| Application         Metric         English           • First Pass         30 N.m¹         22 lb ft¹           • Final Pass         100 Degrees¹           Camshaft Position Actuator Solenoid Valve Bolt         10 N.m         89 lb in           Camshaft Position Sensor Bolt         10 N.m         89 lb in           Catalytic Converter Brace Bolt         22 N.m         16 lb ft           Catalytic Converter Nut - Exhaust Manifold¹         50 N.m¹         37 lb ft²           Connecting Rod Bolt¹         50 N.m¹         37 lb ft²           • First Pass         25 N.m¹         18 lb ft¹           • Final Pass         110 Degrees¹           Crankshaft Balancer Bolt⁴         110 N.m         89 lb in           • Final Pass         140 Degrees¹           Crankshaft Position Sensor Bolt         10 N.m         89 lb in           Cylinder Head Bolt¹         10 N.m         89 lb in           • First Pass         30 N.m¹         22 lb ft²           • Final Pass         190 Degrees¹           Cylinder Head Golt Gallery Plug         40 N.m         30 lb ft           Drive Belt Tensioner Bolt         58 N.m         30 lb ft           Engine Block Oil Gallery Plug - Large, Left Side and         65 N.m         48 lb ft   |   | Specification            |                        |
|--|---|--------------------------|------------------------|
| ■ Final Pass   | Application   |                          |                        |
| Camshaft Position Actuator Solenoid Valve Bolt   10 N.m   89 lb in   | First Pass  | 30 N.m <sup>1</sup>      | 22 lb ft <sup>1</sup>  |
| Caralytic Converter Brace Bolt   22 N.m   16 lb ft   | Final Pass  | 100 Degrees <sup>1</sup> |                        |
| Catalytic Converter Brace Bolt   22 N.m   16 lb ft   | Camshaft Position Actuator Solenoid Valve Bolt          | 10 N.m                   | 89 lb in               |
| Catalytic Converter Brace Bracket Bolt   | Camshaft Position Sensor Bolt                           | 10 N.m                   | 89 lb in               |
| Catalytic Converter Nut - Exhaust Manifold   50 N.m   37 lb ft   | Catalytic Converter Brace Bolt                          | 22 N.m                   |                        |
| Connecting Rod Bolt¹         • First Pass         25 N.m¹         18 lb ft¹           • Final Pass         110 Degrees¹           Crankshaft Balancer Bolt¹         • First Pass         150 N.m¹         111 lb ft¹           • Final Pass         140 Degrees¹         170 N.m         89 lb in           Crankshaft Position Sensor Bolt         10 N.m         89 lb in         89 lb in           Cylinder Head Bolt¹         • First Pass         30 N.m¹         22 lb ft¹           • Final Pass         190 Degrees¹         190 Degrees¹           Cylinder Head Core Hole Plug         50 N.m         37 lb ft           Cylinder Head Oil Gallery Plug         40 N.m         30 lb ft           Drive Belt Tensioner Bolt         58 N.m         43 lb ft           Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase         65 N.m         48 lb ft           Engine Block Oil Gallery Plug - Small, Rear Engine         40 N.m         30 lb ft           Block         Engine Block Oil Gallery Plug - Small, Rear Engine         40 N.m         30 lb ft           Engine Coolant Air Bleed Pipe Bolt         10 N.m         89 lb in           Engine Coolant Heater Hole Plug         60 N.m         44 lb ft           Engine Front Cover Bolt - M6         10   | Catalytic Converter Brace Bracket Bolt                  | 22 N.m                   | 16 lb ft               |
