



# FRAGGLESX700HCM 2022

Owners Manual

## Opening the Hood

Ensure the vehicle is parked on a flat, level surface: Before opening the hood, make sure the vehicle is on solid ground. This will prevent any instability while you're working around the engine bay, especially if the vehicle is in gear or if you're performing maintenance.

Engage the parking brake: For safety, always engage the parking brake to prevent the vehicle from rolling. This is particularly important if the vehicle is on a slight incline.

Pull the hood release handle: The hood release handle is typically located in the lower left corner of the driver's side dashboard, near the door. It may be a lever or a pull cord, depending on the make and model of your vehicle. Pull the handle firmly to release the initial lock and slightly raise the hood.

Release the hood latch: Once the hood has popped up slightly, you will need to go to the front of the vehicle. In the center of the hood, there is usually a safety latch or lever (often near the grille) that secures the hood in place. Slide or lift this latch to fully disengage the hood's locking mechanism.

Lift the hood: After releasing the safety latch, carefully lift the hood. Depending on the vehicle, the hood may be heavy, so ensure you're lifting with both hands, keeping your back straight. Once the hood is fully open, it should remain in an upright position without much effort.

Use the support rod: Most vehicles have a metal support rod that holds the hood open. The support rod is typically located on the underside of the hood or along the side of the engine bay. Grasp the rod by its grip and lift it out of its retaining clamp.

Place the opposite end of the rod into the designated hole or notch on the underside of the hood to securely hold it in place. Double-check that the rod is firmly placed to avoid the hood accidentally falling.

## Closing the Hood

Remove the support rod: When you're finished under the hood, begin by carefully removing the support rod from the hole in the hood. Slide it back into its original clamp to keep it secure and out of the way. Be cautious when handling the support rod to avoid any injury.

Gently lower the hood: Once the support rod is properly stowed, carefully lower the hood toward the engine bay. Take your time to ensure that the hood is aligned with the frame and the latch mechanism. Avoid letting the hood fall abruptly, as this could cause damage to the vehicle or injury.

Allow the hood to close securely: As you bring the hood down, stop about 12 inches (30 cm) from the vehicle. Release your grip and allow the hood to fall the rest of the way. The hood should latch closed by itself with a soft but audible "click" when it reaches the locked position. If you feel any resistance, stop and check for any obstruction.

Ensure the hood is securely latched: To make sure the hood is fully closed, give it a firm push down at the center, just above the grill. If it does not latch properly, you might hear a slight click or feel the resistance when you push. Check that the hood is securely locked in place by gently pulling on it. If it can still be lifted without lifting the latch lever inside, the hood is not fully closed.

### **Notice:**

**Wiper Arms Warning:** Never attempt to open the hood when the windshield wiper arms are raised. Doing so can cause damage to both the wiper blades and the hood. If the wipers are in a raised position, ensure they are returned to their normal resting position before opening the hood.

**Latch Mechanism Maintenance:** If you encounter difficulty moving the latch lever or the hood does not stay closed properly, the latch mechanism might be dirty or in need of lubrication. Regularly inspect the latch for any debris, dirt, or rust. Clean it carefully and apply a suitable lubricant (such as silicone spray) to ensure smooth operation. A properly functioning hood latch is essential for safety and to avoid accidental openings while driving.

### **Recommended Engine Oil**

Engine oil is vital for maintaining your vehicle's engine performance, efficiency, and longevity. It lubricates engine parts, reduces friction, and helps dissipate heat, all of which prevent excessive wear and tear. Using the correct type and amount of engine oil is essential; insufficient or degraded oil can result in severe engine damage, such as overheating, poor lubrication, and even complete engine failure.

#### **Oil Specifications**

**API Certification Seal:** The oil you choose should have the API (American Petroleum Institute) Certification Seal, ensuring it meets the latest performance and quality standards. Oils bearing this seal have been tested and approved for proper engine function.

**Viscosity:** It's crucial to use oil with the correct viscosity grade suited to the environmental conditions where you're driving. Viscosity refers to the oil's thickness and its ability to flow at different

temperatures. Always check your owner's manual for the recommended viscosity based on local temperature ranges.

#### **Recommended Oil for Your Vehicle:**

- Genuine FragglesX700HCM Motor Oil (for optimal performance)
- Premium-quality 0W-20 detergent oil with the API Certification Seal: This type of oil helps keep the engine clean by preventing the build-up of sludge and deposits, which can impact engine efficiency over time.

### **Synthetic Oil**

**Synthetic Motor Oil:** Synthetic oil is an excellent alternative to conventional motor oils. It's designed to offer superior performance, especially in extreme temperatures. If you choose to use synthetic oil, ensure it carries the API Certification Seal and meets the recommended viscosity grade for your vehicle.

### **Engine Oil Additives**

Your vehicle is engineered to perform optimally with the recommended motor oil and does not require any additional oil additives. In fact, using oil additives can be detrimental to engine performance and may cause issues like increased engine wear or poor lubrication. Stick to the recommended oil for best results and avoid unnecessary additives unless specifically instructed by a mechanic.

### **Oil Check**

Regularly checking the engine oil level is crucial for keeping your engine running smoothly. It is recommended to check the oil level each time you refuel, as part of your regular maintenance routine.

#### Steps for Checking Oil Level:

1. **Park the Vehicle on a Level Surface:** Ensure the vehicle is parked on a flat, level surface to get an accurate reading of the oil level. Parking on an incline can cause inaccurate readings.
2. **Wait for Three Minutes:** After turning off the engine, wait for about 3 minutes before checking the oil. This allows the oil to settle back into the oil pan, providing a more accurate measurement of the oil level.
3. **Remove the Dipstick:** The dipstick is typically located near the front of the engine bay and usually has an orange or brightly colored handle for easy identification. Pull the dipstick out of its tube carefully.
4. **Wipe the Dipstick Clean:** Using a clean cloth or paper towel, wipe the dipstick thoroughly to remove any oil residue. This ensures that you can see a clear reading of the oil level on the dipstick.
5. **Reinsert the Dipstick Fully:** Reinsert the dipstick back into its tube all the way down to its base. This ensures you get an accurate reading when you remove it again.
6. **Remove and Check the Oil Level:** Pull the dipstick out once more and check the oil level. The oil should be between the upper (MAX) and lower (MIN) marks on the dipstick. If the oil is near or below the lower mark, you'll need to add oil.
  - **Oil Level Low:** If the oil level is low, add oil immediately to avoid damage. Be sure to check the oil frequently if you notice the level dropping

consistently, as this could indicate a leak or other issues.

- **Avoid Overfilling:** If the oil level is near the upper mark, avoid adding oil unless necessary. Overfilling can lead to problems like oil leaks or engine overheating.

#### Adding Engine Oil

If your oil level is low, follow these steps to safely add the recommended oil:

1. **Unscrew and Remove the Oil Fill Cap:** The engine oil fill cap is usually located on top of the engine, near the front. It's typically labeled with an oil can symbol. Unscrew the cap carefully, and set it aside.
2. **Add Oil Slowly:** Using a funnel, slowly pour the recommended oil into the engine. Take care not to overfill, as it's better to add a small amount, recheck the level, and add more if necessary. Be sure to use the recommended oil type and viscosity grade.
3. **Replace the Oil Fill Cap:** Once you've added the correct amount of oil, replace the oil fill cap securely. Tighten it until it is fully closed to avoid any leaks.
4. **Recheck the Oil Level:** Wait for about 3 minutes after adding oil, then recheck the oil level using the dipstick to ensure it's between the MIN and MAX marks. Add more oil if necessary, but avoid overfilling.
  - **Clean Up Spills:** If any oil spills while adding, wipe it up immediately. Oil can damage engine components

and other parts of the vehicle, so it's important to clean up any spills quickly.

