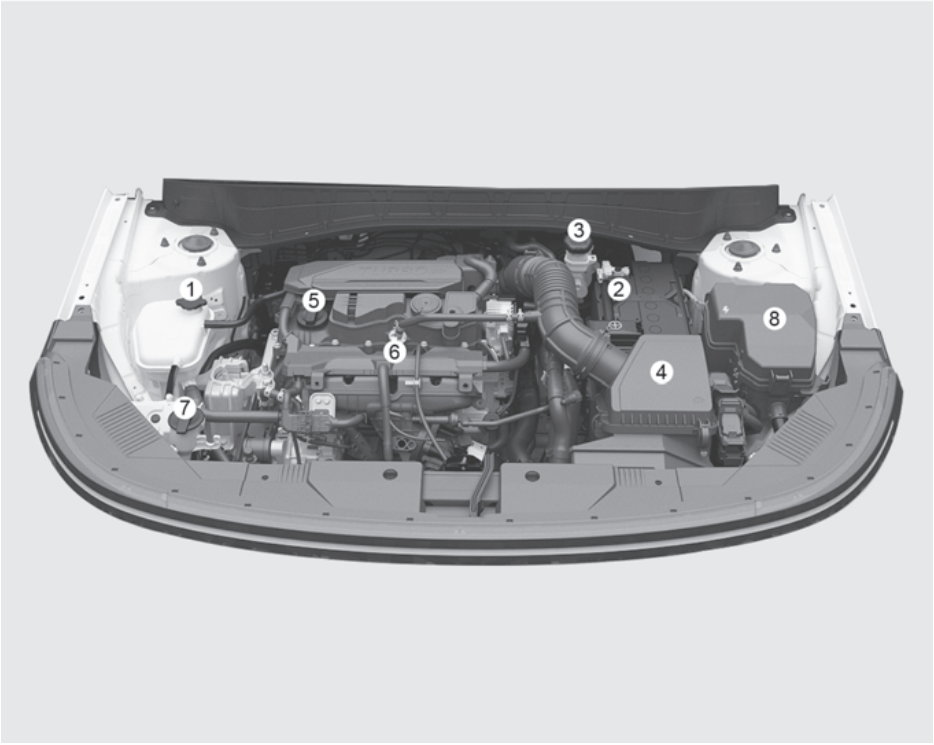
9. Maintenance

9. Maintenance

Engine Compartment

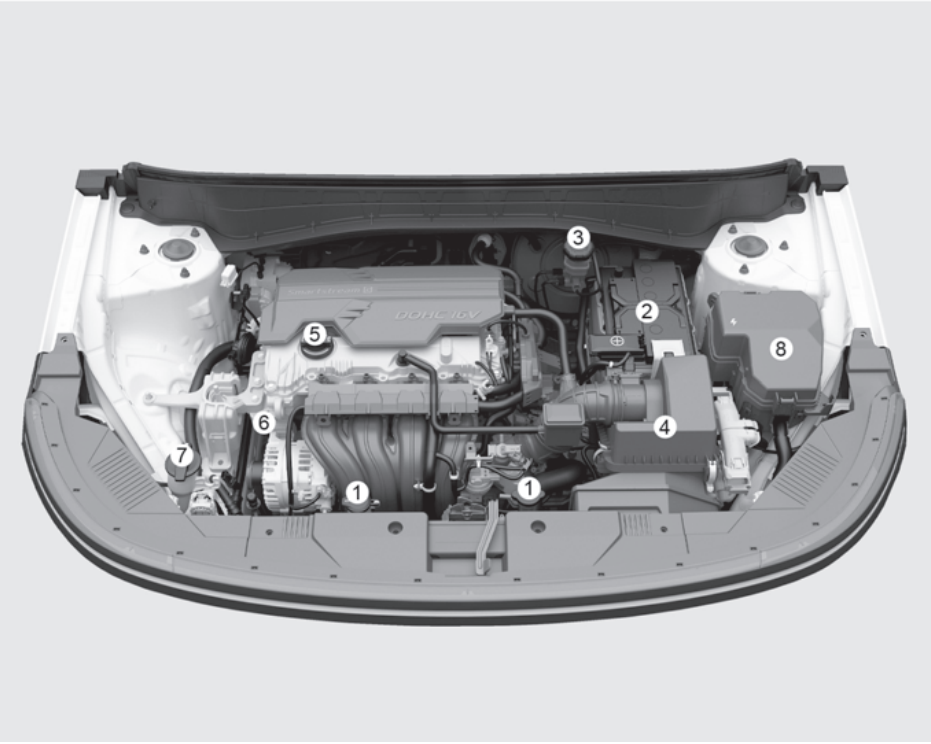
Smartstream G1.6 T-GDI



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

(1) Engine coolant reservoir/Engine coolant cap
(2) Battery
(3) Brake fluid reservoir
(4) Air cleaner
(5) Engine oil filler cap
(6) Engine oil dipstick
(7) Windshield washer fluid reservoir
(8) Fuse box

Smartstream G2.0 ATKINSON



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

(1) Engine coolant reservoir/Engine coolant cap
(2) Battery
(3) Brake fluid reservoir
(4) Air cleaner
(5) Engine oil filler cap
(6) Engine oil dipstick
(7) Windshield washer fluid reservoir
(8) Fuse box

Maintenance Services

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

Have the 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.

Owner's responsibility

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

You should retain documents that show proper maintenance has been performed on your vehicle in accordance with the scheduled maintenance service charts shown 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 lead to vehicle damage, an accident, or personal injury. This chapter provides instructions only for the maintenance items that are easy to perform. Several maintenance procedures can only be done with special tools. Contact an authorized HYUNDAI dealer.

Your vehicle should 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. If you are unsure about any service or maintenance procedure, contact an authorized HYUNDAI dealer.

Owner Maintenance

⚠ WARNING

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

ALWAYS follow these precautions for performing maintenance work:

- Park your vehicle on level ground. Shift the vehicle to P (Park), apply the parking brake, and press the Engine Start/Stop button to the 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

Touching metal parts

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 coolant level in the engine coolant reservoir.
- Check the windshield washer fluid level.
- Check for low or under-inflated tires.

⚠ WARNING

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

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 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 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 coolant level in the engine coolant reservoir.
- Check the operation of all exterior lights, including the stoplights, 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 lug nuts.

At least twice a year: (for example, every Spring and Autumn)

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

At least once a year:

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

Scheduled Maintenance Services

NOTICE

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

i Information

- As 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 specification. If the recommended engine oil specification is not used, then replace the engine oil according to the maintenance schedule under severe operating conditions.
- 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 severity, the remaining oil life alert appears 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 amount of engine oil 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**" from the infotainment system. Then, select "**Yes**" when the message "Has the engine oil been changed? Press [Yes] to reset the oil life." appears on the screen.
  - If there is no alert until the maximum maintenance interval, have your vehicle inspected by an authorized HYUNDAI dealer.

Normal maintenance schedule

R : Replace **A** : Add S : Service **I** : Inspect

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
MAINTENANCE ITEM																					
Drive belts*1		First, inspect 96,000 km or 72 months After that, inspect every 32,000 km or 24 months																			
Engine Oil And Filter Replacement (Synthetic oil)*2		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Fuel Injector Cleaner*3			A		A		A		A		A		A		A		A		A		A
Air Cleaner Filter			I		R		I		R		I		R		I		R		I		R
Spark plugs	Smartstream 1.6 T-GDi	Replace every 72,000 km																			
	Smartstream 2.0 ATKINSON	Replace every 160,000 km																			
Climate Control Air Filter			R		R		R		R		R		R		R		R		R		R
Vacuum Hose		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Engine Coolant		At first, replace at 192,000 km or 120 months After that, replace every 40,000 km or 24 months																			
Battery Condition		Inspect every 8,000 km or 6 months																			
Brake Lines, Hoses and Connections			I		I		I		I		I		I		I		I		I		I
Brake fluid			I		I		R		I		I		R		I		I		R		I
Brake pedal free play		Inspect depending on the condition																			

*1 The drive belt should be replaced when cracks occur or tension is reduced.

*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.

