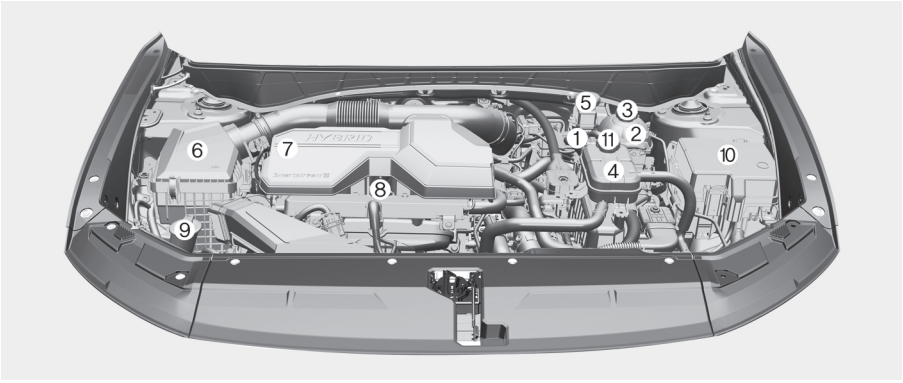
9. Maintenance

9. Maintenance

Engine compartment



The actual engine compartment in the vehicle may differ from the illustration.

(1) ECU
(2) Engine coolant reservoir
(3) Engine coolant reservoir cap
(4) Inverter coolant reservoir
(5) Brake fluid reservoir
(6) Air cleaner
(7) Engine oil filler cap
(8) Engine oil dipstick
(9) Windshield washer fluid reservoir
(10)Fuse box
(11) Inverter coolant reservoir cap

Maintenance services

Exercise the utmost care to prevent damage to your vehicle and injury to yourself whenever performing any maintenance or inspection procedures.

Have your vehicle maintained and repaired by an authorized HYUNDAI dealer. An authorized HYUNDAI dealer meets HYUNDAI's high service quality standards and receives technical support from HYUNDAI in order to provide you with a high level of service satisfaction.

Guide to hyundai genuine parts

1. What are HYUNDAI Genuine Parts?

HYUNDAI Genuine Parts are the parts used by HYUNDAI Motor Company to manufacture vehicles. They are designed and tested for the optimum safety, performance, and reliability for our customers.

2. Why Hyundai Genuine Parts?

HYUNDAI Genuine Parts are engineered and built to meet rigid manufacturing requirements. Damage caused by using imitation, counterfeit, or used salvage parts is not covered under the HYUNDAI New Vehicle Limited Warranty or any other HYUNDAI warranty.

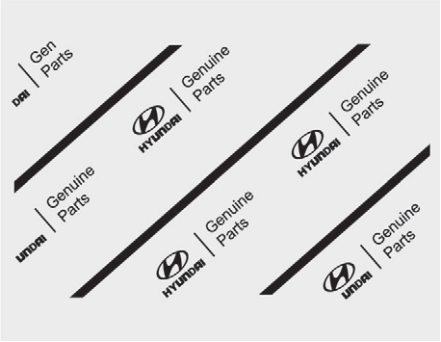
In addition, any damage to or failure of HYUNDAI Genuine Parts caused by the installation or failure of an imitation, counterfeit or used salvage part are not covered by any HYUNDAI Warranty.

3. How can you tell if you are purchasing HYUNDAI Genuine Parts?

Look for the HYUNDAI Genuine Parts Logo on the package (see below).

HYUNDAI Genuine Parts exported are packaged with labels written only in English.

HYUNDAI Genuine Parts are only sold through authorized HYUNDAI Dealerships.



Owner's responsibility

Maintenance service and record retention are the owner's responsibility.

Retain documents that show proper maintenance has been performed on your vehicle in accordance with the scheduled maintenance service charts on the following pages. You need this information to establish your compliance with the servicing and maintenance requirements of your vehicle warranties.

Detailed warranty information is provided in your Service passport.

Repairs and adjustments required as a result of improper maintenance or a lack of required maintenance are not covered.

Owner maintenance precautions

Inadequate, incomplete, or insufficient servicing may result in operational problems with your vehicle that could cause vehicle damage or a collision that results in serious injury or death.

Your vehicle must not be modified in any way. Such modifications may adversely affect the performance, safety, or durability of your vehicle and may, in addition, violate conditions of the limited warranties covering the vehicle.

NOTICE

Improper owner maintenance during the warranty period may affect warranty coverage. For more information, read the separate Service passport provided with the vehicle.

Owner maintenance

⚠ WARNING

Performing maintenance on the vehicle can be dangerous. If you lack sufficient knowledge, experience, or proper tools and equipment to do the work, have it done by an authorized HYUNDAI dealer. Before performing maintenance:

- Park your vehicle on level ground. Shift the vehicle to P (Park), apply the parking brake, and move the Engine Start/Stop button to the LOCK/OFF position.
- Block the tires (front and back) to prevent the vehicle from moving. Remove loose clothing or jewelry that can become entangled in moving parts.
- If you must run the engine during maintenance, do it in an outdoor area or in an area with plenty of ventilation.
- Keep flames, sparks, or smoking materials away from the battery and fuel-related parts.

⚠ WARNING

Do not touch metal parts (including strut bars) while the engine is operating or hot to prevent serious injury. Turn off the engine and wait until the metal parts cool down before working on the vehicle.

The following lists are vehicle checks and inspections that should be performed by the owner or an authorized HYUNDAI dealer at the frequencies indicated to help ensure safe and dependable operation of your vehicle.

Any adverse conditions should be brought to the attention of your authorized HYUNDAI dealer as soon as possible.

These Owner Maintenance vehicle checks are generally not covered by warranties and you may be charged for labor, parts, and lubricants used.

Owner maintenance schedule

When you stop for fuel:

- Check the windshield washer fluid level.
- Check for low or under-inflated tires.

While operating your vehicle:

- Note any changes in the sound of the exhaust or any smell of exhaust fumes in the vehicle.
- Check for vibrations in the steering wheel. Notice if there is any increased steering effort or looseness in the steering wheel, or change in its straight-ahead position.
- Notice if your vehicle constantly turns slightly or “pulls” to one side when traveling on a smooth, level road.
- When stopping, listen and check for unusual sounds, pulling to one side, increased brake pedal travel, or “hard-to-push” brake pedal.
- If any slipping or changes in the operation of your transmission occurs, check the transmission fluid level.
- Check the automatic transmission P (Park) function.
- Check the parking brake.
- Check for fluid leaks under your vehicle (water dripping from the air conditioning system during or after use is normal).

At least monthly:

- Check the coolant level in the engine coolant reservoir.
- Check the operation of all exterior lights, including the headlights, brake lights, turn signals, and hazard warning flashers.
- Check the inflation pressures of all tires including the spare for tires that are worn, show uneven wear, or are damaged.
- Check for loose wheel nuts.

⚠ WARNING

Be careful when checking your coolant level if the engine is hot. This may result in coolant being blown out of the opening and cause serious burns and other injuries.

At least twice a year:

- Check the radiator, heater, and air conditioning hoses for leaks or damage.
- Check the windshield washer spray and wiper operation. Clean the wiper blades with a clean cloth dampened with washer fluid.
- Check the headlight alignment.
- Check the muffler, exhaust pipes, shields, and clamps.
- Check the seat belts for wear and function.

At least once a year:

- Clean the body and door drain holes.
- Lubricate the door hinges and hood hinges.
- Lubricate the door, hood locks, and latches.
- Lubricate the door rubber weather strips.
- Check the air conditioning system.
- Inspect and lubricate the automatic transmission linkage and controls.
- Clean the battery and terminals.
- Check the brake fluid level.

Scheduled maintenance services

i Information

- It is normal for engine oil to be consumed during driving. The engine oil level should be checked on regular basis.
- The engine oil change interval for normal operating conditions is based on the use of the recommended engine oil specification in chapter 2.

  The vehicle may be equipped with the Oil Life Management System that predicts engine oil life based on the driver's driving history and alerts the driver to change engine oil.

  - If the deterioration of the engine oil increases depending on the driver's driving style, the remaining oil life alert will appear on the instrument cluster before the normal engine oil replacement interval. Have the engine oil and filter changed by an authorized HYUNDAI dealer.
  - Oil Life Management System works when the recommended engine oil is used. Also, check the engine oil level regularly as this system assumes that the engine oil is being filled normally.
  - Always reset the remaining engine oil life whenever the engine oil is changed. Otherwise, the indication of remaining Oil life in the Oil Life Management System may not be accurate. To reset the Oil Change Reminder, select **RESET** instrument cluster or infotainment system screen. Then, select **Yes** when the message "**Has the engine oil changed? Press [Yes] to reset the oil life.**" appears on the screen.
  - If there is no alert until the maximum maintenance interval, have the vehicle inspected by an authorized HYUDNAI dealer.

Normal maintenance schedule

The following maintenance services must be performed to ensure good emission control and performance. Keep receipts for all vehicle emission services to protect your warranty. Where both mileage and time are shown, the frequency of service is determined by whichever occurs first.

R : Replace, A : Add, S : Service, I : Inspect, L : Lubricate, r : Rotate

MAINTENANCE INTERVALS	Number of months or driving distance, whichever comes first																				
	Months	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
	Km × 1,000	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
Engine Oil And Filter Replacement *1*2 (Synthetic oil)		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Steering gear box, linkage & boots/ lower arm ball joint, upper arm ball joint		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Drive shafts and boots		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Fuel Injector Cleaner *3			A		A		A		A		A		A		A		A		A		A

*1 As it is normal for engine oil to be consumed during driving, the amount of engine oil should be checked regularly.

*2 Never add any additives to the engine oil. Engine oil additives can change the properties of engine oil and may cause serious engine failure.

*3 If TOP TIER Detergent Gasoline is not available, one bottle of Fuel injector cleaner is recommended. Fuel injector cleaners are available from your authorized HYUNDAI dealer along with information on how to use them. Do not mix other Fuel injector cleaners.

R : Replace, A : Add, S : Service, I : Inspect, L : Lubricate, r : Rotate

MAINTENANCE INTERVALS	Number of months or driving distance, whichever comes first																				
	Months	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
	Km × 1,000	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
Brake inspection (front and rear disc/pads/calipers/shoes, include tire rotation). Service front and rear brakes (including parking brake and tire rotation)		I		S		I		S		I		S		I		S		I		S	
Battery (12 V) condition (For plug-in hybrid vehicle)	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Brake Lines, Hoses and Connections		I		I		I		I		I		I		I		I		I		I	
Suspension Mounting Bolts		I		I		I		I		I		I		I		I		I		I	
Air Conditioning Refrigerant		I		I		I		I		I		I		I		I		I		I	
Exhaust Pipe and Muffler		I		I		I		I		I		I		I		I		I		I	
Cabin air filter (for evaporator and blower unit)		R		R		R		R		R		R		R		R		R		R	

R : Replace, A : Add, S : Service, I : Inspect, L : Lubricate, r : Rotate

MAINTENANCE INTERVALS	Number of months or driving distance, whichever comes first																				
	Months	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
	Km × 1,000	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
Fuel Tank, Fuel Filler Cap, Vapor Hose					I				I				I				I				I
Fuel Tank Air Filter					I				I				I				I				I
Fuel Filter					I				I				I				I				I
Fuel lines, hoses and connections of each part					I				I				I				I				I
Air Cleaner Filter			I		R		I		R		I		R		I		R		I		R
Brake fluid			I		I		R		I		I		R		I		I		R		I
Spark plugs		Replace every 80,000 km																			
Cooling system			I		I		I		I		I		I		I		I		I		I
Engine coolant		At first, replace at 200,000 km or 120 months after that, replace every 40,000 km or 24 months																			
Inverter coolant	HEV	At first, replace at 200,000 km or 120 months after that, replace every 40,000 km or 24 months																			
	PHEV	Replace every 56,000 km or 36 months																			

R : Replace, A : Add, S : Service, I : Inspect, L : Lubricate, r : Rotate

MAINTENANCE INTERVALS	Number of months or driving distance, whichever comes first																				
	Months	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
	Km × 1,000	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
HSG belts*1	Inspect every 8,000 km or 6 months, Replace every 48,000 km or 24 months																				
Intercooler, in/out hose	At first, Inspect at 8,000 km or 6 months After that, Inspect every 32,000 km or 24 months																				
Automatic transmission fluid	Replace every 96,000 km																				

*1 Inspect HSG belt for evidence of cuts, crocks, excessive wear or oil saturation and replace if necessary. If drive belt noise occurred, readjust drive belt tension before replace.

NOTICE

After 120 months or 160,000 km continue to follow the prescribed maintenance intervals.

Explanation of scheduled maintenance items

Engine oil and filter

The engine oil and filter should be changed at the intervals specified in the maintenance schedule. If the vehicle is driven in severe conditions, more frequent oil and filter changes are required.

HSG (Hybrid Starter & Generator) belts

The HSG belt should be changed at the intervals specified in the maintenance schedule.

⚠ WARNING

Always turn off the engine before inspecting the HSG belt.

Fuel lines, fuel hoses and connections

Check the fuel lines, fuel hoses, and connections for leakage and damage. Have an authorized HYUNDAI dealer replace any damaged or leaking parts immediately.

Fuel filter

The fuel filter is considered to be maintenance free but periodic inspection is recommended depending on the fuel quality. If there is fuel flow restriction, surging, loss of power, or hard starting, contact an authorized HYUNDAI dealer to have the fuel filter replaced immediately.

Vapor hose and fuel filler cap

The vapor hose and fuel filler cap should be inspected at intervals specified in the maintenance schedule. Your HYUNDAI dealer helps determine if replacement is needed.

Vacuum crankcase ventilation hoses

Visually check for proper installation, chafing, cracks, deterioration, and any leakage. Replace any deteriorated or damaged parts immediately.

Air cleaner filter

The air cleaner filter should be replaced by an authorized HYUNDAI dealer.

Spark plugs

Be sure to install new spark plugs with the correct heat range.

When installing new spark plugs, make sure the ignition coils are clean and free of any oil or debris. Clean and wipe off the bottom portion of the ignition coil to prevent any contamination with the spark plug during installation.

⚠ WARNING

Do not remove spark plugs from the vehicle when the engine is hot. You may damage the engine and may also risk burn injury.

Cooling system

Check the cooling system components such as radiator, coolant reservoir, hoses, and connections for leakage and damage. Replace any damaged parts.

Engine coolant

The coolant should be changed at intervals specified in the maintenance schedule.

Automatic Transmission fluid

The automatic transmission fluid level does not need to be checked under normal usage conditions.

Have the automatic transmission fluid changed by an authorized HYUNDAI dealer according to the maintenance schedule.

i Information

Automatic transmission fluid color is red when new.

As the vehicle is driven, the automatic transmission fluid will begin to look darker.

This is a normal condition. It does not need to be replaced based on the color change.