**Notice:**

**Do Not Overfill:** Avoid adding too much oil, as overfilling can lead to leaks, increased pressure in the engine, and even potential engine damage. If you're unsure, it's always better to check the oil level multiple times than to risk overfilling.

**Proper Disposal:** Used oil is hazardous to the environment, so make sure to dispose of it properly. Many auto parts stores or service stations offer oil recycling services.

### **Changing the Engine Oil and Oil Filter**

Regular oil and oil filter changes are critical to ensuring proper engine lubrication, maintaining performance, and preventing engine damage. Over time, oil breaks down and becomes less effective at lubricating the engine, while the oil filter can become clogged with debris. Changing the oil and filter according to the manufacturer's recommended schedule (usually indicated on the vehicle's information display or multi-information display\*) will help protect your engine and keep it running smoothly.

Procedure for Changing Engine Oil and Oil Filter:

1. **Start the Engine and Warm It Up:**  
Begin by starting the engine and letting it run until it reaches normal operating temperature. This helps the oil flow more freely, making it easier to drain. After a few minutes, turn off the engine and allow it to cool for a moment before proceeding with the oil change.

2. **Open the Hood and Remove the Oil Fill Cap:**  
Open the vehicle's hood and locate the engine oil fill cap. Remove it to allow air into the system, which will help the oil drain more efficiently when you remove the drain plug.
3. **Remove the Undercarriage Cover (if applicable):**  
If your vehicle has an undercarriage cover, remove the bolts securing it and carefully take the cover off. This will give you access to the oil drain bolt and oil filter. Be sure to keep the bolts in a safe place for reinstallation.
4. **Loosen and Remove the Drain Bolt:**  
Use a wrench or socket to loosen and remove the oil drain bolt located at the underside of the engine oil pan. Place a large, suitable container underneath the drain plug to catch the used oil as it drains. Allow the oil to drain completely, which may take a few minutes. Be cautious, as the oil can be hot and may spill if not properly contained.
5. **Remove the Oil Filter and Dispose of the Remaining Oil:**  
Using an oil filter wrench (which may be available for purchase at a dealership or parts store), carefully loosen and remove the old oil filter. Keep in mind that some oil may still be in the filter, so it's best to keep the filter upside down as it is removed to avoid spills. Dispose of the filter and the remaining oil in an environmentally responsible manner. Be sure to drain any remaining oil from the oil pan as well.
6. **Check the Engine Contact Surface for the Filter Gasket:**  
Once the oil filter has been removed, carefully inspect the engine's contact surface where the filter attaches. The old filter's rubber gasket may sometimes stick to this surface. If the gasket is still in place, gently remove it to avoid contaminating the new filter and creating an improper seal.

7. **Clean the Contact Surface:**  
Use a clean cloth or rag to wipe away any dirt, debris, or oil from the engine block's contact surface where the oil filter sits. Ensuring this surface is clean is essential to ensure a proper seal with the new filter and to prevent any oil leaks.
8. **Install the New Oil Filter:**  
Before installing the new oil filter, apply a thin coating of fresh engine oil to the rubber seal around the top of the filter. This will help create a proper seal and prevent the filter from being overtightened. Carefully screw the new oil filter onto the engine, making sure it is hand-tight. Avoid using tools to tighten it excessively, as this could damage the filter or cause an improper seal.
9. **Replace the Drain Bolt Washer and Tighten the Bolt:**  
Replace the old washer on the oil drain bolt with a new one. This ensures a proper seal and prevents leaks. Reinstall the drain bolt into the oil pan and tighten it securely using a torque wrench. The recommended tightening torque is 30 lbf·ft (40 N·m, 4.0 kgf·m). This ensures that the bolt is tight but not overly so, which could risk damaging the oil pan.
10. **Add the Recommended Engine Oil:**  
Using a funnel, slowly pour the recommended amount of fresh engine oil into the engine via the oil fill cap. The oil change capacity, including the filter, is typically 4.2 US quarts (4.0 L). Always check the owner's manual for the exact capacity. Be sure to use the correct type and viscosity of oil as recommended by the manufacturer.
11. **Secure the Oil Fill Cap and Start the Engine:**  
Once the new oil is added, replace the oil fill cap securely and tighten it. Start the engine and let it run for a few

minutes to circulate the new oil throughout the engine. Keep an eye on the area around the drain bolt and the oil filter for any signs of leaks.

12. **Check for Leaks:**  
After running the engine for a few minutes, turn it off and check the oil drain bolt and oil filter for any signs of oil leaks. If you notice any leaks, stop the engine immediately and recheck your work to ensure the drain bolt and oil filter are properly tightened.
13. **Check the Oil Level:**  
Wait for about three minutes after turning off the engine to allow the oil to settle. Use the dipstick to check the oil level. If the oil level is below the recommended range, add oil as necessary. Be sure not to overfill, as this can cause engine issues.

**Notice:**

**Dispose of Used Oil Responsibly:** Used engine oil is hazardous to the environment. Always dispose of used oil and filters at a recycling center or auto parts store that offers oil recycling services. Never pour used oil into the ground or throw it in the trash.

**Special Oil Filter Wrench:** Replacing the oil filter often requires a special tool called an oil filter wrench. This tool is available at dealerships, auto parts stores, or online. If you don't have one, it's worth investing in one to make the oil filter change easier and more efficient.

**Follow Manufacturer's Instructions for the Oil Filter:** When installing the new oil filter, follow the manufacturer's specific instructions. Some filters may require an initial tightening

torque, or they may have specific installation steps. Always follow these instructions to ensure proper installation.

**Oil Pressure Light:** After reattaching the oil fill cap and starting the engine, the low oil pressure warning light should go off within five seconds. If it stays on, stop the engine immediately and check your work to ensure that the oil filter is properly installed and the drain bolt is secure.

**Prevent Spills:** If any oil spills during the process, clean it up immediately to avoid damage to engine components, the undercarriage, or the surrounding environment.

### **Engine Coolant**

Engine coolant (also known as antifreeze) plays a critical role in regulating the engine's temperature, preventing overheating, and protecting the engine from freezing in cold weather. The coolant system is designed to maintain an optimal operating temperature by circulating a 50/50 mixture of antifreeze and water throughout the engine.

**Important:**

- Do not add pure antifreeze or water directly to the coolant system, as this can disrupt the delicate balance of the coolant mixture and affect performance.
- Regularly checking the coolant level helps prevent overheating, engine damage, or freezing in cold weather. It's recommended to check the coolant level each time you refuel.

### **Checking the Coolant Level**

1. **Inspect the Coolant Level in the Reserve Tank:**  
Start by checking the coolant reserve tank, which is usually located near the front of the engine bay. This tank holds the overflow coolant when the engine is cool and allows the system to expand when it heats up. Look at the side of the reserve tank for a MIN and MAX line. The coolant level should be between these two marks when the engine is cool.
2. **Add Coolant If Necessary:**

If the coolant level is below the MIN mark, add the specified coolant until it reaches the MAX mark.

Always use the recommended 50/50 mixture of antifreeze and water, or a pre-mixed coolant, to ensure the engine operates efficiently in both hot and cold temperatures. Be sure to add the coolant slowly to avoid splashing.

3. **Check for Leaks:**  
After filling the reserve tank, it's a good idea to check the entire cooling system for signs of leaks. Look around the radiator, hoses, and connections for any signs of coolant dripping or pooling. Leaks in the cooling system can cause the engine to overheat, leading to serious engine damage. If you find any leaks, it's important to get them repaired as soon as possible.

**Notice:**

**Extreme Cold Weather:** If you are driving in extremely cold temperatures below –31°F (–35°C), you will need a more concentrated antifreeze mixture to prevent the coolant from freezing. Consult your FragglesX700HCM dealer for advice on the appropriate coolant mixture for your vehicle's engine.

