

VEHICLE GENERAL

0000-00

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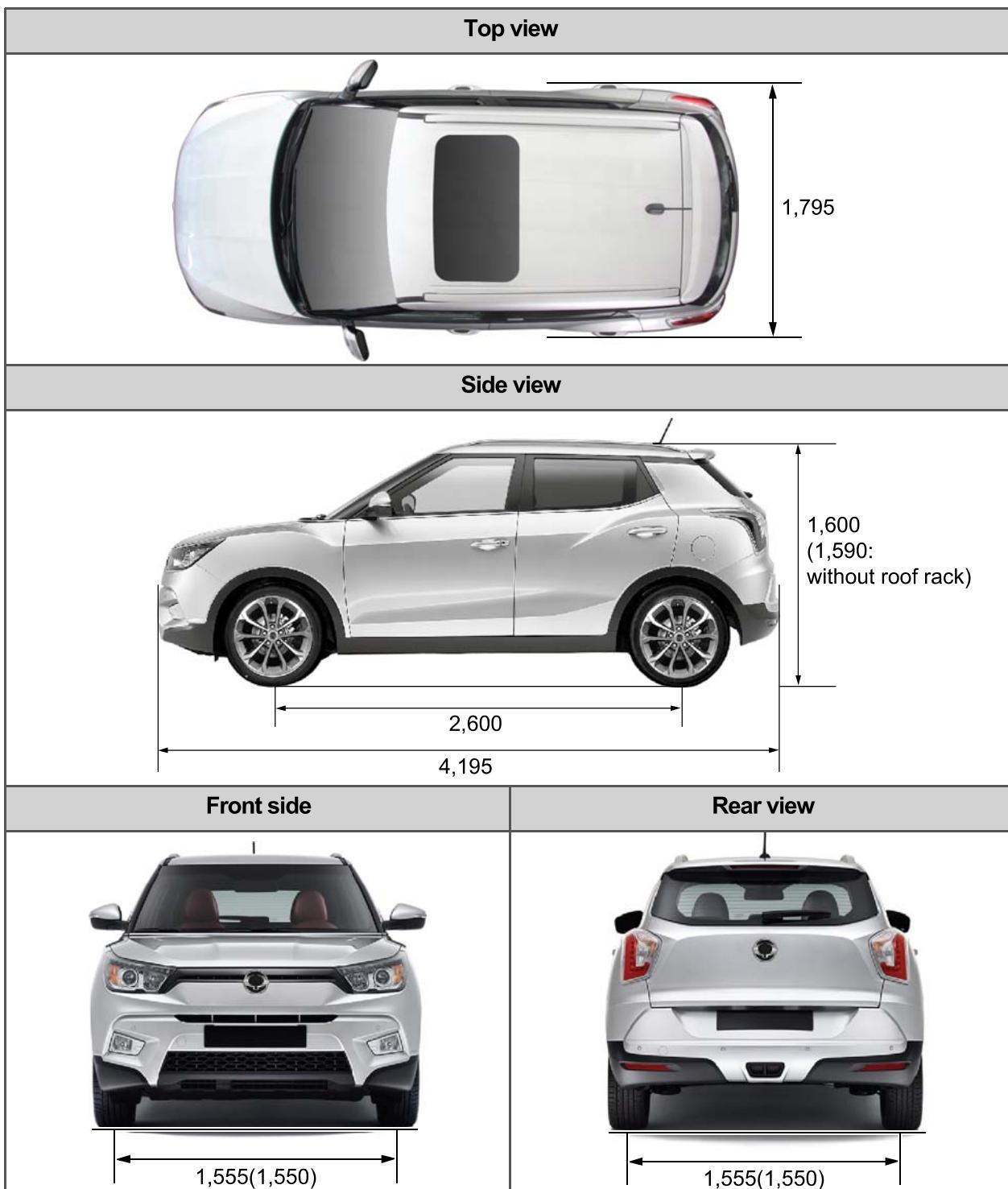
VEHICLE GENERAL

