

Day 14 Make Up Assignment

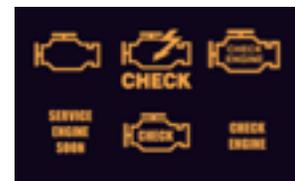
Objective: Students will be able to identify and assess vehicle failures and react and respond appropriately to vehicle warning signs and potential problems.

Your vehicle is the tool you use to get you where you want to go conveniently. It is a very expensive tool and must be maintained so that it runs as safely and economically as possible. You do not need to become an expert mechanic, but you do need to know the basic functions of your vehicle and how to assess warnings and problems that may arise when driving. Your vehicle will give you information about its performance through your dashboard. We will review some of the warning lights and symbols you may see on your dashboard that alert you to potential problems and how your vehicle is operating. Let's have a look at some common alerts that may appear on your dashboard as you are driving.

Dash Alerts & Symbols

Service Engine Light

Vehicles today have complex computer systems that constantly gauge the performance of the vehicle. These computers monitor the operation of the fuel, ignition, and emission systems. This check engine light should come on when you first turn your ignition switch to on. Once you start the engine it should go away, however if it stays on or comes on while driving, the computer is telling you that there may be a problem. If this check engine light continues to stay on, you will want to take your vehicle to a service center so that a technician can analyze and repair the problem.



Temperature Gauge\Light

This is a very important indicator light and is one that should not ever be ignored. This light informs you of the operating temperature of your vehicle's engine. If it comes on while driving immediately pull off the road as soon as it is safe to do so and get professional help. Increased engine temperature may indicate that your radiator needs water. Never open the radiator cap when the engine is hot.



Oil Pressure Warning Light



Your vehicle's engine must have oil in order to function properly. Each time you refuel your vehicle you should check your engine oil level. If the level is low you should add oil. An engine that runs without oil will not last very long. When this light comes on it is an indication that there is a problem with the oil pressure or oil level running through your engine. If this light comes on while driving seek out the nearest service station as soon as possible.

Alternator Warning Light\Gauge



Problems with your battery or alternator are indicated on your dashboard by a small battery symbol. The battery and alternator control all of the electrical systems in your vehicle and this light indicates a problem with either the alternator or the battery. The alternator is responsible for charging your vehicle's battery. The battery stores the electricity needed to run your vehicle. If your alternator is not functioning properly, it will not recharge your battery and when the battery finally runs out of electricity, your vehicle will not run. If this indicator light comes on have your battery and alternator checked by a mechanic.

Brake System Warning Lights

Most vehicles have an indicator light if you have applied the parking brake and forget to release it prior to driving. Most modern vehicles have an anti-lock braking system which will have its own indicator light on your dashboard. The light usually comes on when you first start your engine but the light should go off when everything is running properly. If the light comes on while driving there may be a problem with your anti-lock braking system. You should take your vehicle to a service center as soon as possible. Your braking system also requires brake fluid. You should ask this to be checked each time you have your oil changed to be sure that your brakes are working properly.



Low Fuel Warning Light



The fuel gauge lets you know how much fuel you have in the tank when your ignition is on. Most vehicles will give you a warning message letting you know when you have about 2 gallons of gasoline left. It is best to refill your tank as soon as your vehicle indicates low fuel.

Airbag Warning Light



This indicator light should come on briefly when you first start your engine. If all airbags are working properly, the indicator light should go off after a few seconds. If the light stays on or comes on while driving, there may be a problem with your airbags. Take your vehicle to a service center to have them repaired.

No Seat belt Light

In Texas everyone in the vehicle is required to wear a seat belt. When the driver does not fasten his or her seat belt, a warning light and sound will alert the driver to fasten their seat belt. Many vehicles now have this morning system for passengers as well.



Door Ajar Light

This indicator will come on if one or more of the doors of your vehicle are not closed properly. The light will stay on until the problem is corrected. If you notice this indicator light while driving, it is best to pull over to the side of the road before attempting to close the door properly. Do not try to open or close a door while driving.