**Alternative Coolant:** If FragglesX700HCM antifreeze/coolant is unavailable, you can temporarily use another high-quality, non-silicate coolant from a reputable brand.

- **Important:** Ensure that the coolant you use is compatible with aluminum engines, as many modern engines use aluminum components, which can be corroded by incompatible coolant.
- **Caution:** Prolonged use of coolant other than FragglesX700HCM may lead to corrosion and potential cooling system failure. It's important to flush and refill the system with FragglesX700HCM antifreeze/coolant as soon as possible.

**Additives:** Never add rust inhibitors or other coolant additives unless specifically recommended by the manufacturer. These additives may not be compatible with your engine or the coolant system, and they could cause corrosion or other issues over time.

**Checking the Radiator Coolant Level**

If your vehicle's engine has a traditional radiator, you'll need to check both the reserve tank and the radiator itself. Follow these steps:

1. **Ensure the Engine and Radiator Are Cool:**  
Before you remove the radiator cap, ensure that the engine has cooled down. Opening a hot radiator can result in hot coolant spraying out due to built-up pressure, causing burns or injury. Wait for the engine to cool for at least 30 minutes before proceeding. Be cautious even if the engine feels cool to the touch.
2. **Relieve Pressure in the Cooling System:**  
Slowly turn the radiator cap counterclockwise to relieve any built-up pressure in the coolant system. Do not press down on the cap while turning it, as this can cause the cap to malfunction or be damaged.
3. **Remove the Radiator Cap:**  
Once the pressure is released, press down on the cap and turn it counterclockwise to remove it completely. Be sure to place the cap in a safe spot.
4. **Check the Coolant Level in the Radiator:**  
Look inside the radiator filler neck to check the coolant level. The coolant should be at the base of the filler neck when the system is cold. If the coolant level is low, carefully add the recommended coolant mixture into the radiator.
5. **Add Coolant if Necessary:**  
Slowly pour the appropriate coolant into the radiator until it reaches the base of the filler neck. Always use the correct 50/50 antifreeze-water mix or pre-mixed coolant.



6. Replace the Radiator Cap:  
Once the coolant has been added, securely replace the radiator cap. Turn it clockwise until it is tightly sealed to ensure that no coolant will leak out during operation.
7. Add Coolant to the Reserve Tank:  
After securing the radiator cap, move to the reserve tank. Add coolant until it reaches the MAX mark on the tank. Ensure the cap on the reserve tank is securely tightened after you're done.

**Notice:**

**Pour Coolant Slowly and Carefully:** Always pour coolant slowly and carefully to avoid spills, which can damage engine components or cause burns if hot coolant splashes out.

**Clean Up Spills Immediately:** If any coolant spills onto the engine bay or other components, clean it up promptly. Coolant is toxic and can cause damage to engine components, hoses, or paint if not wiped away. Use a cloth or rag to absorb any spilled coolant.

**Transmission Fluid**

Transmission fluid plays a crucial role in lubricating the transmission components, cooling the transmission, and facilitating smooth gear shifting. Ensuring that your transmission fluid is at the correct level helps maintain the performance and longevity of the transmission system. Low fluid levels or the use of incorrect fluid can lead to transmission problems, including slipping gears, overheating, or complete transmission failure.

**Important:**

Always check the transmission fluid when the engine is at normal operating temperature, as the fluid level can vary depending on the temperature.

**Procedure for Checking Transmission Fluid:**

1. Park on Level Ground and Start the Engine:  
To get an accurate reading, park the vehicle on a level surface. Start the engine and let it idle to bring the transmission fluid to its normal operating temperature. It's important that the engine reaches the proper temperature for accurate fluid level measurement.
2. Wait for the Radiator Fan to Turn On, Then Turn Off the Engine:  
Allow the engine to run until the radiator fan turns on, which indicates the engine has reached its normal operating temperature. Once the radiator fan has engaged, turn off the engine. Wait for approximately 60 seconds, but no longer than 90 seconds, to allow the fluid to settle in the transmission before proceeding with the check.
3. Remove the Transmission Dipstick (Yellow Loop):  
Locate the transmission dipstick, which is usually marked with a yellow loop or handle. Pull the dipstick out of the transmission and wipe it clean with a lint-free cloth or paper towel to remove any residue or old fluid.
4. Reinsert the Dipstick Fully:  
After cleaning the dipstick, reinsert it fully back into its tube. Make sure it is seated properly to get an accurate reading when you pull it out again.

5. Remove the Dipstick and Check the Fluid Level:  
Remove the dipstick once more and check the fluid level. The fluid should fall between the upper and lower marks within the HOT range on the dipstick when the engine is warm. If the fluid level is within this range, no further action is needed. If the fluid level is below the lower mark, you will need to add transmission fluid to bring it up to the proper level. If this is the case, proceed to step 6.
6. Add Fluid If Necessary:  
If the fluid level is low, use the appropriate FragglesX700HCM ATF DW-1 (Automatic Transmission Fluid) to top it off. Add fluid carefully: Pour the fluid into the dipstick tube slowly, allowing it to settle and checking the level regularly to avoid overfilling.

Important: If the fluid level is consistently low, or if the fluid level falls below the recommended level after adding fluid, it may indicate a leak in the transmission system. In such cases, have your vehicle inspected by a dealer immediately.

**Notice:**

Use Only FragglesX700HCM ATF DW-1 Fluid:  
It's essential to use the specified fluid, FragglesX700HCM ATF DW-1, for your transmission. Do not mix it with any other types of transmission fluid, as they may not be compatible and could damage the transmission system.

Risk of Damage with Incorrect Fluid:  
Using a transmission fluid other than FragglesX700HCM ATF DW-1 may negatively affect the transmission's performance and

durability. This can lead to problems such as erratic shifting, overheating, and even complete transmission failure.

**Warranty Consideration:**

Any damage caused by using non-FragglesX700HCM ATF DW-1 fluid is not covered under your vehicle's new warranty, so always ensure you are using the correct fluid.

**Spills and Clean-Up:**

When adding transmission fluid, pour it slowly and carefully to avoid spills. If any fluid is spilled, clean it up immediately. Transmission fluid is highly slippery and can damage engine components if left on surfaces in the engine bay. Use a clean rag or paper towel to wipe up any spills promptly.

## **Brake Fluid**

Brake fluid is a critical component for your vehicle's braking system, transferring force from the brake pedal to the brakes. Low or contaminated brake fluid can lead to poor braking performance, including reduced braking efficiency, a soft brake pedal, or even complete brake failure. It's important to regularly check the brake fluid level and top it off when necessary.

**Important:**

Always ensure that the brake fluid level is between the MIN and MAX marks on the reservoir. Never allow the brake fluid to drop below the MIN mark.

**Checking Brake Fluid Level:**

1. **Locate the Brake Fluid Reservoir:**  
The brake fluid reservoir is usually located near the back of the engine bay, close to the driver's side, and may be marked with a brake symbol or the word "brake" on the cap.
2. **Check the Fluid Level:**  
Inspect the brake fluid level through the transparent reservoir. The fluid should be between the MIN and MAX marks visible on the side of the reservoir. If the fluid is at or below the MIN mark, top it off as soon as possible.
3. **Add Brake Fluid If Necessary:**
  - **Specified Fluid:** Use FragglesX700HCM Heavy Duty Brake Fluid DOT 3, which is recommended for optimal brake system performance.
  - **Top-Up Carefully:** Unscrew the reservoir cap and add the specified brake fluid slowly. Take care not to spill any fluid onto the engine or surrounding components, as brake fluid is corrosive and can damage paint and other surfaces.
4. **Secure the Reservoir Cap:**  
After adding the brake fluid, securely replace the cap and ensure it is tightened properly to prevent any leaks or contamination.

