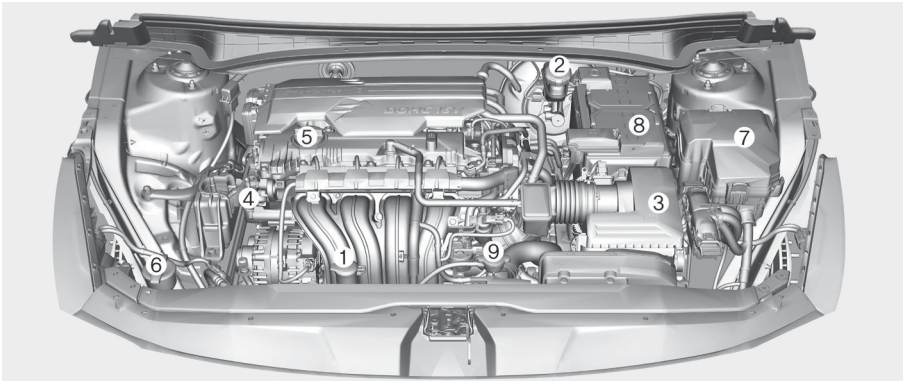


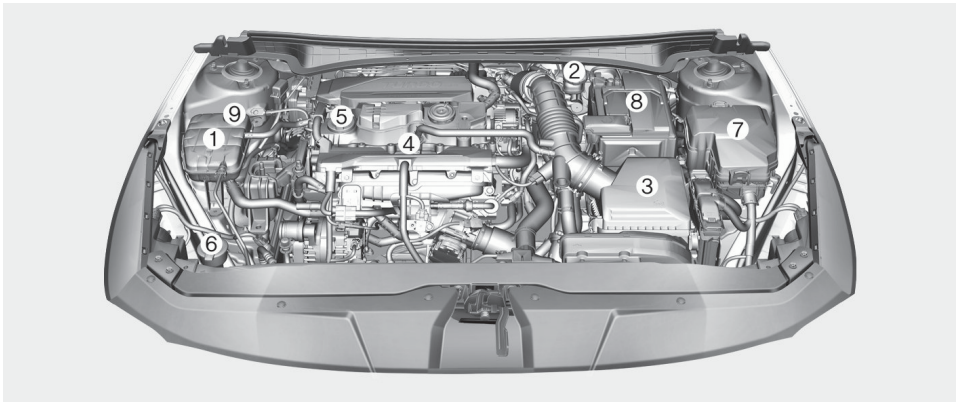
9. Maintenance

Engine Compartment

Smartstream G2.0



Smartstream G1.6 T-GDI



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

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

Maintenance Services

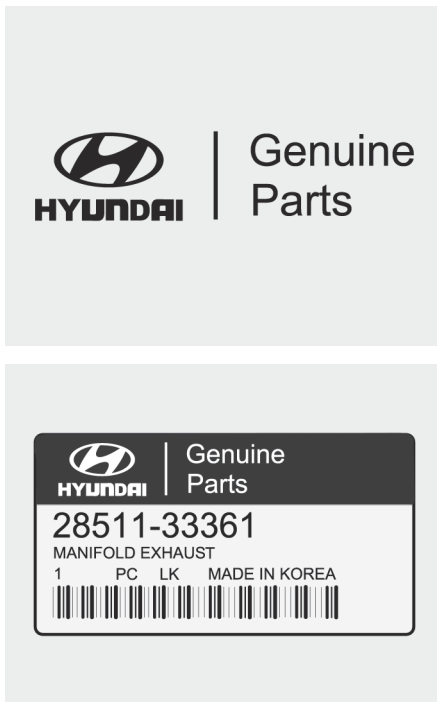
Exercise the utmost care to prevent damage to your vehicle and injury to yourself whenever performing any maintenance or inspection procedures.

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

Guide to hyundai genuine parts

1. What are HYUNDAI Genuine Parts?

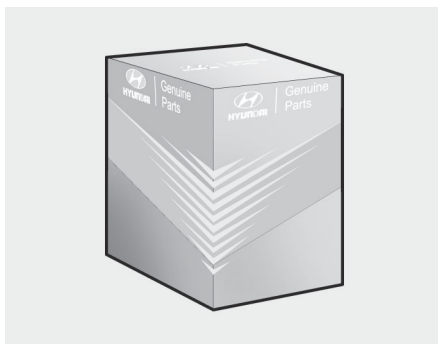
HYUNDAI Genuine Parts are the parts used by HYUNDAI Motor Company to manufacture vehicles. They are designed and tested for the optimum safety, performance, and reliability for our customers.



2. Why Hyundai Genuine Parts?

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

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

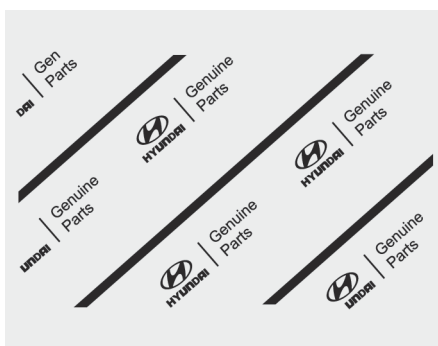


3. How can you tell if you are purchasing HYUNDAI Genuine Parts?

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

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

HYUNDAI Genuine Parts are only sold through authorized HYUNDAI Dealerships.



Owner's responsibility

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

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

Detailed warranty information is provided in your Service Passport.

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

Owner maintenance precautions

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

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

NOTICE

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

Owner Maintenance



WARNING

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

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



WARNING

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

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

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

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

Owner maintenance schedule

When you stop for fuel:

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

While operating your vehicle:

- Note any changes in the sound of the exhaust or any smell of exhaust fumes in the vehicle.
- Check for vibrations in the steering wheel. Notice if there is any increased steering effort or looseness in the steering wheel, or change in its straight-ahead position.
- Notice if your vehicle constantly turns slightly or "pulls" to one side when traveling on a smooth, level road.
- When stopping, listen and check for unusual sounds, pulling to one side, increased brake pedal travel, or "hard-to-push" brake pedal.
- If any slipping or changes in the operation of your transmission occurs, check the transmission fluid level.

- Check the IVT/Dual clutch transmission P (Park) function.
- Check the parking brake.
- Check for fluid leaks under your vehicle (water dripping from the air conditioning system during or after use is normal).

At least monthly:

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



WARNING

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

At least twice a year:

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

At least once a year:

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

Scheduled Maintenance Services

Information

- As it is normal for engine oil to be consumed during driving, the engine oil level should be checked on regular basis.
- The replacement cycle of engine oil is set by the period which the performance of the recommended engine oil is maintained.
- 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 Engine Oil Change Reminder, select 'RESET' from the infotainment system screen. 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 the vehicle checked by an authorized HYUNDAI dealer.

Maintenance schedule

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

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

DESCRIPTION	KILO METERS X 1000	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
	MONTHS	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Engine oil and filter replacement (Synthetic oil) *1		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
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

DESCRIPTION	KILO METERS X 1000	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
	MONTHS	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Vacuum Hose		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	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
Fuel Injector Cleaner *2			A		A		A		A		A		A		A		A		A		A

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

*2: 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.

Maintenance schedule (CONT)

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

DESCRIPTION	KILO METERS X 1000	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
	MONTHS	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Brake Inspection (front disc/pads & calipers and rear disc/pads & calipers/shoes, includes tire rotation)			I		S		I		S		I		S		I		S		I		S
Brake Service (includes parking brake inspection and tire rotation)																					
Brake Lines, Hoses and Connections			I		I		I		I		I		I		I		I		I		I
Battery Condition		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
Cabin air filter			R		R		R		R		R		R		R		R		R		R

Maintenance schedule (CONT)

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

DESCRIPTION	KILO METERS X 1000	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
	MONTHS	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Fuel Tank, Fuel Filler Cap, Canister, Vapour Hose					I				I				I				I				I
Fuel Tank Air Filter				I					I				I				I				I
Fuel Filter* ¹		-																			
Fuel Lines, Hoses and Connections					I				I				I				I				I
Air Cleaner Filter			I		R			I		R			I				R			I	R
Brake fluid			I		I		R		I		I		R				I		R		I
Spark plugs	Smart stream G2.0 Atkinson	Replace every 160,000 km																			
	Smart stream G1.6 T- GDi	Replace every 72,000 km																			
Engine Coolant		At first, replace at 192,000 km or 120 months. After that, replace every 40,000 km or 24 months																			

*1: 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.

Maintenance schedule (CONT)

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

DESCRIPTION	KILO METERS X 1000	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
	MONTHS	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Drive belts * ¹		First, inspect 96,000 km or 72 months. After that, inspect every 32,000 km or 24 months																			

DESCRIPTION	KILO METERS X 1000	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
	MONTHS	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Brake pedal free play		Inspect depending on the condition																			
Intercooler in/ out hose	Smartstream G1.6 T-GDi	First, inspect 8,000 km or 6 months. After that, inspect every 32,000 km or 24 months.																			

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

NOTICE _____

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

Explanation Of Scheduled Maintenance Items

Engine oil and filter

The engine oil and filter should be changed at the intervals specified in the maintenance schedule.

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.



WARNING

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 an authorized HYUNDAI dealer replace any damaged or leaking parts immediately.

Fuel filter

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

Vapour hose and fuel filler cap

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

Vacuum crankcase ventilation hoses

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

Air cleaner filter

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

Spark plugs

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

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



WARNING

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

Cooling system

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

Engine coolant

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

Intelligent Variable Transmission fluid

 if equipped

IVT fluid should not be checked under normal usage conditions.

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

Dual Clutch Transmission fluid

 if equipped

Dual clutch transmission fluid should not be checked under normal usage conditions.

Have the Dual clutch 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 parking brake pedal and cables.

Brake discs, pads, calipers, and rotors

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

Drive shaft and related

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

Suspension mounting bolts

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

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

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

Replace any damaged parts.