Vehicle Malfunctions

No matter how well you maintain your vehicle, at some point in your driving career you will face a situation where your vehicle experiences a mechanical problem. Although it is a stressful time, you must remember not to panic. Stay calm so that you can react to and assess the situation and come up with the best possible solution.



One of the most common vehicle malfunctions drivers face is tire failure. All tires will eventually wear out and even with the best maintenance, you may be faced with a flat tire while driving.

You can minimize the possibility of a blowout or flat tire by replacing your tires when the tread is worn. Check your tire pressure regularly. Each time you refuel, do a thorough visual check of the tread and sidewall. If you see wear and tear, bulging, or cracks in your tire it may be time to replace them. It is also important to rotate your tires to equalize the wear on each side of the tire. If you feel shaking or vibration on your steering wheel while driving you may need to have your tires balanced or aligned. By doing so you can extend the life of your tires and minimize the chance of a blowout or flat. There will be times however when there are objects in the roadway that you cannot avoid and should you hit one of these objects, you may experience a blowout or flat tire.

When you have a blowout or flat tire, your vehicle will react depending on which tire has the problem. If the problem occurs on one of your front tires, the vehicle will pull to the side where the flat occurred. If the problem occurs on one of your rear tires, the rear end of the vehicle will shake and pull in the direction of the flat tire.

If you experience a flat tire while you are driving keep the following in mind:

****Look down your intended path of travel and keep a firm steady, grip on the steering wheel to maintain a straight course.**



****Resist the temptation to apply the brakes. Simply ease up on the accelerator allowing the engine to slow the vehicle gradually. If you have trouble steering, apply the accelerator slightly to help you steer in the direction you need to go.**

****When you feel you have control of the vehicle, lightly apply the brakes with easy steady pressure and pull off the road when it is safe to do so.**

VIDEO: Changing a Flat Tire

Engine Failures

Engine stalls

When your engine suddenly stops while driving, it is called a stall. Mechanical failure, an empty fuel tank, excessive water or cold weather are the most common causes of an engine stall. If you experience this while driving here are some things to remember:

****Shift to neutral. Avoid hitting your brakes as you may need your momentum to steer you off the road.**

****Activate your hazard lights.**

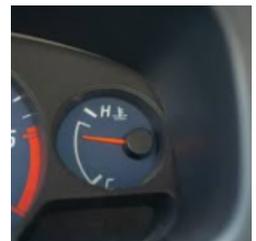
****Try starting your engine again several times. If the engine restarts shift to the appropriate gear, accelerate and turn off your hazard lights. If your engine does not start, check traffic, choose a safe path of travel, and try to steer off the roadway.**

****If you are able to steer off the roadway, apply brakes with continuous pressure until you stop and find a safe place to park.**

Keep in mind that the power steering and power braking functions will not work properly during an engine stall. Your steering wheel will become much more difficult to turn. Grip the steering wheel firmly and steer deliberately to control your vehicle. Power brakes will work normally for one or two applications during an engine stall. Apply the brakes in one continuous application but try not to release the break completely. If you do so the brakes may require much greater pressure to reduce the speed of your vehicle. You can help prevent engine problems by maintaining your vehicle at regular service intervals. Check your owner's manual for recommended service times. Also keep an eye on your fuel gauge each time you start your engine. Each time you stop to get gas, check your fluid levels, including oil level, radiator fluid level, brake fluid level etc. If you are traveling in cold or rainy weather or heavy traffic be extra vigilant as problems are more likely to occur in these driving conditions.

Engine overheats

If you notice that the temperature gauge or temperature indicator light is rising above the normal level, your engine may begin to overheat. This may occur in extremely hot weather, during slow-moving traffic, or because of a mechanical defect in the cooling system. When in heavy traffic, increase your following distance between you and the vehicle ahead of you. Turn your heater on to the hottest position and turn the fan on high. When stopped out the car into neutral



and try revving your engine slightly to see if the temperature will return back to the normal range. If the temperature does not go back down here are some things keep in mind:

**Try to get off the roadway and onto the shoulder when it is safe to do so.

**Park in a safe place and turn off the engine.

**Activate your hazard lights.

**Open the hood carefully to allow the heat to escape. Try to cover your hand with a glove or cloth as the air escaping from under the hood will be extremely hot.