S: Service **I**: Inspect

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
MAINTENANCE ITEM																					
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
Steering gear box, linkage and boots		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
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
Cooling System Hoses and Connections			I		I		I		I		I		I		I		I		I		I
Exhaust Pipe and Muffler			I		I		I		I		I		I		I		I		I		I
Automatic transmission fluid	Smartstream G1.6 T-GDI	Replace every 96,000 km																			

I: Inspect **L**: Lubricate

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
MAINTENANCE ITEM																					
Fuel Tank, Fuel Filler Cap, Canister, Vapor Hose					I				I				I				I				I
Fuel Tank Air Filter					I				I				I				I				I
Intercooler, in/out hose	Smart stream G1.6 T-GDi	First, inspect 8,000 km or 6 months. After that, inspect every 32,000km or 24 months.																			
Fuel Filter		The fuel filter is considered to be maintenance free but periodic inspection is recommended for this maintenance schedule depends on fuel quality. If there are some important safety matters like fuel flow restriction, surging, loss of power, hard starting problem etc, replace the fuel filter immediately regardless of maintenance schedule and consult an authorized HYUNDAI dealer for details.																			
Fuel Lines, Hoses and Connections					I				I				I				I				I
All Latch, Hinges and Locks		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

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.

Drive belts

Inspect all drive belts for evidence of cuts, cracks, excessive wear or oil saturation. Replace them if necessary.

Check the drive belts periodically for proper tension and adjusted as necessary.

i Information

Always turn off the engine before inspecting the drive belts.

Fuel lines, fuel hoses and connections

Check the fuel lines, fuel hoses and connections for leakage and damage. Have any damaged or leaking parts replaced by an authorized HYUNDAI dealer 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 those intervals specified in the maintenance schedule. Make sure a new vapor hose or fuel filler cap is correctly replaced.

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

A genuine HYUNDAI air cleaner filter is recommended when the filter is replaced.

Spark plugs

Be sure to install new spark plugs of 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.

Valve clearance

Inspect excessive valve noise and/or engine vibration and adjust if necessary.

Have the system serviced by an authorized HYUNDAI dealer.

Cooling system

Check 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 the intervals specified in the maintenance schedule.

Automatic Transmission fluid

if equipped

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

The color of a new automatic transmission fluid is red. As the vehicle is driven, the automatic transmission fluid begins to look darker.

This is normal and the automatic transmission fluid 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 2 to prevent transmission damage.

Intelligent Variable Transmission fluid

if equipped

Intelligent variable transmission fluid should not be checked under normal usage conditions.

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

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.

For more information on checking the pads or lining wear limit, visit http://service.hyundai-motor.com

Exhaust pipe and muffler

Visually inspect the exhaust pipes, muffler and hangers for cracks, deterioration, or damage. Start the engine and listen carefully for any exhaust gas leakage. Tighten connections or replace parts as necessary.

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.

Drive shafts and related

Check the drive shafts, boots and clamps for cracks, deterioration, or damage. Replace any damaged parts and, if necessary, repack the grease.

Air conditioning refrigerant

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

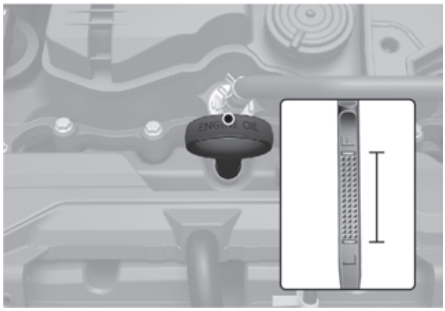
Engine Oil

Checking the engine oil level

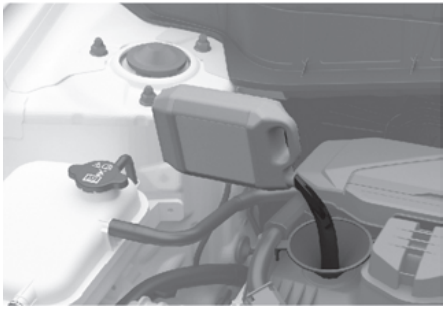
Engine oil is used for lubricating, cooling, and operating various hydraulic components in the engine. Engine oil consumption while driving is normal, and it is necessary to check and refill the engine oil regularly. Also, check and refill the oil level within the recommended maintenance schedule to 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 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 2).

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 a new vehicle, and it should stabilize after driving 6,000 km (4,000 mi.).
- The engine oil consumption can be affected by driving habits, climate conditions, traffic conditions, oil quality, etc. Therefore, it is recommended that you inspect the engine oil level regularly and refill it 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 be changed by an authorized HYUNDAI dealer according to the Oil Life Management System function or the Maintenance Schedule at the beginning of this chapter.
- If the maintenance schedule to replace engine oil is exceeded, the engine oil performance may deteriorate, and the engine condition may be affected. Therefore, replace the engine oil according to the maintenance schedule.
- 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 it 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 illuminates. In addition, the enhanced engine protection system, which limits the engine's power is activated and the Malfunction Indicator Lamp ( ) illuminates when the vehicle is driven in this state continuously.

(Except Smartstream G1.6 T-GDi) When the engine oil pressure is restored, the warning light and the enhanced engine protection system turn off.

(For Smartstream G1.6 T-GDi) When the engine oil pressure is restored, the warning light and the enhanced engine protection system turn off after engine is restarted.

CAUTION

The engine oil is very hot immediately after the vehicle has been driven and can cause burns during replacement. Replace the engine oil after the engine oil has cooled down.

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

WARNING

Used engine oil may cause irritation or cancer of the skin if left in contact with the skin for prolonged periods of time. Used engine oil contains chemicals that have caused cancer in laboratory animals. Always protect your skin by washing your hands thoroughly with soap and warm water as soon as possible after handling used oil.

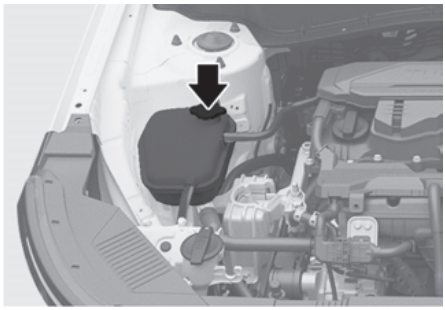
Engine Coolant

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

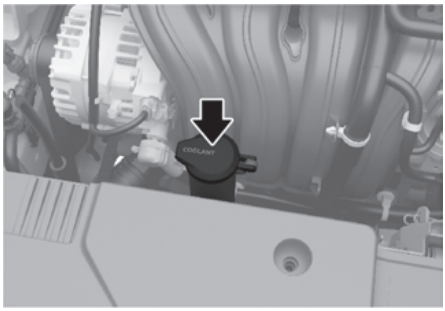
Check the antifreeze protection and coolant level at least once a year, at the beginning of the winter season and before traveling to a colder climate.

Checking the coolant level

Smartstream G1.6 T-GDI



Smartstream G2.0 ATKINSON



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.

If the coolant level is low, add enough distilled (deionized) water to bring the level to the MAX mark, but do not overfill. If frequent additions are required, have your vehicle inspected by an authorized HYUNDAI dealer for a cooling system inspection.

⚠ WARNING

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

Turn the engine off and wait until the engine cools down. Use extreme care when removing the 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 the engine off.

⚠ WARNING

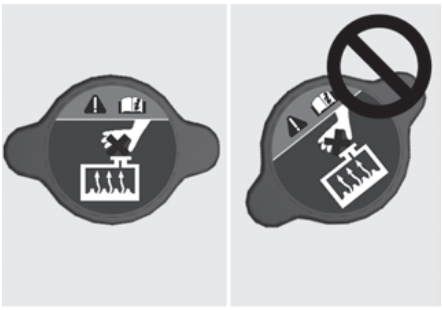
The electric motor for the cooling fan may continue to operate or start up when the engine is not running and can cause serious injury. Keep hands, clothing and tools away from the rotating fan blades of the cooling fan.

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

⚠ WARNING

Make sure the coolant cap is properly closed after refilling coolant. Otherwise the engine could 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 can result in severe malfunction or engine damage.
- The engine in your vehicle has aluminum engine parts and must be protected by an 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 35 % antifreeze, which would 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.