Air conditioning refrigerant

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

Engine Oil

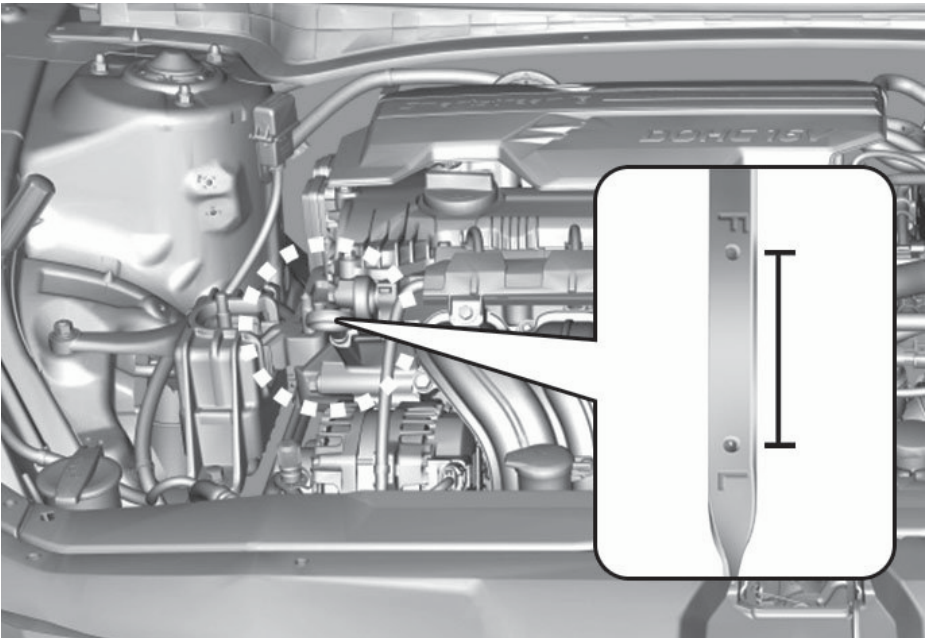
Checking the engine oil level

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

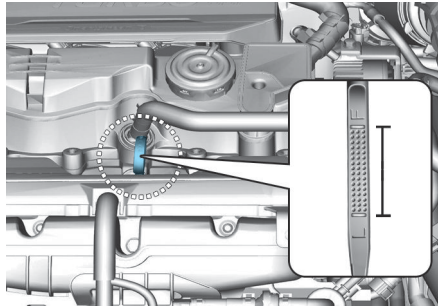
Check the engine oil following the below procedure.

- 1 Follow all of the oil manufacturer's precautions.
- 2 Make sure the vehicle is on the level ground in P (Park) with the parking brake set and the wheels blocked.
- 3 Turn the engine on and warm the engine up until the coolant temperature reaches a constant normal temperature.
- 4 Turn the engine off, and 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).

Smartstream G2.0

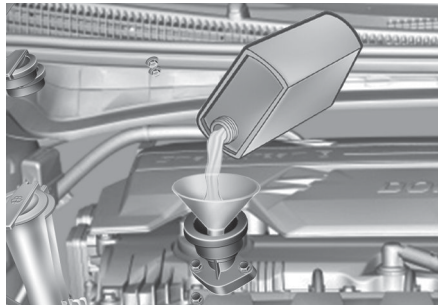


Smartstream G1.6 T-GDI

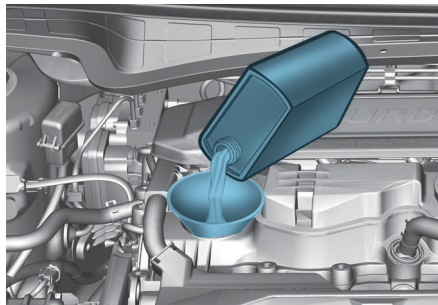


- 7 If the oil level is below the L, add enough oil to bring the level to F.

Smartstream G2.0



Smartstream G1.6 T-GDI



Information

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

NOTICE

To prevent damage to your engine:

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

Checking the engine oil and filter



- The lubrication, rust prevention, cooling, and cleaning effect of the engine oil will gradually degrade during its use. Have the engine oil and filter changed by an authorized HYUNDAI dealer according to the Oil Life Management System instructions or the Maintenance Schedule at the beginning of this chapter.
- 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.
- The purpose of the maintenance schedule for engine oil replacement is to prevent oil deterioration and it is irrelevant to oil consumption. Check and refill engine oil regularly.

Information

When the oil pressure is low due to insufficient engine oil, the Engine Oil Pressure () warning light will illuminate.

In addition, the enhanced engine protection system, which limits the engine's power is activated and the Malfunction Indicator Lamp () will illuminate when the vehicle is driven in this state continuously. When the engine oil pressure is restored, the warning light and the enhanced engine protection system will turn off after the engine is restarted. (Smartstream G1.6 T-GDi)



WARNING

Allow the engine to cool before replacing the oil.

NOTICE

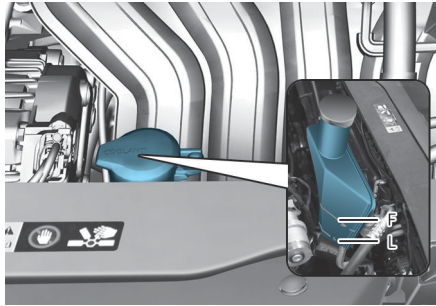
Never add any additives to the engine oil. Engine oil additives can change the properties of engine oil and may cause serious engine failure.

Engine Coolant

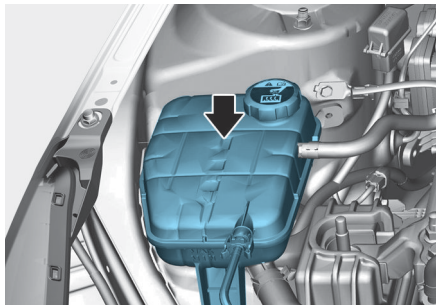
The high pressure cooling system has a reservoir filled with year-round antifreeze coolant. Check the antifreeze protection and coolant level at least once a year, before the winter season or before traveling to a colder climate.

Checking the coolant level

Smartstream G2.0



Smartstream G1.6 T-GDI



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 mixed with antifreeze to bring the level to the MAX mark. If frequent additions are required, contact an authorized HYUNDAI dealer.

WARNING



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

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

Information

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

WARNING



Keep hands, clothing, and tools away from the rotating fan blades of the cooling fan.

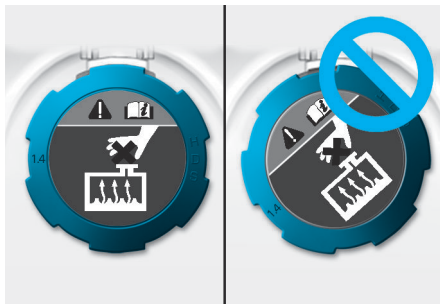
Always turn off the vehicle unless the vehicle has to be inspected with the engine on. The cooling fan may operate automatically if the negative (-) battery terminal is not disconnected.

WARNING

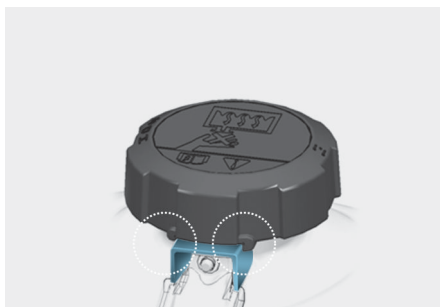
Make sure the coolant cap is properly closed after refilling coolant. Otherwise, the engine may be overheated while driving.

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

Engine compartment front view



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



Recommended coolant

- When adding coolant, use only deionized water, distilled water, or soft water for your vehicle and never mix hard water in the coolant filled at the factory.
- An incorrect coolant mixture may result in severe malfunction or engine damage.
- The engine in your vehicle has aluminum engine parts and must be protected by 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 could reduce the effectiveness of the solution.

For mixing percentage, refer to the following table:

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

Information

If in doubt about the mix ratio, a 50 % water and 50 % antifreeze mix is the easiest to mix together because it is the same quantity for each.

Changing coolant

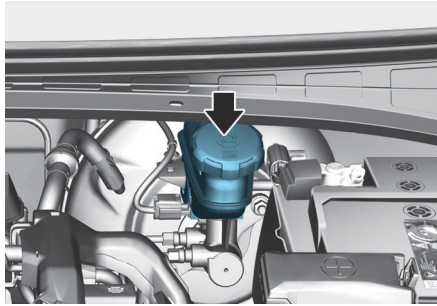
Have the coolant changed by an authorized HYUNDAI dealer according to the Maintenance Schedule.

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



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

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

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



WARNING

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

NOTICE

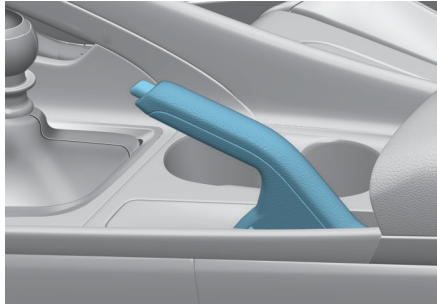
- Do not allow brake fluid to contact the vehicle's body paint, because paint damage may occur.
 - Never use brake fluid that has been exposed to open air for an extended time and dispose of it properly.
 - Do not use the wrong type of brake fluid. A few drops of mineral based oil such as engine oil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

Information

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

Parking Brake

Checking the parking brake

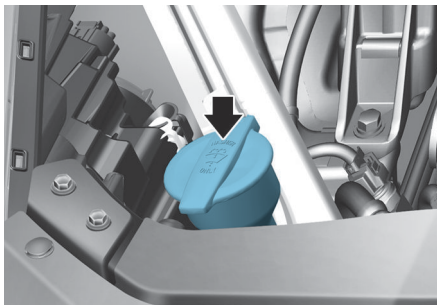


Check the stroke of the parking brake by counting the number of "clicks" heard while fully applying it from the released position. Also, the parking brake alone should securely hold the vehicle on a fairly steep grade. If the stroke is more or less than specified, have the system be inspected by an authorized HYUNDAI dealer.

Stroke : 5-8 "clicks" at a force of 20 kg (44 lbs, 196 N)

Washer Fluid

Checking the washer fluid level



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



WARNING

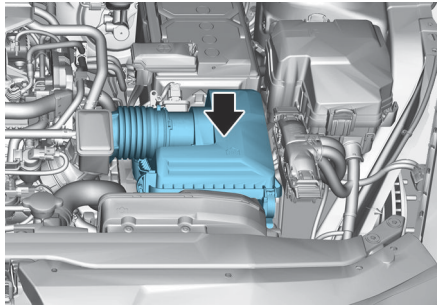
To prevent serious injury or death:

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

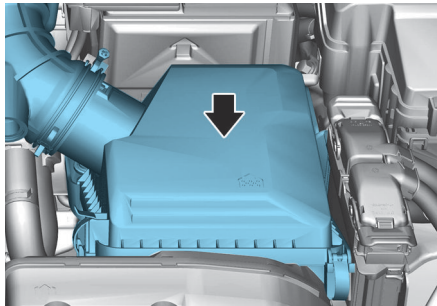
Air Cleaner

Filter replacement

Type A

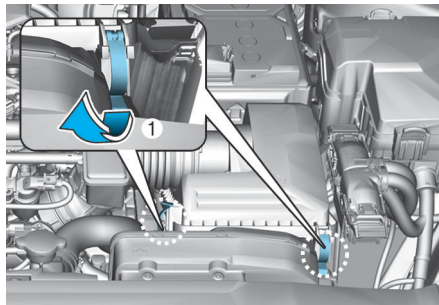


Type B (N Line)

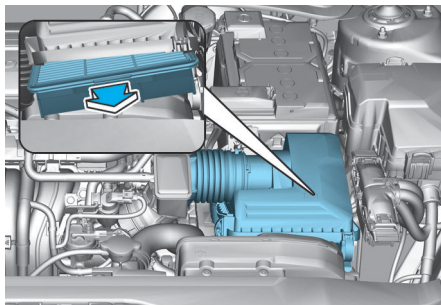


The air cleaner filter can be cleaned for inspection using compressed air. Do not attempt to wash or rinse it, because water can damage the filter. If soiled, replace the air cleaner filter.

