www.DIGITALKHODRO.COM 021 62 99 92 92

# SECTION 0B

# GENERAL INFORMATION

## TABLE OF CONTENTS


**Specifications . . . . . 0B-1**
Technical Data . . . . . 0B-1
Vehicle Dimensions and Weights . . . . . 0B-5
Standard Bolt Specifications . . . . . 0B-6
**Maintenance and Repair . . . . . 0B-7**
Maintenance and Lubrication . . . . . 0B-7
Normal Vehicle Use . . . . . 0B-7
Explanation of Scheduled Maintenance Services . . . . . 0B-7
Scheduled Maintenance Charts (Gasoline Engine) . . . . . 0B-8
Scheduled Maintenance Charts (Diesel Engine) . . . . . 0B-10
**Owner Inspections and Services . . . . . 0B-12**
While Operating the Vehicle . . . . . 0B-12
At Each Fuel Fill . . . . . 0B-12
At Least Twice A Month . . . . . 0B-12
At Least Monthly . . . . . 0B-12
At Least Twice a Year . . . . . 0B-12
Each Time the Oil is Changed . . . . . 0B-13
At Least Annually . . . . . 0B-13
Recommended Fluids and Lubricants . . . . . 0B-14
**General Description and System Operation . . . . . 0B-15**
General Repair Instructions . . . . . 0B-15
Vehicle Identification Number System . . . . . 0B-16
Vehicle Lifting Procedures . . . . . 0B-19


شرکت دیجیتال خودرو سامانه (مسئولیت محدود)
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

## SPECIFICATIONS

### TECHNICAL DATA

#### Transaxle Performance

| Application | 661LA | 662NA | 662LA | 2.0L DOCH | 2.3L DOCH | 3.2L DOCH |
|---|---|---|---|---|---|---|
| Maximum Speed (Km/h) | 143 | 145 | 156 | 168 | 176 | 190 |
| Minimum Turning Radius (m) | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 |

#### Performance-Autumatic Transaxle (MB)

| Application | 2.3L DOCH | 3.2L DOCH |
|---|---|---|
| Maximum Speed (Km/h) | 171 | 190 |
| Minimum Turning Radius (m) | 5.7 | 5.7 |

#### Performance-Autumatic Transaxle (BTRA)

| Application | 661LA | 662NA | 662LA | 2.3L DOCH | 3.2L DOCH |
|---|---|---|---|---|---|
| Maximum Speed (Km/h) | 143 | 138 | 156 | 171 | 188 |
| Minimum Turning Radius (m) | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 |

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



## Engine

| Application | 661LA | 662NA | 662LA | 2.0L DOCH | 2.3L DOCH | 3.2L DOCH |
|---|---|---|---|---|---|---|
| Engine Type | 4Cylinder DIESEL | 5Cylinder DIESEL | 5Cylinder DIESEL | 4Cylinder GASOLINE | 4Cylinder GASOLINE | 6Cylinder GASOLINE |
| Bore (mm) | 89 | 89 | 89 | 89.9 | 90.9 | 89.9 |
| Stroke (mm) | 92.4 | 92.4 | 92.4 | 78.7 | 88.4 | 84 |
| Total Displacement (cc) | 2299 | 2874 | 2874 | 1998 | 2295 | 3199 |
| Compression Ratio | 22:1 | 22:1 | 22:1 | 9.6:1 | 10.4:1 | 10:1 |
| Maximum Power (ps/rpm) | 101/4000 | 95/4000 | 120/4000 | 135/5500 | 149/5500 | 222/5500 |
| Maximum Torque (kg.m/rpm) | 21.5/2400 | 19.6/2400 | 25.5/2400 | 19.3/4000 | 22.4/4000 | 31.6/3750 |

## Ignition System

| Application | 2.0L DOHC | 2.3L DOHC | 2.0L DOHC |
|---|---|---|---|
| Ignition Type | Distributorless Ignition | | |
| Ignition Timing (BOTH) | 6° ± 2° | 6° ± 2° | 8° ± 2° |
| Ignition Sequence | 1-3-4-2 | 1-3-4-2 | 1-5-3-6-2-4 |
| Spark Plug Gap (mm) | 0.8 ± 0.1 | 0.8 ± 0.1 | 0.8 ± 0.1 |
| Spark Plug Maker | Bosch, Chapion, Beru | | |
| Spark Plug Type | F8DC4(BOSCH)<br>C11YCC(CHAMPION)<br>14F8DU4(BERU) | | |

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

## Clutch - Manual Type

| Application | 661LA | 662NA | 662LA | 2.0L DOHC | 2.3L DOHC | 3.2L DOHC |
|---|---|---|---|---|---|---|
| Type | Single Dry Diaphram | | | | | |
| Outside Diameter (mm) | 225 | 225 | 240 | 225 | 225 | 240 |
| Inside Diameter (mm) | 150 | 150 | 150 | 150 | 150 | 155 |
| Thickness | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.3 |
| Fluid | Common use :Brake Fluid | | | | | |

## Manual Transmission

| Application | 661LA | 662NA | 662LA | 2.0L DOHC | 2.3L DOHC | 3.2L DOHC |
|---|---|---|---|---|---|---|
| Maker | TREMEC | TREMEC | TREMEC | TREMEC | TREMEC | TREMEC |
| Type or Model | T5 | T5 | T5 | T5 | T5 | T5 |
| Gear Ratio : 1st | 3.969 | 3.969 | 3.969 | 3.969 | 3.969 | 3.969 |
| 2nd | 2.341 | 2.341 | 2.341 | 2.341 | 2.341 | 2.341 |
| 3rd | 1.457 | 1.457 | 1.457 | 1.457 | 1.457 | 1.457 |
| 4th | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 5th | 0.851 | 0.851 | 0.851 | 0.851 | 0.851 | 0.851 |
| Reverse | 3.705 | 3.705 | 3.705 | 3.705 | 3.705 | 3.705 |
| Final Drive Ratio | 4.55 | 4.55 | 4.27 | 4.55 | 4.55 | 3.73 |
| Oil Capacity (L) | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



## Auto Transmission (MB)

| Application | 662LA | 2.3L DOHC | 3.2L DOHC |
|---|---|---|---|
| Maker | MB | MB | MB |
| Type or Model | W4A040 | W4A040 | W4A040 |
| Gear Ratio : 1st | 3.871 | 3.871 | 3.871 |
| 2nd | 2.247 | 2.247 | 2.247 |
| 3rd | 1.436 | 1.436 | 1.436 |
| 4th | 1.000 | 1.000 | 1.000 |
| Reverse | 5.586 | 5.586 | 5.586 |
| Final Drive Ratio | 5.38 | 4.27 | 3.73 |
| Oil Capacity (L) | 9 - 9.5 | 9 - 9.5 | 9 - 9.5 |

