Check fluid reservoir cap to see if it can be depressed. If so, reinsert and check the fluid level in the cap. Next, check the automatic transmission fluid.

Checking Automatic Transmission Fluid

The automatic transmission fluid level should be checked with the transmission at normal operating temperature and the engine idling. Typically, at least 15 minutes of operation are required to fully warm up the transmission. Some newer vehicles have sealed transmissions without a dipstick.

Manual Transmission and Differential Fluids

On most vehicles, underhood access is necessary to check the manual transmission and differential fluid levels. It is recommended that a qualified technician perform service and inspection of these fluids. Refer to your owner’s manual for specific service information.

Spending a few minutes checking your vehicle’s vital fluids can help you extend the life of your vehicle and preserve your safety and the safety of your passengers.

Power Steering Fluid

Power steering fluid contains special additives to help protect the rubber hoses and seals in the steering system. Although some vehicles use automatic transmission fluid in the power steering system, many manufacturers recommend the use of a specific type of power steering fluid. Refer to your owner’s manual for the fluid type recommended for your vehicle.

Checking Brake Fluid Condition

Brake fluid deterioration over time from contaminants generated in the system and by absorbing moisture from the air, which lowers the fluid’s boiling point. Color is one indicator of brake fluid condition. DOT 3 and DOT 4 fluids should be clear to amber, while DOT 5 silicone fluids usually have a light purple tint. Any fluid that is dark brown or black should be replaced. Brake fluid test strips, available at most auto parts stores, can also be used to test the fluid condition. Before removing the brake reservoir cap to use a test strip or add fluid, always clean any dirt or debris to ensure it doesn’t get into the master cylinder.

Checking Brake Fluid Level

Brake fluid should be checked for viscosity and contamination. You can check the brake fluid level by looking at the fluid level in the reservoir. This reservoir is typically mounted near the master cylinder, usually behind the passenger side of the instrument panel. Modern automatic transmission fluid is a carefully formulated chemical compound, often created with a specific transmission design in mind. While a number of companies market “universal” transmission fluids, many vehicle manufacturers specify unique and proprietary fluids for use in their automatic transmissions. Not using these fluids can affect shift quality and transmission life. AAA recommends that motorists consult their owner’s manual and make sure any fluid used in servicing meets the requirements of the vehicle manufacturer.

Automatic Transmission Fluid

Next to the engine, the automatic transmission is the most costly and complex mechanical component of your vehicle. What’s more, automatic transmission fluid is called on to serve many functions. It operates hydraulic components, smooths the transmission of power, provides lubrication, keeps seals soft, protects internal parts and acts as a coolant. To preserve these capabilities, the automatic transmission fluid should be serviced at the intervals specified by the vehicle manufacturer in your owner’s manual.

Automatic Transmission Fluid should not be mixed with power steering fluid, as it will instantly thin the fluid and cause premature wear and tear. When adding automatic transmission fluid, consider the distance between the ADD and FULL marks is equal to one pint of fluid. New automatic transmission fluid has a red or pink tint. Fluid that is reddish-brown to medium brown has been in service for some time, but a minor color change of this type is considered normal and is not cause for fluid replacement. However, fluid that is dark brown or black does indicate a lack of maintenance and should be changed as soon as possible. Milky pink or brown fluid, or burnt-smelling fluid of any color, indicates major problems that should be checked out by a transmission expert as soon as possible. Park the vehicle on a level surface, apply the parking brake, and place the transmission in Park or Neutral (check your owner’s manual to determine which). Open the hood, then locate and remove the transmission dipstick, making sure to avoid any hot or moving engine parts. Wipe the end of the dipstick clean with a rag, and note the level markings. Some transmission dips have one mark for FULL and another for ADD. Other dips have prints or bands that indicate the maximum and minimum oil levels, still others may have a cross-hatch area indicating the acceptable range. Insert the dipstick fully back into its housing, then remove it immediately and read the level. If the fluid level is at or below the ADD mark, then add enough fluid to bring the level up to the FULL mark. Do not overfill. Typically, the distance between the ADD and FULL marks is equal to one pint of fluid.