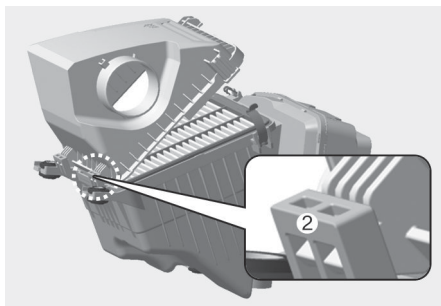
- 1 Loosen the air cleaner cover attaching clip (1) and open the cover.



- 2 Replace the air cleaner filter.



- 3 Insert the air cleaner cover in the hinge (2) and engage the clip (1) after closing the cover.



- 4 Check that the cover is firmly installed.

Information

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

NOTICE

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

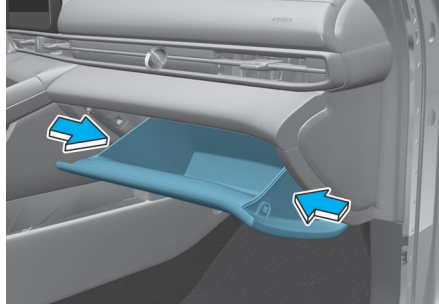
Cabin Air Filter

Filter inspection

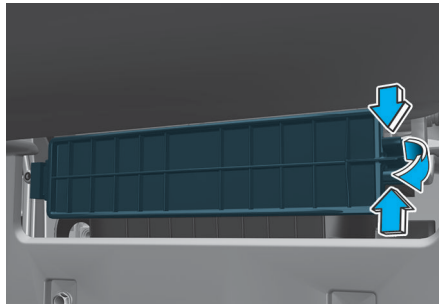
The cabin air filter must be replaced according to the Maintenance Schedule. If the vehicle operates in severely air-polluted cities or on dusty rough roads for a long time, have it inspected more frequently and replaced immediately. Replace the cabin air filter by following the procedure below and be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

Filter replacement

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



- 3 Press and hold the lock on the right side of the cover.
- 4 Pull out the cover.



5 Replace the cabin air filter.



6 Reassemble in the reverse order of disassembly.

NOTICE

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

Wiper Blades

Blade inspection

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

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

NOTICE

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

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

Blade replacement

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

NOTICE

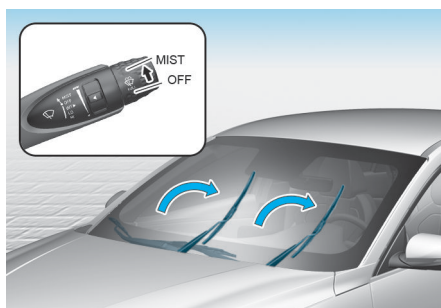
To prevent damage:

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

Front windshield wiper blade replacement

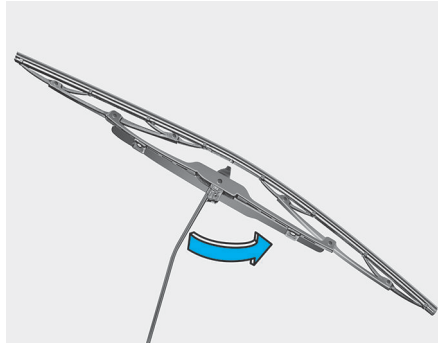
This vehicle has a "hidden" wiper design that cannot be lifted when in their bottom resting position.

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

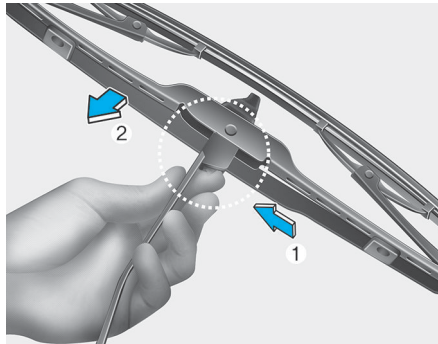


- 2 Lift the wipers off the windshield.

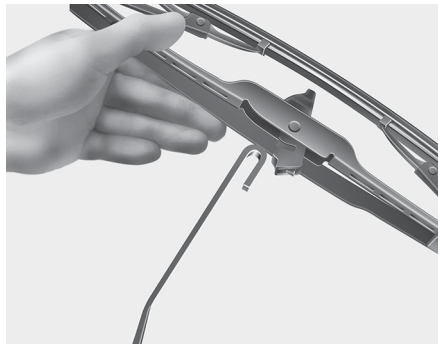
- 3 Rotate the wiper blade to access the clip.



- 4 While pushing the clip (1), pull down the wiper blade (2).



- 5 Remove the wiper blade from the wiper arm.



- 6 Install a new wiper blade assembly in the reverse order of removal.
7 Gently put down the wiper back onto the windshield.
8 Turn the wipers to any ON position to return the wiper arms to the bottom resting position.

Battery



WARNING

To prevent serious injury or death to you or bystanders 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 that 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.

- Lift a battery with a battery carrier or with your hands on opposite corners. When lifting a plastic-cased battery, excessive pressure on the case may cause battery acid to leak.
- 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 ignition switch is in the ON position.
- Do not allow the (+) and (-) jumper cables to touch. It may cause sparks.
- The battery may rupture or explode when you jump start with a low or frozen battery.

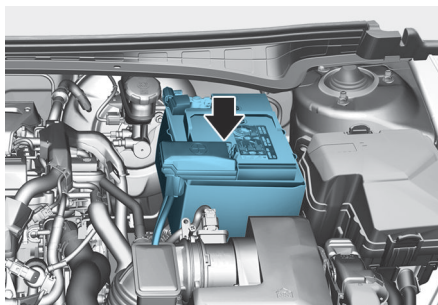
- Leaked battery electrolyte due to repeated driving on sharp curves (for example, on circuits) may cause safety problem. Avoid repeated driving on sharp curves.
-

NOTICE

To prevent battery damage:

- Always fully charge the battery and store indoors when you do not plan to use the vehicle for a long time if the outside temperature is low enough to cause the battery to freeze.
 - Never connect unauthorized devices to the battery.
 - Always fully charge the battery to prevent battery case damage in low temperature areas.
 - Do not tilt the battery.
-

For longer battery life



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

Battery capacity label

Type A

CAUTION
УВАЖАНИЕ
UYARI
تنبه

주의



FLAMMABLES
MATIÈRES INFLAMMABLES
INFLAMMABLES
ЛЕГКОВОСПЛАМЕНЯЮЩИЕСЯ ВЕЩЕСТВА
YATICI MADDE
مواد قابلة للاشتعال
易燃物品 防火警告



SHIELD EYES
PROTÉGEZ VOS YEUX
PROTEJASE LOS OJOS
ПОСЛОТІТЬ В ЗАЩИТНИХ ОЧКАХ
GÖZLERİNİZİ KORUYUN
واقى العيون
戴护目镜 注意危险



KEEP OUT OF THE REACH OF CHILDREN
À GARDER HORS DE PORTÉE DES ENFANTS
MANTENER FUERA DEL ALCANCE DE LOS NIÑOS
НЕ ПОДПУСКАТЬ ДЕТЕЙ
ÇOCUKLARI UZAK TUTUN
أبعدوا عن متناول الأطفال
远离儿童 儿童勿近



CAUTIONS OF SULFURIC ACID
ATTENTION À L'ACIDE SULFURIQUE
CUIDADO CON EL LÍQUIDO DE LA BATERÍA
OPAZHOI SODERJAT CERHMO KISLOTU
DİŞKAT SÜLFÜRİK ASİTİ
تحتو من مواد كيميائية حارقة
酸性液体 腐蚀性警告



READ INSTRUCTION MANUAL CAREFULLY
LIRE ATTENTIVEMENT LE MANUEL D'INSTRUCTIONS
LEA LAS INSTRUCCIONES ATENTAMENTE
ТУЩАТЕЛЬНО ИЗУЧИТЕ ИНСТРУКЦИЮ
KULLANIM KİTAPÇIĞINI DİKKATLİ OKUYUN
اقرأ دليل التعليمات بعناية
详细阅读 说明 说明书



EXPLOSIVE
RISQUE D'EXPLOSION
EXPLOSIVO
ВЗРЫВООПАСНО
PATLAYABİLİR
مادة متفجرة
具爆炸性 爆炸警告

1 CMF60L-DIN(12v) 2 60Ah (20HR) CCA 550A
37110-3X100 5 RC 92min (SAE/EN)



- 1 • CMF60L-DIN/AGM70L-DIN: The HYUNDAI model name of battery
- 2 • 12V: The nominal voltage
- 3 60Ah (20HR)/70Ah (20HR): The nominal capacity (in Ampere hours)
- 4 CCA: The cold-test current in amperes by SAE
- 5 550A/760A: The cold-test current in amperes by EN
- 6 RC 92min/RC 120min: The nominal capacity (in Ampere hours)

Battery recharging

By battery charger

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

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



WARNING

To prevent the risk of serious injury or death from explosions or acid burns:

- Before performing maintenance or recharging the battery, turn off all accessories and stop the engine.
 - Keep all flames, sparks, or smoking materials away from the battery.
 - Always work outdoors or in an area with plenty of ventilation.
 - Wear eye protection when checking the battery during charging. Do not contact the battery. This may result in serious injury.
 - Remove the battery from the vehicle and place it in a well ventilated area.
 - Watch the battery during charging, and stop or reduce the charging rate if the battery cells begin boiling violently.
 - Remove the negative battery cable first and install it 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.
-

NOTICE

AGM battery (if equipped)

Absorbent Glass Mat (AGM) batteries are maintenance-free and should be serviced by an authorized HYUNDAI dealer. Only charge using fully automatic battery chargers that are specifically for AGM batteries.



CAUTION

- 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.
 - Do not charge the AGM battery with a general charger. It may damage or explode the AGM battery. Only charge the AGM battery with a charger that has AGM battery setting.
-

By jump starting

After a jump start from a good battery, drive the vehicle for 30 minutes or operate at idle for at least 60 minutes before it is shut off. The vehicle may not restart if you shut it off before the battery had a chance to adequately recharge. Refer to the "Jump starting" section in chapter 8 for more information on jump starting procedures.

Information



An inappropriately disposed battery may be harmful to the environment and human health. Always dispose of a used battery according to your local law(s) or regulations.

