

VEHICLE GENERAL

0000-00

INDEX

VEHICLE GENERAL

VEHICLE GENERAL

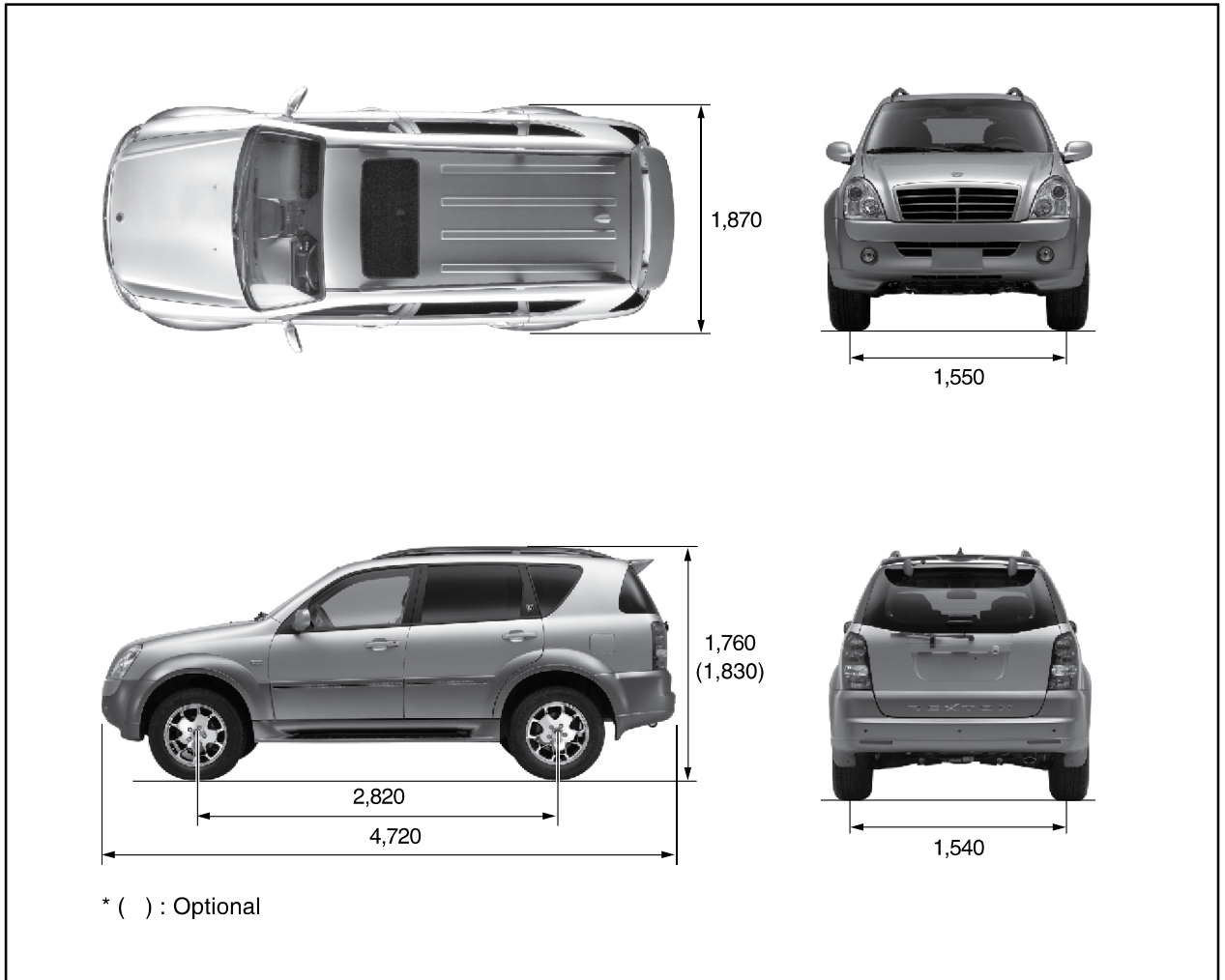
1. DIMENSIONS.....	3
2. SPECIFICATIONS.....	4
3. VEHICLE IDENTIFICATION.....	6
4. MAINTENANCE	7
5. RECOMMENDED FLUIDS AND LUBRICANTS.....	13
6. JACK-UP POINTS (DOTTED CIRCLES).	14
7. PIN ARRANGEMENT OF DIAGNOSTIC CONNECTOR.....	15
8. ELECTRIC COMPONENTS AND LAYOUT.....	16
9. TIGHTENING TORQUE OF STANDARD BOLTS.....	18

VEHICLE GENERAL

0000-00

GENERAL

1. DIMENSIONS



Modification basis	
Application basis	
Affected VIN	

2. SPECIFICATIONS

* (): Optional, []: 2WD, D27DTP: Diesel 2.7 Power-Up, D27DT: Diesel 2.7, G32D: Gasoline

