

## 2009 TL - Torque Specifications

### Torque Specifications

#### NOTE:

- Refer to the S/M for the precautions and complete procedures.
- Refer to the S/M for the bolts/nuts not indicated here.

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### Engine Electrical

Location	Item	Remark	Torque
Starting system	M/T model: Starter bolts		74 N·m (7.5 kgf·m, 54 lbf·ft)
	A/T model: Starter bolts		44 N·m (4.5 kgf·m, 33 lbf·ft)
	Starter harness clamp nut		9 N·m (0.9 kgf·m, 7 lbf·ft)
Ignition system	Spark plugs		22 N·m (2.2 kgf·m, 16 lbf·ft)
Charging system	Alternator bolt (8 mm)		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Alternator bolt (10 mm)		44 N·m (4.5 kgf·m, 33 lbf·ft)
	Alternator cable nut		12 N·m (1.2 kgf·m, 8.7 lbf·ft)
	Drive belt auto-tensioner bolt		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Drive belt auto-tensioner pulley bolt		56 N·m (5.7 kgf·m, 41 lbf·ft)

### Engine Mechanical

Location	Item	Remark	Torque
Engine assembly	Power steering pump bracket bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Front engine mount bracket bolts	Use new bolts	54 N·m (5.5 kgf·m, 40 lbf·ft)
	Front engine mount bolts	Use new bolts	54 N·m (5.5 kgf·m, 40 lbf·ft)
	Front engine mount stop nuts	Use new nuts	64 N·m (6.5 kgf·m, 47 lbf·ft)
	Rear engine mount bracket bolts	Use new bolts	78 N·m (8.0 kgf·m, 58 lbf·ft)
	Rear engine mount bolts (10 mm) Qty 4	Use new bolts	54 N·m (5.5 kgf·m, 40 lbf·ft)
	M/T model: Rear engine mount bolt (14 mm) Qty 1	Use new bolt	88 N·m (9.0 kgf·m, 65 lbf·ft)
	A/T model: Rear engine mount stop nuts	Use new nuts	64 N·m (6.5 kgf·m, 47 lbf·ft)
	Side engine mount bracket bolts (10 mm) Qty 3	Use new bolts	44 N·m (4.5 kgf·m, 33 lbf·ft)
	Side engine mount bracket bolts (10 mm) Qty 2 *2	Use new bolts	54 N·m (5.5 kgf·m, 40 lbf·ft)
	Side engine mount bolt (12 mm) Qty 1 *2		64 N·m (6.5 kgf·m, 47 lbf·ft)
	Side engine mount bolts (10 mm) Qty 2	Use new bolts	64 N·m (6.5 kgf·m, 47 lbf·ft)

			lbf-ft)
	M/T model: Upper transmission mount bracket bolts	Use new bolts	54 N·m (5.5 kgf·m, 40 lbf-ft)
	A/T model: Upper transmission mount bracket bolts	Use new bolts	59 N·m (6.0 kgf·m, 43 lbf-ft)
	A/T model: Upper transmission mount bracket nut	Use new nut	59 N·m (6.0 kgf·m, 43 lbf-ft)
	Upper transmission mount bolts		54 N·m (5.5 kgf·m, 40 lbf-ft)
	M/T model: Lower transmission mount bracket bolts	Use new bolts	54 N·m (5.5 kgf·m, 40 lbf-ft)
	A/T model: Lower transmission mount bracket bolts		39 N·m (4.0 kgf·m, 29 lbf-ft)
	Lower transmission mount nuts		44 N·m (4.5 kgf·m, 33 lbf-ft)
	Lower transmission mount bolts	Use new bolts	54 N·m (5.5 kgf·m, 40 lbf-ft)
Engine lubrication	Oil pressure switch	<ul style="list-style-type: none"> <li>• Use new O-ring</li> <li>• Apply liquid gasket</li> </ul>	22 N·m (2.2 kgf·m, 16 lbf-ft)
	Oil pan drain bolt	Use new washer	39 N·m (4.0 kgf·m, 29 lbf-ft)
	Oil filter		12 N·m (1.2 kgf·m, 9 lbf-ft)
	Oil filter feed pipe	Use oil on threads	35 N·m (3.6 kgf·m, 26 lbf-ft)
Intake manifold and exhaust system	Intake manifold bolts *1		22 N·m (2.2 kgf·m, 16 lbf-ft)
	Intake manifold nuts *1		22 N·m (2.2 kgf·m, 16 lbf-ft)
	Injector base bolts *1		22 N·m (2.2 kgf·m, 16 lbf-ft)
	Injector base nuts *1		22 N·m (2.2 kgf·m, 16 lbf-ft)
	Exhaust pipe A self-locking nuts (10 mm) Qty 3 (warm up TWC side) *2	Use new nuts	54 N·m (5.5 kgf·m, 40 lbf-ft)
	Exhaust pipe A self-locking nuts (10 mm) Qty 3 (under-floor TWC side) *2	Use new nuts	33 N·m (3.4 kgf·m, 25 lbf-ft)
	Exhaust pipe B self-locking nuts (10 mm) Qty 3 *2	Use new nuts	33 N·m (3.4 kgf·m, 25 lbf-ft)
	Exhaust pipe B self-locking nuts (10 mm) Qty 2	Use new nuts	54 N·m (5.5 kgf·m, 40 lbf-ft)