Reset items

The following items may need to be reset after the battery has been discharged or disconnected:

- **Power windows** (refer to chapter 5)
- **Sunroof** (refer to chapter 5)
- **Trip computer** (refer to chapter 5)
- **Climate control additional features** (refer to chapter 5)

Tires And Wheels



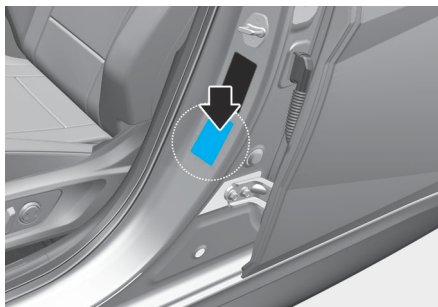
WARNING

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

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

Tire care

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



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

Recommended cold tire inflation pressures

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

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



WARNING

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

Check tire inflation pressure

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

How to check

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

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

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

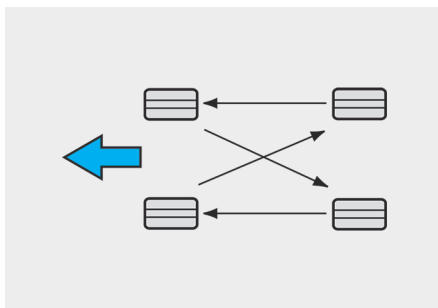
If you overfill the tire, release air by pushing on the metal stem in the center of the tire valve. Recheck the tire pressure with the tire gauge. Be sure to put the valve caps back on the valve stems. Without the valve cap, dirt or moisture may get into the valve core and cause air leakage. If a valve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

Tire rotation

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

During rotation, check the tires for correct balance.

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



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

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



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

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

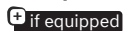


WARNING

To reduce the risk of serious injury or death:

- Replace tires that are worn, show uneven wear, or are damaged. Worn tires may cause loss of braking effectiveness, steering control, and traction.
 - Always replace tires with the same size as each tire that was originally supplied with this vehicle. Using tires and wheels other than the recommended sizes may cause unusual handling characteristics, poor vehicle control, or negatively affect your vehicle's Anti-Lock Brake System (ABS).
 - When replacing tires (or wheels), it is recommended to replace the two front or two rear tires (or wheels) as a pair. Replacing just one tire may seriously affect your vehicle's handling.
 - Tires degrade over time, even when they are not being used. Regardless of the remaining tread, HYUNDAI recommends that tires be replaced after six (6) years.
 - Driving in hot climates or excessive loading may accelerate the tire aging process.
-

Compact spare tire replacement



If equipped

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

WARNING

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

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

Wheel replacement

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

Tire traction

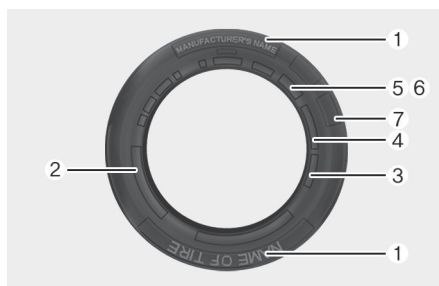
Tire traction can be reduced if you drive on worn tires or the tires that are improperly inflated, or on slippery road surfaces. Replace the tires when tread wear indicators appear. To reduce the possibility of losing control, slow down whenever there is rain, snow, or ice on the road.

Tire maintenance

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

Tire sidewall labeling

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



1. Manufacturer or brand name

Manufacturer or brand name is shown.

2. Tire size designation

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

Example tire size designation:

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

205/55R16 91H

- 205 - Tire width in millimeters.
- 55 - Aspect ratio. The tire's section height as a percentage of its width.
- R - Tire construction code (Radial).
- 16 - Rim diameter in inches.
- 91 - Load Index, a numerical code associated with the maximum load the tire can carry.
- H - Speed Rating Symbol. See the speed rating chart in this section for additional information.

Wheel size designation

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

Example wheel size designation:

6.5J X 16

- 6.5 - Rim width in inches.
- J - Rim contour designation.
- 16 - 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 0000

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

For example:

DOT XXXX XXXX 1423 represents that the tire was produced in the 14th 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 ($1\frac{1}{2}$) as well on the government course as a tire graded 100.

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

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

Traction - AA, A, B & C

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

WARNING

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

Temperature - A, B & C

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

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

WARNING

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

Tire terminology and definitions

Air pressure

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

Accessory weight

This means the combined weight of optional accessories. Some examples of optional accessories are 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 kilopascals (kPa) before a tire has built up heat from driving.

Curb weight

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

DOT markings

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

GVWR

Gross Vehicle Weight Rating

GAWR FRT

Gross Axle Weight Rating for the Front Axle.

GAWR RR

Gross Axle Weight Rating for the Rear axle.

Intended outboard sidewall

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

Kilopascal (kPa)

The metric unit for air pressure.

Light Truck (LT) tire

A tire designated by its manufacturer as primarily intended for use on lightweight trucks or multipurpose passenger vehicles.

Load ratings

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

Load index

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

Maximum inflation pressure

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

Maximum load rating

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

Maximum loaded vehicle weight

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

Normal occupant weight

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

Occupant distribution

Designated seating positions.

Outward facing sidewall

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

Passenger (P-Metric) tire

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

Ply

A layer of rubber-coated parallel cords.

Pneumatic tire

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

Pneumatic options weight

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

Recommended inflation pressure

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

Radial ply tire

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

Rim

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

Sidewall

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

Speed rating

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

Traction

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

Tread

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

Treadwear indicators

Narrow bands, sometimes called "wear bars", that show across the tread of a tire when only 1.6 mm (1/16 in.) of tread remains.

UTQGS

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

Vehicle capacity weight

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

Vehicle maximum load on the tire

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

Vehicle normal load on the tire

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

Vehicle placard

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

All season tires

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

Summer tires

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

Snow tires

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

Radial-ply tires

Radial-ply tires provide improved tread life, road hazard resistance and smoother high speed ride. The radial-ply tires used on this vehicle are of belted construction, and are

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

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



WARNING

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

Low aspect ratio tires

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

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

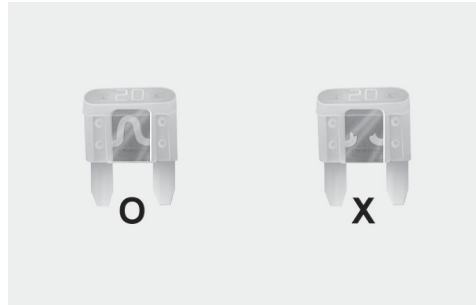
NOTICE

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

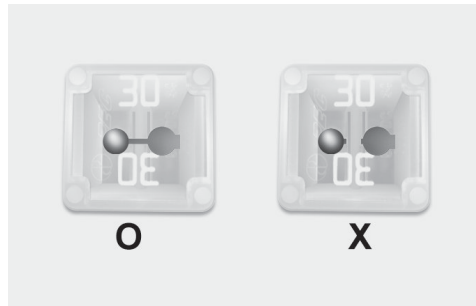
- When driving on rough roads, passing over a pothole, speed bump, manhole, or curb stone, drive the vehicle slowly not to damage the tires and wheels. Damage is not covered by your vehicle warranty.
 - Inspect the tire condition and pressure every 3,000 km (1,800 mi.).
 - It is difficult to visually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

Fuses

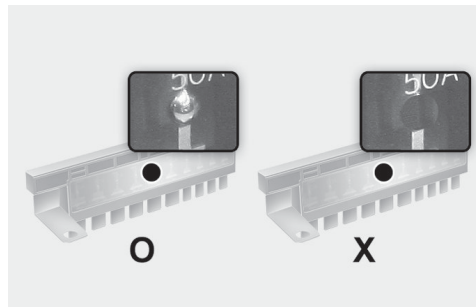
Blade type



Cartridge type



Multi type



A vehicle's electrical system is protected from electrical overload damage by fuses. This vehicle has 2 (or 3) fuse panels, one located in the driver's side panel bolster, the other in the engine compartment near the battery.

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

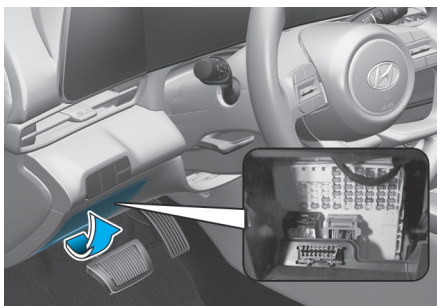
Never replace a fuse with anything but another fuse of the same rating.

- 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.

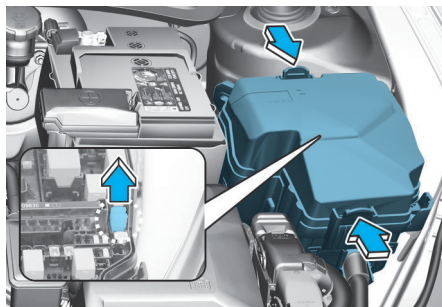
NOTICE

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 provided in the engine compartment fuse panel cover.



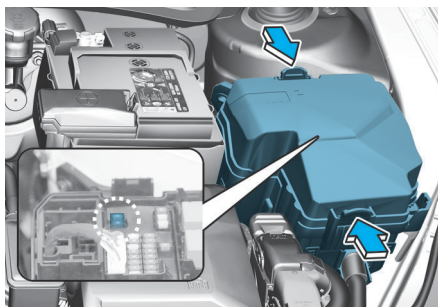
- 6 Check the removed fuse and replace it if it is blown. Spare fuses are provided in the engine compartment fuse panel.
- 7 Push in a new fuse of the same rating, and make sure it fits tightly in the clips. If it is not tight, contact an authorized HYUNDAI dealer.

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.

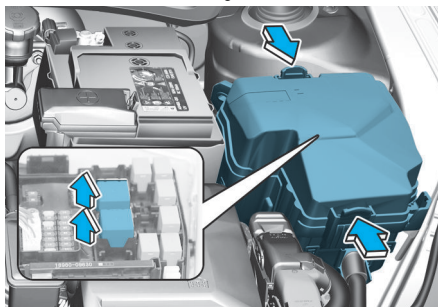
If the headlight, turn signal lights, tail lights, interior lamps does not work and the fuses are undamaged, contact an authorized HYUNDAI dealer.

Engine Compartment Panel Fuse Replacement

Blade fuse



Cartridge fuse

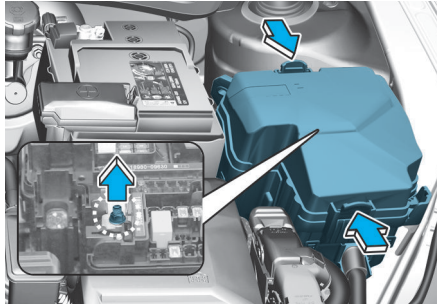


- 1 Turn off the vehicle.
- 2 Turn off all other switches.
- 3 Remove the fuse panel cover by pressing the tap and pulling up.
- 4 Check the removed fuse and replace it if it is blown. To remove or insert the fuse, use the removal tool in the engine compartment fuse panel.
- 5 Push in a new fuse of the same rating, and make sure it fits tightly in the clips. If it is not tight, contact an authorized HYUNDAI dealer.