Descriptions		D27DTP	D27DT	G32D	
General	Overall length (mm)	4,720	←	←	
	Overall width (mm)	1,870	←	←	
	Overall height (mm)	1,760 (1,830)	←	←	
	Gross vehicle weight (kg)	2,760	←	←	
	Curb vehicle weight (kg)	A/T	2,099	2,101	2,088
		M/T	—	2,088	—
	Fuel	Diesel	←	Gasoline	
	Fuel tank capacity (ℓ)	78	←	←	
	Minimum Turning Radius	5.7m	←	←	
Engine	Numbers of cylinders/ Compression ratio	5 / 17.5:1	5 / 18:1	6 / 10:1	
	Total displacement (cc)	2,696	←	3,199	
	Camshaft arrangement	DOHC	←	←	
	Max. power	A/T	186 PS / 4,000 rpm	165 PS / 4,000 rpm	220 ps / 6,100 rpm
		M/T	—	165 PS / 4,000 rpm	—
	Max. torque	A/T	395 Nm / 1,600~3,000 rpm	340 Nm / 2,400 rpm	312 Nm / 4,600 rpm
		M/T	—	340 Nm / 2,400 rpm	—
	Idle speed	750 ± 50 rpm	←	700 ± 50 rpm	
	Cooling system	Water- cooled / forced circulation	←	←	
	Coolant capacity (ℓ)	11.5	←	11.3 ~ 11.5	
	Lubrication type	Gear pump, forced circulation	←	←	
	Max. oil capacity (ℓ) (when shipping)	9.2	←	9.8	
Turbocharger and cooling type	Turbocharger, air-cooled	←	—		
Manual Transmission	Operating type	—	Semi- Remote control, floor change type	—	
	Gear ratio	1st	—	4.315	—
		2nd	—	2.475	—
		3rd	—	1.536	—
		4th	—	1.000	—
		5th	—	0.807	—
		Reverse	—	3.919	—
Automatic Transmission	Model	Electronic, 5-speed	←	←	
	Operating type	Floor change type	←	←	
	Gear ratio	1st	3.595	←	3.951
		2nd	2.186	←	2.423
		3rd	1.405	←	1.486
		4th	1.000	←	1.000
		5th	0.831	←	0.833
		Reverse 1st	3.167	←	3.147
Reverse 2nd		1.926	←	1.930	

Modification basis	
Application basis	
Affected VIN	

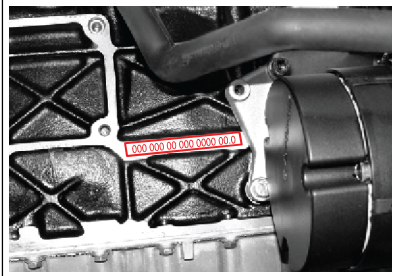
► Specifications (Cont'd)

Descriptions		D27DTP	D27DT	G32D	
Transfer Case	Model	AWD	Part-time (TOD)	Part-time (AWD)	
	Type	Planetary gear type	←	←	
	Gear ratio	High (4H)	—	1.000 : 1	←
		Low (4L)	—	2.483 : 1	←
Clutch (M/T)	Operating type	—	Hydraulic type	—	
	Disc type	—	Dry single diaphragm type	—	
Power Steering	Type	Rack and pinion	←	←	
	Steering angle	Inner	36.17°	←	
		Outer	32.4°	←	
Front Axle	Drive shaft type	Ball joint type	←	←	
	Axle housing type	IOP type	Build-up type	Build-up type (IOP type)	
Rear Axle	Drive shaft type	Semi-floating type (Ball joint type)	Semi-floating type	Semi-floating type (ball joint type)	
	Axle housing type	Build-up type (IRS type)	Build-up type	Build-up type (IRS type)	
Brake	Master cylinder type	Tandem type	←	←	
	Booster type	Vacuum assisted booster type	←	←	
	Brake typ	Front wheels	Disc type	←	←
		Rear wheels	Disc type	←	←
	Parking brake	Cable type (Automatic parking brake)	←	←	
Suspension	Front suspension	Wishbone + coil spring	←	←	
	Rear suspension	5-link + coil spring (Multi-link + Coil spring) (EAS)	5-link + coil spring	5-link + coil spring (Multi-link + Coil spring) (EAS)	
Air Conditioner	Refrigerant (capacity)	R - 134a / 720 ± 30g (R - 134a / 1120 ± 30g)	←	←	
Electrical	Battery type / Capacity (V-AH)	MF / 12 - 90	←	←	
	Starter capacity (V-KW)	12 - 2.2	←	12 - 1.8	
	Alternator capacity (V-A)	12 - 140 (12 - 115)	←	12 - 115	

Modification basis	
Application basis	
Affected VIN	

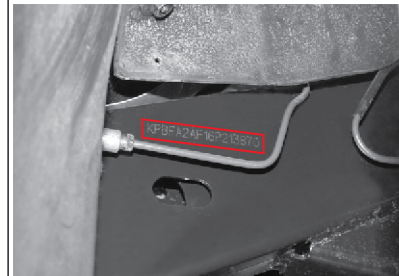
3. VEHICLE IDENTIFICATION

1. Engine Number

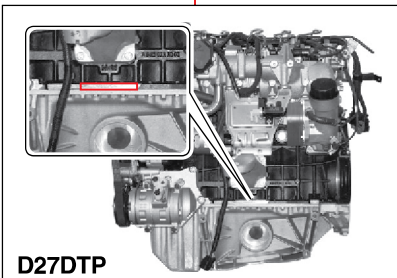
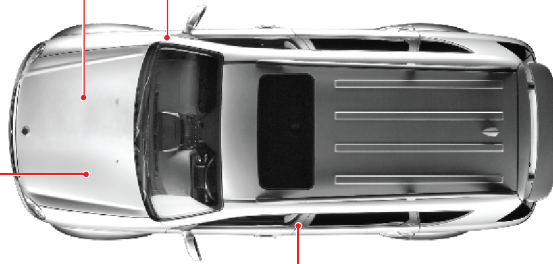


Gasoline Engine: The engine number is stamped on the lower area of cylinder block in exhaust manifold side.