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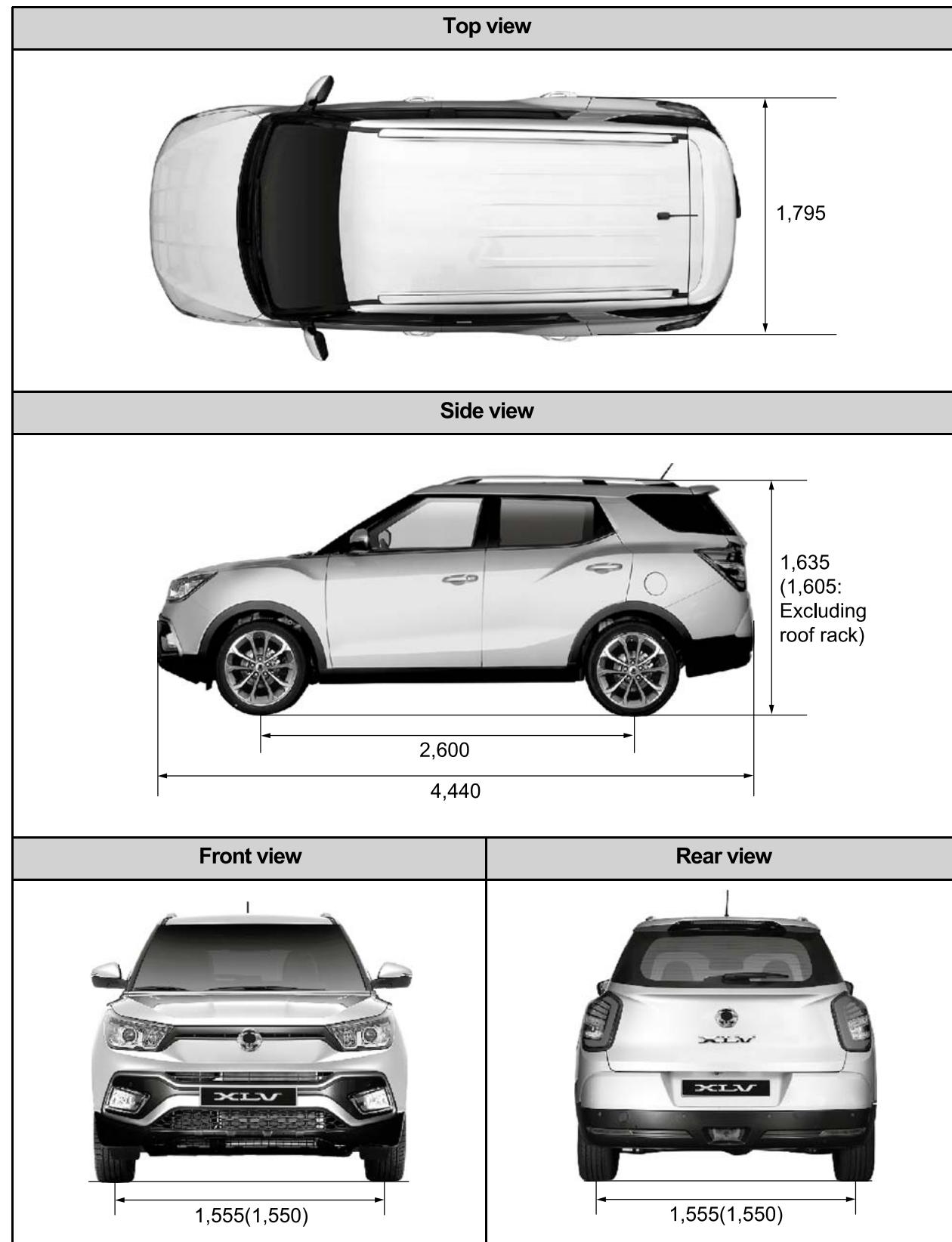
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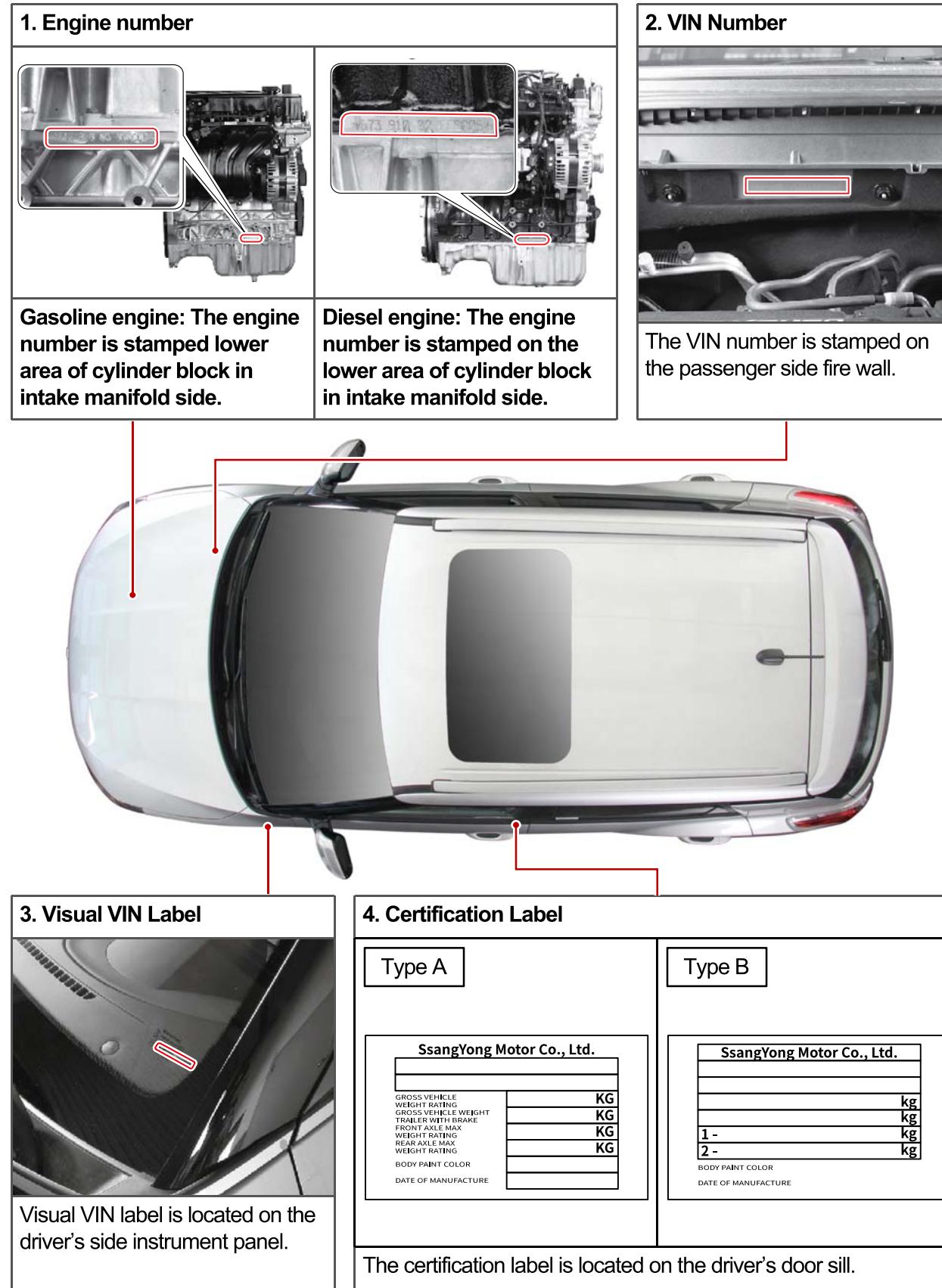
VEHICLE GENERAL**GENERAL INFORMATION****1. SPECIFICATIONS AND IDENTIFICATION****1) Exterior Dimensions (TIVOLI)****0000-00****2) Exterior Dimensions (XLV)**