NOTICE

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

Multi fuse (Main fuse)



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

Fuse/Relay Panel Description

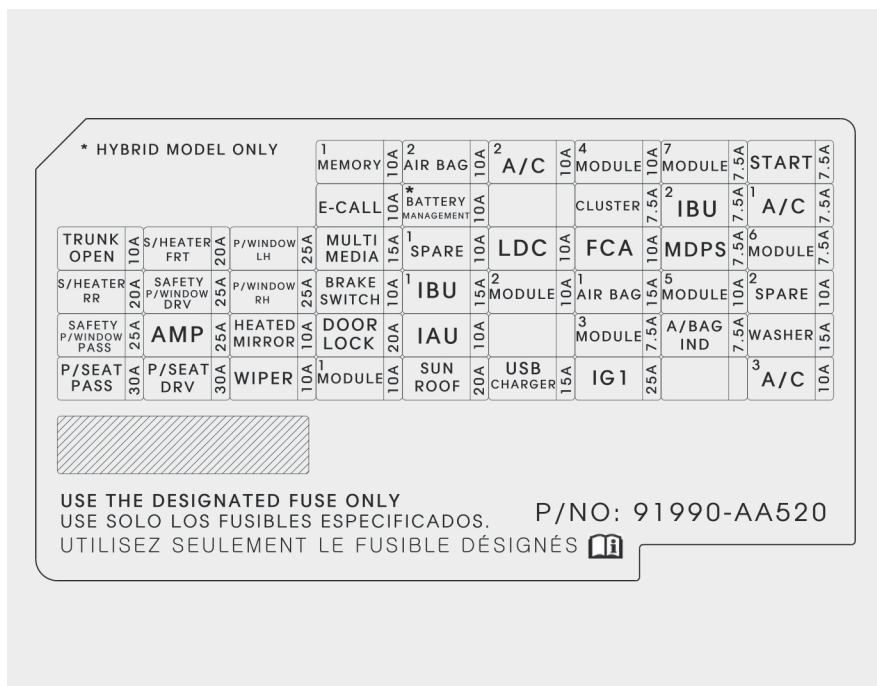
Instrument panel fuse panel



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

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.



Driver's side fuse panel

Fuse Name	Fuse Rating	Circuit Protected
MEMORY1	10A	Instrument Cluster, A/C Controller, A/C Control Module, DRV/PASS Folding Side View Mirror, Crash Pad Switch, Surround View Monitor
AIR BAG2	10A	SRS Control Module
MODULE4	10A	Front View Camera, Crash Pad Switch, IBU, A/T Shift Lever Indicator, Front Console Switch
MODULE7	7.5A	Rear Seat Warmer
START	7.5A	Burglar Alarm Relay, Transaxle Range Switch, PCM/ECMIBU, E/R Junction Block (Start Relay)
CLUSTER	7.5A	Instrument Cluster
IBU2	7.5A	IBU
A/C1	7.5A	E/R Junction Block (PTC Heater Relay, Blower Relay), A/C Control Module, A/C Controller

Fuse Name	Fuse Rating	Circuit Protected
TRUNK	10A	Trunk Lid Latch
S/HEATER FRT	20A	Front Seat Warmer Control Module
P/WINDOW LH	25A	Power Window Main Switch
MULTIMEDIA	15A	Audio, A/V & Navigation Head Unit, DC-DC Converter (Smartstream G 2.0 Atkinson ISG only)
LDC	10A	ADAS_PRK_SVM, AVN, Cluster, DATC/MTC, BCW(Rear Corner Radar), Console Switch
FCA	10A	Front Radar
MDPS *1	7.5A	MDPS Unit
MODULE6	7.5A	IBU, IAU
S/HEATER RR	20A	Rear Seat Warmer
SAFETY P/ WINDOW DRV	25A	Driver Safety Power Window Module
P/WINDOW RH	25A	Power Window Main Switch, Passenger Power Window Switch
BRAKE SWITCH	10A	Stop Light Switch, IBU
IBU1	15A	IBU, Sport Mode Switch

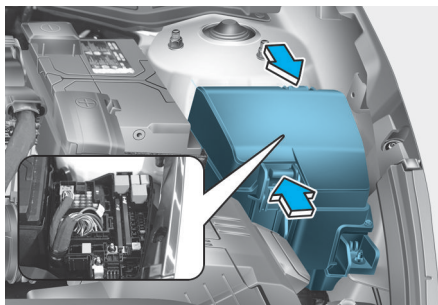
*1: : MDPS (Motor Driven Power Steering) is the same as EPS (Electric Power Steering)

Driver's side fuse panel

Fuse Name	Fuse Rating	Circuit Protected
MODULE2	10A	E/R Junction Block (Power Outlet Relay), AMP, IBU, IAU, Audio, Power Side View Mirror Switch, DC-DC Converter (Smartstream G 2.0 Atkinson ISG only), A/V & Navigation Head Unit
AIR BAG1	15A	SRS Control Module, Passenger Occupant Detection Sensor
MODULE5	10A	A/T Shift Lever Indicator, Front Wireless Charger, A/C Controller, Electro Chromic Mirror, A/C Control Module, Audio, A/V & Navigation Head Unit, AMP, DC-DC Converter (Smartstream G 2.0 Atkinson ISG only), Data Link Connector, Front Seat Warmer Control Module, Rear Seat Warmer Control Module

Fuse Name	Fuse Rating	Circuit Protected
SAFETY P/ WINDOW PASS	25A	Passenger Safety Power Window Module
AMP	25A	AMP, DC-DC Converter (Smartstream G 2.0 Atkinson ISG only)
HEATED MIRROR	10A	DRV/PAS Side View Mirror Heated, A/C Control Module, A/C Controller, ECU (N Line only)
DOOR LOCK	20A	Door Lock/Unlock Actuator
IAU	10A	IAU, Driver/Passenger Door NFC Module
MODULE3	7.5A	Sport Mode Switch, Stop Light Switch, IAU
A/BAG IND	7.5A	Instrument Cluster, Overhead Console Lamp
WASHER	15A	Multifunction Switch
P/SEATPASS	30A	Power Seat
P/SEATDRV	30A	Power Seat
WIPER	10A	PCM/ECM, IBU
MODULE1	10A	Driver/Passenger Smart Key Outside Handle, Data Link Connector, Hazard Switch, Key Solenoid
SUNROOF	20A	Sunroof Motor
USB CHARGER	15A	Front USB Charger, Rear Console USB Charger
IG1	25A	PCB Block (Fuse - ABS3, ECU5, EOP2, TCU2)

Engine compartment fuse panel



Information

[illegible]

Type	Fuse Name	Fuse Rating	Circuit Protected
MULTI FUSE-3	ALT	150A180A	[Smartstream G 2.0 Atkinson with AMS2] Alternator, (Fuse - ABS1, ABS2, EOP1, POWER OUTLET1) [Smartstream G 2.0 Atkinson & Smartstream G1.6 T-GDi without AMS2] Alternator, (Fuse - ABS1, ABS2, POWER OUTLET1)
	MDPS1	80A	MDPS Unit
MULTI FUSE-2	COOLING FAN2	60A	[G4FP] Cooling Fan Controller

Type	Fuse Name	Fuse Rating	Circuit Protected
	DCT3	40A	[G4FP] SGA
	REAR HEATED	50A	Rear Glass Heated
MULTI FUSE-1	B+5	60A	PCB Block (Engine Control Relay, Fuse - ECU3, ECU4, HORN, WIPER, A/C)
	B+1	60A	ICU Junction Block (IPS2/IPS3/IPS5/IPS6/IPS7/IPS14)
	B+2	60A	ICU Junction Block (IPS1/IPS4/IPS8/IPS9/IPS10)
	B+3	50A	ICU Junction Block (Fuse - TRUNK, AMP, SAFETY P/WINDOW DRV, SAFETY P/WINDOW PASS, P/SEAT DRV, P/SEAT PASS, S/HEATER FRT, Long Term Load Latch Relay), S/HEATER RR
	EPB	60A	ESC Control Module
	PTC HEATER	50A	PTC HEATER
	BLOWER	50A	BLOWER Motor, Multipurpose Check Connector
	IG1	40A	E/R Junction Block (PDM (IG1/ACC) Relay), Ignition Switch
	IG2	40A	E/R Junction Block (PDM (IG2) Relay, Start Relay), Ignition Switch

Engine compartment fuse panel

Type	Fuse Name	Fuse Rating	Circuit Protected
FUSE	POWER OUTLET2	20A	Front Power Outlet
	COOLING FAN1	40A	Cooling Fan (Smartstream G 2.0 Atkinson only)
	DCT1	40A	[G4FP] TCM
	DCT2	40A	[G4FP] TCM
	B+4	40A	ICU Junction Block (Fuse - AIR BAG2, IBU1, BRAKE SWITCH, DOOR LOCK, IAU, MODULE1, SUNROOF, Power Window Relay)

Type	Fuse Name	Fuse Rating	Circuit Protected
	AMS	10A	Battery Sensor
	TCU1	10A	[DCT] TCM
	FUEL PUMP	20A	Fuel Pump Control Module (T-GDI), Fuel Pump Motor (NU MPI AKS)
	CVVD	40A	[G4FP] CVVD Actuator
	ABS1	40A	ABS Control Module, ESC Control Module, Multipurpose Check Connector
	ABS2	30A	ABS Control Module, ESC Control Module, Multipurpose Check Connector
	EOP1	30A	Electronic Oil Pump (Smartstream G 2.0 Atkinson ISG only)
	POWER OUTLET1	40A	P/OUTLET FRT
	DIAGNOSIS	40A	Multipurpose Check Connector

Engine compartment fuse panel

Fuse Name	Fuse Rating	Circuit Protected
WIPER	25A	Wiper Motor
ECU4	15A	PCM/ECM
A/C	10A	[G4FM] A/C Compressor (Smartstream G 2.0 Atkinson only)
HORN	15A	Horn
IGN COIL	20A	Ignition Coil #1~#4
ECU3	15A	PCM/ECM
SENSOR3	10A	E/R Junction Block (Fuel Pump Relay)
ECU2	10A	PCM/ECM (Smartstream G1.6 T-GDi only)
SENSOR2	10A	[G4NS] Variable Intake Solenoid Valve, Oil Pump Solenoid Valve, Oil Control Valve #1/#2, Canister Close Valve, Purge Control Solenoid Valve,PCB Block (A/C Relay), E/R Junction Block (Cooling Fan1/2 Relay), Oil Level Sensor