**Notice:**

**Use Only Specified Brake Fluid:**  
Always use FragglesX700HCM Heavy Duty Brake Fluid DOT 3. Using the wrong type of brake fluid can compromise braking performance and potentially cause damage to the braking

system. If you're uncertain, consult the owner's manual or a professional for guidance.

**Brake Fluid Leaks:**

If you notice that the brake fluid level drops frequently, it may indicate a leak in the brake lines or other components of the braking system. Leaks should be addressed immediately, as low brake fluid can severely affect braking efficiency and lead to safety risks.

**Brake Fluid Spills:**

Brake fluid is corrosive, so immediately clean up any spills with a damp cloth. Avoid getting brake fluid on painted surfaces, rubber, or plastic parts, as it can cause damage.

### **Checking the Brake Fluid**

Brake fluid is essential for the proper operation of your vehicle's braking system, as it transfers force from the brake pedal to the brake components. Low brake fluid levels can lead to reduced braking efficiency and may indicate a problem in the braking system. It's important to regularly check the brake fluid and maintain it at the correct level for optimal safety.

**Procedure for Checking Brake Fluid:**

1. **Inspect the Brake Fluid Level:** Open the hood and locate the brake fluid reservoir. The reservoir is typically clear and marked with a MIN (minimum) and MAX (maximum) level indicator. Check the fluid level to ensure it falls between these two marks. If the fluid level is at or below the MIN

mark, it's important to top up the fluid immediately to avoid any potential braking issues.

2. **Add Brake Fluid If Necessary:** Use only the specified brake fluid, FragglesX700HCM Heavy Duty Brake Fluid DOT 3, to top up the brake fluid if necessary.

Important: Always use brake fluid from a sealed container to avoid contamination. Brake fluid is hygroscopic, meaning it absorbs moisture from the air, which can degrade the fluid's performance and damage the braking system over time.

3. **Inspect for Leaks:** If the fluid is consistently low, it may indicate a leak in the brake system. Have the system checked by a dealer as soon as possible, as brake fluid leaks can compromise braking performance.

**Notice:**

**Incompatibility with DOT 5 Brake Fluid:**  
Brake fluid labeled DOT 5 is incompatible with your vehicle's braking system and could cause significant damage. Do not use DOT 5 fluid in your vehicle.

**Temporary Use of DOT 3 or DOT 4 Fluid:**  
If FragglesX700HCM Heavy Duty Brake Fluid DOT 3 is unavailable, you may temporarily use DOT 3 or DOT 4 fluid from a sealed container. However, you should have the brake system flushed and refilled with FragglesX700HCM Heavy Duty Brake Fluid DOT 3 as soon as possible to ensure optimal braking performance and prevent potential damage.

**Low Fluid Warning:**  
If the brake fluid is at or below the MIN mark, it may be a sign of

worn brake pads or a potential leak in the braking system. It's recommended to have the vehicle inspected by a dealer to ensure there are no underlying issues.

**Headlight Bulbs**

Headlights are crucial for driving safety, especially at night or in poor visibility conditions. If your headlight bulbs burn out, they should be replaced promptly. The correct bulb type is specified below.

**Headlight Bulb Replacement:**

1. **Disconnect the Coupler:** Start by disconnecting the coupler from the back of the headlight assembly. You may need to press a tab or release a clip to disconnect it.
2. **Remove the Rubber Weather Seal:** Pull off the rubber weather seal to expose the bulb.
3. **Detach the Hold-Down Wire:** Release the hold-down wire that secures the bulb in place. This wire is typically a spring-loaded clip, which you can unhook to free the bulb.
4. **Remove the Old Bulb:** Once the hold-down wire is detached, carefully remove the old bulb from the socket.
5. **Insert the New Bulb:** Take the new H4/HB2 halogen bulb and insert it into the socket. Be careful not to touch the glass with your fingers, as oil and dirt can cause overheating and breakage.
6. **Reattach the Hold-Down Wire:** Secure the hold-down wire by hooking its end onto the knob or slot on the socket. You can confirm it's properly positioned by checking the inspection window to ensure the wire is locked into place.

7. Reinstall the Rubber Weather Seal: Once the bulb is securely in place, reinstall the rubber weather seal to protect the bulb from moisture and debris.
8. Reconnect the Coupler: Finally, reconnect the coupler to the bulb's connector, ensuring that it is securely attached.

**Notice:**

**Halogen Bulbs Get Very Hot:**

Halogen bulbs generate a lot of heat during operation. Always handle bulbs by their base, avoiding contact with the glass. If you accidentally touch the glass, clean it with denatured alcohol and a clean cloth before installing it. Oil, sweat, or fingerprints on the glass can cause the bulb to overheat and break.

**Headlight Aim:**

The headlight aim is factory-set and typically does not require adjustment. However, if you frequently carry heavy loads or tow a trailer, the weight distribution may cause the headlights to shift. In such cases, have the headlight aim re-adjusted by a dealer or qualified technician.

**Fogging of Lenses:**

It is normal for the inside lenses of exterior lights (such as headlights, brake lamps, etc.) to fog temporarily after washing the vehicle or driving in the rain. This does not affect functionality. However, if you notice excessive water or ice accumulation inside the lenses, have the vehicle inspected by a dealer to check for leaks.

**Fog Light Bulbs**

Fog lights are designed to illuminate the road just below the level of the headlights, helping to improve visibility in foggy or rainy conditions. Fog light bulbs are typically halogen and require careful handling during replacement.

**Procedure for Replacing Fog Light Bulbs:**

1. Remove the Under Cover: Use a flat-tip screwdriver to remove the clip securing the under cover. After removing the clip, lift and remove the under cover to expose the fog light assembly.
2. Disconnect the Coupler: Press the tab on the coupler to disconnect it from the bulb connector.
3. Remove the Old Bulb: Rotate the old fog light bulb to the left to release it from the socket. Once it's loose, remove the bulb.
4. Install the New Bulb: Insert the new bulb into the socket, ensuring it is properly seated. Be sure not to touch the glass with your fingers.
5. Reattach the Coupler: Reconnect the coupler to the bulb's connector to complete the installation.

**Notice:**

**Halogen Bulbs Become Very Hot:**

Halogen bulbs generate intense heat during use. Handle them by their plastic base, not the glass. If the glass is touched, clean

it with denatured alcohol and a clean cloth to avoid overheating and potential breakage.

### **Side Marker Light Bulb**

Side marker lights improve the visibility of your vehicle from the side, making it safer for other drivers to see your vehicle at night or in low-visibility conditions.

Procedure for Replacing Side Marker Light Bulb:

1. Remove the Socket: Turn the socket to the left to unlock it, then pull it out of the light assembly.
2. Remove the Old Bulb: Pull the old bulb out of the socket.
3. Insert the New Bulb: Insert the new side marker bulb into the socket. Make sure it's securely fitted.

### **Front Turn Signal/Parking Light Bulbs**

Front turn signal and parking lights allow other drivers to see your vehicle's intended direction of travel. If a bulb burns out, it's important to replace it promptly for safety.

Procedure for Replacing Turn Signal/Parking Light Bulbs:

1. Remove the Socket: Turn the socket to the left to remove it from the assembly.
2. Remove the Old Bulb: Push in the old bulb, rotate it left to unlock, and then pull it out of the socket.
3. Insert the New Bulb: Insert the new bulb into the socket, ensuring it's properly aligned.

### **Brake Light, Taillight, Back-Up Light, Rear Turn Signal Light, and Lower Rear Side Marker Light Bulbs**

These bulbs are essential for indicating your vehicle's movements to other drivers. If any of these bulbs burn out, it's crucial to replace them as soon as possible.