## Auto Transmission (BTRA)

| Application | 661LA | 662LA | 2.3L DOHC | 3.2L DOHC |
|---|---|---|---|---|
| Maker | BTRA | BTRA | BTRA | BTRA |
| Type or Model | M74 4WD | M74 4WD | M74 4WD | M74 4WD |
| Gear Ratio : 1st | 2.741 | 2.741 | 2.741 | 2.741 |
| 2nd | 1.508 | 1.508 | 1.508 | 1.508 |
| 3rd | 1.000 | 1.000 | 1.000 | 1.000 |
| 4th | 0.708 | 0.708 | 0.708 | 0.708 |
| Reverse | 2.429 | 2.429 | 2.429 | 2.429 |
| Final Drive Ratio | 5.38 | 4.89 | 5.86 | 4.89 |
| Oil Capacity (L) | 9 | 9 | 9 | 9 |

دیجیتال خودرو
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

## Brake

| Application | | Specifications |
|---|---|---|
| Booster Size | non-ABS | 8inch + 9inch |
| | ABS 5.0 | 7inch + 8inch |
| | ABS 5.3 | 8inch + 9inch |
| Master Cylinder Diameter (mm) | | ∠25.4 |
| Booster Ratio | | 5.6 : 1 |
| Front Brake : Disc Type | | Ventilated |
| Rear Brake : Disc Type | | Solid |

## Tire and Wheel

| Application | Specifications |
|---|---|
| Standard Tire Size | P235/75 R15, 255/70 R15 |
| Standard Wheel Size | 7JJ ´ 15 |
| Inflation Pressure At Full Lode | |
| P235 / 75 : Front | 30 Psi |
| Rear | 30 Psi |
| P255 / 75 : Front | 30 Psi |
| Rear | 30 Psi |

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



## Steering System

| Application | Specifications |
|---|---|
| Gear Type | RACK & PINION |
| Wheel Alignment: | |
| Front Toe-in | 0 - 4 mm |
| Front Caster | 2° 30' ± 30' |
| Front Camber | 0° ± 30' |
| Oil Capacity | 1L |

## Suspension

| Application | Specifications |
|---|---|
| Front Type | Double Wishbone |
| Rear Type | 5 - Link |

## Fuel System

| Application | Specifications |
|---|---|
| Fuel Pump Type | Electric Motor Pump |
| Fuel Filter Type | Cartridge |
| Fuel Capacity | 70 L |

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

## Lubricating System

| Lubricating Type | 661LA | 662NA | 662LA | 2.0L DOHC | 2.3L DOHC | 3.2L DOHC |
|---|---|---|---|---|---|---|
| Oil Pump Type | External Gear pump | | | | | |
| Oil Filter Type | Combination(Full & Part) | | | Full Flow | | |
| Oil Capacity (L) (Including Oil Filter) | 8.0 | 9.0 | 9.5 | 7.2 | 7.5 | 8.2 |

## Cooling System

| Cooling Type | 661LA | 662NA | 662LA | 2.0L DOHC | 2.3L DOHC | 3.2L DOHC |
|---|---|---|---|---|---|---|
| Coolant Capacity (L) | 9.5-10 | 10.5 | 10.5-11 | 10.5 | 10.5 | 11.3 |
| Radiator Type | Forced Circulation | | | | | |
| Water Pump Type | Centrifugal | | | | | |

## Electric System

| Application | 661LA | 662NA | 662LA | 2.0L DOHC | 2.3L DOHC | 3.2L DOHC |
|---|---|---|---|---|---|---|
| Battery (MF) | 12V - 90AH | | | 12V - 75AH | | |
| Generator | 75A | 75A | 75A | 115A | 115A | 115A |
| Starter | 2.2kw | 2.2kw | 2.2kw | 1.2kw | 1.2kw | 1.7kw |

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



# VEHICLE DIMENSIONS AND WEIGHTS

## Vehicle Dimensions

| Application | Application |
|---|---|
| Overall Length (mm) | 4656 |
| Overall Width (mm) | 1864 |
| Overall Height (mm) | 1735 |
| Wheel Base (mm) | 2630 |
| Tread : Front (mm) | 1510 |
| Rear (mm) | 1520 |

## Vehicle Weights

| Application | 661LA | 662NA | 662LA | 2.0L DOHC | 2.3L DOHC | 3.2L DOHC |
|---|---|---|---|---|---|---|
| Manual : Curb Weight (kg) | 1860 | 1968 | 1890 | 1937 | 1850 | 1930 |
| Gross Vehicle Weight (kg) | 2520 | 2520 | 2520 | 2520 | 2520 | 2520 |
| Automatic : Curb Weight (kg) | 1916 | 1989 | 2005 | - | 1942 | 2025 |
| Gross Vehicle Weight (kg) | 2520 | 2520 | 2520 | - | 2520 | 2520 |
| Passenger Capacity | 5 | 5 | 5 | 5 | 5 | 5 |

