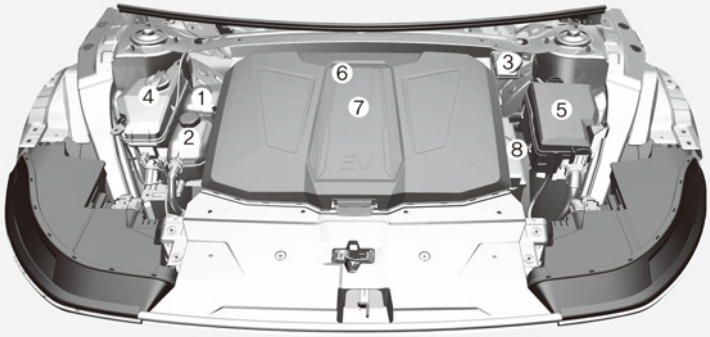
9. Maintenance

MOTOR COMPARTMENT



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

ONE1091001

1. Coolant reservoir
2. Low Conductivity Water (LCW) coolant reservoir
3. Brake fluid reservoir
4. Windshield washer fluid reservoir
5. Fuse box
6. Climate control system air filter
7. Front trunk
8. Battery (12V)

MAINTENANCE SERVICES

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

We recommend you 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.

Owner's responsibility

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

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

Detailed warranty information is provided in your Service Passport.

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

Owner maintenance precautions

Inadequate, incomplete or insufficient servicing may result in operational problems with your vehicle that could lead to vehicle damage, an accident, or personal injury. This chapter provides instructions only for the maintenance items that are easy to perform.

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

NOTICE

Improper owner maintenance during the warranty period may affect warranty coverage. For details, read the separate Service Passport provided with the vehicle. If you're unsure about any service or maintenance procedure, we recommend to have it done by an authorized HYUNDAI dealer.

OWNER MAINTENANCE

WARNING

Performing maintenance work on a vehicle can be dangerous. If you lack sufficient knowledge and experience or the proper tools and equipment to do the work, we recommend that it is done by an authorized HYUNDAI dealer. ALWAYS follow these precautions for performing maintenance work:

- **Park your vehicle on level ground. Shift the vehicle to P (Park), apply the parking brake, and press the Start/ Stop button to the OFF position.**
- **Block the tires (front and back) to prevent the vehicle from moving.**

  Remove loose clothing or jewelry that can become entangled in moving parts.
- **Keep flames, sparks, or smoking materials away from the battery parts.**

WARNING

Make sure to turn the START/STOP button to the 'OFF' position to shut down the vehicle before performing maintenance work 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, dependable operation of your vehicle.

Any adverse conditions should be brought to the attention of your 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.

The electric control system in the vehicle may cause malfunction or other negative impact on the artificial heart and the artificial internal organs. Be sure to inquire the impact of the electric control system on the artificial organs from the medical product corporation.

Owner maintenance schedule

When you stop for charging:

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

WARNING

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

While operating your vehicle:

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

At least monthly:

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

At least twice a year: (i.e., every Spring and Autumn)

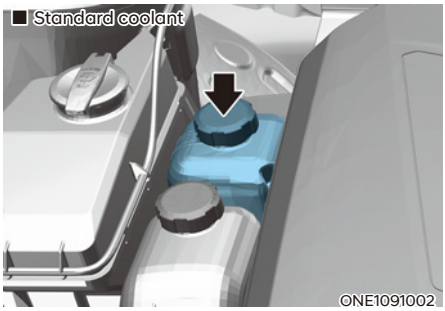
- Check radiator, heater and air conditioning hoses for leaks or damage.
- Check windshield washer spray and wiper operation. Clean wiper blades with a clean cloth dampened with washer fluid.
- Check headlamp alignment.
- Check the seat belts for wear and function.

At least once a year:

- Clean body and door drain holes.
- Lubricate door hinges and hood hinges.
- Lubricate door and hood locks and latches.
- Lubricate door rubber weather strips.
- Check the air conditioning system.
- Inspect and lubricate shift gear linkage and controls.
- Clean the battery (12V) and terminals.
- Check the brake fluid level.

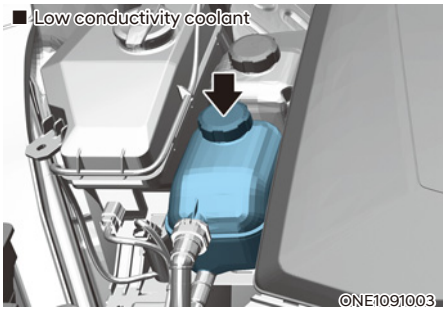
COOLANT

■ Standard coolant



ONE1091002

■ Low conductivity coolant



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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 or F and the MIN or L marks on the side of the coolant reservoir when the parts in the motor compartment is cool.

If the coolant is low, we recommend to have the vehicle inspected by an authorized HYUNDAI dealer.

Use only designated coolant water for electric vehicles, adding other types of water or antifreeze can damage the vehicle.

WARNING

Since specific coolant water (Blue color, Low conductivity) is applied for electric vehicles, replenishment of other antifreeze or water may cause problems to the vehicle.

WARNING

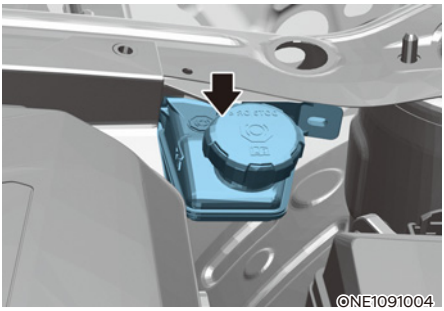
The electric motor for the cooling fan may continue to operate or start up when the vehicle is not running and can cause serious injury.

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

The electric motor for the cooling fan is controlled by vehicle coolant temperature, refrigerant pressure and vehicle speed. As the vehicle coolant temperature decreases, the electric motor will automatically shut off. This is a normal condition.

BRAKE FLUID

Checking the brake fluid level



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

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

If the level is low, add the specified brake fluid to the MAX level. The level will fall with accumulated kilometers. This is a normal condition associated with the wear of the brake linings. If the fluid level is excessively low, we recommend that the brake system be checked by an authorized HYUNDAI dealer.

WARNING

If the brake system requires frequent additions of fluid this could indicate a leak in the brake system. We recommend that the vehicle be inspected by an authorized HYUNDAI dealer.

WARNING

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

NOTICE

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

Information

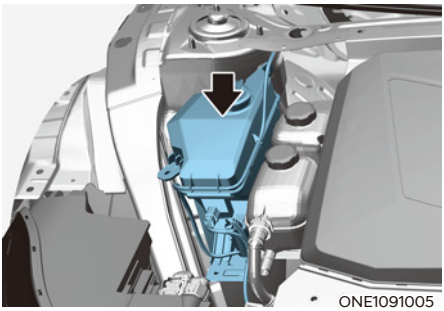
Use only the specified brake fluid (refer to "Recommended Lubricants and Capacities" section in chapter 2).

REDUCTION GEAR FLUID

There is no reduction gear fluid level gauge in the vehicle. Check the reduction gear fluid every 60,000 km regularly. If the vehicle is driven under severe condition, we recommend that you check the maintenance under severe usage condition and consult an authorized HYUNDAI dealer.

WASHER FLUID

Checking the washer fluid level



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

WARNING

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

- **Do not use coolant or antifreeze in the washer fluid reservoir. Coolant can severely obscure visibility when sprayed on the windshield and may cause loss of vehicle control resulting in an accident or damage to paint and body trim.**
- **Do not allow sparks or flame to contact the washer fluid or the washer fluid reservoir. Washer fluid may contain alcohol and can be flammable.**
- **Do not drink washer fluid and avoid contact with skin. Washer fluid is harmful to humans and animals.**
- **Keep washer fluid away from children and animals.**

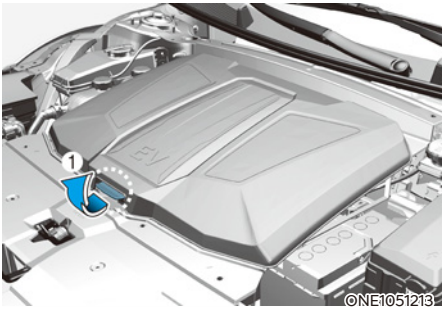
CABIN AIR FILTER

Filter inspection

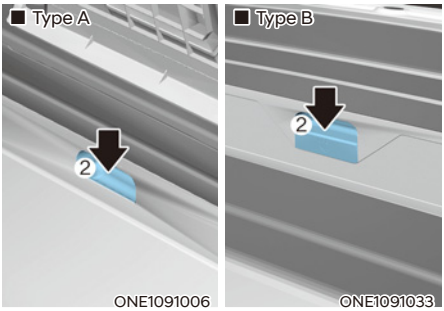
The cabin air filter should be replaced according to the Maintenance Schedule. If the vehicle is operated in severely air-polluted cities or on dusty rough roads for a long period, it should be inspected more frequently and replaced sooner. Replace the cabin air filter by following the procedure below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

Filter replacement

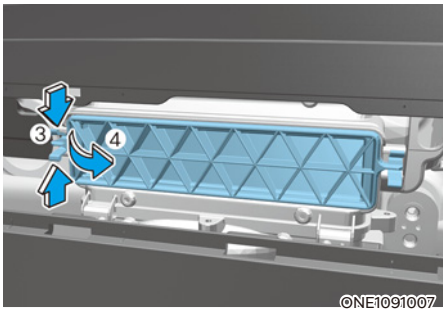
1. Open the hood.



