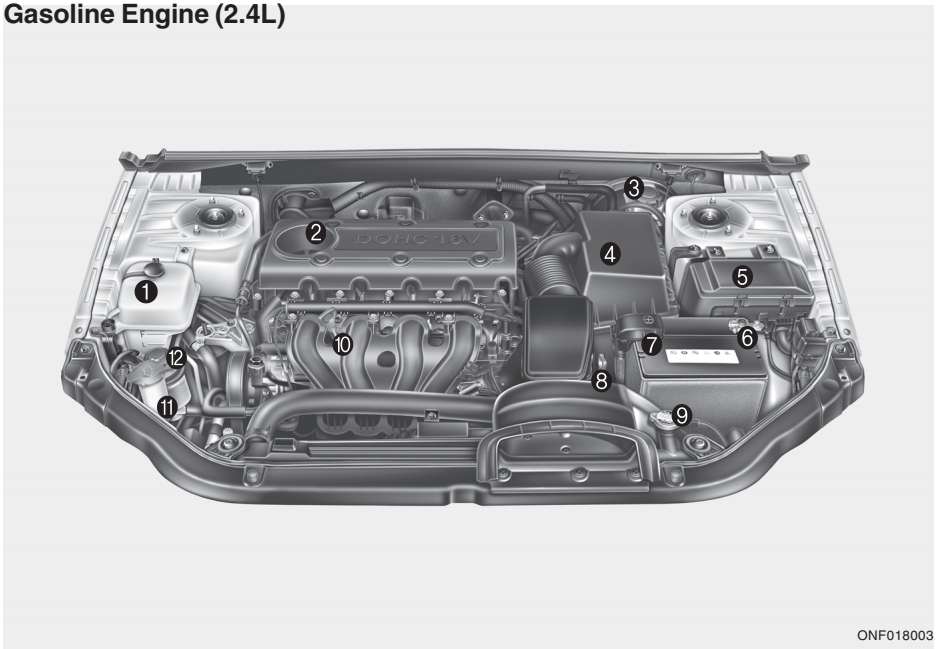
SATURDAY MECHANICS
Do-It-Yourself Maintenance

2 ENGINE COMPARTMENT

G010B02NF-AAT

Gasoline Engine (2.4L)



ONF018003

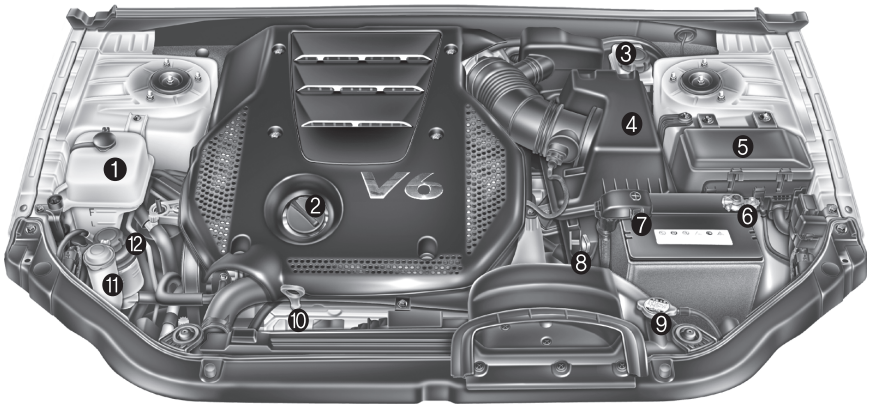
1. Engine coolant reservoir
2. Engine oil filler cap
3. Brake fluid reservoir
4. Air cleaner
5. Fuse box
6. Negative battery terminal
7. Positive battery terminal
8. Auto transaxle oil dipstick*
9. Radiator cap
10. Engine oil dipstick
11. Windshield washer fluid reservoir
12. Power steering fluid reservoir

* : if equipped

CAUTION:
When inspecting or servicing the engine, you should handle tools and other heavy objects carefully so that the plastic cover of the engine is not damaged.

G010A02NF-AAT

Gasoline Engine (3.3L)



8G010A01NF

CAUTION:
When inspecting or servicing the engine, you should handle tools and other heavy objects carefully so that the plastic cover of the engine is not damaged.

1. Engine coolant reservoir
2. Engine oil filler cap
3. Brake fluid reservoir
4. Air cleaner
5. Fuse box
6. Negative battery terminal
7. Positive battery terminal
8. Auto transaxle oil dipstick*
9. Radiator cap
10. Engine oil dipstick
11. Windshield washer fluid reservoir
12. Power steering fluid reservoir

* : if equipped

G020A01NF-GAT

Engine Compartment

The following should be checked regularly:

- o Engine oil level and condition
- o Transaxle fluid level and condition
- o Brake fluid level
- o Engine coolant level
- o Windshield washer fluid level
- o Accessory drive belt condition
- o Engine coolant hose condition
- o Fluid leaks (on or below components)
- o Power steering fluid level
- o Battery condition
- o Air filter condition
- o Immediate repairing when engine trembling occurs
- o Limit to restart more than 3 times when engine cannot start

G020B01A-AAT

Vehicle Exterior

The following should be checked monthly:

- o Overall appearance and condition
- o Wheel condition and wheel nut torque
- o Exhaust system condition
- o Light condition and operation
- o Windshield glass condition
- o Wiper blade condition
- o Paint condition and body corrosion
- o Fluid leaks
- o Door and hood lock condition
- o Tire pressure and condition (including spare tire)

G020C01A-BAT

Vehicle Interior

The following should be checked each time when the vehicle is driven:

- o Lights operation
- o Windshield wiper operation
- o Horn operation
- o Defogger, heating system operation (and air conditioning, if installed)
- o Steering operation and condition
- o Mirror condition and operation
- o Turn signal operation
- o Accelerator pedal operation
- o Brake operation, including parking brake
- o Manual transaxle operation, including clutch operation
- o Automatic transaxle operation, including "Park" mechanism operation
- o Seat control condition and operation
- o Seat belt condition and operation
- o Sun visor operation

If you notice anything that does not operate correctly or appears to be functioning correctly, inspect it carefully and seek assistance from your Hyundai dealer if service is needed.

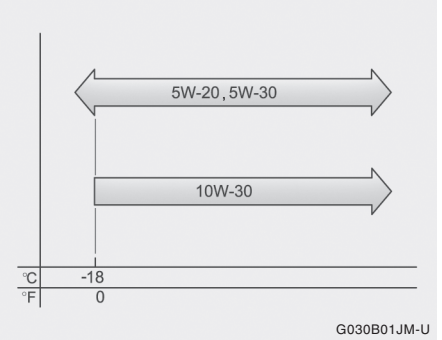
CHECKING THE ENGINE OIL

G030A01A-AAT

Engine oil is essential to the performance and service of the engine. It is suggested that you check the oil level at least once a week in normal use and more often if you are on a trip or driving in severe conditions.

G030B01O-AAT

Recommended Oil



G030B01JM-U

The engine oil quality should meet the following classification.

API SL or SM,
ILSAC GF-3 or ABOVE

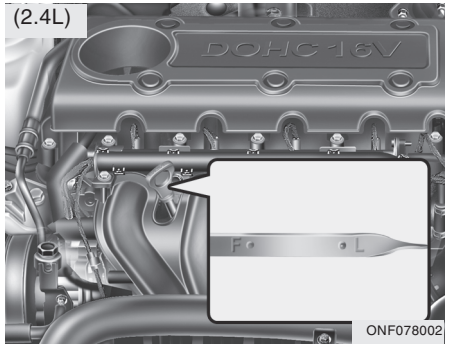
NOTE:

- **For good fuel economy, SAE 5W-20 (5W-30), ILSAC GF-3 engine oil is preferred.**
- **If SAE 5W-20, ILSAC GF-3 engine oil is not available, a secondary recommended engine oil for corresponding temperature range can be used. See page 9-4.**

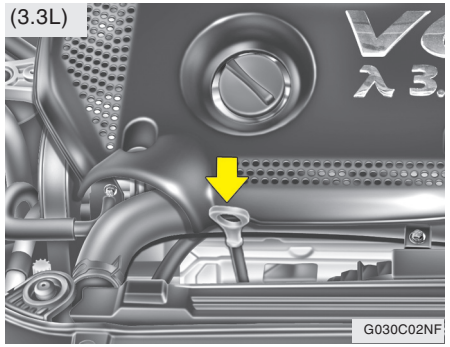
G030C01JM-AAT

To Check the Oil Level

(2.4L)



(3.3L)



Before checking the oil, warm up the engine to the normal operating temperature and be sure your car is parked on level ground. Turn the engine off.

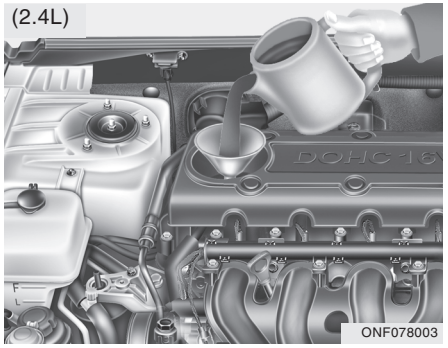
Wait five minutes, then remove the dipstick, wipe it off, fully reinsert the dipstick and withdraw it again. Then note the highest level the oil has reached on the dipstick. It should be between the upper ("F") and lower ("L") range.

WARNING:
Be very careful not to touch the radiator hose when checking the engine oil as it may be hot enough to burn you.

G030D01O-BAT

Adding Oil

(2.4L)



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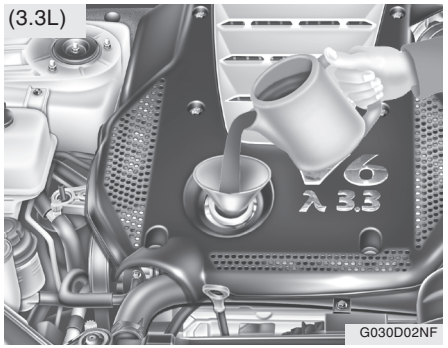
(3.3L)



G030D02NF

If the oil level is close to or below the "L" mark, add oil until it reaches the "F" mark. To add oil:

1. Remove the oil filler cap by turning it counter-clockwise.
2. Add oil, then check the level again. Do not overfill.
3. Replace the cap by turning it clockwise.

