

# MAINTENANCE

## SECTION **MA**

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## GENERAL MAINTENANCE

### General Maintenance

General maintenance includes those items which should be checked during the normal day-to-day operation of the vehicle. They are essential if the vehicle is to continue operating properly. The owners can perform the checks and inspections themselves or they can have their NISSAN dealers do them for a nominal charge.

Maintenance item	Description
Engine	Fuel level and engine starting
	Coolant level and leakage
	Drive belt (alternator belt, power steering belt and air conditioner belt) wear and tension
	Engine oil level, contamination and leakage
	Exhaust gas color and toxic emission
Brake	Brake pedal operation and freeplay
	Brake oil level and leakage
	Parking brake operation
Transaxle	Gear selector lever operation
	Transaxle fluid level and leakage
Clutch	Clutch pedal operation and freeplay
	Clutch fluid level and leakage
Tire	Tire inflation pressure and wear (including spare tire)
	Tightening torque and conditions of wheel nuts
Steering wheel	Steering wheel operation and freeplay
	Power steering oil level and leakage
	Conditions of power steering hoses
Others	Operation of gauges, indicator lights, and warning indicator lights
	ON and OFF operations and damages
	Wiper operation and washer fluid level
	Horn operation
	Mirror reflection
	Battery capacity
	Seat belt condition
	Air conditioner and heater operation
	Body corrosion and fastener looseness
	Abnormalities in past driving

## PERIODIC MAINTENANCE (FOR RUSSIA/UKRAINE)

The following tables show the normal maintenance schedule. Depending upon weather and atmospheric conditions, varying road surfaces, individual driving habits and vehicle usage, additional or more frequent maintenance may be required.

**Periodic maintenance beyond the last period shown on the tables requires similar maintenance.**

### Engine and Emission Control Maintenance (QG16DE Engine) (Annual Mileage < 30,000 km/year)

Abbreviations: I = Inspect and correct or replace as necessary R = Replace [ ] = At the distance interval only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL																
Perform on a kilometer basis, but on an annual basis when driving less than 10,000 km (6,000 miles) per year.	km x 1,000 (miles x 1,000)	1 (0.6)	5 (3)	10 (6)	15 (9)	20 (12)	25 (15)	30 (18)	35 (21)	40 (24)	45 (27)	50 (30)	55 (33)	60 (36)	65 (39)	70 (42)	75 (45)	80 (48)
	Months	-	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
<b>Engine compartment and under vehicle</b>																		
Engine oil (Use recommended oil) *				R	R		R		R	R	R	R	R	R	R	R	R	
Engine oil filter (Use NISSAN genuine part or equivalent) *				R	R		R		R	R	R	R	R	R	R	R	R	
Drive belts		I	[I]	[I]		[I]		[I]		[I]								
Cooling system			I	I		I		I		I	I	I	I	I	I	I	I	
Engine anti-freeze coolant (Use genuine RENAULT SAMSUNG long life coolant or equivalent in its quality)	See NOTE (1)	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
Air cleaner filter *										R							R	
Intake and exhaust valve clearance	See NOTE (2)																	
Fuel lines		I		[I]				[I]			[I]		[I]		[I]		[I]	
EVAP vapor lines				[I]				[I]			[I]		[I]		[I]		[I]	
Carbon canister																	[R]	
Spark Plugs								[R]						[R]				
Fuel filter	See NOTE (3)																	
Oxygen sensor									[I]								[R]	
Vacuum hoses & connections					[I]			[I]			[I]		[I]		[I]		[I]	
Positive crankcase ventilation (PCV) system					[I]			[I]			[I]		[I]		[I]		[I]	
Throttle valve and ISC valve										[I]							[I]	
Overall test by CONSULT-II				[I]	[I]		[I]		[I]		[I]		[I]		[I]		[I]	

**NOTE:**

\* Maintenance items with “\*” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.

(1) First replace at 100,000 km (60,000 miles)/60 months, then every 60,000 km (36,000 miles)/36 months. Perform “I”

(Checking the mixture ratio and correcting the mixture ratio if necessary).

(2) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.

