

# RX-7

## Factory Service Material

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# 30 TECHNICAL DATA

## 0. MEASUREMENTS

| Item           |         | Specification   |              |
|----------------|---------|---|--------------|
| Overall length | mm (in) | 4,290 (168.9) 4,310 (169.7) (With license plate holder) |              |
| Overall width  | mm (in) | 1,690 (66.5)  |              |
| Overall height | mm (in) | 1,265 (49.8)  |              |
| Wheelbase      | mm (in) | 2,430 (95.7)  |              |
| Tread          | mm (in) | Front   | 1,450 (57.1) |
|                |         | Rear  | 1,440 (56.7) |

## 1. ENGINE

| Item   |   |   | Engine model        | RE 13B (TURBO)                | RE 13B (NON-TURBO)  |  |  |
|--|---|---|---------------------|-------------------------------|---|--|--|
| Type   |   |   |                     | Rotary engine                 |   |  |  |
| Displacement   |   |   | cc (cu in)          | 654 x 2 (40.0 x 2)            |   |  |  |
| Number of rotors and arrangement                       |   |   |                     | 2 rotors, longitudinal        |   |  |  |
| Combustion chamber type                                |   |   |                     | Bath tub                      |   |  |  |
| Compression ratio                                      |   |   |                     | 8.5 : 1                       | 9.4 : 1   |  |  |
| Port timing  | Intake  | Open                                    | Primary             | 32°ATDC                       |   |  |  |
|  |   |   | Secondary           | 32°ATDC                       |   |  |  |
|  |   |   | Auxiliary           | —                             | 45°ATDC   |  |  |
|  |   | Close                                   | Primary             | 50°ABDC                       | 40°ABDC   |  |  |
|  |   |   | Secondary           | 50°ABDC                       | 30°ABDC   |  |  |
|  |   |   | Auxiliary           | —                             | 80°ABDC   |  |  |
|  | Exhaust   | Open                                    | 75°BBDC             |                               |   |  |  |
|  |   | Close                                   | 48°ATDC             |                               |   |  |  |
| Compression pressure                                   |   | Limit                                   | 588 (6.0, 85.2)—250 |                               |   |  |  |
| kPa (kg/cm <sup>2</sup> , psi)—rpm                     |   | Limit of difference between chambers    | 147 (1.5, 21.3)—250 |                               |   |  |  |
| Side housing<br>(Front, intermediate and rear housing) | Distortion limit                                |   | mm (in)             | 0.04 (0.0016)                 |   |  |  |
|  | Side seal wear limit                            |   | mm (in)             | 0.10 (0.0039)                 |   |  |  |
|  | Side seal wear limit, overlapping oil seal wear |   | mm (in)             | 0.01 (0.0004)                 |   |  |  |
|  | Side seal wear limit, outside oil seal wear     |   | mm (in)             | 0.10 (0.0039)                 |   |  |  |
|  | Oil seal wear limit                             |   | mm (in)             | 0.02 (0.0008)                 |   |  |  |
| Rotor housing  |   | Width                                   | mm (in)             | 79.970—80.010 (3.1485—3.1500) |   |  |  |
|  |   | Difference limit of width               | mm (in)             | 0.06 (0.0024)                 |   |  |  |
| Rotor  |   | Width (Apex)                            | mm (in)             | 79.80—79.85 (3.142—3.144)     |   |  |  |
|  |   | Clearance of side housing and rotor     | mm (in)             | Standard                      | 0.12—0.21 (0.0047—0.0083)                                 |  |  |
|  |   |   | mm (in)             | Limit                         | 0.10 (0.0039)   |  |  |
|  |   | Diameter of corner seal groove          | mm (in)             | 11.000—11.018 (0.4331—0.4338) |   |  |  |
|  |   | Width of side seal groove               | mm (in)             | 0.714—0.739 (0.0281—0.0291)   |   |  |  |
|  |   | Width of apex seal groove               | mm (in)             | 1.995—2.012 (0.0785—0.0792)   |   |  |  |
| Apex seal and spring                                   |   | Width                                   | mm (in)             | 1.910—1.939 (0.0752—0.0763)   |   |  |  |
|  |   | Height (upper and lower)                | mm (in)             | Standard                      | 8.0 (0.315)   |  |  |
|  |   |   |                     | Limit                         | 6.5(0.256)—Refer to ENGINE INSPECTION section             |  |  |
|  |   | Clearance of apex seal and rotor groove | mm (in)             | Standard                      | 0.051—0.101 (0.0020—0.0040)   0.062—0.102 (0.0024—0.0040) |  |  |
|  |   |   |                     | Limit                         | 0.15 (0.0059)   |  |  |
|  |   | Warpage limit (With two pieces)         |                     | 0.06 (0.0024)                 |   |  |  |
|  |   | Spring free height                      | mm                  | Long                          | Standard  | 6.25 (0.246)                                   |  |
|  |   |   |                     |                               | Limit   | 4.6 (0.181)                                    |  |
|  |   |   |                     | Short                         | Standard  | 3.3 (0.130)                                    |  |
|  |   |   |                     |                               | Limit   | 1.7 (0.067)—Refer to ENGINE INSPECTION section |  |

| Item                                    | Engine model                                    |                               | RE 13B (TURBO)                | RE 13B (NON-TURBO) |
|---|---|-------------------------------|-------------------------------|--------------------|
|   |   | mm (in)                       |                               |                    |
| Side seal and spring                    | Thickness                                       | mm (in)                       | 0.661—0.686 (0.0260—0.0270)   |                    |
|   | Clearance of side seal and rotor groove mm (in) | Standard                      | 0.028—0.078 (0.0011—0.0031)   |                    |
|   |   | Limit                         | 0.10 (0.0039)                 |                    |
|   | Height  | mm (in)                       | 2.85—3.15 (0.1122—0.1240)     |                    |
|   | Protrusion limit                                | mm (in)                       | 0.50 (0.020)                  |                    |
| Corner seal and spring                  | Clearance of side seal and corner seal mm (in)  | Standard                      | 0.05—0.15 (0.0020—0.0059)     |                    |
|   |   | Limit                         | 0.40 (0.016)                  |                    |
| Rotor oil seal and spring               | Outer diameter                                  | mm (in)                       | 10.990—11.014 (0.4327—0.4336) |                    |
|   | Height  | mm (in)                       | 6.8—7.0 (0.268—0.276)         |                    |
|   | Protrusion limit                                | mm (in)                       | 0.50 (0.020)                  |                    |
| Main bearing                            | Height  | mm (in)                       | 5.6—5.8 (0.220—0.228)         |                    |
|   | Width limit of oil seal lip                     | mm (in)                       | 0.50 (0.020)                  |                    |
|   | Protrusion limit                                | mm (in)                       | 0.50 (0.020)                  |                    |
| Inner diameter                          | mm (in)   | 43.025—43.050 (1.6939—1.6949) |                               |                    |
| Inner diameter                          | mm (in)   | 74.025—74.050 (2.9144—2.9154) |                               |                    |
| Eccentric shaft                         | Eccentricity of rotor                           | mm (in)                       | 15 (0.59)                     |                    |
|   | Run-out limit                                   | mm (in)                       | 0.12 (0.0047)                 |                    |
|   | End-play mm (in)                                | Standard                      | 0.040—0.070 (0.0016—0.0028)   |                    |
|   |   | Limit                         | 0.09 (0.0035)                 |                    |
|   | Main journal diameter                           | mm (in)                       | 42.970—42.985 (1.6918—1.6923) |                    |
|   | Clearance of main journal mm (in)               | Standard                      | 0.04—0.08 (0.0016—0.0031)     |                    |
|   |   | Limit                         | 0.10 (0.0039)                 |                    |
|   | Rotor journal diameter                          | mm (in)                       | 73.970—73.985 (2.9122—2.9128) |                    |
| Clearance of rotor journal mm (in)      | Standard  | 0.04—0.08 (0.0016—0.0031)     |                               |                    |
|   | Limit   | 0.10 (0.0039)                 |                               |                    |
| Drive belt deflection mm (in)-N(kg, lb) | Alternator                                      |                               | 14—17 (0.55—0.67)             |                    |
|   | Air pump  |                               | 8—10 (0.31—0.39)              | 11—13 (0.43—0.51)  |
|   | A/C compressor                                  |                               | 6—8 (0.24—0.32)               |                    |
|   | P/S pump  |                               | 11—13 (0.43—0.51)             |                    |

| TIGHTENING TORQUE                       | N-m     | m-kg    | ft-lb   |
|---|---------|---------|---------|
| Front stationary gear plate             | 16—23   | 1.6—2.3 | 12—17   |
| Rear stationary gear                    | 16—23   | 1.6—2.3 | 12—17   |
| Tension bolt                            | 31—39   | 3.2—4.0 | 23—29   |
| Flywheel lock bolt (M/T)                | 390—490 | 40—50   | 290—360 |
| Counter weight lock bolt (A/T)          | 390—490 | 40—50   | 290—360 |
| Drive gear (A/T)                        | 43—61   | 4.4—6.2 | 32—45   |
| Oil pump                                | 7—10    | 0.7—1.0 | 5.1—7.2 |
| Oil pump driven sprocket                | 31—46   | 3.2—4.7 | 23—34   |
| Front cover                             | 16—23   | 1.6—2.3 | 12—17   |
| Eccentric shaft lock bolt               | 108—132 | 11—13.5 | 80—98   |
| Oil pressure control plug               | 39—49   | 4.0—5.0 | 29—36   |
| Pressure regulator valve                | 67—78   | 7.0—8.0 | 51—59   |
| Oil strainer                            | 7—10    | 0.7—1.0 | 5.1—7.2 |
| Oil pan                                 | 8—11    | 0.8—1.1 | 5.8—8.0 |
| Right engine bracket                    | 63—93   | 6.4—9.5 | 46—69   |
| EGR valve                               | 19—25   | 1.9—2.6 | 14—19   |
| Oil inlet pipe to front housing (Turbo) | 19—25   | 1.9—2.6 | 14—19   |
| Vacuum piping                           | 19—25   | 1.9—2.6 | 14—19   |
| Water pump                              | 18—26   | 1.8—2.7 | 13—20   |
| Eccentric shaft pulley                  | 8—11    | 0.8—1.1 | 5.8—8.0 |
| Metering oil pump                       | 8—11    | 0.8—1.1 | 5.8—8.0 |
| Intake manifold                         | 19—25   | 1.9—2.6 | 14—19   |
| Exhaust manifold                        | 31—46   | 3.2—4.7 | 23—34   |

