and a folding kneeling pad or mat save your hands and knees — especially on gravel, snow, or mud.
- » **Spare tire reality check:** Know what your car carries: full-size spare, space-saver ("donut"), or a *sealant/compressor kit* only. Your plan changes depending on what's in the trunk.



REMEMBER

After installing the wheel, torque the lugs in a star pattern to spec. Recheck the torque after a short drive if your manual recommends it.



WARNING

Never work under a vehicle supported only by a jack. Review the previous section in this chapter, set wheel chocks, and use rated jack stands on level ground before you do anything that puts you beside or under the car.



Lug hardware varies: Some wheels use conical (tapered) seats, others ball seats. Match the hardware to the wheel design and always follow the manufacturer's torque specification rather than a generic number.

For the full step-by-step tire change procedure (with diagrams), jump to Chapter 16.

Checking Out the Tire Pressure Monitoring System

That little glowing horseshoe on your dash isn't a good-luck charm — it's your car's way of saying check your tire pressures. The Tire Pressure Monitoring System (TPMS) warns you when pressure is low, but like any tech, it has quirks.

Here are a few important things to know:

- » **Automatic reset:** On many cars, once you inflate the low tire(s) to the door-jamb spec, the light turns off after a short drive.
- » **Manual reset:** Some systems need a Reset via a dash button or infotainment menu to tell the car pressures are set.
- » **Sensor issues:** Wheel-mounted sensors age and can fail. If the light stays on even with correct pressures (or flashes and then stays on), you may have a sensor or system fault, not a flat.
- » **Cold-weather effect:** A big outdoor temperature drop lowers pressure and can trigger the light in the morning. Inflate to spec and recheck after a short drive.
- » **Limits of older systems:** On cars made before 2008 — before the federal TPMS mandate kicked in — the system may not identify which tire is low or show the exact pressure. You'll just get a general warning, so you may need to check all four tires manually. For cars from 2008 onward, thanks to that mandate, the TPMS typically tells you exactly which tire is low and what the pressure is.

If the TPMS light comes on, follow these steps to make some checks:

1. Pull over safely and inspect.

If a tire looks obviously low or damaged, address that tire first. Keep a digital gauge and portable inflator in the trunk. When the light pops on, you can verify pressure and top up in minutes without hunting for a gas-station air pump.

2. Measure all four tires with a digital gauge.

Use the recommended pressure listed on the door jamb as your target, not the number on the tire's sidewall. The *door jamb* is the area inside the driver's door frame where you'll find a sticker with the correct tire pressures for your vehicle. The *sidewall* is simply the side of the tire, where you'll often see the tire brand and maximum pressure rating. That number on the sidewall is the maximum the tire can hold, not the recommended pressure for everyday driving — always go with the door jamb info for a safe and comfy ride.

3. Inflate to spec and recheck.

A compact inflator can top up a slow leak enough to reach a shop. Don't drive any distance on a severely underinflated tire — you can overheat and destroy the tire (and possibly the wheel). If in doubt, inflate first or call roadside assistance.

4. Drive a few miles or perform the reset.

Many systems clear automatically after driving; others require a Reset per your owner's manual.

5. Schedule service if the light persists.

A weak/faulty sensor or system fault needs a shop to test and replace/program.



REMEMBER

Think of TPMS as a backup — helpful, but you still check pressures monthly and before trips. (The monthly maintenance checklist in Chapter 2 reinforces manual pressure checks.)



TECHNICAL
STUFF

Some vehicles use direct TPMS (sensors in each wheel); others use indirect systems that infer pressure from wheel speeds. After tire rotation or sensor replacement, some cars need a relearn/reset procedure; see the owner's manual.

Handling Lockouts

Nothing stings quite like staring at your keys through the window. The good news: Lockouts happen to everyone (you aren't alone!), and you have safe ways to deal with them.

Here are a few tips for cars manufactured 2005 and onward:

» **Dead key-fob batteries:** Fobs are great . . . until they aren't. Keep a spare fob battery in the glove box or wallet and swap it when range gets wonky.

- » **Digital keys:** Many newer cars let you unlock with a smartphone app. It only helps if your phone's charged and you have service. Some models offer Bluetooth/NFC (Near Field Communication) unlock that works offline — check your manual.
- » **Hidden key inside the fob:** Many key fobs have a small mechanical key blade tucked inside. Look for a slider, latch, or release button on the fob, remove the key, and use it to unlock the driver's door if the fob battery dies. On some cars, the key cylinder is hidden behind a small cap on the door handle, so check your owner's manual before you actually need it.
- » **When all else fails:** Skip the coat hanger. DIY lock-picking ruins weatherstripping, scratches paint, and can trigger airbags. Call roadside help or a locksmith.

When you're locked out of an older car

This list provides tips for old-school lockouts (older cars, before the year 2005):

- » **Spare keys:** Skip the old magnetic box under the bumper (thieves know it). Leave a spare at home or with a trusted friend.
- » **Manual locks:** If a window's cracked, you might finagle the button — but pros have the slim tools; you have a wire hanger. See the problem?
- » **AAA/roadside assistance:** It's usually faster and safer than improvising — and often included in basic coverage.

What to do right now if you're locked out

If you're locked out right now, follow these steps:

- 1. Check all doors and the hatch.**

Sometimes one lock or handle behaves differently.
- 2. Try your manufacturer's app or digital key.**

Many newer cars have an app from the automaker (like the GMC app) that can unlock the doors.
- 3. Open the manufacturer's app and follow the unlock prompt; move to an area with a better signal, if needed.**

4. Use the hidden key in the fob.

Most fobs have a slide-release key blade. Pop the small cover on the driver's door handle to reveal the cylinder and unlock manually.

5. If the fob won't start the car once inside, hold the fob against the start button (or the steering column sweet spot) to start.

This step lets a weak-battery fob be recognized.

6. Call roadside help if the preceding steps don't work.

It's cheaper than replacing a bent door frame or airbag module.

THE MOST EXPENSIVE TWO MINUTES OF MY WEEK

We lock every car in the shop. It's a good policy — it keeps keys from walking away and makes sure cars don't get tampered with. But that policy turned into a problem one afternoon when we went to move a customer's vehicle . . . and the 12-volt battery had died.

No power meant the key fob didn't work. And even though we had the actual key, it couldn't unlock the door — the lock mechanism was completely electronic. So there we were, staring at a car we couldn't open, couldn't jump, and definitely couldn't move.

Now, I'm a mechanic — not a magician. I knew I could try to slide a tool in through the door seal to pop it manually, but that's also a great way to scratch the tint, bend the trim, or worse, trigger the side curtain airbags — none of which I wanted to explain to a customer.

So I called a locksmith. He showed up, did his thing, and had the door open in less than two minutes. And I swear that door clicked open smoother than anything I've ever touched.

The bill, on the other hand? That stung.

Lesson learned: Sometimes the smartest tool in the shop isn't a pry bar or scan tool — it's a professional with the right skills, and a credit card that can handle the damage.