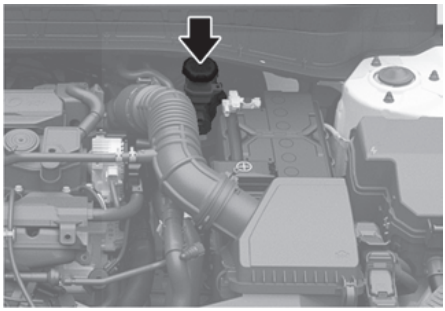
NOTICE

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

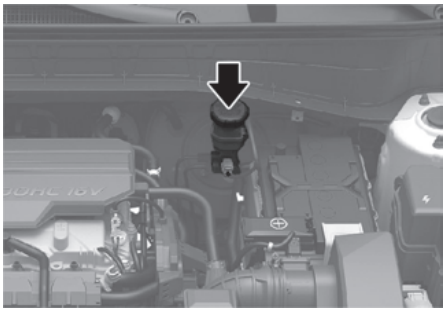
Brake Fluid

Checking the brake fluid level

Smartstream G1.6 T-GDI



Smartstream G2.0 ATKINSON



Check the fluid level in the reservoir periodically. The fluid level should be between MAX and 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 fluid to the MAX level. The level will fall with accumulated mileage. This is a normal condition associated with the wear of the brake linings.

If the fluid level is excessively low, have your vehicle inspected by an authorized HYUNDAI dealer.

⚠ WARNING

If the brake system requires frequent additions of fluid this could indicate a leak in the brake system. Have your vehicle inspected by an authorized HYUNDAI dealer.

⚠ WARNING

Do not let brake fluid into your eyes. If brake fluid gets in your eyes, flush your eyes with clean water for at least 15 minutes and get immediate medical attention.

NOTICE

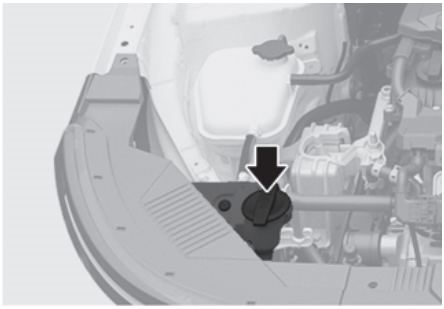
- Do not allow brake fluid to contact the vehicle's body paint, as it will result in paint damage.
- NEVER use brake fluid which has been exposed to open air for an extended time, as its quality cannot be guaranteed.
- Do not use the wrong type of brake fluid. A few drops of mineral based oil, such as engine oil in your brake system can damage brake system parts.

i Information

Use only the specified brake fluid (Refer to the "Recommended Lubricants And Capacities" section in chapter 2).

Washer Fluid

Checking the washer fluid level



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

⚠ WARNING

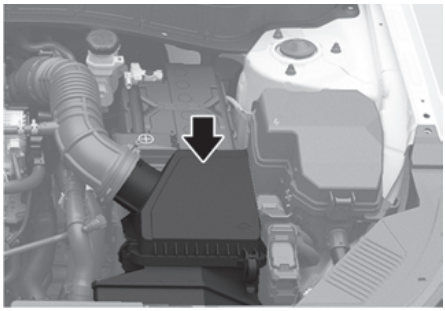
To prevent serious injury or death, take the following safety precautions when using washer fluid:

- 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 or damage to paint and body trim.
- 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. Washer fluid is harmful to humans and animals.
- Keep washer fluid away from children and animals.

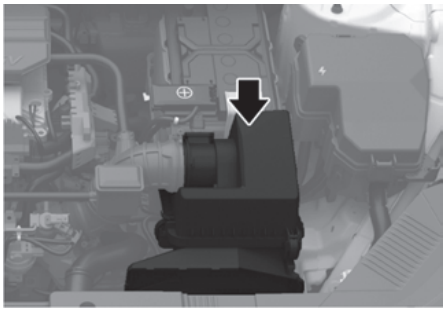
Air Cleaner

Filter replacement

Smartstream G1.6 T-GDi



Smartstream G2.0 ATKINSON



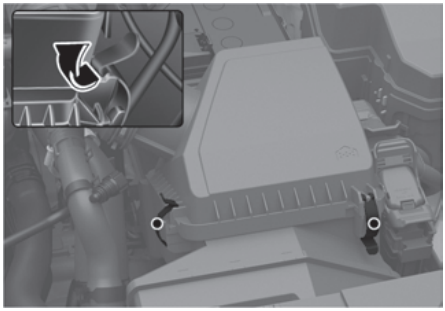
The air cleaner filter can be cleaned for inspection using compressed air.

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

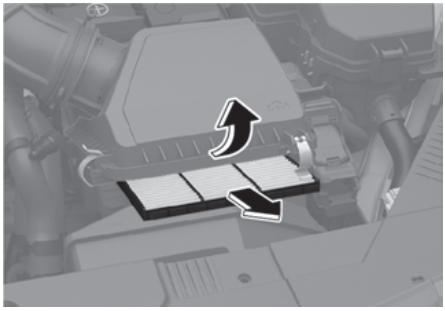
If soiled, the air cleaner filter must be replaced.

Replace the filter according to the Maintenance Schedule.

1. Pull down the air cleaner filter lever.



2. Pull up the air cleaner cover to open.
3. Replace the air cleaner filter.



4. Reassemble the air cleaner cover in the reverse order.
5. Check that the cover is firmly installed.

i Information

If the vehicle is operated in extremely dusty or sandy areas, replace the air cleaner filter more often than the usual recommended intervals.

NOTICE

- Do not drive with the air cleaner filter removed. This will result in excessive engine wear.
- When removing the air cleaner filter, be careful that dust or dirt does not enter the air intake, or damage may result.
- Use parts for replacement from an authorized HYUNDAI dealer. Use of non-genuine parts could damage the engine.
- Do not blow the inner part of the air filter with compressed air. Dust or dirt may enter the air intake.
- Check that the replaced filter is firmly fixed when reassembling the air cleaner filter, and that the levers are firmly assembled.

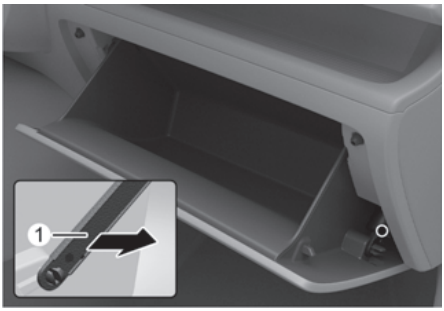
Cabin Air Filter

Filter inspection

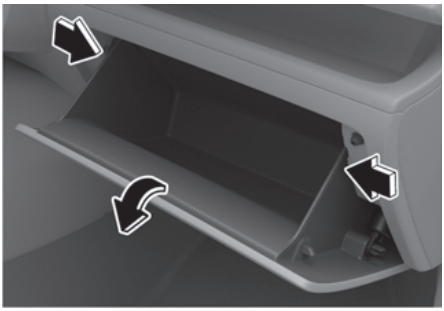
The cabin air filter should be replaced according to the Maintenance Schedule. If the vehicle is operated in severely air-polluted cities or on dusty rough roads for a long period, it should be inspected more frequently and replaced sooner. Replace the cabin air filter by following the procedure below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

Filter replacement

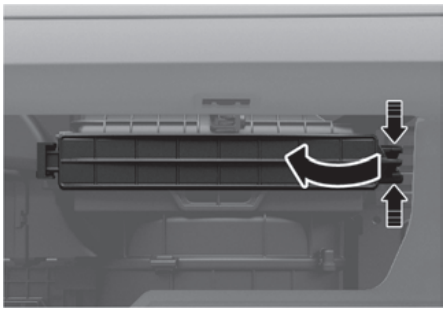
1. Open the glove box and remove the support rod (1).



2. Press both sides of the glove box inward to release.

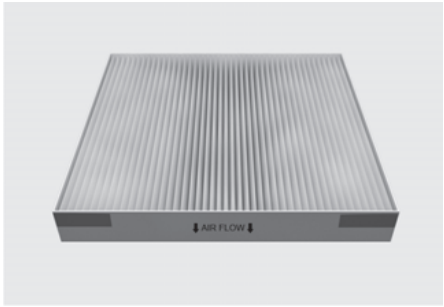


3. Press and hold the lock on the right side of the cover.



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 in the correct direction with the arrow symbol (↓) facing downwards, to prevent noise and efficiency loss.