The distance between the "F" and "L" marks is equal to about 1 liter of oil.

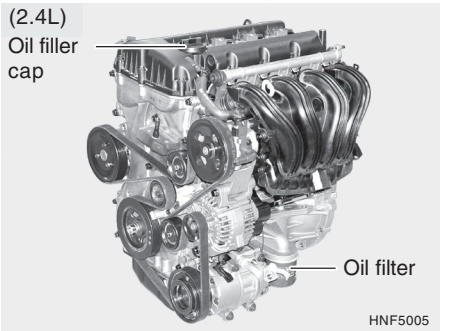
CAUTION:
Slowly pour the recommended oil into a funnel. Do not overfill to avoid damage to the engine.

WARNING:
Be very careful not to touch the radiator hose when adding the engine oil as it may be hot enough to burn you.

CHANGING THE ENGINE OIL AND FILTER

G040A01NF-BAT

(2.4L)



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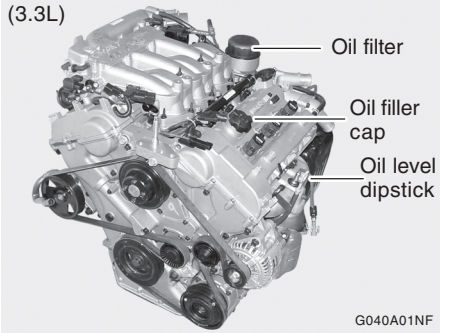
(3.3L)



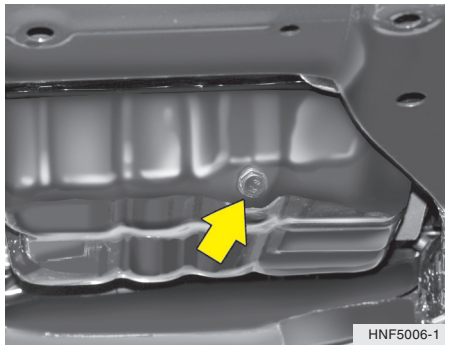
G040A01NF

The engine oil and filter should be changed at those intervals specified in the maintenance schedule in Section 5. If the car is being driven in severe conditions, more frequent oil and filter changes are required.

The procedure for changing the oil and filter is as follows:

1. Park the car on level ground and set the parking brake. Start the engine and let it warm up until the needle on the coolant temperature gauge moves above the lowest mark. Turn the engine off and place the gear selector lever in "P" (automatic) or reverse gear (manual transaxle).
2. Open the hood and remove the engine oil filler cap.

NOTE:
Loosen the oil filter cap by turning it counterclockwise to drain well the oil in the oil filter (3.3L only).


HNF5006-1

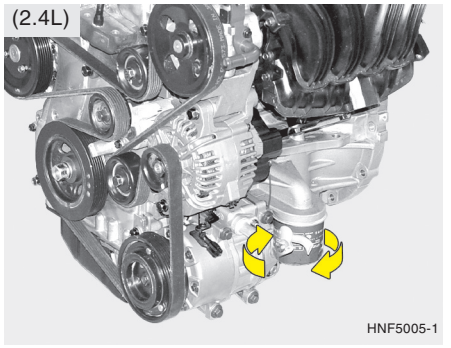
3. Slide underneath the car and loosen the drain plug by turning it counterclockwise with a wrench of the proper size. Be sure that a drain pan is in position to catch the oil as it drains out, then remove the drain plug.

! WARNING:
Be very careful when draining the engine oil as it may be hot enough to burn you!

4. When the oil has stopped draining, replace the drain plug using a new gasket and retighten by turning it clockwise.

   Oil pan drain plug tightening torque:
   3.5 ~ 4.5 kgf.m

(2.4L)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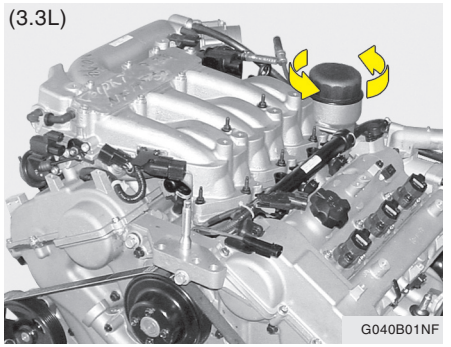
(3.3L)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5. Remove the oil filter by turning it counterclockwise with a oil filter wrench of the proper size. A certain amount of oil will come out when you remove the filter. So be sure to have your drain pan in place underneath it.
6. Install a new oil filter in accordance with the instructions on the carton or on the filter itself. Do not over-tighten.

   Tightening torque: 1.2 ~ 1.6 kgf.m

   Be sure that the mounting surface on the engine is clean and that the old gasket is removed completely. Lubricate the new gasket on the filter with clean engine oil before installation.
7. Remove the engine oil level dipstick.
8. Refill the crankcase with the recommended engine oil. Refer to the specification in chapter 9 for engine oil capacity.

CAUTION:
Slowly pour the recommended oil into a funnel. Do not overfill to avoid damage to the engine.

9. Start the engine and check to be sure no oil is leaking from the drain plug or oil filter.
10. Shut off the engine and recheck the oil level.

NOTE:
Always dispose of used engine oil in an environmentally acceptable manner. It is suggested that it be placed in a sealed container and taken to a service station for reclamation. Do not pour the oil on the ground or put it into the household trash.

WARNING:
Used motor oil may cause irritation or cancer of the skin if left in contact with the skin for prolonged periods of time. Wash your hands thoroughly with soap and warm water as soon as possible after handling used oil.

ENGINE COOLANT LEVEL

ZG050A1-B

The coolant level in the reservoir tank will vary with engine temperature. However, if the level is on or below the "L" line, add coolant to the "F" line. Use the same ratio of ethylene glycol type coolant as that in the radiator.

WARNING:
Do not remove the radiator cap when the engine is hot. The cooling system is pressurized and the escaping steam could cause serious personal injury. Turn off the engine and allow it to cool before removing the radiator cap. Always cover the radiator cap with a rag before turning it slowly to the first stop. After all pressure has escaped from the system, press down on the cap and turn it to remove it.

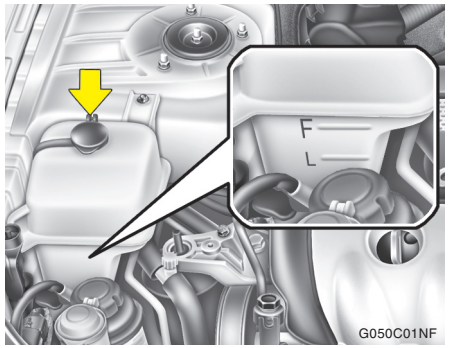
ZG050B1-B
Recommended Coolant

The cooling system of your Hyundai vehicle is filled at the factory with a 50% mixture of year-round antifreeze. Observance of the following precautions will maximize the life of the engine's cooling system and contribute towards trouble-free driving.

1. Use only high quality, aluminum compatible, ethylene glycol anti-freeze that conforms to SAEJ1034/ ASTMD3306 specifications. (High anhydrous sodium silicate content).
2. Never allow the concentration of antifreeze to exceed the 60% level or go below the 35% level or damage to the coolant system may result. For proper concentration when adding or replacing the coolant, refer to the following table.

Ambient temperature °C (°F)	Coolant concentration	
	Antifreeze solution	Water
-15 (5)	35%	65%
-25 (-13)	40%	60%
-35 (-31)	50%	50%
-45 (-49)	60%	40%

3. Purge all air from the system to allow the coolant to completely fill the radiator upper tank.



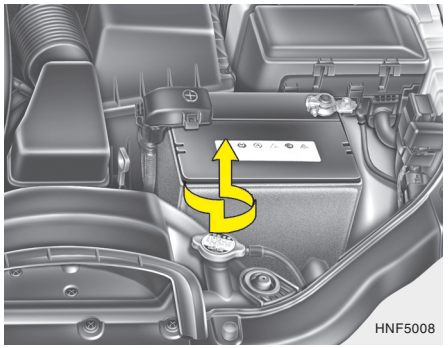
4. Maintain the coolant level between the "L"and "F" lines on the radiator overflow reservoir tank.
5. It is normal for the cooling system inhibitors to deteriorate with use. For this reason, it is important to change the coolant at the inter-vals recommended in this manual.

NOTE:
Do not use additional corrosive inhibiters or additives.

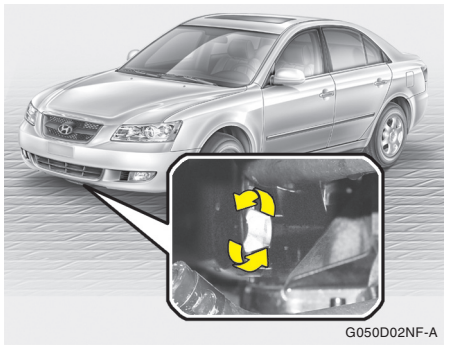
G050D01NF-BAT
Changing Engine Coolant

CAUTION:
- **Coolant can damage the finish of your car. If you spill coolant on the car, wash it off thoroughly with clean water.**
- **The engine in your vehicle has aluminum engine parts and must be protected by an ethylene-glycol base coolant to prevent corrosion and freezing.**
  Do not use hard water. Hard water can cause engine damage from corrosion, overheating or freezing.

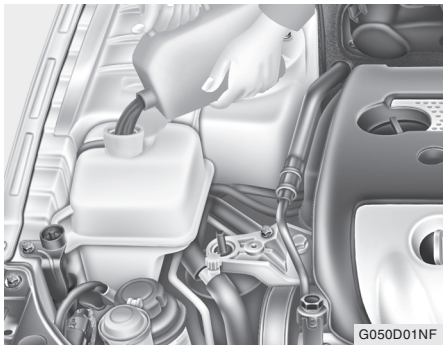
1. Park the car on level ground, set the parking brake and remove the radiator cap when cool.