دیجیتال خودرو
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

www.DIGITALKHODRO.COM 021 62 99 92 92

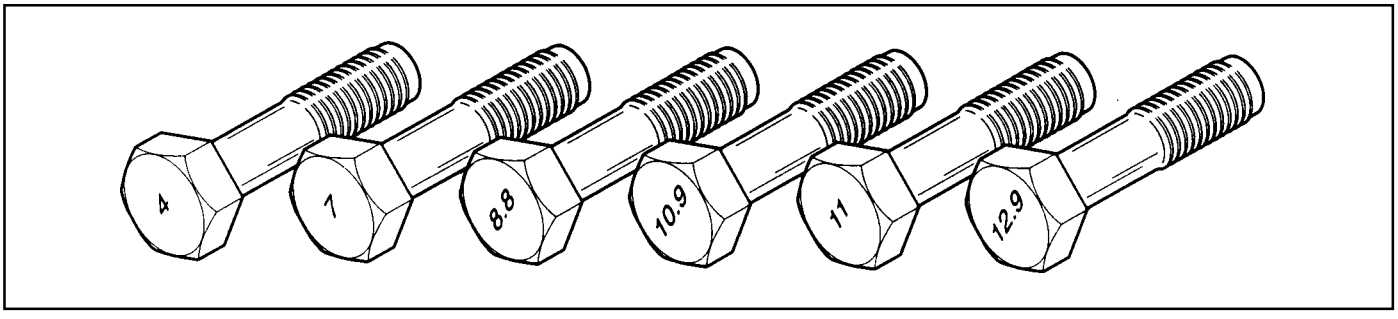
www.DIGITALKHODRO.COM 021 62 99 92 92



# STANDARD BOLTS SPECIFICATIONS

| Bolt* | Torque (N·m / lb-in) | | | | | |
|---|---|---|---|---|---|---|
| | Standard | | | Limit | | |
| | 4T | 7T | 9T | 4T | 7T | 9T |
| M3 ´ 0.5 | 0.5 N·m (4.5 lb-in) | 0.9 N·m (8 lb-in) | 1.3 N·m (12 lb-in) | 0.7 N·m (6.3 lb-in) | 1.2 N·m (11 lb-in) | 17 N·m (15 lb-in) |
| M4 ´ 0.7 | 1.2 N·m (11 lb-in) | 2.0 N·m (18 lb-in) | 3.0 N·m (27 lb-in) | 1.6 N·m (14 lb-in) | 2.6 N·m (23 lb-in) | 4.0 N·m (36 lb-in) |
| M5 ´ 0.8 | 2.4 N·m (22 lb-in) | 4.0 N·m (36 lb-in) | 5.6 N·m (50 lb-in) | 3.1 N·m (28 lb-in) | 5.2 N·m (47 lb-in) | 7.6 N·m (68 lb-in) |
| M6 ´ 1.0 | 4.0 N·m (36 lb-in) | 6.7 N·m (60 lb-in) | 9.7 N·m (87 lb-in) | 5.4 N·m (49 lb-in) | 9.0 N·m (81 lb-in) | 12.7 N·m (114 lb-in) |
| M8 ´ 1.25 | 8.6 N·m (77 lb-in) | 15.7 N·m (12 lb-in) | 22.5 N·m (17 lb-in) | 12.7 N·m (9 lb-in) | 20.6 N·m (15.2 lb-in) | 30.4 N·m (22 lb-in) |
| M10 ´ 1.25 | 18.6 N·m (14 lb-in) | 32.3 N·m (24 lb-in) | 46.0 N·m (34 lb-in) | 25.5 N·m (19 lb-in) | 42.1 N·m (31 lb-in) | 60.8 N·m (31 lb-in) |
| M10 ´ 1.5 | 18.6 N·m (14 lb-in) | 30.4 N·m (22 lb-in) | 44.1 N·m (33 lb-in) | 24.5 N·m (18 lb-in) | 41.2 N·m (30 lb-in) | 58.8 N·m (44 lb-in) |
| M12 ´ 1.25 | 34.3 N·m (25lb-in) | 56.8 N·m (42 lb-in) | 82.3 N·m (61 lb-in) | 45.0 N·m (33 lb-in) | 75.5 N·m (56 lb-in) | 107.8 N·m (80 lb-in) |
| M12 ´ 1.75 | 32.3 N·m (24 lb-in) | 53.9 N·m (40 lb-in) | 77.4 N·m (57 lb-in) | 43.1 N·m (32 lb-in) | 71.5 N·m (53 lb-in) | 98.0 N·m (73 lb-in) |
| M14 ´ 1.5 | 54.0 N·m (40 lb-in) | 89.2 N·m (66 lb-in) | 127.4 N·m (94 lb-in) | 71.6 N·m (53 lb-in) | 117.6 N·m (87 lb-in) | 166.6 N·m (123 lb-in) |
| M16 ´ 1.5 | 81.3 N·m (60 lb-in) | 107.8 N·m (80 lb-in) | 196.0 N·m (145 lb-in) | 107.8 N·m (80 lb-in) | 186.2 N·m (138 lb-in) | 264.6 N·m (196 lb-in) |
| M18 ´ 1.5 | 117.6 N·m (87 lb-in) | 196.0 N·m (145 lb-in) | 284.2 N·m (210 lb-in) | 156.8 N·m (116 lb-in) | 264.6 N·m (196 lb-in) | 372.4 N·m (276 lb-in) |
| M20 ´ 1.5 | 166.6N·m (123 lb-in) | 274.4 N·m (203 lb-in) | 392.0 N·m (290 lb-in) | 215.6 N·m (160 lb-in) | 362.6 N·m (268 lb-in) | 519.4 N·m (384 lb-in) |
| M22 ´ 0.5 | 225.4N·m (167 lb-in) | 372.4 N·m (276 lb-in) | 529.2 N·m (392 lb-in) | 294.0 N·m (218 lb-in) | 490.0 N·m (362 lb-in) | 705.6 N·m (522 lb-in) |
| M24 ´ 1.5 | 284.2 N·m (210 lb-in) | 480.2 N·m (355 lb-in) | 686.0 N·m (508 lb-in) | 382.2 N·m (283 lb-in) | 637.0 N·m (471 lb-in) | 921.2 N·m (682 lb-in) |
| M24 ´ 2.0 | 274.4 N·m (203 lb-in) | 460.6 N·m (341 lb-in) | 666.4 N·m (493 lb-in) | 372.4 N·m (276 lb-in) | 617.4 N·m (457 lb-in) | 891.8 N·m (660 lb-in) |

*Diameter ´ pitch in millimeters




www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



# MAINTENANCE AND REPAIR

# MAINTENANCE AND LUBRICATION

## NORMAL VEHICLE USE

The maintenance instructions contained in the maintenance schedule are based on the assumption that the vehicle will be used for the following reasons:

- To carry passengers and cargo within the limitation of the tire inflation prassure. Refer to “Tire and Wheel” in section 2E.
- To be driven on reasonable road surfaces and within legal operating limits.

## EXPLANATION OF SCHEDULED MAINTENANCE SERVICES

The services listed in the maintenance schedule are further explained below. When the following maintenance services are performed, make sure all the parts are replaced and all the necessary repairs are done before driving the vehicle. Always use the proper fluid and lubricants.

### Engine Oil and Oil Filter Change

Always use above the API SH grade or recommended engine oil.

### Engine Oil Viscosity

Engine oil viscosity (thickness) has an effect on fuel economy and cold weather operation. Lower viscosity engine oils can provide better fuel economy and cold weather performance; however, higher temperature weather conditions require higher viscosity engine oils for satisfactory lubrication. Using oils of any viscosity other than those viscosities recommended could result in engine damage.

### Cooling System Service

Drain, flush and refill the system with new coolant. Refer to “Recommended Fluids And Lubricants” in this section.

### Air Cleaner Element Replacement

Clean the air cleaner element every.

- Gasoline Engine : 15,000km (10,000 miles)
- Diesel Engine : 10,000km (6,000 miles)

Replace the air cleaner element every .

- Gasoline Engine : 60,000km (36,000 miles)
- Diesel Engine : 30,000km (18,000 miles)

Replace the air cleaner more often under dusty conditions.

### Fuel Filter Replacement

Replace the engine fuel filter every.

- Gasoline Engine : 60,000km (36,000 miles)
- Diesel Engine : 45,000km (24,000 miles)

### Spark Plug Replacement

Replace spark plugs with same type.

- Type : BOSCH : F8DC4
  BERU : 14F-8DU4
  Champion : C11YCC
- Gap : 0.8 $\pm$ 0.1 mm

### Spark Plug Wire Replacement

Clean wires and inspect them for burns, cracks or other damage. Check the wire boot fit at the Distributor and at the spark plugs. Replace the wires as needed.

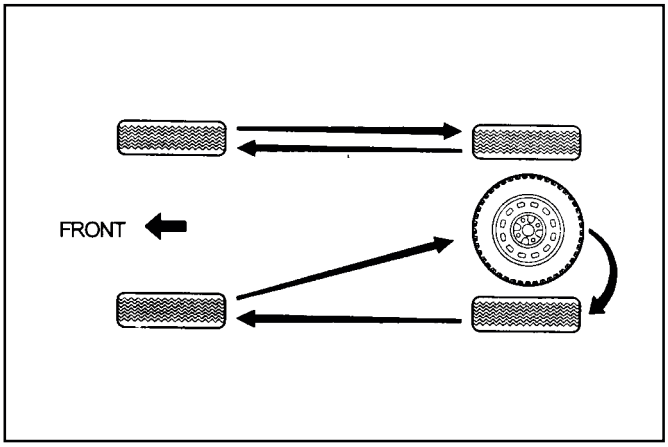
### Brake System Service

Check the disc brake pads or the drum brake linings. Check the pad and the lining thickness carefully.