**Once it is safe to do so visually inspect all hoses, belts, and look for anything out of the ordinary.

**Once the engine has cooled down, check the coolant level to see if it is low or empty and try to find a container of water.

**Unlock and turn the radiator cap slightly and carefully and step back from the vehicle. There will be a lot of pressure that has built up inside the radiator which will be released quickly once you remove the cap. Once the pressure has been released push and turn the radiator cap to remove it completely and add some water slowly.

**With the lid still removed, start the engine and fill the radiator completely as needed. Close the hood and proceed to the nearest service center to have a cooling system checked.

**If you are unsure what to do, call for help and wait for a professional. It is never a good idea to drive a vehicle that is overheating as this can damage the engine significantly.



You can prevent problems with overheating by checking your coolant system each time your vehicle is at a service facility. Each time you have your oil changed is a good time to also inspect the cooling system. Technicians can check fluid levels and add or change the coolant as recommended.

Steering or braking failure

Steering and braking are probably the two most important parts of your vehicle and a breakdown in these systems is very rare. However, you should be aware of how to react should either of these systems malfunction.

Should your steering completely fail, keep these in mind:

**Activate your hazard lights and use your horn to warn other drivers that you are having a problem.

**Shift your vehicle into neutral to avoid further acceleration.

**Shift to a lower gear if possible, to reduce speed and prepare for a crash as you may not be able to control the direction your vehicle will move.

Most vehicles today have a dual braking system. If one fails the other will stop your vehicle and a warning light will advise you that you have a problem. Partial or temporary brake failure may

occur when your brakes are overly wet, overly hot, or if your brake fluid level becomes too low. Should your braking system completely fail, here are some things to keep in mind:

- **Downshift using your gears, often called engine braking.
- **Pump the brake pedal several times to see if you can restore braking power.
- **Activate your hazards to warn others of your situation.
- **Select a safe path of travel as you slow down and try to steer away or around obstacles.

Fire

Although rare, vehicle fires do occur and you must act quickly to reduce the danger to people and other property. If you smell or see smoke, there is most likely a fire in your vehicle. Keep these things in mind:

- **Activate your hazards if possible.
- **Select a safe path of travel and steer your vehicle off the roadway. Try to park away from people, other vehicles, or other buildings especially gas stations.
- **Turn off your ignition and remove all occupants from the vehicle. Walk away to a safe distance from the vehicle, at least 100 feet. Call 911 and notify the fire department.



Depending on the cause of the fire, you may be able to extinguish it yourself. If the fire is due to a cigarette, a match, or in an ashtray, locate the problem and try to put it out. If you have a fire extinguisher or a blanket you may be able to try smothering the fire. However, if the fire is under the hood do not raise the hood. It is best to wait for the fire department if the fire seems to be under the hood or under the dash.

Systems that keep your vehicle operating

Fuel System



It is important that you use the correct fuel recommended for your vehicle. This will help your vehicle run efficiently, save you money, and allow you to drive more miles on each tank of gas. Most fuel systems today are computer controlled and help your vehicle run as efficiently as possible. The fuel system has the following basic components: the fuel tank, the fuel line, the fuel injection system, the fuel filter, the fuel pump, and the air filter. All of these parts work together to make your vehicle move when you press on the accelerator.

Lubricating System

Your engine needs oil in order to run properly. It is important to check your engine oil level frequently. Consult your manual to determine the best type of oil for your vehicle and how often you should have the oil changed. Oil change intervals vary from vehicle to vehicle. Never let your engine oil get too low. Engine oil keeps the moving parts of your engine running smoothly and also keeps the engine cool. Low oil levels can make the engine run too hot and increase wear and tear. Low oil levels can also cause the loss of oil pressure which will completely destroy a vehicle engine.