Fuse Name	Fuse Rating	Circuit Protected
		[G4FP] Variable Oil Pump Solenoid, Oil Control Valve #1/#2, Purge Control Solenoid Valve, RCV Control Solenoid Valve, Canister Close Valve, Oil Level Sensor
ECU5	10A	CVVD Actuator (Smartstream G1.6 T-GDi only), ECM/PCM
SENSOR1	15A	Oxygen Sensor (UP/DOWN)
ABS3	10A	ABS Control Module, ESC Control Module, Multipurpose Check Connector
INJECTOR	15A	[G4FM/G4FG/G4NA] Injector #1~#4 (Smartstream G 2.0 Atkinson only)
ECU1	20A	PCM/ECM
TCU2	15A	Transaxle Range Switch, [G4FP] TCM (Smartstream G1.6 T-GDi & DCT only)

Light Bulbs

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

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



WARNING

- Prior to replacing a light bulb, depress the brake pedal, shift to P (Park), apply the parking brake, move the ignition switch to the LOCK/OFF position, and take the key with you when leaving the vehicle to avoid sudden movement of the vehicle and to prevent possible electric shock.
 - Be aware the bulbs may be hot and may burn your fingers.
 - When the bulb is disconnected or the lamp connector is removed while the lamp is operating normally, the fuse box electronics may recognize the lamp as a malfunction. Therefore, a fault record for the lamp may remain in the Diagnostic Trouble Code (DTC) recorded in the fuse box.
-

NOTICE

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

Information

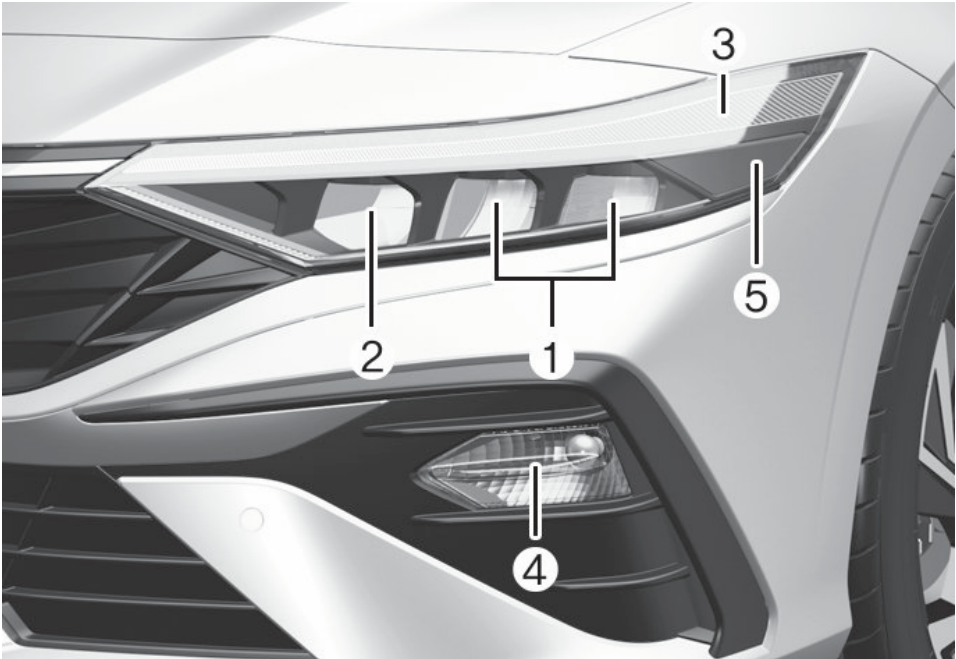
The headlight and tail light lenses could appear to have condensation inside if the vehicle is washed after driving or if the vehicle is driven in wet weather. This condition is caused by a higher temperature inside the light and a cooler outside temperature. Moisture that condenses in the light is removed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

Information

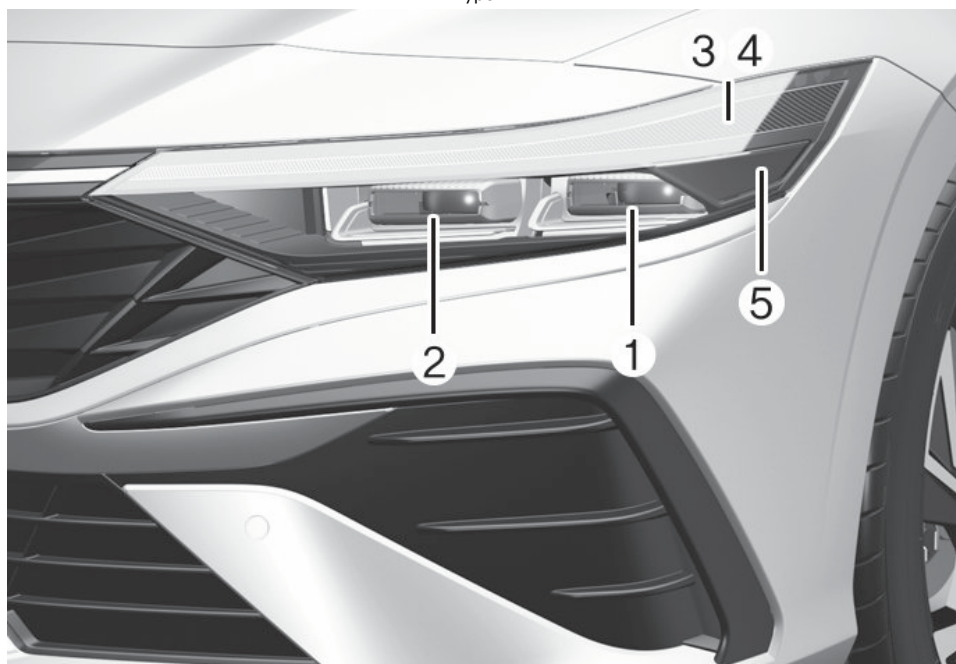
Adjust the headlight aim after an accident or the headlight is replaced.

Headlight, parking light, Daytime Running Light, turn signal light, side marker replacement

Type A



Type B



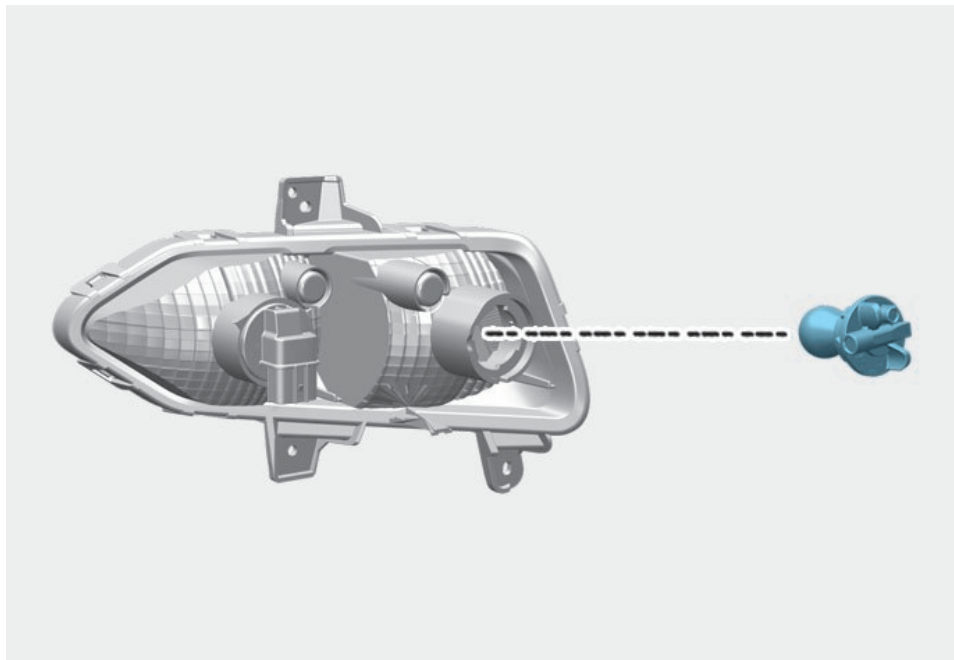
1. Headlight (Low)
2. Headlight (High)
3. Daytime running light (DRL)/Parking light
4. Turn signal light
5. Side marker

Headlight/Daytime running light (DRL)/Parking light/Turn signal light/Side marker (LED type)

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

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

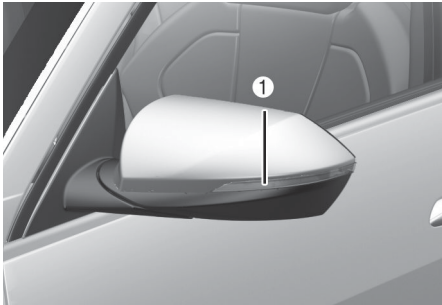
Turn signal light (Bulb type, for A type)



- 1 Turn off the engine.
- 2 Open the hood.
- 3 Remove the socket from the assembly by turning the socket counterclockwise until the tabs on the socket align with the slots on the assembly.
- 4 Remove the bulb from the socket by pushing it in and rotating it counterclockwise until the tabs on the bulb align with the slots in the socket. Pull the bulb out of the socket.
- 5 Insert a new bulb by inserting it into the socket and rotating it until it locks into place.
- 6 Install the socket in the assembly by aligning the tabs on the socket with the slots in the assembly.
- 7 Push the socket into the assembly and turn the socket clockwise.
- 8 Reinstall the light assembly to the body of the vehicle.

Side repeater light replacement

 if equipped

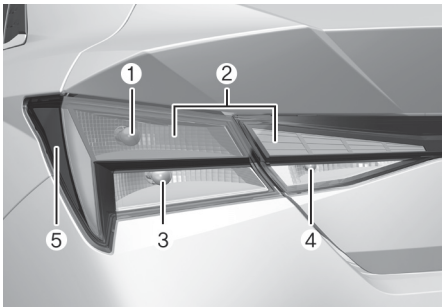


If the LED light (1) does not operate, contact an authorized HYUNDAI dealer for replacement.