### Tire and Wheel Inspection and Rotation

Check the tires for abnormal wear or damage. To equalize wear and obtain maximum tire life, rotate the tires. If irregular or premature wear exists, check the wheel alignment and check for damaged wheels. While the tires and wheels are removed, inspect the brakes.

Tire Rotation (Left - Hand Drive Type)




www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



# SCHEDULED MAINTENANCE CHARTS (GASOLINE ENGINE)

## Engine

| MAINTENANCE INTERVAL / MAINTENANCE ITEM | | Kilometers or time in months, whichever comes first | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | x1,000 km | 1 | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 |
| | Months | - | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 |
| Drive belt | | I | I | I | I | I | I | I | I | I |
| Engine oil & filter | (1) (3) | I | R | R | R | R | R | R | R | R |
| Cooling system hose & connections | | I | I | I | I | I | I | I | I | I |
| Engine coolant | (3) | I | I | I | I | R | I | I | I | R |
| Fuel filter | (2) | - | - | - | - | R | - | - | - | R |
| Fuel line & connections | | I | I | I | I | I | I | I | I | I |
| Air cleaner | (2) | | I | I | I | R | | I | I | R |
| Ignition timing | | | I | I | I | I | I | I | I | I |
| Spark plugs | | - | I | R | I | R | I | R | I | 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.

(1) If vehicle is operated under severe condition : short distance driving, extensive idling or driving in dusty condition. Change engine oil and the filter every 7,500 km or 6 months, whichever comes first.
(2) More frequent maintenance is required if under dusty driving condition.
(3) Refer to “Recommended fluids and lubricants”.

دیجیتال خودرو
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



## Chassis and Body

| MAINTENANCE INTERVAL / MAINTENANCE ITEM | Kilometers or time in months, whichever comes first | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | x1,000 km | 1 | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 |
| | Months | - | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 |
| Exhaust pipes & mountings | | - | I | I | I | I | I | I | I | I |
| Brake/Clutch fluid | (3)(4) | - | I | R | I | R | I | R | I | R |
| Parking brake/Brake pads F & R | (5) | - | I | I | I | I | I | I | I | I |
| Brake line & connections (including booster) | | I | I | I | I | I | I | I | I | I |
| Manual transmission oil | (3) | I | I | I | R | I | I | R | I | I |
| Clutch & brake pedal free play | | - | I | I | I | I | I | I | I | I |
| Front & Rear Differential Fluid | (3) | I | I | I | R | I | I | R | I | I |
| Transfer case fluid | | I | I | I | R | I | I | R | I | I |
| Automatic transmission fluid (MB W4A040) | (6) | I | I | I | R | I | I | R | I | |
| Automatic transmission fluid (BTRA M74) | | I | I | I | I | I | I | I | I | I |
| Chassis & underbody bolts & nuts tight/secure | | I | I | I | I | I | I | I | I | I |
| Tire condition & inflation pressure | | I | I | I | I | I | I | I | I | I |
| Wheel alignment | (7) | Inspect & ADJUST 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 | | | 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 | | | I | I | I | I | 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.

(3) Refer to “Recommended fluids and lubricants”.

(4) Change the brake / clutch fluid every 15,000 km if the vehicle is mainly driven under severe conditions:
- Driving in hilly or mountainous terrain, or
- Towing a trailer frequently

(5) More frequent maintenance is required if under severe condition : short distance driving, extensive idling, frequent low - speed operation in stop-and-go traffic or driving in dusty condition.

(6) Change automatic transaxle fluid and filter every 75,000 km if the vehicle is mainly driven under severe 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.

(7) If necessary, rotate and balance wheels.

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



# SCHEDULED MAINTENANCE CHARTS (DIESEL ENGINE)

## Engine

| MAINTENANCE INTERVAL / MAINTENANCE ITEM | | Kilometers or time in months, whichever comes first | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x1,000 km | 1 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| | Months | - | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| Drive belt | | I | I | I | I | I | I | I | I | I | I | I |
| Engine oil & fillter | (1) (3) | R | R | R | R | R | R | R | R | R | R | R |
| Cooling system hose & connections | | | | I | I | I | I | I | I | I | I | I |
| Engine coolant | (3) | | | I | | | | R | | | | I |
| Fuel filter | (2) | | | | | R | | | | | R | |
| Fuel line & connections | | I | I | I | I | I | I | I | I | I | I | I |
| Glow plug | | | | I | | I | | I | | R | | I |
| Pre - fuel filter | | | I | I | I | I | I | I | I | I | I | I |
| Air cleaner | (2) | | I | I | R | I | I | R | I | I | R | I |
| Ignition timing (see NOTE 1) | | | I | I | I | I | I | I | I | I | I | I |

NOTE 1 : Injection Timing :
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 : short distance driving, extensive idling or driving in dusty condition, change engine oil every 5,000km or 3 months, whichever comes first.

(2) More frequent maintenance is required if under dusty driving conditing.

(3) Refer to “Recommended fluids and lubricants”.

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



## Chassis and Body

| MAINTENANCE INTERVAL / MAINTENANCE ITEM | | Kilometers or time in months, whichever comes first | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x1,000 km | 1 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| | Months | - | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 |
| Exhaust pipes & mountings | | | I | I | I | I | I | I | I | I | I | I |
| Brake/clutch fluid | (3) (4) | I | I | I | R | I | I | R | I | I | R | I |
| Parking brake/Brake pads (F & R) | (5) | | 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 transmission fluid | (3) | | I | I | I | I | R | I | I | I | I | R |
| Clutch & brake pedal free play | | | I | I | I | I | I | I | I | I | I | I |
| F & R Differential fluid | (3) | I | I | I | I | I | R | I | I | I | I | R |
| Transfer case fluid | (3) | | I | I | I | I | R | I | I | I | I | R |
| Automatic transmission fluid (BTRA M74) | (6) | | I | I | I | I | I | I | I | I | I | I |
| Chassis & underbody bolts & nuts tight/secure | | I | I | I | I | I | I | I | I | I | I | I |
| Tire condition & inflation pressure | | I | I | I | I | I | I | I | I | I | I | I |
| Wheel alignment | (7) | Inspect & ADJUST when abnormal condition is noted | | | | | | | | | | |
| Steering wheel & linkage | | | I | I | I | I | I | I | I | I | I | I |
| Power steering fluid & lines* | (3) | | I | I | I | I | I | I | I | I | I | I |
| Drive shaft boots | | I | I | I | I | I | I | I | I | I | I | I |
| Seat belts, buckles & anchors | | I | I | I | I | I | I | I | I | I | I | I |
| Lubricate locks, hinges & bonnet latch | | I | I | I | I | I | I | I | 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.

(3) Refer to “Recommended fluids and lubricants”.