| • First Pass         25 N.m¹         18 lb ft¹           • Final Pass         110 Degrees¹           Crankshaft Balancer Bolt¹         150 N.m¹         111 lb ft¹           • First Pass         150 N.m¹         111 lb ft¹           • Final Pass         140 Degrees¹         120 N.m¹           Crankshaft Position Sensor Bolt         10 N.m         89 lb in           Cylinder Head Bolt¹         30 N.m¹         22 lb ft¹           • First Pass         30 N.m¹         22 lb ft¹           • Final Pass         190 Degrees¹           Cylinder Head Core Hole Plug         50 N.m         37 lb ft           Cylinder Head Oil Gallery Plug         40 N.m         30 lb ft           Drive Belt Tensioner Bolt         58 N.m         43 lb ft           Engine Block Oil Gallery Plug - Large, Left Side and         65 N.m         48 lb ft           Rear Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase         65 N.m         48 lb ft           Engine Block Oil Gallery Plug - Small, Rear Engine         40 N.m         30 lb ft           Block         Engine Block Oil Gallery Plug - Small, Rear Engine         65 N.m         48 lb ft           Engine Coolant Air Bleed Pipe Bolt         10 N.m         89 lb in           Engine Coolant Thermostat Housing Bolt <td< td=""><td>Catalytic Converter Nut - Exhaust Manifold<sup>1</sup></td><td>50 N.m<sup>1</sup></td><td>37 lb ft<sup>1</sup></td></td<>  | Catalytic Converter Nut - Exhaust Manifold <sup>1</sup> | 50 N.m <sup>1</sup>      | 37 lb ft <sup>1</sup>  |
| • Final Pass  Crankshaft Balancer Bolt   • First Pass  150 N.m  1111 lb ft   • First Pass  140 Degrees   Crankshaft Position Sensor Bolt  Cylinder Head Bolt   • First Pass  30 N.m  30 N.m  22 lb ft   • Final Pass  Cylinder Head Core Hole Plug  • Final Pass  Cylinder Head Oil Gallery Plug  40 N.m  30 lb ft   Drive Belt Tensioner Bolt  Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block Engine Block Oil Gallery Plug - Large, Left Side Lower  Crankcase  Engine Block Oil Gallery Plug - Small, Rear Engine Block Engine Block Oil Gallery Plug - Small, Rear Engine Block Engine Coolant Air Bleed Pipe Bolt Engine Coolant Thermostat Housing Bolt Engine Front Cover Bolt - M6 Engine Front Cover Bolt - M8 Engine Front Cover Bolt - M10   • First Pass  130 Degrees   110 N.m  111 lb ft  111 | Connecting Rod Bolt <sup>1</sup>                        |                          | -                      |
| Crankshaft Balancer Bolt   | First Pass  | 25 N.m <sup>1</sup>      | 18 lb ft <sup>1</sup>  |
| First Pass   | Final Pass  | 110 Degrees <sup>1</sup> |                        |
| • Final Pass  Crankshaft Position Sensor Bolt  Cylinder Head Bolt   • First Pass  30 N.m   22 lb ft   • Final Pass  190 Degrees   Cylinder Head Core Hole Plug  50 N.m  37 lb ft  Cylinder Head Oil Gallery Plug  40 N.m  30 lb ft  Drive Belt Tensioner Bolt  Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase  Engine Block Oil Gallery Plug - Small, Rear Engine Block Oil Gallery Plug - Small,  | Crankshaft Balancer Bolt <sup>1</sup>                   |                          |                        |
| Crankshaft Position Sensor Bolt  Cylinder Head Bolt <sup>1</sup> First Pass  30 N.m <sup>1</sup> 22 lb ft <sup>1</sup> Final Pass  190 Degrees <sup>1</sup> Cylinder Head Core Hole Plug  50 N.m  37 lb ft  Cylinder Head Oil Gallery Plug  40 N.m  30 lb ft  Drive Belt Tensioner Bolt  Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block  Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase  Engine Block Oil Gallery Plug - Small, Rear Engine  Block  Engine Coolant Air Bleed Pipe Bolt  Engine Coolant Heater Hole Plug  60 N.m  44 lb ft  Engine Coolant Thermostat Housing Bolt  Engine Front Cover Bolt - M6  Engine Front Cover Bolt - M8  Engine Front Cover Bolt - M8  First Pass  15 N.m <sup>1</sup> 11 lb ft <sup>1</sup> Final Pass  | First Pass  | 150 N.m <sup>1</sup>     | 111 lb ft <sup>1</sup> |