Checking Power Steering Fluid

If your car has a remote fill power steering fluid reservoir of translucent plastic with red-in-line level markings, make sure the level is between the MIN and MAX (or similar) markings. If the fluid is in your reservoir is integral with the power steering pump, the reservoir cap typically has a small dipstick attached. With the vehicle on a level surface and the engine off, remove the cap, wipe the dipstick clean, reinsert and remove the cap then check the fluid level on the dipstick. The level should be within the normal HOT or COLD operating range on the dipstick, depending on the system's temperature.

Checking Automatic Transmission Fluid

The automatic transmission fluid level should be checked with the transmission at normal operating conditions and the engine idling. Typically, at least 15 minutes of operation are required to fully warm up the transmission. Some newer vehicles have sealed transmissions without a dipstick.

Checking Brake Fluid Level

The fluid level should be checked when the vehicle is warmed up. The fluid level should change very little over time. A significant drop in fluid level, or the need to add fluid more than once a year, indicates a leak in the system that should be diagnosed by a qualified repair facility.

Checking Brake Fluid Condition

Brake fluid deterioration over time from contaminants generated in the system and by absorbing moisture from the air, which lowers the fluid’s boiling point. Color is one indicator of brake fluid condition. DOT 3 and DOT 4 fluids should be clear to amber, while DOT 5 silicone fluids usually have a light purple tint. Any fluid that is dark brown or black should be replaced. Brake fluid test strips, available at most auto parts stores, can also be used to test the fluid condition. Before removing the brake reservoir cap to use a test strip or add fluid, always clean any dirt or debris to ensure it doesn’t get into the master cylinder.
Engine Oil

Oil is the lifeblood of your engine. It lubricates rotating parts, and also cools, cleans and protects the internal engine surfaces. Modern engines make extreme demands on oil, so it is essential that the engine contain not only enough oil, but also the right type. Using improper oil, or running oil low, can cause serious and expensive engine damage.

To help consumers select the proper oils, the American Petroleum Institute (API) established standards. The first is the API Certification Mark, also known as the “Donut.” The Donut displays the Starburst current engine protection and energy conserving symbol sets a joint commitment of United States and Japanese automobile manufacturers. The second symbol is the API Service Symbol, also known as the “Starburst.” Oils that display the Starburst meet current engine requirements set by a joint committee of United States and Japanese automobile manufacturers.

As for the API Service Symbol, there are two sections. The first is the API Service Symbol, also known as the “Donut.” The Donut provides API service classification and Society of Automotive Engineers (SAE) viscosity grade information (see below), and indicates whether the oil is for energy conserving or non-conserving engines.

Oil Change Intervals

Modern engines and lubricants are far superior to those of even ten years ago. As a result, most vehicle manufacturers now recommend engine oil changes every 5,000 or 7,500 miles, rather than every 3,000 miles. However, it is important to note that the most modern automotive systems call for an oil change at around 7,500 miles and, on vehicles operated under “severe service” conditions. But do they really?

Most cars today are engineered to run on regular grade fuel, though some models with more powerful engines call for premium. Modern engines are equipped with knock sensors that allow use of lower grade fuel. However, at lower octane fuel, performance and fuel economy will suffer. Never use less than the recom- mended fuel grade when the vehicle is heavily loaded or being towed. Using a lower grade fuel if the required grade is unavailable. However, engine performance and fuel economy will suffer. Never use less than the recommended fuel grade when the vehicle is heavily loaded or being towed.

Understanding Your Vehicle’s Fluids

Pressurized brake systems are only as effective as the fluid within them. The fluid is designed to provide long-term protection and prevent corrosion, while maintaining the braking system’s structural integrity. The most common brake fluid is DOT 3 glycol-ether-based. It can absorb water from the air and lose effectiveness. Today’s vehicles employ three types of coolant technologies:

• Inorganic Additive Technology (IAT): is traditional green-colored coolant. This coolant provides fast-acting corrosion protection, but its additives gradually deplete over time. Thus, if you do not replace the coolant at the correct intervals, it will not provide continuous protection. IAT coolants are used in newer General Motors vehicles and some imports.