(4) Change the brake / clutch fluid more regularly if the vehicle is mainly driven under severe conditions :
- Driving in hilly or mountainous terrain, or
- Towing a trailer frequently

(5) More frequent maintenance is required if under severe condition : short distance driving, extensive idling, frequent low - speed operation in stop-and-go traffic or driving in dusty condition.

(6) Change automatic transmission fluid every 70,000 km if the vehicle is mainly driven under severe 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.

(7) If necessary, rotate and balance wheels.

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



# OWNER INSPECTIONS AND SERVICES

## WHILE OPERATING THE VEHICLE

### Horn Operation

Blow the horn occasionally to make sure it works. Check all the button locations.

### Brake System Operation

Be alert for abnormal sounds, increased brake pedal travel or repeated puling to one side when braking. Also, if the brake warning light goes on, or flashes, something may be wrong with part of the brake system.

### Exhaust System Operation

Be alert to any changes in the sound of the system or the smell of the fumes. These are signs that the system may be leaking or overheating. Have the system inspected and repaired immediately.

### Tires, Wheels and Alignment Operation

Be alert to any vibration of the steering wheel or the seats at normal highway speeds. This may mean a wheel needs to be balanced. Also, a pull right or left on a straight, level road may show the need for a tire pressure adjustment or a wheel alignment.

### Steering System Operation

Be alert to changes in the steering action. An inspection is needed when the steering wheel is hard to turn or has too much free play, or is unusual sounds are noticed when turning or parking.

### Headlight Aim

Take note of the light pattern occasionally. Adjust the headlights if the beams seem improperly aimed.

## AT EACH FUEL FILL

A fluid loss in any (except windshield washer) system may indicate a problem. Have the system inspected and repaired immediately.

#### Engine Oil Level

Check the oil level and add oil if necessary. The best time to check the engine oil level is when the oil is warm.

1. After stopping the engine, wait a few minutes for the oil to drain back to the oil pan.
2. Pull out the oil level indicator (dip stick).
3. Wipe it clean, and push the oil level indicator back down all the way.
4. Pull out the oil level indicator and look at the oil level on it.
5. Add oil, if needed, to keep the oil level above the lower mark. Avoid overfilling the engine, since this may cause engine damage.
6. Push the indicator all the way back down into the engine after taking the reading.

If you check the oil level when the oil is cold, do not run the engine first. The cold oil will not drain back to the pan fast enough to give a true oil level reading.

### Engine Coolant Level and Condition

Check the coolant level in the coolant reservoir tank and add coolant if necessary. Inspect the coolant. Replace dirty or rusty coolant.

### Windshield Washer Fluid Level

Check the washer fluid level in the reservoir. Add fluid if necessary.

## AT LEAST TWICE A MONTH

### Tire And Wheel Inspection and Pressure Check

Check the tire for abnormal wear or damage. Also check for damaged wheels. Check the tire pressure when the tires are cold ( check the spare also, unless it is a stowaway). Maintain the recommended pressures. Refer to “Tire and Wheel” is in section 0B.

## AT LEAST MONTHLY

### Light Operation

Check the operation of the license plate light, the headlights (including the high beams), the parking lights, the fog lights, the taillight, the brake lights, the turn signals, the backup lights and the hazard warning flasher.

### Fluid Leak Check

Periodically inspect the surface beneath the vehicle for water, oil, fuel or other fluids, after the vehicle has been parked for a while. Water dripping from the air conditioning system after use is normal. If you notice fuel leaks or fumes, find the cause and correct it at once.

## AT LEAST TWICE A YEAR

### Power Steering System Reservoir Level

Check the power steering fluid level. Keep the power steering fluid at the proper level. Refer to *Section 6A, Power Steering System.*

### Brake Master Cylinder Reservoir Level

Check the fluid and keep it at the proper level. A low fluid level can indicate worn disc brake pads which may need to be serviced. Check the breather hole in the reservoir cover to be free from dirt and check for an open passage.

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



### Weather-Strip Lubrication

Apply a thin film silicone grease using a clean cloth.

## EACH TIME THE OIL IS CHANGED

### Brake System Inspection

This inspection should be done when the wheels are removed for rotation. Inspect the lines and the hoses for proper hookup, binding, leaks, cracks, chafing, etc. Inspect the disc brake pads for wear. Inspect the rotors for surface condition. Inspect other brake parts, the parking brake, etc., at the same time. Inspect the brakes more often if habit or conditions result in frequent braking.

### Steering, Suspension and Front Drive Axle Boot And Seal Inspection

Inspect the front and rear suspension and the steering system for damaged, loose or missing parts, signs of wear or lack of lubrication. Inspect the power steering line and the hoses for proper hookup, binding, leaks, cracks, chafing, etc. Clean and inspect the drive axle boot and seals for damage, tears or leakage. Replace the seals if necessary.

### Exhaust System Inspection

Inspect the complete system (including the catalytic converter if equipped). Inspect the body near the exhaust system. Look for broken, damaged, missing, or out-of-position parts as well as open seams, holes, loose connections, or other conditions which could cause heat buildup in the floor pan or could let exhaust fumes seep into the trunk or passenger compartment.

### Throttle Linkage Inspection

Inspect the throttle linkage for interference or binding, damaged, or missing parts. Lubricate all linkage joints and throttle cable joints, the intermediate throttle shaft bearing, the return spring at throttle valve assembly, and the accelerator pedal sliding face with suitable grease. Check the throttle cable for free movements.

### Engine Drive Belts

Inspect all belts for cracks, fraying, wear and proper tension. Adjust or replace the belts as needed.

### Hood Latch Operation

When opening the hood, note the operation of the secondary latch. It should keep the hood from opening all the way when the primary latch is released. The hood must close firmly.

## AT LEAST ANNUALLY

### Lap and Shoulder Belts Condition and Operation

Inspect the belt system including: the webbing, the buckles, the latch plates, the retractor, the guide loops and the anchors.

### Movable Head Restraint Operation

On vehicles with movable head restraints, the restraints must stay in the desired position.

### Spare Tire and Jack Storage

Be alert to rattles in the rear of the vehicle. The spare tire, all the jacking equipment, and the tools must be securely stowed at all times. Oil the jack ratchet or the screw mechanism after each use.

### Key Lock Service

Lubricate the key lock cylinder.

### Body Lubrication Service

Lubricate all the body door hinges including the hood, the fuel door, the rear compartment hinges and the latches, the glove box and the console doors, and any folding seat hardware.

### Underbody Flushing

Flushing the underbody will remove any corrosive materials used for ice and snow removal and dust control. At least every spring clean the underbody. First, loosen the sediment packed in closed areas of the vehicle. Then flush the underbody with plain water.

### Engine Cooling System

Inspect the coolant and freeze protection fluid. If the fluid is dirty or rusty, drain, flush and refill the engine cooling system with new coolant. Keep the coolant at the proper mixture in order to ensure proper freeze protection, corrosion protection and engine operating temperature. Inspect the hoses. Replace the cracked, swollen, or deteriorated hoses. Tighten the clamps. Clean the outside of the radiator and the air conditioning condenser. Wash the filler cap and the neck. Pressure test the cooling system and the cap in order to help ensure proper operation.