NOTICE

Only use the automatic transmission fluid specified in the "Recommended lubricants and capacities" section in chapter 10 to prevent transmission damage.

Brake hoses and lines

Visually check for proper installation, chafing, cracks, deterioration, and any leakage. Replace any deteriorated or damaged parts immediately.

Brake fluid

Check the brake fluid level in the brake fluid reservoir. The level should be between the MIN and the MAX marks on the side of the reservoir. Use only hydraulic brake fluid conforming to DOT 4 specification.

Parking brake

Inspect the parking brake system including the cables.

Brake discs, pads, calipers, and rotors

Check the pads, the disc, and the rotor for any excessive wear-out. Inspect calipers for any fluid leakage.

Drive shaft and related

Check the drive shaft, boots, clamps, rubber couplings, and center-bearing rubber for cracks, deterioration, or damage. Replace any damaged parts and if necessary, repack the grease.

Suspension mounting bolts

Check the suspension connections for looseness or damage. Retighten to the specified torque.

Steering gear box, linkage & boots/lower arm ball joint

With the vehicle stopped and the engine off, check for excessive free-play in the steering wheel. Check the linkage for bends or damage. Check the dust boots and ball joints for deterioration, cracks, or damage.

Replace any damaged parts.

Air conditioning refrigerant

Check the air conditioning lines and connections for leakage and damage.

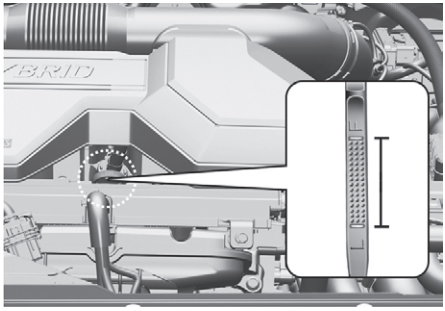
Engine oil

Checking the engine oil level

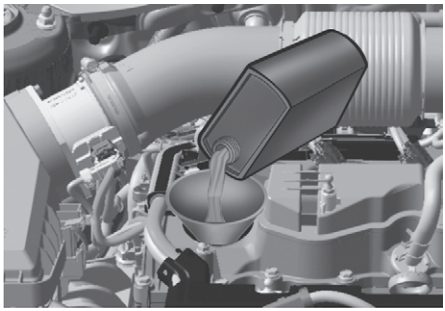
Engine oil is used for lubricating, cooling, and operating various hydraulic components in the engine. Engine oil consumption while driving is normal, and it is necessary to check and refill the engine oil regularly. Also, check and refill the oil level within the recommended maintenance schedule to prevent deterioration of oil performance.

Check the engine oil following the below procedure.

1. Follow all of the oil manufacturer's precautions.
2. Make sure the vehicle is on the level ground in P (Park) with the parking brake applied.
3. Turn on the engine and warm the engine up until the coolant temperature reaches a constant normal temperature.
4. Turn off the engine, remove the oil filler cap and pull the dipstick out. Wait for 15 minutes for the oil to return to the oil pan.
5. Wipe the dipstick clean and re-insert it fully.
6. Pull the dipstick out again and check the level. The level should be between F (Full) and L (Low).



7. If the oil level is below the L, add enough oil to bring the level to F.



Use only the specified engine oil (Refer to the "Recommended lubricants and capacities" section in chapter 10).

NOTICE

To prevent damage to your engine:

- Do not spill engine oil when adding or changing engine oil. Wipe off spilled oil immediately.
- The engine oil consumption may increase while you break in the new vehicle, and it should stabilize after driving 6,000 km (4,000 mi.).
- The engine oil consumption may be affected by driving habits, climate conditions, traffic conditions, and oil quality. Inspect the engine oil level regularly and refill if necessary.

Checking the engine oil and filter

- The lubrication, rust prevention, cooling, and cleaning effect of the engine oil will gradually degrade during its use. Have the engine oil and filter changed by an authorized HYUNDAI dealer according to the Oil Life Management System instructions or the Maintenance Schedule at the beginning of this chapter.
- To keep the engine in optimal condition, use the recommended engine oil and filter. If the recommended engine oil and filter are not used, replace them according to the Maintenance Schedule Under Severe Usage Conditions.
- The purpose of the maintenance schedule for engine oil replacement is to prevent oil deterioration and it is irrelevant to oil consumption. Check and refill engine oil regularly.

Information

When the oil pressure is low due to insufficient engine oil, the Engine Oil Pressure (🛢) warning light will illuminate. In addition, the enhanced engine protection system, which limits the engine's power is activated and the Malfunction Indicator Lamp (🔧) will illuminate when the vehicle is driven in this state continuously. When the engine oil pressure is restored, the warning light and the enhanced engine protection system will turn off after the engine is restarted.

NOTICE

Never add any additives to the engine oil. Engine oil additives can change its properties and may cause engine failure.

⚠ WARNING

Allow the engine to cool before replacing the oil.

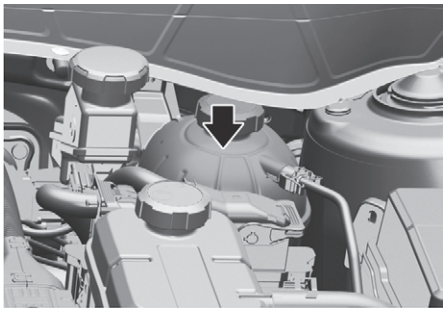
Engine coolant/Battery system coolant

The high pressure cooling system has a reservoir filled with year-round antifreeze coolant.

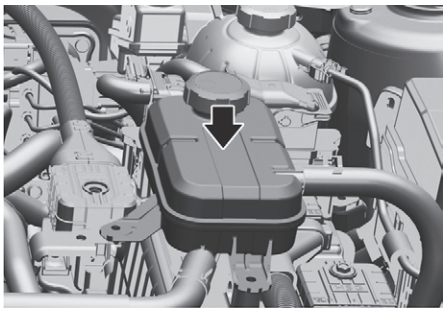
Check the antifreeze protection and coolant level at least once a year, before the winter season or before traveling to a colder climate.

Checking the coolant level

Engine Coolant



Battery system Coolant



Information

Battery system : Inverter, HSG, LDC

Check the condition and connections of all cooling system hoses and heater hoses. Replace any swollen or deteriorated hoses.

The coolant level should be filled between the MAX and the MIN marks on the side of the coolant reservoir when the engine is cool.

- Engine coolant/Battery system coolant for HEV
  - If the coolant level is low, add enough distilled (deionized) water mixed with antifreeze to bring the level to the MAX mark, but do not overfill.
- Battery system coolant for PHEV
  - If the battery system coolant level for the PHEV is low, It be refilled by an authorized HYUNDAI dealer.

If frequent additions are required, See an authorized HYUNDAI dealer for a cooling system inspection.

⚠ WARNING

Never remove the engine coolant reservoir cap, radiator cap, or drain plug while the engine and radiator are hot. Hot coolant and steam may blow out under pressure, causing serious injury.

Turn the vehicle off and wait until the engine cools down. Use extreme care when removing the engine coolant cap and radiator cap. Wrap a thick towel around it, and turn it counterclockwise slowly to the first stop. Step back while the pressure is released from the cooling system. When you are sure all the pressure has been released, press down on the cap, using a thick towel, and continue turning counterclockwise to remove it.

i Information

The coolant level is influenced by the engine temperature. Before checking or refilling the coolant, turn off the engine and allow the engine to cool.

⚠ WARNING

The coolant level is influenced by the engine temperature. Before checking or refilling the coolant, turn the engine off.

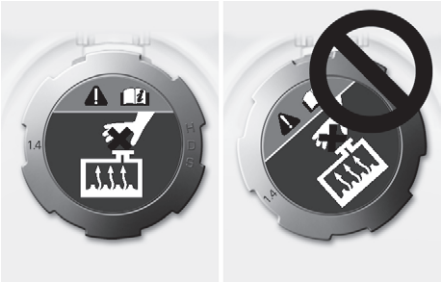
The electric motor for the cooling fan may continue to operate or start up when the engine is not running and can cause serious injury. Keep hands, clothing and tools away from the rotating fan blades of the cooling fan.

Always turn off the vehicle unless the vehicle has to be inspected with the engine on. The cooling fan may operate automatically if the negative (-) battery terminal is not disconnected.

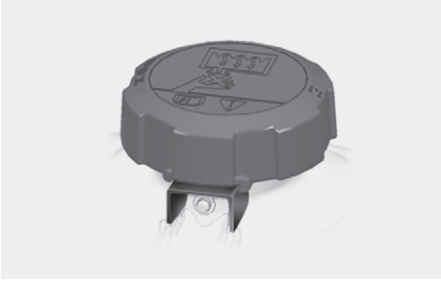
⚠ WARNING

Make sure the coolant cap is properly closed after refilling coolant. Otherwise, the engine may be overheated while driving.

1. Check if the coolant cap label is straight in front.



2. Make sure that the tiny protrusions inside the coolant cap is securely interlocked.



Recommended coolant

- When adding coolant, use only deionized water, distilled water, or soft water for your vehicle and never mix hard water in the coolant filled at the factory.
- An incorrect coolant mixture may result in severe malfunction or engine damage.
- The engine in your vehicle has aluminum engine parts and must be protected by a phosphate-based ethylene glycol coolant to prevent corrosion and freezing.
- Do not use alcohol or methanol coolant or mix them with the specified coolant.
- Do not use a solution that contains more than 60 % antifreeze or less than 45 % antifreeze, which could reduce the effectiveness of the solution.

For mixing percentage, refer to the following table:

Ambient Temperature	Mixture Percentage (volume)	
	Antifreeze	Water
-15 °C (5 °F)	35	65
-25 °C (-13 °F)	40	60
-35 °C (-31 °F)	50	50
-45 °C (-49 °F)	60	40

i Information

If in doubt about the mix ratio, a 50 % water and 50 % antifreeze mix is the easiest to mix together as it will be the same quantity of each. It is suitable to use for most temperature ranges of -35 °C (-31 °F) and higher.

Changing coolant

Have the coolant changed by an authorized HYUNDAI dealer according to the Maintenance Schedule at the beginning of this chapter.

⚠ WARNING

Do not use engine coolant or antifreeze in the washer fluid reservoir.

Engine coolant can severely obscure visibility when sprayed on the windshield and may cause loss of vehicle control resulting in an accident.

Engine coolant may also cause damage to paint and body trim.

NOTICE

To prevent damage to engine parts, put a thick towel around the engine coolant reservoir cap before refilling the coolant to prevent the coolant from overflowing into engine parts, such as the alternator.

Hybrid starter & Generator (HSG) belt

Checking the Hybrid Starter & Generator (HSG) belt

Have the Hybrid Starter & Generator (HSG) belt inspected or replaced according to the Maintenance Schedule in this chapter by an authorized HYUNDAI dealer.

⚠ CAUTION

When the HSG belt is worn out or damaged, replace the belt.

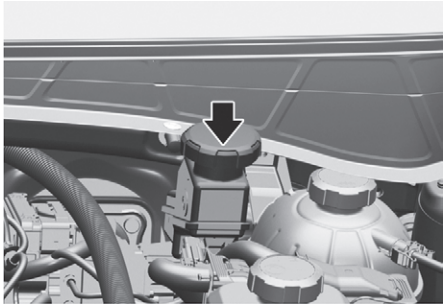
Otherwise, it may cause engine overheating or battery discharge.

i Information

- Turn the engine off while you inspect the engine or Hybrid Starter & Generator (HSG) belt. Otherwise it may result in serious injury.
- Keep hands, clothing etc. away from the Hybrid Starter & Generator (HSG) belt.

Brake fluid

Checking the brake fluid level



Check the fluid level in the reservoir periodically. The fluid level must be between the MAX and the MIN marks on the side of the reservoir.

Before removing the reservoir cap and adding brake fluid, clean the area around the reservoir cap thoroughly to prevent brake fluid contamination.

If the level is low, add the specified brake fluid to the MAX level. If the fluid level is excessively low or frequent additions are required, have the brake system inspected by an authorized HYUNDAI dealer.

⚠ WARNING

If brake fluid comes in contact with your eyes, flush your eyes with clean water for at least 15 minutes and get immediate medical attention.

NOTICE

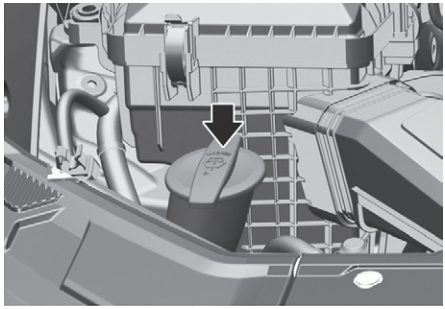
- Do not allow brake fluid to contact the vehicle's body paint, because paint damage may occur.
- Never use brake fluid that has been exposed to open air for an extended time and dispose of it properly.
- Do not use the wrong type of brake fluid. A few drops of mineral based oil such as engine oil in your brake system may damage the brake system parts.

i Information

Use only the brake fluid specified in the "Recommended lubricants and capacities" section in chapter 10.

Washer fluid

Checking the washer fluid level



Check the fluid level in the washer fluid reservoir and add fluid if necessary. Plain water can be used during summer months if washer fluid is not available. However, use washer fluid with antifreeze in cold climates to prevent freezing.

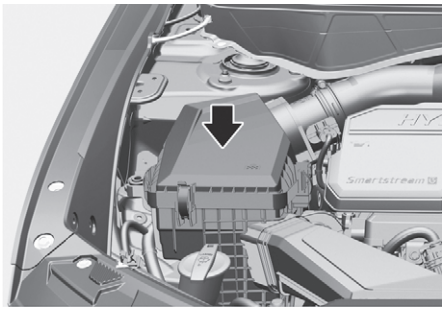
⚠ WARNING

To prevent serious injury or death:

- Do not use engine coolant or antifreeze in the washer fluid reservoir. Engine coolant can severely limit your visibility when sprayed on the windshield and may cause loss of vehicle control resulting in a collision.
- Do not allow sparks or flame to contact the washer fluid or the washer fluid reservoir. Washer fluid may contain alcohol and can be flammable.
- Do not drink washer fluid and avoid contact with skin.

Air cleaner

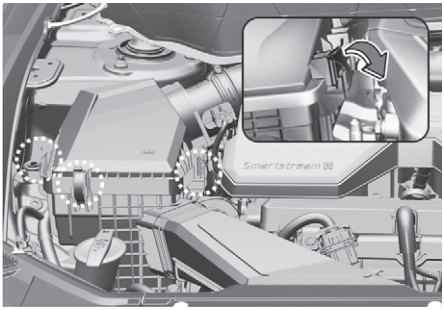
Filter replacement



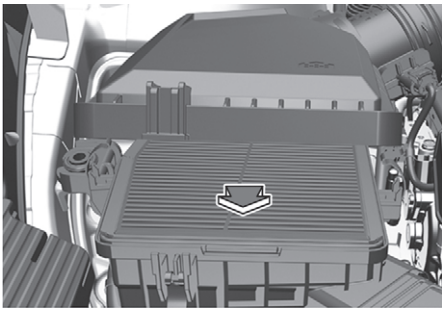
Do not attempt to wash or to rinse it, as water will damage the filter.