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

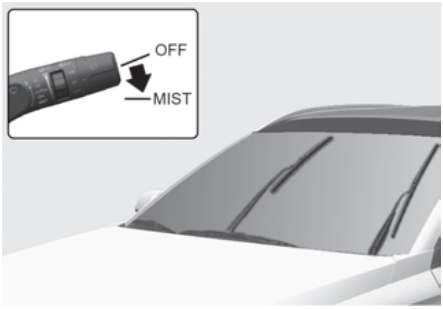
To prevent damage:

- 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

This vehicle has a “hidden” wiper design that cannot be lifted when in their bottom resting position.

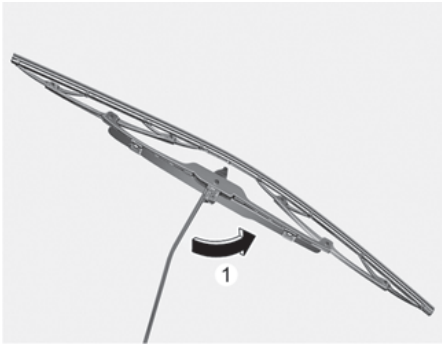
1. Within 20 seconds of turning off the engine, push and hold the wiper lever down to the MIST position for about 2 seconds until the wipers move to the top wipe position.



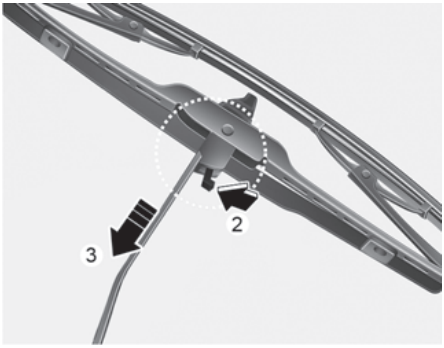
Type A

2. Lift the wipers off the windshield.

3. Rotate wiper blade (1) to access the clip.



4. While pushing the clip (2), pull down the wiper blade (3). Remove the wiper blade from the wiper arm.



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

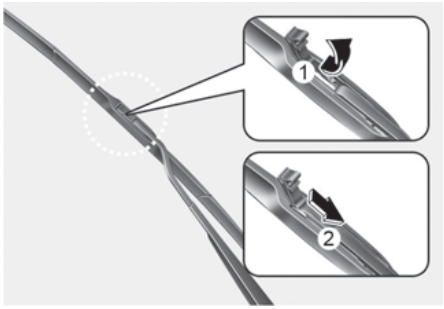
6. Gently put the wipers back down onto the windshield.

7. 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.

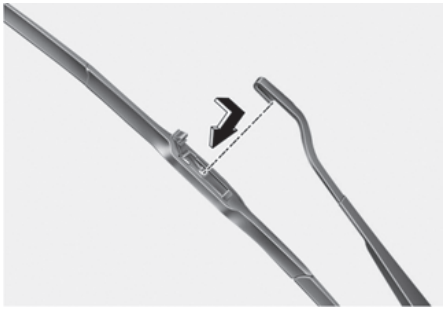
Type B

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.

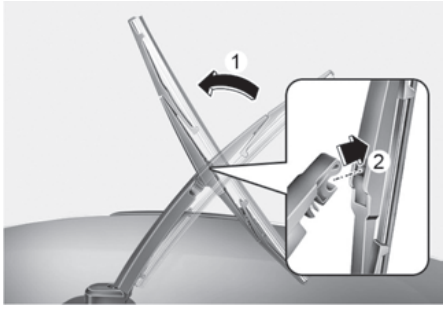


5. With the Engine Start/Stop button in the ON position, turn the wiper switch to any ON position to return the wipers to the bottom resting position.

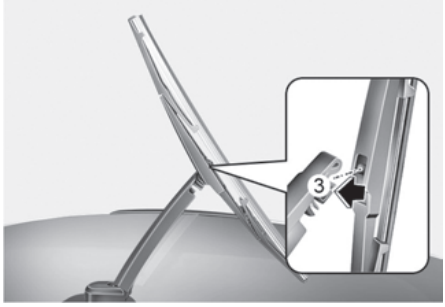
NOTICE

- Avoid the wipers from touching the windshield when the wiper blade is disassembled to prevent windshield damage.
- The 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.

Rear window wiper blade replacement



1. Raise the wiper arm and then rotate the wiper blade assembly (1).
2. Pull out the wiper blade assembly (2).
3. Install the new blade assembly by inserting the center part into the slot in the wiper arm until it clicks into place (3).



4. If the replacement is complete, put down the wiper arm onto the rear windshield, and turn the vehicle ON and operate the wipers to check the blade is installed correctly.

Battery

⚠ 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.

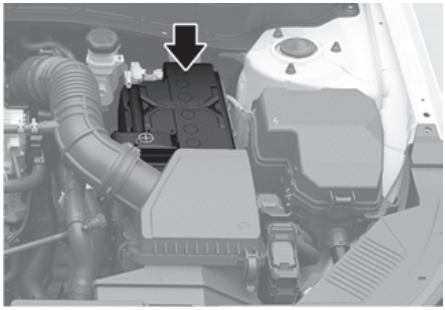
- When lifting a plastic-cased battery, excessive pressure on the case may cause battery acid to leak. Lift with a battery carrier or with your hands on opposite corners.
- Do not attempt to jump start your vehicle if your battery is frozen.
- NEVER attempt to recharge the battery when the vehicle's 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

Always follow these instructions when handling your vehicle's battery to prevent damage to your battery:

- 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.
- Prevent liquid from wetting the battery terminals. The performance of the battery may be degraded, and may cause injury. Be cautious when loading liquid in the tailgate.
- Do not tilt the battery.
- If you connect unauthorized electronic devices to the battery, the battery may be discharged. Never use unauthorized devices.

For best battery service



- 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 acid 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.

Battery capacity label

- The actual battery label in the vehicle may differ from the illustration.

1. AGM70L-DIN : The HYUNDAI model name of battery
2. 12V : The nominal voltage
3. 70Ah (20HR) : The nominal capacity (in Ampere hours)
4. RC 120min : The nominal reserve capacity (in min.)
5. CCA 760A (SAE/EN) : The cold-test current in amperes

Battery recharging

By battery charger

Your vehicle has a maintenance free, calcium based battery.

- If the battery becomes discharged in 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 electric load while the vehicle is being used, recharge it at 20-30 A 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 press the Engine Start/Stop button to the OFF position.
- 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.
- Always use a genuine HYUNDAI approved battery or the equivalent specified for your vehicle when you replace the battery.

NOTICE

AGM battery

- Absorbent Glass Matt (AGM) batteries are maintenance-free and have the AGM battery 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, 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 has been removed:

- Current Trip/Since Refueling/Since Rest (refer to chapter 4)
- Power window (refer to chapter 5)
- Sunroof (refer to chapter 5)
- Climate control system (refer to chapter 5)
- Clock (refer to Infotainment system manual)
- Infotainment system (refer to Infotainment system manual)

Tires And Wheels

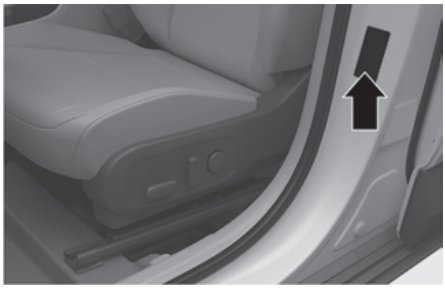
⚠ WARNING

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 can 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) resulting in a serious accident.

Tire care

For proper maintenance, safety, and maximum fuel economy, always maintain 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.

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 recommended inflation pressure, refer to the "Tires And Wheels" section in chapter 2.

⚠ 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 may 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 your vehicle 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(if equipped), 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 underinflated.

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.

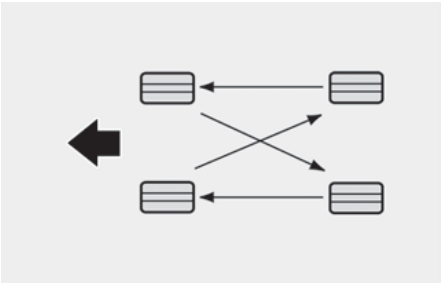
If you overfill the tire, release air by pushing on the metal stem in the center of the tire valve. Recheck the tire pressure with the tire gauge. Be sure to put the valve caps back on the valve stems. Without the valve cap, dirt or moisture may get into the valve core and cause air leakage. If a valve 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 nut torque (proper torque is 11-13 kgf·m [79-94 lbf·ft]).