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



# RECOMMENDED FLUIDS AND LUBRICANTS

| Usage | | Capacity | Fluid/Lubricant |
|---|---|---|---|
| Engine Oil (Change with filter) | 3.2L DOHC | 8.2 L | Quality class - API ; SH grade or above<br>ACEA ; A2 or A3<br>MB sheet ; 229.1<br>Viscosity - MB sheet ; 224.1 |
| | 2.3L DOHC | 7.5 L | |
| | 662LA | 9.5 L | Quality class - API ; CG grade or above<br>ACEA ; B2 or B3<br>MB sheet ; 228.1, 228.3, 228.5, 229.1<br>Viscosity - MB sheet ; 224.1 |
| | 661LA | 8.0 L | |
| Engine Coolant | 3.2L DOHC | 11.3 L | ALUTEC P-78 |
| | 2.3L DOHC | 10.5 L | |
| | 662LA | 10.5 - 11.0 L | |
| | 661LA | 9.5 - 10.0 L | |
| Brake / Clutch Fluid | | Approx. 0.5L level must be maintained between MAX & MIN level | DOT-3 & SAE J 1703 |
| Power Steering System | | 1.0 L | ATF DEXRON-II |
| Parking Brake Cable | | As required | Grease |
| Hood Latch Assembly | | As required | Grease |
| Hood and Door Hinges<br>Fuel Door Hinge<br>Rear Compartment Lid Hinges | | As required | Spray type grease |
| Weatherstrips | | As required | Silicone grease |

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



# GENERAL DESCRIPTION AND SYSTEM OPERATION

## GENERAL REPAIR INSTRUCTIONS

- If a floor jack is used, the following precautions are recommended.
- Park the vehicle on level ground, “block” the front or rear wheels, set the jack against the frame, raise the vehicle and support it with chassis stands and then perform the service operation.
- Before performing the service operation, disconnect the negative battery cable in order to reduce the chance of cable damaged and burning due to short-cir cuiting.
- Use a cover on the body, the seats and the floor to protect them against damage and contamination.
- Handle brake fluid and antifreeze solution with care as they can cause paint damage.
- The use of proper tools, and the recommended essential and available tools where specified, are important for efficient and reliable performance of the service repairs.
- Use genuine DAEWOO parts.
- Discard used cotter pins, gaskets, O-rings, oil seals, lock washers and self-locking nuts. Prepare new ones for installation. Normal function of these parts cannot be maintained if these parts are reused.
- Keep the disassembled parts neatly in groups to facilitate proper and smooth reassembly.
- Keep attaching bolts and nuts separated, as they vary in hardness and design depending on the position of the installation.
- Clean the parts before inspection or reassembly.
- Also clean the oil parts, etc. Use compressed air to make certain they are free of restrictions.
- Lubricate rotating and sliding faces of parts with oil or grease before installation.
- When necessary, use a sealer on gaskets to prevent leakage.
- Carefully observe all specifications for bolt and nut torques.
- When service operation is completed, make a final check to be sure service was done properly and the problem was corrected.

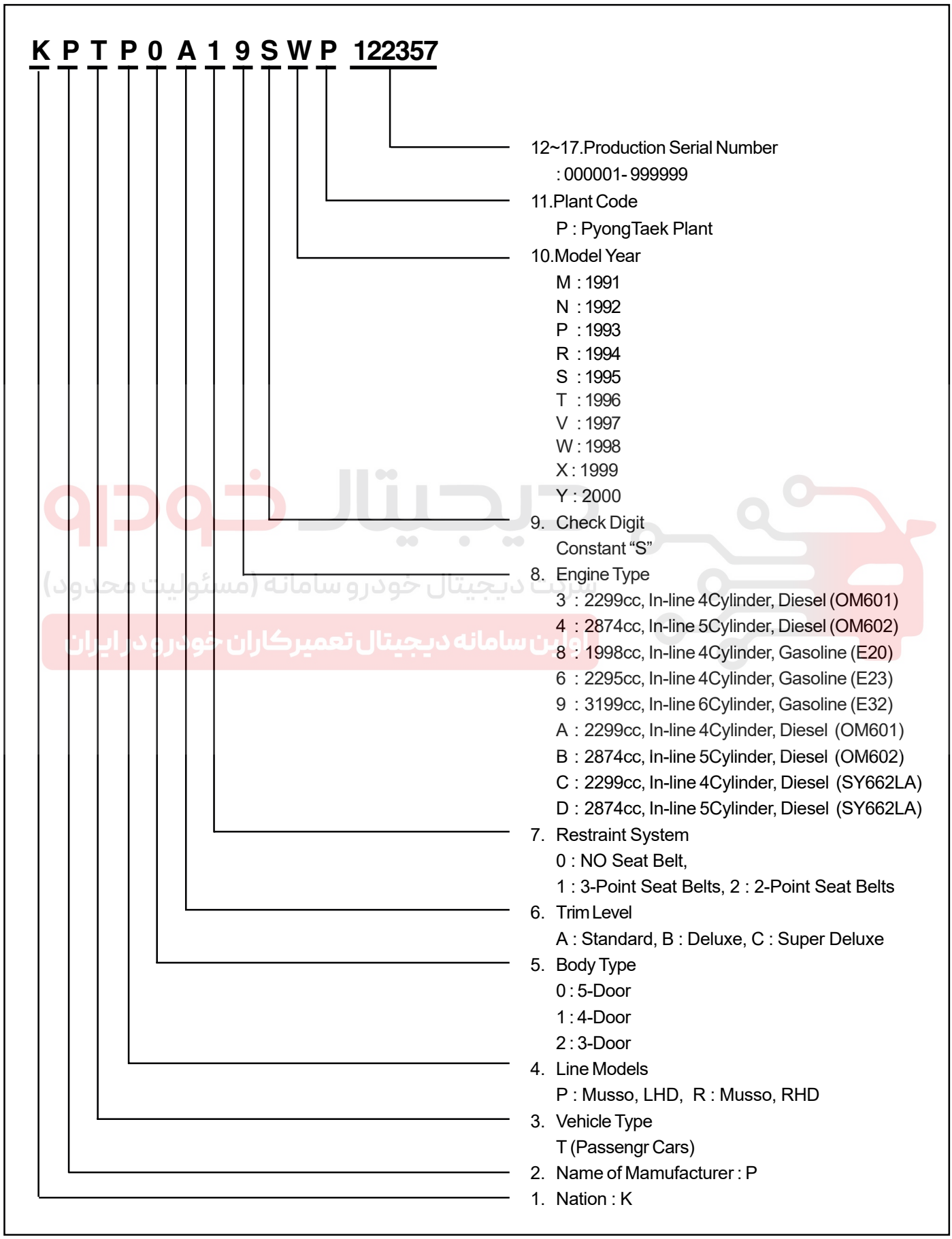
دیجیتال خودرو
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92