2. Lift up the front trunk cover while depressing the front trunk lever (1).

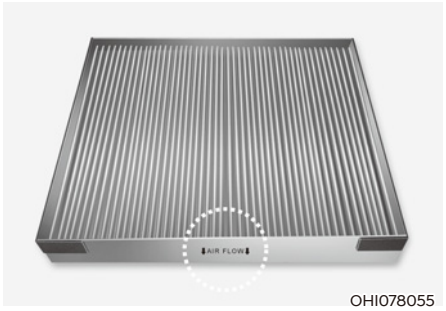


3. Remove the cover by pulling the front trunk handle (2).



4. Press and hold the lock (3) on the left side of the cover (4).
5. Replace the cabin air filter.
6. Reassemble in the reverse order of disassembly.

NOTICE



- **Install a new cabin air filter in the correct direction with the arrow symbol (↓) facing downwards, to prevent noise and reduce effectiveness.**
- **Always be sure that the front trunk cover is firmly closed after replacing the cabin air filter.**

  Otherwise is may cause interior damage in the motor compartment, noise trouble, or entrance of foreign substances.

WIPER BLADES

Blade inspection

Contamination of either the windshield or the wiper blades with foreign matter can 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 a good cleaner or mild detergent, and rinse thoroughly with clean water.

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.**
- **Use non-specified wiper blades.**

Information

Commercial hot waxes applied by automatic car washes have been known to make the windshield difficult to clean.

Information

Wiper blades are consumable items. Normal wear of the wipers may not be covered by your vehicle warranty.

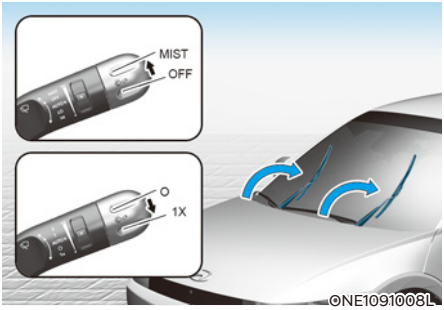
Blade replacement

When the wipers no longer clean adequately, the blades may be worn or cracked, and require replacement.

NOTICE

- **In order to prevent damage to the hood and the wiper arms, the wiper arms should only be lifted when in the top wiping position.**
- **Always return the wiper arms to the windshield before driving.**

Front windshield wiper blade replacement

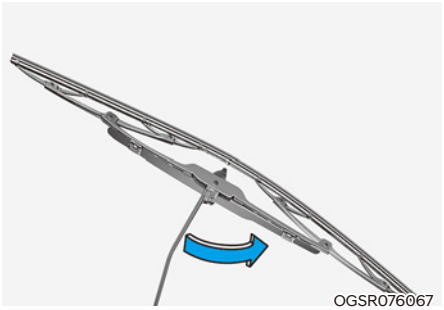


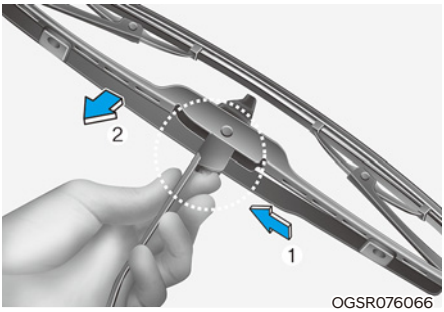
[A] : Type A, [B] : Type B

Within 20 seconds of turning off the vehicle, lift up (or push down) and hold the wiper lever to the MIST (or 1x) position for about 2 seconds until the wipers move to the top wipe position.

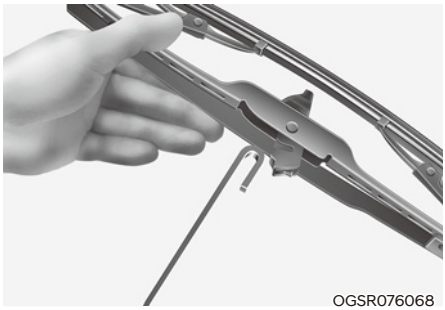
At this time you can lift the wipers off the windshield.

Type A



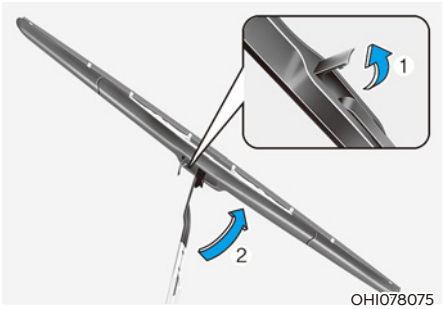


1. Lift up the wiper blade clip. Then lift up the wiper blade.
2. While pushing the lock (1), pull down the wiper blade (2).



3. Remove the wiper blade from the wiper arm.
4. Install a new wiper blade assembly in the reverse order of removal.
5. Return the wiper arm on the windshield.

Type B



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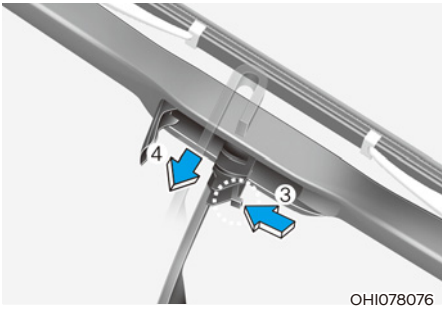
1. Lift up the wiper blade clip (1). Then lift up the wiper blade.



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2. Press the clip (3). Then push the blade forward through the wiper arm to disassemble it (4).

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3. Remove the wiper blade from the wiper arm (5).
4. Install the new blade assembly in the reverse order of removal.
5. Return the wiper arm on the windshield.

BATTERY (12 VOLT)

WARNING

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

Always read and follow instructions carefully when handling a battery.

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

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

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

Keep batteries out of reach of children.

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

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

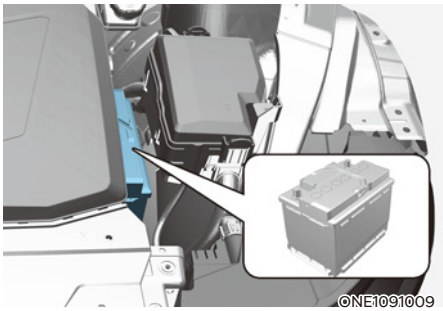
- When lifting a plastic-cased battery, excessive pressure on the case may cause battery acid to leak. Lift with a battery carrier or with your hands on opposite corners.
- Do not attempt to jump start your vehicle if your battery is frozen.
- NEVER attempt to recharge the battery when the vehicle's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

NOTICE

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

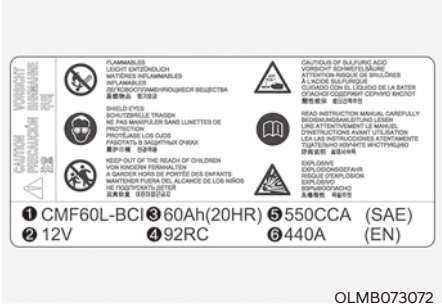
- When you do not use the vehicle for a long time in a low temperature area, disconnect the battery and keep it indoors.
- Always charge the battery fully to prevent battery case damage in low temperature areas.
- Prevent liquid from wetting the battery terminals. The performance of the battery may be degraded, and may cause injury. Be cautious when loading liquid in the trunk.
- Do not tilt the battery.
- If you connect unauthorized electronic devices to the battery, the battery may be discharged. Never use unauthorized devices.