2. Wrap a thick cloth around the radiator cap and slowly turn the radiator cap counterclockwise without pressing down on it, until it stops. This relieves any pressure remaining in the cooling system. When you are sure that all the pressure has been released, remove the radiator cap by pushing down and turning counterclockwise.
   Do not remove the cap if the engine is hot.



3. Be sure your drain receptacle is in place. Open the drain cock on the radiator. Allow all the engine coolant to drain from the cooling system, and then securely close the drain cock.
4. Check Section 9 for the capacity of the cooling system in your car. Then, following the manufacturer's directions on the engine coolant container, add the appropriate quantity of coolant to the radiator.
5. Slowly fill the radiator with the proper coolant mixture (see the "Recommended Coolant in previous page) until the fluid level stays up in the radiator neck. And pump the radiator hose in order to bleed the air.



6. Run the engine at idle until the coolant circulates. If the cooling fan operates and the coolant starts to circulate, add the coolant to the reservoir.
7. To bleed the air in the cooling system, repeat procedure 6 until the cooling fan operates 3~5 times.
8. Replace the radiator cap and turn it until tightly installed. And then, add coolant to the reservoir until the level is between "L" and "F".
9. Stop the engine and check the coolant level when the engine is cool. The level of the coolant should be the "L" and "F" lines on the reservoir. If the level is below the "L" line, repeat the procedure 4~8 until the level between "L" and "F".

10. Replace the reservoir cap and check to be sure the drain cock and the radiator cap are fully closed and not leaking.

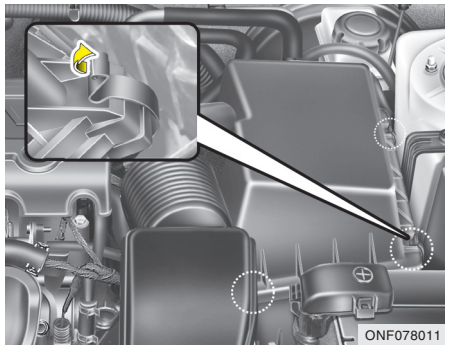
CAUTION:
Recheck after a few days and add the coolant if the level is below the "L" level.

11. If frequent additions of coolant are neces-sary, see your Hyundai Dealer for a cooling system inspection.

WARNING:
The cooling fan is controlled by engine coolant temperature and may sometimes operate even when the engine is not running. Use extreme caution when working near the blades of the cooling fan. As the coolant temperature decreases the fan will automatically shut off. This is a normal condition.

CHANGING THE AIR CLEANER FILTER

G070A03Y-AAT



The replacement of the air cleaner filter is performed in the following manner.

1. Unsnap the clips around the cover.
2. When this is done, the cover can be lifted off, the old filter removed and the new filter put in its place.

Genuine Hyundai replacement parts are recommended.

CAUTION:
- **Operating your vehicle without using a proper air cleaner filter in place can result in excessive engine wear.**
- **When removing the air cleaner filter, be careful that dust or dirt does not enter the air intake. These may result in damage to the air cleaner filter.**

WINDSHIELD WIPER BLADES

G080A02A-AAT

The wiper blades should be carefully inspected from time to time and cleaned to remove accumulations of road film or other debris. To clean the wiper blades and arms, use a clean sponge or cloth with a mild soap or detergent and water. If the wipers continue to streak or smear the glass, replace them with genuine Hyundai replacement parts or their equivalent.

CAUTION:

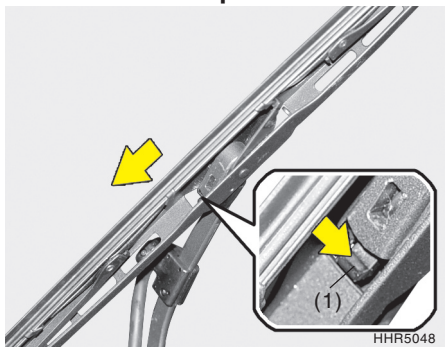
- **Do not operate the wipers on dry glass. This can result in more rapid wear of the wiper blades and may scratch the glass.**
- **Keep the blade rubber out of contact with petroleum products such as engine oil, gasoline, etc.**

G080B01HR-GAT

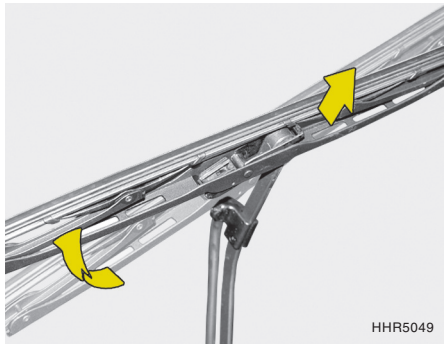
Replacing the Wiper Blades

To replace the wiper blades, raise the wiper to the vertical position.

To remove the wiper blade

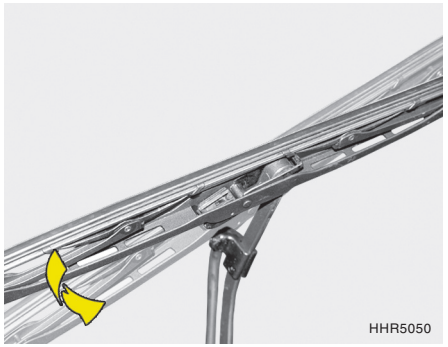


1. Push down the wiper blade with the locking clip (1) pressed to detach it from the wiper arm.

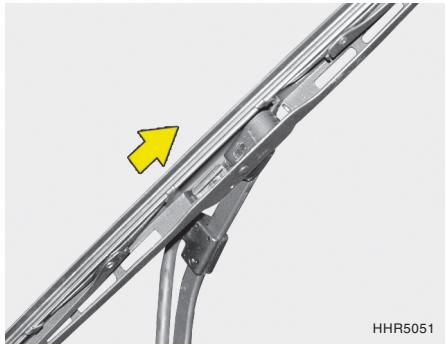


2. Raise the wiper blade lightly and pull it up.

To install the wiper blade



1. Put a new wiper blade onto the wiper arm and lower the wiper blade at the level of the wiper arm as shown in the drawing.



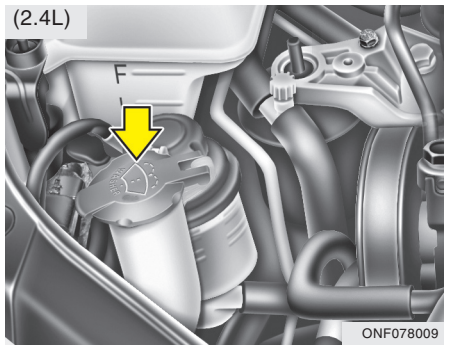
2. Pull up the wiper blade until you hear an audible "click" to engage in the end of the wiper arm.

NOTE:
Do not allow the wiper arm to fall against the windshield.

FILLING THE WASHER RESERVOIR

G090A02NF-GAT

(2.4L)



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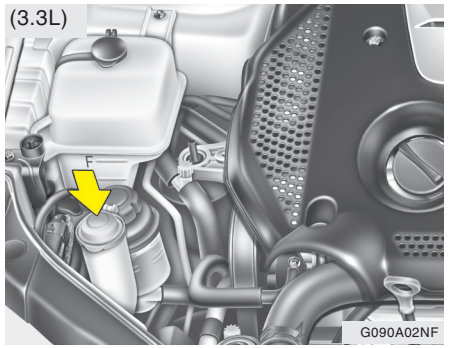


The washer fluid reservoir supplies fluid to the windshield washer system.

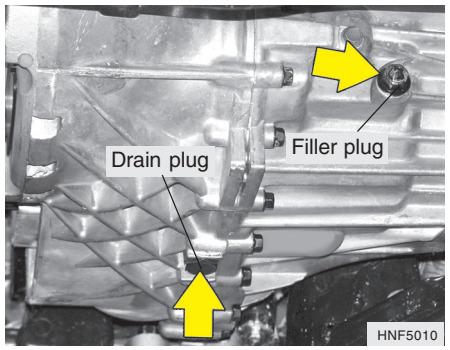
A good quality washer fluid should be used to fill the washer reservoir. The fluid level should be checked more frequently during bad weather or whenever the washer system is in more frequent use.
The capacity of the washer reservoir is 4.0 liters.

CAUTION:
- **Radiator antifreeze (engine coolant) should not be used in the washer system because it will damage the car's finish.**
- **The washer lever should not be pulled and the washer should not be operated if the washer reservoir is empty. This can damage the washer fluid pump.**

WARNING:
- **Windshield washer fluid agents contain some amounts of alcohol and can be flammable under certain circumstances. Do not allow sparks or flame to contact the washer fluid or the washer fluid reservoir. Damage to the vehicle or its occupants could occur.**
- **Windshield washer fluid is poisonous to humans and animals. Do not drink windshield washer fluid. Serious injury or death could occur.**

CHECKING THE TRANSAXLE OIL (MANUAL)

G100A02NF-BAT



Transaxle lubricant in the manual transaxle should be checked at those intervals specified in the vehicle maintenance schedule in Section 5.

Recommended Oil

Use only HYUNDAI GENUINE PARTS MTF 75W/85 (API GL-4) in the manual transaxle.

Manual Transaxle Oil Capacity

The oil capacity of the manual transaxle is 1.75 liters (1.8 U.S. quarts).

WARNING:
It is always better to check the transaxle oil level when the engine is cool or cold. If the engine is hot, you should exercise great caution to avoid burning yourself on hot engine or exhaust parts.

NOTE:
It is recommended that the manual transaxle fluid should be checked by an authorized Hyundai dealer.

CHECKING THE TRANSAXLE FLUID (AUTOMATIC)

G110A01E-AAT

Transaxle fluid in the automatic transaxle should be checked at those intervals specified in the vehicle maintenance schedule in Section 5.