Unit: mm

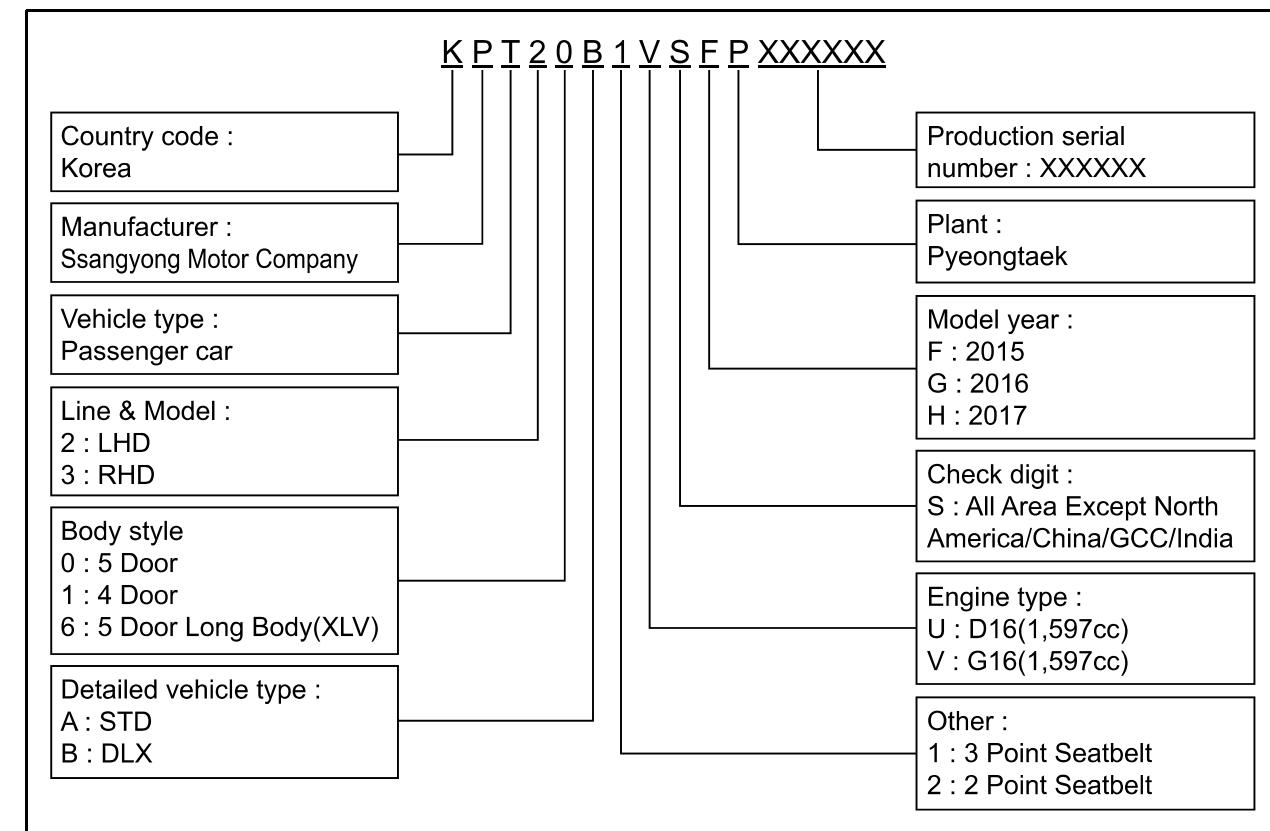


Modification basis
Application basis
Affected VIN

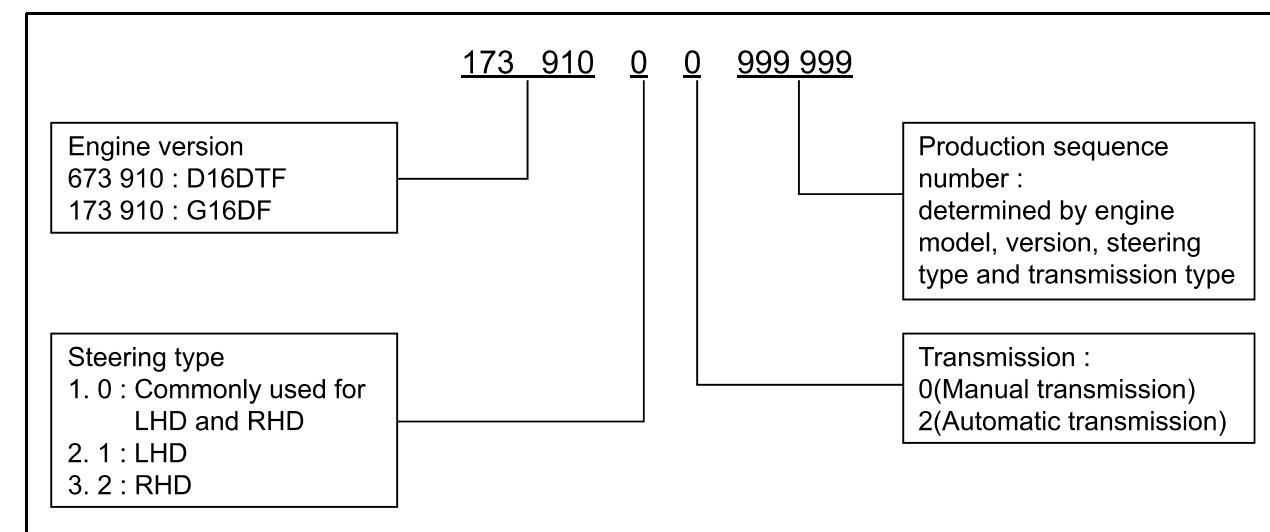
3) Vehicle (Engine) Identification



► Vehicle identification number



► Engine identification number



Modification basis	
Application basis	
Affected VIN	

2. SPECIFICATIONS AND CHECK ITEMS

1) Specifications for Each Unit

► TIVOLI

Descriptions		Diesel 1.6 Engine	Gasoline 1.6 Engine
General	Overall length (mm)	4202	←
	Overall width (mm)	1798	←
	Overall height (mm)	1590 (1600: including roof rack)	←
	Gross vehicle weight (kg)	4WD: 2010, 2WD: 1920	4WD: 1900, 2WD: 1810
	Curb vehicle weight (kg)	A/T: 1480, 2WD: 1390 M/T: 1455, 2WD: 1355	4WD: 1400, 2WD: 1300
	Fuel	Diesel	Gasoline
	Fuel tank capacity (l)	47	←
Engine	Engine	D16DTF	G16DF
	Number of cylinders / Compression ratio	4 / 15.5:1	4 / 10.5:1
	Total displacement (cc)	1597	←
	Camshaft arrangement	DOHC	←
	Max. power	115 ps / 3400~4000 rpm	128 ps / 6000 rpm
	Max. torque	300 Nm / 1500~2500 rpm	160 Nm / 4600 rpm
	Idle speed	A/T: 780 ± 50 rpm M/T: 780 ± 50 rpm	690 ± 50 rpm
	Cooling system	Water-cooled / forced circulation	←
	Coolant capacity (l)	7.5	6.5
	Lubrication type	Vane Pump feeding type, forced circulation	←
	Max. oil capacity (l) (when shipping)	5.0	4.0
	Turbocharger and cooling type	Turbocharger, Air-cooled	-

* () The options, vehicle weight and gross vehicle weight listed here are the maximum value of each item and vary depending on the vehicle options and specifications.