• Hybrid Organic Acid Technology (HOAT): coolants are typically red or orange, but may also be purple or yellow. They offer long-life corrosion protection and are compatible with other types of coolant. These coolants are used in newer Ford and Chrysler vehicles and some imports.

• Silicone-Based Technology (SBT): coolants are typically green in color. They are very protective and long-life coolant, and are used in newer Ford and Chrysler vehicles.

Engine Coolant

Engine coolant (sometimes called anti-freeze) prevents freeze-up in winter, keeps overheating in summer, lubricates the water pumps, and prevents rusting of the engine’s cooling system. But do they really?

Today’s vehicles employ three types of coolant technologies:

• Inorganic Additive Technology (IAT): is traditional green-colored coolant. This coolant provides fast-acting corrosion protection, but its additives gradually deplete over time. Thus, if you do not replace the coolant at the correct intervals, it will not provide continuous protection. IAT coolants are used in newer General Motors vehicles and some imports.

• Hybrid Organic Acid Technology (HOAT): coolants are typically red or orange, but may also be purple or yellow. They offer long-life corrosion protection and are compatible with other types of coolant. These coolants are used in newer Ford and Chrysler vehicles and some imports.

• Silicone-Based Technology (SBT): coolants are typically green in color. They are very protective and long-life coolant, and are used in newer Ford and Chrysler vehicles.

Checking Coolant Oil

It is either too high or too low when your engine is cold. There is no possibility of burning, and cool on the dipstick. If the oil is dark brown in color, it is too dark for your engine. It is best to check the oil level in the cold engine. Check the level by placing the vehicle on a level plane. Park the vehicle on a level ground with the engine off. Open the hood, then find and remove the engine oil dipstick. Wipe the tip of the dipstick clean with a rag, and note the level markings. Some dipsticks have one mark for FILL and another for ADD. Other dipsticks may simply have small holes indicating the maximum and minimum oil levels, still others may have a cross-hatching pattern. Insert the dipstick fully into its tube, then remove it immediately and note the level.

If the oil level is at or below the ADD mark, then add enough oil to bring it up to the FILL mark. Do not overfill. Typically, the oil level is 1/2 to 1 inch below the ADD mark.

Checking Coolant

To check the coolant level, simply open the radiator cap and inspect the coolant level in the radiator. If not, top it up to that level with a 50/50 mixture of water and the proper coolant.

A reservoir check is generally sufficient to ensure a proper level of coolant in the system. However, if the reservoir was dry or there have been recommendations of unusual engine temperature variances, you should also check the coolant level in the radiator. Never remove the radiator cap when the engine is hot, as the system is under pressure, hot coolant will be expelled and severe burns could result.

To replace the radiator cap and check the coolant level, in a mod- ern sealed system the radiator should be completely filled. If it is not, fill it up with a 50/50 mixture of water and the proper coolant. If the radiator level is low, but there was coolant in the reservoir, the radiator cap may be defective and should be tested by a qualified repair shop.

In a properly maintained cooling system, the coolant will retain most of its original color over time. Coolant that becomes dirty and discolored, or shows traces of rust, should be replaced. The most accurate indica- tion that coolant replacement is necessary is a loss of engine temperature control. If the temperature of the system is too high, check a simple test strips available at most auto parts stores. At least once a year, preferably before the onset of winter, the coolant should be checked to determine its antifreeze protection.

Brake Fluid

Brakes are a critical system on your vehicle, yet the brake fluid is often ignored. Modern vehicles employ a vacuum-boosted brake system that requires brake fluid to fill a master cylinder supplied by the Department of Transportation as either DOT 3 or DOT 4 fluid. CAUTION: Do not spill brake fluid on painted surfaces as it will cause damage. Silicone-based DOT 5 brake fluid is also available, but used