| • First Pass 30 N.m¹ 22 lb ft¹  • First Pass 30 N.m¹ 22 lb ft¹  • Final Pass 1990 Degrees¹  Cylinder Head Core Hole Plug 50 N.m 37 lb ft Cylinder Head Oil Gallery Plug 40 N.m 30 lb ft Drive Belt Tensioner Bolt 58 N.m 43 lb ft Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase 65 N.m 48 lb ft Engine Block Oil Gallery Plug - Small, Rear Engine 40 N.m 30 lb ft Engine Coolant Air Bleed Pipe Bolt 10 N.m 89 lb in Engine Coolant Heater Hole Plug 60 N.m 44 lb ft Engine Coolant Thermostat Housing Bolt 10 N.m 89 lb in Engine Front Cover Bolt - M6 10 N.m 89 lb in Engine Front Cover Bolt - M8 25 N.m 18 lb ft Engine Front Cover Bolt - M10¹  • First Pass 130 Degrees¹  | Final Pass  | 140 Degrees <sup>1</sup> |                        |
| • First Pass  • Final Pass  190 Degrees¹  Cylinder Head Core Hole Plug  50 N.m  37 lb ft  Cylinder Head Oil Gallery Plug  40 N.m  30 lb ft  Drive Belt Tensioner Bolt  Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block  Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase  Engine Block Oil Gallery Plug - Small, Rear Engine  Block  Engine Coolant Air Bleed Pipe Bolt  Engine Coolant Heater Hole Plug  60 N.m  44 lb ft  Engine Coolant Thermostat Housing Bolt  Engine Front Cover Bolt - M6  Engine Front Cover Bolt - M8  Engine Front Cover Bolt - M10¹  • First Pass  130 Degrees¹  | Crankshaft Position Sensor Bolt                         | 10 N.m                   | 89 lb in               |
| • First Pass  • Final Pass  190 Degrees¹  Cylinder Head Core Hole Plug  50 N.m  37 lb ft  Cylinder Head Oil Gallery Plug  40 N.m  30 lb ft  Drive Belt Tensioner Bolt  Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block  Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase  Engine Block Oil Gallery Plug - Small, Rear Engine  Block  Engine Coolant Air Bleed Pipe Bolt  Engine Coolant Heater Hole Plug  60 N.m  44 lb ft  Engine Coolant Thermostat Housing Bolt  Engine Front Cover Bolt - M6  Engine Front Cover Bolt - M8  Engine Front Cover Bolt - M10¹  • First Pass  130 Degrees¹  | Cylinder Head Bolt <sup>1</sup>                         |                          |                        |
| Cylinder Head Core Hole Plug  Cylinder Head Oil Gallery Plug  40 N.m  30 lb ft  Drive Belt Tensioner Bolt  Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block  Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase  Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase  Engine Block Oil Gallery Plug - Small, Rear Engine Block  Engine Coolant Air Bleed Pipe Bolt  Engine Coolant Heater Hole Plug  60 N.m  48 lb ft  40 N.m  89 lb in  Engine Coolant Thermostat Housing Bolt  Engine Coolant Thermostat Housing Bolt  Engine Front Cover Bolt - M6  10 N.m  89 lb in  Engine Front Cover Bolt - M8  25 N.m  18 lb ft  Engine Front Cover Bolt - M10 <sup>1</sup> • First Pass  130 Degrees <sup>1</sup>  |   | 30 N.m <sup>1</sup>      | 22 lb ft <sup>1</sup>  |
| Cylinder Head Oil Gallery Plug  Drive Belt Tensioner Bolt  Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block  Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase  Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase  Engine Block Oil Gallery Plug - Small, Rear Engine Block Oil Gallery Plug - Small, Rear Engine 40 N.m  30 lb ft  Engine Coolant Air Bleed Pipe Bolt  Engine Coolant Heater Hole Plug  60 N.m  44 lb ft  Engine Coolant Thermostat Housing Bolt  Engine Front Cover Bolt - M6  10 N.m  89 lb in  Engine Front Cover Bolt - M8  25 N.m  18 lb ft  Engine Front Cover Bolt - M10 <sup>1</sup> • First Pass  130 Degrees <sup>1</sup>   | Final Pass  | 190 Degrees <sup>1</sup> |                        |
| Drive Belt Tensioner Bolt  Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block  Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase  Engine Block Oil Gallery Plug - Small, Rear Engine  Block Oil Gallery Plug - Small, Rear Engine  Block  Engine Coolant Air Bleed Pipe Bolt  Engine Coolant Heater Hole Plug  Engine Coolant Thermostat Housing Bolt  Engine Front Cover Bolt - M6  Engine Front Cover Bolt - M8  Engine Front Cover Bolt - M10 Is lb ft  Engine Front Cover Bolt - M10 Is lb ft  Engine Front Cover Bolt - M10 Is lb ft  Engine Front Cover Bolt - M10 Is lb ft  Engine Front Cover Bolt - M10 Is lb ft  Engine Front Cover Bolt - M10 Is lb ft  Engine Front Cover Bolt - M10 Is lb ft  Engine Front Cover Bolt - M10 Is lb ft  Engine Front Cover Bolt - M10 Is lb ft  Engine Front Cover Bolt - M10 Is lb ft  Engine Front Cover Bolt - M10 Is lb ft   | Cylinder Head Core Hole Plug                            | 50 N.m                   | 37 lb ft               |