Descriptions		Diesel 1.6 Engine	Gasoline 1.6 Engine
Manual Transaxle	Operating type	Floor change type	←
	1st	3.538	3.769
	2nd	1.913	2.080
	3rd	1.152	1.387
	4th	0.829	1.079
	5th	0.689	0.927
	6th	0.587	0.791
Automatic Transaxle	Reverse	3.000	3.077
	Model	Electronic 6-speed	←
	Operating type	Floor change type	←
	1st	4.148	4.044
	2nd	2.370	2.371
	3rd	1.556	1.556
	4th	1.155	1.159
Transfer Case	5th	0.859	0.852
	6th	0.686	0.672
	Reverse	3.394	3.193
	Model	AWD	←
	Type	On demand type	←
	Clutch (M/T)	Operating type	Hydraulic (CSC) type
	Disc type	Dry single diaphragm type	←
Power Steering	Type	Rack and pinion (EPS)	←
	Steering angle	Inner	37.67°
		Outer	31.10°
	Drive shaft type	Independent suspension	Ball joint type
Rear Axle	Axle housing type	IRDA type	←

Modification basis	
Application basis	
Affected VIN	

► XLV

Descriptions			Diesel 1.6 Engine	Gasoline 1.6 Engine
Brake	Master cylinder type		Tandem type	←
	Booster type		Vacuum assisted booster type	←
	Brake type	Front wheel	Disc	←
	Brake type	Rear wheel	Disc	←
Parking brake		Mechanical type		←
Suspension	Front suspension		Macpherson + Coil spring	←
	Rear suspension		Torsion bar/Multi link + Coil spring	←
Air Conditioner	Refrigerant (capacity)	EU	R-1234yf (500 ± 30g)	←
		GEN	R-134a (500 ± 30g)	←
Electrical	Battery type / Capacity (V-AH)	ISG	AGM / 12 - 70	←
		NON-ISG	MF / 12 - 80	MF / 12 - 60
	Starter capacity (V-KW)	ISG	12 - 1.8	12 - 1.4
		NON-ISG	12 - 1.7	12 - 0.9
Alternator capacity (V-A)	ISG	14V - 140A	14V - 120A	
	NON-ISG	14V - 120A		←

Descriptions			Diesel 1.6 Engine	Gasoline 1.6 Engine
General	Overall length (mm)		4440	←
	Overall width (mm)		1798	←
	Overall height (mm)		1605 (1635: including roof rack)	←
	Gross vehicle weight (kg)		4WD: 2060, 2WD: 1970	4WD: 1950, 2WD: 1870
	Curb vehicle weight (kg)	A/T	4WD: 1535, 2WD: 1425	4WD: 1450, 2WD: 1345
		M/T	4WD: 1505, 2WD: 1405	4WD: 1415, 2WD: 1315
	Fuel		Diesel	Gasoline
Engine	Fuel tank capacity (l)		47	←
	Engine		D16DTF	G16DF
	Number of cylinders/Compression ratio		4 / 15.5:1	4 / 10.5:1
	Total displacement (cc)		1597	←
	Camshaft arrangement		DOHC	←
	Max. power		115 ps / 3400~4000 rpm	128 ps / 6000 rpm
	Max. torque		300 Nm / 1500~2500 rpm	160 Nm / 4600 rpm
	Idle speed	A/T	780 ± 50 rpm	690 ± 50 rpm
		M/T	780 ± 50 rpm	690 ± 50 rpm
	Cooling system		Water-cooled / forced circulation	←
	Coolant capacity (l)		7.5	6.5
	Lubrication type		Variable oil pump with ON/OFF solenoid valve, forced circulation	←
	Max. oil capacity (l) (when shipping)		5.0	4.0
	Turbocharger and cooling type		Turbocharger, Air-cooled	-

* () The options, vehicle weight and gross vehicle weight listed here are the maximum value of each item and vary depending on the vehicle options and specifications.

Modification basis	
Application basis	
Affected VIN	

Descriptions			Diesel 1.6 Engine	Gasoline 1.6 Engine
Manual Transaxle	Operating type		Floor change type	←
	Gear ratio	1st	3.538	3.769
		2nd	1.913	2.080
		3rd	1.152	1.387
		4th	0.829	1.079
		5th	0.689	0.927
		6th	0.587	0.791
		Reverse	3.000	3.077
Automatic Transaxle	Model		Electronic 6-speed	←
	Operating type		Floor change type	←
	Gear ratio	1st	4.148	4.044
		2nd	2.370	2.371
		3rd	1.556	1.556
		4th	1.155	1.159
		5th	0.859	0.852
		6th	0.686	0.672
	Reverse		3.394	3.193
Transfer Case	Model		AWD	←
	Type		On demand type	←
Clutch (M/T)	Operating type		Hydraulic (CSC) type	←
	Disc type		Dry single diaphragm type	←
Power Steering	Type		Rack and pinion (EPS)	←
	Steering angle	Inner	37.67°	←
		Outer	31.10°	←
Rear Axle	Drive shaft type	Independent suspension	Ball joint type	←
	A axle housing type		IRDA type	←

Descriptions			Diesel 1.6 Engine	Gasoline 1.6 Engine
Brake	Master cylinder type		Tandem type	←
	Booster type		Vacuum assisted booster type	←
	Brake type	Front wheel	Disc	←
		Rear wheel	Disc	←
Parking brake			Mechanical type	←
Suspension	Front suspension		Macpherson + Coil spring	←
	Rear suspension		Torsion bar/Multi link + Coil spring	←
Air Conditioner	Refrigerant (capacity)	EU	R-1234yf (500 ± 30g)	←
		GEN	R-134a (500 ± 30g)	←
Electrical	Battery type / Capacity (V-AH)	ISG	AGM / 12 - 70	←
	NON-ISG	MF / 12 - 80	MF / 12 - 60	MF / 12 - 60
	Starter capacity (V-KW)	ISG	12 - 1.8	12 - 1.4
		NON-ISG	12 - 1.7	12 - 0.9
	Alternator capacity (V-A)	ISG	14V - 140A	14V - 120A
		NON-ISG	14V - 120A	←

Modification basis	
Application basis	
Affected VIN	

2) Fluid Specifications And Capacity

► TIVOLI

Descriptions			Capacity	Specifications
Engine Oil	Diesel Engine	D16DTF	≈ 5.0 ℥	Quality class (DPF): Ssangyong genuine engine oil or Approved by MB 229.51 5W30 or MB 229.52 5W30
	Gasoline Engine	G16DF	≈ 4.0 ℥	Quality class: Ssangyong genuine engine oil or Approved by MB 229.51 5W30 or MB 229.52 5W30 or API SN / ILSAC GF-5 5W20
Engine Coolant	Diesel Engine	D16DTF	≈ 7.5 ℥	Ssangyong genuine coolant Anti-Freeze: SYC-1025
	Gasoline Engine	G16DF	≈ 6.5 ℥	Anti-Freeze:Water = 50:50 ORGANIC ACID TYPE, COLOR:BLUE
Automatic Transaxle Fluid	Diesel Engine	D16DTF	≈ 7.0 ℥	Ssangyong genuine oil (AW-1)
	Gasoline Engine	G16DF	≈ 6.1 ℥	
Manual Transaxle Fluid			≈ 1.95 ℥	Ssangyong genuine oil (SAE 70W)
Transfer Case (PTU) Fluid (AWD)	Diesel Engine	A/T (M/T)	≈ 0.25 ℥ (≈ 0.5 ℥)	Ssangyong genuine oil (SAE 80W/90, API GL-5)
	Gasoline Engine	A/T (M/T)	≈ 0.6 ℥ (≈ 0.5 ℥)	
Rear Axle Oil		AWD	≈ 0.6 ℥	Ssangyong genuine oil (SAE 80W/90, API GL-5)
Brake / Clutch Fluid		As required		Ssangyong genuine oil (DOT4)