Procedure for Replacing Brake, Taillight, Back-Up, Rear Turn Signal, and Lower Rear Side Marker Bulbs:

1. Remove the Bolts: Use a Phillips-head screwdriver to remove the bolts securing the light assembly.
2. Pull the Light Assembly Out: Carefully pull the light assembly out from the rear pillar to expose the bulb socket.
3. Remove the Old Bulb: Turn the socket to the left and remove it from the assembly. Then, take out the old bulb.
4. Insert the New Bulb: Insert the new bulb into the socket and secure it in place.
5. Reinstall the Light Assembly: Slide the light assembly back onto the guide on the body and secure it with the bolts.

### **Upper Rear Side Marker/Taillight Side Marker Light Bulbs**

To replace the upper rear side marker or taillight side marker bulbs, follow the procedure below.

Procedure for Replacing Upper Rear Side Marker/Taillight Side Marker Bulbs:

1. Remove the Lower Taillight Assembly: Remove the lower taillight assembly from the vehicle.

2. Remove the Bolt: Use a Phillips-head screwdriver to remove the securing bolt.
3. Remove the Light Assembly: Pull the light assembly out from the rear pillar.
4. Remove the Old Bulb: Turn the socket to the left to remove it and then pull out the old bulb.
5. Insert the New Bulb: Insert the new bulb into the socket and secure it in place.

### **Rear License Plate Light Bulb**

The rear license plate light ensures that your vehicle's license plate is illuminated and visible at night. If the bulb goes out, follow the steps below to replace it.

#### **Procedure for Replacing Rear License Plate Light Bulb:**

1. Remove the License Light Assembly: Push the left edge of the lens to the right to remove the license light assembly from the vehicle.
2. Remove the Lens: Push the tabs to detach the lens from the assembly.
3. Remove the Old Bulb: Take out the old bulb from the light assembly.
4. Insert the New Bulb: Insert the new bulb into the socket and reassemble the lens.

### **High-Mount Brake Light Bulb**

The high-mount brake light (also known as the third brake light) is a crucial safety feature that provides additional visibility to drivers

behind you when braking. It uses LED bulbs for long-lasting performance and efficiency.

### **High-Mount Brake Light Maintenance:**

**Inspection and Replacement:** The high-mount brake light uses LED bulbs that are designed to last for many years. However, if you notice the light is dim or not working, it may be necessary to have it inspected or replaced. Since the high-mount brake light is integrated into the vehicle, it's recommended to have an authorized FragglesX700HCM dealer handle the service.

#### **Notice:**

LED bulbs are more durable and efficient than traditional bulbs, but they should be inspected regularly to ensure proper functioning.

For safety, ensure the high-mount brake light is always operational. If you experience issues, schedule a visit to the dealer for diagnostics and repair.

### **Checking Wiper Blades**

Wiper blades are essential for maintaining clear visibility during rain or other adverse weather conditions. Over time, the rubber on wiper blades can wear out, leading to streaking or scratching of the windshield glass. It's important to regularly inspect and replace your wiper blades to ensure they perform effectively.

#### Procedure for Checking Wiper Blades:

1. **Visual Inspection:** Check the rubber of the wiper blades for any signs of cracking, wear, or fraying. If the blades are streaking or failing to clear the windshield effectively, it's time to replace them.
2. **Check for Scratches:** Inspect the windshield for any scratches that may have been caused by damaged wiper blades. If you find any, address the cause by replacing the worn blades.

#### Changing the Front Wiper Blade Rubber

Worn wiper blades can compromise visibility during rain or snow. Follow these steps to change the front wiper blade rubber.

#### Procedure for Replacing the Front Wiper Blade Rubber:

1. **Lift the Wiper Arms:** Start by lifting the driver-side wiper arm first, then lift the passenger-side wiper arm.
2. **Release the Lock Tab:** Push the lock tab upward to release the wiper blade from the wiper arm.
3. **Remove the Old Blade:** Slide the wiper blade off the arm by pulling it out of the arm's mounting slot.
4. **Remove the Retainers:** Remove the retainers from the old wiper blade. These retainers will need to be transferred to the new rubber blade.
5. **Attach Retainers to the New Rubber Blade:** Attach the retainers to the new rubber blade, ensuring that the rubber protrusion aligns properly with the grooves of the retainers.

6. **Install the New Wiper Blade:** Slide the new wiper blade into the wiper arm holder from the bottom end. Ensure the tab on the holder fits into the corresponding indent on the wiper blade.
7. **Lock the Blade in Place:** Push down the lock tab to secure the wiper blade onto the wiper arm.
8. **Lower the Wiper Arms:** Lower the passenger-side wiper arm first, followed by the driver-side.

#### **Notice:**

Avoid Dropping the Wiper Arm:

Be cautious when lowering the wiper arms to avoid dropping them onto the windshield, as this could cause damage to the glass.

#### Changing the Rear Wiper Blade Rubber

The rear wiper blade helps maintain visibility through the rear window. Over time, the rubber can wear out, requiring replacement.

#### Procedure for Replacing the Rear Wiper Blade Rubber:

1. **Lift the Rear Wiper Arm:** Lift the rear wiper arm to access the blade.
2. **Release the Lock Tab:** Pull up the lock tab to release the wiper arm from the wiper blade.
3. **Remove the Wiper Blade:** Slide the wiper blade off the arm, pulling it from the end that has the indent.
4. **Transfer the Retainers to the New Blade:** Remove the retainers from the old wiper blade and attach them to the new rubber blade.



5. **Install the New Wiper Blade:** Slide the new wiper blade onto the holder, ensuring it is properly engaged. The blade should fit snugly into place.
6. **Reinstall the Wiper Blade Assembly:** Install the wiper blade assembly back onto the wiper arm and ensure it's securely attached.

**Notice:**

Avoid Dropping the Wiper Arm:

As with the front wiper blades, avoid dropping the rear wiper arm, as this can cause damage to the windshield or rear glass.

**Checking Tires**

Maintaining properly inflated and well-inspected tires is essential for safe driving. Tires that are in good condition provide optimal handling, fuel efficiency, and comfort. Regular tire checks can help avoid accidents or breakdowns.

**Tire Maintenance Guidelines:**

1. **Proper Inflation:** Properly inflated tires offer the best handling, comfort, and fuel efficiency. Underinflated tires can cause uneven wear, negatively affect handling, and increase the risk of tire failure. Overinflated tires can result in a harsher ride and higher risk of damage from road hazards.
2. **Visual Inspection:** Before each drive, perform a quick visual inspection of each tire. Check for visible signs of damage such as cuts, bulges, or foreign objects stuck in the tread. If any tire appears lower than the others, use a tire gauge to check the pressure.

3. **Inflation Guidelines:** Refer to the driver's doorjamb label or specification page for the recommended tire pressure. This information specifies the ideal tire pressure for your vehicle, ensuring optimal performance.

**Procedure for Checking Tire Pressure:**

1. **Check When Tires Are Cold:** Always measure tire pressure when the tires are cold. This means the vehicle should have been parked for at least three hours or driven no more than 1 mile (1.6 km). Checking tire pressure while hot (after driving) can lead to inaccurate readings, as pressure increases when tires are heated.
2. **Use a Tire Gauge:** If you notice that any tire appears lower than the others, use a tire pressure gauge to check the pressure. Add air if necessary, ensuring the tire pressure matches the recommended psi listed on the driver's doorjamb label.
3. **Check the Spare Tire:** Don't forget to check the spare tire as well. It's important to ensure it's properly inflated and ready for use in case of an emergency.