If soiled, the air cleaner filter must be replaced.

Replace the filter according to the Maintenance Schedule.



1. Loosen the air cleaner cover attaching clips and open the cover.



2. Wipe the inside of the air cleaner.
3. Replace the air cleaner filter.
4. Lock the cover with the cover attaching clips.
5. Check that the cover is firmly installed.

NOTICE

- Do not drive with the air cleaner filter removed. This may result in excessive engine wear.
- When removing the air cleaner filter, be careful that dust or dirt does not enter the air intake. It may cause damage.
- Use HYUNDAI genuine parts or the equivalent specified for your vehicle. Use of non-genuine parts may damage the air flow sensor.

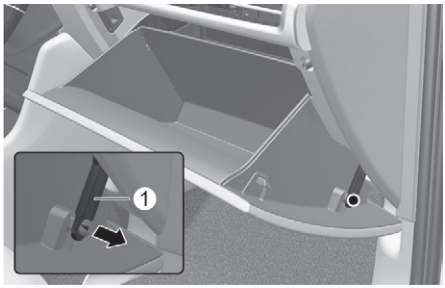
Cabin air filter

Filter inspection

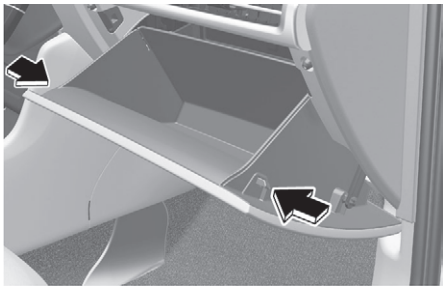
The cabin air filter must be replaced according to the Maintenance Schedule. If the vehicle operates in severely air-polluted cities or on dusty rough roads for a long time, have it inspected more frequently and replaced immediately. Replace the cabin air filter by following the procedure below and be careful to avoid damaging other components.

Filter replacement

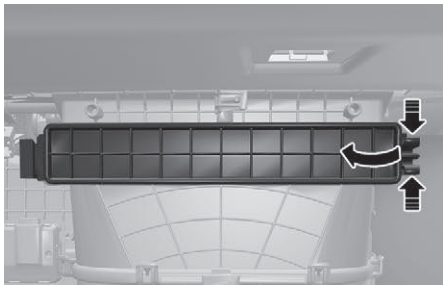
1. Open the glove box and remove the support rod (1).



2. Push in both sides of the glove box to release the glove box stopper pins and allow the glove box to hang open.



3. Press and hold the lock on the right side of the cover.



4. Pull out the cover.
5. Replace the cabin air filter.
6. Reassemble in the reverse order of disassembly.

NOTICE

Install a new cabin air filter with the arrow symbol (↓) facing down, to improve effectiveness.

Wiper blades

Blade inspection

Contamination of the windshield or wiper blades with foreign substances may reduce the effectiveness of the windshield wipers.

Common sources of contamination are insects, tree sap, and hot wax treatments used by some commercial car washes. If the blades are not wiping properly, clean both the window and the blades with glass cleaner or mild detergent, and rinse thoroughly with clean water. Replace blades as needed.

NOTICE

To prevent damage to the wiper blades, arms, or other components, do not:

- Use gasoline, kerosene, paint thinner, or other solvents on or near them.
- Attempt to move the wipers manually.

Blade replacement

When the wipers no longer clean adequately, the blades may be worn or cracked. Replace the wipers with new ones.

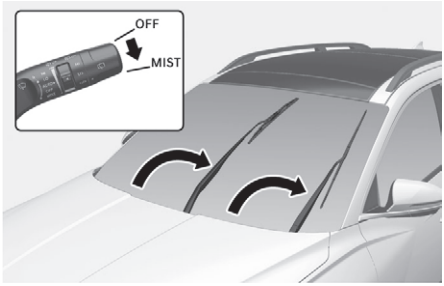
NOTICE

To prevent damage:

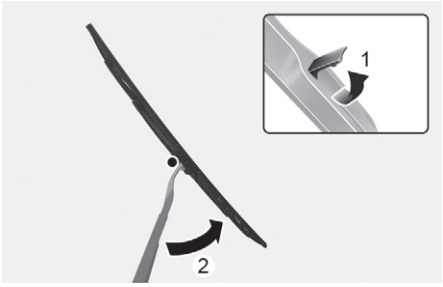
- Never use non-specified wiper blades.
- Lift the wiper arms when in the top wiping position.
- Always return the wiper arms to the windshield before driving.

Front windshield wiper blade replacement

1. Within 20 seconds of turning off the engine, lift and hold the wiper lever down to the MIST position for about 2 seconds until the wipers move to the top wipe position.

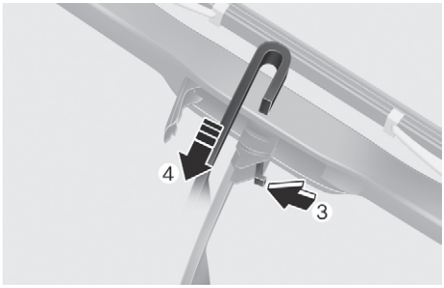


2. Lift the wipers off the windshield.

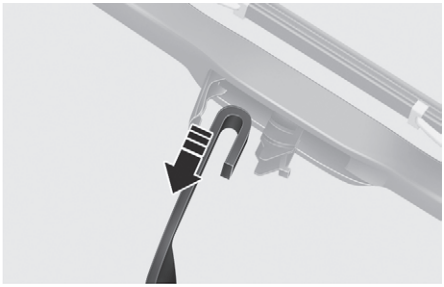


3. Lift up the wiper blade clip (1). Then pull down the wiper blade (2).

   Remove the wiper blade from the wiper arm.



4. Install a new wiper blade assembly in the reverse order of removal.

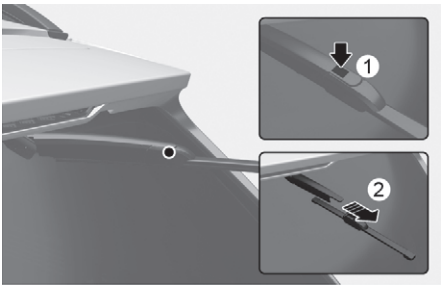


5. With the Engine Start/Stop button in the ON position, turn the wiper switch to any ON position to return the wipers to the bottom resting position.

Rear window wiper blade replacement

1. Within 20 seconds after the engine is turned off, pull down the wiper lever to MIST position for over 2 seconds until the wiper moves down to the bottom middle part.
2. Raise the wiper arm.

3. Press the wiper blade slot (1). Then remove the wiper blade (2).



4. Install a new wiper blade assembly in the reverse order of removal.

   If the replacement is complete, put down the wiper arm onto the rear windshield, and turn the Engine Start/Stop button to ON and operate the wipers to check the blade is installed correctly.

NOTICE

The rear wiper may not operate for about 10 seconds if the wiper is operated without washer fluid or the blades are frozen to prevent damage to the motor.

Battery (plug-in hybrid vehicle)

If equipped

⚠ WARNING

To prevent SERIOUS INJURY or DEATH to you or bystanders, always follow these precautions when working near or handling the battery:

Always read and follow instructions carefully when handling a battery.

Wear eye protection designed to protect the eyes from acid splashes.

Keep all flames, sparks, or smoking materials away from the battery.

Hydrogen is always present in battery cells, is highly combustible, and may explode if ignited.

Keep batteries out of reach of children.

Batteries contain sulfuric acid which is highly corrosive. Do not allow acid to contact your eyes, skin or clothing.

If acid gets into your eyes, flush your eyes with clean water for at least 15 minutes and get immediate medical attention. If acid gets on your skin, thoroughly wash the area. If you feel pain or a burning sensation, get medical attention immediately.

- When lifting a plastic-cased battery, excessive pressure on the case may cause battery acid to leak. Lift with a battery carrier or with your hands on opposite corners.
- Do not attempt to jump start your vehicle if your battery is frozen.
- NEVER attempt to recharge the battery when the vehicle's battery cables are connected to the battery.
- The electrical ignition system works with high voltage. NEVER touch these components with the engine running or when the Engine Start/Stop button is in the ON position.

NOTICE

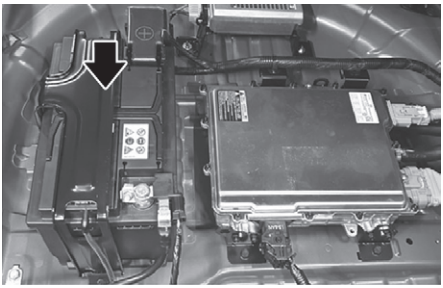
- When you do not use the vehicle for a long time in a low temperature area, disconnect the battery and keep it indoors.
- Always charge the battery fully to prevent battery case damage in low temperature areas.

NOTICE

If you connect unauthorized electronic devices to the battery, the battery may be discharged. Never use unauthorized devices.

For best battery service

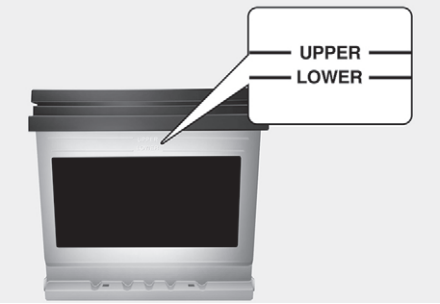
Luggage compartment



- Keep the battery securely mounted.
- Keep the battery top clean and dry.
- Keep the terminals and connections clean, tight, and coated with petroleum jelly or terminal grease.
- Rinse any spilled electrolyte from the battery immediately with a solution of water and baking soda.
- If the vehicle is not going to be used for an extended time, disconnect the battery cables.

Information

For batteries marked with UPPER and LOWER



If your vehicle is equipped with a battery marked with LOWER (MIN) and UPPER (MAX) on the side, you should check the electrolyte level.

The electrolyte level should be between LOWER (MIN) and UPPER (MAX). When the electrolyte level is low, add distilled (or de-mineralized) water. (Never add sulfuric acids or other electrolyte).

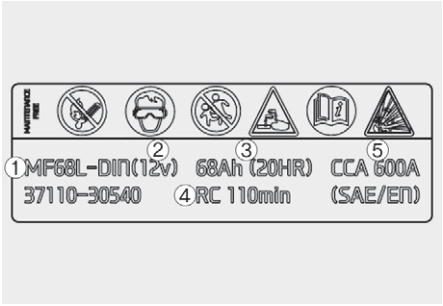
Be careful not to spill distilled (or demineralized) water over the battery surface or other adjacent components.

Also, do not overfill the battery cells.

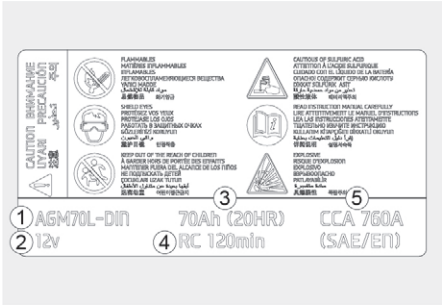
If not, it may corrode the battery or other components. Finally, securely close the cell cap. However, we recommend you to contact an authorized HYUNDAI dealer for better battery service.

Battery capacity label

Type A



Type B



1. MF68L-DIN : The HYUNDAI model name of battery
2. 12V : The nominal voltage
3. 68Ah (20HR) : The nominal capacity (in Ampere hours)
4. RC 110min : The nominal capacity (in Ampere hours)
5. 600A : The cold-test current in amperes by SAE/EN

Battery recharging

By battery charger

Your vehicle has a maintenance-free, calcium-based battery.

- If the battery becomes discharged over a short time (because, for example, the headlights or interior lights were left on while the vehicle was not in use), recharge it by slow charging (trickle) for 10 hours.
- If the battery gradually discharges because of high electrical load while the vehicle is being used, recharge it at 20-30A for two hours.

⚠ WARNING

Always follow these instructions when recharging your vehicle's battery to avoid the risk of SERIOUS INJURY or DEATH from explosions or acid burns:

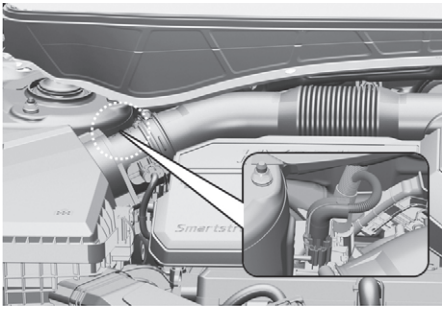
- Before performing maintenance or recharging the battery, turn off all accessories and stop the engine.
- Keep all flames, sparks, or smoking materials away from the battery.
- Always work outdoors or in an area with plenty of ventilation.
- Wear eye protection when checking the battery during charging.
- The battery must be removed from the vehicle and placed in a well ventilated area.
- Watch the battery during charging, and stop or reduce the charging rate if the battery cells begin boiling violently.
- The negative battery cable must be removed first and installed last when the battery is disconnected. Disconnect the battery charger in the following order:
  1. Turn off the battery charger main switch.
  2. Unhook the negative clamp from the negative battery terminal.
  3. Unhook the positive clamp from the positive battery terminal.
- We recommend that you use batteries for replacement from an authorized HYUNDAI dealer.

Hybrid vehicle

The 12 V auxiliary battery of the vehicle is integrated within the high-voltage battery. The high-voltage battery is located under the 2nd row seat cushion.

For battery related servicing, we recommend that the system be serviced by an authorized HYUNDAI dealer.

12 V auxiliary battery connector



Disconnect the 12 V auxiliary battery connector located inside the engine room compartment to shut down the power of the 12 V auxiliary battery.

Connect the 12 V auxiliary battery connector again after the battery related maintenance is finished.

⚠ CAUTION

- The efficiency of the battery decreases during low temperature. If the vehicle is not used for the extended period of time, park the vehicle indoors if possible.
- Always keep the battery charged to the full capacity. The battery case may damage due to freezing if the battery capacity is low.
- Do not install unauthorized electrical devices (e.g. lights, dashcam, etc.) to a vehicle. It may discharge the battery.

NOTICE

AGM battery (if equipped)

- Absorbent Glass Mat (AGM) batteries are maintenance-free and we recommend that the AGM battery be serviced by an authorized HYUNDAI dealer. For charging your AGM battery, use only fully automatic battery chargers that are specially developed for AGM batteries.
- When replacing the AGM battery, we recommend that you use parts for replacement from an authorized HYUNDAI dealer.
- Do not open or remove the cap on top of the battery. This may cause leaks of internal electrolyte that could result in severe injury.