⚠ WARNING

- Use only Ssangyong recommended fluids and lubricants.
- Do not mix any different types or brands of oils or fluids. This may cause damages.
- Keep the specified levels when adding or replacing the fluids.

► XLV

Descriptions			Capacity	Specifications
Engine Oil	Diesel Engine	D16DTF	≈ 5.0 ℥	Quality class (DPF): Ssangyong genuine engine oil or Approved by MB 229.51 5W30 or MB 229.52 5W30
	Gasoline Engine	G16DF	≈ 4.0 ℥	Quality class: Ssangyong genuine engine oil or Approved by MB 229.51 5W30 or MB 229.52 5W30 or API SN / ILSAC GF-5 5W20
Engine Coolant	Diesel Engine	D16DTF	≈ 7.5 ℥	Ssangyong genuine coolant Anti-Freeze: SYC-1025
	Gasoline Engine	G16DF	≈ 6.5 ℥	Anti-Freeze:Water = 50:50 ORGANIC ACID TYPE, COLOR:BLUE
Automatic Transaxle Fluid	Diesel Engine	D16DTF	≈ 7.0 ℥	Ssangyong genuine oil (AW-1)
	Gasoline Engine	G16DF	≈ 6.1 ℥	
Manual Transaxle Fluid			≈ 1.95 ℥	Ssangyong genuine oil (SAE 70W)
Transfer Case (PTU) Fluid (AWD)	Diesel Engine	A/T (M/T)	≈ 0.25 ℥ (≈ 0.5 ℥)	Ssangyong genuine oil (SAE 80W/90, API GL-5)
	Gasoline Engine	A/T (M/T)	≈ 0.6 ℥ (≈ 0.5 ℥)	
Rear Axle Oil			AWD	≈ 0.6 ℥
Brake / Clutch Fluid			As required	Ssangyong genuine oil (DOT4)

⚠ WARNING

- Use only Ssangyong recommended fluids and lubricants.
- Do not mix any different types or brands of oils or fluids. This may cause damages.
- When changing or topping up each oil (fluid), use the oil level gauge.

Modification basis	
Application basis	
Affected VIN	

3) Periodic Checkup And Change Interval (TIVOLI/XLV)

(1) Diesel Engine(EU)

* Use only approved Ssangyong genuine parts.

Maintenance service and record retention are the owner's responsibility. You should retain evidence that proper maintenance has been performed on your vehicle in accordance with the scheduled maintenance service chart.

MAINTENANCE ITEM	MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
		x1000 km	20	40	60	80	100	120	140	160
		x1000 miles	12.5	25	37.5	50	62.5	75	87.5	100
	Months	12	24	36	48	60	72	84	96	

ENGINE CONTROL SYSTEM

Drive belt	I	I	I	I	I	I	I	I	I	I
* Engine oil & filter * (1)* (3)* (4)*	R	R	R	R	R	R	R	R	R	R
Shorten the service interval under severe conditions										
Cooling system hose & connections	I	I	I	I	I	I	I	I	I	I
Engine coolant (3)* (4)										
Fuel filter (1)*	I	R	I	R	I	R	I	R	I	R
Drain the water from fuel filter when the warning light comes on										
Fuel line & connections	I	I	I	I	I	I	I	I	I	I
Air cleaner (2)*	I	R	I	R	I	R	I	R	I	R
Shorten the service interval under severe conditions										

Chart Symbols:

I - Inspect these items and their related parts. If necessary, correct, clean, replenish, adjust or replace.

*1 Check the engine oil level and leak every 3000 km (2000 miles) or before starting a long trip.

R- Replace or change.

(1)*If vehicle is operated under severe condition:

- Shorten the service interval.
- Frequent stop-and-go traffic, extended idling, short driving distance below 6 km, driving distance below 16 km when the outside temperature remains below freezing
- Driving in a hilly or mountainous terrain, sandy, or dusty area
- High load driving such as trailer towing
- Taxi, patrol service or delivery service (extended idling and excessive driving with low speed)

(2)*If vehicle is operated under severe condition, driving in dusty condition or sandy condition, pollutant area or off-road driving, frequently inspect the air cleaner, if necessary, change the air cleaner.

(3)*More frequent maintenance is required if under dusty driving condition.

(4)*Refer to "Recommended fluids, coolant and lubricants".

MAINTENANCE ITEM	MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
		x1000 km	20	40	60	80	100	120	140	160
		x1000 miles	12.5	25	37.5	50	62.5	75	87.5	100
	Months	12	24	36	48	60	72	84	96	

CHASSIS AND BODY

Exhaust pipes & mountings	I	I	I	I	I	I	I	I	I	I
Brake / Clutch fluid (3)*										
Parking brake / Brake pads (Front & Rear) (4)*	I	I	I	I	I	I	I	I	I	I
Brake line & connections (including booster)										
Manual transaxle oil (5)*	Inspect and replenish every 60000 km (or 3 years) (Severe driving condition: Change every 120000 km)									
Clutch & brake pedal free play	I	I	I	I	I	I	I	I	I	I
Power transfer unit oil (6)*	I	I	I	I	I	I	I	I	I	I
	Severe driving condition: Change every 60000 km									
Rear axle oil	Inspect every 20000 km, change every 100000 km (Frequent check of oil leak)									
Automatic transaxle fluid (6)*	Change every 100000 km under severe condition									
Check play/tightness for lower bolt/nut and ball joint grease leak on chassis and body (6)*	Check frequently and adjust or replace if necessary									

Chart Symbols:

I - Inspect these items and their related parts. If necessary, correct, clean, replenish, adjust or replace.

R- Replace or change.

(3)*Refer to "Recommended fluids and lubricants".