NOTE:
Automatic transaxle fluid is basically red in color. As driving distance increases, the fluid color turns darkish red gradually. It is a normal condition and you should not judge the need to replace based upon the changing color.
You must replace the automatic transaxle fluid in accordance with intervals specified in the vehicle maintenance schedule in section 5.

G110B05A-BAT

Recommended Fluid

Your Hyundai automatic transaxle is specially designed to operate with HYUNDAI GENUINE ATF SP III, DIAMOND ATF SP III, SK ATF SP III or other brands meeting the SP III specification. Damage caused by a nonspecified fluid is not covered by your new vehicle limited warranty.

CAUTION:
Use of aftermarket ATF additives may cause damage to the automatic transaxle.
Only use HYUNDAI GENUINE ATF SP III, DIAMOND ATF SP III, SK ATF SP III or other brands meeting the SP III specification approved by Hyundai Auto Canada Corp. If you are having your vehicle serviced at a facility other than a Hyundai dealer, verify that the correct ATF is used for your vehicle.

G110C01NF-GAT

Transaxle Fluid Capacity

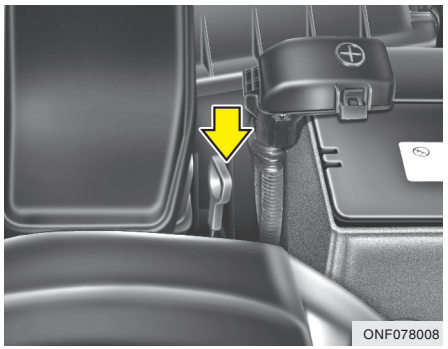
The fluid capacity of the automatic transaxle is:

2.4L	7.8 liters
3.3L	10.9 liters

WARNING:
The transaxle fluid level should be checked when the engine is at normal operating temperature. This means that the engine, radiator, radiator hose, exhaust system etc., are very hot. Exercise great care not to burn yourself during this procedure.

G110D03O-AAT

Checking the automatic transaxle fluid level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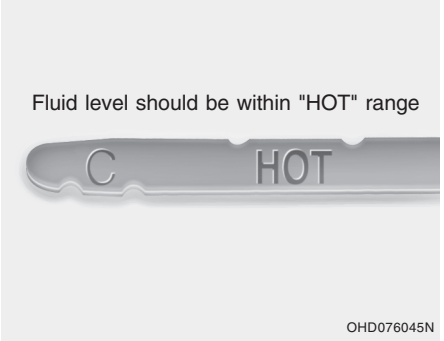
The automatic transaxle fluid level should be checked regularly.
Keep the vehicle on the level ground with the parking brake applied and check the fluid level according to the following procedure.

1. Place the selector lever in N (Neutral) position and confirm the engine is running at normal idle speed.
2. After the transaxle is warmed up sufficiently (fluid temperature 70~80°C (158~176°F), for example by 10 minutes usual driving, move the shift lever through all positions then place the selector lever in “N (Neutral) or P (Park)” position.



OHD076045N

3. Confirm that the fluid level is in “HOT” range on the level gauge. If the fluid level is lower, add the specified fluid from the fill hole. If the fluid level is higher, drain the fluid from the drain hole.
4. If the fluid level is checked in cold condition (fluid temperature 20~30°C (68~86°F) add the fluid to “COLD (C)” line and then recheck the fluid level according to the above step 2.

CHECKING THE BRAKES

WARNING:
The cooling fan is controlled by engine coolant temperature and may sometimes operate even when the engine is not running. Use extreme caution when working near the blades of the cooling fan so that you are not injured by a rotating fan blade. As the engine coolant temperature decreases, the fan will automatically shut off. This is a normal condition.

G120A01A-AAT

CAUTION:
Because brakes are essential to the safe operation of the car, it is suggested that they be checked and inspected by your Hyundai dealer. The brakes should be checked and inspected for wear at those intervals specified in the vehicle maintenance schedule in Section 5.

G120B01A-AAT

Checking the Brake Fluid Level

WARNING:
Use caution when handling brake fluid. It can damage your vision if it gets into your eyes. It will also damage your vehicle's paint if spilled on it and not removed immediately.

G120C02A-AAT

Recommended Brake Fluid

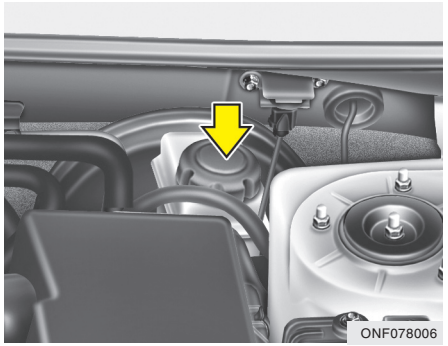
Use only hydraulic brake fluid conforming to DOT 3 or DOT 4 specifications in your braking system. Follow the instructions printed on the container.

G120D01A-AAT

To Check the Fluid Level

The fluid level in the brake fluid reservoir should be checked periodically. The level should be between the "MIN" and "MAX" marks on the side of the reservoir. If the level is at or below the "MIN" mark, carefully add fluid to bring it up to "MAX". Do not overfill.

G120E02A-AAT
Adding Brake Fluid



WARNING:
Handle brake fluid carefully. It can damage your vision if it gets into your eyes. Use only DOT 3 or DOT 4 specification fluid from a sealed container. Do not allow the fluid can or reservoir to remain open any longer than required. This will prevent entry of dirt and moisture which can damage the brake system and cause improper operation.

To add brake fluid, first wipe away any dirt then unscrew the fluid reservoir cap. Slowly pour the recommended fluid into the reservoir. Do not overfill. Carefully replace the cap on the reservoir and tighten.

G140A01A-AAT
Keeping the Condenser Clean

The air conditioning condenser (and engine radiator) should be checked periodically for accumulation of dirt, dead insects, leaves, etc. These can interfere with maximum cooling efficiency. When removing such accumulations, brush or hose them away carefully to avoid bending the cooling fans.

G140B01A-AAT
Checking the Air Conditioning Operation

1. Start the engine and let it run at a fast idle for several minutes with the air conditioning set at the maximum cold setting.
2. If the air coming out of the in-dash vents is not cold, have the air conditioning system inspected by your Hyundai dealer.

CAUTION:
Running the air conditioning system for extended periods of time with a low refrigerant level may damage the compressor.

G140C01A-AAT
Lubrication

To lubricate the compressor and the seals in the system, the air conditioning should be run for at least 10 minutes each week. This is particularly important during cool weather when the air conditioning system is not otherwise in use.

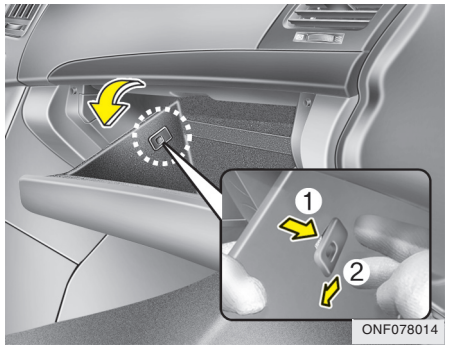
CHANGING THE CLIMATE CONTROL AIR FILTER

G170100ANF

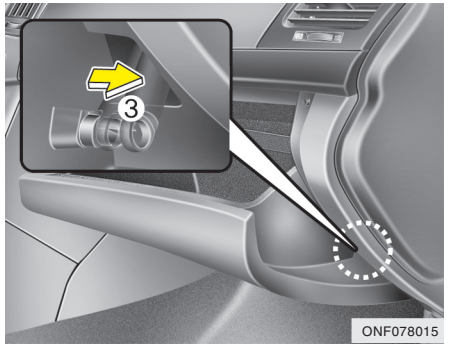
Filter inspection

If the vehicle is operated in severely air-polluted cities or on dusty rough roads for a long period, the filter should be inspected more frequently and replaced earlier. When you replace the climate control air filter, replace it by performing the following procedure, and be careful to avoid damaging other components.
Replace the filter according to the maintenance Schedule.

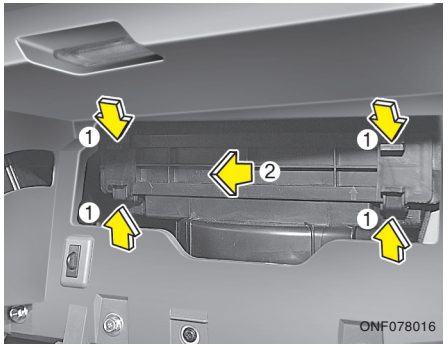
Filter replacement



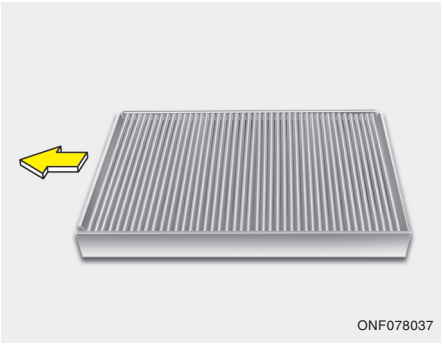
1. With the glove box open, remove the stoppers on both sides to allow the glove box to hang freely on the hinges.



2. Remove the support rod.



3. Remove the climate control air filter case by pulling out the cover.



4. Replace the climate control air filter.
5. Reassemble in the reverse order of disassembly.

NOTE:
When replacing the climate control air filter install it in the same position as it was installed. Otherwise, the system may produce noise and the effectiveness of the filter may be reduced.

CHECKING THE FREE-PLAY

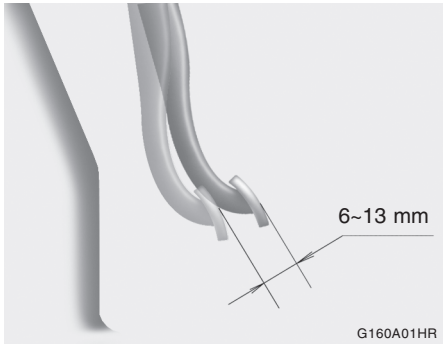
G150A01A-AAT

STEERING WHEEL

To check the steering wheel free-play, stop the car with the wheels pointed straight ahead and gently move the steering wheel back and forth. Use very light finger pressure and be sensitive to changes in resistance that mark the limits of the free-play. If the free-play is greater than specified, have it inspected by your Hyundai dealer and adjusted or repaired if necessary.