(3) Fuel filter is maintenance-free.

## PERIODIC MAINTENANCE (FOR RUSSIA/UKRAINE)

### Chassis and Body Maintenance (Annual Mileage < 30,000 km/year)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, T= Tighten

MAINTENANCE OPERATION	km x 1,000 (miles x 1,000)	MAINTENANCE INTERVAL																
		1 (0.6)	5 (3)	10 (6)	15 (9)	20 (12)	25 (15)	30 (18)	35 (21)	40 (24)	45 (27)	50 (30)	55 (33)	60 (36)	65 (39)	70 (42)	75 (45)	80 (48)
Perform on a kilometer basis, but on an annual basis when driving less than 10,000 km (6,000 miles) per year.	km x 1,000 (miles x 1,000)																	
	Months	-	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
<b>Underhood and under vehicle</b>																		
Headlamp aiming				I		I		I		I		I		I		I		
Tire rotation & wheel alignment (if necessary, balance wheels)				I		I		I		I		I		I		I		
Brake pads, rotors & other brake components *		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
Brake linings, drums & other brake components		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
Foot brake, parking brake & clutch (for free play, stroke & operation)		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
Brake booster vacuum hoses, connections, check valve		I			I			I			I			I			I	
Brake & clutch, systems and fluid (for level and leaks)		I		I		I		I		I		I		I		I		
Brake & clutch fluid					R			R		R		R		R		R		
Power steering fluid and lines (for level and leaks)			I		I		I		I		I		I		I		I	
Air conditioner filter (if equipped) *					R			R		R		R		R		R		
Manual transaxle gear oil (check for leakage. Use recommended oil) *					I			I		I		I		I		I		
Automatic transaxle fluid (for level and leaks) *			I		I		I		I		I		I		I		I	
Steering gear & linkage, wheel hub nut tightness		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
Hub bearing leakage and damage			I		I		I		I		I		I		I		I	
Suspension parts					I			I		I		I		I		I		
Drive shaft and boots *		I		I		I		I		I		I		I		I		
Chassis & underbody bolts/nuts		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
Exhaust system		I			I			I			I			I			I	
Locks, hinges & hood latch																		
Body corrosion	See NOTE (1)																	
Frequently grease if necessary																		

NOTE:

\* Maintenance items with "\*" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".

(1) Inspect once per year.

## PERIODIC MAINTENANCE (FOR RUSSIA/UKRAINE)

### Maintenance Under Severe Driving Conditions (Annual Mileage < 30,000 km/year)

The maintenance intervals shown on the preceding pages are for normal operating conditions. If the vehicle is mainly operated under severe driving conditions as shown below, more frequent maintenance must be performed on the following items as shown in the table.

#### Severe driving conditions

- A --- Driving in dusty conditions
- B --- Repeatedly driving short distances
- C --- Towing a trailer or caravan
- D --- Extensive idling
- E --- Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
- F --- Driving in high humidity or mountainous areas
- G --- Driving in areas using salt or other corrosive materials
- H -- Driving on rough and / or muddy roads or in the desert
- I --- Driving with frequent use of braking or in mountainous areas

Maintenance operation: Inspect = Inspect and correct or replace as necessary.

Driving condition										Maintenance item	Maintenance operation	Maintenance interval
A	B	C	D	.	.	.	.	.	.	Engine oil & engine oil filter	Replace	Every 5,000 km (3,000 miles) or 6 months
A	.	.	.	.	.	G	H	.	.	Air cleaner filter	Replace	Every 20,000 km (12,000 miles) or 24 months
A	.	.	.	.	.	.	.	.	.	Air conditioner filter	Replace	Every 10,000 km (6,000 miles) or 12 months
.	B	C	.	E	F	G	H	.	.	Manual transaxle gear oil	Replace	Every 80,000 km (48,000 miles) or 48 months
.	B	C	.	E	F	G	H	.	.	Automatic transaxle fluid	Replace	Every 100,000 km (60,000 miles) or 60 months
A	.	C	.	.	.	G	H	I	.	Brake pads, rotors & other brake components	Inspect	More frequently
A	B	C	.	E	.	G	H	.	.	Drive shafts and boots	Inspect	More frequently