For best battery service



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

Battery capacity label



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

1. CMF60L-BCI : The HYUNDAI model name of battery
2. 12V : The nominal voltage
3. 60Ah(20HR) : The nominal capacity (in Ampere hours)
4. 92RC : The nominal reserve capacity (in min.)
5. 550CCA : The cold-test current in amperes by SAE
6. 440A : The cold-test current in amperes by EN

Battery recharging

By battery charger

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

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

WARNING

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

- **Before performing maintenance or recharging the battery, turn off all accessories and stop the vehicle.**
- **Keep all flames, sparks, or smoking materials away from the battery.**
- **Always work outdoors or in an area with plenty of ventilation.**
- **Wear eye protection when checking the battery during charging.**
- **The battery must be removed from the vehicle and placed in a well ventilated area.**

- **Watch the battery during charging, and stop or reduce the charging rate if the battery cells begin boiling violently.**
- **The negative battery cable must be removed first and installed last when the battery is disconnected. Disconnect the battery charger in the following order:**
  1. **Turn off the battery charger main switch.**
  2. **Unhook the negative clamp from the negative battery terminal.**
  3. **Unhook the positive clamp from the positive battery terminal.**
- **We recommend that you use batteries for replacement from an authorized HYUNDAI dealer.**

By jump starting

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

Information

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

Reset items

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

- Driving info/After recharging/ Accumulated info (items in Utility view) (see chapter 4)
- Integrated memory system (see chapter 5)
- Power window (see chapter 5)
- Vision roof (see chapter 5)
- Power tailgate (see chapter 5)
- Climate control system (see chapter 5)
- Clock (see Infotainment system manual)
- Infotainment system (see Infotainment system manual)

TIRES AND WHEELS

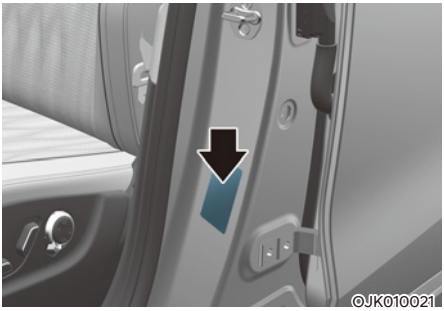
WARNING

Tire failure may cause loss of vehicle control resulting in an accident. To reduce risk of SERIOUS INJURY or DEATH, take the following precautions:

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

Tire care

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



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

Recommended cold tire inflation pressures

All tire pressures (including the spare) should be checked when the tires are cold. "Cold tires" means the vehicle has not been driven for at least three hours or driven less than 1.6 km (one mile).

Warm tires normally exceed recommended cold tire pressures by 28 to 41 kPa (4 to 6 psi). Do not release air from warm tires to adjust the pressure or the tires will be under-inflated. For recommended inflation pressure, refer to "Tire and Wheels" section in chapter 2.

WARNING

Recommended pressures must be maintained for the best ride, vehicle handling, and minimum tire wear.

Over-inflation or under-inflation can reduce tire life, adversely affect vehicle handling, and lead to sudden tire failure that could result in loss of vehicle control resulting in an accident.

Severe under-inflation can lead to severe heat build-up, causing blowouts, tread separation and other tire failures that can result in the loss of vehicle control resulting in an accident. This risk is much higher on hot days and when driving for long periods at high speeds.

CAUTION

- **Under-inflation results in excessive wear, poor handling and reduced electric energy economy. Wheel deformation is also possible. Keep your tire pressures at the proper levels. If a tire frequently needs refilling, we recommend it be checked 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, once a month or more.

How to check

Use a good quality tire pressure gauge to check tire pressure. You can not 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 you reach the recommended pressure. Make sure to put the valve caps back on the valve stems. Without the valve cap, dirt or moisture could get into the valve core and cause air leakage. If a valve cap is missing, install a new one as soon as possible.

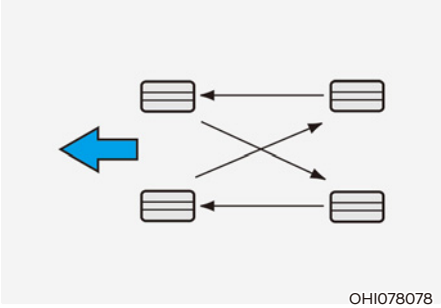
If you overfill the tire, release air by pushing on the metal stem in the center of the tire valve. Recheck the tire pressure with the tire gauge. Be sure to put the valve caps back on the valve stems. Without the valve cap, dirt or moisture could get into the valve core and cause air leakage. If a valve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

Tire rotation

To equalize tread wear, HYUNDAI recommends that the tires be rotated every 12,000 km (7,500 miles) 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 lug nut tightness (proper torque is 11~13kgf·m (79~94 lbf·ft).



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

Information

The outside and inside of the unsymmetrical tire is distinguishable. When installing an unsymmetrical tire, be sure to install the side marked "outside" face the outside. If the side marked "inside" is installed on the outside, it will have a negative effect on vehicle performance.

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 resulting in an accident.**

Wheel alignment and tire balance

The wheels on your vehicle were aligned and balanced carefully at the factory to give you the longest tire life and best overall performance.

In most cases, you will not need to have your wheels aligned again. However, if you notice unusual tire wear or your vehicle pulling one way or the other, the alignment may need to be reset.

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

NOTICE

Incorrect wheel weights can damage your vehicle's aluminum wheels. Use only approved wheel weights.

Tire replacement

[A] : Tread wear indicator

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

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

WARNING

To reduce the risk of DEATH or SERIOUS INJURY:

- **Replace tires that are worn, show uneven wear, or are damaged. Worn tires can 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 could cause unusual handling characteristics, poor vehicle control, or negatively affect your vehicle's Anti-Lock Brake System (ABS) resulting in a serious accident.**
- **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 can 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 of normal service.**
- **Heat caused by hot climates or frequent high loading conditions can accelerate the aging process. Failure to follow this warning may cause sudden tire failure, which could lead to a loss of vehicle control resulting in an accident.**

WARNING

The original tire should be repaired or replaced as soon as possible to avoid failure of the spare and loss of vehicle control resulting in an accident. 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, tires that are improperly inflated or on slippery road surfaces. Tires should be replaced when tread wear indicators appear. To reduce the possibility of losing control, slow down whenever there is rain, snow or ice on the road.

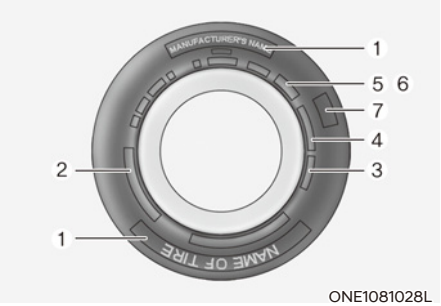
Tire maintenance

In addition to proper inflation, correct wheel alignment helps to decrease 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 will increase vehicle ride comfort and tire life. Additionally, a tire should 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.



ONE1081028L

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 will need this information when selecting replacement tires for your car. 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 could vary depending on your vehicle.)

235/55R19 105W

235 - Tire width in millimeters.

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

R - Tire construction code (Radial).

19 - Rim diameter in inches.

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

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

Wheel size designation

Wheels are also marked with important information that you need if you ever have to replace one. The following explains what the letters and numbers in the wheel size designation mean.

Example wheel size designation:

7.5J X 19

7.5 - Rim width in inches.

J - Rim contour designation.

19 - Rim diameter in inches.

Tire speed ratings

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

Speed Rating Symbol	Maximum Speed
S	180 km/h (112 mph)
T	190 km/h (118 mph)
H	210 km/h (130 mph)
V	240 km/h (149 mph)
W	270 km/h (168 mph)
Y	300 km/h (186 mph)

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

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

DOT : XXXX XXXX OOOO

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

For example:

DOT XXXX XXXX 5022 represents that the tire was produced in the 50th week of 2022.

4. Tire ply composition and material

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

5. Maximum permissible inflation pressure

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

6. Maximum load rating

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

7. Uniform tire quality grading

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

For example:

TREADWEAR 200

TRACTION AA

TEMPERATURE A

Tread wear

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

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

These grades are molded on the sidewalls of passenger vehicle tires. The tires available as standard or optional equipment on your vehicle may vary with respect to 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 can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

WARNING

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

Low aspect ratio tires (if equipped)

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

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

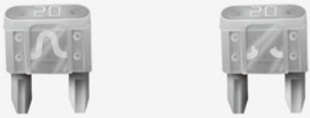
CAUTION

The side wall of a low aspect ratio tire is shorter than the normal one. Thus, the low-aspect wheel and tire are easily damaged. Follow the below instructions.

- **When driving on a rough road or driving off a road, be careful not to damage the tires and wheels. After driving, inspect the tires and wheels.**
- **When passing over a pothole, speed bump, manhole, or curb stone, drive the vehicle slowly so as not to damage the tires and wheels.**
- **When there is an impact on a tire, inspect the tire condition. We recommend that you contact an authorized HYUNDAI dealer.**
- **Inspect the tire condition and pressure every 3,000 km (1,800 miles) to prevent tire damage.**
- **It is difficult to recognize a tire damage only with your eyes. When there is a slight hint of a tire damage, check and replace the tire to prevent the damage caused by air leakage.**
- **When a tire is damaged while driving on a rough road, off a road, or over obstacles, such as a pothole, manhole, or curb stone, your warranty does not cover the damage.**
- **The tire information is specified on the tire side wall.**

FUSES

■ Blade type

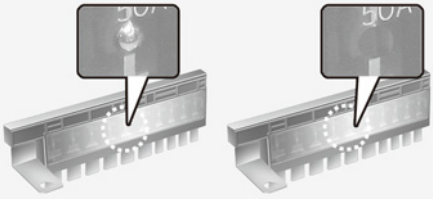


Normal Blown

■ Cartridge type

Normal Blown

■ Multi type



Normal Blown

OTM078035

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

This vehicle has 5 fuse panels, one located in the driver's side panel bolster, the other in the vehicle compartment.