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| TIGHTENING TORQUE                |            | N-m     | m-kg    | ft-lb    |
|----------------------------------|------------|---------|---------|----------|
| Exhaust manifold insulator       |            | 8—11    | 0.8—1.1 | 5.8—8.0  |
| Turbocharger                     |            | 44—54   | 4.5—5.5 | 32—40    |
| Turbocharger heat insulator      |            | 8—11    | 0.8—1.1 | 5.8—8.0  |
| Turbocharger oil inlet pipe      |            | 24—35   | 2.4—3.6 | 17—26    |
| Turbocharger oil outlet pipe     |            | 18—27   | 1.8—2.8 | 13—20    |
| Primary fuel distribution pipe   |            | 19—25   | 1.9—2.6 | 14—19    |
| Throttle and dynamic chamber     |            | 19—25   | 1.9—2.6 | 14—19    |
| Housing oil nozzle               |            | 16—23   | 1.6—2.3 | 12—17    |
| Front stationary gear plate      |            | 16—23   | 1.6—2.3 | 12—17    |
| Rear stationary gear             |            | 16—23   | 1.6—2.3 | 12—17    |
| Tension bolt                     |            | 31—39   | 3.2—4.0 | 23—29    |
| Flywheel lock bolt               |            | 390—490 | 40—50   | 290—360  |
| Oil pump                         |            | 7—10    | 0.7—1.0 | 5.1—7.2  |
| Oil pump driven sprocket         |            | 31—46   | 3.2—4.7 | 23—34    |
| Front cover                      |            | 16—23   | 1.6—2.3 | 12—17    |
| Eccentric shaft lock bolt        |            | 108—132 | 11—13.5 | 80—98    |
| Oil pressure control plug        |            | 39—49   | 4.0—5.0 | 29—36    |
| Oil strainer                     |            | 7—10    | 0.7—1.0 | 5.1—7.2  |
| Oil pan                          |            | 8—11    | 0.8—1.1 | 5.8—8.0  |
| Right engine bracket             |            | 63—93   | 6.4—9.5 | 46—69    |
| Manifold oil nozzle              |            | 16—23   | 1.6—2.3 | 12—17    |
| Metering oil tube (to pump)      |            | 10—14   | 1.0—1.4 | 7.2—10.1 |
| Clutch disc cover                |            | 18—26   | 1.8—2.7 | 13—20    |
| Alternator strap                 |            | 22—30   | 2.2—3.1 | 16—22    |
| Alternator                       | Long bolt  | 37—52   | 3.8—5.3 | 27—38    |
|                                  | Short bolt | 19—26   | 1.9—2.6 | 14—19    |
| Air pump bracket                 |            | 19—25   | 1.9—2.6 | 14—19    |
| Air pump strap                   |            | 19—25   | 1.9—2.6 | 14—19    |
| Air pump                         | Long bolt  | 16—23   | 1.6—2.3 | 12—17    |
|                                  | Short bolt | 24—30   | 2.4—3.1 | 17—22    |
| Crank angle sensor               |            | 8—11    | 0.8—1.1 | 5.8—8.0  |
| Oil filter body                  |            | 8—11    | 0.8—1.1 | 5.8—8.0  |
| Spark plug                       |            | 13—18   | 1.3—1.8 | 9.4—13   |
| Left engine bracket              |            | 55—80   | 5.6—8.2 | 41—59    |
| A/C compressor, P/S pump bracket | M10        | 31—46   | 3.2—4.7 | 23—34    |
|                                  | M12        | 55—80   | 5.6—8.2 | 41—59    |

## 2. LUBRICATION SYSTEM

| Item                   | Engine model                                  |                                | RE 13B (TURBO)                 | RE 13B (NON-TURBO) |
|------------------------|---|--------------------------------|--------------------------------|--------------------|
|                        |   |                                |                                |                    |
| Lubrication system     |   |                                | Forced-fed                     |                    |
| Oil pump               | Type  |                                | Trochoid                       |                    |
|                        | Lobe clearance of outer rotor and inner rotor | Standard                       | 0.03—0.12 (0.0012—0.0047)      |                    |
|                        |   | Limit                          | 0.15 (0.0059)                  |                    |
|                        | Clearance of outer rotor and pump body        | Standard                       | 0.20—0.25 (0.0079—0.098)       |                    |
|                        |   | Limit                          | 0.30 (0.0118)                  |                    |
|                        | End float                                     | Standard                       | 0.03—0.13 (0.0012—0.0051)      |                    |
| Limit                  |   | 0.15 (0.0059)                  |                                |                    |
| Pressure control valve | Relief pressure                               | kPa (kg/cm <sup>2</sup> , psi) | 1,080 (11.0, 156)              |                    |
| Oil cooler             | Type  |                                | Air cooled, with bypass valve  |                    |
|                        | Relief temperature                            |                                | °C (°F)                        |                    |
|                        | Relief pressure dif.                          |                                | kPa (kg/cm <sup>2</sup> , psi) |                    |
|                        | Bypass valve protrusion                       |                                | mm (in)                        |                    |
|                        |   | 60—65 (140—149) or below       |                                |                    |
|                        |   | 349 (3.56, 50) at 60°C (140°F) |                                |                    |
|                        |   | 5.0 (0.2) or more              |                                |                    |

| Item                         |  | Engine model                    | RE 13B (TURBO)           | RE 13B (NON-TURBO)  |
|------------------------------|--|---------------------------------|--------------------------|---------------------|
| Regulator valve              | Relief pressure  | kPa (kg/cm <sup>2</sup> , psi)  | 490 (5.0, 71)            |                     |
|                              | Type   |                                 | Full flow, paper element |                     |
| Oil filter                   | Relief pressure dif.   | kPa (kg/cm <sup>2</sup> , psi)  | 98 (1.0, 14)             |                     |
|                              | Relief temperature   | °C (°F)                         | 60 (140) or below        |                     |
| Eccentric shaft bypass valve | Protrusion   | mm (in)                         | 6 (0.24) or more         |                     |
|                              | Rod end clearance  | mm (in)                         | 0—1 (0—0.039)            |                     |
| Metering oil pump            | Oil discharge (for one nozzle with the connecting rod up to its maximum)<br>cc (cu in)/2,000 rpm/5 min |                                 | 2.6—3.3 (0.16—0.20)      | 2.1—2.8 (0.13—0.17) |
|                              | Capacity<br>liters(US qt. Imp qt)  | Total (dry engine)              | 5.8 (6.1, 5.1)           |                     |
| Oil pan                      |  | 4.4 (4.7, 3.9)                  |                          |                     |
| Oil cooler                   |  | 0.8 (0.85, 0.70)                |                          |                     |
| Oil filter                   |  | 0.3 (0.32, 0.26)                |                          |                     |
| Engine oil                   | Classification   | API service "Fuel efficient" SF |                          |                     |
|                              | -10°C (15°F) or over   | 20W—40, 20W—50                  |                          |                     |
|                              | -25—30°C (-10—85°F)  | 10W—30                          |                          |                     |
|                              | -25°C (-10°F) or over  | 10W—40, 10W—50                  |                          |                     |
| 0°C (32°F) or below          | 5W—30  |                                 |                          |                     |

| TIGHTENING TORQUE           |                 | N-m   | m-kg    | ft-lb    |
|-----------------------------|-----------------|-------|---------|----------|
| Oil filter                  |                 |       | By hand |          |
| Oil pump                    |                 | 7—10  | 0.7—1.0 | 5.1—7.2  |
| Oil pressure gauge          |                 | 11—16 | 1.1—1.6 | 8—12     |
| Metering oil pump           |                 | 8—11  | 0.8—1.1 | 5.8—8.0  |
| Housing oil nozzle          |                 | 16—23 | 1.6—2.3 | 12—17    |
| Manifold oil nozzle         |                 | 16—23 | 1.6—2.3 | 12—17    |
| Metering oil tube (to pump) |                 | 10—14 | 1.0—1.4 | 7.2—10.1 |
| Oil cooler                  |                 | 7—10  | 0.7—1.0 | 5.1—7.2  |
| Oil cooler inlet pipe       | To front cover  | 44—54 | 4.5—5.5 | 33—40    |
|                             | To oil cooler   | 54—69 | 5.5—7.0 | 40—51    |
| Oil cooler outlet pipe      | To oil cooler   | 54—69 | 5.5—7.0 | 40—51    |
|                             | To rear housing | 54—78 | 5.5—8.0 | 40—58    |
| Oil pressure control valve  |                 | 39—49 | 4.0—5.0 | 29—36    |