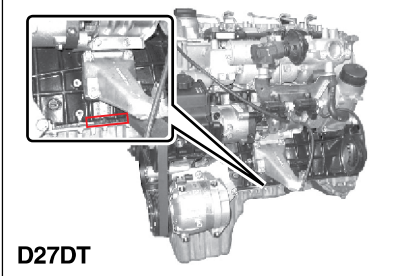
2. Chassis Number



The chassis number is stamped on the frame behind the front right tire.



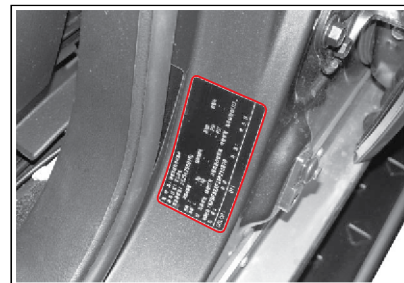
D27DTP



D27DT

Diesel Engine (D27DTP, D27DT): The engine number is stamped on the lower area of cylinder block behind the Intake manifold.

3. Certification Label



The certification label is located on the driver's door sill.

Modification basis	
Application basis	
Affected VIN	

4. MAINTENANCE

1) Diesel 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.

* EU Countries: Only countries that belong to EU. (It does not apply to all countries in EU.)

MAINTENANCE ITEM	MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
		x1,000 km	15	30	45	60	75	90	105	120
		x1,000 miles	10	20	30	40	50	60	70	80
		Months	12	24	36	48	60	72	84	96

ENGINE CONTROL SYSTEM

Drive belt		I	I	I	I	I	I	I	I	
* Engine oil & filter (1)* (3)* (4)*	EU	Initial check: 5,000 km, and replenish if necessary, change every 15,000 km or 12 months								
	General	Initial change: 5,000 km, change every 10,000 km or 12 months								
Cooling system hose & connections		I	I	I	I	I	I	I	I	
Engine coolant (3)* (4)*		Change every 60,000 km or 3 years. And, inspect and replenish if necessary.								
* Fuel filter	Direct Injection (Diesel Engine)	EU	I	R*	I	R*	I	R*	I	R*
	General	Replace every 25,000 km (Draining water from fuel filter: whenever replacing the engine oil)								
Additional Water Separator (if equipped)		Replace every 150,000 km or 5 years (Drain the water whenever replacing the engine oil)								
Fuel line & connections		I	I	I	I	I	I	I	I	
Air cleaner (2)*	EU	Initial clean: 5,000 km, clean every 15,000 km, replace every 30,000 km (But, shorten the service interval under severe conditions)								
	General	Initial clean: 5,000 km, clean every 10,000 km, replace every 30,000 km (But, shorten the service interval under severe conditions)								
Injection timing (See NOTE1)		I	I	I	I	I	I	I	I	

NOTE 1:

Adjust as required; - When excessive smoke is visible (black or white)

- Poor performance/economy

Chart Symbols:

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

R - Replace or change.

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

- 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)

Shorten the service interval. Inspect the engine oil at any time, occasionally, if necessary refill the engine oil.

(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".

* Water separator: When replace the engine oil, also drain the water from the fuel filter.

Modification basis	
Application basis	
Affected VIN	

* EU Countries: Only countries that belong to EU. (It does not apply to all countries in EU.)

MAINTENANCE INTERVAL MAINTENANCE ITEM	Kilometers (miles) or time in months, whichever comes first								
	x1,000 km	15	30	45	60	75	90	105	120
	x1,000 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
Brake / Clutch fluid (3)*		Change every: 2 years (inspect frequently)							
Parking brake /		EU	Periodic check: every 15,000 km, adjust or replace if necessary.						
Brake pads (Front & Rear) (4)*		General	Periodic check: every 10,000 km, adjust or replace if necessary.						
Brake line & connections (including booster)		Inspect every 15,000 km or 1 years, adjust or replace if necessary							
Manual transmission oil (5)*		I	I	I	R	I	I	I	R
Clutch & brake pedal free play		I	I	I	I	I	I	I	I
Front & Rear differential fluid (3)*	Front	Non IOP		Inspect frequently, change every 30,000 km					
		IOP	EU	Periodic check: every 15,000 km, adjust or replace if necessary.					
			General	Periodic check: every 10,000 km, adjust or replace if necessary.					
	Rear	Rigid		Inspect frequently, change every 30,000 km					
		IRS	EU	Periodic check: every 15,000 km, adjust or replace if necessary.					
			General	Periodic check: every 10,000 km, adjust or replace if necessary.					
Transfer case fluid (3)*		Inspect every 15,000 km, change every 60,000 km (Frequent check of oil leak)							
Automatic transmission fluid (6)*		Inspect every 30,000 km or 12 month (But change every 60,000 km under severe condition)							

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 manual transmission fluid every 15,000 km (Inspect the leak of fluid at any time, occasionally), then change every 60,000 km

(6)* Change automatic transmission fluid and every 60,000 km if the vehicle is mainly driven under severe conditions: Towing a trailer or off-road driving (Inspect the leak of fluid at any time, occasionally)

VEHICLE GENERAL

undefined

Modification basis	
Application basis	
Affected VIN	

* Use only approved Ssangyong genuine parts.

MAINTENANCE ITEM	MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
		x1,000 km	15	30	45	60	75	90	105	120
		x1,000 miles	10	20	30	40	50	60	70	80
	Months	12	24	36	48	60	72	84	96	

CHASSIS AND BODY

Chassis & underbody bolts & nuts tight / Secure (6)*		Check frequently and adjust or replace if necessary							
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
Power steering fluid & lines (3)*		I	I	I	I	I	I	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)*	EU	I	I	I	I	I	I	I	I
	General	Inspect every 10,000 km							
Air conditioner filter		Change every 10,000 km (But, 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.