Electrical System

Electrical system problems are the main cause of vehicle malfunctions. Your vehicle must have a battery in order to perform properly. When the battery stops working, your vehicle will not run. It is important to inspect your battery for corrosion, particularly in extreme temperatures, either very hot or very cold weather. The alternator works in conjunction with your battery to keep all of the electrical parts of your vehicle working. If the check battery light comes on, you may have a problem with your alternator.



If your battery seems to be dead, you may be able to jump start it using another vehicle and some jumper cables. This usually will give your battery enough power to get you to a place where you can have your battery inspected and replaced.

Other Vehicle Systems

Windshield wipers



If you begin to notice your windshield wipers are streaking or smearing and not clearing the windshield properly, it may be time to replace them. They are typically not very expensive and are important to help keep your windshield clear giving you the best view of the road possible.

Lights

Your vehicle is equipped with a variety of lights. It is important that your vehicle is in proper and legal working order. A tail light, headlight, turn signal, or license plate light that burns out could result in a traffic citation. Once a month, at night, inspect your vehicle for lights that may be burned out. Some vehicles are equipped with technology that alerts the driver that there is a problem with one of the vehicle's lights. When you activate the turn signal, it may click at a faster than usual speed indicating there is a problem with one of the exterior lights on your vehicle. Special attention should also be paid to your headlights and the direction in which they aim. They should be clean, clear from any insects, dirt, and other wear and tear that keeps them from shining as brightly as they should. Clean them regularly and have them checked at a service center periodically to make sure they are aiming in the direction intended. Should you experience sudden headlight failure, turn on your parking lights, emergency flashers or turn signals. Typically, the high beam lights and the low beam lights work independently of each other so one may work even though the other is out.

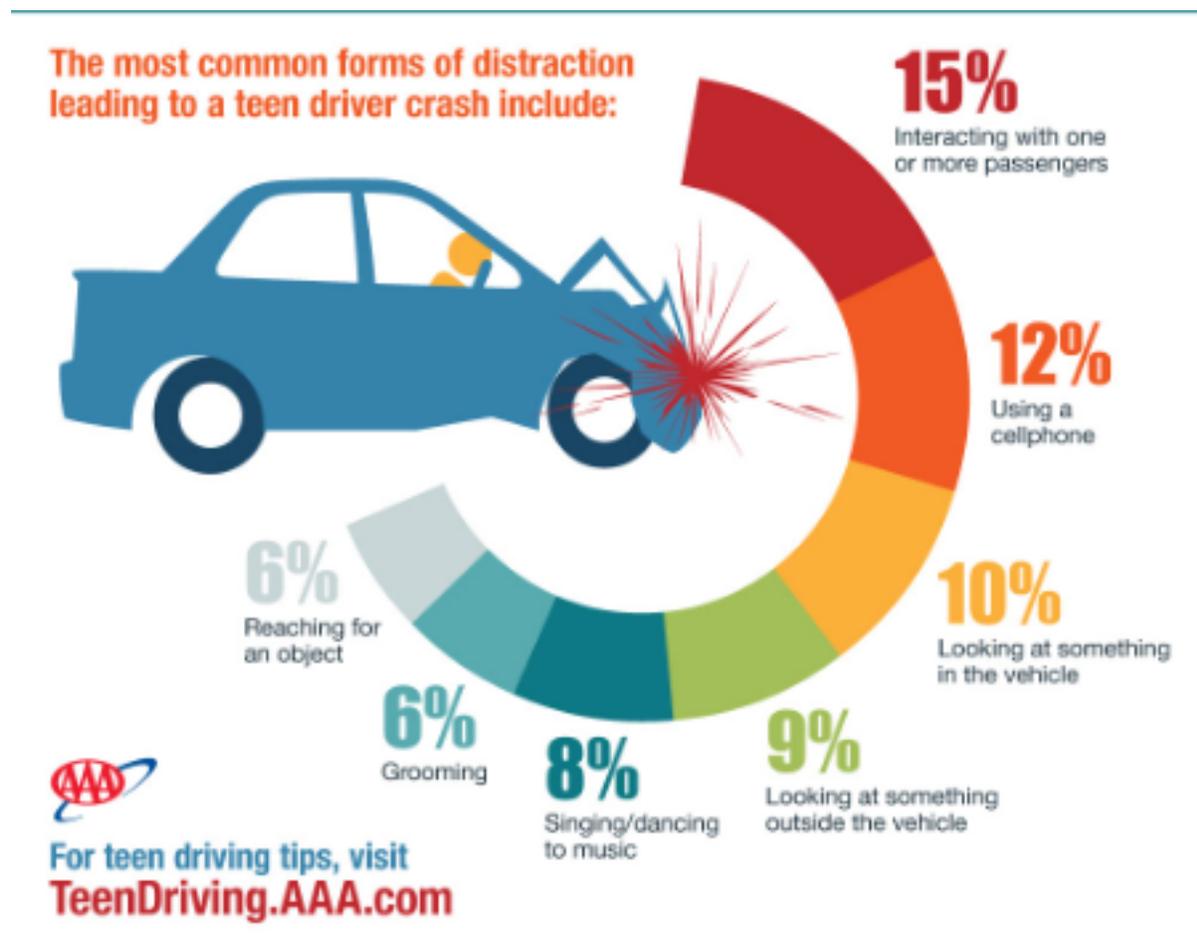
Emergency equipment checklist The following items are important to keep in your vehicle in case of an emergency:

- **Flashlight with fresh batteries
- **Jack and a flat board to cover soft surfaces
- **Screwdriver
- **Pliers
- **Lug wrench
- **Wiping cloth
- **Flares or reflective triangles
- **Tire gauge
- **Extra drive belts
- **Ice scraper
- **Pencil and notebook
- **Gloves
- **Blanket
- **Jumper (booster) cables



Objective: The student will be able to identify distracted driving behaviors and relate the impact of these types of behaviors to reduced risk driving.

A vehicle, if used inappropriately, improperly, or irresponsibly, can become a deadly weapon. As a driver you are responsible and accountable for your choices and actions. The moment you turn on the engine you become accountable for your own safety, the safety of people riding with you, and the safety of all other people who share the roadway with you. Driving is a task that requires you to put others before yourself. When you are driving a car it is up to you to focus, put aside distractions, and place your full attention on the driving task. It is up to you to be a safe, legal, and responsible driver of a motor vehicle. You must apply techniques that result in reduced risk driving. Your attitude, your health and well-being both mentally and physically, in addition to your driving skill and experience all contribute to safe, responsible, reduced risk driving.



Friends, our phone, the radio, fatigue, boredom... All of these and many more constantly compete for our attention when we drive. There are many times when we do not pay attention as closely as we should however none of those times compare to the result of driving a car and not paying attention. Driver distraction and inattention cause major problems and result in thousands, perhaps millions of collisions and way too many deaths every year. Young drivers are particularly susceptible to distracted driving. It will be extremely important for you to limit,

prevent, and continually resist the urge to do other things when driving your car. Looking away for as little as two seconds doubles the likelihood of being in a collision.

VIDEO: Distracted Driving



Anytime your attention is pulled away from driving, you are considered distracted. Distraction is usually caused by something or someone in the vehicle that draws the driver's attention away from the roadway and the driving task. These might include: finding a song you like, texting or talking on the phone, eating, drinking, passengers or pets in your vehicle making you laugh, grooming tasks such as combing your hair or applying makeup. Distractions may also include things like writing a note, reaching across your vehicle, setting up a map or GPS, or any other activity that causes you to take your eyes off the road way.

Inattention is similar but a bit different. This occurs when the driver's attention drifts away from the driving task without any outside influence. Fatigue, boredom, highway hypnosis, familiarity with the roadway or route all contribute to inattention when driving.

Driving requires you to constantly process information, interpret the information you receive, decision-making and problem-solving all at the same time. Multitasking while driving is hard enough. Do not make it more difficult by trying to do other things while driving. A lot can happen in just a second or two...

Slowed perception

This occurs when there is a delay in or total lack of attention to an important traffic event. Some examples of this are: a sudden slowdown in traffic flow requiring you to react quickly and suddenly as congestion occurs, a car suddenly pulling out of a parking lot into your path of travel, a child who runs in front of your car when their ball rolls into the street.