G160A01A-GAT

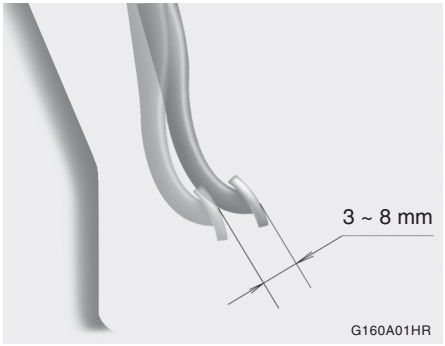
CLUTCH PEDAL



With the engine off, press lightly on the clutch pedal until you feel a change in resistance. This is the clutch pedal free-play. The free-play should be within the limits specified in the illustration. If it is not, have it inspected by your Hyundai dealer and adjusted or repaired if necessary.

G170A01A-AAT

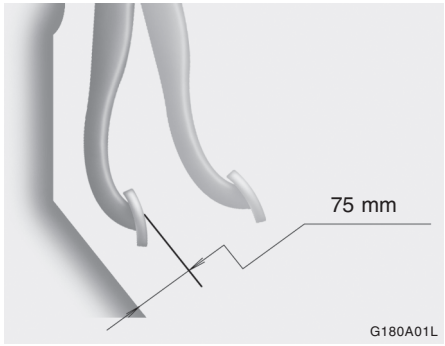
BRAKE PEDAL



With the engine off, press down on the brake pedal several times to reduce the vacuum in the brake booster.
Then, using your hand, press down slowly on the brake pedal until you feel a change in resistance. This is the brake pedal free-play.
The free-play should be within the limits specified in the illustration above. If it is not, have it inspected by your Hyundai dealer and adjusted or repaired if necessary.

G180A01A-AAT

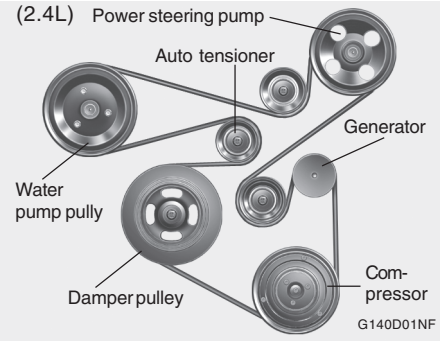
CHECKING BRAKE PEDAL CLEARANCE

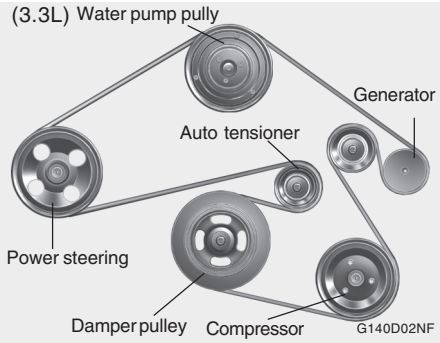


You need a helper to check the brake pedal clearance. With the engine running, have your helper press down on the brake pedal several times and then hold it down with a force of about 110 lbs (50 kg, 490 N). The brake pedal clearance is the distance from the top surface of the brake pedal to the asphalt sheeting under the floor mat. If the brake pedal clearance is not within the limits specified in the illustration, have it inspected by your Hyundai dealer and adjusted or repaired if necessary.

CHECKING DRIVE BELTS

G190A02NF-GAT





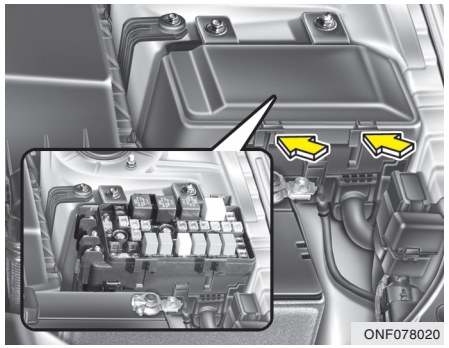
Drive belts should be checked periodically for proper tension. At the same time, belts should be examined for cracks, wear, fraying or other evidence of deterioration and replaced if necessary.
When a new belt is replaced, the belt should be located within the pulley of flat idler.
Belt routing should also be checked to be sure there is no interference between the belts and other parts of the engine.

NOTE:
Drive belt tension is adjusted automatically by the auto tensioner.

CHECKING AND REPLACING FUSES

G200A01A-AAT

Replacing a Fusible Link



A fusible link will melt if the electrical circuits from the battery are ever overloaded, thus preventing damage to the entire wiring harness. (This could be caused by a short in the system drawing too much current.) If this ever happens, have a Hyundai dealer determine the cause, repair the system and replace the fusible link. The fusible links are located in a relay box in the engine compartment for easy inspection.

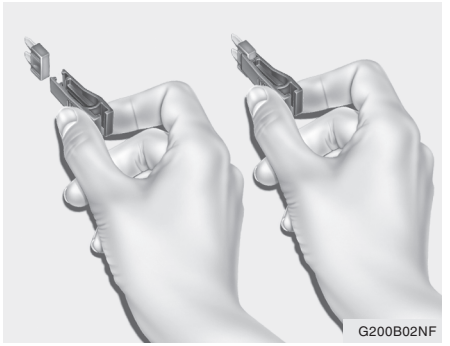
CAUTION:
When replacing a fusible link, never use anything but a new fusible link with the same or lower amperage rating. Never use a piece of wire or a higher-rated fusible link. This could result in serious damage and create a fire hazard.

G200B01NF-GAT

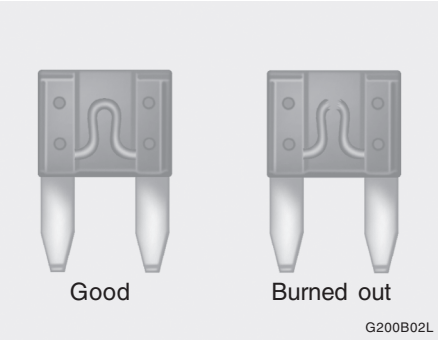
Replacing Accessory Fuse

The fuse box for the lights and other electrical accessories will be found on the left side of the instrument panel. Inside the box you will find a list showing the circuits protected by each fuse.
If any of your car's lights or other electrical accessories stop working, a blown fuse could be the reason. If the fuse has burned out, you will see that the metal strip inside the fuse has burned through. If you suspect a blown fuse, follow this procedure:

1. Turn off the ignition and all other switches.
2. Open the fuse box and examine each fuse. Remove each fuse by pulling it toward you (a small "fuse puller" tool is contained in the relay and fuse box of the engine room to simplify this operation).
3. Be sure to check all other fuses even if you find one that appears to have burned out.



4. Replace the blown fuse by pressing a new fuse of the same rating into place. The fuse should be a snug fit. If it is not, have the fuse clip repaired or replaced by a Hyundai dealer. If you do not have a spare fuse, you may be able to borrow a fuse of the same or lower rating from an accessory you can temporarily get along without (the radio or cigarette lighter, for example). Always remember to replace the borrowed fuse.

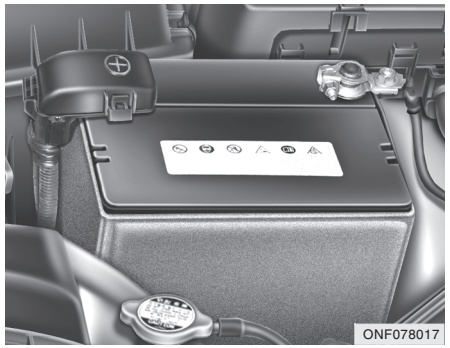


CAUTION:
A burned-out fuse indicates that there is a problem in the electrical circuit. If you replace a fuse and it blows as soon as the accessory is turned on, the problem is serious and should be referred to a Hyundai dealer for diagnosis and repair. Never replace a fuse with anything except a fuse with the same or a lower amperage rating. A higher capacity fuse could cause damage and create a fire hazard.

NOTE:
See page 6-37 for the fuse panel descriptions.

CHECKING THE BATTERY

G210A01A-AAT



WARNING:
Batteries can be dangerous! When working with batteries, carefully observe the following precautions to avoid serious injuries.

The fluid in the battery contains a strong solution of sulfuric acid, which is poisonous and highly corrosive. Be careful not to spill it on yourself or the car. If you do spill battery fluid on yourself, immediately do the following:

- If battery fluid is on your skin, flush the affected areas with water for at least 15 minutes and then seek medical assistance.
- If battery fluid is in your eyes, rinse out your eyes with water and get medical assistance as soon as possible. While you are being driven to get medical assistance, continue to rinse your eyes by using a sponge or soft cloth saturated with water.
- If you swallow battery fluid, drink a large quantity of water or milk followed by milk of magnesia, eat a raw egg or drink vegetable oil. Get medical assistance as soon as possible.

While batteries are being charged (either by a battery charger or by the vehicle's generator), they produce explosive gases. Always observe these warnings to prevent injuries from occurring:

- Charge batteries only in a well ventilated area.
- Do not permit flames, sparks or smoking in the area.
- Keep children away from the area.

G210B01Y-GAT

Checking the Battery

Keep the battery clean. Any evidence of corrosion around the battery posts or terminals should be removed using a solution of household baking soda and warm water. After the battery terminals are dry, cover them with a light coating of grease.

WARNING:

Always read the following instructions carefully when handling a battery.

Keep lighted cigarettes and all other flames or sparks away from the battery.

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

Keep batteries out of the reach of children because batteries contain highly corrosive SULFURIC ACID. Do not allow battery acid to contact your skin, eyes, clothing or paint finish.