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

(6)* After completion of off-road operation, the underbody of the vehicle should be thoroughly inspected. Examine threaded fasteners for looseness.

(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 5,000 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.

Severe Conditions in Air Conditioner Filter

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

Modification basis	
Application basis	
Affected VIN	

2) 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.

* EU Countries: Only countries that belong to EU. (It does not apply to all countries in EU.)

MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
	x1,000 km	15	30	45	60	75	90	105	120
x1,000 miles	10	20	30	40	50	60	70	80	
Months	12	24	36	48	60	72	84	96	

ENGINE CONTROL SYSTEM

Drive belt	I	I	I	I	I	I	I	I	
Engine oil & engine oil filter (1)* (3)* (Initial change: 10,000 km)	R**	R	R	R	R	R	R	R	
Cooling system hose & connections	I	I	I	I	I	I	I	I	
Engine coolant (3)*	Change every 60,000 km or 3 years. And, inspect replenish if necessary.								
Fuel filter (2)*	Replace every 100,000 km (if using poor quality of fuel, replace every 30,000 km)								
Fuel line & connections	I	I	I	I	I	I	I	I	
Air cleaner (2)*	I	I	I	R	I	I	I	R	
Ignition timing	I	I	I	I	I	I	I	I	
Spark plugs	-	-	-	R	-	-	-	R	
Charcoal canister & vapor lines	-	-	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 with in 10,000 km.

(1)* If vehicle is operated under severe condition: short distance driving, extensive idling or driving in dusty condition, shorten the service interval.

(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".

Modification basis	
Application basis	
Affected VIN	

* EU Countries: Only countries that belong to EU. (It does not apply to all countries in EU.)

MAINTENANCE INTERVAL MAINTENANCE ITEM	Kilometers (miles) or time in months, whichever comes first								
	x1,000 km	15	30	45	60	75	90	105	120
	x1,000 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	
Brake / Clutch fluid (3)*			Change every: 2 years (inspect frequently)							
Parking brake /		EU	Periodic check: every 15,000 km, adjust or replace if necessary.							
Brake pads (Front & Rear) (4)*		General	Periodic check: every 10,000 km, adjust or replace if necessary.							
Brake line & connections (including booster)			Inspect every 15,000 km or 1 years, adjust or replace if necessary							
Manual transmission oil (5)*			I	I	I	R	I	I	R	
Clutch & brake pedal free play			I	I	I	I	I	I	I	
Front & Rear differential fluid (3)*	Front	Non IOP	Inspect frequently, change every 30,000 km							
		IOP	EU	Periodic check: every 15,000 km, adjust or replace if necessary.						
			General	Periodic check: every 10,000 km, adjust or replace if necessary.						
	Rear	Rigid	Inspect frequently, change every 30,000 km							
		IRS	EU	Periodic check: every 15,000 km, adjust or replace if necessary.						
			General	Periodic check: every 10,000 km, adjust or replace if necessary.						
Transfer case fluid (3)*			Inspect every 15,000 km, change every 60,000 km (Frequent check of oil leak)							
Automatic transmission fluid (6)*			Inspect every 30,000 km or 12 month (But change every 60,000 km under severe condition)							

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 manual transmission fluid every 15,000 km (Inspect the leak of fluid at any time, occasionally), then change every 60,000 km

(6)* Change automatic transmission fluid and every 60,000 km if the vehicle is mainly driven under severe conditions: Towing a trailer or off-road driving (Inspect the leak of fluid at any time, occasionally)

Modification basis	
Application basis	
Affected VIN	

* EU Countries: Only countries that belong to EU. (It does not apply to all countries in EU.)

MAINTENANCE ITEM	MAINTENANCE INTERVAL	Kilometers (miles) or time in months, whichever comes first								
		x1,000 km	15	30	45	60	75	90	105	120
		x1,000 miles	10	20	30	40	50	60	70	80
	Months	12	24	36	48	60	72	84	96	

CHASSIS AND BODY

Chassis & underbody bolts & nuts tight / Secure (6)*	Check frequently and adjust or replace if necessary								
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
Power steering fluid & lines (3)*	I	I	I	I	I	I	I	I	I
Drive shaft boots	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 (8)*	EU	I	I	I	I	I	I	I	I
	General	Inspect every 10,000 km							
Air conditioner filter	Change every 10,000 km (But, 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.

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

(6)* After completion of off-road operation, the underbody of the vehicle should be thoroughly inspected. Examine threaded fasteners for looseness.

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

(8)* Inspect propeller shaft grease every 5,000 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.