(4)*More frequent maintenance is required if the vehicle is operated under any of the following conditions:

- In heavy city traffic where the outside temperature regularly reaches 32°C (90°F) or higher, or
- In hilly or mountainous terrain, or
- When doing frequent trailer towing, or
- Uses such as found in taxi, police or delivery service.

(5)*Inspect and replenish every 60000 km (or 3 years)

Normal driving condition: Fill for Life

(Severe driving condition: Change every 120000 km)

(6)*If vehicle is operated under severe condition: Shorten the service interval.

- Towing a trailer or off-road driving (Inspect the leak of fluid at any time, occasionally)
- Taxi, patrol service or delivery service (extended idling and excessive driving with low speed)
- Frequent stop-and-go traffic, extended idling, short driving distance
- Driving in a hilly or mountainous terrain, sandy, or dusty area
- Driving frequently at high speed over 170 km/hour
- Driving frequently in area where heavy traffic under the ambient temperature above 32°C

MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first									
	x1000 km	20	40	60	80	100	120	140	160	
	x1000 miles	12.5	25	37.5	50	62.5	75	87.5	100	
MAINTENANCE ITEM	Months	12	24	36	48	60	72	84	96	
CHASSIS AND BODY										
Tire condition & inflation pressure	Check frequently and adjust or replace if necessary									
Wheel alignment (7)*	Inspect when abnormal condition is noted									
Steering wheel & linkage	I	I	I	I	I	I	I	I	I	
Outer ball joint inspection and replacement	I	I	I	I	R	I	I	I	I	
Drive shaft boots (8)*	I	I	I	I	I	I	I	I	I	
Seat belts, buckles & anchors	I	I	I	I	I	I	I	I	I	
Lubricate locks, hinges & bonnet latch	Check frequently and adjust or replace if necessary									
Wheel bearing grease	I	I	I	I	I	I	I	I	I	
Propeller shaft grease - Front / Rear (9)*	I	I	I	I	I	I	I	I	I	
Air conditioner filter (10)*	R	R	R	R	R	R	R	R	Shorten the service interval under severe conditions	

Chart Symbols:

I - Inspect these items and their related parts. If necessary, correct, clean, replenish, adjust or replace.

R- Replace or change.

(7)*If necessary, rotate and balance wheels.

(8)*After completion of off-road operation, the drive shaft boots should be inspected.

(9)*Inspect propeller shaft grease every 5000 km or 3 months if the vehicle is mainly driven under severe condition.

- In off-road or dusty road, or
- In heavy city traffic where the outside temperature regularly reaches 32°C (90°F) or higher, or
- In hilly or mountainous terrain.

(10)*Severe Conditions in Air Conditioner Filter

- Pollutant area or off-road driving, extended air conditioner or heater operation

(2) Diesel Engine(GEN)

* Use only approved Ssangyong genuine parts.

Maintenance service and record retention are the owner's responsibility. You should retain evidence that proper maintenance has been performed on your vehicle in accordance with the scheduled maintenance service chart.

MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
	x1000 km	15	30	45	60	75	90	105	120
	x1000 miles	10	20	30	40	50	60	70	80
MAINTENANCE ITEM	Months	12	24	36	48	60	72	84	96

ENGINE CONTROL SYSTEM

Drive belt	I	I	I	I	I	I	I	I	I
* Engine oil & filter * (1)* (3)* (4)* (11)* (Initial change: 7500 km)	R	R	R	R	R	R	R	R	R
Shorten the service interval under severe conditions									
Cooling system hose & connections									
Engine coolant (3)* (4)	Change every 200000 km or 5 years. And, inspect and replenish if necessary.								
Fuel filter (1)*	I	R	I	R	I	R	I	I	R
Drain the water from fuel filter when the warning light comes on									
Fuel line & connections	I	I	I	I	I	I	I	I	I
Air cleaner (2)*	I	R	I	R	I	R	I	I	R
Shorten the service interval under severe conditions									

Chart Symbols:

I - Inspect these items and their related parts. If necessary, correct, clean, replenish, adjust or replace.

*1 Check the engine oil level and leak every 3000 km (2000 miles) or before starting a long trip.

R- Replace or change.

(1)*If vehicle is operated under severe condition:

Shorten the service interval.

- Frequent stop-and-go traffic, extended idling, short driving distance below 6 km, driving distance below 16 km when the outside temperature remains below freezing
- Driving in a hilly or mountainous terrain, sandy, or dusty area
- High load driving such as trailer towing
- Taxi, patrol service or delivery service (extended idling and excessive driving with low speed)

(2)*If vehicle is operated under severe condition, driving in dusty condition or sandy condition, pollutant area or off-road driving, frequently inspect the air cleaner, if necessary, change the air cleaner.

(3)*More frequent maintenance is required if under dusty driving condition.

(4)*Refer to "Recommended fluids, coolant and lubricants".

(11)*EURO5 or EURO6 emission regulation countries:

Initial change 15000 km (severe conditions: 7500 km)

Modification basis	
Application basis	
Affected VIN	

MAINTENANCE ITEM	MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
		x1000 km	15	30	45	60	75	90	105	120
		x1000 miles	10	20	30	40	50	60	70	80
Months		12	24	36	48	60	72	84	96	

CHASSIS AND BODY

Exhaust pipes & mountings	I	I	I	I	I	I	I	I	I	I
Brake / Clutch fluid (3)*										
Parking brake / Brake pads (Front & Rear) (4)*	I	I	I	I	I	I	I	I	I	I
Brake line & connections (including booster)	I	I	I	I	I	I	I	I	I	I
Manual transaxle oil (5)*	Inspect and replenish every 60000 km (or 3 years) (Severe driving condition: Change every 120000 km)									
Clutch & brake pedal free play	I	I	I	I	I	I	I	I	I	I
Power transfer unit oil (6)*	I	I	I	I	I	I	I	I	I	I
	Severe driving condition: Change every 60000 km									
Rear axle oil	Inspect every 15000 km, change every 100000 km (Frequent check of oil leak)									
Automatic transaxle fluid (6)*	Change every 100000 km under severe condition									
Check play/tightness for lower bolt/nut and ball joint grease leak on chassis and body (6)*	Check frequently and adjust or replace if necessary									

Chart Symbols:

I - Inspect these items and their related parts. If necessary, correct, clean, replenish, adjust or replace.
R- Replace or change.

(3)*Refer to "Recommended fluids and lubricants".

(4)*More frequent maintenance is required if the vehicle is operated under any of the following conditions:

- In heavy city traffic where the outside temperature regularly reaches 32°C (90°F) or higher, or
- In hilly or mountainous terrain, or
- When doing frequent trailer towing, or
- Uses such as found in taxi, police or delivery service.