# VEHICLE IDENTIFICATION NUMBER SYSTEM

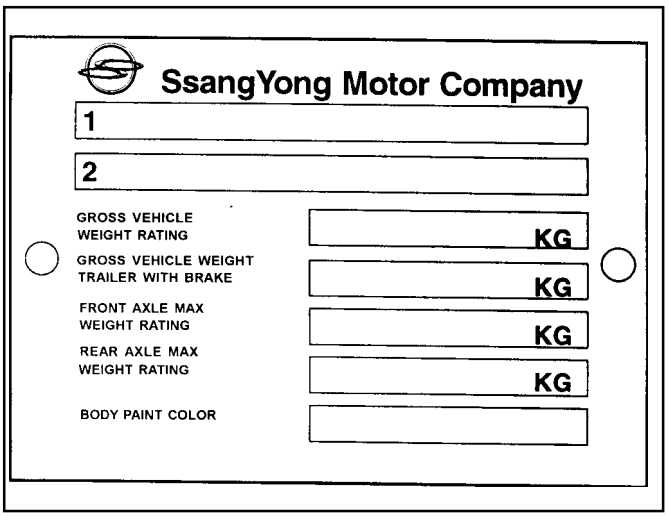



www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92

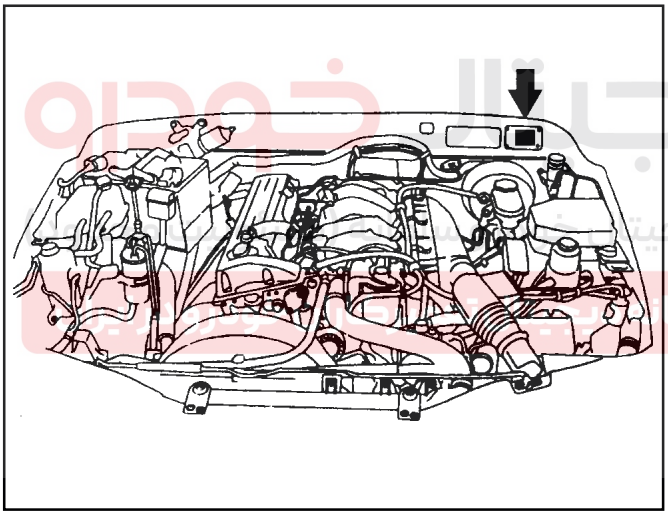


## Manufacturer's Plate

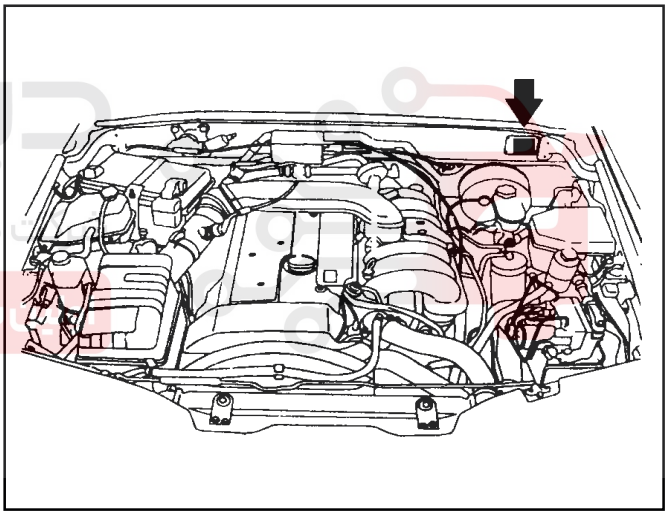



1.Type Approval No. 2.Vehicle Identification Number.