Severe Conditions in Air Conditioner Filter

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

Modification basis	
Application basis	
Affected VIN	

5. RECOMMENDED FLUIDS AND LUBRICANTS

Descriptions		Capacity	Specifications	
Engine Oil	D27DTP	≈ 8.5 ℓ	Quality class: Ssangyong genuine engine oil (Approved by MB Sheet 229.1 or 229.3) Viscosity: MB sheet No. 224.1	
	D27DT	≈ 8.5 ℓ		
	G32D	≈ 9.0 ℓ		
Engine Coolant	D27DTP	≈ 11.5 ℓ	Ssangyong genuine coolant HOECHST GENANTIN SUPER 8023/14	
	D27DT	≈ 11.5 ℓ		
	G32D	11.3 ~ 11.5 ℓ		
Automatic Transmission Fluid		≈ 8.0 ℓ	Ssangyong genuine oil (Shell ATF 3353 or Fuchs ATF 3353)	
Manual Transmission Fluid	2WD	≈ 3.4 ℓ	Ssangyong genuine oil (ATF DEXRON II)	
	4WD	≈ 3.6 ℓ		
Transfer Case Fluid	AWD	≈ 1.1 ℓ	Ssangyong genuine oil (ATF DEXRON III)	
	TOD	≈ 1.4 ℓ		
	Part Time	≈ 1.4 ℓ		
Axle Oil	Front	Non IOP	≈ 1.4 ℓ ~ 1.5 ℓ	Ssangyong genuine oil (API GL-5 & SAE 80W/90)
		IOP	≈ 0.78 ℓ	Ssangyong genuine oil (Shell synthetic fuel efficient GL 75W/90)
	Rear	Rigid	≈ 2.0 ~ 2.2 ℓ	Ssangyong genuine oil (API GL-5 & SAE 80W/90)
		IRS	≈ 1.5 ℓ	Ssangyong genuine oil (Shell synthetic fuel efficient GL 75W/90)
Brake / Clutch Fluid		As required	Ssangyong genuine oil (DOT4)	
Power Steering Fluid		≈ 1.0 ℓ	Ssangyong genuine oil (ATF DEXRON II or III)	