| Engine Block Oil Gallery Plug - Large, Left Side and Rear Engine Block Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase  Engine Block Oil Gallery Plug - Small, Rear Engine Block Oil Gallery Plug - Small, Rear Engine 40 N.m 30 lb ft Engine Coolant Air Bleed Pipe Bolt 10 N.m 89 lb in Engine Coolant Heater Hole Plug 60 N.m 44 lb ft Engine Coolant Thermostat Housing Bolt 10 N.m 89 lb in Engine Front Cover Bolt - M6 10 N.m 89 lb in Engine Front Cover Bolt - M8 25 N.m 18 lb ft Engine Front Cover Bolt - M10 1  • First Pass 15 N.m 11 lb ft 1  • Final Pass 130 Degrees 1  | Cylinder Head Oil Gallery Plug                          | 40 N.m                   | 30 lb ft               |
| Rear Engine Block Engine Block Oil Gallery Plug - Large, Left Side Lower Crankcase Engine Block Oil Gallery Plug - Small, Rear Engine Block Oil Gallery Plug - Small, Rear Engine 40 N.m 30 lb ft Engine Coolant Air Bleed Pipe Bolt 10 N.m 89 lb in Engine Coolant Heater Hole Plug 60 N.m 44 lb ft Engine Coolant Thermostat Housing Bolt 10 N.m 89 lb in Engine Front Cover Bolt - M6 10 N.m 89 lb in Engine Front Cover Bolt - M8 25 N.m 18 lb ft Engine Front Cover Bolt - M10 l  • First Pass 15 N.m 11 lb ft l  • First Pass 130 Degrees l  | Drive Belt Tensioner Bolt                               | 58 N.m                   | 43 lb ft               |
| Crankcase         63 N.m         48 lb ft           Engine Block Oil Gallery Plug - Small, Rear Engine         40 N.m         30 lb ft           Block         10 N.m         89 lb in           Engine Coolant Air Bleed Pipe Bolt         10 N.m         89 lb in           Engine Coolant Heater Hole Plug         60 N.m         44 lb ft           Engine Coolant Thermostat Housing Bolt         10 N.m         89 lb in           Engine Front Cover Bolt - M6         10 N.m         89 lb in           Engine Front Cover Bolt - M8         25 N.m         18 lb ft           Engine Front Cover Bolt - M10 <sup>1</sup> 11 lb ft <sup>1</sup> • First Pass         15 N.m <sup>1</sup> 11 lb ft <sup>1</sup> • Final Pass         130 Degrees <sup>1</sup>   |   | 65 N.m                   | 48 lb ft               |
| Block Engine Coolant Air Bleed Pipe Bolt Engine Coolant Heater Hole Plug 60 N.m 44 lb ft Engine Coolant Thermostat Housing Bolt Engine Front Cover Bolt - M6 Engine Front Cover Bolt - M8 Engine Front Cover Bolt - M8 Engine Front Cover Bolt - M10 <sup>1</sup> • First Pass 15 N.m 11 lb ft 130 Degrees 1   |   | 65 N.m                   | 48 lb ft               |
| Engine Coolant Heater Hole Plug  Engine Coolant Thermostat Housing Bolt  Engine Front Cover Bolt - M6  Engine Front Cover Bolt - M8  Engine Front Cover Bolt - M8  Engine Front Cover Bolt - M10  First Pass  15 N.m  130 Degrees  130 Degrees   |   | 40 N.m                   | 30 lb ft               |
| Engine Coolant Thermostat Housing Bolt  Engine Front Cover Bolt - M6  Engine Front Cover Bolt - M8  Engine Front Cover Bolt - M8  Engine Front Cover Bolt - M10 <sup>1</sup> • First Pass  15 N.m <sup>1</sup> 11 lb ft <sup>1</sup> • Final Pass  | Engine Coolant Air Bleed Pipe Bolt                      | 10 N.m                   | 89 lb in               |
| Engine Front Cover Bolt - M6  Engine Front Cover Bolt - M8  Engine Front Cover Bolt - M10 <sup>1</sup> • First Pass  15 N.m <sup>1</sup> 11 lb ft <sup>1</sup> • Final Pass  | Engine Coolant Heater Hole Plug                         | 60 N.m                   |                        |