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 death or serious injury:

- 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 6 years of normal service.
- 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

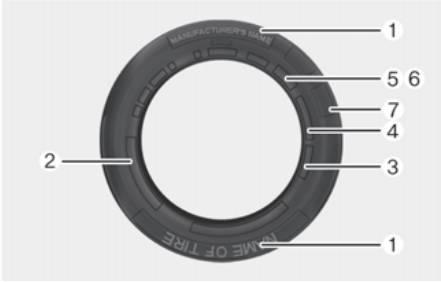
Tire traction can be reduced if you drive on worn tires or the tires that are improperly inflated, or on slippery road surfaces. Replace the tires when tread wear indicators appear. To reduce the possibility of losing control, slow down whenever there is rain, snow, or ice on the road.

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.)

215/60 R17 98W

215: Tire width in millimeters.

60: Aspect ratio. The tire's section height as a percentage of its width.

R: Tire construction code (Radial).

17: Rim diameter in inches.

98: Load Index, a numerical code associated with the maximum load the tire can carry.

W: 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:

7.5J X 19

7.5: Rim width in inches.

J: Rim contour designation.

19: 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)
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 week and year manufactured.

For example:

DOT XXXX XXXX 1523 represents that the tire was produced in the 15th week of 2023.

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. Grades B and A 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 automatic 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 kilopascal (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 pounds).

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 1.6 mm (1/16 inch) 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 equip your car with 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 on the driver's side of the 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: Identical pairs of radial-ply tires should always be used as a set for the front tires and a set for the 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 resulting in an accident.

Low aspect ratio tires

if equipped

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

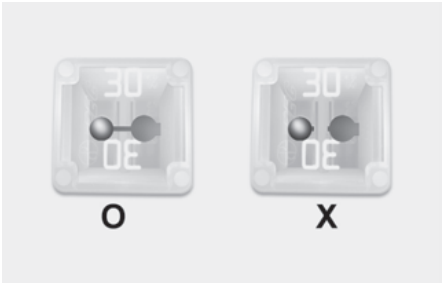
Low aspect wheels and tires are easily damaged. To reduce the risk of damage:

- 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 13,000 km (8,000 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.

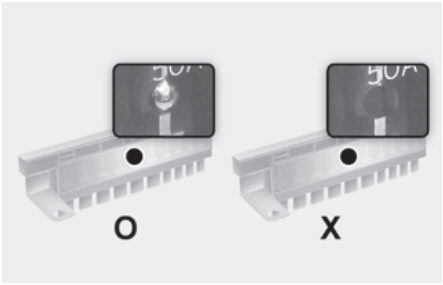
Fuses

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 is melted or broken.

If the electrical system does not work, first check the driver's side fuse panel. Before replacing a blown fuse, turn off the engine and all switches, and then disconnect the negative battery cable. 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 and contact an authorized HYUNDAI dealer.

⚠ WARNING

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

- A higher capacity fuse may 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.

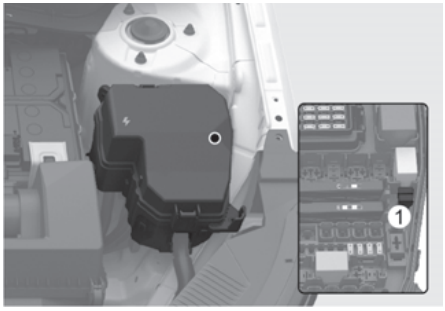
NOTICE

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 off the vehicle.
2. Turn off all other switches.
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 (1) provided in the engine compartment fuses panel cover.
6. Check the removed fuse and 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 is not tight, contact 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.

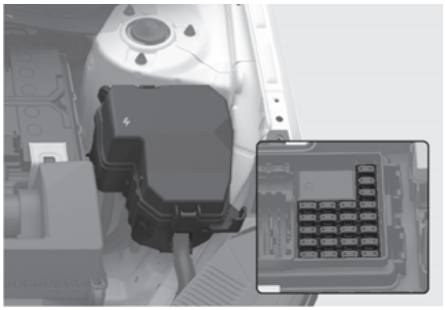
If the headlights or other electrical components do not work and the fuses are undamaged, check the fuse panel in the engine compartment.

Engine compartment panel fuse replacement

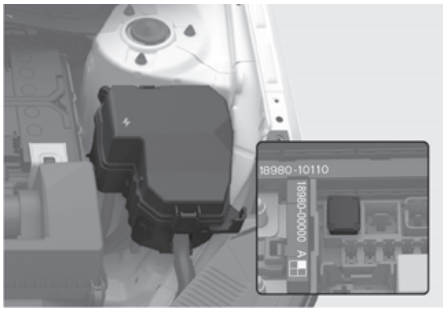
Blade fuse / Cartridge fuse

1. Turn off the vehicle.
2. Turn off all other switches.
3. Remove the fuse panel cover by pressing the tap and pulling up.
4. Refer to the label on the inside of the fuse panel cover to locate the suspected fuse location.

Blade type



Cartridge type

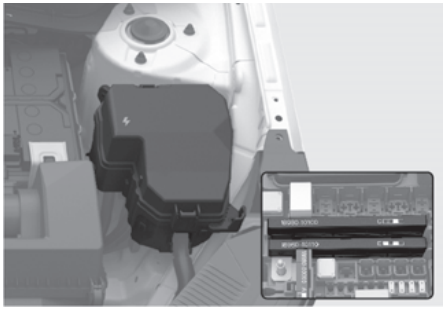


5. Pull the suspected fuse straight out. Use the removal tool (1) provided in the engine compartment fuses panel cover.
6. Check the removed fuse and replace it if it is blown. To remove or insert the fuse, use the fuse puller in the engine compartment fuse panel.
7. Push in a new fuse of the same rating, and make sure it fits tightly in the clips. If it is not tight, have your vehicle inspected by an authorized HYUNDAI dealer.

NOTICE

Always securely install the fuse panel cover. Water may contact the fuse and cause an electrical failure.

Multi fuse



If the multi fuse or midi fuse is blown, contact an authorized HYUNDAI dealer.

i Information

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

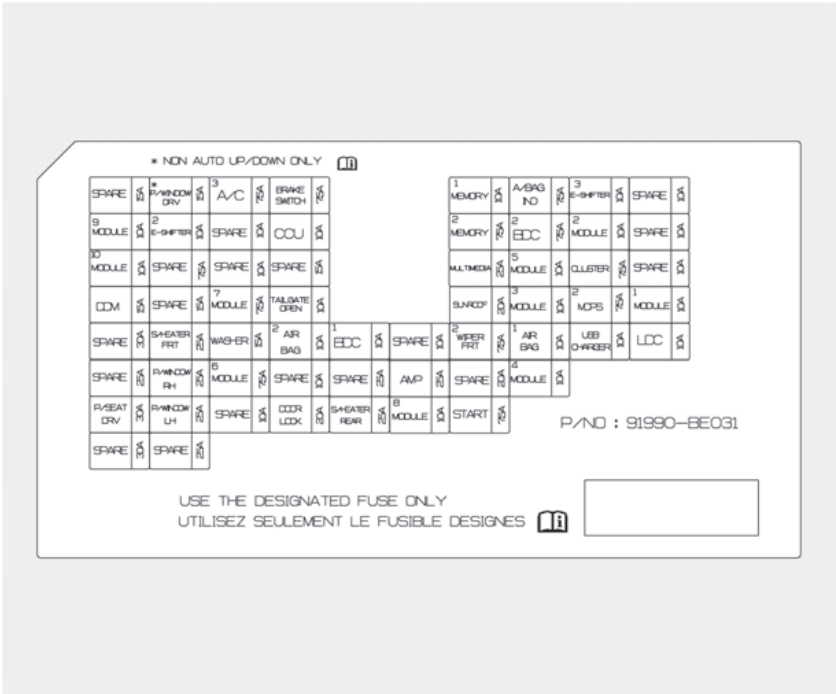
Fuse/relay panel description

Instrument panel fuse panel

Inside the fuse panel 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. When you inspect the fuse panel on your vehicle, refer to the fuse panel label in your vehicle.