By jump starting

After a jump start from a good battery, drive the vehicle for 20-30 minutes before it is shutoff. The vehicle may not restart if you shut it off before the battery had a chance to adequately recharge. See "Jump starting" in chapter 8 for more information on jump starting procedures.

i Information

An inappropriately disposed battery can be harmful to the environment and human health. Dispose of the battery according to your local law(s) or regulation.

Reset items

The following items may need to be reset after the battery has been discharged or the battery terminal (For plug-in hybrid vehicle) or battery connector (For hybrid vehicle) has been disconnected.

- Auto up/down window (see chapter 5)
- Sunroof (see chapter 5)
- Trip computer (see chapter 5)
- Climate control system (see chapter 5)
- Driver position memory system (see chapter 5)
- Clock (see chapter 5)
- Infotainment system (see infotainment system manual)

Tires and wheels

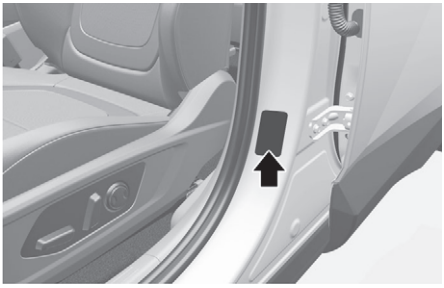
⚠ WARNING

Tire failure may cause loss of vehicle control and result in a collision. To reduce risk of serious injury or death:

- Inspect your tires monthly for proper inflation as well as wear and damage.
- The recommended cold tire pressure for your vehicle can be found in this manual and on the tire label located on the driver's side center pillar. Always use a tire pressure gauge to measure tire pressure. Tires with too much or too little pressure wear unevenly causing poor handling.
- Check the pressure of the spare every time you check the pressure of the other tires on your vehicle.
- Replace tires that are worn, show uneven wear, or are damaged. Worn tires may cause loss of braking effectiveness, steering control, or traction.
- Always replace tires with the same size, type, construction, and tread pattern as each tire that was originally supplied with this vehicle. Using tires and wheels other than the recommended sizes may cause unusual handling characteristics, poor vehicle control, or negatively affect your vehicle's Anti-Lock Brake System (ABS).

Tire Care

For proper maintenance, safety, and maximum fuel economy, always maintain the recommended tire inflation pressures and stay within the load limits and weight distribution recommended for your vehicle.



All specifications (sizes and pressures) can be found on a label attached to the driver's side center pillar.

i Information

For more information on the label, refer to the "The loading information label" section in chapter 6.

Recommended cold tire inflation pressures

Check all tire pressures (including the spare) when the tires are cold. "Cold tires" mean the vehicle has not been driven for at least three hours or driven less than 1.6 km (1 mi.).

Warm tires normally exceed the recommended cold tire pressures by 4 to 6 psi (28 to 41 kPa). Do not release air from warm tires to adjust the pressure. The tires are under-inflated. For the recommended inflation pressure, refer to the "Tires and wheels" section in chapter 10.

⚠ WARNING

- Recommended pressures must be maintained for the best ride, vehicle handling, and minimum tire wear.
- Over-inflation or under-inflation can reduce tire life, adversely affect vehicle handling, and lead to sudden tire failure that may result in loss of vehicle control resulting in a collision.
- Severe under-inflation may lead to severe heat build-up, causing blowouts, tread separation, and other tire failures that result in loss of vehicle control resulting in a collision. This risk is much higher on hot days and when driving for a long time at high speeds.
- Under-inflation may cause excessive wear, poor handling, and reduced fuel economy. Wheel deformation is also possible. Keep your tire pressures at the proper levels. If a tire frequently needs refilling, have it inspected by an authorized HYUNDAI dealer.

- Over-inflation produces a harsh ride, excessive wear at the center of the tire tread, and a greater possibility of damage from road hazards.

Check tire inflation pressure

Check your tires, including the spare tire, at least once a month.

How to check

Use a good quality tire pressure gauge to check the tire pressure. You cannot tell if your tires are properly inflated simply by looking at them. Radial tires may look properly inflated when they are under- inflated.

Remove the valve cap from the tire valve stem. Press the tire gauge firmly onto the valve to get a pressure measurement. If the cold tire inflation pressure matches the recommended pressure on the tire and loading information label, no further adjustment is necessary. If the pressure is low, add air until it reaches the recommended pressure.

Be sure to put the valve caps back on the valve stems. Without the valve cap, dirt or moisture may get into the valve core and cause air leakage. If a valve cap is missing, install a new one as soon as possible.

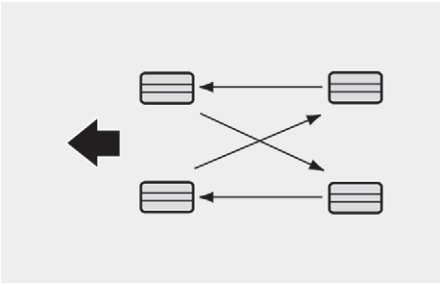
If you overfill the tire, release air by pushing on the metal stem in the center of the tire valve. Recheck the tire pressure with the tire gauge. Be sure to put the valve caps back on the valve stems. Without the valve cap, dirt or moisture may get into the valve core and cause air leakage. If a valve cap is missing, install a new one as soon as possible.

Tire rotation

To equalize tread wear, HYUNDAI recommends that the tires be rotated according to the maintenance schedule or sooner if irregular wear develops.

During rotation, check the tires for correct balance.

When rotating tires, check for uneven wear and damage. Abnormal wear is usually caused by incorrect tire pressure, improper wheel alignment, out-of-balance wheels, severe braking, or severe cornering. Look for bumps or bulges in the tread or side of the tire. Replace the tire if you find any of these conditions. Replace the tire if fabric or cord is visible. After rotation, be sure to bring the front and rear tire pressures to specification and check wheel nut torque (proper torque is 79.6-94.0 lbf.ft [11.0-13.0 kgf.m]).



Disc brake pads should be inspected for wear whenever tires are rotated.

i Information

When installing an unsymmetrical tire, install the side marked “outside” facing out.

⚠ WARNING

- Do not use the compact spare tire for tire rotation.
- Do not mix bias ply and radial ply tires under any circumstances. This may cause unusual handling characteristics that may cause loss of vehicle control and result in a collision.

Wheel alignment and tire balance

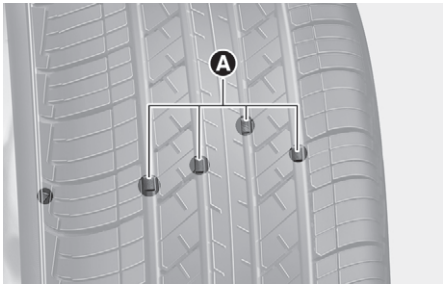
The wheels on your vehicle were aligned and balanced carefully at the factory, and you may not need to have your wheels aligned again. If you notice unusual tire wear or your vehicle pulling to one side, the alignment may need to be adjusted.

If you notice your vehicle vibrating when driving on a smooth road, your wheels may need to be rebalanced.

NOTICE

Only use approved wheel weights or your vehicle's aluminum wheels may be damaged.

Tire replacement



[A]Tread wear indicator

If the tire is worn evenly, a tread wear indicator appears as a solid band across the tread. This shows there is less than 1.6 mm (1/16 in.) of tread left on the tire. Replace the tire when this happens.

Do not wait for the band to appear across the entire tread before replacing the tire.

⚠ WARNING

To reduce the risk of serious injury or death:

- Replace tires that are worn, show uneven wear, or are damaged. Worn tires may cause loss of braking effectiveness, steering control, and traction.
- Always replace tires with the same size as each tire that was originally supplied with this vehicle. Using tires and wheels other than the recommended sizes may cause unusual handling characteristics, poor vehicle control, or negatively affect your vehicle's Anti-Lock Brake System (ABS).

- When replacing tires (or wheels), it is recommended to replace the two front or two rear tires (or wheels) as a pair. Replacing just one tire may seriously affect your vehicle's handling.
- Tires degrade over time, even when they are not being used. Regardless of the remaining tread, HYUNDAI recommends that tires be replaced after six (6) years.
- Driving in hot climates or excessive loading may accelerate the tire aging process.

Compact spare tire replacement

if equipped

A compact spare tire has a shorter tread life than a regular size tire. Replace it when you can see the tread wear indicator bars on the tire. The replacement compact spare tire should be the same size and design tire as the one provided with your vehicle and must be mounted on the same compact spare tire wheel. The compact spare tire is not designed to be mounted on a regular size wheel, and the compact spare tire wheel is not designed for mounting a regular size tire.

⚠ WARNING

The normal size tire should be repaired or replaced as soon as possible to avoid failure of the spare and loss of vehicle control resulting in a collision.

The compact spare tire is for emergency use only. Do not operate your vehicle over 80 km/h (50 mph) when using the compact spare tire.

Wheel replacement

When replacing the metal wheels for any reason, make sure the new wheels are equivalent to the original factory units in diameter, rim width, and offset.

Tire traction

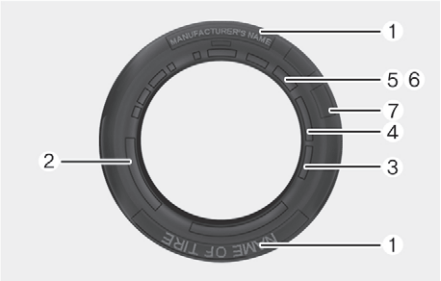
Tire traction can be reduced if you drive on worn tires or the tires that are improperly inflated, or on slippery road surfaces. Replace the tires when tread wear indicators appear. To reduce the possibility of losing control, slow down whenever there is rain, snow, or ice on the road.

Tire maintenance

In addition to proper inflation, correct wheel alignment helps decrease the tire wear. If you find a tire is worn unevenly, have your dealer check the wheel alignment. When you have new tires installed, make sure they are balanced. This may increase ride comfort and tire life. Additionally, a tire must always be rebalanced if it is removed from the wheel.

Tire sidewall labeling

This information identifies and describes the fundamental characteristics of the tire and also provides the tire identification number (TIN) for safety standard certification. The TIN can be used to identify the tire in case of a recall.



1. Manufacturer or brand name

Manufacturer or brand name is shown.

2. Tire size designation

A tire's sidewall is marked with a tire size designation. You need this information when selecting replacement tires for your vehicle. The following explains what the letters and numbers in the tire size designation mean.

Example tire size designation:

(These numbers are provided as an example only. Your tire size designator may vary depending on your vehicle.)

235/65R17 102H

235 - Tire width in millimeters.

65 - Aspect ratio. The tire's section height as a percentage of its width.

R - Tire construction code (Radial).

17 - Rim diameter in inches.

102 - Load Index, a numerical code associated with the maximum load the tire can carry.

H - Speed Rating Symbol. See the speed rating chart in this section for additional information.

Wheel size designation

Wheels are also marked with important information that you need if you ever have to replace one.

Example wheel size designation:

7.0J X 17

7.0 - Rim width in inches.

J - Rim contour designation.

17 - Rim diameter in inches.

Tire speed ratings

The chart below lists many of the different speed ratings currently being used for passenger vehicle tires. The speed rating is part of the tire size designation on the sidewall of the tire. This symbol corresponds to that tire's designed maximum safe operating speed.

Speed Rating Symbol	Maximum Speed
S	180 km/h (112 mph)
T	190 km/h (118 mph)
H	210 km/h (130 mph)
V	240 km/h (149 mph)

Speed Rating Symbol	Maximum Speed
W	270 km/h (168 mph)
Y	300 km/h (186 mph)

3. Checking tire life (TIN: Tire Identification Number)

Any tires that are over six years old, based on the manufacturing date, (including the spare tire) must be replaced by new ones. You can find the manufacturing date on the tire sidewall (possibly on the inside of the wheel), displaying the DOT Code. The DOT Code is a series of numbers on a tire consisting of numbers and English letters. The manufacturing date is designated by the last four digits (characters) of the DOT code.

DOT: XXXX XXXX OOOO

The front part of the DOT shows a plant code number, tire size, and tread pattern and the last four numbers indicate the week and year manufactured.

For example:

DOT XXXX XXXX 1524 represents that the tire was produced in the 15th week of 2024.

4. Tire ply composition and material

The number of layers or plies of rubber-coated fabric in the tire. Tire manufacturers also must indicate the materials in the tire, which include steel, nylon, polyester, and others. The letter “R” means radial ply construction. The letter “D“ means diagonal or bias ply construction; and the letter “B” means belted-bias ply construction.

5. Maximum permissible inflation pressure

This number is the greatest amount of air pressure that should be put in the tire. Do not exceed the maximum permissible inflation pressure. Refer to the Tire and Loading Information label for recommended inflation pressure.

6. Maximum load rating

This number indicates the maximum load in kilograms and pounds that can be carried by the tire. When replacing the tires on the vehicle, always use a tire that has the same load rating as the factory installed tire.

7. Uniform tire quality grading

Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width.

For example:

TREADWEAR 200

TRACTION AA

TEMPERATURE A

Tread wear

The tread wear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one-and-a-half times (1½) as well on the government course as a tire graded 100.

The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

These grades are molded on the sidewalls of passenger vehicle tires. The tires available as standard or optional equipment on your vehicle may vary depending on the grade.

Traction - AA, A, B & C

The traction grades, from highest to lowest, are AA, A, B, and C. Those grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.

⚠ WARNING

The traction grade assigned to this tire is based on straight ahead braking traction tests, and does not include acceleration, cornering, hydroplaning, or peak traction characteristics.

Temperature - A, B & C

The temperature grades are A (the highest), B and C representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel.

Sustained high temperature may cause the material of the tire to degenerate and reduce tire life, and excessive temperature may lead to sudden tire failure. The grade C corresponds to a level of performance that all passenger car tires must meet the Federal Motor Vehicle Safety Standard No. 109. Grades A and B represent higher levels of performance on the laboratory test wheel than the minimum required by law.

⚠ WARNING

The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, under-inflation, over-inflation, or excessive loading, either separately or in combination, may cause heat build-up and possible sudden tire failure.

Tire terminology and definitions

Air pressure

The amount of air inside the tire pressing outward on the tire. Air pressure is expressed in pounds per square inch (psi) or kilopascal (kPa).

Accessory weight

This means the combined weight of optional accessories. Some examples of optional accessories are dual clutch transmission, power seats, and air conditioning.

Aspect ratio

The relationship of a tire's height to its width.

Belt

A rubber coated layer of cords that is located between the plies and the tread. Cords may be made from steel or other reinforcing materials.

Bead

The tire bead contains steel wires wrapped by steel cords that hold the tire onto the rim.

Bias ply tire

A pneumatic tire in which the plies are laid at alternate angles less than 90 degrees to the centerline of the tread.

Cold tire pressure

The amount of air pressure in a tire, measured in pounds per square inch (psi) or kilopascals (kPa) before a tire has built up heat from driving.

Curb weight

This means the weight of a motor vehicle with standard and optional equipment including the maximum capacity of fuel, oil and coolant, but without passengers and cargo.