| Engine Front Cover Bolt - M8  Engine Front Cover Bolt - M10 <sup>1</sup> First Pass  15 N.m <sup>1</sup> 11 lb ft <sup>1</sup> Final Pass  130 Degrees <sup>1</sup>  |   | 10 N.m                   |                        |
| • First Pass 15 N.m <sup>1</sup> 11 lb ft <sup>1</sup> • Final Pass 130 Degrees <sup>1</sup>   | <u> </u>  |                          |                        |
| • First Pass 15 N.m <sup>1</sup> 11 lb ft <sup>1</sup> • Final Pass 130 Degrees <sup>1</sup>   | Engine Front Cover Bolt - M8                            | 25 N.m                   | 18 lb ft               |
| • Final Pass 130 Degrees <sup>1</sup>  | Engine Front Cover Bolt - M10 <sup>1</sup>              |                          |                        |
| 150 Degrees  | • First Pass  | 15 N.m <sup>1</sup>      | 11 lb ft <sup>1</sup>  |
| Engine Lift Bracket Bolt - Front 25 N.m 18 lb ft   | • Final Pass  | 130 Degrees <sup>1</sup> |                        |
| 1 ·  | Engine Lift Bracket Bolt - Front                        | 25 N.m                   | 18 lb ft               |

|   | Specifi                 | cation                |
|---|-------------------------|-----------------------|
| Application   | Metric                  | English               |
| Engine Lift Bracket Bolt - Rear                               | 25 N.m                  | 18 lb ft              |
| Engine Oil Cooler Bolt  | 10 N.m                  | 89 lb in              |
| Engine Oil Cooler Connector                                   | 50 N.m                  | 37 lb ft              |
| Engine Oil Level Indicator Switch Bolt                        | 10 N.m                  | 89 lb in              |
| Engine Oil Pressure Sensor                                    | 35 N.m                  | 26 lb ft              |
| Engine Mount Bolt <sup>1</sup>                                | 62 N.m                  | 46 lb ft              |
| Exhaust Manifold Bolt <sup>1</sup>                            | 20 N.m <sup>1</sup>     | 21 lb ft <sup>1</sup> |
| Exhaust Manifold Brace Bolt                                   | 25 N.m                  | 18 lb ft              |
| Exhaust Manifold Brace Nut <sup>1</sup>                       | 25 N.m <sup>1</sup>     | 18 lb ft <sup>1</sup> |
| Exhaust Manifold Heat Shield Bolt                             | 14 N.m                  | 124 lb in             |
| Exhaust Manifold Stud   | 20 N.m                  | 21 lb ft              |
| Flywheel Bolt <sup>1</sup>                                    |                         |                       |
| i ij wheel Bok  |                         |                       |
| First Pass  | 30 N.m <sup>1</sup>     | 22 lb ft <sup>1</sup> |
| Final Pass  | 80 Degrees <sup>1</sup> |                       |
| Fuel Feed Intermediate Pipe Nut                               |                         |                       |
| First Pass - Fuel Feed Intermediate Pipe Nut to<br>Fuel Rail  | 15 N.m                  | 11 lb ft              |
| Second Pass - Fuel Feed Intermediate Pipe Nut to<br>Fuel Pump | 15 N.m                  | 11 lb ft              |
| Third Pass - Fuel Feed Intermediate Pipe Nut to<br>Fuel Rail  | 30 N.m                  | 22 lb ft              |
| Final Pass - Fuel Feed Intermediate Pipe Nut to<br>Fuel Pump  | 30 N.m                  | 22 lb ft              |
| Fuel Feed Pipe  | 30 N.m                  | 22 lb ft              |
| Fuel Feed Pipe Clip Stud                                      | 10 N.m                  | 89 lb in              |
| Fuel Injection Fuel Rail Bolt                                 | 25 N.m                  | 18 lb ft              |
| Fuel Injection Fuel Rail Fuel Pressure Sensor                 | 33 N.m                  | 24 lb ft              |
| Fuel Pump Bolt  |                         |                       |
| First Pass  | 8 N.m                   | 71 lb in              |