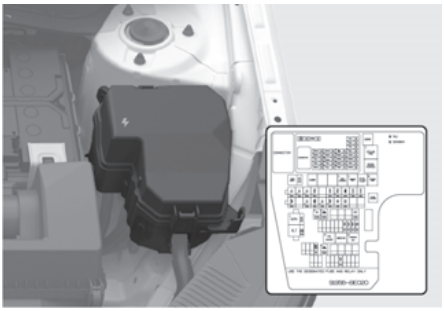


Instrument panel fuse panel

Fuse Name	Fuse Rating	Circuit Protected
MODULE9	10 A	Rain Sensor, Data Link Connector, Hazard Switch, BDC
MODULE10	10 A	In Cabin Camera (ICC) Unit
DDM	15 A	Driver door Module
P/SEAT DRV	30 A	Driver Power Seat Switch
P/WINDOW DRV	15 A	E/R Junction Block (Driver Power Window #1/#2 Relay)
E-SHIFTER2	10 A	SCU, Electronic ATM Shift Lever
S/HEATER FRT	25 A	Front Air Ventilation Control Module, Seat Heater Control Module
P/WINDOW RH	25 A	Rear Power Window Switch RH, Passenger Power Window Switch, Passenger Safety Power Window Module
P/WINDOW LH	25 A	Rear Power Window Switch LH, Driver Safety Power Window Module
A/C3	7.5 A	E/R Junction Block (PTC Heater 1/2 Relay), A/C Control Module, Duct Sensor
MODULE7	7.5 A	12 V Lithium Auxiliary Battery
WASHER	15 A	Multifunction Switch
MODULE6	7.5 A	BDC
BRAKE SWITCH	7.5 A	BDC, Stop Lamp Switch
CCU	10 A	CCU
TAILGATE OPEN	10 A	PDC (Tailgate Relay)
AIR BAG2	10 A	SRS Control Module
DOOR LOCK	20 A	PDC (Door Lock/Unlock Relay, Two Turn Unlock Relay)
BDC1	10 A	BDC, ATM Shift Lever
S/HEATER REAR	25 A	Seat Heater Control Module
AMP	25 A	[With ISG] DC-DC Converter [W/O ISG] AMP
MODULE8	10 A	Driver/Passenger Smart Key Outside Handle

Fuse Name	Fuse Rating	Circuit Protected
MEMORY1	10 A	ADAS Unit (Parking), Instrument Cluster, Cluster Unit, Mood Lamp, Mood Lamp Unit, DC-DC Converter, A/C Control Module, Driver/Passenger Door Mood Lamp
MEMORY2	7.5 A	DCU
MULTIMEDIA	25 A	[With ISG] DC-DC Converter [W/O ISG] CCNC Head Unit
SUNROOF	20 A	Sunroof Blind Motor, Sunroof Glass Motor
WIPER FRT2	7.5 A	BDC, PCB Block (Wiper LOW Relay)
START	7.5 A	[W/O SBW] Inhibitor Switch [With SBW] BDC, E/R Junction Block (Start Relay)
A/BAG IND	7.5 A	Overhead Console Keypad
BDC2	7.5 A	BDC
MODULE5	10 A	AMP, CCNC Head Unit, In Cabin Camera (ICC) Unit, DC-DC Converter, A/C Control Module, Data Link Connector, Elect ro Chromic Mirror, Overhead Console Keypad, Smart Phone Wireless Charger Unit, ATM Shift Lever IND., Driver/Passenger Console Switch
MODULE3	10 A	Driver Door Module, Front Console Switch, Passenger Airbag IND. & Seat Belt Reminder Lamp
AIR BAG1	10 A	SRS Control Module, Occupant Detection Sensor
MODULE4	10A	AWD ECM, ADAS Unit (Parking), Rear Corner Radar LH/RH, Front View Camera, Crash Pad Switch
E-SHIFTER3	10 A	SRS Control Module, Occupant Detection Sensor
MODULE2	10 A	CCU, Stop Lamp Switch
CLUSTER	7.5 A	Instrument Cluster, Cluster Unit
MDPS2	7.5 A	MDPS Unit
USB CHARGER	10 A	Front USB Charger Connector, Rear USB Charger Connector
MODULE1	10 A	ADAS Unit (Parking), Front Console Keyboard, BDC, DCU, CCU, DC-DC Converter, AMP, CCNC Head Unit
LDC	10 A	CCNC Head Unit, Smart Phone Wireless Charger Unit, USB Jack, A/C Control Module, ETCS Unit, Instrument Cluster, Cluster Unit, ADAS Unit (Parking), Rear Corner Radar LH/RH

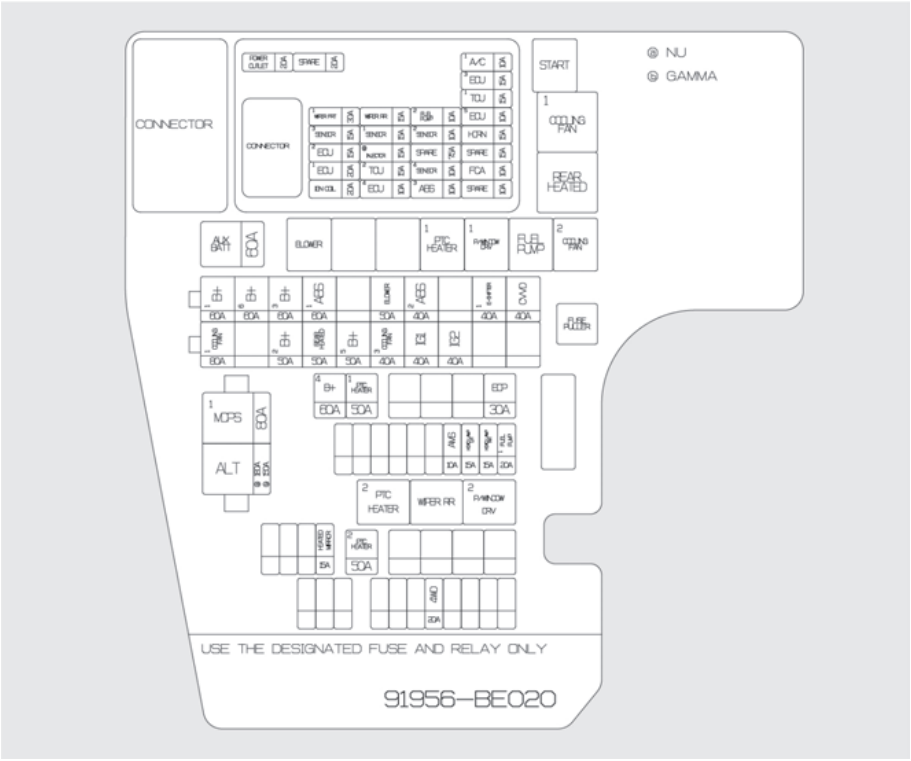
Engine compartment fuse panel (Engine compartment junction block)



Inside the fuse panel cover, you can find the label describing fuse names and ratings.

i Information

Not all fuse panel descriptions in this manual may be applicable to your vehicle. When you inspect the fuse panel on your vehicle, refer to the fuse panel label in your vehicle.



Engine compartment fuse panel (Engine compartment junction block)

Type	Fuse Name	Fuse Rating	Circuit Protected
MULTI FUSE-1	MDPS1	80 A	MDPS Unit
	ALT	150 A	Smartstream G 1.6 T-GDi : E/R Junction Block (Fuse - 4WD, PTC HEATER2)
		180 A	Smartstream G 2.0 Atkinson : E/R Junction Block (Fuse - 4WD, PTC HEATER2)
MULTI FUSE-2	COOLING FAN1	80 A	Smartstream G 1.6 T-GDi : Cooling Fan Controller
	B+2	50 A	PDC (IPS9 (4CH), IPS11 (2CH), IPS12 (4CH))
	REAR HEATED	50 A	E/R Junction Block (Rear Heated Relay)
	B+5	50 A	PDC (Fuse - AMP, MODULE8, AIRBAG2, SUNROOF)
	COOLING FAN3	40 A	Smartstream G 2.0 Atkinson : E/R Junction Block (Cooling Fan 1/2 Relay)
	IG1	40 A	PCB Block (ACC Relay, IG1 Relay)
	IG2	40 A	E/R Junction Block (Start Relay), PCB Block (IG2 Relay)
MULTI FUSE-3	B+1	60 A	PDC (IPS3 (4CH), IPS7 (2CH), IPS4 (1CH), IPS2 (2CH), IPS6 (2CH), IPS5 (1CH))
	B+6	60 A	PCB Block (Main Relay, Wiper Front Relay, Fuse - TCU1, ECU5, ECU3, HORN, A/C)
	B+3	60 A	PDC (Fuse - MODULE9, P/SEAT DRV, S/HEATER FRT, DDM, E-SHIFTER2, MODULE10, P/WINDOW DRV, P/WINDOW LH/RH)
	ABS1	60 A	ESC Module
	BLOWER	50 A	E/R Junction Block (Blower Relay)
	ABS2	40 A	ESC Module, Multipurpose Check Connector
	E-SHIFTER1	40 A	SCU (Shift By Wire Control Unit)
	CVVD	40 A	CVVD Actuator