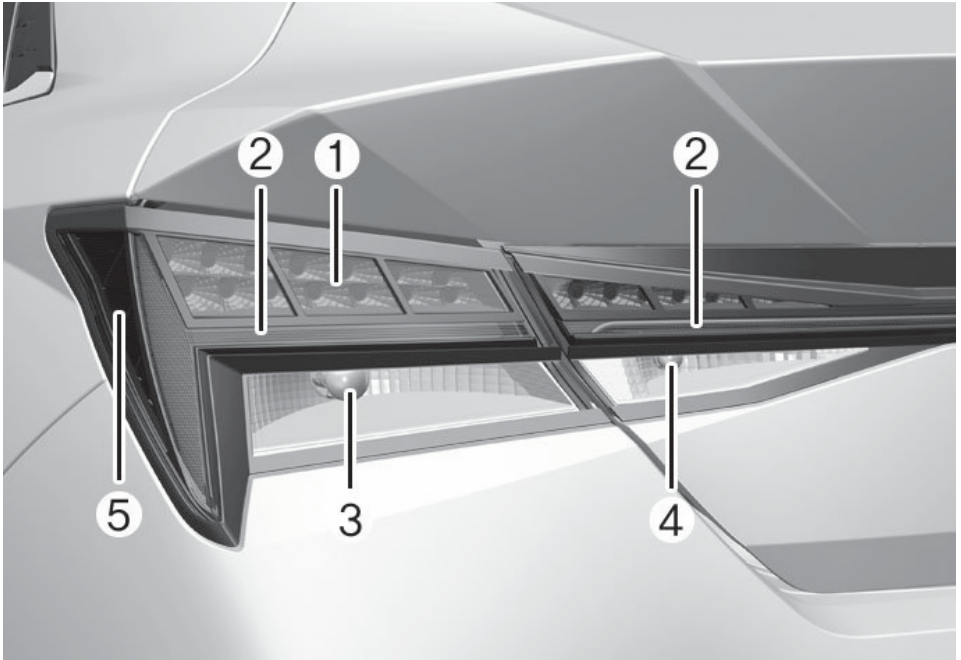
The LED light cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

Rear combination light replacement

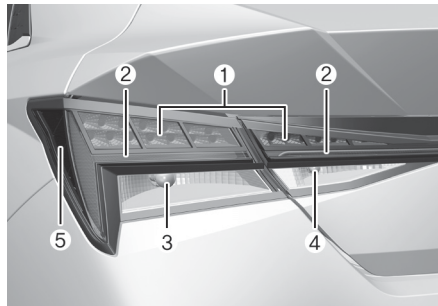
Type A



Type B



Type C



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

Tail light/Stop light/Turn signal light/Side marker (Outer lamp) (Bulb type)

- 1 Turn off the engine.
- 2 Open the trunk lid.

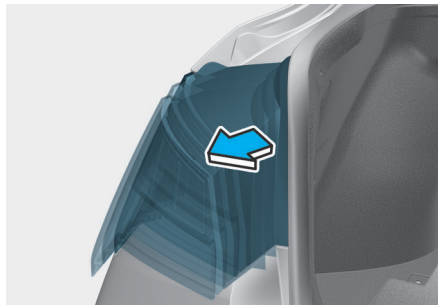
- 3 Remove the service cover by pulling it out.



- 4 Loosen the assembly retaining screws with a cross-tip screwdriver.

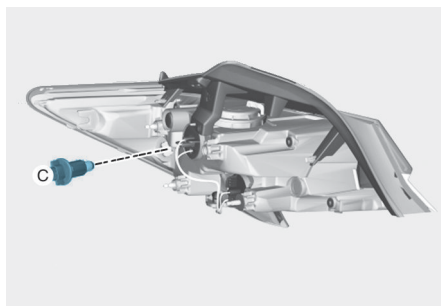
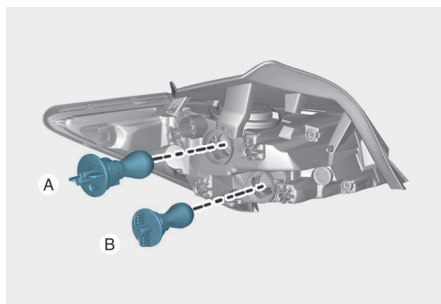


- 5 Remove the rear combination light assembly from the body of the vehicle.



- 6 Remove the socket from the assembly by turning the socket counterclockwise until the tabs on the socket align with the slots on the assembly.

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



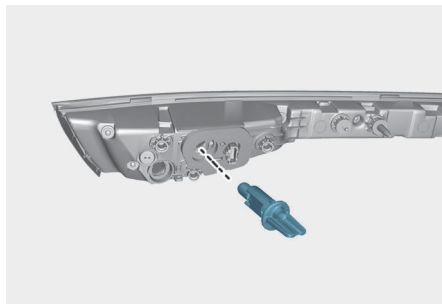
- [A] Tail/Stop light
- [B] Turn signal light
- [C] Rear side marker

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

Tail light/Stop light (Inner lamp) (Bulb type)

- 1 Turn off the engine.
- 2 Open the trunk.
- 3 Loosen the retaining screw of the trunk lid cover and then remove the cover.

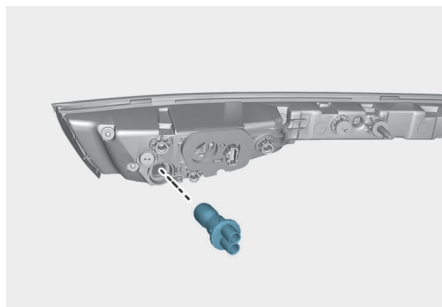
- 4 Remove the socket from the assembly by turning the socket counterclockwise until the tabs on the socket align with the slots on the assembly. Pull the bulb out of the socket.



- 5 Insert a new bulb by inserting it into the socket.
- 6 Reinstall the trunk lid cover by pushing in the screw.

Reverse light (Inner lamp) (Bulb type)

- 1 Open the trunk.
- 2 Loosen the retaining screw of the trunk lid cover and then remove the cover.
- 3 Disconnect the connector and then remove the nuts by turning the nuts counter clockwise.
- 4 Take the light assembly out.
- 5 Remove the socket from the assembly by turning the socket counterclockwise until the tabs on the socket align with the slots on the assembly. Pull the bulb out of the socket.

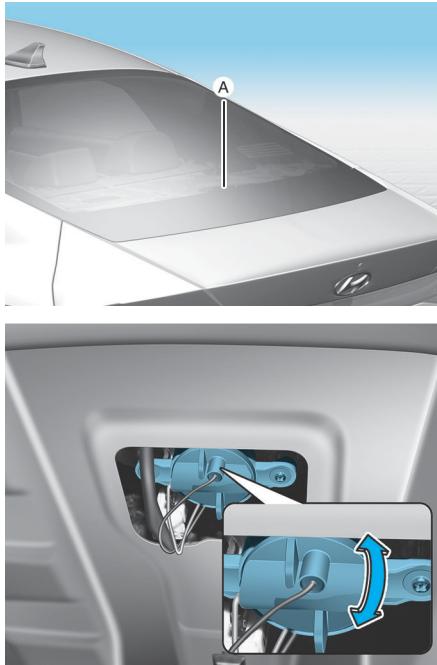


- 6 Insert a new bulb by inserting it into the socket.
- 7 Install the light assembly to the trunk.
- 8 Reinstall the trunk lid cover by pushing in the screw.

Stop/Tail light/Rear side marker (LED type)

If the LED light does not operate, contact an authorized HYUNDAI dealer for replacement. The LED light cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

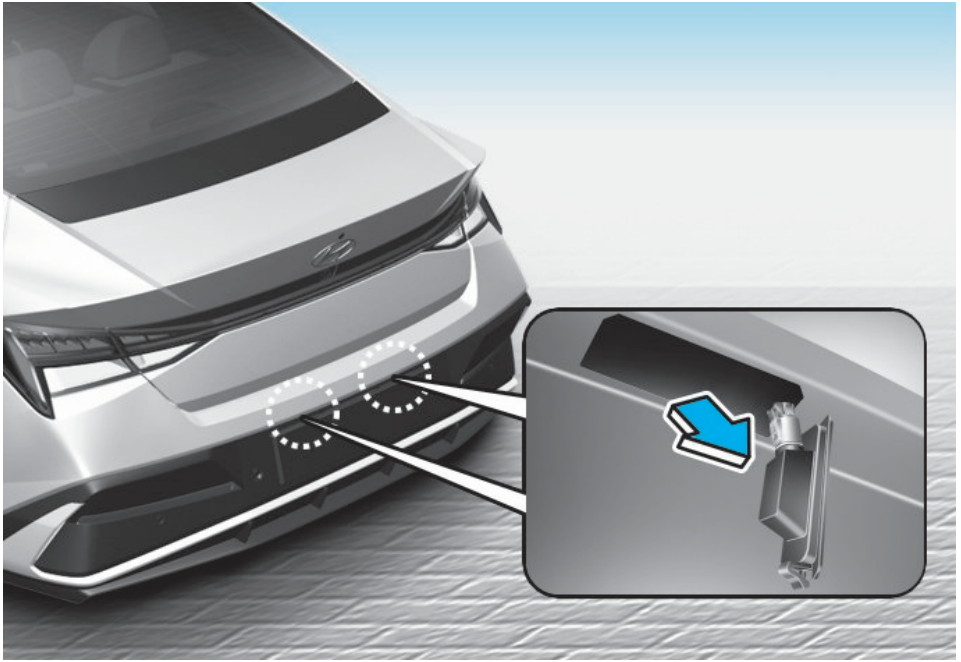
High mounted stop light replacement



[A] High mounted stop light

- 1 Turn off the engine.
- 2 Open the trunk.
- 3 Remove the socket by turning it counterclockwise until the tabs on the socket align with the slots.
- 4 Remove the bulb from the socket by pushing it in and rotating it counterclockwise until the tabs on the bulb align with the slots in the socket. Pull the bulb out of the socket.
- 5 Insert a new bulb by inserting it into the socket and rotating it until it locks into place.
- 6 Install the socket in the assembly by aligning the tabs on the socket with the slots in the assembly.
Push the socket into the assembly and turn the socket clockwise.

License plate light bulb replacement

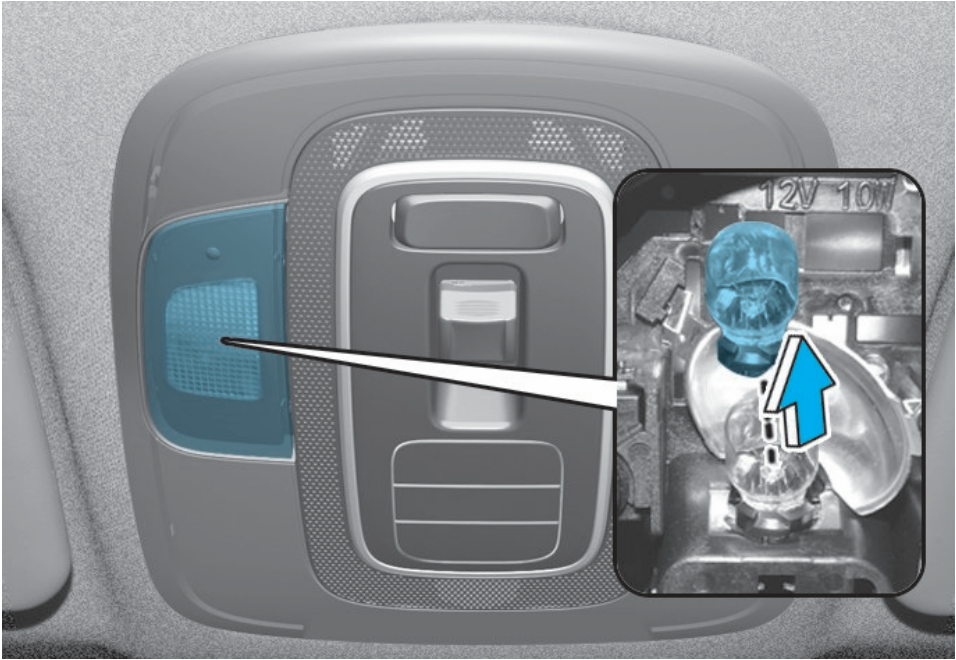


- 1 Turn off the engine.
- 2 Using a flat-blade screwdriver gently pry the lens cover from the lamp housing.
- 3 Remove the bulb by pulling it straight out.
- 4 Install a new bulb.
- 5 Reinstall in the reverse order.