3. COOLING SYSTEM

| Item               |                       | Engine model                   | RE 13B (TURBO)                   | RE 13B (NON-TURBO) |
|--------------------|-----------------------|--------------------------------|----------------------------------|--------------------|
| Cooling method     |                       |                                | Water cooled, forced circulation |                    |
| Water pump         | Type                  |                                | Centrifugal impeller             |                    |
|                    | Pulley ratio (Speed)  |                                | 1 : 1.23                         |                    |
| Thermostat         | Type                  |                                | Wax, bottom bypass               |                    |
|                    | Opening temperature   | °C (°F)                        | 80.5—83.5 (177—183)              |                    |
|                    | Full open temperature | °C(°F)                         | 95 (203)                         |                    |
|                    | Full open lift        | mm (in)                        | 8—10 (0.315—0.394)               |                    |
| Radiator           | Type                  |                                | Corrugated fin                   |                    |
| Coolant filler cap | Relief pressure       | kPa (kg/cm <sup>2</sup> , psi) | 73—103 (0.75—1.05, 10.7—14.9)    |                    |
| Cooling fan        | Cooling fan           |                                | Thermo-modulated                 |                    |
|                    | Number of blades      |                                | 8                                |                    |
|                    | Outer diameter        | mm (in)                        | 390 (15.35)                      |                    |

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| Item                 | Engine model                                |                        | RE 13B (TURBO)       | RE 13B (NON-TURBO) |                                    |
|----------------------|---|------------------------|----------------------|--------------------|------------------------------------|
|                      | Electrical fan                              | Type                   |                      | Electrical         |                                    |
| Capacity             |   | W                      | 90                   |                    |                                    |
| Number of blades     |   |                        | 5                    |                    |                                    |
| Outer diameter       |   | mm (in)                | 255 (10.04)          |                    |                                    |
| Fan belt             | Deflection at 98N<br>(10 kg, 22 lb) mm (in) | For alternator         | 14—17 (0.55—0.67)    |                    |                                    |
|                      |   | For air pump           | 8—10 (0.31—0.39)     | 11—13 (0.43—0.51)  |                                    |
| Coolant              | Capacity                                    | liters (US qt, Imp qt) | 8.7 (9.2, 7.7)       | 7.3 (7.7, 6.4)     |                                    |
| Anti-freeze solution | Protection                                  | Mixture                | Mixture percentage % |                    |                                    |
|                      |   |                        | Water                | Solution           | Specific gravity at<br>20°C (68°F) |
|                      | Above -4°C (25°)                            |                        | 80                   | 20                 | 1.028                              |
|                      | Above -16°C (3°)                            |                        | 65                   | 35                 | 1.054                              |
|                      | Above -26°C (-15°F)                         |                        | 55                   | 45                 | 1.066                              |
| Above -40°C (-40°)   |   | 45                     | 55                   | 1.078              |                                    |

| TIGHTENING TORQUE        | N-m     | m-kg      | ft-lb     |
|--------------------------|---------|-----------|-----------|
| Water pump               | 18—26   | 1.8—2.7   | 13—20     |
| Water pump shaft housing | 20—23   | 2.0—2.3   | 14—17     |
| Thermostat cover         | 19—23   | 2.0—2.3   | 14—17     |
| Water thermo-switch      | 20—25   | 2.0—2.5   | 14.5—18.1 |
| Cooling fan              | 8—11    | 0.8—1.1   | 5.8—8.0   |
| Temperature gauge unit   | 7—8     | 0.7—0.8   | 5.1—5.8   |
| Coolant level sensor     | 1.5—3.0 | 0.15—0.30 | 1.1—2.2   |
| Radiator switch          | 6—12    | 0.6—1.2   | 4.3—8.7   |
| Electrical fan           | 8—12    | 0.8—1.2   | 5.8—8.7   |
| Radiator                 | 16—21   | 1.6—2.1   | 12—15     |

## 4A. FUEL AND EMISSION CONTROL SYSTEMS (EGI)

| Item                                   | Specification   |  |
|--|---|--|
| Fuel tank capacity                     | liters (US gal, Imp gal)<br>63 (16.6, 13.9)                                     |  |
| Fuel filter                            | Type  | Low pressure<br>Nylon 6—164 and 45 mesh                            |
|  |   | High pressure<br>Filter paper                                      |
| Fuel pump                              | Type  | Impeller (intank)  |
|  | Output pressure   | kPa (kg/cm <sup>2</sup> , psi)<br>441—588 (4.5—6.0, 64.0—85.3)     |
|  | Feeding capacity  | liters (US gal, Imp gal)/min.<br>at least 1.3 (0.34, 0.29)         |
| Pressure regulator                     | Type  | Diaphragm  |
|  | Regulated pressure  | kPa (kg/cm <sup>2</sup> , psi)<br>245.2—255.0 (2.5—2.6, 35.6—37.0) |
| Throttle body                          | Type  | Horizontal-draft (2 stages, 3 barrel)                              |
|  | Throat diameter   | Primary mm (in)<br>45 (1.772)                                      |
|  |   | Secondary mm (in)<br>45 (1.772) x 2                                |
| Water thermo valve<br>operation temp.  | °C (°F)<br>M/T; 58—62 (136.4—143.6) or more<br>A/T; 66—70 (150.8—158.0) or more |  |
| Air cleaner                            | Element type  | Long life dry  |
| Accelerator cable                      | Deflection  | mm (in)<br>1—3 (0.04—0.12)   |
| Idle speed                             | rpm   | 725—775 (with BAC valve)<br>(A/T; in N range)                      |
| Dashpot                                | Adjustment speed  | rpm<br>2,700—3,100   |
| Injector<br>(Primary and<br>secondary) | Drive   | Voltage drive  |
|  | Injection volume  | cc (cu in)/15 sec.<br>111—118 (6.8—7.2)                            |
|  | Resistance  | Ω<br>12—16   |

| Item                             |                               |                 | Specification  |
|----------------------------------|-------------------------------|-----------------|--|
| Air flow meter                   | Resistance at full closed     | E2 ↔ Vs Ω       | 50—500   |
|                                  |                               | E2 ↔ Vref Ω     | 200—500  |
|                                  |                               | E1 ↔ Fc Ω       | ∞  |
|                                  | Resistance at full open       | E2 ↔ Vs Ω       | 50—500   |
| E1 ↔ Fc Ω                        |                               | 0               |  |
| Water thermo sensor              | Resistance                    | -20°C (-4°F) kΩ | 16.2 ± 1.62  |
|                                  |                               | 20°C (68°F) kΩ  | 2.45 ± 0.24  |
|                                  |                               | 80°C (176°F) kΩ | 0.32 ± 0.032   |
| Water temperature switch °C (°F) |                               |                 | Continuity; above 15—19 (59—66.2)                    |
| Heat hazard sensor               | Operation temperature °C (°F) |                 | 105—115 (221—239)                                    |
| Intake air temperature sensor    | Air flow meter                | -20°C (-4°F) Ω  | 10,000—20,000  |
|                                  |                               | 0°C (32°F) Ω    | 4,000—7,000  |
|                                  |                               | 20°C (68°F) Ω   | 2,000—3,000  |
|                                  |                               | 40°C (104°F) Ω  | 900—1,300  |
|                                  |                               | 60°C (140°F) Ω  | 400—700  |
|                                  | Dynamic chamber               | 20°C (68°F) Ω   | 37,350—45,650  |
|                                  |                               | 50°C (122°F) Ω  | 10,660—13,040  |
| Throttle sensor                  | Resistance                    | A—B kΩ          | Idle position; approx. 1<br>Full open; approx. 5 ± 1 |
|                                  |                               | A—C kΩ          | approx. 5 ± 1  |
| Crank angle sensor               | Resistance                    | G1—G2 Ω         | 110—210  |
|                                  |                               | Ne1—Ne2 Ω       | 110—210  |
| BAC valve                        | Resistance Ω                  |                 | 10.7—12.3  |
| Air bypass solenoid valve        | Resistance Ω                  |                 | 9.2—11.3   |
| Circuit opening relay            | Resistance                    | STA ↔ E1 Ω      | 15—30  |
|                                  |                               | B ↔ Fc Ω        | 80—150   |
| Sub-zero starting assist fluid   |                               |                 | Anti-freeze 90% water 10%                            |

| TIGHTENING TORQUE | N-m (m-kg ft-lb)             |
|-------------------|------------------------------|
| Intake manifold   | 19.1—26.0 (1.95—2.65, 15—19) |
| Exhaust manifold  | 31.4—46.1 (3.2—4.7, 24—33)   |

4B. FUEL AND EMISSION CONTROL SYSTEMS (EGI TURBO)

| Item  |   |                                      | Specification               |
|---|---|--------------------------------------|-----------------------------|
| Fuel tank capacity liters (US gal, Imp gal) |   |                                      | 63 (16.6, 13.9)             |
| Fuel filter                                 | Type  | Low pressure                         | Nylon 6—164 and 45 mesh     |
|   |   | High pressure                        | Filter paper                |
| Fuel pump                                   | Type  | Impeller (intank)                    |                             |
|   | Output pressure kPa (kg/cm <sup>2</sup> , psi)    | 490—637 (5.0—6.5, 71.1—92.4)         |                             |
|   | Feeding capacity liters (US gal, Imp gal)/min.    | 2.2—3.3 (0.58—0.87, 0.48—0.73)       |                             |
| Pressure regulator                          | Type  | Diaphragm                            |                             |
|   | Regulated pressure kPa (kg/cm <sup>2</sup> , psi) | 245.2—255.0 (2.5—2.6, 35.6—37.0)     |                             |
| Throttle body                               | Type  | Horizontal-draft (2 stage, 3 barrel) |                             |
|   | Throat diameter                                   | Primary mm (in)                      | 45 (1.772)                  |
|   |   | Secondary mm (in)                    | 45 (1.772) x 2              |
| Water thermo valve operation temp.          |   | °C (°F)                              | 58—62 (136.4—143.6) or more |