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

If the electrical system does not work, first check the driver's side fuse panel. Before replacing a blown fuse, turn the vehicle and all switches off, 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. We recommend that you immediately consult an authorized HYUNDAI dealer.

WARNING

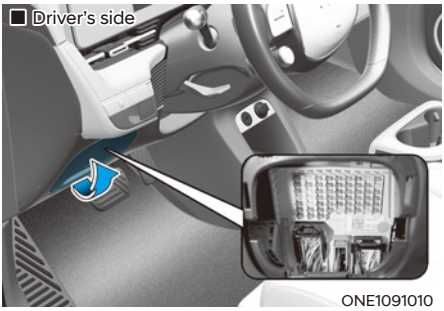
NEVER replace a fuse with anything but another fuse of the same rating.

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

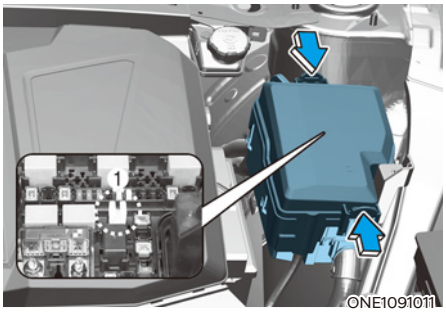
NOTICE

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

Instrument panel fuse replacement



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



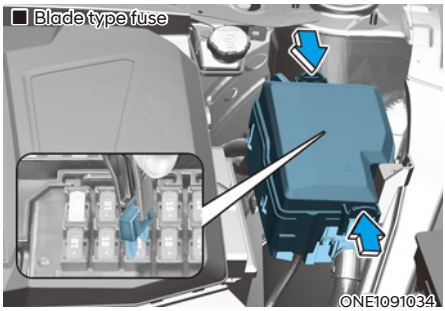
5. Pull the suspected fuse straight out. Use the removal tool (1) provided in the motor compartment fuses panel cover.
6. Check the removed fuse; replace it if it is blown. Spare fuses are provided in the instrument panel fuse panels (or in the motor compartment fuse panel).
7. Push in a new fuse of the same rating, and make sure it fits tightly in the clips. If it fits loosely, we recommend that you consult an authorized HYUNDAI dealer.

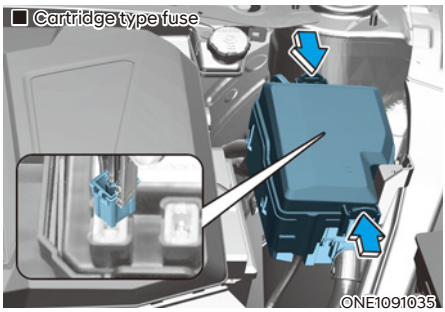
In an emergency, if you do not have a spare fuse, use a fuse of the same rating from a circuit you may not need for operating the vehicle, such as the cigarette lighter fuse.

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

Motor compartment panel fuse replacement

Blade fuse / Cartridge fuse



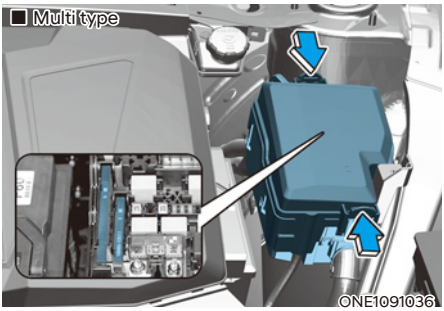


1. Turn the vehicle off.
2. Turn all other switches off.
3. Remove the fuse panel cover by pressing the tap and pulling up.
4. Check the removed fuse; replace it if it is blown. To remove or insert the fuse, use the fuse puller in the motor compartment fuse panel.
5. Push in a new fuse of the same rating,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

NOTICE

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

Multi fuse



If the multi fuse is blown, we recommend that you consult an authorized HYUNDAI dealer.

Fuse/relay panel description

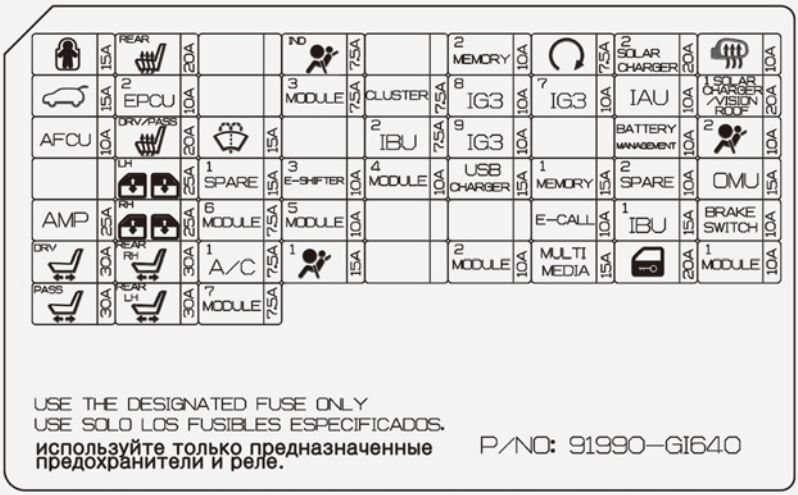
Instrument panel fuse panel

ONE1091012

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

Information

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



ONE1091040L

Instrument panel fuse panel

Fuse Name	Symbol	Fuse Rating	Circuit Protected
Child Lock		15A	Child Lock Relay, Child Unlock Relay
RR SEAT HTR		20A	Rear Seat Warmer Control Module
A/BAG IND		7.5A	Overhead Console
MEMORY2		10A	Head-Up Display
START		7.5A	VCU, IBU
S/CHARGE2		20A	SDC
MIRR HTR		10A	Driver Outside Mirror Unit, Passenger Outside Mirror Unit
T/GATE		15A	Tailgate Release Relay
EPCU2		10A	Rear Inverter
MODULE3		7.5A	Multifunction Switch, IBU, Stop Lamp Switch, Driver Door Module
CLUSTER		7.5A	Head-Up Display, Instrument Cluster
IG3 8		10A	V2L Unit, ICCU, VCMS, Rear Electronic Oil Pump, CDM
IG3 7		10A	Incar Temperature Sensor, A/V & Navigation Head Unit, A/C PTC Heater, A/C Control Module, Instrument Cluster
IAU		10A	Not Used
S/CHARGER/ VISION ROOF		20A	SDC, Vison Roof
AFCU		10A	AFCU, Driver/Passenger Door Outside Handle

Instrument panel fuse panel

Fuse Name	Symbol	Fuse Rating	Circuit Protected
FR SEAT HET	DRV/PASS 	20A	Front Air Ventilation Seat Control Module, Front Seat Warmer Control Module
WASHER		15A	Multifunction Switch
IBU2	2 IBU	7.5A	IBU
IG3 9	9 IG3	10A	SCU, Rear Inverter, BMU
BMS	BATTERY MANAGEMENT	10A	BMU
A/BAG2	2 	10A	SRS Control Module
WIN LH	LH 	25A	Driver Safety Power Window Module (LHD), Passenger Safety Power Window Module (RHD), Rear Power Window Switch LH
SPARE1	1 SPARE	15A	Not Used
E-SHIFTER3	3 E-SHIFTER	10A	Electronic ATM Shift Lever
MODULE4	4 MODULE	10A	Front/Rear Corner Radar LH/RH, Front/Rear Inverter, Crash Pad Switch, ADAS Driving ECU, VESS Unit, Front Radar, Front View Camera, ADAS Parking ECU
USB CHARGER	USB CHARGER	15A	Front USB Charger #1, Front USB Charger #2

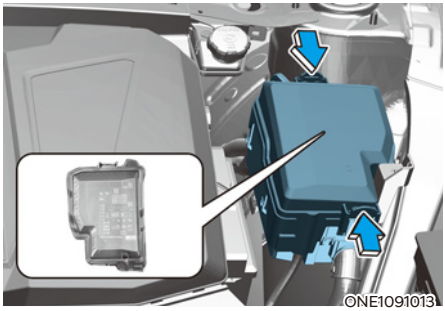
Instrument panel fuse panel

Fuse Name	Symbol	Fuse Rating	Circuit Protected
MEMORY1	1 MEMORY	15A	ICU Junction Block (Fuse F6), Instrument Cluster, A/C Control Module, Mood Lamp Unit
SPARE2	2 SPARE	10A	Not Used
OMU	OMU	15A	Driver/Passenger Outside Mirror Unit, Driver Door Module
AMP	AMP	25A	AMP
WIN RH	RH	25A	Passenger Safety Power Window Module (LHD), Driver Safety Power Window Module (RHD), Rear Power Window Switch RH
MODULE6	6 MODULE	7.5A	IBU
MODULE5	5 MODULE	10A	Data Link Connector, Electro Chromic Mirror, E-CALL Unit, A/V & Navigation Head Unit, Crash Pad Switch, Head Lamp LH/RH, SDC, AMP, Smart Phone Wireless Charger, Driver/Passenger Power Seat Module, Front Air Ventilation Seat Control Module, Front Seat Warmer Control Module, Rear Power Seat LH/RH Module, Rear Seat Warmer Control Module
E-CALL	E-CALL	10A	E-CALL Unit
IBU1	1 IBU	15A	IBU
BRAKE SWITCH	BRAKE SWITCH	10A	Stop Lamp Switch, IBU
P/SEAT DRV	DRV	30A	Driver Power Seat Switch, Driver Power Seat Module (With IMS)