## Manufacturer's Plate Location



Diesel Engine



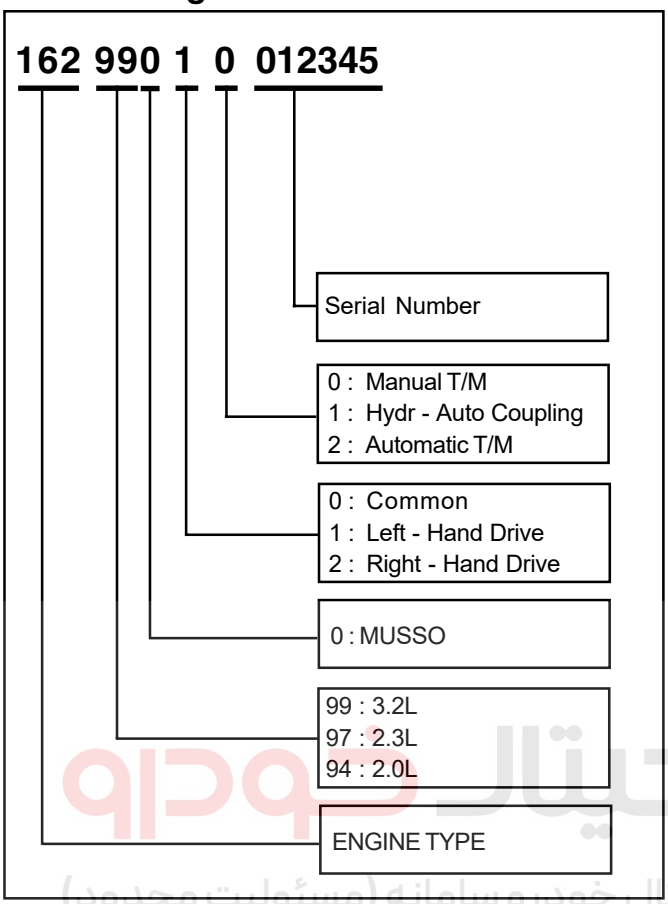
Gasoline Engine

www.DIGITALKHODRO.COM 021 62 99 92 92

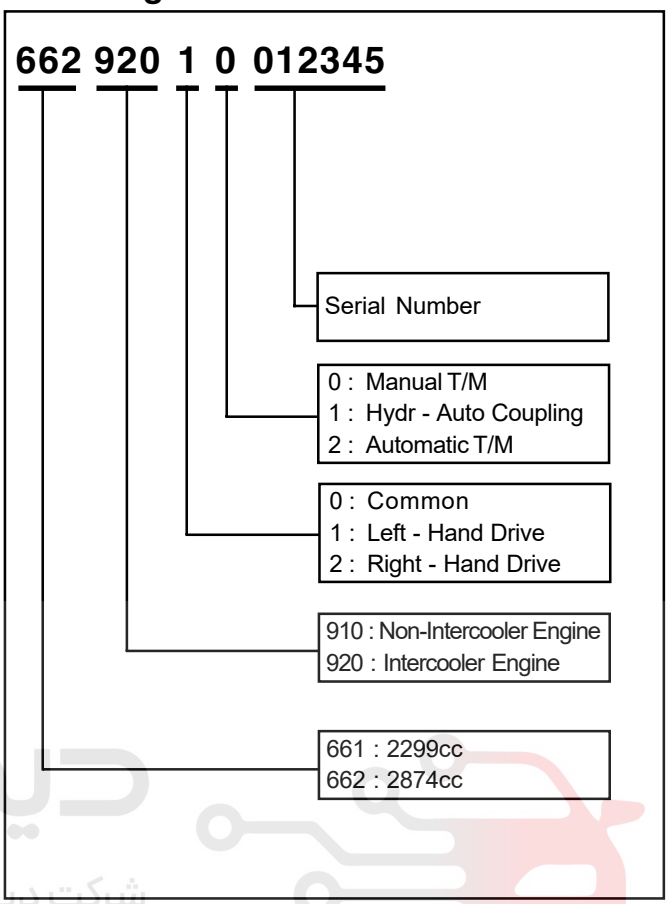
www.DIGITALKHODRO.COM 021 62 99 92 92



## Gasolind Engine Number

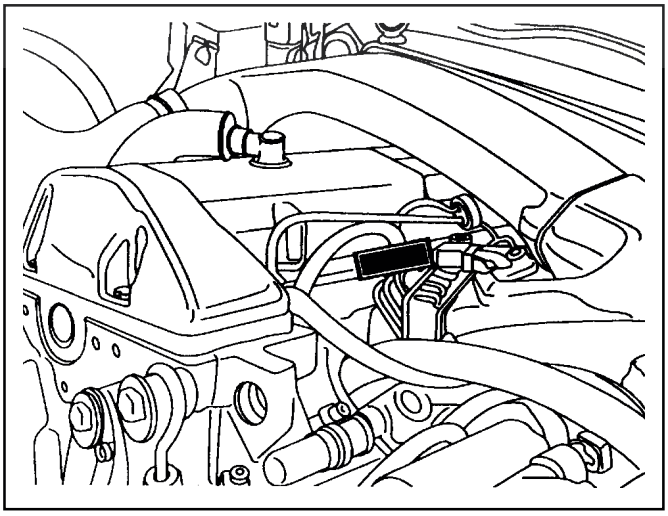



## Diesel Engine Number



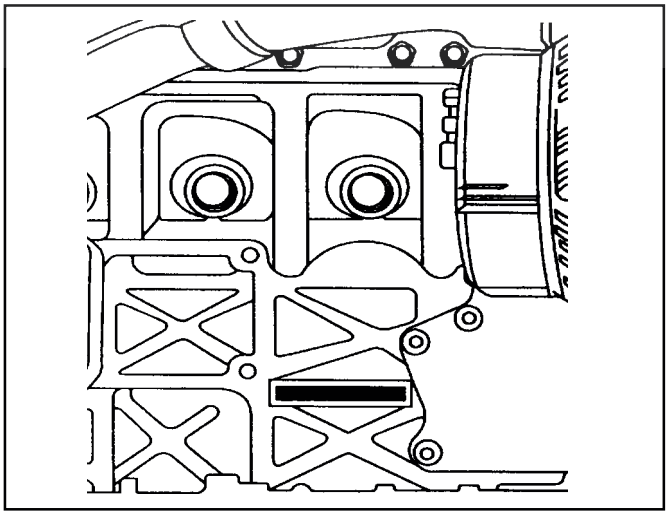

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)
اولین سامانه دیجیتال تعمیرکاران خودرو در ایران

## Engine Number Location



### Diesel Engine

The engine number is stamped on the cylinder block in front of injection pump.



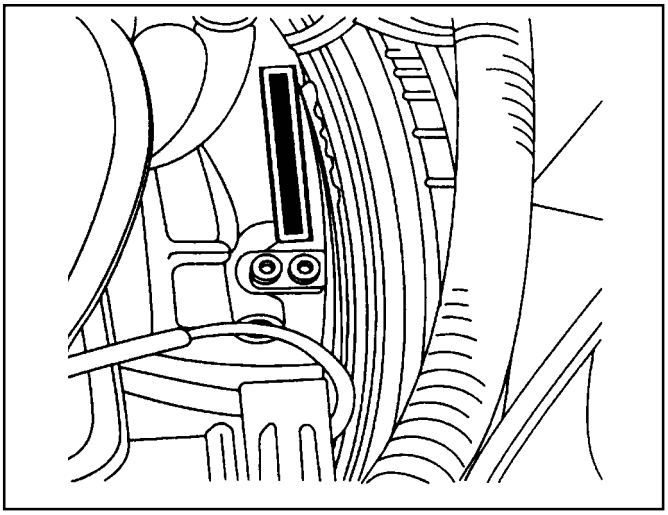
### IL6 3200

The engine number is stamped on the lower rear side of the alternator.

www.DIGITALKHODRO.COM 021 62 99 92 92

www.DIGITALKHODRO.COM 021 62 99 92 92





**2300 DOHC**

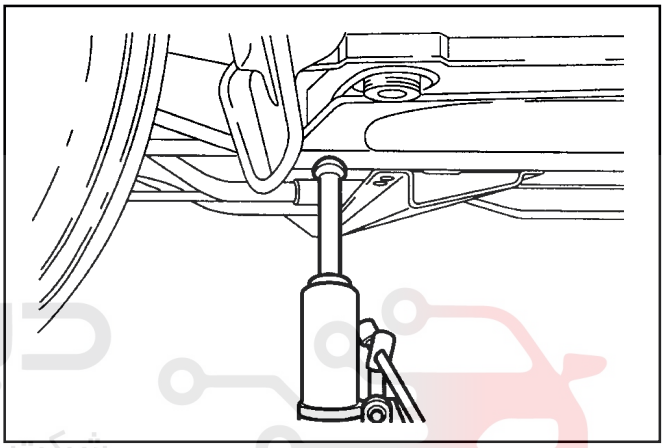
The engine number is stamped on the upper rear left-hand side of the cylinder block.

## VEHICLE LIFTING PROCEDURES

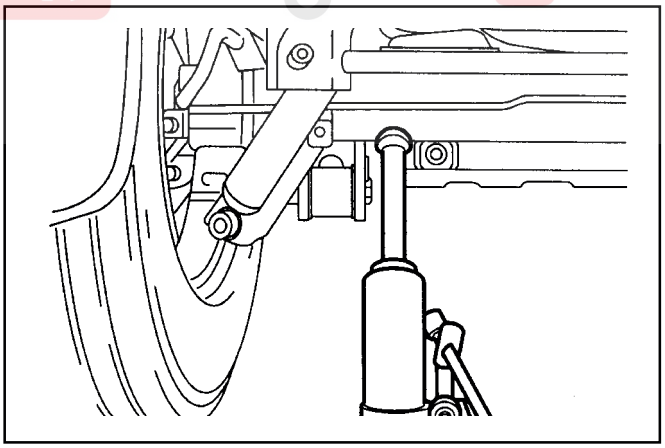
To raise the vehicle, place the lifting equipment only at the points indicated. Failure to use these precise positions may result in permanent vehicle body deformation.

Many dealer service facilities and service stations are equipped with automative hoists that bear upon some parts of the frame in order to lift the vehicle. If any other hoist method is used, take special care to avoid damaging the fuel tank, the filter neck, the exhaust system, or the underbody.

### Vehicle Lifting Points



Using Jack
(Rearward of Front Tire)



Using Jack
(Forward of Rear Tire)

www.DIGITALKHODRO.COM 021 62 99 92 92