DOT markings

The DOT code includes the Tire Identification Number (TIN), an alphanumeric designator which can also identify the tire manufacturer, production plant, brand and date of production.

GVWR
Gross Vehicle Weight Rating

GAWR FRT
Gross Axle Weight Rating for the Front Axle.

GAWR RR
Gross Axle Weight Rating for the Rear axle.

Intended outboard sidewall
The side of an asymmetrical tire, that must always face outward when mounted on a vehicle.

Kilopascal (kPa)
The metric unit for air pressure.

Light Truck (LT) tire
A tire designated by its manufacturer as primarily intended for use on lightweight trucks or multipurpose passenger vehicles.

Load ratings
The maximum load that a tire is rated to carry for a given inflation pressure.

Load index
An assigned number ranging from 1 to 279 that corresponds to the load carrying capacity of a tire.

Maximum inflation pressure
The maximum air pressure to which a cold tire may be inflated. The maximum air pressure is molded onto the sidewall.

Maximum load rating
The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum loaded vehicle weight
The sum of curb weight; accessory weight; vehicle capacity weight; and production options weight.

Normal occupant weight
The number of occupants a vehicle is designed to seat multiplied by 68 kg (150 lbs.).

Occupant distribution
Designated seating positions.

Outward facing sidewall
An asymmetrical tire has a particular side that faces outward when mounted on a vehicle. The outward facing sidewall bears white lettering or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same moldings on the inner facing sidewall.

Passenger (P-Metric) tire

A tire used on passenger cars and some light duty trucks and multipurpose vehicles.

Ply

A layer of rubber-coated parallel cords.

Pneumatic tire

A mechanical device made of rubber, chemicals, fabric and steel or other materials, that, when mounted on an automotive wheel provides the traction and contains the gas or fluid that sustains the load.

Pneumatic options weight

The combined weight of installed regular production options weighing over 2.3 kg (5 lbs.) in excess of the standard items which they replace, not previously considered in curb weight or accessory weight, including heavy duty breaks, ride levelers, roof rack, heavy duty battery, and special trim.

Recommended inflation pressure

Vehicle manufacturer's recommended tire inflation pressure as shown on the tire placard.

Radial ply tire

A pneumatic tire in which the ply cords that extend to the beads are laid at 90 degrees to the centerline of the tread.

Rim

A metal support for a tire and upon which the tire beads are seated.

Sidewall

The portion of a tire between the tread and the bead.

Speed rating

An alphanumeric code assigned to a tire indicating the maximum speed at which a tire can operate.

Traction

The friction between the tire and the road surface. The amount of grip provided.

Tread

The portion of a tire that comes into contact with the road.

Treadwear indicators

Narrow bands, sometimes called "wear bars", that show across the tread of a tire when only 1/16 in. of tread remains.

UTQGS

Uniform Tire Quality Grading Standards is a tire information system that provides consumers with ratings for a tire's traction, temperature and treadwear. Ratings are determined by tire manufacturers using government testing procedures. The ratings are molded into the sidewall of the tire.

Vehicle capacity weight

The number of designated seating positions multiplied by 68 kg (150 lbs.) plus the rated cargo and luggage load.

Vehicle maximum load on the tire

Load on an individual tire due to curb and accessory weight plus maximum occupant and cargo weight.

Vehicle normal load on the tire

Load on an individual tire that is determined by distributing to each axle its share of the curb weight, accessory weight, and normal occupant weight and dividing by 2.

Vehicle placard

A label permanently attached to a vehicle showing the original equipment tire size and recommended inflation pressure.

All season tires

HYUNDAI specifies all season tires on some models to provide good performance for use all year round, including snowy and icy road conditions. All season tires are identified by ALL SEASON and/or M+S (Mud and Snow) on the tire sidewall. Snow tires have better snow traction than all season tires and may be more appropriate in some areas.

Summer tires

HYUNDAI specifies summer tires on some models to provide superior performance on dry roads. Summer tire performance is substantially reduced in snow and ice. Summer tires do not have the tire traction rating M+S (Mud and Snow) on the tire side wall. If you plan to operate your vehicle in snowy or icy conditions, HYUNDAI recommends the use of snow tires or all season tires on all four wheels.

Snow tires

If you use snow tires, they should be the same size and have the same load capacity as the original tires. Snow tires should be installed on all four wheels. Otherwise, poor handling may result. Snow tires should carry 4 psi (28 kPa) more air pressure than the pressure recommended for the standard tires on the tire label located on the driver's side center pillar, or up to the maximum pressure shown on the tire sidewall, whichever is less. Do not drive faster than 120 km/h (75 mph) when your vehicle is equipped with snow tires.

Radial-ply tires

Radial-ply tires provide improved tread life, road hazard resistance and smoother high speed ride. The radial-ply tires used on this vehicle are of belted construction, and are selected to complement the ride and handling characteristics of your vehicle. Radial-ply tires have the same load carrying capacity, as bias-ply or bias belted tires of the same size, and use the same recommended inflation pressure. Mixing of radial-ply tires with bias-ply or bias belted tires is not recommended. Any combinations of radial-ply and bias-ply or bias belted tires when used on the same vehicle will seriously deteriorate vehicle handling. The best rule to follow is to use identical radial-ply tires as a pair for the the front tires and rear tires.

Longer wearing tires can be more susceptible to irregular tread wear. It is very important to follow the tire rotation interval in this chapter to achieve the tread life potential of these tires. Cuts and punctures in radial-ply tires are repairable only in the tread area, because of sidewall flexing. Consult your tire dealer for radial-ply tire repairs.

⚠ WARNING

Do not mix bias ply and radial ply tires under any circumstances. This may cause unusual handling characteristics that may cause loss of vehicle control and result in a collision.

Low aspect ratio tires

The aspect ratio is lower than 50 on low aspect ratio tires.

Because low aspect ratio tires are optimized for handling and braking, their sidewall is a little stiffer than a standard tire. Also low aspect ratio tires tend to be wider and consequently have a greater contact patch with the road surface. In some instances they may generate more road noise compared with standard tires.

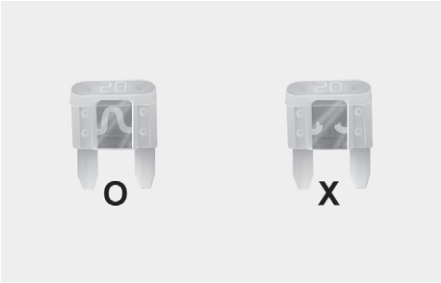
⚠ CAUTION

Low aspect wheels and tires are easily damaged. To reduce the risk of damage:

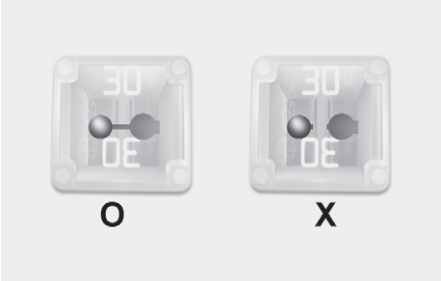
- When driving on rough roads, passing over a pothole, speed bump, manhole, or curb stone, drive the vehicle slowly not to damage the tires and wheels. Damage is not covered by your vehicle warranty.
- Inspect the tire condition and pressure every 3,000 km (1,800 mi.).
- It is difficult to visually inspect for tire damage with your eyes. If any damage is found, contact your authorized HYUNDAI dealer to replace the tire.

Fuses

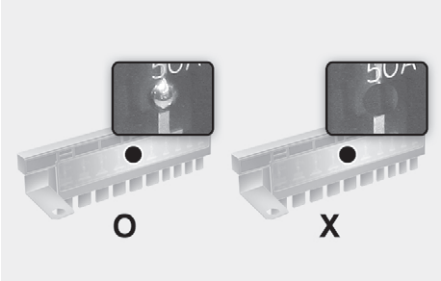
Blade type



Cartridge type



Multi type



A vehicle's electrical system is protected from electrical overload damage by fuses.

This vehicle has 2 (or 3) fuse panels, one located in the driver's side panel bolster, the other in the engine compartment.

If any of your vehicle's lights, accessories, or controls do not work, check the appropriate circuit fuse. If a fuse has blown, the element inside the fuse will be melted or broken.

If the electrical system does not work, first check the driver's side fuse panel. Before replacing a blown fuse, turn the engine and all switches off, and then disconnect the (-) battery terminal (For plug-in hybrid vehicle) or battery connector (For hybrid vehicle). Always replace a blown fuse with one of the same rating.

If the replacement fuse blows, this indicates an electrical problem. Avoid using the system involved. Immediately consult an authorized HYUNDAI dealer.

i Information

Three kinds of fuses are used: blade type for lower amperage rating, cartridge type, and multi fuse for higher amperage ratings.

⚠ WARNING

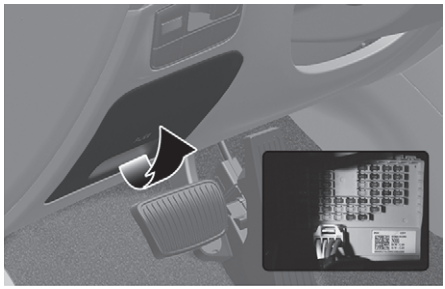
NEVER replace a fuse with anything but another fuse of the same rating.

- A higher capacity fuse could cause damage and possibly cause a fire.
- Do not install a wire or aluminum foil instead of the proper fuse - even as a temporary repair. It may cause extensive wiring damage and possibly a fire.

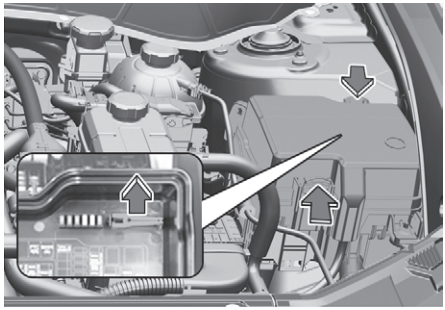
NOTICE

Do not use a screwdriver or any other metal object to remove fuses because it may cause a short circuit and damage the system.

Instrument panel fuse replacement



1. Turn the vehicle off.
2. Turn all other switches off.
3. Open the fuse panel cover.
4. Refer to the label on the inside of the fuse panel cover to locate the suspected fuse location.



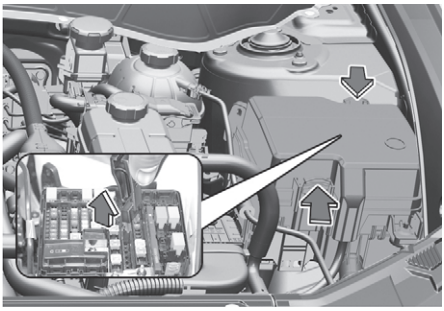
5. Pull the suspected fuse straight out. Use the removal tool provided in the engine compartment fuses panel cover.
6. Check the removed fuse; replace it if it is blown. Spare fuses are provided in the instrument panel fuse panels (or in the engine compartment fuse panel).
7. Push in a new fuse of the same rating, and make sure it fits tightly in the clips. If it fits loosely, Consult an authorized HYUNDAI dealer.

In an emergency, if you do not have a spare fuse, use a fuse of the same rating from a circuit you may not need for operating the vehicle, such as the cigarette lighter fuse.

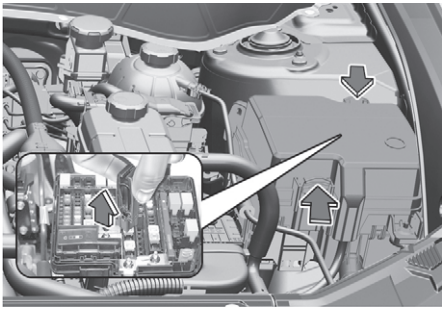
If the headlights or other electrical components do not work and the fuses are undamaged, check the fuse panel in the engine compartment. If a fuse is blown, it must be replaced with the same rating.

Engine compartment panel fuse replacement

Blade type fuse



Cartridge type fuse

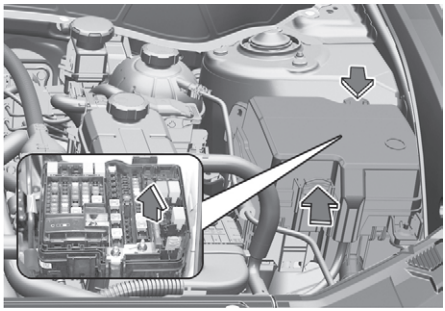


1. Turn the vehicle off.
2. Turn all other switches off.
3. Remove the fuse panel cover by pressing the tap and pulling up.
4. Check the removed fuse; replace it if it is blown. To remove or insert the fuse, use the fuse puller in the engine compartment fuse panel.
5. Push in a new fuse of the same rating, and make sure it fits tightly in the clips. If it fits loosely, Consult an authorized HYUNDAI dealer.

NOTICE

After checking the fuse panel in the engine compartment, securely install the fuse panel cover. You may hear a clicking sound if the cover is securely latched. If it is not securely latched, electrical failure may occur from water contact.

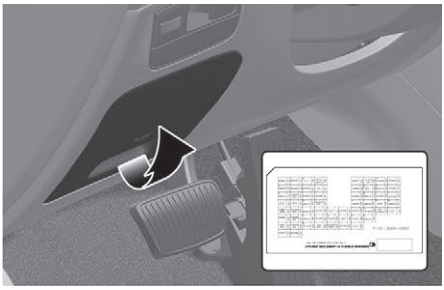
Multi fuse



If the multi fuse is blown, Consult an authorized HYUNDAI dealer.

Fuse/relay panel description

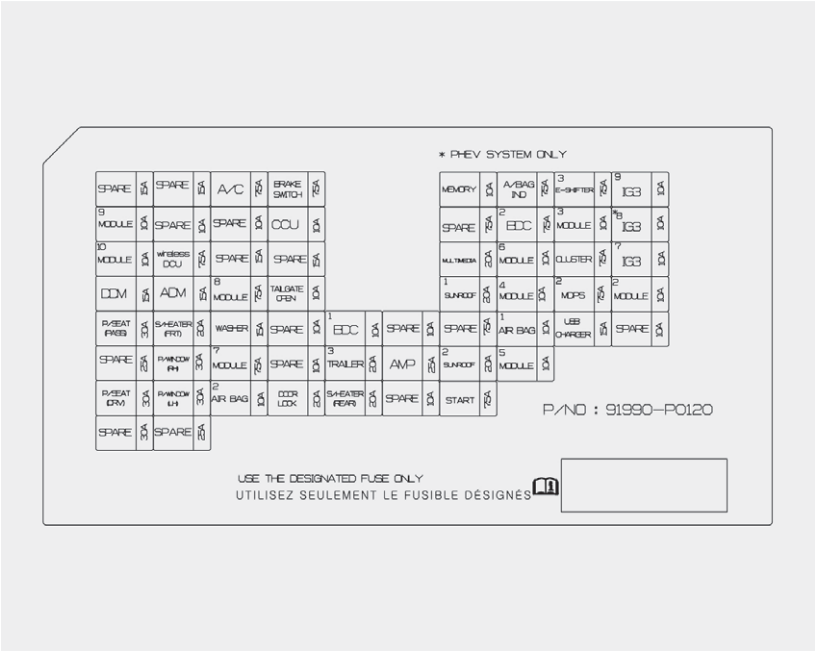
Instrument panel fuse panel (Hybrid vehicle/Plug-in hybrid vehicle)



Inside the fuse/relay box cover, you can find the fuse/relay label describing fuse/relay names and ratings.

i Information

Not all fuse panel descriptions in this manual may be applicable to your vehicle; the information is accurate at the time of printing. When you inspect the fuse box on your vehicle, refer to the fuse box label.