Instrument panel fuse panel

Fuse Name	Symbol	Fuse Rating	Circuit Protected
P/SEAT RR RH	REAR RH	30A	Rear Power Seat RH Module
A/C1	1 A/C	7.5A	A/C Control Module
A/BAG1	1	15A	SRS Control Module
MODULE2	2 MODULE	10A	AMP, P/E Junction Block (Power Outlet Relay (RLY.11)), IBU, E-CALL Unit, ADAS Unit (Parking), A/V & Navigation Keyboard, A/V & Navigation Head Unit
MULTIMEDIA	MULTI MEDIA	15A	A/V & Navigation Head Unit
DR LOCK		20A	Door Lock Relay, Door Unlock Relay, Dead Lock Relay
MODULE1	1 MODULE	10A	Hazard Lamp Switch, Multifunction Switch, Data Link Connector, Rain Sensor, P/R Junction Block (Blower Relay (RLY.9)), Driver/Passenger Door Speaker Mood Lamp, Driver/Passenger Door Arm Rest Mood Lamp, Rear Door Mood Lamp LH/RH, UIP Siren, PTG Unit, UIP Sensor, Rear Power Seat LH/RH Module, Driver/ Passenger Power Seat Module
P/SEAT PASS	PASS	30A	Passenger Power Seat Switch, Passenger Power Seat Module
P/SEAT RR LH	REAR LH	30A	Rear Power Seat LH Module
MODULE7	7 MODULE	7.5A	Rear Seat Warmer Control Module

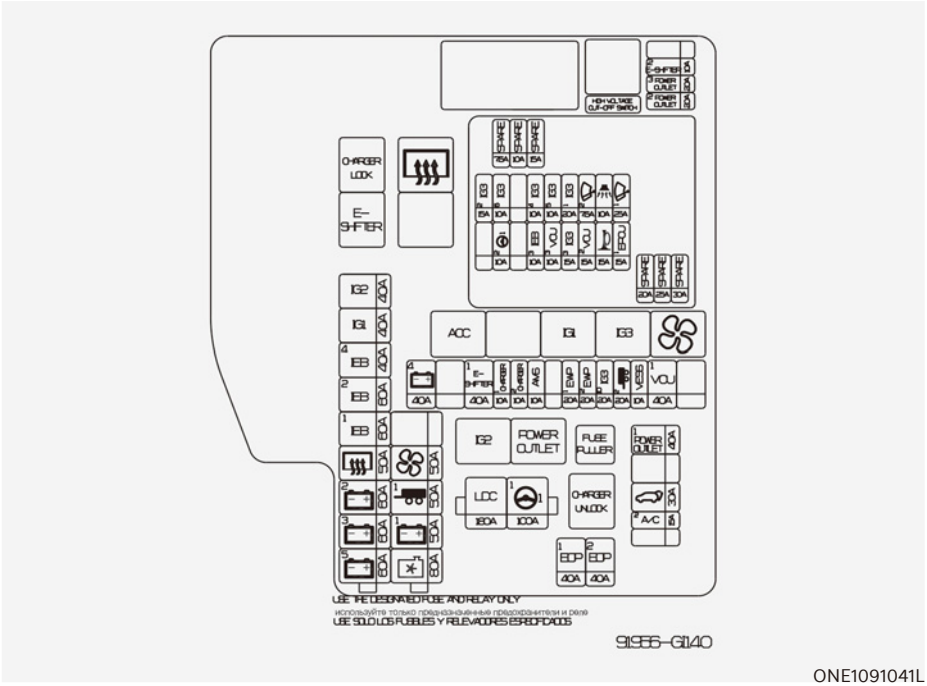
Motor compartment fuse panel



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

Information

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



Motor compartment fuse panel

Type	Fuse Name	Symbol	Fuse Rating	Circuit Protected
MULTI FUSE-1	LDC	IG1	180A	P/R Junction Block (Fuse : F15, F17, F20, F21)
	MDPS1	1 1	100A	MDPS Unit
MULTI FUSE-2	B+5	5	60A	PCB Block (IG3 Main Relay, Fuse : F1, F2, F3, F4, F6)
	B+3	3	60A	ICU Junction Block (Fuse : F1, F2, F10, F11, F19, F20,F29, F37, F38, F46, F47, F55, F56)
	B+2	2	60A	ICU Junction Block (IPS1, IPS4, IPS6, IPS8, IPS9, IPS10)
	RR HTD		50A	P/R Junction Block (RLY.3)
	IEB1	1 IEB	60A	IEB Unit
	IEB2	2 IEB	60A	IEB Unit
	IEB4	4 IEB	40A	Multipurpose Check Connector
	IG1	IG1	40A	P/R Junction Block (RLY.5, RLY.7)
	IG2	IG2	40A	P/R Junction Block (RLY.10)
MULTI FUSE-3	C/FAN		80A	Cooling Fan Motor
	B+1	1	50A	ICU Junction Block (IPS2, IPS3, IPS4, IPS5)
	TRAILER1	1	50A	Trailer Connector Unit
	BLOWER		50A	P/R Junction Block (RLY.9)

Type	Fuse Name	Symbol	Fuse Rating	Circuit Protected
FUSE	B+4	4 	40A	ICU Junction Block (Long Term Load Latch Relay, Fuse : F8, F17, F18, F26, F27, F35, F36, F45, F44, F53, F54)
	E-SHIFTER1	1 E-SHIFTER	40A	P/R Junction Block (RLY.2, Fuse : F22)
	CHARGER1	1 CHARGER	10A	P/R Junction Block (RLY.1, RLY.12), ICCU, VCMS
	CHARGER2	2 CHARGER	10A	CDM
	AMS	AMS	10A	12V Battery Sensor
	EWP1	1 EWP	20A	Electronic Water Pump #1
	EWP2	2 EWP	20A	Electronic Water Pump #2
	IG3 10	10 IG3	20A	Not Used
	TRAILER2	2 	20A	Trailer Connector Unit
	VESS	VESS	10A	VESS Unit
	VCU1	1 VCU	40A	VCU

Type	Fuse Name	Symbol	Fuse Rating	Circuit Protected
FUSE	P/OUTLET1	1 POWER OUTLET	40A	P/R Junction Block (RLY.11)
	T/GATE		30A	PTG Unit
	A/C2	2 A/C	15A	A/C Control Module
	EOP1	1 EOP	40A	Rear Electronic Oil Pump
	EOP2	2 EOP	40A	Front Electronic Oil Pump (4WD)
	E-SHIFTER2	2 E-SHIFTER	10A	P/R Junction Block (RLY.2), SCU, Electronic ATM Shift Lever
	P/OUTLET3	3 POWER OUTLET	20A	Rear Power Outlet
	P/OUTLET2	2 POWER OUTLET	20A	Front Power Outlet

Fuse Name	Symbol	Fuse Rating	Circuit Protected
WIPER1	1 	25A	PCB Block (Wiper Main Relay)
EPCU1	1 EPCU	15A	Front Inverter (4WD)
B/ALARM		10A	PCB Block (Burglar Alarm Horn Relay)
HORN		15A	PCB Block (Horn Relay)
WIPER2	2 	7.5A	IBU
VCU2	2 VCU	15A	VCU
IG3 1	1 IG3	20A	ICU Junction Block (Fuse : F14, F16, F24)
IG3 3	3 IG3	15A	Electronic Water Pump
IG3 5	5 IG3	10A	BMS Coolant 3Way Valve
VCU3	3 VCU	10A	VCU
IG3 4	4 IG3	10A	A/C Coolant Valve, Electronic Water Pump #1, #2, Electronic A/C Compressor
IEB3	3 IEB	10A	Multipurpose Check Connector, IEB Unit
IG3 6	6 IG3	10A	Cooling Fan Motor, Front Electronic Oil Pump (4WD)
MDPS2*1	2  1	10A	MDPS Unit
IG3 2	2 IG3	15A	Front Inverter (4WD), VCU

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

LIGHT BULBS

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

Removing/installing the headlamp assembly can result in damage to the vehicle.

WARNING

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

NOTICE

Be sure to replace the burned-out bulb with one of the same wattage rating. Otherwise, it may cause damage to the fuse or electrical wiring system.