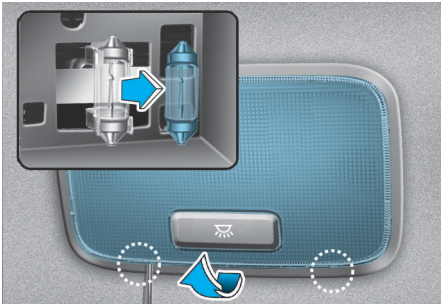
Interior light replacement

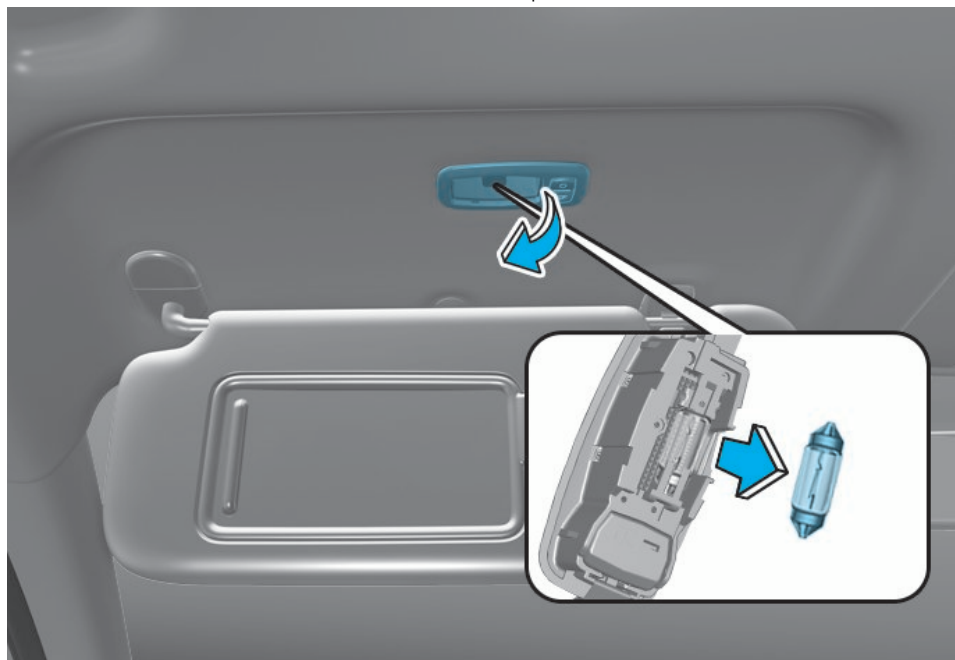
Map lamp, room lamp, and sunvisor lamp (Bulb type)

Map lamp



Room lamp





- 1 Turn off the engine.
- 2 Using a flat-blade screwdriver, gently pry the lens or assembly from the interior lamp housing.
- 3 Remove the bulb by pulling it straight out.
- 4 Install a new bulb in the socket.
- 5 Align the lens tabs with the interior lamp housing notches and snap the lens into place.



WARNING

Prior to working on the Interior Lights, ensure that the "OFF" button is depressed to avoid burning your fingers or receiving an electric shock.

NOTICE

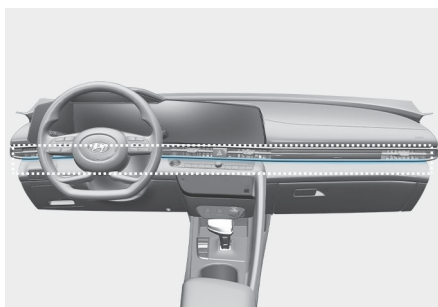
Be careful not to damage the cover, tab, and plastic housing.

Trunk room lamp (bulb type)



- 1 Using a flat-blade screwdriver gently pry the assembly from the lamp housing.
- 2 Remove the lamp cover, then pull the bulb straight out it.
- 3 Install a new bulb.
- 4 Reinstall in the reverse order.

Mood lamp (LED type)



If the LED light does not operate, contact an authorized HYUNDAI dealer for replacement. The LED light cannot be replaced as a single unit. A skilled technician should check or repair the LED light, for it may damage related parts of the vehicle.

Appearance Care

Exterior care

Information

If you park your vehicle near a stainless steel sign or glass facade building, the vehicle's exterior plastic parts such as a bumper, spoiler, garnish, lamp or side view mirror might be damaged due to sunlight reflected from the sign or building. To prevent damage of the exterior plastic parts, you should avoid parking in areas where light may be reflected or use a car cover. (The exterior plastic parts applied to your vehicle may vary.)

Exterior general caution

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

Finish maintenance

Washing

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

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

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

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

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

NOTICE

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



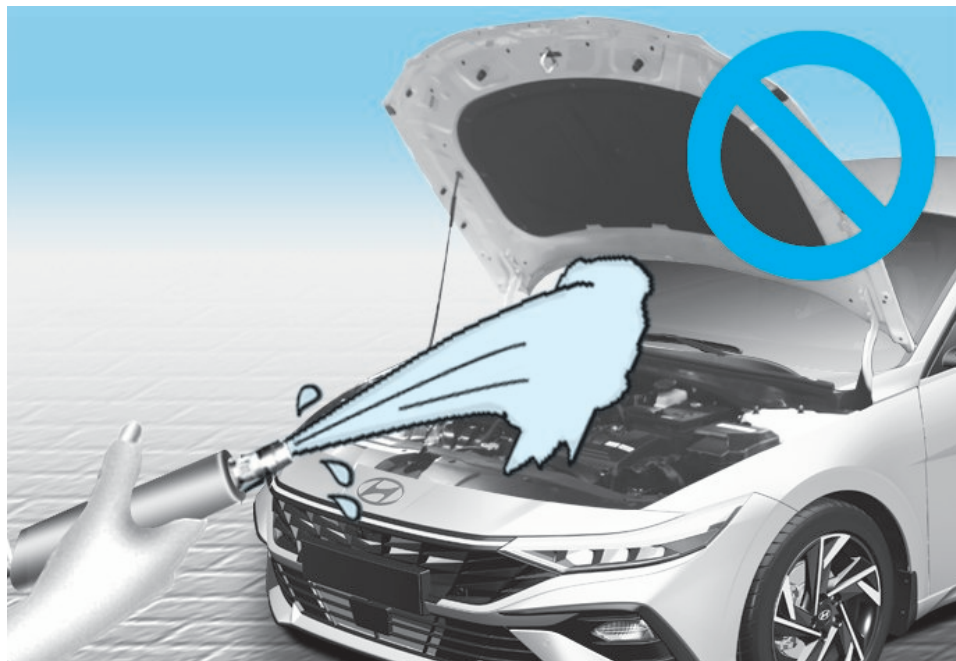
WARNING

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

NOTICE

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

NOTICE



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

NOTICE

Matte paint finish vehicle (if equipped)

To prevent damage the matte finish:

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

Waxing

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

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

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

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

NOTICE

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

Information

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

NOTICE

Matte paint finish vehicle (if equipped)

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

Bright-metal maintenance

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

Underbody maintenance

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

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

Aluminum wheel maintenance

The aluminum wheels are coated with a clear protective finish.

NOTICE

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

Corrosion protection

Protecting your vehicle from corrosion

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

Common causes of corrosion

The most common causes of corrosion on your vehicle are:

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

High-corrosion areas

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

Moisture breeds corrosion

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

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

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

To help prevent corrosion

Keep your vehicle clean

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

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

Keep your garage dry

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

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

Keep paint and trim in good condition

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

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

Interior care

Interior general precautions

Prevent caustic solutions such as perfume and cosmetic oil, from contacting the interior parts because they may cause damage or discolouration. 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 colour of the leather may fade or the surface may get stripped off.
 - During window tinting, make sure window tinting solution does not flow into electronic devices inside the vehicle. It may cause breakdown and malfunction of devices.
-

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 colour may be affected. Also, its fire-resistant properties may be reduced if the material is not properly maintained.

NOTICE

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

Leather

 if equipped

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

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

NOTICE

- Wrinkles or abrasions that appear naturally from usage are not covered by warranty.
- Belts with metallic accessories, zippers, or keys inside the back pocket may damage the seat fabric.
- Be sure not to wet the seat. It may change the nature of natural leather.
- Jeans or clothes that could bleach may contaminate the surface of the seat covering fabric.
- Caring for the leather seats
 - Vacuum the seat periodically to remove dust and sand on the seat. It prevents abrasion or damage of the leather and maintain its quality.
 - Wipe the natural leather seat cover often with a dry or soft cloth.
 - Use of proper leather protector may prevent abrasion of the cover and helps maintain the colour. Be sure to read the instructions and consult a specialist when using leather coating or protective agent.
 - Light coloured (beige, cream beige) leather may be easily contaminated and the stains may be noticeable.
 - Avoid wiping with a wet cloth. It may cause the surface to crack.
- Cleaning the leather seats
 - Remove all spills instantly.
 - For Cosmetic products (sunscreen, foundation, etc.)

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

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

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

Harden the gum with ice and remove it gradually.

Cleaning the seat belt webbing

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



WARNING

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

Cleaning the interior window glass

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

NOTICE

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

Emission Control System

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

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

1. Crankcase emission control system
2. Evaporative emission control system
3. Exhaust emission control system

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

NOTICE

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

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

1. Crankcase emission control system

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

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

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

Canister

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

Purge Control Solenoid Valve (PCSV)

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

3. Exhaust emission control system

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

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

Engine exhaust (carbon monoxide) precautions

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

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



WARNING

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

Operating precautions for catalytic converters

 if equipped



WARNING

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

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

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

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

NOTICE

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

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

Running out of fuel may cause the engine to misfire, damaging the catalytic converter. Failure to follow these precautions may void your vehicle warranty.

Fuel Requirements

Gasoline engine

Unleaded

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

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

Gasoline containing ethanol and methanol

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

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

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

NOTICE

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

Using fuel additives (except detergent fuel additives)

Using fuel additives such as:

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

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

- The Malfunction Indicator Lamp (MIL) may illuminate.

NOTICE

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

Gasoline containing MMT

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

HYUNDAI does not recommend the use of gasoline containing MMT.

This type of fuel can reduce vehicle performance and affect your emission control system. The malfunction indicator lamp on the cluster may come on.

Detergent fuel additives

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

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

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

NOTICE

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

Contact an authorized HYUNDAI dealer for additional information.