Type	Fuse Name	Fuse Rating	Circuit Protected
FUSE	AUX BATT	60 A	12 V Lithium Auxiliary Battery
	B+4	60 A	PDC (Fuse - F4, F12, F28, F37, F54, F55, IPS13 (1CH))
	PTC HEATER1	50 A	E/R Junction Block (PTC Heater1 Relay)
	EOP	30 A	Electronic Oil Pump
	AMS	10 A	Battery Sensor
	HEAD LAMP LH	15 A	Head Lamp LH
	HEAD LAMP RH	15 A	Head Lamp RH
	FUEL PUMP1	20 A	E/R Junction Block (Fuel Pump Relay)
	HEATED MIRROR	15 A	Driver/Passenger Power Outside Mirror, ECM
	PTC HEATER2	50 A	E/R Junction Block (PTC Heater2 Relay)
	4WD	20 A	AWD ECM

Engine compartment fuse panel (PCB block)

Fuse Name	Fuse Rating	Circuit Protected
POWER OUTLET	20 A	Power Outlet
WIPER FRT1	30 A	PCB Block (Wiper Front Low Relay), Front Wiper Motor
SENSOR3	15 A	[Smartstream G 1.6 T-GDi] Cooling Fan Controller
ECU2	15 A	ECM
ECU1	20 A	ECM/PCM
IGN COIL	20 A	Ignition Coil #1/#2/#3/#4
WIPER RR	15 A	E/R Junction Block (Rear Wiper Relay), Rear Wiper Motor
SENSOR1	15 A	Oxygen Sensor (Up/Down)
INJECTOR	15 A	[Smartstream G 2.0 Atkinson] Injector #1/#2/#3/#4
TCU2	15 A	[Smartstream G 1.6 T-GDi] TCM, [Smartstream G 2.0 Atkinson] Inhibitor Switch
ECU4	10 A	Smartstream G 1.6 T-GDi] ECM, CVVD Actuator, [Smartstream G 2.0 Atkinson] PCM
FUEL PUMP2	10 A	E/R Junction Block (Fuel Pump Relay)
SENSOR2	10 A	[Smartstream G 1.6 T-GDi] PCB Block (A/C Relay), RCV Control Solenoid Valve, Purge Control Solenoid Valve, Variable Oil Pump Solenoid, Oil Control Valve #1/#2, Canister Close Valve, Oil Level Sensor [Smartstream G 2.0 Atkinson] PCB Block (A/C Relay), E/R Junction Block (Cooling Fan 1/2 Relay), Canister Close Valve, Oil Control Valve #1/#2, Oil Level Sensor, Purge Control Solenoid Valve, Variable Intake Solenoid Valve, Oil Pressure Solenoid Valve
SENSOR4	10 A	Electric oil pump
ABS3	10 A	ESC Module, Multipurpose Check Connector
A/C1	10 A	PCB Block (A/C Relay)
ECU3	15 A	ECM/PCM
TCU1	15 A	[Smartstream G 1.6 T-GDi] TCM, [Smartstream G 2.0 Atkinson] PCM
ECU5	10 A	[Smartstream G 1.6 T-GDi] ECM

Fuse Name	Fuse Rating	Circuit Protected
HORN	15 A	PCB Block (Horn Relay)
FCA	10 A	Front Radar Unit

Light Bulbs

Consult 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, press the Engine Start/Stop button to the 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.

NOTICE

To prevent damage, do not clean the headlight lens with chemical solvents or strong detergents.

i Information

This vehicle is equipped with desiccant to reduce fogging inside the headlight due to moisture. The desiccant is consumable and its performance may change based on the used period or environment. If fogging inside the headlight due to moisture continues for a long time, consult 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, have the vehicle inspected by an authorized HYUNDAI dealer.

Information

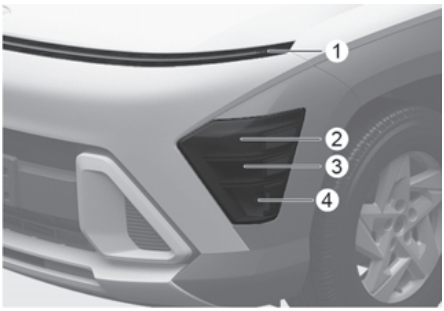
- A normally functioning light may flicker momentarily to stabilize the vehicle's electrical control system. If the light goes out, or continues to flicker, have the system inspected by an authorized HYUNDAI dealer.
- The parking light may not turn on when the parking light switch is turned on, but the parking light and headlight switch may turn on when the headlight switch is turned on. This may be caused by network failure or vehicle electrical control system malfunction. If this occurs, have the system inspected by an authorized HYUNDAI dealer.

Information

Adjust the headlight aim after an accident or the headlight is replaced.

Front light replacement

Type A



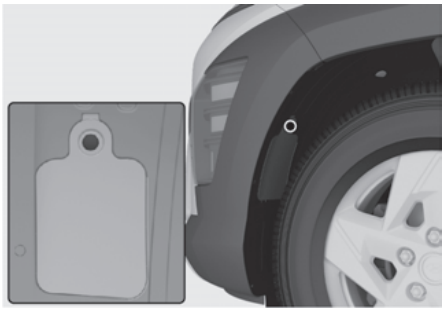
(1) Parking light/Daytime Running Light (DRL)
(2) Headlight (Low)
(3) Headlight (High)
(4) Turn signal light
(5) Front side marker

If the LED does not operate, have the system inspected by an authorized HYUNDAI dealer.

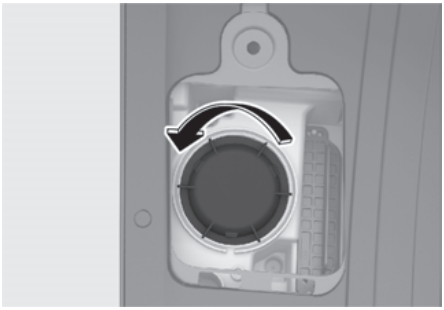
The LED light cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

Replacing turn signal light

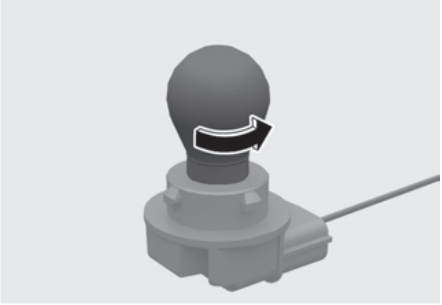
1. Apply the parking brake and turn off the engine.
2. Turn the wheel inwards and remove the cap from the cover (on the back side of the bumper) by using a flat-head screwdriver.



3. Remove the cover.
4. Remove the socket cover by turning it counterclockwise.

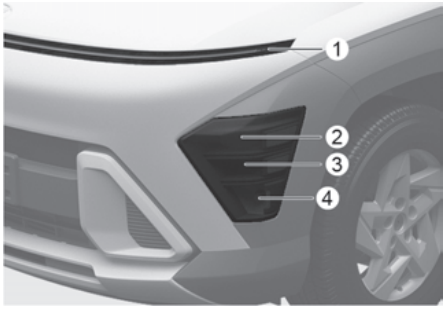


5. Remove the bulb from the socket by pressing it in and turning it counterclockwise.



6. Install a new bulb and reinstall in the reverse order.

Type B

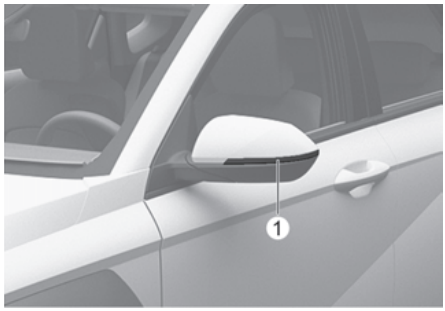


(1) Parking light/Daytime Running Light (DRL)
(2) Headlight (Low)
(3) Headlight (High, Sub Low)
(4) Turn signal light
(5) Front side marker

If the LED light does not operate, have the system 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.