Can you think of any other examples of a time when the driving environment changed quickly and required you to react appropriately?

Delayed decision making

If you are distracted or inattentive to the driving task, you may experience a delay causing you to choose an action that is inappropriate to the situation at hand. Many accidents occur because drivers do not react appropriately causing a collision that may otherwise have been avoided.

Improper action

Driving requires you to constantly evaluate, assess, and make decisions on how to act. Distraction and inattentiveness causes a delay in the appropriate action and may cause you to take incorrect actions related to steering, braking, or acceleration. For example, when confronted by an unexpected situation, you may turn the steering wheel too slowly or too late in response to an object or a blockage in your lane. Similarly, when your full attention is not on the driving task, you may not be aware as to which direction offers you a safe path of travel when faced with an evasive maneuver. Unsafe or aggressive lane changes and ill-advised turning left in front of oncoming traffic are examples of driving decisions that may not occur if you are fully attentive to the roadway.

VIDEO: In the Blink of an Eye

Types of Distractions

A distraction is anything that takes your attention away from the driving task, the roadway, and other drivers on the roadway with you. Distractions can come in several different forms.

Physical Distractions

A physical distraction is any activity that takes your eyes off the roadway or your hands off the steering wheel. This could be reaching for something on the floorboard, digging through a bag, setting your GPS, eating, grooming, and many other activities that remove your attention away from the driving task.



Mental Distractions



Mental distractions occur when your mind wanders, when you are thinking about something or someone else other than driving, or even simply talking to a passenger in your vehicle. These types of activities take your mind away from the road and often cause inattentiveness.

These two types of distractions, when combined are even more dangerous and increase the chances of a collision greatly. The following is a list of distractions you may encounter as a driver. As you read through the list consider which ones are physical distractions, which ones are mental distractions, and which ones could be considered a combination of both.

- Eating
- Drinking
- Grooming
- Passengers
- Adjusting the radio or GPS
- Using a cell phone
- Texting
- Reaching for an object that has fallen on the floor
- Attending to a pet
- Adjusting your seat or mirror
- Talking and listening to other people in your vehicle



In 2015, AAA study estimated that over 70% of teen crashes involve some sort of distraction. It has been proven that when teenagers have passengers in the vehicle the risk of a fatal crash increases significantly.

When a teen driver has one teen passenger, the risk of a fatal crash increases by 48%.

When a teen driver has two passengers present in the vehicle that percentage increases to 158% and with three it increases to an alarming 207%.



Texas has strict laws governing the number of passengers young teen drivers may have in the vehicle. Passengers can contribute to crashes by distracting the driver, encouraging risky behavior, and using peer pressure to create an environment of unsafe driving. Do not fall victim to peer pressure from your passengers. Be a leader and tell your friends that you want to be a safe driver and focus on the roadway. If the people that are with you are truly your friends, they will appreciate and respect your choices. Set firm personal standards for your driving and stick to them even when it is difficult. Just as peer pressure can be a negative influence, it can also be a positive force for safe, reduced risk driving.

Not only are there distractions inside your vehicle that take away your attention from the roadway, there will also be times when you encounter distractions outside of your vehicle. Some examples of these are billboards, animals, people gathered along the roadway, other accident scenes especially when there are emergency vehicles involved, construction zones, and even something as simple as heavy traffic.

You can help minimize and prevent distractions by planning ahead and thinking before you enter the roadway. Find the song you like before you start driving. Set your navigation before you leave and have a general idea of where you are going in advance. Make a commitment not to text, get on the Internet, play games, or check email while driving. Nothing is so important that it cannot wait until you arrive at your destination. If you feel it is important enough to tend to it immediately, find a place to pull over before pulling out your phone. If you have a passenger, ask

them to help you with any activity that would take your eyes or hands away from the driving task.

VIDEO: From One Second to the Next

Day 14 Make Up Quiz

You must submit the quiz and score a 70% or better to receive credit.