(5)*Inspect and replenish every 60000 km (or 3 years)

Normal driving condition: Fill for Life

(Severe driving condition: Change every 120000 km)

(6)*If vehicle is operated under severe condition: Shorten the service interval.

- Towing a trailer or off-road driving (Inspect the leak of fluid at any time, occasionally)
- Taxi, patrol service or delivery service (extended idling and excessive driving with low speed)
- Frequent stop-and-go traffic, extended idling, short driving distance
- Driving in a hilly or mountainous terrain, sandy, or dusty area
- Driving frequently at high speed over 170 km/hour
- Driving frequently in area where heavy traffic under the ambient temperature above 32°C

MAINTENANCE ITEM	MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
		x1000 km	15	30	45	60	75	90	105	120
		x1000 miles	10	20	30	40	50	60	70	80
Months		12	24	36	48	60	72	84	96	

CHASSIS AND BODY

Tire condition & inflation pressure	Check frequently and adjust or replace if necessary									
Wheel alignment (7)*	Inspect when abnormal condition is noted									
Steering wheel & linkage	I	I	I	I	I	I	I	I	I	I
Outer ball joint inspection and replacement	I	I	I	I	I	I	R	I	I	I
Drive shaft boots (8)*	I	I	I	I	I	I	I	I	I	I
Seat belts, buckles & anchors	I	I	I	I	I	I	I	I	I	I
Lubricate locks, hinges & bonnet latch	Check frequently and adjust or replace if necessary									
Wheel bearing grease	I	I	I	I	I	I	I	I	I	I
Propeller shaft grease - Front / Rear (9)*	I	I	I	I	I	I	I	I	I	I
Air conditioner filter (10)*	R	R	R	R	R	R	R	R	R	R
	Shorten the service interval under severe conditions									

Chart Symbols:

I - Inspect these items and their related parts. If necessary, correct, clean, replenish, adjust or replace.

R- Replace or change.

(7)*If necessary, rotate and balance wheels.

(8)*After completion of off-road operation, the drive shaft boots should be inspected.

(9)*Inspect propeller shaft grease every 5000 km or 3 months if the vehicle is mainly driven under severe condition.

- In off-road or dusty road, or
- In heavy city traffic where the outside temperature regularly reaches 32°C (90°F) or higher, or
- In hilly or mountainous terrain.

(10)*Severe Conditions in Air Conditioner Filter

- Pollutant area or off-road driving, extended air conditioner or heater operation

(3) Gasoline Engine

* Use only approved Ssangyong genuine parts.

Maintenance service and record retention are the owner's responsibility. You should retain evidence that proper maintenance has been performed on your vehicle in accordance with the scheduled maintenance service chart.

MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
	x1000 km	15	30	45	60	75	90	105	120
	x1000 miles	10	20	30	40	50	60	70	80
MAINTENANCE ITEM	Months	12	24	36	48	60	72	84	96

ENGINE CONTROL SYSTEM

Drive belt	I	I	I	I	I	I	I	I	I
Engine oil & engine oil filter (1)* (3)* (Initial check: 7500 km)	R**	R	R	R	R	R	R	R	R
Shorten the service interval under severe conditions									
Cooling system hose & connections	I	I	I	I	I	I	I	I	I
Change every 200000 km or 5 years. And, inspect replenish if necessary.									
Fuel filter (2)*	Inspect every 30000 km (if using poor quality of fuel, replace every 50000 km)								
Fuel line & connections	I	I	I	I	I	I	I	I	I
Air cleaner (2)*	I	R	I	R	I	R	I	R	
Shorten the service interval under severe conditions									
Ignition timing	I	I	I	I	I	I	I	I	I
Spark plugs (G16DF)	Change every 100000 km or 5 years.								
Charcoal canister & vapor lines	-	I	-	I	-	I	-	I	

Chart Symbols:

I - Inspect these items and their related parts. If necessary, correct, clean, replenish, adjust or replace.

R- Replace or change.

**- In order to secure engine long life and effective break-in, first oil (factory filled) would be recommended to drain within 10000 km.

(1)*If vehicle is operated under severe condition:

- Shorten the service interval.
- Frequent stop-and-go traffic, extended idling, short driving distance below 6 km, driving distance below 16 km when the outside temperature remains below freezing
- Driving in a hilly or mountainous terrain, sandy, or dusty area
- High load driving such as trailer towing
- Taxi, patrol service or delivery service (extended idling and excessive driving with low speed)

(2)*If vehicle is operated under severe condition, pollutant area or off-road driving, driving in dusty condition or sandy condition, frequently inspect the air cleaner, if necessary, change the air cleaner.

(3)*Refer to "Recommended fluids and lubricants".

MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
	x1000 km	15	30	45	60	75	90	105	120
	x1000 miles	10	20	30	40	50	60	70	80
MAINTENANCE ITEM	Months	12	24	36	48	60	72	84	96
CHASSIS AND BODY									
Exhaust pipes & mountings	I	I	I	I	I	I	I	I	I
Brake / Clutch fluid (3)*	Change every 2 years (inspect frequently)								
Parking brake / Brake pads (Front & Rear) (4)*	I	I	I	I	I	I	I	I	I
Brake line & connections (including booster)	I	I	I	I	I	I	I	I	I
Manual transaxle oil (5)*	Inspect and replenish every 60000 km (or 3 years) (Severe driving condition: Change every 120000 km)								
Clutch & brake pedal free play	I	I	I	I	I	I	I	I	I
Power transfer unit oil (6)*	I	I	I	I	I	I	I	I	I
Severe driving condition: Change every 60000 km									
Rear axle oil	Inspect every 15000 km, change every 100000 km (Frequent check of oil leak)								
Automatic transaxle fluid (6)*	Change every 100000 km under severe condition								
Check play/tightness for lower bolt/nut and ball joint grease leak on chassis and body (6)*	Check frequently and adjust or replace if necessary								

Chart Symbols:

I - Inspect these items and their related parts. If necessary, correct, clean, replenish, adjust or replace.

R- Replace or change.

(3)*Refer to "Recommended fluids and lubricants".

(4)*More frequent maintenance is required if the vehicle is operated under any of the following conditions:

- In heavy city traffic where the outside temperature regularly reaches 32°C (90°F) or higher, or
- In hilly or mountainous terrain, or
- When doing frequent trailer towing, or
- Uses such as found in taxi, police or delivery service.

(5)*Inspect and replenish every 60000 km (or 3 years)

Normal driving condition: Fill for Life

(Severe driving condition: Change every 120000 km)

(6)*If vehicle is operated under severe condition: Shorten the service interval.

