**Services**

**Air Conditioning**

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It's the first hot day of the summer. Uncomfortably shifting in your seat, you turn on that long-neglected A/C knob, only to discover an unwelcome blast of warm air streaming from the vents-a bad situation made worse. That's when you turn to us, your air conditioning service and repair headquarters. Did you know that without regular maintenance an air conditioner loses about 5% of its original efficiency per year? This means that without proper maintenance, your air conditioning unit may be performing as poorly as other models that are years older! But there is good news: you can still recover most of that lost efficiency. Schedule an appointment with one of our factory-trained professionals-we understand all aspects of A/C repair, from modern computerized components to environmental disposal concerns. Today's A/C systems are fairly complex and new improvements are always being initiated. That's why you need to turn to us, *the* qualified source for everything related to your air conditioning system. The following is a brief schematic of some of the basic components that comprise this system:

**Compressor:**

* The compressor is a belt-driven device that derives its name from compressing refrigerant gas and transferring it into the condenser. While basically acting as a simple pump, the compressor is the core of your vehicle's air conditioning system.

**Condenser:**

* The condenser's primary function is to cool the refrigerant. It is a heat dissipating apparatus that radiates heat released by compressed gases and condenses them into high pressure liquids. The location of your condenser depends on how new your car is, but typically it's found at the front of the vehicle, directly in front of the engine cooling radiator.

**Receiver (Drier):**

* The receiver is a metal container that serves as a storage receptacle for the refrigerant. It's also referred to as a drier because it absorbs moisture from the refrigerant and filters out particles of debris and harmful acids that would otherwise harm you A/C system. Commonly located on the liquid line of the A/C system, you should change your drier every 3-4 years to ensure quality filtration and prevent any damage caused by these detrimental chemicals.

**Orifice Tube/Expansion Valve:**

* The orifice tube (also known as the expansion valve) is a controlling mechanism that regulates the flow of refrigerant throughout the system. In addition to this, it also converts high pressure liquid refrigerant (from the condenser) into a low pressure liquid, so that it can enter the evaporator. Generally located at the evaporator inlet, the orifice tube could also be found between the condenser and the evaporator, or in the outlet of the condenser.

**Evaporator:**

* The evaporator is designed to remove heat from the inside of your vehicle; therefore it's a heat exchanger that's vital to your vehicle's A/C system (not to mention your comfort). The evaporator allows the refrigerant to absorb heat, causing it to boil and change into a vapor. When this occurs, the vapor is removed from the evaporator by the compressor, cooling your car and reducing humidity. Because the evaporator houses the most refrigerant in this heat transfer process, it is the most susceptible to corrosion by harmful acids. Usually this damages the evaporator beyond repair, which is why it's imperative you see us to prevent this from happening.

## Batteries

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Let's face it: you can have the most meticulously maintained vehicle on the road, but it won't start without the right battery, properly installed and appropriately fitted for your driving needs. From ignition to door locks, your car battery is the catalyzing force that allows you to get from point A to point B. The following is a brief overview of the electrical system that makes transportation possible:

##### 1. Battery

Composed of a series of lead plates submerged in a 35% sulfuric acid/65% water solution, your 12-volt battery houses a chemical reaction that releases electrons through conductors, producing electricity which is then channeled into your vehicle's electrical system. When your car's engine is off, the battery supplies electricity to all of the electrical system components, including the essential power required to start your vehicle. In periods of high demand, the battery also supplements power from the charging system.

##### 2. Charging System

The charging system is life force of your vehicle's electrical system, consisting of three main mechanisms: the alternator, various circuits, and the voltage regulator. The alternator has two roles. It: a) provides power to the electrical system, and b) recharges the battery after the car has started. The various circuits act as conduits for electrical power, and the voltage regulator controls the voltage passed through these circuits. Remember, all of these components require consistent attention and maintenance. It's not just your battery that needs to be replaced every so often; if one of these components should fail, that pulsating power source is now reduced to a lifeless, twenty pound paper weight.

##### 3. Starting System

It may seem obvious that the starting system turns your vehicle's engine on, but did you know that this process consumes much more electrical power than anything else your car does? That's because the starting system consists of three components working one after another. Here's how it works: there's the ignition switch, the starter relay (or solenoid), and the starter motor. Turning the key causes a small amount of current to pass through the starter relay, allowing a stronger current to flow through the battery cables and into the starter motor. The starter motor cranks the engine, forcing the piston to create enough suction that draws a fuel and air mixture into the cylinder. The ignition system creates a spark that ignites the mixture, and combustion is born.