## PERIODIC MAINTENANCE (FOR RUSSIA/UKRAINE)

### Engine and Emission Control Maintenance (QG16DE Engine) (Annual Mileage > 30,000 km/year)

Abbreviations: I = Inspect and correct or replace as necessary R = Replace

MAINTENANCE OPERATION		MAINTENANCE INTERVAL									
Perform either at number of kilometers (miles) basis only.		km x 1,000 (miles x 1,000)	1 (0.6)	10 (6)	20 (12)	30 (18)	40 (24)	50 (30)	60 (36)	70 (42)	80 (48)
<b>Engine compartment and under vehicle</b>											
Engine oil (Use recommended oil) *				R	R	R	R	R	R	R	
Engine oil filter (Use NISSAN genuine part or equivalent) *				R	R	R	R	R	R	R	
Drive belts		I	I	I	I	I	I	I	I	I	
Cooling system			I	I	I	I	I	I	I	I	
Engine anti-freeze coolant (Use genuine RENAULT SAMSUNG long life coolant or equivalent in its quality)	See NOTE (1)		I	I	I	I	I	I	I	I	
Air cleaner filter *								R			
Intake and exhaust valve clearance	See NOTE (2)										
Fuel lines		I		I		I		I		I	
EVAP vapor lines				I		I		I		I	
Carbon canister										R	
Spark Plugs						R			R		
Fuel filter	See NOTE (3)										
Oxygen sensor						I				R	
Vacuum hoses & connections				I		I		I		I	
Positive crankcase ventilation (PCV) system				I		I		I		I	
Throttle valve and ISC valve						I				I	
Overall test by CONSULT-II				I	I	I	I	I	I	I	

**NOTE:**

- \* Maintenance items with "\*" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".
- (1) First replace at 100,000 km (60,000 miles), then every 60,000 km (36,000 miles). Perform "I" (Checking the mixture ratio and correcting the mixture ratio if necessary).
- (2) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.
- (3) Fuel filter is maintenance-free.

## PERIODIC MAINTENANCE (FOR RUSSIA/UKRAINE)

### Chassis and Body Maintenance (Annual Mileage > 30,000 km/year)

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, T= Tighten

MAINTENANCE OPERATION		MAINTENANCE INTERVAL									
Perform either at number of kilometers (miles) basis only.		km x 1,000 (miles x 1,000)	1 (0.6)	10 (6)	20 (12)	30 (18)	40 (24)	50 (30)	60 (36)	70 (42)	80 (48)
<b>Underhood and under vehicle</b>											
Headlamp aiming						I			I		
Tire rotation & wheel alignment (if necessary, balance wheels)				I		I			I		I
Brake pads, rotors & other brake components *		I	I	I	I	I	I	I	I	I	I
Brake linings, drums & other brake components		I	I	I	I	I	I	I	I	I	I
Foot brake, parking brake & clutch (for free play, stroke & operation)		I	I	I	I	I	I	I	I	I	I
Brake booster vacuum hoses, connections, check valve		I				I					I
Brake & clutch, systems and fluid (for level and leaks)		I		I		I		I		I	I
Brake & clutch fluid						R					R
Power steering fluid and lines (for level and leaks)					I			I			
Air conditioner filter (if equipped) *					R			R			
Manual transaxle gear oil (check for leakage. Use recommended oil) *						I					I
Automatic transaxle fluid (for level and leaks) *				I		I		I		I	I
Steering gear & linkage, wheel hub nut tightness		I	I	I	I	I	I	I	I	I	I
Hub bearing leakage and damage				I		I		I		I	I
Suspension parts						I					I
Drive shaft and boots *		I		I		I		I		I	I
Chassis & underbody bolts/nuts			T	T	T	T	T	T	T	T	T
Exhaust system		I				I					I
Locks, hinges & hood latch		Frequently grease if necessary									
Body corrosion	See NOTE (1)										

**NOTE:**

\* Maintenance items with “\*” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.

(1) Inspect once per year.