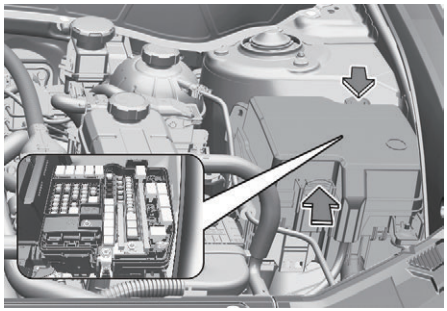


Instrument panel fuse panel

Fuse Name	Fuse Rating	Circuit Protected
A/C	7.5A	Electronic A/C Compressor, Front/Rear A/C Control Switch A/C Control Module, E/R Junction Block (RLY.10, RLY.13)
BRAKE SWITCH	7.5A	IBU, Stop Lamp Switch
MEMORY	10A	-
A/BAG IND	7.5A	Instrument Cluster, Overhead Console Lamp
E-SHIFTER3	7.5A	-
IG3 9	10A	-
MODULE9	10A	-
CCU	10A	CCU
BDC2	7.5A	-
MODULE3	10A	Stop Lamp Switch, Overhead Console Lamp, Multifunction Switch (R-MDPS)
IG3 8	10A	-
MODULE10	10A	-
wireless DCU	7.5A	-
MULTIMEDIA	20A	Audio, A/V & Navigation Head Unit
MODULE6	10A	Front Console Switch, EPB Switch
CLUSTER	7.5A	-
IG3 7	10A	-
DDM	15A	-
ADM	15A	-
MODULE8	7.5A	Front/Rear Seat Warmer Control Module, Front Air Ventilation Seat Control Module
TAILGATE OPEN	10A	Liftgate Relay
SUNROOF1	20A	Sunroof Control Unit (Glass)
MODULE4	10A	Front View Camera, IBU, AWD ECM, VESS Unit, Crash Pad Switch, ECS Unit, ADAS Parking ECU

Fuse Name	Fuse Rating	Circuit Protected
MDPS2	7.5A	MDPS Unit (Column Type)
P/SEAT PASS	30A	Passenger Power Seat Switch, Passenger Seat Relay Unit
S/HEATER FRT	20A	Front Seat Warmer Control Module, Front Air Ventilation Seat Control Module
WASHER	15A	Multifunction Switch
BDC1	10A	-
AIR BAG1	10A	SRS Control Module
USB CHARGER	15A	-
P/WINDOW RH	30A	Power Window Main Switch, Passenger Power Window Switch RH
MODULE7	7.5A	IBU
TRAILER3	20A	-
AMP	25A	AMP
SUNROOF2	20A	Sunroof Control Unit (Blind)
MODULE5	10A	Front/Rear Seat Warmer Control Module, E-Call Unit, AMP, Driver IMS Control Module, Front/Rear A/C Control Switch, Audio, A/V & Navigation Head Unit, Wireless Charger Unit, Front Air Ventilation Seat Control Module, Data Link Connector, A/C Control Module, Heat Lamp LH/RH, Electro Chromic Mirror
P/SEAT DRV	30A	Driver Power Seat Switch, Driver IMS Control Module
P/WINDOW LH	30A	Power Window Main Switch, Passenger Power Window Switch LH
AIR BAG2	10A	SRS Control Module
DOOR LOCK	20A	Dead Lock Relay, Data Link Connector, Door Unlock/Lock Relay
START	7.5A	-

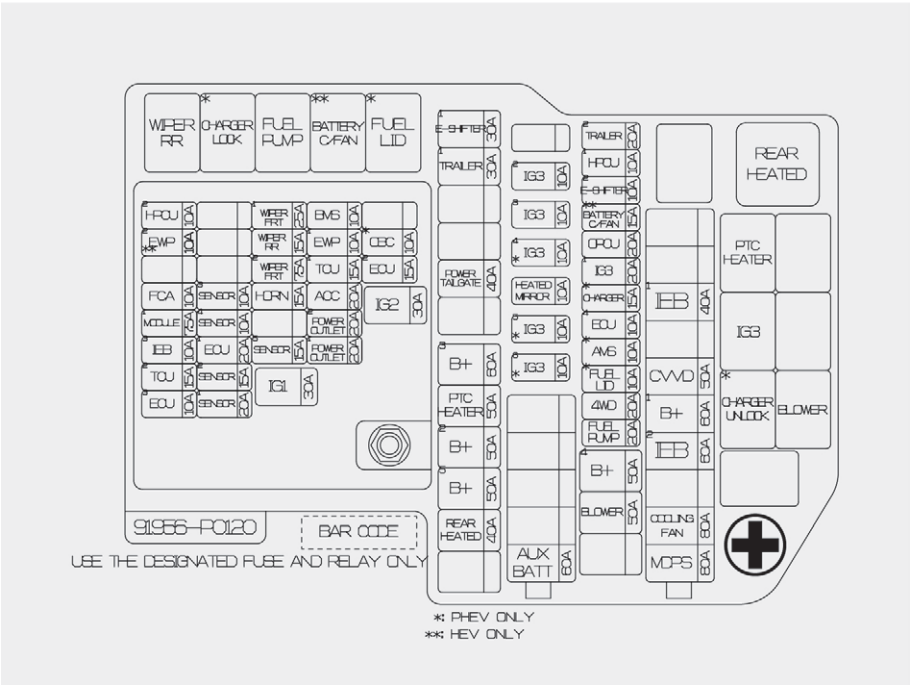
Engine compartment fuse panel (Hybrid vehicle/Plug-in hybrid vehicle)



Inside the fuse/relay box cover, you can find the fuse/relay label describing fuse/relay names and ratings.

i Information

Not all fuse panel descriptions in this manual may be applicable to your vehicle; the information is accurate at the time of printing. When you inspect the fuse panel in your vehicle, refer to the fuse panel label.



Engine compartment fuse panel

Fuse Name	Fuse Rating	Circuit Protected
E-SHIFTER1	30A	SCU
TLAILER1	30A	Trailer Connector Unit
IEB1	15A	IEB Unit
IEB2	25A	IEB Unit
B+3	60A	ICU Junction Block (Power Window Main Relay, Fuse : F2, F3, F5, F6, F8, F9, F11, F12, F18, F15)
PTC HEATER	50A	E/R Junction Block (RLY.13)
B+2	50A	ICU Junction Block (IPS06, IPS07, IPS08, IPS10, IPS11)
B+5	50A	-
REAR HEATED	40A	Driver Power Outside Mirror, Passenger Power Outside Mirror
IG3 2	10A	Electronic Water Pump (HEV)
IG3 3	10A	BMS, E/R Junction Block (RLY.2)
IG3 4	10A	HPCU
HEATED MIRROR	10A	-
IG3 5	10A	-
IG3 6	10A	-
AUX BATT	60A	-
TLAILER2	20A	Trailer Connector Unit
HPCU	10A	HPCU
E-SHIFTER2	10A	SCU, Electronic Shift Switch (SBW)
BATTERY C/FAN	15A	E/R Junction Block (RLY.2)
OPCU	20A	OPU
IG3 1	20A	-
CHARGER	15A	-
ECU4	10A	ECM
AMS	10A	-

Fuse Name	Fuse Rating	Circuit Protected
FUEL LID	10A	-
4WD	10A	4WD ECM
FUEL PUMP	20A	E/R Junction Block (RLY.7)
B+4	50A	-
BLOWER	50A	E/R Junction Block (RLY.10)
POWER TAILGATE	40A	Liftgate Relay
CVVD	50A	CVVD Actuator
B+1	60A	ICU Junction Block (IPS01, IPS02, IPS03, IPS04, IPS05)
COOLING FAN	80A	Cooling Fan Motor
MDPS	80A	MDPS Unit
HPCU2	10A	HPCU
EWP2	10A	Electronic Water Pump (Engine)
FCA	10A	-
MODULE1	7.5	Electronic Water Pump (Engine)
IEB3	10A	IEB Unit
TCU2	15A	TCM, OPU
ECU3	10A	CVVD Actuator, ECM
SENSOR3	10A	Oil Control Valve #1~#2, Purge Control Solenoid Valve, RCV Control Solenoid Valve, Variable Oil Pump, Cooling Fan Motor
SENSOR4	10A	E/R Junction Block (RLY.7)
ECU1	20A	ECM
SENSOR2	15A	Oxygen Sensor (Up/Down)
SENSOR1	20A	Ignition Coil #1~#4
WIPER FRT1	25A	PCB Block (Front Wiper(Low) Relay), Front Wiper Motor
WIPER RR	15A	ICU Junction Block (Rear Wiper Relay)

Fuse Name	Fuse Rating	Circuit Protected
WIPER FRT2	7.5A	IBU
HORN	15A	PCB Block (Horn Relay)
SENSOR5	15A	Active Purge Pump
BMS	10A	BMS
EWP1	10A	Electronic Water Pump (Engine)
TCU1	15A	TCM
ACC	20A	ICU Junction Block (Fuse : F33, F36)
POWER OUTLET2	20A	Front Power Outlet
POWER OUTLET1	20A	Luggage Power Outlet
CBC	10A	-
ECU2	15A	ECM
IG1	30A	PCB Block (PDM(IG1) Relay)
IG2	30A	PCB Block (PDM(IG2) Relay)

Light bulbs

Contact an authorized HYUNDAI dealer to replace most vehicle light bulbs. It is difficult to replace vehicle light bulbs because other parts of the vehicle must be removed before you can get to the bulb. This is especially true for removing the headlight assembly to get to the bulb(s).

Removing/installing the headlight assembly may result in damage to the vehicle.

⚠ WARNING

- Prior to replacing a light bulb, depress the brake pedal, shift to P (Park), apply the parking brake, move the Engine Start/Stop button to the LOCK/OFF position, and take the key with you when leaving the vehicle to avoid sudden movement of the vehicle and to prevent possible electric shock.
- Be aware the bulbs may be hot and may burn your fingers.

NOTICE

- Be sure to replace the burned-out bulb with one of the same wattage to prevent damage to the fuse or electrical wiring system.
- To prevent damage, do not clean the headlight lens with chemical solvents or strong detergents.

i Information

Light desiccant (if equipped)

This vehicle is equipped with desiccant to reduce fogging inside the headlight, Daytime Running Light, parking light, tail light, and rear turn signal light due to moisture. The desiccant is consumable and its performance may change based on the used period or environment. If fogging inside the headlight, Daytime Running Light, parking light, tail light, and rear turn signal light due to moisture continues for a long time, contact an authorized HYUNDAI dealer.

i Information

The headlight and tail light lenses could appear to have condensation inside if the vehicle is washed after driving or if the vehicle is driven in wet weather. This condition is caused by a higher temperature inside the light and a cooler outside temperature. Moisture that condenses in the light is removed after driving with the light on. If the moisture is not removed, contact an authorized HYUNDAI dealer.

Information

- A normally functioning light may flicker momentarily to stabilize the vehicle's electrical control system.

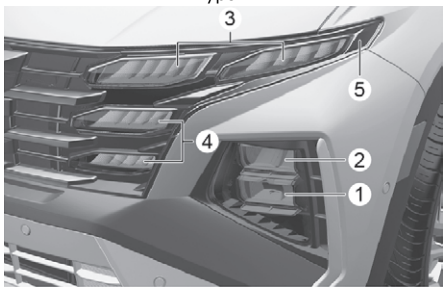
  If the light goes out, or continues to flicker, contact an authorized HYUNDAI dealer.
- The parking light may not turn on when the parking light switch is turned on, but the parking light and headlight switch may turn on when the headlamp switch is turned on. This may be caused by network failure or vehicle electrical control system malfunction. If this occurs, contact an authorized HYUNDAI dealer.

Information

Adjust the headlight aim after a collision or the headlight is replaced.

Headlight, parking light, turn signal light, daytime running light (DRL) replacement

Type A

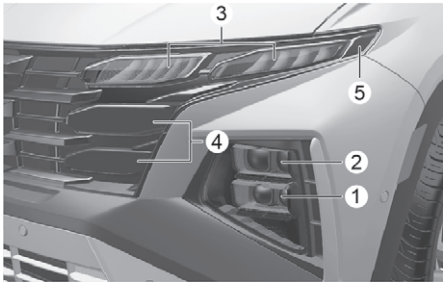


(1) Headlight (High)
(2) Headlight (Low)
(3) Parking light/Turn signal light/Daytime Running Light (DRL)
(4) Parking light/Daytime Running Light (DRL)

If the LED light does not operate, contact an authorized HYUNDAI dealer for replacement.

The LED light cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

Type B

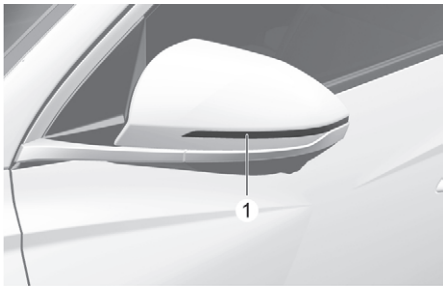


(1) Headlight (High/Sub-low)
(2) Headlight (Low)
(3) Parking light/Turn signal light/Daytime Running Light (DRL)
(4) Parking light/Daytime Running Light (DRL)
(5) Front side marker

If the LED light does not operate, contact an authorized HYUNDAI dealer for replacement.

The LED light cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

Side repeater light replacement

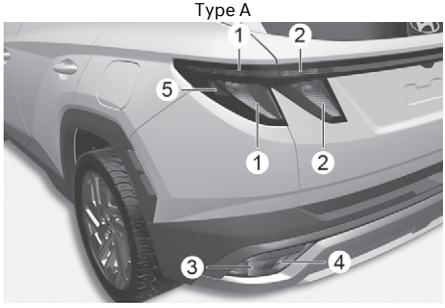


If the LED light (1) does not operate, contact an authorized HYUNDAI dealer for replacement.