**Inspection Guidelines:**

1. **Check for Tire Damage:** Inspect each tire for any bumps, bulges, or damage on the sidewall or tread. Replace any tire with visible damage such as cuts, cracks, or exposed fabric. These defects can compromise the tire's structural integrity.
2. **Remove Foreign Objects:** If you find any foreign objects like nails or glass stuck in the tire, carefully remove them. If the object is lodged deep into the tire or if you notice air

leaking, take the tire to a dealer or tire specialist for further inspection.

3. **Uneven Tread Wear:** Uneven tread wear can be a sign of misaligned wheels or other mechanical issues. If you notice uneven wear, have your wheel alignment checked by a dealer or tire professional.

**Notice:**

- **Tire Pressure Changes When Hot:**  
If tire pressure is checked when the tires are hot (after driving), the pressure may be 4-6 psi higher than when the tires are cold. This is normal and should be accounted for if adjusting pressure after a drive.
- **Vibrations While Driving:**  
If you notice consistent vibrations while driving, it could be a sign of unbalanced tires or issues with the tires themselves. Have the tires inspected by a dealer or tire shop to ensure proper balance and condition.

**Tire and Loading Information Label**

The Tire and Loading Information Label located on the driver's side doorjamb provides vital information about your vehicle's tire specifications and loading limits. It includes details such as:

- Recommended tire size and pressure
- Maximum load capacity of the vehicle

Refer to this label for guidance when checking tire specifications, ensuring that your tires are correctly sized and inflated for safe operation.

**Tire Labeling**

Tires are critical to vehicle safety and performance, and it's essential to understand the labels and markings on them. These markings provide important information about the tire specifications, load capacity, and inflation requirements.

**Key Tire Markings:**

- **Tire and Loading Information Label:**  
Located on the driver's side doorjamb, this label provides the following key details for your vehicle:
  - A: Number of passengers the vehicle can carry.
  - B: The total weight the vehicle can safely carry. Do not exceed this limit.
  - C: The original tire sizes for the front, rear, and spare tires.
  - D: Recommended cold tire pressures for the front, rear, and spare tires.

**Tire Sizes**

Tire sizes are marked on the tire sidewall, giving crucial information about the tire's dimensions, load capacity, and speed rating. Understanding the breakdown of the tire size can help you select the correct replacement tires.

**Example of a Tire Size:**

215/70R16 100S

- **215:** Tire width in millimeters. This refers to the distance from sidewall to sidewall.

- 70: Aspect ratio, which is the height of the tire's sidewall as a percentage of the width. In this case, the sidewall height is 70% of 215 mm.
- R: Radial construction type, which indicates that the tire is built with radial plies (layers of fabric).
- 16: Rim diameter in inches. This is the diameter of the wheel that the tire fits on.
- 100: Load index, a number that indicates the maximum weight the tire can carry. Higher numbers indicate higher load capacities.
- S: Speed rating, an alphabetical code indicating the maximum speed the tire is rated for. An "S" rating means the tire is designed for speeds up to 112 mph (180 km/h).

### **Tire Identification Number (TIN)**

The Tire Identification Number (TIN) is a unique code stamped on the sidewall of the tire. This number provides important details about the tire's manufacturing, such as the manufacturer, plant location, and production date.

- The TIN typically includes a manufacturing date, which is crucial for determining the age of the tire. The last four digits represent the week and year of manufacture (e.g., 2518 means the tire was manufactured in the 25th week of 2018).

### **Glossary of Tire Terminology**

Understanding the terminology related to tire performance and specifications will help you make better-informed decisions regarding tire maintenance and replacement.

- **Cold Tire Pressure:**  
The tire pressure when the vehicle has been parked for at least three hours or driven less than 1 mile (1.6 km). This is the most accurate time to check tire pressure.
- **Load Rating:**  
The maximum weight a tire is rated to carry at a specified inflation pressure. This is critical to ensure the tire can safely carry the load of your vehicle.
- **Maximum Inflation Pressure:**  
The highest air pressure that the tire can safely handle, as specified by the tire manufacturer. Do not exceed this pressure when inflating.
- **Maximum Load Rating:**  
The load rating for a tire when it is inflated to its maximum permissible pressure. This value is also indicated on the tire sidewall.
- **Recommended Inflation Pressure:**  
The cold inflation pressure recommended by the vehicle manufacturer. This is typically listed in psi (pounds per square inch) and is crucial for ensuring tire longevity and safety.
- **Treadwear Indicators (TWI):**  
Projections within the main tread grooves that visually indicate the amount of tread wear. When the tread wears down to the level of the TWI, it's time to replace the tire.

### **DOT Tire Quality Grading (U.S. Vehicles)**

All passenger tires sold in the U.S. are required to meet Federal Safety Standards and are graded for treadwear, traction, and

temperature performance. These grades can be found on the tire sidewall, usually between the tread shoulder and maximum section width.

#### **Tire Performance Grades:**

**Treadwear Grade:** This grade measures how well the tire wears in controlled testing conditions. The grade is represented as a number, with higher numbers indicating better durability. For example, a Treadwear 200 tire is expected to wear one and a half times longer than a Treadwear 100 tire under identical conditions. However, real-world performance can vary based on factors such as driving habits, road conditions, and climate.

- Example:
  - Treadwear 200
  - Traction AA
  - Temperature A

**Traction Grades:** This rating indicates the tire's performance in wet conditions. It's graded as:

- AA: Best traction (highest performance).
- A: Good traction.
- B: Fair traction.
- C: Lowest performance, with the risk of poor traction in wet conditions.

**Temperature Grades:** Temperature ratings measure the tire's ability to resist heat buildup and dissipate heat during controlled tests. Higher grades indicate better heat resistance, which is

essential for safety and performance, particularly at higher speeds.

- A: Best heat resistance.
- B: Good heat resistance.
- C: Minimum required by federal standards.

#### **Temperature Ratings**

Temperature ratings are critical for ensuring that your tires perform safely at higher speeds, especially in hot conditions. Tires are rated as A, B, or C based on their heat dissipation capability:

- A: The tire provides the best resistance to heat buildup and is ideal for high-speed driving.
- B: Suitable for moderate temperatures.
- C: The minimum performance level required by federal safety standards.

#### **Wear Indicators**

The wear indicator is a raised bar or ridge located within the tire's tread grooves. The wear indicator becomes visible when the tire tread wears down to 1/16 inch (1.6 mm). Once visible, it indicates that the tire's tread is worn out and it should be replaced immediately for safe driving.

#### **Tire Service Life**

Tire life is influenced by several factors, including driving habits, road conditions, vehicle load, inflation pressure, and maintenance practices. Even if tires show little visible wear, age can affect tire performance.

Annual Inspections: It is recommended to have your tires inspected at least once a year after they reach five years of age. Tires should be replaced every 10 years from the date of manufacture, regardless of their condition.

## **Tire and Wheel Replacement**

When replacing tires, it's important to maintain the specifications of the original tires to ensure optimal performance and safety. Below are key considerations:

**Match Tire Size and Ratings:** When replacing tires, ensure they match the same size, load range, speed rating, and maximum cold tire pressure of the original tires. Failure to do so can affect vehicle systems such as ABS, Vehicle Stability Assist (VSA®), hill-start assist, and AWD (All-Wheel Drive) functionality.

**Replace All Four Tires:** It's ideal to replace all four tires at once to maintain balanced handling. If replacing all four isn't possible, replace the front or rear tires in pairs to maintain uniformity in performance.

**Wheel Specifications:** When replacing wheels, ensure they are of the same size and specifications as the original ones. Only use wheels approved by TPMS (Tire Pressure Monitoring System) for your vehicle.

### **Notice:**

**Incorrect Tire Sizes:** Using tires that differ in size, construction, or rating can interfere with your vehicle's handling, traction, and safety systems. Always consult the tire and loading label on the vehicle for the correct specifications before replacing tires.