**Belts**

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Among all the equipment in your vehicle, belts and hoses have the shortest lifespan. Due to constant exposure to heat, vibration, and harmful chemicals, these components invariably crack, leak, fray, and peel. If not promptly replaced and maintained, this could spell disaster for the performance of your vehicle. **And evaluating the condition of your belts and hoses only on their appearance is not enough!** Diligent inspection is required, and we are here to do it. Here is a sample of how we ensure belt and hose quality:

**Visual Inspection of Belts**

* Search for clear indications of damage (cracking, glazing, softening, or peeling)
* Test for correct tension
* Test for correct alignment
* Record belt condition for future reference

**Visual Inspection of Hoses**

* Search for clear indications of damage (leaks, cracks, hardening, or softening)
* Test cooling system for leaks using state-of-the-art pressure technology
* Record hose condition for future reference

It is vital to inspect your vehicle's belts and hoses on a regular basis because often times a damaged piece has serious effects on the condition of your vehicle. Research shows that while most people are attentive when it comes to regular oil changes, they hardly devote any concern at all to the condition of their belts and hoses. A leaking hose or a cracked belt will cause you more trouble than an overdue oil change ever will! The following is a brief description of some of the different belts and hoses we inspect:

**Drive Belts:**

* The engine itself is used as a power source to drive some of your vehicle's accessories. Instead of being supplied by electric power, these accessories rely on a series of pulleys and belts to operate. Some of these accessories include:
  + Power steering pump
  + Alternator
  + Air conditioning compressor
  + Radiator cooling fan
  + Water pump

Most older vehicles require a single serpentine belt to power these accessories (as opposed to several individual belts).

**Hoses:**

* If you think of hoses as your vehicle's circulatory system, then you'll have an appropriate representation of how important they are. Channeling car fluids to their correct destination, hoses are composed of two rubber layers with fabric in between. Types of hoses vary on make and model, but typically they include:
  + Fuel hose (sends gasoline from the gas tank to the engine)
  + Radiator hose (delivers coolant to engine)
  + Power steering hose (connects power steering pump to steering equipment)
  + Heater hose (provides coolant to heater core)

## Brakes

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Our ASE-certified technicians take professionalism to the next level by offering courteous and knowledgeable service to all of our customers. Continually striving to master every aspect of automotive care, ASE technicians follow Motorist Assurance Program Uniform Inspection Guidelines for your vehicle's braking system to assure safe, smooth driving.

When your mechanic is wearing the ASE patch, don't expect to get to know him—you won't be back in a long time! That's because our ASE technicians do the job right the first time. They inspect the following braking components:

##### Disc Brakes:

* Disc brake rotors and pads
* Calipers and hardware

##### Drum Brakes:

* Brake drums and shoes
* Wheel cylinders
* Return springs

##### Parking Brake:

* Cables

##### Hydraulic System:

* Master cylinder
* Brake fluid and hoses
* Power booster

The brake system equipped in your vehicle is a culmination of over 100 years of technological innovation, transforming crude stopping mechanisms into dependable and efficient pieces of speed variation equipment. While brake systems vary by make and model, the basic system consists of disc brakes in front and either disk or drum brakes in the rear. Connected by a series of tubes and hoses, your brakes are linked to each wheel and the master cylinder by said network, which supply them with vital brake fluid (hydraulic fluid).

We'll take a closer look on how this works, but first we'll provide a brief overview of the critical components that make braking possible. We can summarize all of your braking equipment into two categories:

#### Hydraulics

##### Master Cylinder:

When it comes to your vehicle, think of the master cylinder as a pressure converter. When you press down on the brake pedal (physical pressure), the master cylinder converts this to hydraulic pressure. This pressure is used to propel brake fluid to the wheel brakes.

##### Brake Lines and Hoses:

Steel braided brake lines and high pressure, shock, and road resistant brake hoses are the channels which deliver pressurized brake fluid to the braking unit(s) at each wheel.

##### Wheel Cylinders and Calipers:

Wheel cylinders consist of cylinders surrounded by two rubber-sealed pistons that connect the piston with the brake shoe. When brake pressure is applied, pistons are forced out, pushing the shoes into the drum. Calipers squeeze brake pads onto the rotor to stop your car. Both components apply pressure to friction materials.

#### Friction Materials

##### Disc Brake Pads and Drum Brake Shoes:

A disc brake uses fluid (released by the master cylinder) to force pressure into a caliper, where it presses against a piston. The piston then squeezes two brake pads against the rotor, forcing it to stop. Brake shoes consist of a steel shoe with a steel shoe with friction material bonded to it.