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### Engine Cooling

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Location	Item	Remark	Torque
Cooling system	Water passage bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Water passage nuts		22 N·m (2.2 kgf·m, 16 lbf·ft)

### Fuel and Emissions

Location	Item	Remark	Torque
Fuel and emissions	A/F sensor		44 N·m (4.5 kgf·m, 33 lbf·ft)
	EGR pipe bolts	Use new gasket	22 N·m (2.2 kgf·m, 16 lbf·ft)
	EGR pipe nuts	Use new gasket	22 N·m (2.2 kgf·m, 16 lbf·ft)
	EGR valve nuts	Use new gasket	22 N·m (2.2 kgf·m, 16 lbf·ft)
	Fuel joint hose mounting bolt		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Fuel tank locknut *2	Use new locknut, locknut plate, and base gasket	70 N·m (7.1 kgf·m, 51 lbf·ft)
	Fuel tank support straps bolts		38 N·m (3.9 kgf·m, 28 lbf·ft)
	Knock sensor		31 N·m (3.2 kgf·m, 23 lbf·ft)
	Rocker arm oil pressure switch	Use new O-ring	22 N·m (2.2 kgf·m, 16 lbf·ft)
	Secondary HO2S		44 N·m (4.5 kgf·m, 33 lbf·ft)
	Secondary fuel gauge sending unit locknut *2	Use new locknut, locknut plate, and base gasket	70 N·m (7.1 kgf·m, 51 lbf·ft)
	Throttle body bolts	Use new gasket	22 N·m (2.2 kgf·m, 16 lbf·ft)
	Under floor TWC self locking nuts (without SH-AWD)	Use new gaskets and nuts	33 N·m (3.4 kgf·m, 25 lbf·ft)
	Under floor TWC self locking nuts (front side) (with SH-AWD)	Use new gaskets and nuts	33 N·m (3.4 kgf·m, 25 lbf·ft)
	Under floor TWC self locking nuts (rear side) (with SH-AWD)	Use new gaskets and nuts	54 N·m (5.5 kgf·m, 40 lbf·ft)
	Warm up TWC (front bank) bracket bolts		45 N·m (4.5 kgf·m, 33 lbf·ft)
	Warm up TWC (rear bank) bracket bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
Warm up TWC (front bank) upper self locking nuts	Use new nuts	31 N·m (3.2 kgf·m, 23 lbf·ft)	
Warm up TWC (rear bank) upper self locking nuts	Use new nuts	31 N·m (3.2 kgf·m, 23 lbf·ft)	