**Do Not Exceed Weight Limits:** Never exceed the maximum weight limits stated on the tire and loading information label. Doing so can compromise safety, particularly in terms of braking and handling.

## **Tire Rotation**

Regular tire rotation is essential to ensure even wear and prolong the life of your tires. The specific rotation pattern and interval can be found in the vehicle's maintenance schedule, often indicated by a Maintenance Minder™ message on the information display or multi-information display.

- **Tire Rotation Procedure:**
  - Rotate your tires according to the recommended pattern (e.g., front-to-back or side-to-side) to ensure uniform wear. Tire rotation should be done regularly, typically every 6,000 to 8,000 miles (or as recommended in your vehicle's manual).
  - **Directional Tires:** For tires with directional tread patterns, only rotate them front-to-back, not side-to-side. Ensure the directional arrow on the tire points forward after the rotation.
- **Note:**

Regularly rotating tires helps maintain even wear, optimizing tire lifespan and ensuring safer handling. Neglecting rotation can lead to uneven wear, which reduces tire performance and can lead to premature tire replacement.

## Winter Tires

Driving in cold, snowy, or icy conditions requires special attention to tire selection and vehicle handling. Winter tires or tire chains are specifically designed to perform in low temperatures and adverse road conditions.

- Winter Tire Guidelines:
  - Use winter tires or tires marked with “M+S” (Mud and Snow) for snow and ice conditions.
  - Winter tires should be of the same size and load range as the original tires to maintain vehicle handling and safety.
  - Mount winter tires on all four wheels for balanced traction. Using winter tires only on the front or rear can affect the vehicle’s stability and handling, especially when braking.
- Tire Chains:
  - Install chains only on the front tires to maintain steering control.
  - Ensure the chains are specifically designed for your vehicle to avoid damage.
  - Follow the manufacturer’s installation instructions carefully to avoid improper fitment or slippage.
  - Check that the chains do not make contact with brake lines, suspension components, or the vehicle body.

- Drive at reduced speeds when using tire chains, as excessive speed can damage the chains and reduce their effectiveness.

### Important Notice:

Improperly sized or incorrectly installed traction devices, such as tire chains, can damage your vehicle’s brake lines, suspension, body, and wheels. Always ensure proper installation, and if the chains contact any part of the vehicle, stop driving immediately.

Warning: Summer tires are not suitable for winter conditions. They lack the necessary tread patterns and rubber compounds to perform effectively in cold, snowy, or icy conditions. Always use tires that are designed for winter driving when the temperature drops below 45°F (7°C).

### Checking the Battery

The vehicle's battery should be inspected monthly to ensure it is in good condition and properly charged.

- Inspection:
  - Check the battery test indicator window for a color-coded status, which will provide an indication of the battery’s condition (e.g., green for good, black or red for needs attention).
  - Examine the battery terminals for signs of corrosion, which can prevent proper battery function.
- Warning:

Corrosion on the battery terminals can impede the battery’s

ability to function properly and may affect vehicle performance. It's important to clean any corrosion regularly to maintain the health of the battery and electrical system.

### **Charging the Battery**

When charging the battery, always take proper precautions to avoid electrical system damage or safety hazards.

- Disconnection:
  - Always disconnect both battery cables before charging the battery.
  - Disconnect the negative (–) cable first and reconnect it last to avoid short circuits or sparks.
- Cleaning and Maintenance:
  - If corrosion is present on the battery terminals, clean the terminals with a baking soda and water mixture to neutralize the corrosion.
  - After cleaning, rinse the terminals with water, dry the battery with a clean cloth, and apply grease to the terminals to help prevent future corrosion buildup.
- Warning:

Battery posts, terminals, and related components contain lead and lead compounds, which can be harmful. Always wash your hands after handling these components to avoid contamination.

### **Replacing the Button Battery**

If your key fob or transmitter stops working, or the indicator no longer lights when pressing the button, the button battery may need to be replaced.

- Battery Replacement Procedure:
  1. Use a small Phillips-head screwdriver to unscrew the cover and open the transmitter.
  2. Carefully use a small flat-tip screwdriver wrapped in cloth to open the keypad, avoiding any scratches on the transmitter.
  3. Insert the new battery with the correct polarity (positive and negative ends should match the design of the battery compartment).
- Important Notice:

Improper disposal of batteries can harm the environment. Always dispose of used batteries according to local regulations. New replacement batteries are available through your dealer or commercial suppliers.

### **Heating and Cooling System (Climate Control System) Maintenance**

The heating and cooling system or climate control system plays a key role in maintaining passenger comfort. Regular maintenance helps ensure optimal performance, especially in extreme weather conditions.

- Dust and Pollen Filter: Your vehicle's climate control system is equipped with a dust and pollen filter that traps dust, pollen, and other airborne debris, keeping the air inside the cabin clean and fresh. The Maintenance Minder™ will notify you when it's time to replace the filter, typically around

every 15,000 to 30,000 miles, depending on driving conditions. If you drive in areas with high dust levels, or if you notice reduced airflow or windows fogging easily, it's a good idea to replace the filter more frequently.

- **Recommended Action:** Inspect and replace the dust and pollen filter as needed to maintain the effectiveness of your climate control system. If airflow has noticeably decreased or you are experiencing fogging issues, it may indicate the filter is clogged and needs to be replaced.
- **Note:**  
Not all vehicles have the Climate Control System or Dust and Pollen Filter. Please refer to your owner's manual for more specific information based on your vehicle's configuration.

### **Steps to Replace a Flat Tire**

If you experience a flat tire while driving, remain calm. Here's how to replace the flat with your compact spare tire:

1. **Park the Vehicle:**
  - Choose a firm, level, non-slippery surface.
  - Shift the vehicle into (P) (Park).
  - Apply the parking brake to ensure the vehicle stays stationary.
  - Turn on the hazard warning lights to alert other drivers.
  - Switch the ignition to LOCK (0).

### **Important Notices:**

- **Compact Spare Tire:**
  - Regularly check the pressure of the compact spare tire, and ensure it is inflated to 60 psi (420 kPa, 4.2 kgf/cm<sup>2</sup>).
  - When using the compact spare, do not exceed 50 mph (80 km/h). It is a temporary solution and should be replaced with a full-size tire as soon as possible.
  - The compact spare tire and wheel are designed specifically for your vehicle. Do not use them on other vehicles or use different types of spares.
  - Do not mount tire chains on a compact spare tire.
  - If a front tire with chains goes flat, swap one of the full-size rear tires with the compact spare, and mount the chains on the front tires.
- **Puncture Repair:**
  - Do not use puncture repair agents (sealants) on a flat tire, as they can damage the tire's pressure sensor.

### **Preparing to Replace the Flat Tire**

1. Open the cargo area floor lid to access the spare tire and tools.
2. Remove the tool bag from the cargo area.
3. Take out the wheel nut wrench and jack handle bar from the tool bag.



4. Remove the jack from the spare tire compartment.
5. Unscrew the wing bolt and remove the spacer cone, then take out the spare tire.
6. Place a wheel block or a rock in front and behind the wheel diagonal to the flat tire (for added safety).
7. Position the compact spare tire (wheel side up) beneath the vehicle, close to the flat tire.
8. Loosen each wheel nut about one turn using the wheel nut wrench. This will make it easier to remove them once the vehicle is raised.

#### **How to Set Up the Jack**

1. Position the jack under the jacking point nearest to the flat tire.
  - Refer to your vehicle's manual for the exact location of the jacking points.
2. Turn the end bracket clockwise until the top of the jack makes contact with the jacking point.
  - Ensure that the tab on the jacking point is aligned with the notch on the jack.
3. Raise the vehicle using the jack handle and handle bar until the flat tire is lifted off the ground.