## PERIODIC MAINTENANCE (FOR RUSSIA/UKRAINE)

### Maintenance Under Severe Driving Conditions (Annual Mileage > 30,000 km/year)

The maintenance intervals shown on the preceding pages are for normal operating conditions. If the vehicle is mainly operated under severe driving conditions as shown below, more frequent maintenance must be performed on the following items as shown in the table.

#### Severe driving conditions

- A --- Driving in dusty conditions
- B --- Repeatedly driving short distances
- C --- Towing a trailer or caravan
- D --- Extensive idling
- E --- Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
- F --- Driving in high humidity or mountainous areas
- G --- Driving in areas using salt or other corrosive materials
- H -- Driving on rough and / or muddy roads or in the desert
- I --- Driving with frequent use of braking or in mountainous areas

Maintenance operation: Inspect = Inspect and correct or replace as necessary.

Driving condition										Maintenance item	Maintenance operation	Maintenance interval
A	B	C	D	.	.	.	.	.	.	Engine oil & engine oil filter	Replace	Every 5,000 km (3,000 miles)
A	.	.	.	.	.	G	H	.	.	Air cleaner filter	Replace	Every 30,000 km (18,000 miles)
A	.	.	.	.	.	.	.	.	.	Air conditioner filter	Replace	Every 15,000 km (9,000 miles)
.	B	C	.	E	F	G	H	.	.	Manual transaxle gear oil	Replace	Every 80,000 km (48,000 miles)
.	B	C	.	E	F	G	H	.	.	Automatic transaxle fluid	Replace	Every 100,000 km (60,000 miles)
A		C	.	.	.	G	H	I	.	Brake pads, rotors & other brake components	Inspect	More frequently
A	B	C	.	E		G	H	.	.	Drive shafts and boots	Inspect	More frequently

## PERIODIC MAINTENANCE (EXCEPT FOR RUSSIA/UKRAINE)

The following tables show the normal maintenance schedule. Depending upon weather and atmospheric conditions, varying road surfaces, individual driving habits and vehicle usage, additional or more frequent maintenance may be required.

**Periodic maintenance beyond the last period shown on the tables requires similar maintenance.**

### Engine and Emission Control Maintenance (QG Engine)

Abbreviations: I = Inspect and correct or replace as necessary R = Replace [ ] = At the distance interval only

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Perform either at number of kilometers (miles) or months, whichever comes first.	km x 1,000 (miles x 1,000)	1 (0.6)	10 (6)	20 (12)	30 (18)	40 (24)	50 (30)	60 (36)	70 (42)	80 (48)
Months		-	6	12	18	24	30	36	42	48
<b>Engine compartment and under vehicle</b>										
Engine oil (Use recommended oil) *			R	R	R	R	R	R	R	R
Engine oil filter (Use NISSAN genuine part or equivalent) *			R	R	R	R	R	R	R	R
Drive belts		I	[I]	[I]	[I]	[I]	[I]	[I]	[I]	[I]
Cooling system			I	I	I	I	I	I	I	I
Engine coolant (Use genuine RENAULT SAMSUNG long life coolant or equivalent in its quality)	See NOTE (1)		I	I	I	I	I	I	I	I
Air cleaner filter *				[R]		[R]		[R]		[R]
Intake and exhaust valve clearance	See NOTE (2)									
Fuel lines		I		[I]		[I]		[I]		[I]
EVAP vapor lines				[I]		[I]		[I]		[I]
Carbon canister										[R]
Spark plugs			[R]*1	[R]	[R]*1	[R]	[R]*1	[R]	[R]*1	[R]
Fuel filter	See NOTE (3)									
Oxygen sensor						[I]				[R]
Vacuum hoses & connections				[I]		[I]		[I]		[I]
Positive crankcase ventilation (PCV) system				[I]		[I]		[I]		[I]
Throttle valve and ISC valve						[I]				[I]
Overall test by CONSULT-II			[I]	[I]	[I]	[I]	[I]	[I]	[I]	[I]

**NOTE:**

\* Maintenance items with “\*” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.