### Clutch

Location	Item	Remark	Torque
Clutch	Clutch pushrod locknut		17 N·m (1.7 kgf·m, 12 lbf·ft)
	Clutch pedal position switch A locknut		9.8 N·m (1.0 kgf·m, 7 lbf·ft)
	Clutch pedal position switch B locknut		9.8 N·m (1.0 kgf·m, 7 lbf·ft)
	Clutch pedal bolt		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Master cylinder nuts		13 N·m (1.3 kgf·m, 9 lbf·ft)

	Slave cylinder bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Flywheel bolts		103 N·m (10.5 kgf·m, 76 lbf·ft)
	Pressure plate bolts *1		25 N·m (2.6 kgf·m, 19 lbf·ft)
	Release fork bolt		29 N·m (3.0 kgf·m, 22 lbf·ft)

### Manual Transmission

Location	Item	Remark	Torque
Manual transmission	MTF drain plug	Use new sealing washer	44 N·m (4.5 kgf·m, 33 lbf·ft)
	MTF filler plug	Use new sealing washer	44 N·m (4.5 kgf·m, 33 lbf·ft)
	Back-up light switch	Use liquid gasket on threads	29 N·m (3.0 kgf·m, 22 lbf·ft)
	Upper transmission bolts		74 N·m (7.5 kgf·m, 54 lbf·ft)
	Lower transmission bolts		74 N·m (7.5 kgf·m, 54 lbf·ft)
	Shift lever housing bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Shift cable bracket bolts		27 N·m (2.8 kgf·m, 20 lbf·ft)

### Automatic Transmission

Location	Item	Remark	Torque
Automatic transmission	ATF drain plug	Use new sealing washer	49 N·m (5.0 kgf·m, 36 lbf·ft)
	ATF filler bolt	Use new sealing washer	44 N·m (4.5 kgf·m, 33 lbf·ft)
	Clutch pressure inspection port sealing bolts	Use new sealing washers	18 N·m (1.8 kgf·m, 13 lbf·ft)
	Drive plate bolts *2		74 N·m (7.5 kgf·m, 54 lbf·ft)
	Shift lever assembly bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Transmission housing bolts		64 N·m (6.5 kgf·m, 47 lbf·ft)
	Transfer fluid drain plug	Use new sealing washer	44 N·m (4.5 kgf·m, 33 lbf·ft)
	Transfer fluid filler plug	Use new sealing washer	44 N·m (4.5 kgf·m, 33 lbf·ft)
	Transfer assembly bolts		51 N·m (5.2 kgf·m, 38 lbf·ft)
A/T gear position indicator	Transmission range switch locknut		17 N·m (1.7 kgf·m, 12.7 lbf·ft)

### Rear Differential

Location	Item	Remark	Torque

Rear differential	Filler plug	Use new sealing washer	47 N·m (4.8 kgf·m, 35 lbf·ft)
	Drain plug	Use new sealing washer	47 N·m (4.8 kgf·m, 35 lbf·ft)
	Rear differential front mounting bracket nuts *2	Use new nuts	44 N·m (4.5 kgf·m, 33 lbf·ft)
	Rear differential front mounting bracket bolts *2	Use new bolts	74 N·m (7.5 kgf·m, 54 lbf·ft)
	Rear differential rear mount bolts *2	Use new bolts	74 N·m (7.5 kgf·m, 54 lbf·ft)

### Driveline/Axle

Location	Item	Remark	Torque
Driveline/axle	Driveshaft spindle nut (24 mm)	<ul style="list-style-type: none"> <li>Use oil on the seating surface</li> <li>Use new nut</li> </ul>	245 N·m (25.0 kgf·m, 181 lbf·ft)
	Driveshaft spindle nut (26 mm)	<ul style="list-style-type: none"> <li>Use oil on the seating surface</li> <li>Use new nut</li> </ul>	329 N·m (33.5 kgf·m, 242 lbf·ft)
	Intermediate shaft dowel bolts		39 N·m (4.0 kgf·m, 29 lbf·ft)
	Intermediate shaft flange bolt		39 N·m (4.0 kgf·m, 29 lbf·ft)
	Heat shield bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	No.1 propeller shaft nuts	Use new nuts	72 N·m (7.3 kgf·m, 53 lbf·ft)
	No.3 propeller shaft bolts	Use new bolts	72 N·m (7.3 kgf·m, 53 lbf·ft)
	No.1 support bearing bolts *2	Use new bolts	39 N·m (4.0 kgf·m, 29 lbf·ft)
	No.2 support bearing bolts *2	Use new bolts	39 N·m (4.0 kgf·m, 29 lbf·ft)