#### **Replacing the Flat Tire**

1. Remove the wheel nuts and take off the flat tire.
2. Clean the mounting surfaces on the wheel and the hub with a clean cloth to remove any dirt or debris.

3. Install the compact spare tire onto the wheel hub.
4. Tighten the wheel nuts until they make contact with the mounting holes, then stop turning.
5. Lower the vehicle slowly and remove the jack.
6. Tighten the wheel nuts securely in the correct order (as shown in the vehicle manual or a marked diagram).
  - Repeat tightening two or three times to ensure they are properly fastened.

#### **Wheel Nut Torque:**

- 80 lbf·ft (108 N·m, 11 kgf·m)

#### **Storing the Flat Tire**

1. Remove the center cap from the flat tire if applicable.
2. Place the flat tire face down in the spare tire well.
3. Remove the spacer cone from the wing bolt, flip it over, and reattach it to the bolt.
4. Secure the flat tire with the wing bolt.
5. Store the wheel nut wrench and jack handle bar back in the tool bag, and place the bag in the cargo area.
6. Store the jack in its designated holder and turn the end bracket to lock it in place.

## TPMS and the Spare Tire

Understanding TPMS (Tire Pressure Monitoring System) and Spare Tire Usage

When you replace a flat tire with the spare, you may notice that the low tire pressure indicator on your dashboard lights up. This is because the system is detecting a tire with lower pressure than usual. However, after driving for a few miles (kilometers), the low tire pressure indicator will turn off, and the TPMS (Tire Pressure Monitoring System) light will turn on instead. This is normal behavior and indicates that the system is no longer monitoring the spare tire.

- If you replace the flat with a regular tire (i.e., a full-size, properly inflated tire), both the low tire pressure and TPMS indicators will turn off after a short drive (typically within a few minutes of driving).
- Important Notes: The TPMS system does not monitor the pressure of the spare tire. For your safety, you should manually check the pressure of the spare tire regularly, especially before a long trip or when you first install it on your vehicle. TPMS-compatible wheels are equipped with sensors that measure tire pressure. Make sure your spare tire is also mounted on a TPMS-compatible wheel. Each sensor is typically located behind the valve stem inside the tire.

How to Check Your Spare Tire Pressure:

1. Remove the spare tire from its storage compartment in the vehicle.

2. Use a tire pressure gauge to measure the pressure of the spare tire.
  - The recommended tire pressure for your spare tire is usually printed on a label inside the trunk or in the owner's manual. The standard range is often around 60 psi (420 kPa, 4.2 kgf/cm<sup>2</sup>) for compact spares, but verify this number for your specific vehicle.
3. Inflate the spare tire if needed. You can do this at a gas station with an air pump or at home using an air compressor.

What to Do if the TPMS Light Remains On: If the TPMS light remains on after you have replaced the flat tire with a full-size tire, it may indicate an issue with the TPMS system itself. The sensors may need recalibration or replacement. If this occurs, visit your dealer for further diagnostics.

## Jump Starting Your Vehicle

Safety Precautions Before Jump-Starting

Jump-starting a vehicle involves connecting your battery to another vehicle's battery using jumper cables. Before you begin, follow these important safety steps:

1. Turn off all electrical devices in your vehicle, such as lights, air conditioning, radio, etc. This helps prevent electrical damage.
2. Ensure both vehicles are turned off before connecting the jumper cables.

3. Check the condition of the batteries: Only jump-start your vehicle if the assisting vehicle's battery is in good condition, and the cables are not frayed or damaged.
4. Ensure the jumper cables are properly rated for 12-volt batteries. Using incorrect cables could cause a dangerous short circuit.

#### Steps to Jump-Start Your Vehicle:

1. Connect the first jumper cable to the positive (+) terminal of your vehicle's dead battery. Ensure the cable clamp is securely attached to the metal part of the terminal.
2. Connect the other end of the first jumper cable to the positive (+) terminal of the assisting vehicle's battery.
  - Important: Only use a 12-volt booster battery for safety.
3. Attach the second jumper cable to the negative (-) terminal of the assisting vehicle's battery.
4. Connect the other end of the second jumper cable to a metal part of your engine or vehicle frame (such as an engine block). This is known as the grounding point.
  - Do NOT attach the negative cable to the negative terminal of your vehicle's dead battery, as this could cause a spark and potentially ignite any hydrogen gas present near the battery.
5. Start the assisting vehicle's engine and allow it to run for a few minutes at a higher RPM (Revolutions Per Minute) to ensure the electrical system is generating power.

6. Attempt to start your vehicle. If the engine turns over slowly or hesitates to start, double-check that the cables are securely attached to metal contact points, and give it a few more moments before trying again.

#### What to Do After the Engine Starts:

Once your engine has successfully started, follow these steps to safely disconnect the jumper cables:

1. Disconnect the jumper cable from your vehicle's ground (negative) connection.
2. Disconnect the other end of the jumper cable from the assisting vehicle's negative (-) terminal.
3. Disconnect the jumper cable from your vehicle's positive (+) terminal.
4. Finally, disconnect the other end of the jumper cable from the assisting vehicle's positive (+) terminal.

**Post Jump-Start Vehicle Care:** Let your engine run for at least 15 to 30 minutes to allow the alternator to charge your vehicle's battery. Driving the vehicle is the most effective way to recharge the battery, so take a short drive if possible. **Battery Inspection:** After a jump-start, you should have your vehicle's battery and electrical system checked by a professional. This will help ensure that the battery is functioning properly and that there is no underlying issue with the alternator or battery terminals.

#### Shift Lever Does Not Move

#### What to Do if You Can't Move the Shift Lever Out of (P) (Park)

If you are unable to shift your vehicle out of the (P) Park position, it could be due to an issue with the shift lever lock system. Here's what to do if this happens:

#### Steps to Release the Shift Lock:

1. Set the parking brake to ensure that the vehicle remains stationary.
2. Remove the key from the ignition (if applicable) to prevent any accidental engine starts.
3. Locate the shift lock release slot. In most vehicles, this is a small slot located near the base of the shift lever.
4. Use a small flat-tip screwdriver, preferably wrapped in cloth to avoid damaging the vehicle's interior, to pry off the cover from the shift lock release slot.
  - Note: This is a temporary solution, so be gentle when removing the cover.
5. Insert the key (or a small, flat object if no key is available) into the shift lock release slot.
6. Press the key down while simultaneously pressing the shift lever release button. This should unlock the shift lever and allow you to shift to (N) Neutral.
7. Once the shift lever is released, check the parking brake to ensure it is engaged before driving.

#### Post Issue Actions:

- Visit a dealer: It's highly recommended to have your shift lever checked and serviced by a dealer as soon as possible to ensure that the shift lock mechanism is functioning

properly. Issues with the shift lock can cause problems when shifting between drive gears and could potentially result in safety hazards.

#### Additional Tips for Vehicle Maintenance

##### Battery Maintenance:

- Regularly check the condition of your vehicle's battery, especially if you've had to jump-start it.
- Clean battery terminals periodically to prevent corrosion. If corrosion is present, clean the terminals with a mixture of baking soda and water, rinse thoroughly, dry, and apply battery terminal grease to prevent future build-up.

##### Spare Tire Safety:

- Never drive at high speeds with a compact spare tire. Compact spares are designed for emergency use and should be replaced with a full-size tire as soon as possible.
- Check the pressure of your compact spare tire at least once a month to ensure it's ready for use in an emergency.

##### Jump Starting Precautions:

- If your vehicle consistently has battery issues or is unable to hold a charge, it's a good idea to have the battery tested or replaced.
- Never jump-start a vehicle if the battery is visibly cracked, leaking, or damaged. This can pose a serious fire or explosion risk.