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| Item                                |                                | Specification                  |                                   |                   |
|-------------------------------------|--------------------------------|--------------------------------|-----------------------------------|-------------------|
| Air cleaner                         | Element type                   | Long life dry                  |                                   |                   |
| Accelerator cable                   | Deflection                     | mm (in)                        | 1-3 (0.04-0.12)                   |                   |
| Idle speed                          |                                | rpm                            | 725-775 (with BAC valve)          |                   |
| Dashpot                             | Adjustment                     | k $\Omega$                     | 1.8-3.8 (Throttle sensor)         |                   |
| Injector<br>(Primary and secondary) | Drive                          | Voltage drive                  |                                   |                   |
|                                     | Injection volume               | cc (cu in)/15 sec.             | 133-142 (8.1-8.7)                 |                   |
|                                     | Resistance                     | $\Omega$                       | 12-16                             |                   |
| Air flow meter                      | Resistance at full closed      | E2 $\leftrightarrow$ Vs        | $\Omega$                          | 200-600           |
|                                     |                                | E2 $\leftrightarrow$ Vref      | $\Omega$                          | 200-400           |
|                                     |                                | E1 $\leftrightarrow$ Fc        | $\Omega$                          | $\infty$          |
|                                     | Resistance at full open        | E2 $\leftrightarrow$ Vs        | $\Omega$                          | 20-1,000          |
|                                     |                                | E1 $\leftrightarrow$ Fc        | $\Omega$                          | 0                 |
| Water thermo sensor                 | Resistance                     | -20°C (-4°F)                   | k $\Omega$                        | 16.2 $\pm$ 1.62   |
|                                     |                                | 20°C (68°F)                    | k $\Omega$                        | 2.45 $\pm$ 0.24   |
|                                     |                                | 80°C (176°F)                   | k $\Omega$                        | 0.32 $\pm$ 0.032  |
| Water temperature switch            |                                | °C (°F)                        | Continuity; above 15-19 (59-66.2) |                   |
| Heat hazard sensor                  | Operation temperature          | °C (°F)                        | 105-115 (221-239)                 |                   |
| Intake air temperature sensor       | Air flow meter                 | -20°C (-4°F)                   | $\Omega$                          | 10,000-20,000     |
|                                     |                                | 0°C (32°F)                     | $\Omega$                          | 4,000-7,000       |
|                                     |                                | 20°C (68°F)                    | $\Omega$                          | 2,000-3,000       |
|                                     |                                | 40°C (104°F)                   | $\Omega$                          | 900-1,300         |
|                                     |                                | 60°C (140°F)                   | $\Omega$                          | 400-700           |
|                                     | Dynamic chamber                | 20°C (68°F)                    | $\Omega$                          | 37,350-45,650     |
|                                     |                                | 50°C (122°F)                   | $\Omega$                          | 10,660-13,040     |
| 85°C (185°F)                        | $\Omega$                       |                                | 3,150-3,850                       |                   |
|                                     | Throttle sensor                | Resistance                     | A-B                               | k $\Omega$        |
| A-C                                 |                                |                                | k $\Omega$                        | approx. 5 $\pm$ 1 |
| Crank angle sensor                  | Resistance                     | G1-G2                          | $\Omega$                          | 110-210           |
|                                     |                                | Ne1-Ne2                        | $\Omega$                          | 110-210           |
| BAC valve                           | Resistance                     | $\Omega$                       | 10.7-12.3                         |                   |
| Air bypass solenoid valve           | Resistance                     | $\Omega$                       | 16.2-19.8                         |                   |
| Air supply valve                    | Resistance                     | $\Omega$                       | 16.2-19.8                         |                   |
| Circuit opening relay               | Resistance                     | STA $\leftrightarrow$ E1       | $\Omega$                          | 15-30             |
|                                     |                                | B $\leftrightarrow$ Fc         | $\Omega$                          | 80-150            |
| Turbocharger                        | Type                           | Water cooled                   |                                   |                   |
|                                     | Lubrication                    | Engine oil                     |                                   |                   |
|                                     | Boost pressure                 | kPa (kg/cm <sup>2</sup> , psi) | 45.2 (0.46, 6.56)                 |                   |
| Waste gate valve                    | Incorporated with turbocharger |                                |                                   |                   |
| Intercooler                         | Type                           | Air cooled                     |                                   |                   |
| Knock control system                | knocking frequency             | kHz                            | 3.5 $\pm$ 0.3                     |                   |
| Fuel pump resistor relay            | Resistance                     | a-b                            | $\Omega$                          | 0                 |
|                                     |                                | c-d                            | $\Omega$                          | 68-92             |
|                                     |                                | e-f                            | $\Omega$                          | 0.64              |
| Sub-zero starting assist fluid      | Anti-freeze 90% water 10%      |                                |                                   |                   |

| TIGHTENING TORQUE |  | N-m (m-kg ft-lb)             |
|-------------------|--|------------------------------|
| Intake manifold   |  | 19.1-26.0 (1.95-2.65, 15-19) |
| Exhaust manifold  |  | 31.4-46.1 (3.2-4.7, 24-33)   |
| Turbocharger      |  | 44.1-53.9 (4.5-5.5, 33-39)   |

5. ENGINE ELECTRICAL SYSTEM

| Item                         | Model                                |                           | M/T (EGI)   | A/T (EGI)                       | M/T (EGI TURBO)                               |                        |                        |
|------------------------------|--------------------------------------|---------------------------|---|---------------------------------|---|------------------------|------------------------|
| <b>Charging system</b>       |                                      |                           |   |                                 |   |                        |                        |
| Battery                      | Type                                 |                           | Maintenance free, 50D20L, 65D23L (65D23L: Coldproof area) |                                 |   |                        |                        |
|                              | Voltage                              |                           | V   | 12                              |   |                        |                        |
|                              | Capacity                             |                           | Ah  | 55 (65D23L)<br>50 (50D20L)      |   |                        |                        |
|                              | Specific gravity at 20°C (68°F)      | Recharge at Fully charged |   | 1.230                           |   |                        |                        |
|                              |                                      |                           |   | 1.280                           |   |                        |                        |
|                              | Charging current                     |                           | A   | 50D20L: Max. 5 65D23L: Max. 5.5 |   |                        |                        |
| Alternator                   | Type                                 |                           | A/C type  |                                 |   |                        |                        |
|                              | Voltage-capacity                     |                           | V-A   | 12-70                           |   |                        |                        |
|                              | Pulley ratio                         |                           |   | 1 : 2.08                        |   |                        |                        |
|                              | No-load test                         | Voltage                   |   | V                               | 13.5  |                        |                        |
|                              |                                      | Current                   |   | A                               | 20, 55, 66                                    |                        |                        |
|                              |                                      | Speed                     |   | rpm                             | 1,300 2,500 5,000                             |                        |                        |
|                              | Load test                            | Current                   |   | A                               | Min. 55                                       |                        |                        |
|                              |                                      | Speed                     |   | rpm                             | 2,500   |                        |                        |
|                              | Regulated voltage                    | Alternator (Engine) speed |   | rpm                             | 5,000   |                        |                        |
|                              |                                      | In no-load                |   | V                               | 14.4-15.0                                     |                        |                        |
|                              | Brush                                | Number                    |   | 2                               |   |                        |                        |
|                              |                                      | Length mm (in)            | Standard  |                                 | 16.5 (0.650)                                  |                        |                        |
|                              |                                      |                           | Limit   |                                 | 8 (0.315)                                     |                        |                        |
|                              |                                      | Spring force              |   | N (kg, lb)                      | 2.9-4.3 (0.3-0.44, 0.66-0.97)                 |                        |                        |
| <b>Starter system</b>        |                                      |                           |   |                                 |   |                        |                        |
| Starter                      | Output                               |                           | kW  | 1.2                             | 2.0   | 1.2                    |                        |
|                              | Free running test                    | Voltage                   |   | V                               | 11.0  |                        |                        |
|                              |                                      | Current                   |   | A                               | Max. 90                                       |                        |                        |
|                              |                                      | Speed                     |   | rpm                             | Min. 3,000                                    |                        |                        |
|                              | Lock test                            | Voltage                   |   | V                               | 4   |                        |                        |
|                              |                                      | Current                   |   | A                               | Min. 780                                      | Min. 980               | Min. 780               |
|                              |                                      | Torque Nm (m-kg, ft-lb)   |   |                                 | Min. 17.6 (1.79, 13.0)                        | Min. 22.5 (2.29, 16.6) | Min. 17.6 (1.79, 13.0) |
|                              | Brush                                | Number                    |   | 4                               |   |                        |                        |
|                              |                                      | Length mm (in)            | Standard  |                                 | 17.5 (0.689)                                  |                        |                        |
|                              |                                      |                           | Limit   |                                 | 10.0 (0.394)                                  |                        |                        |
|                              |                                      | Spring force              |   | N (kg, lb)                      | 14-23 (1.4-2.4, 3.1-5.2)                      |                        |                        |
|                              | Mica depth                           | mm (in)                   |   | Standard                        |   | 0.5-0.8 (0.02-0.03)    |                        |
|                              |                                      | Limit                     |   |                                 |   | 0.2 (0.008)            |                        |
|                              | Pinion gap (magnetic clutch engaged) |                           | mm (in)   |                                 | 0.5-2.0 (0.02-0.08)                           |                        |                        |
| Operation of magnetic switch |                                      |                           |   | Max. 8V                         |   |                        |                        |
| <b>Ignition system</b>       |                                      |                           |   |                                 |   |                        |                        |
| Ignition timing              | Leading                              |                           | ATDC  | 5°                              |   |                        |                        |
|                              | Trailing                             |                           | ATDC  | 20°                             |   |                        |                        |
| Timing mark location         |                                      |                           | Eccentric shaft pulley                                    |                                 |   |                        |                        |
| Spark plug                   | Type                                 |                           | NGK   |                                 |   |                        |                        |
|                              | Gap                                  |                           | mm (in)   |                                 | Trailing: SD11A, Leading: SD10A<br>2.0 (0.08) |                        |                        |
| Ignition coil                | Resistance                           |                           | Primary   | Ω                               |   | 0.2-1.0                |                        |
| High-tension lead            | Resistance                           |                           | Ω/1 m (3.3 ft)  |                                 | 16,000  |                        |                        |
| V belt                       | Deflection                           |                           | New   |                                 | 12-15 (0.472-0.591)                           |                        |                        |
|                              |                                      |                           | Old   |                                 | 14-17 (0.551-0.669)                           |                        |                        |