(1) First replace at 100,000 km (60,000 miles)/60 months, then every 60,000 km (36,000 miles)/36 months. Perform “I”  
(Checking the mixture ratio and correcting the mixture ratio if necessary).

(2) Periodic maintenance is not required. However, if valve noise increases, check valve clearance.

(3) Fuel filter is maintenance-free.

\*1: For Kazakhstan models only.

## PERIODIC MAINTENANCE (EXCEPT FOR RUSSIA/UKRAINE)

### Chassis and Body Maintenance

Abbreviations: I = Inspect and correct or replace as necessary, R = Replace, T= Tighten

MAINTENANCE OPERATION		MAINTENANCE INTERVAL									
Perform either at number of kilometers (miles) or months, whichever comes first.		km x 1,000 (miles x 1,000)	1 (0.6)	10 (6)	20 (12)	30 (18)	40 (24)	50 (30)	60 (36)	70 (42)	80 (48)
	Months		-	6	12	18	24	30	36	42	48
<b>Underhood and under vehicle</b>											
Tire rotation & wheel alignment (if necessary, balance wheels)				I		I		I		I	
Brake pads, rotors & other brake components *			I	I	I	I	I	I	I	I	
Brake linings, drums & other brake components			I	I	I	I	I	I	I	I	
Foot brake, parking brake & clutch (for free play, stroke & operation)			I	I	I	I	I	I	I	I	
Brake booster vacuum hoses, connections, check valve			I				I			I	
Brake & clutch, systems and fluid (for level and leaks)			I		I		I		I	I	
Brake & clutch fluid							R			R	
Power steering fluid and lines (for level and leaks)				I	I	I	I	I	I	I	
Air conditioner filter (if equipped) *					R		R		R	R	
Manual transaxle gear oil (check for leakage. Use recommended oil) *						I				I	
Automatic transaxle fluid (for level and leaks) *					I		I		I	I	
Steering gear & linkage, wheel hub nut tightness			I	I	I	I	I	I	I	I	
Hub bearing leakage and damage					I		I		I	I	
Suspension parts							I			I	
Drive shaft and boots *			I		I		I		I	I	
Chassis & underbody bolts/nuts			T	T	T	T	T	T	T	T	
Exhaust system			I				I			I	
Locks, hinges & hood latch			Frequently grease if necessary								

NOTE:

\* Maintenance items with "\*" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".

## PERIODIC MAINTENANCE (EXCEPT FOR RUSSIA/UKRAINE)

### Maintenance Under Severe Driving Conditions

The maintenance intervals shown on the preceding pages are for normal operating conditions. If the vehicle is mainly operated under severe driving conditions as shown below, more frequent maintenance must be performed on the following items as shown in the table.

#### Severe driving conditions

- A --- Driving in dusty conditions
- B --- Repeatedly driving short distances
- C --- Towing a trailer or caravan
- D --- Extensive idling
- E --- Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
- F --- Driving in high humidity or mountainous areas
- G --- Driving in areas using salt or other corrosive materials
- H -- Driving on rough and / or muddy roads or in the desert
- I --- Driving with frequent use of braking or in mountainous areas

Maintenance operation: Inspect = Inspect and correct or replace as necessary.

Driving condition										Maintenance item	Maintenance operation	Maintenance interval
A	B	C	D	.	.	.	.	.	.	Engine oil & engine oil filter	Replace	Every 5,000 km (3,000 miles) or 3 months
A	.	.	.	.	.	G	H	.	.	Air cleaner filter	Replace	Every 5,000 km (3,000 miles) or 3 months
A	.	.	.	.	.	.	.	.	.	Air conditioner filter	Replace	Every 10,000 km (6,000 miles) or 6 months
.	B	C	.	E	F	G	H	.	.	Manual transaxle gear oil	Replace	Every 80,000 km (48,000 miles) or 48 months
.	B	C	.	E	F	G	H	.	.	Automatic transaxle fluid	Replace	Every 100,000 km (60,000 miles) or 60 months
A	C	.	.	.	G	H	I	.	.	Brake pads, rotors & other brake components	Inspect	More frequently
A	B	C	.	E		G	H	.	.	Drive shafts and boots	Inspect	More frequently
.	.	.	.	.	.	G	H	.	.	Brake system and fluid (for level and leaks)	Inspect	Every 10,000 km (6,000 miles) or 6 months