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### Steering

Location	Item	Remark	Torque
Steering	Steering wheel bolt		39 N·m (4.0 kgf·m, 29 lbf·ft)
	Steering joint bolts		28 N·m (2.9 kgf·m, 21 lbf·ft)
	Steering column nuts		16 N·m (1.6 kgf·m, 12 lbf·ft)
	Steering column bolts		16 N·m (1.6 kgf·m, 12 lbf·ft)
	Steering gearbox bolts	Use new bolts	74 N·m (7.5 kgf·m, 54 lbf·ft)
	Tie-rod end ball joint nuts	Use new nuts	60 N·m (6.1 kgf·m, 44 lbf·ft)
	Tie-rod end locking nuts		44 N·m (4.5 kgf·m, 33 lbf·ft)

**Suspension**

Location	Item	Remark	Torque
Front suspension	Wheel nuts		127 N·m (13.0 kgf·m, 94.0 lbf·ft)
	Upper arm castle nut		44–52 N·m (4.5–5.3 kgf·m, 33–38 lbf·ft)
	Upper arm bolts	Use new bolts	31 N·m (3.2 kgf·m, 23 lbf·ft)
	Knuckle ball joint castle nut		93–103 N·m (9.5–10.5 kgf·m, 69–75.9 lbf·ft)
	Lower arm bolt (12mm)	Use new bolt	74 N·m (7.5 kgf·m, 54 lbf·ft)
	Lower arm bolt (12mm)	Use new bolt	83 N·m (8.5 kgf·m, 61 lbf·ft)
	Stabilizer bar bolts		55 N·m (5.6 kgf·m, 41 lbf·ft)
	Stabilizer link nuts		78 N·m (8.0 kgf·m, 58 lbf·ft)
	Damper nuts	Use new nuts	55 N·m (5.6 kgf·m, 41 lbf·ft)
	Damper pinch bolt		64 N·m (6.5 kgf·m, 47 lbf·ft)
	Damper fork bolt/nut	Use new bolt/nut	64 N·m (6.5 kgf·m, 47 lbf·ft)
	Damper self-locking nut	Use new nut	29 N·m (3.0 kgf·m, 22 lbf·ft)
Rear suspension	Wheel nuts		127 N·m (13.0 kgf·m, 94.0 lbf·ft)
	Upper arm castle nut	Use new nut	69–78 N·m (7.0–8.0 kgf·m, 51–58 lbf·ft)
	Upper arm bolts	Use new bolts	59 N·m (6.0 kgf·m, 43 lbf·ft)
	Lower arm A bolts	Use new bolts	59 N·m (6.0 kgf·m, 43 lbf·ft)
	Control arm self-locking nut	Use new nut	59 N·m (6.0 kgf·m, 43 lbf·ft)
	Control arm self-locking nut/adjusting bolt	Use new nut	57 N·m (5.8 kgf·m, 42 lbf·ft)
	Lower arm B bolts	Use new bolts	59 N·m (6.0 kgf·m, 43 lbf·ft)
	Stabilizer bar bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Stabilizer link nut	Use new nut	38 N·m (3.9 kgf·m, 28 lbf·ft)

	Stabilizer link self-locking nut	Use new nut	44 N·m (4.5 kgf·m, 33 lbf·ft)
	Damper nuts	Use new nuts	55 N·m (5.6 kgf·m, 41 lbf·ft)
	Damper lower bolt	Use new bolt	64 N·m (6.5 kgf·m, 47 lbf·ft)
	Damper self-locking nut	Use new nut	29 N·m (3.0 kgf·m, 22 lbf·ft)