##### How It Comes Together:

When you first step on the brake pedal, you are triggering the release of brake fluid into the system of tubes and hoses, which travel to the braking unit at each wheel. This is because you actually push against a plunger in the master cylinder, causing the fluid to be released. Now because brake fluid can't be compressed, it journeys through the network of tubes and hoses in the exact same motion and pressure it initially began with. And when it comes to stopping a 2,000 pound steel assembly at high speed, this consistency is a good thing. But the performance of your brakes can be affected when air is introduced into the fluid; since air can compress, it creates sponginess in the pedal, which disrupts this consistency, and results in bad braking efficiency. The good news is that "bleeder screws" (located at each wheel cylinder) can be removed so that the brake system is "bled" to remove any unwanted air found in your system.

## Collision Repair

[Home](http://www.brandonautoservices.com/index.htm) » [Services](http://www.brandonautoservices.com/services.htm) » Collision Repair

**(813) 689-2050**

If you have been in an accident and need your car inspected by professionals, we are the best choice! We have professionals who work with you and/or your insurance company to make sure that all costs are covered and understood. Once we get the car here, we do a thorough inspection to determine what needs to be repaired and get you an accurate estimate. We offer free estimates and our service is top of the line. Please call (813) 689-2050, email, or come into the store for more information.

**Collision & Body Repair - glass replacement, mirrors, window regulators, bumper painting, lamps, insurance work, and batteries.**

At **Brandon Auto Services, Inc**., we strive to provide you, the vehicle owner, the highest quality of workmanship and professionalism. In cooperation with your insurer, we promise to get you back on the road as soon as possible.

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| Services available at our **Brandon Auto Services, Inc**. Valricolocation:  • Windshield replacement • Vandalism Repair • Parts replacement • Repair of existing parts • Complete repainting and touch-up • Airbag replacement • Towing is available • Add'l services including car rental & customer   transport | Brandon Auto Repair  **Before**  Brandon Auto Repair **After** |

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| Brandon Auto Repair **Before** | Brandon Auto Repair **After** |
| Brandon Auto Repair **Before** | Brandon Auto Repair **After** |

**Paint**  
We have a Binks down-draft spray booth to guarantee an exceptional finish. It also allows for expert color matching.  
  
Frame RepairWe use unibody frame repair machines to secure better alignment nd fit of sheet metals.

We offer **LIFE-TIME WARRANTEE** on our workmanship. We use top quality products and do professional work. Our Goal is to repair your vehicle so no-one can tell it has been damaged but you and us.

**Computerized Alignment**

[Home](http://www.brandonautoservices.com/index.htm) » [Services](http://www.brandonautoservices.com/services.htm) » Computerized Alignment

What would happen if you gave an Olympic long-distance runner two different types of athletic shoes to run his next race? Chances are his performance would suffer. The same can be said about your car's driving potential if its alignment isn't correctly positioned. When vehicle alignment is not proportioned correctly, two issues may occur:

1. Driving becomes more *expensive*
2. Driving becomes more *dangerous*

Driving in a vehicle without proper alignment is an expensive enterprise. Not only does flawed alignment decrease gas mileage and tire life, it also adds stress to other vehicle components, including steering equipment and overall structural damage. Ideally, your vehicle's wheels should be perpendicular to the ground and parallel to each other. Adjusting the angles of the wheels so that they meet these criteria is how our service professionals ensure your vehicle is properly aligned.

Driving in a vehicle without proper alignment is a dangerous idea. A car that is out of alignment can pull or drift away from a straight road, resulting in a possibly fatal situation. Excessive tire wear—another result of bad car alignment—can lead to tire blow-outs and poor traction, which also has potentially disastrous consequences. That is why it is imperative you let our alignment experts make sure you're driving smoothly and safely.

**So, how does it happen?**

Your vehicle's alignment can be impacted by a variety of factors. An obvious indication that you require our computerized alignment service is a major or minor collision that results in physical damage to your vehicle's frame. Steering problems or the presence of uneven wear patterns on your tires are clear signs that demand immediate attention. But alignment problems don't only occur by collisions and accidents; problems can arise by something as small as driving over a pothole, or grazing over a curb. The following descriptions are symptomatic alignment variations you should look for in order to determine if you require our computerized alignment services.