WARNING

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

D27DTP: Diesel 2.7 Power-Up

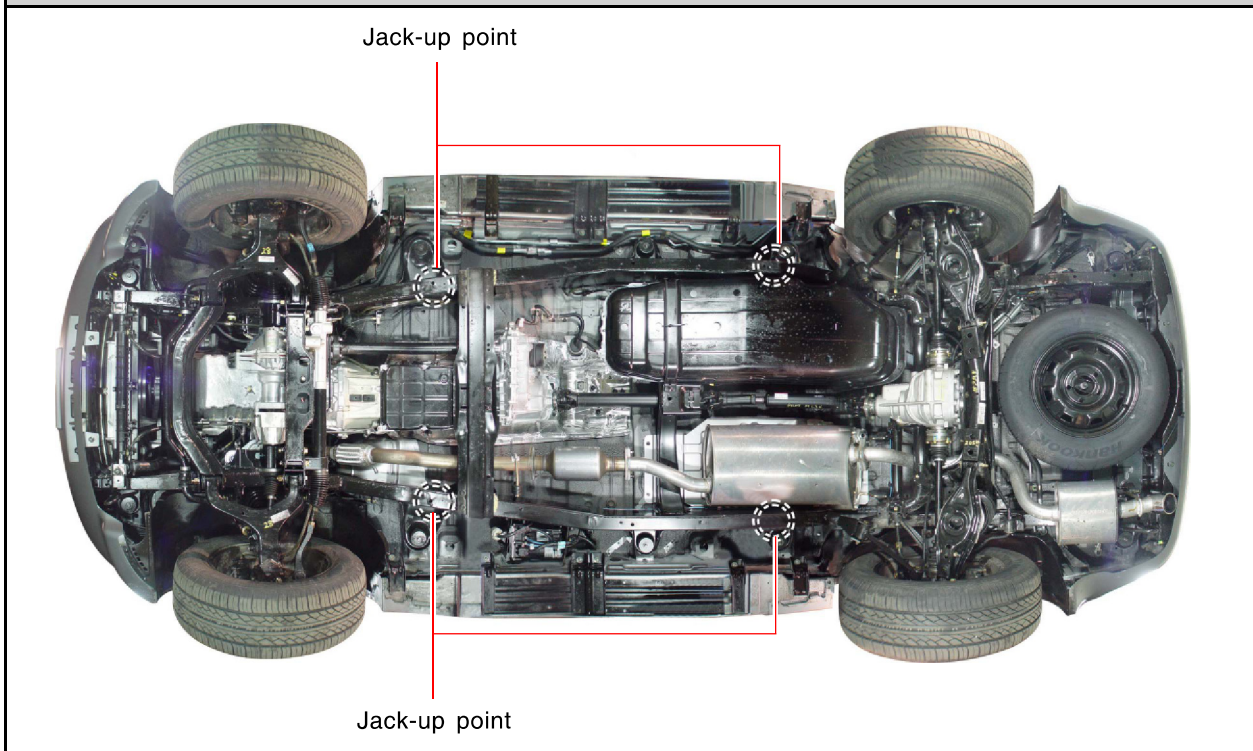
D27DT: Diesel 2.7

G32D: Gasoline

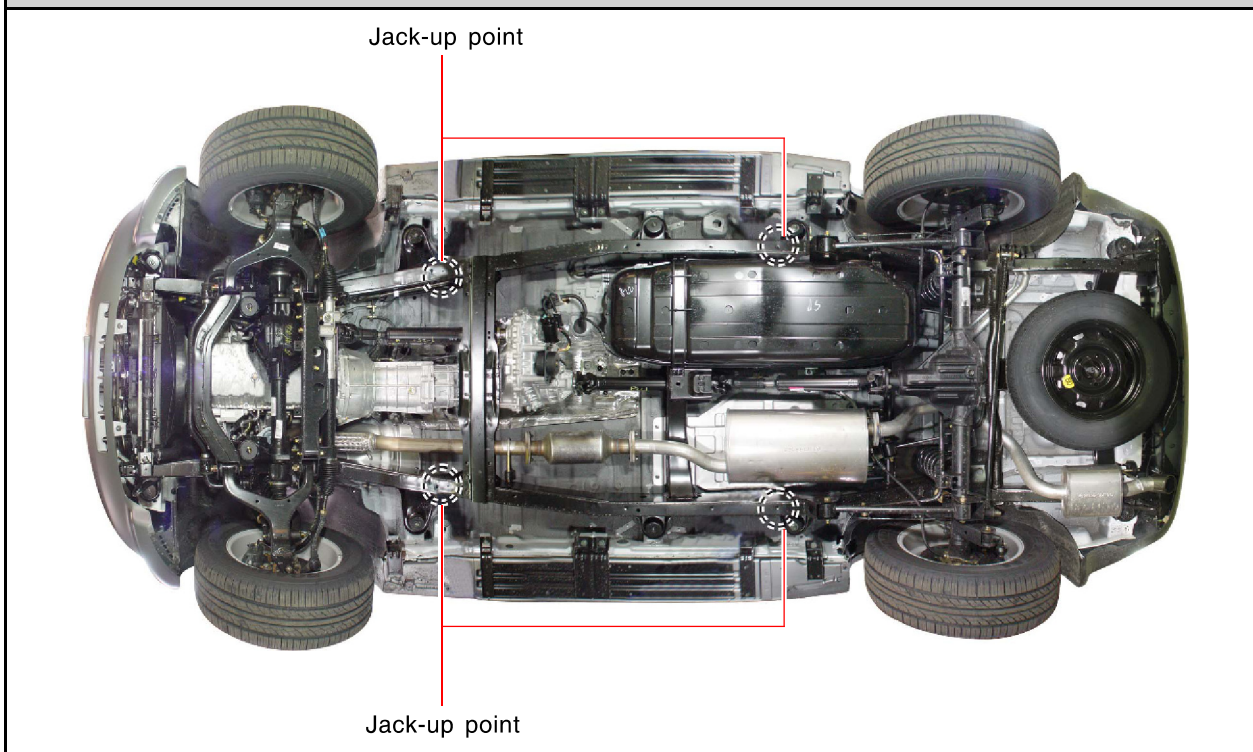
Modification basis	
Application basis	
Affected VIN	

6. JACK-UP POINTS (DOTTED CIRCLES)

IRS type



5-link type



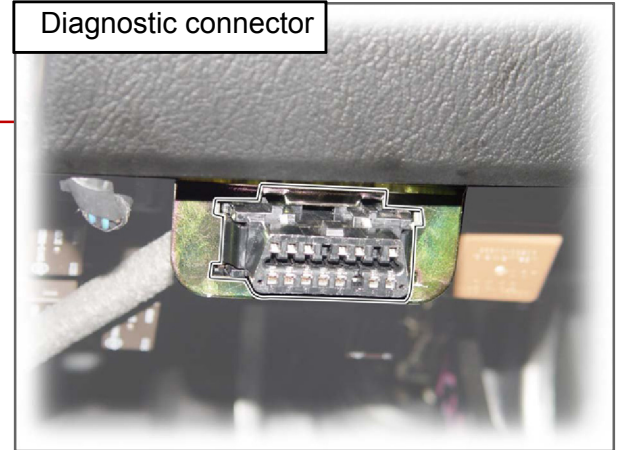
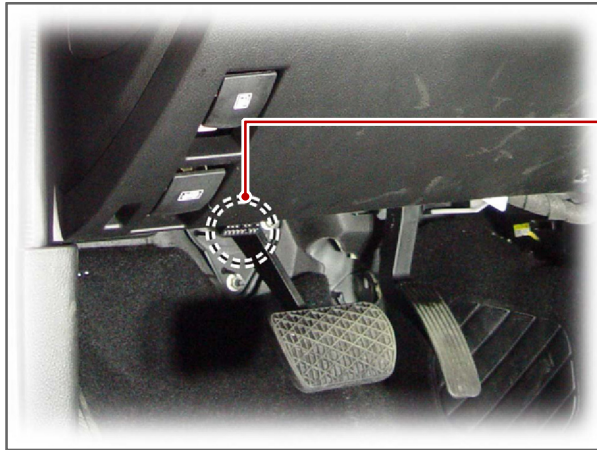
VEHICLE GENERAL

undefined

Modification basis	
Application basis	
Affected VIN	

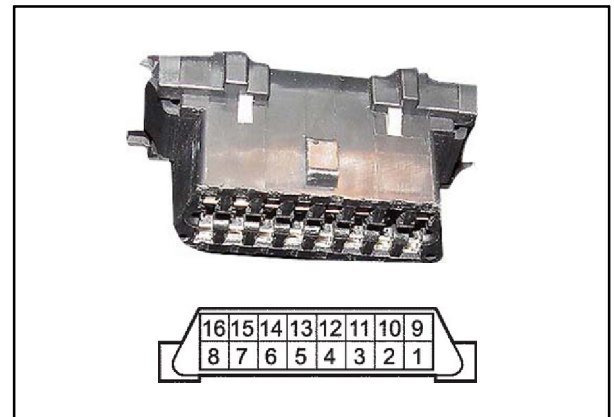
7. PIN ARRANGEMENT OF DIAGNOSTIC CONNECTOR

It is installed under the instrument panel and consists of 16 pins.
The REKES key coding should be performed with SCAN-TOOLS.