WARNING:

If any electrolyte gets into your eyes, flush your eyes with clean water for at least 15 minutes and get immediate medical attention. If possible, continue to apply water with a sponge or cloth until medical attention is received.
If electrolyte gets on your skin, thoroughly wash the contacted area.
If you feel a pain or a burning sensation, get medical attention immediately.

Wear eye protection when charging or working near a battery.
Always provide ventilation when working in an enclosed space.

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

WARNING:

- **When lifting a plastic-cased battery, excessive pressure on the case may cause battery acid to leak, resulting in personal injury. Lift with a battery carrier or with your hands on opposite corners.**
- **Never attempt to charge the battery when the battery cables are connected.**
- **The electrical ignition system works with high voltage.**
  Never touch these components with the engine running or the ignition switched on.

CHECKING ELECTRIC COOLING FANS

G220A01A-AAT

WARNING:
The cooling fan is controlled by engine coolant temperature and may sometimes operate even when the engine is not running. Use extreme caution when working near the blades of the cooling fan, so that you are not injured by a rotating fan blade. As the engine coolant temperature decreases the fan will automatically shut off. This is a normal condition.

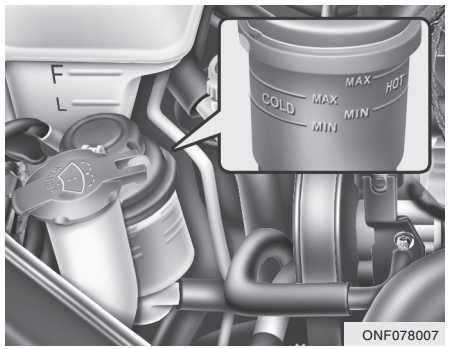
G220B01NF-GAT

Checking Engine Cooling Fan

The engine cooling fan should come on automatically if the engine coolant temperature is high or whenever the air conditioning is in operation.

POWER STEERING FLUID LEVEL

G230A03A-GAT



The power steering fluid level should be checked regularly. To check the power steering fluid level, be sure the engine is "OFF", then check to make certain that the power steering fluid level is between the "MAX" and "MIN" level markings on the fluid reservoir.

NOTE:
Grinding noise from the power steering pump may be heard immediately after the engine is started in extremely cold conditions (below 20°C). If the noise stops during warm up, there is no abnormal function in the system. It is due to a power steering fluid characteristic in extremely cold conditions.

Recommended Fluid
Use PSF-4 type fluid

NOTE:
Do not start the engine when the power steering oil reservoir is empty.

G240A01A-AAT

POWER STEERING HOSES

It is suggested that you check the power steering hose connections for fluid leakage at those intervals specified in the vehicle maintenance schedule in Section 5.
The power steering hoses should be replaced if there is severe surface cracking, pulling, scuffing or worn spots. Deterioration of the hose could cause premature failure.

FOR MORE INFORMATION ABOUT YOUR HYUNDAI

G250A01A-AAT

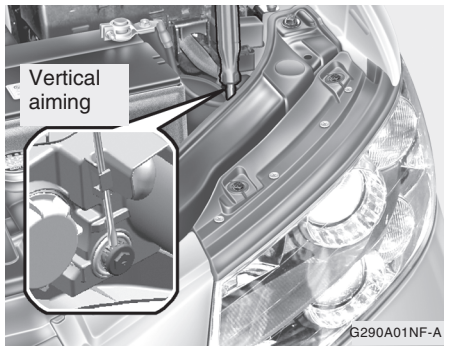
If you desire additional information about maintaining and servicing your Hyundai, you may purchase a factory Shop Manual at your Hyundai dealer's parts department. This is the same manual used by dealership technicians and while it is highly technical it can be useful in obtaining a better understanding of your car and how it works.

HEADLIGHT AIMING ADJUSTMENT

G290A1NF-BAT

Before performing aiming adjustment, make sure of the following.

1. Keep all tires inflated to the correct pressure.
2. Place the vehicle on level ground and press the front bumper & rear bumper down several times.
   Place vehicle at a distance of 3 m (118 in.) from the test wall.
3. See that the vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver's seat.
4. Clean the headlight lenses and turn on the headlights (Low beam).
5. Open the hood.

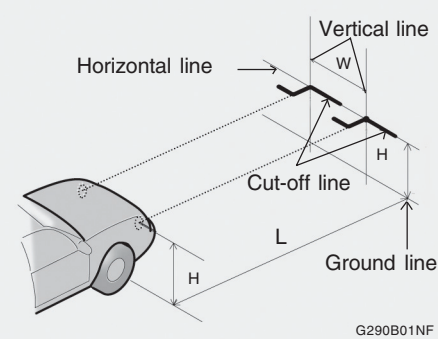


6. Draw a vertical line (through the center of each headlight beam pattern) and a horizontal line (through the center of each headlight beam pattern) on the aiming screen measured from ground to center mark on headlight lens.
7. Adjust the right side of each cut-off line of the low beam to the horizontal line with a phillips screwdriver - VERTICAL AIMING.

WARNING:
Never attempt to adjust the horizontal alignment of your headlights. Horizontal aiming must be adjusted by an authorized Hyundai dealer to avoid incorrect alignment that will reduce the effectiveness of your headlights.

G290B02NF-BAT

Adjustment After Headlight Assembly Replacement



If the vehicle has had front body repair and the headlight assembly has been replaced, the headlight aiming should be checked using the aiming screen as shown in the illustration. Turn on the headlight switch. (Low Beam Position)

1. Adjust headlights vertically so that cutoff line is aligned with horizontal line shown in the illustration.
2. Dotted lines in the illustration show the center of the headlights.

SPECIFICATION:

"H"
Horizontal center line of headlights from ground:
687 mm (27.05 in.)

"W"
Distance between each headlight center : 1,308 mm (51.5 in.)

"L"
Distance between the headlights and the wall that the lights are tested against : 3,000 mm (118.11 in.)

REPLACEMENT OF LIGHT BULBS

G260A02L-GAT

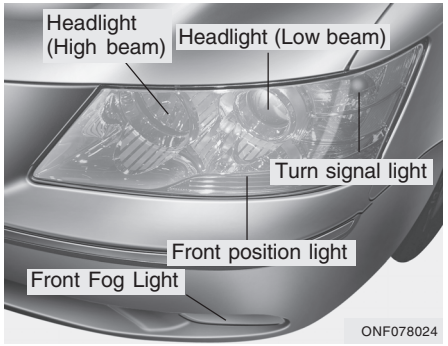
Before attempting to replace a light bulb, be sure the switch is turned to the "OFF" position.
The next paragraph shows how to reach the light bulbs so they may be changed. Be sure to replace the burned-out bulb with one of the same number and wattage rating.
See page 6-36 for the wattage descriptions.

CAUTION:
- **Keep the lights out of contact with petroleum products, such as oil, gasoline, etc.**
- **Be sure to replace the LED type equipped bulbs with an assembly.**
- **After heavy, driving rain or washing, headlight and taillight lenses could appear frosty. This condition is caused by the temperature difference between the lamp inside and outside. This is similar to the condensation on your windows inside your vehicle during the rain and doesn't indicate a problem with your vehicle. If the water leaks into the lamp bulb circuitry, have the vehicle checked by an Authorized Hyundai Dealer.**

G270A02NF-AAT

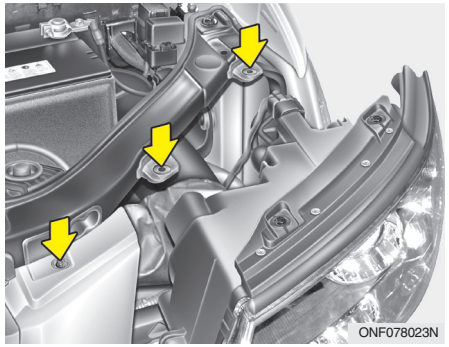
HEADLIGHT, FRONT TURN SIGNAL LIGHT AND FRONT FOG LIGHT

▶ Headlight and Front Turn Signal Light

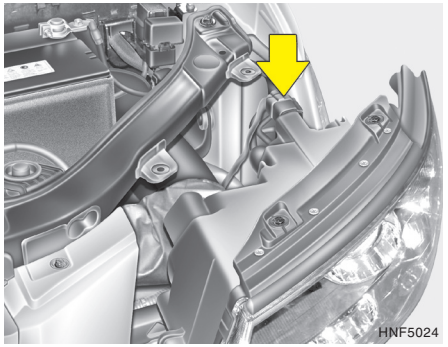


Replacement instructions:

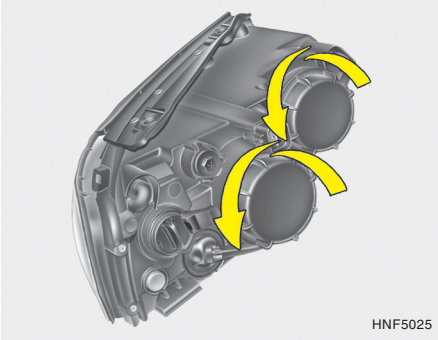
1. Allow the bulb to cool. Wear eye protection.
2. Open the engine hood.
3. Always grasp the bulb by its base, avoid touching the glass.



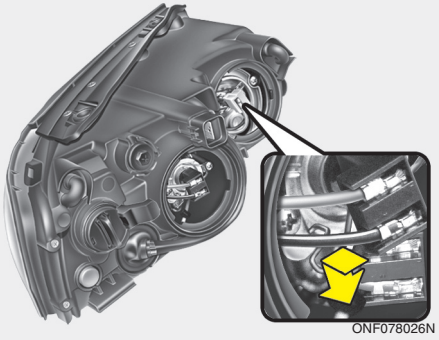
4. Using a socket wrench of the correct size, remove the headlight assembly mounting bolts and bumper mounting bolt.