The LED light (1) cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

Rear combination light replacement

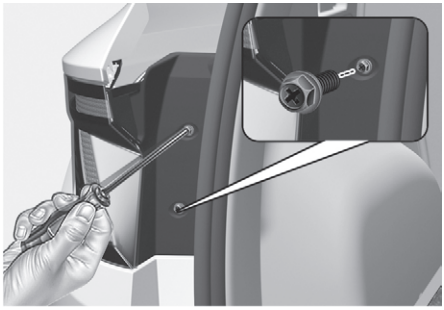
Type A



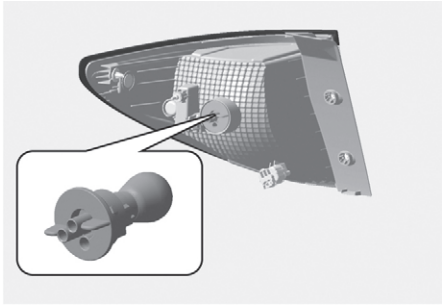
(1) Tail/Stop light
(2) Tail light
(3) Turn signal light
(4) Reverse light
(5) Rear side marker

Stop/Tail light (Outside)

1. Turn off the engine.
2. Open the tailgate.
3. Loosen the light assembly retaining screws with a cross-tip screwdriver.

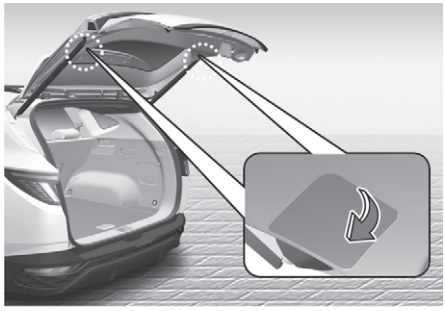


4. Remove the rear combination light assembly from the body of the vehicle.
5. Remove the socket from the assembly by turning the socket counterclockwise until the tabs on the socket align with the slots on the assembly.

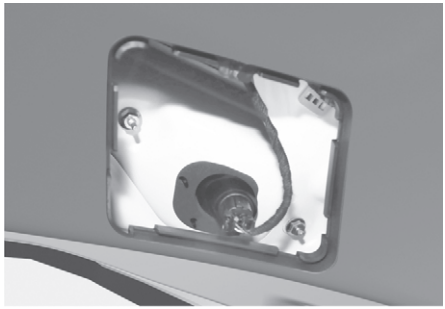


6. Remove the bulb from the socket by pressing it in and rotating it counterclockwise until the tabs on the bulb align with the slots in the socket. Pull the bulb out of the socket.
7. Insert a new bulb by inserting it into the socket and rotating it until it locks into place.
8. Install the socket into the assembly by aligning the tabs on the socket with the slots in the assembly. Push the socket into the assembly and turn the socket clockwise.
9. Reinstall the light assembly to the body of the vehicle.

Tail light (Inside)



1. Turn off the engine.
2. Open the tailgate.
3. Remove the service cover using a flat-blade screwdriver.
4. Remove the socket from the assembly by turning the socket counterclockwise until the tabs on the socket align with the slots on the assembly.

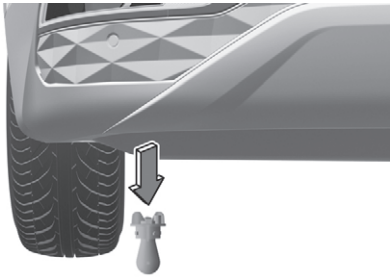


5. Remove the bulb from the socket by pressing it in and rotating it counterclockwise until the tabs on the bulb align with the slots in the socket. Pull the bulb out of the socket.

6. Insert a new bulb by inserting it into the socket and rotating it until it locks into place.
7. Install the socket into the assembly by aligning the tabs on the socket with the slots in the assembly. Push the socket into the assembly and turn the socket clockwise.
8. Reinstall the light assembly to the body of the vehicle.

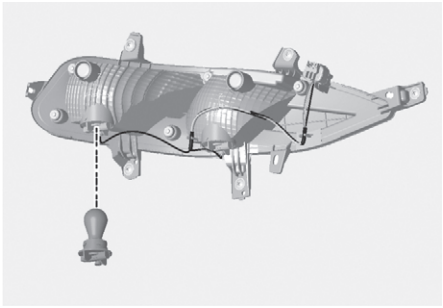
Turn signal light, Rear fog light, Reverse light

1. Disconnect the negative battery cable.

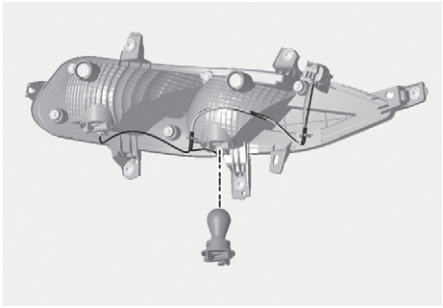


2. Loosen the retaining clips under the bumper and screws on the wheel house trim.
3. Prey trim under the bumper toward the vehicle.

Turn signal light

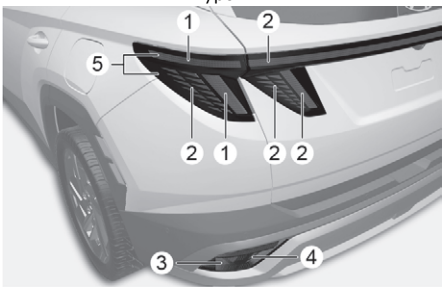


Reverse light



4. Remove the socket from the assembly by turning the socket counterclockwise until the tabs on the socket align with the slots on the assembly.
5. Remove the bulb by pulling it straight out.
6. Insert a new bulb in the socket.
7. Reinstall the light assembly to the body of the vehicle.

Type B

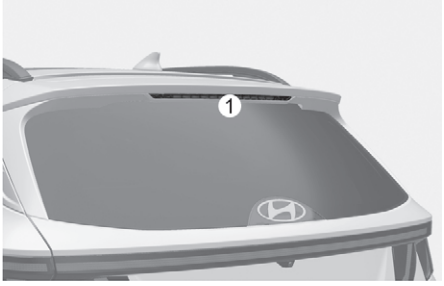


(1) Tail/Stop light
(2) Tail light
(3) Turn signal light
(4) Reverse light
(5) Rear side marker

If the LED light does not operate, have your vehicle inspected by an authorized HYUNDAI dealer.

The LED light cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

High mounted stop light replacement



If the LED light (1) does not operate, contact an authorized HYUNDAI dealer for replacement.

The LED light (1) cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

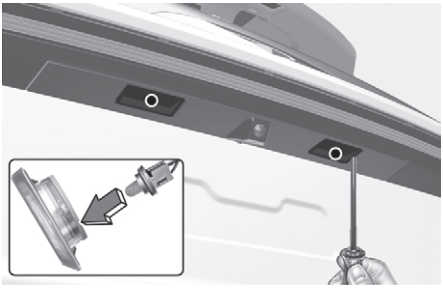
License plate light replacement

License plate light replacement (LED)

If the LED light does not operate, contact an authorized HYUNDAI dealer for replacement.

The LED light cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

License plate light replacement (Bulb)



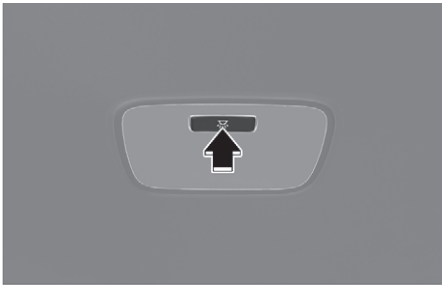
1. Using a flat-blade screwdriver, gently pry the lens cover from the light housing.
2. Remove the bulb by pulling it straight out.
3. Install a new bulb.
4. Reinstall in the reverse order.

Interior light replacement

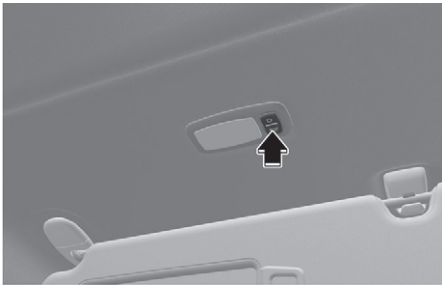
Map lamp, Room lamp, Vanity mirror lamp, Cargo area lamp

Map lamp

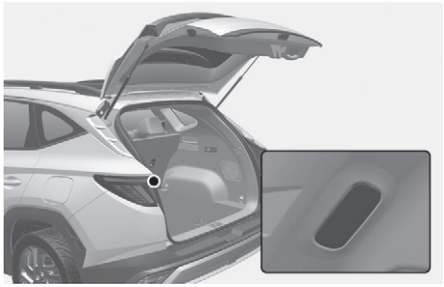
Room lamp



Vanity mirror lamp



Cargo area lamp



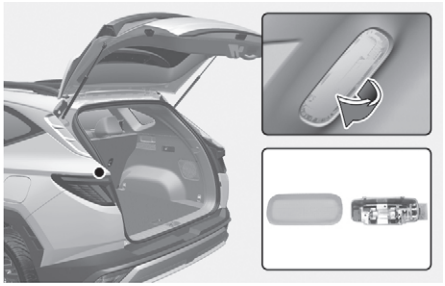
If the LED light does not operate, contact an authorized HYUNDAI dealer for replacement.

The LED light cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

Vanity mirror lamp and Cargo area lamp (Bulb type)

Vanity mirror lamp

Cargo area lamp



1. Using a flat-head screwdriver, gently pry the lens from the interior light housing.
2. Remove the bulb by pulling it straight out.
3. Install a new bulb into the socket.
4. Align the lens tabs with the interior light housing notches and snap the lens into place.

NOTICE

Be careful not to damage the cover, tab, and plastic housing.

Appearance care

Exterior care

Exterior general caution

It is very important to follow the label directions when using any chemical cleaner or polish. Read all warning and caution statements that appear on the label.

Finish maintenance

Washing

To help protect your vehicle's finish from rust and deterioration, wash it thoroughly and frequently at least once a month with lukewarm or cold water.

If you use your vehicle for off-road driving, wash it after each off-road trip. Pay special attention to the removal of any accumulation of salt, dirt, mud, and other foreign materials. Make sure the drain holes in the lower edges of the doors and rocker panels are kept clear and clean.

Insects, tar, tree sap, bird droppings, industrial pollution, and similar deposits may damage your vehicle's finish if not removed immediately.

Even prompt washing with plain water may not completely remove all these deposits. Use a mild soap, safe for use on painted surfaces.

After washing, rinse the vehicle thoroughly with lukewarm or cold water. Do not allow soap to dry on the finish.

NOTICE

High pressure water may damage front and rear cameras, sensors, vehicle trim, and boots (rubber or plastic covers) or connectors.

⚠ WARNING

After washing the vehicle, dry the brakes by applying them lightly while maintaining a slow forward speed.

NOTICE

- Do not use strong soap, chemical detergents, or hot water, and do not wash the vehicle in direct sunlight or when the body of the vehicle is warm.
- To prevent damage to the plastic parts, do not clean with chemical solvents or strong detergents.

NOTICE

- Water washing in the engine compartment including high pressure water washing may cause the failure of electrical circuits located in the engine compartment.
- Never allow water or other liquids to come in contact with electrical/electronic components inside the vehicle to prevent damage.

NOTICE

Matte paint finish vehicle (if equipped)

To prevent damage the matte finish:

- Do not go through an automatic car wash with rotating brushes.
- Avoid using a steam cleaner. High temperature steam may leave stains that are difficult to remove.
- Use a soft cloth (e.g. microfiber towel or sponge) when washing your vehicle and dry with a microfiber towel. When you hand wash your vehicle, do not use a cleaner that finishes with wax. If the vehicle surface is too dirty (sand, dirt, dust, contaminant, etc.), clean the surface with water before washing the vehicle.

Waxing

A good coat of wax helps protect your paint from contaminants.

Wax the vehicle when water no longer beads on the paint.

Always wash and dry the vehicle before waxing. Use a good quality liquid or paste wax, and follow the manufacturer's instructions. Wax all metal trim to protect it and to maintain its luster.

Removing oil, tar, and similar materials with a spot remover usually strips the wax from the finish. Be sure to re-wax these areas even if the rest of the vehicle does not yet need waxing.

NOTICE

- Do not wipe dust or dirt off the body with a dry cloth to prevent scratching the finish.
- Do not use steel wool, abrasive cleaners, or strong detergents containing highly alkaline or caustic agents on chrome-plated or anodized aluminum parts to prevent discoloration or paint deterioration.

NOTICE

Matte paint finish vehicle (if equipped)

Do not use any polish protector such as detergent, abrasive, or polish. If wax is applied, remove the wax immediately using a silicone remover. If any tar or tar contaminant is on the surface, use a tar remover to clean.

Be careful not to apply too much pressure on the painted area.

Finish damage repair

Deep scratches or stone chips on the painted surface must be repaired promptly. Exposed metal quickly rusts and may develop into a major repair expense.

i Information

If your vehicle is damaged and requires any metal repair or replacement, make sure the body shop applies anti-corrosion materials to the parts repaired or replaced.

NOTICE

Matte paint finish vehicle (if equipped)

It is impossible to modify only repaint the damaged area. The whole part must be repainted as necessary. If the vehicle is damaged and painting is required, contact an authorized HYUNDAI dealer.

Bright-metal maintenance

- To remove road tar and insects, use a tar remover, not a scraper or other sharp object.
- To protect the surfaces of bright metal parts from corrosion, apply a coating of wax or chrome preservative and rub to a high luster.
- During winter weather or in coastal areas, cover the bright metal parts with a heavier coating of wax or preservative. If necessary, coat the parts with non-corrosive petroleum jelly or other protective compound.

Underbody maintenance

Corrosive materials used for ice and snow removal and dust control may collect on the underbody. If these materials are not removed, accelerated rusting may occur on underbody parts such as fuel lines, frame, floor pan, and exhaust system, even though they have been treated with rust protection.

Thoroughly flush the vehicle underbody and wheel openings with lukewarm or cold water once a month, after off-road driving and at the end of each winter. Pay special attention to these areas because it is difficult to see all the mud and dirt. It does more harm than good to wet down the road grime without removing it. The lower edges of doors, rocker panels, and frame members have drain holes that must not be allowed to clog with dirt. Trapped water in these areas may cause rusting.

Aluminum wheel maintenance

The aluminum wheels are coated with a clear protective finish.

NOTICE

- Do not use abrasive cleaner, polishing compound, solvent, or wire brushes on aluminum wheels.
- Use only a mild soap or neutral detergent, and rinse thoroughly with water. Also, clean the wheels after driving on salted roads.
- Do not wash the wheels with high-speed car wash brushes.
- Do not use any cleaners containing acid or alkaline detergents.

Corrosion protection

Protecting your vehicle from corrosion

By using the most advanced design and construction practices to combat corrosion, HYUNDAI produces vehicles of the highest quality. However, this is only part of the job. To achieve the long-term corrosion resistance your vehicle can deliver, the owner's cooperation and assistance are also required.

Common causes of corrosion

The most common causes of corrosion on your vehicle are:

- Road salt, dirt, and moisture that is allowed to accumulate underneath the vehicle.
- Removal of paint or protective coatings by stones, gravel, abrasion, minor scrapes, and dents that leave unprotected metal exposed to corrosion.