Functions of Terminal

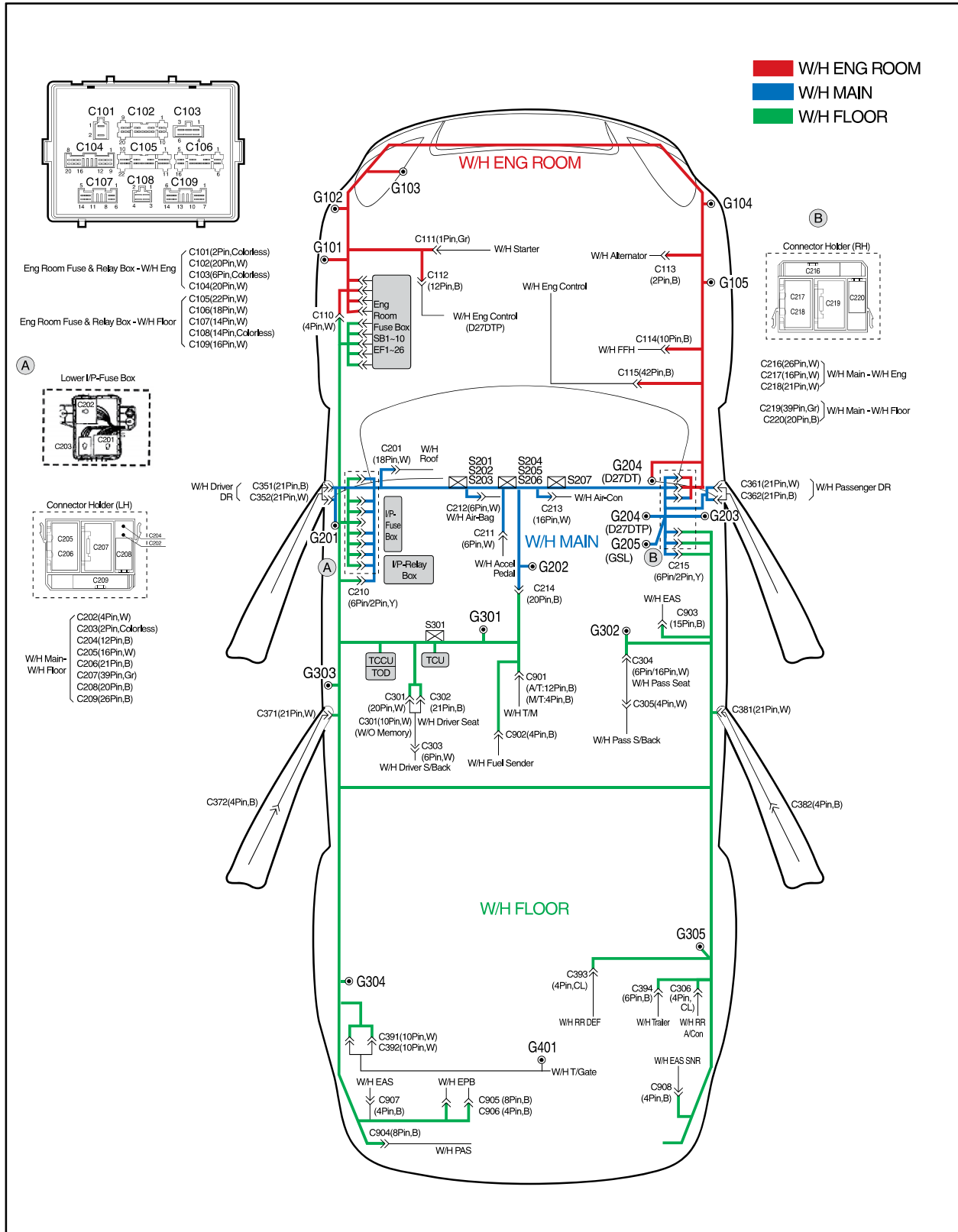
Pin no. 1	FFH diagnosis
Pin no. 2	FFH forced driving
Pin no. 3	-
Pin no. 4	Ground
Pin no. 5	Signal ground
Pin no. 6	CAN - HIGH
Pin no. 7	Engine ECU
Pin no. 8	ABS / ESP
Pin no. 9	Air bag
Pin no. 10	-
Pin no. 11	TCU
Pin no. 12	ECPS
Pin no. 13	TCCU/TOD
Pin no. 14	CAN - LOW
Pin no. 15	REKES coding / RK-STICS
Pin no. 16	Battery +