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| TIGHTENING TORQUE       | N-m       | m-kg    | ft-lb |
|-------------------------|-----------|---------|-------|
| Spark plug              | 12.7—17.7 | 1.3—1.8 | 10—13 |
| Starter (Bolt)          | 31.4—46.1 | 3.2—4.7 | 24—33 |
| B terminal              | 9.8—11.7  | 1.0—1.2 | 8     |
| Alternator (Long bolt)  | 37.3—52.0 | 3.8—5.3 | 28—38 |
| Alternator (Short bolt) | 18.6—25.5 | 1.9—2.6 | 14—18 |

## 6. CLUTCH

| Item             | Specification     |                     |                       |
|------------------|-------------------|---------------------|-----------------------|
|                  |                   | Turbo model         | Non-turbo model       |
| Clutch pedal     | Pedal ratio       | 6.25 : 1            |                       |
|                  | Stroke            | mm (in)             | 135 (5.315)           |
|                  | Height            | mm (in)             | 236—241 (9.291—9.488) |
|                  | Free play         | mm (in)             | 5—13 (0.197—0.512)    |
|                  | Engagement height | mm (in)             | 95 (3.74)             |
| Clutch cover     | Set load          | N (kg, lb)          | 4807 (490, 1078)      |
|                  |                   |                     | 5494 (560, 1232)      |
| Clutch disc      | Facing (outer)    | mm (in)             | 225 (8.86)            |
|                  | Facing (inner)    | mm (in)             | 150 (5.91)            |
| Clutch disc      | Thickness         | Pressure plate side | mm (in)               |
|                  |                   | Flywheel side       | mm (in)               |
|                  | Run-out limit     | mm (in)             | 1.0 (0.039)           |
|                  | Wear limit        | mm (in)             | 0.3 (0.012)           |
| Master cylinder  | Bore              | mm (in)             | 15.87 (0.625)         |
| Release cylinder | Bore              | mm (in)             | 19.05 (0.750)         |

| TIGHTENING TORQUE | Turbo and Non-turbo model |
|-------------------|---------------------------|
| Clutch cover      | N-m (m-kg, ft-lb)         |
| Flywheel          | N-m (m-kg, ft-lb)         |

## 7A. MANUAL TRANSMISSION

| Item               | Specification  |                 |
|--------------------|--|-----------------|
|                    | Turbo model  | Non-turbo model |
| Gear ratio         | First  | 3.483           |
|                    | Second   | 2.015           |
|                    | Third  | 1.391           |
|                    | Fourth   | 1.000           |
|                    | Fifth  | 0.762           |
|                    | Reverse  | 3.288           |
| Oil capacity       | liters (US pt, Imp. pt.)   | 2.5 (2.6, 2.2)  |
| Mainshaft          | Max. permissible run-out   | mm (in)         |
|                    | Clearance between mainshaft and gear (or bush) Wear limit        | mm (in)         |
| Reverse idle gear  | Clearance between reverse idle gear bushing and shaft Wear limit | mm (in)         |
| Shift fork and rod | Clearance between shift fork and clutch sleeve Wear limit        | mm (in)         |
|                    | Clearance between shift rod gate and control lever Wear limit    | mm (in)         |

| Item              |  | Specification                      |                 |
|-------------------|--|------------------------------------|-----------------|
|                   |  | Turbo model                        | Non-turbo model |
| Synchronizer ring | Clearance between synchronizer ring and side of gear when fitted |                                    |                 |
|                   | Standard mm (in)   | 1.5 (0.0591)                       |                 |
|                   | Wear limit mm (in)   | 0.8 (0.0315)                       |                 |
| Lubricant         | Above -18°C (0°F)  | API Service GL-4 or GL-5 SAE90     |                 |
|                   | Below -18°C (0°F)  | API Service GL-4 or GL-5 SAE80W    |                 |
|                   | All seasons  | API Service GL-4 or GL-5 SAE80W-90 |                 |

| TIGHTENING TORQUE           |                   | Turbo model              | Non-turbo model             |
|-----------------------------|-------------------|--------------------------|-----------------------------|
| Plug for interlock pin hole | N.m (m-kg, ft-lb) | 19—27 (1.9—2.7, 14—20)   | 10—15 (1.0—1.5, 7—11)       |
| Shift fork set bolts        | N.m (m-kg, ft-lb) | 39—59 (4—6, 29—43)       | 12—16 (1.2—1.6, 9—12)       |
| Mainshaft lock nut          | N.m (m-kg, ft-lb) | 157—235 (16—24, 116—174) | 130—210 (13.3—21.4, 94—152) |
| Top switch                  | N.m (m-kg, ft-lb) | 25—35 (2.5—3.6, 18—25)   |                             |
| Overdrive switch            | N.m (m-kg, ft-lb) | 25—35 (2.5—3.6, 18—25)   |                             |
| Back-up lamp switch         | N.m (m-kg, ft-lb) | 25—35 (2.5—3.6, 18—25)   |                             |
| Bearing cover 8T bolts      | N.m (m-kg, ft-lb) | 18—26 (1.8—2.7, 13—20)   |                             |

7B AUTOMATIC TRANSMISSION

| Item                                   |  | Model                     | L4N71B   |
|--|--|---------------------------|--|
| Gear ratio                             | First                                  |                           | 2.841  |
|  | Second                                 |                           | 1.541  |
|  | Third                                  |                           | 1.000  |
|  | OD (Fourth)                            |                           | 0.720  |
|  | Reverse                                |                           | 2.400  |
| Fluid                                  | Type                                   |                           | Dexron II  |
|  | Capacity liters (US qt, Imp. qt)       |                           | 7.5 (7.9, 6.6)   |
| Oil pump                               | Body clearance mm (in)                 | Standard                  | 0.02—0.04 (0.00078—0.0015)   |
|  |  | Limit                     | 0.08 (0.0031)  |
|  | Tip clearance mm (in)                  | Standard                  | 0.14—0.21 (0.0055—0.0082)  |
|  |  | Limit                     | 0.25 (0.0098)  |
|  | Side clearance mm (in)                 | Standard                  | 0.05—0.20 (0.0019—0.0078)  |
|  |  | Limit                     | 0.25 (0.0098)  |
| Seal ring and groove clearance mm (in) | Standard                               | 0.04—0.16 (0.0015—0.0062) |  |
|  | Limit                                  | 0.40 (0.015)              |  |
| Direct clutch                          | Total clearance mm (in)                |                           | 1.6—1.8 (0.062—0.070)  |
|  | Retaining plate size mm (in)           |                           | 5.6 (0.220), 5.8 (0.228), 6.0 (0.236), 6.2 (0.244), 6.4 (0.252), 6.6 (0.260), 6.8 (0.268), 7.0 (0.276) |
|  | End play mm (in)                       |                           | 0.5—0.8 (0.019—0.031)  |
|  | Thrust washer size mm (in)             |                           | 1.3 (0.051), 1.5 (0.059), 1.7 (0.066), 1.9 (0.074), 2.1 (0.082), 2.3 (0.090), 2.5 (0.098), 2.7 (0.106) |
| Front clutch                           | Total clearance mm (in)                |                           | 1.6—1.8 (0.062—0.070)  |
|  | Retaining plate size mm (in)           |                           | 5.0 (0.197), 5.2 (0.205), 5.4 (0.213), 5.6 (0.221), 5.8 (0.228), 6.0 (0.236), 6.2 (0.244)              |
|  | End play mm (in)                       |                           | 0.5—0.8 (0.019—0.031)  |
|  | Thrust washer size mm (in)             |                           | 1.3 (0.051), 1.5 (0.059), 1.7 (0.066), 1.9 (0.074), 2.1 (0.082), 2.3 (0.090), 2.5 (0.098), 2.7 (0.106) |
| Rear clutch                            | Total clearance mm (in)                |                           | 0.8—1.5 (0.031—0.059)  |
| Low and reverse brake                  | Total clearance mm (in)                |                           | 0.8—1.05 (0.031—0.041)   |
|  | Retaining plate variation size mm (in) |                           | 7.2 (0.28), 7.4 (0.29), 7.6 (0.30), 7.8 (0.307), 8.0 (0.315), 8.2 (0.32)                               |