## Brakes

Location	Item	Remark	Torque
Conventional brake	Front brake caliper bolts		72 N·m (7.3 kgf·m, 53 lbf·ft)
	Front brake caliper bracket bolts		137 N·m (14.0 kgf·m, 101 lbf·ft)
	Front brake hose bracket bolt		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Front brake hose banjo bolt	Use new washers	35 N·m (3.6 kgf·m, 26 lbf·ft)
	Brake booster/brake pedal nuts		12 N·m (1.2 kgf·m, 8.7 lbf·ft)
	Master cylinder nuts		15 N·m (1.5 kgf·m, 11 lbf·ft)
	Master cylinder brake lines		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Rear brake caliper bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Rear brake caliper bracket bolts		88 N·m (9.0 kgf·m, 65 lbf·ft)
	Rear brake hose bracket bolt		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Rear brake hose banjo bolt	Use new washers	35 N·m (3.6 kgf·m, 26 lbf·ft)
	Parking brake lever bolts		32 N·m (3.3 kgf·m, 24 lbf·ft)
	Parking brake cable bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Equalizer cover bolts		32 N·m (3.3 kgf·m, 24 lbf·ft)
	Brake pedal bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
VSA	VSA modulator-control unit brake line (10 mm)		15 N·m (1.5 kgf·m, 11 lbf·ft)
	VSA modulator-control unit brake line (12 mm)		22 N·m (2.2 kgf·m, 16 lbf·ft)

## Body

Location	Item	Remark	Torque
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Frame	Strat brace nuts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Strat brace bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	Front subframe front stiffener bolts (12 mm) *1	Use new bolts	54 N·m (5.5 kgf·m, 40 lbf·ft)
	Front subframe front stiffener bolts (14 mm) *1	Use new bolts	103 N·m (10.5 kgf·m, 76 lbf·ft)
	Front subframe middle rubber mount bolts (10 mm) *1	Use new bolts	49 N·m (5.0 kgf·m, 36 lbf·ft)
	Front subframe middle rubber mount bolts (12 mm) *1	Use new bolts	44 N·m (4.5 kgf·m, 33 lbf·ft)
	Front subframe rear stiffener bolts (12 mm) *1	Use new bolts	93 N·m (9.5 kgf·m, 69 lbf·ft)
	Front subframe rear stiffener bolts (14 mm) *1	Use new bolts	103 N·m (10.5 kgf·m, 76 lbf·ft)
	Rear engine mounting base bracket bolts	Use new bolts	54 N·m (5.5 kgf·m, 40 lbf·ft)
	Rear subframe mounting front stay bolts (8 mm)		27 N·m (2.75 kgf·m, 20 lbf·ft)
	Rear subframe mounting front stay bolts (14 mm)	Use new bolts	103 N·m (10.5 kgf·m, 76 lbf·ft)
	Rear subframe mounting rear stay bolts (8 mm)		27 N·m (2.75 kgf·m, 20 lbf·ft)
	Rear subframe mounting rear stay bolts (14 mm)	Use new bolts	103 N·m (10.5 kgf·m, 76 lbf·ft)

### Heating, Ventilation, and Air Conditioning

Location	Item	Remark	Torque
A/C compressor	A/C compressor bracket bolts		44 N·m (4.5 kgf·m, 33 lbf·ft)
	A/C compressor bolts		22 N·m (2.2 kgf·m, 16 lbf·ft)
	A/C compressor center bolt		18 N·m (1.8 kgf·m, 13 lbf·ft)
	A/C compressor relief valve		13.2 N·m (1.35 kgf·m, 9.7 lbf·ft)
Receiver line	A/C pressure sensor		10.8 N·m (1.1 kgf·m, 8.0 lbf·ft)

### Body Electrical

Location	Item	Remark	Torque
Wipers/washers	Windshield wiper arm nut		30 N·m (3.0 kgf·m, 21.7 lbf·ft)
	Windshield wiper linkage nut		31.4 N·m (3.2 kgf·m, 23.2 lbf·ft)