**Caster:**  
Caster is used to describe the angle of a steering pivot, as seen from the side of the vehicle and measured in degrees. Caster alignment plays a large role in evaluating the "feel" of steering and the stability of high-speed transportation. Three to five degrees of positive caster is typical for most vehicles, and lower angles for heavier vehicles are used to keep steering comfortable. A faulty caster angle will cause loose or difficult steering.

**Camber:**  
Camber is the angle of the wheel in relation to a vertical direction (seen from the front or rear of the car). A negative camber measurement occurs when a wheel leans toward the chassis; a positive measurement points the wheel away from the car. An ideal camber angle assures optimal tire efficiency, proper steering control, and a precautionary "anti-roll" directive that engineers have adapted into vehicle designs to negate the effects of a body roll. A faulty camber angle will create pulling and tire wear.

**Toe:**  
Like camber and caster, toe is measured by degrees and is another basic aspect of suspension tuning. When a pair of wheels are placed with their front edges pointed toward each other, the pair is defined as "toe-ins." If the front edges point away from each other, the pair is defined as "toe-outs." Essentially, a toe changes the distance between the front and back of the rear tires, and a faulty toe angle will wear down your tires.

**I visited your shop and my alignment is now correct. What can I expect now?**  
When your wheels are properly aligned, you'll get:

* Tires that last longer
* Easier steering
* Improved gas mileage
* Smoother ride
* Safer, more secure driving

## Exhaust

[Home](http://www.brandonautoservices.com/index.htm) » [Services](http://www.brandonautoservices.com/services.htm) » Exhaust

Your exhaust system is more than a muffler. It is a series of pipes that run under your car, connected to your muffler and catalytic converter. The main function of your exhaust system is to control noise and to funnel exhaust fumes away from passengers.

In some ways, a car's exhaust system works like a chimney on your house, directing the byproducts from burning fuel away from the people inside. A car's exhaust system routes waste gases from the engine to the rear of the car, where they are discharged into the atmosphere. Exhaust gases contain dangerous substances such as carbon monoxide, which can be hazardous if allowed to flow into the passenger housing of the car.

The exhaust system also converts pollutants into less harmful byproducts, reduces the noise of the engine, and directs exhaust gases so they can be used to heat air and fuel before they go into the engine's cylinders to be burned. Finally, the exhaust system provides just the right amount of backpressure into the engine to improve its fuel-burning efficiency and increase performance. Key components of your exhaust system include:

##### Exhaust Pipes:

Designed specifically for each car model to properly route exhaust to the back of the car.

##### Exhaust Manifold:

Acts like a funnel, collecting exhaust gases from all cylinders and releasing it through a single opening. Some engines have two.

##### Catalytic Converter:

Designed to reduce the amount of harmful emissions products by transforming pollutants into water vapor and less harmful gases.

##### Muffler:

Metal container with holes, baffles, and chambers that muffles exhaust noise.

##### Resonator:

Works with the muffler to reduce noise.

##### Tail Pipe:

Found at the back of the car, the tail pipe is designed to carry exhaust gases away from the vehicle

All components of the exhaust system are connected with a series of clamps, hangers, flanges, and gaskets.

**Shocks and Struts**

[Home](http://www.brandonautoservices.com/index.htm) » [Services](http://www.brandonautoservices.com/services.htm) » Shocks and Struts

The primary function of your car's suspension and steering system is to allow the wheels to move independently of the car, while keeping it "suspended" and stable. Any play or uncontrolled motion in these systems results in a deterioration of handling and accelerated tire wear. Vehicle alignment is closely tied to the condition of the suspension and steering systems.

**Suspension System**

Worn or loose components affect the suspension system's ability to control motion and alignment angles, resulting in a deterioration of vehicle handling and stability, and accelerated tire wear. The main components of the suspension system are:

* Control arms
* Ball joints
* Springs (coil or leaf)
* Shock absorbers
* Struts

## Shuttle Service

[Home](http://www.brandonautoservices.com/index.htm) » [Services](http://www.brandonautoservices.com/services.htm) » Shuttle Service

Finding enough time during the day to get your car fixed, serviced, or checked out can be a challenge. We feel it's important to have a great shuttle service that will bring you to and from work or home so that you can continue with life as usual. To take advantage of this service, please call or email us to find out more.

## Tire Repair

[Home](http://www.brandonautoservices.com/index.htm) » [Services](http://www.brandonautoservices.com/services.htm) » Tire Repair

Travelling on an improperly repaired tire is dangerous and can create further damage. An incorrectly repaired tire may fail when driven at a high speed, causing loss of vehicle control.

When considering repairing a punctured tire, you need to evaluate the damage the tire has sustained. Reestablishing an airtight seal of the tire's interliner and completely filling the path of the puncture is necessary to ensure a proper repair.