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| Item                     |                             | Model      | L4N71B   |                         |                 |                      |       |
|--------------------------|-----------------------------|------------|--|-------------------------|-----------------|----------------------|-------|
| OD gear train            | End play                    | mm (in)    | 0.25—0.50 (0.0098—0.019)   |                         |                 |                      |       |
|                          | Bearing race variation size | mm (in)    | 1.2 (0.047), 1.4 (0.055), 1.6 (0.062), 1.8 (0.070), 2.0 (0.078), 2.2 (0.086) |                         |                 |                      |       |
| Gear assembly            | End play                    | mm (in)    | 0.25—0.50 (0.0098—0.019)   |                         |                 |                      |       |
|                          | Bearing race variation size | mm (in)    | 1.2 (0.047), 1.4 (0.055), 1.6 (0.062), 1.8 (0.070), 2.0 (0.078), 2.2 (0.086) |                         |                 |                      |       |
|                          | Planetary play limit        | mm (in)    | Standard Limit   | 0.2—0.7 (0.0078—0.0275) |                 |                      |       |
|                          |                             |            |  | 0.8 (0.0314)            |                 |                      |       |
| Valve spring             |                             |            | Outer dia.<br>mm (in)  | Free length<br>mm (in)  | No. of<br>Coils | Wire dia.<br>mm (in) | Color |
| Control valve body       | Pressure regulator          |            | 11.7 (0.46)  | 43.0 (1.69)             | 15.0            | 1.2 (0.047)          | —     |
|                          | 1-2 Shift                   |            | 6.55 (0.26)  | 32.0 (1.26)             | 18.7            | 0.55 (0.022)         | —     |
|                          | 2-3 Shift                   |            | 6.9 (0.27)   | 39.0 (1.55)             | 19.1            | 0.7 (0.028)          | —     |
|                          | 3-4 Shift                   |            | 7.3 (0.29)   | 25.0 (0.98)             | 13.0            | 0.9 (0.035)          | —     |
|                          | Throttle back-up            |            | 7.3 (0.29)   | 31.8 (1.25)             | 15.5            | 0.8 (0.031)          | —     |
|                          | Solenoid downshift          |            | 5.55 (0.22)  | 21.9 (0.86)             | 14.0            | 0.55 (0.022)         | —     |
|                          | 2nd Lock                    |            | 5.55 (0.22)  | 33.5 (1.32)             | 18.0            | 0.55 (0.022)         | —     |
|                          | Throttle relief             |            | 6.5 (0.26)   | 26.8 (1.06)             | 16.0            | 0.90 (0.035)         | —     |
|                          | Orifice check               |            | 5.0 (0.20)   | 15.5 (0.61)             | 12.0            | 0.23 (0.0091)        | —     |
| 3-2 Timing               |                             | 7.5 (0.30) | 23.2 (0.91)  | 10.8                    | 0.80 (0.031)    | —                    |       |
| OD control               |                             |            | 4.95 (0.19)  | 23.0 (0.91)             | 14.8            | 0.65 (0.026)         | —     |
| Lock-up control          |                             |            | 5.5 (0.22)   | 24.7 (0.97)             | 15.5            | 0.7 (0.03)           | —     |
| Accumulator piston       |                             |            | 14.85 (0.58)   | 39.7 (1.56)             | 9.3             | 1.8 (0.07)           | —     |
| 2nd Band servo           |                             | Return     | —  | 38.7 (1.52)             | —               | 3.5 (0.14)           | —     |
|                          |                             | Cushion    | 14.9 (0.59)  | 42.8 (1.69)             | 11.2            | 2.3 (0.09)           | —     |
| Primary governor valve   |                             |            | 8.75 (0.34)  | 21.8 (0.86)             | 7.0             | 0.45 (0.018)         | —     |
| Secondary governor valve |                             |            | 9.2 (0.36)   | 25.2 (0.99)             | 7.5             | 0.7 (0.028)          | —     |

| Shift speed                                       |                                |   |
|---|--------------------------------|---|
| Throttle condition (Manifold vacuum)              | Gear                           | Vehicle speed km/h (mph)                |
| Fully opened<br>0—100 mm-Hg<br>0—3.94 in-Hg       | D <sub>1</sub> →D <sub>2</sub> | 54—61 (34—38)                           |
|   | D <sub>2</sub> →D <sub>3</sub> | 99—106 (62—66)                          |
|   | D <sub>3</sub> →D <sub>2</sub> | 91—98 (57—61)                           |
|   | D <sub>2</sub> →D <sub>1</sub> | 40—46 (25—29)                           |
| Half throttle<br>190—210 mm-Hg<br>7.41—8.19 in-Hg | D <sub>1</sub> →D <sub>2</sub> | 11—18 (7—11)                            |
|   | D <sub>2</sub> →D <sub>3</sub> | 30—37 (19—23)                           |
|   | D <sub>3</sub> →D <sub>4</sub> | 48—54 (30—34)                           |
| Fully closed                                      | D <sub>2</sub> →D <sub>1</sub> | 11—18 (7—11)                            |
|   | 1 <sub>2</sub> →1 <sub>1</sub> | 38—45 (24—28)                           |
| Lock-up on  |                                | 71—77 (44—48)                           |
| Governor pressure                                 |                                |   |
| Vehicle speed                                     | km/h (mph)                     | Pressure kPa (kg/cm <sup>2</sup> , psi) |
| 30 (19)   |                                | 69—128 (0.7—1.3, 10—18)                 |
| 55 (34)   |                                | 147—226 (1.5—2.3, 21—33)                |
| 85 (53)   |                                | 196—392 (2.0—4.0, 28—57)                |
| Line pressure                                     |                                |   |
| Shift position                                    | Engine speed                   | Pressure kPa (kg/cm <sup>2</sup> , psi) |
| R   | Idle                           | 392—686 (4.0—7.0, 57—100)               |
|   | Stall                          | 1,569—1,863 (16.0—19.0, 229—272)        |
| D   | Idle                           | 294—392 (3.0—4.0, 43—57)                |
|   | Stall                          | 883—1,079 (9.0—11.0, 129—157)           |
| 2   | Idle                           | 785—1,177 (8.0—12.0, 114—171)           |
|   | Stall                          | 785—1,177 (8.0—12.0, 114—171)           |
| Engine stall revolution                           |                                | rpm                                     |
|   |                                | 2,000—2,300                             |

|                             | Clearance between body and throttle valve | mm (in)              | Adjusting rod length mm (in) |
|-----------------------------|---|----------------------|------------------------------|
|                             | Vacuum diaphragm                          | Below 25.65 (1.0099) |                              |
| 25.65—26.15 (1.0099—1.0295) |   |                      | 29.5 (1.16)                  |
| 26.15—26.65 (1.0295—1.0492) |   |                      | 30.0 (1.18)                  |
| 26.65—27.15 (1.0492—1.0689) |   |                      | 30.5 (1.20)                  |
| 27.15 (1.0689) or over      |   |                      | 31.0 (1.22)                  |

| TIGHTENING TORQUE                             | N-m     | m-kg      | ft-lb    |
|---|---------|-----------|----------|
| Drive plate to engine                         | 81—93   | 8.3—9.5   | 60—69    |
| Drive plate to torque converter               | 34      | 3.5       | 25       |
| Converter housing to engine                   | 31—46   | 3.2—4.7   | 23—34    |
| Converter housing to transmission case        | 44—54   | 4.5—5.5   | 33—40    |
| Extension housing to transmission case        | 20—25   | 2.0—2.5   | 15—18    |
| Oil pan                                       | 4.9—6.9 | 0.5—0.7   | 3.6—5.1  |
| Piston stem (when adjusting band brake)       | 12—15   | 1.2—1.5   | 8.7—11   |
| Piston stem lock nut                          | 15—39   | 1.5—4.0   | 11—29    |
| Servo piston retainer                         | 6.9—8.8 | 0.7—0.9   | 5.1—6.5  |
| One-way clutch inner race                     | 13—18   | 1.3—1.8   | 9.4—13.0 |
| Control valve body to transmission case       | 5.4—7.4 | 0.55—0.75 | 4.0—5.4  |
| Lower valve body to upper valve body          | 2.5—3.4 | 0.25—0.35 | 1.8—2.5  |
| Side plate to control valve body              | 2.5—3.4 | 0.25—0.35 | 1.8—2.5  |
| Reamer bolt of control valve body             | 4.9—6.9 | 0.5—0.7   | 3.6—5.1  |
| Oil strainer                                  | 2.9—3.9 | 0.3—0.4   | 2.1—2.9  |
| Governor valve body to oil distributor        | 4.9—6.9 | 0.5—0.7   | 3.6—5.1  |
| Oil pump cover                                | 5.9—8.8 | 0.6—0.9   | 4.3—6.5  |
| Drum support                                  | 5.9—8.8 | 0.6—0.9   | 4.3—6.5  |
| Inhibitor switch                              | 4.9—6.9 | 0.5—0.7   | 3.6—5.1  |
| Manual shaft lock nut                         | 29—39   | 3.0—4.0   | 22—29    |
| Oil cooler pipe set bolt                      | 24—35   | 2.4—3.6   | 17—26    |
| Oil pressure test plug                        | 4.9—9.8 | 0.5—1.0   | 3.6—7.2  |
| Actuator for parking rod to extension housing | 7.8—11  | 0.8—1.1   | 5.8—8.0  |

## 8. PROPELLER SHAFT

| Item                                    |                       | Specification           |                 |
|---|-----------------------|-------------------------|-----------------|
|   |                       | Turbo model             | Non-turbo model |
| Max. permissible run-out                | mm (in)               | 0.4 (0.016)             |                 |
| Max. permissible imbalance at 4,000 rpm | M/T                   | 10 (0.14)               |                 |
|   | cm-gr (in oz.)<br>A/T | —                       | 15 (0.21)       |
| Universal joint journal swinging torque | N-m (cm-kg, in-lb)    | 0.3—9.8 (3.0—10, 26—86) |                 |

| TIGHTENING TORQUE                                     | Turbo model            | Non-turbo model |
|---|------------------------|-----------------|
| Propeller shaft to companion flange N-m (m-kg, ft-lb) | 49—59 (5.0—6.0, 36—43) |                 |

## 9. REAR AXLE

| Item   |             | Specification             |                 |
|--|-------------|---------------------------|-----------------|
|  |             | Turbo model               | Non-turbo model |
| Reduction ratio                                  | M/T (A/T)   | 4.1 (—)                   |                 |
| Backlash of ring gear and pinion                 | mm (in)     | 0.09—0.11 (0.0035—0.0043) |                 |
| Pinion bearing preload (without pinion oil seal) | N-m (in-lb) | 0.9—1.4 (7.8—12.2)        |                 |