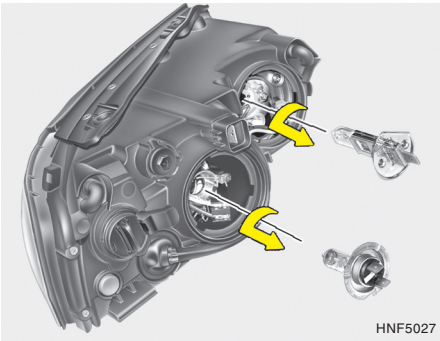
5. Disconnect the power cord from the back of the headlight.

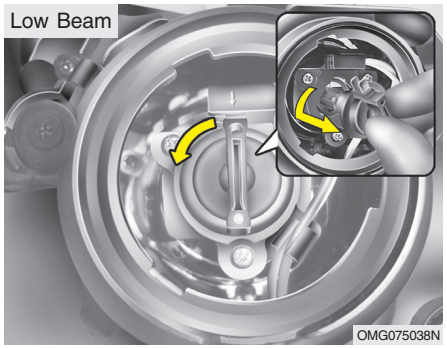


6. Turn the plastic cover counterclockwise and remove it.

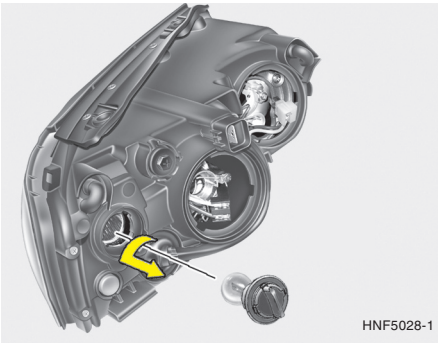


7. Disconnect the connector from the bulb base in the back of the headlight.
8. Rotate the bulb counterclockwise to remove the headlight bulb.

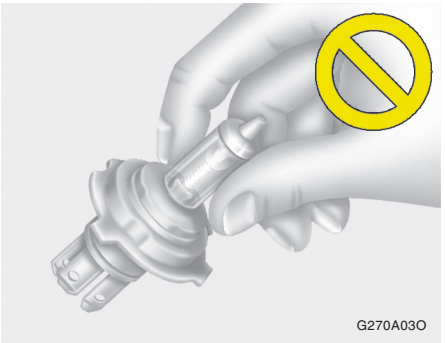




9. Remove the protective cap from the replacement bulb and install the new bulb by matching the plastic base with the headlight hole.
10. Use the protective cap and carton to promptly dispose of the old bulb.
11. Check for proper headlight aim.


HNF5028-1

12. To replace the front turn signal light bulb, remove it from the bulb holder and install the new bulb.


G270A03O

WARNING:
This halogen bulb contains gas under pressure and if impacted could shatter, resulting in flying fragments. Always wear eye protection when servicing the bulb. Protect the bulb against abrasions or scratches and against liquids when lighted. Turn the bulb on only when installing in a headlight. Replace the headlight if damaged or cracked. Keep the bulb out of the reach of children and dispose of the used bulb with care.

▶ Front Fog Light (If Installed)

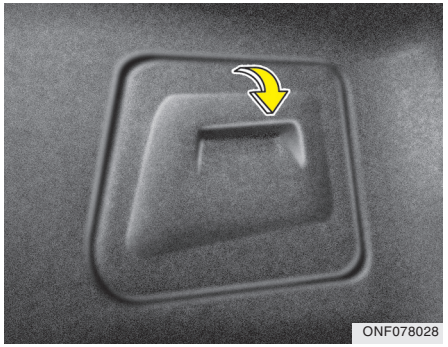
NOTE:
It is recommended that the front fog light bulb should be replaced by an authorized Hyundai dealer.

G270D02NF-AAT

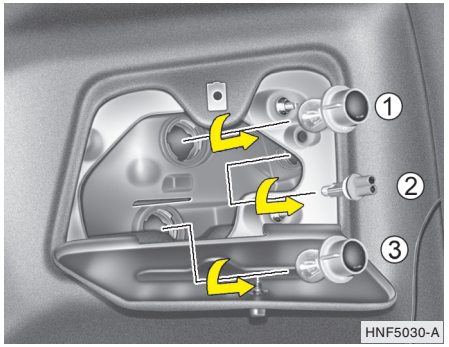
REAR COMBINATION LIGHT

▶ Stop/Tail Light, Rear side Marker Light, Rear Turn Signal Light and Back-up Light

1. Open the trunk lid.


ONF078028

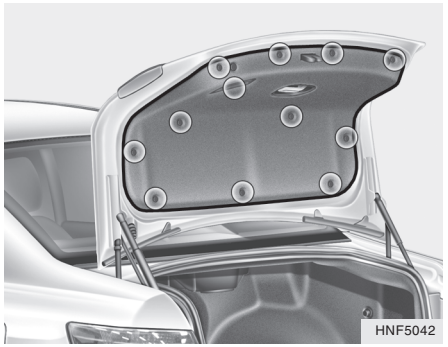
2. Remove the cover on the inside of the rear luggage trim.



HNF5030-A

3. To replace the rear combination light (stop/tail light, rear side marker light and rear turn signal light), remove it from the bulb holder and install the new bulb.

   (1) Stop/tail light
   (2) Rear side marker light
   (3) Rear turn signal light

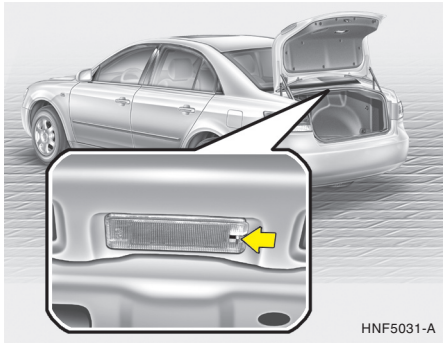

HNF5042

4. Loosen the mounting screws of the trunk lid trim with a phillips screwdriver and remove the trunk lid trim.
5. To replace the rear combination light (back-up light and stop/tail light), remove the socket by turning it counter-clockwise.
6. Install the new bulb.

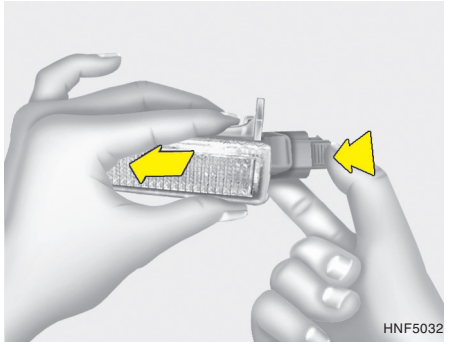
G270C01L-AAT

LUGGAGE COMPARTMENT LIGHT

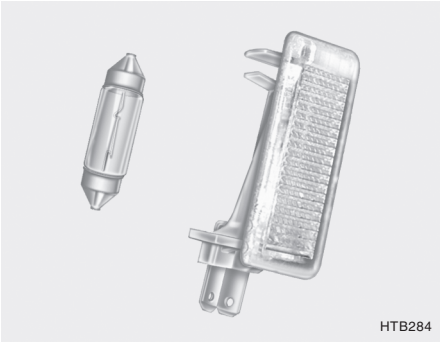
1. Open the trunk lid.



2. Remove the luggage compartment light cover on the rear package tray panel with a flat-head screwdriver.



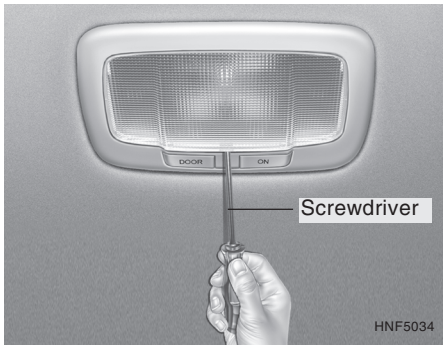
3. Disconnect the power cord.



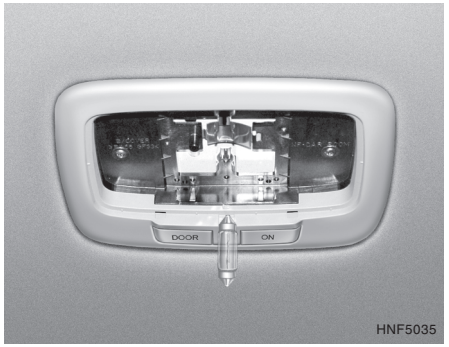
4. Replace with a new bulb.

G270G01L-AAT

INTERIOR LIGHT



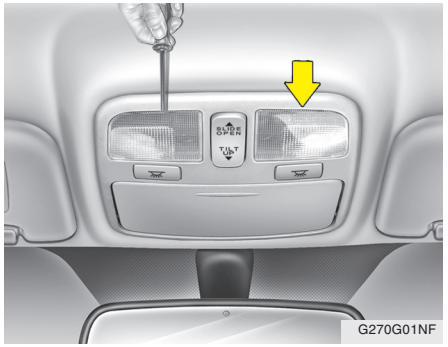
1. Remove the plastic cover with a flat-head screwdriver.



2. Replace with a new bulb.

G270L01L-AAT

MAP LIGHT



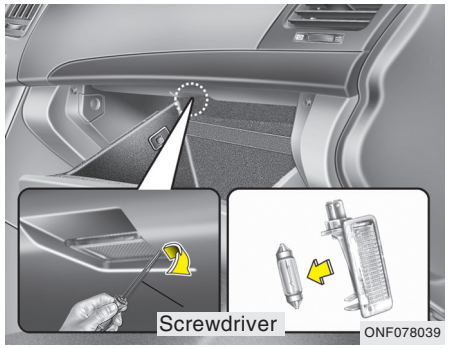
1. Remove the plastic cover with a flat-head screwdriver.