Any repair attempt without removing the tire from the wheel is not proper procedure. It's important to inspect the inside of the tire for hidden damage that may cause the tire to weaken even more. Punctures in the tread area that look repairable often prove to consist of more damage to a greater area of the tire, including the sidewall from the inside. Without removing the tire, the entire scope of the damage is hard to see.

Proper tire repair is critical, and any leak, puncture, or injury to a tire will affect its performance. If you have any questions regarding the condition of your tires, ask us and we'll be glad to inspect them for you. If you have a damaged, punctured, or leaky tire which can be safely fixed, we can help.

**Transmission Maintenance**

[Home](http://www.brandonautoservices.com/index.htm) » [Services](http://www.brandonautoservices.com/services.htm) » Transmission Maintenance

For those of you who aren't mechanically savvy, you probably still understand that transmission problems are among the most expensive repairs required for your vehicle. That's because your transmission is a complex system of gears that transmit mechanical power to your engine, ultimately determining the rate of speed you travel. Transmissions convert this power from the engine so that it can supply high torque at low speeds, in addition to selecting which gears are appropriate based on the driving conditions. This is especially true with automatic transmissions-by far the most popular transmissions found in the US. Rather than using a clutch to engage the transmission, automatic transmissions use a torque converter (between the engine and transmission) to control the number of gears when driving. Supplying the power to regulate gear action is a demanding task, which is why it's important for you to contact us, your transmission service specialists. Here are some of the essential maintenance tasks we complete:

* Drain transmission and torque converter
* Refill Automatic Transmission Fluids (ATF) with new fluid

Transmission problems typically arise when regular service is neglected. When fluids aren't properly changed, heat caused from mileage friction results in rough shifting, accelerated wear, and even complete failure. That's why it's essential that you turn to us to make sure that your transmission is lubricated and cooled by the finest quality transmission fluids, installed by our service professionals.

**Tune-Ups**

[Home](http://www.brandonautoservices.com/index.htm) » [Services](http://www.brandonautoservices.com/services.htm) » Tune-Ups

Getting your car tuned up may be the best way to make sure you are increasing the overall life of the vehicle while maximizing its gas mileage and power. Tune-ups should happen at least every 30,000 miles or every two years, depending on the age and mileage of the car. The goal of a tune-up is to make sure that all the "little things" that are often overlooked are working correctly and being replaced if needed. Here is a typical tune-up:

1. Replace the fuel filter. Filters get clogged with particles, which can decrease the efficiency and power of the car. If you have a fuel-injected vehicle, filter replacement is not always necessary, unless the injectors are clogged.
2. Change the spark plugs and check the plug wires. Loss of mileage, loss of power, and rough starts are often attributed to bad plugs or wires. We want to make sure you get new plugs that are spaced correctly, and that we replace any old wires that are in bad shape.
3. Replace the distributor cap and rotor. New cars are coming out without these two items, but if you have them, they will get replaced to prevent future breakdowns.
4. Check the ignition system and timing. This is for older vehicles that rely on ignition timing.
5. Make sure that valves are adjusted if needed and check/replace gaskets if oil is leaking.
6. Belts are an important part of the tune-up. There's nothing worse than having a belt bust on you while you are driving down the road. All belts will be checked and replaced if signs of wear are present.
7. Check all fluids and top off any levels as needed.
8. Change the oil and filter if needed.
9. Check and replace the air filter.
10. Check and adjust the clutch in cars with manual transmission.
11. Service the battery by cleaning cables, adding distilled water, and cleaning the terminals.

**Wheel Balancing**

[Home](http://www.brandonautoservices.com/index.htm) » [Services](http://www.brandonautoservices.com/services.htm) » Wheel Balancing

Often confused with wheel alignment, a properly balanced wheel is a beautiful, perfectly tuned wheel-tire combination. This is accomplished by placing measured lead weights on the opposite side of the "heavy spot"—the noticeable tread wear on your unbalanced tire.

**How do I know if I need my wheels balanced?**

Is your vehicle vibrating at certain speeds, say, between 50 and 70 mph? If so, chances are your wheel is out of balance. One section of your tire is heavier than the other because it's endured more exposure to the friction and heat of the road. Come in for prompt, professional service—most people are very satisfied with the difference such a simple and inexpensive procedure makes. Look for these signs, and if you find either one, come see us:

* Scalloped, erratic wear pattern on tires.
* Vibration in steering wheel, seat, or floorboard at certain speeds.