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| Item                                  | Specification                             |  |
|---------------------------------------|---|--|
|                                       | Turbo model                               | Non-turbo model  |
| Backlash at side gear and pinion gear | mm (in) 0—0.1 (0—0.0039)                  |  |
| Rear wheel bearing end play           | mm (in) 0—0.1 (0—0.0039)                  |  |
| Lubricant                             | Standard diff.                            | Above -18°C (0°F)<br>Below -18°C (0°F)                                       |
|                                       | Limited slip diff.                        | API Service GL-5 SAE90<br>(Special Lubricant For Limited Slip Differentials) |
| Oil capacity                          | Standard diff. liters (US qt. Imp qt)     | 1.3 (1.4, 1.1)   |
|                                       | Limited slip diff. liters (US qt. Imp qt) | 1.3 (1.4, 1.1)   |
| "L" (case spread)                     | mm (in)                                   | 204.43—204.50 (8.048—8.051)   185.43—85.50 (7.300—7.303)                     |

| TIGHTENING TORQUE              |                   | Turbo and Non-turbo model   |
|--------------------------------|-------------------|-----------------------------|
| Rear gear                      | N·m (m·kg, ft·lb) | 69—83 (7.0—8.5, 51—61)      |
| Differential side bearing caps | N·m (m·kg, ft·lb) | 37—52 (3.8—5.3, 27—38)      |
| Companion flange to pinion     | N·m (m·kg, ft·lb) | 128—177 (13.0—18.0, 94—130) |
| Differential carrier and case  | N·m (m·kg, ft·lb) | 23—26 (2.3—2.7, 17—20)      |
| Differential carrier mounting  | N·m (m·kg, ft·lb) | 88—105 (9.0—10.7, 65—77)    |
| Differential member            | N·m (m·kg, ft·lb) | 74—93 (7.5—9.5, 54—69)      |
| Sub link                       | N·m (m·kg, ft·lb) | 74—93 (7.5—9.5, 54—69)      |
| Driveshaft (differential side) | N·m (m·kg, ft·lb) | 54—64 (5.5—6.5, 40—47)      |

## 10A. MANUAL STEERING

| Item  | Specification                |
|---|------------------------------|
| Type  | Rack and pinion              |
| Gear ratio                                      | ∞ (infinite)                 |
| Free play of steering wheel (Turning direction) |                              |
| Standard  | mm (in) 5—20 (0.2—0.8)       |
| Steering wheel effort (Front wheel alignment)   | N(kg, lb) 5—8 (0.5—0.8; 1—2) |
| Toe-in  | mm (in) 3 ± 3 (0.12 ± 0.12)  |
| Camber angle                                    | 0°20' ± 30'                  |
| Caster angle                                    | 4°40' ± 45'                  |
| King-pin angle                                  | 13°45'                       |
| Trail   | mm (in) 14.3 (0.52)          |
| Backlash between rack and pinion                | 0                            |
| Pinion preload (spring scale)                   | OZ (g) 3.5—10.6 (100—300)    |

| TIGHTENING TORQUE        | N·m   | m·kg    | ft·lb |
|--------------------------|-------|---------|-------|
| Steering wheel nut       | 39—49 | 4.0—5.0 | 29—36 |
| Gear housing to frame    | 31—46 | 3.2—4.7 | 23—34 |
| Tie-rod end to lower arm | 29—44 | 3.0—4.5 | 22—33 |
| Tie-rod to rack          | 69—98 | 7—10    | 51—72 |
| Pinion lock nut          | 39—59 | 4.0—6.0 | 29—43 |
| Adjust cover lock nut    | 39—59 | 4.0—6.0 | 29—43 |

10B. POWER STEERING

| Item   |   | Specification                     |
|--|---|-----------------------------------|
| Type   |   | Rack and pinion                   |
| Reduction ratio                                      |   | ∞ (infinite)                      |
| Steering wheel effort                                | Vehicle speed 0 km/h (0 mph) N (kg, lb)   | 13.7—20.6 (1.4—2.1, 3.1—4.6)      |
|  | Vehicle speed 45 km/h (30 mph) N (kg, lb) | 22 (2.2, 4.8) min.                |
| Pinion rotation torque (spring gauge reading) g (oz) |   | 700—1,300 (24.7—45.9)             |
| Fluid  |   | ATF TYPE F (M2C33-F) or Dexron II |

| TIGHTENING TORQUE         | N-m   | m-kg    | ft-lb |
|---------------------------|-------|---------|-------|
| Steering wheel nut        | 39—49 | 4.0—5.0 | 29—36 |
| Gear housing to frame     | 31—46 | 3.2—4.7 | 23—34 |
| Tie-rod end to lower arm  | 29—44 | 3.0—4.5 | 22—33 |
| Tie-rod to rack           | 69—98 | 7—10    | 51—72 |
| Pinion lock nut           | 20—29 | 2.0—3.0 | 14—22 |
| Oil pump body to bracket  | 31—36 | 3.2—3.7 | 23—27 |
| Oil pump pulley and shaft | 39—49 | 4.0—5.0 | 29—36 |
| Suction pipe              | 14—18 | 1.4—1.8 | 10—13 |
| Rear cover                | 31—42 | 3.2—4.3 | 23—31 |
| Tank reservoir            | 14—18 | 1.4—1.8 | 10—13 |
| Pressure switch           | 20—39 | 2.0—3.0 | 15—22 |
| Step valve                | 69—79 | 7.0—8.0 | 51—58 |

11. BRAKING SYSTEM

| Item                        |  | Specification  |   |
|-----------------------------|--|--|---|
| Brake pedal                 | Height mm (in)   | 205 <sup>+5</sup> / <sub>0</sub> (8.07 <sup>+0.2</sup> / <sub>0</sub> )            |   |
|                             | Free play mm (in)  | 4—7 (0.16—0.28)  |   |
|                             | Reserve travel mm (in)<br>(Clearance when pedal depressed) | More than 100 (3.94)   |   |
| Master cylinder             | Type   | Tandem   |   |
|                             | Bore mm (in)   | 22.22 (0.875)  |   |
|                             | Fluid type   | FMVSS116, DOT-3 or 4, or SAEJ1703  |   |
| Front brake                 | Type   | Disc   |   |
|                             | Thickness of pad mm (in)                                   | Standard   | 9.0 (0.35).....14 in. wheel vehicle<br>11.0 (0.43).....Except 14 in. wheel vehicle  |
|                             |  | Limit  | 1.0 (0.04)  |
|                             | Thickness of disc plate mm (in)                            | Standard   | 22.0 (0.87)   |
|                             |  | Limit  | 20.0 (0.79)   |
|                             | Disc plate run-out mm (in)                                 |  | 0.1 (0.004)   |
| Wheel cylinder bore mm (in) |  | 50.8 (2.0).....14 in. wheel vehicle<br>36.1 (1.42).....Except 14 in. wheel vehicle |   |
| Rear brake                  | Type   | Disc   |   |
|                             | Thickness of pad mm (in)                                   | Standard   | 8.0 (0.31)  |
|                             |  | Limit  | 1.0 (0.04)  |
|                             | Thickness of disc plate mm (in)                            | Standard   | 10.0 (0.40).....14 in. wheel vehicle<br>20.0 (0.79).....Except 14 in. wheel vehicle |
|                             |  | Limit  | 8.0 (0.31).....14 in. wheel vehicle<br>18.0 (0.71).....Except 14 in. wheel vehicle  |
|                             | Disc plate run-out mm (in)                                 |  | 0.1 (0.004)   |
| Wheel cylinder bore mm (in) |  | 34.9 (1.37)  |   |



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| Item                                |  | Specification  |
|-------------------------------------|--|--|
| Parking brake                       | Type   | Auto adjustment, rear brake  |
|                                     | Lever notches<br>(Pulled at 98 N (10 kg, 22 lb) )                              | 4—5  |
| Power brake unit                    | Diameter mm (in)   | 203.2 (8).....14 in. wheel vehicle<br>228.6 (9).....Except 14 in. wheel vehicle  |
|                                     | Clearance between master cylinder and brake unit mm (in)                       | 0.1—0.3 (0.004—0.012)  |
|                                     | Fluid pressure per treading force<br>kPa (kg/cm <sup>2</sup> , psi)/N (kg, lb) | More than 2,158 (22, 312)/196 (20, 44)<br>at 0 mm Hg (0 in-Hg)<br>More than 8,339 (85, 1,209)/196 (20, 44) at 500 mm Hg<br>(19.7 in-Hg).....Except 14 in. wheel vehicle<br>More than 7,063 (72, 1,024)/196 (20, 44) at 500 mmHg<br>(19.7 in-Hg).....14 in. wheel vehicle |
| Rear wheel hydraulic control system | Type   | Proportioning bypass valve   |
|                                     | Bend portion (Rear brake pressure)<br>kPa (kg/cm <sup>2</sup> , psi)           | 2,600—3,286 (26.5—33.5, 377—476)   |

| TIGHTENING TORQUE  |  | N-m   | m-kg     | ft-lb  |
|--|--|-------|----------|--------|
| Lock pin bolt  | Front..... Only for 14 in. wheel vehicle | 31—41 | 3.2—4.2  | 23—30  |
|  | Rear                                     | 29—41 | 3.0—4.2  | 22—30  |
| Front caliper .....  | Except 14 in. wheel vehicle              | 78—98 | 8.0—10.0 | 58—72  |
| Mounting support   | Front..... Only for 14 in. wheel vehicle | 78—98 | 8.0—10.0 | 58—72  |
|  | Rear                                     | 44—54 | 4.5—5.5  | 33—40  |
| Master cylinder to power brake unit                            |  | 98—16 | 1.0—1.6  | 7.2—12 |
| Dust cover to knuckle spindle or triaxial floating hub (outer) |  | 16—23 | 1.6—2.3  | 12—17  |