| • Final Pass  | 50 Degrees              |                       |
| Fuel Pump Shield Bolt   | 10 N.m                  | 89 lb in              |
| Ignition Coil Bolt  | 10 N.m                  | 89 lb in              |
| Intake Manifold Bolt  | 12 N.m                  | 106 lb in             |
| Intake Manifold Cover Bolt                                    | 9 N.m                   | 80 lb in              |
| Knock Sensor Bolt   | 25 N.m                  | 18 lb ft              |
| Lower Crankcase Bolt - Crankshaft Bearing <sup>1</sup>        |                         |                       |
| First Pass  | 20 N.m <sup>1</sup>     | 15 lb ft <sup>1</sup> |

|  | Specification  |                       |
|--|--|-----------------------|
| Application  | Metric   | English               |
| • Final Pass   | 140 Degrees <sup>1</sup>   |                       |
| Lower Crankcase Bolt - Perimeter <sup>1</sup>                          | 25 N.m <sup>1</sup>  | 18 lb ft <sup>1</sup> |
| Manifold Absolute Pressure (MAP) Sensor Bolt                           | 5 N.m  | 44 lb in              |
| Oil Pan Baffle Bolt  | 10 N.m   | 89 lb in              |
| Oil Pan Bolt, Long   | 10 N.m   | 89 lb in              |
| Oil Pan Bolt, Perimeter  | 25 N.m   | 18 lb ft              |
| Oil Pan Bolt, Lower  | 10 N.m   | 89 lb in              |
| Oil Pan Drain Plug   | 25 N.m   | 18 lb ft              |
| Oil Pump Suction Pipe Bolt   | 10 N.m   | 89 lb in              |
| Oil Pump Flow Control Valve Bolt                                       | 10 N.m   | 89 lb in              |
| Oil Filter   | 3/4 to 1 full turn after gasket makes contact with the sealing surface on the filter mounting flange |                       |
| Oxygen Sensor  | 42 N.m   | 31 lb ft              |
| PCV Valve Bolt   | 10 N.m   | 89 lb in              |
| Piston Oil Nozzle Bolt   | 10 N.m   | 89 lb in              |
| Spark Plug   | 20 N.m   | 15 lb ft              |
| Thermal Bypass Pipe Bolt   | 10 N.m   | 89 lb in              |
| Throttle Body Bolt   | 10 N.m   | 89 lb in              |
| Timing Chain Cover Bolt - Engine Front Cover                           | 5 N.m  | 44 lb in              |
| Timing Chain Guide Bolt  | 25 N.m   | 18 lb ft              |
| Timing Chain Tensioner Pivot Arm Bolt                                  | 25 N.m   | 18 lb ft              |
| Timing Chain Tensioner Shoe Bolt                                       | 25 N.m   | 18 lb ft              |
| Turbocharger Coolant Feed and Return Pipe Bolt                         | 35 N.m   | 26 lb ft              |
| Turbocharger Coolant Feed Pipe Bolt                                    | 10 N.m   | 89 lb in              |
| Turbocharger Coolant Return Pipe to Camshaft Cover<br>Heat Shield Bolt | 14 N.m   | 124 lb in             |
| Turbocharger Exhaust Pipe Stud   | 25 N.m   | 18 lb ft              |
| Turbocharger Nut <sup>1</sup>  | I  |                       |
| First Pass   | 30 N.m <sup>1</sup>  | 22 lb ft <sup>1</sup> |
| • Final Pass   | 90 Degrees <sup>1</sup>  |                       |
| Turbocharger Oil Feed Pipe Bolt  | 35 N.m   | 26 lb ft              |
| Turbocharger Oil Feed and Return Pipe Bolt                             | 10 N.m   | 89 lb in              |
| Vacuum Pump Bolt   | 10 N.m   | 89 lb in              |
| Water Outlet Bolt  | 10 N.m   | 89 lb in              |
| Water Pump Bolt  | 25 N.m   | 18 lb ft              |
| Water Pump Housing Bolt  | 10 N.m   | 89 lb in              |
| <sup>1</sup> Use NEW fastener.   |  |                       |

## APPROXIMATE FLUID CAPACITIES

| Application        | Specification |            |
|--------------------|---------------|------------|
| Application        | Metric        | English    |
| LCV, LTG           |               |            |
| Oil Capacity - 2WD | 4.7L          | 5.0 quarts |
| Oil Capacity - AWD | 5.7L          | 6.0 quarts |