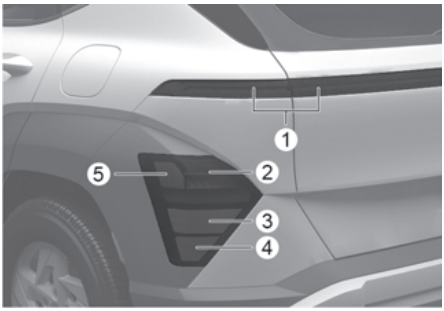
Side repeater light replacement



If the side repeater light (1) does not operate, have the system 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.

Rear combination light replacement

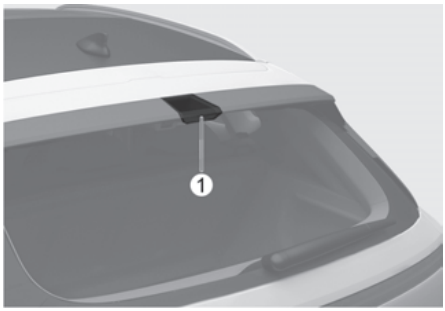


(1) Tail light
(2) Stop light
(3) Turn signal light
(4) Reverse light
(5) Rear side marker

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

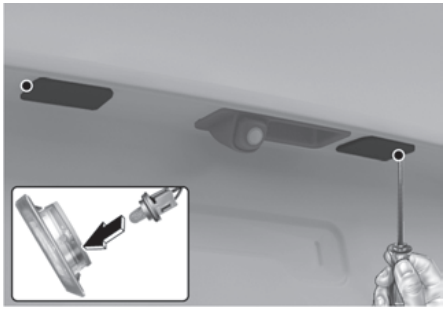


If the LED light does not operate, have the system inspected by an authorized HYUNDAI dealer.

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.

License plate light replacement

License plate light (bulb type)



1. Using a flat-blade screwdriver, gently pry the lens cover from the lamp housing.
2. Remove the socket from the vehicle by turning it counterclockwise.
3. Push down the connector clip and pull the connector to remove it from the socket.
4. Install a new bulb and reinstall in the reverse order.

License plate light (LED type)

If the LED light does not operate, have the system 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.

Interior light replacement

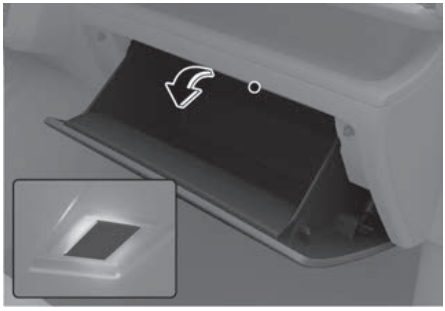
Map lamp, room lamp, vanity mirror lamp, glove box lamp, mood lamp, and luggage compartment lamp (LED type)

Map lamp

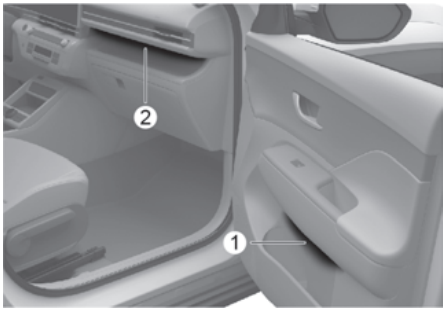
Room lamp

Vanity mirror lamp

Glove box lamp



Mood lamp



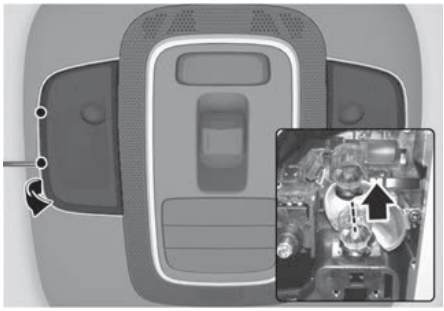
Luggage compartment lamp

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

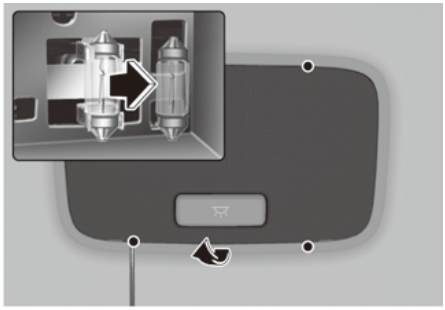
The LED light cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

Map lamp, room lamp, vanity mirror lamp, and glove box lamp (bulb type)

Map lamp

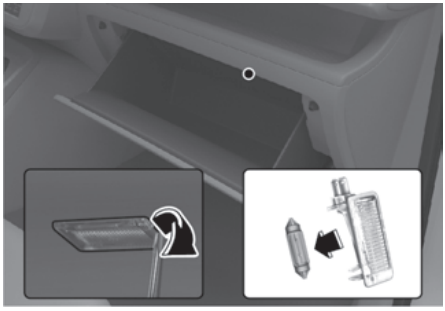


Room lamp



Vanity mirror lamp

Glove box 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, you should 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)

Automatic car wash which uses rotating brushes should not be used as this can damage the surface of your vehicle. A steam cleaner which washes the vehicle surface at high temperature may result the oil to adhere and leave stains that is difficult to remove.

Use a soft cloth (for example, microfiber towel or sponge) when washing your vehicle and dry with a microfiber towel. When you hand wash your vehicle, you should 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 car.

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.

NOTICE

If your vehicle is damaged and requires any metal repair or replacement, make sure the body shop applies anticorrosion 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, have your vehicle maintained and repaired by an authorized HYUNDAI dealer. Take extreme care, as it is difficult to restore the quality after the repair.

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.

- Do not use abrasive cleaner, polishing compound, solvent, or wire brushes on aluminum wheels.
- Clean the wheel when it has cooled.
- 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 longterm 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 or minor scrapes and dents which 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 can 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 accumulations 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, etc.-, you should 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 will 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, be sure that drain holes are kept open so that moisture can escape and not be trapped inside to accelerate corrosion.

Keep your garage dry

Don't 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 can 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 should 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. Since 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 which 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.
- Make sure not to wet the seat. It may change the nature of natural leather.
- Jeans or clothes which 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 will prevent abrasion or damage of the leather and maintain its quality.
  - Wipe the natural leather seat cover often with 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 is easily contaminated and the stain is noticeable. Clean the seats frequently.
  - Avoid wiping with wet cloth. It may cause the surface to crack.
- Cleaning the leather seats
  - Remove all contaminations instantly. Refer to instructions below for removal of each contaminant.
  - Cosmetic products (sunscreen, foundation, etc.)

    Apply cleansing cream on a cloth and wipe the contaminated spot. Wipe off the cream with a wet cloth and remove water with a dry cloth.
  - Beverages (coffee, soft drink, etc.)

    Apply a small amount of neutral detergent and wipe until contaminations do not smear.
  - Oil

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

    Harden the gum with ice and remove gradually.

Interior wooden trim

- Use a wooden furniture protector (for example, wax, coating compound) to clean the interior wooden trim.
- Often wipe the interior wooden trim with a lint-free, clean cloth to maintain the unique wooden textures for a longer period of time.
- If you spill beverage (for example, water, coffee) over the interior wooden trim, immediately wipe it with clean, dry cloth.
- 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:

- Crankcase emission control system
- Evaporative emission control system
- 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 switch (ESC OFF light illuminated).
- After dynamometer testing is completed, turn the ESC system back on by pressing the ESC switch again.

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.

Evaporative emission control system

The Evaporative Emission Control System is designed to prevent fuel vapors from escaping 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.

Exhaust emission control system

The Exhaust Emission Control System is a highly effective system which 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 can be present with other exhaust fumes. If you smell exhaust fumes of any kind in your vehicle, drive with all the windows fully open. Have your vehicle checked and repaired immediately.

⚠ 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.

- 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 any 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.

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 periods (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 could cause the engine to misfire, damaging the catalytic converter.

Failure to follow these precautions may void your vehicle warranty.