## 12. WHEELS AND TIRES

| Item           |   |  | Specifications |
|----------------|---|--|----------------|
| Wheel          | Run-out mm (in)                                   | Radial   | 0.4 (0.02)     |
|                |   | Lateral  | 0.4 (0.02)     |
|                | Offset mm (in)                                    | 40 (1.57)  |                |
|                | Size  | 6-JJ x 15, 5.5-JJ x 14, 7-JJ x 16                    |                |
| Tire           | Pitch circle diameter mm (in)                     | 114.3 (4.50)   |                |
|                | Size  | 205/60 VR15, 185/70 HR 14, 185/70R1487H, 205/55 VR16 |                |
|                | Inflation pressure kPa (kg/cm <sup>2</sup> , psi) | 216 (2.2, 32)  |                |
| Wheel and tire | Run-out limit mm (in)                             | Radial   | 2.0 (0.08)     |
|                |   | Lateral  | 2.0 (0.08)     |
|                | Unbalance limit N (g, lb)                         | 0.2 (20, 0.04)                                       |                |

| TIGHTENING TORQUE |  | N-m    | m-kg     | ft-lb |
|-------------------|--|--------|----------|-------|
| Wheel lug nut     |  | 90—120 | 9.0—12.0 | 65—87 |

13. SUSPENSION

Front Suspension

| Item               |               |             | Specifications              |
|--------------------|---------------|-------------|-----------------------------|
| Suspension type    |               |             | Strut                       |
| Springs            | Type          |             | Coil                        |
|                    | Wire diameter | Right       | 12.0 (0.47), *11.8 (0.46)   |
|                    |               | mm (in)     | Left                        |
|                    | Coil diameter | Right       | 147.0 (5.79), *146.8 (5.78) |
|                    |               | mm (in)     | Left                        |
|                    | Free length   | Right       | 355.5 (14.0), *327.0 (12.9) |
|                    |               | mm (in)     | Left                        |
| Coil number        | Right         | 5.83, *5.31 |                             |
|                    | Left          | 6.05, *5.51 |                             |
| Stabilizer         | Type          |             | Torsion bar                 |
|                    | Diameter      | mm (in)     | 22.0 (0.87), *24.0 (0.94)   |
| Ball joint preload |               | N (kg, lb)  | 20-34 (2.0-3.5, 4.4-7.7)    |

\* For harder suspension

Rear Suspension

| Item            |               |         | Specifications            |
|-----------------|---------------|---------|---------------------------|
| Suspension type |               |         | Multilink Semi-trailing   |
| Springs         | Type          |         | Coil                      |
|                 | Wire diameter | mm (in) | 9.9 (0.39), *10.1 (0.39)  |
|                 | Coil diameter | mm (in) | 84.6 (3.33), *84.4 (3.32) |
|                 | Free length   | mm (in) | 367 (14.45), *355 (14.0)  |
|                 | Coil number   |         | 10.81, *10.79             |
| Stabilizer      | Type          |         | Torsion bar               |
|                 | Diameter      | mm (in) | 13 (0.51)                 |
| Toe-in          |               | mm (in) | 3 ± 3 (0.12 ± 0.12)       |

\* For harder suspension

| TIGHTENING TORQUE       |  | N-m     | m-kg      | ft-lb    |       |
|-------------------------|--|---------|-----------|----------|-------|
| Front                   | Shock absorber piston rod to mounting block                    |         | 20-28     | 2.0-2.9  | 14-21 |
|                         | Mounting block to suspension tower                             |         | 29-36     | 3.0-3.7  | 22-27 |
|                         | Shock absorber to knuckle                                      |         | 93-117    | 9.5-11.9 | 69-86 |
|                         | Lower arm to crossmember                                       | Front   | 63-93     | 6.4-9.5  | 46-69 |
|                         |  | Rear    | 59-74     | 6.0-7.5  | 43-54 |
|                         | Crossmember to body  |         | 93-117    | 9.5-11.9 | 69-86 |
|                         | Stabilizer bracket   |         | 18-26     | 1.8-2.7  | 13-20 |
|                         | Stabilizer control link to stabilizer or lower arm             |         | 36-50     | 3.7-5.1  | 27-37 |
| Ball joint to lower arm |  | 93-117  | 9.5-11.9  | 69-86    |       |
| Rear                    | Shock absorber piston rod to mounting block                    |         | 34-50     | 3.5-5.1  | 25-37 |
|                         | Mounting block to suspension tower                             |         | 23-29     | 2.3-3.0  | 17-22 |
|                         | Shock absorber to trailing arm                                 |         | 63-93     | 6.4-9.5  | 46-69 |
|                         | Stabilizer bracket   |         | 36-54     | 3.7-5.5  | 27-40 |
|                         | Stabilizer control link to stabilizer or trailing arm          |         | 36-54     | 3.7-5.5  | 27-40 |
|                         | Subframe to body   |         | 98-128    | 10-13    | 72-94 |
|                         | Trailing arm to subframe                                       |         | 63-95     | 6.4-9.7  | 46-70 |
|                         | Trailing arm to control link                                   |         | 36-54     | 3.7-5.5  | 27-40 |
|                         | Control link to subframe                                       |         | 36-54     | 3.7-5.5  | 27-40 |
|                         | Lateral link   |         | 29-44     | 3.0-4.5  | 22-33 |
|                         | Sublink  |         | 74-93     | 7.5-9.5  | 54-69 |
|                         | Triaxial floating hub (inner) to triaxial floating hub (outer) | Upper   | 63-93     | 6.4-9.5  | 46-69 |
| Middle                  |  | 112-151 | 11.4-15.4 | 82-111   |       |
| Lower                   |  | 63-93   | 6.4-9.5   | 46-69    |       |

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## 15. BODY ELECTRICAL SYSTEM

| Item                  |                           | Specification (W) (BULB TRADE NO.) |
|-----------------------|---------------------------|------------------------------------|
| Front exterior lights | Headlight                 | Halogen<br>65/35 (HP6054, H6054)   |
|                       |                           | Standard<br>65/55 (6052)           |
|                       | Turn signal/Parking light | 27/8 (1157)                        |
|                       | Side marker light         | 3.8 (194)                          |
| Rear exterior lights  | Back-up light             | 27 (1156)                          |
|                       | License plate light       | 7.5 (89)                           |
|                       | Stop/Tail light           | 27/8 (1157)                        |
|                       | High mounted stop light   | 27 (1156)                          |
|                       | Turn signal light         | 27 (1156)                          |
|                       | Side marker light         | 3.8 (194)                          |

| Item                | Specification (W) and Bulb trade number  |
|---------------------|--|
| Interior lights     | Interior light<br>10   |
|                     | Glove compartment light<br>Courtesy light<br>3.4 (158)   |
|                     | Luggage compartment light<br>Map light<br>5  |
|                     | Warning lights   |
| Warning lights      | Over heat exhaust system<br>Add coolant<br>Washer level<br>Alternator<br>Front doors<br>Engine oil level<br>Stop<br>Brake<br>Anti-lock<br>Seat belt<br>Rear glass hatch<br>Cooling fan<br>1.12 |
|                     | Fuel<br>1.4  |
| Indicator           | Shift up<br>Hazard<br>High beam<br>3.4 (158)   |
|                     | Turn signal<br>Security light<br>3.4   |
|                     | Cooling fan (In meter unit)<br>Main<br>Cruse<br>O/D OFF<br>1.4   |
| Illumination lights | Automatic selector<br>Cigarette lighter<br>3.4 (158)   |
|                     | Door key<br>1.4  |
|                     | Ignition key<br>Meter<br>3.4   |

**STANDARD BOLT AND NUT TIGHTENING TORQUE**

| Diameter<br>mm (in) | Pitch<br>mm (in) | 4T       |           |          | 6T      |          |         | 8T       |         |         |
|---------------------|------------------|----------|-----------|----------|---------|----------|---------|----------|---------|---------|
|                     |                  | N-m      | m-kg      | ft-lb    | N-m     | m-kg     | ft-lb   | N-m      | m-kg    | ft-lb   |
| 6 (0.236)           | 1 (0.039)        | 4.2—6.2  | 0.43—0.63 | 3.1—4.6  | 6.9—9.8 | 0.7—1.0  | 5.0—7.2 | 7.8—11.8 | 0.8—1.2 | 5.8—8.8 |
| 8 (0.315)           | 1.25 (0.049)     | 9.8—14.7 | 1.0—1.5   | 7.2—10.8 | 16—23   | 1.6—2.3  | 12—17   | 18—26    | 1.8—2.7 | 13—20   |
| 10 (0.394)          | 1.25 (0.049)     | 20—28    | 2.0—2.9   | 14—21    | 31—46   | 3.2—4.1  | 23—34   | 36—54    | 3.7—5.5 | 27—40   |
| 12 (0.472)          | 1.5 (0.059)      | 34—50    | 3.5—5.1   | 25—37    | 55—80   | 5.6—8.2  | 41—59   | 63—93    | 6.4—9.5 | 46—69   |
| 14 (0.551)          | 1.5 (0.059)      | —        | —         | —        | 75—103  | 7.7—10.5 | 56—76   | 102—137  | 10—14   | 75—101  |
| 16 (0.630)          | 1.5 (0.059)      | —        | —         | —        | 116—157 | 12—16    | 85—116  | 156—211  | 16—22   | 115—156 |
| 18 (0.709)          | 1.5 (0.059)      | —        | —         | —        | 167—225 | 17—23    | 123—166 | 221—299  | 23—31   | 163—221 |
| 20 (0.787)          | 1.5 (0.059)      | —        | —         | —        | 231—314 | 24—32    | 171—231 | 308—417  | 31—43   | 227—307 |
| 22 (0.866)          | 1.5 (0.059)      | —        | —         | —        | 314—423 | 32—43    | 231—312 | 417—564  | 43—58   | 307—416 |
| 24 (0.945)          | 1.5 (0.059)      | —        | —         | —        | 475—546 | 41—56    | 298—403 | 536—726  | 55—74   | 396—536 |