NOTICE

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

Information - Headlamp desiccant (if equipped)

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

Information

The headlamp and tail lamp lenses could appear frosty if the vehicle is washed after driving or the vehicle is driven at night in wet weather. This condition is caused by temperature difference between the lamp inside and outside and, it does not indicate a problem with your vehicle. When moisture condenses in the lamp, it will be removed after driving with the headlamp on. The removable level may differ depending on lamp size, lamp position and environmental condition. However, if moisture is not removed, we recommend that your vehicle is inspected by an authorized HYUNDAI dealer.

Information

- **A normally functioning lamp may flicker momentarily to stabilize the vehicle's electrical control system. However, if the lamp goes out after flickering momentarily, or continues to flicker, we recommend the system be checked by an authorized HYUNDAI dealer.**
- **The position lamp may not turn on when the position lamp switch is turned on, but the position lamp and headlamp switch may turn on when the headlamp switch is turned on. This may be caused by network failure or vehicle electrical control system malfunction. If this occurs, we recommend the system be checked by an authorized HYUNDAI dealer.**

Information

The headlamp aiming should be adjusted after an accident or after the headlamp assembly is reinstalled.

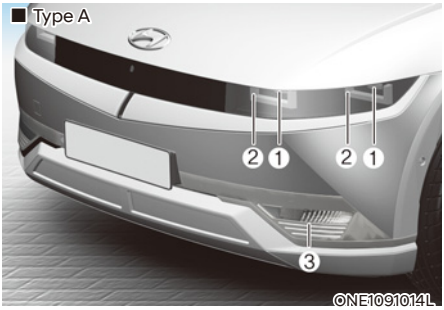
Information

Traffic Change (For Europe)

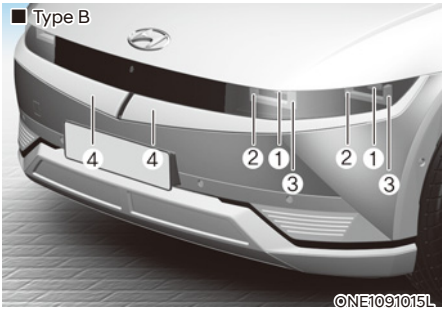
The low beam light distribution is asymmetric. If you go abroad to a country with opposite traffic direction, this asymmetric part will dazzle oncoming car driver. To prevent dazzle, ECE regulation demand several technical solutions (ex. automatic change system, adhesive sheet, down aiming). This headlamps are designed not to dazzle opposite drivers. So, you need not change your headlamps in a country with opposite traffic direction.

Headlamp, position lamp, turn signal lamp, Daytime Running Light (DRL) replacement

■ Type A



■ Type B



(1) Headlamp (High/Low)
(2) Position lamp/Daytime running light
(3) Turn signal lamp
  - Type A : Bulb
  - Type B : LED (if equipped)
(4) Garnish hidden lighting (if equipped)

If the LED lamp does not operate, we recommend that the system be inspected by an authorized HYUNDAI dealer.

The LED lamps cannot be replaced as a single unit because it is an integrated unit. The LED lamps has to be replaced with the unit.

A skilled technician should check or repair the LED lamp, for it may damage related parts of the vehicle.

Turn signal lamp (bulb type)

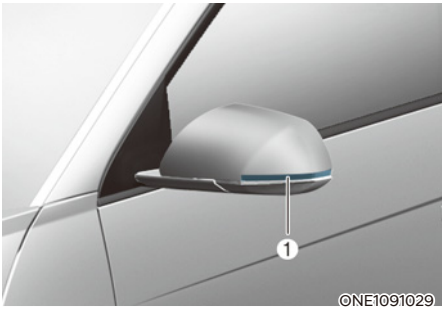
1. Engage the parking brake and disconnect the negative battery cable.
2. Remove wheel guard clips (under the front bumper).
3. Push the wheel guard aside and remove the bulb socket by turning it counterclockwise.
4. Remove the bulb from the socket by pressing it in and rotating it counterclockwise until the tabs on the bulb align with the slots in the socket.

   Pull the bulb out of the socket.
5. Install a new bulb by inserting it into the socket and rotating it until it locks into place.
6. Push the socket into the assembly and turn the socket clockwise.
7. Install the wheel guard in the reverse order.

WARNING

- **Wear eye protection when changing a bulb. Allow the bulb to cool down before handling it.**
- **Always handle them carefully, and avoid scratches and abrasions. If the bulbs are lit, avoid contact with liquids.**
- **Never touch the glass with bare hands. Residual oil may cause the bulb to overheat and burst when lit.**
- **A bulb should be operated only when installed in a turn signal lamp.**
- **If a bulb becomes damaged or cracked, replace it immediately and carefully dispose of it.**
- **Replacing the bulb may cause damage to the bulb relevant parts of the vehicle, and also may cause injuries. To replace the turn signal lamp, we recommend to visit an authorized HYUNDAI dealer.**

Side repeater lamp replacement



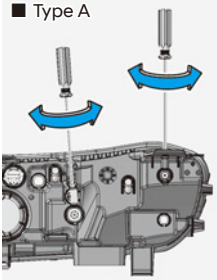
If the LED lamp (1) does not operate, we recommend that the system be inspected by an authorized HYUNDAI dealer.

The LED lamps cannot be replaced as a single unit because it is an integrated unit. The LED lamps has to be replaced with the unit.

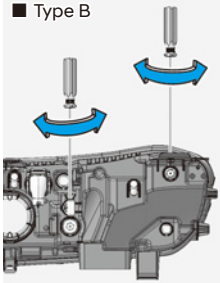
A skilled technician should check or repair the LED lamp, for it may damage related parts of the vehicle.

Headlamp aiming (For Europe)

■ Type A



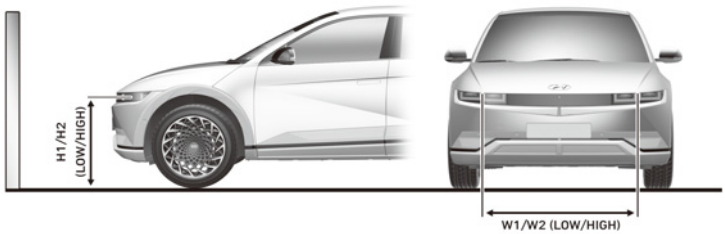
■ Type B



1. Inflate the tires to the specified pressure and remove any loads from the vehicle except the driver, spare tire, and tools.
2. The vehicle should be placed on a flat floor.
3. Draw vertical lines (Vertical lines passing through respective head lamp centers) and a horizontal line (Horizontal line passing through center of head lamps) on the screen.
4. With the headlamp and battery in normal condition, aim the headlamps so the brightest portion falls on the horizontal and vertical lines.
5. To aim the low beam and high beam left or right, turn the driver clockwise or counterclockwise.

   To aim the low beam and high beam up or down, turn the driver clockwise or counterclockwise.

Aiming point



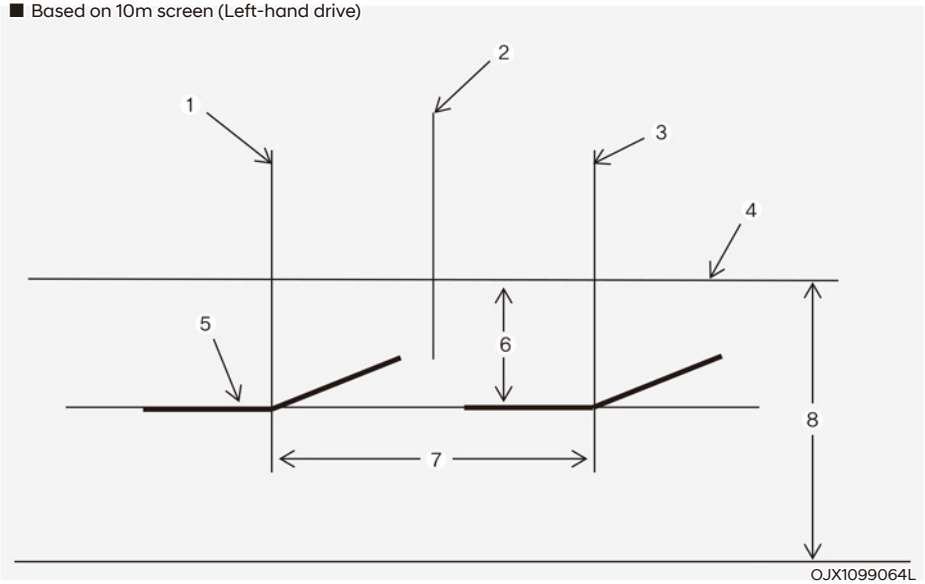
ONE1091044L

H1 : Height between the head lamp bulb center and ground (Low beam)
H2 : Height between the head lamp bulb center and ground (High beam)
W1 : Distance between the two head lamp bulbs centers (Low beam)
W2 : Distance between the two head lamp bulbs centers (High beam)

VEHICLE CONDITION	LAMP TYPE	H1	H2	W1	W2
WITHOUT DRIVER	STD (LED MFR)	505	505	1282.6	1282.6
	OPT (LED PROJ)	518.5	507.5	1487.2	1079.8
WITH DRIVER	STD (LED MFR)	495	495	1282.6	1282.6
	OPT (LED PROJ)	508.5	497.5	1487.2	1079.8