## RECOMMENDED FLUIDS AND LUBRICANTS

### Fluids and Lubricants

	Recommended fluids and lubricants
Engine oil	Genuine NISSAN engine oil API, SH, SJ or SL*1 ILSAC grade, GF-3*1
Cooling system	Genuine RENAULT SAMSUNG long life coolant (Kukdong Jeyen: SEC-5) or equivalent in its quality*2
Manual transaxle gear oil	API GL-4 SAE Viscosity 75W-80
Automatic transaxle fluid	Genuine NISSAN ATF Matic Fluid D or equivalent*3
Power steering fluid	Genuine NISSAN PSF or equivalent*4
Brake and clutch fluid	For Russia/Ukraine: DOT 3 or DOT 4 Except for Russia/Ukraine: DOT 3
Multi-purpose grease	NLGI No. 2 (Lithium soap base)

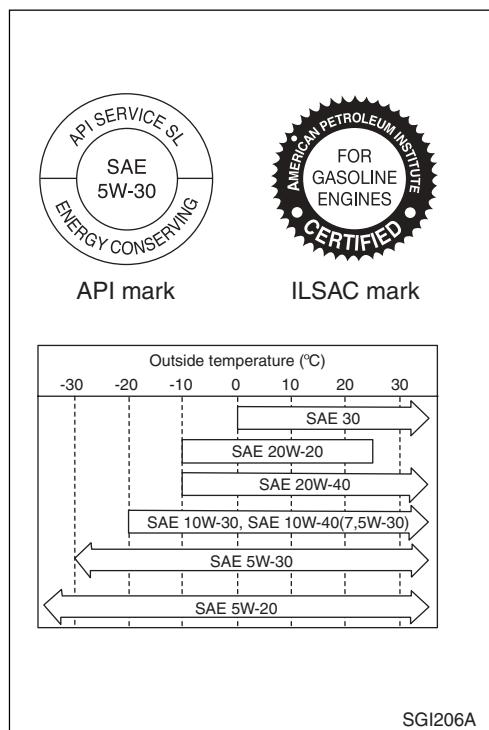
\*1: For further details, see "Specified Engine Oil".

\*2: Use Genuine RENAULT SAMSUNG long life coolant (Kukdong Jeyen: SEC-5) or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant.

**Note that any repairs for the incidents within the engine cooling system while using non-genuine engine coolant may not be covered by the warranty even if such incidents occurred during the warranty period.**

\*3: Contact a NISSAN dealership for more information regarding suitable fluids, including recommended brand(s) of Dexron™ III/Mercon™ Automatic Transmission Fluid.

\*4: DEXRON™ III type ATF can be used.



### Specified Engine oil

- We recommend the engine oils that are API certified or ILSAC certified with the label as shown in the figure. Use genuine NISSAN engine oil.
- Use oil with the proper viscosity (SAE viscosity level) for the ambient temperature as specified. (Refer to the viscosity as shown in the left table.)
- For more information, contact a NISSAN dealer.

## RECOMMENDED FLUIDS AND LUBRICANTS

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### Mixture Ratio Of Anti-freeze and Distilled Water (Reference Use Only)

Area	LLC Concentration (%)	Safety Zone	Freezing Point
Hot	30	Over -13°C	-16°C
General	40	Over -21°C	-24°C
Cold	55	Over -40°C	-43°C

### Engine Coolant Mixture Ratio

The engine cooling system is filled at the factory with a high-quality, year-round and extended life engine coolant. The high quality engine coolant contains the specific solutions effective for the anticorrosion and the anti-freeze function. Therefore, additional cooling system additives are not necessary.

#### CAUTION:

**When adding or replacing coolant, be sure to use only a genuine RENAULT SAMSUNG long life coolant or equivalent in its quality with the proper mixture ratio. See the examples shown left.**

**The use of other types of engine coolant may damage your cooling system.**