2. Replace with a new bulb.

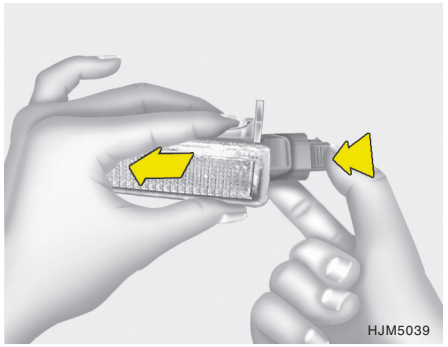
G270K01L-AAT

GLOVE BOX ILLUMINATED LIGHT

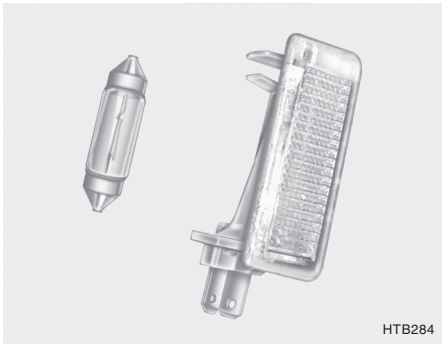
1. Open the glove box.



2. Remove the glove box illuminated light cover with a flat-head screwdriver.



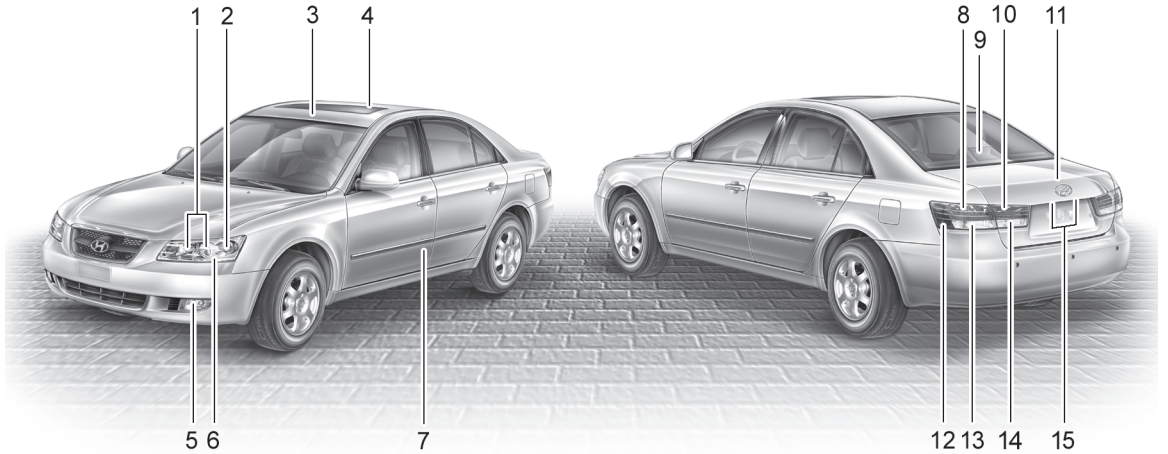
3. Disconnect the power cord.



4. Replace with a new bulb.

BULB WATTAGES

G280A02NF-AAT



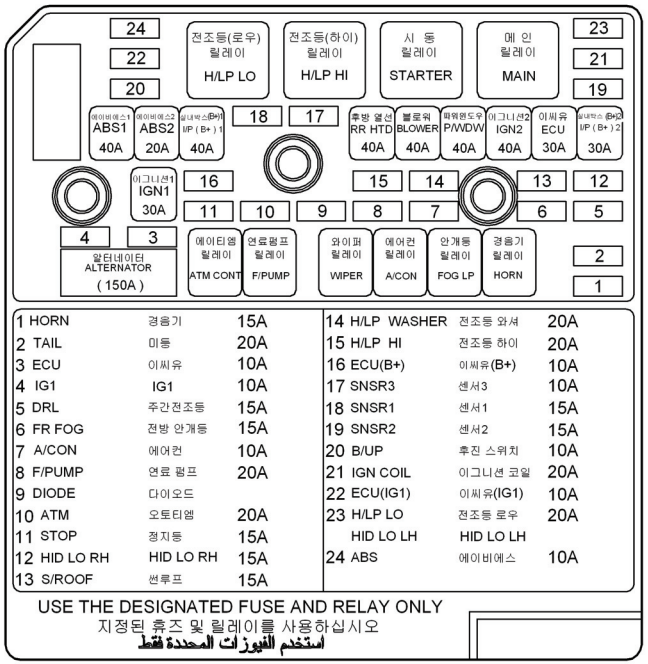
G280A01NF-D

No.	Part Name		Wattage	Socket Type	No.	Part Name	Wattage	Socket Type
1	Headlight	Low beam	55	P x 26d	8	Stop / Tail Light	28/8	BAY 15d
		High beam	55	P14,5s	9	High Mounted Rear Stop Light	16	w2.1 x 9.5d
2	Front Turn Signal Light		28	BAY15d	10	Tail Light	28/8	BAY 15d
3	Map Light		10	w2.1 x 9.5d	11	Luggage Compartment Light	5	sv6-7, 6
4	Interior Light		10	sv6-7,6	12	Rear Side Marker Light	5	BAY 15d
5	Front Fog Light		27	PGJ13	13	Rear Turn Signal Light	27	BAY 15s
6	Front Position Side Marker Light		5	w2.1 x 9.2d	14	Back-up Light	16	w2.1 x 9.5d
7	Front Door Edge Warning Light		8	w2.1 x 4.6d	15	License Plate Light	5	w2.1 x 9.5d

FUSE PANEL DESCRIPTION

G200C03NF-AAT

Engine Compartment



HNF4005-1

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

DESCRIPTION			FUSE RATING	PROTECTED COMPONENTS
FUSIBLE LINK	ABS.1		40A	ABS/ESC control module, Multipurpose check connector
	ABS.2		20A	ABS/ESC control module, Multipurpose check connector
	I/P B+1		40A	Fuse 23, 24, 30, 31, 32, 33, 34, 35
	RR HTD		40A	Defogger relay
	BLOWER		40A	Blower relay
	P/WDW		40A	Power window relay, Fuse 16
	IGN.2		40A	Start relay, Ignition switch (IG2, START)
	ECU RLY		30A	Engine control unit relay
	I/P B+2		30A	Power connector 1/2, Fuse 21, 22
	IGN.1		30A	Ignition switch (ACC, IG1)
	ALT		150A	Fusible link (ABS. 1, ABS. 2, RR HTD, BLOWER)
FUSE	1	HORN	15A	Horn relay
	2	TAIL	20A	Tail light relay
	3	ECU	10A	PCM
	4	IG1	10A	(Spare)
	5	DRL	15A	Siren relay, DRL control module
	6	FR FOG	15A	Front fog light relay
	7	A/CON	10A	A/C relay
	8	F/PUMP	20A	Fuel pump relay
	9	DIODE	-	(Spare)
	10	ATM	20A	ATM control relay
	11	STOP	15A	Stop light switch
	12	H/LP LO RH	15A	(Spare)
	13	S/ROOF	15A	Sunroof control module
	14	H/LP WASHER	20A	Headlight washer motor
	15	H/LP HI	20A	Headlight relay (High)
	16	ECU	10A	TCM
	17	SNSR.3	10A	A/C relay, Cooling fan relay, Injectors
	18	SNSR.1	15A	Mass air flow sensor, Crankshaft/Camshaft position sensor, Oil control valve, SMATRA
	19	SNSR.2	15A	Oxygen sensor, Fuel pump relay
	20	B/UP	10A	Back up light switch, Pulse generator, Vehicle speed sensor
	21	IGN COIL	20A	Ignition coils, Condenser
	22	ECU (IG1)	10A	PCM
	23	H/LP LO	20A	Headlight relay (Low)
	24	ABS	10A	ABS/ESC control module, Multipurpose check connector

Inner Panel

FUSE	FUSE RATING	PROTECTED COMPONENTS
SPARE	15A	(Spare)
SPARE	15A	(Spare)
ETACS	10A	BCM(Body Control Module), Sunroof control module, Electronic chrome mirror, Rheostat
ESC	10A	ESC module, Blower relay
C/LIGHTER	20A	Cigarette lighter
SPARE	15A	(Spare)
TAIL RH	10A	Illumination lights, Right : License light (LH, RH), Rear combination light, Headlight, Glove box light
TAIL LH	10A	Front fog light relay, Left : Rear combination light, Headlight
IONIZER	10A	(Spare)
H/LP	10A	DRL control module, Headlight relay, AQS and ambient sensor
WIPER	25A	Wiper and washer
A/CON	10A	A/C control module
A/BAG	15A	SRS control module, Passenger's Airbag switch
P/OUTLET	20A	Front accessory socket, Rear power outlet
D/CLOCK	10A	Digital clock, Audio, A/T shift lock control module, Power outside mirror and mirror folding, BCM
SAFETY PWR	25A	Safety window module
ECS	15A	(Spare)
ATM KEY LOCK	10A	A/T shift lock control module
P/WDW RR LH	25A	Power window main switch, Left rear power window switch
P/WDW RH	30A	Power window main switch, Right power window switch

FUSE	FUSE RATING	PROTECTED COMPONENTS
P/AMP	20A	Audio amp
DR LOCK	20A	Door lock/unlock relay
HAZARD	10A	Hazard relay
P/SEAT RH	30A	Power seat manual switch (RHD)
A/BAG IND	10A	Instrument cluster
T/SIG	10A	Turn signal light
CLUSTER	10A	BCM(Body Control Module), Instrument cluster, Yaw rate sensor, ESP switch, Seat warmer
AGCS	10A	(Spare)
START	10A	Start relay
PEDAL ADJ	15A	(Spare)
ECS/RR FOG	15A	Rear fog light relay
T/LID OPEN	15A	Trunk lid relay, Fuel filler door and trunk lid switch
S/HTR	15A	Seat warmer switch
P/SEAT LH	30A	Power seat manual switch
SPORT MODE	10A	Sport mode switch, Key solenoid
MIRR HTD	10A	A/C control module, Outside mirror and mirror folding motor
POWER CONNECTOR. 1	15A	Audio
POWER CONNECTOR. 2	15A	BCM(Body Control Module), Digital clock, Instrument cluster, A/C control module, Courtesy lights, Interior Light