Headlamp low beam

■ Based on 10m screen (Left-hand drive)

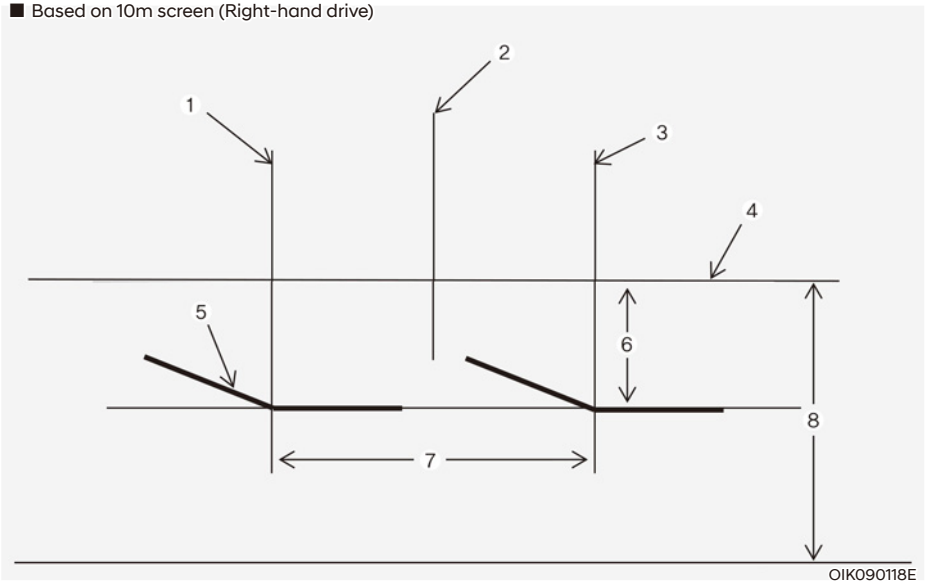


[1] : Vertical line of the left headlamp bulb center
[2] : Car axis
[3] : Vertical line of the right headlamp bulb center
[4] : Horizontal line of headlamp bulb center
[5] : Cut-off line
[6] : 30
[7] : W1 (Low beam)
[8] : H1 (Low beam)
[9] : Ground

1. Turn the low beam on without driver aboard.
2. The cut-off line should be projected in the cut-off line shown in the picture.
3. When aiming the low beam, vertical aiming should be adjusted after adjusting the horizontal aiming.
4. If headlamp leveling device is equipped, adjust the head lamp leveling device switch to “0”.

✳ The high beam is aimed simultaneously when aiming the low beam.

■ Based on 10m screen (Right-hand drive)

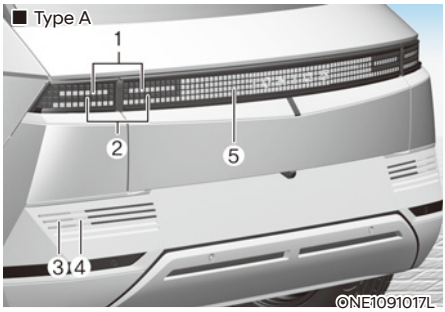


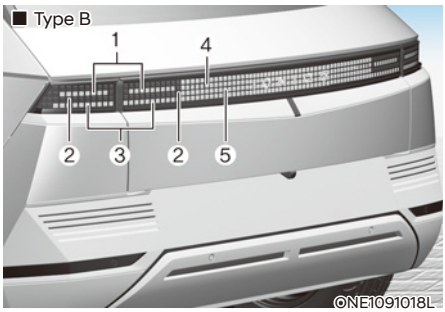
[1] : Vertical line of the left headlamp bulb center
[2] : Car axis
[3] : Vertical line of the right headlamp bulb center
[4] : Horizontal line of headlamp bulb center
[5] : Cut-off line
[6] : 30
[7] : W1 (Low beam)
[8] : H1 (Low beam)
[9] : Ground

1. Turn the low beam on without driver aboard.
2. The cut-off line should be projected in the cut-off line shown in the picture.
3. When aiming the low beam, vertical aiming should be adjusted after adjusting the horizontal aiming.
4. If headlamp leveling device is equipped, adjust the head lamp leveling device switch to “0”.

✳ The high beam is aimed simultaneously when aiming the low beam.

Rear combination lamp replacement





(1) Stop lamp
(2) Rear lamp/Stop lamp
(3) Turn signal lamp
(4) Reverse lamp
- Type A: Bulb
- Type B: LED (if equipped)

(5) Rear fog lamp

If the LED lamp does not operate, we recommend that the system be inspected by an authorized HYUNDAI dealer.

The LED lamps cannot be replaced as a single unit because it is an integrated unit. The LED lamps has to be replaced with the unit.

A skilled technician should check or repair the LED lamp, for it may damage related parts of the vehicle.

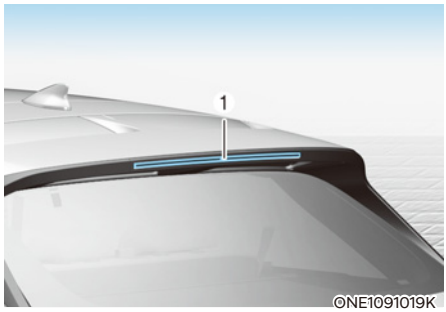
Turn signal lamp, Back-up lamp (bulb type)

1. Disconnect the negative battery cable.
2. Loosen the retaining clips under the bumper and screws on the wheel house trim.
3. Prey trim under the bumper toward the vehicle.
4. Remove the socket from the assembly by turning the socket counterclockwise until the tabs on the socket align with the slots on the assembly.
5. Remove the bulb by pulling it straight out.
6. Insert a new bulb in the socket.
7. Reinstall the light assembly to the body of the vehicle.

WARNING

- **Wear eye protection when changing a bulb. Allow the bulb to cool down before handling it.**
- **Always handle them carefully, and avoid scratches and abrasions. If the bulbs are lit, avoid contact with liquids.**
- **Never touch the glass with bare hands. Residual oil may cause the bulb to overheat and burst when lit.**
- **A bulb should be operated only when installed in a turn signal lamp.**
- **If a bulb becomes damaged or cracked, replace it immediately and carefully dispose of it.**
- **Replacing the bulb may cause damage to the bulb relevant parts of the vehicle, and also may cause injuries. To replace the turn signal lamp, we recommend to visit an authorized HYUNDAI dealer.**

High mounted stop lamp replacement

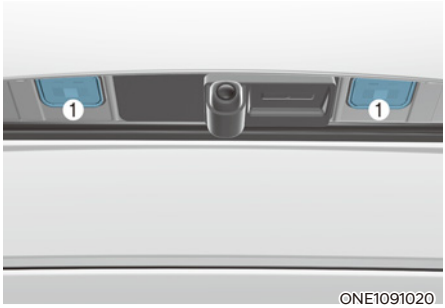


If the LED lamp (1) does not operate, we recommend that the system be inspected by an authorized HYUNDAI dealer.

The LED lamps cannot be replaced as a single unit because it is an integrated unit. The LED lamps has to be replaced with the unit.

A skilled technician should check or repair the LED lamp, for it may damage related parts of the vehicle

License plate lamp replacement



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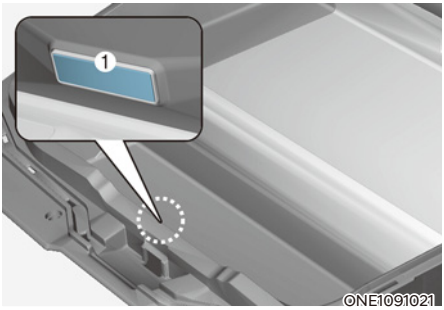
A skilled technician should check or repair the LED lamp, for it may damage related parts of the vehicle.

Front trunk lamp replacement



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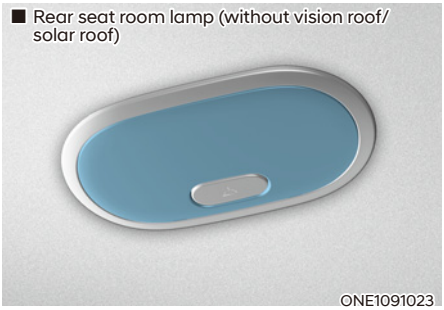
The LED lamps cannot be replaced as a single unit because it is an integrated unit. The LED lamps has to be replaced with the unit.

A skilled technician should check or repair the LED lamp, for it may damage related parts of the vehicle.