- Towing a trailer or off-road driving (Inspect the leak of fluid at any time, occasionally)
- Taxi, patrol service or delivery service (extended idling and excessive driving with low speed)
- Frequent stop-and-go traffic, extended idling, short driving distance
- Driving in a hilly or mountainous terrain, sandy, or dusty area
- Driving frequently at high speed over 170 km/hour
- Driving frequently in area where heavy traffic under the ambient temperature above 32°C

Modification basis	
Application basis	
Affected VIN	

MAINTENANCE ITEM	Kilometers (miles) or time in months, whichever comes first								
	x1000 km	15	30	45	60	75	90	105	120
	x1000 miles	10	20	30	40	50	60	70	80
Months	12	24	36	48	60	72	84	96	

CHASSIS AND BODY

Tire condition & inflation pressure	Check frequently and adjust or replace if necessary							
Wheel alignment (7)*	Inspect when abnormal condition is noted							
Steering wheel & linkage	I	I	I	I	I	I	I	I
Outer ball joint inspection and replacement	I	I	I	I	I	R	I	I
Drive shaft boots (8)*	I	I	I	I	I	I	I	I
Seat belts, buckles & anchors	I	I	I	I	I	I	I	I
Lubricate locks, hinges & bonnet latch	Check frequently and adjust or replace if necessary							
Wheel bearing grease	I	I	I	I	I	I	I	I
Propeller shaft grease - Front / Rear (9)*	I	I	I	I	I	I	I	I
Air conditioner filter (10)*	R	R	R	R	R	R	R	R
	Shorten the service interval under severe conditions							

Chart Symbols:

I - Inspect these items and their related parts. If necessary, correct, clean, replenish, adjust or replace.

R- Replace or change.

(7)*If necessary, rotate and balance wheels.

(8)*After completion of off-road operation, the drive shaft boots should be inspected.

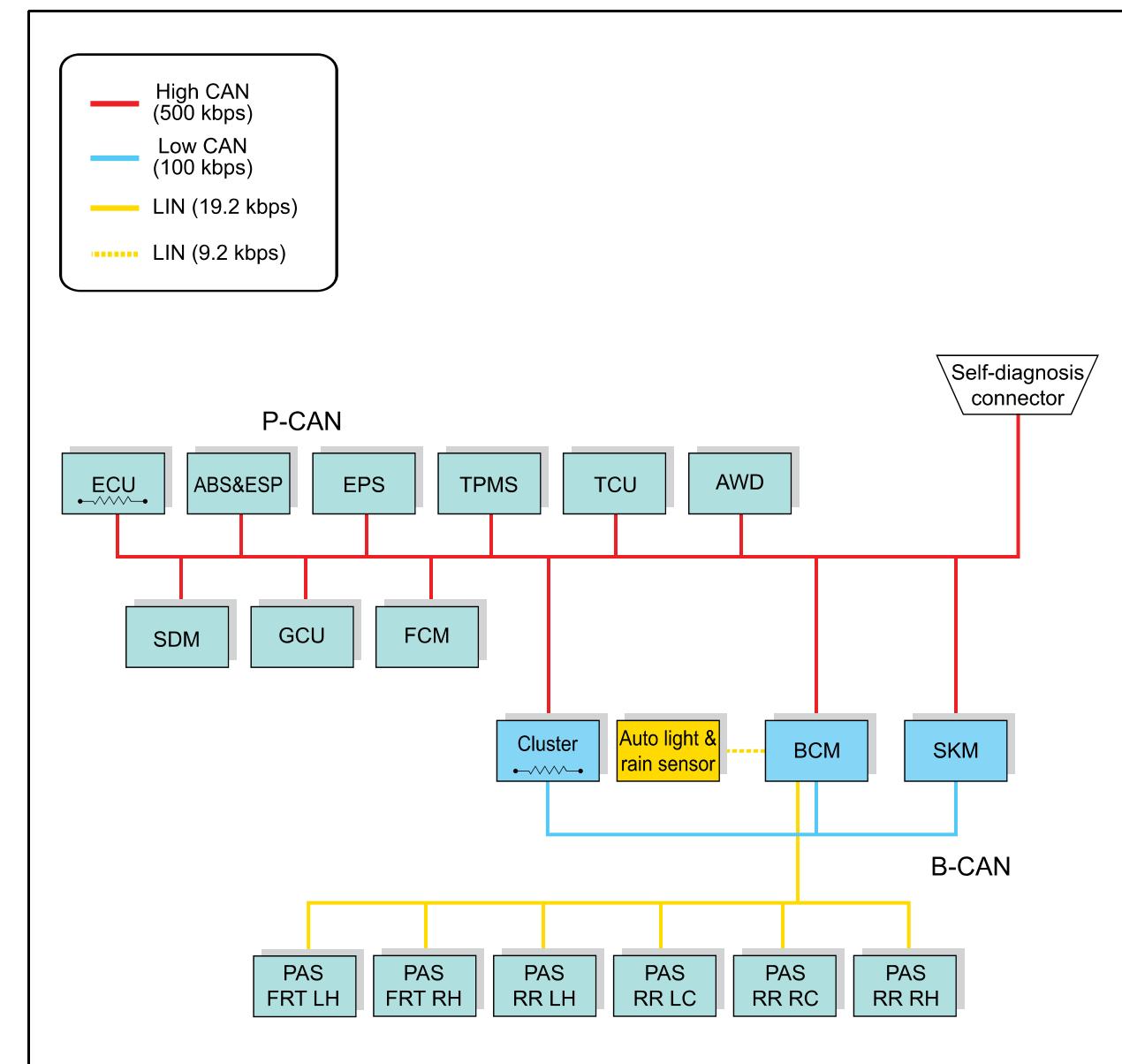
(9)*Inspect propeller shaft grease every 5000 km or 3 months if the vehicle is mainly driven under severe condition.

- In off-road or dusty road, or
- In heavy city traffic where the outside temperature regularly reaches 32°C (90°F) or higher, or
- In hilly or mountainous terrain.

(10)*Severe Conditions in Air Conditioner Filter

- Pollutant area or off-road driving, extended air conditioner or heater operation

3. CAN COMMUNICATION CONFIGURATION



The CAN topology communicate with system units. There are 2 types of CAN communication according to the communication speed: P-CAN and B-CAN. Communication speed of the former is faster than that of the latter.

The SKM, instrument cluster, BCM, and diagnostic connectors use both CAN communications to communicate with other units. Other components such as ECU, ABS with ESP, TCU, EPS unit use only P-CAN. Terminating resistors are installed in ECU and instrument cluster.