High-corrosion areas

If you live in an area where your vehicle is regularly exposed to corrosive materials, corrosion protection is particularly important. Some of the common causes of accelerated corrosion are road salts, dust control chemicals, ocean air, and industrial pollution.

Moisture breeds corrosion

Moisture creates the conditions in which corrosion is most likely to occur. For example, corrosion is accelerated by high humidity, particularly when temperatures are just above freezing. In such conditions, the corrosive material is kept in contact with the vehicle surfaces by moisture that is slow to evaporate.

Mud is particularly corrosive because it is slow to dry and holds moisture in contact with the vehicle. Although the mud appears to be dry, it can still retain moisture and promote corrosion.

High temperatures may also accelerate corrosion of parts that are not properly ventilated so the moisture can be dispersed. For all these reasons, it is particularly important to keep your vehicle clean and free of mud or accumulation of other materials. This applies not only to the visible surfaces but particularly to the underside of the vehicle.

To help prevent corrosion

Keep your vehicle clean

The best way to prevent corrosion is to keep your vehicle clean and free of corrosive materials. Attention to the underside of the vehicle is particularly important.

- If you live in a high-corrosion area - where road salts are used, near the ocean, areas with industrial pollution, acid rain, and the like, take extra care to prevent corrosion. In winter, hose off the underside of your vehicle at least once a month and be sure to clean the underside thoroughly when winter is over.
- When cleaning underneath the vehicle, pay particular attention to the components under the fenders and other areas that are hidden from view. Do a thorough job. Just dampening the accumulated mud rather than washing it away may accelerate corrosion rather than prevent it. Water under high pressure and steam are particularly effective in removing accumulated mud and corrosive materials.
- When cleaning lower door panels, rocker panels, and frame members, make sure that drain holes are kept open so that moisture can escape and not be trapped inside to accelerate corrosion.

Keep your garage dry

Do not park your vehicle in a damp, poorly ventilated garage. This creates a favorable environment for corrosion.

This is particularly true if you wash your vehicle in the garage or drive it into the garage when it is still wet or covered with snow, ice, or mud. Even a heated garage may contribute to corrosion unless it is well ventilated so moisture is dispersed.

Keep paint and trim in good condition

Scratches or chips in the finish must be covered with “touch-up” paint as soon as possible to reduce the possibility of corrosion. If bare metal is showing through, the attention of a qualified body and paint shop is recommended.

Bird droppings are highly corrosive and may damage painted surfaces in just a few hours. Always remove bird droppings as soon as possible.

Interior care

Interior general precautions

Prevent caustic solutions such as perfume and cosmetic oil, from contacting the interior parts because they may cause damage or discoloration. If they do contact the interior parts, wipe them off immediately. Refer to the instructions for the proper way to clean vehicle interior surfaces.

NOTICE

- Never allow water or other liquids to come in contact with electrical/electronic components inside the vehicle because this may damage them.
- When cleaning leather products (steering wheel, seats, etc.), use neutral detergents or low alcohol content solutions. If you use high alcohol content solutions or acid/ alkaline detergents, the color of the leather may fade or the surface may get stripped off.

Cleaning the upholstery and interior trim

Vehicle interior surfaces

if equipped

Remove dust and loose dirt from interior surfaces with a whisk broom or a vacuum cleaner.

If necessary, clean interior surfaces with a mixture of warm water and mild non-detergent cleaner (test all cleaners on a concealed area before use).

Fabric

if equipped

Remove dust and loose dirt from fabric with a whisk broom or vacuum cleaner. Clean with a mild soap solution recommended for upholstery or carpets. Remove fresh spots immediately with a fabric spot cleaner. If you do not pay attention to fresh spots immediately, the fabric may be stained and its color may be affected. Also, its fire-resistant properties may be reduced if the material is not properly maintained.

NOTICE

Using anything but recommended cleaners and procedures may affect the fabric's appearance and fire-resistant properties.

Leather

if equipped

- Features of seat leather
  - Leather is made from the outer skin of an animal, which goes through a special process to be available for use. Because it is a natural product, each part differs in thickness or density.

    Wrinkles may appear as a natural result of stretching and shrinking depending on the temperature and humidity.
  - The seat is made of stretchable fabric to improve comfort.
  - The parts contacting the body are curved and the side supporting area is high which provides driving comfort and stability.
  - Wrinkles may appear naturally from usage. It is not a fault of the products.

NOTICE

- Wrinkles or abrasions that appear naturally from usage are not covered by warranty.
- Belts with metallic accessories, zippers, or keys inside the back pocket may damage the seat fabric.
- Be sure not to wet the seat. It may change the nature of natural leather.
- Jeans or clothes that could bleach may contaminate the surface of the seat covering fabric.
- Caring for the leather seats
  - Vacuum the seat periodically to remove dust and sand on the seat. It prevents abrasion or damage of the leather and maintain its quality.
  - Wipe the natural leather seat cover often with a dry or soft cloth.

- Use of proper leather protector may prevent abrasion of the cover and helps maintain the color. Be sure to read the instructions and consult a specialist when using leather coating or protective agent.
- Light colored (beige, cream beige) leather may be easily contaminated and the stains may be noticeable.
- Avoid wiping with a wet cloth. It may cause the surface to crack.

• Cleaning the leather seats
- Remove all spills instantly.
- For Cosmetic products (sunscreen, foundation, etc.)

  Apply cleansing cream on a cloth and wipe the contaminated spot. Wipe off the cream with a damp loth and then wipe with a dry cloth.
- For Beverages (coffee, soft drink, etc.)

  Apply a small amount of neutral detergent and wipe until it does not smear.
- For oil

  Remove oil instantly with an absorbable cloth and wipe with stain remover used only for natural leather.
- For chewing gum

  Harden the gum with ice and remove it gradually.

• Handling prime napa leather (if equipped)

  Try to avoid excessive sunlight and heat exposure. Excessive sunlight and heat exposure naturally fades and dries out napa leather, causing wrinkles and discoloration. If the napa leather is wet with liquid, immediately clean it with lint-free cloth to minimize damage. Do not scratch the napa leather surface with a sharp object. If your napa leather seat is bright colored, it may be contaminated or stained from dyed materials such as jeans.

Interior wooden trim

- Use a wooden furniture protector (e.g. wax, coating compound) to clean the interior wooden trim.
- Sharp objects (for example, driver, knife), adhesive materials, or tapes may damage the interior wooden trim.
- Any strong impacts may damage the interior wooden trim.
- If the coating finish over the interior wooden trim is removed, moisture may damage or change wood traits.
- If the interior wooden trim is damaged, you may get a splinter from the wood surface. Have the damaged interior wooden trim replaced by an authorized HYUNDAI dealer.

Cleaning the seat belt webbing

Clean the belt webbing with any mild soap solution recommended for cleaning upholstery or carpet. Follow the instructions provided with the soap.

⚠ WARNING

Do not bleach or re-dye the webbing because this may weaken the seat belt.

Cleaning the interior window glass

If the interior glass surfaces need to be cleaned, use a glass cleaner. Follow the directions on the glass cleaner container.

NOTICE

Do not scrape or scratch the inside of the rear window. This may result in damage to the rear window defroster grid.

Emission control system

The emission control system of your vehicle is covered by a written limited warranty. Please see the warranty information contained in the Service passport in your vehicle.

Your vehicle is equipped with an emission control system to meet all applicable emission regulations. There are three emission control systems, as follows:

(1) Crankcase emission control system
(2) Evaporative emission control system
(3) Exhaust emission control system

In order to ensure the proper function of the emission control systems, it is recommended that you have your vehicle inspected and maintained by an authorized HYUNDAI dealer in accordance with the maintenance schedule in this manual.

NOTICE

For the Inspection and Maintenance Test (with Electronic Stability Control (ESC) system)

- To prevent the vehicle from misfiring during dynamometer testing, turn the Electronic Stability Control (ESC) system off by pressing the ESC button (ESC OFF light illuminated).
- After dynamometer testing is completed, turn the ESC system back on by pressing the ESC button again.

1. Crankcase emission control system

The positive crankcase ventilation system is employed to prevent air pollution caused by blow-by gases being emitted from the crankcase. This system supplies fresh filtered air to the crankcase through the air intake hose. Inside the crankcase, the fresh air mixes with blow-by gases, which then pass through the PCV valve into the induction system.

2. Evaporative emission control system including onboard refueling vapor recovery (ORVR)

The Evaporative Emission Control System is designed to prevent fuel vapors from escaping into the atmosphere. The ORVR system is designed to allow the vapors from the fuel tank to be loaded into a canister while refueling at the gas station, preventing the escape of fuel vapors into the atmosphere.

Canister

Fuel vapors generated inside the fuel tank are absorbed and stored in the onboard canister. When the engine is running, the fuel vapors absorbed in the canister are drawn into the surge tank through the purge control solenoid valve.

Purge Control Solenoid Valve (PCSV)

The purge control solenoid valve is controlled by the Engine Control Module (ECM). When the engine coolant temperature is low during idling, the PCSV closes so that evaporated fuel is not taken into the engine. After the engine warms up during ordinary driving, the PCSV opens to introduce evaporated fuel to the engine.

3. Exhaust emission control system

The Exhaust Emission Control System controls exhaust emissions while maintaining good vehicle performance.

When the engine starts or fails to start, excessive attempts to restart the engine may cause damage to the emission system.

Engine exhaust (carbon monoxide) precautions

- Carbon monoxide is present with other exhaust fumes. If you smell exhaust fumes in your vehicle, drive with all the windows fully open. Have your vehicle inspected and repaired immediately.
- Do not operate the engine in confined or closed areas (such as garages) any more than what is necessary to move the vehicle in or out of the area.
- When the vehicle is stopped in an open area for more than a short time with the engine running, adjust the ventilation system (as needed) to draw outside air into the vehicle.
- Never sit in a parked or stopped vehicle for an extended time with the engine running.
- When the engine stalls or fails to start, excessive attempts to restart the engine may cause damage to the emission control system.

  For more information, refer to “Driving your vehicle” at the beginning of chapter 6.

⚠ WARNING

Engine exhaust gases contain carbon monoxide (CO). Though colorless and odorless, it is dangerous and could be lethal if inhaled. Follow the instructions on this page to avoid CO poisoning.

Operating precautions for catalytic converters

if equipped

⚠ WARNING

The exhaust system and catalytic system are very hot while the engine is running or immediately after the engine is turned off. To avoid serious injury or death:

- Do not park, idle, or drive the vehicle over or near flammable objects, such as grass, vegetation, paper, leaves, etc. A hot exhaust system may ignite flammable items under your vehicle.
- Keep away from the exhaust system and catalytic converter or you may get burned.

  Also, do not remove the heat sink around the exhaust system, do not seal the bottom of the vehicle, and do not coat the vehicle for corrosion control. It may present a fire risk under certain conditions.

Your vehicle is equipped with a catalytic converter emission control device.

NOTICE

To prevent damage to the catalytic converter and to your vehicle, take the following precautions:

- Use only UNLEADED FUEL for gasoline engines.
- Do not operate the vehicle when there are signs of engine malfunction, such as misfire or a noticeable loss of performance.
- Do not misuse or abuse the engine. Examples of misuse are coasting with the engine off and descending steep grades in gear with the engine off.
- Do not operate the engine at high idle speed for extended an extended period of time (5 minutes or more).
- Do not modify or tamper with any part of the engine or emission control system. Have all inspections and adjustments made by an authorized HYUNDAI dealer.
- Avoid driving with an extremely low fuel level.

  Running out of fuel may cause the engine to misfire, damaging the catalytic converter.

Failure to follow these precautions may void your vehicle warranty.

Fuel requirements

Gasoline engine

Unleaded

Your new vehicle is designed to perform optimally with unleaded fuel having an octane number ((R+M)/2) of 87 (Research Octane Number 91) or higher.

Your new vehicle is designed to obtain maximum performance with UNLEADED FUEL, as well as minimize exhaust emissions and spark plug fouling.

Gasoline containing ethanol and methanol

Gasohol, a mixture of gasoline and ethanol (also known as grain alcohol) are being marketed along with or instead of leaded or unleaded gasoline. For example, “E15” is a gasohol comprised of 15% ethanol and 85% gasoline.

Do not use gasohol containing more than 15% ethanol, and do not use gasoline or gasohol containing any methanol. Do not use gasohol containing more than 15% ethanol, and do not use gasoline or gasohol containing any methanol. Never use leaded fuel or leaded gasohol. Use of these fuels may damage the fuel system, engine control system, and emission control system.

Discontinue using gasohol of any kind if problems occur. “E85” fuel is an alternative fuel comprised of 85% ethanol and 15% gasoline, and is manufactured exclusively for use in Flexible Fuel Vehicles. “E85” is not compatible with your vehicle. Use of “E85” may result in poor engine performance and damage to your vehicle’s engine and fuel system.

NOTICE

Damage to the fuel system or performance issues caused by the use of these fuels may not be covered by your New Vehicle Limited Warranty.

Using Fuel Additives (except Detergent Fuel Additives)

Using fuel additives such as:

- Silicone fuel additive
- Ferrocene (iron-based) fuel additive
- Other metallic-based fuel additives

May result in cylinder misfire, poor acceleration, engine stalling, damage to the catalyst, or abnormal corrosion, and may cause damage to the engine resulting in a reduction in the overall life of the powertrain.

- The Malfunction Indicator Lamp (MIL) may illuminate.

NOTICE

Damage to the fuel system or performance issues caused by the use of these fuel additives may not be covered by your New Vehicle Limited Warranty.

Gasoline containing MMT

Some gasoline contains harmful manganese-based fuel additives such as MMT (Methylcyclopentadienyl Manganese Tricarbonyl).

HYUNDAI does not recommend the use of gasoline containing MMT.

This type of fuel can reduce vehicle performance and affect your emission control system.

The malfunction indicator lamp on the cluster may come on.

Detergent Fuel Additives

HYUNDAI recommends that you use good quality gasolines treated with detergent additives such as TOP TIER Detergent Gasoline, which help prevent deposit formation in the engine. These gasolines will help the engine run cleaner and enhance performance of the Emission Control System. For more information on TOP TIER Detergent Gasoline, go to the website (www.toptiergas.com).

For customers who do not use TOP Tier Detergent Gasoline regularly, and have problems starting or the engine does not run smoothly, detergent-based fuel additives that you can purchase separately may be added to the gasoline. If TOP TIER Detergent Gasoline is not available, one bottle of additive added to the fuel tank according to the maintenance schedule is recommended (refer to the "Scheduled maintenance services" section in this chapter).

Additives are available from your authorized HYUNDAI dealer along with information on how to use them.

NOTICE

Never add any fuel system cleaning agents or other additives to the fuel tank other than HYUNDAI fuel additives to prevent damage to the engine and engine components.

Contact an authorized HYUNDAI dealer for additional information.