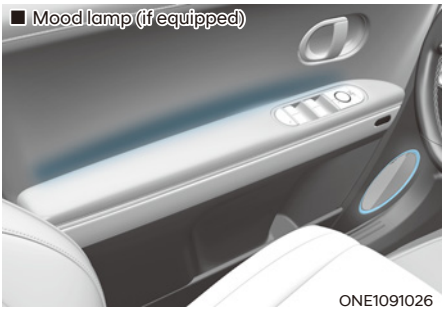
Interior light replacement

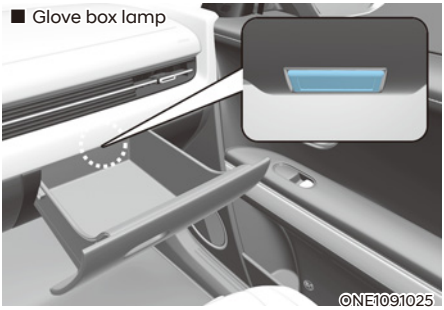
■ First row lamp (if equipped)

■ Rear seat room lamp (without vision roof/ solar roof)



■ Rear seat personal lamp (with vision roof/ solar roof)





If the LED lamp (1) does not operate, we recommend that the system be inspected by an authorized HYUNDAI dealer.

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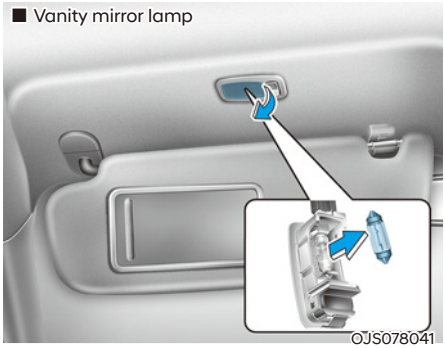
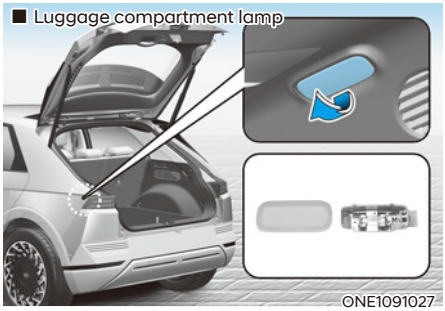
A skilled technician should check or repair the LED lamp, for it may damage related parts of the vehicle.

Vanity mirror lamp and luggage compartment lamp (Bulb type)





1. Apply the parking brake and place the Start/Stop button in the OFF position.
2. Turn off the lights.
3. Using a flat-head screwdriver, gently pry the lens from the interior light housing.
4. Remove the bulb by pulling it straight out.
5. Insert a new bulb into the socket.
6. Align the lens tabs with the interior light housing notches and snap the lens into place.

NOTICE

Use care not to dirty or damaged lenses, lens tabs, and plastic housings.

APPEARANCE CARE

Exterior care

NOTICE

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

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

Even prompt washing with plain water may not completely remove all these deposits. A mild soap, safe for use on painted surfaces, should be used.

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

High-pressure washing

- When using high-pressure washers, make sure to maintain sufficient distance from the vehicle.

  Insufficient clearance or excessive pressure can lead to component damage or water penetration.
- Do not spray the camera, sensors or its surrounding area directly with a high pressure washer. Shock applied from high pressure water may cause the device to not operate normally.
- Do not bring the nozzle tip close to boots (rubber or plastic covers) or connectors as they may be damaged if they come into contact with high pressure water.

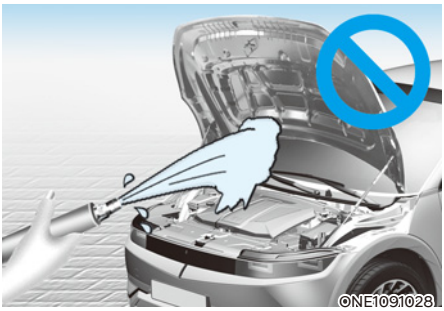
WARNING

After washing the vehicle, test the brakes while driving slowly to see if they have been affected by water before getting on the road. If braking performance is impaired, 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.**
- **Be careful when washing the side windows of your vehicle.**
- **Especially, with high-pressure water, water may leak through the windows and wet the interior.**
- **To prevent damage to the plastic parts, do not clean with chemical solvents or strong detergents.**

NOTICE



- **Water washing in the motor compartment including high pressure water washing may cause the failure of electrical circuits located in the vehicle compartment.**
- **Never allow water or other liquids to come in contact with electrical/ electronic components inside the vehicle as water or other liquids may flow in to the motor compartment through the front trunk and damage electrical/electronic components.**

NOTICE

Matte paint finish vehicle (if equipped)

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

Use a soft cloth (e.g. microfiber towel or sponge) when washing your vehicle and dry with a microfiber towel. When you hand wash your vehicle, you should not use a cleaner that finishes with wax. If the vehicle surface is too dirty (sand, dirt, dust, contaminant, etc.), clean the surface with water before washing the car.

Waxing

A good coat of wax is a barrier between your paint and contaminate. Keeping a good coat of wax on your vehicle will help protect it.

Wax the vehicle when water will no longer bead 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 will usually strip 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

- **Wiping dust or dirt off the body with a dry cloth will scratch 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. This may result in damage to the protective coating and cause discoloration or paint deterioration.**

NOTICE

Matte paint finish vehicle (if equipped)

Do not use any polish protector such as a detergent, an abrasive and a polish. In case wax is applied, remove the wax immediately using a silicon remover and if any tar or tar contaminant is on the surface use a tar remover to clean. However, be careful not to apply too much pressure on the painted area.

Finish damage repair

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

NOTICE

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

NOTICE

Matte paint finish vehicle (if equipped)

In case of matte paint finish vehicles, it is impossible to modify only the damaged area and repair of the whole part is necessary. If the vehicle is damaged and painting is required, we recommend that you have your vehicle maintained and repaired by an authorized HYUNDAI dealer. Take extreme care, as it is difficult to restore the quality after the repair.

Bright-metal maintenance

- To remove road tar and insects, use a tar remover, not a scraper or other sharp object.
- To protect the surfaces of brightmetal 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 can occur on underbody parts such as the frame and floor pan, 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 will do 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 should not be allowed to clog with dirt; trapped water in these areas can cause rusting.

WARNING

After washing the vehicle, test the brakes while driving slowly to see if they have been affected by water. If braking performance is impaired, dry the brakes by applying them lightly while maintaining a slow forward speed.

Aluminum wheel maintenance

The aluminum wheels are coated with a clear protective finish.

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

Corrosion protection

Protecting your vehicle from corrosion

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

Common causes of corrosion

The most common causes of corrosion on your vehicle are:

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

High-corrosion areas

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

Moisture breeds corrosion

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

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

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

To help prevent corrosion

Keep your vehicle clean

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

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

Keep your garage dry

Don't park your vehicle in a damp, poorly ventilated garage. This creates a favorable environment for corrosion. This is particularly true if you wash your vehicle in the garage or drive it into the garage when it is still wet or covered with snow, ice or mud. Even a heated garage can contribute to corrosion unless it is well ventilated so moisture is dispersed.

Keep paint and trim in good condition

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

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

Interior care

Interior general precautions

Prevent caustic solutions such as perfume and cosmetic oil, from contacting the interior parts because they may cause damage or discoloration. If they do contact the interior parts, wipe them off immediately. See 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 as this may damage them.**
- **When cleaning leather products (steering wheel, seats etc.), use neutral detergents or low alcohol content solutions. If you use high alcohol content solutions or acid/ alkaline detergents, the color of the leather may fade or the surface may get stripped off.**

Cleaning the upholstery and interior trim

Vehicle interior surfaces (if equipped)

Remove dust and loose dirt from interior surfaces with a whisk broom or a vacuum cleaner. If necessary, clean interior surfaces with a mixture of warm water and mild non-detergent cleaner (test all cleaners on a concealed area before use).

Fabric (if equipped)

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

NOTICE

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

Leather (if equipped)

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

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

NOTICE

- **Wrinkles or abrasions which appear naturally from usage are not covered by warranty.**
- **Belts with metallic accessories, zippers or keys inside the back pocket may damage the seat fabric.**
- **Make sure not to wet the seat. It may change the nature of natural leather.**
- **Jeans or clothes which could bleach may contaminate the surface of the seat covering fabric.**

- Caring for the leather seats
  - Vacuum the seat periodically to remove dust and sand on the seat. It will prevent abrasion or damage of the leather and maintain its quality.
  - Wipe the natural leather seat cover often with dry or soft cloth.
  - Use of proper leather protector may prevent abrasion of the cover and helps maintain the color. Be sure to read the instructions and consult a specialist when using leather coating or protective agent.
  - Light colored (beige, cream beige) leather is easily contaminated and the stain is noticeable. Clean the seats frequently.
  - Avoid wiping with wet cloth. It may cause the surface to crack.
- Cleaning the leather seats
  - Remove all contaminations instantly. Refer to instructions below for removal of each contaminant.
  - Cosmetic products (sunscreen, foundation, etc.)

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

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

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

    Harden the gum with ice and remove gradually.

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. 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 of the vehicle become fogged (that is, covered with an oily, greasy or waxy film), they should be cleaned with 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.