Modification basis	
Application basis	
Affected VIN	

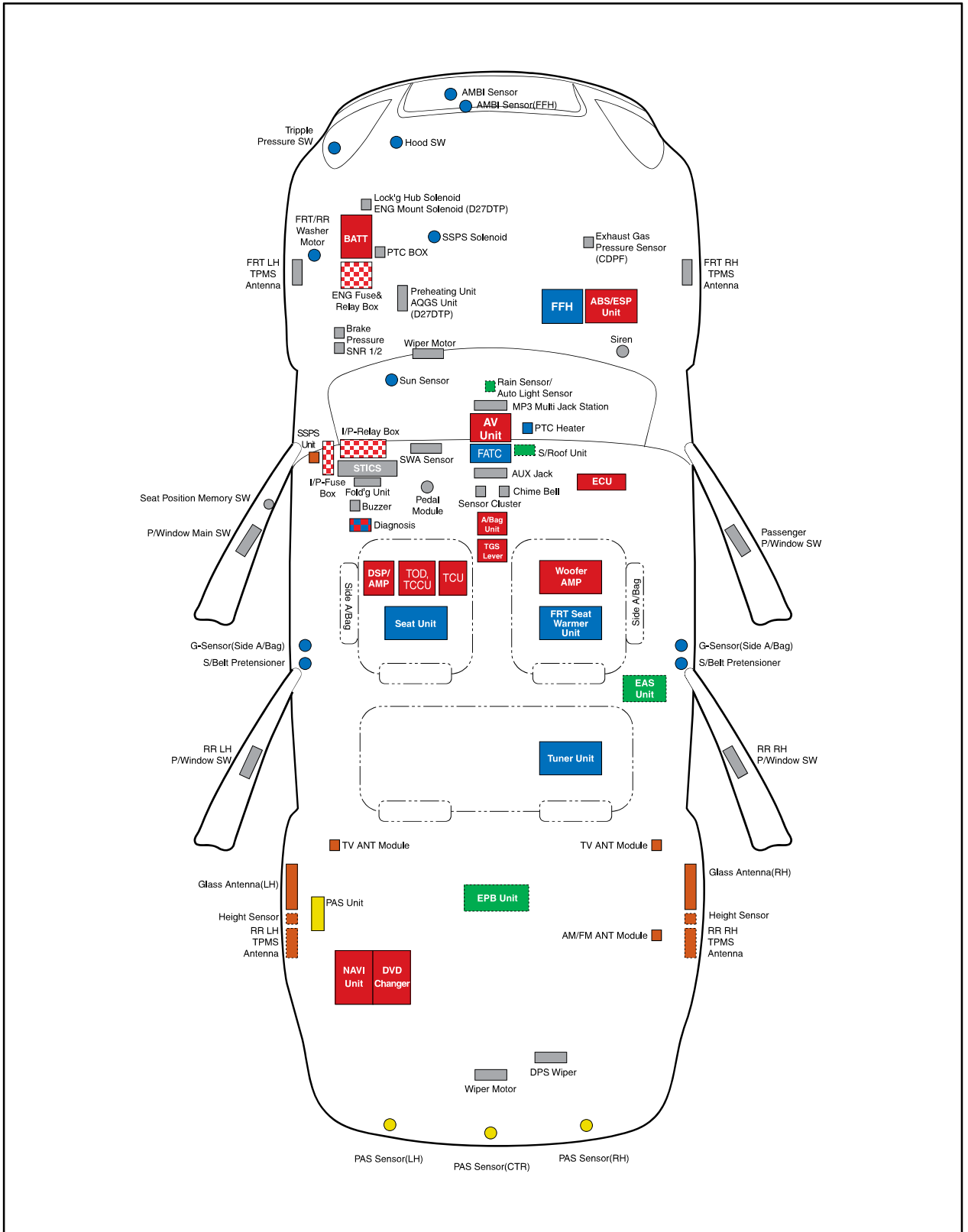
8. ELECTRIC COMPONENTS AND LAYOUT

1) Wiring Harness Arrangement



Modification basis	
Application basis	
Affected VIN	

2) Components Locator

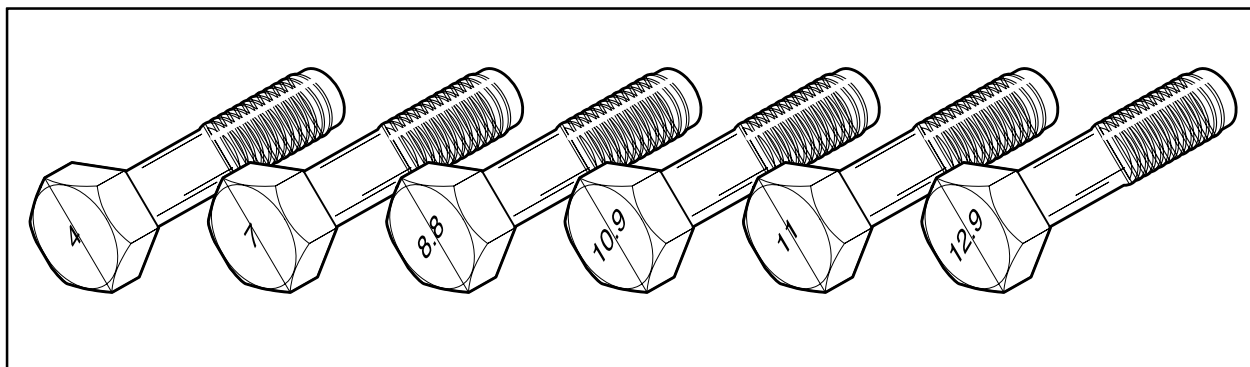


Modification basis	
Application basis	
Affected VIN	

9. TIGHTENING TORQUE OF STANDARD BOLTS

► Tightening Torque By Bolt Specification

Bolt Diameter	Pitch	Tightening Torque (kg·cm)					
		Standard Tightening Torque			Max. Allowable Tightening Torque		
		4T	7T	9T	4T	7T	9T
M3	0.5	5	9	13	7	12	17
M4	0.7	12	20	30	16	27	40
M5	0.8	24	40	57	32	53	77
M6	1.0	41	68	99	55	91	130
M8	1.25	88	160	230	130	210	310
M10	1.25	190	330	470	260	430	620
	1.5	190	310	450	250	420	600
M12	1.25	350	580	840	460	770	1,100
	1.75	330	550	790	440	730	1,000
M14	1.5	550	910	1,300	730	1,200	1,900
M16	1.5	830	1,100	2,000	1,100	1,900	2,700
M18	1.5	1,200	2,000	2,900	1,600	2,700	3,800
M20	1.5	1,700	2,800	4,000	2,200	3,700	5,300
M22	1.5	2,300	3,800	5,400	3,000	5,000	7,200
M24	1.5	2,900	4,900	7,000	3,900	6,500	9,400
	2.0	2,800	4,700	6,800	3,800	6,300	9,100



- Metric bolt strength is embossed on the head of each bolt. The strength of bolt can be classified as 4T, 7T, 8.8T, 10.9T, 11T and 12.9T in general.
- Observe standard tightening torque during bolt tightening works and can adjust torque to be proper within 15 % if necessary. Try not to over max. allowable tightening torque if not required to do so.
- Determine extra proper tightening torque if tightens with washer or packing.
- If tightens bolts on the below materials, be sure to determine the proper torque.
 - Aluminum alloy: Tighten to 80 % of above torque table.
 - Plastics: Tighten to 20 % of above torque table.